



wwPDB EM Map/Model Validation Report ⓘ

Apr 10, 2016 – 02:24 PM BST

PDB ID : 4CSU
EMDB ID: : EMD-2605
Title : Cryo-EM structures of the 50S ribosome subunit bound with ObgE
Authors : Feng, B.; Mandava, C.S.; Guo, Q.; Wang, J.; Cao, W.; Li, N.; Zhang, Y.;
Zhang, Y.; Wang, Z.; Wu, J.; Sanyal, S.; Lei, J.; Gao, N.
Deposited on : 2014-03-10
Resolution : 5.50 Å(reported)
Based on PDB ID : 3OFC

This is a wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.
For rigid body fitted models, validation errors reported here could
stem from errors in the original structure(s) used in the fitting.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>

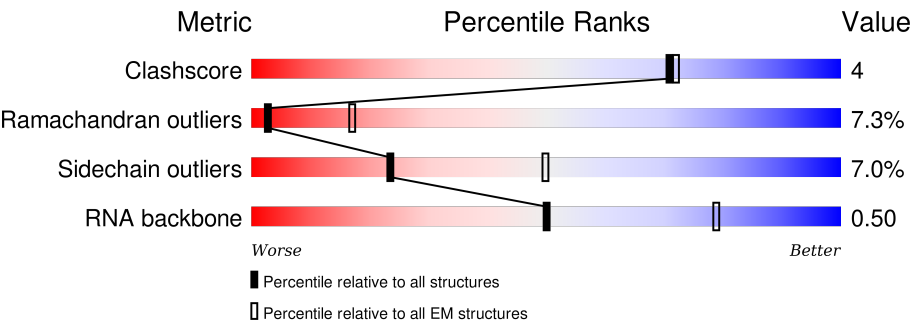
MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk27241

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 5.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.















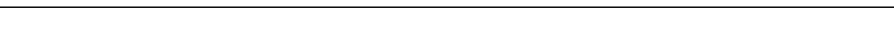

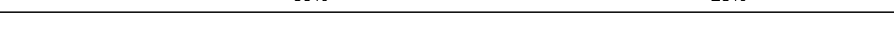

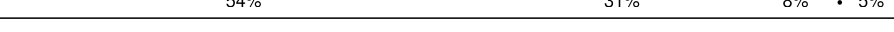








| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|-----------------------------|-----------------------------|
| Clashscore | 114402 | 924 |
| Ramachandran outliers | 111179 | 726 |
| Sidechain outliers | 111093 | 686 |
| RNA backbone | 3027 | 244 |

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|---|
| 1 | 0 | 77 | <div><div>56%</div><div>32%</div><div>9%</div><div>.</div></div> |
| 2 | 1 | 63 | <div><div>71%</div><div>24%</div><div>5%</div></div> |
| 3 | 2 | 58 | <div><div>72%</div><div>24%</div><div>.</div></div> |
| 4 | 3 | 56 | <div><div>57%</div><div>34%</div><div>7%</div><div>.</div></div> |
| 5 | 4 | 54 | <div><div>72%</div><div>19%</div><div>.</div><div>6%</div></div> |
| 6 | 5 | 234 | <div><div>77%</div><div>21%</div><div>.</div></div> |
| 7 | 6 | 46 | <div><div>54%</div><div>30%</div><div>.</div><div>11%</div></div> |
| 8 | 7 | 64 | <div><div>58%</div><div>28%</div><div>11%</div><div>.</div></div> |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 9 | 8 | 38 |  |
| 10 | 9 | 390 |  |
| 11 | A | 118 |  |
| 12 | B | 2903 |  |
| 13 | C | 272 |  |
| 14 | D | 209 |  |
| 15 | E | 201 |  |
| 16 | F | 178 |  |
| 17 | G | 176 |  |
| 18 | H | 149 |  |
| 19 | I | 141 |  |
| 20 | J | 142 |  |
| 21 | K | 123 |  |
| 22 | L | 143 |  |
| 23 | M | 136 |  |
| 24 | N | 127 |  |
| 25 | O | 116 |  |
| 26 | P | 114 |  |
| 27 | Q | 117 |  |
| 28 | R | 103 |  |
| 29 | S | 110 |  |
| 30 | T | 100 |  |
| 31 | U | 103 |  |
| 32 | W | 94 |  |
| 33 | Y | 84 |  |

2 Entry composition

There are 33 unique types of molecules in this entry. The entry contains 94625 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 50S RIBOSOMAL PROTEIN L28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 1 | 0 | 77 | Total | C | N | O | S | 0 | 0 |
| | | | 625 | 388 | 129 | 106 | 2 | | |

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 2 | 1 | 63 | Total | C | N | O | S | 0 | 0 |
| | | | 509 | 313 | 99 | 95 | 2 | | |

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 3 | 2 | 58 | Total | C | N | O | S | 0 | 0 |
| | | | 449 | 281 | 87 | 79 | 2 | | |

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 4 | 3 | 56 | Total | C | N | O | S | 0 | 0 |
| | | | 444 | 269 | 94 | 80 | 1 | | |

- Molecule 5 is a protein called 50S RIBOSOMAL PROTEIN L33.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 5 | 4 | 51 | Total | C | N | O | 0 | 1 |
| | | | 410 | 263 | 76 | 71 | | |

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 6 | 5 | 234 | Total | C | N | O | S | 0 | 0 |
| | | | 1733 | 1081 | 315 | 330 | 7 | | |

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L34.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 7 | 6 | 46 | Total | C | N | O | S | 0 | 0 |
| | | | 377 | 228 | 90 | 57 | 2 | | |

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L35.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 8 | 7 | 64 | Total | C | N | O | S | 0 | 0 |
| | | | 504 | 323 | 105 | 74 | 2 | | |

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L36.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 9 | 8 | 38 | Total | C | N | O | S | 0 | 0 |
| | | | 302 | 185 | 65 | 48 | 4 | | |

- Molecule 10 is a protein called GTPASE OBGE/CGTA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 10 | 9 | 334 | Total | C | N | O | S | 0 | 1 |
| | | | 2541 | 1596 | 448 | 485 | 12 | | |

- Molecule 11 is a RNA chain called 5S RRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| 11 | A | 115 | Total | C | N | O | P | 0 | 0 |
| | | | 2455 | 1097 | 451 | 795 | 112 | | |

- Molecule 12 is a RNA chain called 23S RRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| 12 | B | 2903 | Total | C | N | O | P | 0 | 0 |
| | | | 62317 | 27801 | 11467 | 20147 | 2902 | | |

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 13 | C | 272 | Total | C | N | O | S | 0 | 1 |
| | | | 2083 | 1288 | 424 | 364 | 7 | | |

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 14 | D | 209 | Total | C | N | O | S | 0 | 0 |
| | | | 1565 | 979 | 288 | 294 | 4 | | |

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 15 | E | 201 | Total | C | N | O | S | 0 | 0 |
| | | | 1552 | 974 | 283 | 290 | 5 | | |

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 16 | F | 178 | Total | C | N | O | S | 0 | 0 |
| | | | 1420 | 905 | 251 | 258 | 6 | | |

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 17 | G | 176 | Total | C | N | O | S | 0 | 1 |
| | | | 1317 | 827 | 243 | 245 | 2 | | |

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 18 | H | 149 | Total | C | N | O | S | 0 | 0 |
| | | | 1111 | 699 | 197 | 214 | 1 | | |

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 19 | I | 69 | Total | C | N | O | S | 0 | 0 |
| | | | 495 | 303 | 90 | 99 | 3 | | |

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 20 | J | 142 | Total | C | N | O | S | 0 | 0 |
| | | | 1129 | 714 | 212 | 199 | 4 | | |

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 21 | K | 122 | Total | C | N | O | S | 0 | 1 |
| | | | 932 | 582 | 180 | 164 | 6 | | |

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 22 | L | 143 | Total | C | N | O | S | 0 | 0 |
| | | | 1045 | 649 | 206 | 189 | 1 | | |

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 23 | M | 136 | Total | C | N | O | S | 0 | 0 |
| | | | 1074 | 686 | 205 | 177 | 6 | | |

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 24 | N | 121 | Total | C | N | O | S | 0 | 1 |
| | | | 961 | 593 | 197 | 166 | 5 | | |

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L18.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 25 | O | 116 | Total | C | N | O | 0 | 0 |
| | | | 892 | 552 | 178 | 162 | | |

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 26 | P | 114 | Total | C | N | O | S | 0 | 0 |
| | | | 917 | 574 | 179 | 163 | 1 | | |

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L20.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 27 | Q | 117 | Total | C | N | O | 0 | 0 |
| | | | 947 | 604 | 192 | 151 | | |

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 28 | R | 103 | Total | C | N | O | S | 0 | 0 |
| | | | 816 | 516 | 153 | 145 | 2 | | |

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 29 | S | 110 | Total | C | N | O | S | 0 | 0 |
| | | | 857 | 532 | 166 | 156 | 3 | | |

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L23.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 30 | T | 94 | Total | C | N | O | S | 0 | 1 |
| | | | 739 | 466 | 140 | 131 | 2 | | |

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 31 | U | 102 | Total | C | N | O | | 0 | 3 |
| | | | 758 | 479 | 143 | 136 | | | |

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L25.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 32 | W | 94 | Total | C | N | O | S | 0 | 0 |
| | | | 753 | 479 | 137 | 134 | 3 | | |

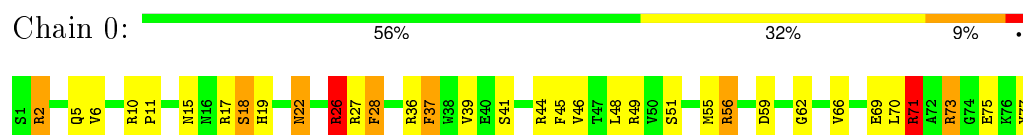
- Molecule 33 is a protein called 50S RIBOSOMAL PROTEIN L27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 33 | Y | 79 | Total | C | N | O | S | 0 | 0 |
| | | | 596 | 367 | 120 | 108 | 1 | | |

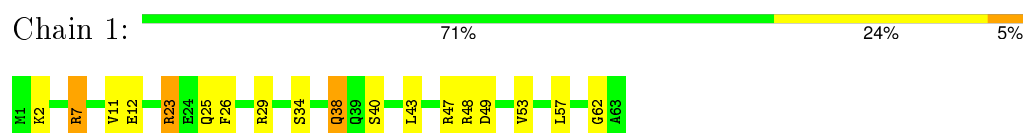
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

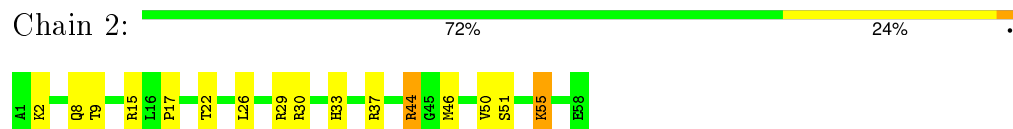
• Molecule 1: 50S RIBOSOMAL PROTEIN L28



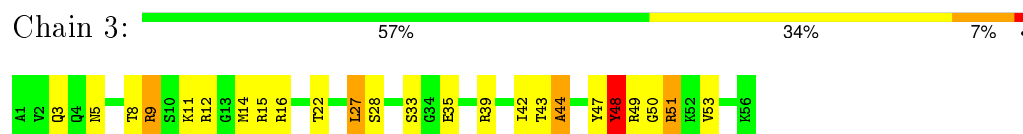
• Molecule 2: 50S RIBOSOMAL PROTEIN L29



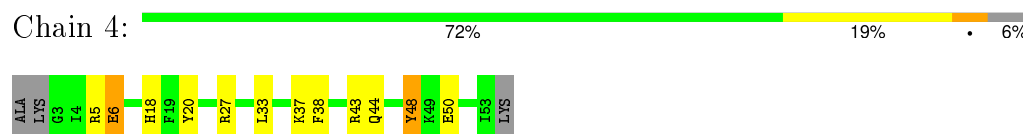
• Molecule 3: 50S RIBOSOMAL PROTEIN L30



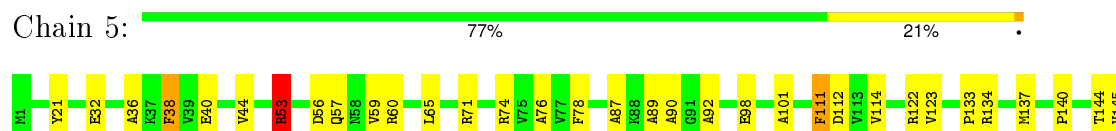
• Molecule 4: 50S RIBOSOMAL PROTEIN L32

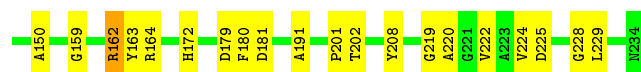


• Molecule 5: 50S RIBOSOMAL PROTEIN L33



• Molecule 6: 50S RIBOSOMAL PROTEIN L1





• Molecule 7: 50S RIBOSOMAL PROTEIN L34



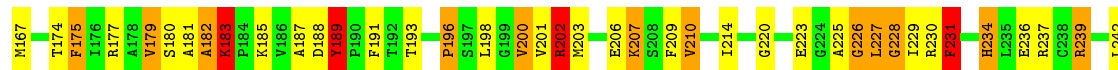
• Molecule 8: 50S RIBOSOMAL PROTEIN L35



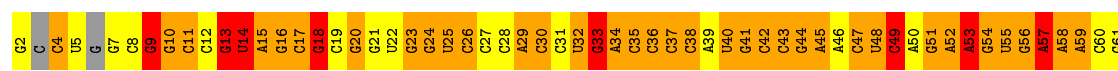
• Molecule 9: 50S RIBOSOMAL PROTEIN L36



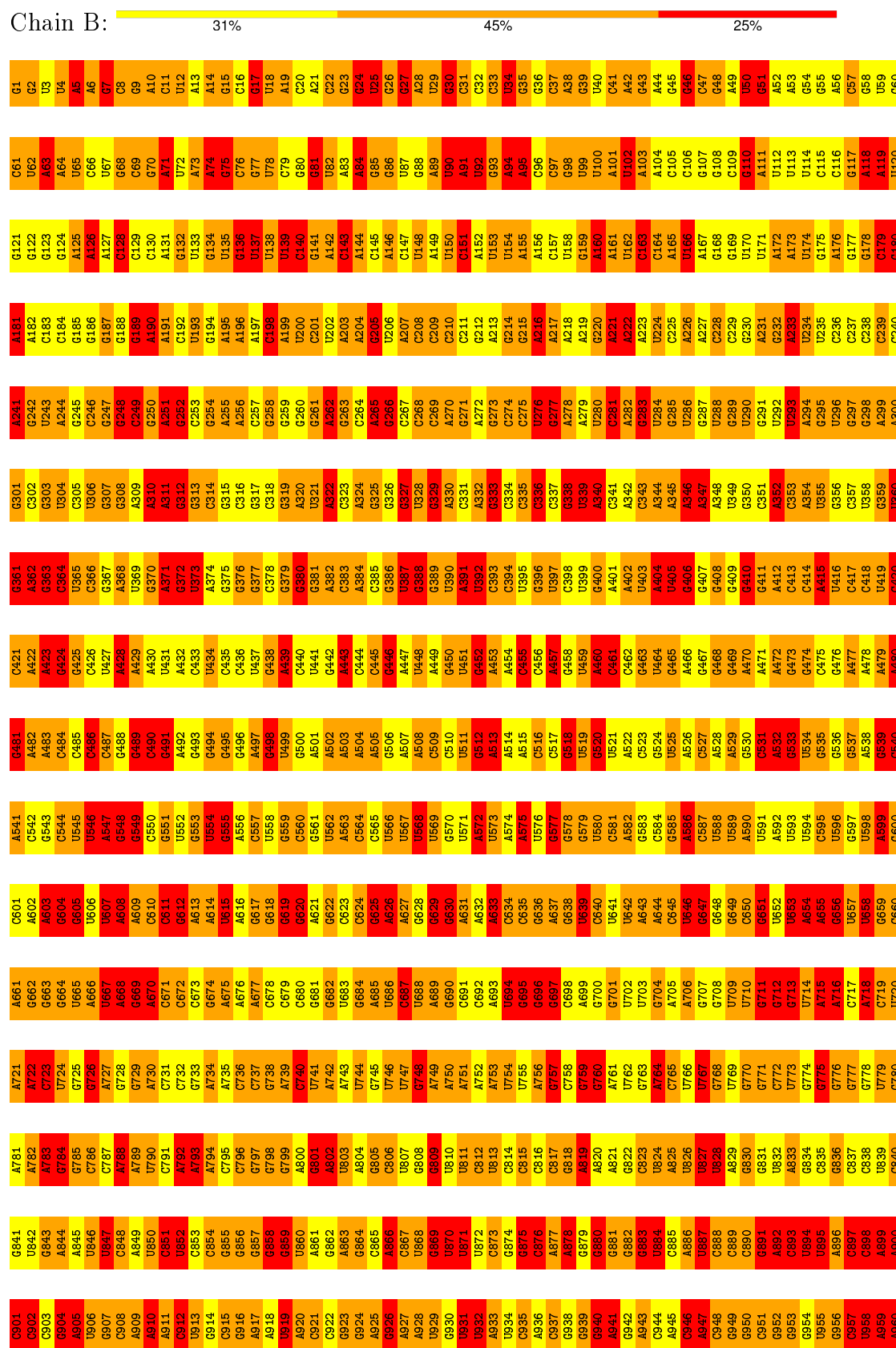
• Molecule 10: GTPASE OBGE/CGTA



• Molecule 11: 5S rRNA

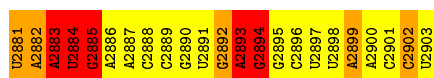


● Molecule 12: 23S RRNA



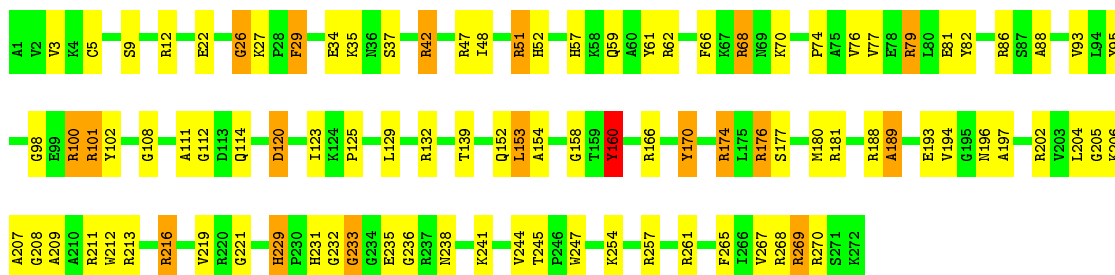
| | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| G1861 | A1801 | C1741 | G1681 | U1621 | C1561 | G1501 | G1441 | G1381 | A1321 | C1261 | U1201 | U1141 | U1081 | A1021 | C961 |
| G1862 | A1802 | U1742 | G1682 | G1622 | U1562 | A1502 | U1442 | G1382 | A1322 | A1262 | G1202 | A1142 | U1082 | G1022 | C962 |
| G1863 | A1803 | G1743 | G1683 | G1623 | U1563 | A1503 | G1443 | A1383 | G1323 | A1263 | U1203 | A1143 | U1083 | G1023 | C963 |
| G1864 | C1804 | A1744 | G1684 | U1624 | C1564 | A1504 | G1444 | A1384 | G1324 | A1264 | A1204 | A1144 | A1084 | G1024 | C964 |
| G1865 | A1805 | G1745 | C1685 | A1625 | C1565 | A1505 | G1445 | A1385 | U1325 | A1265 | A1205 | C1145 | A1085 | G1025 | C965 |
| G1866 | A1806 | A1746 | G1686 | A1626 | A1566 | U1506 | G1446 | C1386 | U1326 | G1266 | G1206 | C1146 | A1086 | G1026 | G966 |
| G1867 | G1807 | U1747 | G1687 | G1627 | G1567 | C1507 | C1447 | A1387 | A1327 | U1267 | C1207 | A1147 | G1087 | A1027 | U967 |
| G1868 | A1808 | C1748 | U1688 | U1628 | G1568 | A1508 | G1448 | G1388 | U1328 | A1268 | C1208 | U1148 | A1088 | A1028 | C968 |
| G1869 | A1809 | A1749 | A1689 | G1629 | A1569 | A1509 | G1449 | G1389 | U1329 | A1269 | U1209 | G1149 | A1089 | A1029 | G969 |
| A1870 | A1810 | G1750 | A1690 | A1630 | A1570 | G1510 | G1450 | U1390 | G1330 | C1270 | G1210 | A1150 | A1090 | C1030 | U970 |
| A1871 | G1811 | U1751 | G1691 | G1631 | A1571 | A1511 | C1451 | U1391 | G1331 | C1271 | G1211 | A1151 | G1091 | G1031 | G971 |
| A1872 | U1812 | G1752 | U1692 | A1632 | A1572 | A1512 | G1452 | A1392 | G1332 | A1272 | G1212 | C1152 | C1092 | A1032 | A972 |
| G1873 | G1813 | G1753 | G1693 | G1633 | G1573 | A1513 | A1453 | A1393 | G1333 | U1273 | A1213 | C1153 | G1093 | U1033 | A973 |
| G1874 | G1814 | A1754 | C1694 | A1634 | C1574 | G1514 | C1454 | U1394 | G1334 | A1274 | A1214 | G1154 | U1094 | G1034 | G974 |
| G1875 | A1815 | A1755 | G1695 | A1635 | C1575 | A1515 | G1455 | A1395 | G1335 | A1275 | G1215 | A1155 | A1095 | U1035 | A975 |
| G1876 | C1816 | G1756 | G1696 | U1636 | U1576 | G1516 | G1456 | A1396 | A1336 | A1276 | G1216 | A1156 | A1096 | G1036 | G976 |
| A1877 | G1817 | U1757 | A1697 | A1637 | C1577 | G1517 | U1457 | U1397 | G1337 | G1277 | U1217 | G1157 | U1097 | G1037 | G977 |
| G1878 | U1818 | G1758 | A1698 | C1638 | U1578 | G1518 | U1458 | C1398 | G1338 | C1278 | G1218 | C1158 | A1098 | G1038 | G978 |
| A1879 | A1819 | A1759 | G1699 | C1639 | A1579 | G1519 | G1459 | C1399 | G1339 | G1279 | U1219 | U1159 | G1099 | A1039 | A979 |
| U1880 | U1820 | C1760 | A1700 | A1640 | A1580 | U1520 | U1460 | U1400 | U1340 | G1280 | G1220 | G1160 | C1100 | A1040 | A980 |
| C1881 | A1821 | C1761 | A1701 | A1641 | G1581 | A1521 | C1461 | G1401 | G1341 | G1281 | C1221 | C1161 | U1101 | G1041 | A981 |
| U1882 | C1822 | G1762 | G1702 | G1642 | C1582 | A1522 | C1462 | U1402 | A1342 | U1282 | U1222 | G1162 | C1102 | G1042 | C982 |
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| | | | | | | | | | | | | | | | |
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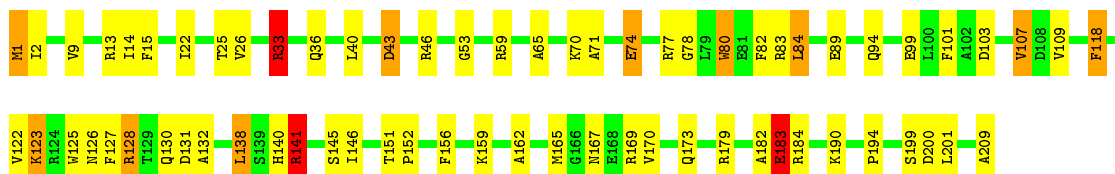
• Molecule 13: 50S RIBOSOMAL PROTEIN L2

Chain C: 64% 29% 7%



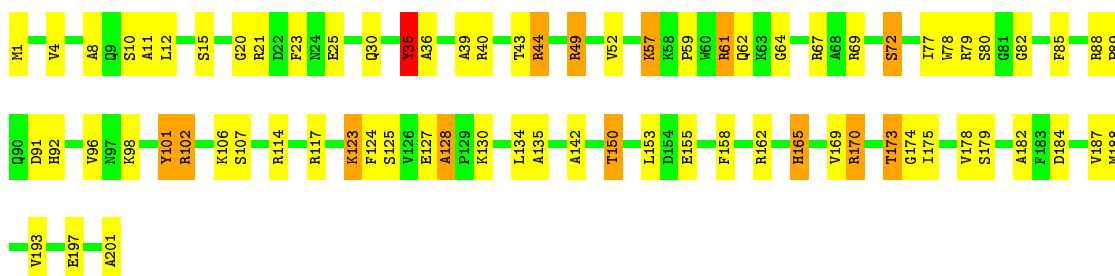
• Molecule 14: 50S RIBOSOMAL PROTEIN L3

Chain D: 67% 26% 5%



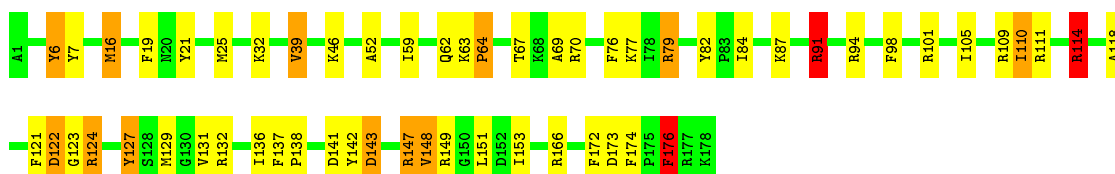
• Molecule 15: 50S RIBOSOMAL PROTEIN L4

Chain E: 63% 30% 6%



• Molecule 16: 50S RIBOSOMAL PROTEIN L5

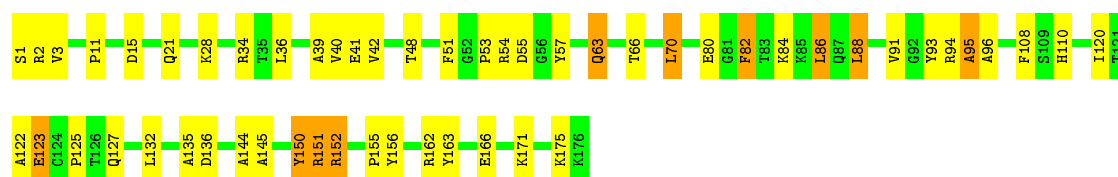
Chain F: 68% 24% 7%



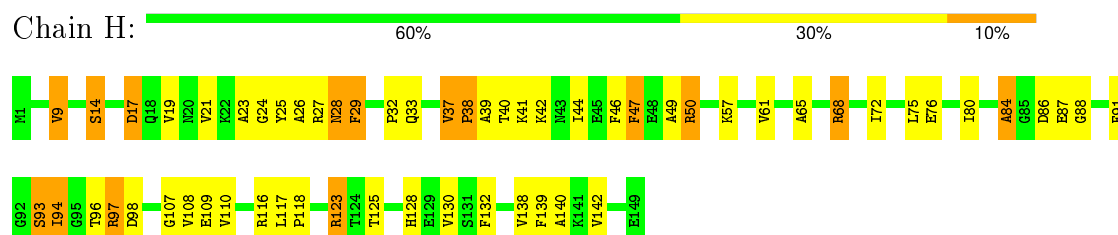
• Molecule 17: 50S RIBOSOMAL PROTEIN L6

Chain G: 69% 25% 6%

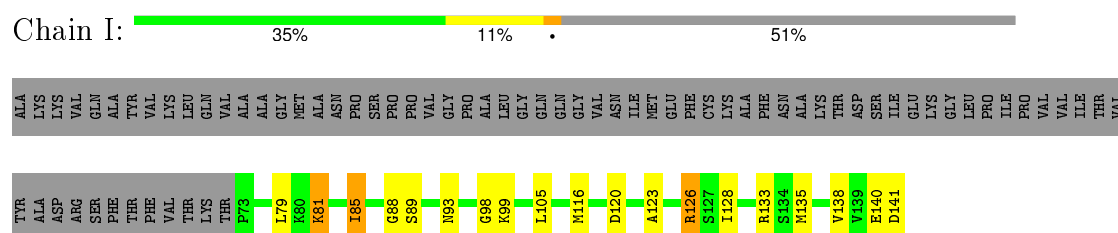




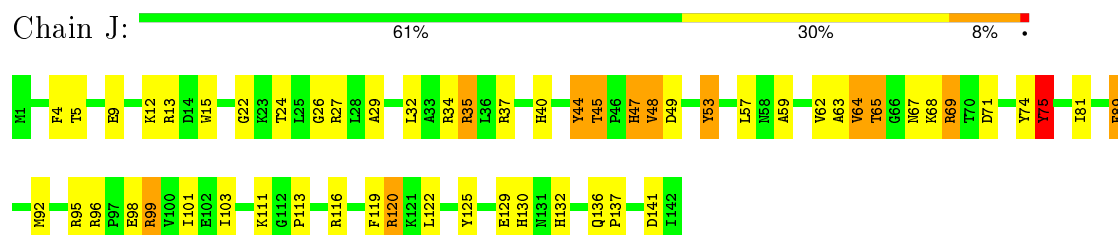
• Molecule 18: 50S RIBOSOMAL PROTEIN L9



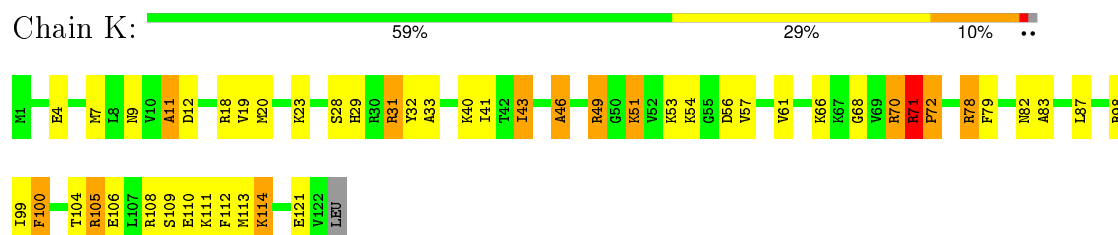
• Molecule 19: 50S RIBOSOMAL PROTEIN L11



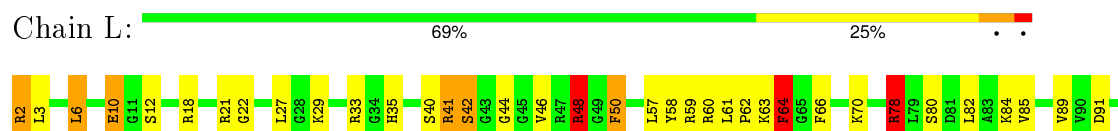
• Molecule 20: 50S RIBOSOMAL PROTEIN L13

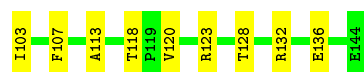


• Molecule 21: 50S RIBOSOMAL PROTEIN L14



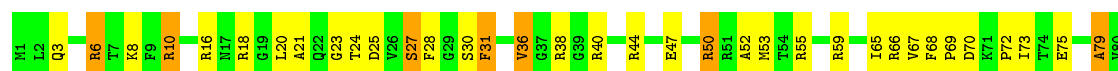
• Molecule 22: 50S RIBOSOMAL PROTEIN L15





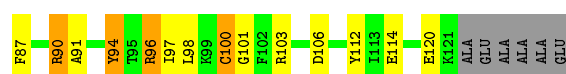
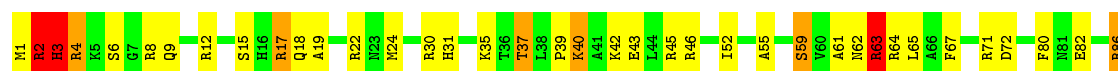
• Molecule 23: 50S RIBOSOMAL PROTEIN L16

Chain M: 65% 27% 7%



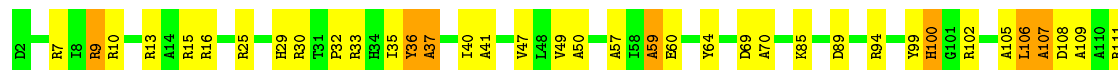
• Molecule 24: 50S RIBOSOMAL PROTEIN L17

Chain N: 54% 31% 8% 5%



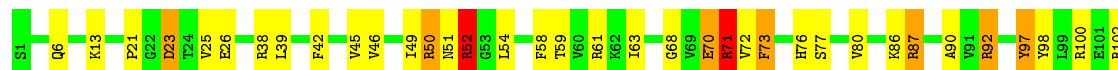
• Molecule 25: 50S RIBOSOMAL PROTEIN L18

Chain O: 66% 27% 7%



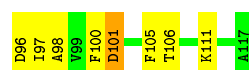
• Molecule 26: 50S RIBOSOMAL PROTEIN L19

Chain P: 66% 25% 7%

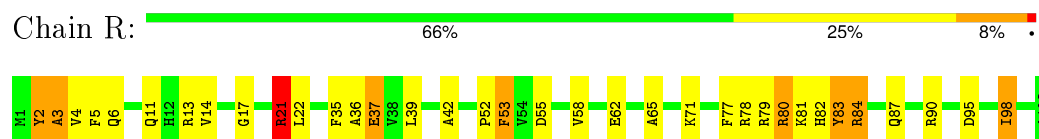


• Molecule 27: 50S RIBOSOMAL PROTEIN L20

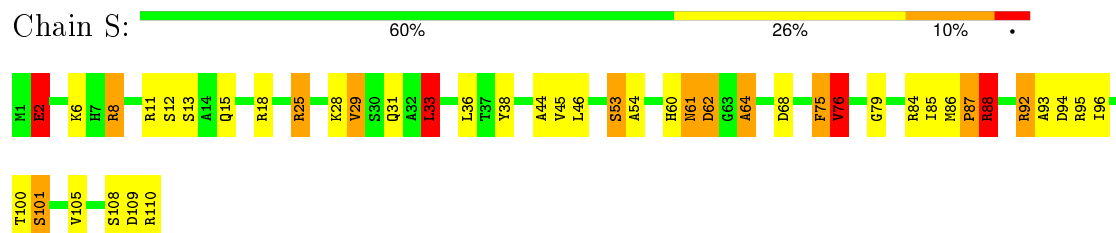
Chain Q: 60% 32% 7%



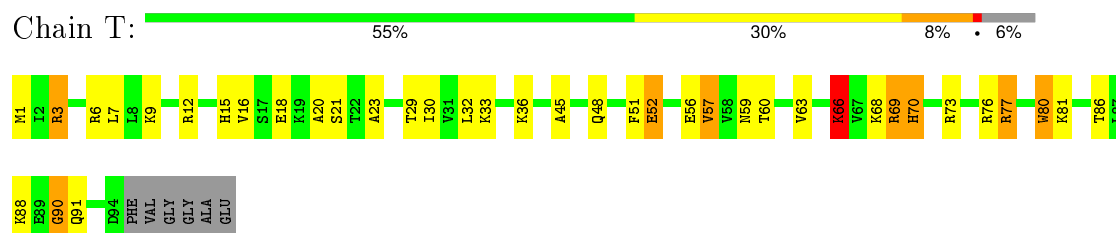
- Molecule 28: 50S RIBOSOMAL PROTEIN L21



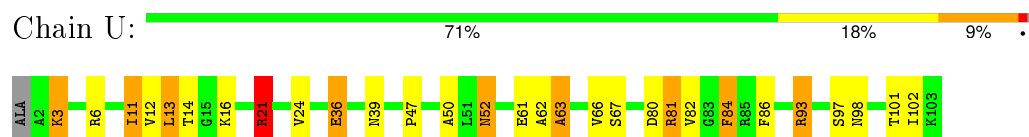
- Molecule 29: 50S RIBOSOMAL PROTEIN L22



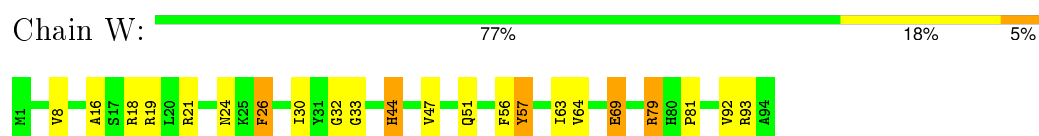
- Molecule 30: 50S RIBOSOMAL PROTEIN L23



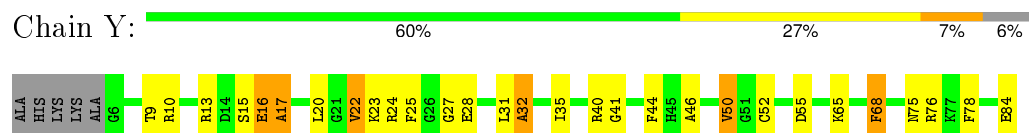
- Molecule 31: 50S RIBOSOMAL PROTEIN L24



- Molecule 32: 50S RIBOSOMAL PROTEIN L25



- Molecule 33: 50S RIBOSOMAL PROTEIN L27



4 Experimental information

| Property | Value | Source |
|--------------------------------------|------------------------------------|-----------|
| Reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | Depositor |
| Number of images | Not provided | Depositor |
| Resolution determination method | Not provided | Depositor |
| CTF correction method | INDIVIDUAL PARTICLES, Not provided | Depositor |
| Microscope | OTHER | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 20 | Depositor |
| Minimum defocus (nm) | 1000 | Depositor |
| Maximum defocus (nm) | 4000 | Depositor |
| Magnification | 59000 | Depositor |
| Image detector | FEI EAGLE 4K CCD | Depositor |

5 Model quality ⓘ

5.1 Standard geometry ⓘ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------------------|-------------|----------------------|
| | | RMSZ | $\# Z > 2$ | RMSZ | $\# Z > 2$ |
| 1 | 0 | 1.91 | 12/635 (1.9%) | 2.26 | 26/848 (3.1%) |
| 10 | 9 | 1.75 | 31/2584 (1.2%) | 2.10 | 81/3487 (2.3%) |
| 11 | A | 3.31 | 347/2744 (12.6%) | 3.75 | 664/4276 (15.5%) |
| 12 | B | 3.41 | 9451/69796 (13.5%) | 3.79 | 16403/108888 (15.1%) |
| 13 | C | 1.82 | 28/2122 (1.3%) | 2.15 | 58/2854 (2.0%) |
| 14 | D | 1.74 | 16/1586 (1.0%) | 1.95 | 36/2134 (1.7%) |
| 15 | E | 1.77 | 16/1571 (1.0%) | 2.04 | 50/2113 (2.4%) |
| 16 | F | 1.79 | 13/1444 (0.9%) | 2.00 | 35/1937 (1.8%) |
| 17 | G | 1.72 | 7/1336 (0.5%) | 1.90 | 26/1805 (1.4%) |
| 18 | H | 1.80 | 17/1122 (1.5%) | 2.05 | 42/1515 (2.8%) |
| 19 | I | 1.61 | 4/497 (0.8%) | 1.98 | 9/662 (1.4%) |
| 2 | 1 | 1.71 | 3/510 (0.6%) | 1.90 | 8/677 (1.2%) |
| 20 | J | 1.74 | 7/1152 (0.6%) | 2.02 | 42/1551 (2.7%) |
| 21 | K | 1.77 | 10/941 (1.1%) | 2.00 | 29/1260 (2.3%) |
| 22 | L | 1.81 | 17/1054 (1.6%) | 2.02 | 32/1403 (2.3%) |
| 23 | M | 1.84 | 20/1093 (1.8%) | 1.97 | 26/1460 (1.8%) |
| 24 | N | 1.80 | 11/974 (1.1%) | 2.02 | 28/1303 (2.1%) |
| 25 | O | 1.79 | 9/902 (1.0%) | 2.02 | 28/1209 (2.3%) |
| 26 | P | 1.77 | 9/929 (1.0%) | 2.06 | 24/1242 (1.9%) |
| 27 | Q | 1.81 | 11/960 (1.1%) | 2.20 | 45/1278 (3.5%) |
| 28 | R | 1.78 | 9/829 (1.1%) | 2.04 | 24/1107 (2.2%) |
| 29 | S | 1.83 | 13/864 (1.5%) | 2.05 | 31/1156 (2.7%) |
| 3 | 2 | 1.85 | 8/453 (1.8%) | 1.91 | 10/605 (1.7%) |
| 30 | T | 1.69 | 4/745 (0.5%) | 2.01 | 22/996 (2.2%) |
| 31 | U | 1.71 | 5/764 (0.7%) | 1.86 | 11/1019 (1.1%) |
| 32 | W | 1.76 | 8/766 (1.0%) | 1.92 | 13/1025 (1.3%) |
| 33 | Y | 1.76 | 5/603 (0.8%) | 2.03 | 15/797 (1.9%) |
| 4 | 3 | 1.79 | 6/450 (1.3%) | 2.16 | 16/599 (2.7%) |
| 5 | 4 | 1.66 | 1/417 (0.2%) | 1.93 | 5/556 (0.9%) |
| 6 | 5 | 1.69 | 15/1748 (0.9%) | 1.91 | 38/2355 (1.6%) |
| 7 | 6 | 1.86 | 6/380 (1.6%) | 2.24 | 15/498 (3.0%) |
| 8 | 7 | 1.76 | 6/513 (1.2%) | 1.99 | 14/676 (2.1%) |
| 9 | 8 | 1.77 | 4/303 (1.3%) | 1.84 | 3/397 (0.8%) |
| All | All | 3.02 | 10129/102787 (9.9%) | 3.41 | 17909/153688 (11.7%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | 0 | 0 | 2 |
| 10 | 9 | 0 | 27 |
| 11 | A | 0 | 55 |
| 12 | B | 0 | 1482 |
| 13 | C | 0 | 9 |
| 14 | D | 0 | 4 |
| 15 | E | 0 | 5 |
| 16 | F | 0 | 6 |
| 17 | G | 0 | 4 |
| 18 | H | 0 | 2 |
| 2 | 1 | 0 | 2 |
| 20 | J | 0 | 6 |
| 21 | K | 0 | 7 |
| 22 | L | 0 | 2 |
| 23 | M | 0 | 7 |
| 24 | N | 0 | 7 |
| 25 | O | 0 | 5 |
| 26 | P | 0 | 3 |
| 27 | Q | 0 | 4 |
| 28 | R | 0 | 5 |
| 29 | S | 0 | 3 |
| 3 | 2 | 0 | 1 |
| 30 | T | 0 | 2 |
| 31 | U | 0 | 2 |
| 32 | W | 0 | 3 |
| 33 | Y | 0 | 3 |
| 4 | 3 | 0 | 2 |
| 5 | 4 | 0 | 2 |
| 6 | 5 | 0 | 3 |
| 7 | 6 | 0 | 6 |
| 8 | 7 | 0 | 3 |
| 9 | 8 | 0 | 1 |
| All | All | 0 | 1675 |

All (10129) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 12 | B | 2225 | A | N7-C5 | -20.53 | 1.26 | 1.39 |
| 12 | B | 2105 | U | C2-N3 | 19.07 | 1.51 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 12 | B | 1853 | A | N7-C5 | -18.25 | 1.28 | 1.39 |
| 12 | B | 548 | G | N7-C5 | -17.75 | 1.28 | 1.39 |
| 12 | B | 1501 | G | C6-N1 | 17.64 | 1.51 | 1.39 |
| 12 | B | 2308 | G | N7-C5 | -17.58 | 1.28 | 1.39 |
| 12 | B | 1496 | A | N7-C5 | -17.48 | 1.28 | 1.39 |
| 12 | B | 895 | U | C2-N3 | 17.16 | 1.49 | 1.37 |
| 12 | B | 2291 | U | C2-N3 | 17.16 | 1.49 | 1.37 |
| 12 | B | 1872 | A | N7-C5 | 17.08 | 1.49 | 1.39 |
| 12 | B | 2733 | A | N7-C5 | -16.79 | 1.29 | 1.39 |
| 12 | B | 190 | A | N7-C5 | -16.70 | 1.29 | 1.39 |
| 12 | B | 1784 | A | N7-C5 | -16.66 | 1.29 | 1.39 |
| 12 | B | 2020 | A | N7-C5 | -16.59 | 1.29 | 1.39 |
| 12 | B | 2430 | A | N7-C5 | -16.51 | 1.29 | 1.39 |
| 12 | B | 1808 | A | N7-C5 | -16.08 | 1.29 | 1.39 |
| 12 | B | 2598 | A | N7-C5 | -16.06 | 1.29 | 1.39 |
| 12 | B | 2761 | A | N7-C5 | -15.98 | 1.29 | 1.39 |
| 12 | B | 1465 | G | C6-N1 | 15.95 | 1.50 | 1.39 |
| 12 | B | 2853 | C | N1-C6 | 15.94 | 1.46 | 1.37 |
| 12 | B | 812 | C | N1-C6 | 15.92 | 1.46 | 1.37 |
| 12 | B | 91 | A | N3-C4 | -15.85 | 1.25 | 1.34 |
| 12 | B | 547 | A | N7-C5 | -15.83 | 1.29 | 1.39 |
| 12 | B | 1098 | A | N7-C5 | -15.81 | 1.29 | 1.39 |
| 12 | B | 2452 | C | N1-C6 | 15.78 | 1.46 | 1.37 |
| 12 | B | 1612 | C | N1-C6 | 15.69 | 1.46 | 1.37 |
| 12 | B | 1586 | A | N7-C5 | -15.66 | 1.29 | 1.39 |
| 12 | B | 636 | G | C2-N3 | 15.49 | 1.45 | 1.32 |
| 12 | B | 2378 | A | N3-C4 | -15.39 | 1.25 | 1.34 |
| 12 | B | 2217 | G | N7-C5 | -15.35 | 1.30 | 1.39 |
| 12 | B | 1336 | A | N7-C5 | -15.30 | 1.30 | 1.39 |
| 12 | B | 2108 | A | N7-C5 | -15.27 | 1.30 | 1.39 |
| 12 | B | 821 | A | N7-C5 | -15.25 | 1.30 | 1.39 |
| 12 | B | 891 | G | N9-C4 | -15.21 | 1.25 | 1.38 |
| 12 | B | 384 | A | N9-C4 | 15.12 | 1.47 | 1.37 |
| 11 | A | 55 | U | C2-N3 | 15.10 | 1.48 | 1.37 |
| 12 | B | 538 | A | N9-C4 | -15.09 | 1.28 | 1.37 |
| 12 | B | 727 | A | N9-C4 | -15.07 | 1.28 | 1.37 |
| 12 | B | 676 | A | N3-C4 | -15.06 | 1.25 | 1.34 |
| 12 | B | 342 | A | N7-C5 | -14.97 | 1.30 | 1.39 |
| 12 | B | 1384 | A | N7-C5 | -14.95 | 1.30 | 1.39 |
| 12 | B | 878 | A | N3-C4 | -14.89 | 1.25 | 1.34 |
| 12 | B | 2288 | A | C6-N6 | 14.88 | 1.45 | 1.33 |
| 12 | B | 2530 | A | N7-C5 | -14.88 | 1.30 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 12 | B | 1211 | C | N1-C6 | 14.86 | 1.46 | 1.37 |
| 12 | B | 280 | U | N3-C4 | 14.84 | 1.51 | 1.38 |
| 12 | B | 605 | G | N7-C5 | -14.82 | 1.30 | 1.39 |
| 12 | B | 1538 | G | C2-N3 | 14.81 | 1.44 | 1.32 |
| 12 | B | 2518 | A | N7-C5 | -14.81 | 1.30 | 1.39 |
| 12 | B | 1377 | G | N7-C5 | -14.78 | 1.30 | 1.39 |
| 12 | B | 63 | A | N7-C5 | -14.75 | 1.30 | 1.39 |
| 12 | B | 843 | G | N9-C8 | 14.72 | 1.48 | 1.37 |
| 12 | B | 2808 | G | N7-C5 | -14.67 | 1.30 | 1.39 |
| 12 | B | 450 | G | C8-N7 | -14.66 | 1.22 | 1.30 |
| 12 | B | 2049 | G | N1-C2 | 14.65 | 1.49 | 1.37 |
| 12 | B | 1969 | A | N7-C5 | -14.64 | 1.30 | 1.39 |
| 12 | B | 30 | G | N7-C5 | -14.58 | 1.30 | 1.39 |
| 12 | B | 30 | G | C2-N3 | 14.53 | 1.44 | 1.32 |
| 12 | B | 1676 | A | N7-C5 | -14.44 | 1.30 | 1.39 |
| 12 | B | 1678 | A | C6-N6 | 14.41 | 1.45 | 1.33 |
| 12 | B | 1211 | C | N3-C4 | 14.38 | 1.44 | 1.33 |
| 12 | B | 819 | A | N7-C5 | -14.36 | 1.30 | 1.39 |
| 12 | B | 1988 | G | C5-C4 | 14.22 | 1.48 | 1.38 |
| 12 | B | 2789 | C | N1-C6 | 14.22 | 1.45 | 1.37 |
| 12 | B | 2215 | C | N1-C6 | -14.21 | 1.28 | 1.37 |
| 12 | B | 2731 | G | N9-C4 | -14.21 | 1.26 | 1.38 |
| 12 | B | 2122 | U | C2-N3 | 14.18 | 1.47 | 1.37 |
| 12 | B | 2303 | G | N7-C5 | -14.14 | 1.30 | 1.39 |
| 12 | B | 943 | A | N9-C4 | -14.11 | 1.29 | 1.37 |
| 12 | B | 2238 | G | N7-C5 | -14.11 | 1.30 | 1.39 |
| 12 | B | 374 | A | N7-C5 | -14.04 | 1.30 | 1.39 |
| 12 | B | 682 | G | C6-N1 | 14.02 | 1.49 | 1.39 |
| 12 | B | 442 | G | C2-N3 | 13.97 | 1.44 | 1.32 |
| 12 | B | 2834 | G | N7-C5 | -13.89 | 1.30 | 1.39 |
| 12 | B | 2587 | A | N7-C5 | -13.89 | 1.30 | 1.39 |
| 12 | B | 1641 | A | N9-C4 | -13.84 | 1.29 | 1.37 |
| 12 | B | 1878 | G | C2-N3 | 13.83 | 1.43 | 1.32 |
| 12 | B | 1580 | A | N7-C5 | -13.81 | 1.30 | 1.39 |
| 12 | B | 2429 | G | C2-N3 | 13.78 | 1.43 | 1.32 |
| 12 | B | 267 | C | N1-C6 | 13.77 | 1.45 | 1.37 |
| 12 | B | 1816 | C | N1-C6 | 13.76 | 1.45 | 1.37 |
| 12 | B | 2748 | A | C6-N1 | 13.76 | 1.45 | 1.35 |
| 12 | B | 515 | A | C8-N7 | -13.76 | 1.22 | 1.31 |
| 12 | B | 953 | G | N7-C5 | -13.72 | 1.31 | 1.39 |
| 12 | B | 502 | A | N7-C5 | -13.71 | 1.31 | 1.39 |
| 12 | B | 2228 | G | N9-C8 | 13.69 | 1.47 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 12 | B | 1743 | G | C2-N3 | 13.69 | 1.43 | 1.32 |
| 12 | B | 2224 | G | C6-N1 | 13.69 | 1.49 | 1.39 |
| 12 | B | 44 | A | N7-C5 | -13.68 | 1.31 | 1.39 |
| 11 | A | 13 | G | C8-N7 | -13.67 | 1.22 | 1.30 |
| 12 | B | 705 | A | C8-N7 | -13.66 | 1.22 | 1.31 |
| 12 | B | 1948 | G | N1-C2 | 13.65 | 1.48 | 1.37 |
| 12 | B | 750 | A | N7-C5 | -13.64 | 1.31 | 1.39 |
| 12 | B | 2800 | A | C6-N6 | 13.63 | 1.44 | 1.33 |
| 12 | B | 2051 | A | N7-C5 | -13.61 | 1.31 | 1.39 |
| 12 | B | 1316 | U | C2-N3 | 13.61 | 1.47 | 1.37 |
| 12 | B | 2711 | A | N7-C5 | -13.60 | 1.31 | 1.39 |
| 12 | B | 1357 | C | N3-C4 | 13.59 | 1.43 | 1.33 |
| 12 | B | 1429 | G | N7-C5 | -13.58 | 1.31 | 1.39 |
| 12 | B | 2677 | G | N7-C5 | -13.58 | 1.31 | 1.39 |
| 12 | B | 505 | A | N7-C5 | -13.57 | 1.31 | 1.39 |
| 12 | B | 2093 | G | N7-C5 | -13.56 | 1.31 | 1.39 |
| 12 | B | 410 | G | C2-N3 | 13.48 | 1.43 | 1.32 |
| 12 | B | 727 | A | N3-C4 | -13.48 | 1.26 | 1.34 |
| 12 | B | 370 | G | N9-C8 | -13.47 | 1.28 | 1.37 |
| 12 | B | 2784 | U | C2-N3 | 13.46 | 1.47 | 1.37 |
| 12 | B | 1969 | A | N9-C4 | -13.46 | 1.29 | 1.37 |
| 12 | B | 1364 | G | N7-C5 | -13.40 | 1.31 | 1.39 |
| 12 | B | 152 | A | N7-C5 | 13.40 | 1.47 | 1.39 |
| 12 | B | 2851 | A | C6-N1 | 13.39 | 1.45 | 1.35 |
| 12 | B | 781 | A | N7-C5 | -13.34 | 1.31 | 1.39 |
| 12 | B | 2899 | A | C5-C4 | 13.34 | 1.48 | 1.38 |
| 12 | B | 1666 | G | N7-C5 | -13.32 | 1.31 | 1.39 |
| 12 | B | 272 | A | C6-N6 | 13.31 | 1.44 | 1.33 |
| 12 | B | 2879 | A | N3-C4 | -13.30 | 1.26 | 1.34 |
| 11 | A | 51 | G | N3-C4 | 13.27 | 1.44 | 1.35 |
| 11 | A | 7 | G | C2-N3 | 13.25 | 1.43 | 1.32 |
| 12 | B | 329 | G | C2-N3 | 13.17 | 1.43 | 1.32 |
| 12 | B | 2732 | G | N7-C5 | -13.16 | 1.31 | 1.39 |
| 12 | B | 930 | G | C5-C4 | 13.14 | 1.47 | 1.38 |
| 12 | B | 2114 | A | N7-C5 | -13.14 | 1.31 | 1.39 |
| 11 | A | 15 | A | C8-N7 | -13.13 | 1.22 | 1.31 |
| 12 | B | 1342 | A | N7-C5 | -13.12 | 1.31 | 1.39 |
| 12 | B | 697 | G | C8-N7 | -13.12 | 1.23 | 1.30 |
| 12 | B | 2174 | C | C4-N4 | 13.10 | 1.45 | 1.33 |
| 12 | B | 478 | A | N7-C5 | -13.09 | 1.31 | 1.39 |
| 12 | B | 535 | G | C6-N1 | 13.09 | 1.48 | 1.39 |
| 12 | B | 1679 | A | P-O5' | -13.04 | 1.46 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1695 | G | C2-N2 | 13.03 | 1.47 | 1.34 |
| 12 | B | 875 | G | N9-C4 | -13.02 | 1.27 | 1.38 |
| 12 | B | 2055 | C | C2'-C1' | -13.02 | 1.39 | 1.53 |
| 12 | B | 980 | A | N7-C5 | -12.99 | 1.31 | 1.39 |
| 12 | B | 2838 | G | N7-C5 | -12.94 | 1.31 | 1.39 |
| 12 | B | 998 | C | N1-C6 | 12.93 | 1.45 | 1.37 |
| 12 | B | 71 | A | N7-C5 | -12.92 | 1.31 | 1.39 |
| 12 | B | 513 | A | N7-C5 | -12.92 | 1.31 | 1.39 |
| 12 | B | 2018 | G | C4'-C3' | -12.91 | 1.39 | 1.53 |
| 12 | B | 654 | A | N3-C4 | 12.90 | 1.42 | 1.34 |
| 12 | B | 1745 | A | N7-C5 | -12.90 | 1.31 | 1.39 |
| 12 | B | 1059 | G | C6-N1 | 12.88 | 1.48 | 1.39 |
| 12 | B | 364 | C | N3-C4 | 12.85 | 1.43 | 1.33 |
| 12 | B | 1699 | G | C6-N1 | 12.84 | 1.48 | 1.39 |
| 12 | B | 1913 | A | N9-C4 | -12.79 | 1.30 | 1.37 |
| 12 | B | 186 | G | N7-C5 | -12.79 | 1.31 | 1.39 |
| 12 | B | 381 | G | N1-C2 | 12.78 | 1.48 | 1.37 |
| 12 | B | 2250 | G | N7-C5 | -12.72 | 1.31 | 1.39 |
| 12 | B | 1721 | G | N7-C5 | -12.71 | 1.31 | 1.39 |
| 12 | B | 194 | G | C8-N7 | -12.66 | 1.23 | 1.30 |
| 12 | B | 2640 | G | C8-N7 | 12.66 | 1.38 | 1.30 |
| 12 | B | 676 | A | N7-C5 | -12.66 | 1.31 | 1.39 |
| 12 | B | 665 | U | N3-C4 | 12.66 | 1.49 | 1.38 |
| 12 | B | 15 | G | C2-N3 | 12.64 | 1.42 | 1.32 |
| 12 | B | 89 | A | N3-C4 | -12.64 | 1.27 | 1.34 |
| 12 | B | 2732 | G | C8-N7 | -12.63 | 1.23 | 1.30 |
| 12 | B | 625 | G | C2-N3 | 12.63 | 1.42 | 1.32 |
| 12 | B | 1432 | G | N7-C5 | -12.63 | 1.31 | 1.39 |
| 12 | B | 1613 | G | C8-N7 | -12.62 | 1.23 | 1.30 |
| 12 | B | 1201 | U | C2-N3 | 12.61 | 1.46 | 1.37 |
| 12 | B | 1124 | G | C2-N3 | 12.61 | 1.42 | 1.32 |
| 12 | B | 474 | G | C6-N1 | 12.59 | 1.48 | 1.39 |
| 12 | B | 961 | C | N1-C6 | 12.58 | 1.44 | 1.37 |
| 12 | B | 1139 | G | N7-C5 | -12.57 | 1.31 | 1.39 |
| 12 | B | 1630 | A | N7-C5 | -12.57 | 1.31 | 1.39 |
| 12 | B | 181 | A | N7-C5 | -12.54 | 1.31 | 1.39 |
| 12 | B | 540 | C | C2-N3 | 12.54 | 1.45 | 1.35 |
| 12 | B | 2430 | A | N9-C4 | 12.53 | 1.45 | 1.37 |
| 12 | B | 1429 | G | C2-N3 | 12.53 | 1.42 | 1.32 |
| 12 | B | 1809 | A | N7-C5 | -12.52 | 1.31 | 1.39 |
| 12 | B | 874 | G | N7-C5 | -12.51 | 1.31 | 1.39 |
| 12 | B | 1247 | A | N9-C4 | 12.50 | 1.45 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 12 | B | 1422 | G | N9-C8 | 12.48 | 1.46 | 1.37 |
| 12 | B | 1689 | A | N7-C5 | -12.47 | 1.31 | 1.39 |
| 12 | B | 327 | G | C6-N1 | 12.46 | 1.48 | 1.39 |
| 12 | B | 1144 | A | C6-N6 | 12.45 | 1.44 | 1.33 |
| 12 | B | 2078 | C | N3-C4 | 12.45 | 1.42 | 1.33 |
| 12 | B | 899 | A | C6-N1 | 12.45 | 1.44 | 1.35 |
| 12 | B | 1811 | G | N7-C5 | -12.45 | 1.31 | 1.39 |
| 12 | B | 1817 | G | C2-N3 | 12.44 | 1.42 | 1.32 |
| 12 | B | 2582 | G | C6-N1 | 12.43 | 1.48 | 1.39 |
| 12 | B | 2727 | A | N7-C5 | -12.41 | 1.31 | 1.39 |
| 12 | B | 778 | G | N7-C5 | -12.36 | 1.31 | 1.39 |
| 12 | B | 1285 | A | C5-C4 | 12.35 | 1.47 | 1.38 |
| 12 | B | 1897 | G | C2-N3 | 12.35 | 1.42 | 1.32 |
| 12 | B | 2309 | A | N7-C5 | -12.35 | 1.31 | 1.39 |
| 12 | B | 1179 | G | N1-C2 | 12.31 | 1.47 | 1.37 |
| 12 | B | 912 | C | C4-N4 | 12.30 | 1.45 | 1.33 |
| 12 | B | 2835 | A | N7-C5 | -12.30 | 1.31 | 1.39 |
| 12 | B | 497 | A | N7-C5 | -12.29 | 1.31 | 1.39 |
| 12 | B | 960 | A | C6-N6 | 12.29 | 1.43 | 1.33 |
| 12 | B | 51 | G | N7-C5 | -12.28 | 1.31 | 1.39 |
| 12 | B | 54 | G | N1-C2 | 12.27 | 1.47 | 1.37 |
| 12 | B | 73 | A | N7-C5 | -12.25 | 1.31 | 1.39 |
| 12 | B | 1001 | A | N7-C5 | -12.25 | 1.31 | 1.39 |
| 12 | B | 1138 | G | C2-N3 | 12.24 | 1.42 | 1.32 |
| 12 | B | 300 | A | N7-C5 | -12.24 | 1.31 | 1.39 |
| 12 | B | 1735 | A | N7-C5 | -12.23 | 1.31 | 1.39 |
| 12 | B | 1011 | G | N3-C4 | -12.21 | 1.26 | 1.35 |
| 12 | B | 2735 | G | N1-C2 | 12.21 | 1.47 | 1.37 |
| 12 | B | 733 | G | P-O5' | -12.21 | 1.47 | 1.59 |
| 12 | B | 2054 | A | N7-C5 | -12.19 | 1.31 | 1.39 |
| 12 | B | 1310 | G | N7-C5 | -12.19 | 1.31 | 1.39 |
| 12 | B | 146 | A | C6-N1 | 12.18 | 1.44 | 1.35 |
| 12 | B | 2346 | A | N7-C5 | -12.17 | 1.31 | 1.39 |
| 12 | B | 1668 | A | N7-C5 | -12.16 | 1.31 | 1.39 |
| 12 | B | 1858 | A | N7-C5 | -12.15 | 1.31 | 1.39 |
| 12 | B | 1916 | A | C6-N6 | 12.11 | 1.43 | 1.33 |
| 12 | B | 561 | G | N3-C4 | -12.10 | 1.26 | 1.35 |
| 12 | B | 2424 | C | N3-C4 | 12.10 | 1.42 | 1.33 |
| 12 | B | 2353 | G | N7-C5 | -12.09 | 1.31 | 1.39 |
| 12 | B | 889 | C | N3-C4 | 12.08 | 1.42 | 1.33 |
| 12 | B | 2027 | G | N9-C8 | -12.07 | 1.29 | 1.37 |
| 11 | A | 23 | G | N1-C2 | 12.06 | 1.47 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 12 | B | 1199 | U | C2-N3 | 12.05 | 1.46 | 1.37 |
| 12 | B | 2044 | C | N3-C4 | 12.04 | 1.42 | 1.33 |
| 12 | B | 1354 | A | N3-C4 | -12.04 | 1.27 | 1.34 |
| 12 | B | 1899 | A | N9-C4 | -12.04 | 1.30 | 1.37 |
| 12 | B | 2550 | G | N9-C8 | 12.04 | 1.46 | 1.37 |
| 12 | B | 339 | U | P-O5' | -12.03 | 1.47 | 1.59 |
| 12 | B | 270 | A | N7-C5 | 12.02 | 1.46 | 1.39 |
| 12 | B | 946 | C | N3-C4 | 12.00 | 1.42 | 1.33 |
| 12 | B | 2731 | G | N7-C5 | -11.98 | 1.32 | 1.39 |
| 12 | B | 2121 | G | N3-C4 | -11.96 | 1.27 | 1.35 |
| 12 | B | 1254 | A | O3'-P | -11.95 | 1.46 | 1.61 |
| 12 | B | 1667 | G | C2-N3 | 11.95 | 1.42 | 1.32 |
| 12 | B | 2082 | A | N7-C5 | -11.94 | 1.32 | 1.39 |
| 12 | B | 2297 | A | N7-C5 | -11.93 | 1.32 | 1.39 |
| 12 | B | 1544 | A | N3-C4 | -11.92 | 1.27 | 1.34 |
| 12 | B | 733 | G | C6-N1 | 11.91 | 1.47 | 1.39 |
| 12 | B | 2369 | A | N9-C4 | -11.91 | 1.30 | 1.37 |
| 12 | B | 2725 | A | N3-C4 | -11.91 | 1.27 | 1.34 |
| 12 | B | 1504 | A | N7-C5 | -11.91 | 1.32 | 1.39 |
| 12 | B | 2264 | C | C4-C5 | -11.89 | 1.33 | 1.43 |
| 12 | B | 2467 | C | P-O5' | -11.89 | 1.47 | 1.59 |
| 12 | B | 1894 | C | N1-C6 | 11.88 | 1.44 | 1.37 |
| 12 | B | 908 | C | N1-C6 | 11.87 | 1.44 | 1.37 |
| 12 | B | 1272 | A | N3-C4 | -11.85 | 1.27 | 1.34 |
| 12 | B | 1952 | A | N3-C4 | 11.85 | 1.42 | 1.34 |
| 12 | B | 1096 | A | N3-C4 | -11.84 | 1.27 | 1.34 |
| 12 | B | 1750 | G | C6-N1 | 11.81 | 1.47 | 1.39 |
| 12 | B | 152 | A | N9-C4 | 11.80 | 1.45 | 1.37 |
| 12 | B | 1543 | G | C2-N3 | 11.78 | 1.42 | 1.32 |
| 12 | B | 1733 | G | C2-N3 | 11.77 | 1.42 | 1.32 |
| 12 | B | 2510 | C | P-O5' | -11.77 | 1.48 | 1.59 |
| 12 | B | 1477 | A | C6-N6 | 11.76 | 1.43 | 1.33 |
| 12 | B | 354 | A | N7-C5 | -11.74 | 1.32 | 1.39 |
| 12 | B | 2295 | C | N3-C4 | 11.73 | 1.42 | 1.33 |
| 12 | B | 1598 | A | N9-C4 | 11.72 | 1.44 | 1.37 |
| 12 | B | 1277 | G | N9-C4 | -11.71 | 1.28 | 1.38 |
| 12 | B | 2631 | G | C6-N1 | 11.70 | 1.47 | 1.39 |
| 12 | B | 2365 | G | N3-C4 | -11.70 | 1.27 | 1.35 |
| 12 | B | 221 | A | N7-C5 | -11.69 | 1.32 | 1.39 |
| 12 | B | 1457 | U | C2-N3 | 11.68 | 1.46 | 1.37 |
| 12 | B | 2763 | G | C6-N1 | 11.67 | 1.47 | 1.39 |
| 12 | B | 2886 | A | C6-N6 | 11.67 | 1.43 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 2519 | U | C2-N3 | 11.67 | 1.46 | 1.37 |
| 12 | B | 1566 | A | N7-C5 | -11.66 | 1.32 | 1.39 |
| 12 | B | 2156 | G | N7-C5 | -11.66 | 1.32 | 1.39 |
| 12 | B | 1553 | A | C2'-C1' | -11.65 | 1.40 | 1.53 |
| 12 | B | 2223 | G | C6-N1 | 11.65 | 1.47 | 1.39 |
| 12 | B | 287 | G | C2-N3 | 11.65 | 1.42 | 1.32 |
| 12 | B | 2207 | C | N3-C4 | 11.63 | 1.42 | 1.33 |
| 12 | B | 1134 | A | N3-C4 | 11.63 | 1.41 | 1.34 |
| 12 | B | 1944 | U | C2-N3 | 11.62 | 1.45 | 1.37 |
| 12 | B | 449 | A | N7-C5 | -11.62 | 1.32 | 1.39 |
| 12 | B | 959 | A | N9-C4 | 11.62 | 1.44 | 1.37 |
| 12 | B | 54 | G | N7-C5 | -11.62 | 1.32 | 1.39 |
| 12 | B | 2650 | U | P-O5' | -11.61 | 1.48 | 1.59 |
| 12 | B | 2669 | G | N1-C2 | 11.61 | 1.47 | 1.37 |
| 12 | B | 1516 | G | N7-C5 | -11.60 | 1.32 | 1.39 |
| 12 | B | 1803 | A | N7-C5 | -11.59 | 1.32 | 1.39 |
| 12 | B | 1301 | A | N7-C5 | -11.59 | 1.32 | 1.39 |
| 12 | B | 1377 | G | C2-N3 | 11.58 | 1.42 | 1.32 |
| 12 | B | 442 | G | C6-N1 | 11.57 | 1.47 | 1.39 |
| 12 | B | 1952 | A | N9-C4 | 11.56 | 1.44 | 1.37 |
| 12 | B | 2896 | C | N1-C6 | 11.56 | 1.44 | 1.37 |
| 12 | B | 376 | G | N3-C4 | -11.54 | 1.27 | 1.35 |
| 12 | B | 1651 | G | C2-N3 | 11.54 | 1.42 | 1.32 |
| 12 | B | 1717 | A | P-O5' | -11.54 | 1.48 | 1.59 |
| 12 | B | 1080 | A | N7-C5 | -11.53 | 1.32 | 1.39 |
| 12 | B | 1355 | G | C2-N3 | 11.53 | 1.42 | 1.32 |
| 12 | B | 1008 | A | C6-N6 | 11.53 | 1.43 | 1.33 |
| 12 | B | 144 | A | C6-N6 | 11.52 | 1.43 | 1.33 |
| 12 | B | 576 | U | C2'-C1' | -11.52 | 1.40 | 1.53 |
| 12 | B | 1483 | G | C6-N1 | -11.51 | 1.31 | 1.39 |
| 12 | B | 1809 | A | N9-C4 | -11.51 | 1.30 | 1.37 |
| 12 | B | 689 | A | N9-C8 | -11.50 | 1.28 | 1.37 |
| 12 | B | 875 | G | N7-C5 | 11.50 | 1.46 | 1.39 |
| 12 | B | 1702 | G | C8-N7 | -11.50 | 1.24 | 1.30 |
| 12 | B | 1552 | A | N7-C5 | -11.50 | 1.32 | 1.39 |
| 12 | B | 2737 | G | N7-C5 | -11.49 | 1.32 | 1.39 |
| 12 | B | 2059 | A | C6-N6 | 11.49 | 1.43 | 1.33 |
| 12 | B | 1674 | G | N7-C5 | 11.47 | 1.46 | 1.39 |
| 12 | B | 1405 | U | C2-N3 | 11.46 | 1.45 | 1.37 |
| 12 | B | 977 | G | N7-C5 | -11.45 | 1.32 | 1.39 |
| 12 | B | 1280 | G | C6-N1 | 11.46 | 1.47 | 1.39 |
| 12 | B | 2154 | A | N7-C5 | -11.45 | 1.32 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 11 | A | 82 | U | C2-N3 | 11.44 | 1.45 | 1.37 |
| 11 | A | 107 | G | C2-N3 | 11.44 | 1.41 | 1.32 |
| 12 | B | 96 | C | N1-C6 | 11.43 | 1.44 | 1.37 |
| 12 | B | 202 | U | C2-N3 | 11.43 | 1.45 | 1.37 |
| 12 | B | 1271 | G | N1-C2 | 11.42 | 1.46 | 1.37 |
| 12 | B | 2534 | A | N1-C2 | 11.42 | 1.44 | 1.34 |
| 12 | B | 1115 | G | N9-C4 | -11.42 | 1.28 | 1.38 |
| 12 | B | 715 | A | C6-N6 | 11.42 | 1.43 | 1.33 |
| 12 | B | 1609 | A | N9-C4 | 11.42 | 1.44 | 1.37 |
| 12 | B | 2756 | U | C2-N3 | 11.42 | 1.45 | 1.37 |
| 12 | B | 119 | A | C8-N7 | -11.41 | 1.23 | 1.31 |
| 12 | B | 619 | G | C2-N3 | 11.39 | 1.41 | 1.32 |
| 12 | B | 770 | G | C6-N1 | 11.38 | 1.47 | 1.39 |
| 12 | B | 2277 | G | C2-N3 | 11.38 | 1.41 | 1.32 |
| 12 | B | 1034 | G | N7-C5 | -11.38 | 1.32 | 1.39 |
| 12 | B | 1452 | G | C6-N1 | 11.38 | 1.47 | 1.39 |
| 12 | B | 1637 | A | P-O5' | -11.37 | 1.48 | 1.59 |
| 12 | B | 1722 | A | N3-C4 | -11.36 | 1.28 | 1.34 |
| 12 | B | 2560 | A | C8-N7 | -11.36 | 1.23 | 1.31 |
| 12 | B | 958 | U | C2-N3 | 11.36 | 1.45 | 1.37 |
| 12 | B | 647 | G | C8-N7 | -11.35 | 1.24 | 1.30 |
| 12 | B | 1345 | C | N3-C4 | 11.34 | 1.41 | 1.33 |
| 12 | B | 1689 | A | C5-C6 | -11.34 | 1.30 | 1.41 |
| 12 | B | 1232 | G | N7-C5 | -11.34 | 1.32 | 1.39 |
| 12 | B | 1373 | A | N7-C5 | -11.34 | 1.32 | 1.39 |
| 12 | B | 2337 | G | P-O5' | 11.33 | 1.71 | 1.59 |
| 12 | B | 826 | U | C2-N3 | 11.32 | 1.45 | 1.37 |
| 12 | B | 2546 | U | P-O5' | -11.32 | 1.48 | 1.59 |
| 12 | B | 2675 | A | N9-C4 | 11.30 | 1.44 | 1.37 |
| 12 | B | 1253 | A | C6-N6 | 11.29 | 1.43 | 1.33 |
| 12 | B | 1746 | A | N3-C4 | -11.29 | 1.28 | 1.34 |
| 12 | B | 1846 | G | C5-C4 | 11.29 | 1.46 | 1.38 |
| 11 | A | 106 | G | C5-C4 | 11.28 | 1.46 | 1.38 |
| 12 | B | 1587 | G | C5-C4 | 11.28 | 1.46 | 1.38 |
| 12 | B | 2053 | G | N3-C4 | 11.28 | 1.43 | 1.35 |
| 12 | B | 552 | U | C2'-C1' | -11.27 | 1.41 | 1.53 |
| 12 | B | 1964 | G | C2-N3 | 11.27 | 1.41 | 1.32 |
| 12 | B | 1347 | A | N7-C5 | -11.27 | 1.32 | 1.39 |
| 11 | A | 60 | C | C4-N4 | 11.27 | 1.44 | 1.33 |
| 12 | B | 456 | C | N3-C4 | 11.26 | 1.41 | 1.33 |
| 12 | B | 2029 | G | C2-N2 | 11.26 | 1.45 | 1.34 |
| 12 | B | 101 | A | N3-C4 | -11.25 | 1.28 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1273 | U | N1-C2 | 11.25 | 1.48 | 1.38 |
| 12 | B | 1829 | A | C6-N6 | 11.25 | 1.43 | 1.33 |
| 12 | B | 1325 | U | C2-N3 | 11.24 | 1.45 | 1.37 |
| 12 | B | 1822 | C | N3-C4 | 11.24 | 1.41 | 1.33 |
| 12 | B | 2880 | C | P-O5' | -11.24 | 1.48 | 1.59 |
| 12 | B | 1542 | U | C2-N3 | 11.24 | 1.45 | 1.37 |
| 12 | B | 1860 | G | C6-N1 | 11.24 | 1.47 | 1.39 |
| 12 | B | 261 | G | N1-C2 | 11.22 | 1.46 | 1.37 |
| 12 | B | 136 | G | N7-C5 | -11.22 | 1.32 | 1.39 |
| 12 | B | 869 | G | C6-N1 | 11.22 | 1.47 | 1.39 |
| 12 | B | 345 | A | N3-C4 | -11.21 | 1.28 | 1.34 |
| 12 | B | 563 | A | N3-C4 | -11.21 | 1.28 | 1.34 |
| 12 | B | 2786 | U | N3-C4 | 11.21 | 1.48 | 1.38 |
| 12 | B | 160 | A | N3-C4 | -11.20 | 1.28 | 1.34 |
| 12 | B | 487 | C | N3-C4 | 11.20 | 1.41 | 1.33 |
| 12 | B | 2072 | C | N3-C4 | 11.20 | 1.41 | 1.33 |
| 12 | B | 2745 | C | N1-C6 | 11.20 | 1.43 | 1.37 |
| 12 | B | 1151 | A | N9-C4 | -11.19 | 1.31 | 1.37 |
| 12 | B | 1324 | G | N7-C5 | -11.20 | 1.32 | 1.39 |
| 12 | B | 479 | A | N9-C8 | -11.19 | 1.28 | 1.37 |
| 12 | B | 2674 | G | N1-C2 | 11.19 | 1.46 | 1.37 |
| 12 | B | 1707 | G | C5-C6 | -11.19 | 1.31 | 1.42 |
| 12 | B | 947 | A | C5-C4 | -11.18 | 1.30 | 1.38 |
| 11 | A | 71 | C | P-O5' | -11.18 | 1.48 | 1.59 |
| 12 | B | 1239 | G | N1-C2 | 11.17 | 1.46 | 1.37 |
| 12 | B | 2688 | G | N3-C4 | -11.17 | 1.27 | 1.35 |
| 12 | B | 2526 | G | N9-C8 | 11.16 | 1.45 | 1.37 |
| 12 | B | 689 | A | N3-C4 | 11.16 | 1.41 | 1.34 |
| 12 | B | 2770 | G | C2-N3 | 11.15 | 1.41 | 1.32 |
| 12 | B | 2085 | U | C2-N3 | 11.14 | 1.45 | 1.37 |
| 12 | B | 1528 | A | N3-C4 | -11.13 | 1.28 | 1.34 |
| 12 | B | 415 | A | N9-C4 | -11.13 | 1.31 | 1.37 |
| 12 | B | 1679 | A | C6-N6 | 11.12 | 1.42 | 1.33 |
| 12 | B | 2856 | A | N7-C5 | -11.11 | 1.32 | 1.39 |
| 12 | B | 492 | A | N3-C4 | 11.11 | 1.41 | 1.34 |
| 12 | B | 1017 | G | N7-C5 | -11.11 | 1.32 | 1.39 |
| 12 | B | 1649 | G | N7-C5 | -11.10 | 1.32 | 1.39 |
| 12 | B | 191 | A | C6-N6 | 11.09 | 1.42 | 1.33 |
| 12 | B | 1997 | C | C4-N4 | 11.08 | 1.44 | 1.33 |
| 12 | B | 2168 | G | C2-N3 | 11.08 | 1.41 | 1.32 |
| 12 | B | 2067 | G | C5'-C4' | 11.08 | 1.64 | 1.51 |
| 12 | B | 2590 | A | C6-N1 | 11.07 | 1.43 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 11 | A | 87 | U | N3-C4 | 11.07 | 1.48 | 1.38 |
| 12 | B | 122 | G | C2-N3 | 11.06 | 1.41 | 1.32 |
| 12 | B | 1175 | A | N7-C5 | -11.06 | 1.32 | 1.39 |
| 12 | B | 2332 | C | N1-C6 | 11.06 | 1.43 | 1.37 |
| 12 | B | 2638 | G | C2-N3 | 11.06 | 1.41 | 1.32 |
| 12 | B | 2204 | G | C2-N3 | 11.05 | 1.41 | 1.32 |
| 12 | B | 2430 | A | N3-C4 | -11.05 | 1.28 | 1.34 |
| 12 | B | 1677 | A | C2'-C1' | -11.04 | 1.41 | 1.53 |
| 12 | B | 626 | A | N7-C5 | -11.04 | 1.32 | 1.39 |
| 12 | B | 2325 | G | N1-C2 | 11.03 | 1.46 | 1.37 |
| 12 | B | 1093 | G | N9-C4 | -11.03 | 1.29 | 1.38 |
| 12 | B | 1490 | A | N9-C4 | -11.03 | 1.31 | 1.37 |
| 12 | B | 638 | G | C6-N1 | 11.03 | 1.47 | 1.39 |
| 12 | B | 1087 | G | C2-N3 | 11.03 | 1.41 | 1.32 |
| 12 | B | 1431 | A | N7-C5 | -11.02 | 1.32 | 1.39 |
| 12 | B | 1577 | C | N3-C4 | 11.02 | 1.41 | 1.33 |
| 12 | B | 1501 | G | N7-C5 | -11.02 | 1.32 | 1.39 |
| 12 | B | 2691 | C | N3-C4 | 11.02 | 1.41 | 1.33 |
| 12 | B | 14 | A | N7-C5 | -11.01 | 1.32 | 1.39 |
| 12 | B | 374 | A | N9-C4 | -11.00 | 1.31 | 1.37 |
| 12 | B | 2645 | G | N7-C5 | -11.00 | 1.32 | 1.39 |
| 12 | B | 101 | A | C6-N6 | 10.99 | 1.42 | 1.33 |
| 12 | B | 1835 | G | N1-C2 | 10.99 | 1.46 | 1.37 |
| 12 | B | 2545 | G | N3-C4 | 10.98 | 1.43 | 1.35 |
| 12 | B | 832 | U | C2-N3 | 10.97 | 1.45 | 1.37 |
| 12 | B | 2822 | G | P-O5' | -10.97 | 1.48 | 1.59 |
| 11 | A | 16 | G | C8-N7 | -10.97 | 1.24 | 1.30 |
| 12 | B | 98 | G | C2-N3 | 10.97 | 1.41 | 1.32 |
| 12 | B | 1401 | G | N7-C5 | -10.97 | 1.32 | 1.39 |
| 12 | B | 272 | A | N7-C5 | -10.96 | 1.32 | 1.39 |
| 12 | B | 841 | G | C2-N3 | 10.95 | 1.41 | 1.32 |
| 12 | B | 1331 | G | N7-C5 | -10.95 | 1.32 | 1.39 |
| 12 | B | 2898 | U | C2-N3 | 10.94 | 1.45 | 1.37 |
| 12 | B | 2574 | G | N1-C2 | 10.94 | 1.46 | 1.37 |
| 12 | B | 2747 | G | N7-C5 | -10.94 | 1.32 | 1.39 |
| 12 | B | 1713 | A | N7-C5 | -10.93 | 1.32 | 1.39 |
| 12 | B | 2495 | G | N1-C2 | 10.93 | 1.46 | 1.37 |
| 12 | B | 1977 | A | C2'-C1' | -10.93 | 1.41 | 1.53 |
| 12 | B | 58 | G | N7-C5 | -10.92 | 1.32 | 1.39 |
| 12 | B | 332 | A | N9-C4 | 10.92 | 1.44 | 1.37 |
| 12 | B | 2082 | A | C6-N1 | 10.91 | 1.43 | 1.35 |
| 12 | B | 2593 | U | C2-N3 | 10.89 | 1.45 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 2719 | G | N3-C4 | -10.89 | 1.27 | 1.35 |
| 12 | B | 1648 | U | O3'-P | -10.88 | 1.48 | 1.61 |
| 12 | B | 2502 | G | N3-C4 | 10.88 | 1.43 | 1.35 |
| 12 | B | 363 | G | N7-C5 | -10.88 | 1.32 | 1.39 |
| 12 | B | 905 | A | C6-N6 | 10.88 | 1.42 | 1.33 |
| 12 | B | 1368 | G | N9-C8 | -10.88 | 1.30 | 1.37 |
| 12 | B | 2077 | A | C6-N1 | 10.88 | 1.43 | 1.35 |
| 12 | B | 2270 | A | N1-C2 | 10.88 | 1.44 | 1.34 |
| 12 | B | 443 | A | C6-N1 | 10.87 | 1.43 | 1.35 |
| 12 | B | 1401 | G | N1-C2 | 10.87 | 1.46 | 1.37 |
| 12 | B | 2047 | C | N3-C4 | 10.86 | 1.41 | 1.33 |
| 12 | B | 2458 | G | N1-C2 | 10.86 | 1.46 | 1.37 |
| 12 | B | 2770 | G | N7-C5 | -10.86 | 1.32 | 1.39 |
| 11 | A | 59 | A | C2'-C1' | -10.86 | 1.41 | 1.53 |
| 12 | B | 1236 | G | C8-N7 | -10.85 | 1.24 | 1.30 |
| 12 | B | 146 | A | N7-C5 | -10.84 | 1.32 | 1.39 |
| 12 | B | 413 | C | N1-C6 | -10.84 | 1.30 | 1.37 |
| 12 | B | 1549 | A | N7-C5 | -10.83 | 1.32 | 1.39 |
| 12 | B | 1685 | C | C4-C5 | 10.82 | 1.51 | 1.43 |
| 12 | B | 85 | G | P-O5' | -10.82 | 1.49 | 1.59 |
| 12 | B | 2404 | U | C4-C5 | 10.81 | 1.53 | 1.43 |
| 12 | B | 55 | G | N7-C5 | -10.81 | 1.32 | 1.39 |
| 12 | B | 2107 | G | C6-N1 | 10.81 | 1.47 | 1.39 |
| 12 | B | 1259 | G | C6-N1 | 10.80 | 1.47 | 1.39 |
| 12 | B | 914 | G | N7-C5 | -10.80 | 1.32 | 1.39 |
| 12 | B | 470 | A | N9-C4 | -10.80 | 1.31 | 1.37 |
| 12 | B | 2648 | G | C6-N1 | 10.79 | 1.47 | 1.39 |
| 12 | B | 517 | C | N3-C4 | 10.79 | 1.41 | 1.33 |
| 12 | B | 1545 | A | C6-N1 | 10.79 | 1.43 | 1.35 |
| 12 | B | 2708 | G | N1-C2 | 10.79 | 1.46 | 1.37 |
| 12 | B | 2074 | U | C2'-C1' | -10.78 | 1.41 | 1.53 |
| 12 | B | 1269 | A | N7-C5 | -10.78 | 1.32 | 1.39 |
| 12 | B | 2740 | A | N3-C4 | -10.77 | 1.28 | 1.34 |
| 12 | B | 48 | G | N1-C2 | 10.77 | 1.46 | 1.37 |
| 12 | B | 854 | C | N3-C4 | 10.76 | 1.41 | 1.33 |
| 12 | B | 1103 | A | N7-C5 | -10.76 | 1.32 | 1.39 |
| 12 | B | 1158 | C | N3-C4 | 10.76 | 1.41 | 1.33 |
| 12 | B | 1332 | G | N1-C2 | 10.75 | 1.46 | 1.37 |
| 12 | B | 149 | A | C6-N1 | 10.74 | 1.43 | 1.35 |
| 12 | B | 795 | C | C4-N4 | 10.74 | 1.43 | 1.33 |
| 12 | B | 861 | A | N7-C5 | -10.74 | 1.32 | 1.39 |
| 11 | A | 24 | G | C2-N3 | 10.74 | 1.41 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1291 | C | N1-C6 | 10.73 | 1.43 | 1.37 |
| 12 | B | 2874 | C | N1-C6 | 10.73 | 1.43 | 1.37 |
| 11 | A | 100 | G | N1-C2 | 10.73 | 1.46 | 1.37 |
| 12 | B | 1530 | G | C8-N7 | 10.72 | 1.37 | 1.30 |
| 12 | B | 187 | G | C2-N3 | 10.72 | 1.41 | 1.32 |
| 12 | B | 918 | A | C2'-C1' | -10.72 | 1.41 | 1.53 |
| 12 | B | 1112 | G | C2-N3 | 10.72 | 1.41 | 1.32 |
| 12 | B | 2502 | G | C6-N1 | 10.72 | 1.47 | 1.39 |
| 12 | B | 2097 | A | C8-N7 | -10.71 | 1.24 | 1.31 |
| 12 | B | 612 | G | C8-N7 | 10.70 | 1.37 | 1.30 |
| 12 | B | 2469 | A | C6-N6 | 10.70 | 1.42 | 1.33 |
| 12 | B | 450 | G | C4'-C3' | 10.69 | 1.65 | 1.53 |
| 12 | B | 340 | A | N7-C5 | -10.69 | 1.32 | 1.39 |
| 12 | B | 818 | G | N7-C5 | -10.69 | 1.32 | 1.39 |
| 12 | B | 2694 | G | C2-N3 | 10.69 | 1.41 | 1.32 |
| 12 | B | 2669 | G | C8-N7 | -10.69 | 1.24 | 1.30 |
| 12 | B | 2678 | C | C4-C5 | -10.69 | 1.34 | 1.43 |
| 12 | B | 604 | G | C2-N3 | 10.68 | 1.41 | 1.32 |
| 12 | B | 2126 | A | C6-N1 | 10.68 | 1.43 | 1.35 |
| 12 | B | 2260 | C | C4-C5 | 10.67 | 1.51 | 1.43 |
| 12 | B | 1641 | A | N3-C4 | -10.67 | 1.28 | 1.34 |
| 12 | B | 881 | G | C5-C4 | -10.66 | 1.30 | 1.38 |
| 12 | B | 1191 | G | C6-N1 | 10.66 | 1.47 | 1.39 |
| 12 | B | 1338 | G | N7-C5 | -10.66 | 1.32 | 1.39 |
| 12 | B | 2047 | C | N1-C6 | -10.66 | 1.30 | 1.37 |
| 12 | B | 2682 | A | N7-C5 | -10.66 | 1.32 | 1.39 |
| 12 | B | 556 | A | N7-C5 | -10.65 | 1.32 | 1.39 |
| 12 | B | 944 | C | C4-N4 | 10.65 | 1.43 | 1.33 |
| 12 | B | 1257 | C | N1-C6 | 10.65 | 1.43 | 1.37 |
| 12 | B | 247 | G | N7-C5 | -10.64 | 1.32 | 1.39 |
| 12 | B | 76 | C | C2'-C1' | -10.63 | 1.41 | 1.53 |
| 12 | B | 2876 | G | N7-C5 | -10.63 | 1.32 | 1.39 |
| 12 | B | 1009 | A | C6-N6 | 10.63 | 1.42 | 1.33 |
| 12 | B | 721 | A | N9-C4 | 10.63 | 1.44 | 1.37 |
| 12 | B | 1445 | G | N9-C8 | 10.62 | 1.45 | 1.37 |
| 12 | B | 861 | A | C8-N7 | -10.62 | 1.24 | 1.31 |
| 12 | B | 1018 | U | C2-N3 | 10.62 | 1.45 | 1.37 |
| 12 | B | 586 | A | N7-C5 | -10.62 | 1.32 | 1.39 |
| 12 | B | 1196 | C | N1-C6 | 10.62 | 1.43 | 1.37 |
| 12 | B | 551 | G | N7-C5 | -10.61 | 1.32 | 1.39 |
| 11 | A | 63 | C | P-O5' | -10.61 | 1.49 | 1.59 |
| 12 | B | 2382 | G | C2'-C1' | -10.61 | 1.41 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1990 | C | N1-C6 | 10.60 | 1.43 | 1.37 |
| 12 | B | 2171 | A | N7-C5 | -10.60 | 1.32 | 1.39 |
| 12 | B | 1459 | G | C2-N3 | 10.60 | 1.41 | 1.32 |
| 12 | B | 1456 | G | C6-N1 | 10.59 | 1.47 | 1.39 |
| 12 | B | 1277 | G | C2'-C1' | -10.59 | 1.41 | 1.53 |
| 12 | B | 192 | C | N3-C4 | 10.58 | 1.41 | 1.33 |
| 12 | B | 1739 | A | N3-C4 | 10.58 | 1.41 | 1.34 |
| 12 | B | 367 | G | C6-N1 | 10.58 | 1.47 | 1.39 |
| 12 | B | 1051 | G | C2-N3 | 10.58 | 1.41 | 1.32 |
| 12 | B | 2678 | C | C2-N3 | 10.58 | 1.44 | 1.35 |
| 12 | B | 1140 | C | C2'-C1' | -10.57 | 1.41 | 1.53 |
| 12 | B | 1835 | G | C6-N1 | 10.57 | 1.47 | 1.39 |
| 12 | B | 2385 | C | N1-C6 | 10.57 | 1.43 | 1.37 |
| 12 | B | 1517 | G | C2-N3 | 10.57 | 1.41 | 1.32 |
| 12 | B | 2820 | A | C5-C4 | 10.56 | 1.46 | 1.38 |
| 12 | B | 120 | U | C2-N3 | 10.56 | 1.45 | 1.37 |
| 12 | B | 1631 | G | C8-N7 | -10.56 | 1.24 | 1.30 |
| 12 | B | 640 | C | N3-C4 | 10.56 | 1.41 | 1.33 |
| 12 | B | 1089 | A | C6-N6 | 10.55 | 1.42 | 1.33 |
| 12 | B | 361 | G | N7-C5 | -10.54 | 1.32 | 1.39 |
| 12 | B | 1454 | C | C4-N4 | 10.54 | 1.43 | 1.33 |
| 12 | B | 2239 | G | C6-N1 | 10.54 | 1.47 | 1.39 |
| 12 | B | 198 | C | N1-C6 | 10.53 | 1.43 | 1.37 |
| 12 | B | 1414 | C | N3-C4 | 10.53 | 1.41 | 1.33 |
| 12 | B | 2190 | G | C8-N7 | -10.53 | 1.24 | 1.30 |
| 12 | B | 256 | A | C2'-C1' | -10.52 | 1.41 | 1.53 |
| 12 | B | 1610 | A | N7-C5 | -10.52 | 1.32 | 1.39 |
| 12 | B | 1130 | U | C2-N3 | 10.52 | 1.45 | 1.37 |
| 12 | B | 1959 | G | C6-N1 | 10.52 | 1.47 | 1.39 |
| 12 | B | 2463 | C | N1-C6 | -10.52 | 1.30 | 1.37 |
| 12 | B | 698 | C | N3-C4 | 10.51 | 1.41 | 1.33 |
| 12 | B | 485 | C | C4-N4 | 10.50 | 1.43 | 1.33 |
| 12 | B | 97 | C | P-O5' | -10.50 | 1.49 | 1.59 |
| 12 | B | 1488 | C | N1-C6 | 10.50 | 1.43 | 1.37 |
| 12 | B | 1826 | G | N7-C5 | -10.49 | 1.32 | 1.39 |
| 12 | B | 2216 | G | N7-C5 | -10.49 | 1.32 | 1.39 |
| 12 | B | 557 | C | N1-C6 | 10.49 | 1.43 | 1.37 |
| 12 | B | 2464 | G | C2-N3 | 10.49 | 1.41 | 1.32 |
| 12 | B | 422 | A | C6-N1 | 10.49 | 1.42 | 1.35 |
| 12 | B | 620 | G | C5-C4 | 10.49 | 1.45 | 1.38 |
| 12 | B | 910 | A | C6-N6 | 10.49 | 1.42 | 1.33 |
| 12 | B | 2462 | C | C2-N3 | 10.48 | 1.44 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1071 | G | C2-N3 | 10.47 | 1.41 | 1.32 |
| 12 | B | 1391 | U | O4'-C1' | -10.47 | 1.28 | 1.41 |
| 12 | B | 815 | C | N3-C4 | 10.47 | 1.41 | 1.33 |
| 12 | B | 442 | G | C2'-C1' | -10.46 | 1.41 | 1.53 |
| 12 | B | 1383 | A | C6-N1 | 10.46 | 1.42 | 1.35 |
| 12 | B | 1351 | C | N1-C6 | 10.46 | 1.43 | 1.37 |
| 12 | B | 380 | G | C5-C4 | 10.46 | 1.45 | 1.38 |
| 12 | B | 466 | A | N7-C5 | -10.45 | 1.32 | 1.39 |
| 12 | B | 233 | A | C6-N6 | 10.45 | 1.42 | 1.33 |
| 12 | B | 462 | C | N3-C4 | 10.45 | 1.41 | 1.33 |
| 12 | B | 70 | G | C5-C4 | 10.45 | 1.45 | 1.38 |
| 12 | B | 1441 | G | C8-N7 | 10.44 | 1.37 | 1.30 |
| 12 | B | 2090 | A | N7-C5 | -10.44 | 1.32 | 1.39 |
| 12 | B | 2885 | G | C5'-C4' | 10.43 | 1.63 | 1.51 |
| 12 | B | 661 | A | C8-N7 | -10.43 | 1.24 | 1.31 |
| 12 | B | 2700 | A | N7-C5 | -10.43 | 1.32 | 1.39 |
| 12 | B | 1323 | C | C2-N3 | 10.43 | 1.44 | 1.35 |
| 12 | B | 1501 | G | N1-C2 | 10.42 | 1.46 | 1.37 |
| 12 | B | 2762 | C | N3-C4 | 10.42 | 1.41 | 1.33 |
| 12 | B | 2693 | G | N1-C2 | 10.42 | 1.46 | 1.37 |
| 12 | B | 26 | G | N9-C8 | 10.41 | 1.45 | 1.37 |
| 12 | B | 865 | C | N1-C6 | -10.41 | 1.30 | 1.37 |
| 12 | B | 1171 | G | P-O5' | -10.41 | 1.49 | 1.59 |
| 12 | B | 342 | A | C5-C4 | 10.41 | 1.46 | 1.38 |
| 12 | B | 1308 | A | N7-C5 | -10.40 | 1.33 | 1.39 |
| 12 | B | 2564 | A | C6-N1 | 10.39 | 1.42 | 1.35 |
| 12 | B | 310 | A | C6-N6 | 10.39 | 1.42 | 1.33 |
| 12 | B | 2461 | A | P-O5' | -10.39 | 1.49 | 1.59 |
| 12 | B | 266 | G | C2-N3 | 10.39 | 1.41 | 1.32 |
| 12 | B | 1773 | A | N3-C4 | -10.39 | 1.28 | 1.34 |
| 12 | B | 486 | C | C4-N4 | 10.37 | 1.43 | 1.33 |
| 12 | B | 722 | A | C6-N1 | 10.37 | 1.42 | 1.35 |
| 12 | B | 2279 | G | N1-C2 | 10.36 | 1.46 | 1.37 |
| 12 | B | 2020 | A | C5-C4 | 10.36 | 1.46 | 1.38 |
| 12 | B | 2556 | C | N3-C4 | 10.36 | 1.41 | 1.33 |
| 12 | B | 2390 | U | C2-N3 | 10.36 | 1.45 | 1.37 |
| 12 | B | 177 | G | C6-N1 | 10.35 | 1.46 | 1.39 |
| 12 | B | 1804 | C | N3-C4 | 10.35 | 1.41 | 1.33 |
| 12 | B | 1525 | A | C6-N1 | 10.34 | 1.42 | 1.35 |
| 12 | B | 1136 | G | C6-N1 | 10.34 | 1.46 | 1.39 |
| 12 | B | 2284 | A | O3'-P | -10.34 | 1.48 | 1.61 |
| 12 | B | 1995 | U | C2-N3 | 10.32 | 1.45 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1802 | A | N7-C5 | -10.31 | 1.33 | 1.39 |
| 11 | A | 47 | C | N3-C4 | 10.31 | 1.41 | 1.33 |
| 12 | B | 194 | G | N1-C2 | 10.31 | 1.46 | 1.37 |
| 12 | B | 1075 | C | C4-N4 | 10.31 | 1.43 | 1.33 |
| 12 | B | 1175 | A | C5-C4 | 10.31 | 1.46 | 1.38 |
| 12 | B | 2362 | C | N1-C6 | 10.31 | 1.43 | 1.37 |
| 12 | B | 2764 | A | C2'-C1' | -10.31 | 1.42 | 1.53 |
| 12 | B | 405 | U | N3-C4 | 10.31 | 1.47 | 1.38 |
| 12 | B | 2847 | U | C2-N3 | 10.30 | 1.45 | 1.37 |
| 12 | B | 1063 | G | C8-N7 | 10.30 | 1.37 | 1.30 |
| 12 | B | 1075 | C | N3-C4 | 10.29 | 1.41 | 1.33 |
| 12 | B | 2260 | C | N1-C6 | 10.29 | 1.43 | 1.37 |
| 12 | B | 2397 | G | C5-C4 | 10.29 | 1.45 | 1.38 |
| 12 | B | 1166 | G | N7-C5 | 10.29 | 1.45 | 1.39 |
| 12 | B | 246 | C | N3-C4 | 10.29 | 1.41 | 1.33 |
| 12 | B | 726 | G | C8-N7 | -10.29 | 1.24 | 1.30 |
| 12 | B | 2609 | U | C2-N3 | 10.28 | 1.45 | 1.37 |
| 12 | B | 1147 | A | N7-C5 | -10.28 | 1.33 | 1.39 |
| 12 | B | 501 | A | C6-N1 | 10.28 | 1.42 | 1.35 |
| 12 | B | 1048 | A | C5-C4 | -10.28 | 1.31 | 1.38 |
| 12 | B | 1888 | G | N9-C8 | 10.28 | 1.45 | 1.37 |
| 12 | B | 1754 | A | C6-N6 | 10.27 | 1.42 | 1.33 |
| 12 | B | 805 | G | N9-C8 | 10.27 | 1.45 | 1.37 |
| 12 | B | 1277 | G | C2-N3 | 10.26 | 1.41 | 1.32 |
| 12 | B | 1697 | G | C2-N3 | 10.26 | 1.41 | 1.32 |
| 12 | B | 2399 | G | C8-N7 | -10.26 | 1.24 | 1.30 |
| 12 | B | 40 | U | C5'-C4' | 10.26 | 1.63 | 1.51 |
| 12 | B | 1131 | G | C8-N7 | -10.25 | 1.24 | 1.30 |
| 12 | B | 2406 | A | C2'-C1' | -10.25 | 1.42 | 1.53 |
| 12 | B | 2382 | G | C5-C4 | -10.25 | 1.31 | 1.38 |
| 12 | B | 1510 | G | N9-C8 | 10.24 | 1.45 | 1.37 |
| 12 | B | 1978 | A | C6-N6 | 10.24 | 1.42 | 1.33 |
| 12 | B | 1985 | C | C2-N3 | 10.24 | 1.44 | 1.35 |
| 11 | A | 15 | A | N7-C5 | -10.24 | 1.33 | 1.39 |
| 12 | B | 899 | A | N7-C5 | -10.22 | 1.33 | 1.39 |
| 12 | B | 651 | G | C6-N1 | 10.22 | 1.46 | 1.39 |
| 12 | B | 1166 | G | N9-C8 | 10.22 | 1.45 | 1.37 |
| 12 | B | 2811 | G | N7-C5 | -10.22 | 1.33 | 1.39 |
| 11 | A | 14 | U | N3-C4 | 10.22 | 1.47 | 1.38 |
| 12 | B | 939 | G | C2-N3 | 10.21 | 1.41 | 1.32 |
| 12 | B | 396 | G | C2'-C1' | -10.21 | 1.42 | 1.53 |
| 12 | B | 800 | A | C3'-C2' | 10.21 | 1.64 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 2744 | G | N1-C2 | 10.21 | 1.46 | 1.37 |
| 12 | B | 1598 | A | N7-C5 | -10.20 | 1.33 | 1.39 |
| 12 | B | 107 | G | N1-C2 | 10.20 | 1.46 | 1.37 |
| 12 | B | 603 | A | C6-N6 | 10.19 | 1.42 | 1.33 |
| 11 | A | 117 | G | N9-C8 | -10.19 | 1.30 | 1.37 |
| 12 | B | 1103 | A | N9-C4 | 10.19 | 1.44 | 1.37 |
| 12 | B | 1687 | G | N7-C5 | -10.19 | 1.33 | 1.39 |
| 12 | B | 295 | G | N1-C2 | 10.19 | 1.45 | 1.37 |
| 12 | B | 2859 | G | N7-C5 | -10.18 | 1.33 | 1.39 |
| 12 | B | 979 | A | C2'-C1' | -10.18 | 1.42 | 1.53 |
| 12 | B | 2386 | A | C6-N1 | 10.18 | 1.42 | 1.35 |
| 12 | B | 2851 | A | N7-C5 | -10.17 | 1.33 | 1.39 |
| 11 | A | 44 | G | C6-N1 | 10.17 | 1.46 | 1.39 |
| 12 | B | 2302 | U | N3-C4 | 10.16 | 1.47 | 1.38 |
| 12 | B | 2439 | A | N9-C4 | 10.16 | 1.44 | 1.37 |
| 12 | B | 2828 | G | C2'-C1' | -10.15 | 1.42 | 1.53 |
| 12 | B | 842 | U | C4'-C3' | -10.14 | 1.42 | 1.53 |
| 12 | B | 1344 | U | C2'-C1' | -10.13 | 1.42 | 1.53 |
| 12 | B | 1485 | U | C4-C5 | 10.13 | 1.52 | 1.43 |
| 12 | B | 2563 | U | N3-C4 | 10.13 | 1.47 | 1.38 |
| 12 | B | 2846 | G | C2-N3 | 10.13 | 1.40 | 1.32 |
| 12 | B | 205 | G | C6-N1 | 10.13 | 1.46 | 1.39 |
| 12 | B | 628 | G | C6-N1 | 10.12 | 1.46 | 1.39 |
| 12 | B | 54 | G | N3-C4 | 10.12 | 1.42 | 1.35 |
| 12 | B | 1448 | G | C6-N1 | 10.12 | 1.46 | 1.39 |
| 12 | B | 2500 | U | C2-N3 | 10.11 | 1.44 | 1.37 |
| 12 | B | 226 | A | C6-N1 | 10.11 | 1.42 | 1.35 |
| 12 | B | 2018 | G | C5-C4 | -10.11 | 1.31 | 1.38 |
| 12 | B | 1248 | G | C2-N2 | 10.11 | 1.44 | 1.34 |
| 12 | B | 2230 | G | N3-C4 | -10.11 | 1.28 | 1.35 |
| 12 | B | 2569 | G | N9-C4 | -10.11 | 1.29 | 1.38 |
| 12 | B | 2091 | C | N1-C6 | -10.10 | 1.31 | 1.37 |
| 12 | B | 2330 | G | N9-C8 | 10.10 | 1.45 | 1.37 |
| 12 | B | 2715 | C | N3-C4 | 10.10 | 1.41 | 1.33 |
| 12 | B | 2366 | A | N7-C5 | -10.10 | 1.33 | 1.39 |
| 12 | B | 2819 | G | N1-C2 | 10.10 | 1.45 | 1.37 |
| 12 | B | 1449 | G | N7-C5 | -10.10 | 1.33 | 1.39 |
| 12 | B | 631 | A | N7-C5 | 10.09 | 1.45 | 1.39 |
| 12 | B | 1076 | C | C4-N4 | 10.09 | 1.43 | 1.33 |
| 12 | B | 1692 | U | N3-C4 | 10.09 | 1.47 | 1.38 |
| 12 | B | 723 | C | N3-C4 | 10.08 | 1.41 | 1.33 |
| 12 | B | 1443 | U | C2'-C1' | -10.07 | 1.42 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 12 | B | 1733 | G | C6-N1 | 10.07 | 1.46 | 1.39 |
| 12 | B | 27 | G | C8-N7 | -10.07 | 1.25 | 1.30 |
| 12 | B | 1918 | A | N7-C5 | -10.06 | 1.33 | 1.39 |
| 12 | B | 2467 | C | N1-C6 | 10.06 | 1.43 | 1.37 |
| 12 | B | 345 | A | C6-N1 | 10.05 | 1.42 | 1.35 |
| 12 | B | 963 | U | P-O5' | -10.05 | 1.49 | 1.59 |
| 12 | B | 1572 | A | C6-N1 | 10.05 | 1.42 | 1.35 |
| 12 | B | 1437 | C | N3-C4 | 10.05 | 1.41 | 1.33 |
| 12 | B | 2031 | A | N9-C8 | -10.05 | 1.29 | 1.37 |
| 12 | B | 2895 | G | P-O5' | -10.05 | 1.49 | 1.59 |
| 12 | B | 1613 | G | P-O5' | -10.04 | 1.49 | 1.59 |
| 12 | B | 126 | A | C8-N7 | -10.04 | 1.24 | 1.31 |
| 11 | A | 113 | C | N3-C4 | 10.03 | 1.41 | 1.33 |
| 12 | B | 559 | G | N7-C5 | -10.04 | 1.33 | 1.39 |
| 12 | B | 2608 | G | C2-N3 | 10.03 | 1.40 | 1.32 |
| 12 | B | 1666 | G | C2'-C1' | -10.03 | 1.42 | 1.53 |
| 12 | B | 1117 | C | P-O5' | -10.03 | 1.49 | 1.59 |
| 12 | B | 2046 | G | C2-N3 | 10.03 | 1.40 | 1.32 |
| 12 | B | 1852 | U | P-O5' | -10.02 | 1.49 | 1.59 |
| 12 | B | 2225 | A | O3'-P | -10.02 | 1.49 | 1.61 |
| 12 | B | 880 | G | C6-N1 | 10.02 | 1.46 | 1.39 |
| 12 | B | 1677 | A | N9-C4 | -10.02 | 1.31 | 1.37 |
| 12 | B | 751 | A | C6-N1 | 10.01 | 1.42 | 1.35 |
| 12 | B | 389 | G | C2'-C1' | -10.01 | 1.42 | 1.53 |
| 12 | B | 2591 | C | C4-C5 | 10.01 | 1.50 | 1.43 |
| 12 | B | 213 | A | N9-C4 | -10.01 | 1.31 | 1.37 |
| 12 | B | 1242 | U | O3'-P | -10.01 | 1.49 | 1.61 |
| 12 | B | 351 | C | N3-C4 | 10.00 | 1.41 | 1.33 |
| 12 | B | 1157 | G | C8-N7 | -10.00 | 1.25 | 1.30 |
| 12 | B | 17 | G | N7-C5 | -10.00 | 1.33 | 1.39 |
| 12 | B | 1250 | G | N7-C5 | -9.99 | 1.33 | 1.39 |
| 12 | B | 2516 | A | C6-N1 | 9.99 | 1.42 | 1.35 |
| 12 | B | 1776 | G | N7-C5 | -9.99 | 1.33 | 1.39 |
| 12 | B | 150 | U | C4-C5 | 9.99 | 1.52 | 1.43 |
| 12 | B | 2205 | A | C6-N6 | 9.98 | 1.42 | 1.33 |
| 12 | B | 2574 | G | C5-C4 | -9.97 | 1.31 | 1.38 |
| 12 | B | 2472 | G | N3-C4 | -9.96 | 1.28 | 1.35 |
| 12 | B | 1495 | A | C8-N7 | -9.96 | 1.24 | 1.31 |
| 12 | B | 504 | A | N9-C4 | 9.95 | 1.43 | 1.37 |
| 12 | B | 1642 | G | C5-C4 | 9.95 | 1.45 | 1.38 |
| 12 | B | 2018 | G | C2-N2 | 9.95 | 1.44 | 1.34 |
| 12 | B | 785 | G | C2-N3 | 9.95 | 1.40 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2638 | G | N7-C5 | 9.95 | 1.45 | 1.39 |
| 12 | B | 1157 | G | C2-N3 | 9.95 | 1.40 | 1.32 |
| 12 | B | 667 | U | N3-C4 | 9.94 | 1.47 | 1.38 |
| 12 | B | 1335 | C | N3-C4 | 9.94 | 1.41 | 1.33 |
| 12 | B | 2100 | G | C2-N3 | 9.94 | 1.40 | 1.32 |
| 12 | B | 1845 | G | P-O5' | -9.94 | 1.49 | 1.59 |
| 12 | B | 356 | G | C6-N1 | 9.93 | 1.46 | 1.39 |
| 12 | B | 808 | G | C8-N7 | -9.92 | 1.25 | 1.30 |
| 12 | B | 1320 | C | C5-C6 | 9.92 | 1.42 | 1.34 |
| 12 | B | 892 | A | N9-C8 | -9.91 | 1.29 | 1.37 |
| 12 | B | 557 | C | C2-N3 | 9.91 | 1.43 | 1.35 |
| 12 | B | 1273 | U | C4-C5 | -9.91 | 1.34 | 1.43 |
| 12 | B | 2576 | G | N9-C8 | -9.91 | 1.30 | 1.37 |
| 12 | B | 23 | G | C6-N1 | 9.90 | 1.46 | 1.39 |
| 12 | B | 209 | C | N1-C6 | 9.90 | 1.43 | 1.37 |
| 12 | B | 903 | C | N3-C4 | 9.90 | 1.40 | 1.33 |
| 12 | B | 2208 | C | C4-N4 | 9.90 | 1.42 | 1.33 |
| 12 | B | 263 | G | N3-C4 | -9.90 | 1.28 | 1.35 |
| 12 | B | 670 | A | C6-N6 | 9.90 | 1.41 | 1.33 |
| 12 | B | 677 | A | C6-N1 | 9.90 | 1.42 | 1.35 |
| 12 | B | 1356 | G | N1-C2 | 9.89 | 1.45 | 1.37 |
| 12 | B | 2684 | U | P-O5' | -9.89 | 1.49 | 1.59 |
| 12 | B | 1280 | G | N3-C4 | -9.88 | 1.28 | 1.35 |
| 12 | B | 2041 | U | C2-N3 | 9.87 | 1.44 | 1.37 |
| 12 | B | 252 | G | N3-C4 | -9.87 | 1.28 | 1.35 |
| 12 | B | 1645 | G | N7-C5 | -9.87 | 1.33 | 1.39 |
| 12 | B | 1416 | G | C5-C4 | 9.87 | 1.45 | 1.38 |
| 12 | B | 2407 | A | N7-C5 | -9.87 | 1.33 | 1.39 |
| 12 | B | 1436 | G | N1-C2 | 9.87 | 1.45 | 1.37 |
| 12 | B | 1739 | A | C6-N1 | 9.87 | 1.42 | 1.35 |
| 12 | B | 2318 | G | N7-C5 | -9.87 | 1.33 | 1.39 |
| 12 | B | 1077 | A | C6-N6 | 9.86 | 1.41 | 1.33 |
| 12 | B | 2751 | G | C2-N3 | 9.86 | 1.40 | 1.32 |
| 12 | B | 942 | G | N7-C5 | -9.86 | 1.33 | 1.39 |
| 11 | A | 112 | G | O3'-P | -9.85 | 1.49 | 1.61 |
| 12 | B | 1907 | G | C2-N3 | 9.85 | 1.40 | 1.32 |
| 12 | B | 2156 | G | C5'-C4' | 9.85 | 1.63 | 1.51 |
| 12 | B | 2214 | C | N1-C6 | -9.85 | 1.31 | 1.37 |
| 12 | B | 1938 | A | C5-C4 | 9.85 | 1.45 | 1.38 |
| 12 | B | 1594 | U | N3-C4 | 9.85 | 1.47 | 1.38 |
| 12 | B | 1810 | A | N7-C5 | -9.84 | 1.33 | 1.39 |
| 12 | B | 2196 | C | C4-N4 | 9.84 | 1.42 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2857 | G | N3-C4 | -9.84 | 1.28 | 1.35 |
| 12 | B | 2445 | G | C2-N3 | 9.84 | 1.40 | 1.32 |
| 12 | B | 420 | C | N3-C4 | 9.84 | 1.40 | 1.33 |
| 12 | B | 2067 | G | N7-C5 | -9.84 | 1.33 | 1.39 |
| 12 | B | 121 | G | N9-C8 | 9.83 | 1.44 | 1.37 |
| 12 | B | 1363 | C | N3-C4 | 9.83 | 1.40 | 1.33 |
| 12 | B | 2005 | A | C6-N1 | 9.83 | 1.42 | 1.35 |
| 12 | B | 2813 | A | C2'-C1' | -9.83 | 1.42 | 1.53 |
| 12 | B | 682 | G | N9-C8 | -9.83 | 1.30 | 1.37 |
| 12 | B | 1831 | G | N1-C2 | 9.82 | 1.45 | 1.37 |
| 12 | B | 277 | G | C6-N1 | 9.82 | 1.46 | 1.39 |
| 12 | B | 2615 | U | P-O5' | -9.82 | 1.50 | 1.59 |
| 12 | B | 2599 | G | N7-C5 | 9.81 | 1.45 | 1.39 |
| 12 | B | 442 | G | N9-C8 | -9.81 | 1.30 | 1.37 |
| 12 | B | 1651 | G | N1-C2 | 9.81 | 1.45 | 1.37 |
| 12 | B | 1147 | A | N1-C2 | -9.81 | 1.25 | 1.34 |
| 12 | B | 1448 | G | N3-C4 | 9.81 | 1.42 | 1.35 |
| 12 | B | 2780 | G | C2-N3 | 9.81 | 1.40 | 1.32 |
| 12 | B | 2826 | A | N9-C4 | -9.80 | 1.31 | 1.37 |
| 12 | B | 1790 | C | N3-C4 | 9.80 | 1.40 | 1.33 |
| 12 | B | 758 | C | N1-C6 | 9.80 | 1.43 | 1.37 |
| 12 | B | 543 | G | P-O5' | -9.80 | 1.50 | 1.59 |
| 12 | B | 1677 | A | C6-N6 | 9.80 | 1.41 | 1.33 |
| 12 | B | 71 | A | C6-N1 | 9.79 | 1.42 | 1.35 |
| 12 | B | 869 | G | N9-C8 | 9.79 | 1.44 | 1.37 |
| 12 | B | 1568 | G | C6-N1 | 9.79 | 1.46 | 1.39 |
| 12 | B | 2430 | A | C2-N3 | 9.79 | 1.42 | 1.33 |
| 12 | B | 2875 | C | C4-N4 | 9.79 | 1.42 | 1.33 |
| 11 | A | 53 | A | N7-C5 | -9.78 | 1.33 | 1.39 |
| 12 | B | 1924 | C | C4'-O4' | 9.78 | 1.58 | 1.45 |
| 12 | B | 318 | C | C4-N4 | 9.78 | 1.42 | 1.33 |
| 12 | B | 989 | G | C6-N1 | 9.78 | 1.46 | 1.39 |
| 12 | B | 1333 | G | C8-N7 | -9.77 | 1.25 | 1.30 |
| 12 | B | 2311 | A | N7-C5 | -9.77 | 1.33 | 1.39 |
| 12 | B | 19 | A | N9-C4 | -9.76 | 1.31 | 1.37 |
| 12 | B | 565 | C | N1-C6 | 9.76 | 1.43 | 1.37 |
| 12 | B | 1893 | C | N3-C4 | 9.76 | 1.40 | 1.33 |
| 12 | B | 922 | C | C4-N4 | 9.76 | 1.42 | 1.33 |
| 12 | B | 1281 | G | N9-C8 | 9.76 | 1.44 | 1.37 |
| 11 | A | 49 | C | N1-C6 | -9.75 | 1.31 | 1.37 |
| 12 | B | 475 | C | N1-C6 | 9.75 | 1.43 | 1.37 |
| 12 | B | 775 | G | C5-C4 | 9.75 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 862 | G | N1-C2 | 9.75 | 1.45 | 1.37 |
| 12 | B | 1169 | A | C6-N6 | 9.75 | 1.41 | 1.33 |
| 12 | B | 2570 | G | N7-C5 | -9.75 | 1.33 | 1.39 |
| 12 | B | 538 | A | C8-N7 | -9.74 | 1.24 | 1.31 |
| 12 | B | 2360 | G | C8-N7 | 9.74 | 1.36 | 1.30 |
| 12 | B | 778 | G | C6-N1 | 9.74 | 1.46 | 1.39 |
| 12 | B | 1101 | U | N3-C4 | 9.74 | 1.47 | 1.38 |
| 11 | A | 20 | G | N9-C4 | -9.74 | 1.30 | 1.38 |
| 12 | B | 256 | A | N7-C5 | -9.74 | 1.33 | 1.39 |
| 12 | B | 334 | C | C2-N3 | 9.73 | 1.43 | 1.35 |
| 12 | B | 1861 | G | C2-N3 | 9.72 | 1.40 | 1.32 |
| 12 | B | 260 | G | C8-N7 | 9.72 | 1.36 | 1.30 |
| 12 | B | 329 | G | N9-C8 | -9.72 | 1.31 | 1.37 |
| 12 | B | 381 | G | C6-N1 | 9.72 | 1.46 | 1.39 |
| 12 | B | 1543 | G | N7-C5 | -9.72 | 1.33 | 1.39 |
| 12 | B | 294 | A | N7-C5 | -9.72 | 1.33 | 1.39 |
| 12 | B | 553 | G | C2-N3 | 9.72 | 1.40 | 1.32 |
| 12 | B | 1032 | A | C5-C4 | -9.72 | 1.31 | 1.38 |
| 12 | B | 493 | G | C6-N1 | 9.71 | 1.46 | 1.39 |
| 12 | B | 2542 | A | N7-C5 | -9.71 | 1.33 | 1.39 |
| 12 | B | 2234 | G | N7-C5 | -9.70 | 1.33 | 1.39 |
| 11 | A | 108 | A | N9-C4 | 9.70 | 1.43 | 1.37 |
| 12 | B | 725 | G | C5-C6 | 9.70 | 1.52 | 1.42 |
| 12 | B | 938 | G | C6-N1 | 9.70 | 1.46 | 1.39 |
| 12 | B | 1124 | G | C8-N7 | 9.70 | 1.36 | 1.30 |
| 12 | B | 2432 | A | C6-N6 | 9.69 | 1.41 | 1.33 |
| 12 | B | 494 | G | N9-C8 | 9.69 | 1.44 | 1.37 |
| 12 | B | 1068 | G | C6-N1 | 9.69 | 1.46 | 1.39 |
| 12 | B | 2635 | A | N7-C5 | -9.69 | 1.33 | 1.39 |
| 12 | B | 1780 | A | N9-C4 | 9.68 | 1.43 | 1.37 |
| 12 | B | 2649 | C | N3-C4 | 9.68 | 1.40 | 1.33 |
| 12 | B | 2661 | G | C2-N3 | 9.68 | 1.40 | 1.32 |
| 12 | B | 1202 | G | C6-N1 | 9.67 | 1.46 | 1.39 |
| 12 | B | 2881 | U | N3-C4 | 9.67 | 1.47 | 1.38 |
| 12 | B | 1903 | G | C5'-C4' | 9.67 | 1.62 | 1.51 |
| 12 | B | 2369 | A | N7-C5 | -9.67 | 1.33 | 1.39 |
| 12 | B | 1263 | U | N3-C4 | 9.67 | 1.47 | 1.38 |
| 11 | A | 116 | G | C2'-C1' | -9.66 | 1.42 | 1.53 |
| 12 | B | 1674 | G | N1-C2 | 9.66 | 1.45 | 1.37 |
| 12 | B | 778 | G | C5'-C4' | 9.66 | 1.62 | 1.51 |
| 12 | B | 1607 | C | C4-N4 | 9.66 | 1.42 | 1.33 |
| 12 | B | 149 | A | O3'-P | -9.66 | 1.49 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 70 | G | C6-N1 | 9.65 | 1.46 | 1.39 |
| 12 | B | 2675 | A | N3-C4 | -9.65 | 1.29 | 1.34 |
| 12 | B | 146 | A | C2'-C1' | -9.65 | 1.42 | 1.53 |
| 12 | B | 526 | A | C6-N1 | -9.65 | 1.28 | 1.35 |
| 12 | B | 2358 | A | C6-N1 | 9.65 | 1.42 | 1.35 |
| 12 | B | 2335 | A | C6-N6 | 9.65 | 1.41 | 1.33 |
| 12 | B | 2015 | A | C5'-C4' | 9.64 | 1.62 | 1.51 |
| 12 | B | 1501 | G | N9-C8 | -9.64 | 1.31 | 1.37 |
| 12 | B | 798 | G | C6-N1 | 9.64 | 1.46 | 1.39 |
| 12 | B | 776 | G | C6-N1 | 9.63 | 1.46 | 1.39 |
| 12 | B | 863 | A | N7-C5 | -9.63 | 1.33 | 1.39 |
| 12 | B | 1381 | G | C2'-C1' | -9.63 | 1.42 | 1.53 |
| 12 | B | 613 | A | N7-C5 | -9.63 | 1.33 | 1.39 |
| 12 | B | 2011 | U | N1-C6 | 9.63 | 1.46 | 1.38 |
| 12 | B | 2350 | C | C4-N4 | 9.63 | 1.42 | 1.33 |
| 12 | B | 408 | G | N9-C4 | -9.63 | 1.30 | 1.38 |
| 12 | B | 1773 | A | C6-N1 | 9.63 | 1.42 | 1.35 |
| 12 | B | 522 | A | C2'-C1' | -9.62 | 1.42 | 1.53 |
| 12 | B | 1304 | A | N9-C4 | -9.62 | 1.32 | 1.37 |
| 12 | B | 1863 | G | C2'-C1' | -9.62 | 1.42 | 1.53 |
| 12 | B | 134 | G | C2-N3 | 9.61 | 1.40 | 1.32 |
| 12 | B | 2590 | A | C6-N6 | 9.61 | 1.41 | 1.33 |
| 12 | B | 698 | C | N1-C6 | 9.61 | 1.43 | 1.37 |
| 12 | B | 118 | A | P-O5' | -9.61 | 1.50 | 1.59 |
| 12 | B | 263 | G | N7-C5 | -9.61 | 1.33 | 1.39 |
| 12 | B | 1407 | G | N1-C2 | 9.61 | 1.45 | 1.37 |
| 12 | B | 563 | A | N7-C5 | -9.61 | 1.33 | 1.39 |
| 12 | B | 1241 | A | C2-N3 | 9.61 | 1.42 | 1.33 |
| 12 | B | 1384 | A | N3-C4 | 9.61 | 1.40 | 1.34 |
| 12 | B | 1731 | G | N1-C2 | 9.60 | 1.45 | 1.37 |
| 12 | B | 415 | A | C6-N6 | 9.60 | 1.41 | 1.33 |
| 12 | B | 2082 | A | C8-N7 | -9.60 | 1.24 | 1.31 |
| 12 | B | 2181 | U | C2-N3 | 9.60 | 1.44 | 1.37 |
| 12 | B | 412 | A | N7-C5 | -9.60 | 1.33 | 1.39 |
| 12 | B | 2314 | A | N9-C4 | -9.60 | 1.32 | 1.37 |
| 12 | B | 493 | G | N7-C5 | -9.59 | 1.33 | 1.39 |
| 12 | B | 1949 | G | N9-C4 | -9.59 | 1.30 | 1.38 |
| 12 | B | 2408 | U | N3-C4 | 9.59 | 1.47 | 1.38 |
| 12 | B | 1975 | G | N9-C8 | 9.59 | 1.44 | 1.37 |
| 12 | B | 523 | C | C2'-C1' | -9.59 | 1.42 | 1.53 |
| 12 | B | 1010 | A | P-O5' | -9.59 | 1.50 | 1.59 |
| 12 | B | 2170 | A | C5-C4 | 9.59 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 417 | C | N3-C4 | 9.58 | 1.40 | 1.33 |
| 12 | B | 482 | A | C2'-C1' | -9.58 | 1.42 | 1.53 |
| 12 | B | 1369 | G | C5-C4 | 9.58 | 1.45 | 1.38 |
| 12 | B | 644 | A | N7-C5 | -9.58 | 1.33 | 1.39 |
| 12 | B | 1050 | A | C6-N1 | 9.57 | 1.42 | 1.35 |
| 12 | B | 2205 | A | N7-C5 | -9.57 | 1.33 | 1.39 |
| 12 | B | 1968 | G | N7-C5 | -9.57 | 1.33 | 1.39 |
| 11 | A | 24 | G | P-O5' | -9.57 | 1.50 | 1.59 |
| 12 | B | 1403 | A | N9-C4 | 9.57 | 1.43 | 1.37 |
| 12 | B | 2198 | A | N9-C4 | 9.57 | 1.43 | 1.37 |
| 12 | B | 300 | A | C6-N6 | 9.57 | 1.41 | 1.33 |
| 12 | B | 151 | C | C4-N4 | 9.56 | 1.42 | 1.33 |
| 12 | B | 294 | A | C8-N7 | -9.56 | 1.24 | 1.31 |
| 12 | B | 2035 | G | C5-C6 | -9.56 | 1.32 | 1.42 |
| 12 | B | 83 | A | N3-C4 | -9.56 | 1.29 | 1.34 |
| 12 | B | 310 | A | C5-C4 | 9.56 | 1.45 | 1.38 |
| 11 | A | 56 | G | C2-N3 | 9.55 | 1.40 | 1.32 |
| 12 | B | 2741 | A | C6-N1 | 9.55 | 1.42 | 1.35 |
| 12 | B | 2885 | G | C6-N1 | 9.55 | 1.46 | 1.39 |
| 12 | B | 317 | G | N1-C2 | 9.55 | 1.45 | 1.37 |
| 12 | B | 329 | G | N1-C2 | 9.55 | 1.45 | 1.37 |
| 12 | B | 1445 | G | C8-N7 | -9.55 | 1.25 | 1.30 |
| 12 | B | 538 | A | C6-N6 | 9.55 | 1.41 | 1.33 |
| 12 | B | 2526 | G | N3-C4 | -9.54 | 1.28 | 1.35 |
| 12 | B | 1499 | C | C4-C5 | 9.54 | 1.50 | 1.43 |
| 12 | B | 1881 | C | N1-C6 | 9.54 | 1.42 | 1.37 |
| 12 | B | 1118 | C | P-O5' | -9.54 | 1.50 | 1.59 |
| 12 | B | 1262 | A | N7-C5 | -9.54 | 1.33 | 1.39 |
| 12 | B | 1364 | G | C2-N3 | 9.53 | 1.40 | 1.32 |
| 12 | B | 2003 | A | N7-C5 | -9.53 | 1.33 | 1.39 |
| 12 | B | 357 | C | N1-C6 | 9.53 | 1.42 | 1.37 |
| 12 | B | 473 | G | N7-C5 | -9.53 | 1.33 | 1.39 |
| 12 | B | 248 | G | C2-N3 | 9.53 | 1.40 | 1.32 |
| 12 | B | 310 | A | C5'-C4' | 9.53 | 1.62 | 1.51 |
| 12 | B | 344 | A | N7-C5 | -9.53 | 1.33 | 1.39 |
| 12 | B | 2230 | G | N1-C2 | 9.53 | 1.45 | 1.37 |
| 12 | B | 116 | C | C4-N4 | 9.53 | 1.42 | 1.33 |
| 12 | B | 2375 | G | N1-C2 | 9.53 | 1.45 | 1.37 |
| 12 | B | 712 | G | N7-C5 | -9.52 | 1.33 | 1.39 |
| 12 | B | 817 | C | N3-C4 | 9.52 | 1.40 | 1.33 |
| 12 | B | 2315 | G | C6-N1 | 9.52 | 1.46 | 1.39 |
| 11 | A | 81 | G | C6-N1 | 9.51 | 1.46 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 959 | A | C6-N6 | 9.51 | 1.41 | 1.33 |
| 12 | B | 1032 | A | C6-N6 | 9.51 | 1.41 | 1.33 |
| 12 | B | 1919 | A | C6-N6 | 9.51 | 1.41 | 1.33 |
| 12 | B | 2200 | C | C4-C5 | 9.51 | 1.50 | 1.43 |
| 12 | B | 2275 | C | N3-C4 | 9.51 | 1.40 | 1.33 |
| 12 | B | 93 | G | N7-C5 | -9.51 | 1.33 | 1.39 |
| 12 | B | 1356 | G | C6-N1 | 9.51 | 1.46 | 1.39 |
| 12 | B | 1190 | G | C2-N3 | 9.50 | 1.40 | 1.32 |
| 12 | B | 533 | G | C5-C4 | 9.50 | 1.45 | 1.38 |
| 12 | B | 1112 | G | N7-C5 | -9.50 | 1.33 | 1.39 |
| 12 | B | 833 | A | C6-N1 | 9.50 | 1.42 | 1.35 |
| 12 | B | 1367 | A | C8-N7 | 9.50 | 1.38 | 1.31 |
| 12 | B | 480 | A | N9-C4 | -9.49 | 1.32 | 1.37 |
| 12 | B | 265 | A | N3-C4 | -9.49 | 1.29 | 1.34 |
| 12 | B | 2887 | A | N9-C4 | 9.49 | 1.43 | 1.37 |
| 12 | B | 1393 | A | N9-C8 | 9.49 | 1.45 | 1.37 |
| 12 | B | 1910 | G | N1-C2 | 9.49 | 1.45 | 1.37 |
| 12 | B | 2771 | C | N1-C6 | 9.48 | 1.42 | 1.37 |
| 12 | B | 1633 | G | N9-C8 | -9.48 | 1.31 | 1.37 |
| 12 | B | 1929 | G | N7-C5 | -9.48 | 1.33 | 1.39 |
| 12 | B | 1002 | G | N7-C5 | -9.48 | 1.33 | 1.39 |
| 12 | B | 313 | G | N7-C5 | -9.47 | 1.33 | 1.39 |
| 12 | B | 83 | A | C6-N6 | 9.47 | 1.41 | 1.33 |
| 12 | B | 542 | C | C4-N4 | 9.47 | 1.42 | 1.33 |
| 12 | B | 1749 | A | C6-N1 | 9.47 | 1.42 | 1.35 |
| 12 | B | 2850 | A | N7-C5 | -9.47 | 1.33 | 1.39 |
| 12 | B | 1652 | A | N7-C5 | -9.47 | 1.33 | 1.39 |
| 12 | B | 1855 | U | C2-N3 | 9.47 | 1.44 | 1.37 |
| 12 | B | 328 | U | C2-N3 | 9.46 | 1.44 | 1.37 |
| 12 | B | 765 | C | N1-C6 | 9.46 | 1.42 | 1.37 |
| 12 | B | 1299 | G | N7-C5 | -9.46 | 1.33 | 1.39 |
| 12 | B | 2373 | G | C6-N1 | 9.46 | 1.46 | 1.39 |
| 12 | B | 41 | C | N3-C4 | 9.46 | 1.40 | 1.33 |
| 12 | B | 2420 | C | C2'-C1' | -9.46 | 1.43 | 1.53 |
| 12 | B | 855 | G | N9-C8 | -9.45 | 1.31 | 1.37 |
| 12 | B | 2169 | A | N7-C5 | -9.45 | 1.33 | 1.39 |
| 12 | B | 462 | C | N1-C6 | -9.45 | 1.31 | 1.37 |
| 12 | B | 582 | A | N7-C5 | -9.45 | 1.33 | 1.39 |
| 12 | B | 1675 | C | C4-N4 | 9.45 | 1.42 | 1.33 |
| 12 | B | 1669 | A | N9-C4 | 9.44 | 1.43 | 1.37 |
| 12 | B | 1133 | A | C4'-C3' | 9.44 | 1.63 | 1.53 |
| 12 | B | 2032 | G | C2'-C1' | -9.44 | 1.43 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 149 | A | N7-C5 | -9.44 | 1.33 | 1.39 |
| 12 | B | 1504 | A | C6-N1 | 9.44 | 1.42 | 1.35 |
| 12 | B | 1464 | G | C2-N3 | 9.44 | 1.40 | 1.32 |
| 12 | B | 2334 | U | N3-C4 | 9.43 | 1.47 | 1.38 |
| 12 | B | 1937 | A | N7-C5 | -9.43 | 1.33 | 1.39 |
| 12 | B | 874 | G | N3-C4 | -9.43 | 1.28 | 1.35 |
| 12 | B | 2855 | C | C4-N4 | 9.43 | 1.42 | 1.33 |
| 12 | B | 2543 | G | C6-N1 | 9.42 | 1.46 | 1.39 |
| 12 | B | 921 | C | N3-C4 | 9.42 | 1.40 | 1.33 |
| 12 | B | 1678 | A | P-O5' | -9.42 | 1.50 | 1.59 |
| 12 | B | 1850 | G | C5-C4 | 9.42 | 1.45 | 1.38 |
| 12 | B | 2497 | A | C8-N7 | -9.42 | 1.25 | 1.31 |
| 12 | B | 1054 | A | C5-C4 | 9.41 | 1.45 | 1.38 |
| 12 | B | 1504 | A | C2'-C1' | -9.41 | 1.43 | 1.53 |
| 12 | B | 2054 | A | N9-C4 | 9.41 | 1.43 | 1.37 |
| 12 | B | 2679 | A | C8-N7 | -9.41 | 1.25 | 1.31 |
| 12 | B | 2801 | G | N1-C2 | 9.41 | 1.45 | 1.37 |
| 12 | B | 560 | C | N1-C6 | 9.40 | 1.42 | 1.37 |
| 12 | B | 2277 | G | C5-C4 | 9.40 | 1.45 | 1.38 |
| 12 | B | 510 | C | C4-C5 | 9.40 | 1.50 | 1.43 |
| 12 | B | 1969 | A | N9-C8 | -9.40 | 1.30 | 1.37 |
| 12 | B | 2617 | U | C4-C5 | -9.40 | 1.35 | 1.43 |
| 12 | B | 2660 | A | C4'-C3' | 9.40 | 1.63 | 1.53 |
| 11 | A | 59 | A | N9-C4 | 9.39 | 1.43 | 1.37 |
| 12 | B | 1889 | A | C5-C6 | -9.39 | 1.32 | 1.41 |
| 12 | B | 2479 | U | O4'-C1' | 9.39 | 1.53 | 1.41 |
| 12 | B | 2550 | G | C2-N3 | 9.39 | 1.40 | 1.32 |
| 12 | B | 2818 | U | C2-N3 | 9.39 | 1.44 | 1.37 |
| 12 | B | 695 | G | C6-N1 | 9.38 | 1.46 | 1.39 |
| 12 | B | 1969 | A | N3-C4 | -9.38 | 1.29 | 1.34 |
| 12 | B | 2450 | A | C2'-C1' | -9.38 | 1.43 | 1.53 |
| 12 | B | 1595 | C | N3-C4 | 9.37 | 1.40 | 1.33 |
| 12 | B | 975 | A | C6-N1 | 9.37 | 1.42 | 1.35 |
| 12 | B | 2378 | A | N9-C4 | 9.37 | 1.43 | 1.37 |
| 12 | B | 191 | A | N7-C5 | -9.37 | 1.33 | 1.39 |
| 12 | B | 890 | C | N1-C6 | 9.37 | 1.42 | 1.37 |
| 12 | B | 1676 | A | C8-N7 | -9.37 | 1.25 | 1.31 |
| 12 | B | 2100 | G | P-O5' | -9.37 | 1.50 | 1.59 |
| 12 | B | 2662 | A | C6-N6 | 9.37 | 1.41 | 1.33 |
| 12 | B | 1708 | C | P-O5' | -9.36 | 1.50 | 1.59 |
| 12 | B | 2037 | A | C5-C4 | -9.36 | 1.32 | 1.38 |
| 12 | B | 1095 | A | N7-C5 | -9.36 | 1.33 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1536 | C | N1-C6 | 9.36 | 1.42 | 1.37 |
| 12 | B | 960 | A | N9-C8 | -9.36 | 1.30 | 1.37 |
| 12 | B | 1065 | U | C2-N3 | 9.36 | 1.44 | 1.37 |
| 12 | B | 1315 | C | C2'-C1' | -9.36 | 1.43 | 1.53 |
| 12 | B | 1723 | G | N7-C5 | -9.36 | 1.33 | 1.39 |
| 12 | B | 844 | A | C6-N6 | 9.35 | 1.41 | 1.33 |
| 12 | B | 1206 | G | C4'-C3' | 9.35 | 1.63 | 1.53 |
| 12 | B | 2148 | G | C6-N1 | 9.35 | 1.46 | 1.39 |
| 12 | B | 360 | U | C2-N3 | 9.34 | 1.44 | 1.37 |
| 12 | B | 1466 | U | N3-C4 | 9.34 | 1.46 | 1.38 |
| 12 | B | 762 | U | N1-C2 | 9.34 | 1.47 | 1.38 |
| 12 | B | 820 | A | C5'-C4' | 9.34 | 1.62 | 1.51 |
| 12 | B | 1218 | G | N3-C4 | -9.34 | 1.28 | 1.35 |
| 12 | B | 2178 | C | N1-C6 | 9.34 | 1.42 | 1.37 |
| 12 | B | 291 | G | N9-C8 | 9.34 | 1.44 | 1.37 |
| 12 | B | 1522 | A | N9-C4 | -9.34 | 1.32 | 1.37 |
| 12 | B | 1797 | G | C2-N3 | 9.33 | 1.40 | 1.32 |
| 12 | B | 2136 | G | P-O5' | -9.33 | 1.50 | 1.59 |
| 12 | B | 1831 | G | C2-N3 | 9.32 | 1.40 | 1.32 |
| 12 | B | 2071 | A | C6-N6 | 9.32 | 1.41 | 1.33 |
| 12 | B | 2724 | U | C4-C5 | 9.32 | 1.51 | 1.43 |
| 12 | B | 315 | G | C6-N1 | 9.32 | 1.46 | 1.39 |
| 12 | B | 2008 | C | N3-C4 | 9.31 | 1.40 | 1.33 |
| 12 | B | 2172 | U | C2-N3 | 9.31 | 1.44 | 1.37 |
| 12 | B | 1196 | C | C2'-C1' | -9.31 | 1.43 | 1.53 |
| 12 | B | 1488 | C | C4'-C3' | 9.31 | 1.63 | 1.53 |
| 12 | B | 2031 | A | C6-N1 | 9.31 | 1.42 | 1.35 |
| 12 | B | 481 | G | C6-N1 | 9.31 | 1.46 | 1.39 |
| 12 | B | 1303 | G | N7-C5 | -9.30 | 1.33 | 1.39 |
| 12 | B | 1131 | G | C2-N3 | 9.30 | 1.40 | 1.32 |
| 12 | B | 308 | G | N1-C2 | 9.30 | 1.45 | 1.37 |
| 12 | B | 1381 | G | C6-N1 | 9.30 | 1.46 | 1.39 |
| 12 | B | 2764 | A | N7-C5 | -9.30 | 1.33 | 1.39 |
| 12 | B | 1252 | G | C2-N3 | 9.29 | 1.40 | 1.32 |
| 12 | B | 2184 | A | C6-N1 | 9.29 | 1.42 | 1.35 |
| 12 | B | 2814 | A | C6-N1 | 9.29 | 1.42 | 1.35 |
| 12 | B | 1193 | G | C8-N7 | -9.29 | 1.25 | 1.30 |
| 11 | A | 40 | U | C2-N3 | 9.29 | 1.44 | 1.37 |
| 12 | B | 734 | A | C6-N6 | 9.29 | 1.41 | 1.33 |
| 12 | B | 1733 | G | P-O5' | -9.29 | 1.50 | 1.59 |
| 12 | B | 595 | C | N3-C4 | 9.28 | 1.40 | 1.33 |
| 12 | B | 122 | G | P-O5' | -9.28 | 1.50 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1104 | C | C5-C6 | 9.28 | 1.41 | 1.34 |
| 12 | B | 223 | A | N3-C4 | -9.28 | 1.29 | 1.34 |
| 12 | B | 1650 | A | C6-N6 | 9.28 | 1.41 | 1.33 |
| 11 | A | 56 | G | N1-C2 | 9.27 | 1.45 | 1.37 |
| 12 | B | 320 | A | C6-N1 | 9.27 | 1.42 | 1.35 |
| 12 | B | 759 | G | N7-C5 | -9.27 | 1.33 | 1.39 |
| 12 | B | 1267 | U | P-O5' | -9.27 | 1.50 | 1.59 |
| 12 | B | 1289 | C | C5-C6 | -9.27 | 1.26 | 1.34 |
| 12 | B | 648 | G | C2-N3 | 9.27 | 1.40 | 1.32 |
| 12 | B | 1802 | A | C6-N6 | 9.27 | 1.41 | 1.33 |
| 12 | B | 1166 | G | C2'-C1' | -9.26 | 1.43 | 1.53 |
| 12 | B | 857 | G | N9-C8 | 9.26 | 1.44 | 1.37 |
| 12 | B | 1470 | A | C6-N6 | 9.26 | 1.41 | 1.33 |
| 12 | B | 316 | C | N3-C4 | 9.26 | 1.40 | 1.33 |
| 12 | B | 998 | C | C2-N3 | 9.26 | 1.43 | 1.35 |
| 12 | B | 488 | G | N1-C2 | 9.25 | 1.45 | 1.37 |
| 12 | B | 2104 | C | C2-N3 | 9.25 | 1.43 | 1.35 |
| 12 | B | 2199 | A | N7-C5 | -9.25 | 1.33 | 1.39 |
| 12 | B | 2736 | A | N7-C5 | -9.25 | 1.33 | 1.39 |
| 12 | B | 845 | A | C8-N7 | -9.25 | 1.25 | 1.31 |
| 12 | B | 458 | G | N1-C2 | 9.25 | 1.45 | 1.37 |
| 12 | B | 1529 | G | C6-N1 | 9.25 | 1.46 | 1.39 |
| 12 | B | 906 | U | N1-C6 | 9.25 | 1.46 | 1.38 |
| 12 | B | 2126 | A | N7-C5 | -9.25 | 1.33 | 1.39 |
| 12 | B | 2610 | C | C2'-C1' | -9.25 | 1.43 | 1.53 |
| 12 | B | 1945 | G | C3'-C2' | -9.24 | 1.42 | 1.52 |
| 12 | B | 1455 | G | N1-C2 | 9.24 | 1.45 | 1.37 |
| 12 | B | 2090 | A | C3'-C2' | -9.24 | 1.42 | 1.52 |
| 12 | B | 1913 | A | C6-N6 | 9.24 | 1.41 | 1.33 |
| 12 | B | 1918 | A | C8-N7 | -9.24 | 1.25 | 1.31 |
| 12 | B | 1857 | G | N9-C4 | 9.23 | 1.45 | 1.38 |
| 12 | B | 1458 | U | C5'-C4' | 9.23 | 1.62 | 1.51 |
| 12 | B | 2406 | A | N7-C5 | -9.23 | 1.33 | 1.39 |
| 12 | B | 1848 | A | N9-C4 | 9.22 | 1.43 | 1.37 |
| 12 | B | 608 | A | N9-C4 | 9.22 | 1.43 | 1.37 |
| 12 | B | 708 | G | C6-N1 | 9.22 | 1.46 | 1.39 |
| 12 | B | 1762 | A | N7-C5 | -9.22 | 1.33 | 1.39 |
| 12 | B | 934 | U | C4-C5 | 9.22 | 1.51 | 1.43 |
| 12 | B | 1890 | A | C3'-C2' | -9.22 | 1.42 | 1.52 |
| 12 | B | 2416 | C | N3-C4 | 9.22 | 1.40 | 1.33 |
| 12 | B | 1076 | C | N3-C4 | 9.22 | 1.40 | 1.33 |
| 12 | B | 1115 | G | C2'-C1' | -9.22 | 1.43 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2846 | G | C8-N7 | -9.22 | 1.25 | 1.30 |
| 12 | B | 1803 | A | N9-C4 | -9.22 | 1.32 | 1.37 |
| 12 | B | 1845 | G | N9-C4 | 9.22 | 1.45 | 1.38 |
| 12 | B | 1178 | C | C5'-C4' | 9.22 | 1.62 | 1.51 |
| 12 | B | 925 | A | N9-C4 | -9.21 | 1.32 | 1.37 |
| 12 | B | 2088 | A | N9-C4 | -9.21 | 1.32 | 1.37 |
| 12 | B | 1984 | G | C6-N1 | 9.21 | 1.46 | 1.39 |
| 12 | B | 2197 | U | C2-N3 | 9.21 | 1.44 | 1.37 |
| 12 | B | 1346 | G | C5-C4 | -9.21 | 1.31 | 1.38 |
| 12 | B | 379 | G | C8-N7 | -9.20 | 1.25 | 1.30 |
| 12 | B | 2409 | G | C2-N3 | 9.20 | 1.40 | 1.32 |
| 12 | B | 77 | G | N7-C5 | -9.20 | 1.33 | 1.39 |
| 12 | B | 574 | A | C2'-C1' | -9.20 | 1.43 | 1.53 |
| 12 | B | 2246 | G | C8-N7 | -9.19 | 1.25 | 1.30 |
| 3 | 2 | 15 | ARG | CD-NE | 9.19 | 1.62 | 1.46 |
| 12 | B | 594 | U | N3-C4 | 9.19 | 1.46 | 1.38 |
| 12 | B | 1707 | G | C2'-C1' | 9.19 | 1.63 | 1.53 |
| 12 | B | 252 | G | N9-C4 | -9.18 | 1.30 | 1.38 |
| 12 | B | 556 | A | O3'-P | -9.18 | 1.50 | 1.61 |
| 12 | B | 1048 | A | N7-C5 | -9.18 | 1.33 | 1.39 |
| 12 | B | 2125 | G | C5-C4 | 9.18 | 1.44 | 1.38 |
| 12 | B | 1185 | G | C2-N3 | 9.18 | 1.40 | 1.32 |
| 12 | B | 1414 | C | N1-C6 | 9.18 | 1.42 | 1.37 |
| 12 | B | 2089 | C | N3-C4 | 9.18 | 1.40 | 1.33 |
| 12 | B | 2096 | C | P-O5' | -9.18 | 1.50 | 1.59 |
| 12 | B | 167 | A | C6-N6 | 9.17 | 1.41 | 1.33 |
| 12 | B | 502 | A | N9-C4 | -9.17 | 1.32 | 1.37 |
| 12 | B | 662 | G | N9-C8 | 9.17 | 1.44 | 1.37 |
| 12 | B | 816 | C | C4-N4 | 9.17 | 1.42 | 1.33 |
| 12 | B | 1972 | G | P-O5' | -9.17 | 1.50 | 1.59 |
| 12 | B | 1674 | G | C2'-C1' | -9.16 | 1.43 | 1.53 |
| 12 | B | 2324 | U | C2-N3 | 9.16 | 1.44 | 1.37 |
| 12 | B | 2352 | A | C6-N6 | 9.16 | 1.41 | 1.33 |
| 12 | B | 2276 | G | N7-C5 | -9.16 | 1.33 | 1.39 |
| 12 | B | 768 | G | C4'-C3' | -9.16 | 1.43 | 1.53 |
| 12 | B | 1336 | A | C6-N6 | 9.15 | 1.41 | 1.33 |
| 12 | B | 2506 | U | C4-C5 | 9.15 | 1.51 | 1.43 |
| 12 | B | 166 | U | C2-N3 | 9.15 | 1.44 | 1.37 |
| 12 | B | 2803 | G | N3-C4 | -9.15 | 1.29 | 1.35 |
| 12 | B | 1678 | A | N3-C4 | -9.14 | 1.29 | 1.34 |
| 12 | B | 530 | G | P-O5' | -9.13 | 1.50 | 1.59 |
| 12 | B | 2472 | G | C5-C4 | 9.14 | 1.44 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2597 | G | N3-C4 | -9.14 | 1.29 | 1.35 |
| 12 | B | 550 | C | N3-C4 | 9.13 | 1.40 | 1.33 |
| 12 | B | 1455 | G | C5-C4 | 9.13 | 1.44 | 1.38 |
| 12 | B | 589 | U | C2'-C1' | -9.13 | 1.43 | 1.53 |
| 12 | B | 674 | G | N9-C8 | 9.13 | 1.44 | 1.37 |
| 12 | B | 720 | U | N3-C4 | 9.13 | 1.46 | 1.38 |
| 12 | B | 1374 | G | C6-N1 | 9.13 | 1.46 | 1.39 |
| 12 | B | 1966 | A | N7-C5 | -9.13 | 1.33 | 1.39 |
| 12 | B | 2055 | C | N1-C6 | 9.13 | 1.42 | 1.37 |
| 11 | A | 64 | G | N9-C8 | 9.13 | 1.44 | 1.37 |
| 12 | B | 1483 | G | C2-N3 | 9.12 | 1.40 | 1.32 |
| 12 | B | 1618 | A | C2-N3 | 9.12 | 1.41 | 1.33 |
| 12 | B | 1266 | G | C6-N1 | 9.12 | 1.46 | 1.39 |
| 12 | B | 233 | A | N9-C4 | 9.12 | 1.43 | 1.37 |
| 12 | B | 2139 | U | C2-N3 | 9.12 | 1.44 | 1.37 |
| 12 | B | 2437 | G | N1-C2 | 9.12 | 1.45 | 1.37 |
| 12 | B | 2717 | C | C4-C5 | 9.12 | 1.50 | 1.43 |
| 12 | B | 818 | G | C6-N1 | 9.11 | 1.46 | 1.39 |
| 12 | B | 1487 | U | C2-N3 | 9.11 | 1.44 | 1.37 |
| 12 | B | 1896 | G | C5-C4 | 9.11 | 1.44 | 1.38 |
| 12 | B | 1366 | A | N7-C5 | -9.11 | 1.33 | 1.39 |
| 12 | B | 1634 | A | O3'-P | -9.11 | 1.50 | 1.61 |
| 12 | B | 262 | A | N7-C5 | -9.10 | 1.33 | 1.39 |
| 12 | B | 2138 | G | C2-N3 | 9.10 | 1.40 | 1.32 |
| 12 | B | 2407 | A | C6-N6 | 9.10 | 1.41 | 1.33 |
| 12 | B | 245 | G | C6-N1 | 9.10 | 1.46 | 1.39 |
| 12 | B | 1611 | C | C4'-O4' | -9.10 | 1.33 | 1.45 |
| 12 | B | 2320 | U | C2-N3 | 9.10 | 1.44 | 1.37 |
| 12 | B | 2742 | G | C8-N7 | -9.10 | 1.25 | 1.30 |
| 12 | B | 355 | U | C2-N3 | 9.10 | 1.44 | 1.37 |
| 12 | B | 1658 | C | C2'-C1' | -9.09 | 1.43 | 1.53 |
| 12 | B | 1346 | G | C6-N1 | 9.08 | 1.46 | 1.39 |
| 12 | B | 1600 | C | C4-C5 | 9.08 | 1.50 | 1.43 |
| 12 | B | 1718 | G | C5-C6 | -9.08 | 1.33 | 1.42 |
| 12 | B | 2877 | G | C2-N3 | 9.08 | 1.40 | 1.32 |
| 12 | B | 2474 | U | N3-C4 | 9.08 | 1.46 | 1.38 |
| 12 | B | 63 | A | C6-N1 | 9.08 | 1.42 | 1.35 |
| 12 | B | 2088 | A | C2'-C1' | -9.08 | 1.43 | 1.53 |
| 12 | B | 1227 | G | C5-C4 | 9.07 | 1.44 | 1.38 |
| 12 | B | 1465 | G | N7-C5 | 9.07 | 1.44 | 1.39 |
| 12 | B | 1862 | G | C2-N3 | 9.07 | 1.40 | 1.32 |
| 12 | B | 2286 | G | C8-N7 | 9.07 | 1.36 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 981 | A | C6-N6 | 9.07 | 1.41 | 1.33 |
| 12 | B | 1433 | A | C6-N6 | 9.07 | 1.41 | 1.33 |
| 12 | B | 2246 | G | C5-C6 | -9.07 | 1.33 | 1.42 |
| 12 | B | 2525 | G | C2-N3 | 9.07 | 1.40 | 1.32 |
| 12 | B | 1427 | A | C2'-C1' | -9.06 | 1.43 | 1.53 |
| 11 | A | 85 | G | C2-N2 | 9.06 | 1.43 | 1.34 |
| 12 | B | 330 | A | C6-N6 | 9.06 | 1.41 | 1.33 |
| 12 | B | 757 | G | C2-N3 | 9.06 | 1.40 | 1.32 |
| 12 | B | 1645 | G | C5-C6 | -9.06 | 1.33 | 1.42 |
| 12 | B | 2570 | G | N9-C4 | -9.06 | 1.30 | 1.38 |
| 12 | B | 1914 | C | C4-N4 | 9.06 | 1.42 | 1.33 |
| 12 | B | 639 | U | P-O5' | -9.06 | 1.50 | 1.59 |
| 12 | B | 176 | A | C5-C4 | 9.05 | 1.45 | 1.38 |
| 12 | B | 1069 | A | C6-N6 | 9.05 | 1.41 | 1.33 |
| 12 | B | 1410 | G | N1-C2 | 9.05 | 1.45 | 1.37 |
| 12 | B | 1980 | G | C1'-N9 | 9.05 | 1.62 | 1.48 |
| 12 | B | 269 | C | N3-C4 | 9.05 | 1.40 | 1.33 |
| 12 | B | 6 | A | C6-N6 | 9.05 | 1.41 | 1.33 |
| 12 | B | 2624 | G | C4'-C3' | 9.05 | 1.63 | 1.53 |
| 12 | B | 2660 | A | N7-C5 | -9.05 | 1.33 | 1.39 |
| 12 | B | 1532 | A | N7-C5 | -9.05 | 1.33 | 1.39 |
| 12 | B | 1899 | A | C2'-C1' | -9.04 | 1.43 | 1.53 |
| 12 | B | 2688 | G | N7-C5 | -9.04 | 1.33 | 1.39 |
| 12 | B | 1192 | G | C2'-C1' | -9.04 | 1.43 | 1.53 |
| 12 | B | 2283 | C | C2'-C1' | -9.04 | 1.43 | 1.53 |
| 12 | B | 2322 | A | C6-N6 | 9.04 | 1.41 | 1.33 |
| 12 | B | 1180 | U | P-O5' | -9.04 | 1.50 | 1.59 |
| 12 | B | 92 | U | N1-C6 | 9.04 | 1.46 | 1.38 |
| 12 | B | 794 | A | N7-C5 | -9.04 | 1.33 | 1.39 |
| 12 | B | 1379 | U | C4-C5 | 9.04 | 1.51 | 1.43 |
| 12 | B | 2621 | G | N1-C2 | 9.04 | 1.45 | 1.37 |
| 12 | B | 397 | U | C4-C5 | 9.04 | 1.51 | 1.43 |
| 12 | B | 811 | U | C4'-O4' | -9.04 | 1.33 | 1.45 |
| 12 | B | 2005 | A | N9-C4 | 9.04 | 1.43 | 1.37 |
| 12 | B | 1682 | G | C5-C6 | -9.03 | 1.33 | 1.42 |
| 12 | B | 2792 | A | C5-C4 | 9.03 | 1.45 | 1.38 |
| 12 | B | 2304 | G | N7-C5 | -9.03 | 1.33 | 1.39 |
| 12 | B | 956 | G | N7-C5 | -9.03 | 1.33 | 1.39 |
| 12 | B | 1758 | U | C2-N3 | 9.03 | 1.44 | 1.37 |
| 12 | B | 1785 | A | N3-C4 | -9.03 | 1.29 | 1.34 |
| 12 | B | 564 | C | C4-N4 | 9.03 | 1.42 | 1.33 |
| 12 | B | 976 | G | N9-C4 | -9.03 | 1.30 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1059 | G | N9-C4 | 9.03 | 1.45 | 1.38 |
| 12 | B | 2780 | G | C8-N7 | -9.03 | 1.25 | 1.30 |
| 12 | B | 233 | A | C6-N1 | 9.02 | 1.41 | 1.35 |
| 12 | B | 463 | G | P-O5' | -9.02 | 1.50 | 1.59 |
| 12 | B | 1257 | C | P-O5' | -9.02 | 1.50 | 1.59 |
| 12 | B | 1984 | G | N3-C4 | -9.02 | 1.29 | 1.35 |
| 12 | B | 180 | G | C2-N3 | 9.01 | 1.40 | 1.32 |
| 12 | B | 510 | C | C2-N3 | 9.01 | 1.43 | 1.35 |
| 12 | B | 1285 | A | C2'-C1' | -9.01 | 1.43 | 1.53 |
| 12 | B | 798 | G | N3-C4 | 9.01 | 1.41 | 1.35 |
| 12 | B | 972 | A | C6-N1 | 9.01 | 1.41 | 1.35 |
| 12 | B | 2532 | G | P-O5' | -9.01 | 1.50 | 1.59 |
| 12 | B | 432 | A | N9-C4 | 9.01 | 1.43 | 1.37 |
| 12 | B | 962 | G | N7-C5 | -9.01 | 1.33 | 1.39 |
| 12 | B | 1667 | G | C2'-C1' | -9.01 | 1.43 | 1.53 |
| 12 | B | 2557 | G | N7-C5 | -9.01 | 1.33 | 1.39 |
| 12 | B | 172 | A | C5-C4 | 9.01 | 1.45 | 1.38 |
| 12 | B | 338 | G | C2-N3 | 9.01 | 1.40 | 1.32 |
| 12 | B | 1127 | A | N9-C8 | -9.01 | 1.30 | 1.37 |
| 12 | B | 2258 | C | C2-N3 | 9.01 | 1.43 | 1.35 |
| 12 | B | 1676 | A | O3'-P | -9.01 | 1.50 | 1.61 |
| 12 | B | 2152 | G | N7-C5 | -9.01 | 1.33 | 1.39 |
| 12 | B | 1676 | A | C5'-C4' | 9.00 | 1.62 | 1.51 |
| 12 | B | 2101 | A | N9-C4 | 9.00 | 1.43 | 1.37 |
| 12 | B | 529 | A | C6-N1 | 9.00 | 1.41 | 1.35 |
| 12 | B | 2266 | A | C8-N7 | -9.00 | 1.25 | 1.31 |
| 12 | B | 285 | G | N7-C5 | -9.00 | 1.33 | 1.39 |
| 12 | B | 2153 | C | N3-C4 | 9.00 | 1.40 | 1.33 |
| 12 | B | 2850 | A | C8-N7 | -9.00 | 1.25 | 1.31 |
| 12 | B | 848 | C | N1-C6 | 8.99 | 1.42 | 1.37 |
| 12 | B | 783 | A | N9-C8 | -8.99 | 1.30 | 1.37 |
| 12 | B | 48 | G | C2'-C1' | 8.99 | 1.63 | 1.53 |
| 12 | B | 108 | G | N1-C2 | 8.99 | 1.45 | 1.37 |
| 12 | B | 775 | G | N3-C4 | -8.99 | 1.29 | 1.35 |
| 12 | B | 855 | G | N7-C5 | -8.99 | 1.33 | 1.39 |
| 12 | B | 509 | C | N3-C4 | 8.98 | 1.40 | 1.33 |
| 12 | B | 620 | G | C6-N1 | 8.98 | 1.45 | 1.39 |
| 12 | B | 823 | C | C2-N3 | 8.98 | 1.43 | 1.35 |
| 12 | B | 322 | A | C8-N7 | -8.98 | 1.25 | 1.31 |
| 12 | B | 477 | A | C8-N7 | -8.98 | 1.25 | 1.31 |
| 12 | B | 862 | G | C8-N7 | -8.98 | 1.25 | 1.30 |
| 12 | B | 772 | C | C4-N4 | 8.97 | 1.42 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1004 | U | N1-C2 | 8.97 | 1.46 | 1.38 |
| 12 | B | 2046 | G | C6-N1 | 8.96 | 1.45 | 1.39 |
| 12 | B | 320 | A | C6-N6 | 8.96 | 1.41 | 1.33 |
| 12 | B | 2401 | U | C2-N3 | 8.96 | 1.44 | 1.37 |
| 12 | B | 2698 | U | C3'-C2' | -8.96 | 1.42 | 1.52 |
| 12 | B | 999 | U | N3-C4 | 8.95 | 1.46 | 1.38 |
| 12 | B | 1968 | G | C2-N3 | 8.95 | 1.40 | 1.32 |
| 12 | B | 2466 | C | C4-N4 | 8.95 | 1.42 | 1.33 |
| 12 | B | 196 | A | N7-C5 | -8.95 | 1.33 | 1.39 |
| 12 | B | 924 | G | C6-N1 | 8.95 | 1.45 | 1.39 |
| 12 | B | 2558 | C | N3-C4 | 8.95 | 1.40 | 1.33 |
| 12 | B | 2858 | C | N1-C6 | 8.95 | 1.42 | 1.37 |
| 12 | B | 1125 | G | C5-C4 | 8.94 | 1.44 | 1.38 |
| 12 | B | 2802 | G | C6-N1 | 8.94 | 1.45 | 1.39 |
| 12 | B | 1935 | G | C6-N1 | 8.93 | 1.45 | 1.39 |
| 12 | B | 2239 | G | C2-N3 | -8.93 | 1.25 | 1.32 |
| 12 | B | 801 | G | O3'-P | -8.93 | 1.50 | 1.61 |
| 12 | B | 1838 | C | N3-C4 | 8.93 | 1.40 | 1.33 |
| 12 | B | 2625 | G | C2-N3 | 8.93 | 1.39 | 1.32 |
| 12 | B | 2741 | A | C5'-C4' | 8.93 | 1.62 | 1.51 |
| 12 | B | 1526 | C | N1-C6 | 8.92 | 1.42 | 1.37 |
| 12 | B | 2820 | A | C6-N6 | 8.92 | 1.41 | 1.33 |
| 12 | B | 877 | A | N7-C5 | -8.92 | 1.33 | 1.39 |
| 12 | B | 2536 | G | C6-N1 | 8.92 | 1.45 | 1.39 |
| 12 | B | 1275 | A | C5-C6 | 8.91 | 1.49 | 1.41 |
| 12 | B | 2819 | G | C5'-C4' | 8.91 | 1.62 | 1.51 |
| 12 | B | 1475 | G | C2-N3 | 8.91 | 1.39 | 1.32 |
| 12 | B | 2575 | C | C2-N3 | 8.91 | 1.42 | 1.35 |
| 12 | B | 1847 | A | C6-N1 | 8.90 | 1.41 | 1.35 |
| 11 | A | 16 | G | N9-C4 | -8.90 | 1.30 | 1.38 |
| 12 | B | 705 | A | C6-N6 | 8.90 | 1.41 | 1.33 |
| 12 | B | 2349 | G | N1-C2 | 8.90 | 1.44 | 1.37 |
| 12 | B | 2024 | G | C5-C4 | -8.89 | 1.32 | 1.38 |
| 12 | B | 398 | C | C2'-C1' | -8.89 | 1.43 | 1.53 |
| 12 | B | 1792 | G | N3-C4 | 8.89 | 1.41 | 1.35 |
| 12 | B | 1896 | G | C5-C6 | -8.89 | 1.33 | 1.42 |
| 12 | B | 2778 | A | N9-C8 | 8.89 | 1.44 | 1.37 |
| 12 | B | 2866 | U | C2-N3 | 8.89 | 1.44 | 1.37 |
| 12 | B | 505 | A | N3-C4 | 8.89 | 1.40 | 1.34 |
| 11 | A | 15 | A | N9-C8 | -8.88 | 1.30 | 1.37 |
| 12 | B | 124 | G | N9-C8 | -8.88 | 1.31 | 1.37 |
| 12 | B | 244 | A | N9-C4 | 8.88 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1659 | G | N3-C4 | 8.88 | 1.41 | 1.35 |
| 12 | B | 2713 | U | N3-C4 | 8.88 | 1.46 | 1.38 |
| 12 | B | 2844 | G | O3'-P | -8.88 | 1.50 | 1.61 |
| 12 | B | 858 | G | N9-C4 | -8.88 | 1.30 | 1.38 |
| 12 | B | 794 | A | C4'-C3' | 8.88 | 1.62 | 1.53 |
| 12 | B | 507 | A | C5-C4 | 8.87 | 1.45 | 1.38 |
| 12 | B | 1492 | G | N7-C5 | -8.87 | 1.33 | 1.39 |
| 12 | B | 1697 | G | N7-C5 | -8.87 | 1.33 | 1.39 |
| 12 | B | 144 | A | N7-C5 | -8.87 | 1.33 | 1.39 |
| 12 | B | 350 | G | N9-C8 | -8.87 | 1.31 | 1.37 |
| 12 | B | 1912 | A | N7-C5 | -8.87 | 1.33 | 1.39 |
| 12 | B | 747 | U | P-O5' | -8.87 | 1.50 | 1.59 |
| 12 | B | 2442 | C | N3-C4 | 8.87 | 1.40 | 1.33 |
| 12 | B | 2615 | U | C4'-C3' | -8.87 | 1.43 | 1.53 |
| 12 | B | 2859 | G | P-O5' | -8.87 | 1.50 | 1.59 |
| 11 | A | 42 | C | C2'-C1' | -8.86 | 1.43 | 1.53 |
| 12 | B | 1063 | G | C2-N3 | 8.86 | 1.39 | 1.32 |
| 12 | B | 1140 | C | N1-C6 | 8.86 | 1.42 | 1.37 |
| 12 | B | 1434 | A | N7-C5 | -8.86 | 1.33 | 1.39 |
| 12 | B | 2583 | G | C2'-C1' | -8.86 | 1.43 | 1.53 |
| 12 | B | 1046 | A | N9-C4 | 8.86 | 1.43 | 1.37 |
| 12 | B | 287 | G | N3-C4 | 8.86 | 1.41 | 1.35 |
| 12 | B | 1978 | A | N7-C5 | -8.86 | 1.33 | 1.39 |
| 12 | B | 1321 | A | C6-N6 | 8.86 | 1.41 | 1.33 |
| 12 | B | 1571 | A | C6-N6 | 8.86 | 1.41 | 1.33 |
| 12 | B | 21 | A | C8-N7 | -8.85 | 1.25 | 1.31 |
| 12 | B | 574 | A | C5-C4 | 8.85 | 1.45 | 1.38 |
| 12 | B | 1300 | G | N1-C2 | 8.85 | 1.44 | 1.37 |
| 12 | B | 1304 | A | C2'-C1' | -8.85 | 1.43 | 1.53 |
| 12 | B | 2449 | U | C2-N3 | 8.85 | 1.44 | 1.37 |
| 12 | B | 428 | A | N7-C5 | -8.84 | 1.33 | 1.39 |
| 12 | B | 18 | U | C2-N3 | 8.84 | 1.44 | 1.37 |
| 12 | B | 1827 | U | N3-C4 | 8.84 | 1.46 | 1.38 |
| 12 | B | 2717 | C | N3-C4 | 8.84 | 1.40 | 1.33 |
| 12 | B | 1388 | G | C4'-C3' | -8.84 | 1.43 | 1.53 |
| 12 | B | 1604 | C | C4-N4 | 8.84 | 1.42 | 1.33 |
| 12 | B | 401 | A | C6-N1 | 8.84 | 1.41 | 1.35 |
| 12 | B | 1639 | C | C2-N3 | 8.84 | 1.42 | 1.35 |
| 12 | B | 908 | C | C4'-C3' | 8.84 | 1.62 | 1.53 |
| 12 | B | 1845 | G | C6-N1 | 8.84 | 1.45 | 1.39 |
| 12 | B | 2766 | A | O3'-P | -8.84 | 1.50 | 1.61 |
| 12 | B | 2670 | A | N9-C4 | 8.83 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 713 | G | C4'-C3' | -8.83 | 1.43 | 1.53 |
| 12 | B | 1192 | G | N3-C4 | -8.83 | 1.29 | 1.35 |
| 12 | B | 971 | G | C2'-C1' | -8.83 | 1.43 | 1.53 |
| 12 | B | 2005 | A | C5-C4 | 8.83 | 1.45 | 1.38 |
| 12 | B | 1593 | A | C6-N6 | 8.82 | 1.41 | 1.33 |
| 12 | B | 1847 | A | C6-N6 | 8.82 | 1.41 | 1.33 |
| 12 | B | 2426 | A | C2'-C1' | -8.82 | 1.43 | 1.53 |
| 12 | B | 265 | A | C8-N7 | -8.82 | 1.25 | 1.31 |
| 12 | B | 2231 | U | P-O5' | -8.82 | 1.50 | 1.59 |
| 12 | B | 701 | G | N1-C2 | 8.82 | 1.44 | 1.37 |
| 12 | B | 1469 | A | N3-C4 | -8.82 | 1.29 | 1.34 |
| 12 | B | 2399 | G | C2-N3 | 8.81 | 1.39 | 1.32 |
| 12 | B | 2529 | G | C8-N7 | 8.81 | 1.36 | 1.30 |
| 12 | B | 382 | A | N9-C4 | -8.81 | 1.32 | 1.37 |
| 12 | B | 1887 | C | C4-N4 | 8.81 | 1.41 | 1.33 |
| 12 | B | 972 | A | N3-C4 | -8.81 | 1.29 | 1.34 |
| 12 | B | 1669 | A | C6-N6 | 8.81 | 1.41 | 1.33 |
| 12 | B | 1720 | U | C2-N3 | 8.81 | 1.44 | 1.37 |
| 12 | B | 2576 | G | C6-N1 | 8.81 | 1.45 | 1.39 |
| 12 | B | 472 | A | N3-C4 | -8.81 | 1.29 | 1.34 |
| 12 | B | 768 | G | C5-C4 | -8.81 | 1.32 | 1.38 |
| 12 | B | 1468 | U | N3-C4 | 8.81 | 1.46 | 1.38 |
| 12 | B | 2080 | A | O3'-P | -8.81 | 1.50 | 1.61 |
| 12 | B | 2569 | G | N9-C8 | 8.81 | 1.44 | 1.37 |
| 12 | B | 2315 | G | C8-N7 | 8.81 | 1.36 | 1.30 |
| 11 | A | 105 | G | C2-N2 | 8.80 | 1.43 | 1.34 |
| 12 | B | 1490 | A | C2'-C1' | -8.80 | 1.43 | 1.53 |
| 12 | B | 566 | U | C2-N3 | 8.80 | 1.44 | 1.37 |
| 12 | B | 810 | U | N1-C2 | 8.80 | 1.46 | 1.38 |
| 12 | B | 1627 | G | N9-C8 | 8.80 | 1.44 | 1.37 |
| 12 | B | 165 | A | C6-N6 | 8.80 | 1.41 | 1.33 |
| 12 | B | 29 | U | C2-N3 | 8.79 | 1.44 | 1.37 |
| 12 | B | 273 | G | C4'-O4' | -8.79 | 1.34 | 1.45 |
| 12 | B | 1380 | G | C5-C4 | 8.79 | 1.44 | 1.38 |
| 12 | B | 2357 | G | N3-C4 | -8.79 | 1.29 | 1.35 |
| 12 | B | 1615 | C | C2-N3 | 8.79 | 1.42 | 1.35 |
| 12 | B | 1888 | G | C8-N7 | -8.79 | 1.25 | 1.30 |
| 12 | B | 1088 | A | C6-N1 | 8.79 | 1.41 | 1.35 |
| 12 | B | 1128 | G | C2'-C1' | -8.79 | 1.43 | 1.53 |
| 12 | B | 211 | C | N3-C4 | 8.78 | 1.40 | 1.33 |
| 12 | B | 1032 | A | C2'-C1' | -8.78 | 1.43 | 1.53 |
| 12 | B | 50 | U | N3-C4 | 8.78 | 1.46 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 169 | G | N1-C2 | 8.78 | 1.44 | 1.37 |
| 12 | B | 515 | A | C6-N1 | 8.78 | 1.41 | 1.35 |
| 12 | B | 509 | C | C2'-C1' | -8.78 | 1.43 | 1.53 |
| 12 | B | 1049 | C | N1-C6 | 8.78 | 1.42 | 1.37 |
| 12 | B | 2288 | A | N9-C4 | -8.78 | 1.32 | 1.37 |
| 12 | B | 1700 | A | N9-C4 | -8.77 | 1.32 | 1.37 |
| 12 | B | 1538 | G | N7-C5 | -8.77 | 1.33 | 1.39 |
| 12 | B | 544 | C | N1-C6 | 8.77 | 1.42 | 1.37 |
| 12 | B | 799 | G | N9-C8 | 8.77 | 1.44 | 1.37 |
| 12 | B | 2061 | G | N9-C4 | 8.77 | 1.45 | 1.38 |
| 12 | B | 2101 | A | N7-C5 | -8.77 | 1.33 | 1.39 |
| 12 | B | 2175 | C | N3-C4 | 8.77 | 1.40 | 1.33 |
| 11 | A | 33 | G | N9-C4 | -8.76 | 1.30 | 1.38 |
| 12 | B | 303 | G | N3-C4 | -8.76 | 1.29 | 1.35 |
| 12 | B | 1599 | U | C2-N3 | 8.76 | 1.43 | 1.37 |
| 12 | B | 1853 | A | C6-N1 | 8.76 | 1.41 | 1.35 |
| 12 | B | 1867 | G | C5-C4 | 8.76 | 1.44 | 1.38 |
| 12 | B | 2171 | A | C4'-C3' | 8.76 | 1.62 | 1.53 |
| 12 | B | 188 | G | C2-N3 | 8.76 | 1.39 | 1.32 |
| 12 | B | 2578 | G | C6-N1 | 8.76 | 1.45 | 1.39 |
| 12 | B | 1789 | A | N9-C4 | 8.76 | 1.43 | 1.37 |
| 12 | B | 2299 | U | C2-N3 | 8.76 | 1.43 | 1.37 |
| 12 | B | 2612 | C | N1-C6 | 8.76 | 1.42 | 1.37 |
| 11 | A | 18 | G | N7-C5 | -8.75 | 1.33 | 1.39 |
| 12 | B | 2450 | A | N7-C5 | -8.75 | 1.33 | 1.39 |
| 12 | B | 2646 | C | N1-C6 | 8.75 | 1.42 | 1.37 |
| 12 | B | 1095 | A | P-O5' | 8.75 | 1.68 | 1.59 |
| 12 | B | 2735 | G | C8-N7 | 8.75 | 1.36 | 1.30 |
| 12 | B | 496 | G | C8-N7 | -8.75 | 1.25 | 1.30 |
| 12 | B | 1669 | A | P-O5' | -8.75 | 1.51 | 1.59 |
| 12 | B | 1461 | C | O3'-P | -8.74 | 1.50 | 1.61 |
| 11 | A | 38 | C | N3-C4 | 8.74 | 1.40 | 1.33 |
| 12 | B | 539 | G | N3-C4 | 8.74 | 1.41 | 1.35 |
| 12 | B | 2031 | A | C6-N6 | 8.74 | 1.41 | 1.33 |
| 12 | B | 189 | G | N1-C2 | 8.74 | 1.44 | 1.37 |
| 12 | B | 803 | U | C5-C6 | 8.74 | 1.42 | 1.34 |
| 12 | B | 1386 | C | N3-C4 | 8.74 | 1.40 | 1.33 |
| 12 | B | 2204 | G | C2'-C1' | -8.74 | 1.43 | 1.53 |
| 12 | B | 494 | G | N7-C5 | -8.74 | 1.34 | 1.39 |
| 12 | B | 2722 | G | C2-N3 | 8.74 | 1.39 | 1.32 |
| 12 | B | 2746 | U | C2-N3 | 8.74 | 1.43 | 1.37 |
| 12 | B | 1859 | U | C2-N3 | 8.73 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 669 | G | N9-C8 | 8.73 | 1.44 | 1.37 |
| 12 | B | 900 | A | P-O5' | -8.72 | 1.51 | 1.59 |
| 12 | B | 1301 | A | C5-C4 | 8.72 | 1.44 | 1.38 |
| 12 | B | 2281 | A | N7-C5 | -8.72 | 1.34 | 1.39 |
| 12 | B | 2586 | U | N1-C2 | 8.72 | 1.46 | 1.38 |
| 12 | B | 2101 | A | C6-N6 | 8.72 | 1.41 | 1.33 |
| 12 | B | 2607 | G | N1-C2 | 8.72 | 1.44 | 1.37 |
| 12 | B | 2659 | G | C8-N7 | 8.72 | 1.36 | 1.30 |
| 12 | B | 704 | G | N9-C4 | 8.72 | 1.45 | 1.38 |
| 12 | B | 1541 | C | N1-C2 | 8.72 | 1.48 | 1.40 |
| 12 | B | 1043 | C | N3-C4 | 8.72 | 1.40 | 1.33 |
| 12 | B | 797 | G | C2'-C1' | -8.71 | 1.43 | 1.53 |
| 12 | B | 1872 | A | C6-N1 | -8.71 | 1.29 | 1.35 |
| 12 | B | 2556 | C | P-O5' | -8.71 | 1.51 | 1.59 |
| 12 | B | 2588 | G | N9-C8 | 8.71 | 1.44 | 1.37 |
| 12 | B | 2729 | G | N1-C2 | 8.71 | 1.44 | 1.37 |
| 12 | B | 2666 | C | O3'-P | -8.71 | 1.50 | 1.61 |
| 12 | B | 2792 | A | C6-N1 | 8.71 | 1.41 | 1.35 |
| 12 | B | 1111 | A | N9-C4 | -8.71 | 1.32 | 1.37 |
| 12 | B | 1546 | G | C2'-C1' | -8.71 | 1.43 | 1.53 |
| 12 | B | 2067 | G | C6-N1 | 8.71 | 1.45 | 1.39 |
| 12 | B | 2282 | G | C8-N7 | -8.71 | 1.25 | 1.30 |
| 12 | B | 2827 | C | N3-C4 | 8.70 | 1.40 | 1.33 |
| 12 | B | 1296 | G | C8-N7 | -8.70 | 1.25 | 1.30 |
| 11 | A | 29 | A | N7-C5 | -8.70 | 1.34 | 1.39 |
| 12 | B | 2752 | C | N3-C4 | 8.69 | 1.40 | 1.33 |
| 12 | B | 1368 | G | N7-C5 | -8.69 | 1.34 | 1.39 |
| 12 | B | 1549 | A | C6-N6 | 8.69 | 1.41 | 1.33 |
| 12 | B | 2401 | U | C2'-C1' | -8.69 | 1.43 | 1.53 |
| 12 | B | 5 | A | N9-C4 | 8.69 | 1.43 | 1.37 |
| 12 | B | 518 | G | C5-C4 | -8.69 | 1.32 | 1.38 |
| 12 | B | 1998 | A | C5-C6 | 8.69 | 1.48 | 1.41 |
| 12 | B | 1976 | U | C2-N3 | 8.69 | 1.43 | 1.37 |
| 12 | B | 2621 | G | C2'-C1' | -8.69 | 1.43 | 1.53 |
| 11 | A | 78 | A | P-O5' | -8.68 | 1.51 | 1.59 |
| 11 | A | 32 | U | P-O5' | -8.68 | 1.51 | 1.59 |
| 12 | B | 204 | A | P-O5' | -8.68 | 1.51 | 1.59 |
| 12 | B | 847 | U | C2-N3 | 8.68 | 1.43 | 1.37 |
| 12 | B | 1010 | A | N9-C8 | -8.68 | 1.30 | 1.37 |
| 12 | B | 1374 | G | C2-N3 | 8.68 | 1.39 | 1.32 |
| 12 | B | 2072 | C | C4'-C3' | 8.68 | 1.62 | 1.53 |
| 12 | B | 106 | C | C2-N3 | 8.68 | 1.42 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 481 | G | N3-C4 | -8.68 | 1.29 | 1.35 |
| 12 | B | 2025 | C | C4-N4 | 8.68 | 1.41 | 1.33 |
| 12 | B | 2235 | G | C5-C4 | -8.68 | 1.32 | 1.38 |
| 12 | B | 2502 | G | N7-C5 | -8.68 | 1.34 | 1.39 |
| 11 | A | 62 | C | C4-N4 | 8.67 | 1.41 | 1.33 |
| 12 | B | 1028 | A | N3-C4 | 8.67 | 1.40 | 1.34 |
| 12 | B | 957 | C | N3-C4 | 8.67 | 1.40 | 1.33 |
| 12 | B | 2059 | A | N3-C4 | 8.67 | 1.40 | 1.34 |
| 12 | B | 91 | A | N7-C5 | -8.67 | 1.34 | 1.39 |
| 12 | B | 474 | G | N1-C2 | 8.67 | 1.44 | 1.37 |
| 12 | B | 2052 | A | C8-N7 | -8.67 | 1.25 | 1.31 |
| 12 | B | 2861 | U | P-O5' | -8.67 | 1.51 | 1.59 |
| 12 | B | 91 | A | C6-N6 | 8.67 | 1.40 | 1.33 |
| 12 | B | 801 | G | C2-N3 | 8.67 | 1.39 | 1.32 |
| 12 | B | 809 | G | C4'-C3' | 8.67 | 1.62 | 1.53 |
| 12 | B | 2722 | G | P-O5' | -8.67 | 1.51 | 1.59 |
| 12 | B | 1334 | G | C8-N7 | -8.66 | 1.25 | 1.30 |
| 12 | B | 1642 | G | N1-C2 | 8.66 | 1.44 | 1.37 |
| 12 | B | 2730 | C | N3-C4 | 8.66 | 1.40 | 1.33 |
| 12 | B | 74 | A | N7-C5 | -8.66 | 1.34 | 1.39 |
| 12 | B | 911 | A | C6-N1 | 8.66 | 1.41 | 1.35 |
| 12 | B | 1241 | A | P-O5' | -8.66 | 1.51 | 1.59 |
| 12 | B | 1415 | U | C5'-C4' | 8.66 | 1.61 | 1.51 |
| 12 | B | 2862 | G | N9-C4 | -8.66 | 1.31 | 1.38 |
| 12 | B | 548 | G | N9-C8 | -8.66 | 1.31 | 1.37 |
| 12 | B | 787 | C | N3-C4 | 8.66 | 1.40 | 1.33 |
| 12 | B | 1022 | G | C5'-C4' | 8.66 | 1.61 | 1.51 |
| 12 | B | 1556 | C | C4'-C3' | 8.65 | 1.62 | 1.53 |
| 12 | B | 208 | C | N3-C4 | 8.65 | 1.40 | 1.33 |
| 12 | B | 912 | C | N1-C6 | 8.65 | 1.42 | 1.37 |
| 12 | B | 2254 | C | N3-C4 | 8.65 | 1.40 | 1.33 |
| 12 | B | 825 | A | N9-C4 | 8.65 | 1.43 | 1.37 |
| 12 | B | 2884 | U | C2'-C1' | 8.65 | 1.62 | 1.53 |
| 12 | B | 889 | C | N1-C6 | 8.65 | 1.42 | 1.37 |
| 12 | B | 1817 | G | O3'-P | -8.65 | 1.50 | 1.61 |
| 12 | B | 953 | G | C2-N3 | 8.64 | 1.39 | 1.32 |
| 12 | B | 1665 | A | P-O5' | -8.64 | 1.51 | 1.59 |
| 12 | B | 2334 | U | C2'-C1' | -8.64 | 1.43 | 1.53 |
| 12 | B | 529 | A | C5-C4 | 8.64 | 1.44 | 1.38 |
| 12 | B | 722 | A | C4'-C3' | -8.64 | 1.43 | 1.53 |
| 12 | B | 2143 | C | C4-C5 | 8.64 | 1.49 | 1.43 |
| 12 | B | 2433 | A | C6-N6 | 8.64 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 112 | U | C2-N3 | 8.63 | 1.43 | 1.37 |
| 12 | B | 379 | G | N3-C4 | -8.63 | 1.29 | 1.35 |
| 12 | B | 649 | G | N9-C8 | 8.63 | 1.43 | 1.37 |
| 12 | B | 2182 | U | C5'-C4' | 8.63 | 1.61 | 1.51 |
| 12 | B | 2526 | G | C8-N7 | 8.63 | 1.36 | 1.30 |
| 12 | B | 580 | U | C2'-C1' | -8.63 | 1.43 | 1.53 |
| 12 | B | 1160 | G | O3'-P | -8.63 | 1.50 | 1.61 |
| 12 | B | 1285 | A | N7-C5 | -8.63 | 1.34 | 1.39 |
| 12 | B | 194 | G | C2'-C1' | -8.63 | 1.43 | 1.53 |
| 12 | B | 1311 | G | C2'-C1' | -8.62 | 1.43 | 1.53 |
| 12 | B | 2693 | G | P-O5' | -8.63 | 1.51 | 1.59 |
| 12 | B | 501 | A | C5-C4 | 8.62 | 1.44 | 1.38 |
| 12 | B | 678 | C | C2-N3 | 8.62 | 1.42 | 1.35 |
| 12 | B | 1152 | C | N3-C4 | 8.62 | 1.40 | 1.33 |
| 12 | B | 1521 | G | C2-N3 | 8.62 | 1.39 | 1.32 |
| 12 | B | 1595 | C | C2'-C1' | -8.62 | 1.43 | 1.53 |
| 12 | B | 1272 | A | C5'-C4' | 8.61 | 1.61 | 1.51 |
| 12 | B | 1665 | A | C5-C6 | 8.62 | 1.48 | 1.41 |
| 12 | B | 2364 | C | C4-C5 | -8.61 | 1.36 | 1.43 |
| 12 | B | 1860 | G | C3'-C2' | -8.61 | 1.43 | 1.52 |
| 12 | B | 898 | C | C3'-C2' | -8.61 | 1.43 | 1.52 |
| 12 | B | 659 | G | C6-N1 | 8.61 | 1.45 | 1.39 |
| 12 | B | 843 | G | C5-C4 | 8.61 | 1.44 | 1.38 |
| 12 | B | 2793 | C | N1-C6 | 8.61 | 1.42 | 1.37 |
| 12 | B | 751 | A | C6-N6 | 8.61 | 1.40 | 1.33 |
| 12 | B | 2166 | U | N3-C4 | 8.61 | 1.46 | 1.38 |
| 12 | B | 1185 | G | N9-C8 | 8.61 | 1.43 | 1.37 |
| 11 | A | 42 | C | N1-C6 | 8.60 | 1.42 | 1.37 |
| 12 | B | 2375 | G | N3-C4 | -8.60 | 1.29 | 1.35 |
| 12 | B | 2221 | G | C2-N3 | 8.60 | 1.39 | 1.32 |
| 12 | B | 1666 | G | P-O5' | -8.60 | 1.51 | 1.59 |
| 12 | B | 2190 | G | N3-C4 | -8.60 | 1.29 | 1.35 |
| 12 | B | 2019 | A | C6-N6 | 8.60 | 1.40 | 1.33 |
| 12 | B | 190 | A | C6-N6 | 8.59 | 1.40 | 1.33 |
| 12 | B | 1633 | G | N1-C2 | 8.59 | 1.44 | 1.37 |
| 12 | B | 2885 | G | C8-N7 | -8.59 | 1.25 | 1.30 |
| 12 | B | 197 | A | N7-C5 | -8.59 | 1.34 | 1.39 |
| 12 | B | 879 | G | N1-C2 | 8.59 | 1.44 | 1.37 |
| 12 | B | 1184 | U | C2'-C1' | -8.59 | 1.44 | 1.53 |
| 12 | B | 1488 | C | C4-N4 | 8.59 | 1.41 | 1.33 |
| 12 | B | 2716 | C | C4-N4 | 8.59 | 1.41 | 1.33 |
| 12 | B | 1344 | U | C2-N3 | 8.58 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2266 | A | C6-N1 | 8.58 | 1.41 | 1.35 |
| 12 | B | 1054 | A | C4'-C3' | -8.58 | 1.43 | 1.53 |
| 12 | B | 1168 | G | C5-C4 | 8.58 | 1.44 | 1.38 |
| 12 | B | 2840 | C | N3-C4 | 8.58 | 1.40 | 1.33 |
| 12 | B | 2110 | G | C2-N3 | 8.58 | 1.39 | 1.32 |
| 12 | B | 2290 | G | N1-C2 | 8.58 | 1.44 | 1.37 |
| 12 | B | 304 | U | N3-C4 | 8.58 | 1.46 | 1.38 |
| 12 | B | 949 | G | C5-C4 | 8.58 | 1.44 | 1.38 |
| 12 | B | 2641 | G | C4'-O4' | 8.58 | 1.56 | 1.45 |
| 12 | B | 1086 | A | C6-N6 | 8.57 | 1.40 | 1.33 |
| 12 | B | 1150 | C | C4-N4 | 8.57 | 1.41 | 1.33 |
| 12 | B | 1455 | G | N9-C4 | 8.57 | 1.44 | 1.38 |
| 12 | B | 2313 | C | C4'-C3' | 8.57 | 1.62 | 1.53 |
| 12 | B | 248 | G | N9-C8 | 8.57 | 1.43 | 1.37 |
| 12 | B | 1075 | C | N1-C6 | -8.57 | 1.32 | 1.37 |
| 12 | B | 2710 | C | N3-C4 | 8.57 | 1.40 | 1.33 |
| 12 | B | 1502 | A | C6-N6 | 8.57 | 1.40 | 1.33 |
| 12 | B | 2674 | G | N9-C8 | -8.56 | 1.31 | 1.37 |
| 11 | A | 17 | C | C3'-C2' | -8.56 | 1.43 | 1.52 |
| 12 | B | 522 | A | C6-N6 | 8.56 | 1.40 | 1.33 |
| 12 | B | 1037 | G | N1-C2 | 8.56 | 1.44 | 1.37 |
| 12 | B | 292 | U | P-O5' | -8.56 | 1.51 | 1.59 |
| 12 | B | 378 | C | C4-C5 | 8.56 | 1.49 | 1.43 |
| 12 | B | 2136 | G | C6-N1 | 8.56 | 1.45 | 1.39 |
| 12 | B | 2315 | G | N7-C5 | -8.56 | 1.34 | 1.39 |
| 12 | B | 2311 | A | N9-C4 | 8.56 | 1.43 | 1.37 |
| 12 | B | 507 | A | N7-C5 | -8.56 | 1.34 | 1.39 |
| 12 | B | 1135 | C | N3-C4 | 8.56 | 1.40 | 1.33 |
| 12 | B | 1232 | G | C6-N1 | 8.55 | 1.45 | 1.39 |
| 12 | B | 1238 | G | N1-C2 | 8.55 | 1.44 | 1.37 |
| 12 | B | 1783 | A | N9-C4 | 8.55 | 1.43 | 1.37 |
| 12 | B | 402 | A | N7-C5 | -8.55 | 1.34 | 1.39 |
| 12 | B | 2116 | G | C5-C4 | 8.55 | 1.44 | 1.38 |
| 12 | B | 26 | G | C8-N7 | -8.55 | 1.25 | 1.30 |
| 12 | B | 1666 | G | N9-C8 | 8.55 | 1.43 | 1.37 |
| 12 | B | 2530 | A | C6-N6 | 8.55 | 1.40 | 1.33 |
| 12 | B | 469 | G | N1-C2 | 8.54 | 1.44 | 1.37 |
| 12 | B | 1734 | G | N7-C5 | -8.54 | 1.34 | 1.39 |
| 12 | B | 2762 | C | C3'-C2' | -8.54 | 1.43 | 1.52 |
| 12 | B | 982 | C | C2'-C1' | 8.54 | 1.62 | 1.53 |
| 12 | B | 1564 | C | P-O5' | -8.54 | 1.51 | 1.59 |
| 11 | A | 54 | G | N3-C4 | -8.54 | 1.29 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 240 | C | N3-C4 | 8.54 | 1.40 | 1.33 |
| 12 | B | 1784 | A | C6-N6 | 8.54 | 1.40 | 1.33 |
| 12 | B | 2401 | U | C4'-C3' | -8.53 | 1.43 | 1.53 |
| 12 | B | 479 | A | N9-C4 | 8.53 | 1.43 | 1.37 |
| 12 | B | 551 | G | N1-C2 | 8.53 | 1.44 | 1.37 |
| 12 | B | 618 | G | C6-N1 | 8.53 | 1.45 | 1.39 |
| 12 | B | 225 | C | C4'-C3' | 8.53 | 1.62 | 1.53 |
| 12 | B | 2093 | G | P-O5' | -8.53 | 1.51 | 1.59 |
| 12 | B | 857 | G | C6-N1 | 8.53 | 1.45 | 1.39 |
| 12 | B | 1545 | A | N3-C4 | -8.53 | 1.29 | 1.34 |
| 12 | B | 1056 | G | N9-C8 | 8.52 | 1.43 | 1.37 |
| 12 | B | 1634 | A | N3-C4 | -8.52 | 1.29 | 1.34 |
| 12 | B | 1772 | A | C6-N6 | 8.52 | 1.40 | 1.33 |
| 12 | B | 2481 | G | C8-N7 | -8.52 | 1.25 | 1.30 |
| 12 | B | 1475 | G | N7-C5 | -8.52 | 1.34 | 1.39 |
| 12 | B | 2323 | G | N7-C5 | -8.52 | 1.34 | 1.39 |
| 12 | B | 2702 | G | O3'-P | -8.52 | 1.50 | 1.61 |
| 12 | B | 487 | C | N1-C6 | 8.52 | 1.42 | 1.37 |
| 12 | B | 1983 | G | C6-N1 | 8.52 | 1.45 | 1.39 |
| 12 | B | 60 | G | N9-C4 | -8.51 | 1.31 | 1.38 |
| 12 | B | 471 | A | N3-C4 | 8.51 | 1.40 | 1.34 |
| 12 | B | 377 | G | N1-C2 | 8.51 | 1.44 | 1.37 |
| 12 | B | 738 | G | C5-C4 | 8.51 | 1.44 | 1.38 |
| 12 | B | 991 | C | C4-N4 | 8.51 | 1.41 | 1.33 |
| 12 | B | 1717 | A | N3-C4 | -8.51 | 1.29 | 1.34 |
| 12 | B | 467 | G | N1-C2 | 8.51 | 1.44 | 1.37 |
| 12 | B | 390 | U | C1'-N1 | 8.51 | 1.61 | 1.48 |
| 12 | B | 729 | G | C2'-C1' | -8.51 | 1.44 | 1.53 |
| 12 | B | 927 | A | P-O5' | -8.51 | 1.51 | 1.59 |
| 12 | B | 1740 | G | C2-N3 | 8.51 | 1.39 | 1.32 |
| 12 | B | 2211 | A | C5-C4 | 8.51 | 1.44 | 1.38 |
| 12 | B | 2359 | C | P-O5' | -8.51 | 1.51 | 1.59 |
| 12 | B | 512 | G | N1-C2 | 8.51 | 1.44 | 1.37 |
| 12 | B | 933 | A | N7-C5 | -8.51 | 1.34 | 1.39 |
| 12 | B | 1563 | U | C2-N3 | 8.51 | 1.43 | 1.37 |
| 12 | B | 2521 | C | N3-C4 | 8.51 | 1.40 | 1.33 |
| 12 | B | 985 | C | N1-C6 | 8.50 | 1.42 | 1.37 |
| 12 | B | 1211 | C | O3'-P | -8.50 | 1.50 | 1.61 |
| 12 | B | 1498 | C | O3'-P | -8.50 | 1.50 | 1.61 |
| 12 | B | 2497 | A | C6-N6 | 8.50 | 1.40 | 1.33 |
| 12 | B | 712 | G | C5-C6 | -8.50 | 1.33 | 1.42 |
| 12 | B | 1787 | A | C6-N6 | 8.50 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1978 | A | C5-C4 | 8.50 | 1.44 | 1.38 |
| 12 | B | 374 | A | C5-C4 | 8.50 | 1.44 | 1.38 |
| 12 | B | 597 | G | C2-N3 | 8.50 | 1.39 | 1.32 |
| 12 | B | 2084 | C | C2-N3 | 8.50 | 1.42 | 1.35 |
| 12 | B | 2171 | A | C6-N1 | 8.49 | 1.41 | 1.35 |
| 12 | B | 452 | G | C5-C4 | 8.49 | 1.44 | 1.38 |
| 12 | B | 1511 | G | C8-N7 | 8.49 | 1.36 | 1.30 |
| 12 | B | 1970 | A | N7-C5 | -8.49 | 1.34 | 1.39 |
| 12 | B | 2358 | A | C5-C4 | -8.49 | 1.32 | 1.38 |
| 12 | B | 2759 | G | N9-C8 | 8.49 | 1.43 | 1.37 |
| 12 | B | 489 | G | C5-C4 | -8.49 | 1.32 | 1.38 |
| 12 | B | 506 | G | P-O5' | -8.49 | 1.51 | 1.59 |
| 12 | B | 1353 | A | C6-N6 | 8.49 | 1.40 | 1.33 |
| 12 | B | 1725 | U | C2-N3 | 8.49 | 1.43 | 1.37 |
| 12 | B | 1971 | U | C4-C5 | 8.49 | 1.51 | 1.43 |
| 12 | B | 238 | C | P-O5' | -8.49 | 1.51 | 1.59 |
| 12 | B | 1631 | G | N7-C5 | -8.49 | 1.34 | 1.39 |
| 12 | B | 232 | G | N7-C5 | -8.48 | 1.34 | 1.39 |
| 12 | B | 1087 | G | C8-N7 | 8.48 | 1.36 | 1.30 |
| 12 | B | 1102 | C | N3-C4 | 8.48 | 1.39 | 1.33 |
| 12 | B | 2035 | G | C5-C4 | 8.48 | 1.44 | 1.38 |
| 12 | B | 2773 | C | C4-N4 | 8.48 | 1.41 | 1.33 |
| 12 | B | 635 | C | O3'-P | -8.48 | 1.50 | 1.61 |
| 12 | B | 728 | G | N7-C5 | 8.48 | 1.44 | 1.39 |
| 12 | B | 883 | G | C2-N3 | 8.48 | 1.39 | 1.32 |
| 12 | B | 1452 | G | C5-C4 | 8.48 | 1.44 | 1.38 |
| 12 | B | 2244 | U | C5'-C4' | 8.47 | 1.61 | 1.51 |
| 12 | B | 583 | G | C5-C6 | -8.47 | 1.33 | 1.42 |
| 12 | B | 219 | A | N7-C5 | -8.47 | 1.34 | 1.39 |
| 12 | B | 186 | G | C4'-C3' | 8.47 | 1.62 | 1.53 |
| 11 | A | 101 | A | N7-C5 | -8.47 | 1.34 | 1.39 |
| 12 | B | 1038 | G | N9-C8 | 8.47 | 1.43 | 1.37 |
| 12 | B | 659 | G | N3-C4 | 8.46 | 1.41 | 1.35 |
| 12 | B | 1168 | G | C4'-C3' | -8.46 | 1.43 | 1.53 |
| 12 | B | 1236 | G | C2-N3 | 8.46 | 1.39 | 1.32 |
| 12 | B | 1638 | C | P-O5' | -8.47 | 1.51 | 1.59 |
| 12 | B | 2124 | G | C2-N3 | 8.46 | 1.39 | 1.32 |
| 11 | A | 104 | A | N9-C4 | -8.46 | 1.32 | 1.37 |
| 12 | B | 2 | G | C6-N1 | 8.46 | 1.45 | 1.39 |
| 12 | B | 2461 | A | C8-N7 | -8.46 | 1.25 | 1.31 |
| 12 | B | 577 | G | C2-N3 | 8.46 | 1.39 | 1.32 |
| 12 | B | 1971 | U | N1-C2 | 8.46 | 1.46 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2848 | G | N9-C8 | 8.46 | 1.43 | 1.37 |
| 12 | B | 512 | G | C2'-C1' | -8.46 | 1.44 | 1.53 |
| 12 | B | 817 | C | C4-N4 | 8.45 | 1.41 | 1.33 |
| 12 | B | 2374 | C | C4-N4 | 8.45 | 1.41 | 1.33 |
| 12 | B | 1142 | A | C2-N3 | -8.45 | 1.25 | 1.33 |
| 12 | B | 1849 | G | N7-C5 | -8.45 | 1.34 | 1.39 |
| 12 | B | 2570 | G | C2'-C1' | -8.45 | 1.44 | 1.53 |
| 12 | B | 76 | C | C4-N4 | 8.45 | 1.41 | 1.33 |
| 12 | B | 1549 | A | C2'-C1' | -8.45 | 1.44 | 1.53 |
| 12 | B | 2819 | G | C2'-C1' | -8.45 | 1.44 | 1.53 |
| 12 | B | 1905 | C | N3-C4 | 8.45 | 1.39 | 1.33 |
| 12 | B | 111 | A | N9-C8 | 8.44 | 1.44 | 1.37 |
| 12 | B | 2681 | C | C4-C5 | 8.45 | 1.49 | 1.43 |
| 12 | B | 1367 | A | N3-C4 | -8.44 | 1.29 | 1.34 |
| 12 | B | 1866 | A | N9-C4 | -8.44 | 1.32 | 1.37 |
| 12 | B | 2323 | G | C2-N2 | 8.44 | 1.43 | 1.34 |
| 12 | B | 1694 | C | C4'-C3' | 8.44 | 1.62 | 1.53 |
| 12 | B | 945 | A | N7-C5 | -8.44 | 1.34 | 1.39 |
| 12 | B | 2429 | G | N3-C4 | 8.44 | 1.41 | 1.35 |
| 12 | B | 2461 | A | C5-C4 | 8.44 | 1.44 | 1.38 |
| 12 | B | 356 | G | C5-C4 | 8.43 | 1.44 | 1.38 |
| 12 | B | 1131 | G | N1-C2 | 8.43 | 1.44 | 1.37 |
| 12 | B | 2001 | C | C4-N4 | 8.43 | 1.41 | 1.33 |
| 12 | B | 2128 | G | C6-N1 | 8.43 | 1.45 | 1.39 |
| 12 | B | 2545 | G | N7-C5 | 8.43 | 1.44 | 1.39 |
| 12 | B | 1218 | G | C2-N2 | 8.43 | 1.43 | 1.34 |
| 12 | B | 1329 | U | C2-N3 | 8.43 | 1.43 | 1.37 |
| 12 | B | 1430 | G | C6-N1 | 8.43 | 1.45 | 1.39 |
| 12 | B | 1990 | C | N3-C4 | 8.43 | 1.39 | 1.33 |
| 12 | B | 2473 | U | C2'-C1' | -8.43 | 1.44 | 1.53 |
| 12 | B | 2795 | C | N1-C6 | 8.43 | 1.42 | 1.37 |
| 11 | A | 64 | G | C6-N1 | 8.43 | 1.45 | 1.39 |
| 12 | B | 428 | A | C6-N6 | 8.43 | 1.40 | 1.33 |
| 12 | B | 687 | C | C2'-C1' | -8.43 | 1.44 | 1.53 |
| 12 | B | 890 | C | N3-C4 | 8.43 | 1.39 | 1.33 |
| 12 | B | 1977 | A | N7-C5 | -8.42 | 1.34 | 1.39 |
| 12 | B | 2353 | G | C6-N1 | 8.42 | 1.45 | 1.39 |
| 12 | B | 2472 | G | N9-C8 | 8.42 | 1.43 | 1.37 |
| 12 | B | 2629 | U | C5'-C4' | 8.42 | 1.61 | 1.51 |
| 12 | B | 2722 | G | C2'-C1' | -8.42 | 1.44 | 1.53 |
| 12 | B | 177 | G | N7-C5 | -8.42 | 1.34 | 1.39 |
| 12 | B | 1450 | G | N7-C5 | -8.42 | 1.34 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 721 | A | C6-N1 | 8.41 | 1.41 | 1.35 |
| 12 | B | 2493 | U | C2-N3 | 8.41 | 1.43 | 1.37 |
| 12 | B | 1125 | G | N7-C5 | -8.41 | 1.34 | 1.39 |
| 12 | B | 1136 | G | N1-C2 | 8.40 | 1.44 | 1.37 |
| 12 | B | 2312 | U | O4'-C1' | 8.40 | 1.52 | 1.41 |
| 11 | A | 97 | C | N3-C4 | 8.40 | 1.39 | 1.33 |
| 12 | B | 995 | C | N1-C6 | 8.40 | 1.42 | 1.37 |
| 12 | B | 607 | U | C2-N3 | 8.40 | 1.43 | 1.37 |
| 12 | B | 668 | A | O3'-P | -8.40 | 1.51 | 1.61 |
| 12 | B | 714 | U | N1-C6 | 8.40 | 1.45 | 1.38 |
| 12 | B | 1474 | U | C4-C5 | 8.40 | 1.51 | 1.43 |
| 12 | B | 1517 | G | N9-C8 | 8.40 | 1.43 | 1.37 |
| 12 | B | 1579 | A | N9-C8 | -8.40 | 1.31 | 1.37 |
| 12 | B | 1757 | A | C8-N7 | -8.40 | 1.25 | 1.31 |
| 12 | B | 2557 | G | C2-N3 | 8.40 | 1.39 | 1.32 |
| 12 | B | 467 | G | C8-N7 | -8.40 | 1.25 | 1.30 |
| 12 | B | 1247 | A | C6-N6 | 8.40 | 1.40 | 1.33 |
| 12 | B | 1674 | G | C6-N1 | 8.40 | 1.45 | 1.39 |
| 11 | A | 34 | A | N7-C5 | -8.39 | 1.34 | 1.39 |
| 12 | B | 170 | U | P-O5' | -8.39 | 1.51 | 1.59 |
| 12 | B | 409 | G | C5-C6 | -8.39 | 1.33 | 1.42 |
| 12 | B | 745 | G | C4'-O4' | 8.39 | 1.56 | 1.45 |
| 12 | B | 2741 | A | C5-C4 | 8.39 | 1.44 | 1.38 |
| 12 | B | 2043 | C | O3'-P | -8.39 | 1.51 | 1.61 |
| 12 | B | 396 | G | C2-N3 | 8.39 | 1.39 | 1.32 |
| 12 | B | 658 | U | P-O5' | -8.39 | 1.51 | 1.59 |
| 12 | B | 2617 | U | O3'-P | -8.39 | 1.51 | 1.61 |
| 12 | B | 486 | C | C4-C5 | 8.39 | 1.49 | 1.43 |
| 12 | B | 890 | C | C4-N4 | 8.39 | 1.41 | 1.33 |
| 12 | B | 725 | G | N1-C2 | 8.38 | 1.44 | 1.37 |
| 12 | B | 30 | G | C6-N1 | 8.38 | 1.45 | 1.39 |
| 12 | B | 142 | A | C6-N1 | 8.38 | 1.41 | 1.35 |
| 12 | B | 1495 | A | C6-N1 | 8.38 | 1.41 | 1.35 |
| 12 | B | 1976 | U | C1'-N1 | 8.38 | 1.61 | 1.48 |
| 12 | B | 2242 | G | N1-C2 | 8.38 | 1.44 | 1.37 |
| 12 | B | 1371 | G | C2-N3 | 8.38 | 1.39 | 1.32 |
| 12 | B | 2806 | C | N1-C6 | 8.38 | 1.42 | 1.37 |
| 12 | B | 822 | G | C2-N3 | 8.38 | 1.39 | 1.32 |
| 12 | B | 2403 | C | N3-C4 | 8.38 | 1.39 | 1.33 |
| 12 | B | 616 | A | C3'-C2' | -8.37 | 1.43 | 1.52 |
| 12 | B | 1645 | G | C5-C4 | 8.37 | 1.44 | 1.38 |
| 12 | B | 1661 | G | C2-N3 | 8.37 | 1.39 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2659 | G | C2-N3 | 8.37 | 1.39 | 1.32 |
| 12 | B | 2076 | U | N1-C6 | 8.37 | 1.45 | 1.38 |
| 12 | B | 367 | G | C2-N3 | 8.37 | 1.39 | 1.32 |
| 12 | B | 2351 | G | C2-N3 | 8.37 | 1.39 | 1.32 |
| 12 | B | 84 | A | C8-N7 | -8.37 | 1.25 | 1.31 |
| 12 | B | 577 | G | C5-C6 | -8.37 | 1.33 | 1.42 |
| 12 | B | 663 | G | P-O5' | -8.37 | 1.51 | 1.59 |
| 12 | B | 1315 | C | N3-C4 | 8.37 | 1.39 | 1.33 |
| 12 | B | 2821 | A | N7-C5 | -8.37 | 1.34 | 1.39 |
| 12 | B | 712 | G | C2-N3 | 8.37 | 1.39 | 1.32 |
| 12 | B | 2466 | C | P-O5' | -8.37 | 1.51 | 1.59 |
| 11 | A | 20 | G | C2-N3 | 8.36 | 1.39 | 1.32 |
| 12 | B | 866 | A | N9-C4 | -8.36 | 1.32 | 1.37 |
| 12 | B | 1337 | G | C8-N7 | -8.36 | 1.25 | 1.30 |
| 12 | B | 1875 | G | O3'-P | -8.36 | 1.51 | 1.61 |
| 12 | B | 587 | C | C2'-C1' | -8.36 | 1.44 | 1.53 |
| 12 | B | 2011 | U | N1-C2 | 8.36 | 1.46 | 1.38 |
| 12 | B | 196 | A | N9-C8 | -8.36 | 1.31 | 1.37 |
| 12 | B | 2504 | U | C4-C5 | 8.36 | 1.51 | 1.43 |
| 12 | B | 469 | G | C5-C4 | 8.35 | 1.44 | 1.38 |
| 12 | B | 2040 | G | C6-N1 | 8.35 | 1.45 | 1.39 |
| 12 | B | 2693 | G | C2-N3 | 8.35 | 1.39 | 1.32 |
| 12 | B | 1095 | A | C2'-C1' | -8.35 | 1.44 | 1.53 |
| 12 | B | 2730 | C | C4-C5 | -8.35 | 1.36 | 1.43 |
| 12 | B | 2813 | A | C6-N1 | 8.35 | 1.41 | 1.35 |
| 12 | B | 2046 | G | N7-C5 | -8.35 | 1.34 | 1.39 |
| 12 | B | 510 | C | N1-C6 | 8.35 | 1.42 | 1.37 |
| 12 | B | 599 | A | N3-C4 | 8.35 | 1.39 | 1.34 |
| 12 | B | 2187 | U | N1-C2 | 8.35 | 1.46 | 1.38 |
| 11 | A | 34 | A | N9-C4 | -8.34 | 1.32 | 1.37 |
| 12 | B | 474 | G | P-O5' | 8.34 | 1.68 | 1.59 |
| 12 | B | 2588 | G | C2-N3 | 8.34 | 1.39 | 1.32 |
| 12 | B | 908 | C | N3-C4 | 8.34 | 1.39 | 1.33 |
| 12 | B | 1840 | G | N7-C5 | 8.34 | 1.44 | 1.39 |
| 12 | B | 2003 | A | N9-C4 | -8.34 | 1.32 | 1.37 |
| 12 | B | 1742 | U | C2'-C1' | -8.34 | 1.44 | 1.53 |
| 12 | B | 1423 | G | C2-N3 | 8.33 | 1.39 | 1.32 |
| 12 | B | 1910 | G | O4'-C1' | 8.33 | 1.52 | 1.41 |
| 12 | B | 952 | G | C6-N1 | 8.33 | 1.45 | 1.39 |
| 12 | B | 1109 | C | C4-C5 | 8.33 | 1.49 | 1.43 |
| 12 | B | 1212 | G | N1-C2 | 8.33 | 1.44 | 1.37 |
| 12 | B | 428 | A | N3-C4 | -8.32 | 1.29 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1255 | U | C2-N3 | 8.32 | 1.43 | 1.37 |
| 12 | B | 2034 | U | C3'-C2' | -8.32 | 1.43 | 1.52 |
| 12 | B | 2243 | U | P-O5' | 8.32 | 1.68 | 1.59 |
| 12 | B | 2820 | A | C6-N1 | 8.32 | 1.41 | 1.35 |
| 12 | B | 422 | A | C8-N7 | -8.32 | 1.25 | 1.31 |
| 12 | B | 1028 | A | C2'-C1' | -8.32 | 1.44 | 1.53 |
| 12 | B | 1550 | C | N3-C4 | 8.32 | 1.39 | 1.33 |
| 12 | B | 368 | A | C2'-C1' | -8.32 | 1.44 | 1.53 |
| 12 | B | 1023 | U | C2-N3 | 8.31 | 1.43 | 1.37 |
| 12 | B | 1954 | G | C2-N3 | 8.31 | 1.39 | 1.32 |
| 12 | B | 335 | C | N1-C6 | 8.31 | 1.42 | 1.37 |
| 12 | B | 385 | C | N1-C2 | 8.31 | 1.48 | 1.40 |
| 12 | B | 1204 | A | N7-C5 | -8.31 | 1.34 | 1.39 |
| 12 | B | 786 | C | C5-C6 | -8.31 | 1.27 | 1.34 |
| 12 | B | 1269 | A | C6-N6 | 8.31 | 1.40 | 1.33 |
| 12 | B | 2057 | G | C2-N3 | 8.31 | 1.39 | 1.32 |
| 12 | B | 2792 | A | N7-C5 | -8.31 | 1.34 | 1.39 |
| 12 | B | 1016 | G | N9-C8 | -8.30 | 1.32 | 1.37 |
| 12 | B | 1250 | G | C2-N3 | 8.30 | 1.39 | 1.32 |
| 12 | B | 2640 | G | C2-N3 | 8.30 | 1.39 | 1.32 |
| 12 | B | 2714 | G | C6-N1 | 8.30 | 1.45 | 1.39 |
| 12 | B | 2505 | G | N3-C4 | 8.30 | 1.41 | 1.35 |
| 12 | B | 397 | U | P-O5' | -8.30 | 1.51 | 1.59 |
| 12 | B | 2807 | U | N3-C4 | 8.30 | 1.46 | 1.38 |
| 12 | B | 31 | C | N1-C6 | -8.29 | 1.32 | 1.37 |
| 12 | B | 109 | C | C4-N4 | 8.29 | 1.41 | 1.33 |
| 12 | B | 244 | A | N1-C2 | -8.29 | 1.26 | 1.34 |
| 12 | B | 2228 | G | C2-N2 | 8.30 | 1.42 | 1.34 |
| 12 | B | 1522 | A | C2'-C1' | -8.29 | 1.44 | 1.53 |
| 12 | B | 572 | A | C5-C6 | -8.29 | 1.33 | 1.41 |
| 12 | B | 1635 | A | N9-C4 | -8.29 | 1.32 | 1.37 |
| 12 | B | 393 | C | P-O5' | -8.29 | 1.51 | 1.59 |
| 12 | B | 473 | G | C2-N2 | 8.29 | 1.42 | 1.34 |
| 12 | B | 1955 | U | N1-C2 | 8.29 | 1.46 | 1.38 |
| 12 | B | 2321 | U | C4'-C3' | -8.29 | 1.44 | 1.53 |
| 12 | B | 2848 | G | P-O5' | -8.29 | 1.51 | 1.59 |
| 12 | B | 2425 | A | O4'-C1' | 8.28 | 1.52 | 1.41 |
| 12 | B | 2808 | G | C2'-C1' | -8.28 | 1.44 | 1.53 |
| 12 | B | 1354 | A | P-O5' | -8.28 | 1.51 | 1.59 |
| 12 | B | 1733 | G | N9-C4 | 8.28 | 1.44 | 1.38 |
| 12 | B | 2744 | G | N9-C8 | 8.28 | 1.43 | 1.37 |
| 12 | B | 7 | G | N9-C8 | -8.28 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 579 | G | N1-C2 | 8.28 | 1.44 | 1.37 |
| 12 | B | 2217 | G | C2-N3 | 8.28 | 1.39 | 1.32 |
| 12 | B | 2778 | A | N3-C4 | -8.28 | 1.29 | 1.34 |
| 12 | B | 447 | A | N7-C5 | -8.27 | 1.34 | 1.39 |
| 12 | B | 2648 | G | N3-C4 | 8.27 | 1.41 | 1.35 |
| 12 | B | 874 | G | C8-N7 | 8.27 | 1.35 | 1.30 |
| 12 | B | 1716 | U | N3-C4 | 8.27 | 1.45 | 1.38 |
| 12 | B | 786 | C | N1-C6 | 8.26 | 1.42 | 1.37 |
| 12 | B | 835 | C | C3'-C2' | -8.26 | 1.43 | 1.52 |
| 12 | B | 1494 | A | N9-C4 | -8.26 | 1.32 | 1.37 |
| 12 | B | 2886 | A | N9-C8 | -8.26 | 1.31 | 1.37 |
| 11 | A | 12 | C | C2'-C1' | -8.26 | 1.44 | 1.53 |
| 12 | B | 1414 | C | C4-C5 | -8.26 | 1.36 | 1.43 |
| 12 | B | 394 | C | N1-C6 | 8.26 | 1.42 | 1.37 |
| 12 | B | 685 | A | C6-N6 | 8.26 | 1.40 | 1.33 |
| 12 | B | 1803 | A | C5-C6 | -8.26 | 1.33 | 1.41 |
| 12 | B | 1815 | A | N9-C8 | -8.26 | 1.31 | 1.37 |
| 12 | B | 2211 | A | O4'-C1' | -8.26 | 1.30 | 1.41 |
| 12 | B | 2278 | A | N3-C4 | -8.26 | 1.29 | 1.34 |
| 12 | B | 90 | U | C2-N3 | 8.26 | 1.43 | 1.37 |
| 11 | A | 55 | U | N1-C6 | 8.25 | 1.45 | 1.38 |
| 12 | B | 1018 | U | C5'-C4' | 8.25 | 1.61 | 1.51 |
| 12 | B | 1362 | C | N3-C4 | 8.25 | 1.39 | 1.33 |
| 12 | B | 1310 | G | C8-N7 | -8.25 | 1.25 | 1.30 |
| 12 | B | 25 | U | C2'-C1' | -8.25 | 1.44 | 1.53 |
| 12 | B | 1466 | U | N1-C2 | 8.25 | 1.46 | 1.38 |
| 12 | B | 1661 | G | C5-C4 | -8.25 | 1.32 | 1.38 |
| 12 | B | 1585 | C | N1-C6 | 8.25 | 1.42 | 1.37 |
| 12 | B | 712 | G | C8-N7 | -8.24 | 1.26 | 1.30 |
| 12 | B | 97 | C | C4-N4 | 8.24 | 1.41 | 1.33 |
| 12 | B | 539 | G | N9-C8 | 8.24 | 1.43 | 1.37 |
| 12 | B | 1183 | U | C2-N3 | 8.24 | 1.43 | 1.37 |
| 12 | B | 2266 | A | C2'-C1' | -8.24 | 1.44 | 1.53 |
| 11 | A | 81 | G | C8-N7 | -8.24 | 1.26 | 1.30 |
| 11 | A | 85 | G | N3-C4 | -8.24 | 1.29 | 1.35 |
| 12 | B | 968 | C | N3-C4 | 8.24 | 1.39 | 1.33 |
| 12 | B | 1044 | C | C2-N3 | 8.23 | 1.42 | 1.35 |
| 12 | B | 1661 | G | N1-C2 | 8.23 | 1.44 | 1.37 |
| 12 | B | 663 | G | C2-N3 | 8.23 | 1.39 | 1.32 |
| 12 | B | 1125 | G | C6-N1 | 8.23 | 1.45 | 1.39 |
| 12 | B | 1271 | G | C2-N2 | 8.23 | 1.42 | 1.34 |
| 12 | B | 1143 | A | C6-N6 | 8.23 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2694 | G | C8-N7 | -8.23 | 1.26 | 1.30 |
| 12 | B | 189 | G | N7-C5 | -8.22 | 1.34 | 1.39 |
| 12 | B | 244 | A | C5-C6 | 8.22 | 1.48 | 1.41 |
| 12 | B | 2389 | G | C2'-C1' | -8.22 | 1.44 | 1.53 |
| 11 | A | 2 | G | C2-N2 | 8.22 | 1.42 | 1.34 |
| 11 | A | 108 | A | C5-C6 | -8.22 | 1.33 | 1.41 |
| 12 | B | 662 | G | P-O5' | -8.22 | 1.51 | 1.59 |
| 12 | B | 2142 | A | C6-N1 | 8.22 | 1.41 | 1.35 |
| 12 | B | 1913 | A | N7-C5 | -8.22 | 1.34 | 1.39 |
| 12 | B | 2056 | G | C2-N3 | 8.22 | 1.39 | 1.32 |
| 12 | B | 385 | C | P-O5' | -8.22 | 1.51 | 1.59 |
| 12 | B | 439 | A | C6-N6 | 8.22 | 1.40 | 1.33 |
| 12 | B | 1600 | C | N3-C4 | 8.22 | 1.39 | 1.33 |
| 12 | B | 2153 | C | C2'-C1' | -8.22 | 1.44 | 1.53 |
| 12 | B | 27 | G | N3-C4 | -8.21 | 1.29 | 1.35 |
| 12 | B | 408 | G | N3-C4 | -8.21 | 1.29 | 1.35 |
| 12 | B | 1129 | A | C5-C4 | 8.21 | 1.44 | 1.38 |
| 12 | B | 1244 | A | C6-N6 | 8.21 | 1.40 | 1.33 |
| 12 | B | 1348 | C | C2'-C1' | -8.21 | 1.44 | 1.53 |
| 12 | B | 684 | G | N1-C2 | 8.21 | 1.44 | 1.37 |
| 12 | B | 944 | C | N3-C4 | 8.21 | 1.39 | 1.33 |
| 12 | B | 1572 | A | C6-N6 | 8.21 | 1.40 | 1.33 |
| 12 | B | 877 | A | C5-C4 | 8.21 | 1.44 | 1.38 |
| 12 | B | 2528 | U | P-O5' | -8.21 | 1.51 | 1.59 |
| 12 | B | 1741 | C | C2-N3 | 8.21 | 1.42 | 1.35 |
| 12 | B | 1851 | U | N1-C6 | 8.21 | 1.45 | 1.38 |
| 12 | B | 378 | C | P-O5' | -8.21 | 1.51 | 1.59 |
| 12 | B | 890 | C | C2'-C1' | -8.21 | 1.44 | 1.53 |
| 12 | B | 598 | U | C2-N3 | 8.20 | 1.43 | 1.37 |
| 12 | B | 620 | G | C8-N7 | -8.20 | 1.26 | 1.30 |
| 12 | B | 632 | A | C3'-C2' | -8.20 | 1.43 | 1.52 |
| 12 | B | 1535 | A | C6-N6 | 8.20 | 1.40 | 1.33 |
| 12 | B | 1968 | G | N3-C4 | -8.20 | 1.29 | 1.35 |
| 12 | B | 2745 | C | N1-C2 | -8.20 | 1.31 | 1.40 |
| 12 | B | 1826 | G | C4'-C3' | -8.20 | 1.44 | 1.53 |
| 12 | B | 1024 | G | N7-C5 | -8.20 | 1.34 | 1.39 |
| 12 | B | 195 | A | C6-N1 | 8.19 | 1.41 | 1.35 |
| 11 | A | 57 | A | C6-N1 | 8.19 | 1.41 | 1.35 |
| 12 | B | 40 | U | C2-N3 | 8.19 | 1.43 | 1.37 |
| 12 | B | 903 | C | C4-C5 | 8.19 | 1.49 | 1.43 |
| 12 | B | 1682 | G | C2-N3 | 8.19 | 1.39 | 1.32 |
| 12 | B | 2140 | G | C8-N7 | 8.19 | 1.35 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2640 | G | C6-N1 | 8.19 | 1.45 | 1.39 |
| 12 | B | 2383 | G | C2-N3 | 8.19 | 1.39 | 1.32 |
| 12 | B | 2765 | A | N9-C4 | 8.19 | 1.42 | 1.37 |
| 12 | B | 951 | C | N1-C6 | -8.19 | 1.32 | 1.37 |
| 12 | B | 1064 | C | C4'-C3' | 8.19 | 1.62 | 1.53 |
| 12 | B | 1081 | U | N1-C6 | 8.19 | 1.45 | 1.38 |
| 12 | B | 636 | G | C8-N7 | 8.19 | 1.35 | 1.30 |
| 12 | B | 1257 | C | C2-N3 | 8.19 | 1.42 | 1.35 |
| 12 | B | 970 | U | N1-C6 | 8.19 | 1.45 | 1.38 |
| 12 | B | 1131 | G | N3-C4 | -8.19 | 1.29 | 1.35 |
| 12 | B | 135 | U | P-O5' | -8.18 | 1.51 | 1.59 |
| 12 | B | 1086 | A | C2'-C1' | -8.18 | 1.44 | 1.53 |
| 12 | B | 1702 | G | C6-N1 | 8.18 | 1.45 | 1.39 |
| 12 | B | 1202 | G | N7-C5 | -8.18 | 1.34 | 1.39 |
| 12 | B | 1500 | G | C2-N3 | 8.18 | 1.39 | 1.32 |
| 12 | B | 2632 | A | C6-N6 | 8.18 | 1.40 | 1.33 |
| 12 | B | 2663 | G | N9-C8 | 8.18 | 1.43 | 1.37 |
| 12 | B | 2134 | A | C5'-C4' | 8.18 | 1.61 | 1.51 |
| 11 | A | 68 | C | C4-C5 | 8.17 | 1.49 | 1.43 |
| 12 | B | 347 | A | C6-N1 | 8.17 | 1.41 | 1.35 |
| 12 | B | 680 | C | P-O5' | -8.17 | 1.51 | 1.59 |
| 12 | B | 724 | U | C4-C5 | 8.17 | 1.50 | 1.43 |
| 12 | B | 2373 | G | C2'-C1' | -8.17 | 1.44 | 1.53 |
| 12 | B | 154 | U | C2-N3 | 8.17 | 1.43 | 1.37 |
| 12 | B | 1115 | G | N1-C2 | 8.17 | 1.44 | 1.37 |
| 12 | B | 2035 | G | C2-N3 | 8.17 | 1.39 | 1.32 |
| 12 | B | 6 | A | C6-N1 | 8.17 | 1.41 | 1.35 |
| 12 | B | 611 | C | N1-C6 | -8.17 | 1.32 | 1.37 |
| 12 | B | 1110 | G | N7-C5 | -8.17 | 1.34 | 1.39 |
| 12 | B | 1570 | A | N7-C5 | -8.17 | 1.34 | 1.39 |
| 12 | B | 1641 | A | C6-N1 | -8.17 | 1.29 | 1.35 |
| 12 | B | 2035 | G | N3-C4 | -8.17 | 1.29 | 1.35 |
| 12 | B | 2718 | G | N9-C4 | -8.17 | 1.31 | 1.38 |
| 12 | B | 2509 | G | N7-C5 | -8.16 | 1.34 | 1.39 |
| 12 | B | 1013 | C | C2'-C1' | -8.16 | 1.44 | 1.53 |
| 12 | B | 1074 | G | N1-C2 | 8.16 | 1.44 | 1.37 |
| 12 | B | 1830 | C | N1-C6 | 8.16 | 1.42 | 1.37 |
| 12 | B | 2492 | U | P-O5' | -8.16 | 1.51 | 1.59 |
| 12 | B | 32 | C | N3-C4 | 8.16 | 1.39 | 1.33 |
| 12 | B | 806 | C | N3-C4 | 8.16 | 1.39 | 1.33 |
| 12 | B | 892 | A | N7-C5 | -8.16 | 1.34 | 1.39 |
| 12 | B | 1045 | C | N3-C4 | 8.16 | 1.39 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1817 | G | N7-C5 | -8.16 | 1.34 | 1.39 |
| 12 | B | 1101 | U | C2-N3 | 8.15 | 1.43 | 1.37 |
| 12 | B | 1755 | A | N9-C4 | 8.15 | 1.42 | 1.37 |
| 12 | B | 2887 | A | N9-C8 | -8.15 | 1.31 | 1.37 |
| 11 | A | 10 | G | C2-N3 | 8.15 | 1.39 | 1.32 |
| 12 | B | 19 | A | N7-C5 | -8.15 | 1.34 | 1.39 |
| 12 | B | 1579 | A | C6-N6 | 8.15 | 1.40 | 1.33 |
| 12 | B | 1750 | G | N9-C8 | 8.15 | 1.43 | 1.37 |
| 12 | B | 2490 | G | N7-C5 | -8.15 | 1.34 | 1.39 |
| 12 | B | 1644 | C | C1'-N1 | 8.15 | 1.60 | 1.48 |
| 12 | B | 2416 | C | P-O5' | -8.15 | 1.51 | 1.59 |
| 11 | A | 23 | G | N7-C5 | -8.15 | 1.34 | 1.39 |
| 12 | B | 581 | C | N3-C4 | 8.15 | 1.39 | 1.33 |
| 12 | B | 1158 | C | P-O5' | -8.15 | 1.51 | 1.59 |
| 12 | B | 1339 | G | C4'-C3' | 8.15 | 1.62 | 1.53 |
| 12 | B | 2164 | C | C2-N3 | 8.15 | 1.42 | 1.35 |
| 12 | B | 1551 | A | C6-N6 | 8.14 | 1.40 | 1.33 |
| 12 | B | 74 | A | C6-N6 | 8.14 | 1.40 | 1.33 |
| 12 | B | 1584 | U | N3-C4 | 8.14 | 1.45 | 1.38 |
| 12 | B | 1896 | G | C3'-C2' | -8.14 | 1.43 | 1.52 |
| 11 | A | 83 | G | C2-N3 | 8.14 | 1.39 | 1.32 |
| 12 | B | 742 | A | P-O5' | -8.14 | 1.51 | 1.59 |
| 12 | B | 1438 | U | O3'-P | -8.14 | 1.51 | 1.61 |
| 12 | B | 1482 | G | N9-C4 | 8.14 | 1.44 | 1.38 |
| 12 | B | 2872 | A | N9-C4 | 8.14 | 1.42 | 1.37 |
| 12 | B | 1794 | A | C2'-C1' | -8.13 | 1.44 | 1.53 |
| 12 | B | 167 | A | O3'-P | -8.13 | 1.51 | 1.61 |
| 12 | B | 1120 | G | C8-N7 | -8.13 | 1.26 | 1.30 |
| 12 | B | 2196 | C | C2-N3 | -8.13 | 1.29 | 1.35 |
| 12 | B | 1093 | G | C6-N1 | 8.13 | 1.45 | 1.39 |
| 12 | B | 2290 | G | N3-C4 | 8.13 | 1.41 | 1.35 |
| 12 | B | 2688 | G | C2-N3 | 8.13 | 1.39 | 1.32 |
| 12 | B | 28 | A | N9-C4 | 8.13 | 1.42 | 1.37 |
| 12 | B | 1406 | U | N3-C4 | 8.12 | 1.45 | 1.38 |
| 12 | B | 1477 | A | C2-N3 | 8.12 | 1.40 | 1.33 |
| 12 | B | 1856 | U | N3-C4 | 8.13 | 1.45 | 1.38 |
| 12 | B | 2583 | G | C8-N7 | -8.13 | 1.26 | 1.30 |
| 12 | B | 2616 | C | N3-C4 | 8.13 | 1.39 | 1.33 |
| 12 | B | 1802 | A | C6-N1 | 8.12 | 1.41 | 1.35 |
| 12 | B | 62 | U | C4-C5 | 8.12 | 1.50 | 1.43 |
| 12 | B | 1008 | A | C3'-C2' | -8.12 | 1.43 | 1.52 |
| 12 | B | 1426 | G | C2'-C1' | -8.12 | 1.44 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 666 | A | N1-C2 | -8.12 | 1.27 | 1.34 |
| 12 | B | 714 | U | P-O5' | -8.12 | 1.51 | 1.59 |
| 12 | B | 2529 | G | N7-C5 | 8.12 | 1.44 | 1.39 |
| 12 | B | 2349 | G | O3'-P | -8.12 | 1.51 | 1.61 |
| 11 | A | 69 | G | C8-N7 | -8.11 | 1.26 | 1.30 |
| 12 | B | 454 | A | C6-N1 | 8.11 | 1.41 | 1.35 |
| 12 | B | 154 | U | P-O5' | -8.11 | 1.51 | 1.59 |
| 12 | B | 877 | A | O4'-C1' | 8.11 | 1.52 | 1.41 |
| 12 | B | 2831 | G | C5-C6 | -8.11 | 1.34 | 1.42 |
| 12 | B | 1200 | C | C4-N4 | 8.11 | 1.41 | 1.33 |
| 12 | B | 2370 | G | C6-N1 | 8.11 | 1.45 | 1.39 |
| 12 | B | 2825 | G | C2-N2 | 8.11 | 1.42 | 1.34 |
| 12 | B | 789 | A | N9-C4 | 8.10 | 1.42 | 1.37 |
| 12 | B | 1437 | C | C4-C5 | 8.10 | 1.49 | 1.43 |
| 12 | B | 1713 | A | N9-C4 | -8.10 | 1.32 | 1.37 |
| 12 | B | 1837 | C | N3-C4 | 8.10 | 1.39 | 1.33 |
| 12 | B | 2238 | G | N3-C4 | -8.10 | 1.29 | 1.35 |
| 12 | B | 2639 | A | N7-C5 | -8.10 | 1.34 | 1.39 |
| 12 | B | 258 | G | C6-N1 | 8.10 | 1.45 | 1.39 |
| 12 | B | 893 | C | C2'-C1' | -8.10 | 1.44 | 1.53 |
| 12 | B | 1633 | G | C5'-C4' | 8.10 | 1.61 | 1.51 |
| 12 | B | 2885 | G | C2-N2 | 8.10 | 1.42 | 1.34 |
| 12 | B | 2794 | C | N3-C4 | 8.10 | 1.39 | 1.33 |
| 12 | B | 1469 | A | N7-C5 | -8.09 | 1.34 | 1.39 |
| 12 | B | 2445 | G | C6-N1 | 8.09 | 1.45 | 1.39 |
| 12 | B | 213 | A | N3-C4 | -8.09 | 1.29 | 1.34 |
| 12 | B | 959 | A | C5-C4 | 8.09 | 1.44 | 1.38 |
| 12 | B | 1028 | A | C5'-C4' | 8.09 | 1.61 | 1.51 |
| 12 | B | 328 | U | C2'-C1' | -8.09 | 1.44 | 1.53 |
| 12 | B | 1200 | C | P-O5' | -8.09 | 1.51 | 1.59 |
| 12 | B | 1439 | A | O4'-C1' | 8.09 | 1.52 | 1.41 |
| 12 | B | 1519 | G | C8-N7 | -8.09 | 1.26 | 1.30 |
| 12 | B | 777 | G | N9-C8 | -8.09 | 1.32 | 1.37 |
| 12 | B | 925 | A | N7-C5 | -8.08 | 1.34 | 1.39 |
| 12 | B | 739 | A | C5'-C4' | 8.08 | 1.61 | 1.51 |
| 12 | B | 1040 | A | C6-N6 | 8.08 | 1.40 | 1.33 |
| 12 | B | 1945 | G | C5-C6 | -8.08 | 1.34 | 1.42 |
| 12 | B | 457 | A | O3'-P | -8.08 | 1.51 | 1.61 |
| 12 | B | 610 | C | P-O5' | -8.08 | 1.51 | 1.59 |
| 12 | B | 1936 | A | N9-C4 | -8.08 | 1.33 | 1.37 |
| 12 | B | 2641 | G | N1-C2 | 8.08 | 1.44 | 1.37 |
| 12 | B | 27 | G | N9-C8 | -8.08 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 309 | A | C4'-C3' | 8.08 | 1.62 | 1.53 |
| 12 | B | 1180 | U | N3-C4 | 8.08 | 1.45 | 1.38 |
| 12 | B | 1260 | A | C6-N6 | 8.08 | 1.40 | 1.33 |
| 12 | B | 2507 | C | C4-C5 | 8.08 | 1.49 | 1.43 |
| 12 | B | 39 | G | C5-C4 | 8.07 | 1.44 | 1.38 |
| 12 | B | 2748 | A | N7-C5 | -8.07 | 1.34 | 1.39 |
| 12 | B | 285 | G | C8-N7 | -8.07 | 1.26 | 1.30 |
| 12 | B | 2464 | G | O3'-P | -8.07 | 1.51 | 1.61 |
| 12 | B | 319 | G | N1-C2 | 8.06 | 1.44 | 1.37 |
| 12 | B | 462 | C | C2-O2 | 8.06 | 1.31 | 1.24 |
| 12 | B | 1235 | G | C8-N7 | -8.06 | 1.26 | 1.30 |
| 12 | B | 2570 | G | P-O5' | -8.06 | 1.51 | 1.59 |
| 12 | B | 793 | A | P-O5' | 8.06 | 1.67 | 1.59 |
| 12 | B | 1062 | G | C2-N2 | 8.06 | 1.42 | 1.34 |
| 12 | B | 88 | G | N1-C2 | 8.06 | 1.44 | 1.37 |
| 12 | B | 438 | G | N7-C5 | -8.06 | 1.34 | 1.39 |
| 12 | B | 1069 | A | N7-C5 | -8.06 | 1.34 | 1.39 |
| 12 | B | 1098 | A | O3'-P | -8.06 | 1.51 | 1.61 |
| 12 | B | 1853 | A | N9-C4 | -8.06 | 1.33 | 1.37 |
| 12 | B | 2587 | A | C8-N7 | -8.06 | 1.25 | 1.31 |
| 12 | B | 428 | A | N9-C4 | -8.06 | 1.33 | 1.37 |
| 12 | B | 1633 | G | C2-N2 | 8.06 | 1.42 | 1.34 |
| 12 | B | 2228 | G | C2-N3 | 8.06 | 1.39 | 1.32 |
| 12 | B | 654 | A | C6-N6 | 8.05 | 1.40 | 1.33 |
| 12 | B | 929 | U | C2'-C1' | -8.05 | 1.44 | 1.53 |
| 12 | B | 1651 | G | C8-N7 | -8.05 | 1.26 | 1.30 |
| 12 | B | 2857 | G | N9-C8 | 8.05 | 1.43 | 1.37 |
| 12 | B | 77 | G | C6-N1 | 8.05 | 1.45 | 1.39 |
| 12 | B | 466 | A | O3'-P | -8.05 | 1.51 | 1.61 |
| 12 | B | 1381 | G | N1-C2 | 8.05 | 1.44 | 1.37 |
| 12 | B | 1784 | A | O3'-P | 8.05 | 1.70 | 1.61 |
| 12 | B | 2191 | A | N3-C4 | 8.05 | 1.39 | 1.34 |
| 12 | B | 2322 | A | C8-N7 | -8.05 | 1.25 | 1.31 |
| 12 | B | 550 | C | C1'-N1 | 8.05 | 1.60 | 1.48 |
| 12 | B | 1310 | G | C6-N1 | 8.05 | 1.45 | 1.39 |
| 12 | B | 1490 | A | C1'-N9 | 8.05 | 1.60 | 1.48 |
| 12 | B | 1662 | U | N3-C4 | 8.05 | 1.45 | 1.38 |
| 12 | B | 2307 | G | N1-C2 | 8.05 | 1.44 | 1.37 |
| 12 | B | 2127 | G | C6-N1 | 8.05 | 1.45 | 1.39 |
| 12 | B | 2583 | G | N7-C5 | -8.05 | 1.34 | 1.39 |
| 12 | B | 2233 | U | C2-N3 | 8.04 | 1.43 | 1.37 |
| 12 | B | 1537 | G | N7-C5 | -8.04 | 1.34 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2365 | G | C2-N3 | 8.04 | 1.39 | 1.32 |
| 12 | B | 132 | G | C2-N3 | 8.04 | 1.39 | 1.32 |
| 12 | B | 933 | A | O3'-P | -8.04 | 1.51 | 1.61 |
| 12 | B | 1330 | C | N1-C6 | 8.04 | 1.42 | 1.37 |
| 12 | B | 2665 | A | C6-N1 | 8.04 | 1.41 | 1.35 |
| 12 | B | 2199 | A | C2'-C1' | -8.04 | 1.44 | 1.53 |
| 11 | A | 24 | G | N9-C8 | -8.03 | 1.32 | 1.37 |
| 12 | B | 954 | G | C6-N1 | 8.03 | 1.45 | 1.39 |
| 12 | B | 1609 | A | N7-C5 | -8.03 | 1.34 | 1.39 |
| 12 | B | 1900 | A | C6-N1 | 8.03 | 1.41 | 1.35 |
| 11 | A | 72 | G | N7-C5 | -8.03 | 1.34 | 1.39 |
| 12 | B | 265 | A | C6-N6 | 8.03 | 1.40 | 1.33 |
| 12 | B | 36 | G | C2-N3 | 8.03 | 1.39 | 1.32 |
| 12 | B | 1938 | A | C6-N1 | 8.03 | 1.41 | 1.35 |
| 12 | B | 2097 | A | N9-C4 | 8.03 | 1.42 | 1.37 |
| 12 | B | 430 | A | C6-N1 | 8.02 | 1.41 | 1.35 |
| 12 | B | 1139 | G | C2-N3 | 8.02 | 1.39 | 1.32 |
| 12 | B | 2697 | G | C2'-C1' | -8.02 | 1.44 | 1.53 |
| 12 | B | 3 | U | N3-C4 | 8.02 | 1.45 | 1.38 |
| 12 | B | 1684 | G | C5-C4 | -8.02 | 1.32 | 1.38 |
| 12 | B | 2038 | G | C5-C4 | -8.02 | 1.32 | 1.38 |
| 12 | B | 7 | G | N1-C2 | 8.02 | 1.44 | 1.37 |
| 12 | B | 137 | U | O4'-C1' | 8.02 | 1.52 | 1.41 |
| 12 | B | 964 | C | N3-C4 | 8.02 | 1.39 | 1.33 |
| 12 | B | 1199 | U | P-O5' | -8.02 | 1.51 | 1.59 |
| 12 | B | 1390 | U | C2'-C1' | -8.02 | 1.44 | 1.53 |
| 12 | B | 81 | G | C2-N3 | 8.01 | 1.39 | 1.32 |
| 12 | B | 8 | C | P-O5' | -8.01 | 1.51 | 1.59 |
| 12 | B | 175 | G | C2-N2 | 8.01 | 1.42 | 1.34 |
| 12 | B | 908 | C | O4'-C1' | 8.01 | 1.52 | 1.41 |
| 11 | A | 105 | G | C5-C4 | 8.01 | 1.44 | 1.38 |
| 12 | B | 984 | A | C4'-C3' | -8.01 | 1.44 | 1.53 |
| 12 | B | 57 | C | C2'-C1' | -8.01 | 1.44 | 1.53 |
| 12 | B | 793 | A | C6-N1 | 8.01 | 1.41 | 1.35 |
| 12 | B | 1777 | U | P-O5' | -8.01 | 1.51 | 1.59 |
| 12 | B | 785 | G | N1-C2 | 8.00 | 1.44 | 1.37 |
| 12 | B | 47 | C | C2'-C1' | -8.00 | 1.44 | 1.53 |
| 12 | B | 167 | A | N9-C4 | -8.00 | 1.33 | 1.37 |
| 12 | B | 1435 | G | C2-N3 | 8.00 | 1.39 | 1.32 |
| 12 | B | 1655 | A | N7-C5 | -8.00 | 1.34 | 1.39 |
| 12 | B | 1656 | C | C4-C5 | 8.00 | 1.49 | 1.43 |
| 12 | B | 2116 | G | N1-C2 | 8.00 | 1.44 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1482 | G | C3'-C2' | -8.00 | 1.44 | 1.52 |
| 12 | B | 1479 | G | N1-C2 | 7.99 | 1.44 | 1.37 |
| 12 | B | 2201 | G | C2-N3 | 7.99 | 1.39 | 1.32 |
| 12 | B | 1787 | A | C5-C4 | 7.99 | 1.44 | 1.38 |
| 12 | B | 130 | C | N1-C6 | 7.99 | 1.42 | 1.37 |
| 12 | B | 1009 | A | C5'-C4' | 7.99 | 1.60 | 1.51 |
| 12 | B | 1578 | U | N3-C4 | 7.99 | 1.45 | 1.38 |
| 12 | B | 115 | C | N3-C4 | 7.99 | 1.39 | 1.33 |
| 12 | B | 891 | G | N3-C4 | -7.99 | 1.29 | 1.35 |
| 12 | B | 633 | A | N3-C4 | -7.99 | 1.30 | 1.34 |
| 12 | B | 1835 | G | O4'-C1' | 7.99 | 1.52 | 1.41 |
| 12 | B | 2063 | C | O3'-P | -7.99 | 1.51 | 1.61 |
| 12 | B | 2253 | G | C2'-C1' | -7.99 | 1.44 | 1.53 |
| 12 | B | 2661 | G | C2'-C1' | -7.99 | 1.44 | 1.53 |
| 12 | B | 648 | G | N1-C2 | 7.98 | 1.44 | 1.37 |
| 12 | B | 1253 | A | N7-C5 | -7.98 | 1.34 | 1.39 |
| 12 | B | 1572 | A | C8-N7 | -7.98 | 1.25 | 1.31 |
| 12 | B | 2636 | C | N3-C4 | 7.98 | 1.39 | 1.33 |
| 12 | B | 2795 | C | O3'-P | -7.98 | 1.51 | 1.61 |
| 12 | B | 858 | G | N9-C8 | 7.98 | 1.43 | 1.37 |
| 12 | B | 1237 | A | N1-C2 | 7.98 | 1.41 | 1.34 |
| 12 | B | 504 | A | N3-C4 | -7.98 | 1.30 | 1.34 |
| 12 | B | 627 | A | N7-C5 | -7.98 | 1.34 | 1.39 |
| 12 | B | 464 | U | C2-N3 | 7.98 | 1.43 | 1.37 |
| 12 | B | 2230 | G | C2'-C1' | -7.98 | 1.44 | 1.53 |
| 12 | B | 178 | G | C6-N1 | 7.97 | 1.45 | 1.39 |
| 12 | B | 1673 | G | C5-C4 | -7.97 | 1.32 | 1.38 |
| 12 | B | 2104 | C | N3-C4 | 7.97 | 1.39 | 1.33 |
| 12 | B | 2106 | U | C2-N3 | 7.97 | 1.43 | 1.37 |
| 12 | B | 51 | G | P-O5' | -7.97 | 1.51 | 1.59 |
| 12 | B | 1486 | U | N3-C4 | 7.97 | 1.45 | 1.38 |
| 12 | B | 2202 | U | N3-C4 | 7.97 | 1.45 | 1.38 |
| 12 | B | 2746 | U | C5'-C4' | 7.97 | 1.60 | 1.51 |
| 12 | B | 1945 | G | N1-C2 | 7.97 | 1.44 | 1.37 |
| 12 | B | 971 | G | C6-N1 | 7.97 | 1.45 | 1.39 |
| 12 | B | 2135 | A | N9-C4 | -7.97 | 1.33 | 1.37 |
| 12 | B | 2249 | U | N3-C4 | 7.97 | 1.45 | 1.38 |
| 12 | B | 2502 | G | C2-N3 | 7.97 | 1.39 | 1.32 |
| 12 | B | 2621 | G | C2-N3 | 7.97 | 1.39 | 1.32 |
| 12 | B | 960 | A | N7-C5 | -7.97 | 1.34 | 1.39 |
| 12 | B | 9 | G | C2-N3 | 7.97 | 1.39 | 1.32 |
| 12 | B | 1225 | G | C3'-C2' | -7.97 | 1.44 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1949 | G | C8-N7 | 7.97 | 1.35 | 1.30 |
| 12 | B | 2237 | G | C2-N3 | 7.97 | 1.39 | 1.32 |
| 12 | B | 2507 | C | C4-N4 | 7.97 | 1.41 | 1.33 |
| 12 | B | 797 | G | C6-N1 | 7.96 | 1.45 | 1.39 |
| 12 | B | 43 | G | N1-C2 | 7.96 | 1.44 | 1.37 |
| 12 | B | 1724 | G | N7-C5 | -7.96 | 1.34 | 1.39 |
| 12 | B | 614 | A | C5'-C4' | 7.96 | 1.60 | 1.51 |
| 12 | B | 2400 | G | N7-C5 | -7.96 | 1.34 | 1.39 |
| 12 | B | 160 | A | N7-C5 | -7.96 | 1.34 | 1.39 |
| 12 | B | 312 | G | C5-C4 | 7.96 | 1.44 | 1.38 |
| 12 | B | 979 | A | N9-C4 | 7.96 | 1.42 | 1.37 |
| 12 | B | 2524 | G | C2-N3 | 7.96 | 1.39 | 1.32 |
| 12 | B | 698 | C | C4-N4 | 7.96 | 1.41 | 1.33 |
| 12 | B | 1235 | G | C6-N1 | 7.96 | 1.45 | 1.39 |
| 12 | B | 884 | U | N3-C4 | 7.96 | 1.45 | 1.38 |
| 12 | B | 1197 | G | C5-C6 | -7.96 | 1.34 | 1.42 |
| 11 | A | 68 | C | C2'-C1' | -7.95 | 1.44 | 1.53 |
| 12 | B | 1073 | A | C5'-C4' | 7.95 | 1.60 | 1.51 |
| 12 | B | 1970 | A | N9-C4 | -7.95 | 1.33 | 1.37 |
| 12 | B | 1900 | A | N9-C4 | 7.95 | 1.42 | 1.37 |
| 12 | B | 2341 | G | N1-C2 | 7.95 | 1.44 | 1.37 |
| 12 | B | 1947 | C | P-O5' | -7.95 | 1.51 | 1.59 |
| 12 | B | 2822 | G | N7-C5 | -7.95 | 1.34 | 1.39 |
| 12 | B | 388 | G | P-O5' | 7.95 | 1.67 | 1.59 |
| 12 | B | 589 | U | C2-N3 | 7.95 | 1.43 | 1.37 |
| 12 | B | 2113 | U | C2-N3 | 7.95 | 1.43 | 1.37 |
| 12 | B | 2588 | G | N1-C2 | 7.95 | 1.44 | 1.37 |
| 12 | B | 1784 | A | C5'-C4' | 7.94 | 1.60 | 1.51 |
| 12 | B | 2630 | G | N9-C4 | -7.94 | 1.31 | 1.38 |
| 12 | B | 400 | G | N7-C5 | -7.94 | 1.34 | 1.39 |
| 12 | B | 1710 | G | C6-N1 | 7.94 | 1.45 | 1.39 |
| 12 | B | 190 | A | C2'-C1' | -7.94 | 1.44 | 1.53 |
| 12 | B | 1677 | A | N7-C5 | -7.94 | 1.34 | 1.39 |
| 12 | B | 1963 | U | N1-C2 | 7.94 | 1.45 | 1.38 |
| 12 | B | 2108 | A | C5'-C4' | 7.94 | 1.60 | 1.51 |
| 12 | B | 1116 | G | C5'-C4' | 7.94 | 1.60 | 1.51 |
| 12 | B | 997 | G | C8-N7 | 7.93 | 1.35 | 1.30 |
| 12 | B | 1567 | G | C6-N1 | 7.93 | 1.45 | 1.39 |
| 12 | B | 2123 | G | N7-C5 | 7.93 | 1.44 | 1.39 |
| 12 | B | 293 | U | O3'-P | -7.93 | 1.51 | 1.61 |
| 12 | B | 1464 | G | C6-N1 | 7.93 | 1.45 | 1.39 |
| 11 | A | 117 | G | N3-C4 | 7.93 | 1.41 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1147 | A | C8-N7 | 7.93 | 1.37 | 1.31 |
| 12 | B | 948 | C | N1-C6 | 7.92 | 1.42 | 1.37 |
| 12 | B | 1922 | G | C6-N1 | 7.92 | 1.45 | 1.39 |
| 12 | B | 2121 | G | C2-N3 | 7.92 | 1.39 | 1.32 |
| 12 | B | 2436 | G | C6-O6 | -7.92 | 1.17 | 1.24 |
| 12 | B | 1703 | G | N1-C2 | 7.92 | 1.44 | 1.37 |
| 12 | B | 1961 | C | N1-C6 | 7.92 | 1.42 | 1.37 |
| 12 | B | 2151 | U | C2-N3 | 7.92 | 1.43 | 1.37 |
| 12 | B | 2158 | A | C6-N6 | 7.92 | 1.40 | 1.33 |
| 12 | B | 1683 | U | N3-C4 | 7.92 | 1.45 | 1.38 |
| 12 | B | 2198 | A | C6-N6 | 7.92 | 1.40 | 1.33 |
| 12 | B | 608 | A | C6-N6 | 7.92 | 1.40 | 1.33 |
| 12 | B | 793 | A | C5-C4 | 7.92 | 1.44 | 1.38 |
| 12 | B | 2738 | A | N3-C4 | -7.92 | 1.30 | 1.34 |
| 12 | B | 147 | C | P-O5' | -7.92 | 1.51 | 1.59 |
| 12 | B | 1899 | A | C6-N1 | 7.92 | 1.41 | 1.35 |
| 11 | A | 73 | A | C3'-C2' | -7.91 | 1.44 | 1.52 |
| 12 | B | 2830 | C | N3-C4 | 7.91 | 1.39 | 1.33 |
| 12 | B | 212 | G | C2-N3 | 7.91 | 1.39 | 1.32 |
| 12 | B | 604 | G | C2-N2 | 7.91 | 1.42 | 1.34 |
| 12 | B | 1587 | G | N7-C5 | -7.91 | 1.34 | 1.39 |
| 12 | B | 1632 | A | N7-C5 | -7.91 | 1.34 | 1.39 |
| 12 | B | 2131 | U | C2-N3 | 7.91 | 1.43 | 1.37 |
| 12 | B | 2004 | G | N1-C2 | 7.91 | 1.44 | 1.37 |
| 12 | B | 2743 | U | C2-N3 | 7.91 | 1.43 | 1.37 |
| 8 | 7 | 41 | ARG | NE-CZ | 7.91 | 1.43 | 1.33 |
| 12 | B | 648 | G | C5-C4 | -7.91 | 1.32 | 1.38 |
| 12 | B | 784 | G | C2-N3 | 7.91 | 1.39 | 1.32 |
| 12 | B | 2747 | G | C6-N1 | 7.91 | 1.45 | 1.39 |
| 12 | B | 693 | A | C6-N1 | 7.91 | 1.41 | 1.35 |
| 12 | B | 1162 | G | N3-C4 | 7.91 | 1.41 | 1.35 |
| 12 | B | 2224 | G | N9-C4 | -7.91 | 1.31 | 1.38 |
| 12 | B | 1634 | A | N9-C4 | 7.90 | 1.42 | 1.37 |
| 12 | B | 1982 | U | C3'-C2' | -7.90 | 1.44 | 1.52 |
| 12 | B | 584 | C | C4-N4 | 7.90 | 1.41 | 1.33 |
| 12 | B | 1799 | G | N9-C4 | -7.90 | 1.31 | 1.38 |
| 12 | B | 2895 | G | N9-C8 | -7.90 | 1.32 | 1.37 |
| 12 | B | 947 | A | C6-N1 | 7.90 | 1.41 | 1.35 |
| 12 | B | 1798 | U | C4'-C3' | 7.90 | 1.61 | 1.53 |
| 12 | B | 2199 | A | C6-N1 | 7.90 | 1.41 | 1.35 |
| 12 | B | 2803 | G | N7-C5 | -7.90 | 1.34 | 1.39 |
| 12 | B | 488 | G | N3-C4 | 7.89 | 1.41 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 580 | U | P-O5' | -7.89 | 1.51 | 1.59 |
| 12 | B | 2221 | G | C5-C4 | 7.89 | 1.43 | 1.38 |
| 12 | B | 2485 | G | C8-N7 | 7.89 | 1.35 | 1.30 |
| 12 | B | 1320 | C | C2-N3 | 7.89 | 1.42 | 1.35 |
| 12 | B | 681 | G | N1-C2 | 7.89 | 1.44 | 1.37 |
| 12 | B | 1787 | A | C5'-C4' | 7.89 | 1.60 | 1.51 |
| 12 | B | 668 | A | C6-N6 | 7.89 | 1.40 | 1.33 |
| 12 | B | 1423 | G | N9-C4 | 7.89 | 1.44 | 1.38 |
| 12 | B | 87 | U | P-O5' | -7.89 | 1.51 | 1.59 |
| 12 | B | 503 | A | N7-C5 | -7.89 | 1.34 | 1.39 |
| 12 | B | 602 | A | N9-C8 | -7.89 | 1.31 | 1.37 |
| 12 | B | 1670 | C | C4'-C3' | 7.89 | 1.61 | 1.53 |
| 12 | B | 1766 | G | C2-N2 | 7.89 | 1.42 | 1.34 |
| 12 | B | 1878 | G | N1-C2 | 7.89 | 1.44 | 1.37 |
| 12 | B | 2069 | G | C6-N1 | 7.89 | 1.45 | 1.39 |
| 12 | B | 2211 | A | N7-C5 | -7.89 | 1.34 | 1.39 |
| 11 | A | 11 | C | C4-N4 | 7.88 | 1.41 | 1.33 |
| 12 | B | 1795 | C | C2-N3 | -7.88 | 1.29 | 1.35 |
| 12 | B | 2523 | G | C5-C4 | 7.88 | 1.43 | 1.38 |
| 12 | B | 2141 | G | C6-N1 | 7.88 | 1.45 | 1.39 |
| 12 | B | 117 | G | C6-N1 | 7.88 | 1.45 | 1.39 |
| 12 | B | 172 | A | C2'-C1' | -7.88 | 1.44 | 1.53 |
| 12 | B | 2435 | A | C6-N6 | 7.88 | 1.40 | 1.33 |
| 11 | A | 71 | C | C4-N4 | 7.88 | 1.41 | 1.33 |
| 12 | B | 365 | U | C3'-C2' | 7.88 | 1.61 | 1.52 |
| 12 | B | 675 | A | C6-N1 | 7.88 | 1.41 | 1.35 |
| 12 | B | 1710 | G | C4'-C3' | -7.88 | 1.44 | 1.53 |
| 12 | B | 2049 | G | N9-C8 | 7.88 | 1.43 | 1.37 |
| 12 | B | 649 | G | C4'-C3' | 7.88 | 1.61 | 1.53 |
| 12 | B | 1422 | G | C4'-C3' | 7.88 | 1.61 | 1.53 |
| 12 | B | 1546 | G | N1-C2 | 7.88 | 1.44 | 1.37 |
| 12 | B | 1890 | A | C6-N1 | 7.88 | 1.41 | 1.35 |
| 12 | B | 124 | G | N7-C5 | 7.87 | 1.44 | 1.39 |
| 12 | B | 2012 | G | C6-N1 | 7.87 | 1.45 | 1.39 |
| 12 | B | 2293 | G | C6-N1 | 7.87 | 1.45 | 1.39 |
| 12 | B | 165 | A | C6-N1 | 7.87 | 1.41 | 1.35 |
| 12 | B | 1639 | C | N1-C6 | 7.87 | 1.41 | 1.37 |
| 12 | B | 2859 | G | C3'-C2' | 7.87 | 1.61 | 1.52 |
| 12 | B | 2115 | G | C2-N3 | 7.87 | 1.39 | 1.32 |
| 12 | B | 2490 | G | N3-C4 | 7.87 | 1.41 | 1.35 |
| 12 | B | 729 | G | O3'-P | -7.86 | 1.51 | 1.61 |
| 12 | B | 1756 | G | C5'-C4' | 7.86 | 1.60 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1075 | C | O3'-P | -7.86 | 1.51 | 1.61 |
| 12 | B | 2882 | A | C4'-C3' | -7.86 | 1.44 | 1.53 |
| 12 | B | 1344 | U | C5-C6 | -7.86 | 1.27 | 1.34 |
| 12 | B | 1464 | G | C5'-C4' | 7.86 | 1.60 | 1.51 |
| 12 | B | 1725 | U | C5'-C4' | 7.86 | 1.60 | 1.51 |
| 12 | B | 1920 | C | C4-N4 | 7.86 | 1.41 | 1.33 |
| 12 | B | 2148 | G | C5'-C4' | 7.86 | 1.60 | 1.51 |
| 12 | B | 735 | A | N1-C2 | 7.86 | 1.41 | 1.34 |
| 12 | B | 2330 | G | C6-N1 | 7.86 | 1.45 | 1.39 |
| 12 | B | 1779 | U | C2-N3 | 7.86 | 1.43 | 1.37 |
| 12 | B | 2356 | U | C2-N3 | 7.86 | 1.43 | 1.37 |
| 12 | B | 2382 | G | C2-N3 | 7.86 | 1.39 | 1.32 |
| 12 | B | 606 | U | C2-N3 | 7.86 | 1.43 | 1.37 |
| 12 | B | 968 | C | C2'-C1' | -7.86 | 1.44 | 1.53 |
| 12 | B | 1034 | G | C5-C6 | -7.86 | 1.34 | 1.42 |
| 12 | B | 1120 | G | C2-N3 | 7.86 | 1.39 | 1.32 |
| 12 | B | 2592 | G | N1-C2 | 7.85 | 1.44 | 1.37 |
| 12 | B | 493 | G | C3'-C2' | -7.85 | 1.44 | 1.52 |
| 12 | B | 1116 | G | N9-C4 | -7.85 | 1.31 | 1.38 |
| 12 | B | 1300 | G | N3-C4 | 7.85 | 1.41 | 1.35 |
| 12 | B | 2535 | G | N1-C2 | 7.85 | 1.44 | 1.37 |
| 12 | B | 2660 | A | N3-C4 | -7.85 | 1.30 | 1.34 |
| 12 | B | 2320 | U | N3-C4 | 7.85 | 1.45 | 1.38 |
| 11 | A | 82 | U | C5-C6 | 7.85 | 1.41 | 1.34 |
| 12 | B | 933 | A | N9-C8 | -7.85 | 1.31 | 1.37 |
| 12 | B | 1422 | G | P-O5' | -7.85 | 1.51 | 1.59 |
| 12 | B | 1620 | G | C6-N1 | 7.85 | 1.45 | 1.39 |
| 12 | B | 1020 | A | N3-C4 | -7.85 | 1.30 | 1.34 |
| 12 | B | 886 | A | N7-C5 | -7.84 | 1.34 | 1.39 |
| 12 | B | 2671 | G | C8-N7 | -7.84 | 1.26 | 1.30 |
| 12 | B | 2714 | G | C2-N3 | 7.84 | 1.39 | 1.32 |
| 12 | B | 1656 | C | C2'-C1' | -7.84 | 1.44 | 1.53 |
| 12 | B | 1710 | G | N9-C4 | 7.84 | 1.44 | 1.38 |
| 12 | B | 88 | G | C2-N3 | 7.84 | 1.39 | 1.32 |
| 12 | B | 1259 | G | N9-C4 | -7.84 | 1.31 | 1.38 |
| 12 | B | 1514 | G | C2-N3 | 7.84 | 1.39 | 1.32 |
| 12 | B | 1040 | A | C8-N7 | 7.84 | 1.37 | 1.31 |
| 12 | B | 1613 | G | N1-C2 | 7.84 | 1.44 | 1.37 |
| 12 | B | 1695 | G | C2-N3 | 7.84 | 1.39 | 1.32 |
| 12 | B | 450 | G | N9-C4 | -7.84 | 1.31 | 1.38 |
| 12 | B | 849 | A | N7-C5 | -7.84 | 1.34 | 1.39 |
| 12 | B | 974 | G | C2-N3 | 7.84 | 1.39 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1527 | G | C2-N3 | 7.84 | 1.39 | 1.32 |
| 12 | B | 666 | A | N7-C5 | -7.84 | 1.34 | 1.39 |
| 12 | B | 1772 | A | N7-C5 | -7.84 | 1.34 | 1.39 |
| 12 | B | 2224 | G | N9-C8 | 7.84 | 1.43 | 1.37 |
| 12 | B | 1165 | A | C6-N6 | 7.83 | 1.40 | 1.33 |
| 12 | B | 1360 | G | C6-N1 | 7.83 | 1.45 | 1.39 |
| 12 | B | 984 | A | C6-N1 | 7.83 | 1.41 | 1.35 |
| 12 | B | 1385 | A | N9-C4 | 7.83 | 1.42 | 1.37 |
| 12 | B | 1493 | C | O3'-P | -7.83 | 1.51 | 1.61 |
| 12 | B | 1918 | A | C6-N1 | 7.83 | 1.41 | 1.35 |
| 12 | B | 675 | A | C6-N6 | 7.83 | 1.40 | 1.33 |
| 12 | B | 775 | G | N7-C5 | -7.83 | 1.34 | 1.39 |
| 12 | B | 1805 | A | N1-C2 | 7.83 | 1.41 | 1.34 |
| 12 | B | 1596 | A | N9-C4 | -7.83 | 1.33 | 1.37 |
| 12 | B | 1833 | C | C2'-C1' | -7.83 | 1.44 | 1.53 |
| 12 | B | 436 | C | N3-C4 | 7.82 | 1.39 | 1.33 |
| 12 | B | 1691 | C | N3-C4 | 7.82 | 1.39 | 1.33 |
| 11 | A | 58 | A | N7-C5 | -7.82 | 1.34 | 1.39 |
| 11 | A | 61 | G | C2'-C1' | -7.82 | 1.44 | 1.53 |
| 12 | B | 1873 | G | N1-C2 | 7.82 | 1.44 | 1.37 |
| 12 | B | 2305 | U | N3-C4 | 7.82 | 1.45 | 1.38 |
| 12 | B | 276 | U | O3'-P | -7.82 | 1.51 | 1.61 |
| 12 | B | 322 | A | N3-C4 | -7.82 | 1.30 | 1.34 |
| 12 | B | 2093 | G | N9-C8 | 7.82 | 1.43 | 1.37 |
| 12 | B | 456 | C | N1-C2 | -7.81 | 1.32 | 1.40 |
| 12 | B | 2166 | U | C2-N3 | 7.81 | 1.43 | 1.37 |
| 12 | B | 190 | A | C8-N7 | -7.81 | 1.26 | 1.31 |
| 12 | B | 629 | G | N1-C2 | 7.81 | 1.44 | 1.37 |
| 12 | B | 1532 | A | C2'-C1' | -7.81 | 1.44 | 1.53 |
| 12 | B | 2061 | G | N1-C2 | 7.81 | 1.44 | 1.37 |
| 12 | B | 2645 | G | N1-C2 | 7.81 | 1.44 | 1.37 |
| 12 | B | 277 | G | P-O5' | -7.81 | 1.51 | 1.59 |
| 12 | B | 354 | A | C6-N6 | 7.81 | 1.40 | 1.33 |
| 12 | B | 805 | G | C6-N1 | 7.81 | 1.45 | 1.39 |
| 12 | B | 2485 | G | C5-C4 | -7.81 | 1.32 | 1.38 |
| 11 | A | 101 | A | O3'-P | -7.81 | 1.51 | 1.61 |
| 12 | B | 942 | G | C2'-C1' | -7.80 | 1.44 | 1.53 |
| 12 | B | 1842 | G | N3-C4 | -7.80 | 1.29 | 1.35 |
| 12 | B | 2197 | U | C4'-O4' | 7.80 | 1.55 | 1.45 |
| 11 | A | 34 | A | O3'-P | 7.80 | 1.70 | 1.61 |
| 12 | B | 380 | G | C2-N2 | 7.80 | 1.42 | 1.34 |
| 12 | B | 2093 | G | N9-C4 | -7.80 | 1.31 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2856 | A | C6-N6 | 7.80 | 1.40 | 1.33 |
| 12 | B | 735 | A | N9-C8 | -7.80 | 1.31 | 1.37 |
| 12 | B | 55 | G | N1-C2 | 7.80 | 1.44 | 1.37 |
| 12 | B | 1303 | G | C6-N1 | 7.80 | 1.45 | 1.39 |
| 12 | B | 1900 | A | C6-N6 | 7.79 | 1.40 | 1.33 |
| 12 | B | 953 | G | N9-C8 | 7.79 | 1.43 | 1.37 |
| 12 | B | 1927 | A | C2'-C1' | -7.79 | 1.44 | 1.53 |
| 12 | B | 2645 | G | C2-N3 | 7.79 | 1.39 | 1.32 |
| 12 | B | 122 | G | C6-N1 | 7.79 | 1.45 | 1.39 |
| 12 | B | 281 | C | P-O5' | -7.79 | 1.51 | 1.59 |
| 12 | B | 2507 | C | N3-C4 | 7.79 | 1.39 | 1.33 |
| 12 | B | 2861 | U | C2-N3 | 7.79 | 1.43 | 1.37 |
| 12 | B | 931 | U | N3-C4 | 7.79 | 1.45 | 1.38 |
| 12 | B | 1306 | C | C4-N4 | 7.79 | 1.41 | 1.33 |
| 12 | B | 2326 | C | C4-N4 | 7.79 | 1.41 | 1.33 |
| 12 | B | 2340 | A | C6-N6 | 7.79 | 1.40 | 1.33 |
| 12 | B | 1829 | A | C2'-C1' | -7.79 | 1.44 | 1.53 |
| 12 | B | 524 | G | C5-C4 | 7.79 | 1.43 | 1.38 |
| 12 | B | 1806 | C | C5-C6 | 7.79 | 1.40 | 1.34 |
| 12 | B | 2262 | U | C2'-C1' | -7.79 | 1.44 | 1.53 |
| 12 | B | 1874 | C | C4-N4 | 7.78 | 1.41 | 1.33 |
| 12 | B | 95 | A | C2-N3 | 7.78 | 1.40 | 1.33 |
| 12 | B | 1342 | A | N9-C8 | -7.78 | 1.31 | 1.37 |
| 12 | B | 659 | G | C2-N3 | 7.78 | 1.39 | 1.32 |
| 12 | B | 1173 | U | N3-C4 | 7.78 | 1.45 | 1.38 |
| 12 | B | 1789 | A | C5-C4 | 7.78 | 1.44 | 1.38 |
| 12 | B | 2204 | G | N3-C4 | -7.78 | 1.30 | 1.35 |
| 12 | B | 2417 | C | C2'-C1' | -7.78 | 1.44 | 1.53 |
| 12 | B | 979 | A | C5'-C4' | 7.77 | 1.60 | 1.51 |
| 12 | B | 1749 | A | C6-N6 | 7.77 | 1.40 | 1.33 |
| 12 | B | 30 | G | P-O5' | -7.77 | 1.51 | 1.59 |
| 12 | B | 1278 | C | C4-C5 | 7.77 | 1.49 | 1.43 |
| 12 | B | 2895 | G | C2-N3 | 7.77 | 1.39 | 1.32 |
| 12 | B | 1887 | C | N3-C4 | 7.77 | 1.39 | 1.33 |
| 12 | B | 2315 | G | P-O5' | -7.77 | 1.51 | 1.59 |
| 12 | B | 549 | G | N9-C8 | 7.77 | 1.43 | 1.37 |
| 12 | B | 735 | A | N7-C5 | -7.77 | 1.34 | 1.39 |
| 12 | B | 1441 | G | N9-C4 | 7.77 | 1.44 | 1.38 |
| 12 | B | 2770 | G | C5-C4 | 7.77 | 1.43 | 1.38 |
| 11 | A | 70 | C | C5'-C4' | 7.77 | 1.60 | 1.51 |
| 12 | B | 2834 | G | N9-C4 | -7.77 | 1.31 | 1.38 |
| 11 | A | 16 | G | N1-C2 | 7.77 | 1.44 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1591 | A | N1-C2 | 7.77 | 1.41 | 1.34 |
| 12 | B | 1377 | G | C6-N1 | 7.76 | 1.45 | 1.39 |
| 12 | B | 2010 | G | C4'-C3' | -7.76 | 1.44 | 1.53 |
| 12 | B | 342 | A | N9-C4 | -7.76 | 1.33 | 1.37 |
| 12 | B | 680 | C | C2'-C1' | -7.76 | 1.44 | 1.53 |
| 12 | B | 901 | C | C4-C5 | 7.76 | 1.49 | 1.43 |
| 12 | B | 1098 | A | N9-C4 | -7.76 | 1.33 | 1.37 |
| 12 | B | 2025 | C | N3-C4 | 7.76 | 1.39 | 1.33 |
| 12 | B | 2222 | C | P-O5' | -7.76 | 1.51 | 1.59 |
| 12 | B | 332 | A | C8-N7 | -7.76 | 1.26 | 1.31 |
| 12 | B | 1165 | A | C6-N1 | 7.76 | 1.41 | 1.35 |
| 12 | B | 1632 | A | C6-N1 | 7.76 | 1.41 | 1.35 |
| 12 | B | 554 | U | C2-N3 | 7.76 | 1.43 | 1.37 |
| 12 | B | 663 | G | C4'-C3' | -7.76 | 1.44 | 1.53 |
| 12 | B | 721 | A | C8-N7 | 7.76 | 1.36 | 1.31 |
| 12 | B | 821 | A | C5-C4 | 7.76 | 1.44 | 1.38 |
| 12 | B | 1888 | G | N9-C4 | 7.76 | 1.44 | 1.38 |
| 12 | B | 2561 | U | C2-N3 | 7.76 | 1.43 | 1.37 |
| 12 | B | 2076 | U | C2'-C1' | -7.75 | 1.44 | 1.53 |
| 12 | B | 839 | U | C2-N3 | 7.75 | 1.43 | 1.37 |
| 12 | B | 2732 | G | C2-N3 | 7.75 | 1.39 | 1.32 |
| 33 | Y | 10 | ARG | CD-NE | 7.75 | 1.59 | 1.46 |
| 12 | B | 685 | A | C3'-C2' | 7.75 | 1.61 | 1.52 |
| 12 | B | 1582 | C | N1-C6 | 7.75 | 1.41 | 1.37 |
| 12 | B | 365 | U | C4-C5 | 7.75 | 1.50 | 1.43 |
| 12 | B | 528 | A | C6-N6 | 7.75 | 1.40 | 1.33 |
| 12 | B | 1138 | G | C5-C4 | -7.75 | 1.32 | 1.38 |
| 12 | B | 2894 | G | C2'-C1' | 7.75 | 1.61 | 1.53 |
| 12 | B | 721 | A | N7-C5 | -7.74 | 1.34 | 1.39 |
| 12 | B | 1984 | G | C8-N7 | 7.74 | 1.35 | 1.30 |
| 12 | B | 413 | C | C2'-C1' | -7.74 | 1.44 | 1.53 |
| 12 | B | 1332 | G | C8-N7 | -7.74 | 1.26 | 1.30 |
| 12 | B | 1334 | G | C2'-C1' | -7.74 | 1.44 | 1.53 |
| 12 | B | 1587 | G | N3-C4 | 7.74 | 1.40 | 1.35 |
| 12 | B | 2702 | G | C5-C6 | -7.74 | 1.34 | 1.42 |
| 12 | B | 333 | G | N9-C8 | 7.74 | 1.43 | 1.37 |
| 12 | B | 736 | C | N1-C6 | 7.74 | 1.41 | 1.37 |
| 12 | B | 1495 | A | C5-C4 | -7.74 | 1.33 | 1.38 |
| 11 | A | 111 | U | C2'-C1' | -7.74 | 1.44 | 1.53 |
| 12 | B | 2425 | A | N7-C5 | -7.74 | 1.34 | 1.39 |
| 12 | B | 51 | G | C3'-O3' | 7.74 | 1.52 | 1.42 |
| 12 | B | 704 | G | C2-N3 | 7.74 | 1.39 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1215 | G | C6-N1 | 7.74 | 1.45 | 1.39 |
| 12 | B | 1818 | U | C1'-N1 | 7.74 | 1.60 | 1.48 |
| 12 | B | 2024 | G | N1-C2 | 7.74 | 1.44 | 1.37 |
| 12 | B | 2821 | A | P-O5' | -7.74 | 1.52 | 1.59 |
| 12 | B | 560 | C | O3'-P | -7.73 | 1.51 | 1.61 |
| 12 | B | 700 | G | C8-N7 | 7.73 | 1.35 | 1.30 |
| 12 | B | 1039 | A | N7-C5 | -7.73 | 1.34 | 1.39 |
| 12 | B | 2298 | A | N7-C5 | -7.73 | 1.34 | 1.39 |
| 12 | B | 1369 | G | C2'-C1' | -7.73 | 1.44 | 1.53 |
| 12 | B | 472 | A | P-O5' | -7.73 | 1.52 | 1.59 |
| 12 | B | 2503 | A | N9-C8 | -7.73 | 1.31 | 1.37 |
| 12 | B | 1127 | A | C2'-C1' | -7.73 | 1.44 | 1.53 |
| 12 | B | 1214 | A | C8-N7 | -7.73 | 1.26 | 1.31 |
| 18 | H | 93 | SER | CA-CB | 7.73 | 1.64 | 1.52 |
| 12 | B | 859 | G | C2'-C1' | -7.73 | 1.44 | 1.53 |
| 12 | B | 987 | C | N3-C4 | 7.73 | 1.39 | 1.33 |
| 12 | B | 2878 | U | P-O5' | -7.73 | 1.52 | 1.59 |
| 12 | B | 1431 | A | P-O5' | -7.72 | 1.52 | 1.59 |
| 12 | B | 1502 | A | P-O5' | -7.72 | 1.52 | 1.59 |
| 12 | B | 1550 | C | C3'-O3' | 7.72 | 1.52 | 1.42 |
| 12 | B | 1592 | C | C4-C5 | 7.72 | 1.49 | 1.43 |
| 12 | B | 267 | C | N3-C4 | 7.72 | 1.39 | 1.33 |
| 12 | B | 495 | G | C6-N1 | 7.72 | 1.45 | 1.39 |
| 12 | B | 1120 | G | C5'-C4' | 7.72 | 1.60 | 1.51 |
| 12 | B | 1958 | C | O3'-P | -7.72 | 1.51 | 1.61 |
| 12 | B | 2572 | A | C6-N1 | 7.72 | 1.41 | 1.35 |
| 12 | B | 1085 | A | N7-C5 | -7.72 | 1.34 | 1.39 |
| 12 | B | 1398 | C | P-O5' | -7.72 | 1.52 | 1.59 |
| 12 | B | 62 | U | N1-C6 | -7.72 | 1.31 | 1.38 |
| 12 | B | 500 | G | C5'-C4' | 7.72 | 1.60 | 1.51 |
| 12 | B | 2595 | G | N9-C8 | 7.72 | 1.43 | 1.37 |
| 11 | A | 81 | G | N7-C5 | -7.72 | 1.34 | 1.39 |
| 12 | B | 1031 | G | C6-N1 | 7.72 | 1.45 | 1.39 |
| 12 | B | 70 | G | N3-C4 | -7.72 | 1.30 | 1.35 |
| 12 | B | 830 | G | C3'-C2' | 7.72 | 1.61 | 1.52 |
| 12 | B | 2157 | G | C6-N1 | 7.72 | 1.45 | 1.39 |
| 12 | B | 2268 | A | N3-C4 | -7.72 | 1.30 | 1.34 |
| 12 | B | 42 | A | N3-C4 | 7.71 | 1.39 | 1.34 |
| 12 | B | 1932 | A | P-O5' | -7.71 | 1.52 | 1.59 |
| 12 | B | 12 | U | C2-N3 | 7.71 | 1.43 | 1.37 |
| 12 | B | 1190 | G | N7-C5 | -7.71 | 1.34 | 1.39 |
| 12 | B | 1577 | C | N1-C6 | 7.71 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2518 | A | N3-C4 | 7.71 | 1.39 | 1.34 |
| 12 | B | 1018 | U | P-O5' | -7.71 | 1.52 | 1.59 |
| 12 | B | 2088 | A | C5-C6 | -7.71 | 1.34 | 1.41 |
| 12 | B | 2110 | G | C4'-C3' | 7.71 | 1.61 | 1.53 |
| 12 | B | 2406 | A | C8-N7 | -7.71 | 1.26 | 1.31 |
| 12 | B | 2647 | U | C2-N3 | 7.71 | 1.43 | 1.37 |
| 12 | B | 2243 | U | C2-N3 | 7.71 | 1.43 | 1.37 |
| 12 | B | 1050 | A | C8-N7 | -7.71 | 1.26 | 1.31 |
| 12 | B | 1698 | A | C6-N6 | 7.71 | 1.40 | 1.33 |
| 12 | B | 723 | C | C4-N4 | 7.71 | 1.40 | 1.33 |
| 12 | B | 1715 | G | C2-N3 | 7.71 | 1.39 | 1.32 |
| 12 | B | 2814 | A | C5-C4 | 7.71 | 1.44 | 1.38 |
| 12 | B | 1220 | G | N1-C2 | 7.71 | 1.44 | 1.37 |
| 11 | A | 105 | G | C8-N7 | 7.70 | 1.35 | 1.30 |
| 12 | B | 1202 | G | N1-C2 | 7.70 | 1.44 | 1.37 |
| 12 | B | 1857 | G | N7-C5 | -7.70 | 1.34 | 1.39 |
| 12 | B | 2880 | C | N3-C4 | 7.70 | 1.39 | 1.33 |
| 12 | B | 704 | G | N7-C5 | 7.70 | 1.43 | 1.39 |
| 12 | B | 1927 | A | C6-N6 | 7.70 | 1.40 | 1.33 |
| 11 | A | 108 | A | C4'-C3' | 7.70 | 1.61 | 1.53 |
| 12 | B | 401 | A | C8-N7 | -7.70 | 1.26 | 1.31 |
| 12 | B | 1815 | A | N9-C4 | 7.70 | 1.42 | 1.37 |
| 12 | B | 2438 | U | C2-N3 | 7.70 | 1.43 | 1.37 |
| 12 | B | 2452 | C | N3-C4 | 7.70 | 1.39 | 1.33 |
| 12 | B | 1533 | C | C4-N4 | 7.70 | 1.40 | 1.33 |
| 12 | B | 2180 | U | N1-C6 | 7.70 | 1.44 | 1.38 |
| 12 | B | 2652 | C | C3'-O3' | 7.70 | 1.52 | 1.42 |
| 12 | B | 812 | C | C2'-C1' | -7.70 | 1.44 | 1.53 |
| 12 | B | 2813 | A | C5-C4 | 7.70 | 1.44 | 1.38 |
| 12 | B | 662 | G | N7-C5 | -7.70 | 1.34 | 1.39 |
| 12 | B | 700 | G | N1-C2 | 7.70 | 1.44 | 1.37 |
| 12 | B | 2550 | G | N3-C4 | 7.70 | 1.40 | 1.35 |
| 12 | B | 397 | U | C5-C6 | 7.69 | 1.41 | 1.34 |
| 12 | B | 365 | U | N1-C6 | 7.69 | 1.44 | 1.38 |
| 12 | B | 501 | A | N9-C4 | -7.69 | 1.33 | 1.37 |
| 12 | B | 857 | G | O4'-C1' | -7.69 | 1.31 | 1.41 |
| 12 | B | 2211 | A | C5'-C4' | 7.69 | 1.60 | 1.51 |
| 12 | B | 1187 | G | N1-C2 | 7.69 | 1.44 | 1.37 |
| 12 | B | 1462 | C | N1-C6 | 7.69 | 1.41 | 1.37 |
| 12 | B | 159 | G | C2-N2 | 7.69 | 1.42 | 1.34 |
| 12 | B | 471 | A | C5-C6 | -7.69 | 1.34 | 1.41 |
| 12 | B | 988 | A | C6-N6 | 7.69 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2282 | G | N1-C2 | 7.69 | 1.43 | 1.37 |
| 12 | B | 213 | A | C6-N1 | 7.68 | 1.41 | 1.35 |
| 12 | B | 1001 | A | P-O5' | -7.68 | 1.52 | 1.59 |
| 12 | B | 11 | C | N3-C4 | 7.68 | 1.39 | 1.33 |
| 12 | B | 417 | C | C2-N3 | -7.68 | 1.29 | 1.35 |
| 12 | B | 748 | G | C2-N3 | 7.68 | 1.38 | 1.32 |
| 12 | B | 1054 | A | C6-N1 | 7.68 | 1.41 | 1.35 |
| 12 | B | 1653 | G | N1-C2 | 7.68 | 1.43 | 1.37 |
| 12 | B | 2077 | A | C5-C4 | -7.68 | 1.33 | 1.38 |
| 12 | B | 2148 | G | C2-N3 | 7.68 | 1.38 | 1.32 |
| 12 | B | 2901 | C | C4'-C3' | 7.68 | 1.61 | 1.53 |
| 12 | B | 840 | C | C5-C6 | 7.68 | 1.40 | 1.34 |
| 12 | B | 1407 | G | C6-N1 | 7.68 | 1.45 | 1.39 |
| 12 | B | 1791 | A | C6-N6 | 7.68 | 1.40 | 1.33 |
| 12 | B | 352 | A | N7-C5 | -7.68 | 1.34 | 1.39 |
| 12 | B | 1732 | C | N1-C6 | 7.68 | 1.41 | 1.37 |
| 12 | B | 2648 | G | C2-N3 | 7.68 | 1.38 | 1.32 |
| 12 | B | 2769 | U | O3'-P | -7.68 | 1.51 | 1.61 |
| 12 | B | 2870 | C | C2-N3 | 7.68 | 1.41 | 1.35 |
| 12 | B | 759 | G | C2-N2 | 7.68 | 1.42 | 1.34 |
| 12 | B | 2299 | U | O4'-C1' | 7.68 | 1.51 | 1.41 |
| 12 | B | 274 | C | C2-N3 | -7.67 | 1.29 | 1.35 |
| 12 | B | 1066 | U | N3-C4 | 7.67 | 1.45 | 1.38 |
| 12 | B | 1921 | G | N9-C4 | 7.67 | 1.44 | 1.38 |
| 12 | B | 2662 | A | C3'-C2' | 7.67 | 1.61 | 1.52 |
| 12 | B | 2349 | G | N7-C5 | -7.67 | 1.34 | 1.39 |
| 15 | E | 67 | ARG | CZ-NH1 | 7.67 | 1.43 | 1.33 |
| 12 | B | 310 | A | O3'-P | -7.67 | 1.51 | 1.61 |
| 12 | B | 1069 | A | C6-N1 | 7.67 | 1.41 | 1.35 |
| 12 | B | 2095 | A | C6-N6 | 7.67 | 1.40 | 1.33 |
| 12 | B | 2658 | C | N1-C6 | 7.67 | 1.41 | 1.37 |
| 12 | B | 1276 | A | N9-C4 | 7.67 | 1.42 | 1.37 |
| 12 | B | 2665 | A | N7-C5 | 7.67 | 1.43 | 1.39 |
| 12 | B | 2547 | A | N7-C5 | -7.67 | 1.34 | 1.39 |
| 12 | B | 1347 | A | C5-C4 | 7.66 | 1.44 | 1.38 |
| 12 | B | 629 | G | C5-C6 | 7.66 | 1.50 | 1.42 |
| 12 | B | 1358 | G | O3'-P | -7.66 | 1.51 | 1.61 |
| 12 | B | 1891 | G | C2-N2 | 7.66 | 1.42 | 1.34 |
| 12 | B | 2685 | G | C2'-C1' | -7.66 | 1.45 | 1.53 |
| 12 | B | 128 | C | O3'-P | -7.66 | 1.51 | 1.61 |
| 12 | B | 429 | A | C6-N6 | 7.66 | 1.40 | 1.33 |
| 12 | B | 2518 | A | P-O5' | -7.66 | 1.52 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1632 | A | P-O5' | -7.65 | 1.52 | 1.59 |
| 12 | B | 1918 | A | N9-C8 | -7.65 | 1.31 | 1.37 |
| 12 | B | 2535 | G | N3-C4 | -7.65 | 1.30 | 1.35 |
| 11 | A | 44 | G | C2-N3 | 7.65 | 1.38 | 1.32 |
| 12 | B | 2453 | A | N3-C4 | -7.65 | 1.30 | 1.34 |
| 12 | B | 2743 | U | O3'-P | -7.65 | 1.51 | 1.61 |
| 15 | E | 35 | TYR | CZ-OH | 7.65 | 1.50 | 1.37 |
| 12 | B | 2271 | G | C2-N2 | 7.65 | 1.42 | 1.34 |
| 12 | B | 946 | C | C4-C5 | 7.65 | 1.49 | 1.43 |
| 12 | B | 769 | U | C4'-O4' | 7.64 | 1.55 | 1.45 |
| 12 | B | 2903 | U | C2-N3 | 7.64 | 1.43 | 1.37 |
| 12 | B | 192 | C | N1-C6 | 7.64 | 1.41 | 1.37 |
| 12 | B | 1145 | C | N1-C6 | 7.64 | 1.41 | 1.37 |
| 12 | B | 1880 | U | C4-C5 | 7.64 | 1.50 | 1.43 |
| 12 | B | 409 | G | C5'-C4' | 7.64 | 1.60 | 1.51 |
| 12 | B | 1891 | G | N9-C4 | -7.64 | 1.31 | 1.38 |
| 12 | B | 2002 | G | N3-C4 | -7.64 | 1.30 | 1.35 |
| 12 | B | 1808 | A | N9-C4 | 7.64 | 1.42 | 1.37 |
| 12 | B | 836 | G | C4'-C3' | 7.63 | 1.61 | 1.53 |
| 12 | B | 941 | A | N3-C4 | -7.63 | 1.30 | 1.34 |
| 12 | B | 2754 | U | C4-O4 | 7.63 | 1.29 | 1.23 |
| 12 | B | 646 | U | N1-C2 | 7.63 | 1.45 | 1.38 |
| 12 | B | 2394 | C | C4-N4 | 7.63 | 1.40 | 1.33 |
| 12 | B | 2833 | U | C5'-C4' | 7.63 | 1.60 | 1.51 |
| 12 | B | 1265 | A | C2'-C1' | -7.63 | 1.45 | 1.53 |
| 12 | B | 1424 | G | C5-C6 | -7.63 | 1.34 | 1.42 |
| 12 | B | 1798 | U | C2-N3 | 7.63 | 1.43 | 1.37 |
| 12 | B | 613 | A | C2'-C1' | -7.63 | 1.45 | 1.53 |
| 12 | B | 880 | G | C8-N7 | -7.63 | 1.26 | 1.30 |
| 12 | B | 1231 | U | C2-N3 | 7.63 | 1.43 | 1.37 |
| 12 | B | 2837 | A | C6-N6 | 7.63 | 1.40 | 1.33 |
| 12 | B | 69 | C | C5'-C4' | 7.63 | 1.60 | 1.51 |
| 12 | B | 1328 | A | N7-C5 | -7.63 | 1.34 | 1.39 |
| 12 | B | 1549 | A | C5-C6 | -7.63 | 1.34 | 1.41 |
| 12 | B | 136 | G | C6-N1 | 7.62 | 1.44 | 1.39 |
| 12 | B | 363 | G | C2-N3 | 7.62 | 1.38 | 1.32 |
| 7 | 6 | 34 | ARG | CD-NE | 7.62 | 1.59 | 1.46 |
| 11 | A | 79 | G | N1-C2 | 7.62 | 1.43 | 1.37 |
| 12 | B | 1953 | A | P-O5' | -7.62 | 1.52 | 1.59 |
| 12 | B | 2139 | U | C4'-O4' | -7.62 | 1.35 | 1.45 |
| 11 | A | 106 | G | C8-N7 | 7.62 | 1.35 | 1.30 |
| 12 | B | 917 | A | C5'-C4' | 7.62 | 1.60 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1287 | A | C6-N6 | 7.62 | 1.40 | 1.33 |
| 12 | B | 1953 | A | C6-N6 | 7.62 | 1.40 | 1.33 |
| 12 | B | 1500 | G | C6-N1 | -7.62 | 1.34 | 1.39 |
| 12 | B | 1775 | U | O4'-C1' | 7.62 | 1.51 | 1.41 |
| 12 | B | 2304 | G | O4'-C1' | 7.62 | 1.51 | 1.41 |
| 12 | B | 2704 | C | C2'-C1' | -7.62 | 1.45 | 1.53 |
| 12 | B | 1680 | U | C5-C6 | 7.62 | 1.41 | 1.34 |
| 12 | B | 2113 | U | P-O5' | -7.62 | 1.52 | 1.59 |
| 12 | B | 1429 | G | C2-N2 | 7.62 | 1.42 | 1.34 |
| 12 | B | 669 | G | C5'-C4' | 7.61 | 1.60 | 1.51 |
| 12 | B | 2238 | G | C6-N1 | 7.61 | 1.44 | 1.39 |
| 12 | B | 1095 | A | C5'-C4' | 7.61 | 1.60 | 1.51 |
| 12 | B | 860 | U | C5'-C4' | 7.61 | 1.60 | 1.51 |
| 12 | B | 1479 | G | C6-N1 | 7.61 | 1.44 | 1.39 |
| 12 | B | 1593 | A | N7-C5 | -7.61 | 1.34 | 1.39 |
| 12 | B | 1598 | A | N3-C4 | -7.61 | 1.30 | 1.34 |
| 12 | B | 2327 | A | N9-C8 | -7.61 | 1.31 | 1.37 |
| 12 | B | 2691 | C | N1-C6 | 7.61 | 1.41 | 1.37 |
| 12 | B | 1025 | G | N1-C2 | 7.60 | 1.43 | 1.37 |
| 12 | B | 1861 | G | C6-N1 | 7.60 | 1.44 | 1.39 |
| 12 | B | 2855 | C | N3-C4 | 7.60 | 1.39 | 1.33 |
| 12 | B | 1511 | G | N3-C4 | -7.60 | 1.30 | 1.35 |
| 12 | B | 2628 | C | C4-N4 | 7.60 | 1.40 | 1.33 |
| 12 | B | 2868 | A | O3'-P | -7.60 | 1.52 | 1.61 |
| 12 | B | 1772 | A | O3'-P | -7.60 | 1.52 | 1.61 |
| 12 | B | 2002 | G | C5-C4 | 7.60 | 1.43 | 1.38 |
| 12 | B | 2654 | A | N7-C5 | -7.60 | 1.34 | 1.39 |
| 12 | B | 969 | G | C2-N3 | 7.60 | 1.38 | 1.32 |
| 12 | B | 1026 | G | N7-C5 | -7.60 | 1.34 | 1.39 |
| 12 | B | 535 | G | C5-C6 | -7.59 | 1.34 | 1.42 |
| 12 | B | 1593 | A | C6-N1 | 7.59 | 1.40 | 1.35 |
| 12 | B | 2567 | G | C5-C4 | -7.59 | 1.33 | 1.38 |
| 12 | B | 1587 | G | N9-C4 | -7.59 | 1.31 | 1.38 |
| 12 | B | 2280 | G | N1-C2 | 7.59 | 1.43 | 1.37 |
| 12 | B | 706 | A | C5-C6 | -7.59 | 1.34 | 1.41 |
| 12 | B | 2230 | G | C3'-C2' | -7.59 | 1.44 | 1.52 |
| 11 | A | 67 | G | C6-N1 | 7.59 | 1.44 | 1.39 |
| 12 | B | 461 | C | C2-O2 | 7.59 | 1.31 | 1.24 |
| 12 | B | 808 | G | O3'-P | -7.59 | 1.52 | 1.61 |
| 12 | B | 1711 | A | C6-N6 | 7.59 | 1.40 | 1.33 |
| 12 | B | 1172 | C | C4-C5 | -7.58 | 1.36 | 1.43 |
| 12 | B | 1264 | A | C5-C6 | -7.58 | 1.34 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1293 | C | P-O5' | -7.58 | 1.52 | 1.59 |
| 12 | B | 1307 | A | C6-N1 | 7.58 | 1.40 | 1.35 |
| 12 | B | 1728 | C | N1-C6 | 7.58 | 1.41 | 1.37 |
| 11 | A | 50 | A | N9-C4 | -7.58 | 1.33 | 1.37 |
| 12 | B | 514 | A | P-O5' | -7.58 | 1.52 | 1.59 |
| 12 | B | 1192 | G | N1-C2 | 7.58 | 1.43 | 1.37 |
| 12 | B | 1635 | A | C3'-C2' | 7.58 | 1.61 | 1.52 |
| 12 | B | 2252 | G | N3-C4 | -7.58 | 1.30 | 1.35 |
| 12 | B | 2487 | G | C4'-O4' | 7.58 | 1.55 | 1.45 |
| 12 | B | 740 | C | N1-C6 | -7.58 | 1.32 | 1.37 |
| 12 | B | 2100 | G | C2'-C1' | -7.58 | 1.45 | 1.53 |
| 12 | B | 549 | G | C6-N1 | 7.58 | 1.44 | 1.39 |
| 12 | B | 592 | A | C6-N6 | 7.58 | 1.40 | 1.33 |
| 12 | B | 761 | A | C3'-C2' | -7.58 | 1.44 | 1.52 |
| 12 | B | 795 | C | C2'-C1' | -7.58 | 1.45 | 1.53 |
| 12 | B | 2460 | U | C2-N3 | 7.58 | 1.43 | 1.37 |
| 12 | B | 159 | G | N7-C5 | -7.58 | 1.34 | 1.39 |
| 12 | B | 2394 | C | N3-C4 | 7.58 | 1.39 | 1.33 |
| 12 | B | 312 | G | N7-C5 | -7.58 | 1.34 | 1.39 |
| 12 | B | 498 | G | C2-N2 | 7.58 | 1.42 | 1.34 |
| 12 | B | 732 | C | C2-N3 | 7.58 | 1.41 | 1.35 |
| 12 | B | 1097 | U | C5'-C4' | 7.58 | 1.60 | 1.51 |
| 12 | B | 1103 | A | C2-N3 | 7.58 | 1.40 | 1.33 |
| 12 | B | 1145 | C | C1'-N1 | 7.58 | 1.60 | 1.48 |
| 12 | B | 1350 | C | C4'-C3' | 7.58 | 1.61 | 1.53 |
| 12 | B | 2855 | C | C1'-N1 | 7.58 | 1.60 | 1.48 |
| 12 | B | 191 | A | P-O5' | -7.57 | 1.52 | 1.59 |
| 12 | B | 220 | G | N9-C8 | 7.57 | 1.43 | 1.37 |
| 12 | B | 1044 | C | O3'-P | -7.57 | 1.52 | 1.61 |
| 12 | B | 1700 | A | C5-C4 | 7.57 | 1.44 | 1.38 |
| 12 | B | 2355 | G | N7-C5 | -7.57 | 1.34 | 1.39 |
| 12 | B | 843 | G | C2-N3 | 7.57 | 1.38 | 1.32 |
| 12 | B | 2214 | C | C4-N4 | 7.57 | 1.40 | 1.33 |
| 12 | B | 804 | A | C5-C4 | 7.57 | 1.44 | 1.38 |
| 12 | B | 1488 | C | C2'-C1' | -7.57 | 1.45 | 1.53 |
| 12 | B | 259 | G | C8-N7 | 7.57 | 1.35 | 1.30 |
| 12 | B | 2382 | G | P-O5' | -7.57 | 1.52 | 1.59 |
| 12 | B | 2680 | U | P-O5' | -7.57 | 1.52 | 1.59 |
| 28 | R | 13 | ARG | CZ-NH2 | 7.56 | 1.42 | 1.33 |
| 12 | B | 776 | G | C5-C4 | 7.56 | 1.43 | 1.38 |
| 12 | B | 2818 | U | C4'-C3' | 7.56 | 1.61 | 1.53 |
| 12 | B | 468 | G | N7-C5 | -7.56 | 1.34 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2014 | A | N7-C5 | 7.56 | 1.43 | 1.39 |
| 12 | B | 630 | G | N7-C5 | -7.56 | 1.34 | 1.39 |
| 12 | B | 1633 | G | C2-N3 | 7.56 | 1.38 | 1.32 |
| 12 | B | 440 | C | N1-C6 | -7.56 | 1.32 | 1.37 |
| 12 | B | 1187 | G | C6-N1 | 7.56 | 1.44 | 1.39 |
| 12 | B | 2219 | U | C2-N3 | 7.56 | 1.43 | 1.37 |
| 12 | B | 1057 | A | N9-C4 | 7.55 | 1.42 | 1.37 |
| 12 | B | 2186 | G | C5'-C4' | 7.55 | 1.60 | 1.51 |
| 12 | B | 2731 | G | C2-N3 | 7.55 | 1.38 | 1.32 |
| 11 | A | 15 | A | C2'-C1' | -7.55 | 1.45 | 1.53 |
| 12 | B | 302 | C | C3'-C2' | -7.55 | 1.44 | 1.52 |
| 12 | B | 500 | G | C4'-C3' | 7.55 | 1.61 | 1.53 |
| 12 | B | 1790 | C | O3'-P | -7.55 | 1.52 | 1.61 |
| 12 | B | 2029 | G | C2-N3 | 7.55 | 1.38 | 1.32 |
| 12 | B | 2305 | U | O3'-P | -7.55 | 1.52 | 1.61 |
| 12 | B | 1218 | G | N7-C5 | -7.55 | 1.34 | 1.39 |
| 12 | B | 1870 | C | O3'-P | -7.55 | 1.52 | 1.61 |
| 12 | B | 2324 | U | C3'-C2' | 7.55 | 1.61 | 1.52 |
| 12 | B | 539 | G | C4'-C3' | 7.54 | 1.61 | 1.53 |
| 12 | B | 1710 | G | C2-N3 | 7.54 | 1.38 | 1.32 |
| 11 | A | 66 | A | N7-C5 | -7.54 | 1.34 | 1.39 |
| 12 | B | 1471 | G | C5-C6 | -7.54 | 1.34 | 1.42 |
| 12 | B | 1492 | G | N1-C2 | 7.54 | 1.43 | 1.37 |
| 12 | B | 2643 | G | C6-N1 | -7.54 | 1.34 | 1.39 |
| 13 | C | 37 | SER | CA-CB | 7.54 | 1.64 | 1.52 |
| 11 | A | 19 | C | C4'-C3' | 7.54 | 1.61 | 1.53 |
| 12 | B | 1213 | A | C6-N6 | 7.54 | 1.40 | 1.33 |
| 12 | B | 587 | C | N1-C6 | -7.54 | 1.32 | 1.37 |
| 12 | B | 883 | G | C2-N2 | 7.54 | 1.42 | 1.34 |
| 12 | B | 333 | G | C2-N3 | 7.53 | 1.38 | 1.32 |
| 12 | B | 991 | C | O3'-P | -7.53 | 1.52 | 1.61 |
| 12 | B | 2427 | C | C5'-C4' | 7.53 | 1.60 | 1.51 |
| 12 | B | 2489 | U | N1-C6 | 7.53 | 1.44 | 1.38 |
| 11 | A | 46 | A | C6-N6 | 7.53 | 1.40 | 1.33 |
| 12 | B | 126 | A | N7-C5 | -7.53 | 1.34 | 1.39 |
| 12 | B | 941 | A | C6-N6 | 7.53 | 1.40 | 1.33 |
| 12 | B | 433 | C | N3-C4 | 7.53 | 1.39 | 1.33 |
| 12 | B | 2070 | A | C4'-O4' | -7.53 | 1.35 | 1.45 |
| 12 | B | 2477 | U | N3-C4 | 7.53 | 1.45 | 1.38 |
| 12 | B | 741 | U | C2'-C1' | -7.53 | 1.45 | 1.53 |
| 12 | B | 926 | G | C4'-C3' | 7.53 | 1.61 | 1.53 |
| 12 | B | 2483 | C | C5'-C4' | 7.53 | 1.60 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 265 | A | C6-N1 | 7.53 | 1.40 | 1.35 |
| 12 | B | 602 | A | N3-C4 | -7.53 | 1.30 | 1.34 |
| 12 | B | 1018 | U | C5-C6 | -7.53 | 1.27 | 1.34 |
| 12 | B | 2486 | C | C5'-C4' | 7.53 | 1.60 | 1.51 |
| 12 | B | 1719 | G | C8-N7 | -7.53 | 1.26 | 1.30 |
| 12 | B | 2690 | U | C5'-C4' | 7.53 | 1.60 | 1.51 |
| 12 | B | 2532 | G | C2-N2 | 7.52 | 1.42 | 1.34 |
| 12 | B | 42 | A | C6-N6 | 7.52 | 1.40 | 1.33 |
| 12 | B | 189 | G | P-O5' | -7.52 | 1.52 | 1.59 |
| 12 | B | 1420 | A | C6-N6 | 7.52 | 1.40 | 1.33 |
| 12 | B | 2485 | G | C5'-C4' | 7.52 | 1.60 | 1.51 |
| 12 | B | 2537 | U | N3-C4 | 7.52 | 1.45 | 1.38 |
| 12 | B | 1710 | G | C5-C6 | -7.52 | 1.34 | 1.42 |
| 12 | B | 2825 | G | N1-C2 | 7.52 | 1.43 | 1.37 |
| 12 | B | 493 | G | C2'-C1' | -7.52 | 1.45 | 1.53 |
| 12 | B | 2094 | A | N9-C4 | 7.52 | 1.42 | 1.37 |
| 12 | B | 1246 | A | C6-N1 | 7.52 | 1.40 | 1.35 |
| 12 | B | 2559 | C | C3'-C2' | -7.52 | 1.44 | 1.52 |
| 12 | B | 2270 | A | N3-C4 | -7.52 | 1.30 | 1.34 |
| 12 | B | 409 | G | C8-N7 | -7.51 | 1.26 | 1.30 |
| 12 | B | 592 | A | C5-C4 | 7.51 | 1.44 | 1.38 |
| 12 | B | 1983 | G | C2-N2 | 7.51 | 1.42 | 1.34 |
| 12 | B | 2895 | G | C2-N2 | 7.51 | 1.42 | 1.34 |
| 12 | B | 1896 | G | N1-C2 | 7.51 | 1.43 | 1.37 |
| 12 | B | 174 | U | O3'-P | -7.51 | 1.52 | 1.61 |
| 12 | B | 180 | G | N1-C2 | 7.51 | 1.43 | 1.37 |
| 12 | B | 1170 | C | N3-C4 | 7.51 | 1.39 | 1.33 |
| 12 | B | 1237 | A | P-O5' | 7.51 | 1.67 | 1.59 |
| 12 | B | 1288 | G | C6-N1 | 7.51 | 1.44 | 1.39 |
| 12 | B | 1717 | A | N7-C5 | -7.51 | 1.34 | 1.39 |
| 12 | B | 2031 | A | C5'-C4' | 7.51 | 1.60 | 1.51 |
| 12 | B | 2468 | A | N7-C5 | -7.51 | 1.34 | 1.39 |
| 12 | B | 663 | G | N7-C5 | 7.51 | 1.43 | 1.39 |
| 12 | B | 949 | G | C2-N3 | 7.51 | 1.38 | 1.32 |
| 12 | B | 2343 | U | C2-N3 | 7.51 | 1.43 | 1.37 |
| 12 | B | 2801 | G | N7-C5 | 7.51 | 1.43 | 1.39 |
| 12 | B | 743 | A | N7-C5 | -7.51 | 1.34 | 1.39 |
| 12 | B | 2437 | G | N3-C4 | -7.51 | 1.30 | 1.35 |
| 12 | B | 750 | A | C5-C4 | 7.50 | 1.44 | 1.38 |
| 12 | B | 1054 | A | C2'-C1' | -7.50 | 1.45 | 1.53 |
| 12 | B | 2437 | G | N7-C5 | -7.50 | 1.34 | 1.39 |
| 11 | A | 112 | G | N7-C5 | -7.50 | 1.34 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1080 | A | O4'-C1' | 7.50 | 1.51 | 1.41 |
| 12 | B | 2049 | G | N7-C5 | 7.50 | 1.43 | 1.39 |
| 12 | B | 27 | G | N7-C5 | -7.50 | 1.34 | 1.39 |
| 12 | B | 1211 | C | C4'-O4' | -7.50 | 1.35 | 1.45 |
| 12 | B | 1744 | A | C2-N3 | 7.50 | 1.40 | 1.33 |
| 12 | B | 1840 | G | N1-C2 | 7.50 | 1.43 | 1.37 |
| 11 | A | 21 | G | N9-C8 | 7.50 | 1.43 | 1.37 |
| 12 | B | 1213 | A | C4'-C3' | 7.50 | 1.61 | 1.53 |
| 12 | B | 550 | C | N1-C6 | -7.50 | 1.32 | 1.37 |
| 12 | B | 849 | A | C5-C6 | 7.50 | 1.47 | 1.41 |
| 12 | B | 852 | U | C2'-C1' | -7.50 | 1.45 | 1.53 |
| 12 | B | 2481 | G | C5-C4 | -7.50 | 1.33 | 1.38 |
| 12 | B | 724 | U | O3'-P | -7.50 | 1.52 | 1.61 |
| 12 | B | 1857 | G | C6-N1 | 7.50 | 1.44 | 1.39 |
| 12 | B | 829 | A | C6-N1 | 7.49 | 1.40 | 1.35 |
| 12 | B | 1167 | C | C5'-C4' | 7.49 | 1.60 | 1.51 |
| 12 | B | 2161 | C | C4-C5 | 7.49 | 1.49 | 1.43 |
| 12 | B | 194 | G | N9-C4 | -7.49 | 1.31 | 1.38 |
| 12 | B | 1100 | C | N1-C6 | 7.49 | 1.41 | 1.37 |
| 12 | B | 1979 | U | N1-C2 | 7.49 | 1.45 | 1.38 |
| 12 | B | 1822 | C | P-O5' | -7.49 | 1.52 | 1.59 |
| 12 | B | 661 | A | N9-C8 | 7.49 | 1.43 | 1.37 |
| 12 | B | 711 | G | C6-N1 | 7.49 | 1.44 | 1.39 |
| 12 | B | 2407 | A | N3-C4 | -7.49 | 1.30 | 1.34 |
| 12 | B | 1791 | A | C4'-O4' | -7.48 | 1.35 | 1.45 |
| 32 | W | 79 | ARG | CD-NE | 7.48 | 1.59 | 1.46 |
| 11 | A | 96 | G | C4'-O4' | 7.48 | 1.55 | 1.45 |
| 11 | A | 115 | A | C8-N7 | -7.48 | 1.26 | 1.31 |
| 12 | B | 720 | U | O3'-P | -7.48 | 1.52 | 1.61 |
| 12 | B | 1962 | C | C4-C5 | 7.48 | 1.49 | 1.43 |
| 12 | B | 130 | C | C4-N4 | 7.48 | 1.40 | 1.33 |
| 12 | B | 886 | A | C2'-C1' | -7.48 | 1.45 | 1.53 |
| 12 | B | 1465 | G | C5-C4 | 7.48 | 1.43 | 1.38 |
| 12 | B | 2013 | A | C5-C4 | -7.48 | 1.33 | 1.38 |
| 12 | B | 552 | U | P-O5' | -7.48 | 1.52 | 1.59 |
| 12 | B | 608 | A | C4'-O4' | -7.48 | 1.35 | 1.45 |
| 12 | B | 745 | G | N1-C2 | 7.48 | 1.43 | 1.37 |
| 12 | B | 1556 | C | N1-C6 | 7.48 | 1.41 | 1.37 |
| 12 | B | 2051 | A | C6-N6 | 7.48 | 1.40 | 1.33 |
| 12 | B | 2214 | C | C2'-C1' | 7.48 | 1.61 | 1.53 |
| 12 | B | 1345 | C | C4-N4 | 7.48 | 1.40 | 1.33 |
| 12 | B | 2198 | A | P-O5' | 7.48 | 1.67 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2724 | U | C2'-C1' | -7.48 | 1.45 | 1.53 |
| 12 | B | 27 | G | C5'-C4' | 7.47 | 1.60 | 1.51 |
| 12 | B | 1100 | C | C4-C5 | 7.47 | 1.49 | 1.43 |
| 12 | B | 1647 | U | C5'-C4' | 7.47 | 1.60 | 1.51 |
| 12 | B | 2138 | G | C2'-C1' | -7.47 | 1.45 | 1.53 |
| 12 | B | 26 | G | C2'-C1' | -7.47 | 1.45 | 1.53 |
| 12 | B | 685 | A | C5-C4 | 7.47 | 1.44 | 1.38 |
| 12 | B | 874 | G | N1-C2 | 7.47 | 1.43 | 1.37 |
| 12 | B | 2865 | U | P-O5' | -7.47 | 1.52 | 1.59 |
| 12 | B | 1764 | C | C2'-C1' | -7.47 | 1.45 | 1.53 |
| 12 | B | 1993 | U | P-O5' | -7.47 | 1.52 | 1.59 |
| 12 | B | 322 | A | C5'-C4' | 7.47 | 1.60 | 1.51 |
| 12 | B | 756 | A | N7-C5 | -7.47 | 1.34 | 1.39 |
| 12 | B | 1581 | G | N3-C4 | -7.47 | 1.30 | 1.35 |
| 12 | B | 2127 | G | N7-C5 | 7.47 | 1.43 | 1.39 |
| 12 | B | 2692 | G | C2'-C1' | -7.47 | 1.45 | 1.53 |
| 12 | B | 793 | A | N9-C4 | -7.47 | 1.33 | 1.37 |
| 12 | B | 2383 | G | C8-N7 | -7.47 | 1.26 | 1.30 |
| 29 | S | 18 | ARG | NE-CZ | 7.47 | 1.42 | 1.33 |
| 12 | B | 571 | U | N1-C6 | 7.46 | 1.44 | 1.38 |
| 12 | B | 1110 | G | C2'-C1' | -7.46 | 1.45 | 1.53 |
| 12 | B | 1469 | A | C5-C4 | 7.46 | 1.44 | 1.38 |
| 12 | B | 1849 | G | N9-C8 | -7.46 | 1.32 | 1.37 |
| 12 | B | 2424 | C | N1-C6 | 7.46 | 1.41 | 1.37 |
| 12 | B | 13 | A | C6-N6 | 7.46 | 1.40 | 1.33 |
| 12 | B | 799 | G | C5-C6 | -7.46 | 1.34 | 1.42 |
| 12 | B | 2108 | A | N3-C4 | 7.46 | 1.39 | 1.34 |
| 12 | B | 889 | C | C4'-C3' | 7.46 | 1.61 | 1.53 |
| 12 | B | 1116 | G | C4'-O4' | 7.46 | 1.55 | 1.45 |
| 12 | B | 1365 | A | N1-C2 | 7.46 | 1.41 | 1.34 |
| 12 | B | 1644 | C | N3-C4 | 7.46 | 1.39 | 1.33 |
| 12 | B | 2458 | G | C5-C4 | 7.46 | 1.43 | 1.38 |
| 12 | B | 2155 | U | C5'-C4' | 7.46 | 1.60 | 1.51 |
| 12 | B | 241 | A | C6-N6 | 7.46 | 1.40 | 1.33 |
| 12 | B | 551 | G | C2'-C1' | -7.46 | 1.45 | 1.53 |
| 12 | B | 2094 | A | C5-C4 | -7.46 | 1.33 | 1.38 |
| 12 | B | 2616 | C | N1-C2 | 7.46 | 1.47 | 1.40 |
| 12 | B | 2192 | U | N1-C6 | 7.46 | 1.44 | 1.38 |
| 12 | B | 71 | A | C6-N6 | 7.45 | 1.40 | 1.33 |
| 12 | B | 1083 | U | P-O5' | -7.45 | 1.52 | 1.59 |
| 12 | B | 1527 | G | C5'-C4' | 7.45 | 1.60 | 1.51 |
| 12 | B | 1980 | G | C2-N3 | 7.45 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2705 | A | P-O5' | -7.45 | 1.52 | 1.59 |
| 12 | B | 2602 | A | O4'-C1' | -7.45 | 1.31 | 1.41 |
| 12 | B | 983 | A | O4'-C1' | 7.45 | 1.51 | 1.41 |
| 12 | B | 1422 | G | C2-N3 | 7.44 | 1.38 | 1.32 |
| 12 | B | 25 | U | C4'-C3' | 7.44 | 1.61 | 1.53 |
| 12 | B | 1091 | G | N9-C4 | 7.44 | 1.44 | 1.38 |
| 12 | B | 1129 | A | C8-N7 | -7.44 | 1.26 | 1.31 |
| 12 | B | 2764 | A | C6-N1 | 7.44 | 1.40 | 1.35 |
| 12 | B | 16 | C | N3-C4 | 7.44 | 1.39 | 1.33 |
| 12 | B | 904 | G | C2-N3 | 7.44 | 1.38 | 1.32 |
| 12 | B | 1359 | A | N1-C2 | 7.44 | 1.41 | 1.34 |
| 12 | B | 2882 | A | N7-C5 | -7.44 | 1.34 | 1.39 |
| 12 | B | 1941 | C | O3'-P | -7.44 | 1.52 | 1.61 |
| 12 | B | 508 | A | N7-C5 | -7.44 | 1.34 | 1.39 |
| 12 | B | 1568 | G | N7-C5 | -7.44 | 1.34 | 1.39 |
| 12 | B | 1528 | A | C2'-C1' | -7.43 | 1.45 | 1.53 |
| 12 | B | 1778 | U | C2-N3 | 7.43 | 1.43 | 1.37 |
| 12 | B | 1770 | G | N7-C5 | 7.43 | 1.43 | 1.39 |
| 12 | B | 2513 | A | C5'-C4' | 7.43 | 1.60 | 1.51 |
| 12 | B | 2631 | G | N1-C2 | 7.43 | 1.43 | 1.37 |
| 12 | B | 330 | A | N9-C8 | -7.43 | 1.31 | 1.37 |
| 12 | B | 2018 | G | N9-C4 | 7.43 | 1.43 | 1.38 |
| 12 | B | 1431 | A | C6-N6 | 7.43 | 1.39 | 1.33 |
| 12 | B | 2208 | C | C4-C5 | 7.43 | 1.48 | 1.43 |
| 12 | B | 2623 | G | C6-N1 | 7.43 | 1.44 | 1.39 |
| 11 | A | 28 | C | C2-N3 | -7.43 | 1.29 | 1.35 |
| 12 | B | 1102 | C | C4'-O4' | 7.43 | 1.55 | 1.45 |
| 12 | B | 1359 | A | C6-N6 | 7.43 | 1.39 | 1.33 |
| 12 | B | 1736 | U | C2'-C1' | -7.43 | 1.45 | 1.53 |
| 12 | B | 1847 | A | N3-C4 | -7.43 | 1.30 | 1.34 |
| 12 | B | 2740 | A | N9-C8 | -7.43 | 1.31 | 1.37 |
| 12 | B | 417 | C | C2'-C1' | -7.42 | 1.45 | 1.53 |
| 12 | B | 835 | C | C4-C5 | -7.42 | 1.37 | 1.43 |
| 12 | B | 836 | G | C2-N3 | 7.42 | 1.38 | 1.32 |
| 12 | B | 2223 | G | C1'-N9 | 7.42 | 1.59 | 1.48 |
| 12 | B | 149 | A | C5'-C4' | 7.42 | 1.60 | 1.51 |
| 12 | B | 2279 | G | C2-N3 | 7.42 | 1.38 | 1.32 |
| 12 | B | 2283 | C | N1-C6 | 7.42 | 1.41 | 1.37 |
| 12 | B | 2426 | A | N9-C4 | 7.42 | 1.42 | 1.37 |
| 12 | B | 1955 | U | P-O5' | -7.42 | 1.52 | 1.59 |
| 12 | B | 2685 | G | C6-N1 | 7.42 | 1.44 | 1.39 |
| 12 | B | 2886 | A | C8-N7 | -7.42 | 1.26 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2024 | G | N9-C8 | -7.42 | 1.32 | 1.37 |
| 12 | B | 87 | U | N1-C6 | -7.42 | 1.31 | 1.38 |
| 12 | B | 425 | G | C2'-C1' | -7.42 | 1.45 | 1.53 |
| 12 | B | 1106 | G | N7-C5 | -7.42 | 1.34 | 1.39 |
| 12 | B | 1189 | A | N3-C4 | -7.42 | 1.30 | 1.34 |
| 12 | B | 2298 | A | N9-C4 | 7.42 | 1.42 | 1.37 |
| 12 | B | 1154 | G | N7-C5 | -7.42 | 1.34 | 1.39 |
| 12 | B | 2285 | C | C3'-C2' | -7.42 | 1.44 | 1.52 |
| 12 | B | 2303 | G | C2'-C1' | -7.42 | 1.45 | 1.53 |
| 11 | A | 23 | G | C2-N3 | 7.41 | 1.38 | 1.32 |
| 12 | B | 873 | C | N3-C4 | 7.41 | 1.39 | 1.33 |
| 12 | B | 1339 | G | P-O5' | -7.41 | 1.52 | 1.59 |
| 12 | B | 504 | A | C4'-O4' | -7.41 | 1.35 | 1.45 |
| 22 | L | 22 | GLY | N-CA | -7.41 | 1.34 | 1.46 |
| 12 | B | 2201 | G | C5-C4 | -7.41 | 1.33 | 1.38 |
| 12 | B | 123 | G | N1-C2 | 7.41 | 1.43 | 1.37 |
| 12 | B | 539 | G | C2-N3 | 7.41 | 1.38 | 1.32 |
| 12 | B | 1957 | C | C2'-C1' | -7.41 | 1.45 | 1.53 |
| 12 | B | 653 | U | N1-C6 | 7.41 | 1.44 | 1.38 |
| 12 | B | 2778 | A | O3'-P | -7.41 | 1.52 | 1.61 |
| 12 | B | 991 | C | N3-C4 | 7.41 | 1.39 | 1.33 |
| 12 | B | 2150 | C | C2-N3 | 7.41 | 1.41 | 1.35 |
| 12 | B | 2504 | U | C2-N3 | 7.41 | 1.43 | 1.37 |
| 12 | B | 2578 | G | N3-C4 | -7.41 | 1.30 | 1.35 |
| 12 | B | 2800 | A | C6-N1 | 7.41 | 1.40 | 1.35 |
| 12 | B | 1221 | C | O4'-C1' | 7.40 | 1.51 | 1.41 |
| 12 | B | 1610 | A | N9-C8 | -7.40 | 1.31 | 1.37 |
| 11 | A | 30 | C | C4-N4 | 7.40 | 1.40 | 1.33 |
| 12 | B | 189 | G | C5-C4 | 7.40 | 1.43 | 1.38 |
| 12 | B | 1206 | G | C5-C4 | -7.40 | 1.33 | 1.38 |
| 12 | B | 2029 | G | C6-N1 | 7.40 | 1.44 | 1.39 |
| 12 | B | 2133 | G | C5'-C4' | 7.40 | 1.60 | 1.51 |
| 12 | B | 10 | A | C6-N6 | 7.40 | 1.39 | 1.33 |
| 11 | A | 113 | C | C1'-N1 | 7.40 | 1.59 | 1.48 |
| 12 | B | 36 | G | C2-N2 | 7.40 | 1.42 | 1.34 |
| 12 | B | 663 | G | N9-C8 | 7.40 | 1.43 | 1.37 |
| 12 | B | 996 | A | C6-N6 | 7.40 | 1.39 | 1.33 |
| 12 | B | 1452 | G | N1-C2 | 7.40 | 1.43 | 1.37 |
| 12 | B | 1654 | A | C3'-O3' | 7.40 | 1.52 | 1.42 |
| 12 | B | 2450 | A | C8-N7 | -7.40 | 1.26 | 1.31 |
| 12 | B | 425 | G | C6-N1 | 7.39 | 1.44 | 1.39 |
| 12 | B | 550 | C | C4-N4 | 7.39 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 550 | C | C2'-C1' | -7.39 | 1.45 | 1.53 |
| 12 | B | 746 | U | C2'-C1' | -7.39 | 1.45 | 1.53 |
| 12 | B | 1763 | G | C5'-C4' | 7.39 | 1.60 | 1.51 |
| 12 | B | 771 | G | C6-N1 | 7.39 | 1.44 | 1.39 |
| 12 | B | 2331 | G | C2-N3 | 7.39 | 1.38 | 1.32 |
| 12 | B | 2782 | G | C2-N3 | 7.39 | 1.38 | 1.32 |
| 12 | B | 2527 | C | C5'-C4' | 7.39 | 1.60 | 1.51 |
| 12 | B | 878 | A | C5-C6 | 7.39 | 1.47 | 1.41 |
| 12 | B | 2391 | G | N1-C2 | 7.39 | 1.43 | 1.37 |
| 12 | B | 2573 | C | N3-C4 | 7.39 | 1.39 | 1.33 |
| 12 | B | 224 | U | C4-O4 | 7.38 | 1.29 | 1.23 |
| 12 | B | 225 | C | P-O5' | -7.38 | 1.52 | 1.59 |
| 12 | B | 964 | C | C2'-C1' | -7.38 | 1.45 | 1.53 |
| 12 | B | 323 | C | C2-N3 | -7.38 | 1.29 | 1.35 |
| 12 | B | 1205 | A | C8-N7 | 7.38 | 1.36 | 1.31 |
| 12 | B | 1671 | U | C5'-C4' | 7.38 | 1.60 | 1.51 |
| 12 | B | 2027 | G | O3'-P | -7.38 | 1.52 | 1.61 |
| 12 | B | 2043 | C | C4-C5 | 7.38 | 1.48 | 1.43 |
| 12 | B | 2738 | A | N7-C5 | -7.38 | 1.34 | 1.39 |
| 12 | B | 1048 | A | C6-N6 | 7.38 | 1.39 | 1.33 |
| 12 | B | 1079 | C | N3-C4 | 7.38 | 1.39 | 1.33 |
| 12 | B | 1101 | U | C2'-C1' | -7.38 | 1.45 | 1.53 |
| 12 | B | 137 | U | N1-C6 | 7.38 | 1.44 | 1.38 |
| 12 | B | 632 | A | C4'-C3' | 7.38 | 1.61 | 1.53 |
| 12 | B | 892 | A | C6-N1 | 7.38 | 1.40 | 1.35 |
| 12 | B | 1478 | G | C8-N7 | 7.38 | 1.35 | 1.30 |
| 12 | B | 1499 | C | C2-N3 | -7.38 | 1.29 | 1.35 |
| 12 | B | 1738 | G | N3-C4 | -7.38 | 1.30 | 1.35 |
| 12 | B | 1193 | G | C6-N1 | 7.38 | 1.44 | 1.39 |
| 12 | B | 663 | G | N3-C4 | 7.38 | 1.40 | 1.35 |
| 12 | B | 2255 | G | N9-C4 | 7.38 | 1.43 | 1.38 |
| 12 | B | 1605 | C | N3-C4 | 7.37 | 1.39 | 1.33 |
| 12 | B | 2482 | A | C5-C4 | 7.37 | 1.44 | 1.38 |
| 12 | B | 592 | A | O3'-P | -7.37 | 1.52 | 1.61 |
| 12 | B | 2017 | U | N3-C4 | 7.37 | 1.45 | 1.38 |
| 12 | B | 2371 | G | C6-N1 | 7.37 | 1.44 | 1.39 |
| 12 | B | 585 | G | C2'-C1' | -7.37 | 1.45 | 1.53 |
| 12 | B | 1399 | C | C2-N3 | 7.37 | 1.41 | 1.35 |
| 12 | B | 1739 | A | N9-C4 | 7.37 | 1.42 | 1.37 |
| 12 | B | 2239 | G | C2'-C1' | -7.37 | 1.45 | 1.53 |
| 12 | B | 2439 | A | C6-N6 | 7.37 | 1.39 | 1.33 |
| 23 | M | 59 | ARG | CD-NE | 7.37 | 1.58 | 1.46 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 25 | O | 15 | ARG | CD-NE | 7.37 | 1.58 | 1.46 |
| 12 | B | 552 | U | C4-C5 | -7.37 | 1.36 | 1.43 |
| 12 | B | 2536 | G | C8-N7 | -7.37 | 1.26 | 1.30 |
| 12 | B | 1700 | A | C6-N6 | 7.37 | 1.39 | 1.33 |
| 12 | B | 332 | A | O3'-P | -7.36 | 1.52 | 1.61 |
| 12 | B | 627 | A | N3-C4 | -7.36 | 1.30 | 1.34 |
| 12 | B | 1076 | C | C2'-C1' | -7.36 | 1.45 | 1.53 |
| 12 | B | 1670 | C | C4-N4 | 7.36 | 1.40 | 1.33 |
| 12 | B | 1959 | G | C8-N7 | 7.36 | 1.35 | 1.30 |
| 12 | B | 112 | U | P-O5' | -7.36 | 1.52 | 1.59 |
| 12 | B | 1201 | U | C4'-C3' | 7.36 | 1.61 | 1.53 |
| 12 | B | 515 | A | N7-C5 | -7.36 | 1.34 | 1.39 |
| 12 | B | 1219 | U | C2-N3 | 7.36 | 1.43 | 1.37 |
| 12 | B | 1666 | G | N1-C2 | 7.36 | 1.43 | 1.37 |
| 12 | B | 394 | C | C3'-C2' | -7.36 | 1.44 | 1.52 |
| 12 | B | 887 | U | C2-N3 | 7.36 | 1.43 | 1.37 |
| 12 | B | 2246 | G | C2'-C1' | -7.36 | 1.45 | 1.53 |
| 12 | B | 233 | A | C2-N3 | 7.36 | 1.40 | 1.33 |
| 12 | B | 165 | A | N3-C4 | -7.35 | 1.30 | 1.34 |
| 12 | B | 282 | A | C6-N1 | 7.35 | 1.40 | 1.35 |
| 12 | B | 569 | U | P-O5' | -7.35 | 1.52 | 1.59 |
| 12 | B | 2021 | C | N1-C6 | 7.35 | 1.41 | 1.37 |
| 12 | B | 2741 | A | P-O5' | -7.35 | 1.52 | 1.59 |
| 12 | B | 58 | G | C6-N1 | 7.35 | 1.44 | 1.39 |
| 12 | B | 2775 | G | C2-N3 | 7.35 | 1.38 | 1.32 |
| 12 | B | 1279 | G | C5-C6 | -7.35 | 1.35 | 1.42 |
| 12 | B | 2759 | G | N7-C5 | -7.35 | 1.34 | 1.39 |
| 12 | B | 2554 | U | N3-C4 | 7.35 | 1.45 | 1.38 |
| 11 | A | 81 | G | C2-N3 | 7.34 | 1.38 | 1.32 |
| 12 | B | 1090 | A | C5'-C4' | 7.34 | 1.60 | 1.51 |
| 12 | B | 1107 | G | C5'-C4' | -7.34 | 1.42 | 1.51 |
| 12 | B | 1166 | G | N9-C4 | -7.34 | 1.32 | 1.38 |
| 12 | B | 1339 | G | C6-N1 | 7.34 | 1.44 | 1.39 |
| 12 | B | 2531 | A | C2'-C1' | -7.34 | 1.45 | 1.53 |
| 12 | B | 1911 | U | C5'-C4' | 7.34 | 1.60 | 1.51 |
| 12 | B | 2226 | C | N1-C2 | 7.34 | 1.47 | 1.40 |
| 12 | B | 2842 | G | C3'-C2' | 7.34 | 1.61 | 1.52 |
| 12 | B | 2299 | U | P-O5' | -7.34 | 1.52 | 1.59 |
| 12 | B | 73 | A | P-O5' | -7.34 | 1.52 | 1.59 |
| 12 | B | 824 | U | O3'-P | -7.34 | 1.52 | 1.61 |
| 12 | B | 1685 | C | C4'-O4' | 7.34 | 1.55 | 1.45 |
| 12 | B | 548 | G | C2-N2 | 7.34 | 1.41 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1235 | G | N7-C5 | -7.34 | 1.34 | 1.39 |
| 12 | B | 1382 | G | C5-C6 | -7.34 | 1.35 | 1.42 |
| 12 | B | 2335 | A | C5'-C4' | 7.34 | 1.60 | 1.51 |
| 12 | B | 97 | C | N3-C4 | 7.33 | 1.39 | 1.33 |
| 12 | B | 1052 | C | P-O5' | -7.33 | 1.52 | 1.59 |
| 11 | A | 90 | C | C4-N4 | 7.33 | 1.40 | 1.33 |
| 12 | B | 101 | A | C6-N1 | 7.33 | 1.40 | 1.35 |
| 12 | B | 813 | U | C2-N3 | 7.33 | 1.42 | 1.37 |
| 12 | B | 1134 | A | C6-N1 | 7.33 | 1.40 | 1.35 |
| 12 | B | 1890 | A | N3-C4 | -7.33 | 1.30 | 1.34 |
| 12 | B | 960 | A | P-O5' | -7.33 | 1.52 | 1.59 |
| 12 | B | 1455 | G | O4'-C1' | 7.33 | 1.51 | 1.41 |
| 12 | B | 1519 | G | C2-N3 | 7.33 | 1.38 | 1.32 |
| 12 | B | 1803 | A | O3'-P | -7.33 | 1.52 | 1.61 |
| 12 | B | 1878 | G | C6-N1 | -7.33 | 1.34 | 1.39 |
| 20 | J | 34 | ARG | CZ-NH2 | 7.33 | 1.42 | 1.33 |
| 11 | A | 101 | A | C2-N3 | 7.33 | 1.40 | 1.33 |
| 12 | B | 2880 | C | C2'-C1' | -7.33 | 1.45 | 1.53 |
| 12 | B | 1052 | C | N3-C4 | 7.33 | 1.39 | 1.33 |
| 12 | B | 1427 | A | N9-C4 | -7.33 | 1.33 | 1.37 |
| 12 | B | 1517 | G | C2-N2 | 7.33 | 1.41 | 1.34 |
| 12 | B | 322 | A | C6-N6 | 7.32 | 1.39 | 1.33 |
| 12 | B | 1853 | A | C5-C4 | -7.32 | 1.33 | 1.38 |
| 12 | B | 288 | U | C1'-N1 | 7.32 | 1.59 | 1.48 |
| 12 | B | 1910 | G | N7-C5 | -7.32 | 1.34 | 1.39 |
| 12 | B | 2589 | A | C6-N1 | 7.32 | 1.40 | 1.35 |
| 12 | B | 2679 | A | N3-C4 | -7.32 | 1.30 | 1.34 |
| 12 | B | 1005 | C | P-O5' | -7.32 | 1.52 | 1.59 |
| 12 | B | 1366 | A | C5-C6 | 7.32 | 1.47 | 1.41 |
| 12 | B | 1431 | A | C2'-C1' | -7.32 | 1.45 | 1.53 |
| 12 | B | 2111 | U | N1-C6 | 7.32 | 1.44 | 1.38 |
| 12 | B | 632 | A | O3'-P | -7.32 | 1.52 | 1.61 |
| 12 | B | 1411 | U | N3-C4 | 7.32 | 1.45 | 1.38 |
| 12 | B | 1841 | U | C5'-C4' | 7.32 | 1.60 | 1.51 |
| 12 | B | 2376 | A | N3-C4 | -7.32 | 1.30 | 1.34 |
| 12 | B | 2705 | A | C6-N6 | 7.32 | 1.39 | 1.33 |
| 12 | B | 415 | A | C8-N7 | -7.32 | 1.26 | 1.31 |
| 12 | B | 511 | U | C2-N3 | 7.31 | 1.42 | 1.37 |
| 12 | B | 1272 | A | C6-N6 | 7.31 | 1.39 | 1.33 |
| 12 | B | 161 | A | N3-C4 | -7.31 | 1.30 | 1.34 |
| 12 | B | 686 | U | C3'-O3' | -7.31 | 1.31 | 1.42 |
| 12 | B | 12 | U | C1'-N1 | 7.31 | 1.59 | 1.48 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1046 | A | C2'-C1' | -7.31 | 1.45 | 1.53 |
| 12 | B | 2692 | G | C2-N2 | 7.31 | 1.41 | 1.34 |
| 12 | B | 118 | A | N3-C4 | 7.31 | 1.39 | 1.34 |
| 12 | B | 769 | U | P-O5' | -7.31 | 1.52 | 1.59 |
| 12 | B | 932 | U | C2-N3 | 7.31 | 1.42 | 1.37 |
| 12 | B | 1582 | C | C5'-C4' | -7.31 | 1.42 | 1.51 |
| 12 | B | 1906 | G | C6-N1 | 7.31 | 1.44 | 1.39 |
| 12 | B | 2423 | U | N3-C4 | 7.31 | 1.45 | 1.38 |
| 12 | B | 2609 | U | C4-C5 | 7.31 | 1.50 | 1.43 |
| 12 | B | 193 | U | C4'-C3' | 7.30 | 1.61 | 1.53 |
| 12 | B | 838 | C | N3-C4 | 7.30 | 1.39 | 1.33 |
| 12 | B | 882 | G | N1-C2 | 7.30 | 1.43 | 1.37 |
| 12 | B | 2289 | G | C2-N3 | 7.30 | 1.38 | 1.32 |
| 11 | A | 46 | A | C5-C6 | -7.30 | 1.34 | 1.41 |
| 11 | A | 73 | A | C2'-C1' | -7.30 | 1.45 | 1.53 |
| 12 | B | 945 | A | C5'-C4' | 7.30 | 1.60 | 1.51 |
| 12 | B | 2040 | G | C2-N3 | 7.30 | 1.38 | 1.32 |
| 12 | B | 500 | G | C3'-C2' | -7.29 | 1.44 | 1.52 |
| 12 | B | 797 | G | N1-C2 | 7.29 | 1.43 | 1.37 |
| 12 | B | 2529 | G | C2-N3 | 7.29 | 1.38 | 1.32 |
| 12 | B | 476 | G | C5'-C4' | 7.29 | 1.60 | 1.51 |
| 7 | 6 | 12 | ARG | CZ-NH1 | 7.29 | 1.42 | 1.33 |
| 12 | B | 726 | G | C5-C6 | -7.29 | 1.35 | 1.42 |
| 12 | B | 845 | A | N3-C4 | 7.29 | 1.39 | 1.34 |
| 12 | B | 1628 | G | C4'-C3' | -7.29 | 1.45 | 1.53 |
| 12 | B | 1667 | G | N7-C5 | -7.29 | 1.34 | 1.39 |
| 12 | B | 2625 | G | C8-N7 | -7.29 | 1.26 | 1.30 |
| 12 | B | 20 | C | N3-C4 | 7.29 | 1.39 | 1.33 |
| 12 | B | 160 | A | C2-N3 | 7.29 | 1.40 | 1.33 |
| 12 | B | 1004 | U | C2-N3 | 7.29 | 1.42 | 1.37 |
| 12 | B | 261 | G | C6-N1 | 7.29 | 1.44 | 1.39 |
| 12 | B | 374 | A | C6-N1 | 7.29 | 1.40 | 1.35 |
| 12 | B | 509 | C | C2-N3 | -7.29 | 1.29 | 1.35 |
| 11 | A | 103 | U | P-O5' | -7.28 | 1.52 | 1.59 |
| 12 | B | 1297 | C | C5'-C4' | 7.28 | 1.60 | 1.51 |
| 12 | B | 2471 | A | C6-N1 | 7.28 | 1.40 | 1.35 |
| 12 | B | 1095 | A | C4'-C3' | -7.28 | 1.45 | 1.53 |
| 12 | B | 1950 | G | N1-C2 | 7.28 | 1.43 | 1.37 |
| 12 | B | 2133 | G | P-O5' | 7.28 | 1.67 | 1.59 |
| 12 | B | 2313 | C | O3'-P | -7.28 | 1.52 | 1.61 |
| 12 | B | 471 | A | C2'-C1' | -7.28 | 1.45 | 1.53 |
| 12 | B | 1014 | A | P-O5' | -7.28 | 1.52 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1291 | C | C2-N3 | 7.28 | 1.41 | 1.35 |
| 12 | B | 1235 | G | N3-C4 | -7.28 | 1.30 | 1.35 |
| 12 | B | 1708 | C | N3-C4 | 7.28 | 1.39 | 1.33 |
| 12 | B | 2235 | G | C2-N3 | 7.28 | 1.38 | 1.32 |
| 12 | B | 2413 | G | C2'-C1' | -7.28 | 1.45 | 1.53 |
| 12 | B | 1313 | U | N1-C2 | 7.27 | 1.45 | 1.38 |
| 12 | B | 2655 | G | C8-N7 | 7.27 | 1.35 | 1.30 |
| 12 | B | 211 | C | P-O5' | -7.27 | 1.52 | 1.59 |
| 12 | B | 379 | G | C6-N1 | 7.27 | 1.44 | 1.39 |
| 12 | B | 1844 | C | N3-C4 | 7.27 | 1.39 | 1.33 |
| 12 | B | 110 | G | N1-C2 | 7.27 | 1.43 | 1.37 |
| 12 | B | 882 | G | C8-N7 | -7.27 | 1.26 | 1.30 |
| 12 | B | 2376 | A | N7-C5 | 7.27 | 1.43 | 1.39 |
| 12 | B | 2478 | A | P-O5' | -7.27 | 1.52 | 1.59 |
| 12 | B | 1784 | A | C2-N3 | 7.27 | 1.40 | 1.33 |
| 12 | B | 1897 | G | C3'-C2' | -7.27 | 1.44 | 1.52 |
| 12 | B | 2467 | C | O3'-P | -7.27 | 1.52 | 1.61 |
| 12 | B | 240 | C | C5'-C4' | 7.27 | 1.60 | 1.51 |
| 12 | B | 819 | A | C6-N1 | 7.27 | 1.40 | 1.35 |
| 12 | B | 966 | G | C2-N3 | 7.27 | 1.38 | 1.32 |
| 12 | B | 12 | U | C2'-C1' | -7.26 | 1.45 | 1.53 |
| 12 | B | 1555 | G | C2-N3 | 7.26 | 1.38 | 1.32 |
| 12 | B | 1760 | C | P-O5' | -7.26 | 1.52 | 1.59 |
| 12 | B | 329 | G | C2'-C1' | -7.26 | 1.45 | 1.53 |
| 12 | B | 37 | C | C2-N3 | 7.26 | 1.41 | 1.35 |
| 12 | B | 533 | G | C2-N3 | 7.26 | 1.38 | 1.32 |
| 12 | B | 714 | U | C2-N3 | 7.26 | 1.42 | 1.37 |
| 12 | B | 540 | C | N3-C4 | 7.26 | 1.39 | 1.33 |
| 12 | B | 2281 | A | N3-C4 | 7.26 | 1.39 | 1.34 |
| 12 | B | 2663 | G | C5-C4 | 7.26 | 1.43 | 1.38 |
| 12 | B | 2718 | G | N7-C5 | -7.26 | 1.34 | 1.39 |
| 12 | B | 169 | G | C5-C4 | -7.25 | 1.33 | 1.38 |
| 12 | B | 186 | G | C6-N1 | 7.25 | 1.44 | 1.39 |
| 12 | B | 262 | A | N9-C4 | -7.25 | 1.33 | 1.37 |
| 12 | B | 558 | U | P-O5' | -7.25 | 1.52 | 1.59 |
| 12 | B | 1211 | C | C2'-O2' | 7.25 | 1.51 | 1.41 |
| 12 | B | 1497 | U | N1-C2 | 7.25 | 1.45 | 1.38 |
| 12 | B | 543 | G | C6-N1 | -7.25 | 1.34 | 1.39 |
| 12 | B | 2470 | G | C5-C4 | 7.25 | 1.43 | 1.38 |
| 12 | B | 2689 | U | C2-N3 | 7.25 | 1.42 | 1.37 |
| 12 | B | 432 | A | C6-N6 | 7.25 | 1.39 | 1.33 |
| 12 | B | 683 | U | N1-C2 | -7.25 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2592 | G | C2-N3 | 7.25 | 1.38 | 1.32 |
| 12 | B | 132 | G | C6-N1 | 7.25 | 1.44 | 1.39 |
| 12 | B | 624 | C | N1-C6 | 7.25 | 1.41 | 1.37 |
| 12 | B | 1413 | A | C6-N1 | 7.25 | 1.40 | 1.35 |
| 12 | B | 2852 | G | C2'-C1' | -7.25 | 1.45 | 1.53 |
| 12 | B | 782 | A | C5-C4 | 7.25 | 1.43 | 1.38 |
| 12 | B | 2505 | G | C6-N1 | 7.25 | 1.44 | 1.39 |
| 12 | B | 342 | A | C2'-C1' | -7.24 | 1.45 | 1.53 |
| 12 | B | 1257 | C | C3'-O3' | 7.24 | 1.52 | 1.42 |
| 12 | B | 1799 | G | C8-N7 | -7.24 | 1.26 | 1.30 |
| 12 | B | 1803 | A | P-O5' | -7.24 | 1.52 | 1.59 |
| 12 | B | 1973 | G | C2-N3 | 7.24 | 1.38 | 1.32 |
| 12 | B | 2134 | A | N3-C4 | 7.24 | 1.39 | 1.34 |
| 12 | B | 1308 | A | P-O5' | -7.24 | 1.52 | 1.59 |
| 12 | B | 1775 | U | N3-C4 | 7.24 | 1.45 | 1.38 |
| 12 | B | 1967 | C | C4-N4 | 7.24 | 1.40 | 1.33 |
| 12 | B | 2134 | A | N9-C4 | 7.24 | 1.42 | 1.37 |
| 12 | B | 2729 | G | C4'-C3' | 7.24 | 1.61 | 1.53 |
| 12 | B | 2815 | C | P-O5' | -7.24 | 1.52 | 1.59 |
| 11 | A | 31 | C | O3'-P | -7.24 | 1.52 | 1.61 |
| 12 | B | 1387 | A | N9-C8 | -7.24 | 1.31 | 1.37 |
| 12 | B | 2569 | G | C6-N1 | 7.24 | 1.44 | 1.39 |
| 12 | B | 2628 | C | C4'-C3' | -7.24 | 1.45 | 1.53 |
| 12 | B | 2218 | G | N1-C2 | 7.24 | 1.43 | 1.37 |
| 12 | B | 92 | U | C2-N3 | 7.24 | 1.42 | 1.37 |
| 12 | B | 430 | A | C2'-C1' | 7.24 | 1.61 | 1.53 |
| 12 | B | 489 | G | N7-C5 | 7.24 | 1.43 | 1.39 |
| 12 | B | 1881 | C | C2-N3 | -7.24 | 1.29 | 1.35 |
| 11 | A | 105 | G | N1-C2 | 7.23 | 1.43 | 1.37 |
| 12 | B | 1847 | A | C2'-C1' | -7.23 | 1.45 | 1.53 |
| 12 | B | 752 | A | C6-N6 | 7.23 | 1.39 | 1.33 |
| 12 | B | 1645 | G | C6-N1 | 7.23 | 1.44 | 1.39 |
| 12 | B | 1678 | A | N9-C8 | -7.23 | 1.31 | 1.37 |
| 12 | B | 2702 | G | C2-N3 | 7.23 | 1.38 | 1.32 |
| 12 | B | 94 | A | P-O5' | 7.23 | 1.67 | 1.59 |
| 12 | B | 1134 | A | C8-N7 | -7.23 | 1.26 | 1.31 |
| 12 | B | 2234 | G | C6-N1 | 7.23 | 1.44 | 1.39 |
| 12 | B | 2346 | A | C6-N6 | 7.23 | 1.39 | 1.33 |
| 11 | A | 21 | G | C2'-C1' | -7.23 | 1.45 | 1.53 |
| 12 | B | 370 | G | O3'-P | -7.23 | 1.52 | 1.61 |
| 12 | B | 1225 | G | C8-N7 | -7.23 | 1.26 | 1.30 |
| 12 | B | 2186 | G | C6-N1 | 7.23 | 1.44 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2406 | A | C5'-C4' | 7.23 | 1.60 | 1.51 |
| 12 | B | 2547 | A | C6-N6 | 7.23 | 1.39 | 1.33 |
| 12 | B | 2623 | G | C2-N3 | 7.23 | 1.38 | 1.32 |
| 12 | B | 2794 | C | C3'-O3' | 7.23 | 1.52 | 1.42 |
| 12 | B | 274 | C | N3-C4 | 7.23 | 1.39 | 1.33 |
| 12 | B | 387 | U | O3'-P | -7.23 | 1.52 | 1.61 |
| 12 | B | 1969 | A | P-O5' | -7.23 | 1.52 | 1.59 |
| 12 | B | 2455 | G | C8-N7 | 7.23 | 1.35 | 1.30 |
| 12 | B | 103 | A | N9-C4 | 7.22 | 1.42 | 1.37 |
| 12 | B | 2186 | G | C8-N7 | -7.22 | 1.26 | 1.30 |
| 12 | B | 581 | C | O3'-P | -7.22 | 1.52 | 1.61 |
| 12 | B | 995 | C | C4-C5 | 7.22 | 1.48 | 1.43 |
| 12 | B | 1658 | C | C4-C5 | 7.22 | 1.48 | 1.43 |
| 12 | B | 2399 | G | N3-C4 | 7.22 | 1.40 | 1.35 |
| 12 | B | 60 | G | N1-C2 | 7.22 | 1.43 | 1.37 |
| 11 | A | 75 | G | N1-C2 | 7.22 | 1.43 | 1.37 |
| 12 | B | 2624 | G | C6-N1 | 7.22 | 1.44 | 1.39 |
| 12 | B | 2805 | C | O4'-C1' | -7.22 | 1.32 | 1.41 |
| 12 | B | 137 | U | N1-C2 | -7.22 | 1.32 | 1.38 |
| 12 | B | 444 | C | N1-C2 | 7.22 | 1.47 | 1.40 |
| 12 | B | 714 | U | C3'-C2' | -7.22 | 1.44 | 1.52 |
| 12 | B | 1789 | A | P-O5' | -7.22 | 1.52 | 1.59 |
| 12 | B | 1807 | G | C2'-C1' | -7.22 | 1.45 | 1.53 |
| 12 | B | 2697 | G | N9-C8 | 7.22 | 1.43 | 1.37 |
| 12 | B | 961 | C | N3-C4 | 7.21 | 1.39 | 1.33 |
| 12 | B | 380 | G | N7-C5 | -7.21 | 1.34 | 1.39 |
| 26 | P | 70 | GLU | CD-OE2 | 7.21 | 1.33 | 1.25 |
| 12 | B | 1149 | G | P-O5' | -7.21 | 1.52 | 1.59 |
| 12 | B | 1060 | U | O3'-P | -7.21 | 1.52 | 1.61 |
| 12 | B | 1301 | A | C2'-C1' | -7.21 | 1.45 | 1.53 |
| 11 | A | 7 | G | N3-C4 | -7.21 | 1.30 | 1.35 |
| 12 | B | 1055 | G | C5-C4 | 7.21 | 1.43 | 1.38 |
| 12 | B | 1570 | A | C6-N1 | 7.21 | 1.40 | 1.35 |
| 12 | B | 1751 | U | N3-C4 | 7.21 | 1.45 | 1.38 |
| 12 | B | 2828 | G | C6-N1 | 7.21 | 1.44 | 1.39 |
| 12 | B | 2848 | G | C2-N3 | 7.21 | 1.38 | 1.32 |
| 11 | A | 28 | C | N3-C4 | 7.21 | 1.39 | 1.33 |
| 12 | B | 403 | U | N3-C4 | 7.21 | 1.45 | 1.38 |
| 12 | B | 1068 | G | C2-N3 | 7.21 | 1.38 | 1.32 |
| 12 | B | 1270 | C | O3'-P | -7.21 | 1.52 | 1.61 |
| 12 | B | 1932 | A | N9-C4 | 7.21 | 1.42 | 1.37 |
| 12 | B | 2259 | U | N3-C4 | 7.21 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2824 | C | P-O5' | -7.21 | 1.52 | 1.59 |
| 12 | B | 309 | A | C5-C4 | 7.21 | 1.43 | 1.38 |
| 12 | B | 1973 | G | N1-C2 | 7.21 | 1.43 | 1.37 |
| 12 | B | 2294 | G | C2-N2 | 7.21 | 1.41 | 1.34 |
| 12 | B | 310 | A | N9-C4 | 7.20 | 1.42 | 1.37 |
| 12 | B | 1371 | G | C5-C6 | -7.20 | 1.35 | 1.42 |
| 12 | B | 2391 | G | C4'-C3' | 7.20 | 1.61 | 1.53 |
| 12 | B | 2785 | C | N1-C6 | 7.20 | 1.41 | 1.37 |
| 11 | A | 31 | C | P-O5' | -7.20 | 1.52 | 1.59 |
| 12 | B | 368 | A | C6-N1 | 7.20 | 1.40 | 1.35 |
| 12 | B | 1377 | G | N9-C4 | -7.20 | 1.32 | 1.38 |
| 12 | B | 2477 | U | C2-N3 | 7.20 | 1.42 | 1.37 |
| 12 | B | 2212 | A | N9-C4 | 7.20 | 1.42 | 1.37 |
| 12 | B | 1694 | C | N3-C4 | 7.20 | 1.39 | 1.33 |
| 12 | B | 312 | G | C8-N7 | 7.20 | 1.35 | 1.30 |
| 12 | B | 463 | G | N3-C4 | -7.20 | 1.30 | 1.35 |
| 12 | B | 1354 | A | O3'-P | -7.20 | 1.52 | 1.61 |
| 12 | B | 1480 | C | N1-C6 | 7.20 | 1.41 | 1.37 |
| 12 | B | 2803 | G | N9-C4 | -7.20 | 1.32 | 1.38 |
| 12 | B | 1622 | G | N7-C5 | -7.19 | 1.34 | 1.39 |
| 12 | B | 662 | G | C5-C6 | 7.19 | 1.49 | 1.42 |
| 12 | B | 2226 | C | N3-C4 | 7.19 | 1.39 | 1.33 |
| 12 | B | 2231 | U | C2-N3 | 7.19 | 1.42 | 1.37 |
| 12 | B | 2306 | C | N1-C6 | -7.19 | 1.32 | 1.37 |
| 12 | B | 257 | C | N3-C4 | 7.19 | 1.39 | 1.33 |
| 12 | B | 341 | C | P-O5' | -7.19 | 1.52 | 1.59 |
| 12 | B | 506 | G | C5-C6 | -7.19 | 1.35 | 1.42 |
| 12 | B | 1758 | U | N3-C4 | 7.19 | 1.45 | 1.38 |
| 12 | B | 2214 | C | C5'-C4' | 7.19 | 1.59 | 1.51 |
| 12 | B | 2659 | G | C5-C4 | 7.19 | 1.43 | 1.38 |
| 12 | B | 254 | G | N7-C5 | -7.19 | 1.34 | 1.39 |
| 12 | B | 426 | C | N3-C4 | 7.19 | 1.39 | 1.33 |
| 12 | B | 1216 | G | C8-N7 | -7.19 | 1.26 | 1.30 |
| 12 | B | 275 | C | C4-C5 | 7.19 | 1.48 | 1.43 |
| 12 | B | 22 | C | C5'-C4' | 7.18 | 1.59 | 1.51 |
| 12 | B | 1740 | G | N9-C4 | 7.18 | 1.43 | 1.38 |
| 12 | B | 2820 | A | N7-C5 | -7.18 | 1.34 | 1.39 |
| 12 | B | 1038 | G | C2'-C1' | -7.18 | 1.45 | 1.53 |
| 12 | B | 1064 | C | O3'-P | -7.18 | 1.52 | 1.61 |
| 12 | B | 327 | G | C6-O6 | -7.18 | 1.17 | 1.24 |
| 12 | B | 574 | A | O4'-C1' | 7.18 | 1.50 | 1.41 |
| 12 | B | 1377 | G | P-O5' | -7.18 | 1.52 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 272 | A | C4'-C3' | -7.18 | 1.45 | 1.53 |
| 12 | B | 427 | U | N1-C2 | 7.18 | 1.45 | 1.38 |
| 12 | B | 480 | A | N7-C5 | -7.18 | 1.34 | 1.39 |
| 12 | B | 1707 | G | N3-C4 | 7.18 | 1.40 | 1.35 |
| 12 | B | 2306 | C | C4-C5 | 7.18 | 1.48 | 1.43 |
| 12 | B | 2520 | C | N3-C4 | 7.18 | 1.39 | 1.33 |
| 12 | B | 2828 | G | N9-C8 | 7.18 | 1.42 | 1.37 |
| 12 | B | 565 | C | C2-N3 | 7.18 | 1.41 | 1.35 |
| 12 | B | 2356 | U | O4'-C1' | 7.18 | 1.50 | 1.41 |
| 12 | B | 2310 | C | O3'-P | -7.18 | 1.52 | 1.61 |
| 12 | B | 2213 | U | N1-C6 | 7.17 | 1.44 | 1.38 |
| 12 | B | 2392 | A | C8-N7 | -7.17 | 1.26 | 1.31 |
| 12 | B | 155 | A | N3-C4 | -7.17 | 1.30 | 1.34 |
| 12 | B | 854 | C | C2'-C1' | -7.17 | 1.45 | 1.53 |
| 12 | B | 1369 | G | N1-C2 | 7.17 | 1.43 | 1.37 |
| 12 | B | 2560 | A | N9-C8 | 7.17 | 1.43 | 1.37 |
| 12 | B | 2840 | C | C4-N4 | 7.17 | 1.40 | 1.33 |
| 12 | B | 61 | C | N1-C6 | 7.17 | 1.41 | 1.37 |
| 12 | B | 1598 | A | C2'-C1' | -7.17 | 1.45 | 1.53 |
| 12 | B | 2889 | C | C3'-C2' | -7.17 | 1.44 | 1.52 |
| 11 | A | 71 | C | N3-C4 | 7.17 | 1.39 | 1.33 |
| 12 | B | 1962 | C | C5'-C4' | 7.17 | 1.59 | 1.51 |
| 12 | B | 2415 | G | C2'-C1' | -7.17 | 1.45 | 1.53 |
| 15 | E | 174 | GLY | CA-C | -7.17 | 1.40 | 1.51 |
| 11 | A | 84 | G | P-O5' | -7.16 | 1.52 | 1.59 |
| 12 | B | 21 | A | C4'-C3' | -7.16 | 1.45 | 1.53 |
| 12 | B | 1087 | G | C5-C4 | 7.16 | 1.43 | 1.38 |
| 12 | B | 1186 | G | N7-C5 | -7.16 | 1.34 | 1.39 |
| 12 | B | 1478 | G | C3'-C2' | -7.16 | 1.44 | 1.52 |
| 12 | B | 621 | A | C8-N7 | -7.16 | 1.26 | 1.31 |
| 12 | B | 802 | A | C2'-C1' | -7.16 | 1.45 | 1.53 |
| 12 | B | 956 | G | C8-N7 | -7.16 | 1.26 | 1.30 |
| 12 | B | 1660 | G | C8-N7 | -7.16 | 1.26 | 1.30 |
| 12 | B | 2168 | G | C4'-C3' | -7.16 | 1.45 | 1.53 |
| 12 | B | 2238 | G | C2'-C1' | -7.16 | 1.45 | 1.53 |
| 12 | B | 526 | A | N9-C4 | 7.16 | 1.42 | 1.37 |
| 12 | B | 830 | G | C5'-C4' | 7.16 | 1.59 | 1.51 |
| 12 | B | 1027 | A | N3-C4 | -7.16 | 1.30 | 1.34 |
| 12 | B | 1488 | C | C3'-C2' | 7.16 | 1.60 | 1.52 |
| 12 | B | 1924 | C | C2'-C1' | -7.16 | 1.45 | 1.53 |
| 12 | B | 2227 | A | O3'-P | -7.16 | 1.52 | 1.61 |
| 12 | B | 2297 | A | C6-N1 | -7.16 | 1.30 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2395 | C | C3'-C2' | -7.16 | 1.44 | 1.52 |
| 12 | B | 617 | G | N1-C2 | 7.16 | 1.43 | 1.37 |
| 12 | B | 2527 | C | N3-C4 | 7.16 | 1.39 | 1.33 |
| 11 | A | 96 | G | P-O5' | -7.15 | 1.52 | 1.59 |
| 12 | B | 1552 | A | C8-N7 | -7.15 | 1.26 | 1.31 |
| 12 | B | 2374 | C | N3-C4 | 7.15 | 1.39 | 1.33 |
| 12 | B | 2737 | G | C2-N3 | 7.15 | 1.38 | 1.32 |
| 11 | A | 70 | C | N3-C4 | 7.15 | 1.39 | 1.33 |
| 12 | B | 6 | A | C8-N7 | 7.15 | 1.36 | 1.31 |
| 12 | B | 715 | A | C5'-C4' | 7.15 | 1.59 | 1.51 |
| 12 | B | 920 | A | C2'-C1' | -7.15 | 1.45 | 1.53 |
| 12 | B | 2692 | G | N7-C5 | -7.15 | 1.34 | 1.39 |
| 12 | B | 1668 | A | C3'-O3' | -7.15 | 1.32 | 1.42 |
| 12 | B | 2475 | C | P-O5' | -7.15 | 1.52 | 1.59 |
| 12 | B | 2670 | A | N7-C5 | -7.15 | 1.34 | 1.39 |
| 10 | 9 | 126 | GLY | CA-C | -7.15 | 1.40 | 1.51 |
| 12 | B | 297 | G | C6-N1 | 7.15 | 1.44 | 1.39 |
| 12 | B | 333 | G | O4'-C1' | 7.15 | 1.50 | 1.41 |
| 12 | B | 2492 | U | C2'-C1' | -7.15 | 1.45 | 1.53 |
| 11 | A | 24 | G | O3'-P | -7.14 | 1.52 | 1.61 |
| 12 | B | 435 | C | C4'-C3' | -7.14 | 1.45 | 1.53 |
| 12 | B | 1618 | A | O3'-P | -7.14 | 1.52 | 1.61 |
| 12 | B | 1993 | U | C5-C6 | 7.14 | 1.40 | 1.34 |
| 12 | B | 1636 | U | O3'-P | -7.14 | 1.52 | 1.61 |
| 12 | B | 2159 | G | P-O5' | -7.14 | 1.52 | 1.59 |
| 12 | B | 579 | G | N7-C5 | -7.14 | 1.34 | 1.39 |
| 12 | B | 1478 | G | C6-N1 | 7.14 | 1.44 | 1.39 |
| 12 | B | 2090 | A | N9-C4 | 7.14 | 1.42 | 1.37 |
| 12 | B | 837 | C | N3-C4 | 7.14 | 1.39 | 1.33 |
| 12 | B | 1659 | G | C5-C6 | -7.14 | 1.35 | 1.42 |
| 12 | B | 28 | A | C5-C4 | -7.14 | 1.33 | 1.38 |
| 12 | B | 49 | A | C4'-C3' | 7.14 | 1.61 | 1.53 |
| 12 | B | 1583 | A | C2'-C1' | -7.14 | 1.45 | 1.53 |
| 12 | B | 2062 | A | C6-N1 | 7.14 | 1.40 | 1.35 |
| 12 | B | 2119 | A | N9-C4 | 7.14 | 1.42 | 1.37 |
| 12 | B | 2378 | A | C6-N6 | 7.14 | 1.39 | 1.33 |
| 12 | B | 38 | A | C2'-C1' | -7.14 | 1.45 | 1.53 |
| 12 | B | 101 | A | C4'-C3' | 7.14 | 1.61 | 1.53 |
| 12 | B | 264 | C | C2-N3 | 7.14 | 1.41 | 1.35 |
| 12 | B | 935 | C | N3-C4 | 7.14 | 1.39 | 1.33 |
| 12 | B | 2240 | U | C2'-C1' | -7.14 | 1.45 | 1.53 |
| 12 | B | 269 | C | O3'-P | -7.13 | 1.52 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 378 | C | C4-N4 | 7.13 | 1.40 | 1.33 |
| 12 | B | 602 | A | N7-C5 | -7.13 | 1.34 | 1.39 |
| 12 | B | 229 | C | C2-N3 | -7.13 | 1.30 | 1.35 |
| 12 | B | 715 | A | N9-C8 | 7.13 | 1.43 | 1.37 |
| 12 | B | 743 | A | C5-C4 | 7.13 | 1.43 | 1.38 |
| 12 | B | 2658 | C | N3-C4 | 7.13 | 1.39 | 1.33 |
| 12 | B | 2876 | G | C3'-C2' | -7.13 | 1.45 | 1.52 |
| 11 | A | 20 | G | C8-N7 | 7.13 | 1.35 | 1.30 |
| 12 | B | 799 | G | P-O5' | -7.13 | 1.52 | 1.59 |
| 12 | B | 1142 | A | C5-C6 | -7.13 | 1.34 | 1.41 |
| 12 | B | 489 | G | C2-N3 | 7.13 | 1.38 | 1.32 |
| 12 | B | 2438 | U | C4-O4 | 7.13 | 1.29 | 1.23 |
| 12 | B | 37 | C | P-O5' | -7.13 | 1.52 | 1.59 |
| 12 | B | 302 | C | N1-C6 | -7.13 | 1.32 | 1.37 |
| 12 | B | 1089 | A | N7-C5 | 7.13 | 1.43 | 1.39 |
| 12 | B | 1839 | G | C5-C4 | 7.13 | 1.43 | 1.38 |
| 12 | B | 1879 | C | P-O5' | -7.13 | 1.52 | 1.59 |
| 12 | B | 303 | G | N1-C2 | 7.13 | 1.43 | 1.37 |
| 12 | B | 2442 | C | O3'-P | -7.13 | 1.52 | 1.61 |
| 12 | B | 1768 | C | C5-C6 | -7.12 | 1.28 | 1.34 |
| 12 | B | 35 | G | N1-C2 | 7.12 | 1.43 | 1.37 |
| 12 | B | 631 | A | C6-N6 | 7.12 | 1.39 | 1.33 |
| 12 | B | 1619 | G | C5-C4 | 7.12 | 1.43 | 1.38 |
| 12 | B | 2749 | A | N1-C2 | -7.12 | 1.27 | 1.34 |
| 12 | B | 1417 | C | O4'-C1' | -7.12 | 1.32 | 1.41 |
| 12 | B | 1685 | C | O4'-C1' | 7.12 | 1.50 | 1.41 |
| 12 | B | 2111 | U | O4'-C1' | -7.12 | 1.32 | 1.41 |
| 12 | B | 2240 | U | C4-C5 | 7.12 | 1.50 | 1.43 |
| 12 | B | 2559 | C | N1-C6 | -7.12 | 1.32 | 1.37 |
| 12 | B | 1317 | G | N3-C4 | -7.12 | 1.30 | 1.35 |
| 12 | B | 1505 | A | N7-C5 | -7.12 | 1.34 | 1.39 |
| 12 | B | 1081 | U | N1-C2 | 7.12 | 1.45 | 1.38 |
| 12 | B | 2245 | U | C5'-C4' | 7.12 | 1.59 | 1.51 |
| 12 | B | 1119 | U | N1-C6 | 7.12 | 1.44 | 1.38 |
| 12 | B | 1212 | G | C8-N7 | -7.12 | 1.26 | 1.30 |
| 12 | B | 363 | G | C4'-C3' | 7.11 | 1.60 | 1.53 |
| 12 | B | 410 | G | N9-C8 | -7.11 | 1.32 | 1.37 |
| 12 | B | 865 | C | N3-C4 | 7.11 | 1.39 | 1.33 |
| 12 | B | 1287 | A | N9-C8 | 7.11 | 1.43 | 1.37 |
| 12 | B | 2549 | G | N1-C2 | 7.11 | 1.43 | 1.37 |
| 12 | B | 725 | G | O3'-P | -7.11 | 1.52 | 1.61 |
| 12 | B | 973 | A | C2'-C1' | -7.11 | 1.45 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2165 | C | C5'-C4' | 7.11 | 1.59 | 1.51 |
| 12 | B | 2604 | U | C2-N3 | 7.11 | 1.42 | 1.37 |
| 12 | B | 892 | A | C6-N6 | 7.11 | 1.39 | 1.33 |
| 12 | B | 1686 | C | C5'-C4' | 7.11 | 1.59 | 1.51 |
| 12 | B | 1967 | C | N1-C6 | 7.11 | 1.41 | 1.37 |
| 12 | B | 382 | A | N9-C8 | 7.11 | 1.43 | 1.37 |
| 12 | B | 512 | G | C3'-C2' | 7.11 | 1.60 | 1.52 |
| 12 | B | 765 | C | C3'-C2' | -7.11 | 1.45 | 1.52 |
| 12 | B | 1082 | U | O3'-P | -7.11 | 1.52 | 1.61 |
| 12 | B | 1526 | C | P-O5' | -7.11 | 1.52 | 1.59 |
| 12 | B | 1867 | G | C4'-O4' | 7.11 | 1.54 | 1.45 |
| 12 | B | 2120 | G | C5'-C4' | 7.11 | 1.59 | 1.51 |
| 12 | B | 2469 | A | C2'-O2' | -7.11 | 1.32 | 1.41 |
| 12 | B | 2876 | G | N1-C2 | 7.11 | 1.43 | 1.37 |
| 12 | B | 1627 | G | N3-C4 | 7.11 | 1.40 | 1.35 |
| 12 | B | 1630 | A | C2-N3 | -7.11 | 1.27 | 1.33 |
| 12 | B | 1763 | G | C2-N3 | 7.11 | 1.38 | 1.32 |
| 12 | B | 2889 | C | N1-C6 | 7.11 | 1.41 | 1.37 |
| 12 | B | 2255 | G | N9-C8 | -7.10 | 1.32 | 1.37 |
| 12 | B | 2420 | C | N1-C6 | -7.10 | 1.32 | 1.37 |
| 12 | B | 1664 | A | P-O5' | -7.10 | 1.52 | 1.59 |
| 12 | B | 1667 | G | C3'-C2' | -7.10 | 1.45 | 1.52 |
| 12 | B | 1706 | C | C4-N4 | 7.10 | 1.40 | 1.33 |
| 12 | B | 1807 | G | P-O5' | -7.10 | 1.52 | 1.59 |
| 12 | B | 1832 | C | C4-N4 | 7.10 | 1.40 | 1.33 |
| 12 | B | 1814 | G | C8-N7 | -7.10 | 1.26 | 1.30 |
| 12 | B | 346 | A | C5-C4 | 7.10 | 1.43 | 1.38 |
| 12 | B | 1697 | G | C3'-C2' | -7.10 | 1.45 | 1.52 |
| 12 | B | 2013 | A | N9-C8 | -7.10 | 1.32 | 1.37 |
| 12 | B | 526 | A | P-O5' | -7.10 | 1.52 | 1.59 |
| 12 | B | 532 | A | N1-C2 | 7.10 | 1.40 | 1.34 |
| 12 | B | 1792 | G | C6-N1 | -7.10 | 1.34 | 1.39 |
| 12 | B | 2323 | G | C2-N3 | 7.10 | 1.38 | 1.32 |
| 11 | A | 118 | C | C4'-C3' | 7.10 | 1.60 | 1.53 |
| 12 | B | 990 | A | N9-C4 | 7.10 | 1.42 | 1.37 |
| 12 | B | 1991 | U | C3'-C2' | -7.10 | 1.45 | 1.52 |
| 12 | B | 784 | G | P-O5' | -7.09 | 1.52 | 1.59 |
| 12 | B | 1436 | G | C2-N3 | 7.09 | 1.38 | 1.32 |
| 12 | B | 2461 | A | C6-N6 | 7.09 | 1.39 | 1.33 |
| 19 | I | 126 | ARG | CD-NE | 7.09 | 1.58 | 1.46 |
| 12 | B | 1875 | G | N9-C8 | 7.09 | 1.42 | 1.37 |
| 12 | B | 2250 | G | C5-C4 | 7.09 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2766 | A | N9-C4 | -7.09 | 1.33 | 1.37 |
| 12 | B | 183 | C | C2-N3 | -7.09 | 1.30 | 1.35 |
| 12 | B | 797 | G | N3-C4 | -7.09 | 1.30 | 1.35 |
| 12 | B | 1081 | U | O3'-P | -7.09 | 1.52 | 1.61 |
| 12 | B | 1189 | A | C6-N1 | 7.09 | 1.40 | 1.35 |
| 12 | B | 1548 | A | N9-C8 | -7.09 | 1.32 | 1.37 |
| 12 | B | 301 | G | C6-N1 | 7.09 | 1.44 | 1.39 |
| 12 | B | 1021 | A | C6-N1 | 7.09 | 1.40 | 1.35 |
| 12 | B | 1149 | G | C5-C4 | 7.09 | 1.43 | 1.38 |
| 12 | B | 2835 | A | O3'-P | -7.09 | 1.52 | 1.61 |
| 12 | B | 215 | G | N1-C2 | 7.09 | 1.43 | 1.37 |
| 12 | B | 710 | U | C2'-C1' | -7.09 | 1.45 | 1.53 |
| 12 | B | 762 | U | C2-N3 | 7.09 | 1.42 | 1.37 |
| 12 | B | 1341 | G | N7-C5 | -7.08 | 1.34 | 1.39 |
| 12 | B | 2624 | G | N9-C4 | -7.08 | 1.32 | 1.38 |
| 28 | R | 78 | ARG | CZ-NH1 | 7.08 | 1.42 | 1.33 |
| 12 | B | 198 | C | C5-C6 | -7.08 | 1.28 | 1.34 |
| 12 | B | 778 | G | C2-N3 | 7.08 | 1.38 | 1.32 |
| 12 | B | 2099 | U | C4-C5 | -7.08 | 1.37 | 1.43 |
| 23 | M | 66 | ARG | NE-CZ | 7.08 | 1.42 | 1.33 |
| 12 | B | 282 | A | C2'-C1' | -7.08 | 1.45 | 1.53 |
| 12 | B | 2812 | G | P-O5' | -7.08 | 1.52 | 1.59 |
| 12 | B | 2491 | U | N1-C6 | 7.08 | 1.44 | 1.38 |
| 12 | B | 104 | A | C2'-C1' | -7.08 | 1.45 | 1.53 |
| 12 | B | 330 | A | C6-N1 | 7.08 | 1.40 | 1.35 |
| 12 | B | 687 | C | O4'-C1' | 7.08 | 1.50 | 1.41 |
| 12 | B | 1062 | G | N1-C2 | 7.08 | 1.43 | 1.37 |
| 12 | B | 1504 | A | N9-C8 | 7.08 | 1.43 | 1.37 |
| 12 | B | 1588 | G | C6-N1 | 7.08 | 1.44 | 1.39 |
| 12 | B | 274 | C | C2'-C1' | -7.08 | 1.45 | 1.53 |
| 12 | B | 328 | U | P-O5' | -7.08 | 1.52 | 1.59 |
| 12 | B | 505 | A | C5-C4 | 7.08 | 1.43 | 1.38 |
| 12 | B | 445 | C | N3-C4 | 7.07 | 1.39 | 1.33 |
| 12 | B | 1901 | A | N3-C4 | -7.07 | 1.30 | 1.34 |
| 12 | B | 2054 | A | C6-N6 | 7.07 | 1.39 | 1.33 |
| 12 | B | 2837 | A | C3'-C2' | -7.07 | 1.45 | 1.52 |
| 12 | B | 1024 | G | C2-N2 | 7.07 | 1.41 | 1.34 |
| 12 | B | 1687 | G | C6-N1 | 7.07 | 1.44 | 1.39 |
| 12 | B | 2186 | G | N9-C8 | 7.07 | 1.42 | 1.37 |
| 12 | B | 115 | C | P-O5' | -7.07 | 1.52 | 1.59 |
| 12 | B | 609 | A | C6-N6 | 7.07 | 1.39 | 1.33 |
| 12 | B | 1427 | A | O3'-P | -7.07 | 1.52 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 416 | U | N3-C4 | 7.07 | 1.44 | 1.38 |
| 12 | B | 1512 | C | C4'-C3' | 7.07 | 1.60 | 1.53 |
| 11 | A | 46 | A | C8-N7 | -7.07 | 1.26 | 1.31 |
| 12 | B | 830 | G | C5-C4 | -7.07 | 1.33 | 1.38 |
| 12 | B | 539 | G | N7-C5 | -7.07 | 1.35 | 1.39 |
| 12 | B | 712 | G | C2'-C1' | -7.07 | 1.45 | 1.53 |
| 12 | B | 223 | A | C4'-C3' | -7.06 | 1.45 | 1.53 |
| 12 | B | 1505 | A | C2'-C1' | -7.06 | 1.45 | 1.53 |
| 12 | B | 1525 | A | O3'-P | -7.06 | 1.52 | 1.61 |
| 12 | B | 1785 | A | C6-N6 | 7.06 | 1.39 | 1.33 |
| 12 | B | 2483 | C | P-O5' | -7.06 | 1.52 | 1.59 |
| 12 | B | 2765 | A | C3'-C2' | -7.06 | 1.45 | 1.52 |
| 12 | B | 1500 | G | N9-C4 | -7.06 | 1.32 | 1.38 |
| 12 | B | 1885 | A | O3'-P | -7.06 | 1.52 | 1.61 |
| 12 | B | 1989 | G | C2'-C1' | -7.06 | 1.45 | 1.53 |
| 12 | B | 1153 | C | N3-C4 | 7.06 | 1.38 | 1.33 |
| 12 | B | 2061 | G | C8-N7 | 7.06 | 1.35 | 1.30 |
| 12 | B | 2192 | U | C1'-N1 | 7.06 | 1.59 | 1.48 |
| 12 | B | 1749 | A | C3'-C2' | 7.06 | 1.60 | 1.52 |
| 12 | B | 2197 | U | O3'-P | -7.06 | 1.52 | 1.61 |
| 12 | B | 291 | G | C1'-N9 | -7.06 | 1.36 | 1.46 |
| 12 | B | 2487 | G | C2-N3 | 7.06 | 1.38 | 1.32 |
| 12 | B | 830 | G | C2-N3 | 7.05 | 1.38 | 1.32 |
| 12 | B | 946 | C | C5-C6 | -7.05 | 1.28 | 1.34 |
| 12 | B | 1947 | C | C4-C5 | -7.05 | 1.37 | 1.43 |
| 12 | B | 2737 | G | C3'-C2' | -7.05 | 1.45 | 1.52 |
| 12 | B | 1193 | G | C2-N3 | 7.05 | 1.38 | 1.32 |
| 12 | B | 2117 | A | O3'-P | -7.05 | 1.52 | 1.61 |
| 12 | B | 2220 | U | C4'-O4' | 7.05 | 1.54 | 1.45 |
| 12 | B | 393 | C | C4-N4 | 7.05 | 1.40 | 1.33 |
| 12 | B | 1875 | G | C2-N2 | 7.05 | 1.41 | 1.34 |
| 12 | B | 2303 | G | C5-C4 | 7.05 | 1.43 | 1.38 |
| 11 | A | 64 | G | C2'-C1' | -7.05 | 1.45 | 1.53 |
| 12 | B | 98 | G | N9-C8 | -7.05 | 1.32 | 1.37 |
| 12 | B | 1768 | C | C4-N4 | 7.05 | 1.40 | 1.33 |
| 12 | B | 1939 | U | C2'-C1' | -7.05 | 1.45 | 1.53 |
| 12 | B | 1983 | G | N7-C5 | -7.05 | 1.35 | 1.39 |
| 11 | A | 46 | A | C5-C4 | 7.05 | 1.43 | 1.38 |
| 11 | A | 68 | C | C4'-C3' | 7.05 | 1.60 | 1.53 |
| 12 | B | 1016 | G | N7-C5 | -7.05 | 1.35 | 1.39 |
| 12 | B | 1977 | A | C5-C4 | 7.05 | 1.43 | 1.38 |
| 12 | B | 2570 | G | C2-N3 | 7.05 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2813 | A | N3-C4 | -7.05 | 1.30 | 1.34 |
| 21 | K | 108 | ARG | NE-CZ | 7.05 | 1.42 | 1.33 |
| 11 | A | 31 | C | N1-C6 | -7.05 | 1.32 | 1.37 |
| 12 | B | 327 | G | N9-C8 | -7.05 | 1.32 | 1.37 |
| 12 | B | 580 | U | C4-C5 | -7.05 | 1.37 | 1.43 |
| 12 | B | 1787 | A | N7-C5 | -7.04 | 1.35 | 1.39 |
| 12 | B | 2271 | G | O3'-P | -7.04 | 1.52 | 1.61 |
| 12 | B | 2453 | A | C5-C4 | 7.04 | 1.43 | 1.38 |
| 12 | B | 2569 | G | C2-N3 | 7.04 | 1.38 | 1.32 |
| 12 | B | 595 | C | C4-C5 | 7.04 | 1.48 | 1.43 |
| 12 | B | 1008 | A | O4'-C1' | -7.04 | 1.32 | 1.41 |
| 12 | B | 1797 | G | N1-C2 | 7.04 | 1.43 | 1.37 |
| 12 | B | 2273 | A | C6-N6 | 7.04 | 1.39 | 1.33 |
| 12 | B | 2775 | G | C8-N7 | -7.04 | 1.26 | 1.30 |
| 12 | B | 602 | A | C2'-C1' | -7.04 | 1.45 | 1.53 |
| 12 | B | 1241 | A | C6-N1 | 7.04 | 1.40 | 1.35 |
| 12 | B | 1350 | C | C2-O2 | 7.04 | 1.30 | 1.24 |
| 12 | B | 1546 | G | N7-C5 | -7.04 | 1.35 | 1.39 |
| 12 | B | 1615 | C | C4'-O4' | 7.04 | 1.54 | 1.45 |
| 12 | B | 1650 | A | C8-N7 | 7.04 | 1.36 | 1.31 |
| 12 | B | 1203 | U | N3-C4 | 7.04 | 1.44 | 1.38 |
| 12 | B | 35 | G | C6-O6 | -7.04 | 1.17 | 1.24 |
| 12 | B | 354 | A | C4'-O4' | 7.04 | 1.54 | 1.45 |
| 12 | B | 725 | G | C2'-C1' | -7.04 | 1.45 | 1.53 |
| 12 | B | 905 | A | C2-N3 | 7.04 | 1.39 | 1.33 |
| 12 | B | 1262 | A | N3-C4 | 7.04 | 1.39 | 1.34 |
| 12 | B | 1421 | G | C2'-C1' | -7.04 | 1.45 | 1.53 |
| 12 | B | 471 | A | C4'-C3' | -7.04 | 1.45 | 1.53 |
| 12 | B | 2400 | G | C8-N7 | 7.04 | 1.35 | 1.30 |
| 12 | B | 81 | G | N9-C4 | -7.04 | 1.32 | 1.38 |
| 12 | B | 458 | G | C5-C6 | -7.04 | 1.35 | 1.42 |
| 12 | B | 885 | C | C4'-C3' | 7.04 | 1.60 | 1.53 |
| 12 | B | 1432 | G | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 12 | B | 1593 | A | C5-C4 | 7.04 | 1.43 | 1.38 |
| 12 | B | 1823 | G | C2-N2 | 7.04 | 1.41 | 1.34 |
| 12 | B | 1948 | G | C2'-C1' | -7.04 | 1.45 | 1.53 |
| 12 | B | 2103 | C | P-O5' | -7.03 | 1.52 | 1.59 |
| 11 | A | 19 | C | N1-C6 | 7.03 | 1.41 | 1.37 |
| 12 | B | 203 | A | C4'-O4' | 7.03 | 1.54 | 1.45 |
| 12 | B | 1876 | A | C6-N6 | 7.03 | 1.39 | 1.33 |
| 12 | B | 1580 | A | C8-N7 | -7.03 | 1.26 | 1.31 |
| 12 | B | 2464 | G | C5-C4 | 7.03 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 529 | A | N7-C5 | -7.03 | 1.35 | 1.39 |
| 12 | B | 587 | C | C4'-C3' | -7.03 | 1.45 | 1.53 |
| 12 | B | 913 | U | C5'-C4' | 7.03 | 1.59 | 1.51 |
| 12 | B | 2761 | A | N1-C2 | 7.03 | 1.40 | 1.34 |
| 11 | A | 84 | G | N9-C4 | -7.03 | 1.32 | 1.38 |
| 12 | B | 156 | A | C3'-C2' | -7.03 | 1.45 | 1.52 |
| 12 | B | 2674 | G | C2'-C1' | -7.03 | 1.45 | 1.53 |
| 12 | B | 830 | G | O3'-P | -7.02 | 1.52 | 1.61 |
| 12 | B | 952 | G | C2'-C1' | -7.02 | 1.45 | 1.53 |
| 12 | B | 1848 | A | N7-C5 | -7.02 | 1.35 | 1.39 |
| 12 | B | 1993 | U | N3-C4 | 7.02 | 1.44 | 1.38 |
| 12 | B | 2222 | C | C4-N4 | 7.02 | 1.40 | 1.33 |
| 12 | B | 2487 | G | N1-C2 | 7.02 | 1.43 | 1.37 |
| 3 | 2 | 51 | SER | CA-CB | 7.02 | 1.63 | 1.52 |
| 12 | B | 269 | C | C2-N3 | 7.02 | 1.41 | 1.35 |
| 12 | B | 314 | C | C4-N4 | 7.02 | 1.40 | 1.33 |
| 12 | B | 1342 | A | C5-C4 | 7.02 | 1.43 | 1.38 |
| 12 | B | 1841 | U | N3-C4 | 7.02 | 1.44 | 1.38 |
| 12 | B | 2810 | A | N1-C2 | 7.02 | 1.40 | 1.34 |
| 12 | B | 1155 | A | N7-C5 | -7.02 | 1.35 | 1.39 |
| 12 | B | 2491 | U | C4-O4 | -7.02 | 1.18 | 1.23 |
| 12 | B | 2585 | U | C5-C6 | 7.02 | 1.40 | 1.34 |
| 11 | A | 28 | C | C2'-C1' | -7.02 | 1.45 | 1.53 |
| 12 | B | 808 | G | N9-C4 | 7.02 | 1.43 | 1.38 |
| 12 | B | 1610 | A | N9-C4 | 7.02 | 1.42 | 1.37 |
| 11 | A | 12 | C | O3'-P | -7.01 | 1.52 | 1.61 |
| 12 | B | 498 | G | C5'-C4' | 7.01 | 1.59 | 1.51 |
| 12 | B | 1389 | G | C4'-C3' | 7.01 | 1.60 | 1.53 |
| 12 | B | 1513 | U | N3-C4 | 7.01 | 1.44 | 1.38 |
| 12 | B | 2000 | C | P-O5' | -7.01 | 1.52 | 1.59 |
| 12 | B | 2220 | U | N3-C4 | 7.01 | 1.44 | 1.38 |
| 12 | B | 2467 | C | C4'-C3' | -7.01 | 1.45 | 1.53 |
| 12 | B | 282 | A | N9-C4 | -7.01 | 1.33 | 1.37 |
| 12 | B | 430 | A | N3-C4 | -7.01 | 1.30 | 1.34 |
| 12 | B | 2852 | G | C5-C4 | 7.01 | 1.43 | 1.38 |
| 12 | B | 390 | U | N1-C2 | 7.01 | 1.44 | 1.38 |
| 12 | B | 690 | G | C5-C6 | -7.01 | 1.35 | 1.42 |
| 12 | B | 1808 | A | C2-N3 | 7.01 | 1.39 | 1.33 |
| 12 | B | 2394 | C | C2-N3 | 7.01 | 1.41 | 1.35 |
| 12 | B | 414 | C | C5-C6 | -7.01 | 1.28 | 1.34 |
| 12 | B | 494 | G | N1-C2 | 7.01 | 1.43 | 1.37 |
| 12 | B | 1206 | G | C8-N7 | -7.01 | 1.26 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2012 | G | C2-N3 | 7.01 | 1.38 | 1.32 |
| 12 | B | 2835 | A | C5-C4 | 7.01 | 1.43 | 1.38 |
| 12 | B | 564 | C | C2-N3 | 7.01 | 1.41 | 1.35 |
| 12 | B | 2643 | G | C3'-O3' | 7.01 | 1.51 | 1.42 |
| 12 | B | 1084 | A | N3-C4 | -7.00 | 1.30 | 1.34 |
| 12 | B | 73 | A | N1-C2 | 7.00 | 1.40 | 1.34 |
| 12 | B | 1046 | A | N3-C4 | 7.00 | 1.39 | 1.34 |
| 12 | B | 2549 | G | C5-C4 | 7.00 | 1.43 | 1.38 |
| 12 | B | 1332 | G | C2'-C1' | -7.00 | 1.45 | 1.53 |
| 12 | B | 1482 | G | C4'-C3' | 7.00 | 1.60 | 1.53 |
| 12 | B | 1222 | U | C2-N3 | 7.00 | 1.42 | 1.37 |
| 12 | B | 2142 | A | C3'-C2' | -7.00 | 1.45 | 1.52 |
| 12 | B | 631 | A | N9-C4 | 7.00 | 1.42 | 1.37 |
| 12 | B | 1301 | A | C8-N7 | -7.00 | 1.26 | 1.31 |
| 12 | B | 1925 | C | N3-C4 | 7.00 | 1.38 | 1.33 |
| 12 | B | 2344 | U | O3'-P | -7.00 | 1.52 | 1.61 |
| 12 | B | 661 | A | C6-N6 | 7.00 | 1.39 | 1.33 |
| 12 | B | 2016 | U | C2-N3 | 7.00 | 1.42 | 1.37 |
| 12 | B | 2036 | C | N1-C6 | 7.00 | 1.41 | 1.37 |
| 12 | B | 2333 | A | N3-C4 | -7.00 | 1.30 | 1.34 |
| 12 | B | 1477 | A | N3-C4 | -7.00 | 1.30 | 1.34 |
| 12 | B | 2014 | A | C2-N3 | 7.00 | 1.39 | 1.33 |
| 12 | B | 231 | A | C6-N1 | 6.99 | 1.40 | 1.35 |
| 12 | B | 271 | G | C2-N3 | 6.99 | 1.38 | 1.32 |
| 12 | B | 577 | G | C2'-C1' | -6.99 | 1.45 | 1.53 |
| 12 | B | 1535 | A | N7-C5 | -6.99 | 1.35 | 1.39 |
| 12 | B | 2027 | G | N7-C5 | 6.99 | 1.43 | 1.39 |
| 12 | B | 2678 | C | N3-C4 | 6.99 | 1.38 | 1.33 |
| 12 | B | 1918 | A | C2-N3 | 6.99 | 1.39 | 1.33 |
| 12 | B | 2452 | C | P-O5' | -6.99 | 1.52 | 1.59 |
| 12 | B | 1771 | C | C3'-C2' | -6.99 | 1.45 | 1.52 |
| 12 | B | 2793 | C | N3-C4 | 6.99 | 1.38 | 1.33 |
| 12 | B | 61 | C | C2-N3 | 6.99 | 1.41 | 1.35 |
| 12 | B | 147 | C | C4'-O4' | -6.99 | 1.36 | 1.45 |
| 12 | B | 1003 | G | N9-C8 | 6.99 | 1.42 | 1.37 |
| 12 | B | 2488 | G | C5-C6 | -6.99 | 1.35 | 1.42 |
| 12 | B | 508 | A | P-O5' | -6.99 | 1.52 | 1.59 |
| 12 | B | 2114 | A | P-O5' | 6.99 | 1.66 | 1.59 |
| 12 | B | 187 | G | N3-C4 | -6.99 | 1.30 | 1.35 |
| 12 | B | 705 | A | N7-C5 | -6.99 | 1.35 | 1.39 |
| 12 | B | 849 | A | C5'-C4' | -6.99 | 1.43 | 1.51 |
| 12 | B | 1403 | A | N3-C4 | 6.99 | 1.39 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1895 | C | O3'-P | -6.99 | 1.52 | 1.61 |
| 12 | B | 2261 | C | C2'-C1' | -6.99 | 1.45 | 1.53 |
| 12 | B | 2821 | A | O3'-P | -6.99 | 1.52 | 1.61 |
| 12 | B | 2895 | G | N3-C4 | -6.98 | 1.30 | 1.35 |
| 12 | B | 1580 | A | C3'-O3' | 6.98 | 1.51 | 1.42 |
| 12 | B | 2683 | C | C2'-C1' | 6.98 | 1.61 | 1.53 |
| 27 | Q | 10 | ARG | NE-CZ | 6.98 | 1.42 | 1.33 |
| 12 | B | 1187 | G | N9-C8 | -6.98 | 1.32 | 1.37 |
| 12 | B | 1575 | C | N3-C4 | 6.98 | 1.38 | 1.33 |
| 12 | B | 2051 | A | C6-N1 | 6.98 | 1.40 | 1.35 |
| 12 | B | 2389 | G | N3-C4 | -6.98 | 1.30 | 1.35 |
| 12 | B | 993 | G | C5'-C4' | 6.98 | 1.59 | 1.51 |
| 12 | B | 1614 | A | N7-C5 | 6.98 | 1.43 | 1.39 |
| 12 | B | 1928 | A | C4'-C3' | 6.98 | 1.60 | 1.53 |
| 12 | B | 2019 | A | C6-N1 | 6.98 | 1.40 | 1.35 |
| 12 | B | 2 | G | P-O5' | -6.97 | 1.52 | 1.59 |
| 12 | B | 118 | A | C5-C4 | 6.97 | 1.43 | 1.38 |
| 12 | B | 272 | A | N9-C4 | -6.97 | 1.33 | 1.37 |
| 12 | B | 912 | C | C4'-O4' | -6.97 | 1.36 | 1.45 |
| 12 | B | 1603 | A | N9-C4 | -6.97 | 1.33 | 1.37 |
| 12 | B | 2503 | A | C5-C4 | 6.97 | 1.43 | 1.38 |
| 12 | B | 1340 | U | C4-C5 | 6.97 | 1.49 | 1.43 |
| 12 | B | 1689 | A | N1-C2 | 6.97 | 1.40 | 1.34 |
| 12 | B | 2503 | A | C6-N1 | 6.97 | 1.40 | 1.35 |
| 12 | B | 72 | U | C4'-C3' | 6.97 | 1.60 | 1.53 |
| 12 | B | 110 | G | C2'-C1' | -6.97 | 1.45 | 1.53 |
| 12 | B | 2102 | G | N9-C8 | -6.97 | 1.32 | 1.37 |
| 12 | B | 2732 | G | C6-N1 | 6.97 | 1.44 | 1.39 |
| 12 | B | 2900 | A | C6-N6 | 6.97 | 1.39 | 1.33 |
| 12 | B | 627 | A | N9-C4 | 6.97 | 1.42 | 1.37 |
| 12 | B | 1770 | G | C2'-C1' | -6.97 | 1.45 | 1.53 |
| 12 | B | 2264 | C | P-O5' | -6.97 | 1.52 | 1.59 |
| 12 | B | 2577 | A | N9-C8 | -6.97 | 1.32 | 1.37 |
| 12 | B | 2665 | A | N9-C4 | 6.97 | 1.42 | 1.37 |
| 12 | B | 2807 | U | C2'-C1' | -6.97 | 1.45 | 1.53 |
| 12 | B | 1700 | A | C8-N7 | 6.96 | 1.36 | 1.31 |
| 12 | B | 2777 | G | N3-C4 | 6.96 | 1.40 | 1.35 |
| 12 | B | 1217 | U | N3-C4 | 6.96 | 1.44 | 1.38 |
| 12 | B | 1226 | A | C2'-C1' | -6.96 | 1.45 | 1.53 |
| 12 | B | 2223 | G | P-O5' | -6.96 | 1.52 | 1.59 |
| 12 | B | 2514 | U | N1-C2 | 6.96 | 1.44 | 1.38 |
| 12 | B | 253 | C | C2-N3 | 6.96 | 1.41 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1849 | G | C6-N1 | 6.96 | 1.44 | 1.39 |
| 12 | B | 2113 | U | C3'-C2' | -6.96 | 1.45 | 1.52 |
| 12 | B | 1016 | G | O3'-P | 6.96 | 1.69 | 1.61 |
| 12 | B | 1367 | A | C6-N6 | 6.96 | 1.39 | 1.33 |
| 12 | B | 1610 | A | P-O5' | -6.96 | 1.52 | 1.59 |
| 12 | B | 2453 | A | C2'-C1' | -6.96 | 1.45 | 1.53 |
| 12 | B | 219 | A | N3-C4 | -6.96 | 1.30 | 1.34 |
| 12 | B | 587 | C | C2-N3 | 6.96 | 1.41 | 1.35 |
| 12 | B | 649 | G | C2-N3 | 6.96 | 1.38 | 1.32 |
| 12 | B | 1238 | G | C2-N3 | 6.96 | 1.38 | 1.32 |
| 12 | B | 2002 | G | C2'-C1' | -6.96 | 1.45 | 1.53 |
| 11 | A | 86 | G | C5-C4 | 6.95 | 1.43 | 1.38 |
| 12 | B | 1086 | A | N7-C5 | -6.95 | 1.35 | 1.39 |
| 12 | B | 2179 | C | C2-O2 | 6.95 | 1.30 | 1.24 |
| 12 | B | 2659 | G | C6-N1 | 6.95 | 1.44 | 1.39 |
| 12 | B | 2791 | G | N1-C2 | 6.95 | 1.43 | 1.37 |
| 12 | B | 92 | U | C1'-N1 | 6.95 | 1.59 | 1.48 |
| 12 | B | 2404 | U | O3'-P | -6.95 | 1.52 | 1.61 |
| 12 | B | 2455 | G | N3-C4 | 6.95 | 1.40 | 1.35 |
| 12 | B | 817 | C | C4'-O4' | 6.95 | 1.54 | 1.45 |
| 12 | B | 1099 | G | N3-C4 | 6.95 | 1.40 | 1.35 |
| 12 | B | 1200 | C | N1-C6 | -6.95 | 1.32 | 1.37 |
| 12 | B | 1581 | G | N9-C4 | 6.95 | 1.43 | 1.38 |
| 12 | B | 2158 | A | N3-C4 | -6.95 | 1.30 | 1.34 |
| 12 | B | 2867 | G | N7-C5 | -6.95 | 1.35 | 1.39 |
| 12 | B | 630 | G | O3'-P | -6.95 | 1.52 | 1.61 |
| 12 | B | 1891 | G | N7-C5 | -6.95 | 1.35 | 1.39 |
| 12 | B | 2412 | A | C8-N7 | -6.95 | 1.26 | 1.31 |
| 25 | O | 25 | ARG | CD-NE | 6.95 | 1.58 | 1.46 |
| 12 | B | 151 | C | N1-C6 | 6.94 | 1.41 | 1.37 |
| 12 | B | 418 | C | N1-C6 | 6.94 | 1.41 | 1.37 |
| 12 | B | 1350 | C | C5-C6 | -6.94 | 1.28 | 1.34 |
| 12 | B | 1611 | C | C4-N4 | 6.94 | 1.40 | 1.33 |
| 12 | B | 2599 | G | C5'-C4' | 6.94 | 1.59 | 1.51 |
| 12 | B | 2677 | G | O3'-P | 6.94 | 1.69 | 1.61 |
| 12 | B | 1491 | G | N1-C2 | 6.94 | 1.43 | 1.37 |
| 12 | B | 1493 | C | C3'-O3' | 6.94 | 1.51 | 1.42 |
| 12 | B | 673 | C | N1-C6 | 6.94 | 1.41 | 1.37 |
| 12 | B | 1701 | A | N7-C5 | -6.94 | 1.35 | 1.39 |
| 12 | B | 2617 | U | N3-C4 | 6.94 | 1.44 | 1.38 |
| 12 | B | 2886 | A | P-O5' | -6.94 | 1.52 | 1.59 |
| 12 | B | 583 | G | C8-N7 | 6.94 | 1.35 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2852 | G | C6-N1 | 6.94 | 1.44 | 1.39 |
| 12 | B | 55 | G | C6-N1 | 6.93 | 1.44 | 1.39 |
| 12 | B | 1279 | G | C5-C4 | 6.93 | 1.43 | 1.38 |
| 12 | B | 1500 | G | C5-C4 | 6.93 | 1.43 | 1.38 |
| 12 | B | 2070 | A | C2'-C1' | -6.93 | 1.45 | 1.53 |
| 12 | B | 2776 | A | C6-N1 | 6.93 | 1.40 | 1.35 |
| 12 | B | 1068 | G | C2'-C1' | -6.93 | 1.45 | 1.53 |
| 12 | B | 1139 | G | C2'-C1' | -6.93 | 1.45 | 1.53 |
| 12 | B | 1151 | A | N7-C5 | -6.93 | 1.35 | 1.39 |
| 12 | B | 2080 | A | P-O5' | -6.93 | 1.52 | 1.59 |
| 29 | S | 84 | ARG | NE-CZ | 6.93 | 1.42 | 1.33 |
| 12 | B | 2540 | C | C2'-C1' | -6.93 | 1.45 | 1.53 |
| 12 | B | 2765 | A | N3-C4 | -6.93 | 1.30 | 1.34 |
| 12 | B | 80 | G | C2'-C1' | -6.93 | 1.45 | 1.53 |
| 12 | B | 172 | A | C6-N1 | 6.93 | 1.40 | 1.35 |
| 12 | B | 962 | G | C8-N7 | -6.93 | 1.26 | 1.30 |
| 12 | B | 2891 | U | C5'-C4' | 6.93 | 1.59 | 1.51 |
| 12 | B | 1126 | A | P-O5' | -6.93 | 1.52 | 1.59 |
| 12 | B | 1737 | G | C4'-O4' | -6.93 | 1.36 | 1.45 |
| 12 | B | 2363 | G | C2-N3 | 6.93 | 1.38 | 1.32 |
| 12 | B | 2496 | C | N3-C4 | 6.93 | 1.38 | 1.33 |
| 12 | B | 2678 | C | N1-C6 | 6.93 | 1.41 | 1.37 |
| 16 | F | 132 | ARG | CD-NE | 6.93 | 1.58 | 1.46 |
| 12 | B | 1324 | G | O4'-C1' | 6.92 | 1.50 | 1.41 |
| 12 | B | 2409 | G | C3'-C2' | -6.92 | 1.45 | 1.52 |
| 12 | B | 56 | A | P-O5' | -6.92 | 1.52 | 1.59 |
| 12 | B | 277 | G | N3-C4 | -6.92 | 1.30 | 1.35 |
| 12 | B | 2296 | U | C1'-N1 | 6.92 | 1.59 | 1.48 |
| 11 | A | 41 | G | C2-N2 | 6.92 | 1.41 | 1.34 |
| 12 | B | 32 | C | C1'-N1 | 6.92 | 1.59 | 1.48 |
| 12 | B | 1167 | C | C5-C6 | 6.92 | 1.39 | 1.34 |
| 12 | B | 1608 | A | N1-C2 | -6.92 | 1.28 | 1.34 |
| 12 | B | 1929 | G | C2-N3 | 6.92 | 1.38 | 1.32 |
| 12 | B | 2583 | G | N1-C2 | 6.92 | 1.43 | 1.37 |
| 12 | B | 2893 | A | C1'-N9 | -6.92 | 1.37 | 1.46 |
| 12 | B | 97 | C | N1-C6 | 6.92 | 1.41 | 1.37 |
| 12 | B | 1241 | A | C3'-C2' | -6.92 | 1.45 | 1.52 |
| 12 | B | 1660 | G | N7-C5 | 6.92 | 1.43 | 1.39 |
| 12 | B | 1805 | A | C6-N6 | 6.92 | 1.39 | 1.33 |
| 12 | B | 2179 | C | C3'-C2' | 6.92 | 1.60 | 1.52 |
| 12 | B | 2432 | A | N1-C2 | 6.92 | 1.40 | 1.34 |
| 1 | 0 | 10 | ARG | CZ-NH1 | 6.92 | 1.42 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 842 | U | C5-C6 | 6.92 | 1.40 | 1.34 |
| 12 | B | 168 | G | C5-C4 | -6.91 | 1.33 | 1.38 |
| 12 | B | 1048 | A | O4'-C1' | 6.91 | 1.50 | 1.41 |
| 12 | B | 1553 | A | N3-C4 | 6.91 | 1.39 | 1.34 |
| 12 | B | 2018 | G | C4'-O4' | 6.91 | 1.54 | 1.45 |
| 12 | B | 644 | A | C5'-C4' | 6.91 | 1.59 | 1.51 |
| 12 | B | 2232 | C | C5'-C4' | 6.91 | 1.59 | 1.51 |
| 12 | B | 1452 | G | C8-N7 | -6.91 | 1.26 | 1.30 |
| 12 | B | 1657 | U | N3-C4 | 6.91 | 1.44 | 1.38 |
| 12 | B | 2663 | G | N7-C5 | -6.91 | 1.35 | 1.39 |
| 24 | N | 2 | ARG | NE-CZ | 6.91 | 1.42 | 1.33 |
| 12 | B | 581 | C | C4-C5 | -6.91 | 1.37 | 1.43 |
| 12 | B | 1001 | A | C6-N6 | 6.91 | 1.39 | 1.33 |
| 12 | B | 1628 | G | C2-N3 | 6.91 | 1.38 | 1.32 |
| 12 | B | 2590 | A | N3-C4 | -6.91 | 1.30 | 1.34 |
| 12 | B | 1404 | C | N1-C6 | 6.91 | 1.41 | 1.37 |
| 12 | B | 1028 | A | O4'-C1' | 6.91 | 1.50 | 1.41 |
| 12 | B | 1525 | A | N7-C5 | -6.91 | 1.35 | 1.39 |
| 12 | B | 1569 | A | C6-N6 | 6.91 | 1.39 | 1.33 |
| 12 | B | 2429 | G | C2'-C1' | -6.91 | 1.45 | 1.53 |
| 12 | B | 840 | C | C4-N4 | 6.90 | 1.40 | 1.33 |
| 12 | B | 1572 | A | N9-C4 | 6.90 | 1.42 | 1.37 |
| 12 | B | 1994 | C | N1-C6 | 6.90 | 1.41 | 1.37 |
| 12 | B | 2754 | U | N3-C4 | 6.90 | 1.44 | 1.38 |
| 12 | B | 728 | G | N3-C4 | 6.90 | 1.40 | 1.35 |
| 12 | B | 850 | U | C3'-O3' | 6.90 | 1.51 | 1.42 |
| 12 | B | 1252 | G | N9-C4 | 6.90 | 1.43 | 1.38 |
| 12 | B | 2472 | G | C2-N3 | 6.90 | 1.38 | 1.32 |
| 12 | B | 233 | A | C2'-C1' | -6.90 | 1.45 | 1.53 |
| 12 | B | 438 | G | N9-C4 | -6.90 | 1.32 | 1.38 |
| 12 | B | 1054 | A | C6-N6 | 6.90 | 1.39 | 1.33 |
| 12 | B | 1676 | A | C2'-C1' | -6.90 | 1.45 | 1.53 |
| 12 | B | 1988 | G | N9-C4 | -6.90 | 1.32 | 1.38 |
| 12 | B | 2261 | C | N1-C6 | 6.90 | 1.41 | 1.37 |
| 12 | B | 2792 | A | N9-C8 | 6.90 | 1.43 | 1.37 |
| 12 | B | 93 | G | N9-C8 | 6.90 | 1.42 | 1.37 |
| 12 | B | 826 | U | N3-C4 | -6.90 | 1.32 | 1.38 |
| 12 | B | 1177 | G | C2-N3 | 6.90 | 1.38 | 1.32 |
| 12 | B | 2316 | G | N1-C2 | 6.90 | 1.43 | 1.37 |
| 12 | B | 598 | U | O5'-C5' | -6.90 | 1.31 | 1.42 |
| 12 | B | 203 | A | N3-C4 | -6.89 | 1.30 | 1.34 |
| 12 | B | 1444 | G | N7-C5 | -6.89 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1824 | G | N1-C2 | 6.89 | 1.43 | 1.37 |
| 12 | B | 2668 | G | N1-C2 | 6.89 | 1.43 | 1.37 |
| 12 | B | 454 | A | C5-C4 | -6.89 | 1.33 | 1.38 |
| 12 | B | 2447 | G | C2-N2 | 6.89 | 1.41 | 1.34 |
| 12 | B | 2447 | G | C5-C6 | -6.89 | 1.35 | 1.42 |
| 12 | B | 108 | G | N9-C8 | 6.89 | 1.42 | 1.37 |
| 12 | B | 959 | A | C6-N1 | 6.89 | 1.40 | 1.35 |
| 12 | B | 2085 | U | O3'-P | -6.89 | 1.52 | 1.61 |
| 12 | B | 2158 | A | N7-C5 | -6.89 | 1.35 | 1.39 |
| 12 | B | 99 | U | N1-C2 | 6.89 | 1.44 | 1.38 |
| 12 | B | 471 | A | P-O5' | -6.89 | 1.52 | 1.59 |
| 12 | B | 633 | A | C5-C4 | 6.89 | 1.43 | 1.38 |
| 12 | B | 656 | G | C8-N7 | -6.89 | 1.26 | 1.30 |
| 12 | B | 1692 | U | C2'-C1' | -6.89 | 1.45 | 1.53 |
| 12 | B | 2367 | G | C6-N1 | 6.89 | 1.44 | 1.39 |
| 12 | B | 1545 | A | N9-C4 | 6.89 | 1.42 | 1.37 |
| 12 | B | 563 | A | N9-C4 | -6.89 | 1.33 | 1.37 |
| 12 | B | 728 | G | O3'-P | -6.89 | 1.52 | 1.61 |
| 12 | B | 1271 | G | N9-C8 | -6.89 | 1.33 | 1.37 |
| 12 | B | 121 | G | C2-N3 | 6.88 | 1.38 | 1.32 |
| 12 | B | 221 | A | C8-N7 | -6.88 | 1.26 | 1.31 |
| 12 | B | 1485 | U | C4-O4 | -6.88 | 1.18 | 1.23 |
| 12 | B | 1520 | U | C2'-C1' | -6.88 | 1.45 | 1.53 |
| 12 | B | 2096 | C | N1-C6 | 6.88 | 1.41 | 1.37 |
| 12 | B | 1733 | G | N7-C5 | -6.88 | 1.35 | 1.39 |
| 12 | B | 1864 | U | P-O5' | -6.88 | 1.52 | 1.59 |
| 12 | B | 2816 | G | C3'-C2' | -6.88 | 1.45 | 1.52 |
| 12 | B | 1735 | A | C6-N6 | 6.88 | 1.39 | 1.33 |
| 12 | B | 2714 | G | C5-C4 | -6.88 | 1.33 | 1.38 |
| 12 | B | 2718 | G | C2-N3 | 6.88 | 1.38 | 1.32 |
| 12 | B | 86 | G | C4'-O4' | -6.88 | 1.36 | 1.45 |
| 12 | B | 631 | A | C2-N3 | 6.88 | 1.39 | 1.33 |
| 29 | S | 38 | TYR | CE2-CZ | 6.88 | 1.47 | 1.38 |
| 12 | B | 1629 | U | C2-N3 | 6.88 | 1.42 | 1.37 |
| 12 | B | 2697 | G | C2-N3 | 6.88 | 1.38 | 1.32 |
| 12 | B | 695 | G | C2'-C1' | -6.87 | 1.45 | 1.53 |
| 12 | B | 1385 | A | C2'-C1' | -6.87 | 1.45 | 1.53 |
| 12 | B | 2693 | G | C6-N1 | 6.87 | 1.44 | 1.39 |
| 12 | B | 2753 | A | O3'-P | 6.87 | 1.69 | 1.61 |
| 12 | B | 1054 | A | P-O5' | 6.87 | 1.66 | 1.59 |
| 12 | B | 2004 | G | N7-C5 | 6.87 | 1.43 | 1.39 |
| 12 | B | 786 | C | C4'-C3' | 6.87 | 1.60 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 872 | U | C2'-C1' | -6.87 | 1.45 | 1.53 |
| 12 | B | 987 | C | C5'-C4' | 6.87 | 1.59 | 1.51 |
| 12 | B | 2038 | G | C6-N1 | 6.87 | 1.44 | 1.39 |
| 12 | B | 2643 | G | C5-C6 | 6.87 | 1.49 | 1.42 |
| 12 | B | 1384 | A | C5-C4 | 6.87 | 1.43 | 1.38 |
| 12 | B | 1933 | G | C2-N3 | 6.87 | 1.38 | 1.32 |
| 12 | B | 2255 | G | N7-C5 | 6.87 | 1.43 | 1.39 |
| 22 | L | 33 | ARG | CZ-NH2 | 6.87 | 1.42 | 1.33 |
| 12 | B | 1425 | G | P-O5' | -6.87 | 1.52 | 1.59 |
| 12 | B | 370 | G | C2-N2 | 6.87 | 1.41 | 1.34 |
| 12 | B | 621 | A | C6-N6 | 6.87 | 1.39 | 1.33 |
| 12 | B | 1022 | G | C8-N7 | -6.87 | 1.26 | 1.30 |
| 12 | B | 1230 | A | N9-C8 | 6.87 | 1.43 | 1.37 |
| 12 | B | 1950 | G | N9-C4 | -6.87 | 1.32 | 1.38 |
| 12 | B | 2704 | C | C5'-C4' | 6.87 | 1.59 | 1.51 |
| 12 | B | 1537 | G | P-O5' | -6.86 | 1.52 | 1.59 |
| 12 | B | 1569 | A | C4'-C3' | -6.86 | 1.45 | 1.53 |
| 12 | B | 1913 | A | O3'-P | -6.86 | 1.52 | 1.61 |
| 12 | B | 2540 | C | N3-C4 | 6.86 | 1.38 | 1.33 |
| 12 | B | 1086 | A | C3'-C2' | 6.86 | 1.60 | 1.52 |
| 12 | B | 1260 | A | C8-N7 | -6.86 | 1.26 | 1.31 |
| 12 | B | 2067 | G | C8-N7 | -6.86 | 1.26 | 1.30 |
| 12 | B | 2678 | C | P-O5' | -6.86 | 1.52 | 1.59 |
| 12 | B | 2864 | G | N7-C5 | -6.86 | 1.35 | 1.39 |
| 12 | B | 1551 | A | O3'-P | -6.86 | 1.52 | 1.61 |
| 12 | B | 2277 | G | N7-C5 | -6.86 | 1.35 | 1.39 |
| 12 | B | 1853 | A | C2'-C1' | -6.86 | 1.45 | 1.53 |
| 12 | B | 2354 | C | N3-C4 | 6.86 | 1.38 | 1.33 |
| 12 | B | 332 | A | C6-N6 | 6.86 | 1.39 | 1.33 |
| 12 | B | 432 | A | O3'-P | -6.86 | 1.52 | 1.61 |
| 12 | B | 464 | U | N1-C6 | 6.86 | 1.44 | 1.38 |
| 12 | B | 474 | G | C2-N3 | 6.86 | 1.38 | 1.32 |
| 12 | B | 843 | G | C8-N7 | -6.86 | 1.26 | 1.30 |
| 12 | B | 1155 | A | C4'-C3' | -6.86 | 1.45 | 1.53 |
| 12 | B | 1280 | G | C8-N7 | -6.86 | 1.26 | 1.30 |
| 12 | B | 1546 | G | N9-C8 | 6.86 | 1.42 | 1.37 |
| 12 | B | 2153 | C | C4-N4 | 6.86 | 1.40 | 1.33 |
| 12 | B | 2689 | U | C4-C5 | 6.86 | 1.49 | 1.43 |
| 12 | B | 945 | A | N3-C4 | 6.86 | 1.39 | 1.34 |
| 12 | B | 1727 | C | C4'-C3' | 6.86 | 1.60 | 1.53 |
| 12 | B | 1784 | A | C3'-C2' | 6.86 | 1.60 | 1.52 |
| 12 | B | 2109 | U | C2-N3 | 6.86 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 509 | C | C4-N4 | 6.85 | 1.40 | 1.33 |
| 12 | B | 1160 | G | N3-C4 | 6.85 | 1.40 | 1.35 |
| 12 | B | 1828 | G | C6-N1 | 6.85 | 1.44 | 1.39 |
| 12 | B | 1964 | G | O3'-P | 6.85 | 1.69 | 1.61 |
| 12 | B | 2849 | U | C4-C5 | 6.85 | 1.49 | 1.43 |
| 13 | C | 212 | TRP | NE1-CE2 | -6.85 | 1.28 | 1.37 |
| 12 | B | 1116 | G | N3-C4 | -6.85 | 1.30 | 1.35 |
| 12 | B | 933 | A | C4'-O4' | -6.85 | 1.36 | 1.45 |
| 12 | B | 1651 | G | C4'-O4' | -6.85 | 1.36 | 1.45 |
| 12 | B | 1810 | A | C6-N6 | 6.85 | 1.39 | 1.33 |
| 12 | B | 812 | C | C1'-N1 | 6.85 | 1.59 | 1.48 |
| 12 | B | 1019 | U | N1-C6 | 6.85 | 1.44 | 1.38 |
| 12 | B | 1093 | G | N1-C2 | 6.85 | 1.43 | 1.37 |
| 12 | B | 1216 | G | C6-N1 | 6.85 | 1.44 | 1.39 |
| 12 | B | 1432 | G | N1-C2 | 6.85 | 1.43 | 1.37 |
| 12 | B | 2228 | G | C5-C4 | 6.85 | 1.43 | 1.38 |
| 12 | B | 2346 | A | C8-N7 | -6.85 | 1.26 | 1.31 |
| 12 | B | 1158 | C | C2'-C1' | -6.85 | 1.45 | 1.53 |
| 12 | B | 1509 | A | C6-N6 | 6.85 | 1.39 | 1.33 |
| 12 | B | 899 | A | N9-C4 | -6.84 | 1.33 | 1.37 |
| 12 | B | 1613 | G | N9-C8 | -6.84 | 1.33 | 1.37 |
| 12 | B | 1818 | U | C2-N3 | 6.84 | 1.42 | 1.37 |
| 12 | B | 2539 | C | C2'-C1' | -6.84 | 1.45 | 1.53 |
| 12 | B | 658 | U | C2-N3 | 6.84 | 1.42 | 1.37 |
| 12 | B | 1251 | C | O3'-P | -6.84 | 1.52 | 1.61 |
| 12 | B | 1387 | A | C6-N1 | 6.84 | 1.40 | 1.35 |
| 12 | B | 204 | A | N9-C4 | -6.84 | 1.33 | 1.37 |
| 12 | B | 745 | G | C5'-C4' | 6.84 | 1.59 | 1.51 |
| 12 | B | 886 | A | N9-C4 | -6.84 | 1.33 | 1.37 |
| 12 | B | 1672 | A | C6-N6 | 6.84 | 1.39 | 1.33 |
| 12 | B | 1795 | C | N1-C6 | 6.84 | 1.41 | 1.37 |
| 12 | B | 434 | U | C3'-C2' | 6.84 | 1.60 | 1.52 |
| 12 | B | 1053 | C | C4-N4 | 6.84 | 1.40 | 1.33 |
| 12 | B | 1869 | G | C8-N7 | -6.84 | 1.26 | 1.30 |
| 12 | B | 1999 | C | C4'-C3' | 6.84 | 1.60 | 1.53 |
| 11 | A | 61 | G | C6-N1 | 6.84 | 1.44 | 1.39 |
| 12 | B | 549 | G | C5'-C4' | 6.84 | 1.59 | 1.51 |
| 12 | B | 581 | C | C2-O2 | 6.84 | 1.30 | 1.24 |
| 12 | B | 701 | G | C4'-C3' | 6.84 | 1.60 | 1.53 |
| 12 | B | 1182 | G | C6-N1 | 6.84 | 1.44 | 1.39 |
| 12 | B | 1248 | G | N9-C8 | 6.84 | 1.42 | 1.37 |
| 12 | B | 2204 | G | C5-C4 | 6.84 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2488 | G | P-O5' | -6.84 | 1.52 | 1.59 |
| 12 | B | 557 | C | C2'-C1' | -6.84 | 1.45 | 1.53 |
| 12 | B | 681 | G | N9-C4 | 6.84 | 1.43 | 1.38 |
| 12 | B | 1354 | A | C5-C4 | 6.84 | 1.43 | 1.38 |
| 12 | B | 94 | A | C6-N6 | 6.83 | 1.39 | 1.33 |
| 12 | B | 1395 | A | N3-C4 | -6.83 | 1.30 | 1.34 |
| 12 | B | 2376 | A | C5-C4 | -6.83 | 1.33 | 1.38 |
| 12 | B | 1660 | G | N1-C2 | 6.83 | 1.43 | 1.37 |
| 12 | B | 2340 | A | C5'-C4' | 6.83 | 1.59 | 1.51 |
| 12 | B | 124 | G | C2-N3 | 6.83 | 1.38 | 1.32 |
| 12 | B | 687 | C | C4-N4 | 6.83 | 1.40 | 1.33 |
| 12 | B | 2535 | G | C5'-C4' | 6.83 | 1.59 | 1.51 |
| 12 | B | 363 | G | C8-N7 | -6.83 | 1.26 | 1.30 |
| 12 | B | 1696 | G | C6-N1 | 6.83 | 1.44 | 1.39 |
| 12 | B | 2012 | G | N9-C8 | -6.83 | 1.33 | 1.37 |
| 12 | B | 1002 | G | C8-N7 | -6.83 | 1.26 | 1.30 |
| 12 | B | 226 | A | N9-C4 | 6.83 | 1.42 | 1.37 |
| 12 | B | 671 | C | O3'-P | -6.83 | 1.52 | 1.61 |
| 12 | B | 942 | G | C6-N1 | 6.83 | 1.44 | 1.39 |
| 12 | B | 1049 | C | C5-C6 | -6.83 | 1.28 | 1.34 |
| 12 | B | 1474 | U | N1-C2 | 6.83 | 1.44 | 1.38 |
| 12 | B | 2807 | U | N1-C2 | 6.83 | 1.44 | 1.38 |
| 12 | B | 2236 | U | P-O5' | -6.82 | 1.52 | 1.59 |
| 13 | C | 12 | ARG | CZ-NH1 | 6.82 | 1.42 | 1.33 |
| 12 | B | 344 | A | N3-C4 | -6.82 | 1.30 | 1.34 |
| 12 | B | 1935 | G | O4'-C1' | -6.82 | 1.32 | 1.41 |
| 12 | B | 2531 | A | C8-N7 | 6.82 | 1.36 | 1.31 |
| 18 | H | 123 | ARG | NE-CZ | 6.82 | 1.42 | 1.33 |
| 12 | B | 38 | A | C5-C4 | -6.82 | 1.33 | 1.38 |
| 12 | B | 368 | A | C8-N7 | 6.82 | 1.36 | 1.31 |
| 12 | B | 1030 | C | P-O5' | -6.82 | 1.52 | 1.59 |
| 12 | B | 2260 | C | C5'-C4' | 6.82 | 1.59 | 1.51 |
| 12 | B | 535 | G | C8-N7 | -6.82 | 1.26 | 1.30 |
| 12 | B | 565 | C | O3'-P | -6.82 | 1.52 | 1.61 |
| 12 | B | 672 | C | C4-N4 | 6.82 | 1.40 | 1.33 |
| 12 | B | 1216 | G | N7-C5 | -6.82 | 1.35 | 1.39 |
| 12 | B | 1264 | A | N9-C4 | 6.82 | 1.42 | 1.37 |
| 12 | B | 1002 | G | N9-C4 | -6.82 | 1.32 | 1.38 |
| 12 | B | 1165 | A | N9-C4 | 6.82 | 1.42 | 1.37 |
| 12 | B | 1227 | G | N3-C4 | -6.82 | 1.30 | 1.35 |
| 12 | B | 1746 | A | C5'-C4' | 6.82 | 1.59 | 1.51 |
| 12 | B | 2454 | G | P-O5' | -6.82 | 1.52 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2776 | A | C5'-C4' | 6.82 | 1.59 | 1.51 |
| 12 | B | 75 | G | C2'-C1' | -6.82 | 1.45 | 1.53 |
| 12 | B | 1215 | G | N7-C5 | -6.82 | 1.35 | 1.39 |
| 12 | B | 1868 | C | N1-C6 | -6.82 | 1.33 | 1.37 |
| 12 | B | 2207 | C | N1-C6 | -6.82 | 1.33 | 1.37 |
| 12 | B | 1142 | A | N9-C8 | -6.81 | 1.32 | 1.37 |
| 12 | B | 1246 | A | P-O5' | -6.81 | 1.52 | 1.59 |
| 12 | B | 424 | G | C5'-C4' | 6.81 | 1.59 | 1.51 |
| 12 | B | 1504 | A | P-O5' | -6.81 | 1.52 | 1.59 |
| 12 | B | 1536 | C | C3'-O3' | 6.81 | 1.51 | 1.42 |
| 12 | B | 1711 | A | C6-N1 | 6.81 | 1.40 | 1.35 |
| 12 | B | 1753 | G | N3-C4 | -6.81 | 1.30 | 1.35 |
| 12 | B | 1790 | C | N1-C6 | 6.81 | 1.41 | 1.37 |
| 12 | B | 378 | C | N1-C6 | 6.81 | 1.41 | 1.37 |
| 12 | B | 2138 | G | N7-C5 | -6.81 | 1.35 | 1.39 |
| 12 | B | 649 | G | P-O5' | -6.81 | 1.52 | 1.59 |
| 12 | B | 655 | A | N7-C5 | 6.81 | 1.43 | 1.39 |
| 12 | B | 1197 | G | N7-C5 | -6.81 | 1.35 | 1.39 |
| 12 | B | 2470 | G | C3'-C2' | 6.81 | 1.60 | 1.52 |
| 12 | B | 1701 | A | C6-N1 | 6.81 | 1.40 | 1.35 |
| 12 | B | 1720 | U | N3-C4 | 6.81 | 1.44 | 1.38 |
| 12 | B | 2253 | G | C2-N3 | 6.81 | 1.38 | 1.32 |
| 12 | B | 1598 | A | C5-C4 | 6.81 | 1.43 | 1.38 |
| 12 | B | 2610 | C | P-O5' | 6.81 | 1.66 | 1.59 |
| 12 | B | 154 | U | C4-C5 | -6.80 | 1.37 | 1.43 |
| 12 | B | 329 | G | C5-C6 | -6.80 | 1.35 | 1.42 |
| 12 | B | 449 | A | O3'-P | -6.80 | 1.52 | 1.61 |
| 12 | B | 563 | A | P-O5' | -6.80 | 1.52 | 1.59 |
| 12 | B | 805 | G | C8-N7 | -6.80 | 1.26 | 1.30 |
| 12 | B | 1078 | U | C2-N3 | 6.80 | 1.42 | 1.37 |
| 12 | B | 433 | C | C4'-O4' | -6.80 | 1.36 | 1.45 |
| 12 | B | 664 | G | C2-N2 | 6.80 | 1.41 | 1.34 |
| 12 | B | 2367 | G | C2-N3 | 6.80 | 1.38 | 1.32 |
| 12 | B | 818 | G | C5-C4 | 6.80 | 1.43 | 1.38 |
| 12 | B | 686 | U | C3'-C2' | 6.80 | 1.60 | 1.52 |
| 12 | B | 1562 | U | C5'-C4' | 6.80 | 1.59 | 1.51 |
| 12 | B | 2701 | U | N1-C6 | 6.80 | 1.44 | 1.38 |
| 12 | B | 206 | U | O4'-C1' | 6.79 | 1.50 | 1.41 |
| 23 | M | 40 | ARG | CD-NE | 6.79 | 1.58 | 1.46 |
| 12 | B | 2525 | G | N7-C5 | -6.79 | 1.35 | 1.39 |
| 12 | B | 2812 | G | N3-C4 | -6.79 | 1.30 | 1.35 |
| 12 | B | 1613 | G | N7-C5 | 6.79 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1867 | G | C2-N2 | 6.79 | 1.41 | 1.34 |
| 12 | B | 2235 | G | N3-C4 | 6.79 | 1.40 | 1.35 |
| 12 | B | 2859 | G | N9-C4 | 6.79 | 1.43 | 1.38 |
| 12 | B | 1025 | G | N7-C5 | -6.79 | 1.35 | 1.39 |
| 12 | B | 1701 | A | N9-C4 | -6.79 | 1.33 | 1.37 |
| 12 | B | 2773 | C | C4'-C3' | 6.79 | 1.60 | 1.53 |
| 12 | B | 449 | A | P-O5' | -6.79 | 1.52 | 1.59 |
| 12 | B | 1335 | C | N1-C6 | 6.79 | 1.41 | 1.37 |
| 12 | B | 2168 | G | C2-N2 | 6.79 | 1.41 | 1.34 |
| 12 | B | 2624 | G | C5-C4 | 6.79 | 1.43 | 1.38 |
| 12 | B | 2675 | A | C6-N6 | 6.79 | 1.39 | 1.33 |
| 12 | B | 1095 | A | C6-N6 | 6.78 | 1.39 | 1.33 |
| 12 | B | 1738 | G | C8-N7 | 6.78 | 1.35 | 1.30 |
| 12 | B | 2797 | U | C2-N3 | 6.78 | 1.42 | 1.37 |
| 12 | B | 2033 | A | C2'-C1' | -6.78 | 1.45 | 1.53 |
| 12 | B | 2060 | A | N3-C4 | -6.78 | 1.30 | 1.34 |
| 12 | B | 2856 | A | C6-N1 | 6.78 | 1.40 | 1.35 |
| 12 | B | 2343 | U | C2-O2 | 6.78 | 1.28 | 1.22 |
| 12 | B | 2469 | A | N3-C4 | 6.78 | 1.39 | 1.34 |
| 12 | B | 1210 | G | C2-N3 | 6.78 | 1.38 | 1.32 |
| 12 | B | 1486 | U | C3'-C2' | -6.78 | 1.45 | 1.52 |
| 12 | B | 2125 | G | C6-N1 | 6.78 | 1.44 | 1.39 |
| 12 | B | 2436 | G | N3-C4 | -6.78 | 1.30 | 1.35 |
| 12 | B | 1596 | A | N1-C2 | 6.78 | 1.40 | 1.34 |
| 12 | B | 1635 | A | N7-C5 | 6.78 | 1.43 | 1.39 |
| 12 | B | 1789 | A | N3-C4 | -6.78 | 1.30 | 1.34 |
| 12 | B | 1937 | A | N9-C4 | -6.78 | 1.33 | 1.37 |
| 12 | B | 2132 | U | C2'-C1' | -6.78 | 1.45 | 1.53 |
| 12 | B | 273 | G | C6-O6 | -6.78 | 1.18 | 1.24 |
| 12 | B | 325 | G | C6-N1 | 6.78 | 1.44 | 1.39 |
| 12 | B | 431 | U | P-O5' | -6.78 | 1.52 | 1.59 |
| 12 | B | 861 | A | N9-C4 | -6.78 | 1.33 | 1.37 |
| 12 | B | 1631 | G | C2-N2 | 6.78 | 1.41 | 1.34 |
| 12 | B | 2316 | G | C2-N3 | 6.78 | 1.38 | 1.32 |
| 12 | B | 2759 | G | C5'-C4' | 6.78 | 1.59 | 1.51 |
| 12 | B | 2782 | G | C4'-C3' | -6.78 | 1.45 | 1.53 |
| 15 | E | 197 | GLU | CD-OE1 | 6.78 | 1.33 | 1.25 |
| 12 | B | 1768 | C | N1-C6 | 6.77 | 1.41 | 1.37 |
| 12 | B | 188 | G | N7-C5 | -6.77 | 1.35 | 1.39 |
| 12 | B | 770 | G | N3-C4 | -6.77 | 1.30 | 1.35 |
| 12 | B | 1192 | G | C2-N3 | 6.77 | 1.38 | 1.32 |
| 12 | B | 2012 | G | N1-C2 | 6.77 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2806 | C | C4-N4 | 6.77 | 1.40 | 1.33 |
| 13 | C | 100 | ARG | CZ-NH2 | 6.77 | 1.41 | 1.33 |
| 23 | M | 38 | ARG | CZ-NH2 | 6.77 | 1.41 | 1.33 |
| 12 | B | 857 | G | N7-C5 | -6.77 | 1.35 | 1.39 |
| 12 | B | 203 | A | C8-N7 | -6.77 | 1.26 | 1.31 |
| 12 | B | 691 | C | N1-C6 | 6.77 | 1.41 | 1.37 |
| 12 | B | 312 | G | C3'-C2' | -6.77 | 1.45 | 1.52 |
| 12 | B | 743 | A | P-O5' | -6.77 | 1.52 | 1.59 |
| 12 | B | 776 | G | C2-N3 | 6.77 | 1.38 | 1.32 |
| 12 | B | 412 | A | N3-C4 | 6.77 | 1.39 | 1.34 |
| 12 | B | 1154 | G | C2'-C1' | -6.76 | 1.46 | 1.53 |
| 12 | B | 2146 | C | N3-C4 | 6.76 | 1.38 | 1.33 |
| 12 | B | 2423 | U | C4-C5 | 6.76 | 1.49 | 1.43 |
| 12 | B | 2686 | G | N9-C8 | -6.76 | 1.33 | 1.37 |
| 12 | B | 1462 | C | C3'-C2' | 6.76 | 1.60 | 1.52 |
| 12 | B | 1499 | C | C4-N4 | 6.76 | 1.40 | 1.33 |
| 12 | B | 1719 | G | N9-C4 | -6.76 | 1.32 | 1.38 |
| 12 | B | 2135 | A | O3'-P | -6.76 | 1.53 | 1.61 |
| 12 | B | 2808 | G | N3-C4 | -6.76 | 1.30 | 1.35 |
| 12 | B | 2843 | G | C2'-C1' | -6.76 | 1.46 | 1.53 |
| 11 | A | 110 | C | C4'-C3' | 6.76 | 1.60 | 1.53 |
| 12 | B | 1168 | G | P-O5' | -6.76 | 1.52 | 1.59 |
| 12 | B | 1189 | A | C2'-O2' | 6.76 | 1.50 | 1.41 |
| 12 | B | 1695 | G | N1-C2 | 6.76 | 1.43 | 1.37 |
| 12 | B | 2178 | C | C2-N3 | 6.76 | 1.41 | 1.35 |
| 12 | B | 2801 | G | N9-C8 | 6.76 | 1.42 | 1.37 |
| 12 | B | 206 | U | N1-C6 | 6.76 | 1.44 | 1.38 |
| 12 | B | 630 | G | C2'-C1' | -6.76 | 1.46 | 1.53 |
| 12 | B | 1192 | G | C5-C4 | 6.76 | 1.43 | 1.38 |
| 22 | L | 78 | ARG | NE-CZ | 6.76 | 1.41 | 1.33 |
| 12 | B | 1292 | G | C5-C4 | 6.76 | 1.43 | 1.38 |
| 12 | B | 1646 | C | C4-N4 | 6.76 | 1.40 | 1.33 |
| 12 | B | 388 | G | N3-C4 | -6.76 | 1.30 | 1.35 |
| 12 | B | 407 | G | C2-N3 | 6.76 | 1.38 | 1.32 |
| 12 | B | 1890 | A | C4'-C3' | 6.76 | 1.60 | 1.53 |
| 12 | B | 1927 | A | C1'-N9 | 6.76 | 1.58 | 1.48 |
| 11 | A | 102 | G | N9-C8 | 6.75 | 1.42 | 1.37 |
| 12 | B | 153 | U | C2-N3 | 6.75 | 1.42 | 1.37 |
| 12 | B | 1937 | A | P-O5' | 6.75 | 1.66 | 1.59 |
| 12 | B | 2820 | A | P-O5' | -6.75 | 1.52 | 1.59 |
| 11 | A | 49 | C | C2-N3 | 6.75 | 1.41 | 1.35 |
| 12 | B | 188 | G | C5-C4 | 6.75 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 354 | A | C2'-C1' | -6.75 | 1.46 | 1.53 |
| 12 | B | 2621 | G | O3'-P | -6.75 | 1.53 | 1.61 |
| 12 | B | 2792 | A | N3-C4 | -6.75 | 1.30 | 1.34 |
| 12 | B | 2827 | C | C5-C6 | 6.75 | 1.39 | 1.34 |
| 12 | B | 1374 | G | C8-N7 | -6.75 | 1.26 | 1.30 |
| 12 | B | 2295 | C | O4'-C1' | 6.75 | 1.50 | 1.41 |
| 12 | B | 644 | A | N9-C4 | -6.75 | 1.33 | 1.37 |
| 12 | B | 874 | G | P-O5' | 6.75 | 1.66 | 1.59 |
| 12 | B | 1180 | U | C2-N3 | 6.75 | 1.42 | 1.37 |
| 12 | B | 1426 | G | N7-C5 | -6.75 | 1.35 | 1.39 |
| 12 | B | 1558 | C | C4-N4 | 6.75 | 1.40 | 1.33 |
| 12 | B | 277 | G | C8-N7 | 6.75 | 1.34 | 1.30 |
| 12 | B | 1766 | G | C5-C4 | -6.75 | 1.33 | 1.38 |
| 12 | B | 2410 | G | C8-N7 | 6.75 | 1.34 | 1.30 |
| 12 | B | 2454 | G | C6-N1 | 6.75 | 1.44 | 1.39 |
| 12 | B | 1631 | G | N1-C2 | 6.75 | 1.43 | 1.37 |
| 10 | 9 | 25 | ARG | CD-NE | 6.74 | 1.57 | 1.46 |
| 11 | A | 96 | G | N3-C4 | 6.74 | 1.40 | 1.35 |
| 12 | B | 561 | G | C4'-C3' | 6.74 | 1.60 | 1.53 |
| 12 | B | 939 | G | C8-N7 | -6.74 | 1.26 | 1.30 |
| 12 | B | 1622 | G | N9-C4 | 6.74 | 1.43 | 1.38 |
| 15 | E | 40 | ARG | CZ-NH1 | 6.74 | 1.41 | 1.33 |
| 12 | B | 139 | U | C4'-O4' | 6.74 | 1.54 | 1.45 |
| 12 | B | 250 | G | C6-O6 | -6.74 | 1.18 | 1.24 |
| 12 | B | 322 | A | N7-C5 | -6.74 | 1.35 | 1.39 |
| 12 | B | 1456 | G | C5-C4 | -6.74 | 1.33 | 1.38 |
| 12 | B | 1968 | G | C5'-C4' | 6.74 | 1.59 | 1.51 |
| 12 | B | 2157 | G | N7-C5 | 6.74 | 1.43 | 1.39 |
| 12 | B | 2361 | G | C5-C4 | 6.74 | 1.43 | 1.38 |
| 12 | B | 2530 | A | N1-C2 | -6.74 | 1.28 | 1.34 |
| 11 | A | 75 | G | C5-C4 | -6.74 | 1.33 | 1.38 |
| 12 | B | 56 | A | N9-C4 | -6.74 | 1.33 | 1.37 |
| 12 | B | 485 | C | P-O5' | -6.74 | 1.53 | 1.59 |
| 12 | B | 609 | A | O3'-P | -6.74 | 1.53 | 1.61 |
| 12 | B | 1432 | G | C5-C4 | 6.74 | 1.43 | 1.38 |
| 12 | B | 1879 | C | O3'-P | -6.74 | 1.53 | 1.61 |
| 12 | B | 2462 | C | C3'-O3' | 6.74 | 1.51 | 1.42 |
| 12 | B | 2902 | C | P-O5' | -6.74 | 1.53 | 1.59 |
| 12 | B | 529 | A | C5-C6 | -6.74 | 1.34 | 1.41 |
| 12 | B | 2426 | A | O3'-P | -6.74 | 1.53 | 1.61 |
| 12 | B | 2749 | A | N3-C4 | -6.74 | 1.30 | 1.34 |
| 12 | B | 1051 | G | N9-C4 | -6.74 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2412 | A | C2'-C1' | -6.74 | 1.46 | 1.53 |
| 12 | B | 218 | A | C6-N1 | 6.74 | 1.40 | 1.35 |
| 12 | B | 774 | G | C2-N2 | 6.74 | 1.41 | 1.34 |
| 12 | B | 1171 | G | C2'-C1' | -6.74 | 1.46 | 1.53 |
| 12 | B | 1398 | C | N1-C6 | -6.74 | 1.33 | 1.37 |
| 12 | B | 2390 | U | C2'-C1' | 6.74 | 1.60 | 1.53 |
| 12 | B | 2654 | A | C8-N7 | 6.74 | 1.36 | 1.31 |
| 12 | B | 2890 | G | N7-C5 | -6.74 | 1.35 | 1.39 |
| 12 | B | 279 | A | C4'-C3' | 6.73 | 1.60 | 1.53 |
| 12 | B | 621 | A | C6-N1 | -6.73 | 1.30 | 1.35 |
| 12 | B | 1504 | A | C5-C4 | 6.73 | 1.43 | 1.38 |
| 12 | B | 1644 | C | N1-C2 | 6.73 | 1.46 | 1.40 |
| 12 | B | 1745 | A | C6-N1 | 6.73 | 1.40 | 1.35 |
| 12 | B | 1813 | G | C6-N1 | 6.73 | 1.44 | 1.39 |
| 11 | A | 44 | G | O3'-P | -6.73 | 1.53 | 1.61 |
| 12 | B | 380 | G | O3'-P | -6.73 | 1.53 | 1.61 |
| 12 | B | 1714 | U | O3'-P | -6.73 | 1.53 | 1.61 |
| 12 | B | 1960 | A | N7-C5 | -6.73 | 1.35 | 1.39 |
| 12 | B | 2523 | G | C4'-C3' | 6.73 | 1.60 | 1.53 |
| 12 | B | 477 | A | C5'-C4' | 6.73 | 1.59 | 1.51 |
| 12 | B | 615 | U | C3'-C2' | 6.73 | 1.60 | 1.52 |
| 12 | B | 1309 | G | C5-C4 | -6.73 | 1.33 | 1.38 |
| 12 | B | 1935 | G | C4'-C3' | 6.73 | 1.60 | 1.53 |
| 12 | B | 2224 | G | C4'-C3' | 6.73 | 1.60 | 1.53 |
| 12 | B | 10 | A | C2'-C1' | 6.73 | 1.60 | 1.53 |
| 12 | B | 1235 | G | C5-C4 | -6.73 | 1.33 | 1.38 |
| 12 | B | 989 | G | C8-N7 | 6.73 | 1.34 | 1.30 |
| 12 | B | 2460 | U | P-O5' | -6.73 | 1.53 | 1.59 |
| 18 | H | 27 | ARG | CZ-NH1 | 6.73 | 1.41 | 1.33 |
| 12 | B | 1015 | U | C4-C5 | -6.72 | 1.37 | 1.43 |
| 12 | B | 1098 | A | N3-C4 | 6.72 | 1.38 | 1.34 |
| 12 | B | 1217 | U | P-O5' | -6.72 | 1.53 | 1.59 |
| 12 | B | 1024 | G | C2'-C1' | 6.72 | 1.60 | 1.53 |
| 12 | B | 1566 | A | C8-N7 | -6.72 | 1.26 | 1.31 |
| 12 | B | 1600 | C | C5'-C4' | 6.72 | 1.59 | 1.51 |
| 12 | B | 1891 | G | O3'-P | -6.72 | 1.53 | 1.61 |
| 12 | B | 2623 | G | N9-C4 | 6.72 | 1.43 | 1.38 |
| 12 | B | 856 | G | C2-N2 | 6.72 | 1.41 | 1.34 |
| 11 | A | 17 | C | C4-C5 | -6.72 | 1.37 | 1.43 |
| 12 | B | 2337 | G | C2-N2 | 6.72 | 1.41 | 1.34 |
| 12 | B | 2816 | G | C5-C6 | -6.72 | 1.35 | 1.42 |
| 12 | B | 708 | G | C2'-C1' | -6.72 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2168 | G | N7-C5 | -6.72 | 1.35 | 1.39 |
| 12 | B | 2278 | A | C5'-C4' | 6.72 | 1.59 | 1.51 |
| 11 | A | 112 | G | C5-C6 | -6.72 | 1.35 | 1.42 |
| 12 | B | 612 | G | N1-C2 | 6.72 | 1.43 | 1.37 |
| 12 | B | 1574 | C | C4-N4 | 6.72 | 1.40 | 1.33 |
| 12 | B | 2060 | A | P-O5' | -6.72 | 1.53 | 1.59 |
| 12 | B | 2531 | A | N7-C5 | -6.72 | 1.35 | 1.39 |
| 12 | B | 2599 | G | N1-C2 | 6.72 | 1.43 | 1.37 |
| 12 | B | 451 | U | C4-O4 | -6.71 | 1.18 | 1.23 |
| 12 | B | 910 | A | P-O5' | -6.71 | 1.53 | 1.59 |
| 12 | B | 1031 | G | N9-C8 | -6.71 | 1.33 | 1.37 |
| 12 | B | 2108 | A | C6-N1 | 6.71 | 1.40 | 1.35 |
| 12 | B | 51 | G | C6-O6 | 6.71 | 1.30 | 1.24 |
| 12 | B | 246 | C | N1-C6 | 6.71 | 1.41 | 1.37 |
| 12 | B | 1893 | C | C2'-C1' | -6.71 | 1.46 | 1.53 |
| 12 | B | 1955 | U | C2-N3 | -6.71 | 1.33 | 1.37 |
| 12 | B | 2048 | G | C2'-C1' | -6.71 | 1.46 | 1.53 |
| 12 | B | 2269 | G | C2'-C1' | -6.71 | 1.46 | 1.53 |
| 12 | B | 49 | A | C3'-C2' | 6.71 | 1.60 | 1.52 |
| 12 | B | 1299 | G | C2-N3 | 6.71 | 1.38 | 1.32 |
| 12 | B | 1603 | A | C6-N1 | 6.71 | 1.40 | 1.35 |
| 12 | B | 2440 | C | C1'-N1 | 6.71 | 1.58 | 1.48 |
| 12 | B | 1338 | G | C2-N3 | 6.71 | 1.38 | 1.32 |
| 12 | B | 2173 | A | C8-N7 | -6.71 | 1.26 | 1.31 |
| 12 | B | 1573 | G | C2-N3 | 6.71 | 1.38 | 1.32 |
| 12 | B | 2872 | A | C6-N6 | 6.71 | 1.39 | 1.33 |
| 12 | B | 13 | A | N7-C5 | -6.71 | 1.35 | 1.39 |
| 12 | B | 77 | G | N9-C4 | -6.71 | 1.32 | 1.38 |
| 12 | B | 553 | G | C8-N7 | 6.71 | 1.34 | 1.30 |
| 12 | B | 2015 | A | C5-C4 | 6.71 | 1.43 | 1.38 |
| 12 | B | 2062 | A | C3'-C2' | -6.71 | 1.45 | 1.52 |
| 12 | B | 2448 | A | C5'-C4' | 6.71 | 1.59 | 1.51 |
| 12 | B | 1063 | G | N9-C8 | 6.70 | 1.42 | 1.37 |
| 12 | B | 1936 | A | C8-N7 | -6.70 | 1.26 | 1.31 |
| 12 | B | 2545 | G | C8-N7 | -6.70 | 1.26 | 1.30 |
| 12 | B | 2833 | U | C2-N3 | 6.70 | 1.42 | 1.37 |
| 12 | B | 91 | A | O3'-P | -6.70 | 1.53 | 1.61 |
| 12 | B | 1223 | G | P-O5' | -6.70 | 1.53 | 1.59 |
| 12 | B | 2318 | G | N1-C2 | 6.70 | 1.43 | 1.37 |
| 12 | B | 1798 | U | P-O5' | -6.70 | 1.53 | 1.59 |
| 12 | B | 2411 | A | C6-N6 | 6.70 | 1.39 | 1.33 |
| 12 | B | 141 | G | N9-C4 | 6.70 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 527 | C | C2'-C1' | -6.70 | 1.46 | 1.53 |
| 11 | A | 85 | G | C2'-C1' | -6.70 | 1.46 | 1.53 |
| 12 | B | 496 | G | C3'-C2' | -6.70 | 1.45 | 1.52 |
| 12 | B | 1960 | A | C6-N1 | 6.70 | 1.40 | 1.35 |
| 12 | B | 2713 | U | N1-C2 | 6.70 | 1.44 | 1.38 |
| 12 | B | 2042 | A | N3-C4 | -6.70 | 1.30 | 1.34 |
| 12 | B | 2710 | C | C4-N4 | 6.70 | 1.40 | 1.33 |
| 12 | B | 712 | G | C6-N1 | 6.69 | 1.44 | 1.39 |
| 12 | B | 1700 | A | N7-C5 | -6.69 | 1.35 | 1.39 |
| 12 | B | 299 | A | O3'-P | -6.69 | 1.53 | 1.61 |
| 12 | B | 716 | A | N9-C4 | 6.69 | 1.41 | 1.37 |
| 12 | B | 1162 | G | C8-N7 | -6.69 | 1.26 | 1.30 |
| 12 | B | 2042 | A | C6-N1 | 6.69 | 1.40 | 1.35 |
| 12 | B | 2572 | A | N9-C8 | 6.69 | 1.43 | 1.37 |
| 12 | B | 2136 | G | N7-C5 | 6.69 | 1.43 | 1.39 |
| 12 | B | 2319 | G | N9-C8 | 6.69 | 1.42 | 1.37 |
| 12 | B | 2331 | G | C5'-C4' | 6.69 | 1.59 | 1.51 |
| 12 | B | 2381 | A | C5-C4 | -6.69 | 1.34 | 1.38 |
| 12 | B | 879 | G | N9-C8 | -6.69 | 1.33 | 1.37 |
| 12 | B | 1771 | C | C2-O2 | -6.69 | 1.18 | 1.24 |
| 12 | B | 1776 | G | C4'-C3' | -6.69 | 1.45 | 1.53 |
| 12 | B | 2694 | G | P-O5' | 6.69 | 1.66 | 1.59 |
| 12 | B | 629 | G | C6-N1 | 6.69 | 1.44 | 1.39 |
| 12 | B | 1769 | U | C4-C5 | 6.69 | 1.49 | 1.43 |
| 12 | B | 1887 | C | N1-C6 | 6.69 | 1.41 | 1.37 |
| 12 | B | 1987 | A | C6-N6 | 6.69 | 1.39 | 1.33 |
| 12 | B | 2184 | A | P-O5' | -6.69 | 1.53 | 1.59 |
| 12 | B | 2343 | U | C4-O4 | 6.69 | 1.29 | 1.23 |
| 12 | B | 2495 | G | N9-C8 | -6.69 | 1.33 | 1.37 |
| 12 | B | 2564 | A | N9-C4 | -6.69 | 1.33 | 1.37 |
| 12 | B | 1 | G | N7-C5 | -6.69 | 1.35 | 1.39 |
| 12 | B | 1204 | A | C6-N6 | 6.69 | 1.39 | 1.33 |
| 12 | B | 2451 | A | N9-C4 | -6.69 | 1.33 | 1.37 |
| 12 | B | 2802 | G | C4'-C3' | -6.69 | 1.45 | 1.53 |
| 12 | B | 1349 | C | N3-C4 | 6.68 | 1.38 | 1.33 |
| 12 | B | 1545 | A | N1-C2 | 6.68 | 1.40 | 1.34 |
| 12 | B | 1597 | A | O4'-C1' | -6.68 | 1.32 | 1.41 |
| 12 | B | 1797 | G | C2'-O2' | -6.68 | 1.32 | 1.41 |
| 16 | F | 109 | ARG | CD-NE | 6.68 | 1.57 | 1.46 |
| 12 | B | 915 | C | C2-N3 | 6.68 | 1.41 | 1.35 |
| 12 | B | 1000 | A | N9-C4 | 6.68 | 1.41 | 1.37 |
| 12 | B | 1010 | A | N7-C5 | -6.68 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2796 | U | N1-C2 | 6.68 | 1.44 | 1.38 |
| 17 | G | 34 | ARG | NE-CZ | 6.68 | 1.41 | 1.33 |
| 12 | B | 805 | G | C2'-C1' | -6.68 | 1.46 | 1.53 |
| 12 | B | 847 | U | C5'-C4' | 6.68 | 1.59 | 1.51 |
| 12 | B | 2329 | U | C1'-N1 | 6.68 | 1.58 | 1.48 |
| 12 | B | 2680 | U | N1-C2 | 6.68 | 1.44 | 1.38 |
| 12 | B | 1424 | G | N9-C8 | 6.68 | 1.42 | 1.37 |
| 12 | B | 279 | A | C6-N6 | -6.68 | 1.28 | 1.33 |
| 12 | B | 741 | U | O3'-P | -6.68 | 1.53 | 1.61 |
| 12 | B | 766 | U | P-O5' | -6.68 | 1.53 | 1.59 |
| 12 | B | 1817 | G | N1-C2 | 6.68 | 1.43 | 1.37 |
| 12 | B | 2029 | G | N9-C8 | -6.68 | 1.33 | 1.37 |
| 11 | A | 37 | C | C3'-C2' | -6.67 | 1.45 | 1.52 |
| 12 | B | 1192 | G | C6-N1 | 6.67 | 1.44 | 1.39 |
| 12 | B | 2766 | A | C5-C4 | 6.67 | 1.43 | 1.38 |
| 12 | B | 771 | G | N3-C4 | -6.67 | 1.30 | 1.35 |
| 12 | B | 1888 | G | N7-C5 | -6.67 | 1.35 | 1.39 |
| 12 | B | 1101 | U | C4-C5 | 6.67 | 1.49 | 1.43 |
| 12 | B | 1809 | A | N3-C4 | -6.67 | 1.30 | 1.34 |
| 12 | B | 1820 | U | C1'-N1 | 6.67 | 1.58 | 1.48 |
| 12 | B | 2822 | G | C2-N3 | 6.67 | 1.38 | 1.32 |
| 12 | B | 2235 | G | P-O5' | -6.67 | 1.53 | 1.59 |
| 12 | B | 1321 | A | N7-C5 | -6.67 | 1.35 | 1.39 |
| 12 | B | 1628 | G | N1-C2 | -6.67 | 1.32 | 1.37 |
| 12 | B | 2504 | U | C5'-C4' | 6.67 | 1.59 | 1.51 |
| 12 | B | 2742 | G | N1-C2 | 6.67 | 1.43 | 1.37 |
| 12 | B | 2799 | A | C2'-C1' | -6.67 | 1.46 | 1.53 |
| 12 | B | 2863 | C | C3'-O3' | 6.67 | 1.51 | 1.42 |
| 33 | Y | 13 | ARG | CZ-NH1 | 6.67 | 1.41 | 1.33 |
| 12 | B | 516 | C | P-O5' | -6.67 | 1.53 | 1.59 |
| 12 | B | 908 | C | C3'-C2' | -6.67 | 1.45 | 1.52 |
| 12 | B | 965 | C | C5-C6 | -6.67 | 1.29 | 1.34 |
| 12 | B | 2410 | G | C2-N3 | 6.67 | 1.38 | 1.32 |
| 12 | B | 2584 | U | N3-C4 | 6.67 | 1.44 | 1.38 |
| 12 | B | 243 | U | C2-N3 | 6.67 | 1.42 | 1.37 |
| 12 | B | 525 | U | C2-N3 | 6.67 | 1.42 | 1.37 |
| 12 | B | 632 | A | N9-C4 | 6.67 | 1.41 | 1.37 |
| 12 | B | 635 | C | C2'-C1' | -6.67 | 1.46 | 1.53 |
| 12 | B | 1609 | A | C5-C4 | -6.67 | 1.34 | 1.38 |
| 12 | B | 1684 | G | N7-C5 | -6.67 | 1.35 | 1.39 |
| 12 | B | 383 | C | C4'-C3' | 6.66 | 1.60 | 1.53 |
| 12 | B | 407 | G | P-O5' | -6.66 | 1.53 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1969 | A | C6-N6 | 6.66 | 1.39 | 1.33 |
| 12 | B | 2113 | U | N3-C4 | 6.66 | 1.44 | 1.38 |
| 12 | B | 804 | A | N9-C4 | 6.66 | 1.41 | 1.37 |
| 12 | B | 894 | U | P-O5' | -6.66 | 1.53 | 1.59 |
| 12 | B | 1653 | G | C2-N2 | 6.66 | 1.41 | 1.34 |
| 12 | B | 1856 | U | C2-N3 | 6.66 | 1.42 | 1.37 |
| 12 | B | 536 | G | C5-C4 | 6.66 | 1.43 | 1.38 |
| 12 | B | 720 | U | C2-N3 | 6.66 | 1.42 | 1.37 |
| 12 | B | 930 | G | C8-N7 | 6.66 | 1.34 | 1.30 |
| 12 | B | 1450 | G | C2-N3 | 6.66 | 1.38 | 1.32 |
| 12 | B | 2266 | A | N9-C8 | 6.66 | 1.43 | 1.37 |
| 12 | B | 2599 | G | N9-C8 | 6.66 | 1.42 | 1.37 |
| 14 | D | 183 | GLU | CG-CD | 6.66 | 1.61 | 1.51 |
| 12 | B | 121 | G | C6-N1 | 6.66 | 1.44 | 1.39 |
| 12 | B | 601 | C | N3-C4 | 6.66 | 1.38 | 1.33 |
| 12 | B | 2386 | A | N1-C2 | 6.66 | 1.40 | 1.34 |
| 12 | B | 2864 | G | N9-C8 | -6.66 | 1.33 | 1.37 |
| 12 | B | 222 | A | N9-C4 | 6.66 | 1.41 | 1.37 |
| 12 | B | 962 | G | C3'-C2' | -6.66 | 1.45 | 1.52 |
| 12 | B | 1287 | A | C2'-C1' | -6.66 | 1.46 | 1.53 |
| 12 | B | 737 | C | N3-C4 | 6.66 | 1.38 | 1.33 |
| 12 | B | 882 | G | P-O5' | -6.66 | 1.53 | 1.59 |
| 12 | B | 1414 | C | C4-N4 | 6.66 | 1.40 | 1.33 |
| 12 | B | 1825 | U | C5'-C4' | 6.66 | 1.59 | 1.51 |
| 12 | B | 1919 | A | P-O5' | -6.66 | 1.53 | 1.59 |
| 12 | B | 2049 | G | C6-N1 | 6.66 | 1.44 | 1.39 |
| 12 | B | 2899 | A | C6-N6 | 6.66 | 1.39 | 1.33 |
| 12 | B | 348 | A | O4'-C1' | -6.65 | 1.33 | 1.41 |
| 11 | A | 99 | A | C2-N3 | 6.65 | 1.39 | 1.33 |
| 12 | B | 982 | C | C4-N4 | 6.65 | 1.40 | 1.33 |
| 12 | B | 1355 | G | O3'-P | -6.65 | 1.53 | 1.61 |
| 12 | B | 155 | A | C6-N6 | 6.65 | 1.39 | 1.33 |
| 12 | B | 1631 | G | C3'-C2' | 6.65 | 1.60 | 1.52 |
| 12 | B | 384 | A | C6-N6 | 6.65 | 1.39 | 1.33 |
| 12 | B | 1539 | U | N1-C2 | 6.65 | 1.44 | 1.38 |
| 12 | B | 1783 | A | N3-C4 | -6.65 | 1.30 | 1.34 |
| 12 | B | 871 | U | C5'-C4' | -6.65 | 1.43 | 1.51 |
| 12 | B | 1268 | A | C8-N7 | -6.65 | 1.26 | 1.31 |
| 12 | B | 2335 | A | C2-N3 | -6.65 | 1.27 | 1.33 |
| 12 | B | 1210 | G | C6-N1 | 6.64 | 1.44 | 1.39 |
| 12 | B | 1496 | A | N9-C8 | -6.64 | 1.32 | 1.37 |
| 11 | A | 81 | G | C2-N2 | 6.64 | 1.41 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 51 | G | C1'-N9 | -6.64 | 1.37 | 1.46 |
| 12 | B | 308 | G | N7-C5 | -6.64 | 1.35 | 1.39 |
| 12 | B | 717 | C | C1'-N1 | 6.64 | 1.58 | 1.48 |
| 12 | B | 757 | G | P-O5' | -6.64 | 1.53 | 1.59 |
| 12 | B | 1770 | G | N3-C4 | -6.64 | 1.30 | 1.35 |
| 12 | B | 1970 | A | C4'-C3' | -6.64 | 1.45 | 1.53 |
| 12 | B | 2059 | A | C2'-C1' | -6.64 | 1.46 | 1.53 |
| 12 | B | 2279 | G | C5'-C4' | 6.64 | 1.59 | 1.51 |
| 12 | B | 1483 | G | N7-C5 | -6.64 | 1.35 | 1.39 |
| 12 | B | 2150 | C | N3-C4 | 6.64 | 1.38 | 1.33 |
| 12 | B | 504 | A | N1-C2 | -6.64 | 1.28 | 1.34 |
| 12 | B | 632 | A | C6-N6 | 6.64 | 1.39 | 1.33 |
| 12 | B | 1022 | G | P-O5' | -6.64 | 1.53 | 1.59 |
| 12 | B | 1301 | A | C6-N6 | 6.64 | 1.39 | 1.33 |
| 12 | B | 2112 | G | O3'-P | -6.64 | 1.53 | 1.61 |
| 12 | B | 2405 | G | C6-N1 | 6.64 | 1.44 | 1.39 |
| 12 | B | 2578 | G | N7-C5 | 6.64 | 1.43 | 1.39 |
| 12 | B | 42 | A | O4'-C1' | 6.64 | 1.50 | 1.41 |
| 12 | B | 1103 | A | C5-C4 | -6.64 | 1.34 | 1.38 |
| 12 | B | 9 | G | N1-C2 | 6.64 | 1.43 | 1.37 |
| 12 | B | 144 | A | C5-C4 | 6.64 | 1.43 | 1.38 |
| 12 | B | 1355 | G | N7-C5 | -6.64 | 1.35 | 1.39 |
| 12 | B | 1953 | A | C8-N7 | -6.64 | 1.26 | 1.31 |
| 12 | B | 2889 | C | C2-N3 | -6.64 | 1.30 | 1.35 |
| 12 | B | 35 | G | N9-C8 | 6.63 | 1.42 | 1.37 |
| 12 | B | 905 | A | C4'-O4' | -6.63 | 1.36 | 1.45 |
| 12 | B | 1656 | C | P-O5' | -6.63 | 1.53 | 1.59 |
| 12 | B | 1801 | A | C8-N7 | -6.63 | 1.26 | 1.31 |
| 12 | B | 2523 | G | N7-C5 | 6.63 | 1.43 | 1.39 |
| 12 | B | 1555 | G | N9-C4 | -6.63 | 1.32 | 1.38 |
| 12 | B | 2513 | A | N9-C4 | 6.63 | 1.41 | 1.37 |
| 10 | 9 | 331 | PHE | CG-CD1 | 6.63 | 1.48 | 1.38 |
| 12 | B | 129 | C | C4'-O4' | 6.63 | 1.54 | 1.45 |
| 11 | A | 116 | G | N7-C5 | 6.63 | 1.43 | 1.39 |
| 12 | B | 103 | A | C2-N3 | 6.63 | 1.39 | 1.33 |
| 12 | B | 146 | A | C5'-C4' | 6.63 | 1.59 | 1.51 |
| 12 | B | 2043 | C | C3'-C2' | 6.63 | 1.60 | 1.52 |
| 12 | B | 2152 | G | C6-N1 | 6.63 | 1.44 | 1.39 |
| 12 | B | 2526 | G | C6-O6 | 6.63 | 1.30 | 1.24 |
| 12 | B | 2538 | C | C4'-C3' | 6.63 | 1.60 | 1.53 |
| 12 | B | 2630 | G | N3-C4 | 6.63 | 1.40 | 1.35 |
| 27 | Q | 44 | TYR | CD2-CE2 | 6.63 | 1.49 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 969 | G | N7-C5 | -6.63 | 1.35 | 1.39 |
| 12 | B | 1194 | A | N3-C4 | -6.63 | 1.30 | 1.34 |
| 15 | E | 107 | SER | CA-CB | 6.63 | 1.62 | 1.52 |
| 12 | B | 195 | A | C5-C4 | -6.62 | 1.34 | 1.38 |
| 12 | B | 712 | G | C2-N2 | 6.62 | 1.41 | 1.34 |
| 12 | B | 1055 | G | C4'-C3' | 6.62 | 1.60 | 1.53 |
| 12 | B | 438 | G | N9-C8 | -6.62 | 1.33 | 1.37 |
| 11 | A | 116 | G | C6-N1 | 6.62 | 1.44 | 1.39 |
| 12 | B | 1185 | G | C5-C4 | 6.62 | 1.43 | 1.38 |
| 12 | B | 1250 | G | C4'-C3' | 6.62 | 1.60 | 1.53 |
| 12 | B | 1254 | A | C2-N3 | 6.62 | 1.39 | 1.33 |
| 12 | B | 2057 | G | C6-N1 | 6.62 | 1.44 | 1.39 |
| 18 | H | 50 | ARG | NE-CZ | 6.62 | 1.41 | 1.33 |
| 12 | B | 386 | G | C6-N1 | 6.62 | 1.44 | 1.39 |
| 12 | B | 1952 | A | C4'-O4' | -6.62 | 1.36 | 1.45 |
| 11 | A | 81 | G | C3'-C2' | -6.62 | 1.45 | 1.52 |
| 12 | B | 693 | A | C5'-C4' | 6.62 | 1.59 | 1.51 |
| 12 | B | 1970 | A | N9-C8 | 6.62 | 1.43 | 1.37 |
| 12 | B | 2503 | A | N3-C4 | 6.62 | 1.38 | 1.34 |
| 12 | B | 2901 | C | N3-C4 | 6.62 | 1.38 | 1.33 |
| 12 | B | 303 | G | C2-N3 | 6.62 | 1.38 | 1.32 |
| 12 | B | 1036 | G | C1'-N9 | -6.62 | 1.37 | 1.46 |
| 12 | B | 1835 | G | C4'-C3' | -6.62 | 1.45 | 1.53 |
| 12 | B | 2252 | G | C5-C6 | -6.62 | 1.35 | 1.42 |
| 12 | B | 54 | G | C6-N1 | 6.62 | 1.44 | 1.39 |
| 12 | B | 1029 | A | N7-C5 | -6.62 | 1.35 | 1.39 |
| 12 | B | 1893 | C | C2-N3 | 6.62 | 1.41 | 1.35 |
| 12 | B | 2188 | U | N1-C2 | 6.62 | 1.44 | 1.38 |
| 12 | B | 2229 | U | N1-C2 | 6.62 | 1.44 | 1.38 |
| 12 | B | 2709 | G | C2'-C1' | -6.62 | 1.46 | 1.53 |
| 12 | B | 229 | C | C3'-C2' | -6.61 | 1.45 | 1.52 |
| 12 | B | 411 | G | C2-N3 | 6.61 | 1.38 | 1.32 |
| 12 | B | 1076 | C | C4-C5 | 6.61 | 1.48 | 1.43 |
| 12 | B | 1809 | A | O3'-P | -6.61 | 1.53 | 1.61 |
| 12 | B | 2116 | G | C2-N3 | 6.61 | 1.38 | 1.32 |
| 12 | B | 2777 | G | C2-N3 | 6.61 | 1.38 | 1.32 |
| 12 | B | 2799 | A | C5'-C4' | 6.61 | 1.59 | 1.51 |
| 12 | B | 350 | G | O4'-C1' | 6.61 | 1.50 | 1.41 |
| 12 | B | 1142 | A | N9-C4 | 6.61 | 1.41 | 1.37 |
| 12 | B | 1163 | G | C2-N3 | -6.61 | 1.27 | 1.32 |
| 12 | B | 2566 | A | C5'-C4' | 6.61 | 1.59 | 1.51 |
| 12 | B | 2634 | A | O3'-P | -6.61 | 1.53 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 880 | G | C5'-C4' | 6.61 | 1.59 | 1.51 |
| 12 | B | 1801 | A | P-O5' | -6.61 | 1.53 | 1.59 |
| 12 | B | 2142 | A | P-O5' | -6.61 | 1.53 | 1.59 |
| 12 | B | 2154 | A | C5'-C4' | 6.61 | 1.59 | 1.51 |
| 12 | B | 1161 | C | C4-N4 | 6.61 | 1.39 | 1.33 |
| 12 | B | 1433 | A | C5'-C4' | 6.61 | 1.59 | 1.51 |
| 12 | B | 476 | G | O3'-P | -6.61 | 1.53 | 1.61 |
| 12 | B | 2079 | U | C2-N3 | 6.61 | 1.42 | 1.37 |
| 12 | B | 2089 | C | C2'-C1' | -6.61 | 1.46 | 1.53 |
| 12 | B | 396 | G | N9-C8 | 6.61 | 1.42 | 1.37 |
| 12 | B | 878 | A | C5-C4 | 6.61 | 1.43 | 1.38 |
| 12 | B | 1433 | A | C6-N1 | 6.61 | 1.40 | 1.35 |
| 12 | B | 1522 | A | C8-N7 | -6.61 | 1.26 | 1.31 |
| 12 | B | 2052 | A | C6-N6 | -6.61 | 1.28 | 1.33 |
| 12 | B | 38 | A | C8-N7 | -6.60 | 1.26 | 1.31 |
| 12 | B | 1343 | G | N3-C4 | -6.60 | 1.30 | 1.35 |
| 12 | B | 2517 | C | C2'-C1' | -6.60 | 1.46 | 1.53 |
| 12 | B | 1155 | A | O3'-P | -6.60 | 1.53 | 1.61 |
| 12 | B | 1337 | G | C3'-O3' | 6.60 | 1.51 | 1.42 |
| 12 | B | 1502 | A | C8-N7 | -6.60 | 1.26 | 1.31 |
| 12 | B | 1503 | A | C4'-O4' | -6.60 | 1.36 | 1.45 |
| 12 | B | 2113 | U | C4-C5 | -6.60 | 1.37 | 1.43 |
| 10 | 9 | 177 | ARG | NE-CZ | 6.60 | 1.41 | 1.33 |
| 12 | B | 502 | A | C8-N7 | -6.60 | 1.26 | 1.31 |
| 12 | B | 1256 | G | C3'-O3' | 6.60 | 1.51 | 1.42 |
| 12 | B | 1279 | G | C2-N3 | 6.60 | 1.38 | 1.32 |
| 12 | B | 2055 | C | C1'-N1 | 6.60 | 1.58 | 1.48 |
| 12 | B | 1376 | C | N3-C4 | 6.60 | 1.38 | 1.33 |
| 12 | B | 1659 | G | C2'-C1' | -6.60 | 1.46 | 1.53 |
| 12 | B | 2674 | G | N9-C4 | -6.60 | 1.32 | 1.38 |
| 12 | B | 946 | C | P-O5' | -6.60 | 1.53 | 1.59 |
| 12 | B | 1072 | C | O3'-P | -6.60 | 1.53 | 1.61 |
| 12 | B | 1996 | C | N1-C6 | 6.60 | 1.41 | 1.37 |
| 12 | B | 2738 | A | N9-C8 | -6.60 | 1.32 | 1.37 |
| 12 | B | 2599 | G | P-O5' | -6.59 | 1.53 | 1.59 |
| 12 | B | 2603 | G | O3'-P | -6.59 | 1.53 | 1.61 |
| 12 | B | 2712 | C | C4-N4 | 6.59 | 1.39 | 1.33 |
| 12 | B | 2192 | U | C2-N3 | 6.59 | 1.42 | 1.37 |
| 12 | B | 912 | C | C2'-C1' | -6.59 | 1.46 | 1.53 |
| 12 | B | 1256 | G | O3'-P | -6.59 | 1.53 | 1.61 |
| 12 | B | 1521 | G | N1-C2 | 6.59 | 1.43 | 1.37 |
| 12 | B | 1696 | G | C2'-C1' | -6.59 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2486 | C | C3'-C2' | 6.59 | 1.60 | 1.52 |
| 11 | A | 97 | C | C2-N3 | 6.59 | 1.41 | 1.35 |
| 12 | B | 2625 | G | C2'-C1' | -6.59 | 1.46 | 1.53 |
| 12 | B | 2833 | U | N1-C6 | -6.59 | 1.32 | 1.38 |
| 12 | B | 1057 | A | C5-C4 | 6.59 | 1.43 | 1.38 |
| 12 | B | 88 | G | C2'-C1' | -6.59 | 1.46 | 1.53 |
| 12 | B | 266 | G | N1-C2 | 6.59 | 1.43 | 1.37 |
| 12 | B | 780 | G | C2-N3 | 6.59 | 1.38 | 1.32 |
| 12 | B | 828 | U | O3'-P | -6.59 | 1.53 | 1.61 |
| 12 | B | 2054 | A | C5-C4 | 6.59 | 1.43 | 1.38 |
| 12 | B | 2209 | G | N9-C4 | -6.59 | 1.32 | 1.38 |
| 12 | B | 2520 | C | C2'-C1' | 6.59 | 1.60 | 1.53 |
| 12 | B | 2614 | A | C6-N6 | 6.59 | 1.39 | 1.33 |
| 11 | A | 86 | G | N9-C4 | -6.58 | 1.32 | 1.38 |
| 12 | B | 48 | G | C8-N7 | 6.58 | 1.34 | 1.30 |
| 12 | B | 185 | G | C8-N7 | 6.58 | 1.34 | 1.30 |
| 12 | B | 298 | G | C4'-C3' | 6.58 | 1.60 | 1.53 |
| 12 | B | 2216 | G | C2-N3 | 6.58 | 1.38 | 1.32 |
| 12 | B | 173 | A | N7-C5 | -6.58 | 1.35 | 1.39 |
| 12 | B | 1450 | G | C5-C6 | -6.58 | 1.35 | 1.42 |
| 12 | B | 2067 | G | C2-N3 | 6.58 | 1.38 | 1.32 |
| 12 | B | 419 | U | N3-C4 | 6.58 | 1.44 | 1.38 |
| 12 | B | 532 | A | C6-N1 | 6.58 | 1.40 | 1.35 |
| 12 | B | 601 | C | C4-N4 | 6.58 | 1.39 | 1.33 |
| 12 | B | 1546 | G | C8-N7 | 6.58 | 1.34 | 1.30 |
| 12 | B | 2171 | A | C8-N7 | -6.58 | 1.26 | 1.31 |
| 12 | B | 319 | G | C8-N7 | -6.58 | 1.27 | 1.30 |
| 12 | B | 622 | G | N1-C2 | 6.58 | 1.43 | 1.37 |
| 12 | B | 697 | G | N3-C4 | -6.58 | 1.30 | 1.35 |
| 12 | B | 2351 | G | C3'-C2' | -6.58 | 1.45 | 1.52 |
| 12 | B | 2502 | G | C8-N7 | -6.58 | 1.27 | 1.30 |
| 12 | B | 2835 | A | N3-C4 | -6.58 | 1.30 | 1.34 |
| 12 | B | 2618 | G | C2-N3 | 6.58 | 1.38 | 1.32 |
| 12 | B | 1453 | A | C6-N6 | 6.57 | 1.39 | 1.33 |
| 12 | B | 1133 | A | C6-N6 | 6.57 | 1.39 | 1.33 |
| 12 | B | 1238 | G | C8-N7 | -6.57 | 1.27 | 1.30 |
| 12 | B | 1664 | A | C2-N3 | 6.57 | 1.39 | 1.33 |
| 11 | A | 8 | C | N3-C4 | -6.57 | 1.29 | 1.33 |
| 12 | B | 852 | U | C4-O4 | -6.57 | 1.18 | 1.23 |
| 12 | B | 1154 | G | P-O5' | -6.57 | 1.53 | 1.59 |
| 12 | B | 1168 | G | N9-C4 | 6.57 | 1.43 | 1.38 |
| 12 | B | 1232 | G | N3-C4 | -6.57 | 1.30 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2140 | G | N3-C4 | -6.57 | 1.30 | 1.35 |
| 12 | B | 2511 | U | C4-C5 | 6.57 | 1.49 | 1.43 |
| 12 | B | 2619 | C | N1-C2 | 6.57 | 1.46 | 1.40 |
| 12 | B | 544 | C | C4-C5 | 6.57 | 1.48 | 1.43 |
| 12 | B | 663 | G | C5-C6 | -6.57 | 1.35 | 1.42 |
| 12 | B | 923 | G | P-O5' | -6.57 | 1.53 | 1.59 |
| 12 | B | 1953 | A | C4'-C3' | 6.57 | 1.60 | 1.53 |
| 12 | B | 2728 | U | C4-C5 | 6.57 | 1.49 | 1.43 |
| 13 | C | 26 | GLY | N-CA | -6.57 | 1.36 | 1.46 |
| 12 | B | 25 | U | C2-N3 | 6.57 | 1.42 | 1.37 |
| 12 | B | 1389 | G | C5-C4 | -6.57 | 1.33 | 1.38 |
| 12 | B | 1859 | U | C4'-C3' | 6.57 | 1.60 | 1.53 |
| 12 | B | 1902 | C | N1-C6 | 6.57 | 1.41 | 1.37 |
| 12 | B | 1037 | G | O4'-C1' | -6.57 | 1.33 | 1.41 |
| 12 | B | 1628 | G | C2-N2 | 6.57 | 1.41 | 1.34 |
| 12 | B | 2894 | G | C2-N3 | 6.57 | 1.38 | 1.32 |
| 12 | B | 1721 | G | N1-C2 | 6.56 | 1.43 | 1.37 |
| 12 | B | 152 | A | O3'-P | -6.56 | 1.53 | 1.61 |
| 12 | B | 563 | A | C6-N6 | 6.56 | 1.39 | 1.33 |
| 12 | B | 1218 | G | O3'-P | -6.56 | 1.53 | 1.61 |
| 12 | B | 1610 | A | C6-N6 | 6.56 | 1.39 | 1.33 |
| 12 | B | 1904 | G | N7-C5 | -6.56 | 1.35 | 1.39 |
| 12 | B | 2129 | C | N3-C4 | 6.56 | 1.38 | 1.33 |
| 12 | B | 1760 | C | C5-C6 | -6.56 | 1.29 | 1.34 |
| 12 | B | 2628 | C | C4-C5 | -6.56 | 1.37 | 1.43 |
| 12 | B | 55 | G | N3-C4 | -6.56 | 1.30 | 1.35 |
| 12 | B | 535 | G | C2'-C1' | -6.56 | 1.46 | 1.53 |
| 12 | B | 573 | U | N1-C6 | 6.56 | 1.43 | 1.38 |
| 12 | B | 862 | G | N3-C4 | -6.56 | 1.30 | 1.35 |
| 12 | B | 98 | G | C6-N1 | 6.56 | 1.44 | 1.39 |
| 12 | B | 1296 | G | C2-N2 | 6.56 | 1.41 | 1.34 |
| 12 | B | 1444 | G | P-O5' | -6.56 | 1.53 | 1.59 |
| 12 | B | 2763 | G | P-O5' | 6.56 | 1.66 | 1.59 |
| 12 | B | 518 | G | C5'-C4' | 6.56 | 1.59 | 1.51 |
| 12 | B | 834 | G | O3'-P | -6.56 | 1.53 | 1.61 |
| 12 | B | 1084 | A | N9-C8 | -6.56 | 1.32 | 1.37 |
| 12 | B | 1260 | A | N7-C5 | 6.56 | 1.43 | 1.39 |
| 12 | B | 94 | A | C6-N1 | 6.55 | 1.40 | 1.35 |
| 12 | B | 410 | G | N7-C5 | -6.55 | 1.35 | 1.39 |
| 12 | B | 1593 | A | N3-C4 | -6.55 | 1.30 | 1.34 |
| 13 | C | 12 | ARG | NE-CZ | 6.55 | 1.41 | 1.33 |
| 12 | B | 1650 | A | N9-C4 | 6.55 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1733 | G | C5-C4 | 6.55 | 1.43 | 1.38 |
| 12 | B | 1364 | G | C6-N1 | 6.55 | 1.44 | 1.39 |
| 12 | B | 1601 | G | N1-C2 | 6.55 | 1.43 | 1.37 |
| 12 | B | 1185 | G | P-O5' | -6.55 | 1.53 | 1.59 |
| 12 | B | 1451 | C | N3-C4 | 6.55 | 1.38 | 1.33 |
| 12 | B | 2485 | G | O3'-P | -6.55 | 1.53 | 1.61 |
| 11 | A | 2 | G | N7-C5 | -6.55 | 1.35 | 1.39 |
| 12 | B | 527 | C | O3'-P | -6.55 | 1.53 | 1.61 |
| 12 | B | 597 | G | N7-C5 | -6.55 | 1.35 | 1.39 |
| 12 | B | 1227 | G | C8-N7 | -6.55 | 1.27 | 1.30 |
| 12 | B | 1141 | U | N3-C4 | 6.55 | 1.44 | 1.38 |
| 12 | B | 1879 | C | C4-N4 | 6.55 | 1.39 | 1.33 |
| 12 | B | 1946 | U | C2-N3 | 6.55 | 1.42 | 1.37 |
| 12 | B | 108 | G | C2-N3 | 6.54 | 1.38 | 1.32 |
| 12 | B | 2821 | A | C2'-C1' | -6.54 | 1.46 | 1.53 |
| 12 | B | 178 | G | C8-N7 | -6.54 | 1.27 | 1.30 |
| 12 | B | 575 | A | C5-C4 | 6.54 | 1.43 | 1.38 |
| 12 | B | 992 | C | N3-C4 | 6.54 | 1.38 | 1.33 |
| 12 | B | 1787 | A | N9-C8 | 6.54 | 1.43 | 1.37 |
| 12 | B | 2341 | G | N9-C8 | 6.54 | 1.42 | 1.37 |
| 12 | B | 571 | U | N3-C4 | 6.54 | 1.44 | 1.38 |
| 12 | B | 761 | A | C6-N1 | 6.54 | 1.40 | 1.35 |
| 12 | B | 778 | G | C5-C4 | 6.54 | 1.43 | 1.38 |
| 12 | B | 1182 | G | O3'-P | -6.54 | 1.53 | 1.61 |
| 12 | B | 2518 | A | C5-C6 | 6.54 | 1.47 | 1.41 |
| 12 | B | 833 | A | C2'-C1' | -6.54 | 1.46 | 1.53 |
| 12 | B | 1049 | C | N3-C4 | 6.54 | 1.38 | 1.33 |
| 12 | B | 2491 | U | N3-C4 | 6.54 | 1.44 | 1.38 |
| 12 | B | 2340 | A | C1'-N9 | 6.54 | 1.58 | 1.48 |
| 12 | B | 343 | C | C3'-C2' | -6.54 | 1.45 | 1.52 |
| 12 | B | 519 | U | C2-O2 | 6.54 | 1.28 | 1.22 |
| 12 | B | 644 | A | P-O5' | -6.54 | 1.53 | 1.59 |
| 12 | B | 1226 | A | C6-N1 | 6.54 | 1.40 | 1.35 |
| 12 | B | 1236 | G | C5-C6 | -6.54 | 1.35 | 1.42 |
| 12 | B | 2075 | U | N1-C2 | 6.54 | 1.44 | 1.38 |
| 12 | B | 2598 | A | C2'-C1' | -6.54 | 1.46 | 1.53 |
| 12 | B | 361 | G | C3'-O3' | 6.53 | 1.51 | 1.42 |
| 12 | B | 398 | C | C2-N3 | 6.53 | 1.41 | 1.35 |
| 12 | B | 1026 | G | N1-C2 | 6.53 | 1.43 | 1.37 |
| 11 | A | 41 | G | N1-C2 | 6.53 | 1.43 | 1.37 |
| 12 | B | 1439 | A | C2'-C1' | -6.53 | 1.46 | 1.53 |
| 12 | B | 1528 | A | C6-N1 | 6.53 | 1.40 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2879 | A | C2-N3 | 6.53 | 1.39 | 1.33 |
| 12 | B | 214 | G | C2-N3 | 6.53 | 1.38 | 1.32 |
| 12 | B | 1073 | A | N1-C2 | 6.53 | 1.40 | 1.34 |
| 12 | B | 1482 | G | C6-N1 | 6.53 | 1.44 | 1.39 |
| 12 | B | 2035 | G | C6-N1 | 6.53 | 1.44 | 1.39 |
| 12 | B | 2574 | G | N3-C4 | -6.53 | 1.30 | 1.35 |
| 12 | B | 2539 | C | C4-C5 | -6.53 | 1.37 | 1.43 |
| 12 | B | 2714 | G | C8-N7 | -6.53 | 1.27 | 1.30 |
| 12 | B | 1029 | A | C5-C4 | 6.53 | 1.43 | 1.38 |
| 12 | B | 1153 | C | O3'-P | -6.53 | 1.53 | 1.61 |
| 12 | B | 1858 | A | C6-N6 | -6.53 | 1.28 | 1.33 |
| 12 | B | 2154 | A | C6-N6 | 6.53 | 1.39 | 1.33 |
| 12 | B | 2711 | A | C2'-C1' | -6.53 | 1.46 | 1.53 |
| 12 | B | 380 | G | C6-N1 | 6.53 | 1.44 | 1.39 |
| 12 | B | 315 | G | C2-N2 | 6.52 | 1.41 | 1.34 |
| 12 | B | 1998 | A | N7-C5 | -6.52 | 1.35 | 1.39 |
| 12 | B | 2149 | U | N1-C2 | -6.52 | 1.32 | 1.38 |
| 12 | B | 561 | G | C2-N3 | 6.52 | 1.38 | 1.32 |
| 12 | B | 862 | G | C2-N3 | 6.52 | 1.38 | 1.32 |
| 12 | B | 1105 | U | N1-C2 | -6.52 | 1.32 | 1.38 |
| 12 | B | 1533 | C | N3-C4 | 6.52 | 1.38 | 1.33 |
| 12 | B | 2257 | U | C4'-O4' | -6.52 | 1.37 | 1.45 |
| 12 | B | 641 | U | N1-C2 | 6.52 | 1.44 | 1.38 |
| 12 | B | 864 | G | N7-C5 | -6.52 | 1.35 | 1.39 |
| 12 | B | 1676 | A | N3-C4 | -6.52 | 1.30 | 1.34 |
| 12 | B | 1727 | C | N3-C4 | 6.52 | 1.38 | 1.33 |
| 12 | B | 1631 | G | C2'-C1' | -6.52 | 1.46 | 1.53 |
| 12 | B | 2286 | G | N7-C5 | -6.52 | 1.35 | 1.39 |
| 12 | B | 2627 | G | C2-N3 | 6.52 | 1.38 | 1.32 |
| 17 | G | 162 | ARG | CZ-NH1 | 6.52 | 1.41 | 1.33 |
| 12 | B | 55 | G | N9-C8 | 6.52 | 1.42 | 1.37 |
| 12 | B | 210 | C | C2'-O2' | -6.52 | 1.33 | 1.41 |
| 12 | B | 1871 | A | C4'-C3' | 6.52 | 1.60 | 1.53 |
| 12 | B | 1903 | G | N1-C2 | 6.52 | 1.43 | 1.37 |
| 12 | B | 1958 | C | C4-C5 | 6.52 | 1.48 | 1.43 |
| 12 | B | 1980 | G | C2-N2 | 6.52 | 1.41 | 1.34 |
| 12 | B | 2328 | A | C8-N7 | -6.52 | 1.26 | 1.31 |
| 12 | B | 1989 | G | C3'-C2' | -6.52 | 1.45 | 1.52 |
| 12 | B | 2525 | G | C8-N7 | -6.52 | 1.27 | 1.30 |
| 11 | A | 92 | C | C4-N4 | 6.51 | 1.39 | 1.33 |
| 12 | B | 603 | A | N1-C2 | 6.51 | 1.40 | 1.34 |
| 12 | B | 753 | A | N1-C2 | -6.51 | 1.28 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2041 | U | C2'-C1' | -6.51 | 1.46 | 1.53 |
| 12 | B | 2089 | C | O3'-P | -6.51 | 1.53 | 1.61 |
| 12 | B | 2331 | G | N7-C5 | -6.51 | 1.35 | 1.39 |
| 12 | B | 2601 | C | O3'-P | -6.51 | 1.53 | 1.61 |
| 12 | B | 608 | A | N1-C2 | 6.51 | 1.40 | 1.34 |
| 12 | B | 766 | U | C5-C6 | 6.51 | 1.40 | 1.34 |
| 12 | B | 1033 | U | N3-C4 | 6.51 | 1.44 | 1.38 |
| 12 | B | 1123 | C | C2-N3 | 6.51 | 1.41 | 1.35 |
| 12 | B | 1570 | A | C5-C6 | 6.51 | 1.47 | 1.41 |
| 23 | M | 59 | ARG | CZ-NH1 | 6.51 | 1.41 | 1.33 |
| 12 | B | 1149 | G | N7-C5 | -6.51 | 1.35 | 1.39 |
| 12 | B | 1797 | G | C6-N1 | 6.51 | 1.44 | 1.39 |
| 12 | B | 2168 | G | C5'-C4' | 6.51 | 1.59 | 1.51 |
| 12 | B | 319 | G | N9-C4 | 6.51 | 1.43 | 1.38 |
| 12 | B | 386 | G | C2-N3 | 6.51 | 1.38 | 1.32 |
| 12 | B | 966 | G | C5-C4 | -6.51 | 1.33 | 1.38 |
| 12 | B | 371 | A | N9-C8 | 6.50 | 1.43 | 1.37 |
| 12 | B | 1133 | A | N9-C4 | 6.50 | 1.41 | 1.37 |
| 12 | B | 1280 | G | N1-C2 | 6.50 | 1.43 | 1.37 |
| 12 | B | 1795 | C | C2'-C1' | -6.50 | 1.46 | 1.53 |
| 12 | B | 2857 | G | C8-N7 | 6.50 | 1.34 | 1.30 |
| 12 | B | 247 | G | C8-N7 | -6.50 | 1.27 | 1.30 |
| 12 | B | 1623 | G | N7-C5 | -6.50 | 1.35 | 1.39 |
| 12 | B | 1718 | G | C6-N1 | 6.50 | 1.44 | 1.39 |
| 12 | B | 2604 | U | C5-C6 | 6.50 | 1.40 | 1.34 |
| 12 | B | 297 | G | C2'-C1' | -6.50 | 1.46 | 1.53 |
| 12 | B | 1953 | A | C3'-O3' | 6.50 | 1.51 | 1.42 |
| 12 | B | 2376 | A | C8-N7 | -6.50 | 1.26 | 1.31 |
| 12 | B | 2445 | G | C2'-C1' | -6.50 | 1.46 | 1.53 |
| 12 | B | 2652 | C | P-O5' | -6.50 | 1.53 | 1.59 |
| 12 | B | 2656 | U | N3-C4 | 6.50 | 1.44 | 1.38 |
| 11 | A | 38 | C | C3'-O3' | 6.50 | 1.51 | 1.42 |
| 12 | B | 68 | G | C6-N1 | 6.50 | 1.44 | 1.39 |
| 12 | B | 289 | G | P-O5' | -6.50 | 1.53 | 1.59 |
| 12 | B | 352 | A | N3-C4 | -6.50 | 1.30 | 1.34 |
| 12 | B | 574 | A | C6-N6 | 6.50 | 1.39 | 1.33 |
| 12 | B | 713 | G | C2'-C1' | -6.50 | 1.46 | 1.53 |
| 12 | B | 1588 | G | C2-N2 | 6.50 | 1.41 | 1.34 |
| 12 | B | 2786 | U | C5'-C4' | 6.50 | 1.59 | 1.51 |
| 12 | B | 343 | C | N1-C6 | -6.50 | 1.33 | 1.37 |
| 12 | B | 685 | A | P-O5' | 6.50 | 1.66 | 1.59 |
| 12 | B | 1333 | G | N9-C8 | 6.50 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2236 | U | C2-N3 | 6.50 | 1.42 | 1.37 |
| 12 | B | 2825 | G | C5-C4 | 6.50 | 1.42 | 1.38 |
| 12 | B | 2871 | U | C4'-O4' | 6.50 | 1.53 | 1.45 |
| 11 | A | 86 | G | C2'-C1' | -6.50 | 1.46 | 1.53 |
| 12 | B | 422 | A | N7-C5 | -6.50 | 1.35 | 1.39 |
| 12 | B | 463 | G | N7-C5 | -6.50 | 1.35 | 1.39 |
| 12 | B | 700 | G | C2-N2 | -6.50 | 1.28 | 1.34 |
| 12 | B | 283 | G | C6-N1 | 6.49 | 1.44 | 1.39 |
| 12 | B | 510 | C | C5'-C4' | 6.49 | 1.59 | 1.51 |
| 12 | B | 612 | G | C6-N1 | 6.49 | 1.44 | 1.39 |
| 12 | B | 706 | A | N9-C4 | -6.49 | 1.33 | 1.37 |
| 12 | B | 1884 | G | N3-C4 | 6.49 | 1.40 | 1.35 |
| 12 | B | 2773 | C | N1-C6 | 6.49 | 1.41 | 1.37 |
| 11 | A | 96 | G | C2'-C1' | -6.49 | 1.46 | 1.53 |
| 12 | B | 784 | G | N7-C5 | -6.49 | 1.35 | 1.39 |
| 12 | B | 343 | C | N3-C4 | 6.49 | 1.38 | 1.33 |
| 12 | B | 526 | A | O4'-C1' | -6.49 | 1.33 | 1.41 |
| 12 | B | 1648 | U | N1-C2 | -6.49 | 1.32 | 1.38 |
| 12 | B | 2892 | G | N3-C4 | -6.49 | 1.30 | 1.35 |
| 12 | B | 481 | G | N9-C8 | -6.49 | 1.33 | 1.37 |
| 12 | B | 980 | A | C8-N7 | -6.49 | 1.27 | 1.31 |
| 12 | B | 1110 | G | C8-N7 | 6.49 | 1.34 | 1.30 |
| 12 | B | 1557 | C | P-O5' | -6.49 | 1.53 | 1.59 |
| 12 | B | 1736 | U | O3'-P | -6.49 | 1.53 | 1.61 |
| 12 | B | 2610 | C | N1-C6 | 6.49 | 1.41 | 1.37 |
| 12 | B | 166 | U | C4'-O4' | -6.49 | 1.37 | 1.45 |
| 12 | B | 711 | G | C2-N3 | 6.49 | 1.38 | 1.32 |
| 12 | B | 25 | U | N3-C4 | 6.49 | 1.44 | 1.38 |
| 12 | B | 312 | G | N1-C2 | 6.49 | 1.43 | 1.37 |
| 12 | B | 599 | A | N9-C4 | -6.49 | 1.33 | 1.37 |
| 12 | B | 747 | U | N3-C4 | 6.49 | 1.44 | 1.38 |
| 12 | B | 775 | G | C2-N3 | 6.49 | 1.38 | 1.32 |
| 12 | B | 1188 | U | N3-C4 | 6.49 | 1.44 | 1.38 |
| 12 | B | 1544 | A | N1-C2 | 6.49 | 1.40 | 1.34 |
| 12 | B | 2049 | G | C4'-O4' | 6.49 | 1.53 | 1.45 |
| 12 | B | 2178 | C | C5'-C4' | 6.49 | 1.59 | 1.51 |
| 12 | B | 96 | C | C4-C5 | 6.48 | 1.48 | 1.43 |
| 12 | B | 2138 | G | O3'-P | -6.48 | 1.53 | 1.61 |
| 12 | B | 2541 | A | N3-C4 | 6.48 | 1.38 | 1.34 |
| 6 | 5 | 71 | ARG | CZ-NH1 | 6.48 | 1.41 | 1.33 |
| 12 | B | 1155 | A | C5-C6 | -6.48 | 1.35 | 1.41 |
| 12 | B | 2211 | A | N9-C4 | 6.48 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2256 | G | C6-N1 | 6.48 | 1.44 | 1.39 |
| 12 | B | 1105 | U | C2-N3 | 6.48 | 1.42 | 1.37 |
| 12 | B | 1824 | G | N3-C4 | -6.48 | 1.30 | 1.35 |
| 12 | B | 2251 | G | O4'-C1' | 6.48 | 1.50 | 1.41 |
| 12 | B | 2372 | U | N1-C2 | 6.48 | 1.44 | 1.38 |
| 12 | B | 2596 | U | O3'-P | -6.48 | 1.53 | 1.61 |
| 12 | B | 2832 | U | C4'-O4' | -6.48 | 1.37 | 1.45 |
| 12 | B | 206 | U | N3-C4 | 6.48 | 1.44 | 1.38 |
| 12 | B | 1559 | U | O3'-P | -6.48 | 1.53 | 1.61 |
| 12 | B | 2287 | A | C6-N1 | 6.48 | 1.40 | 1.35 |
| 12 | B | 2402 | U | N3-C4 | 6.48 | 1.44 | 1.38 |
| 12 | B | 257 | C | P-O5' | -6.48 | 1.53 | 1.59 |
| 12 | B | 1769 | U | C2-N3 | 6.48 | 1.42 | 1.37 |
| 12 | B | 2763 | G | O3'-P | -6.48 | 1.53 | 1.61 |
| 13 | C | 216 | ARG | CZ-NH1 | 6.48 | 1.41 | 1.33 |
| 12 | B | 140 | C | C4-N4 | 6.47 | 1.39 | 1.33 |
| 12 | B | 2267 | A | C6-N1 | 6.47 | 1.40 | 1.35 |
| 12 | B | 2495 | G | N3-C4 | 6.47 | 1.40 | 1.35 |
| 12 | B | 299 | A | N1-C2 | 6.47 | 1.40 | 1.34 |
| 12 | B | 1597 | A | N7-C5 | -6.47 | 1.35 | 1.39 |
| 12 | B | 1787 | A | C8-N7 | -6.47 | 1.27 | 1.31 |
| 12 | B | 1825 | U | P-O5' | -6.47 | 1.53 | 1.59 |
| 12 | B | 1889 | A | N3-C4 | -6.47 | 1.30 | 1.34 |
| 12 | B | 315 | G | C2-N3 | 6.47 | 1.38 | 1.32 |
| 12 | B | 928 | A | C6-N1 | 6.47 | 1.40 | 1.35 |
| 12 | B | 1229 | C | O3'-P | -6.47 | 1.53 | 1.61 |
| 12 | B | 1419 | A | C6-N1 | 6.47 | 1.40 | 1.35 |
| 12 | B | 1717 | A | O3'-P | -6.47 | 1.53 | 1.61 |
| 12 | B | 2113 | U | C4'-C3' | 6.47 | 1.60 | 1.53 |
| 12 | B | 2702 | G | C6-O6 | -6.47 | 1.18 | 1.24 |
| 12 | B | 2775 | G | O4'-C1' | -6.47 | 1.33 | 1.41 |
| 32 | W | 18 | ARG | NE-CZ | 6.47 | 1.41 | 1.33 |
| 12 | B | 1123 | C | N1-C6 | 6.47 | 1.41 | 1.37 |
| 12 | B | 1734 | G | N9-C8 | -6.47 | 1.33 | 1.37 |
| 12 | B | 778 | G | N1-C2 | 6.47 | 1.43 | 1.37 |
| 12 | B | 1256 | G | C2-N2 | 6.47 | 1.41 | 1.34 |
| 12 | B | 1691 | C | C2-N3 | 6.47 | 1.41 | 1.35 |
| 12 | B | 2652 | C | O3'-P | -6.47 | 1.53 | 1.61 |
| 12 | B | 1433 | A | C8-N7 | -6.46 | 1.27 | 1.31 |
| 12 | B | 1435 | G | C5-C4 | 6.46 | 1.42 | 1.38 |
| 12 | B | 2272 | U | C2-N3 | 6.46 | 1.42 | 1.37 |
| 12 | B | 2370 | G | C2-N3 | 6.46 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2889 | C | C4'-C3' | 6.46 | 1.60 | 1.53 |
| 12 | B | 1299 | G | O3'-P | -6.46 | 1.53 | 1.61 |
| 12 | B | 2024 | G | N7-C5 | -6.46 | 1.35 | 1.39 |
| 12 | B | 2141 | G | C4'-C3' | 6.46 | 1.60 | 1.53 |
| 24 | N | 6 | SER | C-N | 6.46 | 1.44 | 1.33 |
| 12 | B | 335 | C | C3'-C2' | -6.46 | 1.45 | 1.52 |
| 12 | B | 386 | G | N9-C4 | 6.46 | 1.43 | 1.38 |
| 12 | B | 1136 | G | N7-C5 | 6.46 | 1.43 | 1.39 |
| 12 | B | 2900 | A | N9-C4 | 6.46 | 1.41 | 1.37 |
| 12 | B | 1309 | G | C4'-C3' | 6.46 | 1.60 | 1.53 |
| 12 | B | 2351 | G | N9-C8 | 6.46 | 1.42 | 1.37 |
| 12 | B | 718 | A | C5-C4 | 6.46 | 1.43 | 1.38 |
| 12 | B | 791 | C | P-O5' | 6.46 | 1.66 | 1.59 |
| 12 | B | 1114 | C | C5'-C4' | 6.46 | 1.59 | 1.51 |
| 12 | B | 1279 | G | C4'-C3' | -6.46 | 1.46 | 1.53 |
| 12 | B | 1502 | A | C5'-C4' | 6.46 | 1.59 | 1.51 |
| 12 | B | 1702 | G | C5'-C4' | 6.46 | 1.59 | 1.51 |
| 12 | B | 1963 | U | N1-C6 | 6.46 | 1.43 | 1.38 |
| 12 | B | 2761 | A | C6-N1 | 6.46 | 1.40 | 1.35 |
| 11 | A | 84 | G | C6-N1 | 6.46 | 1.44 | 1.39 |
| 12 | B | 560 | C | N3-C4 | 6.46 | 1.38 | 1.33 |
| 12 | B | 1849 | G | P-O5' | -6.46 | 1.53 | 1.59 |
| 12 | B | 970 | U | C1'-N1 | 6.46 | 1.58 | 1.48 |
| 12 | B | 980 | A | O3'-P | -6.46 | 1.53 | 1.61 |
| 12 | B | 2116 | G | N9-C8 | -6.46 | 1.33 | 1.37 |
| 12 | B | 2176 | A | N7-C5 | -6.46 | 1.35 | 1.39 |
| 12 | B | 2877 | G | C3'-O3' | -6.46 | 1.33 | 1.42 |
| 12 | B | 381 | G | N7-C5 | 6.45 | 1.43 | 1.39 |
| 12 | B | 2428 | G | N7-C5 | 6.45 | 1.43 | 1.39 |
| 12 | B | 304 | U | C4-O4 | -6.45 | 1.18 | 1.23 |
| 12 | B | 596 | U | C4'-C3' | 6.45 | 1.60 | 1.53 |
| 12 | B | 1359 | A | O3'-P | -6.45 | 1.53 | 1.61 |
| 12 | B | 2162 | G | N1-C2 | 6.45 | 1.43 | 1.37 |
| 12 | B | 2822 | G | C5'-C4' | 6.45 | 1.59 | 1.51 |
| 12 | B | 109 | C | N1-C2 | -6.45 | 1.33 | 1.40 |
| 12 | B | 691 | C | C4-C5 | 6.45 | 1.48 | 1.43 |
| 12 | B | 1369 | G | C2-N2 | 6.45 | 1.41 | 1.34 |
| 12 | B | 1985 | C | C4-C5 | 6.45 | 1.48 | 1.43 |
| 12 | B | 2255 | G | N3-C4 | -6.45 | 1.30 | 1.35 |
| 12 | B | 2417 | C | N3-C4 | 6.45 | 1.38 | 1.33 |
| 12 | B | 2549 | G | C5'-C4' | -6.45 | 1.43 | 1.51 |
| 12 | B | 2670 | A | N3-C4 | -6.45 | 1.30 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2716 | C | P-O5' | -6.45 | 1.53 | 1.59 |
| 12 | B | 1176 | U | C4-C5 | 6.45 | 1.49 | 1.43 |
| 14 | D | 83 | ARG | NE-CZ | 6.45 | 1.41 | 1.33 |
| 12 | B | 1996 | C | C5'-C4' | 6.45 | 1.59 | 1.51 |
| 12 | B | 2172 | U | P-O5' | -6.45 | 1.53 | 1.59 |
| 12 | B | 2631 | G | C4'-O4' | 6.45 | 1.53 | 1.45 |
| 12 | B | 444 | C | N3-C4 | 6.45 | 1.38 | 1.33 |
| 12 | B | 506 | G | N9-C4 | -6.45 | 1.32 | 1.38 |
| 12 | B | 713 | G | C5-C4 | 6.45 | 1.42 | 1.38 |
| 12 | B | 1313 | U | O3'-P | -6.45 | 1.53 | 1.61 |
| 12 | B | 1371 | G | N9-C8 | 6.45 | 1.42 | 1.37 |
| 12 | B | 1920 | C | N3-C4 | 6.45 | 1.38 | 1.33 |
| 12 | B | 407 | G | C2-N2 | 6.44 | 1.41 | 1.34 |
| 12 | B | 1623 | G | N3-C4 | 6.44 | 1.40 | 1.35 |
| 12 | B | 2 | G | N7-C5 | -6.44 | 1.35 | 1.39 |
| 12 | B | 2403 | C | C3'-C2' | -6.44 | 1.45 | 1.52 |
| 12 | B | 2774 | C | N3-C4 | 6.44 | 1.38 | 1.33 |
| 12 | B | 1825 | U | N1-C6 | 6.44 | 1.43 | 1.38 |
| 12 | B | 618 | G | C3'-C2' | -6.44 | 1.45 | 1.52 |
| 12 | B | 1365 | A | C6-N6 | 6.44 | 1.39 | 1.33 |
| 12 | B | 1628 | G | N7-C5 | -6.44 | 1.35 | 1.39 |
| 12 | B | 2405 | G | N9-C8 | 6.44 | 1.42 | 1.37 |
| 12 | B | 43 | G | C8-N7 | -6.44 | 1.27 | 1.30 |
| 12 | B | 1042 | G | C2-N2 | 6.44 | 1.41 | 1.34 |
| 12 | B | 1285 | A | C6-N6 | 6.44 | 1.39 | 1.33 |
| 12 | B | 1560 | G | P-O5' | -6.44 | 1.53 | 1.59 |
| 12 | B | 1722 | A | C2'-O2' | 6.44 | 1.50 | 1.41 |
| 12 | B | 2380 | C | N3-C4 | 6.44 | 1.38 | 1.33 |
| 12 | B | 2541 | A | C8-N7 | 6.44 | 1.36 | 1.31 |
| 12 | B | 2690 | U | O3'-P | -6.44 | 1.53 | 1.61 |
| 12 | B | 1311 | G | N1-C2 | 6.43 | 1.42 | 1.37 |
| 12 | B | 1871 | A | N7-C5 | -6.43 | 1.35 | 1.39 |
| 12 | B | 1940 | U | C5-C6 | 6.43 | 1.40 | 1.34 |
| 12 | B | 2253 | G | N1-C2 | 6.43 | 1.42 | 1.37 |
| 12 | B | 2359 | C | C4-N4 | 6.43 | 1.39 | 1.33 |
| 12 | B | 2536 | G | C2-N2 | 6.43 | 1.41 | 1.34 |
| 12 | B | 2750 | A | C4'-C3' | -6.43 | 1.46 | 1.53 |
| 16 | F | 176 | PHE | CG-CD1 | 6.43 | 1.48 | 1.38 |
| 12 | B | 495 | G | C6-O6 | 6.43 | 1.29 | 1.24 |
| 12 | B | 535 | G | C4'-C3' | 6.43 | 1.60 | 1.53 |
| 12 | B | 858 | G | O3'-P | -6.43 | 1.53 | 1.61 |
| 12 | B | 972 | A | C5'-C4' | 6.43 | 1.59 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1878 | G | N7-C5 | -6.43 | 1.35 | 1.39 |
| 12 | B | 1950 | G | N3-C4 | -6.43 | 1.30 | 1.35 |
| 12 | B | 2265 | U | C2-N3 | 6.43 | 1.42 | 1.37 |
| 12 | B | 2799 | A | C6-N6 | 6.43 | 1.39 | 1.33 |
| 16 | F | 142 | TYR | CG-CD2 | 6.43 | 1.47 | 1.39 |
| 21 | K | 18 | ARG | CZ-NH2 | 6.43 | 1.41 | 1.33 |
| 12 | B | 670 | A | N3-C4 | -6.43 | 1.30 | 1.34 |
| 12 | B | 876 | C | P-O5' | -6.43 | 1.53 | 1.59 |
| 12 | B | 1490 | A | O3'-P | -6.43 | 1.53 | 1.61 |
| 12 | B | 2245 | U | N3-C4 | 6.43 | 1.44 | 1.38 |
| 12 | B | 185 | G | N7-C5 | -6.43 | 1.35 | 1.39 |
| 12 | B | 886 | A | C6-N1 | 6.43 | 1.40 | 1.35 |
| 12 | B | 1256 | G | N1-C2 | 6.43 | 1.42 | 1.37 |
| 12 | B | 1649 | G | P-O5' | 6.43 | 1.66 | 1.59 |
| 12 | B | 1767 | G | C5-C6 | -6.43 | 1.35 | 1.42 |
| 12 | B | 2867 | G | C3'-C2' | 6.43 | 1.60 | 1.52 |
| 12 | B | 2885 | G | C5-C6 | -6.43 | 1.35 | 1.42 |
| 12 | B | 1591 | A | C2-N3 | 6.43 | 1.39 | 1.33 |
| 12 | B | 678 | C | N3-C4 | 6.43 | 1.38 | 1.33 |
| 12 | B | 716 | A | C2-N3 | -6.43 | 1.27 | 1.33 |
| 12 | B | 1103 | A | C6-N6 | 6.43 | 1.39 | 1.33 |
| 12 | B | 1531 | C | C2-N3 | 6.43 | 1.40 | 1.35 |
| 12 | B | 2203 | U | N3-C4 | 6.43 | 1.44 | 1.38 |
| 12 | B | 1239 | G | N7-C5 | 6.42 | 1.43 | 1.39 |
| 12 | B | 1410 | G | C8-N7 | -6.42 | 1.27 | 1.30 |
| 12 | B | 1540 | G | C2-N2 | 6.42 | 1.41 | 1.34 |
| 12 | B | 1970 | A | C5-C4 | 6.42 | 1.43 | 1.38 |
| 12 | B | 2494 | G | C3'-O3' | 6.42 | 1.51 | 1.42 |
| 12 | B | 5 | A | C2'-C1' | -6.42 | 1.46 | 1.53 |
| 12 | B | 706 | A | C6-N1 | 6.42 | 1.40 | 1.35 |
| 12 | B | 926 | G | C2'-C1' | -6.42 | 1.46 | 1.53 |
| 12 | B | 2041 | U | N1-C6 | -6.42 | 1.32 | 1.38 |
| 12 | B | 2413 | G | C3'-C2' | -6.42 | 1.45 | 1.52 |
| 12 | B | 818 | G | N1-C2 | 6.42 | 1.42 | 1.37 |
| 12 | B | 1148 | U | N3-C4 | -6.42 | 1.32 | 1.38 |
| 12 | B | 2429 | G | C6-N1 | 6.42 | 1.44 | 1.39 |
| 12 | B | 2705 | A | N7-C5 | -6.42 | 1.35 | 1.39 |
| 11 | A | 68 | C | C1'-N1 | 6.42 | 1.58 | 1.48 |
| 12 | B | 85 | G | C2-N2 | 6.42 | 1.41 | 1.34 |
| 12 | B | 2174 | C | C5-C6 | -6.42 | 1.29 | 1.34 |
| 11 | A | 46 | A | C4'-C3' | -6.42 | 1.46 | 1.53 |
| 12 | B | 1060 | U | C4'-C3' | 6.42 | 1.60 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2377 | A | C2'-C1' | -6.42 | 1.46 | 1.53 |
| 12 | B | 2391 | G | N7-C5 | -6.42 | 1.35 | 1.39 |
| 12 | B | 2632 | A | C6-N1 | 6.42 | 1.40 | 1.35 |
| 12 | B | 2706 | A | C4'-O4' | 6.42 | 1.53 | 1.45 |
| 12 | B | 2526 | G | C2-N2 | 6.42 | 1.41 | 1.34 |
| 12 | B | 2815 | C | C4'-C3' | 6.42 | 1.60 | 1.53 |
| 11 | A | 29 | A | N3-C4 | -6.41 | 1.31 | 1.34 |
| 12 | B | 1794 | A | N9-C4 | 6.41 | 1.41 | 1.37 |
| 12 | B | 2566 | A | N7-C5 | -6.41 | 1.35 | 1.39 |
| 12 | B | 686 | U | C4'-C3' | 6.41 | 1.60 | 1.53 |
| 12 | B | 2747 | G | C2'-C1' | -6.41 | 1.46 | 1.53 |
| 3 | 2 | 30 | ARG | CZ-NH1 | 6.41 | 1.41 | 1.33 |
| 12 | B | 122 | G | C4'-C3' | 6.41 | 1.60 | 1.53 |
| 12 | B | 739 | A | N1-C2 | 6.41 | 1.40 | 1.34 |
| 12 | B | 1457 | U | C4-C5 | 6.41 | 1.49 | 1.43 |
| 12 | B | 2037 | A | C2'-C1' | -6.41 | 1.46 | 1.53 |
| 12 | B | 2142 | A | C6-N6 | 6.41 | 1.39 | 1.33 |
| 12 | B | 2536 | G | N1-C2 | 6.41 | 1.42 | 1.37 |
| 12 | B | 2868 | A | N7-C5 | -6.41 | 1.35 | 1.39 |
| 12 | B | 723 | C | C5'-C4' | 6.41 | 1.59 | 1.51 |
| 12 | B | 921 | C | N1-C6 | -6.41 | 1.33 | 1.37 |
| 12 | B | 1091 | G | C5-C6 | -6.41 | 1.35 | 1.42 |
| 12 | B | 1962 | C | O4'-C1' | 6.41 | 1.50 | 1.41 |
| 12 | B | 2569 | G | N1-C2 | 6.41 | 1.42 | 1.37 |
| 11 | A | 69 | G | N7-C5 | -6.41 | 1.35 | 1.39 |
| 12 | B | 251 | A | C6-N6 | 6.41 | 1.39 | 1.33 |
| 26 | P | 112 | ARG | CD-NE | 6.41 | 1.57 | 1.46 |
| 12 | B | 39 | G | C2'-C1' | -6.41 | 1.46 | 1.53 |
| 12 | B | 273 | G | C5'-C4' | 6.41 | 1.59 | 1.51 |
| 12 | B | 310 | A | N7-C5 | -6.41 | 1.35 | 1.39 |
| 12 | B | 385 | C | N3-C4 | 6.41 | 1.38 | 1.33 |
| 12 | B | 431 | U | C2-N3 | 6.41 | 1.42 | 1.37 |
| 12 | B | 1192 | G | N9-C8 | -6.41 | 1.33 | 1.37 |
| 12 | B | 1410 | G | N3-C4 | 6.41 | 1.40 | 1.35 |
| 12 | B | 2365 | G | C6-N1 | 6.41 | 1.44 | 1.39 |
| 12 | B | 2118 | U | O3'-P | -6.40 | 1.53 | 1.61 |
| 12 | B | 315 | G | C5-C4 | 6.40 | 1.42 | 1.38 |
| 12 | B | 1825 | U | C2'-C1' | -6.40 | 1.46 | 1.53 |
| 12 | B | 195 | A | C5-C6 | -6.40 | 1.35 | 1.41 |
| 12 | B | 1042 | G | C5'-C4' | 6.40 | 1.59 | 1.51 |
| 12 | B | 1465 | G | C2'-C1' | -6.40 | 1.46 | 1.53 |
| 12 | B | 2591 | C | N3-C4 | 6.40 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2668 | G | P-O5' | -6.40 | 1.53 | 1.59 |
| 12 | B | 1011 | G | N9-C8 | -6.40 | 1.33 | 1.37 |
| 12 | B | 1454 | C | C4-C5 | -6.40 | 1.37 | 1.43 |
| 12 | B | 1571 | A | N7-C5 | -6.40 | 1.35 | 1.39 |
| 12 | B | 1664 | A | C5-C4 | 6.40 | 1.43 | 1.38 |
| 12 | B | 1666 | G | C6-N1 | 6.40 | 1.44 | 1.39 |
| 12 | B | 2472 | G | N1-C2 | 6.40 | 1.42 | 1.37 |
| 12 | B | 360 | U | C4-O4 | -6.40 | 1.18 | 1.23 |
| 12 | B | 484 | C | N3-C4 | 6.40 | 1.38 | 1.33 |
| 12 | B | 2017 | U | C4'-C3' | 6.40 | 1.60 | 1.53 |
| 11 | A | 65 | U | C2-N3 | 6.39 | 1.42 | 1.37 |
| 12 | B | 276 | U | C5-C6 | 6.39 | 1.40 | 1.34 |
| 12 | B | 589 | U | O3'-P | -6.39 | 1.53 | 1.61 |
| 12 | B | 710 | U | N1-C2 | -6.39 | 1.32 | 1.38 |
| 12 | B | 1103 | A | C2'-C1' | -6.39 | 1.46 | 1.53 |
| 12 | B | 2779 | U | C2-N3 | 6.39 | 1.42 | 1.37 |
| 12 | B | 110 | G | C5-C6 | -6.39 | 1.35 | 1.42 |
| 12 | B | 582 | A | C6-N6 | 6.39 | 1.39 | 1.33 |
| 12 | B | 2602 | A | C3'-C2' | 6.39 | 1.59 | 1.52 |
| 12 | B | 2813 | A | N7-C5 | -6.39 | 1.35 | 1.39 |
| 25 | O | 33 | ARG | NE-CZ | 6.39 | 1.41 | 1.33 |
| 12 | B | 126 | A | P-O5' | -6.39 | 1.53 | 1.59 |
| 12 | B | 674 | G | C1'-N9 | 6.39 | 1.58 | 1.48 |
| 11 | A | 20 | G | N1-C2 | 6.39 | 1.42 | 1.37 |
| 12 | B | 1403 | A | C6-N6 | 6.39 | 1.39 | 1.33 |
| 12 | B | 2567 | G | N9-C8 | -6.39 | 1.33 | 1.37 |
| 12 | B | 2863 | C | C1'-N1 | 6.39 | 1.58 | 1.48 |
| 11 | A | 15 | A | C6-N6 | 6.39 | 1.39 | 1.33 |
| 12 | B | 110 | G | N7-C5 | -6.39 | 1.35 | 1.39 |
| 12 | B | 188 | G | C5-C6 | -6.39 | 1.35 | 1.42 |
| 12 | B | 275 | C | C4-N4 | 6.39 | 1.39 | 1.33 |
| 12 | B | 534 | U | C4-C5 | 6.39 | 1.49 | 1.43 |
| 12 | B | 600 | G | C5-C4 | 6.39 | 1.42 | 1.38 |
| 12 | B | 2206 | C | P-O5' | -6.39 | 1.53 | 1.59 |
| 12 | B | 175 | G | P-O5' | -6.38 | 1.53 | 1.59 |
| 12 | B | 300 | A | N1-C2 | -6.38 | 1.28 | 1.34 |
| 12 | B | 354 | A | N1-C2 | 6.38 | 1.40 | 1.34 |
| 12 | B | 1235 | G | C5'-C4' | 6.38 | 1.59 | 1.51 |
| 12 | B | 1336 | A | C5'-C4' | 6.38 | 1.59 | 1.51 |
| 12 | B | 1480 | C | C2'-C1' | -6.38 | 1.46 | 1.53 |
| 12 | B | 1548 | A | C5'-C4' | 6.38 | 1.59 | 1.51 |
| 12 | B | 547 | A | N9-C8 | -6.38 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1479 | G | N7-C5 | -6.38 | 1.35 | 1.39 |
| 12 | B | 2298 | A | N3-C4 | 6.38 | 1.38 | 1.34 |
| 11 | A | 53 | A | O4'-C1' | 6.38 | 1.50 | 1.41 |
| 12 | B | 23 | G | P-O5' | -6.38 | 1.53 | 1.59 |
| 12 | B | 245 | G | C5-C4 | -6.38 | 1.33 | 1.38 |
| 12 | B | 320 | A | O3'-P | -6.38 | 1.53 | 1.61 |
| 12 | B | 473 | G | C5-C4 | -6.38 | 1.33 | 1.38 |
| 12 | B | 2542 | A | P-O5' | 6.38 | 1.66 | 1.59 |
| 12 | B | 805 | G | C5-C4 | 6.38 | 1.42 | 1.38 |
| 12 | B | 1197 | G | C4'-O4' | -6.38 | 1.37 | 1.45 |
| 12 | B | 1324 | G | O3'-P | -6.38 | 1.53 | 1.61 |
| 12 | B | 1576 | U | O3'-P | -6.38 | 1.53 | 1.61 |
| 12 | B | 2280 | G | C2'-C1' | -6.38 | 1.46 | 1.53 |
| 12 | B | 2511 | U | O3'-P | -6.38 | 1.53 | 1.61 |
| 12 | B | 2613 | U | C2-N3 | -6.38 | 1.33 | 1.37 |
| 12 | B | 878 | A | C6-N6 | 6.38 | 1.39 | 1.33 |
| 12 | B | 1934 | C | C1'-N1 | 6.38 | 1.58 | 1.48 |
| 12 | B | 2175 | C | N1-C2 | 6.38 | 1.46 | 1.40 |
| 12 | B | 722 | A | N3-C4 | 6.38 | 1.38 | 1.34 |
| 12 | B | 771 | G | C2-N3 | 6.38 | 1.37 | 1.32 |
| 12 | B | 13 | A | C5'-C4' | 6.37 | 1.58 | 1.51 |
| 12 | B | 2551 | C | C4-C5 | 6.37 | 1.48 | 1.43 |
| 12 | B | 2812 | G | C2-N3 | 6.37 | 1.37 | 1.32 |
| 16 | F | 147 | ARG | CZ-NH1 | 6.37 | 1.41 | 1.33 |
| 12 | B | 948 | C | O3'-P | -6.37 | 1.53 | 1.61 |
| 12 | B | 1070 | A | C6-N1 | 6.37 | 1.40 | 1.35 |
| 12 | B | 1356 | G | C2-N2 | 6.37 | 1.41 | 1.34 |
| 12 | B | 1934 | C | O4'-C1' | -6.37 | 1.33 | 1.41 |
| 11 | A | 95 | U | N3-C4 | 6.37 | 1.44 | 1.38 |
| 12 | B | 1205 | A | C6-N6 | 6.37 | 1.39 | 1.33 |
| 12 | B | 1243 | C | C2-O2 | -6.37 | 1.18 | 1.24 |
| 12 | B | 1631 | G | P-O5' | 6.37 | 1.66 | 1.59 |
| 12 | B | 1672 | A | C2'-C1' | -6.37 | 1.46 | 1.53 |
| 12 | B | 2297 | A | C4'-C3' | 6.37 | 1.60 | 1.53 |
| 12 | B | 2307 | G | C6-N1 | -6.37 | 1.35 | 1.39 |
| 12 | B | 2610 | C | N3-C4 | 6.37 | 1.38 | 1.33 |
| 12 | B | 2711 | A | N3-C4 | -6.37 | 1.31 | 1.34 |
| 12 | B | 686 | U | N3-C4 | 6.37 | 1.44 | 1.38 |
| 12 | B | 2144 | G | N1-C2 | 6.37 | 1.42 | 1.37 |
| 12 | B | 960 | A | O3'-P | -6.37 | 1.53 | 1.61 |
| 12 | B | 1405 | U | N1-C2 | 6.37 | 1.44 | 1.38 |
| 12 | B | 1705 | A | C2'-C1' | -6.37 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 11 | A | 45 | A | P-O5' | -6.36 | 1.53 | 1.59 |
| 11 | A | 98 | G | C2-N2 | 6.36 | 1.41 | 1.34 |
| 12 | B | 491 | G | N1-C2 | 6.36 | 1.42 | 1.37 |
| 12 | B | 1009 | A | P-O5' | -6.36 | 1.53 | 1.59 |
| 12 | B | 1807 | G | C4'-O4' | 6.36 | 1.53 | 1.45 |
| 12 | B | 2700 | A | C2-N3 | 6.36 | 1.39 | 1.33 |
| 12 | B | 2764 | A | C8-N7 | -6.36 | 1.27 | 1.31 |
| 12 | B | 220 | G | C2-N3 | 6.36 | 1.37 | 1.32 |
| 12 | B | 715 | A | O3'-P | -6.36 | 1.53 | 1.61 |
| 12 | B | 891 | G | C6-N1 | 6.36 | 1.44 | 1.39 |
| 12 | B | 1645 | G | N1-C2 | 6.36 | 1.42 | 1.37 |
| 12 | B | 2673 | G | P-O5' | -6.36 | 1.53 | 1.59 |
| 12 | B | 94 | A | N9-C8 | 6.36 | 1.42 | 1.37 |
| 12 | B | 1056 | G | N7-C5 | -6.36 | 1.35 | 1.39 |
| 12 | B | 2029 | G | N1-C2 | 6.36 | 1.42 | 1.37 |
| 12 | B | 2379 | G | C6-N1 | 6.36 | 1.44 | 1.39 |
| 12 | B | 1189 | A | C2'-C1' | -6.36 | 1.46 | 1.53 |
| 12 | B | 2323 | G | C5-C4 | 6.36 | 1.42 | 1.38 |
| 12 | B | 329 | G | C5'-C4' | 6.35 | 1.58 | 1.51 |
| 12 | B | 466 | A | C6-N6 | 6.35 | 1.39 | 1.33 |
| 12 | B | 2043 | C | C4'-C3' | -6.35 | 1.46 | 1.53 |
| 12 | B | 2159 | G | C2-N3 | 6.35 | 1.37 | 1.32 |
| 12 | B | 247 | G | N1-C2 | 6.35 | 1.42 | 1.37 |
| 12 | B | 967 | U | N1-C6 | 6.35 | 1.43 | 1.38 |
| 12 | B | 1172 | C | C4-N4 | 6.35 | 1.39 | 1.33 |
| 12 | B | 376 | G | C3'-C2' | -6.35 | 1.45 | 1.52 |
| 12 | B | 776 | G | C6-O6 | -6.35 | 1.18 | 1.24 |
| 12 | B | 1427 | A | N3-C4 | -6.35 | 1.31 | 1.34 |
| 12 | B | 2186 | G | C2'-C1' | -6.35 | 1.46 | 1.53 |
| 12 | B | 2385 | C | C2'-C1' | -6.35 | 1.46 | 1.53 |
| 12 | B | 2842 | G | C2-N3 | 6.35 | 1.37 | 1.32 |
| 12 | B | 266 | G | C2'-C1' | -6.35 | 1.46 | 1.53 |
| 12 | B | 739 | A | C4'-C3' | 6.35 | 1.60 | 1.53 |
| 12 | B | 1212 | G | N9-C4 | -6.35 | 1.32 | 1.38 |
| 12 | B | 1300 | G | N7-C5 | -6.35 | 1.35 | 1.39 |
| 12 | B | 1500 | G | C2-N2 | 6.35 | 1.40 | 1.34 |
| 12 | B | 2368 | C | N3-C4 | 6.35 | 1.38 | 1.33 |
| 12 | B | 2485 | G | N9-C4 | -6.35 | 1.32 | 1.38 |
| 12 | B | 651 | G | C2'-O2' | -6.35 | 1.33 | 1.41 |
| 12 | B | 2600 | A | N9-C4 | 6.35 | 1.41 | 1.37 |
| 12 | B | 420 | C | C5'-C4' | 6.35 | 1.58 | 1.51 |
| 12 | B | 2676 | C | C4'-C3' | -6.35 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2733 | A | C5-C6 | -6.35 | 1.35 | 1.41 |
| 12 | B | 2776 | A | N9-C4 | -6.35 | 1.34 | 1.37 |
| 12 | B | 837 | C | O3'-P | -6.34 | 1.53 | 1.61 |
| 12 | B | 1974 | C | N1-C6 | -6.34 | 1.33 | 1.37 |
| 12 | B | 2025 | C | C2-N3 | 6.34 | 1.40 | 1.35 |
| 12 | B | 2269 | G | C2-N3 | 6.34 | 1.37 | 1.32 |
| 12 | B | 2366 | A | C8-N7 | -6.34 | 1.27 | 1.31 |
| 12 | B | 603 | A | N7-C5 | -6.34 | 1.35 | 1.39 |
| 12 | B | 729 | G | P-O5' | -6.34 | 1.53 | 1.59 |
| 12 | B | 744 | U | C1'-N1 | 6.34 | 1.58 | 1.48 |
| 12 | B | 882 | G | C2-N2 | 6.34 | 1.40 | 1.34 |
| 12 | B | 1129 | A | C6-N6 | 6.34 | 1.39 | 1.33 |
| 12 | B | 2856 | A | N9-C8 | -6.34 | 1.32 | 1.37 |
| 12 | B | 55 | G | C5-C4 | 6.34 | 1.42 | 1.38 |
| 12 | B | 752 | A | C6-N1 | 6.34 | 1.40 | 1.35 |
| 12 | B | 867 | C | C4-C5 | 6.34 | 1.48 | 1.43 |
| 12 | B | 2416 | C | C3'-C2' | -6.34 | 1.45 | 1.52 |
| 12 | B | 169 | G | C6-N1 | 6.34 | 1.44 | 1.39 |
| 12 | B | 1748 | C | C4-N4 | 6.34 | 1.39 | 1.33 |
| 11 | A | 34 | A | N1-C2 | 6.34 | 1.40 | 1.34 |
| 12 | B | 1449 | G | P-O5' | -6.34 | 1.53 | 1.59 |
| 12 | B | 2571 | U | C1'-N1 | 6.34 | 1.58 | 1.48 |
| 12 | B | 2775 | G | C2-N2 | 6.34 | 1.40 | 1.34 |
| 12 | B | 1468 | U | C3'-C2' | -6.34 | 1.45 | 1.52 |
| 12 | B | 1644 | C | C4-N4 | 6.34 | 1.39 | 1.33 |
| 12 | B | 1727 | C | P-O5' | -6.34 | 1.53 | 1.59 |
| 12 | B | 2082 | A | P-O5' | -6.34 | 1.53 | 1.59 |
| 12 | B | 2126 | A | C2-N3 | 6.34 | 1.39 | 1.33 |
| 11 | A | 73 | A | N7-C5 | -6.33 | 1.35 | 1.39 |
| 12 | B | 978 | G | C8-N7 | 6.33 | 1.34 | 1.30 |
| 12 | B | 1541 | C | C2'-C1' | -6.33 | 1.46 | 1.53 |
| 12 | B | 1962 | C | C2'-C1' | -6.33 | 1.46 | 1.53 |
| 12 | B | 77 | G | N9-C8 | -6.33 | 1.33 | 1.37 |
| 12 | B | 1242 | U | C2-N3 | 6.33 | 1.42 | 1.37 |
| 12 | B | 1302 | A | C3'-C2' | -6.33 | 1.45 | 1.52 |
| 12 | B | 1468 | U | N1-C6 | 6.33 | 1.43 | 1.38 |
| 12 | B | 2252 | G | C5-C4 | 6.33 | 1.42 | 1.38 |
| 12 | B | 2268 | A | C3'-C2' | -6.33 | 1.45 | 1.52 |
| 12 | B | 2794 | C | N1-C6 | 6.33 | 1.41 | 1.37 |
| 11 | A | 38 | C | C4-C5 | -6.33 | 1.37 | 1.43 |
| 12 | B | 577 | G | N1-C2 | 6.33 | 1.42 | 1.37 |
| 12 | B | 1068 | G | C2-N2 | 6.33 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1164 | C | O3'-P | -6.33 | 1.53 | 1.61 |
| 12 | B | 1304 | A | C5-C6 | -6.33 | 1.35 | 1.41 |
| 12 | B | 1753 | G | O4'-C1' | 6.33 | 1.49 | 1.41 |
| 12 | B | 2210 | U | C2'-C1' | -6.33 | 1.46 | 1.53 |
| 12 | B | 2644 | G | C3'-C2' | 6.33 | 1.59 | 1.52 |
| 25 | O | 102 | ARG | NE-CZ | 6.33 | 1.41 | 1.33 |
| 12 | B | 739 | A | C8-N7 | 6.33 | 1.35 | 1.31 |
| 12 | B | 1525 | A | N9-C8 | -6.33 | 1.32 | 1.37 |
| 12 | B | 1996 | C | N3-C4 | 6.33 | 1.38 | 1.33 |
| 12 | B | 2213 | U | P-O5' | 6.33 | 1.66 | 1.59 |
| 12 | B | 2850 | A | C5-C6 | 6.33 | 1.46 | 1.41 |
| 12 | B | 1054 | A | N3-C4 | -6.33 | 1.31 | 1.34 |
| 12 | B | 1494 | A | N3-C4 | 6.33 | 1.38 | 1.34 |
| 12 | B | 1640 | A | N7-C5 | -6.33 | 1.35 | 1.39 |
| 12 | B | 2098 | U | O4'-C1' | -6.33 | 1.33 | 1.41 |
| 12 | B | 59 | U | C2-N3 | 6.32 | 1.42 | 1.37 |
| 12 | B | 1107 | G | C5-C6 | 6.32 | 1.48 | 1.42 |
| 12 | B | 1252 | G | C6-N1 | 6.32 | 1.44 | 1.39 |
| 11 | A | 57 | A | C6-N6 | 6.32 | 1.39 | 1.33 |
| 12 | B | 129 | C | C4-N4 | 6.32 | 1.39 | 1.33 |
| 12 | B | 240 | C | P-O5' | -6.32 | 1.53 | 1.59 |
| 12 | B | 2441 | U | C2-N3 | 6.32 | 1.42 | 1.37 |
| 12 | B | 2520 | C | C2-N3 | 6.32 | 1.40 | 1.35 |
| 12 | B | 503 | A | O4'-C1' | -6.32 | 1.33 | 1.41 |
| 12 | B | 967 | U | C2-N3 | 6.32 | 1.42 | 1.37 |
| 12 | B | 1358 | G | C6-N1 | 6.32 | 1.44 | 1.39 |
| 12 | B | 866 | A | C6-N6 | 6.32 | 1.39 | 1.33 |
| 12 | B | 1319 | C | C4-N4 | 6.32 | 1.39 | 1.33 |
| 12 | B | 1528 | A | C3'-O3' | 6.32 | 1.50 | 1.42 |
| 12 | B | 2273 | A | C8-N7 | -6.32 | 1.27 | 1.31 |
| 12 | B | 2487 | G | N3-C4 | 6.32 | 1.39 | 1.35 |
| 12 | B | 922 | C | C2-N3 | 6.32 | 1.40 | 1.35 |
| 12 | B | 1022 | G | C5-C6 | -6.32 | 1.36 | 1.42 |
| 12 | B | 1027 | A | C4'-C3' | 6.32 | 1.60 | 1.53 |
| 12 | B | 1067 | A | C6-N6 | 6.32 | 1.39 | 1.33 |
| 12 | B | 1613 | G | C2-N2 | 6.32 | 1.40 | 1.34 |
| 12 | B | 1067 | A | C5'-C4' | 6.31 | 1.58 | 1.51 |
| 12 | B | 1756 | G | N7-C5 | 6.31 | 1.43 | 1.39 |
| 12 | B | 1838 | C | C2'-O2' | 6.31 | 1.49 | 1.41 |
| 12 | B | 2221 | G | C2'-C1' | -6.31 | 1.46 | 1.53 |
| 11 | A | 80 | U | N3-C4 | 6.31 | 1.44 | 1.38 |
| 12 | B | 230 | G | C5'-C4' | 6.31 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 434 | U | C2'-C1' | -6.31 | 1.46 | 1.53 |
| 12 | B | 833 | A | C5'-C4' | 6.31 | 1.58 | 1.51 |
| 12 | B | 1254 | A | C6-N1 | 6.31 | 1.40 | 1.35 |
| 12 | B | 1557 | C | C2'-O2' | 6.31 | 1.49 | 1.41 |
| 12 | B | 2082 | A | C5-C4 | -6.31 | 1.34 | 1.38 |
| 12 | B | 430 | A | P-O5' | -6.31 | 1.53 | 1.59 |
| 12 | B | 1754 | A | N7-C5 | -6.31 | 1.35 | 1.39 |
| 12 | B | 1807 | G | N3-C4 | 6.31 | 1.39 | 1.35 |
| 12 | B | 2081 | U | N1-C6 | 6.31 | 1.43 | 1.38 |
| 12 | B | 2330 | G | C6-O6 | 6.31 | 1.29 | 1.24 |
| 12 | B | 2450 | A | P-O5' | -6.31 | 1.53 | 1.59 |
| 12 | B | 2488 | G | C5-C4 | 6.31 | 1.42 | 1.38 |
| 12 | B | 2680 | U | C2'-C1' | -6.31 | 1.46 | 1.53 |
| 11 | A | 86 | G | N1-C2 | 6.31 | 1.42 | 1.37 |
| 12 | B | 105 | C | C2'-C1' | 6.31 | 1.60 | 1.53 |
| 12 | B | 1579 | A | N9-C4 | -6.31 | 1.34 | 1.37 |
| 12 | B | 1758 | U | P-O5' | -6.31 | 1.53 | 1.59 |
| 12 | B | 1932 | A | C6-N1 | 6.31 | 1.40 | 1.35 |
| 12 | B | 1630 | A | P-O5' | -6.31 | 1.53 | 1.59 |
| 12 | B | 2682 | A | C6-N6 | 6.31 | 1.39 | 1.33 |
| 12 | B | 1050 | A | N7-C5 | -6.30 | 1.35 | 1.39 |
| 12 | B | 1548 | A | C6-N1 | 6.30 | 1.40 | 1.35 |
| 12 | B | 2057 | G | C5'-C4' | -6.30 | 1.43 | 1.51 |
| 12 | B | 2549 | G | C2-N3 | 6.30 | 1.37 | 1.32 |
| 17 | G | 152 | ARG | CZ-NH1 | 6.30 | 1.41 | 1.33 |
| 12 | B | 2008 | C | C2-O2 | 6.30 | 1.30 | 1.24 |
| 12 | B | 2631 | G | C2-N3 | 6.30 | 1.37 | 1.32 |
| 12 | B | 294 | A | C2-N3 | 6.30 | 1.39 | 1.33 |
| 12 | B | 401 | A | N7-C5 | -6.30 | 1.35 | 1.39 |
| 12 | B | 1178 | C | N3-C4 | 6.30 | 1.38 | 1.33 |
| 12 | B | 1248 | G | C5'-C4' | 6.30 | 1.58 | 1.51 |
| 12 | B | 1871 | A | O3'-P | -6.30 | 1.53 | 1.61 |
| 12 | B | 2749 | A | C2'-C1' | -6.30 | 1.46 | 1.53 |
| 12 | B | 298 | G | O3'-P | -6.30 | 1.53 | 1.61 |
| 12 | B | 929 | U | P-O5' | -6.30 | 1.53 | 1.59 |
| 12 | B | 1142 | A | C2'-C1' | -6.30 | 1.46 | 1.53 |
| 12 | B | 1494 | A | C6-N1 | 6.30 | 1.40 | 1.35 |
| 12 | B | 2382 | G | N9-C8 | -6.30 | 1.33 | 1.37 |
| 12 | B | 426 | C | C2'-C1' | -6.30 | 1.46 | 1.53 |
| 12 | B | 1390 | U | C4'-C3' | -6.30 | 1.46 | 1.53 |
| 12 | B | 1946 | U | C4-C5 | 6.30 | 1.49 | 1.43 |
| 12 | B | 2134 | A | C6-N1 | 6.30 | 1.40 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 632 | A | C6-N1 | 6.30 | 1.40 | 1.35 |
| 12 | B | 708 | G | N1-C2 | 6.30 | 1.42 | 1.37 |
| 12 | B | 1871 | A | C5'-C4' | 6.30 | 1.58 | 1.51 |
| 12 | B | 2489 | U | P-O5' | -6.30 | 1.53 | 1.59 |
| 12 | B | 644 | A | C6-N6 | 6.29 | 1.39 | 1.33 |
| 12 | B | 1116 | G | C2-N3 | 6.29 | 1.37 | 1.32 |
| 12 | B | 2107 | G | P-O5' | -6.29 | 1.53 | 1.59 |
| 11 | A | 115 | A | C4'-C3' | -6.29 | 1.46 | 1.53 |
| 12 | B | 478 | A | C6-N1 | 6.29 | 1.40 | 1.35 |
| 12 | B | 699 | A | C4'-C3' | 6.29 | 1.60 | 1.53 |
| 12 | B | 725 | G | C8-N7 | -6.29 | 1.27 | 1.30 |
| 12 | B | 2178 | C | N3-C4 | 6.29 | 1.38 | 1.33 |
| 12 | B | 2569 | G | P-O5' | -6.29 | 1.53 | 1.59 |
| 18 | H | 123 | ARG | CD-NE | 6.29 | 1.57 | 1.46 |
| 12 | B | 516 | C | C3'-C2' | 6.29 | 1.59 | 1.52 |
| 12 | B | 2201 | G | N7-C5 | -6.29 | 1.35 | 1.39 |
| 10 | 9 | 124 | GLY | N-CA | -6.29 | 1.36 | 1.46 |
| 11 | A | 56 | G | C5-C4 | -6.29 | 1.33 | 1.38 |
| 11 | A | 43 | C | C4-N4 | 6.29 | 1.39 | 1.33 |
| 12 | B | 1966 | A | C5-C4 | 6.29 | 1.43 | 1.38 |
| 12 | B | 2768 | U | C4'-O4' | 6.29 | 1.53 | 1.45 |
| 11 | A | 31 | C | C5'-C4' | 6.29 | 1.58 | 1.51 |
| 12 | B | 377 | G | N9-C8 | 6.29 | 1.42 | 1.37 |
| 12 | B | 364 | C | C5'-C4' | 6.29 | 1.58 | 1.51 |
| 12 | B | 750 | A | C6-N1 | 6.29 | 1.40 | 1.35 |
| 12 | B | 1171 | G | C6-N1 | 6.29 | 1.44 | 1.39 |
| 12 | B | 1642 | G | C6-N1 | 6.29 | 1.44 | 1.39 |
| 12 | B | 2547 | A | C5-C4 | -6.29 | 1.34 | 1.38 |
| 12 | B | 216 | A | N9-C4 | 6.28 | 1.41 | 1.37 |
| 12 | B | 414 | C | C4'-O4' | -6.28 | 1.37 | 1.45 |
| 12 | B | 1501 | G | C5-C4 | 6.28 | 1.42 | 1.38 |
| 12 | B | 80 | G | N9-C8 | -6.28 | 1.33 | 1.37 |
| 12 | B | 540 | C | C4-C5 | -6.28 | 1.38 | 1.43 |
| 12 | B | 1420 | A | N3-C4 | 6.28 | 1.38 | 1.34 |
| 12 | B | 1877 | A | P-O5' | 6.28 | 1.66 | 1.59 |
| 12 | B | 2083 | G | N9-C8 | 6.28 | 1.42 | 1.37 |
| 12 | B | 2224 | G | N7-C5 | -6.28 | 1.35 | 1.39 |
| 12 | B | 2618 | G | C6-N1 | 6.28 | 1.44 | 1.39 |
| 12 | B | 682 | G | C8-N7 | 6.28 | 1.34 | 1.30 |
| 12 | B | 1933 | G | C8-N7 | -6.28 | 1.27 | 1.30 |
| 12 | B | 2335 | A | N7-C5 | -6.28 | 1.35 | 1.39 |
| 12 | B | 2371 | G | N7-C5 | 6.28 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 430 | A | C5-C4 | -6.28 | 1.34 | 1.38 |
| 12 | B | 700 | G | C6-N1 | 6.28 | 1.44 | 1.39 |
| 12 | B | 1271 | G | P-O5' | -6.28 | 1.53 | 1.59 |
| 12 | B | 1457 | U | C5'-C4' | 6.28 | 1.58 | 1.51 |
| 12 | B | 1476 | U | P-O5' | -6.28 | 1.53 | 1.59 |
| 12 | B | 1564 | C | N3-C4 | 6.28 | 1.38 | 1.33 |
| 12 | B | 2380 | C | C4'-O4' | 6.28 | 1.53 | 1.45 |
| 12 | B | 355 | U | C2-O2 | 6.28 | 1.27 | 1.22 |
| 12 | B | 1038 | G | N7-C5 | -6.28 | 1.35 | 1.39 |
| 12 | B | 2498 | C | C2'-C1' | -6.28 | 1.46 | 1.53 |
| 12 | B | 2523 | G | N3-C4 | 6.28 | 1.39 | 1.35 |
| 12 | B | 220 | G | N9-C4 | -6.27 | 1.32 | 1.38 |
| 12 | B | 784 | G | N1-C2 | 6.27 | 1.42 | 1.37 |
| 12 | B | 1465 | G | C2-N2 | 6.27 | 1.40 | 1.34 |
| 12 | B | 2294 | G | O3'-P | 6.27 | 1.68 | 1.61 |
| 12 | B | 2407 | A | C4'-O4' | 6.27 | 1.53 | 1.45 |
| 10 | 9 | 76 | ARG | CZ-NH1 | 6.27 | 1.41 | 1.33 |
| 11 | A | 13 | G | N3-C4 | 6.27 | 1.39 | 1.35 |
| 12 | B | 68 | G | N9-C4 | -6.27 | 1.32 | 1.38 |
| 12 | B | 367 | G | C5-C6 | -6.27 | 1.36 | 1.42 |
| 12 | B | 756 | A | C5'-C4' | 6.27 | 1.58 | 1.51 |
| 12 | B | 1096 | A | C5'-C4' | 6.27 | 1.58 | 1.51 |
| 12 | B | 2028 | U | C2-N3 | 6.27 | 1.42 | 1.37 |
| 12 | B | 2527 | C | C4-C5 | -6.27 | 1.38 | 1.43 |
| 12 | B | 2619 | C | N3-C4 | 6.27 | 1.38 | 1.33 |
| 12 | B | 2757 | A | N7-C5 | -6.27 | 1.35 | 1.39 |
| 12 | B | 370 | G | N9-C4 | 6.27 | 1.43 | 1.38 |
| 12 | B | 1102 | C | C4-C5 | -6.27 | 1.38 | 1.43 |
| 12 | B | 2567 | G | C8-N7 | -6.27 | 1.27 | 1.30 |
| 21 | K | 98 | ARG | CZ-NH2 | 6.27 | 1.41 | 1.33 |
| 12 | B | 26 | G | N3-C4 | -6.27 | 1.31 | 1.35 |
| 12 | B | 1854 | A | P-O5' | -6.27 | 1.53 | 1.59 |
| 12 | B | 2637 | U | P-O5' | 6.27 | 1.66 | 1.59 |
| 12 | B | 2864 | G | C3'-C2' | -6.27 | 1.45 | 1.52 |
| 12 | B | 602 | A | C6-N1 | 6.27 | 1.40 | 1.35 |
| 12 | B | 1025 | G | N3-C4 | -6.27 | 1.31 | 1.35 |
| 12 | B | 1357 | C | P-O5' | -6.27 | 1.53 | 1.59 |
| 12 | B | 1366 | A | C6-N1 | 6.27 | 1.40 | 1.35 |
| 12 | B | 1370 | C | C2-N3 | 6.27 | 1.40 | 1.35 |
| 11 | A | 90 | C | N3-C4 | 6.26 | 1.38 | 1.33 |
| 12 | B | 643 | A | N3-C4 | -6.26 | 1.31 | 1.34 |
| 12 | B | 662 | G | N9-C4 | -6.26 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 707 | G | C2-N3 | 6.26 | 1.37 | 1.32 |
| 12 | B | 816 | C | C4-C5 | 6.26 | 1.48 | 1.43 |
| 12 | B | 897 | C | C2'-C1' | -6.26 | 1.46 | 1.53 |
| 12 | B | 981 | A | N3-C4 | -6.26 | 1.31 | 1.34 |
| 12 | B | 1820 | U | C4'-C3' | 6.26 | 1.60 | 1.53 |
| 12 | B | 1854 | A | N9-C4 | 6.26 | 1.41 | 1.37 |
| 12 | B | 2529 | G | C5-C6 | 6.26 | 1.48 | 1.42 |
| 12 | B | 2673 | G | N1-C2 | 6.26 | 1.42 | 1.37 |
| 12 | B | 876 | C | C4-N4 | 6.26 | 1.39 | 1.33 |
| 12 | B | 1789 | A | C4'-O4' | -6.26 | 1.37 | 1.45 |
| 12 | B | 2253 | G | C5-C4 | 6.26 | 1.42 | 1.38 |
| 12 | B | 2624 | G | N1-C2 | 6.26 | 1.42 | 1.37 |
| 12 | B | 33 | C | C2-N3 | 6.26 | 1.40 | 1.35 |
| 12 | B | 657 | U | C2-N3 | 6.26 | 1.42 | 1.37 |
| 12 | B | 738 | G | N1-C2 | 6.26 | 1.42 | 1.37 |
| 12 | B | 752 | A | N7-C5 | -6.26 | 1.35 | 1.39 |
| 12 | B | 1034 | G | C8-N7 | 6.26 | 1.34 | 1.30 |
| 12 | B | 1439 | A | N1-C2 | -6.26 | 1.28 | 1.34 |
| 12 | B | 253 | C | N3-C4 | 6.26 | 1.38 | 1.33 |
| 12 | B | 907 | G | C4'-C3' | -6.26 | 1.46 | 1.53 |
| 12 | B | 1154 | G | C6-N1 | 6.26 | 1.44 | 1.39 |
| 12 | B | 1323 | C | C5'-C4' | 6.26 | 1.58 | 1.51 |
| 12 | B | 1475 | G | C8-N7 | -6.26 | 1.27 | 1.30 |
| 12 | B | 1534 | U | C2-N3 | 6.26 | 1.42 | 1.37 |
| 12 | B | 1723 | G | N9-C8 | 6.26 | 1.42 | 1.37 |
| 12 | B | 2646 | C | P-O5' | -6.26 | 1.53 | 1.59 |
| 12 | B | 2730 | C | C4-N4 | 6.26 | 1.39 | 1.33 |
| 12 | B | 2835 | A | C5'-C4' | 6.26 | 1.58 | 1.51 |
| 11 | A | 83 | G | C2-N2 | 6.26 | 1.40 | 1.34 |
| 12 | B | 76 | C | N3-C4 | 6.26 | 1.38 | 1.33 |
| 12 | B | 2457 | U | C4'-O4' | -6.26 | 1.37 | 1.45 |
| 12 | B | 2705 | A | N9-C8 | 6.26 | 1.42 | 1.37 |
| 12 | B | 157 | C | C4-C5 | 6.26 | 1.48 | 1.43 |
| 12 | B | 1773 | A | C4'-C3' | 6.26 | 1.60 | 1.53 |
| 12 | B | 2133 | G | C2'-C1' | -6.26 | 1.46 | 1.53 |
| 12 | B | 2541 | A | N1-C2 | -6.26 | 1.28 | 1.34 |
| 12 | B | 1162 | G | C6-N1 | 6.25 | 1.44 | 1.39 |
| 12 | B | 1757 | A | C6-N6 | 6.25 | 1.39 | 1.33 |
| 12 | B | 845 | A | C6-N6 | 6.25 | 1.39 | 1.33 |
| 12 | B | 926 | G | N1-C2 | 6.25 | 1.42 | 1.37 |
| 12 | B | 1784 | A | P-O5' | -6.25 | 1.53 | 1.59 |
| 12 | B | 2546 | U | O3'-P | -6.25 | 1.53 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 217 | A | N7-C5 | -6.25 | 1.35 | 1.39 |
| 12 | B | 479 | A | C6-N1 | 6.25 | 1.40 | 1.35 |
| 12 | B | 1021 | A | N3-C4 | -6.25 | 1.31 | 1.34 |
| 12 | B | 1708 | C | C1'-N1 | 6.25 | 1.58 | 1.48 |
| 12 | B | 2551 | C | C4-N4 | 6.25 | 1.39 | 1.33 |
| 12 | B | 147 | C | C4'-C3' | -6.25 | 1.46 | 1.53 |
| 12 | B | 1400 | U | N3-C4 | 6.25 | 1.44 | 1.38 |
| 12 | B | 1055 | G | N3-C4 | -6.25 | 1.31 | 1.35 |
| 12 | B | 1284 | A | N9-C4 | -6.25 | 1.34 | 1.37 |
| 12 | B | 2094 | A | C6-N6 | 6.25 | 1.39 | 1.33 |
| 12 | B | 2245 | U | C2-N3 | 6.25 | 1.42 | 1.37 |
| 12 | B | 2346 | A | C3'-C2' | 6.25 | 1.59 | 1.52 |
| 12 | B | 2464 | G | N3-C4 | -6.25 | 1.31 | 1.35 |
| 12 | B | 2818 | U | C5-C6 | 6.25 | 1.39 | 1.34 |
| 12 | B | 189 | G | N3-C4 | -6.25 | 1.31 | 1.35 |
| 12 | B | 645 | C | C5'-C4' | 6.25 | 1.58 | 1.51 |
| 12 | B | 1185 | G | N1-C2 | 6.25 | 1.42 | 1.37 |
| 12 | B | 1821 | A | P-O5' | -6.25 | 1.53 | 1.59 |
| 12 | B | 2098 | U | C4-C5 | 6.25 | 1.49 | 1.43 |
| 12 | B | 2236 | U | C4-C5 | 6.25 | 1.49 | 1.43 |
| 12 | B | 896 | A | C5-C4 | 6.25 | 1.43 | 1.38 |
| 12 | B | 2304 | G | C4'-O4' | 6.25 | 1.53 | 1.45 |
| 12 | B | 2824 | C | N1-C2 | 6.25 | 1.46 | 1.40 |
| 11 | A | 16 | G | C3'-O3' | 6.24 | 1.50 | 1.42 |
| 11 | A | 40 | U | C3'-O3' | 6.24 | 1.50 | 1.42 |
| 12 | B | 1819 | A | N3-C4 | 6.24 | 1.38 | 1.34 |
| 12 | B | 2354 | C | C2-N3 | 6.24 | 1.40 | 1.35 |
| 12 | B | 2739 | U | C4-C5 | 6.24 | 1.49 | 1.43 |
| 12 | B | 21 | A | N9-C8 | 6.24 | 1.42 | 1.37 |
| 12 | B | 210 | C | C5'-C4' | 6.24 | 1.58 | 1.51 |
| 12 | B | 1056 | G | C2-N2 | 6.24 | 1.40 | 1.34 |
| 12 | B | 766 | U | O3'-P | -6.24 | 1.53 | 1.61 |
| 12 | B | 1952 | A | N1-C2 | 6.24 | 1.40 | 1.34 |
| 12 | B | 126 | A | C6-N6 | 6.24 | 1.39 | 1.33 |
| 12 | B | 155 | A | N9-C4 | -6.24 | 1.34 | 1.37 |
| 12 | B | 697 | G | C2-N2 | 6.24 | 1.40 | 1.34 |
| 12 | B | 772 | C | C2-N3 | 6.24 | 1.40 | 1.35 |
| 12 | B | 1067 | A | C5-C4 | 6.24 | 1.43 | 1.38 |
| 12 | B | 1877 | A | N7-C5 | 6.24 | 1.43 | 1.39 |
| 12 | B | 1552 | A | C6-N6 | 6.24 | 1.39 | 1.33 |
| 12 | B | 1827 | U | C2-N3 | 6.24 | 1.42 | 1.37 |
| 12 | B | 854 | C | C3'-O3' | 6.24 | 1.50 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1086 | A | C8-N7 | 6.24 | 1.35 | 1.31 |
| 12 | B | 1317 | G | C8-N7 | 6.24 | 1.34 | 1.30 |
| 12 | B | 1343 | G | C8-N7 | -6.24 | 1.27 | 1.30 |
| 12 | B | 1819 | A | C2-N3 | 6.24 | 1.39 | 1.33 |
| 12 | B | 2033 | A | C5'-C4' | 6.24 | 1.58 | 1.51 |
| 12 | B | 2274 | A | P-O5' | -6.24 | 1.53 | 1.59 |
| 12 | B | 882 | G | C2'-C1' | -6.23 | 1.46 | 1.53 |
| 12 | B | 1303 | G | P-O5' | -6.23 | 1.53 | 1.59 |
| 12 | B | 1388 | G | C2-N3 | 6.23 | 1.37 | 1.32 |
| 12 | B | 2482 | A | C2'-C1' | -6.23 | 1.46 | 1.53 |
| 12 | B | 2627 | G | O3'-P | -6.23 | 1.53 | 1.61 |
| 12 | B | 496 | G | N3-C4 | -6.23 | 1.31 | 1.35 |
| 12 | B | 689 | A | C2'-C1' | 6.23 | 1.60 | 1.53 |
| 12 | B | 1234 | U | C2-N3 | 6.23 | 1.42 | 1.37 |
| 12 | B | 1635 | A | C5'-C4' | 6.23 | 1.58 | 1.51 |
| 12 | B | 2080 | A | C2'-C1' | -6.23 | 1.46 | 1.53 |
| 12 | B | 2406 | A | C6-N6 | 6.23 | 1.39 | 1.33 |
| 12 | B | 2433 | A | C5-C4 | -6.23 | 1.34 | 1.38 |
| 12 | B | 2686 | G | O4'-C1' | -6.23 | 1.33 | 1.41 |
| 12 | B | 237 | C | C2'-C1' | -6.23 | 1.46 | 1.53 |
| 12 | B | 1009 | A | C5-C6 | -6.23 | 1.35 | 1.41 |
| 12 | B | 2131 | U | C4-C5 | 6.23 | 1.49 | 1.43 |
| 12 | B | 2192 | U | C4'-C3' | -6.23 | 1.46 | 1.53 |
| 12 | B | 2476 | A | C6-N6 | 6.23 | 1.39 | 1.33 |
| 12 | B | 85 | G | N1-C2 | 6.23 | 1.42 | 1.37 |
| 12 | B | 625 | G | N3-C4 | -6.23 | 1.31 | 1.35 |
| 12 | B | 880 | G | N7-C5 | -6.23 | 1.35 | 1.39 |
| 12 | B | 2244 | U | P-O5' | -6.23 | 1.53 | 1.59 |
| 12 | B | 2481 | G | C3'-O3' | 6.23 | 1.50 | 1.42 |
| 12 | B | 2628 | C | O3'-P | -6.23 | 1.53 | 1.61 |
| 12 | B | 2716 | C | C4-C5 | 6.23 | 1.48 | 1.43 |
| 12 | B | 25 | U | C3'-C2' | -6.22 | 1.46 | 1.52 |
| 12 | B | 513 | A | N9-C8 | -6.22 | 1.32 | 1.37 |
| 12 | B | 1346 | G | P-O5' | -6.22 | 1.53 | 1.59 |
| 12 | B | 1446 | C | C4-C5 | 6.22 | 1.48 | 1.43 |
| 12 | B | 1637 | A | C2-N3 | 6.22 | 1.39 | 1.33 |
| 12 | B | 856 | G | C2-N3 | 6.22 | 1.37 | 1.32 |
| 12 | B | 1476 | U | C2'-C1' | -6.22 | 1.46 | 1.53 |
| 12 | B | 1733 | G | C2'-C1' | -6.22 | 1.46 | 1.53 |
| 12 | B | 1736 | U | C2-N3 | 6.22 | 1.42 | 1.37 |
| 12 | B | 2246 | G | N1-C2 | 6.22 | 1.42 | 1.37 |
| 12 | B | 2421 | G | N9-C8 | 6.22 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2577 | A | C6-N6 | 6.22 | 1.39 | 1.33 |
| 12 | B | 519 | U | C4'-C3' | -6.22 | 1.46 | 1.53 |
| 12 | B | 1342 | A | C8-N7 | -6.22 | 1.27 | 1.31 |
| 12 | B | 1774 | C | O3'-P | -6.22 | 1.53 | 1.61 |
| 13 | C | 62 | ARG | CZ-NH1 | 6.22 | 1.41 | 1.33 |
| 12 | B | 1067 | A | N9-C4 | 6.22 | 1.41 | 1.37 |
| 12 | B | 1114 | C | C3'-C2' | -6.22 | 1.46 | 1.52 |
| 12 | B | 1141 | U | C2-N3 | 6.22 | 1.42 | 1.37 |
| 12 | B | 1517 | G | N9-C4 | -6.22 | 1.32 | 1.38 |
| 12 | B | 2157 | G | P-O5' | 6.22 | 1.66 | 1.59 |
| 12 | B | 2841 | C | N1-C6 | -6.22 | 1.33 | 1.37 |
| 23 | M | 114 | ARG | NE-CZ | 6.22 | 1.41 | 1.33 |
| 12 | B | 803 | U | O4'-C1' | -6.22 | 1.33 | 1.41 |
| 12 | B | 849 | A | O3'-P | -6.22 | 1.53 | 1.61 |
| 12 | B | 1188 | U | O4'-C1' | 6.22 | 1.49 | 1.41 |
| 12 | B | 661 | A | N9-C4 | 6.22 | 1.41 | 1.37 |
| 12 | B | 685 | A | N3-C4 | -6.22 | 1.31 | 1.34 |
| 12 | B | 875 | G | N1-C2 | 6.22 | 1.42 | 1.37 |
| 12 | B | 1092 | C | N3-C4 | 6.22 | 1.38 | 1.33 |
| 12 | B | 1664 | A | C6-N6 | 6.22 | 1.39 | 1.33 |
| 12 | B | 1744 | A | N9-C8 | -6.22 | 1.32 | 1.37 |
| 12 | B | 2015 | A | C4'-C3' | 6.22 | 1.59 | 1.53 |
| 12 | B | 2366 | A | C6-N1 | 6.22 | 1.40 | 1.35 |
| 12 | B | 2745 | C | O3'-P | -6.22 | 1.53 | 1.61 |
| 12 | B | 179 | C | C5-C6 | 6.21 | 1.39 | 1.34 |
| 12 | B | 1317 | G | P-O5' | -6.21 | 1.53 | 1.59 |
| 12 | B | 2135 | A | C8-N7 | -6.21 | 1.27 | 1.31 |
| 12 | B | 2504 | U | N3-C4 | 6.21 | 1.44 | 1.38 |
| 12 | B | 2780 | G | N9-C8 | 6.21 | 1.42 | 1.37 |
| 12 | B | 2345 | G | P-O5' | -6.21 | 1.53 | 1.59 |
| 12 | B | 206 | U | C2-N3 | -6.21 | 1.33 | 1.37 |
| 12 | B | 1095 | A | C5-C4 | 6.21 | 1.43 | 1.38 |
| 12 | B | 2235 | G | C5-C6 | 6.21 | 1.48 | 1.42 |
| 12 | B | 1498 | C | N3-C4 | 6.21 | 1.38 | 1.33 |
| 12 | B | 1857 | G | P-O5' | -6.21 | 1.53 | 1.59 |
| 12 | B | 425 | G | N1-C2 | 6.21 | 1.42 | 1.37 |
| 12 | B | 1728 | C | O3'-P | -6.21 | 1.53 | 1.61 |
| 12 | B | 1756 | G | C5-C4 | 6.21 | 1.42 | 1.38 |
| 12 | B | 2122 | U | P-O5' | 6.21 | 1.66 | 1.59 |
| 12 | B | 479 | A | N3-C4 | 6.21 | 1.38 | 1.34 |
| 12 | B | 770 | G | N1-C2 | 6.21 | 1.42 | 1.37 |
| 12 | B | 1448 | G | N9-C8 | -6.21 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2644 | G | N3-C4 | -6.21 | 1.31 | 1.35 |
| 4 | 3 | 49 | ARG | CD-NE | 6.21 | 1.56 | 1.46 |
| 12 | B | 2005 | A | C6-N6 | 6.21 | 1.39 | 1.33 |
| 12 | B | 1319 | C | C5'-C4' | 6.20 | 1.58 | 1.51 |
| 12 | B | 1338 | G | C6-N1 | 6.20 | 1.43 | 1.39 |
| 12 | B | 2832 | U | C3'-C2' | 6.20 | 1.59 | 1.52 |
| 12 | B | 2882 | A | N9-C8 | -6.20 | 1.32 | 1.37 |
| 1 | 0 | 41 | SER | CB-OG | 6.20 | 1.50 | 1.42 |
| 11 | A | 47 | C | C2'-C1' | -6.20 | 1.46 | 1.53 |
| 12 | B | 149 | A | C6-N6 | 6.20 | 1.39 | 1.33 |
| 12 | B | 465 | G | O4'-C1' | 6.20 | 1.49 | 1.41 |
| 12 | B | 1186 | G | C3'-C2' | -6.20 | 1.46 | 1.52 |
| 12 | B | 2230 | G | C2-N3 | 6.20 | 1.37 | 1.32 |
| 12 | B | 1992 | G | C6-N1 | 6.20 | 1.43 | 1.39 |
| 12 | B | 2253 | G | C6-N1 | -6.20 | 1.35 | 1.39 |
| 12 | B | 2525 | G | C2'-C1' | -6.20 | 1.46 | 1.53 |
| 12 | B | 2815 | C | C1'-N1 | 6.20 | 1.58 | 1.48 |
| 11 | A | 51 | G | N1-C2 | 6.20 | 1.42 | 1.37 |
| 12 | B | 75 | G | C2-N2 | 6.20 | 1.40 | 1.34 |
| 12 | B | 997 | G | C1'-N9 | 6.20 | 1.58 | 1.48 |
| 12 | B | 1511 | G | N7-C5 | 6.20 | 1.43 | 1.39 |
| 12 | B | 1857 | G | O3'-P | -6.20 | 1.53 | 1.61 |
| 12 | B | 2070 | A | C6-N1 | 6.20 | 1.39 | 1.35 |
| 12 | B | 2086 | U | N1-C6 | 6.20 | 1.43 | 1.38 |
| 12 | B | 2320 | U | C3'-C2' | 6.20 | 1.59 | 1.52 |
| 12 | B | 253 | C | P-O5' | -6.20 | 1.53 | 1.59 |
| 12 | B | 574 | A | P-O5' | -6.20 | 1.53 | 1.59 |
| 12 | B | 1821 | A | C4'-O4' | 6.20 | 1.53 | 1.45 |
| 12 | B | 196 | A | N3-C4 | -6.20 | 1.31 | 1.34 |
| 12 | B | 289 | G | C3'-C2' | -6.20 | 1.46 | 1.52 |
| 12 | B | 387 | U | C5'-C4' | 6.20 | 1.58 | 1.51 |
| 12 | B | 534 | U | N1-C6 | 6.20 | 1.43 | 1.38 |
| 12 | B | 1153 | C | C2'-C1' | -6.20 | 1.46 | 1.53 |
| 12 | B | 2814 | A | C2'-C1' | -6.20 | 1.46 | 1.53 |
| 12 | B | 581 | C | C4-N4 | 6.19 | 1.39 | 1.33 |
| 12 | B | 1095 | A | N9-C8 | 6.19 | 1.42 | 1.37 |
| 12 | B | 1723 | G | N3-C4 | 6.19 | 1.39 | 1.35 |
| 12 | B | 2770 | G | P-O5' | -6.19 | 1.53 | 1.59 |
| 12 | B | 307 | G | N1-C2 | 6.19 | 1.42 | 1.37 |
| 12 | B | 317 | G | N9-C8 | 6.19 | 1.42 | 1.37 |
| 12 | B | 401 | A | O4'-C1' | -6.19 | 1.33 | 1.41 |
| 12 | B | 855 | G | N1-C2 | 6.19 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1011 | G | N7-C5 | -6.19 | 1.35 | 1.39 |
| 12 | B | 1402 | U | C2'-C1' | -6.19 | 1.46 | 1.53 |
| 12 | B | 1860 | G | N9-C4 | 6.19 | 1.43 | 1.38 |
| 12 | B | 1905 | C | C5-C6 | -6.19 | 1.29 | 1.34 |
| 12 | B | 1960 | A | N9-C4 | 6.19 | 1.41 | 1.37 |
| 15 | E | 25 | GLU | CG-CD | 6.19 | 1.61 | 1.51 |
| 11 | A | 56 | G | C4'-C3' | 6.19 | 1.59 | 1.53 |
| 12 | B | 908 | C | O3'-P | -6.19 | 1.53 | 1.61 |
| 12 | B | 1090 | A | C6-N1 | 6.19 | 1.39 | 1.35 |
| 12 | B | 1390 | U | C4-C5 | 6.19 | 1.49 | 1.43 |
| 12 | B | 1502 | A | C4'-O4' | -6.19 | 1.37 | 1.45 |
| 12 | B | 1810 | A | P-O5' | -6.19 | 1.53 | 1.59 |
| 12 | B | 1869 | G | P-O5' | -6.19 | 1.53 | 1.59 |
| 12 | B | 1888 | G | N1-C2 | 6.19 | 1.42 | 1.37 |
| 12 | B | 2285 | C | N1-C6 | -6.19 | 1.33 | 1.37 |
| 12 | B | 2452 | C | C2-O2 | 6.19 | 1.30 | 1.24 |
| 12 | B | 2723 | C | N3-C4 | 6.19 | 1.38 | 1.33 |
| 12 | B | 493 | G | N1-C2 | 6.19 | 1.42 | 1.37 |
| 12 | B | 529 | A | C4'-C3' | 6.19 | 1.59 | 1.53 |
| 12 | B | 135 | U | N1-C2 | 6.19 | 1.44 | 1.38 |
| 12 | B | 371 | A | C6-N6 | 6.19 | 1.39 | 1.33 |
| 12 | B | 1179 | G | C5-C6 | 6.19 | 1.48 | 1.42 |
| 12 | B | 1673 | G | N1-C2 | 6.19 | 1.42 | 1.37 |
| 12 | B | 2109 | U | C4'-C3' | 6.19 | 1.59 | 1.53 |
| 12 | B | 215 | G | N7-C5 | -6.19 | 1.35 | 1.39 |
| 12 | B | 2661 | G | N7-C5 | -6.19 | 1.35 | 1.39 |
| 12 | B | 220 | G | C5-C4 | 6.18 | 1.42 | 1.38 |
| 12 | B | 538 | A | C2'-C1' | -6.18 | 1.46 | 1.53 |
| 12 | B | 1392 | A | C6-N1 | 6.18 | 1.39 | 1.35 |
| 12 | B | 2246 | G | O3'-P | -6.18 | 1.53 | 1.61 |
| 12 | B | 485 | C | C1'-N1 | 6.18 | 1.58 | 1.48 |
| 12 | B | 720 | U | C3'-C2' | -6.18 | 1.46 | 1.52 |
| 12 | B | 1175 | A | C6-N6 | 6.18 | 1.38 | 1.33 |
| 12 | B | 1362 | C | C2'-C1' | -6.18 | 1.46 | 1.53 |
| 12 | B | 1953 | A | C2'-C1' | 6.18 | 1.60 | 1.53 |
| 12 | B | 2355 | G | N9-C8 | 6.18 | 1.42 | 1.37 |
| 12 | B | 2549 | G | O3'-P | -6.18 | 1.53 | 1.61 |
| 12 | B | 2809 | A | N3-C4 | -6.18 | 1.31 | 1.34 |
| 12 | B | 2097 | A | C5'-C4' | 6.18 | 1.58 | 1.51 |
| 12 | B | 1016 | G | C8-N7 | -6.18 | 1.27 | 1.30 |
| 12 | B | 1435 | G | C4'-C3' | -6.18 | 1.46 | 1.53 |
| 12 | B | 1540 | G | N7-C5 | -6.18 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2342 | C | N3-C4 | 6.18 | 1.38 | 1.33 |
| 12 | B | 2573 | C | N1-C2 | 6.18 | 1.46 | 1.40 |
| 12 | B | 27 | G | C3'-C2' | 6.18 | 1.59 | 1.52 |
| 12 | B | 207 | A | N1-C2 | 6.18 | 1.40 | 1.34 |
| 12 | B | 244 | A | C6-N1 | 6.18 | 1.39 | 1.35 |
| 12 | B | 1285 | A | C5'-C4' | 6.18 | 1.58 | 1.51 |
| 12 | B | 2087 | G | N7-C5 | -6.18 | 1.35 | 1.39 |
| 11 | A | 50 | A | N9-C8 | 6.18 | 1.42 | 1.37 |
| 12 | B | 682 | G | N7-C5 | 6.18 | 1.43 | 1.39 |
| 12 | B | 800 | A | N9-C8 | 6.18 | 1.42 | 1.37 |
| 12 | B | 1495 | A | C6-N6 | 6.18 | 1.38 | 1.33 |
| 12 | B | 1502 | A | N7-C5 | -6.18 | 1.35 | 1.39 |
| 12 | B | 1921 | G | C2-N2 | 6.18 | 1.40 | 1.34 |
| 12 | B | 348 | A | C6-N6 | 6.17 | 1.38 | 1.33 |
| 12 | B | 386 | G | C8-N7 | 6.17 | 1.34 | 1.30 |
| 12 | B | 1190 | G | C3'-C2' | 6.17 | 1.59 | 1.52 |
| 12 | B | 1871 | A | C5-C4 | -6.17 | 1.34 | 1.38 |
| 12 | B | 1997 | C | C4-C5 | 6.17 | 1.47 | 1.43 |
| 12 | B | 2337 | G | C2-N3 | 6.17 | 1.37 | 1.32 |
| 12 | B | 2533 | U | C2-N3 | 6.17 | 1.42 | 1.37 |
| 12 | B | 184 | C | C2'-C1' | -6.17 | 1.46 | 1.53 |
| 12 | B | 775 | G | N9-C4 | -6.17 | 1.33 | 1.38 |
| 12 | B | 2693 | G | C2-N2 | 6.17 | 1.40 | 1.34 |
| 12 | B | 2727 | A | N3-C4 | -6.17 | 1.31 | 1.34 |
| 12 | B | 427 | U | C2-N3 | 6.17 | 1.42 | 1.37 |
| 12 | B | 1216 | G | N3-C4 | -6.17 | 1.31 | 1.35 |
| 12 | B | 1291 | C | C4'-O4' | 6.17 | 1.53 | 1.45 |
| 12 | B | 1376 | C | C4-N4 | 6.17 | 1.39 | 1.33 |
| 12 | B | 1935 | G | N1-C2 | 6.17 | 1.42 | 1.37 |
| 12 | B | 2094 | A | C4'-C3' | -6.17 | 1.46 | 1.53 |
| 12 | B | 2573 | C | C1'-N1 | 6.17 | 1.58 | 1.48 |
| 12 | B | 722 | A | C2-N3 | 6.17 | 1.39 | 1.33 |
| 12 | B | 1638 | C | C2'-C1' | -6.17 | 1.46 | 1.53 |
| 12 | B | 2232 | C | N3-C4 | 6.17 | 1.38 | 1.33 |
| 12 | B | 2699 | C | C2'-C1' | -6.17 | 1.46 | 1.53 |
| 12 | B | 797 | G | C2-N3 | 6.17 | 1.37 | 1.32 |
| 12 | B | 1006 | C | C2-O2 | 6.17 | 1.30 | 1.24 |
| 12 | B | 2192 | U | C5'-C4' | 6.17 | 1.58 | 1.51 |
| 12 | B | 2439 | A | N1-C2 | -6.17 | 1.28 | 1.34 |
| 12 | B | 189 | G | C2-N3 | 6.17 | 1.37 | 1.32 |
| 12 | B | 1779 | U | N3-C4 | 6.17 | 1.44 | 1.38 |
| 12 | B | 2019 | A | C4'-C3' | 6.17 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2104 | C | C2'-C1' | 6.17 | 1.60 | 1.53 |
| 12 | B | 2336 | A | C2'-C1' | -6.17 | 1.46 | 1.53 |
| 12 | B | 1725 | U | N1-C2 | 6.17 | 1.44 | 1.38 |
| 12 | B | 2304 | G | N1-C2 | 6.17 | 1.42 | 1.37 |
| 12 | B | 2822 | G | N9-C8 | 6.16 | 1.42 | 1.37 |
| 12 | B | 307 | G | N3-C4 | -6.16 | 1.31 | 1.35 |
| 12 | B | 439 | A | N9-C8 | -6.16 | 1.32 | 1.37 |
| 12 | B | 2081 | U | O4'-C1' | -6.16 | 1.33 | 1.41 |
| 12 | B | 2547 | A | O4'-C1' | 6.16 | 1.49 | 1.41 |
| 12 | B | 380 | G | C2'-C1' | -6.16 | 1.46 | 1.53 |
| 12 | B | 658 | U | O3'-P | -6.16 | 1.53 | 1.61 |
| 12 | B | 789 | A | C5'-C4' | 6.16 | 1.58 | 1.51 |
| 12 | B | 966 | G | P-O5' | -6.16 | 1.53 | 1.59 |
| 12 | B | 1088 | A | C3'-C2' | 6.16 | 1.59 | 1.52 |
| 12 | B | 2027 | G | C2'-C1' | -6.16 | 1.46 | 1.53 |
| 12 | B | 2179 | C | C4-N4 | 6.16 | 1.39 | 1.33 |
| 12 | B | 2279 | G | N7-C5 | -6.16 | 1.35 | 1.39 |
| 12 | B | 2582 | G | C4'-O4' | -6.16 | 1.37 | 1.45 |
| 12 | B | 2870 | C | P-O5' | -6.16 | 1.53 | 1.59 |
| 12 | B | 390 | U | C5'-C4' | 6.16 | 1.58 | 1.51 |
| 12 | B | 503 | A | N3-C4 | 6.16 | 1.38 | 1.34 |
| 12 | B | 556 | A | N3-C4 | -6.16 | 1.31 | 1.34 |
| 12 | B | 2018 | G | N1-C2 | 6.16 | 1.42 | 1.37 |
| 12 | B | 2530 | A | C5-C4 | -6.16 | 1.34 | 1.38 |
| 12 | B | 2557 | G | C5-C4 | 6.16 | 1.42 | 1.38 |
| 12 | B | 704 | G | C2'-C1' | -6.16 | 1.46 | 1.53 |
| 12 | B | 1019 | U | C2-N3 | 6.16 | 1.42 | 1.37 |
| 12 | B | 35 | G | C8-N7 | 6.16 | 1.34 | 1.30 |
| 12 | B | 175 | G | C5-C4 | -6.16 | 1.34 | 1.38 |
| 12 | B | 290 | U | C1'-N1 | 6.16 | 1.57 | 1.48 |
| 12 | B | 2085 | U | C4-O4 | 6.16 | 1.28 | 1.23 |
| 12 | B | 2227 | A | P-O5' | -6.16 | 1.53 | 1.59 |
| 12 | B | 48 | G | C6-N1 | 6.15 | 1.43 | 1.39 |
| 12 | B | 182 | A | C6-N6 | 6.15 | 1.38 | 1.33 |
| 12 | B | 296 | U | N1-C6 | -6.15 | 1.32 | 1.38 |
| 12 | B | 2106 | U | N1-C2 | -6.15 | 1.33 | 1.38 |
| 12 | B | 2112 | G | N1-C2 | 6.15 | 1.42 | 1.37 |
| 12 | B | 2368 | C | C4-N4 | 6.15 | 1.39 | 1.33 |
| 12 | B | 404 | A | N7-C5 | -6.15 | 1.35 | 1.39 |
| 12 | B | 1050 | A | C6-N6 | 6.15 | 1.38 | 1.33 |
| 12 | B | 1088 | A | C8-N7 | -6.15 | 1.27 | 1.31 |
| 12 | B | 1413 | A | N7-C5 | -6.15 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1851 | U | C2'-C1' | 6.15 | 1.60 | 1.53 |
| 12 | B | 1878 | G | C4'-C3' | -6.15 | 1.46 | 1.53 |
| 12 | B | 2155 | U | N1-C6 | -6.15 | 1.32 | 1.38 |
| 12 | B | 2216 | G | C8-N7 | -6.15 | 1.27 | 1.30 |
| 12 | B | 2428 | G | N9-C8 | 6.15 | 1.42 | 1.37 |
| 12 | B | 2452 | C | C5-C6 | -6.15 | 1.29 | 1.34 |
| 12 | B | 280 | U | N1-C6 | 6.15 | 1.43 | 1.38 |
| 12 | B | 408 | G | C2-N3 | 6.15 | 1.37 | 1.32 |
| 12 | B | 412 | A | N9-C4 | 6.15 | 1.41 | 1.37 |
| 12 | B | 641 | U | C3'-C2' | -6.15 | 1.46 | 1.52 |
| 12 | B | 1688 | U | N1-C6 | 6.15 | 1.43 | 1.38 |
| 12 | B | 1820 | U | C2-N3 | 6.15 | 1.42 | 1.37 |
| 12 | B | 2053 | G | C4'-C3' | 6.15 | 1.59 | 1.53 |
| 12 | B | 2557 | G | C8-N7 | 6.15 | 1.34 | 1.30 |
| 12 | B | 2826 | A | N9-C8 | 6.15 | 1.42 | 1.37 |
| 12 | B | 599 | A | C4'-C3' | 6.15 | 1.59 | 1.53 |
| 12 | B | 1850 | G | O3'-P | -6.15 | 1.53 | 1.61 |
| 12 | B | 2457 | U | C2'-C1' | -6.15 | 1.46 | 1.53 |
| 12 | B | 2635 | A | P-O5' | -6.15 | 1.53 | 1.59 |
| 12 | B | 124 | G | N3-C4 | 6.15 | 1.39 | 1.35 |
| 12 | B | 497 | A | P-O5' | -6.15 | 1.53 | 1.59 |
| 12 | B | 748 | G | C6-N1 | 6.15 | 1.43 | 1.39 |
| 12 | B | 1205 | A | N7-C5 | -6.15 | 1.35 | 1.39 |
| 12 | B | 1406 | U | C5-C6 | 6.15 | 1.39 | 1.34 |
| 12 | B | 1903 | G | C5-C4 | 6.15 | 1.42 | 1.38 |
| 12 | B | 151 | C | C5-C6 | -6.15 | 1.29 | 1.34 |
| 12 | B | 2205 | A | N9-C4 | -6.15 | 1.34 | 1.37 |
| 12 | B | 546 | U | C2-N3 | 6.14 | 1.42 | 1.37 |
| 12 | B | 735 | A | N9-C4 | -6.14 | 1.34 | 1.37 |
| 12 | B | 2030 | A | C3'-C2' | 6.14 | 1.59 | 1.52 |
| 12 | B | 2478 | A | C5-C4 | 6.14 | 1.43 | 1.38 |
| 12 | B | 122 | G | N9-C4 | 6.14 | 1.42 | 1.38 |
| 12 | B | 2446 | G | C1'-N9 | 6.14 | 1.57 | 1.48 |
| 12 | B | 2885 | G | C3'-O3' | 6.14 | 1.50 | 1.42 |
| 12 | B | 239 | C | N1-C6 | 6.14 | 1.40 | 1.37 |
| 12 | B | 181 | A | C8-N7 | -6.14 | 1.27 | 1.31 |
| 12 | B | 192 | C | C2'-C1' | -6.14 | 1.46 | 1.53 |
| 12 | B | 924 | G | C2-N2 | 6.14 | 1.40 | 1.34 |
| 12 | B | 2690 | U | C2-N3 | 6.14 | 1.42 | 1.37 |
| 28 | R | 84 | ARG | CZ-NH2 | 6.14 | 1.41 | 1.33 |
| 12 | B | 104 | A | C5-C4 | 6.14 | 1.43 | 1.38 |
| 12 | B | 936 | A | C6-N6 | 6.14 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1564 | C | C5'-C4' | 6.14 | 1.58 | 1.51 |
| 12 | B | 1653 | G | N7-C5 | -6.14 | 1.35 | 1.39 |
| 11 | A | 69 | G | C2-N2 | 6.14 | 1.40 | 1.34 |
| 12 | B | 178 | G | C4'-O4' | 6.14 | 1.53 | 1.45 |
| 12 | B | 1290 | C | C2-N3 | 6.14 | 1.40 | 1.35 |
| 12 | B | 250 | G | O3'-P | -6.13 | 1.53 | 1.61 |
| 12 | B | 408 | G | C3'-O3' | 6.13 | 1.50 | 1.42 |
| 12 | B | 834 | G | N7-C5 | -6.13 | 1.35 | 1.39 |
| 12 | B | 930 | G | N9-C8 | 6.13 | 1.42 | 1.37 |
| 12 | B | 1581 | G | N1-C2 | 6.13 | 1.42 | 1.37 |
| 12 | B | 2380 | C | C4-N4 | 6.13 | 1.39 | 1.33 |
| 12 | B | 2518 | A | C6-N6 | 6.13 | 1.38 | 1.33 |
| 12 | B | 2861 | U | C2'-C1' | -6.13 | 1.46 | 1.53 |
| 12 | B | 306 | U | C3'-C2' | -6.13 | 1.46 | 1.52 |
| 12 | B | 2675 | A | C6-N1 | 6.13 | 1.39 | 1.35 |
| 12 | B | 2768 | U | N1-C2 | -6.13 | 1.33 | 1.38 |
| 12 | B | 2883 | A | C2'-C1' | -6.13 | 1.46 | 1.53 |
| 11 | A | 80 | U | C3'-C2' | 6.13 | 1.59 | 1.52 |
| 12 | B | 158 | U | C4-C5 | 6.13 | 1.49 | 1.43 |
| 12 | B | 1147 | A | N9-C8 | -6.13 | 1.32 | 1.37 |
| 12 | B | 1380 | G | N1-C2 | 6.13 | 1.42 | 1.37 |
| 12 | B | 1479 | G | N3-C4 | -6.13 | 1.31 | 1.35 |
| 12 | B | 2268 | A | C8-N7 | -6.13 | 1.27 | 1.31 |
| 12 | B | 2179 | C | C2-N3 | 6.13 | 1.40 | 1.35 |
| 12 | B | 2426 | A | C5-C4 | -6.13 | 1.34 | 1.38 |
| 12 | B | 78 | U | C5-C6 | -6.13 | 1.28 | 1.34 |
| 12 | B | 1061 | U | O3'-P | -6.13 | 1.53 | 1.61 |
| 12 | B | 1080 | A | N3-C4 | 6.13 | 1.38 | 1.34 |
| 12 | B | 1515 | A | C6-N6 | 6.13 | 1.38 | 1.33 |
| 12 | B | 1713 | A | C6-N1 | 6.13 | 1.39 | 1.35 |
| 12 | B | 2290 | G | O3'-P | 6.13 | 1.68 | 1.61 |
| 12 | B | 2470 | G | C6-N1 | 6.13 | 1.43 | 1.39 |
| 12 | B | 2487 | G | C5-C4 | -6.13 | 1.34 | 1.38 |
| 12 | B | 2699 | C | N1-C6 | 6.13 | 1.40 | 1.37 |
| 12 | B | 930 | G | C2-N2 | 6.13 | 1.40 | 1.34 |
| 12 | B | 1206 | G | P-O5' | -6.13 | 1.53 | 1.59 |
| 12 | B | 2396 | G | C2-N3 | 6.13 | 1.37 | 1.32 |
| 12 | B | 305 | C | P-O5' | -6.12 | 1.53 | 1.59 |
| 12 | B | 528 | A | C4'-C3' | 6.12 | 1.59 | 1.53 |
| 12 | B | 699 | A | C2'-O2' | -6.12 | 1.33 | 1.41 |
| 12 | B | 1155 | A | C5'-C4' | 6.12 | 1.58 | 1.51 |
| 12 | B | 1077 | A | N7-C5 | -6.12 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1213 | A | N7-C5 | -6.12 | 1.35 | 1.39 |
| 12 | B | 1395 | A | O3'-P | -6.12 | 1.53 | 1.61 |
| 12 | B | 1926 | U | C2-N3 | 6.12 | 1.42 | 1.37 |
| 12 | B | 2328 | A | C5-C4 | 6.12 | 1.43 | 1.38 |
| 12 | B | 9 | G | C5-C4 | -6.12 | 1.34 | 1.38 |
| 12 | B | 836 | G | C5-C4 | 6.12 | 1.42 | 1.38 |
| 12 | B | 1049 | C | O4'-C1' | 6.12 | 1.49 | 1.41 |
| 12 | B | 1934 | C | N3-C4 | 6.12 | 1.38 | 1.33 |
| 12 | B | 2766 | A | C2'-C1' | 6.12 | 1.60 | 1.53 |
| 21 | K | 78 | ARG | CD-NE | 6.12 | 1.56 | 1.46 |
| 12 | B | 1079 | C | C4'-O4' | -6.12 | 1.37 | 1.45 |
| 12 | B | 1861 | G | C4'-C3' | -6.12 | 1.46 | 1.53 |
| 12 | B | 2498 | C | N3-C4 | 6.12 | 1.38 | 1.33 |
| 12 | B | 1504 | A | O3'-P | -6.12 | 1.53 | 1.61 |
| 12 | B | 2301 | C | N3-C4 | 6.12 | 1.38 | 1.33 |
| 12 | B | 2654 | A | C6-N1 | 6.12 | 1.39 | 1.35 |
| 12 | B | 2797 | U | P-O5' | -6.12 | 1.53 | 1.59 |
| 12 | B | 2886 | A | C4'-O4' | 6.12 | 1.53 | 1.45 |
| 12 | B | 406 | G | N9-C8 | -6.12 | 1.33 | 1.37 |
| 12 | B | 1972 | G | N3-C4 | -6.12 | 1.31 | 1.35 |
| 12 | B | 2193 | G | N1-C2 | 6.12 | 1.42 | 1.37 |
| 12 | B | 2225 | A | C5-C4 | 6.12 | 1.43 | 1.38 |
| 13 | C | 213 | ARG | CZ-NH2 | 6.12 | 1.41 | 1.33 |
| 12 | B | 307 | G | C5'-C4' | 6.11 | 1.58 | 1.51 |
| 12 | B | 371 | A | C2'-C1' | -6.11 | 1.46 | 1.53 |
| 12 | B | 540 | C | N1-C6 | -6.11 | 1.33 | 1.37 |
| 12 | B | 579 | G | C5'-C4' | -6.11 | 1.44 | 1.51 |
| 12 | B | 613 | A | P-O5' | 6.11 | 1.65 | 1.59 |
| 12 | B | 1844 | C | C2'-C1' | 6.11 | 1.60 | 1.53 |
| 12 | B | 2514 | U | C2-N3 | 6.11 | 1.42 | 1.37 |
| 12 | B | 2751 | G | P-O5' | -6.11 | 1.53 | 1.59 |
| 12 | B | 72 | U | C5'-C4' | 6.11 | 1.58 | 1.51 |
| 12 | B | 130 | C | C3'-C2' | -6.11 | 1.46 | 1.52 |
| 12 | B | 2105 | U | N1-C6 | 6.11 | 1.43 | 1.38 |
| 11 | A | 60 | C | C3'-O3' | 6.11 | 1.50 | 1.42 |
| 12 | B | 190 | A | C5-C4 | -6.11 | 1.34 | 1.38 |
| 12 | B | 1773 | A | C6-N6 | 6.11 | 1.38 | 1.33 |
| 12 | B | 2871 | U | C3'-O3' | -6.11 | 1.33 | 1.42 |
| 12 | B | 250 | G | N9-C8 | -6.11 | 1.33 | 1.37 |
| 12 | B | 1398 | C | C5-C6 | -6.11 | 1.29 | 1.34 |
| 12 | B | 1995 | U | C3'-C2' | 6.11 | 1.59 | 1.52 |
| 33 | Y | 84 | GLU | CD-OE1 | 6.11 | 1.32 | 1.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 11 | A | 32 | U | N3-C4 | 6.11 | 1.44 | 1.38 |
| 12 | B | 167 | A | O4'-C1' | 6.11 | 1.49 | 1.41 |
| 12 | B | 714 | U | C4'-C3' | -6.11 | 1.46 | 1.53 |
| 12 | B | 967 | U | O3'-P | -6.11 | 1.53 | 1.61 |
| 12 | B | 977 | G | N9-C8 | 6.11 | 1.42 | 1.37 |
| 12 | B | 1251 | C | C4-N4 | 6.11 | 1.39 | 1.33 |
| 12 | B | 1536 | C | O3'-P | -6.11 | 1.53 | 1.61 |
| 12 | B | 1684 | G | N9-C8 | 6.11 | 1.42 | 1.37 |
| 12 | B | 1803 | A | O4'-C1' | 6.11 | 1.49 | 1.41 |
| 12 | B | 2046 | G | C2'-C1' | -6.11 | 1.46 | 1.53 |
| 12 | B | 2124 | G | C2-N2 | 6.11 | 1.40 | 1.34 |
| 12 | B | 2328 | A | N3-C4 | -6.11 | 1.31 | 1.34 |
| 12 | B | 2486 | C | O3'-P | -6.11 | 1.53 | 1.61 |
| 12 | B | 2616 | C | C3'-O3' | 6.11 | 1.50 | 1.42 |
| 12 | B | 2894 | G | C6-N1 | 6.11 | 1.43 | 1.39 |
| 12 | B | 62 | U | C5'-C4' | 6.11 | 1.58 | 1.51 |
| 11 | A | 108 | A | P-O5' | -6.10 | 1.53 | 1.59 |
| 12 | B | 116 | C | O5'-C5' | 6.10 | 1.54 | 1.44 |
| 12 | B | 1229 | C | N1-C6 | 6.10 | 1.40 | 1.37 |
| 12 | B | 2862 | G | N7-C5 | 6.10 | 1.43 | 1.39 |
| 12 | B | 454 | A | C8-N7 | -6.10 | 1.27 | 1.31 |
| 12 | B | 630 | G | N1-C2 | 6.10 | 1.42 | 1.37 |
| 12 | B | 824 | U | N1-C6 | 6.10 | 1.43 | 1.38 |
| 12 | B | 935 | C | C4-N4 | 6.10 | 1.39 | 1.33 |
| 12 | B | 1398 | C | C2-O2 | 6.10 | 1.29 | 1.24 |
| 12 | B | 1704 | C | N3-C4 | 6.10 | 1.38 | 1.33 |
| 12 | B | 2006 | C | C2'-C1' | 6.10 | 1.60 | 1.53 |
| 12 | B | 1232 | G | C8-N7 | 6.10 | 1.34 | 1.30 |
| 12 | B | 1815 | A | C5-C4 | -6.10 | 1.34 | 1.38 |
| 12 | B | 2483 | C | N3-C4 | 6.10 | 1.38 | 1.33 |
| 12 | B | 2528 | U | C2'-C1' | -6.10 | 1.46 | 1.53 |
| 12 | B | 977 | G | C8-N7 | -6.10 | 1.27 | 1.30 |
| 12 | B | 1483 | G | N1-C2 | 6.10 | 1.42 | 1.37 |
| 12 | B | 2094 | A | N7-C5 | -6.10 | 1.35 | 1.39 |
| 12 | B | 2110 | G | P-O5' | -6.10 | 1.53 | 1.59 |
| 12 | B | 2123 | G | N1-C2 | 6.10 | 1.42 | 1.37 |
| 12 | B | 2524 | G | C6-N1 | 6.10 | 1.43 | 1.39 |
| 12 | B | 2863 | C | N3-C4 | 6.10 | 1.38 | 1.33 |
| 7 | 6 | 35 | ARG | CZ-NH1 | 6.10 | 1.41 | 1.33 |
| 11 | A | 50 | A | N3-C4 | -6.10 | 1.31 | 1.34 |
| 12 | B | 418 | C | P-O5' | -6.10 | 1.53 | 1.59 |
| 12 | B | 689 | A | P-O5' | -6.10 | 1.53 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 970 | U | P-O5' | -6.10 | 1.53 | 1.59 |
| 12 | B | 1013 | C | N1-C6 | 6.10 | 1.40 | 1.37 |
| 12 | B | 1535 | A | C8-N7 | -6.10 | 1.27 | 1.31 |
| 12 | B | 2451 | A | N1-C2 | 6.10 | 1.39 | 1.34 |
| 12 | B | 2466 | C | N1-C6 | 6.10 | 1.40 | 1.37 |
| 13 | C | 268 | ARG | NE-CZ | 6.10 | 1.41 | 1.33 |
| 12 | B | 1336 | A | N9-C4 | 6.10 | 1.41 | 1.37 |
| 12 | B | 471 | A | O3'-P | -6.09 | 1.53 | 1.61 |
| 12 | B | 824 | U | C2'-C1' | -6.09 | 1.46 | 1.53 |
| 12 | B | 1597 | A | O3'-P | -6.09 | 1.53 | 1.61 |
| 12 | B | 126 | A | N9-C8 | 6.09 | 1.42 | 1.37 |
| 12 | B | 479 | A | C4'-O4' | -6.09 | 1.37 | 1.45 |
| 12 | B | 836 | G | C3'-O3' | 6.09 | 1.50 | 1.42 |
| 12 | B | 2156 | G | N9-C8 | -6.09 | 1.33 | 1.37 |
| 12 | B | 2644 | G | N1-C2 | 6.09 | 1.42 | 1.37 |
| 12 | B | 271 | G | C5-C6 | 6.09 | 1.48 | 1.42 |
| 12 | B | 775 | G | O3'-P | -6.09 | 1.53 | 1.61 |
| 12 | B | 1409 | U | C2'-C1' | -6.09 | 1.46 | 1.53 |
| 12 | B | 2159 | G | N1-C2 | 6.09 | 1.42 | 1.37 |
| 12 | B | 608 | A | C8-N7 | -6.09 | 1.27 | 1.31 |
| 12 | B | 1866 | A | N7-C5 | -6.09 | 1.35 | 1.39 |
| 12 | B | 1871 | A | C6-N6 | 6.09 | 1.38 | 1.33 |
| 12 | B | 1988 | G | N9-C8 | 6.09 | 1.42 | 1.37 |
| 12 | B | 2062 | A | O3'-P | -6.09 | 1.53 | 1.61 |
| 12 | B | 2637 | U | C2'-C1' | -6.09 | 1.46 | 1.53 |
| 11 | A | 117 | G | C2'-C1' | -6.09 | 1.46 | 1.53 |
| 12 | B | 1033 | U | C2-N3 | 6.09 | 1.42 | 1.37 |
| 12 | B | 1496 | A | C5-C4 | -6.09 | 1.34 | 1.38 |
| 12 | B | 1563 | U | P-O5' | -6.09 | 1.53 | 1.59 |
| 12 | B | 2120 | G | C6-N1 | 6.09 | 1.43 | 1.39 |
| 12 | B | 121 | G | C8-N7 | -6.09 | 1.27 | 1.30 |
| 12 | B | 604 | G | C8-N7 | 6.09 | 1.34 | 1.30 |
| 13 | C | 176 | ARG | CZ-NH2 | 6.09 | 1.41 | 1.33 |
| 12 | B | 1354 | A | N7-C5 | -6.08 | 1.35 | 1.39 |
| 12 | B | 2591 | C | N1-C6 | -6.08 | 1.33 | 1.37 |
| 12 | B | 2656 | U | C3'-C2' | -6.08 | 1.46 | 1.52 |
| 12 | B | 2837 | A | N3-C4 | -6.08 | 1.31 | 1.34 |
| 13 | C | 202 | ARG | CZ-NH1 | 6.08 | 1.41 | 1.33 |
| 12 | B | 504 | A | P-O5' | -6.08 | 1.53 | 1.59 |
| 12 | B | 558 | U | N1-C2 | -6.08 | 1.33 | 1.38 |
| 12 | B | 976 | G | C4'-C3' | -6.08 | 1.46 | 1.53 |
| 12 | B | 1537 | G | C4'-C3' | 6.08 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1790 | C | C2-N3 | 6.08 | 1.40 | 1.35 |
| 10 | 9 | 40 | GLY | N-CA | -6.08 | 1.36 | 1.46 |
| 12 | B | 134 | G | C6-N1 | 6.08 | 1.43 | 1.39 |
| 12 | B | 574 | A | N3-C4 | 6.08 | 1.38 | 1.34 |
| 12 | B | 1028 | A | C5-C4 | -6.08 | 1.34 | 1.38 |
| 12 | B | 1198 | U | N1-C6 | 6.08 | 1.43 | 1.38 |
| 12 | B | 283 | G | C2-N3 | 6.08 | 1.37 | 1.32 |
| 12 | B | 2393 | U | N1-C6 | -6.08 | 1.32 | 1.38 |
| 11 | A | 85 | G | C3'-C2' | 6.08 | 1.59 | 1.52 |
| 12 | B | 809 | G | C5-C4 | 6.08 | 1.42 | 1.38 |
| 12 | B | 1900 | A | C5'-C4' | 6.08 | 1.58 | 1.51 |
| 12 | B | 2153 | C | N1-C6 | -6.08 | 1.33 | 1.37 |
| 12 | B | 2558 | C | C2'-C1' | -6.08 | 1.46 | 1.53 |
| 12 | B | 2778 | A | C1'-N9 | 6.08 | 1.57 | 1.48 |
| 12 | B | 2852 | G | N7-C5 | -6.08 | 1.35 | 1.39 |
| 12 | B | 2861 | U | N3-C4 | 6.08 | 1.44 | 1.38 |
| 15 | E | 162 | ARG | CZ-NH1 | 6.08 | 1.41 | 1.33 |
| 11 | A | 31 | C | C1'-N1 | 6.08 | 1.57 | 1.48 |
| 11 | A | 83 | G | O4'-C1' | -6.08 | 1.33 | 1.41 |
| 12 | B | 761 | A | C6-N6 | 6.08 | 1.38 | 1.33 |
| 12 | B | 1288 | G | C5'-C4' | 6.08 | 1.58 | 1.51 |
| 12 | B | 1312 | U | C4'-C3' | 6.08 | 1.59 | 1.53 |
| 12 | B | 1869 | G | C4'-C3' | 6.08 | 1.59 | 1.53 |
| 12 | B | 2234 | G | N3-C4 | 6.08 | 1.39 | 1.35 |
| 12 | B | 593 | U | C3'-C2' | -6.07 | 1.46 | 1.52 |
| 12 | B | 1096 | A | N7-C5 | -6.07 | 1.35 | 1.39 |
| 12 | B | 1926 | U | N3-C4 | 6.07 | 1.44 | 1.38 |
| 12 | B | 2277 | G | N1-C2 | 6.07 | 1.42 | 1.37 |
| 12 | B | 2782 | G | N1-C2 | 6.07 | 1.42 | 1.37 |
| 12 | B | 619 | G | C3'-O3' | 6.07 | 1.50 | 1.42 |
| 12 | B | 845 | A | C6-N1 | 6.07 | 1.39 | 1.35 |
| 12 | B | 1070 | A | C2'-C1' | -6.07 | 1.46 | 1.53 |
| 12 | B | 664 | G | C2-N3 | 6.07 | 1.37 | 1.32 |
| 12 | B | 2297 | A | C8-N7 | -6.07 | 1.27 | 1.31 |
| 12 | B | 2725 | A | P-O5' | -6.07 | 1.53 | 1.59 |
| 12 | B | 514 | A | N7-C5 | -6.07 | 1.35 | 1.39 |
| 12 | B | 708 | G | C5-C4 | 6.07 | 1.42 | 1.38 |
| 12 | B | 869 | G | C5'-C4' | 6.07 | 1.58 | 1.51 |
| 12 | B | 2112 | G | C2-N3 | 6.07 | 1.37 | 1.32 |
| 12 | B | 2241 | A | C6-N1 | 6.07 | 1.39 | 1.35 |
| 12 | B | 2514 | U | C2'-C1' | -6.07 | 1.46 | 1.53 |
| 12 | B | 2539 | C | N1-C6 | -6.07 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 440 | C | C5-C6 | 6.07 | 1.39 | 1.34 |
| 12 | B | 1322 | A | C2'-C1' | -6.07 | 1.46 | 1.53 |
| 12 | B | 2664 | G | C4'-C3' | -6.07 | 1.46 | 1.53 |
| 11 | A | 107 | G | C2-N2 | 6.06 | 1.40 | 1.34 |
| 12 | B | 2463 | C | N3-C4 | 6.06 | 1.38 | 1.33 |
| 12 | B | 2900 | A | C6-N1 | 6.06 | 1.39 | 1.35 |
| 12 | B | 1256 | G | C2'-C1' | -6.06 | 1.46 | 1.53 |
| 12 | B | 2172 | U | C5'-C4' | 6.06 | 1.58 | 1.51 |
| 12 | B | 19 | A | O3'-P | -6.06 | 1.53 | 1.61 |
| 12 | B | 2468 | A | N9-C4 | -6.06 | 1.34 | 1.37 |
| 12 | B | 42 | A | N9-C8 | -6.06 | 1.32 | 1.37 |
| 12 | B | 754 | U | C5'-C4' | 6.06 | 1.58 | 1.51 |
| 12 | B | 1169 | A | N9-C4 | 6.06 | 1.41 | 1.37 |
| 12 | B | 1322 | A | C6-N6 | 6.06 | 1.38 | 1.33 |
| 12 | B | 1854 | A | N9-C8 | -6.06 | 1.32 | 1.37 |
| 12 | B | 2618 | G | C3'-C2' | 6.06 | 1.59 | 1.52 |
| 12 | B | 93 | G | C2'-C1' | -6.06 | 1.46 | 1.53 |
| 12 | B | 551 | G | C4'-C3' | 6.06 | 1.59 | 1.53 |
| 12 | B | 1254 | A | C5'-C4' | 6.06 | 1.58 | 1.51 |
| 12 | B | 2450 | A | O3'-P | -6.06 | 1.53 | 1.61 |
| 12 | B | 2514 | U | C4'-C3' | -6.06 | 1.46 | 1.53 |
| 12 | B | 2845 | U | C4'-C3' | -6.06 | 1.46 | 1.53 |
| 12 | B | 525 | U | P-O5' | -6.06 | 1.53 | 1.59 |
| 12 | B | 2098 | U | N1-C2 | 6.06 | 1.44 | 1.38 |
| 11 | A | 55 | U | P-O5' | -6.05 | 1.53 | 1.59 |
| 12 | B | 88 | G | N3-C4 | 6.05 | 1.39 | 1.35 |
| 12 | B | 373 | U | C3'-C2' | -6.05 | 1.46 | 1.52 |
| 12 | B | 1402 | U | P-O5' | -6.05 | 1.53 | 1.59 |
| 12 | B | 2283 | C | N1-C2 | 6.05 | 1.46 | 1.40 |
| 12 | B | 30 | G | C4'-C3' | -6.05 | 1.46 | 1.53 |
| 12 | B | 1141 | U | C2'-C1' | -6.05 | 1.46 | 1.53 |
| 32 | W | 79 | ARG | NE-CZ | 6.05 | 1.41 | 1.33 |
| 12 | B | 27 | G | C2-N3 | 6.05 | 1.37 | 1.32 |
| 12 | B | 299 | A | C5-C4 | 6.05 | 1.43 | 1.38 |
| 12 | B | 945 | A | C2'-O2' | -6.05 | 1.33 | 1.41 |
| 12 | B | 1044 | C | C5-C6 | 6.05 | 1.39 | 1.34 |
| 11 | A | 65 | U | P-O5' | -6.05 | 1.53 | 1.59 |
| 12 | B | 96 | C | C4'-C3' | -6.05 | 1.46 | 1.53 |
| 12 | B | 682 | G | N3-C4 | 6.05 | 1.39 | 1.35 |
| 12 | B | 965 | C | C4-C5 | 6.05 | 1.47 | 1.43 |
| 12 | B | 1168 | G | N3-C4 | -6.05 | 1.31 | 1.35 |
| 12 | B | 2032 | G | O3'-P | -6.05 | 1.53 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2275 | C | O3'-P | -6.05 | 1.53 | 1.61 |
| 12 | B | 1784 | A | C5-C4 | 6.05 | 1.43 | 1.38 |
| 12 | B | 188 | G | N9-C8 | -6.05 | 1.33 | 1.37 |
| 12 | B | 195 | A | O3'-P | 6.05 | 1.68 | 1.61 |
| 12 | B | 666 | A | C5'-C4' | 6.05 | 1.58 | 1.51 |
| 12 | B | 1304 | A | C6-N1 | 6.05 | 1.39 | 1.35 |
| 12 | B | 1461 | C | C4-C5 | 6.05 | 1.47 | 1.43 |
| 12 | B | 2186 | G | C2-N3 | 6.05 | 1.37 | 1.32 |
| 12 | B | 2842 | G | N1-C2 | 6.05 | 1.42 | 1.37 |
| 12 | B | 557 | C | O3'-P | -6.04 | 1.53 | 1.61 |
| 12 | B | 1832 | C | C4-C5 | 6.04 | 1.47 | 1.43 |
| 12 | B | 2296 | U | N3-C4 | 6.04 | 1.43 | 1.38 |
| 12 | B | 151 | C | N3-C4 | 6.04 | 1.38 | 1.33 |
| 12 | B | 1387 | A | C4'-C3' | -6.04 | 1.46 | 1.53 |
| 12 | B | 2396 | G | C6-N1 | 6.04 | 1.43 | 1.39 |
| 12 | B | 2858 | C | N3-C4 | 6.04 | 1.38 | 1.33 |
| 12 | B | 797 | G | C4'-O4' | -6.04 | 1.37 | 1.45 |
| 12 | B | 1457 | U | C4'-C3' | 6.04 | 1.59 | 1.53 |
| 12 | B | 2031 | A | O3'-P | -6.04 | 1.53 | 1.61 |
| 12 | B | 2609 | U | C4'-C3' | 6.04 | 1.59 | 1.53 |
| 12 | B | 2903 | U | C4-C5 | -6.04 | 1.38 | 1.43 |
| 12 | B | 4 | U | N3-C4 | 6.04 | 1.43 | 1.38 |
| 12 | B | 1108 | U | C4'-C3' | -6.04 | 1.46 | 1.53 |
| 12 | B | 1332 | G | O3'-P | -6.04 | 1.53 | 1.61 |
| 12 | B | 1819 | A | N9-C8 | -6.04 | 1.32 | 1.37 |
| 12 | B | 879 | G | C2-N3 | 6.04 | 1.37 | 1.32 |
| 12 | B | 1040 | A | N9-C4 | -6.04 | 1.34 | 1.37 |
| 12 | B | 1237 | A | N9-C8 | -6.04 | 1.32 | 1.37 |
| 12 | B | 1895 | C | P-O5' | -6.04 | 1.53 | 1.59 |
| 12 | B | 2054 | A | N1-C2 | -6.04 | 1.28 | 1.34 |
| 12 | B | 2143 | C | O3'-P | -6.04 | 1.53 | 1.61 |
| 12 | B | 2264 | C | O3'-P | -6.04 | 1.53 | 1.61 |
| 11 | A | 29 | A | C2'-C1' | -6.04 | 1.46 | 1.53 |
| 12 | B | 1020 | A | C5-C6 | -6.04 | 1.35 | 1.41 |
| 12 | B | 2600 | A | C6-N6 | 6.04 | 1.38 | 1.33 |
| 12 | B | 487 | C | C4-N4 | -6.04 | 1.28 | 1.33 |
| 12 | B | 2520 | C | O4'-C1' | -6.04 | 1.33 | 1.41 |
| 12 | B | 2685 | G | C4'-C3' | 6.04 | 1.59 | 1.53 |
| 11 | A | 37 | C | O3'-P | -6.03 | 1.53 | 1.61 |
| 12 | B | 201 | C | C4-N4 | 6.03 | 1.39 | 1.33 |
| 12 | B | 480 | A | C8-N7 | -6.03 | 1.27 | 1.31 |
| 12 | B | 549 | G | O3'-P | 6.03 | 1.68 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 605 | G | C8-N7 | -6.03 | 1.27 | 1.30 |
| 12 | B | 631 | A | C6-N1 | 6.03 | 1.39 | 1.35 |
| 12 | B | 691 | C | C3'-C2' | 6.03 | 1.59 | 1.52 |
| 12 | B | 844 | A | N9-C8 | -6.03 | 1.32 | 1.37 |
| 12 | B | 865 | C | C4-C5 | -6.03 | 1.38 | 1.43 |
| 12 | B | 1239 | G | C8-N7 | 6.03 | 1.34 | 1.30 |
| 12 | B | 2053 | G | C5'-C4' | -6.03 | 1.44 | 1.51 |
| 12 | B | 2618 | G | N1-C2 | 6.03 | 1.42 | 1.37 |
| 12 | B | 2706 | A | O3'-P | -6.03 | 1.53 | 1.61 |
| 12 | B | 184 | C | C4-C5 | 6.03 | 1.47 | 1.43 |
| 12 | B | 704 | G | C6-N1 | -6.03 | 1.35 | 1.39 |
| 12 | B | 929 | U | O3'-P | -6.03 | 1.53 | 1.61 |
| 12 | B | 45 | G | C8-N7 | -6.03 | 1.27 | 1.30 |
| 12 | B | 111 | A | N3-C4 | 6.03 | 1.38 | 1.34 |
| 12 | B | 111 | A | C6-N6 | 6.03 | 1.38 | 1.33 |
| 12 | B | 480 | A | C5-C6 | 6.03 | 1.46 | 1.41 |
| 12 | B | 747 | U | N1-C2 | 6.03 | 1.44 | 1.38 |
| 12 | B | 1031 | G | C4'-C3' | -6.03 | 1.46 | 1.53 |
| 12 | B | 1152 | C | C5-C6 | -6.03 | 1.29 | 1.34 |
| 12 | B | 2854 | G | C1'-N9 | 6.03 | 1.57 | 1.48 |
| 11 | A | 75 | G | P-O5' | 6.03 | 1.65 | 1.59 |
| 12 | B | 1543 | G | C6-N1 | 6.03 | 1.43 | 1.39 |
| 12 | B | 1899 | A | C8-N7 | -6.03 | 1.27 | 1.31 |
| 12 | B | 1930 | G | N1-C2 | 6.03 | 1.42 | 1.37 |
| 12 | B | 2084 | C | O4'-C1' | 6.03 | 1.49 | 1.41 |
| 12 | B | 2503 | A | C2-N3 | 6.03 | 1.39 | 1.33 |
| 12 | B | 2772 | C | N3-C4 | 6.03 | 1.38 | 1.33 |
| 12 | B | 199 | A | C6-N6 | 6.03 | 1.38 | 1.33 |
| 12 | B | 239 | C | C4'-C3' | 6.03 | 1.59 | 1.53 |
| 12 | B | 242 | G | C2-N3 | 6.03 | 1.37 | 1.32 |
| 12 | B | 326 | G | C6-N1 | 6.03 | 1.43 | 1.39 |
| 12 | B | 1337 | G | C6-N1 | 6.03 | 1.43 | 1.39 |
| 12 | B | 1645 | G | P-O5' | -6.03 | 1.53 | 1.59 |
| 12 | B | 2212 | A | C2'-C1' | -6.03 | 1.46 | 1.53 |
| 12 | B | 2287 | A | C6-N6 | 6.03 | 1.38 | 1.33 |
| 12 | B | 2829 | A | C3'-C2' | 6.03 | 1.59 | 1.52 |
| 3 | 2 | 29 | ARG | NE-CZ | 6.03 | 1.40 | 1.33 |
| 12 | B | 1245 | G | C6-N1 | -6.03 | 1.35 | 1.39 |
| 12 | B | 1619 | G | C8-N7 | -6.03 | 1.27 | 1.30 |
| 12 | B | 2487 | G | O4'-C1' | -6.03 | 1.33 | 1.41 |
| 12 | B | 2490 | G | C6-N1 | -6.03 | 1.35 | 1.39 |
| 12 | B | 2628 | C | N3-C4 | 6.03 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2751 | G | N1-C2 | 6.03 | 1.42 | 1.37 |
| 12 | B | 2853 | C | C2'-C1' | -6.03 | 1.46 | 1.53 |
| 12 | B | 2839 | G | N1-C2 | 6.02 | 1.42 | 1.37 |
| 12 | B | 504 | A | C2'-C1' | -6.02 | 1.46 | 1.53 |
| 12 | B | 893 | C | N3-C4 | 6.02 | 1.38 | 1.33 |
| 12 | B | 1328 | A | C2-N3 | 6.02 | 1.39 | 1.33 |
| 12 | B | 2791 | G | N7-C5 | 6.02 | 1.42 | 1.39 |
| 11 | A | 84 | G | N1-C2 | 6.02 | 1.42 | 1.37 |
| 11 | A | 107 | G | N1-C2 | 6.02 | 1.42 | 1.37 |
| 12 | B | 794 | A | C6-N6 | -6.02 | 1.29 | 1.33 |
| 11 | A | 33 | G | C2-N3 | 6.02 | 1.37 | 1.32 |
| 12 | B | 8 | C | C4-N4 | 6.02 | 1.39 | 1.33 |
| 12 | B | 148 | U | P-O5' | 6.02 | 1.65 | 1.59 |
| 12 | B | 2365 | G | N1-C2 | 6.02 | 1.42 | 1.37 |
| 12 | B | 2550 | G | N7-C5 | -6.02 | 1.35 | 1.39 |
| 12 | B | 608 | A | P-O5' | 6.02 | 1.65 | 1.59 |
| 12 | B | 971 | G | C8-N7 | -6.02 | 1.27 | 1.30 |
| 12 | B | 642 | U | P-O5' | -6.02 | 1.53 | 1.59 |
| 12 | B | 1193 | G | N9-C4 | 6.02 | 1.42 | 1.38 |
| 12 | B | 2230 | G | P-O5' | -6.02 | 1.53 | 1.59 |
| 12 | B | 2702 | G | N9-C4 | -6.02 | 1.33 | 1.38 |
| 3 | 2 | 37 | ARG | CZ-NH2 | 6.01 | 1.40 | 1.33 |
| 12 | B | 117 | G | C5-C4 | 6.01 | 1.42 | 1.38 |
| 12 | B | 2438 | U | C4'-C3' | 6.01 | 1.59 | 1.53 |
| 12 | B | 2561 | U | P-O5' | -6.01 | 1.53 | 1.59 |
| 12 | B | 2566 | A | C4'-C3' | -6.01 | 1.46 | 1.53 |
| 12 | B | 2776 | A | C5-C4 | 6.01 | 1.43 | 1.38 |
| 12 | B | 2783 | U | N3-C4 | 6.01 | 1.43 | 1.38 |
| 12 | B | 243 | U | C5-C6 | 6.01 | 1.39 | 1.34 |
| 12 | B | 526 | A | N1-C2 | -6.01 | 1.28 | 1.34 |
| 12 | B | 1129 | A | C4'-O4' | 6.01 | 1.53 | 1.45 |
| 12 | B | 1221 | C | C4-N4 | 6.01 | 1.39 | 1.33 |
| 12 | B | 2535 | G | N7-C5 | 6.01 | 1.42 | 1.39 |
| 12 | B | 2642 | G | C3'-O3' | 6.01 | 1.50 | 1.42 |
| 12 | B | 356 | G | O4'-C1' | -6.01 | 1.33 | 1.41 |
| 12 | B | 1301 | A | C5'-C4' | 6.01 | 1.58 | 1.51 |
| 12 | B | 1575 | C | C4-N4 | 6.01 | 1.39 | 1.33 |
| 12 | B | 2411 | A | C5-C4 | 6.01 | 1.43 | 1.38 |
| 12 | B | 2634 | A | N3-C4 | -6.01 | 1.31 | 1.34 |
| 11 | A | 18 | G | C2-N3 | 6.01 | 1.37 | 1.32 |
| 12 | B | 100 | U | N3-C4 | 6.01 | 1.43 | 1.38 |
| 12 | B | 1106 | G | C6-N1 | 6.01 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2507 | C | C5'-C4' | 6.01 | 1.58 | 1.51 |
| 8 | 7 | 62 | PRO | CA-CB | 6.01 | 1.65 | 1.53 |
| 11 | A | 67 | G | C3'-O3' | 6.01 | 1.50 | 1.42 |
| 12 | B | 400 | G | C3'-C2' | -6.01 | 1.46 | 1.52 |
| 12 | B | 608 | A | N9-C8 | -6.01 | 1.32 | 1.37 |
| 12 | B | 706 | A | C5'-C4' | 6.01 | 1.58 | 1.51 |
| 12 | B | 961 | C | C2-N3 | -6.01 | 1.30 | 1.35 |
| 12 | B | 1025 | G | C5-C4 | -6.01 | 1.34 | 1.38 |
| 12 | B | 1186 | G | N3-C4 | 6.01 | 1.39 | 1.35 |
| 12 | B | 1320 | C | N1-C6 | 6.01 | 1.40 | 1.37 |
| 12 | B | 2856 | A | N3-C4 | -6.01 | 1.31 | 1.34 |
| 12 | B | 16 | C | C4-N4 | 6.00 | 1.39 | 1.33 |
| 12 | B | 1057 | A | C6-N1 | 6.00 | 1.39 | 1.35 |
| 12 | B | 1630 | A | N3-C4 | -6.00 | 1.31 | 1.34 |
| 12 | B | 1653 | G | N3-C4 | 6.00 | 1.39 | 1.35 |
| 12 | B | 2511 | U | C4'-O4' | -6.00 | 1.37 | 1.45 |
| 6 | 5 | 38 | PHE | CE1-CZ | 6.00 | 1.48 | 1.37 |
| 12 | B | 84 | A | N9-C4 | -6.00 | 1.34 | 1.37 |
| 12 | B | 700 | G | C3'-C2' | -6.00 | 1.46 | 1.52 |
| 12 | B | 1122 | G | C5-C4 | 6.00 | 1.42 | 1.38 |
| 12 | B | 1310 | G | C2-N3 | 6.00 | 1.37 | 1.32 |
| 12 | B | 1428 | C | N1-C6 | 6.00 | 1.40 | 1.37 |
| 12 | B | 1673 | G | N9-C4 | 6.00 | 1.42 | 1.38 |
| 12 | B | 2533 | U | C3'-C2' | -6.00 | 1.46 | 1.52 |
| 12 | B | 1071 | G | P-O5' | -6.00 | 1.53 | 1.59 |
| 12 | B | 2125 | G | N7-C5 | -6.00 | 1.35 | 1.39 |
| 12 | B | 2534 | A | C6-N6 | 6.00 | 1.38 | 1.33 |
| 12 | B | 568 | U | O3'-P | -6.00 | 1.53 | 1.61 |
| 12 | B | 2391 | G | O3'-P | -6.00 | 1.53 | 1.61 |
| 12 | B | 2487 | G | C6-N1 | -6.00 | 1.35 | 1.39 |
| 12 | B | 2577 | A | C3'-C2' | -6.00 | 1.46 | 1.52 |
| 12 | B | 1461 | C | N3-C4 | 6.00 | 1.38 | 1.33 |
| 12 | B | 1478 | G | N3-C4 | 6.00 | 1.39 | 1.35 |
| 12 | B | 1602 | U | N3-C4 | 6.00 | 1.43 | 1.38 |
| 12 | B | 1705 | A | N9-C4 | 6.00 | 1.41 | 1.37 |
| 12 | B | 2877 | G | C4'-C3' | 6.00 | 1.59 | 1.53 |
| 12 | B | 1046 | A | C5'-C4' | 6.00 | 1.58 | 1.51 |
| 12 | B | 2842 | G | O3'-P | -6.00 | 1.53 | 1.61 |
| 12 | B | 1457 | U | C2-O2 | 6.00 | 1.27 | 1.22 |
| 12 | B | 1529 | G | C2-N3 | 6.00 | 1.37 | 1.32 |
| 12 | B | 2275 | C | C5'-C4' | 6.00 | 1.58 | 1.51 |
| 14 | D | 46 | ARG | NE-CZ | 6.00 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 534 | U | P-O5' | -5.99 | 1.53 | 1.59 |
| 12 | B | 553 | G | O3'-P | -5.99 | 1.53 | 1.61 |
| 12 | B | 1223 | G | O3'-P | -5.99 | 1.53 | 1.61 |
| 12 | B | 2510 | C | N1-C6 | 5.99 | 1.40 | 1.37 |
| 12 | B | 356 | G | C2-N3 | 5.99 | 1.37 | 1.32 |
| 12 | B | 423 | A | N7-C5 | -5.99 | 1.35 | 1.39 |
| 12 | B | 477 | A | N9-C8 | -5.99 | 1.32 | 1.37 |
| 12 | B | 883 | G | N1-C2 | 5.99 | 1.42 | 1.37 |
| 12 | B | 1212 | G | C3'-C2' | -5.99 | 1.46 | 1.52 |
| 12 | B | 1426 | G | C5-C4 | -5.99 | 1.34 | 1.38 |
| 12 | B | 2162 | G | N9-C4 | 5.99 | 1.42 | 1.38 |
| 12 | B | 2873 | A | O3'-P | -5.99 | 1.53 | 1.61 |
| 11 | A | 84 | G | C1'-N9 | 5.99 | 1.57 | 1.48 |
| 12 | B | 628 | G | N9-C4 | -5.99 | 1.33 | 1.38 |
| 12 | B | 996 | A | N9-C8 | -5.99 | 1.32 | 1.37 |
| 12 | B | 1763 | G | P-O5' | -5.99 | 1.53 | 1.59 |
| 12 | B | 1906 | G | N9-C8 | -5.99 | 1.33 | 1.37 |
| 30 | T | 77 | ARG | NE-CZ | 5.99 | 1.40 | 1.33 |
| 12 | B | 283 | G | C3'-C2' | -5.99 | 1.46 | 1.52 |
| 12 | B | 296 | U | N1-C2 | 5.99 | 1.44 | 1.38 |
| 12 | B | 311 | A | C6-N1 | 5.99 | 1.39 | 1.35 |
| 12 | B | 761 | A | C8-N7 | -5.99 | 1.27 | 1.31 |
| 12 | B | 1532 | A | N3-C4 | -5.99 | 1.31 | 1.34 |
| 12 | B | 1643 | G | N9-C8 | 5.99 | 1.42 | 1.37 |
| 12 | B | 1689 | A | C1'-N9 | 5.99 | 1.57 | 1.48 |
| 12 | B | 2405 | G | C8-N7 | -5.99 | 1.27 | 1.30 |
| 12 | B | 2742 | G | N3-C4 | -5.99 | 1.31 | 1.35 |
| 12 | B | 85 | G | C8-N7 | 5.99 | 1.34 | 1.30 |
| 12 | B | 1080 | A | C2'-C1' | -5.99 | 1.46 | 1.53 |
| 12 | B | 1314 | C | C5'-C4' | 5.99 | 1.58 | 1.51 |
| 12 | B | 1707 | G | N9-C4 | 5.99 | 1.42 | 1.38 |
| 12 | B | 31 | C | C1'-N1 | 5.99 | 1.57 | 1.48 |
| 12 | B | 670 | A | N9-C4 | 5.99 | 1.41 | 1.37 |
| 12 | B | 804 | A | C6-N6 | 5.99 | 1.38 | 1.33 |
| 12 | B | 1001 | A | C8-N7 | -5.99 | 1.27 | 1.31 |
| 12 | B | 2051 | A | N9-C4 | 5.99 | 1.41 | 1.37 |
| 12 | B | 2193 | G | C2-N2 | 5.99 | 1.40 | 1.34 |
| 12 | B | 2321 | U | C1'-N1 | 5.99 | 1.57 | 1.48 |
| 31 | U | 84 | PHE | CG-CD2 | 5.99 | 1.47 | 1.38 |
| 12 | B | 281 | C | C2'-C1' | -5.98 | 1.46 | 1.53 |
| 12 | B | 619 | G | C5-C4 | 5.98 | 1.42 | 1.38 |
| 12 | B | 977 | G | N3-C4 | -5.98 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1639 | C | C5'-C4' | 5.98 | 1.58 | 1.51 |
| 12 | B | 1672 | A | N9-C8 | -5.98 | 1.32 | 1.37 |
| 12 | B | 2447 | G | N7-C5 | -5.98 | 1.35 | 1.39 |
| 12 | B | 291 | G | C2-N3 | 5.98 | 1.37 | 1.32 |
| 12 | B | 546 | U | C4-O4 | 5.98 | 1.28 | 1.23 |
| 12 | B | 819 | A | N3-C4 | 5.98 | 1.38 | 1.34 |
| 12 | B | 1129 | A | N3-C4 | -5.98 | 1.31 | 1.34 |
| 12 | B | 1752 | C | P-O5' | -5.98 | 1.53 | 1.59 |
| 12 | B | 2725 | A | N7-C5 | -5.98 | 1.35 | 1.39 |
| 12 | B | 2876 | G | C5-C4 | 5.98 | 1.42 | 1.38 |
| 12 | B | 331 | C | C3'-O3' | 5.98 | 1.50 | 1.42 |
| 12 | B | 562 | U | C2-N3 | 5.98 | 1.42 | 1.37 |
| 12 | B | 600 | G | N1-C2 | 5.98 | 1.42 | 1.37 |
| 12 | B | 1050 | A | C4'-C3' | -5.98 | 1.46 | 1.52 |
| 12 | B | 1397 | U | N3-C4 | 5.98 | 1.43 | 1.38 |
| 12 | B | 2355 | G | C2'-C1' | -5.98 | 1.46 | 1.53 |
| 12 | B | 2455 | G | P-O5' | -5.98 | 1.53 | 1.59 |
| 12 | B | 2612 | C | C2-N3 | 5.98 | 1.40 | 1.35 |
| 12 | B | 2622 | U | N3-C4 | 5.98 | 1.43 | 1.38 |
| 12 | B | 1477 | A | N9-C8 | -5.98 | 1.32 | 1.37 |
| 12 | B | 1617 | C | C4-N4 | 5.98 | 1.39 | 1.33 |
| 12 | B | 1794 | A | O3'-P | -5.98 | 1.53 | 1.61 |
| 12 | B | 2079 | U | O3'-P | -5.98 | 1.53 | 1.61 |
| 12 | B | 1367 | A | N7-C5 | -5.98 | 1.35 | 1.39 |
| 12 | B | 2221 | G | N9-C4 | -5.98 | 1.33 | 1.38 |
| 12 | B | 2379 | G | C6-O6 | -5.98 | 1.18 | 1.24 |
| 12 | B | 415 | A | O4'-C1' | 5.97 | 1.49 | 1.41 |
| 12 | B | 1098 | A | C4'-O4' | -5.97 | 1.37 | 1.45 |
| 12 | B | 1120 | G | N7-C5 | 5.97 | 1.42 | 1.39 |
| 12 | B | 1180 | U | C2'-C1' | -5.97 | 1.46 | 1.53 |
| 12 | B | 1183 | U | C5'-C4' | 5.97 | 1.58 | 1.51 |
| 12 | B | 1863 | G | N7-C5 | 5.97 | 1.42 | 1.39 |
| 12 | B | 1946 | U | O4'-C1' | 5.97 | 1.49 | 1.41 |
| 12 | B | 1988 | G | C3'-O3' | -5.97 | 1.33 | 1.42 |
| 12 | B | 2593 | U | C3'-C2' | -5.97 | 1.46 | 1.52 |
| 12 | B | 248 | G | C2'-C1' | 5.97 | 1.59 | 1.53 |
| 12 | B | 303 | G | C8-N7 | -5.97 | 1.27 | 1.30 |
| 12 | B | 514 | A | C6-N6 | 5.97 | 1.38 | 1.33 |
| 12 | B | 1147 | A | C6-N6 | 5.97 | 1.38 | 1.33 |
| 12 | B | 2712 | C | P-O5' | 5.97 | 1.65 | 1.59 |
| 11 | A | 2 | G | N9-C4 | 5.97 | 1.42 | 1.38 |
| 11 | A | 18 | G | O4'-C1' | 5.97 | 1.49 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 147 | C | N3-C4 | 5.97 | 1.38 | 1.33 |
| 12 | B | 518 | G | N7-C5 | -5.97 | 1.35 | 1.39 |
| 12 | B | 629 | G | N9-C8 | 5.97 | 1.42 | 1.37 |
| 12 | B | 1385 | A | N7-C5 | 5.97 | 1.42 | 1.39 |
| 12 | B | 2547 | A | C6-N1 | 5.97 | 1.39 | 1.35 |
| 12 | B | 2747 | G | O3'-P | -5.97 | 1.53 | 1.61 |
| 12 | B | 122 | G | N1-C2 | 5.97 | 1.42 | 1.37 |
| 12 | B | 1125 | G | P-O5' | -5.97 | 1.53 | 1.59 |
| 12 | B | 1128 | G | N7-C5 | -5.97 | 1.35 | 1.39 |
| 12 | B | 1597 | A | N3-C4 | 5.97 | 1.38 | 1.34 |
| 12 | B | 1687 | G | N9-C8 | -5.97 | 1.33 | 1.37 |
| 12 | B | 2439 | A | C2-N3 | 5.97 | 1.39 | 1.33 |
| 12 | B | 2642 | G | C8-N7 | -5.97 | 1.27 | 1.30 |
| 11 | A | 10 | G | C8-N7 | -5.97 | 1.27 | 1.30 |
| 11 | A | 109 | A | C2'-C1' | -5.97 | 1.46 | 1.53 |
| 12 | B | 19 | A | C2'-C1' | -5.97 | 1.46 | 1.53 |
| 12 | B | 1215 | G | C3'-C2' | -5.97 | 1.46 | 1.52 |
| 12 | B | 1360 | G | N3-C4 | -5.97 | 1.31 | 1.35 |
| 12 | B | 1773 | A | O3'-P | -5.97 | 1.53 | 1.61 |
| 12 | B | 1964 | G | C5'-C4' | 5.97 | 1.58 | 1.51 |
| 12 | B | 2265 | U | N1-C6 | -5.97 | 1.32 | 1.38 |
| 12 | B | 2704 | C | C1'-N1 | 5.97 | 1.57 | 1.48 |
| 12 | B | 621 | A | P-O5' | -5.96 | 1.53 | 1.59 |
| 12 | B | 1091 | G | N7-C5 | -5.96 | 1.35 | 1.39 |
| 12 | B | 1583 | A | P-O5' | -5.96 | 1.53 | 1.59 |
| 12 | B | 1834 | U | N1-C6 | 5.96 | 1.43 | 1.38 |
| 12 | B | 479 | A | N7-C5 | -5.96 | 1.35 | 1.39 |
| 12 | B | 2722 | G | N9-C8 | -5.96 | 1.33 | 1.37 |
| 6 | 5 | 60 | ARG | NE-CZ | 5.96 | 1.40 | 1.33 |
| 12 | B | 548 | G | C3'-C2' | -5.96 | 1.46 | 1.52 |
| 12 | B | 2263 | C | C1'-N1 | -5.96 | 1.38 | 1.46 |
| 23 | M | 30 | SER | CA-CB | 5.96 | 1.61 | 1.52 |
| 9 | 8 | 4 | ARG | CZ-NH1 | 5.96 | 1.40 | 1.33 |
| 12 | B | 382 | A | N3-C4 | -5.96 | 1.31 | 1.34 |
| 12 | B | 482 | A | C8-N7 | -5.96 | 1.27 | 1.31 |
| 12 | B | 811 | U | C2-N3 | 5.96 | 1.42 | 1.37 |
| 12 | B | 876 | C | N1-C6 | 5.96 | 1.40 | 1.37 |
| 12 | B | 1349 | C | N1-C6 | 5.96 | 1.40 | 1.37 |
| 12 | B | 1853 | A | N9-C8 | 5.96 | 1.42 | 1.37 |
| 12 | B | 2293 | G | N7-C5 | -5.96 | 1.35 | 1.39 |
| 4 | 3 | 50 | GLY | CA-C | -5.96 | 1.42 | 1.51 |
| 12 | B | 537 | G | C5-C4 | 5.96 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 593 | U | C3'-O3' | 5.96 | 1.50 | 1.42 |
| 12 | B | 633 | A | C8-N7 | -5.96 | 1.27 | 1.31 |
| 12 | B | 664 | G | O4'-C1' | -5.96 | 1.33 | 1.41 |
| 12 | B | 1322 | A | C5-C6 | 5.96 | 1.46 | 1.41 |
| 12 | B | 1869 | G | O3'-P | 5.96 | 1.68 | 1.61 |
| 12 | B | 1935 | G | C4'-O4' | 5.96 | 1.53 | 1.45 |
| 12 | B | 2490 | G | C2-N2 | 5.96 | 1.40 | 1.34 |
| 12 | B | 2726 | A | O3'-P | -5.96 | 1.53 | 1.61 |
| 12 | B | 2849 | U | C5'-C4' | 5.96 | 1.58 | 1.51 |
| 12 | B | 625 | G | N1-C2 | 5.96 | 1.42 | 1.37 |
| 12 | B | 674 | G | N3-C4 | 5.96 | 1.39 | 1.35 |
| 12 | B | 723 | C | P-O5' | -5.96 | 1.53 | 1.59 |
| 12 | B | 1558 | C | C2'-O2' | 5.96 | 1.49 | 1.41 |
| 12 | B | 2512 | C | C5'-C4' | 5.96 | 1.58 | 1.51 |
| 12 | B | 2812 | G | C5'-C4' | 5.96 | 1.58 | 1.51 |
| 12 | B | 53 | A | O3'-P | -5.96 | 1.54 | 1.61 |
| 12 | B | 1078 | U | C4-C5 | 5.96 | 1.49 | 1.43 |
| 12 | B | 1525 | A | C2-N3 | 5.96 | 1.39 | 1.33 |
| 12 | B | 2018 | G | N9-C8 | -5.96 | 1.33 | 1.37 |
| 12 | B | 2247 | A | C2'-C1' | -5.96 | 1.46 | 1.53 |
| 12 | B | 392 | U | P-O5' | -5.95 | 1.53 | 1.59 |
| 12 | B | 2381 | A | N3-C4 | -5.95 | 1.31 | 1.34 |
| 12 | B | 356 | G | N9-C4 | -5.95 | 1.33 | 1.38 |
| 12 | B | 788 | A | C5-C4 | -5.95 | 1.34 | 1.38 |
| 12 | B | 2095 | A | C4'-O4' | -5.95 | 1.37 | 1.45 |
| 10 | 9 | 122 | TRP | CZ2-CH2 | 5.95 | 1.48 | 1.37 |
| 12 | B | 133 | U | C5'-C4' | 5.95 | 1.58 | 1.51 |
| 12 | B | 353 | C | N3-C4 | 5.95 | 1.38 | 1.33 |
| 12 | B | 410 | G | P-O5' | -5.95 | 1.53 | 1.59 |
| 12 | B | 727 | A | C4'-O4' | 5.95 | 1.53 | 1.45 |
| 12 | B | 780 | G | N1-C2 | 5.95 | 1.42 | 1.37 |
| 12 | B | 1107 | G | C6-N1 | 5.95 | 1.43 | 1.39 |
| 12 | B | 1698 | A | C2-N3 | 5.95 | 1.39 | 1.33 |
| 12 | B | 1808 | A | P-O5' | -5.95 | 1.53 | 1.59 |
| 12 | B | 1967 | C | C2-N3 | 5.95 | 1.40 | 1.35 |
| 12 | B | 2101 | A | N1-C2 | -5.95 | 1.28 | 1.34 |
| 12 | B | 2327 | A | C2'-C1' | -5.95 | 1.46 | 1.53 |
| 12 | B | 2669 | G | N7-C5 | -5.95 | 1.35 | 1.39 |
| 12 | B | 239 | C | C4-N4 | 5.95 | 1.39 | 1.33 |
| 12 | B | 358 | U | C2-N3 | -5.95 | 1.33 | 1.37 |
| 12 | B | 482 | A | N7-C5 | -5.95 | 1.35 | 1.39 |
| 12 | B | 561 | G | N9-C4 | -5.95 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 940 | G | C5-C4 | 5.95 | 1.42 | 1.38 |
| 12 | B | 1295 | C | C4'-C3' | 5.95 | 1.59 | 1.53 |
| 12 | B | 1305 | C | C2-N3 | 5.95 | 1.40 | 1.35 |
| 12 | B | 2083 | G | N9-C4 | -5.95 | 1.33 | 1.38 |
| 12 | B | 2203 | U | C2'-C1' | -5.95 | 1.46 | 1.53 |
| 12 | B | 2802 | G | C1'-N9 | 5.95 | 1.57 | 1.48 |
| 12 | B | 2814 | A | N7-C5 | -5.95 | 1.35 | 1.39 |
| 12 | B | 497 | A | C6-N6 | 5.95 | 1.38 | 1.33 |
| 12 | B | 117 | G | O3'-P | -5.95 | 1.54 | 1.61 |
| 12 | B | 675 | A | N7-C5 | -5.95 | 1.35 | 1.39 |
| 12 | B | 814 | C | C2'-C1' | -5.95 | 1.46 | 1.53 |
| 12 | B | 859 | G | N9-C8 | 5.95 | 1.42 | 1.37 |
| 12 | B | 978 | G | N1-C2 | 5.95 | 1.42 | 1.37 |
| 12 | B | 990 | A | O3'-P | -5.95 | 1.54 | 1.61 |
| 12 | B | 1831 | G | C5'-C4' | 5.95 | 1.58 | 1.51 |
| 12 | B | 2654 | A | C2'-C1' | -5.95 | 1.46 | 1.53 |
| 12 | B | 2781 | A | C6-N1 | 5.95 | 1.39 | 1.35 |
| 12 | B | 2842 | G | N7-C5 | -5.95 | 1.35 | 1.39 |
| 12 | B | 38 | A | P-O5' | 5.94 | 1.65 | 1.59 |
| 12 | B | 562 | U | C4-O4 | 5.94 | 1.28 | 1.23 |
| 12 | B | 1312 | U | N3-C4 | 5.94 | 1.43 | 1.38 |
| 12 | B | 1822 | C | C5'-C4' | 5.94 | 1.58 | 1.51 |
| 12 | B | 2144 | G | C2-N3 | 5.94 | 1.37 | 1.32 |
| 14 | D | 107 | VAL | CB-CG2 | 5.94 | 1.65 | 1.52 |
| 12 | B | 205 | G | C5'-C4' | 5.94 | 1.58 | 1.51 |
| 12 | B | 309 | A | N9-C8 | -5.94 | 1.32 | 1.37 |
| 12 | B | 347 | A | O3'-P | -5.94 | 1.54 | 1.61 |
| 12 | B | 1202 | G | N9-C4 | -5.94 | 1.33 | 1.38 |
| 12 | B | 1212 | G | N3-C4 | -5.94 | 1.31 | 1.35 |
| 12 | B | 1904 | G | N1-C2 | 5.94 | 1.42 | 1.37 |
| 29 | S | 8 | ARG | CZ-NH1 | 5.94 | 1.40 | 1.33 |
| 12 | B | 1449 | G | O4'-C1' | 5.94 | 1.49 | 1.41 |
| 12 | B | 1770 | G | N1-C2 | 5.94 | 1.42 | 1.37 |
| 24 | N | 87 | PHE | CG-CD2 | 5.94 | 1.47 | 1.38 |
| 12 | B | 437 | U | O3'-P | -5.94 | 1.54 | 1.61 |
| 12 | B | 245 | G | C2'-C1' | -5.94 | 1.46 | 1.53 |
| 12 | B | 516 | C | C2-N3 | -5.94 | 1.30 | 1.35 |
| 12 | B | 566 | U | N1-C2 | 5.94 | 1.43 | 1.38 |
| 12 | B | 752 | A | C8-N7 | -5.94 | 1.27 | 1.31 |
| 12 | B | 770 | G | P-O5' | -5.94 | 1.53 | 1.59 |
| 12 | B | 849 | A | C6-N1 | 5.94 | 1.39 | 1.35 |
| 12 | B | 1189 | A | C6-N6 | 5.94 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 11 | A | 53 | A | C5-C6 | -5.94 | 1.35 | 1.41 |
| 12 | B | 55 | G | P-O5' | -5.94 | 1.53 | 1.59 |
| 12 | B | 443 | A | C1'-N9 | -5.94 | 1.38 | 1.46 |
| 12 | B | 782 | A | C8-N7 | 5.94 | 1.35 | 1.31 |
| 12 | B | 1272 | A | C6-N1 | 5.94 | 1.39 | 1.35 |
| 12 | B | 2594 | C | C4-N4 | 5.94 | 1.39 | 1.33 |
| 15 | E | 89 | PRO | N-CA | -5.94 | 1.37 | 1.47 |
| 12 | B | 224 | U | C4'-C3' | -5.93 | 1.46 | 1.52 |
| 12 | B | 694 | U | C4'-O4' | -5.93 | 1.37 | 1.45 |
| 12 | B | 1116 | G | C6-N1 | 5.93 | 1.43 | 1.39 |
| 12 | B | 2723 | C | N1-C6 | -5.93 | 1.33 | 1.37 |
| 12 | B | 73 | A | C2'-C1' | -5.93 | 1.46 | 1.53 |
| 12 | B | 93 | G | C2-N2 | -5.93 | 1.28 | 1.34 |
| 12 | B | 695 | G | O3'-P | -5.93 | 1.54 | 1.61 |
| 12 | B | 1489 | C | C2'-C1' | -5.93 | 1.46 | 1.53 |
| 12 | B | 2060 | A | C4'-O4' | -5.93 | 1.37 | 1.45 |
| 15 | E | 179 | SER | CA-CB | 5.93 | 1.61 | 1.52 |
| 12 | B | 1465 | G | C5-C6 | -5.93 | 1.36 | 1.42 |
| 12 | B | 2184 | A | C2'-C1' | -5.93 | 1.46 | 1.53 |
| 12 | B | 2190 | G | C2-N3 | 5.93 | 1.37 | 1.32 |
| 12 | B | 133 | U | C1'-N1 | 5.93 | 1.57 | 1.48 |
| 12 | B | 1647 | U | P-O5' | -5.93 | 1.53 | 1.59 |
| 12 | B | 2507 | C | C3'-C2' | -5.93 | 1.46 | 1.52 |
| 16 | F | 132 | ARG | CZ-NH2 | 5.93 | 1.40 | 1.33 |
| 12 | B | 598 | U | C5-C6 | 5.93 | 1.39 | 1.34 |
| 12 | B | 850 | U | C2-N3 | 5.93 | 1.41 | 1.37 |
| 12 | B | 1241 | A | N9-C4 | 5.93 | 1.41 | 1.37 |
| 12 | B | 2052 | A | C2-N3 | 5.93 | 1.38 | 1.33 |
| 12 | B | 2230 | G | N9-C4 | 5.93 | 1.42 | 1.38 |
| 12 | B | 2513 | A | C6-N6 | 5.93 | 1.38 | 1.33 |
| 12 | B | 2737 | G | C6-N1 | 5.93 | 1.43 | 1.39 |
| 12 | B | 327 | G | N7-C5 | -5.93 | 1.35 | 1.39 |
| 12 | B | 509 | C | N1-C6 | 5.93 | 1.40 | 1.37 |
| 12 | B | 2090 | A | N1-C2 | -5.93 | 1.29 | 1.34 |
| 12 | B | 2447 | G | C2'-O2' | -5.93 | 1.33 | 1.41 |
| 12 | B | 2768 | U | P-O5' | -5.93 | 1.53 | 1.59 |
| 12 | B | 115 | C | C5-C6 | -5.92 | 1.29 | 1.34 |
| 12 | B | 252 | G | C5-C6 | -5.92 | 1.36 | 1.42 |
| 12 | B | 713 | G | C2-N3 | 5.92 | 1.37 | 1.32 |
| 12 | B | 1594 | U | C2-N3 | 5.92 | 1.41 | 1.37 |
| 12 | B | 2023 | C | C2-O2 | -5.92 | 1.19 | 1.24 |
| 12 | B | 2143 | C | C2'-C1' | -5.92 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 11 | A | 12 | C | C4'-C3' | 5.92 | 1.59 | 1.53 |
| 12 | B | 2232 | C | C2-N3 | 5.92 | 1.40 | 1.35 |
| 12 | B | 2541 | A | C5-C6 | 5.92 | 1.46 | 1.41 |
| 12 | B | 2553 | G | N7-C5 | -5.92 | 1.35 | 1.39 |
| 12 | B | 67 | U | C3'-C2' | 5.92 | 1.59 | 1.52 |
| 12 | B | 402 | A | C5'-C4' | 5.92 | 1.58 | 1.51 |
| 12 | B | 456 | C | O3'-P | -5.92 | 1.54 | 1.61 |
| 12 | B | 468 | G | C2-N2 | 5.92 | 1.40 | 1.34 |
| 12 | B | 1515 | A | C4'-C3' | -5.92 | 1.46 | 1.52 |
| 12 | B | 1613 | G | C4'-O4' | 5.92 | 1.53 | 1.45 |
| 12 | B | 2101 | A | C8-N7 | 5.92 | 1.35 | 1.31 |
| 12 | B | 2277 | G | N9-C4 | -5.92 | 1.33 | 1.38 |
| 12 | B | 2374 | C | C2'-C1' | -5.92 | 1.46 | 1.53 |
| 12 | B | 2802 | G | N1-C2 | 5.92 | 1.42 | 1.37 |
| 23 | M | 6 | ARG | CZ-NH1 | 5.92 | 1.40 | 1.33 |
| 12 | B | 292 | U | C4'-O4' | -5.92 | 1.37 | 1.45 |
| 12 | B | 1603 | A | O3'-P | -5.92 | 1.54 | 1.61 |
| 12 | B | 2159 | G | C5'-C4' | 5.92 | 1.58 | 1.51 |
| 12 | B | 647 | G | C6-N1 | 5.92 | 1.43 | 1.39 |
| 12 | B | 1533 | C | C2-N3 | 5.92 | 1.40 | 1.35 |
| 12 | B | 1623 | G | C6-N1 | 5.92 | 1.43 | 1.39 |
| 12 | B | 1992 | G | N7-C5 | -5.92 | 1.35 | 1.39 |
| 12 | B | 1147 | A | C5-C6 | -5.92 | 1.35 | 1.41 |
| 12 | B | 1152 | C | C4-N4 | 5.92 | 1.39 | 1.33 |
| 12 | B | 1743 | G | C5-C6 | -5.92 | 1.36 | 1.42 |
| 12 | B | 2487 | G | C8-N7 | 5.92 | 1.34 | 1.30 |
| 12 | B | 1458 | U | C5-C6 | 5.92 | 1.39 | 1.34 |
| 12 | B | 1941 | C | C4-C5 | 5.92 | 1.47 | 1.43 |
| 28 | R | 55 | ASP | N-CA | -5.92 | 1.34 | 1.46 |
| 12 | B | 220 | G | O3'-P | -5.91 | 1.54 | 1.61 |
| 12 | B | 435 | C | C3'-O3' | 5.91 | 1.50 | 1.42 |
| 12 | B | 1043 | C | N1-C6 | -5.91 | 1.33 | 1.37 |
| 12 | B | 1198 | U | C5'-C4' | 5.91 | 1.58 | 1.51 |
| 12 | B | 1655 | A | P-O5' | -5.91 | 1.53 | 1.59 |
| 12 | B | 1671 | U | C3'-C2' | -5.91 | 1.46 | 1.52 |
| 12 | B | 1674 | G | P-O5' | -5.91 | 1.53 | 1.59 |
| 12 | B | 1924 | C | N3-C4 | 5.91 | 1.38 | 1.33 |
| 12 | B | 2105 | U | N3-C4 | 5.91 | 1.43 | 1.38 |
| 12 | B | 2579 | C | O4'-C1' | -5.91 | 1.33 | 1.41 |
| 12 | B | 1013 | C | O4'-C1' | 5.91 | 1.49 | 1.41 |
| 12 | B | 2284 | A | C8-N7 | -5.91 | 1.27 | 1.31 |
| 12 | B | 2415 | G | N1-C2 | 5.91 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 11 | A | 115 | A | P-O5' | 5.91 | 1.65 | 1.59 |
| 12 | B | 468 | G | C6-N1 | 5.91 | 1.43 | 1.39 |
| 12 | B | 724 | U | C2'-C1' | -5.91 | 1.46 | 1.53 |
| 12 | B | 974 | G | C6-N1 | 5.91 | 1.43 | 1.39 |
| 12 | B | 1445 | G | N7-C5 | -5.91 | 1.35 | 1.39 |
| 12 | B | 1839 | G | C2-N3 | 5.91 | 1.37 | 1.32 |
| 12 | B | 2027 | G | C5'-C4' | 5.91 | 1.58 | 1.51 |
| 12 | B | 2093 | G | O3'-P | -5.91 | 1.54 | 1.61 |
| 12 | B | 2252 | G | C5'-C4' | 5.91 | 1.58 | 1.51 |
| 12 | B | 356 | G | O3'-P | -5.91 | 1.54 | 1.61 |
| 12 | B | 388 | G | N7-C5 | -5.91 | 1.35 | 1.39 |
| 12 | B | 1281 | G | C5'-C4' | 5.91 | 1.58 | 1.51 |
| 12 | B | 1809 | A | C2-N3 | -5.91 | 1.28 | 1.33 |
| 12 | B | 2117 | A | N7-C5 | 5.91 | 1.42 | 1.39 |
| 12 | B | 2465 | C | C4-N4 | 5.91 | 1.39 | 1.33 |
| 12 | B | 2763 | G | N9-C8 | -5.91 | 1.33 | 1.37 |
| 12 | B | 2136 | G | C2-N3 | 5.91 | 1.37 | 1.32 |
| 12 | B | 2363 | G | N7-C5 | 5.91 | 1.42 | 1.39 |
| 12 | B | 2581 | G | N7-C5 | -5.91 | 1.35 | 1.39 |
| 12 | B | 542 | C | O4'-C1' | 5.90 | 1.49 | 1.41 |
| 12 | B | 1731 | G | C4'-O4' | -5.90 | 1.37 | 1.45 |
| 12 | B | 253 | C | C2-O2 | 5.90 | 1.29 | 1.24 |
| 12 | B | 472 | A | C5-C4 | 5.90 | 1.42 | 1.38 |
| 12 | B | 545 | U | N3-C4 | 5.90 | 1.43 | 1.38 |
| 12 | B | 1122 | G | C1'-N9 | 5.90 | 1.57 | 1.48 |
| 12 | B | 1985 | C | C4'-C3' | -5.90 | 1.46 | 1.52 |
| 12 | B | 12 | U | C4-O4 | 5.90 | 1.28 | 1.23 |
| 12 | B | 436 | C | C4-N4 | 5.90 | 1.39 | 1.33 |
| 12 | B | 886 | A | C6-N6 | 5.90 | 1.38 | 1.33 |
| 12 | B | 1093 | G | P-O5' | -5.90 | 1.53 | 1.59 |
| 12 | B | 1382 | G | C2'-C1' | -5.90 | 1.46 | 1.53 |
| 12 | B | 1626 | A | C6-N6 | 5.90 | 1.38 | 1.33 |
| 12 | B | 2594 | C | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 12 | B | 2744 | G | N9-C4 | -5.90 | 1.33 | 1.38 |
| 12 | B | 75 | G | C8-N7 | -5.90 | 1.27 | 1.30 |
| 12 | B | 81 | G | P-O5' | -5.90 | 1.53 | 1.59 |
| 12 | B | 242 | G | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 12 | B | 1288 | G | O3'-P | -5.90 | 1.54 | 1.61 |
| 12 | B | 1503 | A | N9-C8 | 5.90 | 1.42 | 1.37 |
| 12 | B | 1566 | A | C6-N6 | 5.90 | 1.38 | 1.33 |
| 12 | B | 2458 | G | N7-C5 | -5.90 | 1.35 | 1.39 |
| 12 | B | 30 | G | C5-C4 | 5.90 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 959 | A | N9-C8 | -5.90 | 1.33 | 1.37 |
| 12 | B | 2253 | G | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 12 | B | 2792 | A | N1-C2 | -5.90 | 1.29 | 1.34 |
| 11 | A | 86 | G | C5-C6 | -5.89 | 1.36 | 1.42 |
| 12 | B | 348 | A | N7-C5 | -5.89 | 1.35 | 1.39 |
| 12 | B | 2593 | U | C2'-O2' | -5.89 | 1.33 | 1.41 |
| 12 | B | 344 | A | C6-N6 | 5.89 | 1.38 | 1.33 |
| 12 | B | 400 | G | C6-O6 | -5.89 | 1.18 | 1.24 |
| 12 | B | 437 | U | N3-C4 | 5.89 | 1.43 | 1.38 |
| 12 | B | 1097 | U | P-O5' | -5.89 | 1.53 | 1.59 |
| 12 | B | 1185 | G | C6-N1 | 5.89 | 1.43 | 1.39 |
| 12 | B | 2310 | C | C2-N3 | -5.89 | 1.31 | 1.35 |
| 12 | B | 2879 | A | C6-N6 | 5.89 | 1.38 | 1.33 |
| 12 | B | 2025 | C | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 12 | B | 349 | U | N1-C6 | 5.89 | 1.43 | 1.38 |
| 12 | B | 1121 | C | C4-C5 | 5.89 | 1.47 | 1.43 |
| 12 | B | 1477 | A | C5-C4 | 5.89 | 1.42 | 1.38 |
| 12 | B | 2248 | C | C2-O2 | 5.89 | 1.29 | 1.24 |
| 12 | B | 2284 | A | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 12 | B | 2677 | G | C2-N2 | 5.89 | 1.40 | 1.34 |
| 12 | B | 2686 | G | O3'-P | -5.89 | 1.54 | 1.61 |
| 26 | P | 52 | ARG | CZ-NH1 | 5.89 | 1.40 | 1.33 |
| 12 | B | 2367 | G | N7-C5 | -5.89 | 1.35 | 1.39 |
| 11 | A | 101 | A | C2'-C1' | -5.89 | 1.46 | 1.53 |
| 12 | B | 79 | C | C3'-C2' | 5.89 | 1.59 | 1.52 |
| 12 | B | 409 | G | C2'-C1' | -5.89 | 1.46 | 1.53 |
| 12 | B | 669 | G | C3'-O3' | 5.89 | 1.50 | 1.42 |
| 12 | B | 1128 | G | C6-N1 | 5.89 | 1.43 | 1.39 |
| 12 | B | 1440 | U | C5-C6 | 5.89 | 1.39 | 1.34 |
| 12 | B | 2291 | U | C4-C5 | 5.89 | 1.48 | 1.43 |
| 25 | O | 25 | ARG | NE-CZ | 5.89 | 1.40 | 1.33 |
| 11 | A | 100 | G | C8-N7 | 5.88 | 1.34 | 1.30 |
| 12 | B | 859 | G | C8-N7 | 5.88 | 1.34 | 1.30 |
| 12 | B | 1374 | G | N3-C4 | 5.88 | 1.39 | 1.35 |
| 12 | B | 1780 | A | C5-C4 | 5.88 | 1.42 | 1.38 |
| 12 | B | 2159 | G | O3'-P | -5.88 | 1.54 | 1.61 |
| 12 | B | 2403 | C | C5'-C4' | -5.88 | 1.44 | 1.51 |
| 12 | B | 157 | C | C1'-N1 | 5.88 | 1.57 | 1.48 |
| 12 | B | 1954 | G | C3'-C2' | 5.88 | 1.59 | 1.52 |
| 12 | B | 2443 | C | N3-C4 | 5.88 | 1.38 | 1.33 |
| 12 | B | 2657 | A | C5-C6 | 5.88 | 1.46 | 1.41 |
| 12 | B | 1407 | G | P-O5' | -5.88 | 1.53 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2200 | C | N1-C6 | 5.88 | 1.40 | 1.37 |
| 12 | B | 2848 | G | C2-N2 | 5.88 | 1.40 | 1.34 |
| 12 | B | 258 | G | C5-C4 | 5.88 | 1.42 | 1.38 |
| 12 | B | 939 | G | C3'-C2' | 5.88 | 1.59 | 1.52 |
| 12 | B | 1534 | U | C2'-C1' | 5.88 | 1.59 | 1.53 |
| 12 | B | 116 | C | C4'-O4' | -5.88 | 1.38 | 1.45 |
| 12 | B | 139 | U | O3'-P | -5.88 | 1.54 | 1.61 |
| 12 | B | 234 | U | N1-C6 | 5.88 | 1.43 | 1.38 |
| 12 | B | 422 | A | N3-C4 | 5.88 | 1.38 | 1.34 |
| 12 | B | 1137 | G | O3'-P | -5.88 | 1.54 | 1.61 |
| 12 | B | 1395 | A | N7-C5 | -5.88 | 1.35 | 1.39 |
| 12 | B | 1895 | C | C4'-C3' | 5.88 | 1.59 | 1.53 |
| 12 | B | 1930 | G | C2-N3 | 5.88 | 1.37 | 1.32 |
| 12 | B | 2025 | C | P-O5' | -5.88 | 1.53 | 1.59 |
| 15 | E | 127 | GLU | CG-CD | 5.88 | 1.60 | 1.51 |
| 17 | G | 57 | TYR | N-CA | -5.88 | 1.34 | 1.46 |
| 22 | L | 2 | ARG | NE-CZ | 5.88 | 1.40 | 1.33 |
| 12 | B | 40 | U | C1'-N1 | 5.88 | 1.57 | 1.48 |
| 12 | B | 191 | A | C2-N3 | 5.88 | 1.38 | 1.33 |
| 12 | B | 872 | U | C2-N3 | 5.88 | 1.41 | 1.37 |
| 12 | B | 1310 | G | N9-C8 | -5.88 | 1.33 | 1.37 |
| 12 | B | 1772 | A | P-O5' | -5.88 | 1.53 | 1.59 |
| 12 | B | 1826 | G | C4'-O4' | -5.88 | 1.38 | 1.45 |
| 12 | B | 2492 | U | N3-C4 | 5.88 | 1.43 | 1.38 |
| 12 | B | 2532 | G | N9-C4 | 5.88 | 1.42 | 1.38 |
| 12 | B | 2585 | U | N1-C2 | 5.88 | 1.43 | 1.38 |
| 12 | B | 2661 | G | C4'-C3' | -5.88 | 1.46 | 1.52 |
| 12 | B | 2778 | A | C2'-C1' | -5.88 | 1.46 | 1.53 |
| 31 | U | 24 | VAL | CA-CB | -5.88 | 1.42 | 1.54 |
| 12 | B | 731 | C | C4-N4 | 5.88 | 1.39 | 1.33 |
| 12 | B | 1720 | U | O3'-P | -5.88 | 1.54 | 1.61 |
| 12 | B | 2188 | U | C2'-C1' | -5.88 | 1.46 | 1.53 |
| 12 | B | 2755 | C | P-O5' | -5.88 | 1.53 | 1.59 |
| 12 | B | 67 | U | N3-C4 | 5.87 | 1.43 | 1.38 |
| 12 | B | 561 | G | N7-C5 | -5.87 | 1.35 | 1.39 |
| 12 | B | 678 | C | C4-N4 | 5.87 | 1.39 | 1.33 |
| 12 | B | 926 | G | N9-C8 | -5.87 | 1.33 | 1.37 |
| 12 | B | 1703 | G | N7-C5 | -5.87 | 1.35 | 1.39 |
| 12 | B | 1708 | C | C2'-C1' | -5.87 | 1.46 | 1.53 |
| 12 | B | 2381 | A | O3'-P | -5.87 | 1.54 | 1.61 |
| 11 | A | 33 | G | C2-N2 | 5.87 | 1.40 | 1.34 |
| 12 | B | 556 | A | N9-C4 | -5.87 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1293 | C | C4'-C3' | -5.87 | 1.46 | 1.52 |
| 12 | B | 1549 | A | N9-C8 | -5.87 | 1.33 | 1.37 |
| 12 | B | 2308 | G | C3'-O3' | 5.87 | 1.50 | 1.42 |
| 11 | A | 13 | G | N9-C4 | -5.87 | 1.33 | 1.38 |
| 12 | B | 406 | G | N7-C5 | -5.87 | 1.35 | 1.39 |
| 12 | B | 630 | G | P-O5' | -5.87 | 1.53 | 1.59 |
| 12 | B | 916 | G | C2-N3 | 5.87 | 1.37 | 1.32 |
| 12 | B | 1194 | A | P-O5' | 5.87 | 1.65 | 1.59 |
| 12 | B | 2209 | G | N1-C2 | 5.87 | 1.42 | 1.37 |
| 12 | B | 2599 | G | N3-C4 | 5.87 | 1.39 | 1.35 |
| 15 | E | 21 | ARG | NE-CZ | 5.87 | 1.40 | 1.33 |
| 11 | A | 107 | G | C6-N1 | 5.87 | 1.43 | 1.39 |
| 12 | B | 640 | C | O3'-P | -5.87 | 1.54 | 1.61 |
| 12 | B | 1640 | A | O3'-P | -5.87 | 1.54 | 1.61 |
| 12 | B | 381 | G | P-O5' | -5.87 | 1.53 | 1.59 |
| 12 | B | 383 | C | P-O5' | 5.87 | 1.65 | 1.59 |
| 12 | B | 922 | C | P-O5' | -5.87 | 1.53 | 1.59 |
| 12 | B | 2821 | A | C5-C4 | 5.87 | 1.42 | 1.38 |
| 21 | K | 105 | ARG | CZ-NH2 | 5.87 | 1.40 | 1.33 |
| 12 | B | 514 | A | C6-N1 | 5.86 | 1.39 | 1.35 |
| 12 | B | 653 | U | C2-O2 | 5.86 | 1.27 | 1.22 |
| 12 | B | 1701 | A | N3-C4 | -5.86 | 1.31 | 1.34 |
| 12 | B | 2093 | G | N1-C2 | 5.86 | 1.42 | 1.37 |
| 12 | B | 2265 | U | C2'-C1' | -5.86 | 1.46 | 1.53 |
| 12 | B | 2270 | A | N9-C4 | -5.86 | 1.34 | 1.37 |
| 12 | B | 2277 | G | C3'-O3' | 5.86 | 1.50 | 1.42 |
| 12 | B | 40 | U | O3'-P | -5.86 | 1.54 | 1.61 |
| 12 | B | 322 | A | C6-N1 | 5.86 | 1.39 | 1.35 |
| 12 | B | 1983 | G | C2-N3 | 5.86 | 1.37 | 1.32 |
| 12 | B | 2392 | A | N7-C5 | -5.86 | 1.35 | 1.39 |
| 12 | B | 273 | G | N7-C5 | 5.86 | 1.42 | 1.39 |
| 12 | B | 300 | A | C8-N7 | -5.86 | 1.27 | 1.31 |
| 12 | B | 324 | A | P-O5' | -5.86 | 1.53 | 1.59 |
| 12 | B | 562 | U | C3'-C2' | -5.86 | 1.46 | 1.52 |
| 12 | B | 645 | C | C4-C5 | 5.86 | 1.47 | 1.43 |
| 12 | B | 802 | A | N1-C2 | -5.86 | 1.29 | 1.34 |
| 12 | B | 829 | A | C8-N7 | -5.86 | 1.27 | 1.31 |
| 12 | B | 1256 | G | N3-C4 | -5.86 | 1.31 | 1.35 |
| 12 | B | 1385 | A | C8-N7 | -5.86 | 1.27 | 1.31 |
| 12 | B | 1488 | C | N3-C4 | 5.86 | 1.38 | 1.33 |
| 12 | B | 2039 | U | O3'-P | -5.86 | 1.54 | 1.61 |
| 12 | B | 2163 | A | N7-C5 | -5.86 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2312 | U | C4'-C3' | -5.86 | 1.46 | 1.52 |
| 12 | B | 2420 | C | C4-N4 | 5.86 | 1.39 | 1.33 |
| 12 | B | 2740 | A | C2'-C1' | -5.86 | 1.47 | 1.53 |
| 12 | B | 1546 | G | C4'-O4' | -5.86 | 1.38 | 1.45 |
| 12 | B | 1662 | U | C2-N3 | 5.86 | 1.41 | 1.37 |
| 12 | B | 2285 | C | C2'-C1' | -5.86 | 1.47 | 1.53 |
| 11 | A | 31 | C | C4'-C3' | -5.86 | 1.46 | 1.52 |
| 12 | B | 242 | G | N3-C4 | -5.86 | 1.31 | 1.35 |
| 12 | B | 319 | G | N7-C5 | -5.86 | 1.35 | 1.39 |
| 12 | B | 1435 | G | N1-C2 | 5.86 | 1.42 | 1.37 |
| 12 | B | 1907 | G | C6-N1 | 5.86 | 1.43 | 1.39 |
| 12 | B | 78 | U | C3'-C2' | -5.86 | 1.46 | 1.52 |
| 12 | B | 452 | G | N7-C5 | -5.86 | 1.35 | 1.39 |
| 12 | B | 490 | C | C4'-C3' | 5.86 | 1.59 | 1.53 |
| 12 | B | 777 | G | C4'-C3' | -5.86 | 1.46 | 1.52 |
| 12 | B | 1734 | G | C4'-C3' | 5.86 | 1.59 | 1.53 |
| 12 | B | 1934 | C | C4-N4 | 5.86 | 1.39 | 1.33 |
| 12 | B | 2606 | C | C3'-C2' | 5.86 | 1.59 | 1.52 |
| 12 | B | 2839 | G | N3-C4 | -5.86 | 1.31 | 1.35 |
| 12 | B | 233 | A | N1-C2 | -5.85 | 1.29 | 1.34 |
| 12 | B | 1739 | A | C8-N7 | -5.85 | 1.27 | 1.31 |
| 22 | L | 136 | GLU | CG-CD | 5.85 | 1.60 | 1.51 |
| 12 | B | 851 | C | N3-C4 | 5.85 | 1.38 | 1.33 |
| 12 | B | 1111 | A | C6-N6 | 5.85 | 1.38 | 1.33 |
| 12 | B | 1286 | A | N7-C5 | -5.85 | 1.35 | 1.39 |
| 12 | B | 1487 | U | C4'-O4' | 5.85 | 1.53 | 1.45 |
| 12 | B | 245 | G | C2-N3 | 5.85 | 1.37 | 1.32 |
| 12 | B | 1545 | A | N7-C5 | -5.85 | 1.35 | 1.39 |
| 12 | B | 764 | A | C5-C4 | -5.85 | 1.34 | 1.38 |
| 12 | B | 1496 | A | N3-C4 | 5.85 | 1.38 | 1.34 |
| 12 | B | 1938 | A | N3-C4 | -5.85 | 1.31 | 1.34 |
| 12 | B | 1975 | G | C8-N7 | -5.85 | 1.27 | 1.30 |
| 12 | B | 2188 | U | C5'-C4' | 5.85 | 1.58 | 1.51 |
| 12 | B | 2488 | G | C2'-C1' | -5.85 | 1.47 | 1.53 |
| 12 | B | 2736 | A | C2-N3 | 5.85 | 1.38 | 1.33 |
| 12 | B | 657 | U | C4'-C3' | -5.85 | 1.46 | 1.52 |
| 12 | B | 1008 | A | C5-C6 | 5.85 | 1.46 | 1.41 |
| 12 | B | 1350 | C | C3'-C2' | -5.85 | 1.46 | 1.52 |
| 12 | B | 1560 | G | N1-C2 | 5.85 | 1.42 | 1.37 |
| 12 | B | 1589 | U | N3-C4 | 5.85 | 1.43 | 1.38 |
| 12 | B | 1842 | G | C5-C6 | -5.85 | 1.36 | 1.42 |
| 12 | B | 2134 | A | C6-N6 | 5.85 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2148 | G | N7-C5 | 5.85 | 1.42 | 1.39 |
| 21 | K | 109 | SER | CA-CB | 5.85 | 1.61 | 1.52 |
| 12 | B | 1038 | G | N1-C2 | 5.85 | 1.42 | 1.37 |
| 12 | B | 1194 | A | N1-C2 | 5.85 | 1.39 | 1.34 |
| 12 | B | 2108 | A | C5-C6 | -5.85 | 1.35 | 1.41 |
| 12 | B | 2564 | A | C3'-C2' | 5.85 | 1.59 | 1.52 |
| 11 | A | 52 | A | N7-C5 | -5.84 | 1.35 | 1.39 |
| 12 | B | 127 | A | O3'-P | -5.84 | 1.54 | 1.61 |
| 12 | B | 195 | A | C5'-C4' | 5.84 | 1.58 | 1.51 |
| 12 | B | 248 | G | C2-N2 | 5.84 | 1.40 | 1.34 |
| 12 | B | 410 | G | C8-N7 | -5.84 | 1.27 | 1.30 |
| 12 | B | 571 | U | C1'-N1 | 5.84 | 1.57 | 1.48 |
| 12 | B | 696 | G | C6-N1 | 5.84 | 1.43 | 1.39 |
| 12 | B | 829 | A | O5'-C5' | 5.84 | 1.53 | 1.44 |
| 12 | B | 836 | G | N7-C5 | -5.84 | 1.35 | 1.39 |
| 12 | B | 1202 | G | C2'-C1' | -5.84 | 1.47 | 1.53 |
| 12 | B | 1329 | U | C5-C6 | -5.84 | 1.28 | 1.34 |
| 12 | B | 1766 | G | C4'-O4' | -5.84 | 1.38 | 1.45 |
| 12 | B | 1786 | A | C6-N1 | 5.84 | 1.39 | 1.35 |
| 31 | U | 93 | ARG | CZ-NH2 | 5.84 | 1.40 | 1.33 |
| 12 | B | 244 | A | N7-C5 | -5.84 | 1.35 | 1.39 |
| 12 | B | 1402 | U | C4-C5 | -5.84 | 1.38 | 1.43 |
| 11 | A | 67 | G | C3'-C2' | -5.84 | 1.46 | 1.52 |
| 12 | B | 748 | G | N3-C4 | -5.84 | 1.31 | 1.35 |
| 12 | B | 949 | G | O4'-C1' | 5.84 | 1.49 | 1.41 |
| 12 | B | 1288 | G | P-O5' | -5.84 | 1.53 | 1.59 |
| 12 | B | 2117 | A | C6-N6 | 5.84 | 1.38 | 1.33 |
| 13 | C | 176 | ARG | CZ-NH1 | 5.84 | 1.40 | 1.33 |
| 12 | B | 1145 | C | C2-N3 | 5.84 | 1.40 | 1.35 |
| 12 | B | 1309 | G | C5-C6 | -5.84 | 1.36 | 1.42 |
| 12 | B | 2216 | G | O3'-P | -5.84 | 1.54 | 1.61 |
| 12 | B | 2592 | G | O4'-C1' | 5.84 | 1.49 | 1.41 |
| 12 | B | 2872 | A | O3'-P | -5.84 | 1.54 | 1.61 |
| 12 | B | 213 | A | C4'-C3' | -5.84 | 1.46 | 1.52 |
| 12 | B | 2097 | A | C2'-C1' | -5.84 | 1.47 | 1.53 |
| 12 | B | 2516 | A | C8-N7 | -5.84 | 1.27 | 1.31 |
| 12 | B | 2642 | G | P-O5' | -5.84 | 1.53 | 1.59 |
| 11 | A | 60 | C | C2-O2 | -5.84 | 1.19 | 1.24 |
| 12 | B | 345 | A | C5-C4 | -5.84 | 1.34 | 1.38 |
| 12 | B | 773 | U | C2-N3 | 5.84 | 1.41 | 1.37 |
| 12 | B | 2266 | A | N1-C2 | -5.84 | 1.29 | 1.34 |
| 12 | B | 2490 | G | C2'-C1' | -5.84 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2729 | G | C2-N3 | 5.84 | 1.37 | 1.32 |
| 14 | D | 179 | ARG | CD-NE | 5.84 | 1.56 | 1.46 |
| 12 | B | 328 | U | C2-O2 | 5.83 | 1.27 | 1.22 |
| 12 | B | 541 | A | C6-N6 | 5.83 | 1.38 | 1.33 |
| 12 | B | 1126 | A | N9-C4 | -5.83 | 1.34 | 1.37 |
| 12 | B | 1287 | A | C6-N1 | 5.83 | 1.39 | 1.35 |
| 12 | B | 1719 | G | O3'-P | -5.83 | 1.54 | 1.61 |
| 11 | A | 20 | G | C4'-O4' | 5.83 | 1.53 | 1.45 |
| 12 | B | 374 | A | P-O5' | -5.83 | 1.53 | 1.59 |
| 12 | B | 461 | C | C2-N3 | 5.83 | 1.40 | 1.35 |
| 12 | B | 829 | A | N9-C8 | -5.83 | 1.33 | 1.37 |
| 12 | B | 1111 | A | C5-C4 | 5.83 | 1.42 | 1.38 |
| 12 | B | 1853 | A | P-O5' | -5.83 | 1.53 | 1.59 |
| 12 | B | 1878 | G | C2-N2 | 5.83 | 1.40 | 1.34 |
| 12 | B | 2808 | G | N9-C4 | 5.83 | 1.42 | 1.38 |
| 12 | B | 359 | G | C6-N1 | 5.83 | 1.43 | 1.39 |
| 12 | B | 649 | G | C6-O6 | 5.83 | 1.29 | 1.24 |
| 12 | B | 753 | A | N9-C4 | 5.83 | 1.41 | 1.37 |
| 12 | B | 1047 | G | N1-C2 | 5.83 | 1.42 | 1.37 |
| 12 | B | 1393 | A | C8-N7 | -5.83 | 1.27 | 1.31 |
| 10 | 9 | 136 | ARG | NE-CZ | 5.83 | 1.40 | 1.33 |
| 12 | B | 680 | C | N3-C4 | 5.83 | 1.38 | 1.33 |
| 12 | B | 718 | A | N3-C4 | -5.83 | 1.31 | 1.34 |
| 12 | B | 1332 | G | C2-N3 | 5.83 | 1.37 | 1.32 |
| 12 | B | 1353 | A | N3-C4 | 5.83 | 1.38 | 1.34 |
| 12 | B | 1665 | A | N3-C4 | -5.83 | 1.31 | 1.34 |
| 11 | A | 75 | G | C8-N7 | -5.83 | 1.27 | 1.30 |
| 11 | A | 98 | G | N3-C4 | -5.83 | 1.31 | 1.35 |
| 12 | B | 197 | A | C6-N6 | 5.83 | 1.38 | 1.33 |
| 12 | B | 756 | A | C8-N7 | -5.83 | 1.27 | 1.31 |
| 12 | B | 2565 | A | C1'-N9 | -5.83 | 1.38 | 1.46 |
| 12 | B | 2584 | U | O5'-C5' | -5.83 | 1.33 | 1.42 |
| 12 | B | 2591 | C | C5'-C4' | 5.83 | 1.58 | 1.51 |
| 12 | B | 283 | G | N1-C2 | 5.83 | 1.42 | 1.37 |
| 12 | B | 1911 | U | P-O5' | -5.83 | 1.53 | 1.59 |
| 11 | A | 14 | U | C2'-C1' | -5.83 | 1.47 | 1.53 |
| 11 | A | 110 | C | O3'-P | 5.83 | 1.68 | 1.61 |
| 12 | B | 39 | G | C6-N1 | -5.83 | 1.35 | 1.39 |
| 12 | B | 177 | G | N1-C2 | 5.83 | 1.42 | 1.37 |
| 12 | B | 303 | G | N9-C8 | 5.83 | 1.42 | 1.37 |
| 12 | B | 431 | U | N1-C2 | 5.83 | 1.43 | 1.38 |
| 12 | B | 575 | A | C2'-C1' | -5.83 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 745 | G | N7-C5 | -5.83 | 1.35 | 1.39 |
| 12 | B | 1374 | G | C2-N2 | 5.83 | 1.40 | 1.34 |
| 12 | B | 2592 | G | P-O5' | 5.83 | 1.65 | 1.59 |
| 12 | B | 1222 | U | C3'-C2' | -5.82 | 1.46 | 1.52 |
| 12 | B | 1815 | A | C6-N1 | 5.82 | 1.39 | 1.35 |
| 12 | B | 2800 | A | C5-C6 | -5.82 | 1.35 | 1.41 |
| 18 | H | 9 | VAL | CB-CG1 | 5.82 | 1.65 | 1.52 |
| 12 | B | 71 | A | O3'-P | -5.82 | 1.54 | 1.61 |
| 12 | B | 547 | A | C6-N6 | 5.82 | 1.38 | 1.33 |
| 12 | B | 1052 | C | C4-C5 | 5.82 | 1.47 | 1.43 |
| 12 | B | 1059 | G | C2-N3 | 5.82 | 1.37 | 1.32 |
| 12 | B | 1271 | G | O3'-P | -5.82 | 1.54 | 1.61 |
| 12 | B | 1331 | G | C2-N2 | 5.82 | 1.40 | 1.34 |
| 12 | B | 1971 | U | C3'-C2' | 5.82 | 1.59 | 1.52 |
| 12 | B | 2176 | A | C4'-C3' | 5.82 | 1.59 | 1.53 |
| 12 | B | 2578 | G | C6-O6 | -5.82 | 1.19 | 1.24 |
| 6 | 5 | 150 | ALA | N-CA | -5.82 | 1.34 | 1.46 |
| 12 | B | 435 | C | O3'-P | -5.82 | 1.54 | 1.61 |
| 12 | B | 482 | A | C6-N1 | 5.82 | 1.39 | 1.35 |
| 12 | B | 1027 | A | C6-N6 | 5.82 | 1.38 | 1.33 |
| 12 | B | 1117 | C | C2-N3 | 5.82 | 1.40 | 1.35 |
| 12 | B | 1365 | A | C3'-O3' | 5.82 | 1.50 | 1.42 |
| 12 | B | 2361 | G | N9-C4 | 5.82 | 1.42 | 1.38 |
| 12 | B | 2430 | A | N9-C8 | -5.82 | 1.33 | 1.37 |
| 12 | B | 2747 | G | C2-N3 | 5.82 | 1.37 | 1.32 |
| 13 | C | 102 | TYR | CG-CD2 | 5.82 | 1.46 | 1.39 |
| 27 | Q | 29 | ARG | CZ-NH1 | 5.82 | 1.40 | 1.33 |
| 12 | B | 697 | G | N7-C5 | -5.82 | 1.35 | 1.39 |
| 12 | B | 793 | A | C6-N6 | 5.82 | 1.38 | 1.33 |
| 12 | B | 1131 | G | O3'-P | -5.82 | 1.54 | 1.61 |
| 12 | B | 1405 | U | C4'-C3' | -5.82 | 1.46 | 1.52 |
| 12 | B | 1916 | A | P-O5' | -5.82 | 1.53 | 1.59 |
| 12 | B | 74 | A | N3-C4 | -5.82 | 1.31 | 1.34 |
| 12 | B | 674 | G | C6-N1 | 5.82 | 1.43 | 1.39 |
| 12 | B | 636 | G | C2-N2 | 5.82 | 1.40 | 1.34 |
| 12 | B | 1387 | A | N9-C4 | 5.82 | 1.41 | 1.37 |
| 12 | B | 2293 | G | N9-C8 | 5.82 | 1.42 | 1.37 |
| 12 | B | 2718 | G | C4'-C3' | -5.82 | 1.46 | 1.52 |
| 28 | R | 52 | PRO | CA-C | -5.82 | 1.41 | 1.52 |
| 33 | Y | 10 | ARG | NE-CZ | 5.82 | 1.40 | 1.33 |
| 12 | B | 1270 | C | C5'-C4' | 5.81 | 1.58 | 1.51 |
| 12 | B | 2774 | C | P-O5' | -5.81 | 1.53 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 652 | U | C2'-C1' | -5.81 | 1.47 | 1.53 |
| 12 | B | 930 | G | C5-C6 | -5.81 | 1.36 | 1.42 |
| 12 | B | 1623 | G | C2-N3 | -5.81 | 1.28 | 1.32 |
| 12 | B | 1822 | C | C3'-C2' | -5.81 | 1.46 | 1.52 |
| 12 | B | 2101 | A | C2'-C1' | -5.81 | 1.47 | 1.53 |
| 12 | B | 2112 | G | C5-C6 | -5.81 | 1.36 | 1.42 |
| 12 | B | 2819 | G | C4'-C3' | 5.81 | 1.59 | 1.53 |
| 12 | B | 2896 | C | N3-C4 | 5.81 | 1.38 | 1.33 |
| 16 | F | 101 | ARG | CZ-NH1 | 5.81 | 1.40 | 1.33 |
| 12 | B | 831 | G | C2'-C1' | -5.81 | 1.47 | 1.53 |
| 11 | A | 42 | C | C4'-C3' | -5.81 | 1.46 | 1.52 |
| 11 | A | 91 | C | O3'-P | -5.81 | 1.54 | 1.61 |
| 12 | B | 400 | G | N3-C4 | 5.81 | 1.39 | 1.35 |
| 12 | B | 977 | G | C6-N1 | 5.81 | 1.43 | 1.39 |
| 12 | B | 1137 | G | C2'-C1' | -5.81 | 1.47 | 1.53 |
| 12 | B | 1439 | A | N7-C5 | -5.81 | 1.35 | 1.39 |
| 12 | B | 1667 | G | C5-C4 | 5.81 | 1.42 | 1.38 |
| 12 | B | 1723 | G | N1-C2 | 5.81 | 1.42 | 1.37 |
| 12 | B | 1747 | U | C2'-C1' | -5.81 | 1.47 | 1.53 |
| 12 | B | 2104 | C | N1-C6 | 5.81 | 1.40 | 1.37 |
| 23 | M | 81 | ARG | NE-CZ | 5.81 | 1.40 | 1.33 |
| 12 | B | 279 | A | C8-N7 | -5.81 | 1.27 | 1.31 |
| 12 | B | 1156 | A | C4'-C3' | 5.81 | 1.59 | 1.53 |
| 12 | B | 1622 | G | N1-C2 | 5.81 | 1.42 | 1.37 |
| 12 | B | 2145 | C | O4'-C1' | 5.81 | 1.49 | 1.41 |
| 12 | B | 2315 | G | N9-C8 | -5.81 | 1.33 | 1.37 |
| 12 | B | 143 | C | C4-C5 | 5.80 | 1.47 | 1.43 |
| 12 | B | 802 | A | N3-C4 | -5.80 | 1.31 | 1.34 |
| 12 | B | 971 | G | C4'-C3' | -5.80 | 1.46 | 1.52 |
| 12 | B | 2213 | U | C4-C5 | 5.80 | 1.48 | 1.43 |
| 12 | B | 2570 | G | C1'-N9 | 5.80 | 1.57 | 1.48 |
| 12 | B | 2593 | U | P-O5' | -5.80 | 1.53 | 1.59 |
| 12 | B | 2569 | G | N7-C5 | 5.80 | 1.42 | 1.39 |
| 10 | 9 | 130 | PHE | CA-CB | 5.80 | 1.66 | 1.53 |
| 11 | A | 19 | C | O3'-P | -5.80 | 1.54 | 1.61 |
| 12 | B | 376 | G | C8-N7 | -5.80 | 1.27 | 1.30 |
| 12 | B | 1618 | A | C2'-C1' | -5.80 | 1.47 | 1.53 |
| 12 | B | 2816 | G | C5-C4 | -5.80 | 1.34 | 1.38 |
| 12 | B | 2847 | U | N3-C4 | 5.80 | 1.43 | 1.38 |
| 29 | S | 101 | SER | CA-CB | 5.80 | 1.61 | 1.52 |
| 1 | 0 | 18 | SER | CA-CB | 5.80 | 1.61 | 1.52 |
| 12 | B | 364 | C | N1-C6 | 5.80 | 1.40 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1469 | A | P-O5' | 5.80 | 1.65 | 1.59 |
| 12 | B | 1512 | C | O4'-C1' | 5.80 | 1.49 | 1.41 |
| 12 | B | 1567 | G | N7-C5 | -5.80 | 1.35 | 1.39 |
| 12 | B | 610 | C | N3-C4 | 5.80 | 1.38 | 1.33 |
| 12 | B | 1262 | A | C2-N3 | 5.80 | 1.38 | 1.33 |
| 12 | B | 1976 | U | N3-C4 | 5.80 | 1.43 | 1.38 |
| 10 | 9 | 60 | ARG | CZ-NH2 | 5.80 | 1.40 | 1.33 |
| 12 | B | 624 | C | C2-O2 | 5.80 | 1.29 | 1.24 |
| 12 | B | 938 | G | O3'-P | -5.80 | 1.54 | 1.61 |
| 12 | B | 1228 | G | C4'-C3' | 5.80 | 1.59 | 1.53 |
| 12 | B | 1601 | G | N3-C4 | -5.80 | 1.31 | 1.35 |
| 12 | B | 1620 | G | N1-C2 | 5.80 | 1.42 | 1.37 |
| 12 | B | 1802 | A | N3-C4 | -5.80 | 1.31 | 1.34 |
| 12 | B | 1848 | A | N9-C8 | 5.80 | 1.42 | 1.37 |
| 12 | B | 2098 | U | C2-N3 | 5.80 | 1.41 | 1.37 |
| 12 | B | 877 | A | N9-C4 | -5.79 | 1.34 | 1.37 |
| 12 | B | 991 | C | P-O5' | -5.79 | 1.53 | 1.59 |
| 12 | B | 1385 | A | N3-C4 | 5.79 | 1.38 | 1.34 |
| 12 | B | 1634 | A | P-O5' | -5.79 | 1.53 | 1.59 |
| 12 | B | 1682 | G | N3-C4 | 5.79 | 1.39 | 1.35 |
| 11 | A | 38 | C | C2-N3 | 5.79 | 1.40 | 1.35 |
| 12 | B | 19 | A | C8-N7 | 5.79 | 1.35 | 1.31 |
| 12 | B | 151 | C | C2'-C1' | -5.79 | 1.47 | 1.53 |
| 12 | B | 387 | U | N3-C4 | 5.79 | 1.43 | 1.38 |
| 12 | B | 483 | A | C5-C6 | -5.79 | 1.35 | 1.41 |
| 12 | B | 669 | G | O3'-P | -5.79 | 1.54 | 1.61 |
| 12 | B | 713 | G | N9-C8 | 5.79 | 1.42 | 1.37 |
| 12 | B | 874 | G | C2'-C1' | -5.79 | 1.47 | 1.53 |
| 12 | B | 1359 | A | C5'-C4' | 5.79 | 1.58 | 1.51 |
| 12 | B | 1489 | C | N1-C2 | 5.79 | 1.46 | 1.40 |
| 12 | B | 1941 | C | C4'-O4' | -5.79 | 1.38 | 1.45 |
| 12 | B | 2034 | U | C2-N3 | 5.79 | 1.41 | 1.37 |
| 12 | B | 2410 | G | N1-C2 | 5.79 | 1.42 | 1.37 |
| 12 | B | 2445 | G | N3-C4 | -5.79 | 1.31 | 1.35 |
| 12 | B | 1394 | U | O4'-C1' | -5.79 | 1.34 | 1.41 |
| 12 | B | 1507 | C | N1-C6 | -5.79 | 1.33 | 1.37 |
| 22 | L | 85 | VAL | CB-CG2 | 5.79 | 1.65 | 1.52 |
| 12 | B | 321 | U | O3'-P | -5.79 | 1.54 | 1.61 |
| 12 | B | 331 | C | C1'-N1 | 5.79 | 1.57 | 1.48 |
| 12 | B | 868 | U | C4-O4 | -5.79 | 1.19 | 1.23 |
| 12 | B | 1706 | C | O3'-P | -5.79 | 1.54 | 1.61 |
| 12 | B | 2545 | G | N1-C2 | 5.79 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 208 | C | C3'-O3' | -5.79 | 1.34 | 1.42 |
| 12 | B | 516 | C | C4-C5 | 5.79 | 1.47 | 1.43 |
| 12 | B | 941 | A | C6-N1 | 5.79 | 1.39 | 1.35 |
| 12 | B | 1417 | C | N1-C2 | 5.79 | 1.46 | 1.40 |
| 12 | B | 1430 | G | N7-C5 | -5.79 | 1.35 | 1.39 |
| 12 | B | 1656 | C | C4-N4 | 5.79 | 1.39 | 1.33 |
| 12 | B | 2453 | A | C6-N6 | 5.79 | 1.38 | 1.33 |
| 12 | B | 1119 | U | C3'-O3' | 5.79 | 1.50 | 1.42 |
| 12 | B | 1689 | A | C5-C4 | 5.79 | 1.42 | 1.38 |
| 12 | B | 574 | A | N9-C4 | -5.79 | 1.34 | 1.37 |
| 12 | B | 1423 | G | C5-C4 | -5.79 | 1.34 | 1.38 |
| 12 | B | 1436 | G | N3-C4 | -5.79 | 1.31 | 1.35 |
| 12 | B | 1643 | G | C2-N3 | 5.79 | 1.37 | 1.32 |
| 12 | B | 1686 | C | N1-C6 | 5.79 | 1.40 | 1.37 |
| 12 | B | 2028 | U | C2-O2 | 5.79 | 1.27 | 1.22 |
| 12 | B | 2058 | A | N3-C4 | 5.79 | 1.38 | 1.34 |
| 12 | B | 2119 | A | C6-N6 | 5.79 | 1.38 | 1.33 |
| 12 | B | 2162 | G | P-O5' | -5.79 | 1.53 | 1.59 |
| 12 | B | 2287 | A | C2'-C1' | -5.79 | 1.47 | 1.53 |
| 12 | B | 2378 | A | C5-C4 | 5.79 | 1.42 | 1.38 |
| 12 | B | 2424 | C | C2'-O2' | -5.79 | 1.34 | 1.41 |
| 12 | B | 2454 | G | O3'-P | -5.79 | 1.54 | 1.61 |
| 12 | B | 345 | A | C2-N3 | 5.78 | 1.38 | 1.33 |
| 12 | B | 934 | U | N3-C4 | 5.78 | 1.43 | 1.38 |
| 12 | B | 961 | C | C4-N4 | 5.78 | 1.39 | 1.33 |
| 12 | B | 1053 | C | C2'-C1' | -5.78 | 1.47 | 1.53 |
| 12 | B | 1308 | A | C6-N6 | 5.78 | 1.38 | 1.33 |
| 12 | B | 1875 | G | C8-N7 | -5.78 | 1.27 | 1.30 |
| 12 | B | 2059 | A | C5-C6 | -5.78 | 1.35 | 1.41 |
| 12 | B | 121 | G | N3-C4 | -5.78 | 1.31 | 1.35 |
| 12 | B | 514 | A | C3'-O3' | 5.78 | 1.50 | 1.42 |
| 12 | B | 2582 | G | N9-C8 | -5.78 | 1.33 | 1.37 |
| 12 | B | 49 | A | C4'-O4' | 5.78 | 1.53 | 1.45 |
| 12 | B | 640 | C | C4-N4 | 5.78 | 1.39 | 1.33 |
| 12 | B | 663 | G | C5-C4 | -5.78 | 1.34 | 1.38 |
| 12 | B | 778 | G | N9-C8 | 5.78 | 1.41 | 1.37 |
| 12 | B | 1196 | C | N3-C4 | 5.78 | 1.38 | 1.33 |
| 12 | B | 2189 | U | C2'-C1' | -5.78 | 1.47 | 1.53 |
| 12 | B | 2223 | G | C8-N7 | 5.78 | 1.34 | 1.30 |
| 12 | B | 2442 | C | C2'-C1' | -5.78 | 1.47 | 1.53 |
| 12 | B | 458 | G | C4'-O4' | -5.78 | 1.38 | 1.45 |
| 12 | B | 639 | U | C4'-C3' | -5.78 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 780 | G | C4'-O4' | -5.78 | 1.38 | 1.45 |
| 12 | B | 1425 | G | C2-N3 | 5.78 | 1.37 | 1.32 |
| 12 | B | 2495 | G | C5'-C4' | 5.78 | 1.58 | 1.51 |
| 22 | L | 84 | LYS | CD-CE | 5.78 | 1.65 | 1.51 |
| 10 | 9 | 278 | ARG | NE-CZ | 5.78 | 1.40 | 1.33 |
| 12 | B | 62 | U | C2-N3 | 5.78 | 1.41 | 1.37 |
| 12 | B | 131 | A | C3'-O3' | -5.78 | 1.34 | 1.42 |
| 12 | B | 261 | G | C3'-O3' | 5.78 | 1.50 | 1.42 |
| 12 | B | 879 | G | N7-C5 | -5.78 | 1.35 | 1.39 |
| 12 | B | 1055 | G | N1-C2 | 5.78 | 1.42 | 1.37 |
| 12 | B | 1959 | G | N3-C4 | 5.78 | 1.39 | 1.35 |
| 12 | B | 2331 | G | N9-C8 | 5.78 | 1.41 | 1.37 |
| 12 | B | 2444 | G | N9-C8 | 5.78 | 1.41 | 1.37 |
| 2 | 1 | 62 | GLY | CA-C | -5.78 | 1.42 | 1.51 |
| 12 | B | 307 | G | C6-O6 | 5.78 | 1.29 | 1.24 |
| 12 | B | 339 | U | C2-N3 | 5.78 | 1.41 | 1.37 |
| 12 | B | 439 | A | C5-C6 | -5.78 | 1.35 | 1.41 |
| 12 | B | 641 | U | N3-C4 | 5.78 | 1.43 | 1.38 |
| 12 | B | 726 | G | C6-N1 | 5.78 | 1.43 | 1.39 |
| 12 | B | 958 | U | C2'-C1' | -5.78 | 1.47 | 1.53 |
| 12 | B | 1059 | G | N9-C8 | -5.78 | 1.33 | 1.37 |
| 12 | B | 1104 | C | C2-N3 | 5.78 | 1.40 | 1.35 |
| 12 | B | 1411 | U | C4'-C3' | 5.78 | 1.59 | 1.53 |
| 12 | B | 1413 | A | C4'-C3' | 5.78 | 1.59 | 1.53 |
| 12 | B | 1989 | G | C8-N7 | 5.78 | 1.34 | 1.30 |
| 12 | B | 2893 | A | C4'-C3' | 5.78 | 1.59 | 1.53 |
| 12 | B | 206 | U | C4-O4 | 5.77 | 1.28 | 1.23 |
| 12 | B | 2040 | G | C2-N2 | 5.77 | 1.40 | 1.34 |
| 12 | B | 2702 | G | P-O5' | -5.77 | 1.53 | 1.59 |
| 12 | B | 2819 | G | C2-N3 | 5.77 | 1.37 | 1.32 |
| 12 | B | 166 | U | C3'-O3' | 5.77 | 1.50 | 1.42 |
| 12 | B | 408 | G | C4'-O4' | 5.77 | 1.53 | 1.45 |
| 12 | B | 770 | G | N7-C5 | -5.77 | 1.35 | 1.39 |
| 12 | B | 2326 | C | N3-C4 | 5.77 | 1.38 | 1.33 |
| 12 | B | 2465 | C | C3'-O3' | 5.77 | 1.50 | 1.42 |
| 12 | B | 2544 | G | P-O5' | -5.77 | 1.53 | 1.59 |
| 12 | B | 2551 | C | P-O5' | -5.77 | 1.53 | 1.59 |
| 12 | B | 2778 | A | C6-N6 | 5.77 | 1.38 | 1.33 |
| 18 | H | 97 | ARG | CZ-NH1 | 5.77 | 1.40 | 1.33 |
| 20 | J | 4 | PHE | CB-CG | 5.77 | 1.61 | 1.51 |
| 12 | B | 456 | C | C4'-C3' | -5.77 | 1.46 | 1.52 |
| 12 | B | 2722 | G | N9-C4 | -5.77 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 186 | G | O4'-C1' | -5.77 | 1.34 | 1.41 |
| 12 | B | 326 | G | N1-C2 | 5.77 | 1.42 | 1.37 |
| 12 | B | 1099 | G | N1-C2 | 5.77 | 1.42 | 1.37 |
| 12 | B | 1977 | A | C6-N6 | 5.77 | 1.38 | 1.33 |
| 12 | B | 413 | C | C4-N4 | 5.77 | 1.39 | 1.33 |
| 12 | B | 1290 | C | P-O5' | -5.77 | 1.53 | 1.59 |
| 12 | B | 1520 | U | C5'-C4' | 5.77 | 1.58 | 1.51 |
| 12 | B | 1530 | G | C4'-C3' | -5.77 | 1.46 | 1.52 |
| 12 | B | 1692 | U | C4-C5 | -5.77 | 1.38 | 1.43 |
| 12 | B | 2020 | A | P-O5' | -5.77 | 1.53 | 1.59 |
| 12 | B | 2022 | U | C5'-C4' | 5.77 | 1.58 | 1.51 |
| 27 | Q | 35 | PHE | CB-CG | 5.77 | 1.61 | 1.51 |
| 12 | B | 53 | A | C6-N1 | 5.77 | 1.39 | 1.35 |
| 12 | B | 1488 | C | C3'-O3' | 5.77 | 1.50 | 1.42 |
| 11 | A | 63 | C | C4-N4 | 5.76 | 1.39 | 1.33 |
| 12 | B | 60 | G | N7-C5 | -5.76 | 1.35 | 1.39 |
| 12 | B | 2102 | G | C8-N7 | 5.76 | 1.34 | 1.30 |
| 12 | B | 2124 | G | N7-C5 | -5.76 | 1.35 | 1.39 |
| 12 | B | 2224 | G | N1-C2 | 5.76 | 1.42 | 1.37 |
| 12 | B | 2486 | C | C4-N4 | 5.76 | 1.39 | 1.33 |
| 18 | H | 50 | ARG | CZ-NH1 | 5.76 | 1.40 | 1.33 |
| 12 | B | 1038 | G | O3'-P | -5.76 | 1.54 | 1.61 |
| 12 | B | 309 | A | C4'-O4' | -5.76 | 1.38 | 1.45 |
| 12 | B | 450 | G | C5-C4 | -5.76 | 1.34 | 1.38 |
| 12 | B | 520 | G | C2-N3 | 5.76 | 1.37 | 1.32 |
| 12 | B | 603 | A | C2'-C1' | -5.76 | 1.47 | 1.53 |
| 12 | B | 812 | C | C5-C6 | 5.76 | 1.39 | 1.34 |
| 12 | B | 878 | A | P-O5' | -5.76 | 1.53 | 1.59 |
| 12 | B | 1482 | G | N7-C5 | 5.76 | 1.42 | 1.39 |
| 12 | B | 1884 | G | C4'-O4' | -5.76 | 1.38 | 1.45 |
| 12 | B | 2010 | G | N1-C2 | 5.76 | 1.42 | 1.37 |
| 12 | B | 2171 | A | N3-C4 | -5.76 | 1.31 | 1.34 |
| 12 | B | 2400 | G | C5-C6 | -5.76 | 1.36 | 1.42 |
| 12 | B | 2700 | A | C6-N1 | 5.76 | 1.39 | 1.35 |
| 12 | B | 2843 | G | C4'-C3' | -5.76 | 1.46 | 1.52 |
| 11 | A | 40 | U | C4'-C3' | 5.76 | 1.59 | 1.53 |
| 11 | A | 61 | G | C5-C6 | -5.76 | 1.36 | 1.42 |
| 12 | B | 226 | A | N9-C8 | -5.76 | 1.33 | 1.37 |
| 12 | B | 311 | A | N9-C4 | 5.76 | 1.41 | 1.37 |
| 12 | B | 1256 | G | C5-C4 | 5.76 | 1.42 | 1.38 |
| 12 | B | 1511 | G | C5-C6 | -5.76 | 1.36 | 1.42 |
| 12 | B | 2205 | A | C4'-C3' | 5.76 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 853 | C | N3-C4 | 5.76 | 1.38 | 1.33 |
| 12 | B | 1583 | A | C6-N1 | 5.76 | 1.39 | 1.35 |
| 12 | B | 2291 | U | P-O5' | -5.76 | 1.53 | 1.59 |
| 25 | O | 10 | ARG | NE-CZ | 5.76 | 1.40 | 1.33 |
| 12 | B | 270 | A | C6-N1 | 5.76 | 1.39 | 1.35 |
| 12 | B | 724 | U | C3'-C2' | -5.76 | 1.46 | 1.52 |
| 12 | B | 785 | G | C5-C4 | 5.76 | 1.42 | 1.38 |
| 12 | B | 1336 | A | N3-C4 | -5.76 | 1.31 | 1.34 |
| 12 | B | 1877 | A | C5-C4 | -5.76 | 1.34 | 1.38 |
| 12 | B | 1790 | C | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 12 | B | 2115 | G | C8-N7 | -5.75 | 1.27 | 1.30 |
| 12 | B | 180 | G | N9-C4 | 5.75 | 1.42 | 1.38 |
| 12 | B | 872 | U | P-O5' | -5.75 | 1.53 | 1.59 |
| 12 | B | 1382 | G | C6-O6 | 5.75 | 1.29 | 1.24 |
| 12 | B | 1642 | G | C2-N3 | 5.75 | 1.37 | 1.32 |
| 12 | B | 1754 | A | N3-C4 | -5.75 | 1.31 | 1.34 |
| 12 | B | 2011 | U | C4-O4 | 5.75 | 1.28 | 1.23 |
| 12 | B | 2857 | G | N1-C2 | 5.75 | 1.42 | 1.37 |
| 12 | B | 777 | G | C5-C6 | -5.75 | 1.36 | 1.42 |
| 12 | B | 1484 | U | P-O5' | -5.75 | 1.53 | 1.59 |
| 12 | B | 1523 | U | C2-N3 | 5.75 | 1.41 | 1.37 |
| 12 | B | 1687 | G | N1-C2 | 5.75 | 1.42 | 1.37 |
| 12 | B | 2897 | U | O4'-C1' | 5.75 | 1.49 | 1.41 |
| 31 | U | 93 | ARG | CD-NE | 5.75 | 1.56 | 1.46 |
| 12 | B | 54 | G | C2'-C1' | -5.75 | 1.47 | 1.53 |
| 11 | A | 118 | C | C4-N4 | 5.75 | 1.39 | 1.33 |
| 12 | B | 492 | A | C5-C6 | -5.75 | 1.35 | 1.41 |
| 12 | B | 1029 | A | O3'-P | -5.75 | 1.54 | 1.61 |
| 12 | B | 1071 | G | C6-N1 | 5.75 | 1.43 | 1.39 |
| 12 | B | 2555 | U | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 12 | B | 2740 | A | C3'-O3' | 5.75 | 1.50 | 1.42 |
| 11 | A | 47 | C | C4-N4 | 5.75 | 1.39 | 1.33 |
| 11 | A | 83 | G | C5-C4 | -5.75 | 1.34 | 1.38 |
| 12 | B | 1588 | G | N9-C4 | -5.75 | 1.33 | 1.38 |
| 12 | B | 2478 | A | O3'-P | -5.75 | 1.54 | 1.61 |
| 12 | B | 2750 | A | C2'-C1' | -5.75 | 1.47 | 1.53 |
| 12 | B | 68 | G | N7-C5 | -5.75 | 1.35 | 1.39 |
| 12 | B | 69 | C | C4-N4 | 5.75 | 1.39 | 1.33 |
| 12 | B | 1908 | C | C4-N4 | 5.75 | 1.39 | 1.33 |
| 12 | B | 2456 | C | N3-C4 | 5.75 | 1.38 | 1.33 |
| 12 | B | 1264 | A | N3-C4 | -5.74 | 1.31 | 1.34 |
| 12 | B | 1380 | G | C2-N3 | 5.74 | 1.37 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1458 | U | N3-C4 | 5.74 | 1.43 | 1.38 |
| 12 | B | 1549 | A | C6-N1 | 5.74 | 1.39 | 1.35 |
| 12 | B | 2114 | A | C6-N1 | 5.74 | 1.39 | 1.35 |
| 12 | B | 2386 | A | C3'-C2' | -5.74 | 1.46 | 1.52 |
| 12 | B | 2452 | C | C4-N4 | 5.74 | 1.39 | 1.33 |
| 12 | B | 2436 | G | C5-C4 | 5.74 | 1.42 | 1.38 |
| 29 | S | 95 | ARG | CD-NE | 5.74 | 1.56 | 1.46 |
| 12 | B | 31 | C | O4'-C1' | 5.74 | 1.49 | 1.41 |
| 12 | B | 103 | A | N7-C5 | -5.74 | 1.35 | 1.39 |
| 12 | B | 242 | G | C5-C4 | 5.74 | 1.42 | 1.38 |
| 12 | B | 304 | U | C2-O2 | 5.74 | 1.27 | 1.22 |
| 12 | B | 338 | G | N9-C8 | -5.74 | 1.33 | 1.37 |
| 12 | B | 993 | G | C3'-O3' | 5.74 | 1.50 | 1.42 |
| 12 | B | 1192 | G | C5'-C4' | 5.74 | 1.58 | 1.51 |
| 12 | B | 1204 | A | N9-C8 | -5.74 | 1.33 | 1.37 |
| 12 | B | 2534 | A | N9-C8 | -5.74 | 1.33 | 1.37 |
| 12 | B | 740 | C | C4-N4 | 5.74 | 1.39 | 1.33 |
| 12 | B | 1163 | G | N3-C4 | -5.74 | 1.31 | 1.35 |
| 12 | B | 2116 | G | O3'-P | -5.74 | 1.54 | 1.61 |
| 12 | B | 2331 | G | N9-C4 | 5.74 | 1.42 | 1.38 |
| 12 | B | 2413 | G | C5'-C4' | 5.74 | 1.58 | 1.51 |
| 12 | B | 2598 | A | N1-C2 | 5.74 | 1.39 | 1.34 |
| 16 | F | 82 | TYR | CE1-CZ | 5.74 | 1.46 | 1.38 |
| 12 | B | 868 | U | P-O5' | -5.74 | 1.54 | 1.59 |
| 12 | B | 1486 | U | C4-C5 | 5.74 | 1.48 | 1.43 |
| 12 | B | 1961 | C | N3-C4 | 5.74 | 1.38 | 1.33 |
| 12 | B | 132 | G | N9-C4 | 5.74 | 1.42 | 1.38 |
| 12 | B | 444 | C | O3'-P | -5.74 | 1.54 | 1.61 |
| 12 | B | 612 | G | O3'-P | -5.74 | 1.54 | 1.61 |
| 12 | B | 1441 | G | C3'-O3' | 5.74 | 1.50 | 1.42 |
| 12 | B | 1463 | C | C5'-C4' | 5.74 | 1.58 | 1.51 |
| 12 | B | 1494 | A | C6-N6 | 5.74 | 1.38 | 1.33 |
| 12 | B | 2337 | G | C2'-C1' | -5.74 | 1.47 | 1.53 |
| 12 | B | 2470 | G | P-O5' | -5.74 | 1.54 | 1.59 |
| 12 | B | 2519 | U | N3-C4 | 5.74 | 1.43 | 1.38 |
| 12 | B | 332 | A | C5'-C4' | 5.73 | 1.58 | 1.51 |
| 12 | B | 435 | C | C4-N4 | 5.73 | 1.39 | 1.33 |
| 12 | B | 988 | A | N1-C2 | 5.73 | 1.39 | 1.34 |
| 12 | B | 2576 | G | C4'-O4' | 5.73 | 1.53 | 1.45 |
| 12 | B | 2597 | G | C2-N3 | 5.73 | 1.37 | 1.32 |
| 12 | B | 38 | A | C3'-O3' | -5.73 | 1.34 | 1.42 |
| 12 | B | 552 | U | C2-N3 | 5.73 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1025 | G | C8-N7 | -5.73 | 1.27 | 1.30 |
| 12 | B | 1259 | G | C2'-C1' | -5.73 | 1.47 | 1.53 |
| 12 | B | 1883 | U | C3'-C2' | -5.73 | 1.46 | 1.52 |
| 12 | B | 2066 | C | C3'-C2' | -5.73 | 1.46 | 1.52 |
| 12 | B | 2090 | A | P-O5' | -5.73 | 1.54 | 1.59 |
| 12 | B | 2141 | G | C2-N3 | 5.73 | 1.37 | 1.32 |
| 12 | B | 2477 | U | C2-O2 | 5.73 | 1.27 | 1.22 |
| 12 | B | 2715 | C | N1-C6 | 5.73 | 1.40 | 1.37 |
| 12 | B | 296 | U | C4-C5 | -5.73 | 1.38 | 1.43 |
| 12 | B | 778 | G | O3'-P | -5.73 | 1.54 | 1.61 |
| 12 | B | 1381 | G | C5'-C4' | 5.73 | 1.58 | 1.51 |
| 12 | B | 2450 | A | N9-C8 | -5.73 | 1.33 | 1.37 |
| 14 | D | 80 | TRP | NE1-CE2 | 5.73 | 1.45 | 1.37 |
| 12 | B | 39 | G | N3-C4 | -5.73 | 1.31 | 1.35 |
| 12 | B | 377 | G | C5-C4 | 5.73 | 1.42 | 1.38 |
| 12 | B | 400 | G | C8-N7 | -5.73 | 1.27 | 1.30 |
| 12 | B | 789 | A | C5-C4 | 5.73 | 1.42 | 1.38 |
| 12 | B | 1675 | C | N3-C4 | -5.73 | 1.29 | 1.33 |
| 12 | B | 2892 | G | C2'-C1' | -5.73 | 1.47 | 1.53 |
| 16 | F | 91 | ARG | CZ-NH1 | 5.73 | 1.40 | 1.33 |
| 12 | B | 241 | A | N7-C5 | -5.73 | 1.35 | 1.39 |
| 12 | B | 960 | A | C8-N7 | -5.73 | 1.27 | 1.31 |
| 12 | B | 1319 | C | N3-C4 | 5.73 | 1.38 | 1.33 |
| 12 | B | 1470 | A | C4'-O4' | -5.73 | 1.38 | 1.45 |
| 12 | B | 1470 | A | C5-C4 | 5.73 | 1.42 | 1.38 |
| 12 | B | 2375 | G | N9-C8 | 5.73 | 1.41 | 1.37 |
| 12 | B | 2453 | A | N7-C5 | -5.73 | 1.35 | 1.39 |
| 12 | B | 2658 | C | C5-C6 | -5.73 | 1.29 | 1.34 |
| 11 | A | 106 | G | N9-C4 | -5.73 | 1.33 | 1.38 |
| 12 | B | 775 | G | C2'-C1' | -5.73 | 1.47 | 1.53 |
| 10 | 9 | 228 | GLY | CA-C | -5.72 | 1.42 | 1.51 |
| 12 | B | 108 | G | N3-C4 | -5.72 | 1.31 | 1.35 |
| 12 | B | 315 | G | C5-C6 | -5.72 | 1.36 | 1.42 |
| 12 | B | 380 | G | P-O5' | -5.72 | 1.54 | 1.59 |
| 12 | B | 392 | U | C4'-C3' | -5.72 | 1.46 | 1.52 |
| 12 | B | 1949 | G | C5'-C4' | 5.72 | 1.58 | 1.51 |
| 12 | B | 2303 | G | N9-C8 | 5.72 | 1.41 | 1.37 |
| 12 | B | 2366 | A | C4'-C3' | -5.72 | 1.46 | 1.52 |
| 12 | B | 2617 | U | C2-N3 | 5.72 | 1.41 | 1.37 |
| 12 | B | 382 | A | C8-N7 | 5.72 | 1.35 | 1.31 |
| 12 | B | 2023 | C | C2'-C1' | -5.72 | 1.47 | 1.53 |
| 12 | B | 2638 | G | C5'-C4' | 5.72 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2796 | U | O3'-P | -5.72 | 1.54 | 1.61 |
| 12 | B | 1597 | A | C5-C4 | -5.72 | 1.34 | 1.38 |
| 12 | B | 2387 | U | N3-C4 | 5.72 | 1.43 | 1.38 |
| 12 | B | 2751 | G | N7-C5 | 5.72 | 1.42 | 1.39 |
| 12 | B | 2753 | A | C5'-C4' | 5.72 | 1.58 | 1.51 |
| 12 | B | 2805 | C | C4-C5 | 5.72 | 1.47 | 1.43 |
| 12 | B | 497 | A | C8-N7 | -5.72 | 1.27 | 1.31 |
| 12 | B | 571 | U | C2'-C1' | -5.72 | 1.47 | 1.53 |
| 12 | B | 1455 | G | C2'-O2' | 5.72 | 1.49 | 1.41 |
| 12 | B | 1478 | G | O3'-P | -5.72 | 1.54 | 1.61 |
| 12 | B | 1899 | A | O3'-P | -5.72 | 1.54 | 1.61 |
| 12 | B | 2020 | A | O3'-P | 5.72 | 1.68 | 1.61 |
| 12 | B | 2393 | U | C4'-O4' | 5.72 | 1.52 | 1.45 |
| 12 | B | 592 | A | P-O5' | -5.72 | 1.54 | 1.59 |
| 12 | B | 1036 | G | O3'-P | -5.72 | 1.54 | 1.61 |
| 12 | B | 1063 | G | N9-C4 | 5.72 | 1.42 | 1.38 |
| 12 | B | 1339 | G | N1-C2 | 5.72 | 1.42 | 1.37 |
| 11 | A | 34 | A | P-O5' | 5.72 | 1.65 | 1.59 |
| 11 | A | 59 | A | C2-N3 | 5.72 | 1.38 | 1.33 |
| 12 | B | 861 | A | C2-N3 | -5.72 | 1.28 | 1.33 |
| 12 | B | 1312 | U | C4-C5 | -5.72 | 1.38 | 1.43 |
| 12 | B | 1503 | A | N9-C4 | -5.72 | 1.34 | 1.37 |
| 12 | B | 2524 | G | N9-C4 | 5.72 | 1.42 | 1.38 |
| 12 | B | 2141 | G | C6-O6 | -5.71 | 1.19 | 1.24 |
| 12 | B | 2478 | A | N3-C4 | -5.71 | 1.31 | 1.34 |
| 12 | B | 2759 | G | C8-N7 | -5.71 | 1.27 | 1.30 |
| 12 | B | 1731 | G | O4'-C1' | 5.71 | 1.49 | 1.41 |
| 12 | B | 2298 | A | C4'-C3' | 5.71 | 1.59 | 1.53 |
| 12 | B | 84 | A | C5-C4 | -5.71 | 1.34 | 1.38 |
| 12 | B | 665 | U | C4-C5 | 5.71 | 1.48 | 1.43 |
| 12 | B | 1248 | G | C2'-C1' | -5.71 | 1.47 | 1.53 |
| 12 | B | 1293 | C | C1'-N1 | 5.71 | 1.57 | 1.48 |
| 12 | B | 1811 | G | N3-C4 | -5.71 | 1.31 | 1.35 |
| 12 | B | 2238 | G | N1-C2 | 5.71 | 1.42 | 1.37 |
| 12 | B | 2391 | G | C6-N1 | 5.71 | 1.43 | 1.39 |
| 12 | B | 2077 | A | N7-C5 | -5.71 | 1.35 | 1.39 |
| 12 | B | 2173 | A | C2'-C1' | -5.71 | 1.47 | 1.53 |
| 11 | A | 34 | A | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 12 | B | 1123 | C | C5-C6 | -5.71 | 1.29 | 1.34 |
| 12 | B | 1374 | G | N1-C2 | 5.71 | 1.42 | 1.37 |
| 12 | B | 1376 | C | C2'-C1' | -5.71 | 1.47 | 1.53 |
| 12 | B | 1814 | G | C2-N2 | 5.71 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1945 | G | C1'-N9 | 5.71 | 1.57 | 1.48 |
| 12 | B | 2181 | U | C4-C5 | 5.71 | 1.48 | 1.43 |
| 12 | B | 2829 | A | C8-N7 | 5.71 | 1.35 | 1.31 |
| 12 | B | 208 | C | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 12 | B | 622 | G | C2-N2 | 5.71 | 1.40 | 1.34 |
| 12 | B | 1493 | C | N3-C4 | 5.71 | 1.38 | 1.33 |
| 12 | B | 1703 | G | N3-C4 | 5.71 | 1.39 | 1.35 |
| 12 | B | 2184 | A | N3-C4 | -5.71 | 1.31 | 1.34 |
| 12 | B | 597 | G | C6-N1 | 5.70 | 1.43 | 1.39 |
| 12 | B | 1228 | G | N1-C2 | 5.70 | 1.42 | 1.37 |
| 12 | B | 1583 | A | C8-N7 | 5.70 | 1.35 | 1.31 |
| 12 | B | 2544 | G | C5'-C4' | 5.70 | 1.58 | 1.51 |
| 12 | B | 1703 | G | P-O5' | -5.70 | 1.54 | 1.59 |
| 12 | B | 2657 | A | N9-C4 | -5.70 | 1.34 | 1.37 |
| 12 | B | 449 | A | C6-N6 | 5.70 | 1.38 | 1.33 |
| 12 | B | 2454 | G | O4'-C1' | 5.70 | 1.49 | 1.41 |
| 12 | B | 2577 | A | C2'-O2' | 5.70 | 1.49 | 1.41 |
| 12 | B | 2736 | A | N3-C4 | -5.70 | 1.31 | 1.34 |
| 12 | B | 2737 | G | O4'-C1' | 5.70 | 1.49 | 1.41 |
| 12 | B | 237 | C | N3-C4 | 5.70 | 1.38 | 1.33 |
| 12 | B | 1399 | C | C2'-O2' | -5.70 | 1.34 | 1.41 |
| 12 | B | 1923 | U | C4'-C3' | 5.70 | 1.59 | 1.53 |
| 12 | B | 2253 | G | O3'-P | -5.70 | 1.54 | 1.61 |
| 12 | B | 2325 | G | C6-N1 | 5.70 | 1.43 | 1.39 |
| 12 | B | 1898 | U | P-O5' | -5.70 | 1.54 | 1.59 |
| 13 | C | 216 | ARG | CZ-NH2 | 5.70 | 1.40 | 1.33 |
| 12 | B | 163 | C | C4-C5 | 5.70 | 1.47 | 1.43 |
| 12 | B | 208 | C | C3'-C2' | 5.70 | 1.59 | 1.52 |
| 12 | B | 457 | A | N9-C8 | 5.70 | 1.42 | 1.37 |
| 12 | B | 614 | A | N3-C4 | -5.70 | 1.31 | 1.34 |
| 12 | B | 725 | G | C2-N2 | 5.70 | 1.40 | 1.34 |
| 12 | B | 2429 | G | N1-C2 | 5.70 | 1.42 | 1.37 |
| 12 | B | 2512 | C | P-O5' | 5.70 | 1.65 | 1.59 |
| 15 | E | 155 | GLU | N-CA | -5.70 | 1.34 | 1.46 |
| 12 | B | 473 | G | N1-C2 | 5.69 | 1.42 | 1.37 |
| 12 | B | 729 | G | C2-N3 | 5.69 | 1.37 | 1.32 |
| 12 | B | 1090 | A | N7-C5 | -5.69 | 1.35 | 1.39 |
| 12 | B | 254 | G | P-O5' | -5.69 | 1.54 | 1.59 |
| 12 | B | 514 | A | N9-C4 | 5.69 | 1.41 | 1.37 |
| 12 | B | 748 | G | C1'-N9 | -5.69 | 1.38 | 1.46 |
| 12 | B | 851 | C | C4'-C3' | -5.69 | 1.46 | 1.52 |
| 12 | B | 2107 | G | N3-C4 | 5.69 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2158 | A | C6-N1 | -5.69 | 1.31 | 1.35 |
| 12 | B | 2402 | U | C4-C5 | 5.69 | 1.48 | 1.43 |
| 12 | B | 71 | A | P-OP1 | -5.69 | 1.39 | 1.49 |
| 12 | B | 530 | G | C6-N1 | 5.69 | 1.43 | 1.39 |
| 12 | B | 647 | G | N7-C5 | -5.69 | 1.35 | 1.39 |
| 12 | B | 651 | G | C2'-C1' | -5.69 | 1.47 | 1.53 |
| 12 | B | 915 | C | C4'-C3' | 5.69 | 1.59 | 1.53 |
| 12 | B | 1871 | A | C2-N3 | -5.69 | 1.28 | 1.33 |
| 12 | B | 2166 | U | O4'-C1' | 5.69 | 1.49 | 1.41 |
| 12 | B | 2169 | A | N3-C4 | 5.69 | 1.38 | 1.34 |
| 12 | B | 2294 | G | C2'-C1' | -5.69 | 1.47 | 1.53 |
| 12 | B | 2860 | A | N7-C5 | -5.69 | 1.35 | 1.39 |
| 12 | B | 1281 | G | N9-C4 | -5.69 | 1.33 | 1.38 |
| 12 | B | 1595 | C | N1-C6 | 5.69 | 1.40 | 1.37 |
| 12 | B | 2123 | G | P-O5' | 5.69 | 1.65 | 1.59 |
| 12 | B | 2360 | G | N3-C4 | -5.69 | 1.31 | 1.35 |
| 12 | B | 2771 | C | C5'-C4' | 5.69 | 1.58 | 1.51 |
| 21 | K | 78 | ARG | CZ-NH2 | 5.69 | 1.40 | 1.33 |
| 11 | A | 63 | C | C2'-C1' | -5.69 | 1.47 | 1.53 |
| 12 | B | 73 | A | C4'-O4' | 5.69 | 1.52 | 1.45 |
| 12 | B | 691 | C | C4-N4 | 5.69 | 1.39 | 1.33 |
| 12 | B | 737 | C | O4'-C1' | 5.69 | 1.49 | 1.41 |
| 12 | B | 1608 | A | C2'-C1' | -5.69 | 1.47 | 1.53 |
| 12 | B | 1730 | C | N1-C6 | 5.69 | 1.40 | 1.37 |
| 12 | B | 2611 | C | C2-N3 | 5.69 | 1.40 | 1.35 |
| 12 | B | 977 | G | N1-C2 | 5.69 | 1.42 | 1.37 |
| 12 | B | 1557 | C | C2-N3 | -5.69 | 1.31 | 1.35 |
| 12 | B | 1793 | C | C4'-O4' | -5.69 | 1.38 | 1.45 |
| 11 | A | 40 | U | P-O5' | -5.68 | 1.54 | 1.59 |
| 12 | B | 431 | U | C2'-C1' | -5.68 | 1.47 | 1.53 |
| 12 | B | 910 | A | C4'-C3' | -5.68 | 1.46 | 1.52 |
| 12 | B | 1045 | C | O4'-C1' | -5.68 | 1.34 | 1.41 |
| 12 | B | 1149 | G | C6-N1 | 5.68 | 1.43 | 1.39 |
| 12 | B | 1225 | G | N1-C2 | 5.68 | 1.42 | 1.37 |
| 12 | B | 1950 | G | C2'-C1' | -5.68 | 1.47 | 1.53 |
| 12 | B | 779 | U | C1'-N1 | 5.68 | 1.57 | 1.48 |
| 12 | B | 1133 | A | C2'-O2' | -5.68 | 1.34 | 1.41 |
| 12 | B | 1529 | G | N9-C8 | -5.68 | 1.33 | 1.37 |
| 12 | B | 2209 | G | N9-C8 | 5.68 | 1.41 | 1.37 |
| 12 | B | 2409 | G | N9-C8 | -5.68 | 1.33 | 1.37 |
| 12 | B | 2694 | G | N7-C5 | -5.68 | 1.35 | 1.39 |
| 12 | B | 791 | C | C2-N3 | -5.68 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2007 | U | C4'-C3' | 5.68 | 1.59 | 1.53 |
| 12 | B | 2327 | A | O3'-P | -5.68 | 1.54 | 1.61 |
| 12 | B | 2398 | U | C4-C5 | 5.68 | 1.48 | 1.43 |
| 12 | B | 568 | U | N1-C6 | 5.68 | 1.43 | 1.38 |
| 12 | B | 682 | G | C4'-C3' | 5.68 | 1.59 | 1.53 |
| 12 | B | 1275 | A | N7-C5 | -5.68 | 1.35 | 1.39 |
| 12 | B | 2137 | U | C4'-C3' | 5.68 | 1.59 | 1.53 |
| 12 | B | 2814 | A | N3-C4 | 5.68 | 1.38 | 1.34 |
| 11 | A | 23 | G | C1'-N9 | 5.68 | 1.57 | 1.48 |
| 12 | B | 4 | U | C2-N3 | 5.68 | 1.41 | 1.37 |
| 12 | B | 217 | A | N9-C8 | -5.68 | 1.33 | 1.37 |
| 12 | B | 468 | G | C5-C6 | -5.68 | 1.36 | 1.42 |
| 12 | B | 734 | A | N7-C5 | -5.68 | 1.35 | 1.39 |
| 12 | B | 2580 | U | O3'-P | -5.68 | 1.54 | 1.61 |
| 12 | B | 2903 | U | C2-O2 | 5.68 | 1.27 | 1.22 |
| 12 | B | 287 | G | N9-C8 | 5.68 | 1.41 | 1.37 |
| 12 | B | 1087 | G | C3'-O3' | 5.68 | 1.50 | 1.42 |
| 12 | B | 2454 | G | N7-C5 | -5.68 | 1.35 | 1.39 |
| 12 | B | 1318 | U | N1-C2 | 5.67 | 1.43 | 1.38 |
| 12 | B | 1326 | U | C4-C5 | 5.67 | 1.48 | 1.43 |
| 12 | B | 1425 | G | O3'-P | -5.67 | 1.54 | 1.61 |
| 12 | B | 1653 | G | C3'-C2' | 5.67 | 1.59 | 1.52 |
| 12 | B | 1742 | U | O3'-P | -5.67 | 1.54 | 1.61 |
| 12 | B | 1860 | G | C2-N2 | 5.67 | 1.40 | 1.34 |
| 12 | B | 2432 | A | C5-C6 | -5.67 | 1.35 | 1.41 |
| 12 | B | 2736 | A | C5-C6 | -5.67 | 1.35 | 1.41 |
| 12 | B | 2837 | A | C5-C6 | 5.67 | 1.46 | 1.41 |
| 13 | C | 101 | ARG | CZ-NH1 | 5.67 | 1.40 | 1.33 |
| 32 | W | 56 | PHE | CG-CD1 | 5.67 | 1.47 | 1.38 |
| 12 | B | 1144 | A | C8-N7 | -5.67 | 1.27 | 1.31 |
| 12 | B | 2726 | A | N9-C4 | 5.67 | 1.41 | 1.37 |
| 12 | B | 566 | U | C4'-O4' | 5.67 | 1.52 | 1.45 |
| 12 | B | 820 | A | N9-C8 | 5.67 | 1.42 | 1.37 |
| 12 | B | 829 | A | N9-C4 | -5.67 | 1.34 | 1.37 |
| 12 | B | 896 | A | C8-N7 | -5.67 | 1.27 | 1.31 |
| 12 | B | 1669 | A | C8-N7 | -5.67 | 1.27 | 1.31 |
| 11 | A | 105 | G | N7-C5 | -5.67 | 1.35 | 1.39 |
| 12 | B | 389 | G | C2-N3 | 5.67 | 1.37 | 1.32 |
| 12 | B | 676 | A | P-O5' | -5.67 | 1.54 | 1.59 |
| 12 | B | 825 | A | N1-C2 | 5.67 | 1.39 | 1.34 |
| 28 | R | 80 | ARG | CZ-NH1 | 5.67 | 1.40 | 1.33 |
| 12 | B | 769 | U | C5-C6 | -5.67 | 1.29 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 858 | G | C4'-C3' | 5.67 | 1.59 | 1.53 |
| 12 | B | 1042 | G | P-O5' | -5.67 | 1.54 | 1.59 |
| 12 | B | 1104 | C | O4'-C1' | 5.67 | 1.49 | 1.41 |
| 12 | B | 1295 | C | C2'-C1' | -5.67 | 1.47 | 1.53 |
| 12 | B | 1301 | A | P-O5' | 5.67 | 1.65 | 1.59 |
| 12 | B | 1556 | C | C4-C5 | -5.67 | 1.38 | 1.43 |
| 12 | B | 2305 | U | C5'-C4' | 5.67 | 1.58 | 1.51 |
| 12 | B | 2339 | C | O3'-P | -5.67 | 1.54 | 1.61 |
| 12 | B | 2515 | C | C5-C6 | -5.67 | 1.29 | 1.34 |
| 12 | B | 2534 | A | N7-C5 | -5.67 | 1.35 | 1.39 |
| 12 | B | 2618 | G | N7-C5 | 5.67 | 1.42 | 1.39 |
| 12 | B | 2786 | U | P-O5' | -5.67 | 1.54 | 1.59 |
| 12 | B | 245 | G | N3-C4 | 5.67 | 1.39 | 1.35 |
| 12 | B | 610 | C | C1'-N1 | 5.67 | 1.57 | 1.48 |
| 12 | B | 1132 | U | C4-C5 | 5.67 | 1.48 | 1.43 |
| 12 | B | 1638 | C | N1-C6 | -5.67 | 1.33 | 1.37 |
| 12 | B | 2160 | C | C4-N4 | 5.67 | 1.39 | 1.33 |
| 12 | B | 2237 | G | N3-C4 | 5.67 | 1.39 | 1.35 |
| 12 | B | 2677 | G | C2-N3 | -5.67 | 1.28 | 1.32 |
| 12 | B | 1275 | A | C4'-O4' | -5.67 | 1.38 | 1.45 |
| 12 | B | 1677 | A | C4'-C3' | -5.67 | 1.46 | 1.52 |
| 12 | B | 2739 | U | N1-C2 | 5.67 | 1.43 | 1.38 |
| 12 | B | 485 | C | N3-C4 | 5.66 | 1.38 | 1.33 |
| 12 | B | 768 | G | P-O5' | -5.66 | 1.54 | 1.59 |
| 12 | B | 788 | A | O3'-P | -5.66 | 1.54 | 1.61 |
| 12 | B | 1051 | G | C5-C4 | -5.66 | 1.34 | 1.38 |
| 12 | B | 1077 | A | C5-C4 | 5.66 | 1.42 | 1.38 |
| 12 | B | 1265 | A | O3'-P | -5.66 | 1.54 | 1.61 |
| 12 | B | 1690 | A | N3-C4 | 5.66 | 1.38 | 1.34 |
| 12 | B | 2759 | G | N3-C4 | -5.66 | 1.31 | 1.35 |
| 12 | B | 74 | A | C8-N7 | -5.66 | 1.27 | 1.31 |
| 12 | B | 285 | G | N1-C2 | 5.66 | 1.42 | 1.37 |
| 12 | B | 480 | A | O3'-P | -5.66 | 1.54 | 1.61 |
| 12 | B | 921 | C | C4-C5 | 5.66 | 1.47 | 1.43 |
| 12 | B | 1178 | C | C3'-C2' | -5.66 | 1.46 | 1.52 |
| 11 | A | 52 | A | O4'-C1' | -5.66 | 1.34 | 1.41 |
| 11 | A | 67 | G | N1-C2 | 5.66 | 1.42 | 1.37 |
| 12 | B | 73 | A | C6-N6 | 5.66 | 1.38 | 1.33 |
| 12 | B | 432 | A | C5-C6 | -5.66 | 1.35 | 1.41 |
| 12 | B | 690 | G | C5-C4 | 5.66 | 1.42 | 1.38 |
| 12 | B | 1068 | G | N9-C8 | 5.66 | 1.41 | 1.37 |
| 12 | B | 1112 | G | C3'-C2' | -5.66 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1269 | A | C6-N1 | 5.66 | 1.39 | 1.35 |
| 12 | B | 1612 | C | O3'-P | -5.66 | 1.54 | 1.61 |
| 12 | B | 1773 | A | C4'-O4' | 5.66 | 1.52 | 1.45 |
| 12 | B | 2081 | U | C2-N3 | 5.66 | 1.41 | 1.37 |
| 12 | B | 1022 | G | N3-C4 | -5.66 | 1.31 | 1.35 |
| 12 | B | 1210 | G | N1-C2 | 5.66 | 1.42 | 1.37 |
| 12 | B | 1357 | C | C4-N4 | 5.66 | 1.39 | 1.33 |
| 12 | B | 2235 | G | N9-C4 | -5.66 | 1.33 | 1.38 |
| 12 | B | 625 | G | C4'-C3' | -5.66 | 1.46 | 1.52 |
| 12 | B | 1238 | G | C6-N1 | 5.66 | 1.43 | 1.39 |
| 12 | B | 2594 | C | C1'-N1 | 5.66 | 1.57 | 1.48 |
| 12 | B | 1004 | U | C5'-C4' | 5.66 | 1.58 | 1.51 |
| 12 | B | 1269 | A | C5-C4 | 5.66 | 1.42 | 1.38 |
| 12 | B | 1531 | C | C5'-C4' | 5.66 | 1.58 | 1.51 |
| 12 | B | 2336 | A | C6-N6 | 5.66 | 1.38 | 1.33 |
| 12 | B | 2686 | G | C2-N2 | 5.66 | 1.40 | 1.34 |
| 12 | B | 2475 | C | N1-C6 | 5.65 | 1.40 | 1.37 |
| 12 | B | 504 | A | N7-C5 | -5.65 | 1.35 | 1.39 |
| 12 | B | 574 | A | C6-N1 | 5.65 | 1.39 | 1.35 |
| 12 | B | 1229 | C | C5-C6 | -5.65 | 1.29 | 1.34 |
| 12 | B | 1799 | G | N9-C8 | 5.65 | 1.41 | 1.37 |
| 12 | B | 2767 | C | C4-N4 | 5.65 | 1.39 | 1.33 |
| 12 | B | 377 | G | N7-C5 | -5.65 | 1.35 | 1.39 |
| 12 | B | 479 | A | C5-C4 | -5.65 | 1.34 | 1.38 |
| 12 | B | 1033 | U | C4'-O4' | -5.65 | 1.38 | 1.45 |
| 12 | B | 1196 | C | C4-C5 | 5.65 | 1.47 | 1.43 |
| 12 | B | 1281 | G | C2-N2 | 5.65 | 1.40 | 1.34 |
| 12 | B | 1583 | A | O3'-P | -5.65 | 1.54 | 1.61 |
| 23 | M | 66 | ARG | CD-NE | 5.65 | 1.56 | 1.46 |
| 11 | A | 39 | A | C5-C4 | -5.65 | 1.34 | 1.38 |
| 12 | B | 140 | C | C4-C5 | -5.65 | 1.38 | 1.43 |
| 12 | B | 171 | U | N3-C4 | 5.65 | 1.43 | 1.38 |
| 12 | B | 446 | G | C5-C4 | 5.65 | 1.42 | 1.38 |
| 12 | B | 1153 | C | C5-C6 | -5.65 | 1.29 | 1.34 |
| 12 | B | 1235 | G | O3'-P | -5.65 | 1.54 | 1.61 |
| 12 | B | 1735 | A | C1'-N9 | 5.65 | 1.57 | 1.48 |
| 12 | B | 2071 | A | C8-N7 | -5.65 | 1.27 | 1.31 |
| 12 | B | 2305 | U | C4-O4 | -5.65 | 1.19 | 1.23 |
| 12 | B | 2387 | U | C2-N3 | 5.65 | 1.41 | 1.37 |
| 12 | B | 2501 | C | C2'-C1' | 5.65 | 1.59 | 1.53 |
| 12 | B | 151 | C | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 12 | B | 377 | G | C5'-C4' | 5.65 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 574 | A | C3'-O3' | 5.65 | 1.50 | 1.42 |
| 12 | B | 1090 | A | C8-N7 | 5.65 | 1.35 | 1.31 |
| 12 | B | 1649 | G | N1-C2 | 5.65 | 1.42 | 1.37 |
| 12 | B | 2265 | U | C1'-N1 | 5.65 | 1.57 | 1.48 |
| 12 | B | 68 | G | N9-C8 | -5.64 | 1.33 | 1.37 |
| 12 | B | 549 | G | C2'-O2' | -5.64 | 1.34 | 1.41 |
| 12 | B | 1736 | U | C4-C5 | -5.64 | 1.38 | 1.43 |
| 12 | B | 1875 | G | C6-N1 | 5.64 | 1.43 | 1.39 |
| 12 | B | 1950 | G | C2-N3 | 5.64 | 1.37 | 1.32 |
| 12 | B | 2239 | G | N7-C5 | -5.64 | 1.35 | 1.39 |
| 12 | B | 2246 | G | O4'-C1' | 5.64 | 1.49 | 1.41 |
| 12 | B | 2573 | C | C3'-O3' | 5.64 | 1.50 | 1.42 |
| 17 | G | 123 | GLU | CD-OE1 | 5.64 | 1.31 | 1.25 |
| 23 | M | 18 | ARG | CZ-NH2 | 5.64 | 1.40 | 1.33 |
| 12 | B | 570 | G | C2'-C1' | -5.64 | 1.47 | 1.53 |
| 12 | B | 902 | C | N3-C4 | 5.64 | 1.38 | 1.33 |
| 12 | B | 1430 | G | N9-C8 | -5.64 | 1.33 | 1.37 |
| 12 | B | 1506 | U | C2-N3 | 5.64 | 1.41 | 1.37 |
| 12 | B | 1598 | A | N1-C2 | 5.64 | 1.39 | 1.34 |
| 12 | B | 2480 | C | O3'-P | -5.64 | 1.54 | 1.61 |
| 12 | B | 212 | G | C2'-C1' | -5.64 | 1.47 | 1.53 |
| 12 | B | 362 | A | C5-C4 | 5.64 | 1.42 | 1.38 |
| 12 | B | 1305 | C | P-O5' | -5.64 | 1.54 | 1.59 |
| 12 | B | 1388 | G | N1-C2 | 5.64 | 1.42 | 1.37 |
| 12 | B | 189 | G | N9-C4 | -5.64 | 1.33 | 1.38 |
| 12 | B | 1015 | U | O5'-C5' | -5.64 | 1.33 | 1.42 |
| 12 | B | 1382 | G | C8-N7 | -5.64 | 1.27 | 1.30 |
| 12 | B | 1571 | A | C3'-C2' | -5.64 | 1.46 | 1.52 |
| 12 | B | 1740 | G | N3-C4 | -5.64 | 1.31 | 1.35 |
| 12 | B | 1774 | C | C4'-C3' | 5.64 | 1.59 | 1.53 |
| 12 | B | 2067 | G | P-O5' | -5.64 | 1.54 | 1.59 |
| 12 | B | 2289 | G | N7-C5 | 5.64 | 1.42 | 1.39 |
| 12 | B | 2700 | A | C2'-C1' | -5.64 | 1.47 | 1.53 |
| 12 | B | 221 | A | C4'-O4' | 5.64 | 1.52 | 1.45 |
| 12 | B | 906 | U | C3'-C2' | -5.64 | 1.46 | 1.52 |
| 12 | B | 1503 | A | C5-C4 | 5.64 | 1.42 | 1.38 |
| 12 | B | 1822 | C | N1-C6 | 5.64 | 1.40 | 1.37 |
| 12 | B | 2023 | C | O4'-C1' | 5.64 | 1.49 | 1.41 |
| 13 | C | 9 | SER | CA-CB | 5.64 | 1.61 | 1.52 |
| 12 | B | 41 | C | C2-N3 | 5.64 | 1.40 | 1.35 |
| 12 | B | 982 | C | C4-C5 | 5.64 | 1.47 | 1.43 |
| 12 | B | 1685 | C | C2-N3 | 5.64 | 1.40 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1839 | G | O3'-P | -5.64 | 1.54 | 1.61 |
| 12 | B | 2177 | C | C4-N4 | 5.64 | 1.39 | 1.33 |
| 12 | B | 2440 | C | N1-C6 | 5.64 | 1.40 | 1.37 |
| 12 | B | 2724 | U | N1-C6 | 5.64 | 1.43 | 1.38 |
| 12 | B | 2819 | G | C8-N7 | -5.64 | 1.27 | 1.30 |
| 12 | B | 795 | C | N3-C4 | 5.63 | 1.37 | 1.33 |
| 12 | B | 852 | U | N3-C4 | 5.63 | 1.43 | 1.38 |
| 12 | B | 1418 | G | N7-C5 | -5.63 | 1.35 | 1.39 |
| 12 | B | 2434 | A | C6-N6 | 5.63 | 1.38 | 1.33 |
| 19 | I | 88 | GLY | CA-C | -5.63 | 1.42 | 1.51 |
| 11 | A | 32 | U | C2'-C1' | -5.63 | 1.47 | 1.53 |
| 12 | B | 863 | A | C5-C4 | 5.63 | 1.42 | 1.38 |
| 12 | B | 1711 | A | N7-C5 | -5.63 | 1.35 | 1.39 |
| 12 | B | 511 | U | C4'-C3' | 5.63 | 1.59 | 1.53 |
| 12 | B | 1584 | U | P-O5' | -5.63 | 1.54 | 1.59 |
| 12 | B | 2097 | A | P-O5' | -5.63 | 1.54 | 1.59 |
| 12 | B | 2740 | A | C6-N6 | -5.63 | 1.29 | 1.33 |
| 12 | B | 2784 | U | N1-C6 | 5.63 | 1.43 | 1.38 |
| 12 | B | 816 | C | N3-C4 | 5.63 | 1.37 | 1.33 |
| 12 | B | 1454 | C | O4'-C1' | 5.63 | 1.49 | 1.41 |
| 12 | B | 731 | C | N3-C4 | 5.63 | 1.37 | 1.33 |
| 12 | B | 121 | G | N7-C5 | -5.63 | 1.35 | 1.39 |
| 12 | B | 505 | A | C4'-O4' | 5.63 | 1.52 | 1.45 |
| 12 | B | 1983 | G | O3'-P | -5.63 | 1.54 | 1.61 |
| 12 | B | 2024 | G | C5'-C4' | 5.63 | 1.58 | 1.51 |
| 12 | B | 2861 | U | C4-C5 | 5.63 | 1.48 | 1.43 |
| 12 | B | 2868 | A | C2-N3 | 5.63 | 1.38 | 1.33 |
| 18 | H | 123 | ARG | CZ-NH1 | 5.63 | 1.40 | 1.33 |
| 11 | A | 117 | G | C2-N2 | 5.62 | 1.40 | 1.34 |
| 12 | B | 409 | G | C2-N2 | 5.62 | 1.40 | 1.34 |
| 12 | B | 648 | G | C6-N1 | 5.62 | 1.43 | 1.39 |
| 11 | A | 48 | U | O3'-P | -5.62 | 1.54 | 1.61 |
| 12 | B | 65 | U | C1'-N1 | 5.62 | 1.57 | 1.48 |
| 12 | B | 192 | C | C4'-C3' | -5.62 | 1.47 | 1.52 |
| 12 | B | 208 | C | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 12 | B | 330 | A | C8-N7 | 5.62 | 1.35 | 1.31 |
| 12 | B | 467 | G | N3-C4 | -5.62 | 1.31 | 1.35 |
| 12 | B | 690 | G | C2'-C1' | -5.62 | 1.47 | 1.53 |
| 12 | B | 751 | A | N3-C4 | -5.62 | 1.31 | 1.34 |
| 12 | B | 746 | U | N3-C4 | 5.62 | 1.43 | 1.38 |
| 12 | B | 1155 | A | N3-C4 | -5.62 | 1.31 | 1.34 |
| 12 | B | 2411 | A | N7-C5 | -5.62 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 23 | M | 93 | VAL | CB-CG1 | 5.62 | 1.64 | 1.52 |
| 12 | B | 231 | A | C4'-C3' | 5.62 | 1.59 | 1.53 |
| 12 | B | 355 | U | C3'-C2' | 5.62 | 1.59 | 1.52 |
| 12 | B | 1401 | G | O3'-P | -5.62 | 1.54 | 1.61 |
| 12 | B | 1416 | G | N7-C5 | -5.62 | 1.35 | 1.39 |
| 12 | B | 129 | C | C2-O2 | -5.62 | 1.19 | 1.24 |
| 12 | B | 717 | C | N1-C6 | 5.62 | 1.40 | 1.37 |
| 12 | B | 720 | U | C4-C5 | -5.62 | 1.38 | 1.43 |
| 12 | B | 1538 | G | C6-N1 | 5.62 | 1.43 | 1.39 |
| 12 | B | 2471 | A | P-O5' | -5.62 | 1.54 | 1.59 |
| 12 | B | 2715 | C | P-O5' | -5.62 | 1.54 | 1.59 |
| 12 | B | 2717 | C | N1-C2 | 5.62 | 1.45 | 1.40 |
| 12 | B | 1311 | G | C4'-O4' | 5.62 | 1.52 | 1.45 |
| 12 | B | 2407 | A | C4'-C3' | -5.62 | 1.47 | 1.52 |
| 12 | B | 2651 | C | N1-C6 | -5.62 | 1.33 | 1.37 |
| 16 | F | 70 | ARG | NE-CZ | 5.62 | 1.40 | 1.33 |
| 11 | A | 50 | A | C3'-C2' | -5.62 | 1.46 | 1.52 |
| 12 | B | 234 | U | C4-C5 | 5.62 | 1.48 | 1.43 |
| 12 | B | 287 | G | C4'-C3' | 5.62 | 1.59 | 1.53 |
| 12 | B | 352 | A | C5'-C4' | 5.62 | 1.58 | 1.51 |
| 12 | B | 438 | G | C5-C6 | -5.62 | 1.36 | 1.42 |
| 12 | B | 1601 | G | C6-N1 | 5.62 | 1.43 | 1.39 |
| 12 | B | 1619 | G | C2-N3 | 5.62 | 1.37 | 1.32 |
| 12 | B | 2657 | A | O4'-C1' | -5.62 | 1.34 | 1.41 |
| 12 | B | 2790 | U | P-O5' | -5.62 | 1.54 | 1.59 |
| 11 | A | 5 | U | N1-C2 | -5.61 | 1.33 | 1.38 |
| 11 | A | 79 | G | P-O5' | -5.61 | 1.54 | 1.59 |
| 12 | B | 764 | A | N7-C5 | -5.61 | 1.35 | 1.39 |
| 12 | B | 1545 | A | C2-N3 | -5.61 | 1.28 | 1.33 |
| 12 | B | 1865 | U | C2'-C1' | -5.61 | 1.47 | 1.53 |
| 12 | B | 2216 | G | C5'-C4' | 5.61 | 1.58 | 1.51 |
| 12 | B | 2252 | G | N1-C2 | 5.61 | 1.42 | 1.37 |
| 12 | B | 2751 | G | C8-N7 | -5.61 | 1.27 | 1.30 |
| 12 | B | 2872 | A | N9-C8 | 5.61 | 1.42 | 1.37 |
| 12 | B | 460 | A | P-O5' | -5.61 | 1.54 | 1.59 |
| 12 | B | 1582 | C | P-O5' | -5.61 | 1.54 | 1.59 |
| 12 | B | 2083 | G | C4'-O4' | -5.61 | 1.38 | 1.45 |
| 12 | B | 2306 | C | C4-N4 | 5.61 | 1.39 | 1.33 |
| 12 | B | 2506 | U | N3-C4 | 5.61 | 1.43 | 1.38 |
| 12 | B | 442 | G | O3'-P | -5.61 | 1.54 | 1.61 |
| 12 | B | 1081 | U | C2'-C1' | -5.61 | 1.47 | 1.53 |
| 12 | B | 1317 | G | N7-C5 | 5.61 | 1.42 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1349 | C | P-O5' | -5.61 | 1.54 | 1.59 |
| 12 | B | 1622 | G | C5-C4 | -5.61 | 1.34 | 1.38 |
| 12 | B | 2168 | G | C3'-C2' | 5.61 | 1.59 | 1.52 |
| 12 | B | 2223 | G | N3-C4 | 5.61 | 1.39 | 1.35 |
| 12 | B | 2835 | A | C4'-C3' | 5.61 | 1.59 | 1.53 |
| 12 | B | 2893 | A | N9-C4 | 5.61 | 1.41 | 1.37 |
| 3 | 2 | 33 | HIS | CA-CB | 5.61 | 1.66 | 1.53 |
| 12 | B | 1049 | C | C4'-C3' | 5.61 | 1.59 | 1.53 |
| 12 | B | 1523 | U | N3-C4 | 5.61 | 1.43 | 1.38 |
| 12 | B | 1864 | U | C4-O4 | -5.61 | 1.19 | 1.23 |
| 12 | B | 1995 | U | C4-O4 | 5.61 | 1.28 | 1.23 |
| 12 | B | 2258 | C | C4-C5 | 5.61 | 1.47 | 1.43 |
| 12 | B | 2659 | G | C5-C6 | -5.61 | 1.36 | 1.42 |
| 12 | B | 2875 | C | C3'-O3' | 5.61 | 1.50 | 1.42 |
| 13 | C | 211 | ARG | NE-CZ | 5.61 | 1.40 | 1.33 |
| 11 | A | 45 | A | C2'-C1' | -5.61 | 1.47 | 1.53 |
| 12 | B | 163 | C | C3'-C2' | 5.61 | 1.59 | 1.52 |
| 12 | B | 419 | U | C4'-O4' | -5.61 | 1.38 | 1.45 |
| 12 | B | 839 | U | C3'-C2' | -5.61 | 1.46 | 1.52 |
| 12 | B | 1491 | G | C2'-C1' | -5.61 | 1.47 | 1.53 |
| 12 | B | 1800 | C | C2-N3 | -5.61 | 1.31 | 1.35 |
| 12 | B | 2458 | G | N9-C8 | 5.61 | 1.41 | 1.37 |
| 12 | B | 59 | U | C3'-O3' | -5.60 | 1.34 | 1.42 |
| 12 | B | 374 | A | C6-N6 | 5.60 | 1.38 | 1.33 |
| 12 | B | 1288 | G | N9-C4 | -5.60 | 1.33 | 1.38 |
| 12 | B | 1828 | G | C4'-C3' | 5.60 | 1.59 | 1.53 |
| 12 | B | 2267 | A | C5'-C4' | 5.60 | 1.58 | 1.51 |
| 12 | B | 2290 | G | N9-C4 | -5.60 | 1.33 | 1.38 |
| 12 | B | 154 | U | C5-C6 | -5.60 | 1.29 | 1.34 |
| 12 | B | 372 | G | C6-N1 | 5.60 | 1.43 | 1.39 |
| 12 | B | 381 | G | C4'-O4' | 5.60 | 1.52 | 1.45 |
| 12 | B | 530 | G | N9-C4 | -5.60 | 1.33 | 1.38 |
| 12 | B | 740 | C | C5-C6 | 5.60 | 1.38 | 1.34 |
| 12 | B | 845 | A | C5-C4 | -5.60 | 1.34 | 1.38 |
| 12 | B | 909 | A | N9-C8 | -5.60 | 1.33 | 1.37 |
| 12 | B | 1525 | A | N9-C4 | -5.60 | 1.34 | 1.37 |
| 12 | B | 2893 | A | C6-N6 | 5.60 | 1.38 | 1.33 |
| 12 | B | 229 | C | C4'-C3' | -5.60 | 1.47 | 1.52 |
| 12 | B | 463 | G | C3'-O3' | 5.60 | 1.50 | 1.42 |
| 12 | B | 1002 | G | C2-N2 | 5.60 | 1.40 | 1.34 |
| 12 | B | 1430 | G | O4'-C1' | 5.60 | 1.49 | 1.41 |
| 12 | B | 2733 | A | C4'-C3' | 5.60 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 22 | L | 132 | ARG | CZ-NH1 | 5.60 | 1.40 | 1.33 |
| 10 | 9 | 239 | ARG | NE-CZ | 5.60 | 1.40 | 1.33 |
| 12 | B | 260 | G | N9-C8 | 5.60 | 1.41 | 1.37 |
| 12 | B | 317 | G | C2-N3 | 5.60 | 1.37 | 1.32 |
| 12 | B | 584 | C | O3'-P | -5.60 | 1.54 | 1.61 |
| 12 | B | 642 | U | C4'-C3' | -5.60 | 1.47 | 1.52 |
| 12 | B | 1317 | G | N9-C4 | 5.60 | 1.42 | 1.38 |
| 12 | B | 1522 | A | N9-C8 | 5.60 | 1.42 | 1.37 |
| 12 | B | 2049 | G | O4'-C1' | -5.60 | 1.34 | 1.41 |
| 11 | A | 98 | G | O3'-P | -5.60 | 1.54 | 1.61 |
| 12 | B | 350 | G | C3'-C2' | -5.60 | 1.46 | 1.52 |
| 12 | B | 537 | G | C8-N7 | -5.60 | 1.27 | 1.30 |
| 12 | B | 988 | A | N9-C4 | -5.60 | 1.34 | 1.37 |
| 12 | B | 1007 | C | N3-C4 | 5.60 | 1.37 | 1.33 |
| 12 | B | 2275 | C | C4-N4 | 5.60 | 1.39 | 1.33 |
| 11 | A | 85 | G | C5'-C4' | 5.59 | 1.58 | 1.51 |
| 12 | B | 275 | C | N1-C2 | 5.59 | 1.45 | 1.40 |
| 12 | B | 478 | A | N3-C4 | -5.59 | 1.31 | 1.34 |
| 12 | B | 546 | U | N3-C4 | 5.59 | 1.43 | 1.38 |
| 12 | B | 2301 | C | C2-N3 | 5.59 | 1.40 | 1.35 |
| 12 | B | 2494 | G | O3'-P | -5.59 | 1.54 | 1.61 |
| 12 | B | 2716 | C | O3'-P | -5.59 | 1.54 | 1.61 |
| 12 | B | 45 | G | C5-C6 | -5.59 | 1.36 | 1.42 |
| 12 | B | 1182 | G | C5'-C4' | 5.59 | 1.58 | 1.51 |
| 12 | B | 2124 | G | C3'-C2' | -5.59 | 1.46 | 1.52 |
| 12 | B | 2325 | G | P-O5' | 5.59 | 1.65 | 1.59 |
| 12 | B | 236 | C | P-O5' | -5.59 | 1.54 | 1.59 |
| 12 | B | 241 | A | C6-N1 | -5.59 | 1.31 | 1.35 |
| 12 | B | 1077 | A | C5'-C4' | 5.59 | 1.58 | 1.51 |
| 12 | B | 1344 | U | C4-O4 | 5.59 | 1.28 | 1.23 |
| 12 | B | 1850 | G | C5-C6 | -5.59 | 1.36 | 1.42 |
| 12 | B | 586 | A | C2-N3 | 5.59 | 1.38 | 1.33 |
| 12 | B | 746 | U | O3'-P | -5.59 | 1.54 | 1.61 |
| 12 | B | 1024 | G | C8-N7 | 5.59 | 1.34 | 1.30 |
| 12 | B | 1272 | A | N9-C4 | 5.59 | 1.41 | 1.37 |
| 12 | B | 2075 | U | C5'-C4' | 5.59 | 1.58 | 1.51 |
| 12 | B | 2080 | A | N3-C4 | 5.59 | 1.38 | 1.34 |
| 12 | B | 2447 | G | C4'-C3' | 5.59 | 1.59 | 1.53 |
| 12 | B | 7 | G | C2-N3 | 5.59 | 1.37 | 1.32 |
| 12 | B | 669 | G | C5-C4 | 5.59 | 1.42 | 1.38 |
| 12 | B | 1135 | C | N1-C2 | 5.59 | 1.45 | 1.40 |
| 12 | B | 1874 | C | O3'-P | -5.59 | 1.54 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 468 | G | O5'-C5' | -5.59 | 1.33 | 1.42 |
| 12 | B | 543 | G | N1-C2 | 5.59 | 1.42 | 1.37 |
| 12 | B | 643 | A | C2'-C1' | -5.59 | 1.47 | 1.53 |
| 12 | B | 992 | C | C4-N4 | 5.59 | 1.39 | 1.33 |
| 12 | B | 2526 | G | N9-C4 | -5.59 | 1.33 | 1.38 |
| 12 | B | 2562 | U | O3'-P | -5.59 | 1.54 | 1.61 |
| 12 | B | 497 | A | C6-N1 | 5.58 | 1.39 | 1.35 |
| 12 | B | 2344 | U | N1-C2 | 5.58 | 1.43 | 1.38 |
| 18 | H | 87 | GLU | CG-CD | 5.58 | 1.60 | 1.51 |
| 11 | A | 53 | A | N9-C8 | -5.58 | 1.33 | 1.37 |
| 12 | B | 454 | A | C3'-C2' | -5.58 | 1.46 | 1.52 |
| 12 | B | 1859 | U | O4'-C1' | 5.58 | 1.49 | 1.41 |
| 12 | B | 1925 | C | C2'-C1' | -5.58 | 1.47 | 1.53 |
| 12 | B | 1995 | U | C1'-N1 | 5.58 | 1.57 | 1.48 |
| 12 | B | 2549 | G | C2-N2 | 5.58 | 1.40 | 1.34 |
| 12 | B | 2744 | G | P-O5' | -5.58 | 1.54 | 1.59 |
| 12 | B | 2864 | G | N3-C4 | -5.58 | 1.31 | 1.35 |
| 6 | 5 | 74 | ARG | CD-NE | 5.58 | 1.55 | 1.46 |
| 9 | 8 | 12 | ARG | NE-CZ | 5.58 | 1.40 | 1.33 |
| 12 | B | 246 | C | P-O5' | -5.58 | 1.54 | 1.59 |
| 12 | B | 771 | G | C8-N7 | 5.58 | 1.34 | 1.30 |
| 12 | B | 2030 | A | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 12 | B | 2033 | A | N9-C8 | -5.58 | 1.33 | 1.37 |
| 12 | B | 2767 | C | N3-C4 | 5.58 | 1.37 | 1.33 |
| 12 | B | 845 | A | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 12 | B | 1048 | A | N3-C4 | -5.58 | 1.31 | 1.34 |
| 12 | B | 2042 | A | N7-C5 | -5.58 | 1.35 | 1.39 |
| 14 | D | 77 | ARG | NE-CZ | 5.58 | 1.40 | 1.33 |
| 12 | B | 35 | G | O4'-C1' | 5.58 | 1.49 | 1.41 |
| 12 | B | 41 | C | N1-C6 | -5.58 | 1.33 | 1.37 |
| 12 | B | 165 | A | C5-C6 | -5.58 | 1.36 | 1.41 |
| 12 | B | 911 | A | C6-N6 | 5.58 | 1.38 | 1.33 |
| 12 | B | 2033 | A | C5-C4 | 5.58 | 1.42 | 1.38 |
| 12 | B | 2364 | C | N3-C4 | 5.58 | 1.37 | 1.33 |
| 12 | B | 2426 | A | N1-C2 | 5.58 | 1.39 | 1.34 |
| 12 | B | 2798 | U | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 12 | B | 213 | A | C2'-C1' | 5.58 | 1.59 | 1.53 |
| 12 | B | 637 | A | C6-N6 | 5.58 | 1.38 | 1.33 |
| 12 | B | 1261 | C | C4-N4 | 5.58 | 1.39 | 1.33 |
| 12 | B | 1542 | U | N1-C2 | 5.58 | 1.43 | 1.38 |
| 12 | B | 1598 | A | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 12 | B | 2566 | A | N3-C4 | -5.58 | 1.31 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2814 | A | C4'-C3' | -5.58 | 1.47 | 1.52 |
| 12 | B | 477 | A | C2'-C1' | 5.58 | 1.59 | 1.53 |
| 12 | B | 566 | U | C3'-C2' | -5.58 | 1.46 | 1.52 |
| 12 | B | 733 | G | C5-C4 | 5.58 | 1.42 | 1.38 |
| 12 | B | 1061 | U | C4-O4 | 5.58 | 1.28 | 1.23 |
| 12 | B | 1492 | G | C5-C4 | -5.58 | 1.34 | 1.38 |
| 12 | B | 1992 | G | C6-O6 | -5.58 | 1.19 | 1.24 |
| 12 | B | 2144 | G | C6-N1 | 5.58 | 1.43 | 1.39 |
| 12 | B | 2608 | G | C6-N1 | -5.58 | 1.35 | 1.39 |
| 12 | B | 244 | A | C4'-C3' | 5.57 | 1.59 | 1.53 |
| 12 | B | 366 | C | N3-C4 | 5.57 | 1.37 | 1.33 |
| 12 | B | 1058 | U | N3-C4 | 5.57 | 1.43 | 1.38 |
| 12 | B | 1294 | U | C4'-C3' | -5.57 | 1.47 | 1.52 |
| 12 | B | 2183 | A | C6-N6 | 5.57 | 1.38 | 1.33 |
| 12 | B | 2336 | A | N7-C5 | -5.57 | 1.35 | 1.39 |
| 12 | B | 2492 | U | C4'-C3' | -5.57 | 1.47 | 1.52 |
| 13 | C | 82 | TYR | CG-CD2 | 5.57 | 1.46 | 1.39 |
| 12 | B | 1506 | U | O3'-P | -5.57 | 1.54 | 1.61 |
| 12 | B | 186 | G | C3'-O3' | 5.57 | 1.50 | 1.42 |
| 12 | B | 220 | G | N7-C5 | -5.57 | 1.35 | 1.39 |
| 12 | B | 313 | G | N1-C2 | 5.57 | 1.42 | 1.37 |
| 12 | B | 580 | U | N3-C4 | 5.57 | 1.43 | 1.38 |
| 12 | B | 743 | A | C6-N1 | 5.57 | 1.39 | 1.35 |
| 12 | B | 966 | G | C6-N1 | 5.57 | 1.43 | 1.39 |
| 12 | B | 1120 | G | P-O5' | -5.57 | 1.54 | 1.59 |
| 12 | B | 1170 | C | N1-C6 | -5.57 | 1.33 | 1.37 |
| 12 | B | 1767 | G | N3-C4 | -5.57 | 1.31 | 1.35 |
| 12 | B | 1830 | C | C2'-C1' | -5.57 | 1.47 | 1.53 |
| 12 | B | 1900 | A | C5-C4 | 5.57 | 1.42 | 1.38 |
| 12 | B | 2128 | G | C5'-C4' | 5.57 | 1.58 | 1.51 |
| 12 | B | 2197 | U | C4'-C3' | -5.57 | 1.47 | 1.52 |
| 12 | B | 2375 | G | N9-C4 | -5.57 | 1.33 | 1.38 |
| 12 | B | 2560 | A | C2'-C1' | -5.57 | 1.47 | 1.53 |
| 12 | B | 2752 | C | P-O5' | -5.57 | 1.54 | 1.59 |
| 12 | B | 58 | G | P-O5' | 5.57 | 1.65 | 1.59 |
| 12 | B | 1861 | G | C3'-C2' | -5.57 | 1.46 | 1.52 |
| 12 | B | 2731 | G | N1-C2 | 5.57 | 1.42 | 1.37 |
| 12 | B | 990 | A | C6-N6 | 5.57 | 1.38 | 1.33 |
| 12 | B | 1110 | G | N3-C4 | -5.57 | 1.31 | 1.35 |
| 12 | B | 1675 | C | O4'-C1' | 5.57 | 1.48 | 1.41 |
| 12 | B | 2345 | G | C2-N2 | 5.57 | 1.40 | 1.34 |
| 12 | B | 2494 | G | N9-C4 | -5.57 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2882 | A | P-O5' | -5.57 | 1.54 | 1.59 |
| 12 | B | 315 | G | N1-C2 | 5.57 | 1.42 | 1.37 |
| 12 | B | 430 | A | N9-C8 | 5.57 | 1.42 | 1.37 |
| 12 | B | 926 | G | C5-C4 | 5.57 | 1.42 | 1.38 |
| 12 | B | 952 | G | N3-C4 | -5.57 | 1.31 | 1.35 |
| 12 | B | 1401 | G | P-O5' | -5.57 | 1.54 | 1.59 |
| 12 | B | 1454 | C | C3'-C2' | 5.57 | 1.59 | 1.52 |
| 12 | B | 1674 | G | C2-N2 | 5.57 | 1.40 | 1.34 |
| 12 | B | 1987 | A | C2-N3 | 5.57 | 1.38 | 1.33 |
| 12 | B | 2223 | G | N1-C2 | 5.57 | 1.42 | 1.37 |
| 12 | B | 2328 | A | C3'-C2' | -5.57 | 1.46 | 1.52 |
| 12 | B | 2573 | C | C4'-O4' | 5.57 | 1.52 | 1.45 |
| 12 | B | 979 | A | C3'-O3' | -5.56 | 1.34 | 1.42 |
| 12 | B | 1883 | U | P-O5' | -5.56 | 1.54 | 1.59 |
| 12 | B | 1895 | C | C4-N4 | 5.56 | 1.39 | 1.33 |
| 12 | B | 2405 | G | O3'-P | -5.56 | 1.54 | 1.61 |
| 11 | A | 10 | G | C5'-C4' | 5.56 | 1.58 | 1.51 |
| 12 | B | 428 | A | N1-C2 | -5.56 | 1.29 | 1.34 |
| 12 | B | 484 | C | C1'-N1 | 5.56 | 1.57 | 1.48 |
| 12 | B | 840 | C | N1-C2 | 5.56 | 1.45 | 1.40 |
| 12 | B | 849 | A | O4'-C1' | 5.56 | 1.48 | 1.41 |
| 12 | B | 958 | U | C4'-C3' | 5.56 | 1.59 | 1.53 |
| 12 | B | 1376 | C | C5-C6 | 5.56 | 1.38 | 1.34 |
| 12 | B | 1623 | G | P-O5' | -5.56 | 1.54 | 1.59 |
| 23 | M | 55 | ARG | CD-NE | 5.56 | 1.55 | 1.46 |
| 29 | S | 29 | VAL | CA-CB | -5.56 | 1.43 | 1.54 |
| 12 | B | 488 | G | N9-C4 | -5.56 | 1.33 | 1.38 |
| 12 | B | 1157 | G | C5-C4 | -5.56 | 1.34 | 1.38 |
| 12 | B | 1203 | U | C5-C6 | 5.56 | 1.39 | 1.34 |
| 12 | B | 1327 | A | N9-C8 | 5.56 | 1.42 | 1.37 |
| 12 | B | 1346 | G | C5'-C4' | 5.56 | 1.58 | 1.51 |
| 12 | B | 2289 | G | O3'-P | -5.56 | 1.54 | 1.61 |
| 12 | B | 2318 | G | N9-C8 | 5.56 | 1.41 | 1.37 |
| 12 | B | 2459 | A | N7-C5 | -5.56 | 1.35 | 1.39 |
| 12 | B | 2683 | C | C5-C6 | -5.56 | 1.29 | 1.34 |
| 12 | B | 2778 | A | C5'-C4' | 5.56 | 1.58 | 1.51 |
| 3 | 2 | 44 | ARG | CZ-NH2 | 5.56 | 1.40 | 1.33 |
| 12 | B | 872 | U | O3'-P | -5.56 | 1.54 | 1.61 |
| 12 | B | 1292 | G | C2-N3 | 5.56 | 1.37 | 1.32 |
| 12 | B | 1982 | U | C2-N3 | 5.56 | 1.41 | 1.37 |
| 12 | B | 2019 | A | N1-C2 | 5.56 | 1.39 | 1.34 |
| 12 | B | 2190 | G | C5'-C4' | 5.56 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2332 | C | P-O5' | -5.56 | 1.54 | 1.59 |
| 12 | B | 2594 | C | N3-C4 | 5.56 | 1.37 | 1.33 |
| 18 | H | 25 | TYR | CG-CD2 | 5.56 | 1.46 | 1.39 |
| 23 | M | 66 | ARG | CZ-NH2 | 5.56 | 1.40 | 1.33 |
| 12 | B | 1490 | A | N7-C5 | 5.56 | 1.42 | 1.39 |
| 12 | B | 1515 | A | N9-C4 | -5.56 | 1.34 | 1.37 |
| 12 | B | 1787 | A | N3-C4 | -5.56 | 1.31 | 1.34 |
| 12 | B | 2185 | U | C4'-C3' | -5.56 | 1.47 | 1.52 |
| 12 | B | 2638 | G | N9-C8 | 5.56 | 1.41 | 1.37 |
| 12 | B | 43 | G | C5-C4 | 5.55 | 1.42 | 1.38 |
| 12 | B | 908 | C | P-O5' | -5.55 | 1.54 | 1.59 |
| 12 | B | 1249 | U | C5-C6 | 5.55 | 1.39 | 1.34 |
| 12 | B | 1995 | U | N1-C6 | -5.55 | 1.32 | 1.38 |
| 27 | Q | 69 | ARG | CZ-NH1 | 5.55 | 1.40 | 1.33 |
| 12 | B | 375 | G | C2-N2 | 5.55 | 1.40 | 1.34 |
| 12 | B | 524 | G | C6-N1 | 5.55 | 1.43 | 1.39 |
| 12 | B | 1366 | A | N9-C4 | -5.55 | 1.34 | 1.37 |
| 12 | B | 1792 | G | C5-C4 | -5.55 | 1.34 | 1.38 |
| 12 | B | 1861 | G | C8-N7 | -5.55 | 1.27 | 1.30 |
| 12 | B | 2125 | G | N3-C4 | -5.55 | 1.31 | 1.35 |
| 12 | B | 2585 | U | C4-C5 | -5.55 | 1.38 | 1.43 |
| 12 | B | 77 | G | C5-C4 | -5.55 | 1.34 | 1.38 |
| 12 | B | 853 | C | P-O5' | 5.55 | 1.65 | 1.59 |
| 12 | B | 1786 | A | P-O5' | 5.55 | 1.65 | 1.59 |
| 12 | B | 2890 | G | C2'-O2' | 5.55 | 1.48 | 1.41 |
| 12 | B | 313 | G | C5'-C4' | 5.55 | 1.58 | 1.51 |
| 12 | B | 684 | G | C5-C6 | 5.55 | 1.47 | 1.42 |
| 12 | B | 825 | A | P-O5' | -5.55 | 1.54 | 1.59 |
| 12 | B | 993 | G | N3-C4 | -5.55 | 1.31 | 1.35 |
| 12 | B | 1801 | A | C2-N3 | 5.55 | 1.38 | 1.33 |
| 12 | B | 1881 | C | C3'-C2' | -5.55 | 1.46 | 1.52 |
| 12 | B | 1981 | A | P-O5' | -5.55 | 1.54 | 1.59 |
| 12 | B | 2231 | U | C3'-O3' | 5.55 | 1.50 | 1.42 |
| 12 | B | 2679 | A | C5'-C4' | 5.55 | 1.58 | 1.51 |
| 25 | O | 99 | TYR | CZ-OH | 5.55 | 1.47 | 1.37 |
| 12 | B | 550 | C | C4-C5 | 5.55 | 1.47 | 1.43 |
| 12 | B | 623 | C | C3'-C2' | 5.55 | 1.59 | 1.52 |
| 12 | B | 674 | G | N9-C4 | -5.55 | 1.33 | 1.38 |
| 12 | B | 965 | C | C2'-C1' | -5.55 | 1.47 | 1.53 |
| 12 | B | 985 | C | C2-N3 | -5.55 | 1.31 | 1.35 |
| 12 | B | 1426 | G | N9-C8 | -5.55 | 1.33 | 1.37 |
| 12 | B | 1580 | A | C5-C4 | -5.55 | 1.34 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2147 | A | O3'-P | -5.55 | 1.54 | 1.61 |
| 12 | B | 2772 | C | P-O5' | -5.55 | 1.54 | 1.59 |
| 12 | B | 384 | A | N3-C4 | -5.55 | 1.31 | 1.34 |
| 12 | B | 432 | A | N1-C2 | -5.55 | 1.29 | 1.34 |
| 12 | B | 505 | A | C5'-C4' | 5.55 | 1.58 | 1.51 |
| 12 | B | 634 | C | C4'-C3' | 5.55 | 1.59 | 1.53 |
| 12 | B | 2331 | G | C8-N7 | -5.55 | 1.27 | 1.30 |
| 12 | B | 2440 | C | C4-N4 | 5.55 | 1.39 | 1.33 |
| 12 | B | 2456 | C | N1-C2 | 5.55 | 1.45 | 1.40 |
| 12 | B | 2475 | C | C2-N3 | 5.55 | 1.40 | 1.35 |
| 12 | B | 2763 | G | C4'-C3' | 5.55 | 1.59 | 1.53 |
| 12 | B | 2869 | G | C2-N2 | 5.55 | 1.40 | 1.34 |
| 13 | C | 170 | TYR | CZ-OH | 5.55 | 1.47 | 1.37 |
| 12 | B | 833 | A | C6-N6 | 5.54 | 1.38 | 1.33 |
| 12 | B | 1803 | A | C6-N6 | 5.54 | 1.38 | 1.33 |
| 12 | B | 369 | U | N3-C4 | 5.54 | 1.43 | 1.38 |
| 12 | B | 853 | C | C4-N4 | 5.54 | 1.39 | 1.33 |
| 12 | B | 1351 | C | C2'-C1' | -5.54 | 1.47 | 1.53 |
| 12 | B | 1744 | A | P-O5' | -5.54 | 1.54 | 1.59 |
| 12 | B | 1771 | C | N1-C6 | 5.54 | 1.40 | 1.37 |
| 12 | B | 1985 | C | N1-C6 | -5.54 | 1.33 | 1.37 |
| 12 | B | 2035 | G | P-O5' | -5.54 | 1.54 | 1.59 |
| 12 | B | 2183 | A | O4'-C1' | 5.54 | 1.48 | 1.41 |
| 12 | B | 2380 | C | C3'-C2' | 5.54 | 1.59 | 1.52 |
| 16 | F | 114 | ARG | CZ-NH1 | 5.54 | 1.40 | 1.33 |
| 12 | B | 340 | A | C5'-C4' | 5.54 | 1.57 | 1.51 |
| 12 | B | 813 | U | O3'-P | -5.54 | 1.54 | 1.61 |
| 12 | B | 1003 | G | N7-C5 | -5.54 | 1.35 | 1.39 |
| 12 | B | 1060 | U | P-O5' | -5.54 | 1.54 | 1.59 |
| 12 | B | 1486 | U | N1-C2 | 5.54 | 1.43 | 1.38 |
| 12 | B | 1596 | A | C6-N6 | 5.54 | 1.38 | 1.33 |
| 1 | 0 | 39 | VAL | CB-CG1 | 5.54 | 1.64 | 1.52 |
| 12 | B | 261 | G | N7-C5 | 5.54 | 1.42 | 1.39 |
| 12 | B | 920 | A | N9-C8 | -5.54 | 1.33 | 1.37 |
| 12 | B | 1221 | C | C2-N3 | 5.54 | 1.40 | 1.35 |
| 12 | B | 1254 | A | P-O5' | -5.54 | 1.54 | 1.59 |
| 12 | B | 2530 | A | C8-N7 | -5.54 | 1.27 | 1.31 |
| 12 | B | 2611 | C | C4-N4 | 5.54 | 1.39 | 1.33 |
| 12 | B | 44 | A | N9-C4 | -5.54 | 1.34 | 1.37 |
| 12 | B | 491 | G | N9-C4 | -5.54 | 1.33 | 1.38 |
| 12 | B | 525 | U | C2'-C1' | -5.54 | 1.47 | 1.53 |
| 12 | B | 1554 | U | C4-C5 | 5.54 | 1.48 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2461 | A | C2'-C1' | -5.54 | 1.47 | 1.53 |
| 12 | B | 2716 | C | C5'-C4' | 5.54 | 1.57 | 1.51 |
| 12 | B | 2742 | G | O3'-P | -5.54 | 1.54 | 1.61 |
| 12 | B | 2766 | A | C2-N3 | 5.54 | 1.38 | 1.33 |
| 24 | N | 2 | ARG | CD-NE | 5.54 | 1.55 | 1.46 |
| 12 | B | 334 | C | C3'-C2' | -5.54 | 1.46 | 1.52 |
| 12 | B | 357 | C | C2-N3 | 5.54 | 1.40 | 1.35 |
| 12 | B | 729 | G | C4'-C3' | -5.54 | 1.47 | 1.52 |
| 12 | B | 985 | C | C4'-C3' | -5.54 | 1.47 | 1.52 |
| 12 | B | 2156 | G | C8-N7 | 5.54 | 1.34 | 1.30 |
| 12 | B | 1000 | A | C6-N1 | 5.53 | 1.39 | 1.35 |
| 12 | B | 1310 | G | C4'-C3' | 5.53 | 1.59 | 1.53 |
| 12 | B | 1471 | G | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 12 | B | 1505 | A | P-O5' | 5.53 | 1.65 | 1.59 |
| 12 | B | 1814 | G | C5-C6 | -5.53 | 1.36 | 1.42 |
| 12 | B | 2351 | G | C2'-C1' | -5.53 | 1.47 | 1.53 |
| 12 | B | 2478 | A | O4'-C1' | 5.53 | 1.48 | 1.41 |
| 12 | B | 2633 | G | C6-N1 | 5.53 | 1.43 | 1.39 |
| 12 | B | 2782 | G | C5-C4 | 5.53 | 1.42 | 1.38 |
| 12 | B | 2821 | A | N3-C4 | -5.53 | 1.31 | 1.34 |
| 12 | B | 72 | U | C3'-C2' | -5.53 | 1.46 | 1.52 |
| 12 | B | 258 | G | C2'-C1' | -5.53 | 1.47 | 1.53 |
| 12 | B | 814 | C | C4-N4 | 5.53 | 1.39 | 1.33 |
| 12 | B | 1945 | G | N7-C5 | 5.53 | 1.42 | 1.39 |
| 12 | B | 1958 | C | C3'-O3' | 5.53 | 1.49 | 1.42 |
| 12 | B | 692 | C | C3'-C2' | -5.53 | 1.46 | 1.52 |
| 12 | B | 866 | A | C3'-C2' | 5.53 | 1.59 | 1.52 |
| 12 | B | 1018 | U | C4'-C3' | 5.53 | 1.59 | 1.53 |
| 12 | B | 1283 | G | C5'-C4' | 5.53 | 1.57 | 1.51 |
| 12 | B | 1364 | G | N1-C2 | -5.53 | 1.33 | 1.37 |
| 12 | B | 1900 | A | C4'-C3' | 5.53 | 1.59 | 1.53 |
| 12 | B | 2415 | G | N9-C4 | -5.53 | 1.33 | 1.38 |
| 12 | B | 262 | A | P-O5' | -5.53 | 1.54 | 1.59 |
| 12 | B | 1737 | G | C2-N3 | 5.53 | 1.37 | 1.32 |
| 12 | B | 2143 | C | C4-N4 | 5.53 | 1.39 | 1.33 |
| 12 | B | 2147 | A | C6-N6 | 5.53 | 1.38 | 1.33 |
| 12 | B | 2434 | A | C5-C6 | 5.53 | 1.46 | 1.41 |
| 27 | Q | 63 | ARG | NE-CZ | 5.53 | 1.40 | 1.33 |
| 12 | B | 1731 | G | N7-C5 | -5.53 | 1.35 | 1.39 |
| 12 | B | 1808 | A | C5'-C4' | 5.53 | 1.57 | 1.51 |
| 12 | B | 2023 | C | C4-N4 | 5.53 | 1.39 | 1.33 |
| 12 | B | 2665 | A | C3'-O3' | 5.53 | 1.49 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2679 | A | O3'-P | -5.53 | 1.54 | 1.61 |
| 12 | B | 2764 | A | O4'-C1' | 5.53 | 1.48 | 1.41 |
| 29 | S | 88 | ARG | CZ-NH1 | 5.53 | 1.40 | 1.33 |
| 12 | B | 39 | G | C5-C6 | -5.53 | 1.36 | 1.42 |
| 12 | B | 825 | A | O4'-C1' | -5.53 | 1.34 | 1.41 |
| 12 | B | 1887 | C | C2-N3 | 5.53 | 1.40 | 1.35 |
| 12 | B | 167 | A | C5-C6 | -5.52 | 1.36 | 1.41 |
| 12 | B | 285 | G | N9-C8 | -5.52 | 1.33 | 1.37 |
| 12 | B | 856 | G | N9-C8 | -5.52 | 1.33 | 1.37 |
| 12 | B | 1795 | C | O4'-C1' | 5.52 | 1.48 | 1.41 |
| 14 | D | 65 | ALA | C-N | 5.52 | 1.43 | 1.33 |
| 12 | B | 105 | C | N1-C2 | 5.52 | 1.45 | 1.40 |
| 12 | B | 1278 | C | O4'-C1' | 5.52 | 1.48 | 1.41 |
| 12 | B | 1497 | U | N3-C4 | 5.52 | 1.43 | 1.38 |
| 12 | B | 2383 | G | N9-C8 | 5.52 | 1.41 | 1.37 |
| 12 | B | 2516 | A | N7-C5 | -5.52 | 1.35 | 1.39 |
| 17 | G | 151 | ARG | NE-CZ | 5.52 | 1.40 | 1.33 |
| 12 | B | 1331 | G | C2'-C1' | -5.52 | 1.47 | 1.53 |
| 12 | B | 1819 | A | C8-N7 | -5.52 | 1.27 | 1.31 |
| 12 | B | 1375 | U | O4'-C1' | 5.52 | 1.48 | 1.41 |
| 12 | B | 2162 | G | C2-N2 | 5.52 | 1.40 | 1.34 |
| 12 | B | 2299 | U | N3-C4 | 5.52 | 1.43 | 1.38 |
| 12 | B | 759 | G | C3'-C2' | -5.52 | 1.46 | 1.52 |
| 12 | B | 971 | G | C2'-O2' | -5.52 | 1.34 | 1.41 |
| 12 | B | 1024 | G | N9-C4 | -5.52 | 1.33 | 1.38 |
| 12 | B | 1118 | C | C3'-C2' | -5.52 | 1.46 | 1.52 |
| 12 | B | 1510 | G | C8-N7 | -5.52 | 1.27 | 1.30 |
| 12 | B | 2476 | A | C5-C4 | 5.52 | 1.42 | 1.38 |
| 12 | B | 2503 | A | N1-C2 | 5.52 | 1.39 | 1.34 |
| 12 | B | 2846 | G | C2-N2 | 5.52 | 1.40 | 1.34 |
| 12 | B | 371 | A | C4'-C3' | 5.52 | 1.59 | 1.53 |
| 12 | B | 951 | C | O3'-P | -5.52 | 1.54 | 1.61 |
| 12 | B | 1408 | G | C6-O6 | -5.52 | 1.19 | 1.24 |
| 12 | B | 1753 | G | C3'-C2' | -5.52 | 1.46 | 1.52 |
| 12 | B | 1988 | G | O4'-C1' | 5.52 | 1.48 | 1.41 |
| 12 | B | 2074 | U | C2-N3 | 5.52 | 1.41 | 1.37 |
| 12 | B | 2193 | G | C2'-C1' | 5.52 | 1.59 | 1.53 |
| 10 | 9 | 237 | ARG | NE-CZ | 5.51 | 1.40 | 1.33 |
| 12 | B | 230 | G | C2-N2 | 5.51 | 1.40 | 1.34 |
| 12 | B | 907 | G | N3-C4 | 5.51 | 1.39 | 1.35 |
| 12 | B | 1370 | C | N3-C4 | 5.51 | 1.37 | 1.33 |
| 12 | B | 1582 | C | C4-N4 | 5.51 | 1.39 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1877 | A | C2'-C1' | -5.51 | 1.47 | 1.53 |
| 12 | B | 1894 | C | N1-C2 | 5.51 | 1.45 | 1.40 |
| 12 | B | 1945 | G | N9-C4 | -5.51 | 1.33 | 1.38 |
| 12 | B | 2038 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 12 | B | 2133 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 12 | B | 2190 | G | N9-C4 | -5.51 | 1.33 | 1.38 |
| 12 | B | 2505 | G | C5-C4 | 5.51 | 1.42 | 1.38 |
| 12 | B | 2633 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 12 | B | 1669 | A | N7-C5 | -5.51 | 1.35 | 1.39 |
| 12 | B | 70 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 12 | B | 223 | A | N7-C5 | -5.51 | 1.35 | 1.39 |
| 12 | B | 754 | U | P-O5' | -5.51 | 1.54 | 1.59 |
| 12 | B | 901 | C | N3-C4 | 5.51 | 1.37 | 1.33 |
| 12 | B | 985 | C | P-O5' | -5.51 | 1.54 | 1.59 |
| 12 | B | 1379 | U | C2-N3 | 5.51 | 1.41 | 1.37 |
| 12 | B | 1561 | C | N1-C2 | 5.51 | 1.45 | 1.40 |
| 12 | B | 1769 | U | N3-C4 | 5.51 | 1.43 | 1.38 |
| 12 | B | 1942 | C | C5'-C4' | -5.51 | 1.44 | 1.51 |
| 12 | B | 23 | G | C5-C6 | -5.51 | 1.36 | 1.42 |
| 12 | B | 403 | U | C3'-O3' | 5.51 | 1.49 | 1.42 |
| 12 | B | 940 | G | C2'-C1' | -5.51 | 1.47 | 1.53 |
| 12 | B | 1460 | U | O3'-P | -5.51 | 1.54 | 1.61 |
| 12 | B | 1659 | G | C3'-O3' | 5.51 | 1.49 | 1.42 |
| 12 | B | 2319 | G | N9-C4 | -5.51 | 1.33 | 1.38 |
| 12 | B | 2365 | G | C8-N7 | 5.51 | 1.34 | 1.30 |
| 12 | B | 2439 | A | P-O5' | -5.51 | 1.54 | 1.59 |
| 16 | F | 94 | ARG | CZ-NH1 | 5.51 | 1.40 | 1.33 |
| 7 | 6 | 33 | ARG | CZ-NH2 | 5.51 | 1.40 | 1.33 |
| 12 | B | 1179 | G | N9-C4 | 5.51 | 1.42 | 1.38 |
| 12 | B | 450 | G | O3'-P | -5.51 | 1.54 | 1.61 |
| 12 | B | 876 | C | O3'-P | -5.51 | 1.54 | 1.61 |
| 12 | B | 919 | U | O3'-P | -5.51 | 1.54 | 1.61 |
| 12 | B | 1139 | G | C8-N7 | 5.51 | 1.34 | 1.30 |
| 12 | B | 1754 | A | C4'-O4' | 5.51 | 1.52 | 1.45 |
| 12 | B | 1761 | C | C4-C5 | 5.51 | 1.47 | 1.43 |
| 12 | B | 2011 | U | C3'-O3' | 5.51 | 1.49 | 1.42 |
| 12 | B | 2089 | C | P-O5' | -5.50 | 1.54 | 1.59 |
| 12 | B | 2509 | G | C5'-C4' | 5.50 | 1.57 | 1.51 |
| 12 | B | 71 | A | C2-N3 | -5.50 | 1.28 | 1.33 |
| 12 | B | 684 | G | N7-C5 | -5.50 | 1.35 | 1.39 |
| 12 | B | 722 | A | C2'-C1' | -5.50 | 1.47 | 1.53 |
| 12 | B | 809 | G | N3-C4 | -5.50 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 856 | G | C5-C4 | -5.50 | 1.34 | 1.38 |
| 12 | B | 1107 | G | C2-N3 | 5.50 | 1.37 | 1.32 |
| 12 | B | 1200 | C | N3-C4 | 5.50 | 1.37 | 1.33 |
| 12 | B | 1240 | U | C5'-C4' | 5.50 | 1.57 | 1.51 |
| 12 | B | 1254 | A | N7-C5 | -5.50 | 1.35 | 1.39 |
| 12 | B | 1286 | A | C4'-O4' | -5.50 | 1.38 | 1.45 |
| 11 | A | 88 | C | C5'-C4' | 5.50 | 1.57 | 1.51 |
| 12 | B | 301 | G | N3-C4 | 5.50 | 1.39 | 1.35 |
| 12 | B | 361 | G | C6-N1 | 5.50 | 1.43 | 1.39 |
| 12 | B | 364 | C | C2'-C1' | -5.50 | 1.47 | 1.53 |
| 12 | B | 447 | A | P-O5' | -5.50 | 1.54 | 1.59 |
| 12 | B | 734 | A | C6-N1 | 5.50 | 1.39 | 1.35 |
| 12 | B | 920 | A | N3-C4 | -5.50 | 1.31 | 1.34 |
| 12 | B | 1009 | A | N9-C8 | 5.50 | 1.42 | 1.37 |
| 12 | B | 1132 | U | C2'-O2' | 5.50 | 1.48 | 1.41 |
| 12 | B | 1146 | C | N1-C6 | -5.50 | 1.33 | 1.37 |
| 12 | B | 1236 | G | O3'-P | -5.50 | 1.54 | 1.61 |
| 12 | B | 1290 | C | C4-N4 | 5.50 | 1.39 | 1.33 |
| 12 | B | 1621 | U | C3'-C2' | 5.50 | 1.59 | 1.52 |
| 12 | B | 1902 | C | C2-N3 | 5.50 | 1.40 | 1.35 |
| 12 | B | 2673 | G | C2'-C1' | -5.50 | 1.47 | 1.53 |
| 12 | B | 2689 | U | C4'-C3' | -5.50 | 1.47 | 1.52 |
| 14 | D | 46 | ARG | CZ-NH2 | 5.50 | 1.40 | 1.33 |
| 14 | D | 77 | ARG | CZ-NH2 | 5.50 | 1.40 | 1.33 |
| 19 | I | 89 | SER | CB-OG | -5.50 | 1.35 | 1.42 |
| 12 | B | 47 | C | C5'-C4' | 5.50 | 1.57 | 1.51 |
| 12 | B | 718 | A | C6-N1 | 5.50 | 1.39 | 1.35 |
| 12 | B | 975 | A | C2'-C1' | -5.50 | 1.47 | 1.53 |
| 12 | B | 2118 | U | C2-O2 | 5.50 | 1.27 | 1.22 |
| 12 | B | 2878 | U | C4-O4 | 5.50 | 1.28 | 1.23 |
| 10 | 9 | 264 | SER | CA-CB | 5.50 | 1.61 | 1.52 |
| 12 | B | 636 | G | N1-C2 | 5.50 | 1.42 | 1.37 |
| 12 | B | 1880 | U | C2-O2 | 5.50 | 1.27 | 1.22 |
| 12 | B | 2220 | U | C4-C5 | 5.50 | 1.48 | 1.43 |
| 12 | B | 2459 | A | P-O5' | -5.50 | 1.54 | 1.59 |
| 12 | B | 2869 | G | N9-C4 | 5.50 | 1.42 | 1.38 |
| 12 | B | 372 | G | C5'-C4' | 5.50 | 1.57 | 1.51 |
| 12 | B | 673 | C | C4-N4 | 5.50 | 1.38 | 1.33 |
| 12 | B | 1286 | A | O3'-P | -5.50 | 1.54 | 1.61 |
| 12 | B | 1341 | G | N9-C4 | -5.50 | 1.33 | 1.38 |
| 12 | B | 1382 | G | N7-C5 | -5.50 | 1.35 | 1.39 |
| 12 | B | 1674 | G | C5-C6 | -5.50 | 1.36 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2418 | A | C5-C6 | -5.50 | 1.36 | 1.41 |
| 11 | A | 102 | G | N3-C4 | -5.50 | 1.31 | 1.35 |
| 12 | B | 25 | U | C1'-N1 | 5.50 | 1.56 | 1.48 |
| 12 | B | 303 | G | C5-C4 | -5.50 | 1.34 | 1.38 |
| 12 | B | 1522 | A | P-O5' | -5.50 | 1.54 | 1.59 |
| 20 | J | 34 | ARG | NE-CZ | 5.50 | 1.40 | 1.33 |
| 12 | B | 40 | U | C4-O4 | -5.49 | 1.19 | 1.23 |
| 12 | B | 84 | A | N7-C5 | -5.49 | 1.35 | 1.39 |
| 12 | B | 252 | G | N7-C5 | -5.49 | 1.35 | 1.39 |
| 12 | B | 400 | G | C2-N3 | 5.49 | 1.37 | 1.32 |
| 12 | B | 468 | G | O3'-P | -5.49 | 1.54 | 1.61 |
| 12 | B | 800 | A | C6-N1 | 5.49 | 1.39 | 1.35 |
| 12 | B | 1441 | G | C6-N1 | 5.49 | 1.43 | 1.39 |
| 12 | B | 1640 | A | N3-C4 | -5.49 | 1.31 | 1.34 |
| 12 | B | 252 | G | C2'-C1' | -5.49 | 1.47 | 1.53 |
| 12 | B | 1333 | G | C5-C6 | 5.49 | 1.47 | 1.42 |
| 12 | B | 1474 | U | C5'-C4' | 5.49 | 1.57 | 1.51 |
| 12 | B | 1747 | U | C4'-O4' | -5.49 | 1.38 | 1.45 |
| 12 | B | 508 | A | C5-C4 | 5.49 | 1.42 | 1.38 |
| 12 | B | 618 | G | N9-C8 | 5.49 | 1.41 | 1.37 |
| 12 | B | 1148 | U | C4-C5 | 5.49 | 1.48 | 1.43 |
| 12 | B | 1279 | G | N7-C5 | -5.49 | 1.35 | 1.39 |
| 12 | B | 1445 | G | N3-C4 | 5.49 | 1.39 | 1.35 |
| 12 | B | 1504 | A | C3'-C2' | 5.49 | 1.58 | 1.52 |
| 12 | B | 2388 | A | C6-N6 | 5.49 | 1.38 | 1.33 |
| 12 | B | 2537 | U | O3'-P | 5.49 | 1.67 | 1.61 |
| 12 | B | 2775 | G | N3-C4 | -5.49 | 1.31 | 1.35 |
| 1 | 0 | 6 | VAL | CB-CG1 | 5.49 | 1.64 | 1.52 |
| 12 | B | 9 | G | N7-C5 | -5.49 | 1.35 | 1.39 |
| 12 | B | 599 | A | C6-N1 | 5.49 | 1.39 | 1.35 |
| 12 | B | 2780 | G | N7-C5 | -5.49 | 1.35 | 1.39 |
| 12 | B | 1154 | G | C8-N7 | -5.49 | 1.27 | 1.30 |
| 12 | B | 1541 | C | O4'-C1' | 5.49 | 1.48 | 1.41 |
| 12 | B | 2130 | U | N3-C4 | 5.49 | 1.43 | 1.38 |
| 12 | B | 2334 | U | C4'-C3' | 5.49 | 1.59 | 1.53 |
| 12 | B | 2523 | G | C8-N7 | -5.49 | 1.27 | 1.30 |
| 12 | B | 2685 | G | C5-C6 | 5.49 | 1.47 | 1.42 |
| 12 | B | 149 | A | C4'-O4' | -5.49 | 1.38 | 1.45 |
| 12 | B | 969 | G | C4'-O4' | 5.49 | 1.52 | 1.45 |
| 12 | B | 1435 | G | C2-N2 | 5.49 | 1.40 | 1.34 |
| 12 | B | 1484 | U | C4-O4 | 5.49 | 1.28 | 1.23 |
| 12 | B | 2073 | C | C2'-C1' | -5.49 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2120 | G | C3'-O3' | 5.49 | 1.49 | 1.42 |
| 11 | A | 96 | G | C2-N3 | 5.48 | 1.37 | 1.32 |
| 12 | B | 924 | G | C5-C4 | -5.48 | 1.34 | 1.38 |
| 12 | B | 1292 | G | N3-C4 | -5.48 | 1.31 | 1.35 |
| 12 | B | 1376 | C | O3'-P | -5.48 | 1.54 | 1.61 |
| 12 | B | 1508 | A | N9-C8 | -5.48 | 1.33 | 1.37 |
| 12 | B | 1514 | G | N9-C8 | 5.48 | 1.41 | 1.37 |
| 12 | B | 1906 | G | C5'-C4' | 5.48 | 1.57 | 1.51 |
| 12 | B | 91 | A | N9-C4 | -5.48 | 1.34 | 1.37 |
| 12 | B | 445 | C | C2-N3 | 5.48 | 1.40 | 1.35 |
| 12 | B | 604 | G | N7-C5 | -5.48 | 1.35 | 1.39 |
| 12 | B | 659 | G | N1-C2 | 5.48 | 1.42 | 1.37 |
| 12 | B | 1256 | G | N9-C8 | -5.48 | 1.34 | 1.37 |
| 12 | B | 2720 | U | P-O5' | 5.48 | 1.65 | 1.59 |
| 12 | B | 2851 | A | C5'-C4' | 5.48 | 1.57 | 1.51 |
| 11 | A | 91 | C | C4'-O4' | 5.48 | 1.52 | 1.45 |
| 12 | B | 496 | G | P-O5' | -5.48 | 1.54 | 1.59 |
| 12 | B | 633 | A | C5-C6 | -5.48 | 1.36 | 1.41 |
| 12 | B | 990 | A | C3'-C2' | -5.48 | 1.46 | 1.52 |
| 12 | B | 1516 | G | N1-C2 | 5.48 | 1.42 | 1.37 |
| 12 | B | 1697 | G | C2'-C1' | -5.48 | 1.47 | 1.53 |
| 12 | B | 2761 | A | C5-C4 | -5.48 | 1.34 | 1.38 |
| 10 | 9 | 129 | ARG | CD-NE | 5.48 | 1.55 | 1.46 |
| 12 | B | 116 | C | N3-C4 | 5.48 | 1.37 | 1.33 |
| 12 | B | 924 | G | C2-N3 | 5.48 | 1.37 | 1.32 |
| 12 | B | 2805 | C | C5'-C4' | 5.48 | 1.57 | 1.51 |
| 12 | B | 94 | A | N9-C4 | 5.48 | 1.41 | 1.37 |
| 12 | B | 104 | A | N7-C5 | -5.48 | 1.35 | 1.39 |
| 12 | B | 1210 | G | O3'-P | -5.48 | 1.54 | 1.61 |
| 12 | B | 1268 | A | C5-C6 | -5.48 | 1.36 | 1.41 |
| 12 | B | 1306 | C | C2-N3 | 5.48 | 1.40 | 1.35 |
| 12 | B | 1889 | A | P-O5' | -5.48 | 1.54 | 1.59 |
| 12 | B | 2192 | U | O3'-P | -5.48 | 1.54 | 1.61 |
| 12 | B | 2338 | C | C4-C5 | 5.48 | 1.47 | 1.43 |
| 12 | B | 2622 | U | C2'-C1' | -5.48 | 1.47 | 1.53 |
| 12 | B | 1202 | G | O3'-P | -5.48 | 1.54 | 1.61 |
| 12 | B | 1464 | G | C2'-C1' | -5.48 | 1.47 | 1.53 |
| 12 | B | 28 | A | N7-C5 | 5.47 | 1.42 | 1.39 |
| 12 | B | 286 | U | O3'-P | -5.47 | 1.54 | 1.61 |
| 12 | B | 504 | A | C5-C6 | 5.47 | 1.46 | 1.41 |
| 12 | B | 855 | G | C2-N3 | 5.47 | 1.37 | 1.32 |
| 12 | B | 898 | C | N1-C6 | 5.47 | 1.40 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 906 | U | C5'-C4' | 5.47 | 1.57 | 1.51 |
| 12 | B | 914 | G | C5'-C4' | 5.47 | 1.57 | 1.51 |
| 12 | B | 1342 | A | N9-C4 | 5.47 | 1.41 | 1.37 |
| 12 | B | 2535 | G | C4'-C3' | -5.47 | 1.47 | 1.52 |
| 12 | B | 2673 | G | N3-C4 | -5.47 | 1.31 | 1.35 |
| 32 | W | 16 | ALA | N-CA | -5.47 | 1.35 | 1.46 |
| 11 | A | 26 | C | C1'-N1 | 5.47 | 1.56 | 1.48 |
| 12 | B | 346 | A | C2'-C1' | -5.47 | 1.47 | 1.53 |
| 12 | B | 817 | C | N1-C6 | -5.47 | 1.33 | 1.37 |
| 12 | B | 929 | U | C1'-N1 | 5.47 | 1.56 | 1.48 |
| 12 | B | 1334 | G | P-O5' | -5.47 | 1.54 | 1.59 |
| 12 | B | 1351 | C | P-O5' | -5.47 | 1.54 | 1.59 |
| 12 | B | 1430 | G | C8-N7 | -5.47 | 1.27 | 1.30 |
| 12 | B | 1592 | C | O4'-C1' | 5.47 | 1.48 | 1.41 |
| 12 | B | 1819 | A | C4'-C3' | 5.47 | 1.59 | 1.53 |
| 12 | B | 373 | U | C2-N3 | 5.47 | 1.41 | 1.37 |
| 12 | B | 1117 | C | O3'-P | 5.47 | 1.67 | 1.61 |
| 12 | B | 1122 | G | C5-C6 | -5.47 | 1.36 | 1.42 |
| 12 | B | 1302 | A | C4'-C3' | 5.47 | 1.59 | 1.53 |
| 12 | B | 1411 | U | C2-N3 | 5.47 | 1.41 | 1.37 |
| 12 | B | 1538 | G | C2'-C1' | -5.47 | 1.47 | 1.53 |
| 12 | B | 2669 | G | C5-C4 | 5.47 | 1.42 | 1.38 |
| 11 | A | 51 | G | C2-N3 | 5.47 | 1.37 | 1.32 |
| 12 | B | 1020 | A | C6-N1 | 5.47 | 1.39 | 1.35 |
| 12 | B | 1289 | C | N1-C2 | -5.47 | 1.34 | 1.40 |
| 12 | B | 1685 | C | N1-C6 | -5.47 | 1.33 | 1.37 |
| 12 | B | 1815 | A | N7-C5 | -5.47 | 1.35 | 1.39 |
| 12 | B | 578 | G | N9-C4 | -5.47 | 1.33 | 1.38 |
| 12 | B | 1676 | A | N9-C4 | -5.47 | 1.34 | 1.37 |
| 12 | B | 2372 | U | C2'-C1' | -5.47 | 1.47 | 1.53 |
| 12 | B | 2636 | C | O4'-C1' | -5.47 | 1.34 | 1.41 |
| 12 | B | 114 | U | C2-N3 | 5.47 | 1.41 | 1.37 |
| 12 | B | 807 | U | N3-C4 | 5.47 | 1.43 | 1.38 |
| 12 | B | 917 | A | O3'-P | -5.47 | 1.54 | 1.61 |
| 12 | B | 1318 | U | O4'-C1' | 5.47 | 1.48 | 1.41 |
| 12 | B | 1616 | A | N7-C5 | -5.47 | 1.35 | 1.39 |
| 12 | B | 2610 | C | C4-C5 | 5.47 | 1.47 | 1.43 |
| 12 | B | 2807 | U | C4'-C3' | -5.47 | 1.47 | 1.52 |
| 32 | W | 79 | ARG | CZ-NH1 | 5.47 | 1.40 | 1.33 |
| 12 | B | 43 | G | P-O5' | 5.46 | 1.65 | 1.59 |
| 12 | B | 936 | A | N7-C5 | -5.46 | 1.35 | 1.39 |
| 12 | B | 2026 | U | C2-N3 | 5.46 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2885 | G | C1'-N9 | -5.46 | 1.39 | 1.46 |
| 12 | B | 859 | G | C5'-C4' | 5.46 | 1.57 | 1.51 |
| 12 | B | 2799 | A | N3-C4 | 5.46 | 1.38 | 1.34 |
| 21 | K | 32 | TYR | CE2-CZ | 5.46 | 1.45 | 1.38 |
| 12 | B | 414 | C | C2-N3 | 5.46 | 1.40 | 1.35 |
| 12 | B | 469 | G | N3-C4 | -5.46 | 1.31 | 1.35 |
| 12 | B | 588 | U | O3'-P | -5.46 | 1.54 | 1.61 |
| 12 | B | 858 | G | N1-C2 | 5.46 | 1.42 | 1.37 |
| 12 | B | 905 | A | C6-N1 | 5.46 | 1.39 | 1.35 |
| 12 | B | 1090 | A | C4'-C3' | 5.46 | 1.59 | 1.53 |
| 12 | B | 1273 | U | C5-C6 | 5.46 | 1.39 | 1.34 |
| 12 | B | 1305 | C | N3-C4 | 5.46 | 1.37 | 1.33 |
| 12 | B | 1316 | U | C3'-C2' | 5.46 | 1.58 | 1.52 |
| 12 | B | 2059 | A | N7-C5 | -5.46 | 1.35 | 1.39 |
| 12 | B | 2141 | G | N7-C5 | 5.46 | 1.42 | 1.39 |
| 12 | B | 2552 | U | C4'-O4' | 5.46 | 1.52 | 1.45 |
| 12 | B | 1145 | C | C4-C5 | -5.46 | 1.38 | 1.43 |
| 12 | B | 1264 | A | N9-C8 | 5.46 | 1.42 | 1.37 |
| 12 | B | 1498 | C | C2-O2 | 5.46 | 1.29 | 1.24 |
| 12 | B | 2085 | U | P-O5' | -5.46 | 1.54 | 1.59 |
| 12 | B | 2087 | G | C5-C4 | 5.46 | 1.42 | 1.38 |
| 12 | B | 2189 | U | N1-C2 | 5.46 | 1.43 | 1.38 |
| 11 | A | 4 | C | C2-O2 | 5.46 | 1.29 | 1.24 |
| 12 | B | 732 | C | N1-C2 | -5.46 | 1.34 | 1.40 |
| 12 | B | 1149 | G | C2'-C1' | -5.46 | 1.47 | 1.53 |
| 12 | B | 1331 | G | P-O5' | -5.46 | 1.54 | 1.59 |
| 12 | B | 1734 | G | N1-C2 | 5.46 | 1.42 | 1.37 |
| 12 | B | 1780 | A | C6-N6 | 5.46 | 1.38 | 1.33 |
| 12 | B | 2035 | G | N1-C2 | 5.46 | 1.42 | 1.37 |
| 12 | B | 2367 | G | C3'-C2' | 5.46 | 1.58 | 1.52 |
| 12 | B | 2638 | G | C2'-C1' | -5.46 | 1.47 | 1.53 |
| 12 | B | 2829 | A | N7-C5 | -5.46 | 1.35 | 1.39 |
| 12 | B | 2877 | G | N3-C4 | -5.46 | 1.31 | 1.35 |
| 11 | A | 17 | C | C2'-C1' | -5.46 | 1.47 | 1.53 |
| 11 | A | 66 | A | C6-N6 | 5.46 | 1.38 | 1.33 |
| 11 | A | 69 | G | N3-C4 | 5.46 | 1.39 | 1.35 |
| 12 | B | 442 | G | C5-C6 | -5.46 | 1.36 | 1.42 |
| 12 | B | 715 | A | C2'-C1' | -5.46 | 1.47 | 1.53 |
| 12 | B | 778 | G | C2'-C1' | -5.46 | 1.47 | 1.53 |
| 12 | B | 861 | A | C4'-O4' | -5.46 | 1.38 | 1.45 |
| 12 | B | 2088 | A | N3-C4 | 5.46 | 1.38 | 1.34 |
| 12 | B | 2470 | G | C6-O6 | 5.46 | 1.29 | 1.24 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2516 | A | N3-C4 | 5.46 | 1.38 | 1.34 |
| 12 | B | 129 | C | C5'-C4' | 5.46 | 1.57 | 1.51 |
| 12 | B | 712 | G | P-O5' | -5.46 | 1.54 | 1.59 |
| 12 | B | 1724 | G | N1-C2 | 5.46 | 1.42 | 1.37 |
| 12 | B | 778 | G | C5-C6 | -5.45 | 1.36 | 1.42 |
| 12 | B | 1351 | C | C4-C5 | 5.45 | 1.47 | 1.43 |
| 12 | B | 1699 | G | C5-C4 | -5.45 | 1.34 | 1.38 |
| 12 | B | 2332 | C | C3'-C2' | 5.45 | 1.58 | 1.52 |
| 12 | B | 2484 | G | C6-N1 | 5.45 | 1.43 | 1.39 |
| 12 | B | 2635 | A | C5-C6 | -5.45 | 1.36 | 1.41 |
| 12 | B | 630 | G | N3-C4 | -5.45 | 1.31 | 1.35 |
| 12 | B | 1001 | A | N9-C4 | 5.45 | 1.41 | 1.37 |
| 12 | B | 1066 | U | N1-C2 | 5.45 | 1.43 | 1.38 |
| 12 | B | 1439 | A | C6-N6 | 5.45 | 1.38 | 1.33 |
| 12 | B | 1852 | U | C2'-C1' | -5.45 | 1.47 | 1.53 |
| 12 | B | 2348 | U | C4-C5 | 5.45 | 1.48 | 1.43 |
| 12 | B | 2471 | A | C2'-C1' | -5.45 | 1.47 | 1.53 |
| 12 | B | 2573 | C | C4-C5 | 5.45 | 1.47 | 1.43 |
| 12 | B | 2641 | G | C6-N1 | 5.45 | 1.43 | 1.39 |
| 12 | B | 53 | A | C5-C4 | -5.45 | 1.34 | 1.38 |
| 12 | B | 1366 | A | C5-C4 | -5.45 | 1.34 | 1.38 |
| 12 | B | 2080 | A | C5-C4 | 5.45 | 1.42 | 1.38 |
| 12 | B | 2609 | U | N1-C6 | -5.45 | 1.33 | 1.38 |
| 20 | J | 37 | ARG | NE-CZ | 5.45 | 1.40 | 1.33 |
| 10 | 9 | 210 | VAL | CB-CG1 | 5.45 | 1.64 | 1.52 |
| 12 | B | 56 | A | C2'-C1' | -5.45 | 1.47 | 1.53 |
| 12 | B | 377 | G | C6-N1 | 5.45 | 1.43 | 1.39 |
| 12 | B | 562 | U | N3-C4 | 5.45 | 1.43 | 1.38 |
| 12 | B | 655 | A | N9-C4 | 5.45 | 1.41 | 1.37 |
| 12 | B | 741 | U | N1-C6 | 5.45 | 1.42 | 1.38 |
| 12 | B | 1216 | G | C5'-C4' | 5.45 | 1.57 | 1.51 |
| 12 | B | 1378 | A | N9-C4 | -5.45 | 1.34 | 1.37 |
| 12 | B | 1585 | C | N3-C4 | 5.45 | 1.37 | 1.33 |
| 12 | B | 1814 | G | C5-C4 | -5.45 | 1.34 | 1.38 |
| 12 | B | 2120 | G | C4'-O4' | -5.45 | 1.38 | 1.45 |
| 12 | B | 2532 | G | C5'-C4' | 5.45 | 1.57 | 1.51 |
| 12 | B | 2172 | U | N1-C6 | -5.45 | 1.33 | 1.38 |
| 12 | B | 2242 | G | C2'-C1' | 5.45 | 1.59 | 1.53 |
| 12 | B | 2820 | A | C4'-C3' | 5.45 | 1.59 | 1.53 |
| 10 | 9 | 334 | GLU | CD-OE2 | 5.45 | 1.31 | 1.25 |
| 12 | B | 703 | U | C5-C6 | 5.45 | 1.39 | 1.34 |
| 12 | B | 1350 | C | N1-C6 | 5.45 | 1.40 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1401 | G | C4'-C3' | -5.45 | 1.47 | 1.52 |
| 12 | B | 2545 | G | C5-C4 | -5.45 | 1.34 | 1.38 |
| 12 | B | 1581 | G | C2-N3 | 5.44 | 1.37 | 1.32 |
| 12 | B | 1601 | G | P-O5' | -5.44 | 1.54 | 1.59 |
| 12 | B | 1909 | C | C5'-C4' | 5.44 | 1.57 | 1.51 |
| 12 | B | 2098 | U | N3-C4 | 5.44 | 1.43 | 1.38 |
| 11 | A | 27 | C | C4-C5 | 5.44 | 1.47 | 1.43 |
| 11 | A | 85 | G | C6-N1 | 5.44 | 1.43 | 1.39 |
| 12 | B | 283 | G | C5'-C4' | 5.44 | 1.57 | 1.51 |
| 12 | B | 450 | G | N3-C4 | 5.44 | 1.39 | 1.35 |
| 12 | B | 1303 | G | C5-C4 | 5.44 | 1.42 | 1.38 |
| 12 | B | 2289 | G | N9-C8 | 5.44 | 1.41 | 1.37 |
| 12 | B | 2297 | A | C2'-C1' | -5.44 | 1.47 | 1.53 |
| 12 | B | 2396 | G | C5'-C4' | 5.44 | 1.57 | 1.51 |
| 12 | B | 2776 | A | P-O5' | -5.44 | 1.54 | 1.59 |
| 8 | 7 | 13 | PHE | CG-CD1 | 5.44 | 1.47 | 1.38 |
| 12 | B | 135 | U | C2-N3 | 5.44 | 1.41 | 1.37 |
| 12 | B | 293 | U | C2-N3 | 5.44 | 1.41 | 1.37 |
| 12 | B | 468 | G | N1-C2 | 5.44 | 1.42 | 1.37 |
| 12 | B | 556 | A | P-O5' | -5.44 | 1.54 | 1.59 |
| 12 | B | 583 | G | C2-N2 | 5.44 | 1.40 | 1.34 |
| 12 | B | 812 | C | N3-C4 | 5.44 | 1.37 | 1.33 |
| 12 | B | 1203 | U | C4'-C3' | -5.44 | 1.47 | 1.52 |
| 12 | B | 948 | C | C5-C6 | 5.44 | 1.38 | 1.34 |
| 12 | B | 1139 | G | O3'-P | -5.44 | 1.54 | 1.61 |
| 12 | B | 1303 | G | C8-N7 | 5.44 | 1.34 | 1.30 |
| 12 | B | 2451 | A | C2'-C1' | -5.44 | 1.47 | 1.53 |
| 12 | B | 2657 | A | C5-C4 | 5.44 | 1.42 | 1.38 |
| 12 | B | 521 | U | C5'-C4' | 5.44 | 1.57 | 1.51 |
| 12 | B | 535 | G | C2-N3 | 5.44 | 1.37 | 1.32 |
| 12 | B | 758 | C | C3'-C2' | -5.44 | 1.46 | 1.52 |
| 12 | B | 1045 | C | N1-C2 | 5.44 | 1.45 | 1.40 |
| 12 | B | 1640 | A | P-O5' | -5.44 | 1.54 | 1.59 |
| 12 | B | 1767 | G | N7-C5 | -5.44 | 1.35 | 1.39 |
| 12 | B | 2002 | G | C6-N1 | 5.44 | 1.43 | 1.39 |
| 12 | B | 2231 | U | C4'-O4' | -5.44 | 1.38 | 1.45 |
| 8 | 7 | 41 | ARG | CZ-NH1 | 5.44 | 1.40 | 1.33 |
| 12 | B | 1500 | G | N9-C8 | 5.44 | 1.41 | 1.37 |
| 12 | B | 2727 | A | C5'-C4' | 5.44 | 1.57 | 1.51 |
| 11 | A | 8 | C | N1-C6 | -5.43 | 1.33 | 1.37 |
| 12 | B | 71 | A | C4'-C3' | -5.43 | 1.47 | 1.52 |
| 12 | B | 749 | A | O4'-C1' | -5.43 | 1.34 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 920 | A | O5'-C5' | -5.43 | 1.34 | 1.42 |
| 12 | B | 2194 | U | C2-N3 | 5.43 | 1.41 | 1.37 |
| 12 | B | 2276 | G | C6-O6 | -5.43 | 1.19 | 1.24 |
| 12 | B | 2521 | C | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 12 | B | 232 | G | C6-N1 | 5.43 | 1.43 | 1.39 |
| 12 | B | 234 | U | N1-C2 | -5.43 | 1.33 | 1.38 |
| 12 | B | 362 | A | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 12 | B | 1144 | A | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 12 | B | 1688 | U | N1-C2 | 5.43 | 1.43 | 1.38 |
| 12 | B | 2613 | U | N3-C4 | 5.43 | 1.43 | 1.38 |
| 12 | B | 216 | A | C8-N7 | -5.43 | 1.27 | 1.31 |
| 12 | B | 301 | G | C3'-C2' | -5.43 | 1.46 | 1.52 |
| 12 | B | 233 | A | C3'-C2' | -5.43 | 1.46 | 1.52 |
| 12 | B | 265 | A | N9-C4 | -5.43 | 1.34 | 1.37 |
| 12 | B | 1881 | C | N3-C4 | -5.43 | 1.30 | 1.33 |
| 12 | B | 1967 | C | O3'-P | -5.43 | 1.54 | 1.61 |
| 12 | B | 2771 | C | O3'-P | -5.43 | 1.54 | 1.61 |
| 12 | B | 2810 | A | N7-C5 | -5.43 | 1.35 | 1.39 |
| 12 | B | 331 | C | N3-C4 | 5.43 | 1.37 | 1.33 |
| 12 | B | 2083 | G | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 12 | B | 2111 | U | N1-C2 | -5.43 | 1.33 | 1.38 |
| 12 | B | 2198 | A | C4'-O4' | 5.43 | 1.52 | 1.45 |
| 12 | B | 2311 | A | C6-N6 | 5.43 | 1.38 | 1.33 |
| 12 | B | 2588 | G | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 12 | B | 371 | A | O3'-P | -5.43 | 1.54 | 1.61 |
| 12 | B | 537 | G | C2-N3 | -5.43 | 1.28 | 1.32 |
| 12 | B | 637 | A | C5'-C4' | 5.43 | 1.57 | 1.51 |
| 12 | B | 1018 | U | N1-C6 | 5.43 | 1.42 | 1.38 |
| 12 | B | 1408 | G | C6-N1 | 5.43 | 1.43 | 1.39 |
| 12 | B | 1519 | G | N1-C2 | 5.43 | 1.42 | 1.37 |
| 12 | B | 1529 | G | C5'-C4' | 5.43 | 1.57 | 1.51 |
| 12 | B | 2297 | A | C4'-O4' | -5.43 | 1.38 | 1.45 |
| 12 | B | 2487 | G | N9-C8 | 5.43 | 1.41 | 1.37 |
| 12 | B | 2717 | C | C4-N4 | 5.43 | 1.38 | 1.33 |
| 12 | B | 404 | A | C2-N3 | 5.42 | 1.38 | 1.33 |
| 12 | B | 564 | C | P-O5' | -5.42 | 1.54 | 1.59 |
| 12 | B | 571 | U | C4-C5 | 5.42 | 1.48 | 1.43 |
| 12 | B | 964 | C | N1-C6 | 5.42 | 1.40 | 1.37 |
| 12 | B | 1347 | A | C6-N1 | 5.42 | 1.39 | 1.35 |
| 12 | B | 1630 | A | C6-N6 | 5.42 | 1.38 | 1.33 |
| 12 | B | 2005 | A | O3'-P | -5.42 | 1.54 | 1.61 |
| 12 | B | 2666 | C | C3'-C2' | -5.42 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 956 | G | N1-C2 | 5.42 | 1.42 | 1.37 |
| 12 | B | 2830 | C | N1-C2 | 5.42 | 1.45 | 1.40 |
| 10 | 9 | 236 | GLU | CB-CG | 5.42 | 1.62 | 1.52 |
| 12 | B | 300 | A | C2'-C1' | -5.42 | 1.47 | 1.53 |
| 12 | B | 786 | C | C2'-C1' | -5.42 | 1.47 | 1.53 |
| 12 | B | 1209 | U | C2-N3 | 5.42 | 1.41 | 1.37 |
| 12 | B | 1989 | G | C2-N3 | 5.42 | 1.37 | 1.32 |
| 12 | B | 2819 | G | N9-C8 | -5.42 | 1.34 | 1.37 |
| 12 | B | 875 | G | N3-C4 | 5.42 | 1.39 | 1.35 |
| 12 | B | 886 | A | C3'-O3' | 5.42 | 1.49 | 1.42 |
| 12 | B | 543 | G | C5-C4 | -5.42 | 1.34 | 1.38 |
| 12 | B | 950 | G | C5-C4 | 5.42 | 1.42 | 1.38 |
| 12 | B | 1190 | G | P-O5' | 5.42 | 1.65 | 1.59 |
| 12 | B | 1478 | G | C2-N3 | 5.42 | 1.37 | 1.32 |
| 12 | B | 1620 | G | C5-C6 | 5.42 | 1.47 | 1.42 |
| 12 | B | 2495 | G | N7-C5 | 5.42 | 1.42 | 1.39 |
| 12 | B | 2724 | U | P-O5' | -5.42 | 1.54 | 1.59 |
| 12 | B | 2867 | G | N1-C2 | 5.42 | 1.42 | 1.37 |
| 12 | B | 44 | A | C2'-C1' | -5.42 | 1.47 | 1.53 |
| 12 | B | 49 | A | N9-C4 | 5.42 | 1.41 | 1.37 |
| 12 | B | 857 | G | N3-C4 | -5.42 | 1.31 | 1.35 |
| 12 | B | 1835 | G | C5-C4 | 5.42 | 1.42 | 1.38 |
| 12 | B | 2828 | G | C3'-O3' | 5.42 | 1.49 | 1.42 |
| 12 | B | 339 | U | C2'-C1' | -5.42 | 1.47 | 1.53 |
| 12 | B | 785 | G | N9-C4 | -5.42 | 1.33 | 1.38 |
| 12 | B | 859 | G | N7-C5 | -5.42 | 1.36 | 1.39 |
| 12 | B | 1411 | U | N1-C2 | -5.42 | 1.33 | 1.38 |
| 12 | B | 1840 | G | C3'-C2' | 5.42 | 1.58 | 1.52 |
| 12 | B | 2462 | C | C4-N4 | 5.42 | 1.38 | 1.33 |
| 12 | B | 728 | G | C4'-O4' | 5.41 | 1.52 | 1.45 |
| 12 | B | 780 | G | C5-C6 | -5.41 | 1.36 | 1.42 |
| 12 | B | 992 | C | N1-C6 | 5.41 | 1.40 | 1.37 |
| 12 | B | 1039 | A | N9-C4 | 5.41 | 1.41 | 1.37 |
| 12 | B | 1039 | A | C5-C6 | -5.41 | 1.36 | 1.41 |
| 12 | B | 1734 | G | C3'-C2' | -5.41 | 1.46 | 1.52 |
| 12 | B | 1826 | G | C2-N2 | 5.41 | 1.40 | 1.34 |
| 12 | B | 2447 | G | C2-N3 | 5.41 | 1.37 | 1.32 |
| 12 | B | 2758 | A | P-O5' | -5.41 | 1.54 | 1.59 |
| 12 | B | 2804 | U | C2-N3 | 5.41 | 1.41 | 1.37 |
| 22 | L | 60 | ARG | CD-NE | 5.41 | 1.55 | 1.46 |
| 12 | B | 829 | A | C5-C6 | -5.41 | 1.36 | 1.41 |
| 12 | B | 1363 | C | C2'-C1' | -5.41 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1973 | G | N7-C5 | -5.41 | 1.36 | 1.39 |
| 12 | B | 2892 | G | P-O5' | -5.41 | 1.54 | 1.59 |
| 12 | B | 731 | C | C4'-C3' | -5.41 | 1.47 | 1.52 |
| 12 | B | 788 | A | N3-C4 | -5.41 | 1.31 | 1.34 |
| 12 | B | 840 | C | C3'-C2' | -5.41 | 1.46 | 1.52 |
| 12 | B | 1119 | U | N3-C4 | 5.41 | 1.43 | 1.38 |
| 12 | B | 1300 | G | C8-N7 | 5.41 | 1.34 | 1.30 |
| 12 | B | 1421 | G | N1-C2 | 5.41 | 1.42 | 1.37 |
| 12 | B | 1424 | G | N7-C5 | 5.41 | 1.42 | 1.39 |
| 12 | B | 1508 | A | C3'-C2' | 5.41 | 1.58 | 1.52 |
| 12 | B | 1735 | A | C8-N7 | -5.41 | 1.27 | 1.31 |
| 12 | B | 1775 | U | C2'-C1' | -5.41 | 1.47 | 1.53 |
| 12 | B | 286 | U | C2-N3 | 5.41 | 1.41 | 1.37 |
| 12 | B | 586 | A | C2'-C1' | -5.41 | 1.47 | 1.53 |
| 12 | B | 807 | U | O3'-P | -5.41 | 1.54 | 1.61 |
| 12 | B | 991 | C | C4-C5 | 5.41 | 1.47 | 1.43 |
| 12 | B | 1304 | A | O3'-P | -5.41 | 1.54 | 1.61 |
| 12 | B | 1788 | C | N1-C6 | -5.41 | 1.33 | 1.37 |
| 12 | B | 2389 | G | N9-C8 | 5.41 | 1.41 | 1.37 |
| 12 | B | 2586 | U | C4'-C3' | 5.41 | 1.59 | 1.53 |
| 12 | B | 2884 | U | C2-N3 | 5.41 | 1.41 | 1.37 |
| 22 | L | 66 | PHE | CG-CD1 | 5.41 | 1.46 | 1.38 |
| 27 | Q | 101 | ASP | CA-CB | 5.41 | 1.65 | 1.53 |
| 12 | B | 738 | G | C6-N1 | 5.41 | 1.43 | 1.39 |
| 12 | B | 1274 | A | O3'-P | -5.41 | 1.54 | 1.61 |
| 12 | B | 1690 | A | P-O5' | -5.41 | 1.54 | 1.59 |
| 12 | B | 1692 | U | P-O5' | -5.41 | 1.54 | 1.59 |
| 12 | B | 1822 | C | N1-C2 | -5.41 | 1.34 | 1.40 |
| 12 | B | 1945 | G | C3'-O3' | 5.41 | 1.49 | 1.42 |
| 12 | B | 306 | U | N3-C4 | 5.41 | 1.43 | 1.38 |
| 12 | B | 799 | G | O3'-P | -5.41 | 1.54 | 1.61 |
| 12 | B | 1186 | G | C5-C4 | 5.41 | 1.42 | 1.38 |
| 12 | B | 1254 | A | N1-C2 | 5.41 | 1.39 | 1.34 |
| 12 | B | 2155 | U | C2-N3 | 5.41 | 1.41 | 1.37 |
| 12 | B | 2574 | G | C2-N2 | 5.41 | 1.40 | 1.34 |
| 12 | B | 726 | G | C4'-C3' | 5.40 | 1.59 | 1.53 |
| 12 | B | 749 | A | C5-C4 | -5.40 | 1.34 | 1.38 |
| 12 | B | 1046 | A | C2-N3 | 5.40 | 1.38 | 1.33 |
| 12 | B | 1814 | G | N7-C5 | -5.40 | 1.36 | 1.39 |
| 12 | B | 1926 | U | C4-C5 | 5.40 | 1.48 | 1.43 |
| 12 | B | 2116 | G | C8-N7 | -5.40 | 1.27 | 1.30 |
| 12 | B | 2327 | A | C4'-O4' | -5.40 | 1.38 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2494 | G | C6-N1 | 5.40 | 1.43 | 1.39 |
| 12 | B | 2757 | A | C6-N6 | 5.40 | 1.38 | 1.33 |
| 12 | B | 1265 | A | C6-N6 | 5.40 | 1.38 | 1.33 |
| 12 | B | 1562 | U | N1-C2 | 5.40 | 1.43 | 1.38 |
| 12 | B | 2195 | U | N1-C2 | -5.40 | 1.33 | 1.38 |
| 12 | B | 2755 | C | C2-N3 | 5.40 | 1.40 | 1.35 |
| 21 | K | 87 | LEU | CA-CB | 5.40 | 1.66 | 1.53 |
| 12 | B | 2 | G | C2'-C1' | -5.40 | 1.47 | 1.53 |
| 12 | B | 1184 | U | C4-O4 | -5.40 | 1.19 | 1.23 |
| 12 | B | 1223 | G | C5-C6 | -5.40 | 1.36 | 1.42 |
| 12 | B | 1652 | A | C2'-C1' | -5.40 | 1.47 | 1.53 |
| 12 | B | 1765 | U | C4'-O4' | 5.40 | 1.52 | 1.45 |
| 12 | B | 2032 | G | C2-N2 | 5.40 | 1.40 | 1.34 |
| 18 | H | 128 | HIS | CB-CG | -5.40 | 1.40 | 1.50 |
| 12 | B | 230 | G | C3'-C2' | -5.40 | 1.46 | 1.52 |
| 12 | B | 298 | G | C2'-C1' | -5.40 | 1.47 | 1.53 |
| 12 | B | 1056 | G | C5-C4 | -5.40 | 1.34 | 1.38 |
| 12 | B | 2708 | G | C8-N7 | -5.40 | 1.27 | 1.30 |
| 13 | C | 181 | ARG | NE-CZ | 5.40 | 1.40 | 1.33 |
| 11 | A | 21 | G | N7-C5 | -5.40 | 1.36 | 1.39 |
| 11 | A | 62 | C | N3-C4 | 5.40 | 1.37 | 1.33 |
| 12 | B | 368 | A | C6-N6 | 5.40 | 1.38 | 1.33 |
| 12 | B | 565 | C | C4'-O4' | 5.40 | 1.52 | 1.45 |
| 12 | B | 719 | C | C2-N3 | 5.40 | 1.40 | 1.35 |
| 12 | B | 885 | C | C4-C5 | 5.40 | 1.47 | 1.43 |
| 12 | B | 1135 | C | P-O5' | -5.40 | 1.54 | 1.59 |
| 12 | B | 1150 | C | N1-C6 | 5.40 | 1.40 | 1.37 |
| 12 | B | 1274 | A | N3-C4 | 5.40 | 1.38 | 1.34 |
| 12 | B | 2458 | G | C4'-C3' | 5.40 | 1.59 | 1.53 |
| 12 | B | 2630 | G | N1-C2 | 5.40 | 1.42 | 1.37 |
| 11 | A | 44 | G | N1-C2 | 5.40 | 1.42 | 1.37 |
| 12 | B | 85 | G | C3'-C2' | -5.40 | 1.46 | 1.52 |
| 12 | B | 1154 | G | C5-C6 | -5.40 | 1.36 | 1.42 |
| 12 | B | 2051 | A | O3'-P | -5.40 | 1.54 | 1.61 |
| 12 | B | 2550 | G | C3'-C2' | -5.40 | 1.46 | 1.52 |
| 12 | B | 1478 | G | N7-C5 | 5.39 | 1.42 | 1.39 |
| 11 | A | 5 | U | C4'-C3' | 5.39 | 1.59 | 1.53 |
| 12 | B | 291 | G | C2-N2 | 5.39 | 1.40 | 1.34 |
| 12 | B | 488 | G | C2-N3 | 5.39 | 1.37 | 1.32 |
| 12 | B | 645 | C | C3'-C2' | -5.39 | 1.46 | 1.52 |
| 12 | B | 679 | C | C2-N3 | 5.39 | 1.40 | 1.35 |
| 12 | B | 753 | A | C3'-C2' | -5.39 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1195 | G | C2-N3 | 5.39 | 1.37 | 1.32 |
| 12 | B | 2430 | A | C6-N6 | 5.39 | 1.38 | 1.33 |
| 12 | B | 2509 | G | N1-C2 | 5.39 | 1.42 | 1.37 |
| 21 | K | 54 | LYS | C-N | 5.39 | 1.42 | 1.33 |
| 12 | B | 371 | A | N9-C4 | -5.39 | 1.34 | 1.37 |
| 12 | B | 1460 | U | C5'-C4' | 5.39 | 1.57 | 1.51 |
| 12 | B | 2066 | C | O4'-C1' | -5.39 | 1.34 | 1.41 |
| 1 | 0 | 10 | ARG | CG-CD | 5.39 | 1.65 | 1.51 |
| 12 | B | 67 | U | C4-C5 | 5.39 | 1.48 | 1.43 |
| 12 | B | 255 | A | C6-N1 | 5.39 | 1.39 | 1.35 |
| 12 | B | 358 | U | N1-C2 | 5.39 | 1.43 | 1.38 |
| 12 | B | 461 | C | N1-C6 | 5.39 | 1.40 | 1.37 |
| 12 | B | 498 | G | C2-N3 | 5.39 | 1.37 | 1.32 |
| 12 | B | 622 | G | P-O5' | 5.39 | 1.65 | 1.59 |
| 12 | B | 636 | G | O3'-P | -5.39 | 1.54 | 1.61 |
| 12 | B | 745 | G | C3'-C2' | -5.39 | 1.46 | 1.52 |
| 12 | B | 798 | G | C8-N7 | 5.39 | 1.34 | 1.30 |
| 12 | B | 934 | U | C2'-C1' | -5.39 | 1.47 | 1.53 |
| 12 | B | 1499 | C | C2-O2 | 5.39 | 1.29 | 1.24 |
| 12 | B | 1780 | A | C8-N7 | -5.39 | 1.27 | 1.31 |
| 12 | B | 2398 | U | C3'-C2' | 5.39 | 1.58 | 1.52 |
| 22 | L | 18 | ARG | CZ-NH1 | 5.39 | 1.40 | 1.33 |
| 12 | B | 346 | A | N7-C5 | -5.39 | 1.36 | 1.39 |
| 12 | B | 364 | C | C4-N4 | 5.39 | 1.38 | 1.33 |
| 12 | B | 1565 | C | N3-C4 | 5.39 | 1.37 | 1.33 |
| 12 | B | 1810 | A | N3-C4 | 5.39 | 1.38 | 1.34 |
| 12 | B | 2056 | G | N3-C4 | 5.39 | 1.39 | 1.35 |
| 12 | B | 2626 | C | C2'-O2' | 5.39 | 1.48 | 1.41 |
| 11 | A | 9 | G | N7-C5 | -5.39 | 1.36 | 1.39 |
| 12 | B | 621 | A | C5'-C4' | 5.39 | 1.57 | 1.51 |
| 12 | B | 1044 | C | C4-N4 | 5.39 | 1.38 | 1.33 |
| 12 | B | 1641 | A | C2'-C1' | -5.39 | 1.47 | 1.53 |
| 12 | B | 1938 | A | N9-C4 | 5.39 | 1.41 | 1.37 |
| 12 | B | 2228 | G | C2'-C1' | -5.39 | 1.47 | 1.53 |
| 12 | B | 2706 | A | C2-N3 | 5.39 | 1.38 | 1.33 |
| 12 | B | 69 | C | N3-C4 | 5.38 | 1.37 | 1.33 |
| 12 | B | 209 | C | C2'-C1' | -5.38 | 1.47 | 1.53 |
| 12 | B | 217 | A | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 12 | B | 798 | G | O3'-P | 5.38 | 1.67 | 1.61 |
| 12 | B | 803 | U | C2-N3 | 5.38 | 1.41 | 1.37 |
| 12 | B | 1240 | U | C2-N3 | 5.38 | 1.41 | 1.37 |
| 12 | B | 2126 | A | N3-C4 | -5.38 | 1.31 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 276 | U | C2'-C1' | -5.38 | 1.47 | 1.53 |
| 12 | B | 684 | G | O4'-C1' | -5.38 | 1.34 | 1.41 |
| 12 | B | 779 | U | N1-C2 | 5.38 | 1.43 | 1.38 |
| 12 | B | 1544 | A | C2-N3 | 5.38 | 1.38 | 1.33 |
| 12 | B | 2040 | G | C2'-O2' | 5.38 | 1.48 | 1.41 |
| 11 | A | 76 | G | C3'-O3' | 5.38 | 1.49 | 1.42 |
| 12 | B | 298 | G | C2-N2 | 5.38 | 1.40 | 1.34 |
| 12 | B | 388 | G | C5'-C4' | 5.38 | 1.57 | 1.51 |
| 12 | B | 413 | C | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 12 | B | 730 | A | N1-C2 | -5.38 | 1.29 | 1.34 |
| 12 | B | 1080 | A | C6-N6 | -5.38 | 1.29 | 1.33 |
| 12 | B | 1271 | G | C6-N1 | 5.38 | 1.43 | 1.39 |
| 12 | B | 1628 | G | C8-N7 | -5.38 | 1.27 | 1.30 |
| 12 | B | 1733 | G | C6-O6 | 5.38 | 1.28 | 1.24 |
| 12 | B | 2098 | U | N1-C6 | -5.38 | 1.33 | 1.38 |
| 12 | B | 2753 | A | C5-C6 | -5.38 | 1.36 | 1.41 |
| 10 | 9 | 36 | GLY | N-CA | -5.38 | 1.38 | 1.46 |
| 12 | B | 614 | A | N9-C4 | 5.38 | 1.41 | 1.37 |
| 12 | B | 2028 | U | O4'-C1' | -5.38 | 1.34 | 1.41 |
| 12 | B | 2681 | C | P-O5' | -5.38 | 1.54 | 1.59 |
| 12 | B | 2820 | A | N9-C4 | -5.38 | 1.34 | 1.37 |
| 12 | B | 496 | G | C2-N3 | 5.38 | 1.37 | 1.32 |
| 12 | B | 1681 | G | C5-C4 | 5.38 | 1.42 | 1.38 |
| 12 | B | 2555 | U | N1-C6 | -5.38 | 1.33 | 1.38 |
| 12 | B | 2617 | U | C2'-C1' | -5.38 | 1.47 | 1.53 |
| 11 | A | 64 | G | C5'-C4' | 5.38 | 1.57 | 1.51 |
| 12 | B | 364 | C | O3'-P | -5.38 | 1.54 | 1.61 |
| 12 | B | 1008 | A | O3'-P | -5.38 | 1.54 | 1.61 |
| 12 | B | 1088 | A | N7-C5 | -5.38 | 1.36 | 1.39 |
| 12 | B | 1233 | C | C4-N4 | 5.38 | 1.38 | 1.33 |
| 12 | B | 1291 | C | C5'-C4' | -5.38 | 1.44 | 1.51 |
| 12 | B | 1460 | U | N1-C2 | 5.38 | 1.43 | 1.38 |
| 12 | B | 1829 | A | C8-N7 | -5.38 | 1.27 | 1.31 |
| 12 | B | 1980 | G | C2'-C1' | -5.38 | 1.47 | 1.53 |
| 12 | B | 2534 | A | C3'-C2' | -5.38 | 1.46 | 1.52 |
| 1 | 0 | 56 | ARG | NE-CZ | 5.38 | 1.40 | 1.33 |
| 12 | B | 1088 | A | C6-N6 | -5.38 | 1.29 | 1.33 |
| 12 | B | 1429 | G | C4'-O4' | -5.38 | 1.38 | 1.45 |
| 12 | B | 1716 | U | C3'-C2' | -5.38 | 1.46 | 1.52 |
| 4 | 3 | 47 | TYR | CE1-CZ | 5.37 | 1.45 | 1.38 |
| 12 | B | 34 | U | C4'-O4' | -5.37 | 1.38 | 1.45 |
| 12 | B | 76 | C | P-O5' | -5.37 | 1.54 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1078 | U | N1-C6 | 5.37 | 1.42 | 1.38 |
| 12 | B | 1383 | A | C5'-C4' | 5.37 | 1.57 | 1.51 |
| 12 | B | 1684 | G | C4'-C3' | -5.37 | 1.47 | 1.52 |
| 12 | B | 1843 | C | N1-C6 | 5.37 | 1.40 | 1.37 |
| 12 | B | 2191 | A | C8-N7 | -5.37 | 1.27 | 1.31 |
| 12 | B | 2409 | G | N7-C5 | -5.37 | 1.36 | 1.39 |
| 12 | B | 2488 | G | C3'-C2' | -5.37 | 1.46 | 1.52 |
| 12 | B | 2635 | A | O3'-P | -5.37 | 1.54 | 1.61 |
| 12 | B | 26 | G | C6-N1 | 5.37 | 1.43 | 1.39 |
| 12 | B | 393 | C | O4'-C1' | 5.37 | 1.48 | 1.41 |
| 12 | B | 651 | G | N9-C8 | 5.37 | 1.41 | 1.37 |
| 12 | B | 675 | A | C3'-O3' | -5.37 | 1.34 | 1.42 |
| 12 | B | 894 | U | C2-N3 | -5.37 | 1.33 | 1.37 |
| 12 | B | 905 | A | C2'-C1' | -5.37 | 1.47 | 1.53 |
| 12 | B | 1239 | G | C5-C6 | -5.37 | 1.36 | 1.42 |
| 12 | B | 1614 | A | P-O5' | 5.37 | 1.65 | 1.59 |
| 12 | B | 2495 | G | C2-N3 | 5.37 | 1.37 | 1.32 |
| 12 | B | 2846 | G | P-O5' | -5.37 | 1.54 | 1.59 |
| 12 | B | 7 | G | C4'-C3' | 5.37 | 1.59 | 1.53 |
| 12 | B | 498 | G | C4'-C3' | 5.37 | 1.59 | 1.53 |
| 12 | B | 2276 | G | N1-C2 | 5.37 | 1.42 | 1.37 |
| 12 | B | 2451 | A | C6-N6 | 5.37 | 1.38 | 1.33 |
| 12 | B | 2582 | G | C5-C4 | 5.37 | 1.42 | 1.38 |
| 12 | B | 2887 | A | C8-N7 | 5.37 | 1.35 | 1.31 |
| 11 | A | 39 | A | N7-C5 | -5.37 | 1.36 | 1.39 |
| 12 | B | 332 | A | C1'-N9 | -5.37 | 1.39 | 1.46 |
| 12 | B | 375 | G | C2'-C1' | -5.37 | 1.47 | 1.53 |
| 12 | B | 1050 | A | C5-C4 | 5.37 | 1.42 | 1.38 |
| 12 | B | 1483 | G | C2'-C1' | -5.37 | 1.47 | 1.53 |
| 12 | B | 2117 | A | C2'-C1' | 5.37 | 1.59 | 1.53 |
| 12 | B | 2824 | C | N1-C6 | 5.37 | 1.40 | 1.37 |
| 12 | B | 273 | G | C5-C6 | -5.37 | 1.36 | 1.42 |
| 12 | B | 732 | C | C5'-C4' | 5.37 | 1.57 | 1.51 |
| 12 | B | 1226 | A | P-O5' | -5.37 | 1.54 | 1.59 |
| 12 | B | 2810 | A | C2'-C1' | -5.37 | 1.47 | 1.53 |
| 12 | B | 59 | U | C4'-O4' | 5.37 | 1.52 | 1.45 |
| 12 | B | 218 | A | C6-N6 | 5.37 | 1.38 | 1.33 |
| 12 | B | 245 | G | C2-N2 | 5.37 | 1.40 | 1.34 |
| 12 | B | 382 | A | P-O5' | -5.37 | 1.54 | 1.59 |
| 12 | B | 740 | C | C3'-O3' | 5.37 | 1.49 | 1.42 |
| 12 | B | 1057 | A | C3'-C2' | 5.37 | 1.58 | 1.52 |
| 12 | B | 1542 | U | C4-C5 | 5.37 | 1.48 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1675 | C | C3'-O3' | -5.37 | 1.34 | 1.42 |
| 12 | B | 2327 | A | P-O5' | -5.37 | 1.54 | 1.59 |
| 14 | D | 182 | ALA | CA-CB | 5.37 | 1.63 | 1.52 |
| 10 | 9 | 260 | ARG | NE-CZ | 5.36 | 1.40 | 1.33 |
| 12 | B | 1444 | G | O3'-P | -5.36 | 1.54 | 1.61 |
| 12 | B | 2148 | G | N1-C2 | 5.36 | 1.42 | 1.37 |
| 12 | B | 2488 | G | N9-C8 | 5.36 | 1.41 | 1.37 |
| 12 | B | 2525 | G | C6-N1 | 5.36 | 1.43 | 1.39 |
| 12 | B | 2645 | G | N9-C8 | 5.36 | 1.41 | 1.37 |
| 12 | B | 2850 | A | N9-C4 | -5.36 | 1.34 | 1.37 |
| 12 | B | 374 | A | N3-C4 | -5.36 | 1.31 | 1.34 |
| 12 | B | 1221 | C | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 12 | B | 1419 | A | C2-N3 | 5.36 | 1.38 | 1.33 |
| 12 | B | 1580 | A | C6-N1 | 5.36 | 1.39 | 1.35 |
| 12 | B | 1933 | G | N1-C2 | 5.36 | 1.42 | 1.37 |
| 12 | B | 2063 | C | C2-N3 | 5.36 | 1.40 | 1.35 |
| 12 | B | 2809 | A | N7-C5 | 5.36 | 1.42 | 1.39 |
| 12 | B | 2872 | A | C6-N1 | 5.36 | 1.39 | 1.35 |
| 12 | B | 543 | G | N9-C8 | -5.36 | 1.34 | 1.37 |
| 12 | B | 1347 | A | C4'-C3' | 5.36 | 1.59 | 1.53 |
| 12 | B | 1417 | C | N1-C6 | 5.36 | 1.40 | 1.37 |
| 12 | B | 1913 | A | C4'-C3' | -5.36 | 1.47 | 1.52 |
| 12 | B | 2012 | G | N3-C4 | 5.36 | 1.39 | 1.35 |
| 12 | B | 2521 | C | C4-N4 | 5.36 | 1.38 | 1.33 |
| 26 | P | 112 | ARG | CZ-NH1 | 5.36 | 1.40 | 1.33 |
| 11 | A | 55 | U | C2'-C1' | -5.36 | 1.47 | 1.53 |
| 12 | B | 696 | G | N1-C2 | 5.36 | 1.42 | 1.37 |
| 12 | B | 1425 | G | C1'-N9 | -5.36 | 1.39 | 1.46 |
| 12 | B | 1641 | A | N9-C8 | 5.36 | 1.42 | 1.37 |
| 12 | B | 2404 | U | O4'-C1' | 5.36 | 1.48 | 1.41 |
| 12 | B | 2471 | A | C5-C4 | -5.36 | 1.34 | 1.38 |
| 12 | B | 2685 | G | C2-N3 | 5.36 | 1.37 | 1.32 |
| 11 | A | 42 | C | C3'-O3' | 5.36 | 1.49 | 1.42 |
| 12 | B | 122 | G | C5-C4 | 5.36 | 1.42 | 1.38 |
| 12 | B | 199 | A | C5'-C4' | 5.36 | 1.57 | 1.51 |
| 12 | B | 1197 | G | C2'-C1' | -5.36 | 1.47 | 1.53 |
| 12 | B | 1248 | G | N3-C4 | -5.36 | 1.31 | 1.35 |
| 12 | B | 2086 | U | C3'-O3' | -5.36 | 1.34 | 1.42 |
| 12 | B | 2369 | A | O4'-C1' | 5.36 | 1.48 | 1.41 |
| 12 | B | 2388 | A | C2'-C1' | -5.36 | 1.47 | 1.53 |
| 12 | B | 2636 | C | P-O5' | -5.36 | 1.54 | 1.59 |
| 12 | B | 2638 | G | C5-C4 | 5.36 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2899 | A | C5'-C4' | 5.36 | 1.57 | 1.51 |
| 12 | B | 241 | A | N1-C2 | 5.36 | 1.39 | 1.34 |
| 12 | B | 406 | G | C4'-O4' | 5.36 | 1.52 | 1.45 |
| 12 | B | 575 | A | N7-C5 | -5.36 | 1.36 | 1.39 |
| 12 | B | 653 | U | C5'-C4' | 5.36 | 1.57 | 1.51 |
| 12 | B | 963 | U | C5'-C4' | 5.36 | 1.57 | 1.51 |
| 12 | B | 1089 | A | O3'-P | -5.36 | 1.54 | 1.61 |
| 12 | B | 1130 | U | C4'-O4' | 5.36 | 1.52 | 1.45 |
| 12 | B | 1158 | C | O3'-P | -5.36 | 1.54 | 1.61 |
| 12 | B | 1820 | U | C3'-O3' | 5.36 | 1.49 | 1.42 |
| 12 | B | 2009 | A | C6-N6 | -5.36 | 1.29 | 1.33 |
| 12 | B | 2147 | A | C4'-O4' | 5.36 | 1.52 | 1.45 |
| 12 | B | 2575 | C | C4-N4 | 5.36 | 1.38 | 1.33 |
| 12 | B | 718 | A | C8-N7 | -5.35 | 1.27 | 1.31 |
| 12 | B | 1620 | G | N9-C4 | -5.35 | 1.33 | 1.38 |
| 12 | B | 1980 | G | N9-C8 | 5.35 | 1.41 | 1.37 |
| 11 | A | 106 | G | N1-C2 | 5.35 | 1.42 | 1.37 |
| 12 | B | 15 | G | N3-C4 | 5.35 | 1.39 | 1.35 |
| 12 | B | 732 | C | N3-C4 | 5.35 | 1.37 | 1.33 |
| 12 | B | 2631 | G | C2-N2 | 5.35 | 1.40 | 1.34 |
| 12 | B | 2727 | A | C8-N7 | 5.35 | 1.35 | 1.31 |
| 12 | B | 2822 | G | N1-C2 | 5.35 | 1.42 | 1.37 |
| 22 | L | 120 | VAL | CA-CB | -5.35 | 1.43 | 1.54 |
| 12 | B | 1093 | G | C2-N3 | 5.35 | 1.37 | 1.32 |
| 12 | B | 1643 | G | N7-C5 | -5.35 | 1.36 | 1.39 |
| 12 | B | 1774 | C | N1-C6 | 5.35 | 1.40 | 1.37 |
| 12 | B | 2129 | C | C2-N3 | 5.35 | 1.40 | 1.35 |
| 12 | B | 2658 | C | C2-N3 | 5.35 | 1.40 | 1.35 |
| 11 | A | 76 | G | N1-C2 | 5.35 | 1.42 | 1.37 |
| 12 | B | 227 | A | C5-C6 | -5.35 | 1.36 | 1.41 |
| 12 | B | 369 | U | N1-C2 | -5.35 | 1.33 | 1.38 |
| 12 | B | 675 | A | N3-C4 | -5.35 | 1.31 | 1.34 |
| 12 | B | 1177 | G | O3'-P | -5.35 | 1.54 | 1.61 |
| 12 | B | 1704 | C | C4-N4 | 5.35 | 1.38 | 1.33 |
| 12 | B | 443 | A | P-O5' | -5.35 | 1.54 | 1.59 |
| 12 | B | 1036 | G | C2'-C1' | -5.35 | 1.47 | 1.53 |
| 12 | B | 1237 | A | C4'-C3' | -5.35 | 1.47 | 1.52 |
| 12 | B | 2276 | G | O5'-C5' | -5.35 | 1.34 | 1.42 |
| 12 | B | 2538 | C | N3-C4 | 5.35 | 1.37 | 1.33 |
| 12 | B | 2762 | C | N1-C6 | -5.35 | 1.33 | 1.37 |
| 12 | B | 2771 | C | C4-N4 | 5.35 | 1.38 | 1.33 |
| 24 | N | 17 | ARG | CZ-NH1 | 5.35 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 360 | U | C2-O2 | -5.35 | 1.17 | 1.22 |
| 12 | B | 710 | U | C2-O2 | 5.35 | 1.27 | 1.22 |
| 12 | B | 1775 | U | C5'-C4' | 5.35 | 1.57 | 1.51 |
| 12 | B | 1780 | A | O3'-P | -5.35 | 1.54 | 1.61 |
| 12 | B | 262 | A | N3-C4 | -5.34 | 1.31 | 1.34 |
| 12 | B | 602 | A | N9-C4 | -5.34 | 1.34 | 1.37 |
| 12 | B | 858 | G | N3-C4 | 5.34 | 1.39 | 1.35 |
| 12 | B | 1303 | G | N9-C4 | -5.34 | 1.33 | 1.38 |
| 12 | B | 1342 | A | O4'-C1' | 5.34 | 1.48 | 1.41 |
| 12 | B | 1647 | U | C2-N3 | 5.34 | 1.41 | 1.37 |
| 12 | B | 1806 | C | C2-O2 | 5.34 | 1.29 | 1.24 |
| 12 | B | 2433 | A | C4'-C3' | -5.34 | 1.47 | 1.52 |
| 7 | 6 | 45 | SER | CA-CB | 5.34 | 1.60 | 1.52 |
| 12 | B | 1821 | A | N7-C5 | -5.34 | 1.36 | 1.39 |
| 12 | B | 2045 | C | P-O5' | -5.34 | 1.54 | 1.59 |
| 12 | B | 2164 | C | N1-C6 | 5.34 | 1.40 | 1.37 |
| 12 | B | 2638 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 12 | B | 512 | G | C4'-O4' | 5.34 | 1.52 | 1.45 |
| 12 | B | 520 | G | C3'-O3' | 5.34 | 1.49 | 1.42 |
| 12 | B | 575 | A | C6-N6 | 5.34 | 1.38 | 1.33 |
| 12 | B | 661 | A | N3-C4 | -5.34 | 1.31 | 1.34 |
| 12 | B | 1345 | C | O3'-P | -5.34 | 1.54 | 1.61 |
| 12 | B | 1552 | A | C5-C6 | 5.34 | 1.45 | 1.41 |
| 12 | B | 1898 | U | C5'-C4' | 5.34 | 1.57 | 1.51 |
| 12 | B | 2345 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 12 | B | 2586 | U | C2-N3 | 5.34 | 1.41 | 1.37 |
| 12 | B | 2596 | U | C2-O2 | 5.34 | 1.27 | 1.22 |
| 11 | A | 82 | U | C5'-C4' | -5.34 | 1.45 | 1.51 |
| 12 | B | 382 | A | C4'-C3' | 5.34 | 1.59 | 1.53 |
| 12 | B | 1333 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 12 | B | 1429 | G | N9-C4 | -5.34 | 1.33 | 1.38 |
| 12 | B | 1761 | C | C2-O2 | -5.34 | 1.19 | 1.24 |
| 12 | B | 2363 | G | O4'-C1' | 5.34 | 1.48 | 1.41 |
| 12 | B | 2638 | G | C4'-C3' | -5.34 | 1.47 | 1.52 |
| 12 | B | 2 | G | O3'-P | 5.34 | 1.67 | 1.61 |
| 12 | B | 329 | G | C5-C4 | 5.34 | 1.42 | 1.38 |
| 12 | B | 511 | U | C4-O4 | 5.34 | 1.27 | 1.23 |
| 12 | B | 2027 | G | C8-N7 | -5.34 | 1.27 | 1.30 |
| 12 | B | 35 | G | C4'-O4' | 5.34 | 1.52 | 1.45 |
| 12 | B | 136 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 12 | B | 338 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 12 | B | 341 | C | C5'-C4' | 5.34 | 1.57 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 443 | A | C4'-C3' | 5.34 | 1.59 | 1.53 |
| 12 | B | 1135 | C | C4'-C3' | -5.34 | 1.47 | 1.52 |
| 12 | B | 1740 | G | N9-C8 | 5.34 | 1.41 | 1.37 |
| 12 | B | 1994 | C | C2-N3 | -5.34 | 1.31 | 1.35 |
| 12 | B | 2005 | A | N1-C2 | 5.34 | 1.39 | 1.34 |
| 12 | B | 2497 | A | N1-C2 | 5.34 | 1.39 | 1.34 |
| 18 | H | 130 | VAL | CB-CG2 | 5.34 | 1.64 | 1.52 |
| 12 | B | 86 | G | O5'-C5' | 5.33 | 1.52 | 1.44 |
| 12 | B | 1217 | U | N1-C6 | 5.33 | 1.42 | 1.38 |
| 12 | B | 2188 | U | C2-N3 | 5.33 | 1.41 | 1.37 |
| 23 | M | 109 | PRO | CA-C | -5.33 | 1.42 | 1.52 |
| 12 | B | 176 | A | C2-N3 | 5.33 | 1.38 | 1.33 |
| 12 | B | 258 | G | P-O5' | 5.33 | 1.65 | 1.59 |
| 12 | B | 324 | A | C2'-C1' | -5.33 | 1.47 | 1.53 |
| 12 | B | 707 | G | C3'-O3' | 5.33 | 1.49 | 1.42 |
| 12 | B | 759 | G | N3-C4 | -5.33 | 1.31 | 1.35 |
| 12 | B | 1851 | U | O3'-P | -5.33 | 1.54 | 1.61 |
| 12 | B | 2050 | C | C4'-O4' | -5.33 | 1.38 | 1.45 |
| 12 | B | 2058 | A | C5-C4 | -5.33 | 1.35 | 1.38 |
| 12 | B | 2092 | U | C5-C6 | 5.33 | 1.39 | 1.34 |
| 12 | B | 25 | U | O3'-P | -5.33 | 1.54 | 1.61 |
| 12 | B | 1027 | A | C6-N1 | 5.33 | 1.39 | 1.35 |
| 12 | B | 1172 | C | C4'-O4' | -5.33 | 1.38 | 1.45 |
| 12 | B | 1421 | G | C6-N1 | -5.33 | 1.35 | 1.39 |
| 12 | B | 1784 | A | N9-C4 | -5.33 | 1.34 | 1.37 |
| 12 | B | 2080 | A | N9-C4 | -5.33 | 1.34 | 1.37 |
| 12 | B | 2641 | G | C2-N3 | -5.33 | 1.28 | 1.32 |
| 12 | B | 2807 | U | C2-N3 | 5.33 | 1.41 | 1.37 |
| 12 | B | 150 | U | C3'-O3' | -5.33 | 1.34 | 1.42 |
| 12 | B | 1912 | A | C5-C4 | 5.33 | 1.42 | 1.38 |
| 12 | B | 2793 | C | C2-N3 | 5.33 | 1.40 | 1.35 |
| 11 | A | 43 | C | C4-C5 | -5.33 | 1.38 | 1.43 |
| 12 | B | 701 | G | C8-N7 | -5.33 | 1.27 | 1.30 |
| 12 | B | 733 | G | N7-C5 | -5.33 | 1.36 | 1.39 |
| 12 | B | 908 | C | C5-C6 | 5.33 | 1.38 | 1.34 |
| 12 | B | 1422 | G | N7-C5 | 5.33 | 1.42 | 1.39 |
| 12 | B | 2083 | G | C2-N3 | 5.33 | 1.37 | 1.32 |
| 12 | B | 2127 | G | N9-C8 | 5.33 | 1.41 | 1.37 |
| 12 | B | 2288 | A | N3-C4 | -5.33 | 1.31 | 1.34 |
| 12 | B | 2714 | G | N3-C4 | -5.33 | 1.31 | 1.35 |
| 12 | B | 110 | G | N3-C4 | -5.33 | 1.31 | 1.35 |
| 12 | B | 882 | G | C2-N3 | 5.33 | 1.37 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1329 | U | C2'-C1' | -5.33 | 1.47 | 1.53 |
| 12 | B | 1724 | G | C2'-C1' | -5.33 | 1.47 | 1.53 |
| 11 | A | 79 | G | N7-C5 | -5.33 | 1.36 | 1.39 |
| 12 | B | 107 | G | N9-C8 | 5.33 | 1.41 | 1.37 |
| 12 | B | 454 | A | C4'-C3' | 5.33 | 1.59 | 1.53 |
| 12 | B | 459 | U | P-O5' | -5.33 | 1.54 | 1.59 |
| 12 | B | 1236 | G | C2'-C1' | -5.33 | 1.47 | 1.53 |
| 12 | B | 1330 | C | C4-C5 | 5.33 | 1.47 | 1.43 |
| 12 | B | 1722 | A | N1-C2 | -5.33 | 1.29 | 1.34 |
| 12 | B | 2227 | A | N7-C5 | -5.33 | 1.36 | 1.39 |
| 12 | B | 2286 | G | O4'-C1' | 5.33 | 1.48 | 1.41 |
| 12 | B | 2829 | A | N9-C4 | -5.33 | 1.34 | 1.37 |
| 13 | C | 261 | ARG | CZ-NH1 | 5.33 | 1.40 | 1.33 |
| 12 | B | 714 | U | N3-C4 | 5.32 | 1.43 | 1.38 |
| 12 | B | 887 | U | N3-C4 | 5.32 | 1.43 | 1.38 |
| 12 | B | 919 | U | O4'-C1' | 5.32 | 1.48 | 1.41 |
| 12 | B | 1307 | A | C5'-C4' | 5.32 | 1.57 | 1.51 |
| 12 | B | 2237 | G | O3'-P | -5.32 | 1.54 | 1.61 |
| 12 | B | 2601 | C | N3-C4 | 5.32 | 1.37 | 1.33 |
| 20 | J | 69 | ARG | CZ-NH2 | 5.32 | 1.40 | 1.33 |
| 23 | M | 75 | GLU | CD-OE1 | 5.32 | 1.31 | 1.25 |
| 12 | B | 185 | G | C5-C6 | -5.32 | 1.37 | 1.42 |
| 12 | B | 769 | U | C4'-C3' | 5.32 | 1.59 | 1.53 |
| 12 | B | 1486 | U | C5'-C4' | 5.32 | 1.57 | 1.51 |
| 30 | T | 56 | GLU | CD-OE2 | 5.32 | 1.31 | 1.25 |
| 12 | B | 654 | A | C1'-N9 | 5.32 | 1.56 | 1.48 |
| 12 | B | 956 | G | C5-C4 | -5.32 | 1.34 | 1.38 |
| 12 | B | 1348 | C | C5'-C4' | 5.32 | 1.57 | 1.51 |
| 12 | B | 1961 | C | C2-N3 | 5.32 | 1.40 | 1.35 |
| 12 | B | 2110 | G | C2-N2 | 5.32 | 1.39 | 1.34 |
| 12 | B | 2365 | G | C2-N2 | 5.32 | 1.39 | 1.34 |
| 12 | B | 2719 | G | O3'-P | -5.32 | 1.54 | 1.61 |
| 12 | B | 2776 | A | N7-C5 | -5.32 | 1.36 | 1.39 |
| 12 | B | 2797 | U | C4'-C3' | 5.32 | 1.59 | 1.53 |
| 12 | B | 972 | A | C2-N3 | 5.32 | 1.38 | 1.33 |
| 12 | B | 1243 | C | C4-N4 | 5.32 | 1.38 | 1.33 |
| 12 | B | 1536 | C | N3-C4 | 5.32 | 1.37 | 1.33 |
| 12 | B | 1558 | C | C2-O2 | 5.32 | 1.29 | 1.24 |
| 12 | B | 2024 | G | P-O5' | -5.32 | 1.54 | 1.59 |
| 12 | B | 38 | A | O4'-C1' | 5.32 | 1.48 | 1.41 |
| 12 | B | 459 | U | C2-N3 | -5.32 | 1.34 | 1.37 |
| 12 | B | 651 | G | C8-N7 | -5.32 | 1.27 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 695 | G | C2-N2 | 5.32 | 1.39 | 1.34 |
| 12 | B | 793 | A | C5'-C4' | 5.32 | 1.57 | 1.51 |
| 12 | B | 953 | G | C3'-O3' | -5.32 | 1.34 | 1.42 |
| 12 | B | 988 | A | C2-N3 | -5.32 | 1.28 | 1.33 |
| 12 | B | 1095 | A | C2'-O2' | -5.32 | 1.34 | 1.41 |
| 12 | B | 1169 | A | C6-N1 | 5.32 | 1.39 | 1.35 |
| 12 | B | 1490 | A | C6-N1 | 5.32 | 1.39 | 1.35 |
| 12 | B | 1690 | A | N9-C4 | -5.32 | 1.34 | 1.37 |
| 12 | B | 2313 | C | C5-C6 | 5.32 | 1.38 | 1.34 |
| 12 | B | 2454 | G | C8-N7 | 5.32 | 1.34 | 1.30 |
| 12 | B | 2459 | A | N9-C8 | 5.32 | 1.42 | 1.37 |
| 12 | B | 2565 | A | C6-N6 | 5.32 | 1.38 | 1.33 |
| 12 | B | 202 | U | O4'-C1' | 5.32 | 1.48 | 1.41 |
| 12 | B | 337 | C | N1-C2 | 5.32 | 1.45 | 1.40 |
| 12 | B | 680 | C | C4-N4 | 5.32 | 1.38 | 1.33 |
| 12 | B | 893 | C | C4'-C3' | -5.32 | 1.47 | 1.52 |
| 12 | B | 1941 | C | C1'-N1 | 5.32 | 1.56 | 1.48 |
| 12 | B | 1951 | U | O3'-P | -5.32 | 1.54 | 1.61 |
| 12 | B | 2057 | G | O3'-P | -5.32 | 1.54 | 1.61 |
| 12 | B | 2466 | C | N3-C4 | 5.32 | 1.37 | 1.33 |
| 12 | B | 2556 | C | O5'-C5' | -5.32 | 1.34 | 1.42 |
| 12 | B | 2727 | A | C6-N1 | 5.32 | 1.39 | 1.35 |
| 12 | B | 13 | A | C5-C6 | -5.31 | 1.36 | 1.41 |
| 12 | B | 1248 | G | N1-C2 | 5.31 | 1.42 | 1.37 |
| 12 | B | 2084 | C | N1-C6 | 5.31 | 1.40 | 1.37 |
| 12 | B | 2191 | A | N7-C5 | 5.31 | 1.42 | 1.39 |
| 12 | B | 2749 | A | N9-C8 | -5.31 | 1.33 | 1.37 |
| 12 | B | 173 | A | C5'-C4' | 5.31 | 1.57 | 1.51 |
| 12 | B | 325 | G | C8-N7 | -5.31 | 1.27 | 1.30 |
| 12 | B | 437 | U | C3'-C2' | -5.31 | 1.47 | 1.52 |
| 12 | B | 755 | U | C3'-O3' | 5.31 | 1.49 | 1.42 |
| 12 | B | 805 | G | P-O5' | 5.31 | 1.65 | 1.59 |
| 12 | B | 823 | C | N3-C4 | 5.31 | 1.37 | 1.33 |
| 12 | B | 1252 | G | N1-C2 | 5.31 | 1.42 | 1.37 |
| 12 | B | 1620 | G | C3'-O3' | 5.31 | 1.49 | 1.42 |
| 12 | B | 1663 | G | P-O5' | 5.31 | 1.65 | 1.59 |
| 12 | B | 1700 | A | C4'-C3' | -5.31 | 1.47 | 1.52 |
| 12 | B | 1985 | C | C5'-C4' | 5.31 | 1.57 | 1.51 |
| 12 | B | 2114 | A | N9-C4 | -5.31 | 1.34 | 1.37 |
| 12 | B | 2229 | U | C4-O4 | -5.31 | 1.19 | 1.23 |
| 12 | B | 2488 | G | N3-C4 | -5.31 | 1.31 | 1.35 |
| 25 | O | 10 | ARG | CZ-NH2 | 5.31 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 800 | A | C5'-C4' | 5.31 | 1.57 | 1.51 |
| 12 | B | 1016 | G | C6-N1 | 5.31 | 1.43 | 1.39 |
| 12 | B | 1613 | G | C2-N3 | 5.31 | 1.36 | 1.32 |
| 12 | B | 2173 | A | N3-C4 | -5.31 | 1.31 | 1.34 |
| 12 | B | 2513 | A | N1-C2 | -5.31 | 1.29 | 1.34 |
| 11 | A | 53 | A | N9-C4 | -5.31 | 1.34 | 1.37 |
| 12 | B | 642 | U | N1-C2 | 5.31 | 1.43 | 1.38 |
| 12 | B | 1102 | C | P-O5' | -5.31 | 1.54 | 1.59 |
| 12 | B | 2183 | A | P-O5' | -5.31 | 1.54 | 1.59 |
| 12 | B | 84 | A | C3'-O3' | 5.31 | 1.49 | 1.42 |
| 12 | B | 234 | U | C2-O2 | 5.31 | 1.27 | 1.22 |
| 12 | B | 622 | G | N7-C5 | -5.31 | 1.36 | 1.39 |
| 12 | B | 737 | C | P-O5' | -5.31 | 1.54 | 1.59 |
| 12 | B | 1042 | G | C3'-C2' | 5.31 | 1.58 | 1.52 |
| 12 | B | 1136 | G | C2-N3 | 5.31 | 1.36 | 1.32 |
| 12 | B | 1154 | G | C2-N2 | 5.31 | 1.39 | 1.34 |
| 12 | B | 1436 | G | N7-C5 | -5.31 | 1.36 | 1.39 |
| 12 | B | 1445 | G | C2-N3 | 5.31 | 1.36 | 1.32 |
| 12 | B | 1583 | A | C3'-C2' | 5.31 | 1.58 | 1.52 |
| 12 | B | 1864 | U | N3-C4 | 5.31 | 1.43 | 1.38 |
| 12 | B | 1917 | U | C4'-O4' | -5.31 | 1.38 | 1.45 |
| 12 | B | 2851 | A | N9-C8 | 5.31 | 1.42 | 1.37 |
| 11 | A | 110 | C | C2-O2 | -5.31 | 1.19 | 1.24 |
| 12 | B | 1401 | G | C5-C4 | -5.31 | 1.34 | 1.38 |
| 11 | A | 12 | C | C5-C6 | 5.30 | 1.38 | 1.34 |
| 11 | A | 54 | G | N9-C8 | -5.30 | 1.34 | 1.37 |
| 12 | B | 501 | A | C4'-O4' | 5.30 | 1.52 | 1.45 |
| 12 | B | 507 | A | C6-N6 | 5.30 | 1.38 | 1.33 |
| 12 | B | 763 | G | N1-C2 | 5.30 | 1.42 | 1.37 |
| 12 | B | 1696 | G | C2-N3 | 5.30 | 1.36 | 1.32 |
| 12 | B | 1917 | U | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 12 | B | 2626 | C | C5-C6 | 5.30 | 1.38 | 1.34 |
| 12 | B | 2867 | G | C2-N2 | 5.30 | 1.39 | 1.34 |
| 12 | B | 655 | A | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 12 | B | 2132 | U | C4-O4 | 5.30 | 1.27 | 1.23 |
| 12 | B | 2877 | G | N7-C5 | 5.30 | 1.42 | 1.39 |
| 12 | B | 2891 | U | N3-C4 | 5.30 | 1.43 | 1.38 |
| 12 | B | 276 | U | P-O5' | -5.30 | 1.54 | 1.59 |
| 12 | B | 331 | C | C4'-C3' | 5.30 | 1.58 | 1.53 |
| 12 | B | 805 | G | C4'-C3' | -5.30 | 1.47 | 1.52 |
| 12 | B | 990 | A | C8-N7 | -5.30 | 1.27 | 1.31 |
| 12 | B | 1166 | G | P-O5' | -5.30 | 1.54 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1983 | G | N9-C8 | 5.30 | 1.41 | 1.37 |
| 12 | B | 2312 | U | C4'-O4' | 5.30 | 1.52 | 1.45 |
| 12 | B | 2405 | G | N7-C5 | 5.30 | 1.42 | 1.39 |
| 12 | B | 2641 | G | O4'-C1' | -5.30 | 1.34 | 1.41 |
| 12 | B | 2660 | A | C5-C6 | 5.30 | 1.45 | 1.41 |
| 12 | B | 2747 | G | C8-N7 | 5.30 | 1.34 | 1.30 |
| 12 | B | 2801 | G | O3'-P | -5.30 | 1.54 | 1.61 |
| 12 | B | 327 | G | C5-C4 | -5.30 | 1.34 | 1.38 |
| 12 | B | 513 | A | C3'-O3' | 5.30 | 1.49 | 1.42 |
| 12 | B | 1822 | C | C4-C5 | 5.30 | 1.47 | 1.43 |
| 12 | B | 1947 | C | C2'-C1' | -5.30 | 1.47 | 1.53 |
| 12 | B | 2173 | A | N9-C4 | 5.30 | 1.41 | 1.37 |
| 12 | B | 2570 | G | N3-C4 | 5.30 | 1.39 | 1.35 |
| 12 | B | 2681 | C | N1-C6 | 5.30 | 1.40 | 1.37 |
| 12 | B | 892 | A | P-O5' | 5.30 | 1.65 | 1.59 |
| 12 | B | 2355 | G | C2-N3 | 5.30 | 1.36 | 1.32 |
| 12 | B | 2643 | G | N9-C4 | -5.30 | 1.33 | 1.38 |
| 12 | B | 2802 | G | N3-C4 | -5.30 | 1.31 | 1.35 |
| 12 | B | 14 | A | C3'-O3' | 5.30 | 1.49 | 1.42 |
| 12 | B | 56 | A | O3'-P | -5.30 | 1.54 | 1.61 |
| 12 | B | 1051 | G | C6-N1 | 5.30 | 1.43 | 1.39 |
| 12 | B | 1056 | G | C5-C6 | 5.30 | 1.47 | 1.42 |
| 12 | B | 1194 | A | N9-C4 | -5.30 | 1.34 | 1.37 |
| 12 | B | 1429 | G | C6-N1 | 5.30 | 1.43 | 1.39 |
| 12 | B | 2038 | G | C8-N7 | -5.30 | 1.27 | 1.30 |
| 12 | B | 2121 | G | O3'-P | 5.30 | 1.67 | 1.61 |
| 12 | B | 2226 | C | C5'-C4' | -5.30 | 1.45 | 1.51 |
| 12 | B | 2289 | G | C2'-C1' | -5.30 | 1.47 | 1.53 |
| 26 | P | 50 | ARG | CZ-NH1 | 5.30 | 1.40 | 1.33 |
| 12 | B | 54 | G | P-O5' | -5.29 | 1.54 | 1.59 |
| 12 | B | 2859 | G | C5-C4 | -5.29 | 1.34 | 1.38 |
| 6 | 5 | 164 | ARG | NE-CZ | 5.29 | 1.40 | 1.33 |
| 11 | A | 15 | A | C5'-C4' | 5.29 | 1.57 | 1.51 |
| 11 | A | 53 | A | C6-N6 | 5.29 | 1.38 | 1.33 |
| 12 | B | 590 | A | C6-N1 | 5.29 | 1.39 | 1.35 |
| 12 | B | 621 | A | C5-C6 | 5.29 | 1.45 | 1.41 |
| 12 | B | 875 | G | C2'-C1' | -5.29 | 1.47 | 1.53 |
| 12 | B | 1284 | A | C6-N6 | 5.29 | 1.38 | 1.33 |
| 12 | B | 1417 | C | C5-C6 | -5.29 | 1.30 | 1.34 |
| 12 | B | 1436 | G | C6-N1 | 5.29 | 1.43 | 1.39 |
| 12 | B | 2505 | G | C2'-C1' | -5.29 | 1.47 | 1.53 |
| 12 | B | 2758 | A | C8-N7 | -5.29 | 1.27 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2859 | G | N9-C8 | -5.29 | 1.34 | 1.37 |
| 29 | S | 45 | VAL | CA-CB | -5.29 | 1.43 | 1.54 |
| 12 | B | 615 | U | O3'-P | -5.29 | 1.54 | 1.61 |
| 12 | B | 1279 | G | N9-C4 | -5.29 | 1.33 | 1.38 |
| 12 | B | 1778 | U | C3'-C2' | 5.29 | 1.58 | 1.52 |
| 12 | B | 1973 | G | N3-C4 | -5.29 | 1.31 | 1.35 |
| 12 | B | 2269 | G | P-O5' | -5.29 | 1.54 | 1.59 |
| 12 | B | 2721 | A | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 12 | B | 2780 | G | C3'-C2' | 5.29 | 1.58 | 1.52 |
| 12 | B | 15 | G | C6-N1 | 5.29 | 1.43 | 1.39 |
| 12 | B | 808 | G | C5-C4 | -5.29 | 1.34 | 1.38 |
| 12 | B | 1084 | A | N7-C5 | 5.29 | 1.42 | 1.39 |
| 12 | B | 1273 | U | C3'-O3' | 5.29 | 1.49 | 1.42 |
| 12 | B | 1554 | U | N3-C4 | 5.29 | 1.43 | 1.38 |
| 12 | B | 2823 | A | C3'-C2' | -5.29 | 1.47 | 1.52 |
| 11 | A | 95 | U | C4-C5 | 5.29 | 1.48 | 1.43 |
| 12 | B | 141 | G | C2-N2 | 5.29 | 1.39 | 1.34 |
| 12 | B | 886 | A | P-O5' | -5.29 | 1.54 | 1.59 |
| 12 | B | 918 | A | C6-N1 | 5.29 | 1.39 | 1.35 |
| 12 | B | 1219 | U | N1-C2 | -5.29 | 1.33 | 1.38 |
| 12 | B | 2503 | A | P-O5' | -5.29 | 1.54 | 1.59 |
| 12 | B | 2666 | C | N3-C4 | 5.29 | 1.37 | 1.33 |
| 12 | B | 2770 | G | C6-N1 | 5.29 | 1.43 | 1.39 |
| 12 | B | 2838 | G | O4'-C1' | -5.29 | 1.34 | 1.41 |
| 12 | B | 235 | U | C2-O2 | 5.29 | 1.27 | 1.22 |
| 12 | B | 1799 | G | C6-N1 | 5.29 | 1.43 | 1.39 |
| 12 | B | 1852 | U | C5'-C4' | -5.29 | 1.45 | 1.51 |
| 12 | B | 2397 | G | N9-C8 | 5.29 | 1.41 | 1.37 |
| 12 | B | 2765 | A | C5-C6 | -5.29 | 1.36 | 1.41 |
| 12 | B | 3 | U | C2'-C1' | -5.29 | 1.47 | 1.53 |
| 12 | B | 1879 | C | C1'-N1 | 5.29 | 1.56 | 1.48 |
| 12 | B | 2130 | U | C1'-N1 | 5.29 | 1.56 | 1.48 |
| 12 | B | 2426 | A | C4'-C3' | 5.29 | 1.58 | 1.53 |
| 12 | B | 2499 | C | C4'-C3' | 5.29 | 1.58 | 1.53 |
| 12 | B | 2837 | A | C4'-O4' | 5.29 | 1.52 | 1.45 |
| 12 | B | 947 | A | N7-C5 | 5.28 | 1.42 | 1.39 |
| 12 | B | 1027 | A | N7-C5 | -5.28 | 1.36 | 1.39 |
| 12 | B | 1393 | A | O3'-P | -5.28 | 1.54 | 1.61 |
| 12 | B | 1821 | A | N9-C8 | 5.28 | 1.42 | 1.37 |
| 12 | B | 1902 | C | C4'-C3' | 5.28 | 1.58 | 1.53 |
| 12 | B | 2101 | A | C5'-C4' | 5.28 | 1.57 | 1.51 |
| 12 | B | 533 | G | O3'-P | -5.28 | 1.54 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1072 | C | N3-C4 | 5.28 | 1.37 | 1.33 |
| 12 | B | 1179 | G | N7-C5 | -5.28 | 1.36 | 1.39 |
| 12 | B | 2534 | A | P-O5' | -5.28 | 1.54 | 1.59 |
| 12 | B | 2760 | C | C3'-C2' | 5.28 | 1.58 | 1.52 |
| 12 | B | 13 | A | C3'-C2' | -5.28 | 1.47 | 1.52 |
| 12 | B | 637 | A | N3-C4 | -5.28 | 1.31 | 1.34 |
| 12 | B | 975 | A | N1-C2 | 5.28 | 1.39 | 1.34 |
| 12 | B | 1032 | A | N7-C5 | 5.28 | 1.42 | 1.39 |
| 12 | B | 1308 | A | N9-C4 | -5.28 | 1.34 | 1.37 |
| 12 | B | 1375 | U | O3'-P | -5.28 | 1.54 | 1.61 |
| 12 | B | 1669 | A | C5-C6 | 5.28 | 1.45 | 1.41 |
| 12 | B | 2083 | G | O4'-C1' | 5.28 | 1.48 | 1.41 |
| 12 | B | 2526 | G | C5-C4 | 5.28 | 1.42 | 1.38 |
| 12 | B | 2633 | G | C5'-C4' | 5.28 | 1.57 | 1.51 |
| 12 | B | 1096 | A | O3'-P | -5.28 | 1.54 | 1.61 |
| 12 | B | 1212 | G | C2-N2 | 5.28 | 1.39 | 1.34 |
| 12 | B | 1908 | C | C2'-O2' | -5.28 | 1.34 | 1.41 |
| 12 | B | 2137 | U | P-O5' | -5.28 | 1.54 | 1.59 |
| 9 | 8 | 19 | ARG | CZ-NH1 | 5.28 | 1.40 | 1.33 |
| 12 | B | 527 | C | C5'-C4' | 5.28 | 1.57 | 1.51 |
| 12 | B | 637 | A | C1'-N9 | -5.28 | 1.39 | 1.46 |
| 12 | B | 1993 | U | O4'-C1' | 5.28 | 1.48 | 1.41 |
| 12 | B | 2742 | G | P-O5' | -5.28 | 1.54 | 1.59 |
| 10 | 9 | 51 | GLU | CB-CG | 5.27 | 1.62 | 1.52 |
| 12 | B | 774 | G | C6-N1 | 5.27 | 1.43 | 1.39 |
| 12 | B | 1292 | G | P-O5' | -5.27 | 1.54 | 1.59 |
| 12 | B | 2370 | G | C5-C6 | -5.27 | 1.37 | 1.42 |
| 12 | B | 2789 | C | N3-C4 | 5.27 | 1.37 | 1.33 |
| 11 | A | 36 | C | C4'-O4' | 5.27 | 1.52 | 1.45 |
| 11 | A | 108 | A | C3'-O3' | -5.27 | 1.34 | 1.42 |
| 12 | B | 1648 | U | N1-C6 | 5.27 | 1.42 | 1.38 |
| 12 | B | 2174 | C | N3-C4 | 5.27 | 1.37 | 1.33 |
| 12 | B | 2208 | C | N3-C4 | 5.27 | 1.37 | 1.33 |
| 12 | B | 1584 | U | C2'-C1' | -5.27 | 1.47 | 1.53 |
| 12 | B | 2271 | G | C4'-O4' | 5.27 | 1.52 | 1.45 |
| 22 | L | 78 | ARG | CZ-NH2 | 5.27 | 1.40 | 1.33 |
| 11 | A | 48 | U | C3'-C2' | -5.27 | 1.47 | 1.52 |
| 12 | B | 149 | A | C5-C4 | -5.27 | 1.35 | 1.38 |
| 12 | B | 307 | G | C2-N2 | 5.27 | 1.39 | 1.34 |
| 12 | B | 484 | C | P-O5' | -5.27 | 1.54 | 1.59 |
| 12 | B | 535 | G | N9-C8 | 5.27 | 1.41 | 1.37 |
| 12 | B | 535 | G | N3-C4 | -5.27 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 992 | C | O3'-P | -5.27 | 1.54 | 1.61 |
| 12 | B | 1375 | U | C3'-C2' | 5.27 | 1.58 | 1.52 |
| 12 | B | 1422 | G | C2-N2 | 5.27 | 1.39 | 1.34 |
| 12 | B | 1798 | U | C3'-O3' | 5.27 | 1.49 | 1.42 |
| 12 | B | 1863 | G | C6-O6 | -5.27 | 1.19 | 1.24 |
| 12 | B | 2414 | G | P-O5' | -5.27 | 1.54 | 1.59 |
| 11 | A | 9 | G | C2-N2 | 5.27 | 1.39 | 1.34 |
| 12 | B | 180 | G | C2'-C1' | -5.27 | 1.47 | 1.53 |
| 12 | B | 391 | A | P-O5' | -5.27 | 1.54 | 1.59 |
| 12 | B | 1165 | A | C5'-C4' | 5.27 | 1.57 | 1.51 |
| 12 | B | 1282 | U | C2'-C1' | -5.27 | 1.47 | 1.53 |
| 12 | B | 2882 | A | C3'-O3' | 5.27 | 1.49 | 1.42 |
| 15 | E | 10 | SER | CA-CB | 5.27 | 1.60 | 1.52 |
| 12 | B | 152 | A | C4'-C3' | 5.27 | 1.58 | 1.53 |
| 12 | B | 2273 | A | N7-C5 | -5.27 | 1.36 | 1.39 |
| 12 | B | 2639 | A | C4'-C3' | -5.27 | 1.47 | 1.52 |
| 4 | 3 | 51 | ARG | CZ-NH2 | 5.26 | 1.39 | 1.33 |
| 12 | B | 1390 | U | N1-C2 | 5.26 | 1.43 | 1.38 |
| 12 | B | 1654 | A | C2'-C1' | -5.26 | 1.47 | 1.53 |
| 12 | B | 1719 | G | C4'-C3' | 5.26 | 1.58 | 1.53 |
| 12 | B | 1920 | C | C3'-C2' | -5.26 | 1.47 | 1.52 |
| 12 | B | 2274 | A | O4'-C1' | -5.26 | 1.34 | 1.41 |
| 12 | B | 627 | A | C5'-C4' | 5.26 | 1.57 | 1.51 |
| 12 | B | 1073 | A | C8-N7 | -5.26 | 1.27 | 1.31 |
| 12 | B | 1663 | G | N9-C8 | -5.26 | 1.34 | 1.37 |
| 12 | B | 1782 | U | C3'-O3' | 5.26 | 1.49 | 1.42 |
| 12 | B | 1911 | U | C4-O4 | -5.26 | 1.19 | 1.23 |
| 12 | B | 1944 | U | O4'-C1' | 5.26 | 1.48 | 1.41 |
| 12 | B | 135 | U | C2'-C1' | -5.26 | 1.47 | 1.53 |
| 12 | B | 308 | G | N9-C4 | 5.26 | 1.42 | 1.38 |
| 12 | B | 856 | G | C5-C6 | -5.26 | 1.37 | 1.42 |
| 12 | B | 1338 | G | C5-C4 | -5.26 | 1.34 | 1.38 |
| 12 | B | 1547 | C | C4'-C3' | -5.26 | 1.47 | 1.52 |
| 12 | B | 2314 | A | C8-N7 | -5.26 | 1.27 | 1.31 |
| 12 | B | 1732 | C | C2-N3 | 5.26 | 1.40 | 1.35 |
| 12 | B | 2352 | A | P-O5' | -5.26 | 1.54 | 1.59 |
| 12 | B | 289 | G | N3-C4 | -5.26 | 1.31 | 1.35 |
| 12 | B | 1768 | C | N3-C4 | 5.26 | 1.37 | 1.33 |
| 12 | B | 2820 | A | O3'-P | -5.26 | 1.54 | 1.61 |
| 12 | B | 245 | G | C3'-O3' | 5.26 | 1.49 | 1.42 |
| 12 | B | 715 | A | C1'-N9 | 5.26 | 1.56 | 1.48 |
| 12 | B | 1225 | G | C2-N2 | 5.26 | 1.39 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1244 | A | N7-C5 | -5.26 | 1.36 | 1.39 |
| 12 | B | 2018 | G | N3-C4 | -5.26 | 1.31 | 1.35 |
| 12 | B | 2071 | A | C6-N1 | 5.26 | 1.39 | 1.35 |
| 12 | B | 2378 | A | C6-N1 | 5.26 | 1.39 | 1.35 |
| 12 | B | 2389 | G | P-O5' | -5.26 | 1.54 | 1.59 |
| 12 | B | 2571 | U | C3'-O3' | 5.26 | 1.49 | 1.42 |
| 12 | B | 169 | G | C8-N7 | 5.25 | 1.34 | 1.30 |
| 12 | B | 326 | G | C2'-C1' | -5.25 | 1.47 | 1.53 |
| 12 | B | 574 | A | O3'-P | -5.25 | 1.54 | 1.61 |
| 12 | B | 1389 | G | C2-N3 | 5.25 | 1.36 | 1.32 |
| 12 | B | 2286 | G | C2-N2 | 5.25 | 1.39 | 1.34 |
| 11 | A | 59 | A | C6-N1 | 5.25 | 1.39 | 1.35 |
| 12 | B | 101 | A | O4'-C1' | -5.25 | 1.34 | 1.41 |
| 12 | B | 770 | G | N9-C8 | 5.25 | 1.41 | 1.37 |
| 12 | B | 833 | A | N9-C4 | 5.25 | 1.41 | 1.37 |
| 12 | B | 1008 | A | N1-C2 | -5.25 | 1.29 | 1.34 |
| 12 | B | 1265 | A | C3'-C2' | 5.25 | 1.58 | 1.52 |
| 12 | B | 1374 | G | P-O5' | -5.25 | 1.54 | 1.59 |
| 12 | B | 1674 | G | N9-C8 | 5.25 | 1.41 | 1.37 |
| 12 | B | 1931 | U | N1-C2 | 5.25 | 1.43 | 1.38 |
| 12 | B | 2108 | A | C2'-C1' | -5.25 | 1.47 | 1.53 |
| 12 | B | 2468 | A | C5-C6 | 5.25 | 1.45 | 1.41 |
| 12 | B | 2503 | A | C3'-C2' | -5.25 | 1.47 | 1.52 |
| 6 | 5 | 201 | PRO | N-CD | -5.25 | 1.40 | 1.47 |
| 12 | B | 885 | C | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 12 | B | 1434 | A | O3'-P | -5.25 | 1.54 | 1.61 |
| 12 | B | 1470 | A | C2'-C1' | 5.25 | 1.59 | 1.53 |
| 12 | B | 2389 | G | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 12 | B | 2747 | G | C2-N2 | 5.25 | 1.39 | 1.34 |
| 17 | G | 171 | LYS | CA-CB | 5.25 | 1.65 | 1.53 |
| 12 | B | 156 | A | N9-C4 | -5.25 | 1.34 | 1.37 |
| 12 | B | 382 | A | C2'-C1' | -5.25 | 1.47 | 1.53 |
| 12 | B | 592 | A | N9-C8 | -5.25 | 1.33 | 1.37 |
| 12 | B | 671 | C | C5-C6 | -5.25 | 1.30 | 1.34 |
| 12 | B | 697 | G | C4'-O4' | 5.25 | 1.52 | 1.45 |
| 12 | B | 1736 | U | C3'-C2' | -5.25 | 1.47 | 1.52 |
| 12 | B | 2053 | G | C8-N7 | -5.25 | 1.27 | 1.30 |
| 12 | B | 2221 | G | C6-N1 | 5.25 | 1.43 | 1.39 |
| 12 | B | 2237 | G | N7-C5 | -5.25 | 1.36 | 1.39 |
| 12 | B | 2301 | C | N1-C6 | -5.25 | 1.33 | 1.37 |
| 12 | B | 2317 | A | C4'-C3' | 5.25 | 1.58 | 1.53 |
| 12 | B | 2505 | G | C5'-C4' | 5.25 | 1.57 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2770 | G | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 12 | B | 2880 | C | N1-C6 | 5.25 | 1.40 | 1.37 |
| 11 | A | 64 | G | C5-C6 | -5.25 | 1.37 | 1.42 |
| 12 | B | 30 | G | O3'-P | -5.25 | 1.54 | 1.61 |
| 12 | B | 318 | C | C5'-C4' | -5.25 | 1.45 | 1.51 |
| 12 | B | 782 | A | N9-C8 | -5.25 | 1.33 | 1.37 |
| 12 | B | 1214 | A | P-O5' | 5.25 | 1.65 | 1.59 |
| 12 | B | 1383 | A | C6-N6 | 5.25 | 1.38 | 1.33 |
| 12 | B | 1495 | A | C4'-O4' | 5.25 | 1.52 | 1.45 |
| 12 | B | 2122 | U | C2-O2 | -5.25 | 1.17 | 1.22 |
| 27 | Q | 75 | TYR | CA-CB | 5.25 | 1.65 | 1.53 |
| 6 | 5 | 21 | TYR | CE1-CZ | 5.25 | 1.45 | 1.38 |
| 12 | B | 436 | C | C4-C5 | 5.25 | 1.47 | 1.43 |
| 12 | B | 798 | G | C2'-C1' | -5.25 | 1.47 | 1.53 |
| 12 | B | 1055 | G | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 12 | B | 1462 | C | C4-N4 | 5.25 | 1.38 | 1.33 |
| 12 | B | 1823 | G | C2-N3 | 5.25 | 1.36 | 1.32 |
| 12 | B | 2124 | G | P-O5' | -5.25 | 1.54 | 1.59 |
| 12 | B | 666 | A | N3-C4 | 5.25 | 1.38 | 1.34 |
| 12 | B | 1022 | G | N1-C2 | 5.25 | 1.42 | 1.37 |
| 12 | B | 1969 | A | C5-C4 | -5.25 | 1.35 | 1.38 |
| 8 | 7 | 44 | ARG | CZ-NH1 | 5.24 | 1.39 | 1.33 |
| 12 | B | 55 | G | C5'-C4' | 5.24 | 1.57 | 1.51 |
| 12 | B | 309 | A | N3-C4 | -5.24 | 1.31 | 1.34 |
| 12 | B | 765 | C | C2-N3 | 5.24 | 1.40 | 1.35 |
| 12 | B | 1133 | A | C5'-C4' | -5.24 | 1.45 | 1.51 |
| 12 | B | 1194 | A | C6-N6 | 5.24 | 1.38 | 1.33 |
| 12 | B | 1792 | G | N7-C5 | 5.24 | 1.42 | 1.39 |
| 12 | B | 1942 | C | C4-C5 | -5.24 | 1.38 | 1.43 |
| 12 | B | 2258 | C | C4'-C3' | 5.24 | 1.58 | 1.53 |
| 12 | B | 2676 | C | P-O5' | -5.24 | 1.54 | 1.59 |
| 18 | H | 88 | GLY | CA-C | -5.24 | 1.43 | 1.51 |
| 12 | B | 163 | C | C4-N4 | 5.24 | 1.38 | 1.33 |
| 12 | B | 1731 | G | C3'-C2' | 5.24 | 1.58 | 1.52 |
| 12 | B | 2607 | G | N9-C4 | 5.24 | 1.42 | 1.38 |
| 11 | A | 32 | U | O4'-C1' | 5.24 | 1.48 | 1.41 |
| 12 | B | 209 | C | C3'-C2' | -5.24 | 1.47 | 1.52 |
| 12 | B | 273 | G | O5'-C5' | -5.24 | 1.34 | 1.42 |
| 12 | B | 1007 | C | C5'-C4' | 5.24 | 1.57 | 1.51 |
| 12 | B | 1139 | G | C4'-C3' | 5.24 | 1.58 | 1.53 |
| 12 | B | 1445 | G | C4'-C3' | 5.24 | 1.58 | 1.53 |
| 12 | B | 1709 | U | C4'-O4' | 5.24 | 1.52 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1750 | G | C4'-O4' | 5.24 | 1.52 | 1.45 |
| 12 | B | 1958 | C | P-O5' | -5.24 | 1.54 | 1.59 |
| 12 | B | 2094 | A | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 12 | B | 2655 | G | N9-C8 | -5.24 | 1.34 | 1.37 |
| 12 | B | 2742 | G | C2-N2 | 5.24 | 1.39 | 1.34 |
| 12 | B | 1016 | G | C5-C6 | -5.24 | 1.37 | 1.42 |
| 12 | B | 1798 | U | C2'-C1' | 5.24 | 1.59 | 1.53 |
| 12 | B | 1953 | A | N9-C8 | 5.24 | 1.42 | 1.37 |
| 12 | B | 1996 | C | N1-C2 | 5.24 | 1.45 | 1.40 |
| 12 | B | 2024 | G | C6-N1 | -5.24 | 1.35 | 1.39 |
| 12 | B | 2180 | U | C5-C6 | 5.24 | 1.38 | 1.34 |
| 22 | L | 41 | ARG | CD-NE | 5.24 | 1.55 | 1.46 |
| 11 | A | 50 | A | C2'-C1' | -5.24 | 1.47 | 1.53 |
| 12 | B | 648 | G | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 12 | B | 904 | G | O4'-C1' | 5.24 | 1.48 | 1.41 |
| 12 | B | 1507 | C | C4-C5 | 5.24 | 1.47 | 1.43 |
| 12 | B | 1682 | G | C8-N7 | 5.24 | 1.34 | 1.30 |
| 12 | B | 2066 | C | N1-C6 | 5.24 | 1.40 | 1.37 |
| 12 | B | 473 | G | N9-C8 | -5.24 | 1.34 | 1.37 |
| 12 | B | 1570 | A | P-O5' | -5.24 | 1.54 | 1.59 |
| 12 | B | 1604 | C | C2-O2 | -5.24 | 1.19 | 1.24 |
| 12 | B | 1998 | A | P-O5' | -5.24 | 1.54 | 1.59 |
| 12 | B | 2028 | U | N1-C6 | 5.24 | 1.42 | 1.38 |
| 12 | B | 2172 | U | C4-C5 | -5.24 | 1.38 | 1.43 |
| 12 | B | 2752 | C | C2'-C1' | -5.24 | 1.47 | 1.53 |
| 12 | B | 2879 | A | P-O5' | -5.24 | 1.54 | 1.59 |
| 14 | D | 1 | MET | CA-CB | 5.24 | 1.65 | 1.53 |
| 10 | 9 | 326 | TRP | CD2-CE2 | 5.23 | 1.47 | 1.41 |
| 12 | B | 976 | G | C8-N7 | -5.23 | 1.27 | 1.30 |
| 12 | B | 1853 | A | C6-N6 | 5.23 | 1.38 | 1.33 |
| 12 | B | 2182 | U | P-O5' | -5.23 | 1.54 | 1.59 |
| 12 | B | 2577 | A | P-O5' | -5.23 | 1.54 | 1.59 |
| 12 | B | 213 | A | C2-N3 | -5.23 | 1.28 | 1.33 |
| 12 | B | 327 | G | C3'-O3' | 5.23 | 1.49 | 1.42 |
| 12 | B | 457 | A | C2'-C1' | -5.23 | 1.47 | 1.53 |
| 12 | B | 841 | G | N1-C2 | -5.23 | 1.33 | 1.37 |
| 12 | B | 1404 | C | N3-C4 | 5.23 | 1.37 | 1.33 |
| 12 | B | 1455 | G | N9-C8 | -5.23 | 1.34 | 1.37 |
| 12 | B | 2871 | U | O3'-P | -5.23 | 1.54 | 1.61 |
| 11 | A | 102 | G | C2-N3 | 5.23 | 1.36 | 1.32 |
| 12 | B | 539 | G | C2'-C1' | -5.23 | 1.47 | 1.53 |
| 12 | B | 785 | G | C5-C6 | -5.23 | 1.37 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 952 | G | C4'-C3' | 5.23 | 1.58 | 1.53 |
| 12 | B | 1171 | G | C2-N3 | 5.23 | 1.36 | 1.32 |
| 12 | B | 1238 | G | C3'-C2' | 5.23 | 1.58 | 1.52 |
| 12 | B | 1690 | A | C3'-O3' | 5.23 | 1.49 | 1.42 |
| 12 | B | 2224 | G | C5-C4 | 5.23 | 1.42 | 1.38 |
| 12 | B | 2406 | A | C5-C4 | 5.23 | 1.42 | 1.38 |
| 12 | B | 2423 | U | N1-C2 | 5.23 | 1.43 | 1.38 |
| 12 | B | 2543 | G | C2'-C1' | -5.23 | 1.47 | 1.53 |
| 12 | B | 2628 | C | N1-C6 | 5.23 | 1.40 | 1.37 |
| 12 | B | 2630 | G | C2-N3 | 5.23 | 1.36 | 1.32 |
| 12 | B | 2710 | C | C3'-O3' | 5.23 | 1.49 | 1.42 |
| 12 | B | 13 | A | C4'-C3' | 5.23 | 1.58 | 1.53 |
| 12 | B | 2145 | C | P-O5' | -5.23 | 1.54 | 1.59 |
| 12 | B | 2371 | G | N3-C4 | 5.23 | 1.39 | 1.35 |
| 12 | B | 2861 | U | C3'-C2' | 5.23 | 1.58 | 1.52 |
| 12 | B | 80 | G | C3'-C2' | -5.23 | 1.47 | 1.52 |
| 12 | B | 271 | G | C6-N1 | 5.23 | 1.43 | 1.39 |
| 12 | B | 410 | G | O3'-P | -5.23 | 1.54 | 1.61 |
| 12 | B | 1206 | G | N9-C4 | -5.23 | 1.33 | 1.38 |
| 12 | B | 2227 | A | C5'-C4' | 5.23 | 1.57 | 1.51 |
| 12 | B | 2712 | C | C4'-O4' | 5.23 | 1.52 | 1.45 |
| 12 | B | 245 | G | O4'-C1' | 5.23 | 1.48 | 1.41 |
| 12 | B | 442 | G | N7-C5 | -5.23 | 1.36 | 1.39 |
| 12 | B | 497 | A | C5'-C4' | 5.23 | 1.57 | 1.51 |
| 12 | B | 2330 | G | C5-C4 | 5.23 | 1.42 | 1.38 |
| 12 | B | 2385 | C | C4-C5 | -5.23 | 1.38 | 1.43 |
| 12 | B | 14 | A | C2-N3 | 5.22 | 1.38 | 1.33 |
| 12 | B | 292 | U | N1-C6 | -5.22 | 1.33 | 1.38 |
| 12 | B | 564 | C | N3-C4 | 5.22 | 1.37 | 1.33 |
| 12 | B | 805 | G | C3'-O3' | 5.22 | 1.49 | 1.42 |
| 12 | B | 861 | A | N1-C2 | 5.22 | 1.39 | 1.34 |
| 12 | B | 1270 | C | C2'-O2' | -5.22 | 1.34 | 1.41 |
| 12 | B | 1512 | C | C5-C6 | 5.22 | 1.38 | 1.34 |
| 12 | B | 1678 | A | O4'-C1' | 5.22 | 1.48 | 1.41 |
| 12 | B | 2119 | A | C3'-O3' | 5.22 | 1.49 | 1.42 |
| 12 | B | 2209 | G | C8-N7 | -5.22 | 1.27 | 1.30 |
| 12 | B | 2431 | U | C2-N3 | 5.22 | 1.41 | 1.37 |
| 12 | B | 2497 | A | N9-C8 | 5.22 | 1.42 | 1.37 |
| 12 | B | 189 | G | C2'-C1' | -5.22 | 1.47 | 1.53 |
| 12 | B | 1166 | G | N1-C2 | 5.22 | 1.42 | 1.37 |
| 12 | B | 1441 | G | O4'-C1' | -5.22 | 1.34 | 1.41 |
| 12 | B | 1672 | A | C8-N7 | 5.22 | 1.35 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2033 | A | C6-N6 | 5.22 | 1.38 | 1.33 |
| 12 | B | 2343 | U | N3-C4 | 5.22 | 1.43 | 1.38 |
| 24 | N | 30 | ARG | CZ-NH2 | 5.22 | 1.39 | 1.33 |
| 12 | B | 1133 | A | C6-N1 | 5.22 | 1.39 | 1.35 |
| 10 | 9 | 292 | GLU | CB-CG | 5.22 | 1.62 | 1.52 |
| 11 | A | 24 | G | N1-C2 | 5.22 | 1.42 | 1.37 |
| 12 | B | 399 | U | C4'-C3' | -5.22 | 1.47 | 1.52 |
| 12 | B | 1073 | A | C5-C4 | 5.22 | 1.42 | 1.38 |
| 12 | B | 1651 | G | N3-C4 | -5.22 | 1.31 | 1.35 |
| 12 | B | 1936 | A | C2'-C1' | -5.22 | 1.47 | 1.53 |
| 12 | B | 2462 | C | O4'-C1' | 5.22 | 1.48 | 1.41 |
| 12 | B | 2712 | C | N1-C6 | 5.22 | 1.40 | 1.37 |
| 12 | B | 2900 | A | C3'-C2' | -5.22 | 1.47 | 1.52 |
| 12 | B | 167 | A | N7-C5 | -5.22 | 1.36 | 1.39 |
| 12 | B | 612 | G | N9-C8 | -5.22 | 1.34 | 1.37 |
| 12 | B | 982 | C | N3-C4 | 5.22 | 1.37 | 1.33 |
| 12 | B | 1281 | G | C6-N1 | 5.22 | 1.43 | 1.39 |
| 28 | R | 21 | ARG | CZ-NH2 | 5.22 | 1.39 | 1.33 |
| 11 | A | 66 | A | C5-C4 | -5.22 | 1.35 | 1.38 |
| 12 | B | 78 | U | N3-C4 | 5.22 | 1.43 | 1.38 |
| 12 | B | 227 | A | N7-C5 | -5.22 | 1.36 | 1.39 |
| 12 | B | 743 | A | C2'-C1' | -5.22 | 1.47 | 1.53 |
| 12 | B | 1549 | A | N3-C4 | -5.22 | 1.31 | 1.34 |
| 12 | B | 2417 | C | O3'-P | 5.22 | 1.67 | 1.61 |
| 12 | B | 2748 | A | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 22 | L | 21 | ARG | CZ-NH1 | 5.22 | 1.39 | 1.33 |
| 12 | B | 397 | U | C2-N3 | 5.21 | 1.41 | 1.37 |
| 12 | B | 787 | C | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 1652 | A | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 2668 | G | C6-N1 | 5.21 | 1.43 | 1.39 |
| 12 | B | 2721 | A | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 2722 | G | C3'-O3' | 5.21 | 1.49 | 1.42 |
| 13 | C | 181 | ARG | CD-NE | 5.21 | 1.55 | 1.46 |
| 11 | A | 5 | U | N3-C4 | 5.21 | 1.43 | 1.38 |
| 12 | B | 1419 | A | N7-C5 | 5.21 | 1.42 | 1.39 |
| 12 | B | 1667 | G | N1-C2 | 5.21 | 1.42 | 1.37 |
| 12 | B | 1864 | U | C4'-C3' | 5.21 | 1.58 | 1.53 |
| 12 | B | 963 | U | O4'-C1' | 5.21 | 1.48 | 1.41 |
| 12 | B | 1085 | A | C1'-N9 | -5.21 | 1.39 | 1.46 |
| 12 | B | 1326 | U | O3'-P | -5.21 | 1.54 | 1.61 |
| 12 | B | 1505 | A | C4'-C3' | 5.21 | 1.58 | 1.53 |
| 12 | B | 1759 | A | C5-C6 | 5.21 | 1.45 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2524 | G | N7-C5 | -5.21 | 1.36 | 1.39 |
| 12 | B | 2647 | U | C5-C6 | 5.21 | 1.38 | 1.34 |
| 12 | B | 2681 | C | C2'-C1' | -5.21 | 1.47 | 1.53 |
| 12 | B | 2720 | U | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 470 | A | C8-N7 | -5.21 | 1.27 | 1.31 |
| 12 | B | 1823 | G | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 2008 | C | P-O5' | -5.21 | 1.54 | 1.59 |
| 12 | B | 2053 | G | O4'-C1' | 5.21 | 1.48 | 1.41 |
| 12 | B | 2264 | C | C4'-C3' | -5.21 | 1.47 | 1.52 |
| 6 | 5 | 164 | ARG | CD-NE | 5.21 | 1.55 | 1.46 |
| 12 | B | 66 | C | O3'-P | -5.21 | 1.54 | 1.61 |
| 12 | B | 770 | G | O3'-P | -5.21 | 1.54 | 1.61 |
| 12 | B | 882 | G | N9-C8 | 5.21 | 1.41 | 1.37 |
| 12 | B | 939 | G | C6-N1 | 5.21 | 1.43 | 1.39 |
| 12 | B | 1573 | G | N9-C4 | -5.21 | 1.33 | 1.38 |
| 12 | B | 2200 | C | C2'-C1' | -5.21 | 1.47 | 1.53 |
| 12 | B | 2741 | A | C6-N6 | 5.21 | 1.38 | 1.33 |
| 12 | B | 30 | G | C3'-O3' | 5.21 | 1.49 | 1.42 |
| 12 | B | 137 | U | O3'-P | -5.21 | 1.54 | 1.61 |
| 12 | B | 570 | G | N9-C4 | -5.21 | 1.33 | 1.38 |
| 12 | B | 597 | G | C5-C4 | -5.21 | 1.34 | 1.38 |
| 12 | B | 810 | U | C2'-C1' | 5.21 | 1.59 | 1.53 |
| 12 | B | 903 | C | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 1099 | G | O3'-P | -5.21 | 1.54 | 1.61 |
| 12 | B | 1292 | G | N9-C8 | 5.21 | 1.41 | 1.37 |
| 12 | B | 1466 | U | C2'-C1' | -5.21 | 1.47 | 1.53 |
| 12 | B | 1648 | U | C3'-O3' | -5.21 | 1.34 | 1.42 |
| 12 | B | 1661 | G | P-O5' | -5.21 | 1.54 | 1.59 |
| 12 | B | 2630 | G | C2'-C1' | -5.21 | 1.47 | 1.53 |
| 12 | B | 534 | U | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 12 | B | 1048 | A | C5-C6 | -5.21 | 1.36 | 1.41 |
| 12 | B | 1145 | C | C4-N4 | -5.21 | 1.29 | 1.33 |
| 11 | A | 2 | G | C2-N3 | 5.20 | 1.36 | 1.32 |
| 12 | B | 335 | C | O3'-P | -5.20 | 1.54 | 1.61 |
| 12 | B | 991 | C | C1'-N1 | 5.20 | 1.56 | 1.48 |
| 12 | B | 1470 | A | N9-C4 | -5.20 | 1.34 | 1.37 |
| 12 | B | 1608 | A | O3'-P | -5.20 | 1.54 | 1.61 |
| 12 | B | 1809 | A | C3'-C2' | -5.20 | 1.47 | 1.52 |
| 12 | B | 1973 | G | C6-N1 | 5.20 | 1.43 | 1.39 |
| 12 | B | 2738 | A | N9-C4 | 5.20 | 1.41 | 1.37 |
| 13 | C | 153 | LEU | N-CA | -5.20 | 1.35 | 1.46 |
| 12 | B | 21 | A | N1-C2 | 5.20 | 1.39 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 500 | G | C2'-O2' | -5.20 | 1.34 | 1.41 |
| 12 | B | 1152 | C | C3'-C2' | -5.20 | 1.47 | 1.52 |
| 12 | B | 2729 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 12 | B | 1107 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 12 | B | 1309 | G | N9-C8 | 5.20 | 1.41 | 1.37 |
| 12 | B | 2233 | U | N1-C6 | 5.20 | 1.42 | 1.38 |
| 12 | B | 2287 | A | N7-C5 | -5.20 | 1.36 | 1.39 |
| 12 | B | 2501 | C | C2-N3 | 5.20 | 1.40 | 1.35 |
| 12 | B | 2610 | C | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 12 | B | 382 | A | C5-C4 | 5.20 | 1.42 | 1.38 |
| 12 | B | 1252 | G | C8-N7 | 5.20 | 1.34 | 1.30 |
| 12 | B | 1337 | G | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 12 | B | 1590 | A | C2'-O2' | 5.20 | 1.48 | 1.41 |
| 12 | B | 1748 | C | P-O5' | -5.20 | 1.54 | 1.59 |
| 12 | B | 395 | U | C2'-C1' | -5.20 | 1.47 | 1.53 |
| 12 | B | 1229 | C | N3-C4 | 5.20 | 1.37 | 1.33 |
| 12 | B | 2407 | A | C3'-O3' | 5.20 | 1.49 | 1.42 |
| 12 | B | 265 | A | C5-C4 | 5.20 | 1.42 | 1.38 |
| 12 | B | 386 | G | C2'-C1' | -5.20 | 1.47 | 1.53 |
| 12 | B | 486 | C | N1-C6 | 5.20 | 1.40 | 1.37 |
| 12 | B | 702 | U | C4'-O4' | 5.20 | 1.52 | 1.45 |
| 12 | B | 1175 | A | O3'-P | -5.20 | 1.54 | 1.61 |
| 12 | B | 1275 | A | P-O5' | -5.20 | 1.54 | 1.59 |
| 12 | B | 1439 | A | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 12 | B | 1666 | G | N3-C4 | -5.20 | 1.31 | 1.35 |
| 12 | B | 2154 | A | C6-N1 | 5.20 | 1.39 | 1.35 |
| 12 | B | 2179 | C | P-O5' | -5.20 | 1.54 | 1.59 |
| 12 | B | 2413 | G | N9-C8 | -5.20 | 1.34 | 1.37 |
| 12 | B | 2449 | U | C1'-N1 | 5.20 | 1.56 | 1.48 |
| 12 | B | 2608 | G | C3'-O3' | -5.20 | 1.34 | 1.42 |
| 12 | B | 666 | A | C6-N6 | 5.19 | 1.38 | 1.33 |
| 12 | B | 705 | A | C6-N1 | -5.19 | 1.31 | 1.35 |
| 12 | B | 1061 | U | N3-C4 | -5.19 | 1.33 | 1.38 |
| 12 | B | 1987 | A | N3-C4 | 5.19 | 1.38 | 1.34 |
| 12 | B | 2159 | G | C8-N7 | -5.19 | 1.27 | 1.30 |
| 11 | A | 77 | U | C2-N3 | 5.19 | 1.41 | 1.37 |
| 12 | B | 110 | G | C2-N3 | 5.19 | 1.36 | 1.32 |
| 12 | B | 319 | G | P-O5' | -5.19 | 1.54 | 1.59 |
| 12 | B | 672 | C | C2-N3 | 5.19 | 1.40 | 1.35 |
| 12 | B | 941 | A | P-O5' | -5.19 | 1.54 | 1.59 |
| 12 | B | 1703 | G | C3'-C2' | 5.19 | 1.58 | 1.52 |
| 12 | B | 1950 | G | N7-C5 | -5.19 | 1.36 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 11 | A | 37 | C | N3-C4 | 5.19 | 1.37 | 1.33 |
| 12 | B | 407 | G | C4'-C3' | -5.19 | 1.47 | 1.52 |
| 12 | B | 418 | C | C4-N4 | 5.19 | 1.38 | 1.33 |
| 12 | B | 949 | G | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 12 | B | 1261 | C | P-O5' | 5.19 | 1.65 | 1.59 |
| 12 | B | 1826 | G | C8-N7 | -5.19 | 1.27 | 1.30 |
| 12 | B | 1869 | G | C3'-O3' | 5.19 | 1.49 | 1.42 |
| 12 | B | 2186 | G | C5-C4 | 5.19 | 1.42 | 1.38 |
| 12 | B | 2393 | U | P-O5' | -5.19 | 1.54 | 1.59 |
| 6 | 5 | 122 | ARG | CZ-NH2 | 5.19 | 1.39 | 1.33 |
| 12 | B | 675 | A | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 12 | B | 1214 | A | O3'-P | -5.19 | 1.54 | 1.61 |
| 12 | B | 1936 | A | C6-N6 | 5.19 | 1.38 | 1.33 |
| 12 | B | 2529 | G | C1'-N9 | -5.19 | 1.39 | 1.46 |
| 12 | B | 2874 | C | C4-N4 | 5.19 | 1.38 | 1.33 |
| 12 | B | 56 | A | O4'-C1' | -5.19 | 1.34 | 1.41 |
| 12 | B | 1168 | G | N1-C2 | 5.19 | 1.42 | 1.37 |
| 12 | B | 1261 | C | N1-C6 | 5.19 | 1.40 | 1.37 |
| 12 | B | 1373 | A | C3'-C2' | -5.19 | 1.47 | 1.52 |
| 12 | B | 1380 | G | C6-N1 | 5.19 | 1.43 | 1.39 |
| 12 | B | 1867 | G | O3'-P | -5.19 | 1.54 | 1.61 |
| 12 | B | 2461 | A | N9-C4 | 5.19 | 1.41 | 1.37 |
| 12 | B | 2867 | G | C8-N7 | -5.19 | 1.27 | 1.30 |
| 12 | B | 380 | G | C5-C6 | -5.19 | 1.37 | 1.42 |
| 12 | B | 1073 | A | N3-C4 | 5.19 | 1.38 | 1.34 |
| 12 | B | 1310 | G | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 12 | B | 1366 | A | N9-C8 | -5.19 | 1.33 | 1.37 |
| 12 | B | 1921 | G | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 12 | B | 2839 | G | N9-C8 | 5.19 | 1.41 | 1.37 |
| 12 | B | 162 | U | O3'-P | -5.18 | 1.54 | 1.61 |
| 12 | B | 558 | U | C1'-N1 | 5.18 | 1.56 | 1.48 |
| 12 | B | 613 | A | N9-C8 | -5.18 | 1.33 | 1.37 |
| 12 | B | 630 | G | C2-N3 | 5.18 | 1.36 | 1.32 |
| 12 | B | 801 | G | N7-C5 | -5.18 | 1.36 | 1.39 |
| 12 | B | 1514 | G | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 12 | B | 1910 | G | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 12 | B | 2543 | G | N1-C2 | 5.18 | 1.41 | 1.37 |
| 12 | B | 2565 | A | C2-N3 | -5.18 | 1.28 | 1.33 |
| 12 | B | 666 | A | C3'-C2' | 5.18 | 1.58 | 1.52 |
| 12 | B | 1000 | A | C3'-O3' | -5.18 | 1.34 | 1.42 |
| 12 | B | 1392 | A | C5-C6 | 5.18 | 1.45 | 1.41 |
| 12 | B | 1504 | A | N1-C2 | 5.18 | 1.39 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2068 | U | C2-N3 | 5.18 | 1.41 | 1.37 |
| 12 | B | 2325 | G | C2-N2 | 5.18 | 1.39 | 1.34 |
| 12 | B | 10 | A | C1'-N9 | 5.18 | 1.56 | 1.48 |
| 12 | B | 576 | U | N1-C2 | 5.18 | 1.43 | 1.38 |
| 12 | B | 1395 | A | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 12 | B | 1462 | C | N3-C4 | 5.18 | 1.37 | 1.33 |
| 12 | B | 46 | G | C5-C4 | -5.18 | 1.34 | 1.38 |
| 12 | B | 64 | A | N9-C8 | 5.18 | 1.41 | 1.37 |
| 12 | B | 862 | G | P-O5' | -5.18 | 1.54 | 1.59 |
| 12 | B | 1217 | U | O3'-P | -5.18 | 1.54 | 1.61 |
| 12 | B | 1343 | G | N9-C4 | 5.18 | 1.42 | 1.38 |
| 12 | B | 1513 | U | C4'-C3' | 5.18 | 1.58 | 1.53 |
| 12 | B | 1745 | A | C6-N6 | 5.18 | 1.38 | 1.33 |
| 12 | B | 1811 | G | C5-C6 | -5.18 | 1.37 | 1.42 |
| 12 | B | 2304 | G | C8-N7 | -5.18 | 1.27 | 1.30 |
| 12 | B | 381 | G | C5-C4 | -5.18 | 1.34 | 1.38 |
| 12 | B | 1604 | C | N1-C6 | 5.18 | 1.40 | 1.37 |
| 12 | B | 2002 | G | N1-C2 | 5.18 | 1.41 | 1.37 |
| 12 | B | 2669 | G | N9-C4 | -5.18 | 1.33 | 1.38 |
| 12 | B | 217 | A | C8-N7 | -5.18 | 1.27 | 1.31 |
| 12 | B | 414 | C | C4-C5 | 5.18 | 1.47 | 1.43 |
| 12 | B | 508 | A | C4'-C3' | 5.18 | 1.58 | 1.53 |
| 12 | B | 819 | A | C4'-O4' | 5.18 | 1.52 | 1.45 |
| 12 | B | 1349 | C | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 12 | B | 1444 | G | C8-N7 | -5.18 | 1.27 | 1.30 |
| 12 | B | 1469 | A | C4'-O4' | -5.18 | 1.38 | 1.45 |
| 12 | B | 1479 | G | P-O5' | -5.18 | 1.54 | 1.59 |
| 12 | B | 1558 | C | C4-C5 | 5.18 | 1.47 | 1.43 |
| 12 | B | 1928 | A | N9-C8 | 5.18 | 1.41 | 1.37 |
| 12 | B | 2096 | C | C2-N3 | 5.18 | 1.39 | 1.35 |
| 12 | B | 2259 | U | C3'-C2' | -5.18 | 1.47 | 1.52 |
| 12 | B | 2261 | C | C3'-O3' | 5.18 | 1.49 | 1.42 |
| 11 | A | 76 | G | C2'-C1' | -5.17 | 1.47 | 1.53 |
| 12 | B | 695 | G | C2-N3 | 5.17 | 1.36 | 1.32 |
| 11 | A | 73 | A | C5-C4 | -5.17 | 1.35 | 1.38 |
| 12 | B | 15 | G | N7-C5 | 5.17 | 1.42 | 1.39 |
| 12 | B | 1702 | G | C2'-C1' | -5.17 | 1.47 | 1.53 |
| 12 | B | 1823 | G | C5-C4 | 5.17 | 1.42 | 1.38 |
| 12 | B | 2506 | U | N1-C6 | 5.17 | 1.42 | 1.38 |
| 12 | B | 257 | C | N1-C6 | 5.17 | 1.40 | 1.37 |
| 12 | B | 1036 | G | N3-C4 | -5.17 | 1.31 | 1.35 |
| 12 | B | 1143 | A | N9-C4 | -5.17 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2026 | U | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 12 | B | 2253 | G | N9-C8 | 5.17 | 1.41 | 1.37 |
| 12 | B | 2325 | G | O3'-P | -5.17 | 1.54 | 1.61 |
| 12 | B | 2726 | A | C2'-C1' | -5.17 | 1.47 | 1.53 |
| 11 | A | 86 | G | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 12 | B | 367 | G | N1-C2 | 5.17 | 1.41 | 1.37 |
| 12 | B | 463 | G | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 12 | B | 676 | A | C6-N6 | 5.17 | 1.38 | 1.33 |
| 12 | B | 924 | G | N9-C4 | 5.17 | 1.42 | 1.38 |
| 12 | B | 1424 | G | O3'-P | -5.17 | 1.54 | 1.61 |
| 12 | B | 1619 | G | N3-C4 | -5.17 | 1.31 | 1.35 |
| 12 | B | 2176 | A | C8-N7 | 5.17 | 1.35 | 1.31 |
| 12 | B | 2796 | U | C4-C5 | 5.17 | 1.48 | 1.43 |
| 11 | A | 38 | C | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 12 | B | 115 | C | C4-C5 | -5.17 | 1.38 | 1.43 |
| 12 | B | 204 | A | C3'-C2' | -5.17 | 1.47 | 1.52 |
| 12 | B | 589 | U | C4'-C3' | 5.17 | 1.58 | 1.53 |
| 12 | B | 702 | U | C4'-C3' | 5.17 | 1.58 | 1.53 |
| 12 | B | 953 | G | O3'-P | -5.17 | 1.54 | 1.61 |
| 12 | B | 1408 | G | N7-C5 | -5.17 | 1.36 | 1.39 |
| 12 | B | 1419 | A | C6-N6 | 5.17 | 1.38 | 1.33 |
| 12 | B | 1713 | A | C4'-C3' | 5.17 | 1.58 | 1.53 |
| 12 | B | 1847 | A | C4'-O4' | -5.17 | 1.38 | 1.45 |
| 12 | B | 2276 | G | C4'-O4' | 5.17 | 1.52 | 1.45 |
| 12 | B | 2419 | U | C2'-C1' | -5.17 | 1.47 | 1.53 |
| 12 | B | 2788 | C | N3-C4 | 5.17 | 1.37 | 1.33 |
| 27 | Q | 30 | VAL | CB-CG1 | 5.17 | 1.63 | 1.52 |
| 12 | B | 189 | G | O4'-C1' | 5.17 | 1.48 | 1.41 |
| 12 | B | 213 | A | N7-C5 | -5.17 | 1.36 | 1.39 |
| 12 | B | 260 | G | N9-C4 | -5.17 | 1.33 | 1.38 |
| 12 | B | 945 | A | C2-N3 | 5.17 | 1.38 | 1.33 |
| 12 | B | 1183 | U | P-O5' | 5.17 | 1.65 | 1.59 |
| 12 | B | 2158 | A | C5-C6 | 5.17 | 1.45 | 1.41 |
| 12 | B | 2557 | G | N1-C2 | 5.17 | 1.41 | 1.37 |
| 12 | B | 2836 | U | C3'-C2' | -5.17 | 1.47 | 1.52 |
| 24 | N | 90 | ARG | CZ-NH1 | 5.17 | 1.39 | 1.33 |
| 11 | A | 110 | C | C3'-C2' | -5.17 | 1.47 | 1.52 |
| 12 | B | 2520 | C | C4-N4 | 5.17 | 1.38 | 1.33 |
| 31 | U | 82 | VAL | C-N | 5.17 | 1.42 | 1.33 |
| 12 | B | 81 | G | C6-N1 | 5.16 | 1.43 | 1.39 |
| 12 | B | 330 | A | C5'-C4' | 5.16 | 1.57 | 1.51 |
| 12 | B | 542 | C | C5'-C4' | -5.16 | 1.45 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 750 | A | C8-N7 | -5.16 | 1.27 | 1.31 |
| 12 | B | 1013 | C | C4-C5 | 5.16 | 1.47 | 1.43 |
| 12 | B | 2126 | A | C6-N6 | 5.16 | 1.38 | 1.33 |
| 12 | B | 2257 | U | N1-C6 | 5.16 | 1.42 | 1.38 |
| 10 | 9 | 249 | PRO | N-CA | -5.16 | 1.38 | 1.47 |
| 12 | B | 940 | G | N7-C5 | -5.16 | 1.36 | 1.39 |
| 12 | B | 1029 | A | P-O5' | -5.16 | 1.54 | 1.59 |
| 12 | B | 1184 | U | O3'-P | 5.16 | 1.67 | 1.61 |
| 12 | B | 1229 | C | C4'-O4' | -5.16 | 1.38 | 1.45 |
| 12 | B | 245 | G | C8-N7 | 5.16 | 1.34 | 1.30 |
| 12 | B | 506 | G | C6-O6 | -5.16 | 1.19 | 1.24 |
| 12 | B | 617 | G | C6-N1 | 5.16 | 1.43 | 1.39 |
| 12 | B | 700 | G | N9-C4 | 5.16 | 1.42 | 1.38 |
| 12 | B | 985 | C | C2-O2 | 5.16 | 1.29 | 1.24 |
| 12 | B | 1231 | U | N1-C6 | 5.16 | 1.42 | 1.38 |
| 12 | B | 1923 | U | O3'-P | -5.16 | 1.54 | 1.61 |
| 12 | B | 2237 | G | C2'-C1' | -5.16 | 1.47 | 1.53 |
| 12 | B | 2246 | G | C2-N2 | -5.16 | 1.29 | 1.34 |
| 12 | B | 2351 | G | C2-N2 | -5.16 | 1.29 | 1.34 |
| 10 | 9 | 139 | ARG | CD-NE | 5.16 | 1.55 | 1.46 |
| 11 | A | 100 | G | C3'-C2' | -5.16 | 1.47 | 1.52 |
| 12 | B | 105 | C | N1-C6 | -5.16 | 1.34 | 1.37 |
| 12 | B | 1002 | G | C2'-C1' | -5.16 | 1.47 | 1.53 |
| 12 | B | 1362 | C | N1-C6 | 5.16 | 1.40 | 1.37 |
| 12 | B | 2013 | A | O4'-C1' | -5.16 | 1.34 | 1.41 |
| 12 | B | 2481 | G | N7-C5 | 5.16 | 1.42 | 1.39 |
| 12 | B | 312 | G | C2'-C1' | -5.16 | 1.47 | 1.53 |
| 12 | B | 790 | U | C4-C5 | -5.16 | 1.39 | 1.43 |
| 12 | B | 1813 | G | C5-C6 | -5.16 | 1.37 | 1.42 |
| 12 | B | 2385 | C | C5-C6 | 5.16 | 1.38 | 1.34 |
| 18 | H | 24 | GLY | CA-C | -5.16 | 1.43 | 1.51 |
| 11 | A | 69 | G | C6-N1 | 5.16 | 1.43 | 1.39 |
| 12 | B | 95 | A | N7-C5 | -5.16 | 1.36 | 1.39 |
| 12 | B | 230 | G | N7-C5 | -5.16 | 1.36 | 1.39 |
| 12 | B | 490 | C | C2-O2 | 5.16 | 1.29 | 1.24 |
| 12 | B | 1173 | U | C3'-O3' | 5.16 | 1.49 | 1.42 |
| 12 | B | 1208 | C | C2-O2 | -5.16 | 1.19 | 1.24 |
| 12 | B | 1406 | U | C4-O4 | 5.16 | 1.27 | 1.23 |
| 12 | B | 1509 | A | P-O5' | -5.16 | 1.54 | 1.59 |
| 12 | B | 1735 | A | N3-C4 | -5.16 | 1.31 | 1.34 |
| 12 | B | 2023 | C | N3-C4 | 5.16 | 1.37 | 1.33 |
| 12 | B | 2886 | A | C3'-C2' | 5.16 | 1.58 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 457 | A | N1-C2 | 5.15 | 1.39 | 1.34 |
| 12 | B | 566 | U | P-O5' | -5.15 | 1.54 | 1.59 |
| 12 | B | 1118 | C | C4-C5 | 5.15 | 1.47 | 1.43 |
| 12 | B | 1263 | U | O3'-P | -5.15 | 1.54 | 1.61 |
| 12 | B | 1482 | G | C6-O6 | -5.15 | 1.19 | 1.24 |
| 12 | B | 1659 | G | C6-N1 | 5.15 | 1.43 | 1.39 |
| 12 | B | 1835 | G | C2-N3 | 5.15 | 1.36 | 1.32 |
| 12 | B | 1978 | A | C6-N1 | 5.15 | 1.39 | 1.35 |
| 12 | B | 1089 | A | C8-N7 | 5.15 | 1.35 | 1.31 |
| 12 | B | 1356 | G | C2-N3 | 5.15 | 1.36 | 1.32 |
| 12 | B | 1781 | U | O3'-P | -5.15 | 1.54 | 1.61 |
| 12 | B | 2074 | U | C3'-O3' | 5.15 | 1.49 | 1.42 |
| 12 | B | 2115 | G | N7-C5 | -5.15 | 1.36 | 1.39 |
| 12 | B | 2222 | C | C5-C6 | 5.15 | 1.38 | 1.34 |
| 12 | B | 2239 | G | O3'-P | -5.15 | 1.54 | 1.61 |
| 12 | B | 2268 | A | N1-C2 | -5.15 | 1.29 | 1.34 |
| 12 | B | 2791 | G | P-O5' | -5.15 | 1.54 | 1.59 |
| 12 | B | 46 | G | C2-N3 | 5.15 | 1.36 | 1.32 |
| 12 | B | 119 | A | C5'-C4' | 5.15 | 1.57 | 1.51 |
| 12 | B | 338 | G | C3'-C2' | -5.15 | 1.47 | 1.52 |
| 12 | B | 756 | A | C3'-C2' | -5.15 | 1.47 | 1.52 |
| 12 | B | 1284 | A | N1-C2 | -5.15 | 1.29 | 1.34 |
| 12 | B | 1445 | G | C5'-C4' | 5.15 | 1.57 | 1.51 |
| 12 | B | 1723 | G | C8-N7 | -5.15 | 1.27 | 1.30 |
| 12 | B | 2721 | A | O3'-P | 5.15 | 1.67 | 1.61 |
| 11 | A | 109 | A | C4'-O4' | 5.15 | 1.52 | 1.45 |
| 12 | B | 194 | G | C5-C6 | -5.15 | 1.37 | 1.42 |
| 12 | B | 1113 | U | C2'-O2' | -5.15 | 1.34 | 1.41 |
| 12 | B | 1714 | U | C3'-O3' | -5.15 | 1.34 | 1.42 |
| 12 | B | 2365 | G | N7-C5 | -5.15 | 1.36 | 1.39 |
| 12 | B | 2597 | G | O4'-C1' | 5.15 | 1.48 | 1.41 |
| 12 | B | 525 | U | N3-C4 | 5.15 | 1.43 | 1.38 |
| 12 | B | 2664 | G | P-O5' | -5.15 | 1.54 | 1.59 |
| 12 | B | 446 | G | C2-N3 | 5.15 | 1.36 | 1.32 |
| 12 | B | 512 | G | C5-C4 | 5.15 | 1.42 | 1.38 |
| 12 | B | 684 | G | O3'-P | -5.15 | 1.54 | 1.61 |
| 12 | B | 866 | A | O3'-P | -5.15 | 1.54 | 1.61 |
| 12 | B | 1261 | C | O4'-C1' | -5.15 | 1.34 | 1.41 |
| 12 | B | 81 | G | N9-C8 | 5.14 | 1.41 | 1.37 |
| 12 | B | 158 | U | C4-O4 | -5.14 | 1.19 | 1.23 |
| 12 | B | 2024 | G | C3'-C2' | -5.14 | 1.47 | 1.52 |
| 12 | B | 2307 | G | C2'-C1' | -5.14 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 64 | A | C2-N3 | 5.14 | 1.38 | 1.33 |
| 12 | B | 214 | G | C5-C4 | -5.14 | 1.34 | 1.38 |
| 12 | B | 347 | A | C2-N3 | 5.14 | 1.38 | 1.33 |
| 12 | B | 1039 | A | C5'-C4' | 5.14 | 1.57 | 1.51 |
| 12 | B | 1633 | G | C5-C4 | 5.14 | 1.42 | 1.38 |
| 12 | B | 1819 | A | C3'-O3' | 5.14 | 1.49 | 1.42 |
| 12 | B | 2828 | G | C2-N3 | 5.14 | 1.36 | 1.32 |
| 25 | O | 16 | ARG | NE-CZ | 5.14 | 1.39 | 1.33 |
| 27 | Q | 57 | ARG | CZ-NH1 | 5.14 | 1.39 | 1.33 |
| 12 | B | 17 | G | C2-N2 | 5.14 | 1.39 | 1.34 |
| 12 | B | 1069 | A | O3'-P | -5.14 | 1.54 | 1.61 |
| 12 | B | 1116 | G | C5-C6 | -5.14 | 1.37 | 1.42 |
| 12 | B | 1274 | A | N9-C4 | -5.14 | 1.34 | 1.37 |
| 12 | B | 1355 | G | N1-C2 | 5.14 | 1.41 | 1.37 |
| 12 | B | 1378 | A | N7-C5 | -5.14 | 1.36 | 1.39 |
| 12 | B | 1567 | G | C5-C4 | 5.14 | 1.42 | 1.38 |
| 12 | B | 1626 | A | C5'-C4' | 5.14 | 1.57 | 1.51 |
| 12 | B | 1956 | U | C2-O2 | 5.14 | 1.26 | 1.22 |
| 12 | B | 2287 | A | N3-C4 | -5.14 | 1.31 | 1.34 |
| 5 | 4 | 43 | ARG | CD-NE | 5.14 | 1.55 | 1.46 |
| 12 | B | 52 | A | C8-N7 | -5.14 | 1.27 | 1.31 |
| 12 | B | 1358 | G | N3-C4 | -5.14 | 1.31 | 1.35 |
| 12 | B | 1812 | U | O3'-P | -5.14 | 1.54 | 1.61 |
| 12 | B | 1829 | A | C5-C4 | -5.14 | 1.35 | 1.38 |
| 12 | B | 2219 | U | N1-C2 | 5.14 | 1.43 | 1.38 |
| 12 | B | 2884 | U | O4'-C1' | -5.14 | 1.34 | 1.41 |
| 12 | B | 178 | G | P-O5' | -5.14 | 1.54 | 1.59 |
| 12 | B | 663 | G | C6-O6 | 5.14 | 1.28 | 1.24 |
| 12 | B | 674 | G | N1-C2 | 5.14 | 1.41 | 1.37 |
| 12 | B | 1144 | A | C5-C4 | 5.14 | 1.42 | 1.38 |
| 12 | B | 1634 | A | C5'-C4' | 5.14 | 1.57 | 1.51 |
| 12 | B | 1846 | G | N3-C4 | -5.14 | 1.31 | 1.35 |
| 12 | B | 2401 | U | C1'-N1 | 5.14 | 1.56 | 1.48 |
| 26 | P | 71 | ARG | CD-NE | 5.14 | 1.55 | 1.46 |
| 2 | 1 | 23 | ARG | NE-CZ | 5.14 | 1.39 | 1.33 |
| 12 | B | 21 | A | C3'-C2' | -5.14 | 1.47 | 1.52 |
| 12 | B | 280 | U | C4-O4 | -5.14 | 1.19 | 1.23 |
| 12 | B | 465 | G | C8-N7 | -5.14 | 1.27 | 1.30 |
| 12 | B | 771 | G | O3'-P | -5.14 | 1.54 | 1.61 |
| 12 | B | 892 | A | O4'-C1' | 5.14 | 1.48 | 1.41 |
| 12 | B | 1250 | G | C5'-C4' | 5.14 | 1.57 | 1.51 |
| 12 | B | 1500 | G | O3'-P | -5.14 | 1.54 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1508 | A | C2-N3 | 5.14 | 1.38 | 1.33 |
| 12 | B | 1592 | C | C4-N4 | 5.14 | 1.38 | 1.33 |
| 12 | B | 1715 | G | P-O5' | 5.14 | 1.64 | 1.59 |
| 12 | B | 2045 | C | C2'-C1' | -5.14 | 1.47 | 1.53 |
| 12 | B | 2330 | G | N3-C4 | -5.14 | 1.31 | 1.35 |
| 12 | B | 2795 | C | C3'-O3' | -5.14 | 1.34 | 1.42 |
| 12 | B | 2833 | U | N3-C4 | 5.14 | 1.43 | 1.38 |
| 12 | B | 251 | A | C5-C6 | 5.13 | 1.45 | 1.41 |
| 12 | B | 396 | G | N3-C4 | -5.13 | 1.31 | 1.35 |
| 12 | B | 448 | U | C4-O4 | -5.13 | 1.19 | 1.23 |
| 12 | B | 789 | A | N9-C8 | -5.13 | 1.33 | 1.37 |
| 12 | B | 1488 | C | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 12 | B | 2344 | U | C2'-C1' | -5.13 | 1.47 | 1.53 |
| 16 | F | 166 | ARG | CZ-NH2 | 5.13 | 1.39 | 1.33 |
| 18 | H | 28 | ASN | CG-ND2 | 5.13 | 1.45 | 1.32 |
| 20 | J | 95 | ARG | CD-NE | 5.13 | 1.55 | 1.46 |
| 27 | Q | 57 | ARG | NE-CZ | 5.13 | 1.39 | 1.33 |
| 12 | B | 623 | C | N1-C6 | -5.13 | 1.34 | 1.37 |
| 12 | B | 666 | A | C2-N3 | 5.13 | 1.38 | 1.33 |
| 12 | B | 936 | A | O3'-P | -5.13 | 1.54 | 1.61 |
| 12 | B | 1854 | A | C4'-C3' | 5.13 | 1.58 | 1.53 |
| 12 | B | 2733 | A | C8-N7 | 5.13 | 1.35 | 1.31 |
| 32 | W | 69 | GLU | CA-C | -5.13 | 1.39 | 1.52 |
| 12 | B | 228 | C | C4-N4 | 5.13 | 1.38 | 1.33 |
| 12 | B | 352 | A | O4'-C1' | 5.13 | 1.48 | 1.41 |
| 12 | B | 631 | A | O3'-P | -5.13 | 1.54 | 1.61 |
| 12 | B | 938 | G | C1'-N9 | 5.13 | 1.56 | 1.48 |
| 12 | B | 1080 | A | C6-N1 | 5.13 | 1.39 | 1.35 |
| 12 | B | 2282 | G | C2-N3 | 5.13 | 1.36 | 1.32 |
| 12 | B | 2437 | G | C6-N1 | -5.13 | 1.35 | 1.39 |
| 12 | B | 2760 | C | N1-C6 | 5.13 | 1.40 | 1.37 |
| 12 | B | 216 | A | C5-C6 | -5.13 | 1.36 | 1.41 |
| 12 | B | 572 | A | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 12 | B | 750 | A | C5-C6 | -5.13 | 1.36 | 1.41 |
| 12 | B | 1719 | G | C2-N3 | 5.13 | 1.36 | 1.32 |
| 12 | B | 2542 | A | C1'-N9 | 5.13 | 1.56 | 1.48 |
| 23 | M | 28 | PHE | CG-CD2 | 5.13 | 1.46 | 1.38 |
| 12 | B | 76 | C | C4'-O4' | 5.13 | 1.52 | 1.45 |
| 12 | B | 114 | U | C3'-O3' | 5.13 | 1.49 | 1.42 |
| 12 | B | 276 | U | C4-O4 | -5.13 | 1.19 | 1.23 |
| 12 | B | 381 | G | C2'-C1' | -5.13 | 1.47 | 1.53 |
| 12 | B | 628 | G | C6-O6 | -5.13 | 1.19 | 1.24 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1479 | G | C6-O6 | -5.13 | 1.19 | 1.24 |
| 12 | B | 2216 | G | C5-C4 | 5.13 | 1.42 | 1.38 |
| 12 | B | 2475 | C | C5-C6 | -5.13 | 1.30 | 1.34 |
| 11 | A | 23 | G | C2'-C1' | -5.13 | 1.47 | 1.53 |
| 12 | B | 259 | G | C6-N1 | 5.13 | 1.43 | 1.39 |
| 12 | B | 328 | U | N3-C4 | 5.13 | 1.43 | 1.38 |
| 12 | B | 805 | G | C5-C6 | -5.13 | 1.37 | 1.42 |
| 12 | B | 2489 | U | C2-N3 | -5.13 | 1.34 | 1.37 |
| 12 | B | 2536 | G | N9-C8 | -5.13 | 1.34 | 1.37 |
| 12 | B | 2647 | U | C4-C5 | 5.13 | 1.48 | 1.43 |
| 10 | 9 | 257 | GLU | CD-OE2 | 5.12 | 1.31 | 1.25 |
| 12 | B | 1193 | G | C3'-C2' | 5.12 | 1.58 | 1.52 |
| 12 | B | 2059 | A | O3'-P | -5.12 | 1.54 | 1.61 |
| 12 | B | 2777 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 12 | B | 217 | A | C5'-C4' | 5.12 | 1.57 | 1.51 |
| 12 | B | 1461 | C | C2'-C1' | -5.12 | 1.47 | 1.53 |
| 12 | B | 1802 | A | C4'-C3' | 5.12 | 1.58 | 1.53 |
| 12 | B | 2138 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 12 | B | 2362 | C | C4-N4 | 5.12 | 1.38 | 1.33 |
| 12 | B | 2395 | C | C2-N3 | 5.12 | 1.39 | 1.35 |
| 12 | B | 2483 | C | C4'-O4' | 5.12 | 1.52 | 1.45 |
| 12 | B | 419 | U | C2-N3 | 5.12 | 1.41 | 1.37 |
| 12 | B | 522 | A | O4'-C1' | -5.12 | 1.34 | 1.41 |
| 12 | B | 667 | U | C2-N3 | 5.12 | 1.41 | 1.37 |
| 12 | B | 933 | A | N3-C4 | 5.12 | 1.38 | 1.34 |
| 12 | B | 1003 | G | P-O5' | -5.12 | 1.54 | 1.59 |
| 12 | B | 1363 | C | O3'-P | -5.12 | 1.55 | 1.61 |
| 12 | B | 1403 | A | N7-C5 | -5.12 | 1.36 | 1.39 |
| 12 | B | 1811 | G | C5'-C4' | 5.12 | 1.57 | 1.51 |
| 12 | B | 2375 | G | C2'-C1' | -5.12 | 1.47 | 1.53 |
| 12 | B | 2814 | A | C6-N6 | 5.12 | 1.38 | 1.33 |
| 24 | N | 71 | ARG | NE-CZ | 5.12 | 1.39 | 1.33 |
| 12 | B | 181 | A | N9-C4 | 5.12 | 1.41 | 1.37 |
| 12 | B | 248 | G | O3'-P | -5.12 | 1.55 | 1.61 |
| 12 | B | 255 | A | C5'-C4' | 5.12 | 1.57 | 1.51 |
| 12 | B | 1650 | A | N3-C4 | -5.12 | 1.31 | 1.34 |
| 12 | B | 2055 | C | C4-N4 | -5.12 | 1.29 | 1.33 |
| 8 | 7 | 12 | ARG | NE-CZ | 5.12 | 1.39 | 1.33 |
| 11 | A | 94 | A | C6-N1 | 5.12 | 1.39 | 1.35 |
| 12 | B | 76 | C | N1-C2 | 5.12 | 1.45 | 1.40 |
| 12 | B | 1450 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 12 | B | 1910 | G | C2'-C1' | -5.12 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1978 | A | C2'-C1' | -5.12 | 1.47 | 1.53 |
| 12 | B | 2090 | A | C1'-N9 | -5.12 | 1.39 | 1.46 |
| 12 | B | 2231 | U | C5'-C4' | 5.12 | 1.57 | 1.51 |
| 12 | B | 2281 | A | O3'-P | -5.12 | 1.55 | 1.61 |
| 12 | B | 2390 | U | P-O5' | -5.12 | 1.54 | 1.59 |
| 12 | B | 2631 | G | N9-C4 | 5.12 | 1.42 | 1.38 |
| 24 | N | 12 | ARG | CZ-NH2 | 5.12 | 1.39 | 1.33 |
| 6 | 5 | 78 | PHE | CG-CD1 | 5.12 | 1.46 | 1.38 |
| 11 | A | 60 | C | C2'-C1' | -5.12 | 1.47 | 1.53 |
| 12 | B | 923 | G | N9-C8 | 5.12 | 1.41 | 1.37 |
| 12 | B | 601 | C | P-O5' | 5.12 | 1.64 | 1.59 |
| 12 | B | 1373 | A | C8-N7 | 5.12 | 1.35 | 1.31 |
| 12 | B | 1760 | C | C2'-O2' | -5.12 | 1.34 | 1.41 |
| 12 | B | 2214 | C | C3'-C2' | -5.12 | 1.47 | 1.52 |
| 12 | B | 2236 | U | N1-C2 | 5.12 | 1.43 | 1.38 |
| 12 | B | 2517 | C | C3'-C2' | -5.12 | 1.47 | 1.52 |
| 12 | B | 2823 | A | N9-C8 | 5.12 | 1.41 | 1.37 |
| 23 | M | 31 | PHE | CB-CG | -5.12 | 1.42 | 1.51 |
| 12 | B | 2 | G | C4'-C3' | 5.11 | 1.58 | 1.53 |
| 12 | B | 27 | G | C6-O6 | -5.11 | 1.19 | 1.24 |
| 12 | B | 631 | A | N9-C8 | -5.11 | 1.33 | 1.37 |
| 12 | B | 825 | A | C3'-C2' | -5.11 | 1.47 | 1.52 |
| 12 | B | 927 | A | N9-C4 | -5.11 | 1.34 | 1.37 |
| 12 | B | 1033 | U | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 12 | B | 1190 | G | C6-O6 | 5.11 | 1.28 | 1.24 |
| 12 | B | 1370 | C | C1'-N1 | 5.11 | 1.56 | 1.48 |
| 12 | B | 1435 | G | C5-C6 | -5.11 | 1.37 | 1.42 |
| 12 | B | 1525 | A | C4'-C3' | -5.11 | 1.47 | 1.52 |
| 12 | B | 1769 | U | C4'-O4' | 5.11 | 1.52 | 1.45 |
| 12 | B | 1774 | C | N1-C2 | 5.11 | 1.45 | 1.40 |
| 12 | B | 2038 | G | C5'-C4' | 5.11 | 1.57 | 1.51 |
| 12 | B | 406 | G | O4'-C1' | 5.11 | 1.48 | 1.41 |
| 12 | B | 793 | A | C8-N7 | -5.11 | 1.27 | 1.31 |
| 12 | B | 1155 | A | C8-N7 | -5.11 | 1.27 | 1.31 |
| 12 | B | 1174 | U | N1-C6 | -5.11 | 1.33 | 1.38 |
| 12 | B | 2032 | G | N1-C2 | 5.11 | 1.41 | 1.37 |
| 12 | B | 2902 | C | C4-N4 | 5.11 | 1.38 | 1.33 |
| 1 | 0 | 44 | ARG | CZ-NH1 | 5.11 | 1.39 | 1.33 |
| 11 | A | 46 | A | C2'-C1' | -5.11 | 1.47 | 1.53 |
| 12 | B | 121 | G | C5-C4 | 5.11 | 1.42 | 1.38 |
| 12 | B | 820 | A | C6-N6 | 5.11 | 1.38 | 1.33 |
| 12 | B | 1210 | G | C5-C4 | -5.11 | 1.34 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1618 | A | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 12 | B | 2639 | A | C6-N6 | 5.11 | 1.38 | 1.33 |
| 14 | D | 141 | ARG | NE-CZ | 5.11 | 1.39 | 1.33 |
| 23 | M | 36 | VAL | N-CA | -5.11 | 1.36 | 1.46 |
| 12 | B | 113 | U | N1-C2 | 5.11 | 1.43 | 1.38 |
| 12 | B | 451 | U | C3'-C2' | -5.11 | 1.47 | 1.52 |
| 12 | B | 1001 | A | C2'-C1' | -5.11 | 1.47 | 1.53 |
| 12 | B | 1242 | U | C5-C6 | -5.11 | 1.29 | 1.34 |
| 12 | B | 2489 | U | N3-C4 | 5.11 | 1.43 | 1.38 |
| 13 | C | 232 | GLY | CA-C | -5.11 | 1.43 | 1.51 |
| 12 | B | 567 | U | P-O5' | -5.11 | 1.54 | 1.59 |
| 12 | B | 1660 | G | O3'-P | -5.11 | 1.55 | 1.61 |
| 12 | B | 1755 | A | O3'-P | -5.11 | 1.55 | 1.61 |
| 12 | B | 1852 | U | C4-O4 | 5.11 | 1.27 | 1.23 |
| 12 | B | 2454 | G | N1-C2 | 5.11 | 1.41 | 1.37 |
| 13 | C | 81 | GLU | CD-OE1 | -5.11 | 1.20 | 1.25 |
| 15 | E | 69 | ARG | NE-CZ | 5.11 | 1.39 | 1.33 |
| 32 | W | 32 | GLY | CA-C | -5.11 | 1.43 | 1.51 |
| 11 | A | 107 | G | C8-N7 | -5.11 | 1.27 | 1.30 |
| 12 | B | 99 | U | C5'-C4' | 5.11 | 1.57 | 1.51 |
| 12 | B | 202 | U | C5'-C4' | 5.11 | 1.57 | 1.51 |
| 12 | B | 207 | A | O3'-P | -5.11 | 1.55 | 1.61 |
| 12 | B | 655 | A | N9-C8 | 5.11 | 1.41 | 1.37 |
| 12 | B | 720 | U | C4'-C3' | 5.11 | 1.58 | 1.53 |
| 12 | B | 951 | C | N3-C4 | 5.11 | 1.37 | 1.33 |
| 12 | B | 1607 | C | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 12 | B | 2614 | A | C5'-C4' | 5.11 | 1.57 | 1.51 |
| 12 | B | 2688 | G | C6-N1 | -5.11 | 1.35 | 1.39 |
| 12 | B | 2839 | G | C2'-O2' | -5.11 | 1.35 | 1.41 |
| 12 | B | 231 | A | C8-N7 | 5.10 | 1.35 | 1.31 |
| 12 | B | 292 | U | O3'-P | -5.10 | 1.55 | 1.61 |
| 12 | B | 1352 | U | O4'-C1' | -5.10 | 1.35 | 1.41 |
| 12 | B | 2753 | A | N9-C4 | 5.10 | 1.41 | 1.37 |
| 1 | 0 | 44 | ARG | CZ-NH2 | 5.10 | 1.39 | 1.33 |
| 12 | B | 116 | C | P-O5' | -5.10 | 1.54 | 1.59 |
| 12 | B | 292 | U | N3-C4 | 5.10 | 1.43 | 1.38 |
| 12 | B | 659 | G | C2'-C1' | -5.10 | 1.47 | 1.53 |
| 12 | B | 1041 | G | C3'-O3' | 5.10 | 1.49 | 1.42 |
| 12 | B | 1630 | A | C5-C6 | 5.10 | 1.45 | 1.41 |
| 12 | B | 2000 | C | O4'-C1' | -5.10 | 1.35 | 1.41 |
| 12 | B | 2326 | C | C2-O2 | -5.10 | 1.19 | 1.24 |
| 12 | B | 2410 | G | N9-C4 | -5.10 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2530 | A | O4'-C1' | -5.10 | 1.35 | 1.41 |
| 12 | B | 2626 | C | C2'-C1' | -5.10 | 1.47 | 1.53 |
| 14 | D | 89 | GLU | CD-OE2 | 5.10 | 1.31 | 1.25 |
| 26 | P | 98 | TYR | CE1-CZ | 5.10 | 1.45 | 1.38 |
| 1 | 0 | 28 | PHE | CE1-CZ | 5.10 | 1.47 | 1.37 |
| 12 | B | 467 | G | C4'-O4' | 5.10 | 1.52 | 1.45 |
| 12 | B | 910 | A | C5-C4 | -5.10 | 1.35 | 1.38 |
| 12 | B | 1543 | G | P-O5' | -5.10 | 1.54 | 1.59 |
| 12 | B | 1550 | C | C2-O2 | -5.10 | 1.19 | 1.24 |
| 12 | B | 1892 | C | N1-C2 | 5.10 | 1.45 | 1.40 |
| 12 | B | 2044 | C | P-O5' | -5.10 | 1.54 | 1.59 |
| 12 | B | 2564 | A | N7-C5 | -5.10 | 1.36 | 1.39 |
| 11 | A | 103 | U | C4-O4 | 5.10 | 1.27 | 1.23 |
| 12 | B | 111 | A | O3'-P | -5.10 | 1.55 | 1.61 |
| 12 | B | 164 | C | C2'-C1' | -5.10 | 1.47 | 1.53 |
| 12 | B | 171 | U | N1-C6 | 5.10 | 1.42 | 1.38 |
| 12 | B | 273 | G | N1-C2 | 5.10 | 1.41 | 1.37 |
| 12 | B | 276 | U | C2'-O2' | 5.10 | 1.48 | 1.41 |
| 12 | B | 336 | C | C2-N3 | -5.10 | 1.31 | 1.35 |
| 12 | B | 698 | C | C1'-N1 | 5.10 | 1.56 | 1.48 |
| 12 | B | 1223 | G | C2'-C1' | -5.10 | 1.47 | 1.53 |
| 12 | B | 1907 | G | O5'-C5' | -5.10 | 1.34 | 1.42 |
| 12 | B | 2142 | A | C4'-C3' | 5.10 | 1.58 | 1.53 |
| 12 | B | 2392 | A | C6-N6 | -5.10 | 1.29 | 1.33 |
| 12 | B | 2525 | G | N3-C4 | 5.10 | 1.39 | 1.35 |
| 7 | 6 | 22 | MET | CA-CB | 5.10 | 1.65 | 1.53 |
| 12 | B | 699 | A | C5'-C4' | 5.10 | 1.57 | 1.51 |
| 12 | B | 1639 | C | O3'-P | -5.10 | 1.55 | 1.61 |
| 12 | B | 1712 | U | O3'-P | -5.10 | 1.55 | 1.61 |
| 12 | B | 1871 | A | N3-C4 | 5.10 | 1.38 | 1.34 |
| 12 | B | 2511 | U | C1'-N1 | 5.10 | 1.56 | 1.48 |
| 12 | B | 2687 | U | P-O5' | -5.10 | 1.54 | 1.59 |
| 12 | B | 2794 | C | C4-C5 | 5.10 | 1.47 | 1.43 |
| 12 | B | 2824 | C | C2'-C1' | -5.10 | 1.47 | 1.53 |
| 14 | D | 36 | GLN | CD-NE2 | 5.10 | 1.45 | 1.32 |
| 6 | 5 | 112 | ASP | CA-CB | 5.10 | 1.65 | 1.53 |
| 12 | B | 94 | A | C8-N7 | -5.10 | 1.27 | 1.31 |
| 12 | B | 724 | U | N3-C4 | 5.10 | 1.43 | 1.38 |
| 12 | B | 1774 | C | C3'-C2' | -5.10 | 1.47 | 1.52 |
| 12 | B | 1890 | A | C6-N6 | 5.10 | 1.38 | 1.33 |
| 12 | B | 2065 | C | N1-C6 | 5.10 | 1.40 | 1.37 |
| 1 | 0 | 62 | GLY | CA-C | -5.09 | 1.43 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 6 | 5 | 111 | PHE | CE2-CZ | 5.09 | 1.47 | 1.37 |
| 12 | B | 47 | C | C4-N4 | 5.09 | 1.38 | 1.33 |
| 12 | B | 65 | U | C2-O2 | -5.09 | 1.17 | 1.22 |
| 12 | B | 899 | A | C5-C4 | -5.09 | 1.35 | 1.38 |
| 12 | B | 1332 | G | N9-C8 | 5.09 | 1.41 | 1.37 |
| 12 | B | 1601 | G | C6-O6 | -5.09 | 1.19 | 1.24 |
| 12 | B | 1860 | G | C2'-C1' | -5.09 | 1.47 | 1.53 |
| 12 | B | 1889 | A | C2'-C1' | -5.09 | 1.47 | 1.53 |
| 12 | B | 1926 | U | C4-O4 | 5.09 | 1.27 | 1.23 |
| 12 | B | 1974 | C | O3'-P | -5.09 | 1.55 | 1.61 |
| 12 | B | 2087 | G | C3'-C2' | -5.09 | 1.47 | 1.52 |
| 12 | B | 200 | U | C3'-C2' | -5.09 | 1.47 | 1.52 |
| 12 | B | 341 | C | N1-C6 | -5.09 | 1.34 | 1.37 |
| 12 | B | 2663 | G | O4'-C1' | -5.09 | 1.35 | 1.41 |
| 12 | B | 2793 | C | N1-C2 | -5.09 | 1.35 | 1.40 |
| 12 | B | 220 | G | C8-N7 | -5.09 | 1.27 | 1.30 |
| 12 | B | 440 | C | O3'-P | -5.09 | 1.55 | 1.61 |
| 12 | B | 612 | G | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 12 | B | 925 | A | C5-C6 | -5.09 | 1.36 | 1.41 |
| 12 | B | 1036 | G | C2-N3 | 5.09 | 1.36 | 1.32 |
| 12 | B | 1068 | G | C8-N7 | -5.09 | 1.27 | 1.30 |
| 12 | B | 1362 | C | C4-N4 | 5.09 | 1.38 | 1.33 |
| 12 | B | 1721 | G | C6-N1 | 5.09 | 1.43 | 1.39 |
| 12 | B | 2120 | G | N9-C8 | 5.09 | 1.41 | 1.37 |
| 12 | B | 2208 | C | N1-C6 | -5.09 | 1.34 | 1.37 |
| 12 | B | 2252 | G | N9-C8 | 5.09 | 1.41 | 1.37 |
| 12 | B | 290 | U | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 12 | B | 337 | C | N1-C6 | 5.09 | 1.40 | 1.37 |
| 12 | B | 388 | G | C5-C4 | 5.09 | 1.42 | 1.38 |
| 12 | B | 1040 | A | C2-N3 | 5.09 | 1.38 | 1.33 |
| 12 | B | 2162 | G | N9-C8 | -5.09 | 1.34 | 1.37 |
| 12 | B | 2382 | G | N1-C2 | 5.09 | 1.41 | 1.37 |
| 12 | B | 2513 | A | C2'-O2' | -5.09 | 1.35 | 1.41 |
| 12 | B | 2733 | A | N9-C4 | 5.09 | 1.41 | 1.37 |
| 12 | B | 2825 | G | C2'-C1' | -5.09 | 1.47 | 1.53 |
| 11 | A | 112 | G | N1-C2 | 5.09 | 1.41 | 1.37 |
| 12 | B | 1987 | A | C5-C4 | 5.09 | 1.42 | 1.38 |
| 11 | A | 11 | C | C4'-O4' | -5.09 | 1.39 | 1.45 |
| 12 | B | 334 | C | P-O5' | -5.09 | 1.54 | 1.59 |
| 12 | B | 346 | A | C6-N6 | 5.09 | 1.38 | 1.33 |
| 12 | B | 399 | U | C4-C5 | -5.09 | 1.39 | 1.43 |
| 12 | B | 569 | U | N3-C4 | 5.09 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 882 | G | C5-C6 | -5.09 | 1.37 | 1.42 |
| 12 | B | 1193 | G | O4'-C1' | 5.09 | 1.48 | 1.41 |
| 12 | B | 1519 | G | C3'-O3' | -5.09 | 1.35 | 1.42 |
| 12 | B | 2560 | A | C5-C6 | 5.09 | 1.45 | 1.41 |
| 12 | B | 1510 | G | C1'-N9 | 5.08 | 1.56 | 1.48 |
| 12 | B | 35 | G | N3-C4 | -5.08 | 1.31 | 1.35 |
| 12 | B | 526 | A | C8-N7 | -5.08 | 1.27 | 1.31 |
| 12 | B | 592 | A | C2'-C1' | -5.08 | 1.47 | 1.53 |
| 12 | B | 743 | A | C6-N6 | -5.08 | 1.29 | 1.33 |
| 12 | B | 1195 | G | C2'-C1' | -5.08 | 1.47 | 1.53 |
| 12 | B | 1337 | G | C2-N3 | 5.08 | 1.36 | 1.32 |
| 12 | B | 1735 | A | N9-C8 | -5.08 | 1.33 | 1.37 |
| 12 | B | 2388 | A | C8-N7 | 5.08 | 1.35 | 1.31 |
| 12 | B | 2649 | C | N1-C6 | 5.08 | 1.40 | 1.37 |
| 11 | A | 71 | C | O3'-P | -5.08 | 1.55 | 1.61 |
| 12 | B | 1441 | G | N3-C4 | 5.08 | 1.39 | 1.35 |
| 12 | B | 1919 | A | N7-C5 | -5.08 | 1.36 | 1.39 |
| 12 | B | 2479 | U | P-O5' | 5.08 | 1.64 | 1.59 |
| 12 | B | 61 | C | C4-C5 | 5.08 | 1.47 | 1.43 |
| 12 | B | 584 | C | P-O5' | -5.08 | 1.54 | 1.59 |
| 12 | B | 1120 | G | C4'-C3' | 5.08 | 1.58 | 1.53 |
| 12 | B | 1188 | U | C5'-C4' | -5.08 | 1.45 | 1.51 |
| 12 | B | 1935 | G | C8-N7 | 5.08 | 1.33 | 1.30 |
| 12 | B | 2549 | G | N3-C4 | 5.08 | 1.39 | 1.35 |
| 29 | S | 79 | GLY | CA-C | -5.08 | 1.43 | 1.51 |
| 11 | A | 72 | G | C6-N1 | 5.08 | 1.43 | 1.39 |
| 12 | B | 477 | A | C5-C4 | -5.08 | 1.35 | 1.38 |
| 12 | B | 664 | G | O3'-P | -5.08 | 1.55 | 1.61 |
| 12 | B | 668 | A | N3-C4 | -5.08 | 1.31 | 1.34 |
| 12 | B | 829 | A | C3'-C2' | 5.08 | 1.58 | 1.52 |
| 12 | B | 2048 | G | C8-N7 | -5.08 | 1.27 | 1.30 |
| 12 | B | 2400 | G | C6-N1 | 5.08 | 1.43 | 1.39 |
| 12 | B | 2481 | G | C2'-C1' | -5.08 | 1.47 | 1.53 |
| 12 | B | 2576 | G | O4'-C1' | 5.08 | 1.48 | 1.41 |
| 12 | B | 2768 | U | C1'-N1 | 5.08 | 1.56 | 1.48 |
| 12 | B | 2854 | G | N1-C2 | 5.08 | 1.41 | 1.37 |
| 12 | B | 2865 | U | N1-C2 | -5.08 | 1.33 | 1.38 |
| 19 | I | 98 | GLY | N-CA | -5.08 | 1.38 | 1.46 |
| 12 | B | 618 | G | N1-C2 | 5.08 | 1.41 | 1.37 |
| 12 | B | 1484 | U | N3-C4 | 5.08 | 1.43 | 1.38 |
| 12 | B | 104 | A | N3-C4 | -5.08 | 1.31 | 1.34 |
| 12 | B | 560 | C | C2-N3 | -5.08 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 782 | A | C2-N3 | 5.08 | 1.38 | 1.33 |
| 12 | B | 1334 | G | C4'-O4' | 5.08 | 1.52 | 1.45 |
| 12 | B | 1652 | A | C2'-O2' | -5.08 | 1.35 | 1.41 |
| 12 | B | 2354 | C | C2'-C1' | 5.08 | 1.58 | 1.53 |
| 12 | B | 172 | A | O3'-P | -5.07 | 1.55 | 1.61 |
| 12 | B | 2333 | A | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 12 | B | 2822 | G | C2'-C1' | -5.07 | 1.47 | 1.53 |
| 10 | 9 | 42 | GLY | CA-C | -5.07 | 1.43 | 1.51 |
| 12 | B | 56 | A | C5-C4 | 5.07 | 1.42 | 1.38 |
| 12 | B | 258 | G | O3'-P | -5.07 | 1.55 | 1.61 |
| 12 | B | 484 | C | C4-C5 | -5.07 | 1.38 | 1.43 |
| 12 | B | 586 | A | N9-C8 | -5.07 | 1.33 | 1.37 |
| 12 | B | 649 | G | N7-C5 | -5.07 | 1.36 | 1.39 |
| 12 | B | 681 | G | N3-C4 | 5.07 | 1.39 | 1.35 |
| 12 | B | 1162 | G | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 12 | B | 1521 | G | N9-C8 | -5.07 | 1.34 | 1.37 |
| 12 | B | 2258 | C | C1'-N1 | 5.07 | 1.56 | 1.48 |
| 12 | B | 2269 | G | C3'-C2' | 5.07 | 1.58 | 1.52 |
| 12 | B | 192 | C | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 12 | B | 1186 | G | C8-N7 | -5.07 | 1.27 | 1.30 |
| 12 | B | 1559 | U | C2'-C1' | -5.07 | 1.47 | 1.53 |
| 12 | B | 18 | U | P-O5' | -5.07 | 1.54 | 1.59 |
| 12 | B | 276 | U | N3-C4 | 5.07 | 1.43 | 1.38 |
| 12 | B | 284 | U | C4'-C3' | 5.07 | 1.58 | 1.53 |
| 12 | B | 1064 | C | O4'-C1' | 5.07 | 1.48 | 1.41 |
| 12 | B | 1094 | U | C4-C5 | 5.07 | 1.48 | 1.43 |
| 12 | B | 1218 | G | N1-C2 | 5.07 | 1.41 | 1.37 |
| 12 | B | 2095 | A | O3'-P | -5.07 | 1.55 | 1.61 |
| 12 | B | 2251 | G | C5-C4 | 5.07 | 1.41 | 1.38 |
| 12 | B | 2625 | G | C5-C6 | 5.07 | 1.47 | 1.42 |
| 12 | B | 1382 | G | N9-C8 | -5.07 | 1.34 | 1.37 |
| 12 | B | 2439 | A | O5'-C5' | -5.07 | 1.34 | 1.42 |
| 12 | B | 2557 | G | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 12 | B | 2808 | G | N9-C8 | -5.07 | 1.34 | 1.37 |
| 11 | A | 37 | C | C2'-C1' | -5.06 | 1.47 | 1.53 |
| 12 | B | 1138 | G | C2'-C1' | -5.06 | 1.47 | 1.53 |
| 12 | B | 1307 | A | C8-N7 | 5.06 | 1.35 | 1.31 |
| 12 | B | 2423 | U | C3'-O3' | 5.06 | 1.49 | 1.42 |
| 1 | 0 | 36 | ARG | CZ-NH2 | 5.06 | 1.39 | 1.33 |
| 12 | B | 845 | A | N9-C8 | -5.06 | 1.33 | 1.37 |
| 12 | B | 927 | A | N3-C4 | -5.06 | 1.31 | 1.34 |
| 12 | B | 1432 | G | O4'-C1' | -5.06 | 1.35 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1745 | A | C5'-C4' | 5.06 | 1.57 | 1.51 |
| 12 | B | 1922 | G | C4'-C3' | 5.06 | 1.58 | 1.53 |
| 12 | B | 2090 | A | C4'-C3' | 5.06 | 1.58 | 1.53 |
| 12 | B | 2632 | A | C4'-C3' | -5.06 | 1.47 | 1.52 |
| 12 | B | 2590 | A | C8-N7 | -5.06 | 1.28 | 1.31 |
| 22 | L | 21 | ARG | CZ-NH2 | 5.06 | 1.39 | 1.33 |
| 12 | B | 154 | U | O3'-P | -5.06 | 1.55 | 1.61 |
| 12 | B | 356 | G | N3-C4 | -5.06 | 1.31 | 1.35 |
| 12 | B | 485 | C | C2'-C1' | -5.06 | 1.47 | 1.53 |
| 12 | B | 1263 | U | C4-C5 | 5.06 | 1.48 | 1.43 |
| 12 | B | 1532 | A | N9-C4 | -5.06 | 1.34 | 1.37 |
| 12 | B | 1847 | A | O3'-P | -5.06 | 1.55 | 1.61 |
| 12 | B | 2398 | U | C5'-C4' | 5.06 | 1.57 | 1.51 |
| 12 | B | 243 | U | C2-O2 | 5.06 | 1.26 | 1.22 |
| 12 | B | 511 | U | N3-C4 | 5.06 | 1.43 | 1.38 |
| 12 | B | 1277 | G | N3-C4 | -5.06 | 1.31 | 1.35 |
| 12 | B | 1687 | G | C5-C4 | 5.06 | 1.41 | 1.38 |
| 12 | B | 2562 | U | C2'-O2' | -5.06 | 1.35 | 1.41 |
| 12 | B | 2647 | U | O3'-P | -5.06 | 1.55 | 1.61 |
| 29 | S | 110 | ARG | N-CA | -5.06 | 1.36 | 1.46 |
| 12 | B | 209 | C | C4-N4 | 5.06 | 1.38 | 1.33 |
| 12 | B | 359 | G | O3'-P | -5.06 | 1.55 | 1.61 |
| 12 | B | 1319 | C | C3'-O3' | 5.06 | 1.49 | 1.42 |
| 12 | B | 2240 | U | O3'-P | -5.06 | 1.55 | 1.61 |
| 12 | B | 2436 | G | C8-N7 | 5.06 | 1.33 | 1.30 |
| 29 | S | 95 | ARG | CZ-NH2 | 5.06 | 1.39 | 1.33 |
| 11 | A | 109 | A | C6-N1 | 5.05 | 1.39 | 1.35 |
| 12 | B | 218 | A | N3-C4 | 5.05 | 1.37 | 1.34 |
| 12 | B | 698 | C | C2'-C1' | 5.05 | 1.58 | 1.53 |
| 12 | B | 738 | G | P-O5' | -5.05 | 1.54 | 1.59 |
| 12 | B | 792 | A | C6-N6 | 5.05 | 1.38 | 1.33 |
| 12 | B | 981 | A | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 12 | B | 1344 | U | C1'-N1 | 5.05 | 1.56 | 1.48 |
| 12 | B | 1548 | A | C8-N7 | -5.05 | 1.28 | 1.31 |
| 15 | E | 23 | PHE | CG-CD2 | 5.05 | 1.46 | 1.38 |
| 30 | T | 3 | ARG | NE-CZ | 5.05 | 1.39 | 1.33 |
| 12 | B | 16 | C | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 12 | B | 39 | G | P-O5' | -5.05 | 1.54 | 1.59 |
| 12 | B | 326 | G | N9-C8 | 5.05 | 1.41 | 1.37 |
| 12 | B | 2181 | U | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 12 | B | 2886 | A | O4'-C1' | -5.05 | 1.35 | 1.41 |
| 11 | A | 85 | G | O4'-C1' | 5.05 | 1.48 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 323 | C | C3'-C2' | 5.05 | 1.58 | 1.52 |
| 12 | B | 673 | C | N3-C4 | 5.05 | 1.37 | 1.33 |
| 12 | B | 881 | G | N1-C2 | 5.05 | 1.41 | 1.37 |
| 12 | B | 952 | G | C3'-C2' | 5.05 | 1.58 | 1.52 |
| 12 | B | 1419 | A | C4'-C3' | 5.05 | 1.58 | 1.53 |
| 12 | B | 1894 | C | P-O5' | -5.05 | 1.54 | 1.59 |
| 12 | B | 2227 | A | C6-N1 | 5.05 | 1.39 | 1.35 |
| 12 | B | 2662 | A | C4'-O4' | 5.05 | 1.52 | 1.45 |
| 12 | B | 2897 | U | C5'-C4' | 5.05 | 1.57 | 1.51 |
| 12 | B | 914 | G | C6-N1 | 5.05 | 1.43 | 1.39 |
| 12 | B | 1176 | U | O3'-P | -5.05 | 1.55 | 1.61 |
| 12 | B | 1949 | G | C3'-C2' | -5.05 | 1.47 | 1.52 |
| 12 | B | 2509 | G | N9-C4 | -5.05 | 1.33 | 1.38 |
| 12 | B | 2521 | C | O3'-P | -5.05 | 1.55 | 1.61 |
| 29 | S | 13 | SER | CA-CB | 5.05 | 1.60 | 1.52 |
| 12 | B | 756 | A | C5-C4 | 5.05 | 1.42 | 1.38 |
| 12 | B | 1053 | C | C2-O2 | -5.05 | 1.20 | 1.24 |
| 12 | B | 2318 | G | C5-C4 | 5.05 | 1.41 | 1.38 |
| 12 | B | 2831 | G | P-O5' | -5.05 | 1.54 | 1.59 |
| 12 | B | 327 | G | N9-C4 | 5.05 | 1.42 | 1.38 |
| 12 | B | 1410 | G | C5-C4 | 5.05 | 1.41 | 1.38 |
| 12 | B | 2016 | U | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 12 | B | 2111 | U | C1'-N1 | 5.05 | 1.56 | 1.48 |
| 12 | B | 2156 | G | C3'-O3' | 5.05 | 1.49 | 1.42 |
| 12 | B | 2299 | U | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 12 | B | 2464 | G | C6-N1 | 5.05 | 1.43 | 1.39 |
| 12 | B | 2569 | G | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 12 | B | 2832 | U | P-O5' | -5.05 | 1.54 | 1.59 |
| 12 | B | 445 | C | C2'-C1' | -5.04 | 1.47 | 1.53 |
| 12 | B | 500 | G | N3-C4 | 5.04 | 1.39 | 1.35 |
| 12 | B | 935 | C | C3'-C2' | 5.04 | 1.58 | 1.52 |
| 12 | B | 2602 | A | C2'-C1' | 5.04 | 1.58 | 1.53 |
| 12 | B | 2825 | G | O3'-P | 5.04 | 1.67 | 1.61 |
| 12 | B | 2901 | C | C5-C6 | -5.04 | 1.30 | 1.34 |
| 23 | M | 92 | TRP | CD2-CE2 | 5.04 | 1.47 | 1.41 |
| 12 | B | 446 | G | C5-C6 | -5.04 | 1.37 | 1.42 |
| 12 | B | 450 | G | C6-N1 | 5.04 | 1.43 | 1.39 |
| 12 | B | 543 | G | N9-C4 | 5.04 | 1.42 | 1.38 |
| 12 | B | 840 | C | C4'-C3' | 5.04 | 1.58 | 1.53 |
| 12 | B | 1526 | C | O3'-P | -5.04 | 1.55 | 1.61 |
| 12 | B | 2297 | A | O3'-P | -5.04 | 1.55 | 1.61 |
| 12 | B | 2434 | A | C5'-C4' | 5.04 | 1.57 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2711 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 12 | B | 2855 | C | C4-C5 | 5.04 | 1.47 | 1.43 |
| 10 | 9 | 314 | SER | CB-OG | 5.04 | 1.48 | 1.42 |
| 11 | A | 20 | G | N3-C4 | -5.04 | 1.31 | 1.35 |
| 11 | A | 34 | A | C2-N3 | 5.04 | 1.38 | 1.33 |
| 12 | B | 1567 | G | C2-N2 | 5.04 | 1.39 | 1.34 |
| 12 | B | 1907 | G | C6-O6 | -5.04 | 1.19 | 1.24 |
| 12 | B | 2488 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 12 | B | 2491 | U | C2-N3 | 5.04 | 1.41 | 1.37 |
| 11 | A | 50 | A | O3'-P | -5.04 | 1.55 | 1.61 |
| 12 | B | 160 | A | C1'-N9 | -5.04 | 1.39 | 1.46 |
| 12 | B | 716 | A | O5'-C5' | 5.04 | 1.52 | 1.44 |
| 12 | B | 1082 | U | C2-N3 | -5.04 | 1.34 | 1.37 |
| 12 | B | 1964 | G | N1-C2 | 5.04 | 1.41 | 1.37 |
| 12 | B | 1993 | U | C2-N3 | 5.04 | 1.41 | 1.37 |
| 6 | 5 | 123 | VAL | CB-CG2 | 5.04 | 1.63 | 1.52 |
| 12 | B | 22 | C | N3-C4 | 5.04 | 1.37 | 1.33 |
| 12 | B | 110 | G | C5-C4 | 5.04 | 1.41 | 1.38 |
| 12 | B | 1514 | G | C6-N1 | 5.04 | 1.43 | 1.39 |
| 12 | B | 2407 | A | N9-C8 | 5.04 | 1.41 | 1.37 |
| 12 | B | 2564 | A | N1-C2 | -5.04 | 1.29 | 1.34 |
| 12 | B | 2662 | A | C8-N7 | -5.04 | 1.28 | 1.31 |
| 12 | B | 2878 | U | N3-C4 | 5.04 | 1.43 | 1.38 |
| 20 | J | 35 | ARG | CZ-NH2 | 5.04 | 1.39 | 1.33 |
| 28 | R | 37 | GLU | CD-OE1 | 5.04 | 1.31 | 1.25 |
| 6 | 5 | 163 | TYR | CG-CD2 | 5.04 | 1.45 | 1.39 |
| 12 | B | 520 | G | C8-N7 | -5.04 | 1.27 | 1.30 |
| 12 | B | 597 | G | O3'-P | -5.04 | 1.55 | 1.61 |
| 12 | B | 676 | A | O3'-P | -5.04 | 1.55 | 1.61 |
| 12 | B | 1911 | U | C4-C5 | -5.04 | 1.39 | 1.43 |
| 12 | B | 2480 | C | N1-C2 | 5.04 | 1.45 | 1.40 |
| 4 | 3 | 15 | ARG | NE-CZ | 5.04 | 1.39 | 1.33 |
| 11 | A | 64 | G | N3-C4 | 5.04 | 1.39 | 1.35 |
| 12 | B | 458 | G | C8-N7 | -5.04 | 1.27 | 1.30 |
| 12 | B | 707 | G | O3'-P | 5.04 | 1.67 | 1.61 |
| 12 | B | 1559 | U | C5'-C4' | 5.04 | 1.57 | 1.51 |
| 12 | B | 2024 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 12 | B | 2174 | C | N1-C2 | 5.04 | 1.45 | 1.40 |
| 12 | B | 2215 | C | C4'-O4' | 5.04 | 1.52 | 1.45 |
| 12 | B | 2282 | G | N7-C5 | 5.04 | 1.42 | 1.39 |
| 12 | B | 2468 | A | C2-N3 | 5.04 | 1.38 | 1.33 |
| 12 | B | 2741 | A | N9-C8 | 5.04 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 101 | A | C8-N7 | -5.03 | 1.28 | 1.31 |
| 12 | B | 144 | A | N3-C4 | 5.03 | 1.37 | 1.34 |
| 12 | B | 187 | G | C8-N7 | -5.03 | 1.27 | 1.30 |
| 12 | B | 869 | G | C2-N3 | 5.03 | 1.36 | 1.32 |
| 12 | B | 918 | A | C8-N7 | -5.03 | 1.28 | 1.31 |
| 12 | B | 1035 | U | C4-C5 | 5.03 | 1.48 | 1.43 |
| 12 | B | 1297 | C | N1-C6 | 5.03 | 1.40 | 1.37 |
| 12 | B | 1617 | C | C4'-C3' | 5.03 | 1.58 | 1.53 |
| 12 | B | 1873 | G | C2'-C1' | -5.03 | 1.47 | 1.53 |
| 12 | B | 1948 | G | C3'-O3' | 5.03 | 1.49 | 1.42 |
| 12 | B | 2176 | A | N9-C4 | 5.03 | 1.40 | 1.37 |
| 12 | B | 2248 | C | C4'-C3' | -5.03 | 1.47 | 1.52 |
| 12 | B | 2362 | C | C4'-C3' | -5.03 | 1.47 | 1.52 |
| 28 | R | 62 | GLU | CD-OE2 | -5.03 | 1.20 | 1.25 |
| 12 | B | 324 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 12 | B | 365 | U | C2-N3 | 5.03 | 1.41 | 1.37 |
| 12 | B | 1189 | A | N1-C2 | 5.03 | 1.38 | 1.34 |
| 12 | B | 2217 | G | C4'-C3' | 5.03 | 1.58 | 1.53 |
| 12 | B | 194 | G | N7-C5 | -5.03 | 1.36 | 1.39 |
| 12 | B | 268 | C | C2'-C1' | -5.03 | 1.47 | 1.53 |
| 12 | B | 814 | C | C4-C5 | -5.03 | 1.39 | 1.43 |
| 12 | B | 1054 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 12 | B | 1231 | U | C5-C6 | 5.03 | 1.38 | 1.34 |
| 12 | B | 1308 | A | C2'-O2' | 5.03 | 1.48 | 1.41 |
| 12 | B | 2223 | G | C2-N2 | 5.03 | 1.39 | 1.34 |
| 24 | N | 103 | ARG | NE-CZ | 5.03 | 1.39 | 1.33 |
| 12 | B | 279 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 12 | B | 1126 | A | C6-N6 | 5.03 | 1.38 | 1.33 |
| 12 | B | 1344 | U | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 12 | B | 2863 | C | O4'-C1' | 5.03 | 1.48 | 1.41 |
| 22 | L | 33 | ARG | CD-NE | 5.03 | 1.54 | 1.46 |
| 11 | A | 19 | C | C5-C6 | -5.03 | 1.30 | 1.34 |
| 12 | B | 111 | A | C6-N1 | 5.03 | 1.39 | 1.35 |
| 12 | B | 824 | U | C2-N3 | 5.03 | 1.41 | 1.37 |
| 12 | B | 852 | U | C2-O2 | 5.03 | 1.26 | 1.22 |
| 12 | B | 867 | C | C2'-O2' | -5.03 | 1.35 | 1.41 |
| 12 | B | 1255 | U | N1-C2 | 5.03 | 1.43 | 1.38 |
| 12 | B | 1789 | A | C6-N6 | 5.03 | 1.38 | 1.33 |
| 12 | B | 1851 | U | C2'-O2' | -5.03 | 1.35 | 1.41 |
| 12 | B | 1895 | C | C5-C6 | 5.03 | 1.38 | 1.34 |
| 12 | B | 2472 | G | N7-C5 | -5.03 | 1.36 | 1.39 |
| 12 | B | 2618 | G | C8-N7 | -5.03 | 1.27 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2817 | U | C4-C5 | 5.03 | 1.48 | 1.43 |
| 12 | B | 387 | U | C2-O2 | 5.03 | 1.26 | 1.22 |
| 12 | B | 447 | A | C5-C4 | 5.03 | 1.42 | 1.38 |
| 12 | B | 540 | C | O4'-C1' | 5.03 | 1.48 | 1.41 |
| 12 | B | 545 | U | C5-C6 | -5.03 | 1.29 | 1.34 |
| 12 | B | 672 | C | C5-C6 | 5.03 | 1.38 | 1.34 |
| 12 | B | 943 | A | C3'-O3' | 5.03 | 1.49 | 1.42 |
| 12 | B | 1164 | C | C2'-C1' | 5.03 | 1.58 | 1.53 |
| 12 | B | 1664 | A | N9-C4 | 5.03 | 1.40 | 1.37 |
| 12 | B | 1863 | G | N1-C2 | 5.03 | 1.41 | 1.37 |
| 12 | B | 1888 | G | C5-C6 | 5.03 | 1.47 | 1.42 |
| 33 | Y | 40 | ARG | CZ-NH2 | 5.03 | 1.39 | 1.33 |
| 12 | B | 188 | G | C3'-C2' | -5.02 | 1.47 | 1.52 |
| 12 | B | 398 | C | C2'-O2' | -5.02 | 1.35 | 1.41 |
| 12 | B | 651 | G | C5-C4 | -5.02 | 1.34 | 1.38 |
| 12 | B | 889 | C | O3'-P | -5.02 | 1.55 | 1.61 |
| 12 | B | 1678 | A | C8-N7 | 5.02 | 1.35 | 1.31 |
| 2 | 1 | 40 | SER | CA-CB | -5.02 | 1.45 | 1.52 |
| 3 | 2 | 30 | ARG | CZ-NH2 | 5.02 | 1.39 | 1.33 |
| 11 | A | 85 | G | C8-N7 | -5.02 | 1.27 | 1.30 |
| 12 | B | 114 | U | O5'-C5' | -5.02 | 1.34 | 1.42 |
| 12 | B | 342 | A | P-O5' | -5.02 | 1.54 | 1.59 |
| 12 | B | 455 | C | C1'-N1 | 5.02 | 1.56 | 1.48 |
| 12 | B | 1059 | G | N3-C4 | -5.02 | 1.31 | 1.35 |
| 12 | B | 2749 | A | C5-C6 | -5.02 | 1.36 | 1.41 |
| 12 | B | 224 | U | C3'-C2' | -5.02 | 1.47 | 1.52 |
| 12 | B | 245 | G | N7-C5 | -5.02 | 1.36 | 1.39 |
| 12 | B | 306 | U | O3'-P | -5.02 | 1.55 | 1.61 |
| 12 | B | 553 | G | P-O5' | -5.02 | 1.54 | 1.59 |
| 12 | B | 560 | C | C4-C5 | -5.02 | 1.39 | 1.43 |
| 12 | B | 964 | C | N1-C2 | -5.02 | 1.35 | 1.40 |
| 12 | B | 1346 | G | C8-N7 | -5.02 | 1.27 | 1.30 |
| 12 | B | 1499 | C | C2'-C1' | -5.02 | 1.47 | 1.53 |
| 10 | 9 | 129 | ARG | CZ-NH2 | 5.02 | 1.39 | 1.33 |
| 12 | B | 561 | G | C6-N1 | 5.02 | 1.43 | 1.39 |
| 12 | B | 621 | A | C5-C4 | 5.02 | 1.42 | 1.38 |
| 12 | B | 1122 | G | N3-C4 | -5.02 | 1.31 | 1.35 |
| 12 | B | 1230 | A | N7-C5 | -5.02 | 1.36 | 1.39 |
| 12 | B | 2063 | C | N3-C4 | 5.02 | 1.37 | 1.33 |
| 12 | B | 2068 | U | C4-O4 | 5.02 | 1.27 | 1.23 |
| 12 | B | 2553 | G | C2-N3 | 5.02 | 1.36 | 1.32 |
| 12 | B | 283 | G | N3-C4 | -5.02 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 506 | G | C5-C4 | -5.02 | 1.34 | 1.38 |
| 12 | B | 1366 | A | C2'-C1' | -5.02 | 1.47 | 1.53 |
| 12 | B | 1400 | U | C1'-N1 | 5.02 | 1.56 | 1.48 |
| 12 | B | 1451 | C | C2-N3 | 5.02 | 1.39 | 1.35 |
| 12 | B | 1741 | C | C5-C6 | 5.02 | 1.38 | 1.34 |
| 12 | B | 2315 | G | C4'-O4' | 5.02 | 1.52 | 1.45 |
| 12 | B | 2408 | U | N1-C2 | 5.02 | 1.43 | 1.38 |
| 12 | B | 2659 | G | O3'-P | -5.02 | 1.55 | 1.61 |
| 12 | B | 2818 | U | C2'-C1' | -5.02 | 1.47 | 1.53 |
| 12 | B | 2881 | U | P-O5' | -5.02 | 1.54 | 1.59 |
| 13 | C | 245 | THR | N-CA | -5.02 | 1.36 | 1.46 |
| 14 | D | 162 | ALA | C-N | 5.02 | 1.42 | 1.33 |
| 26 | P | 38 | ARG | CD-NE | 5.02 | 1.54 | 1.46 |
| 12 | B | 411 | G | C5'-C4' | 5.02 | 1.57 | 1.51 |
| 12 | B | 568 | U | N1-C2 | 5.02 | 1.43 | 1.38 |
| 12 | B | 1061 | U | C5'-C4' | 5.02 | 1.57 | 1.51 |
| 12 | B | 1672 | A | N9-C4 | 5.02 | 1.40 | 1.37 |
| 12 | B | 2437 | G | P-O5' | -5.02 | 1.54 | 1.59 |
| 12 | B | 2548 | U | C2-N3 | 5.02 | 1.41 | 1.37 |
| 12 | B | 2729 | G | C8-N7 | -5.02 | 1.27 | 1.30 |
| 12 | B | 2821 | A | O4'-C1' | 5.02 | 1.48 | 1.41 |
| 24 | N | 82 | GLU | CG-CD | 5.02 | 1.59 | 1.51 |
| 9 | 8 | 19 | ARG | CD-NE | 5.01 | 1.54 | 1.46 |
| 12 | B | 210 | C | C4'-C3' | 5.01 | 1.58 | 1.53 |
| 12 | B | 522 | A | C2-N3 | 5.01 | 1.38 | 1.33 |
| 12 | B | 1365 | A | N9-C4 | 5.01 | 1.40 | 1.37 |
| 12 | B | 1897 | G | P-O5' | 5.01 | 1.64 | 1.59 |
| 12 | B | 2160 | C | P-O5' | -5.01 | 1.54 | 1.59 |
| 12 | B | 2451 | A | O3'-P | -5.01 | 1.55 | 1.61 |
| 4 | 3 | 35 | GLU | CD-OE1 | 5.01 | 1.31 | 1.25 |
| 11 | A | 83 | G | C3'-C2' | -5.01 | 1.47 | 1.52 |
| 12 | B | 656 | G | C2-N3 | 5.01 | 1.36 | 1.32 |
| 12 | B | 1774 | C | C1'-N1 | 5.01 | 1.56 | 1.48 |
| 12 | B | 2502 | G | N9-C4 | 5.01 | 1.42 | 1.38 |
| 12 | B | 2676 | C | C2-O2 | 5.01 | 1.28 | 1.24 |
| 12 | B | 279 | A | O3'-P | -5.01 | 1.55 | 1.61 |
| 12 | B | 476 | G | N9-C4 | -5.01 | 1.33 | 1.38 |
| 12 | B | 676 | A | N9-C8 | -5.01 | 1.33 | 1.37 |
| 12 | B | 1174 | U | C4'-O4' | 5.01 | 1.52 | 1.45 |
| 12 | B | 1286 | A | C6-N1 | 5.01 | 1.39 | 1.35 |
| 12 | B | 1341 | G | C4'-C3' | -5.01 | 1.47 | 1.52 |
| 12 | B | 1855 | U | N1-C2 | 5.01 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 2358 | A | N9-C4 | -5.01 | 1.34 | 1.37 |
| 12 | B | 2675 | A | C4'-C3' | 5.01 | 1.58 | 1.53 |
| 12 | B | 1635 | A | O3'-P | -5.01 | 1.55 | 1.61 |
| 12 | B | 1736 | U | N1-C2 | 5.01 | 1.43 | 1.38 |
| 12 | B | 1801 | A | C6-N1 | 5.01 | 1.39 | 1.35 |
| 12 | B | 1839 | G | N3-C4 | 5.01 | 1.39 | 1.35 |
| 12 | B | 2144 | G | N9-C8 | 5.01 | 1.41 | 1.37 |
| 12 | B | 2298 | A | C5'-C4' | 5.01 | 1.57 | 1.51 |
| 12 | B | 2323 | G | N9-C8 | -5.01 | 1.34 | 1.37 |
| 12 | B | 2867 | G | N9-C8 | -5.01 | 1.34 | 1.37 |
| 12 | B | 2894 | G | P-O5' | -5.01 | 1.54 | 1.59 |
| 30 | T | 52 | GLU | CG-CD | 5.01 | 1.59 | 1.51 |
| 12 | B | 1122 | G | O4'-C1' | 5.01 | 1.48 | 1.41 |
| 12 | B | 185 | G | N9-C4 | 5.01 | 1.42 | 1.38 |
| 12 | B | 202 | U | C2'-C1' | -5.01 | 1.47 | 1.53 |
| 12 | B | 674 | G | C5-C6 | 5.01 | 1.47 | 1.42 |
| 12 | B | 955 | U | C2-N3 | -5.01 | 1.34 | 1.37 |
| 12 | B | 1060 | U | O4'-C1' | 5.01 | 1.48 | 1.41 |
| 12 | B | 1837 | C | N1-C6 | -5.01 | 1.34 | 1.37 |
| 12 | B | 1884 | G | C6-N1 | 5.01 | 1.43 | 1.39 |
| 12 | B | 1922 | G | N9-C4 | -5.01 | 1.33 | 1.38 |
| 12 | B | 2299 | U | C2-O2 | 5.01 | 1.26 | 1.22 |
| 12 | B | 2391 | G | N9-C4 | -5.01 | 1.33 | 1.38 |
| 12 | B | 2737 | G | N1-C2 | 5.01 | 1.41 | 1.37 |
| 18 | H | 142 | VAL | CB-CG2 | 5.01 | 1.63 | 1.52 |
| 12 | B | 222 | A | C8-N7 | -5.00 | 1.28 | 1.31 |
| 12 | B | 969 | G | C4'-C3' | 5.00 | 1.58 | 1.53 |
| 12 | B | 1856 | U | C5'-C4' | 5.00 | 1.57 | 1.51 |
| 12 | B | 19 | A | N3-C4 | 5.00 | 1.37 | 1.34 |
| 12 | B | 504 | A | C2-N3 | 5.00 | 1.38 | 1.33 |
| 12 | B | 1017 | G | N9-C4 | 5.00 | 1.42 | 1.38 |
| 12 | B | 1202 | G | N3-C4 | 5.00 | 1.39 | 1.35 |
| 12 | B | 1373 | A | C6-N6 | 5.00 | 1.38 | 1.33 |
| 12 | B | 1567 | G | N1-C2 | 5.00 | 1.41 | 1.37 |
| 12 | B | 2061 | G | N3-C4 | -5.00 | 1.31 | 1.35 |
| 12 | B | 2440 | C | N3-C4 | 5.00 | 1.37 | 1.33 |
| 12 | B | 2441 | U | N3-C4 | 5.00 | 1.43 | 1.38 |
| 12 | B | 2874 | C | C3'-O3' | 5.00 | 1.49 | 1.42 |
| 12 | B | 2888 | C | N3-C4 | 5.00 | 1.37 | 1.33 |
| 26 | P | 71 | ARG | CZ-NH1 | 5.00 | 1.39 | 1.33 |
| 12 | B | 548 | G | N9-C4 | 5.00 | 1.42 | 1.38 |
| 12 | B | 573 | U | C3'-O3' | 5.00 | 1.49 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 12 | B | 1111 | A | C2'-C1' | -5.00 | 1.47 | 1.53 |
| 12 | B | 1200 | C | C4'-C3' | 5.00 | 1.58 | 1.53 |
| 12 | B | 1269 | A | N9-C4 | 5.00 | 1.40 | 1.37 |
| 12 | B | 2034 | U | N3-C4 | 5.00 | 1.43 | 1.38 |
| 13 | C | 79 | ARG | N-CA | -5.00 | 1.36 | 1.46 |

All (17909) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 12 | B | 751 | A | N1-C6-N6 | 26.85 | 134.71 | 118.60 |
| 12 | B | 370 | G | N1-C6-O6 | 26.32 | 135.69 | 119.90 |
| 12 | B | 928 | A | N1-C6-N6 | 24.76 | 133.45 | 118.60 |
| 12 | B | 2360 | G | N1-C6-O6 | 24.64 | 134.69 | 119.90 |
| 12 | B | 668 | A | N1-C6-N6 | 24.57 | 133.34 | 118.60 |
| 12 | B | 956 | G | N1-C6-O6 | 24.26 | 134.45 | 119.90 |
| 12 | B | 2352 | A | N1-C6-N6 | 24.19 | 133.12 | 118.60 |
| 12 | B | 2838 | G | N1-C6-O6 | 23.84 | 134.21 | 119.90 |
| 12 | B | 684 | G | N1-C6-O6 | 23.52 | 134.01 | 119.90 |
| 12 | B | 1418 | G | C5-C6-O6 | -23.46 | 114.52 | 128.60 |
| 12 | B | 2282 | G | N1-C6-O6 | 23.30 | 133.88 | 119.90 |
| 12 | B | 2286 | G | N1-C6-O6 | 23.25 | 133.85 | 119.90 |
| 12 | B | 1418 | G | N1-C6-O6 | 23.22 | 133.83 | 119.90 |
| 12 | B | 1050 | A | N1-C6-N6 | 23.19 | 132.52 | 118.60 |
| 12 | B | 1780 | A | P-O3'-C3' | 23.17 | 147.50 | 119.70 |
| 12 | B | 1866 | A | N1-C6-N6 | 22.80 | 132.28 | 118.60 |
| 12 | B | 1034 | G | N1-C6-O6 | 22.62 | 133.47 | 119.90 |
| 12 | B | 2230 | G | N1-C6-O6 | 22.44 | 133.37 | 119.90 |
| 12 | B | 482 | A | N1-C6-N6 | 22.32 | 131.99 | 118.60 |
| 12 | B | 1419 | A | N1-C6-N6 | 22.29 | 131.97 | 118.60 |
| 12 | B | 949 | G | N1-C6-O6 | 22.28 | 133.27 | 119.90 |
| 12 | B | 352 | A | N1-C6-N6 | 22.26 | 131.96 | 118.60 |
| 12 | B | 1545 | A | N1-C6-N6 | 22.15 | 131.89 | 118.60 |
| 12 | B | 1444 | G | N1-C6-O6 | 22.10 | 133.16 | 119.90 |
| 12 | B | 1287 | A | N1-C6-N6 | 22.08 | 131.85 | 118.60 |
| 12 | B | 2184 | A | N1-C6-N6 | 22.05 | 131.83 | 118.60 |
| 12 | B | 233 | A | N1-C6-N6 | 22.04 | 131.82 | 118.60 |
| 12 | B | 1095 | A | N1-C6-N6 | 21.98 | 131.79 | 118.60 |
| 12 | B | 1651 | G | N1-C6-O6 | 21.88 | 133.03 | 119.90 |
| 12 | B | 2547 | A | N1-C6-N6 | 21.61 | 131.57 | 118.60 |
| 12 | B | 1927 | A | N1-C6-N6 | 21.61 | 131.56 | 118.60 |
| 12 | B | 2837 | A | N1-C6-N6 | 21.60 | 131.56 | 118.60 |
| 12 | B | 1823 | G | N1-C6-O6 | 21.44 | 132.76 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 12 | B | 2838 | G | C5-C6-O6 | -21.37 | 115.78 | 128.60 |
| 12 | B | 1107 | G | N1-C6-O6 | 21.35 | 132.71 | 119.90 |
| 12 | B | 1354 | A | N1-C6-N6 | 21.31 | 131.39 | 118.60 |
| 12 | B | 2679 | A | N1-C6-N6 | 21.26 | 131.35 | 118.60 |
| 12 | B | 2662 | A | N1-C6-N6 | 21.16 | 131.30 | 118.60 |
| 12 | B | 563 | A | N1-C6-N6 | 21.11 | 131.26 | 118.60 |
| 12 | B | 1407 | G | N1-C6-O6 | 21.11 | 132.57 | 119.90 |
| 12 | B | 2383 | G | C5-C6-O6 | -21.06 | 115.97 | 128.60 |
| 12 | B | 2674 | G | N1-C6-O6 | 21.00 | 132.50 | 119.90 |
| 12 | B | 2433 | A | N1-C6-N6 | 20.98 | 131.19 | 118.60 |
| 12 | B | 849 | A | N1-C6-N6 | 20.93 | 131.16 | 118.60 |
| 12 | B | 2831 | G | N1-C6-O6 | 20.90 | 132.44 | 119.90 |
| 12 | B | 822 | G | N1-C6-O6 | 20.86 | 132.41 | 119.90 |
| 12 | B | 2383 | G | N1-C6-O6 | 20.83 | 132.40 | 119.90 |
| 12 | B | 608 | A | N1-C6-N6 | 20.80 | 131.08 | 118.60 |
| 12 | B | 1223 | G | N1-C6-O6 | 20.79 | 132.38 | 119.90 |
| 12 | B | 2294 | G | N1-C6-O6 | 20.79 | 132.37 | 119.90 |
| 11 | A | 52 | A | N1-C6-N6 | 20.75 | 131.05 | 118.60 |
| 12 | B | 259 | G | N1-C6-O6 | 20.71 | 132.32 | 119.90 |
| 13 | C | 42 | ARG | NE-CZ-NH2 | -20.57 | 110.01 | 120.30 |
| 12 | B | 176 | A | N1-C6-N6 | 20.53 | 130.92 | 118.60 |
| 12 | B | 1613 | G | N1-C6-O6 | 20.50 | 132.20 | 119.90 |
| 12 | B | 1455 | G | C5-C6-O6 | -20.50 | 116.30 | 128.60 |
| 12 | B | 1791 | A | N1-C6-N6 | 20.49 | 130.89 | 118.60 |
| 12 | B | 1073 | A | N1-C6-N6 | 20.32 | 130.79 | 118.60 |
| 12 | B | 2590 | A | N1-C6-N6 | 20.32 | 130.79 | 118.60 |
| 12 | B | 370 | G | C5-C6-O6 | -20.27 | 116.44 | 128.60 |
| 12 | B | 2806 | C | N3-C4-C5 | -20.22 | 113.81 | 121.90 |
| 12 | B | 1919 | A | N1-C6-N6 | 20.19 | 130.71 | 118.60 |
| 12 | B | 797 | G | N1-C6-O6 | 20.18 | 132.01 | 119.90 |
| 12 | B | 2748 | A | N1-C6-N6 | 20.14 | 130.68 | 118.60 |
| 12 | B | 538 | A | N1-C6-N6 | 20.14 | 130.68 | 118.60 |
| 12 | B | 2020 | A | N1-C6-N6 | 20.10 | 130.66 | 118.60 |
| 12 | B | 600 | G | N1-C6-O6 | 20.06 | 131.94 | 119.90 |
| 12 | B | 473 | G | C5-C6-O6 | -20.06 | 116.57 | 128.60 |
| 12 | B | 1847 | A | N1-C6-N6 | 20.05 | 130.63 | 118.60 |
| 12 | B | 2336 | A | N1-C6-N6 | 20.04 | 130.63 | 118.60 |
| 12 | B | 2352 | A | C5-C6-N1 | -20.03 | 107.69 | 117.70 |
| 12 | B | 2191 | A | N1-C6-N6 | 20.03 | 130.62 | 118.60 |
| 12 | B | 324 | A | N1-C6-N6 | 20.01 | 130.61 | 118.60 |
| 12 | B | 582 | A | N1-C6-N6 | 19.99 | 130.60 | 118.60 |
| 12 | B | 1010 | A | N1-C6-N6 | 19.98 | 130.59 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|----------|--------|-------------|----------|
| 12 | B | 603 | A | N1-C6-N6 | 19.92 | 130.55 | 118.60 |
| 12 | B | 891 | G | N1-C6-O6 | 19.91 | 131.85 | 119.90 |
| 12 | B | 991 | C | N3-C4-C5 | -19.91 | 113.94 | 121.90 |
| 12 | B | 684 | G | C5-C6-O6 | -19.91 | 116.65 | 128.60 |
| 12 | B | 2340 | A | N1-C6-N6 | 19.91 | 130.54 | 118.60 |
| 12 | B | 185 | G | C5-C6-O6 | -19.90 | 116.66 | 128.60 |
| 12 | B | 556 | A | N1-C6-N6 | 19.89 | 130.53 | 118.60 |
| 12 | B | 241 | A | N1-C6-N6 | 19.88 | 130.53 | 118.60 |
| 12 | B | 2288 | A | N1-C6-N6 | 19.88 | 130.53 | 118.60 |
| 12 | B | 207 | A | N1-C6-N6 | 19.80 | 130.48 | 118.60 |
| 12 | B | 2009 | A | N1-C6-N6 | 19.80 | 130.48 | 118.60 |
| 12 | B | 2363 | G | N1-C6-O6 | 19.79 | 131.78 | 119.90 |
| 12 | B | 2738 | A | N1-C6-N6 | 19.74 | 130.45 | 118.60 |
| 12 | B | 2490 | G | C5-C6-O6 | -19.71 | 116.77 | 128.60 |
| 12 | B | 1928 | A | N1-C6-N6 | 19.70 | 130.42 | 118.60 |
| 12 | B | 2487 | G | C5-C6-O6 | -19.70 | 116.78 | 128.60 |
| 12 | B | 1378 | A | N1-C6-N6 | 19.70 | 130.42 | 118.60 |
| 12 | B | 1099 | G | N1-C6-O6 | 19.69 | 131.71 | 119.90 |
| 12 | B | 2010 | G | C5-C6-O6 | -19.64 | 116.82 | 128.60 |
| 12 | B | 1938 | A | N1-C6-N6 | 19.57 | 130.34 | 118.60 |
| 12 | B | 804 | A | N1-C6-N6 | 19.52 | 130.31 | 118.60 |
| 12 | B | 2870 | C | N3-C4-C5 | -19.50 | 114.10 | 121.90 |
| 12 | B | 1593 | A | N1-C6-N6 | 19.48 | 130.29 | 118.60 |
| 12 | B | 2282 | G | C5-C6-O6 | -19.48 | 116.91 | 128.60 |
| 12 | B | 1810 | A | N1-C6-N6 | 19.46 | 130.27 | 118.60 |
| 12 | B | 2271 | G | N1-C6-O6 | 19.45 | 131.57 | 119.90 |
| 12 | B | 1787 | A | N1-C6-N6 | 19.43 | 130.26 | 118.60 |
| 12 | B | 583 | G | N1-C6-O6 | 19.42 | 131.55 | 119.90 |
| 12 | B | 1284 | A | N1-C6-N6 | 19.41 | 130.25 | 118.60 |
| 12 | B | 861 | A | N1-C6-N6 | 19.41 | 130.25 | 118.60 |
| 12 | B | 1433 | A | N1-C6-N6 | 19.41 | 130.24 | 118.60 |
| 12 | B | 1154 | G | N1-C6-O6 | 19.36 | 131.52 | 119.90 |
| 12 | B | 2461 | A | N1-C6-N6 | 19.30 | 130.18 | 118.60 |
| 12 | B | 942 | G | C8-N9-C4 | -19.25 | 98.70 | 106.40 |
| 12 | B | 303 | G | N1-C6-O6 | 19.22 | 131.43 | 119.90 |
| 12 | B | 1393 | A | N1-C6-N6 | 19.21 | 130.13 | 118.60 |
| 12 | B | 2378 | A | N1-C6-N6 | 19.21 | 130.13 | 118.60 |
| 12 | B | 2093 | G | N1-C6-O6 | 19.18 | 131.41 | 119.90 |
| 12 | B | 2429 | G | N1-C6-O6 | 19.15 | 131.39 | 119.90 |
| 12 | B | 2351 | G | N1-C6-O6 | 19.12 | 131.37 | 119.90 |
| 12 | B | 2675 | A | N1-C6-N6 | 19.08 | 130.05 | 118.60 |
| 12 | B | 152 | A | N1-C6-N6 | 19.07 | 130.04 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 12 | B | 266 | G | N1-C6-O6 | 19.07 | 131.34 | 119.90 |
| 12 | B | 2162 | G | N1-C6-O6 | 19.04 | 131.32 | 119.90 |
| 12 | B | 733 | G | N1-C6-O6 | 19.02 | 131.31 | 119.90 |
| 12 | B | 185 | G | N1-C6-O6 | 18.96 | 131.28 | 119.90 |
| 12 | B | 2345 | G | N1-C6-O6 | 18.94 | 131.26 | 119.90 |
| 12 | B | 2831 | G | C5-C6-O6 | -18.91 | 117.25 | 128.60 |
| 12 | B | 1230 | A | N1-C6-N6 | 18.87 | 129.92 | 118.60 |
| 12 | B | 1780 | A | N1-C6-N6 | 18.86 | 129.91 | 118.60 |
| 12 | B | 177 | G | N1-C6-O6 | 18.85 | 131.21 | 119.90 |
| 12 | B | 1421 | G | C5-C6-O6 | -18.82 | 117.31 | 128.60 |
| 12 | B | 497 | A | N1-C6-N6 | 18.79 | 129.87 | 118.60 |
| 12 | B | 924 | G | N1-C6-O6 | 18.78 | 131.17 | 119.90 |
| 12 | B | 949 | G | C5-C6-O6 | -18.75 | 117.35 | 128.60 |
| 12 | B | 2127 | G | N1-C6-O6 | 18.75 | 131.15 | 119.90 |
| 12 | B | 410 | G | N1-C6-O6 | 18.74 | 131.14 | 119.90 |
| 12 | B | 920 | A | N1-C6-N6 | 18.71 | 129.82 | 118.60 |
| 12 | B | 103 | A | N1-C6-N6 | 18.70 | 129.82 | 118.60 |
| 12 | B | 1962 | C | N3-C4-C5 | -18.70 | 114.42 | 121.90 |
| 12 | B | 1933 | G | C5-C6-O6 | -18.69 | 117.39 | 128.60 |
| 12 | B | 1338 | G | C5-C6-O6 | -18.68 | 117.39 | 128.60 |
| 12 | B | 2204 | G | N1-C6-O6 | 18.68 | 131.11 | 119.90 |
| 12 | B | 1269 | A | N1-C6-N6 | 18.63 | 129.78 | 118.60 |
| 12 | B | 2101 | A | N1-C6-N6 | 18.58 | 129.75 | 118.60 |
| 12 | B | 1500 | G | C5-C6-O6 | -18.58 | 117.45 | 128.60 |
| 12 | B | 2239 | G | N1-C6-O6 | 18.58 | 131.05 | 119.90 |
| 11 | A | 27 | C | N3-C4-C5 | -18.55 | 114.48 | 121.90 |
| 12 | B | 298 | G | C5-C6-O6 | -18.51 | 117.49 | 128.60 |
| 12 | B | 1545 | A | C5-C6-N1 | -18.48 | 108.46 | 117.70 |
| 12 | B | 2014 | A | N1-C6-N6 | 18.48 | 129.69 | 118.60 |
| 12 | B | 1057 | A | N1-C6-N6 | 18.47 | 129.68 | 118.60 |
| 12 | B | 466 | A | N1-C6-N6 | 18.47 | 129.68 | 118.60 |
| 12 | B | 196 | A | N1-C6-N6 | 18.46 | 129.68 | 118.60 |
| 12 | B | 1034 | G | C5-C6-O6 | -18.45 | 117.53 | 128.60 |
| 12 | B | 155 | A | N1-C6-N6 | 18.42 | 129.65 | 118.60 |
| 12 | B | 1801 | A | N1-C6-N6 | 18.41 | 129.65 | 118.60 |
| 12 | B | 172 | A | N1-C6-N6 | 18.34 | 129.60 | 118.60 |
| 12 | B | 60 | G | N1-C6-O6 | 18.32 | 130.89 | 119.90 |
| 12 | B | 2230 | G | C5-C6-O6 | -18.30 | 117.62 | 128.60 |
| 12 | B | 60 | G | C5-C6-O6 | -18.24 | 117.66 | 128.60 |
| 12 | B | 890 | C | P-O3'-C3' | 18.23 | 141.58 | 119.70 |
| 12 | B | 297 | G | N1-C6-O6 | 18.18 | 130.81 | 119.90 |
| 12 | B | 1470 | A | N1-C6-N6 | 18.17 | 129.50 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|----------|--------|-------------|----------|
| 12 | B | 1705 | A | N1-C6-N6 | 18.15 | 129.49 | 118.60 |
| 12 | B | 734 | A | N1-C6-N6 | 18.12 | 129.47 | 118.60 |
| 12 | B | 2429 | G | C5-C6-O6 | -18.07 | 117.76 | 128.60 |
| 12 | B | 2308 | G | N1-C6-O6 | 18.06 | 130.74 | 119.90 |
| 12 | B | 1419 | A | C5-C6-N6 | -18.04 | 109.27 | 123.70 |
| 12 | B | 1772 | A | N1-C6-N6 | 18.02 | 129.41 | 118.60 |
| 12 | B | 1151 | A | N1-C6-N6 | 18.02 | 129.41 | 118.60 |
| 12 | B | 477 | A | N1-C6-N6 | 18.01 | 129.41 | 118.60 |
| 12 | B | 2867 | G | N1-C6-O6 | 17.97 | 130.68 | 119.90 |
| 12 | B | 2641 | G | N1-C6-O6 | 17.96 | 130.68 | 119.90 |
| 12 | B | 2010 | G | N1-C6-O6 | 17.94 | 130.66 | 119.90 |
| 12 | B | 822 | G | C5-C6-O6 | -17.94 | 117.84 | 128.60 |
| 12 | B | 2692 | G | N1-C6-O6 | 17.93 | 130.66 | 119.90 |
| 12 | B | 1735 | A | N1-C6-N6 | 17.90 | 129.34 | 118.60 |
| 12 | B | 2426 | A | N1-C6-N6 | 17.89 | 129.34 | 118.60 |
| 12 | B | 2360 | G | C5-C6-O6 | -17.89 | 117.86 | 128.60 |
| 12 | B | 1878 | G | C5-C6-O6 | -17.88 | 117.87 | 128.60 |
| 12 | B | 2314 | A | N1-C6-N6 | 17.86 | 129.31 | 118.60 |
| 11 | A | 112 | G | C5-C6-O6 | -17.85 | 117.89 | 128.60 |
| 12 | B | 1142 | A | N1-C6-N6 | 17.83 | 129.30 | 118.60 |
| 12 | B | 410 | G | C5-C6-O6 | -17.82 | 117.91 | 128.60 |
| 12 | B | 2435 | A | N1-C6-N6 | 17.82 | 129.29 | 118.60 |
| 12 | B | 95 | A | N1-C6-N6 | 17.79 | 129.27 | 118.60 |
| 12 | B | 809 | G | N1-C6-O6 | 17.78 | 130.57 | 119.90 |
| 12 | B | 2821 | A | N1-C6-N6 | 17.78 | 129.27 | 118.60 |
| 12 | B | 2116 | G | N1-C6-O6 | 17.74 | 130.54 | 119.90 |
| 12 | B | 2879 | A | N1-C6-N6 | 17.70 | 129.22 | 118.60 |
| 12 | B | 188 | G | N1-C6-O6 | 17.69 | 130.52 | 119.90 |
| 12 | B | 215 | G | N1-C6-O6 | 17.68 | 130.51 | 119.90 |
| 12 | B | 1392 | A | N1-C6-N6 | 17.68 | 129.21 | 118.60 |
| 12 | B | 2545 | G | N1-C6-O6 | 17.67 | 130.50 | 119.90 |
| 12 | B | 2116 | G | C5-C6-O6 | -17.66 | 118.00 | 128.60 |
| 12 | B | 1685 | C | N3-C4-C5 | -17.64 | 114.84 | 121.90 |
| 12 | B | 2648 | G | N1-C6-O6 | 17.64 | 130.48 | 119.90 |
| 12 | B | 2799 | A | N1-C6-N6 | 17.64 | 129.18 | 118.60 |
| 12 | B | 1274 | A | N1-C6-N6 | 17.63 | 129.18 | 118.60 |
| 12 | B | 910 | A | N1-C6-N6 | 17.63 | 129.18 | 118.60 |
| 12 | B | 1644 | C | N3-C4-N4 | 17.63 | 130.34 | 118.00 |
| 12 | B | 2597 | G | N1-C6-O6 | 17.62 | 130.47 | 119.90 |
| 12 | B | 2290 | G | N1-C6-O6 | 17.59 | 130.46 | 119.90 |
| 12 | B | 2856 | A | N1-C6-N6 | 17.59 | 129.15 | 118.60 |
| 12 | B | 2840 | C | N3-C4-C5 | -17.55 | 114.88 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 468 | G | C5-C6-O6 | -17.53 | 118.08 | 128.60 |
| 12 | B | 2359 | C | O4'-C1'-N1 | 17.53 | 122.22 | 108.20 |
| 12 | B | 425 | G | N1-C6-O6 | 17.52 | 130.41 | 119.90 |
| 12 | B | 248 | G | C5-C6-O6 | -17.48 | 118.11 | 128.60 |
| 12 | B | 809 | G | C5-C6-O6 | -17.47 | 118.12 | 128.60 |
| 12 | B | 730 | A | N1-C6-N6 | 17.46 | 129.07 | 118.60 |
| 12 | B | 2170 | A | N1-C6-N6 | 17.44 | 129.07 | 118.60 |
| 12 | B | 1535 | A | N1-C6-N6 | 17.43 | 129.06 | 118.60 |
| 12 | B | 255 | A | N1-C6-N6 | 17.43 | 129.06 | 118.60 |
| 12 | B | 930 | G | C5-C6-O6 | -17.43 | 118.14 | 128.60 |
| 12 | B | 1439 | A | N1-C6-N6 | 17.42 | 129.05 | 118.60 |
| 12 | B | 1590 | A | N1-C6-N6 | 17.42 | 129.05 | 118.60 |
| 12 | B | 1384 | A | N1-C6-N6 | 17.42 | 129.05 | 118.60 |
| 12 | B | 682 | G | N1-C6-O6 | 17.42 | 130.35 | 119.90 |
| 12 | B | 944 | C | N3-C4-C5 | -17.40 | 114.94 | 121.90 |
| 12 | B | 1722 | A | N1-C6-N6 | 17.39 | 129.03 | 118.60 |
| 12 | B | 1134 | A | N1-C6-N6 | 17.38 | 129.03 | 118.60 |
| 12 | B | 2352 | A | C4-C5-C6 | 17.37 | 125.68 | 117.00 |
| 12 | B | 2597 | G | C5-C6-O6 | -17.37 | 118.18 | 128.60 |
| 12 | B | 449 | A | N1-C6-N6 | 17.35 | 129.01 | 118.60 |
| 12 | B | 2732 | G | N1-C6-O6 | 17.35 | 130.31 | 119.90 |
| 12 | B | 478 | A | N1-C6-N6 | 17.34 | 129.00 | 118.60 |
| 12 | B | 1571 | A | N1-C6-N6 | 17.34 | 129.00 | 118.60 |
| 12 | B | 262 | A | N1-C6-N6 | 17.33 | 129.00 | 118.60 |
| 11 | A | 101 | A | N1-C6-N6 | 17.33 | 129.00 | 118.60 |
| 12 | B | 266 | G | C5-C6-O6 | -17.33 | 118.20 | 128.60 |
| 12 | B | 101 | A | N1-C6-N6 | 17.32 | 128.99 | 118.60 |
| 12 | B | 1767 | G | N1-C6-O6 | 17.30 | 130.28 | 119.90 |
| 12 | B | 993 | G | N1-C6-O6 | 17.30 | 130.28 | 119.90 |
| 12 | B | 301 | G | N1-C6-O6 | 17.27 | 130.26 | 119.90 |
| 12 | B | 2574 | G | N1-C6-O6 | 17.24 | 130.24 | 119.90 |
| 11 | A | 17 | C | C6-N1-C2 | -17.23 | 113.41 | 120.30 |
| 12 | B | 244 | A | N1-C6-N6 | 17.22 | 128.93 | 118.60 |
| 12 | B | 2251 | G | N1-C6-O6 | 17.22 | 130.23 | 119.90 |
| 12 | B | 663 | G | C5-C6-O6 | -17.20 | 118.28 | 128.60 |
| 12 | B | 2531 | A | N1-C6-N6 | 17.19 | 128.92 | 118.60 |
| 12 | B | 2781 | A | N1-C6-N6 | 17.19 | 128.91 | 118.60 |
| 12 | B | 1464 | G | C5-C6-O6 | -17.17 | 118.30 | 128.60 |
| 12 | B | 298 | G | N1-C6-O6 | 17.15 | 130.19 | 119.90 |
| 12 | B | 1904 | G | C5-C6-O6 | -17.13 | 118.32 | 128.60 |
| 12 | B | 1804 | C | N3-C4-C5 | -17.13 | 115.05 | 121.90 |
| 12 | B | 1679 | A | N1-C6-N6 | 17.09 | 128.85 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 12 | B | 303 | G | C5-C6-O6 | -17.08 | 118.35 | 128.60 |
| 12 | B | 1280 | G | N1-C6-O6 | 17.07 | 130.14 | 119.90 |
| 12 | B | 2399 | G | N1-C6-O6 | 17.07 | 130.14 | 119.90 |
| 12 | B | 752 | A | N1-C6-N6 | 17.06 | 128.84 | 118.60 |
| 12 | B | 827 | U | P-O3'-C3' | 17.06 | 140.18 | 119.70 |
| 12 | B | 655 | A | N1-C6-N6 | 17.06 | 128.84 | 118.60 |
| 12 | B | 583 | G | C5-C6-O6 | -17.05 | 118.37 | 128.60 |
| 12 | B | 797 | G | C5-C6-O6 | -17.04 | 118.38 | 128.60 |
| 12 | B | 574 | A | N1-C6-N6 | 17.02 | 128.81 | 118.60 |
| 11 | A | 66 | A | N1-C6-N6 | 17.00 | 128.80 | 118.60 |
| 12 | B | 543 | G | N1-C6-O6 | 17.00 | 130.10 | 119.90 |
| 12 | B | 1260 | A | N1-C6-N6 | 16.99 | 128.79 | 118.60 |
| 12 | B | 2751 | G | N1-C6-O6 | 16.98 | 130.09 | 119.90 |
| 12 | B | 56 | A | N1-C6-N6 | 16.97 | 128.78 | 118.60 |
| 12 | B | 1544 | A | N1-C6-N6 | 16.97 | 128.78 | 118.60 |
| 12 | B | 805 | G | C5-C6-O6 | -16.95 | 118.43 | 128.60 |
| 12 | B | 825 | A | N1-C6-N6 | 16.95 | 128.77 | 118.60 |
| 12 | B | 226 | A | N1-C6-N6 | 16.94 | 128.76 | 118.60 |
| 12 | B | 2094 | A | N1-C6-N6 | 16.93 | 128.76 | 118.60 |
| 12 | B | 1746 | A | N1-C6-N6 | 16.93 | 128.76 | 118.60 |
| 11 | A | 104 | A | N1-C6-N6 | 16.92 | 128.75 | 118.60 |
| 12 | B | 2142 | A | N1-C6-N6 | 16.92 | 128.75 | 118.60 |
| 12 | B | 169 | G | N1-C6-O6 | 16.91 | 130.04 | 119.90 |
| 12 | B | 2140 | G | N1-C6-O6 | 16.91 | 130.04 | 119.90 |
| 12 | B | 2365 | G | N1-C6-O6 | 16.89 | 130.04 | 119.90 |
| 11 | A | 29 | A | N1-C6-N6 | 16.88 | 128.73 | 118.60 |
| 6 | 5 | 122 | ARG | NE-CZ-NH1 | 16.87 | 128.73 | 120.30 |
| 12 | B | 2311 | A | N1-C6-N6 | 16.86 | 128.72 | 118.60 |
| 12 | B | 2589 | A | C4-C5-C6 | 16.86 | 125.43 | 117.00 |
| 12 | B | 121 | G | N1-C6-O6 | 16.86 | 130.01 | 119.90 |
| 12 | B | 1387 | A | N1-C6-N6 | 16.86 | 128.71 | 118.60 |
| 12 | B | 265 | A | N1-C6-N6 | 16.81 | 128.69 | 118.60 |
| 12 | B | 751 | A | C5-C6-N1 | -16.81 | 109.29 | 117.70 |
| 12 | B | 1424 | G | C5-C6-O6 | -16.80 | 118.52 | 128.60 |
| 12 | B | 563 | A | C5-C6-N1 | -16.75 | 109.32 | 117.70 |
| 12 | B | 1860 | G | N1-C6-O6 | 16.75 | 129.95 | 119.90 |
| 12 | B | 2437 | G | N1-C6-O6 | 16.75 | 129.95 | 119.90 |
| 12 | B | 1055 | G | C5-C6-O6 | -16.75 | 118.55 | 128.60 |
| 10 | 9 | 76 | ARG | NE-CZ-NH1 | 16.74 | 128.67 | 120.30 |
| 12 | B | 863 | A | N1-C6-N6 | 16.74 | 128.64 | 118.60 |
| 12 | B | 1552 | A | N1-C6-N6 | 16.73 | 128.64 | 118.60 |
| 12 | B | 2766 | A | N1-C6-N6 | 16.72 | 128.63 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1780 | A | C5-N7-C8 | 16.70 | 112.25 | 103.90 |
| 11 | A | 94 | A | C5-C6-N1 | -16.70 | 109.35 | 117.70 |
| 12 | B | 259 | G | C5-C6-O6 | -16.68 | 118.59 | 128.60 |
| 12 | B | 1481 | U | O4'-C1'-N1 | 16.67 | 121.54 | 108.20 |
| 12 | B | 1333 | G | N1-C6-O6 | 16.66 | 129.90 | 119.90 |
| 12 | B | 2173 | A | C5-N7-C8 | 16.66 | 112.23 | 103.90 |
| 12 | B | 1849 | G | N1-C6-O6 | 16.66 | 129.90 | 119.90 |
| 12 | B | 1452 | G | P-O3'-C3' | 16.64 | 139.66 | 119.70 |
| 11 | A | 112 | G | N1-C6-O6 | 16.63 | 129.88 | 119.90 |
| 12 | B | 1244 | A | N1-C6-N6 | 16.62 | 128.57 | 118.60 |
| 12 | B | 1653 | G | N1-C6-O6 | 16.62 | 129.87 | 119.90 |
| 12 | B | 2627 | G | C5-C6-O6 | -16.58 | 118.65 | 128.60 |
| 12 | B | 1551 | A | N1-C6-N6 | 16.57 | 128.54 | 118.60 |
| 12 | B | 102 | U | P-O3'-C3' | 16.56 | 139.57 | 119.70 |
| 12 | B | 789 | A | N1-C6-N6 | 16.55 | 128.53 | 118.60 |
| 12 | B | 2161 | C | N3-C4-C5 | -16.51 | 115.29 | 121.90 |
| 12 | B | 233 | A | C5-C6-N6 | -16.51 | 110.49 | 123.70 |
| 12 | B | 348 | A | N1-C6-N6 | 16.51 | 128.50 | 118.60 |
| 12 | B | 1421 | G | N1-C6-O6 | 16.48 | 129.79 | 119.90 |
| 12 | B | 1829 | A | N1-C6-N6 | 16.48 | 128.49 | 118.60 |
| 12 | B | 1651 | G | C5-C6-O6 | -16.47 | 118.72 | 128.60 |
| 12 | B | 1608 | A | C5-C6-N1 | -16.46 | 109.47 | 117.70 |
| 12 | B | 1154 | G | C5-C6-O6 | -16.44 | 118.74 | 128.60 |
| 12 | B | 682 | G | C5-C6-O6 | -16.43 | 118.74 | 128.60 |
| 12 | B | 1933 | G | N1-C6-O6 | 16.43 | 129.75 | 119.90 |
| 12 | B | 415 | A | N1-C6-N6 | 16.39 | 128.44 | 118.60 |
| 12 | B | 414 | C | C6-N1-C2 | -16.39 | 113.75 | 120.30 |
| 12 | B | 1301 | A | N1-C6-N6 | 16.37 | 128.42 | 118.60 |
| 12 | B | 974 | G | C5-C6-O6 | -16.36 | 118.78 | 128.60 |
| 12 | B | 251 | A | N1-C6-N6 | 16.36 | 128.41 | 118.60 |
| 12 | B | 409 | G | C5-C6-O6 | -16.36 | 118.79 | 128.60 |
| 12 | B | 353 | C | N3-C4-N4 | 16.36 | 129.45 | 118.00 |
| 12 | B | 674 | G | N1-C6-O6 | 16.35 | 129.71 | 119.90 |
| 12 | B | 63 | A | N1-C6-N6 | 16.34 | 128.41 | 118.60 |
| 12 | B | 1613 | G | C5-C6-O6 | -16.32 | 118.81 | 128.60 |
| 12 | B | 2145 | C | N3-C4-N4 | 16.29 | 129.41 | 118.00 |
| 12 | B | 2641 | G | C5-C6-O6 | -16.29 | 118.83 | 128.60 |
| 12 | B | 2127 | G | C5-C6-O6 | -16.26 | 118.85 | 128.60 |
| 12 | B | 2758 | A | N1-C6-N6 | 16.25 | 128.35 | 118.60 |
| 12 | B | 1583 | A | N1-C6-N6 | 16.25 | 128.35 | 118.60 |
| 12 | B | 1906 | G | C5-C6-O6 | -16.25 | 118.85 | 128.60 |
| 12 | B | 388 | G | N1-C6-O6 | 16.24 | 129.65 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1475 | G | N3-C2-N2 | 16.24 | 131.27 | 119.90 |
| 12 | B | 924 | G | C5-C6-O6 | -16.24 | 118.86 | 128.60 |
| 12 | B | 69 | C | N3-C4-C5 | -16.24 | 115.41 | 121.90 |
| 12 | B | 1134 | A | C5-C6-N1 | -16.24 | 109.58 | 117.70 |
| 12 | B | 2077 | A | N1-C6-N6 | 16.23 | 128.34 | 118.60 |
| 12 | B | 2024 | G | C5-C6-O6 | -16.22 | 118.87 | 128.60 |
| 12 | B | 2381 | A | N1-C6-N6 | 16.22 | 128.33 | 118.60 |
| 11 | A | 58 | A | C8-N9-C4 | -16.22 | 99.31 | 105.80 |
| 12 | B | 1845 | G | N1-C6-O6 | 16.22 | 129.63 | 119.90 |
| 12 | B | 2083 | G | N1-C6-O6 | 16.22 | 129.63 | 119.90 |
| 12 | B | 1170 | C | N3-C4-C5 | -16.18 | 115.43 | 121.90 |
| 12 | B | 2208 | C | O4'-C1'-N1 | 16.18 | 121.14 | 108.20 |
| 12 | B | 508 | A | N1-C6-N6 | 16.18 | 128.31 | 118.60 |
| 12 | B | 1334 | G | N1-C6-O6 | 16.16 | 129.60 | 119.90 |
| 12 | B | 980 | A | N1-C6-N6 | 16.15 | 128.29 | 118.60 |
| 12 | B | 2209 | G | N1-C6-O6 | 16.13 | 129.58 | 119.90 |
| 12 | B | 2076 | U | P-O3'-C3' | 16.12 | 139.05 | 119.70 |
| 12 | B | 2842 | G | N1-C6-O6 | 16.12 | 129.57 | 119.90 |
| 12 | B | 976 | G | N1-C6-O6 | 16.11 | 129.56 | 119.90 |
| 12 | B | 1469 | A | N1-C6-N6 | 16.10 | 128.26 | 118.60 |
| 12 | B | 1586 | A | N1-C6-N6 | 16.10 | 128.26 | 118.60 |
| 12 | B | 1872 | A | N1-C6-N6 | 16.10 | 128.26 | 118.60 |
| 12 | B | 423 | A | N1-C6-N6 | 16.09 | 128.26 | 118.60 |
| 12 | B | 1664 | A | N1-C6-N6 | 16.09 | 128.26 | 118.60 |
| 12 | B | 777 | G | N1-C6-O6 | 16.08 | 129.55 | 119.90 |
| 12 | B | 550 | C | N3-C4-C5 | -16.08 | 115.47 | 121.90 |
| 12 | B | 1936 | A | N1-C6-N6 | 16.06 | 128.24 | 118.60 |
| 12 | B | 2286 | G | C5-C6-O6 | -16.06 | 118.96 | 128.60 |
| 12 | B | 2241 | A | N1-C6-N6 | 16.06 | 128.23 | 118.60 |
| 12 | B | 2732 | G | C5-C6-O6 | -16.05 | 118.97 | 128.60 |
| 12 | B | 1385 | A | N1-C6-N6 | 16.05 | 128.23 | 118.60 |
| 12 | B | 2746 | U | C5-C6-N1 | 16.04 | 130.72 | 122.70 |
| 12 | B | 1671 | U | C5-C6-N1 | 16.03 | 130.72 | 122.70 |
| 12 | B | 159 | G | O4'-C1'-N9 | 16.01 | 121.01 | 108.20 |
| 12 | B | 2602 | A | N1-C6-N6 | 15.98 | 128.19 | 118.60 |
| 12 | B | 2294 | G | C5-C6-O6 | -15.96 | 119.02 | 128.60 |
| 12 | B | 2311 | A | C8-N9-C4 | -15.96 | 99.42 | 105.80 |
| 12 | B | 1116 | G | C5-C6-O6 | -15.95 | 119.03 | 128.60 |
| 12 | B | 36 | G | N1-C6-O6 | 15.94 | 129.46 | 119.90 |
| 12 | B | 559 | G | N1-C6-O6 | 15.94 | 129.46 | 119.90 |
| 12 | B | 116 | C | N3-C4-C5 | -15.92 | 115.53 | 121.90 |
| 12 | B | 1500 | G | N1-C6-O6 | 15.91 | 129.45 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2254 | C | O4'-C1'-N1 | 15.91 | 120.93 | 108.20 |
| 12 | B | 976 | G | C5-C6-O6 | -15.90 | 119.06 | 128.60 |
| 12 | B | 1804 | C | N3-C4-N4 | 15.90 | 129.13 | 118.00 |
| 12 | B | 318 | C | N3-C4-C5 | -15.90 | 115.54 | 121.90 |
| 12 | B | 1569 | A | N1-C6-N6 | 15.89 | 128.13 | 118.60 |
| 12 | B | 578 | G | C5-C6-O6 | -15.88 | 119.07 | 128.60 |
| 12 | B | 2642 | G | N1-C6-O6 | 15.88 | 129.43 | 119.90 |
| 12 | B | 1143 | A | N1-C6-N6 | 15.87 | 128.12 | 118.60 |
| 12 | B | 749 | A | N1-C6-N6 | 15.86 | 128.12 | 118.60 |
| 12 | B | 891 | G | O4'-C1'-N9 | 15.86 | 120.89 | 108.20 |
| 12 | B | 281 | C | N3-C4-C5 | -15.86 | 115.56 | 121.90 |
| 12 | B | 1665 | A | C5-C6-N1 | -15.86 | 109.77 | 117.70 |
| 12 | B | 1142 | A | C5-C6-N1 | -15.86 | 109.77 | 117.70 |
| 12 | B | 1444 | G | C5-C6-O6 | -15.85 | 119.09 | 128.60 |
| 12 | B | 2095 | A | N1-C2-N3 | 15.82 | 137.21 | 129.30 |
| 12 | B | 865 | C | N3-C4-C5 | -15.82 | 115.57 | 121.90 |
| 12 | B | 1230 | A | C5-C6-N6 | -15.82 | 111.05 | 123.70 |
| 12 | B | 2815 | C | N3-C4-C5 | -15.82 | 115.57 | 121.90 |
| 12 | B | 494 | G | C5-C6-O6 | -15.81 | 119.11 | 128.60 |
| 12 | B | 2507 | C | C6-N1-C2 | -15.81 | 113.98 | 120.30 |
| 12 | B | 2764 | A | N1-C6-N6 | 15.80 | 128.08 | 118.60 |
| 12 | B | 1068 | G | N1-C6-O6 | 15.79 | 129.38 | 119.90 |
| 12 | B | 2603 | G | N1-C6-O6 | 15.78 | 129.37 | 119.90 |
| 12 | B | 533 | G | N1-C6-O6 | 15.77 | 129.36 | 119.90 |
| 12 | B | 2507 | C | N3-C4-C5 | -15.77 | 115.59 | 121.90 |
| 12 | B | 1455 | G | N1-C6-O6 | 15.77 | 129.36 | 119.90 |
| 12 | B | 2049 | G | N1-C6-O6 | 15.76 | 129.36 | 119.90 |
| 12 | B | 611 | C | C6-N1-C2 | -15.74 | 114.00 | 120.30 |
| 12 | B | 1537 | G | N1-C6-O6 | 15.74 | 129.34 | 119.90 |
| 12 | B | 2572 | A | N1-C6-N6 | 15.71 | 128.03 | 118.60 |
| 12 | B | 631 | A | C4-C5-C6 | 15.71 | 124.86 | 117.00 |
| 12 | B | 677 | A | N1-C6-N6 | 15.70 | 128.02 | 118.60 |
| 12 | B | 1223 | G | C5-C6-O6 | -15.69 | 119.19 | 128.60 |
| 12 | B | 1105 | U | O4'-C1'-N1 | 15.69 | 120.75 | 108.20 |
| 12 | B | 2082 | A | N1-C6-N6 | 15.68 | 128.01 | 118.60 |
| 12 | B | 1596 | A | N1-C6-N6 | 15.68 | 128.01 | 118.60 |
| 12 | B | 1275 | A | N1-C6-N6 | 15.68 | 128.01 | 118.60 |
| 12 | B | 55 | G | N1-C6-O6 | 15.67 | 129.30 | 119.90 |
| 12 | B | 608 | A | C5-N7-C8 | 15.67 | 111.73 | 103.90 |
| 12 | B | 220 | G | N1-C6-O6 | 15.66 | 129.30 | 119.90 |
| 12 | B | 1794 | A | N1-C6-N6 | 15.65 | 127.99 | 118.60 |
| 12 | B | 2351 | G | C5-C6-O6 | -15.64 | 119.21 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2565 | A | N1-C6-N6 | 15.64 | 127.98 | 118.60 |
| 12 | B | 2691 | C | N3-C4-C5 | -15.62 | 115.65 | 121.90 |
| 12 | B | 903 | C | N3-C4-C5 | -15.62 | 115.65 | 121.90 |
| 12 | B | 715 | A | N1-C6-N6 | 15.61 | 127.97 | 118.60 |
| 12 | B | 330 | A | N1-C6-N6 | 15.60 | 127.96 | 118.60 |
| 12 | B | 864 | G | C5-C6-O6 | -15.60 | 119.24 | 128.60 |
| 12 | B | 1711 | A | N1-C6-N6 | 15.60 | 127.96 | 118.60 |
| 12 | B | 2657 | A | N1-C6-N6 | 15.60 | 127.96 | 118.60 |
| 12 | B | 2445 | G | N1-C6-O6 | 15.57 | 129.25 | 119.90 |
| 12 | B | 1216 | G | N1-C6-O6 | 15.56 | 129.24 | 119.90 |
| 12 | B | 164 | C | O4'-C1'-N1 | 15.56 | 120.65 | 108.20 |
| 12 | B | 407 | G | N1-C6-O6 | 15.56 | 129.24 | 119.90 |
| 12 | B | 1700 | A | N1-C6-N6 | 15.56 | 127.94 | 118.60 |
| 12 | B | 231 | A | C8-N9-C4 | 15.56 | 112.02 | 105.80 |
| 12 | B | 1920 | C | N3-C4-N4 | 15.56 | 128.89 | 118.00 |
| 12 | B | 2487 | G | N1-C6-O6 | 15.54 | 129.22 | 119.90 |
| 12 | B | 592 | A | O4'-C1'-N9 | 15.53 | 120.62 | 108.20 |
| 12 | B | 914 | G | N1-C6-O6 | 15.53 | 129.22 | 119.90 |
| 12 | B | 2450 | A | N1-C6-N6 | 15.53 | 127.92 | 118.60 |
| 12 | B | 272 | A | N1-C6-N6 | 15.53 | 127.92 | 118.60 |
| 12 | B | 1795 | C | C2-N3-C4 | 15.53 | 127.66 | 119.90 |
| 12 | B | 318 | C | N3-C4-N4 | 15.52 | 128.86 | 118.00 |
| 12 | B | 805 | G | N1-C6-O6 | 15.52 | 129.21 | 119.90 |
| 12 | B | 2077 | A | C4-C5-C6 | 15.52 | 124.76 | 117.00 |
| 12 | B | 1116 | G | N1-C6-O6 | 15.50 | 129.20 | 119.90 |
| 12 | B | 2405 | G | N1-C6-O6 | 15.50 | 129.20 | 119.90 |
| 12 | B | 2529 | G | N1-C6-O6 | 15.49 | 129.19 | 119.90 |
| 12 | B | 2237 | G | N1-C6-O6 | 15.48 | 129.19 | 119.90 |
| 12 | B | 654 | A | N1-C6-N6 | 15.47 | 127.88 | 118.60 |
| 12 | B | 1099 | G | C5-C6-O6 | -15.47 | 119.32 | 128.60 |
| 12 | B | 1181 | U | O4'-C1'-N1 | 15.46 | 120.57 | 108.20 |
| 12 | B | 1892 | C | C6-N1-C2 | -15.46 | 114.12 | 120.30 |
| 12 | B | 422 | A | N1-C6-N6 | 15.45 | 127.87 | 118.60 |
| 12 | B | 2430 | A | N1-C6-N6 | 15.43 | 127.86 | 118.60 |
| 12 | B | 1046 | A | N1-C6-N6 | 15.39 | 127.83 | 118.60 |
| 12 | B | 2328 | A | N1-C6-N6 | 15.38 | 127.83 | 118.60 |
| 12 | B | 2186 | G | C5-C6-O6 | -15.37 | 119.38 | 128.60 |
| 16 | F | 70 | ARG | NE-CZ-NH1 | 15.37 | 127.99 | 120.30 |
| 12 | B | 1819 | A | C4-C5-C6 | 15.37 | 124.69 | 117.00 |
| 12 | B | 2172 | U | O4'-C1'-N1 | 15.36 | 120.48 | 108.20 |
| 12 | B | 1144 | A | N1-C6-N6 | 15.34 | 127.80 | 118.60 |
| 12 | B | 1610 | A | C8-N9-C4 | -15.34 | 99.67 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1715 | G | N1-C6-O6 | 15.32 | 129.09 | 119.90 |
| 12 | B | 753 | A | N1-C6-N6 | 15.32 | 127.79 | 118.60 |
| 12 | B | 1494 | A | N1-C6-N6 | 15.32 | 127.79 | 118.60 |
| 13 | C | 86 | ARG | NE-CZ-NH1 | 15.30 | 127.95 | 120.30 |
| 12 | B | 453 | A | N1-C6-N6 | 15.29 | 127.78 | 118.60 |
| 12 | B | 488 | G | C5-C6-O6 | -15.28 | 119.43 | 128.60 |
| 12 | B | 1805 | A | N1-C6-N6 | 15.27 | 127.76 | 118.60 |
| 12 | B | 1107 | G | C5-C6-O6 | -15.27 | 119.44 | 128.60 |
| 12 | B | 188 | G | C5-C6-O6 | -15.26 | 119.44 | 128.60 |
| 12 | B | 2767 | C | C6-N1-C2 | -15.25 | 114.20 | 120.30 |
| 15 | E | 158 | PHE | CB-CG-CD2 | 15.25 | 131.47 | 120.80 |
| 12 | B | 13 | A | N1-C6-N6 | 15.25 | 127.75 | 118.60 |
| 12 | B | 2162 | G | C5-C6-O6 | -15.24 | 119.45 | 128.60 |
| 12 | B | 1569 | A | O4'-C1'-N9 | 15.24 | 120.39 | 108.20 |
| 12 | B | 261 | G | N1-C6-O6 | 15.22 | 129.03 | 119.90 |
| 12 | B | 2616 | C | N3-C4-C5 | -15.21 | 115.82 | 121.90 |
| 12 | B | 2842 | G | C5-C6-O6 | -15.20 | 119.48 | 128.60 |
| 12 | B | 1895 | C | C2-N3-C4 | 15.20 | 127.50 | 119.90 |
| 12 | B | 1252 | G | N1-C6-O6 | 15.20 | 129.02 | 119.90 |
| 12 | B | 1822 | C | N3-C4-C5 | -15.20 | 115.82 | 121.90 |
| 12 | B | 1131 | G | N1-C6-O6 | 15.19 | 129.02 | 119.90 |
| 12 | B | 2221 | G | C5-C6-O6 | -15.19 | 119.49 | 128.60 |
| 12 | B | 162 | U | O4'-C1'-N1 | 15.19 | 120.35 | 108.20 |
| 12 | B | 2751 | G | C5-C6-O6 | -15.19 | 119.49 | 128.60 |
| 12 | B | 495 | G | N1-C6-O6 | 15.18 | 129.01 | 119.90 |
| 12 | B | 1881 | C | O4'-C1'-N1 | 15.16 | 120.33 | 108.20 |
| 12 | B | 1092 | C | O4'-C1'-N1 | 15.15 | 120.32 | 108.20 |
| 12 | B | 644 | A | N1-C6-N6 | 15.14 | 127.68 | 118.60 |
| 12 | B | 290 | U | C6-N1-C2 | -15.13 | 111.92 | 121.00 |
| 12 | B | 1155 | A | N1-C6-N6 | 15.13 | 127.68 | 118.60 |
| 18 | H | 25 | TYR | CB-CG-CD1 | -15.12 | 111.93 | 121.00 |
| 12 | B | 948 | C | C6-N1-C2 | -15.11 | 114.25 | 120.30 |
| 12 | B | 2040 | G | C5-C6-O6 | -15.11 | 119.53 | 128.60 |
| 12 | B | 1422 | G | N1-C6-O6 | 15.11 | 128.97 | 119.90 |
| 12 | B | 2544 | G | C5-C6-O6 | -15.11 | 119.53 | 128.60 |
| 12 | B | 761 | A | N1-C2-N3 | 15.11 | 136.85 | 129.30 |
| 11 | A | 35 | C | C6-N1-C2 | -15.10 | 114.26 | 120.30 |
| 12 | B | 1002 | G | N1-C6-O6 | 15.10 | 128.96 | 119.90 |
| 12 | B | 1498 | C | P-O3'-C3' | 15.09 | 137.81 | 119.70 |
| 12 | B | 216 | A | N1-C6-N6 | 15.08 | 127.65 | 118.60 |
| 12 | B | 2279 | G | N1-C2-N3 | -15.08 | 114.85 | 123.90 |
| 12 | B | 956 | G | C5-C6-O6 | -15.08 | 119.55 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2711 | A | N1-C6-N6 | 15.08 | 127.65 | 118.60 |
| 12 | B | 2813 | A | N1-C2-N3 | -15.07 | 121.77 | 129.30 |
| 12 | B | 1041 | G | N1-C6-O6 | 15.06 | 128.94 | 119.90 |
| 7 | 6 | 28 | ARG | NE-CZ-NH2 | 15.03 | 127.82 | 120.30 |
| 12 | B | 71 | A | N1-C6-N6 | 15.03 | 127.62 | 118.60 |
| 12 | B | 1210 | G | C5-C6-O6 | -15.03 | 119.58 | 128.60 |
| 12 | B | 2412 | A | N1-C6-N6 | 15.02 | 127.61 | 118.60 |
| 12 | B | 108 | G | N1-C6-O6 | 15.01 | 128.91 | 119.90 |
| 12 | B | 1088 | A | C5-C6-N1 | -15.01 | 110.19 | 117.70 |
| 12 | B | 1262 | A | N1-C6-N6 | 15.00 | 127.60 | 118.60 |
| 12 | B | 1299 | G | N1-C6-O6 | 15.00 | 128.90 | 119.90 |
| 12 | B | 2290 | G | C5-C6-O6 | -15.00 | 119.60 | 128.60 |
| 12 | B | 2516 | A | N1-C6-N6 | 14.99 | 127.59 | 118.60 |
| 12 | B | 873 | C | N3-C4-C5 | -14.99 | 115.91 | 121.90 |
| 12 | B | 2806 | C | N3-C4-N4 | 14.98 | 128.49 | 118.00 |
| 12 | B | 414 | C | C5-C6-N1 | 14.97 | 128.49 | 121.00 |
| 12 | B | 1342 | A | N1-C6-N6 | 14.97 | 127.58 | 118.60 |
| 12 | B | 1978 | A | N1-C6-N6 | 14.97 | 127.58 | 118.60 |
| 32 | W | 21 | ARG | NE-CZ-NH1 | 14.97 | 127.79 | 120.30 |
| 12 | B | 28 | A | N1-C6-N6 | 14.97 | 127.58 | 118.60 |
| 12 | B | 988 | A | N1-C6-N6 | 14.97 | 127.58 | 118.60 |
| 11 | A | 15 | A | N1-C6-N6 | 14.96 | 127.58 | 118.60 |
| 12 | B | 2371 | G | O4'-C1'-N9 | 14.96 | 120.17 | 108.20 |
| 12 | B | 199 | A | N1-C6-N6 | 14.95 | 127.57 | 118.60 |
| 12 | B | 2171 | A | N1-C6-N6 | 14.95 | 127.57 | 118.60 |
| 12 | B | 2726 | A | N1-C6-N6 | 14.94 | 127.56 | 118.60 |
| 12 | B | 131 | A | O4'-C1'-N9 | 14.93 | 120.14 | 108.20 |
| 12 | B | 1997 | C | O4'-C1'-N1 | 14.92 | 120.13 | 108.20 |
| 12 | B | 388 | G | C5-C6-O6 | -14.91 | 119.65 | 128.60 |
| 12 | B | 2709 | G | C5-C6-O6 | -14.89 | 119.66 | 128.60 |
| 12 | B | 1670 | C | O4'-C1'-N1 | 14.89 | 120.11 | 108.20 |
| 12 | B | 2279 | G | N1-C6-O6 | 14.89 | 128.83 | 119.90 |
| 12 | B | 1124 | G | N1-C6-O6 | 14.88 | 128.83 | 119.90 |
| 12 | B | 106 | C | N3-C4-C5 | -14.88 | 115.95 | 121.90 |
| 12 | B | 2225 | A | C5-N7-C8 | 14.87 | 111.34 | 103.90 |
| 12 | B | 2012 | G | C8-N9-C4 | -14.87 | 100.45 | 106.40 |
| 12 | B | 2442 | C | N3-C4-C5 | -14.87 | 115.95 | 121.90 |
| 12 | B | 2893 | A | N1-C6-N6 | 14.86 | 127.52 | 118.60 |
| 12 | B | 578 | G | N1-C6-O6 | 14.85 | 128.81 | 119.90 |
| 12 | B | 2117 | A | N1-C6-N6 | 14.85 | 127.51 | 118.60 |
| 12 | B | 1992 | G | C5-C6-O6 | -14.85 | 119.69 | 128.60 |
| 12 | B | 1239 | G | N1-C6-O6 | 14.84 | 128.81 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2887 | A | C5-C6-N1 | -14.83 | 110.28 | 117.70 |
| 12 | B | 777 | G | C5-C6-O6 | -14.83 | 119.70 | 128.60 |
| 12 | B | 111 | A | N1-C6-N6 | 14.82 | 127.50 | 118.60 |
| 12 | B | 618 | G | N1-C6-O6 | 14.82 | 128.79 | 119.90 |
| 12 | B | 217 | A | N1-C6-N6 | 14.82 | 127.49 | 118.60 |
| 12 | B | 1317 | G | N1-C6-O6 | 14.82 | 128.79 | 119.90 |
| 12 | B | 203 | A | N1-C6-N6 | 14.82 | 127.49 | 118.60 |
| 12 | B | 1355 | G | C5-C6-O6 | -14.81 | 119.71 | 128.60 |
| 12 | B | 248 | G | N1-C6-O6 | 14.81 | 128.78 | 119.90 |
| 12 | B | 2465 | C | O4'-C1'-N1 | 14.81 | 120.05 | 108.20 |
| 12 | B | 1684 | G | C4-C5-N7 | 14.79 | 116.72 | 110.80 |
| 12 | B | 2425 | A | P-O3'-C3' | 14.79 | 137.45 | 119.70 |
| 12 | B | 2887 | A | C4-C5-C6 | 14.79 | 124.39 | 117.00 |
| 12 | B | 653 | U | P-O3'-C3' | 14.77 | 137.43 | 119.70 |
| 12 | B | 2345 | G | C5-C6-O6 | -14.77 | 119.74 | 128.60 |
| 11 | A | 76 | G | N1-C6-O6 | 14.77 | 128.76 | 119.90 |
| 11 | A | 38 | C | O4'-C1'-N1 | 14.76 | 120.01 | 108.20 |
| 12 | B | 764 | A | N1-C6-N6 | 14.76 | 127.46 | 118.60 |
| 12 | B | 655 | A | P-O3'-C3' | 14.75 | 137.40 | 119.70 |
| 12 | B | 2031 | A | N1-C6-N6 | 14.75 | 127.45 | 118.60 |
| 12 | B | 1632 | A | N1-C6-N6 | 14.75 | 127.45 | 118.60 |
| 12 | B | 1962 | C | N3-C4-N4 | 14.74 | 128.32 | 118.00 |
| 12 | B | 2544 | G | N1-C6-O6 | 14.72 | 128.73 | 119.90 |
| 12 | B | 1490 | A | N1-C6-N6 | 14.71 | 127.43 | 118.60 |
| 12 | B | 224 | U | O4'-C1'-N1 | 14.71 | 119.97 | 108.20 |
| 11 | A | 87 | U | P-O3'-C3' | 14.70 | 137.34 | 119.70 |
| 12 | B | 2740 | A | N1-C6-N6 | 14.70 | 127.42 | 118.60 |
| 12 | B | 1358 | G | N1-C6-O6 | 14.70 | 128.72 | 119.90 |
| 12 | B | 2644 | G | C5-C6-O6 | -14.69 | 119.78 | 128.60 |
| 12 | B | 968 | C | N3-C4-C5 | -14.69 | 116.03 | 121.90 |
| 12 | B | 2448 | A | N1-C6-N6 | 14.68 | 127.41 | 118.60 |
| 12 | B | 367 | G | N1-C6-O6 | 14.68 | 128.71 | 119.90 |
| 12 | B | 1881 | C | C2-N3-C4 | 14.67 | 127.24 | 119.90 |
| 11 | A | 70 | C | N3-C4-C5 | -14.67 | 116.03 | 121.90 |
| 12 | B | 869 | G | N1-C6-O6 | 14.66 | 128.70 | 119.90 |
| 12 | B | 1422 | G | C5-C6-O6 | -14.65 | 119.81 | 128.60 |
| 12 | B | 1953 | A | N1-C6-N6 | 14.65 | 127.39 | 118.60 |
| 12 | B | 190 | A | N1-C6-N6 | 14.64 | 127.39 | 118.60 |
| 12 | B | 215 | G | C5-C6-N1 | -14.64 | 104.18 | 111.50 |
| 11 | A | 12 | C | C6-N1-C2 | 14.63 | 126.15 | 120.30 |
| 12 | B | 2632 | A | N1-C6-N6 | 14.63 | 127.38 | 118.60 |
| 12 | B | 1425 | G | N1-C6-O6 | 14.62 | 128.68 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1492 | G | C8-N9-C4 | -14.62 | 100.55 | 106.40 |
| 12 | B | 2169 | A | N1-C6-N6 | 14.62 | 127.37 | 118.60 |
| 12 | B | 2476 | A | N1-C6-N6 | 14.62 | 127.37 | 118.60 |
| 12 | B | 1897 | G | C2-N3-C4 | -14.62 | 104.59 | 111.90 |
| 12 | B | 2342 | C | N3-C4-C5 | -14.62 | 116.05 | 121.90 |
| 12 | B | 1000 | A | C4-C5-C6 | 14.61 | 124.31 | 117.00 |
| 12 | B | 1922 | G | N1-C6-O6 | 14.61 | 128.67 | 119.90 |
| 11 | A | 58 | A | N1-C6-N6 | 14.60 | 127.36 | 118.60 |
| 12 | B | 504 | A | N1-C6-N6 | 14.60 | 127.36 | 118.60 |
| 10 | 9 | 129 | ARG | NE-CZ-NH1 | 14.59 | 127.60 | 120.30 |
| 12 | B | 52 | A | N1-C6-N6 | 14.59 | 127.36 | 118.60 |
| 12 | B | 1160 | G | C5-C6-O6 | -14.59 | 119.85 | 128.60 |
| 12 | B | 1325 | U | C4-C5-C6 | 14.59 | 128.45 | 119.70 |
| 12 | B | 2559 | C | O4'-C1'-N1 | 14.58 | 119.87 | 108.20 |
| 12 | B | 621 | A | N1-C6-N6 | 14.58 | 127.35 | 118.60 |
| 12 | B | 260 | G | N1-C6-O6 | 14.57 | 128.64 | 119.90 |
| 12 | B | 693 | A | O4'-C1'-N9 | 14.57 | 119.86 | 108.20 |
| 12 | B | 283 | G | N1-C6-O6 | 14.57 | 128.64 | 119.90 |
| 12 | B | 864 | G | N1-C6-O6 | 14.56 | 128.64 | 119.90 |
| 12 | B | 353 | C | C5-C4-N4 | -14.56 | 110.01 | 120.20 |
| 12 | B | 737 | C | N3-C4-N4 | 14.55 | 128.18 | 118.00 |
| 12 | B | 472 | A | N1-C6-N6 | 14.54 | 127.33 | 118.60 |
| 12 | B | 993 | G | C5-C6-O6 | -14.54 | 119.88 | 128.60 |
| 12 | B | 1608 | A | N1-C6-N6 | 14.52 | 127.31 | 118.60 |
| 15 | E | 79 | ARG | NE-CZ-NH1 | 14.52 | 127.56 | 120.30 |
| 12 | B | 1055 | G | N1-C6-O6 | 14.51 | 128.61 | 119.90 |
| 12 | B | 1904 | G | N1-C6-O6 | 14.50 | 128.60 | 119.90 |
| 12 | B | 1139 | G | C6-C5-N7 | -14.49 | 121.70 | 130.40 |
| 12 | B | 2630 | G | N1-C6-O6 | 14.49 | 128.59 | 119.90 |
| 12 | B | 2497 | A | N1-C6-N6 | 14.49 | 127.29 | 118.60 |
| 12 | B | 1990 | C | C6-N1-C2 | -14.48 | 114.51 | 120.30 |
| 12 | B | 1721 | G | C8-N9-C4 | -14.47 | 100.61 | 106.40 |
| 12 | B | 350 | G | N1-C6-O6 | 14.46 | 128.57 | 119.90 |
| 10 | 9 | 269 | TYR | CB-CG-CD2 | -14.45 | 112.33 | 121.00 |
| 12 | B | 1768 | C | O4'-C1'-N1 | 14.45 | 119.76 | 108.20 |
| 12 | B | 731 | C | N3-C4-N4 | 14.43 | 128.10 | 118.00 |
| 12 | B | 830 | G | N1-C6-O6 | 14.43 | 128.56 | 119.90 |
| 12 | B | 1721 | G | N1-C2-N3 | -14.43 | 115.24 | 123.90 |
| 12 | B | 480 | A | N1-C6-N6 | 14.43 | 127.26 | 118.60 |
| 12 | B | 2223 | G | N1-C6-O6 | 14.43 | 128.56 | 119.90 |
| 12 | B | 1276 | A | N1-C6-N6 | 14.41 | 127.25 | 118.60 |
| 12 | B | 2699 | C | C6-N1-C2 | -14.41 | 114.53 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 763 | G | N1-C6-O6 | 14.41 | 128.55 | 119.90 |
| 12 | B | 2204 | G | C5-C6-O6 | -14.41 | 119.95 | 128.60 |
| 12 | B | 2322 | A | N1-C6-N6 | 14.40 | 127.24 | 118.60 |
| 12 | B | 1127 | A | N1-C6-N6 | 14.40 | 127.24 | 118.60 |
| 12 | B | 2251 | G | C5-C6-O6 | -14.39 | 119.96 | 128.60 |
| 12 | B | 1601 | G | C5-C6-O6 | -14.39 | 119.97 | 128.60 |
| 12 | B | 2429 | G | N1-C2-N3 | -14.39 | 115.27 | 123.90 |
| 12 | B | 891 | G | C4-C5-N7 | -14.38 | 105.05 | 110.80 |
| 11 | A | 16 | G | C5-C6-O6 | -14.38 | 119.97 | 128.60 |
| 12 | B | 253 | C | N3-C4-N4 | 14.38 | 128.06 | 118.00 |
| 12 | B | 1663 | G | N1-C6-O6 | 14.37 | 128.52 | 119.90 |
| 12 | B | 886 | A | N1-C6-N6 | 14.36 | 127.22 | 118.60 |
| 12 | B | 783 | A | N1-C6-N6 | 14.36 | 127.21 | 118.60 |
| 12 | B | 882 | G | N1-C6-O6 | 14.36 | 128.51 | 119.90 |
| 12 | B | 2279 | G | N3-C2-N2 | 14.36 | 129.95 | 119.90 |
| 12 | B | 473 | G | N1-C6-O6 | 14.34 | 128.51 | 119.90 |
| 12 | B | 1314 | C | C6-N1-C2 | -14.34 | 114.56 | 120.30 |
| 12 | B | 1088 | A | C4-C5-C6 | 14.33 | 124.17 | 117.00 |
| 12 | B | 1988 | G | N1-C6-O6 | 14.32 | 128.50 | 119.90 |
| 12 | B | 2740 | A | O4'-C1'-N9 | 14.32 | 119.66 | 108.20 |
| 12 | B | 843 | G | N1-C6-O6 | 14.32 | 128.49 | 119.90 |
| 12 | B | 954 | G | C5-C6-O6 | -14.32 | 120.01 | 128.60 |
| 12 | B | 2791 | G | C5-C6-O6 | -14.31 | 120.01 | 128.60 |
| 12 | B | 2153 | C | N3-C4-N4 | 14.31 | 128.01 | 118.00 |
| 12 | B | 816 | C | N3-C4-N4 | 14.30 | 128.01 | 118.00 |
| 31 | U | 86 | PHE | CB-CG-CD1 | -14.30 | 110.79 | 120.80 |
| 12 | B | 504 | A | C5-C6-N1 | -14.29 | 110.55 | 117.70 |
| 12 | B | 2339 | C | O4'-C1'-N1 | 14.29 | 119.64 | 108.20 |
| 12 | B | 1170 | C | C4-C5-C6 | 14.29 | 124.55 | 117.40 |
| 12 | B | 2518 | A | N1-C6-N6 | 14.29 | 127.17 | 118.60 |
| 12 | B | 1424 | G | N3-C2-N2 | 14.28 | 129.89 | 119.90 |
| 11 | A | 93 | C | N3-C4-C5 | -14.26 | 116.20 | 121.90 |
| 12 | B | 1925 | C | O4'-C1'-N1 | 14.25 | 119.60 | 108.20 |
| 12 | B | 1239 | G | C5-C6-O6 | -14.25 | 120.05 | 128.60 |
| 12 | B | 2053 | G | C5-C6-O6 | -14.24 | 120.06 | 128.60 |
| 12 | B | 2107 | G | N1-C6-O6 | 14.24 | 128.44 | 119.90 |
| 12 | B | 445 | C | N3-C4-C5 | -14.24 | 116.20 | 121.90 |
| 12 | B | 579 | G | N1-C6-O6 | 14.23 | 128.44 | 119.90 |
| 12 | B | 489 | G | N1-C6-O6 | 14.22 | 128.44 | 119.90 |
| 12 | B | 1617 | C | P-O3'-C3' | 14.22 | 136.76 | 119.70 |
| 12 | B | 2644 | G | N1-C6-O6 | 14.22 | 128.43 | 119.90 |
| 12 | B | 1338 | G | N1-C6-O6 | 14.21 | 128.43 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1783 | A | N1-C6-N6 | 14.21 | 127.12 | 118.60 |
| 12 | B | 1601 | G | N1-C6-O6 | 14.20 | 128.42 | 119.90 |
| 5 | 4 | 48 | TYR | CB-CG-CD2 | -14.20 | 112.48 | 121.00 |
| 11 | A | 58 | A | N9-C4-C5 | 14.20 | 111.48 | 105.80 |
| 12 | B | 1787 | A | C5-C6-N1 | -14.20 | 110.60 | 117.70 |
| 12 | B | 1802 | A | C4-C5-C6 | 14.20 | 124.10 | 117.00 |
| 12 | B | 2140 | G | C5-C6-O6 | -14.20 | 120.08 | 128.60 |
| 12 | B | 2297 | A | C8-N9-C4 | -14.20 | 100.12 | 105.80 |
| 12 | B | 628 | G | N1-C6-O6 | 14.20 | 128.42 | 119.90 |
| 12 | B | 748 | G | N1-C6-O6 | 14.19 | 128.41 | 119.90 |
| 12 | B | 111 | A | O4'-C1'-N9 | 14.17 | 119.54 | 108.20 |
| 12 | B | 2808 | G | N1-C6-O6 | 14.17 | 128.40 | 119.90 |
| 12 | B | 2439 | A | N1-C6-N6 | 14.16 | 127.10 | 118.60 |
| 12 | B | 134 | G | N1-C6-O6 | 14.16 | 128.40 | 119.90 |
| 12 | B | 1749 | A | N1-C6-N6 | 14.15 | 127.09 | 118.60 |
| 12 | B | 488 | G | N1-C6-O6 | 14.12 | 128.37 | 119.90 |
| 13 | C | 100 | ARG | NE-CZ-NH1 | 14.12 | 127.36 | 120.30 |
| 12 | B | 2415 | G | N1-C6-O6 | 14.12 | 128.37 | 119.90 |
| 12 | B | 2764 | A | C5-C6-N1 | -14.11 | 110.64 | 117.70 |
| 12 | B | 1180 | U | O4'-C1'-N1 | 14.11 | 119.49 | 108.20 |
| 12 | B | 2110 | G | N1-C6-O6 | 14.10 | 128.36 | 119.90 |
| 12 | B | 1031 | G | N1-C6-O6 | 14.09 | 128.35 | 119.90 |
| 12 | B | 1650 | A | N1-C6-N6 | 14.09 | 127.06 | 118.60 |
| 12 | B | 1761 | C | C2-N1-C1' | 14.09 | 134.29 | 118.80 |
| 12 | B | 2716 | C | O4'-C1'-N1 | 14.09 | 119.47 | 108.20 |
| 12 | B | 2686 | G | N1-C6-O6 | 14.08 | 128.35 | 119.90 |
| 12 | B | 36 | G | C5-C6-O6 | -14.08 | 120.15 | 128.60 |
| 12 | B | 2198 | A | N1-C6-N6 | 14.08 | 127.05 | 118.60 |
| 12 | B | 225 | C | N3-C4-C5 | -14.07 | 116.27 | 121.90 |
| 12 | B | 1286 | A | C4-C5-C6 | 14.07 | 124.03 | 117.00 |
| 12 | B | 1684 | G | C6-C5-N7 | -14.07 | 121.96 | 130.40 |
| 12 | B | 368 | A | N1-C6-N6 | 14.06 | 127.03 | 118.60 |
| 12 | B | 2757 | A | N1-C6-N6 | 14.05 | 127.03 | 118.60 |
| 12 | B | 1348 | C | N3-C4-C5 | -14.05 | 116.28 | 121.90 |
| 12 | B | 882 | G | C5-C6-O6 | -14.04 | 120.17 | 128.60 |
| 12 | B | 1966 | A | N1-C6-N6 | 14.04 | 127.03 | 118.60 |
| 12 | B | 2889 | C | O4'-C1'-N1 | 14.04 | 119.43 | 108.20 |
| 10 | 9 | 150 | ARG | NE-CZ-NH1 | 14.04 | 127.32 | 120.30 |
| 12 | B | 2363 | G | C5-C6-O6 | -14.03 | 120.18 | 128.60 |
| 12 | B | 69 | C | C2-N3-C4 | 14.03 | 126.91 | 119.90 |
| 12 | B | 1501 | G | N1-C6-O6 | 14.02 | 128.31 | 119.90 |
| 12 | B | 2867 | G | C5-C6-N1 | -14.02 | 104.49 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2660 | A | N1-C6-N6 | 14.02 | 127.01 | 118.60 |
| 27 | Q | 10 | ARG | NE-CZ-NH2 | -14.01 | 113.29 | 120.30 |
| 12 | B | 730 | A | C5-C6-N6 | -14.01 | 112.50 | 123.70 |
| 12 | B | 609 | A | N1-C6-N6 | 14.00 | 127.00 | 118.60 |
| 12 | B | 2215 | C | O4'-C1'-N1 | 14.00 | 119.40 | 108.20 |
| 12 | B | 2670 | A | C5-N7-C8 | 14.00 | 110.90 | 103.90 |
| 12 | B | 560 | C | N3-C4-N4 | 13.99 | 127.80 | 118.00 |
| 12 | B | 1755 | A | N1-C6-N6 | 13.99 | 127.00 | 118.60 |
| 12 | B | 984 | A | N1-C6-N6 | 13.99 | 126.99 | 118.60 |
| 12 | B | 1333 | G | C5-C6-O6 | -13.99 | 120.21 | 128.60 |
| 12 | B | 384 | A | C8-N9-C4 | -13.99 | 100.20 | 105.80 |
| 12 | B | 1678 | A | N1-C6-N6 | 13.98 | 126.99 | 118.60 |
| 12 | B | 1524 | G | N1-C6-O6 | 13.98 | 128.29 | 119.90 |
| 12 | B | 2029 | G | N1-C6-O6 | 13.98 | 128.29 | 119.90 |
| 12 | B | 1158 | C | O4'-C1'-N1 | 13.98 | 119.38 | 108.20 |
| 12 | B | 2160 | C | C6-N1-C2 | -13.97 | 114.71 | 120.30 |
| 12 | B | 693 | A | C4-C5-C6 | 13.96 | 123.98 | 117.00 |
| 12 | B | 1355 | G | N1-C6-O6 | 13.96 | 128.28 | 119.90 |
| 12 | B | 2776 | A | N1-C6-N6 | 13.96 | 126.97 | 118.60 |
| 12 | B | 2195 | U | O4'-C1'-N1 | 13.96 | 119.36 | 108.20 |
| 12 | B | 2009 | A | C5-C6-N6 | -13.95 | 112.54 | 123.70 |
| 12 | B | 1167 | C | O4'-C1'-N1 | 13.94 | 119.35 | 108.20 |
| 12 | B | 2583 | G | N3-C2-N2 | 13.94 | 129.66 | 119.90 |
| 12 | B | 2810 | A | C4-C5-C6 | 13.94 | 123.97 | 117.00 |
| 12 | B | 319 | G | N1-C6-O6 | 13.94 | 128.26 | 119.90 |
| 12 | B | 968 | C | N3-C4-N4 | 13.94 | 127.76 | 118.00 |
| 12 | B | 1168 | G | N1-C6-O6 | 13.93 | 128.26 | 119.90 |
| 12 | B | 1414 | C | N3-C4-N4 | 13.93 | 127.75 | 118.00 |
| 12 | B | 2766 | A | C4-C5-C6 | 13.93 | 123.97 | 117.00 |
| 12 | B | 536 | G | N1-C6-O6 | 13.93 | 128.26 | 119.90 |
| 12 | B | 1036 | G | N1-C6-O6 | 13.92 | 128.25 | 119.90 |
| 12 | B | 526 | A | C5-C6-N6 | -13.90 | 112.58 | 123.70 |
| 12 | B | 1710 | G | O4'-C1'-N9 | 13.90 | 119.32 | 108.20 |
| 12 | B | 268 | C | C6-N1-C2 | -13.90 | 114.74 | 120.30 |
| 12 | B | 673 | C | O4'-C1'-N1 | 13.89 | 119.32 | 108.20 |
| 12 | B | 1110 | G | N1-C6-O6 | 13.89 | 128.24 | 119.90 |
| 12 | B | 1238 | G | N1-C6-O6 | 13.89 | 128.23 | 119.90 |
| 12 | B | 1766 | G | C5-C6-O6 | -13.89 | 120.27 | 128.60 |
| 12 | B | 9 | G | N3-C2-N2 | 13.87 | 129.61 | 119.90 |
| 12 | B | 1172 | C | N3-C4-C5 | -13.87 | 116.35 | 121.90 |
| 12 | B | 2523 | G | C4-C5-N7 | -13.87 | 105.25 | 110.80 |
| 12 | B | 489 | G | C6-C5-N7 | -13.87 | 122.08 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 825 | A | C5-C6-N1 | -13.87 | 110.77 | 117.70 |
| 12 | B | 2529 | G | C5-C6-O6 | -13.86 | 120.28 | 128.60 |
| 12 | B | 2399 | G | C5-C6-O6 | -13.86 | 120.28 | 128.60 |
| 12 | B | 1761 | C | C6-N1-C1' | -13.86 | 104.17 | 120.80 |
| 12 | B | 540 | C | N3-C4-C5 | -13.86 | 116.36 | 121.90 |
| 12 | B | 145 | C | N3-C4-C5 | -13.85 | 116.36 | 121.90 |
| 1 | 0 | 10 | ARG | NE-CZ-NH2 | 13.85 | 127.22 | 120.30 |
| 12 | B | 1537 | G | C5-C6-O6 | -13.85 | 120.29 | 128.60 |
| 12 | B | 1780 | A | C4-C5-N7 | -13.85 | 103.78 | 110.70 |
| 12 | B | 505 | A | N1-C6-N6 | 13.84 | 126.90 | 118.60 |
| 12 | B | 2114 | A | C5-C6-N1 | -13.83 | 110.78 | 117.70 |
| 12 | B | 2145 | C | C5-C4-N4 | -13.83 | 110.52 | 120.20 |
| 12 | B | 183 | C | C6-N1-C2 | -13.83 | 114.77 | 120.30 |
| 12 | B | 1059 | G | N1-C6-O6 | 13.83 | 128.20 | 119.90 |
| 12 | B | 1084 | A | N1-C6-N6 | 13.82 | 126.89 | 118.60 |
| 12 | B | 1869 | G | C5-C6-O6 | -13.82 | 120.31 | 128.60 |
| 21 | K | 105 | ARG | NE-CZ-NH1 | 13.82 | 127.21 | 120.30 |
| 12 | B | 2434 | A | N1-C6-N6 | 13.82 | 126.89 | 118.60 |
| 12 | B | 1195 | G | N1-C6-O6 | 13.81 | 128.19 | 119.90 |
| 12 | B | 1998 | A | N1-C6-N6 | 13.81 | 126.89 | 118.60 |
| 12 | B | 35 | G | C5-C6-O6 | -13.81 | 120.31 | 128.60 |
| 12 | B | 766 | U | O4'-C1'-N1 | 13.81 | 119.25 | 108.20 |
| 12 | B | 1491 | G | O4'-C1'-N9 | 13.80 | 119.24 | 108.20 |
| 12 | B | 2560 | A | N1-C6-N6 | 13.79 | 126.88 | 118.60 |
| 12 | B | 2834 | G | C5-C6-O6 | -13.79 | 120.33 | 128.60 |
| 12 | B | 633 | A | N1-C6-N6 | 13.79 | 126.87 | 118.60 |
| 12 | B | 559 | G | C5-C6-O6 | -13.79 | 120.33 | 128.60 |
| 12 | B | 1515 | A | O4'-C1'-N9 | 13.79 | 119.23 | 108.20 |
| 12 | B | 318 | C | C6-N1-C2 | -13.78 | 114.79 | 120.30 |
| 12 | B | 608 | A | C4-C5-N7 | -13.77 | 103.81 | 110.70 |
| 12 | B | 474 | G | C5-C6-O6 | -13.77 | 120.34 | 128.60 |
| 12 | B | 602 | A | C5-C6-N1 | -13.77 | 110.81 | 117.70 |
| 12 | B | 1817 | G | N1-C6-O6 | 13.77 | 128.16 | 119.90 |
| 12 | B | 965 | C | N3-C4-N4 | 13.77 | 127.64 | 118.00 |
| 12 | B | 666 | A | N1-C6-N6 | 13.77 | 126.86 | 118.60 |
| 12 | B | 2857 | G | N3-C2-N2 | 13.77 | 129.54 | 119.90 |
| 12 | B | 930 | G | N1-C6-O6 | 13.76 | 128.15 | 119.90 |
| 11 | A | 34 | A | N1-C6-N6 | 13.76 | 126.85 | 118.60 |
| 12 | B | 1237 | A | N1-C6-N6 | 13.76 | 126.85 | 118.60 |
| 12 | B | 1667 | G | N1-C6-O6 | 13.75 | 128.15 | 119.90 |
| 12 | B | 2263 | C | C5-C6-N1 | 13.74 | 127.87 | 121.00 |
| 12 | B | 1280 | G | C5-C6-O6 | -13.73 | 120.36 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1296 | G | N1-C6-O6 | 13.73 | 128.14 | 119.90 |
| 12 | B | 2323 | G | N1-C6-O6 | 13.72 | 128.13 | 119.90 |
| 12 | B | 2433 | A | C5-C6-N1 | -13.71 | 110.84 | 117.70 |
| 12 | B | 332 | A | N1-C6-N6 | 13.71 | 126.83 | 118.60 |
| 12 | B | 837 | C | N3-C4-C5 | -13.71 | 116.42 | 121.90 |
| 12 | B | 229 | C | C6-N1-C2 | -13.71 | 114.82 | 120.30 |
| 12 | B | 918 | A | C4-C5-C6 | 13.70 | 123.85 | 117.00 |
| 12 | B | 1891 | G | N1-C6-O6 | 13.70 | 128.12 | 119.90 |
| 12 | B | 626 | A | N1-C6-N6 | 13.69 | 126.82 | 118.60 |
| 12 | B | 1087 | G | C5-C6-O6 | -13.69 | 120.39 | 128.60 |
| 12 | B | 1284 | A | P-O3'-C3' | 13.69 | 136.13 | 119.70 |
| 12 | B | 324 | A | N9-C4-C5 | 13.69 | 111.27 | 105.80 |
| 12 | B | 197 | A | N1-C6-N6 | 13.68 | 126.81 | 118.60 |
| 12 | B | 2368 | C | N3-C4-C5 | -13.68 | 116.43 | 121.90 |
| 12 | B | 2016 | U | O4'-C1'-N1 | 13.67 | 119.13 | 108.20 |
| 12 | B | 1425 | G | C5-C6-O6 | -13.66 | 120.40 | 128.60 |
| 12 | B | 2059 | A | N1-C6-N6 | 13.66 | 126.80 | 118.60 |
| 12 | B | 2238 | G | N1-C6-O6 | 13.66 | 128.09 | 119.90 |
| 12 | B | 2545 | G | O4'-C1'-N9 | 13.66 | 119.13 | 108.20 |
| 12 | B | 2703 | C | C5-C6-N1 | 13.65 | 127.83 | 121.00 |
| 12 | B | 693 | A | C5-C6-N1 | -13.65 | 110.88 | 117.70 |
| 12 | B | 2692 | G | C5-C6-O6 | -13.65 | 120.41 | 128.60 |
| 12 | B | 1059 | G | N1-C2-N3 | -13.64 | 115.71 | 123.90 |
| 12 | B | 1070 | A | N1-C2-N3 | -13.64 | 122.48 | 129.30 |
| 12 | B | 1407 | G | C5-C6-O6 | -13.64 | 120.42 | 128.60 |
| 12 | B | 1992 | G | N1-C6-O6 | 13.64 | 128.08 | 119.90 |
| 12 | B | 38 | A | N1-C6-N6 | 13.63 | 126.78 | 118.60 |
| 12 | B | 2862 | G | C6-C5-N7 | -13.63 | 122.22 | 130.40 |
| 12 | B | 363 | G | C5-C6-O6 | -13.63 | 120.42 | 128.60 |
| 12 | B | 2612 | C | C5-C4-N4 | -13.62 | 110.67 | 120.20 |
| 12 | B | 1879 | C | O4'-C1'-N1 | 13.61 | 119.09 | 108.20 |
| 12 | B | 674 | G | C5-C6-N1 | -13.61 | 104.69 | 111.50 |
| 12 | B | 2266 | A | N1-C6-N6 | 13.61 | 126.77 | 118.60 |
| 12 | B | 2709 | G | N1-C6-O6 | 13.61 | 128.06 | 119.90 |
| 12 | B | 2318 | G | N1-C6-O6 | 13.61 | 128.06 | 119.90 |
| 12 | B | 463 | G | N1-C6-O6 | 13.59 | 128.06 | 119.90 |
| 12 | B | 2040 | G | N1-C6-O6 | 13.59 | 128.06 | 119.90 |
| 12 | B | 1025 | G | C5-C6-O6 | -13.59 | 120.45 | 128.60 |
| 12 | B | 2717 | C | O4'-C1'-N1 | 13.59 | 119.07 | 108.20 |
| 12 | B | 1646 | C | N3-C4-C5 | -13.58 | 116.47 | 121.90 |
| 12 | B | 648 | G | N1-C6-O6 | 13.58 | 128.04 | 119.90 |
| 11 | A | 85 | G | N1-C6-O6 | 13.57 | 128.04 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2147 | A | N9-C4-C5 | 13.57 | 111.23 | 105.80 |
| 12 | B | 2886 | A | N1-C6-N6 | 13.56 | 126.74 | 118.60 |
| 12 | B | 602 | A | C4-C5-C6 | 13.56 | 123.78 | 117.00 |
| 12 | B | 2237 | G | C5-C6-O6 | -13.55 | 120.47 | 128.60 |
| 12 | B | 2524 | G | N1-C6-O6 | 13.55 | 128.03 | 119.90 |
| 12 | B | 2854 | G | N1-C6-O6 | 13.54 | 128.03 | 119.90 |
| 12 | B | 875 | G | C5-C6-O6 | -13.54 | 120.47 | 128.60 |
| 12 | B | 1733 | G | C8-N9-C4 | -13.54 | 100.98 | 106.40 |
| 12 | B | 974 | G | N1-C6-O6 | 13.52 | 128.01 | 119.90 |
| 12 | B | 2437 | G | C5-C6-O6 | -13.51 | 120.50 | 128.60 |
| 13 | C | 176 | ARG | NE-CZ-NH1 | 13.51 | 127.05 | 120.30 |
| 12 | B | 1808 | A | N1-C6-N6 | 13.51 | 126.70 | 118.60 |
| 12 | B | 11 | C | N3-C4-N4 | 13.50 | 127.45 | 118.00 |
| 12 | B | 307 | G | N1-C6-O6 | 13.50 | 128.00 | 119.90 |
| 12 | B | 96 | C | O4'-C1'-N1 | 13.50 | 119.00 | 108.20 |
| 12 | B | 2583 | G | N1-C2-N3 | -13.50 | 115.80 | 123.90 |
| 12 | B | 273 | G | C5-C6-O6 | -13.49 | 120.51 | 128.60 |
| 13 | C | 188 | ARG | NE-CZ-NH2 | 13.48 | 127.04 | 120.30 |
| 12 | B | 359 | G | C5-C6-O6 | -13.48 | 120.51 | 128.60 |
| 12 | B | 2453 | A | N1-C6-N6 | 13.47 | 126.68 | 118.60 |
| 12 | B | 879 | G | C5-C6-O6 | -13.47 | 120.52 | 128.60 |
| 12 | B | 1853 | A | N1-C6-N6 | 13.47 | 126.68 | 118.60 |
| 12 | B | 2234 | G | C4-C5-N7 | 13.47 | 116.19 | 110.80 |
| 12 | B | 574 | A | C5-C6-N6 | -13.47 | 112.92 | 123.70 |
| 12 | B | 1187 | G | N1-C6-O6 | 13.46 | 127.98 | 119.90 |
| 12 | B | 2574 | G | N1-C2-N3 | -13.46 | 115.83 | 123.90 |
| 12 | B | 1408 | G | N1-C6-O6 | 13.45 | 127.97 | 119.90 |
| 12 | B | 1695 | G | N1-C6-O6 | 13.45 | 127.97 | 119.90 |
| 12 | B | 2261 | C | O4'-C1'-N1 | 13.45 | 118.96 | 108.20 |
| 12 | B | 515 | A | N1-C6-N6 | 13.45 | 126.67 | 118.60 |
| 12 | B | 1076 | C | N3-C4-N4 | 13.45 | 127.41 | 118.00 |
| 12 | B | 1571 | A | C4-C5-C6 | 13.44 | 123.72 | 117.00 |
| 12 | B | 923 | G | C5-C6-O6 | -13.44 | 120.53 | 128.60 |
| 12 | B | 2868 | A | N1-C6-N6 | 13.44 | 126.66 | 118.60 |
| 12 | B | 672 | C | N3-C4-C5 | -13.43 | 116.53 | 121.90 |
| 12 | B | 1317 | G | C5-C6-O6 | -13.43 | 120.54 | 128.60 |
| 12 | B | 600 | G | C5-C6-O6 | -13.43 | 120.54 | 128.60 |
| 12 | B | 693 | A | N1-C6-N6 | 13.43 | 126.66 | 118.60 |
| 12 | B | 869 | G | C5-C6-O6 | -13.42 | 120.55 | 128.60 |
| 30 | T | 73 | ARG | NE-CZ-NH2 | -13.42 | 113.59 | 120.30 |
| 12 | B | 2834 | G | N1-C6-O6 | 13.42 | 127.95 | 119.90 |
| 12 | B | 2012 | G | N7-C8-N9 | 13.42 | 119.81 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 560 | C | N3-C4-C5 | -13.41 | 116.53 | 121.90 |
| 12 | B | 2388 | A | N1-C6-N6 | 13.41 | 126.65 | 118.60 |
| 12 | B | 918 | A | C8-N9-C4 | -13.41 | 100.44 | 105.80 |
| 12 | B | 1860 | G | C8-N9-C4 | -13.40 | 101.04 | 106.40 |
| 12 | B | 2269 | G | N1-C6-O6 | 13.40 | 127.94 | 119.90 |
| 12 | B | 907 | G | C4-C5-N7 | -13.40 | 105.44 | 110.80 |
| 12 | B | 2012 | G | N1-C6-O6 | 13.39 | 127.94 | 119.90 |
| 12 | B | 1205 | A | N1-C6-N6 | 13.39 | 126.63 | 118.60 |
| 12 | B | 1847 | A | P-O3'-C3' | 13.38 | 135.76 | 119.70 |
| 1 | 0 | 71 | ARG | NE-CZ-NH2 | -13.38 | 113.61 | 120.30 |
| 12 | B | 2581 | G | O4'-C1'-N9 | 13.38 | 118.90 | 108.20 |
| 12 | B | 2744 | G | C5-C6-O6 | -13.38 | 120.57 | 128.60 |
| 12 | B | 2031 | A | C4-C5-C6 | 13.37 | 123.68 | 117.00 |
| 12 | B | 1906 | G | C8-N9-C4 | 13.36 | 111.74 | 106.40 |
| 12 | B | 922 | C | N3-C4-N4 | 13.35 | 127.34 | 118.00 |
| 12 | B | 1817 | G | C5-C6-O6 | -13.35 | 120.59 | 128.60 |
| 12 | B | 199 | A | N9-C4-C5 | -13.35 | 100.46 | 105.80 |
| 12 | B | 1014 | A | N1-C6-N6 | 13.35 | 126.61 | 118.60 |
| 12 | B | 2739 | U | O4'-C1'-N1 | 13.34 | 118.87 | 108.20 |
| 12 | B | 2468 | A | N1-C6-N6 | 13.33 | 126.60 | 118.60 |
| 12 | B | 1054 | A | N1-C6-N6 | 13.33 | 126.60 | 118.60 |
| 12 | B | 1669 | A | N1-C6-N6 | 13.33 | 126.60 | 118.60 |
| 1 | 0 | 26 | ARG | NE-CZ-NH1 | 13.33 | 126.96 | 120.30 |
| 11 | A | 100 | G | C8-N9-C4 | 13.33 | 111.73 | 106.40 |
| 12 | B | 830 | G | C5-C6-O6 | -13.33 | 120.60 | 128.60 |
| 12 | B | 174 | U | N3-C4-O4 | 13.32 | 128.72 | 119.40 |
| 12 | B | 367 | G | C5-C6-O6 | -13.32 | 120.61 | 128.60 |
| 12 | B | 2082 | A | C5-C6-N6 | -13.32 | 113.05 | 123.70 |
| 12 | B | 5 | A | O4'-C1'-N9 | 13.31 | 118.85 | 108.20 |
| 12 | B | 734 | A | C5-C6-N1 | -13.30 | 111.05 | 117.70 |
| 12 | B | 900 | A | N1-C6-N6 | 13.30 | 126.58 | 118.60 |
| 12 | B | 1465 | G | N1-C6-O6 | 13.29 | 127.88 | 119.90 |
| 12 | B | 1224 | U | O4'-C1'-N1 | 13.28 | 118.83 | 108.20 |
| 11 | A | 33 | G | N1-C6-O6 | 13.28 | 127.87 | 119.90 |
| 12 | B | 1905 | C | O4'-C1'-N1 | 13.27 | 118.82 | 108.20 |
| 12 | B | 2706 | A | N1-C6-N6 | 13.27 | 126.56 | 118.60 |
| 12 | B | 2308 | G | C5-C6-O6 | -13.27 | 120.64 | 128.60 |
| 12 | B | 2423 | U | O4'-C1'-N1 | 13.27 | 118.81 | 108.20 |
| 12 | B | 282 | A | C4-C5-C6 | 13.27 | 123.63 | 117.00 |
| 12 | B | 2221 | G | N1-C6-O6 | 13.27 | 127.86 | 119.90 |
| 12 | B | 902 | C | C6-N1-C2 | -13.26 | 114.99 | 120.30 |
| 12 | B | 2024 | G | N1-C6-O6 | 13.26 | 127.86 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2089 | C | N3-C4-N4 | 13.26 | 127.28 | 118.00 |
| 12 | B | 2643 | G | N1-C6-O6 | 13.26 | 127.86 | 119.90 |
| 12 | B | 2071 | A | N1-C6-N6 | 13.26 | 126.56 | 118.60 |
| 12 | B | 486 | C | N3-C4-C5 | -13.26 | 116.60 | 121.90 |
| 12 | B | 361 | G | C8-N9-C4 | -13.25 | 101.10 | 106.40 |
| 12 | B | 2407 | A | N1-C6-N6 | 13.25 | 126.55 | 118.60 |
| 12 | B | 1261 | C | N3-C4-N4 | 13.25 | 127.28 | 118.00 |
| 12 | B | 1838 | C | N3-C4-C5 | -13.25 | 116.60 | 121.90 |
| 12 | B | 2120 | G | N1-C6-O6 | 13.25 | 127.85 | 119.90 |
| 12 | B | 2100 | G | N1-C6-O6 | 13.24 | 127.85 | 119.90 |
| 12 | B | 1170 | C | N3-C4-N4 | 13.24 | 127.27 | 118.00 |
| 12 | B | 242 | G | C4-C5-N7 | -13.24 | 105.51 | 110.80 |
| 12 | B | 2547 | A | C5-C6-N1 | -13.23 | 111.09 | 117.70 |
| 12 | B | 31 | C | N3-C4-C5 | -13.22 | 116.61 | 121.90 |
| 12 | B | 1304 | A | N1-C6-N6 | 13.22 | 126.53 | 118.60 |
| 12 | B | 348 | A | C4-C5-C6 | 13.22 | 123.61 | 117.00 |
| 12 | B | 1527 | G | N1-C6-O6 | 13.22 | 127.83 | 119.90 |
| 12 | B | 602 | A | N1-C6-N6 | 13.21 | 126.53 | 118.60 |
| 11 | A | 70 | C | C6-N1-C2 | 13.21 | 125.58 | 120.30 |
| 12 | B | 1321 | A | N1-C6-N6 | 13.21 | 126.53 | 118.60 |
| 12 | B | 1745 | A | N1-C6-N6 | 13.21 | 126.53 | 118.60 |
| 12 | B | 198 | C | N3-C4-C5 | -13.21 | 116.62 | 121.90 |
| 12 | B | 320 | A | N1-C6-N6 | 13.21 | 126.52 | 118.60 |
| 12 | B | 637 | A | N1-C6-N6 | 13.20 | 126.52 | 118.60 |
| 12 | B | 2800 | A | C8-N9-C4 | -13.20 | 100.52 | 105.80 |
| 12 | B | 1482 | G | C5-C6-O6 | -13.20 | 120.68 | 128.60 |
| 12 | B | 780 | G | C5-C6-O6 | -13.20 | 120.68 | 128.60 |
| 12 | B | 1250 | G | N1-C6-O6 | 13.20 | 127.82 | 119.90 |
| 12 | B | 1000 | A | N1-C6-N6 | 13.19 | 126.51 | 118.60 |
| 12 | B | 1689 | A | C2-N3-C4 | -13.19 | 104.01 | 110.60 |
| 12 | B | 1598 | A | N1-C6-N6 | 13.19 | 126.51 | 118.60 |
| 12 | B | 2484 | G | O4'-C1'-N9 | 13.19 | 118.75 | 108.20 |
| 12 | B | 111 | A | C5-C6-N6 | -13.18 | 113.16 | 123.70 |
| 12 | B | 2560 | A | C5-C6-N1 | -13.18 | 111.11 | 117.70 |
| 12 | B | 2365 | G | C5-C6-O6 | -13.18 | 120.69 | 128.60 |
| 12 | B | 2668 | G | N1-C6-O6 | 13.18 | 127.81 | 119.90 |
| 12 | B | 1756 | G | N1-C6-O6 | 13.17 | 127.81 | 119.90 |
| 12 | B | 316 | C | O4'-C1'-N1 | 13.17 | 118.74 | 108.20 |
| 12 | B | 727 | A | N1-C6-N6 | 13.17 | 126.50 | 118.60 |
| 12 | B | 945 | A | N1-C6-N6 | 13.17 | 126.50 | 118.60 |
| 12 | B | 1454 | C | O4'-C1'-N1 | 13.17 | 118.73 | 108.20 |
| 12 | B | 2870 | C | C2-N3-C4 | 13.17 | 126.48 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1767 | G | C5-C6-O6 | -13.16 | 120.70 | 128.60 |
| 12 | B | 63 | A | C4-C5-C6 | 13.16 | 123.58 | 117.00 |
| 12 | B | 221 | A | N1-C6-N6 | 13.16 | 126.50 | 118.60 |
| 12 | B | 290 | U | N1-C2-N3 | 13.16 | 122.80 | 114.90 |
| 12 | B | 505 | A | C8-N9-C4 | -13.16 | 100.54 | 105.80 |
| 12 | B | 2012 | G | C5-C6-N1 | -13.16 | 104.92 | 111.50 |
| 12 | B | 1916 | A | N1-C6-N6 | 13.15 | 126.49 | 118.60 |
| 12 | B | 2300 | C | N3-C4-N4 | 13.15 | 127.21 | 118.00 |
| 12 | B | 528 | A | O4'-C1'-N9 | 13.15 | 118.72 | 108.20 |
| 12 | B | 2279 | G | C5-C6-O6 | -13.15 | 120.71 | 128.60 |
| 12 | B | 1050 | A | C5-C6-N6 | -13.15 | 113.18 | 123.70 |
| 12 | B | 1212 | G | N1-C6-O6 | 13.14 | 127.79 | 119.90 |
| 12 | B | 444 | C | C6-N1-C2 | 13.14 | 125.56 | 120.30 |
| 12 | B | 865 | C | C6-N1-C2 | -13.14 | 115.05 | 120.30 |
| 12 | B | 482 | A | C5-C6-N6 | -13.14 | 113.19 | 123.70 |
| 12 | B | 2774 | C | N3-C4-C5 | -13.13 | 116.65 | 121.90 |
| 12 | B | 1589 | U | O4'-C1'-N1 | 13.13 | 118.71 | 108.20 |
| 12 | B | 1978 | A | C5-C6-N1 | -13.13 | 111.14 | 117.70 |
| 12 | B | 1869 | G | N1-C6-O6 | 13.11 | 127.77 | 119.90 |
| 12 | B | 2675 | A | C5-C6-N1 | -13.11 | 111.15 | 117.70 |
| 11 | A | 16 | G | N1-C6-O6 | 13.10 | 127.76 | 119.90 |
| 12 | B | 2574 | G | C5-C6-O6 | -13.10 | 120.74 | 128.60 |
| 12 | B | 1283 | G | N1-C6-O6 | 13.10 | 127.76 | 119.90 |
| 12 | B | 1431 | A | N1-C6-N6 | 13.10 | 126.46 | 118.60 |
| 12 | B | 1548 | A | N1-C6-N6 | 13.10 | 126.46 | 118.60 |
| 12 | B | 2719 | G | N1-C6-O6 | 13.09 | 127.75 | 119.90 |
| 12 | B | 881 | G | N1-C6-O6 | 13.09 | 127.75 | 119.90 |
| 12 | B | 9 | G | N1-C6-O6 | 13.09 | 127.75 | 119.90 |
| 12 | B | 1635 | A | N1-C6-N6 | 13.09 | 126.45 | 118.60 |
| 12 | B | 347 | A | N1-C6-N6 | 13.08 | 126.45 | 118.60 |
| 12 | B | 2269 | G | C5-C6-O6 | -13.08 | 120.75 | 128.60 |
| 13 | C | 202 | ARG | NE-CZ-NH1 | 13.08 | 126.84 | 120.30 |
| 12 | B | 1074 | G | C6-C5-N7 | -13.08 | 122.55 | 130.40 |
| 12 | B | 2281 | A | N1-C6-N6 | 13.08 | 126.45 | 118.60 |
| 12 | B | 1211 | C | P-O3'-C3' | 13.07 | 135.39 | 119.70 |
| 12 | B | 2147 | A | N1-C6-N6 | 13.07 | 126.44 | 118.60 |
| 12 | B | 585 | G | C5-C6-O6 | -13.07 | 120.76 | 128.60 |
| 12 | B | 1815 | A | C4-C5-C6 | 13.05 | 123.53 | 117.00 |
| 12 | B | 1904 | G | O4'-C1'-N9 | 13.05 | 118.64 | 108.20 |
| 24 | N | 103 | ARG | NE-CZ-NH2 | -13.05 | 113.78 | 120.30 |
| 12 | B | 2630 | G | C5-C6-O6 | -13.05 | 120.77 | 128.60 |
| 12 | B | 84 | A | N1-C6-N6 | 13.04 | 126.43 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1545 | A | C8-N9-C4 | -13.05 | 100.58 | 105.80 |
| 12 | B | 1316 | U | N3-C4-O4 | 13.04 | 128.53 | 119.40 |
| 12 | B | 1644 | C | N3-C4-C5 | -13.04 | 116.68 | 121.90 |
| 12 | B | 1653 | G | C8-N9-C4 | -13.04 | 101.19 | 106.40 |
| 12 | B | 1726 | C | O4'-C1'-N1 | 13.04 | 118.63 | 108.20 |
| 12 | B | 1696 | G | C8-N9-C4 | -13.04 | 101.19 | 106.40 |
| 12 | B | 134 | G | C5-C6-O6 | -13.04 | 120.78 | 128.60 |
| 12 | B | 2469 | A | N1-C6-N6 | 13.04 | 126.42 | 118.60 |
| 12 | B | 1027 | A | N1-C6-N6 | 13.03 | 126.42 | 118.60 |
| 12 | B | 1391 | U | O4'-C1'-N1 | 13.02 | 118.62 | 108.20 |
| 12 | B | 1510 | G | N1-C6-O6 | 13.02 | 127.71 | 119.90 |
| 12 | B | 384 | A | C5-C6-N1 | -13.01 | 111.19 | 117.70 |
| 12 | B | 663 | G | N1-C6-O6 | 13.01 | 127.71 | 119.90 |
| 12 | B | 2020 | A | C5-C6-N6 | -13.00 | 113.30 | 123.70 |
| 12 | B | 454 | A | C4-C5-C6 | 12.99 | 123.50 | 117.00 |
| 12 | B | 2047 | C | C5-C6-N1 | 12.99 | 127.50 | 121.00 |
| 12 | B | 465 | G | C5-C6-O6 | -12.99 | 120.81 | 128.60 |
| 12 | B | 1869 | G | N3-C2-N2 | 12.99 | 128.99 | 119.90 |
| 12 | B | 2021 | C | N3-C4-C5 | -12.98 | 116.71 | 121.90 |
| 12 | B | 696 | G | N1-C6-O6 | 12.98 | 127.69 | 119.90 |
| 12 | B | 157 | C | O4'-C1'-N1 | 12.97 | 118.58 | 108.20 |
| 12 | B | 1574 | C | C5-C4-N4 | -12.97 | 111.12 | 120.20 |
| 12 | B | 1857 | G | N1-C6-O6 | 12.97 | 127.68 | 119.90 |
| 12 | B | 423 | A | C5-C6-N6 | -12.97 | 113.33 | 123.70 |
| 12 | B | 1912 | A | N1-C6-N6 | 12.97 | 126.38 | 118.60 |
| 12 | B | 1610 | A | N7-C8-N9 | 12.96 | 120.28 | 113.80 |
| 12 | B | 670 | A | P-O3'-C3' | 12.95 | 135.24 | 119.70 |
| 12 | B | 928 | A | C5-C6-N6 | -12.95 | 113.34 | 123.70 |
| 12 | B | 1389 | G | N1-C6-O6 | 12.95 | 127.67 | 119.90 |
| 12 | B | 2550 | G | C4-C5-N7 | 12.95 | 115.98 | 110.80 |
| 12 | B | 334 | C | N3-C4-N4 | 12.94 | 127.06 | 118.00 |
| 12 | B | 108 | G | C4-C5-N7 | 12.94 | 115.97 | 110.80 |
| 12 | B | 269 | C | C4-C5-C6 | 12.93 | 123.87 | 117.40 |
| 12 | B | 1453 | A | C4-C5-C6 | 12.93 | 123.47 | 117.00 |
| 12 | B | 2105 | U | O4'-C1'-N1 | 12.93 | 118.55 | 108.20 |
| 12 | B | 2274 | A | N1-C6-N6 | 12.93 | 126.36 | 118.60 |
| 12 | B | 2550 | G | C5-C6-O6 | -12.93 | 120.84 | 128.60 |
| 12 | B | 1926 | U | N3-C4-C5 | -12.93 | 106.84 | 114.60 |
| 12 | B | 2214 | C | O4'-C1'-N1 | 12.93 | 118.54 | 108.20 |
| 12 | B | 732 | C | N3-C4-N4 | 12.92 | 127.05 | 118.00 |
| 12 | B | 1830 | C | C5-C4-N4 | -12.92 | 111.15 | 120.20 |
| 12 | B | 468 | G | N1-C6-O6 | 12.92 | 127.65 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1021 | A | N1-C6-N6 | 12.92 | 126.35 | 118.60 |
| 12 | B | 1180 | U | N1-C2-N3 | -12.92 | 107.15 | 114.90 |
| 12 | B | 2700 | A | N1-C6-N6 | 12.92 | 126.35 | 118.60 |
| 12 | B | 1677 | A | N1-C6-N6 | 12.91 | 126.35 | 118.60 |
| 12 | B | 222 | A | N1-C6-N6 | 12.91 | 126.35 | 118.60 |
| 12 | B | 1682 | G | C5-C6-O6 | -12.91 | 120.85 | 128.60 |
| 12 | B | 796 | C | N3-C4-C5 | -12.90 | 116.74 | 121.90 |
| 12 | B | 1967 | C | N3-C4-N4 | 12.90 | 127.03 | 118.00 |
| 12 | B | 383 | C | N3-C4-C5 | -12.90 | 116.74 | 121.90 |
| 12 | B | 1985 | C | O4'-C1'-N1 | 12.89 | 118.51 | 108.20 |
| 12 | B | 2860 | A | N1-C6-N6 | 12.89 | 126.33 | 118.60 |
| 12 | B | 942 | G | N9-C4-C5 | 12.89 | 110.55 | 105.40 |
| 12 | B | 1866 | A | C5-C6-N6 | -12.88 | 113.39 | 123.70 |
| 12 | B | 2377 | A | N1-C6-N6 | 12.88 | 126.33 | 118.60 |
| 12 | B | 2733 | A | C4-C5-C6 | 12.88 | 123.44 | 117.00 |
| 12 | B | 2411 | A | O4'-C1'-N9 | 12.88 | 118.51 | 108.20 |
| 12 | B | 2545 | G | C5-C6-O6 | -12.87 | 120.88 | 128.60 |
| 12 | B | 2030 | A | N1-C6-N6 | 12.87 | 126.32 | 118.60 |
| 12 | B | 2147 | A | P-O3'-C3' | 12.87 | 135.14 | 119.70 |
| 12 | B | 2675 | A | C4-C5-C6 | 12.87 | 123.43 | 117.00 |
| 12 | B | 2224 | G | C5-C6-O6 | -12.86 | 120.89 | 128.60 |
| 12 | B | 2547 | A | C4-C5-C6 | 12.86 | 123.43 | 117.00 |
| 12 | B | 832 | U | O4'-C1'-N1 | 12.85 | 118.48 | 108.20 |
| 12 | B | 2648 | G | C5-C6-N1 | -12.85 | 105.07 | 111.50 |
| 12 | B | 252 | G | N1-C6-O6 | 12.84 | 127.61 | 119.90 |
| 12 | B | 2147 | A | C8-N9-C4 | -12.84 | 100.66 | 105.80 |
| 12 | B | 1819 | A | N1-C6-N6 | 12.84 | 126.30 | 118.60 |
| 12 | B | 611 | C | C5-C6-N1 | 12.84 | 127.42 | 121.00 |
| 12 | B | 1801 | A | C5-N7-C8 | 12.84 | 110.32 | 103.90 |
| 12 | B | 246 | C | O4'-C1'-N1 | 12.83 | 118.47 | 108.20 |
| 12 | B | 533 | G | C5-C6-O6 | -12.83 | 120.90 | 128.60 |
| 12 | B | 2303 | G | O4'-C1'-N9 | 12.83 | 118.46 | 108.20 |
| 12 | B | 259 | G | N1-C2-N3 | -12.82 | 116.21 | 123.90 |
| 12 | B | 2323 | G | C5-C6-O6 | -12.82 | 120.91 | 128.60 |
| 12 | B | 2626 | C | N3-C4-C5 | -12.82 | 116.77 | 121.90 |
| 12 | B | 2725 | A | N1-C6-N6 | 12.82 | 126.29 | 118.60 |
| 12 | B | 413 | C | O4'-C1'-N1 | 12.81 | 118.45 | 108.20 |
| 12 | B | 386 | G | C5-C6-O6 | -12.81 | 120.91 | 128.60 |
| 12 | B | 1009 | A | C4-C5-C6 | 12.81 | 123.41 | 117.00 |
| 12 | B | 1906 | G | N9-C4-C5 | -12.81 | 100.28 | 105.40 |
| 12 | B | 220 | G | C5-C6-O6 | -12.81 | 120.92 | 128.60 |
| 12 | B | 502 | A | N1-C6-N6 | 12.80 | 126.28 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1596 | A | C4-C5-C6 | 12.80 | 123.40 | 117.00 |
| 12 | B | 1195 | G | C5-C6-O6 | -12.79 | 120.92 | 128.60 |
| 12 | B | 2703 | C | C6-N1-C2 | -12.79 | 115.18 | 120.30 |
| 12 | B | 1377 | G | C5-C6-O6 | -12.79 | 120.93 | 128.60 |
| 12 | B | 2406 | A | N1-C6-N6 | 12.79 | 126.27 | 118.60 |
| 12 | B | 1032 | A | N1-C6-N6 | 12.78 | 126.27 | 118.60 |
| 1 | 0 | 45 | PHE | CB-CG-CD2 | -12.78 | 111.85 | 120.80 |
| 12 | B | 1283 | G | O4'-C1'-N9 | 12.78 | 118.42 | 108.20 |
| 12 | B | 1197 | G | C5-C6-O6 | -12.78 | 120.93 | 128.60 |
| 12 | B | 2024 | G | O4'-C1'-N9 | 12.78 | 118.42 | 108.20 |
| 12 | B | 1430 | G | C8-N9-C4 | -12.77 | 101.29 | 106.40 |
| 12 | B | 2353 | G | N1-C6-O6 | 12.77 | 127.56 | 119.90 |
| 12 | B | 902 | C | N3-C4-C5 | -12.77 | 116.79 | 121.90 |
| 12 | B | 2385 | C | C2-N3-C4 | 12.77 | 126.28 | 119.90 |
| 12 | B | 163 | C | N3-C4-C5 | -12.77 | 116.79 | 121.90 |
| 12 | B | 1633 | G | N1-C6-O6 | 12.76 | 127.56 | 119.90 |
| 12 | B | 2612 | C | N3-C4-N4 | 12.76 | 126.93 | 118.00 |
| 12 | B | 2802 | G | N1-C6-O6 | 12.76 | 127.55 | 119.90 |
| 12 | B | 911 | A | N1-C6-N6 | 12.76 | 126.25 | 118.60 |
| 12 | B | 180 | G | P-O3'-C3' | 12.75 | 135.00 | 119.70 |
| 12 | B | 1459 | G | O4'-C1'-N9 | 12.75 | 118.40 | 108.20 |
| 12 | B | 1009 | A | N1-C6-N6 | 12.74 | 126.25 | 118.60 |
| 12 | B | 2366 | A | N1-C6-N6 | 12.74 | 126.25 | 118.60 |
| 12 | B | 2747 | G | O4'-C1'-N9 | 12.74 | 118.39 | 108.20 |
| 12 | B | 889 | C | N3-C4-C5 | -12.74 | 116.80 | 121.90 |
| 22 | L | 78 | ARG | NE-CZ-NH2 | -12.74 | 113.93 | 120.30 |
| 12 | B | 697 | G | N1-C6-O6 | 12.74 | 127.54 | 119.90 |
| 12 | B | 1743 | G | P-O3'-C3' | 12.74 | 134.99 | 119.70 |
| 13 | C | 29 | PHE | CB-CG-CD2 | -12.74 | 111.88 | 120.80 |
| 12 | B | 725 | G | N1-C6-O6 | 12.73 | 127.54 | 119.90 |
| 12 | B | 2729 | G | C5-C6-O6 | -12.73 | 120.96 | 128.60 |
| 12 | B | 1860 | G | N7-C8-N9 | 12.73 | 119.46 | 113.10 |
| 12 | B | 1285 | A | N1-C2-N3 | 12.72 | 135.66 | 129.30 |
| 12 | B | 124 | G | N1-C6-O6 | 12.72 | 127.53 | 119.90 |
| 12 | B | 2808 | G | C5-C6-O6 | -12.72 | 120.97 | 128.60 |
| 12 | B | 375 | G | C5-C6-O6 | -12.71 | 120.97 | 128.60 |
| 12 | B | 474 | G | N1-C6-O6 | 12.71 | 127.53 | 119.90 |
| 12 | B | 867 | C | O4'-C1'-N1 | 12.71 | 118.37 | 108.20 |
| 12 | B | 869 | G | N1-C2-N3 | -12.71 | 116.27 | 123.90 |
| 12 | B | 1482 | G | N7-C8-N9 | 12.71 | 119.45 | 113.10 |
| 12 | B | 1653 | G | C5-C6-O6 | -12.71 | 120.97 | 128.60 |
| 11 | A | 56 | G | N1-C6-O6 | 12.70 | 127.52 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 892 | A | N1-C6-N6 | 12.70 | 126.22 | 118.60 |
| 12 | B | 2247 | A | N1-C6-N6 | 12.70 | 126.22 | 118.60 |
| 12 | B | 1957 | C | C6-N1-C2 | -12.69 | 115.22 | 120.30 |
| 12 | B | 2565 | A | C4-C5-C6 | 12.69 | 123.35 | 117.00 |
| 12 | B | 2114 | A | C4-C5-C6 | 12.69 | 123.35 | 117.00 |
| 12 | B | 2472 | G | N1-C6-O6 | 12.69 | 127.52 | 119.90 |
| 12 | B | 1876 | A | O4'-C1'-N9 | 12.69 | 118.35 | 108.20 |
| 12 | B | 1918 | A | N1-C6-N6 | 12.69 | 126.22 | 118.60 |
| 12 | B | 2749 | A | C5-C6-N1 | -12.69 | 111.35 | 117.70 |
| 12 | B | 325 | G | C4-C5-N7 | -12.69 | 105.72 | 110.80 |
| 27 | Q | 50 | ARG | NE-CZ-NH1 | 12.69 | 126.64 | 120.30 |
| 12 | B | 1571 | A | C5-C6-N1 | -12.68 | 111.36 | 117.70 |
| 12 | B | 1890 | A | C4-C5-C6 | 12.68 | 123.34 | 117.00 |
| 12 | B | 705 | A | N1-C6-N6 | 12.68 | 126.21 | 118.60 |
| 12 | B | 2642 | G | C5-C6-O6 | -12.68 | 121.00 | 128.60 |
| 12 | B | 2490 | G | N1-C6-O6 | 12.67 | 127.50 | 119.90 |
| 12 | B | 2714 | G | N1-C6-O6 | 12.67 | 127.50 | 119.90 |
| 12 | B | 124 | G | C4-C5-C6 | 12.66 | 126.40 | 118.80 |
| 12 | B | 2674 | G | C5-C6-O6 | -12.66 | 121.00 | 128.60 |
| 12 | B | 898 | C | O4'-C1'-N1 | 12.66 | 118.33 | 108.20 |
| 12 | B | 1760 | C | N3-C4-N4 | 12.66 | 126.86 | 118.00 |
| 12 | B | 1608 | A | C6-C5-N7 | -12.65 | 123.44 | 132.30 |
| 12 | B | 1216 | G | C5-C6-O6 | -12.65 | 121.01 | 128.60 |
| 12 | B | 2742 | G | C8-N9-C4 | -12.65 | 101.34 | 106.40 |
| 12 | B | 1962 | C | C4-C5-C6 | 12.65 | 123.72 | 117.40 |
| 12 | B | 1252 | G | C5-C6-O6 | -12.63 | 121.02 | 128.60 |
| 12 | B | 2094 | A | C6-C5-N7 | -12.63 | 123.46 | 132.30 |
| 12 | B | 916 | G | N1-C6-O6 | 12.63 | 127.48 | 119.90 |
| 12 | B | 181 | A | N1-C6-N6 | 12.62 | 126.17 | 118.60 |
| 12 | B | 1430 | G | N7-C8-N9 | 12.62 | 119.41 | 113.10 |
| 21 | K | 31 | ARG | NE-CZ-NH2 | -12.62 | 113.99 | 120.30 |
| 11 | A | 78 | A | N1-C6-N6 | 12.61 | 126.17 | 118.60 |
| 12 | B | 1408 | G | C5-C6-O6 | -12.61 | 121.03 | 128.60 |
| 12 | B | 1892 | C | N1-C2-O2 | -12.60 | 111.34 | 118.90 |
| 12 | B | 132 | G | C5-C6-O6 | -12.60 | 121.04 | 128.60 |
| 12 | B | 631 | A | N1-C6-N6 | 12.60 | 126.16 | 118.60 |
| 13 | C | 29 | PHE | CB-CG-CD1 | 12.60 | 129.62 | 120.80 |
| 11 | A | 64 | G | C5-C6-O6 | -12.60 | 121.04 | 128.60 |
| 12 | B | 393 | C | N3-C4-N4 | 12.60 | 126.82 | 118.00 |
| 12 | B | 506 | G | N9-C4-C5 | 12.59 | 110.44 | 105.40 |
| 12 | B | 668 | A | C5-C6-N6 | -12.59 | 113.62 | 123.70 |
| 11 | A | 51 | G | C5-C6-O6 | -12.59 | 121.05 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2598 | A | C4-C5-C6 | 12.59 | 123.29 | 117.00 |
| 12 | B | 450 | G | N1-C6-O6 | 12.58 | 127.45 | 119.90 |
| 12 | B | 718 | A | N1-C6-N6 | 12.58 | 126.15 | 118.60 |
| 12 | B | 2346 | A | C5-N7-C8 | 12.58 | 110.19 | 103.90 |
| 12 | B | 430 | A | C2-N3-C4 | 12.58 | 116.89 | 110.60 |
| 12 | B | 876 | C | O4'-C1'-N1 | 12.58 | 118.26 | 108.20 |
| 29 | S | 92 | ARG | NE-CZ-NH1 | 12.58 | 126.59 | 120.30 |
| 12 | B | 1342 | A | N9-C4-C5 | -12.58 | 100.77 | 105.80 |
| 12 | B | 2477 | U | O4'-C1'-N1 | 12.58 | 118.26 | 108.20 |
| 12 | B | 1244 | A | C5-C6-N1 | -12.57 | 111.41 | 117.70 |
| 12 | B | 1484 | U | O4'-C1'-N1 | 12.57 | 118.26 | 108.20 |
| 12 | B | 1350 | C | N3-C4-C5 | 12.57 | 126.93 | 121.90 |
| 12 | B | 582 | A | C8-N9-C4 | -12.57 | 100.77 | 105.80 |
| 12 | B | 1866 | A | C4-C5-C6 | 12.56 | 123.28 | 117.00 |
| 12 | B | 68 | G | N1-C6-O6 | 12.56 | 127.44 | 119.90 |
| 12 | B | 1919 | A | C5-C6-N6 | -12.56 | 113.65 | 123.70 |
| 12 | B | 806 | C | N3-C4-N4 | 12.56 | 126.79 | 118.00 |
| 12 | B | 1695 | G | C5-C6-O6 | -12.56 | 121.06 | 128.60 |
| 12 | B | 2281 | A | O4'-C1'-N9 | 12.56 | 118.25 | 108.20 |
| 12 | B | 2420 | C | O4'-C1'-N1 | 12.56 | 118.25 | 108.20 |
| 11 | A | 98 | G | N1-C6-O6 | 12.55 | 127.43 | 119.90 |
| 12 | B | 363 | G | N1-C6-O6 | 12.55 | 127.43 | 119.90 |
| 12 | B | 2560 | A | C4-C5-C6 | 12.55 | 123.28 | 117.00 |
| 12 | B | 2141 | G | C5-C6-O6 | -12.55 | 121.07 | 128.60 |
| 12 | B | 1356 | G | N1-C6-O6 | 12.54 | 127.43 | 119.90 |
| 12 | B | 2136 | G | C5-C6-O6 | -12.54 | 121.07 | 128.60 |
| 12 | B | 2100 | G | C5-C6-O6 | -12.54 | 121.08 | 128.60 |
| 12 | B | 1927 | A | C4-C5-C6 | 12.54 | 123.27 | 117.00 |
| 12 | B | 1210 | G | N1-C6-O6 | 12.53 | 127.42 | 119.90 |
| 12 | B | 1335 | C | O4'-C1'-N1 | 12.53 | 118.22 | 108.20 |
| 12 | B | 301 | G | C5-C6-O6 | -12.53 | 121.08 | 128.60 |
| 12 | B | 1384 | A | C5-C6-N6 | -12.53 | 113.68 | 123.70 |
| 12 | B | 959 | A | N1-C6-N6 | 12.52 | 126.11 | 118.60 |
| 12 | B | 1408 | G | O4'-C1'-N9 | 12.52 | 118.22 | 108.20 |
| 12 | B | 1823 | G | C5-C6-N1 | -12.52 | 105.24 | 111.50 |
| 12 | B | 114 | U | C2-N3-C4 | -12.52 | 119.49 | 127.00 |
| 12 | B | 191 | A | O4'-C1'-N9 | 12.52 | 118.22 | 108.20 |
| 12 | B | 2397 | G | C5-C6-O6 | -12.51 | 121.09 | 128.60 |
| 12 | B | 1478 | G | C2-N3-C4 | -12.51 | 105.64 | 111.90 |
| 12 | B | 376 | G | N1-C6-O6 | 12.51 | 127.41 | 119.90 |
| 12 | B | 2415 | G | C5-C6-O6 | -12.51 | 121.10 | 128.60 |
| 12 | B | 2512 | C | O4'-C1'-N1 | 12.50 | 118.20 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1524 | G | C4-C5-N7 | 12.50 | 115.80 | 110.80 |
| 12 | B | 2047 | C | N3-C4-C5 | -12.50 | 116.90 | 121.90 |
| 12 | B | 1064 | C | O4'-C1'-N1 | 12.50 | 118.20 | 108.20 |
| 12 | B | 960 | A | N1-C6-N6 | 12.50 | 126.10 | 118.60 |
| 12 | B | 1626 | A | N1-C6-N6 | 12.50 | 126.10 | 118.60 |
| 12 | B | 2833 | U | P-O3'-C3' | 12.50 | 134.70 | 119.70 |
| 12 | B | 445 | C | C2-N3-C4 | 12.49 | 126.14 | 119.90 |
| 12 | B | 1966 | A | C5-C6-N6 | -12.49 | 113.71 | 123.70 |
| 12 | B | 2121 | G | N1-C6-O6 | 12.49 | 127.39 | 119.90 |
| 12 | B | 470 | A | C4-C5-C6 | 12.48 | 123.24 | 117.00 |
| 12 | B | 1226 | A | N1-C6-N6 | 12.48 | 126.09 | 118.60 |
| 12 | B | 2596 | U | P-O3'-C3' | 12.48 | 134.68 | 119.70 |
| 12 | B | 782 | A | N1-C6-N6 | 12.47 | 126.08 | 118.60 |
| 12 | B | 941 | A | N1-C6-N6 | 12.47 | 126.08 | 118.60 |
| 12 | B | 1138 | G | C4-C5-N7 | 12.47 | 115.79 | 110.80 |
| 12 | B | 2623 | G | C5-C6-O6 | -12.47 | 121.12 | 128.60 |
| 12 | B | 2844 | G | C5-C6-O6 | -12.46 | 121.12 | 128.60 |
| 12 | B | 1395 | A | C4-C5-C6 | 12.46 | 123.23 | 117.00 |
| 12 | B | 2462 | C | C5-C6-N1 | 12.46 | 127.23 | 121.00 |
| 12 | B | 2671 | G | N1-C6-O6 | 12.46 | 127.38 | 119.90 |
| 12 | B | 1885 | A | N1-C6-N6 | 12.46 | 126.08 | 118.60 |
| 12 | B | 929 | U | O4'-C1'-N1 | 12.46 | 118.17 | 108.20 |
| 12 | B | 1502 | A | N1-C6-N6 | 12.45 | 126.07 | 118.60 |
| 12 | B | 1733 | G | C4-C5-N7 | -12.45 | 105.82 | 110.80 |
| 12 | B | 2112 | G | N1-C6-O6 | 12.45 | 127.37 | 119.90 |
| 12 | B | 222 | A | C5-C6-N1 | -12.45 | 111.48 | 117.70 |
| 12 | B | 1328 | A | C2-N3-C4 | -12.45 | 104.38 | 110.60 |
| 12 | B | 643 | A | N1-C6-N6 | 12.44 | 126.06 | 118.60 |
| 12 | B | 1754 | A | N1-C6-N6 | 12.44 | 126.06 | 118.60 |
| 12 | B | 1051 | G | N1-C2-N3 | -12.44 | 116.44 | 123.90 |
| 12 | B | 1501 | G | O4'-C1'-N9 | 12.44 | 118.15 | 108.20 |
| 12 | B | 2589 | A | C5-C6-N1 | -12.44 | 111.48 | 117.70 |
| 12 | B | 2813 | A | C2-N3-C4 | 12.44 | 116.82 | 110.60 |
| 12 | B | 2316 | G | O4'-C1'-N9 | 12.43 | 118.14 | 108.20 |
| 12 | B | 1153 | C | N3-C4-C5 | -12.42 | 116.93 | 121.90 |
| 12 | B | 1765 | U | O4'-C1'-N1 | 12.42 | 118.14 | 108.20 |
| 12 | B | 2457 | U | O4'-C1'-N1 | 12.42 | 118.14 | 108.20 |
| 12 | B | 633 | A | C4-C5-C6 | 12.42 | 123.21 | 117.00 |
| 12 | B | 938 | G | N1-C6-O6 | 12.41 | 127.34 | 119.90 |
| 12 | B | 2173 | A | N7-C8-N9 | -12.41 | 107.59 | 113.80 |
| 12 | B | 2320 | U | C2-N3-C4 | -12.41 | 119.55 | 127.00 |
| 12 | B | 680 | C | O4'-C1'-N1 | 12.41 | 118.12 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2051 | A | N1-C6-N6 | 12.40 | 126.04 | 118.60 |
| 12 | B | 1888 | G | C5-N7-C8 | 12.40 | 110.50 | 104.30 |
| 12 | B | 1948 | G | N1-C6-O6 | 12.40 | 127.34 | 119.90 |
| 26 | P | 108 | ARG | NE-CZ-NH1 | -12.40 | 114.10 | 120.30 |
| 12 | B | 297 | G | C5-C6-O6 | -12.40 | 121.16 | 128.60 |
| 12 | B | 1850 | G | C5-C6-O6 | -12.40 | 121.16 | 128.60 |
| 12 | B | 1525 | A | N1-C6-N6 | 12.39 | 126.04 | 118.60 |
| 12 | B | 324 | A | C8-N9-C4 | -12.39 | 100.84 | 105.80 |
| 12 | B | 1839 | G | O4'-C1'-N9 | 12.39 | 118.11 | 108.20 |
| 12 | B | 302 | C | O4'-C1'-N1 | 12.38 | 118.11 | 108.20 |
| 12 | B | 1070 | A | N1-C6-N6 | 12.38 | 126.03 | 118.60 |
| 12 | B | 1143 | A | C5-C6-N1 | -12.38 | 111.51 | 117.70 |
| 12 | B | 789 | A | C5-C6-N1 | -12.38 | 111.51 | 117.70 |
| 12 | B | 2646 | C | C6-N1-C2 | -12.38 | 115.35 | 120.30 |
| 11 | A | 77 | U | C5-C6-N1 | 12.37 | 128.89 | 122.70 |
| 12 | B | 1557 | C | O4'-C1'-N1 | 12.37 | 118.10 | 108.20 |
| 12 | B | 1831 | G | N3-C2-N2 | 12.36 | 128.56 | 119.90 |
| 12 | B | 1862 | G | N1-C6-O6 | 12.37 | 127.32 | 119.90 |
| 12 | B | 2432 | A | N1-C6-N6 | 12.36 | 126.02 | 118.60 |
| 12 | B | 2115 | G | C5-C6-O6 | -12.36 | 121.19 | 128.60 |
| 12 | B | 1813 | G | N1-C6-O6 | 12.35 | 127.31 | 119.90 |
| 11 | A | 57 | A | N1-C6-N6 | 12.35 | 126.01 | 118.60 |
| 12 | B | 532 | A | P-O3'-C3' | 12.35 | 134.52 | 119.70 |
| 12 | B | 2579 | C | O4'-C1'-N1 | 12.35 | 118.08 | 108.20 |
| 12 | B | 107 | G | N1-C6-O6 | 12.34 | 127.31 | 119.90 |
| 12 | B | 1646 | C | C2-N3-C4 | 12.34 | 126.07 | 119.90 |
| 12 | B | 300 | A | N1-C6-N6 | 12.33 | 126.00 | 118.60 |
| 12 | B | 1562 | U | O4'-C1'-N1 | 12.33 | 118.06 | 108.20 |
| 12 | B | 108 | G | C5-C6-O6 | -12.32 | 121.21 | 128.60 |
| 12 | B | 2196 | C | O4'-C1'-N1 | 12.32 | 118.06 | 108.20 |
| 12 | B | 700 | G | C5-C6-O6 | -12.31 | 121.21 | 128.60 |
| 12 | B | 2062 | A | N1-C6-N6 | 12.31 | 125.99 | 118.60 |
| 12 | B | 2825 | G | N1-C6-O6 | 12.31 | 127.29 | 119.90 |
| 12 | B | 817 | C | O4'-C1'-N1 | 12.31 | 118.05 | 108.20 |
| 12 | B | 1063 | G | N7-C8-N9 | -12.30 | 106.95 | 113.10 |
| 12 | B | 1748 | C | O4'-C1'-N1 | 12.31 | 118.04 | 108.20 |
| 12 | B | 2070 | A | N9-C4-C5 | -12.30 | 100.88 | 105.80 |
| 12 | B | 241 | A | N9-C4-C5 | 12.30 | 110.72 | 105.80 |
| 12 | B | 1888 | G | P-O3'-C3' | 12.30 | 134.46 | 119.70 |
| 12 | B | 1238 | G | C5-C6-O6 | -12.30 | 121.22 | 128.60 |
| 12 | B | 1860 | G | C5-C6-O6 | -12.30 | 121.22 | 128.60 |
| 11 | A | 68 | C | N3-C4-C5 | -12.30 | 116.98 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 379 | G | O4'-C1'-N9 | 12.30 | 118.04 | 108.20 |
| 12 | B | 1790 | C | C5-C6-N1 | 12.30 | 127.15 | 121.00 |
| 12 | B | 1871 | A | N1-C6-N6 | 12.29 | 125.98 | 118.60 |
| 12 | B | 2758 | A | C8-N9-C4 | -12.29 | 100.88 | 105.80 |
| 12 | B | 86 | G | C2-N3-C4 | 12.29 | 118.05 | 111.90 |
| 12 | B | 2390 | U | N1-C2-N3 | -12.29 | 107.52 | 114.90 |
| 12 | B | 1377 | G | N1-C6-O6 | 12.29 | 127.27 | 119.90 |
| 11 | A | 13 | G | C1'-O4'-C4' | -12.29 | 100.07 | 109.90 |
| 12 | B | 166 | U | O4'-C1'-N1 | 12.29 | 118.03 | 108.20 |
| 12 | B | 1480 | C | N3-C4-C5 | -12.29 | 116.98 | 121.90 |
| 11 | A | 67 | G | C4-C5-C6 | 12.28 | 126.17 | 118.80 |
| 12 | B | 1802 | A | C5-C6-N1 | -12.28 | 111.56 | 117.70 |
| 12 | B | 582 | A | C5-C6-N6 | -12.28 | 113.88 | 123.70 |
| 12 | B | 1378 | A | C5-C6-N6 | -12.28 | 113.88 | 123.70 |
| 11 | A | 108 | A | C5-N7-C8 | 12.28 | 110.04 | 103.90 |
| 12 | B | 1496 | A | C4-C5-C6 | 12.28 | 123.14 | 117.00 |
| 12 | B | 2376 | A | O4'-C1'-N9 | 12.28 | 118.02 | 108.20 |
| 12 | B | 2566 | A | N1-C6-N6 | 12.28 | 125.97 | 118.60 |
| 12 | B | 2651 | C | N3-C4-N4 | 12.28 | 126.59 | 118.00 |
| 26 | P | 61 | ARG | NE-CZ-NH1 | -12.28 | 114.16 | 120.30 |
| 12 | B | 175 | G | O4'-C1'-N9 | 12.27 | 118.02 | 108.20 |
| 12 | B | 231 | A | C5-C6-N1 | -12.27 | 111.56 | 117.70 |
| 12 | B | 873 | C | N3-C4-N4 | 12.27 | 126.59 | 118.00 |
| 12 | B | 2318 | G | C5-C6-O6 | -12.27 | 121.24 | 128.60 |
| 12 | B | 2093 | G | C5-C6-O6 | -12.27 | 121.24 | 128.60 |
| 12 | B | 1103 | A | N1-C6-N6 | 12.27 | 125.96 | 118.60 |
| 12 | B | 2809 | A | O4'-C1'-N9 | 12.27 | 118.02 | 108.20 |
| 12 | B | 1248 | G | N1-C6-O6 | 12.27 | 127.26 | 119.90 |
| 12 | B | 816 | C | C5-C4-N4 | -12.26 | 111.62 | 120.20 |
| 12 | B | 865 | C | C5-C6-N1 | 12.26 | 127.13 | 121.00 |
| 12 | B | 144 | A | N1-C6-N6 | 12.26 | 125.96 | 118.60 |
| 12 | B | 2047 | C | C6-N1-C2 | -12.26 | 115.40 | 120.30 |
| 12 | B | 2307 | G | N1-C2-N3 | -12.26 | 116.54 | 123.90 |
| 12 | B | 1744 | A | N1-C6-N6 | 12.26 | 125.95 | 118.60 |
| 12 | B | 1941 | C | P-O3'-C3' | 12.26 | 134.41 | 119.70 |
| 12 | B | 2168 | G | N1-C6-O6 | 12.25 | 127.25 | 119.90 |
| 12 | B | 1349 | C | O4'-C1'-N1 | 12.24 | 118.00 | 108.20 |
| 12 | B | 273 | G | N1-C2-N3 | -12.24 | 116.55 | 123.90 |
| 12 | B | 1640 | A | N1-C6-N6 | 12.24 | 125.94 | 118.60 |
| 12 | B | 2106 | U | N1-C2-O2 | 12.24 | 131.37 | 122.80 |
| 12 | B | 2840 | C | N3-C4-N4 | 12.24 | 126.57 | 118.00 |
| 12 | B | 494 | G | N1-C6-O6 | 12.24 | 127.24 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1121 | C | O4'-C1'-N1 | 12.24 | 117.99 | 108.20 |
| 12 | B | 429 | A | C4-C5-C6 | 12.23 | 123.12 | 117.00 |
| 12 | B | 1160 | G | N1-C6-O6 | 12.23 | 127.24 | 119.90 |
| 12 | B | 869 | G | C2-N3-C4 | 12.23 | 118.02 | 111.90 |
| 12 | B | 909 | A | C4-C5-C6 | 12.23 | 123.11 | 117.00 |
| 12 | B | 991 | C | N3-C4-N4 | 12.23 | 126.56 | 118.00 |
| 12 | B | 623 | C | C6-N1-C2 | -12.23 | 115.41 | 120.30 |
| 12 | B | 964 | C | N3-C4-C5 | -12.22 | 117.01 | 121.90 |
| 12 | B | 212 | G | C5-C6-O6 | -12.22 | 121.27 | 128.60 |
| 12 | B | 675 | A | N1-C6-N6 | 12.21 | 125.93 | 118.60 |
| 12 | B | 924 | G | O4'-C1'-N9 | 12.21 | 117.97 | 108.20 |
| 12 | B | 2348 | U | O4'-C1'-N1 | 12.21 | 117.97 | 108.20 |
| 12 | B | 2616 | C | N3-C4-N4 | 12.21 | 126.55 | 118.00 |
| 12 | B | 1660 | G | C5-C6-O6 | -12.21 | 121.27 | 128.60 |
| 12 | B | 1519 | G | N1-C6-O6 | 12.21 | 127.23 | 119.90 |
| 12 | B | 1610 | A | N1-C6-N6 | -12.21 | 111.28 | 118.60 |
| 12 | B | 2198 | A | C8-N9-C4 | -12.21 | 100.92 | 105.80 |
| 12 | B | 853 | C | O4'-C1'-N1 | 12.21 | 117.97 | 108.20 |
| 12 | B | 2872 | A | C4-C5-C6 | 12.21 | 123.10 | 117.00 |
| 12 | B | 89 | A | N1-C6-N6 | 12.20 | 125.92 | 118.60 |
| 12 | B | 1405 | U | O4'-C1'-N1 | 12.20 | 117.96 | 108.20 |
| 12 | B | 2311 | A | C5-C6-N1 | -12.20 | 111.60 | 117.70 |
| 12 | B | 2445 | G | C5-C6-O6 | -12.20 | 121.28 | 128.60 |
| 12 | B | 2766 | A | C5-C6-N1 | -12.20 | 111.60 | 117.70 |
| 12 | B | 1640 | A | O4'-C1'-N9 | 12.20 | 117.96 | 108.20 |
| 12 | B | 1345 | C | N3-C4-C5 | -12.19 | 117.02 | 121.90 |
| 12 | B | 649 | G | N1-C6-O6 | 12.19 | 127.22 | 119.90 |
| 12 | B | 2598 | A | C5-C6-N1 | -12.19 | 111.60 | 117.70 |
| 12 | B | 116 | C | O4'-C1'-N1 | 12.19 | 117.95 | 108.20 |
| 12 | B | 1464 | G | N1-C6-O6 | 12.19 | 127.21 | 119.90 |
| 12 | B | 1578 | U | O4'-C1'-N1 | 12.19 | 117.95 | 108.20 |
| 12 | B | 2171 | A | C8-N9-C4 | -12.18 | 100.93 | 105.80 |
| 28 | R | 53 | PHE | CB-CG-CD2 | -12.18 | 112.28 | 120.80 |
| 12 | B | 277 | G | P-O5'-C5' | 12.17 | 140.38 | 120.90 |
| 12 | B | 2224 | G | C2-N3-C4 | 12.17 | 117.99 | 111.90 |
| 12 | B | 371 | A | C2-N3-C4 | -12.17 | 104.51 | 110.60 |
| 12 | B | 2573 | C | N3-C4-C5 | -12.17 | 117.03 | 121.90 |
| 12 | B | 413 | C | N3-C4-C5 | -12.16 | 117.03 | 121.90 |
| 12 | B | 950 | G | N1-C6-O6 | 12.16 | 127.20 | 119.90 |
| 12 | B | 2033 | A | C5-C6-N1 | -12.16 | 111.62 | 117.70 |
| 12 | B | 1056 | G | N7-C8-N9 | -12.16 | 107.02 | 113.10 |
| 12 | B | 2600 | A | N1-C6-N6 | 12.16 | 125.90 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2632 | A | C5-C6-N6 | -12.16 | 113.97 | 123.70 |
| 12 | B | 1039 | A | N1-C2-N3 | -12.16 | 123.22 | 129.30 |
| 12 | B | 469 | G | N1-C6-O6 | 12.15 | 127.19 | 119.90 |
| 12 | B | 719 | C | O4'-C1'-N1 | 12.15 | 117.92 | 108.20 |
| 12 | B | 2324 | U | O4'-C1'-N1 | 12.15 | 117.92 | 108.20 |
| 12 | B | 1086 | A | C5-N7-C8 | 12.14 | 109.97 | 103.90 |
| 12 | B | 2089 | C | C5-C4-N4 | -12.14 | 111.70 | 120.20 |
| 12 | B | 43 | G | N1-C6-O6 | 12.14 | 127.18 | 119.90 |
| 12 | B | 218 | A | N1-C6-N6 | 12.13 | 125.88 | 118.60 |
| 12 | B | 1977 | A | N1-C6-N6 | 12.13 | 125.88 | 118.60 |
| 13 | C | 174 | ARG | NE-CZ-NH1 | 12.13 | 126.37 | 120.30 |
| 12 | B | 2844 | G | O4'-C1'-N9 | 12.13 | 117.90 | 108.20 |
| 12 | B | 717 | C | O4'-C1'-N1 | 12.13 | 117.90 | 108.20 |
| 12 | B | 2337 | G | N1-C6-O6 | 12.13 | 127.18 | 119.90 |
| 12 | B | 323 | C | N3-C4-N4 | 12.13 | 126.49 | 118.00 |
| 12 | B | 475 | C | C2-N3-C4 | 12.12 | 125.96 | 119.90 |
| 12 | B | 1369 | G | N1-C6-O6 | 12.12 | 127.17 | 119.90 |
| 12 | B | 535 | G | C5-C6-O6 | -12.12 | 121.33 | 128.60 |
| 12 | B | 2367 | G | C5-C6-O6 | -12.12 | 121.33 | 128.60 |
| 12 | B | 2431 | U | O4'-C1'-N1 | 12.12 | 117.89 | 108.20 |
| 12 | B | 2218 | G | C6-C5-N7 | -12.12 | 123.13 | 130.40 |
| 12 | B | 1310 | G | N9-C4-C5 | -12.11 | 100.55 | 105.40 |
| 12 | B | 2750 | A | N1-C6-N6 | 12.11 | 125.87 | 118.60 |
| 12 | B | 1822 | C | O4'-C1'-N1 | 12.11 | 117.89 | 108.20 |
| 12 | B | 2211 | A | O4'-C1'-N9 | 12.11 | 117.89 | 108.20 |
| 12 | B | 2677 | G | O4'-C1'-N9 | 12.11 | 117.88 | 108.20 |
| 12 | B | 35 | G | N1-C6-O6 | 12.10 | 127.16 | 119.90 |
| 12 | B | 1786 | A | N1-C6-N6 | 12.10 | 125.86 | 118.60 |
| 12 | B | 601 | C | N3-C4-C5 | -12.10 | 117.06 | 121.90 |
| 12 | B | 1215 | G | N1-C6-O6 | 12.10 | 127.16 | 119.90 |
| 12 | B | 2621 | G | N9-C4-C5 | -12.10 | 100.56 | 105.40 |
| 12 | B | 285 | G | N1-C6-O6 | 12.10 | 127.16 | 119.90 |
| 12 | B | 1773 | A | N1-C6-N6 | 12.10 | 125.86 | 118.60 |
| 12 | B | 2021 | C | N3-C4-N4 | 12.10 | 126.47 | 118.00 |
| 12 | B | 2715 | C | C6-N1-C2 | -12.09 | 115.47 | 120.30 |
| 26 | P | 100 | ARG | NE-CZ-NH1 | -12.09 | 114.26 | 120.30 |
| 12 | B | 1882 | U | O4'-C1'-N1 | 12.09 | 117.87 | 108.20 |
| 11 | A | 20 | G | O4'-C1'-N9 | 12.08 | 117.87 | 108.20 |
| 12 | B | 1314 | C | N3-C4-C5 | -12.08 | 117.07 | 121.90 |
| 12 | B | 899 | A | P-O3'-C3' | -12.08 | 105.20 | 119.70 |
| 12 | B | 1086 | A | N7-C8-N9 | -12.08 | 107.76 | 113.80 |
| 12 | B | 1819 | A | C4-C5-N7 | -12.07 | 104.66 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 733 | G | C5-C6-O6 | -12.07 | 121.36 | 128.60 |
| 12 | B | 2713 | U | C1'-O4'-C4' | -12.07 | 100.24 | 109.90 |
| 12 | B | 384 | A | N1-C2-N3 | 12.07 | 135.34 | 129.30 |
| 12 | B | 2739 | U | N3-C4-O4 | 12.07 | 127.85 | 119.40 |
| 12 | B | 621 | A | C5-C6-N1 | -12.07 | 111.67 | 117.70 |
| 12 | B | 735 | A | O4'-C1'-N9 | 12.07 | 117.85 | 108.20 |
| 12 | B | 2237 | G | N3-C2-N2 | 12.07 | 128.35 | 119.90 |
| 12 | B | 172 | A | C5-C6-N1 | -12.06 | 111.67 | 117.70 |
| 12 | B | 1994 | C | O4'-C1'-N1 | 12.06 | 117.85 | 108.20 |
| 12 | B | 2216 | G | C5-N7-C8 | 12.06 | 110.33 | 104.30 |
| 12 | B | 1235 | G | N1-C2-N3 | -12.06 | 116.66 | 123.90 |
| 23 | M | 66 | ARG | NE-CZ-NH2 | -12.06 | 114.27 | 120.30 |
| 12 | B | 327 | G | N1-C6-O6 | 12.06 | 127.14 | 119.90 |
| 12 | B | 2129 | C | C2-N1-C1' | 12.06 | 132.06 | 118.80 |
| 12 | B | 119 | A | N1-C6-N6 | 12.05 | 125.83 | 118.60 |
| 12 | B | 1801 | A | C5-C6-N6 | -12.05 | 114.06 | 123.70 |
| 12 | B | 1346 | G | N1-C6-O6 | 12.05 | 127.13 | 119.90 |
| 12 | B | 2234 | G | C6-C5-N7 | -12.05 | 123.17 | 130.40 |
| 12 | B | 2521 | C | O4'-C1'-N1 | 12.05 | 117.84 | 108.20 |
| 12 | B | 691 | C | C5-C4-N4 | -12.04 | 111.77 | 120.20 |
| 12 | B | 2246 | G | N1-C6-O6 | 12.04 | 127.12 | 119.90 |
| 12 | B | 1550 | C | O4'-C1'-N1 | 12.04 | 117.83 | 108.20 |
| 12 | B | 2497 | A | C5-C6-N6 | -12.04 | 114.07 | 123.70 |
| 12 | B | 24 | G | C5-C6-O6 | -12.04 | 121.38 | 128.60 |
| 12 | B | 672 | C | C2-N3-C4 | 12.04 | 125.92 | 119.90 |
| 12 | B | 2602 | A | N1-C2-N3 | 12.03 | 135.32 | 129.30 |
| 12 | B | 2653 | U | N3-C4-O4 | 12.03 | 127.82 | 119.40 |
| 12 | B | 384 | A | C2-N3-C4 | -12.03 | 104.58 | 110.60 |
| 12 | B | 1269 | A | C5-C6-N1 | -12.03 | 111.69 | 117.70 |
| 12 | B | 1118 | C | N3-C4-C5 | -12.03 | 117.09 | 121.90 |
| 6 | 5 | 56 | ASP | CB-CG-OD1 | -12.02 | 107.48 | 118.30 |
| 12 | B | 1309 | G | N1-C6-O6 | 12.02 | 127.11 | 119.90 |
| 12 | B | 1325 | U | N3-C4-C5 | -12.02 | 107.39 | 114.60 |
| 12 | B | 2212 | A | N1-C6-N6 | 12.02 | 125.81 | 118.60 |
| 12 | B | 2235 | G | N1-C6-O6 | 12.02 | 127.11 | 119.90 |
| 12 | B | 899 | A | C2-N3-C4 | 12.01 | 116.61 | 110.60 |
| 12 | B | 1086 | A | N1-C6-N6 | 12.01 | 125.81 | 118.60 |
| 12 | B | 856 | G | C5-C6-O6 | -12.01 | 121.39 | 128.60 |
| 12 | B | 1077 | A | O4'-C1'-N9 | 12.01 | 117.81 | 108.20 |
| 12 | B | 1674 | G | C2-N3-C4 | 12.01 | 117.90 | 111.90 |
| 12 | B | 327 | G | C5-C6-O6 | -12.01 | 121.40 | 128.60 |
| 12 | B | 914 | G | C5-C6-O6 | -12.01 | 121.40 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2534 | A | C4-C5-C6 | 12.01 | 123.00 | 117.00 |
| 12 | B | 2657 | A | C5-C6-N1 | -12.01 | 111.70 | 117.70 |
| 12 | B | 2538 | C | O4'-C1'-N1 | 12.00 | 117.80 | 108.20 |
| 12 | B | 1469 | A | C5-C6-N6 | -12.00 | 114.10 | 123.70 |
| 12 | B | 1554 | U | O4'-C1'-N1 | 12.00 | 117.80 | 108.20 |
| 12 | B | 2115 | G | N1-C6-O6 | 12.00 | 127.10 | 119.90 |
| 12 | B | 1058 | U | O4'-C1'-N1 | 12.00 | 117.80 | 108.20 |
| 12 | B | 1212 | G | N1-C2-N3 | -12.00 | 116.70 | 123.90 |
| 12 | B | 2212 | A | C8-N9-C4 | -12.00 | 101.00 | 105.80 |
| 12 | B | 2877 | G | C5-C6-O6 | -12.00 | 121.40 | 128.60 |
| 12 | B | 1544 | A | C4-C5-C6 | 11.99 | 123.00 | 117.00 |
| 12 | B | 2361 | G | N1-C6-O6 | 11.99 | 127.09 | 119.90 |
| 12 | B | 608 | A | C4-C5-C6 | 11.99 | 123.00 | 117.00 |
| 12 | B | 1843 | C | O4'-C1'-N1 | 11.99 | 117.79 | 108.20 |
| 11 | A | 22 | U | O4'-C1'-N1 | 11.99 | 117.79 | 108.20 |
| 11 | A | 93 | C | C2-N3-C4 | 11.99 | 125.89 | 119.90 |
| 12 | B | 891 | G | C5-C6-O6 | -11.99 | 121.41 | 128.60 |
| 12 | B | 1766 | G | N1-C6-O6 | 11.98 | 127.09 | 119.90 |
| 12 | B | 1328 | A | C5-C6-N1 | -11.98 | 111.71 | 117.70 |
| 12 | B | 2070 | A | C8-N9-C4 | 11.98 | 110.59 | 105.80 |
| 12 | B | 2158 | A | N1-C6-N6 | 11.98 | 125.79 | 118.60 |
| 12 | B | 2617 | U | O4'-C1'-N1 | 11.98 | 117.78 | 108.20 |
| 12 | B | 103 | A | C5-C6-N6 | -11.97 | 114.12 | 123.70 |
| 12 | B | 1567 | G | N3-C2-N2 | 11.97 | 128.28 | 119.90 |
| 5 | 4 | 48 | TYR | CB-CG-CD1 | 11.97 | 128.18 | 121.00 |
| 12 | B | 823 | C | O4'-C1'-N1 | 11.96 | 117.77 | 108.20 |
| 12 | B | 1393 | A | C8-N9-C4 | -11.96 | 101.01 | 105.80 |
| 12 | B | 2367 | G | N7-C8-N9 | 11.96 | 119.08 | 113.10 |
| 12 | B | 2 | G | O4'-C1'-N9 | 11.96 | 117.77 | 108.20 |
| 12 | B | 1260 | A | O4'-C1'-N9 | 11.96 | 117.77 | 108.20 |
| 12 | B | 2844 | G | N1-C6-O6 | 11.96 | 127.07 | 119.90 |
| 12 | B | 2136 | G | N1-C6-O6 | 11.96 | 127.07 | 119.90 |
| 12 | B | 2806 | C | C4-C5-C6 | 11.95 | 123.38 | 117.40 |
| 12 | B | 269 | C | O4'-C1'-N1 | 11.95 | 117.76 | 108.20 |
| 12 | B | 1229 | C | N3-C4-C5 | -11.95 | 117.12 | 121.90 |
| 12 | B | 1627 | G | N1-C6-O6 | 11.95 | 127.07 | 119.90 |
| 12 | B | 1301 | A | N1-C2-N3 | 11.94 | 135.27 | 129.30 |
| 12 | B | 542 | C | O4'-C1'-N1 | 11.94 | 117.75 | 108.20 |
| 12 | B | 788 | A | N1-C6-N6 | 11.94 | 125.76 | 118.60 |
| 12 | B | 1881 | C | N3-C4-C5 | -11.94 | 117.12 | 121.90 |
| 12 | B | 1231 | U | O4'-C1'-N1 | 11.93 | 117.75 | 108.20 |
| 12 | B | 778 | G | C6-C5-N7 | -11.93 | 123.24 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1780 | A | C5-C6-N6 | -11.93 | 114.16 | 123.70 |
| 12 | B | 2106 | U | C6-N1-C2 | 11.92 | 128.15 | 121.00 |
| 12 | B | 2242 | G | N1-C6-O6 | 11.92 | 127.05 | 119.90 |
| 12 | B | 1655 | A | C8-N9-C4 | -11.92 | 101.03 | 105.80 |
| 12 | B | 954 | G | N1-C6-O6 | 11.92 | 127.05 | 119.90 |
| 12 | B | 2182 | U | N1-C2-O2 | -11.92 | 114.46 | 122.80 |
| 12 | B | 2663 | G | N1-C6-O6 | 11.92 | 127.05 | 119.90 |
| 12 | B | 2077 | A | C8-N9-C4 | -11.91 | 101.03 | 105.80 |
| 12 | B | 987 | C | N3-C4-C5 | -11.91 | 117.14 | 121.90 |
| 12 | B | 1511 | G | C2-N3-C4 | 11.91 | 117.86 | 111.90 |
| 12 | B | 656 | G | C5-C6-O6 | -11.91 | 121.46 | 128.60 |
| 12 | B | 2246 | G | C5-C6-O6 | -11.91 | 121.45 | 128.60 |
| 12 | B | 1567 | G | C5-C6-O6 | -11.91 | 121.46 | 128.60 |
| 12 | B | 98 | G | N1-C2-N3 | -11.90 | 116.76 | 123.90 |
| 12 | B | 857 | G | C8-N9-C4 | -11.90 | 101.64 | 106.40 |
| 33 | Y | 13 | ARG | NE-CZ-NH2 | -11.90 | 114.35 | 120.30 |
| 12 | B | 283 | G | C5-C6-N1 | -11.90 | 105.55 | 111.50 |
| 12 | B | 1817 | G | O4'-C1'-N9 | 11.90 | 117.72 | 108.20 |
| 11 | A | 118 | C | N3-C4-C5 | -11.90 | 117.14 | 121.90 |
| 12 | B | 2495 | G | C5-C6-O6 | -11.90 | 121.46 | 128.60 |
| 12 | B | 325 | G | O4'-C1'-N9 | 11.89 | 117.72 | 108.20 |
| 12 | B | 1107 | G | O4'-C1'-N9 | 11.89 | 117.71 | 108.20 |
| 12 | B | 1848 | A | C8-N9-C4 | -11.89 | 101.04 | 105.80 |
| 12 | B | 2810 | A | O4'-C1'-N9 | 11.89 | 117.71 | 108.20 |
| 12 | B | 2013 | A | C6-C5-N7 | -11.89 | 123.98 | 132.30 |
| 12 | B | 2757 | A | C5-C6-N1 | -11.88 | 111.76 | 117.70 |
| 12 | B | 2065 | C | O4'-C1'-N1 | 11.88 | 117.71 | 108.20 |
| 12 | B | 1235 | G | C5-C6-O6 | -11.88 | 121.47 | 128.60 |
| 12 | B | 946 | C | N3-C4-N4 | 11.88 | 126.31 | 118.00 |
| 12 | B | 1928 | A | C5-C6-N6 | -11.88 | 114.20 | 123.70 |
| 12 | B | 2442 | C | N3-C4-N4 | 11.88 | 126.31 | 118.00 |
| 12 | B | 955 | U | C5-C4-O4 | -11.88 | 118.77 | 125.90 |
| 12 | B | 1870 | C | C2-N1-C1' | 11.87 | 131.86 | 118.80 |
| 12 | B | 1930 | G | O4'-C1'-N9 | 11.87 | 117.70 | 108.20 |
| 12 | B | 1637 | A | N1-C6-N6 | 11.87 | 125.72 | 118.60 |
| 12 | B | 2799 | A | C5-C6-N6 | -11.87 | 114.20 | 123.70 |
| 12 | B | 1524 | G | C6-C5-N7 | -11.87 | 123.28 | 130.40 |
| 12 | B | 2110 | G | N3-C4-C5 | -11.87 | 122.67 | 128.60 |
| 11 | A | 94 | A | C6-N1-C2 | 11.86 | 125.71 | 118.60 |
| 12 | B | 14 | A | C8-N9-C4 | -11.86 | 101.06 | 105.80 |
| 12 | B | 1878 | G | N1-C6-O6 | 11.85 | 127.01 | 119.90 |
| 12 | B | 291 | G | O4'-C1'-N9 | 11.85 | 117.68 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 905 | A | O4'-C1'-N9 | 11.85 | 117.68 | 108.20 |
| 12 | B | 2138 | G | C5-C6-O6 | -11.85 | 121.49 | 128.60 |
| 12 | B | 2156 | G | N1-C6-O6 | 11.85 | 127.01 | 119.90 |
| 12 | B | 470 | A | N1-C6-N6 | 11.84 | 125.70 | 118.60 |
| 12 | B | 249 | C | C6-N1-C1' | -11.84 | 106.59 | 120.80 |
| 12 | B | 2332 | C | C6-N1-C2 | -11.84 | 115.56 | 120.30 |
| 12 | B | 751 | A | C4-C5-C6 | 11.83 | 122.92 | 117.00 |
| 12 | B | 2731 | G | C5-C6-O6 | -11.83 | 121.50 | 128.60 |
| 12 | B | 1915 | U | O4'-C1'-N1 | 11.83 | 117.66 | 108.20 |
| 12 | B | 230 | G | C5-C6-O6 | -11.82 | 121.51 | 128.60 |
| 12 | B | 1319 | C | O4'-C1'-N1 | 11.82 | 117.66 | 108.20 |
| 12 | B | 1498 | C | O4'-C1'-N1 | 11.82 | 117.66 | 108.20 |
| 12 | B | 2672 | U | O4'-C1'-N1 | 11.82 | 117.66 | 108.20 |
| 12 | B | 317 | G | N1-C6-O6 | 11.82 | 126.99 | 119.90 |
| 12 | B | 942 | G | C5-C6-O6 | -11.82 | 121.51 | 128.60 |
| 12 | B | 2531 | A | C4-C5-C6 | 11.82 | 122.91 | 117.00 |
| 12 | B | 705 | A | C4-C5-C6 | 11.82 | 122.91 | 117.00 |
| 12 | B | 1177 | G | N1-C2-N3 | -11.82 | 116.81 | 123.90 |
| 12 | B | 1095 | A | C5-C6-N6 | -11.82 | 114.25 | 123.70 |
| 12 | B | 923 | G | N1-C6-O6 | 11.81 | 126.99 | 119.90 |
| 12 | B | 2108 | A | N1-C6-N6 | 11.81 | 125.69 | 118.60 |
| 12 | B | 939 | G | N1-C2-N3 | -11.81 | 116.81 | 123.90 |
| 12 | B | 2190 | G | P-O3'-C3' | -11.81 | 105.52 | 119.70 |
| 11 | A | 31 | C | N3-C4-N4 | 11.81 | 126.27 | 118.00 |
| 12 | B | 43 | G | C5-C6-O6 | -11.81 | 121.51 | 128.60 |
| 12 | B | 1383 | A | N1-C6-N6 | 11.81 | 125.69 | 118.60 |
| 12 | B | 1612 | C | C6-N1-C2 | -11.81 | 115.58 | 120.30 |
| 12 | B | 1746 | A | C4-C5-C6 | 11.81 | 122.91 | 117.00 |
| 12 | B | 66 | C | O4'-C1'-N1 | 11.81 | 117.65 | 108.20 |
| 12 | B | 155 | A | C5-C6-N1 | -11.81 | 111.80 | 117.70 |
| 12 | B | 738 | G | N1-C6-O6 | 11.81 | 126.98 | 119.90 |
| 12 | B | 1109 | C | C6-N1-C2 | 11.81 | 125.02 | 120.30 |
| 12 | B | 1177 | G | C2-N3-C4 | 11.81 | 117.80 | 111.90 |
| 7 | 6 | 21 | ARG | NE-CZ-NH2 | 11.80 | 126.20 | 120.30 |
| 12 | B | 946 | C | O4'-C1'-N1 | 11.80 | 117.64 | 108.20 |
| 12 | B | 2106 | U | O4'-C1'-N1 | 11.80 | 117.64 | 108.20 |
| 13 | C | 202 | ARG | NE-CZ-NH2 | -11.80 | 114.40 | 120.30 |
| 12 | B | 654 | A | O4'-C1'-N9 | 11.80 | 117.64 | 108.20 |
| 12 | B | 1507 | C | O4'-C1'-N1 | 11.80 | 117.64 | 108.20 |
| 12 | B | 2507 | C | C5-C6-N1 | 11.80 | 126.90 | 121.00 |
| 12 | B | 1138 | G | C6-C5-N7 | -11.80 | 123.32 | 130.40 |
| 12 | B | 2335 | A | C5-C6-N1 | -11.80 | 111.80 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2683 | C | O4'-C1'-N1 | 11.80 | 117.64 | 108.20 |
| 12 | B | 1009 | A | N9-C4-C5 | 11.80 | 110.52 | 105.80 |
| 12 | B | 982 | C | N3-C4-C5 | -11.79 | 117.18 | 121.90 |
| 12 | B | 2845 | U | O4'-C1'-N1 | 11.79 | 117.63 | 108.20 |
| 12 | B | 1687 | G | O4'-C1'-N9 | 11.79 | 117.63 | 108.20 |
| 12 | B | 2366 | A | C5-N7-C8 | 11.78 | 109.79 | 103.90 |
| 12 | B | 1139 | G | N1-C6-O6 | 11.78 | 126.97 | 119.90 |
| 12 | B | 1969 | A | N1-C6-N6 | 11.78 | 125.67 | 118.60 |
| 12 | B | 1248 | G | C5-C6-O6 | -11.77 | 121.54 | 128.60 |
| 12 | B | 2858 | C | O4'-C1'-N1 | 11.77 | 117.62 | 108.20 |
| 12 | B | 1445 | G | C5-C6-O6 | -11.77 | 121.54 | 128.60 |
| 12 | B | 1839 | G | C8-N9-C4 | -11.77 | 101.69 | 106.40 |
| 12 | B | 784 | G | C6-C5-N7 | -11.76 | 123.34 | 130.40 |
| 12 | B | 761 | A | N1-C6-N6 | 11.76 | 125.66 | 118.60 |
| 12 | B | 1062 | G | N1-C6-O6 | 11.76 | 126.96 | 119.90 |
| 12 | B | 2485 | G | N1-C6-O6 | 11.76 | 126.96 | 119.90 |
| 12 | B | 1093 | G | C5-N7-C8 | -11.76 | 98.42 | 104.30 |
| 12 | B | 2198 | A | C5-C6-N6 | -11.76 | 114.29 | 123.70 |
| 12 | B | 2791 | G | N1-C6-O6 | 11.76 | 126.95 | 119.90 |
| 12 | B | 130 | C | N3-C4-N4 | 11.75 | 126.23 | 118.00 |
| 12 | B | 2336 | A | P-O3'-C3' | 11.75 | 133.81 | 119.70 |
| 12 | B | 1776 | G | C5-C6-O6 | -11.75 | 121.55 | 128.60 |
| 12 | B | 2133 | G | C5-C6-O6 | -11.75 | 121.55 | 128.60 |
| 12 | B | 1845 | G | C5-C6-O6 | -11.75 | 121.55 | 128.60 |
| 12 | B | 1877 | A | N9-C4-C5 | 11.74 | 110.50 | 105.80 |
| 12 | B | 2135 | A | N1-C6-N6 | 11.74 | 125.64 | 118.60 |
| 12 | B | 1574 | C | N3-C4-N4 | 11.73 | 126.21 | 118.00 |
| 12 | B | 1234 | U | O4'-C1'-N1 | 11.73 | 117.59 | 108.20 |
| 11 | A | 118 | C | N3-C4-N4 | 11.73 | 126.21 | 118.00 |
| 12 | B | 924 | G | N3-C4-C5 | 11.73 | 134.47 | 128.60 |
| 12 | B | 1920 | C | C5-C4-N4 | -11.72 | 111.99 | 120.20 |
| 11 | A | 2 | G | C5-C6-O6 | -11.72 | 121.57 | 128.60 |
| 12 | B | 376 | G | C8-N9-C4 | -11.72 | 101.71 | 106.40 |
| 12 | B | 2792 | A | N1-C6-N6 | 11.72 | 125.63 | 118.60 |
| 12 | B | 2780 | G | N1-C6-O6 | 11.72 | 126.93 | 119.90 |
| 12 | B | 410 | G | N9-C4-C5 | -11.72 | 100.71 | 105.40 |
| 12 | B | 331 | C | N3-C4-N4 | 11.71 | 126.20 | 118.00 |
| 12 | B | 273 | G | N1-C6-O6 | 11.71 | 126.92 | 119.90 |
| 12 | B | 881 | G | C5-C6-O6 | -11.71 | 121.58 | 128.60 |
| 12 | B | 1137 | G | N1-C6-O6 | 11.70 | 126.92 | 119.90 |
| 12 | B | 1039 | A | C8-N9-C4 | -11.70 | 101.12 | 105.80 |
| 12 | B | 2539 | C | C6-N1-C2 | -11.70 | 115.62 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 596 | U | O4'-C1'-N1 | 11.70 | 117.56 | 108.20 |
| 12 | B | 1533 | C | O4'-C1'-N1 | 11.70 | 117.56 | 108.20 |
| 12 | B | 335 | C | O4'-C1'-N1 | 11.69 | 117.55 | 108.20 |
| 11 | A | 20 | G | C5-C6-O6 | -11.69 | 121.58 | 128.60 |
| 12 | B | 815 | C | O4'-C1'-N1 | 11.69 | 117.55 | 108.20 |
| 12 | B | 1846 | G | N1-C6-O6 | 11.69 | 126.91 | 119.90 |
| 12 | B | 1871 | A | C8-N9-C4 | -11.69 | 101.12 | 105.80 |
| 12 | B | 331 | C | N3-C4-C5 | -11.69 | 117.22 | 121.90 |
| 12 | B | 801 | G | N1-C6-O6 | 11.69 | 126.91 | 119.90 |
| 12 | B | 1938 | A | C5-C6-N6 | -11.69 | 114.35 | 123.70 |
| 12 | B | 2110 | G | C4-C5-C6 | 11.69 | 125.81 | 118.80 |
| 12 | B | 1687 | G | N1-C6-O6 | 11.69 | 126.91 | 119.90 |
| 12 | B | 2094 | A | C4-C5-C6 | 11.69 | 122.84 | 117.00 |
| 23 | M | 10 | ARG | NE-CZ-NH1 | -11.68 | 114.46 | 120.30 |
| 12 | B | 1479 | G | O4'-C1'-N9 | 11.68 | 117.54 | 108.20 |
| 12 | B | 1285 | A | C5-N7-C8 | 11.68 | 109.74 | 103.90 |
| 12 | B | 632 | A | C5-C6-N1 | -11.68 | 111.86 | 117.70 |
| 12 | B | 2590 | A | C5-C6-N1 | -11.68 | 111.86 | 117.70 |
| 12 | B | 351 | C | O4'-C1'-N1 | 11.67 | 117.54 | 108.20 |
| 12 | B | 1093 | G | N1-C2-N3 | -11.67 | 116.90 | 123.90 |
| 12 | B | 124 | G | C6-C5-N7 | -11.67 | 123.40 | 130.40 |
| 12 | B | 2341 | G | N3-C2-N2 | 11.67 | 128.07 | 119.90 |
| 12 | B | 2626 | C | N3-C4-N4 | 11.67 | 126.17 | 118.00 |
| 12 | B | 2882 | A | C4-C5-C6 | 11.67 | 122.83 | 117.00 |
| 12 | B | 1789 | A | N1-C6-N6 | 11.66 | 125.60 | 118.60 |
| 12 | B | 2670 | A | C5-C6-N1 | -11.66 | 111.87 | 117.70 |
| 12 | B | 2775 | G | C4-C5-N7 | -11.66 | 106.14 | 110.80 |
| 12 | B | 599 | A | C5-C6-N1 | -11.66 | 111.87 | 117.70 |
| 12 | B | 2538 | C | N3-C4-C5 | -11.66 | 117.23 | 121.90 |
| 12 | B | 318 | C | O4'-C1'-N1 | 11.66 | 117.53 | 108.20 |
| 12 | B | 879 | G | C5'-C4'-O4' | 11.66 | 123.09 | 109.10 |
| 13 | C | 101 | ARG | NE-CZ-NH2 | 11.66 | 126.13 | 120.30 |
| 12 | B | 1296 | G | C5-C6-O6 | -11.65 | 121.61 | 128.60 |
| 12 | B | 1197 | G | C8-N9-C4 | -11.65 | 101.74 | 106.40 |
| 12 | B | 2577 | A | N1-C6-N6 | 11.65 | 125.59 | 118.60 |
| 12 | B | 132 | G | N1-C6-O6 | 11.65 | 126.89 | 119.90 |
| 12 | B | 1100 | C | C5-C4-N4 | -11.65 | 112.05 | 120.20 |
| 12 | B | 2414 | G | N1-C6-O6 | 11.65 | 126.89 | 119.90 |
| 12 | B | 1275 | A | C5-C6-N1 | -11.65 | 111.88 | 117.70 |
| 12 | B | 2118 | U | C1'-O4'-C4' | -11.65 | 100.58 | 109.90 |
| 12 | B | 1822 | C | N3-C4-N4 | 11.64 | 126.15 | 118.00 |
| 12 | B | 2638 | G | N1-C6-O6 | 11.64 | 126.89 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 902 | C | N3-C4-N4 | 11.64 | 126.15 | 118.00 |
| 12 | B | 2618 | G | N1-C6-O6 | 11.64 | 126.88 | 119.90 |
| 12 | B | 2475 | C | N3-C4-N4 | 11.63 | 126.14 | 118.00 |
| 12 | B | 454 | A | N1-C6-N6 | 11.63 | 125.58 | 118.60 |
| 12 | B | 2005 | A | N1-C6-N6 | 11.63 | 125.58 | 118.60 |
| 12 | B | 1045 | C | N3-C4-N4 | 11.62 | 126.14 | 118.00 |
| 12 | B | 2389 | G | N1-C6-O6 | 11.62 | 126.88 | 119.90 |
| 12 | B | 1208 | C | O4'-C1'-N1 | 11.62 | 117.49 | 108.20 |
| 12 | B | 471 | A | C5-N7-C8 | 11.62 | 109.71 | 103.90 |
| 12 | B | 179 | C | O4'-C1'-N1 | 11.61 | 117.49 | 108.20 |
| 12 | B | 1415 | U | C5-C6-N1 | 11.61 | 128.50 | 122.70 |
| 12 | B | 2591 | C | N3-C4-N4 | 11.61 | 126.13 | 118.00 |
| 12 | B | 2877 | G | N1-C6-O6 | 11.61 | 126.86 | 119.90 |
| 12 | B | 619 | G | N1-C6-O6 | 11.60 | 126.86 | 119.90 |
| 12 | B | 2006 | C | N3-C4-N4 | 11.60 | 126.12 | 118.00 |
| 12 | B | 519 | U | O4'-C1'-N1 | 11.60 | 117.48 | 108.20 |
| 12 | B | 394 | C | C2-N3-C4 | 11.59 | 125.70 | 119.90 |
| 12 | B | 42 | A | C5-C6-N1 | -11.59 | 111.90 | 117.70 |
| 12 | B | 933 | A | N1-C6-N6 | 11.59 | 125.56 | 118.60 |
| 12 | B | 608 | A | C5-C6-N1 | -11.59 | 111.91 | 117.70 |
| 12 | B | 1137 | G | C5-C6-O6 | -11.59 | 121.65 | 128.60 |
| 12 | B | 1632 | A | C5-C6-N1 | -11.59 | 111.91 | 117.70 |
| 12 | B | 394 | C | N3-C4-C5 | -11.59 | 117.27 | 121.90 |
| 12 | B | 478 | A | C5-C6-N6 | -11.58 | 114.43 | 123.70 |
| 12 | B | 767 | U | O4'-C1'-N1 | 11.58 | 117.47 | 108.20 |
| 12 | B | 2373 | G | C5-C6-N1 | -11.58 | 105.71 | 111.50 |
| 12 | B | 1746 | A | C5-C6-N1 | -11.58 | 111.91 | 117.70 |
| 12 | B | 1964 | G | N1-C2-N3 | -11.58 | 116.95 | 123.90 |
| 12 | B | 427 | U | C5-C6-N1 | 11.58 | 128.49 | 122.70 |
| 12 | B | 1635 | A | C4-C5-C6 | 11.58 | 122.79 | 117.00 |
| 12 | B | 264 | C | N3-C4-N4 | 11.58 | 126.10 | 118.00 |
| 12 | B | 1590 | A | C4-C5-C6 | 11.58 | 122.79 | 117.00 |
| 12 | B | 1213 | A | N1-C6-N6 | 11.57 | 125.54 | 118.60 |
| 12 | B | 597 | G | N1-C6-O6 | 11.57 | 126.84 | 119.90 |
| 12 | B | 1603 | A | N9-C4-C5 | 11.57 | 110.43 | 105.80 |
| 12 | B | 1552 | A | C5-C6-N1 | -11.56 | 111.92 | 117.70 |
| 12 | B | 1725 | U | O4'-C1'-N1 | 11.56 | 117.45 | 108.20 |
| 15 | E | 158 | PHE | CB-CG-CD1 | -11.56 | 112.70 | 120.80 |
| 12 | B | 2307 | G | C2-N3-C4 | 11.56 | 117.68 | 111.90 |
| 12 | B | 2077 | A | N9-C4-C5 | 11.56 | 110.42 | 105.80 |
| 17 | G | 162 | ARG | NE-CZ-NH1 | 11.56 | 126.08 | 120.30 |
| 12 | B | 2461 | A | C5-C6-N6 | -11.56 | 114.45 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2670 | A | N1-C6-N6 | 11.56 | 125.53 | 118.60 |
| 12 | B | 2694 | G | N1-C6-O6 | 11.55 | 126.83 | 119.90 |
| 12 | B | 1567 | G | N1-C6-O6 | 11.55 | 126.83 | 119.90 |
| 12 | B | 1756 | G | C5-C6-O6 | -11.55 | 121.67 | 128.60 |
| 12 | B | 2148 | G | C5-C6-O6 | -11.55 | 121.67 | 128.60 |
| 12 | B | 61 | C | O4'-C1'-N1 | 11.55 | 117.44 | 108.20 |
| 12 | B | 579 | G | N1-C2-N3 | -11.55 | 116.97 | 123.90 |
| 12 | B | 2627 | G | N1-C6-O6 | 11.55 | 126.83 | 119.90 |
| 12 | B | 1555 | G | N1-C6-O6 | 11.55 | 126.83 | 119.90 |
| 12 | B | 1218 | G | C2-N3-C4 | 11.55 | 117.67 | 111.90 |
| 12 | B | 2814 | A | N1-C6-N6 | 11.54 | 125.53 | 118.60 |
| 12 | B | 1124 | G | C5-C6-O6 | -11.54 | 121.68 | 128.60 |
| 12 | B | 2892 | G | N1-C6-O6 | 11.54 | 126.82 | 119.90 |
| 12 | B | 1161 | C | O4'-C1'-N1 | 11.54 | 117.43 | 108.20 |
| 12 | B | 1479 | G | N1-C6-O6 | 11.54 | 126.82 | 119.90 |
| 12 | B | 1438 | U | O4'-C1'-N1 | 11.54 | 117.43 | 108.20 |
| 12 | B | 603 | A | C5-C6-N6 | -11.53 | 114.47 | 123.70 |
| 12 | B | 1096 | A | N1-C6-N6 | 11.53 | 125.52 | 118.60 |
| 12 | B | 1334 | G | C5-C6-O6 | -11.53 | 121.68 | 128.60 |
| 12 | B | 2428 | G | N1-C6-O6 | 11.53 | 126.82 | 119.90 |
| 12 | B | 2470 | G | C5-C6-O6 | -11.53 | 121.68 | 128.60 |
| 12 | B | 899 | A | N1-C6-N6 | 11.53 | 125.52 | 118.60 |
| 11 | A | 77 | U | C6-N1-C2 | -11.52 | 114.09 | 121.00 |
| 12 | B | 1750 | G | N1-C6-O6 | 11.52 | 126.81 | 119.90 |
| 12 | B | 4 | U | O4'-C1'-N1 | 11.52 | 117.42 | 108.20 |
| 12 | B | 1927 | A | C5-C6-N1 | -11.52 | 111.94 | 117.70 |
| 12 | B | 2547 | A | N1-C2-N3 | 11.52 | 135.06 | 129.30 |
| 12 | B | 1614 | A | N1-C6-N6 | 11.52 | 125.51 | 118.60 |
| 12 | B | 855 | G | C5-C6-O6 | -11.51 | 121.69 | 128.60 |
| 12 | B | 1206 | G | C5-C6-O6 | -11.51 | 121.69 | 128.60 |
| 12 | B | 987 | C | O4'-C1'-N1 | 11.51 | 117.41 | 108.20 |
| 27 | Q | 69 | ARG | NE-CZ-NH2 | 11.51 | 126.06 | 120.30 |
| 12 | B | 1129 | A | N1-C6-N6 | 11.51 | 125.50 | 118.60 |
| 12 | B | 820 | A | C4-C5-C6 | 11.51 | 122.75 | 117.00 |
| 12 | B | 170 | U | O4'-C1'-N1 | 11.50 | 117.40 | 108.20 |
| 12 | B | 1156 | A | N1-C2-N3 | 11.50 | 135.05 | 129.30 |
| 12 | B | 1424 | G | O4'-C1'-N9 | 11.50 | 117.40 | 108.20 |
| 12 | B | 1804 | C | C2-N3-C4 | 11.50 | 125.65 | 119.90 |
| 12 | B | 1805 | A | C5-C6-N6 | -11.50 | 114.50 | 123.70 |
| 12 | B | 2809 | A | N1-C6-N6 | 11.50 | 125.50 | 118.60 |
| 12 | B | 614 | A | C8-N9-C4 | -11.50 | 101.20 | 105.80 |
| 12 | B | 1002 | G | C5-C6-O6 | -11.50 | 121.70 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2815 | C | N3-C4-N4 | 11.50 | 126.05 | 118.00 |
| 12 | B | 650 | C | N3-C4-N4 | 11.49 | 126.05 | 118.00 |
| 12 | B | 780 | G | N1-C6-O6 | 11.49 | 126.80 | 119.90 |
| 12 | B | 986 | C | N3-C4-N4 | 11.49 | 126.04 | 118.00 |
| 12 | B | 1309 | G | C5-C6-O6 | -11.49 | 121.71 | 128.60 |
| 12 | B | 2400 | G | O4'-C1'-N9 | 11.49 | 117.39 | 108.20 |
| 12 | B | 2356 | U | O4'-C1'-N1 | 11.49 | 117.39 | 108.20 |
| 12 | B | 850 | U | C2-N3-C4 | -11.49 | 120.11 | 127.00 |
| 12 | B | 1634 | A | N1-C6-N6 | 11.48 | 125.49 | 118.60 |
| 12 | B | 339 | U | O4'-C1'-N1 | 11.48 | 117.39 | 108.20 |
| 12 | B | 370 | G | C8-N9-C4 | 11.48 | 110.99 | 106.40 |
| 12 | B | 922 | C | N3-C4-C5 | -11.48 | 117.31 | 121.90 |
| 12 | B | 726 | G | C5-C6-O6 | -11.48 | 121.71 | 128.60 |
| 12 | B | 2824 | C | C2-N3-C4 | 11.48 | 125.64 | 119.90 |
| 12 | B | 2341 | G | N1-C2-N3 | -11.47 | 117.02 | 123.90 |
| 12 | B | 1186 | G | O4'-C1'-N9 | 11.47 | 117.38 | 108.20 |
| 12 | B | 1343 | G | N1-C6-O6 | 11.47 | 126.78 | 119.90 |
| 12 | B | 1845 | G | C8-N9-C4 | -11.47 | 101.81 | 106.40 |
| 12 | B | 1617 | C | N3-C4-N4 | 11.47 | 126.03 | 118.00 |
| 12 | B | 2623 | G | N1-C6-O6 | 11.47 | 126.78 | 119.90 |
| 12 | B | 359 | G | N1-C6-O6 | 11.46 | 126.78 | 119.90 |
| 12 | B | 1157 | G | C6-C5-N7 | -11.46 | 123.52 | 130.40 |
| 12 | B | 1343 | G | C5-C6-N1 | -11.46 | 105.77 | 111.50 |
| 12 | B | 2887 | A | N1-C2-N3 | 11.46 | 135.03 | 129.30 |
| 12 | B | 462 | C | C6-N1-C2 | 11.46 | 124.89 | 120.30 |
| 12 | B | 591 | U | O4'-C1'-N1 | 11.46 | 117.37 | 108.20 |
| 12 | B | 2652 | C | N3-C4-N4 | 11.46 | 126.02 | 118.00 |
| 12 | B | 2761 | A | N7-C8-N9 | -11.46 | 108.07 | 113.80 |
| 12 | B | 2450 | A | C5-C6-N6 | -11.46 | 114.53 | 123.70 |
| 12 | B | 358 | U | O4'-C1'-N1 | 11.46 | 117.36 | 108.20 |
| 12 | B | 585 | G | N1-C6-O6 | 11.45 | 126.77 | 119.90 |
| 12 | B | 1086 | A | C5-C6-N1 | -11.45 | 111.97 | 117.70 |
| 12 | B | 1960 | A | N1-C6-N6 | 11.45 | 125.47 | 118.60 |
| 12 | B | 2867 | G | O4'-C1'-N9 | 11.45 | 117.36 | 108.20 |
| 12 | B | 465 | G | N1-C6-O6 | 11.45 | 126.77 | 119.90 |
| 12 | B | 1848 | A | C4-C5-C6 | 11.45 | 122.72 | 117.00 |
| 12 | B | 1855 | U | C2-N3-C4 | -11.45 | 120.13 | 127.00 |
| 12 | B | 522 | A | C4-C5-N7 | -11.44 | 104.98 | 110.70 |
| 12 | B | 2857 | G | C5-C6-O6 | -11.44 | 121.73 | 128.60 |
| 11 | A | 94 | A | C4-C5-C6 | 11.44 | 122.72 | 117.00 |
| 12 | B | 810 | U | O4'-C1'-N1 | 11.44 | 117.35 | 108.20 |
| 12 | B | 1966 | A | C5-N7-C8 | 11.44 | 109.62 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2426 | A | C5-C6-N6 | -11.44 | 114.55 | 123.70 |
| 12 | B | 1713 | A | N1-C6-N6 | 11.43 | 125.46 | 118.60 |
| 26 | P | 100 | ARG | NE-CZ-NH2 | 11.43 | 126.02 | 120.30 |
| 12 | B | 934 | U | O4'-C1'-N1 | 11.43 | 117.34 | 108.20 |
| 12 | B | 2417 | C | N3-C4-C5 | -11.43 | 117.33 | 121.90 |
| 12 | B | 2795 | C | P-O3'-C3' | 11.43 | 133.41 | 119.70 |
| 11 | A | 78 | A | C8-N9-C4 | -11.43 | 101.23 | 105.80 |
| 12 | B | 2289 | G | C8-N9-C4 | 11.42 | 110.97 | 106.40 |
| 12 | B | 965 | C | N3-C4-C5 | -11.42 | 117.33 | 121.90 |
| 12 | B | 2620 | C | O4'-C1'-N1 | 11.42 | 117.34 | 108.20 |
| 12 | B | 1596 | A | C5-C6-N1 | -11.42 | 111.99 | 117.70 |
| 12 | B | 1797 | G | N1-C6-O6 | 11.42 | 126.75 | 119.90 |
| 12 | B | 2792 | A | C5-C6-N1 | -11.42 | 111.99 | 117.70 |
| 12 | B | 382 | A | N9-C4-C5 | 11.41 | 110.36 | 105.80 |
| 12 | B | 517 | C | O4'-C1'-N1 | 11.41 | 117.33 | 108.20 |
| 12 | B | 1745 | A | C8-N9-C4 | -11.41 | 101.23 | 105.80 |
| 12 | B | 676 | A | N1-C6-N6 | 11.41 | 125.44 | 118.60 |
| 12 | B | 1179 | G | N1-C6-O6 | 11.41 | 126.75 | 119.90 |
| 21 | K | 31 | ARG | NE-CZ-NH1 | 11.41 | 126.00 | 120.30 |
| 12 | B | 1471 | G | N1-C6-O6 | 11.40 | 126.74 | 119.90 |
| 12 | B | 843 | G | C5-C6-O6 | -11.39 | 121.76 | 128.60 |
| 12 | B | 2685 | G | N1-C6-O6 | 11.39 | 126.74 | 119.90 |
| 12 | B | 2710 | C | N3-C4-N4 | 11.39 | 125.97 | 118.00 |
| 12 | B | 2676 | C | C5-C6-N1 | 11.39 | 126.69 | 121.00 |
| 16 | F | 142 | TYR | CB-CG-CD2 | -11.39 | 114.17 | 121.00 |
| 12 | B | 1290 | C | O4'-C1'-N1 | 11.38 | 117.30 | 108.20 |
| 12 | B | 781 | A | N1-C6-N6 | 11.38 | 125.43 | 118.60 |
| 12 | B | 849 | A | C5-C6-N1 | -11.38 | 112.01 | 117.70 |
| 12 | B | 485 | C | O4'-C1'-N1 | 11.37 | 117.30 | 108.20 |
| 12 | B | 686 | U | P-O3'-C3' | 11.37 | 133.35 | 119.70 |
| 12 | B | 885 | C | O4'-C1'-N1 | 11.37 | 117.30 | 108.20 |
| 12 | B | 2084 | C | O4'-C1'-N1 | 11.37 | 117.30 | 108.20 |
| 12 | B | 862 | G | C4-C5-N7 | 11.37 | 115.35 | 110.80 |
| 12 | B | 1311 | G | N1-C6-O6 | 11.37 | 126.72 | 119.90 |
| 15 | E | 170 | ARG | NE-CZ-NH2 | 11.37 | 125.98 | 120.30 |
| 12 | B | 173 | A | N1-C6-N6 | 11.36 | 125.42 | 118.60 |
| 12 | B | 1615 | C | O4'-C1'-N1 | 11.37 | 117.29 | 108.20 |
| 12 | B | 2603 | G | O4'-C1'-N9 | 11.36 | 117.29 | 108.20 |
| 19 | I | 133 | ARG | NE-CZ-NH2 | -11.36 | 114.62 | 120.30 |
| 12 | B | 384 | A | N1-C6-N6 | 11.36 | 125.41 | 118.60 |
| 12 | B | 417 | C | C6-N1-C2 | -11.35 | 115.76 | 120.30 |
| 12 | B | 535 | G | N1-C6-O6 | 11.35 | 126.71 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1961 | C | O4'-C1'-N1 | 11.35 | 117.28 | 108.20 |
| 11 | A | 33 | G | N3-C4-C5 | -11.35 | 122.92 | 128.60 |
| 12 | B | 1633 | G | C4-C5-N7 | -11.35 | 106.26 | 110.80 |
| 12 | B | 2179 | C | N3-C4-C5 | -11.35 | 117.36 | 121.90 |
| 12 | B | 2361 | G | C5-C6-O6 | -11.35 | 121.79 | 128.60 |
| 12 | B | 2389 | G | C5-C6-O6 | -11.34 | 121.80 | 128.60 |
| 12 | B | 1191 | G | N1-C6-O6 | 11.34 | 126.70 | 119.90 |
| 12 | B | 1566 | A | C5-N7-C8 | 11.34 | 109.57 | 103.90 |
| 12 | B | 1963 | U | P-O3'-C3' | -11.34 | 106.09 | 119.70 |
| 12 | B | 2461 | A | N1-C2-N3 | 11.34 | 134.97 | 129.30 |
| 12 | B | 691 | C | N3-C4-N4 | 11.34 | 125.93 | 118.00 |
| 12 | B | 2271 | G | C5-C6-N1 | -11.34 | 105.83 | 111.50 |
| 12 | B | 2371 | G | N3-C2-N2 | 11.33 | 127.83 | 119.90 |
| 12 | B | 902 | C | O4'-C1'-N1 | 11.33 | 117.27 | 108.20 |
| 12 | B | 1013 | C | N3-C4-C5 | -11.33 | 117.37 | 121.90 |
| 12 | B | 1652 | A | C8-N9-C4 | -11.33 | 101.27 | 105.80 |
| 12 | B | 2239 | G | C5-C6-N1 | -11.33 | 105.83 | 111.50 |
| 12 | B | 1665 | A | N1-C6-N6 | 11.33 | 125.40 | 118.60 |
| 12 | B | 2335 | A | N1-C6-N6 | 11.33 | 125.40 | 118.60 |
| 12 | B | 685 | A | C8-N9-C4 | -11.33 | 101.27 | 105.80 |
| 12 | B | 2263 | C | C6-N1-C2 | -11.33 | 115.77 | 120.30 |
| 12 | B | 183 | C | O4'-C1'-N1 | 11.32 | 117.26 | 108.20 |
| 12 | B | 727 | A | C5-C6-N1 | -11.32 | 112.04 | 117.70 |
| 12 | B | 536 | G | C5-C6-O6 | -11.32 | 121.81 | 128.60 |
| 12 | B | 189 | G | N1-C6-O6 | 11.32 | 126.69 | 119.90 |
| 12 | B | 1475 | G | C4-C5-C6 | 11.32 | 125.59 | 118.80 |
| 12 | B | 840 | C | O4'-C1'-N1 | 11.32 | 117.25 | 108.20 |
| 12 | B | 1140 | C | C5-C6-N1 | 11.32 | 126.66 | 121.00 |
| 12 | B | 2125 | G | N1-C6-O6 | 11.32 | 126.69 | 119.90 |
| 12 | B | 2343 | U | O4'-C1'-N1 | 11.31 | 117.25 | 108.20 |
| 12 | B | 1901 | A | N1-C6-N6 | 11.31 | 125.39 | 118.60 |
| 12 | B | 1738 | G | C8-N9-C4 | -11.31 | 101.88 | 106.40 |
| 12 | B | 2558 | C | O4'-C1'-N1 | 11.31 | 117.25 | 108.20 |
| 12 | B | 1989 | G | O4'-C1'-N9 | 11.31 | 117.25 | 108.20 |
| 12 | B | 2146 | C | N3-C4-C5 | -11.30 | 117.38 | 121.90 |
| 25 | O | 30 | ARG | NE-CZ-NH2 | -11.30 | 114.65 | 120.30 |
| 12 | B | 722 | A | N1-C6-N6 | 11.29 | 125.38 | 118.60 |
| 12 | B | 2416 | C | N3-C4-N4 | 11.29 | 125.90 | 118.00 |
| 28 | R | 90 | ARG | NE-CZ-NH2 | -11.29 | 114.65 | 120.30 |
| 12 | B | 2506 | U | C5-C6-N1 | 11.29 | 128.34 | 122.70 |
| 11 | A | 28 | C | O4'-C1'-N1 | 11.29 | 117.23 | 108.20 |
| 12 | B | 160 | A | N7-C8-N9 | -11.29 | 108.16 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 2584 | U | O4'-C1'-N1 | 11.29 | 117.23 | 108.20 |
| 12 | B | 659 | G | C5-C6-O6 | -11.28 | 121.83 | 128.60 |
| 12 | B | 1139 | G | C4-C5-C6 | 11.28 | 125.57 | 118.80 |
| 12 | B | 2362 | C | O4'-C1'-N1 | 11.28 | 117.22 | 108.20 |
| 12 | B | 2588 | G | N1-C2-N3 | -11.28 | 117.13 | 123.90 |
| 11 | A | 12 | C | C5-C6-N1 | -11.28 | 115.36 | 121.00 |
| 12 | B | 701 | G | C5-C6-O6 | -11.28 | 121.83 | 128.60 |
| 12 | B | 343 | C | N3-C4-N4 | 11.27 | 125.89 | 118.00 |
| 12 | B | 507 | A | C2-N3-C4 | -11.27 | 104.96 | 110.60 |
| 29 | S | 11 | ARG | NE-CZ-NH2 | -11.27 | 114.67 | 120.30 |
| 12 | B | 1275 | A | O4'-C1'-N9 | 11.27 | 117.22 | 108.20 |
| 12 | B | 1942 | C | N3-C4-C5 | -11.27 | 117.39 | 121.90 |
| 12 | B | 215 | G | C4-C5-C6 | 11.27 | 125.56 | 118.80 |
| 12 | B | 597 | G | C5-C6-O6 | -11.27 | 121.84 | 128.60 |
| 12 | B | 2355 | G | C4-C5-N7 | 11.27 | 115.31 | 110.80 |
| 12 | B | 2485 | G | C5-C6-O6 | -11.27 | 121.84 | 128.60 |
| 12 | B | 2848 | G | N1-C6-O6 | 11.27 | 126.66 | 119.90 |
| 12 | B | 110 | G | C4'-C3'-C2' | -11.26 | 91.34 | 102.60 |
| 12 | B | 2548 | U | N3-C4-C5 | -11.26 | 107.84 | 114.60 |
| 12 | B | 2813 | A | N1-C6-N6 | 11.26 | 125.36 | 118.60 |
| 12 | B | 2567 | G | N1-C6-O6 | 11.26 | 126.66 | 119.90 |
| 12 | B | 66 | C | C4-C5-C6 | 11.25 | 123.02 | 117.40 |
| 12 | B | 406 | G | C5-C6-N1 | -11.25 | 105.88 | 111.50 |
| 12 | B | 887 | U | O4'-C1'-N1 | 11.24 | 117.19 | 108.20 |
| 12 | B | 941 | A | C5-C6-N1 | -11.24 | 112.08 | 117.70 |
| 12 | B | 1359 | A | N1-C6-N6 | 11.24 | 125.35 | 118.60 |
| 12 | B | 2729 | G | N1-C6-O6 | 11.24 | 126.64 | 119.90 |
| 12 | B | 1048 | A | N1-C6-N6 | 11.24 | 125.34 | 118.60 |
| 12 | B | 2737 | G | N1-C6-O6 | 11.24 | 126.64 | 119.90 |
| 12 | B | 859 | G | N1-C6-O6 | 11.24 | 126.64 | 119.90 |
| 12 | B | 2472 | G | C6-C5-N7 | -11.24 | 123.66 | 130.40 |
| 12 | B | 956 | G | C5-C6-N1 | -11.23 | 105.88 | 111.50 |
| 12 | B | 2013 | A | C4-C5-C6 | 11.23 | 122.62 | 117.00 |
| 12 | B | 2513 | A | N1-C6-N6 | 11.23 | 125.34 | 118.60 |
| 12 | B | 2029 | G | C5-C6-O6 | -11.23 | 121.86 | 128.60 |
| 12 | B | 2034 | U | O4'-C1'-N1 | 11.23 | 117.19 | 108.20 |
| 12 | B | 1029 | A | N1-C6-N6 | 11.23 | 125.34 | 118.60 |
| 26 | P | 50 | ARG | NE-CZ-NH2 | 11.23 | 125.92 | 120.30 |
| 12 | B | 819 | A | N1-C6-N6 | 11.23 | 125.34 | 118.60 |
| 12 | B | 525 | U | O4'-C1'-N1 | 11.22 | 117.18 | 108.20 |
| 12 | B | 1221 | C | N3-C4-C5 | -11.22 | 117.41 | 121.90 |
| 12 | B | 13 | A | C5-C6-N6 | -11.22 | 114.72 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1824 | G | C5-C6-O6 | -11.22 | 121.87 | 128.60 |
| 12 | B | 33 | C | C5-C4-N4 | -11.22 | 112.35 | 120.20 |
| 12 | B | 922 | C | C4-C5-C6 | 11.22 | 123.01 | 117.40 |
| 12 | B | 2288 | A | C5-C6-N1 | -11.22 | 112.09 | 117.70 |
| 12 | B | 2353 | G | C4-C5-N7 | 11.22 | 115.29 | 110.80 |
| 12 | B | 429 | A | N1-C6-N6 | 11.21 | 125.33 | 118.60 |
| 12 | B | 94 | A | C4-C5-C6 | 11.21 | 122.61 | 117.00 |
| 12 | B | 218 | A | C5-C6-N1 | -11.21 | 112.09 | 117.70 |
| 12 | B | 317 | G | C5-C6-O6 | -11.21 | 121.87 | 128.60 |
| 12 | B | 789 | A | C4-C5-C6 | 11.21 | 122.61 | 117.00 |
| 12 | B | 1698 | A | N1-C6-N6 | 11.21 | 125.33 | 118.60 |
| 12 | B | 1162 | G | N3-C2-N2 | 11.21 | 127.75 | 119.90 |
| 12 | B | 745 | G | N1-C6-O6 | 11.21 | 126.62 | 119.90 |
| 12 | B | 773 | U | O4'-C1'-N1 | 11.20 | 117.16 | 108.20 |
| 12 | B | 2229 | U | C2-N3-C4 | 11.20 | 133.72 | 127.00 |
| 12 | B | 1116 | G | N1-C2-N3 | -11.20 | 117.18 | 123.90 |
| 12 | B | 2715 | C | O4'-C1'-N1 | 11.20 | 117.16 | 108.20 |
| 12 | B | 671 | C | N3-C4-C5 | -11.20 | 117.42 | 121.90 |
| 12 | B | 348 | A | C5-C6-N1 | -11.19 | 112.10 | 117.70 |
| 12 | B | 1673 | G | N1-C6-O6 | 11.19 | 126.61 | 119.90 |
| 11 | A | 97 | C | N3-C4-C5 | -11.19 | 117.42 | 121.90 |
| 12 | B | 477 | A | O4'-C1'-N9 | 11.19 | 117.15 | 108.20 |
| 12 | B | 1745 | A | C4-C5-C6 | 11.19 | 122.59 | 117.00 |
| 12 | B | 34 | U | C2-N1-C1' | 11.18 | 131.12 | 117.70 |
| 12 | B | 2013 | A | C5-C6-N1 | -11.18 | 112.11 | 117.70 |
| 12 | B | 2189 | U | O4'-C1'-N1 | 11.18 | 117.15 | 108.20 |
| 12 | B | 643 | A | N1-C2-N3 | 11.18 | 134.89 | 129.30 |
| 12 | B | 829 | A | N1-C6-N6 | 11.18 | 125.31 | 118.60 |
| 12 | B | 1230 | A | N1-C2-N3 | -11.18 | 123.71 | 129.30 |
| 12 | B | 1261 | C | C5-C4-N4 | -11.18 | 112.38 | 120.20 |
| 11 | A | 20 | G | N3-C4-N9 | -11.17 | 119.30 | 126.00 |
| 12 | B | 648 | G | C5-C6-O6 | -11.17 | 121.89 | 128.60 |
| 12 | B | 1013 | C | N3-C4-N4 | 11.17 | 125.82 | 118.00 |
| 12 | B | 1077 | A | N1-C6-N6 | 11.17 | 125.30 | 118.60 |
| 12 | B | 1343 | G | C8-N9-C4 | -11.17 | 101.93 | 106.40 |
| 12 | B | 1776 | G | C2-N3-C4 | 11.17 | 117.49 | 111.90 |
| 12 | B | 2331 | G | N9-C4-C5 | -11.17 | 100.93 | 105.40 |
| 12 | B | 62 | U | C5-C6-N1 | 11.17 | 128.28 | 122.70 |
| 12 | B | 865 | C | O4'-C1'-N1 | 11.17 | 117.14 | 108.20 |
| 12 | B | 2184 | A | C5-C6-N1 | -11.17 | 112.11 | 117.70 |
| 11 | A | 54 | G | N1-C6-O6 | 11.17 | 126.60 | 119.90 |
| 12 | B | 1942 | C | C2-N3-C4 | 11.16 | 125.48 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1742 | U | C5-C4-O4 | -11.16 | 119.20 | 125.90 |
| 12 | B | 2787 | C | C5-C6-N1 | -11.16 | 115.42 | 121.00 |
| 12 | B | 1877 | A | N1-C6-N6 | 11.16 | 125.30 | 118.60 |
| 12 | B | 2336 | A | C5-C6-N1 | -11.16 | 112.12 | 117.70 |
| 12 | B | 2337 | G | C5-C6-O6 | -11.15 | 121.91 | 128.60 |
| 12 | B | 941 | A | N1-C2-N3 | 11.15 | 134.88 | 129.30 |
| 12 | B | 1018 | U | C6-N1-C2 | 11.15 | 127.69 | 121.00 |
| 12 | B | 2216 | G | N1-C6-O6 | 11.15 | 126.59 | 119.90 |
| 12 | B | 667 | U | C5-C6-N1 | 11.15 | 128.28 | 122.70 |
| 12 | B | 944 | C | C2-N3-C4 | 11.15 | 125.47 | 119.90 |
| 12 | B | 1366 | A | N1-C6-N6 | 11.15 | 125.29 | 118.60 |
| 12 | B | 1889 | A | N1-C6-N6 | 11.15 | 125.29 | 118.60 |
| 12 | B | 1690 | A | N1-C2-N3 | 11.14 | 134.87 | 129.30 |
| 12 | B | 25 | U | C5-C6-N1 | 11.14 | 128.27 | 122.70 |
| 12 | B | 253 | C | O4'-C1'-N1 | 11.14 | 117.11 | 108.20 |
| 12 | B | 1788 | C | C6-N1-C2 | -11.14 | 115.84 | 120.30 |
| 12 | B | 1198 | U | N1-C2-O2 | 11.14 | 130.60 | 122.80 |
| 4 | 3 | 9 | ARG | NE-CZ-NH2 | 11.13 | 125.87 | 120.30 |
| 11 | A | 92 | C | O4'-C1'-N1 | 11.13 | 117.11 | 108.20 |
| 11 | A | 91 | C | O4'-C1'-N1 | 11.13 | 117.10 | 108.20 |
| 12 | B | 2676 | C | O4'-C1'-N1 | 11.13 | 117.10 | 108.20 |
| 12 | B | 178 | G | C5-C6-N1 | -11.12 | 105.94 | 111.50 |
| 12 | B | 2736 | A | N1-C6-N6 | 11.13 | 125.28 | 118.60 |
| 12 | B | 285 | G | C5-C6-O6 | -11.12 | 121.93 | 128.60 |
| 12 | B | 784 | G | O4'-C1'-N9 | 11.12 | 117.10 | 108.20 |
| 12 | B | 124 | G | N3-C4-C5 | -11.12 | 123.04 | 128.60 |
| 12 | B | 1770 | G | N7-C8-N9 | 11.12 | 118.66 | 113.10 |
| 12 | B | 2032 | G | N1-C6-O6 | 11.12 | 126.57 | 119.90 |
| 12 | B | 2396 | G | C6-C5-N7 | -11.12 | 123.73 | 130.40 |
| 12 | B | 2639 | A | N1-C6-N6 | 11.12 | 125.27 | 118.60 |
| 12 | B | 2852 | G | N1-C6-O6 | 11.12 | 126.57 | 119.90 |
| 12 | B | 155 | A | C4-C5-C6 | 11.12 | 122.56 | 117.00 |
| 12 | B | 1853 | A | N7-C8-N9 | -11.12 | 108.24 | 113.80 |
| 11 | A | 33 | G | C5-C6-O6 | -11.11 | 121.93 | 128.60 |
| 12 | B | 212 | G | N1-C6-O6 | 11.11 | 126.57 | 119.90 |
| 12 | B | 2080 | A | C5-C6-N1 | -11.11 | 112.14 | 117.70 |
| 12 | B | 825 | A | C4-C5-C6 | 11.11 | 122.55 | 117.00 |
| 12 | B | 161 | A | N1-C6-N6 | 11.11 | 125.26 | 118.60 |
| 12 | B | 1175 | A | N1-C6-N6 | 11.11 | 125.26 | 118.60 |
| 12 | B | 402 | A | N1-C6-N6 | 11.10 | 125.26 | 118.60 |
| 12 | B | 1624 | U | O4'-C1'-N1 | 11.10 | 117.08 | 108.20 |
| 12 | B | 1863 | G | N9-C4-C5 | 11.10 | 109.84 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2086 | U | O4'-C1'-N1 | 11.10 | 117.08 | 108.20 |
| 12 | B | 2093 | G | C8-N9-C4 | -11.10 | 101.96 | 106.40 |
| 12 | B | 1076 | C | N3-C4-C5 | -11.10 | 117.46 | 121.90 |
| 12 | B | 1395 | A | O4'-C1'-N9 | 11.10 | 117.08 | 108.20 |
| 12 | B | 2867 | G | C4-C5-C6 | 11.09 | 125.45 | 118.80 |
| 12 | B | 2752 | C | C6-N1-C2 | -11.09 | 115.86 | 120.30 |
| 11 | A | 116 | G | O4'-C1'-N9 | 11.09 | 117.07 | 108.20 |
| 12 | B | 126 | A | N1-C6-N6 | 11.09 | 125.25 | 118.60 |
| 12 | B | 687 | C | C6-N1-C2 | -11.08 | 115.87 | 120.30 |
| 12 | B | 2769 | U | O4'-C1'-N1 | 11.08 | 117.06 | 108.20 |
| 12 | B | 2616 | C | O4'-C1'-N1 | 11.07 | 117.06 | 108.20 |
| 12 | B | 2883 | A | N1-C6-N6 | 11.07 | 125.24 | 118.60 |
| 12 | B | 1488 | C | O4'-C1'-N1 | 11.07 | 117.06 | 108.20 |
| 12 | B | 1579 | A | C4-C5-C6 | 11.07 | 122.54 | 117.00 |
| 12 | B | 726 | G | N1-C6-O6 | 11.07 | 126.54 | 119.90 |
| 12 | B | 1222 | U | O4'-C1'-N1 | 11.07 | 117.05 | 108.20 |
| 12 | B | 768 | G | C5-C6-O6 | -11.06 | 121.96 | 128.60 |
| 8 | 7 | 13 | PHE | CB-CG-CD2 | -11.06 | 113.06 | 120.80 |
| 12 | B | 956 | G | C6-C5-N7 | -11.06 | 123.76 | 130.40 |
| 12 | B | 1839 | G | N9-C4-C5 | 11.06 | 109.82 | 105.40 |
| 12 | B | 526 | A | C5-C6-N1 | 11.05 | 123.23 | 117.70 |
| 12 | B | 846 | U | O4'-C1'-N1 | 11.05 | 117.04 | 108.20 |
| 12 | B | 891 | G | C4-C5-C6 | 11.05 | 125.43 | 118.80 |
| 12 | B | 1254 | A | O4'-C1'-N9 | 11.05 | 117.04 | 108.20 |
| 12 | B | 1667 | G | N9-C4-C5 | -11.05 | 100.98 | 105.40 |
| 12 | B | 1853 | A | C5-N7-C8 | 11.05 | 109.43 | 103.90 |
| 12 | B | 330 | A | C4-C5-C6 | 11.05 | 122.53 | 117.00 |
| 12 | B | 1073 | A | C5-C6-N6 | -11.05 | 114.86 | 123.70 |
| 12 | B | 2019 | A | O4'-C1'-N9 | 11.05 | 117.04 | 108.20 |
| 12 | B | 2218 | G | N9-C4-C5 | -11.05 | 100.98 | 105.40 |
| 12 | B | 680 | C | N3-C4-N4 | 11.05 | 125.73 | 118.00 |
| 12 | B | 2377 | A | N1-C2-N3 | 11.04 | 134.82 | 129.30 |
| 12 | B | 537 | G | N7-C8-N9 | 11.04 | 118.62 | 113.10 |
| 12 | B | 1806 | C | N3-C4-N4 | 11.04 | 125.73 | 118.00 |
| 12 | B | 2212 | A | O4'-C1'-N9 | 11.04 | 117.03 | 108.20 |
| 12 | B | 2344 | U | P-O3'-C3' | 11.04 | 132.95 | 119.70 |
| 12 | B | 2072 | C | N3-C4-C5 | -11.04 | 117.48 | 121.90 |
| 12 | B | 1528 | A | C5-C6-N1 | -11.03 | 112.18 | 117.70 |
| 11 | A | 104 | A | C5-C6-N6 | -11.03 | 114.88 | 123.70 |
| 12 | B | 329 | G | C4-C5-N7 | -11.03 | 106.39 | 110.80 |
| 27 | Q | 49 | ARG | NE-CZ-NH1 | 11.03 | 125.82 | 120.30 |
| 12 | B | 442 | G | N1-C2-N3 | -11.03 | 117.28 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1289 | C | O4'-C1'-N1 | 11.03 | 117.02 | 108.20 |
| 12 | B | 108 | G | N9-C4-C5 | -11.03 | 100.99 | 105.40 |
| 12 | B | 2402 | U | C2-N1-C1' | 11.03 | 130.93 | 117.70 |
| 12 | B | 1437 | C | O4'-C1'-N1 | 11.02 | 117.02 | 108.20 |
| 12 | B | 2183 | A | N1-C6-N6 | 11.02 | 125.21 | 118.60 |
| 11 | A | 103 | U | C5-C4-O4 | -11.02 | 119.29 | 125.90 |
| 12 | B | 2796 | U | C2-N3-C4 | 11.02 | 133.61 | 127.00 |
| 12 | B | 263 | G | C8-N9-C4 | -11.01 | 102.00 | 106.40 |
| 12 | B | 2153 | C | C5-C4-N4 | -11.01 | 112.49 | 120.20 |
| 12 | B | 2558 | C | N3-C4-C5 | -11.01 | 117.50 | 121.90 |
| 12 | B | 2523 | G | C5-C6-O6 | -11.01 | 121.99 | 128.60 |
| 12 | B | 2879 | A | C5-C6-N6 | -11.01 | 114.89 | 123.70 |
| 12 | B | 862 | G | N1-C6-O6 | 11.01 | 126.50 | 119.90 |
| 12 | B | 1395 | A | C5-C6-N1 | -11.01 | 112.20 | 117.70 |
| 12 | B | 1823 | G | C5-C6-O6 | -11.01 | 122.00 | 128.60 |
| 12 | B | 515 | A | C8-N9-C4 | -11.00 | 101.40 | 105.80 |
| 12 | B | 2583 | G | N1-C6-O6 | 11.00 | 126.50 | 119.90 |
| 11 | A | 92 | C | N3-C4-N4 | 11.00 | 125.70 | 118.00 |
| 12 | B | 1537 | G | P-O3'-C3' | 11.00 | 132.90 | 119.70 |
| 12 | B | 2143 | C | N3-C4-C5 | -11.00 | 117.50 | 121.90 |
| 12 | B | 2391 | G | P-O3'-C3' | 11.00 | 132.90 | 119.70 |
| 12 | B | 1151 | A | C5-C6-N6 | -10.99 | 114.90 | 123.70 |
| 11 | A | 118 | C | C2-N3-C4 | 10.99 | 125.40 | 119.90 |
| 12 | B | 2377 | A | C5-C6-N6 | -10.99 | 114.91 | 123.70 |
| 12 | B | 2663 | G | C8-N9-C4 | -10.99 | 102.00 | 106.40 |
| 12 | B | 591 | U | N1-C2-N3 | -10.99 | 108.31 | 114.90 |
| 12 | B | 1381 | G | N1-C6-O6 | 10.99 | 126.49 | 119.90 |
| 12 | B | 2331 | G | N1-C6-O6 | 10.99 | 126.49 | 119.90 |
| 12 | B | 829 | A | N1-C2-N3 | -10.99 | 123.81 | 129.30 |
| 12 | B | 2841 | C | O4'-C1'-N1 | 10.99 | 116.99 | 108.20 |
| 11 | A | 52 | A | C5-C6-N6 | -10.99 | 114.91 | 123.70 |
| 12 | B | 1269 | A | C4-C5-C6 | 10.99 | 122.49 | 117.00 |
| 12 | B | 138 | U | C2-N3-C4 | 10.98 | 133.59 | 127.00 |
| 12 | B | 2191 | A | C5-C6-N6 | -10.98 | 114.91 | 123.70 |
| 12 | B | 15 | G | C5-C6-O6 | -10.98 | 122.01 | 128.60 |
| 12 | B | 110 | G | C5-C6-O6 | -10.98 | 122.01 | 128.60 |
| 12 | B | 429 | A | N9-C4-C5 | 10.98 | 110.19 | 105.80 |
| 12 | B | 1551 | A | P-O3'-C3' | 10.98 | 132.88 | 119.70 |
| 12 | B | 2161 | C | O4'-C1'-N1 | 10.98 | 116.98 | 108.20 |
| 12 | B | 2469 | A | N1-C2-N3 | 10.98 | 134.79 | 129.30 |
| 12 | B | 2780 | G | C5-C6-O6 | -10.98 | 122.01 | 128.60 |
| 12 | B | 2847 | U | O4'-C1'-N1 | 10.98 | 116.98 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 1268 | A | C4-C5-N7 | -10.98 | 105.21 | 110.70 |
| 4 | 3 | 15 | ARG | NE-CZ-NH1 | -10.98 | 114.81 | 120.30 |
| 12 | B | 868 | U | C2-N3-C4 | 10.98 | 133.59 | 127.00 |
| 12 | B | 1134 | A | C4-C5-C6 | 10.98 | 122.49 | 117.00 |
| 12 | B | 2030 | A | C4-C5-C6 | 10.98 | 122.49 | 117.00 |
| 12 | B | 2579 | C | N1-C2-O2 | -10.98 | 112.31 | 118.90 |
| 12 | B | 948 | C | C5-C6-N1 | 10.97 | 126.49 | 121.00 |
| 12 | B | 1715 | G | C5-C6-O6 | -10.97 | 122.02 | 128.60 |
| 12 | B | 878 | A | N1-C6-N6 | 10.97 | 125.18 | 118.60 |
| 12 | B | 478 | A | C8-N9-C4 | -10.97 | 101.41 | 105.80 |
| 12 | B | 2420 | C | C3'-C2'-C1' | -10.97 | 92.72 | 101.50 |
| 12 | B | 2523 | G | N1-C6-O6 | 10.97 | 126.48 | 119.90 |
| 28 | R | 35 | PHE | CB-CG-CD1 | 10.96 | 128.47 | 120.80 |
| 12 | B | 1475 | G | N1-C6-O6 | 10.96 | 126.48 | 119.90 |
| 12 | B | 2739 | U | C5-C4-O4 | -10.96 | 119.32 | 125.90 |
| 12 | B | 1505 | A | C8-N9-C4 | -10.96 | 101.42 | 105.80 |
| 12 | B | 619 | G | O4'-C1'-N9 | 10.95 | 116.96 | 108.20 |
| 12 | B | 632 | A | C4-C5-C6 | 10.95 | 122.48 | 117.00 |
| 12 | B | 2602 | A | C4-C5-C6 | 10.95 | 122.48 | 117.00 |
| 12 | B | 2681 | C | N3-C4-C5 | -10.95 | 117.52 | 121.90 |
| 12 | B | 2549 | G | C6-N1-C2 | 10.95 | 131.67 | 125.10 |
| 12 | B | 538 | A | C4-C5-C6 | 10.95 | 122.48 | 117.00 |
| 12 | B | 2882 | A | C5-C6-N1 | -10.95 | 112.22 | 117.70 |
| 12 | B | 1544 | A | N1-C2-N3 | -10.95 | 123.83 | 129.30 |
| 12 | B | 2888 | C | N3-C4-N4 | 10.95 | 125.66 | 118.00 |
| 12 | B | 1721 | G | C2-N3-C4 | 10.95 | 117.37 | 111.90 |
| 12 | B | 1753 | G | N1-C6-O6 | 10.95 | 126.47 | 119.90 |
| 12 | B | 2284 | A | N1-C6-N6 | 10.95 | 125.17 | 118.60 |
| 12 | B | 24 | G | O4'-C1'-N9 | 10.94 | 116.95 | 108.20 |
| 12 | B | 520 | G | C5-C6-N1 | -10.94 | 106.03 | 111.50 |
| 12 | B | 859 | G | P-O3'-C3' | 10.94 | 132.83 | 119.70 |
| 12 | B | 1235 | G | N3-C2-N2 | 10.94 | 127.56 | 119.90 |
| 12 | B | 1494 | A | O4'-C1'-N9 | 10.94 | 116.95 | 108.20 |
| 12 | B | 1795 | C | N3-C4-C5 | -10.94 | 117.53 | 121.90 |
| 12 | B | 1422 | G | N3-C4-C5 | 10.93 | 134.07 | 128.60 |
| 12 | B | 863 | A | O4'-C1'-N9 | 10.93 | 116.94 | 108.20 |
| 12 | B | 939 | G | O4'-C1'-N9 | 10.93 | 116.95 | 108.20 |
| 12 | B | 2104 | C | O4'-C1'-N1 | 10.93 | 116.95 | 108.20 |
| 11 | A | 67 | G | C6-C5-N7 | -10.93 | 123.84 | 130.40 |
| 12 | B | 425 | G | C5-C6-O6 | -10.93 | 122.04 | 128.60 |
| 12 | B | 2044 | C | N3-C4-C5 | -10.93 | 117.53 | 121.90 |
| 12 | B | 2645 | G | N1-C6-O6 | 10.93 | 126.46 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1100 | C | N3-C4-N4 | 10.93 | 125.65 | 118.00 |
| 12 | B | 1676 | A | C5-N7-C8 | 10.93 | 109.36 | 103.90 |
| 12 | B | 732 | C | C5-C4-N4 | -10.93 | 112.55 | 120.20 |
| 12 | B | 1858 | A | N1-C6-N6 | 10.93 | 125.16 | 118.60 |
| 12 | B | 1988 | G | C5-C6-O6 | -10.93 | 122.05 | 128.60 |
| 12 | B | 2232 | C | N3-C4-C5 | -10.93 | 117.53 | 121.90 |
| 12 | B | 704 | G | N3-C2-N2 | 10.92 | 127.55 | 119.90 |
| 12 | B | 797 | G | N3-C2-N2 | 10.92 | 127.55 | 119.90 |
| 11 | A | 113 | C | C6-N1-C2 | 10.92 | 124.67 | 120.30 |
| 12 | B | 1524 | G | N3-C2-N2 | 10.92 | 127.54 | 119.90 |
| 12 | B | 2041 | U | O4'-C1'-N1 | 10.92 | 116.94 | 108.20 |
| 12 | B | 1686 | C | O4'-C1'-N1 | 10.92 | 116.93 | 108.20 |
| 12 | B | 2616 | C | C2-N3-C4 | 10.92 | 125.36 | 119.90 |
| 12 | B | 2810 | A | C8-N9-C4 | -10.92 | 101.43 | 105.80 |
| 12 | B | 1692 | U | N3-C2-O2 | 10.91 | 129.84 | 122.20 |
| 12 | B | 1025 | G | N1-C6-O6 | 10.91 | 126.45 | 119.90 |
| 12 | B | 2486 | C | N3-C4-N4 | 10.91 | 125.64 | 118.00 |
| 12 | B | 2670 | A | O4'-C1'-N9 | 10.91 | 116.93 | 108.20 |
| 12 | B | 1373 | A | N1-C6-N6 | 10.91 | 125.15 | 118.60 |
| 12 | B | 880 | G | P-O3'-C3' | 10.91 | 132.79 | 119.70 |
| 12 | B | 1091 | G | N3-C4-C5 | -10.91 | 123.15 | 128.60 |
| 12 | B | 1433 | A | C5-C6-N1 | -10.91 | 112.25 | 117.70 |
| 12 | B | 507 | A | N7-C8-N9 | 10.90 | 119.25 | 113.80 |
| 12 | B | 1147 | A | O4'-C1'-N9 | 10.90 | 116.92 | 108.20 |
| 12 | B | 2648 | G | O4'-C1'-N9 | 10.90 | 116.92 | 108.20 |
| 12 | B | 1900 | A | C8-N9-C4 | -10.90 | 101.44 | 105.80 |
| 12 | B | 2880 | C | N1-C2-O2 | 10.90 | 125.44 | 118.90 |
| 12 | B | 1858 | A | C4-C5-C6 | 10.90 | 122.45 | 117.00 |
| 12 | B | 324 | A | C5-C6-N6 | -10.90 | 114.98 | 123.70 |
| 12 | B | 422 | A | C4-C5-C6 | 10.90 | 122.45 | 117.00 |
| 12 | B | 1435 | G | C2-N3-C4 | -10.90 | 106.45 | 111.90 |
| 12 | B | 1494 | A | C5-C6-N6 | -10.90 | 114.98 | 123.70 |
| 12 | B | 232 | G | N3-C2-N2 | 10.89 | 127.53 | 119.90 |
| 12 | B | 1696 | G | N9-C4-C5 | 10.89 | 109.76 | 105.40 |
| 12 | B | 1424 | G | C2-N3-C4 | 10.89 | 117.35 | 111.90 |
| 12 | B | 1545 | A | C4-C5-C6 | 10.89 | 122.45 | 117.00 |
| 12 | B | 2837 | A | C5-C6-N6 | -10.89 | 114.99 | 123.70 |
| 12 | B | 2014 | A | C5-C6-N6 | -10.89 | 114.99 | 123.70 |
| 12 | B | 25 | U | O4'-C1'-N1 | 10.89 | 116.91 | 108.20 |
| 12 | B | 149 | A | N1-C6-N6 | 10.89 | 125.13 | 118.60 |
| 12 | B | 2361 | G | C2-N3-C4 | -10.89 | 106.46 | 111.90 |
| 12 | B | 2811 | G | N1-C6-O6 | 10.89 | 126.43 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 407 | G | C5-C6-N1 | -10.88 | 106.06 | 111.50 |
| 12 | B | 94 | A | N1-C6-N6 | 10.88 | 125.13 | 118.60 |
| 12 | B | 178 | G | O4'-C1'-N9 | 10.88 | 116.91 | 108.20 |
| 12 | B | 566 | U | N3-C2-O2 | 10.88 | 129.82 | 122.20 |
| 12 | B | 2031 | A | N3-C4-C5 | -10.88 | 119.18 | 126.80 |
| 12 | B | 2735 | G | N1-C6-O6 | 10.88 | 126.43 | 119.90 |
| 12 | B | 2059 | A | C4-C5-C6 | 10.88 | 122.44 | 117.00 |
| 12 | B | 573 | U | O4'-C1'-N1 | 10.88 | 116.90 | 108.20 |
| 12 | B | 176 | A | C5-C6-N6 | -10.88 | 115.00 | 123.70 |
| 12 | B | 1598 | A | C4-C5-C6 | 10.87 | 122.44 | 117.00 |
| 12 | B | 266 | G | O4'-C1'-N9 | 10.87 | 116.89 | 108.20 |
| 12 | B | 470 | A | C5-C6-N1 | -10.87 | 112.27 | 117.70 |
| 12 | B | 1004 | U | C5-C4-O4 | -10.87 | 119.38 | 125.90 |
| 12 | B | 1239 | G | O4'-C1'-N9 | 10.87 | 116.89 | 108.20 |
| 12 | B | 2662 | A | C5-C6-N6 | -10.87 | 115.01 | 123.70 |
| 12 | B | 1849 | G | C5-C6-O6 | -10.86 | 122.08 | 128.60 |
| 12 | B | 1983 | G | N3-C4-N9 | -10.86 | 119.48 | 126.00 |
| 12 | B | 2493 | U | C2-N3-C4 | -10.86 | 120.48 | 127.00 |
| 12 | B | 2741 | A | C4-C5-C6 | 10.86 | 122.43 | 117.00 |
| 11 | A | 21 | G | C5-C6-N1 | -10.86 | 106.07 | 111.50 |
| 12 | B | 1701 | A | N1-C6-N6 | 10.86 | 125.11 | 118.60 |
| 12 | B | 1592 | C | O4'-C1'-N1 | 10.86 | 116.89 | 108.20 |
| 12 | B | 1900 | A | N7-C8-N9 | 10.86 | 119.23 | 113.80 |
| 12 | B | 2119 | A | O4'-C1'-N9 | 10.86 | 116.88 | 108.20 |
| 12 | B | 2296 | U | C5-C6-N1 | 10.86 | 128.13 | 122.70 |
| 12 | B | 764 | A | C5-C6-N6 | -10.85 | 115.02 | 123.70 |
| 12 | B | 784 | G | C4-C5-N7 | 10.85 | 115.14 | 110.80 |
| 12 | B | 1410 | G | N1-C2-N3 | -10.85 | 117.39 | 123.90 |
| 12 | B | 1934 | C | O4'-C1'-N1 | 10.85 | 116.88 | 108.20 |
| 12 | B | 2818 | U | N3-C4-O4 | 10.85 | 127.00 | 119.40 |
| 12 | B | 889 | C | C2-N1-C1' | 10.85 | 130.73 | 118.80 |
| 12 | B | 1549 | A | C4-C5-C6 | 10.85 | 122.42 | 117.00 |
| 12 | B | 1556 | C | O4'-C1'-N1 | 10.85 | 116.88 | 108.20 |
| 12 | B | 2033 | A | N1-C6-N6 | 10.85 | 125.11 | 118.60 |
| 13 | C | 100 | ARG | NE-CZ-NH2 | -10.85 | 114.88 | 120.30 |
| 12 | B | 933 | A | C4-C5-C6 | 10.85 | 122.42 | 117.00 |
| 12 | B | 1271 | G | O4'-C1'-N9 | 10.85 | 116.88 | 108.20 |
| 12 | B | 2097 | A | C4-C5-C6 | 10.85 | 122.42 | 117.00 |
| 12 | B | 2576 | G | N1-C6-O6 | 10.85 | 126.41 | 119.90 |
| 12 | B | 951 | C | N3-C4-C5 | -10.84 | 117.56 | 121.90 |
| 12 | B | 2319 | G | C4-C5-N7 | 10.84 | 115.14 | 110.80 |
| 11 | A | 57 | A | C5-C6-N1 | -10.84 | 112.28 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 228 | C | O4'-C1'-N1 | 10.84 | 116.87 | 108.20 |
| 12 | B | 1655 | A | N9-C4-C5 | 10.84 | 110.14 | 105.80 |
| 12 | B | 2435 | A | C5-C6-N6 | -10.84 | 115.03 | 123.70 |
| 12 | B | 276 | U | O4'-C1'-N1 | 10.83 | 116.87 | 108.20 |
| 12 | B | 1740 | G | C5-C6-O6 | -10.83 | 122.10 | 128.60 |
| 12 | B | 69 | C | O4'-C1'-N1 | 10.83 | 116.86 | 108.20 |
| 12 | B | 655 | A | N1-C2-N3 | 10.83 | 134.72 | 129.30 |
| 12 | B | 449 | A | C5-C6-N6 | -10.83 | 115.04 | 123.70 |
| 12 | B | 1140 | C | C4-C5-C6 | -10.83 | 111.99 | 117.40 |
| 12 | B | 1198 | U | N3-C2-O2 | -10.83 | 114.62 | 122.20 |
| 12 | B | 1424 | G | C5-C6-N1 | 10.83 | 116.91 | 111.50 |
| 12 | B | 429 | A | C5-C6-N1 | -10.82 | 112.29 | 117.70 |
| 12 | B | 1848 | A | C6-C5-N7 | -10.82 | 124.72 | 132.30 |
| 11 | A | 42 | C | N3-C4-N4 | 10.82 | 125.57 | 118.00 |
| 12 | B | 599 | A | N1-C6-N6 | 10.82 | 125.09 | 118.60 |
| 12 | B | 2022 | U | C6-N1-C2 | -10.82 | 114.51 | 121.00 |
| 12 | B | 2068 | U | N3-C4-O4 | 10.82 | 126.97 | 119.40 |
| 12 | B | 1131 | G | C5-C6-O6 | -10.82 | 122.11 | 128.60 |
| 12 | B | 23 | G | C5-C6-O6 | -10.81 | 122.11 | 128.60 |
| 12 | B | 1388 | G | C5-C6-N1 | -10.81 | 106.09 | 111.50 |
| 12 | B | 2765 | A | C4-C5-C6 | 10.81 | 122.41 | 117.00 |
| 12 | B | 379 | G | N1-C6-O6 | 10.81 | 126.39 | 119.90 |
| 12 | B | 1505 | A | N1-C6-N6 | 10.81 | 125.09 | 118.60 |
| 12 | B | 1734 | G | O4'-C1'-N9 | 10.81 | 116.85 | 108.20 |
| 12 | B | 2734 | A | C2-N3-C4 | -10.81 | 105.19 | 110.60 |
| 12 | B | 2892 | G | O4'-C1'-N9 | 10.81 | 116.85 | 108.20 |
| 12 | B | 294 | A | C5-N7-C8 | 10.81 | 109.30 | 103.90 |
| 12 | B | 2654 | A | N1-C6-N6 | 10.81 | 125.08 | 118.60 |
| 12 | B | 1528 | A | N1-C6-N6 | 10.81 | 125.08 | 118.60 |
| 12 | B | 389 | G | C5-C6-O6 | -10.81 | 122.12 | 128.60 |
| 12 | B | 1400 | U | O4'-C1'-N1 | 10.81 | 116.84 | 108.20 |
| 12 | B | 1937 | A | C5-C6-N6 | 10.80 | 132.34 | 123.70 |
| 12 | B | 2741 | A | C5-C6-N1 | -10.80 | 112.30 | 117.70 |
| 12 | B | 493 | G | N3-C4-C5 | 10.80 | 134.00 | 128.60 |
| 12 | B | 1909 | C | C5-C6-N1 | 10.80 | 126.40 | 121.00 |
| 11 | A | 46 | A | N1-C6-N6 | 10.80 | 125.08 | 118.60 |
| 12 | B | 918 | A | N1-C6-N6 | 10.80 | 125.08 | 118.60 |
| 11 | A | 20 | G | N1-C6-O6 | 10.80 | 126.38 | 119.90 |
| 12 | B | 1270 | C | C5-C6-N1 | 10.80 | 126.40 | 121.00 |
| 12 | B | 177 | G | C5-C6-O6 | -10.79 | 122.12 | 128.60 |
| 12 | B | 1127 | A | C5-C6-N6 | -10.79 | 115.06 | 123.70 |
| 12 | B | 1448 | G | N1-C2-N3 | -10.79 | 117.42 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2799 | A | P-O3'-C3' | 10.79 | 132.65 | 119.70 |
| 12 | B | 214 | G | O4'-C1'-N9 | 10.79 | 116.83 | 108.20 |
| 12 | B | 583 | G | O4'-C1'-N9 | 10.79 | 116.83 | 108.20 |
| 12 | B | 2778 | A | N1-C6-N6 | 10.79 | 125.08 | 118.60 |
| 12 | B | 187 | G | N1-C6-O6 | 10.79 | 126.37 | 119.90 |
| 11 | A | 2 | G | N1-C6-O6 | 10.79 | 126.37 | 119.90 |
| 12 | B | 2222 | C | O4'-C1'-N1 | 10.79 | 116.83 | 108.20 |
| 12 | B | 2290 | G | O4'-C1'-N9 | 10.79 | 116.83 | 108.20 |
| 12 | B | 1075 | C | C5-C6-N1 | 10.79 | 126.39 | 121.00 |
| 12 | B | 1102 | C | O4'-C1'-N1 | 10.79 | 116.83 | 108.20 |
| 12 | B | 2870 | C | N3-C4-N4 | 10.79 | 125.55 | 118.00 |
| 12 | B | 1544 | A | C5-C6-N1 | -10.78 | 112.31 | 117.70 |
| 12 | B | 2053 | G | C5-C6-N1 | 10.78 | 116.89 | 111.50 |
| 12 | B | 2332 | C | N3-C4-N4 | 10.78 | 125.55 | 118.00 |
| 12 | B | 1575 | C | N3-C4-N4 | 10.78 | 125.55 | 118.00 |
| 12 | B | 2070 | A | O4'-C1'-N9 | 10.78 | 116.83 | 108.20 |
| 12 | B | 2257 | U | O4'-C1'-N1 | 10.78 | 116.82 | 108.20 |
| 12 | B | 1970 | A | C8-N9-C4 | -10.78 | 101.49 | 105.80 |
| 12 | B | 823 | C | N3-C4-C5 | -10.77 | 117.59 | 121.90 |
| 12 | B | 2325 | G | C5-C6-O6 | -10.77 | 122.14 | 128.60 |
| 12 | B | 2643 | G | C5-C6-O6 | -10.77 | 122.14 | 128.60 |
| 12 | B | 961 | C | C2-N3-C4 | 10.77 | 125.28 | 119.90 |
| 12 | B | 2618 | G | N3-C2-N2 | 10.77 | 127.44 | 119.90 |
| 12 | B | 244 | A | C5-C6-N6 | -10.77 | 115.09 | 123.70 |
| 12 | B | 1960 | A | O4'-C1'-N9 | 10.77 | 116.81 | 108.20 |
| 12 | B | 1614 | A | C5-C6-N1 | -10.76 | 112.32 | 117.70 |
| 12 | B | 2825 | G | C5-C6-O6 | -10.76 | 122.14 | 128.60 |
| 12 | B | 920 | A | C5-C6-N1 | -10.76 | 112.32 | 117.70 |
| 12 | B | 2404 | U | P-O3'-C3' | 10.76 | 132.61 | 119.70 |
| 12 | B | 1814 | G | N3-C2-N2 | 10.76 | 127.43 | 119.90 |
| 12 | B | 806 | C | N3-C4-C5 | -10.76 | 117.60 | 121.90 |
| 12 | B | 1450 | G | C5-C6-O6 | -10.76 | 122.15 | 128.60 |
| 12 | B | 497 | A | O4'-C1'-N9 | 10.75 | 116.80 | 108.20 |
| 11 | A | 94 | A | N1-C6-N6 | 10.75 | 125.05 | 118.60 |
| 12 | B | 2201 | G | C5-C6-O6 | -10.75 | 122.15 | 128.60 |
| 12 | B | 1207 | C | C6-N1-C2 | -10.74 | 116.00 | 120.30 |
| 12 | B | 2882 | A | N1-C6-N6 | 10.74 | 125.05 | 118.60 |
| 12 | B | 2331 | G | O4'-C1'-N9 | 10.74 | 116.79 | 108.20 |
| 12 | B | 2592 | G | C6-C5-N7 | -10.74 | 123.95 | 130.40 |
| 12 | B | 192 | C | C5-C6-N1 | 10.74 | 126.37 | 121.00 |
| 12 | B | 2426 | A | C4-C5-C6 | 10.74 | 122.37 | 117.00 |
| 12 | B | 1648 | U | O4'-C1'-N1 | 10.74 | 116.79 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1695 | G | P-O3'-C3' | -10.74 | 106.82 | 119.70 |
| 12 | B | 1753 | G | C5-C6-O6 | -10.74 | 122.16 | 128.60 |
| 12 | B | 2691 | C | N3-C4-N4 | 10.74 | 125.52 | 118.00 |
| 12 | B | 859 | G | C5-C6-O6 | -10.73 | 122.16 | 128.60 |
| 12 | B | 1069 | A | O4'-C1'-N9 | 10.73 | 116.79 | 108.20 |
| 12 | B | 270 | A | N1-C2-N3 | 10.73 | 134.67 | 129.30 |
| 12 | B | 1566 | A | C5-C6-N6 | -10.73 | 115.11 | 123.70 |
| 12 | B | 2516 | A | C5-C6-N6 | -10.73 | 115.11 | 123.70 |
| 12 | B | 1454 | C | C2-N1-C1' | 10.73 | 130.60 | 118.80 |
| 12 | B | 1864 | U | O4'-C1'-N1 | 10.73 | 116.79 | 108.20 |
| 12 | B | 89 | A | O4'-C1'-N9 | 10.73 | 116.78 | 108.20 |
| 12 | B | 1760 | C | C5-C4-N4 | -10.73 | 112.69 | 120.20 |
| 12 | B | 352 | A | C5-C6-N6 | -10.73 | 115.12 | 123.70 |
| 12 | B | 2705 | A | N1-C6-N6 | 10.73 | 125.04 | 118.60 |
| 12 | B | 1886 | U | C5-C4-O4 | -10.73 | 119.46 | 125.90 |
| 12 | B | 1674 | G | N1-C2-N3 | -10.72 | 117.47 | 123.90 |
| 12 | B | 1091 | G | C5-C6-O6 | -10.72 | 122.17 | 128.60 |
| 12 | B | 2271 | G | C5-C6-O6 | -10.72 | 122.17 | 128.60 |
| 12 | B | 2677 | G | N1-C6-O6 | 10.72 | 126.33 | 119.90 |
| 12 | B | 796 | C | O4'-C1'-N1 | 10.72 | 116.78 | 108.20 |
| 12 | B | 1420 | A | C8-N9-C4 | -10.72 | 101.51 | 105.80 |
| 12 | B | 1970 | A | N9-C4-C5 | 10.72 | 110.09 | 105.80 |
| 7 | 6 | 3 | ARG | NE-CZ-NH2 | 10.72 | 125.66 | 120.30 |
| 12 | B | 1678 | A | C5-C6-N6 | -10.72 | 115.13 | 123.70 |
| 19 | I | 133 | ARG | NE-CZ-NH1 | 10.72 | 125.66 | 120.30 |
| 12 | B | 513 | A | N1-C6-N6 | 10.71 | 125.03 | 118.60 |
| 12 | B | 2444 | G | N1-C6-O6 | 10.71 | 126.33 | 119.90 |
| 12 | B | 1328 | A | N1-C6-N6 | 10.71 | 125.03 | 118.60 |
| 12 | B | 1922 | G | C5-C6-O6 | -10.71 | 122.17 | 128.60 |
| 12 | B | 2012 | G | N3-C2-N2 | 10.71 | 127.40 | 119.90 |
| 12 | B | 2066 | C | O4'-C1'-N1 | 10.71 | 116.77 | 108.20 |
| 12 | B | 847 | U | O4'-C1'-N1 | 10.70 | 116.76 | 108.20 |
| 12 | B | 2763 | G | O4'-C1'-N9 | 10.70 | 116.76 | 108.20 |
| 12 | B | 1608 | A | C4-C5-C6 | 10.70 | 122.35 | 117.00 |
| 12 | B | 1719 | G | C5-C6-O6 | -10.70 | 122.18 | 128.60 |
| 12 | B | 1791 | A | C5-C6-N6 | -10.70 | 115.14 | 123.70 |
| 12 | B | 2290 | G | N3-C2-N2 | 10.70 | 127.39 | 119.90 |
| 12 | B | 2515 | C | C6-N1-C2 | 10.70 | 124.58 | 120.30 |
| 12 | B | 530 | G | C5-C6-O6 | -10.70 | 122.18 | 128.60 |
| 12 | B | 737 | C | O4'-C1'-N1 | 10.69 | 116.75 | 108.20 |
| 12 | B | 1493 | C | N3-C4-C5 | -10.70 | 117.62 | 121.90 |
| 12 | B | 2082 | A | C6-N1-C2 | -10.70 | 112.18 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1061 | U | O4'-C1'-N1 | 10.69 | 116.75 | 108.20 |
| 12 | B | 1368 | G | O4'-C1'-N9 | 10.69 | 116.75 | 108.20 |
| 12 | B | 1619 | G | N1-C6-O6 | 10.69 | 126.32 | 119.90 |
| 12 | B | 1568 | G | N1-C6-O6 | 10.69 | 126.31 | 119.90 |
| 12 | B | 2505 | G | C5-C6-N1 | -10.69 | 106.16 | 111.50 |
| 11 | A | 17 | C | N3-C4-N4 | 10.69 | 125.48 | 118.00 |
| 12 | B | 163 | C | C6-N1-C2 | -10.69 | 116.03 | 120.30 |
| 12 | B | 444 | C | N3-C2-O2 | 10.69 | 129.38 | 121.90 |
| 12 | B | 1047 | G | N1-C6-O6 | 10.69 | 126.31 | 119.90 |
| 12 | B | 1023 | U | C5-C4-O4 | -10.68 | 119.49 | 125.90 |
| 12 | B | 1816 | C | C2-N3-C4 | 10.68 | 125.24 | 119.90 |
| 12 | B | 2085 | U | O4'-C1'-N1 | 10.68 | 116.75 | 108.20 |
| 12 | B | 1774 | C | C6-N1-C2 | -10.68 | 116.03 | 120.30 |
| 12 | B | 1817 | G | N1-C2-N3 | -10.68 | 117.49 | 123.90 |
| 12 | B | 1287 | A | C5-C6-N6 | -10.68 | 115.16 | 123.70 |
| 12 | B | 753 | A | C5-C6-N6 | -10.67 | 115.16 | 123.70 |
| 12 | B | 2315 | G | N1-C6-O6 | 10.67 | 126.31 | 119.90 |
| 12 | B | 2821 | A | C4-C5-C6 | 10.67 | 122.34 | 117.00 |
| 12 | B | 760 | G | N1-C6-O6 | 10.67 | 126.30 | 119.90 |
| 12 | B | 821 | A | C5-N7-C8 | 10.67 | 109.23 | 103.90 |
| 12 | B | 1493 | C | C2-N1-C1' | 10.67 | 130.54 | 118.80 |
| 12 | B | 2559 | C | N3-C4-N4 | 10.67 | 125.47 | 118.00 |
| 12 | B | 648 | G | C6-C5-N7 | -10.67 | 124.00 | 130.40 |
| 12 | B | 1320 | C | C4-C5-C6 | 10.67 | 122.73 | 117.40 |
| 12 | B | 1209 | U | O4'-C1'-N1 | 10.66 | 116.73 | 108.20 |
| 12 | B | 2352 | A | C6-C5-N7 | -10.66 | 124.83 | 132.30 |
| 12 | B | 2810 | A | N1-C6-N6 | 10.66 | 125.00 | 118.60 |
| 12 | B | 323 | C | N3-C4-C5 | -10.66 | 117.64 | 121.90 |
| 12 | B | 956 | G | O4'-C1'-N9 | 10.66 | 116.73 | 108.20 |
| 12 | B | 1654 | A | N1-C6-N6 | 10.66 | 125.00 | 118.60 |
| 12 | B | 1186 | G | C5-C6-O6 | -10.66 | 122.20 | 128.60 |
| 12 | B | 1988 | G | C8-N9-C4 | -10.66 | 102.14 | 106.40 |
| 12 | B | 1773 | A | C2-N3-C4 | 10.65 | 115.93 | 110.60 |
| 12 | B | 2170 | A | C5-C6-N6 | -10.65 | 115.18 | 123.70 |
| 12 | B | 2900 | A | N1-C6-N6 | 10.65 | 124.99 | 118.60 |
| 12 | B | 675 | A | N1-C2-N3 | 10.65 | 134.62 | 129.30 |
| 12 | B | 2785 | C | O4'-C1'-N1 | 10.65 | 116.72 | 108.20 |
| 12 | B | 763 | G | N3-C2-N2 | 10.65 | 127.35 | 119.90 |
| 21 | K | 49 | ARG | NE-CZ-NH2 | -10.65 | 114.98 | 120.30 |
| 12 | B | 855 | G | N1-C2-N3 | -10.64 | 117.51 | 123.90 |
| 12 | B | 1810 | A | C5-C6-N6 | -10.64 | 115.19 | 123.70 |
| 12 | B | 1897 | G | O4'-C1'-N9 | 10.64 | 116.72 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1311 | G | C6-C5-N7 | -10.64 | 124.02 | 130.40 |
| 12 | B | 2461 | A | C5-N7-C8 | 10.64 | 109.22 | 103.90 |
| 12 | B | 2715 | C | C5-C6-N1 | 10.64 | 126.32 | 121.00 |
| 11 | A | 47 | C | C5-C4-N4 | -10.64 | 112.75 | 120.20 |
| 12 | B | 108 | G | N3-C4-C5 | 10.64 | 133.92 | 128.60 |
| 12 | B | 1005 | C | O4'-C1'-N1 | 10.64 | 116.71 | 108.20 |
| 12 | B | 1432 | G | N1-C6-O6 | 10.64 | 126.28 | 119.90 |
| 12 | B | 1586 | A | C5-C6-N6 | -10.64 | 115.19 | 123.70 |
| 12 | B | 2603 | G | C5-C6-O6 | -10.64 | 122.22 | 128.60 |
| 12 | B | 2489 | U | N1-C2-O2 | -10.64 | 115.35 | 122.80 |
| 12 | B | 2688 | G | N1-C6-O6 | 10.64 | 126.28 | 119.90 |
| 12 | B | 2433 | A | C4-C5-C6 | 10.63 | 122.32 | 117.00 |
| 12 | B | 2851 | A | C5-C6-N1 | -10.63 | 112.38 | 117.70 |
| 12 | B | 1646 | C | N3-C4-N4 | 10.63 | 125.44 | 118.00 |
| 12 | B | 1850 | G | N1-C6-O6 | 10.63 | 126.28 | 119.90 |
| 12 | B | 2155 | U | O4'-C1'-N1 | 10.63 | 116.70 | 108.20 |
| 12 | B | 2607 | G | C8-N9-C4 | -10.63 | 102.15 | 106.40 |
| 12 | B | 1454 | C | C6-N1-C1' | -10.63 | 108.05 | 120.80 |
| 12 | B | 2035 | G | C4-C5-N7 | -10.62 | 106.55 | 110.80 |
| 12 | B | 2254 | C | N3-C4-C5 | -10.62 | 117.65 | 121.90 |
| 12 | B | 2367 | G | C8-N9-C4 | -10.62 | 102.15 | 106.40 |
| 12 | B | 2056 | G | N1-C2-N3 | -10.62 | 117.53 | 123.90 |
| 12 | B | 952 | G | N1-C6-O6 | 10.62 | 126.27 | 119.90 |
| 12 | B | 827 | U | C5-C6-N1 | -10.62 | 117.39 | 122.70 |
| 12 | B | 721 | A | N1-C6-N6 | 10.62 | 124.97 | 118.60 |
| 12 | B | 1211 | C | O4'-C1'-N1 | 10.62 | 116.69 | 108.20 |
| 12 | B | 2612 | C | O4'-C1'-N1 | 10.62 | 116.69 | 108.20 |
| 12 | B | 375 | G | N1-C6-O6 | 10.62 | 126.27 | 119.90 |
| 12 | B | 1361 | G | N1-C2-N3 | -10.62 | 117.53 | 123.90 |
| 12 | B | 2469 | A | C4-C5-C6 | 10.62 | 122.31 | 117.00 |
| 12 | B | 1930 | G | C4-C5-N7 | -10.61 | 106.55 | 110.80 |
| 12 | B | 2194 | U | O4'-C1'-N1 | 10.61 | 116.69 | 108.20 |
| 12 | B | 1569 | A | C5-C6-N6 | -10.61 | 115.21 | 123.70 |
| 12 | B | 2731 | G | O4'-C1'-N9 | 10.61 | 116.69 | 108.20 |
| 11 | A | 20 | G | N9-C4-C5 | 10.60 | 109.64 | 105.40 |
| 12 | B | 452 | G | N3-C2-N2 | 10.60 | 127.32 | 119.90 |
| 12 | B | 1350 | C | C5-C4-N4 | -10.60 | 112.78 | 120.20 |
| 12 | B | 552 | U | O4'-C1'-N1 | 10.60 | 116.68 | 108.20 |
| 12 | B | 969 | G | N1-C6-O6 | 10.60 | 126.26 | 119.90 |
| 12 | B | 2767 | C | N3-C4-N4 | 10.60 | 125.42 | 118.00 |
| 11 | A | 72 | G | N1-C6-O6 | 10.59 | 126.26 | 119.90 |
| 12 | B | 653 | U | O4'-C1'-N1 | 10.59 | 116.67 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 763 | G | N7-C8-N9 | 10.59 | 118.40 | 113.10 |
| 12 | B | 806 | C | O4'-C1'-N1 | 10.59 | 116.67 | 108.20 |
| 12 | B | 2065 | C | C5-C4-N4 | -10.59 | 112.79 | 120.20 |
| 12 | B | 1836 | C | N3-C4-C5 | -10.59 | 117.67 | 121.90 |
| 12 | B | 80 | G | N1-C6-O6 | 10.59 | 126.25 | 119.90 |
| 12 | B | 1987 | A | C5-N7-C8 | 10.58 | 109.19 | 103.90 |
| 12 | B | 2133 | G | N1-C6-O6 | 10.58 | 126.25 | 119.90 |
| 12 | B | 2378 | A | C5-C6-N6 | -10.58 | 115.23 | 123.70 |
| 12 | B | 2636 | C | O4'-C1'-N1 | 10.58 | 116.67 | 108.20 |
| 12 | B | 238 | C | N3-C4-N4 | 10.58 | 125.41 | 118.00 |
| 12 | B | 711 | G | N1-C2-N3 | -10.58 | 117.55 | 123.90 |
| 12 | B | 2130 | U | C2-N1-C1' | 10.58 | 130.40 | 117.70 |
| 12 | B | 752 | A | C5-C6-N1 | -10.58 | 112.41 | 117.70 |
| 12 | B | 1671 | U | O4'-C1'-N1 | 10.58 | 116.66 | 108.20 |
| 12 | B | 1244 | A | C2-N3-C4 | 10.58 | 115.89 | 110.60 |
| 11 | A | 45 | A | N1-C6-N6 | 10.57 | 124.94 | 118.60 |
| 12 | B | 623 | C | N3-C4-C5 | -10.57 | 117.67 | 121.90 |
| 12 | B | 1278 | C | N3-C4-N4 | 10.57 | 125.40 | 118.00 |
| 12 | B | 1690 | A | C4-C5-C6 | 10.57 | 122.29 | 117.00 |
| 12 | B | 439 | A | N7-C8-N9 | 10.57 | 119.08 | 113.80 |
| 12 | B | 1149 | G | N1-C6-O6 | 10.57 | 126.24 | 119.90 |
| 12 | B | 2125 | G | C5-C6-N1 | -10.57 | 106.22 | 111.50 |
| 12 | B | 1245 | G | O4'-C1'-N9 | 10.57 | 116.66 | 108.20 |
| 12 | B | 2472 | G | C5-C6-O6 | -10.57 | 122.26 | 128.60 |
| 12 | B | 2742 | G | C2-N3-C4 | 10.56 | 117.18 | 111.90 |
| 12 | B | 2397 | G | N1-C6-O6 | 10.56 | 126.24 | 119.90 |
| 12 | B | 1393 | A | C5-C6-N1 | -10.56 | 112.42 | 117.70 |
| 12 | B | 1761 | C | O4'-C1'-N1 | 10.56 | 116.65 | 108.20 |
| 11 | A | 101 | A | C5-C6-N6 | -10.56 | 115.25 | 123.70 |
| 12 | B | 152 | A | C4-C5-C6 | 10.56 | 122.28 | 117.00 |
| 12 | B | 689 | A | C5-C6-N6 | -10.56 | 115.25 | 123.70 |
| 12 | B | 1298 | C | N3-C4-C5 | -10.56 | 117.68 | 121.90 |
| 12 | B | 1609 | A | C4-C5-C6 | 10.56 | 122.28 | 117.00 |
| 12 | B | 2119 | A | C4-C5-C6 | 10.56 | 122.28 | 117.00 |
| 12 | B | 1760 | C | O4'-C1'-N1 | 10.56 | 116.64 | 108.20 |
| 12 | B | 2209 | G | C5-C6-N1 | -10.55 | 106.22 | 111.50 |
| 12 | B | 2451 | A | N7-C8-N9 | -10.55 | 108.52 | 113.80 |
| 12 | B | 333 | G | C6-C5-N7 | -10.55 | 124.07 | 130.40 |
| 12 | B | 1475 | G | C8-N9-C4 | -10.55 | 102.18 | 106.40 |
| 12 | B | 55 | G | C5-C6-O6 | -10.55 | 122.27 | 128.60 |
| 12 | B | 205 | G | N1-C6-O6 | 10.55 | 126.23 | 119.90 |
| 12 | B | 710 | U | O4'-C1'-N1 | 10.55 | 116.64 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 1268 | A | N1-C6-N6 | 10.55 | 124.93 | 118.60 |
| 12 | B | 1480 | C | O4'-C1'-N1 | 10.55 | 116.64 | 108.20 |
| 12 | B | 1573 | G | N3-C4-N9 | -10.55 | 119.67 | 126.00 |
| 12 | B | 708 | G | C8-N9-C4 | 10.54 | 110.62 | 106.40 |
| 12 | B | 2080 | A | N1-C6-N6 | 10.54 | 124.93 | 118.60 |
| 11 | A | 110 | C | O4'-C1'-N1 | 10.54 | 116.63 | 108.20 |
| 12 | B | 538 | A | C5-C6-N1 | -10.54 | 112.43 | 117.70 |
| 12 | B | 727 | A | C4-C5-C6 | 10.54 | 122.27 | 117.00 |
| 12 | B | 1354 | A | C5-C6-N6 | -10.54 | 115.27 | 123.70 |
| 12 | B | 2077 | A | C6-C5-N7 | -10.54 | 124.92 | 132.30 |
| 12 | B | 2328 | A | C5-C6-N1 | -10.54 | 112.43 | 117.70 |
| 12 | B | 2748 | A | C5-C6-N6 | -10.54 | 115.27 | 123.70 |
| 12 | B | 2774 | C | N3-C4-N4 | 10.54 | 125.38 | 118.00 |
| 12 | B | 2180 | U | O4'-C1'-N1 | 10.54 | 116.63 | 108.20 |
| 12 | B | 253 | C | C5-C4-N4 | -10.54 | 112.82 | 120.20 |
| 12 | B | 2209 | G | C4-C5-C6 | 10.54 | 125.12 | 118.80 |
| 12 | B | 1679 | A | C4-C5-C6 | 10.54 | 122.27 | 117.00 |
| 12 | B | 2850 | A | O4'-C1'-N9 | 10.54 | 116.63 | 108.20 |
| 12 | B | 1041 | G | C5-C6-O6 | -10.54 | 122.28 | 128.60 |
| 12 | B | 265 | A | C5-C6-N6 | -10.53 | 115.27 | 123.70 |
| 12 | B | 1827 | U | C3'-C2'-C1' | 10.53 | 109.93 | 101.50 |
| 11 | A | 41 | G | C5-C6-O6 | -10.53 | 122.28 | 128.60 |
| 12 | B | 2083 | G | C5-C6-O6 | -10.53 | 122.28 | 128.60 |
| 12 | B | 408 | G | N1-C6-O6 | 10.53 | 126.22 | 119.90 |
| 12 | B | 804 | A | C5-C6-N6 | -10.53 | 115.28 | 123.70 |
| 2 | 1 | 26 | PHE | CB-CG-CD2 | -10.53 | 113.43 | 120.80 |
| 11 | A | 109 | A | N1-C6-N6 | 10.53 | 124.92 | 118.60 |
| 12 | B | 2830 | C | N3-C4-N4 | 10.53 | 125.37 | 118.00 |
| 10 | 9 | 76 | ARG | NE-CZ-NH2 | -10.53 | 115.04 | 120.30 |
| 12 | B | 1256 | G | C4-C5-C6 | 10.53 | 125.11 | 118.80 |
| 12 | B | 1575 | C | N3-C4-C5 | -10.53 | 117.69 | 121.90 |
| 12 | B | 1779 | U | O4'-C1'-N1 | 10.53 | 116.62 | 108.20 |
| 12 | B | 2381 | A | C5-C6-N1 | -10.53 | 112.44 | 117.70 |
| 12 | B | 2894 | G | N3-C2-N2 | 10.53 | 127.27 | 119.90 |
| 12 | B | 1521 | G | N1-C6-O6 | 10.52 | 126.21 | 119.90 |
| 12 | B | 2244 | U | O4'-C1'-N1 | 10.52 | 116.62 | 108.20 |
| 12 | B | 427 | U | C6-N1-C2 | -10.52 | 114.69 | 121.00 |
| 12 | B | 763 | G | C5-C6-O6 | -10.52 | 122.29 | 128.60 |
| 12 | B | 1987 | A | C4-C5-N7 | -10.52 | 105.44 | 110.70 |
| 11 | A | 47 | C | O4'-C1'-N1 | 10.52 | 116.61 | 108.20 |
| 12 | B | 9 | G | C4-C5-C6 | 10.52 | 125.11 | 118.80 |
| 12 | B | 258 | G | N1-C6-O6 | 10.52 | 126.21 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 1884 | G | N1-C6-O6 | 10.52 | 126.21 | 119.90 |
| 12 | B | 1865 | U | O4'-C1'-N1 | 10.52 | 116.61 | 108.20 |
| 12 | B | 544 | C | N3-C4-C5 | -10.52 | 117.69 | 121.90 |
| 25 | O | 9 | ARG | NE-CZ-NH2 | 10.52 | 125.56 | 120.30 |
| 12 | B | 867 | C | C5-C4-N4 | -10.51 | 112.84 | 120.20 |
| 12 | B | 1940 | U | C1'-O4'-C4' | -10.51 | 101.49 | 109.90 |
| 12 | B | 2490 | G | C8-N9-C4 | -10.51 | 102.19 | 106.40 |
| 12 | B | 2126 | A | C5-C6-N1 | -10.51 | 112.44 | 117.70 |
| 12 | B | 2531 | A | C2-N3-C4 | 10.51 | 115.86 | 110.60 |
| 12 | B | 2895 | G | C5-C6-O6 | -10.51 | 122.29 | 128.60 |
| 12 | B | 143 | C | C6-N1-C2 | -10.51 | 116.10 | 120.30 |
| 12 | B | 903 | C | N3-C4-N4 | 10.51 | 125.36 | 118.00 |
| 12 | B | 1777 | U | O4'-C1'-N1 | 10.51 | 116.61 | 108.20 |
| 12 | B | 215 | G | C8-N9-C4 | -10.51 | 102.20 | 106.40 |
| 12 | B | 2366 | A | N7-C8-N9 | -10.51 | 108.55 | 113.80 |
| 12 | B | 523 | C | O4'-C1'-N1 | 10.50 | 116.60 | 108.20 |
| 12 | B | 1413 | A | O4'-C1'-N9 | 10.50 | 116.60 | 108.20 |
| 12 | B | 409 | G | N1-C6-O6 | 10.50 | 126.20 | 119.90 |
| 12 | B | 663 | G | N3-C2-N2 | 10.50 | 127.25 | 119.90 |
| 12 | B | 2743 | U | O4'-C1'-N1 | 10.49 | 116.59 | 108.20 |
| 12 | B | 1083 | U | O4'-C1'-N1 | 10.49 | 116.59 | 108.20 |
| 12 | B | 1301 | A | C5-C6-N6 | -10.49 | 115.31 | 123.70 |
| 12 | B | 2757 | A | C4-C5-C6 | 10.49 | 122.25 | 117.00 |
| 12 | B | 2210 | U | C5-C4-O4 | -10.49 | 119.61 | 125.90 |
| 12 | B | 589 | U | N1-C2-N3 | -10.49 | 108.61 | 114.90 |
| 12 | B | 2679 | A | C5-N7-C8 | 10.49 | 109.14 | 103.90 |
| 12 | B | 2679 | A | C5-C6-N6 | -10.49 | 115.31 | 123.70 |
| 12 | B | 1566 | A | N1-C6-N6 | 10.48 | 124.89 | 118.60 |
| 12 | B | 2486 | C | O4'-C1'-N1 | 10.48 | 116.59 | 108.20 |
| 12 | B | 33 | C | N3-C4-N4 | 10.48 | 125.34 | 118.00 |
| 12 | B | 1987 | A | N1-C2-N3 | 10.48 | 134.54 | 129.30 |
| 12 | B | 2649 | C | N3-C4-N4 | 10.48 | 125.34 | 118.00 |
| 12 | B | 1527 | G | C5-C6-O6 | -10.48 | 122.31 | 128.60 |
| 12 | B | 2352 | A | C6-N1-C2 | 10.48 | 124.89 | 118.60 |
| 12 | B | 430 | A | C8-N9-C4 | -10.48 | 101.61 | 105.80 |
| 12 | B | 2830 | C | C4-C5-C6 | 10.48 | 122.64 | 117.40 |
| 12 | B | 1124 | G | O4'-C1'-N9 | 10.47 | 116.58 | 108.20 |
| 12 | B | 1311 | G | C5-C6-O6 | -10.47 | 122.32 | 128.60 |
| 12 | B | 527 | C | C2-N1-C1' | 10.47 | 130.32 | 118.80 |
| 12 | B | 894 | U | O4'-C1'-N1 | 10.47 | 116.58 | 108.20 |
| 12 | B | 1040 | A | C4-C5-C6 | 10.47 | 122.23 | 117.00 |
| 12 | B | 2388 | A | C5-C6-N1 | -10.47 | 112.47 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 2836 | U | O4'-C1'-N1 | 10.47 | 116.58 | 108.20 |
| 12 | B | 1551 | A | C5-C6-N6 | -10.47 | 115.33 | 123.70 |
| 12 | B | 1582 | C | O4'-C1'-N1 | 10.47 | 116.57 | 108.20 |
| 12 | B | 1663 | G | C5-C6-O6 | -10.47 | 122.32 | 128.60 |
| 12 | B | 928 | A | C4-C5-C6 | 10.46 | 122.23 | 117.00 |
| 12 | B | 2119 | A | N1-C6-N6 | 10.46 | 124.88 | 118.60 |
| 12 | B | 2624 | G | C5-C6-N1 | -10.46 | 106.27 | 111.50 |
| 33 | Y | 78 | PHE | CB-CG-CD1 | -10.46 | 113.47 | 120.80 |
| 12 | B | 593 | U | N1-C2-O2 | 10.46 | 130.12 | 122.80 |
| 12 | B | 1801 | A | C4-C5-N7 | -10.46 | 105.47 | 110.70 |
| 12 | B | 2115 | G | O4'-C1'-N9 | 10.46 | 116.57 | 108.20 |
| 12 | B | 2334 | U | O4'-C1'-N1 | 10.46 | 116.57 | 108.20 |
| 12 | B | 2439 | A | O4'-C1'-N9 | 10.46 | 116.57 | 108.20 |
| 12 | B | 2560 | A | C5-N7-C8 | 10.46 | 109.13 | 103.90 |
| 12 | B | 2503 | A | C4-C5-C6 | 10.46 | 122.23 | 117.00 |
| 12 | B | 793 | A | N7-C8-N9 | 10.46 | 119.03 | 113.80 |
| 12 | B | 1821 | A | N1-C6-N6 | 10.46 | 124.87 | 118.60 |
| 12 | B | 704 | G | N1-C6-O6 | 10.45 | 126.17 | 119.90 |
| 12 | B | 2002 | G | N1-C6-O6 | 10.45 | 126.17 | 119.90 |
| 12 | B | 1090 | A | C8-N9-C4 | -10.45 | 101.62 | 105.80 |
| 12 | B | 1958 | C | N3-C4-C5 | -10.45 | 117.72 | 121.90 |
| 12 | B | 431 | U | O4'-C1'-N1 | 10.45 | 116.56 | 108.20 |
| 12 | B | 1863 | G | N3-C2-N2 | 10.45 | 127.22 | 119.90 |
| 12 | B | 2510 | C | O4'-C1'-N1 | 10.45 | 116.56 | 108.20 |
| 12 | B | 174 | U | C5-C4-O4 | -10.45 | 119.63 | 125.90 |
| 12 | B | 2161 | C | C6-N1-C2 | -10.45 | 116.12 | 120.30 |
| 12 | B | 2565 | A | C5-C6-N1 | -10.45 | 112.48 | 117.70 |
| 11 | A | 51 | G | N1-C6-O6 | 10.44 | 126.17 | 119.90 |
| 12 | B | 1738 | G | N1-C2-N3 | -10.45 | 117.63 | 123.90 |
| 12 | B | 2465 | C | C1'-O4'-C4' | 10.45 | 118.26 | 109.90 |
| 12 | B | 1644 | C | C5-C4-N4 | -10.44 | 112.89 | 120.20 |
| 12 | B | 1670 | C | N3-C4-C5 | -10.44 | 117.72 | 121.90 |
| 12 | B | 1361 | G | N1-C6-O6 | 10.44 | 126.16 | 119.90 |
| 12 | B | 1362 | C | N3-C4-C5 | -10.44 | 117.72 | 121.90 |
| 12 | B | 2610 | C | N3-C4-C5 | -10.44 | 117.72 | 121.90 |
| 12 | B | 2398 | U | O4'-C1'-N1 | 10.44 | 116.55 | 108.20 |
| 12 | B | 633 | A | C4-C5-N7 | -10.44 | 105.48 | 110.70 |
| 12 | B | 1259 | G | C6-C5-N7 | -10.44 | 124.14 | 130.40 |
| 12 | B | 2706 | A | O4'-C1'-N9 | 10.44 | 116.55 | 108.20 |
| 12 | B | 1764 | C | N3-C4-C5 | -10.44 | 117.73 | 121.90 |
| 12 | B | 2598 | A | C5-N7-C8 | 10.44 | 109.12 | 103.90 |
| 11 | A | 65 | U | O4'-C1'-N1 | 10.43 | 116.55 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2311 | A | C6-N1-C2 | 10.43 | 124.86 | 118.60 |
| 12 | B | 1705 | A | C5-C6-N6 | -10.43 | 115.35 | 123.70 |
| 12 | B | 2780 | G | O4'-C1'-N9 | 10.43 | 116.55 | 108.20 |
| 12 | B | 325 | G | N1-C6-O6 | 10.43 | 126.16 | 119.90 |
| 12 | B | 2229 | U | O4'-C1'-N1 | 10.43 | 116.54 | 108.20 |
| 12 | B | 2346 | A | N7-C8-N9 | -10.43 | 108.58 | 113.80 |
| 12 | B | 2857 | G | N1-C6-O6 | 10.43 | 126.16 | 119.90 |
| 12 | B | 2857 | G | N7-C8-N9 | -10.43 | 107.89 | 113.10 |
| 12 | B | 336 | C | O4'-C1'-N1 | 10.43 | 116.54 | 108.20 |
| 12 | B | 2433 | A | O4'-C1'-N9 | 10.43 | 116.54 | 108.20 |
| 12 | B | 236 | C | C5-C6-N1 | 10.42 | 126.21 | 121.00 |
| 12 | B | 493 | G | O4'-C1'-N9 | 10.42 | 116.54 | 108.20 |
| 12 | B | 848 | C | O4'-C1'-N1 | 10.42 | 116.54 | 108.20 |
| 12 | B | 2077 | A | O4'-C1'-N9 | 10.42 | 116.54 | 108.20 |
| 12 | B | 2400 | G | C5-C6-O6 | -10.42 | 122.35 | 128.60 |
| 11 | A | 50 | A | N1-C6-N6 | 10.42 | 124.85 | 118.60 |
| 12 | B | 2248 | C | O4'-C1'-N1 | 10.42 | 116.53 | 108.20 |
| 12 | B | 990 | A | N1-C6-N6 | 10.42 | 124.85 | 118.60 |
| 12 | B | 1018 | U | N1-C2-N3 | -10.42 | 108.65 | 114.90 |
| 12 | B | 1885 | A | C4-C5-C6 | 10.42 | 122.21 | 117.00 |
| 12 | B | 2195 | U | C5-C6-N1 | -10.42 | 117.49 | 122.70 |
| 12 | B | 2900 | A | N9-C4-C5 | -10.42 | 101.63 | 105.80 |
| 16 | F | 142 | TYR | CB-CG-CD1 | 10.42 | 127.25 | 121.00 |
| 12 | B | 1525 | A | C5-C6-N1 | -10.41 | 112.49 | 117.70 |
| 12 | B | 2531 | A | N3-C4-C5 | -10.41 | 119.51 | 126.80 |
| 12 | B | 2780 | G | C5-N7-C8 | 10.41 | 109.51 | 104.30 |
| 11 | A | 106 | G | C6-N1-C2 | 10.41 | 131.35 | 125.10 |
| 12 | B | 2608 | G | N3-C2-N2 | 10.41 | 127.19 | 119.90 |
| 12 | B | 48 | G | C5-C6-O6 | -10.41 | 122.36 | 128.60 |
| 12 | B | 467 | G | N1-C6-O6 | 10.41 | 126.14 | 119.90 |
| 12 | B | 1577 | C | C5-C4-N4 | -10.41 | 112.92 | 120.20 |
| 12 | B | 2652 | C | N3-C4-C5 | -10.41 | 117.74 | 121.90 |
| 12 | B | 354 | A | N1-C6-N6 | 10.40 | 124.84 | 118.60 |
| 12 | B | 461 | C | C5-C6-N1 | 10.40 | 126.20 | 121.00 |
| 12 | B | 1618 | A | C4-C5-N7 | -10.40 | 105.50 | 110.70 |
| 12 | B | 2738 | A | C5-C6-N1 | -10.40 | 112.50 | 117.70 |
| 12 | B | 2015 | A | N1-C2-N3 | 10.40 | 134.50 | 129.30 |
| 12 | B | 918 | A | C5-C6-N1 | -10.39 | 112.50 | 117.70 |
| 12 | B | 1038 | G | N1-C6-O6 | 10.39 | 126.14 | 119.90 |
| 12 | B | 1671 | U | C4-C5-C6 | -10.39 | 113.46 | 119.70 |
| 12 | B | 66 | C | C5-C6-N1 | -10.39 | 115.80 | 121.00 |
| 12 | B | 329 | G | N1-C2-N3 | -10.39 | 117.67 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 1839 | G | N3-C4-C5 | -10.39 | 123.41 | 128.60 |
| 12 | B | 164 | C | N3-C4-C5 | -10.39 | 117.75 | 121.90 |
| 12 | B | 1470 | A | C5-C6-N1 | -10.39 | 112.51 | 117.70 |
| 12 | B | 2284 | A | C5-C6-N1 | -10.39 | 112.51 | 117.70 |
| 12 | B | 2332 | C | N3-C4-C5 | -10.39 | 117.75 | 121.90 |
| 12 | B | 2595 | G | O4'-C1'-N9 | 10.39 | 116.51 | 108.20 |
| 12 | B | 1049 | C | C6-N1-C2 | -10.38 | 116.15 | 120.30 |
| 12 | B | 2368 | C | N3-C4-N4 | 10.39 | 125.27 | 118.00 |
| 12 | B | 2534 | A | C8-N9-C4 | -10.38 | 101.65 | 105.80 |
| 12 | B | 2538 | C | N3-C4-N4 | 10.38 | 125.27 | 118.00 |
| 12 | B | 508 | A | C2-N3-C4 | -10.38 | 105.41 | 110.60 |
| 12 | B | 2195 | U | N3-C4-O4 | 10.38 | 126.67 | 119.40 |
| 12 | B | 2579 | C | C2-N3-C4 | -10.38 | 114.71 | 119.90 |
| 12 | B | 1307 | A | N1-C6-N6 | 10.38 | 124.83 | 118.60 |
| 12 | B | 873 | C | C4-C5-C6 | 10.37 | 122.59 | 117.40 |
| 12 | B | 2443 | C | O4'-C1'-N1 | 10.38 | 116.50 | 108.20 |
| 12 | B | 2840 | C | O4'-C1'-N1 | 10.38 | 116.50 | 108.20 |
| 12 | B | 325 | G | C5-N7-C8 | 10.37 | 109.49 | 104.30 |
| 12 | B | 1721 | G | N1-C6-O6 | 10.37 | 126.12 | 119.90 |
| 12 | B | 2574 | G | C2-N3-C4 | 10.37 | 117.09 | 111.90 |
| 12 | B | 116 | C | C2-N3-C4 | 10.37 | 125.08 | 119.90 |
| 12 | B | 1048 | A | C6-C5-N7 | -10.37 | 125.04 | 132.30 |
| 12 | B | 1815 | A | C6-C5-N7 | -10.37 | 125.04 | 132.30 |
| 12 | B | 1830 | C | N3-C4-N4 | 10.37 | 125.26 | 118.00 |
| 12 | B | 15 | G | N1-C6-O6 | 10.36 | 126.12 | 119.90 |
| 12 | B | 1347 | A | N1-C6-N6 | 10.36 | 124.82 | 118.60 |
| 12 | B | 1972 | G | N7-C8-N9 | 10.36 | 118.28 | 113.10 |
| 12 | B | 862 | G | C5-C6-O6 | -10.36 | 122.38 | 128.60 |
| 12 | B | 2549 | G | N1-C2-N3 | -10.36 | 117.68 | 123.90 |
| 12 | B | 2624 | G | N1-C6-O6 | 10.36 | 126.12 | 119.90 |
| 12 | B | 2105 | U | C4-C5-C6 | 10.36 | 125.92 | 119.70 |
| 12 | B | 1268 | A | C4-C5-C6 | 10.36 | 122.18 | 117.00 |
| 12 | B | 761 | A | C6-N1-C2 | -10.35 | 112.39 | 118.60 |
| 12 | B | 2163 | A | O4'-C1'-N9 | 10.35 | 116.48 | 108.20 |
| 12 | B | 58 | G | C5-C6-O6 | -10.35 | 122.39 | 128.60 |
| 12 | B | 419 | U | O4'-C1'-N1 | 10.35 | 116.48 | 108.20 |
| 12 | B | 560 | C | C6-N1-C2 | -10.35 | 116.16 | 120.30 |
| 12 | B | 1019 | U | O4'-C1'-N1 | 10.35 | 116.48 | 108.20 |
| 12 | B | 417 | C | N3-C4-C5 | -10.35 | 117.76 | 121.90 |
| 12 | B | 640 | C | O4'-C1'-N1 | 10.35 | 116.48 | 108.20 |
| 12 | B | 2037 | A | N1-C6-N6 | 10.34 | 124.81 | 118.60 |
| 12 | B | 2176 | A | C8-N9-C4 | -10.34 | 101.66 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2268 | A | C5-C6-N1 | -10.34 | 112.53 | 117.70 |
| 12 | B | 204 | A | N1-C6-N6 | 10.34 | 124.80 | 118.60 |
| 12 | B | 332 | A | O4'-C1'-N9 | 10.34 | 116.47 | 108.20 |
| 12 | B | 1279 | G | N1-C6-O6 | 10.34 | 126.10 | 119.90 |
| 14 | D | 46 | ARG | NE-CZ-NH1 | 10.34 | 125.47 | 120.30 |
| 12 | B | 2065 | C | N3-C4-N4 | 10.34 | 125.23 | 118.00 |
| 12 | B | 863 | A | C5-C6-N6 | -10.33 | 115.43 | 123.70 |
| 12 | B | 2459 | A | N1-C6-N6 | 10.33 | 124.80 | 118.60 |
| 12 | B | 952 | G | C8-N9-C4 | -10.33 | 102.27 | 106.40 |
| 12 | B | 1158 | C | N3-C4-C5 | -10.33 | 117.77 | 121.90 |
| 12 | B | 1410 | G | O4'-C1'-N9 | 10.33 | 116.47 | 108.20 |
| 12 | B | 1766 | G | N7-C8-N9 | -10.33 | 107.94 | 113.10 |
| 12 | B | 2761 | A | C5-C6-N1 | -10.33 | 112.53 | 117.70 |
| 12 | B | 595 | C | N3-C4-C5 | -10.33 | 117.77 | 121.90 |
| 12 | B | 820 | A | N1-C6-N6 | 10.33 | 124.80 | 118.60 |
| 12 | B | 2367 | G | N1-C6-O6 | 10.33 | 126.10 | 119.90 |
| 12 | B | 2532 | G | N3-C2-N2 | 10.33 | 127.13 | 119.90 |
| 11 | A | 47 | C | C5-C6-N1 | 10.33 | 126.16 | 121.00 |
| 12 | B | 1504 | A | N1-C6-N6 | 10.33 | 124.80 | 118.60 |
| 12 | B | 2154 | A | N1-C6-N6 | 10.33 | 124.80 | 118.60 |
| 12 | B | 2303 | G | N1-C6-O6 | 10.33 | 126.10 | 119.90 |
| 12 | B | 1684 | G | O4'-C1'-N9 | 10.32 | 116.46 | 108.20 |
| 12 | B | 748 | G | C5-C6-O6 | -10.32 | 122.41 | 128.60 |
| 12 | B | 855 | G | N1-C6-O6 | 10.32 | 126.09 | 119.90 |
| 12 | B | 1109 | C | O4'-C1'-N1 | 10.32 | 116.46 | 108.20 |
| 12 | B | 1204 | A | N1-C6-N6 | 10.32 | 124.79 | 118.60 |
| 12 | B | 375 | G | O4'-C1'-N9 | 10.32 | 116.46 | 108.20 |
| 12 | B | 1954 | G | N1-C6-O6 | 10.32 | 126.09 | 119.90 |
| 12 | B | 714 | U | C5-C6-N1 | 10.32 | 127.86 | 122.70 |
| 12 | B | 260 | G | C5-C6-O6 | -10.32 | 122.41 | 128.60 |
| 12 | B | 251 | A | C5-C6-N6 | -10.31 | 115.45 | 123.70 |
| 12 | B | 447 | A | C5-C6-N6 | -10.31 | 115.45 | 123.70 |
| 12 | B | 1370 | C | C4-C5-C6 | 10.31 | 122.56 | 117.40 |
| 12 | B | 309 | A | N1-C6-N6 | 10.31 | 124.79 | 118.60 |
| 12 | B | 723 | C | O4'-C1'-N1 | 10.31 | 116.45 | 108.20 |
| 12 | B | 743 | A | N1-C6-N6 | 10.31 | 124.79 | 118.60 |
| 12 | B | 1152 | C | C5-C6-N1 | 10.31 | 126.16 | 121.00 |
| 12 | B | 2176 | A | N1-C2-N3 | 10.31 | 134.46 | 129.30 |
| 12 | B | 2380 | C | N3-C4-N4 | 10.31 | 125.22 | 118.00 |
| 12 | B | 2381 | A | C4-C5-C6 | 10.31 | 122.16 | 117.00 |
| 12 | B | 1186 | G | N1-C6-O6 | 10.31 | 126.08 | 119.90 |
| 12 | B | 2011 | U | C5-C4-O4 | -10.30 | 119.72 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 12 | B | 2282 | G | P-O3'-C3' | 10.31 | 132.07 | 119.70 |
| 12 | B | 2315 | G | C5-C6-O6 | -10.30 | 122.42 | 128.60 |
| 12 | B | 1173 | U | C3'-C2'-C1' | 10.30 | 109.74 | 101.50 |
| 12 | B | 945 | A | C2-N3-C4 | -10.30 | 105.45 | 110.60 |
| 12 | B | 737 | C | N3-C4-C5 | -10.30 | 117.78 | 121.90 |
| 12 | B | 984 | A | C5-C6-N1 | -10.30 | 112.55 | 117.70 |
| 12 | B | 1757 | A | O4'-C1'-N9 | 10.30 | 116.44 | 108.20 |
| 12 | B | 62 | U | N3-C4-C5 | -10.29 | 108.42 | 114.60 |
| 12 | B | 917 | A | N1-C2-N3 | 10.29 | 134.45 | 129.30 |
| 12 | B | 1814 | G | C5-C6-O6 | -10.29 | 122.42 | 128.60 |
| 12 | B | 1946 | U | C2-N3-C4 | -10.29 | 120.82 | 127.00 |
| 12 | B | 2869 | G | N3-C2-N2 | 10.29 | 127.11 | 119.90 |
| 12 | B | 1159 | U | O4'-C1'-N1 | 10.29 | 116.43 | 108.20 |
| 12 | B | 1664 | A | C4-C5-C6 | 10.29 | 122.15 | 117.00 |
| 12 | B | 2711 | A | C5-C6-N6 | -10.29 | 115.47 | 123.70 |
| 12 | B | 2645 | G | N3-C4-C5 | 10.29 | 133.74 | 128.60 |
| 4 | 3 | 49 | ARG | NE-CZ-NH1 | 10.29 | 125.44 | 120.30 |
| 12 | B | 1285 | A | C2-N3-C4 | -10.28 | 105.46 | 110.60 |
| 12 | B | 1329 | U | C5-C4-O4 | -10.29 | 119.73 | 125.90 |
| 12 | B | 1597 | A | N1-C6-N6 | 10.29 | 124.77 | 118.60 |
| 12 | B | 694 | U | O4'-C1'-N1 | 10.28 | 116.42 | 108.20 |
| 12 | B | 794 | A | N1-C6-N6 | 10.28 | 124.77 | 118.60 |
| 12 | B | 1707 | G | N7-C8-N9 | 10.28 | 118.24 | 113.10 |
| 12 | B | 130 | C | C5-C4-N4 | -10.28 | 113.00 | 120.20 |
| 12 | B | 417 | C | O4'-C1'-N1 | 10.28 | 116.42 | 108.20 |
| 12 | B | 595 | C | N3-C4-N4 | 10.28 | 125.19 | 118.00 |
| 12 | B | 1031 | G | N3-C2-N2 | 10.28 | 127.10 | 119.90 |
| 12 | B | 630 | G | N1-C6-O6 | 10.28 | 126.07 | 119.90 |
| 12 | B | 1122 | G | N1-C6-O6 | 10.28 | 126.07 | 119.90 |
| 12 | B | 1162 | G | N1-C6-O6 | 10.28 | 126.07 | 119.90 |
| 11 | A | 33 | G | N1-C2-N3 | -10.28 | 117.73 | 123.90 |
| 11 | A | 7 | G | O4'-C1'-N9 | 10.28 | 116.42 | 108.20 |
| 12 | B | 524 | G | C6-N1-C2 | 10.27 | 131.26 | 125.10 |
| 12 | B | 1612 | C | C5-C4-N4 | -10.27 | 113.01 | 120.20 |
| 12 | B | 2753 | A | N1-C6-N6 | 10.27 | 124.76 | 118.60 |
| 12 | B | 2505 | G | C4-C5-N7 | -10.27 | 106.69 | 110.80 |
| 12 | B | 631 | A | C4-C5-N7 | -10.27 | 105.57 | 110.70 |
| 12 | B | 1106 | G | N1-C6-O6 | 10.27 | 126.06 | 119.90 |
| 12 | B | 1106 | G | C5-C6-O6 | -10.27 | 122.44 | 128.60 |
| 12 | B | 2621 | G | C8-N9-C4 | 10.27 | 110.51 | 106.40 |
| 12 | B | 2126 | A | N1-C6-N6 | 10.27 | 124.76 | 118.60 |
| 12 | B | 979 | A | C4-C5-C6 | 10.27 | 122.13 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 11 | A | 45 | A | O4'-C1'-N9 | 10.27 | 116.41 | 108.20 |
| 12 | B | 1069 | A | C8-N9-C4 | -10.27 | 101.69 | 105.80 |
| 12 | B | 1763 | G | C5-C6-O6 | -10.26 | 122.44 | 128.60 |
| 12 | B | 2885 | G | C4-C5-N7 | -10.26 | 106.70 | 110.80 |
| 11 | A | 64 | G | N1-C6-O6 | 10.26 | 126.06 | 119.90 |
| 12 | B | 1434 | A | O4'-C1'-N9 | 10.26 | 116.41 | 108.20 |
| 12 | B | 1032 | A | O4'-C1'-N9 | 10.26 | 116.40 | 108.20 |
| 12 | B | 2297 | A | C4-C5-C6 | 10.26 | 122.13 | 117.00 |
| 12 | B | 1524 | G | C5-C6-O6 | -10.25 | 122.45 | 128.60 |
| 12 | B | 1875 | G | P-O3'-C3' | 10.25 | 132.00 | 119.70 |
| 12 | B | 2364 | C | C4-C5-C6 | 10.25 | 122.53 | 117.40 |
| 12 | B | 2028 | U | O4'-C1'-N1 | 10.25 | 116.40 | 108.20 |
| 12 | B | 242 | G | N3-C2-N2 | 10.25 | 127.07 | 119.90 |
| 12 | B | 1855 | U | C5-C6-N1 | -10.25 | 117.58 | 122.70 |
| 12 | B | 1371 | G | O4'-C1'-N9 | 10.25 | 116.40 | 108.20 |
| 12 | B | 1010 | A | C5-C6-N6 | -10.25 | 115.50 | 123.70 |
| 12 | B | 496 | G | N3-C4-C5 | 10.24 | 133.72 | 128.60 |
| 12 | B | 163 | C | O4'-C1'-N1 | 10.24 | 116.39 | 108.20 |
| 12 | B | 2854 | G | O4'-C1'-N9 | 10.24 | 116.39 | 108.20 |
| 12 | B | 114 | U | N3-C4-C5 | 10.24 | 120.74 | 114.60 |
| 12 | B | 227 | A | N1-C6-N6 | 10.24 | 124.74 | 118.60 |
| 12 | B | 672 | C | O4'-C1'-N1 | 10.24 | 116.39 | 108.20 |
| 12 | B | 996 | A | N9-C4-C5 | -10.24 | 101.70 | 105.80 |
| 12 | B | 1606 | C | C6-N1-C2 | -10.24 | 116.20 | 120.30 |
| 12 | B | 1665 | A | O4'-C1'-N9 | 10.24 | 116.39 | 108.20 |
| 12 | B | 186 | G | O4'-C1'-N9 | 10.23 | 116.39 | 108.20 |
| 12 | B | 1844 | C | N1-C2-O2 | 10.23 | 125.04 | 118.90 |
| 12 | B | 2635 | A | N1-C6-N6 | 10.23 | 124.74 | 118.60 |
| 11 | A | 21 | G | N1-C6-O6 | 10.23 | 126.04 | 119.90 |
| 12 | B | 10 | A | C8-N9-C4 | 10.23 | 109.89 | 105.80 |
| 12 | B | 1235 | G | N1-C6-O6 | 10.23 | 126.04 | 119.90 |
| 12 | B | 116 | C | N3-C4-N4 | 10.23 | 125.16 | 118.00 |
| 12 | B | 565 | C | O4'-C1'-N1 | 10.23 | 116.38 | 108.20 |
| 12 | B | 675 | A | N7-C8-N9 | -10.23 | 108.69 | 113.80 |
| 12 | B | 1679 | A | C5-C6-N6 | -10.23 | 115.52 | 123.70 |
| 12 | B | 2015 | A | C4-C5-C6 | 10.23 | 122.11 | 117.00 |
| 12 | B | 389 | G | N3-C2-N2 | 10.22 | 127.06 | 119.90 |
| 12 | B | 909 | A | N1-C6-N6 | 10.22 | 124.73 | 118.60 |
| 12 | B | 2080 | A | C4-C5-C6 | 10.22 | 122.11 | 117.00 |
| 12 | B | 2866 | U | C5-C6-N1 | 10.22 | 127.81 | 122.70 |
| 12 | B | 95 | A | C5-C6-N6 | -10.22 | 115.52 | 123.70 |
| 12 | B | 1618 | A | N1-C6-N6 | 10.22 | 124.73 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 10 | 9 | 231 | PHE | CB-CG-CD1 | 10.22 | 127.95 | 120.80 |
| 12 | B | 975 | A | C4-C5-C6 | 10.22 | 122.11 | 117.00 |
| 12 | B | 1505 | A | N9-C4-C5 | 10.22 | 109.89 | 105.80 |
| 12 | B | 1557 | C | N3-C4-N4 | 10.22 | 125.15 | 118.00 |
| 12 | B | 733 | G | P-O5'-C5' | 10.22 | 137.25 | 120.90 |
| 12 | B | 1162 | G | O4'-C1'-N9 | 10.22 | 116.37 | 108.20 |
| 12 | B | 2018 | G | O4'-C1'-N9 | 10.22 | 116.37 | 108.20 |
| 12 | B | 207 | A | C5-C6-N6 | -10.21 | 115.53 | 123.70 |
| 12 | B | 1160 | G | C8-N9-C4 | -10.21 | 102.31 | 106.40 |
| 12 | B | 1436 | G | N3-C4-C5 | 10.21 | 133.71 | 128.60 |
| 12 | B | 841 | G | N1-C6-O6 | 10.21 | 126.03 | 119.90 |
| 12 | B | 1978 | A | C5-N7-C8 | 10.21 | 109.00 | 103.90 |
| 12 | B | 212 | G | O4'-C1'-N9 | 10.21 | 116.36 | 108.20 |
| 12 | B | 1535 | A | O4'-C1'-N9 | 10.21 | 116.36 | 108.20 |
| 12 | B | 1086 | A | C4-C5-C6 | 10.20 | 122.10 | 117.00 |
| 12 | B | 1847 | A | C5-C6-N6 | -10.20 | 115.54 | 123.70 |
| 12 | B | 2168 | G | C8-N9-C4 | -10.20 | 102.32 | 106.40 |
| 12 | B | 2319 | G | C5-N7-C8 | -10.20 | 99.20 | 104.30 |
| 12 | B | 655 | A | C2-N3-C4 | -10.20 | 105.50 | 110.60 |
| 12 | B | 1178 | C | N3-C4-N4 | 10.20 | 125.14 | 118.00 |
| 12 | B | 1259 | G | C5-C6-N1 | -10.20 | 106.40 | 111.50 |
| 12 | B | 1735 | A | C5-C6-N6 | -10.20 | 115.54 | 123.70 |
| 11 | A | 81 | G | C4-C5-N7 | 10.20 | 114.88 | 110.80 |
| 12 | B | 1916 | A | N9-C4-C5 | 10.20 | 109.88 | 105.80 |
| 12 | B | 2340 | A | C5-C6-N6 | -10.20 | 115.54 | 123.70 |
| 4 | 3 | 48 | TYR | CB-CG-CD2 | -10.20 | 114.88 | 121.00 |
| 12 | B | 2334 | U | C5-C4-O4 | 10.19 | 132.02 | 125.90 |
| 12 | B | 1059 | G | C5-C6-N1 | -10.19 | 106.40 | 111.50 |
| 12 | B | 1123 | C | N3-C4-C5 | -10.19 | 117.82 | 121.90 |
| 12 | B | 1265 | A | C6-N1-C2 | -10.19 | 112.48 | 118.60 |
| 12 | B | 1416 | G | C2-N3-C4 | -10.19 | 106.80 | 111.90 |
| 11 | A | 42 | C | N3-C4-C5 | -10.19 | 117.82 | 121.90 |
| 12 | B | 198 | C | C4-C5-C6 | 10.19 | 122.50 | 117.40 |
| 12 | B | 858 | G | N1-C6-O6 | 10.19 | 126.01 | 119.90 |
| 12 | B | 2509 | G | O4'-C1'-N9 | 10.19 | 116.35 | 108.20 |
| 12 | B | 2861 | U | O4'-C1'-N1 | 10.19 | 116.35 | 108.20 |
| 12 | B | 449 | A | C4-C5-C6 | 10.19 | 122.09 | 117.00 |
| 12 | B | 659 | G | N1-C6-O6 | 10.19 | 126.01 | 119.90 |
| 12 | B | 2826 | A | N1-C6-N6 | 10.19 | 124.71 | 118.60 |
| 12 | B | 2864 | G | O4'-C1'-N9 | 10.19 | 116.35 | 108.20 |
| 12 | B | 1237 | A | N7-C8-N9 | 10.18 | 118.89 | 113.80 |
| 12 | B | 1085 | A | C8-N9-C4 | -10.18 | 101.73 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2161 | C | N3-C4-N4 | 10.18 | 125.13 | 118.00 |
| 12 | B | 2224 | G | N1-C6-O6 | 10.18 | 126.01 | 119.90 |
| 12 | B | 2503 | A | C4-C5-N7 | -10.18 | 105.61 | 110.70 |
| 12 | B | 2672 | U | C5-C4-O4 | -10.18 | 119.79 | 125.90 |
| 12 | B | 279 | A | N1-C2-N3 | 10.18 | 134.39 | 129.30 |
| 12 | B | 507 | A | N1-C2-N3 | 10.18 | 134.39 | 129.30 |
| 12 | B | 617 | G | N1-C6-O6 | 10.18 | 126.00 | 119.90 |
| 11 | A | 43 | C | C6-N1-C2 | -10.17 | 116.23 | 120.30 |
| 12 | B | 2633 | G | O4'-C1'-N9 | 10.17 | 116.34 | 108.20 |
| 12 | B | 505 | A | O4'-C1'-N9 | 10.17 | 116.34 | 108.20 |
| 12 | B | 910 | A | C5-C6-N6 | -10.17 | 115.56 | 123.70 |
| 12 | B | 1008 | A | C5-N7-C8 | 10.17 | 108.98 | 103.90 |
| 6 | 5 | 56 | ASP | CB-CG-OD2 | 10.16 | 127.45 | 118.30 |
| 12 | B | 472 | A | C5-C6-N6 | -10.16 | 115.57 | 123.70 |
| 12 | B | 1319 | C | N3-C4-C5 | -10.16 | 117.83 | 121.90 |
| 12 | B | 539 | G | N3-C2-N2 | 10.16 | 127.01 | 119.90 |
| 12 | B | 1496 | A | C5-C6-N1 | -10.16 | 112.62 | 117.70 |
| 12 | B | 1838 | C | N3-C4-N4 | 10.16 | 125.11 | 118.00 |
| 12 | B | 1899 | A | N1-C6-N6 | 10.16 | 124.70 | 118.60 |
| 12 | B | 2004 | G | C5-C6-O6 | -10.16 | 122.50 | 128.60 |
| 12 | B | 2228 | G | O4'-C1'-N9 | 10.16 | 116.33 | 108.20 |
| 12 | B | 169 | G | C5-C6-N1 | -10.16 | 106.42 | 111.50 |
| 12 | B | 186 | G | N1-C6-O6 | 10.16 | 126.00 | 119.90 |
| 12 | B | 334 | C | C5-C4-N4 | -10.16 | 113.09 | 120.20 |
| 12 | B | 181 | A | C8-N9-C4 | -10.16 | 101.74 | 105.80 |
| 12 | B | 307 | G | C6-C5-N7 | -10.16 | 124.31 | 130.40 |
| 12 | B | 1905 | C | N3-C4-C5 | -10.16 | 117.84 | 121.90 |
| 12 | B | 2322 | A | C5-C6-N1 | -10.16 | 112.62 | 117.70 |
| 12 | B | 758 | C | O4'-C1'-N1 | 10.16 | 116.33 | 108.20 |
| 12 | B | 2089 | C | O4'-C1'-N1 | 10.16 | 116.33 | 108.20 |
| 12 | B | 1528 | A | C4-C5-C6 | 10.15 | 122.08 | 117.00 |
| 12 | B | 649 | G | C5-C6-O6 | -10.15 | 122.51 | 128.60 |
| 12 | B | 1373 | A | C6-C5-N7 | -10.15 | 125.19 | 132.30 |
| 12 | B | 2858 | C | C5-C6-N1 | 10.15 | 126.08 | 121.00 |
| 12 | B | 1654 | A | N1-C2-N3 | 10.15 | 134.38 | 129.30 |
| 12 | B | 1787 | A | C4-C5-C6 | 10.15 | 122.08 | 117.00 |
| 12 | B | 1244 | A | C4-C5-C6 | 10.15 | 122.07 | 117.00 |
| 12 | B | 213 | A | N1-C6-N6 | 10.15 | 124.69 | 118.60 |
| 12 | B | 1991 | U | O4'-C1'-N1 | 10.15 | 116.32 | 108.20 |
| 20 | J | 116 | ARG | NE-CZ-NH2 | -10.15 | 115.23 | 120.30 |
| 12 | B | 1402 | U | C5-C4-O4 | -10.14 | 119.81 | 125.90 |
| 1 | 0 | 45 | PHE | CB-CG-CD1 | 10.14 | 127.90 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 995 | C | N3-C4-N4 | 10.14 | 125.10 | 118.00 |
| 12 | B | 1310 | G | O4'-C1'-N9 | 10.14 | 116.31 | 108.20 |
| 12 | B | 1662 | U | O4'-C1'-N1 | 10.14 | 116.31 | 108.20 |
| 12 | B | 41 | C | N3-C4-C5 | -10.14 | 117.85 | 121.90 |
| 12 | B | 193 | U | O4'-C1'-N1 | 10.13 | 116.31 | 108.20 |
| 12 | B | 891 | G | C5-C6-N1 | -10.13 | 106.43 | 111.50 |
| 12 | B | 2242 | G | C5-C6-O6 | -10.13 | 122.52 | 128.60 |
| 12 | B | 2287 | A | N1-C6-N6 | 10.13 | 124.68 | 118.60 |
| 12 | B | 2430 | A | C4-C5-C6 | 10.13 | 122.06 | 117.00 |
| 12 | B | 2501 | C | N3-C4-C5 | -10.13 | 117.85 | 121.90 |
| 12 | B | 221 | A | C4-C5-C6 | 10.12 | 122.06 | 117.00 |
| 12 | B | 522 | A | C5-N7-C8 | 10.12 | 108.96 | 103.90 |
| 11 | A | 53 | A | C4-C5-C6 | 10.12 | 122.06 | 117.00 |
| 12 | B | 1563 | U | O4'-C1'-N1 | 10.12 | 116.30 | 108.20 |
| 12 | B | 783 | A | C5-C6-N1 | -10.11 | 112.64 | 117.70 |
| 12 | B | 912 | C | N1-C2-O2 | -10.12 | 112.83 | 118.90 |
| 12 | B | 252 | G | C6-C5-N7 | -10.11 | 124.33 | 130.40 |
| 12 | B | 816 | C | O4'-C1'-N1 | 10.11 | 116.29 | 108.20 |
| 12 | B | 941 | A | C4-C5-C6 | 10.11 | 122.06 | 117.00 |
| 12 | B | 2310 | C | N1-C2-O2 | 10.11 | 124.97 | 118.90 |
| 12 | B | 843 | G | C6-N1-C2 | 10.11 | 131.17 | 125.10 |
| 12 | B | 2211 | A | N1-C6-N6 | 10.11 | 124.67 | 118.60 |
| 12 | B | 529 | A | N1-C6-N6 | 10.11 | 124.67 | 118.60 |
| 12 | B | 2706 | A | C5-C6-N1 | -10.11 | 112.65 | 117.70 |
| 12 | B | 466 | A | N1-C2-N3 | -10.11 | 124.25 | 129.30 |
| 12 | B | 1265 | A | N1-C2-N3 | 10.11 | 134.35 | 129.30 |
| 12 | B | 1414 | C | C2-N3-C4 | 10.11 | 124.95 | 119.90 |
| 12 | B | 2703 | C | C4-C5-C6 | -10.11 | 112.35 | 117.40 |
| 12 | B | 460 | A | N1-C6-N6 | 10.10 | 124.66 | 118.60 |
| 12 | B | 2068 | U | C5-C4-O4 | -10.10 | 119.84 | 125.90 |
| 12 | B | 338 | G | N1-C6-O6 | 10.10 | 125.96 | 119.90 |
| 12 | B | 201 | C | O4'-C1'-N1 | 10.10 | 116.28 | 108.20 |
| 12 | B | 1010 | A | C4-C5-C6 | 10.10 | 122.05 | 117.00 |
| 12 | B | 2572 | A | C8-N9-C4 | -10.10 | 101.76 | 105.80 |
| 12 | B | 2869 | G | O4'-C1'-N9 | 10.10 | 116.28 | 108.20 |
| 12 | B | 726 | G | C4-C5-N7 | -10.10 | 106.76 | 110.80 |
| 12 | B | 1505 | A | C4-C5-C6 | 10.10 | 122.05 | 117.00 |
| 12 | B | 2795 | C | O4'-C1'-N1 | 10.09 | 116.28 | 108.20 |
| 12 | B | 109 | C | N3-C4-N4 | 10.09 | 125.06 | 118.00 |
| 12 | B | 1661 | G | O4'-C1'-N9 | 10.09 | 116.27 | 108.20 |
| 12 | B | 455 | C | P-O3'-C3' | -10.09 | 107.59 | 119.70 |
| 12 | B | 1311 | G | N3-C4-C5 | -10.09 | 123.56 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2600 | A | C5-C6-N1 | -10.09 | 112.66 | 117.70 |
| 12 | B | 59 | U | C5-C6-N1 | 10.09 | 127.74 | 122.70 |
| 12 | B | 825 | A | C8-N9-C4 | -10.09 | 101.77 | 105.80 |
| 12 | B | 2224 | G | N3-C2-N2 | 10.09 | 126.96 | 119.90 |
| 12 | B | 2240 | U | O4'-C1'-N1 | 10.09 | 116.27 | 108.20 |
| 12 | B | 862 | G | N3-C2-N2 | 10.08 | 126.96 | 119.90 |
| 12 | B | 1037 | G | N1-C6-O6 | 10.08 | 125.95 | 119.90 |
| 12 | B | 2021 | C | C2-N3-C4 | 10.08 | 124.94 | 119.90 |
| 12 | B | 289 | G | O4'-C1'-N9 | 10.08 | 116.26 | 108.20 |
| 12 | B | 577 | G | N1-C2-N3 | -10.07 | 117.86 | 123.90 |
| 12 | B | 2207 | C | O4'-C1'-N1 | 10.07 | 116.26 | 108.20 |
| 12 | B | 2537 | U | P-O5'-C5' | 10.07 | 137.02 | 120.90 |
| 12 | B | 1862 | G | C5-C6-O6 | -10.07 | 122.56 | 128.60 |
| 12 | B | 507 | A | N1-C6-N6 | 10.07 | 124.64 | 118.60 |
| 12 | B | 1732 | C | N3-C4-C5 | -10.07 | 117.87 | 121.90 |
| 12 | B | 2646 | C | N1-C2-O2 | -10.07 | 112.86 | 118.90 |
| 12 | B | 2848 | G | C5-C6-O6 | -10.07 | 122.56 | 128.60 |
| 12 | B | 2330 | G | N1-C2-N2 | -10.07 | 107.14 | 116.20 |
| 12 | B | 2810 | A | N9-C4-C5 | 10.07 | 109.83 | 105.80 |
| 12 | B | 2856 | A | C5-C6-N6 | -10.07 | 115.64 | 123.70 |
| 11 | A | 60 | C | C4-C5-C6 | 10.07 | 122.43 | 117.40 |
| 12 | B | 386 | G | N1-C6-O6 | 10.07 | 125.94 | 119.90 |
| 12 | B | 534 | U | O4'-C1'-N1 | 10.07 | 116.25 | 108.20 |
| 12 | B | 2885 | G | C5-N7-C8 | 10.07 | 109.33 | 104.30 |
| 15 | E | 170 | ARG | NE-CZ-NH1 | -10.07 | 115.27 | 120.30 |
| 12 | B | 675 | A | C5-N7-C8 | 10.06 | 108.93 | 103.90 |
| 12 | B | 1223 | G | C8-N9-C4 | -10.06 | 102.37 | 106.40 |
| 12 | B | 110 | G | N1-C6-O6 | 10.06 | 125.94 | 119.90 |
| 12 | B | 914 | G | C5-N7-C8 | 10.06 | 109.33 | 104.30 |
| 12 | B | 1050 | A | C5-N7-C8 | 10.06 | 108.93 | 103.90 |
| 12 | B | 2494 | G | N1-C6-O6 | 10.06 | 125.94 | 119.90 |
| 12 | B | 2677 | G | C8-N9-C4 | -10.06 | 102.38 | 106.40 |
| 12 | B | 293 | U | C5-C6-N1 | 10.06 | 127.73 | 122.70 |
| 12 | B | 1455 | G | N3-C2-N2 | 10.06 | 126.94 | 119.90 |
| 12 | B | 2150 | C | C5-C6-N1 | 10.06 | 126.03 | 121.00 |
| 12 | B | 2315 | G | O4'-C1'-N9 | 10.06 | 116.25 | 108.20 |
| 12 | B | 81 | G | N1-C6-O6 | 10.05 | 125.93 | 119.90 |
| 12 | B | 1699 | G | C5-C6-O6 | -10.05 | 122.57 | 128.60 |
| 12 | B | 178 | G | C4-C5-N7 | -10.05 | 106.78 | 110.80 |
| 12 | B | 341 | C | N3-C4-C5 | -10.05 | 117.88 | 121.90 |
| 12 | B | 2279 | G | C6-C5-N7 | -10.05 | 124.37 | 130.40 |
| 12 | B | 1827 | U | C5-C6-N1 | 10.05 | 127.72 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2596 | U | O4'-C1'-N1 | 10.05 | 116.24 | 108.20 |
| 12 | B | 199 | A | C5-C6-N6 | -10.05 | 115.66 | 123.70 |
| 12 | B | 711 | G | N3-C2-N2 | 10.04 | 126.93 | 119.90 |
| 12 | B | 1484 | U | N3-C4-O4 | 10.04 | 126.43 | 119.40 |
| 12 | B | 2033 | A | C4-C5-N7 | -10.04 | 105.68 | 110.70 |
| 12 | B | 1814 | G | N1-C2-N3 | -10.04 | 117.88 | 123.90 |
| 12 | B | 2424 | C | C6-N1-C2 | -10.04 | 116.28 | 120.30 |
| 12 | B | 974 | G | O4'-C1'-N9 | 10.04 | 116.23 | 108.20 |
| 12 | B | 1392 | A | C5-C6-N1 | -10.04 | 112.68 | 117.70 |
| 12 | B | 2045 | C | C6-N1-C2 | -10.04 | 116.28 | 120.30 |
| 12 | B | 1028 | A | N1-C6-N6 | 10.04 | 124.62 | 118.60 |
| 12 | B | 194 | G | C8-N9-C4 | -10.04 | 102.39 | 106.40 |
| 12 | B | 581 | C | P-O5'-C5' | 10.04 | 136.96 | 120.90 |
| 12 | B | 1057 | A | C5-N7-C8 | 10.03 | 108.92 | 103.90 |
| 12 | B | 1711 | A | O4'-C1'-N9 | 10.03 | 116.22 | 108.20 |
| 12 | B | 2451 | A | O4'-C1'-N9 | 10.03 | 116.22 | 108.20 |
| 12 | B | 2666 | C | C6-N1-C1' | -10.03 | 108.76 | 120.80 |
| 12 | B | 440 | C | O4'-C1'-N1 | 10.03 | 116.22 | 108.20 |
| 12 | B | 282 | A | C5-C6-N1 | -10.03 | 112.69 | 117.70 |
| 12 | B | 2070 | A | C5-C6-N1 | -10.03 | 112.69 | 117.70 |
| 12 | B | 2724 | U | O4'-C1'-N1 | 10.03 | 116.22 | 108.20 |
| 12 | B | 2870 | C | O4'-C1'-N1 | 10.03 | 116.22 | 108.20 |
| 11 | A | 88 | C | O4'-C1'-N1 | 10.02 | 116.22 | 108.20 |
| 12 | B | 2032 | G | C5-C6-O6 | -10.02 | 122.59 | 128.60 |
| 12 | B | 539 | G | N1-C6-O6 | 10.02 | 125.91 | 119.90 |
| 12 | B | 592 | A | C4-C5-C6 | 10.02 | 122.01 | 117.00 |
| 12 | B | 654 | A | C5-C6-N6 | -10.02 | 115.69 | 123.70 |
| 12 | B | 1284 | A | C5-C6-N6 | -10.02 | 115.69 | 123.70 |
| 12 | B | 2300 | C | C6-N1-C2 | -10.02 | 116.29 | 120.30 |
| 12 | B | 2674 | G | C5-C6-N1 | -10.02 | 106.49 | 111.50 |
| 12 | B | 1067 | A | O4'-C1'-N9 | 10.02 | 116.21 | 108.20 |
| 12 | B | 2056 | G | C2-N3-C4 | 10.02 | 116.91 | 111.90 |
| 12 | B | 2547 | A | O4'-C1'-N9 | 10.02 | 116.21 | 108.20 |
| 12 | B | 1297 | C | N3-C4-N4 | 10.01 | 125.01 | 118.00 |
| 12 | B | 1613 | G | N9-C4-C5 | -10.01 | 101.39 | 105.40 |
| 12 | B | 2412 | A | C5-C6-N6 | -10.01 | 115.69 | 123.70 |
| 12 | B | 2474 | U | O4'-C1'-N1 | 10.01 | 116.21 | 108.20 |
| 12 | B | 2631 | G | C6-C5-N7 | -10.01 | 124.39 | 130.40 |
| 12 | B | 1385 | A | C4-C5-C6 | 10.01 | 122.00 | 117.00 |
| 12 | B | 1286 | A | C5-C6-N1 | -10.01 | 112.70 | 117.70 |
| 12 | B | 2063 | C | N3-C4-N4 | 10.01 | 125.01 | 118.00 |
| 12 | B | 281 | C | C4-C5-C6 | 10.01 | 122.40 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | B | 2418 | A | O4'-C1'-N9 | 10.00 | 116.20 | 108.20 |
| 12 | B | 2812 | G | C5-C6-O6 | -10.00 | 122.60 | 128.60 |
| 12 | B | 30 | G | C5-C6-O6 | -10.00 | 122.60 | 128.60 |
| 12 | B | 368 | A | N1-C2-N3 | 10.00 | 134.30 | 129.30 |
| 12 | B | 392 | U | C5-C4-O4 | -10.00 | 119.90 | 125.90 |
| 12 | B | 951 | C | O4'-C1'-N1 | 10.00 | 116.20 | 108.20 |
| 12 | B | 1495 | A | N1-C6-N6 | 10.00 | 124.60 | 118.60 |
| 12 | B | 2201 | G | N1-C6-O6 | 10.00 | 125.90 | 119.90 |
| 12 | B | 2585 | U | O4'-C1'-N1 | 10.00 | 116.20 | 108.20 |
| 12 | B | 142 | A | O4'-C1'-N9 | 10.00 | 116.20 | 108.20 |
| 12 | B | 1590 | A | C5-C6-N1 | -10.00 | 112.70 | 117.70 |
| 12 | B | 2200 | C | O4'-C1'-N1 | 10.00 | 116.20 | 108.20 |
| 12 | B | 2591 | C | N3-C4-C5 | -9.99 | 117.90 | 121.90 |
| 12 | B | 636 | G | N1-C6-O6 | 9.99 | 125.90 | 119.90 |
| 12 | B | 1269 | A | C8-N9-C4 | -9.99 | 101.80 | 105.80 |
| 12 | B | 724 | U | O4'-C1'-N1 | 9.99 | 116.19 | 108.20 |
| 12 | B | 1927 | A | C5-C6-N6 | -9.99 | 115.71 | 123.70 |
| 12 | B | 532 | A | N1-C2-N3 | -9.99 | 124.31 | 129.30 |
| 12 | B | 1480 | C | C2-N3-C4 | 9.99 | 124.89 | 119.90 |
| 12 | B | 1496 | A | C6-C5-N7 | -9.99 | 125.31 | 132.30 |
| 12 | B | 2208 | C | N3-C4-C5 | -9.99 | 117.90 | 121.90 |
| 12 | B | 2451 | A | N1-C6-N6 | 9.99 | 124.59 | 118.60 |
| 11 | A | 103 | U | O4'-C1'-N1 | 9.99 | 116.19 | 108.20 |
| 12 | B | 699 | A | N1-C6-N6 | 9.99 | 124.59 | 118.60 |
| 12 | B | 2589 | A | N1-C6-N6 | 9.99 | 124.59 | 118.60 |
| 12 | B | 1880 | U | O4'-C1'-N1 | 9.98 | 116.19 | 108.20 |
| 12 | B | 467 | G | C5-C6-O6 | -9.98 | 122.61 | 128.60 |
| 12 | B | 840 | C | C5-C4-N4 | -9.98 | 113.21 | 120.20 |
| 12 | B | 916 | G | C5-C6-N1 | -9.98 | 106.51 | 111.50 |
| 12 | B | 765 | C | O4'-C1'-N1 | 9.98 | 116.19 | 108.20 |
| 12 | B | 1414 | C | O4'-C1'-N1 | 9.98 | 116.19 | 108.20 |
| 12 | B | 2590 | A | C4-C5-C6 | 9.98 | 121.99 | 117.00 |
| 12 | B | 2749 | A | N1-C6-N6 | 9.98 | 124.59 | 118.60 |
| 12 | B | 2884 | U | O4'-C1'-N1 | 9.98 | 116.18 | 108.20 |
| 12 | B | 700 | G | N1-C6-O6 | 9.98 | 125.89 | 119.90 |
| 12 | B | 1017 | G | N1-C6-O6 | 9.98 | 125.89 | 119.90 |
| 12 | B | 1599 | U | C5-C6-N1 | 9.98 | 127.69 | 122.70 |
| 12 | B | 83 | A | N1-C6-N6 | 9.97 | 124.58 | 118.60 |
| 12 | B | 1032 | A | N1-C2-N3 | -9.97 | 124.31 | 129.30 |
| 12 | B | 2147 | A | C4-C5-C6 | 9.97 | 121.99 | 117.00 |
| 12 | B | 2432 | A | C4-C5-C6 | 9.97 | 121.99 | 117.00 |
| 11 | A | 66 | A | P-O3'-C3' | 9.97 | 131.66 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1430 | G | C5-C6-N1 | -9.97 | 106.51 | 111.50 |
| 12 | B | 2014 | A | C4-C5-C6 | 9.97 | 121.99 | 117.00 |
| 12 | B | 706 | A | C4-C5-C6 | 9.97 | 121.98 | 117.00 |
| 12 | B | 1448 | G | N1-C6-O6 | 9.97 | 125.88 | 119.90 |
| 12 | B | 2648 | G | C6-N1-C2 | 9.97 | 131.08 | 125.10 |
| 12 | B | 402 | A | C8-N9-C4 | -9.97 | 101.81 | 105.80 |
| 12 | B | 950 | G | C5-C6-O6 | -9.96 | 122.62 | 128.60 |
| 12 | B | 195 | A | N1-C6-N6 | 9.96 | 124.58 | 118.60 |
| 12 | B | 1041 | G | C6-C5-N7 | -9.96 | 124.42 | 130.40 |
| 12 | B | 2691 | C | O4'-C1'-N1 | 9.96 | 116.17 | 108.20 |
| 12 | B | 1276 | A | C8-N9-C4 | -9.96 | 101.82 | 105.80 |
| 12 | B | 1954 | G | C8-N9-C4 | 9.96 | 110.38 | 106.40 |
| 12 | B | 2452 | C | C6-N1-C2 | -9.96 | 116.32 | 120.30 |
| 12 | B | 2310 | C | N3-C2-O2 | -9.96 | 114.93 | 121.90 |
| 11 | A | 23 | G | C5-C6-O6 | -9.95 | 122.63 | 128.60 |
| 12 | B | 152 | A | C5-C6-N1 | -9.95 | 112.72 | 117.70 |
| 12 | B | 871 | U | C4-C5-C6 | 9.95 | 125.67 | 119.70 |
| 12 | B | 2645 | G | C4-C5-N7 | 9.95 | 114.78 | 110.80 |
| 27 | Q | 69 | ARG | NE-CZ-NH1 | -9.95 | 115.33 | 120.30 |
| 12 | B | 1268 | A | C5-N7-C8 | 9.95 | 108.87 | 103.90 |
| 12 | B | 1274 | A | C5-C6-N1 | -9.95 | 112.73 | 117.70 |
| 12 | B | 1407 | G | C4-C5-N7 | -9.95 | 106.82 | 110.80 |
| 12 | B | 1759 | A | N9-C4-C5 | 9.94 | 109.78 | 105.80 |
| 12 | B | 1990 | C | N1-C2-N3 | 9.95 | 126.16 | 119.20 |
| 11 | A | 103 | U | N3-C4-O4 | 9.94 | 126.36 | 119.40 |
| 12 | B | 1547 | C | N3-C4-C5 | -9.94 | 117.92 | 121.90 |
| 12 | B | 1910 | G | C5-C6-O6 | -9.94 | 122.64 | 128.60 |
| 12 | B | 1348 | C | C4-C5-C6 | 9.94 | 122.37 | 117.40 |
| 12 | B | 1502 | A | C5-C6-N6 | -9.94 | 115.75 | 123.70 |
| 12 | B | 2077 | A | C5-C6-N1 | -9.94 | 112.73 | 117.70 |
| 12 | B | 2410 | G | N7-C8-N9 | -9.94 | 108.13 | 113.10 |
| 12 | B | 2093 | G | N9-C4-C5 | 9.94 | 109.37 | 105.40 |
| 12 | B | 2112 | G | C5-C6-O6 | -9.94 | 122.64 | 128.60 |
| 12 | B | 1044 | C | N3-C4-C5 | -9.93 | 117.93 | 121.90 |
| 12 | B | 1649 | G | O4'-C1'-N9 | 9.93 | 116.15 | 108.20 |
| 12 | B | 2727 | A | C5-C6-N1 | -9.93 | 112.73 | 117.70 |
| 12 | B | 5 | A | N1-C6-N6 | 9.93 | 124.56 | 118.60 |
| 12 | B | 1230 | A | C8-N9-C4 | -9.93 | 101.83 | 105.80 |
| 12 | B | 1266 | G | C6-C5-N7 | -9.93 | 124.44 | 130.40 |
| 12 | B | 1980 | G | N3-C2-N2 | 9.93 | 126.85 | 119.90 |
| 12 | B | 908 | C | O4'-C1'-N1 | 9.93 | 116.14 | 108.20 |
| 12 | B | 1727 | C | N3-C4-N4 | 9.93 | 124.95 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1115 | G | N7-C8-N9 | -9.92 | 108.14 | 113.10 |
| 12 | B | 1682 | G | N9-C4-C5 | -9.92 | 101.43 | 105.40 |
| 11 | A | 36 | C | N3-C4-C5 | -9.92 | 117.93 | 121.90 |
| 12 | B | 2466 | C | C6-N1-C2 | -9.92 | 116.33 | 120.30 |
| 12 | B | 2553 | G | C5-C6-O6 | -9.92 | 122.65 | 128.60 |
| 12 | B | 191 | A | C2-N3-C4 | -9.92 | 105.64 | 110.60 |
| 12 | B | 439 | A | C8-N9-C4 | -9.92 | 101.83 | 105.80 |
| 12 | B | 1074 | G | N1-C6-O6 | 9.92 | 125.85 | 119.90 |
| 12 | B | 1260 | A | C5-C6-N6 | -9.92 | 115.77 | 123.70 |
| 12 | B | 1317 | G | C2-N3-C4 | 9.92 | 116.86 | 111.90 |
| 12 | B | 1683 | U | O4'-C1'-N1 | 9.92 | 116.13 | 108.20 |
| 12 | B | 1906 | G | N1-C6-O6 | 9.92 | 125.85 | 119.90 |
| 12 | B | 307 | G | C5-C6-N1 | -9.91 | 106.54 | 111.50 |
| 12 | B | 2885 | G | O4'-C1'-N9 | 9.91 | 116.13 | 108.20 |
| 12 | B | 319 | G | C5-N7-C8 | 9.91 | 109.26 | 104.30 |
| 12 | B | 964 | C | O4'-C1'-N1 | 9.91 | 116.13 | 108.20 |
| 12 | B | 1618 | A | N9-C4-C5 | 9.91 | 109.77 | 105.80 |
| 12 | B | 2184 | A | C5-C6-N6 | -9.91 | 115.77 | 123.70 |
| 12 | B | 2830 | C | O4'-C1'-N1 | 9.91 | 116.13 | 108.20 |
| 12 | B | 2651 | C | C5-C6-N1 | 9.91 | 125.95 | 121.00 |
| 12 | B | 1572 | A | C4-C5-C6 | 9.91 | 121.95 | 117.00 |
| 12 | B | 2454 | G | O4'-C1'-N9 | 9.91 | 116.13 | 108.20 |
| 12 | B | 2802 | G | C6-C5-N7 | -9.91 | 124.46 | 130.40 |
| 12 | B | 245 | G | C6-C5-N7 | -9.90 | 124.46 | 130.40 |
| 11 | A | 100 | G | N1-C6-O6 | 9.90 | 125.84 | 119.90 |
| 12 | B | 670 | A | C4-C5-C6 | 9.90 | 121.95 | 117.00 |
| 12 | B | 1276 | A | C5-C6-N6 | -9.90 | 115.78 | 123.70 |
| 11 | A | 14 | U | C5-C6-N1 | 9.90 | 127.65 | 122.70 |
| 12 | B | 1518 | C | O4'-C1'-N1 | 9.90 | 116.12 | 108.20 |
| 12 | B | 2019 | A | N1-C6-N6 | 9.90 | 124.54 | 118.60 |
| 12 | B | 42 | A | C4-C5-C6 | 9.90 | 121.95 | 117.00 |
| 12 | B | 273 | G | C2-N3-C4 | 9.90 | 116.85 | 111.90 |
| 12 | B | 1725 | U | C5-C6-N1 | 9.90 | 127.65 | 122.70 |
| 12 | B | 1896 | G | C5-C6-O6 | -9.90 | 122.66 | 128.60 |
| 12 | B | 2814 | A | O4'-C1'-N9 | 9.90 | 116.12 | 108.20 |
| 12 | B | 665 | U | O4'-C1'-N1 | 9.89 | 116.11 | 108.20 |
| 12 | B | 692 | C | O4'-C1'-N1 | 9.89 | 116.11 | 108.20 |
| 12 | B | 808 | G | N1-C6-O6 | 9.89 | 125.84 | 119.90 |
| 12 | B | 1929 | G | P-O3'-C3' | 9.89 | 131.57 | 119.70 |
| 12 | B | 368 | A | N9-C4-C5 | 9.89 | 109.76 | 105.80 |
| 12 | B | 736 | C | O4'-C1'-N1 | 9.89 | 116.11 | 108.20 |
| 12 | B | 2876 | G | O4'-C1'-N9 | 9.89 | 116.11 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1230 | A | O4'-C1'-N9 | 9.89 | 116.11 | 108.20 |
| 12 | B | 2424 | C | N3-C4-C5 | -9.89 | 117.94 | 121.90 |
| 12 | B | 2597 | G | C8-N9-C4 | -9.89 | 102.44 | 106.40 |
| 12 | B | 890 | C | O4'-C1'-N1 | 9.88 | 116.11 | 108.20 |
| 12 | B | 2059 | A | C8-N9-C4 | -9.89 | 101.85 | 105.80 |
| 12 | B | 1580 | A | C5-N7-C8 | 9.88 | 108.84 | 103.90 |
| 12 | B | 27 | G | N3-C2-N2 | 9.88 | 126.82 | 119.90 |
| 12 | B | 2297 | A | N1-C6-N6 | 9.88 | 124.53 | 118.60 |
| 12 | B | 256 | A | O4'-C1'-N9 | 9.88 | 116.10 | 108.20 |
| 12 | B | 1070 | A | C5-C6-N1 | -9.88 | 112.76 | 117.70 |
| 12 | B | 1305 | C | N3-C4-N4 | 9.88 | 124.91 | 118.00 |
| 12 | B | 2039 | U | O4'-C1'-N1 | 9.88 | 116.10 | 108.20 |
| 12 | B | 2264 | C | O4'-C1'-N1 | 9.88 | 116.10 | 108.20 |
| 12 | B | 2770 | G | C5-C6-N1 | -9.88 | 106.56 | 111.50 |
| 12 | B | 841 | G | C5-C6-O6 | -9.88 | 122.67 | 128.60 |
| 12 | B | 2796 | U | C5-C6-N1 | 9.88 | 127.64 | 122.70 |
| 12 | B | 169 | G | O4'-C1'-N9 | 9.87 | 116.10 | 108.20 |
| 12 | B | 421 | C | O4'-C1'-N1 | 9.87 | 116.09 | 108.20 |
| 12 | B | 1073 | A | C5-N7-C8 | 9.87 | 108.83 | 103.90 |
| 12 | B | 1091 | G | C5-N7-C8 | 9.87 | 109.23 | 104.30 |
| 12 | B | 1179 | G | C5-C6-N1 | -9.87 | 106.56 | 111.50 |
| 12 | B | 1930 | G | N9-C4-C5 | 9.87 | 109.35 | 105.40 |
| 12 | B | 2358 | A | N1-C2-N3 | -9.87 | 124.36 | 129.30 |
| 12 | B | 2521 | C | N3-C4-N4 | 9.87 | 124.91 | 118.00 |
| 12 | B | 107 | G | C4-C5-C6 | 9.87 | 124.72 | 118.80 |
| 12 | B | 2168 | G | C5-C6-N1 | -9.86 | 106.57 | 111.50 |
| 12 | B | 469 | G | C5-C6-O6 | -9.86 | 122.68 | 128.60 |
| 12 | B | 696 | G | C5-C6-O6 | -9.86 | 122.68 | 128.60 |
| 12 | B | 2670 | A | C4-C5-N7 | -9.86 | 105.77 | 110.70 |
| 12 | B | 370 | G | N9-C4-C5 | -9.86 | 101.46 | 105.40 |
| 12 | B | 1165 | A | N1-C6-N6 | 9.86 | 124.51 | 118.60 |
| 12 | B | 1358 | G | C2-N3-C4 | 9.86 | 116.83 | 111.90 |
| 12 | B | 845 | A | O4'-C1'-N9 | 9.86 | 116.08 | 108.20 |
| 12 | B | 1684 | G | N1-C6-O6 | 9.85 | 125.81 | 119.90 |
| 10 | 9 | 311 | TYR | CB-CG-CD1 | -9.85 | 115.09 | 121.00 |
| 12 | B | 893 | C | O4'-C1'-N1 | 9.85 | 116.08 | 108.20 |
| 12 | B | 1436 | G | N3-C2-N2 | 9.85 | 126.80 | 119.90 |
| 12 | B | 1711 | A | C5-C6-N1 | -9.85 | 112.77 | 117.70 |
| 12 | B | 2041 | U | C5-C4-O4 | -9.85 | 119.99 | 125.90 |
| 12 | B | 2631 | G | O4'-C1'-N9 | 9.85 | 116.08 | 108.20 |
| 11 | A | 33 | G | C2-N3-C4 | 9.85 | 116.83 | 111.90 |
| 12 | B | 391 | A | P-O5'-C5' | 9.85 | 136.66 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1840 | G | C5-C6-O6 | -9.85 | 122.69 | 128.60 |
| 12 | B | 92 | U | O4'-C1'-N1 | 9.85 | 116.08 | 108.20 |
| 12 | B | 1929 | G | N3-C2-N2 | 9.85 | 126.79 | 119.90 |
| 12 | B | 438 | G | C4-C5-N7 | 9.85 | 114.74 | 110.80 |
| 12 | B | 1909 | C | N3-C4-N4 | 9.85 | 124.89 | 118.00 |
| 12 | B | 2063 | C | O4'-C1'-N1 | 9.85 | 116.08 | 108.20 |
| 12 | B | 2796 | U | O4'-C1'-N1 | 9.85 | 116.08 | 108.20 |
| 12 | B | 2601 | C | P-O3'-C3' | 9.85 | 131.51 | 119.70 |
| 12 | B | 2627 | G | P-O3'-C3' | 9.84 | 131.51 | 119.70 |
| 12 | B | 1545 | A | C6-C5-N7 | -9.84 | 125.41 | 132.30 |
| 12 | B | 2675 | A | O4'-C1'-N9 | 9.84 | 116.07 | 108.20 |
| 11 | A | 61 | G | C4-C5-N7 | -9.84 | 106.87 | 110.80 |
| 12 | B | 612 | G | N1-C6-O6 | 9.84 | 125.80 | 119.90 |
| 12 | B | 2051 | A | C5-N7-C8 | 9.84 | 108.82 | 103.90 |
| 12 | B | 2455 | G | N1-C6-O6 | 9.84 | 125.80 | 119.90 |
| 12 | B | 2572 | A | O4'-C1'-N9 | 9.84 | 116.07 | 108.20 |
| 12 | B | 817 | C | N3-C4-C5 | -9.83 | 117.97 | 121.90 |
| 12 | B | 2420 | C | N3-C4-C5 | -9.83 | 117.97 | 121.90 |
| 12 | B | 2601 | C | C5-C4-N4 | -9.83 | 113.32 | 120.20 |
| 12 | B | 370 | G | C5-N7-C8 | 9.83 | 109.22 | 104.30 |
| 12 | B | 515 | A | N7-C8-N9 | 9.83 | 118.72 | 113.80 |
| 12 | B | 540 | C | O4'-C1'-N1 | 9.83 | 116.06 | 108.20 |
| 11 | A | 56 | G | C5-C6-O6 | -9.82 | 122.70 | 128.60 |
| 12 | B | 558 | U | N3-C4-C5 | -9.82 | 108.71 | 114.60 |
| 12 | B | 868 | U | N1-C2-N3 | -9.82 | 109.00 | 114.90 |
| 12 | B | 1009 | A | C8-N9-C4 | -9.82 | 101.87 | 105.80 |
| 12 | B | 1576 | U | O4'-C1'-N1 | 9.82 | 116.06 | 108.20 |
| 12 | B | 1627 | G | C5-C6-O6 | -9.82 | 122.71 | 128.60 |
| 12 | B | 1916 | A | C8-N9-C4 | -9.82 | 101.87 | 105.80 |
| 12 | B | 169 | G | C6-C5-N7 | -9.82 | 124.51 | 130.40 |
| 12 | B | 438 | G | C6-C5-N7 | -9.82 | 124.51 | 130.40 |
| 12 | B | 1175 | A | N3-C4-C5 | -9.82 | 119.92 | 126.80 |
| 12 | B | 1403 | A | C5-N7-C8 | 9.82 | 108.81 | 103.90 |
| 12 | B | 371 | A | N1-C2-N3 | 9.82 | 134.21 | 129.30 |
| 12 | B | 110 | G | C5-N7-C8 | 9.81 | 109.21 | 104.30 |
| 12 | B | 1475 | G | N3-C4-C5 | -9.81 | 123.69 | 128.60 |
| 12 | B | 1967 | C | C5-C4-N4 | -9.81 | 113.33 | 120.20 |
| 12 | B | 125 | A | N1-C6-N6 | 9.81 | 124.49 | 118.60 |
| 12 | B | 1740 | G | N1-C6-O6 | 9.81 | 125.79 | 119.90 |
| 12 | B | 2301 | C | O4'-C1'-N1 | 9.81 | 116.05 | 108.20 |
| 12 | B | 2851 | A | C8-N9-C4 | -9.81 | 101.88 | 105.80 |
| 12 | B | 1988 | G | N9-C4-C5 | 9.81 | 109.32 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 812 | C | N3-C4-N4 | 9.81 | 124.87 | 118.00 |
| 12 | B | 1541 | C | C6-N1-C2 | -9.81 | 116.38 | 120.30 |
| 12 | B | 1941 | C | O4'-C1'-N1 | 9.81 | 116.05 | 108.20 |
| 12 | B | 674 | G | C6-C5-N7 | -9.80 | 124.52 | 130.40 |
| 12 | B | 2009 | A | C4-C5-N7 | -9.80 | 105.80 | 110.70 |
| 11 | A | 11 | C | O4'-C1'-N1 | 9.80 | 116.04 | 108.20 |
| 12 | B | 8 | C | O4'-C1'-N1 | 9.80 | 116.04 | 108.20 |
| 12 | B | 11 | C | C5-C4-N4 | -9.80 | 113.34 | 120.20 |
| 12 | B | 2576 | G | C5-C6-O6 | -9.80 | 122.72 | 128.60 |
| 11 | A | 17 | C | C5-C6-N1 | 9.80 | 125.90 | 121.00 |
| 11 | A | 57 | A | C6-C5-N7 | -9.80 | 125.44 | 132.30 |
| 12 | B | 190 | A | C5-N7-C8 | 9.80 | 108.80 | 103.90 |
| 12 | B | 238 | C | N3-C4-C5 | -9.80 | 117.98 | 121.90 |
| 12 | B | 1256 | G | C5-C6-N1 | -9.80 | 106.60 | 111.50 |
| 12 | B | 584 | C | O4'-C1'-N1 | 9.80 | 116.04 | 108.20 |
| 12 | B | 655 | A | C5-C6-N6 | -9.79 | 115.86 | 123.70 |
| 12 | B | 1326 | U | C5-C6-N1 | 9.79 | 127.60 | 122.70 |
| 12 | B | 1475 | G | C4-C5-N7 | -9.79 | 106.88 | 110.80 |
| 12 | B | 2806 | C | O4'-C1'-N1 | 9.79 | 116.03 | 108.20 |
| 12 | B | 867 | C | N3-C4-N4 | 9.79 | 124.85 | 118.00 |
| 12 | B | 962 | G | N1-C6-O6 | 9.79 | 125.78 | 119.90 |
| 12 | B | 997 | G | C5-C6-O6 | -9.79 | 122.72 | 128.60 |
| 12 | B | 1690 | A | O4'-C1'-N9 | 9.79 | 116.03 | 108.20 |
| 12 | B | 2880 | C | O4'-C1'-N1 | 9.79 | 116.03 | 108.20 |
| 12 | B | 2631 | G | N1-C6-O6 | 9.79 | 125.78 | 119.90 |
| 12 | B | 810 | U | C2-N3-C4 | 9.79 | 132.87 | 127.00 |
| 12 | B | 1710 | G | C5-N7-C8 | 9.79 | 109.19 | 104.30 |
| 12 | B | 2089 | C | C5-C6-N1 | 9.79 | 125.89 | 121.00 |
| 12 | B | 2113 | U | C5-C6-N1 | 9.79 | 127.59 | 122.70 |
| 12 | B | 2463 | C | O4'-C1'-N1 | 9.79 | 116.03 | 108.20 |
| 12 | B | 1450 | G | O4'-C1'-N9 | 9.79 | 116.03 | 108.20 |
| 12 | B | 912 | C | O4'-C1'-N1 | 9.78 | 116.03 | 108.20 |
| 12 | B | 2317 | A | N1-C6-N6 | 9.78 | 124.47 | 118.60 |
| 12 | B | 2691 | C | C2-N3-C4 | 9.78 | 124.79 | 119.90 |
| 12 | B | 739 | A | N1-C6-N6 | 9.78 | 124.47 | 118.60 |
| 12 | B | 1660 | G | N1-C6-O6 | 9.78 | 125.77 | 119.90 |
| 12 | B | 2249 | U | P-O5'-C5' | 9.78 | 136.54 | 120.90 |
| 13 | C | 111 | ALA | CB-CA-C | 9.78 | 124.76 | 110.10 |
| 12 | B | 63 | A | C5-C6-N1 | -9.77 | 112.82 | 117.70 |
| 12 | B | 874 | G | O4'-C1'-N9 | 9.77 | 116.02 | 108.20 |
| 12 | B | 1755 | A | C4-C5-C6 | 9.77 | 121.89 | 117.00 |
| 12 | B | 101 | A | C5-C6-N6 | -9.77 | 115.89 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1009 | A | C5-C6-N1 | -9.77 | 112.82 | 117.70 |
| 12 | B | 1692 | U | N1-C2-O2 | -9.77 | 115.96 | 122.80 |
| 12 | B | 2630 | G | O4'-C1'-N9 | 9.77 | 116.01 | 108.20 |
| 12 | B | 346 | A | N1-C6-N6 | 9.77 | 124.46 | 118.60 |
| 12 | B | 2895 | G | C2-N3-C4 | 9.77 | 116.78 | 111.90 |
| 12 | B | 2744 | G | N1-C2-N3 | -9.76 | 118.04 | 123.90 |
| 12 | B | 1983 | G | N3-C4-C5 | 9.76 | 133.48 | 128.60 |
| 12 | B | 242 | G | C4-C5-C6 | 9.76 | 124.66 | 118.80 |
| 12 | B | 2670 | A | C4-C5-C6 | 9.76 | 121.88 | 117.00 |
| 12 | B | 497 | A | C5-C6-N1 | -9.76 | 112.82 | 117.70 |
| 12 | B | 1065 | U | N1-C2-O2 | -9.76 | 115.97 | 122.80 |
| 12 | B | 1217 | U | O4'-C1'-N1 | 9.76 | 116.00 | 108.20 |
| 12 | B | 1480 | C | C4-C5-C6 | 9.76 | 122.28 | 117.40 |
| 12 | B | 1870 | C | P-O3'-C3' | 9.76 | 131.41 | 119.70 |
| 12 | B | 2736 | A | C5-C6-N6 | -9.76 | 115.89 | 123.70 |
| 12 | B | 1068 | G | C5-C6-O6 | -9.75 | 122.75 | 128.60 |
| 12 | B | 1650 | A | C5-C6-N1 | -9.75 | 112.82 | 117.70 |
| 12 | B | 1759 | A | C4-C5-C6 | 9.75 | 121.88 | 117.00 |
| 12 | B | 255 | A | C5-C6-N6 | -9.75 | 115.90 | 123.70 |
| 12 | B | 1371 | G | C5-C6-O6 | -9.75 | 122.75 | 128.60 |
| 12 | B | 2371 | G | N1-C6-O6 | 9.75 | 125.75 | 119.90 |
| 32 | W | 93 | ARG | NE-CZ-NH2 | -9.75 | 115.42 | 120.30 |
| 12 | B | 426 | C | C5-C6-N1 | 9.75 | 125.87 | 121.00 |
| 12 | B | 1707 | G | C8-N9-C4 | -9.75 | 102.50 | 106.40 |
| 12 | B | 1731 | G | C5-C6-O6 | -9.75 | 122.75 | 128.60 |
| 12 | B | 2403 | C | N3-C4-C5 | -9.75 | 118.00 | 121.90 |
| 11 | A | 66 | A | C5-C6-N6 | -9.74 | 115.91 | 123.70 |
| 12 | B | 1155 | A | C5-C6-N6 | -9.74 | 115.91 | 123.70 |
| 12 | B | 1448 | G | C8-N9-C4 | -9.74 | 102.50 | 106.40 |
| 12 | B | 2572 | A | N9-C4-C5 | 9.74 | 109.70 | 105.80 |
| 12 | B | 2692 | G | O4'-C1'-N9 | 9.74 | 115.99 | 108.20 |
| 12 | B | 1754 | A | C6-C5-N7 | -9.74 | 125.48 | 132.30 |
| 12 | B | 2154 | A | C5-C6-N1 | -9.74 | 112.83 | 117.70 |
| 11 | A | 39 | A | N1-C6-N6 | 9.74 | 124.44 | 118.60 |
| 12 | B | 750 | A | N1-C6-N6 | 9.74 | 124.44 | 118.60 |
| 12 | B | 1870 | C | N3-C4-C5 | -9.74 | 118.00 | 121.90 |
| 12 | B | 1538 | G | N1-C6-O6 | 9.74 | 125.74 | 119.90 |
| 12 | B | 1801 | A | N1-C2-N3 | -9.74 | 124.43 | 129.30 |
| 12 | B | 2530 | A | N1-C6-N6 | 9.74 | 124.44 | 118.60 |
| 12 | B | 121 | G | C5-C6-O6 | -9.73 | 122.76 | 128.60 |
| 12 | B | 1486 | U | O4'-C1'-N1 | 9.73 | 115.99 | 108.20 |
| 12 | B | 2129 | C | C5-C4-N4 | -9.73 | 113.39 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 375 | G | C8-N9-C4 | -9.73 | 102.51 | 106.40 |
| 12 | B | 2248 | C | C6-N1-C2 | -9.73 | 116.41 | 120.30 |
| 12 | B | 177 | G | C5-C6-N1 | -9.73 | 106.64 | 111.50 |
| 12 | B | 802 | A | C5-C6-N1 | -9.73 | 112.83 | 117.70 |
| 12 | B | 548 | G | O4'-C1'-N9 | 9.73 | 115.98 | 108.20 |
| 12 | B | 689 | A | N1-C6-N6 | 9.73 | 124.44 | 118.60 |
| 12 | B | 1497 | U | C5-C6-N1 | 9.73 | 127.56 | 122.70 |
| 12 | B | 2050 | C | O4'-C1'-N1 | 9.73 | 115.98 | 108.20 |
| 12 | B | 2347 | C | O4'-C1'-N1 | 9.73 | 115.98 | 108.20 |
| 11 | A | 113 | C | O4'-C1'-N1 | 9.72 | 115.98 | 108.20 |
| 12 | B | 508 | A | O4'-C1'-N9 | 9.72 | 115.98 | 108.20 |
| 12 | B | 562 | U | O4'-C1'-N1 | 9.72 | 115.98 | 108.20 |
| 12 | B | 650 | C | N3-C4-C5 | -9.72 | 118.01 | 121.90 |
| 12 | B | 1499 | C | N3-C4-C5 | -9.72 | 118.01 | 121.90 |
| 12 | B | 1757 | A | N1-C6-N6 | 9.72 | 124.43 | 118.60 |
| 12 | B | 141 | G | N1-C2-N3 | -9.72 | 118.07 | 123.90 |
| 12 | B | 2334 | U | N3-C4-C5 | -9.72 | 108.77 | 114.60 |
| 12 | B | 2575 | C | O4'-C1'-N1 | 9.72 | 115.98 | 108.20 |
| 12 | B | 231 | A | N1-C6-N6 | 9.72 | 124.43 | 118.60 |
| 12 | B | 352 | A | N1-C2-N3 | 9.72 | 134.16 | 129.30 |
| 12 | B | 341 | C | O4'-C1'-N1 | 9.72 | 115.97 | 108.20 |
| 12 | B | 2027 | G | O4'-C1'-N9 | 9.72 | 115.97 | 108.20 |
| 12 | B | 751 | A | C5-C6-N6 | -9.72 | 115.93 | 123.70 |
| 12 | B | 931 | U | N3-C4-C5 | -9.71 | 108.77 | 114.60 |
| 12 | B | 1311 | G | C4-C5-C6 | 9.72 | 124.63 | 118.80 |
| 12 | B | 1373 | A | C4-C5-C6 | 9.71 | 121.86 | 117.00 |
| 12 | B | 2183 | A | O4'-C1'-N9 | 9.72 | 115.97 | 108.20 |
| 12 | B | 1525 | A | C2-N3-C4 | -9.71 | 105.74 | 110.60 |
| 11 | A | 100 | G | O4'-C1'-N9 | 9.71 | 115.97 | 108.20 |
| 12 | B | 158 | U | O4'-C1'-N1 | 9.71 | 115.97 | 108.20 |
| 12 | B | 480 | A | C5-C6-N1 | -9.71 | 112.84 | 117.70 |
| 12 | B | 522 | A | N1-C6-N6 | 9.71 | 124.43 | 118.60 |
| 12 | B | 1000 | A | C6-C5-N7 | -9.71 | 125.50 | 132.30 |
| 12 | B | 1493 | C | C5-C6-N1 | 9.71 | 125.86 | 121.00 |
| 12 | B | 2232 | C | N3-C4-N4 | 9.71 | 124.80 | 118.00 |
| 12 | B | 2555 | U | O4'-C1'-N1 | 9.71 | 115.97 | 108.20 |
| 12 | B | 1608 | A | N9-C4-C5 | -9.71 | 101.92 | 105.80 |
| 19 | I | 126 | ARG | NE-CZ-NH2 | 9.71 | 125.15 | 120.30 |
| 12 | B | 1353 | A | N1-C6-N6 | 9.71 | 124.42 | 118.60 |
| 12 | B | 1664 | A | C5-C6-N6 | -9.71 | 115.93 | 123.70 |
| 12 | B | 367 | G | C6-C5-N7 | -9.71 | 124.58 | 130.40 |
| 12 | B | 169 | G | C4-C5-C6 | 9.70 | 124.62 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1292 | G | N1-C6-O6 | 9.71 | 125.72 | 119.90 |
| 12 | B | 351 | C | C6-N1-C2 | 9.70 | 124.18 | 120.30 |
| 12 | B | 2108 | A | C5-C6-N6 | -9.70 | 115.94 | 123.70 |
| 12 | B | 2243 | U | O4'-C1'-N1 | 9.70 | 115.96 | 108.20 |
| 12 | B | 256 | A | N1-C6-N6 | 9.70 | 124.42 | 118.60 |
| 12 | B | 1142 | A | C4-C5-C6 | 9.70 | 121.85 | 117.00 |
| 12 | B | 1442 | U | O4'-C1'-N1 | 9.70 | 115.96 | 108.20 |
| 12 | B | 613 | A | N1-C6-N6 | 9.70 | 124.42 | 118.60 |
| 12 | B | 664 | G | N1-C6-O6 | 9.70 | 125.72 | 119.90 |
| 12 | B | 1644 | C | C4-C5-C6 | 9.70 | 122.25 | 117.40 |
| 12 | B | 385 | C | C4-C5-C6 | 9.69 | 122.25 | 117.40 |
| 12 | B | 2627 | G | C8-N9-C4 | 9.69 | 110.28 | 106.40 |
| 12 | B | 262 | A | C5-C6-N6 | -9.69 | 115.95 | 123.70 |
| 12 | B | 1455 | G | N7-C8-N9 | 9.69 | 117.94 | 113.10 |
| 12 | B | 401 | A | N1-C2-N3 | -9.69 | 124.46 | 129.30 |
| 12 | B | 2899 | A | N7-C8-N9 | 9.69 | 118.64 | 113.80 |
| 12 | B | 2324 | U | N3-C2-O2 | 9.68 | 128.98 | 122.20 |
| 12 | B | 2409 | G | N1-C6-O6 | 9.68 | 125.71 | 119.90 |
| 12 | B | 2831 | G | O4'-C1'-N9 | 9.68 | 115.94 | 108.20 |
| 12 | B | 804 | A | C8-N9-C4 | -9.68 | 101.93 | 105.80 |
| 12 | B | 1593 | A | C5-C6-N1 | -9.68 | 112.86 | 117.70 |
| 12 | B | 2691 | C | C4-C5-C6 | 9.68 | 122.24 | 117.40 |
| 12 | B | 2534 | A | C4-C5-N7 | -9.68 | 105.86 | 110.70 |
| 12 | B | 274 | C | N3-C4-C5 | -9.67 | 118.03 | 121.90 |
| 12 | B | 261 | G | C5-C6-N1 | -9.67 | 106.67 | 111.50 |
| 12 | B | 1924 | C | O4'-C1'-N1 | 9.67 | 115.94 | 108.20 |
| 12 | B | 1250 | G | C5-C6-O6 | -9.67 | 122.80 | 128.60 |
| 12 | B | 1274 | A | O4'-C1'-N9 | 9.67 | 115.94 | 108.20 |
| 12 | B | 2209 | G | O4'-C1'-N9 | 9.67 | 115.94 | 108.20 |
| 12 | B | 2485 | G | C6-C5-N7 | -9.67 | 124.60 | 130.40 |
| 12 | B | 10 | A | N7-C8-N9 | -9.67 | 108.97 | 113.80 |
| 12 | B | 625 | G | C6-C5-N7 | -9.67 | 124.60 | 130.40 |
| 12 | B | 1123 | C | O4'-C1'-N1 | 9.67 | 115.93 | 108.20 |
| 12 | B | 1345 | C | C4-C5-C6 | 9.67 | 122.23 | 117.40 |
| 12 | B | 1885 | A | C8-N9-C4 | -9.66 | 101.93 | 105.80 |
| 12 | B | 2019 | A | C5-C6-N1 | -9.66 | 112.87 | 117.70 |
| 12 | B | 2839 | G | C6-C5-N7 | -9.66 | 124.60 | 130.40 |
| 12 | B | 2780 | G | C4-C5-N7 | -9.66 | 106.94 | 110.80 |
| 12 | B | 541 | A | N1-C6-N6 | 9.66 | 124.39 | 118.60 |
| 12 | B | 2033 | A | O4'-C1'-N9 | 9.66 | 115.93 | 108.20 |
| 12 | B | 29 | U | O4'-C1'-N1 | 9.66 | 115.92 | 108.20 |
| 12 | B | 852 | U | O4'-C1'-N1 | 9.66 | 115.92 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 218 | A | C4-C5-C6 | 9.65 | 121.83 | 117.00 |
| 12 | B | 2541 | A | C8-N9-C4 | 9.65 | 109.66 | 105.80 |
| 12 | B | 2806 | C | C6-N1-C2 | -9.65 | 116.44 | 120.30 |
| 12 | B | 2640 | G | N1-C6-O6 | 9.65 | 125.69 | 119.90 |
| 12 | B | 473 | G | O4'-C1'-N9 | 9.65 | 115.92 | 108.20 |
| 12 | B | 989 | G | C5-C6-N1 | -9.65 | 106.67 | 111.50 |
| 12 | B | 2247 | A | O4'-C1'-N9 | 9.65 | 115.92 | 108.20 |
| 11 | A | 67 | G | N1-C6-O6 | 9.65 | 125.69 | 119.90 |
| 12 | B | 24 | G | N3-C2-N2 | 9.65 | 126.65 | 119.90 |
| 12 | B | 855 | G | N9-C4-C5 | -9.65 | 101.54 | 105.40 |
| 12 | B | 1800 | C | C6-N1-C2 | -9.65 | 116.44 | 120.30 |
| 12 | B | 1857 | G | N9-C4-C5 | -9.65 | 101.54 | 105.40 |
| 12 | B | 2524 | G | C5-C6-O6 | -9.65 | 122.81 | 128.60 |
| 11 | A | 15 | A | C5-C6-N6 | -9.64 | 115.98 | 123.70 |
| 12 | B | 2373 | G | C4-C5-C6 | 9.64 | 124.59 | 118.80 |
| 12 | B | 555 | G | C8-N9-C4 | -9.64 | 102.54 | 106.40 |
| 12 | B | 2454 | G | N7-C8-N9 | -9.64 | 108.28 | 113.10 |
| 12 | B | 2644 | G | N3-C2-N2 | 9.64 | 126.65 | 119.90 |
| 12 | B | 2748 | A | O4'-C1'-N9 | 9.64 | 115.91 | 108.20 |
| 12 | B | 1216 | G | N3-C2-N2 | 9.64 | 126.65 | 119.90 |
| 12 | B | 1325 | U | O4'-C1'-N1 | 9.64 | 115.91 | 108.20 |
| 12 | B | 1411 | U | C5-C6-N1 | 9.64 | 127.52 | 122.70 |
| 12 | B | 1447 | C | O4'-C1'-N1 | 9.64 | 115.91 | 108.20 |
| 12 | B | 1926 | U | C4-C5-C6 | 9.64 | 125.48 | 119.70 |
| 12 | B | 2441 | U | N3-C4-C5 | -9.64 | 108.81 | 114.60 |
| 12 | B | 2494 | G | N3-C2-N2 | 9.64 | 126.65 | 119.90 |
| 12 | B | 2837 | A | C5-C6-N1 | -9.64 | 112.88 | 117.70 |
| 12 | B | 1772 | A | C5-C6-N6 | -9.64 | 115.99 | 123.70 |
| 12 | B | 2437 | G | O4'-C1'-N9 | 9.64 | 115.91 | 108.20 |
| 12 | B | 348 | A | N9-C4-C5 | 9.63 | 109.65 | 105.80 |
| 12 | B | 1281 | G | N1-C6-O6 | 9.63 | 125.68 | 119.90 |
| 31 | U | 81 | ARG | NE-CZ-NH1 | 9.63 | 125.12 | 120.30 |
| 12 | B | 1133 | A | C8-N9-C4 | -9.63 | 101.95 | 105.80 |
| 12 | B | 3 | U | O4'-C1'-N1 | 9.63 | 115.90 | 108.20 |
| 12 | B | 2534 | A | N1-C6-N6 | 9.63 | 124.38 | 118.60 |
| 12 | B | 113 | U | O4'-C1'-N1 | 9.63 | 115.90 | 108.20 |
| 12 | B | 2400 | G | N1-C6-O6 | 9.63 | 125.68 | 119.90 |
| 12 | B | 2463 | C | N3-C4-N4 | 9.63 | 124.74 | 118.00 |
| 12 | B | 1919 | A | C4-C5-C6 | 9.63 | 121.81 | 117.00 |
| 12 | B | 236 | C | C6-N1-C2 | -9.62 | 116.45 | 120.30 |
| 12 | B | 1836 | C | O4'-C1'-N1 | 9.62 | 115.90 | 108.20 |
| 12 | B | 61 | C | C4-C5-C6 | 9.62 | 122.21 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 556 | A | C5-C6-N6 | -9.62 | 116.00 | 123.70 |
| 12 | B | 757 | G | N1-C2-N3 | -9.62 | 118.13 | 123.90 |
| 12 | B | 1088 | A | C6-C5-N7 | -9.62 | 125.57 | 132.30 |
| 12 | B | 1358 | G | N1-C2-N3 | -9.62 | 118.13 | 123.90 |
| 12 | B | 1667 | G | N3-C2-N2 | 9.62 | 126.63 | 119.90 |
| 12 | B | 2876 | G | N1-C6-O6 | 9.62 | 125.67 | 119.90 |
| 12 | B | 2018 | G | C6-C5-N7 | -9.62 | 124.63 | 130.40 |
| 12 | B | 2307 | G | C5-C6-O6 | -9.62 | 122.83 | 128.60 |
| 12 | B | 2774 | C | O4'-C1'-N1 | 9.62 | 115.89 | 108.20 |
| 12 | B | 1980 | G | N1-C2-N3 | -9.62 | 118.13 | 123.90 |
| 12 | B | 715 | A | C4-C5-C6 | 9.61 | 121.81 | 117.00 |
| 12 | B | 1459 | G | N1-C2-N3 | -9.61 | 118.13 | 123.90 |
| 12 | B | 1568 | G | C5-C6-O6 | -9.61 | 122.83 | 128.60 |
| 12 | B | 1028 | A | C5-C6-N1 | -9.61 | 112.89 | 117.70 |
| 12 | B | 1693 | U | C5-C4-O4 | -9.61 | 120.13 | 125.90 |
| 12 | B | 1346 | G | N3-C2-N2 | 9.61 | 126.63 | 119.90 |
| 12 | B | 1630 | A | C8-N9-C4 | -9.61 | 101.96 | 105.80 |
| 12 | B | 2624 | G | C4-C5-C6 | 9.61 | 124.57 | 118.80 |
| 12 | B | 225 | C | O4'-C1'-N1 | 9.61 | 115.89 | 108.20 |
| 12 | B | 371 | A | N1-C6-N6 | 9.61 | 124.36 | 118.60 |
| 12 | B | 650 | C | N1-C2-O2 | -9.61 | 113.14 | 118.90 |
| 12 | B | 634 | C | N1-C2-O2 | 9.60 | 124.66 | 118.90 |
| 12 | B | 1573 | G | O4'-C1'-N9 | 9.60 | 115.88 | 108.20 |
| 12 | B | 452 | G | C6-N1-C2 | 9.60 | 130.86 | 125.10 |
| 12 | B | 1175 | A | C5-N7-C8 | 9.60 | 108.70 | 103.90 |
| 12 | B | 1730 | C | N3-C4-N4 | 9.60 | 124.72 | 118.00 |
| 12 | B | 1990 | C | O4'-C1'-N1 | 9.60 | 115.88 | 108.20 |
| 12 | B | 2208 | C | N3-C4-N4 | 9.60 | 124.72 | 118.00 |
| 12 | B | 264 | C | N3-C4-C5 | -9.60 | 118.06 | 121.90 |
| 12 | B | 861 | A | C5-C6-N6 | -9.60 | 116.02 | 123.70 |
| 12 | B | 1049 | C | N3-C4-C5 | -9.60 | 118.06 | 121.90 |
| 12 | B | 2229 | U | C5-C6-N1 | 9.60 | 127.50 | 122.70 |
| 12 | B | 2598 | A | N1-C6-N6 | 9.60 | 124.36 | 118.60 |
| 12 | B | 2651 | C | C5-C4-N4 | -9.60 | 113.48 | 120.20 |
| 12 | B | 2763 | G | N1-C6-O6 | 9.60 | 125.66 | 119.90 |
| 12 | B | 137 | U | C2-N3-C4 | -9.60 | 121.24 | 127.00 |
| 12 | B | 2726 | A | C5-C6-N6 | -9.60 | 116.02 | 123.70 |
| 12 | B | 719 | C | C5-C4-N4 | -9.60 | 113.48 | 120.20 |
| 12 | B | 996 | A | C2-N3-C4 | -9.60 | 105.80 | 110.60 |
| 12 | B | 2078 | C | N3-C4-C5 | -9.60 | 118.06 | 121.90 |
| 12 | B | 2875 | C | N3-C4-N4 | 9.60 | 124.72 | 118.00 |
| 12 | B | 272 | A | C5-C6-N1 | -9.59 | 112.90 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 823 | C | N3-C4-N4 | 9.59 | 124.71 | 118.00 |
| 12 | B | 557 | C | O4'-C1'-N1 | 9.59 | 115.87 | 108.20 |
| 11 | A | 2 | G | N9-C4-C5 | -9.59 | 101.56 | 105.40 |
| 12 | B | 761 | A | C5-C6-N6 | -9.59 | 116.03 | 123.70 |
| 12 | B | 2835 | A | C8-N9-C4 | -9.59 | 101.97 | 105.80 |
| 12 | B | 352 | A | C5-C6-N1 | -9.59 | 112.91 | 117.70 |
| 12 | B | 1382 | G | C5-C6-O6 | -9.59 | 122.85 | 128.60 |
| 12 | B | 1730 | C | C6-N1-C1' | -9.59 | 109.30 | 120.80 |
| 12 | B | 2373 | G | N1-C6-O6 | 9.59 | 125.65 | 119.90 |
| 12 | B | 1279 | G | C5-C6-O6 | -9.58 | 122.85 | 128.60 |
| 12 | B | 401 | A | C4'-C3'-C2' | -9.58 | 93.02 | 102.60 |
| 12 | B | 968 | C | C2-N3-C4 | 9.58 | 124.69 | 119.90 |
| 12 | B | 361 | G | C5-C6-O6 | -9.58 | 122.85 | 128.60 |
| 12 | B | 2106 | U | N1-C2-N3 | -9.58 | 109.15 | 114.90 |
| 12 | B | 2154 | A | C4-C5-C6 | 9.58 | 121.79 | 117.00 |
| 12 | B | 2048 | G | N1-C6-O6 | 9.57 | 125.64 | 119.90 |
| 12 | B | 2110 | G | C8-N9-C4 | -9.57 | 102.57 | 106.40 |
| 12 | B | 2719 | G | C5-C6-O6 | -9.57 | 122.86 | 128.60 |
| 12 | B | 2730 | C | O4'-C1'-N1 | 9.57 | 115.86 | 108.20 |
| 31 | U | 93 | ARG | NE-CZ-NH1 | 9.57 | 125.09 | 120.30 |
| 12 | B | 26 | G | O4'-C1'-N9 | 9.57 | 115.85 | 108.20 |
| 12 | B | 202 | U | C6-N1-C2 | -9.57 | 115.26 | 121.00 |
| 12 | B | 489 | G | N1-C2-N3 | -9.57 | 118.16 | 123.90 |
| 12 | B | 153 | U | N3-C4-O4 | 9.56 | 126.09 | 119.40 |
| 12 | B | 370 | G | C4-C5-C6 | 9.56 | 124.54 | 118.80 |
| 12 | B | 2249 | U | C5-C6-N1 | 9.56 | 127.48 | 122.70 |
| 12 | B | 2488 | G | C8-N9-C4 | -9.56 | 102.58 | 106.40 |
| 11 | A | 110 | C | N3-C4-N4 | 9.56 | 124.69 | 118.00 |
| 12 | B | 727 | A | C2-N3-C4 | -9.56 | 105.82 | 110.60 |
| 12 | B | 942 | G | N1-C6-O6 | 9.56 | 125.64 | 119.90 |
| 12 | B | 2032 | G | O4'-C1'-N9 | 9.56 | 115.85 | 108.20 |
| 12 | B | 1039 | A | N1-C6-N6 | 9.56 | 124.34 | 118.60 |
| 12 | B | 2472 | G | O4'-C1'-N9 | 9.56 | 115.85 | 108.20 |
| 12 | B | 1399 | C | N3-C4-N4 | 9.56 | 124.69 | 118.00 |
| 12 | B | 791 | C | C6-N1-C2 | 9.56 | 124.12 | 120.30 |
| 12 | B | 1361 | G | C5-C6-O6 | -9.56 | 122.86 | 128.60 |
| 12 | B | 1591 | A | N1-C2-N3 | -9.56 | 124.52 | 129.30 |
| 12 | B | 2097 | A | O4'-C1'-N9 | 9.56 | 115.85 | 108.20 |
| 12 | B | 2608 | G | C5-C6-O6 | -9.56 | 122.86 | 128.60 |
| 12 | B | 1998 | A | C5-C6-N1 | -9.56 | 112.92 | 117.70 |
| 27 | Q | 86 | SER | N-CA-CB | 9.56 | 124.84 | 110.50 |
| 12 | B | 173 | A | C5-C6-N6 | -9.55 | 116.06 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 318 | C | C2-N3-C4 | 9.55 | 124.68 | 119.90 |
| 12 | B | 1900 | A | N1-C2-N3 | -9.55 | 124.52 | 129.30 |
| 12 | B | 2148 | G | N1-C6-O6 | 9.55 | 125.63 | 119.90 |
| 12 | B | 2681 | C | O4'-C1'-N1 | 9.55 | 115.84 | 108.20 |
| 12 | B | 8 | C | N3-C4-N4 | 9.55 | 124.69 | 118.00 |
| 12 | B | 1327 | A | O4'-C1'-N9 | 9.55 | 115.84 | 108.20 |
| 12 | B | 2213 | U | C2-N1-C1' | 9.55 | 129.16 | 117.70 |
| 11 | A | 62 | C | O4'-C1'-N1 | 9.55 | 115.84 | 108.20 |
| 12 | B | 836 | G | N3-C4-C5 | -9.55 | 123.83 | 128.60 |
| 12 | B | 1436 | G | O4'-C1'-N9 | 9.55 | 115.84 | 108.20 |
| 12 | B | 1922 | G | P-O5'-C5' | 9.54 | 136.17 | 120.90 |
| 12 | B | 1509 | A | N1-C6-N6 | 9.54 | 124.33 | 118.60 |
| 12 | B | 1730 | C | O4'-C1'-N1 | 9.54 | 115.83 | 108.20 |
| 12 | B | 2655 | G | C6-C5-N7 | -9.54 | 124.67 | 130.40 |
| 12 | B | 479 | A | C5-C6-N1 | -9.54 | 112.93 | 117.70 |
| 12 | B | 2235 | G | C5-C6-O6 | -9.54 | 122.88 | 128.60 |
| 12 | B | 586 | A | C4-C5-C6 | 9.53 | 121.77 | 117.00 |
| 12 | B | 731 | C | C5-C4-N4 | -9.53 | 113.53 | 120.20 |
| 12 | B | 177 | G | C2-N3-C4 | 9.53 | 116.67 | 111.90 |
| 12 | B | 241 | A | C8-N9-C4 | -9.53 | 101.99 | 105.80 |
| 12 | B | 1514 | G | N1-C6-O6 | 9.53 | 125.62 | 119.90 |
| 12 | B | 2733 | A | C5-N7-C8 | 9.53 | 108.67 | 103.90 |
| 12 | B | 135 | U | N1-C2-N3 | -9.53 | 109.18 | 114.90 |
| 12 | B | 2891 | U | N3-C4-O4 | 9.53 | 126.07 | 119.40 |
| 11 | A | 21 | G | O4'-C1'-N9 | 9.53 | 115.82 | 108.20 |
| 12 | B | 1143 | A | C4-C5-C6 | 9.53 | 121.76 | 117.00 |
| 12 | B | 999 | U | C2-N3-C4 | -9.52 | 121.28 | 127.00 |
| 12 | B | 21 | A | C6-C5-N7 | -9.52 | 125.64 | 132.30 |
| 12 | B | 1036 | G | O4'-C1'-N9 | 9.52 | 115.82 | 108.20 |
| 12 | B | 1074 | G | N1-C2-N3 | -9.52 | 118.19 | 123.90 |
| 12 | B | 1229 | C | O4'-C1'-N1 | 9.52 | 115.82 | 108.20 |
| 12 | B | 2459 | A | C6-C5-N7 | -9.52 | 125.64 | 132.30 |
| 12 | B | 447 | A | N1-C6-N6 | 9.52 | 124.31 | 118.60 |
| 12 | B | 898 | C | C4-C5-C6 | 9.52 | 122.16 | 117.40 |
| 12 | B | 932 | U | C6-N1-C1' | -9.52 | 107.88 | 121.20 |
| 12 | B | 2665 | A | P-O3'-C3' | -9.52 | 108.28 | 119.70 |
| 12 | B | 2700 | A | C5-C6-N1 | -9.52 | 112.94 | 117.70 |
| 12 | B | 97 | C | N3-C4-C5 | -9.52 | 118.09 | 121.90 |
| 12 | B | 216 | A | C5-C6-N1 | -9.52 | 112.94 | 117.70 |
| 12 | B | 790 | U | C5-C4-O4 | -9.52 | 120.19 | 125.90 |
| 12 | B | 1367 | A | N1-C6-N6 | 9.52 | 124.31 | 118.60 |
| 12 | B | 1866 | A | C6-C5-N7 | -9.52 | 125.64 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 646 | U | O4'-C1'-N1 | 9.51 | 115.81 | 108.20 |
| 12 | B | 1787 | A | C6-C5-N7 | -9.51 | 125.64 | 132.30 |
| 12 | B | 1988 | G | C2-N3-C4 | 9.51 | 116.66 | 111.90 |
| 12 | B | 2273 | A | N1-C2-N3 | 9.51 | 134.06 | 129.30 |
| 12 | B | 1369 | G | C4-C5-N7 | -9.51 | 107.00 | 110.80 |
| 12 | B | 1383 | A | C5-C6-N6 | -9.51 | 116.09 | 123.70 |
| 12 | B | 2802 | G | O4'-C1'-N9 | 9.51 | 115.81 | 108.20 |
| 12 | B | 2859 | G | N3-C2-N2 | 9.51 | 126.56 | 119.90 |
| 12 | B | 1847 | A | C5-N7-C8 | 9.51 | 108.65 | 103.90 |
| 12 | B | 1913 | A | O4'-C1'-N9 | 9.51 | 115.81 | 108.20 |
| 12 | B | 69 | C | N3-C4-N4 | 9.51 | 124.65 | 118.00 |
| 12 | B | 241 | A | C5-C6-N6 | -9.51 | 116.10 | 123.70 |
| 12 | B | 1417 | C | C4-C5-C6 | 9.51 | 122.15 | 117.40 |
| 12 | B | 1972 | G | C5-N7-C8 | -9.51 | 99.55 | 104.30 |
| 12 | B | 2182 | U | O4'-C1'-N1 | 9.51 | 115.81 | 108.20 |
| 12 | B | 2794 | C | C6-N1-C2 | 9.51 | 124.10 | 120.30 |
| 12 | B | 337 | C | O4'-C1'-N1 | 9.50 | 115.80 | 108.20 |
| 12 | B | 631 | A | C5-C6-N1 | -9.50 | 112.95 | 117.70 |
| 12 | B | 669 | G | C1'-O4'-C4' | 9.50 | 117.50 | 109.90 |
| 12 | B | 1497 | U | C5'-C4'-O4' | 9.50 | 120.50 | 109.10 |
| 12 | B | 2364 | C | O4'-C1'-N1 | 9.50 | 115.80 | 108.20 |
| 30 | T | 73 | ARG | NE-CZ-NH1 | 9.50 | 125.05 | 120.30 |
| 12 | B | 2428 | G | C5-C6-N1 | -9.50 | 106.75 | 111.50 |
| 12 | B | 110 | G | C4-C5-N7 | -9.50 | 107.00 | 110.80 |
| 12 | B | 126 | A | C2-N3-C4 | -9.50 | 105.85 | 110.60 |
| 12 | B | 674 | G | C1'-O4'-C4' | -9.50 | 102.30 | 109.90 |
| 12 | B | 1813 | G | C5-C6-O6 | -9.50 | 122.90 | 128.60 |
| 12 | B | 225 | C | C2-N3-C4 | 9.49 | 124.65 | 119.90 |
| 12 | B | 268 | C | C5-C6-N1 | 9.49 | 125.75 | 121.00 |
| 12 | B | 276 | U | P-O5'-C5' | 9.49 | 136.09 | 120.90 |
| 12 | B | 840 | C | N3-C4-N4 | 9.49 | 124.65 | 118.00 |
| 12 | B | 1606 | C | C5-C6-N1 | 9.49 | 125.75 | 121.00 |
| 12 | B | 2100 | G | C6-C5-N7 | -9.49 | 124.70 | 130.40 |
| 12 | B | 830 | G | C6-C5-N7 | -9.49 | 124.70 | 130.40 |
| 12 | B | 2705 | A | C5-C6-N6 | -9.49 | 116.11 | 123.70 |
| 12 | B | 2790 | U | C2-N3-C4 | 9.49 | 132.70 | 127.00 |
| 12 | B | 1135 | C | O4'-C1'-N1 | 9.49 | 115.79 | 108.20 |
| 12 | B | 2877 | G | O4'-C1'-N9 | 9.49 | 115.79 | 108.20 |
| 12 | B | 804 | A | O4'-C1'-N9 | 9.49 | 115.79 | 108.20 |
| 12 | B | 88 | G | C5-C6-O6 | -9.48 | 122.91 | 128.60 |
| 12 | B | 679 | C | O4'-C1'-N1 | 9.48 | 115.79 | 108.20 |
| 12 | B | 1502 | A | O4'-C1'-N9 | 9.48 | 115.79 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2154 | A | C8-N9-C4 | -9.48 | 102.01 | 105.80 |
| 12 | B | 2315 | G | C8-N9-C4 | -9.48 | 102.61 | 106.40 |
| 12 | B | 2351 | G | N1-C2-N3 | -9.48 | 118.21 | 123.90 |
| 12 | B | 2531 | A | C5-C6-N6 | -9.48 | 116.11 | 123.70 |
| 12 | B | 763 | G | C5-N7-C8 | -9.48 | 99.56 | 104.30 |
| 12 | B | 1420 | A | C4-C5-C6 | 9.48 | 121.74 | 117.00 |
| 24 | N | 94 | TYR | CB-CG-CD1 | -9.48 | 115.31 | 121.00 |
| 12 | B | 137 | U | O4'-C1'-N1 | 9.48 | 115.78 | 108.20 |
| 12 | B | 1256 | G | N1-C6-O6 | 9.48 | 125.59 | 119.90 |
| 12 | B | 668 | A | C5-C6-N1 | -9.48 | 112.96 | 117.70 |
| 11 | A | 61 | G | N1-C6-O6 | 9.47 | 125.58 | 119.90 |
| 12 | B | 1781 | U | C5-C4-O4 | -9.47 | 120.22 | 125.90 |
| 12 | B | 1029 | A | C1'-O4'-C4' | -9.47 | 102.32 | 109.90 |
| 12 | B | 2088 | A | C4-C5-C6 | 9.47 | 121.74 | 117.00 |
| 12 | B | 2229 | U | C6-N1-C2 | -9.47 | 115.32 | 121.00 |
| 11 | A | 86 | G | N1-C6-O6 | 9.47 | 125.58 | 119.90 |
| 12 | B | 708 | G | N3-C2-N2 | 9.47 | 126.53 | 119.90 |
| 12 | B | 2107 | G | C5-C6-N1 | -9.47 | 106.77 | 111.50 |
| 12 | B | 2679 | A | C5-C6-N1 | -9.47 | 112.97 | 117.70 |
| 12 | B | 920 | A | P-O5'-C5' | 9.47 | 136.05 | 120.90 |
| 12 | B | 1112 | G | C2-N3-C4 | -9.47 | 107.17 | 111.90 |
| 12 | B | 1244 | A | N3-C4-C5 | -9.47 | 120.17 | 126.80 |
| 12 | B | 2822 | G | N3-C2-N2 | 9.47 | 126.53 | 119.90 |
| 12 | B | 2870 | C | C4-C5-C6 | 9.47 | 122.13 | 117.40 |
| 12 | B | 345 | A | N1-C6-N6 | 9.46 | 124.28 | 118.60 |
| 12 | B | 466 | A | C5-C6-N6 | -9.46 | 116.13 | 123.70 |
| 12 | B | 651 | G | C5-C6-O6 | -9.46 | 122.92 | 128.60 |
| 12 | B | 985 | C | C5-C4-N4 | -9.46 | 113.58 | 120.20 |
| 12 | B | 1022 | G | C5-C6-O6 | -9.46 | 122.92 | 128.60 |
| 12 | B | 1243 | C | O4'-C1'-N1 | 9.46 | 115.77 | 108.20 |
| 12 | B | 2663 | G | C5-C6-O6 | -9.46 | 122.92 | 128.60 |
| 12 | B | 1997 | C | C2-N3-C4 | 9.46 | 124.63 | 119.90 |
| 12 | B | 2245 | U | O4'-C1'-N1 | 9.46 | 115.77 | 108.20 |
| 4 | 3 | 39 | ARG | NE-CZ-NH1 | 9.46 | 125.03 | 120.30 |
| 11 | A | 10 | G | N1-C6-O6 | 9.46 | 125.58 | 119.90 |
| 12 | B | 264 | C | P-O3'-C3' | 9.46 | 131.05 | 119.70 |
| 12 | B | 875 | G | C6-N1-C2 | -9.46 | 119.42 | 125.10 |
| 12 | B | 1336 | A | N9-C4-C5 | -9.46 | 102.02 | 105.80 |
| 12 | B | 1324 | G | C5-C6-O6 | -9.46 | 122.93 | 128.60 |
| 12 | B | 2046 | G | C6-C5-N7 | -9.46 | 124.73 | 130.40 |
| 12 | B | 2888 | C | C5-C4-N4 | -9.45 | 113.58 | 120.20 |
| 11 | A | 101 | A | O4'-C1'-N9 | 9.45 | 115.76 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1281 | G | C5-C6-O6 | -9.45 | 122.93 | 128.60 |
| 12 | B | 2015 | A | C5-C6-N1 | -9.45 | 112.97 | 117.70 |
| 12 | B | 491 | G | N9-C4-C5 | -9.45 | 101.62 | 105.40 |
| 12 | B | 545 | U | C6-N1-C2 | -9.45 | 115.33 | 121.00 |
| 12 | B | 520 | G | N1-C6-O6 | 9.45 | 125.57 | 119.90 |
| 12 | B | 1096 | A | O4'-C1'-N9 | 9.45 | 115.76 | 108.20 |
| 12 | B | 2093 | G | N1-C2-N3 | -9.45 | 118.23 | 123.90 |
| 12 | B | 662 | G | C8-N9-C4 | -9.45 | 102.62 | 106.40 |
| 12 | B | 879 | G | N1-C6-O6 | 9.44 | 125.57 | 119.90 |
| 12 | B | 899 | A | C3'-C2'-C1' | -9.44 | 93.94 | 101.50 |
| 12 | B | 1428 | C | N3-C4-N4 | 9.45 | 124.61 | 118.00 |
| 12 | B | 2503 | A | N1-C6-N6 | 9.45 | 124.27 | 118.60 |
| 12 | B | 2752 | C | N3-C4-C5 | -9.45 | 118.12 | 121.90 |
| 12 | B | 1904 | G | N3-C2-N2 | 9.44 | 126.51 | 119.90 |
| 4 | 3 | 49 | ARG | NE-CZ-NH2 | -9.44 | 115.58 | 120.30 |
| 12 | B | 74 | A | C6-C5-N7 | -9.44 | 125.69 | 132.30 |
| 11 | A | 37 | C | O4'-C1'-N1 | 9.44 | 115.75 | 108.20 |
| 12 | B | 670 | A | C8-N9-C4 | -9.44 | 102.03 | 105.80 |
| 12 | B | 2037 | A | C5-C6-N1 | -9.44 | 112.98 | 117.70 |
| 12 | B | 1310 | G | N1-C6-O6 | 9.44 | 125.56 | 119.90 |
| 12 | B | 644 | A | C5-C6-N6 | -9.43 | 116.15 | 123.70 |
| 12 | B | 662 | G | C4-C5-N7 | 9.43 | 114.57 | 110.80 |
| 12 | B | 1590 | A | N9-C4-C5 | 9.43 | 109.57 | 105.80 |
| 12 | B | 1989 | G | C6-C5-N7 | -9.43 | 124.74 | 130.40 |
| 12 | B | 2874 | C | N3-C4-N4 | 9.43 | 124.60 | 118.00 |
| 12 | B | 1877 | A | P-O3'-C3' | -9.43 | 108.39 | 119.70 |
| 12 | B | 373 | U | O4'-C1'-N1 | 9.43 | 115.74 | 108.20 |
| 12 | B | 2347 | C | N3-C4-C5 | -9.43 | 118.13 | 121.90 |
| 12 | B | 269 | C | C2-N3-C4 | -9.42 | 115.19 | 119.90 |
| 12 | B | 774 | G | C6-C5-N7 | -9.42 | 124.75 | 130.40 |
| 12 | B | 836 | G | C5-C6-O6 | -9.42 | 122.95 | 128.60 |
| 12 | B | 1175 | A | C4-C5-C6 | 9.42 | 121.71 | 117.00 |
| 12 | B | 1197 | G | N1-C6-O6 | 9.42 | 125.55 | 119.90 |
| 12 | B | 1682 | G | O4'-C1'-N9 | 9.42 | 115.74 | 108.20 |
| 12 | B | 1361 | G | O4'-C1'-N9 | 9.42 | 115.74 | 108.20 |
| 12 | B | 1890 | A | C5-C6-N1 | -9.42 | 112.99 | 117.70 |
| 12 | B | 2309 | A | O4'-C1'-N9 | 9.42 | 115.74 | 108.20 |
| 12 | B | 2727 | A | N1-C6-N6 | 9.42 | 124.25 | 118.60 |
| 12 | B | 695 | G | N1-C6-O6 | 9.42 | 125.55 | 119.90 |
| 12 | B | 1249 | U | N1-C2-N3 | 9.42 | 120.55 | 114.90 |
| 12 | B | 2800 | A | N9-C4-C5 | 9.42 | 109.57 | 105.80 |
| 12 | B | 522 | A | C5-C6-N6 | -9.42 | 116.17 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1287 | A | C5-C6-N1 | -9.42 | 112.99 | 117.70 |
| 12 | B | 2203 | U | N3-C4-O4 | 9.42 | 125.99 | 119.40 |
| 12 | B | 28 | A | C1'-O4'-C4' | 9.42 | 117.43 | 109.90 |
| 12 | B | 1278 | C | C5-C6-N1 | 9.42 | 125.71 | 121.00 |
| 12 | B | 1139 | G | C8-N9-C4 | -9.42 | 102.63 | 106.40 |
| 12 | B | 2130 | U | O4'-C1'-N1 | 9.42 | 115.73 | 108.20 |
| 12 | B | 2478 | A | P-O5'-C5' | 9.41 | 135.96 | 120.90 |
| 12 | B | 2508 | G | N3-C2-N2 | 9.41 | 126.49 | 119.90 |
| 12 | B | 1124 | G | N1-C2-N3 | -9.41 | 118.25 | 123.90 |
| 12 | B | 1340 | U | O4'-C1'-N1 | 9.41 | 115.73 | 108.20 |
| 10 | 9 | 239 | ARG | NE-CZ-NH2 | -9.41 | 115.59 | 120.30 |
| 12 | B | 1057 | A | C5-C6-N6 | -9.41 | 116.17 | 123.70 |
| 12 | B | 1299 | G | C6-N1-C2 | 9.41 | 130.75 | 125.10 |
| 12 | B | 1592 | C | N1-C2-O2 | 9.41 | 124.55 | 118.90 |
| 12 | B | 1773 | A | C5-C6-N6 | -9.41 | 116.17 | 123.70 |
| 12 | B | 2012 | G | C6-N1-C2 | 9.41 | 130.75 | 125.10 |
| 12 | B | 2306 | C | N3-C4-N4 | 9.41 | 124.59 | 118.00 |
| 12 | B | 2788 | C | O4'-C1'-N1 | 9.41 | 115.73 | 108.20 |
| 12 | B | 2812 | G | N1-C6-O6 | 9.41 | 125.55 | 119.90 |
| 12 | B | 1482 | G | N1-C6-O6 | 9.41 | 125.54 | 119.90 |
| 12 | B | 1495 | A | O4'-C1'-N9 | 9.41 | 115.73 | 108.20 |
| 12 | B | 213 | A | C5-C6-N1 | -9.40 | 113.00 | 117.70 |
| 12 | B | 1388 | G | C6-C5-N7 | -9.40 | 124.76 | 130.40 |
| 12 | B | 1598 | A | C5-C6-N1 | -9.40 | 113.00 | 117.70 |
| 12 | B | 2674 | G | N1-C2-N3 | -9.40 | 118.26 | 123.90 |
| 12 | B | 822 | G | N1-C2-N3 | -9.40 | 118.26 | 123.90 |
| 12 | B | 2685 | G | C5-C6-O6 | -9.40 | 122.96 | 128.60 |
| 12 | B | 2897 | U | O4'-C1'-N1 | 9.40 | 115.72 | 108.20 |
| 12 | B | 1268 | A | N9-C4-C5 | 9.40 | 109.56 | 105.80 |
| 12 | B | 1988 | G | C4-C5-N7 | -9.40 | 107.04 | 110.80 |
| 12 | B | 2066 | C | N3-C4-N4 | 9.40 | 124.58 | 118.00 |
| 12 | B | 96 | C | N3-C4-N4 | 9.39 | 124.58 | 118.00 |
| 12 | B | 197 | A | C5-C6-N6 | -9.39 | 116.18 | 123.70 |
| 12 | B | 2120 | G | O4'-C1'-N9 | 9.39 | 115.72 | 108.20 |
| 12 | B | 2147 | A | C5-C6-N6 | -9.39 | 116.18 | 123.70 |
| 12 | B | 1247 | A | O4'-C1'-N9 | 9.39 | 115.71 | 108.20 |
| 12 | B | 2502 | G | N1-C6-O6 | 9.39 | 125.54 | 119.90 |
| 12 | B | 2821 | A | C5-C6-N1 | -9.39 | 113.00 | 117.70 |
| 12 | B | 311 | A | N1-C6-N6 | 9.39 | 124.23 | 118.60 |
| 12 | B | 144 | A | C5-C6-N6 | -9.39 | 116.19 | 123.70 |
| 12 | B | 807 | U | O4'-C1'-N1 | 9.39 | 115.71 | 108.20 |
| 32 | W | 21 | ARG | NE-CZ-NH2 | -9.39 | 115.61 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2341 | G | O4'-C1'-N9 | 9.39 | 115.71 | 108.20 |
| 12 | B | 490 | C | O4'-C1'-N1 | 9.39 | 115.71 | 108.20 |
| 12 | B | 1675 | C | N3-C4-N4 | 9.39 | 124.57 | 118.00 |
| 12 | B | 2448 | A | C5-C6-N1 | -9.39 | 113.00 | 117.70 |
| 12 | B | 1845 | G | C4-C5-N7 | 9.39 | 114.56 | 110.80 |
| 12 | B | 350 | G | O4'-C1'-N9 | 9.38 | 115.71 | 108.20 |
| 12 | B | 751 | A | C5-N7-C8 | 9.38 | 108.59 | 103.90 |
| 12 | B | 2043 | C | O4'-C1'-N1 | 9.38 | 115.71 | 108.20 |
| 12 | B | 2459 | A | C4-C5-C6 | 9.38 | 121.69 | 117.00 |
| 12 | B | 1540 | G | C8-N9-C4 | -9.38 | 102.65 | 106.40 |
| 12 | B | 2157 | G | O4'-C1'-N9 | 9.38 | 115.71 | 108.20 |
| 12 | B | 817 | C | C6-N1-C2 | -9.38 | 116.55 | 120.30 |
| 12 | B | 2420 | C | O4'-C4'-C3' | -9.38 | 94.62 | 104.00 |
| 12 | B | 2433 | A | N9-C4-C5 | 9.38 | 109.55 | 105.80 |
| 12 | B | 2771 | C | O4'-C1'-N1 | 9.38 | 115.70 | 108.20 |
| 11 | A | 61 | G | C5-C6-O6 | -9.38 | 122.97 | 128.60 |
| 12 | B | 285 | G | N9-C4-C5 | -9.38 | 101.65 | 105.40 |
| 12 | B | 1067 | A | N1-C6-N6 | 9.38 | 124.23 | 118.60 |
| 12 | B | 468 | G | N1-C2-N3 | -9.38 | 118.27 | 123.90 |
| 12 | B | 504 | A | C8-N9-C4 | -9.38 | 102.05 | 105.80 |
| 12 | B | 1824 | G | O4'-C1'-N9 | 9.38 | 115.70 | 108.20 |
| 12 | B | 1651 | G | C6-C5-N7 | -9.37 | 124.78 | 130.40 |
| 12 | B | 2213 | U | O4'-C1'-N1 | 9.37 | 115.70 | 108.20 |
| 12 | B | 14 | A | C5-C6-N1 | -9.37 | 113.01 | 117.70 |
| 12 | B | 981 | A | O4'-C1'-N9 | 9.37 | 115.70 | 108.20 |
| 12 | B | 1299 | G | C5-C6-O6 | -9.37 | 122.98 | 128.60 |
| 12 | B | 1302 | A | C4-C5-C6 | 9.37 | 121.69 | 117.00 |
| 12 | B | 2085 | U | C5-C6-N1 | 9.37 | 127.39 | 122.70 |
| 12 | B | 2220 | U | N3-C4-C5 | -9.37 | 108.98 | 114.60 |
| 11 | A | 67 | G | N3-C4-C5 | -9.37 | 123.92 | 128.60 |
| 12 | B | 211 | C | N3-C4-C5 | -9.37 | 118.15 | 121.90 |
| 12 | B | 1798 | U | O4'-C1'-N1 | 9.37 | 115.70 | 108.20 |
| 12 | B | 1808 | A | C5-N7-C8 | 9.37 | 108.58 | 103.90 |
| 12 | B | 2126 | A | O4'-C1'-N9 | 9.37 | 115.69 | 108.20 |
| 12 | B | 1661 | G | C5-C6-O6 | -9.37 | 122.98 | 128.60 |
| 12 | B | 1894 | C | C5-C4-N4 | -9.37 | 113.64 | 120.20 |
| 12 | B | 2444 | G | C5-C6-O6 | -9.36 | 122.98 | 128.60 |
| 11 | A | 46 | A | C4-C5-C6 | 9.36 | 121.68 | 117.00 |
| 12 | B | 1755 | A | C8-N9-C4 | -9.36 | 102.06 | 105.80 |
| 12 | B | 14 | A | C4-C5-C6 | 9.36 | 121.68 | 117.00 |
| 12 | B | 1163 | G | N1-C6-O6 | 9.36 | 125.52 | 119.90 |
| 12 | B | 2773 | C | O4'-C1'-N1 | 9.36 | 115.69 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2273 | A | C4-C5-C6 | 9.36 | 121.68 | 117.00 |
| 12 | B | 2401 | U | O4'-C1'-N1 | 9.36 | 115.69 | 108.20 |
| 12 | B | 567 | U | C5-C4-O4 | -9.36 | 120.29 | 125.90 |
| 12 | B | 147 | C | O4'-C1'-N1 | 9.36 | 115.68 | 108.20 |
| 12 | B | 168 | G | O4'-C1'-N9 | 9.36 | 115.69 | 108.20 |
| 12 | B | 2873 | A | O4'-C1'-N9 | 9.36 | 115.69 | 108.20 |
| 12 | B | 2060 | A | C5'-C4'-O4' | 9.36 | 120.33 | 109.10 |
| 28 | R | 53 | PHE | CB-CG-CD1 | 9.36 | 127.35 | 120.80 |
| 33 | Y | 78 | PHE | CB-CG-CD2 | 9.36 | 127.35 | 120.80 |
| 12 | B | 1241 | A | N1-C6-N6 | 9.35 | 124.21 | 118.60 |
| 12 | B | 1437 | C | N3-C4-C5 | -9.35 | 118.16 | 121.90 |
| 12 | B | 1945 | G | C5-N7-C8 | -9.35 | 99.62 | 104.30 |
| 11 | A | 45 | A | C6-C5-N7 | -9.35 | 125.75 | 132.30 |
| 12 | B | 48 | G | C6-N1-C2 | -9.35 | 119.49 | 125.10 |
| 12 | B | 2679 | A | N1-C2-N3 | 9.35 | 133.98 | 129.30 |
| 12 | B | 1248 | G | C8-N9-C1' | -9.35 | 114.84 | 127.00 |
| 12 | B | 2843 | G | O4'-C1'-N9 | 9.35 | 115.68 | 108.20 |
| 12 | B | 1745 | A | N9-C4-C5 | 9.35 | 109.54 | 105.80 |
| 12 | B | 1475 | G | N9-C4-C5 | 9.35 | 109.14 | 105.40 |
| 12 | B | 2358 | A | N1-C6-N6 | 9.35 | 124.21 | 118.60 |
| 12 | B | 742 | A | N1-C6-N6 | 9.35 | 124.21 | 118.60 |
| 12 | B | 1968 | G | C5-C6-O6 | -9.35 | 122.99 | 128.60 |
| 12 | B | 2187 | U | O4'-C1'-N1 | 9.35 | 115.68 | 108.20 |
| 12 | B | 33 | C | O4'-C1'-N1 | 9.34 | 115.67 | 108.20 |
| 12 | B | 2816 | G | C5-C6-O6 | -9.34 | 122.99 | 128.60 |
| 12 | B | 543 | G | C5-C6-O6 | -9.34 | 123.00 | 128.60 |
| 12 | B | 946 | C | C5-C6-N1 | 9.34 | 125.67 | 121.00 |
| 12 | B | 1604 | C | C5-C4-N4 | -9.34 | 113.66 | 120.20 |
| 10 | 9 | 202 | ARG | NE-CZ-NH2 | -9.34 | 115.63 | 120.30 |
| 12 | B | 91 | A | N1-C6-N6 | 9.34 | 124.20 | 118.60 |
| 12 | B | 1151 | A | N9-C4-C5 | 9.34 | 109.54 | 105.80 |
| 15 | E | 101 | TYR | CB-CG-CD1 | -9.34 | 115.40 | 121.00 |
| 12 | B | 1651 | G | C4-C5-C6 | 9.34 | 124.40 | 118.80 |
| 12 | B | 1422 | G | N3-C4-N9 | -9.34 | 120.40 | 126.00 |
| 12 | B | 2009 | A | N1-C2-N3 | 9.34 | 133.97 | 129.30 |
| 12 | B | 2579 | C | C5-C4-N4 | -9.34 | 113.66 | 120.20 |
| 12 | B | 2825 | G | O4'-C1'-N9 | 9.34 | 115.67 | 108.20 |
| 12 | B | 2837 | A | N7-C8-N9 | 9.34 | 118.47 | 113.80 |
| 12 | B | 573 | U | C5-C4-O4 | -9.33 | 120.30 | 125.90 |
| 12 | B | 666 | A | C5-N7-C8 | 9.33 | 108.57 | 103.90 |
| 12 | B | 1687 | G | N7-C8-N9 | 9.33 | 117.77 | 113.10 |
| 12 | B | 1362 | C | C2-N3-C4 | 9.33 | 124.56 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 11 | A | 34 | A | C2-N3-C4 | -9.33 | 105.94 | 110.60 |
| 12 | B | 437 | U | N3-C4-O4 | 9.33 | 125.93 | 119.40 |
| 12 | B | 1175 | A | N3-C4-N9 | 9.33 | 134.86 | 127.40 |
| 12 | B | 1397 | U | O4'-C1'-N1 | 9.33 | 115.66 | 108.20 |
| 12 | B | 1519 | G | C5-C6-O6 | -9.33 | 123.00 | 128.60 |
| 12 | B | 1908 | C | C4-C5-C6 | 9.33 | 122.06 | 117.40 |
| 12 | B | 2600 | A | C4-C5-C6 | 9.33 | 121.66 | 117.00 |
| 12 | B | 2635 | A | C4-C5-C6 | 9.33 | 121.66 | 117.00 |
| 12 | B | 1080 | A | C5-N7-C8 | 9.32 | 108.56 | 103.90 |
| 12 | B | 1557 | C | C2-N3-C4 | 9.32 | 124.56 | 119.90 |
| 12 | B | 1792 | G | O4'-C1'-N9 | 9.32 | 115.66 | 108.20 |
| 12 | B | 1689 | A | O4'-C1'-N9 | 9.32 | 115.66 | 108.20 |
| 12 | B | 2579 | C | C4-C5-C6 | 9.32 | 122.06 | 117.40 |
| 12 | B | 383 | C | C6-N1-C2 | -9.32 | 116.57 | 120.30 |
| 12 | B | 985 | C | O4'-C1'-N1 | 9.32 | 115.66 | 108.20 |
| 12 | B | 1836 | C | C2-N3-C4 | 9.32 | 124.56 | 119.90 |
| 12 | B | 2039 | U | N3-C2-O2 | 9.32 | 128.72 | 122.20 |
| 12 | B | 2134 | A | O4'-C1'-N9 | 9.32 | 115.66 | 108.20 |
| 11 | A | 81 | G | O4'-C1'-N9 | 9.32 | 115.65 | 108.20 |
| 12 | B | 1722 | A | C4-C5-C6 | 9.32 | 121.66 | 117.00 |
| 12 | B | 395 | U | N1-C2-N3 | -9.32 | 109.31 | 114.90 |
| 12 | B | 679 | C | C4-C5-C6 | 9.32 | 122.06 | 117.40 |
| 12 | B | 1371 | G | N3-C2-N2 | 9.32 | 126.42 | 119.90 |
| 12 | B | 1832 | C | N3-C4-C5 | -9.32 | 118.17 | 121.90 |
| 12 | B | 2265 | U | C5-C6-N1 | 9.32 | 127.36 | 122.70 |
| 12 | B | 2688 | G | C5-C6-N1 | -9.32 | 106.84 | 111.50 |
| 12 | B | 1764 | C | O4'-C1'-N1 | 9.31 | 115.65 | 108.20 |
| 12 | B | 2427 | C | N3-C4-C5 | -9.31 | 118.17 | 121.90 |
| 12 | B | 1978 | A | C4-C5-N7 | -9.31 | 106.04 | 110.70 |
| 12 | B | 2017 | U | C2-N3-C4 | -9.31 | 121.41 | 127.00 |
| 12 | B | 2282 | G | C4-C5-N7 | -9.31 | 107.08 | 110.80 |
| 12 | B | 579 | G | C6-N1-C2 | 9.31 | 130.69 | 125.10 |
| 12 | B | 1031 | G | C5-C6-O6 | -9.31 | 123.01 | 128.60 |
| 12 | B | 1885 | A | C5-C6-N1 | -9.31 | 113.05 | 117.70 |
| 12 | B | 2096 | C | O4'-C1'-N1 | 9.31 | 115.65 | 108.20 |
| 12 | B | 186 | G | C5-C6-O6 | -9.31 | 123.02 | 128.60 |
| 12 | B | 920 | A | C4-C5-C6 | 9.31 | 121.66 | 117.00 |
| 12 | B | 420 | C | C6-N1-C2 | -9.31 | 116.58 | 120.30 |
| 12 | B | 932 | U | C2-N1-C1' | 9.31 | 128.87 | 117.70 |
| 12 | B | 1319 | C | C4-C5-C6 | 9.31 | 122.05 | 117.40 |
| 12 | B | 2422 | C | N1-C2-O2 | 9.31 | 124.48 | 118.90 |
| 12 | B | 1495 | A | P-O3'-C3' | 9.31 | 130.87 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2608 | G | C8-N9-C4 | -9.30 | 102.68 | 106.40 |
| 12 | B | 391 | A | N1-C6-N6 | 9.30 | 124.18 | 118.60 |
| 12 | B | 1016 | G | O4'-C1'-N9 | 9.30 | 115.64 | 108.20 |
| 12 | B | 1020 | A | N1-C6-N6 | 9.30 | 124.18 | 118.60 |
| 12 | B | 2084 | C | C5-C4-N4 | -9.30 | 113.69 | 120.20 |
| 11 | A | 76 | G | O4'-C1'-N9 | 9.30 | 115.64 | 108.20 |
| 12 | B | 778 | G | C4-C5-N7 | 9.30 | 114.52 | 110.80 |
| 12 | B | 2599 | G | C5-C6-O6 | -9.30 | 123.02 | 128.60 |
| 12 | B | 2783 | U | O4'-C1'-N1 | 9.30 | 115.64 | 108.20 |
| 12 | B | 1358 | G | C5-C6-N1 | -9.30 | 106.85 | 111.50 |
| 12 | B | 1957 | C | O4'-C1'-N1 | 9.30 | 115.64 | 108.20 |
| 12 | B | 2453 | A | C2-N3-C4 | -9.30 | 105.95 | 110.60 |
| 12 | B | 2874 | C | N3-C4-C5 | -9.30 | 118.18 | 121.90 |
| 12 | B | 194 | G | N7-C8-N9 | 9.29 | 117.75 | 113.10 |
| 12 | B | 518 | G | C4-C5-N7 | 9.29 | 114.52 | 110.80 |
| 12 | B | 1249 | U | N3-C4-O4 | 9.29 | 125.91 | 119.40 |
| 12 | B | 1308 | A | O4'-C1'-N9 | 9.29 | 115.64 | 108.20 |
| 12 | B | 2192 | U | O4'-C1'-N1 | 9.29 | 115.64 | 108.20 |
| 12 | B | 196 | A | C5-C6-N6 | -9.29 | 116.27 | 123.70 |
| 12 | B | 543 | G | C5-C6-N1 | -9.29 | 106.85 | 111.50 |
| 12 | B | 2293 | G | C6-N1-C2 | -9.29 | 119.53 | 125.10 |
| 12 | B | 165 | A | C4-C5-C6 | 9.29 | 121.64 | 117.00 |
| 12 | B | 497 | A | C4-C5-C6 | 9.29 | 121.64 | 117.00 |
| 12 | B | 1065 | U | O4'-C1'-N1 | 9.29 | 115.63 | 108.20 |
| 12 | B | 2218 | G | N3-C4-N9 | 9.29 | 131.57 | 126.00 |
| 12 | B | 2523 | G | N3-C4-C5 | -9.29 | 123.96 | 128.60 |
| 12 | B | 376 | G | C5-C6-N1 | -9.29 | 106.86 | 111.50 |
| 12 | B | 583 | G | N1-C2-N3 | -9.29 | 118.33 | 123.90 |
| 12 | B | 650 | C | O4'-C1'-N1 | 9.29 | 115.63 | 108.20 |
| 12 | B | 1493 | C | C6-N1-C1' | -9.29 | 109.66 | 120.80 |
| 12 | B | 1661 | G | N1-C2-N3 | -9.28 | 118.33 | 123.90 |
| 12 | B | 1844 | C | O4'-C1'-N1 | 9.28 | 115.63 | 108.20 |
| 12 | B | 2827 | C | O4'-C1'-N1 | 9.28 | 115.62 | 108.20 |
| 11 | A | 100 | G | C5-C6-O6 | -9.28 | 123.03 | 128.60 |
| 12 | B | 209 | C | C1'-O4'-C4' | -9.28 | 102.48 | 109.90 |
| 12 | B | 918 | A | C6-C5-N7 | -9.28 | 125.81 | 132.30 |
| 12 | B | 1420 | A | O4'-C1'-N9 | 9.28 | 115.62 | 108.20 |
| 12 | B | 228 | C | N3-C4-C5 | -9.28 | 118.19 | 121.90 |
| 12 | B | 1907 | G | C5-C6-N1 | -9.28 | 106.86 | 111.50 |
| 12 | B | 587 | C | N3-C4-C5 | -9.28 | 118.19 | 121.90 |
| 12 | B | 876 | C | C1'-O4'-C4' | -9.28 | 102.48 | 109.90 |
| 12 | B | 2708 | G | N1-C6-O6 | 9.28 | 125.47 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 19 | C | O4'-C1'-N1 | 9.27 | 115.62 | 108.20 |
| 11 | A | 41 | G | C5-N7-C8 | 9.27 | 108.94 | 104.30 |
| 12 | B | 160 | A | N1-C2-N3 | 9.27 | 133.94 | 129.30 |
| 12 | B | 785 | G | N7-C8-N9 | 9.27 | 117.73 | 113.10 |
| 12 | B | 1051 | G | C2-N3-C4 | 9.27 | 116.54 | 111.90 |
| 12 | B | 1227 | G | O4'-C1'-N9 | 9.27 | 115.62 | 108.20 |
| 12 | B | 1262 | A | N9-C4-C5 | -9.27 | 102.09 | 105.80 |
| 12 | B | 1404 | C | C6-N1-C2 | -9.27 | 116.59 | 120.30 |
| 11 | A | 76 | G | C5-C6-O6 | -9.27 | 123.04 | 128.60 |
| 12 | B | 178 | G | N1-C6-O6 | 9.27 | 125.46 | 119.90 |
| 12 | B | 243 | U | O4'-C1'-N1 | 9.27 | 115.62 | 108.20 |
| 12 | B | 843 | G | N1-C2-N3 | -9.27 | 118.34 | 123.90 |
| 12 | B | 2137 | U | C5-C4-O4 | -9.27 | 120.34 | 125.90 |
| 12 | B | 180 | G | N1-C6-O6 | 9.27 | 125.46 | 119.90 |
| 12 | B | 2031 | A | C4-C5-N7 | -9.27 | 106.07 | 110.70 |
| 12 | B | 1873 | G | C5-C6-N1 | -9.26 | 106.87 | 111.50 |
| 12 | B | 2114 | A | C5'-C4'-C3' | 9.26 | 130.82 | 116.00 |
| 12 | B | 2238 | G | C5-C6-N1 | -9.26 | 106.87 | 111.50 |
| 12 | B | 432 | A | C4'-C3'-C2' | -9.26 | 93.34 | 102.60 |
| 11 | A | 36 | C | C6-N1-C2 | -9.26 | 116.60 | 120.30 |
| 12 | B | 1661 | G | N3-C2-N2 | 9.26 | 126.38 | 119.90 |
| 12 | B | 1795 | C | O4'-C1'-N1 | 9.26 | 115.61 | 108.20 |
| 11 | A | 85 | G | C5-C6-N1 | -9.26 | 106.87 | 111.50 |
| 12 | B | 295 | G | C5-C6-O6 | -9.26 | 123.05 | 128.60 |
| 12 | B | 1203 | U | P-O3'-C3' | 9.26 | 130.81 | 119.70 |
| 12 | B | 2049 | G | C5-C6-N1 | -9.26 | 106.87 | 111.50 |
| 12 | B | 2120 | G | C5-C6-N1 | -9.26 | 106.87 | 111.50 |
| 12 | B | 2634 | A | N7-C8-N9 | -9.26 | 109.17 | 113.80 |
| 12 | B | 2406 | A | C5-N7-C8 | 9.25 | 108.53 | 103.90 |
| 12 | B | 2480 | C | N3-C2-O2 | 9.25 | 128.38 | 121.90 |
| 12 | B | 1796 | U | O4'-C1'-N1 | 9.25 | 115.60 | 108.20 |
| 12 | B | 2278 | A | O4'-C1'-N9 | 9.25 | 115.60 | 108.20 |
| 12 | B | 98 | G | C6-N1-C2 | 9.25 | 130.65 | 125.10 |
| 12 | B | 1872 | A | C5-C6-N6 | -9.25 | 116.30 | 123.70 |
| 12 | B | 1909 | C | O4'-C1'-N1 | 9.25 | 115.60 | 108.20 |
| 12 | B | 2341 | G | C6-C5-N7 | -9.25 | 124.85 | 130.40 |
| 12 | B | 1572 | A | O4'-C1'-N9 | 9.25 | 115.60 | 108.20 |
| 12 | B | 2410 | G | C8-N9-C4 | 9.25 | 110.10 | 106.40 |
| 12 | B | 1119 | U | N3-C4-O4 | 9.24 | 125.87 | 119.40 |
| 12 | B | 1297 | C | C5-C4-N4 | -9.24 | 113.73 | 120.20 |
| 12 | B | 1330 | C | C6-N1-C2 | -9.24 | 116.60 | 120.30 |
| 12 | B | 1776 | G | N1-C6-O6 | 9.24 | 125.45 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2223 | G | C5-C6-O6 | -9.24 | 123.05 | 128.60 |
| 12 | B | 2454 | G | C6-C5-N7 | -9.24 | 124.85 | 130.40 |
| 29 | S | 95 | ARG | NE-CZ-NH2 | 9.24 | 124.92 | 120.30 |
| 12 | B | 1578 | U | C2-N1-C1' | 9.24 | 128.79 | 117.70 |
| 12 | B | 477 | A | C5-C6-N6 | -9.24 | 116.31 | 123.70 |
| 12 | B | 1583 | A | O4'-C1'-N9 | 9.24 | 115.59 | 108.20 |
| 12 | B | 99 | U | C6-N1-C2 | -9.24 | 115.46 | 121.00 |
| 12 | B | 670 | A | C5-C6-N1 | -9.24 | 113.08 | 117.70 |
| 12 | B | 2088 | A | N1-C6-N6 | 9.24 | 124.14 | 118.60 |
| 12 | B | 812 | C | C5-C6-N1 | -9.24 | 116.38 | 121.00 |
| 12 | B | 1168 | G | C5-C6-O6 | -9.24 | 123.06 | 128.60 |
| 12 | B | 2251 | G | O4'-C1'-N9 | 9.24 | 115.59 | 108.20 |
| 12 | B | 1353 | A | O4'-C1'-N9 | 9.23 | 115.59 | 108.20 |
| 12 | B | 2005 | A | C4-C5-C6 | 9.23 | 121.62 | 117.00 |
| 12 | B | 1417 | C | C6-N1-C2 | -9.23 | 116.61 | 120.30 |
| 12 | B | 1903 | G | N1-C6-O6 | 9.23 | 125.44 | 119.90 |
| 12 | B | 1755 | A | C4-C5-N7 | -9.23 | 106.09 | 110.70 |
| 12 | B | 1854 | A | O4'-C1'-N9 | 9.23 | 115.58 | 108.20 |
| 12 | B | 1823 | G | C4-C5-C6 | 9.23 | 124.34 | 118.80 |
| 12 | B | 517 | C | N3-C4-C5 | -9.22 | 118.21 | 121.90 |
| 12 | B | 1634 | A | C4-C5-C6 | 9.22 | 121.61 | 117.00 |
| 11 | A | 39 | A | C4-C5-C6 | 9.22 | 121.61 | 117.00 |
| 12 | B | 1043 | C | C5-C6-N1 | 9.22 | 125.61 | 121.00 |
| 12 | B | 1422 | G | N7-C8-N9 | -9.22 | 108.49 | 113.10 |
| 11 | A | 60 | C | N3-C4-C5 | -9.22 | 118.21 | 121.90 |
| 12 | B | 283 | G | C4-C5-C6 | 9.22 | 124.33 | 118.80 |
| 12 | B | 508 | A | C5-C6-N6 | -9.22 | 116.32 | 123.70 |
| 12 | B | 939 | G | C2-N3-C4 | 9.22 | 116.51 | 111.90 |
| 12 | B | 1389 | G | C6-C5-N7 | -9.22 | 124.87 | 130.40 |
| 12 | B | 2129 | C | C6-N1-C1' | -9.22 | 109.73 | 120.80 |
| 12 | B | 2451 | A | N9-C4-C5 | 9.22 | 109.49 | 105.80 |
| 12 | B | 1389 | G | C3'-C2'-C1' | -9.22 | 94.12 | 101.50 |
| 12 | B | 2069 | G | C5-C6-O6 | -9.22 | 123.07 | 128.60 |
| 12 | B | 2890 | G | C8-N9-C4 | -9.22 | 102.71 | 106.40 |
| 12 | B | 957 | C | N3-C4-C5 | -9.22 | 118.21 | 121.90 |
| 12 | B | 1743 | G | O4'-C1'-N9 | 9.21 | 115.57 | 108.20 |
| 12 | B | 2033 | A | C5-N7-C8 | 9.21 | 108.51 | 103.90 |
| 12 | B | 2698 | U | O4'-C1'-N1 | 9.21 | 115.57 | 108.20 |
| 12 | B | 2798 | U | O4'-C1'-N1 | 9.21 | 115.57 | 108.20 |
| 12 | B | 1389 | G | C4-C5-C6 | 9.21 | 124.33 | 118.80 |
| 12 | B | 370 | G | N3-C4-N9 | 9.21 | 131.53 | 126.00 |
| 12 | B | 1512 | C | O4'-C1'-N1 | 9.21 | 115.57 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1731 | G | N1-C2-N2 | 9.21 | 124.49 | 116.20 |
| 12 | B | 1887 | C | N3-C4-N4 | 9.21 | 124.45 | 118.00 |
| 12 | B | 2781 | A | C5-C6-N1 | -9.21 | 113.09 | 117.70 |
| 12 | B | 1790 | C | O4'-C1'-N1 | 9.21 | 115.56 | 108.20 |
| 12 | B | 1499 | C | O4'-C1'-N1 | 9.20 | 115.56 | 108.20 |
| 12 | B | 1906 | G | C4-C5-C6 | -9.21 | 113.28 | 118.80 |
| 12 | B | 2225 | A | O4'-C1'-N9 | 9.20 | 115.56 | 108.20 |
| 12 | B | 329 | G | N3-C2-N2 | 9.20 | 126.34 | 119.90 |
| 12 | B | 1909 | C | C5-C4-N4 | -9.20 | 113.76 | 120.20 |
| 12 | B | 943 | A | N1-C6-N6 | 9.20 | 124.12 | 118.60 |
| 12 | B | 38 | A | O4'-C1'-N9 | 9.20 | 115.56 | 108.20 |
| 12 | B | 965 | C | O4'-C1'-N1 | 9.20 | 115.56 | 108.20 |
| 12 | B | 1527 | G | N1-C2-N3 | -9.20 | 118.38 | 123.90 |
| 12 | B | 1755 | A | C5-C6-N1 | -9.20 | 113.10 | 117.70 |
| 12 | B | 1990 | C | N3-C4-N4 | 9.20 | 124.44 | 118.00 |
| 12 | B | 2067 | G | P-O3'-C3' | 9.20 | 130.74 | 119.70 |
| 12 | B | 2175 | C | N3-C4-C5 | -9.20 | 118.22 | 121.90 |
| 12 | B | 2735 | G | C5-C6-O6 | -9.20 | 123.08 | 128.60 |
| 12 | B | 2848 | G | O4'-C1'-N9 | 9.20 | 115.56 | 108.20 |
| 12 | B | 1642 | G | N1-C2-N3 | -9.20 | 118.38 | 123.90 |
| 12 | B | 1673 | G | C5-C6-O6 | -9.20 | 123.08 | 128.60 |
| 12 | B | 1937 | A | N1-C6-N6 | -9.20 | 113.08 | 118.60 |
| 12 | B | 2048 | G | C5-C6-O6 | -9.20 | 123.08 | 128.60 |
| 12 | B | 454 | A | C5-C6-N1 | -9.19 | 113.10 | 117.70 |
| 12 | B | 2413 | G | N3-C2-N2 | 9.19 | 126.33 | 119.90 |
| 12 | B | 1076 | C | O4'-C1'-N1 | 9.19 | 115.55 | 108.20 |
| 12 | B | 2714 | G | N3-C2-N2 | 9.19 | 126.33 | 119.90 |
| 12 | B | 134 | G | N1-C2-N3 | -9.19 | 118.39 | 123.90 |
| 12 | B | 1649 | G | N7-C8-N9 | -9.19 | 108.51 | 113.10 |
| 12 | B | 2469 | A | N3-C4-C5 | -9.19 | 120.37 | 126.80 |
| 12 | B | 23 | G | N1-C6-O6 | 9.19 | 125.41 | 119.90 |
| 12 | B | 1618 | A | C8-N9-C4 | -9.19 | 102.12 | 105.80 |
| 12 | B | 2193 | G | O4'-C1'-N9 | 9.19 | 115.55 | 108.20 |
| 12 | B | 2300 | C | C5-C4-N4 | -9.19 | 113.77 | 120.20 |
| 12 | B | 2333 | A | P-O3'-C3' | 9.19 | 130.72 | 119.70 |
| 12 | B | 379 | G | N3-C2-N2 | 9.18 | 126.33 | 119.90 |
| 12 | B | 1635 | A | N1-C2-N3 | 9.18 | 133.89 | 129.30 |
| 12 | B | 2478 | A | N1-C6-N6 | 9.18 | 124.11 | 118.60 |
| 12 | B | 93 | G | C4-C5-N7 | 9.18 | 114.47 | 110.80 |
| 12 | B | 2256 | G | C2-N3-C4 | 9.18 | 116.49 | 111.90 |
| 12 | B | 80 | G | C8-N9-C4 | 9.18 | 110.07 | 106.40 |
| 12 | B | 426 | C | O4'-C1'-N1 | 9.18 | 115.54 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 452 | G | N1-C6-O6 | 9.18 | 125.41 | 119.90 |
| 12 | B | 599 | A | C8-N9-C4 | 9.18 | 109.47 | 105.80 |
| 12 | B | 2225 | A | C5-C6-N1 | -9.18 | 113.11 | 117.70 |
| 12 | B | 2296 | U | O4'-C1'-N1 | 9.18 | 115.54 | 108.20 |
| 12 | B | 2536 | G | P-O3'-C3' | 9.18 | 130.71 | 119.70 |
| 24 | N | 86 | ARG | NE-CZ-NH1 | 9.18 | 124.89 | 120.30 |
| 12 | B | 1699 | G | O4'-C1'-N9 | 9.18 | 115.54 | 108.20 |
| 12 | B | 1720 | U | N1-C2-O2 | -9.18 | 116.38 | 122.80 |
| 12 | B | 2239 | G | C5-C6-O6 | -9.18 | 123.09 | 128.60 |
| 12 | B | 205 | G | C8-N9-C4 | -9.17 | 102.73 | 106.40 |
| 12 | B | 564 | C | C4-C5-C6 | 9.17 | 121.99 | 117.40 |
| 12 | B | 1206 | G | N1-C6-O6 | 9.17 | 125.41 | 119.90 |
| 12 | B | 1587 | G | C5-C6-O6 | 9.17 | 134.10 | 128.60 |
| 12 | B | 1870 | C | C6-N1-C1' | -9.17 | 109.79 | 120.80 |
| 12 | B | 2801 | G | C4-C5-C6 | 9.17 | 124.30 | 118.80 |
| 12 | B | 1027 | A | C5-C6-N6 | -9.17 | 116.36 | 123.70 |
| 12 | B | 2714 | G | C5-C6-O6 | -9.17 | 123.10 | 128.60 |
| 13 | C | 211 | ARG | NE-CZ-NH1 | -9.17 | 115.71 | 120.30 |
| 12 | B | 909 | A | C4-C5-N7 | -9.17 | 106.12 | 110.70 |
| 12 | B | 1248 | G | C4-N9-C1' | 9.17 | 138.42 | 126.50 |
| 12 | B | 1679 | A | O4'-C1'-N9 | 9.17 | 115.53 | 108.20 |
| 12 | B | 2595 | G | C2-N3-C4 | 9.17 | 116.48 | 111.90 |
| 11 | A | 45 | A | C4-C5-C6 | 9.17 | 121.58 | 117.00 |
| 12 | B | 1790 | C | C2-N3-C4 | 9.17 | 124.48 | 119.90 |
| 12 | B | 1219 | U | O4'-C1'-N1 | 9.17 | 115.53 | 108.20 |
| 12 | B | 2227 | A | N1-C6-N6 | 9.17 | 124.10 | 118.60 |
| 12 | B | 2263 | C | O4'-C1'-N1 | 9.17 | 115.53 | 108.20 |
| 12 | B | 2731 | G | N1-C6-O6 | 9.17 | 125.40 | 119.90 |
| 12 | B | 2781 | A | C4-C5-C6 | 9.17 | 121.58 | 117.00 |
| 12 | B | 85 | G | C5-C6-O6 | -9.16 | 123.10 | 128.60 |
| 11 | A | 106 | G | N1-C6-O6 | 9.16 | 125.40 | 119.90 |
| 12 | B | 701 | G | N1-C6-O6 | 9.16 | 125.40 | 119.90 |
| 12 | B | 1861 | G | C5-C6-O6 | -9.16 | 123.10 | 128.60 |
| 12 | B | 2715 | C | N3-C4-C5 | -9.16 | 118.23 | 121.90 |
| 12 | B | 2761 | A | C4-C5-C6 | 9.16 | 121.58 | 117.00 |
| 12 | B | 647 | G | N3-C4-N9 | 9.16 | 131.50 | 126.00 |
| 12 | B | 746 | U | C3'-C2'-C1' | 9.16 | 108.83 | 101.50 |
| 20 | J | 120 | ARG | NE-CZ-NH2 | 9.16 | 124.88 | 120.30 |
| 12 | B | 1290 | C | N3-C4-C5 | -9.16 | 118.24 | 121.90 |
| 12 | B | 1407 | G | C5-C6-N1 | -9.16 | 106.92 | 111.50 |
| 12 | B | 2018 | G | C4-C5-C6 | 9.16 | 124.30 | 118.80 |
| 10 | 9 | 69 | ARG | NE-CZ-NH2 | -9.16 | 115.72 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 781 | A | C5-C6-N1 | -9.16 | 113.12 | 117.70 |
| 12 | B | 2053 | G | O4'-C1'-N9 | 9.16 | 115.53 | 108.20 |
| 12 | B | 2175 | C | N3-C2-O2 | 9.16 | 128.31 | 121.90 |
| 12 | B | 2872 | A | C6-C5-N7 | -9.16 | 125.89 | 132.30 |
| 11 | A | 69 | G | N9-C4-C5 | -9.15 | 101.74 | 105.40 |
| 12 | B | 1259 | G | C5-N7-C8 | -9.15 | 99.72 | 104.30 |
| 12 | B | 516 | C | O4'-C1'-N1 | 9.15 | 115.52 | 108.20 |
| 12 | B | 630 | G | C5-C6-N1 | -9.15 | 106.92 | 111.50 |
| 12 | B | 194 | G | N1-C6-O6 | 9.15 | 125.39 | 119.90 |
| 12 | B | 241 | A | C4-C5-C6 | 9.15 | 121.58 | 117.00 |
| 12 | B | 746 | U | O4'-C1'-N1 | 9.15 | 115.52 | 108.20 |
| 12 | B | 1829 | A | C5-C6-N1 | -9.15 | 113.12 | 117.70 |
| 12 | B | 1447 | C | C6-N1-C2 | -9.15 | 116.64 | 120.30 |
| 12 | B | 242 | G | C4'-C3'-C2' | -9.15 | 93.45 | 102.60 |
| 12 | B | 1725 | U | N3-C4-C5 | 9.15 | 120.09 | 114.60 |
| 12 | B | 1661 | G | N3-C4-N9 | -9.15 | 120.51 | 126.00 |
| 12 | B | 1682 | G | C4-C5-N7 | 9.15 | 114.46 | 110.80 |
| 12 | B | 2842 | G | N1-C2-N3 | -9.15 | 118.41 | 123.90 |
| 12 | B | 1214 | A | N1-C6-N6 | 9.14 | 124.09 | 118.60 |
| 12 | B | 1534 | U | O4'-C1'-N1 | 9.14 | 115.52 | 108.20 |
| 12 | B | 1700 | A | N3-C4-C5 | -9.14 | 120.40 | 126.80 |
| 11 | A | 41 | G | N1-C6-O6 | 9.14 | 125.38 | 119.90 |
| 12 | B | 1124 | G | C6-C5-N7 | -9.14 | 124.92 | 130.40 |
| 12 | B | 1609 | A | C5-N7-C8 | 9.14 | 108.47 | 103.90 |
| 12 | B | 2603 | G | C6-C5-N7 | -9.14 | 124.92 | 130.40 |
| 12 | B | 2653 | U | C5-C4-O4 | -9.14 | 120.42 | 125.90 |
| 12 | B | 2147 | A | N3-C4-C5 | -9.14 | 120.40 | 126.80 |
| 12 | B | 2186 | G | N1-C6-O6 | 9.14 | 125.38 | 119.90 |
| 11 | A | 108 | A | N1-C6-N6 | 9.14 | 124.08 | 118.60 |
| 11 | A | 109 | A | N9-C4-C5 | 9.14 | 109.45 | 105.80 |
| 12 | B | 897 | C | O4'-C1'-N1 | 9.14 | 115.51 | 108.20 |
| 12 | B | 952 | G | C5-C6-N1 | -9.14 | 106.93 | 111.50 |
| 12 | B | 1110 | G | C8-N9-C4 | 9.14 | 110.06 | 106.40 |
| 12 | B | 1373 | A | C5-C6-N1 | -9.14 | 113.13 | 117.70 |
| 12 | B | 1983 | G | N1-C6-O6 | 9.14 | 125.38 | 119.90 |
| 12 | B | 240 | C | O4'-C1'-N1 | 9.13 | 115.51 | 108.20 |
| 12 | B | 242 | G | C5-C6-N1 | -9.14 | 106.93 | 111.50 |
| 12 | B | 948 | C | C4-C5-C6 | -9.13 | 112.83 | 117.40 |
| 12 | B | 1410 | G | N3-C2-N2 | 9.14 | 126.30 | 119.90 |
| 12 | B | 1414 | C | C5-C4-N4 | -9.13 | 113.81 | 120.20 |
| 12 | B | 1430 | G | N3-C2-N2 | 9.13 | 126.29 | 119.90 |
| 12 | B | 471 | A | N1-C6-N6 | 9.13 | 124.08 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 61 | G | N3-C2-N2 | 9.13 | 126.29 | 119.90 |
| 12 | B | 80 | G | C5-C6-O6 | -9.13 | 123.12 | 128.60 |
| 12 | B | 991 | C | C6-N1-C2 | -9.13 | 116.65 | 120.30 |
| 12 | B | 1580 | A | N1-C6-N6 | 9.13 | 124.08 | 118.60 |
| 11 | A | 78 | A | O4'-C1'-N9 | 9.13 | 115.50 | 108.20 |
| 12 | B | 2279 | G | C4-C5-N7 | 9.13 | 114.45 | 110.80 |
| 12 | B | 2489 | U | C6-N1-C2 | -9.13 | 115.52 | 121.00 |
| 12 | B | 2540 | C | N3-C4-N4 | 9.13 | 124.39 | 118.00 |
| 12 | B | 226 | A | O4'-C1'-N9 | 9.13 | 115.50 | 108.20 |
| 12 | B | 1218 | G | N1-C2-N3 | -9.13 | 118.42 | 123.90 |
| 12 | B | 1244 | A | N3-C4-N9 | 9.13 | 134.70 | 127.40 |
| 12 | B | 123 | G | N1-C6-O6 | 9.12 | 125.37 | 119.90 |
| 12 | B | 1007 | C | O4'-C1'-N1 | 9.12 | 115.50 | 108.20 |
| 12 | B | 1036 | G | C4-C5-C6 | 9.12 | 124.27 | 118.80 |
| 12 | B | 1448 | G | P-O3'-C3' | -9.12 | 108.75 | 119.70 |
| 12 | B | 2638 | G | C5-C6-O6 | -9.12 | 123.13 | 128.60 |
| 12 | B | 168 | G | C5-C6-O6 | -9.12 | 123.13 | 128.60 |
| 12 | B | 521 | U | O4'-C1'-N1 | 9.12 | 115.50 | 108.20 |
| 12 | B | 1473 | G | N9-C4-C5 | 9.12 | 109.05 | 105.40 |
| 12 | B | 2671 | G | N9-C4-C5 | -9.12 | 101.75 | 105.40 |
| 12 | B | 2761 | A | C6-C5-N7 | -9.12 | 125.91 | 132.30 |
| 1 | 0 | 56 | ARG | NE-CZ-NH2 | 9.12 | 124.86 | 120.30 |
| 12 | B | 732 | C | C6-N1-C2 | 9.12 | 123.95 | 120.30 |
| 12 | B | 1521 | G | C4-C5-C6 | 9.12 | 124.27 | 118.80 |
| 12 | B | 2143 | C | O4'-C1'-N1 | 9.12 | 115.49 | 108.20 |
| 12 | B | 2481 | G | N1-C6-O6 | 9.12 | 125.37 | 119.90 |
| 25 | O | 94 | ARG | NE-CZ-NH2 | -9.12 | 115.74 | 120.30 |
| 12 | B | 47 | C | N3-C2-O2 | 9.12 | 128.28 | 121.90 |
| 12 | B | 579 | G | C3'-C2'-C1' | -9.12 | 94.21 | 101.50 |
| 12 | B | 1146 | C | N3-C4-N4 | 9.12 | 124.38 | 118.00 |
| 12 | B | 1839 | G | N1-C6-O6 | 9.12 | 125.37 | 119.90 |
| 12 | B | 2326 | C | N3-C4-C5 | -9.12 | 118.25 | 121.90 |
| 12 | B | 2110 | G | C5-C6-O6 | -9.11 | 123.13 | 128.60 |
| 12 | B | 2272 | U | C5-C6-N1 | 9.11 | 127.26 | 122.70 |
| 12 | B | 2594 | C | N3-C4-N4 | 9.11 | 124.38 | 118.00 |
| 12 | B | 1824 | G | N1-C6-O6 | 9.11 | 125.37 | 119.90 |
| 12 | B | 31 | C | N3-C4-N4 | 9.11 | 124.38 | 118.00 |
| 12 | B | 1202 | G | O4'-C1'-N9 | 9.11 | 115.49 | 108.20 |
| 12 | B | 2862 | G | C4-C5-C6 | 9.11 | 124.27 | 118.80 |
| 12 | B | 1445 | G | N3-C2-N2 | 9.11 | 126.28 | 119.90 |
| 12 | B | 1598 | A | C5-N7-C8 | 9.11 | 108.45 | 103.90 |
| 12 | B | 415 | A | C5-C6-N1 | -9.11 | 113.15 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 755 | U | O4'-C1'-N1 | 9.11 | 115.48 | 108.20 |
| 12 | B | 1814 | G | N1-C6-O6 | 9.10 | 125.36 | 119.90 |
| 12 | B | 1687 | G | C8-N9-C4 | -9.10 | 102.76 | 106.40 |
| 12 | B | 2648 | G | N3-C2-N2 | 9.10 | 126.27 | 119.90 |
| 12 | B | 588 | U | C5-C4-O4 | 9.10 | 131.36 | 125.90 |
| 12 | B | 2679 | A | O4'-C1'-N9 | 9.10 | 115.48 | 108.20 |
| 12 | B | 2744 | G | C2-N3-C4 | 9.10 | 116.45 | 111.90 |
| 12 | B | 2702 | G | C4-C5-C6 | 9.10 | 124.26 | 118.80 |
| 12 | B | 1388 | G | N1-C6-O6 | 9.09 | 125.36 | 119.90 |
| 12 | B | 1988 | G | N3-C4-C5 | -9.09 | 124.05 | 128.60 |
| 12 | B | 2083 | G | O4'-C1'-N9 | 9.09 | 115.47 | 108.20 |
| 12 | B | 314 | C | P-O5'-C5' | 9.09 | 135.44 | 120.90 |
| 12 | B | 1642 | G | O4'-C1'-N9 | 9.09 | 115.47 | 108.20 |
| 12 | B | 2598 | A | N9-C4-C5 | 9.09 | 109.44 | 105.80 |
| 12 | B | 2804 | U | O4'-C1'-N1 | 9.09 | 115.47 | 108.20 |
| 12 | B | 1070 | A | C2-N3-C4 | 9.09 | 115.14 | 110.60 |
| 12 | B | 1826 | G | O4'-C1'-N9 | 9.09 | 115.47 | 108.20 |
| 12 | B | 2834 | G | O4'-C1'-N9 | 9.09 | 115.47 | 108.20 |
| 12 | B | 951 | C | C5-C6-N1 | 9.09 | 125.54 | 121.00 |
| 12 | B | 1261 | C | C6-N1-C2 | -9.09 | 116.67 | 120.30 |
| 12 | B | 1742 | U | O4'-C1'-N1 | 9.09 | 115.47 | 108.20 |
| 12 | B | 1882 | U | C5-C6-N1 | -9.09 | 118.16 | 122.70 |
| 12 | B | 1901 | A | C5-N7-C8 | 9.09 | 108.44 | 103.90 |
| 12 | B | 2654 | A | C5-C6-N1 | -9.09 | 113.16 | 117.70 |
| 12 | B | 308 | G | C5-C6-O6 | -9.08 | 123.15 | 128.60 |
| 12 | B | 1552 | A | N9-C4-C5 | -9.08 | 102.17 | 105.80 |
| 12 | B | 2811 | G | O4'-C1'-N9 | 9.08 | 115.47 | 108.20 |
| 12 | B | 2524 | G | C8-N9-C4 | -9.08 | 102.77 | 106.40 |
| 15 | E | 40 | ARG | NE-CZ-NH1 | -9.08 | 115.76 | 120.30 |
| 11 | A | 29 | A | C5-C6-N6 | -9.08 | 116.44 | 123.70 |
| 12 | B | 651 | G | C5-N7-C8 | 9.08 | 108.84 | 104.30 |
| 12 | B | 1211 | C | P-O5'-C5' | -9.08 | 106.37 | 120.90 |
| 12 | B | 1730 | C | C2-N1-C1' | 9.08 | 128.79 | 118.80 |
| 12 | B | 1780 | A | C8-N9-C4 | -9.08 | 102.17 | 105.80 |
| 12 | B | 1853 | A | C4'-C3'-C2' | -9.08 | 93.52 | 102.60 |
| 8 | 7 | 63 | TYR | N-CA-CB | 9.07 | 126.93 | 110.60 |
| 11 | A | 34 | A | C5-C6-N1 | -9.07 | 113.16 | 117.70 |
| 12 | B | 117 | G | N1-C6-O6 | 9.07 | 125.34 | 119.90 |
| 12 | B | 708 | G | N1-C2-N2 | -9.07 | 108.03 | 116.20 |
| 12 | B | 2097 | A | N1-C6-N6 | 9.07 | 124.05 | 118.60 |
| 12 | B | 1694 | C | N3-C4-C5 | -9.07 | 118.27 | 121.90 |
| 12 | B | 2120 | G | C4-C5-C6 | 9.07 | 124.24 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2190 | G | N7-C8-N9 | 9.07 | 117.64 | 113.10 |
| 12 | B | 2293 | G | C4-C5-N7 | 9.07 | 114.43 | 110.80 |
| 12 | B | 2875 | C | O4'-C1'-N1 | 9.07 | 115.46 | 108.20 |
| 11 | A | 76 | G | C8-N9-C4 | -9.07 | 102.77 | 106.40 |
| 12 | B | 2276 | G | N1-C6-O6 | 9.07 | 125.34 | 119.90 |
| 12 | B | 489 | G | N9-C4-C5 | 9.07 | 109.03 | 105.40 |
| 12 | B | 801 | G | C5-C6-O6 | -9.07 | 123.16 | 128.60 |
| 12 | B | 1028 | A | C4-C5-C6 | 9.07 | 121.54 | 117.00 |
| 12 | B | 1609 | A | C8-N9-C4 | -9.07 | 102.17 | 105.80 |
| 12 | B | 554 | U | O4'-C1'-N1 | 9.07 | 115.45 | 108.20 |
| 12 | B | 1342 | A | C5-C6-N6 | -9.07 | 116.45 | 123.70 |
| 12 | B | 2770 | G | N1-C6-O6 | 9.07 | 125.34 | 119.90 |
| 12 | B | 1091 | G | N1-C6-O6 | 9.06 | 125.34 | 119.90 |
| 12 | B | 2872 | A | C5-C6-N1 | -9.06 | 113.17 | 117.70 |
| 12 | B | 151 | C | N3-C4-N4 | 9.06 | 124.34 | 118.00 |
| 12 | B | 373 | U | N3-C4-O4 | 9.06 | 125.74 | 119.40 |
| 12 | B | 481 | G | N1-C6-O6 | 9.06 | 125.34 | 119.90 |
| 12 | B | 545 | U | O4'-C1'-N1 | 9.06 | 115.45 | 108.20 |
| 12 | B | 1146 | C | O4'-C1'-N1 | 9.06 | 115.45 | 108.20 |
| 12 | B | 1561 | C | O4'-C1'-N1 | 9.06 | 115.45 | 108.20 |
| 12 | B | 1714 | U | P-O3'-C3' | 9.06 | 130.57 | 119.70 |
| 12 | B | 2579 | C | N3-C4-N4 | 9.06 | 124.34 | 118.00 |
| 11 | A | 73 | A | C6-C5-N7 | -9.05 | 125.96 | 132.30 |
| 12 | B | 1003 | G | N7-C8-N9 | -9.06 | 108.57 | 113.10 |
| 12 | B | 1074 | G | C4-C5-N7 | 9.06 | 114.42 | 110.80 |
| 12 | B | 1831 | G | C5-C6-O6 | -9.05 | 123.17 | 128.60 |
| 12 | B | 1941 | C | N1-C2-O2 | -9.05 | 113.47 | 118.90 |
| 12 | B | 2470 | G | C5'-C4'-C3' | -9.05 | 101.51 | 116.00 |
| 12 | B | 2559 | C | C5-C4-N4 | -9.05 | 113.86 | 120.20 |
| 6 | 5 | 163 | TYR | CB-CG-CD2 | -9.05 | 115.57 | 121.00 |
| 12 | B | 122 | G | N7-C8-N9 | 9.05 | 117.63 | 113.10 |
| 12 | B | 453 | A | C5-C6-N1 | -9.05 | 113.17 | 117.70 |
| 12 | B | 875 | G | C5-N7-C8 | -9.05 | 99.77 | 104.30 |
| 12 | B | 2894 | G | N1-C6-O6 | 9.05 | 125.33 | 119.90 |
| 12 | B | 849 | A | C6-N1-C2 | 9.05 | 124.03 | 118.60 |
| 12 | B | 891 | G | C5'-C4'-C3' | 9.05 | 130.48 | 116.00 |
| 12 | B | 1215 | G | C6-C5-N7 | -9.05 | 124.97 | 130.40 |
| 12 | B | 2101 | A | C5-C6-N6 | -9.05 | 116.46 | 123.70 |
| 12 | B | 2868 | A | C5-C6-N6 | -9.05 | 116.46 | 123.70 |
| 11 | A | 27 | C | C6-N1-C2 | -9.04 | 116.68 | 120.30 |
| 12 | B | 947 | A | C6-C5-N7 | -9.04 | 125.97 | 132.30 |
| 12 | B | 1460 | U | P-O3'-C3' | 9.04 | 130.55 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1506 | U | C5-C4-O4 | -9.04 | 120.47 | 125.90 |
| 12 | B | 2405 | G | C5-C6-O6 | -9.04 | 123.17 | 128.60 |
| 12 | B | 93 | G | C6-N1-C2 | 9.04 | 130.53 | 125.10 |
| 12 | B | 1144 | A | C5-C6-N6 | -9.04 | 116.47 | 123.70 |
| 12 | B | 2012 | G | C4-C5-C6 | 9.04 | 124.23 | 118.80 |
| 12 | B | 2090 | A | N1-C6-N6 | 9.04 | 124.03 | 118.60 |
| 12 | B | 1387 | A | C4-C5-C6 | 9.04 | 121.52 | 117.00 |
| 12 | B | 2299 | U | O4'-C1'-N1 | 9.04 | 115.43 | 108.20 |
| 12 | B | 2357 | G | C5-C6-O6 | -9.04 | 123.17 | 128.60 |
| 12 | B | 2366 | A | C5-C6-N6 | -9.04 | 116.47 | 123.70 |
| 12 | B | 2622 | U | O4'-C1'-N1 | 9.04 | 115.43 | 108.20 |
| 12 | B | 2749 | A | C4-C5-C6 | 9.04 | 121.52 | 117.00 |
| 12 | B | 223 | A | C8-N9-C4 | -9.04 | 102.18 | 105.80 |
| 12 | B | 1711 | A | C4-C5-C6 | 9.04 | 121.52 | 117.00 |
| 12 | B | 556 | A | C4-C5-C6 | 9.04 | 121.52 | 117.00 |
| 12 | B | 30 | G | N1-C6-O6 | 9.03 | 125.32 | 119.90 |
| 12 | B | 231 | A | C6-N1-C2 | 9.04 | 124.02 | 118.60 |
| 12 | B | 768 | G | N1-C6-O6 | 9.04 | 125.32 | 119.90 |
| 12 | B | 2121 | G | C8-N9-C4 | -9.04 | 102.78 | 106.40 |
| 12 | B | 996 | A | O4'-C1'-N9 | 9.03 | 115.43 | 108.20 |
| 12 | B | 1266 | G | N3-C4-N9 | 9.04 | 131.42 | 126.00 |
| 12 | B | 1587 | G | O4'-C1'-N9 | 9.03 | 115.43 | 108.20 |
| 12 | B | 2892 | G | N9-C4-C5 | -9.03 | 101.79 | 105.40 |
| 12 | B | 495 | G | C5-C6-O6 | -9.03 | 123.18 | 128.60 |
| 12 | B | 579 | G | N3-C2-N2 | 9.03 | 126.22 | 119.90 |
| 12 | B | 2439 | A | P-O5'-C5' | 9.03 | 135.35 | 120.90 |
| 12 | B | 372 | G | N1-C6-O6 | 9.03 | 125.32 | 119.90 |
| 12 | B | 1379 | U | N3-C4-O4 | 9.03 | 125.72 | 119.40 |
| 12 | B | 1040 | A | N1-C6-N6 | 9.03 | 124.02 | 118.60 |
| 12 | B | 1153 | C | N3-C4-N4 | 9.03 | 124.32 | 118.00 |
| 12 | B | 2241 | A | C5-C6-N6 | -9.03 | 116.48 | 123.70 |
| 12 | B | 217 | A | O4'-C1'-N9 | 9.03 | 115.42 | 108.20 |
| 12 | B | 588 | U | O4'-C1'-N1 | 9.03 | 115.42 | 108.20 |
| 11 | A | 40 | U | P-O5'-C5' | 9.03 | 135.34 | 120.90 |
| 12 | B | 489 | G | C4-C5-C6 | 9.03 | 124.22 | 118.80 |
| 12 | B | 1198 | U | C2-N3-C4 | 9.03 | 132.41 | 127.00 |
| 12 | B | 1429 | G | N9-C4-C5 | 9.03 | 109.01 | 105.40 |
| 12 | B | 2226 | C | O4'-C1'-N1 | 9.03 | 115.42 | 108.20 |
| 11 | A | 118 | C | O4'-C1'-N1 | 9.02 | 115.42 | 108.20 |
| 12 | B | 2268 | A | N1-C6-N6 | 9.02 | 124.01 | 118.60 |
| 12 | B | 343 | C | C5-C4-N4 | -9.02 | 113.89 | 120.20 |
| 12 | B | 426 | C | N3-C2-O2 | -9.02 | 115.58 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 651 | G | N7-C8-N9 | -9.02 | 108.59 | 113.10 |
| 12 | B | 2758 | A | O4'-C1'-N9 | 9.02 | 115.42 | 108.20 |
| 12 | B | 1429 | G | C8-N9-C4 | -9.02 | 102.79 | 106.40 |
| 6 | 5 | 162 | ARG | NE-CZ-NH2 | -9.02 | 115.79 | 120.30 |
| 12 | B | 940 | G | O4'-C1'-N9 | 9.02 | 115.42 | 108.20 |
| 12 | B | 1860 | G | N3-C2-N2 | 9.02 | 126.21 | 119.90 |
| 12 | B | 1974 | C | C6-N1-C2 | -9.02 | 116.69 | 120.30 |
| 12 | B | 320 | A | P-O3'-C3' | 9.02 | 130.52 | 119.70 |
| 12 | B | 368 | A | C5-C6-N6 | -9.02 | 116.49 | 123.70 |
| 12 | B | 1093 | G | C2-N3-C4 | 9.02 | 116.41 | 111.90 |
| 12 | B | 2117 | A | C5-C6-N6 | -9.02 | 116.49 | 123.70 |
| 20 | J | 35 | ARG | NE-CZ-NH2 | -9.02 | 115.79 | 120.30 |
| 11 | A | 40 | U | O4'-C1'-N1 | 9.01 | 115.41 | 108.20 |
| 12 | B | 1440 | U | O4'-C1'-N1 | 9.01 | 115.41 | 108.20 |
| 12 | B | 1684 | G | C5-C6-O6 | -9.01 | 123.19 | 128.60 |
| 12 | B | 2025 | C | O4'-C1'-N1 | 9.01 | 115.41 | 108.20 |
| 12 | B | 2256 | G | N1-C2-N3 | -9.01 | 118.49 | 123.90 |
| 12 | B | 2854 | G | C5-C6-O6 | -9.01 | 123.19 | 128.60 |
| 12 | B | 575 | A | N1-C6-N6 | 9.01 | 124.01 | 118.60 |
| 12 | B | 1292 | G | O4'-C1'-N9 | 9.01 | 115.41 | 108.20 |
| 12 | B | 2540 | C | P-O3'-C3' | 9.01 | 130.51 | 119.70 |
| 12 | B | 1891 | G | C5-C6-O6 | -9.01 | 123.19 | 128.60 |
| 12 | B | 2614 | A | O4'-C1'-N9 | 9.01 | 115.41 | 108.20 |
| 12 | B | 2786 | U | O4'-C1'-N1 | 9.01 | 115.41 | 108.20 |
| 12 | B | 1048 | A | C5-C6-N1 | -9.01 | 113.20 | 117.70 |
| 12 | B | 1429 | G | C4-C5-C6 | 9.01 | 124.20 | 118.80 |
| 12 | B | 1516 | G | N1-C6-O6 | 9.01 | 125.30 | 119.90 |
| 12 | B | 2738 | A | C4-C5-C6 | 9.01 | 121.50 | 117.00 |
| 12 | B | 1932 | A | O4'-C1'-N9 | 9.01 | 115.41 | 108.20 |
| 12 | B | 1973 | G | N3-C4-C5 | 9.01 | 133.10 | 128.60 |
| 12 | B | 2557 | G | N1-C6-O6 | 9.01 | 125.30 | 119.90 |
| 14 | D | 101 | PHE | CB-CG-CD2 | 9.01 | 127.10 | 120.80 |
| 12 | B | 44 | A | N1-C6-N6 | 9.00 | 124.00 | 118.60 |
| 12 | B | 489 | G | C5-C6-N1 | -9.00 | 107.00 | 111.50 |
| 12 | B | 1757 | A | N1-C2-N3 | 9.00 | 133.80 | 129.30 |
| 12 | B | 763 | G | C8-N9-C4 | -9.00 | 102.80 | 106.40 |
| 12 | B | 928 | A | C5-C6-N1 | -9.00 | 113.20 | 117.70 |
| 12 | B | 1439 | A | C5-C6-N1 | -9.00 | 113.20 | 117.70 |
| 12 | B | 2517 | C | O4'-C1'-N1 | 9.00 | 115.40 | 108.20 |
| 12 | B | 2795 | C | C6-N1-C2 | -9.00 | 116.70 | 120.30 |
| 12 | B | 328 | U | O4'-C1'-N1 | 9.00 | 115.40 | 108.20 |
| 12 | B | 2901 | C | C5-C6-N1 | 9.00 | 125.50 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1536 | C | C6-N1-C2 | -9.00 | 116.70 | 120.30 |
| 12 | B | 2094 | A | C5-C6-N6 | -9.00 | 116.50 | 123.70 |
| 12 | B | 2853 | C | O4'-C1'-N1 | 9.00 | 115.40 | 108.20 |
| 11 | A | 71 | C | O4'-C1'-N1 | 8.99 | 115.39 | 108.20 |
| 12 | B | 392 | U | O4'-C1'-N1 | 8.99 | 115.40 | 108.20 |
| 12 | B | 1475 | G | N1-C2-N2 | -8.99 | 108.11 | 116.20 |
| 12 | B | 2238 | G | C4-C5-N7 | 8.99 | 114.40 | 110.80 |
| 12 | B | 2353 | G | C6-C5-N7 | -8.99 | 125.00 | 130.40 |
| 26 | P | 87 | ARG | NE-CZ-NH1 | -8.99 | 115.80 | 120.30 |
| 12 | B | 61 | C | N3-C4-C5 | -8.99 | 118.30 | 121.90 |
| 12 | B | 714 | U | O4'-C1'-N1 | 8.99 | 115.39 | 108.20 |
| 12 | B | 1150 | C | O4'-C1'-N1 | 8.99 | 115.39 | 108.20 |
| 12 | B | 764 | A | C8-N9-C4 | -8.99 | 102.20 | 105.80 |
| 12 | B | 2579 | C | N1-C2-N3 | 8.99 | 125.49 | 119.20 |
| 12 | B | 2859 | G | N1-C6-O6 | 8.99 | 125.29 | 119.90 |
| 12 | B | 37 | C | O4'-C1'-N1 | 8.99 | 115.39 | 108.20 |
| 12 | B | 567 | U | N3-C4-O4 | 8.99 | 125.69 | 119.40 |
| 12 | B | 2682 | A | C5-N7-C8 | 8.99 | 108.39 | 103.90 |
| 12 | B | 1953 | A | C5-C6-N1 | -8.98 | 113.21 | 117.70 |
| 12 | B | 2534 | A | N9-C4-C5 | 8.98 | 109.39 | 105.80 |
| 12 | B | 199 | A | C4-C5-N7 | 8.98 | 115.19 | 110.70 |
| 11 | A | 70 | C | C2-N3-C4 | 8.98 | 124.39 | 119.90 |
| 12 | B | 743 | A | C8-N9-C4 | -8.98 | 102.21 | 105.80 |
| 12 | B | 2034 | U | C5-C4-O4 | -8.98 | 120.51 | 125.90 |
| 12 | B | 855 | G | N3-C2-N2 | 8.98 | 126.19 | 119.90 |
| 12 | B | 2148 | G | N3-C2-N2 | 8.98 | 126.19 | 119.90 |
| 12 | B | 2594 | C | N3-C4-C5 | -8.98 | 118.31 | 121.90 |
| 12 | B | 2645 | G | N1-C2-N3 | -8.98 | 118.51 | 123.90 |
| 12 | B | 2750 | A | C4-C5-C6 | 8.98 | 121.49 | 117.00 |
| 12 | B | 611 | C | O4'-C1'-N1 | 8.98 | 115.38 | 108.20 |
| 12 | B | 1751 | U | C2-N3-C4 | -8.98 | 121.61 | 127.00 |
| 12 | B | 32 | C | N3-C4-N4 | 8.98 | 124.28 | 118.00 |
| 12 | B | 56 | A | C5-C6-N6 | -8.98 | 116.52 | 123.70 |
| 12 | B | 301 | G | O4'-C1'-N9 | 8.98 | 115.38 | 108.20 |
| 26 | P | 98 | TYR | CB-CG-CD2 | -8.98 | 115.61 | 121.00 |
| 12 | B | 1046 | A | C5-C6-N1 | -8.98 | 113.21 | 117.70 |
| 12 | B | 1757 | A | C4-C5-C6 | 8.98 | 121.49 | 117.00 |
| 12 | B | 2430 | A | C5-C6-N1 | -8.98 | 113.21 | 117.70 |
| 12 | B | 92 | U | P-O5'-C5' | 8.97 | 135.26 | 120.90 |
| 12 | B | 1696 | G | O4'-C1'-N9 | 8.97 | 115.38 | 108.20 |
| 12 | B | 1608 | A | O4'-C1'-N9 | 8.97 | 115.38 | 108.20 |
| 12 | B | 2058 | A | C2-N3-C4 | -8.97 | 106.11 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2482 | A | N1-C6-N6 | 8.97 | 123.98 | 118.60 |
| 26 | P | 52 | ARG | NE-CZ-NH2 | 8.97 | 124.79 | 120.30 |
| 12 | B | 93 | G | N1-C2-N3 | -8.97 | 118.52 | 123.90 |
| 12 | B | 992 | C | N1-C2-O2 | -8.97 | 113.52 | 118.90 |
| 12 | B | 1884 | G | C5-C6-O6 | -8.97 | 123.22 | 128.60 |
| 11 | A | 71 | C | N3-C4-C5 | -8.97 | 118.31 | 121.90 |
| 11 | A | 75 | G | N3-C2-N2 | 8.96 | 126.17 | 119.90 |
| 12 | B | 272 | A | C2-N3-C4 | -8.96 | 106.12 | 110.60 |
| 12 | B | 973 | A | N1-C2-N3 | 8.97 | 133.78 | 129.30 |
| 12 | B | 1733 | G | N9-C4-C5 | 8.97 | 108.99 | 105.40 |
| 12 | B | 612 | G | O4'-C1'-N9 | 8.96 | 115.37 | 108.20 |
| 12 | B | 1337 | G | N1-C6-O6 | 8.96 | 125.28 | 119.90 |
| 12 | B | 2781 | A | P-O3'-C3' | 8.96 | 130.46 | 119.70 |
| 12 | B | 53 | A | N9-C4-C5 | 8.96 | 109.39 | 105.80 |
| 12 | B | 650 | C | C6-N1-C2 | -8.96 | 116.72 | 120.30 |
| 12 | B | 1311 | G | C8-N9-C4 | -8.96 | 102.81 | 106.40 |
| 12 | B | 750 | A | O4'-C1'-N9 | 8.96 | 115.37 | 108.20 |
| 12 | B | 978 | G | N1-C2-N3 | -8.96 | 118.52 | 123.90 |
| 12 | B | 2377 | A | O4'-C1'-N9 | 8.96 | 115.37 | 108.20 |
| 12 | B | 869 | G | N3-C2-N2 | 8.96 | 126.17 | 119.90 |
| 12 | B | 967 | U | C5-C6-N1 | -8.96 | 118.22 | 122.70 |
| 12 | B | 1360 | G | N1-C2-N3 | -8.96 | 118.53 | 123.90 |
| 12 | B | 360 | U | P-O3'-C3' | 8.95 | 130.44 | 119.70 |
| 12 | B | 368 | A | C8-N9-C4 | -8.95 | 102.22 | 105.80 |
| 12 | B | 473 | G | P-O5'-C5' | -8.96 | 106.57 | 120.90 |
| 12 | B | 622 | G | C8-N9-C4 | -8.96 | 102.82 | 106.40 |
| 12 | B | 2370 | G | O4'-C1'-N9 | 8.96 | 115.36 | 108.20 |
| 12 | B | 2392 | A | C8-N9-C4 | -8.96 | 102.22 | 105.80 |
| 12 | B | 95 | A | C4-C5-C6 | 8.95 | 121.48 | 117.00 |
| 12 | B | 548 | G | C8-N9-C4 | -8.95 | 102.82 | 106.40 |
| 12 | B | 909 | A | N9-C4-C5 | 8.95 | 109.38 | 105.80 |
| 20 | J | 74 | TYR | CB-CG-CD2 | -8.95 | 115.63 | 121.00 |
| 12 | B | 38 | A | C5-C6-N6 | -8.95 | 116.54 | 123.70 |
| 12 | B | 508 | A | N1-C2-N3 | 8.95 | 133.77 | 129.30 |
| 12 | B | 1076 | C | C2-N3-C4 | 8.95 | 124.37 | 119.90 |
| 12 | B | 1374 | G | N1-C2-N3 | -8.95 | 118.53 | 123.90 |
| 12 | B | 1746 | A | C5-N7-C8 | 8.95 | 108.37 | 103.90 |
| 12 | B | 2802 | G | C5-C6-N1 | -8.95 | 107.03 | 111.50 |
| 12 | B | 584 | C | C6-N1-C2 | -8.95 | 116.72 | 120.30 |
| 12 | B | 833 | A | N1-C6-N6 | 8.95 | 123.97 | 118.60 |
| 12 | B | 1211 | C | C5-C4-N4 | -8.95 | 113.94 | 120.20 |
| 11 | A | 85 | G | N1-C2-N3 | -8.94 | 118.53 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 638 | G | C5-C6-N1 | -8.94 | 107.03 | 111.50 |
| 12 | B | 995 | C | O4'-C1'-N1 | 8.94 | 115.36 | 108.20 |
| 12 | B | 1121 | C | N3-C4-N4 | 8.95 | 124.26 | 118.00 |
| 12 | B | 2405 | G | P-O3'-C3' | 8.95 | 130.43 | 119.70 |
| 12 | B | 2694 | G | C5-C6-O6 | -8.95 | 123.23 | 128.60 |
| 12 | B | 303 | G | O4'-C1'-N9 | 8.94 | 115.35 | 108.20 |
| 12 | B | 397 | U | N3-C2-O2 | 8.94 | 128.46 | 122.20 |
| 12 | B | 428 | A | N1-C6-N6 | 8.94 | 123.97 | 118.60 |
| 12 | B | 675 | A | C5-C6-N6 | -8.94 | 116.55 | 123.70 |
| 12 | B | 586 | A | N9-C4-C5 | 8.94 | 109.38 | 105.80 |
| 12 | B | 1249 | U | C6-N1-C2 | -8.94 | 115.64 | 121.00 |
| 12 | B | 1266 | G | C8-N9-C4 | 8.94 | 109.98 | 106.40 |
| 12 | B | 1486 | U | N3-C4-C5 | -8.94 | 109.24 | 114.60 |
| 12 | B | 198 | C | C2-N3-C4 | 8.94 | 124.37 | 119.90 |
| 12 | B | 556 | A | N1-C2-N3 | 8.94 | 133.77 | 129.30 |
| 12 | B | 1520 | U | N1-C2-O2 | -8.94 | 116.54 | 122.80 |
| 12 | B | 1712 | U | O4'-C1'-N1 | 8.94 | 115.35 | 108.20 |
| 12 | B | 1856 | U | O4'-C1'-N1 | 8.94 | 115.35 | 108.20 |
| 12 | B | 1803 | A | N1-C6-N6 | 8.94 | 123.96 | 118.60 |
| 12 | B | 7 | G | O4'-C1'-N9 | 8.93 | 115.35 | 108.20 |
| 12 | B | 1826 | G | N1-C6-O6 | 8.93 | 125.26 | 119.90 |
| 12 | B | 2517 | C | N3-C4-N4 | 8.93 | 124.25 | 118.00 |
| 12 | B | 722 | A | C4-C5-C6 | 8.93 | 121.47 | 117.00 |
| 12 | B | 1189 | A | N1-C6-N6 | 8.93 | 123.96 | 118.60 |
| 12 | B | 1675 | C | C5-C4-N4 | -8.93 | 113.95 | 120.20 |
| 12 | B | 426 | C | N3-C4-N4 | 8.93 | 124.25 | 118.00 |
| 12 | B | 550 | C | O4'-C1'-N1 | 8.93 | 115.34 | 108.20 |
| 12 | B | 2424 | C | C2-N1-C1' | 8.93 | 128.62 | 118.80 |
| 12 | B | 1236 | G | N1-C2-N3 | -8.93 | 118.55 | 123.90 |
| 12 | B | 2901 | C | O4'-C1'-N1 | 8.93 | 115.34 | 108.20 |
| 14 | D | 101 | PHE | CB-CG-CD1 | -8.93 | 114.55 | 120.80 |
| 12 | B | 1571 | A | C8-N9-C4 | -8.92 | 102.23 | 105.80 |
| 12 | B | 497 | A | C5-C6-N6 | -8.92 | 116.56 | 123.70 |
| 12 | B | 1393 | A | N9-C4-C5 | 8.92 | 109.37 | 105.80 |
| 12 | B | 420 | C | O4'-C1'-N1 | 8.92 | 115.33 | 108.20 |
| 12 | B | 608 | A | C5-C6-N6 | -8.92 | 116.57 | 123.70 |
| 12 | B | 962 | G | C5-N7-C8 | 8.92 | 108.76 | 104.30 |
| 12 | B | 2122 | U | O4'-C1'-N1 | 8.92 | 115.33 | 108.20 |
| 12 | B | 2198 | A | P-O3'-C3' | 8.92 | 130.40 | 119.70 |
| 12 | B | 2852 | G | C8-N9-C4 | -8.92 | 102.83 | 106.40 |
| 12 | B | 266 | G | C6-C5-N7 | -8.91 | 125.05 | 130.40 |
| 12 | B | 453 | A | C4-C5-C6 | 8.91 | 121.46 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1412 | U | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 12 | B | 2410 | G | O4'-C1'-N9 | 8.91 | 115.33 | 108.20 |
| 12 | B | 1542 | U | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 12 | B | 1856 | U | N3-C4-O4 | 8.91 | 125.64 | 119.40 |
| 12 | B | 2355 | G | N3-C4-C5 | 8.91 | 133.06 | 128.60 |
| 12 | B | 1418 | G | C3'-C2'-C1' | -8.91 | 94.37 | 101.50 |
| 12 | B | 1493 | C | C6-N1-C2 | -8.91 | 116.74 | 120.30 |
| 12 | B | 1736 | U | P-O3'-C3' | 8.91 | 130.39 | 119.70 |
| 12 | B | 487 | C | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 12 | B | 709 | U | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 12 | B | 2057 | G | N1-C2-N3 | -8.91 | 118.55 | 123.90 |
| 12 | B | 2092 | U | C5'-C4'-C3' | -8.91 | 101.74 | 116.00 |
| 12 | B | 1672 | A | N1-C6-N6 | 8.91 | 123.94 | 118.60 |
| 12 | B | 725 | G | O4'-C1'-N9 | 8.91 | 115.33 | 108.20 |
| 12 | B | 2336 | A | C5-C6-N6 | -8.91 | 116.58 | 123.70 |
| 12 | B | 2451 | A | C5-N7-C8 | 8.91 | 108.35 | 103.90 |
| 12 | B | 290 | U | C5-C6-N1 | 8.90 | 127.15 | 122.70 |
| 12 | B | 306 | U | N3-C2-O2 | 8.90 | 128.43 | 122.20 |
| 12 | B | 774 | G | N1-C6-O6 | 8.90 | 125.24 | 119.90 |
| 12 | B | 1794 | A | C5-C6-N1 | -8.90 | 113.25 | 117.70 |
| 12 | B | 2062 | A | O4'-C1'-N9 | 8.90 | 115.32 | 108.20 |
| 12 | B | 2138 | G | O4'-C1'-N9 | 8.90 | 115.32 | 108.20 |
| 12 | B | 2164 | C | N3-C4-C5 | -8.90 | 118.34 | 121.90 |
| 12 | B | 406 | G | C4-C5-C6 | 8.90 | 124.14 | 118.80 |
| 12 | B | 1912 | A | C5-C6-N6 | -8.90 | 116.58 | 123.70 |
| 12 | B | 2806 | C | C2-N3-C4 | 8.90 | 124.35 | 119.90 |
| 12 | B | 2869 | G | N3-C4-C5 | -8.90 | 124.15 | 128.60 |
| 1 | 0 | 73 | ARG | NE-CZ-NH2 | 8.89 | 124.75 | 120.30 |
| 11 | A | 30 | C | C5-C6-N1 | 8.89 | 125.45 | 121.00 |
| 11 | A | 102 | G | C8-N9-C4 | -8.89 | 102.84 | 106.40 |
| 12 | B | 182 | A | N1-C6-N6 | 8.89 | 123.94 | 118.60 |
| 12 | B | 577 | G | C5-C6-O6 | -8.89 | 123.26 | 128.60 |
| 12 | B | 952 | G | N9-C4-C5 | 8.89 | 108.96 | 105.40 |
| 12 | B | 1266 | G | C4'-C3'-C2' | -8.89 | 93.70 | 102.60 |
| 12 | B | 1330 | C | N3-C4-C5 | -8.89 | 118.34 | 121.90 |
| 12 | B | 955 | U | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 12 | B | 262 | A | C5-C6-N1 | -8.89 | 113.25 | 117.70 |
| 12 | B | 528 | A | N1-C6-N6 | 8.89 | 123.93 | 118.60 |
| 12 | B | 2313 | C | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 12 | B | 695 | G | C5-C6-O6 | -8.89 | 123.27 | 128.60 |
| 12 | B | 2501 | C | N3-C4-N4 | 8.89 | 124.22 | 118.00 |
| 12 | B | 2867 | G | C4-C5-N7 | -8.89 | 107.25 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 250 | G | N7-C8-N9 | 8.88 | 117.54 | 113.10 |
| 12 | B | 1016 | G | N9-C4-C5 | -8.88 | 101.85 | 105.40 |
| 12 | B | 1432 | G | O4'-C1'-N9 | 8.88 | 115.31 | 108.20 |
| 12 | B | 2243 | U | C5-C6-N1 | -8.88 | 118.26 | 122.70 |
| 12 | B | 228 | C | C2-N3-C4 | 8.88 | 124.34 | 119.90 |
| 12 | B | 328 | U | N3-C2-O2 | -8.88 | 115.98 | 122.20 |
| 12 | B | 496 | G | N7-C8-N9 | 8.88 | 117.54 | 113.10 |
| 12 | B | 1336 | A | C4-C5-N7 | 8.88 | 115.14 | 110.70 |
| 12 | B | 2291 | U | P-O5'-C5' | 8.88 | 135.11 | 120.90 |
| 12 | B | 2453 | A | C5-C6-N6 | -8.88 | 116.59 | 123.70 |
| 12 | B | 944 | C | O4'-C1'-N1 | 8.88 | 115.31 | 108.20 |
| 12 | B | 1312 | U | N3-C4-O4 | 8.88 | 125.62 | 119.40 |
| 12 | B | 2676 | C | C4-C5-C6 | -8.88 | 112.96 | 117.40 |
| 12 | B | 737 | C | C5-C4-N4 | -8.88 | 113.99 | 120.20 |
| 12 | B | 754 | U | O4'-C1'-N1 | 8.88 | 115.30 | 108.20 |
| 12 | B | 1270 | C | C6-N1-C2 | -8.88 | 116.75 | 120.30 |
| 12 | B | 1501 | G | C5-C6-N1 | -8.88 | 107.06 | 111.50 |
| 12 | B | 2887 | A | C2-N3-C4 | -8.88 | 106.16 | 110.60 |
| 18 | H | 27 | ARG | NE-CZ-NH1 | 8.88 | 124.74 | 120.30 |
| 23 | M | 66 | ARG | NE-CZ-NH1 | 8.88 | 124.74 | 120.30 |
| 11 | A | 41 | G | N7-C8-N9 | -8.88 | 108.66 | 113.10 |
| 12 | B | 124 | G | C5-N7-C8 | -8.88 | 99.86 | 104.30 |
| 12 | B | 187 | G | C5-C6-O6 | -8.88 | 123.28 | 128.60 |
| 12 | B | 921 | C | C5-C6-N1 | 8.87 | 125.44 | 121.00 |
| 12 | B | 1212 | G | C5-C6-O6 | -8.88 | 123.28 | 128.60 |
| 12 | B | 2286 | G | C5-C6-N1 | -8.88 | 107.06 | 111.50 |
| 12 | B | 2333 | A | C8-N9-C4 | -8.88 | 102.25 | 105.80 |
| 12 | B | 2472 | G | N9-C4-C5 | -8.87 | 101.85 | 105.40 |
| 11 | A | 97 | C | N3-C4-N4 | 8.87 | 124.21 | 118.00 |
| 12 | B | 463 | G | N3-C4-C5 | 8.87 | 133.04 | 128.60 |
| 12 | B | 886 | A | C4-C5-C6 | 8.87 | 121.44 | 117.00 |
| 12 | B | 1124 | G | C4-C5-N7 | 8.87 | 114.35 | 110.80 |
| 12 | B | 1414 | C | N3-C4-C5 | -8.87 | 118.35 | 121.90 |
| 12 | B | 28 | A | C5-N7-C8 | 8.86 | 108.33 | 103.90 |
| 12 | B | 414 | C | N3-C4-N4 | 8.86 | 124.20 | 118.00 |
| 12 | B | 653 | U | C2-N1-C1' | 8.87 | 128.34 | 117.70 |
| 12 | B | 1583 | A | C5-C6-N1 | -8.86 | 113.27 | 117.70 |
| 12 | B | 254 | G | C5-C6-O6 | -8.86 | 123.28 | 128.60 |
| 12 | B | 2731 | G | N3-C4-C5 | -8.86 | 124.17 | 128.60 |
| 12 | B | 862 | G | C5-N7-C8 | -8.86 | 99.87 | 104.30 |
| 12 | B | 1175 | A | O4'-C1'-N9 | 8.86 | 115.29 | 108.20 |
| 12 | B | 1673 | G | N1-C2-N3 | -8.86 | 118.58 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2666 | C | C2-N1-C1' | 8.86 | 128.55 | 118.80 |
| 11 | A | 46 | A | C5-C6-N1 | -8.86 | 113.27 | 117.70 |
| 12 | B | 2839 | G | C4-C5-C6 | 8.86 | 124.11 | 118.80 |
| 12 | B | 2766 | A | N9-C4-C5 | 8.86 | 109.34 | 105.80 |
| 12 | B | 1095 | A | C5-N7-C8 | 8.85 | 108.33 | 103.90 |
| 12 | B | 1375 | U | O4'-C1'-N1 | 8.85 | 115.28 | 108.20 |
| 12 | B | 1759 | A | N1-C2-N3 | -8.85 | 124.87 | 129.30 |
| 12 | B | 1377 | G | N3-C2-N2 | 8.85 | 126.09 | 119.90 |
| 12 | B | 1638 | C | O4'-C1'-N1 | 8.85 | 115.28 | 108.20 |
| 12 | B | 1798 | U | N3-C4-O4 | 8.85 | 125.60 | 119.40 |
| 12 | B | 2113 | U | O4'-C1'-N1 | 8.85 | 115.28 | 108.20 |
| 12 | B | 2859 | G | N3-C4-C5 | -8.85 | 124.17 | 128.60 |
| 12 | B | 2585 | U | P-O3'-C3' | -8.85 | 109.08 | 119.70 |
| 12 | B | 995 | C | N3-C4-C5 | -8.85 | 118.36 | 121.90 |
| 12 | B | 2901 | C | C6-N1-C2 | -8.85 | 116.76 | 120.30 |
| 12 | B | 2112 | G | P-O3'-C3' | 8.85 | 130.32 | 119.70 |
| 12 | B | 2227 | A | C4-C5-C6 | 8.85 | 121.42 | 117.00 |
| 12 | B | 731 | C | N3-C4-C5 | -8.85 | 118.36 | 121.90 |
| 12 | B | 1752 | C | C6-N1-C2 | -8.85 | 116.76 | 120.30 |
| 16 | F | 129 | MET | CG-SD-CE | -8.85 | 86.05 | 100.20 |
| 12 | B | 1056 | G | O4'-C1'-N9 | 8.85 | 115.28 | 108.20 |
| 12 | B | 1354 | A | C5-C6-N1 | -8.85 | 113.28 | 117.70 |
| 12 | B | 47 | C | N3-C4-N4 | 8.84 | 124.19 | 118.00 |
| 12 | B | 1807 | G | N9-C1'-C2' | -8.84 | 102.27 | 112.00 |
| 28 | R | 78 | ARG | NE-CZ-NH2 | 8.84 | 124.72 | 120.30 |
| 12 | B | 775 | G | N1-C6-O6 | 8.84 | 125.20 | 119.90 |
| 12 | B | 850 | U | O4'-C1'-N1 | 8.84 | 115.27 | 108.20 |
| 12 | B | 2230 | G | C8-N9-C4 | -8.84 | 102.86 | 106.40 |
| 12 | B | 1393 | A | C4-C5-C6 | 8.84 | 121.42 | 117.00 |
| 12 | B | 1687 | G | C5-C6-N1 | -8.84 | 107.08 | 111.50 |
| 12 | B | 89 | A | C4-C5-C6 | 8.84 | 121.42 | 117.00 |
| 12 | B | 707 | G | N3-C2-N2 | 8.84 | 126.09 | 119.90 |
| 12 | B | 818 | G | N7-C8-N9 | 8.84 | 117.52 | 113.10 |
| 12 | B | 1095 | A | C2-N3-C4 | -8.84 | 106.18 | 110.60 |
| 12 | B | 2335 | A | C4-C5-C6 | 8.84 | 121.42 | 117.00 |
| 12 | B | 2380 | C | N3-C4-C5 | -8.84 | 118.36 | 121.90 |
| 11 | A | 31 | C | O4'-C1'-N1 | 8.83 | 115.27 | 108.20 |
| 12 | B | 1535 | A | C5-C6-N1 | -8.83 | 113.28 | 117.70 |
| 12 | B | 2088 | A | C5-C6-N6 | -8.83 | 116.63 | 123.70 |
| 12 | B | 2679 | A | C2-N3-C4 | -8.83 | 106.18 | 110.60 |
| 12 | B | 1597 | A | N9-C4-C5 | 8.83 | 109.33 | 105.80 |
| 12 | B | 205 | G | C5-C6-N1 | -8.83 | 107.08 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1358 | G | P-O3'-C3' | 8.83 | 130.29 | 119.70 |
| 4 | 3 | 44 | ALA | N-CA-CB | 8.83 | 122.46 | 110.10 |
| 12 | B | 466 | A | C8-N9-C4 | -8.83 | 102.27 | 105.80 |
| 12 | B | 1939 | U | C5-C6-N1 | 8.83 | 127.11 | 122.70 |
| 12 | B | 2250 | G | N1-C6-O6 | 8.83 | 125.20 | 119.90 |
| 12 | B | 2790 | U | C5-C6-N1 | 8.83 | 127.11 | 122.70 |
| 12 | B | 2789 | C | C2-N3-C4 | 8.83 | 124.31 | 119.90 |
| 12 | B | 2 | G | N3-C4-C5 | 8.82 | 133.01 | 128.60 |
| 12 | B | 512 | G | N7-C8-N9 | 8.82 | 117.51 | 113.10 |
| 10 | 9 | 105 | MET | CG-SD-CE | -8.82 | 86.09 | 100.20 |
| 12 | B | 505 | A | N7-C8-N9 | 8.82 | 118.21 | 113.80 |
| 12 | B | 791 | C | C5-C6-N1 | -8.82 | 116.59 | 121.00 |
| 12 | B | 896 | A | O4'-C1'-N9 | 8.82 | 115.26 | 108.20 |
| 12 | B | 1228 | G | C4-C5-N7 | -8.82 | 107.27 | 110.80 |
| 12 | B | 2307 | G | N1-C6-O6 | 8.82 | 125.19 | 119.90 |
| 12 | B | 1700 | A | C4-C5-C6 | 8.82 | 121.41 | 117.00 |
| 12 | B | 108 | G | N1-C2-N3 | -8.82 | 118.61 | 123.90 |
| 12 | B | 1697 | G | N3-C2-N2 | 8.82 | 126.07 | 119.90 |
| 12 | B | 865 | C | N3-C4-N4 | 8.81 | 124.17 | 118.00 |
| 12 | B | 1881 | C | N3-C4-N4 | 8.81 | 124.17 | 118.00 |
| 12 | B | 2447 | G | C5-C6-O6 | -8.81 | 123.31 | 128.60 |
| 12 | B | 2504 | U | N1-C2-O2 | -8.81 | 116.63 | 122.80 |
| 12 | B | 21 | A | O4'-C1'-N9 | 8.81 | 115.25 | 108.20 |
| 12 | B | 1947 | C | O4'-C1'-N1 | 8.81 | 115.25 | 108.20 |
| 12 | B | 2758 | A | N9-C4-C5 | 8.81 | 109.32 | 105.80 |
| 12 | B | 986 | C | C5-C4-N4 | -8.81 | 114.03 | 120.20 |
| 12 | B | 2054 | A | N1-C6-N6 | 8.81 | 123.88 | 118.60 |
| 12 | B | 2126 | A | C5-N7-C8 | 8.81 | 108.30 | 103.90 |
| 12 | B | 2282 | G | N3-C2-N2 | 8.81 | 126.06 | 119.90 |
| 12 | B | 2283 | C | P-O5'-C5' | 8.81 | 134.99 | 120.90 |
| 12 | B | 2418 | A | N1-C6-N6 | 8.81 | 123.89 | 118.60 |
| 12 | B | 1505 | A | P-O5'-C5' | 8.80 | 134.99 | 120.90 |
| 12 | B | 1983 | G | C8-N9-C4 | -8.81 | 102.88 | 106.40 |
| 12 | B | 2019 | A | C4-C5-C6 | 8.81 | 121.40 | 117.00 |
| 12 | B | 1708 | C | C6-N1-C2 | 8.80 | 123.82 | 120.30 |
| 12 | B | 796 | C | C5-C6-N1 | 8.80 | 125.40 | 121.00 |
| 12 | B | 1416 | G | N1-C6-O6 | 8.80 | 125.18 | 119.90 |
| 12 | B | 996 | A | N1-C2-N3 | 8.80 | 133.70 | 129.30 |
| 12 | B | 1643 | G | O4'-C1'-N9 | 8.80 | 115.24 | 108.20 |
| 12 | B | 474 | G | C6-N1-C2 | -8.80 | 119.82 | 125.10 |
| 12 | B | 1229 | C | C2-N3-C4 | 8.80 | 124.30 | 119.90 |
| 12 | B | 1444 | G | N9-C4-C5 | -8.80 | 101.88 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1605 | C | N3-C4-C5 | -8.80 | 118.38 | 121.90 |
| 12 | B | 1689 | A | N1-C6-N6 | 8.80 | 123.88 | 118.60 |
| 12 | B | 2878 | U | O4'-C1'-N1 | 8.80 | 115.24 | 108.20 |
| 12 | B | 963 | U | C4-C5-C6 | 8.80 | 124.98 | 119.70 |
| 12 | B | 2430 | A | C6-C5-N7 | -8.80 | 126.14 | 132.30 |
| 12 | B | 51 | G | P-O3'-C3' | -8.79 | 109.15 | 119.70 |
| 12 | B | 530 | G | N1-C2-N3 | -8.79 | 118.62 | 123.90 |
| 12 | B | 912 | C | N3-C2-O2 | 8.79 | 128.06 | 121.90 |
| 12 | B | 1358 | G | O4'-C1'-N9 | 8.80 | 115.24 | 108.20 |
| 12 | B | 226 | A | C5-C6-N6 | -8.79 | 116.67 | 123.70 |
| 12 | B | 1611 | C | N3-C4-N4 | 8.79 | 124.16 | 118.00 |
| 12 | B | 2300 | C | O4'-C1'-N1 | 8.79 | 115.23 | 108.20 |
| 12 | B | 382 | A | C5-C6-N1 | -8.79 | 113.30 | 117.70 |
| 12 | B | 1628 | G | C5-C6-O6 | -8.79 | 123.33 | 128.60 |
| 12 | B | 1974 | C | O4'-C1'-N1 | 8.79 | 115.23 | 108.20 |
| 12 | B | 2046 | G | N1-C6-O6 | 8.79 | 125.18 | 119.90 |
| 13 | C | 86 | ARG | NH1-CZ-NH2 | -8.79 | 109.73 | 119.40 |
| 12 | B | 581 | C | O4'-C1'-N1 | 8.79 | 115.23 | 108.20 |
| 12 | B | 658 | U | O4'-C1'-N1 | 8.79 | 115.23 | 108.20 |
| 12 | B | 1690 | A | N9-C4-C5 | 8.79 | 109.32 | 105.80 |
| 12 | B | 657 | U | O4'-C1'-N1 | 8.79 | 115.23 | 108.20 |
| 12 | B | 2022 | U | C5-C6-N1 | 8.79 | 127.09 | 122.70 |
| 12 | B | 456 | C | N3-C4-C5 | -8.79 | 118.39 | 121.90 |
| 12 | B | 1608 | A | N3-C4-N9 | 8.79 | 134.43 | 127.40 |
| 12 | B | 1809 | A | O4'-C1'-N9 | 8.79 | 115.23 | 108.20 |
| 12 | B | 2384 | U | O4'-C1'-N1 | 8.78 | 115.23 | 108.20 |
| 12 | B | 2782 | G | N1-C6-O6 | 8.79 | 125.17 | 119.90 |
| 25 | O | 94 | ARG | NE-CZ-NH1 | 8.79 | 124.69 | 120.30 |
| 12 | B | 349 | U | O4'-C1'-N1 | 8.78 | 115.23 | 108.20 |
| 12 | B | 2002 | G | N7-C8-N9 | 8.78 | 117.49 | 113.10 |
| 12 | B | 2083 | G | C4-C5-C6 | 8.78 | 124.07 | 118.80 |
| 12 | B | 2525 | G | C6-C5-N7 | -8.78 | 125.13 | 130.40 |
| 12 | B | 83 | A | C6-N1-C2 | -8.78 | 113.33 | 118.60 |
| 12 | B | 121 | G | C5-C6-N1 | -8.78 | 107.11 | 111.50 |
| 12 | B | 531 | C | O4'-C1'-N1 | 8.78 | 115.22 | 108.20 |
| 12 | B | 2355 | G | N1-C2-N3 | -8.78 | 118.63 | 123.90 |
| 12 | B | 2371 | G | N1-C2-N3 | -8.78 | 118.63 | 123.90 |
| 12 | B | 2592 | G | C4-C5-N7 | 8.78 | 114.31 | 110.80 |
| 12 | B | 31 | C | O4'-C1'-N1 | 8.78 | 115.22 | 108.20 |
| 12 | B | 1060 | U | N1-C2-O2 | -8.78 | 116.66 | 122.80 |
| 12 | B | 1666 | G | C5-C6-O6 | -8.78 | 123.33 | 128.60 |
| 12 | B | 1133 | A | N9-C4-C5 | 8.77 | 109.31 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 256 | A | C4-C5-C6 | 8.77 | 121.39 | 117.00 |
| 12 | B | 1623 | G | N3-C4-C5 | -8.77 | 124.22 | 128.60 |
| 12 | B | 1658 | C | N3-C4-N4 | 8.77 | 124.14 | 118.00 |
| 12 | B | 2611 | C | O4'-C1'-N1 | 8.77 | 115.22 | 108.20 |
| 12 | B | 141 | G | N3-C2-N2 | 8.77 | 126.04 | 119.90 |
| 14 | D | 179 | ARG | NE-CZ-NH1 | -8.77 | 115.92 | 120.30 |
| 12 | B | 916 | G | C8-N9-C4 | -8.77 | 102.89 | 106.40 |
| 12 | B | 2833 | U | O4'-C1'-N1 | 8.77 | 115.21 | 108.20 |
| 12 | B | 899 | A | C4-C5-C6 | 8.77 | 121.38 | 117.00 |
| 12 | B | 1551 | A | C4-C5-C6 | 8.77 | 121.38 | 117.00 |
| 12 | B | 1745 | A | O4'-C1'-N9 | 8.77 | 115.21 | 108.20 |
| 12 | B | 1997 | C | N3-C4-N4 | 8.77 | 124.14 | 118.00 |
| 12 | B | 400 | G | C2-N3-C4 | -8.76 | 107.52 | 111.90 |
| 12 | B | 711 | G | C2-N3-C4 | 8.76 | 116.28 | 111.90 |
| 12 | B | 1776 | G | N1-C2-N3 | -8.76 | 118.64 | 123.90 |
| 12 | B | 587 | C | C5-C6-N1 | 8.76 | 125.38 | 121.00 |
| 12 | B | 2058 | A | N1-C2-N3 | 8.76 | 133.68 | 129.30 |
| 12 | B | 2311 | A | N1-C2-N3 | -8.76 | 124.92 | 129.30 |
| 13 | C | 42 | ARG | NE-CZ-NH1 | 8.76 | 124.68 | 120.30 |
| 12 | B | 875 | G | N9-C4-C5 | 8.76 | 108.90 | 105.40 |
| 12 | B | 2440 | C | N3-C4-C5 | -8.76 | 118.40 | 121.90 |
| 12 | B | 361 | G | P-O5'-C5' | 8.76 | 134.91 | 120.90 |
| 12 | B | 877 | A | N1-C6-N6 | 8.76 | 123.85 | 118.60 |
| 12 | B | 1062 | G | C5-C6-O6 | -8.76 | 123.35 | 128.60 |
| 12 | B | 1479 | G | C8-N9-C4 | -8.76 | 102.90 | 106.40 |
| 12 | B | 2277 | G | N3-C4-N9 | 8.76 | 131.25 | 126.00 |
| 12 | B | 5 | A | C8-N9-C4 | -8.75 | 102.30 | 105.80 |
| 12 | B | 864 | G | O4'-C1'-N9 | 8.75 | 115.20 | 108.20 |
| 12 | B | 7 | G | C5-C6-O6 | -8.75 | 123.35 | 128.60 |
| 12 | B | 1423 | G | N1-C6-O6 | 8.75 | 125.15 | 119.90 |
| 12 | B | 1622 | G | C6-C5-N7 | -8.75 | 125.15 | 130.40 |
| 12 | B | 685 | A | O4'-C1'-N9 | 8.75 | 115.20 | 108.20 |
| 12 | B | 1046 | A | C6-N1-C2 | 8.75 | 123.85 | 118.60 |
| 12 | B | 1788 | C | N3-C4-N4 | 8.75 | 124.12 | 118.00 |
| 12 | B | 2753 | A | C8-N9-C4 | -8.75 | 102.30 | 105.80 |
| 20 | J | 49 | ASP | CB-CG-OD2 | 8.75 | 126.17 | 118.30 |
| 10 | 9 | 59 | TYR | CG-CD2-CE2 | -8.75 | 114.30 | 121.30 |
| 12 | B | 133 | U | N3-C4-O4 | 8.75 | 125.52 | 119.40 |
| 12 | B | 645 | C | C6-N1-C1' | -8.75 | 110.31 | 120.80 |
| 12 | B | 886 | A | C5-C6-N1 | -8.75 | 113.33 | 117.70 |
| 12 | B | 1380 | G | C5-C6-O6 | -8.75 | 123.35 | 128.60 |
| 12 | B | 1519 | G | C4-C5-C6 | 8.75 | 124.05 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1857 | G | C5-C6-O6 | -8.75 | 123.35 | 128.60 |
| 12 | B | 2504 | U | C2-N3-C4 | -8.75 | 121.75 | 127.00 |
| 12 | B | 2800 | A | N1-C6-N6 | 8.75 | 123.85 | 118.60 |
| 12 | B | 504 | A | C4-C5-C6 | 8.74 | 121.37 | 117.00 |
| 12 | B | 1266 | G | C4-C5-C6 | 8.74 | 124.05 | 118.80 |
| 12 | B | 1817 | G | C8-N9-C4 | -8.74 | 102.90 | 106.40 |
| 12 | B | 2236 | U | C5-C4-O4 | -8.74 | 120.65 | 125.90 |
| 12 | B | 680 | C | C5-C4-N4 | -8.74 | 114.08 | 120.20 |
| 12 | B | 795 | C | O4'-C1'-N1 | 8.74 | 115.19 | 108.20 |
| 12 | B | 802 | A | O4'-C1'-N9 | 8.74 | 115.19 | 108.20 |
| 12 | B | 1821 | A | O4'-C1'-N9 | 8.74 | 115.19 | 108.20 |
| 12 | B | 2186 | G | C4-C5-N7 | -8.74 | 107.30 | 110.80 |
| 11 | A | 8 | C | O4'-C1'-N1 | 8.74 | 115.19 | 108.20 |
| 12 | B | 1573 | G | C5-C6-O6 | -8.74 | 123.36 | 128.60 |
| 12 | B | 63 | A | C5-N7-C8 | 8.74 | 108.27 | 103.90 |
| 12 | B | 393 | C | C5-C4-N4 | -8.74 | 114.08 | 120.20 |
| 12 | B | 1661 | G | N1-C6-O6 | 8.74 | 125.14 | 119.90 |
| 12 | B | 2298 | A | C4-C5-C6 | 8.74 | 121.37 | 117.00 |
| 11 | A | 33 | G | N3-C2-N2 | 8.74 | 126.02 | 119.90 |
| 12 | B | 196 | A | C5-C6-N1 | -8.74 | 113.33 | 117.70 |
| 12 | B | 1541 | C | O4'-C1'-N1 | 8.74 | 115.19 | 108.20 |
| 12 | B | 414 | C | C2-N1-C1' | 8.73 | 128.41 | 118.80 |
| 12 | B | 608 | A | P-O5'-C5' | -8.73 | 106.92 | 120.90 |
| 12 | B | 93 | G | N9-C4-C5 | -8.73 | 101.91 | 105.40 |
| 12 | B | 738 | G | C5-C6-O6 | -8.73 | 123.36 | 128.60 |
| 12 | B | 741 | U | O4'-C1'-N1 | 8.73 | 115.18 | 108.20 |
| 12 | B | 1797 | G | C5-C6-O6 | -8.73 | 123.36 | 128.60 |
| 2 | 1 | 7 | ARG | NE-CZ-NH1 | 8.73 | 124.66 | 120.30 |
| 12 | B | 1945 | G | N3-C2-N2 | 8.73 | 126.01 | 119.90 |
| 12 | B | 2342 | C | C4'-C3'-C2' | -8.73 | 93.87 | 102.60 |
| 12 | B | 241 | A | C5-C6-N1 | -8.73 | 113.34 | 117.70 |
| 12 | B | 538 | A | C5-C6-N6 | -8.73 | 116.72 | 123.70 |
| 12 | B | 1936 | A | C5-C6-N6 | -8.73 | 116.72 | 123.70 |
| 12 | B | 2126 | A | C4-C5-N7 | -8.73 | 106.34 | 110.70 |
| 12 | B | 2781 | A | C6-C5-N7 | -8.73 | 126.19 | 132.30 |
| 12 | B | 400 | G | N1-C6-O6 | 8.72 | 125.13 | 119.90 |
| 12 | B | 787 | C | N3-C4-N4 | 8.72 | 124.11 | 118.00 |
| 12 | B | 1095 | A | C5-C6-N1 | -8.72 | 113.34 | 117.70 |
| 12 | B | 2583 | G | C2-N3-C4 | 8.72 | 116.26 | 111.90 |
| 12 | B | 2606 | C | C3'-C2'-C1' | 8.72 | 108.48 | 101.50 |
| 12 | B | 2659 | G | N1-C6-O6 | 8.72 | 125.13 | 119.90 |
| 12 | B | 616 | A | N1-C6-N6 | 8.72 | 123.83 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1645 | G | N1-C2-N3 | -8.72 | 118.67 | 123.90 |
| 12 | B | 2325 | G | N1-C6-O6 | 8.72 | 125.13 | 119.90 |
| 12 | B | 775 | G | C8-N9-C4 | -8.72 | 102.91 | 106.40 |
| 12 | B | 1972 | G | C5-C6-O6 | -8.72 | 123.37 | 128.60 |
| 12 | B | 2353 | G | C5-C6-O6 | -8.72 | 123.37 | 128.60 |
| 12 | B | 107 | G | C6-C5-N7 | -8.72 | 125.17 | 130.40 |
| 12 | B | 125 | A | O4'-C1'-N9 | 8.72 | 115.17 | 108.20 |
| 12 | B | 391 | A | C4-C5-C6 | 8.72 | 121.36 | 117.00 |
| 12 | B | 745 | G | C5-C6-O6 | -8.72 | 123.37 | 128.60 |
| 12 | B | 2171 | A | C3'-C2'-C1' | -8.72 | 94.53 | 101.50 |
| 12 | B | 2373 | G | O4'-C1'-N9 | 8.72 | 115.17 | 108.20 |
| 12 | B | 2530 | A | C2-N3-C4 | -8.72 | 106.24 | 110.60 |
| 12 | B | 1283 | G | C5-C6-N1 | -8.72 | 107.14 | 111.50 |
| 28 | R | 13 | ARG | NE-CZ-NH2 | -8.72 | 115.94 | 120.30 |
| 12 | B | 917 | A | C2-N3-C4 | -8.71 | 106.24 | 110.60 |
| 12 | B | 1592 | C | N3-C2-O2 | -8.71 | 115.80 | 121.90 |
| 12 | B | 2900 | A | O4'-C1'-N9 | 8.71 | 115.17 | 108.20 |
| 12 | B | 666 | A | C5-C6-N6 | -8.71 | 116.73 | 123.70 |
| 12 | B | 779 | U | N3-C4-C5 | -8.71 | 109.37 | 114.60 |
| 12 | B | 1490 | A | N7-C8-N9 | -8.71 | 109.44 | 113.80 |
| 12 | B | 926 | G | N3-C2-N2 | 8.71 | 126.00 | 119.90 |
| 12 | B | 1187 | G | C5-C6-O6 | -8.71 | 123.37 | 128.60 |
| 12 | B | 1565 | C | N3-C4-C5 | -8.71 | 118.42 | 121.90 |
| 12 | B | 198 | C | O4'-C1'-N1 | 8.71 | 115.17 | 108.20 |
| 12 | B | 619 | G | C5-C6-O6 | -8.71 | 123.37 | 128.60 |
| 12 | B | 1220 | G | O4'-C1'-N9 | 8.71 | 115.17 | 108.20 |
| 12 | B | 1912 | A | C5-N7-C8 | 8.71 | 108.25 | 103.90 |
| 12 | B | 2237 | G | N1-C2-N3 | -8.71 | 118.67 | 123.90 |
| 12 | B | 2022 | U | O4'-C1'-N1 | 8.71 | 115.17 | 108.20 |
| 12 | B | 372 | G | O4'-C1'-N9 | 8.70 | 115.16 | 108.20 |
| 12 | B | 1645 | G | N1-C6-O6 | 8.70 | 125.12 | 119.90 |
| 12 | B | 1837 | C | C4-C5-C6 | 8.70 | 121.75 | 117.40 |
| 12 | B | 280 | U | C5-C6-N1 | 8.70 | 127.05 | 122.70 |
| 12 | B | 1109 | C | N3-C4-N4 | 8.70 | 124.09 | 118.00 |
| 12 | B | 2378 | A | C5-N7-C8 | 8.70 | 108.25 | 103.90 |
| 12 | B | 2822 | G | C8-N9-C4 | -8.70 | 102.92 | 106.40 |
| 11 | A | 59 | A | C4-C5-C6 | 8.70 | 121.35 | 117.00 |
| 12 | B | 1444 | G | C5-C6-N1 | -8.70 | 107.15 | 111.50 |
| 12 | B | 2175 | C | C2-N3-C4 | 8.70 | 124.25 | 119.90 |
| 11 | A | 31 | C | C5-C4-N4 | -8.70 | 114.11 | 120.20 |
| 12 | B | 317 | G | O4'-C1'-N9 | 8.70 | 115.16 | 108.20 |
| 12 | B | 414 | C | O4'-C1'-N1 | 8.70 | 115.16 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 966 | G | C5'-C4'-C3' | -8.70 | 102.09 | 116.00 |
| 12 | B | 2354 | C | N3-C4-N4 | 8.70 | 124.09 | 118.00 |
| 12 | B | 756 | A | O4'-C1'-N9 | 8.69 | 115.16 | 108.20 |
| 12 | B | 1172 | C | C6-N1-C2 | -8.70 | 116.82 | 120.30 |
| 12 | B | 1376 | C | C5-C6-N1 | -8.70 | 116.65 | 121.00 |
| 12 | B | 2746 | U | C4-C5-C6 | -8.70 | 114.48 | 119.70 |
| 11 | A | 12 | C | O4'-C1'-N1 | 8.69 | 115.15 | 108.20 |
| 12 | B | 366 | C | N3-C4-C5 | -8.69 | 118.42 | 121.90 |
| 12 | B | 1038 | G | C5-C6-O6 | -8.69 | 123.39 | 128.60 |
| 12 | B | 2252 | G | C5-C6-O6 | -8.69 | 123.39 | 128.60 |
| 12 | B | 2733 | A | C5-C6-N1 | -8.69 | 113.35 | 117.70 |
| 12 | B | 231 | A | N9-C4-C5 | -8.69 | 102.32 | 105.80 |
| 12 | B | 1853 | A | C5'-C4'-O4' | 8.69 | 119.53 | 109.10 |
| 12 | B | 733 | G | C5-C6-N1 | -8.69 | 107.16 | 111.50 |
| 12 | B | 924 | G | C4-C5-N7 | 8.69 | 114.28 | 110.80 |
| 12 | B | 1257 | C | O4'-C1'-N1 | 8.69 | 115.15 | 108.20 |
| 12 | B | 1002 | G | C8-N9-C4 | -8.69 | 102.93 | 106.40 |
| 12 | B | 1059 | G | C6-N1-C2 | 8.69 | 130.31 | 125.10 |
| 12 | B | 2130 | U | N3-C4-O4 | 8.69 | 125.48 | 119.40 |
| 12 | B | 2243 | U | C4-C5-C6 | 8.69 | 124.91 | 119.70 |
| 12 | B | 279 | A | N1-C6-N6 | 8.68 | 123.81 | 118.60 |
| 12 | B | 1110 | G | N9-C4-C5 | -8.68 | 101.93 | 105.40 |
| 12 | B | 407 | G | C4-C5-C6 | 8.68 | 124.01 | 118.80 |
| 12 | B | 461 | C | C6-N1-C2 | -8.68 | 116.83 | 120.30 |
| 12 | B | 1002 | G | N7-C8-N9 | 8.68 | 117.44 | 113.10 |
| 12 | B | 1084 | A | P-O3'-C3' | 8.68 | 130.12 | 119.70 |
| 12 | B | 1571 | A | C6-N1-C2 | 8.68 | 123.81 | 118.60 |
| 12 | B | 2000 | C | O4'-C1'-N1 | 8.68 | 115.15 | 108.20 |
| 12 | B | 1389 | G | C5-C6-N1 | -8.68 | 107.16 | 111.50 |
| 12 | B | 2236 | U | O4'-C1'-N1 | 8.68 | 115.14 | 108.20 |
| 12 | B | 539 | G | C5-C6-O6 | -8.68 | 123.39 | 128.60 |
| 12 | B | 2671 | G | C5-C6-O6 | -8.68 | 123.39 | 128.60 |
| 12 | B | 2718 | G | C6-C5-N7 | -8.68 | 125.19 | 130.40 |
| 11 | A | 80 | U | O4'-C1'-N1 | 8.68 | 115.14 | 108.20 |
| 12 | B | 408 | G | C5-C6-O6 | -8.68 | 123.39 | 128.60 |
| 12 | B | 664 | G | N1-C2-N3 | -8.68 | 118.69 | 123.90 |
| 12 | B | 1400 | U | C5-C4-O4 | -8.68 | 120.69 | 125.90 |
| 12 | B | 1723 | G | C5-C6-O6 | -8.68 | 123.39 | 128.60 |
| 12 | B | 1895 | C | N1-C2-N3 | -8.68 | 113.13 | 119.20 |
| 12 | B | 2646 | C | C4'-C3'-C2' | -8.68 | 93.92 | 102.60 |
| 12 | B | 862 | G | C6-C5-N7 | -8.67 | 125.20 | 130.40 |
| 12 | B | 1524 | G | N9-C4-C5 | -8.67 | 101.93 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2570 | G | O4'-C1'-N9 | 8.67 | 115.14 | 108.20 |
| 12 | B | 2792 | A | C4-C5-C6 | 8.67 | 121.34 | 117.00 |
| 12 | B | 896 | A | C4-C5-C6 | 8.67 | 121.33 | 117.00 |
| 12 | B | 1420 | A | N9-C4-C5 | 8.67 | 109.27 | 105.80 |
| 12 | B | 2428 | G | C6-N1-C2 | 8.67 | 130.30 | 125.10 |
| 12 | B | 2289 | G | N1-C6-O6 | 8.67 | 125.10 | 119.90 |
| 12 | B | 256 | A | C5-N7-C8 | 8.67 | 108.23 | 103.90 |
| 12 | B | 2684 | U | C2-N3-C4 | -8.67 | 121.80 | 127.00 |
| 12 | B | 470 | A | N3-C4-C5 | -8.67 | 120.73 | 126.80 |
| 12 | B | 903 | C | C2-N3-C4 | 8.67 | 124.23 | 119.90 |
| 12 | B | 1027 | A | C4-C5-C6 | 8.67 | 121.33 | 117.00 |
| 12 | B | 1080 | A | O4'-C4'-C3' | -8.67 | 95.33 | 104.00 |
| 12 | B | 924 | G | N9-C4-C5 | -8.66 | 101.93 | 105.40 |
| 12 | B | 980 | A | C5-C6-N1 | -8.66 | 113.37 | 117.70 |
| 12 | B | 1492 | G | C5-C6-O6 | -8.66 | 123.40 | 128.60 |
| 12 | B | 1254 | A | C3'-C2'-C1' | 8.66 | 108.43 | 101.50 |
| 12 | B | 1471 | G | C5-C6-O6 | -8.66 | 123.40 | 128.60 |
| 12 | B | 2705 | A | N1-C2-N3 | 8.66 | 133.63 | 129.30 |
| 12 | B | 1762 | A | C6-C5-N7 | -8.66 | 126.24 | 132.30 |
| 12 | B | 2694 | G | N1-C2-N3 | -8.66 | 118.70 | 123.90 |
| 12 | B | 800 | A | P-O3'-C3' | 8.66 | 130.09 | 119.70 |
| 12 | B | 1165 | A | O4'-C1'-N9 | 8.66 | 115.13 | 108.20 |
| 12 | B | 2147 | A | C2-N3-C4 | 8.66 | 114.93 | 110.60 |
| 12 | B | 849 | A | C5-C6-N6 | -8.66 | 116.78 | 123.70 |
| 12 | B | 1383 | A | C8-N9-C4 | -8.66 | 102.34 | 105.80 |
| 12 | B | 2260 | C | O4'-C1'-N1 | 8.66 | 115.12 | 108.20 |
| 12 | B | 2400 | G | N3-C4-C5 | 8.66 | 132.93 | 128.60 |
| 12 | B | 1202 | G | C5-C6-O6 | -8.65 | 123.41 | 128.60 |
| 12 | B | 1833 | C | N3-C4-C5 | -8.65 | 118.44 | 121.90 |
| 12 | B | 120 | U | C2-N3-C4 | -8.65 | 121.81 | 127.00 |
| 12 | B | 941 | A | C4-C5-N7 | -8.65 | 106.37 | 110.70 |
| 12 | B | 1577 | C | P-O3'-C3' | 8.65 | 130.08 | 119.70 |
| 12 | B | 1622 | G | N1-C6-O6 | 8.65 | 125.09 | 119.90 |
| 12 | B | 1804 | C | C5-C6-N1 | 8.65 | 125.33 | 121.00 |
| 12 | B | 1573 | G | N1-C6-O6 | 8.65 | 125.09 | 119.90 |
| 12 | B | 1545 | A | C5-C6-N6 | -8.65 | 116.78 | 123.70 |
| 12 | B | 1721 | G | N9-C4-C5 | 8.65 | 108.86 | 105.40 |
| 12 | B | 1733 | G | C5-N7-C8 | 8.65 | 108.62 | 104.30 |
| 12 | B | 2719 | G | O4'-C1'-N9 | 8.65 | 115.12 | 108.20 |
| 12 | B | 2750 | A | C5-C6-N1 | -8.65 | 113.38 | 117.70 |
| 12 | B | 22 | C | O4'-C1'-N1 | 8.64 | 115.11 | 108.20 |
| 12 | B | 46 | G | C5-C6-O6 | -8.64 | 123.41 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 956 | G | C4-C5-C6 | 8.64 | 123.99 | 118.80 |
| 12 | B | 1350 | C | O4'-C1'-N1 | 8.64 | 115.11 | 108.20 |
| 12 | B | 1477 | A | P-O3'-C3' | 8.64 | 130.07 | 119.70 |
| 12 | B | 11 | C | C6-N1-C2 | -8.64 | 116.84 | 120.30 |
| 12 | B | 655 | A | O4'-C1'-N9 | 8.64 | 115.11 | 108.20 |
| 12 | B | 1172 | C | C4-C5-C6 | 8.64 | 121.72 | 117.40 |
| 12 | B | 1598 | A | C8-N9-C4 | -8.64 | 102.34 | 105.80 |
| 12 | B | 2272 | U | O4'-C1'-N1 | 8.64 | 115.11 | 108.20 |
| 12 | B | 2677 | G | N9-C4-C5 | 8.64 | 108.86 | 105.40 |
| 12 | B | 592 | A | C5-C6-N1 | -8.64 | 113.38 | 117.70 |
| 12 | B | 775 | G | C5-C6-N1 | -8.64 | 107.18 | 111.50 |
| 12 | B | 1191 | G | C5-C6-O6 | -8.64 | 123.42 | 128.60 |
| 12 | B | 1628 | G | C5-C6-N1 | 8.64 | 115.82 | 111.50 |
| 12 | B | 2826 | A | N7-C8-N9 | -8.64 | 109.48 | 113.80 |
| 12 | B | 1529 | G | N1-C6-O6 | 8.64 | 125.08 | 119.90 |
| 12 | B | 1571 | A | N1-C2-N3 | -8.64 | 124.98 | 129.30 |
| 12 | B | 83 | A | N1-C2-N3 | 8.63 | 133.62 | 129.30 |
| 12 | B | 987 | C | N1-C2-O2 | 8.63 | 124.08 | 118.90 |
| 12 | B | 2565 | A | N1-C2-N3 | 8.63 | 133.62 | 129.30 |
| 12 | B | 368 | A | C6-N1-C2 | -8.63 | 113.42 | 118.60 |
| 12 | B | 671 | C | N3-C4-N4 | 8.63 | 124.04 | 118.00 |
| 12 | B | 1731 | G | C4-C5-N7 | 8.63 | 114.25 | 110.80 |
| 12 | B | 1958 | C | N3-C4-N4 | 8.63 | 124.04 | 118.00 |
| 12 | B | 192 | C | O4'-C1'-N1 | 8.63 | 115.10 | 108.20 |
| 12 | B | 695 | G | N3-C2-N2 | 8.63 | 125.94 | 119.90 |
| 12 | B | 1119 | U | N3-C4-C5 | -8.63 | 109.42 | 114.60 |
| 12 | B | 1770 | G | N3-C2-N2 | 8.63 | 125.94 | 119.90 |
| 12 | B | 2184 | A | C4-C5-C6 | 8.63 | 121.31 | 117.00 |
| 12 | B | 2397 | G | C4-C5-N7 | -8.63 | 107.35 | 110.80 |
| 12 | B | 2580 | U | O4'-C1'-N1 | 8.63 | 115.10 | 108.20 |
| 12 | B | 118 | A | N1-C6-N6 | 8.62 | 123.78 | 118.60 |
| 12 | B | 1012 | U | O4'-C1'-N1 | 8.62 | 115.10 | 108.20 |
| 12 | B | 1070 | A | C6-N1-C2 | 8.62 | 123.78 | 118.60 |
| 12 | B | 1185 | G | N1-C6-O6 | 8.62 | 125.08 | 119.90 |
| 12 | B | 1459 | G | N3-C2-N2 | 8.62 | 125.94 | 119.90 |
| 12 | B | 2306 | C | N3-C4-C5 | -8.63 | 118.45 | 121.90 |
| 12 | B | 2302 | U | C2-N3-C4 | -8.62 | 121.83 | 127.00 |
| 12 | B | 2336 | A | C6-N1-C2 | 8.62 | 123.78 | 118.60 |
| 12 | B | 2632 | A | C4'-C3'-C2' | -8.62 | 93.97 | 102.60 |
| 12 | B | 2678 | C | C4-C5-C6 | 8.62 | 121.71 | 117.40 |
| 15 | E | 85 | PHE | CB-CG-CD1 | -8.62 | 114.76 | 120.80 |
| 12 | B | 319 | G | C5-C6-O6 | -8.62 | 123.43 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 339 | U | N3-C4-O4 | 8.62 | 125.44 | 119.40 |
| 12 | B | 973 | A | N1-C6-N6 | 8.62 | 123.77 | 118.60 |
| 12 | B | 997 | G | O4'-C1'-N9 | 8.62 | 115.10 | 108.20 |
| 12 | B | 1346 | G | C5-C6-O6 | -8.62 | 123.43 | 128.60 |
| 12 | B | 2006 | C | C5-C4-N4 | -8.62 | 114.16 | 120.20 |
| 12 | B | 2419 | U | O4'-C1'-N1 | 8.62 | 115.10 | 108.20 |
| 12 | B | 385 | C | C5-C6-N1 | -8.62 | 116.69 | 121.00 |
| 12 | B | 934 | U | C5-C4-O4 | 8.62 | 131.07 | 125.90 |
| 12 | B | 1436 | G | N1-C6-O6 | 8.62 | 125.07 | 119.90 |
| 12 | B | 1871 | A | N9-C4-C5 | 8.62 | 109.25 | 105.80 |
| 12 | B | 2752 | C | N3-C4-N4 | 8.62 | 124.03 | 118.00 |
| 12 | B | 2198 | A | O4'-C1'-N9 | 8.62 | 115.09 | 108.20 |
| 12 | B | 2668 | G | C5-C6-O6 | -8.62 | 123.43 | 128.60 |
| 12 | B | 1914 | C | C6-N1-C2 | -8.62 | 116.85 | 120.30 |
| 12 | B | 2279 | G | C2-N3-C4 | 8.62 | 116.21 | 111.90 |
| 12 | B | 2330 | G | C5-C6-O6 | -8.62 | 123.43 | 128.60 |
| 12 | B | 822 | G | C4-C5-N7 | -8.61 | 107.36 | 110.80 |
| 12 | B | 1031 | G | N1-C2-N3 | -8.61 | 118.73 | 123.90 |
| 12 | B | 1579 | A | N3-C4-C5 | -8.61 | 120.77 | 126.80 |
| 12 | B | 140 | C | O4'-C1'-N1 | 8.61 | 115.09 | 108.20 |
| 12 | B | 988 | A | C5-C6-N6 | -8.61 | 116.81 | 123.70 |
| 12 | B | 2673 | G | O4'-C1'-N9 | 8.61 | 115.09 | 108.20 |
| 12 | B | 172 | A | C2-N3-C4 | -8.61 | 106.30 | 110.60 |
| 12 | B | 1292 | G | C5-C6-O6 | -8.61 | 123.44 | 128.60 |
| 12 | B | 1467 | U | O4'-C1'-N1 | 8.61 | 115.08 | 108.20 |
| 12 | B | 1726 | C | N3-C4-C5 | -8.61 | 118.46 | 121.90 |
| 12 | B | 1940 | U | O4'-C1'-N1 | 8.61 | 115.08 | 108.20 |
| 12 | B | 2044 | C | O4'-C1'-N1 | 8.61 | 115.08 | 108.20 |
| 12 | B | 1080 | A | N1-C2-N3 | 8.60 | 133.60 | 129.30 |
| 12 | B | 1327 | A | C5-C6-N6 | -8.60 | 116.82 | 123.70 |
| 12 | B | 1593 | A | C5-C6-N6 | -8.60 | 116.82 | 123.70 |
| 12 | B | 2314 | A | C5-C6-N6 | -8.60 | 116.82 | 123.70 |
| 12 | B | 2424 | C | C5-C6-N1 | 8.60 | 125.30 | 121.00 |
| 12 | B | 2572 | A | C4-C5-C6 | 8.60 | 121.30 | 117.00 |
| 12 | B | 591 | U | C6-N1-C2 | 8.60 | 126.16 | 121.00 |
| 12 | B | 848 | C | N3-C4-C5 | 8.60 | 125.34 | 121.90 |
| 12 | B | 2142 | A | C5-C6-N6 | -8.60 | 116.82 | 123.70 |
| 12 | B | 2627 | G | N7-C8-N9 | -8.60 | 108.80 | 113.10 |
| 12 | B | 926 | G | N1-C2-N3 | -8.60 | 118.74 | 123.90 |
| 12 | B | 390 | U | N3-C2-O2 | 8.60 | 128.22 | 122.20 |
| 12 | B | 455 | C | N3-C4-N4 | 8.60 | 124.02 | 118.00 |
| 12 | B | 1045 | C | C5-C4-N4 | -8.60 | 114.18 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1450 | G | N1-C6-O6 | 8.60 | 125.06 | 119.90 |
| 16 | F | 111 | ARG | NE-CZ-NH1 | 8.60 | 124.60 | 120.30 |
| 12 | B | 1660 | G | N7-C8-N9 | 8.60 | 117.40 | 113.10 |
| 12 | B | 1819 | A | N9-C4-C5 | 8.60 | 109.24 | 105.80 |
| 12 | B | 2834 | G | N3-C4-C5 | -8.60 | 124.30 | 128.60 |
| 12 | B | 1305 | C | C5-C4-N4 | -8.60 | 114.18 | 120.20 |
| 12 | B | 2083 | G | N3-C4-C5 | -8.60 | 124.30 | 128.60 |
| 12 | B | 2087 | G | N1-C6-O6 | 8.60 | 125.06 | 119.90 |
| 12 | B | 2310 | C | N3-C4-N4 | 8.60 | 124.02 | 118.00 |
| 12 | B | 2475 | C | P-O5'-C5' | 8.60 | 134.66 | 120.90 |
| 11 | A | 75 | G | N1-C6-O6 | 8.59 | 125.06 | 119.90 |
| 12 | B | 1722 | A | C5-C6-N6 | -8.59 | 116.83 | 123.70 |
| 11 | A | 73 | A | O4'-C1'-N9 | 8.59 | 115.07 | 108.20 |
| 12 | B | 1422 | G | C2-N3-C4 | -8.59 | 107.61 | 111.90 |
| 12 | B | 2295 | C | O4'-C1'-N1 | 8.59 | 115.07 | 108.20 |
| 12 | B | 1948 | G | C5-C6-O6 | -8.59 | 123.45 | 128.60 |
| 12 | B | 1281 | G | C4-C5-N7 | 8.59 | 114.23 | 110.80 |
| 12 | B | 2895 | G | N3-C2-N2 | 8.59 | 125.91 | 119.90 |
| 12 | B | 216 | A | C8-N9-C4 | -8.59 | 102.37 | 105.80 |
| 12 | B | 493 | G | C3'-C2'-C1' | 8.59 | 108.37 | 101.50 |
| 12 | B | 1504 | A | C5-C6-N6 | -8.59 | 116.83 | 123.70 |
| 12 | B | 730 | A | N1-C2-N3 | 8.58 | 133.59 | 129.30 |
| 12 | B | 1585 | C | C5-C6-N1 | 8.58 | 125.29 | 121.00 |
| 12 | B | 1829 | A | C4-C5-C6 | 8.58 | 121.29 | 117.00 |
| 12 | B | 2439 | A | C5-C6-N6 | -8.58 | 116.83 | 123.70 |
| 12 | B | 2557 | G | O4'-C1'-N9 | 8.58 | 115.07 | 108.20 |
| 12 | B | 620 | G | O4'-C1'-N9 | 8.58 | 115.06 | 108.20 |
| 12 | B | 1463 | C | O4'-C1'-N1 | 8.58 | 115.06 | 108.20 |
| 27 | Q | 48 | ASP | CB-CG-OD2 | -8.58 | 110.58 | 118.30 |
| 12 | B | 1498 | C | N3-C4-N4 | 8.58 | 124.00 | 118.00 |
| 12 | B | 2893 | A | C4-C5-C6 | 8.58 | 121.29 | 117.00 |
| 12 | B | 293 | U | C6-N1-C2 | -8.58 | 115.85 | 121.00 |
| 12 | B | 2596 | U | C4-C5-C6 | 8.58 | 124.85 | 119.70 |
| 12 | B | 352 | A | O4'-C1'-N9 | 8.58 | 115.06 | 108.20 |
| 6 | 5 | 164 | ARG | NE-CZ-NH2 | -8.57 | 116.01 | 120.30 |
| 11 | A | 45 | A | N1-C2-N3 | 8.57 | 133.59 | 129.30 |
| 12 | B | 11 | C | O4'-C1'-N1 | 8.57 | 115.06 | 108.20 |
| 12 | B | 742 | A | C5-C6-N6 | -8.57 | 116.84 | 123.70 |
| 12 | B | 491 | G | N1-C6-O6 | 8.57 | 125.04 | 119.90 |
| 12 | B | 1195 | G | N1-C2-N3 | -8.57 | 118.76 | 123.90 |
| 12 | B | 1304 | A | C5-C6-N6 | -8.57 | 116.84 | 123.70 |
| 12 | B | 1393 | A | P-O5'-C5' | -8.57 | 107.18 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1669 | A | N3-C4-C5 | -8.57 | 120.80 | 126.80 |
| 12 | B | 397 | U | N1-C2-O2 | -8.57 | 116.80 | 122.80 |
| 12 | B | 260 | G | O4'-C1'-N9 | 8.57 | 115.06 | 108.20 |
| 12 | B | 1350 | C | C2-N3-C4 | -8.57 | 115.61 | 119.90 |
| 12 | B | 1845 | G | C6-C5-N7 | -8.57 | 125.26 | 130.40 |
| 12 | B | 1848 | A | C5-C6-N1 | -8.57 | 113.41 | 117.70 |
| 12 | B | 2596 | U | C5-C4-O4 | 8.57 | 131.04 | 125.90 |
| 12 | B | 2385 | C | N1-C2-N3 | -8.57 | 113.20 | 119.20 |
| 12 | B | 2541 | A | N9-C4-C5 | -8.57 | 102.37 | 105.80 |
| 12 | B | 2895 | G | N1-C2-N3 | -8.57 | 118.76 | 123.90 |
| 12 | B | 36 | G | O4'-C1'-N9 | 8.57 | 115.05 | 108.20 |
| 12 | B | 1959 | G | C5-C6-O6 | -8.57 | 123.46 | 128.60 |
| 12 | B | 132 | G | C2-N3-C4 | -8.57 | 107.62 | 111.90 |
| 12 | B | 426 | C | N1-C2-O2 | 8.57 | 124.04 | 118.90 |
| 12 | B | 1237 | A | O4'-C1'-N9 | 8.57 | 115.05 | 108.20 |
| 12 | B | 1616 | A | N1-C6-N6 | 8.57 | 123.74 | 118.60 |
| 12 | B | 1919 | A | C4-C5-N7 | -8.57 | 106.42 | 110.70 |
| 12 | B | 2515 | C | O4'-C1'-N1 | 8.57 | 115.05 | 108.20 |
| 12 | B | 261 | G | N1-C2-N3 | -8.56 | 118.76 | 123.90 |
| 12 | B | 497 | A | C6-C5-N7 | -8.56 | 126.30 | 132.30 |
| 12 | B | 607 | U | C1'-O4'-C4' | -8.56 | 103.05 | 109.90 |
| 12 | B | 1465 | G | C8-N9-C4 | 8.56 | 109.83 | 106.40 |
| 12 | B | 1480 | C | N3-C2-O2 | 8.56 | 127.89 | 121.90 |
| 12 | B | 1690 | A | N1-C6-N6 | 8.56 | 123.74 | 118.60 |
| 12 | B | 1935 | G | C1'-O4'-C4' | 8.56 | 116.75 | 109.90 |
| 12 | B | 2553 | G | C4-C5-N7 | 8.56 | 114.23 | 110.80 |
| 12 | B | 1285 | A | C5-C6-N1 | -8.56 | 113.42 | 117.70 |
| 12 | B | 137 | U | N3-C4-C5 | 8.56 | 119.74 | 114.60 |
| 12 | B | 889 | C | P-O3'-C3' | 8.56 | 129.97 | 119.70 |
| 12 | B | 989 | G | O4'-C1'-N9 | 8.56 | 115.05 | 108.20 |
| 12 | B | 2115 | G | N9-C4-C5 | -8.56 | 101.98 | 105.40 |
| 12 | B | 51 | G | C5-C6-O6 | -8.56 | 123.47 | 128.60 |
| 12 | B | 165 | A | C8-N9-C4 | -8.56 | 102.38 | 105.80 |
| 12 | B | 526 | A | N1-C6-N6 | 8.56 | 123.73 | 118.60 |
| 12 | B | 1113 | U | N1-C2-O2 | -8.56 | 116.81 | 122.80 |
| 12 | B | 2350 | C | N3-C4-C5 | -8.56 | 118.48 | 121.90 |
| 12 | B | 2634 | A | N1-C6-N6 | 8.56 | 123.73 | 118.60 |
| 12 | B | 177 | G | N1-C2-N3 | -8.55 | 118.77 | 123.90 |
| 12 | B | 1256 | G | N1-C2-N3 | 8.56 | 129.03 | 123.90 |
| 12 | B | 2598 | A | C2-N3-C4 | 8.55 | 114.88 | 110.60 |
| 12 | B | 2902 | C | O4'-C1'-N1 | 8.55 | 115.04 | 108.20 |
| 12 | B | 1575 | C | N3-C2-O2 | -8.55 | 115.91 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1780 | A | N9-C4-C5 | 8.55 | 109.22 | 105.80 |
| 12 | B | 2216 | G | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 12 | B | 2640 | G | C6-C5-N7 | -8.55 | 125.27 | 130.40 |
| 12 | B | 466 | A | C6-N1-C2 | 8.55 | 123.73 | 118.60 |
| 12 | B | 1921 | G | N3-C2-N2 | 8.55 | 125.89 | 119.90 |
| 2 | 1 | 29 | ARG | NE-CZ-NH1 | -8.55 | 116.03 | 120.30 |
| 11 | A | 4 | C | O4'-C1'-N1 | 8.55 | 115.04 | 108.20 |
| 11 | A | 98 | G | N1-C2-N3 | -8.55 | 118.77 | 123.90 |
| 12 | B | 263 | G | N9-C4-C5 | 8.55 | 108.82 | 105.40 |
| 12 | B | 530 | G | N1-C6-O6 | 8.55 | 125.03 | 119.90 |
| 12 | B | 752 | A | C1'-O4'-C4' | -8.55 | 103.06 | 109.90 |
| 12 | B | 1182 | G | C5-C6-O6 | 8.55 | 133.73 | 128.60 |
| 12 | B | 1259 | G | N1-C6-O6 | 8.55 | 125.03 | 119.90 |
| 12 | B | 1363 | C | O4'-C1'-N1 | 8.55 | 115.04 | 108.20 |
| 12 | B | 1525 | A | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 12 | B | 2075 | U | C5-C4-O4 | -8.55 | 120.77 | 125.90 |
| 12 | B | 2210 | U | C5'-C4'-O4' | 8.55 | 119.36 | 109.10 |
| 12 | B | 2886 | A | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 12 | B | 847 | U | C5-C4-O4 | -8.55 | 120.77 | 125.90 |
| 12 | B | 1647 | U | O4'-C1'-N1 | 8.55 | 115.04 | 108.20 |
| 12 | B | 1854 | A | N1-C6-N6 | 8.55 | 123.73 | 118.60 |
| 14 | D | 118 | PHE | CB-CG-CD1 | -8.55 | 114.82 | 120.80 |
| 12 | B | 556 | A | C5-C6-N1 | -8.54 | 113.43 | 117.70 |
| 12 | B | 1156 | A | N1-C6-N6 | 8.54 | 123.72 | 118.60 |
| 12 | B | 1463 | C | C4-C5-C6 | 8.54 | 121.67 | 117.40 |
| 12 | B | 2011 | U | C6-N1-C2 | -8.54 | 115.87 | 121.00 |
| 12 | B | 2032 | G | N7-C8-N9 | -8.54 | 108.83 | 113.10 |
| 12 | B | 2264 | C | C5-C6-N1 | -8.54 | 116.73 | 121.00 |
| 12 | B | 270 | A | C6-N1-C2 | -8.54 | 113.48 | 118.60 |
| 12 | B | 1423 | G | N3-C2-N2 | 8.54 | 125.88 | 119.90 |
| 12 | B | 1823 | G | C4-C5-N7 | -8.54 | 107.38 | 110.80 |
| 12 | B | 1916 | A | C4-C5-N7 | -8.54 | 106.43 | 110.70 |
| 12 | B | 2774 | C | C5-C6-N1 | 8.54 | 125.27 | 121.00 |
| 12 | B | 2795 | C | C2-N1-C1' | 8.54 | 128.19 | 118.80 |
| 12 | B | 2170 | A | N1-C2-N3 | 8.54 | 133.57 | 129.30 |
| 15 | E | 162 | ARG | NE-CZ-NH2 | 8.54 | 124.57 | 120.30 |
| 12 | B | 382 | A | C8-N9-C4 | -8.54 | 102.39 | 105.80 |
| 12 | B | 1095 | A | N1-C2-N3 | 8.54 | 133.57 | 129.30 |
| 12 | B | 1407 | G | C4-C5-C6 | 8.54 | 123.92 | 118.80 |
| 12 | B | 1502 | A | P-O3'-C3' | 8.54 | 129.94 | 119.70 |
| 12 | B | 1643 | G | N3-C2-N2 | 8.53 | 125.87 | 119.90 |
| 12 | B | 1644 | C | O4'-C1'-N1 | 8.54 | 115.03 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1844 | C | N1-C2-N3 | -8.54 | 113.23 | 119.20 |
| 12 | B | 210 | C | C6-N1-C2 | -8.53 | 116.89 | 120.30 |
| 12 | B | 618 | G | C5-C6-N1 | -8.53 | 107.23 | 111.50 |
| 12 | B | 982 | C | N3-C4-N4 | 8.53 | 123.97 | 118.00 |
| 11 | A | 101 | A | C2-N3-C4 | -8.53 | 106.34 | 110.60 |
| 12 | B | 2895 | G | N1-C6-O6 | 8.53 | 125.02 | 119.90 |
| 12 | B | 476 | G | C6-C5-N7 | -8.53 | 125.28 | 130.40 |
| 12 | B | 577 | G | N3-C2-N2 | 8.53 | 125.87 | 119.90 |
| 12 | B | 705 | A | O4'-C1'-N9 | 8.53 | 115.02 | 108.20 |
| 12 | B | 1864 | U | P-O5'-C5' | 8.53 | 134.54 | 120.90 |
| 10 | 9 | 234 | HIS | CA-CB-CG | 8.52 | 128.09 | 113.60 |
| 12 | B | 383 | C | C2-N3-C4 | 8.52 | 124.16 | 119.90 |
| 12 | B | 1403 | A | N1-C6-N6 | 8.52 | 123.71 | 118.60 |
| 12 | B | 1723 | G | O4'-C1'-N9 | 8.52 | 115.02 | 108.20 |
| 12 | B | 2153 | C | N3-C4-C5 | -8.52 | 118.49 | 121.90 |
| 24 | N | 46 | ARG | NE-CZ-NH1 | 8.52 | 124.56 | 120.30 |
| 11 | A | 34 | A | N7-C8-N9 | -8.52 | 109.54 | 113.80 |
| 12 | B | 169 | G | C5-C6-O6 | -8.52 | 123.49 | 128.60 |
| 12 | B | 891 | G | N9-C4-C5 | 8.52 | 108.81 | 105.40 |
| 12 | B | 904 | G | C8-N9-C4 | -8.52 | 102.99 | 106.40 |
| 12 | B | 1254 | A | C4-C5-C6 | 8.52 | 121.26 | 117.00 |
| 12 | B | 1929 | G | C5-C6-O6 | -8.52 | 123.49 | 128.60 |
| 12 | B | 2093 | G | N3-C2-N2 | 8.52 | 125.86 | 119.90 |
| 12 | B | 1406 | U | N3-C4-C5 | -8.52 | 109.49 | 114.60 |
| 12 | B | 1988 | G | N7-C8-N9 | 8.52 | 117.36 | 113.10 |
| 12 | B | 422 | A | C5-C6-N6 | -8.51 | 116.89 | 123.70 |
| 12 | B | 1113 | U | O4'-C1'-N1 | 8.51 | 115.01 | 108.20 |
| 12 | B | 1380 | G | N1-C6-O6 | 8.51 | 125.01 | 119.90 |
| 12 | B | 2460 | U | O4'-C1'-N1 | 8.51 | 115.01 | 108.20 |
| 12 | B | 2862 | G | N9-C4-C5 | 8.51 | 108.81 | 105.40 |
| 12 | B | 338 | G | C2-N3-C4 | -8.51 | 107.64 | 111.90 |
| 12 | B | 813 | U | O4'-C1'-N1 | 8.51 | 115.01 | 108.20 |
| 12 | B | 1700 | A | C5-C6-N6 | -8.51 | 116.89 | 123.70 |
| 12 | B | 1702 | G | N3-C2-N2 | 8.51 | 125.86 | 119.90 |
| 12 | B | 2162 | G | O4'-C1'-N9 | 8.51 | 115.01 | 108.20 |
| 12 | B | 28 | A | N7-C8-N9 | -8.51 | 109.55 | 113.80 |
| 12 | B | 1835 | G | N1-C2-N3 | -8.51 | 118.80 | 123.90 |
| 11 | A | 63 | C | O4'-C1'-N1 | 8.51 | 115.00 | 108.20 |
| 12 | B | 282 | A | N9-C4-C5 | 8.51 | 109.20 | 105.80 |
| 12 | B | 507 | A | C8-N9-C4 | -8.51 | 102.40 | 105.80 |
| 12 | B | 2090 | A | C2-N3-C4 | -8.51 | 106.35 | 110.60 |
| 12 | B | 1364 | G | C6-C5-N7 | -8.50 | 125.30 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2760 | C | O4'-C1'-N1 | 8.50 | 115.00 | 108.20 |
| 12 | B | 2803 | G | N7-C8-N9 | -8.50 | 108.85 | 113.10 |
| 12 | B | 509 | C | C1'-O4'-C4' | -8.50 | 103.10 | 109.90 |
| 12 | B | 643 | A | C5-C6-N6 | -8.50 | 116.90 | 123.70 |
| 12 | B | 676 | A | C8-N9-C4 | -8.50 | 102.40 | 105.80 |
| 12 | B | 703 | U | C2-N3-C4 | 8.50 | 132.10 | 127.00 |
| 12 | B | 980 | A | C4-C5-C6 | 8.50 | 121.25 | 117.00 |
| 12 | B | 1799 | G | N3-C2-N2 | 8.50 | 125.85 | 119.90 |
| 12 | B | 277 | G | O4'-C1'-N9 | 8.50 | 115.00 | 108.20 |
| 12 | B | 792 | A | O4'-C1'-N9 | 8.50 | 115.00 | 108.20 |
| 12 | B | 27 | G | N9-C4-C5 | -8.50 | 102.00 | 105.40 |
| 12 | B | 212 | G | N3-C2-N2 | 8.50 | 125.85 | 119.90 |
| 12 | B | 377 | G | O4'-C1'-N9 | 8.50 | 115.00 | 108.20 |
| 12 | B | 1365 | A | N1-C6-N6 | 8.50 | 123.70 | 118.60 |
| 12 | B | 2768 | U | O4'-C1'-N1 | 8.50 | 115.00 | 108.20 |
| 12 | B | 2789 | C | O4'-C1'-N1 | 8.50 | 115.00 | 108.20 |
| 12 | B | 338 | G | O4'-C1'-N9 | 8.49 | 115.00 | 108.20 |
| 12 | B | 609 | A | C5-C6-N1 | -8.49 | 113.45 | 117.70 |
| 12 | B | 654 | A | C4-C5-C6 | 8.49 | 121.25 | 117.00 |
| 12 | B | 1003 | G | N1-C2-N3 | -8.49 | 118.80 | 123.90 |
| 12 | B | 1538 | G | N3-C2-N2 | 8.49 | 125.84 | 119.90 |
| 12 | B | 882 | G | C8-N9-C4 | -8.49 | 103.00 | 106.40 |
| 11 | A | 13 | G | C5-C6-O6 | -8.49 | 123.51 | 128.60 |
| 12 | B | 314 | C | C2-N3-C4 | 8.49 | 124.14 | 119.90 |
| 12 | B | 942 | G | N3-C4-C5 | -8.49 | 124.36 | 128.60 |
| 12 | B | 1357 | C | N3-C4-N4 | 8.49 | 123.94 | 118.00 |
| 12 | B | 376 | G | C2-N3-C4 | 8.49 | 116.14 | 111.90 |
| 12 | B | 823 | C | C4-C5-C6 | 8.49 | 121.64 | 117.40 |
| 12 | B | 479 | A | N1-C6-N6 | 8.48 | 123.69 | 118.60 |
| 12 | B | 1869 | G | N1-C2-N2 | -8.48 | 108.56 | 116.20 |
| 12 | B | 1477 | A | N1-C6-N6 | 8.48 | 123.69 | 118.60 |
| 12 | B | 2056 | G | N3-C4-C5 | -8.48 | 124.36 | 128.60 |
| 12 | B | 2478 | A | N3-C4-N9 | 8.48 | 134.19 | 127.40 |
| 12 | B | 20 | C | C2-N3-C4 | -8.48 | 115.66 | 119.90 |
| 12 | B | 27 | G | N3-C4-C5 | 8.48 | 132.84 | 128.60 |
| 12 | B | 470 | A | N9-C4-C5 | 8.48 | 109.19 | 105.80 |
| 12 | B | 1343 | G | C6-C5-N7 | -8.48 | 125.31 | 130.40 |
| 12 | B | 1418 | G | N9-C4-C5 | -8.48 | 102.01 | 105.40 |
| 12 | B | 2224 | G | C6-C5-N7 | -8.48 | 125.31 | 130.40 |
| 12 | B | 288 | U | O4'-C1'-N1 | 8.48 | 114.98 | 108.20 |
| 12 | B | 1110 | G | C5-C6-O6 | -8.48 | 123.51 | 128.60 |
| 12 | B | 635 | C | N3-C4-C5 | -8.48 | 118.51 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1006 | C | C4-C5-C6 | 8.48 | 121.64 | 117.40 |
| 12 | B | 1472 | C | N3-C4-N4 | 8.48 | 123.94 | 118.00 |
| 12 | B | 1735 | A | N9-C1'-C2' | -8.48 | 102.67 | 112.00 |
| 12 | B | 2215 | C | P-O5'-C5' | 8.48 | 134.47 | 120.90 |
| 12 | B | 2412 | A | C5-N7-C8 | 8.48 | 108.14 | 103.90 |
| 12 | B | 2526 | G | C5-N7-C8 | -8.48 | 100.06 | 104.30 |
| 12 | B | 1192 | G | C5-C6-N1 | -8.48 | 107.26 | 111.50 |
| 12 | B | 1207 | C | N3-C4-C5 | -8.48 | 118.51 | 121.90 |
| 12 | B | 1759 | A | C5-C6-N1 | -8.48 | 113.46 | 117.70 |
| 12 | B | 2127 | G | P-O3'-C3' | 8.48 | 129.87 | 119.70 |
| 12 | B | 518 | G | N1-C6-O6 | 8.47 | 124.98 | 119.90 |
| 12 | B | 1266 | G | N1-C6-O6 | 8.47 | 124.98 | 119.90 |
| 12 | B | 1769 | U | O4'-C1'-N1 | 8.47 | 114.98 | 108.20 |
| 12 | B | 1846 | G | C4'-C3'-C2' | -8.47 | 94.13 | 102.60 |
| 12 | B | 1954 | G | N7-C8-N9 | -8.47 | 108.86 | 113.10 |
| 12 | B | 2421 | G | O4'-C1'-N9 | 8.47 | 114.98 | 108.20 |
| 12 | B | 2873 | A | N1-C6-N6 | 8.47 | 123.69 | 118.60 |
| 12 | B | 221 | A | C6-C5-N7 | -8.47 | 126.37 | 132.30 |
| 12 | B | 858 | G | C5-C6-O6 | -8.47 | 123.52 | 128.60 |
| 12 | B | 135 | U | C2-N3-C4 | 8.47 | 132.08 | 127.00 |
| 12 | B | 2330 | G | O4'-C1'-N9 | 8.47 | 114.98 | 108.20 |
| 12 | B | 2660 | A | C2-N3-C4 | 8.47 | 114.83 | 110.60 |
| 12 | B | 1059 | G | C2-N3-C4 | 8.47 | 116.13 | 111.90 |
| 12 | B | 458 | G | O4'-C1'-N9 | 8.47 | 114.97 | 108.20 |
| 12 | B | 883 | G | C5'-C4'-O4' | 8.47 | 119.26 | 109.10 |
| 12 | B | 1316 | U | N3-C4-C5 | -8.47 | 109.52 | 114.60 |
| 12 | B | 1649 | G | C6-C5-N7 | -8.47 | 125.32 | 130.40 |
| 12 | B | 2518 | A | C5-C6-N1 | -8.47 | 113.47 | 117.70 |
| 12 | B | 2732 | G | C6-C5-N7 | -8.47 | 125.32 | 130.40 |
| 12 | B | 2813 | A | O4'-C1'-N9 | 8.47 | 114.97 | 108.20 |
| 12 | B | 1006 | C | O4'-C1'-N1 | 8.47 | 114.97 | 108.20 |
| 12 | B | 2626 | C | C6-N1-C2 | -8.47 | 116.91 | 120.30 |
| 12 | B | 1016 | G | P-O3'-C3' | -8.46 | 109.54 | 119.70 |
| 12 | B | 975 | A | N1-C6-N6 | 8.46 | 123.68 | 118.60 |
| 12 | B | 1093 | G | O4'-C1'-N9 | 8.46 | 114.97 | 108.20 |
| 12 | B | 2314 | A | C8-N9-C4 | 8.46 | 109.19 | 105.80 |
| 12 | B | 2634 | A | C5-N7-C8 | 8.46 | 108.13 | 103.90 |
| 12 | B | 1631 | G | O4'-C1'-N9 | 8.46 | 114.97 | 108.20 |
| 12 | B | 1724 | G | N1-C6-O6 | 8.46 | 124.98 | 119.90 |
| 12 | B | 207 | A | C4-C5-C6 | 8.46 | 121.23 | 117.00 |
| 12 | B | 1789 | A | N1-C2-N3 | 8.46 | 133.53 | 129.30 |
| 12 | B | 1810 | A | C2-N3-C4 | -8.46 | 106.37 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2621 | G | C5-C6-O6 | -8.46 | 123.53 | 128.60 |
| 12 | B | 1571 | A | C6-C5-N7 | -8.46 | 126.38 | 132.30 |
| 12 | B | 318 | C | C4-C5-C6 | 8.45 | 121.63 | 117.40 |
| 12 | B | 629 | G | C2-N3-C4 | 8.45 | 116.13 | 111.90 |
| 12 | B | 2098 | U | C4'-C3'-C2' | -8.46 | 94.14 | 102.60 |
| 12 | B | 2892 | G | P-O3'-C3' | -8.46 | 109.55 | 119.70 |
| 20 | J | 119 | PHE | CB-CG-CD1 | 8.46 | 126.72 | 120.80 |
| 12 | B | 83 | A | C5-C6-N6 | -8.45 | 116.94 | 123.70 |
| 12 | B | 474 | G | N9-C4-C5 | 8.45 | 108.78 | 105.40 |
| 12 | B | 1036 | G | C5-C6-O6 | -8.45 | 123.53 | 128.60 |
| 12 | B | 1473 | G | C8-N9-C4 | -8.45 | 103.02 | 106.40 |
| 12 | B | 1511 | G | N1-C2-N3 | -8.45 | 118.83 | 123.90 |
| 12 | B | 1682 | G | N1-C6-O6 | 8.45 | 124.97 | 119.90 |
| 12 | B | 1783 | A | N1-C2-N3 | 8.45 | 133.53 | 129.30 |
| 12 | B | 2178 | C | N3-C4-C5 | -8.45 | 118.52 | 121.90 |
| 12 | B | 136 | G | C8-N9-C4 | -8.45 | 103.02 | 106.40 |
| 12 | B | 2867 | G | C5-N7-C8 | 8.45 | 108.52 | 104.30 |
| 12 | B | 669 | G | C5-C6-O6 | -8.45 | 123.53 | 128.60 |
| 12 | B | 868 | U | N3-C2-O2 | 8.45 | 128.11 | 122.20 |
| 12 | B | 905 | A | C4-C5-C6 | 8.45 | 121.22 | 117.00 |
| 12 | B | 1815 | A | C5-C6-N1 | -8.45 | 113.48 | 117.70 |
| 12 | B | 1738 | G | N9-C4-C5 | 8.45 | 108.78 | 105.40 |
| 12 | B | 2550 | G | N1-C6-O6 | 8.45 | 124.97 | 119.90 |
| 12 | B | 2004 | G | N1-C6-O6 | 8.44 | 124.97 | 119.90 |
| 12 | B | 2855 | C | C6-N1-C2 | 8.44 | 123.68 | 120.30 |
| 12 | B | 1096 | A | C5-C6-N1 | -8.44 | 113.48 | 117.70 |
| 12 | B | 622 | G | O4'-C1'-N9 | 8.44 | 114.95 | 108.20 |
| 12 | B | 1103 | A | C6-C5-N7 | -8.44 | 126.39 | 132.30 |
| 12 | B | 1954 | G | N3-C2-N2 | 8.44 | 125.81 | 119.90 |
| 12 | B | 2539 | C | O4'-C1'-N1 | 8.44 | 114.95 | 108.20 |
| 12 | B | 1453 | A | C5-C6-N1 | -8.44 | 113.48 | 117.70 |
| 12 | B | 247 | G | O4'-C1'-N9 | 8.44 | 114.95 | 108.20 |
| 12 | B | 1682 | G | C6-C5-N7 | -8.44 | 125.34 | 130.40 |
| 11 | A | 42 | C | C4-C5-C6 | 8.44 | 121.62 | 117.40 |
| 12 | B | 122 | G | P-O5'-C5' | 8.44 | 134.40 | 120.90 |
| 12 | B | 1715 | G | C8-N9-C4 | 8.44 | 109.77 | 106.40 |
| 12 | B | 2062 | A | C5-C6-N6 | -8.44 | 116.95 | 123.70 |
| 12 | B | 2648 | G | C6-C5-N7 | -8.44 | 125.34 | 130.40 |
| 12 | B | 778 | G | O4'-C1'-N9 | 8.43 | 114.95 | 108.20 |
| 12 | B | 1478 | G | N1-C6-O6 | 8.43 | 124.96 | 119.90 |
| 12 | B | 1516 | G | C5-C6-O6 | -8.43 | 123.54 | 128.60 |
| 12 | B | 1692 | U | P-O3'-C3' | 8.43 | 129.82 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2206 | C | N1-C2-O2 | -8.43 | 113.84 | 118.90 |
| 12 | B | 2872 | A | N1-C6-N6 | 8.43 | 123.66 | 118.60 |
| 12 | B | 802 | A | N1-C6-N6 | 8.43 | 123.66 | 118.60 |
| 12 | B | 877 | A | C2-N3-C4 | 8.43 | 114.81 | 110.60 |
| 12 | B | 947 | A | N1-C6-N6 | 8.43 | 123.66 | 118.60 |
| 12 | B | 1443 | U | O4'-C1'-N1 | 8.43 | 114.94 | 108.20 |
| 12 | B | 1610 | A | C6-N1-C2 | -8.43 | 113.54 | 118.60 |
| 12 | B | 2075 | U | O4'-C1'-N1 | 8.43 | 114.94 | 108.20 |
| 12 | B | 2649 | C | N3-C2-O2 | 8.43 | 127.80 | 121.90 |
| 23 | M | 10 | ARG | NE-CZ-NH2 | 8.43 | 124.52 | 120.30 |
| 12 | B | 222 | A | C6-C5-N7 | -8.43 | 126.40 | 132.30 |
| 12 | B | 1348 | C | C1'-O4'-C4' | -8.43 | 103.16 | 109.90 |
| 12 | B | 1665 | A | C4-C5-C6 | 8.43 | 121.21 | 117.00 |
| 12 | B | 2893 | A | C5-C6-N1 | -8.43 | 113.49 | 117.70 |
| 12 | B | 224 | U | C5-C6-N1 | -8.43 | 118.49 | 122.70 |
| 12 | B | 299 | A | N1-C6-N6 | 8.43 | 123.66 | 118.60 |
| 12 | B | 979 | A | C6-C5-N7 | -8.43 | 126.40 | 132.30 |
| 12 | B | 2711 | A | O4'-C1'-N9 | 8.43 | 114.94 | 108.20 |
| 12 | B | 1048 | A | C4-C5-C6 | 8.42 | 121.21 | 117.00 |
| 12 | B | 2631 | G | C4-C5-C6 | 8.42 | 123.85 | 118.80 |
| 18 | H | 68 | ARG | NE-CZ-NH2 | 8.42 | 124.51 | 120.30 |
| 12 | B | 1193 | G | N1-C6-O6 | 8.42 | 124.95 | 119.90 |
| 12 | B | 2058 | A | C4-C5-C6 | 8.42 | 121.21 | 117.00 |
| 11 | A | 35 | C | N3-C4-C5 | -8.42 | 118.53 | 121.90 |
| 12 | B | 1906 | G | C4-C5-N7 | 8.42 | 114.17 | 110.80 |
| 12 | B | 2462 | C | P-O3'-C3' | -8.42 | 109.60 | 119.70 |
| 11 | A | 98 | G | N3-C2-N2 | 8.42 | 125.79 | 119.90 |
| 12 | B | 271 | G | C2-N3-C4 | 8.42 | 116.11 | 111.90 |
| 12 | B | 1542 | U | N3-C2-O2 | 8.42 | 128.09 | 122.20 |
| 12 | B | 192 | C | C4-C5-C6 | -8.41 | 113.19 | 117.40 |
| 12 | B | 697 | G | C5-C6-N1 | -8.41 | 107.29 | 111.50 |
| 12 | B | 748 | G | N1-C2-N3 | -8.41 | 118.85 | 123.90 |
| 12 | B | 787 | C | O4'-C1'-N1 | 8.41 | 114.93 | 108.20 |
| 12 | B | 1328 | A | C4-C5-C6 | 8.41 | 121.21 | 117.00 |
| 12 | B | 1331 | G | O4'-C1'-N9 | 8.41 | 114.93 | 108.20 |
| 12 | B | 2618 | G | N1-C2-N3 | -8.41 | 118.85 | 123.90 |
| 12 | B | 1388 | G | C4-C5-C6 | 8.41 | 123.85 | 118.80 |
| 12 | B | 1858 | A | N1-C2-N3 | -8.41 | 125.09 | 129.30 |
| 12 | B | 2204 | G | C4-C5-C6 | 8.41 | 123.85 | 118.80 |
| 12 | B | 106 | C | O4'-C1'-N1 | 8.41 | 114.93 | 108.20 |
| 12 | B | 1580 | A | O4'-C1'-N9 | 8.41 | 114.93 | 108.20 |
| 11 | A | 34 | A | C8-N9-C4 | 8.41 | 109.16 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 957 | C | N3-C4-N4 | 8.41 | 123.88 | 118.00 |
| 12 | B | 1201 | U | O4'-C1'-N1 | 8.41 | 114.93 | 108.20 |
| 12 | B | 1448 | G | C5-C6-O6 | -8.41 | 123.56 | 128.60 |
| 12 | B | 371 | A | C5-C6-N1 | -8.40 | 113.50 | 117.70 |
| 12 | B | 687 | C | O4'-C1'-N1 | 8.40 | 114.92 | 108.20 |
| 12 | B | 1618 | A | C5-C6-N6 | -8.40 | 116.98 | 123.70 |
| 12 | B | 1654 | A | C2-N3-C4 | -8.40 | 106.40 | 110.60 |
| 12 | B | 1899 | A | C6-C5-N7 | -8.40 | 126.42 | 132.30 |
| 12 | B | 2752 | C | C5-C6-N1 | 8.40 | 125.20 | 121.00 |
| 12 | B | 2890 | G | P-O5'-C5' | 8.40 | 134.35 | 120.90 |
| 12 | B | 760 | G | O4'-C1'-N9 | 8.40 | 114.92 | 108.20 |
| 12 | B | 2344 | U | N1-C2-O2 | -8.40 | 116.92 | 122.80 |
| 12 | B | 2500 | U | C5-C4-O4 | -8.40 | 120.86 | 125.90 |
| 12 | B | 2835 | A | N1-C6-N6 | 8.40 | 123.64 | 118.60 |
| 12 | B | 470 | A | C4-C5-N7 | -8.40 | 106.50 | 110.70 |
| 11 | A | 50 | A | C6-C5-N7 | -8.40 | 126.42 | 132.30 |
| 12 | B | 244 | A | O4'-C1'-N9 | 8.40 | 114.92 | 108.20 |
| 12 | B | 808 | G | C8-N9-C4 | -8.40 | 103.04 | 106.40 |
| 12 | B | 1022 | G | C4-C5-N7 | -8.40 | 107.44 | 110.80 |
| 12 | B | 1157 | G | N1-C6-O6 | 8.40 | 124.94 | 119.90 |
| 12 | B | 1769 | U | C5-C6-N1 | 8.40 | 126.90 | 122.70 |
| 12 | B | 2277 | G | C6-C5-N7 | -8.40 | 125.36 | 130.40 |
| 12 | B | 2761 | A | N1-C6-N6 | 8.40 | 123.64 | 118.60 |
| 12 | B | 2832 | U | O4'-C1'-N1 | 8.40 | 114.92 | 108.20 |
| 11 | A | 21 | G | C6-C5-N7 | -8.39 | 125.36 | 130.40 |
| 12 | B | 1177 | G | N3-C4-C5 | -8.39 | 124.40 | 128.60 |
| 12 | B | 1913 | A | N1-C6-N6 | 8.39 | 123.64 | 118.60 |
| 12 | B | 49 | A | C6-N1-C2 | -8.39 | 113.57 | 118.60 |
| 12 | B | 1490 | A | C4-C5-C6 | 8.39 | 121.20 | 117.00 |
| 12 | B | 1685 | C | O4'-C1'-N1 | 8.39 | 114.91 | 108.20 |
| 12 | B | 940 | G | C5-C6-O6 | -8.39 | 123.57 | 128.60 |
| 12 | B | 1874 | C | O4'-C1'-N1 | 8.39 | 114.91 | 108.20 |
| 12 | B | 599 | A | C2-N3-C4 | -8.39 | 106.41 | 110.60 |
| 12 | B | 1470 | A | C2-N3-C4 | -8.39 | 106.41 | 110.60 |
| 12 | B | 2284 | A | C8-N9-C4 | -8.39 | 102.44 | 105.80 |
| 12 | B | 2495 | G | N1-C6-O6 | 8.39 | 124.93 | 119.90 |
| 12 | B | 2587 | A | C5-N7-C8 | 8.39 | 108.09 | 103.90 |
| 12 | B | 335 | C | C6-N1-C2 | -8.39 | 116.95 | 120.30 |
| 12 | B | 2738 | A | C5-C6-N6 | -8.39 | 116.99 | 123.70 |
| 12 | B | 980 | A | C5-N7-C8 | 8.38 | 108.09 | 103.90 |
| 12 | B | 1237 | A | C4-C5-C6 | 8.38 | 121.19 | 117.00 |
| 12 | B | 53 | A | C4-C5-C6 | 8.38 | 121.19 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1021 | A | C4-C5-C6 | 8.38 | 121.19 | 117.00 |
| 12 | B | 420 | C | N3-C4-C5 | -8.38 | 118.55 | 121.90 |
| 12 | B | 900 | A | C5-C6-N6 | -8.38 | 117.00 | 123.70 |
| 12 | B | 1199 | U | O4'-C1'-N1 | 8.38 | 114.91 | 108.20 |
| 12 | B | 1544 | A | N9-C4-C5 | 8.38 | 109.15 | 105.80 |
| 12 | B | 1202 | G | N1-C6-O6 | 8.38 | 124.93 | 119.90 |
| 12 | B | 2531 | A | N9-C4-C5 | 8.38 | 109.15 | 105.80 |
| 12 | B | 2630 | G | C8-N9-C4 | 8.38 | 109.75 | 106.40 |
| 12 | B | 1405 | U | N1-C2-N3 | -8.38 | 109.87 | 114.90 |
| 12 | B | 2481 | G | C5-C6-O6 | -8.38 | 123.57 | 128.60 |
| 12 | B | 2882 | A | C6-C5-N7 | -8.38 | 126.44 | 132.30 |
| 12 | B | 1017 | G | O4'-C1'-N9 | 8.38 | 114.90 | 108.20 |
| 12 | B | 1216 | G | N1-C2-N3 | -8.38 | 118.87 | 123.90 |
| 12 | B | 2066 | C | N3-C4-C5 | -8.38 | 118.55 | 121.90 |
| 12 | B | 2808 | G | C3'-C2'-C1' | 8.38 | 108.20 | 101.50 |
| 11 | A | 52 | A | C5-C6-N1 | -8.38 | 113.51 | 117.70 |
| 11 | A | 60 | C | O4'-C1'-N1 | 8.38 | 114.90 | 108.20 |
| 12 | B | 1327 | A | N9-C4-C5 | 8.38 | 109.15 | 105.80 |
| 12 | B | 1017 | G | C4-C5-N7 | 8.37 | 114.15 | 110.80 |
| 12 | B | 2444 | G | C4-C5-N7 | 8.37 | 114.15 | 110.80 |
| 12 | B | 2755 | C | O4'-C1'-N1 | 8.38 | 114.90 | 108.20 |
| 12 | B | 1273 | U | C3'-C2'-C1' | 8.37 | 108.20 | 101.50 |
| 12 | B | 70 | G | O4'-C1'-N9 | 8.37 | 114.90 | 108.20 |
| 12 | B | 785 | G | C2-N3-C4 | -8.37 | 107.72 | 111.90 |
| 12 | B | 820 | A | C6-C5-N7 | -8.37 | 126.44 | 132.30 |
| 12 | B | 2015 | A | C2-N3-C4 | -8.37 | 106.42 | 110.60 |
| 12 | B | 2666 | C | O4'-C1'-N1 | 8.37 | 114.90 | 108.20 |
| 12 | B | 1178 | C | C5-C4-N4 | -8.37 | 114.34 | 120.20 |
| 12 | B | 2822 | G | P-O3'-C3' | 8.37 | 129.74 | 119.70 |
| 12 | B | 350 | G | C5-C6-O6 | -8.36 | 123.58 | 128.60 |
| 12 | B | 988 | A | P-O5'-C5' | 8.36 | 134.28 | 120.90 |
| 12 | B | 2249 | U | P-O3'-C3' | 8.36 | 129.74 | 119.70 |
| 12 | B | 259 | G | C2-N3-C4 | 8.36 | 116.08 | 111.90 |
| 12 | B | 712 | G | N1-C6-O6 | 8.36 | 124.92 | 119.90 |
| 12 | B | 1232 | G | C1'-O4'-C4' | 8.36 | 116.59 | 109.90 |
| 12 | B | 1797 | G | O4'-C1'-N9 | 8.36 | 114.89 | 108.20 |
| 12 | B | 1858 | A | C2-N3-C4 | 8.36 | 114.78 | 110.60 |
| 12 | B | 1946 | U | O4'-C1'-N1 | 8.36 | 114.89 | 108.20 |
| 12 | B | 2042 | A | O4'-C1'-N9 | 8.36 | 114.89 | 108.20 |
| 12 | B | 2648 | G | C4-C5-C6 | 8.36 | 123.82 | 118.80 |
| 12 | B | 66 | C | C6-N1-C2 | 8.36 | 123.64 | 120.30 |
| 12 | B | 98 | G | N1-C6-O6 | 8.36 | 124.92 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 969 | G | C5-C6-O6 | -8.36 | 123.58 | 128.60 |
| 12 | B | 1540 | G | N7-C8-N9 | 8.36 | 117.28 | 113.10 |
| 12 | B | 1858 | A | N9-C4-C5 | 8.36 | 109.14 | 105.80 |
| 12 | B | 1961 | C | C2-N3-C4 | 8.36 | 124.08 | 119.90 |
| 12 | B | 2202 | U | O4'-C1'-N1 | 8.36 | 114.89 | 108.20 |
| 12 | B | 2485 | G | N9-C4-C5 | 8.36 | 108.74 | 105.40 |
| 12 | B | 2852 | G | C5-C6-O6 | -8.36 | 123.58 | 128.60 |
| 25 | O | 30 | ARG | NE-CZ-NH1 | 8.36 | 124.48 | 120.30 |
| 12 | B | 1959 | G | C4-C5-N7 | 8.36 | 114.14 | 110.80 |
| 12 | B | 547 | A | C5-C6-N1 | -8.36 | 113.52 | 117.70 |
| 12 | B | 755 | U | N3-C4-C5 | -8.36 | 109.59 | 114.60 |
| 12 | B | 954 | G | N9-C4-C5 | -8.36 | 102.06 | 105.40 |
| 12 | B | 1627 | G | N3-C2-N2 | 8.36 | 125.75 | 119.90 |
| 12 | B | 1681 | G | C2-N3-C4 | -8.36 | 107.72 | 111.90 |
| 12 | B | 1723 | G | C4-C5-N7 | 8.36 | 114.14 | 110.80 |
| 12 | B | 2588 | G | C6-N1-C2 | 8.36 | 130.11 | 125.10 |
| 12 | B | 877 | A | C4-C5-C6 | 8.35 | 121.18 | 117.00 |
| 12 | B | 1027 | A | C2-N3-C4 | 8.35 | 114.78 | 110.60 |
| 12 | B | 2660 | A | C8-N9-C4 | -8.35 | 102.46 | 105.80 |
| 12 | B | 1284 | A | C4-C5-N7 | -8.35 | 106.52 | 110.70 |
| 12 | B | 1290 | C | C6-N1-C2 | -8.35 | 116.96 | 120.30 |
| 12 | B | 2218 | G | C5-C6-N1 | -8.35 | 107.33 | 111.50 |
| 12 | B | 2389 | G | P-O3'-C3' | 8.35 | 129.72 | 119.70 |
| 12 | B | 2551 | C | O4'-C1'-N1 | 8.35 | 114.88 | 108.20 |
| 12 | B | 114 | U | N3-C4-O4 | -8.35 | 113.56 | 119.40 |
| 12 | B | 274 | C | N3-C4-N4 | 8.35 | 123.84 | 118.00 |
| 12 | B | 1809 | A | N9-C4-C5 | 8.35 | 109.14 | 105.80 |
| 12 | B | 2070 | A | N7-C8-N9 | -8.35 | 109.63 | 113.80 |
| 12 | B | 392 | U | N3-C4-C5 | 8.35 | 119.61 | 114.60 |
| 12 | B | 811 | U | O4'-C1'-N1 | 8.35 | 114.88 | 108.20 |
| 12 | B | 1320 | C | C5-C6-N1 | -8.34 | 116.83 | 121.00 |
| 12 | B | 982 | C | C2-N1-C1' | 8.34 | 127.98 | 118.80 |
| 12 | B | 1137 | G | O4'-C1'-N9 | 8.34 | 114.87 | 108.20 |
| 12 | B | 1457 | U | O4'-C1'-N1 | 8.34 | 114.87 | 108.20 |
| 12 | B | 1860 | G | O4'-C1'-N9 | 8.34 | 114.87 | 108.20 |
| 12 | B | 2234 | G | N1-C6-O6 | 8.34 | 124.91 | 119.90 |
| 12 | B | 435 | C | C5-C6-N1 | 8.34 | 125.17 | 121.00 |
| 14 | D | 128 | ARG | NE-CZ-NH1 | 8.34 | 124.47 | 120.30 |
| 12 | B | 520 | G | C2-N3-C4 | -8.34 | 107.73 | 111.90 |
| 12 | B | 26 | G | C4-N9-C1' | 8.34 | 137.34 | 126.50 |
| 12 | B | 389 | G | N1-C6-O6 | 8.34 | 124.90 | 119.90 |
| 12 | B | 629 | G | C5-C6-O6 | -8.34 | 123.60 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1331 | G | C8-N9-C4 | -8.34 | 103.06 | 106.40 |
| 12 | B | 2010 | G | N7-C8-N9 | -8.34 | 108.93 | 113.10 |
| 20 | J | 71 | ASP | CB-CG-OD2 | -8.34 | 110.80 | 118.30 |
| 12 | B | 2413 | G | N9-C4-C5 | -8.34 | 102.07 | 105.40 |
| 15 | E | 114 | ARG | NE-CZ-NH2 | -8.34 | 116.13 | 120.30 |
| 12 | B | 439 | A | O4'-C1'-N9 | 8.33 | 114.87 | 108.20 |
| 12 | B | 1538 | G | C5-C6-O6 | -8.33 | 123.60 | 128.60 |
| 12 | B | 1980 | G | C2-N3-C4 | 8.33 | 116.07 | 111.90 |
| 12 | B | 2592 | G | C5-N7-C8 | -8.33 | 100.13 | 104.30 |
| 12 | B | 886 | A | C6-C5-N7 | -8.33 | 126.47 | 132.30 |
| 12 | B | 1694 | C | O4'-C1'-N1 | 8.33 | 114.86 | 108.20 |
| 12 | B | 2659 | G | C5-N7-C8 | 8.33 | 108.47 | 104.30 |
| 12 | B | 526 | A | C5-N7-C8 | 8.33 | 108.06 | 103.90 |
| 12 | B | 1750 | G | C6-C5-N7 | -8.33 | 125.40 | 130.40 |
| 12 | B | 2714 | G | C6-C5-N7 | -8.33 | 125.40 | 130.40 |
| 12 | B | 402 | A | P-O5'-C5' | 8.32 | 134.22 | 120.90 |
| 12 | B | 749 | A | C4-C5-C6 | 8.32 | 121.16 | 117.00 |
| 12 | B | 2874 | C | O4'-C1'-N1 | 8.32 | 114.86 | 108.20 |
| 12 | B | 109 | C | O4'-C1'-N1 | 8.32 | 114.86 | 108.20 |
| 12 | B | 347 | A | C5-C6-N1 | -8.32 | 113.54 | 117.70 |
| 12 | B | 1737 | G | P-O3'-C3' | 8.32 | 129.69 | 119.70 |
| 12 | B | 1893 | C | N3-C4-C5 | -8.32 | 118.57 | 121.90 |
| 12 | B | 2093 | G | C6-N1-C2 | 8.32 | 130.09 | 125.10 |
| 20 | J | 71 | ASP | CB-CG-OD1 | 8.32 | 125.79 | 118.30 |
| 12 | B | 1477 | A | C4-C5-C6 | 8.32 | 121.16 | 117.00 |
| 12 | B | 1828 | G | O4'-C1'-N9 | 8.32 | 114.86 | 108.20 |
| 12 | B | 2021 | C | C2-N1-C1' | 8.32 | 127.95 | 118.80 |
| 12 | B | 862 | G | N7-C8-N9 | 8.32 | 117.26 | 113.10 |
| 12 | B | 2003 | A | N3-C4-C5 | -8.32 | 120.98 | 126.80 |
| 17 | G | 82 | PHE | CB-CG-CD2 | 8.32 | 126.62 | 120.80 |
| 12 | B | 613 | A | C5-C6-N6 | -8.31 | 117.05 | 123.70 |
| 12 | B | 1022 | G | C5-N7-C8 | 8.31 | 108.46 | 104.30 |
| 12 | B | 1348 | C | O4'-C1'-N1 | 8.31 | 114.85 | 108.20 |
| 12 | B | 2135 | A | C4-C5-C6 | 8.31 | 121.16 | 117.00 |
| 12 | B | 2382 | G | C6-C5-N7 | -8.31 | 125.41 | 130.40 |
| 12 | B | 2559 | C | C5-C6-N1 | 8.31 | 125.16 | 121.00 |
| 12 | B | 2826 | A | C8-N9-C4 | 8.31 | 109.12 | 105.80 |
| 12 | B | 17 | G | N3-C2-N2 | 8.31 | 125.72 | 119.90 |
| 12 | B | 211 | C | O4'-C1'-N1 | 8.31 | 114.85 | 108.20 |
| 12 | B | 327 | G | O4'-C1'-N9 | 8.31 | 114.85 | 108.20 |
| 12 | B | 672 | C | N1-C2-O2 | 8.31 | 123.89 | 118.90 |
| 12 | B | 1163 | G | C5-C6-O6 | -8.31 | 123.61 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2203 | U | C5-C4-O4 | -8.31 | 120.91 | 125.90 |
| 12 | B | 2808 | G | C5-N7-C8 | 8.31 | 108.45 | 104.30 |
| 15 | E | 101 | TYR | CB-CG-CD2 | 8.31 | 125.99 | 121.00 |
| 12 | B | 154 | U | O4'-C4'-C3' | -8.31 | 95.69 | 104.00 |
| 12 | B | 78 | U | O4'-C1'-N1 | 8.31 | 114.85 | 108.20 |
| 12 | B | 1672 | A | C4-C5-C6 | 8.31 | 121.15 | 117.00 |
| 12 | B | 2374 | C | N3-C4-C5 | -8.31 | 118.58 | 121.90 |
| 12 | B | 1676 | A | N1-C6-N6 | 8.31 | 123.58 | 118.60 |
| 11 | A | 64 | G | N1-C2-N3 | -8.31 | 118.92 | 123.90 |
| 12 | B | 242 | G | C5-N7-C8 | 8.30 | 108.45 | 104.30 |
| 12 | B | 656 | G | O4'-C1'-N9 | 8.30 | 114.84 | 108.20 |
| 12 | B | 1261 | C | O4'-C1'-N1 | 8.30 | 114.84 | 108.20 |
| 12 | B | 2060 | A | C4-C5-C6 | 8.30 | 121.15 | 117.00 |
| 12 | B | 2093 | G | C5-C6-N1 | -8.31 | 107.35 | 111.50 |
| 12 | B | 2189 | U | C5-C4-O4 | -8.30 | 120.92 | 125.90 |
| 7 | 6 | 34 | ARG | NE-CZ-NH1 | 8.30 | 124.45 | 120.30 |
| 12 | B | 118 | A | C4-C5-N7 | -8.30 | 106.55 | 110.70 |
| 12 | B | 1894 | C | C6-N1-C2 | -8.30 | 116.98 | 120.30 |
| 12 | B | 2685 | G | O4'-C1'-N9 | 8.30 | 114.84 | 108.20 |
| 12 | B | 2801 | G | C6-C5-N7 | -8.30 | 125.42 | 130.40 |
| 12 | B | 592 | A | N1-C6-N6 | 8.30 | 123.58 | 118.60 |
| 12 | B | 2156 | G | C2-N3-C4 | -8.30 | 107.75 | 111.90 |
| 12 | B | 2205 | A | O4'-C1'-N9 | 8.30 | 114.84 | 108.20 |
| 12 | B | 8 | C | C5-C4-N4 | -8.30 | 114.39 | 120.20 |
| 12 | B | 1201 | U | C5-C6-N1 | 8.30 | 126.85 | 122.70 |
| 12 | B | 2588 | G | O4'-C1'-N9 | 8.30 | 114.84 | 108.20 |
| 12 | B | 2595 | G | N3-C4-C5 | -8.30 | 124.45 | 128.60 |
| 12 | B | 636 | G | C8-N9-C4 | 8.29 | 109.72 | 106.40 |
| 12 | B | 898 | C | C5-C6-N1 | -8.29 | 116.85 | 121.00 |
| 12 | B | 2330 | G | N3-C2-N2 | 8.29 | 125.70 | 119.90 |
| 12 | B | 2583 | G | C6-N1-C2 | 8.29 | 130.08 | 125.10 |
| 12 | B | 1048 | A | N1-C2-N3 | -8.29 | 125.16 | 129.30 |
| 12 | B | 2891 | U | C5-C4-O4 | -8.29 | 120.92 | 125.90 |
| 15 | E | 128 | ALA | N-CA-CB | 8.29 | 121.71 | 110.10 |
| 12 | B | 366 | C | C5-C6-N1 | 8.29 | 125.14 | 121.00 |
| 12 | B | 2475 | C | N3-C4-C5 | -8.29 | 118.58 | 121.90 |
| 20 | J | 37 | ARG | NE-CZ-NH1 | -8.29 | 116.16 | 120.30 |
| 12 | B | 1431 | A | N1-C2-N3 | 8.29 | 133.44 | 129.30 |
| 12 | B | 1534 | U | N1-C2-O2 | 8.29 | 128.60 | 122.80 |
| 12 | B | 1802 | A | C5-N7-C8 | 8.29 | 108.04 | 103.90 |
| 12 | B | 1906 | G | N3-C4-C5 | 8.29 | 132.75 | 128.60 |
| 12 | B | 2776 | A | C5-C6-N6 | -8.29 | 117.07 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2858 | C | C6-N1-C2 | -8.29 | 116.98 | 120.30 |
| 3 | 2 | 37 | ARG | NE-CZ-NH2 | -8.29 | 116.16 | 120.30 |
| 12 | B | 912 | C | C5-C6-N1 | -8.29 | 116.86 | 121.00 |
| 12 | B | 1197 | G | C4-C5-N7 | -8.29 | 107.49 | 110.80 |
| 12 | B | 1986 | C | C6-N1-C2 | -8.28 | 116.99 | 120.30 |
| 12 | B | 124 | G | N7-C8-N9 | 8.28 | 117.24 | 113.10 |
| 12 | B | 992 | C | C6-N1-C2 | -8.28 | 116.99 | 120.30 |
| 12 | B | 1633 | G | C5-C6-N1 | -8.28 | 107.36 | 111.50 |
| 12 | B | 2101 | A | C8-N9-C4 | -8.28 | 102.49 | 105.80 |
| 12 | B | 2767 | C | C5-C4-N4 | -8.28 | 114.40 | 120.20 |
| 12 | B | 424 | G | O4'-C1'-N9 | 8.28 | 114.82 | 108.20 |
| 11 | A | 30 | C | C4-C5-C6 | -8.28 | 113.26 | 117.40 |
| 12 | B | 289 | G | N1-C6-O6 | 8.28 | 124.86 | 119.90 |
| 12 | B | 1344 | U | C5-C6-N1 | 8.28 | 126.84 | 122.70 |
| 12 | B | 1633 | G | C4-C5-C6 | 8.28 | 123.77 | 118.80 |
| 12 | B | 2857 | G | N1-C2-N2 | -8.28 | 108.75 | 116.20 |
| 12 | B | 53 | A | N1-C6-N6 | 8.27 | 123.56 | 118.60 |
| 12 | B | 2484 | G | N3-C2-N2 | 8.27 | 125.69 | 119.90 |
| 12 | B | 392 | U | C2-N3-C4 | -8.27 | 122.04 | 127.00 |
| 12 | B | 2237 | G | O4'-C1'-N9 | 8.27 | 114.82 | 108.20 |
| 12 | B | 2645 | G | C6-N1-C2 | 8.27 | 130.06 | 125.10 |
| 12 | B | 1074 | G | N3-C4-N9 | 8.27 | 130.96 | 126.00 |
| 12 | B | 1987 | A | C6-N1-C2 | -8.27 | 113.64 | 118.60 |
| 12 | B | 2460 | U | C5-C4-O4 | -8.27 | 120.94 | 125.90 |
| 12 | B | 2506 | U | C6-N1-C2 | -8.27 | 116.04 | 121.00 |
| 12 | B | 2690 | U | C5-C4-O4 | -8.27 | 120.94 | 125.90 |
| 1 | 0 | 44 | ARG | NE-CZ-NH2 | -8.27 | 116.17 | 120.30 |
| 12 | B | 2021 | C | O4'-C1'-N1 | 8.27 | 114.81 | 108.20 |
| 12 | B | 2342 | C | N3-C2-O2 | -8.27 | 116.11 | 121.90 |
| 12 | B | 2463 | C | C5-C4-N4 | -8.27 | 114.42 | 120.20 |
| 12 | B | 579 | G | C5-C6-N1 | -8.26 | 107.37 | 111.50 |
| 12 | B | 633 | A | C5-C6-N1 | -8.26 | 113.57 | 117.70 |
| 12 | B | 802 | A | C4-C5-C6 | 8.26 | 121.13 | 117.00 |
| 12 | B | 986 | C | O4'-C1'-N1 | 8.26 | 114.81 | 108.20 |
| 12 | B | 1810 | A | O4'-C1'-N9 | 8.26 | 114.81 | 108.20 |
| 27 | Q | 96 | ASP | CB-CG-OD2 | 8.26 | 125.74 | 118.30 |
| 12 | B | 1195 | G | N3-C2-N2 | 8.26 | 125.68 | 119.90 |
| 12 | B | 1681 | G | N1-C2-N2 | -8.26 | 108.76 | 116.20 |
| 12 | B | 1767 | G | N3-C2-N2 | 8.26 | 125.68 | 119.90 |
| 12 | B | 2078 | C | C4-C5-C6 | 8.26 | 121.53 | 117.40 |
| 12 | B | 2598 | A | O4'-C1'-N9 | 8.26 | 114.81 | 108.20 |
| 12 | B | 1810 | A | N7-C8-N9 | -8.26 | 109.67 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2064 | C | C6-N1-C2 | -8.26 | 117.00 | 120.30 |
| 12 | B | 2521 | C | N3-C4-C5 | -8.26 | 118.60 | 121.90 |
| 12 | B | 2545 | G | C5-C6-N1 | -8.26 | 107.37 | 111.50 |
| 12 | B | 2705 | A | N7-C8-N9 | -8.26 | 109.67 | 113.80 |
| 12 | B | 152 | A | C5-C6-N6 | -8.26 | 117.09 | 123.70 |
| 12 | B | 1127 | A | N9-C4-C5 | -8.26 | 102.50 | 105.80 |
| 12 | B | 1160 | G | P-O5'-C5' | -8.26 | 107.69 | 120.90 |
| 12 | B | 2522 | U | C5-C4-O4 | -8.26 | 120.95 | 125.90 |
| 12 | B | 266 | G | C4-C5-N7 | 8.26 | 114.10 | 110.80 |
| 12 | B | 880 | G | C8-N9-C4 | -8.26 | 103.10 | 106.40 |
| 12 | B | 2601 | C | C5-C6-N1 | 8.26 | 125.13 | 121.00 |
| 12 | B | 2714 | G | C8-N9-C4 | -8.26 | 103.10 | 106.40 |
| 12 | B | 2830 | C | N3-C4-C5 | -8.26 | 118.60 | 121.90 |
| 11 | A | 70 | C | O4'-C1'-N1 | 8.25 | 114.80 | 108.20 |
| 11 | A | 75 | G | O4'-C1'-N9 | 8.25 | 114.80 | 108.20 |
| 12 | B | 1147 | A | C2-N3-C4 | -8.25 | 106.47 | 110.60 |
| 12 | B | 1151 | A | C4-C5-C6 | 8.25 | 121.13 | 117.00 |
| 12 | B | 1212 | G | N3-C2-N2 | 8.25 | 125.68 | 119.90 |
| 12 | B | 1415 | U | C4-C5-C6 | -8.25 | 114.75 | 119.70 |
| 12 | B | 2279 | G | C6-N1-C2 | 8.25 | 130.05 | 125.10 |
| 12 | B | 2478 | A | N3-C4-C5 | -8.25 | 121.02 | 126.80 |
| 12 | B | 880 | G | N7-C8-N9 | 8.25 | 117.22 | 113.10 |
| 12 | B | 1806 | C | O4'-C1'-N1 | 8.25 | 114.80 | 108.20 |
| 12 | B | 1952 | A | C5-N7-C8 | 8.25 | 108.03 | 103.90 |
| 12 | B | 2118 | U | P-O3'-C3' | 8.25 | 129.60 | 119.70 |
| 12 | B | 2256 | G | C8-N9-C4 | -8.25 | 103.10 | 106.40 |
| 12 | B | 2283 | C | C4-C5-C6 | 8.25 | 121.53 | 117.40 |
| 12 | B | 2680 | U | O4'-C1'-N1 | 8.25 | 114.80 | 108.20 |
| 12 | B | 412 | A | N1-C6-N6 | 8.25 | 123.55 | 118.60 |
| 12 | B | 2193 | G | C8-N9-C4 | 8.25 | 109.70 | 106.40 |
| 12 | B | 2448 | A | C4-C5-C6 | 8.25 | 121.12 | 117.00 |
| 12 | B | 1722 | A | N1-C2-N3 | 8.25 | 133.42 | 129.30 |
| 12 | B | 2782 | G | C5-C6-O6 | -8.25 | 123.65 | 128.60 |
| 12 | B | 1949 | G | C5-N7-C8 | -8.24 | 100.18 | 104.30 |
| 12 | B | 2110 | G | N9-C4-C5 | 8.24 | 108.70 | 105.40 |
| 12 | B | 328 | U | C2-N3-C4 | -8.24 | 122.06 | 127.00 |
| 12 | B | 993 | G | N3-C4-N9 | 8.24 | 130.94 | 126.00 |
| 12 | B | 1544 | A | C8-N9-C4 | -8.24 | 102.50 | 105.80 |
| 12 | B | 1807 | G | C4-C5-C6 | 8.24 | 123.74 | 118.80 |
| 12 | B | 1919 | A | C5-N7-C8 | 8.24 | 108.02 | 103.90 |
| 15 | E | 114 | ARG | NE-CZ-NH1 | 8.24 | 124.42 | 120.30 |
| 27 | Q | 98 | ALA | CB-CA-C | -8.24 | 97.75 | 110.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 335 | C | N3-C4-C5 | -8.23 | 118.61 | 121.90 |
| 12 | B | 401 | A | O4'-C1'-N9 | 8.23 | 114.79 | 108.20 |
| 12 | B | 535 | G | C6-C5-N7 | -8.23 | 125.46 | 130.40 |
| 12 | B | 600 | G | C5-C6-N1 | -8.23 | 107.38 | 111.50 |
| 12 | B | 887 | U | C5-C6-N1 | 8.23 | 126.82 | 122.70 |
| 12 | B | 1166 | G | O4'-C4'-C3' | -8.23 | 95.77 | 104.00 |
| 12 | B | 1569 | A | N7-C8-N9 | -8.23 | 109.68 | 113.80 |
| 12 | B | 2612 | C | C6-N1-C2 | -8.23 | 117.01 | 120.30 |
| 12 | B | 1158 | C | N3-C4-N4 | 8.23 | 123.76 | 118.00 |
| 12 | B | 1387 | A | C5-C6-N1 | -8.23 | 113.58 | 117.70 |
| 12 | B | 1619 | G | O4'-C1'-N9 | 8.23 | 114.79 | 108.20 |
| 12 | B | 1621 | U | O4'-C1'-N1 | 8.23 | 114.79 | 108.20 |
| 12 | B | 217 | A | C1'-O4'-C4' | -8.23 | 103.31 | 109.90 |
| 12 | B | 438 | G | N9-C4-C5 | -8.23 | 102.11 | 105.40 |
| 12 | B | 1610 | A | C5-C6-N1 | 8.23 | 121.81 | 117.70 |
| 12 | B | 2865 | U | N1-C2-O2 | -8.23 | 117.04 | 122.80 |
| 12 | B | 2308 | G | O4'-C1'-N9 | 8.23 | 114.78 | 108.20 |
| 12 | B | 2511 | U | P-O3'-C3' | 8.23 | 129.58 | 119.70 |
| 12 | B | 2582 | G | N1-C6-O6 | 8.23 | 124.84 | 119.90 |
| 12 | B | 68 | G | C5-C6-O6 | -8.23 | 123.66 | 128.60 |
| 12 | B | 796 | C | C2-N3-C4 | 8.23 | 124.01 | 119.90 |
| 12 | B | 1617 | C | O4'-C1'-N1 | 8.23 | 114.78 | 108.20 |
| 12 | B | 2166 | U | C5-C6-N1 | 8.23 | 126.81 | 122.70 |
| 12 | B | 193 | U | N3-C4-C5 | 8.23 | 119.53 | 114.60 |
| 12 | B | 461 | C | C4-C5-C6 | -8.23 | 113.29 | 117.40 |
| 12 | B | 972 | A | C8-N9-C4 | -8.23 | 102.51 | 105.80 |
| 12 | B | 1244 | A | C6-N1-C2 | 8.23 | 123.54 | 118.60 |
| 12 | B | 1572 | A | N3-C4-N9 | 8.23 | 133.98 | 127.40 |
| 12 | B | 2627 | G | N9-C4-C5 | -8.23 | 102.11 | 105.40 |
| 12 | B | 2059 | A | N9-C4-C5 | 8.23 | 109.09 | 105.80 |
| 12 | B | 861 | A | C5-C6-N1 | -8.22 | 113.59 | 117.70 |
| 12 | B | 1163 | G | C4'-C3'-C2' | -8.22 | 94.38 | 102.60 |
| 12 | B | 1653 | G | N9-C4-C5 | 8.22 | 108.69 | 105.40 |
| 12 | B | 1799 | G | N1-C2-N3 | -8.22 | 118.97 | 123.90 |
| 12 | B | 1988 | G | N1-C2-N3 | -8.22 | 118.97 | 123.90 |
| 12 | B | 2557 | G | C5-C6-O6 | -8.22 | 123.67 | 128.60 |
| 12 | B | 2863 | C | P-O3'-C3' | -8.22 | 109.83 | 119.70 |
| 12 | B | 1697 | G | C8-N9-C4 | -8.22 | 103.11 | 106.40 |
| 12 | B | 2350 | C | O4'-C1'-N1 | 8.22 | 114.78 | 108.20 |
| 11 | A | 45 | A | C2-N3-C4 | -8.22 | 106.49 | 110.60 |
| 12 | B | 202 | U | N1-C2-N3 | 8.22 | 119.83 | 114.90 |
| 12 | B | 2035 | G | C4-C5-C6 | 8.22 | 123.73 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 335 | C | N3-C4-N4 | 8.22 | 123.75 | 118.00 |
| 12 | B | 625 | G | N1-C6-O6 | 8.22 | 124.83 | 119.90 |
| 12 | B | 2536 | G | C5-C6-N1 | -8.22 | 107.39 | 111.50 |
| 12 | B | 2831 | G | C4-C5-N7 | -8.22 | 107.51 | 110.80 |
| 12 | B | 941 | A | O4'-C1'-N9 | 8.21 | 114.77 | 108.20 |
| 11 | A | 108 | A | C4-C5-C6 | 8.21 | 121.11 | 117.00 |
| 12 | B | 2115 | G | N3-C4-C5 | 8.21 | 132.71 | 128.60 |
| 12 | B | 66 | C | N3-C4-C5 | -8.21 | 118.62 | 121.90 |
| 12 | B | 242 | G | N1-C6-O6 | 8.21 | 124.83 | 119.90 |
| 12 | B | 268 | C | N3-C4-C5 | -8.21 | 118.61 | 121.90 |
| 12 | B | 1694 | C | N3-C4-N4 | 8.21 | 123.75 | 118.00 |
| 12 | B | 2851 | A | C5-N7-C8 | 8.21 | 108.00 | 103.90 |
| 11 | A | 115 | A | C4-C5-C6 | 8.21 | 121.10 | 117.00 |
| 12 | B | 1872 | A | O4'-C1'-N9 | 8.21 | 114.77 | 108.20 |
| 12 | B | 2197 | U | N3-C4-O4 | 8.21 | 125.15 | 119.40 |
| 12 | B | 426 | C | C6-N1-C2 | -8.21 | 117.02 | 120.30 |
| 12 | B | 1189 | A | C5-C6-N1 | -8.21 | 113.60 | 117.70 |
| 12 | B | 1577 | C | N3-C4-N4 | 8.21 | 123.75 | 118.00 |
| 12 | B | 2119 | A | C1'-O4'-C4' | 8.21 | 116.47 | 109.90 |
| 12 | B | 2849 | U | N1-C2-O2 | -8.21 | 117.06 | 122.80 |
| 29 | S | 68 | ASP | CB-CG-OD2 | -8.21 | 110.91 | 118.30 |
| 11 | A | 83 | G | N1-C6-O6 | 8.21 | 124.82 | 119.90 |
| 12 | B | 20 | C | C4-C5-C6 | 8.21 | 121.50 | 117.40 |
| 12 | B | 626 | A | N1-C2-N3 | 8.21 | 133.40 | 129.30 |
| 12 | B | 663 | G | C3'-C2'-C1' | -8.21 | 94.94 | 101.50 |
| 12 | B | 686 | U | C5-C4-O4 | 8.21 | 130.82 | 125.90 |
| 12 | B | 1600 | C | N3-C4-C5 | -8.21 | 118.62 | 121.90 |
| 11 | A | 111 | U | O4'-C1'-N1 | 8.20 | 114.76 | 108.20 |
| 12 | B | 1343 | G | N7-C8-N9 | 8.21 | 117.20 | 113.10 |
| 12 | B | 1585 | C | C6-N1-C2 | -8.20 | 117.02 | 120.30 |
| 12 | B | 1677 | A | C5-C6-N1 | -8.20 | 113.60 | 117.70 |
| 12 | B | 2556 | C | C6-N1-C2 | -8.21 | 117.02 | 120.30 |
| 12 | B | 515 | A | C4-C5-C6 | 8.20 | 121.10 | 117.00 |
| 12 | B | 1465 | G | C5-C6-N1 | -8.20 | 107.40 | 111.50 |
| 12 | B | 1889 | A | C4-C5-C6 | 8.20 | 121.10 | 117.00 |
| 12 | B | 2458 | G | N3-C2-N2 | 8.20 | 125.64 | 119.90 |
| 12 | B | 597 | G | C8-N9-C4 | -8.20 | 103.12 | 106.40 |
| 12 | B | 2097 | A | C5-C6-N1 | -8.20 | 113.60 | 117.70 |
| 12 | B | 2322 | A | C4-C5-C6 | 8.20 | 121.10 | 117.00 |
| 12 | B | 2532 | G | N1-C2-N3 | -8.20 | 118.98 | 123.90 |
| 12 | B | 704 | G | C5-C6-O6 | -8.20 | 123.68 | 128.60 |
| 12 | B | 1287 | A | O4'-C1'-N9 | 8.20 | 114.76 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2589 | A | N9-C4-C5 | 8.20 | 109.08 | 105.80 |
| 12 | B | 964 | C | N3-C4-N4 | 8.20 | 123.74 | 118.00 |
| 12 | B | 2602 | A | C5-C6-N6 | -8.20 | 117.14 | 123.70 |
| 12 | B | 94 | A | C5-N7-C8 | 8.19 | 108.00 | 103.90 |
| 12 | B | 1370 | C | N3-C4-N4 | 8.19 | 123.73 | 118.00 |
| 12 | B | 1537 | G | N9-C4-C5 | 8.19 | 108.68 | 105.40 |
| 12 | B | 2076 | U | C2-N1-C1' | 8.19 | 127.53 | 117.70 |
| 12 | B | 2209 | G | C6-C5-N7 | -8.19 | 125.48 | 130.40 |
| 12 | B | 2225 | A | C5'-C4'-C3' | -8.19 | 102.89 | 116.00 |
| 12 | B | 1337 | G | C5-C6-O6 | -8.19 | 123.69 | 128.60 |
| 12 | B | 463 | G | C5-C6-O6 | -8.19 | 123.69 | 128.60 |
| 12 | B | 1383 | A | C6-N1-C2 | -8.19 | 113.69 | 118.60 |
| 12 | B | 1895 | C | N3-C4-C5 | -8.19 | 118.62 | 121.90 |
| 12 | B | 2179 | C | N1-C2-O2 | -8.19 | 113.99 | 118.90 |
| 12 | B | 2380 | C | O4'-C1'-N1 | 8.19 | 114.75 | 108.20 |
| 19 | I | 141 | ASP | CB-CG-OD2 | -8.19 | 110.93 | 118.30 |
| 12 | B | 426 | C | N3-C4-C5 | -8.18 | 118.63 | 121.90 |
| 12 | B | 675 | A | C8-N9-C4 | 8.18 | 109.07 | 105.80 |
| 12 | B | 1266 | G | N3-C4-C5 | -8.18 | 124.51 | 128.60 |
| 12 | B | 1951 | U | C5-C6-N1 | 8.18 | 126.79 | 122.70 |
| 11 | A | 23 | G | C6-C5-N7 | -8.18 | 125.49 | 130.40 |
| 12 | B | 518 | G | C6-C5-N7 | -8.18 | 125.49 | 130.40 |
| 12 | B | 657 | U | N1-C2-N3 | -8.18 | 109.99 | 114.90 |
| 12 | B | 682 | G | C2-N3-C4 | 8.18 | 115.99 | 111.90 |
| 12 | B | 1252 | G | C4-C5-N7 | -8.18 | 107.53 | 110.80 |
| 12 | B | 1809 | A | C4-C5-N7 | -8.18 | 106.61 | 110.70 |
| 12 | B | 1355 | G | P-O5'-C5' | 8.18 | 133.99 | 120.90 |
| 12 | B | 2671 | G | P-O3'-C3' | -8.18 | 109.89 | 119.70 |
| 11 | A | 27 | C | O4'-C1'-N1 | 8.18 | 114.74 | 108.20 |
| 12 | B | 1634 | A | C2-N3-C4 | 8.18 | 114.69 | 110.60 |
| 12 | B | 2266 | A | C5-N7-C8 | 8.18 | 107.99 | 103.90 |
| 12 | B | 13 | A | C4'-C3'-C2' | -8.18 | 94.42 | 102.60 |
| 12 | B | 358 | U | C5-C4-O4 | -8.18 | 121.00 | 125.90 |
| 12 | B | 450 | G | C5-C6-N1 | -8.18 | 107.41 | 111.50 |
| 12 | B | 1087 | G | C5-C6-N1 | 8.18 | 115.59 | 111.50 |
| 12 | B | 2023 | C | O4'-C1'-N1 | 8.18 | 114.74 | 108.20 |
| 12 | B | 2426 | A | C5-N7-C8 | 8.18 | 107.99 | 103.90 |
| 12 | B | 167 | A | N1-C6-N6 | 8.17 | 123.50 | 118.60 |
| 12 | B | 493 | G | N1-C2-N2 | 8.17 | 123.56 | 116.20 |
| 12 | B | 233 | A | N1-C2-N3 | 8.17 | 133.39 | 129.30 |
| 12 | B | 615 | U | C3'-C2'-C1' | -8.17 | 94.96 | 101.50 |
| 12 | B | 861 | A | C4-C5-C6 | 8.17 | 121.09 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2451 | A | C5-C6-N1 | -8.17 | 113.61 | 117.70 |
| 12 | B | 2541 | A | N1-C6-N6 | 8.17 | 123.50 | 118.60 |
| 12 | B | 2668 | G | C5-C6-N1 | -8.17 | 107.42 | 111.50 |
| 12 | B | 278 | A | C8-N9-C4 | -8.17 | 102.53 | 105.80 |
| 12 | B | 800 | A | N1-C6-N6 | 8.17 | 123.50 | 118.60 |
| 12 | B | 2318 | G | C6-C5-N7 | -8.17 | 125.50 | 130.40 |
| 12 | B | 2756 | U | O4'-C1'-N1 | 8.17 | 114.74 | 108.20 |
| 12 | B | 194 | G | C6-C5-N7 | -8.17 | 125.50 | 130.40 |
| 12 | B | 312 | G | C5-C6-N1 | -8.17 | 107.42 | 111.50 |
| 12 | B | 319 | G | N1-C2-N3 | -8.17 | 119.00 | 123.90 |
| 12 | B | 1623 | G | O4'-C1'-N9 | 8.17 | 114.73 | 108.20 |
| 12 | B | 1739 | A | C5-C6-N1 | -8.17 | 113.62 | 117.70 |
| 12 | B | 2652 | C | O4'-C1'-N1 | 8.17 | 114.73 | 108.20 |
| 12 | B | 160 | A | N1-C6-N6 | 8.16 | 123.50 | 118.60 |
| 12 | B | 230 | G | N1-C6-O6 | 8.16 | 124.80 | 119.90 |
| 12 | B | 2291 | U | C5-C6-N1 | 8.16 | 126.78 | 122.70 |
| 12 | B | 663 | G | N1-C2-N3 | -8.16 | 119.00 | 123.90 |
| 12 | B | 996 | A | N1-C6-N6 | 8.16 | 123.50 | 118.60 |
| 12 | B | 2382 | G | O4'-C1'-N9 | 8.16 | 114.73 | 108.20 |
| 12 | B | 2268 | A | O4'-C1'-N9 | 8.16 | 114.73 | 108.20 |
| 12 | B | 2549 | G | N1-C6-O6 | 8.16 | 124.80 | 119.90 |
| 12 | B | 1509 | A | C4-C5-C6 | 8.16 | 121.08 | 117.00 |
| 12 | B | 2087 | G | C5-C6-O6 | -8.16 | 123.70 | 128.60 |
| 12 | B | 2611 | C | C2-N3-C4 | -8.16 | 115.82 | 119.90 |
| 12 | B | 2088 | A | N9-C4-C5 | 8.16 | 109.06 | 105.80 |
| 12 | B | 2402 | U | C5-C6-N1 | 8.16 | 126.78 | 122.70 |
| 12 | B | 1882 | U | N3-C4-O4 | 8.15 | 125.11 | 119.40 |
| 12 | B | 299 | A | O4'-C1'-N9 | 8.15 | 114.72 | 108.20 |
| 12 | B | 443 | A | C4-C5-C6 | 8.15 | 121.08 | 117.00 |
| 12 | B | 893 | C | N3-C4-N4 | 8.15 | 123.71 | 118.00 |
| 12 | B | 1829 | A | N1-C2-N3 | -8.15 | 125.22 | 129.30 |
| 12 | B | 145 | C | O4'-C1'-N1 | 8.15 | 114.72 | 108.20 |
| 12 | B | 202 | U | C2-N3-C4 | -8.15 | 122.11 | 127.00 |
| 12 | B | 425 | G | C5-C6-N1 | -8.15 | 107.43 | 111.50 |
| 12 | B | 515 | A | C5-C6-N1 | -8.15 | 113.62 | 117.70 |
| 12 | B | 1603 | A | N1-C6-N6 | 8.15 | 123.49 | 118.60 |
| 12 | B | 397 | U | C4-C5-C6 | -8.15 | 114.81 | 119.70 |
| 12 | B | 1046 | A | C5-N7-C8 | 8.15 | 107.97 | 103.90 |
| 12 | B | 279 | A | C2-N3-C4 | -8.14 | 106.53 | 110.60 |
| 12 | B | 784 | G | N1-C2-N3 | -8.14 | 119.01 | 123.90 |
| 12 | B | 1947 | C | C4-C5-C6 | 8.14 | 121.47 | 117.40 |
| 12 | B | 47 | C | C6-N1-C2 | 8.14 | 123.56 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 675 | A | C6-N1-C2 | -8.14 | 113.72 | 118.60 |
| 12 | B | 2664 | G | O4'-C1'-N9 | 8.14 | 114.71 | 108.20 |
| 12 | B | 881 | G | O4'-C1'-N9 | 8.14 | 114.71 | 108.20 |
| 12 | B | 1327 | A | N1-C2-N3 | 8.14 | 133.37 | 129.30 |
| 12 | B | 2342 | C | O4'-C1'-N1 | 8.14 | 114.71 | 108.20 |
| 12 | B | 52 | A | C5-C6-N6 | -8.14 | 117.19 | 123.70 |
| 12 | B | 662 | G | O4'-C1'-N9 | 8.14 | 114.71 | 108.20 |
| 12 | B | 1143 | A | C3'-C2'-C1' | -8.14 | 94.99 | 101.50 |
| 12 | B | 1252 | G | O4'-C1'-N9 | 8.14 | 114.71 | 108.20 |
| 12 | B | 2195 | U | C5-C4-O4 | -8.14 | 121.02 | 125.90 |
| 12 | B | 2228 | G | C6-C5-N7 | -8.14 | 125.52 | 130.40 |
| 12 | B | 555 | G | N1-C6-O6 | 8.14 | 124.78 | 119.90 |
| 11 | A | 17 | C | C5-C4-N4 | -8.13 | 114.51 | 120.20 |
| 12 | B | 745 | G | N3-C2-N2 | 8.13 | 125.59 | 119.90 |
| 12 | B | 1988 | G | C6-N1-C2 | 8.14 | 129.98 | 125.10 |
| 12 | B | 2429 | G | N7-C8-N9 | -8.14 | 109.03 | 113.10 |
| 25 | O | 59 | ALA | N-CA-CB | 8.14 | 121.49 | 110.10 |
| 12 | B | 1036 | G | C8-N9-C1' | 8.13 | 137.57 | 127.00 |
| 12 | B | 1521 | G | C5-C6-O6 | -8.13 | 123.72 | 128.60 |
| 11 | A | 117 | G | N7-C8-N9 | 8.13 | 117.17 | 113.10 |
| 12 | B | 669 | G | N1-C6-O6 | 8.13 | 124.78 | 119.90 |
| 12 | B | 2040 | G | N9-C4-C5 | -8.13 | 102.15 | 105.40 |
| 12 | B | 1285 | A | C4-C5-N7 | -8.13 | 106.64 | 110.70 |
| 12 | B | 404 | A | N1-C6-N6 | 8.13 | 123.48 | 118.60 |
| 12 | B | 599 | A | C4-C5-C6 | 8.13 | 121.06 | 117.00 |
| 12 | B | 1080 | A | C4-C5-C6 | 8.13 | 121.06 | 117.00 |
| 12 | B | 1480 | C | P-O3'-C3' | -8.13 | 109.95 | 119.70 |
| 12 | B | 1927 | A | N3-C4-C5 | -8.13 | 121.11 | 126.80 |
| 12 | B | 2432 | A | C5-C6-N6 | -8.13 | 117.20 | 123.70 |
| 12 | B | 104 | A | C5-C6-N6 | -8.13 | 117.20 | 123.70 |
| 12 | B | 577 | G | C8-N9-C4 | -8.13 | 103.15 | 106.40 |
| 12 | B | 661 | A | N1-C2-N3 | 8.13 | 133.36 | 129.30 |
| 12 | B | 1116 | G | C5'-C4'-O4' | 8.13 | 118.85 | 109.10 |
| 12 | B | 1395 | A | N1-C2-N3 | 8.13 | 133.36 | 129.30 |
| 12 | B | 106 | C | C4-C5-C6 | 8.12 | 121.46 | 117.40 |
| 12 | B | 535 | G | N9-C4-C5 | -8.12 | 102.15 | 105.40 |
| 12 | B | 2440 | C | C6-N1-C2 | -8.12 | 117.05 | 120.30 |
| 12 | B | 945 | A | N1-C2-N3 | 8.12 | 133.36 | 129.30 |
| 12 | B | 1617 | C | C5-C4-N4 | -8.12 | 114.51 | 120.20 |
| 12 | B | 2011 | U | O4'-C1'-N1 | 8.12 | 114.70 | 108.20 |
| 12 | B | 2133 | G | P-O3'-C3' | 8.12 | 129.45 | 119.70 |
| 12 | B | 2211 | A | C5-N7-C8 | 8.12 | 107.96 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2426 | A | C4-C5-N7 | -8.12 | 106.64 | 110.70 |
| 12 | B | 2547 | A | C5-C6-N6 | -8.12 | 117.20 | 123.70 |
| 12 | B | 488 | G | O4'-C1'-N9 | 8.12 | 114.70 | 108.20 |
| 12 | B | 91 | A | C5-C6-N1 | -8.12 | 113.64 | 117.70 |
| 12 | B | 123 | G | C8-N9-C1' | 8.12 | 137.55 | 127.00 |
| 12 | B | 659 | G | C8-N9-C4 | -8.12 | 103.15 | 106.40 |
| 12 | B | 1143 | A | C6-N1-C2 | 8.12 | 123.47 | 118.60 |
| 12 | B | 2696 | U | C5-C4-O4 | -8.12 | 121.03 | 125.90 |
| 12 | B | 491 | G | C8-N9-C4 | 8.12 | 109.65 | 106.40 |
| 11 | A | 94 | A | N1-C2-N3 | -8.12 | 125.24 | 129.30 |
| 12 | B | 2215 | C | N3-C4-C5 | -8.12 | 118.65 | 121.90 |
| 12 | B | 2256 | G | O5'-P-OP2 | -8.12 | 98.39 | 105.70 |
| 12 | B | 324 | A | C5-C6-N1 | -8.11 | 113.64 | 117.70 |
| 12 | B | 378 | C | N3-C4-N4 | 8.11 | 123.68 | 118.00 |
| 12 | B | 1177 | G | C4-N9-C1' | -8.11 | 115.95 | 126.50 |
| 12 | B | 1645 | G | O4'-C1'-N9 | 8.11 | 114.69 | 108.20 |
| 12 | B | 438 | G | C5-N7-C8 | -8.11 | 100.24 | 104.30 |
| 12 | B | 1888 | G | N1-C6-O6 | 8.11 | 124.77 | 119.90 |
| 12 | B | 2758 | A | C5-C6-N6 | -8.11 | 117.21 | 123.70 |
| 12 | B | 253 | C | C4-C5-C6 | 8.11 | 121.45 | 117.40 |
| 12 | B | 640 | C | C4-C5-C6 | -8.11 | 113.35 | 117.40 |
| 12 | B | 902 | C | N1-C2-O2 | -8.11 | 114.03 | 118.90 |
| 12 | B | 1423 | G | N1-C2-N3 | -8.11 | 119.03 | 123.90 |
| 12 | B | 2119 | A | C4-C5-N7 | -8.11 | 106.64 | 110.70 |
| 12 | B | 2360 | G | C5-C6-N1 | -8.11 | 107.45 | 111.50 |
| 11 | A | 58 | A | C4-C5-C6 | 8.11 | 121.05 | 117.00 |
| 12 | B | 725 | G | C5-C6-O6 | -8.11 | 123.74 | 128.60 |
| 12 | B | 58 | G | N1-C6-O6 | 8.11 | 124.76 | 119.90 |
| 12 | B | 138 | U | N3-C4-C5 | -8.11 | 109.74 | 114.60 |
| 12 | B | 972 | A | N7-C8-N9 | 8.11 | 117.85 | 113.80 |
| 12 | B | 1330 | C | C5-C6-N1 | 8.11 | 125.05 | 121.00 |
| 12 | B | 1463 | C | P-O3'-C3' | -8.11 | 109.97 | 119.70 |
| 12 | B | 1839 | G | N7-C8-N9 | 8.11 | 117.15 | 113.10 |
| 12 | B | 2171 | A | C5-C6-N6 | -8.11 | 117.22 | 123.70 |
| 12 | B | 2589 | A | C6-C5-N7 | -8.11 | 126.63 | 132.30 |
| 12 | B | 2590 | A | C5-C6-N6 | -8.11 | 117.22 | 123.70 |
| 12 | B | 2686 | G | C5-C6-N1 | -8.10 | 107.45 | 111.50 |
| 12 | B | 62 | U | C6-N1-C2 | -8.10 | 116.14 | 121.00 |
| 12 | B | 974 | G | N9-C4-C5 | -8.10 | 102.16 | 105.40 |
| 12 | B | 1139 | G | C5-C6-N1 | -8.10 | 107.45 | 111.50 |
| 12 | B | 2288 | A | C4-C5-C6 | 8.10 | 121.05 | 117.00 |
| 12 | B | 858 | G | N1-C2-N3 | -8.10 | 119.04 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 451 | U | O4'-C1'-N1 | 8.10 | 114.68 | 108.20 |
| 12 | B | 579 | G | C5-C6-O6 | -8.10 | 123.74 | 128.60 |
| 12 | B | 623 | C | C5-C6-N1 | 8.10 | 125.05 | 121.00 |
| 12 | B | 693 | A | C6-C5-N7 | -8.10 | 126.63 | 132.30 |
| 12 | B | 1142 | A | C4-C5-N7 | -8.10 | 106.65 | 110.70 |
| 12 | B | 1706 | C | O4'-C1'-N1 | 8.10 | 114.68 | 108.20 |
| 12 | B | 1189 | A | C4-C5-C6 | 8.10 | 121.05 | 117.00 |
| 12 | B | 2899 | A | N3-C4-C5 | -8.10 | 121.13 | 126.80 |
| 11 | A | 69 | G | O4'-C1'-N9 | 8.10 | 114.68 | 108.20 |
| 12 | B | 1507 | C | C5-C6-N1 | 8.10 | 125.05 | 121.00 |
| 12 | B | 920 | A | C2-N3-C4 | -8.10 | 106.55 | 110.60 |
| 12 | B | 1569 | A | C5-N7-C8 | 8.10 | 107.95 | 103.90 |
| 12 | B | 1721 | G | O4'-C1'-N9 | 8.10 | 114.68 | 108.20 |
| 12 | B | 2090 | A | C8-N9-C4 | -8.10 | 102.56 | 105.80 |
| 12 | B | 2146 | C | N3-C4-N4 | 8.10 | 123.67 | 118.00 |
| 12 | B | 432 | A | O4'-C1'-N9 | 8.09 | 114.67 | 108.20 |
| 12 | B | 459 | U | P-O3'-C3' | -8.09 | 109.99 | 119.70 |
| 12 | B | 1036 | G | C8-N9-C4 | -8.09 | 103.16 | 106.40 |
| 12 | B | 1741 | C | C5-C4-N4 | -8.09 | 114.53 | 120.20 |
| 12 | B | 1946 | U | N3-C4-C5 | 8.09 | 119.46 | 114.60 |
| 12 | B | 2048 | G | C3'-C2'-C1' | 8.09 | 107.98 | 101.50 |
| 12 | B | 2684 | U | P-O5'-C5' | 8.09 | 133.85 | 120.90 |
| 12 | B | 527 | C | C5-C4-N4 | -8.09 | 114.54 | 120.20 |
| 12 | B | 1669 | A | C5-C6-N6 | -8.09 | 117.23 | 123.70 |
| 12 | B | 2049 | G | C5-C6-O6 | -8.09 | 123.75 | 128.60 |
| 12 | B | 2425 | A | C5'-C4'-C3' | -8.09 | 103.06 | 116.00 |
| 12 | B | 2539 | C | C5-C6-N1 | 8.09 | 125.05 | 121.00 |
| 12 | B | 1592 | C | N3-C4-N4 | 8.09 | 123.66 | 118.00 |
| 12 | B | 394 | C | O4'-C1'-N1 | 8.09 | 114.67 | 108.20 |
| 12 | B | 694 | U | C5-C4-O4 | -8.09 | 121.05 | 125.90 |
| 12 | B | 1284 | A | C5-C6-N1 | -8.09 | 113.66 | 117.70 |
| 12 | B | 1801 | A | N7-C8-N9 | -8.09 | 109.76 | 113.80 |
| 12 | B | 1838 | C | P-O3'-C3' | 8.09 | 129.40 | 119.70 |
| 12 | B | 2209 | G | N9-C4-C5 | 8.09 | 108.63 | 105.40 |
| 12 | B | 2618 | G | C5-C6-O6 | -8.09 | 123.75 | 128.60 |
| 11 | A | 29 | A | P-O3'-C3' | 8.08 | 129.40 | 119.70 |
| 12 | B | 221 | A | C8-N9-C4 | -8.08 | 102.57 | 105.80 |
| 12 | B | 595 | C | O4'-C1'-N1 | 8.08 | 114.67 | 108.20 |
| 12 | B | 1013 | C | C2-N3-C4 | 8.08 | 123.94 | 119.90 |
| 12 | B | 2660 | A | C5-C6-N6 | -8.08 | 117.23 | 123.70 |
| 12 | B | 265 | A | P-O5'-C5' | 8.08 | 133.83 | 120.90 |
| 12 | B | 500 | G | O4'-C1'-N9 | 8.08 | 114.67 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1178 | C | O4'-C1'-N1 | 8.08 | 114.67 | 108.20 |
| 12 | B | 2328 | A | C2-N3-C4 | -8.08 | 106.56 | 110.60 |
| 12 | B | 2340 | A | C4-C5-C6 | 8.08 | 121.04 | 117.00 |
| 12 | B | 2371 | G | C5-C6-O6 | -8.08 | 123.75 | 128.60 |
| 12 | B | 1259 | G | C4-C5-C6 | 8.08 | 123.65 | 118.80 |
| 12 | B | 2572 | A | C5-C6-N1 | -8.08 | 113.66 | 117.70 |
| 11 | A | 75 | G | N1-C2-N3 | -8.08 | 119.05 | 123.90 |
| 12 | B | 1873 | G | C4-C5-C6 | 8.08 | 123.65 | 118.80 |
| 12 | B | 282 | A | C6-C5-N7 | -8.08 | 126.65 | 132.30 |
| 11 | A | 112 | G | C5-N7-C8 | 8.08 | 108.34 | 104.30 |
| 12 | B | 544 | C | N3-C4-N4 | 8.08 | 123.65 | 118.00 |
| 12 | B | 877 | A | N3-C4-N9 | 8.08 | 133.86 | 127.40 |
| 12 | B | 907 | G | C6-N1-C2 | 8.08 | 129.94 | 125.10 |
| 12 | B | 1551 | A | O4'-C1'-N9 | 8.08 | 114.66 | 108.20 |
| 12 | B | 2675 | A | C8-N9-C4 | -8.08 | 102.57 | 105.80 |
| 12 | B | 74 | A | C4-C5-C6 | 8.07 | 121.04 | 117.00 |
| 12 | B | 321 | U | C6-N1-C2 | -8.07 | 116.16 | 121.00 |
| 12 | B | 955 | U | N3-C4-O4 | 8.07 | 125.05 | 119.40 |
| 12 | B | 1430 | G | O4'-C1'-N9 | 8.07 | 114.66 | 108.20 |
| 12 | B | 1490 | A | C5-C6-N6 | -8.07 | 117.24 | 123.70 |
| 12 | B | 1119 | U | C2-N3-C4 | 8.07 | 131.84 | 127.00 |
| 12 | B | 1927 | A | C6-N1-C2 | 8.07 | 123.44 | 118.60 |
| 12 | B | 2212 | A | C5-C6-N6 | -8.07 | 117.24 | 123.70 |
| 12 | B | 2742 | G | N9-C4-C5 | 8.07 | 108.63 | 105.40 |
| 12 | B | 527 | C | N3-C4-N4 | 8.07 | 123.65 | 118.00 |
| 12 | B | 814 | C | P-O3'-C3' | -8.07 | 110.02 | 119.70 |
| 12 | B | 889 | C | C6-N1-C1' | -8.07 | 111.11 | 120.80 |
| 12 | B | 961 | C | P-O3'-C3' | 8.07 | 129.38 | 119.70 |
| 12 | B | 2101 | A | C5-C6-N1 | -8.07 | 113.66 | 117.70 |
| 12 | B | 2543 | G | C8-N9-C4 | 8.07 | 109.63 | 106.40 |
| 12 | B | 2221 | G | O4'-C1'-N9 | 8.07 | 114.66 | 108.20 |
| 12 | B | 2587 | A | C4-C5-C6 | 8.07 | 121.03 | 117.00 |
| 12 | B | 1618 | A | C4-C5-C6 | 8.07 | 121.03 | 117.00 |
| 12 | B | 1745 | A | N3-C4-C5 | -8.07 | 121.15 | 126.80 |
| 12 | B | 2144 | G | N3-C2-N2 | 8.07 | 125.55 | 119.90 |
| 12 | B | 2161 | C | C4-C5-C6 | 8.07 | 121.43 | 117.40 |
| 12 | B | 2207 | C | N3-C4-C5 | -8.07 | 118.67 | 121.90 |
| 12 | B | 2761 | A | O4'-C1'-N9 | 8.07 | 114.66 | 108.20 |
| 12 | B | 2770 | G | C4-C5-C6 | 8.07 | 123.64 | 118.80 |
| 11 | A | 10 | G | C5-C6-O6 | -8.06 | 123.76 | 128.60 |
| 12 | B | 926 | G | N1-C6-O6 | 8.06 | 124.74 | 119.90 |
| 12 | B | 439 | A | C4-C5-C6 | 8.06 | 121.03 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1186 | G | P-O5'-C5' | 8.06 | 133.80 | 120.90 |
| 12 | B | 1247 | A | C5-N7-C8 | 8.06 | 107.93 | 103.90 |
| 12 | B | 1666 | G | C6-N1-C2 | -8.06 | 120.26 | 125.10 |
| 12 | B | 2083 | G | N3-C2-N2 | 8.06 | 125.55 | 119.90 |
| 12 | B | 2304 | G | C8-N9-C4 | -8.06 | 103.17 | 106.40 |
| 12 | B | 91 | A | C4-C5-C6 | 8.06 | 121.03 | 117.00 |
| 12 | B | 805 | G | C8-N9-C4 | -8.06 | 103.18 | 106.40 |
| 12 | B | 1211 | C | N3-C4-N4 | 8.06 | 123.64 | 118.00 |
| 12 | B | 1273 | U | C5-C4-O4 | -8.06 | 121.06 | 125.90 |
| 12 | B | 1847 | A | C5-C6-N1 | -8.06 | 113.67 | 117.70 |
| 12 | B | 471 | A | C4-C5-N7 | -8.06 | 106.67 | 110.70 |
| 12 | B | 590 | A | O4'-C1'-N9 | 8.06 | 114.65 | 108.20 |
| 12 | B | 1703 | G | C5-N7-C8 | 8.06 | 108.33 | 104.30 |
| 12 | B | 677 | A | C5-C6-N1 | -8.06 | 113.67 | 117.70 |
| 12 | B | 1676 | A | O4'-C1'-N9 | 8.06 | 114.65 | 108.20 |
| 12 | B | 1846 | G | C6-N1-C2 | 8.06 | 129.93 | 125.10 |
| 12 | B | 2206 | C | O4'-C1'-N1 | 8.06 | 114.65 | 108.20 |
| 12 | B | 902 | C | C2-N3-C4 | 8.06 | 123.93 | 119.90 |
| 12 | B | 475 | C | N3-C4-C5 | -8.05 | 118.68 | 121.90 |
| 12 | B | 1074 | G | C5-C6-O6 | -8.05 | 123.77 | 128.60 |
| 12 | B | 2177 | C | N3-C4-N4 | 8.05 | 123.64 | 118.00 |
| 12 | B | 1867 | G | C5-C6-O6 | -8.05 | 123.77 | 128.60 |
| 12 | B | 2647 | U | O4'-C1'-N1 | 8.05 | 114.64 | 108.20 |
| 12 | B | 479 | A | C3'-C2'-C1' | -8.05 | 95.06 | 101.50 |
| 12 | B | 1643 | G | C4-C5-N7 | 8.05 | 114.02 | 110.80 |
| 12 | B | 1858 | A | C5-C6-N1 | -8.05 | 113.67 | 117.70 |
| 12 | B | 1975 | G | C6-C5-N7 | -8.05 | 125.57 | 130.40 |
| 12 | B | 2210 | U | P-O3'-C3' | -8.05 | 110.04 | 119.70 |
| 12 | B | 2314 | A | C5-C6-N1 | -8.05 | 113.67 | 117.70 |
| 12 | B | 1484 | U | C5-C4-O4 | -8.05 | 121.07 | 125.90 |
| 11 | A | 18 | G | C5-C6-N1 | -8.05 | 107.48 | 111.50 |
| 12 | B | 527 | C | C6-N1-C1' | -8.05 | 111.14 | 120.80 |
| 12 | B | 2354 | C | O4'-C1'-N1 | 8.05 | 114.64 | 108.20 |
| 12 | B | 385 | C | C2-N3-C4 | -8.05 | 115.88 | 119.90 |
| 12 | B | 1147 | A | N1-C2-N3 | 8.05 | 133.32 | 129.30 |
| 12 | B | 2313 | C | C4'-C3'-C2' | -8.05 | 94.55 | 102.60 |
| 12 | B | 149 | A | C1'-O4'-C4' | 8.04 | 116.33 | 109.90 |
| 12 | B | 190 | A | C5-C6-N6 | -8.04 | 117.26 | 123.70 |
| 12 | B | 1813 | G | N1-C2-N3 | -8.04 | 119.07 | 123.90 |
| 12 | B | 2259 | U | N3-C2-O2 | 8.05 | 127.83 | 122.20 |
| 12 | B | 2317 | A | C4-C5-C6 | 8.05 | 121.02 | 117.00 |
| 12 | B | 2294 | G | N1-C2-N3 | -8.04 | 119.07 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2751 | G | N7-C8-N9 | 8.04 | 117.12 | 113.10 |
| 12 | B | 2762 | C | N3-C4-C5 | -8.04 | 118.68 | 121.90 |
| 12 | B | 2333 | A | N1-C6-N6 | 8.04 | 123.43 | 118.60 |
| 12 | B | 929 | U | N3-C2-O2 | 8.04 | 127.83 | 122.20 |
| 12 | B | 1867 | G | C1'-O4'-C4' | -8.04 | 103.47 | 109.90 |
| 12 | B | 2700 | A | C4-C5-C6 | 8.04 | 121.02 | 117.00 |
| 12 | B | 104 | A | N1-C6-N6 | 8.04 | 123.42 | 118.60 |
| 12 | B | 949 | G | C6-N1-C2 | 8.04 | 129.92 | 125.10 |
| 12 | B | 2848 | G | N1-C2-N3 | -8.04 | 119.08 | 123.90 |
| 12 | B | 277 | G | N9-C4-C5 | 8.04 | 108.61 | 105.40 |
| 12 | B | 1040 | A | C5-C6-N1 | -8.04 | 113.68 | 117.70 |
| 12 | B | 2133 | G | O4'-C1'-N9 | 8.04 | 114.63 | 108.20 |
| 12 | B | 2275 | C | N3-C4-C5 | -8.04 | 118.69 | 121.90 |
| 12 | B | 2519 | U | O4'-C1'-N1 | 8.04 | 114.63 | 108.20 |
| 12 | B | 2084 | C | N3-C2-O2 | 8.04 | 127.53 | 121.90 |
| 12 | B | 228 | C | C5-C6-N1 | 8.03 | 125.02 | 121.00 |
| 12 | B | 402 | A | C5-C6-N1 | -8.03 | 113.68 | 117.70 |
| 12 | B | 2518 | A | C8-N9-C4 | -8.03 | 102.59 | 105.80 |
| 12 | B | 2823 | A | N1-C6-N6 | 8.03 | 123.42 | 118.60 |
| 12 | B | 703 | U | O4'-C1'-N1 | 8.03 | 114.63 | 108.20 |
| 12 | B | 1541 | C | C5-C6-N1 | 8.03 | 125.02 | 121.00 |
| 12 | B | 636 | G | C2-N3-C4 | -8.03 | 107.88 | 111.90 |
| 12 | B | 1054 | A | C5-C6-N1 | -8.03 | 113.69 | 117.70 |
| 12 | B | 612 | G | C5-C6-O6 | -8.03 | 123.78 | 128.60 |
| 12 | B | 2630 | G | N7-C8-N9 | -8.03 | 109.09 | 113.10 |
| 12 | B | 203 | A | C5-C6-N1 | -8.03 | 113.69 | 117.70 |
| 12 | B | 488 | G | P-O3'-C3' | -8.03 | 110.07 | 119.70 |
| 12 | B | 2867 | G | C5-C6-O6 | -8.03 | 123.78 | 128.60 |
| 12 | B | 946 | C | C5-C4-N4 | -8.02 | 114.58 | 120.20 |
| 12 | B | 275 | C | C5-C4-N4 | -8.02 | 114.58 | 120.20 |
| 12 | B | 1367 | A | C6-C5-N7 | -8.02 | 126.68 | 132.30 |
| 12 | B | 2328 | A | N9-C4-C5 | -8.02 | 102.59 | 105.80 |
| 16 | F | 101 | ARG | NE-CZ-NH1 | -8.02 | 116.29 | 120.30 |
| 12 | B | 2618 | G | C6-C5-N7 | -8.02 | 125.59 | 130.40 |
| 12 | B | 114 | U | N1-C2-O2 | -8.02 | 117.19 | 122.80 |
| 12 | B | 1014 | A | C4-C5-C6 | 8.02 | 121.01 | 117.00 |
| 20 | J | 44 | TYR | CB-CG-CD2 | -8.02 | 116.19 | 121.00 |
| 12 | B | 1309 | G | C6-C5-N7 | -8.02 | 125.59 | 130.40 |
| 12 | B | 2157 | G | C4-C5-N7 | -8.02 | 107.59 | 110.80 |
| 12 | B | 2204 | G | O4'-C1'-N9 | 8.02 | 114.61 | 108.20 |
| 12 | B | 2223 | G | C4-C5-C6 | 8.02 | 123.61 | 118.80 |
| 12 | B | 2274 | A | C5-C6-N6 | -8.02 | 117.29 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2300 | C | C5-C6-N1 | 8.02 | 125.01 | 121.00 |
| 12 | B | 2542 | A | O4'-C1'-N9 | 8.02 | 114.61 | 108.20 |
| 12 | B | 2428 | G | C6-C5-N7 | -8.02 | 125.59 | 130.40 |
| 12 | B | 1063 | G | N1-C6-O6 | 8.01 | 124.71 | 119.90 |
| 12 | B | 1428 | C | C1'-O4'-C4' | 8.01 | 116.31 | 109.90 |
| 12 | B | 1601 | G | C2-N3-C4 | 8.01 | 115.91 | 111.90 |
| 12 | B | 2140 | G | N3-C4-C5 | -8.01 | 124.59 | 128.60 |
| 12 | B | 20 | C | N3-C4-N4 | 8.01 | 123.61 | 118.00 |
| 12 | B | 2662 | A | C5-C6-N1 | -8.01 | 113.69 | 117.70 |
| 12 | B | 2828 | G | N1-C6-O6 | 8.01 | 124.71 | 119.90 |
| 11 | A | 58 | A | C5-C6-N6 | -8.01 | 117.29 | 123.70 |
| 12 | B | 491 | G | C5'-C4'-O4' | 8.01 | 118.71 | 109.10 |
| 12 | B | 937 | C | N3-C4-N4 | 8.01 | 123.61 | 118.00 |
| 12 | B | 1433 | A | C5-C6-N6 | -8.01 | 117.29 | 123.70 |
| 12 | B | 1957 | C | N3-C4-N4 | 8.01 | 123.61 | 118.00 |
| 12 | B | 2030 | A | N3-C4-C5 | -8.01 | 121.19 | 126.80 |
| 12 | B | 2548 | U | O4'-C1'-N1 | 8.01 | 114.61 | 108.20 |
| 12 | B | 2583 | G | C5-C6-O6 | -8.01 | 123.79 | 128.60 |
| 12 | B | 114 | U | P-O3'-C3' | -8.01 | 110.09 | 119.70 |
| 12 | B | 195 | A | C4-C5-C6 | 8.01 | 121.00 | 117.00 |
| 12 | B | 937 | C | O4'-C1'-N1 | 8.01 | 114.61 | 108.20 |
| 12 | B | 1459 | G | C6-N1-C2 | 8.01 | 129.90 | 125.10 |
| 12 | B | 1529 | G | C5-C6-O6 | -8.01 | 123.80 | 128.60 |
| 12 | B | 2407 | A | C5-C6-N6 | -8.01 | 117.30 | 123.70 |
| 12 | B | 2550 | G | C6-C5-N7 | -8.01 | 125.60 | 130.40 |
| 12 | B | 829 | A | C5-C6-N6 | -8.00 | 117.30 | 123.70 |
| 12 | B | 2323 | G | N3-C2-N2 | 8.00 | 125.50 | 119.90 |
| 11 | A | 29 | A | C5-C6-N1 | -8.00 | 113.70 | 117.70 |
| 12 | B | 84 | A | C5-C6-N6 | -8.00 | 117.30 | 123.70 |
| 12 | B | 1987 | A | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 12 | B | 2063 | C | N3-C4-C5 | -8.00 | 118.70 | 121.90 |
| 12 | B | 184 | C | C4-C5-C6 | -8.00 | 113.40 | 117.40 |
| 12 | B | 473 | G | C5-N7-C8 | 8.00 | 108.30 | 104.30 |
| 12 | B | 2081 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 12 | B | 2231 | U | C4-C5-C6 | 8.00 | 124.50 | 119.70 |
| 11 | A | 56 | G | N3-C4-N9 | -8.00 | 121.20 | 126.00 |
| 12 | B | 669 | G | N3-C2-N2 | 8.00 | 125.50 | 119.90 |
| 12 | B | 938 | G | C5-C6-N1 | -8.00 | 107.50 | 111.50 |
| 12 | B | 1001 | A | N1-C6-N6 | 8.00 | 123.40 | 118.60 |
| 12 | B | 1382 | G | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 12 | B | 1564 | C | N3-C4-N4 | 8.00 | 123.60 | 118.00 |
| 12 | B | 2089 | C | P-O5'-C5' | 8.00 | 133.70 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2466 | C | C5'-C4'-C3' | -8.00 | 103.20 | 116.00 |
| 12 | B | 2587 | A | C8-N9-C4 | -8.00 | 102.60 | 105.80 |
| 12 | B | 2634 | A | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 12 | B | 2732 | G | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 12 | B | 2757 | A | N9-C4-C5 | 8.00 | 109.00 | 105.80 |
| 11 | A | 57 | A | N7-C8-N9 | -8.00 | 109.80 | 113.80 |
| 12 | B | 287 | G | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 12 | B | 903 | C | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 12 | B | 1288 | G | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 12 | B | 1710 | G | C4-C5-N7 | -8.00 | 107.60 | 110.80 |
| 12 | B | 1993 | U | C1'-O4'-C4' | -8.00 | 103.50 | 109.90 |
| 12 | B | 2327 | A | C4-C5-C6 | 8.00 | 121.00 | 117.00 |
| 12 | B | 1672 | A | C4-C5-N7 | -8.00 | 106.70 | 110.70 |
| 12 | B | 2721 | A | N1-C6-N6 | 8.00 | 123.40 | 118.60 |
| 12 | B | 907 | G | C5-N7-C8 | 7.99 | 108.30 | 104.30 |
| 12 | B | 2901 | C | N3-C4-C5 | -7.99 | 118.70 | 121.90 |
| 12 | B | 2235 | G | C6-C5-N7 | -7.99 | 125.61 | 130.40 |
| 12 | B | 445 | C | N1-C2-N3 | -7.99 | 113.61 | 119.20 |
| 12 | B | 896 | A | N1-C6-N6 | 7.99 | 123.39 | 118.60 |
| 12 | B | 2560 | A | N7-C8-N9 | -7.99 | 109.81 | 113.80 |
| 12 | B | 1751 | U | O4'-C1'-N1 | 7.99 | 114.59 | 108.20 |
| 12 | B | 1909 | C | C6-N1-C2 | -7.99 | 117.11 | 120.30 |
| 12 | B | 2591 | C | O4'-C1'-N1 | 7.99 | 114.59 | 108.20 |
| 15 | E | 67 | ARG | NE-CZ-NH1 | -7.99 | 116.31 | 120.30 |
| 20 | J | 74 | TYR | CB-CG-CD1 | 7.99 | 125.79 | 121.00 |
| 12 | B | 57 | C | O4'-C1'-N1 | 7.99 | 114.59 | 108.20 |
| 12 | B | 58 | G | C8-N9-C4 | -7.99 | 103.21 | 106.40 |
| 12 | B | 381 | G | N1-C6-O6 | 7.99 | 124.69 | 119.90 |
| 12 | B | 1482 | G | P-O3'-C3' | 7.99 | 129.28 | 119.70 |
| 12 | B | 2012 | G | N1-C2-N3 | -7.99 | 119.11 | 123.90 |
| 12 | B | 2613 | U | C2-N3-C4 | 7.99 | 131.79 | 127.00 |
| 12 | B | 42 | A | O4'-C1'-N9 | 7.98 | 114.59 | 108.20 |
| 12 | B | 1246 | A | C5-C6-N1 | -7.98 | 113.71 | 117.70 |
| 12 | B | 1468 | U | C5-C4-O4 | 7.98 | 130.69 | 125.90 |
| 12 | B | 2124 | G | C5-C6-O6 | -7.98 | 123.81 | 128.60 |
| 12 | B | 819 | A | C4-C5-C6 | 7.98 | 120.99 | 117.00 |
| 12 | B | 508 | A | P-O3'-C3' | -7.98 | 110.13 | 119.70 |
| 12 | B | 1317 | G | N1-C2-N3 | -7.98 | 119.11 | 123.90 |
| 12 | B | 1517 | G | N7-C8-N9 | -7.98 | 109.11 | 113.10 |
| 12 | B | 2263 | C | C4-C5-C6 | -7.98 | 113.41 | 117.40 |
| 12 | B | 2444 | G | C6-C5-N7 | -7.98 | 125.61 | 130.40 |
| 11 | A | 47 | C | N3-C4-N4 | 7.97 | 123.58 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 439 | A | N3-C4-C5 | -7.97 | 121.22 | 126.80 |
| 12 | B | 800 | A | O4'-C1'-N9 | 7.97 | 114.58 | 108.20 |
| 12 | B | 2734 | A | N1-C2-N3 | 7.97 | 133.29 | 129.30 |
| 12 | B | 2859 | G | C4-C5-C6 | 7.97 | 123.58 | 118.80 |
| 12 | B | 207 | A | C6-C5-N7 | -7.97 | 126.72 | 132.30 |
| 12 | B | 644 | A | C4-C5-C6 | 7.97 | 120.99 | 117.00 |
| 12 | B | 981 | A | C4-C5-C6 | 7.97 | 120.99 | 117.00 |
| 12 | B | 1284 | A | N9-C4-C5 | 7.97 | 108.99 | 105.80 |
| 12 | B | 1459 | G | N3-C4-N9 | -7.97 | 121.22 | 126.00 |
| 12 | B | 1783 | A | C5-C6-N6 | -7.97 | 117.32 | 123.70 |
| 12 | B | 2145 | C | C2-N1-C1' | 7.97 | 127.57 | 118.80 |
| 11 | A | 108 | A | N7-C8-N9 | -7.97 | 109.81 | 113.80 |
| 12 | B | 482 | A | O4'-C1'-N9 | 7.97 | 114.58 | 108.20 |
| 12 | B | 491 | G | O4'-C1'-N9 | 7.97 | 114.58 | 108.20 |
| 12 | B | 1727 | C | P-O3'-C3' | 7.97 | 129.26 | 119.70 |
| 12 | B | 2674 | G | O4'-C1'-N9 | 7.97 | 114.58 | 108.20 |
| 12 | B | 1292 | G | C2-N3-C4 | 7.97 | 115.89 | 111.90 |
| 12 | B | 2133 | G | C4-C5-N7 | -7.97 | 107.61 | 110.80 |
| 12 | B | 1539 | U | O4'-C1'-N1 | 7.97 | 114.58 | 108.20 |
| 12 | B | 244 | A | C8-N9-C4 | -7.97 | 102.61 | 105.80 |
| 12 | B | 260 | G | N7-C8-N9 | -7.97 | 109.12 | 113.10 |
| 12 | B | 2573 | C | O4'-C1'-C2' | 7.97 | 114.77 | 107.60 |
| 11 | A | 26 | C | N3-C4-C5 | -7.96 | 118.71 | 121.90 |
| 12 | B | 180 | G | N3-C2-N2 | 7.96 | 125.48 | 119.90 |
| 12 | B | 432 | A | P-O3'-C3' | -7.96 | 110.14 | 119.70 |
| 12 | B | 1062 | G | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 12 | B | 1314 | C | C5-C6-N1 | 7.96 | 124.98 | 121.00 |
| 12 | B | 1662 | U | C5-C4-O4 | -7.96 | 121.12 | 125.90 |
| 12 | B | 2455 | G | C5'-C4'-O4' | 7.96 | 118.66 | 109.10 |
| 12 | B | 2736 | A | C5-N7-C8 | 7.96 | 107.88 | 103.90 |
| 12 | B | 2160 | C | N3-C4-C5 | -7.96 | 118.72 | 121.90 |
| 12 | B | 2325 | G | N1-C2-N3 | -7.96 | 119.12 | 123.90 |
| 12 | B | 9 | G | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 12 | B | 397 | U | O4'-C1'-N1 | 7.96 | 114.57 | 108.20 |
| 12 | B | 2864 | G | C5-C6-N1 | -7.96 | 107.52 | 111.50 |
| 16 | F | 21 | TYR | CB-CG-CD1 | -7.96 | 116.22 | 121.00 |
| 12 | B | 242 | G | N9-C4-C5 | 7.96 | 108.58 | 105.40 |
| 12 | B | 1056 | G | C5-N7-C8 | 7.96 | 108.28 | 104.30 |
| 12 | B | 918 | A | N7-C8-N9 | 7.96 | 117.78 | 113.80 |
| 12 | B | 1346 | G | C4'-C3'-C2' | -7.96 | 94.64 | 102.60 |
| 12 | B | 1658 | C | N3-C4-C5 | -7.96 | 118.72 | 121.90 |
| 12 | B | 42 | A | C2-N3-C4 | -7.96 | 106.62 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 242 | G | N1-C2-N3 | -7.96 | 119.13 | 123.90 |
| 12 | B | 471 | A | N7-C8-N9 | -7.96 | 109.82 | 113.80 |
| 12 | B | 504 | A | O4'-C1'-N9 | 7.96 | 114.56 | 108.20 |
| 12 | B | 876 | C | N3-C4-N4 | 7.96 | 123.57 | 118.00 |
| 12 | B | 2034 | U | N3-C4-O4 | 7.96 | 124.97 | 119.40 |
| 12 | B | 2113 | U | N3-C2-O2 | 7.96 | 127.77 | 122.20 |
| 12 | B | 618 | G | C5-C6-O6 | -7.95 | 123.83 | 128.60 |
| 12 | B | 2103 | C | O4'-C1'-N1 | 7.95 | 114.56 | 108.20 |
| 12 | B | 2885 | G | C4-C5-C6 | 7.95 | 123.57 | 118.80 |
| 12 | B | 1323 | C | C4-C5-C6 | 7.95 | 121.38 | 117.40 |
| 12 | B | 146 | A | P-O3'-C3' | -7.95 | 110.16 | 119.70 |
| 12 | B | 242 | G | N3-C4-C5 | -7.95 | 124.62 | 128.60 |
| 12 | B | 412 | A | C4-C5-C6 | 7.95 | 120.98 | 117.00 |
| 12 | B | 2225 | A | C4-C5-N7 | -7.95 | 106.72 | 110.70 |
| 12 | B | 1015 | U | O4'-C1'-N1 | 7.95 | 114.56 | 108.20 |
| 12 | B | 1520 | U | N3-C2-O2 | 7.95 | 127.76 | 122.20 |
| 12 | B | 1736 | U | C5-C6-N1 | 7.95 | 126.67 | 122.70 |
| 12 | B | 245 | G | C4-C5-C6 | 7.95 | 123.57 | 118.80 |
| 12 | B | 1959 | G | O4'-C1'-N9 | 7.95 | 114.56 | 108.20 |
| 12 | B | 2070 | A | N1-C6-N6 | 7.95 | 123.37 | 118.60 |
| 12 | B | 2303 | G | C5-C6-O6 | -7.95 | 123.83 | 128.60 |
| 16 | F | 127 | TYR | CB-CG-CD2 | -7.95 | 116.23 | 121.00 |
| 12 | B | 45 | G | O4'-C1'-N9 | 7.94 | 114.56 | 108.20 |
| 12 | B | 1509 | A | C5-C6-N1 | -7.94 | 113.73 | 117.70 |
| 12 | B | 1791 | A | C4-C5-C6 | 7.94 | 120.97 | 117.00 |
| 12 | B | 151 | C | C5-C4-N4 | -7.94 | 114.64 | 120.20 |
| 12 | B | 1437 | C | N3-C4-N4 | 7.94 | 123.56 | 118.00 |
| 12 | B | 1732 | C | N3-C4-N4 | 7.94 | 123.56 | 118.00 |
| 12 | B | 1761 | C | C5-C4-N4 | -7.94 | 114.64 | 120.20 |
| 12 | B | 2091 | C | O4'-C1'-N1 | 7.94 | 114.56 | 108.20 |
| 12 | B | 2488 | G | N7-C8-N9 | 7.94 | 117.07 | 113.10 |
| 12 | B | 2565 | A | O4'-C1'-N9 | 7.94 | 114.55 | 108.20 |
| 12 | B | 1837 | C | C6-N1-C2 | 7.94 | 123.48 | 120.30 |
| 12 | B | 2656 | U | O4'-C1'-N1 | 7.94 | 114.55 | 108.20 |
| 11 | A | 55 | U | O4'-C1'-N1 | 7.94 | 114.55 | 108.20 |
| 12 | B | 1301 | A | C5-N7-C8 | 7.94 | 107.87 | 103.90 |
| 12 | B | 2098 | U | N3-C2-O2 | 7.94 | 127.76 | 122.20 |
| 12 | B | 1043 | C | C4-C5-C6 | -7.94 | 113.43 | 117.40 |
| 12 | B | 1833 | C | C6-N1-C2 | -7.94 | 117.12 | 120.30 |
| 12 | B | 2310 | C | C6-N1-C1' | -7.94 | 111.28 | 120.80 |
| 12 | B | 122 | G | N1-C2-N3 | -7.93 | 119.14 | 123.90 |
| 12 | B | 370 | G | C5-C6-N1 | -7.93 | 107.53 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1924 | C | O4'-C4'-C3' | -7.93 | 96.06 | 104.00 |
| 12 | B | 2505 | G | N1-C6-O6 | 7.93 | 124.66 | 119.90 |
| 11 | A | 68 | C | C5'-C4'-O4' | 7.93 | 118.62 | 109.10 |
| 11 | A | 107 | G | N1-C2-N3 | -7.93 | 119.14 | 123.90 |
| 12 | B | 520 | G | C4-C5-C6 | 7.93 | 123.56 | 118.80 |
| 12 | B | 2800 | A | C4-C5-C6 | 7.93 | 120.97 | 117.00 |
| 6 | 5 | 122 | ARG | NE-CZ-NH2 | -7.93 | 116.33 | 120.30 |
| 12 | B | 141 | G | C5-C6-O6 | -7.93 | 123.84 | 128.60 |
| 12 | B | 154 | U | C4'-C3'-C2' | 7.93 | 110.53 | 102.60 |
| 12 | B | 2048 | G | C8-N9-C4 | -7.93 | 103.23 | 106.40 |
| 12 | B | 477 | A | C4-C5-C6 | 7.93 | 120.96 | 117.00 |
| 12 | B | 1789 | A | C5-N7-C8 | 7.93 | 107.86 | 103.90 |
| 12 | B | 2046 | G | C4-C5-C6 | 7.93 | 123.56 | 118.80 |
| 12 | B | 2288 | A | C5-C6-N6 | -7.93 | 117.36 | 123.70 |
| 11 | A | 109 | A | O4'-C1'-N9 | 7.93 | 114.54 | 108.20 |
| 12 | B | 298 | G | N3-C2-N2 | 7.93 | 125.45 | 119.90 |
| 12 | B | 1425 | G | C5'-C4'-C3' | -7.93 | 103.31 | 116.00 |
| 12 | B | 2276 | G | C4'-C3'-C2' | -7.93 | 94.67 | 102.60 |
| 12 | B | 2517 | C | C2-N3-C4 | 7.93 | 123.86 | 119.90 |
| 12 | B | 836 | G | C4-C5-N7 | -7.93 | 107.63 | 110.80 |
| 12 | B | 1432 | G | C8-N9-C4 | -7.93 | 103.23 | 106.40 |
| 12 | B | 1511 | G | N9-C4-C5 | 7.93 | 108.57 | 105.40 |
| 12 | B | 2499 | C | C5-C6-N1 | 7.93 | 124.96 | 121.00 |
| 12 | B | 2636 | C | N3-C2-O2 | 7.93 | 127.45 | 121.90 |
| 12 | B | 63 | A | C4-C5-N7 | -7.92 | 106.74 | 110.70 |
| 12 | B | 402 | A | C4-C5-C6 | 7.92 | 120.96 | 117.00 |
| 12 | B | 622 | G | N7-C8-N9 | 7.92 | 117.06 | 113.10 |
| 12 | B | 837 | C | N3-C4-N4 | 7.92 | 123.55 | 118.00 |
| 12 | B | 2149 | U | O4'-C1'-N1 | 7.92 | 114.54 | 108.20 |
| 12 | B | 1249 | U | C5-C4-O4 | -7.92 | 121.15 | 125.90 |
| 12 | B | 1753 | G | O4'-C1'-N9 | 7.92 | 114.54 | 108.20 |
| 11 | A | 109 | A | C2-N3-C4 | 7.92 | 114.56 | 110.60 |
| 12 | B | 95 | A | N3-C4-N9 | 7.92 | 133.74 | 127.40 |
| 12 | B | 1264 | A | N1-C6-N6 | 7.92 | 123.35 | 118.60 |
| 12 | B | 2530 | A | N7-C8-N9 | -7.92 | 109.84 | 113.80 |
| 12 | B | 382 | A | C4-C5-C6 | 7.92 | 120.96 | 117.00 |
| 12 | B | 1418 | G | P-O3'-C3' | -7.92 | 110.20 | 119.70 |
| 12 | B | 2608 | G | O4'-C1'-N9 | 7.92 | 114.54 | 108.20 |
| 12 | B | 959 | A | N1-C2-N3 | 7.92 | 133.26 | 129.30 |
| 12 | B | 1322 | A | O4'-C1'-N9 | 7.92 | 114.53 | 108.20 |
| 12 | B | 1835 | G | N3-C2-N2 | 7.92 | 125.44 | 119.90 |
| 12 | B | 190 | A | C8-N9-C4 | -7.92 | 102.63 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2115 | G | N1-C2-N3 | -7.92 | 119.15 | 123.90 |
| 12 | B | 2334 | U | C2-N3-C4 | 7.92 | 131.75 | 127.00 |
| 12 | B | 2499 | C | C6-N1-C2 | -7.92 | 117.13 | 120.30 |
| 12 | B | 2800 | A | O4'-C1'-N9 | 7.92 | 114.53 | 108.20 |
| 12 | B | 2880 | C | N3-C2-O2 | -7.92 | 116.36 | 121.90 |
| 12 | B | 2455 | G | C5-C6-N1 | -7.92 | 107.54 | 111.50 |
| 12 | B | 1041 | G | O4'-C1'-N9 | 7.91 | 114.53 | 108.20 |
| 12 | B | 2276 | G | N1-C2-N3 | -7.91 | 119.15 | 123.90 |
| 12 | B | 2382 | G | N1-C6-O6 | 7.91 | 124.65 | 119.90 |
| 12 | B | 2424 | C | O4'-C1'-N1 | 7.91 | 114.53 | 108.20 |
| 12 | B | 2475 | C | C6-N1-C2 | -7.91 | 117.13 | 120.30 |
| 12 | B | 2582 | G | C5-C6-O6 | -7.91 | 123.85 | 128.60 |
| 12 | B | 2791 | G | O4'-C1'-N9 | 7.91 | 114.53 | 108.20 |
| 12 | B | 2276 | G | C2-N3-C4 | 7.91 | 115.86 | 111.90 |
| 12 | B | 2734 | A | C8-N9-C4 | 7.91 | 108.97 | 105.80 |
| 12 | B | 2744 | G | N1-C6-O6 | 7.91 | 124.65 | 119.90 |
| 12 | B | 587 | C | C2-N3-C4 | 7.91 | 123.86 | 119.90 |
| 12 | B | 630 | G | C4-C5-C6 | 7.91 | 123.55 | 118.80 |
| 12 | B | 940 | G | C5-C6-N1 | 7.91 | 115.45 | 111.50 |
| 12 | B | 631 | A | N9-C4-C5 | 7.91 | 108.96 | 105.80 |
| 12 | B | 1157 | G | N9-C4-C5 | -7.91 | 102.24 | 105.40 |
| 12 | B | 2158 | A | C2-N3-C4 | 7.91 | 114.55 | 110.60 |
| 12 | B | 2381 | A | C6-C5-N7 | -7.91 | 126.77 | 132.30 |
| 12 | B | 2478 | A | O4'-C1'-N9 | 7.91 | 114.53 | 108.20 |
| 12 | B | 2483 | C | P-O5'-C5' | 7.91 | 133.55 | 120.90 |
| 12 | B | 2531 | A | N1-C2-N3 | -7.91 | 125.35 | 129.30 |
| 12 | B | 260 | G | N9-C4-C5 | 7.91 | 108.56 | 105.40 |
| 12 | B | 679 | C | N3-C4-C5 | -7.91 | 118.74 | 121.90 |
| 12 | B | 705 | A | C8-N9-C4 | -7.91 | 102.64 | 105.80 |
| 12 | B | 1445 | G | N1-C6-O6 | 7.91 | 124.64 | 119.90 |
| 12 | B | 1527 | G | P-O3'-C3' | 7.91 | 129.19 | 119.70 |
| 11 | A | 48 | U | C4-C5-C6 | 7.90 | 124.44 | 119.70 |
| 12 | B | 277 | G | C2-N3-C4 | 7.90 | 115.85 | 111.90 |
| 12 | B | 1809 | A | C4-C5-C6 | 7.90 | 120.95 | 117.00 |
| 12 | B | 1433 | A | C4-C5-C6 | 7.90 | 120.95 | 117.00 |
| 12 | B | 586 | A | C8-N9-C4 | -7.90 | 102.64 | 105.80 |
| 12 | B | 1271 | G | C6-C5-N7 | -7.90 | 125.66 | 130.40 |
| 12 | B | 1354 | A | O4'-C1'-N9 | 7.90 | 114.52 | 108.20 |
| 12 | B | 28 | A | C5-C6-N6 | -7.90 | 117.38 | 123.70 |
| 12 | B | 275 | C | C6-N1-C2 | -7.90 | 117.14 | 120.30 |
| 12 | B | 892 | A | C5-N7-C8 | 7.90 | 107.85 | 103.90 |
| 12 | B | 1382 | G | N7-C8-N9 | 7.90 | 117.05 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1968 | G | N1-C6-O6 | 7.90 | 124.64 | 119.90 |
| 12 | B | 2404 | U | O4'-C1'-N1 | 7.90 | 114.52 | 108.20 |
| 12 | B | 2434 | A | C8-N9-C4 | -7.90 | 102.64 | 105.80 |
| 12 | B | 2862 | G | C5-N7-C8 | -7.90 | 100.35 | 104.30 |
| 12 | B | 117 | G | C4-C5-N7 | -7.90 | 107.64 | 110.80 |
| 11 | A | 106 | G | N1-C2-N3 | -7.89 | 119.16 | 123.90 |
| 12 | B | 813 | U | N1-C2-N3 | -7.89 | 110.16 | 114.90 |
| 12 | B | 1007 | C | N3-C4-N4 | 7.89 | 123.53 | 118.00 |
| 12 | B | 1649 | G | C4-C5-C6 | 7.89 | 123.54 | 118.80 |
| 12 | B | 261 | G | C8-N9-C4 | 7.89 | 109.56 | 106.40 |
| 12 | B | 1498 | C | O4'-C4'-C3' | -7.89 | 96.11 | 104.00 |
| 12 | B | 1667 | G | C5-C6-N1 | -7.89 | 107.55 | 111.50 |
| 12 | B | 1732 | C | C4-C5-C6 | 7.89 | 121.35 | 117.40 |
| 12 | B | 2705 | A | O4'-C1'-N9 | 7.89 | 114.51 | 108.20 |
| 12 | B | 2747 | G | C8-N9-C4 | -7.89 | 103.24 | 106.40 |
| 12 | B | 345 | A | C4-C5-C6 | 7.89 | 120.94 | 117.00 |
| 26 | P | 23 | ASP | CB-CG-OD1 | 7.89 | 125.40 | 118.30 |
| 12 | B | 17 | G | C6-C5-N7 | -7.89 | 125.67 | 130.40 |
| 12 | B | 254 | G | C8-N9-C4 | -7.89 | 103.25 | 106.40 |
| 12 | B | 1535 | A | C5-C6-N6 | -7.89 | 117.39 | 123.70 |
| 12 | B | 1738 | G | C2-N3-C4 | 7.89 | 115.84 | 111.90 |
| 12 | B | 2587 | A | C5-C6-N1 | -7.89 | 113.76 | 117.70 |
| 12 | B | 583 | G | N3-C2-N2 | 7.89 | 125.42 | 119.90 |
| 12 | B | 1839 | G | C4-C5-N7 | -7.89 | 107.65 | 110.80 |
| 12 | B | 2466 | C | O4'-C1'-N1 | 7.89 | 114.51 | 108.20 |
| 12 | B | 532 | A | C2-N3-C4 | 7.88 | 114.54 | 110.60 |
| 12 | B | 590 | A | N1-C6-N6 | 7.88 | 123.33 | 118.60 |
| 12 | B | 1163 | G | C1'-O4'-C4' | -7.88 | 103.59 | 109.90 |
| 12 | B | 1759 | A | N1-C6-N6 | 7.88 | 123.33 | 118.60 |
| 24 | N | 63 | ARG | NE-CZ-NH2 | 7.88 | 124.24 | 120.30 |
| 12 | B | 2780 | G | C4-N9-C1' | 7.88 | 136.75 | 126.50 |
| 12 | B | 600 | G | O4'-C1'-N9 | 7.88 | 114.50 | 108.20 |
| 12 | B | 1713 | A | C5-C6-N6 | -7.88 | 117.39 | 123.70 |
| 12 | B | 1840 | G | N1-C6-O6 | 7.88 | 124.63 | 119.90 |
| 12 | B | 2706 | A | C4-C5-C6 | 7.88 | 120.94 | 117.00 |
| 12 | B | 623 | C | O4'-C1'-N1 | 7.88 | 114.50 | 108.20 |
| 12 | B | 1247 | A | N1-C6-N6 | 7.88 | 123.33 | 118.60 |
| 12 | B | 591 | U | C5-C4-O4 | 7.88 | 130.63 | 125.90 |
| 12 | B | 1302 | A | O4'-C1'-N9 | 7.88 | 114.50 | 108.20 |
| 12 | B | 1787 | A | N3-C4-N9 | 7.88 | 133.70 | 127.40 |
| 12 | B | 1949 | G | O4'-C1'-N9 | 7.88 | 114.50 | 108.20 |
| 12 | B | 2121 | G | C5-C6-N1 | -7.88 | 107.56 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2808 | G | N9-C4-C5 | -7.88 | 102.25 | 105.40 |
| 12 | B | 2855 | C | N3-C4-C5 | -7.88 | 118.75 | 121.90 |
| 12 | B | 798 | G | N1-C6-O6 | 7.88 | 124.62 | 119.90 |
| 12 | B | 1328 | A | C8-N9-C4 | 7.88 | 108.95 | 105.80 |
| 12 | B | 1492 | G | N7-C8-N9 | 7.88 | 117.04 | 113.10 |
| 12 | B | 1614 | A | C4-C5-C6 | 7.88 | 120.94 | 117.00 |
| 12 | B | 2485 | G | N1-C2-N3 | -7.88 | 119.17 | 123.90 |
| 12 | B | 2627 | G | O4'-C1'-N9 | 7.88 | 114.50 | 108.20 |
| 12 | B | 2892 | G | C8-N9-C4 | 7.88 | 109.55 | 106.40 |
| 12 | B | 1771 | C | C6-N1-C2 | -7.88 | 117.15 | 120.30 |
| 12 | B | 2260 | C | C6-N1-C2 | -7.87 | 117.15 | 120.30 |
| 11 | A | 11 | C | N3-C4-C5 | -7.87 | 118.75 | 121.90 |
| 12 | B | 32 | C | C5-C4-N4 | -7.87 | 114.69 | 120.20 |
| 12 | B | 2371 | G | N7-C8-N9 | -7.87 | 109.16 | 113.10 |
| 12 | B | 2546 | U | O4'-C1'-N1 | 7.87 | 114.50 | 108.20 |
| 12 | B | 241 | A | C2-N3-C4 | -7.87 | 106.67 | 110.60 |
| 12 | B | 1397 | U | N3-C4-C5 | -7.87 | 109.88 | 114.60 |
| 12 | B | 2783 | U | N3-C4-O4 | 7.87 | 124.91 | 119.40 |
| 12 | B | 2858 | C | N3-C4-N4 | 7.87 | 123.51 | 118.00 |
| 12 | B | 173 | A | O4'-C1'-N9 | 7.87 | 114.49 | 108.20 |
| 12 | B | 628 | G | C5-C6-N1 | -7.87 | 107.57 | 111.50 |
| 12 | B | 1470 | A | C5-C6-N6 | -7.87 | 117.41 | 123.70 |
| 12 | B | 1935 | G | C6-C5-N7 | -7.87 | 125.68 | 130.40 |
| 12 | B | 89 | A | C5-C6-N1 | -7.87 | 113.77 | 117.70 |
| 12 | B | 1604 | C | O4'-C1'-N1 | 7.87 | 114.49 | 108.20 |
| 12 | B | 1887 | C | O4'-C1'-N1 | 7.87 | 114.49 | 108.20 |
| 12 | B | 2394 | C | C5-C6-N1 | 7.87 | 124.93 | 121.00 |
| 12 | B | 2805 | C | O4'-C1'-N1 | 7.87 | 114.49 | 108.20 |
| 12 | B | 263 | G | C2-N3-C4 | 7.86 | 115.83 | 111.90 |
| 12 | B | 866 | A | N1-C6-N6 | 7.86 | 123.32 | 118.60 |
| 12 | B | 1053 | C | N1-C2-O2 | 7.86 | 123.62 | 118.90 |
| 12 | B | 1230 | A | N9-C4-C5 | 7.86 | 108.94 | 105.80 |
| 12 | B | 1299 | G | O4'-C1'-N9 | 7.86 | 114.49 | 108.20 |
| 12 | B | 2039 | U | C5-C6-N1 | 7.86 | 126.63 | 122.70 |
| 12 | B | 678 | C | C6-N1-C2 | 7.86 | 123.44 | 120.30 |
| 12 | B | 971 | G | C4-C5-N7 | -7.86 | 107.66 | 110.80 |
| 12 | B | 135 | U | P-O5'-C5' | 7.86 | 133.47 | 120.90 |
| 12 | B | 535 | G | N3-C2-N2 | 7.86 | 125.40 | 119.90 |
| 12 | B | 1327 | A | C6-N1-C2 | -7.86 | 113.88 | 118.60 |
| 12 | B | 1454 | C | C5'-C4'-O4' | 7.86 | 118.53 | 109.10 |
| 12 | B | 1536 | C | O4'-C1'-N1 | 7.86 | 114.49 | 108.20 |
| 12 | B | 2242 | G | N7-C8-N9 | -7.86 | 109.17 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 2406 | A | O4'-C1'-N9 | 7.86 | 114.49 | 108.20 |
| 12 | B | 836 | G | N3-C2-N2 | 7.86 | 125.40 | 119.90 |
| 12 | B | 1132 | U | C6-N1-C2 | -7.86 | 116.28 | 121.00 |
| 12 | B | 1821 | A | C5-C6-N6 | -7.86 | 117.41 | 123.70 |
| 12 | B | 348 | A | C5-N7-C8 | 7.86 | 107.83 | 103.90 |
| 12 | B | 740 | C | O4'-C1'-N1 | 7.86 | 114.49 | 108.20 |
| 12 | B | 1370 | C | O4'-C1'-N1 | 7.86 | 114.49 | 108.20 |
| 12 | B | 2027 | G | N7-C8-N9 | 7.86 | 117.03 | 113.10 |
| 12 | B | 277 | G | C5-C6-O6 | 7.86 | 133.31 | 128.60 |
| 12 | B | 2368 | C | P-O5'-C5' | 7.86 | 133.47 | 120.90 |
| 12 | B | 808 | G | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 11 | A | 33 | G | C4-C5-C6 | 7.85 | 123.51 | 118.80 |
| 12 | B | 770 | G | N1-C6-O6 | 7.85 | 124.61 | 119.90 |
| 12 | B | 907 | G | N9-C4-C5 | 7.85 | 108.54 | 105.40 |
| 12 | B | 1165 | A | C5-C6-N1 | -7.85 | 113.77 | 117.70 |
| 12 | B | 1542 | U | N3-C4-O4 | 7.85 | 124.90 | 119.40 |
| 12 | B | 1696 | G | C4-C5-N7 | -7.85 | 107.66 | 110.80 |
| 12 | B | 2672 | U | N3-C4-O4 | 7.85 | 124.90 | 119.40 |
| 12 | B | 1198 | U | C6-N1-C2 | -7.85 | 116.29 | 121.00 |
| 12 | B | 1237 | A | C8-N9-C4 | -7.85 | 102.66 | 105.80 |
| 12 | B | 2459 | A | C5-C6-N1 | -7.85 | 113.78 | 117.70 |
| 12 | B | 1025 | G | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 12 | B | 1789 | A | N9-C4-C5 | -7.85 | 102.66 | 105.80 |
| 12 | B | 205 | G | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 12 | B | 424 | G | N1-C6-O6 | 7.84 | 124.61 | 119.90 |
| 12 | B | 1447 | C | C5-C6-N1 | 7.84 | 124.92 | 121.00 |
| 12 | B | 2005 | A | O4'-C1'-N9 | 7.84 | 114.48 | 108.20 |
| 12 | B | 2374 | C | O4'-C1'-N1 | 7.84 | 114.48 | 108.20 |
| 12 | B | 2578 | G | C5-C6-O6 | 7.84 | 133.31 | 128.60 |
| 12 | B | 1402 | U | O4'-C1'-N1 | 7.84 | 114.47 | 108.20 |
| 12 | B | 1685 | C | C4-C5-C6 | 7.84 | 121.32 | 117.40 |
| 12 | B | 1050 | A | C5-C6-N1 | -7.84 | 113.78 | 117.70 |
| 12 | B | 1359 | A | C5-C6-N6 | -7.84 | 117.43 | 123.70 |
| 12 | B | 2152 | G | N3-C2-N2 | 7.84 | 125.39 | 119.90 |
| 12 | B | 2278 | A | N9-C4-C5 | 7.84 | 108.94 | 105.80 |
| 12 | B | 839 | U | O4'-C1'-N1 | 7.84 | 114.47 | 108.20 |
| 12 | B | 941 | A | C2-N3-C4 | -7.84 | 106.68 | 110.60 |
| 12 | B | 2091 | C | C4-C5-C6 | -7.84 | 113.48 | 117.40 |
| 12 | B | 2295 | C | C5-C6-N1 | 7.84 | 124.92 | 121.00 |
| 11 | A | 69 | G | C5-C6-O6 | -7.84 | 123.90 | 128.60 |
| 12 | B | 2344 | U | N3-C2-O2 | 7.84 | 127.69 | 122.20 |
| 11 | A | 93 | C | C6-N1-C2 | -7.84 | 117.17 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1141 | U | O4'-C1'-N1 | 7.84 | 114.47 | 108.20 |
| 12 | B | 1831 | G | C4-C5-N7 | 7.84 | 113.94 | 110.80 |
| 12 | B | 2076 | U | N3-C4-O4 | 7.84 | 124.89 | 119.40 |
| 12 | B | 2164 | C | P-O3'-C3' | 7.84 | 129.10 | 119.70 |
| 11 | A | 98 | G | C5-C6-N1 | -7.83 | 107.58 | 111.50 |
| 12 | B | 132 | G | O4'-C1'-N9 | 7.83 | 114.47 | 108.20 |
| 12 | B | 905 | A | N7-C8-N9 | 7.83 | 117.72 | 113.80 |
| 11 | A | 23 | G | N3-C2-N2 | 7.83 | 125.38 | 119.90 |
| 12 | B | 662 | G | N3-C2-N2 | 7.83 | 125.38 | 119.90 |
| 12 | B | 1390 | U | O4'-C1'-N1 | 7.83 | 114.47 | 108.20 |
| 12 | B | 2035 | G | O4'-C1'-N9 | 7.83 | 114.47 | 108.20 |
| 12 | B | 286 | U | O4'-C1'-N1 | 7.83 | 114.46 | 108.20 |
| 12 | B | 492 | A | C4-C5-C6 | 7.83 | 120.92 | 117.00 |
| 12 | B | 1393 | A | C5-N7-C8 | 7.83 | 107.82 | 103.90 |
| 12 | B | 2301 | C | N3-C4-C5 | -7.83 | 118.77 | 121.90 |
| 11 | A | 99 | A | N1-C2-N3 | 7.83 | 133.22 | 129.30 |
| 12 | B | 333 | G | C4-C5-N7 | 7.83 | 113.93 | 110.80 |
| 12 | B | 502 | A | P-O3'-C3' | 7.83 | 129.10 | 119.70 |
| 12 | B | 664 | G | C5-C6-O6 | -7.83 | 123.90 | 128.60 |
| 12 | B | 902 | C | C5-C6-N1 | 7.83 | 124.92 | 121.00 |
| 12 | B | 1828 | G | N1-C6-O6 | 7.83 | 124.60 | 119.90 |
| 26 | P | 42 | PHE | CB-CG-CD1 | -7.83 | 115.32 | 120.80 |
| 12 | B | 1133 | A | C4-C5-N7 | -7.83 | 106.79 | 110.70 |
| 12 | B | 2419 | U | N3-C2-O2 | -7.83 | 116.72 | 122.20 |
| 12 | B | 2842 | G | O4'-C1'-N9 | 7.83 | 114.46 | 108.20 |
| 12 | B | 100 | U | N3-C4-O4 | 7.83 | 124.88 | 119.40 |
| 12 | B | 2618 | G | C2-N3-C4 | 7.83 | 115.81 | 111.90 |
| 25 | O | 9 | ARG | NE-CZ-NH1 | -7.83 | 116.39 | 120.30 |
| 12 | B | 325 | G | C5-C6-O6 | -7.83 | 123.90 | 128.60 |
| 12 | B | 496 | G | O4'-C1'-N9 | 7.83 | 114.46 | 108.20 |
| 12 | B | 2405 | G | C5-C6-N1 | -7.83 | 107.59 | 111.50 |
| 22 | L | 60 | ARG | NE-CZ-NH1 | 7.83 | 124.21 | 120.30 |
| 11 | A | 23 | G | N1-C2-N3 | -7.82 | 119.21 | 123.90 |
| 12 | B | 123 | G | C4-N9-C1' | -7.82 | 116.33 | 126.50 |
| 12 | B | 153 | U | O4'-C1'-N1 | 7.82 | 114.46 | 108.20 |
| 12 | B | 216 | A | C4-C5-C6 | 7.82 | 120.91 | 117.00 |
| 12 | B | 338 | G | C5-C6-O6 | -7.82 | 123.91 | 128.60 |
| 12 | B | 1302 | A | N3-C4-C5 | -7.82 | 121.32 | 126.80 |
| 12 | B | 2851 | A | C5-C6-N6 | 7.82 | 129.96 | 123.70 |
| 12 | B | 329 | G | C4-C5-C6 | 7.82 | 123.49 | 118.80 |
| 12 | B | 696 | G | C4-C5-C6 | 7.82 | 123.49 | 118.80 |
| 12 | B | 1090 | A | N3-C4-C5 | -7.82 | 121.33 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1218 | G | C5-C6-O6 | -7.82 | 123.91 | 128.60 |
| 12 | B | 1984 | G | O4'-C1'-N9 | 7.82 | 114.46 | 108.20 |
| 12 | B | 2288 | A | C6-C5-N7 | -7.82 | 126.83 | 132.30 |
| 12 | B | 1755 | A | C5-N7-C8 | 7.82 | 107.81 | 103.90 |
| 12 | B | 2031 | A | C5-C6-N6 | -7.82 | 117.44 | 123.70 |
| 12 | B | 2325 | G | C8-N9-C4 | -7.82 | 103.27 | 106.40 |
| 12 | B | 458 | G | C5'-C4'-O4' | 7.82 | 118.48 | 109.10 |
| 12 | B | 498 | G | N1-C6-O6 | 7.82 | 124.59 | 119.90 |
| 12 | B | 2721 | A | C4-C5-N7 | -7.82 | 106.79 | 110.70 |
| 12 | B | 2896 | C | O4'-C1'-N1 | 7.82 | 114.45 | 108.20 |
| 12 | B | 715 | A | C5-C6-N1 | -7.82 | 113.79 | 117.70 |
| 12 | B | 1417 | C | N3-C4-C5 | -7.82 | 118.77 | 121.90 |
| 12 | B | 1479 | G | C4-C5-C6 | 7.82 | 123.49 | 118.80 |
| 12 | B | 1666 | G | C4-C5-N7 | 7.82 | 113.93 | 110.80 |
| 12 | B | 2099 | U | O4'-C1'-N1 | 7.82 | 114.45 | 108.20 |
| 12 | B | 476 | G | O4'-C1'-N9 | 7.81 | 114.45 | 108.20 |
| 8 | 7 | 63 | TYR | CB-CG-CD1 | 7.81 | 125.69 | 121.00 |
| 12 | B | 647 | G | N3-C2-N2 | 7.81 | 125.37 | 119.90 |
| 12 | B | 1149 | G | C5-C6-O6 | -7.81 | 123.91 | 128.60 |
| 12 | B | 1393 | A | C5-C6-N6 | -7.81 | 117.45 | 123.70 |
| 12 | B | 20 | C | O4'-C1'-N1 | 7.81 | 114.45 | 108.20 |
| 12 | B | 1355 | G | C8-N9-C1' | 7.81 | 137.15 | 127.00 |
| 12 | B | 2698 | U | C5-C4-O4 | -7.81 | 121.21 | 125.90 |
| 12 | B | 638 | G | N1-C6-O6 | 7.81 | 124.59 | 119.90 |
| 12 | B | 1138 | G | C5-C6-O6 | -7.81 | 123.91 | 128.60 |
| 12 | B | 1362 | C | N3-C4-N4 | 7.81 | 123.47 | 118.00 |
| 12 | B | 2001 | C | C5-C4-N4 | -7.81 | 114.73 | 120.20 |
| 12 | B | 2174 | C | C5-C6-N1 | 7.81 | 124.91 | 121.00 |
| 12 | B | 2441 | U | C4-C5-C6 | 7.81 | 124.39 | 119.70 |
| 12 | B | 135 | U | C5-C6-N1 | 7.81 | 126.60 | 122.70 |
| 12 | B | 1311 | G | C2-N3-C4 | 7.81 | 115.80 | 111.90 |
| 12 | B | 2705 | A | C6-N1-C2 | -7.81 | 113.92 | 118.60 |
| 12 | B | 2868 | A | C2-N3-C4 | -7.81 | 106.70 | 110.60 |
| 12 | B | 905 | A | C8-N9-C4 | -7.81 | 102.68 | 105.80 |
| 12 | B | 1578 | U | C3'-C2'-C1' | 7.81 | 107.75 | 101.50 |
| 12 | B | 48 | G | C2-N3-C4 | 7.80 | 115.80 | 111.90 |
| 12 | B | 330 | A | C5-C6-N1 | -7.80 | 113.80 | 117.70 |
| 12 | B | 942 | G | N7-C8-N9 | 7.80 | 117.00 | 113.10 |
| 12 | B | 1649 | G | C5-N7-C8 | 7.80 | 108.20 | 104.30 |
| 12 | B | 627 | A | P-O3'-C3' | 7.80 | 129.06 | 119.70 |
| 12 | B | 635 | C | N3-C4-N4 | 7.80 | 123.46 | 118.00 |
| 12 | B | 1605 | C | C2-N3-C4 | 7.80 | 123.80 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1929 | G | C4-C5-N7 | 7.80 | 113.92 | 110.80 |
| 12 | B | 2003 | A | N1-C6-N6 | 7.80 | 123.28 | 118.60 |
| 12 | B | 2097 | A | C5-N7-C8 | 7.80 | 107.80 | 103.90 |
| 18 | H | 25 | TYR | CB-CG-CD2 | 7.80 | 125.68 | 121.00 |
| 12 | B | 1328 | A | N7-C8-N9 | -7.80 | 109.90 | 113.80 |
| 12 | B | 1778 | U | O4'-C1'-N1 | 7.80 | 114.44 | 108.20 |
| 12 | B | 2269 | G | C6-C5-N7 | -7.80 | 125.72 | 130.40 |
| 12 | B | 1899 | A | C5-C6-N6 | -7.80 | 117.46 | 123.70 |
| 12 | B | 126 | A | N7-C8-N9 | -7.80 | 109.90 | 113.80 |
| 12 | B | 738 | G | N3-C2-N2 | 7.80 | 125.36 | 119.90 |
| 12 | B | 1318 | U | C5-C6-N1 | 7.80 | 126.60 | 122.70 |
| 12 | B | 1731 | G | N1-C6-O6 | 7.80 | 124.58 | 119.90 |
| 12 | B | 1940 | U | C6-N1-C1' | -7.80 | 110.28 | 121.20 |
| 12 | B | 2394 | C | O4'-C1'-N1 | 7.80 | 114.44 | 108.20 |
| 12 | B | 52 | A | C8-N9-C4 | -7.79 | 102.68 | 105.80 |
| 12 | B | 2588 | G | C8-N9-C4 | -7.79 | 103.28 | 106.40 |
| 12 | B | 21 | A | C4-C5-C6 | 7.79 | 120.90 | 117.00 |
| 12 | B | 275 | C | O4'-C1'-N1 | 7.79 | 114.44 | 108.20 |
| 12 | B | 851 | C | N3-C4-C5 | -7.79 | 118.78 | 121.90 |
| 12 | B | 917 | A | P-O3'-C3' | -7.79 | 110.35 | 119.70 |
| 12 | B | 1736 | U | O4'-C1'-N1 | 7.79 | 114.44 | 108.20 |
| 12 | B | 2657 | A | C5-C6-N6 | -7.79 | 117.47 | 123.70 |
| 11 | A | 100 | G | N3-C2-N2 | 7.79 | 125.36 | 119.90 |
| 12 | B | 150 | U | N3-C4-O4 | 7.79 | 124.85 | 119.40 |
| 12 | B | 362 | A | N1-C6-N6 | 7.79 | 123.28 | 118.60 |
| 12 | B | 1039 | A | C6-N1-C2 | 7.79 | 123.28 | 118.60 |
| 12 | B | 1327 | A | N1-C6-N6 | 7.79 | 123.28 | 118.60 |
| 12 | B | 2043 | C | C5-C6-N1 | -7.79 | 117.10 | 121.00 |
| 12 | B | 2476 | A | C5-N7-C8 | 7.79 | 107.80 | 103.90 |
| 12 | B | 571 | U | O4'-C1'-N1 | 7.79 | 114.43 | 108.20 |
| 12 | B | 247 | G | N1-C2-N3 | -7.79 | 119.23 | 123.90 |
| 12 | B | 556 | A | O4'-C1'-N9 | 7.79 | 114.43 | 108.20 |
| 12 | B | 2442 | C | C2-N3-C4 | 7.79 | 123.79 | 119.90 |
| 12 | B | 2666 | C | N3-C4-C5 | -7.79 | 118.78 | 121.90 |
| 12 | B | 1631 | G | C5-N7-C8 | 7.79 | 108.19 | 104.30 |
| 12 | B | 2025 | C | C6-N1-C2 | 7.79 | 123.42 | 120.30 |
| 12 | B | 2160 | C | N3-C4-N4 | 7.79 | 123.45 | 118.00 |
| 12 | B | 432 | A | C5-N7-C8 | 7.79 | 107.79 | 103.90 |
| 12 | B | 957 | C | C5-C6-N1 | 7.79 | 124.89 | 121.00 |
| 12 | B | 1758 | U | N1-C2-N3 | -7.79 | 110.23 | 114.90 |
| 12 | B | 2485 | G | C2-N3-C4 | 7.79 | 115.79 | 111.90 |
| 12 | B | 2893 | A | O4'-C1'-N9 | 7.79 | 114.43 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 961 | C | C4-C5-C6 | -7.78 | 113.51 | 117.40 |
| 12 | B | 1573 | G | N9-C4-C5 | 7.78 | 108.51 | 105.40 |
| 12 | B | 1610 | A | O4'-C1'-N9 | 7.78 | 114.43 | 108.20 |
| 12 | B | 1772 | A | C8-N9-C4 | -7.78 | 102.69 | 105.80 |
| 12 | B | 2022 | U | C1'-O4'-C4' | 7.78 | 116.13 | 109.90 |
| 12 | B | 2751 | G | C6-C5-N7 | -7.78 | 125.73 | 130.40 |
| 12 | B | 2183 | A | C1'-O4'-C4' | 7.78 | 116.12 | 109.90 |
| 12 | B | 67 | U | P-O5'-C5' | 7.78 | 133.35 | 120.90 |
| 12 | B | 281 | C | O4'-C1'-N1 | 7.78 | 114.42 | 108.20 |
| 12 | B | 524 | G | N1-C2-N3 | -7.78 | 119.23 | 123.90 |
| 12 | B | 614 | A | O4'-C1'-N9 | 7.78 | 114.42 | 108.20 |
| 12 | B | 640 | C | C5-C4-N4 | -7.78 | 114.75 | 120.20 |
| 12 | B | 1477 | A | C4-C5-N7 | -7.78 | 106.81 | 110.70 |
| 12 | B | 1506 | U | O4'-C1'-N1 | 7.78 | 114.42 | 108.20 |
| 12 | B | 1492 | G | N1-C6-O6 | 7.78 | 124.57 | 119.90 |
| 12 | B | 1791 | A | P-O3'-C3' | -7.78 | 110.36 | 119.70 |
| 12 | B | 2855 | C | N3-C4-N4 | 7.78 | 123.44 | 118.00 |
| 12 | B | 550 | C | N3-C4-N4 | 7.78 | 123.44 | 118.00 |
| 12 | B | 784 | G | N3-C2-N2 | 7.78 | 125.34 | 119.90 |
| 12 | B | 786 | C | C2-N3-C4 | -7.78 | 116.01 | 119.90 |
| 12 | B | 822 | G | O4'-C1'-N9 | 7.78 | 114.42 | 108.20 |
| 12 | B | 1223 | G | N9-C4-C5 | 7.78 | 108.51 | 105.40 |
| 12 | B | 1344 | U | C1'-O4'-C4' | 7.78 | 116.12 | 109.90 |
| 12 | B | 1665 | A | C6-N1-C2 | 7.78 | 123.27 | 118.60 |
| 12 | B | 1893 | C | C5-C6-N1 | 7.78 | 124.89 | 121.00 |
| 12 | B | 1996 | C | O4'-C1'-N1 | 7.78 | 114.42 | 108.20 |
| 12 | B | 2186 | G | C6-C5-N7 | 7.78 | 135.07 | 130.40 |
| 12 | B | 2225 | A | C4-C5-C6 | 7.78 | 120.89 | 117.00 |
| 12 | B | 2298 | A | C8-N9-C4 | -7.78 | 102.69 | 105.80 |
| 12 | B | 2636 | C | C6-N1-C2 | 7.78 | 123.41 | 120.30 |
| 12 | B | 2714 | G | N1-C2-N3 | -7.78 | 119.23 | 123.90 |
| 12 | B | 2758 | A | C4-C5-N7 | -7.78 | 106.81 | 110.70 |
| 12 | B | 2807 | U | C2-N3-C4 | -7.77 | 122.34 | 127.00 |
| 12 | B | 355 | U | O4'-C1'-N1 | 7.77 | 114.42 | 108.20 |
| 12 | B | 1018 | U | N1-C2-O2 | 7.77 | 128.24 | 122.80 |
| 12 | B | 1399 | C | N3-C4-C5 | -7.77 | 118.79 | 121.90 |
| 12 | B | 1843 | C | C6-N1-C2 | -7.77 | 117.19 | 120.30 |
| 12 | B | 2315 | G | N9-C4-C5 | 7.77 | 108.51 | 105.40 |
| 11 | A | 31 | C | N1-C2-O2 | 7.77 | 123.56 | 118.90 |
| 11 | A | 76 | G | C5-C6-N1 | -7.77 | 107.61 | 111.50 |
| 12 | B | 1120 | G | N1-C6-O6 | 7.77 | 124.56 | 119.90 |
| 12 | B | 1567 | G | N3-C4-N9 | 7.77 | 130.66 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2374 | C | N1-C2-O2 | -7.77 | 114.24 | 118.90 |
| 12 | B | 2598 | A | C8-N9-C4 | -7.77 | 102.69 | 105.80 |
| 12 | B | 34 | U | C6-N1-C1' | -7.77 | 110.33 | 121.20 |
| 12 | B | 322 | A | N1-C6-N6 | 7.77 | 123.26 | 118.60 |
| 12 | B | 2241 | A | N9-C4-C5 | 7.77 | 108.91 | 105.80 |
| 12 | B | 2775 | G | C5-N7-C8 | 7.77 | 108.18 | 104.30 |
| 27 | Q | 26 | ALA | N-CA-CB | 7.77 | 120.98 | 110.10 |
| 12 | B | 922 | C | C2-N3-C4 | 7.77 | 123.78 | 119.90 |
| 12 | B | 1177 | G | O4'-C1'-N9 | 7.77 | 114.41 | 108.20 |
| 12 | B | 2062 | A | C5'-C4'-C3' | 7.77 | 128.43 | 116.00 |
| 12 | B | 2205 | A | N1-C6-N6 | 7.77 | 123.26 | 118.60 |
| 12 | B | 290 | U | C2-N3-C4 | -7.76 | 122.34 | 127.00 |
| 12 | B | 435 | C | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 12 | B | 635 | C | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 12 | B | 949 | G | O4'-C1'-N9 | 7.76 | 114.41 | 108.20 |
| 12 | B | 463 | G | N7-C8-N9 | -7.76 | 109.22 | 113.10 |
| 12 | B | 1080 | A | O4'-C1'-N9 | 7.76 | 114.41 | 108.20 |
| 12 | B | 257 | C | P-O5'-C5' | 7.76 | 133.32 | 120.90 |
| 12 | B | 295 | G | N1-C6-O6 | 7.76 | 124.56 | 119.90 |
| 12 | B | 1604 | C | C6-N1-C2 | 7.76 | 123.40 | 120.30 |
| 12 | B | 1898 | U | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 12 | B | 2613 | U | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 12 | B | 1360 | G | O4'-C1'-N9 | 7.76 | 114.41 | 108.20 |
| 12 | B | 2044 | C | C2-N3-C4 | 7.76 | 123.78 | 119.90 |
| 12 | B | 2138 | G | N1-C2-N3 | -7.76 | 119.24 | 123.90 |
| 12 | B | 2306 | C | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 12 | B | 2903 | U | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 11 | A | 67 | G | C5-C6-N1 | -7.76 | 107.62 | 111.50 |
| 11 | A | 70 | C | N3-C4-N4 | 7.76 | 123.43 | 118.00 |
| 12 | B | 98 | G | C5-C6-N1 | -7.76 | 107.62 | 111.50 |
| 12 | B | 2289 | G | N7-C8-N9 | -7.76 | 109.22 | 113.10 |
| 11 | A | 21 | G | N3-C2-N2 | 7.76 | 125.33 | 119.90 |
| 12 | B | 1895 | C | C4'-C3'-C2' | -7.76 | 94.84 | 102.60 |
| 12 | B | 1991 | U | P-O3'-C3' | 7.76 | 129.01 | 119.70 |
| 12 | B | 2078 | C | C5-C6-N1 | -7.76 | 117.12 | 121.00 |
| 12 | B | 2358 | A | N3-C4-N9 | -7.76 | 121.19 | 127.40 |
| 12 | B | 2490 | G | C5-C6-N1 | 7.76 | 115.38 | 111.50 |
| 12 | B | 283 | G | C4-C5-N7 | -7.75 | 107.70 | 110.80 |
| 12 | B | 667 | U | C2-N3-C4 | -7.75 | 122.35 | 127.00 |
| 12 | B | 2283 | C | O5'-C5'-C4' | 7.75 | 126.43 | 111.70 |
| 12 | B | 53 | A | C8-N9-C4 | -7.75 | 102.70 | 105.80 |
| 12 | B | 501 | A | C4-C5-C6 | 7.75 | 120.88 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1837 | C | N3-C4-C5 | -7.75 | 118.80 | 121.90 |
| 12 | B | 2236 | U | N3-C4-C5 | 7.75 | 119.25 | 114.60 |
| 12 | B | 2296 | U | N3-C4-O4 | 7.75 | 124.83 | 119.40 |
| 12 | B | 1719 | G | P-O3'-C3' | 7.75 | 129.00 | 119.70 |
| 12 | B | 2091 | C | C5-C6-N1 | 7.75 | 124.88 | 121.00 |
| 12 | B | 2259 | U | N3-C4-C5 | -7.75 | 109.95 | 114.60 |
| 12 | B | 2481 | G | N3-C2-N2 | 7.75 | 125.33 | 119.90 |
| 12 | B | 2825 | G | P-O3'-C3' | -7.75 | 110.40 | 119.70 |
| 12 | B | 1459 | G | N3-C4-C5 | 7.75 | 132.47 | 128.60 |
| 12 | B | 1533 | C | C5-C6-N1 | 7.75 | 124.88 | 121.00 |
| 11 | A | 39 | A | N1-C2-N3 | 7.75 | 133.18 | 129.30 |
| 11 | A | 59 | A | C6-C5-N7 | -7.75 | 126.88 | 132.30 |
| 12 | B | 893 | C | C5-C4-N4 | -7.75 | 114.78 | 120.20 |
| 12 | B | 2529 | G | O4'-C1'-N9 | 7.75 | 114.40 | 108.20 |
| 11 | A | 35 | C | O4'-C1'-N1 | 7.75 | 114.40 | 108.20 |
| 12 | B | 1075 | C | C6-N1-C2 | -7.75 | 117.20 | 120.30 |
| 12 | B | 1128 | G | N1-C6-O6 | 7.75 | 124.55 | 119.90 |
| 12 | B | 1232 | G | N1-C6-O6 | 7.75 | 124.55 | 119.90 |
| 12 | B | 564 | C | C5-C6-N1 | -7.75 | 117.13 | 121.00 |
| 4 | 3 | 48 | TYR | CB-CG-CD1 | 7.74 | 125.65 | 121.00 |
| 11 | A | 52 | A | C8-N9-C4 | -7.74 | 102.70 | 105.80 |
| 12 | B | 73 | A | C8-N9-C4 | -7.74 | 102.70 | 105.80 |
| 12 | B | 193 | U | C2-N3-C4 | -7.74 | 122.35 | 127.00 |
| 12 | B | 241 | A | C4-C5-N7 | -7.74 | 106.83 | 110.70 |
| 12 | B | 696 | G | N9-C4-C5 | 7.74 | 108.50 | 105.40 |
| 12 | B | 2067 | G | N1-C2-N3 | -7.74 | 119.25 | 123.90 |
| 12 | B | 2851 | A | C4-C5-C6 | 7.74 | 120.87 | 117.00 |
| 15 | E | 72 | SER | N-CA-CB | 7.74 | 122.12 | 110.50 |
| 12 | B | 126 | A | C5-C6-N6 | -7.74 | 117.51 | 123.70 |
| 12 | B | 221 | A | O4'-C1'-N9 | 7.74 | 114.39 | 108.20 |
| 12 | B | 814 | C | C1'-O4'-C4' | 7.74 | 116.09 | 109.90 |
| 12 | B | 875 | G | N1-C6-O6 | 7.74 | 124.55 | 119.90 |
| 12 | B | 1148 | U | O4'-C1'-N1 | 7.74 | 114.39 | 108.20 |
| 12 | B | 1810 | A | C5-C6-N1 | -7.74 | 113.83 | 117.70 |
| 12 | B | 2262 | U | C5-C6-N1 | 7.74 | 126.57 | 122.70 |
| 12 | B | 2882 | A | O4'-C1'-N9 | 7.74 | 114.39 | 108.20 |
| 12 | B | 194 | G | C4-C5-C6 | 7.74 | 123.44 | 118.80 |
| 12 | B | 725 | G | C5-C6-N1 | -7.74 | 107.63 | 111.50 |
| 12 | B | 1128 | G | C1'-O4'-C4' | -7.74 | 103.71 | 109.90 |
| 12 | B | 444 | C | N1-C2-N3 | -7.74 | 113.78 | 119.20 |
| 12 | B | 524 | G | N7-C8-N9 | 7.74 | 116.97 | 113.10 |
| 12 | B | 1698 | A | C4-C5-C6 | 7.74 | 120.87 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2300 | C | N3-C4-C5 | -7.74 | 118.81 | 121.90 |
| 12 | B | 1625 | C | O4'-C1'-N1 | 7.73 | 114.39 | 108.20 |
| 12 | B | 2280 | G | C5-C6-O6 | -7.73 | 123.96 | 128.60 |
| 12 | B | 138 | U | N1-C2-N3 | -7.73 | 110.26 | 114.90 |
| 12 | B | 1166 | G | O4'-C1'-N9 | 7.73 | 114.39 | 108.20 |
| 12 | B | 734 | A | C5'-C4'-O4' | 7.73 | 118.38 | 109.10 |
| 12 | B | 842 | U | N3-C4-C5 | -7.73 | 109.96 | 114.60 |
| 12 | B | 1410 | G | C4'-C3'-C2' | -7.73 | 94.87 | 102.60 |
| 12 | B | 1662 | U | N1-C2-O2 | -7.73 | 117.39 | 122.80 |
| 12 | B | 2194 | U | N3-C4-C5 | -7.73 | 109.96 | 114.60 |
| 12 | B | 2327 | A | N1-C6-N6 | 7.73 | 123.24 | 118.60 |
| 12 | B | 2376 | A | C5-C6-N1 | -7.73 | 113.83 | 117.70 |
| 12 | B | 2605 | U | N3-C4-O4 | 7.73 | 124.81 | 119.40 |
| 12 | B | 361 | G | N1-C6-O6 | 7.73 | 124.54 | 119.90 |
| 12 | B | 537 | G | C8-N9-C4 | -7.73 | 103.31 | 106.40 |
| 12 | B | 1959 | G | N1-C6-O6 | 7.73 | 124.54 | 119.90 |
| 12 | B | 2664 | G | N1-C2-N3 | -7.73 | 119.26 | 123.90 |
| 12 | B | 1168 | G | C3'-C2'-C1' | -7.73 | 95.32 | 101.50 |
| 12 | B | 1553 | A | C4-C5-C6 | 7.73 | 120.86 | 117.00 |
| 12 | B | 1750 | G | O4'-C1'-N9 | 7.73 | 114.38 | 108.20 |
| 12 | B | 2310 | C | C2-N1-C1' | 7.72 | 127.30 | 118.80 |
| 12 | B | 2710 | C | N3-C4-C5 | -7.72 | 118.81 | 121.90 |
| 12 | B | 852 | U | C5-C4-O4 | -7.72 | 121.27 | 125.90 |
| 12 | B | 2072 | C | C5'-C4'-O4' | 7.72 | 118.37 | 109.10 |
| 12 | B | 2082 | A | C6-C5-N7 | -7.72 | 126.89 | 132.30 |
| 12 | B | 2567 | G | C5-C6-O6 | -7.72 | 123.97 | 128.60 |
| 11 | A | 100 | G | N9-C4-C5 | -7.72 | 102.31 | 105.40 |
| 12 | B | 456 | C | N3-C4-N4 | 7.72 | 123.40 | 118.00 |
| 12 | B | 2469 | A | P-O3'-C3' | -7.72 | 110.44 | 119.70 |
| 12 | B | 2570 | G | C2-N3-C4 | -7.72 | 108.04 | 111.90 |
| 12 | B | 2486 | C | C6-N1-C2 | 7.72 | 123.39 | 120.30 |
| 12 | B | 208 | C | N3-C4-N4 | 7.72 | 123.40 | 118.00 |
| 12 | B | 213 | A | C4-C5-N7 | -7.72 | 106.84 | 110.70 |
| 12 | B | 779 | U | C6-N1-C2 | -7.72 | 116.37 | 121.00 |
| 12 | B | 1310 | G | N3-C2-N2 | 7.72 | 125.30 | 119.90 |
| 12 | B | 1916 | A | C5-C6-N1 | -7.72 | 113.84 | 117.70 |
| 12 | B | 2509 | G | C5-C6-O6 | -7.72 | 123.97 | 128.60 |
| 12 | B | 236 | C | O4'-C1'-N1 | 7.71 | 114.37 | 108.20 |
| 12 | B | 524 | G | C8-N9-C4 | -7.71 | 103.31 | 106.40 |
| 12 | B | 1512 | C | C5-C4-N4 | -7.71 | 114.80 | 120.20 |
| 12 | B | 1770 | G | C5-N7-C8 | -7.71 | 100.44 | 104.30 |
| 12 | B | 2541 | A | C4-C5-N7 | 7.71 | 114.56 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | D | 46 | ARG | NE-CZ-NH2 | -7.71 | 116.44 | 120.30 |
| 12 | B | 639 | U | N3-C4-C5 | -7.71 | 109.97 | 114.60 |
| 12 | B | 1788 | C | O4'-C1'-N1 | 7.71 | 114.37 | 108.20 |
| 12 | B | 1449 | G | C1'-O4'-C4' | -7.71 | 103.73 | 109.90 |
| 12 | B | 2104 | C | C6-N1-C2 | -7.71 | 117.22 | 120.30 |
| 12 | B | 2327 | A | C5-C6-N1 | -7.71 | 113.84 | 117.70 |
| 11 | A | 112 | G | N1-C2-N3 | -7.71 | 119.28 | 123.90 |
| 12 | B | 142 | A | N1-C2-N3 | -7.71 | 125.45 | 129.30 |
| 12 | B | 431 | U | C5-C6-N1 | 7.71 | 126.56 | 122.70 |
| 12 | B | 925 | A | C5-C6-N6 | -7.71 | 117.53 | 123.70 |
| 12 | B | 998 | C | O4'-C1'-N1 | 7.71 | 114.37 | 108.20 |
| 12 | B | 1918 | A | N1-C2-N3 | 7.71 | 133.16 | 129.30 |
| 12 | B | 2341 | G | C4-C5-N7 | 7.71 | 113.88 | 110.80 |
| 12 | B | 476 | G | C5-N7-C8 | -7.71 | 100.45 | 104.30 |
| 12 | B | 667 | U | C4-C5-C6 | -7.71 | 115.08 | 119.70 |
| 12 | B | 1343 | G | C4-C5-C6 | 7.71 | 123.42 | 118.80 |
| 12 | B | 1625 | C | N3-C4-N4 | 7.71 | 123.39 | 118.00 |
| 12 | B | 1754 | A | C4-C5-C6 | 7.71 | 120.85 | 117.00 |
| 12 | B | 2003 | A | O4'-C1'-N9 | 7.71 | 114.37 | 108.20 |
| 12 | B | 1934 | C | N3-C4-N4 | 7.71 | 123.39 | 118.00 |
| 12 | B | 2624 | G | C6-C5-N7 | -7.71 | 125.78 | 130.40 |
| 12 | B | 403 | U | O4'-C1'-N1 | 7.70 | 114.36 | 108.20 |
| 12 | B | 1073 | A | C4-C5-C6 | 7.70 | 120.85 | 117.00 |
| 12 | B | 1538 | G | C6-C5-N7 | -7.70 | 125.78 | 130.40 |
| 18 | H | 29 | PHE | CB-CG-CD1 | -7.70 | 115.41 | 120.80 |
| 12 | B | 63 | A | C2-N3-C4 | 7.70 | 114.45 | 110.60 |
| 12 | B | 513 | A | C5-C6-N6 | -7.70 | 117.54 | 123.70 |
| 12 | B | 727 | A | C6-C5-N7 | -7.70 | 126.91 | 132.30 |
| 12 | B | 1301 | A | N9-C4-C5 | -7.70 | 102.72 | 105.80 |
| 12 | B | 1808 | A | N1-C2-N3 | 7.70 | 133.15 | 129.30 |
| 12 | B | 2299 | U | N3-C2-O2 | 7.70 | 127.59 | 122.20 |
| 12 | B | 693 | A | N9-C4-C5 | 7.70 | 108.88 | 105.80 |
| 12 | B | 713 | G | O4'-C1'-N9 | 7.70 | 114.36 | 108.20 |
| 12 | B | 971 | G | C5-C6-N1 | -7.70 | 107.65 | 111.50 |
| 12 | B | 1314 | C | N3-C4-N4 | 7.70 | 123.39 | 118.00 |
| 12 | B | 2661 | G | C6-C5-N7 | -7.70 | 125.78 | 130.40 |
| 12 | B | 645 | C | N3-C4-C5 | -7.70 | 118.82 | 121.90 |
| 12 | B | 1021 | A | C5-C6-N1 | -7.70 | 113.85 | 117.70 |
| 12 | B | 1730 | C | P-O3'-C3' | 7.70 | 128.94 | 119.70 |
| 12 | B | 1808 | A | O4'-C1'-N9 | 7.70 | 114.36 | 108.20 |
| 12 | B | 1809 | A | C5-C6-N1 | -7.70 | 113.85 | 117.70 |
| 12 | B | 2422 | C | C1'-O4'-C4' | -7.70 | 103.74 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2446 | G | C5-C6-O6 | -7.70 | 123.98 | 128.60 |
| 12 | B | 1791 | A | C5-C6-N1 | -7.69 | 113.85 | 117.70 |
| 12 | B | 297 | G | C4-C5-N7 | -7.69 | 107.72 | 110.80 |
| 12 | B | 799 | G | N1-C6-O6 | 7.69 | 124.52 | 119.90 |
| 12 | B | 1237 | A | N1-C2-N3 | -7.69 | 125.45 | 129.30 |
| 12 | B | 215 | G | C6-N1-C2 | 7.69 | 129.72 | 125.10 |
| 12 | B | 328 | U | C6-N1-C2 | -7.69 | 116.39 | 121.00 |
| 12 | B | 990 | A | C6-C5-N7 | -7.69 | 126.92 | 132.30 |
| 12 | B | 1047 | G | C5-C6-O6 | -7.69 | 123.99 | 128.60 |
| 12 | B | 1251 | C | C4-C5-C6 | -7.69 | 113.56 | 117.40 |
| 12 | B | 1310 | G | C5-C6-O6 | -7.69 | 123.98 | 128.60 |
| 12 | B | 1485 | U | C4'-C3'-C2' | -7.69 | 94.91 | 102.60 |
| 12 | B | 1745 | A | C4-C5-N7 | -7.69 | 106.86 | 110.70 |
| 12 | B | 2502 | G | N3-C2-N2 | 7.69 | 125.28 | 119.90 |
| 12 | B | 2834 | G | C3'-C2'-C1' | -7.69 | 95.35 | 101.50 |
| 12 | B | 259 | G | N1-C2-N2 | 7.69 | 123.12 | 116.20 |
| 12 | B | 2325 | G | N3-C4-N9 | -7.69 | 121.39 | 126.00 |
| 12 | B | 270 | A | C4-C5-N7 | -7.69 | 106.86 | 110.70 |
| 12 | B | 1615 | C | N3-C4-N4 | 7.69 | 123.38 | 118.00 |
| 12 | B | 1692 | U | C5-C6-N1 | 7.69 | 126.54 | 122.70 |
| 12 | B | 1997 | C | N3-C2-O2 | 7.69 | 127.28 | 121.90 |
| 12 | B | 2135 | A | N7-C8-N9 | 7.69 | 117.64 | 113.80 |
| 12 | B | 2886 | A | C5-C6-N6 | -7.69 | 117.55 | 123.70 |
| 12 | B | 319 | G | N3-C2-N2 | 7.68 | 125.28 | 119.90 |
| 12 | B | 614 | A | N9-C4-C5 | 7.68 | 108.87 | 105.80 |
| 12 | B | 2188 | U | O4'-C1'-N1 | 7.68 | 114.35 | 108.20 |
| 12 | B | 2196 | C | C4-C5-C6 | -7.68 | 113.56 | 117.40 |
| 12 | B | 2434 | A | N9-C4-C5 | 7.68 | 108.87 | 105.80 |
| 12 | B | 2515 | C | N1-C2-N3 | -7.68 | 113.82 | 119.20 |
| 12 | B | 96 | C | C5-C4-N4 | -7.68 | 114.82 | 120.20 |
| 12 | B | 486 | C | C5-C4-N4 | 7.68 | 125.58 | 120.20 |
| 12 | B | 1894 | C | N3-C4-C5 | 7.68 | 124.97 | 121.90 |
| 12 | B | 1990 | C | C5-C4-N4 | -7.68 | 114.82 | 120.20 |
| 12 | B | 2623 | G | N1-C2-N3 | -7.68 | 119.29 | 123.90 |
| 12 | B | 2703 | C | N3-C4-C5 | 7.68 | 124.97 | 121.90 |
| 33 | Y | 15 | SER | N-CA-CB | 7.68 | 122.03 | 110.50 |
| 12 | B | 40 | U | O4'-C1'-N1 | 7.68 | 114.34 | 108.20 |
| 12 | B | 2892 | G | N1-C2-N3 | -7.68 | 119.29 | 123.90 |
| 12 | B | 540 | C | N3-C4-N4 | 7.68 | 123.38 | 118.00 |
| 12 | B | 2056 | G | C5-C6-O6 | -7.68 | 123.99 | 128.60 |
| 12 | B | 2071 | A | C5-C6-N6 | -7.68 | 117.56 | 123.70 |
| 12 | B | 2142 | A | C8-N9-C4 | 7.68 | 108.87 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2286 | G | C4-C5-C6 | 7.68 | 123.41 | 118.80 |
| 12 | B | 2895 | G | O4'-C1'-N9 | 7.68 | 114.34 | 108.20 |
| 12 | B | 1044 | C | C4-C5-C6 | 7.68 | 121.24 | 117.40 |
| 12 | B | 1374 | G | C5-C6-O6 | -7.68 | 123.99 | 128.60 |
| 12 | B | 2314 | A | N7-C8-N9 | -7.68 | 109.96 | 113.80 |
| 12 | B | 159 | G | C8-N9-C4 | 7.67 | 109.47 | 106.40 |
| 12 | B | 915 | C | O4'-C1'-N1 | 7.67 | 114.34 | 108.20 |
| 12 | B | 1863 | G | C8-N9-C4 | -7.67 | 103.33 | 106.40 |
| 12 | B | 2363 | G | C6-N1-C2 | 7.67 | 129.71 | 125.10 |
| 12 | B | 377 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 11 | A | 73 | A | C4-C5-C6 | 7.67 | 120.84 | 117.00 |
| 12 | B | 1074 | G | N3-C4-C5 | -7.67 | 124.77 | 128.60 |
| 12 | B | 1722 | A | C5-C6-N1 | -7.67 | 113.86 | 117.70 |
| 12 | B | 2156 | G | C6-C5-N7 | -7.67 | 125.80 | 130.40 |
| 12 | B | 2190 | G | N1-C6-O6 | 7.67 | 124.50 | 119.90 |
| 12 | B | 2566 | A | C5-C6-N6 | -7.67 | 117.56 | 123.70 |
| 22 | L | 48 | ARG | NE-CZ-NH2 | -7.67 | 116.47 | 120.30 |
| 12 | B | 820 | A | N3-C4-C5 | -7.67 | 121.43 | 126.80 |
| 12 | B | 185 | G | C4'-C3'-C2' | -7.67 | 94.93 | 102.60 |
| 12 | B | 385 | C | O4'-C1'-N1 | 7.67 | 114.33 | 108.20 |
| 12 | B | 1148 | U | N3-C2-O2 | 7.67 | 127.57 | 122.20 |
| 12 | B | 1362 | C | N3-C2-O2 | 7.67 | 127.27 | 121.90 |
| 12 | B | 2129 | C | C2-N3-C4 | -7.67 | 116.07 | 119.90 |
| 12 | B | 2709 | G | N3-C2-N2 | 7.67 | 125.27 | 119.90 |
| 22 | L | 50 | PHE | CB-CG-CD2 | 7.67 | 126.17 | 120.80 |
| 11 | A | 70 | C | C5-C6-N1 | -7.67 | 117.17 | 121.00 |
| 12 | B | 272 | A | C4-C5-C6 | 7.67 | 120.83 | 117.00 |
| 12 | B | 1236 | G | N7-C8-N9 | 7.67 | 116.93 | 113.10 |
| 12 | B | 2352 | A | C8-N9-C4 | -7.67 | 102.73 | 105.80 |
| 12 | B | 2400 | G | C2-N3-C4 | -7.67 | 108.07 | 111.90 |
| 12 | B | 2684 | U | P-O3'-C3' | 7.67 | 128.90 | 119.70 |
| 12 | B | 612 | G | N1-C2-N3 | -7.67 | 119.30 | 123.90 |
| 12 | B | 628 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 12 | B | 685 | A | N9-C4-C5 | 7.67 | 108.87 | 105.80 |
| 12 | B | 1429 | G | C6-C5-N7 | -7.66 | 125.80 | 130.40 |
| 12 | B | 2485 | G | N3-C4-C5 | -7.66 | 124.77 | 128.60 |
| 12 | B | 2545 | G | C6-C5-N7 | -7.66 | 125.80 | 130.40 |
| 12 | B | 2603 | G | C5-C6-N1 | -7.66 | 107.67 | 111.50 |
| 12 | B | 1497 | U | C6-N1-C2 | -7.66 | 116.40 | 121.00 |
| 12 | B | 2547 | A | C2-N3-C4 | -7.66 | 106.77 | 110.60 |
| 12 | B | 570 | G | N3-C2-N2 | 7.66 | 125.26 | 119.90 |
| 12 | B | 584 | C | N3-C4-N4 | 7.66 | 123.36 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 662 | G | C2-N3-C4 | 7.66 | 115.73 | 111.90 |
| 12 | B | 922 | C | O4'-C1'-N1 | 7.66 | 114.33 | 108.20 |
| 12 | B | 471 | A | C4-C5-C6 | 7.66 | 120.83 | 117.00 |
| 12 | B | 889 | C | N3-C4-N4 | 7.66 | 123.36 | 118.00 |
| 12 | B | 1645 | G | C5-C6-O6 | -7.66 | 124.01 | 128.60 |
| 12 | B | 434 | U | N3-C2-O2 | 7.66 | 127.56 | 122.20 |
| 12 | B | 471 | A | N9-C4-C5 | 7.66 | 108.86 | 105.80 |
| 12 | B | 655 | A | C1'-O4'-C4' | 7.66 | 116.02 | 109.90 |
| 12 | B | 1632 | A | C6-C5-N7 | -7.66 | 126.94 | 132.30 |
| 22 | L | 58 | TYR | CB-CG-CD2 | -7.65 | 116.41 | 121.00 |
| 12 | B | 376 | G | N9-C4-C5 | 7.65 | 108.46 | 105.40 |
| 12 | B | 746 | U | C4'-C3'-C2' | -7.65 | 94.95 | 102.60 |
| 12 | B | 1079 | C | O4'-C1'-N1 | 7.65 | 114.32 | 108.20 |
| 12 | B | 1336 | A | N1-C6-N6 | 7.65 | 123.19 | 118.60 |
| 12 | B | 1385 | A | C5-C6-N6 | -7.65 | 117.58 | 123.70 |
| 12 | B | 2114 | A | C8-N9-C4 | -7.65 | 102.74 | 105.80 |
| 12 | B | 2156 | G | C5-C6-N1 | -7.65 | 107.67 | 111.50 |
| 12 | B | 2652 | C | C5-C4-N4 | -7.65 | 114.84 | 120.20 |
| 23 | M | 91 | TYR | CB-CG-CD2 | -7.65 | 116.41 | 121.00 |
| 12 | B | 733 | G | N3-C2-N2 | 7.65 | 125.25 | 119.90 |
| 12 | B | 2171 | A | O4'-C1'-N9 | 7.65 | 114.32 | 108.20 |
| 12 | B | 164 | C | C2-N3-C4 | 7.64 | 123.72 | 119.90 |
| 12 | B | 296 | U | O4'-C1'-N1 | 7.64 | 114.32 | 108.20 |
| 12 | B | 367 | G | C4-C5-C6 | 7.64 | 123.39 | 118.80 |
| 12 | B | 1388 | G | C6-N1-C2 | 7.64 | 129.69 | 125.10 |
| 12 | B | 1742 | U | N3-C4-O4 | 7.64 | 124.75 | 119.40 |
| 12 | B | 1928 | A | N1-C2-N3 | -7.64 | 125.48 | 129.30 |
| 12 | B | 2030 | A | O4'-C1'-N9 | 7.64 | 114.31 | 108.20 |
| 12 | B | 218 | A | N1-C2-N3 | 7.64 | 133.12 | 129.30 |
| 12 | B | 473 | G | C2-N3-C4 | 7.64 | 115.72 | 111.90 |
| 12 | B | 863 | A | N9-C4-C5 | -7.64 | 102.74 | 105.80 |
| 12 | B | 2228 | G | C4-C5-N7 | 7.64 | 113.86 | 110.80 |
| 12 | B | 2422 | C | C2-N3-C4 | 7.64 | 123.72 | 119.90 |
| 12 | B | 2602 | A | C2-N3-C4 | -7.64 | 106.78 | 110.60 |
| 12 | B | 1599 | U | N3-C4-O4 | 7.64 | 124.75 | 119.40 |
| 12 | B | 1687 | G | P-O3'-C3' | -7.64 | 110.53 | 119.70 |
| 12 | B | 656 | G | N1-C6-O6 | 7.64 | 124.48 | 119.90 |
| 12 | B | 1351 | C | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |
| 12 | B | 2273 | A | C8-N9-C4 | -7.64 | 102.75 | 105.80 |
| 12 | B | 2445 | G | O4'-C1'-C2' | 7.64 | 114.48 | 107.60 |
| 12 | B | 2869 | G | C8-N9-C4 | -7.64 | 103.34 | 106.40 |
| 12 | B | 1117 | C | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 119 | A | C5'-C4'-C3' | -7.64 | 103.78 | 116.00 |
| 12 | B | 393 | C | N3-C4-C5 | -7.64 | 118.85 | 121.90 |
| 12 | B | 1188 | U | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |
| 12 | B | 128 | C | C1'-O4'-C4' | 7.63 | 116.01 | 109.90 |
| 12 | B | 144 | A | N1-C2-N3 | 7.63 | 133.12 | 129.30 |
| 12 | B | 1346 | G | C4-C5-N7 | 7.63 | 113.85 | 110.80 |
| 12 | B | 1745 | A | C5-C6-N6 | -7.63 | 117.59 | 123.70 |
| 12 | B | 2839 | G | N3-C4-C5 | -7.63 | 124.78 | 128.60 |
| 12 | B | 72 | U | N3-C2-O2 | 7.63 | 127.54 | 122.20 |
| 12 | B | 535 | G | C4-C5-N7 | 7.63 | 113.85 | 110.80 |
| 12 | B | 1784 | A | P-O3'-C3' | -7.63 | 110.54 | 119.70 |
| 12 | B | 2340 | A | O4'-C1'-N9 | 7.63 | 114.31 | 108.20 |
| 12 | B | 63 | A | N3-C4-C5 | -7.63 | 121.46 | 126.80 |
| 12 | B | 345 | A | N9-C4-C5 | 7.63 | 108.85 | 105.80 |
| 12 | B | 659 | G | N7-C8-N9 | 7.63 | 116.92 | 113.10 |
| 12 | B | 872 | U | P-O3'-C3' | 7.63 | 128.86 | 119.70 |
| 12 | B | 1463 | C | C5-C6-N1 | -7.63 | 117.18 | 121.00 |
| 12 | B | 2236 | U | C4-C5-C6 | -7.63 | 115.12 | 119.70 |
| 12 | B | 2777 | G | C6-N1-C2 | 7.63 | 129.68 | 125.10 |
| 12 | B | 1979 | U | C4-C5-C6 | -7.63 | 115.12 | 119.70 |
| 12 | B | 2267 | A | C4-C5-C6 | 7.63 | 120.81 | 117.00 |
| 12 | B | 81 | G | N1-C2-N3 | -7.63 | 119.32 | 123.90 |
| 12 | B | 569 | U | C4-C5-C6 | -7.63 | 115.12 | 119.70 |
| 12 | B | 1237 | A | C5-C6-N1 | -7.63 | 113.89 | 117.70 |
| 12 | B | 1616 | A | C4-C5-C6 | 7.63 | 120.81 | 117.00 |
| 12 | B | 2726 | A | N1-C2-N3 | 7.63 | 133.11 | 129.30 |
| 12 | B | 407 | G | C6-N1-C2 | 7.63 | 129.68 | 125.10 |
| 12 | B | 1292 | G | N1-C2-N3 | -7.63 | 119.32 | 123.90 |
| 12 | B | 2547 | A | C1'-O4'-C4' | -7.63 | 103.80 | 109.90 |
| 12 | B | 164 | C | C6-N1-C2 | -7.62 | 117.25 | 120.30 |
| 12 | B | 455 | C | C4-C5-C6 | 7.62 | 121.21 | 117.40 |
| 12 | B | 1382 | G | O4'-C4'-C3' | -7.62 | 96.38 | 104.00 |
| 12 | B | 1465 | G | C6-C5-N7 | -7.62 | 125.83 | 130.40 |
| 12 | B | 2416 | C | C5-C4-N4 | -7.62 | 114.86 | 120.20 |
| 12 | B | 2865 | U | N1-C2-N3 | 7.62 | 119.47 | 114.90 |
| 22 | L | 41 | ARG | NE-CZ-NH2 | -7.62 | 116.49 | 120.30 |
| 11 | A | 92 | C | C5-C4-N4 | -7.62 | 114.86 | 120.20 |
| 12 | B | 1357 | C | O4'-C1'-N1 | 7.62 | 114.30 | 108.20 |
| 12 | B | 1677 | A | N7-C8-N9 | -7.62 | 109.99 | 113.80 |
| 12 | B | 1882 | U | C4-C5-C6 | 7.62 | 124.27 | 119.70 |
| 12 | B | 2382 | G | N1-C2-N3 | -7.62 | 119.33 | 123.90 |
| 12 | B | 1160 | G | N9-C4-C5 | 7.62 | 108.45 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1559 | U | P-O3'-C3' | 7.62 | 128.85 | 119.70 |
| 12 | B | 2195 | U | C6-N1-C2 | 7.62 | 125.57 | 121.00 |
| 12 | B | 2688 | G | P-O3'-C3' | -7.62 | 110.55 | 119.70 |
| 12 | B | 2820 | A | P-O3'-C3' | 7.62 | 128.85 | 119.70 |
| 12 | B | 86 | G | N3-C4-C5 | -7.62 | 124.79 | 128.60 |
| 12 | B | 949 | G | N1-C2-N3 | -7.62 | 119.33 | 123.90 |
| 12 | B | 1567 | G | C6-C5-N7 | -7.62 | 125.83 | 130.40 |
| 12 | B | 1583 | A | C4-C5-C6 | 7.62 | 120.81 | 117.00 |
| 12 | B | 1845 | G | N7-C8-N9 | 7.62 | 116.91 | 113.10 |
| 12 | B | 2274 | A | O4'-C1'-N9 | 7.62 | 114.30 | 108.20 |
| 12 | B | 327 | G | N1-C2-N3 | -7.62 | 119.33 | 123.90 |
| 12 | B | 784 | G | C8-N9-C4 | -7.62 | 103.35 | 106.40 |
| 12 | B | 62 | U | P-O5'-C5' | 7.62 | 133.09 | 120.90 |
| 12 | B | 600 | G | C1'-O4'-C4' | -7.62 | 103.81 | 109.90 |
| 12 | B | 1172 | C | C2-N3-C4 | 7.62 | 123.71 | 119.90 |
| 12 | B | 2203 | U | P-O3'-C3' | -7.62 | 110.56 | 119.70 |
| 12 | B | 2618 | G | C4-C5-C6 | 7.62 | 123.37 | 118.80 |
| 12 | B | 1410 | G | C2-N3-C4 | 7.61 | 115.71 | 111.90 |
| 12 | B | 2527 | C | C5-C6-N1 | 7.61 | 124.81 | 121.00 |
| 12 | B | 2110 | G | C4-C5-N7 | -7.61 | 107.75 | 110.80 |
| 14 | D | 13 | ARG | NE-CZ-NH1 | -7.61 | 116.49 | 120.30 |
| 12 | B | 819 | A | C5-C6-N1 | -7.61 | 113.89 | 117.70 |
| 12 | B | 927 | A | C5-C6-N1 | -7.61 | 113.89 | 117.70 |
| 12 | B | 1228 | G | N1-C6-O6 | 7.61 | 124.47 | 119.90 |
| 12 | B | 2069 | G | C8-N9-C4 | -7.61 | 103.36 | 106.40 |
| 12 | B | 2649 | C | N3-C4-C5 | -7.61 | 118.86 | 121.90 |
| 12 | B | 2675 | A | C5-N7-C8 | 7.61 | 107.70 | 103.90 |
| 12 | B | 615 | U | C6-N1-C2 | -7.61 | 116.44 | 121.00 |
| 12 | B | 629 | G | N1-C6-O6 | 7.61 | 124.47 | 119.90 |
| 12 | B | 2242 | G | C4-N9-C1' | -7.61 | 116.61 | 126.50 |
| 12 | B | 2584 | U | N1-C2-O2 | 7.61 | 128.13 | 122.80 |
| 12 | B | 2878 | U | N3-C4-O4 | 7.61 | 124.73 | 119.40 |
| 12 | B | 212 | G | N1-C2-N3 | -7.61 | 119.33 | 123.90 |
| 12 | B | 539 | G | C6-C5-N7 | -7.61 | 125.84 | 130.40 |
| 12 | B | 1414 | C | C6-N1-C2 | -7.61 | 117.26 | 120.30 |
| 12 | B | 1727 | C | O4'-C1'-N1 | 7.61 | 114.28 | 108.20 |
| 12 | B | 1858 | A | N3-C4-C5 | -7.61 | 121.47 | 126.80 |
| 11 | A | 96 | G | N1-C2-N3 | -7.61 | 119.34 | 123.90 |
| 12 | B | 118 | A | C4'-C3'-C2' | -7.61 | 94.99 | 102.60 |
| 12 | B | 341 | C | N3-C2-O2 | 7.61 | 127.22 | 121.90 |
| 12 | B | 662 | G | C5-C6-N1 | 7.61 | 115.30 | 111.50 |
| 12 | B | 2349 | G | C4-N9-C1' | -7.61 | 116.61 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1177 | G | C8-N9-C1' | 7.60 | 136.89 | 127.00 |
| 12 | B | 1262 | A | C6-C5-N7 | -7.60 | 126.98 | 132.30 |
| 12 | B | 2256 | G | N9-C4-C5 | 7.60 | 108.44 | 105.40 |
| 12 | B | 1909 | C | C3'-C2'-C1' | -7.60 | 95.42 | 101.50 |
| 12 | B | 2193 | G | N9-C4-C5 | -7.60 | 102.36 | 105.40 |
| 12 | B | 2307 | G | N3-C4-N9 | 7.60 | 130.56 | 126.00 |
| 12 | B | 2351 | G | C6-C5-N7 | -7.60 | 125.84 | 130.40 |
| 12 | B | 2371 | G | C8-N9-C4 | 7.60 | 109.44 | 106.40 |
| 12 | B | 2774 | C | C6-N1-C2 | -7.60 | 117.26 | 120.30 |
| 12 | B | 2447 | G | N1-C2-N3 | -7.60 | 119.34 | 123.90 |
| 12 | B | 2455 | G | C4-C5-C6 | 7.60 | 123.36 | 118.80 |
| 12 | B | 2562 | U | N3-C4-C5 | -7.60 | 110.04 | 114.60 |
| 12 | B | 1475 | G | N1-C2-N3 | -7.60 | 119.34 | 123.90 |
| 12 | B | 712 | G | C6-C5-N7 | -7.59 | 125.84 | 130.40 |
| 12 | B | 1323 | C | O4'-C1'-N1 | 7.59 | 114.28 | 108.20 |
| 12 | B | 1424 | G | N3-C4-C5 | -7.59 | 124.80 | 128.60 |
| 12 | B | 2649 | C | O4'-C1'-N1 | 7.59 | 114.28 | 108.20 |
| 12 | B | 2722 | G | N1-C6-O6 | 7.59 | 124.46 | 119.90 |
| 12 | B | 1 | G | N3-C2-N2 | 7.59 | 125.21 | 119.90 |
| 12 | B | 160 | A | C5-N7-C8 | 7.59 | 107.69 | 103.90 |
| 12 | B | 674 | G | N7-C8-N9 | -7.59 | 109.31 | 113.10 |
| 12 | B | 2647 | U | N3-C4-O4 | 7.59 | 124.71 | 119.40 |
| 12 | B | 2890 | G | N1-C6-O6 | 7.59 | 124.45 | 119.90 |
| 12 | B | 1681 | G | O4'-C1'-N9 | 7.59 | 114.27 | 108.20 |
| 12 | B | 1866 | A | N3-C4-C5 | -7.59 | 121.49 | 126.80 |
| 12 | B | 1085 | A | C5-C6-N1 | -7.59 | 113.91 | 117.70 |
| 12 | B | 1424 | G | N1-C6-O6 | 7.59 | 124.45 | 119.90 |
| 12 | B | 1906 | G | C5-C6-N1 | 7.59 | 115.29 | 111.50 |
| 12 | B | 2206 | C | P-O5'-C5' | -7.59 | 108.76 | 120.90 |
| 12 | B | 2726 | A | P-O3'-C3' | 7.59 | 128.80 | 119.70 |
| 12 | B | 944 | C | C4-C5-C6 | 7.58 | 121.19 | 117.40 |
| 12 | B | 967 | U | O4'-C1'-N1 | 7.58 | 114.27 | 108.20 |
| 12 | B | 1010 | A | C5-C6-N1 | -7.58 | 113.91 | 117.70 |
| 12 | B | 1093 | G | N1-C2-N2 | 7.58 | 123.02 | 116.20 |
| 12 | B | 1353 | A | C4'-C3'-C2' | -7.58 | 95.02 | 102.60 |
| 12 | B | 1448 | G | C2-N3-C4 | 7.58 | 115.69 | 111.90 |
| 12 | B | 2009 | A | N9-C4-C5 | 7.58 | 108.83 | 105.80 |
| 12 | B | 552 | U | O4'-C4'-C3' | -7.58 | 96.42 | 104.00 |
| 12 | B | 596 | U | C5-C6-N1 | -7.58 | 118.91 | 122.70 |
| 12 | B | 1006 | C | C5-C6-N1 | -7.58 | 117.21 | 121.00 |
| 12 | B | 1369 | G | C6-N1-C2 | 7.58 | 129.65 | 125.10 |
| 12 | B | 1433 | A | O4'-C1'-N9 | 7.58 | 114.26 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2340 | A | C5-C6-N1 | -7.58 | 113.91 | 117.70 |
| 12 | B | 218 | A | C6-C5-N7 | -7.58 | 127.00 | 132.30 |
| 12 | B | 295 | G | C8-N9-C4 | 7.58 | 109.43 | 106.40 |
| 12 | B | 774 | G | C4-C5-C6 | 7.58 | 123.34 | 118.80 |
| 12 | B | 2012 | G | C6-C5-N7 | -7.58 | 125.85 | 130.40 |
| 12 | B | 2540 | C | N3-C4-C5 | -7.58 | 118.87 | 121.90 |
| 12 | B | 599 | A | N7-C8-N9 | -7.57 | 110.01 | 113.80 |
| 12 | B | 1471 | G | C8-N9-C4 | 7.57 | 109.43 | 106.40 |
| 12 | B | 2320 | U | O4'-C1'-N1 | 7.57 | 114.26 | 108.20 |
| 12 | B | 2700 | A | C6-C5-N7 | -7.57 | 127.00 | 132.30 |
| 12 | B | 540 | C | C4-C5-C6 | 7.57 | 121.19 | 117.40 |
| 12 | B | 1085 | A | N9-C4-C5 | 7.57 | 108.83 | 105.80 |
| 12 | B | 1226 | A | P-O5'-C5' | 7.57 | 133.02 | 120.90 |
| 12 | B | 2608 | G | N1-C6-O6 | 7.57 | 124.44 | 119.90 |
| 11 | A | 7 | G | N3-C2-N2 | 7.57 | 125.20 | 119.90 |
| 12 | B | 75 | G | N9-C4-C5 | 7.57 | 108.43 | 105.40 |
| 12 | B | 265 | A | C5-N7-C8 | 7.57 | 107.69 | 103.90 |
| 12 | B | 387 | U | C6-N1-C2 | 7.57 | 125.54 | 121.00 |
| 12 | B | 1153 | C | O4'-C1'-N1 | 7.57 | 114.26 | 108.20 |
| 12 | B | 2237 | G | N9-C4-C5 | -7.57 | 102.37 | 105.40 |
| 12 | B | 2407 | A | C4'-C3'-C2' | 7.57 | 110.17 | 102.60 |
| 12 | B | 2470 | G | N1-C6-O6 | 7.57 | 124.44 | 119.90 |
| 12 | B | 1401 | G | C6-C5-N7 | -7.57 | 125.86 | 130.40 |
| 12 | B | 1517 | G | N1-C2-N3 | -7.57 | 119.36 | 123.90 |
| 12 | B | 2120 | G | N9-C4-C5 | 7.57 | 108.43 | 105.40 |
| 12 | B | 1743 | G | N3-C2-N2 | 7.57 | 125.20 | 119.90 |
| 12 | B | 2569 | G | O4'-C1'-N9 | 7.57 | 114.25 | 108.20 |
| 12 | B | 2637 | U | C4'-C3'-C2' | -7.57 | 95.03 | 102.60 |
| 3 | 2 | 44 | ARG | NE-CZ-NH1 | 7.57 | 124.08 | 120.30 |
| 12 | B | 340 | A | N1-C6-N6 | 7.57 | 123.14 | 118.60 |
| 12 | B | 1951 | U | N3-C4-O4 | 7.57 | 124.70 | 119.40 |
| 12 | B | 2132 | U | C5-C6-N1 | 7.57 | 126.48 | 122.70 |
| 12 | B | 2582 | G | C4-C5-N7 | -7.57 | 107.77 | 110.80 |
| 12 | B | 1587 | G | C6-N1-C2 | 7.56 | 129.64 | 125.10 |
| 11 | A | 83 | G | O4'-C1'-N9 | 7.56 | 114.25 | 108.20 |
| 12 | B | 710 | U | N3-C4-O4 | 7.56 | 124.69 | 119.40 |
| 12 | B | 854 | C | C5-C6-N1 | 7.56 | 124.78 | 121.00 |
| 12 | B | 979 | A | N9-C4-C5 | -7.56 | 102.78 | 105.80 |
| 12 | B | 1106 | G | C2-N3-C4 | -7.56 | 108.12 | 111.90 |
| 12 | B | 2640 | G | C5-N7-C8 | -7.56 | 100.52 | 104.30 |
| 12 | B | 99 | U | C5-C6-N1 | 7.56 | 126.48 | 122.70 |
| 12 | B | 169 | G | N1-C2-N3 | -7.56 | 119.36 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1008 | A | N1-C6-N6 | 7.56 | 123.14 | 118.60 |
| 12 | B | 1701 | A | C5-C6-N6 | -7.56 | 117.65 | 123.70 |
| 12 | B | 2569 | G | N7-C8-N9 | -7.56 | 109.32 | 113.10 |
| 12 | B | 2668 | G | N1-C2-N3 | -7.56 | 119.36 | 123.90 |
| 12 | B | 1133 | A | C3'-C2'-C1' | 7.56 | 107.55 | 101.50 |
| 12 | B | 2014 | A | N9-C4-C5 | 7.56 | 108.82 | 105.80 |
| 12 | B | 2410 | G | C5'-C4'-C3' | -7.56 | 103.91 | 116.00 |
| 12 | B | 2429 | G | C6-N1-C2 | 7.56 | 129.63 | 125.10 |
| 12 | B | 1257 | C | P-O3'-C3' | -7.56 | 110.63 | 119.70 |
| 12 | B | 239 | C | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 1336 | A | C6-C5-N7 | -7.55 | 127.01 | 132.30 |
| 12 | B | 1554 | U | N1-C2-N3 | 7.55 | 119.43 | 114.90 |
| 12 | B | 2754 | U | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 575 | A | C2-N3-C4 | -7.55 | 106.82 | 110.60 |
| 12 | B | 1162 | G | C5-C6-N1 | -7.55 | 107.72 | 111.50 |
| 12 | B | 1574 | C | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 303 | G | C4-C5-C6 | 7.55 | 123.33 | 118.80 |
| 12 | B | 1257 | C | N3-C4-N4 | 7.55 | 123.29 | 118.00 |
| 12 | B | 1435 | G | C4-C5-N7 | -7.55 | 107.78 | 110.80 |
| 12 | B | 1492 | G | N3-C4-N9 | -7.55 | 121.47 | 126.00 |
| 12 | B | 1547 | C | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 2451 | A | C4-C5-C6 | 7.55 | 120.78 | 117.00 |
| 12 | B | 2748 | A | C5-C6-N1 | -7.55 | 113.92 | 117.70 |
| 12 | B | 119 | A | C5-C6-N6 | -7.55 | 117.66 | 123.70 |
| 12 | B | 238 | C | N1-C2-O2 | 7.55 | 123.43 | 118.90 |
| 12 | B | 416 | U | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 1278 | C | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 1725 | U | C5-C4-O4 | -7.55 | 121.37 | 125.90 |
| 12 | B | 2430 | A | C5-N7-C8 | 7.55 | 107.67 | 103.90 |
| 12 | B | 2461 | A | C4-C5-N7 | -7.55 | 106.92 | 110.70 |
| 26 | P | 42 | PHE | CB-CG-CD2 | 7.55 | 126.08 | 120.80 |
| 12 | B | 160 | A | C6-N1-C2 | -7.55 | 114.07 | 118.60 |
| 12 | B | 2665 | A | C4-C5-N7 | -7.55 | 106.93 | 110.70 |
| 12 | B | 2777 | G | N9-C4-C5 | -7.55 | 102.38 | 105.40 |
| 12 | B | 184 | C | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 12 | B | 1369 | G | C5-C6-O6 | -7.55 | 124.07 | 128.60 |
| 12 | B | 1641 | A | C2-N3-C4 | -7.55 | 106.83 | 110.60 |
| 12 | B | 1666 | G | N7-C8-N9 | -7.55 | 109.33 | 113.10 |
| 12 | B | 2276 | G | C1'-O4'-C4' | -7.55 | 103.86 | 109.90 |
| 12 | B | 2434 | A | C5-C6-N6 | -7.55 | 117.66 | 123.70 |
| 12 | B | 2796 | U | N3-C4-O4 | 7.55 | 124.68 | 119.40 |
| 11 | A | 108 | A | C2-N3-C4 | -7.54 | 106.83 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 609 | A | C4-C5-C6 | 7.54 | 120.77 | 117.00 |
| 12 | B | 778 | G | N1-C6-O6 | 7.54 | 124.43 | 119.90 |
| 12 | B | 2655 | G | C5-C6-N1 | -7.54 | 107.73 | 111.50 |
| 12 | B | 375 | G | N7-C8-N9 | 7.54 | 116.87 | 113.10 |
| 12 | B | 1578 | U | P-O3'-C3' | -7.54 | 110.65 | 119.70 |
| 12 | B | 2024 | G | N3-C2-N2 | 7.54 | 125.18 | 119.90 |
| 12 | B | 2176 | A | C5-C6-N6 | -7.54 | 117.67 | 123.70 |
| 12 | B | 982 | C | C2-N3-C4 | 7.54 | 123.67 | 119.90 |
| 12 | B | 1733 | G | O5'-P-OP1 | -7.54 | 98.91 | 105.70 |
| 12 | B | 45 | G | N1-C6-O6 | 7.54 | 124.42 | 119.90 |
| 12 | B | 2412 | A | O4'-C1'-N9 | 7.54 | 114.23 | 108.20 |
| 12 | B | 2618 | G | N7-C8-N9 | 7.54 | 116.87 | 113.10 |
| 12 | B | 2801 | G | O4'-C4'-C3' | -7.54 | 96.46 | 104.00 |
| 11 | A | 30 | C | C2-N3-C4 | 7.54 | 123.67 | 119.90 |
| 12 | B | 2355 | G | O4'-C1'-N9 | 7.54 | 114.23 | 108.20 |
| 12 | B | 561 | G | O4'-C1'-N9 | 7.54 | 114.23 | 108.20 |
| 12 | B | 849 | A | C5-N7-C8 | 7.54 | 107.67 | 103.90 |
| 12 | B | 1681 | G | N1-C6-O6 | 7.54 | 124.42 | 119.90 |
| 12 | B | 2755 | C | C5-C6-N1 | 7.54 | 124.77 | 121.00 |
| 12 | B | 2569 | G | C8-N9-C4 | 7.53 | 109.41 | 106.40 |
| 12 | B | 2750 | A | N9-C4-C5 | 7.53 | 108.81 | 105.80 |
| 12 | B | 555 | G | C5-C6-O6 | -7.53 | 124.08 | 128.60 |
| 12 | B | 796 | C | C6-N1-C2 | -7.53 | 117.29 | 120.30 |
| 12 | B | 1835 | G | N7-C8-N9 | 7.53 | 116.87 | 113.10 |
| 12 | B | 2219 | U | C4-C5-C6 | 7.53 | 124.22 | 119.70 |
| 12 | B | 2621 | G | C4-C5-N7 | 7.53 | 113.81 | 110.80 |
| 10 | 9 | 44 | ASP | CB-CG-OD1 | 7.53 | 125.08 | 118.30 |
| 12 | B | 607 | U | C4'-C3'-C2' | -7.53 | 95.07 | 102.60 |
| 12 | B | 1043 | C | O4'-C1'-N1 | 7.53 | 114.22 | 108.20 |
| 12 | B | 1411 | U | C4'-C3'-C2' | -7.53 | 95.07 | 102.60 |
| 12 | B | 1585 | C | O4'-C1'-N1 | 7.53 | 114.22 | 108.20 |
| 12 | B | 1593 | A | C4-C5-C6 | 7.53 | 120.77 | 117.00 |
| 12 | B | 2215 | C | C6-N1-C1' | -7.53 | 111.76 | 120.80 |
| 12 | B | 239 | C | C3'-C2'-C1' | 7.53 | 107.52 | 101.50 |
| 12 | B | 685 | A | N7-C8-N9 | 7.53 | 117.56 | 113.80 |
| 12 | B | 2331 | G | C5-C6-O6 | -7.53 | 124.08 | 128.60 |
| 12 | B | 433 | C | O4'-C1'-N1 | 7.53 | 114.22 | 108.20 |
| 12 | B | 614 | A | N1-C6-N6 | 7.53 | 123.12 | 118.60 |
| 12 | B | 708 | G | N7-C8-N9 | -7.53 | 109.34 | 113.10 |
| 12 | B | 1168 | G | C5-C6-N1 | -7.53 | 107.74 | 111.50 |
| 12 | B | 1582 | C | C6-N1-C2 | -7.53 | 117.29 | 120.30 |
| 12 | B | 1634 | A | C8-N9-C4 | -7.53 | 102.79 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1693 | U | P-O5'-C5' | -7.53 | 108.86 | 120.90 |
| 12 | B | 2667 | C | O4'-C1'-N1 | 7.53 | 114.22 | 108.20 |
| 12 | B | 71 | A | C5-C6-N6 | -7.53 | 117.68 | 123.70 |
| 12 | B | 139 | U | N1-C2-O2 | -7.53 | 117.53 | 122.80 |
| 12 | B | 555 | G | N9-C4-C5 | 7.53 | 108.41 | 105.40 |
| 12 | B | 1826 | G | C5-C6-N1 | -7.53 | 107.74 | 111.50 |
| 14 | D | 15 | PHE | CB-CG-CD2 | -7.53 | 115.53 | 120.80 |
| 12 | B | 2319 | G | C6-C5-N7 | -7.52 | 125.89 | 130.40 |
| 12 | B | 2549 | G | C5-C6-N1 | -7.52 | 107.74 | 111.50 |
| 12 | B | 2591 | C | P-O5'-C5' | 7.52 | 132.94 | 120.90 |
| 12 | B | 463 | G | C8-N9-C4 | 7.52 | 109.41 | 106.40 |
| 12 | B | 752 | A | C3'-C2'-C1' | -7.52 | 95.48 | 101.50 |
| 12 | B | 1472 | C | O4'-C1'-N1 | 7.52 | 114.22 | 108.20 |
| 12 | B | 1937 | A | C5-C6-N1 | -7.52 | 113.94 | 117.70 |
| 12 | B | 1575 | C | O4'-C1'-N1 | 7.52 | 114.22 | 108.20 |
| 12 | B | 1738 | G | N3-C2-N2 | 7.52 | 125.16 | 119.90 |
| 12 | B | 2224 | G | N3-C4-C5 | -7.52 | 124.84 | 128.60 |
| 12 | B | 422 | A | C5-N7-C8 | 7.52 | 107.66 | 103.90 |
| 12 | B | 978 | G | C2-N3-C4 | 7.52 | 115.66 | 111.90 |
| 12 | B | 1175 | A | C5-C6-N6 | -7.52 | 117.68 | 123.70 |
| 12 | B | 1976 | U | O4'-C1'-N1 | 7.52 | 114.22 | 108.20 |
| 12 | B | 1157 | G | C5-C6-N1 | -7.52 | 107.74 | 111.50 |
| 12 | B | 1454 | C | N3-C4-C5 | -7.52 | 118.89 | 121.90 |
| 12 | B | 2197 | U | C5-C4-O4 | -7.52 | 121.39 | 125.90 |
| 12 | B | 2218 | G | C4-C5-C6 | 7.52 | 123.31 | 118.80 |
| 12 | B | 2476 | A | C5-C6-N1 | -7.52 | 113.94 | 117.70 |
| 12 | B | 2693 | G | N1-C6-O6 | 7.52 | 124.41 | 119.90 |
| 12 | B | 2806 | C | N3-C2-O2 | -7.52 | 116.64 | 121.90 |
| 14 | D | 118 | PHE | CB-CG-CD2 | 7.52 | 126.06 | 120.80 |
| 12 | B | 872 | U | O4'-C1'-N1 | 7.52 | 114.21 | 108.20 |
| 12 | B | 2061 | G | N1-C6-O6 | 7.52 | 124.41 | 119.90 |
| 12 | B | 2711 | A | C8-N9-C4 | -7.52 | 102.79 | 105.80 |
| 19 | I | 141 | ASP | CB-CG-OD1 | 7.52 | 125.06 | 118.30 |
| 12 | B | 1017 | G | C6-N1-C2 | 7.51 | 129.61 | 125.10 |
| 12 | B | 2060 | A | C8-N9-C4 | -7.51 | 102.79 | 105.80 |
| 12 | B | 2193 | G | C4'-C3'-C2' | -7.51 | 95.08 | 102.60 |
| 12 | B | 504 | A | C5-N7-C8 | 7.51 | 107.66 | 103.90 |
| 12 | B | 1905 | C | C4-C5-C6 | 7.51 | 121.16 | 117.40 |
| 12 | B | 2189 | U | N1-C2-O2 | -7.51 | 117.54 | 122.80 |
| 12 | B | 289 | G | O4'-C4'-C3' | -7.51 | 96.49 | 104.00 |
| 12 | B | 582 | A | N9-C4-C5 | 7.51 | 108.80 | 105.80 |
| 12 | B | 1387 | A | C5-C6-N6 | -7.51 | 117.69 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1514 | G | C5-C6-O6 | -7.51 | 124.09 | 128.60 |
| 11 | A | 10 | G | O4'-C1'-N9 | 7.51 | 114.21 | 108.20 |
| 12 | B | 496 | G | C4-C5-C6 | -7.51 | 114.30 | 118.80 |
| 12 | B | 630 | G | C6-C5-N7 | -7.51 | 125.89 | 130.40 |
| 12 | B | 726 | G | O4'-C1'-N9 | 7.51 | 114.21 | 108.20 |
| 12 | B | 826 | U | O4'-C1'-N1 | 7.51 | 114.21 | 108.20 |
| 12 | B | 1262 | A | C6-N1-C2 | 7.51 | 123.11 | 118.60 |
| 12 | B | 1731 | G | N3-C2-N2 | -7.51 | 114.64 | 119.90 |
| 17 | G | 108 | PHE | CB-CG-CD1 | 7.51 | 126.06 | 120.80 |
| 12 | B | 512 | G | P-O3'-C3' | 7.51 | 128.71 | 119.70 |
| 12 | B | 1270 | C | O4'-C1'-N1 | 7.51 | 114.21 | 108.20 |
| 12 | B | 270 | A | N1-C6-N6 | 7.51 | 123.10 | 118.60 |
| 12 | B | 1556 | C | C5-C4-N4 | -7.51 | 114.95 | 120.20 |
| 12 | B | 2757 | A | O4'-C1'-N9 | 7.51 | 114.20 | 108.20 |
| 12 | B | 1556 | C | N3-C4-N4 | 7.50 | 123.25 | 118.00 |
| 7 | 6 | 41 | ARG | NE-CZ-NH1 | -7.50 | 116.55 | 120.30 |
| 12 | B | 621 | A | C6-N1-C2 | 7.50 | 123.10 | 118.60 |
| 12 | B | 2604 | U | O4'-C1'-N1 | 7.50 | 114.20 | 108.20 |
| 12 | B | 877 | A | N1-C2-N3 | -7.50 | 125.55 | 129.30 |
| 12 | B | 892 | A | C5-C6-N6 | -7.50 | 117.70 | 123.70 |
| 12 | B | 1696 | G | O5'-P-OP1 | -7.50 | 98.95 | 105.70 |
| 12 | B | 1705 | A | C4-C5-C6 | 7.50 | 120.75 | 117.00 |
| 12 | B | 2216 | G | C5-C6-N1 | -7.50 | 107.75 | 111.50 |
| 12 | B | 2738 | A | O4'-C1'-N9 | 7.50 | 114.20 | 108.20 |
| 12 | B | 682 | G | N3-C4-C5 | -7.50 | 124.85 | 128.60 |
| 12 | B | 1404 | C | O4'-C1'-N1 | 7.50 | 114.20 | 108.20 |
| 12 | B | 2098 | U | N3-C4-C5 | -7.50 | 110.10 | 114.60 |
| 12 | B | 414 | C | N3-C4-C5 | -7.50 | 118.90 | 121.90 |
| 12 | B | 1482 | G | C8-N9-C4 | -7.50 | 103.40 | 106.40 |
| 12 | B | 2309 | A | C5-N7-C8 | 7.50 | 107.65 | 103.90 |
| 26 | P | 92 | ARG | NE-CZ-NH2 | -7.50 | 116.55 | 120.30 |
| 12 | B | 2708 | G | P-O3'-C3' | -7.50 | 110.71 | 119.70 |
| 12 | B | 165 | A | N1-C6-N6 | 7.49 | 123.10 | 118.60 |
| 12 | B | 326 | G | C6-C5-N7 | -7.49 | 125.90 | 130.40 |
| 12 | B | 463 | G | C5-C6-N1 | -7.49 | 107.75 | 111.50 |
| 12 | B | 1275 | A | C6-N1-C2 | 7.49 | 123.10 | 118.60 |
| 12 | B | 1439 | A | C5-C6-N6 | -7.49 | 117.70 | 123.70 |
| 12 | B | 2080 | A | N3-C4-C5 | -7.49 | 121.56 | 126.80 |
| 12 | B | 2321 | U | O4'-C1'-N1 | 7.49 | 114.19 | 108.20 |
| 12 | B | 2385 | C | N3-C2-O2 | 7.49 | 127.15 | 121.90 |
| 12 | B | 2433 | A | C5-C6-N6 | -7.49 | 117.71 | 123.70 |
| 12 | B | 9 | G | C5-C6-O6 | -7.49 | 124.11 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2548 | U | C4-C5-C6 | 7.49 | 124.19 | 119.70 |
| 12 | B | 1538 | G | C4-C5-C6 | 7.49 | 123.29 | 118.80 |
| 12 | B | 1753 | G | N3-C2-N2 | 7.49 | 125.14 | 119.90 |
| 12 | B | 107 | G | C5-C6-O6 | -7.49 | 124.11 | 128.60 |
| 12 | B | 524 | G | N3-C2-N2 | 7.49 | 125.14 | 119.90 |
| 12 | B | 804 | A | C4-C5-N7 | -7.49 | 106.95 | 110.70 |
| 12 | B | 1205 | A | P-O3'-C3' | 7.49 | 128.69 | 119.70 |
| 12 | B | 1369 | G | N1-C2-N3 | -7.49 | 119.41 | 123.90 |
| 12 | B | 1560 | G | C4-C5-N7 | -7.49 | 107.81 | 110.80 |
| 21 | K | 105 | ARG | NE-CZ-NH2 | -7.49 | 116.56 | 120.30 |
| 12 | B | 191 | A | N1-C6-N6 | 7.49 | 123.09 | 118.60 |
| 12 | B | 914 | G | O4'-C1'-N9 | 7.49 | 114.19 | 108.20 |
| 12 | B | 9 | G | C6-C5-N7 | -7.49 | 125.91 | 130.40 |
| 12 | B | 334 | C | O4'-C1'-N1 | 7.49 | 114.19 | 108.20 |
| 12 | B | 404 | A | C4-C5-C6 | 7.49 | 120.74 | 117.00 |
| 12 | B | 845 | A | N1-C6-N6 | 7.49 | 123.09 | 118.60 |
| 12 | B | 1546 | G | N7-C8-N9 | -7.49 | 109.36 | 113.10 |
| 12 | B | 1565 | C | O4'-C1'-N1 | 7.49 | 114.19 | 108.20 |
| 12 | B | 1968 | G | C4-C5-N7 | 7.49 | 113.79 | 110.80 |
| 12 | B | 2210 | U | N3-C4-O4 | 7.49 | 124.64 | 119.40 |
| 12 | B | 2284 | A | C4'-C3'-C2' | -7.49 | 95.11 | 102.60 |
| 12 | B | 2285 | C | O4'-C1'-N1 | 7.49 | 114.19 | 108.20 |
| 12 | B | 2402 | U | C6-N1-C1' | -7.49 | 110.72 | 121.20 |
| 12 | B | 2530 | A | N1-C2-N3 | 7.49 | 133.04 | 129.30 |
| 12 | B | 2821 | A | C5-C6-N6 | -7.49 | 117.71 | 123.70 |
| 11 | A | 74 | U | O4'-C1'-N1 | 7.48 | 114.19 | 108.20 |
| 12 | B | 208 | C | N3-C4-C5 | -7.48 | 118.91 | 121.90 |
| 12 | B | 2041 | U | N3-C4-O4 | 7.48 | 124.64 | 119.40 |
| 12 | B | 2868 | A | C5-N7-C8 | 7.48 | 107.64 | 103.90 |
| 12 | B | 1671 | U | C6-N1-C2 | -7.48 | 116.51 | 121.00 |
| 12 | B | 1842 | G | O4'-C1'-N9 | 7.48 | 114.19 | 108.20 |
| 12 | B | 2513 | A | C5-C6-N6 | -7.48 | 117.71 | 123.70 |
| 12 | B | 88 | G | N1-C6-O6 | 7.48 | 124.39 | 119.90 |
| 12 | B | 1527 | G | C6-C5-N7 | -7.48 | 125.91 | 130.40 |
| 12 | B | 1750 | G | C5-C6-N1 | -7.48 | 107.76 | 111.50 |
| 12 | B | 1776 | G | C8-N9-C4 | -7.48 | 103.41 | 106.40 |
| 11 | A | 46 | A | C5-N7-C8 | 7.48 | 107.64 | 103.90 |
| 12 | B | 205 | G | N1-C2-N3 | -7.48 | 119.41 | 123.90 |
| 12 | B | 920 | A | C5-C6-N6 | -7.48 | 117.72 | 123.70 |
| 12 | B | 2228 | G | C5-C6-O6 | -7.48 | 124.11 | 128.60 |
| 12 | B | 2447 | G | N1-C6-O6 | 7.48 | 124.39 | 119.90 |
| 11 | A | 83 | G | C6-C5-N7 | -7.48 | 125.91 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 350 | G | C6-N1-C2 | 7.48 | 129.59 | 125.10 |
| 12 | B | 856 | G | C8-N9-C4 | 7.48 | 109.39 | 106.40 |
| 12 | B | 2009 | A | O4'-C1'-N9 | 7.48 | 114.18 | 108.20 |
| 12 | B | 2863 | C | N3-C4-C5 | -7.48 | 118.91 | 121.90 |
| 30 | T | 51 | PHE | CB-CG-CD1 | 7.48 | 126.03 | 120.80 |
| 10 | 9 | 325 | CYS | CB-CA-C | -7.48 | 95.45 | 110.40 |
| 12 | B | 342 | A | C5-C6-N6 | -7.47 | 117.72 | 123.70 |
| 12 | B | 353 | C | C5-C6-N1 | 7.47 | 124.74 | 121.00 |
| 12 | B | 1097 | U | N3-C4-C5 | -7.47 | 110.11 | 114.60 |
| 12 | B | 1114 | C | O4'-C1'-N1 | 7.47 | 114.18 | 108.20 |
| 12 | B | 1654 | A | C6-N1-C2 | -7.47 | 114.11 | 118.60 |
| 12 | B | 2009 | A | C5-N7-C8 | 7.47 | 107.64 | 103.90 |
| 12 | B | 2502 | G | C1'-O4'-C4' | 7.47 | 115.88 | 109.90 |
| 12 | B | 2593 | U | O4'-C1'-N1 | 7.47 | 114.18 | 108.20 |
| 12 | B | 2737 | G | C5-C6-O6 | -7.47 | 124.11 | 128.60 |
| 12 | B | 708 | G | C5-C6-N1 | -7.47 | 107.76 | 111.50 |
| 12 | B | 1269 | A | C3'-C2'-C1' | -7.47 | 95.52 | 101.50 |
| 12 | B | 41 | C | O4'-C1'-N1 | 7.47 | 114.18 | 108.20 |
| 12 | B | 945 | A | O4'-C1'-N9 | 7.47 | 114.17 | 108.20 |
| 12 | B | 1929 | G | N1-C2-N2 | -7.47 | 109.48 | 116.20 |
| 11 | A | 50 | A | C5-C6-N1 | -7.47 | 113.97 | 117.70 |
| 12 | B | 307 | G | C4-C5-C6 | 7.47 | 123.28 | 118.80 |
| 12 | B | 2081 | U | C5-C6-N1 | 7.47 | 126.43 | 122.70 |
| 12 | B | 24 | G | C2-N3-C4 | 7.46 | 115.63 | 111.90 |
| 12 | B | 225 | C | N3-C4-N4 | 7.46 | 123.23 | 118.00 |
| 12 | B | 328 | U | O3'-P-O5' | -7.46 | 89.82 | 104.00 |
| 12 | B | 898 | C | N3-C4-N4 | 7.46 | 123.22 | 118.00 |
| 12 | B | 2496 | C | O4'-C1'-N1 | 7.46 | 114.17 | 108.20 |
| 12 | B | 314 | C | O4'-C1'-N1 | 7.46 | 114.17 | 108.20 |
| 12 | B | 763 | G | N9-C4-C5 | 7.46 | 108.39 | 105.40 |
| 12 | B | 565 | C | C3'-C2'-C1' | -7.46 | 95.53 | 101.50 |
| 12 | B | 1908 | C | C6-N1-C2 | -7.46 | 117.31 | 120.30 |
| 12 | B | 425 | G | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 12 | B | 825 | A | C6-N1-C2 | 7.46 | 123.08 | 118.60 |
| 12 | B | 1110 | G | C5-C6-N1 | -7.46 | 107.77 | 111.50 |
| 12 | B | 1907 | G | C6-C5-N7 | -7.46 | 125.92 | 130.40 |
| 12 | B | 2173 | A | C4-C5-N7 | -7.46 | 106.97 | 110.70 |
| 12 | B | 2659 | G | C4-C5-C6 | 7.46 | 123.28 | 118.80 |
| 12 | B | 2097 | A | C6-C5-N7 | -7.46 | 127.08 | 132.30 |
| 12 | B | 2392 | A | N7-C8-N9 | 7.46 | 117.53 | 113.80 |
| 11 | A | 71 | C | N3-C4-N4 | 7.46 | 123.22 | 118.00 |
| 12 | B | 1531 | C | P-O3'-C3' | 7.46 | 128.65 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1599 | U | O4'-C1'-N1 | 7.46 | 114.17 | 108.20 |
| 12 | B | 1987 | A | N3-C4-C5 | -7.46 | 121.58 | 126.80 |
| 12 | B | 2012 | G | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 12 | B | 2015 | A | N1-C6-N6 | 7.46 | 123.07 | 118.60 |
| 12 | B | 2396 | G | C2-N3-C4 | 7.46 | 115.63 | 111.90 |
| 12 | B | 2447 | G | N9-C4-C5 | -7.46 | 102.42 | 105.40 |
| 12 | B | 2879 | A | N7-C8-N9 | 7.46 | 117.53 | 113.80 |
| 12 | B | 261 | G | C5-C6-O6 | -7.46 | 124.13 | 128.60 |
| 12 | B | 381 | G | C8-N9-C4 | 7.46 | 109.38 | 106.40 |
| 12 | B | 441 | U | O4'-C1'-N1 | 7.46 | 114.16 | 108.20 |
| 12 | B | 666 | A | O4'-C1'-N9 | 7.46 | 114.16 | 108.20 |
| 12 | B | 2234 | G | O4'-C1'-N9 | 7.46 | 114.16 | 108.20 |
| 12 | B | 268 | C | P-O3'-C3' | 7.45 | 128.64 | 119.70 |
| 12 | B | 2666 | C | C2-N3-C4 | 7.45 | 123.63 | 119.90 |
| 12 | B | 27 | G | N7-C8-N9 | 7.45 | 116.83 | 113.10 |
| 12 | B | 1141 | U | C5-C6-N1 | 7.45 | 126.42 | 122.70 |
| 12 | B | 1197 | G | N9-C4-C5 | 7.45 | 108.38 | 105.40 |
| 12 | B | 1530 | G | O4'-C1'-N9 | 7.45 | 114.16 | 108.20 |
| 12 | B | 2789 | C | N3-C4-C5 | -7.45 | 118.92 | 121.90 |
| 12 | B | 2806 | C | N1-C2-O2 | 7.45 | 123.37 | 118.90 |
| 12 | B | 511 | U | N3-C2-O2 | 7.45 | 127.41 | 122.20 |
| 12 | B | 583 | G | C6-N1-C2 | 7.45 | 129.57 | 125.10 |
| 12 | B | 1053 | C | O4'-C1'-N1 | 7.45 | 114.16 | 108.20 |
| 12 | B | 1129 | A | C5-C6-N6 | -7.45 | 117.74 | 123.70 |
| 12 | B | 1718 | G | N1-C2-N3 | -7.45 | 119.43 | 123.90 |
| 12 | B | 2111 | U | C4-C5-C6 | -7.45 | 115.23 | 119.70 |
| 12 | B | 2329 | U | O4'-C1'-N1 | 7.45 | 114.16 | 108.20 |
| 12 | B | 965 | C | C5-C4-N4 | -7.45 | 114.99 | 120.20 |
| 12 | B | 2789 | C | C6-N1-C2 | -7.45 | 117.32 | 120.30 |
| 14 | D | 25 | THR | CA-CB-CG2 | -7.45 | 101.98 | 112.40 |
| 12 | B | 1110 | G | O4'-C1'-N9 | 7.44 | 114.16 | 108.20 |
| 12 | B | 1307 | A | O4'-C1'-N9 | 7.44 | 114.16 | 108.20 |
| 12 | B | 2614 | A | N1-C6-N6 | 7.44 | 123.07 | 118.60 |
| 21 | K | 100 | PHE | CB-CG-CD2 | -7.44 | 115.59 | 120.80 |
| 12 | B | 1201 | U | C5-C4-O4 | -7.44 | 121.44 | 125.90 |
| 12 | B | 1877 | A | C4-C5-C6 | 7.44 | 120.72 | 117.00 |
| 11 | A | 24 | G | N3-C2-N2 | 7.44 | 125.11 | 119.90 |
| 12 | B | 261 | G | N7-C8-N9 | -7.44 | 109.38 | 113.10 |
| 12 | B | 841 | G | C6-C5-N7 | -7.44 | 125.94 | 130.40 |
| 12 | B | 1296 | G | C5-N7-C8 | 7.44 | 108.02 | 104.30 |
| 12 | B | 2120 | G | C6-C5-N7 | -7.44 | 125.94 | 130.40 |
| 12 | B | 2790 | U | N3-C4-C5 | -7.44 | 110.14 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1454 | C | C4-C5-C6 | 7.44 | 121.12 | 117.40 |
| 12 | B | 2281 | A | N3-C4-N9 | 7.44 | 133.35 | 127.40 |
| 12 | B | 2808 | G | C1'-O4'-C4' | -7.44 | 103.95 | 109.90 |
| 23 | M | 25 | ASP | CB-CG-OD1 | -7.44 | 111.61 | 118.30 |
| 12 | B | 28 | A | C5'-C4'-C3' | 7.44 | 127.90 | 116.00 |
| 12 | B | 165 | A | N9-C4-C5 | 7.44 | 108.78 | 105.80 |
| 12 | B | 302 | C | C5-C6-N1 | 7.44 | 124.72 | 121.00 |
| 12 | B | 382 | A | N1-C6-N6 | 7.44 | 123.06 | 118.60 |
| 12 | B | 2345 | G | C6-C5-N7 | -7.44 | 125.94 | 130.40 |
| 12 | B | 2788 | C | N3-C4-N4 | 7.44 | 123.21 | 118.00 |
| 12 | B | 2462 | C | C4-C5-C6 | -7.44 | 113.68 | 117.40 |
| 12 | B | 77 | G | O4'-C1'-N9 | 7.43 | 114.15 | 108.20 |
| 12 | B | 545 | U | C5-C6-N1 | 7.43 | 126.42 | 122.70 |
| 12 | B | 1400 | U | N3-C4-O4 | 7.43 | 124.60 | 119.40 |
| 12 | B | 2264 | C | C4-C5-C6 | 7.43 | 121.12 | 117.40 |
| 12 | B | 2657 | A | O4'-C1'-N9 | 7.43 | 114.15 | 108.20 |
| 12 | B | 2893 | A | N1-C2-N3 | 7.43 | 133.02 | 129.30 |
| 12 | B | 93 | G | N3-C2-N2 | 7.43 | 125.10 | 119.90 |
| 12 | B | 797 | G | N1-C2-N3 | -7.43 | 119.44 | 123.90 |
| 12 | B | 1215 | G | O4'-C1'-N9 | 7.43 | 114.15 | 108.20 |
| 12 | B | 1431 | A | C5-C6-N6 | -7.43 | 117.75 | 123.70 |
| 12 | B | 1566 | A | N1-C2-N3 | 7.43 | 133.02 | 129.30 |
| 12 | B | 1797 | G | C4-C5-N7 | -7.43 | 107.83 | 110.80 |
| 12 | B | 2319 | G | C8-N9-C4 | -7.43 | 103.43 | 106.40 |
| 12 | B | 2486 | C | C5-C4-N4 | -7.43 | 115.00 | 120.20 |
| 12 | B | 2708 | G | N1-C2-N2 | 7.43 | 122.89 | 116.20 |
| 12 | B | 179 | C | P-O3'-C3' | -7.43 | 110.78 | 119.70 |
| 12 | B | 179 | C | C5-C6-N1 | -7.43 | 117.28 | 121.00 |
| 12 | B | 207 | A | C5-C6-N1 | -7.43 | 113.98 | 117.70 |
| 12 | B | 573 | U | N3-C4-O4 | 7.43 | 124.60 | 119.40 |
| 12 | B | 802 | A | C8-N9-C4 | 7.43 | 108.77 | 105.80 |
| 12 | B | 1032 | A | C4-C5-C6 | 7.43 | 120.72 | 117.00 |
| 12 | B | 481 | G | C5-C6-N1 | -7.43 | 107.79 | 111.50 |
| 12 | B | 1313 | U | O4'-C1'-N1 | 7.43 | 114.14 | 108.20 |
| 12 | B | 1359 | A | O4'-C1'-N9 | 7.43 | 114.14 | 108.20 |
| 12 | B | 90 | U | C5-C6-N1 | 7.43 | 126.41 | 122.70 |
| 12 | B | 1592 | C | C5-C4-N4 | -7.43 | 115.00 | 120.20 |
| 12 | B | 2325 | G | N9-C4-C5 | 7.43 | 108.37 | 105.40 |
| 12 | B | 39 | G | C5-C6-O6 | -7.42 | 124.14 | 128.60 |
| 12 | B | 1291 | C | O4'-C1'-N1 | 7.42 | 114.14 | 108.20 |
| 12 | B | 1820 | U | P-O5'-C5' | 7.42 | 132.78 | 120.90 |
| 12 | B | 2746 | U | C3'-C2'-C1' | -7.42 | 95.56 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2775 | G | N1-C2-N3 | -7.42 | 119.45 | 123.90 |
| 12 | B | 643 | A | O4'-C1'-N9 | 7.42 | 114.14 | 108.20 |
| 12 | B | 647 | G | O4'-C1'-N9 | 7.42 | 114.14 | 108.20 |
| 12 | B | 787 | C | N3-C4-C5 | -7.42 | 118.93 | 121.90 |
| 11 | A | 64 | G | P-O3'-C3' | 7.42 | 128.61 | 119.70 |
| 12 | B | 1225 | G | N3-C2-N2 | 7.42 | 125.10 | 119.90 |
| 12 | B | 1744 | A | C5-C6-N6 | -7.42 | 117.76 | 123.70 |
| 12 | B | 2255 | G | N3-C2-N2 | 7.42 | 125.09 | 119.90 |
| 12 | B | 2870 | C | N1-C2-O2 | 7.42 | 123.35 | 118.90 |
| 12 | B | 236 | C | N3-C4-N4 | 7.42 | 123.19 | 118.00 |
| 12 | B | 477 | A | C1'-O4'-C4' | 7.42 | 115.84 | 109.90 |
| 12 | B | 2664 | G | N1-C6-O6 | 7.42 | 124.35 | 119.90 |
| 12 | B | 2721 | A | O4'-C1'-N9 | 7.42 | 114.14 | 108.20 |
| 12 | B | 262 | A | N9-C4-C5 | 7.42 | 108.77 | 105.80 |
| 12 | B | 566 | U | O4'-C1'-N1 | 7.42 | 114.14 | 108.20 |
| 12 | B | 1258 | U | O4'-C1'-N1 | 7.42 | 114.14 | 108.20 |
| 12 | B | 1698 | A | C5-C6-N6 | -7.42 | 117.77 | 123.70 |
| 12 | B | 2462 | C | O4'-C1'-N1 | 7.42 | 114.13 | 108.20 |
| 12 | B | 55 | G | C8-N9-C4 | -7.42 | 103.43 | 106.40 |
| 12 | B | 466 | A | N9-C4-C5 | 7.42 | 108.77 | 105.80 |
| 12 | B | 1884 | G | C4-C5-N7 | -7.42 | 107.83 | 110.80 |
| 12 | B | 2286 | G | O4'-C1'-N9 | 7.42 | 114.13 | 108.20 |
| 12 | B | 1566 | A | C6-N1-C2 | -7.42 | 114.15 | 118.60 |
| 21 | K | 78 | ARG | NE-CZ-NH1 | 7.42 | 124.01 | 120.30 |
| 12 | B | 222 | A | C2-N3-C4 | -7.41 | 106.89 | 110.60 |
| 12 | B | 1139 | G | C8-N9-C1' | 7.41 | 136.64 | 127.00 |
| 12 | B | 2785 | C | N1-C2-O2 | 7.41 | 123.35 | 118.90 |
| 12 | B | 272 | A | N1-C2-N3 | 7.41 | 133.01 | 129.30 |
| 12 | B | 951 | C | C6-N1-C2 | -7.41 | 117.33 | 120.30 |
| 4 | 3 | 39 | ARG | NE-CZ-NH2 | -7.41 | 116.59 | 120.30 |
| 7 | 6 | 12 | ARG | NE-CZ-NH2 | 7.41 | 124.00 | 120.30 |
| 11 | A | 69 | G | N1-C6-O6 | 7.41 | 124.35 | 119.90 |
| 12 | B | 474 | G | C4-C5-C6 | 7.41 | 123.25 | 118.80 |
| 12 | B | 568 | U | C2-N3-C4 | 7.41 | 131.45 | 127.00 |
| 12 | B | 760 | G | C6-C5-N7 | -7.41 | 125.95 | 130.40 |
| 12 | B | 944 | C | N3-C4-N4 | 7.41 | 123.19 | 118.00 |
| 12 | B | 1667 | G | C5-C6-O6 | -7.41 | 124.15 | 128.60 |
| 12 | B | 2665 | A | N1-C2-N3 | 7.41 | 133.00 | 129.30 |
| 12 | B | 26 | G | C8-N9-C1' | -7.41 | 117.37 | 127.00 |
| 12 | B | 674 | G | C4-C5-C6 | 7.41 | 123.25 | 118.80 |
| 12 | B | 840 | C | C6-N1-C2 | -7.41 | 117.34 | 120.30 |
| 12 | B | 945 | A | C5-C6-N6 | -7.41 | 117.77 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1061 | U | C6-N1-C2 | -7.41 | 116.56 | 121.00 |
| 12 | B | 2139 | U | C5-C4-O4 | -7.41 | 121.45 | 125.90 |
| 12 | B | 2537 | U | O4'-C1'-N1 | 7.41 | 114.13 | 108.20 |
| 12 | B | 1169 | A | N1-C6-N6 | 7.41 | 123.04 | 118.60 |
| 12 | B | 2038 | G | N1-C2-N3 | -7.41 | 119.46 | 123.90 |
| 12 | B | 2121 | G | C5-C6-O6 | -7.41 | 124.16 | 128.60 |
| 12 | B | 1600 | C | O4'-C1'-N1 | 7.41 | 114.12 | 108.20 |
| 12 | B | 2569 | G | N1-C2-N3 | -7.41 | 119.46 | 123.90 |
| 12 | B | 2803 | G | O4'-C1'-N9 | 7.41 | 114.12 | 108.20 |
| 11 | A | 86 | G | N1-C2-N3 | -7.40 | 119.46 | 123.90 |
| 12 | B | 501 | A | N1-C2-N3 | 7.40 | 133.00 | 129.30 |
| 12 | B | 919 | U | C5'-C4'-O4' | 7.40 | 117.98 | 109.10 |
| 12 | B | 2114 | A | N9-C4-C5 | 7.40 | 108.76 | 105.80 |
| 12 | B | 2695 | U | O4'-C1'-N1 | 7.40 | 114.12 | 108.20 |
| 12 | B | 853 | C | C6-N1-C2 | 7.40 | 123.26 | 120.30 |
| 12 | B | 1853 | A | C5-C6-N1 | -7.40 | 114.00 | 117.70 |
| 12 | B | 2045 | C | N3-C4-C5 | -7.40 | 118.94 | 121.90 |
| 12 | B | 2058 | A | O4'-C1'-N9 | 7.40 | 114.12 | 108.20 |
| 12 | B | 2160 | C | P-O3'-C3' | 7.40 | 128.58 | 119.70 |
| 12 | B | 2446 | G | N3-C2-N2 | 7.40 | 125.08 | 119.90 |
| 12 | B | 252 | G | C5-N7-C8 | -7.40 | 100.60 | 104.30 |
| 12 | B | 489 | G | C5-N7-C8 | -7.40 | 100.60 | 104.30 |
| 12 | B | 1256 | G | C2-N3-C4 | -7.40 | 108.20 | 111.90 |
| 12 | B | 1707 | G | P-O5'-C5' | 7.40 | 132.74 | 120.90 |
| 12 | B | 2725 | A | C2-N3-C4 | 7.40 | 114.30 | 110.60 |
| 12 | B | 2734 | A | N1-C6-N6 | 7.40 | 123.04 | 118.60 |
| 24 | N | 59 | SER | N-CA-CB | 7.40 | 121.60 | 110.50 |
| 12 | B | 2751 | G | O4'-C1'-N9 | 7.40 | 114.12 | 108.20 |
| 12 | B | 121 | G | C5-N7-C8 | 7.40 | 108.00 | 104.30 |
| 12 | B | 176 | A | C5-C6-N1 | -7.40 | 114.00 | 117.70 |
| 12 | B | 288 | U | N3-C4-O4 | 7.40 | 124.58 | 119.40 |
| 12 | B | 693 | A | C8-N9-C4 | -7.40 | 102.84 | 105.80 |
| 12 | B | 1107 | G | C5-C6-N1 | -7.40 | 107.80 | 111.50 |
| 12 | B | 1540 | G | N1-C2-N3 | -7.40 | 119.46 | 123.90 |
| 23 | M | 114 | ARG | NE-CZ-NH2 | 7.40 | 124.00 | 120.30 |
| 11 | A | 50 | A | N9-C4-C5 | -7.40 | 102.84 | 105.80 |
| 12 | B | 1180 | U | C6-N1-C2 | 7.40 | 125.44 | 121.00 |
| 12 | B | 661 | A | C3'-C2'-C1' | -7.39 | 95.58 | 101.50 |
| 12 | B | 815 | C | N3-C4-C5 | -7.39 | 118.94 | 121.90 |
| 12 | B | 1059 | G | C6-C5-N7 | -7.39 | 125.96 | 130.40 |
| 12 | B | 1579 | A | N3-C4-N9 | 7.39 | 133.31 | 127.40 |
| 12 | B | 2216 | G | C6-N1-C2 | 7.39 | 129.54 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 11 | A | 12 | C | P-O5'-C5' | 7.39 | 132.73 | 120.90 |
| 12 | B | 1356 | G | C5-C6-N1 | -7.39 | 107.80 | 111.50 |
| 12 | B | 1954 | G | C6-N1-C2 | 7.39 | 129.54 | 125.10 |
| 12 | B | 2314 | A | C4-C5-C6 | 7.39 | 120.70 | 117.00 |
| 12 | B | 2462 | C | C2-N3-C4 | 7.39 | 123.60 | 119.90 |
| 12 | B | 2536 | G | C6-C5-N7 | -7.39 | 125.96 | 130.40 |
| 12 | B | 2841 | C | C5-C4-N4 | -7.39 | 115.03 | 120.20 |
| 12 | B | 495 | G | C5-C6-N1 | -7.39 | 107.81 | 111.50 |
| 12 | B | 1235 | G | C2-N3-C4 | 7.39 | 115.59 | 111.90 |
| 12 | B | 2355 | G | C5-N7-C8 | -7.39 | 100.60 | 104.30 |
| 12 | B | 2782 | G | N3-C4-N9 | 7.39 | 130.43 | 126.00 |
| 12 | B | 34 | U | C5-C6-N1 | 7.39 | 126.39 | 122.70 |
| 12 | B | 249 | C | O4'-C1'-N1 | 7.39 | 114.11 | 108.20 |
| 12 | B | 731 | C | O4'-C1'-N1 | 7.39 | 114.11 | 108.20 |
| 12 | B | 1478 | G | N3-C4-N9 | -7.39 | 121.57 | 126.00 |
| 12 | B | 1827 | U | O4'-C1'-N1 | 7.39 | 114.11 | 108.20 |
| 12 | B | 2669 | G | N1-C6-O6 | 7.39 | 124.33 | 119.90 |
| 12 | B | 597 | G | N9-C4-C5 | 7.39 | 108.36 | 105.40 |
| 12 | B | 1448 | G | N7-C8-N9 | 7.39 | 116.79 | 113.10 |
| 12 | B | 181 | A | C5-C6-N6 | -7.39 | 117.79 | 123.70 |
| 12 | B | 1022 | G | N1-C2-N3 | -7.39 | 119.47 | 123.90 |
| 12 | B | 1200 | C | O4'-C1'-N1 | 7.39 | 114.11 | 108.20 |
| 12 | B | 2312 | U | O4'-C1'-N1 | 7.39 | 114.11 | 108.20 |
| 12 | B | 2526 | G | C4-C5-N7 | 7.39 | 113.75 | 110.80 |
| 12 | B | 2723 | C | N3-C4-C5 | -7.39 | 118.94 | 121.90 |
| 20 | J | 116 | ARG | NE-CZ-NH1 | 7.39 | 123.99 | 120.30 |
| 27 | Q | 57 | ARG | NE-CZ-NH1 | 7.39 | 123.99 | 120.30 |
| 12 | B | 190 | A | C2-N3-C4 | -7.38 | 106.91 | 110.60 |
| 12 | B | 1643 | G | C5-C6-O6 | -7.38 | 124.17 | 128.60 |
| 12 | B | 1926 | U | C2-N3-C4 | 7.38 | 131.43 | 127.00 |
| 12 | B | 1930 | G | P-O3'-C3' | 7.38 | 128.56 | 119.70 |
| 12 | B | 2000 | C | N1-C2-O2 | -7.38 | 114.47 | 118.90 |
| 12 | B | 2125 | G | C4-C5-C6 | 7.38 | 123.23 | 118.80 |
| 12 | B | 1004 | U | C5-C6-N1 | 7.38 | 126.39 | 122.70 |
| 12 | B | 1552 | A | O4'-C1'-N9 | 7.38 | 114.11 | 108.20 |
| 12 | B | 76 | C | N3-C4-N4 | 7.38 | 123.17 | 118.00 |
| 12 | B | 344 | A | O4'-C1'-N9 | 7.38 | 114.11 | 108.20 |
| 12 | B | 511 | U | N1-C2-N3 | -7.38 | 110.47 | 114.90 |
| 12 | B | 783 | A | N7-C8-N9 | 7.38 | 117.49 | 113.80 |
| 12 | B | 1021 | A | C6-C5-N7 | -7.38 | 127.13 | 132.30 |
| 12 | B | 1619 | G | N9-C4-C5 | -7.38 | 102.45 | 105.40 |
| 12 | B | 2209 | G | C5-C6-O6 | -7.38 | 124.17 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2707 | U | O4'-C1'-N1 | 7.38 | 114.11 | 108.20 |
| 12 | B | 2842 | G | N3-C2-N2 | 7.38 | 125.07 | 119.90 |
| 12 | B | 675 | A | O4'-C1'-N9 | 7.38 | 114.10 | 108.20 |
| 12 | B | 1609 | A | C1'-O4'-C4' | -7.38 | 104.00 | 109.90 |
| 12 | B | 571 | U | P-O5'-C5' | 7.38 | 132.71 | 120.90 |
| 12 | B | 812 | C | C5-C4-N4 | -7.38 | 115.03 | 120.20 |
| 12 | B | 1754 | A | C5-C6-N1 | -7.38 | 114.01 | 117.70 |
| 12 | B | 2002 | G | P-O5'-C5' | -7.38 | 109.10 | 120.90 |
| 12 | B | 2704 | C | C3'-C2'-C1' | -7.38 | 95.60 | 101.50 |
| 12 | B | 1637 | A | C5-C6-N1 | -7.38 | 114.01 | 117.70 |
| 12 | B | 2693 | G | N1-C2-N3 | -7.38 | 119.47 | 123.90 |
| 12 | B | 2710 | C | C5-C4-N4 | -7.38 | 115.04 | 120.20 |
| 12 | B | 2879 | A | C4-C5-C6 | 7.38 | 120.69 | 117.00 |
| 12 | B | 320 | A | C5-C6-N6 | -7.38 | 117.80 | 123.70 |
| 12 | B | 417 | C | N3-C4-N4 | 7.38 | 123.16 | 118.00 |
| 11 | A | 116 | G | C4-C5-N7 | -7.37 | 107.85 | 110.80 |
| 12 | B | 24 | G | C5-C6-N1 | 7.37 | 115.19 | 111.50 |
| 12 | B | 1207 | C | C5-C6-N1 | 7.37 | 124.69 | 121.00 |
| 12 | B | 1425 | G | O4'-C1'-N9 | 7.37 | 114.10 | 108.20 |
| 12 | B | 2276 | G | C5-C6-O6 | -7.37 | 124.18 | 128.60 |
| 12 | B | 2436 | G | N1-C6-O6 | 7.37 | 124.32 | 119.90 |
| 18 | H | 47 | PHE | CB-CG-CD1 | -7.37 | 115.64 | 120.80 |
| 12 | B | 782 | A | N1-C2-N3 | 7.37 | 132.99 | 129.30 |
| 12 | B | 1216 | G | N3-C4-C5 | 7.37 | 132.29 | 128.60 |
| 12 | B | 2541 | A | C2-N3-C4 | -7.37 | 106.92 | 110.60 |
| 12 | B | 2618 | G | N3-C4-C5 | -7.37 | 124.91 | 128.60 |
| 12 | B | 1891 | G | C6-C5-N7 | -7.37 | 125.98 | 130.40 |
| 12 | B | 2553 | G | N1-C6-O6 | 7.37 | 124.32 | 119.90 |
| 11 | A | 49 | C | N3-C4-N4 | 7.37 | 123.16 | 118.00 |
| 12 | B | 727 | A | O4'-C1'-N9 | 7.37 | 114.09 | 108.20 |
| 12 | B | 1145 | C | O4'-C1'-N1 | 7.37 | 114.09 | 108.20 |
| 12 | B | 2864 | G | C4-C5-C6 | 7.37 | 123.22 | 118.80 |
| 12 | B | 62 | U | O4'-C1'-N1 | 7.37 | 114.09 | 108.20 |
| 12 | B | 505 | A | C5-C6-N6 | -7.37 | 117.81 | 123.70 |
| 12 | B | 2837 | A | C8-N9-C4 | -7.37 | 102.85 | 105.80 |
| 11 | A | 14 | U | C2-N3-C4 | -7.37 | 122.58 | 127.00 |
| 12 | B | 1328 | A | N9-C4-C5 | -7.37 | 102.85 | 105.80 |
| 12 | B | 18 | U | C5-C6-N1 | 7.36 | 126.38 | 122.70 |
| 12 | B | 252 | G | C5-C6-N1 | -7.36 | 107.82 | 111.50 |
| 12 | B | 1336 | A | C2-N3-C4 | 7.36 | 114.28 | 110.60 |
| 12 | B | 1444 | G | C6-C5-N7 | -7.36 | 125.98 | 130.40 |
| 12 | B | 2261 | C | C6-N1-C2 | -7.36 | 117.35 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2674 | G | C4-C5-N7 | -7.36 | 107.85 | 110.80 |
| 12 | B | 487 | C | N3-C4-C5 | -7.36 | 118.95 | 121.90 |
| 12 | B | 998 | C | N3-C4-C5 | -7.36 | 118.95 | 121.90 |
| 12 | B | 134 | G | C4'-C3'-C2' | 7.36 | 109.96 | 102.60 |
| 12 | B | 429 | A | C4-C5-N7 | -7.36 | 107.02 | 110.70 |
| 12 | B | 662 | G | C4'-C3'-C2' | -7.36 | 95.24 | 102.60 |
| 12 | B | 749 | A | C5-C6-N6 | -7.36 | 117.81 | 123.70 |
| 12 | B | 1271 | G | C5-N7-C8 | -7.36 | 100.62 | 104.30 |
| 12 | B | 1379 | U | C5-C4-O4 | -7.36 | 121.48 | 125.90 |
| 12 | B | 2155 | U | C5-C4-O4 | -7.36 | 121.48 | 125.90 |
| 12 | B | 2537 | U | C5-C6-N1 | 7.36 | 126.38 | 122.70 |
| 12 | B | 1007 | C | N3-C4-C5 | -7.36 | 118.96 | 121.90 |
| 12 | B | 1732 | C | C2-N3-C4 | 7.36 | 123.58 | 119.90 |
| 12 | B | 1825 | U | C5-C6-N1 | 7.36 | 126.38 | 122.70 |
| 12 | B | 2254 | C | C6-N1-C2 | -7.36 | 117.36 | 120.30 |
| 12 | B | 42 | A | N1-C6-N6 | 7.36 | 123.01 | 118.60 |
| 12 | B | 761 | A | O4'-C1'-N9 | 7.36 | 114.08 | 108.20 |
| 12 | B | 993 | G | C5-N7-C8 | 7.36 | 107.98 | 104.30 |
| 12 | B | 2140 | G | C4-C5-C6 | 7.36 | 123.21 | 118.80 |
| 12 | B | 2605 | U | O4'-C1'-N1 | 7.36 | 114.08 | 108.20 |
| 20 | J | 63 | ALA | N-CA-CB | 7.36 | 120.40 | 110.10 |
| 12 | B | 569 | U | N1-C2-N3 | -7.35 | 110.49 | 114.90 |
| 12 | B | 938 | G | C5-C6-O6 | -7.35 | 124.19 | 128.60 |
| 12 | B | 2003 | A | C4-C5-C6 | 7.35 | 120.68 | 117.00 |
| 11 | A | 36 | C | N3-C4-N4 | 7.35 | 123.15 | 118.00 |
| 12 | B | 18 | U | N3-C4-O4 | 7.35 | 124.55 | 119.40 |
| 12 | B | 709 | U | N3-C2-O2 | -7.35 | 117.05 | 122.20 |
| 12 | B | 1049 | C | C4-C5-C6 | 7.35 | 121.08 | 117.40 |
| 12 | B | 1129 | A | P-O3'-C3' | 7.35 | 128.52 | 119.70 |
| 12 | B | 1832 | C | N3-C4-N4 | 7.35 | 123.15 | 118.00 |
| 12 | B | 1984 | G | N1-C6-O6 | 7.35 | 124.31 | 119.90 |
| 12 | B | 2098 | U | N1-C2-O2 | -7.35 | 117.65 | 122.80 |
| 12 | B | 2426 | A | O4'-C1'-N9 | 7.35 | 114.08 | 108.20 |
| 12 | B | 2280 | G | O4'-C1'-N9 | 7.35 | 114.08 | 108.20 |
| 12 | B | 2443 | C | N3-C4-N4 | 7.35 | 123.15 | 118.00 |
| 12 | B | 2571 | U | O4'-C1'-N1 | 7.35 | 114.08 | 108.20 |
| 12 | B | 524 | G | C5-C6-N1 | -7.35 | 107.83 | 111.50 |
| 12 | B | 1534 | U | C4-C5-C6 | -7.35 | 115.29 | 119.70 |
| 12 | B | 1651 | G | N1-C2-N3 | -7.35 | 119.49 | 123.90 |
| 12 | B | 1745 | A | C5-N7-C8 | 7.35 | 107.58 | 103.90 |
| 12 | B | 1854 | A | N7-C8-N9 | 7.35 | 117.47 | 113.80 |
| 12 | B | 1859 | U | C2-N3-C4 | -7.35 | 122.59 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1900 | A | N1-C6-N6 | 7.35 | 123.01 | 118.60 |
| 12 | B | 2868 | A | N1-C2-N3 | 7.35 | 132.97 | 129.30 |
| 11 | A | 8 | C | C6-N1-C2 | -7.35 | 117.36 | 120.30 |
| 12 | B | 855 | G | C8-N9-C4 | 7.35 | 109.34 | 106.40 |
| 12 | B | 1083 | U | N3-C4-O4 | 7.35 | 124.54 | 119.40 |
| 12 | B | 1693 | U | N3-C4-O4 | 7.35 | 124.54 | 119.40 |
| 12 | B | 1759 | A | O4'-C1'-N9 | 7.35 | 114.08 | 108.20 |
| 12 | B | 2279 | G | N9-C1'-C2' | -7.35 | 103.92 | 112.00 |
| 12 | B | 1997 | C | N3-C4-C5 | -7.35 | 118.96 | 121.90 |
| 12 | B | 1415 | U | O4'-C1'-N1 | 7.34 | 114.08 | 108.20 |
| 12 | B | 1901 | A | N7-C8-N9 | -7.34 | 110.13 | 113.80 |
| 12 | B | 2152 | G | C4'-C3'-C2' | -7.34 | 95.25 | 102.60 |
| 12 | B | 2152 | G | C4-C5-C6 | 7.34 | 123.21 | 118.80 |
| 12 | B | 2266 | A | C5-C6-N6 | -7.34 | 117.83 | 123.70 |
| 12 | B | 2484 | G | N1-C2-N3 | -7.34 | 119.49 | 123.90 |
| 12 | B | 2527 | C | C6-N1-C2 | -7.34 | 117.36 | 120.30 |
| 12 | B | 2534 | A | P-O5'-C5' | 7.34 | 132.65 | 120.90 |
| 12 | B | 2673 | G | N9-C4-C5 | 7.34 | 108.34 | 105.40 |
| 12 | B | 971 | G | O4'-C1'-N9 | 7.34 | 114.07 | 108.20 |
| 12 | B | 1860 | G | C2-N3-C4 | 7.34 | 115.57 | 111.90 |
| 12 | B | 95 | A | O4'-C1'-N9 | 7.34 | 114.07 | 108.20 |
| 12 | B | 380 | G | C5-C6-O6 | -7.34 | 124.19 | 128.60 |
| 12 | B | 399 | U | O4'-C1'-N1 | 7.34 | 114.07 | 108.20 |
| 12 | B | 1844 | C | N3-C4-C5 | -7.34 | 118.96 | 121.90 |
| 27 | Q | 31 | TYR | CG-CD2-CE2 | -7.34 | 115.43 | 121.30 |
| 12 | B | 626 | A | C8-N9-C4 | -7.34 | 102.86 | 105.80 |
| 12 | B | 637 | A | C1'-O4'-C4' | -7.34 | 104.03 | 109.90 |
| 12 | B | 662 | G | C5-N7-C8 | -7.34 | 100.63 | 104.30 |
| 12 | B | 1801 | A | C1'-O4'-C4' | 7.34 | 115.77 | 109.90 |
| 12 | B | 2122 | U | N3-C2-O2 | 7.34 | 127.34 | 122.20 |
| 12 | B | 89 | A | N9-C4-C5 | 7.34 | 108.73 | 105.80 |
| 12 | B | 110 | G | O4'-C1'-N9 | 7.34 | 114.07 | 108.20 |
| 12 | B | 520 | G | N1-C2-N2 | -7.34 | 109.60 | 116.20 |
| 12 | B | 622 | G | C5-N7-C8 | -7.34 | 100.63 | 104.30 |
| 12 | B | 923 | G | N1-C2-N3 | -7.34 | 119.50 | 123.90 |
| 12 | B | 974 | G | C8-N9-C4 | 7.34 | 109.33 | 106.40 |
| 12 | B | 1909 | C | C1'-O4'-C4' | -7.34 | 104.03 | 109.90 |
| 12 | B | 97 | C | C3'-C2'-C1' | -7.34 | 95.63 | 101.50 |
| 12 | B | 217 | A | C5-C6-N1 | -7.34 | 114.03 | 117.70 |
| 12 | B | 2028 | U | C5-C4-O4 | -7.34 | 121.50 | 125.90 |
| 12 | B | 2447 | G | C4-C5-N7 | 7.34 | 113.73 | 110.80 |
| 12 | B | 2480 | C | O4'-C1'-N1 | 7.34 | 114.07 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2763 | G | C4-C5-N7 | -7.34 | 107.86 | 110.80 |
| 12 | B | 879 | G | C4-N9-C1' | 7.33 | 136.04 | 126.50 |
| 12 | B | 1274 | A | C8-N9-C4 | -7.33 | 102.87 | 105.80 |
| 12 | B | 539 | G | C8-N9-C4 | -7.33 | 103.47 | 106.40 |
| 12 | B | 1901 | A | C8-N9-C4 | 7.33 | 108.73 | 105.80 |
| 12 | B | 2002 | G | C8-N9-C4 | -7.33 | 103.47 | 106.40 |
| 12 | B | 2164 | C | C2-N3-C4 | 7.33 | 123.57 | 119.90 |
| 12 | B | 2499 | C | O4'-C1'-N1 | 7.33 | 114.07 | 108.20 |
| 12 | B | 2626 | C | N1-C2-O2 | -7.33 | 114.50 | 118.90 |
| 12 | B | 2686 | G | C5-C6-O6 | -7.33 | 124.20 | 128.60 |
| 11 | A | 75 | G | C5-C6-O6 | -7.33 | 124.20 | 128.60 |
| 11 | A | 99 | A | C4-C5-C6 | 7.33 | 120.67 | 117.00 |
| 12 | B | 637 | A | C5-C6-N1 | -7.33 | 114.03 | 117.70 |
| 12 | B | 2006 | C | O4'-C1'-N1 | 7.33 | 114.07 | 108.20 |
| 12 | B | 2173 | A | C4-C5-C6 | 7.33 | 120.67 | 117.00 |
| 12 | B | 2227 | A | O4'-C1'-N9 | 7.33 | 114.06 | 108.20 |
| 12 | B | 2324 | U | C5-C4-O4 | 7.33 | 130.30 | 125.90 |
| 12 | B | 451 | U | C1'-O4'-C4' | -7.33 | 104.04 | 109.90 |
| 12 | B | 2645 | G | C6-C5-N7 | -7.33 | 126.00 | 130.40 |
| 12 | B | 2756 | U | P-O3'-C3' | 7.33 | 128.49 | 119.70 |
| 12 | B | 232 | G | C5'-C4'-O4' | 7.33 | 117.89 | 109.10 |
| 12 | B | 312 | G | C6-N1-C2 | 7.33 | 129.50 | 125.10 |
| 12 | B | 405 | U | C5-C6-N1 | 7.33 | 126.36 | 122.70 |
| 12 | B | 2095 | A | C2-N3-C4 | -7.33 | 106.94 | 110.60 |
| 12 | B | 167 | A | C4-C5-C6 | 7.33 | 120.66 | 117.00 |
| 12 | B | 458 | G | C4-C5-C6 | 7.33 | 123.20 | 118.80 |
| 12 | B | 749 | A | C5-C6-N1 | -7.33 | 114.04 | 117.70 |
| 12 | B | 1111 | A | C8-N9-C4 | 7.33 | 108.73 | 105.80 |
| 12 | B | 1165 | A | C4-C5-N7 | -7.33 | 107.04 | 110.70 |
| 12 | B | 1439 | A | O4'-C1'-N9 | 7.33 | 114.06 | 108.20 |
| 12 | B | 1774 | C | O4'-C1'-N1 | 7.33 | 114.06 | 108.20 |
| 12 | B | 2038 | G | N1-C6-O6 | 7.33 | 124.30 | 119.90 |
| 12 | B | 2598 | A | N3-C4-C5 | -7.33 | 121.67 | 126.80 |
| 12 | B | 2819 | G | C5-C6-O6 | -7.33 | 124.20 | 128.60 |
| 12 | B | 107 | G | O4'-C1'-N9 | 7.32 | 114.06 | 108.20 |
| 12 | B | 1689 | A | C6-C5-N7 | -7.32 | 127.17 | 132.30 |
| 12 | B | 2860 | A | C5-C6-N6 | -7.32 | 117.84 | 123.70 |
| 12 | B | 81 | G | C5-C6-N1 | -7.32 | 107.84 | 111.50 |
| 12 | B | 1528 | A | N1-C2-N3 | 7.32 | 132.96 | 129.30 |
| 12 | B | 279 | A | C4-C5-C6 | 7.32 | 120.66 | 117.00 |
| 12 | B | 959 | A | C4-C5-N7 | -7.32 | 107.04 | 110.70 |
| 12 | B | 1039 | A | C2-N3-C4 | 7.32 | 114.26 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1701 | A | N9-C4-C5 | 7.32 | 108.73 | 105.80 |
| 12 | B | 1873 | G | O4'-C1'-N9 | 7.32 | 114.06 | 108.20 |
| 12 | B | 2211 | A | N9-C4-C5 | -7.32 | 102.87 | 105.80 |
| 12 | B | 2254 | C | C5-C6-N1 | 7.32 | 124.66 | 121.00 |
| 17 | G | 136 | ASP | N-CA-CB | 7.32 | 123.78 | 110.60 |
| 12 | B | 350 | G | C5-C6-N1 | -7.32 | 107.84 | 111.50 |
| 12 | B | 2333 | A | N9-C4-C5 | 7.32 | 108.73 | 105.80 |
| 6 | 5 | 112 | ASP | CB-CG-OD2 | 7.32 | 124.89 | 118.30 |
| 12 | B | 317 | G | N3-C2-N2 | 7.32 | 125.02 | 119.90 |
| 12 | B | 1022 | G | N1-C6-O6 | 7.32 | 124.29 | 119.90 |
| 12 | B | 1305 | C | C2-N3-C4 | -7.32 | 116.24 | 119.90 |
| 12 | B | 1868 | C | O4'-C1'-N1 | 7.32 | 114.06 | 108.20 |
| 12 | B | 2193 | G | N3-C4-N9 | 7.32 | 130.39 | 126.00 |
| 11 | A | 13 | G | N1-C6-O6 | 7.32 | 124.29 | 119.90 |
| 12 | B | 273 | G | N1-C2-N2 | 7.32 | 122.78 | 116.20 |
| 12 | B | 1148 | U | C5-C6-N1 | 7.32 | 126.36 | 122.70 |
| 12 | B | 1588 | G | C4-C5-N7 | -7.32 | 107.87 | 110.80 |
| 12 | B | 1919 | A | N3-C4-C5 | -7.32 | 121.68 | 126.80 |
| 12 | B | 2588 | G | N1-C6-O6 | 7.31 | 124.29 | 119.90 |
| 11 | A | 65 | U | C5-C6-N1 | 7.31 | 126.36 | 122.70 |
| 12 | B | 339 | U | N1-C2-O2 | -7.31 | 117.68 | 122.80 |
| 12 | B | 1142 | A | C2-N3-C4 | -7.31 | 106.94 | 110.60 |
| 12 | B | 2765 | A | C6-C5-N7 | -7.31 | 127.18 | 132.30 |
| 12 | B | 2892 | G | N7-C8-N9 | -7.31 | 109.44 | 113.10 |
| 12 | B | 861 | A | C8-N9-C4 | -7.31 | 102.88 | 105.80 |
| 11 | A | 5 | U | C6-N1-C2 | 7.31 | 125.39 | 121.00 |
| 12 | B | 73 | A | C2-N3-C4 | 7.31 | 114.25 | 110.60 |
| 12 | B | 2237 | G | C6-N1-C2 | 7.31 | 129.49 | 125.10 |
| 12 | B | 2896 | C | N3-C4-N4 | 7.31 | 123.12 | 118.00 |
| 12 | B | 214 | G | C4-C5-N7 | 7.31 | 113.72 | 110.80 |
| 12 | B | 1490 | A | C2-N3-C4 | 7.31 | 114.25 | 110.60 |
| 12 | B | 2343 | U | N3-C4-O4 | 7.31 | 124.52 | 119.40 |
| 12 | B | 2429 | G | N3-C2-N2 | 7.31 | 125.02 | 119.90 |
| 12 | B | 486 | C | O4'-C1'-N1 | 7.31 | 114.05 | 108.20 |
| 12 | B | 702 | U | C5-C4-O4 | -7.31 | 121.52 | 125.90 |
| 12 | B | 479 | A | C6-N1-C2 | 7.30 | 122.98 | 118.60 |
| 12 | B | 1177 | G | N7-C8-N9 | -7.30 | 109.45 | 113.10 |
| 12 | B | 1371 | G | N1-C6-O6 | 7.30 | 124.28 | 119.90 |
| 12 | B | 319 | G | O4'-C1'-N9 | 7.30 | 114.04 | 108.20 |
| 12 | B | 1735 | A | O4'-C1'-N9 | 7.30 | 114.04 | 108.20 |
| 12 | B | 2169 | A | C5-C6-N6 | -7.30 | 117.86 | 123.70 |
| 12 | B | 2483 | C | O4'-C1'-N1 | 7.30 | 114.04 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2804 | U | P-O5'-C5' | 7.30 | 132.59 | 120.90 |
| 11 | A | 83 | G | C5-C6-O6 | -7.30 | 124.22 | 128.60 |
| 12 | B | 430 | A | C6-N1-C2 | -7.30 | 114.22 | 118.60 |
| 12 | B | 729 | G | C4-C5-N7 | -7.30 | 107.88 | 110.80 |
| 12 | B | 2028 | U | P-O3'-C3' | 7.30 | 128.46 | 119.70 |
| 12 | B | 2349 | G | C8-N9-C1' | 7.30 | 136.49 | 127.00 |
| 12 | B | 2681 | C | N3-C4-N4 | 7.30 | 123.11 | 118.00 |
| 12 | B | 2565 | A | C6-C5-N7 | -7.30 | 127.19 | 132.30 |
| 12 | B | 1806 | C | N3-C4-C5 | -7.30 | 118.98 | 121.90 |
| 12 | B | 2023 | C | P-O5'-C5' | 7.30 | 132.58 | 120.90 |
| 12 | B | 2126 | A | C4-C5-C6 | 7.30 | 120.65 | 117.00 |
| 12 | B | 133 | U | O4'-C1'-N1 | 7.30 | 114.04 | 108.20 |
| 12 | B | 639 | U | N1-C2-N3 | -7.30 | 110.52 | 114.90 |
| 12 | B | 1076 | C | C5-C4-N4 | -7.30 | 115.09 | 120.20 |
| 12 | B | 1154 | G | O4'-C1'-N9 | 7.30 | 114.04 | 108.20 |
| 12 | B | 1893 | C | N3-C2-O2 | 7.30 | 127.01 | 121.90 |
| 12 | B | 2726 | A | C8-N9-C4 | -7.30 | 102.88 | 105.80 |
| 12 | B | 1677 | A | C4-C5-C6 | 7.29 | 120.65 | 117.00 |
| 12 | B | 2058 | A | N1-C6-N6 | 7.29 | 122.98 | 118.60 |
| 12 | B | 126 | A | C5-N7-C8 | 7.29 | 107.55 | 103.90 |
| 12 | B | 254 | G | N1-C6-O6 | 7.29 | 124.28 | 119.90 |
| 12 | B | 625 | G | N1-C2-N3 | -7.29 | 119.52 | 123.90 |
| 12 | B | 634 | C | O4'-C1'-N1 | 7.29 | 114.03 | 108.20 |
| 12 | B | 2674 | G | C2-N3-C4 | 7.29 | 115.55 | 111.90 |
| 12 | B | 2856 | A | C5-N7-C8 | 7.29 | 107.55 | 103.90 |
| 12 | B | 178 | G | C4-C5-C6 | 7.29 | 123.17 | 118.80 |
| 12 | B | 331 | C | C4-C5-C6 | 7.29 | 121.05 | 117.40 |
| 12 | B | 1610 | A | N3-C4-C5 | -7.29 | 121.70 | 126.80 |
| 12 | B | 2872 | A | C5-N7-C8 | 7.29 | 107.55 | 103.90 |
| 12 | B | 977 | G | C8-N9-C4 | -7.29 | 103.48 | 106.40 |
| 12 | B | 2545 | G | N9-C1'-C2' | -7.29 | 103.98 | 112.00 |
| 12 | B | 782 | A | C2-N3-C4 | -7.29 | 106.96 | 110.60 |
| 12 | B | 955 | U | N1-C2-O2 | 7.29 | 127.90 | 122.80 |
| 12 | B | 1095 | A | C4-C5-C6 | 7.29 | 120.64 | 117.00 |
| 12 | B | 1162 | G | N1-C2-N2 | -7.29 | 109.64 | 116.20 |
| 12 | B | 1321 | A | C5-C6-N6 | -7.29 | 117.87 | 123.70 |
| 11 | A | 30 | C | C1'-O4'-C4' | 7.29 | 115.73 | 109.90 |
| 12 | B | 1637 | A | O4'-C1'-N9 | 7.29 | 114.03 | 108.20 |
| 15 | E | 35 | TYR | CB-CG-CD2 | -7.29 | 116.63 | 121.00 |
| 12 | B | 789 | A | C6-C5-N7 | -7.29 | 127.20 | 132.30 |
| 12 | B | 1098 | A | C5-C6-N1 | -7.29 | 114.06 | 117.70 |
| 12 | B | 1449 | G | C5-C6-N1 | -7.29 | 107.86 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1763 | G | C5'-C4'-O4' | 7.29 | 117.84 | 109.10 |
| 12 | B | 2392 | A | P-O3'-C3' | 7.29 | 128.44 | 119.70 |
| 12 | B | 2826 | A | N9-C4-C5 | -7.29 | 102.89 | 105.80 |
| 12 | B | 95 | A | N3-C4-C5 | -7.28 | 121.70 | 126.80 |
| 12 | B | 835 | C | C5-C4-N4 | -7.28 | 115.10 | 120.20 |
| 12 | B | 1741 | C | N3-C4-N4 | 7.28 | 123.10 | 118.00 |
| 12 | B | 2579 | C | C6-N1-C2 | -7.28 | 117.39 | 120.30 |
| 12 | B | 2600 | A | C8-N9-C4 | -7.28 | 102.89 | 105.80 |
| 12 | B | 521 | U | P-O5'-C5' | 7.28 | 132.55 | 120.90 |
| 12 | B | 1847 | A | C5'-C4'-O4' | 7.28 | 117.84 | 109.10 |
| 12 | B | 1860 | G | N1-C2-N3 | -7.28 | 119.53 | 123.90 |
| 12 | B | 2543 | G | N1-C6-O6 | 7.28 | 124.27 | 119.90 |
| 6 | 5 | 60 | ARG | NE-CZ-NH1 | 7.28 | 123.94 | 120.30 |
| 12 | B | 883 | G | N1-C2-N3 | -7.28 | 119.53 | 123.90 |
| 12 | B | 1321 | A | N1-C2-N3 | -7.28 | 125.66 | 129.30 |
| 12 | B | 1387 | A | N7-C8-N9 | 7.28 | 117.44 | 113.80 |
| 12 | B | 1701 | A | C4-C5-N7 | -7.28 | 107.06 | 110.70 |
| 12 | B | 1903 | G | N1-C2-N3 | -7.28 | 119.53 | 123.90 |
| 12 | B | 2886 | A | C4-C5-C6 | 7.28 | 120.64 | 117.00 |
| 12 | B | 2137 | U | O4'-C1'-N1 | 7.28 | 114.02 | 108.20 |
| 12 | B | 539 | G | N3-C4-C5 | -7.28 | 124.96 | 128.60 |
| 12 | B | 901 | C | C6-N1-C2 | -7.28 | 117.39 | 120.30 |
| 12 | B | 916 | G | N7-C8-N9 | 7.28 | 116.74 | 113.10 |
| 12 | B | 1445 | G | C5-N7-C8 | 7.28 | 107.94 | 104.30 |
| 12 | B | 1637 | A | C4-C5-C6 | 7.28 | 120.64 | 117.00 |
| 12 | B | 1988 | G | N3-C2-N2 | 7.28 | 124.99 | 119.90 |
| 12 | B | 2486 | C | N3-C4-C5 | -7.28 | 118.99 | 121.90 |
| 12 | B | 2899 | A | C4-C5-C6 | 7.28 | 120.64 | 117.00 |
| 12 | B | 2238 | G | C6-C5-N7 | -7.28 | 126.03 | 130.40 |
| 12 | B | 18 | U | N3-C4-C5 | -7.27 | 110.23 | 114.60 |
| 11 | A | 45 | A | C5-C6-N1 | -7.27 | 114.06 | 117.70 |
| 12 | B | 205 | G | C2-N3-C4 | 7.27 | 115.54 | 111.90 |
| 12 | B | 364 | C | O4'-C1'-N1 | 7.27 | 114.02 | 108.20 |
| 12 | B | 1090 | A | C6-N1-C2 | -7.27 | 114.24 | 118.60 |
| 12 | B | 1945 | G | N1-C2-N3 | -7.27 | 119.54 | 123.90 |
| 12 | B | 2119 | A | C5-N7-C8 | 7.27 | 107.54 | 103.90 |
| 12 | B | 2505 | G | O4'-C1'-N9 | 7.27 | 114.02 | 108.20 |
| 12 | B | 2832 | U | C6-N1-C2 | -7.27 | 116.64 | 121.00 |
| 12 | B | 2870 | C | N1-C2-N3 | -7.27 | 114.11 | 119.20 |
| 11 | A | 79 | G | N1-C6-O6 | 7.27 | 124.26 | 119.90 |
| 12 | B | 45 | G | N1-C2-N3 | -7.27 | 119.54 | 123.90 |
| 12 | B | 1554 | U | N1-C2-O2 | -7.27 | 117.71 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1631 | G | N1-C6-O6 | 7.27 | 124.26 | 119.90 |
| 12 | B | 2678 | C | N3-C4-N4 | 7.27 | 123.09 | 118.00 |
| 12 | B | 597 | G | C6-C5-N7 | -7.27 | 126.04 | 130.40 |
| 12 | B | 794 | A | C5-C6-N1 | -7.27 | 114.07 | 117.70 |
| 12 | B | 1508 | A | O4'-C1'-N9 | 7.27 | 114.01 | 108.20 |
| 12 | B | 2635 | A | N9-C4-C5 | 7.27 | 108.71 | 105.80 |
| 12 | B | 640 | C | P-O5'-C5' | -7.27 | 109.28 | 120.90 |
| 12 | B | 1205 | A | O4'-C1'-N9 | 7.27 | 114.01 | 108.20 |
| 12 | B | 1623 | G | N3-C4-N9 | 7.27 | 130.36 | 126.00 |
| 12 | B | 2748 | A | P-O3'-C3' | -7.27 | 110.98 | 119.70 |
| 11 | A | 87 | U | O4'-C1'-N1 | 7.26 | 114.01 | 108.20 |
| 12 | B | 508 | A | C4'-C3'-C2' | -7.26 | 95.34 | 102.60 |
| 12 | B | 677 | A | C4-C5-C6 | 7.26 | 120.63 | 117.00 |
| 12 | B | 1068 | G | C5-C6-N1 | -7.26 | 107.87 | 111.50 |
| 12 | B | 2092 | U | C2-N1-C1' | 7.26 | 126.42 | 117.70 |
| 12 | B | 2134 | A | C5-C6-N6 | -7.26 | 117.89 | 123.70 |
| 12 | B | 2355 | G | C1'-O4'-C4' | -7.26 | 104.09 | 109.90 |
| 12 | B | 2743 | U | N3-C2-O2 | 7.26 | 127.28 | 122.20 |
| 12 | B | 1383 | A | N7-C8-N9 | 7.26 | 117.43 | 113.80 |
| 12 | B | 2671 | G | O4'-C1'-N9 | 7.26 | 114.01 | 108.20 |
| 11 | A | 50 | A | N1-C2-N3 | -7.26 | 125.67 | 129.30 |
| 12 | B | 112 | U | O4'-C1'-N1 | 7.26 | 114.01 | 108.20 |
| 12 | B | 2014 | A | C2-N3-C4 | -7.26 | 106.97 | 110.60 |
| 4 | 3 | 15 | ARG | NE-CZ-NH2 | 7.26 | 123.93 | 120.30 |
| 12 | B | 479 | A | C4-C5-C6 | 7.26 | 120.63 | 117.00 |
| 12 | B | 1631 | G | C2-N3-C4 | -7.26 | 108.27 | 111.90 |
| 12 | B | 2312 | U | C3'-C2'-C1' | 7.26 | 107.31 | 101.50 |
| 12 | B | 1239 | G | C6-C5-N7 | -7.26 | 126.05 | 130.40 |
| 12 | B | 2162 | G | N1-C2-N2 | 7.26 | 122.73 | 116.20 |
| 12 | B | 797 | G | C5-C6-N1 | -7.26 | 107.87 | 111.50 |
| 12 | B | 1644 | C | C6-N1-C2 | -7.26 | 117.40 | 120.30 |
| 12 | B | 1717 | A | C4-C5-C6 | 7.26 | 120.63 | 117.00 |
| 12 | B | 506 | G | C4-C5-N7 | -7.25 | 107.90 | 110.80 |
| 12 | B | 2186 | G | C2-N3-C4 | 7.25 | 115.53 | 111.90 |
| 9 | 8 | 19 | ARG | NE-CZ-NH1 | 7.25 | 123.93 | 120.30 |
| 11 | A | 114 | C | O4'-C1'-N1 | 7.25 | 114.00 | 108.20 |
| 12 | B | 1112 | G | N3-C4-C5 | 7.25 | 132.23 | 128.60 |
| 12 | B | 1677 | A | O4'-C4'-C3' | -7.25 | 96.75 | 104.00 |
| 12 | B | 1704 | C | N3-C2-O2 | 7.25 | 126.98 | 121.90 |
| 12 | B | 1898 | U | C2-N3-C4 | 7.25 | 131.35 | 127.00 |
| 12 | B | 2090 | A | N1-C2-N3 | 7.25 | 132.93 | 129.30 |
| 12 | B | 1941 | C | N3-C2-O2 | 7.25 | 126.98 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2026 | U | C5-C6-N1 | -7.25 | 119.07 | 122.70 |
| 12 | B | 2289 | G | C6-C5-N7 | -7.25 | 126.05 | 130.40 |
| 12 | B | 781 | A | C4-C5-C6 | 7.25 | 120.62 | 117.00 |
| 12 | B | 1080 | A | N7-C8-N9 | -7.25 | 110.17 | 113.80 |
| 12 | B | 2448 | A | C5'-C4'-O4' | 7.25 | 117.80 | 109.10 |
| 12 | B | 17 | G | C4'-C3'-C2' | -7.25 | 95.35 | 102.60 |
| 12 | B | 962 | G | C4-C5-C6 | 7.25 | 123.15 | 118.80 |
| 12 | B | 1423 | G | C5-N7-C8 | 7.25 | 107.92 | 104.30 |
| 12 | B | 1707 | G | C5-C6-O6 | -7.25 | 124.25 | 128.60 |
| 12 | B | 1890 | A | C8-N9-C4 | -7.25 | 102.90 | 105.80 |
| 12 | B | 514 | A | C4-C5-C6 | 7.25 | 120.62 | 117.00 |
| 12 | B | 862 | G | N3-C4-C5 | 7.25 | 132.22 | 128.60 |
| 12 | B | 2810 | A | C5-C6-N1 | -7.25 | 114.08 | 117.70 |
| 12 | B | 297 | G | C5-C6-N1 | -7.24 | 107.88 | 111.50 |
| 12 | B | 1052 | C | N3-C4-N4 | 7.24 | 123.07 | 118.00 |
| 12 | B | 1468 | U | N1-C2-N3 | -7.24 | 110.55 | 114.90 |
| 12 | B | 2051 | A | C5-C6-N6 | -7.24 | 117.91 | 123.70 |
| 12 | B | 2722 | G | C5'-C4'-O4' | 7.24 | 117.79 | 109.10 |
| 12 | B | 699 | A | P-O3'-C3' | -7.24 | 111.01 | 119.70 |
| 12 | B | 1418 | G | N3-C2-N2 | 7.24 | 124.97 | 119.90 |
| 27 | Q | 49 | ARG | NE-CZ-NH2 | -7.24 | 116.68 | 120.30 |
| 12 | B | 605 | G | N1-C6-O6 | 7.24 | 124.24 | 119.90 |
| 12 | B | 1358 | G | C5-C6-O6 | -7.24 | 124.25 | 128.60 |
| 12 | B | 1823 | G | C5-N7-C8 | 7.24 | 107.92 | 104.30 |
| 12 | B | 2594 | C | O4'-C1'-N1 | 7.24 | 113.99 | 108.20 |
| 12 | B | 625 | G | C4-C5-C6 | 7.24 | 123.14 | 118.80 |
| 12 | B | 739 | A | C5-C6-N6 | -7.24 | 117.91 | 123.70 |
| 12 | B | 1583 | A | C5-C6-N6 | -7.24 | 117.91 | 123.70 |
| 12 | B | 1690 | A | C4-C5-N7 | -7.24 | 107.08 | 110.70 |
| 12 | B | 1886 | U | C5-C6-N1 | -7.24 | 119.08 | 122.70 |
| 12 | B | 2266 | A | C5-C6-N1 | -7.24 | 114.08 | 117.70 |
| 12 | B | 756 | A | C5-N7-C8 | 7.24 | 107.52 | 103.90 |
| 12 | B | 1387 | A | C2-N3-C4 | 7.24 | 114.22 | 110.60 |
| 12 | B | 734 | A | C5-N7-C8 | 7.24 | 107.52 | 103.90 |
| 12 | B | 1017 | G | N9-C4-C5 | -7.24 | 102.50 | 105.40 |
| 12 | B | 1262 | A | C5-C6-N1 | -7.24 | 114.08 | 117.70 |
| 12 | B | 1685 | C | N3-C4-N4 | 7.24 | 123.06 | 118.00 |
| 12 | B | 2061 | G | N7-C8-N9 | -7.24 | 109.48 | 113.10 |
| 12 | B | 1643 | G | N9-C4-C5 | -7.23 | 102.51 | 105.40 |
| 11 | A | 86 | G | O4'-C1'-N9 | 7.23 | 113.99 | 108.20 |
| 12 | B | 213 | A | N9-C4-C5 | 7.23 | 108.69 | 105.80 |
| 12 | B | 670 | A | N9-C4-C5 | 7.23 | 108.69 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1116 | G | N3-C2-N2 | 7.23 | 124.96 | 119.90 |
| 12 | B | 1140 | C | O4'-C1'-N1 | 7.23 | 113.98 | 108.20 |
| 12 | B | 2393 | U | O4'-C1'-N1 | 7.23 | 113.98 | 108.20 |
| 11 | A | 106 | G | C5-C6-N1 | -7.23 | 107.89 | 111.50 |
| 12 | B | 1409 | U | N3-C4-O4 | 7.23 | 124.46 | 119.40 |
| 11 | A | 4 | C | C5-C6-N1 | -7.23 | 117.39 | 121.00 |
| 12 | B | 570 | G | C8-N9-C4 | 7.23 | 109.29 | 106.40 |
| 12 | B | 1140 | C | C6-N1-C2 | -7.23 | 117.41 | 120.30 |
| 12 | B | 1274 | A | C5-C6-N6 | -7.23 | 117.92 | 123.70 |
| 12 | B | 1316 | U | C5-C4-O4 | -7.23 | 121.56 | 125.90 |
| 12 | B | 1366 | A | O4'-C1'-N9 | 7.23 | 113.98 | 108.20 |
| 15 | E | 79 | ARG | NH1-CZ-NH2 | -7.23 | 111.45 | 119.40 |
| 12 | B | 1304 | A | O4'-C1'-N9 | 7.23 | 113.98 | 108.20 |
| 12 | B | 2414 | G | C6-C5-N7 | -7.23 | 126.06 | 130.40 |
| 12 | B | 2609 | U | N3-C4-O4 | 7.23 | 124.46 | 119.40 |
| 12 | B | 835 | C | N3-C4-N4 | 7.22 | 123.06 | 118.00 |
| 12 | B | 1346 | G | N3-C4-C5 | 7.22 | 132.21 | 128.60 |
| 12 | B | 2272 | U | C6-N1-C2 | -7.22 | 116.67 | 121.00 |
| 13 | C | 82 | TYR | CZ-CE2-CD2 | -7.22 | 113.30 | 119.80 |
| 31 | U | 52 | ASN | N-CA-CB | 7.22 | 123.61 | 110.60 |
| 12 | B | 574 | A | N7-C8-N9 | 7.22 | 117.41 | 113.80 |
| 12 | B | 718 | A | C5-C6-N6 | -7.22 | 117.92 | 123.70 |
| 12 | B | 2585 | U | C4-C5-C6 | 7.22 | 124.03 | 119.70 |
| 12 | B | 2607 | G | C6-C5-N7 | -7.22 | 126.07 | 130.40 |
| 31 | U | 6 | ARG | NE-CZ-NH2 | -7.22 | 116.69 | 120.30 |
| 7 | 6 | 21 | ARG | NE-CZ-NH1 | -7.22 | 116.69 | 120.30 |
| 12 | B | 1278 | C | C6-N1-C2 | -7.22 | 117.41 | 120.30 |
| 12 | B | 1337 | G | C5'-C4'-C3' | -7.22 | 104.45 | 116.00 |
| 12 | B | 1460 | U | O4'-C1'-N1 | 7.22 | 113.97 | 108.20 |
| 12 | B | 1652 | A | N9-C4-C5 | 7.22 | 108.69 | 105.80 |
| 12 | B | 2099 | U | P-O3'-C3' | -7.22 | 111.04 | 119.70 |
| 12 | B | 2426 | A | N1-C2-N3 | -7.22 | 125.69 | 129.30 |
| 12 | B | 9 | G | C8-N9-C4 | -7.22 | 103.51 | 106.40 |
| 12 | B | 150 | U | N3-C4-C5 | -7.22 | 110.27 | 114.60 |
| 12 | B | 1107 | G | C6-C5-N7 | -7.22 | 126.07 | 130.40 |
| 12 | B | 1939 | U | N3-C2-O2 | -7.22 | 117.15 | 122.20 |
| 11 | A | 7 | G | N1-C2-N3 | -7.22 | 119.57 | 123.90 |
| 12 | B | 729 | G | C6-N1-C2 | 7.22 | 129.43 | 125.10 |
| 12 | B | 1416 | G | C5'-C4'-C3' | 7.22 | 127.55 | 116.00 |
| 12 | B | 2659 | G | N7-C8-N9 | -7.22 | 109.49 | 113.10 |
| 12 | B | 2679 | A | P-O3'-C3' | 7.22 | 128.36 | 119.70 |
| 12 | B | 877 | A | N3-C4-C5 | -7.21 | 121.75 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1540 | G | C4'-C3'-C2' | -7.21 | 95.39 | 102.60 |
| 12 | B | 1878 | G | C5-C6-N1 | 7.21 | 115.11 | 111.50 |
| 12 | B | 2001 | C | N3-C4-N4 | 7.21 | 123.05 | 118.00 |
| 12 | B | 719 | C | N3-C4-N4 | 7.21 | 123.05 | 118.00 |
| 12 | B | 1519 | G | O4'-C1'-N9 | 7.21 | 113.97 | 108.20 |
| 12 | B | 2615 | U | O4'-C1'-N1 | 7.21 | 113.97 | 108.20 |
| 12 | B | 287 | G | N9-C4-C5 | 7.21 | 108.28 | 105.40 |
| 12 | B | 564 | C | C6-N1-C2 | 7.21 | 123.18 | 120.30 |
| 12 | B | 955 | U | C4-C5-C6 | -7.21 | 115.37 | 119.70 |
| 12 | B | 2073 | C | C5-C4-N4 | -7.21 | 115.15 | 120.20 |
| 12 | B | 1843 | C | N3-C4-N4 | 7.21 | 123.05 | 118.00 |
| 12 | B | 124 | G | C5-C6-N1 | -7.21 | 107.89 | 111.50 |
| 12 | B | 701 | G | O4'-C1'-N9 | 7.21 | 113.97 | 108.20 |
| 12 | B | 856 | G | O4'-C1'-N9 | 7.21 | 113.97 | 108.20 |
| 12 | B | 1021 | A | N3-C4-C5 | -7.21 | 121.75 | 126.80 |
| 12 | B | 2817 | U | O4'-C1'-N1 | 7.21 | 113.97 | 108.20 |
| 12 | B | 18 | U | C2-N3-C4 | 7.21 | 131.32 | 127.00 |
| 12 | B | 305 | C | O4'-C1'-N1 | 7.21 | 113.97 | 108.20 |
| 12 | B | 1151 | A | N3-C4-C5 | -7.21 | 121.75 | 126.80 |
| 12 | B | 1226 | A | C2-N3-C4 | -7.21 | 107.00 | 110.60 |
| 12 | B | 1961 | C | N1-C2-O2 | 7.21 | 123.22 | 118.90 |
| 12 | B | 2123 | G | O4'-C1'-N9 | 7.21 | 113.97 | 108.20 |
| 12 | B | 157 | C | N3-C4-N4 | 7.21 | 123.04 | 118.00 |
| 12 | B | 2281 | A | C6-C5-N7 | -7.21 | 127.26 | 132.30 |
| 12 | B | 2427 | C | O4'-C1'-N1 | 7.21 | 113.96 | 108.20 |
| 12 | B | 2646 | C | C5-C6-N1 | 7.21 | 124.60 | 121.00 |
| 12 | B | 297 | G | N3-C4-N9 | -7.20 | 121.68 | 126.00 |
| 12 | B | 493 | G | N3-C2-N2 | -7.20 | 114.86 | 119.90 |
| 12 | B | 1734 | G | C5-C6-N1 | -7.20 | 107.90 | 111.50 |
| 12 | B | 1842 | G | P-O5'-C5' | -7.20 | 109.37 | 120.90 |
| 12 | B | 1855 | U | C4-C5-C6 | 7.20 | 124.02 | 119.70 |
| 12 | B | 1954 | G | C5-C6-N1 | -7.20 | 107.90 | 111.50 |
| 12 | B | 2147 | A | O4'-C1'-N9 | 7.20 | 113.96 | 108.20 |
| 12 | B | 2406 | A | C5-C6-N6 | -7.20 | 117.94 | 123.70 |
| 12 | B | 2518 | A | N1-C2-N3 | 7.20 | 132.90 | 129.30 |
| 12 | B | 2578 | G | O4'-C1'-N9 | 7.20 | 113.96 | 108.20 |
| 12 | B | 217 | A | C5-C6-N6 | -7.20 | 117.94 | 123.70 |
| 12 | B | 357 | C | C6-N1-C2 | -7.20 | 117.42 | 120.30 |
| 11 | A | 104 | A | C2-N3-C4 | -7.20 | 107.00 | 110.60 |
| 12 | B | 189 | G | C5-C6-N1 | -7.20 | 107.90 | 111.50 |
| 12 | B | 1179 | G | C6-C5-N7 | -7.20 | 126.08 | 130.40 |
| 12 | B | 1245 | G | P-O3'-C3' | -7.20 | 111.06 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1555 | G | C5-C6-O6 | -7.20 | 124.28 | 128.60 |
| 12 | B | 1932 | A | C5-C6-N1 | -7.20 | 114.10 | 117.70 |
| 12 | B | 2166 | U | C2-N3-C4 | -7.20 | 122.68 | 127.00 |
| 12 | B | 2404 | U | N1-C2-O2 | -7.20 | 117.76 | 122.80 |
| 12 | B | 81 | G | P-O5'-C5' | 7.20 | 132.42 | 120.90 |
| 12 | B | 1371 | G | N1-C2-N3 | -7.20 | 119.58 | 123.90 |
| 12 | B | 1766 | G | O4'-C1'-N9 | 7.20 | 113.96 | 108.20 |
| 12 | B | 2734 | A | C5-C6-N6 | -7.20 | 117.94 | 123.70 |
| 12 | B | 2777 | G | N3-C2-N2 | 7.20 | 124.94 | 119.90 |
| 12 | B | 2903 | U | C2-N1-C1' | 7.20 | 126.34 | 117.70 |
| 12 | B | 1644 | C | C2-N1-C1' | 7.20 | 126.72 | 118.80 |
| 12 | B | 1954 | G | N1-C2-N3 | -7.20 | 119.58 | 123.90 |
| 12 | B | 1970 | A | C4-C5-C6 | 7.20 | 120.60 | 117.00 |
| 33 | Y | 10 | ARG | NE-CZ-NH2 | 7.20 | 123.90 | 120.30 |
| 12 | B | 1325 | U | N3-C4-O4 | 7.20 | 124.44 | 119.40 |
| 12 | B | 1925 | C | P-O3'-C3' | -7.20 | 111.07 | 119.70 |
| 12 | B | 1241 | A | C5-C6-N6 | -7.19 | 117.94 | 123.70 |
| 12 | B | 1781 | U | N3-C4-O4 | 7.19 | 124.44 | 119.40 |
| 11 | A | 100 | G | N7-C8-N9 | -7.19 | 109.50 | 113.10 |
| 12 | B | 103 | A | C5-N7-C8 | 7.19 | 107.50 | 103.90 |
| 12 | B | 369 | U | N3-C4-O4 | 7.19 | 124.44 | 119.40 |
| 12 | B | 933 | A | N3-C4-C5 | -7.19 | 121.77 | 126.80 |
| 12 | B | 1254 | A | C8-N9-C4 | -7.19 | 102.92 | 105.80 |
| 12 | B | 901 | C | C5-C6-N1 | 7.19 | 124.60 | 121.00 |
| 12 | B | 1490 | A | C8-N9-C4 | 7.19 | 108.68 | 105.80 |
| 12 | B | 1529 | G | O4'-C1'-N9 | 7.19 | 113.95 | 108.20 |
| 12 | B | 1720 | U | N1-C2-N3 | 7.19 | 119.22 | 114.90 |
| 12 | B | 2023 | C | C6-N1-C2 | -7.19 | 117.42 | 120.30 |
| 12 | B | 2481 | G | O4'-C1'-N9 | 7.19 | 113.95 | 108.20 |
| 12 | B | 731 | C | C3'-C2'-C1' | -7.19 | 95.75 | 101.50 |
| 12 | B | 1831 | G | N1-C2-N3 | -7.19 | 119.59 | 123.90 |
| 12 | B | 2111 | U | C5-C6-N1 | 7.19 | 126.30 | 122.70 |
| 10 | 9 | 278 | ARG | N-CA-C | -7.19 | 91.59 | 111.00 |
| 12 | B | 460 | A | C2-N3-C4 | 7.19 | 114.19 | 110.60 |
| 12 | B | 751 | A | C4-C5-N7 | -7.19 | 107.11 | 110.70 |
| 12 | B | 1580 | A | C8-N9-C4 | -7.19 | 102.92 | 105.80 |
| 12 | B | 2078 | C | C6-N1-C2 | 7.19 | 123.17 | 120.30 |
| 12 | B | 2817 | U | N1-C2-N3 | 7.19 | 119.21 | 114.90 |
| 12 | B | 123 | G | C4-C5-C6 | 7.18 | 123.11 | 118.80 |
| 12 | B | 891 | G | C8-N9-C4 | 7.18 | 109.27 | 106.40 |
| 12 | B | 1487 | U | O4'-C1'-N1 | 7.18 | 113.95 | 108.20 |
| 12 | B | 2140 | G | C2-N3-C4 | 7.18 | 115.49 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2740 | A | C5-C6-N6 | -7.18 | 117.95 | 123.70 |
| 13 | C | 66 | PHE | CB-CG-CD1 | 7.18 | 125.83 | 120.80 |
| 12 | B | 575 | A | C5-C6-N6 | -7.18 | 117.95 | 123.70 |
| 12 | B | 953 | G | C8-N9-C4 | -7.18 | 103.53 | 106.40 |
| 12 | B | 1123 | C | C2-N3-C4 | 7.18 | 123.49 | 119.90 |
| 12 | B | 1646 | C | C5-C6-N1 | 7.18 | 124.59 | 121.00 |
| 12 | B | 2010 | G | C6-C5-N7 | -7.18 | 126.09 | 130.40 |
| 12 | B | 2029 | G | O4'-C1'-N9 | 7.18 | 113.95 | 108.20 |
| 12 | B | 836 | G | C8-N9-C4 | -7.18 | 103.53 | 106.40 |
| 12 | B | 1762 | A | N3-C4-N9 | 7.18 | 133.14 | 127.40 |
| 12 | B | 1807 | G | N1-C6-O6 | 7.18 | 124.21 | 119.90 |
| 12 | B | 2373 | G | C6-C5-N7 | -7.18 | 126.09 | 130.40 |
| 12 | B | 244 | A | C4'-C3'-C2' | -7.18 | 95.42 | 102.60 |
| 12 | B | 458 | G | N1-C6-O6 | 7.18 | 124.21 | 119.90 |
| 12 | B | 511 | U | O4'-C1'-N1 | 7.18 | 113.94 | 108.20 |
| 12 | B | 825 | A | C6-C5-N7 | -7.18 | 127.27 | 132.30 |
| 12 | B | 866 | A | N9-C4-C5 | 7.18 | 108.67 | 105.80 |
| 12 | B | 1000 | A | C5-C6-N6 | -7.18 | 117.96 | 123.70 |
| 12 | B | 1142 | A | P-O3'-C3' | 7.18 | 128.31 | 119.70 |
| 12 | B | 1485 | U | C2-N1-C1' | -7.18 | 109.08 | 117.70 |
| 12 | B | 1770 | G | C8-N9-C4 | -7.18 | 103.53 | 106.40 |
| 12 | B | 1912 | A | O4'-C1'-N9 | 7.18 | 113.94 | 108.20 |
| 12 | B | 2141 | G | C5-C6-N1 | 7.18 | 115.09 | 111.50 |
| 12 | B | 2517 | C | N1-C2-O2 | 7.18 | 123.21 | 118.90 |
| 12 | B | 2548 | U | N3-C4-O4 | 7.18 | 124.43 | 119.40 |
| 12 | B | 799 | G | O4'-C1'-N9 | 7.18 | 113.94 | 108.20 |
| 12 | B | 2134 | A | C6-C5-N7 | -7.18 | 127.28 | 132.30 |
| 12 | B | 2303 | G | C6-C5-N7 | -7.18 | 126.09 | 130.40 |
| 11 | A | 98 | G | C6-N1-C2 | 7.18 | 129.41 | 125.10 |
| 12 | B | 77 | G | C5-C6-N1 | -7.18 | 107.91 | 111.50 |
| 12 | B | 1473 | G | O4'-C1'-N9 | 7.18 | 113.94 | 108.20 |
| 12 | B | 1843 | C | C5-C4-N4 | -7.18 | 115.18 | 120.20 |
| 11 | A | 61 | G | C5-N7-C8 | 7.17 | 107.89 | 104.30 |
| 12 | B | 223 | A | N1-C6-N6 | 7.17 | 122.91 | 118.60 |
| 12 | B | 312 | G | N1-C6-O6 | 7.17 | 124.20 | 119.90 |
| 12 | B | 678 | C | N1-C2-O2 | 7.17 | 123.20 | 118.90 |
| 12 | B | 2590 | A | C2-N3-C4 | 7.17 | 114.19 | 110.60 |
| 15 | E | 43 | THR | CA-CB-CG2 | -7.17 | 102.36 | 112.40 |
| 1 | 0 | 2 | ARG | NE-CZ-NH1 | -7.17 | 116.71 | 120.30 |
| 12 | B | 2268 | A | C4-C5-C6 | 7.17 | 120.59 | 117.00 |
| 12 | B | 2876 | G | P-O5'-C5' | -7.17 | 109.42 | 120.90 |
| 12 | B | 230 | G | C8-N9-C4 | -7.17 | 103.53 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 799 | G | C5-C6-O6 | -7.17 | 124.30 | 128.60 |
| 12 | B | 1151 | A | N1-C2-N3 | 7.17 | 132.89 | 129.30 |
| 12 | B | 2206 | C | C4-C5-C6 | 7.17 | 120.99 | 117.40 |
| 11 | A | 100 | G | N1-C2-N3 | -7.17 | 119.60 | 123.90 |
| 12 | B | 81 | G | C2-N3-C4 | 7.17 | 115.48 | 111.90 |
| 12 | B | 384 | A | C4-C5-C6 | 7.17 | 120.58 | 117.00 |
| 12 | B | 952 | G | C2-N3-C4 | 7.17 | 115.48 | 111.90 |
| 12 | B | 1076 | C | P-O3'-C3' | -7.17 | 111.10 | 119.70 |
| 12 | B | 1603 | A | C5-C6-N6 | -7.17 | 117.96 | 123.70 |
| 12 | B | 2325 | G | N7-C8-N9 | 7.17 | 116.69 | 113.10 |
| 12 | B | 2382 | G | N3-C2-N2 | 7.17 | 124.92 | 119.90 |
| 12 | B | 2828 | G | N7-C8-N9 | -7.17 | 109.52 | 113.10 |
| 12 | B | 85 | G | N1-C6-O6 | 7.17 | 124.20 | 119.90 |
| 12 | B | 632 | A | C2-N3-C4 | -7.17 | 107.02 | 110.60 |
| 12 | B | 1461 | C | O4'-C1'-N1 | 7.17 | 113.94 | 108.20 |
| 12 | B | 1510 | G | C5-C6-N1 | -7.17 | 107.92 | 111.50 |
| 12 | B | 1661 | G | N3-C4-C5 | 7.17 | 132.19 | 128.60 |
| 12 | B | 2315 | G | N3-C4-N9 | -7.17 | 121.70 | 126.00 |
| 12 | B | 2828 | G | C8-N9-C4 | 7.17 | 109.27 | 106.40 |
| 12 | B | 111 | A | N1-C2-N3 | 7.17 | 132.88 | 129.30 |
| 12 | B | 330 | A | N9-C4-C5 | 7.17 | 108.67 | 105.80 |
| 12 | B | 560 | C | C4-C5-C6 | 7.17 | 120.98 | 117.40 |
| 12 | B | 1587 | G | N7-C8-N9 | 7.17 | 116.68 | 113.10 |
| 12 | B | 1763 | G | O4'-C1'-N9 | 7.17 | 113.93 | 108.20 |
| 12 | B | 2136 | G | N3-C4-N9 | 7.17 | 130.30 | 126.00 |
| 12 | B | 2382 | G | C4-C5-C6 | 7.17 | 123.10 | 118.80 |
| 12 | B | 2601 | C | C2-N3-C4 | -7.17 | 116.32 | 119.90 |
| 12 | B | 2602 | A | C6-C5-N7 | -7.17 | 127.28 | 132.30 |
| 12 | B | 2788 | C | C5-C4-N4 | -7.17 | 115.18 | 120.20 |
| 12 | B | 1368 | G | N9-C4-C5 | -7.17 | 102.53 | 105.40 |
| 11 | A | 24 | G | P-O3'-C3' | 7.16 | 128.30 | 119.70 |
| 12 | B | 477 | A | C5-C6-N1 | -7.16 | 114.12 | 117.70 |
| 12 | B | 1318 | U | O4'-C1'-N1 | 7.16 | 113.93 | 108.20 |
| 12 | B | 1496 | A | O4'-C1'-N9 | 7.16 | 113.93 | 108.20 |
| 12 | B | 1808 | A | C4-C5-C6 | 7.16 | 120.58 | 117.00 |
| 12 | B | 2289 | G | C6-N1-C2 | 7.16 | 129.40 | 125.10 |
| 11 | A | 38 | C | C3'-C2'-C1' | -7.16 | 95.77 | 101.50 |
| 12 | B | 1581 | G | C6-N1-C2 | -7.16 | 120.80 | 125.10 |
| 12 | B | 1735 | A | C4-C5-C6 | 7.16 | 120.58 | 117.00 |
| 12 | B | 1892 | C | C4-C5-C6 | 7.16 | 120.98 | 117.40 |
| 12 | B | 1897 | G | N3-C4-C5 | 7.16 | 132.18 | 128.60 |
| 12 | B | 2124 | G | N1-C6-O6 | 7.16 | 124.20 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2436 | G | N1-C2-N3 | -7.16 | 119.60 | 123.90 |
| 12 | B | 310 | A | N9-C4-C5 | -7.16 | 102.94 | 105.80 |
| 12 | B | 537 | G | C6-N1-C2 | 7.16 | 129.40 | 125.10 |
| 12 | B | 563 | A | C4-C5-C6 | 7.16 | 120.58 | 117.00 |
| 12 | B | 760 | G | C5-C6-O6 | -7.16 | 124.31 | 128.60 |
| 12 | B | 1620 | G | C6-N1-C2 | -7.16 | 120.80 | 125.10 |
| 12 | B | 1651 | G | C5-C6-N1 | -7.16 | 107.92 | 111.50 |
| 12 | B | 1816 | C | N3-C4-N4 | 7.16 | 123.01 | 118.00 |
| 12 | B | 2059 | A | C2-N3-C4 | -7.16 | 107.02 | 110.60 |
| 12 | B | 2183 | A | C5-N7-C8 | 7.16 | 107.48 | 103.90 |
| 12 | B | 2473 | U | O4'-C1'-N1 | 7.16 | 113.93 | 108.20 |
| 12 | B | 9 | G | N1-C2-N2 | -7.16 | 109.76 | 116.20 |
| 12 | B | 537 | G | O4'-C1'-N9 | 7.16 | 113.93 | 108.20 |
| 12 | B | 351 | C | N3-C4-C5 | -7.16 | 119.04 | 121.90 |
| 12 | B | 845 | A | C4'-C3'-C2' | -7.16 | 95.44 | 102.60 |
| 12 | B | 889 | C | C4-C5-C6 | 7.16 | 120.98 | 117.40 |
| 12 | B | 1507 | C | C2-N1-C1' | 7.16 | 126.67 | 118.80 |
| 12 | B | 1863 | G | C2-N3-C4 | 7.16 | 115.48 | 111.90 |
| 12 | B | 2100 | G | O4'-C1'-N9 | 7.16 | 113.92 | 108.20 |
| 12 | B | 304 | U | C2-N1-C1' | -7.15 | 109.11 | 117.70 |
| 12 | B | 788 | A | C4-C5-C6 | 7.15 | 120.58 | 117.00 |
| 12 | B | 1037 | G | C5-C6-N1 | -7.15 | 107.92 | 111.50 |
| 12 | B | 1000 | A | P-O3'-C3' | 7.15 | 128.28 | 119.70 |
| 12 | B | 2531 | A | C8-N9-C4 | -7.15 | 102.94 | 105.80 |
| 12 | B | 2835 | A | C4-C5-C6 | 7.15 | 120.58 | 117.00 |
| 12 | B | 166 | U | N3-C4-O4 | 7.15 | 124.41 | 119.40 |
| 12 | B | 258 | G | C5-C6-N1 | -7.15 | 107.92 | 111.50 |
| 12 | B | 275 | C | N3-C4-N4 | 7.15 | 123.00 | 118.00 |
| 12 | B | 315 | G | N1-C2-N3 | -7.15 | 119.61 | 123.90 |
| 12 | B | 457 | A | C4-C5-C6 | 7.15 | 120.58 | 117.00 |
| 12 | B | 2067 | G | C2-N3-C4 | 7.15 | 115.48 | 111.90 |
| 12 | B | 2456 | C | N3-C4-N4 | 7.15 | 123.00 | 118.00 |
| 12 | B | 820 | A | N1-C2-N3 | 7.15 | 132.88 | 129.30 |
| 12 | B | 901 | C | C3'-C2'-C1' | 7.15 | 107.22 | 101.50 |
| 12 | B | 1055 | G | O4'-C1'-N9 | 7.15 | 113.92 | 108.20 |
| 12 | B | 2200 | C | C5-C6-N1 | -7.15 | 117.43 | 121.00 |
| 29 | S | 92 | ARG | NE-CZ-NH2 | -7.15 | 116.73 | 120.30 |
| 12 | B | 1259 | G | C3'-C2'-C1' | -7.15 | 95.78 | 101.50 |
| 13 | C | 34 | GLU | N-CA-CB | 7.15 | 123.47 | 110.60 |
| 12 | B | 596 | U | C6-N1-C2 | 7.15 | 125.29 | 121.00 |
| 12 | B | 1463 | C | N3-C4-C5 | -7.15 | 119.04 | 121.90 |
| 12 | B | 2619 | C | O4'-C1'-N1 | 7.15 | 113.92 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 121 | G | C4-C5-C6 | 7.14 | 123.09 | 118.80 |
| 12 | B | 804 | A | C5-N7-C8 | 7.14 | 107.47 | 103.90 |
| 12 | B | 995 | C | C1'-O4'-C4' | -7.14 | 104.18 | 109.90 |
| 12 | B | 1087 | G | N7-C8-N9 | -7.14 | 109.53 | 113.10 |
| 12 | B | 1376 | C | C4-C5-C6 | 7.14 | 120.97 | 117.40 |
| 12 | B | 1551 | A | C2-N3-C4 | 7.14 | 114.17 | 110.60 |
| 12 | B | 1969 | A | C5-C6-N1 | -7.14 | 114.13 | 117.70 |
| 12 | B | 2633 | G | N1-C2-N3 | -7.14 | 119.61 | 123.90 |
| 12 | B | 2686 | G | C4-C5-N7 | -7.14 | 107.94 | 110.80 |
| 12 | B | 2851 | A | N9-C4-C5 | 7.14 | 108.66 | 105.80 |
| 12 | B | 1666 | G | C4'-C3'-C2' | -7.14 | 95.46 | 102.60 |
| 12 | B | 1807 | G | C5-C6-N1 | -7.14 | 107.93 | 111.50 |
| 12 | B | 1855 | U | N3-C4-C5 | 7.14 | 118.89 | 114.60 |
| 12 | B | 2213 | U | C6-N1-C1' | -7.14 | 111.20 | 121.20 |
| 12 | B | 2817 | U | C4-C5-C6 | -7.14 | 115.41 | 119.70 |
| 12 | B | 666 | A | N7-C8-N9 | -7.14 | 110.23 | 113.80 |
| 12 | B | 2082 | A | C2-N3-C4 | 7.14 | 114.17 | 110.60 |
| 12 | B | 2121 | G | C4-C5-C6 | 7.14 | 123.08 | 118.80 |
| 11 | A | 62 | C | N3-C4-C5 | -7.14 | 119.04 | 121.90 |
| 11 | A | 110 | C | C2-N3-C4 | 7.14 | 123.47 | 119.90 |
| 12 | B | 26 | G | N1-C6-O6 | 7.14 | 124.18 | 119.90 |
| 12 | B | 247 | G | C8-N9-C4 | -7.14 | 103.55 | 106.40 |
| 12 | B | 1799 | G | O4'-C1'-N9 | 7.14 | 113.91 | 108.20 |
| 12 | B | 2700 | A | O4'-C1'-N9 | 7.14 | 113.91 | 108.20 |
| 12 | B | 415 | A | P-O3'-C3' | -7.14 | 111.14 | 119.70 |
| 12 | B | 1542 | U | C5-C4-O4 | -7.14 | 121.62 | 125.90 |
| 12 | B | 1887 | C | C5-C4-N4 | -7.14 | 115.20 | 120.20 |
| 12 | B | 2603 | G | C4-C5-C6 | 7.14 | 123.08 | 118.80 |
| 12 | B | 2781 | A | C5-C6-N6 | -7.14 | 117.99 | 123.70 |
| 12 | B | 1518 | C | N1-C2-N3 | -7.14 | 114.20 | 119.20 |
| 12 | B | 1914 | C | N3-C4-C5 | -7.14 | 119.05 | 121.90 |
| 12 | B | 2428 | G | P-O3'-C3' | 7.14 | 128.26 | 119.70 |
| 12 | B | 2759 | G | C5-N7-C8 | 7.14 | 107.87 | 104.30 |
| 15 | E | 49 | ARG | NE-CZ-NH1 | -7.14 | 116.73 | 120.30 |
| 11 | A | 55 | U | P-O5'-C5' | 7.13 | 132.31 | 120.90 |
| 12 | B | 277 | G | C5-C6-N1 | -7.13 | 107.93 | 111.50 |
| 12 | B | 466 | A | C5-C6-N1 | -7.13 | 114.13 | 117.70 |
| 12 | B | 1020 | A | C8-N9-C4 | -7.13 | 102.95 | 105.80 |
| 12 | B | 1159 | U | N3-C4-O4 | 7.13 | 124.39 | 119.40 |
| 12 | B | 1372 | U | O4'-C1'-N1 | 7.13 | 113.91 | 108.20 |
| 12 | B | 1424 | G | N1-C2-N2 | -7.13 | 109.78 | 116.20 |
| 12 | B | 2404 | U | C5-C6-N1 | 7.13 | 126.27 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2550 | G | N1-C2-N3 | -7.13 | 119.62 | 123.90 |
| 12 | B | 2887 | A | N1-C6-N6 | 7.13 | 122.88 | 118.60 |
| 24 | N | 72 | ASP | CB-CG-OD1 | 7.13 | 124.72 | 118.30 |
| 12 | B | 1071 | G | N3-C4-C5 | -7.13 | 125.03 | 128.60 |
| 12 | B | 1374 | G | C8-N9-C4 | -7.13 | 103.55 | 106.40 |
| 12 | B | 1507 | C | C6-N1-C2 | -7.13 | 117.45 | 120.30 |
| 12 | B | 2163 | A | C4-C5-C6 | 7.13 | 120.57 | 117.00 |
| 12 | B | 449 | A | C4'-C3'-C2' | -7.13 | 95.47 | 102.60 |
| 12 | B | 858 | G | O4'-C1'-N9 | 7.13 | 113.91 | 108.20 |
| 12 | B | 1668 | A | C8-N9-C4 | -7.13 | 102.95 | 105.80 |
| 12 | B | 2282 | G | C4'-C3'-C2' | 7.13 | 109.73 | 102.60 |
| 12 | B | 183 | C | N1-C2-N3 | 7.13 | 124.19 | 119.20 |
| 12 | B | 2015 | A | C6-C5-N7 | -7.13 | 127.31 | 132.30 |
| 12 | B | 2606 | C | C4'-C3'-C2' | -7.13 | 95.47 | 102.60 |
| 12 | B | 384 | A | N7-C8-N9 | 7.13 | 117.36 | 113.80 |
| 12 | B | 1417 | C | P-O5'-C5' | 7.13 | 132.31 | 120.90 |
| 12 | B | 2239 | G | O4'-C1'-N9 | 7.13 | 113.90 | 108.20 |
| 12 | B | 142 | A | C4-C5-N7 | -7.13 | 107.14 | 110.70 |
| 12 | B | 191 | A | C3'-C2'-C1' | -7.13 | 95.80 | 101.50 |
| 12 | B | 945 | A | C4-C5-C6 | 7.13 | 120.56 | 117.00 |
| 12 | B | 1431 | A | O4'-C1'-N9 | 7.13 | 113.90 | 108.20 |
| 12 | B | 2421 | G | N1-C6-O6 | 7.13 | 124.18 | 119.90 |
| 12 | B | 604 | G | C8-N9-C1' | 7.12 | 136.26 | 127.00 |
| 12 | B | 790 | U | N3-C4-C5 | 7.12 | 118.88 | 114.60 |
| 12 | B | 124 | G | C5-C6-O6 | -7.12 | 124.33 | 128.60 |
| 12 | B | 237 | C | O4'-C1'-N1 | 7.12 | 113.90 | 108.20 |
| 12 | B | 238 | C | C2-N3-C4 | 7.12 | 123.46 | 119.90 |
| 12 | B | 346 | A | N7-C8-N9 | 7.12 | 117.36 | 113.80 |
| 12 | B | 526 | A | C6-C5-N7 | 7.12 | 137.29 | 132.30 |
| 12 | B | 1254 | A | N1-C6-N6 | 7.12 | 122.87 | 118.60 |
| 12 | B | 92 | U | N3-C4-O4 | -7.12 | 114.42 | 119.40 |
| 12 | B | 1057 | A | C5-C6-N1 | -7.12 | 114.14 | 117.70 |
| 12 | B | 1805 | A | O4'-C1'-N9 | 7.12 | 113.90 | 108.20 |
| 27 | Q | 32 | ARG | NE-CZ-NH2 | 7.12 | 123.86 | 120.30 |
| 12 | B | 388 | G | O4'-C1'-N9 | 7.12 | 113.90 | 108.20 |
| 12 | B | 575 | A | O4'-C1'-N9 | 7.12 | 113.90 | 108.20 |
| 12 | B | 810 | U | N3-C4-C5 | -7.12 | 110.33 | 114.60 |
| 12 | B | 838 | C | C5-C6-N1 | 7.12 | 124.56 | 121.00 |
| 12 | B | 2082 | A | C4-C5-C6 | 7.12 | 120.56 | 117.00 |
| 12 | B | 1358 | G | C5-N7-C8 | 7.12 | 107.86 | 104.30 |
| 12 | B | 1817 | G | C6-C5-N7 | -7.12 | 126.13 | 130.40 |
| 12 | B | 1886 | U | N3-C4-O4 | 7.12 | 124.38 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2042 | A | N1-C6-N6 | 7.12 | 122.87 | 118.60 |
| 12 | B | 2304 | G | N1-C6-O6 | 7.12 | 124.17 | 119.90 |
| 12 | B | 608 | A | O4'-C1'-N9 | 7.11 | 113.89 | 108.20 |
| 12 | B | 633 | A | N3-C4-C5 | -7.11 | 121.82 | 126.80 |
| 12 | B | 2505 | G | N3-C2-N2 | 7.11 | 124.88 | 119.90 |
| 12 | B | 2728 | U | P-O3'-C3' | 7.11 | 128.24 | 119.70 |
| 12 | B | 2823 | A | N7-C8-N9 | -7.11 | 110.24 | 113.80 |
| 12 | B | 2865 | U | O4'-C1'-N1 | 7.11 | 113.89 | 108.20 |
| 12 | B | 2822 | G | N3-C4-C5 | 7.11 | 132.16 | 128.60 |
| 12 | B | 71 | A | C5-C6-N1 | -7.11 | 114.14 | 117.70 |
| 12 | B | 334 | C | C5-C6-N1 | 7.11 | 124.56 | 121.00 |
| 12 | B | 380 | G | N1-C6-O6 | 7.11 | 124.17 | 119.90 |
| 12 | B | 628 | G | N1-C2-N3 | -7.11 | 119.63 | 123.90 |
| 12 | B | 1309 | G | O4'-C1'-N9 | 7.11 | 113.89 | 108.20 |
| 12 | B | 2367 | G | O4'-C1'-N9 | 7.11 | 113.89 | 108.20 |
| 12 | B | 2379 | G | C6-N1-C2 | -7.11 | 120.83 | 125.10 |
| 12 | B | 2475 | C | C5-C4-N4 | -7.11 | 115.22 | 120.20 |
| 12 | B | 2746 | U | O4'-C1'-N1 | 7.11 | 113.89 | 108.20 |
| 12 | B | 2186 | G | C5-N7-C8 | 7.11 | 107.86 | 104.30 |
| 12 | B | 2506 | U | O4'-C1'-N1 | 7.11 | 113.89 | 108.20 |
| 12 | B | 82 | U | O4'-C1'-N1 | 7.11 | 113.89 | 108.20 |
| 12 | B | 383 | C | C5-C6-N1 | 7.11 | 124.55 | 121.00 |
| 12 | B | 707 | G | C5-C6-O6 | -7.11 | 124.34 | 128.60 |
| 12 | B | 1125 | G | N7-C8-N9 | 7.11 | 116.65 | 113.10 |
| 12 | B | 1407 | G | O4'-C1'-N9 | 7.11 | 113.89 | 108.20 |
| 12 | B | 1759 | A | C8-N9-C4 | -7.11 | 102.96 | 105.80 |
| 12 | B | 1896 | G | C2-N3-C4 | -7.11 | 108.35 | 111.90 |
| 12 | B | 1955 | U | O4'-C1'-N1 | 7.11 | 113.89 | 108.20 |
| 12 | B | 2557 | G | C4-C5-N7 | -7.11 | 107.96 | 110.80 |
| 28 | R | 77 | PHE | CB-CG-CD2 | -7.11 | 115.82 | 120.80 |
| 11 | A | 48 | U | N3-C4-C5 | -7.11 | 110.34 | 114.60 |
| 12 | B | 984 | A | C4-C5-C6 | 7.11 | 120.55 | 117.00 |
| 12 | B | 2080 | A | C4-C5-N7 | -7.11 | 107.15 | 110.70 |
| 12 | B | 2394 | C | C5'-C4'-O4' | 7.11 | 117.63 | 109.10 |
| 12 | B | 2512 | C | C1'-O4'-C4' | -7.11 | 104.22 | 109.90 |
| 12 | B | 2524 | G | N3-C4-N9 | -7.11 | 121.74 | 126.00 |
| 23 | M | 31 | PHE | CB-CG-CD1 | -7.11 | 115.83 | 120.80 |
| 11 | A | 108 | A | P-O3'-C3' | 7.10 | 128.22 | 119.70 |
| 12 | B | 807 | U | C2-N3-C4 | -7.10 | 122.74 | 127.00 |
| 12 | B | 1286 | A | C4-C5-N7 | -7.10 | 107.15 | 110.70 |
| 12 | B | 1667 | G | C1'-O4'-C4' | -7.10 | 104.22 | 109.90 |
| 12 | B | 2681 | C | C2-N3-C4 | 7.10 | 123.45 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 408 | G | C4'-C3'-C2' | -7.10 | 95.50 | 102.60 |
| 12 | B | 769 | U | C2-N3-C4 | -7.10 | 122.74 | 127.00 |
| 12 | B | 916 | G | N1-C2-N2 | -7.10 | 109.81 | 116.20 |
| 12 | B | 1093 | G | N1-C6-O6 | 7.10 | 124.16 | 119.90 |
| 12 | B | 1501 | G | C5-C6-O6 | -7.10 | 124.34 | 128.60 |
| 12 | B | 1543 | G | P-O3'-C3' | 7.10 | 128.22 | 119.70 |
| 12 | B | 2093 | G | O4'-C1'-N9 | 7.10 | 113.88 | 108.20 |
| 12 | B | 2130 | U | C6-N1-C1' | -7.10 | 111.25 | 121.20 |
| 12 | B | 2282 | G | N1-C2-N2 | -7.10 | 109.81 | 116.20 |
| 12 | B | 2654 | A | C4-C5-C6 | 7.10 | 120.55 | 117.00 |
| 12 | B | 2706 | A | C1'-O4'-C4' | -7.10 | 104.22 | 109.90 |
| 11 | A | 78 | A | N7-C8-N9 | 7.10 | 117.35 | 113.80 |
| 12 | B | 98 | G | N3-C2-N2 | 7.10 | 124.87 | 119.90 |
| 12 | B | 614 | A | C4-C5-N7 | -7.10 | 107.15 | 110.70 |
| 12 | B | 1115 | G | C5'-C4'-O4' | 7.10 | 117.62 | 109.10 |
| 12 | B | 1691 | C | O4'-C1'-N1 | 7.10 | 113.88 | 108.20 |
| 12 | B | 2226 | C | N3-C4-C5 | -7.10 | 119.06 | 121.90 |
| 12 | B | 2487 | G | N7-C8-N9 | -7.10 | 109.55 | 113.10 |
| 12 | B | 17 | G | O4'-C1'-N9 | 7.10 | 113.88 | 108.20 |
| 12 | B | 169 | G | N7-C8-N9 | -7.10 | 109.55 | 113.10 |
| 12 | B | 236 | C | N3-C2-O2 | -7.10 | 116.93 | 121.90 |
| 12 | B | 309 | A | N7-C8-N9 | 7.10 | 117.35 | 113.80 |
| 12 | B | 684 | G | N3-C2-N2 | 7.10 | 124.87 | 119.90 |
| 12 | B | 719 | C | N1-C2-O2 | 7.10 | 123.16 | 118.90 |
| 12 | B | 1463 | C | C6-N1-C2 | 7.10 | 123.14 | 120.30 |
| 12 | B | 2487 | G | C6-C5-N7 | -7.10 | 126.14 | 130.40 |
| 12 | B | 728 | G | C8-N9-C4 | 7.10 | 109.24 | 106.40 |
| 12 | B | 1774 | C | C4-C5-C6 | 7.10 | 120.95 | 117.40 |
| 12 | B | 2411 | A | C4-C5-C6 | 7.10 | 120.55 | 117.00 |
| 12 | B | 2753 | A | C5-C6-N6 | -7.10 | 118.02 | 123.70 |
| 19 | I | 126 | ARG | NE-CZ-NH1 | -7.10 | 116.75 | 120.30 |
| 29 | S | 75 | PHE | CB-CG-CD1 | 7.10 | 125.77 | 120.80 |
| 12 | B | 468 | G | C2-N3-C4 | 7.09 | 115.45 | 111.90 |
| 12 | B | 549 | G | C5-C6-O6 | -7.09 | 124.34 | 128.60 |
| 12 | B | 582 | A | N1-C2-N3 | 7.09 | 132.85 | 129.30 |
| 12 | B | 1086 | A | C4-C5-N7 | -7.09 | 107.15 | 110.70 |
| 12 | B | 1580 | A | C4-C5-C6 | 7.09 | 120.55 | 117.00 |
| 12 | B | 1827 | U | C6-N1-C2 | -7.09 | 116.74 | 121.00 |
| 12 | B | 2225 | A | N7-C8-N9 | -7.09 | 110.25 | 113.80 |
| 12 | B | 424 | G | N3-C4-N9 | 7.09 | 130.26 | 126.00 |
| 12 | B | 1205 | A | C5-C6-N6 | -7.09 | 118.03 | 123.70 |
| 12 | B | 1862 | G | C3'-C2'-C1' | -7.09 | 95.83 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1063 | G | C5-N7-C8 | 7.09 | 107.85 | 104.30 |
| 12 | B | 1365 | A | O4'-C1'-N9 | 7.09 | 113.87 | 108.20 |
| 12 | B | 1632 | A | O4'-C1'-N9 | 7.09 | 113.87 | 108.20 |
| 12 | B | 1808 | A | O4'-C1'-C2' | -7.09 | 98.71 | 105.80 |
| 12 | B | 2146 | C | C2-N3-C4 | 7.09 | 123.45 | 119.90 |
| 12 | B | 448 | U | O4'-C1'-N1 | 7.09 | 113.87 | 108.20 |
| 12 | B | 722 | A | C8-N9-C4 | -7.09 | 102.96 | 105.80 |
| 12 | B | 921 | C | N3-C4-N4 | 7.09 | 122.96 | 118.00 |
| 12 | B | 1285 | A | N1-C6-N6 | 7.09 | 122.85 | 118.60 |
| 12 | B | 1432 | G | C5-C6-N1 | -7.09 | 107.96 | 111.50 |
| 12 | B | 1699 | G | O4'-C1'-C2' | -7.09 | 98.71 | 105.80 |
| 12 | B | 2387 | U | C5-C6-N1 | 7.09 | 126.25 | 122.70 |
| 12 | B | 2669 | G | N3-C4-C5 | 7.09 | 132.15 | 128.60 |
| 12 | B | 153 | U | N3-C4-C5 | -7.09 | 110.35 | 114.60 |
| 12 | B | 710 | U | C4'-C3'-C2' | -7.09 | 95.51 | 102.60 |
| 12 | B | 1526 | C | C2-N3-C4 | 7.09 | 123.44 | 119.90 |
| 12 | B | 2802 | G | C4-C5-C6 | 7.09 | 123.05 | 118.80 |
| 12 | B | 302 | C | C4-C5-C6 | -7.09 | 113.86 | 117.40 |
| 12 | B | 1252 | G | N3-C2-N2 | 7.09 | 124.86 | 119.90 |
| 12 | B | 1336 | A | N3-C4-N9 | 7.09 | 133.07 | 127.40 |
| 12 | B | 1703 | G | N1-C6-O6 | 7.09 | 124.15 | 119.90 |
| 12 | B | 2573 | C | O4'-C1'-N1 | 7.09 | 113.87 | 108.20 |
| 12 | B | 2850 | A | C8-N9-C4 | -7.09 | 102.97 | 105.80 |
| 11 | A | 14 | U | O4'-C1'-N1 | 7.08 | 113.87 | 108.20 |
| 12 | B | 348 | A | C4-C5-N7 | -7.08 | 107.16 | 110.70 |
| 12 | B | 1076 | C | N1-C2-N3 | -7.08 | 114.24 | 119.20 |
| 12 | B | 2422 | C | N1-C2-N3 | -7.08 | 114.24 | 119.20 |
| 11 | A | 103 | U | N1-C1'-C2' | -7.08 | 104.21 | 112.00 |
| 12 | B | 752 | A | C5-C6-N6 | -7.08 | 118.03 | 123.70 |
| 12 | B | 997 | G | N1-C6-O6 | 7.08 | 124.15 | 119.90 |
| 12 | B | 1075 | C | O4'-C1'-N1 | 7.08 | 113.87 | 108.20 |
| 12 | B | 2081 | U | C6-N1-C2 | -7.08 | 116.75 | 121.00 |
| 12 | B | 2509 | G | N1-C6-O6 | 7.08 | 124.15 | 119.90 |
| 12 | B | 2517 | C | C2-N1-C1' | 7.08 | 126.59 | 118.80 |
| 12 | B | 2581 | G | C4-N9-C1' | 7.08 | 135.71 | 126.50 |
| 12 | B | 2767 | C | C5-C6-N1 | 7.08 | 124.54 | 121.00 |
| 12 | B | 629 | G | N3-C2-N2 | 7.08 | 124.86 | 119.90 |
| 12 | B | 753 | A | O4'-C1'-N9 | 7.08 | 113.86 | 108.20 |
| 12 | B | 1112 | G | N1-C6-O6 | 7.08 | 124.15 | 119.90 |
| 12 | B | 1510 | G | C5-C6-O6 | -7.08 | 124.35 | 128.60 |
| 12 | B | 1515 | A | N9-C1'-C2' | -7.08 | 104.21 | 112.00 |
| 12 | B | 1911 | U | O4'-C1'-N1 | 7.08 | 113.86 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1912 | A | C5'-C4'-C3' | 7.08 | 127.33 | 116.00 |
| 12 | B | 1997 | C | N1-C2-N3 | -7.08 | 114.24 | 119.20 |
| 12 | B | 2810 | A | C4-C5-N7 | -7.08 | 107.16 | 110.70 |
| 12 | B | 2092 | U | C1'-O4'-C4' | 7.08 | 115.56 | 109.90 |
| 11 | A | 112 | G | N7-C8-N9 | -7.08 | 109.56 | 113.10 |
| 12 | B | 717 | C | C1'-O4'-C4' | -7.08 | 104.24 | 109.90 |
| 12 | B | 907 | G | N1-C2-N3 | -7.08 | 119.65 | 123.90 |
| 12 | B | 1459 | G | O5'-P-OP2 | 7.08 | 119.19 | 110.70 |
| 12 | B | 1498 | C | C5-C6-N1 | 7.08 | 124.54 | 121.00 |
| 12 | B | 2714 | G | O4'-C1'-N9 | 7.08 | 113.86 | 108.20 |
| 14 | D | 169 | ARG | NE-CZ-NH2 | 7.08 | 123.84 | 120.30 |
| 11 | A | 24 | G | N1-C6-O6 | 7.08 | 124.15 | 119.90 |
| 12 | B | 194 | G | P-O3'-C3' | -7.08 | 111.21 | 119.70 |
| 12 | B | 545 | U | N1-C2-N3 | 7.08 | 119.15 | 114.90 |
| 12 | B | 1609 | A | C3'-C2'-C1' | -7.08 | 95.84 | 101.50 |
| 12 | B | 2244 | U | N1-C2-N3 | -7.08 | 110.65 | 114.90 |
| 12 | B | 2527 | C | O4'-C1'-N1 | 7.08 | 113.86 | 108.20 |
| 12 | B | 2838 | G | C4-C5-N7 | 7.08 | 113.63 | 110.80 |
| 12 | B | 9 | G | C5-C6-N1 | -7.08 | 107.96 | 111.50 |
| 12 | B | 1026 | G | C1'-O4'-C4' | -7.08 | 104.24 | 109.90 |
| 20 | J | 122 | LEU | CB-CG-CD1 | -7.08 | 98.97 | 111.00 |
| 12 | B | 222 | A | C4-C5-C6 | 7.07 | 120.54 | 117.00 |
| 12 | B | 1036 | G | N9-C1'-C2' | -7.07 | 104.22 | 112.00 |
| 12 | B | 1551 | A | N1-C2-N3 | -7.07 | 125.76 | 129.30 |
| 12 | B | 1743 | G | C6-C5-N7 | -7.07 | 126.16 | 130.40 |
| 12 | B | 114 | U | N1-C2-N3 | 7.07 | 119.14 | 114.90 |
| 12 | B | 648 | G | C4-C5-N7 | 7.07 | 113.63 | 110.80 |
| 12 | B | 2244 | U | O5'-P-OP2 | -7.07 | 99.33 | 105.70 |
| 12 | B | 2603 | G | C8-N9-C4 | -7.07 | 103.57 | 106.40 |
| 11 | A | 22 | U | N3-C4-O4 | 7.07 | 124.35 | 119.40 |
| 12 | B | 927 | A | O4'-C1'-N9 | 7.07 | 113.86 | 108.20 |
| 12 | B | 1973 | G | N3-C4-N9 | -7.07 | 121.76 | 126.00 |
| 12 | B | 2363 | G | P-O3'-C3' | -7.07 | 111.22 | 119.70 |
| 12 | B | 2416 | C | N3-C4-C5 | -7.07 | 119.07 | 121.90 |
| 17 | G | 152 | ARG | NE-CZ-NH2 | -7.07 | 116.77 | 120.30 |
| 12 | B | 410 | G | O4'-C1'-N9 | 7.07 | 113.86 | 108.20 |
| 11 | A | 62 | C | C6-N1-C2 | -7.07 | 117.47 | 120.30 |
| 12 | B | 493 | G | C4'-C3'-C2' | -7.07 | 95.53 | 102.60 |
| 12 | B | 638 | G | C8-N9-C4 | -7.07 | 103.57 | 106.40 |
| 12 | B | 1033 | U | N3-C4-O4 | 7.07 | 124.35 | 119.40 |
| 12 | B | 1187 | G | O4'-C1'-N9 | 7.07 | 113.85 | 108.20 |
| 12 | B | 1529 | G | C2-N3-C4 | 7.07 | 115.43 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1757 | A | C5-C6-N1 | -7.07 | 114.17 | 117.70 |
| 12 | B | 2103 | C | N3-C4-N4 | 7.07 | 122.95 | 118.00 |
| 12 | B | 2338 | C | N3-C2-O2 | 7.07 | 126.85 | 121.90 |
| 12 | B | 2805 | C | N3-C4-C5 | -7.07 | 119.07 | 121.90 |
| 12 | B | 1237 | A | P-O3'-C3' | 7.07 | 128.18 | 119.70 |
| 12 | B | 1635 | A | C5-C6-N6 | -7.07 | 118.05 | 123.70 |
| 12 | B | 2067 | G | C6-C5-N7 | -7.07 | 126.16 | 130.40 |
| 12 | B | 2297 | A | N9-C4-C5 | 7.07 | 108.63 | 105.80 |
| 12 | B | 2829 | A | N1-C2-N3 | 7.07 | 132.83 | 129.30 |
| 12 | B | 24 | G | N3-C4-C5 | -7.06 | 125.07 | 128.60 |
| 12 | B | 522 | A | C6-C5-N7 | 7.06 | 137.25 | 132.30 |
| 12 | B | 980 | A | C5-C6-N6 | -7.06 | 118.05 | 123.70 |
| 12 | B | 2431 | U | C5-C6-N1 | 7.06 | 126.23 | 122.70 |
| 12 | B | 2710 | C | C4'-C3'-C2' | -7.06 | 95.54 | 102.60 |
| 11 | A | 26 | C | C4'-C3'-C2' | -7.06 | 95.54 | 102.60 |
| 12 | B | 1094 | U | O4'-C1'-N1 | 7.06 | 113.85 | 108.20 |
| 12 | B | 1518 | C | C2-N3-C4 | 7.06 | 123.43 | 119.90 |
| 12 | B | 1551 | A | C5-C6-N1 | -7.06 | 114.17 | 117.70 |
| 12 | B | 2366 | A | O4'-C1'-N9 | 7.06 | 113.85 | 108.20 |
| 12 | B | 2648 | G | C5-C6-O6 | -7.06 | 124.36 | 128.60 |
| 12 | B | 2764 | A | C4-C5-C6 | 7.06 | 120.53 | 117.00 |
| 12 | B | 913 | U | O4'-C1'-N1 | 7.06 | 113.85 | 108.20 |
| 12 | B | 1590 | A | C5-C6-N6 | -7.06 | 118.05 | 123.70 |
| 12 | B | 1815 | A | N1-C2-N3 | 7.06 | 132.83 | 129.30 |
| 22 | L | 46 | VAL | CA-CB-CG2 | 7.06 | 121.49 | 110.90 |
| 12 | B | 48 | G | C5-C6-N1 | 7.06 | 115.03 | 111.50 |
| 12 | B | 309 | A | C2-N3-C4 | -7.06 | 107.07 | 110.60 |
| 12 | B | 1157 | G | C4-C5-N7 | 7.06 | 113.62 | 110.80 |
| 12 | B | 1533 | C | C6-N1-C2 | -7.06 | 117.48 | 120.30 |
| 12 | B | 1546 | G | O4'-C1'-N9 | 7.06 | 113.85 | 108.20 |
| 12 | B | 1677 | A | C5-N7-C8 | 7.06 | 107.43 | 103.90 |
| 12 | B | 1984 | G | N7-C8-N9 | -7.06 | 109.57 | 113.10 |
| 11 | A | 84 | G | N9-C4-C5 | 7.06 | 108.22 | 105.40 |
| 12 | B | 619 | G | C6-N1-C2 | 7.06 | 129.33 | 125.10 |
| 12 | B | 645 | C | C2-N1-C1' | 7.06 | 126.56 | 118.80 |
| 12 | B | 982 | C | C5-C6-N1 | 7.06 | 124.53 | 121.00 |
| 12 | B | 1351 | C | N3-C4-N4 | 7.06 | 122.94 | 118.00 |
| 13 | C | 189 | ALA | N-CA-CB | 7.06 | 119.98 | 110.10 |
| 12 | B | 1076 | C | C5-C6-N1 | 7.06 | 124.53 | 121.00 |
| 12 | B | 1576 | U | C5'-C4'-O4' | 7.06 | 117.57 | 109.10 |
| 12 | B | 1646 | C | C2-N1-C1' | 7.06 | 126.56 | 118.80 |
| 12 | B | 2060 | A | C5-C6-N1 | -7.06 | 114.17 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 188 | G | C6-N1-C2 | 7.05 | 129.33 | 125.10 |
| 12 | B | 1278 | C | C2-N3-C4 | 7.05 | 123.43 | 119.90 |
| 12 | B | 1844 | C | C3'-C2'-C1' | -7.05 | 95.86 | 101.50 |
| 12 | B | 2109 | U | O4'-C1'-N1 | 7.05 | 113.84 | 108.20 |
| 12 | B | 648 | G | O4'-C1'-N9 | 7.05 | 113.84 | 108.20 |
| 12 | B | 704 | G | N1-C2-N2 | -7.05 | 109.86 | 116.20 |
| 12 | B | 1800 | C | N3-C4-N4 | 7.05 | 122.94 | 118.00 |
| 12 | B | 2414 | G | C5-C6-N1 | -7.05 | 107.97 | 111.50 |
| 12 | B | 2836 | U | N3-C2-O2 | 7.05 | 127.14 | 122.20 |
| 13 | C | 247 | TRP | CD1-CG-CD2 | 7.05 | 111.94 | 106.30 |
| 12 | B | 430 | A | C5-C6-N6 | -7.05 | 118.06 | 123.70 |
| 12 | B | 906 | U | O4'-C4'-C3' | -7.05 | 96.95 | 104.00 |
| 12 | B | 1462 | C | N3-C4-C5 | -7.05 | 119.08 | 121.90 |
| 12 | B | 2749 | A | C2-N3-C4 | -7.05 | 107.08 | 110.60 |
| 20 | J | 125 | TYR | CB-CG-CD2 | -7.05 | 116.77 | 121.00 |
| 12 | B | 142 | A | O4'-C4'-C3' | -7.05 | 96.95 | 104.00 |
| 12 | B | 102 | U | C5-C4-O4 | 7.05 | 130.13 | 125.90 |
| 12 | B | 2557 | G | C8-N9-C4 | -7.05 | 103.58 | 106.40 |
| 11 | A | 52 | A | C4-C5-C6 | 7.04 | 120.52 | 117.00 |
| 12 | B | 54 | G | N9-C4-C5 | -7.04 | 102.58 | 105.40 |
| 12 | B | 1689 | A | C5-C6-N1 | -7.04 | 114.18 | 117.70 |
| 12 | B | 2627 | G | OP1-P-OP2 | -7.04 | 109.03 | 119.60 |
| 12 | B | 88 | G | P-O5'-C5' | -7.04 | 109.63 | 120.90 |
| 12 | B | 369 | U | N1-C2-N3 | 7.04 | 119.13 | 114.90 |
| 12 | B | 677 | A | C5-C6-N6 | -7.04 | 118.06 | 123.70 |
| 12 | B | 718 | A | N1-C2-N3 | 7.04 | 132.82 | 129.30 |
| 12 | B | 1243 | C | C5-C4-N4 | -7.04 | 115.27 | 120.20 |
| 12 | B | 2586 | U | O4'-C1'-N1 | 7.04 | 113.83 | 108.20 |
| 12 | B | 1631 | G | C8-N9-C4 | -7.04 | 103.58 | 106.40 |
| 12 | B | 2125 | G | N3-C4-C5 | -7.04 | 125.08 | 128.60 |
| 12 | B | 2736 | A | C4-C5-C6 | 7.04 | 120.52 | 117.00 |
| 12 | B | 180 | G | C5-C6-N1 | -7.04 | 107.98 | 111.50 |
| 12 | B | 1000 | A | C3'-C2'-C1' | -7.04 | 95.87 | 101.50 |
| 12 | B | 1721 | G | C5-C6-O6 | -7.04 | 124.38 | 128.60 |
| 12 | B | 2159 | G | C8-N9-C4 | -7.04 | 103.58 | 106.40 |
| 10 | 9 | 200 | VAL | CA-CB-CG2 | -7.04 | 100.34 | 110.90 |
| 12 | B | 150 | U | C2-N3-C4 | 7.04 | 131.22 | 127.00 |
| 12 | B | 919 | U | C3'-C2'-C1' | 7.04 | 107.13 | 101.50 |
| 12 | B | 1178 | C | P-O3'-C3' | 7.04 | 128.15 | 119.70 |
| 12 | B | 1228 | G | N7-C8-N9 | -7.04 | 109.58 | 113.10 |
| 12 | B | 1596 | A | C6-C5-N7 | -7.04 | 127.37 | 132.30 |
| 12 | B | 2396 | G | C3'-C2'-C1' | -7.04 | 95.87 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 363 | G | N3-C2-N2 | 7.04 | 124.83 | 119.90 |
| 12 | B | 476 | G | C5-C6-N1 | -7.04 | 107.98 | 111.50 |
| 12 | B | 842 | U | C3'-C2'-C1' | -7.04 | 95.87 | 101.50 |
| 12 | B | 1385 | A | C5-C6-N1 | -7.04 | 114.18 | 117.70 |
| 15 | E | 44 | ARG | N-CA-CB | 7.04 | 123.27 | 110.60 |
| 28 | R | 21 | ARG | NE-CZ-NH1 | -7.04 | 116.78 | 120.30 |
| 30 | T | 3 | ARG | NE-CZ-NH2 | -7.04 | 116.78 | 120.30 |
| 12 | B | 342 | A | N1-C6-N6 | 7.04 | 122.82 | 118.60 |
| 12 | B | 474 | G | O4'-C1'-N9 | 7.04 | 113.83 | 108.20 |
| 12 | B | 1289 | C | C5'-C4'-C3' | -7.04 | 104.74 | 116.00 |
| 12 | B | 1315 | C | C4-C5-C6 | -7.04 | 113.88 | 117.40 |
| 12 | B | 1666 | G | N3-C4-C5 | 7.04 | 132.12 | 128.60 |
| 12 | B | 1806 | C | C5-C4-N4 | -7.04 | 115.28 | 120.20 |
| 12 | B | 1907 | G | C2-N3-C4 | -7.04 | 108.38 | 111.90 |
| 12 | B | 2063 | C | P-O5'-C5' | -7.04 | 109.64 | 120.90 |
| 12 | B | 2071 | A | C4-C5-N7 | -7.04 | 107.18 | 110.70 |
| 12 | B | 2525 | G | C8-N9-C4 | -7.04 | 103.59 | 106.40 |
| 12 | B | 389 | G | O4'-C1'-N9 | 7.03 | 113.83 | 108.20 |
| 12 | B | 453 | A | C5-C6-N6 | -7.03 | 118.07 | 123.70 |
| 12 | B | 1002 | G | C5-N7-C8 | -7.03 | 100.78 | 104.30 |
| 12 | B | 1109 | C | C5-C4-N4 | -7.03 | 115.28 | 120.20 |
| 12 | B | 1633 | G | N3-C2-N2 | 7.03 | 124.82 | 119.90 |
| 12 | B | 2490 | G | C6-N1-C2 | -7.03 | 120.88 | 125.10 |
| 12 | B | 2491 | U | O4'-C1'-N1 | 7.03 | 113.83 | 108.20 |
| 12 | B | 1604 | C | C5-C6-N1 | -7.03 | 117.48 | 121.00 |
| 12 | B | 2646 | C | N3-C4-C5 | -7.03 | 119.09 | 121.90 |
| 11 | A | 22 | U | C6-N1-C2 | -7.03 | 116.78 | 121.00 |
| 12 | B | 201 | C | C2-N3-C4 | 7.03 | 123.42 | 119.90 |
| 12 | B | 1154 | G | C6-C5-N7 | -7.03 | 126.18 | 130.40 |
| 12 | B | 1439 | A | C6-N1-C2 | 7.03 | 122.82 | 118.60 |
| 12 | B | 1584 | U | O4'-C1'-N1 | 7.03 | 113.82 | 108.20 |
| 11 | A | 115 | A | N1-C6-N6 | 7.03 | 122.82 | 118.60 |
| 12 | B | 454 | A | C8-N9-C4 | -7.03 | 102.99 | 105.80 |
| 12 | B | 1413 | A | C8-N9-C4 | -7.03 | 102.99 | 105.80 |
| 12 | B | 1863 | G | O4'-C1'-N9 | 7.03 | 113.82 | 108.20 |
| 11 | A | 67 | G | N9-C4-C5 | 7.03 | 108.21 | 105.40 |
| 12 | B | 1311 | G | N7-C8-N9 | 7.03 | 116.61 | 113.10 |
| 12 | B | 2281 | A | C5-C6-N6 | -7.03 | 118.08 | 123.70 |
| 12 | B | 1620 | G | C6-C5-N7 | -7.03 | 126.19 | 130.40 |
| 12 | B | 1910 | G | N1-C6-O6 | 7.03 | 124.12 | 119.90 |
| 12 | B | 2158 | A | C8-N9-C4 | -7.03 | 102.99 | 105.80 |
| 12 | B | 2430 | A | C8-N9-C4 | -7.03 | 102.99 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2596 | U | C5-C6-N1 | -7.03 | 119.19 | 122.70 |
| 12 | B | 196 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 12 | B | 368 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 12 | B | 182 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 12 | B | 946 | C | N3-C4-C5 | -7.02 | 119.09 | 121.90 |
| 12 | B | 1281 | G | N3-C4-C5 | 7.02 | 132.11 | 128.60 |
| 12 | B | 1731 | G | C6-C5-N7 | -7.02 | 126.19 | 130.40 |
| 12 | B | 1732 | C | C3'-C2'-C1' | -7.02 | 95.88 | 101.50 |
| 12 | B | 1819 | A | C5-C6-N1 | -7.02 | 114.19 | 117.70 |
| 12 | B | 2123 | G | C5-N7-C8 | -7.02 | 100.79 | 104.30 |
| 12 | B | 2871 | U | O4'-C1'-N1 | 7.02 | 113.82 | 108.20 |
| 12 | B | 1952 | A | N3-C4-C5 | -7.02 | 121.89 | 126.80 |
| 12 | B | 215 | G | C6-C5-N7 | -7.02 | 126.19 | 130.40 |
| 12 | B | 290 | U | O4'-C1'-N1 | 7.02 | 113.82 | 108.20 |
| 12 | B | 1366 | A | C5-C6-N1 | -7.02 | 114.19 | 117.70 |
| 12 | B | 1378 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 12 | B | 1625 | C | P-O5'-C5' | 7.02 | 132.13 | 120.90 |
| 12 | B | 2354 | C | P-O5'-C5' | -7.02 | 109.67 | 120.90 |
| 12 | B | 2684 | U | O4'-C1'-N1 | 7.02 | 113.82 | 108.20 |
| 12 | B | 137 | U | O4'-C4'-C3' | -7.02 | 96.98 | 104.00 |
| 12 | B | 1395 | A | C6-C5-N7 | -7.02 | 127.39 | 132.30 |
| 12 | B | 1713 | A | C5'-C4'-O4' | 7.02 | 117.52 | 109.10 |
| 12 | B | 2262 | U | C6-N1-C2 | -7.02 | 116.79 | 121.00 |
| 14 | D | 199 | SER | N-CA-CB | 7.02 | 121.03 | 110.50 |
| 12 | B | 291 | G | C8-N9-C4 | -7.02 | 103.59 | 106.40 |
| 12 | B | 422 | A | N3-C4-C5 | -7.02 | 121.89 | 126.80 |
| 12 | B | 1402 | U | N3-C4-O4 | 7.01 | 124.31 | 119.40 |
| 12 | B | 2235 | G | C4-C5-N7 | 7.01 | 113.61 | 110.80 |
| 12 | B | 2587 | A | N3-C4-C5 | -7.01 | 121.89 | 126.80 |
| 12 | B | 2637 | U | C5'-C4'-C3' | -7.01 | 104.78 | 116.00 |
| 33 | Y | 13 | ARG | NE-CZ-NH1 | 7.01 | 123.81 | 120.30 |
| 12 | B | 51 | G | C5-C6-N1 | 7.01 | 115.01 | 111.50 |
| 12 | B | 1849 | G | C5-C6-N1 | -7.01 | 107.99 | 111.50 |
| 12 | B | 2886 | A | C8-N9-C4 | 7.01 | 108.61 | 105.80 |
| 12 | B | 270 | A | O4'-C1'-N9 | 7.01 | 113.81 | 108.20 |
| 12 | B | 366 | C | O4'-C1'-N1 | 7.01 | 113.81 | 108.20 |
| 12 | B | 649 | G | C2-N3-C4 | -7.01 | 108.39 | 111.90 |
| 12 | B | 1511 | G | N3-C4-C5 | -7.01 | 125.09 | 128.60 |
| 12 | B | 1789 | A | N3-C4-N9 | 7.01 | 133.01 | 127.40 |
| 12 | B | 1890 | A | C6-C5-N7 | -7.01 | 127.39 | 132.30 |
| 12 | B | 2100 | G | C5-N7-C8 | -7.01 | 100.79 | 104.30 |
| 12 | B | 2346 | A | C2-N3-C4 | -7.01 | 107.09 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2572 | A | C5-C6-N6 | -7.01 | 118.09 | 123.70 |
| 12 | B | 1004 | U | O4'-C1'-N1 | 7.01 | 113.81 | 108.20 |
| 12 | B | 1786 | A | C5-C6-N6 | -7.01 | 118.09 | 123.70 |
| 12 | B | 2621 | G | N1-C2-N3 | -7.01 | 119.69 | 123.90 |
| 12 | B | 434 | U | N3-C4-O4 | 7.01 | 124.31 | 119.40 |
| 12 | B | 2734 | A | N3-C4-C5 | 7.01 | 131.71 | 126.80 |
| 12 | B | 489 | G | C5-C6-O6 | -7.01 | 124.40 | 128.60 |
| 12 | B | 792 | A | C4-C5-C6 | 7.01 | 120.50 | 117.00 |
| 12 | B | 1744 | A | C4-C5-C6 | 7.01 | 120.50 | 117.00 |
| 12 | B | 2098 | U | C5-C6-N1 | 7.01 | 126.20 | 122.70 |
| 12 | B | 2425 | A | O4'-C4'-C3' | 7.01 | 111.70 | 106.10 |
| 12 | B | 2561 | U | C5-C6-N1 | 7.01 | 126.20 | 122.70 |
| 12 | B | 2800 | A | N7-C8-N9 | 7.01 | 117.30 | 113.80 |
| 12 | B | 538 | A | C4-C5-N7 | -7.00 | 107.20 | 110.70 |
| 12 | B | 619 | G | N3-C2-N2 | 7.00 | 124.80 | 119.90 |
| 12 | B | 1620 | G | C2-N3-C4 | 7.00 | 115.40 | 111.90 |
| 12 | B | 1746 | A | C5-C6-N6 | -7.00 | 118.10 | 123.70 |
| 12 | B | 1784 | A | O4'-C1'-N9 | 7.00 | 113.80 | 108.20 |
| 12 | B | 1920 | C | N3-C4-C5 | -7.00 | 119.10 | 121.90 |
| 12 | B | 1939 | U | C4-C5-C6 | -7.00 | 115.50 | 119.70 |
| 12 | B | 2531 | A | C4'-C3'-C2' | -7.00 | 95.59 | 102.60 |
| 11 | A | 54 | G | C5-C6-O6 | -7.00 | 124.40 | 128.60 |
| 12 | B | 205 | G | C3'-C2'-C1' | -7.00 | 95.90 | 101.50 |
| 12 | B | 261 | G | C5-N7-C8 | 7.00 | 107.80 | 104.30 |
| 12 | B | 390 | U | O4'-C1'-N1 | 7.00 | 113.80 | 108.20 |
| 12 | B | 774 | G | O4'-C1'-N9 | 7.00 | 113.80 | 108.20 |
| 12 | B | 1351 | C | N3-C4-C5 | -7.00 | 119.10 | 121.90 |
| 12 | B | 1903 | G | C5-C6-O6 | -7.00 | 124.40 | 128.60 |
| 12 | B | 2658 | C | C6-N1-C2 | -7.00 | 117.50 | 120.30 |
| 12 | B | 2894 | G | C5-C6-O6 | -7.00 | 124.40 | 128.60 |
| 12 | B | 83 | A | N9-C4-C5 | -7.00 | 103.00 | 105.80 |
| 12 | B | 856 | G | C5'-C4'-C3' | -7.00 | 104.80 | 116.00 |
| 12 | B | 1262 | A | C5-C6-N6 | -7.00 | 118.10 | 123.70 |
| 12 | B | 1302 | A | N1-C6-N6 | 7.00 | 122.80 | 118.60 |
| 12 | B | 1530 | G | N1-C6-O6 | 7.00 | 124.10 | 119.90 |
| 12 | B | 2397 | G | N3-C2-N2 | -7.00 | 115.00 | 119.90 |
| 12 | B | 81 | G | N3-C4-C5 | -7.00 | 125.10 | 128.60 |
| 12 | B | 406 | G | N1-C6-O6 | 7.00 | 124.10 | 119.90 |
| 12 | B | 1252 | G | C5-N7-C8 | 7.00 | 107.80 | 104.30 |
| 12 | B | 1268 | A | C8-N9-C4 | -7.00 | 103.00 | 105.80 |
| 12 | B | 1990 | C | C2-N3-C4 | -7.00 | 116.40 | 119.90 |
| 12 | B | 67 | U | C4'-C3'-C2' | -7.00 | 95.60 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 494 | G | N7-C8-N9 | -7.00 | 109.60 | 113.10 |
| 12 | B | 618 | G | N3-C4-N9 | -7.00 | 121.80 | 126.00 |
| 12 | B | 781 | A | C8-N9-C4 | -7.00 | 103.00 | 105.80 |
| 12 | B | 1184 | U | C3'-C2'-C1' | -7.00 | 95.90 | 101.50 |
| 12 | B | 1299 | G | C5-C6-N1 | -7.00 | 108.00 | 111.50 |
| 12 | B | 1499 | C | P-O3'-C3' | 7.00 | 128.10 | 119.70 |
| 12 | B | 1695 | G | C8-N9-C1' | -7.00 | 117.90 | 127.00 |
| 12 | B | 2231 | U | O4'-C1'-N1 | 7.00 | 113.80 | 108.20 |
| 12 | B | 2399 | G | C6-C5-N7 | -7.00 | 126.20 | 130.40 |
| 12 | B | 199 | A | N1-C2-N3 | -7.00 | 125.80 | 129.30 |
| 12 | B | 602 | A | C6-C5-N7 | -7.00 | 127.40 | 132.30 |
| 12 | B | 1384 | A | C5-N7-C8 | 7.00 | 107.40 | 103.90 |
| 12 | B | 1622 | G | C5-C6-O6 | -7.00 | 124.40 | 128.60 |
| 12 | B | 1679 | A | C5-C6-N1 | -7.00 | 114.20 | 117.70 |
| 12 | B | 1681 | G | N3-C2-N2 | 7.00 | 124.80 | 119.90 |
| 12 | B | 2217 | G | N1-C2-N3 | -7.00 | 119.70 | 123.90 |
| 12 | B | 1028 | A | N1-C2-N3 | -7.00 | 125.80 | 129.30 |
| 12 | B | 1916 | A | C4-C5-C6 | 7.00 | 120.50 | 117.00 |
| 12 | B | 2050 | C | N3-C4-N4 | 7.00 | 122.90 | 118.00 |
| 12 | B | 2725 | A | C5-C6-N6 | -7.00 | 118.10 | 123.70 |
| 12 | B | 376 | G | C4-C5-N7 | -6.99 | 108.00 | 110.80 |
| 12 | B | 1404 | C | N1-C2-N3 | 6.99 | 124.09 | 119.20 |
| 12 | B | 1406 | U | N3-C4-O4 | 6.99 | 124.30 | 119.40 |
| 12 | B | 2247 | A | C5-C6-N1 | -6.99 | 114.20 | 117.70 |
| 12 | B | 2542 | A | C8-N9-C4 | -6.99 | 103.00 | 105.80 |
| 12 | B | 1636 | U | C4-C5-C6 | -6.99 | 115.50 | 119.70 |
| 12 | B | 1710 | G | C4-C5-C6 | 6.99 | 123.00 | 118.80 |
| 12 | B | 1735 | A | C8-N9-C4 | -6.99 | 103.00 | 105.80 |
| 12 | B | 2777 | G | C6-C5-N7 | -6.99 | 126.20 | 130.40 |
| 12 | B | 1 | G | C8-N9-C4 | -6.99 | 103.60 | 106.40 |
| 12 | B | 253 | C | N3-C4-C5 | -6.99 | 119.10 | 121.90 |
| 12 | B | 288 | U | C5-C6-N1 | -6.99 | 119.20 | 122.70 |
| 12 | B | 1241 | A | O4'-C1'-N9 | 6.99 | 113.79 | 108.20 |
| 12 | B | 1779 | U | C4'-C3'-C2' | -6.99 | 95.61 | 102.60 |
| 12 | B | 1940 | U | C6-N1-C2 | 6.99 | 125.19 | 121.00 |
| 12 | B | 36 | G | N1-C2-N3 | -6.99 | 119.71 | 123.90 |
| 12 | B | 559 | G | O4'-C1'-N9 | 6.99 | 113.79 | 108.20 |
| 12 | B | 685 | A | N1-C6-N6 | 6.99 | 122.79 | 118.60 |
| 12 | B | 1177 | G | C5-N7-C8 | 6.99 | 107.79 | 104.30 |
| 12 | B | 1223 | G | C1'-O4'-C4' | -6.99 | 104.31 | 109.90 |
| 12 | B | 1831 | G | C6-C5-N7 | -6.99 | 126.21 | 130.40 |
| 12 | B | 1919 | A | P-O5'-C5' | 6.99 | 132.08 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 309 | A | C5-C6-N1 | -6.99 | 114.21 | 117.70 |
| 12 | B | 716 | A | N1-C6-N6 | 6.99 | 122.79 | 118.60 |
| 12 | B | 730 | A | C4'-C3'-C2' | -6.99 | 95.61 | 102.60 |
| 12 | B | 1039 | A | N7-C8-N9 | 6.99 | 117.29 | 113.80 |
| 12 | B | 92 | U | C5'-C4'-O4' | 6.99 | 117.48 | 109.10 |
| 12 | B | 159 | G | N9-C4-C5 | -6.99 | 102.61 | 105.40 |
| 12 | B | 574 | A | C4-C5-N7 | -6.99 | 107.21 | 110.70 |
| 12 | B | 638 | G | N1-C2-N3 | -6.99 | 119.71 | 123.90 |
| 12 | B | 782 | A | C5-C6-N6 | -6.99 | 118.11 | 123.70 |
| 12 | B | 1125 | G | C8-N9-C4 | -6.99 | 103.61 | 106.40 |
| 12 | B | 1392 | A | C5-C6-N6 | -6.99 | 118.11 | 123.70 |
| 12 | B | 2006 | C | C2-N3-C4 | 6.99 | 123.39 | 119.90 |
| 12 | B | 2679 | A | C4-C5-N7 | -6.99 | 107.21 | 110.70 |
| 12 | B | 2899 | A | C8-N9-C4 | -6.99 | 103.01 | 105.80 |
| 25 | O | 33 | ARG | NE-CZ-NH1 | 6.99 | 123.79 | 120.30 |
| 27 | Q | 24 | TYR | CB-CG-CD2 | -6.99 | 116.81 | 121.00 |
| 12 | B | 1020 | A | C5-C6-N6 | -6.98 | 118.11 | 123.70 |
| 12 | B | 2369 | A | C2-N3-C4 | -6.98 | 107.11 | 110.60 |
| 12 | B | 2883 | A | C4-C5-C6 | 6.98 | 120.49 | 117.00 |
| 12 | B | 1051 | G | N3-C2-N2 | 6.98 | 124.79 | 119.90 |
| 12 | B | 1598 | A | N1-C2-N3 | 6.98 | 132.79 | 129.30 |
| 12 | B | 1717 | A | O4'-C1'-N9 | 6.98 | 113.78 | 108.20 |
| 12 | B | 2336 | A | C4-C5-C6 | 6.98 | 120.49 | 117.00 |
| 12 | B | 2703 | C | O4'-C1'-N1 | 6.98 | 113.79 | 108.20 |
| 12 | B | 1597 | A | C4-C5-C6 | 6.98 | 120.49 | 117.00 |
| 12 | B | 2038 | G | C5-C6-O6 | -6.98 | 124.41 | 128.60 |
| 12 | B | 2178 | C | C4'-C3'-C2' | -6.98 | 95.62 | 102.60 |
| 12 | B | 2429 | G | C5-N7-C8 | 6.98 | 107.79 | 104.30 |
| 12 | B | 2454 | G | N1-C6-O6 | 6.98 | 124.09 | 119.90 |
| 12 | B | 2781 | A | C4'-C3'-C2' | -6.98 | 95.62 | 102.60 |
| 16 | F | 82 | TYR | CB-CG-CD2 | -6.98 | 116.81 | 121.00 |
| 12 | B | 806 | C | C5-C4-N4 | -6.98 | 115.31 | 120.20 |
| 12 | B | 1221 | C | N3-C4-N4 | 6.98 | 122.89 | 118.00 |
| 12 | B | 2297 | A | N3-C4-C5 | -6.98 | 121.92 | 126.80 |
| 12 | B | 2331 | G | C5-N7-C8 | 6.98 | 107.79 | 104.30 |
| 12 | B | 2668 | G | C4'-C3'-C2' | -6.98 | 95.62 | 102.60 |
| 12 | B | 2721 | A | C4-C5-C6 | 6.98 | 120.49 | 117.00 |
| 12 | B | 484 | C | N3-C4-N4 | 6.98 | 122.88 | 118.00 |
| 12 | B | 700 | G | C8-N9-C4 | -6.98 | 103.61 | 106.40 |
| 12 | B | 900 | A | C4'-C3'-C2' | -6.98 | 95.62 | 102.60 |
| 12 | B | 964 | C | C2-N3-C4 | 6.98 | 123.39 | 119.90 |
| 12 | B | 1552 | A | C6-N1-C2 | 6.98 | 122.79 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2116 | G | P-O3'-C3' | 6.98 | 128.07 | 119.70 |
| 12 | B | 2364 | C | N3-C4-N4 | 6.98 | 122.88 | 118.00 |
| 11 | A | 105 | G | C6-C5-N7 | -6.98 | 126.21 | 130.40 |
| 12 | B | 390 | U | P-O5'-C5' | 6.98 | 132.06 | 120.90 |
| 12 | B | 442 | G | C8-N9-C4 | -6.98 | 103.61 | 106.40 |
| 12 | B | 632 | A | N1-C2-N3 | 6.98 | 132.79 | 129.30 |
| 12 | B | 1021 | A | C2-N3-C4 | 6.97 | 114.09 | 110.60 |
| 12 | B | 2495 | G | N7-C8-N9 | 6.97 | 116.59 | 113.10 |
| 12 | B | 2729 | G | P-O3'-C3' | 6.97 | 128.07 | 119.70 |
| 12 | B | 2801 | G | N3-C4-C5 | -6.97 | 125.11 | 128.60 |
| 12 | B | 366 | C | N1-C2-O2 | 6.97 | 123.08 | 118.90 |
| 12 | B | 1002 | G | C8-N9-C1' | 6.97 | 136.06 | 127.00 |
| 12 | B | 1599 | U | N3-C2-O2 | 6.97 | 127.08 | 122.20 |
| 12 | B | 1792 | G | C5-C6-O6 | -6.97 | 124.42 | 128.60 |
| 12 | B | 2451 | A | C4-C5-N7 | -6.97 | 107.21 | 110.70 |
| 12 | B | 2667 | C | N3-C4-N4 | 6.97 | 122.88 | 118.00 |
| 12 | B | 1059 | G | N7-C8-N9 | 6.97 | 116.59 | 113.10 |
| 12 | B | 1278 | C | C5-C4-N4 | -6.97 | 115.32 | 120.20 |
| 12 | B | 1870 | C | C3'-C2'-C1' | -6.97 | 95.92 | 101.50 |
| 12 | B | 1969 | A | C4-C5-C6 | 6.97 | 120.48 | 117.00 |
| 12 | B | 232 | G | O4'-C1'-N9 | 6.97 | 113.78 | 108.20 |
| 12 | B | 267 | C | O4'-C1'-N1 | 6.97 | 113.78 | 108.20 |
| 12 | B | 707 | G | O4'-C1'-N9 | 6.97 | 113.78 | 108.20 |
| 12 | B | 974 | G | C2-N3-C4 | 6.97 | 115.39 | 111.90 |
| 12 | B | 1176 | U | O4'-C1'-N1 | 6.97 | 113.78 | 108.20 |
| 12 | B | 1673 | G | N7-C8-N9 | -6.97 | 109.61 | 113.10 |
| 12 | B | 2145 | C | C6-N1-C2 | -6.97 | 117.51 | 120.30 |
| 12 | B | 2219 | U | P-O5'-C5' | 6.97 | 132.05 | 120.90 |
| 12 | B | 2518 | A | C4-C5-C6 | 6.97 | 120.48 | 117.00 |
| 12 | B | 2792 | A | C6-C5-N7 | -6.97 | 127.42 | 132.30 |
| 32 | W | 56 | PHE | CB-CG-CD2 | -6.97 | 115.92 | 120.80 |
| 12 | B | 448 | U | N1-C2-O2 | -6.97 | 117.92 | 122.80 |
| 12 | B | 758 | C | C2-N3-C4 | 6.97 | 123.38 | 119.90 |
| 12 | B | 933 | A | N1-C2-N3 | -6.97 | 125.82 | 129.30 |
| 12 | B | 1076 | C | C6-N1-C2 | 6.97 | 123.09 | 120.30 |
| 12 | B | 1421 | G | C5'-C4'-O4' | 6.97 | 117.46 | 109.10 |
| 12 | B | 2014 | A | C4-C5-N7 | -6.97 | 107.22 | 110.70 |
| 12 | B | 687 | C | N3-C4-C5 | -6.97 | 119.11 | 121.90 |
| 12 | B | 2534 | A | C5'-C4'-O4' | 6.97 | 117.46 | 109.10 |
| 12 | B | 2793 | C | O4'-C1'-N1 | 6.97 | 113.77 | 108.20 |
| 12 | B | 346 | A | O4'-C1'-N9 | 6.96 | 113.77 | 108.20 |
| 12 | B | 531 | C | C4'-C3'-C2' | -6.96 | 95.64 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 835 | C | O4'-C1'-N1 | 6.96 | 113.77 | 108.20 |
| 12 | B | 1029 | A | O4'-C1'-N9 | 6.96 | 113.77 | 108.20 |
| 12 | B | 1401 | G | C5-C6-O6 | -6.96 | 124.42 | 128.60 |
| 12 | B | 1529 | G | N3-C2-N2 | 6.96 | 124.78 | 119.90 |
| 12 | B | 2365 | G | C8-N9-C4 | 6.96 | 109.19 | 106.40 |
| 12 | B | 2390 | U | C6-N1-C2 | 6.96 | 125.18 | 121.00 |
| 12 | B | 2396 | G | N3-C2-N2 | 6.96 | 124.78 | 119.90 |
| 12 | B | 2758 | A | C4-C5-C6 | 6.96 | 120.48 | 117.00 |
| 13 | C | 82 | TYR | CB-CG-CD1 | -6.96 | 116.82 | 121.00 |
| 11 | A | 86 | G | C5-C6-O6 | -6.96 | 124.42 | 128.60 |
| 12 | B | 207 | A | O4'-C1'-N9 | 6.96 | 113.77 | 108.20 |
| 12 | B | 1479 | G | N9-C4-C5 | 6.96 | 108.19 | 105.40 |
| 12 | B | 260 | G | C5-C6-N1 | -6.96 | 108.02 | 111.50 |
| 12 | B | 547 | A | N1-C6-N6 | 6.96 | 122.78 | 118.60 |
| 12 | B | 702 | U | C1'-O4'-C4' | -6.96 | 104.33 | 109.90 |
| 12 | B | 869 | G | C8-N9-C1' | 6.96 | 136.05 | 127.00 |
| 12 | B | 1041 | G | C4-C5-N7 | 6.96 | 113.58 | 110.80 |
| 12 | B | 2797 | U | O4'-C1'-N1 | 6.96 | 113.77 | 108.20 |
| 12 | B | 911 | A | C2-N3-C4 | -6.96 | 107.12 | 110.60 |
| 12 | B | 1458 | U | C2-N3-C4 | -6.96 | 122.82 | 127.00 |
| 12 | B | 2777 | G | N1-C6-O6 | 6.96 | 124.08 | 119.90 |
| 12 | B | 960 | A | P-O3'-C3' | 6.96 | 128.05 | 119.70 |
| 12 | B | 1535 | A | C5-N7-C8 | 6.96 | 107.38 | 103.90 |
| 12 | B | 1696 | G | N3-C4-C5 | -6.96 | 125.12 | 128.60 |
| 12 | B | 1936 | A | C5'-C4'-O4' | 6.96 | 117.45 | 109.10 |
| 12 | B | 2205 | A | C4-C5-C6 | 6.96 | 120.48 | 117.00 |
| 12 | B | 2551 | C | C2-N3-C4 | -6.96 | 116.42 | 119.90 |
| 12 | B | 353 | C | C2-N3-C4 | 6.96 | 123.38 | 119.90 |
| 12 | B | 1153 | C | C4-C5-C6 | 6.96 | 120.88 | 117.40 |
| 12 | B | 1184 | U | C5-C4-O4 | -6.96 | 121.73 | 125.90 |
| 12 | B | 1805 | A | P-O3'-C3' | -6.96 | 111.35 | 119.70 |
| 12 | B | 1977 | A | C5-N7-C8 | 6.96 | 107.38 | 103.90 |
| 12 | B | 1996 | C | N3-C4-N4 | 6.96 | 122.87 | 118.00 |
| 12 | B | 2798 | U | C5'-C4'-O4' | 6.96 | 117.45 | 109.10 |
| 24 | N | 45 | ARG | NE-CZ-NH1 | 6.96 | 123.78 | 120.30 |
| 12 | B | 496 | G | N1-C2-N2 | 6.96 | 122.46 | 116.20 |
| 12 | B | 2012 | G | N9-C4-C5 | 6.96 | 108.18 | 105.40 |
| 12 | B | 87 | U | C2-N3-C4 | -6.95 | 122.83 | 127.00 |
| 12 | B | 591 | U | C2-N3-C4 | 6.95 | 131.17 | 127.00 |
| 12 | B | 916 | G | C2-N3-C4 | -6.95 | 108.42 | 111.90 |
| 12 | B | 1420 | A | C4-C5-N7 | -6.95 | 107.22 | 110.70 |
| 12 | B | 1533 | C | N3-C4-C5 | -6.95 | 119.12 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2069 | G | O4'-C4'-C3' | -6.95 | 97.05 | 104.00 |
| 12 | B | 2191 | A | C4-C5-C6 | 6.95 | 120.48 | 117.00 |
| 12 | B | 2460 | U | N3-C2-O2 | 6.95 | 127.07 | 122.20 |
| 12 | B | 141 | G | C4-C5-N7 | 6.95 | 113.58 | 110.80 |
| 12 | B | 306 | U | C5-C6-N1 | 6.95 | 126.17 | 122.70 |
| 12 | B | 1567 | G | N3-C4-C5 | -6.95 | 125.12 | 128.60 |
| 12 | B | 1746 | A | C5'-C4'-C3' | -6.95 | 104.88 | 116.00 |
| 12 | B | 1762 | A | C4-C5-C6 | 6.95 | 120.47 | 117.00 |
| 12 | B | 1847 | A | N7-C8-N9 | -6.95 | 110.33 | 113.80 |
| 12 | B | 1895 | C | O4'-C1'-N1 | 6.95 | 113.76 | 108.20 |
| 12 | B | 2096 | C | N3-C4-C5 | -6.95 | 119.12 | 121.90 |
| 12 | B | 2682 | A | N1-C6-N6 | 6.95 | 122.77 | 118.60 |
| 12 | B | 2793 | C | N3-C4-N4 | 6.95 | 122.87 | 118.00 |
| 12 | B | 2840 | C | C4-C5-C6 | 6.95 | 120.88 | 117.40 |
| 26 | P | 46 | VAL | CA-CB-CG2 | -6.95 | 100.47 | 110.90 |
| 12 | B | 370 | G | N7-C8-N9 | -6.95 | 109.62 | 113.10 |
| 12 | B | 409 | G | C5-C6-N1 | 6.95 | 114.97 | 111.50 |
| 12 | B | 1673 | G | N3-C2-N2 | 6.95 | 124.76 | 119.90 |
| 12 | B | 1797 | G | C4-C5-C6 | 6.95 | 122.97 | 118.80 |
| 12 | B | 2316 | G | N3-C2-N2 | 6.95 | 124.76 | 119.90 |
| 12 | B | 644 | A | P-O3'-C3' | -6.95 | 111.36 | 119.70 |
| 12 | B | 822 | G | C6-N1-C2 | 6.95 | 129.27 | 125.10 |
| 12 | B | 1081 | U | C5-C4-O4 | -6.95 | 121.73 | 125.90 |
| 12 | B | 1342 | A | O4'-C1'-N9 | 6.95 | 113.76 | 108.20 |
| 12 | B | 2175 | C | P-O3'-C3' | 6.95 | 128.04 | 119.70 |
| 12 | B | 2630 | G | C6-C5-N7 | -6.95 | 126.23 | 130.40 |
| 12 | B | 2725 | A | C8-N9-C4 | -6.95 | 103.02 | 105.80 |
| 12 | B | 592 | A | C4-C5-N7 | -6.95 | 107.23 | 110.70 |
| 12 | B | 942 | G | C4-C5-N7 | -6.95 | 108.02 | 110.80 |
| 12 | B | 1315 | C | N1-C2-O2 | 6.95 | 123.07 | 118.90 |
| 12 | B | 2277 | G | P-O5'-C5' | -6.95 | 109.79 | 120.90 |
| 12 | B | 2578 | G | N3-C2-N2 | 6.95 | 124.76 | 119.90 |
| 12 | B | 2811 | G | N1-C2-N3 | -6.95 | 119.73 | 123.90 |
| 10 | 9 | 291 | VAL | O-C-N | -6.94 | 111.59 | 122.70 |
| 12 | B | 290 | U | N1-C1'-C2' | -6.94 | 104.36 | 112.00 |
| 12 | B | 1973 | G | N7-C8-N9 | 6.94 | 116.57 | 113.10 |
| 12 | B | 330 | A | P-O5'-C5' | -6.94 | 109.79 | 120.90 |
| 12 | B | 744 | U | O4'-C1'-N1 | 6.94 | 113.75 | 108.20 |
| 12 | B | 2159 | G | C4-C5-N7 | -6.94 | 108.02 | 110.80 |
| 12 | B | 2347 | C | C4-C5-C6 | 6.94 | 120.87 | 117.40 |
| 12 | B | 2505 | G | C5-N7-C8 | 6.94 | 107.77 | 104.30 |
| 12 | B | 974 | G | C8-N9-C1' | -6.94 | 117.98 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2664 | G | C2-N3-C4 | 6.94 | 115.37 | 111.90 |
| 12 | B | 1874 | C | C2-N3-C4 | -6.94 | 116.43 | 119.90 |
| 12 | B | 2641 | G | C6-C5-N7 | 6.94 | 134.56 | 130.40 |
| 12 | B | 363 | G | C5'-C4'-C3' | -6.94 | 104.90 | 116.00 |
| 12 | B | 575 | A | C5'-C4'-C3' | -6.94 | 104.90 | 116.00 |
| 12 | B | 647 | G | N9-C4-C5 | -6.94 | 102.62 | 105.40 |
| 12 | B | 825 | A | N1-C2-N3 | -6.94 | 125.83 | 129.30 |
| 12 | B | 922 | C | C5-C4-N4 | -6.94 | 115.34 | 120.20 |
| 12 | B | 1037 | G | O4'-C1'-N9 | 6.94 | 113.75 | 108.20 |
| 12 | B | 1073 | A | C4-C5-N7 | -6.94 | 107.23 | 110.70 |
| 12 | B | 1324 | G | C4-C5-N7 | 6.94 | 113.58 | 110.80 |
| 12 | B | 1470 | A | N1-C2-N3 | 6.94 | 132.77 | 129.30 |
| 12 | B | 1845 | G | C5-N7-C8 | -6.94 | 100.83 | 104.30 |
| 12 | B | 1918 | A | C5-C6-N6 | -6.94 | 118.15 | 123.70 |
| 12 | B | 2195 | U | C4-C5-C6 | 6.94 | 123.86 | 119.70 |
| 12 | B | 2252 | G | O4'-C4'-C3' | -6.94 | 97.06 | 104.00 |
| 12 | B | 2301 | C | C5-C6-N1 | 6.94 | 124.47 | 121.00 |
| 12 | B | 1608 | A | C6-N1-C2 | 6.94 | 122.76 | 118.60 |
| 12 | B | 2813 | A | C6-N1-C2 | 6.94 | 122.76 | 118.60 |
| 12 | B | 2281 | A | N3-C4-C5 | -6.93 | 121.95 | 126.80 |
| 12 | B | 2505 | G | C6-N1-C2 | 6.93 | 129.26 | 125.10 |
| 12 | B | 2624 | G | O4'-C1'-N9 | 6.93 | 113.75 | 108.20 |
| 12 | B | 548 | G | N3-C2-N2 | 6.93 | 124.75 | 119.90 |
| 12 | B | 947 | A | O4'-C1'-N9 | 6.93 | 113.75 | 108.20 |
| 12 | B | 1099 | G | C5-C6-N1 | -6.93 | 108.03 | 111.50 |
| 12 | B | 1355 | G | N1-C2-N3 | -6.93 | 119.74 | 123.90 |
| 12 | B | 1706 | C | C2-N3-C4 | 6.93 | 123.37 | 119.90 |
| 12 | B | 2279 | G | C8-N9-C4 | -6.93 | 103.63 | 106.40 |
| 12 | B | 2330 | G | OP1-P-OP2 | -6.93 | 109.20 | 119.60 |
| 12 | B | 2363 | G | C5-C6-N1 | -6.93 | 108.03 | 111.50 |
| 12 | B | 2391 | G | O3'-P-O5' | -6.93 | 90.83 | 104.00 |
| 12 | B | 2474 | U | P-O3'-C3' | -6.93 | 111.38 | 119.70 |
| 16 | F | 98 | PHE | CB-CG-CD2 | -6.93 | 115.95 | 120.80 |
| 12 | B | 911 | A | C4-C5-C6 | 6.93 | 120.47 | 117.00 |
| 12 | B | 2418 | A | C5-C6-N1 | -6.93 | 114.23 | 117.70 |
| 12 | B | 569 | U | O4'-C1'-N1 | 6.93 | 113.74 | 108.20 |
| 12 | B | 820 | A | C6-N1-C2 | -6.93 | 114.44 | 118.60 |
| 12 | B | 1821 | A | C5-N7-C8 | 6.93 | 107.36 | 103.90 |
| 12 | B | 2875 | C | C5-C4-N4 | -6.93 | 115.35 | 120.20 |
| 20 | J | 75 | TYR | CB-CG-CD2 | -6.93 | 116.84 | 121.00 |
| 10 | 9 | 308 | ASP | N-CA-C | -6.93 | 92.29 | 111.00 |
| 12 | B | 204 | A | C5-C6-N6 | -6.93 | 118.16 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1016 | G | C8-N9-C4 | 6.93 | 109.17 | 106.40 |
| 12 | B | 1831 | G | O4'-C1'-N9 | 6.93 | 113.74 | 108.20 |
| 12 | B | 2651 | C | C6-N1-C2 | -6.93 | 117.53 | 120.30 |
| 11 | A | 109 | A | N3-C4-C5 | -6.93 | 121.95 | 126.80 |
| 12 | B | 17 | G | C4-C5-N7 | 6.93 | 113.57 | 110.80 |
| 12 | B | 354 | A | C5-N7-C8 | 6.93 | 107.36 | 103.90 |
| 12 | B | 812 | C | C6-N1-C2 | 6.93 | 123.07 | 120.30 |
| 12 | B | 2018 | G | C4'-C3'-C2' | 6.93 | 109.53 | 102.60 |
| 12 | B | 2566 | A | P-O3'-C3' | 6.93 | 128.01 | 119.70 |
| 12 | B | 2591 | C | C5-C6-N1 | 6.93 | 124.46 | 121.00 |
| 12 | B | 2776 | A | C8-N9-C4 | 6.93 | 108.57 | 105.80 |
| 12 | B | 30 | G | O4'-C1'-N9 | 6.92 | 113.74 | 108.20 |
| 12 | B | 1900 | A | C2-N3-C4 | 6.92 | 114.06 | 110.60 |
| 12 | B | 2802 | G | O4'-C1'-C2' | -6.92 | 98.88 | 105.80 |
| 12 | B | 634 | C | C2-N3-C4 | 6.92 | 123.36 | 119.90 |
| 12 | B | 708 | G | N1-C6-O6 | 6.92 | 124.05 | 119.90 |
| 12 | B | 1299 | G | N1-C2-N3 | -6.92 | 119.75 | 123.90 |
| 12 | B | 1790 | C | N3-C4-N4 | 6.92 | 122.85 | 118.00 |
| 12 | B | 2189 | U | C2-N3-C4 | -6.92 | 122.85 | 127.00 |
| 12 | B | 2859 | G | C5-N7-C8 | 6.92 | 107.76 | 104.30 |
| 12 | B | 130 | C | O4'-C1'-N1 | 6.92 | 113.74 | 108.20 |
| 12 | B | 633 | A | C5-N7-C8 | 6.92 | 107.36 | 103.90 |
| 12 | B | 963 | U | O4'-C1'-N1 | 6.92 | 113.74 | 108.20 |
| 12 | B | 1201 | U | C4-C5-C6 | -6.92 | 115.55 | 119.70 |
| 12 | B | 2536 | G | N7-C8-N9 | 6.92 | 116.56 | 113.10 |
| 12 | B | 2771 | C | C4-C5-C6 | 6.92 | 120.86 | 117.40 |
| 12 | B | 1549 | A | C4-C5-N7 | -6.92 | 107.24 | 110.70 |
| 12 | B | 42 | A | C6-N1-C2 | 6.92 | 122.75 | 118.60 |
| 12 | B | 135 | U | O4'-C1'-N1 | 6.92 | 113.73 | 108.20 |
| 12 | B | 231 | A | N7-C8-N9 | -6.92 | 110.34 | 113.80 |
| 12 | B | 1301 | A | P-O3'-C3' | 6.92 | 128.00 | 119.70 |
| 12 | B | 1389 | G | N9-C4-C5 | 6.92 | 108.17 | 105.40 |
| 12 | B | 1877 | A | N1-C2-N3 | -6.92 | 125.84 | 129.30 |
| 12 | B | 1965 | C | C2-N3-C4 | 6.92 | 123.36 | 119.90 |
| 12 | B | 119 | A | C5-N7-C8 | 6.92 | 107.36 | 103.90 |
| 12 | B | 512 | G | N3-C2-N2 | 6.92 | 124.74 | 119.90 |
| 12 | B | 547 | A | C6-C5-N7 | -6.92 | 127.46 | 132.30 |
| 12 | B | 1014 | A | C5-C6-N1 | -6.92 | 114.24 | 117.70 |
| 12 | B | 1035 | U | O4'-C1'-N1 | 6.92 | 113.73 | 108.20 |
| 12 | B | 2282 | G | C4-C5-C6 | 6.92 | 122.95 | 118.80 |
| 12 | B | 2689 | U | C5-C6-N1 | -6.92 | 119.24 | 122.70 |
| 12 | B | 298 | G | N3-C4-N9 | 6.92 | 130.15 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 502 | A | C5'-C4'-C3' | -6.92 | 104.94 | 116.00 |
| 12 | B | 774 | G | C5-C6-N1 | -6.92 | 108.04 | 111.50 |
| 12 | B | 1903 | G | O4'-C1'-N9 | 6.92 | 113.73 | 108.20 |
| 12 | B | 2887 | A | C6-C5-N7 | -6.92 | 127.46 | 132.30 |
| 12 | B | 80 | G | N3-C4-N9 | 6.91 | 130.15 | 126.00 |
| 12 | B | 528 | A | C5-C6-N1 | -6.91 | 114.24 | 117.70 |
| 12 | B | 789 | A | C3'-C2'-C1' | -6.91 | 95.97 | 101.50 |
| 12 | B | 959 | A | C5-C6-N6 | -6.91 | 118.17 | 123.70 |
| 12 | B | 1147 | A | C4'-C3'-C2' | -6.91 | 95.69 | 102.60 |
| 12 | B | 2028 | U | N3-C4-O4 | 6.91 | 124.24 | 119.40 |
| 12 | B | 2168 | G | C4-C5-C6 | 6.91 | 122.95 | 118.80 |
| 12 | B | 2171 | A | N9-C4-C5 | 6.91 | 108.56 | 105.80 |
| 12 | B | 2630 | G | C4-C5-C6 | 6.91 | 122.95 | 118.80 |
| 20 | J | 99 | ARG | NE-CZ-NH1 | 6.91 | 123.76 | 120.30 |
| 12 | B | 28 | A | O4'-C1'-N9 | 6.91 | 113.73 | 108.20 |
| 12 | B | 288 | U | C5-C4-O4 | -6.91 | 121.75 | 125.90 |
| 12 | B | 1595 | C | O4'-C1'-N1 | 6.91 | 113.73 | 108.20 |
| 12 | B | 2776 | A | C5'-C4'-O4' | 6.91 | 117.39 | 109.10 |
| 11 | A | 68 | C | O4'-C1'-N1 | 6.91 | 113.73 | 108.20 |
| 11 | A | 106 | G | N3-C2-N2 | 6.91 | 124.74 | 119.90 |
| 12 | B | 94 | A | C5-C6-N1 | -6.91 | 114.25 | 117.70 |
| 12 | B | 142 | A | N9-C4-C5 | 6.91 | 108.56 | 105.80 |
| 12 | B | 270 | A | C4'-C3'-C2' | 6.91 | 109.51 | 102.60 |
| 12 | B | 629 | G | O4'-C1'-N9 | 6.91 | 113.73 | 108.20 |
| 12 | B | 918 | A | O4'-C1'-N9 | 6.91 | 113.73 | 108.20 |
| 12 | B | 980 | A | P-O3'-C3' | 6.91 | 127.99 | 119.70 |
| 12 | B | 1309 | G | C4-C5-C6 | 6.91 | 122.95 | 118.80 |
| 12 | B | 2073 | C | N3-C4-N4 | 6.91 | 122.84 | 118.00 |
| 12 | B | 398 | C | C5-C6-N1 | 6.91 | 124.45 | 121.00 |
| 12 | B | 435 | C | C2-N3-C4 | 6.91 | 123.35 | 119.90 |
| 12 | B | 560 | C | C5-C4-N4 | -6.91 | 115.36 | 120.20 |
| 12 | B | 795 | C | N3-C4-C5 | -6.91 | 119.14 | 121.90 |
| 12 | B | 1237 | A | O4'-C4'-C3' | -6.91 | 97.09 | 104.00 |
| 12 | B | 1462 | C | C4-C5-C6 | 6.91 | 120.85 | 117.40 |
| 12 | B | 2000 | C | C6-N1-C2 | -6.91 | 117.54 | 120.30 |
| 12 | B | 2164 | C | O4'-C1'-N1 | 6.91 | 113.73 | 108.20 |
| 12 | B | 2551 | C | C4-C5-C6 | -6.91 | 113.94 | 117.40 |
| 30 | T | 12 | ARG | NE-CZ-NH1 | 6.91 | 123.75 | 120.30 |
| 12 | B | 1287 | A | O4'-C4'-C3' | -6.91 | 97.09 | 104.00 |
| 12 | B | 182 | A | C5-C6-N6 | -6.91 | 118.18 | 123.70 |
| 12 | B | 1399 | C | O4'-C1'-N1 | 6.91 | 113.72 | 108.20 |
| 12 | B | 1726 | C | C2-N3-C4 | 6.91 | 123.35 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1870 | C | O4'-C1'-N1 | 6.91 | 113.72 | 108.20 |
| 12 | B | 1885 | A | C6-C5-N7 | -6.91 | 127.47 | 132.30 |
| 12 | B | 2815 | C | C4-C5-C6 | 6.91 | 120.85 | 117.40 |
| 12 | B | 457 | A | N1-C6-N6 | 6.90 | 122.74 | 118.60 |
| 12 | B | 2289 | G | N9-C4-C5 | -6.90 | 102.64 | 105.40 |
| 12 | B | 2399 | G | O4'-C1'-N9 | 6.90 | 113.72 | 108.20 |
| 12 | B | 151 | C | C3'-C2'-C1' | 6.90 | 107.02 | 101.50 |
| 12 | B | 370 | G | P-O3'-C3' | 6.90 | 127.98 | 119.70 |
| 12 | B | 400 | G | C5-C6-O6 | -6.90 | 124.46 | 128.60 |
| 12 | B | 513 | A | C2-N3-C4 | -6.90 | 107.15 | 110.60 |
| 12 | B | 705 | A | C6-C5-N7 | -6.90 | 127.47 | 132.30 |
| 12 | B | 841 | G | N3-C2-N2 | 6.90 | 124.73 | 119.90 |
| 12 | B | 1396 | U | C5-C4-O4 | -6.90 | 121.76 | 125.90 |
| 12 | B | 1641 | A | N3-C4-N9 | -6.90 | 121.88 | 127.40 |
| 12 | B | 2451 | A | O4'-C4'-C3' | -6.90 | 97.10 | 104.00 |
| 12 | B | 2665 | A | C5-N7-C8 | 6.90 | 107.35 | 103.90 |
| 12 | B | 2722 | G | O4'-C1'-N9 | 6.90 | 113.72 | 108.20 |
| 12 | B | 309 | A | N1-C2-N3 | 6.90 | 132.75 | 129.30 |
| 12 | B | 507 | A | C5-C6-N6 | -6.90 | 118.18 | 123.70 |
| 12 | B | 621 | A | C4-C5-C6 | 6.90 | 120.45 | 117.00 |
| 12 | B | 1597 | A | C8-N9-C4 | -6.90 | 103.04 | 105.80 |
| 12 | B | 1629 | U | O4'-C1'-N1 | 6.90 | 113.72 | 108.20 |
| 12 | B | 1828 | G | N3-C2-N2 | 6.90 | 124.73 | 119.90 |
| 12 | B | 2123 | G | P-O3'-C3' | 6.90 | 127.98 | 119.70 |
| 12 | B | 2417 | C | N3-C4-N4 | 6.90 | 122.83 | 118.00 |
| 12 | B | 2892 | G | C5-C6-O6 | -6.90 | 124.46 | 128.60 |
| 12 | B | 532 | A | C8-N9-C1' | -6.90 | 115.28 | 127.70 |
| 12 | B | 569 | U | P-O3'-C3' | -6.90 | 111.42 | 119.70 |
| 12 | B | 640 | C | N3-C4-N4 | 6.90 | 122.83 | 118.00 |
| 12 | B | 948 | C | N1-C2-O2 | -6.90 | 114.76 | 118.90 |
| 12 | B | 2191 | A | C4-C5-N7 | -6.90 | 107.25 | 110.70 |
| 12 | B | 2794 | C | O4'-C1'-N1 | 6.90 | 113.72 | 108.20 |
| 12 | B | 262 | A | C2-N3-C4 | -6.90 | 107.15 | 110.60 |
| 12 | B | 2223 | G | N9-C4-C5 | 6.90 | 108.16 | 105.40 |
| 12 | B | 1341 | G | C5-C6-O6 | 6.90 | 132.74 | 128.60 |
| 12 | B | 2682 | A | N7-C8-N9 | -6.90 | 110.35 | 113.80 |
| 12 | B | 2765 | A | N3-C4-C5 | -6.90 | 121.97 | 126.80 |
| 11 | A | 101 | A | C1'-O4'-C4' | -6.89 | 104.38 | 109.90 |
| 12 | B | 137 | U | N1-C2-N3 | 6.89 | 119.04 | 114.90 |
| 12 | B | 260 | G | C4-C5-N7 | -6.89 | 108.04 | 110.80 |
| 12 | B | 557 | C | C2-N1-C1' | 6.89 | 126.38 | 118.80 |
| 12 | B | 604 | G | C4-N9-C1' | -6.89 | 117.54 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 962 | G | N3-C2-N2 | 6.89 | 124.73 | 119.90 |
| 12 | B | 2128 | G | C2-N3-C4 | 6.89 | 115.35 | 111.90 |
| 12 | B | 2815 | C | N1-C2-O2 | -6.89 | 114.76 | 118.90 |
| 30 | T | 33 | LYS | N-CA-CB | 6.89 | 123.01 | 110.60 |
| 11 | A | 111 | U | P-O3'-C3' | -6.89 | 111.43 | 119.70 |
| 12 | B | 34 | U | O4'-C1'-N1 | 6.89 | 113.71 | 108.20 |
| 12 | B | 963 | U | C5-C6-N1 | -6.89 | 119.25 | 122.70 |
| 12 | B | 1415 | U | C6-N1-C2 | -6.89 | 116.86 | 121.00 |
| 12 | B | 1523 | U | P-O3'-C3' | -6.89 | 111.43 | 119.70 |
| 12 | B | 2095 | A | N1-C6-N6 | 6.89 | 122.73 | 118.60 |
| 12 | B | 2403 | C | O4'-C1'-N1 | 6.89 | 113.71 | 108.20 |
| 12 | B | 2598 | A | C4-C5-N7 | -6.89 | 107.25 | 110.70 |
| 11 | A | 60 | C | C5-C4-N4 | 6.89 | 125.02 | 120.20 |
| 11 | A | 78 | A | C5-C6-N6 | -6.89 | 118.19 | 123.70 |
| 12 | B | 455 | C | N3-C4-C5 | -6.89 | 119.14 | 121.90 |
| 12 | B | 803 | U | O4'-C1'-N1 | 6.89 | 113.71 | 108.20 |
| 12 | B | 1177 | G | C4-C5-C6 | 6.89 | 122.93 | 118.80 |
| 12 | B | 1505 | A | N3-C4-C5 | -6.89 | 121.98 | 126.80 |
| 12 | B | 1990 | C | C5-C6-N1 | 6.89 | 124.44 | 121.00 |
| 12 | B | 2453 | A | N1-C2-N3 | 6.89 | 132.75 | 129.30 |
| 12 | B | 2517 | C | C5-C4-N4 | -6.89 | 115.38 | 120.20 |
| 12 | B | 813 | U | N3-C2-O2 | 6.89 | 127.02 | 122.20 |
| 12 | B | 653 | U | C6-N1-C1' | -6.89 | 111.56 | 121.20 |
| 12 | B | 812 | C | N1-C2-O2 | 6.89 | 123.03 | 118.90 |
| 12 | B | 974 | G | N1-C2-N3 | -6.89 | 119.77 | 123.90 |
| 12 | B | 1192 | G | O4'-C1'-N9 | 6.89 | 113.71 | 108.20 |
| 12 | B | 1502 | A | C4-C5-N7 | -6.89 | 107.26 | 110.70 |
| 12 | B | 2850 | A | N1-C6-N6 | 6.89 | 122.73 | 118.60 |
| 12 | B | 794 | A | C4'-C3'-C2' | -6.89 | 95.71 | 102.60 |
| 12 | B | 1024 | G | N7-C8-N9 | -6.89 | 109.66 | 113.10 |
| 12 | B | 1363 | C | N3-C4-C5 | -6.89 | 119.14 | 121.90 |
| 12 | B | 1823 | G | C4'-C3'-C2' | -6.89 | 95.71 | 102.60 |
| 28 | R | 71 | LYS | N-CA-CB | 6.89 | 123.00 | 110.60 |
| 12 | B | 58 | G | N3-C2-N2 | 6.88 | 124.72 | 119.90 |
| 12 | B | 496 | G | C5'-C4'-C3' | -6.88 | 104.99 | 116.00 |
| 12 | B | 1602 | U | O4'-C1'-N1 | 6.88 | 113.71 | 108.20 |
| 12 | B | 2134 | A | N1-C6-N6 | 6.88 | 122.73 | 118.60 |
| 12 | B | 2349 | G | C6-C5-N7 | -6.88 | 126.27 | 130.40 |
| 12 | B | 593 | U | O4'-C1'-N1 | 6.88 | 113.71 | 108.20 |
| 12 | B | 2809 | A | C5-C6-N6 | -6.88 | 118.19 | 123.70 |
| 11 | A | 82 | U | N1-C2-O2 | -6.88 | 117.98 | 122.80 |
| 12 | B | 376 | G | C4'-C3'-C2' | -6.88 | 95.72 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 1145 | C | N1-C2-N3 | -6.88 | 114.38 | 119.20 |
| 12 | B | 1998 | A | C6-C5-N7 | -6.88 | 127.48 | 132.30 |
| 12 | B | 2179 | C | C6-N1-C2 | -6.88 | 117.55 | 120.30 |
| 12 | B | 2199 | A | N1-C6-N6 | 6.88 | 122.73 | 118.60 |
| 12 | B | 2741 | A | N3-C4-C5 | -6.88 | 121.98 | 126.80 |
| 13 | C | 61 | TYR | CD1-CE1-CZ | 6.88 | 125.99 | 119.80 |
| 26 | P | 112 | ARG | NE-CZ-NH1 | -6.88 | 116.86 | 120.30 |
| 12 | B | 2196 | C | P-O5'-C5' | -6.88 | 109.89 | 120.90 |
| 12 | B | 2689 | U | N1-C2-O2 | -6.88 | 117.98 | 122.80 |
| 12 | B | 167 | A | N1-C2-N3 | 6.88 | 132.74 | 129.30 |
| 12 | B | 473 | G | C4-C5-N7 | -6.88 | 108.05 | 110.80 |
| 12 | B | 704 | G | P-O3'-C3' | 6.88 | 127.95 | 119.70 |
| 12 | B | 1316 | U | N3-C2-O2 | 6.88 | 127.01 | 122.20 |
| 12 | B | 2850 | A | C4-C5-N7 | -6.88 | 107.26 | 110.70 |
| 11 | A | 18 | G | C6-N1-C2 | 6.88 | 129.23 | 125.10 |
| 12 | B | 1039 | A | O4'-C1'-N9 | 6.88 | 113.70 | 108.20 |
| 12 | B | 1550 | C | P-O3'-C3' | -6.88 | 111.45 | 119.70 |
| 12 | B | 1694 | C | C2-N3-C4 | 6.88 | 123.34 | 119.90 |
| 12 | B | 2070 | A | C4-C5-C6 | 6.88 | 120.44 | 117.00 |
| 12 | B | 2541 | A | C4-C5-C6 | -6.88 | 113.56 | 117.00 |
| 28 | R | 90 | ARG | NE-CZ-NH1 | 6.88 | 123.74 | 120.30 |
| 12 | B | 558 | U | C4-C5-C6 | 6.88 | 123.83 | 119.70 |
| 12 | B | 368 | A | C4-C5-C6 | 6.87 | 120.44 | 117.00 |
| 12 | B | 812 | C | O4'-C1'-N1 | 6.87 | 113.70 | 108.20 |
| 12 | B | 1103 | A | C4-C5-N7 | 6.87 | 114.14 | 110.70 |
| 12 | B | 1203 | U | O4'-C1'-N1 | 6.87 | 113.70 | 108.20 |
| 12 | B | 1751 | U | P-O3'-C3' | -6.87 | 111.45 | 119.70 |
| 12 | B | 1866 | A | O4'-C1'-N9 | 6.87 | 113.70 | 108.20 |
| 12 | B | 2349 | G | C5-C6-N1 | -6.87 | 108.06 | 111.50 |
| 12 | B | 2403 | C | N3-C4-N4 | 6.87 | 122.81 | 118.00 |
| 12 | B | 2700 | A | C2-N3-C4 | -6.87 | 107.16 | 110.60 |
| 12 | B | 2829 | A | O4'-C1'-N9 | 6.87 | 113.70 | 108.20 |
| 29 | S | 54 | ALA | N-CA-CB | 6.87 | 119.72 | 110.10 |
| 12 | B | 36 | G | C2-N3-C4 | 6.87 | 115.33 | 111.90 |
| 12 | B | 856 | G | N3-C2-N2 | 6.87 | 124.71 | 119.90 |
| 12 | B | 983 | A | O4'-C1'-N9 | 6.87 | 113.70 | 108.20 |
| 12 | B | 1364 | G | C4-C5-N7 | 6.87 | 113.55 | 110.80 |
| 12 | B | 1662 | U | C5-C6-N1 | 6.87 | 126.14 | 122.70 |
| 12 | B | 2310 | C | C5-C4-N4 | -6.87 | 115.39 | 120.20 |
| 18 | H | 116 | ARG | NE-CZ-NH1 | -6.87 | 116.86 | 120.30 |
| 12 | B | 270 | A | C5-C6-N6 | -6.87 | 118.20 | 123.70 |
| 12 | B | 479 | A | C5-N7-C8 | 6.87 | 107.33 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1359 | A | C8-N9-C4 | 6.87 | 108.55 | 105.80 |
| 12 | B | 2255 | G | P-O5'-C5' | -6.87 | 109.91 | 120.90 |
| 12 | B | 2365 | G | C6-C5-N7 | -6.87 | 126.28 | 130.40 |
| 22 | L | 50 | PHE | CB-CG-CD1 | -6.87 | 115.99 | 120.80 |
| 12 | B | 1155 | A | O4'-C1'-N9 | 6.87 | 113.69 | 108.20 |
| 12 | B | 875 | G | C5-C6-N1 | 6.87 | 114.93 | 111.50 |
| 12 | B | 1317 | G | O4'-C1'-N9 | 6.87 | 113.69 | 108.20 |
| 12 | B | 2210 | U | O4'-C1'-N1 | 6.87 | 113.69 | 108.20 |
| 10 | 9 | 54 | ASN | C-N-CA | 6.87 | 138.87 | 121.70 |
| 12 | B | 64 | A | C5-C6-N6 | -6.87 | 118.21 | 123.70 |
| 12 | B | 372 | G | C5-C6-O6 | -6.87 | 124.48 | 128.60 |
| 12 | B | 874 | G | N1-C6-O6 | 6.87 | 124.02 | 119.90 |
| 12 | B | 1008 | A | N7-C8-N9 | -6.87 | 110.37 | 113.80 |
| 12 | B | 1080 | A | N1-C6-N6 | 6.87 | 122.72 | 118.60 |
| 12 | B | 1647 | U | N3-C4-O4 | 6.87 | 124.21 | 119.40 |
| 12 | B | 1737 | G | C4-C5-C6 | 6.87 | 122.92 | 118.80 |
| 12 | B | 1888 | G | N3-C2-N2 | 6.87 | 124.71 | 119.90 |
| 12 | B | 1926 | U | O4'-C1'-N1 | 6.87 | 113.69 | 108.20 |
| 12 | B | 2828 | G | O4'-C1'-N9 | 6.87 | 113.69 | 108.20 |
| 11 | A | 22 | U | N3-C4-C5 | -6.86 | 110.48 | 114.60 |
| 12 | B | 88 | G | N7-C8-N9 | -6.86 | 109.67 | 113.10 |
| 12 | B | 178 | G | C5-N7-C8 | 6.86 | 107.73 | 104.30 |
| 12 | B | 2045 | C | O4'-C1'-N1 | 6.86 | 113.69 | 108.20 |
| 12 | B | 2170 | A | O4'-C1'-N9 | 6.86 | 113.69 | 108.20 |
| 12 | B | 2413 | G | N3-C4-N9 | 6.86 | 130.12 | 126.00 |
| 20 | J | 69 | ARG | NE-CZ-NH1 | 6.86 | 123.73 | 120.30 |
| 12 | B | 1336 | A | C5'-C4'-C3' | -6.86 | 105.02 | 116.00 |
| 12 | B | 2280 | G | N1-C6-O6 | 6.86 | 124.02 | 119.90 |
| 12 | B | 2526 | G | C6-C5-N7 | -6.86 | 126.28 | 130.40 |
| 13 | C | 102 | TYR | CB-CG-CD2 | -6.86 | 116.88 | 121.00 |
| 12 | B | 291 | G | C1'-O4'-C4' | 6.86 | 115.39 | 109.90 |
| 12 | B | 947 | A | C4-C5-C6 | 6.86 | 120.43 | 117.00 |
| 12 | B | 2638 | G | O4'-C1'-N9 | 6.86 | 113.69 | 108.20 |
| 12 | B | 297 | G | C5-N7-C8 | 6.86 | 107.73 | 104.30 |
| 12 | B | 500 | G | N1-C6-O6 | 6.86 | 124.02 | 119.90 |
| 12 | B | 915 | C | P-O5'-C5' | -6.86 | 109.92 | 120.90 |
| 12 | B | 699 | A | C5-C6-N6 | -6.86 | 118.21 | 123.70 |
| 12 | B | 1810 | A | C5-N7-C8 | 6.86 | 107.33 | 103.90 |
| 12 | B | 2425 | A | C3'-C2'-C1' | 6.86 | 106.99 | 101.50 |
| 12 | B | 2702 | G | P-O5'-C5' | 6.86 | 131.87 | 120.90 |
| 12 | B | 1028 | A | C6-N1-C2 | 6.86 | 122.71 | 118.60 |
| 12 | B | 1103 | A | N9-C4-C5 | -6.86 | 103.06 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1215 | G | C5-C6-O6 | -6.86 | 124.49 | 128.60 |
| 12 | B | 1282 | U | O4'-C1'-N1 | 6.86 | 113.68 | 108.20 |
| 12 | B | 1288 | G | N1-C2-N3 | -6.86 | 119.79 | 123.90 |
| 12 | B | 1607 | C | N3-C4-N4 | 6.86 | 122.80 | 118.00 |
| 12 | B | 2526 | G | P-O3'-C3' | 6.86 | 127.93 | 119.70 |
| 12 | B | 195 | A | P-O3'-C3' | -6.85 | 111.47 | 119.70 |
| 12 | B | 2011 | U | C5-C6-N1 | 6.85 | 126.13 | 122.70 |
| 12 | B | 52 | A | N7-C8-N9 | 6.85 | 117.23 | 113.80 |
| 12 | B | 589 | U | C4-C5-C6 | -6.85 | 115.59 | 119.70 |
| 12 | B | 849 | A | N7-C8-N9 | -6.85 | 110.37 | 113.80 |
| 12 | B | 926 | G | O4'-C1'-N9 | 6.85 | 113.68 | 108.20 |
| 12 | B | 1528 | A | C2-N3-C4 | -6.85 | 107.17 | 110.60 |
| 12 | B | 2142 | A | C5-C6-N1 | -6.85 | 114.27 | 117.70 |
| 12 | B | 2152 | G | C6-C5-N7 | -6.85 | 126.29 | 130.40 |
| 12 | B | 2597 | G | N3-C2-N2 | 6.85 | 124.70 | 119.90 |
| 12 | B | 2764 | A | C2-N3-C4 | -6.85 | 107.17 | 110.60 |
| 14 | D | 184 | ARG | NE-CZ-NH2 | 6.85 | 123.73 | 120.30 |
| 12 | B | 1640 | A | C4-C5-C6 | 6.85 | 120.42 | 117.00 |
| 12 | B | 2363 | G | O4'-C1'-N9 | 6.85 | 113.68 | 108.20 |
| 12 | B | 2728 | U | C4'-C3'-C2' | -6.85 | 95.75 | 102.60 |
| 11 | A | 47 | C | C2-N1-C1' | 6.85 | 126.33 | 118.80 |
| 12 | B | 1077 | A | C8-N9-C4 | -6.85 | 103.06 | 105.80 |
| 12 | B | 1239 | G | C5-N7-C8 | -6.85 | 100.88 | 104.30 |
| 12 | B | 1557 | C | C5-C4-N4 | -6.85 | 115.41 | 120.20 |
| 12 | B | 1667 | G | C6-C5-N7 | -6.85 | 126.29 | 130.40 |
| 12 | B | 2235 | G | N7-C8-N9 | -6.85 | 109.67 | 113.10 |
| 12 | B | 2466 | C | N3-C4-N4 | 6.85 | 122.79 | 118.00 |
| 12 | B | 374 | A | C5-N7-C8 | 6.85 | 107.32 | 103.90 |
| 12 | B | 1179 | G | C4-C5-C6 | 6.85 | 122.91 | 118.80 |
| 12 | B | 1248 | G | N3-C2-N2 | 6.85 | 124.69 | 119.90 |
| 12 | B | 1650 | A | C4-C5-C6 | 6.85 | 120.42 | 117.00 |
| 12 | B | 1930 | G | C5-N7-C8 | 6.85 | 107.72 | 104.30 |
| 12 | B | 2155 | U | P-O3'-C3' | 6.85 | 127.92 | 119.70 |
| 12 | B | 2733 | A | N9-C4-C5 | 6.85 | 108.54 | 105.80 |
| 12 | B | 222 | A | C6-N1-C2 | 6.85 | 122.71 | 118.60 |
| 12 | B | 2083 | G | C5-C6-N1 | -6.85 | 108.08 | 111.50 |
| 12 | B | 2211 | A | P-O5'-C5' | 6.85 | 131.85 | 120.90 |
| 12 | B | 462 | C | O4'-C1'-N1 | 6.84 | 113.67 | 108.20 |
| 12 | B | 1162 | G | C4-C5-C6 | 6.84 | 122.91 | 118.80 |
| 12 | B | 1173 | U | C4'-C3'-C2' | -6.84 | 95.76 | 102.60 |
| 12 | B | 1410 | G | C5-C6-O6 | -6.84 | 124.49 | 128.60 |
| 12 | B | 1833 | C | O4'-C1'-N1 | 6.84 | 113.68 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2484 | G | C4-C5-N7 | -6.84 | 108.06 | 110.80 |
| 12 | B | 2490 | G | C5-N7-C8 | 6.84 | 107.72 | 104.30 |
| 11 | A | 4 | C | C2-N3-C4 | -6.84 | 116.48 | 119.90 |
| 12 | B | 262 | A | C8-N9-C4 | -6.84 | 103.06 | 105.80 |
| 12 | B | 715 | A | C5-C6-N6 | -6.84 | 118.23 | 123.70 |
| 12 | B | 1300 | G | C3'-C2'-C1' | -6.84 | 96.03 | 101.50 |
| 12 | B | 821 | A | N1-C6-N6 | 6.84 | 122.70 | 118.60 |
| 12 | B | 1213 | A | C4-C5-C6 | 6.84 | 120.42 | 117.00 |
| 12 | B | 2279 | G | N7-C8-N9 | 6.84 | 116.52 | 113.10 |
| 11 | A | 56 | G | O4'-C1'-C2' | 6.84 | 113.75 | 107.60 |
| 12 | B | 95 | A | C2-N3-C4 | 6.84 | 114.02 | 110.60 |
| 12 | B | 272 | A | O4'-C1'-N9 | 6.84 | 113.67 | 108.20 |
| 12 | B | 2386 | A | N1-C6-N6 | 6.84 | 122.70 | 118.60 |
| 12 | B | 2886 | A | N3-C4-N9 | 6.84 | 132.87 | 127.40 |
| 12 | B | 1163 | G | O4'-C1'-N9 | 6.84 | 113.67 | 108.20 |
| 12 | B | 1581 | G | C5-C6-O6 | -6.84 | 124.50 | 128.60 |
| 12 | B | 2182 | U | N3-C2-O2 | 6.84 | 126.99 | 122.20 |
| 12 | B | 2480 | C | N1-C2-N3 | -6.84 | 114.41 | 119.20 |
| 12 | B | 1514 | G | O4'-C1'-N9 | 6.84 | 113.67 | 108.20 |
| 12 | B | 1660 | G | C5-N7-C8 | -6.84 | 100.88 | 104.30 |
| 12 | B | 1713 | A | O4'-C1'-N9 | 6.84 | 113.67 | 108.20 |
| 12 | B | 2251 | G | N3-C2-N2 | 6.84 | 124.69 | 119.90 |
| 12 | B | 330 | A | C5-C6-N6 | -6.83 | 118.23 | 123.70 |
| 12 | B | 807 | U | C5-C4-O4 | -6.83 | 121.80 | 125.90 |
| 12 | B | 1689 | A | C4-C5-C6 | 6.83 | 120.42 | 117.00 |
| 12 | B | 2818 | U | C5-C4-O4 | -6.83 | 121.80 | 125.90 |
| 12 | B | 549 | G | P-O3'-C3' | -6.83 | 111.50 | 119.70 |
| 12 | B | 935 | C | P-O3'-C3' | -6.83 | 111.50 | 119.70 |
| 12 | B | 935 | C | N3-C4-C5 | -6.83 | 119.17 | 121.90 |
| 12 | B | 957 | C | O4'-C1'-N1 | 6.83 | 113.67 | 108.20 |
| 12 | B | 1084 | A | O4'-C4'-C3' | -6.83 | 97.17 | 104.00 |
| 12 | B | 1901 | A | N9-C4-C5 | -6.83 | 103.07 | 105.80 |
| 12 | B | 2388 | A | N1-C2-N3 | 6.83 | 132.72 | 129.30 |
| 12 | B | 2766 | A | C8-N9-C4 | -6.83 | 103.07 | 105.80 |
| 12 | B | 315 | G | C5-C6-O6 | -6.83 | 124.50 | 128.60 |
| 12 | B | 745 | G | C2-N3-C4 | 6.83 | 115.32 | 111.90 |
| 12 | B | 1122 | G | C5-C6-O6 | -6.83 | 124.50 | 128.60 |
| 12 | B | 1332 | G | N1-C6-O6 | 6.83 | 124.00 | 119.90 |
| 12 | B | 2076 | U | O4'-C1'-N1 | 6.83 | 113.67 | 108.20 |
| 12 | B | 2174 | C | N3-C4-C5 | 6.83 | 124.63 | 121.90 |
| 12 | B | 2614 | A | N1-C2-N3 | 6.83 | 132.72 | 129.30 |
| 12 | B | 2668 | G | P-O3'-C3' | -6.83 | 111.50 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 12 | B | 475 | C | O4'-C1'-N1 | 6.83 | 113.66 | 108.20 |
| 12 | B | 2341 | G | C2-N3-C4 | 6.83 | 115.31 | 111.90 |
| 12 | B | 2657 | A | C4-C5-C6 | 6.83 | 120.42 | 117.00 |
| 14 | D | 26 | VAL | CA-CB-CG2 | -6.83 | 100.66 | 110.90 |
| 12 | B | 209 | C | N3-C4-N4 | 6.83 | 122.78 | 118.00 |
| 12 | B | 493 | G | N7-C8-N9 | 6.83 | 116.51 | 113.10 |
| 12 | B | 999 | U | C5-C4-O4 | -6.83 | 121.80 | 125.90 |
| 12 | B | 1183 | U | N3-C4-O4 | 6.83 | 124.18 | 119.40 |
| 12 | B | 1560 | G | C5-C6-O6 | -6.83 | 124.50 | 128.60 |
| 12 | B | 108 | G | C6-C5-N7 | -6.83 | 126.30 | 130.40 |
| 12 | B | 609 | A | O4'-C1'-N9 | 6.83 | 113.66 | 108.20 |
| 12 | B | 871 | U | N3-C4-O4 | 6.83 | 124.18 | 119.40 |
| 12 | B | 1095 | A | N7-C8-N9 | -6.83 | 110.39 | 113.80 |
| 12 | B | 1525 | A | C5-N7-C8 | -6.83 | 100.49 | 103.90 |
| 12 | B | 2010 | G | C4-C5-N7 | -6.83 | 108.07 | 110.80 |
| 7 | 6 | 18 | PHE | CB-CG-CD2 | 6.83 | 125.58 | 120.80 |
| 12 | B | 579 | G | C4-C5-C6 | 6.83 | 122.89 | 118.80 |
| 12 | B | 1090 | A | N9-C4-C5 | 6.83 | 108.53 | 105.80 |
| 12 | B | 1752 | C | O4'-C1'-N1 | 6.83 | 113.66 | 108.20 |
| 12 | B | 2519 | U | C4-C5-C6 | 6.83 | 123.80 | 119.70 |
| 12 | B | 2859 | G | C5-C6-O6 | -6.83 | 124.50 | 128.60 |
| 11 | A | 18 | G | C4-C5-C6 | 6.82 | 122.89 | 118.80 |
| 12 | B | 492 | A | N9-C4-C5 | 6.82 | 108.53 | 105.80 |
| 12 | B | 669 | G | C8-N9-C1' | -6.82 | 118.13 | 127.00 |
| 12 | B | 1303 | G | O4'-C1'-N9 | 6.82 | 113.66 | 108.20 |
| 12 | B | 1484 | U | N1-C2-N3 | -6.82 | 110.81 | 114.90 |
| 12 | B | 1639 | C | C5-C6-N1 | 6.82 | 124.41 | 121.00 |
| 12 | B | 1794 | A | C2-N3-C4 | -6.82 | 107.19 | 110.60 |
| 12 | B | 1957 | C | C2-N1-C1' | 6.82 | 126.31 | 118.80 |
| 12 | B | 2209 | G | C8-N9-C4 | -6.82 | 103.67 | 106.40 |
| 12 | B | 2721 | A | C5-N7-C8 | 6.82 | 107.31 | 103.90 |
| 12 | B | 1074 | G | C4-C5-C6 | 6.82 | 122.89 | 118.80 |
| 12 | B | 1147 | A | N9-C4-C5 | 6.82 | 108.53 | 105.80 |
| 12 | B | 1465 | G | N3-C2-N2 | 6.82 | 124.67 | 119.90 |
| 12 | B | 2024 | G | N3-C4-C5 | 6.82 | 132.01 | 128.60 |
| 12 | B | 2142 | A | O4'-C1'-N9 | 6.82 | 113.66 | 108.20 |
| 12 | B | 2335 | A | C6-N1-C2 | 6.82 | 122.69 | 118.60 |
| 11 | A | 7 | G | C5-C6-O6 | -6.82 | 124.51 | 128.60 |
| 12 | B | 763 | G | N1-C2-N3 | -6.82 | 119.81 | 123.90 |
| 12 | B | 993 | G | C8-N9-C4 | 6.82 | 109.13 | 106.40 |
| 12 | B | 1034 | G | P-O5'-C5' | 6.82 | 131.81 | 120.90 |
| 12 | B | 1296 | G | N1-C2-N3 | -6.82 | 119.81 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1513 | U | P-O3'-C3' | -6.82 | 111.52 | 119.70 |
| 12 | B | 1801 | A | N9-C4-C5 | 6.82 | 108.53 | 105.80 |
| 12 | B | 2364 | C | C2-N1-C1' | -6.82 | 111.30 | 118.80 |
| 12 | B | 2504 | U | C3'-C2'-C1' | 6.82 | 106.95 | 101.50 |
| 12 | B | 1382 | G | C5-C6-N1 | 6.82 | 114.91 | 111.50 |
| 12 | B | 1896 | G | N7-C8-N9 | 6.82 | 116.51 | 113.10 |
| 12 | B | 2444 | G | C5-N7-C8 | -6.82 | 100.89 | 104.30 |
| 12 | B | 349 | U | O4'-C1'-C2' | -6.81 | 98.99 | 105.80 |
| 12 | B | 1873 | G | C2-N3-C4 | -6.81 | 108.49 | 111.90 |
| 12 | B | 2016 | U | C5-C4-O4 | -6.81 | 121.81 | 125.90 |
| 12 | B | 2792 | A | C8-N9-C4 | -6.81 | 103.07 | 105.80 |
| 15 | E | 187 | VAL | CA-CB-CG2 | -6.81 | 100.68 | 110.90 |
| 31 | U | 97 | SER | N-CA-CB | 6.81 | 120.72 | 110.50 |
| 12 | B | 157 | C | C2-N3-C4 | 6.81 | 123.31 | 119.90 |
| 12 | B | 339 | U | C5-C6-N1 | 6.81 | 126.11 | 122.70 |
| 12 | B | 506 | G | C8-N9-C4 | -6.81 | 103.67 | 106.40 |
| 12 | B | 730 | A | O4'-C1'-N9 | 6.81 | 113.65 | 108.20 |
| 12 | B | 1086 | A | O4'-C1'-N9 | 6.81 | 113.65 | 108.20 |
| 12 | B | 1473 | G | N1-C2-N3 | -6.81 | 119.81 | 123.90 |
| 12 | B | 1701 | A | O5'-P-OP2 | -6.81 | 99.57 | 105.70 |
| 12 | B | 1725 | U | C4-C5-C6 | -6.81 | 115.61 | 119.70 |
| 12 | B | 2418 | A | N9-C4-C5 | 6.81 | 108.53 | 105.80 |
| 14 | D | 170 | VAL | CA-CB-CG1 | 6.81 | 121.12 | 110.90 |
| 12 | B | 904 | G | C6-C5-N7 | -6.81 | 126.31 | 130.40 |
| 12 | B | 122 | G | C8-N9-C4 | -6.81 | 103.68 | 106.40 |
| 12 | B | 307 | G | N3-C2-N2 | 6.81 | 124.67 | 119.90 |
| 12 | B | 497 | A | C8-N9-C4 | -6.81 | 103.08 | 105.80 |
| 12 | B | 822 | G | N9-C4-C5 | 6.81 | 108.12 | 105.40 |
| 12 | B | 843 | G | N9-C4-C5 | -6.81 | 102.68 | 105.40 |
| 12 | B | 1087 | G | N1-C6-O6 | 6.81 | 123.99 | 119.90 |
| 12 | B | 1278 | C | N3-C4-C5 | -6.81 | 119.18 | 121.90 |
| 12 | B | 2564 | A | C4'-C3'-C2' | -6.81 | 95.79 | 102.60 |
| 12 | B | 92 | U | C2-N3-C4 | -6.81 | 122.92 | 127.00 |
| 12 | B | 155 | A | C6-C5-N7 | -6.81 | 127.53 | 132.30 |
| 12 | B | 418 | C | C5-C4-N4 | -6.81 | 115.44 | 120.20 |
| 12 | B | 1036 | G | C5-C6-N1 | -6.81 | 108.10 | 111.50 |
| 12 | B | 1337 | G | O4'-C1'-N9 | 6.81 | 113.65 | 108.20 |
| 12 | B | 1804 | C | C5-C4-N4 | -6.81 | 115.44 | 120.20 |
| 12 | B | 2167 | U | N1-C2-O2 | 6.81 | 127.56 | 122.80 |
| 12 | B | 161 | A | C5-C6-N6 | -6.81 | 118.25 | 123.70 |
| 12 | B | 252 | G | C5-C6-O6 | -6.81 | 124.52 | 128.60 |
| 12 | B | 1590 | A | C4-C5-N7 | -6.81 | 107.30 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2121 | G | N3-C2-N2 | 6.81 | 124.66 | 119.90 |
| 11 | A | 58 | A | N1-C2-N3 | 6.80 | 132.70 | 129.30 |
| 12 | B | 30 | G | N1-C2-N3 | -6.80 | 119.82 | 123.90 |
| 12 | B | 442 | G | C5-C6-N1 | -6.80 | 108.10 | 111.50 |
| 12 | B | 662 | G | C4-C5-C6 | -6.80 | 114.72 | 118.80 |
| 12 | B | 1392 | A | N1-C2-N3 | -6.80 | 125.90 | 129.30 |
| 12 | B | 1515 | A | C3'-C2'-C1' | 6.80 | 106.94 | 101.50 |
| 12 | B | 2414 | G | C4-N9-C1' | -6.80 | 117.66 | 126.50 |
| 12 | B | 2736 | A | N9-C4-C5 | 6.80 | 108.52 | 105.80 |
| 12 | B | 2836 | U | C2-N3-C4 | 6.80 | 131.08 | 127.00 |
| 11 | A | 110 | C | C5-C4-N4 | -6.80 | 115.44 | 120.20 |
| 12 | B | 25 | U | C3'-C2'-C1' | 6.80 | 106.94 | 101.50 |
| 12 | B | 751 | A | C1'-O4'-C4' | -6.80 | 104.46 | 109.90 |
| 11 | A | 76 | G | C4-C5-C6 | 6.80 | 122.88 | 118.80 |
| 12 | B | 154 | U | C1'-O4'-C4' | 6.80 | 115.34 | 109.90 |
| 12 | B | 1392 | A | O4'-C1'-N9 | 6.80 | 113.64 | 108.20 |
| 12 | B | 1850 | G | N7-C8-N9 | 6.80 | 116.50 | 113.10 |
| 12 | B | 1937 | A | N9-C4-C5 | 6.80 | 108.52 | 105.80 |
| 12 | B | 2782 | G | C6-C5-N7 | -6.80 | 126.32 | 130.40 |
| 25 | O | 10 | ARG | NE-CZ-NH2 | -6.80 | 116.90 | 120.30 |
| 12 | B | 475 | C | N3-C4-N4 | 6.80 | 122.76 | 118.00 |
| 12 | B | 751 | A | N7-C8-N9 | -6.80 | 110.40 | 113.80 |
| 12 | B | 842 | U | N3-C4-O4 | 6.80 | 124.16 | 119.40 |
| 12 | B | 1051 | G | N1-C6-O6 | 6.80 | 123.98 | 119.90 |
| 12 | B | 1378 | A | C2-N3-C4 | -6.80 | 107.20 | 110.60 |
| 12 | B | 1528 | A | O4'-C1'-N9 | 6.80 | 113.64 | 108.20 |
| 12 | B | 1750 | G | N3-C2-N2 | 6.80 | 124.66 | 119.90 |
| 12 | B | 2067 | G | O4'-C1'-N9 | 6.80 | 113.64 | 108.20 |
| 12 | B | 2269 | G | C4-C5-N7 | 6.80 | 113.52 | 110.80 |
| 12 | B | 2293 | G | C5-C6-N1 | 6.80 | 114.90 | 111.50 |
| 12 | B | 1038 | G | C8-N9-C4 | -6.80 | 103.68 | 106.40 |
| 12 | B | 1084 | A | C5-C6-N6 | -6.80 | 118.26 | 123.70 |
| 12 | B | 1425 | G | C4-C5-C6 | 6.80 | 122.88 | 118.80 |
| 12 | B | 1849 | G | P-O3'-C3' | -6.80 | 111.54 | 119.70 |
| 12 | B | 1918 | A | C8-N9-C4 | -6.80 | 103.08 | 105.80 |
| 12 | B | 1972 | G | C5-C6-N1 | 6.80 | 114.90 | 111.50 |
| 12 | B | 2426 | A | N9-C4-C5 | 6.80 | 108.52 | 105.80 |
| 12 | B | 57 | C | P-O3'-C3' | -6.79 | 111.55 | 119.70 |
| 12 | B | 95 | A | P-O5'-C5' | 6.79 | 131.77 | 120.90 |
| 12 | B | 521 | U | C5-C6-N1 | 6.79 | 126.10 | 122.70 |
| 12 | B | 622 | G | N1-C2-N3 | -6.79 | 119.82 | 123.90 |
| 12 | B | 1038 | G | N1-C2-N3 | -6.79 | 119.82 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1471 | G | C2-N3-C4 | -6.79 | 108.50 | 111.90 |
| 12 | B | 2543 | G | N7-C8-N9 | -6.79 | 109.70 | 113.10 |
| 22 | L | 82 | LEU | CB-CG-CD2 | 6.79 | 122.55 | 111.00 |
| 12 | B | 1285 | A | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |
| 12 | B | 1285 | A | C4-C5-C6 | 6.79 | 120.40 | 117.00 |
| 12 | B | 1297 | C | O4'-C1'-N1 | 6.79 | 113.63 | 108.20 |
| 12 | B | 1465 | G | C5-C6-O6 | -6.79 | 124.52 | 128.60 |
| 12 | B | 1575 | C | C5'-C4'-C3' | -6.79 | 105.13 | 116.00 |
| 12 | B | 2002 | G | N3-C2-N2 | 6.79 | 124.66 | 119.90 |
| 12 | B | 2090 | A | O4'-C1'-N9 | 6.79 | 113.64 | 108.20 |
| 12 | B | 2349 | G | C4-C5-C6 | 6.79 | 122.88 | 118.80 |
| 28 | R | 98 | ILE | N-CA-CB | 6.79 | 126.42 | 110.80 |
| 12 | B | 94 | A | C6-C5-N7 | -6.79 | 127.55 | 132.30 |
| 12 | B | 155 | A | C5-C6-N6 | -6.79 | 118.27 | 123.70 |
| 12 | B | 308 | G | N1-C2-N3 | -6.79 | 119.83 | 123.90 |
| 12 | B | 526 | A | C4-C5-C6 | -6.79 | 113.60 | 117.00 |
| 12 | B | 594 | U | O4'-C1'-N1 | 6.79 | 113.63 | 108.20 |
| 12 | B | 1226 | A | C5-C6-N6 | -6.79 | 118.27 | 123.70 |
| 12 | B | 1831 | G | N1-C2-N2 | -6.79 | 110.09 | 116.20 |
| 12 | B | 2186 | G | C5-C6-N1 | 6.79 | 114.90 | 111.50 |
| 12 | B | 2327 | A | C6-C5-N7 | -6.79 | 127.55 | 132.30 |
| 18 | H | 91 | PHE | CB-CG-CD2 | -6.79 | 116.05 | 120.80 |
| 12 | B | 577 | G | O5'-P-OP2 | -6.79 | 99.59 | 105.70 |
| 12 | B | 1595 | C | N3-C4-N4 | 6.79 | 122.75 | 118.00 |
| 12 | B | 2159 | G | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |
| 12 | B | 2532 | G | N7-C8-N9 | -6.79 | 109.70 | 113.10 |
| 13 | C | 61 | TYR | CB-CA-C | 6.79 | 123.98 | 110.40 |
| 12 | B | 1319 | C | N3-C4-N4 | 6.79 | 122.75 | 118.00 |
| 12 | B | 1332 | G | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |
| 12 | B | 1394 | U | P-O5'-C5' | 6.79 | 131.76 | 120.90 |
| 12 | B | 2061 | G | C5-N7-C8 | 6.79 | 107.69 | 104.30 |
| 12 | B | 2636 | C | C6-N1-C1' | -6.79 | 112.65 | 120.80 |
| 27 | Q | 38 | VAL | CA-CB-CG1 | 6.79 | 121.08 | 110.90 |
| 11 | A | 19 | C | C2-N3-C4 | -6.79 | 116.51 | 119.90 |
| 11 | A | 95 | U | O4'-C1'-N1 | 6.79 | 113.63 | 108.20 |
| 12 | B | 53 | A | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |
| 12 | B | 132 | G | N3-C4-C5 | 6.79 | 131.99 | 128.60 |
| 12 | B | 274 | C | C2-N3-C4 | 6.79 | 123.29 | 119.90 |
| 12 | B | 1645 | G | N9-C4-C5 | -6.79 | 102.69 | 105.40 |
| 12 | B | 2056 | G | N1-C6-O6 | 6.79 | 123.97 | 119.90 |
| 12 | B | 2127 | G | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |
| 12 | B | 2320 | U | C3'-C2'-C1' | -6.79 | 96.07 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2773 | C | N3-C4-C5 | -6.79 | 119.19 | 121.90 |
| 12 | B | 51 | G | N7-C8-N9 | -6.78 | 109.71 | 113.10 |
| 12 | B | 281 | C | N3-C4-N4 | 6.78 | 122.75 | 118.00 |
| 12 | B | 926 | G | O4'-C4'-C3' | -6.78 | 97.22 | 104.00 |
| 12 | B | 2428 | G | N1-C2-N2 | 6.78 | 122.30 | 116.20 |
| 12 | B | 50 | U | C2-N3-C4 | -6.78 | 122.93 | 127.00 |
| 12 | B | 368 | A | C2-N3-C4 | -6.78 | 107.21 | 110.60 |
| 12 | B | 749 | A | C6-C5-N7 | -6.78 | 127.55 | 132.30 |
| 12 | B | 1196 | C | N3-C4-C5 | -6.78 | 119.19 | 121.90 |
| 12 | B | 1472 | C | C4-C5-C6 | 6.78 | 120.79 | 117.40 |
| 12 | B | 1955 | U | O4'-C1'-C2' | -6.78 | 99.02 | 105.80 |
| 12 | B | 2095 | A | C4-C5-C6 | 6.78 | 120.39 | 117.00 |
| 12 | B | 2376 | A | C4-C5-C6 | 6.78 | 120.39 | 117.00 |
| 12 | B | 1475 | G | C6-N1-C2 | 6.78 | 129.17 | 125.10 |
| 12 | B | 1844 | C | C2-N3-C4 | 6.78 | 123.29 | 119.90 |
| 12 | B | 2277 | G | N9-C4-C5 | -6.78 | 102.69 | 105.40 |
| 12 | B | 2383 | G | C8-N9-C4 | -6.78 | 103.69 | 106.40 |
| 12 | B | 473 | G | C5-C6-N1 | 6.78 | 114.89 | 111.50 |
| 12 | B | 958 | U | C2-N3-C4 | -6.78 | 122.93 | 127.00 |
| 12 | B | 982 | C | C6-N1-C1' | -6.78 | 112.67 | 120.80 |
| 12 | B | 1329 | U | P-O3'-C3' | -6.78 | 111.57 | 119.70 |
| 12 | B | 1784 | A | C5-N7-C8 | 6.78 | 107.29 | 103.90 |
| 12 | B | 2396 | G | N1-C2-N3 | -6.78 | 119.83 | 123.90 |
| 12 | B | 771 | G | N1-C2-N2 | 6.78 | 122.30 | 116.20 |
| 12 | B | 2277 | G | C4-C5-C6 | 6.78 | 122.87 | 118.80 |
| 25 | O | 117 | PHE | CB-CG-CD1 | 6.78 | 125.54 | 120.80 |
| 12 | B | 111 | A | C2-N3-C4 | -6.77 | 107.21 | 110.60 |
| 12 | B | 428 | A | N9-C4-C5 | -6.77 | 103.09 | 105.80 |
| 12 | B | 1042 | G | O4'-C1'-N9 | 6.77 | 113.62 | 108.20 |
| 12 | B | 1332 | G | C5-C6-O6 | -6.77 | 124.53 | 128.60 |
| 12 | B | 2406 | A | C4-C5-N7 | -6.77 | 107.31 | 110.70 |
| 22 | L | 91 | ASP | CB-CG-OD2 | -6.77 | 112.20 | 118.30 |
| 11 | A | 34 | A | C4-C5-C6 | 6.77 | 120.39 | 117.00 |
| 12 | B | 606 | U | N3-C2-O2 | 6.77 | 126.94 | 122.20 |
| 12 | B | 858 | G | C5'-C4'-C3' | -6.77 | 105.16 | 116.00 |
| 12 | B | 1483 | G | C8-N9-C4 | -6.77 | 103.69 | 106.40 |
| 12 | B | 2062 | A | N7-C8-N9 | 6.77 | 117.19 | 113.80 |
| 12 | B | 2152 | G | O4'-C1'-N9 | 6.77 | 113.62 | 108.20 |
| 12 | B | 2345 | G | N1-C2-N3 | -6.77 | 119.84 | 123.90 |
| 12 | B | 2479 | U | C5-C6-N1 | 6.77 | 126.09 | 122.70 |
| 12 | B | 541 | A | N3-C4-C5 | -6.77 | 122.06 | 126.80 |
| 12 | B | 1866 | A | C5-C6-N1 | -6.77 | 114.31 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2089 | C | C4-C5-C6 | -6.77 | 114.01 | 117.40 |
| 12 | B | 2185 | U | O4'-C1'-N1 | 6.77 | 113.62 | 108.20 |
| 12 | B | 2836 | U | N3-C4-C5 | -6.77 | 110.54 | 114.60 |
| 8 | 7 | 13 | PHE | CB-CG-CD1 | 6.77 | 125.54 | 120.80 |
| 11 | A | 115 | A | C4'-C3'-C2' | -6.77 | 95.83 | 102.60 |
| 12 | B | 432 | A | N3-C4-C5 | -6.77 | 122.06 | 126.80 |
| 12 | B | 1468 | U | O4'-C1'-N1 | 6.77 | 113.62 | 108.20 |
| 12 | B | 1718 | G | O4'-C1'-N9 | 6.77 | 113.61 | 108.20 |
| 12 | B | 2761 | A | C5-N7-C8 | 6.77 | 107.28 | 103.90 |
| 10 | 9 | 237 | ARG | NE-CZ-NH1 | -6.77 | 116.92 | 120.30 |
| 12 | B | 297 | G | N9-C4-C5 | 6.77 | 108.11 | 105.40 |
| 12 | B | 309 | A | C4-C5-C6 | 6.77 | 120.38 | 117.00 |
| 12 | B | 658 | U | N1-C2-N3 | -6.77 | 110.84 | 114.90 |
| 12 | B | 953 | G | O4'-C1'-N9 | 6.77 | 113.61 | 108.20 |
| 12 | B | 1465 | G | O4'-C1'-N9 | 6.77 | 113.61 | 108.20 |
| 12 | B | 1629 | U | C2-N3-C4 | -6.77 | 122.94 | 127.00 |
| 12 | B | 1673 | G | C5-N7-C8 | 6.77 | 107.68 | 104.30 |
| 12 | B | 1749 | A | C5-C6-N6 | -6.77 | 118.29 | 123.70 |
| 12 | B | 2508 | G | C4-N9-C1' | -6.77 | 117.70 | 126.50 |
| 12 | B | 1236 | G | C8-N9-C4 | -6.77 | 103.69 | 106.40 |
| 12 | B | 762 | U | C6-N1-C2 | -6.76 | 116.94 | 121.00 |
| 12 | B | 1146 | C | C5-C4-N4 | -6.76 | 115.47 | 120.20 |
| 12 | B | 1157 | G | O4'-C1'-N9 | 6.76 | 113.61 | 108.20 |
| 12 | B | 1208 | C | C6-N1-C2 | 6.76 | 123.01 | 120.30 |
| 12 | B | 2553 | G | N3-C2-N2 | 6.76 | 124.64 | 119.90 |
| 12 | B | 1195 | G | C2-N3-C4 | 6.76 | 115.28 | 111.90 |
| 12 | B | 1816 | C | N3-C4-C5 | -6.76 | 119.19 | 121.90 |
| 12 | B | 1862 | G | N7-C8-N9 | 6.76 | 116.48 | 113.10 |
| 12 | B | 2174 | C | O4'-C1'-N1 | 6.76 | 113.61 | 108.20 |
| 12 | B | 2336 | A | C8-N9-C4 | -6.76 | 103.09 | 105.80 |
| 10 | 9 | 95 | ARG | NE-CZ-NH2 | 6.76 | 123.68 | 120.30 |
| 12 | B | 465 | G | N3-C2-N2 | 6.76 | 124.63 | 119.90 |
| 12 | B | 653 | U | C1'-O4'-C4' | -6.76 | 104.49 | 109.90 |
| 12 | B | 834 | G | N1-C6-O6 | 6.76 | 123.96 | 119.90 |
| 12 | B | 1034 | G | C2-N3-C4 | -6.76 | 108.52 | 111.90 |
| 12 | B | 1477 | A | C5-C6-N1 | -6.76 | 114.32 | 117.70 |
| 12 | B | 1536 | C | N3-C2-O2 | 6.76 | 126.63 | 121.90 |
| 12 | B | 1878 | G | N9-C4-C5 | -6.76 | 102.69 | 105.40 |
| 12 | B | 2454 | G | C4-C5-C6 | 6.76 | 122.86 | 118.80 |
| 12 | B | 2471 | A | C5-C6-N1 | -6.76 | 114.32 | 117.70 |
| 12 | B | 2787 | C | N1-C2-O2 | 6.76 | 122.96 | 118.90 |
| 12 | B | 268 | C | C2-N1-C1' | 6.76 | 126.23 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 270 | A | N9-C4-C5 | 6.76 | 108.50 | 105.80 |
| 12 | B | 910 | A | C5-C6-N1 | -6.76 | 114.32 | 117.70 |
| 12 | B | 1193 | G | C5-C6-O6 | -6.76 | 124.54 | 128.60 |
| 12 | B | 1727 | C | C5-C4-N4 | -6.76 | 115.47 | 120.20 |
| 12 | B | 1738 | G | N3-C4-C5 | -6.76 | 125.22 | 128.60 |
| 12 | B | 1979 | U | C2-N3-C4 | -6.76 | 122.94 | 127.00 |
| 12 | B | 2338 | C | C6-N1-C2 | 6.76 | 123.00 | 120.30 |
| 12 | B | 2852 | G | C5-C6-N1 | -6.76 | 108.12 | 111.50 |
| 12 | B | 1537 | G | N3-C4-N9 | -6.76 | 121.94 | 126.00 |
| 12 | B | 43 | G | N7-C8-N9 | 6.76 | 116.48 | 113.10 |
| 12 | B | 77 | G | N1-C6-O6 | 6.76 | 123.95 | 119.90 |
| 12 | B | 501 | A | O4'-C1'-N9 | 6.76 | 113.61 | 108.20 |
| 12 | B | 891 | G | N3-C4-C5 | -6.76 | 125.22 | 128.60 |
| 12 | B | 995 | C | C6-N1-C2 | 6.76 | 123.00 | 120.30 |
| 12 | B | 1376 | C | C3'-C2'-C1' | 6.76 | 106.91 | 101.50 |
| 12 | B | 1908 | C | N3-C4-C5 | -6.76 | 119.20 | 121.90 |
| 12 | B | 2150 | C | N1-C2-N3 | -6.76 | 114.47 | 119.20 |
| 12 | B | 1819 | A | N3-C4-C5 | -6.75 | 122.07 | 126.80 |
| 26 | P | 97 | TYR | CB-CG-CD1 | -6.75 | 116.95 | 121.00 |
| 11 | A | 54 | G | O4'-C1'-N9 | 6.75 | 113.60 | 108.20 |
| 12 | B | 220 | G | C4-C5-C6 | 6.75 | 122.85 | 118.80 |
| 12 | B | 563 | A | C5-C6-N6 | -6.75 | 118.30 | 123.70 |
| 12 | B | 2030 | A | C4-C5-N7 | -6.75 | 107.32 | 110.70 |
| 12 | B | 2049 | G | C4-C5-C6 | 6.75 | 122.85 | 118.80 |
| 12 | B | 2659 | G | N3-C2-N2 | 6.75 | 124.63 | 119.90 |
| 12 | B | 77 | G | C6-C5-N7 | -6.75 | 126.35 | 130.40 |
| 12 | B | 1315 | C | C2-N3-C4 | 6.75 | 123.28 | 119.90 |
| 12 | B | 1357 | C | N3-C4-C5 | -6.75 | 119.20 | 121.90 |
| 12 | B | 1398 | C | C6-N1-C2 | -6.75 | 117.60 | 120.30 |
| 12 | B | 1424 | G | N1-C2-N3 | -6.75 | 119.85 | 123.90 |
| 12 | B | 1503 | A | C1'-O4'-C4' | 6.75 | 115.30 | 109.90 |
| 12 | B | 1507 | C | N3-C4-N4 | 6.75 | 122.72 | 118.00 |
| 12 | B | 1513 | U | N1-C2-O2 | -6.75 | 118.07 | 122.80 |
| 12 | B | 1727 | C | C5'-C4'-C3' | 6.75 | 126.80 | 116.00 |
| 12 | B | 1932 | A | C4-C5-C6 | 6.75 | 120.38 | 117.00 |
| 12 | B | 2098 | U | O4'-C1'-N1 | 6.75 | 113.60 | 108.20 |
| 12 | B | 2401 | U | N1-C1'-C2' | -6.75 | 104.57 | 112.00 |
| 12 | B | 324 | A | C4-C5-C6 | 6.75 | 120.38 | 117.00 |
| 12 | B | 664 | G | N9-C4-C5 | -6.75 | 102.70 | 105.40 |
| 12 | B | 2199 | A | C5'-C4'-C3' | -6.75 | 105.20 | 116.00 |
| 12 | B | 22 | C | N3-C4-N4 | 6.75 | 122.72 | 118.00 |
| 12 | B | 62 | U | N1-C2-N3 | 6.75 | 118.95 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1229 | C | N3-C4-N4 | 6.75 | 122.72 | 118.00 |
| 14 | D | 33 | ARG | NE-CZ-NH1 | -6.75 | 116.93 | 120.30 |
| 12 | B | 275 | C | C4'-C3'-C2' | -6.75 | 95.85 | 102.60 |
| 12 | B | 974 | G | N3-C2-N2 | 6.75 | 124.62 | 119.90 |
| 12 | B | 1475 | G | C5-C6-N1 | -6.75 | 108.13 | 111.50 |
| 12 | B | 2902 | C | N3-C4-N4 | 6.75 | 122.72 | 118.00 |
| 11 | A | 10 | G | N3-C2-N2 | 6.75 | 124.62 | 119.90 |
| 12 | B | 520 | G | N3-C2-N2 | 6.75 | 124.62 | 119.90 |
| 18 | H | 84 | ALA | N-CA-CB | 6.75 | 119.54 | 110.10 |
| 11 | A | 111 | U | C5-C4-O4 | 6.74 | 129.95 | 125.90 |
| 12 | B | 1348 | C | C6-N1-C2 | -6.74 | 117.60 | 120.30 |
| 12 | B | 1486 | U | P-O5'-C5' | 6.74 | 131.69 | 120.90 |
| 12 | B | 1863 | G | N3-C4-C5 | -6.74 | 125.23 | 128.60 |
| 12 | B | 1949 | G | P-O5'-C5' | 6.74 | 131.69 | 120.90 |
| 12 | B | 1981 | A | N1-C2-N3 | 6.74 | 132.67 | 129.30 |
| 12 | B | 2093 | G | C4-C5-C6 | 6.74 | 122.85 | 118.80 |
| 12 | B | 2218 | G | C8-N9-C4 | 6.74 | 109.10 | 106.40 |
| 12 | B | 2892 | G | C4-N9-C1' | -6.74 | 117.73 | 126.50 |
| 14 | D | 156 | PHE | CB-CG-CD1 | -6.74 | 116.08 | 120.80 |
| 12 | B | 937 | C | N3-C4-C5 | -6.74 | 119.20 | 121.90 |
| 12 | B | 1362 | C | O4'-C1'-N1 | 6.74 | 113.59 | 108.20 |
| 11 | A | 79 | G | C4-C5-C6 | 6.74 | 122.84 | 118.80 |
| 12 | B | 319 | G | C5-C6-N1 | -6.74 | 108.13 | 111.50 |
| 12 | B | 1424 | G | C6-N1-C2 | -6.74 | 121.06 | 125.10 |
| 12 | B | 1714 | U | C5'-C4'-C3' | -6.74 | 105.22 | 116.00 |
| 12 | B | 2054 | A | C5-N7-C8 | 6.74 | 107.27 | 103.90 |
| 12 | B | 2223 | G | O4'-C1'-N9 | 6.74 | 113.59 | 108.20 |
| 12 | B | 2388 | A | C4-C5-C6 | 6.74 | 120.37 | 117.00 |
| 12 | B | 2417 | C | O4'-C1'-N1 | 6.74 | 113.59 | 108.20 |
| 12 | B | 188 | G | C4-C5-N7 | -6.74 | 108.11 | 110.80 |
| 12 | B | 516 | C | N1-C2-O2 | -6.74 | 114.86 | 118.90 |
| 12 | B | 651 | G | N1-C6-O6 | 6.74 | 123.94 | 119.90 |
| 12 | B | 996 | A | C5'-C4'-C3' | -6.74 | 105.22 | 116.00 |
| 12 | B | 1344 | U | C2-N1-C1' | 6.74 | 125.79 | 117.70 |
| 12 | B | 1631 | G | C4'-C3'-C2' | -6.74 | 95.86 | 102.60 |
| 12 | B | 2058 | A | C5-C6-N1 | -6.74 | 114.33 | 117.70 |
| 12 | B | 2538 | C | O4'-C4'-C3' | -6.74 | 97.26 | 104.00 |
| 12 | B | 2722 | G | C5-C6-O6 | -6.74 | 124.56 | 128.60 |
| 12 | B | 834 | G | O4'-C1'-N9 | 6.74 | 113.59 | 108.20 |
| 12 | B | 1783 | A | C3'-C2'-C1' | -6.74 | 96.11 | 101.50 |
| 12 | B | 2333 | A | C5-C6-N6 | -6.74 | 118.31 | 123.70 |
| 12 | B | 2863 | C | N3-C4-N4 | 6.74 | 122.72 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 33 | C | C5-C6-N1 | 6.74 | 124.37 | 121.00 |
| 12 | B | 102 | U | C2-N1-C1' | 6.74 | 125.78 | 117.70 |
| 12 | B | 175 | G | N7-C8-N9 | -6.74 | 109.73 | 113.10 |
| 12 | B | 287 | G | C4-C5-N7 | -6.74 | 108.11 | 110.80 |
| 12 | B | 293 | U | C2-N1-C1' | 6.74 | 125.78 | 117.70 |
| 12 | B | 317 | G | N1-C2-N3 | -6.74 | 119.86 | 123.90 |
| 12 | B | 454 | A | C6-C5-N7 | -6.74 | 127.59 | 132.30 |
| 12 | B | 512 | G | C6-C5-N7 | -6.74 | 126.36 | 130.40 |
| 12 | B | 772 | C | P-O3'-C3' | 6.74 | 127.78 | 119.70 |
| 12 | B | 979 | A | C5-C6-N1 | -6.74 | 114.33 | 117.70 |
| 12 | B | 1256 | G | C6-C5-N7 | -6.74 | 126.36 | 130.40 |
| 12 | B | 1283 | G | C4-C5-C6 | 6.74 | 122.84 | 118.80 |
| 12 | B | 1505 | A | C5-C6-N1 | -6.74 | 114.33 | 117.70 |
| 12 | B | 1567 | G | N1-C2-N3 | -6.74 | 119.86 | 123.90 |
| 12 | B | 11 | C | N3-C4-C5 | -6.73 | 119.21 | 121.90 |
| 12 | B | 400 | G | N1-C2-N2 | -6.73 | 110.14 | 116.20 |
| 12 | B | 2176 | A | N1-C6-N6 | 6.73 | 122.64 | 118.60 |
| 12 | B | 365 | U | C4'-C3'-C2' | -6.73 | 95.87 | 102.60 |
| 12 | B | 1073 | A | C5-C6-N1 | -6.73 | 114.33 | 117.70 |
| 12 | B | 1689 | A | N1-C2-N3 | 6.73 | 132.67 | 129.30 |
| 12 | B | 1715 | G | N9-C4-C5 | -6.73 | 102.71 | 105.40 |
| 12 | B | 2664 | G | N3-C2-N2 | 6.73 | 124.61 | 119.90 |
| 12 | B | 614 | A | C2-N3-C4 | 6.73 | 113.97 | 110.60 |
| 12 | B | 973 | A | C5-C6-N6 | -6.73 | 118.31 | 123.70 |
| 12 | B | 1721 | G | P-O5'-C5' | 6.73 | 131.67 | 120.90 |
| 12 | B | 1919 | A | O4'-C1'-N9 | 6.73 | 113.58 | 108.20 |
| 12 | B | 2043 | C | N3-C4-C5 | -6.73 | 119.21 | 121.90 |
| 12 | B | 2773 | C | N3-C4-N4 | 6.73 | 122.71 | 118.00 |
| 12 | B | 2816 | G | C8-N9-C4 | -6.73 | 103.71 | 106.40 |
| 10 | 9 | 145 | THR | CA-CB-CG2 | -6.73 | 102.98 | 112.40 |
| 12 | B | 109 | C | C5-C4-N4 | -6.73 | 115.49 | 120.20 |
| 12 | B | 509 | C | C6-N1-C2 | -6.73 | 117.61 | 120.30 |
| 12 | B | 1215 | G | C4-C5-C6 | 6.73 | 122.84 | 118.80 |
| 12 | B | 1587 | G | N3-C2-N2 | 6.73 | 124.61 | 119.90 |
| 12 | B | 2678 | C | O4'-C1'-N1 | 6.73 | 113.58 | 108.20 |
| 12 | B | 203 | A | C5-C6-N6 | -6.73 | 118.32 | 123.70 |
| 12 | B | 233 | A | C6-N1-C2 | -6.73 | 114.56 | 118.60 |
| 12 | B | 480 | A | C4-C5-N7 | -6.73 | 107.34 | 110.70 |
| 12 | B | 979 | A | C4-N9-C1' | -6.73 | 114.19 | 126.30 |
| 12 | B | 2884 | U | C2-N3-C4 | -6.73 | 122.96 | 127.00 |
| 10 | 9 | 53 | LEU | N-CA-CB | 6.73 | 123.85 | 110.40 |
| 12 | B | 25 | U | N3-C4-O4 | 6.73 | 124.11 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 101 | A | O4'-C1'-N9 | 6.73 | 113.58 | 108.20 |
| 12 | B | 1171 | G | N1-C6-O6 | 6.73 | 123.94 | 119.90 |
| 12 | B | 2739 | U | C3'-C2'-C1' | 6.73 | 106.88 | 101.50 |
| 12 | B | 256 | A | C4-C5-N7 | -6.72 | 107.34 | 110.70 |
| 12 | B | 407 | G | C5-C6-O6 | -6.72 | 124.56 | 128.60 |
| 12 | B | 1730 | C | C5-C4-N4 | -6.72 | 115.49 | 120.20 |
| 12 | B | 1909 | C | O3'-P-O5' | 6.72 | 116.78 | 104.00 |
| 12 | B | 2268 | A | C6-C5-N7 | -6.72 | 127.59 | 132.30 |
| 12 | B | 817 | C | N3-C4-N4 | 6.72 | 122.71 | 118.00 |
| 12 | B | 1342 | A | C5-N7-C8 | 6.72 | 107.26 | 103.90 |
| 12 | B | 2653 | U | O5'-C5'-C4' | -6.72 | 98.93 | 111.70 |
| 12 | B | 2768 | U | C4-C5-C6 | -6.72 | 115.67 | 119.70 |
| 12 | B | 2815 | C | O4'-C1'-N1 | 6.72 | 113.58 | 108.20 |
| 12 | B | 69 | C | C4-C5-C6 | 6.72 | 120.76 | 117.40 |
| 12 | B | 76 | C | N3-C4-C5 | -6.72 | 119.21 | 121.90 |
| 12 | B | 2134 | A | N3-C4-C5 | -6.72 | 122.09 | 126.80 |
| 12 | B | 7 | G | N1-C6-O6 | 6.72 | 123.93 | 119.90 |
| 12 | B | 388 | G | C2-N3-C4 | 6.72 | 115.26 | 111.90 |
| 12 | B | 506 | G | C4-C5-C6 | 6.72 | 122.83 | 118.80 |
| 12 | B | 582 | A | O4'-C1'-N9 | 6.72 | 113.58 | 108.20 |
| 12 | B | 1573 | G | C2-N3-C4 | -6.72 | 108.54 | 111.90 |
| 12 | B | 2424 | C | C6-N1-C1' | -6.72 | 112.74 | 120.80 |
| 12 | B | 882 | G | P-O5'-C5' | 6.72 | 131.65 | 120.90 |
| 12 | B | 1801 | A | C4'-C3'-C2' | 6.72 | 109.32 | 102.60 |
| 12 | B | 1958 | C | O4'-C1'-N1 | 6.72 | 113.57 | 108.20 |
| 3 | 2 | 51 | SER | CB-CA-C | -6.71 | 97.34 | 110.10 |
| 12 | B | 1050 | A | C2-N3-C4 | -6.71 | 107.24 | 110.60 |
| 12 | B | 1240 | U | C5-C4-O4 | -6.71 | 121.87 | 125.90 |
| 12 | B | 1649 | G | N1-C6-O6 | 6.71 | 123.93 | 119.90 |
| 12 | B | 2170 | A | C8-N9-C4 | -6.71 | 103.11 | 105.80 |
| 12 | B | 2614 | A | C5-C6-N6 | -6.71 | 118.33 | 123.70 |
| 12 | B | 10 | A | C5-C6-N6 | -6.71 | 118.33 | 123.70 |
| 12 | B | 1040 | A | O4'-C1'-N9 | 6.71 | 113.57 | 108.20 |
| 12 | B | 1968 | G | C6-C5-N7 | -6.71 | 126.37 | 130.40 |
| 12 | B | 2372 | U | O4'-C1'-N1 | 6.71 | 113.57 | 108.20 |
| 12 | B | 2673 | G | C8-N9-C4 | -6.71 | 103.72 | 106.40 |
| 7 | 6 | 14 | ARG | NE-CZ-NH2 | 6.71 | 123.66 | 120.30 |
| 11 | A | 30 | C | N1-C2-N3 | -6.71 | 114.50 | 119.20 |
| 11 | A | 44 | G | N1-C2-N3 | -6.71 | 119.87 | 123.90 |
| 12 | B | 1215 | G | C5-C6-N1 | -6.71 | 108.14 | 111.50 |
| 12 | B | 1368 | G | C4'-C3'-C2' | -6.71 | 95.89 | 102.60 |
| 12 | B | 2062 | A | P-O3'-C3' | 6.71 | 127.75 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2692 | G | C4'-C3'-C2' | -6.71 | 95.89 | 102.60 |
| 12 | B | 2857 | G | C2-N3-C4 | 6.71 | 115.25 | 111.90 |
| 12 | B | 55 | G | N3-C4-N9 | -6.71 | 121.97 | 126.00 |
| 12 | B | 419 | U | N1-C2-N3 | -6.71 | 110.87 | 114.90 |
| 12 | B | 529 | A | C5-C6-N6 | -6.71 | 118.33 | 123.70 |
| 12 | B | 818 | G | C4'-C3'-C2' | -6.71 | 95.89 | 102.60 |
| 12 | B | 917 | A | C5-N7-C8 | 6.71 | 107.25 | 103.90 |
| 12 | B | 939 | G | N1-C6-O6 | 6.71 | 123.93 | 119.90 |
| 29 | S | 76 | VAL | CG1-CB-CG2 | 6.71 | 121.64 | 110.90 |
| 1 | 0 | 37 | PHE | CB-CG-CD1 | 6.71 | 125.50 | 120.80 |
| 6 | 5 | 180 | PHE | N-CA-C | -6.71 | 92.89 | 111.00 |
| 12 | B | 1074 | G | N3-C2-N2 | 6.71 | 124.60 | 119.90 |
| 12 | B | 1354 | A | C4-C5-C6 | 6.71 | 120.35 | 117.00 |
| 12 | B | 2072 | C | N3-C4-N4 | 6.71 | 122.70 | 118.00 |
| 12 | B | 2665 | A | C4-C5-C6 | 6.71 | 120.36 | 117.00 |
| 12 | B | 559 | G | C6-C5-N7 | -6.71 | 126.38 | 130.40 |
| 12 | B | 605 | G | O4'-C1'-N9 | 6.71 | 113.56 | 108.20 |
| 12 | B | 651 | G | C5'-C4'-O4' | 6.71 | 117.15 | 109.10 |
| 12 | B | 739 | A | C5'-C4'-O4' | 6.71 | 117.15 | 109.10 |
| 12 | B | 1003 | G | C2-N3-C4 | 6.71 | 115.25 | 111.90 |
| 12 | B | 1084 | A | N7-C8-N9 | 6.71 | 117.15 | 113.80 |
| 12 | B | 2811 | G | C6-N1-C2 | 6.71 | 129.12 | 125.10 |
| 12 | B | 97 | C | N3-C4-N4 | 6.71 | 122.69 | 118.00 |
| 12 | B | 180 | G | C5-N7-C8 | 6.71 | 107.65 | 104.30 |
| 12 | B | 536 | G | C3'-C2'-C1' | -6.71 | 96.14 | 101.50 |
| 12 | B | 1465 | G | C4-C5-C6 | 6.71 | 122.82 | 118.80 |
| 12 | B | 1791 | A | C4-C5-N7 | -6.71 | 107.35 | 110.70 |
| 12 | B | 1852 | U | C5-C6-N1 | 6.71 | 126.05 | 122.70 |
| 12 | B | 1961 | C | N1-C2-N3 | -6.71 | 114.51 | 119.20 |
| 12 | B | 259 | G | O4'-C1'-N9 | 6.70 | 113.56 | 108.20 |
| 12 | B | 457 | A | O4'-C1'-N9 | 6.70 | 113.56 | 108.20 |
| 12 | B | 622 | G | N1-C2-N2 | 6.70 | 122.23 | 116.20 |
| 12 | B | 917 | A | N1-C6-N6 | 6.70 | 122.62 | 118.60 |
| 12 | B | 1929 | G | C5'-C4'-C3' | -6.70 | 105.28 | 116.00 |
| 12 | B | 2729 | G | N9-C4-C5 | -6.70 | 102.72 | 105.40 |
| 12 | B | 2758 | A | C5-C6-N1 | -6.70 | 114.35 | 117.70 |
| 12 | B | 237 | C | C5-C6-N1 | 6.70 | 124.35 | 121.00 |
| 12 | B | 1196 | C | N3-C4-N4 | 6.70 | 122.69 | 118.00 |
| 12 | B | 1812 | U | C2-N3-C4 | 6.70 | 131.02 | 127.00 |
| 12 | B | 2212 | A | C4'-C3'-C2' | -6.70 | 95.90 | 102.60 |
| 12 | B | 2505 | G | N3-C4-C5 | -6.70 | 125.25 | 128.60 |
| 12 | B | 2536 | G | C4-C5-C6 | 6.70 | 122.82 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2849 | U | N3-C2-O2 | 6.70 | 126.89 | 122.20 |
| 12 | B | 130 | C | O4'-C4'-C3' | -6.70 | 97.30 | 104.00 |
| 12 | B | 756 | A | N3-C4-N9 | 6.70 | 132.76 | 127.40 |
| 12 | B | 1407 | G | N1-C2-N3 | -6.70 | 119.88 | 123.90 |
| 12 | B | 2110 | G | P-O3'-C3' | -6.70 | 111.66 | 119.70 |
| 12 | B | 2177 | C | C2-N3-C4 | 6.70 | 123.25 | 119.90 |
| 31 | U | 11 | ILE | C-N-CA | 6.70 | 138.45 | 121.70 |
| 12 | B | 678 | C | N1-C2-N3 | -6.70 | 114.51 | 119.20 |
| 12 | B | 981 | A | C6-C5-N7 | -6.70 | 127.61 | 132.30 |
| 12 | B | 1011 | G | C5-C6-N1 | -6.70 | 108.15 | 111.50 |
| 12 | B | 1379 | U | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 12 | B | 1429 | G | N1-C6-O6 | 6.70 | 123.92 | 119.90 |
| 12 | B | 1888 | G | O4'-C1'-N9 | 6.70 | 113.56 | 108.20 |
| 12 | B | 2142 | A | N7-C8-N9 | -6.70 | 110.45 | 113.80 |
| 12 | B | 2760 | C | C5-C4-N4 | -6.70 | 115.51 | 120.20 |
| 11 | A | 4 | C | C2-N1-C1' | -6.70 | 111.43 | 118.80 |
| 12 | B | 379 | G | P-O3'-C3' | -6.70 | 111.66 | 119.70 |
| 12 | B | 1742 | U | C2-N3-C4 | -6.70 | 122.98 | 127.00 |
| 12 | B | 1912 | A | N7-C8-N9 | -6.70 | 110.45 | 113.80 |
| 12 | B | 2550 | G | N9-C4-C5 | -6.70 | 102.72 | 105.40 |
| 12 | B | 39 | G | N1-C2-N3 | -6.70 | 119.88 | 123.90 |
| 12 | B | 243 | U | N3-C4-C5 | -6.70 | 110.58 | 114.60 |
| 12 | B | 445 | C | N1-C2-O2 | 6.70 | 122.92 | 118.90 |
| 12 | B | 688 | U | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 12 | B | 968 | C | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 12 | B | 1646 | C | C6-N1-C2 | -6.70 | 117.62 | 120.30 |
| 12 | B | 1753 | G | N1-C2-N2 | -6.70 | 110.17 | 116.20 |
| 12 | B | 2139 | U | P-O3'-C3' | 6.70 | 127.73 | 119.70 |
| 12 | B | 2187 | U | P-O5'-C5' | 6.70 | 131.61 | 120.90 |
| 12 | B | 2650 | U | N1-C2-N3 | 6.70 | 118.92 | 114.90 |
| 17 | G | 152 | ARG | NE-CZ-NH1 | 6.70 | 123.65 | 120.30 |
| 12 | B | 919 | U | N3-C4-O4 | 6.69 | 124.08 | 119.40 |
| 12 | B | 1814 | G | C2-N3-C4 | 6.69 | 115.25 | 111.90 |
| 12 | B | 1921 | G | N9-C4-C5 | -6.69 | 102.72 | 105.40 |
| 12 | B | 2217 | G | C6-N1-C2 | 6.69 | 129.12 | 125.10 |
| 12 | B | 139 | U | O4'-C1'-N1 | 6.69 | 113.55 | 108.20 |
| 12 | B | 1961 | C | C2-N1-C1' | -6.69 | 111.44 | 118.80 |
| 12 | B | 2336 | A | N1-C2-N3 | -6.69 | 125.95 | 129.30 |
| 12 | B | 616 | A | C5-C6-N6 | -6.69 | 118.35 | 123.70 |
| 12 | B | 878 | A | C5-C6-N6 | -6.69 | 118.35 | 123.70 |
| 12 | B | 1381 | G | C5-C6-N1 | -6.69 | 108.16 | 111.50 |
| 16 | F | 69 | ALA | CB-CA-C | -6.69 | 100.07 | 110.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 57 | C | N3-C4-N4 | 6.69 | 122.68 | 118.00 |
| 12 | B | 267 | C | C5'-C4'-C3' | -6.69 | 105.30 | 116.00 |
| 12 | B | 383 | C | O4'-C1'-N1 | 6.69 | 113.55 | 108.20 |
| 12 | B | 396 | G | O4'-C1'-N9 | 6.69 | 113.55 | 108.20 |
| 12 | B | 438 | G | N3-C2-N2 | 6.69 | 124.58 | 119.90 |
| 12 | B | 584 | C | N3-C4-C5 | -6.69 | 119.22 | 121.90 |
| 12 | B | 977 | G | O4'-C1'-N9 | 6.69 | 113.55 | 108.20 |
| 12 | B | 1625 | C | N3-C4-C5 | -6.69 | 119.22 | 121.90 |
| 12 | B | 2037 | A | N9-C4-C5 | 6.69 | 108.47 | 105.80 |
| 12 | B | 2599 | G | C8-N9-C4 | 6.69 | 109.08 | 106.40 |
| 12 | B | 2667 | C | P-O3'-C3' | -6.69 | 111.67 | 119.70 |
| 12 | B | 174 | U | O4'-C1'-N1 | 6.69 | 113.55 | 108.20 |
| 12 | B | 473 | G | N1-C2-N3 | -6.69 | 119.89 | 123.90 |
| 12 | B | 862 | G | P-O5'-C5' | 6.69 | 131.60 | 120.90 |
| 12 | B | 1442 | U | C5-C6-N1 | 6.69 | 126.04 | 122.70 |
| 12 | B | 862 | G | N9-C1'-C2' | -6.68 | 104.65 | 112.00 |
| 12 | B | 1618 | A | N7-C8-N9 | 6.68 | 117.14 | 113.80 |
| 12 | B | 2140 | G | N3-C2-N2 | 6.68 | 124.58 | 119.90 |
| 12 | B | 2216 | G | C4-C5-N7 | -6.68 | 108.13 | 110.80 |
| 12 | B | 708 | G | OP1-P-OP2 | -6.68 | 109.58 | 119.60 |
| 12 | B | 713 | G | C5-C6-O6 | -6.68 | 124.59 | 128.60 |
| 12 | B | 777 | G | N1-C2-N3 | -6.68 | 119.89 | 123.90 |
| 12 | B | 1353 | A | N7-C8-N9 | -6.68 | 110.46 | 113.80 |
| 12 | B | 1598 | A | C2-N3-C4 | -6.68 | 107.26 | 110.60 |
| 12 | B | 1678 | A | O4'-C1'-N9 | 6.68 | 113.55 | 108.20 |
| 12 | B | 1798 | U | C1'-O4'-C4' | 6.68 | 115.25 | 109.90 |
| 12 | B | 2617 | U | N1-C2-N3 | -6.68 | 110.89 | 114.90 |
| 12 | B | 75 | G | C4-C5-N7 | -6.68 | 108.13 | 110.80 |
| 12 | B | 841 | G | C4-C5-N7 | 6.68 | 113.47 | 110.80 |
| 12 | B | 1640 | A | C5-C6-N6 | -6.68 | 118.36 | 123.70 |
| 12 | B | 2427 | C | N3-C4-N4 | 6.68 | 122.68 | 118.00 |
| 12 | B | 2552 | U | C4'-C3'-C2' | -6.68 | 95.92 | 102.60 |
| 12 | B | 223 | A | N9-C4-C5 | 6.68 | 108.47 | 105.80 |
| 12 | B | 1406 | U | O4'-C1'-N1 | 6.68 | 113.54 | 108.20 |
| 12 | B | 1504 | A | C5-N7-C8 | 6.68 | 107.24 | 103.90 |
| 12 | B | 2256 | G | C5'-C4'-C3' | 6.68 | 126.69 | 116.00 |
| 12 | B | 2288 | A | O4'-C1'-N9 | 6.68 | 113.54 | 108.20 |
| 12 | B | 1486 | U | N3-C2-O2 | 6.68 | 126.87 | 122.20 |
| 12 | B | 1543 | G | C6-C5-N7 | -6.68 | 126.39 | 130.40 |
| 12 | B | 2839 | G | C5-C6-N1 | -6.68 | 108.16 | 111.50 |
| 12 | B | 324 | A | C4-C5-N7 | -6.68 | 107.36 | 110.70 |
| 12 | B | 521 | U | N3-C2-O2 | 6.68 | 126.87 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 627 | A | C5-C6-N1 | -6.68 | 114.36 | 117.70 |
| 12 | B | 1078 | U | N1-C2-O2 | 6.68 | 127.47 | 122.80 |
| 12 | B | 2294 | G | O4'-C1'-N9 | 6.68 | 113.54 | 108.20 |
| 12 | B | 415 | A | C5-C6-N6 | -6.67 | 118.36 | 123.70 |
| 12 | B | 438 | G | O4'-C1'-N9 | 6.67 | 113.54 | 108.20 |
| 12 | B | 1388 | G | C2-N3-C4 | -6.67 | 108.56 | 111.90 |
| 12 | B | 1570 | A | C8-N9-C4 | -6.67 | 103.13 | 105.80 |
| 12 | B | 2182 | U | C6-N1-C2 | -6.67 | 117.00 | 121.00 |
| 12 | B | 2189 | U | C4-C5-C6 | -6.67 | 115.70 | 119.70 |
| 12 | B | 2644 | G | N1-C2-N3 | -6.67 | 119.89 | 123.90 |
| 11 | A | 26 | C | C6-N1-C1' | -6.67 | 112.79 | 120.80 |
| 12 | B | 328 | U | C5-C6-N1 | 6.67 | 126.04 | 122.70 |
| 12 | B | 1404 | C | C2-N3-C4 | -6.67 | 116.56 | 119.90 |
| 12 | B | 1498 | C | C6-N1-C2 | -6.67 | 117.63 | 120.30 |
| 12 | B | 1885 | A | O4'-C1'-N9 | 6.67 | 113.54 | 108.20 |
| 12 | B | 2256 | G | O4'-C1'-N9 | 6.67 | 113.54 | 108.20 |
| 27 | Q | 44 | TYR | CB-CG-CD2 | 6.67 | 125.00 | 121.00 |
| 12 | B | 664 | G | C6-N1-C2 | 6.67 | 129.10 | 125.10 |
| 12 | B | 1036 | G | C4-C5-N7 | -6.67 | 108.13 | 110.80 |
| 12 | B | 1578 | U | C5-C6-N1 | 6.67 | 126.04 | 122.70 |
| 12 | B | 2110 | G | C6-C5-N7 | -6.67 | 126.40 | 130.40 |
| 12 | B | 2444 | G | C8-N9-C4 | -6.67 | 103.73 | 106.40 |
| 12 | B | 2763 | G | C4-C5-C6 | 6.67 | 122.80 | 118.80 |
| 12 | B | 190 | A | N7-C8-N9 | -6.67 | 110.47 | 113.80 |
| 12 | B | 2690 | U | O4'-C1'-N1 | 6.67 | 113.54 | 108.20 |
| 12 | B | 865 | C | C2-N3-C4 | 6.67 | 123.23 | 119.90 |
| 12 | B | 1124 | G | C2-N3-C4 | 6.67 | 115.23 | 111.90 |
| 12 | B | 2033 | A | C8-N9-C4 | 6.67 | 108.47 | 105.80 |
| 12 | B | 2073 | C | C5-C6-N1 | 6.67 | 124.33 | 121.00 |
| 12 | B | 2682 | A | O4'-C1'-N9 | 6.67 | 113.53 | 108.20 |
| 12 | B | 2718 | G | C4-C5-N7 | 6.67 | 113.47 | 110.80 |
| 10 | 9 | 150 | ARG | NE-CZ-NH2 | -6.67 | 116.97 | 120.30 |
| 12 | B | 1262 | A | C2-N3-C4 | -6.67 | 107.27 | 110.60 |
| 12 | B | 1274 | A | C4-C5-C6 | 6.67 | 120.33 | 117.00 |
| 12 | B | 1730 | C | C4-C5-C6 | 6.67 | 120.73 | 117.40 |
| 12 | B | 2094 | A | C6-N1-C2 | -6.67 | 114.60 | 118.60 |
| 12 | B | 2555 | U | N3-C4-C5 | -6.67 | 110.60 | 114.60 |
| 12 | B | 2903 | U | C5'-C4'-O4' | 6.67 | 117.10 | 109.10 |
| 12 | B | 2505 | G | N9-C4-C5 | 6.67 | 108.07 | 105.40 |
| 12 | B | 420 | C | C3'-C2'-C1' | -6.66 | 96.17 | 101.50 |
| 12 | B | 756 | A | P-O3'-C3' | 6.66 | 127.70 | 119.70 |
| 12 | B | 1235 | G | C8-N9-C4 | -6.66 | 103.73 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 16 | F | 143 | ASP | N-CA-CB | 6.66 | 122.59 | 110.60 |
| 12 | B | 2205 | A | C6-C5-N7 | -6.66 | 127.64 | 132.30 |
| 12 | B | 2234 | G | C8-N9-C1' | 6.66 | 135.66 | 127.00 |
| 12 | B | 2498 | C | O4'-C1'-N1 | 6.66 | 113.53 | 108.20 |
| 12 | B | 437 | U | N3-C4-C5 | -6.66 | 110.60 | 114.60 |
| 12 | B | 687 | C | C2-N1-C1' | 6.66 | 126.13 | 118.80 |
| 12 | B | 776 | G | C5'-C4'-O4' | 6.66 | 117.09 | 109.10 |
| 12 | B | 896 | A | N3-C4-C5 | -6.66 | 122.14 | 126.80 |
| 12 | B | 899 | A | N3-C4-C5 | -6.66 | 122.14 | 126.80 |
| 12 | B | 1167 | C | C6-N1-C2 | -6.66 | 117.64 | 120.30 |
| 12 | B | 2661 | G | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 12 | B | 2709 | G | C2-N3-C4 | 6.66 | 115.23 | 111.90 |
| 12 | B | 2881 | U | N1-C2-O2 | -6.66 | 118.14 | 122.80 |
| 29 | S | 33 | LEU | CB-CG-CD2 | 6.66 | 122.32 | 111.00 |
| 12 | B | 14 | A | C6-C5-N7 | -6.66 | 127.64 | 132.30 |
| 12 | B | 90 | U | O4'-C1'-N1 | 6.66 | 113.53 | 108.20 |
| 12 | B | 754 | U | C5-C6-N1 | 6.66 | 126.03 | 122.70 |
| 12 | B | 1632 | A | C2-N3-C4 | -6.66 | 107.27 | 110.60 |
| 12 | B | 2115 | G | C5'-C4'-O4' | 6.66 | 117.09 | 109.10 |
| 12 | B | 2317 | A | C8-N9-C4 | -6.66 | 103.14 | 105.80 |
| 12 | B | 1650 | A | N9-C1'-C2' | -6.66 | 104.68 | 112.00 |
| 12 | B | 1853 | A | C4-C5-C6 | 6.66 | 120.33 | 117.00 |
| 12 | B | 2458 | G | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 12 | B | 2778 | A | N7-C8-N9 | -6.66 | 110.47 | 113.80 |
| 14 | D | 200 | ASP | CB-CG-OD2 | -6.66 | 112.31 | 118.30 |
| 12 | B | 734 | A | C2-N3-C4 | -6.66 | 107.27 | 110.60 |
| 20 | J | 15 | TRP | CB-CG-CD2 | -6.66 | 117.95 | 126.60 |
| 7 | 6 | 5 | PHE | CB-CG-CD2 | 6.65 | 125.46 | 120.80 |
| 12 | B | 214 | G | N3-C2-N2 | 6.65 | 124.56 | 119.90 |
| 12 | B | 958 | U | O4'-C1'-N1 | 6.65 | 113.52 | 108.20 |
| 12 | B | 1024 | G | P-O3'-C3' | 6.65 | 127.68 | 119.70 |
| 12 | B | 1283 | G | C5-N7-C8 | 6.65 | 107.63 | 104.30 |
| 12 | B | 1840 | G | C8-N9-C4 | 6.65 | 109.06 | 106.40 |
| 12 | B | 2078 | C | O4'-C1'-N1 | 6.65 | 113.52 | 108.20 |
| 12 | B | 2391 | G | C4-C5-N7 | 6.65 | 113.46 | 110.80 |
| 12 | B | 2724 | U | N3-C4-C5 | -6.65 | 110.61 | 114.60 |
| 11 | A | 20 | G | C6-C5-N7 | -6.65 | 126.41 | 130.40 |
| 12 | B | 239 | C | N1-C1'-C2' | -6.65 | 104.69 | 112.00 |
| 12 | B | 664 | G | N7-C8-N9 | -6.65 | 109.77 | 113.10 |
| 12 | B | 684 | G | C8-N9-C4 | 6.65 | 109.06 | 106.40 |
| 12 | B | 1046 | A | N1-C2-N3 | -6.65 | 125.97 | 129.30 |
| 12 | B | 1423 | G | C6-C5-N7 | -6.65 | 126.41 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1760 | C | N3-C4-C5 | -6.65 | 119.24 | 121.90 |
| 12 | B | 939 | G | C5-C6-O6 | -6.65 | 124.61 | 128.60 |
| 12 | B | 997 | G | C2-N3-C4 | 6.65 | 115.22 | 111.90 |
| 12 | B | 1898 | U | N3-C4-C5 | -6.65 | 110.61 | 114.60 |
| 12 | B | 1989 | G | N1-C6-O6 | 6.65 | 123.89 | 119.90 |
| 12 | B | 2038 | G | N3-C2-N2 | 6.65 | 124.55 | 119.90 |
| 12 | B | 2573 | C | C1'-O4'-C4' | -6.65 | 104.58 | 109.90 |
| 12 | B | 2669 | G | C5-C6-N1 | -6.65 | 108.18 | 111.50 |
| 12 | B | 1031 | G | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 12 | B | 1346 | G | C6-C5-N7 | -6.65 | 126.41 | 130.40 |
| 12 | B | 664 | G | C8-N9-C4 | 6.64 | 109.06 | 106.40 |
| 12 | B | 1169 | A | O4'-C1'-N9 | 6.64 | 113.52 | 108.20 |
| 12 | B | 1421 | G | C2-N3-C4 | 6.64 | 115.22 | 111.90 |
| 12 | B | 1829 | A | C5-C6-N6 | -6.64 | 118.38 | 123.70 |
| 12 | B | 2216 | G | N1-C2-N3 | -6.64 | 119.91 | 123.90 |
| 11 | A | 29 | A | C4-C5-C6 | 6.64 | 120.32 | 117.00 |
| 12 | B | 36 | G | N3-C4-C5 | -6.64 | 125.28 | 128.60 |
| 12 | B | 491 | G | C1'-O4'-C4' | -6.64 | 104.59 | 109.90 |
| 12 | B | 1841 | U | C5-C4-O4 | -6.64 | 121.92 | 125.90 |
| 12 | B | 2092 | U | O4'-C1'-N1 | 6.64 | 113.51 | 108.20 |
| 12 | B | 1861 | G | O4'-C1'-N9 | 6.64 | 113.51 | 108.20 |
| 12 | B | 2305 | U | C5-C6-N1 | 6.64 | 126.02 | 122.70 |
| 11 | A | 72 | G | C5-C6-O6 | -6.64 | 124.62 | 128.60 |
| 12 | B | 1028 | A | C6-C5-N7 | -6.64 | 127.65 | 132.30 |
| 12 | B | 1341 | G | N1-C6-O6 | -6.64 | 115.92 | 119.90 |
| 12 | B | 1434 | A | N7-C8-N9 | -6.64 | 110.48 | 113.80 |
| 12 | B | 2146 | C | C5-C6-N1 | 6.64 | 124.32 | 121.00 |
| 12 | B | 2556 | C | N3-C4-N4 | 6.64 | 122.65 | 118.00 |
| 12 | B | 2752 | C | N1-C2-O2 | -6.64 | 114.92 | 118.90 |
| 12 | B | 442 | G | N9-C4-C5 | 6.64 | 108.06 | 105.40 |
| 12 | B | 1532 | A | N9-C4-C5 | -6.64 | 103.14 | 105.80 |
| 12 | B | 2517 | C | C6-N1-C1' | -6.64 | 112.83 | 120.80 |
| 11 | A | 38 | C | C1'-O4'-C4' | -6.64 | 104.59 | 109.90 |
| 12 | B | 204 | A | C2-N3-C4 | 6.64 | 113.92 | 110.60 |
| 12 | B | 712 | G | C4-C5-C6 | 6.64 | 122.78 | 118.80 |
| 12 | B | 775 | G | N9-C4-C5 | 6.64 | 108.05 | 105.40 |
| 12 | B | 1092 | C | C2-N1-C1' | 6.64 | 126.10 | 118.80 |
| 12 | B | 1567 | G | N7-C8-N9 | 6.64 | 116.42 | 113.10 |
| 12 | B | 2630 | G | N1-C2-N3 | -6.64 | 119.92 | 123.90 |
| 10 | 9 | 269 | TYR | CB-CG-CD1 | 6.63 | 124.98 | 121.00 |
| 12 | B | 832 | U | N1-C2-N3 | -6.63 | 110.92 | 114.90 |
| 12 | B | 1749 | A | O4'-C1'-N9 | 6.63 | 113.51 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1830 | C | P-O3'-C3' | -6.63 | 111.74 | 119.70 |
| 20 | J | 15 | TRP | CB-CG-CD1 | 6.63 | 135.62 | 127.00 |
| 12 | B | 245 | G | N7-C8-N9 | -6.63 | 109.78 | 113.10 |
| 12 | B | 472 | A | C2-N3-C4 | -6.63 | 107.28 | 110.60 |
| 12 | B | 597 | G | C4-C5-C6 | 6.63 | 122.78 | 118.80 |
| 12 | B | 1311 | G | N3-C2-N2 | 6.63 | 124.54 | 119.90 |
| 12 | B | 1489 | C | N3-C2-O2 | 6.63 | 126.54 | 121.90 |
| 12 | B | 2177 | C | C5-C4-N4 | -6.63 | 115.56 | 120.20 |
| 12 | B | 2650 | U | O4'-C1'-N1 | 6.63 | 113.51 | 108.20 |
| 12 | B | 151 | C | P-O3'-C3' | 6.63 | 127.66 | 119.70 |
| 12 | B | 1233 | C | O4'-C1'-N1 | 6.63 | 113.51 | 108.20 |
| 12 | B | 1264 | A | O5'-P-OP2 | -6.63 | 99.73 | 105.70 |
| 12 | B | 1701 | A | O4'-C1'-N9 | 6.63 | 113.50 | 108.20 |
| 12 | B | 1858 | A | O4'-C1'-N9 | 6.63 | 113.50 | 108.20 |
| 12 | B | 2198 | A | N9-C4-C5 | 6.63 | 108.45 | 105.80 |
| 12 | B | 2331 | G | N3-C4-N9 | 6.63 | 129.98 | 126.00 |
| 12 | B | 2874 | C | C4-C5-C6 | 6.63 | 120.72 | 117.40 |
| 12 | B | 395 | U | N3-C4-C5 | -6.63 | 110.62 | 114.60 |
| 12 | B | 1046 | A | C5-C6-N6 | -6.63 | 118.40 | 123.70 |
| 11 | A | 67 | G | C1'-O4'-C4' | -6.63 | 104.60 | 109.90 |
| 12 | B | 157 | C | N3-C4-C5 | -6.63 | 119.25 | 121.90 |
| 12 | B | 875 | G | O4'-C1'-N9 | 6.63 | 113.50 | 108.20 |
| 12 | B | 1473 | G | N3-C4-N9 | -6.63 | 122.02 | 126.00 |
| 12 | B | 1546 | G | C2-N3-C4 | 6.63 | 115.22 | 111.90 |
| 12 | B | 1906 | G | C4-N9-C1' | -6.63 | 117.88 | 126.50 |
| 12 | B | 1960 | A | C5-C6-N6 | -6.63 | 118.40 | 123.70 |
| 12 | B | 2349 | G | N1-C6-O6 | 6.63 | 123.88 | 119.90 |
| 12 | B | 2544 | G | N1-C2-N3 | -6.63 | 119.92 | 123.90 |
| 12 | B | 128 | C | O4'-C1'-N1 | 6.63 | 113.50 | 108.20 |
| 12 | B | 129 | C | N3-C4-C5 | -6.63 | 119.25 | 121.90 |
| 12 | B | 182 | A | C3'-C2'-C1' | -6.63 | 96.20 | 101.50 |
| 12 | B | 1204 | A | C4-C5-C6 | 6.63 | 120.31 | 117.00 |
| 12 | B | 1485 | U | P-O5'-C5' | 6.63 | 131.50 | 120.90 |
| 12 | B | 1995 | U | C5-C4-O4 | -6.63 | 121.92 | 125.90 |
| 12 | B | 2022 | U | C4-C5-C6 | -6.63 | 115.72 | 119.70 |
| 12 | B | 2361 | G | N3-C4-C5 | 6.63 | 131.91 | 128.60 |
| 12 | B | 2469 | A | N3-C4-N9 | 6.63 | 132.70 | 127.40 |
| 12 | B | 2526 | G | N1-C2-N3 | -6.63 | 119.92 | 123.90 |
| 12 | B | 2846 | G | O4'-C1'-N9 | 6.63 | 113.50 | 108.20 |
| 12 | B | 126 | A | C6-C5-N7 | -6.62 | 127.66 | 132.30 |
| 12 | B | 1269 | A | C5-C6-N6 | -6.62 | 118.40 | 123.70 |
| 12 | B | 1952 | A | C5-C6-N6 | -6.62 | 118.40 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2066 | C | C4-C5-C6 | 6.62 | 120.71 | 117.40 |
| 12 | B | 2331 | G | C6-C5-N7 | -6.62 | 126.42 | 130.40 |
| 12 | B | 2530 | A | C5-N7-C8 | 6.62 | 107.21 | 103.90 |
| 12 | B | 1917 | U | C5-C6-N1 | 6.62 | 126.01 | 122.70 |
| 12 | B | 2157 | G | N3-C2-N2 | 6.62 | 124.54 | 119.90 |
| 12 | B | 2201 | G | N1-C2-N3 | -6.62 | 119.93 | 123.90 |
| 12 | B | 299 | A | C5-C6-N6 | -6.62 | 118.40 | 123.70 |
| 12 | B | 631 | A | O4'-C1'-N9 | 6.62 | 113.50 | 108.20 |
| 12 | B | 1313 | U | C1'-O4'-C4' | -6.62 | 104.60 | 109.90 |
| 12 | B | 1383 | A | O4'-C1'-N9 | 6.62 | 113.50 | 108.20 |
| 12 | B | 2297 | A | C5-C6-N1 | -6.62 | 114.39 | 117.70 |
| 12 | B | 2454 | G | C8-N9-C4 | 6.62 | 109.05 | 106.40 |
| 12 | B | 2471 | A | N1-C6-N6 | 6.62 | 122.57 | 118.60 |
| 12 | B | 2654 | A | C6-C5-N7 | -6.62 | 127.67 | 132.30 |
| 12 | B | 395 | U | C2-N3-C4 | 6.62 | 130.97 | 127.00 |
| 12 | B | 407 | G | C4-C5-N7 | -6.62 | 108.15 | 110.80 |
| 12 | B | 508 | A | C4-C5-C6 | 6.62 | 120.31 | 117.00 |
| 12 | B | 781 | A | O4'-C1'-N9 | 6.62 | 113.50 | 108.20 |
| 12 | B | 838 | C | P-O3'-C3' | -6.62 | 111.76 | 119.70 |
| 12 | B | 1069 | A | C5-C6-N1 | -6.62 | 114.39 | 117.70 |
| 12 | B | 1297 | C | C6-N1-C2 | 6.62 | 122.95 | 120.30 |
| 12 | B | 1763 | G | N7-C8-N9 | -6.62 | 109.79 | 113.10 |
| 12 | B | 1798 | U | N3-C2-O2 | 6.62 | 126.83 | 122.20 |
| 12 | B | 2230 | G | N3-C2-N2 | 6.62 | 124.53 | 119.90 |
| 12 | B | 896 | A | C5-C6-N1 | -6.62 | 114.39 | 117.70 |
| 12 | B | 1532 | A | C4-C5-C6 | 6.62 | 120.31 | 117.00 |
| 12 | B | 1666 | G | C5-C6-N1 | 6.62 | 114.81 | 111.50 |
| 3 | 2 | 46 | MET | CG-SD-CE | -6.62 | 89.61 | 100.20 |
| 12 | B | 808 | G | C5-N7-C8 | 6.62 | 107.61 | 104.30 |
| 12 | B | 948 | C | C5-C4-N4 | -6.62 | 115.57 | 120.20 |
| 12 | B | 1025 | G | N3-C4-C5 | 6.62 | 131.91 | 128.60 |
| 12 | B | 1152 | C | O4'-C1'-N1 | 6.62 | 113.49 | 108.20 |
| 12 | B | 2119 | A | N3-C4-C5 | -6.62 | 122.17 | 126.80 |
| 12 | B | 2369 | A | C5-C6-N1 | -6.62 | 114.39 | 117.70 |
| 12 | B | 2530 | A | C6-C5-N7 | -6.62 | 127.67 | 132.30 |
| 12 | B | 2740 | A | C4-C5-N7 | -6.62 | 107.39 | 110.70 |
| 12 | B | 680 | C | C2-N3-C4 | 6.61 | 123.21 | 119.90 |
| 12 | B | 1373 | A | C8-N9-C4 | -6.61 | 103.16 | 105.80 |
| 12 | B | 1896 | G | N3-C4-C5 | 6.61 | 131.91 | 128.60 |
| 12 | B | 2020 | A | C5-N7-C8 | 6.61 | 107.21 | 103.90 |
| 12 | B | 2314 | A | O4'-C1'-N9 | 6.61 | 113.49 | 108.20 |
| 12 | B | 2706 | A | C6-C5-N7 | -6.61 | 127.67 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1098 | A | C4-C5-C6 | 6.61 | 120.31 | 117.00 |
| 12 | B | 1856 | U | N3-C4-C5 | -6.61 | 110.63 | 114.60 |
| 12 | B | 2869 | G | C4-C5-C6 | 6.61 | 122.77 | 118.80 |
| 12 | B | 572 | A | C5-C6-N6 | -6.61 | 118.41 | 123.70 |
| 12 | B | 1389 | G | O4'-C4'-C3' | -6.61 | 97.39 | 104.00 |
| 12 | B | 2425 | A | C8-N9-C4 | -6.61 | 103.16 | 105.80 |
| 12 | B | 1725 | U | C2-N3-C4 | -6.61 | 123.03 | 127.00 |
| 12 | B | 2357 | G | C6-N1-C2 | -6.61 | 121.14 | 125.10 |
| 12 | B | 2560 | A | N1-C2-N3 | 6.61 | 132.60 | 129.30 |
| 12 | B | 2595 | G | N7-C8-N9 | -6.61 | 109.80 | 113.10 |
| 12 | B | 59 | U | O4'-C1'-N1 | 6.61 | 113.48 | 108.20 |
| 12 | B | 753 | A | C6-C5-N7 | -6.61 | 127.68 | 132.30 |
| 12 | B | 1397 | U | C5'-C4'-O4' | 6.61 | 117.03 | 109.10 |
| 12 | B | 1548 | A | C5-C6-N1 | -6.61 | 114.40 | 117.70 |
| 12 | B | 1616 | A | C5-C6-N1 | -6.61 | 114.40 | 117.70 |
| 12 | B | 1808 | A | C5-C6-N6 | -6.61 | 118.42 | 123.70 |
| 12 | B | 2601 | C | N3-C4-C5 | 6.61 | 124.54 | 121.90 |
| 12 | B | 141 | G | C5-C6-N1 | 6.60 | 114.80 | 111.50 |
| 12 | B | 2335 | A | C6-C5-N7 | -6.60 | 127.68 | 132.30 |
| 12 | B | 174 | U | N1-C2-O2 | 6.60 | 127.42 | 122.80 |
| 12 | B | 754 | U | C1'-O4'-C4' | 6.60 | 115.18 | 109.90 |
| 12 | B | 839 | U | C2-N3-C4 | 6.60 | 130.96 | 127.00 |
| 12 | B | 1839 | G | C4-C5-C6 | 6.60 | 122.76 | 118.80 |
| 12 | B | 2052 | A | C4-C5-N7 | -6.60 | 107.40 | 110.70 |
| 12 | B | 2163 | A | C8-N9-C4 | -6.60 | 103.16 | 105.80 |
| 12 | B | 2597 | G | C1'-O4'-C4' | 6.60 | 115.18 | 109.90 |
| 12 | B | 626 | A | C5-C6-N6 | -6.60 | 118.42 | 123.70 |
| 12 | B | 830 | G | O4'-C1'-N9 | 6.60 | 113.48 | 108.20 |
| 12 | B | 2505 | G | C8-N9-C4 | -6.60 | 103.76 | 106.40 |
| 12 | B | 2859 | G | C2-N3-C4 | 6.60 | 115.20 | 111.90 |
| 12 | B | 168 | G | C5-C6-N1 | 6.60 | 114.80 | 111.50 |
| 12 | B | 2273 | A | C5-C6-N1 | -6.60 | 114.40 | 117.70 |
| 12 | B | 2549 | G | C5'-C4'-C3' | -6.60 | 105.44 | 116.00 |
| 12 | B | 2551 | C | N3-C4-C5 | 6.60 | 124.54 | 121.90 |
| 12 | B | 496 | G | C5-C6-O6 | -6.60 | 124.64 | 128.60 |
| 12 | B | 601 | C | C2-N3-C4 | 6.60 | 123.20 | 119.90 |
| 12 | B | 606 | U | N1-C2-O2 | -6.60 | 118.18 | 122.80 |
| 12 | B | 1144 | A | C5-N7-C8 | 6.60 | 107.20 | 103.90 |
| 12 | B | 1476 | U | C5-C6-N1 | -6.60 | 119.40 | 122.70 |
| 12 | B | 2070 | A | C6-C5-N7 | -6.60 | 127.68 | 132.30 |
| 12 | B | 2141 | G | O4'-C1'-N9 | 6.60 | 113.48 | 108.20 |
| 12 | B | 2579 | C | C5-C6-N1 | -6.60 | 117.70 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 15 | E | 101 | TYR | CB-CA-C | -6.60 | 97.20 | 110.40 |
| 12 | B | 1300 | G | C4-N9-C1' | 6.60 | 135.07 | 126.50 |
| 12 | B | 1455 | G | C1'-O4'-C4' | -6.60 | 104.62 | 109.90 |
| 12 | B | 109 | C | N3-C4-C5 | -6.59 | 119.26 | 121.90 |
| 12 | B | 369 | U | N3-C2-O2 | -6.59 | 117.58 | 122.20 |
| 12 | B | 638 | G | C6-C5-N7 | -6.59 | 126.44 | 130.40 |
| 12 | B | 1697 | G | C6-C5-N7 | -6.59 | 126.44 | 130.40 |
| 12 | B | 2070 | A | C2-N3-C4 | -6.59 | 107.30 | 110.60 |
| 12 | B | 2250 | G | C5-C6-O6 | -6.59 | 124.64 | 128.60 |
| 12 | B | 2661 | G | C3'-C2'-C1' | 6.59 | 106.78 | 101.50 |
| 12 | B | 2708 | G | N3-C2-N2 | -6.59 | 115.28 | 119.90 |
| 12 | B | 2895 | G | N3-C4-C5 | -6.59 | 125.30 | 128.60 |
| 12 | B | 82 | U | C2-N3-C4 | -6.59 | 123.04 | 127.00 |
| 12 | B | 1467 | U | P-O5'-C5' | -6.59 | 110.35 | 120.90 |
| 12 | B | 2104 | C | P-O3'-C3' | 6.59 | 127.61 | 119.70 |
| 12 | B | 2854 | G | C6-C5-N7 | -6.59 | 126.44 | 130.40 |
| 12 | B | 450 | G | C4-C5-C6 | 6.59 | 122.75 | 118.80 |
| 12 | B | 895 | U | N1-C2-O2 | 6.59 | 127.41 | 122.80 |
| 12 | B | 1256 | G | O4'-C1'-N9 | 6.59 | 113.47 | 108.20 |
| 12 | B | 1455 | G | P-O3'-C3' | -6.59 | 111.79 | 119.70 |
| 12 | B | 2587 | A | O4'-C1'-N9 | 6.59 | 113.47 | 108.20 |
| 12 | B | 2658 | C | N3-C4-N4 | 6.59 | 122.61 | 118.00 |
| 12 | B | 2733 | A | C8-N9-C4 | -6.59 | 103.16 | 105.80 |
| 12 | B | 98 | G | C4-C5-N7 | -6.59 | 108.16 | 110.80 |
| 12 | B | 332 | A | C5-C6-N6 | -6.59 | 118.43 | 123.70 |
| 12 | B | 400 | G | N3-C2-N2 | 6.59 | 124.51 | 119.90 |
| 12 | B | 606 | U | C5-C4-O4 | -6.59 | 121.95 | 125.90 |
| 12 | B | 1456 | G | N1-C2-N3 | -6.59 | 119.95 | 123.90 |
| 12 | B | 2499 | C | C5-C4-N4 | -6.59 | 115.59 | 120.20 |
| 12 | B | 2731 | G | N9-C4-C5 | 6.59 | 108.04 | 105.40 |
| 12 | B | 1858 | A | C8-N9-C4 | -6.59 | 103.17 | 105.80 |
| 12 | B | 2494 | G | C5-C6-N1 | -6.59 | 108.21 | 111.50 |
| 12 | B | 2685 | G | C4'-C3'-C2' | -6.59 | 96.01 | 102.60 |
| 12 | B | 131 | A | C4'-C3'-C2' | -6.59 | 96.01 | 102.60 |
| 12 | B | 196 | A | C4-C5-C6 | 6.59 | 120.29 | 117.00 |
| 12 | B | 320 | A | O4'-C1'-N9 | 6.59 | 113.47 | 108.20 |
| 12 | B | 331 | C | O4'-C1'-N1 | 6.59 | 113.47 | 108.20 |
| 12 | B | 418 | C | N3-C4-C5 | 6.59 | 124.53 | 121.90 |
| 12 | B | 656 | G | N1-C2-N3 | -6.59 | 119.95 | 123.90 |
| 12 | B | 1324 | G | N1-C6-O6 | 6.59 | 123.85 | 119.90 |
| 12 | B | 2504 | U | C4'-C3'-C2' | -6.59 | 96.01 | 102.60 |
| 12 | B | 2601 | C | C6-N1-C2 | -6.59 | 117.67 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1740 | G | N1-C2-N3 | -6.58 | 119.95 | 123.90 |
| 12 | B | 2043 | C | N3-C4-N4 | 6.58 | 122.61 | 118.00 |
| 12 | B | 2581 | G | OP1-P-OP2 | -6.58 | 109.72 | 119.60 |
| 12 | B | 238 | C | O4'-C1'-N1 | 6.58 | 113.47 | 108.20 |
| 12 | B | 318 | C | C5-C4-N4 | -6.58 | 115.59 | 120.20 |
| 12 | B | 570 | G | N7-C8-N9 | -6.58 | 109.81 | 113.10 |
| 12 | B | 672 | C | N1-C2-N3 | -6.58 | 114.59 | 119.20 |
| 12 | B | 721 | A | N1-C2-N3 | 6.58 | 132.59 | 129.30 |
| 12 | B | 1074 | G | C2-N3-C4 | 6.58 | 115.19 | 111.90 |
| 12 | B | 1792 | G | N1-C6-O6 | 6.58 | 123.85 | 119.90 |
| 12 | B | 1821 | A | C1'-O4'-C4' | -6.58 | 104.63 | 109.90 |
| 12 | B | 311 | A | C4-C5-C6 | 6.58 | 120.29 | 117.00 |
| 12 | B | 362 | A | OP1-P-OP2 | -6.58 | 109.73 | 119.60 |
| 12 | B | 722 | A | N9-C4-C5 | 6.58 | 108.43 | 105.80 |
| 12 | B | 804 | A | C5-C6-N1 | -6.58 | 114.41 | 117.70 |
| 12 | B | 2459 | A | O4'-C1'-N9 | 6.58 | 113.47 | 108.20 |
| 12 | B | 222 | A | N9-C4-C5 | -6.58 | 103.17 | 105.80 |
| 12 | B | 2105 | U | N3-C4-O4 | 6.58 | 124.01 | 119.40 |
| 12 | B | 346 | A | C8-N9-C4 | -6.58 | 103.17 | 105.80 |
| 12 | B | 624 | C | C5-C4-N4 | -6.58 | 115.60 | 120.20 |
| 12 | B | 1036 | G | N9-C4-C5 | 6.58 | 108.03 | 105.40 |
| 12 | B | 1198 | U | N3-C4-C5 | -6.58 | 110.65 | 114.60 |
| 12 | B | 1370 | C | N3-C4-C5 | -6.58 | 119.27 | 121.90 |
| 12 | B | 2764 | A | C5-N7-C8 | 6.58 | 107.19 | 103.90 |
| 12 | B | 664 | G | N3-C4-C5 | 6.58 | 131.89 | 128.60 |
| 12 | B | 1304 | A | C4-C5-C6 | 6.58 | 120.29 | 117.00 |
| 12 | B | 1863 | G | C8-N9-C1' | 6.58 | 135.55 | 127.00 |
| 12 | B | 2074 | U | O4'-C1'-N1 | 6.58 | 113.46 | 108.20 |
| 12 | B | 2718 | G | C8-N9-C4 | 6.58 | 109.03 | 106.40 |
| 11 | A | 15 | A | O4'-C1'-N9 | 6.58 | 113.46 | 108.20 |
| 12 | B | 422 | A | C8-N9-C4 | -6.58 | 103.17 | 105.80 |
| 12 | B | 979 | A | N3-C4-N9 | 6.58 | 132.66 | 127.40 |
| 12 | B | 1515 | A | N1-C2-N3 | 6.58 | 132.59 | 129.30 |
| 17 | G | 15 | ASP | CB-CG-OD1 | -6.58 | 112.38 | 118.30 |
| 12 | B | 220 | G | N3-C4-C5 | -6.57 | 125.31 | 128.60 |
| 12 | B | 330 | A | C4-C5-N7 | -6.57 | 107.41 | 110.70 |
| 12 | B | 358 | U | C4'-C3'-C2' | -6.57 | 96.03 | 102.60 |
| 12 | B | 739 | A | C5-N7-C8 | -6.57 | 100.61 | 103.90 |
| 12 | B | 827 | U | O4'-C1'-N1 | 6.57 | 113.46 | 108.20 |
| 12 | B | 1030 | C | C4'-C3'-C2' | -6.57 | 96.03 | 102.60 |
| 12 | B | 1356 | G | C6-C5-N7 | -6.57 | 126.46 | 130.40 |
| 12 | B | 1532 | A | C5'-C4'-C3' | -6.57 | 105.48 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2631 | G | C5-C6-O6 | -6.57 | 124.66 | 128.60 |
| 10 | 9 | 30 | PRO | N-CA-C | 6.57 | 129.19 | 112.10 |
| 12 | B | 856 | G | O5'-C5'-C4' | -6.57 | 99.21 | 111.70 |
| 12 | B | 2746 | U | C6-N1-C2 | -6.57 | 117.06 | 121.00 |
| 12 | B | 2873 | A | C5-C6-N6 | -6.57 | 118.44 | 123.70 |
| 12 | B | 1045 | C | C5'-C4'-O4' | -6.57 | 101.22 | 109.10 |
| 12 | B | 1537 | G | C4-C5-N7 | -6.57 | 108.17 | 110.80 |
| 12 | B | 1550 | C | C2-N3-C4 | -6.57 | 116.61 | 119.90 |
| 12 | B | 2163 | A | N3-C4-C5 | -6.57 | 122.20 | 126.80 |
| 12 | B | 2527 | C | P-O5'-C5' | 6.57 | 131.41 | 120.90 |
| 12 | B | 2779 | U | N1-C2-N3 | -6.57 | 110.96 | 114.90 |
| 12 | B | 996 | A | C5-C6-N6 | -6.57 | 118.44 | 123.70 |
| 12 | B | 1337 | G | N3-C2-N2 | 6.57 | 124.50 | 119.90 |
| 12 | B | 2584 | U | N3-C4-O4 | 6.57 | 124.00 | 119.40 |
| 12 | B | 789 | A | O4'-C1'-N9 | 6.57 | 113.45 | 108.20 |
| 12 | B | 1780 | A | C4-C5-C6 | 6.57 | 120.28 | 117.00 |
| 12 | B | 1794 | A | C4-C5-C6 | 6.57 | 120.28 | 117.00 |
| 12 | B | 2577 | A | C5-C6-N1 | -6.57 | 114.42 | 117.70 |
| 12 | B | 145 | C | P-O5'-C5' | 6.57 | 131.41 | 120.90 |
| 12 | B | 535 | G | N3-C4-C5 | 6.57 | 131.88 | 128.60 |
| 12 | B | 581 | C | C6-N1-C2 | -6.57 | 117.67 | 120.30 |
| 12 | B | 759 | G | N1-C6-O6 | 6.57 | 123.84 | 119.90 |
| 12 | B | 1382 | G | P-O5'-C5' | -6.57 | 110.39 | 120.90 |
| 12 | B | 1428 | C | N3-C4-C5 | -6.57 | 119.27 | 121.90 |
| 12 | B | 1756 | G | P-O3'-C3' | 6.57 | 127.58 | 119.70 |
| 12 | B | 1786 | A | O4'-C1'-N9 | 6.57 | 113.45 | 108.20 |
| 12 | B | 1951 | U | N3-C2-O2 | 6.57 | 126.80 | 122.20 |
| 28 | R | 95 | ASP | CB-CG-OD1 | 6.57 | 124.21 | 118.30 |
| 12 | B | 1173 | U | O4'-C1'-N1 | 6.56 | 113.45 | 108.20 |
| 12 | B | 1983 | G | C5-C6-N1 | -6.56 | 108.22 | 111.50 |
| 12 | B | 2176 | A | N7-C8-N9 | 6.56 | 117.08 | 113.80 |
| 15 | E | 135 | ALA | N-CA-CB | 6.56 | 119.29 | 110.10 |
| 12 | B | 799 | G | C2-N3-C4 | 6.56 | 115.18 | 111.90 |
| 12 | B | 824 | U | O4'-C1'-N1 | 6.56 | 113.45 | 108.20 |
| 12 | B | 1672 | A | N9-C4-C5 | 6.56 | 108.42 | 105.80 |
| 12 | B | 2708 | G | C5-C6-O6 | -6.56 | 124.66 | 128.60 |
| 12 | B | 2724 | U | C5-C4-O4 | 6.56 | 129.84 | 125.90 |
| 12 | B | 171 | U | N1-C2-N3 | -6.56 | 110.96 | 114.90 |
| 12 | B | 421 | C | C3'-C2'-C1' | 6.56 | 106.75 | 101.50 |
| 12 | B | 1669 | A | C4-C5-C6 | 6.56 | 120.28 | 117.00 |
| 12 | B | 2850 | A | C3'-C2'-C1' | 6.56 | 106.75 | 101.50 |
| 11 | A | 62 | C | N3-C2-O2 | 6.56 | 126.49 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 137 | U | C4-C5-C6 | -6.56 | 115.76 | 119.70 |
| 12 | B | 2472 | G | C5'-C4'-C3' | 6.56 | 126.50 | 116.00 |
| 12 | B | 55 | G | C5-C6-N1 | -6.56 | 108.22 | 111.50 |
| 12 | B | 221 | A | N7-C8-N9 | 6.56 | 117.08 | 113.80 |
| 12 | B | 820 | A | C5-C6-N6 | -6.56 | 118.45 | 123.70 |
| 12 | B | 821 | A | O4'-C1'-N9 | 6.56 | 113.45 | 108.20 |
| 12 | B | 926 | G | C5-C6-O6 | -6.56 | 124.67 | 128.60 |
| 12 | B | 1428 | C | C2-N3-C4 | 6.56 | 123.18 | 119.90 |
| 12 | B | 1546 | G | N1-C2-N3 | -6.56 | 119.97 | 123.90 |
| 12 | B | 1619 | G | C5-C6-O6 | -6.56 | 124.67 | 128.60 |
| 12 | B | 2141 | G | N1-C6-O6 | 6.56 | 123.83 | 119.90 |
| 12 | B | 2573 | C | P-O3'-C3' | -6.56 | 111.83 | 119.70 |
| 12 | B | 2694 | G | C6-N1-C2 | 6.56 | 129.03 | 125.10 |
| 21 | K | 108 | ARG | NE-CZ-NH1 | -6.56 | 117.02 | 120.30 |
| 11 | A | 108 | A | C5-C6-N1 | -6.56 | 114.42 | 117.70 |
| 12 | B | 762 | U | N3-C4-O4 | 6.56 | 123.99 | 119.40 |
| 12 | B | 1600 | C | C5'-C4'-C3' | -6.56 | 105.51 | 116.00 |
| 12 | B | 1702 | G | P-O3'-C3' | -6.56 | 111.83 | 119.70 |
| 12 | B | 354 | A | C3'-C2'-C1' | 6.55 | 106.74 | 101.50 |
| 12 | B | 645 | C | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 12 | B | 989 | G | N1-C2-N3 | -6.55 | 119.97 | 123.90 |
| 12 | B | 1180 | U | C2-N3-C4 | 6.55 | 130.93 | 127.00 |
| 12 | B | 1674 | G | C4-C5-C6 | 6.55 | 122.73 | 118.80 |
| 12 | B | 1853 | A | N9-C4-C5 | 6.55 | 108.42 | 105.80 |
| 12 | B | 2149 | U | P-O5'-C5' | -6.55 | 110.41 | 120.90 |
| 12 | B | 2176 | A | C6-N1-C2 | -6.55 | 114.67 | 118.60 |
| 12 | B | 2444 | G | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 12 | B | 2660 | A | C1'-O4'-C4' | 6.55 | 115.14 | 109.90 |
| 12 | B | 2883 | A | C5-N7-C8 | 6.55 | 107.18 | 103.90 |
| 12 | B | 1174 | U | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 12 | B | 1667 | G | N1-C2-N2 | -6.55 | 110.30 | 116.20 |
| 12 | B | 1781 | U | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 12 | B | 2115 | G | C5-N7-C8 | 6.55 | 107.58 | 104.30 |
| 12 | B | 2844 | G | N1-C2-N2 | 6.55 | 122.10 | 116.20 |
| 12 | B | 2875 | C | N3-C4-C5 | -6.55 | 119.28 | 121.90 |
| 11 | A | 108 | A | C4'-C3'-C2' | -6.55 | 96.05 | 102.60 |
| 12 | B | 1904 | G | C4-C5-N7 | 6.55 | 113.42 | 110.80 |
| 12 | B | 2061 | G | N3-C2-N2 | 6.55 | 124.48 | 119.90 |
| 12 | B | 2075 | U | N3-C4-O4 | 6.55 | 123.98 | 119.40 |
| 12 | B | 2193 | G | C5-C6-O6 | -6.55 | 124.67 | 128.60 |
| 12 | B | 2228 | G | N1-C6-O6 | 6.55 | 123.83 | 119.90 |
| 12 | B | 2377 | A | C6-N1-C2 | -6.55 | 114.67 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1875 | G | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 12 | B | 2489 | U | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 11 | A | 59 | A | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 12 | B | 67 | U | C5-C6-N1 | 6.55 | 125.97 | 122.70 |
| 12 | B | 356 | G | N3-C2-N2 | 6.55 | 124.48 | 119.90 |
| 12 | B | 697 | G | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 12 | B | 842 | U | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 12 | B | 1626 | A | C5-C6-N1 | -6.55 | 114.43 | 117.70 |
| 12 | B | 2242 | G | C8-N9-C4 | 6.55 | 109.02 | 106.40 |
| 23 | M | 59 | ARG | NE-CZ-NH2 | 6.55 | 123.57 | 120.30 |
| 12 | B | 523 | C | N3-C4-N4 | 6.54 | 122.58 | 118.00 |
| 12 | B | 810 | U | N1-C2-O2 | 6.54 | 127.38 | 122.80 |
| 12 | B | 1289 | C | C5'-C4'-O4' | 6.54 | 116.95 | 109.10 |
| 12 | B | 148 | U | O4'-C1'-N1 | 6.54 | 113.44 | 108.20 |
| 12 | B | 1086 | A | N9-C4-C5 | 6.54 | 108.42 | 105.80 |
| 12 | B | 1678 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 12 | B | 2094 | A | N1-C2-N3 | 6.54 | 132.57 | 129.30 |
| 12 | B | 2375 | G | N3-C4-N9 | -6.54 | 122.07 | 126.00 |
| 12 | B | 2505 | G | C4-C5-C6 | 6.54 | 122.73 | 118.80 |
| 12 | B | 2876 | G | N9-C1'-C2' | -6.54 | 104.80 | 112.00 |
| 11 | A | 26 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 12 | B | 156 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 12 | B | 952 | G | C4-C5-N7 | -6.54 | 108.18 | 110.80 |
| 12 | B | 1391 | U | C1'-O4'-C4' | 6.54 | 115.13 | 109.90 |
| 12 | B | 2128 | G | C4-C5-N7 | -6.54 | 108.18 | 110.80 |
| 12 | B | 2283 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 12 | B | 2304 | G | C4-N9-C1' | 6.54 | 135.00 | 126.50 |
| 12 | B | 2476 | A | C6-N1-C2 | 6.54 | 122.53 | 118.60 |
| 20 | J | 95 | ARG | NE-CZ-NH1 | 6.54 | 123.57 | 120.30 |
| 12 | B | 714 | U | C5-C4-O4 | -6.54 | 121.98 | 125.90 |
| 12 | B | 2042 | A | C6-C5-N7 | -6.54 | 127.72 | 132.30 |
| 12 | B | 2074 | U | C3'-C2'-C1' | 6.54 | 106.73 | 101.50 |
| 12 | B | 263 | G | N3-C2-N2 | 6.54 | 124.48 | 119.90 |
| 12 | B | 1425 | G | C6-C5-N7 | -6.54 | 126.48 | 130.40 |
| 12 | B | 2252 | G | N1-C6-O6 | 6.54 | 123.82 | 119.90 |
| 12 | B | 2760 | C | C2-N3-C4 | -6.54 | 116.63 | 119.90 |
| 12 | B | 474 | G | C4-C5-N7 | -6.54 | 108.19 | 110.80 |
| 12 | B | 912 | C | C1'-O4'-C4' | 6.54 | 115.13 | 109.90 |
| 12 | B | 2333 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 12 | B | 2742 | G | O4'-C1'-N9 | 6.54 | 113.43 | 108.20 |
| 12 | B | 219 | A | N1-C6-N6 | 6.54 | 122.52 | 118.60 |
| 12 | B | 382 | A | P-O3'-C3' | 6.54 | 127.54 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 793 | A | N1-C2-N3 | 6.54 | 132.57 | 129.30 |
| 12 | B | 856 | G | N1-C6-O6 | 6.54 | 123.82 | 119.90 |
| 12 | B | 1027 | A | C3'-C2'-C1' | -6.54 | 96.27 | 101.50 |
| 12 | B | 1786 | A | C2-N3-C4 | 6.54 | 113.87 | 110.60 |
| 12 | B | 2223 | G | C4-C5-N7 | -6.54 | 108.19 | 110.80 |
| 12 | B | 2295 | C | N1-C2-O2 | 6.54 | 122.82 | 118.90 |
| 12 | B | 2307 | G | N3-C2-N2 | 6.54 | 124.47 | 119.90 |
| 15 | E | 184 | ASP | N-CA-CB | 6.54 | 122.36 | 110.60 |
| 11 | A | 110 | C | O4'-C4'-C3' | -6.53 | 97.47 | 104.00 |
| 12 | B | 186 | G | C4'-C3'-C2' | -6.53 | 96.07 | 102.60 |
| 12 | B | 407 | G | C6-C5-N7 | -6.53 | 126.48 | 130.40 |
| 12 | B | 443 | A | C4-C5-N7 | -6.53 | 107.43 | 110.70 |
| 12 | B | 505 | A | C6-N1-C2 | 6.53 | 122.52 | 118.60 |
| 12 | B | 1359 | A | C4-C5-C6 | 6.53 | 120.27 | 117.00 |
| 12 | B | 1465 | G | N9-C4-C5 | -6.53 | 102.79 | 105.40 |
| 12 | B | 1719 | G | O4'-C1'-N9 | 6.53 | 113.43 | 108.20 |
| 23 | M | 117 | PHE | CB-CG-CD1 | 6.53 | 125.37 | 120.80 |
| 11 | A | 70 | C | N1-C2-N3 | -6.53 | 114.63 | 119.20 |
| 12 | B | 102 | U | C6-N1-C2 | -6.53 | 117.08 | 121.00 |
| 12 | B | 150 | U | O4'-C1'-N1 | 6.53 | 113.43 | 108.20 |
| 12 | B | 468 | G | P-O5'-C5' | 6.53 | 131.35 | 120.90 |
| 12 | B | 1657 | U | O4'-C1'-N1 | 6.53 | 113.42 | 108.20 |
| 12 | B | 308 | G | N1-C6-O6 | 6.53 | 123.82 | 119.90 |
| 12 | B | 1500 | G | C4'-C3'-C2' | -6.53 | 96.07 | 102.60 |
| 12 | B | 2112 | G | C5-N7-C8 | 6.53 | 107.56 | 104.30 |
| 12 | B | 2637 | U | C4-C5-C6 | -6.53 | 115.78 | 119.70 |
| 12 | B | 375 | G | C5'-C4'-C3' | -6.53 | 105.55 | 116.00 |
| 12 | B | 1223 | G | C5-C6-N1 | -6.53 | 108.23 | 111.50 |
| 12 | B | 1500 | G | O4'-C1'-N9 | 6.53 | 113.42 | 108.20 |
| 12 | B | 1734 | G | C6-C5-N7 | -6.53 | 126.48 | 130.40 |
| 12 | B | 2488 | G | C5-C6-O6 | -6.53 | 124.68 | 128.60 |
| 29 | S | 61 | ASN | N-CA-CB | 6.53 | 122.35 | 110.60 |
| 12 | B | 352 | A | C2-N3-C4 | -6.53 | 107.34 | 110.60 |
| 12 | B | 1643 | G | C4'-C3'-C2' | -6.53 | 96.07 | 102.60 |
| 12 | B | 1846 | G | C5-C6-N1 | -6.53 | 108.24 | 111.50 |
| 12 | B | 1871 | A | C4-C5-C6 | 6.53 | 120.26 | 117.00 |
| 12 | B | 1890 | A | N1-C6-N6 | 6.53 | 122.52 | 118.60 |
| 12 | B | 195 | A | O4'-C1'-N9 | 6.53 | 113.42 | 108.20 |
| 12 | B | 448 | U | C2-N3-C4 | -6.53 | 123.08 | 127.00 |
| 12 | B | 979 | A | N7-C8-N9 | -6.53 | 110.54 | 113.80 |
| 12 | B | 1002 | G | C4-C5-N7 | 6.53 | 113.41 | 110.80 |
| 12 | B | 1091 | G | C4-C5-N7 | -6.53 | 108.19 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1519 | G | C6-C5-N7 | -6.53 | 126.48 | 130.40 |
| 12 | B | 2441 | U | N3-C4-O4 | 6.53 | 123.97 | 119.40 |
| 12 | B | 2659 | G | C4-C5-N7 | -6.53 | 108.19 | 110.80 |
| 12 | B | 579 | G | C2-N3-C4 | 6.52 | 115.16 | 111.90 |
| 12 | B | 676 | A | C4-C5-C6 | 6.52 | 120.26 | 117.00 |
| 12 | B | 1329 | U | N3-C4-O4 | 6.52 | 123.97 | 119.40 |
| 12 | B | 1670 | C | C5-C4-N4 | 6.52 | 124.77 | 120.20 |
| 12 | B | 1864 | U | C2-N3-C4 | -6.52 | 123.09 | 127.00 |
| 12 | B | 192 | C | C6-N1-C2 | -6.52 | 117.69 | 120.30 |
| 12 | B | 714 | U | C6-N1-C2 | -6.52 | 117.09 | 121.00 |
| 12 | B | 1401 | G | O4'-C1'-N9 | 6.52 | 113.42 | 108.20 |
| 12 | B | 1906 | G | O4'-C1'-N9 | 6.52 | 113.42 | 108.20 |
| 12 | B | 2043 | C | N1-C2-O2 | 6.52 | 122.81 | 118.90 |
| 12 | B | 2182 | U | C2-N1-C1' | 6.52 | 125.53 | 117.70 |
| 12 | B | 2472 | G | O4'-C4'-C3' | -6.52 | 97.48 | 104.00 |
| 12 | B | 2584 | U | C5-C4-O4 | -6.52 | 121.99 | 125.90 |
| 12 | B | 542 | C | C5-C4-N4 | -6.52 | 115.64 | 120.20 |
| 12 | B | 87 | U | N1-C2-O2 | -6.52 | 118.24 | 122.80 |
| 12 | B | 1374 | G | N1-C6-O6 | 6.52 | 123.81 | 119.90 |
| 12 | B | 1383 | A | P-O3'-C3' | -6.52 | 111.88 | 119.70 |
| 12 | B | 1638 | C | C3'-C2'-C1' | 6.52 | 106.72 | 101.50 |
| 12 | B | 1957 | C | C5-C4-N4 | -6.52 | 115.64 | 120.20 |
| 12 | B | 2293 | G | O4'-C1'-N9 | 6.52 | 113.42 | 108.20 |
| 12 | B | 2608 | G | N7-C8-N9 | 6.52 | 116.36 | 113.10 |
| 12 | B | 538 | A | N3-C4-C5 | -6.52 | 122.24 | 126.80 |
| 12 | B | 929 | U | N1-C2-O2 | -6.52 | 118.24 | 122.80 |
| 12 | B | 1245 | G | C5-N7-C8 | 6.52 | 107.56 | 104.30 |
| 12 | B | 1423 | G | C4-C5-C6 | 6.52 | 122.71 | 118.80 |
| 12 | B | 1982 | U | C4-C5-C6 | 6.52 | 123.61 | 119.70 |
| 12 | B | 2448 | A | OP1-P-OP2 | -6.52 | 109.83 | 119.60 |
| 12 | B | 2777 | G | N3-C4-N9 | 6.52 | 129.91 | 126.00 |
| 12 | B | 506 | G | C6-N1-C2 | -6.51 | 121.19 | 125.10 |
| 12 | B | 1051 | G | C4-C5-C6 | 6.51 | 122.71 | 118.80 |
| 12 | B | 1269 | A | C2-N3-C4 | -6.51 | 107.34 | 110.60 |
| 12 | B | 2651 | C | O4'-C1'-N1 | 6.51 | 113.41 | 108.20 |
| 11 | A | 60 | C | N1-C2-O2 | -6.51 | 114.99 | 118.90 |
| 12 | B | 356 | G | O4'-C1'-N9 | 6.51 | 113.41 | 108.20 |
| 12 | B | 1125 | G | P-O5'-C5' | 6.51 | 131.32 | 120.90 |
| 12 | B | 340 | A | O4'-C1'-N9 | 6.51 | 113.41 | 108.20 |
| 12 | B | 363 | G | C6-C5-N7 | -6.51 | 126.49 | 130.40 |
| 12 | B | 532 | A | N1-C6-N6 | 6.51 | 122.51 | 118.60 |
| 12 | B | 836 | G | N9-C4-C5 | 6.51 | 108.00 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1860 | G | C5-C6-N1 | -6.51 | 108.24 | 111.50 |
| 12 | B | 1959 | G | C6-C5-N7 | -6.51 | 126.49 | 130.40 |
| 12 | B | 2295 | C | N3-C4-N4 | 6.51 | 122.56 | 118.00 |
| 12 | B | 2669 | G | C6-N1-C2 | 6.51 | 129.01 | 125.10 |
| 12 | B | 49 | A | O4'-C1'-N9 | 6.51 | 113.41 | 108.20 |
| 12 | B | 1552 | A | C6-C5-N7 | -6.51 | 127.74 | 132.30 |
| 12 | B | 1623 | G | C3'-C2'-C1' | -6.51 | 96.29 | 101.50 |
| 12 | B | 1923 | U | C6-N1-C1' | 6.51 | 130.31 | 121.20 |
| 12 | B | 2107 | G | C5-C6-O6 | -6.51 | 124.69 | 128.60 |
| 12 | B | 2258 | C | C1'-O4'-C4' | 6.51 | 115.11 | 109.90 |
| 11 | A | 22 | U | C5-C6-N1 | 6.51 | 125.95 | 122.70 |
| 12 | B | 489 | G | C8-N9-C4 | -6.51 | 103.80 | 106.40 |
| 12 | B | 1457 | U | C5-C6-N1 | 6.51 | 125.95 | 122.70 |
| 12 | B | 2811 | G | C5-C6-N1 | -6.51 | 108.25 | 111.50 |
| 16 | F | 70 | ARG | NE-CZ-NH2 | -6.51 | 117.05 | 120.30 |
| 12 | B | 1671 | U | O4'-C4'-C3' | -6.51 | 97.49 | 104.00 |
| 12 | B | 1703 | G | C5'-C4'-C3' | -6.51 | 105.59 | 116.00 |
| 12 | B | 2592 | G | N1-C6-O6 | 6.51 | 123.80 | 119.90 |
| 12 | B | 513 | A | O4'-C1'-N9 | 6.50 | 113.40 | 108.20 |
| 12 | B | 542 | C | C6-N1-C1' | -6.50 | 112.99 | 120.80 |
| 12 | B | 2158 | A | C5-N7-C8 | 6.50 | 107.15 | 103.90 |
| 12 | B | 2561 | U | C6-N1-C2 | -6.50 | 117.10 | 121.00 |
| 12 | B | 201 | C | N3-C4-C5 | -6.50 | 119.30 | 121.90 |
| 12 | B | 1085 | A | N1-C6-N6 | 6.50 | 122.50 | 118.60 |
| 12 | B | 1093 | G | C4-C5-N7 | 6.50 | 113.40 | 110.80 |
| 12 | B | 1144 | A | C4-C5-C6 | 6.50 | 120.25 | 117.00 |
| 12 | B | 1610 | A | C5'-C4'-C3' | -6.50 | 105.59 | 116.00 |
| 12 | B | 1953 | A | C5-C6-N6 | -6.50 | 118.50 | 123.70 |
| 12 | B | 2279 | G | C5'-C4'-C3' | -6.50 | 105.59 | 116.00 |
| 12 | B | 2607 | G | C1'-O4'-C4' | -6.50 | 104.70 | 109.90 |
| 12 | B | 2650 | U | P-O3'-C3' | -6.50 | 111.89 | 119.70 |
| 12 | B | 2668 | G | C4-C5-C6 | 6.50 | 122.70 | 118.80 |
| 12 | B | 2817 | U | C5-C4-O4 | -6.50 | 122.00 | 125.90 |
| 13 | C | 160 | TYR | CB-CG-CD1 | -6.50 | 117.10 | 121.00 |
| 12 | B | 1199 | U | P-O3'-C3' | -6.50 | 111.90 | 119.70 |
| 12 | B | 2253 | G | O4'-C1'-N9 | 6.50 | 113.40 | 108.20 |
| 12 | B | 2331 | G | N3-C2-N2 | 6.50 | 124.45 | 119.90 |
| 12 | B | 2458 | G | N7-C8-N9 | -6.50 | 109.85 | 113.10 |
| 12 | B | 2613 | U | N3-C4-C5 | -6.50 | 110.70 | 114.60 |
| 12 | B | 2627 | G | N1-C2-N3 | -6.50 | 120.00 | 123.90 |
| 12 | B | 104 | A | C4'-C3'-C2' | -6.50 | 96.10 | 102.60 |
| 12 | B | 250 | G | C5-N7-C8 | -6.50 | 101.05 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1034 | G | C5'-C4'-O4' | 6.50 | 116.90 | 109.10 |
| 12 | B | 1893 | C | C3'-C2'-C1' | -6.50 | 96.30 | 101.50 |
| 12 | B | 1929 | G | N9-C4-C5 | -6.50 | 102.80 | 105.40 |
| 12 | B | 2535 | G | N7-C8-N9 | 6.50 | 116.35 | 113.10 |
| 12 | B | 2791 | G | N3-C4-N9 | -6.50 | 122.10 | 126.00 |
| 12 | B | 2807 | U | O4'-C1'-N1 | 6.50 | 113.40 | 108.20 |
| 12 | B | 419 | U | C2-N3-C4 | 6.50 | 130.90 | 127.00 |
| 12 | B | 1227 | G | N1-C2-N2 | -6.50 | 110.35 | 116.20 |
| 12 | B | 1421 | G | N1-C2-N3 | -6.50 | 120.00 | 123.90 |
| 12 | B | 1801 | A | P-O5'-C5' | 6.50 | 131.29 | 120.90 |
| 12 | B | 1947 | C | C5-C6-N1 | -6.50 | 117.75 | 121.00 |
| 12 | B | 2353 | G | O4'-C1'-N9 | 6.50 | 113.40 | 108.20 |
| 12 | B | 2688 | G | N3-C2-N2 | 6.50 | 124.45 | 119.90 |
| 12 | B | 323 | C | C6-N1-C1' | -6.50 | 113.01 | 120.80 |
| 12 | B | 402 | A | N9-C4-C5 | 6.50 | 108.40 | 105.80 |
| 12 | B | 542 | C | C2-N1-C1' | 6.50 | 125.94 | 118.80 |
| 12 | B | 2017 | U | O4'-C1'-N1 | 6.50 | 113.40 | 108.20 |
| 12 | B | 2190 | G | C8-N9-C4 | -6.50 | 103.80 | 106.40 |
| 12 | B | 2475 | C | O4'-C1'-N1 | 6.50 | 113.40 | 108.20 |
| 12 | B | 2645 | G | N3-C4-N9 | -6.50 | 122.10 | 126.00 |
| 12 | B | 376 | G | N7-C8-N9 | 6.49 | 116.35 | 113.10 |
| 12 | B | 639 | U | O4'-C1'-N1 | 6.49 | 113.39 | 108.20 |
| 12 | B | 904 | G | C5-C6-N1 | -6.49 | 108.25 | 111.50 |
| 12 | B | 1654 | A | C5-C6-N6 | -6.49 | 118.51 | 123.70 |
| 12 | B | 2140 | G | C6-C5-N7 | -6.49 | 126.50 | 130.40 |
| 12 | B | 2557 | G | C4-C5-C6 | 6.49 | 122.70 | 118.80 |
| 12 | B | 2756 | U | C2-N3-C4 | -6.49 | 123.10 | 127.00 |
| 11 | A | 98 | G | C4-C5-C6 | 6.49 | 122.69 | 118.80 |
| 12 | B | 865 | C | P-O3'-C3' | -6.49 | 111.91 | 119.70 |
| 12 | B | 895 | U | O4'-C1'-N1 | 6.49 | 113.39 | 108.20 |
| 12 | B | 1622 | G | C4-C5-C6 | 6.49 | 122.69 | 118.80 |
| 12 | B | 1827 | U | C5'-C4'-O4' | -6.49 | 101.31 | 109.10 |
| 12 | B | 2466 | C | P-O5'-C5' | 6.49 | 131.28 | 120.90 |
| 12 | B | 300 | A | C5-N7-C8 | 6.49 | 107.14 | 103.90 |
| 12 | B | 1100 | C | C4'-C3'-C2' | -6.49 | 96.11 | 102.60 |
| 12 | B | 1713 | A | N9-C4-C5 | 6.49 | 108.40 | 105.80 |
| 12 | B | 1715 | G | N3-C2-N2 | 6.49 | 124.44 | 119.90 |
| 12 | B | 1833 | C | P-O3'-C3' | 6.49 | 127.49 | 119.70 |
| 12 | B | 2058 | A | P-O3'-C3' | 6.49 | 127.49 | 119.70 |
| 12 | B | 2077 | A | C6-N1-C2 | -6.49 | 114.71 | 118.60 |
| 12 | B | 2310 | C | O4'-C1'-C2' | 6.49 | 113.44 | 107.60 |
| 12 | B | 221 | A | C5-C6-N6 | -6.49 | 118.51 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 488 | G | C2-N3-C4 | -6.49 | 108.66 | 111.90 |
| 10 | 9 | 279 | TRP | CG-CD2-CE3 | -6.49 | 128.06 | 133.90 |
| 12 | B | 373 | U | C5-C4-O4 | -6.49 | 122.01 | 125.90 |
| 12 | B | 1567 | G | C3'-C2'-C1' | -6.49 | 96.31 | 101.50 |
| 12 | B | 1720 | U | C6-N1-C2 | -6.49 | 117.11 | 121.00 |
| 12 | B | 1856 | U | P-O3'-C3' | 6.49 | 127.48 | 119.70 |
| 12 | B | 2524 | G | N3-C4-C5 | 6.49 | 131.84 | 128.60 |
| 12 | B | 2816 | G | C4-C5-N7 | 6.49 | 113.39 | 110.80 |
| 15 | E | 162 | ARG | NE-CZ-NH1 | -6.49 | 117.06 | 120.30 |
| 12 | B | 623 | C | C2-N3-C4 | 6.48 | 123.14 | 119.90 |
| 12 | B | 908 | C | N3-C4-N4 | 6.48 | 122.54 | 118.00 |
| 12 | B | 2781 | A | N7-C8-N9 | 6.48 | 117.04 | 113.80 |
| 18 | H | 140 | ALA | N-CA-CB | 6.48 | 119.18 | 110.10 |
| 11 | A | 57 | A | C5-N7-C8 | 6.48 | 107.14 | 103.90 |
| 12 | B | 496 | G | C4-C5-N7 | 6.48 | 113.39 | 110.80 |
| 12 | B | 759 | G | C5-C6-O6 | -6.48 | 124.71 | 128.60 |
| 12 | B | 988 | A | O4'-C1'-N9 | 6.48 | 113.39 | 108.20 |
| 12 | B | 1627 | G | N7-C8-N9 | -6.48 | 109.86 | 113.10 |
| 12 | B | 1726 | C | C6-N1-C2 | -6.48 | 117.71 | 120.30 |
| 12 | B | 1918 | A | P-O5'-C5' | -6.48 | 110.53 | 120.90 |
| 12 | B | 2825 | G | C4-N9-C1' | 6.48 | 134.93 | 126.50 |
| 12 | B | 2886 | A | N9-C4-C5 | -6.48 | 103.21 | 105.80 |
| 12 | B | 35 | G | C4'-C3'-C2' | -6.48 | 96.12 | 102.60 |
| 12 | B | 706 | A | C4-C5-N7 | -6.48 | 107.46 | 110.70 |
| 12 | B | 1111 | A | C6-N1-C2 | -6.48 | 114.71 | 118.60 |
| 12 | B | 1400 | U | C6-N1-C2 | 6.48 | 124.89 | 121.00 |
| 12 | B | 1564 | C | N3-C4-C5 | -6.48 | 119.31 | 121.90 |
| 12 | B | 1606 | C | O4'-C1'-N1 | 6.48 | 113.38 | 108.20 |
| 12 | B | 1607 | C | C6-N1-C2 | -6.48 | 117.71 | 120.30 |
| 12 | B | 1622 | G | P-O3'-C3' | -6.48 | 111.92 | 119.70 |
| 12 | B | 1654 | A | C6-C5-N7 | -6.48 | 127.76 | 132.30 |
| 12 | B | 1339 | G | C5-C6-O6 | -6.48 | 124.71 | 128.60 |
| 12 | B | 1641 | A | N1-C6-N6 | 6.48 | 122.49 | 118.60 |
| 12 | B | 1794 | A | O4'-C1'-N9 | 6.48 | 113.38 | 108.20 |
| 12 | B | 2426 | A | P-O3'-C3' | 6.48 | 127.47 | 119.70 |
| 12 | B | 331 | C | C5'-C4'-O4' | 6.48 | 116.87 | 109.10 |
| 12 | B | 544 | C | O4'-C1'-N1 | 6.48 | 113.38 | 108.20 |
| 12 | B | 819 | A | C5-N7-C8 | 6.48 | 107.14 | 103.90 |
| 12 | B | 924 | G | N1-C2-N3 | -6.48 | 120.01 | 123.90 |
| 12 | B | 1195 | G | O4'-C1'-N9 | 6.48 | 113.38 | 108.20 |
| 12 | B | 1352 | U | C1'-O4'-C4' | 6.48 | 115.08 | 109.90 |
| 12 | B | 1530 | G | C5-C6-O6 | -6.48 | 124.71 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1536 | C | C5-C6-N1 | 6.48 | 124.24 | 121.00 |
| 12 | B | 1555 | G | C6-N1-C2 | 6.48 | 128.99 | 125.10 |
| 12 | B | 1603 | A | C6-N1-C2 | -6.48 | 114.71 | 118.60 |
| 12 | B | 1759 | A | C2-N3-C4 | 6.48 | 113.84 | 110.60 |
| 12 | B | 1797 | G | N3-C2-N2 | 6.48 | 124.43 | 119.90 |
| 12 | B | 1933 | G | C4'-C3'-C2' | -6.48 | 96.12 | 102.60 |
| 12 | B | 2077 | A | C5-C6-N6 | -6.48 | 118.52 | 123.70 |
| 12 | B | 189 | G | P-O5'-C5' | 6.48 | 131.26 | 120.90 |
| 12 | B | 1410 | G | N7-C8-N9 | 6.48 | 116.34 | 113.10 |
| 12 | B | 1426 | G | N7-C8-N9 | -6.48 | 109.86 | 113.10 |
| 12 | B | 2279 | G | C5-N7-C8 | -6.48 | 101.06 | 104.30 |
| 12 | B | 22 | C | N3-C2-O2 | -6.47 | 117.37 | 121.90 |
| 12 | B | 374 | A | N1-C6-N6 | 6.47 | 122.48 | 118.60 |
| 12 | B | 532 | A | C4-N9-C1' | 6.47 | 137.95 | 126.30 |
| 12 | B | 922 | C | P-O5'-C5' | 6.47 | 131.26 | 120.90 |
| 12 | B | 2780 | G | C8-N9-C4 | -6.47 | 103.81 | 106.40 |
| 12 | B | 2820 | A | C6-N1-C2 | -6.47 | 114.72 | 118.60 |
| 12 | B | 2869 | G | N1-C2-N2 | -6.47 | 110.37 | 116.20 |
| 12 | B | 1059 | G | N3-C2-N2 | 6.47 | 124.43 | 119.90 |
| 12 | B | 1545 | A | N9-C4-C5 | 6.47 | 108.39 | 105.80 |
| 12 | B | 1738 | G | C3'-C2'-C1' | 6.47 | 106.68 | 101.50 |
| 12 | B | 1801 | A | O4'-C1'-N9 | 6.47 | 113.38 | 108.20 |
| 12 | B | 2223 | G | C8-N9-C1' | 6.47 | 135.41 | 127.00 |
| 12 | B | 2370 | G | C5-C6-O6 | -6.47 | 124.72 | 128.60 |
| 15 | E | 169 | VAL | CA-CB-CG1 | -6.47 | 101.19 | 110.90 |
| 11 | A | 65 | U | P-O5'-C5' | 6.47 | 131.25 | 120.90 |
| 12 | B | 721 | A | C6-C5-N7 | -6.47 | 127.77 | 132.30 |
| 12 | B | 1037 | G | N3-C4-C5 | 6.47 | 131.84 | 128.60 |
| 12 | B | 1109 | C | N3-C4-C5 | -6.47 | 119.31 | 121.90 |
| 12 | B | 2472 | G | C4-C5-N7 | 6.47 | 113.39 | 110.80 |
| 12 | B | 2820 | A | C5-C6-N6 | -6.47 | 118.52 | 123.70 |
| 11 | A | 81 | G | C8-N9-C4 | -6.47 | 103.81 | 106.40 |
| 12 | B | 49 | A | C5'-C4'-O4' | 6.47 | 116.86 | 109.10 |
| 12 | B | 64 | A | C8-N9-C4 | -6.47 | 103.21 | 105.80 |
| 12 | B | 164 | C | N3-C4-N4 | 6.47 | 122.53 | 118.00 |
| 12 | B | 590 | A | C5-N7-C8 | 6.47 | 107.14 | 103.90 |
| 12 | B | 617 | G | C5-C6-O6 | -6.47 | 124.72 | 128.60 |
| 12 | B | 1140 | C | C5-C4-N4 | -6.47 | 115.67 | 120.20 |
| 12 | B | 1208 | C | N1-C2-O2 | 6.47 | 122.78 | 118.90 |
| 12 | B | 1286 | A | P-O5'-C5' | -6.47 | 110.55 | 120.90 |
| 12 | B | 1424 | G | O5'-P-OP2 | -6.47 | 99.88 | 105.70 |
| 12 | B | 1479 | G | C5-C6-N1 | -6.47 | 108.27 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1921 | G | N3-C4-N9 | 6.47 | 129.88 | 126.00 |
| 12 | B | 1935 | G | C4-C5-N7 | 6.47 | 113.39 | 110.80 |
| 12 | B | 64 | A | N1-C6-N6 | 6.47 | 122.48 | 118.60 |
| 12 | B | 200 | U | N1-C2-O2 | 6.47 | 127.33 | 122.80 |
| 12 | B | 294 | A | N7-C8-N9 | -6.47 | 110.57 | 113.80 |
| 12 | B | 392 | U | C1'-O4'-C4' | -6.47 | 104.73 | 109.90 |
| 12 | B | 910 | A | C4-C5-C6 | 6.47 | 120.23 | 117.00 |
| 12 | B | 1096 | A | C4-C5-C6 | 6.47 | 120.23 | 117.00 |
| 12 | B | 1101 | U | C4'-C3'-C2' | -6.47 | 96.13 | 102.60 |
| 12 | B | 1108 | U | P-O3'-C3' | -6.47 | 111.94 | 119.70 |
| 12 | B | 2033 | A | C4'-C3'-C2' | -6.47 | 96.13 | 102.60 |
| 12 | B | 2191 | A | C5-C6-N1 | -6.47 | 114.47 | 117.70 |
| 11 | A | 11 | C | C2-N3-C4 | 6.46 | 123.13 | 119.90 |
| 12 | B | 344 | A | C5-N7-C8 | 6.46 | 107.13 | 103.90 |
| 12 | B | 566 | U | N1-C2-N3 | -6.46 | 111.02 | 114.90 |
| 12 | B | 739 | A | P-O3'-C3' | 6.46 | 127.46 | 119.70 |
| 12 | B | 932 | U | N3-C2-O2 | 6.46 | 126.72 | 122.20 |
| 12 | B | 1232 | G | N3-C2-N2 | 6.46 | 124.42 | 119.90 |
| 12 | B | 1490 | A | N3-C4-C5 | -6.46 | 122.28 | 126.80 |
| 12 | B | 1559 | U | C3'-C2'-C1' | -6.46 | 96.33 | 101.50 |
| 12 | B | 2055 | C | O4'-C4'-C3' | -6.46 | 97.54 | 104.00 |
| 12 | B | 2070 | A | C4'-C3'-C2' | -6.46 | 96.14 | 102.60 |
| 12 | B | 2330 | G | C6-N1-C2 | -6.46 | 121.22 | 125.10 |
| 12 | B | 236 | C | C5-C4-N4 | -6.46 | 115.68 | 120.20 |
| 12 | B | 440 | C | N3-C4-C5 | -6.46 | 119.31 | 121.90 |
| 12 | B | 1131 | G | N9-C4-C5 | -6.46 | 102.81 | 105.40 |
| 12 | B | 1667 | G | C4-C5-N7 | 6.46 | 113.39 | 110.80 |
| 12 | B | 2087 | G | N3-C2-N2 | 6.46 | 124.42 | 119.90 |
| 12 | B | 2508 | G | N9-C4-C5 | -6.46 | 102.81 | 105.40 |
| 11 | A | 72 | G | C5-C6-N1 | -6.46 | 108.27 | 111.50 |
| 12 | B | 62 | U | C5-C4-O4 | 6.46 | 129.78 | 125.90 |
| 12 | B | 430 | A | N1-C6-N6 | 6.46 | 122.48 | 118.60 |
| 12 | B | 1469 | A | C4'-C3'-C2' | -6.46 | 96.14 | 102.60 |
| 12 | B | 2321 | U | O4'-C4'-C3' | -6.46 | 97.54 | 104.00 |
| 12 | B | 2573 | C | C4-C5-C6 | 6.46 | 120.63 | 117.40 |
| 12 | B | 2673 | G | C5-C6-N1 | -6.46 | 108.27 | 111.50 |
| 12 | B | 2814 | A | N1-C2-N3 | 6.46 | 132.53 | 129.30 |
| 1 | 0 | 2 | ARG | N-CA-CB | 6.46 | 122.23 | 110.60 |
| 12 | B | 880 | G | C3'-C2'-C1' | -6.46 | 96.33 | 101.50 |
| 12 | B | 983 | A | N3-C4-C5 | -6.46 | 122.28 | 126.80 |
| 12 | B | 1063 | G | C5-C6-O6 | -6.46 | 124.72 | 128.60 |
| 12 | B | 1499 | C | P-O5'-C5' | -6.46 | 110.56 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2502 | G | C4'-C3'-C2' | 6.46 | 109.06 | 102.60 |
| 12 | B | 189 | G | O4'-C1'-N9 | 6.46 | 113.37 | 108.20 |
| 12 | B | 1089 | A | C6-C5-N7 | -6.46 | 127.78 | 132.30 |
| 12 | B | 1298 | C | N3-C4-N4 | 6.46 | 122.52 | 118.00 |
| 12 | B | 1600 | C | N3-C4-N4 | 6.46 | 122.52 | 118.00 |
| 12 | B | 2069 | G | N7-C8-N9 | 6.46 | 116.33 | 113.10 |
| 12 | B | 2160 | C | C5-C6-N1 | 6.46 | 124.23 | 121.00 |
| 12 | B | 2578 | G | C4'-C3'-C2' | -6.46 | 96.14 | 102.60 |
| 12 | B | 2596 | U | O4'-C4'-C3' | -6.46 | 97.54 | 104.00 |
| 12 | B | 2738 | A | N7-C8-N9 | 6.46 | 117.03 | 113.80 |
| 12 | B | 213 | A | C4-C5-C6 | 6.46 | 120.23 | 117.00 |
| 12 | B | 1193 | G | C5-N7-C8 | 6.46 | 107.53 | 104.30 |
| 12 | B | 1656 | C | N3-C4-N4 | 6.46 | 122.52 | 118.00 |
| 12 | B | 2354 | C | C5-C4-N4 | -6.46 | 115.68 | 120.20 |
| 12 | B | 2357 | G | C4'-C3'-C2' | -6.46 | 96.14 | 102.60 |
| 12 | B | 2859 | G | C8-N9-C4 | -6.46 | 103.82 | 106.40 |
| 12 | B | 1091 | G | C4-C5-C6 | 6.46 | 122.67 | 118.80 |
| 12 | B | 1335 | C | N3-C4-N4 | 6.46 | 122.52 | 118.00 |
| 12 | B | 2468 | A | C5-C6-N6 | -6.46 | 118.54 | 123.70 |
| 12 | B | 2599 | G | N1-C6-O6 | 6.46 | 123.77 | 119.90 |
| 12 | B | 268 | C | C2-N3-C4 | 6.45 | 123.13 | 119.90 |
| 12 | B | 512 | G | C5-N7-C8 | -6.45 | 101.07 | 104.30 |
| 12 | B | 1240 | U | OP1-P-OP2 | -6.45 | 109.92 | 119.60 |
| 12 | B | 1455 | G | C8-N9-C4 | -6.45 | 103.82 | 106.40 |
| 12 | B | 2013 | A | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 12 | B | 2135 | A | C8-N9-C4 | -6.45 | 103.22 | 105.80 |
| 12 | B | 2816 | G | N1-C6-O6 | 6.45 | 123.77 | 119.90 |
| 12 | B | 2889 | C | C5-C6-N1 | -6.45 | 117.77 | 121.00 |
| 12 | B | 379 | G | C5'-C4'-C3' | -6.45 | 105.68 | 116.00 |
| 12 | B | 604 | G | N1-C2-N3 | -6.45 | 120.03 | 123.90 |
| 12 | B | 755 | U | P-O3'-C3' | -6.45 | 111.96 | 119.70 |
| 12 | B | 781 | A | C5-N7-C8 | 6.45 | 107.12 | 103.90 |
| 12 | B | 1381 | G | P-O3'-C3' | -6.45 | 111.96 | 119.70 |
| 12 | B | 1393 | A | C4'-C3'-C2' | -6.45 | 96.15 | 102.60 |
| 12 | B | 1658 | C | C5'-C4'-O4' | 6.45 | 116.84 | 109.10 |
| 12 | B | 2310 | C | C5-C6-N1 | -6.45 | 117.78 | 121.00 |
| 12 | B | 2414 | G | C4-C5-C6 | 6.45 | 122.67 | 118.80 |
| 12 | B | 624 | C | O4'-C1'-N1 | 6.45 | 113.36 | 108.20 |
| 12 | B | 1046 | A | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 12 | B | 1098 | A | N1-C6-N6 | 6.45 | 122.47 | 118.60 |
| 12 | B | 1978 | A | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 12 | B | 2071 | A | C4-C5-C6 | 6.45 | 120.22 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2860 | A | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 12 | B | 1210 | G | C6-N1-C2 | -6.45 | 121.23 | 125.10 |
| 12 | B | 1243 | C | C5'-C4'-C3' | -6.45 | 105.69 | 116.00 |
| 12 | B | 1622 | G | C8-N9-C4 | -6.45 | 103.82 | 106.40 |
| 12 | B | 2088 | A | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 12 | B | 2222 | C | N3-C4-N4 | 6.45 | 122.51 | 118.00 |
| 12 | B | 2556 | C | N1-C2-O2 | -6.45 | 115.03 | 118.90 |
| 12 | B | 1797 | G | N9-C4-C5 | 6.45 | 107.98 | 105.40 |
| 12 | B | 984 | A | C6-C5-N7 | -6.44 | 127.79 | 132.30 |
| 12 | B | 1085 | A | O4'-C1'-N9 | 6.44 | 113.36 | 108.20 |
| 12 | B | 1392 | A | C4'-C3'-C2' | -6.44 | 96.16 | 102.60 |
| 12 | B | 1979 | U | N3-C4-C5 | 6.44 | 118.47 | 114.60 |
| 12 | B | 2518 | A | C6-C5-N7 | -6.44 | 127.79 | 132.30 |
| 11 | A | 92 | C | N3-C4-C5 | -6.44 | 119.32 | 121.90 |
| 12 | B | 226 | A | C5-C6-N1 | -6.44 | 114.48 | 117.70 |
| 12 | B | 247 | G | N7-C8-N9 | 6.44 | 116.32 | 113.10 |
| 12 | B | 684 | G | N3-C4-C5 | 6.44 | 131.82 | 128.60 |
| 12 | B | 1083 | U | C1'-O4'-C4' | 6.44 | 115.05 | 109.90 |
| 12 | B | 1243 | C | C1'-O4'-C4' | -6.44 | 104.75 | 109.90 |
| 12 | B | 1355 | G | C4-N9-C1' | -6.44 | 118.12 | 126.50 |
| 12 | B | 1492 | G | N9-C4-C5 | 6.44 | 107.98 | 105.40 |
| 12 | B | 2233 | U | C6-N1-C2 | -6.44 | 117.13 | 121.00 |
| 12 | B | 2546 | U | C5-C4-O4 | 6.44 | 129.76 | 125.90 |
| 11 | A | 29 | A | N7-C8-N9 | -6.44 | 110.58 | 113.80 |
| 12 | B | 32 | C | O4'-C1'-N1 | 6.44 | 113.35 | 108.20 |
| 12 | B | 381 | G | P-O3'-C3' | -6.44 | 111.97 | 119.70 |
| 12 | B | 481 | G | C4'-C3'-C2' | -6.44 | 96.16 | 102.60 |
| 12 | B | 688 | U | N1-C2-O2 | -6.44 | 118.29 | 122.80 |
| 12 | B | 1415 | U | C2-N3-C4 | 6.44 | 130.87 | 127.00 |
| 12 | B | 1991 | U | C2-N3-C4 | 6.44 | 130.86 | 127.00 |
| 12 | B | 2073 | C | C6-N1-C2 | -6.44 | 117.72 | 120.30 |
| 12 | B | 2341 | G | C6-N1-C2 | 6.44 | 128.96 | 125.10 |
| 12 | B | 2484 | G | C5-C6-O6 | -6.44 | 124.73 | 128.60 |
| 12 | B | 2809 | A | P-O3'-C3' | 6.44 | 127.43 | 119.70 |
| 12 | B | 488 | G | N7-C8-N9 | 6.44 | 116.32 | 113.10 |
| 12 | B | 1555 | G | C6-C5-N7 | -6.44 | 126.54 | 130.40 |
| 12 | B | 1909 | C | C4-C5-C6 | -6.44 | 114.18 | 117.40 |
| 12 | B | 1948 | G | N1-C2-N3 | -6.44 | 120.04 | 123.90 |
| 12 | B | 119 | A | O4'-C1'-N9 | 6.44 | 113.35 | 108.20 |
| 12 | B | 605 | G | C6-C5-N7 | -6.44 | 126.54 | 130.40 |
| 12 | B | 1430 | G | C6-N1-C2 | 6.44 | 128.96 | 125.10 |
| 12 | B | 1479 | G | N1-C2-N3 | -6.44 | 120.04 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2059 | A | C5-C6-N6 | -6.44 | 118.55 | 123.70 |
| 12 | B | 2116 | G | P-O5'-C5' | 6.44 | 131.20 | 120.90 |
| 12 | B | 2445 | G | C1'-O4'-C4' | -6.44 | 104.75 | 109.90 |
| 12 | B | 2624 | G | C3'-C2'-C1' | -6.44 | 96.35 | 101.50 |
| 22 | L | 18 | ARG | NE-CZ-NH2 | -6.44 | 117.08 | 120.30 |
| 12 | B | 1301 | A | C2-N3-C4 | -6.44 | 107.38 | 110.60 |
| 12 | B | 1527 | G | C5'-C4'-O4' | 6.44 | 116.82 | 109.10 |
| 12 | B | 2853 | C | C4-C5-C6 | 6.44 | 120.62 | 117.40 |
| 12 | B | 159 | G | N7-C8-N9 | -6.43 | 109.88 | 113.10 |
| 12 | B | 370 | G | C6-C5-N7 | -6.43 | 126.54 | 130.40 |
| 12 | B | 1128 | G | C5-C6-O6 | -6.43 | 124.74 | 128.60 |
| 12 | B | 1913 | A | C5-C6-N1 | -6.43 | 114.48 | 117.70 |
| 12 | B | 2129 | C | N3-C4-C5 | 6.43 | 124.47 | 121.90 |
| 12 | B | 2727 | A | C6-C5-N7 | -6.43 | 127.80 | 132.30 |
| 11 | A | 34 | A | C5-N7-C8 | 6.43 | 107.12 | 103.90 |
| 11 | A | 49 | C | O4'-C1'-N1 | 6.43 | 113.35 | 108.20 |
| 12 | B | 72 | U | C3'-C2'-C1' | 6.43 | 106.65 | 101.50 |
| 12 | B | 673 | C | P-O3'-C3' | -6.43 | 111.98 | 119.70 |
| 12 | B | 804 | A | N9-C4-C5 | 6.43 | 108.37 | 105.80 |
| 12 | B | 815 | C | C5-C6-N1 | 6.43 | 124.22 | 121.00 |
| 12 | B | 979 | A | C5-N7-C8 | 6.43 | 107.12 | 103.90 |
| 12 | B | 1168 | G | C6-C5-N7 | -6.43 | 126.54 | 130.40 |
| 12 | B | 1553 | A | O4'-C1'-N9 | 6.43 | 113.34 | 108.20 |
| 12 | B | 2138 | G | N3-C2-N2 | 6.43 | 124.40 | 119.90 |
| 12 | B | 2157 | G | C2-N3-C4 | 6.43 | 115.12 | 111.90 |
| 27 | Q | 63 | ARG | NE-CZ-NH1 | -6.43 | 117.08 | 120.30 |
| 12 | B | 682 | G | C6-C5-N7 | -6.43 | 126.54 | 130.40 |
| 12 | B | 851 | C | O4'-C1'-N1 | 6.43 | 113.34 | 108.20 |
| 12 | B | 949 | G | N3-C2-N2 | 6.43 | 124.40 | 119.90 |
| 12 | B | 1072 | C | O4'-C1'-N1 | 6.43 | 113.34 | 108.20 |
| 12 | B | 1807 | G | C4-C5-N7 | -6.43 | 108.23 | 110.80 |
| 12 | B | 126 | A | O4'-C1'-N9 | 6.43 | 113.34 | 108.20 |
| 12 | B | 674 | G | C6-N1-C2 | 6.43 | 128.96 | 125.10 |
| 12 | B | 1875 | G | N3-C2-N2 | 6.43 | 124.40 | 119.90 |
| 12 | B | 2296 | U | C5-C4-O4 | -6.43 | 122.04 | 125.90 |
| 11 | A | 27 | C | N1-C2-O2 | -6.43 | 115.04 | 118.90 |
| 12 | B | 547 | A | C4'-C3'-C2' | -6.43 | 96.17 | 102.60 |
| 12 | B | 837 | C | O4'-C1'-N1 | 6.43 | 113.34 | 108.20 |
| 12 | B | 1398 | C | O4'-C1'-N1 | 6.43 | 113.34 | 108.20 |
| 12 | B | 2183 | A | C4-C5-C6 | 6.43 | 120.21 | 117.00 |
| 12 | B | 2399 | G | C2-N3-C4 | -6.43 | 108.69 | 111.90 |
| 12 | B | 2460 | U | C5-C6-N1 | 6.43 | 125.91 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2461 | A | C5-C6-N1 | -6.43 | 114.49 | 117.70 |
| 12 | B | 2705 | A | C2-N3-C4 | -6.43 | 107.39 | 110.60 |
| 12 | B | 1022 | G | O5'-C5'-C4' | -6.42 | 99.49 | 111.70 |
| 12 | B | 1165 | A | C6-N1-C2 | 6.42 | 122.45 | 118.60 |
| 12 | B | 1578 | U | C2'-C3'-O3' | 6.42 | 123.98 | 113.70 |
| 12 | B | 2146 | C | C6-N1-C2 | -6.42 | 117.73 | 120.30 |
| 12 | B | 1045 | C | N3-C4-C5 | -6.42 | 119.33 | 121.90 |
| 12 | B | 1709 | U | N3-C4-O4 | 6.42 | 123.90 | 119.40 |
| 12 | B | 2480 | C | C2-N3-C4 | 6.42 | 123.11 | 119.90 |
| 12 | B | 2697 | G | O4'-C1'-N9 | 6.42 | 113.34 | 108.20 |
| 11 | A | 20 | G | N3-C2-N2 | 6.42 | 124.39 | 119.90 |
| 11 | A | 100 | G | N3-C4-C5 | 6.42 | 131.81 | 128.60 |
| 12 | B | 2041 | U | C2-N3-C4 | -6.42 | 123.15 | 127.00 |
| 12 | B | 2283 | C | O4'-C4'-C3' | -6.42 | 97.58 | 104.00 |
| 12 | B | 2781 | A | C8-N9-C4 | -6.42 | 103.23 | 105.80 |
| 18 | H | 98 | ASP | CB-CG-OD2 | 6.42 | 124.08 | 118.30 |
| 32 | W | 19 | ARG | NE-CZ-NH2 | 6.42 | 123.51 | 120.30 |
| 11 | A | 25 | U | P-O5'-C5' | -6.42 | 110.63 | 120.90 |
| 12 | B | 17 | G | C8-N9-C4 | -6.42 | 103.83 | 106.40 |
| 12 | B | 429 | A | C8-N9-C4 | -6.42 | 103.23 | 105.80 |
| 12 | B | 430 | A | C3'-C2'-C1' | -6.42 | 96.36 | 101.50 |
| 12 | B | 921 | C | C4-C5-C6 | -6.42 | 114.19 | 117.40 |
| 12 | B | 1851 | U | C5-C6-N1 | -6.42 | 119.49 | 122.70 |
| 12 | B | 2437 | G | P-O3'-C3' | -6.42 | 112.00 | 119.70 |
| 6 | 5 | 225 | ASP | CB-CG-OD2 | -6.42 | 112.52 | 118.30 |
| 12 | B | 86 | G | N1-C2-N3 | -6.42 | 120.05 | 123.90 |
| 12 | B | 676 | A | C5-C6-N1 | -6.42 | 114.49 | 117.70 |
| 12 | B | 1020 | A | N7-C8-N9 | 6.42 | 117.01 | 113.80 |
| 12 | B | 1640 | A | N1-C2-N3 | 6.42 | 132.51 | 129.30 |
| 12 | B | 1646 | C | O4'-C1'-N1 | 6.42 | 113.33 | 108.20 |
| 12 | B | 1845 | G | O4'-C1'-N9 | 6.42 | 113.33 | 108.20 |
| 12 | B | 1954 | G | N9-C4-C5 | -6.42 | 102.83 | 105.40 |
| 12 | B | 1966 | A | C4-C5-N7 | -6.42 | 107.49 | 110.70 |
| 12 | B | 2495 | G | N3-C2-N2 | 6.42 | 124.39 | 119.90 |
| 12 | B | 2520 | C | O4'-C1'-N1 | 6.42 | 113.33 | 108.20 |
| 12 | B | 769 | U | O4'-C1'-N1 | 6.42 | 113.33 | 108.20 |
| 12 | B | 1715 | G | C5-C6-N1 | -6.42 | 108.29 | 111.50 |
| 12 | B | 1896 | G | N9-C4-C5 | -6.42 | 102.83 | 105.40 |
| 12 | B | 2797 | U | C5-C6-N1 | 6.42 | 125.91 | 122.70 |
| 12 | B | 371 | A | O3'-P-O5' | -6.42 | 91.81 | 104.00 |
| 12 | B | 896 | A | C8-N9-C4 | -6.42 | 103.23 | 105.80 |
| 12 | B | 1180 | U | C5-C4-O4 | -6.42 | 122.05 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 78 | A | N9-C4-C5 | 6.41 | 108.36 | 105.80 |
| 12 | B | 115 | C | C1'-O4'-C4' | -6.41 | 104.77 | 109.90 |
| 12 | B | 279 | A | C3'-C2'-C1' | -6.41 | 96.37 | 101.50 |
| 12 | B | 762 | U | O4'-C1'-N1 | 6.41 | 113.33 | 108.20 |
| 12 | B | 834 | G | C5-C6-O6 | -6.41 | 124.75 | 128.60 |
| 12 | B | 1088 | A | C5'-C4'-C3' | -6.41 | 105.74 | 116.00 |
| 12 | B | 1514 | G | N3-C2-N2 | 6.41 | 124.39 | 119.90 |
| 12 | B | 1575 | C | C6-N1-C2 | -6.41 | 117.73 | 120.30 |
| 12 | B | 1745 | A | OP1-P-OP2 | -6.41 | 109.98 | 119.60 |
| 12 | B | 1838 | C | C2-N3-C4 | 6.41 | 123.11 | 119.90 |
| 12 | B | 1990 | C | N3-C2-O2 | -6.41 | 117.41 | 121.90 |
| 12 | B | 2322 | A | C4-C5-N7 | -6.41 | 107.49 | 110.70 |
| 12 | B | 2833 | U | C5-C6-N1 | 6.41 | 125.91 | 122.70 |
| 23 | M | 91 | TYR | CB-CG-CD1 | 6.41 | 124.85 | 121.00 |
| 12 | B | 898 | C | C5-C4-N4 | -6.41 | 115.71 | 120.20 |
| 12 | B | 1296 | G | C4-C5-N7 | -6.41 | 108.23 | 110.80 |
| 12 | B | 2060 | A | N3-C4-C5 | -6.41 | 122.31 | 126.80 |
| 12 | B | 2536 | G | O4'-C1'-N9 | 6.41 | 113.33 | 108.20 |
| 11 | A | 55 | U | C2-N1-C1' | -6.41 | 110.01 | 117.70 |
| 12 | B | 322 | A | C5-N7-C8 | 6.41 | 107.11 | 103.90 |
| 12 | B | 606 | U | N3-C4-O4 | 6.41 | 123.89 | 119.40 |
| 12 | B | 1100 | C | C2-N3-C4 | 6.41 | 123.11 | 119.90 |
| 12 | B | 1134 | A | C8-N9-C4 | -6.41 | 103.24 | 105.80 |
| 12 | B | 2132 | U | C3'-C2'-C1' | 6.41 | 106.63 | 101.50 |
| 1 | 0 | 26 | ARG | NE-CZ-NH2 | -6.41 | 117.09 | 120.30 |
| 11 | A | 45 | A | N9-C4-C5 | -6.41 | 103.24 | 105.80 |
| 12 | B | 1001 | A | C8-N9-C4 | -6.41 | 103.24 | 105.80 |
| 12 | B | 1542 | U | N1-C2-N3 | -6.41 | 111.06 | 114.90 |
| 12 | B | 2428 | G | N1-C2-N3 | -6.41 | 120.06 | 123.90 |
| 12 | B | 2770 | G | C5-N7-C8 | 6.41 | 107.50 | 104.30 |
| 12 | B | 553 | G | C4-C5-N7 | 6.41 | 113.36 | 110.80 |
| 12 | B | 1653 | G | C5'-C4'-O4' | 6.41 | 116.79 | 109.10 |
| 12 | B | 2414 | G | C5-C6-O6 | -6.41 | 124.76 | 128.60 |
| 11 | A | 13 | G | N7-C8-N9 | 6.41 | 116.30 | 113.10 |
| 11 | A | 15 | A | C5-N7-C8 | 6.41 | 107.10 | 103.90 |
| 12 | B | 205 | G | C4-C5-C6 | 6.41 | 122.64 | 118.80 |
| 12 | B | 1207 | C | O4'-C1'-N1 | 6.41 | 113.33 | 108.20 |
| 12 | B | 1258 | U | N3-C2-O2 | 6.41 | 126.68 | 122.20 |
| 12 | B | 1281 | G | O4'-C1'-N9 | 6.41 | 113.33 | 108.20 |
| 12 | B | 1413 | A | N1-C6-N6 | 6.41 | 122.44 | 118.60 |
| 12 | B | 1476 | U | O4'-C1'-N1 | 6.41 | 113.32 | 108.20 |
| 12 | B | 1702 | G | C8-N9-C4 | 6.41 | 108.96 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1929 | G | N1-C6-O6 | 6.41 | 123.74 | 119.90 |
| 11 | A | 85 | G | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 12 | B | 1112 | G | C6-C5-N7 | -6.40 | 126.56 | 130.40 |
| 12 | B | 1931 | U | C4-C5-C6 | 6.40 | 123.54 | 119.70 |
| 12 | B | 2770 | G | P-O5'-C5' | 6.40 | 131.15 | 120.90 |
| 12 | B | 223 | A | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 12 | B | 390 | U | N1-C2-O2 | -6.40 | 118.32 | 122.80 |
| 12 | B | 922 | C | N1-C2-N3 | -6.40 | 114.72 | 119.20 |
| 12 | B | 2083 | G | C4-C5-N7 | -6.40 | 108.24 | 110.80 |
| 12 | B | 2131 | U | O4'-C1'-N1 | 6.40 | 113.32 | 108.20 |
| 11 | A | 14 | U | P-O3'-C3' | -6.40 | 112.02 | 119.70 |
| 12 | B | 538 | A | C4'-C3'-C2' | -6.40 | 96.20 | 102.60 |
| 12 | B | 827 | U | C2-N3-C4 | -6.40 | 123.16 | 127.00 |
| 12 | B | 918 | A | N9-C4-C5 | 6.40 | 108.36 | 105.80 |
| 12 | B | 1307 | A | C4'-C3'-C2' | -6.40 | 96.20 | 102.60 |
| 12 | B | 1498 | C | C5'-C4'-C3' | 6.40 | 126.24 | 116.00 |
| 12 | B | 2021 | C | C6-N1-C1' | -6.40 | 113.12 | 120.80 |
| 12 | B | 2567 | G | N3-C2-N2 | 6.40 | 124.38 | 119.90 |
| 12 | B | 2609 | U | OP1-P-OP2 | -6.40 | 110.00 | 119.60 |
| 12 | B | 2621 | G | C5-C6-N1 | 6.40 | 114.70 | 111.50 |
| 12 | B | 2725 | A | P-O3'-C3' | 6.40 | 127.38 | 119.70 |
| 12 | B | 1590 | A | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 12 | B | 1716 | U | N3-C4-C5 | -6.40 | 110.76 | 114.60 |
| 12 | B | 2399 | G | P-O5'-C5' | -6.40 | 110.66 | 120.90 |
| 12 | B | 2539 | C | C6-N1-C1' | 6.40 | 128.48 | 120.80 |
| 11 | A | 109 | A | C8-N9-C4 | -6.40 | 103.24 | 105.80 |
| 12 | B | 112 | U | C3'-C2'-C1' | 6.40 | 106.62 | 101.50 |
| 12 | B | 132 | G | C5-N7-C8 | 6.40 | 107.50 | 104.30 |
| 12 | B | 884 | U | N3-C4-O4 | 6.40 | 123.88 | 119.40 |
| 12 | B | 1316 | U | O4'-C1'-N1 | 6.40 | 113.32 | 108.20 |
| 12 | B | 1533 | C | N3-C4-N4 | 6.40 | 122.48 | 118.00 |
| 12 | B | 1668 | A | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 12 | B | 1757 | A | C5-N7-C8 | 6.40 | 107.10 | 103.90 |
| 12 | B | 1823 | G | C6-N1-C2 | 6.40 | 128.94 | 125.10 |
| 12 | B | 2037 | A | N3-C4-N9 | -6.40 | 122.28 | 127.40 |
| 12 | B | 2650 | U | C4-C5-C6 | 6.40 | 123.54 | 119.70 |
| 12 | B | 511 | U | C6-N1-C2 | 6.40 | 124.84 | 121.00 |
| 12 | B | 962 | G | C5-C6-N1 | -6.40 | 108.30 | 111.50 |
| 12 | B | 1200 | C | C1'-O4'-C4' | 6.40 | 115.02 | 109.90 |
| 12 | B | 1544 | A | C4-C5-N7 | -6.40 | 107.50 | 110.70 |
| 12 | B | 1876 | A | P-O3'-C3' | 6.40 | 127.38 | 119.70 |
| 12 | B | 355 | U | N3-C4-C5 | -6.39 | 110.76 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 786 | C | C4'-C3'-C2' | -6.39 | 96.21 | 102.60 |
| 12 | B | 1200 | C | C5-C6-N1 | 6.39 | 124.20 | 121.00 |
| 12 | B | 1610 | A | C2-N3-C4 | 6.39 | 113.80 | 110.60 |
| 12 | B | 1676 | A | C5-C6-N6 | -6.39 | 118.58 | 123.70 |
| 12 | B | 1848 | A | O4'-C1'-N9 | 6.39 | 113.32 | 108.20 |
| 12 | B | 1858 | A | C5-N7-C8 | 6.39 | 107.10 | 103.90 |
| 12 | B | 1969 | A | C2-N3-C4 | 6.39 | 113.80 | 110.60 |
| 12 | B | 2003 | A | N1-C2-N3 | 6.39 | 132.50 | 129.30 |
| 12 | B | 2343 | U | N3-C4-C5 | -6.39 | 110.76 | 114.60 |
| 12 | B | 2476 | A | C5-C6-N6 | -6.39 | 118.58 | 123.70 |
| 12 | B | 2832 | U | N3-C4-O4 | 6.39 | 123.88 | 119.40 |
| 12 | B | 670 | A | C2'-C3'-O3' | 6.39 | 123.93 | 113.70 |
| 12 | B | 1356 | G | C5-C6-O6 | -6.39 | 124.77 | 128.60 |
| 12 | B | 1787 | A | N9-C4-C5 | -6.39 | 103.24 | 105.80 |
| 12 | B | 1921 | G | C6-C5-N7 | -6.39 | 126.56 | 130.40 |
| 12 | B | 2818 | U | C1'-O4'-C4' | 6.39 | 115.01 | 109.90 |
| 15 | E | 12 | LEU | N-CA-CB | 6.39 | 123.19 | 110.40 |
| 16 | F | 174 | PHE | CB-CG-CD1 | 6.39 | 125.28 | 120.80 |
| 11 | A | 59 | A | N7-C8-N9 | 6.39 | 117.00 | 113.80 |
| 12 | B | 715 | A | C4'-C3'-C2' | -6.39 | 96.21 | 102.60 |
| 12 | B | 982 | C | O4'-C1'-N1 | 6.39 | 113.31 | 108.20 |
| 12 | B | 1017 | G | N1-C2-N2 | 6.39 | 121.95 | 116.20 |
| 12 | B | 1091 | G | N3-C4-N9 | 6.39 | 129.84 | 126.00 |
| 12 | B | 2045 | C | C4-C5-C6 | 6.39 | 120.59 | 117.40 |
| 12 | B | 2803 | G | N3-C2-N2 | 6.39 | 124.37 | 119.90 |
| 12 | B | 56 | A | C5-C6-N1 | -6.39 | 114.50 | 117.70 |
| 12 | B | 571 | U | N3-C4-O4 | 6.39 | 123.87 | 119.40 |
| 12 | B | 1775 | U | O4'-C1'-N1 | 6.39 | 113.31 | 108.20 |
| 12 | B | 1998 | A | C5-C6-N6 | -6.39 | 118.59 | 123.70 |
| 12 | B | 2002 | G | C4-C5-N7 | -6.39 | 108.24 | 110.80 |
| 12 | B | 2148 | G | O4'-C1'-N9 | 6.39 | 113.31 | 108.20 |
| 12 | B | 1183 | U | O4'-C1'-N1 | 6.39 | 113.31 | 108.20 |
| 12 | B | 1801 | A | C5'-C4'-C3' | -6.39 | 105.78 | 116.00 |
| 1 | 0 | 59 | ASP | CB-CG-OD1 | -6.39 | 112.55 | 118.30 |
| 12 | B | 227 | A | N1-C2-N3 | 6.39 | 132.49 | 129.30 |
| 12 | B | 491 | G | C4-C5-N7 | 6.39 | 113.36 | 110.80 |
| 12 | B | 689 | A | C8-N9-C4 | 6.39 | 108.35 | 105.80 |
| 12 | B | 815 | C | C2-N3-C4 | 6.39 | 123.09 | 119.90 |
| 12 | B | 1228 | G | C5-C6-O6 | -6.39 | 124.77 | 128.60 |
| 12 | B | 1525 | A | C4-C5-C6 | 6.39 | 120.19 | 117.00 |
| 12 | B | 1696 | G | C2-N3-C4 | 6.39 | 115.09 | 111.90 |
| 12 | B | 1984 | G | C5-C6-N1 | -6.39 | 108.31 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2294 | G | C5-C6-N1 | -6.39 | 108.31 | 111.50 |
| 12 | B | 2521 | C | C2-N3-C4 | 6.39 | 123.09 | 119.90 |
| 12 | B | 1196 | C | P-O5'-C5' | 6.38 | 131.11 | 120.90 |
| 12 | B | 2591 | C | C5-C4-N4 | -6.38 | 115.73 | 120.20 |
| 12 | B | 2716 | C | C4'-C3'-C2' | -6.38 | 96.22 | 102.60 |
| 12 | B | 546 | U | N3-C4-C5 | -6.38 | 110.77 | 114.60 |
| 12 | B | 1002 | G | N3-C2-N2 | 6.38 | 124.37 | 119.90 |
| 12 | B | 1995 | U | C5-C6-N1 | 6.38 | 125.89 | 122.70 |
| 12 | B | 2311 | A | C5-C6-N6 | -6.38 | 118.59 | 123.70 |
| 12 | B | 2385 | C | C4-C5-C6 | -6.38 | 114.21 | 117.40 |
| 12 | B | 2390 | U | N1-C2-O2 | 6.38 | 127.27 | 122.80 |
| 10 | 9 | 67 | ALA | C-N-CA | 6.38 | 137.65 | 121.70 |
| 12 | B | 232 | G | N1-C2-N2 | -6.38 | 110.46 | 116.20 |
| 12 | B | 705 | A | C5-C6-N6 | -6.38 | 118.59 | 123.70 |
| 12 | B | 1115 | G | O4'-C1'-C2' | 6.38 | 113.34 | 107.60 |
| 12 | B | 1612 | C | N3-C4-N4 | 6.38 | 122.47 | 118.00 |
| 12 | B | 1935 | G | O4'-C4'-C3' | -6.38 | 97.62 | 104.00 |
| 12 | B | 2031 | A | C5-C6-N1 | -6.38 | 114.51 | 117.70 |
| 12 | B | 2655 | G | C4-C5-C6 | 6.38 | 122.63 | 118.80 |
| 26 | P | 86 | LYS | N-CA-CB | 6.38 | 122.09 | 110.60 |
| 29 | S | 88 | ARG | NE-CZ-NH2 | 6.38 | 123.49 | 120.30 |
| 12 | B | 457 | A | C6-C5-N7 | -6.38 | 127.83 | 132.30 |
| 12 | B | 632 | A | C6-C5-N7 | -6.38 | 127.83 | 132.30 |
| 12 | B | 824 | U | C5-C4-O4 | 6.38 | 129.73 | 125.90 |
| 12 | B | 2323 | G | O5'-C5'-C4' | -6.38 | 99.58 | 111.70 |
| 12 | B | 199 | A | C8-N9-C4 | 6.38 | 108.35 | 105.80 |
| 12 | B | 712 | G | C5-C6-O6 | -6.38 | 124.77 | 128.60 |
| 12 | B | 1735 | A | N7-C8-N9 | 6.38 | 116.99 | 113.80 |
| 12 | B | 1839 | G | P-O5'-C5' | -6.38 | 110.69 | 120.90 |
| 12 | B | 2157 | G | N1-C6-O6 | 6.38 | 123.73 | 119.90 |
| 12 | B | 2183 | A | C4-C5-N7 | -6.38 | 107.51 | 110.70 |
| 12 | B | 2503 | A | O4'-C1'-N9 | 6.38 | 113.30 | 108.20 |
| 12 | B | 2898 | U | C5'-C4'-C3' | -6.38 | 105.80 | 116.00 |
| 12 | B | 215 | G | C4-C5-N7 | -6.38 | 108.25 | 110.80 |
| 12 | B | 283 | G | C5-C6-O6 | -6.38 | 124.77 | 128.60 |
| 12 | B | 1920 | C | C4-C5-C6 | 6.38 | 120.59 | 117.40 |
| 23 | M | 31 | PHE | CB-CG-CD2 | 6.38 | 125.26 | 120.80 |
| 12 | B | 1312 | U | C4-C5-C6 | 6.38 | 123.53 | 119.70 |
| 25 | O | 47 | VAL | CG1-CB-CG2 | 6.38 | 121.10 | 110.90 |
| 12 | B | 1065 | U | N3-C2-O2 | 6.37 | 126.66 | 122.20 |
| 12 | B | 1767 | G | N1-C2-N3 | -6.37 | 120.08 | 123.90 |
| 12 | B | 1927 | A | C4-C5-N7 | -6.37 | 107.51 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2742 | G | N3-C4-C5 | -6.37 | 125.41 | 128.60 |
| 11 | A | 50 | A | C4-C5-N7 | 6.37 | 113.89 | 110.70 |
| 12 | B | 449 | A | C8-N9-C4 | -6.37 | 103.25 | 105.80 |
| 12 | B | 636 | G | O4'-C1'-N9 | 6.37 | 113.30 | 108.20 |
| 12 | B | 808 | G | C5-C6-O6 | -6.37 | 124.78 | 128.60 |
| 12 | B | 1324 | G | C8-N9-C4 | -6.37 | 103.85 | 106.40 |
| 12 | B | 1417 | C | OP1-P-OP2 | -6.37 | 110.04 | 119.60 |
| 12 | B | 1682 | G | N3-C4-N9 | 6.37 | 129.82 | 126.00 |
| 12 | B | 1773 | A | C4'-C3'-C2' | -6.37 | 96.23 | 102.60 |
| 12 | B | 1979 | U | O4'-C1'-N1 | 6.37 | 113.30 | 108.20 |
| 12 | B | 2381 | A | C3'-C2'-C1' | -6.37 | 96.40 | 101.50 |
| 12 | B | 2655 | G | P-O3'-C3' | 6.37 | 127.35 | 119.70 |
| 12 | B | 177 | G | C4-C5-C6 | 6.37 | 122.62 | 118.80 |
| 12 | B | 1555 | G | C5-C6-N1 | -6.37 | 108.31 | 111.50 |
| 12 | B | 1826 | G | N1-C2-N3 | -6.37 | 120.08 | 123.90 |
| 12 | B | 520 | G | C6-N1-C2 | 6.37 | 128.92 | 125.10 |
| 12 | B | 620 | G | N7-C8-N9 | 6.37 | 116.28 | 113.10 |
| 12 | B | 654 | A | C4-C5-N7 | -6.37 | 107.52 | 110.70 |
| 12 | B | 817 | C | C5-C6-N1 | 6.37 | 124.19 | 121.00 |
| 12 | B | 1585 | C | C4-C5-C6 | -6.37 | 114.22 | 117.40 |
| 12 | B | 1648 | U | P-O3'-C3' | 6.37 | 127.34 | 119.70 |
| 12 | B | 1827 | U | N3-C2-O2 | -6.37 | 117.74 | 122.20 |
| 12 | B | 2688 | G | C6-C5-N7 | -6.37 | 126.58 | 130.40 |
| 12 | B | 154 | U | O5'-P-OP2 | -6.37 | 99.97 | 105.70 |
| 12 | B | 1951 | U | O4'-C1'-N1 | 6.37 | 113.29 | 108.20 |
| 12 | B | 366 | C | N3-C4-N4 | 6.37 | 122.46 | 118.00 |
| 12 | B | 957 | C | C6-N1-C2 | -6.37 | 117.75 | 120.30 |
| 12 | B | 1074 | G | P-O3'-C3' | -6.37 | 112.06 | 119.70 |
| 12 | B | 1573 | G | N3-C4-C5 | 6.37 | 131.78 | 128.60 |
| 12 | B | 1968 | G | O4'-C1'-N9 | 6.37 | 113.29 | 108.20 |
| 12 | B | 2063 | C | C2-N3-C4 | 6.37 | 123.08 | 119.90 |
| 12 | B | 2292 | U | O4'-C1'-N1 | 6.37 | 113.29 | 108.20 |
| 12 | B | 2461 | A | C4-C5-C6 | 6.37 | 120.18 | 117.00 |
| 12 | B | 2496 | C | N3-C4-C5 | -6.37 | 119.35 | 121.90 |
| 12 | B | 2550 | G | O4'-C1'-N9 | 6.37 | 113.29 | 108.20 |
| 12 | B | 2741 | A | N1-C6-N6 | 6.37 | 122.42 | 118.60 |
| 11 | A | 115 | A | C4-C5-N7 | -6.36 | 107.52 | 110.70 |
| 12 | B | 486 | C | C2-N3-C4 | 6.36 | 123.08 | 119.90 |
| 12 | B | 535 | G | O4'-C1'-N9 | 6.36 | 113.29 | 108.20 |
| 12 | B | 818 | G | O4'-C1'-N9 | 6.36 | 113.29 | 108.20 |
| 12 | B | 1534 | U | C2-N1-C1' | -6.36 | 110.06 | 117.70 |
| 22 | L | 50 | PHE | N-CA-CB | 6.36 | 122.05 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 123 | G | C5-C6-N1 | -6.36 | 108.32 | 111.50 |
| 12 | B | 138 | U | C3'-C2'-C1' | 6.36 | 106.59 | 101.50 |
| 12 | B | 1212 | G | N3-C4-N9 | -6.36 | 122.18 | 126.00 |
| 12 | B | 1426 | G | C5-N7-C8 | 6.36 | 107.48 | 104.30 |
| 12 | B | 2327 | A | C2-N3-C4 | -6.36 | 107.42 | 110.60 |
| 12 | B | 2524 | G | C2-N3-C4 | -6.36 | 108.72 | 111.90 |
| 12 | B | 2696 | U | N3-C4-O4 | 6.36 | 123.85 | 119.40 |
| 12 | B | 145 | C | C2-N3-C4 | 6.36 | 123.08 | 119.90 |
| 12 | B | 645 | C | C6-N1-C2 | 6.36 | 122.84 | 120.30 |
| 12 | B | 1002 | G | N1-C2-N3 | -6.36 | 120.08 | 123.90 |
| 12 | B | 1328 | A | O4'-C1'-C2' | 6.36 | 113.32 | 107.60 |
| 12 | B | 1357 | C | C6-N1-C2 | -6.36 | 117.75 | 120.30 |
| 12 | B | 1705 | A | C5-C6-N1 | -6.36 | 114.52 | 117.70 |
| 12 | B | 2286 | G | N9-C4-C5 | 6.36 | 107.94 | 105.40 |
| 12 | B | 2637 | U | O4'-C1'-N1 | 6.36 | 113.29 | 108.20 |
| 12 | B | 512 | G | N1-C6-O6 | 6.36 | 123.72 | 119.90 |
| 12 | B | 732 | C | O4'-C1'-N1 | 6.36 | 113.29 | 108.20 |
| 12 | B | 1076 | C | C1'-O4'-C4' | -6.36 | 104.81 | 109.90 |
| 12 | B | 1188 | U | C5-C4-O4 | -6.36 | 122.08 | 125.90 |
| 12 | B | 1193 | G | C6-C5-N7 | -6.36 | 126.58 | 130.40 |
| 12 | B | 1258 | U | N3-C4-O4 | 6.36 | 123.85 | 119.40 |
| 12 | B | 2223 | G | C5-C6-N1 | -6.36 | 108.32 | 111.50 |
| 12 | B | 2601 | C | C4-C5-C6 | -6.36 | 114.22 | 117.40 |
| 12 | B | 2610 | C | C5-C6-N1 | -6.36 | 117.82 | 121.00 |
| 12 | B | 2846 | G | N1-C6-O6 | 6.36 | 123.71 | 119.90 |
| 12 | B | 2878 | U | P-O5'-C5' | 6.36 | 131.07 | 120.90 |
| 12 | B | 2900 | A | C4-C5-N7 | 6.36 | 113.88 | 110.70 |
| 12 | B | 15 | G | N1-C2-N3 | -6.36 | 120.09 | 123.90 |
| 12 | B | 185 | G | N1-C2-N3 | -6.36 | 120.09 | 123.90 |
| 12 | B | 889 | C | C2-N3-C4 | 6.36 | 123.08 | 119.90 |
| 12 | B | 1219 | U | C2-N3-C4 | -6.36 | 123.19 | 127.00 |
| 12 | B | 2095 | A | C5-N7-C8 | 6.36 | 107.08 | 103.90 |
| 12 | B | 2242 | G | C4-C5-N7 | -6.36 | 108.26 | 110.80 |
| 12 | B | 2361 | G | N9-C4-C5 | -6.36 | 102.86 | 105.40 |
| 12 | B | 2379 | G | N7-C8-N9 | -6.36 | 109.92 | 113.10 |
| 12 | B | 2439 | A | C5-N7-C8 | 6.36 | 107.08 | 103.90 |
| 12 | B | 2277 | G | O4'-C1'-N9 | 6.35 | 113.28 | 108.20 |
| 12 | B | 53 | A | C4-C5-N7 | -6.35 | 107.52 | 110.70 |
| 12 | B | 168 | G | C5'-C4'-C3' | -6.35 | 105.84 | 116.00 |
| 12 | B | 2243 | U | C2-N3-C4 | -6.35 | 123.19 | 127.00 |
| 12 | B | 180 | G | C6-N1-C2 | 6.35 | 128.91 | 125.10 |
| 12 | B | 312 | G | C4-C5-C6 | 6.35 | 122.61 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1000 | A | P-O5'-C5' | -6.35 | 110.74 | 120.90 |
| 12 | B | 2089 | C | C6-N1-C2 | -6.35 | 117.76 | 120.30 |
| 12 | B | 2484 | G | C4'-C3'-C2' | -6.35 | 96.25 | 102.60 |
| 12 | B | 2547 | A | C6-C5-N7 | -6.35 | 127.86 | 132.30 |
| 12 | B | 2678 | C | C5-C4-N4 | -6.35 | 115.75 | 120.20 |
| 12 | B | 2777 | G | N1-C2-N3 | -6.35 | 120.09 | 123.90 |
| 12 | B | 33 | C | C4-C5-C6 | -6.35 | 114.23 | 117.40 |
| 12 | B | 911 | A | O4'-C1'-N9 | 6.35 | 113.28 | 108.20 |
| 12 | B | 1068 | G | C4-C5-C6 | 6.35 | 122.61 | 118.80 |
| 12 | B | 1180 | U | N1-C2-O2 | 6.35 | 127.24 | 122.80 |
| 12 | B | 1250 | G | C8-N9-C4 | -6.35 | 103.86 | 106.40 |
| 12 | B | 1908 | C | P-O3'-C3' | -6.35 | 112.08 | 119.70 |
| 12 | B | 2271 | G | O5'-P-OP2 | -6.35 | 99.99 | 105.70 |
| 12 | B | 2313 | C | O4'-C4'-C3' | -6.35 | 97.65 | 104.00 |
| 21 | K | 78 | ARG | NE-CZ-NH2 | -6.35 | 117.13 | 120.30 |
| 29 | S | 62 | ASP | N-CA-CB | 6.35 | 122.03 | 110.60 |
| 12 | B | 1010 | A | C8-N9-C4 | -6.35 | 103.26 | 105.80 |
| 12 | B | 1388 | G | C5'-C4'-O4' | 6.35 | 116.72 | 109.10 |
| 12 | B | 2804 | U | N1-C1'-C2' | -6.35 | 105.02 | 112.00 |
| 12 | B | 348 | A | C5-C6-N6 | -6.34 | 118.62 | 123.70 |
| 12 | B | 1802 | A | P-O3'-C3' | -6.34 | 112.09 | 119.70 |
| 12 | B | 1977 | A | O4'-C4'-C3' | -6.34 | 97.66 | 104.00 |
| 12 | B | 2249 | U | O4'-C1'-N1 | 6.34 | 113.28 | 108.20 |
| 12 | B | 2483 | C | N3-C4-N4 | 6.34 | 122.44 | 118.00 |
| 12 | B | 2825 | G | C8-N9-C1' | -6.34 | 118.75 | 127.00 |
| 12 | B | 798 | G | N3-C4-N9 | -6.34 | 122.19 | 126.00 |
| 12 | B | 952 | G | N1-C2-N3 | -6.34 | 120.09 | 123.90 |
| 12 | B | 2088 | A | P-O3'-C3' | -6.34 | 112.09 | 119.70 |
| 12 | B | 2638 | G | N1-C2-N3 | -6.34 | 120.09 | 123.90 |
| 7 | 6 | 1 | MET | CG-SD-CE | -6.34 | 90.06 | 100.20 |
| 12 | B | 389 | G | N9-C4-C5 | -6.34 | 102.86 | 105.40 |
| 12 | B | 862 | G | C8-N9-C4 | -6.34 | 103.86 | 106.40 |
| 12 | B | 910 | A | P-O3'-C3' | 6.34 | 127.31 | 119.70 |
| 12 | B | 1326 | U | N1-C2-O2 | -6.34 | 118.36 | 122.80 |
| 12 | B | 1466 | U | N1-C2-O2 | -6.34 | 118.36 | 122.80 |
| 12 | B | 1808 | A | C4'-C3'-C2' | -6.34 | 96.26 | 102.60 |
| 12 | B | 2744 | G | N7-C8-N9 | -6.34 | 109.93 | 113.10 |
| 12 | B | 2774 | C | N1-C2-O2 | -6.34 | 115.09 | 118.90 |
| 12 | B | 2800 | A | C6-C5-N7 | -6.34 | 127.86 | 132.30 |
| 11 | A | 61 | G | N1-C2-N2 | -6.34 | 110.49 | 116.20 |
| 12 | B | 171 | U | C2-N3-C4 | 6.34 | 130.80 | 127.00 |
| 12 | B | 308 | G | C5-N7-C8 | 6.34 | 107.47 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 372 | G | P-O3'-C3' | 6.34 | 127.31 | 119.70 |
| 12 | B | 467 | G | N1-C2-N3 | -6.34 | 120.10 | 123.90 |
| 12 | B | 1381 | G | N7-C8-N9 | -6.34 | 109.93 | 113.10 |
| 12 | B | 1525 | A | C6-C5-N7 | -6.34 | 127.86 | 132.30 |
| 12 | B | 2167 | U | N1-C2-N3 | -6.34 | 111.10 | 114.90 |
| 12 | B | 2724 | U | C2-N3-C4 | 6.34 | 130.80 | 127.00 |
| 12 | B | 168 | G | C2-N3-C4 | 6.34 | 115.07 | 111.90 |
| 12 | B | 174 | U | OP1-P-OP2 | -6.34 | 110.09 | 119.60 |
| 12 | B | 1268 | A | C5-C6-N1 | -6.34 | 114.53 | 117.70 |
| 12 | B | 1908 | C | N3-C4-N4 | 6.34 | 122.44 | 118.00 |
| 12 | B | 2294 | G | N9-C4-C5 | 6.34 | 107.94 | 105.40 |
| 11 | A | 66 | A | P-O5'-C5' | 6.34 | 131.04 | 120.90 |
| 12 | B | 243 | U | N3-C4-O4 | 6.34 | 123.83 | 119.40 |
| 12 | B | 280 | U | O4'-C1'-N1 | 6.34 | 113.27 | 108.20 |
| 12 | B | 359 | G | P-O3'-C3' | 6.34 | 127.30 | 119.70 |
| 12 | B | 904 | G | O3'-P-O5' | -6.34 | 91.96 | 104.00 |
| 12 | B | 1703 | G | N7-C8-N9 | -6.34 | 109.93 | 113.10 |
| 12 | B | 2040 | G | C4-C5-N7 | 6.34 | 113.33 | 110.80 |
| 12 | B | 2054 | A | C5-C6-N6 | -6.34 | 118.63 | 123.70 |
| 12 | B | 2208 | C | C6-N1-C1' | -6.34 | 113.19 | 120.80 |
| 12 | B | 2246 | G | N1-C2-N3 | -6.34 | 120.10 | 123.90 |
| 12 | B | 2271 | G | C4-C5-C6 | 6.34 | 122.60 | 118.80 |
| 12 | B | 2153 | C | C5-C6-N1 | 6.33 | 124.17 | 121.00 |
| 12 | B | 543 | G | C6-N1-C2 | 6.33 | 128.90 | 125.10 |
| 12 | B | 756 | A | N3-C4-C5 | -6.33 | 122.37 | 126.80 |
| 12 | B | 1069 | A | N7-C8-N9 | 6.33 | 116.97 | 113.80 |
| 12 | B | 1472 | C | C5-C4-N4 | -6.33 | 115.77 | 120.20 |
| 12 | B | 2725 | A | C5'-C4'-C3' | -6.33 | 105.86 | 116.00 |
| 1 | 0 | 2 | ARG | N-CA-C | -6.33 | 93.90 | 111.00 |
| 11 | A | 118 | C | C4-C5-C6 | 6.33 | 120.57 | 117.40 |
| 12 | B | 66 | C | N3-C4-N4 | 6.33 | 122.43 | 118.00 |
| 12 | B | 719 | C | N1-C2-N3 | -6.33 | 114.77 | 119.20 |
| 12 | B | 1334 | G | O4'-C1'-N9 | 6.33 | 113.27 | 108.20 |
| 12 | B | 1337 | G | P-O3'-C3' | -6.33 | 112.10 | 119.70 |
| 12 | B | 1488 | C | C6-N1-C2 | -6.33 | 117.77 | 120.30 |
| 12 | B | 2602 | A | C5-C6-N1 | -6.33 | 114.53 | 117.70 |
| 12 | B | 2714 | G | N7-C8-N9 | 6.33 | 116.27 | 113.10 |
| 12 | B | 2850 | A | C5-N7-C8 | 6.33 | 107.06 | 103.90 |
| 12 | B | 918 | A | C2-N3-C4 | -6.33 | 107.44 | 110.60 |
| 12 | B | 1056 | G | C4-C5-C6 | -6.33 | 115.00 | 118.80 |
| 12 | B | 1358 | G | C6-N1-C2 | 6.33 | 128.90 | 125.10 |
| 12 | B | 1487 | U | N1-C2-O2 | 6.33 | 127.23 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1496 | A | P-O3'-C3' | -6.33 | 112.10 | 119.70 |
| 12 | B | 1767 | G | C4-C5-C6 | 6.33 | 122.60 | 118.80 |
| 12 | B | 1922 | G | O4'-C1'-N9 | 6.33 | 113.26 | 108.20 |
| 12 | B | 2733 | A | C6-C5-N7 | -6.33 | 127.87 | 132.30 |
| 12 | B | 177 | G | C6-N1-C2 | 6.33 | 128.90 | 125.10 |
| 12 | B | 469 | G | C4-C5-C6 | 6.33 | 122.60 | 118.80 |
| 12 | B | 1009 | A | C6-C5-N7 | -6.33 | 127.87 | 132.30 |
| 12 | B | 2118 | U | O4'-C4'-C3' | 6.33 | 111.16 | 106.10 |
| 12 | B | 2869 | G | N1-C6-O6 | 6.33 | 123.70 | 119.90 |
| 11 | A | 35 | C | C4-C5-C6 | 6.33 | 120.56 | 117.40 |
| 12 | B | 533 | G | C6-N1-C2 | 6.33 | 128.90 | 125.10 |
| 12 | B | 1847 | A | C4-C5-C6 | 6.33 | 120.16 | 117.00 |
| 12 | B | 1918 | A | C6-N1-C2 | -6.33 | 114.80 | 118.60 |
| 12 | B | 2115 | G | N7-C8-N9 | -6.33 | 109.94 | 113.10 |
| 12 | B | 661 | A | N9-C4-C5 | -6.33 | 103.27 | 105.80 |
| 12 | B | 1328 | A | C6-C5-N7 | -6.33 | 127.87 | 132.30 |
| 12 | B | 1527 | G | P-O5'-C5' | 6.33 | 131.02 | 120.90 |
| 12 | B | 2104 | C | C3'-C2'-C1' | 6.33 | 106.56 | 101.50 |
| 12 | B | 2847 | U | N3-C4-C5 | -6.33 | 110.81 | 114.60 |
| 12 | B | 482 | A | OP1-P-OP2 | -6.32 | 110.12 | 119.60 |
| 12 | B | 650 | C | C5-C4-N4 | -6.32 | 115.77 | 120.20 |
| 12 | B | 744 | U | N3-C2-O2 | 6.32 | 126.63 | 122.20 |
| 12 | B | 1356 | G | C4-C5-C6 | 6.32 | 122.59 | 118.80 |
| 12 | B | 2100 | G | C4-C5-N7 | 6.32 | 113.33 | 110.80 |
| 12 | B | 2101 | A | O4'-C1'-N9 | 6.32 | 113.26 | 108.20 |
| 12 | B | 2464 | G | N1-C6-O6 | 6.32 | 123.69 | 119.90 |
| 15 | E | 184 | ASP | CB-CG-OD2 | -6.32 | 112.61 | 118.30 |
| 12 | B | 818 | G | N1-C6-O6 | 6.32 | 123.69 | 119.90 |
| 12 | B | 1596 | A | O4'-C1'-N9 | 6.32 | 113.26 | 108.20 |
| 12 | B | 2048 | G | P-O3'-C3' | 6.32 | 127.29 | 119.70 |
| 12 | B | 2059 | A | C5-C6-N1 | -6.32 | 114.54 | 117.70 |
| 10 | 9 | 63 | LYS | N-CA-CB | 6.32 | 121.98 | 110.60 |
| 12 | B | 1087 | G | C8-N9-C4 | 6.32 | 108.93 | 106.40 |
| 12 | B | 1243 | C | C6-N1-C2 | 6.32 | 122.83 | 120.30 |
| 12 | B | 1423 | G | O4'-C1'-N9 | 6.32 | 113.26 | 108.20 |
| 12 | B | 1485 | U | O4'-C1'-N1 | 6.32 | 113.26 | 108.20 |
| 12 | B | 1545 | A | N3-C4-N9 | -6.32 | 122.34 | 127.40 |
| 12 | B | 2455 | G | N7-C8-N9 | -6.32 | 109.94 | 113.10 |
| 12 | B | 2893 | A | C5-C6-N6 | -6.32 | 118.64 | 123.70 |
| 29 | S | 84 | ARG | NE-CZ-NH2 | -6.32 | 117.14 | 120.30 |
| 12 | B | 1302 | A | C1'-O4'-C4' | -6.32 | 104.84 | 109.90 |
| 12 | B | 1639 | C | N1-C2-N3 | -6.32 | 114.78 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2077 | A | P-O3'-C3' | 6.32 | 127.28 | 119.70 |
| 12 | B | 2525 | G | C4-C5-C6 | 6.32 | 122.59 | 118.80 |
| 32 | W | 8 | VAL | CG1-CB-CG2 | 6.32 | 121.01 | 110.90 |
| 11 | A | 56 | G | C2-N3-C4 | -6.32 | 108.74 | 111.90 |
| 12 | B | 383 | C | N3-C4-N4 | 6.32 | 122.42 | 118.00 |
| 12 | B | 614 | A | N1-C2-N3 | -6.32 | 126.14 | 129.30 |
| 12 | B | 788 | A | C5-C6-N1 | -6.32 | 114.54 | 117.70 |
| 12 | B | 1428 | C | O4'-C1'-N1 | 6.32 | 113.25 | 108.20 |
| 12 | B | 2170 | A | P-O3'-C3' | 6.32 | 127.28 | 119.70 |
| 12 | B | 2642 | G | C4'-C3'-C2' | -6.32 | 96.28 | 102.60 |
| 10 | 9 | 116 | LEU | N-CA-CB | 6.32 | 123.03 | 110.40 |
| 12 | B | 233 | A | C1'-O4'-C4' | -6.32 | 104.85 | 109.90 |
| 12 | B | 632 | A | O4'-C1'-N9 | 6.32 | 113.25 | 108.20 |
| 12 | B | 1935 | G | O4'-C1'-N9 | 6.32 | 113.25 | 108.20 |
| 12 | B | 2030 | A | C5-C6-N6 | -6.32 | 118.65 | 123.70 |
| 12 | B | 2218 | G | O4'-C1'-N9 | 6.32 | 113.25 | 108.20 |
| 12 | B | 2593 | U | N3-C2-O2 | 6.32 | 126.62 | 122.20 |
| 12 | B | 2854 | G | N3-C2-N2 | 6.32 | 124.32 | 119.90 |
| 12 | B | 1914 | C | O4'-C1'-N1 | 6.31 | 113.25 | 108.20 |
| 12 | B | 2141 | G | N1-C2-N3 | -6.31 | 120.11 | 123.90 |
| 12 | B | 2415 | G | C8-N9-C4 | 6.31 | 108.92 | 106.40 |
| 12 | B | 2693 | G | C3'-C2'-C1' | -6.31 | 96.45 | 101.50 |
| 12 | B | 2699 | C | N1-C2-O2 | -6.31 | 115.11 | 118.90 |
| 12 | B | 514 | A | C5-N7-C8 | 6.31 | 107.06 | 103.90 |
| 12 | B | 575 | A | P-O5'-C5' | 6.31 | 131.00 | 120.90 |
| 12 | B | 1547 | C | C5'-C4'-C3' | 6.31 | 126.10 | 116.00 |
| 12 | B | 1613 | G | C2-N3-C4 | -6.31 | 108.74 | 111.90 |
| 12 | B | 1944 | U | O4'-C1'-N1 | 6.31 | 113.25 | 108.20 |
| 12 | B | 2174 | C | C5-C4-N4 | -6.31 | 115.78 | 120.20 |
| 12 | B | 111 | A | C6-N1-C2 | -6.31 | 114.81 | 118.60 |
| 12 | B | 597 | G | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 12 | B | 911 | A | C5-C6-N6 | -6.31 | 118.65 | 123.70 |
| 12 | B | 1291 | C | P-O5'-C5' | -6.31 | 110.80 | 120.90 |
| 12 | B | 108 | G | C4-N9-C1' | -6.31 | 118.30 | 126.50 |
| 12 | B | 581 | C | N1-C2-O2 | -6.31 | 115.11 | 118.90 |
| 12 | B | 690 | G | C4-N9-C1' | -6.31 | 118.30 | 126.50 |
| 12 | B | 1003 | G | N3-C2-N2 | 6.31 | 124.32 | 119.90 |
| 12 | B | 1232 | G | C5-C6-O6 | -6.31 | 124.81 | 128.60 |
| 12 | B | 1269 | A | C4'-C3'-C2' | 6.31 | 108.91 | 102.60 |
| 12 | B | 1283 | G | C5-C6-O6 | -6.31 | 124.81 | 128.60 |
| 12 | B | 13 | A | C2-N3-C4 | -6.31 | 107.45 | 110.60 |
| 12 | B | 280 | U | N1-C2-N3 | 6.31 | 118.68 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1013 | C | C5-C4-N4 | -6.31 | 115.78 | 120.20 |
| 15 | E | 43 | THR | CA-CB-OG1 | 6.31 | 122.24 | 109.00 |
| 12 | B | 9 | G | C5-N7-C8 | 6.31 | 107.45 | 104.30 |
| 12 | B | 841 | G | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 12 | B | 1076 | C | C4'-C3'-C2' | -6.31 | 96.29 | 102.60 |
| 12 | B | 1509 | A | C6-C5-N7 | -6.31 | 127.89 | 132.30 |
| 12 | B | 1669 | A | N3-C4-N9 | 6.31 | 132.44 | 127.40 |
| 12 | B | 2732 | G | C8-N9-C4 | -6.31 | 103.88 | 106.40 |
| 11 | A | 28 | C | N3-C2-O2 | -6.30 | 117.49 | 121.90 |
| 11 | A | 47 | C | C4-C5-C6 | -6.30 | 114.25 | 117.40 |
| 12 | B | 391 | A | C5-C6-N6 | -6.30 | 118.66 | 123.70 |
| 12 | B | 2583 | G | C8-N9-C4 | -6.30 | 103.88 | 106.40 |
| 12 | B | 393 | C | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |
| 12 | B | 445 | C | C6-N1-C2 | 6.30 | 122.82 | 120.30 |
| 12 | B | 963 | U | P-O5'-C5' | 6.30 | 130.99 | 120.90 |
| 12 | B | 1576 | U | C5'-C4'-C3' | -6.30 | 105.92 | 116.00 |
| 12 | B | 2332 | C | C2-N3-C4 | 6.30 | 123.05 | 119.90 |
| 12 | B | 2384 | U | C5-C4-O4 | 6.30 | 129.68 | 125.90 |
| 12 | B | 2750 | A | C6-N1-C2 | 6.30 | 122.38 | 118.60 |
| 11 | A | 8 | C | C4'-C3'-C2' | -6.30 | 96.30 | 102.60 |
| 12 | B | 1581 | G | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 12 | B | 2278 | A | C5-N7-C8 | 6.30 | 107.05 | 103.90 |
| 12 | B | 2357 | G | C2-N3-C4 | 6.30 | 115.05 | 111.90 |
| 12 | B | 851 | C | C6-N1-C2 | -6.30 | 117.78 | 120.30 |
| 12 | B | 1398 | C | N3-C4-C5 | -6.30 | 119.38 | 121.90 |
| 12 | B | 1479 | G | C6-C5-N7 | -6.30 | 126.62 | 130.40 |
| 12 | B | 1587 | G | C5-C6-N1 | -6.30 | 108.35 | 111.50 |
| 12 | B | 1669 | A | N9-C4-C5 | -6.30 | 103.28 | 105.80 |
| 12 | B | 1875 | G | N1-C6-O6 | 6.30 | 123.68 | 119.90 |
| 12 | B | 2649 | C | C5-C4-N4 | -6.30 | 115.79 | 120.20 |
| 12 | B | 2697 | G | C4-N9-C1' | -6.30 | 118.31 | 126.50 |
| 12 | B | 2894 | G | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 27 | Q | 106 | THR | CA-CB-CG2 | -6.30 | 103.58 | 112.40 |
| 11 | A | 5 | U | C5-C6-N1 | -6.30 | 119.55 | 122.70 |
| 12 | B | 1877 | A | N7-C8-N9 | -6.30 | 110.65 | 113.80 |
| 12 | B | 151 | C | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |
| 12 | B | 195 | A | N9-C4-C5 | 6.30 | 108.32 | 105.80 |
| 12 | B | 909 | A | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 12 | B | 1159 | U | C5-C6-N1 | 6.30 | 125.85 | 122.70 |
| 12 | B | 1246 | A | C5-N7-C8 | 6.30 | 107.05 | 103.90 |
| 12 | B | 1373 | A | N1-C2-N3 | 6.30 | 132.45 | 129.30 |
| 12 | B | 1552 | A | N3-C4-N9 | 6.30 | 132.44 | 127.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1787 | A | C5-C6-N6 | -6.30 | 118.66 | 123.70 |
| 12 | B | 2845 | U | N3-C2-O2 | 6.30 | 126.61 | 122.20 |
| 12 | B | 752 | A | C6-N1-C2 | 6.29 | 122.38 | 118.60 |
| 12 | B | 871 | U | C3'-C2'-C1' | 6.29 | 106.54 | 101.50 |
| 12 | B | 1174 | U | C2-N1-C1' | 6.29 | 125.25 | 117.70 |
| 12 | B | 1266 | G | N7-C8-N9 | -6.29 | 109.95 | 113.10 |
| 12 | B | 304 | U | O4'-C1'-N1 | 6.29 | 113.23 | 108.20 |
| 12 | B | 489 | G | C2-N3-C4 | 6.29 | 115.05 | 111.90 |
| 12 | B | 1339 | G | N1-C2-N3 | -6.29 | 120.12 | 123.90 |
| 12 | B | 1885 | A | N3-C4-C5 | -6.29 | 122.39 | 126.80 |
| 12 | B | 2013 | A | N1-C6-N6 | 6.29 | 122.38 | 118.60 |
| 12 | B | 91 | A | C5-N7-C8 | 6.29 | 107.05 | 103.90 |
| 12 | B | 94 | A | N3-C4-C5 | -6.29 | 122.40 | 126.80 |
| 12 | B | 323 | C | C4-C5-C6 | 6.29 | 120.55 | 117.40 |
| 12 | B | 557 | C | C6-N1-C2 | -6.29 | 117.78 | 120.30 |
| 12 | B | 1717 | A | C6-C5-N7 | -6.29 | 127.90 | 132.30 |
| 12 | B | 1731 | G | C8-N9-C4 | -6.29 | 103.88 | 106.40 |
| 12 | B | 1757 | A | C2-N3-C4 | -6.29 | 107.45 | 110.60 |
| 12 | B | 2144 | G | N1-C2-N3 | -6.29 | 120.12 | 123.90 |
| 12 | B | 2145 | C | P-O5'-C5' | 6.29 | 130.97 | 120.90 |
| 12 | B | 2444 | G | N7-C8-N9 | 6.29 | 116.25 | 113.10 |
| 12 | B | 2635 | A | C5-C6-N1 | -6.29 | 114.56 | 117.70 |
| 12 | B | 985 | C | N3-C4-N4 | 6.29 | 122.40 | 118.00 |
| 12 | B | 1696 | G | P-O3'-C3' | -6.29 | 112.15 | 119.70 |
| 12 | B | 2811 | G | C5'-C4'-C3' | -6.29 | 105.94 | 116.00 |
| 17 | G | 163 | TYR | CG-CD2-CE2 | -6.29 | 116.27 | 121.30 |
| 12 | B | 669 | G | O4'-C1'-N9 | 6.29 | 113.23 | 108.20 |
| 12 | B | 738 | G | N1-C2-N3 | -6.29 | 120.13 | 123.90 |
| 12 | B | 829 | A | C5-C6-N1 | -6.29 | 114.56 | 117.70 |
| 12 | B | 981 | A | C5-C6-N1 | -6.29 | 114.56 | 117.70 |
| 12 | B | 1008 | A | C6-C5-N7 | 6.29 | 136.70 | 132.30 |
| 12 | B | 1166 | G | C5-N7-C8 | -6.29 | 101.16 | 104.30 |
| 12 | B | 1333 | G | N9-C4-C5 | -6.29 | 102.89 | 105.40 |
| 12 | B | 1792 | G | N1-C2-N3 | -6.29 | 120.13 | 123.90 |
| 12 | B | 2603 | G | N9-C1'-C2' | -6.29 | 105.08 | 112.00 |
| 30 | T | 77 | ARG | NE-CZ-NH1 | -6.29 | 117.16 | 120.30 |
| 12 | B | 1300 | G | C1'-O4'-C4' | -6.29 | 104.87 | 109.90 |
| 1 | 0 | 70 | LEU | CB-CG-CD1 | 6.29 | 121.68 | 111.00 |
| 12 | B | 512 | G | C1'-O4'-C4' | -6.29 | 104.87 | 109.90 |
| 12 | B | 518 | G | C5'-C4'-C3' | -6.29 | 105.94 | 116.00 |
| 12 | B | 685 | A | C5-C6-N6 | -6.29 | 118.67 | 123.70 |
| 12 | B | 693 | A | C2-N3-C4 | -6.29 | 107.46 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1347 | A | C5-N7-C8 | 6.29 | 107.04 | 103.90 |
| 12 | B | 1401 | G | C6-N1-C2 | -6.29 | 121.33 | 125.10 |
| 12 | B | 1628 | G | C4-C5-N7 | 6.29 | 113.31 | 110.80 |
| 12 | B | 1846 | G | C4-C5-N7 | -6.29 | 108.29 | 110.80 |
| 12 | B | 2104 | C | P-O5'-C5' | 6.29 | 130.96 | 120.90 |
| 12 | B | 2287 | A | N9-C4-C5 | -6.29 | 103.29 | 105.80 |
| 12 | B | 2697 | G | C8-N9-C1' | 6.29 | 135.17 | 127.00 |
| 12 | B | 2698 | U | C2-N3-C4 | -6.29 | 123.23 | 127.00 |
| 12 | B | 99 | U | O4'-C1'-N1 | 6.28 | 113.23 | 108.20 |
| 12 | B | 941 | A | N9-C4-C5 | 6.28 | 108.31 | 105.80 |
| 12 | B | 1185 | G | C5-C6-O6 | -6.28 | 124.83 | 128.60 |
| 12 | B | 1288 | G | C5-C6-N1 | -6.28 | 108.36 | 111.50 |
| 12 | B | 1608 | A | C4-C5-N7 | 6.28 | 113.84 | 110.70 |
| 12 | B | 1811 | G | O4'-C1'-N9 | 6.28 | 113.23 | 108.20 |
| 12 | B | 1831 | G | N1-C6-O6 | 6.28 | 123.67 | 119.90 |
| 12 | B | 2282 | G | C5-N7-C8 | 6.28 | 107.44 | 104.30 |
| 12 | B | 1626 | A | C4-C5-C6 | 6.28 | 120.14 | 117.00 |
| 12 | B | 1730 | C | C4'-C3'-C2' | 6.28 | 108.88 | 102.60 |
| 12 | B | 2039 | U | C5-C4-O4 | -6.28 | 122.13 | 125.90 |
| 12 | B | 2845 | U | N1-C2-O2 | -6.28 | 118.40 | 122.80 |
| 12 | B | 2872 | A | N3-C4-C5 | -6.28 | 122.40 | 126.80 |
| 12 | B | 909 | A | N3-C4-C5 | -6.28 | 122.40 | 126.80 |
| 12 | B | 1014 | A | C6-N1-C2 | 6.28 | 122.37 | 118.60 |
| 12 | B | 2299 | U | N3-C4-C5 | -6.28 | 110.83 | 114.60 |
| 12 | B | 2542 | A | C6-N1-C2 | -6.28 | 114.83 | 118.60 |
| 12 | B | 2834 | G | C8-N9-C4 | -6.28 | 103.89 | 106.40 |
| 12 | B | 512 | G | C4'-C3'-C2' | -6.28 | 96.32 | 102.60 |
| 12 | B | 1131 | G | C6-C5-N7 | -6.28 | 126.63 | 130.40 |
| 12 | B | 2039 | U | N1-C2-O2 | -6.28 | 118.41 | 122.80 |
| 12 | B | 2105 | U | C2-N3-C4 | -6.28 | 123.23 | 127.00 |
| 12 | B | 2589 | A | C4-C5-N7 | -6.28 | 107.56 | 110.70 |
| 11 | A | 26 | C | C2-N1-C1' | 6.28 | 125.70 | 118.80 |
| 11 | A | 27 | C | C2-N3-C4 | 6.28 | 123.04 | 119.90 |
| 12 | B | 398 | C | O4'-C1'-N1 | 6.28 | 113.22 | 108.20 |
| 12 | B | 779 | U | N3-C4-O4 | 6.28 | 123.79 | 119.40 |
| 12 | B | 793 | A | C4-C5-N7 | -6.28 | 107.56 | 110.70 |
| 12 | B | 921 | C | N3-C4-C5 | -6.28 | 119.39 | 121.90 |
| 12 | B | 975 | A | C8-N9-C4 | -6.28 | 103.29 | 105.80 |
| 12 | B | 1250 | G | C6-C5-N7 | -6.28 | 126.63 | 130.40 |
| 12 | B | 2686 | G | O4'-C1'-N9 | 6.28 | 113.22 | 108.20 |
| 12 | B | 2738 | A | C8-N9-C4 | -6.28 | 103.29 | 105.80 |
| 12 | B | 2785 | C | N3-C2-O2 | -6.28 | 117.50 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 63 | C | C6-N1-C2 | -6.28 | 117.79 | 120.30 |
| 12 | B | 603 | A | C5-N7-C8 | 6.28 | 107.04 | 103.90 |
| 12 | B | 647 | G | N1-C2-N3 | -6.28 | 120.13 | 123.90 |
| 12 | B | 841 | G | N1-C2-N3 | -6.28 | 120.13 | 123.90 |
| 12 | B | 1492 | G | O4'-C4'-C3' | -6.28 | 97.72 | 104.00 |
| 12 | B | 1835 | G | C2-N3-C4 | 6.28 | 115.04 | 111.90 |
| 12 | B | 2577 | A | C4-C5-C6 | 6.28 | 120.14 | 117.00 |
| 12 | B | 172 | A | C5-C6-N6 | -6.27 | 118.68 | 123.70 |
| 12 | B | 179 | C | N3-C4-N4 | 6.27 | 122.39 | 118.00 |
| 12 | B | 271 | G | N9-C4-C5 | -6.27 | 102.89 | 105.40 |
| 12 | B | 907 | G | C5-C6-N1 | -6.27 | 108.36 | 111.50 |
| 12 | B | 1938 | A | N1-C2-N3 | 6.27 | 132.44 | 129.30 |
| 12 | B | 2378 | A | C2-N3-C4 | 6.27 | 113.74 | 110.60 |
| 12 | B | 1878 | G | C4'-C3'-C2' | -6.27 | 96.33 | 102.60 |
| 12 | B | 2525 | G | N1-C6-O6 | 6.27 | 123.66 | 119.90 |
| 11 | A | 53 | A | C6-N1-C2 | -6.27 | 114.84 | 118.60 |
| 12 | B | 496 | G | N3-C2-N2 | -6.27 | 115.51 | 119.90 |
| 12 | B | 1133 | A | C5-N7-C8 | 6.27 | 107.03 | 103.90 |
| 12 | B | 1759 | A | C4-C5-N7 | -6.27 | 107.56 | 110.70 |
| 12 | B | 1856 | U | C5-C6-N1 | 6.27 | 125.84 | 122.70 |
| 12 | B | 1903 | G | C8-N9-C4 | -6.27 | 103.89 | 106.40 |
| 12 | B | 2554 | U | C5-C6-N1 | 6.27 | 125.83 | 122.70 |
| 19 | I | 120 | ASP | CB-CG-OD1 | -6.27 | 112.66 | 118.30 |
| 12 | B | 374 | A | C4-C5-C6 | 6.27 | 120.14 | 117.00 |
| 12 | B | 572 | A | N1-C6-N6 | 6.27 | 122.36 | 118.60 |
| 12 | B | 1290 | C | N1-C2-O2 | -6.27 | 115.14 | 118.90 |
| 12 | B | 1980 | G | C5-C6-O6 | -6.27 | 124.84 | 128.60 |
| 12 | B | 2443 | C | N3-C4-C5 | -6.27 | 119.39 | 121.90 |
| 12 | B | 2488 | G | N3-C4-C5 | -6.27 | 125.47 | 128.60 |
| 12 | B | 2616 | C | N1-C2-N3 | -6.27 | 114.81 | 119.20 |
| 12 | B | 15 | G | O4'-C1'-N9 | 6.27 | 113.21 | 108.20 |
| 12 | B | 325 | G | N7-C8-N9 | -6.27 | 109.97 | 113.10 |
| 12 | B | 349 | U | N3-C4-O4 | 6.27 | 123.79 | 119.40 |
| 12 | B | 744 | U | N1-C2-N3 | -6.27 | 111.14 | 114.90 |
| 12 | B | 1080 | A | N3-C4-C5 | -6.27 | 122.41 | 126.80 |
| 12 | B | 1157 | G | N1-C2-N3 | -6.27 | 120.14 | 123.90 |
| 12 | B | 1204 | A | C5-C6-N1 | -6.27 | 114.57 | 117.70 |
| 12 | B | 1617 | C | C6-N1-C1' | -6.27 | 113.28 | 120.80 |
| 12 | B | 2114 | A | C4-C5-N7 | -6.27 | 107.57 | 110.70 |
| 12 | B | 2828 | G | C6-C5-N7 | -6.27 | 126.64 | 130.40 |
| 12 | B | 354 | A | C4-C5-C6 | 6.27 | 120.13 | 117.00 |
| 12 | B | 932 | U | C3'-C2'-C1' | 6.27 | 106.51 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 95 | U | N3-C4-O4 | 6.26 | 123.79 | 119.40 |
| 12 | B | 353 | C | C4-C5-C6 | -6.26 | 114.27 | 117.40 |
| 12 | B | 434 | U | N3-C4-C5 | -6.26 | 110.84 | 114.60 |
| 12 | B | 1008 | A | C4-C5-N7 | -6.26 | 107.57 | 110.70 |
| 12 | B | 1255 | U | O4'-C1'-N1 | 6.26 | 113.21 | 108.20 |
| 12 | B | 1361 | G | C6-N1-C2 | 6.26 | 128.86 | 125.10 |
| 12 | B | 1551 | A | P-O5'-C5' | -6.26 | 110.88 | 120.90 |
| 12 | B | 2152 | G | C5-C6-O6 | 6.26 | 132.36 | 128.60 |
| 12 | B | 2378 | A | N1-C2-N3 | -6.26 | 126.17 | 129.30 |
| 2 | 1 | 48 | ARG | NE-CZ-NH2 | -6.26 | 117.17 | 120.30 |
| 12 | B | 2623 | G | C2-N3-C4 | 6.26 | 115.03 | 111.90 |
| 11 | A | 62 | C | N1-C2-O2 | -6.26 | 115.14 | 118.90 |
| 12 | B | 39 | G | C1'-O4'-C4' | 6.26 | 114.91 | 109.90 |
| 12 | B | 412 | A | C6-C5-N7 | -6.26 | 127.92 | 132.30 |
| 12 | B | 1347 | A | C8-N9-C4 | -6.26 | 103.30 | 105.80 |
| 12 | B | 1524 | G | N1-C2-N2 | -6.26 | 110.56 | 116.20 |
| 12 | B | 1854 | A | C5-C6-N6 | -6.26 | 118.69 | 123.70 |
| 12 | B | 1998 | A | O4'-C1'-N9 | 6.26 | 113.21 | 108.20 |
| 12 | B | 2136 | G | C6-C5-N7 | -6.26 | 126.64 | 130.40 |
| 12 | B | 2517 | C | N3-C4-C5 | -6.26 | 119.40 | 121.90 |
| 12 | B | 332 | A | C8-N9-C4 | -6.26 | 103.30 | 105.80 |
| 12 | B | 733 | G | N1-C2-N2 | -6.26 | 110.57 | 116.20 |
| 12 | B | 1493 | C | C2-N3-C4 | 6.26 | 123.03 | 119.90 |
| 12 | B | 1802 | A | C4-C5-N7 | -6.26 | 107.57 | 110.70 |
| 12 | B | 2285 | C | N1-C2-O2 | -6.26 | 115.14 | 118.90 |
| 12 | B | 2302 | U | O4'-C1'-N1 | 6.26 | 113.21 | 108.20 |
| 12 | B | 2371 | G | C2-N3-C4 | 6.26 | 115.03 | 111.90 |
| 12 | B | 2688 | G | O4'-C1'-N9 | 6.26 | 113.21 | 108.20 |
| 12 | B | 2853 | C | N3-C4-C5 | -6.26 | 119.40 | 121.90 |
| 12 | B | 862 | G | O4'-C1'-N9 | 6.26 | 113.21 | 108.20 |
| 12 | B | 1464 | G | C6-N1-C2 | -6.26 | 121.34 | 125.10 |
| 12 | B | 1702 | G | N9-C4-C5 | -6.26 | 102.90 | 105.40 |
| 12 | B | 2335 | A | N7-C8-N9 | -6.26 | 110.67 | 113.80 |
| 12 | B | 2817 | U | C2-N3-C4 | -6.26 | 123.25 | 127.00 |
| 12 | B | 875 | G | C4-C5-N7 | -6.26 | 108.30 | 110.80 |
| 12 | B | 888 | C | N3-C2-O2 | 6.26 | 126.28 | 121.90 |
| 12 | B | 1580 | A | C4'-C3'-C2' | -6.26 | 96.34 | 102.60 |
| 12 | B | 1966 | A | C2-N3-C4 | 6.26 | 113.73 | 110.60 |
| 12 | B | 2238 | G | C5-C6-O6 | -6.26 | 124.85 | 128.60 |
| 12 | B | 2434 | A | C4-C5-N7 | -6.26 | 107.57 | 110.70 |
| 12 | B | 2609 | U | P-O3'-C3' | 6.26 | 127.21 | 119.70 |
| 12 | B | 2829 | A | C5-C6-N6 | -6.26 | 118.69 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 129 | C | N3-C4-N4 | 6.25 | 122.38 | 118.00 |
| 12 | B | 774 | G | C1'-O4'-C4' | 6.25 | 114.90 | 109.90 |
| 12 | B | 1102 | C | C4-C5-C6 | 6.25 | 120.53 | 117.40 |
| 12 | B | 1476 | U | P-O3'-C3' | 6.25 | 127.21 | 119.70 |
| 12 | B | 1660 | G | P-O3'-C3' | -6.25 | 112.19 | 119.70 |
| 12 | B | 656 | G | C4-C5-N7 | -6.25 | 108.30 | 110.80 |
| 12 | B | 1193 | G | N9-C4-C5 | -6.25 | 102.90 | 105.40 |
| 12 | B | 1396 | U | N3-C4-O4 | 6.25 | 123.78 | 119.40 |
| 12 | B | 1831 | G | C5-N7-C8 | -6.25 | 101.17 | 104.30 |
| 12 | B | 2101 | A | C5-N7-C8 | 6.25 | 107.03 | 103.90 |
| 12 | B | 2355 | G | N3-C2-N2 | 6.25 | 124.28 | 119.90 |
| 12 | B | 2560 | A | C6-C5-N7 | -6.25 | 127.92 | 132.30 |
| 12 | B | 2669 | G | N1-C2-N3 | -6.25 | 120.15 | 123.90 |
| 11 | A | 21 | G | C6-N1-C2 | 6.25 | 128.85 | 125.10 |
| 12 | B | 27 | G | N1-C2-N3 | -6.25 | 120.15 | 123.90 |
| 12 | B | 707 | G | C4-C5-N7 | 6.25 | 113.30 | 110.80 |
| 12 | B | 1097 | U | C3'-C2'-C1' | -6.25 | 96.50 | 101.50 |
| 12 | B | 1739 | A | C4-C5-C6 | 6.25 | 120.13 | 117.00 |
| 12 | B | 1846 | G | C5-C6-O6 | -6.25 | 124.85 | 128.60 |
| 12 | B | 2609 | U | C5-C4-O4 | -6.25 | 122.15 | 125.90 |
| 12 | B | 1877 | A | C5-C6-N1 | -6.25 | 114.58 | 117.70 |
| 12 | B | 2688 | G | C5-N7-C8 | 6.25 | 107.42 | 104.30 |
| 12 | B | 819 | A | C3'-C2'-C1' | 6.25 | 106.50 | 101.50 |
| 12 | B | 1593 | A | O4'-C1'-N9 | 6.25 | 113.20 | 108.20 |
| 12 | B | 2465 | C | O4'-C1'-C2' | -6.25 | 99.55 | 105.80 |
| 12 | B | 2503 | A | N7-C8-N9 | 6.25 | 116.92 | 113.80 |
| 13 | C | 265 | PHE | CB-CG-CD1 | 6.25 | 125.17 | 120.80 |
| 12 | B | 13 | A | C6-C5-N7 | -6.25 | 127.93 | 132.30 |
| 12 | B | 160 | A | C4-C5-C6 | 6.25 | 120.12 | 117.00 |
| 12 | B | 267 | C | N3-C4-C5 | -6.25 | 119.40 | 121.90 |
| 12 | B | 554 | U | C1'-O4'-C4' | 6.25 | 114.90 | 109.90 |
| 12 | B | 594 | U | P-O5'-C5' | 6.25 | 130.90 | 120.90 |
| 12 | B | 802 | A | C6-N1-C2 | 6.25 | 122.35 | 118.60 |
| 12 | B | 1144 | A | N3-C4-N9 | 6.25 | 132.40 | 127.40 |
| 12 | B | 1179 | G | C5-N7-C8 | 6.25 | 107.42 | 104.30 |
| 12 | B | 1853 | A | C1'-O4'-C4' | -6.25 | 104.90 | 109.90 |
| 12 | B | 1873 | G | N1-C6-O6 | 6.25 | 123.65 | 119.90 |
| 12 | B | 2162 | G | N1-C2-N3 | -6.25 | 120.15 | 123.90 |
| 12 | B | 2242 | G | N1-C2-N2 | 6.25 | 121.82 | 116.20 |
| 12 | B | 264 | C | C5-C4-N4 | -6.25 | 115.83 | 120.20 |
| 12 | B | 999 | U | C1'-O4'-C4' | 6.25 | 114.90 | 109.90 |
| 12 | B | 511 | U | P-O5'-C5' | 6.24 | 130.89 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 866 | A | C8-N9-C4 | -6.24 | 103.30 | 105.80 |
| 12 | B | 904 | G | O4'-C1'-N9 | 6.24 | 113.19 | 108.20 |
| 12 | B | 962 | G | N1-C2-N3 | -6.24 | 120.15 | 123.90 |
| 12 | B | 1197 | G | P-O5'-C5' | -6.24 | 110.91 | 120.90 |
| 12 | B | 1247 | A | C3'-C2'-C1' | -6.24 | 96.51 | 101.50 |
| 12 | B | 1757 | A | P-O5'-C5' | 6.24 | 130.89 | 120.90 |
| 12 | B | 2136 | G | C4-C5-C6 | 6.24 | 122.55 | 118.80 |
| 12 | B | 2365 | G | N7-C8-N9 | -6.24 | 109.98 | 113.10 |
| 12 | B | 2422 | C | N3-C4-C5 | -6.24 | 119.40 | 121.90 |
| 12 | B | 126 | A | N1-C2-N3 | 6.24 | 132.42 | 129.30 |
| 12 | B | 442 | G | C4-C5-N7 | -6.24 | 108.30 | 110.80 |
| 12 | B | 752 | A | C4-C5-C6 | 6.24 | 120.12 | 117.00 |
| 12 | B | 1810 | A | C4-C5-C6 | 6.24 | 120.12 | 117.00 |
| 12 | B | 1833 | C | N3-C4-N4 | 6.24 | 122.37 | 118.00 |
| 10 | 9 | 157 | MET | N-CA-CB | 6.24 | 121.83 | 110.60 |
| 12 | B | 121 | G | C8-N9-C4 | -6.24 | 103.90 | 106.40 |
| 12 | B | 990 | A | C8-N9-C4 | -6.24 | 103.30 | 105.80 |
| 12 | B | 1218 | G | N3-C2-N2 | 6.24 | 124.27 | 119.90 |
| 12 | B | 1278 | C | C5'-C4'-O4' | 6.24 | 116.59 | 109.10 |
| 12 | B | 1686 | C | N3-C4-C5 | -6.24 | 119.40 | 121.90 |
| 12 | B | 2762 | C | O4'-C1'-N1 | 6.24 | 113.19 | 108.20 |
| 12 | B | 2888 | C | O4'-C1'-N1 | 6.24 | 113.19 | 108.20 |
| 12 | B | 444 | C | C5-C6-N1 | -6.24 | 117.88 | 121.00 |
| 12 | B | 537 | G | C5-C6-N1 | -6.24 | 108.38 | 111.50 |
| 12 | B | 974 | G | C5'-C4'-O4' | 6.24 | 116.59 | 109.10 |
| 12 | B | 1676 | A | N7-C8-N9 | -6.24 | 110.68 | 113.80 |
| 12 | B | 1875 | G | N1-C2-N3 | -6.24 | 120.16 | 123.90 |
| 12 | B | 1973 | G | C8-N9-C4 | -6.24 | 103.90 | 106.40 |
| 12 | B | 2080 | A | N9-C4-C5 | 6.24 | 108.30 | 105.80 |
| 12 | B | 2826 | A | C6-C5-N7 | -6.24 | 127.93 | 132.30 |
| 11 | A | 112 | G | N3-C2-N2 | 6.24 | 124.27 | 119.90 |
| 12 | B | 279 | A | C5-C6-N1 | -6.24 | 114.58 | 117.70 |
| 12 | B | 2028 | U | N1-C2-O2 | 6.24 | 127.17 | 122.80 |
| 12 | B | 2715 | C | C2-N1-C1' | 6.24 | 125.66 | 118.80 |
| 10 | 9 | 198 | LEU | O-C-N | -6.24 | 112.60 | 123.20 |
| 11 | A | 117 | G | N3-C2-N2 | 6.24 | 124.27 | 119.90 |
| 12 | B | 479 | A | N1-C2-N3 | -6.24 | 126.18 | 129.30 |
| 12 | B | 654 | A | C5-N7-C8 | 6.24 | 107.02 | 103.90 |
| 12 | B | 668 | A | C6-N1-C2 | 6.24 | 122.34 | 118.60 |
| 12 | B | 928 | A | C6-C5-N7 | -6.24 | 127.94 | 132.30 |
| 12 | B | 1136 | G | C4-C5-C6 | 6.24 | 122.54 | 118.80 |
| 12 | B | 1393 | A | C6-N1-C2 | 6.24 | 122.34 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2170 | A | N7-C8-N9 | 6.24 | 116.92 | 113.80 |
| 12 | B | 2357 | G | N1-C6-O6 | 6.24 | 123.64 | 119.90 |
| 12 | B | 2447 | G | N3-C2-N2 | 6.24 | 124.27 | 119.90 |
| 12 | B | 2890 | G | N1-C2-N2 | -6.24 | 110.59 | 116.20 |
| 1 | 0 | 66 | VAL | CA-CB-CG2 | -6.23 | 101.55 | 110.90 |
| 11 | A | 21 | G | N9-C1'-C2' | -6.23 | 105.14 | 112.00 |
| 12 | B | 705 | A | N3-C4-C5 | -6.23 | 122.44 | 126.80 |
| 12 | B | 1400 | U | C5-C6-N1 | -6.23 | 119.58 | 122.70 |
| 12 | B | 1492 | G | P-O3'-C3' | -6.23 | 112.22 | 119.70 |
| 12 | B | 1572 | A | N3-C4-C5 | -6.23 | 122.44 | 126.80 |
| 12 | B | 1655 | A | O4'-C1'-N9 | 6.23 | 113.19 | 108.20 |
| 12 | B | 2355 | G | C6-N1-C2 | 6.23 | 128.84 | 125.10 |
| 12 | B | 2403 | C | C4-C5-C6 | 6.23 | 120.52 | 117.40 |
| 12 | B | 2839 | G | C2-N3-C4 | 6.23 | 115.02 | 111.90 |
| 12 | B | 240 | C | N3-C4-N4 | 6.23 | 122.36 | 118.00 |
| 12 | B | 489 | G | C4-N9-C1' | 6.23 | 134.60 | 126.50 |
| 12 | B | 594 | U | C5-C6-N1 | 6.23 | 125.82 | 122.70 |
| 12 | B | 641 | U | N1-C2-N3 | -6.23 | 111.16 | 114.90 |
| 12 | B | 721 | A | C5-C6-N6 | -6.23 | 118.71 | 123.70 |
| 12 | B | 1184 | U | N3-C4-O4 | 6.23 | 123.76 | 119.40 |
| 12 | B | 1206 | G | O3'-P-O5' | -6.23 | 92.16 | 104.00 |
| 12 | B | 1461 | C | C5-C6-N1 | 6.23 | 124.12 | 121.00 |
| 12 | B | 1502 | A | C8-N9-C4 | -6.23 | 103.31 | 105.80 |
| 12 | B | 1541 | C | C1'-O4'-C4' | -6.23 | 104.92 | 109.90 |
| 12 | B | 1690 | A | C2-N3-C4 | -6.23 | 107.48 | 110.60 |
| 12 | B | 2843 | G | C5-N7-C8 | 6.23 | 107.42 | 104.30 |
| 12 | B | 2890 | G | C5-C6-O6 | -6.23 | 124.86 | 128.60 |
| 12 | B | 2890 | G | C5-N7-C8 | 6.23 | 107.42 | 104.30 |
| 12 | B | 164 | C | C5-C6-N1 | 6.23 | 124.11 | 121.00 |
| 12 | B | 518 | G | C5-C6-O6 | -6.23 | 124.86 | 128.60 |
| 12 | B | 576 | U | C6-N1-C2 | -6.23 | 117.26 | 121.00 |
| 12 | B | 878 | A | O4'-C1'-N9 | 6.23 | 113.18 | 108.20 |
| 12 | B | 1937 | A | N1-C2-N3 | 6.23 | 132.41 | 129.30 |
| 12 | B | 2050 | C | C5-C4-N4 | -6.23 | 115.84 | 120.20 |
| 16 | F | 127 | TYR | CB-CG-CD1 | -6.23 | 117.26 | 121.00 |
| 12 | B | 681 | G | C2-N3-C4 | -6.23 | 108.79 | 111.90 |
| 12 | B | 1392 | A | C6-N1-C2 | 6.23 | 122.34 | 118.60 |
| 12 | B | 1928 | A | C4-C5-C6 | 6.23 | 120.11 | 117.00 |
| 12 | B | 2436 | G | O4'-C1'-N9 | 6.23 | 113.18 | 108.20 |
| 12 | B | 178 | G | P-O5'-C5' | 6.23 | 130.86 | 120.90 |
| 12 | B | 734 | A | C6-N1-C2 | 6.23 | 122.34 | 118.60 |
| 12 | B | 824 | U | N3-C4-C5 | -6.23 | 110.86 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1422 | G | P-O3'-C3' | -6.23 | 112.23 | 119.70 |
| 12 | B | 1871 | A | C5-C6-N6 | -6.23 | 118.72 | 123.70 |
| 12 | B | 2005 | A | C5-C6-N6 | -6.23 | 118.72 | 123.70 |
| 12 | B | 2064 | C | N3-C4-N4 | 6.23 | 122.36 | 118.00 |
| 12 | B | 2366 | A | C4-C5-C6 | 6.23 | 120.11 | 117.00 |
| 12 | B | 2643 | G | P-O3'-C3' | -6.23 | 112.23 | 119.70 |
| 12 | B | 435 | C | C4-C5-C6 | -6.23 | 114.29 | 117.40 |
| 12 | B | 621 | A | C4'-C3'-C2' | -6.23 | 96.37 | 102.60 |
| 12 | B | 1370 | C | N3-C2-O2 | -6.23 | 117.54 | 121.90 |
| 12 | B | 1471 | G | N9-C4-C5 | -6.23 | 102.91 | 105.40 |
| 12 | B | 1530 | G | N3-C2-N2 | 6.23 | 124.26 | 119.90 |
| 24 | N | 96 | ARG | NE-CZ-NH2 | -6.23 | 117.19 | 120.30 |
| 12 | B | 374 | A | C5-C6-N1 | -6.22 | 114.59 | 117.70 |
| 12 | B | 894 | U | P-O5'-C5' | 6.22 | 130.86 | 120.90 |
| 12 | B | 1578 | U | C6-N1-C1' | -6.22 | 112.49 | 121.20 |
| 30 | T | 6 | ARG | NE-CZ-NH1 | 6.22 | 123.41 | 120.30 |
| 12 | B | 641 | U | O4'-C1'-N1 | 6.22 | 113.18 | 108.20 |
| 12 | B | 686 | U | O4'-C4'-C3' | -6.22 | 97.78 | 104.00 |
| 12 | B | 918 | A | N1-C2-N3 | 6.22 | 132.41 | 129.30 |
| 12 | B | 1479 | G | C5-C6-O6 | -6.22 | 124.87 | 128.60 |
| 12 | B | 1553 | A | N1-C6-N6 | 6.22 | 122.33 | 118.60 |
| 12 | B | 1986 | C | C5-C6-N1 | 6.22 | 124.11 | 121.00 |
| 12 | B | 267 | C | P-O3'-C3' | 6.22 | 127.17 | 119.70 |
| 12 | B | 1316 | U | C2-N3-C4 | 6.22 | 130.73 | 127.00 |
| 12 | B | 251 | A | O4'-C1'-N9 | 6.22 | 113.17 | 108.20 |
| 12 | B | 993 | G | N9-C4-C5 | -6.22 | 102.91 | 105.40 |
| 12 | B | 1627 | G | O4'-C1'-N9 | 6.22 | 113.18 | 108.20 |
| 12 | B | 1678 | A | N1-C2-N3 | 6.22 | 132.41 | 129.30 |
| 12 | B | 1745 | A | O5'-C5'-C4' | -6.22 | 99.88 | 111.70 |
| 12 | B | 2500 | U | C4-C5-C6 | -6.22 | 115.97 | 119.70 |
| 12 | B | 2679 | A | N7-C8-N9 | -6.22 | 110.69 | 113.80 |
| 12 | B | 2814 | A | C4-C5-N7 | -6.22 | 107.59 | 110.70 |
| 18 | H | 132 | PHE | CB-CG-CD1 | -6.22 | 116.45 | 120.80 |
| 11 | A | 109 | A | C4-C5-C6 | 6.22 | 120.11 | 117.00 |
| 12 | B | 64 | A | O4'-C1'-N9 | 6.22 | 113.17 | 108.20 |
| 12 | B | 975 | A | C5-C6-N1 | -6.22 | 114.59 | 117.70 |
| 12 | B | 1475 | G | C6-C5-N7 | -6.22 | 126.67 | 130.40 |
| 12 | B | 1503 | A | N1-C6-N6 | 6.22 | 122.33 | 118.60 |
| 12 | B | 2054 | A | N3-C4-C5 | -6.22 | 122.45 | 126.80 |
| 12 | B | 2184 | A | C3'-C2'-C1' | -6.22 | 96.53 | 101.50 |
| 12 | B | 2341 | G | C5-C6-N1 | -6.22 | 108.39 | 111.50 |
| 12 | B | 2883 | A | C4-C5-N7 | -6.22 | 107.59 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | 0 | 17 | ARG | NE-CZ-NH2 | 6.21 | 123.41 | 120.30 |
| 12 | B | 538 | A | O4'-C1'-N9 | 6.21 | 113.17 | 108.20 |
| 12 | B | 542 | C | N3-C4-C5 | 6.21 | 124.39 | 121.90 |
| 12 | B | 764 | A | C2-N3-C4 | 6.21 | 113.71 | 110.60 |
| 12 | B | 855 | G | P-O3'-C3' | -6.21 | 112.24 | 119.70 |
| 12 | B | 1581 | G | C8-N9-C4 | -6.21 | 103.92 | 106.40 |
| 12 | B | 1652 | A | N3-C4-C5 | -6.21 | 122.45 | 126.80 |
| 12 | B | 75 | G | C8-N9-C4 | -6.21 | 103.92 | 106.40 |
| 12 | B | 107 | G | C4'-C3'-C2' | -6.21 | 96.39 | 102.60 |
| 12 | B | 394 | C | N3-C4-N4 | 6.21 | 122.35 | 118.00 |
| 12 | B | 977 | G | C3'-C2'-C1' | -6.21 | 96.53 | 101.50 |
| 12 | B | 1679 | A | C4'-C3'-C2' | -6.21 | 96.39 | 102.60 |
| 12 | B | 1845 | G | C5-C6-N1 | -6.21 | 108.39 | 111.50 |
| 29 | S | 2 | GLU | N-CA-CB | 6.21 | 121.78 | 110.60 |
| 11 | A | 59 | A | C8-N9-C4 | -6.21 | 103.31 | 105.80 |
| 12 | B | 135 | U | N3-C2-O2 | 6.21 | 126.55 | 122.20 |
| 12 | B | 846 | U | C5-C6-N1 | 6.21 | 125.81 | 122.70 |
| 12 | B | 881 | G | C6-C5-N7 | -6.21 | 126.67 | 130.40 |
| 12 | B | 1772 | A | C5-C6-N1 | -6.21 | 114.59 | 117.70 |
| 12 | B | 1921 | G | C4-C5-N7 | 6.21 | 113.28 | 110.80 |
| 12 | B | 2141 | G | C2-N3-C4 | 6.21 | 115.01 | 111.90 |
| 12 | B | 2230 | G | N7-C8-N9 | 6.21 | 116.21 | 113.10 |
| 12 | B | 2280 | G | O5'-P-OP1 | 6.21 | 118.16 | 110.70 |
| 12 | B | 2352 | A | N9-C4-C5 | 6.21 | 108.28 | 105.80 |
| 12 | B | 2368 | C | O4'-C1'-N1 | 6.21 | 113.17 | 108.20 |
| 12 | B | 2469 | A | C5-C6-N1 | -6.21 | 114.59 | 117.70 |
| 12 | B | 2689 | U | C2-N3-C4 | -6.21 | 123.27 | 127.00 |
| 12 | B | 617 | G | C5'-C4'-C3' | -6.21 | 106.07 | 116.00 |
| 12 | B | 1028 | A | C8-N9-C4 | -6.21 | 103.32 | 105.80 |
| 12 | B | 1436 | G | C5-C6-O6 | -6.21 | 124.88 | 128.60 |
| 12 | B | 1557 | C | N3-C4-C5 | -6.21 | 119.42 | 121.90 |
| 12 | B | 2242 | G | N3-C2-N2 | -6.21 | 115.55 | 119.90 |
| 12 | B | 2372 | U | N3-C4-O4 | 6.21 | 123.75 | 119.40 |
| 12 | B | 2490 | G | N1-C2-N3 | 6.21 | 127.63 | 123.90 |
| 12 | B | 2532 | G | N9-C4-C5 | -6.21 | 102.92 | 105.40 |
| 12 | B | 2577 | A | C8-N9-C1' | 6.21 | 138.88 | 127.70 |
| 12 | B | 2718 | G | C4'-C3'-C2' | -6.21 | 96.39 | 102.60 |
| 12 | B | 2760 | C | C4'-C3'-C2' | -6.21 | 96.39 | 102.60 |
| 20 | J | 45 | THR | N-CA-CB | 6.21 | 122.10 | 110.30 |
| 11 | A | 19 | C | O4'-C4'-C3' | -6.21 | 97.79 | 104.00 |
| 12 | B | 414 | C | OP1-P-OP2 | -6.21 | 110.29 | 119.60 |
| 12 | B | 463 | G | C3'-C2'-C1' | -6.21 | 96.54 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2139 | U | C1'-O4'-C4' | 6.21 | 114.86 | 109.90 |
| 12 | B | 131 | A | C1'-O4'-C4' | -6.21 | 104.94 | 109.90 |
| 12 | B | 257 | C | N3-C4-C5 | -6.21 | 119.42 | 121.90 |
| 12 | B | 387 | U | P-O3'-C3' | 6.21 | 127.15 | 119.70 |
| 12 | B | 636 | G | C6-C5-N7 | -6.21 | 126.68 | 130.40 |
| 12 | B | 1365 | A | C2-N3-C4 | -6.21 | 107.50 | 110.60 |
| 12 | B | 2823 | A | C2-N3-C4 | -6.21 | 107.50 | 110.60 |
| 12 | B | 22 | C | C4-C5-C6 | 6.20 | 120.50 | 117.40 |
| 12 | B | 463 | G | N3-C4-N9 | -6.20 | 122.28 | 126.00 |
| 12 | B | 507 | A | C5-N7-C8 | -6.20 | 100.80 | 103.90 |
| 12 | B | 859 | G | C4-C5-N7 | 6.20 | 113.28 | 110.80 |
| 12 | B | 2242 | G | C5-N7-C8 | 6.20 | 107.40 | 104.30 |
| 12 | B | 2644 | G | O4'-C1'-N9 | 6.20 | 113.16 | 108.20 |
| 12 | B | 2788 | C | N1-C2-O2 | 6.20 | 122.62 | 118.90 |
| 12 | B | 2883 | A | N9-C4-C5 | 6.20 | 108.28 | 105.80 |
| 18 | H | 110 | VAL | CA-CB-CG2 | 6.20 | 120.20 | 110.90 |
| 12 | B | 137 | U | N3-C2-O2 | -6.20 | 117.86 | 122.20 |
| 12 | B | 442 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 12 | B | 712 | G | C5-N7-C8 | 6.20 | 107.40 | 104.30 |
| 12 | B | 1531 | C | C6-N1-C2 | -6.20 | 117.82 | 120.30 |
| 12 | B | 1602 | U | N1-C2-N3 | 6.20 | 118.62 | 114.90 |
| 12 | B | 20 | C | C5-C4-N4 | -6.20 | 115.86 | 120.20 |
| 12 | B | 599 | A | C5-N7-C8 | 6.20 | 107.00 | 103.90 |
| 12 | B | 728 | G | N7-C8-N9 | -6.20 | 110.00 | 113.10 |
| 12 | B | 825 | A | N7-C8-N9 | 6.20 | 116.90 | 113.80 |
| 12 | B | 1246 | A | N1-C6-N6 | 6.20 | 122.32 | 118.60 |
| 12 | B | 1404 | C | C1'-O4'-C4' | -6.20 | 104.94 | 109.90 |
| 12 | B | 1821 | A | P-O5'-C5' | 6.20 | 130.82 | 120.90 |
| 12 | B | 2564 | A | O4'-C1'-N9 | 6.20 | 113.16 | 108.20 |
| 33 | Y | 68 | PHE | CB-CG-CD2 | -6.20 | 116.46 | 120.80 |
| 11 | A | 5 | U | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 12 | B | 282 | A | N1-C6-N6 | 6.20 | 122.32 | 118.60 |
| 12 | B | 560 | C | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 12 | B | 1483 | G | P-O5'-C5' | -6.20 | 110.98 | 120.90 |
| 12 | B | 2054 | A | C8-N9-C4 | -6.20 | 103.32 | 105.80 |
| 12 | B | 2297 | A | C3'-C2'-C1' | -6.20 | 96.54 | 101.50 |
| 12 | B | 2817 | U | C3'-C2'-C1' | -6.20 | 96.54 | 101.50 |
| 12 | B | 2885 | G | P-O3'-C3' | -6.20 | 112.26 | 119.70 |
| 12 | B | 203 | A | P-O5'-C5' | 6.20 | 130.81 | 120.90 |
| 12 | B | 627 | A | C5'-C4'-O4' | 6.20 | 116.54 | 109.10 |
| 12 | B | 1051 | G | O4'-C1'-N9 | 6.20 | 113.16 | 108.20 |
| 12 | B | 1391 | U | C5-C6-N1 | 6.20 | 125.80 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2489 | U | N1-C2-N3 | 6.20 | 118.62 | 114.90 |
| 11 | A | 45 | A | C5'-C4'-C3' | -6.20 | 106.09 | 116.00 |
| 12 | B | 490 | C | C4-C5-C6 | 6.20 | 120.50 | 117.40 |
| 12 | B | 741 | U | N3-C4-O4 | -6.20 | 115.06 | 119.40 |
| 12 | B | 1398 | C | C4-C5-C6 | 6.20 | 120.50 | 117.40 |
| 12 | B | 1656 | C | C5-C4-N4 | -6.20 | 115.86 | 120.20 |
| 12 | B | 1670 | C | C1'-O4'-C4' | 6.20 | 114.86 | 109.90 |
| 12 | B | 1848 | A | C5'-C4'-O4' | 6.20 | 116.53 | 109.10 |
| 12 | B | 1929 | G | C2-N3-C4 | -6.20 | 108.80 | 111.90 |
| 12 | B | 2247 | A | C4'-C3'-C2' | -6.20 | 96.40 | 102.60 |
| 12 | B | 2445 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 12 | B | 2475 | C | C5-C6-N1 | 6.20 | 124.10 | 121.00 |
| 12 | B | 2484 | G | C2-N3-C4 | 6.20 | 115.00 | 111.90 |
| 12 | B | 2614 | A | C3'-C2'-C1' | 6.20 | 106.46 | 101.50 |
| 12 | B | 242 | G | C2'-C3'-O3' | 6.19 | 123.61 | 113.70 |
| 12 | B | 996 | A | C8-N9-C4 | 6.19 | 108.28 | 105.80 |
| 12 | B | 1446 | C | O4'-C1'-N1 | 6.19 | 113.16 | 108.20 |
| 12 | B | 1926 | U | N3-C4-O4 | 6.19 | 123.74 | 119.40 |
| 29 | S | 110 | ARG | NE-CZ-NH1 | -6.19 | 117.20 | 120.30 |
| 12 | B | 100 | U | C5-C6-N1 | 6.19 | 125.80 | 122.70 |
| 12 | B | 210 | C | N3-C4-N4 | 6.19 | 122.33 | 118.00 |
| 12 | B | 1571 | A | N9-C4-C5 | 6.19 | 108.28 | 105.80 |
| 12 | B | 1913 | A | C6-C5-N7 | -6.19 | 127.97 | 132.30 |
| 12 | B | 2153 | C | O4'-C1'-N1 | 6.19 | 113.15 | 108.20 |
| 12 | B | 2168 | G | C6-C5-N7 | -6.19 | 126.68 | 130.40 |
| 12 | B | 2324 | U | N1-C2-N3 | -6.19 | 111.18 | 114.90 |
| 12 | B | 2458 | G | N9-C4-C5 | -6.19 | 102.92 | 105.40 |
| 12 | B | 2558 | C | C6-N1-C2 | -6.19 | 117.82 | 120.30 |
| 12 | B | 2649 | C | N1-C2-O2 | -6.19 | 115.19 | 118.90 |
| 12 | B | 2766 | A | C4-C5-N7 | -6.19 | 107.60 | 110.70 |
| 11 | A | 99 | A | C6-N1-C2 | -6.19 | 114.89 | 118.60 |
| 12 | B | 722 | A | N1-C2-N3 | 6.19 | 132.40 | 129.30 |
| 12 | B | 781 | A | N9-C4-C5 | 6.19 | 108.28 | 105.80 |
| 12 | B | 782 | A | C4-C5-N7 | -6.19 | 107.61 | 110.70 |
| 12 | B | 933 | A | C6-C5-N7 | -6.19 | 127.97 | 132.30 |
| 12 | B | 1763 | G | C8-N9-C4 | 6.19 | 108.88 | 106.40 |
| 12 | B | 2204 | G | C4-C5-N7 | -6.19 | 108.32 | 110.80 |
| 12 | B | 2381 | A | O4'-C1'-N9 | 6.19 | 113.15 | 108.20 |
| 12 | B | 2473 | U | C5-C4-O4 | -6.19 | 122.19 | 125.90 |
| 12 | B | 2896 | C | C5-C4-N4 | -6.19 | 115.87 | 120.20 |
| 12 | B | 2903 | U | N1-C2-N3 | -6.19 | 111.19 | 114.90 |
| 12 | B | 298 | G | N3-C4-C5 | -6.19 | 125.50 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 912 | C | C4-C5-C6 | 6.19 | 120.49 | 117.40 |
| 12 | B | 1187 | G | C5-C6-N1 | -6.19 | 108.41 | 111.50 |
| 12 | B | 1284 | A | C4-C5-C6 | 6.19 | 120.09 | 117.00 |
| 12 | B | 1960 | A | C5'-C4'-C3' | -6.19 | 106.10 | 116.00 |
| 12 | B | 2270 | A | C6-N1-C2 | -6.19 | 114.89 | 118.60 |
| 12 | B | 2504 | U | O4'-C1'-N1 | 6.19 | 113.15 | 108.20 |
| 12 | B | 166 | U | C5'-C4'-O4' | 6.19 | 116.52 | 109.10 |
| 12 | B | 891 | G | N7-C8-N9 | -6.19 | 110.01 | 113.10 |
| 12 | B | 1090 | A | N1-C6-N6 | 6.19 | 122.31 | 118.60 |
| 12 | B | 1259 | G | N9-C4-C5 | 6.19 | 107.88 | 105.40 |
| 12 | B | 1367 | A | C4-C5-C6 | 6.19 | 120.09 | 117.00 |
| 12 | B | 1377 | G | N1-C2-N2 | -6.19 | 110.63 | 116.20 |
| 12 | B | 2203 | U | C4'-C3'-C2' | -6.19 | 96.41 | 102.60 |
| 12 | B | 2791 | G | N3-C2-N2 | 6.19 | 124.23 | 119.90 |
| 12 | B | 2817 | U | N3-C4-C5 | 6.19 | 118.31 | 114.60 |
| 11 | A | 58 | A | N3-C4-N9 | -6.19 | 122.45 | 127.40 |
| 12 | B | 63 | A | C5-C6-N6 | -6.19 | 118.75 | 123.70 |
| 12 | B | 1619 | G | C6-C5-N7 | -6.19 | 126.69 | 130.40 |
| 12 | B | 1699 | G | N1-C6-O6 | 6.19 | 123.61 | 119.90 |
| 12 | B | 1935 | G | O5'-C5'-C4' | -6.19 | 99.95 | 111.70 |
| 12 | B | 2160 | C | N1-C2-N3 | 6.19 | 123.53 | 119.20 |
| 12 | B | 303 | G | C6-C5-N7 | -6.18 | 126.69 | 130.40 |
| 12 | B | 637 | A | N9-C4-C5 | -6.18 | 103.33 | 105.80 |
| 12 | B | 656 | G | C2-N3-C4 | 6.18 | 114.99 | 111.90 |
| 12 | B | 812 | C | C4-C5-C6 | 6.18 | 120.49 | 117.40 |
| 12 | B | 2498 | C | P-O3'-C3' | -6.18 | 112.28 | 119.70 |
| 12 | B | 2888 | C | C6-N1-C2 | -6.18 | 117.83 | 120.30 |
| 11 | A | 69 | G | C8-N9-C4 | 6.18 | 108.87 | 106.40 |
| 12 | B | 16 | C | P-O3'-C3' | -6.18 | 112.28 | 119.70 |
| 12 | B | 161 | A | N1-C2-N3 | 6.18 | 132.39 | 129.30 |
| 12 | B | 436 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 12 | B | 1082 | U | N1-C2-N3 | 6.18 | 118.61 | 114.90 |
| 12 | B | 1286 | A | C5-N7-C8 | 6.18 | 106.99 | 103.90 |
| 12 | B | 1453 | A | N9-C4-C5 | 6.18 | 108.27 | 105.80 |
| 12 | B | 1692 | U | O4'-C1'-N1 | 6.18 | 113.15 | 108.20 |
| 12 | B | 2038 | G | N9-C4-C5 | 6.18 | 107.87 | 105.40 |
| 12 | B | 2044 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 12 | B | 2310 | C | C4-C5-C6 | 6.18 | 120.49 | 117.40 |
| 12 | B | 2352 | A | P-O5'-C5' | 6.18 | 130.79 | 120.90 |
| 11 | A | 5 | U | O5'-C5'-C4' | -6.18 | 99.96 | 111.70 |
| 12 | B | 247 | G | C5-C6-O6 | -6.18 | 124.89 | 128.60 |
| 12 | B | 743 | A | C4-C5-C6 | 6.18 | 120.09 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1999 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 12 | B | 2114 | A | O4'-C1'-N9 | 6.18 | 113.14 | 108.20 |
| 12 | B | 2746 | U | C5-C4-O4 | -6.18 | 122.19 | 125.90 |
| 12 | B | 107 | G | C5-C6-N1 | -6.18 | 108.41 | 111.50 |
| 12 | B | 323 | C | C5-C4-N4 | -6.18 | 115.88 | 120.20 |
| 12 | B | 482 | A | N9-C4-C5 | -6.18 | 103.33 | 105.80 |
| 12 | B | 1266 | G | C2-N3-C4 | 6.18 | 114.99 | 111.90 |
| 12 | B | 1927 | A | P-O5'-C5' | 6.18 | 130.79 | 120.90 |
| 12 | B | 2169 | A | C5-N7-C8 | 6.18 | 106.99 | 103.90 |
| 12 | B | 2741 | A | C6-C5-N7 | -6.18 | 127.97 | 132.30 |
| 12 | B | 2771 | C | C2-N3-C4 | 6.18 | 122.99 | 119.90 |
| 12 | B | 971 | G | N1-C2-N3 | -6.18 | 120.19 | 123.90 |
| 12 | B | 1014 | A | N9-C4-C5 | 6.18 | 108.27 | 105.80 |
| 12 | B | 2004 | G | C8-N9-C4 | 6.18 | 108.87 | 106.40 |
| 12 | B | 2219 | U | N1-C2-O2 | -6.18 | 118.47 | 122.80 |
| 17 | G | 145 | ALA | N-CA-CB | 6.18 | 118.75 | 110.10 |
| 11 | A | 73 | A | N1-C6-N6 | 6.18 | 122.31 | 118.60 |
| 12 | B | 463 | G | C5-N7-C8 | 6.18 | 107.39 | 104.30 |
| 12 | B | 701 | G | C3'-C2'-C1' | -6.18 | 96.56 | 101.50 |
| 12 | B | 840 | C | N3-C2-O2 | -6.18 | 117.58 | 121.90 |
| 12 | B | 1223 | G | N3-C4-N9 | -6.18 | 122.30 | 126.00 |
| 12 | B | 1246 | A | C4-C5-C6 | 6.18 | 120.09 | 117.00 |
| 12 | B | 1956 | U | O4'-C1'-N1 | 6.18 | 113.14 | 108.20 |
| 12 | B | 2381 | A | C1'-O4'-C4' | -6.18 | 104.96 | 109.90 |
| 12 | B | 2702 | G | C4-C5-N7 | -6.18 | 108.33 | 110.80 |
| 12 | B | 539 | G | O4'-C1'-N9 | 6.17 | 113.14 | 108.20 |
| 12 | B | 686 | U | N1-C2-O2 | -6.17 | 118.48 | 122.80 |
| 12 | B | 1604 | C | N3-C4-N4 | 6.17 | 122.32 | 118.00 |
| 12 | B | 1611 | C | N3-C4-C5 | -6.17 | 119.43 | 121.90 |
| 12 | B | 1794 | A | C5-C6-N6 | -6.17 | 118.76 | 123.70 |
| 12 | B | 2862 | G | N3-C2-N2 | 6.17 | 124.22 | 119.90 |
| 12 | B | 2075 | U | C5-C6-N1 | -6.17 | 119.61 | 122.70 |
| 12 | B | 189 | G | C8-N9-C4 | -6.17 | 103.93 | 106.40 |
| 12 | B | 224 | U | N3-C2-O2 | 6.17 | 126.52 | 122.20 |
| 12 | B | 468 | G | C6-N1-C2 | -6.17 | 121.40 | 125.10 |
| 12 | B | 1227 | G | N9-C4-C5 | -6.17 | 102.93 | 105.40 |
| 12 | B | 2628 | C | O4'-C1'-N1 | 6.17 | 113.14 | 108.20 |
| 12 | B | 601 | C | C5'-C4'-C3' | 6.17 | 125.87 | 116.00 |
| 12 | B | 684 | G | N7-C8-N9 | -6.17 | 110.02 | 113.10 |
| 12 | B | 2211 | A | N3-C4-N9 | 6.17 | 132.34 | 127.40 |
| 12 | B | 2457 | U | P-O3'-C3' | -6.17 | 112.30 | 119.70 |
| 12 | B | 507 | A | N3-C4-C5 | 6.17 | 131.12 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1404 | C | C2-N1-C1' | 6.17 | 125.58 | 118.80 |
| 12 | B | 1781 | U | P-O3'-C3' | 6.17 | 127.10 | 119.70 |
| 12 | B | 1892 | C | O4'-C1'-N1 | 6.17 | 113.14 | 108.20 |
| 12 | B | 2803 | G | C6-N1-C2 | -6.17 | 121.40 | 125.10 |
| 12 | B | 175 | G | C6-N1-C2 | -6.17 | 121.40 | 125.10 |
| 12 | B | 575 | A | N1-C2-N3 | 6.17 | 132.38 | 129.30 |
| 12 | B | 1918 | A | C4-C5-C6 | 6.17 | 120.08 | 117.00 |
| 12 | B | 2414 | G | O4'-C1'-N9 | 6.17 | 113.13 | 108.20 |
| 27 | Q | 31 | TYR | CZ-CE2-CD2 | 6.17 | 125.35 | 119.80 |
| 32 | W | 44 | HIS | CA-CB-CG | -6.17 | 103.12 | 113.60 |
| 11 | A | 80 | U | OP2-P-O3' | 6.17 | 118.76 | 105.20 |
| 12 | B | 101 | A | C5-N7-C8 | 6.17 | 106.98 | 103.90 |
| 12 | B | 189 | G | P-O3'-C3' | -6.17 | 112.30 | 119.70 |
| 12 | B | 897 | C | OP1-P-OP2 | -6.17 | 110.35 | 119.60 |
| 12 | B | 78 | U | N3-C2-O2 | 6.16 | 126.51 | 122.20 |
| 12 | B | 91 | A | C1'-O4'-C4' | 6.16 | 114.83 | 109.90 |
| 12 | B | 205 | G | N9-C4-C5 | 6.16 | 107.86 | 105.40 |
| 12 | B | 978 | G | N3-C2-N2 | 6.16 | 124.21 | 119.90 |
| 12 | B | 1017 | G | C5-C6-O6 | -6.16 | 124.90 | 128.60 |
| 12 | B | 1085 | A | C4-C5-C6 | 6.16 | 120.08 | 117.00 |
| 12 | B | 1326 | U | C6-N1-C2 | -6.16 | 117.30 | 121.00 |
| 12 | B | 1598 | A | C3'-C2'-C1' | -6.16 | 96.57 | 101.50 |
| 12 | B | 2370 | G | P-O5'-C5' | 6.16 | 130.76 | 120.90 |
| 12 | B | 2750 | A | N9-C1'-C2' | -6.16 | 105.22 | 112.00 |
| 12 | B | 1299 | G | OP1-P-OP2 | -6.16 | 110.36 | 119.60 |
| 12 | B | 1829 | A | C6-C5-N7 | -6.16 | 127.99 | 132.30 |
| 12 | B | 2412 | A | C4-C5-C6 | 6.16 | 120.08 | 117.00 |
| 12 | B | 2471 | A | C4-C5-C6 | 6.16 | 120.08 | 117.00 |
| 12 | B | 824 | U | C6-N1-C2 | -6.16 | 117.30 | 121.00 |
| 12 | B | 1167 | C | C5-C6-N1 | 6.16 | 124.08 | 121.00 |
| 12 | B | 1429 | G | O4'-C1'-N9 | 6.16 | 113.13 | 108.20 |
| 12 | B | 1506 | U | C4-C5-C6 | -6.16 | 116.00 | 119.70 |
| 12 | B | 1527 | G | C4-C5-C6 | 6.16 | 122.50 | 118.80 |
| 12 | B | 1575 | C | C4-C5-C6 | 6.16 | 120.48 | 117.40 |
| 12 | B | 1749 | A | C5-C6-N1 | -6.16 | 114.62 | 117.70 |
| 12 | B | 1983 | G | O4'-C4'-C3' | -6.16 | 97.84 | 104.00 |
| 12 | B | 2186 | G | N1-C2-N3 | -6.16 | 120.20 | 123.90 |
| 24 | N | 30 | ARG | NE-CZ-NH2 | -6.16 | 117.22 | 120.30 |
| 11 | A | 27 | C | P-O5'-C5' | 6.16 | 130.75 | 120.90 |
| 11 | A | 72 | G | O4'-C1'-N9 | 6.16 | 113.13 | 108.20 |
| 12 | B | 247 | G | N1-C2-N2 | 6.16 | 121.74 | 116.20 |
| 12 | B | 798 | G | P-O3'-C3' | -6.16 | 112.31 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 850 | U | N3-C4-C5 | 6.16 | 118.30 | 114.60 |
| 12 | B | 1048 | A | N7-C8-N9 | -6.16 | 110.72 | 113.80 |
| 12 | B | 1257 | C | C4-C5-C6 | 6.16 | 120.48 | 117.40 |
| 12 | B | 1540 | G | N1-C2-N2 | 6.16 | 121.74 | 116.20 |
| 12 | B | 1793 | C | P-O5'-C5' | 6.16 | 130.75 | 120.90 |
| 12 | B | 2094 | A | C5-C6-N1 | -6.16 | 114.62 | 117.70 |
| 13 | C | 81 | GLU | OE1-CD-OE2 | 6.16 | 130.69 | 123.30 |
| 23 | M | 23 | GLY | N-CA-C | -6.16 | 97.70 | 113.10 |
| 11 | A | 15 | A | N7-C8-N9 | 6.16 | 116.88 | 113.80 |
| 12 | B | 496 | G | C8-N9-C4 | -6.16 | 103.94 | 106.40 |
| 12 | B | 205 | G | N7-C8-N9 | 6.16 | 116.18 | 113.10 |
| 12 | B | 1211 | C | C1'-O4'-C4' | 6.16 | 114.82 | 109.90 |
| 12 | B | 1706 | C | P-O3'-C3' | 6.16 | 127.09 | 119.70 |
| 12 | B | 2108 | A | C5-N7-C8 | 6.16 | 106.98 | 103.90 |
| 12 | B | 2693 | G | C5-C6-O6 | -6.16 | 124.91 | 128.60 |
| 12 | B | 2740 | A | C5-C6-N1 | -6.16 | 114.62 | 117.70 |
| 12 | B | 715 | A | O4'-C1'-N9 | 6.15 | 113.12 | 108.20 |
| 12 | B | 779 | U | C4-C5-C6 | 6.15 | 123.39 | 119.70 |
| 12 | B | 962 | G | C4-C5-N7 | -6.15 | 108.34 | 110.80 |
| 12 | B | 1881 | C | C4-C5-C6 | 6.15 | 120.48 | 117.40 |
| 12 | B | 2413 | G | C4-C5-N7 | 6.15 | 113.26 | 110.80 |
| 12 | B | 2418 | A | C3'-C2'-C1' | -6.15 | 96.58 | 101.50 |
| 12 | B | 53 | A | C5-C6-N1 | -6.15 | 114.62 | 117.70 |
| 12 | B | 273 | G | N9-C4-C5 | 6.15 | 107.86 | 105.40 |
| 12 | B | 412 | A | C5-C6-N1 | -6.15 | 114.62 | 117.70 |
| 12 | B | 422 | A | C4-C5-N7 | -6.15 | 107.62 | 110.70 |
| 12 | B | 472 | A | N1-C2-N3 | 6.15 | 132.38 | 129.30 |
| 12 | B | 487 | C | C2-N3-C4 | 6.15 | 122.98 | 119.90 |
| 12 | B | 1000 | A | N3-C4-C5 | -6.15 | 122.49 | 126.80 |
| 12 | B | 1241 | A | C2-N3-C4 | -6.15 | 107.52 | 110.60 |
| 12 | B | 2280 | G | N9-C4-C5 | -6.15 | 102.94 | 105.40 |
| 12 | B | 2442 | C | O4'-C1'-N1 | 6.15 | 113.12 | 108.20 |
| 12 | B | 2541 | A | C3'-C2'-C1' | -6.15 | 96.58 | 101.50 |
| 12 | B | 27 | G | C4-C5-N7 | 6.15 | 113.26 | 110.80 |
| 12 | B | 159 | G | N3-C4-N9 | 6.15 | 129.69 | 126.00 |
| 12 | B | 232 | G | C6-C5-N7 | -6.15 | 126.71 | 130.40 |
| 12 | B | 235 | U | O4'-C1'-N1 | 6.15 | 113.12 | 108.20 |
| 12 | B | 1026 | G | C4'-C3'-C2' | -6.15 | 96.45 | 102.60 |
| 12 | B | 1084 | A | C5-N7-C8 | -6.15 | 100.82 | 103.90 |
| 12 | B | 1418 | G | N1-C2-N2 | -6.15 | 110.67 | 116.20 |
| 12 | B | 1951 | U | P-O3'-C3' | 6.15 | 127.08 | 119.70 |
| 12 | B | 2079 | U | N1-C2-O2 | 6.15 | 127.11 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2223 | G | C5-N7-C8 | 6.15 | 107.38 | 104.30 |
| 12 | B | 2298 | A | C5-N7-C8 | 6.15 | 106.97 | 103.90 |
| 12 | B | 2644 | G | C5'-C4'-C3' | -6.15 | 106.16 | 116.00 |
| 12 | B | 1115 | G | C8-N9-C4 | 6.15 | 108.86 | 106.40 |
| 12 | B | 290 | U | N3-C2-O2 | -6.15 | 117.90 | 122.20 |
| 12 | B | 339 | U | O4'-C4'-C3' | -6.15 | 97.85 | 104.00 |
| 12 | B | 586 | A | C4-C5-N7 | -6.15 | 107.63 | 110.70 |
| 12 | B | 784 | G | C5-N7-C8 | -6.15 | 101.23 | 104.30 |
| 12 | B | 1566 | A | N7-C8-N9 | -6.15 | 110.73 | 113.80 |
| 12 | B | 2327 | A | P-O5'-C5' | 6.15 | 130.74 | 120.90 |
| 12 | B | 2408 | U | O4'-C4'-C3' | -6.15 | 97.85 | 104.00 |
| 12 | B | 2710 | C | C6-N1-C2 | -6.15 | 117.84 | 120.30 |
| 12 | B | 2837 | A | C5-N7-C8 | -6.15 | 100.83 | 103.90 |
| 24 | N | 67 | PHE | CB-CG-CD2 | -6.15 | 116.50 | 120.80 |
| 11 | A | 19 | C | C5-C4-N4 | -6.15 | 115.90 | 120.20 |
| 12 | B | 600 | G | N7-C8-N9 | 6.15 | 116.17 | 113.10 |
| 12 | B | 2676 | C | C3'-C2'-C1' | -6.15 | 96.58 | 101.50 |
| 12 | B | 2881 | U | C2-N3-C4 | -6.15 | 123.31 | 127.00 |
| 12 | B | 751 | A | C6-N1-C2 | 6.14 | 122.29 | 118.60 |
| 12 | B | 833 | A | C8-N9-C4 | -6.14 | 103.34 | 105.80 |
| 12 | B | 1426 | G | C2-N3-C4 | 6.14 | 114.97 | 111.90 |
| 12 | B | 1452 | G | N3-C4-N9 | 6.14 | 129.69 | 126.00 |
| 12 | B | 1496 | A | N1-C6-N6 | 6.14 | 122.29 | 118.60 |
| 12 | B | 1525 | A | N7-C8-N9 | 6.14 | 116.87 | 113.80 |
| 12 | B | 1570 | A | N1-C6-N6 | 6.14 | 122.29 | 118.60 |
| 12 | B | 2024 | G | N3-C4-N9 | -6.14 | 122.31 | 126.00 |
| 12 | B | 2104 | C | C5'-C4'-O4' | 6.14 | 116.47 | 109.10 |
| 12 | B | 2315 | G | N7-C8-N9 | 6.14 | 116.17 | 113.10 |
| 12 | B | 2350 | C | C6-N1-C2 | -6.14 | 117.84 | 120.30 |
| 12 | B | 2498 | C | C6-N1-C2 | 6.14 | 122.76 | 120.30 |
| 12 | B | 2557 | G | N9-C4-C5 | 6.14 | 107.86 | 105.40 |
| 12 | B | 382 | A | C6-C5-N7 | -6.14 | 128.00 | 132.30 |
| 12 | B | 1148 | U | C4'-C3'-C2' | -6.14 | 96.46 | 102.60 |
| 12 | B | 2323 | G | O4'-C1'-N9 | 6.14 | 113.11 | 108.20 |
| 12 | B | 2485 | G | C4-C5-C6 | 6.14 | 122.49 | 118.80 |
| 12 | B | 2528 | U | O4'-C1'-N1 | 6.14 | 113.11 | 108.20 |
| 12 | B | 493 | G | N1-C6-O6 | 6.14 | 123.58 | 119.90 |
| 12 | B | 1235 | G | N3-C4-N9 | -6.14 | 122.32 | 126.00 |
| 12 | B | 1277 | G | O4'-C1'-N9 | 6.14 | 113.11 | 108.20 |
| 12 | B | 1570 | A | N9-C4-C5 | 6.14 | 108.26 | 105.80 |
| 12 | B | 1827 | U | N3-C4-O4 | 6.14 | 123.70 | 119.40 |
| 12 | B | 2178 | C | C2-N3-C4 | 6.14 | 122.97 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2397 | G | N9-C4-C5 | 6.14 | 107.86 | 105.40 |
| 12 | B | 2412 | A | N7-C8-N9 | -6.14 | 110.73 | 113.80 |
| 4 | 3 | 27 | LEU | CB-CG-CD2 | 6.14 | 121.44 | 111.00 |
| 11 | A | 39 | A | C5-C6-N6 | -6.14 | 118.79 | 123.70 |
| 11 | A | 85 | G | C5-C6-O6 | -6.14 | 124.92 | 128.60 |
| 12 | B | 103 | A | N7-C8-N9 | -6.14 | 110.73 | 113.80 |
| 12 | B | 454 | A | C5-C6-N6 | -6.14 | 118.79 | 123.70 |
| 12 | B | 635 | C | O4'-C4'-C3' | -6.14 | 97.86 | 104.00 |
| 12 | B | 700 | G | C6-N1-C2 | -6.14 | 121.42 | 125.10 |
| 12 | B | 1367 | A | N1-C2-N3 | 6.14 | 132.37 | 129.30 |
| 12 | B | 1634 | A | O4'-C1'-N9 | 6.14 | 113.11 | 108.20 |
| 12 | B | 1818 | U | N3-C2-O2 | 6.14 | 126.50 | 122.20 |
| 12 | B | 1921 | G | O4'-C1'-N9 | 6.14 | 113.11 | 108.20 |
| 12 | B | 2374 | C | C4-C5-C6 | 6.14 | 120.47 | 117.40 |
| 12 | B | 2828 | G | N9-C4-C5 | -6.14 | 102.94 | 105.40 |
| 12 | B | 2886 | A | C3'-C2'-C1' | 6.14 | 106.41 | 101.50 |
| 23 | M | 117 | PHE | CB-CG-CD2 | -6.14 | 116.50 | 120.80 |
| 12 | B | 798 | G | C5-C6-O6 | -6.14 | 124.92 | 128.60 |
| 12 | B | 1103 | A | C8-N9-C4 | -6.14 | 103.34 | 105.80 |
| 12 | B | 2520 | C | N3-C4-N4 | 6.14 | 122.30 | 118.00 |
| 12 | B | 2802 | G | C8-N9-C4 | -6.14 | 103.94 | 106.40 |
| 12 | B | 2875 | C | C6-N1-C2 | -6.14 | 117.84 | 120.30 |
| 12 | B | 221 | A | C5-C6-N1 | -6.14 | 114.63 | 117.70 |
| 12 | B | 473 | G | N7-C8-N9 | -6.14 | 110.03 | 113.10 |
| 12 | B | 799 | G | N3-C2-N2 | 6.14 | 124.20 | 119.90 |
| 12 | B | 1032 | A | C5-C6-N6 | -6.14 | 118.79 | 123.70 |
| 12 | B | 1094 | U | C2-N3-C4 | 6.14 | 130.68 | 127.00 |
| 12 | B | 1532 | A | C5-C6-N1 | -6.14 | 114.63 | 117.70 |
| 12 | B | 1555 | G | N1-C2-N3 | -6.14 | 120.22 | 123.90 |
| 12 | B | 2009 | A | C2-N3-C4 | -6.14 | 107.53 | 110.60 |
| 12 | B | 2553 | G | O4'-C1'-N9 | 6.14 | 113.11 | 108.20 |
| 12 | B | 2742 | G | C8-N9-C1' | 6.14 | 134.98 | 127.00 |
| 27 | Q | 27 | ARG | NE-CZ-NH1 | -6.14 | 117.23 | 120.30 |
| 12 | B | 230 | G | N1-C2-N3 | -6.13 | 120.22 | 123.90 |
| 12 | B | 803 | U | N1-C2-N3 | -6.13 | 111.22 | 114.90 |
| 12 | B | 1171 | G | C5-C6-N1 | -6.13 | 108.43 | 111.50 |
| 12 | B | 2487 | G | P-O3'-C3' | 6.13 | 127.06 | 119.70 |
| 12 | B | 1060 | U | C5-C4-O4 | -6.13 | 122.22 | 125.90 |
| 12 | B | 1449 | G | C8-N9-C4 | -6.13 | 103.95 | 106.40 |
| 12 | B | 1672 | A | C5-C6-N1 | -6.13 | 114.64 | 117.70 |
| 12 | B | 2458 | G | C3'-C2'-C1' | -6.13 | 96.59 | 101.50 |
| 12 | B | 2500 | U | N1-C2-N3 | -6.13 | 111.22 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2903 | U | C6-N1-C1' | -6.13 | 112.62 | 121.20 |
| 28 | R | 83 | TYR | CB-CG-CD2 | 6.13 | 124.68 | 121.00 |
| 12 | B | 378 | C | N3-C4-C5 | -6.13 | 119.45 | 121.90 |
| 12 | B | 1053 | C | C5-C4-N4 | -6.13 | 115.91 | 120.20 |
| 12 | B | 1498 | C | N3-C4-C5 | -6.13 | 119.45 | 121.90 |
| 12 | B | 2063 | C | C5-C6-N1 | 6.13 | 124.06 | 121.00 |
| 11 | A | 51 | G | O4'-C1'-N9 | 6.13 | 113.10 | 108.20 |
| 12 | B | 69 | C | N3-C2-O2 | 6.13 | 126.19 | 121.90 |
| 12 | B | 81 | G | C4-C5-C6 | 6.13 | 122.48 | 118.80 |
| 12 | B | 638 | G | O4'-C1'-N9 | 6.13 | 113.10 | 108.20 |
| 12 | B | 713 | G | C5-C6-N1 | 6.13 | 114.56 | 111.50 |
| 12 | B | 1370 | C | C6-N1-C2 | -6.13 | 117.85 | 120.30 |
| 12 | B | 1572 | A | C6-C5-N7 | -6.13 | 128.01 | 132.30 |
| 12 | B | 2002 | G | C5-C6-N1 | -6.13 | 108.44 | 111.50 |
| 12 | B | 2114 | A | C5-N7-C8 | 6.13 | 106.96 | 103.90 |
| 12 | B | 2378 | A | C5-C6-N1 | -6.13 | 114.64 | 117.70 |
| 7 | 6 | 28 | ARG | NH1-CZ-NH2 | -6.13 | 112.66 | 119.40 |
| 12 | B | 257 | C | O4'-C1'-N1 | 6.13 | 113.10 | 108.20 |
| 12 | B | 379 | G | C2-N3-C4 | 6.13 | 114.96 | 111.90 |
| 12 | B | 416 | U | C4-C5-C6 | 6.13 | 123.38 | 119.70 |
| 12 | B | 916 | G | O4'-C1'-N9 | 6.13 | 113.10 | 108.20 |
| 12 | B | 1458 | U | N1-C2-O2 | -6.13 | 118.51 | 122.80 |
| 12 | B | 1977 | A | C5-C6-N6 | -6.13 | 118.80 | 123.70 |
| 12 | B | 2448 | A | N9-C4-C5 | 6.13 | 108.25 | 105.80 |
| 12 | B | 18 | U | P-O5'-C5' | -6.12 | 111.10 | 120.90 |
| 12 | B | 400 | G | C8-N9-C4 | -6.12 | 103.95 | 106.40 |
| 11 | A | 44 | G | C1'-O4'-C4' | 6.12 | 114.80 | 109.90 |
| 11 | A | 54 | G | C4-C5-C6 | 6.12 | 122.47 | 118.80 |
| 12 | B | 901 | C | N1-C2-O2 | -6.12 | 115.23 | 118.90 |
| 12 | B | 1280 | G | N3-C2-N2 | 6.12 | 124.19 | 119.90 |
| 12 | B | 1778 | U | P-O3'-C3' | 6.12 | 127.05 | 119.70 |
| 12 | B | 1790 | C | C4-C5-C6 | -6.12 | 114.34 | 117.40 |
| 12 | B | 1837 | C | C4'-C3'-C2' | -6.12 | 96.48 | 102.60 |
| 12 | B | 2360 | G | C4-C5-C6 | 6.12 | 122.47 | 118.80 |
| 12 | B | 2530 | A | C5-C6-N1 | -6.12 | 114.64 | 117.70 |
| 12 | B | 2683 | C | C4-C5-C6 | -6.12 | 114.34 | 117.40 |
| 12 | B | 2806 | C | P-O3'-C3' | 6.12 | 127.05 | 119.70 |
| 12 | B | 429 | A | N1-C2-N3 | 6.12 | 132.36 | 129.30 |
| 12 | B | 533 | G | N9-C4-C5 | -6.12 | 102.95 | 105.40 |
| 12 | B | 1330 | C | C2-N3-C4 | 6.12 | 122.96 | 119.90 |
| 12 | B | 1356 | G | N1-C2-N3 | -6.12 | 120.23 | 123.90 |
| 12 | B | 1617 | C | N3-C4-C5 | -6.12 | 119.45 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1891 | G | O4'-C1'-N9 | 6.12 | 113.10 | 108.20 |
| 12 | B | 2192 | U | N1-C2-N3 | -6.12 | 111.23 | 114.90 |
| 12 | B | 2218 | G | C4-C5-N7 | 6.12 | 113.25 | 110.80 |
| 12 | B | 2324 | U | N3-C4-C5 | -6.12 | 110.93 | 114.60 |
| 12 | B | 2410 | G | C3'-C2'-C1' | -6.12 | 96.60 | 101.50 |
| 12 | B | 2544 | G | O4'-C1'-N9 | 6.12 | 113.10 | 108.20 |
| 12 | B | 2652 | C | P-O3'-C3' | -6.12 | 112.35 | 119.70 |
| 12 | B | 2687 | U | C2-N3-C4 | 6.12 | 130.67 | 127.00 |
| 12 | B | 2766 | A | C6-C5-N7 | -6.12 | 128.01 | 132.30 |
| 11 | A | 66 | A | C5-C6-N1 | -6.12 | 114.64 | 117.70 |
| 12 | B | 324 | A | O4'-C1'-N9 | 6.12 | 113.10 | 108.20 |
| 12 | B | 335 | C | C2-N1-C1' | 6.12 | 125.53 | 118.80 |
| 12 | B | 1091 | G | C4'-C3'-C2' | -6.12 | 96.48 | 102.60 |
| 12 | B | 1502 | A | C4-C5-C6 | 6.12 | 120.06 | 117.00 |
| 12 | B | 2850 | A | N9-C4-C5 | 6.12 | 108.25 | 105.80 |
| 11 | A | 42 | C | O4'-C1'-N1 | 6.12 | 113.09 | 108.20 |
| 12 | B | 254 | G | C2-N3-C4 | 6.12 | 114.96 | 111.90 |
| 12 | B | 1132 | U | N1-C2-O2 | -6.12 | 118.52 | 122.80 |
| 12 | B | 1462 | C | O4'-C1'-N1 | 6.12 | 113.09 | 108.20 |
| 12 | B | 1587 | G | C5'-C4'-O4' | 6.12 | 116.44 | 109.10 |
| 12 | B | 1788 | C | C2-N3-C4 | -6.12 | 116.84 | 119.90 |
| 12 | B | 2158 | A | C5-C6-N6 | -6.12 | 118.81 | 123.70 |
| 12 | B | 2173 | A | O4'-C1'-N9 | 6.12 | 113.09 | 108.20 |
| 12 | B | 2412 | A | C2-N3-C4 | -6.12 | 107.54 | 110.60 |
| 12 | B | 2661 | G | N9-C4-C5 | -6.12 | 102.95 | 105.40 |
| 12 | B | 2675 | A | C5-C6-N6 | -6.12 | 118.81 | 123.70 |
| 12 | B | 1655 | A | N1-C6-N6 | 6.12 | 122.27 | 118.60 |
| 12 | B | 2027 | G | N3-C2-N2 | 6.12 | 124.18 | 119.90 |
| 11 | A | 28 | C | N3-C4-N4 | 6.12 | 122.28 | 118.00 |
| 12 | B | 68 | G | C3'-C2'-C1' | -6.12 | 96.61 | 101.50 |
| 12 | B | 1366 | A | C4-N9-C1' | 6.12 | 137.31 | 126.30 |
| 12 | B | 2229 | U | N3-C4-C5 | -6.12 | 110.93 | 114.60 |
| 12 | B | 2319 | G | N7-C8-N9 | 6.12 | 116.16 | 113.10 |
| 12 | B | 2856 | A | N7-C8-N9 | -6.12 | 110.74 | 113.80 |
| 12 | B | 280 | U | N3-C2-O2 | -6.11 | 117.92 | 122.20 |
| 12 | B | 514 | A | C5'-C4'-C3' | 6.11 | 125.78 | 116.00 |
| 12 | B | 874 | G | C5'-C4'-C3' | -6.11 | 106.22 | 116.00 |
| 12 | B | 1641 | A | N9-C4-C5 | 6.11 | 108.25 | 105.80 |
| 12 | B | 2021 | C | C4-C5-C6 | 6.11 | 120.46 | 117.40 |
| 12 | B | 2121 | G | C6-C5-N7 | -6.11 | 126.73 | 130.40 |
| 12 | B | 2156 | G | C5-C6-O6 | -6.11 | 124.93 | 128.60 |
| 12 | B | 2456 | C | P-O3'-C3' | 6.11 | 127.03 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2511 | U | O4'-C1'-N1 | 6.11 | 113.09 | 108.20 |
| 12 | B | 2890 | G | N9-C4-C5 | 6.11 | 107.85 | 105.40 |
| 24 | N | 24 | MET | CG-SD-CE | -6.11 | 90.42 | 100.20 |
| 11 | A | 96 | G | O4'-C1'-N9 | 6.11 | 113.09 | 108.20 |
| 12 | B | 1802 | A | C8-N9-C4 | -6.11 | 103.36 | 105.80 |
| 12 | B | 2411 | A | C8-N9-C4 | -6.11 | 103.36 | 105.80 |
| 15 | E | 1 | MET | CG-SD-CE | -6.11 | 90.42 | 100.20 |
| 6 | 5 | 38 | PHE | CZ-CE2-CD2 | 6.11 | 127.43 | 120.10 |
| 12 | B | 180 | G | C4-C5-C6 | 6.11 | 122.47 | 118.80 |
| 12 | B | 1262 | A | O4'-C1'-N9 | 6.11 | 113.09 | 108.20 |
| 12 | B | 1497 | U | O4'-C1'-N1 | 6.11 | 113.09 | 108.20 |
| 12 | B | 1503 | A | P-O3'-C3' | 6.11 | 127.03 | 119.70 |
| 12 | B | 1421 | G | C4-C5-N7 | -6.11 | 108.36 | 110.80 |
| 12 | B | 2541 | A | N1-C2-N3 | 6.11 | 132.35 | 129.30 |
| 6 | 5 | 201 | PRO | N-CD-CG | 6.11 | 112.36 | 103.20 |
| 12 | B | 202 | U | N1-C2-O2 | -6.11 | 118.53 | 122.80 |
| 12 | B | 1125 | G | C5-N7-C8 | -6.11 | 101.25 | 104.30 |
| 12 | B | 1326 | U | C2-N1-C1' | 6.11 | 125.03 | 117.70 |
| 12 | B | 1938 | A | C5-C6-N1 | -6.11 | 114.65 | 117.70 |
| 12 | B | 639 | U | P-O5'-C5' | 6.11 | 130.67 | 120.90 |
| 12 | B | 886 | A | O4'-C1'-N9 | 6.11 | 113.08 | 108.20 |
| 12 | B | 1662 | U | C6-N1-C2 | -6.11 | 117.34 | 121.00 |
| 12 | B | 2326 | C | O4'-C1'-N1 | 6.11 | 113.08 | 108.20 |
| 12 | B | 2756 | U | C5-C6-N1 | -6.11 | 119.65 | 122.70 |
| 12 | B | 2780 | G | C8-N9-C1' | -6.11 | 119.06 | 127.00 |
| 12 | B | 301 | G | C6-C5-N7 | -6.10 | 126.74 | 130.40 |
| 12 | B | 681 | G | C8-N9-C4 | -6.10 | 103.96 | 106.40 |
| 12 | B | 1310 | G | C6-C5-N7 | -6.10 | 126.74 | 130.40 |
| 12 | B | 1518 | C | N1-C2-O2 | 6.10 | 122.56 | 118.90 |
| 12 | B | 77 | G | C4-C5-C6 | 6.10 | 122.46 | 118.80 |
| 12 | B | 121 | G | P-O5'-C5' | -6.10 | 111.14 | 120.90 |
| 12 | B | 369 | U | O4'-C1'-N1 | 6.10 | 113.08 | 108.20 |
| 12 | B | 945 | A | C6-C5-N7 | -6.10 | 128.03 | 132.30 |
| 12 | B | 1040 | A | C6-C5-N7 | -6.10 | 128.03 | 132.30 |
| 12 | B | 1135 | C | C4'-C3'-C2' | -6.10 | 96.50 | 102.60 |
| 12 | B | 1269 | A | C6-C5-N7 | -6.10 | 128.03 | 132.30 |
| 12 | B | 1629 | U | N1-C2-O2 | -6.10 | 118.53 | 122.80 |
| 12 | B | 1813 | G | P-O3'-C3' | -6.10 | 112.38 | 119.70 |
| 12 | B | 1830 | C | N3-C2-O2 | -6.10 | 117.63 | 121.90 |
| 12 | B | 1944 | U | N1-C2-N3 | -6.10 | 111.24 | 114.90 |
| 12 | B | 2508 | G | C5-C6-O6 | 6.10 | 132.26 | 128.60 |
| 12 | B | 2621 | G | C4-N9-C1' | -6.10 | 118.57 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2674 | G | C6-N1-C2 | 6.10 | 128.76 | 125.10 |
| 18 | H | 72 | ILE | N-CA-CB | 6.10 | 124.83 | 110.80 |
| 12 | B | 966 | G | C4-C5-C6 | 6.10 | 122.46 | 118.80 |
| 12 | B | 339 | U | N3-C2-O2 | 6.10 | 126.47 | 122.20 |
| 12 | B | 459 | U | C3'-C2'-C1' | -6.10 | 96.62 | 101.50 |
| 12 | B | 960 | A | C5-C6-N6 | -6.10 | 118.82 | 123.70 |
| 12 | B | 1131 | G | N1-C2-N2 | 6.10 | 121.69 | 116.20 |
| 24 | N | 9 | GLN | CG-CD-OE1 | -6.10 | 109.40 | 121.60 |
| 11 | A | 84 | G | N1-C2-N3 | -6.10 | 120.24 | 123.90 |
| 12 | B | 118 | A | C5-N7-C8 | 6.10 | 106.95 | 103.90 |
| 12 | B | 152 | A | O4'-C1'-N9 | 6.10 | 113.08 | 108.20 |
| 12 | B | 586 | A | N3-C4-C5 | -6.10 | 122.53 | 126.80 |
| 12 | B | 870 | U | C3'-C2'-C1' | -6.10 | 96.62 | 101.50 |
| 12 | B | 1988 | G | O4'-C1'-N9 | 6.10 | 113.08 | 108.20 |
| 12 | B | 2042 | A | C4-C5-N7 | 6.10 | 113.75 | 110.70 |
| 12 | B | 2224 | G | N1-C2-N3 | -6.10 | 120.24 | 123.90 |
| 12 | B | 2400 | G | C4'-C3'-C2' | -6.10 | 96.50 | 102.60 |
| 12 | B | 785 | G | C5-N7-C8 | -6.10 | 101.25 | 104.30 |
| 12 | B | 1835 | G | C5-C6-O6 | -6.10 | 124.94 | 128.60 |
| 12 | B | 262 | A | C4-C5-C6 | 6.09 | 120.05 | 117.00 |
| 12 | B | 925 | A | C5-C6-N1 | 6.09 | 120.75 | 117.70 |
| 12 | B | 1453 | A | C6-C5-N7 | -6.09 | 128.03 | 132.30 |
| 12 | B | 1532 | A | C6-C5-N7 | -6.09 | 128.03 | 132.30 |
| 12 | B | 1378 | A | C8-N9-C4 | 6.09 | 108.24 | 105.80 |
| 12 | B | 1502 | A | C5-N7-C8 | 6.09 | 106.95 | 103.90 |
| 12 | B | 2645 | G | C5-C6-N1 | -6.09 | 108.45 | 111.50 |
| 11 | A | 101 | A | N3-C4-C5 | 6.09 | 131.06 | 126.80 |
| 12 | B | 379 | G | C5-C6-N1 | -6.09 | 108.45 | 111.50 |
| 12 | B | 916 | G | N3-C2-N2 | 6.09 | 124.16 | 119.90 |
| 12 | B | 1549 | A | C5-N7-C8 | 6.09 | 106.95 | 103.90 |
| 12 | B | 2297 | A | N7-C8-N9 | 6.09 | 116.84 | 113.80 |
| 11 | A | 105 | G | C4-C5-N7 | 6.09 | 113.24 | 110.80 |
| 12 | B | 341 | C | N1-C2-O2 | -6.09 | 115.25 | 118.90 |
| 12 | B | 793 | A | N1-C6-N6 | 6.09 | 122.25 | 118.60 |
| 12 | B | 1044 | C | C2-N3-C4 | 6.09 | 122.94 | 119.90 |
| 12 | B | 1272 | A | C5-C6-N1 | -6.09 | 114.66 | 117.70 |
| 12 | B | 1280 | G | C4-C5-C6 | 6.09 | 122.45 | 118.80 |
| 12 | B | 1659 | G | C4-C5-C6 | 6.09 | 122.45 | 118.80 |
| 12 | B | 1970 | A | N1-C6-N6 | 6.09 | 122.25 | 118.60 |
| 12 | B | 2434 | A | O4'-C1'-N9 | 6.09 | 113.07 | 108.20 |
| 12 | B | 2705 | A | C5-N7-C8 | 6.09 | 106.94 | 103.90 |
| 12 | B | 2772 | C | N1-C2-O2 | -6.09 | 115.25 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 16 | F | 142 | TYR | CG-CD2-CE2 | -6.09 | 116.43 | 121.30 |
| 12 | B | 123 | G | C5-N7-C8 | 6.09 | 107.34 | 104.30 |
| 12 | B | 1367 | A | P-O3'-C3' | 6.09 | 127.00 | 119.70 |
| 12 | B | 1759 | A | C6-N1-C2 | 6.09 | 122.25 | 118.60 |
| 12 | B | 2105 | U | N3-C4-C5 | -6.09 | 110.95 | 114.60 |
| 12 | B | 2228 | G | N1-C2-N3 | -6.09 | 120.25 | 123.90 |
| 12 | B | 1120 | G | C5-C6-O6 | -6.08 | 124.95 | 128.60 |
| 12 | B | 2493 | U | O4'-C1'-N1 | 6.08 | 113.07 | 108.20 |
| 12 | B | 308 | G | N3-C2-N2 | 6.08 | 124.16 | 119.90 |
| 12 | B | 356 | G | C5-C6-N1 | -6.08 | 108.46 | 111.50 |
| 12 | B | 1397 | U | C6-N1-C1' | -6.08 | 112.68 | 121.20 |
| 12 | B | 408 | G | P-O3'-C3' | -6.08 | 112.40 | 119.70 |
| 12 | B | 656 | G | C8-N9-C4 | 6.08 | 108.83 | 106.40 |
| 12 | B | 1287 | A | N7-C8-N9 | -6.08 | 110.76 | 113.80 |
| 12 | B | 54 | G | N1-C2-N3 | -6.08 | 120.25 | 123.90 |
| 12 | B | 28 | A | C5-C6-N1 | -6.08 | 114.66 | 117.70 |
| 12 | B | 283 | G | C5-N7-C8 | 6.08 | 107.34 | 104.30 |
| 12 | B | 2160 | C | C3'-C2'-C1' | 6.08 | 106.36 | 101.50 |
| 12 | B | 2469 | A | C5-C6-N6 | -6.08 | 118.84 | 123.70 |
| 25 | O | 50 | ALA | N-CA-CB | 6.08 | 118.61 | 110.10 |
| 32 | W | 26 | PHE | CB-CG-CD1 | -6.08 | 116.54 | 120.80 |
| 12 | B | 332 | A | C5-C6-N1 | -6.08 | 114.66 | 117.70 |
| 12 | B | 1159 | U | N1-C2-O2 | -6.08 | 118.55 | 122.80 |
| 12 | B | 1768 | C | C2-N3-C4 | -6.08 | 116.86 | 119.90 |
| 12 | B | 1860 | G | C8-N9-C1' | 6.08 | 134.90 | 127.00 |
| 12 | B | 1992 | G | C5'-C4'-O4' | 6.08 | 116.39 | 109.10 |
| 12 | B | 2108 | A | N7-C8-N9 | -6.08 | 110.76 | 113.80 |
| 12 | B | 2287 | A | C5-C6-N6 | -6.08 | 118.84 | 123.70 |
| 12 | B | 128 | C | C6-N1-C2 | -6.08 | 117.87 | 120.30 |
| 12 | B | 498 | G | N9-C4-C5 | -6.08 | 102.97 | 105.40 |
| 12 | B | 1002 | G | C6-N1-C2 | 6.08 | 128.75 | 125.10 |
| 12 | B | 1399 | C | C5-C4-N4 | -6.08 | 115.95 | 120.20 |
| 12 | B | 1553 | A | P-O3'-C3' | -6.08 | 112.41 | 119.70 |
| 12 | B | 2613 | U | N3-C4-O4 | 6.08 | 123.65 | 119.40 |
| 12 | B | 2624 | G | N1-C2-N3 | 6.08 | 127.55 | 123.90 |
| 12 | B | 2632 | A | C6-C5-N7 | -6.08 | 128.05 | 132.30 |
| 10 | 9 | 159 | LEU | CB-CG-CD2 | 6.07 | 121.33 | 111.00 |
| 11 | A | 31 | C | N3-C4-C5 | -6.07 | 119.47 | 121.90 |
| 11 | A | 69 | G | N3-C4-C5 | 6.07 | 131.64 | 128.60 |
| 12 | B | 75 | G | N3-C4-C5 | -6.07 | 125.56 | 128.60 |
| 12 | B | 252 | G | C4-C5-C6 | 6.07 | 122.44 | 118.80 |
| 12 | B | 634 | C | N1-C2-N3 | -6.07 | 114.95 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1032 | A | C6-C5-N7 | -6.07 | 128.05 | 132.30 |
| 12 | B | 1433 | A | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 12 | B | 2584 | U | O3'-P-O5' | -6.07 | 92.46 | 104.00 |
| 11 | A | 88 | C | C6-N1-C2 | -6.07 | 117.87 | 120.30 |
| 12 | B | 208 | C | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 12 | B | 279 | A | C5-N7-C8 | 6.07 | 106.94 | 103.90 |
| 12 | B | 1533 | C | C5'-C4'-C3' | 6.07 | 125.72 | 116.00 |
| 12 | B | 1935 | G | N1-C6-O6 | 6.07 | 123.54 | 119.90 |
| 12 | B | 2829 | A | N1-C6-N6 | 6.07 | 122.24 | 118.60 |
| 11 | A | 10 | G | C6-C5-N7 | -6.07 | 126.76 | 130.40 |
| 12 | B | 315 | G | C2-N3-C4 | 6.07 | 114.94 | 111.90 |
| 12 | B | 337 | C | C4-C5-C6 | 6.07 | 120.44 | 117.40 |
| 12 | B | 451 | U | C5'-C4'-O4' | 6.07 | 116.38 | 109.10 |
| 12 | B | 664 | G | O4'-C1'-N9 | 6.07 | 113.06 | 108.20 |
| 12 | B | 1368 | G | P-O3'-C3' | -6.07 | 112.42 | 119.70 |
| 12 | B | 1856 | U | N3-C2-O2 | 6.07 | 126.45 | 122.20 |
| 29 | S | 38 | TYR | CB-CG-CD2 | -6.07 | 117.36 | 121.00 |
| 11 | A | 97 | C | C4-C5-C6 | 6.07 | 120.43 | 117.40 |
| 12 | B | 810 | U | C6-N1-C2 | -6.07 | 117.36 | 121.00 |
| 12 | B | 1061 | U | C2-N3-C4 | 6.07 | 130.64 | 127.00 |
| 12 | B | 1078 | U | C5-C6-N1 | -6.07 | 119.67 | 122.70 |
| 12 | B | 1188 | U | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 12 | B | 300 | A | C5-C6-N1 | -6.07 | 114.67 | 117.70 |
| 12 | B | 989 | G | C6-C5-N7 | -6.07 | 126.76 | 130.40 |
| 12 | B | 1813 | G | C6-C5-N7 | -6.07 | 126.76 | 130.40 |
| 12 | B | 2397 | G | C8-N9-C4 | -6.07 | 103.97 | 106.40 |
| 12 | B | 206 | U | C6-N1-C2 | -6.07 | 117.36 | 121.00 |
| 12 | B | 356 | G | N1-C2-N3 | -6.07 | 120.26 | 123.90 |
| 12 | B | 761 | A | C5'-C4'-O4' | 6.07 | 116.38 | 109.10 |
| 12 | B | 763 | G | C6-N1-C2 | 6.07 | 128.74 | 125.10 |
| 12 | B | 798 | G | O4'-C1'-N9 | 6.07 | 113.05 | 108.20 |
| 12 | B | 861 | A | N1-C2-N3 | 6.07 | 132.33 | 129.30 |
| 12 | B | 907 | G | N3-C2-N2 | 6.07 | 124.15 | 119.90 |
| 12 | B | 1775 | U | N3-C4-C5 | -6.07 | 110.96 | 114.60 |
| 12 | B | 1056 | G | N1-C2-N3 | -6.06 | 120.26 | 123.90 |
| 12 | B | 1325 | U | C2-N3-C4 | 6.06 | 130.64 | 127.00 |
| 12 | B | 198 | C | N3-C4-N4 | 6.06 | 122.24 | 118.00 |
| 12 | B | 199 | A | N3-C4-N9 | 6.06 | 132.25 | 127.40 |
| 12 | B | 259 | G | C8-N9-C4 | -6.06 | 103.97 | 106.40 |
| 12 | B | 1478 | G | C5-C6-N1 | -6.06 | 108.47 | 111.50 |
| 12 | B | 1743 | G | N1-C2-N3 | -6.06 | 120.26 | 123.90 |
| 12 | B | 1867 | G | C5'-C4'-O4' | 6.06 | 116.38 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1871 | A | P-O3'-C3' | 6.06 | 126.97 | 119.70 |
| 12 | B | 1875 | G | C5-C6-O6 | -6.06 | 124.96 | 128.60 |
| 12 | B | 2031 | A | O4'-C1'-N9 | 6.06 | 113.05 | 108.20 |
| 12 | B | 2567 | G | O4'-C1'-N9 | 6.06 | 113.05 | 108.20 |
| 11 | A | 45 | A | C5'-C4'-O4' | 6.06 | 116.37 | 109.10 |
| 12 | B | 185 | G | C2-N3-C4 | 6.06 | 114.93 | 111.90 |
| 12 | B | 756 | A | N1-C6-N6 | 6.06 | 122.24 | 118.60 |
| 12 | B | 1385 | A | C2-N3-C4 | -6.06 | 107.57 | 110.60 |
| 12 | B | 1699 | G | C6-N1-C2 | -6.06 | 121.46 | 125.10 |
| 12 | B | 2328 | A | C4-C5-C6 | 6.06 | 120.03 | 117.00 |
| 11 | A | 88 | C | N3-C4-C5 | -6.06 | 119.48 | 121.90 |
| 12 | B | 82 | U | C4'-C3'-C2' | -6.06 | 96.54 | 102.60 |
| 12 | B | 264 | C | P-O5'-C5' | -6.06 | 111.20 | 120.90 |
| 12 | B | 280 | U | C2-N3-C4 | -6.06 | 123.36 | 127.00 |
| 12 | B | 609 | A | N7-C8-N9 | 6.06 | 116.83 | 113.80 |
| 12 | B | 1386 | C | C6-N1-C1' | 6.06 | 128.07 | 120.80 |
| 12 | B | 1963 | U | C2-N1-C1' | 6.06 | 124.97 | 117.70 |
| 12 | B | 2334 | U | N1-C2-N3 | -6.06 | 111.27 | 114.90 |
| 12 | B | 2626 | C | O4'-C1'-N1 | 6.06 | 113.05 | 108.20 |
| 12 | B | 2834 | G | C4-C5-C6 | 6.06 | 122.44 | 118.80 |
| 23 | M | 79 | ALA | N-CA-CB | 6.06 | 118.58 | 110.10 |
| 12 | B | 308 | G | C2-N3-C4 | 6.06 | 114.93 | 111.90 |
| 12 | B | 397 | U | C5-C4-O4 | -6.06 | 122.27 | 125.90 |
| 12 | B | 783 | A | C5-C6-N6 | -6.06 | 118.85 | 123.70 |
| 12 | B | 1075 | C | N3-C4-N4 | 6.06 | 122.24 | 118.00 |
| 12 | B | 1177 | G | P-O3'-C3' | 6.06 | 126.97 | 119.70 |
| 12 | B | 1450 | G | N7-C8-N9 | -6.06 | 110.07 | 113.10 |
| 12 | B | 1618 | A | N1-C2-N3 | 6.06 | 132.33 | 129.30 |
| 12 | B | 2038 | G | C2-N3-C4 | 6.06 | 114.93 | 111.90 |
| 12 | B | 2364 | C | N1-C2-O2 | 6.06 | 122.53 | 118.90 |
| 11 | A | 109 | A | C5'-C4'-C3' | -6.06 | 106.31 | 116.00 |
| 12 | B | 142 | A | C4-C5-C6 | 6.06 | 120.03 | 117.00 |
| 12 | B | 396 | G | N7-C8-N9 | -6.06 | 110.07 | 113.10 |
| 12 | B | 541 | A | C3'-C2'-C1' | -6.06 | 96.66 | 101.50 |
| 12 | B | 1667 | G | O4'-C1'-N9 | 6.06 | 113.05 | 108.20 |
| 12 | B | 2158 | A | C5'-C4'-O4' | 6.06 | 116.37 | 109.10 |
| 12 | B | 2229 | U | P-O3'-C3' | -6.06 | 112.43 | 119.70 |
| 12 | B | 2238 | G | N9-C4-C5 | -6.06 | 102.98 | 105.40 |
| 12 | B | 35 | G | C1'-O4'-C4' | -6.05 | 105.06 | 109.90 |
| 12 | B | 86 | G | N3-C2-N2 | 6.05 | 124.14 | 119.90 |
| 12 | B | 114 | U | C4-C5-C6 | -6.05 | 116.07 | 119.70 |
| 12 | B | 432 | A | C2-N3-C4 | 6.05 | 113.63 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 679 | C | C5-C6-N1 | -6.05 | 117.97 | 121.00 |
| 12 | B | 1571 | A | C5-C6-N6 | -6.05 | 118.86 | 123.70 |
| 12 | B | 2136 | G | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |
| 12 | B | 2340 | A | N9-C4-C5 | 6.05 | 108.22 | 105.80 |
| 12 | B | 2826 | A | N3-C4-N9 | 6.05 | 132.24 | 127.40 |
| 12 | B | 41 | C | N1-C2-O2 | 6.05 | 122.53 | 118.90 |
| 12 | B | 326 | G | N1-C6-O6 | 6.05 | 123.53 | 119.90 |
| 12 | B | 438 | G | N3-C4-N9 | 6.05 | 129.63 | 126.00 |
| 12 | B | 604 | G | C6-C5-N7 | -6.05 | 126.77 | 130.40 |
| 12 | B | 1521 | G | C6-C5-N7 | -6.05 | 126.77 | 130.40 |
| 12 | B | 1849 | G | C6-C5-N7 | -6.05 | 126.77 | 130.40 |
| 11 | A | 7 | G | N7-C8-N9 | -6.05 | 110.07 | 113.10 |
| 11 | A | 35 | C | N3-C4-N4 | 6.05 | 122.24 | 118.00 |
| 12 | B | 47 | C | N1-C2-N3 | -6.05 | 114.96 | 119.20 |
| 12 | B | 883 | G | C6-C5-N7 | -6.05 | 126.77 | 130.40 |
| 12 | B | 1407 | G | P-O3'-C3' | -6.05 | 112.44 | 119.70 |
| 12 | B | 2067 | G | N3-C4-N9 | 6.05 | 129.63 | 126.00 |
| 12 | B | 2399 | G | P-O3'-C3' | -6.05 | 112.44 | 119.70 |
| 12 | B | 2598 | A | N1-C2-N3 | -6.05 | 126.28 | 129.30 |
| 12 | B | 2716 | C | C6-N1-C2 | 6.05 | 122.72 | 120.30 |
| 12 | B | 2835 | A | C5-C6-N1 | -6.05 | 114.67 | 117.70 |
| 12 | B | 227 | A | C5-C6-N6 | -6.05 | 118.86 | 123.70 |
| 12 | B | 305 | C | N1-C2-O2 | 6.05 | 122.53 | 118.90 |
| 12 | B | 463 | G | P-O5'-C5' | 6.05 | 130.58 | 120.90 |
| 12 | B | 1011 | G | N1-C2-N3 | -6.05 | 120.27 | 123.90 |
| 12 | B | 1296 | G | N9-C1'-C2' | -6.05 | 105.35 | 112.00 |
| 12 | B | 1763 | G | P-O3'-C3' | 6.05 | 126.96 | 119.70 |
| 12 | B | 1811 | G | P-O5'-C5' | 6.05 | 130.58 | 120.90 |
| 12 | B | 2113 | U | C5'-C4'-O4' | 6.05 | 116.36 | 109.10 |
| 12 | B | 2464 | G | N9-C1'-C2' | -6.05 | 105.34 | 112.00 |
| 12 | B | 2520 | C | N3-C4-C5 | -6.05 | 119.48 | 121.90 |
| 6 | 5 | 38 | PHE | CG-CD2-CE2 | -6.05 | 114.15 | 120.80 |
| 12 | B | 317 | G | N3-C4-N9 | -6.05 | 122.37 | 126.00 |
| 10 | 9 | 196 | PRO | N-CA-C | 6.05 | 127.82 | 112.10 |
| 12 | B | 837 | C | C4-C5-C6 | 6.05 | 120.42 | 117.40 |
| 12 | B | 1063 | G | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |
| 12 | B | 1077 | A | C5'-C4'-O4' | 6.05 | 116.36 | 109.10 |
| 12 | B | 1412 | U | N3-C4-O4 | 6.05 | 123.63 | 119.40 |
| 12 | B | 2078 | C | C2-N1-C1' | -6.05 | 112.15 | 118.80 |
| 12 | B | 2883 | A | C8-N9-C4 | -6.05 | 103.38 | 105.80 |
| 12 | B | 2061 | G | P-O3'-C3' | 6.04 | 126.95 | 119.70 |
| 12 | B | 2084 | C | N3-C4-N4 | 6.04 | 122.23 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2201 | G | N3-C4-N9 | -6.04 | 122.37 | 126.00 |
| 12 | B | 2631 | G | C8-N9-C4 | -6.04 | 103.98 | 106.40 |
| 12 | B | 443 | A | N1-C2-N3 | 6.04 | 132.32 | 129.30 |
| 12 | B | 1303 | G | N1-C2-N3 | -6.04 | 120.27 | 123.90 |
| 12 | B | 2260 | C | C2-N1-C1' | 6.04 | 125.45 | 118.80 |
| 12 | B | 2298 | A | C5-C6-N1 | -6.04 | 114.68 | 117.70 |
| 12 | B | 89 | A | C4-C5-N7 | -6.04 | 107.68 | 110.70 |
| 12 | B | 329 | G | N7-C8-N9 | 6.04 | 116.12 | 113.10 |
| 12 | B | 348 | A | N1-C2-N3 | 6.04 | 132.32 | 129.30 |
| 12 | B | 604 | G | OP1-P-OP2 | -6.04 | 110.54 | 119.60 |
| 12 | B | 1423 | G | N7-C8-N9 | -6.04 | 110.08 | 113.10 |
| 12 | B | 1678 | A | C6-N1-C2 | -6.04 | 114.97 | 118.60 |
| 12 | B | 2410 | G | C2-N3-C4 | -6.04 | 108.88 | 111.90 |
| 12 | B | 2754 | U | N1-C2-N3 | 6.04 | 118.53 | 114.90 |
| 11 | A | 96 | G | C4-N9-C1' | -6.04 | 118.65 | 126.50 |
| 12 | B | 497 | A | N1-C2-N3 | -6.04 | 126.28 | 129.30 |
| 12 | B | 793 | A | C8-N9-C4 | -6.04 | 103.38 | 105.80 |
| 12 | B | 967 | U | C5-C4-O4 | -6.04 | 122.28 | 125.90 |
| 12 | B | 1184 | U | C1'-O4'-C4' | -6.04 | 105.07 | 109.90 |
| 12 | B | 1707 | G | C5-N7-C8 | -6.04 | 101.28 | 104.30 |
| 18 | H | 49 | ALA | CB-CA-C | -6.04 | 101.04 | 110.10 |
| 12 | B | 2 | G | N9-C4-C5 | -6.04 | 102.98 | 105.40 |
| 12 | B | 274 | C | P-O5'-C5' | -6.04 | 111.24 | 120.90 |
| 12 | B | 1070 | A | C6-C5-N7 | -6.04 | 128.07 | 132.30 |
| 12 | B | 1613 | G | O4'-C4'-C3' | -6.04 | 97.96 | 104.00 |
| 12 | B | 1715 | G | C6-N1-C2 | 6.04 | 128.72 | 125.10 |
| 12 | B | 1906 | G | P-O5'-C5' | -6.04 | 111.24 | 120.90 |
| 12 | B | 1987 | A | N9-C4-C5 | 6.04 | 108.22 | 105.80 |
| 12 | B | 2566 | A | C4-C5-C6 | 6.04 | 120.02 | 117.00 |
| 12 | B | 2607 | G | C8-N9-C1' | 6.04 | 134.85 | 127.00 |
| 20 | J | 96 | ARG | CG-CD-NE | -6.04 | 99.12 | 111.80 |
| 12 | B | 730 | A | C4-C5-N7 | -6.04 | 107.68 | 110.70 |
| 12 | B | 1212 | G | N3-C4-C5 | 6.04 | 131.62 | 128.60 |
| 12 | B | 1310 | G | C8-N9-C4 | 6.04 | 108.81 | 106.40 |
| 12 | B | 1528 | A | C5'-C4'-C3' | 6.04 | 125.66 | 116.00 |
| 12 | B | 1616 | A | C4-C5-N7 | -6.04 | 107.68 | 110.70 |
| 12 | B | 2709 | G | N9-C4-C5 | 6.04 | 107.81 | 105.40 |
| 11 | A | 81 | G | N3-C4-C5 | 6.04 | 131.62 | 128.60 |
| 12 | B | 551 | G | C5-C6-O6 | -6.04 | 124.98 | 128.60 |
| 12 | B | 556 | A | C5-N7-C8 | 6.04 | 106.92 | 103.90 |
| 12 | B | 700 | G | C4-C5-N7 | 6.04 | 113.21 | 110.80 |
| 12 | B | 2410 | G | N3-C4-N9 | -6.04 | 122.38 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2523 | G | O4'-C1'-N9 | 6.04 | 113.03 | 108.20 |
| 25 | O | 33 | ARG | NE-CZ-NH2 | -6.04 | 117.28 | 120.30 |
| 12 | B | 312 | G | C6-C5-N7 | -6.03 | 126.78 | 130.40 |
| 12 | B | 395 | U | C6-N1-C2 | 6.03 | 124.62 | 121.00 |
| 12 | B | 1001 | A | C5-N7-C8 | 6.03 | 106.92 | 103.90 |
| 12 | B | 2311 | A | O4'-C1'-N9 | 6.03 | 113.03 | 108.20 |
| 12 | B | 2800 | A | N9-C1'-C2' | -6.03 | 105.36 | 112.00 |
| 12 | B | 2898 | U | O4'-C1'-N1 | 6.03 | 113.03 | 108.20 |
| 12 | B | 26 | G | C5-C6-N1 | -6.03 | 108.48 | 111.50 |
| 12 | B | 249 | C | N3-C4-N4 | 6.03 | 122.22 | 118.00 |
| 12 | B | 467 | G | C4-C5-N7 | -6.03 | 108.39 | 110.80 |
| 12 | B | 838 | C | O4'-C1'-N1 | 6.03 | 113.03 | 108.20 |
| 12 | B | 928 | A | O4'-C1'-N9 | 6.03 | 113.03 | 108.20 |
| 12 | B | 1212 | G | C5-C6-N1 | -6.03 | 108.48 | 111.50 |
| 12 | B | 1436 | G | N3-C4-N9 | -6.03 | 122.38 | 126.00 |
| 10 | 9 | 182 | ALA | CB-CA-C | -6.03 | 101.05 | 110.10 |
| 12 | B | 595 | C | OP1-P-OP2 | -6.03 | 110.56 | 119.60 |
| 12 | B | 597 | G | O5'-C5'-C4' | -6.03 | 100.24 | 111.70 |
| 12 | B | 849 | A | P-O3'-C3' | 6.03 | 126.94 | 119.70 |
| 12 | B | 1276 | A | N9-C4-C5 | 6.03 | 108.21 | 105.80 |
| 12 | B | 1832 | C | O4'-C1'-N1 | 6.03 | 113.03 | 108.20 |
| 12 | B | 2545 | G | C5'-C4'-O4' | 6.03 | 116.34 | 109.10 |
| 12 | B | 2677 | G | C5-C6-N1 | -6.03 | 108.48 | 111.50 |
| 12 | B | 1018 | U | C3'-C2'-C1' | -6.03 | 96.68 | 101.50 |
| 12 | B | 1639 | C | C4'-C3'-C2' | 6.03 | 108.63 | 102.60 |
| 12 | B | 2025 | C | N1-C2-N3 | -6.03 | 114.98 | 119.20 |
| 12 | B | 2137 | U | C5'-C4'-O4' | 6.03 | 116.33 | 109.10 |
| 12 | B | 2145 | C | O4'-C1'-N1 | 6.03 | 113.02 | 108.20 |
| 12 | B | 183 | C | N3-C2-O2 | -6.03 | 117.68 | 121.90 |
| 12 | B | 464 | U | N3-C4-O4 | 6.03 | 123.62 | 119.40 |
| 12 | B | 2190 | G | O4'-C1'-N9 | 6.03 | 113.02 | 108.20 |
| 12 | B | 2239 | G | C4-C5-C6 | 6.03 | 122.42 | 118.80 |
| 11 | A | 98 | G | C5-C6-O6 | -6.03 | 124.98 | 128.60 |
| 12 | B | 286 | U | C5'-C4'-O4' | 6.03 | 116.33 | 109.10 |
| 12 | B | 1416 | G | C3'-C2'-C1' | -6.03 | 96.68 | 101.50 |
| 12 | B | 1647 | U | C5-C4-O4 | -6.03 | 122.28 | 125.90 |
| 12 | B | 1738 | G | N1-C6-O6 | 6.03 | 123.52 | 119.90 |
| 12 | B | 2199 | A | C1'-O4'-C4' | 6.03 | 114.72 | 109.90 |
| 12 | B | 267 | C | C2-N3-C4 | 6.02 | 122.91 | 119.90 |
| 12 | B | 728 | G | P-O3'-C3' | 6.02 | 126.93 | 119.70 |
| 12 | B | 788 | A | C6-C5-N7 | -6.02 | 128.08 | 132.30 |
| 12 | B | 1031 | G | C5-C6-N1 | -6.02 | 108.49 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 64 | A | C4-C5-C6 | 6.02 | 120.01 | 117.00 |
| 12 | B | 74 | A | OP1-P-OP2 | -6.02 | 110.57 | 119.60 |
| 12 | B | 126 | A | C5-C6-N1 | -6.02 | 114.69 | 117.70 |
| 12 | B | 684 | G | C4-N9-C1' | -6.02 | 118.67 | 126.50 |
| 12 | B | 748 | G | C5'-C4'-O4' | 6.02 | 116.33 | 109.10 |
| 12 | B | 862 | G | N1-C2-N2 | -6.02 | 110.78 | 116.20 |
| 12 | B | 1420 | A | C5-C6-N1 | -6.02 | 114.69 | 117.70 |
| 12 | B | 1544 | A | C5-C6-N6 | -6.02 | 118.88 | 123.70 |
| 12 | B | 1600 | C | C5-C6-N1 | 6.02 | 124.01 | 121.00 |
| 12 | B | 1835 | G | C5-C6-N1 | 6.02 | 114.51 | 111.50 |
| 12 | B | 2246 | G | C3'-C2'-C1' | -6.02 | 96.68 | 101.50 |
| 12 | B | 2750 | A | C4-C5-N7 | -6.02 | 107.69 | 110.70 |
| 12 | B | 2751 | G | C4-C5-C6 | 6.02 | 122.41 | 118.80 |
| 12 | B | 2879 | A | C6-C5-N7 | -6.02 | 128.08 | 132.30 |
| 23 | M | 103 | TYR | CZ-CE2-CD2 | -6.02 | 114.38 | 119.80 |
| 25 | O | 37 | ALA | N-CA-CB | 6.02 | 118.53 | 110.10 |
| 12 | B | 1121 | C | C5-C4-N4 | -6.02 | 115.99 | 120.20 |
| 12 | B | 1165 | A | C4-C5-C6 | 6.02 | 120.01 | 117.00 |
| 12 | B | 2763 | G | C5-C6-N1 | -6.02 | 108.49 | 111.50 |
| 11 | A | 68 | C | N3-C4-N4 | 6.02 | 122.21 | 118.00 |
| 12 | B | 92 | U | P-O3'-C3' | 6.02 | 126.92 | 119.70 |
| 12 | B | 155 | A | N7-C8-N9 | -6.02 | 110.79 | 113.80 |
| 12 | B | 1671 | U | C6-N1-C1' | -6.02 | 112.77 | 121.20 |
| 12 | B | 1809 | A | C8-N9-C4 | -6.02 | 103.39 | 105.80 |
| 12 | B | 2330 | G | N1-C6-O6 | 6.02 | 123.51 | 119.90 |
| 12 | B | 75 | G | C4-C5-C6 | 6.02 | 122.41 | 118.80 |
| 12 | B | 142 | A | N1-C6-N6 | 6.02 | 122.21 | 118.60 |
| 12 | B | 514 | A | P-O3'-C3' | -6.02 | 112.48 | 119.70 |
| 12 | B | 1667 | G | N3-C4-C5 | 6.02 | 131.61 | 128.60 |
| 12 | B | 1715 | G | C5'-C4'-C3' | -6.02 | 106.37 | 116.00 |
| 12 | B | 1784 | A | C5-C6-N6 | -6.02 | 118.89 | 123.70 |
| 12 | B | 2445 | G | C6-C5-N7 | -6.02 | 126.79 | 130.40 |
| 4 | 3 | 51 | ARG | NE-CZ-NH2 | 6.02 | 123.31 | 120.30 |
| 12 | B | 1848 | A | N3-C4-C5 | -6.02 | 122.59 | 126.80 |
| 12 | B | 2121 | G | C8-N9-C1' | 6.02 | 134.82 | 127.00 |
| 12 | B | 2642 | G | C2-N3-C4 | -6.02 | 108.89 | 111.90 |
| 12 | B | 169 | G | C2-N3-C4 | 6.01 | 114.91 | 111.90 |
| 12 | B | 725 | G | C6-C5-N7 | -6.01 | 126.79 | 130.40 |
| 12 | B | 2480 | C | C4'-C3'-C2' | -6.01 | 96.58 | 102.60 |
| 12 | B | 2627 | G | C5-C6-N1 | 6.01 | 114.51 | 111.50 |
| 12 | B | 1298 | C | N1-C2-O2 | -6.01 | 115.29 | 118.90 |
| 22 | L | 66 | PHE | CB-CG-CD2 | -6.01 | 116.59 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 23 | M | 40 | ARG | NE-CZ-NH1 | 6.01 | 123.31 | 120.30 |
| 10 | 9 | 24 | ARG | N-CA-CB | 6.01 | 121.42 | 110.60 |
| 12 | B | 1014 | A | P-O5'-C5' | 6.01 | 130.52 | 120.90 |
| 12 | B | 1057 | A | C4-C5-N7 | -6.01 | 107.69 | 110.70 |
| 12 | B | 1082 | U | C2-N3-C4 | -6.01 | 123.39 | 127.00 |
| 12 | B | 1546 | G | N1-C6-O6 | 6.01 | 123.51 | 119.90 |
| 12 | B | 1589 | U | C4'-C3'-C2' | -6.01 | 96.59 | 102.60 |
| 12 | B | 1626 | A | C5-C6-N6 | -6.01 | 118.89 | 123.70 |
| 12 | B | 2623 | G | C4'-C3'-C2' | -6.01 | 96.59 | 102.60 |
| 12 | B | 102 | U | O4'-C1'-N1 | 6.01 | 113.01 | 108.20 |
| 12 | B | 247 | G | C4-C5-N7 | 6.01 | 113.20 | 110.80 |
| 12 | B | 665 | U | C6-N1-C2 | 6.01 | 124.61 | 121.00 |
| 12 | B | 1468 | U | N3-C4-C5 | -6.01 | 111.00 | 114.60 |
| 12 | B | 1645 | G | C6-N1-C2 | 6.01 | 128.71 | 125.10 |
| 12 | B | 1932 | A | C6-C5-N7 | -6.01 | 128.09 | 132.30 |
| 12 | B | 2071 | A | O4'-C1'-N9 | 6.01 | 113.01 | 108.20 |
| 25 | O | 100 | HIS | N-CA-CB | 6.01 | 121.42 | 110.60 |
| 12 | B | 109 | C | C1'-O4'-C4' | -6.01 | 105.09 | 109.90 |
| 12 | B | 432 | A | C4-C5-N7 | -6.01 | 107.70 | 110.70 |
| 12 | B | 587 | C | N1-C2-N3 | -6.01 | 114.99 | 119.20 |
| 12 | B | 629 | G | N3-C4-C5 | -6.01 | 125.60 | 128.60 |
| 12 | B | 1445 | G | O4'-C1'-N9 | 6.01 | 113.01 | 108.20 |
| 12 | B | 219 | A | P-O3'-C3' | 6.01 | 126.91 | 119.70 |
| 12 | B | 310 | A | N1-C6-N6 | 6.01 | 122.20 | 118.60 |
| 12 | B | 978 | G | C4'-C3'-C2' | -6.01 | 96.59 | 102.60 |
| 12 | B | 1531 | C | O4'-C1'-N1 | 6.01 | 113.00 | 108.20 |
| 12 | B | 1707 | G | C4-C5-N7 | 6.01 | 113.20 | 110.80 |
| 12 | B | 1942 | C | P-O3'-C3' | 6.01 | 126.91 | 119.70 |
| 12 | B | 2030 | A | C5-N7-C8 | 6.01 | 106.90 | 103.90 |
| 12 | B | 2482 | A | C5-C6-N1 | -6.01 | 114.70 | 117.70 |
| 21 | K | 12 | ASP | CB-CG-OD2 | 6.01 | 123.71 | 118.30 |
| 22 | L | 64 | PHE | CB-CG-CD1 | -6.01 | 116.60 | 120.80 |
| 12 | B | 812 | C | N3-C4-C5 | -6.00 | 119.50 | 121.90 |
| 12 | B | 2091 | C | N3-C4-N4 | 6.00 | 122.20 | 118.00 |
| 12 | B | 2119 | A | C8-N9-C4 | -6.00 | 103.40 | 105.80 |
| 29 | S | 11 | ARG | NE-CZ-NH1 | 6.00 | 123.30 | 120.30 |
| 12 | B | 677 | A | C6-C5-N7 | -6.00 | 128.10 | 132.30 |
| 12 | B | 711 | G | N1-C6-O6 | 6.00 | 123.50 | 119.90 |
| 12 | B | 2323 | G | N7-C8-N9 | 6.00 | 116.10 | 113.10 |
| 12 | B | 2655 | G | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 12 | B | 2814 | A | C5-C6-N6 | -6.00 | 118.90 | 123.70 |
| 11 | A | 31 | C | C5-C6-N1 | 6.00 | 124.00 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 77 | U | N1-C2-N3 | 6.00 | 118.50 | 114.90 |
| 12 | B | 656 | G | C5-N7-C8 | 6.00 | 107.30 | 104.30 |
| 12 | B | 730 | A | C2-N3-C4 | -6.00 | 107.60 | 110.60 |
| 12 | B | 868 | U | O4'-C1'-N1 | 6.00 | 113.00 | 108.20 |
| 12 | B | 892 | A | C4-C5-N7 | -6.00 | 107.70 | 110.70 |
| 12 | B | 1597 | A | C5-C6-N6 | -6.00 | 118.90 | 123.70 |
| 12 | B | 1607 | C | O4'-C1'-N1 | 6.00 | 113.00 | 108.20 |
| 12 | B | 1763 | G | N1-C6-O6 | 6.00 | 123.50 | 119.90 |
| 12 | B | 2040 | G | C5'-C4'-C3' | -6.00 | 106.40 | 116.00 |
| 12 | B | 336 | C | P-O3'-C3' | -6.00 | 112.50 | 119.70 |
| 12 | B | 623 | C | N1-C2-O2 | 6.00 | 122.50 | 118.90 |
| 12 | B | 878 | A | C6-N1-C2 | -6.00 | 115.00 | 118.60 |
| 12 | B | 1071 | G | N3-C4-N9 | 6.00 | 129.60 | 126.00 |
| 12 | B | 2002 | G | C5-C6-O6 | -6.00 | 125.00 | 128.60 |
| 12 | B | 2876 | G | P-O3'-C3' | 6.00 | 126.90 | 119.70 |
| 12 | B | 354 | A | C5-C6-N1 | -6.00 | 114.70 | 117.70 |
| 12 | B | 914 | G | C4-C5-N7 | -6.00 | 108.40 | 110.80 |
| 12 | B | 952 | G | N7-C8-N9 | 6.00 | 116.10 | 113.10 |
| 12 | B | 1133 | A | O4'-C4'-C3' | -6.00 | 98.00 | 104.00 |
| 12 | B | 1481 | U | P-O5'-C5' | -6.00 | 111.30 | 120.90 |
| 12 | B | 1681 | G | C5-C6-N1 | -6.00 | 108.50 | 111.50 |
| 12 | B | 1722 | A | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 12 | B | 2307 | G | C1'-O4'-C4' | -6.00 | 105.10 | 109.90 |
| 12 | B | 2537 | U | N3-C4-C5 | -6.00 | 111.00 | 114.60 |
| 12 | B | 2830 | C | C5-C4-N4 | -6.00 | 116.00 | 120.20 |
| 12 | B | 223 | A | C5-N7-C8 | 6.00 | 106.90 | 103.90 |
| 12 | B | 407 | G | N3-C2-N2 | 6.00 | 124.10 | 119.90 |
| 12 | B | 1488 | C | P-O5'-C5' | -6.00 | 111.31 | 120.90 |
| 12 | B | 1602 | U | N3-C4-O4 | 6.00 | 123.60 | 119.40 |
| 12 | B | 1968 | G | N1-C2-N3 | -6.00 | 120.30 | 123.90 |
| 17 | G | 55 | ASP | CB-CG-OD2 | -6.00 | 112.90 | 118.30 |
| 12 | B | 18 | U | C4'-C3'-C2' | -6.00 | 96.61 | 102.60 |
| 12 | B | 642 | U | C6-N1-C2 | -6.00 | 117.40 | 121.00 |
| 12 | B | 2479 | U | C6-N1-C2 | -6.00 | 117.40 | 121.00 |
| 12 | B | 2790 | U | C6-N1-C2 | -6.00 | 117.40 | 121.00 |
| 12 | B | 484 | C | C5-C4-N4 | -5.99 | 116.00 | 120.20 |
| 12 | B | 501 | A | C5-C6-N1 | -5.99 | 114.70 | 117.70 |
| 12 | B | 1077 | A | C4-C5-C6 | 5.99 | 120.00 | 117.00 |
| 12 | B | 1170 | C | O4'-C1'-N1 | 5.99 | 113.00 | 108.20 |
| 12 | B | 1403 | A | C5-C6-N6 | -5.99 | 118.91 | 123.70 |
| 12 | B | 2531 | A | C6-C5-N7 | -5.99 | 128.10 | 132.30 |
| 24 | N | 96 | ARG | NE-CZ-NH1 | 5.99 | 123.30 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 46 | G | N3-C2-N2 | 5.99 | 124.09 | 119.90 |
| 12 | B | 289 | G | C1'-O4'-C4' | 5.99 | 114.69 | 109.90 |
| 12 | B | 2004 | G | N3-C4-C5 | 5.99 | 131.60 | 128.60 |
| 12 | B | 2150 | C | C2-N3-C4 | 5.99 | 122.90 | 119.90 |
| 12 | B | 2164 | C | N1-C2-N3 | -5.99 | 115.00 | 119.20 |
| 12 | B | 2443 | C | C5-C6-N1 | 5.99 | 124.00 | 121.00 |
| 11 | A | 112 | G | O4'-C1'-N9 | 5.99 | 112.99 | 108.20 |
| 12 | B | 442 | G | C6-N1-C2 | 5.99 | 128.69 | 125.10 |
| 12 | B | 492 | A | N1-C2-N3 | 5.99 | 132.29 | 129.30 |
| 12 | B | 540 | C | N3-C2-O2 | 5.99 | 126.09 | 121.90 |
| 12 | B | 609 | A | C6-C5-N7 | -5.99 | 128.11 | 132.30 |
| 12 | B | 853 | C | C6-N1-C1' | -5.99 | 113.61 | 120.80 |
| 12 | B | 1504 | A | C8-N9-C4 | -5.99 | 103.40 | 105.80 |
| 12 | B | 1654 | A | C4-C5-C6 | 5.99 | 120.00 | 117.00 |
| 12 | B | 1994 | C | C1'-O4'-C4' | 5.99 | 114.69 | 109.90 |
| 8 | 7 | 48 | MET | CG-SD-CE | -5.99 | 90.62 | 100.20 |
| 12 | B | 330 | A | O4'-C1'-N9 | 5.99 | 112.99 | 108.20 |
| 12 | B | 423 | A | N9-C4-C5 | -5.99 | 103.41 | 105.80 |
| 12 | B | 760 | G | C1'-O4'-C4' | -5.99 | 105.11 | 109.90 |
| 12 | B | 1149 | G | C4'-C3'-C2' | -5.99 | 96.61 | 102.60 |
| 12 | B | 2094 | A | C4-C5-N7 | 5.99 | 113.69 | 110.70 |
| 12 | B | 2175 | C | N1-C2-O2 | -5.99 | 115.31 | 118.90 |
| 12 | B | 2188 | U | N3-C4-C5 | -5.99 | 111.01 | 114.60 |
| 12 | B | 2625 | G | C5-C6-N1 | -5.99 | 108.51 | 111.50 |
| 22 | L | 40 | SER | C-N-CA | 5.99 | 136.67 | 121.70 |
| 11 | A | 11 | C | P-O3'-C3' | 5.99 | 126.88 | 119.70 |
| 12 | B | 195 | A | P-O5'-C5' | -5.99 | 111.32 | 120.90 |
| 12 | B | 570 | G | N3-C4-C5 | 5.99 | 131.59 | 128.60 |
| 12 | B | 1247 | A | C4-C5-C6 | 5.99 | 119.99 | 117.00 |
| 12 | B | 1333 | G | C4'-C3'-C2' | -5.99 | 96.61 | 102.60 |
| 12 | B | 261 | G | C2-N3-C4 | 5.99 | 114.89 | 111.90 |
| 12 | B | 617 | G | O4'-C1'-N9 | 5.99 | 112.99 | 108.20 |
| 12 | B | 1503 | A | C4-C5-C6 | 5.99 | 119.99 | 117.00 |
| 12 | B | 1934 | C | C5'-C4'-O4' | 5.99 | 116.28 | 109.10 |
| 12 | B | 2123 | G | N7-C8-N9 | 5.99 | 116.09 | 113.10 |
| 12 | B | 2207 | C | C5-C4-N4 | 5.99 | 124.39 | 120.20 |
| 12 | B | 2446 | G | N1-C6-O6 | 5.99 | 123.49 | 119.90 |
| 12 | B | 409 | G | O4'-C4'-C3' | -5.98 | 98.02 | 104.00 |
| 12 | B | 482 | A | C5-C6-N1 | -5.98 | 114.71 | 117.70 |
| 12 | B | 1464 | G | C8-N9-C4 | 5.98 | 108.79 | 106.40 |
| 12 | B | 1679 | A | N9-C4-C5 | 5.98 | 108.19 | 105.80 |
| 12 | B | 2130 | U | C5-C4-O4 | -5.98 | 122.31 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2269 | G | N9-C4-C5 | -5.98 | 103.01 | 105.40 |
| 10 | 9 | 246 | ASP | N-CA-C | -5.98 | 94.84 | 111.00 |
| 12 | B | 63 | A | C8-N9-C4 | -5.98 | 103.41 | 105.80 |
| 12 | B | 592 | A | C5-N7-C8 | 5.98 | 106.89 | 103.90 |
| 12 | B | 1017 | G | N3-C4-C5 | 5.98 | 131.59 | 128.60 |
| 12 | B | 1051 | G | N9-C4-C5 | 5.98 | 107.79 | 105.40 |
| 12 | B | 1165 | A | C4'-C3'-C2' | -5.98 | 96.62 | 102.60 |
| 12 | B | 1290 | C | P-O5'-C5' | 5.98 | 130.47 | 120.90 |
| 12 | B | 1975 | G | C2-N3-C4 | 5.98 | 114.89 | 111.90 |
| 12 | B | 2060 | A | N1-C6-N6 | 5.98 | 122.19 | 118.60 |
| 12 | B | 2110 | G | C5-C6-N1 | -5.98 | 108.51 | 111.50 |
| 12 | B | 2157 | G | C8-N9-C1' | -5.98 | 119.22 | 127.00 |
| 12 | B | 2458 | G | N3-C4-N9 | 5.98 | 129.59 | 126.00 |
| 12 | B | 2617 | U | N3-C2-O2 | 5.98 | 126.39 | 122.20 |
| 12 | B | 2770 | G | C6-C5-N7 | -5.98 | 126.81 | 130.40 |
| 12 | B | 2902 | C | P-O5'-C5' | 5.98 | 130.47 | 120.90 |
| 18 | H | 38 | PRO | N-CA-CB | 5.98 | 110.48 | 103.30 |
| 12 | B | 220 | G | N1-C2-N3 | -5.98 | 120.31 | 123.90 |
| 12 | B | 673 | C | OP1-P-OP2 | -5.98 | 110.63 | 119.60 |
| 12 | B | 1000 | A | O4'-C1'-N9 | 5.98 | 112.98 | 108.20 |
| 12 | B | 1330 | C | N1-C2-O2 | -5.98 | 115.31 | 118.90 |
| 12 | B | 1519 | G | C5'-C4'-C3' | -5.98 | 106.43 | 116.00 |
| 12 | B | 1829 | A | C3'-C2'-C1' | 5.98 | 106.28 | 101.50 |
| 12 | B | 492 | A | N1-C6-N6 | 5.98 | 122.19 | 118.60 |
| 12 | B | 771 | G | C5-C6-N1 | -5.98 | 108.51 | 111.50 |
| 12 | B | 2010 | G | C4-C5-C6 | 5.98 | 122.39 | 118.80 |
| 12 | B | 2147 | A | C4-C5-N7 | -5.98 | 107.71 | 110.70 |
| 12 | B | 2170 | A | O3'-P-O5' | -5.98 | 92.64 | 104.00 |
| 12 | B | 2311 | A | N9-C4-C5 | 5.98 | 108.19 | 105.80 |
| 12 | B | 2862 | G | C5-C6-N1 | -5.98 | 108.51 | 111.50 |
| 11 | A | 105 | G | O4'-C1'-N9 | 5.98 | 112.98 | 108.20 |
| 12 | B | 160 | A | C6-C5-N7 | -5.98 | 128.12 | 132.30 |
| 12 | B | 695 | G | N1-C2-N2 | -5.98 | 110.82 | 116.20 |
| 12 | B | 1061 | U | C3'-C2'-C1' | 5.98 | 106.28 | 101.50 |
| 12 | B | 1213 | A | C5-C6-N6 | -5.98 | 118.92 | 123.70 |
| 12 | B | 1318 | U | C5'-C4'-C3' | -5.98 | 106.44 | 116.00 |
| 12 | B | 1407 | G | C4'-C3'-C2' | -5.98 | 96.62 | 102.60 |
| 12 | B | 1496 | A | N3-C4-C5 | -5.98 | 122.62 | 126.80 |
| 12 | B | 1569 | A | C4-C5-N7 | -5.98 | 107.71 | 110.70 |
| 12 | B | 2015 | A | C3'-C2'-C1' | 5.98 | 106.28 | 101.50 |
| 12 | B | 2045 | C | N3-C2-O2 | -5.98 | 117.72 | 121.90 |
| 12 | B | 2328 | A | N1-C2-N3 | 5.98 | 132.29 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2549 | G | N3-C2-N2 | 5.98 | 124.08 | 119.90 |
| 12 | B | 379 | G | N1-C2-N2 | -5.98 | 110.82 | 116.20 |
| 12 | B | 1952 | A | N1-C6-N6 | 5.98 | 122.19 | 118.60 |
| 12 | B | 261 | G | O4'-C1'-N9 | 5.97 | 112.98 | 108.20 |
| 12 | B | 754 | U | P-O3'-C3' | -5.97 | 112.53 | 119.70 |
| 12 | B | 1029 | A | C4'-C3'-C2' | -5.97 | 96.63 | 102.60 |
| 12 | B | 1119 | U | N3-C2-O2 | 5.97 | 126.38 | 122.20 |
| 12 | B | 1262 | A | C4-C5-N7 | 5.97 | 113.69 | 110.70 |
| 12 | B | 1389 | G | O4'-C1'-N9 | 5.97 | 112.98 | 108.20 |
| 12 | B | 1441 | G | N7-C8-N9 | -5.97 | 110.11 | 113.10 |
| 12 | B | 2574 | G | C4-C5-C6 | 5.97 | 122.39 | 118.80 |
| 12 | B | 2687 | U | P-O5'-C5' | 5.97 | 130.46 | 120.90 |
| 12 | B | 433 | C | C6-N1-C2 | -5.97 | 117.91 | 120.30 |
| 12 | B | 502 | A | C5-C6-N1 | -5.97 | 114.71 | 117.70 |
| 12 | B | 553 | G | N1-C2-N3 | -5.97 | 120.32 | 123.90 |
| 12 | B | 935 | C | N1-C2-N3 | -5.97 | 115.02 | 119.20 |
| 12 | B | 1569 | A | C4'-C3'-C2' | -5.97 | 96.63 | 102.60 |
| 12 | B | 2165 | C | N3-C4-N4 | 5.97 | 122.18 | 118.00 |
| 12 | B | 2263 | C | N3-C4-N4 | 5.97 | 122.18 | 118.00 |
| 12 | B | 2266 | A | P-O3'-C3' | 5.97 | 126.87 | 119.70 |
| 12 | B | 2612 | C | C1'-O4'-C4' | 5.97 | 114.68 | 109.90 |
| 12 | B | 2819 | G | O4'-C1'-C2' | 5.97 | 112.97 | 107.60 |
| 13 | C | 5 | CYS | C-N-CA | 5.97 | 136.63 | 121.70 |
| 30 | T | 66 | LYS | N-CA-CB | 5.97 | 121.35 | 110.60 |
| 12 | B | 50 | U | C6-N1-C2 | -5.97 | 117.42 | 121.00 |
| 12 | B | 616 | A | O4'-C1'-N9 | 5.97 | 112.98 | 108.20 |
| 12 | B | 1798 | U | P-O3'-C3' | -5.97 | 112.53 | 119.70 |
| 12 | B | 2135 | A | C5-C6-N1 | -5.97 | 114.72 | 117.70 |
| 12 | B | 2854 | G | C5-C6-N1 | -5.97 | 108.51 | 111.50 |
| 12 | B | 112 | U | N3-C4-C5 | -5.97 | 111.02 | 114.60 |
| 12 | B | 649 | G | C6-C5-N7 | -5.97 | 126.82 | 130.40 |
| 12 | B | 994 | C | P-O5'-C5' | 5.97 | 130.45 | 120.90 |
| 12 | B | 1133 | A | O4'-C1'-C2' | -5.97 | 99.83 | 105.80 |
| 12 | B | 1720 | U | O4'-C1'-N1 | 5.97 | 112.98 | 108.20 |
| 12 | B | 1746 | A | N9-C4-C5 | 5.97 | 108.19 | 105.80 |
| 12 | B | 2042 | A | C5'-C4'-O4' | 5.97 | 116.26 | 109.10 |
| 12 | B | 2614 | A | C6-N1-C2 | -5.97 | 115.02 | 118.60 |
| 12 | B | 789 | A | P-O5'-C5' | 5.97 | 130.45 | 120.90 |
| 12 | B | 1517 | G | C6-C5-N7 | -5.97 | 126.82 | 130.40 |
| 12 | B | 1562 | U | P-O3'-C3' | 5.97 | 126.86 | 119.70 |
| 12 | B | 723 | C | N3-C4-C5 | -5.97 | 119.51 | 121.90 |
| 12 | B | 758 | C | N3-C4-N4 | 5.97 | 122.18 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 933 | A | C5-C6-N1 | -5.97 | 114.72 | 117.70 |
| 12 | B | 1174 | U | C6-N1-C1' | -5.97 | 112.85 | 121.20 |
| 12 | B | 2424 | C | P-O3'-C3' | 5.97 | 126.86 | 119.70 |
| 12 | B | 2531 | A | C5-C6-N1 | -5.97 | 114.72 | 117.70 |
| 12 | B | 2732 | G | C3'-C2'-C1' | 5.97 | 106.27 | 101.50 |
| 12 | B | 2803 | G | C1'-O4'-C4' | -5.97 | 105.13 | 109.90 |
| 12 | B | 121 | G | O4'-C1'-N9 | 5.96 | 112.97 | 108.20 |
| 12 | B | 829 | A | C6-N1-C2 | 5.96 | 122.18 | 118.60 |
| 12 | B | 908 | C | C6-N1-C2 | 5.96 | 122.69 | 120.30 |
| 12 | B | 1145 | C | C6-N1-C2 | 5.96 | 122.69 | 120.30 |
| 12 | B | 750 | A | N7-C8-N9 | 5.96 | 116.78 | 113.80 |
| 12 | B | 1863 | G | C4-C5-N7 | -5.96 | 108.42 | 110.80 |
| 12 | B | 1067 | A | C5-C6-N6 | -5.96 | 118.93 | 123.70 |
| 12 | B | 2051 | A | O4'-C1'-N9 | 5.96 | 112.97 | 108.20 |
| 12 | B | 2058 | A | N9-C1'-C2' | -5.96 | 105.44 | 112.00 |
| 12 | B | 2787 | C | N3-C2-O2 | -5.96 | 117.73 | 121.90 |
| 12 | B | 703 | U | N1-C2-N3 | -5.96 | 111.32 | 114.90 |
| 12 | B | 966 | G | N1-C2-N3 | -5.96 | 120.32 | 123.90 |
| 12 | B | 1678 | A | P-O3'-C3' | 5.96 | 126.85 | 119.70 |
| 12 | B | 2171 | A | N3-C4-N9 | -5.96 | 122.63 | 127.40 |
| 12 | B | 2754 | U | C2-N3-C4 | -5.96 | 123.42 | 127.00 |
| 11 | A | 58 | A | C5'-C4'-C3' | -5.96 | 106.47 | 116.00 |
| 12 | B | 51 | G | N9-C4-C5 | -5.96 | 103.02 | 105.40 |
| 12 | B | 707 | G | P-O3'-C3' | -5.96 | 112.55 | 119.70 |
| 12 | B | 1594 | U | O4'-C1'-N1 | 5.96 | 112.97 | 108.20 |
| 12 | B | 2255 | G | C2-N3-C4 | 5.96 | 114.88 | 111.90 |
| 12 | B | 2263 | C | OP1-P-OP2 | -5.96 | 110.66 | 119.60 |
| 12 | B | 2370 | G | C4-C5-N7 | -5.96 | 108.42 | 110.80 |
| 12 | B | 2430 | A | C5-C6-N6 | -5.96 | 118.93 | 123.70 |
| 12 | B | 2434 | A | N3-C4-C5 | -5.96 | 122.63 | 126.80 |
| 12 | B | 2586 | U | P-O5'-C5' | 5.96 | 130.43 | 120.90 |
| 29 | S | 18 | ARG | CD-NE-CZ | -5.96 | 115.26 | 123.60 |
| 12 | B | 10 | A | C5-N7-C8 | 5.96 | 106.88 | 103.90 |
| 12 | B | 30 | G | P-O3'-C3' | 5.96 | 126.85 | 119.70 |
| 12 | B | 265 | A | C8-N9-C4 | 5.96 | 108.18 | 105.80 |
| 12 | B | 665 | U | N1-C1'-C2' | -5.96 | 105.45 | 112.00 |
| 12 | B | 935 | C | N1-C2-O2 | 5.96 | 122.47 | 118.90 |
| 12 | B | 1252 | G | C1'-O4'-C4' | 5.96 | 114.67 | 109.90 |
| 12 | B | 2036 | C | N1-C2-O2 | 5.96 | 122.47 | 118.90 |
| 12 | B | 2187 | U | N3-C4-C5 | -5.96 | 111.03 | 114.60 |
| 12 | B | 2753 | A | P-O5'-C5' | 5.96 | 130.43 | 120.90 |
| 14 | D | 125 | TRP | N-CA-C | -5.96 | 94.92 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 30 | T | 70 | HIS | N-CA-CB | 5.96 | 121.32 | 110.60 |
| 11 | A | 22 | U | P-O3'-C3' | -5.96 | 112.56 | 119.70 |
| 12 | B | 434 | U | N1-C2-N3 | -5.96 | 111.33 | 114.90 |
| 12 | B | 1370 | C | C2-N3-C4 | -5.96 | 116.92 | 119.90 |
| 12 | B | 1388 | G | O4'-C1'-N9 | 5.96 | 112.96 | 108.20 |
| 12 | B | 2136 | G | P-O3'-C3' | -5.96 | 112.55 | 119.70 |
| 12 | B | 2237 | G | C4-C5-N7 | 5.96 | 113.18 | 110.80 |
| 12 | B | 23 | G | N3-C2-N2 | 5.95 | 124.07 | 119.90 |
| 12 | B | 194 | G | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 12 | B | 1022 | G | N7-C8-N9 | -5.95 | 110.12 | 113.10 |
| 12 | B | 1789 | A | C1'-O4'-C4' | 5.95 | 114.66 | 109.90 |
| 12 | B | 2327 | A | N1-C2-N3 | 5.95 | 132.28 | 129.30 |
| 12 | B | 2340 | A | C8-N9-C4 | -5.95 | 103.42 | 105.80 |
| 12 | B | 2733 | A | N7-C8-N9 | -5.95 | 110.82 | 113.80 |
| 24 | N | 3 | HIS | N-CA-CB | 5.95 | 121.32 | 110.60 |
| 11 | A | 14 | U | C2-N1-C1' | 5.95 | 124.84 | 117.70 |
| 12 | B | 108 | G | C6-N1-C2 | 5.95 | 128.67 | 125.10 |
| 12 | B | 203 | A | C1'-O4'-C4' | -5.95 | 105.14 | 109.90 |
| 12 | B | 626 | A | C5-C6-N1 | -5.95 | 114.72 | 117.70 |
| 12 | B | 1145 | C | N3-C4-C5 | 5.95 | 124.28 | 121.90 |
| 12 | B | 1416 | G | N3-C4-C5 | 5.95 | 131.57 | 128.60 |
| 12 | B | 1536 | C | O4'-C1'-C2' | -5.95 | 99.85 | 105.80 |
| 12 | B | 1873 | G | P-O3'-C3' | -5.95 | 112.56 | 119.70 |
| 12 | B | 1907 | G | N1-C6-O6 | 5.95 | 123.47 | 119.90 |
| 12 | B | 2188 | U | C2-N3-C4 | 5.95 | 130.57 | 127.00 |
| 12 | B | 2640 | G | C4-C5-N7 | 5.95 | 113.18 | 110.80 |
| 12 | B | 2648 | G | C2-N3-C4 | -5.95 | 108.92 | 111.90 |
| 12 | B | 2718 | G | N9-C4-C5 | -5.95 | 103.02 | 105.40 |
| 12 | B | 3 | U | C4-C5-C6 | -5.95 | 116.13 | 119.70 |
| 12 | B | 90 | U | C4-C5-C6 | -5.95 | 116.13 | 119.70 |
| 12 | B | 724 | U | C3'-C2'-C1' | 5.95 | 106.26 | 101.50 |
| 12 | B | 771 | G | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 12 | B | 939 | G | N7-C8-N9 | 5.95 | 116.07 | 113.10 |
| 12 | B | 1043 | C | C1'-O4'-C4' | 5.95 | 114.66 | 109.90 |
| 12 | B | 1274 | A | N9-C1'-C2' | -5.95 | 105.46 | 112.00 |
| 12 | B | 1413 | A | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 12 | B | 1484 | U | N1-C2-O2 | 5.95 | 126.96 | 122.80 |
| 12 | B | 1951 | U | N1-C2-O2 | -5.95 | 118.64 | 122.80 |
| 12 | B | 2733 | A | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 12 | B | 1050 | A | OP1-P-OP2 | -5.95 | 110.68 | 119.60 |
| 12 | B | 1345 | C | O4'-C1'-N1 | 5.95 | 112.96 | 108.20 |
| 12 | B | 1496 | A | N9-C1'-C2' | -5.95 | 105.46 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1520 | U | O4'-C1'-N1 | 5.95 | 112.96 | 108.20 |
| 12 | B | 2635 | A | C5-N7-C8 | 5.95 | 106.87 | 103.90 |
| 11 | A | 13 | G | C5'-C4'-O4' | 5.95 | 116.23 | 109.10 |
| 12 | B | 986 | C | C2-N3-C4 | 5.95 | 122.87 | 119.90 |
| 12 | B | 2572 | A | O4'-C1'-C2' | -5.95 | 99.85 | 105.80 |
| 28 | R | 78 | ARG | NH1-CZ-NH2 | -5.95 | 112.86 | 119.40 |
| 11 | A | 68 | C | C2-N3-C4 | 5.94 | 122.87 | 119.90 |
| 12 | B | 458 | G | C5-C6-N1 | -5.94 | 108.53 | 111.50 |
| 12 | B | 889 | C | C6-N1-C2 | -5.94 | 117.92 | 120.30 |
| 12 | B | 2731 | G | C6-N1-C2 | -5.94 | 121.53 | 125.10 |
| 12 | B | 20 | C | N1-C2-N3 | 5.94 | 123.36 | 119.20 |
| 12 | B | 242 | G | C6-N1-C2 | 5.94 | 128.67 | 125.10 |
| 12 | B | 658 | U | C5-C4-O4 | 5.94 | 129.47 | 125.90 |
| 12 | B | 960 | A | C5-C6-N1 | -5.94 | 114.73 | 117.70 |
| 12 | B | 1256 | G | C4-C5-N7 | -5.94 | 108.42 | 110.80 |
| 12 | B | 1765 | U | OP1-P-OP2 | -5.94 | 110.69 | 119.60 |
| 12 | B | 2130 | U | C5-C6-N1 | 5.94 | 125.67 | 122.70 |
| 12 | B | 2168 | G | N7-C8-N9 | 5.94 | 116.07 | 113.10 |
| 12 | B | 2264 | C | C1'-O4'-C4' | -5.94 | 105.15 | 109.90 |
| 12 | B | 2297 | A | C4-C5-N7 | -5.94 | 107.73 | 110.70 |
| 12 | B | 2724 | U | C3'-C2'-C1' | 5.94 | 106.25 | 101.50 |
| 12 | B | 2776 | A | O5'-P-OP1 | -5.94 | 100.35 | 105.70 |
| 12 | B | 203 | A | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 12 | B | 423 | A | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 12 | B | 814 | C | O4'-C4'-C3' | -5.94 | 98.06 | 104.00 |
| 12 | B | 1501 | G | C4-C5-C6 | 5.94 | 122.36 | 118.80 |
| 12 | B | 1663 | G | N1-C2-N3 | -5.94 | 120.34 | 123.90 |
| 12 | B | 1723 | G | N1-C2-N3 | -5.94 | 120.34 | 123.90 |
| 12 | B | 1732 | C | O4'-C1'-N1 | 5.94 | 112.95 | 108.20 |
| 12 | B | 1974 | C | C5-C6-N1 | 5.94 | 123.97 | 121.00 |
| 12 | B | 2049 | G | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 12 | B | 2212 | A | P-O3'-C3' | 5.94 | 126.83 | 119.70 |
| 12 | B | 2709 | G | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 12 | B | 2803 | G | C8-N9-C4 | 5.94 | 108.78 | 106.40 |
| 12 | B | 84 | A | C6-C5-N7 | -5.94 | 128.14 | 132.30 |
| 12 | B | 283 | G | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 12 | B | 950 | G | C4-C5-N7 | -5.94 | 108.42 | 110.80 |
| 12 | B | 1639 | C | C5-C4-N4 | -5.94 | 116.04 | 120.20 |
| 12 | B | 1770 | G | N1-C2-N3 | -5.94 | 120.34 | 123.90 |
| 12 | B | 2138 | G | C8-N9-C4 | -5.94 | 104.02 | 106.40 |
| 12 | B | 2658 | C | C5'-C4'-O4' | 5.94 | 116.23 | 109.10 |
| 11 | A | 106 | G | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 110 | G | C1'-O4'-C4' | -5.94 | 105.15 | 109.90 |
| 12 | B | 429 | A | C2-N3-C4 | -5.94 | 107.63 | 110.60 |
| 12 | B | 488 | G | C8-N9-C4 | -5.94 | 104.03 | 106.40 |
| 12 | B | 887 | U | N3-C2-O2 | 5.94 | 126.36 | 122.20 |
| 12 | B | 1648 | U | C4-C5-C6 | -5.94 | 116.14 | 119.70 |
| 12 | B | 2156 | G | N3-C4-C5 | 5.94 | 131.57 | 128.60 |
| 12 | B | 2173 | A | C8-N9-C4 | 5.94 | 108.17 | 105.80 |
| 12 | B | 2225 | A | N3-C4-C5 | -5.94 | 122.64 | 126.80 |
| 17 | G | 93 | TYR | CG-CD2-CE2 | -5.94 | 116.55 | 121.30 |
| 12 | B | 622 | G | C4-C5-N7 | 5.94 | 113.17 | 110.80 |
| 12 | B | 1570 | A | N1-C2-N3 | 5.94 | 132.27 | 129.30 |
| 12 | B | 1764 | C | N3-C4-N4 | 5.94 | 122.16 | 118.00 |
| 12 | B | 2013 | A | C8-N9-C4 | 5.94 | 108.17 | 105.80 |
| 12 | B | 2137 | U | O4'-C4'-C3' | -5.94 | 98.06 | 104.00 |
| 12 | B | 2529 | G | C8-N9-C4 | 5.94 | 108.77 | 106.40 |
| 12 | B | 273 | G | O4'-C1'-N9 | 5.93 | 112.95 | 108.20 |
| 12 | B | 494 | G | C5-N7-C8 | 5.93 | 107.27 | 104.30 |
| 12 | B | 660 | C | P-O3'-C3' | -5.93 | 112.58 | 119.70 |
| 12 | B | 874 | G | C5-N7-C8 | 5.93 | 107.27 | 104.30 |
| 12 | B | 1068 | G | C5-N7-C8 | 5.93 | 107.27 | 104.30 |
| 12 | B | 1156 | A | C4-C5-C6 | 5.93 | 119.97 | 117.00 |
| 12 | B | 1207 | C | N3-C4-N4 | 5.93 | 122.15 | 118.00 |
| 12 | B | 1260 | A | N1-C2-N3 | 5.93 | 132.27 | 129.30 |
| 12 | B | 1439 | A | C8-N9-C4 | -5.93 | 103.43 | 105.80 |
| 12 | B | 1633 | G | C5-C6-O6 | -5.93 | 125.04 | 128.60 |
| 12 | B | 2837 | A | O4'-C1'-N9 | 5.93 | 112.95 | 108.20 |
| 12 | B | 216 | A | C5-C6-N6 | -5.93 | 118.95 | 123.70 |
| 12 | B | 288 | U | P-O3'-C3' | -5.93 | 112.58 | 119.70 |
| 12 | B | 563 | A | C6-N1-C2 | 5.93 | 122.16 | 118.60 |
| 12 | B | 647 | G | C6-C5-N7 | -5.93 | 126.84 | 130.40 |
| 12 | B | 833 | A | O4'-C1'-N9 | 5.93 | 112.95 | 108.20 |
| 12 | B | 1062 | G | N7-C8-N9 | -5.93 | 110.13 | 113.10 |
| 12 | B | 1634 | A | N3-C4-C5 | -5.93 | 122.65 | 126.80 |
| 12 | B | 1668 | A | P-O3'-C3' | 5.93 | 126.82 | 119.70 |
| 12 | B | 1840 | G | N3-C2-N2 | 5.93 | 124.05 | 119.90 |
| 12 | B | 2093 | G | C4-C5-N7 | -5.93 | 108.43 | 110.80 |
| 12 | B | 2270 | A | C5-C6-N6 | -5.93 | 118.95 | 123.70 |
| 12 | B | 2352 | A | C5-C6-N6 | -5.93 | 118.95 | 123.70 |
| 12 | B | 2893 | A | N3-C4-N9 | 5.93 | 132.15 | 127.40 |
| 12 | B | 16 | C | O4'-C1'-N1 | 5.93 | 112.94 | 108.20 |
| 12 | B | 81 | G | N3-C2-N2 | 5.93 | 124.05 | 119.90 |
| 12 | B | 432 | A | C4-C5-C6 | 5.93 | 119.97 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1072 | C | C5-C6-N1 | 5.93 | 123.97 | 121.00 |
| 12 | B | 1302 | A | N3-C4-N9 | 5.93 | 132.15 | 127.40 |
| 12 | B | 2889 | C | C2-N3-C4 | 5.93 | 122.87 | 119.90 |
| 11 | A | 4 | C | C4-C5-C6 | 5.93 | 120.36 | 117.40 |
| 12 | B | 74 | A | C5-C6-N1 | -5.93 | 114.73 | 117.70 |
| 12 | B | 500 | G | N1-C2-N2 | -5.93 | 110.86 | 116.20 |
| 12 | B | 572 | A | C1'-O4'-C4' | 5.93 | 114.64 | 109.90 |
| 12 | B | 711 | G | C3'-C2'-C1' | -5.93 | 96.76 | 101.50 |
| 12 | B | 909 | A | N1-C2-N3 | 5.93 | 132.26 | 129.30 |
| 12 | B | 938 | G | O4'-C1'-N9 | 5.93 | 112.94 | 108.20 |
| 12 | B | 1133 | A | N1-C6-N6 | 5.93 | 122.16 | 118.60 |
| 12 | B | 1721 | G | N3-C4-C5 | -5.93 | 125.64 | 128.60 |
| 12 | B | 1786 | A | P-O3'-C3' | 5.93 | 126.82 | 119.70 |
| 12 | B | 1919 | A | N9-C1'-C2' | -5.93 | 105.48 | 112.00 |
| 12 | B | 2133 | G | C6-C5-N7 | 5.93 | 133.96 | 130.40 |
| 12 | B | 2574 | G | C5-C6-N1 | -5.93 | 108.53 | 111.50 |
| 12 | B | 2636 | C | N3-C4-N4 | 5.93 | 122.15 | 118.00 |
| 12 | B | 858 | G | C6-N1-C2 | 5.93 | 128.66 | 125.10 |
| 12 | B | 2073 | C | C4-C5-C6 | -5.93 | 114.44 | 117.40 |
| 12 | B | 602 | A | C4-C5-N7 | -5.93 | 107.74 | 110.70 |
| 12 | B | 715 | A | C6-C5-N7 | -5.93 | 128.15 | 132.30 |
| 12 | B | 955 | U | C5-C6-N1 | 5.93 | 125.66 | 122.70 |
| 12 | B | 960 | A | C4-C5-C6 | 5.93 | 119.96 | 117.00 |
| 12 | B | 1084 | A | C5-C6-N1 | -5.93 | 114.74 | 117.70 |
| 12 | B | 1157 | G | C4-C5-C6 | 5.93 | 122.36 | 118.80 |
| 12 | B | 1403 | A | C8-N9-C4 | -5.93 | 103.43 | 105.80 |
| 12 | B | 1987 | A | C4-C5-C6 | 5.93 | 119.96 | 117.00 |
| 12 | B | 2365 | G | N9-C4-C5 | -5.93 | 103.03 | 105.40 |
| 12 | B | 2796 | U | N1-C2-N3 | -5.93 | 111.34 | 114.90 |
| 12 | B | 11 | C | C5-C6-N1 | 5.92 | 123.96 | 121.00 |
| 12 | B | 697 | G | C8-N9-C4 | -5.92 | 104.03 | 106.40 |
| 12 | B | 886 | A | C5-C6-N6 | -5.92 | 118.96 | 123.70 |
| 12 | B | 1071 | G | C6-C5-N7 | -5.92 | 126.85 | 130.40 |
| 12 | B | 1527 | G | C8-N9-C4 | -5.92 | 104.03 | 106.40 |
| 12 | B | 1903 | G | N7-C8-N9 | 5.92 | 116.06 | 113.10 |
| 12 | B | 2219 | U | O4'-C4'-C3' | -5.92 | 98.08 | 104.00 |
| 12 | B | 2420 | C | C6-N1-C2 | 5.92 | 122.67 | 120.30 |
| 12 | B | 2634 | A | N1-C2-N3 | 5.92 | 132.26 | 129.30 |
| 12 | B | 2808 | G | P-O5'-C5' | 5.92 | 130.38 | 120.90 |
| 12 | B | 478 | A | C8-N9-C1' | 5.92 | 138.36 | 127.70 |
| 12 | B | 726 | G | C5-N7-C8 | 5.92 | 107.26 | 104.30 |
| 12 | B | 1548 | A | C5-C6-N6 | -5.92 | 118.96 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1873 | G | N9-C1'-C2' | -5.92 | 105.48 | 112.00 |
| 12 | B | 2093 | G | C2-N3-C4 | 5.92 | 114.86 | 111.90 |
| 12 | B | 2514 | U | P-O5'-C5' | -5.92 | 111.42 | 120.90 |
| 12 | B | 2576 | G | N1-C2-N3 | -5.92 | 120.35 | 123.90 |
| 11 | A | 80 | U | C1'-O4'-C4' | 5.92 | 114.64 | 109.90 |
| 12 | B | 103 | A | C4-C5-C6 | 5.92 | 119.96 | 117.00 |
| 12 | B | 596 | U | C4'-C3'-C2' | -5.92 | 96.68 | 102.60 |
| 12 | B | 2114 | A | C6-C5-N7 | -5.92 | 128.15 | 132.30 |
| 12 | B | 2175 | C | P-O5'-C5' | -5.92 | 111.43 | 120.90 |
| 12 | B | 2353 | G | P-O3'-C3' | -5.92 | 112.59 | 119.70 |
| 12 | B | 2820 | A | N3-C4-N9 | 5.92 | 132.14 | 127.40 |
| 12 | B | 2892 | G | C2-N3-C4 | 5.92 | 114.86 | 111.90 |
| 15 | E | 134 | LEU | CB-CG-CD2 | -5.92 | 100.93 | 111.00 |
| 11 | A | 85 | G | N3-C4-N9 | -5.92 | 122.45 | 126.00 |
| 12 | B | 1311 | G | N3-C4-N9 | 5.92 | 129.55 | 126.00 |
| 12 | B | 1616 | A | C5-N7-C8 | 5.92 | 106.86 | 103.90 |
| 12 | B | 2030 | A | N3-C4-N9 | 5.92 | 132.14 | 127.40 |
| 12 | B | 2362 | C | N3-C4-N4 | 5.92 | 122.14 | 118.00 |
| 12 | B | 2729 | G | C2-N3-C4 | -5.92 | 108.94 | 111.90 |
| 12 | B | 266 | G | N3-C2-N2 | 5.92 | 124.04 | 119.90 |
| 12 | B | 864 | G | N1-C2-N3 | -5.92 | 120.35 | 123.90 |
| 12 | B | 1093 | G | C5-C6-O6 | -5.92 | 125.05 | 128.60 |
| 12 | B | 1532 | A | C4'-C3'-C2' | -5.92 | 96.68 | 102.60 |
| 12 | B | 1583 | A | P-O3'-C3' | 5.92 | 126.80 | 119.70 |
| 12 | B | 1971 | U | C5-C4-O4 | -5.92 | 122.35 | 125.90 |
| 12 | B | 2502 | G | N9-C4-C5 | -5.92 | 103.03 | 105.40 |
| 12 | B | 2819 | G | N3-C4-C5 | 5.92 | 131.56 | 128.60 |
| 12 | B | 71 | A | C2-N3-C4 | 5.92 | 113.56 | 110.60 |
| 12 | B | 484 | C | N1-C2-O2 | -5.92 | 115.35 | 118.90 |
| 12 | B | 510 | C | N3-C4-C5 | -5.92 | 119.53 | 121.90 |
| 12 | B | 1490 | A | N9-C4-C5 | 5.92 | 108.17 | 105.80 |
| 12 | B | 1575 | C | C3'-C2'-C1' | -5.92 | 96.77 | 101.50 |
| 12 | B | 1672 | A | C5-N7-C8 | 5.92 | 106.86 | 103.90 |
| 12 | B | 493 | G | N3-C4-N9 | -5.92 | 122.45 | 126.00 |
| 12 | B | 2595 | G | C4-C5-C6 | 5.92 | 122.35 | 118.80 |
| 12 | B | 2876 | G | C5-C6-O6 | -5.92 | 125.05 | 128.60 |
| 12 | B | 56 | A | C4-C5-C6 | 5.91 | 119.96 | 117.00 |
| 12 | B | 1284 | A | C5-N7-C8 | 5.91 | 106.86 | 103.90 |
| 12 | B | 1312 | U | N3-C4-C5 | -5.91 | 111.05 | 114.60 |
| 12 | B | 2780 | G | N9-C4-C5 | 5.91 | 107.77 | 105.40 |
| 12 | B | 914 | G | C4-N9-C1' | 5.91 | 134.19 | 126.50 |
| 12 | B | 2473 | U | N3-C4-O4 | 5.91 | 123.54 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2610 | C | N3-C4-N4 | 5.91 | 122.14 | 118.00 |
| 12 | B | 2709 | G | N1-C2-N3 | -5.91 | 120.35 | 123.90 |
| 12 | B | 93 | G | N7-C8-N9 | -5.91 | 110.14 | 113.10 |
| 12 | B | 342 | A | N3-C4-C5 | -5.91 | 122.66 | 126.80 |
| 12 | B | 457 | A | C4'-C3'-C2' | -5.91 | 96.69 | 102.60 |
| 12 | B | 613 | A | C4-C5-N7 | 5.91 | 113.66 | 110.70 |
| 12 | B | 1011 | G | C2-N3-C4 | 5.91 | 114.86 | 111.90 |
| 12 | B | 1021 | A | C5-C6-N6 | -5.91 | 118.97 | 123.70 |
| 12 | B | 1548 | A | P-O5'-C5' | -5.91 | 111.44 | 120.90 |
| 12 | B | 1906 | G | C5'-C4'-C3' | 5.91 | 125.46 | 116.00 |
| 12 | B | 2129 | C | C6-N1-C2 | -5.91 | 117.94 | 120.30 |
| 12 | B | 2273 | A | C4'-C3'-C2' | -5.91 | 96.69 | 102.60 |
| 12 | B | 453 | A | N9-C4-C5 | 5.91 | 108.16 | 105.80 |
| 12 | B | 468 | G | C8-N9-C4 | -5.91 | 104.04 | 106.40 |
| 12 | B | 891 | G | P-O5'-C5' | 5.91 | 130.35 | 120.90 |
| 12 | B | 971 | G | C5-N7-C8 | 5.91 | 107.25 | 104.30 |
| 12 | B | 1131 | G | N3-C4-C5 | 5.91 | 131.55 | 128.60 |
| 12 | B | 1474 | U | C5'-C4'-O4' | 5.91 | 116.19 | 109.10 |
| 12 | B | 1809 | A | N1-C6-N6 | 5.91 | 122.14 | 118.60 |
| 12 | B | 2455 | G | C6-N1-C2 | 5.91 | 128.65 | 125.10 |
| 12 | B | 2813 | A | P-O3'-C3' | -5.91 | 112.61 | 119.70 |
| 1 | 0 | 27 | ARG | NE-CZ-NH2 | -5.91 | 117.35 | 120.30 |
| 10 | 9 | 67 | ALA | N-CA-CB | 5.91 | 118.37 | 110.10 |
| 12 | B | 1854 | A | P-O5'-C5' | 5.91 | 130.35 | 120.90 |
| 12 | B | 1945 | G | C4'-C3'-C2' | 5.91 | 108.51 | 102.60 |
| 12 | B | 97 | C | C2-N3-C4 | 5.91 | 122.85 | 119.90 |
| 12 | B | 224 | U | C4-C5-C6 | 5.91 | 123.24 | 119.70 |
| 12 | B | 619 | G | OP1-P-OP2 | -5.91 | 110.74 | 119.60 |
| 12 | B | 747 | U | N1-C2-O2 | -5.91 | 118.67 | 122.80 |
| 12 | B | 1446 | C | N3-C2-O2 | -5.91 | 117.77 | 121.90 |
| 12 | B | 1971 | U | P-O3'-C3' | 5.91 | 126.79 | 119.70 |
| 12 | B | 2030 | A | C5-C6-N1 | -5.91 | 114.75 | 117.70 |
| 12 | B | 2178 | C | C6-N1-C2 | -5.91 | 117.94 | 120.30 |
| 12 | B | 2558 | C | C3'-C2'-C1' | -5.91 | 96.78 | 101.50 |
| 12 | B | 2564 | A | N1-C6-N6 | 5.91 | 122.14 | 118.60 |
| 24 | N | 35 | LYS | N-CA-C | -5.91 | 95.06 | 111.00 |
| 11 | A | 4 | C | P-O3'-C3' | -5.90 | 112.61 | 119.70 |
| 12 | B | 217 | A | C4-C5-C6 | 5.90 | 119.95 | 117.00 |
| 12 | B | 1337 | G | C5'-C4'-O4' | 5.90 | 116.18 | 109.10 |
| 12 | B | 1510 | G | C3'-C2'-C1' | 5.90 | 106.22 | 101.50 |
| 12 | B | 2433 | A | C4-C5-N7 | -5.90 | 107.75 | 110.70 |
| 12 | B | 2601 | C | N3-C4-N4 | 5.90 | 122.13 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 21 | K | 43 | ILE | CA-CB-CG1 | 5.90 | 122.22 | 111.00 |
| 27 | Q | 96 | ASP | N-CA-CB | 5.90 | 121.23 | 110.60 |
| 12 | B | 428 | A | C8-N9-C4 | 5.90 | 108.16 | 105.80 |
| 12 | B | 750 | A | C8-N9-C4 | -5.90 | 103.44 | 105.80 |
| 12 | B | 775 | G | C4-C5-C6 | 5.90 | 122.34 | 118.80 |
| 12 | B | 907 | G | N1-C6-O6 | 5.90 | 123.44 | 119.90 |
| 12 | B | 1162 | G | C8-N9-C4 | -5.90 | 104.04 | 106.40 |
| 12 | B | 1663 | G | C6-N1-C2 | 5.90 | 128.64 | 125.10 |
| 14 | D | 138 | LEU | CB-CG-CD1 | -5.90 | 100.96 | 111.00 |
| 12 | B | 190 | A | P-O3'-C3' | 5.90 | 126.78 | 119.70 |
| 12 | B | 262 | A | C3'-C2'-C1' | -5.90 | 96.78 | 101.50 |
| 12 | B | 382 | A | N1-C2-N3 | 5.90 | 132.25 | 129.30 |
| 12 | B | 467 | G | C2-N3-C4 | 5.90 | 114.85 | 111.90 |
| 12 | B | 1190 | G | C8-N9-C4 | -5.90 | 104.04 | 106.40 |
| 12 | B | 1470 | A | C3'-C2'-C1' | -5.90 | 96.78 | 101.50 |
| 12 | B | 1712 | U | N3-C4-C5 | -5.90 | 111.06 | 114.60 |
| 12 | B | 1901 | A | N1-C2-N3 | 5.90 | 132.25 | 129.30 |
| 12 | B | 2822 | G | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 12 | B | 50 | U | N1-C2-N3 | 5.90 | 118.44 | 114.90 |
| 12 | B | 1078 | U | C5'-C4'-O4' | -5.90 | 102.02 | 109.10 |
| 12 | B | 1707 | G | N1-C2-N3 | -5.90 | 120.36 | 123.90 |
| 12 | B | 1755 | A | C5-C6-N6 | -5.90 | 118.98 | 123.70 |
| 12 | B | 2616 | C | C5-C6-N1 | 5.90 | 123.95 | 121.00 |
| 12 | B | 557 | C | C5'-C4'-C3' | -5.90 | 106.56 | 116.00 |
| 12 | B | 854 | C | O4'-C1'-N1 | 5.90 | 112.92 | 108.20 |
| 12 | B | 1177 | G | N3-C2-N2 | 5.90 | 124.03 | 119.90 |
| 12 | B | 1598 | A | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 12 | B | 1728 | C | C4-C5-C6 | -5.90 | 114.45 | 117.40 |
| 12 | B | 1985 | C | N3-C4-N4 | 5.90 | 122.13 | 118.00 |
| 12 | B | 2342 | C | C4-C5-C6 | 5.90 | 120.35 | 117.40 |
| 12 | B | 2355 | G | C5'-C4'-C3' | -5.90 | 106.56 | 116.00 |
| 12 | B | 2661 | G | N3-C4-N9 | 5.90 | 129.54 | 126.00 |
| 11 | A | 62 | C | C5'-C4'-C3' | -5.90 | 106.57 | 116.00 |
| 12 | B | 1284 | A | C6-N1-C2 | 5.90 | 122.14 | 118.60 |
| 12 | B | 1763 | G | P-O5'-C5' | 5.90 | 130.33 | 120.90 |
| 12 | B | 1902 | C | P-O3'-C3' | -5.90 | 112.62 | 119.70 |
| 12 | B | 316 | C | N3-C4-C5 | -5.89 | 119.54 | 121.90 |
| 12 | B | 547 | A | N9-C4-C5 | -5.89 | 103.44 | 105.80 |
| 12 | B | 899 | A | C5'-C4'-C3' | -5.89 | 106.57 | 116.00 |
| 12 | B | 934 | U | C4'-C3'-C2' | -5.89 | 96.71 | 102.60 |
| 12 | B | 1798 | U | C5-C6-N1 | 5.89 | 125.65 | 122.70 |
| 12 | B | 1802 | A | O4'-C1'-N9 | 5.89 | 112.92 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1910 | G | N9-C1'-C2' | -5.89 | 105.52 | 112.00 |
| 12 | B | 2460 | U | N1-C2-O2 | -5.89 | 118.67 | 122.80 |
| 14 | D | 14 | ILE | CB-CA-C | 5.89 | 123.39 | 111.60 |
| 12 | B | 143 | C | C5'-C4'-O4' | 5.89 | 116.17 | 109.10 |
| 12 | B | 588 | U | N3-C4-O4 | -5.89 | 115.28 | 119.40 |
| 12 | B | 1164 | C | N3-C4-C5 | -5.89 | 119.54 | 121.90 |
| 12 | B | 1703 | G | C4-C5-N7 | -5.89 | 108.44 | 110.80 |
| 12 | B | 2395 | C | C1'-O4'-C4' | -5.89 | 105.19 | 109.90 |
| 12 | B | 2838 | G | N3-C4-C5 | 5.89 | 131.55 | 128.60 |
| 11 | A | 64 | G | N3-C2-N2 | 5.89 | 124.02 | 119.90 |
| 12 | B | 1484 | U | C2-N3-C4 | 5.89 | 130.53 | 127.00 |
| 12 | B | 1599 | U | C5-C4-O4 | -5.89 | 122.36 | 125.90 |
| 12 | B | 1730 | C | N3-C4-C5 | -5.89 | 119.54 | 121.90 |
| 12 | B | 1846 | G | P-O3'-C3' | -5.89 | 112.63 | 119.70 |
| 12 | B | 2093 | G | C5-N7-C8 | 5.89 | 107.25 | 104.30 |
| 11 | A | 7 | G | C5-N7-C8 | 5.89 | 107.24 | 104.30 |
| 12 | B | 1386 | C | O4'-C1'-N1 | 5.89 | 112.91 | 108.20 |
| 12 | B | 1619 | G | C5-C6-N1 | -5.89 | 108.56 | 111.50 |
| 12 | B | 2137 | U | P-O5'-C5' | 5.89 | 130.32 | 120.90 |
| 12 | B | 2343 | U | C5-C6-N1 | 5.89 | 125.64 | 122.70 |
| 12 | B | 2547 | A | N9-C4-C5 | 5.89 | 108.16 | 105.80 |
| 12 | B | 2771 | C | P-O3'-C3' | -5.89 | 112.63 | 119.70 |
| 23 | M | 6 | ARG | NE-CZ-NH2 | -5.89 | 117.36 | 120.30 |
| 12 | B | 648 | G | C4-C5-C6 | 5.89 | 122.33 | 118.80 |
| 12 | B | 2649 | C | C2-N3-C4 | 5.89 | 122.84 | 119.90 |
| 12 | B | 306 | U | C5-C4-O4 | 5.89 | 129.43 | 125.90 |
| 12 | B | 389 | G | N1-C2-N3 | -5.89 | 120.37 | 123.90 |
| 12 | B | 989 | G | C4-C5-C6 | 5.89 | 122.33 | 118.80 |
| 12 | B | 1570 | A | O4'-C1'-N9 | 5.89 | 112.91 | 108.20 |
| 12 | B | 1904 | G | C5-N7-C8 | -5.89 | 101.36 | 104.30 |
| 12 | B | 2370 | G | C2-N3-C4 | 5.89 | 114.84 | 111.90 |
| 2 | 1 | 26 | PHE | CB-CG-CD1 | 5.88 | 124.92 | 120.80 |
| 12 | B | 882 | G | C6-C5-N7 | -5.88 | 126.87 | 130.40 |
| 12 | B | 1080 | A | N9-C1'-C2' | -5.88 | 105.53 | 112.00 |
| 12 | B | 1223 | G | O5'-P-OP2 | -5.88 | 100.41 | 105.70 |
| 12 | B | 1963 | U | N3-C2-O2 | 5.88 | 126.32 | 122.20 |
| 12 | B | 2578 | G | N1-C2-N2 | -5.88 | 110.90 | 116.20 |
| 12 | B | 2715 | C | N3-C2-O2 | -5.88 | 117.78 | 121.90 |
| 12 | B | 893 | C | N1-C1'-C2' | -5.88 | 105.53 | 112.00 |
| 12 | B | 1170 | C | C6-N1-C2 | -5.88 | 117.95 | 120.30 |
| 12 | B | 1714 | U | N3-C2-O2 | 5.88 | 126.32 | 122.20 |
| 12 | B | 2125 | G | N3-C2-N2 | 5.88 | 124.02 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2775 | G | C4-C5-C6 | 5.88 | 122.33 | 118.80 |
| 12 | B | 2836 | U | N3-C4-O4 | 5.88 | 123.52 | 119.40 |
| 12 | B | 156 | A | O4'-C4'-C3' | -5.88 | 98.12 | 104.00 |
| 12 | B | 1324 | G | N3-C2-N2 | 5.88 | 124.02 | 119.90 |
| 12 | B | 1855 | U | C5-C4-O4 | -5.88 | 122.37 | 125.90 |
| 12 | B | 2325 | G | O4'-C4'-C3' | -5.88 | 98.12 | 104.00 |
| 12 | B | 2370 | G | C4'-C3'-C2' | -5.88 | 96.72 | 102.60 |
| 12 | B | 2430 | A | C4'-C3'-C2' | 5.88 | 108.48 | 102.60 |
| 12 | B | 168 | G | P-O5'-C5' | 5.88 | 130.31 | 120.90 |
| 12 | B | 1444 | G | C2-N3-C4 | -5.88 | 108.96 | 111.90 |
| 12 | B | 1480 | C | C5-C6-N1 | -5.88 | 118.06 | 121.00 |
| 12 | B | 1799 | G | C2-N3-C4 | 5.88 | 114.84 | 111.90 |
| 12 | B | 1840 | G | N9-C4-C5 | -5.88 | 103.05 | 105.40 |
| 10 | 9 | 198 | LEU | CA-C-N | 5.88 | 127.95 | 116.20 |
| 12 | B | 97 | C | C5-C6-N1 | 5.88 | 123.94 | 121.00 |
| 12 | B | 1590 | A | C5-N7-C8 | 5.88 | 106.84 | 103.90 |
| 12 | B | 2119 | A | N9-C4-C5 | 5.88 | 108.15 | 105.80 |
| 12 | B | 2194 | U | N3-C4-O4 | 5.88 | 123.51 | 119.40 |
| 12 | B | 2370 | G | N9-C4-C5 | 5.88 | 107.75 | 105.40 |
| 12 | B | 2685 | G | C5-N7-C8 | 5.88 | 107.24 | 104.30 |
| 12 | B | 123 | G | C6-C5-N7 | -5.88 | 126.88 | 130.40 |
| 12 | B | 686 | U | N1-C2-N3 | 5.88 | 118.43 | 114.90 |
| 12 | B | 696 | G | O4'-C1'-N9 | 5.88 | 112.90 | 108.20 |
| 12 | B | 1250 | G | C4-C5-C6 | 5.88 | 122.33 | 118.80 |
| 12 | B | 1365 | A | C5-C6-N6 | -5.88 | 119.00 | 123.70 |
| 12 | B | 2088 | A | N3-C4-C5 | -5.88 | 122.69 | 126.80 |
| 12 | B | 2899 | A | N1-C2-N3 | 5.88 | 132.24 | 129.30 |
| 14 | D | 77 | ARG | NE-CZ-NH1 | -5.88 | 117.36 | 120.30 |
| 12 | B | 17 | G | P-O5'-C5' | -5.88 | 111.50 | 120.90 |
| 12 | B | 806 | C | N1-C2-N3 | -5.88 | 115.09 | 119.20 |
| 12 | B | 2169 | A | C5-C6-N1 | -5.88 | 114.76 | 117.70 |
| 11 | A | 32 | U | C1'-O4'-C4' | -5.87 | 105.20 | 109.90 |
| 12 | B | 1113 | U | C2-N3-C4 | -5.87 | 123.48 | 127.00 |
| 12 | B | 1340 | U | P-O3'-C3' | 5.87 | 126.75 | 119.70 |
| 12 | B | 1504 | A | C6-N1-C2 | -5.87 | 115.08 | 118.60 |
| 12 | B | 1521 | G | C1'-O4'-C4' | 5.87 | 114.60 | 109.90 |
| 12 | B | 2193 | G | C4-C5-N7 | 5.87 | 113.15 | 110.80 |
| 12 | B | 2674 | G | C4-C5-C6 | 5.87 | 122.32 | 118.80 |
| 12 | B | 2754 | U | C1'-O4'-C4' | 5.87 | 114.60 | 109.90 |
| 12 | B | 2794 | C | C5-C6-N1 | -5.87 | 118.06 | 121.00 |
| 12 | B | 2863 | C | C6-N1-C2 | 5.87 | 122.65 | 120.30 |
| 17 | G | 150 | TYR | CB-CG-CD1 | -5.87 | 117.48 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 18 | H | 26 | ALA | N-CA-CB | 5.87 | 118.32 | 110.10 |
| 29 | S | 94 | ASP | N-CA-CB | 5.87 | 121.17 | 110.60 |
| 11 | A | 85 | G | P-O3'-C3' | -5.87 | 112.65 | 119.70 |
| 12 | B | 115 | C | C3'-C2'-C1' | -5.87 | 96.80 | 101.50 |
| 12 | B | 242 | G | P-O3'-C3' | 5.87 | 126.75 | 119.70 |
| 12 | B | 1665 | A | C8-N9-C4 | 5.87 | 108.15 | 105.80 |
| 12 | B | 1738 | G | C4'-C3'-C2' | -5.87 | 96.73 | 102.60 |
| 12 | B | 2319 | G | N3-C2-N2 | 5.87 | 124.01 | 119.90 |
| 12 | B | 2635 | A | C4-C5-N7 | -5.87 | 107.76 | 110.70 |
| 14 | D | 130 | GLN | N-CA-CB | 5.87 | 121.17 | 110.60 |
| 12 | B | 502 | A | C5-C6-N6 | -5.87 | 119.00 | 123.70 |
| 12 | B | 914 | G | N3-C4-C5 | -5.87 | 125.67 | 128.60 |
| 12 | B | 1402 | U | C3'-C2'-C1' | -5.87 | 96.80 | 101.50 |
| 12 | B | 2189 | U | N3-C4-C5 | 5.87 | 118.12 | 114.60 |
| 12 | B | 2767 | C | N3-C4-C5 | -5.87 | 119.55 | 121.90 |
| 12 | B | 1796 | U | C4'-C3'-C2' | -5.87 | 96.73 | 102.60 |
| 12 | B | 2234 | G | C8-N9-C4 | -5.87 | 104.05 | 106.40 |
| 12 | B | 2742 | G | N7-C8-N9 | 5.87 | 116.03 | 113.10 |
| 12 | B | 234 | U | O4'-C1'-N1 | 5.87 | 112.89 | 108.20 |
| 12 | B | 271 | G | N1-C2-N3 | -5.87 | 120.38 | 123.90 |
| 12 | B | 645 | C | N1-C2-O2 | 5.87 | 122.42 | 118.90 |
| 12 | B | 1016 | G | N3-C4-N9 | 5.87 | 129.52 | 126.00 |
| 12 | B | 2526 | G | C2-N3-C4 | 5.87 | 114.83 | 111.90 |
| 12 | B | 2849 | U | N3-C4-O4 | 5.87 | 123.51 | 119.40 |
| 16 | F | 172 | PHE | CB-CG-CD1 | -5.87 | 116.69 | 120.80 |
| 11 | A | 33 | G | N9-C4-C5 | 5.87 | 107.75 | 105.40 |
| 11 | A | 46 | A | O4'-C1'-N9 | 5.87 | 112.89 | 108.20 |
| 12 | B | 95 | A | C6-C5-N7 | -5.87 | 128.19 | 132.30 |
| 12 | B | 176 | A | C6-N1-C2 | 5.87 | 122.12 | 118.60 |
| 12 | B | 1321 | A | C6-N1-C2 | 5.87 | 122.12 | 118.60 |
| 12 | B | 1523 | U | C5-C6-N1 | 5.87 | 125.63 | 122.70 |
| 12 | B | 1544 | A | C2-N3-C4 | 5.87 | 113.53 | 110.60 |
| 12 | B | 1788 | C | N3-C4-C5 | -5.87 | 119.55 | 121.90 |
| 12 | B | 2067 | G | C8-N9-C4 | -5.87 | 104.05 | 106.40 |
| 11 | A | 34 | A | P-O3'-C3' | 5.86 | 126.74 | 119.70 |
| 12 | B | 109 | C | N1-C2-O2 | 5.86 | 122.42 | 118.90 |
| 12 | B | 190 | A | C5-C6-N1 | -5.86 | 114.77 | 117.70 |
| 12 | B | 211 | C | C6-N1-C2 | 5.86 | 122.64 | 120.30 |
| 12 | B | 477 | A | O5'-P-OP1 | 5.86 | 117.73 | 110.70 |
| 12 | B | 1191 | G | C1'-O4'-C4' | 5.86 | 114.59 | 109.90 |
| 12 | B | 1466 | U | C2-N3-C4 | -5.86 | 123.48 | 127.00 |
| 12 | B | 2023 | C | N3-C4-C5 | -5.86 | 119.55 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2317 | A | C5-C6-N6 | -5.86 | 119.01 | 123.70 |
| 12 | B | 2324 | U | C5'-C4'-O4' | 5.86 | 116.14 | 109.10 |
| 12 | B | 2495 | G | O4'-C1'-N9 | 5.86 | 112.89 | 108.20 |
| 12 | B | 2661 | G | C4-C5-C6 | 5.86 | 122.32 | 118.80 |
| 12 | B | 721 | A | O4'-C1'-N9 | 5.86 | 112.89 | 108.20 |
| 12 | B | 729 | G | N1-C2-N3 | -5.86 | 120.38 | 123.90 |
| 12 | B | 1739 | A | O5'-P-OP2 | -5.86 | 100.42 | 105.70 |
| 12 | B | 2271 | G | C8-N9-C4 | -5.86 | 104.06 | 106.40 |
| 12 | B | 2822 | G | C4-C5-N7 | 5.86 | 113.14 | 110.80 |
| 12 | B | 807 | U | OP1-P-OP2 | -5.86 | 110.81 | 119.60 |
| 12 | B | 847 | U | C2-N3-C4 | -5.86 | 123.48 | 127.00 |
| 12 | B | 1055 | G | C4-C5-N7 | -5.86 | 108.46 | 110.80 |
| 12 | B | 1193 | G | C4-C5-C6 | 5.86 | 122.32 | 118.80 |
| 12 | B | 1461 | C | C2-N3-C4 | 5.86 | 122.83 | 119.90 |
| 12 | B | 1471 | G | C1'-O4'-C4' | 5.86 | 114.59 | 109.90 |
| 12 | B | 1653 | G | N7-C8-N9 | 5.86 | 116.03 | 113.10 |
| 12 | B | 2017 | U | C5-C4-O4 | -5.86 | 122.38 | 125.90 |
| 12 | B | 2590 | A | C6-C5-N7 | -5.86 | 128.20 | 132.30 |
| 12 | B | 2595 | G | N9-C4-C5 | 5.86 | 107.74 | 105.40 |
| 12 | B | 379 | G | C5-C6-O6 | -5.86 | 125.08 | 128.60 |
| 12 | B | 475 | C | N3-C2-O2 | 5.86 | 126.00 | 121.90 |
| 12 | B | 2154 | A | C5-N7-C8 | 5.86 | 106.83 | 103.90 |
| 12 | B | 2262 | U | C4-C5-C6 | -5.86 | 116.19 | 119.70 |
| 12 | B | 2342 | C | N1-C2-O2 | 5.86 | 122.42 | 118.90 |
| 12 | B | 471 | A | P-O3'-C3' | -5.86 | 112.67 | 119.70 |
| 12 | B | 1245 | G | N3-C2-N2 | 5.86 | 124.00 | 119.90 |
| 12 | B | 1283 | G | N1-C2-N2 | -5.86 | 110.93 | 116.20 |
| 12 | B | 1288 | G | C2-N3-C4 | 5.86 | 114.83 | 111.90 |
| 12 | B | 1346 | G | N1-C2-N3 | -5.86 | 120.39 | 123.90 |
| 12 | B | 1461 | C | N3-C4-C5 | -5.86 | 119.56 | 121.90 |
| 12 | B | 1666 | G | C8-N9-C1' | 5.86 | 134.62 | 127.00 |
| 12 | B | 1916 | A | C5-N7-C8 | 5.86 | 106.83 | 103.90 |
| 12 | B | 2161 | C | C4'-C3'-C2' | -5.86 | 96.74 | 102.60 |
| 12 | B | 2424 | C | O4'-C4'-C3' | 5.86 | 110.79 | 106.10 |
| 12 | B | 2425 | A | C6-C5-N7 | -5.86 | 128.20 | 132.30 |
| 12 | B | 799 | G | N3-C4-C5 | -5.86 | 125.67 | 128.60 |
| 12 | B | 979 | A | C8-N9-C4 | 5.86 | 108.14 | 105.80 |
| 12 | B | 1049 | C | O4'-C1'-N1 | 5.86 | 112.88 | 108.20 |
| 12 | B | 1299 | G | P-O3'-C3' | 5.86 | 126.73 | 119.70 |
| 12 | B | 1362 | C | N1-C2-O2 | -5.86 | 115.39 | 118.90 |
| 12 | B | 1695 | G | C4-N9-C1' | 5.86 | 134.11 | 126.50 |
| 12 | B | 1699 | G | C3'-C2'-C1' | -5.86 | 96.82 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1762 | A | N3-C4-C5 | -5.86 | 122.70 | 126.80 |
| 12 | B | 1818 | U | C6-N1-C2 | -5.86 | 117.49 | 121.00 |
| 12 | B | 1986 | C | O4'-C1'-N1 | 5.86 | 112.88 | 108.20 |
| 12 | B | 2092 | U | C6-N1-C1' | -5.86 | 113.00 | 121.20 |
| 12 | B | 2782 | G | N3-C4-C5 | -5.86 | 125.67 | 128.60 |
| 14 | D | 84 | LEU | CB-CG-CD2 | 5.86 | 120.95 | 111.00 |
| 12 | B | 512 | G | C8-N9-C4 | -5.85 | 104.06 | 106.40 |
| 12 | B | 2420 | C | C2-N3-C4 | 5.85 | 122.83 | 119.90 |
| 12 | B | 2645 | G | C5-C6-O6 | -5.85 | 125.09 | 128.60 |
| 12 | B | 2762 | C | P-O5'-C5' | -5.85 | 111.53 | 120.90 |
| 12 | B | 2894 | G | C4'-C3'-C2' | 5.85 | 108.45 | 102.60 |
| 29 | S | 94 | ASP | CB-CG-OD1 | 5.85 | 123.57 | 118.30 |
| 12 | B | 710 | U | N3-C4-C5 | -5.85 | 111.09 | 114.60 |
| 12 | B | 846 | U | C2-N3-C4 | -5.85 | 123.49 | 127.00 |
| 12 | B | 1389 | G | C5-C6-O6 | -5.85 | 125.09 | 128.60 |
| 12 | B | 1685 | C | N1-C1'-C2' | -5.85 | 105.56 | 112.00 |
| 12 | B | 1862 | G | C5-N7-C8 | -5.85 | 101.37 | 104.30 |
| 12 | B | 1918 | A | C5-N7-C8 | 5.85 | 106.83 | 103.90 |
| 12 | B | 1949 | G | C4-C5-N7 | 5.85 | 113.14 | 110.80 |
| 12 | B | 2182 | U | N1-C2-N3 | 5.85 | 118.41 | 114.90 |
| 12 | B | 2193 | G | C6-C5-N7 | -5.85 | 126.89 | 130.40 |
| 12 | B | 2401 | U | P-O5'-C5' | -5.85 | 111.53 | 120.90 |
| 12 | B | 2652 | C | C6-N1-C2 | -5.85 | 117.96 | 120.30 |
| 12 | B | 2839 | G | N1-C6-O6 | 5.85 | 123.41 | 119.90 |
| 12 | B | 2842 | G | C6-N1-C2 | 5.85 | 128.61 | 125.10 |
| 12 | B | 1428 | C | C5-C4-N4 | -5.85 | 116.10 | 120.20 |
| 12 | B | 1582 | C | C3'-C2'-C1' | -5.85 | 96.82 | 101.50 |
| 12 | B | 2120 | G | N3-C4-C5 | -5.85 | 125.67 | 128.60 |
| 12 | B | 283 | G | C1'-O4'-C4' | -5.85 | 105.22 | 109.90 |
| 12 | B | 671 | C | OP1-P-OP2 | -5.85 | 110.83 | 119.60 |
| 12 | B | 718 | A | O4'-C1'-N9 | 5.85 | 112.88 | 108.20 |
| 12 | B | 762 | U | C5-C6-N1 | 5.85 | 125.62 | 122.70 |
| 12 | B | 1217 | U | C5'-C4'-O4' | 5.85 | 116.12 | 109.10 |
| 12 | B | 1313 | U | N1-C2-O2 | 5.85 | 126.89 | 122.80 |
| 12 | B | 1366 | A | C8-N9-C1' | -5.85 | 117.17 | 127.70 |
| 12 | B | 1923 | U | C2-N1-C1' | -5.85 | 110.68 | 117.70 |
| 12 | B | 2008 | C | C5-C6-N1 | 5.85 | 123.92 | 121.00 |
| 12 | B | 2148 | G | N1-C2-N3 | -5.85 | 120.39 | 123.90 |
| 12 | B | 2232 | C | C4'-C3'-C2' | -5.85 | 96.75 | 102.60 |
| 12 | B | 2358 | A | C5-C6-N6 | -5.85 | 119.02 | 123.70 |
| 12 | B | 2416 | C | P-O5'-C5' | 5.85 | 130.26 | 120.90 |
| 12 | B | 2624 | G | O4'-C4'-C3' | -5.85 | 98.15 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2630 | G | N3-C2-N2 | 5.85 | 123.99 | 119.90 |
| 11 | A | 84 | G | N3-C4-N9 | -5.85 | 122.49 | 126.00 |
| 12 | B | 366 | C | C2-N3-C4 | 5.85 | 122.82 | 119.90 |
| 12 | B | 1031 | G | C2-N3-C4 | 5.85 | 114.82 | 111.90 |
| 12 | B | 1310 | G | C5-N7-C8 | 5.85 | 107.22 | 104.30 |
| 12 | B | 1989 | G | C4-C5-C6 | 5.85 | 122.31 | 118.80 |
| 11 | A | 16 | G | C2-N3-C4 | -5.85 | 108.98 | 111.90 |
| 12 | B | 419 | U | C1'-O4'-C4' | 5.85 | 114.58 | 109.90 |
| 11 | A | 35 | C | N1-C2-N3 | 5.84 | 123.29 | 119.20 |
| 12 | B | 135 | U | O5'-C5'-C4' | -5.84 | 100.59 | 111.70 |
| 12 | B | 496 | G | C5-N7-C8 | -5.84 | 101.38 | 104.30 |
| 12 | B | 640 | C | P-O3'-C3' | 5.84 | 126.71 | 119.70 |
| 12 | B | 718 | A | N7-C8-N9 | 5.84 | 116.72 | 113.80 |
| 12 | B | 904 | G | C4-C5-C6 | 5.84 | 122.31 | 118.80 |
| 12 | B | 924 | G | N7-C8-N9 | -5.84 | 110.18 | 113.10 |
| 12 | B | 1780 | A | N1-C2-N3 | 5.84 | 132.22 | 129.30 |
| 12 | B | 1783 | A | O4'-C1'-N9 | 5.84 | 112.88 | 108.20 |
| 12 | B | 1787 | A | C1'-O4'-C4' | 5.84 | 114.58 | 109.90 |
| 12 | B | 2398 | U | OP1-P-OP2 | -5.84 | 110.83 | 119.60 |
| 12 | B | 2758 | A | N7-C8-N9 | 5.84 | 116.72 | 113.80 |
| 12 | B | 2790 | U | N3-C4-O4 | 5.84 | 123.49 | 119.40 |
| 14 | D | 122 | VAL | CA-CB-CG1 | 5.84 | 119.67 | 110.90 |
| 12 | B | 39 | G | P-O3'-C3' | 5.84 | 126.71 | 119.70 |
| 12 | B | 128 | C | N3-C4-N4 | 5.84 | 122.09 | 118.00 |
| 12 | B | 1344 | U | P-O5'-C5' | 5.84 | 130.25 | 120.90 |
| 12 | B | 1948 | G | O4'-C1'-N9 | 5.84 | 112.87 | 108.20 |
| 12 | B | 19 | A | N1-C6-N6 | 5.84 | 122.11 | 118.60 |
| 12 | B | 328 | U | C4'-C3'-C2' | -5.84 | 96.76 | 102.60 |
| 12 | B | 492 | A | C8-N9-C4 | -5.84 | 103.46 | 105.80 |
| 12 | B | 888 | C | N3-C4-C5 | -5.84 | 119.56 | 121.90 |
| 12 | B | 1483 | G | C5'-C4'-C3' | -5.84 | 106.65 | 116.00 |
| 12 | B | 1615 | C | C5-C4-N4 | -5.84 | 116.11 | 120.20 |
| 12 | B | 1668 | A | N1-C6-N6 | 5.84 | 122.11 | 118.60 |
| 12 | B | 1754 | A | C8-N9-C4 | -5.84 | 103.46 | 105.80 |
| 12 | B | 2061 | G | C2-N3-C4 | 5.84 | 114.82 | 111.90 |
| 12 | B | 2189 | U | C5-C6-N1 | 5.84 | 125.62 | 122.70 |
| 12 | B | 2499 | C | C4'-C3'-C2' | -5.84 | 96.76 | 102.60 |
| 12 | B | 2534 | A | N7-C8-N9 | 5.84 | 116.72 | 113.80 |
| 12 | B | 2550 | G | N3-C2-N2 | 5.84 | 123.99 | 119.90 |
| 12 | B | 2556 | C | C5'-C4'-C3' | -5.84 | 106.65 | 116.00 |
| 12 | B | 2734 | A | C4'-C3'-C2' | -5.84 | 96.76 | 102.60 |
| 11 | A | 71 | C | C6-N1-C2 | -5.84 | 117.96 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 262 | A | P-O5'-C5' | 5.84 | 130.25 | 120.90 |
| 12 | B | 605 | G | N9-C4-C5 | -5.84 | 103.06 | 105.40 |
| 12 | B | 1048 | A | C4-C5-N7 | 5.84 | 113.62 | 110.70 |
| 12 | B | 1728 | C | O4'-C1'-N1 | 5.84 | 112.87 | 108.20 |
| 12 | B | 2018 | G | O4'-C4'-C3' | -5.84 | 98.16 | 104.00 |
| 12 | B | 2172 | U | N3-C2-O2 | 5.84 | 126.29 | 122.20 |
| 12 | B | 2548 | U | C2-N3-C4 | 5.84 | 130.50 | 127.00 |
| 12 | B | 2766 | A | N3-C4-C5 | -5.84 | 122.71 | 126.80 |
| 10 | 9 | 130 | PHE | CB-CG-CD1 | -5.84 | 116.71 | 120.80 |
| 12 | B | 2493 | U | N1-C2-O2 | -5.84 | 118.71 | 122.80 |
| 13 | C | 101 | ARG | NH1-CZ-NH2 | -5.84 | 112.98 | 119.40 |
| 20 | J | 95 | ARG | NE-CZ-NH2 | -5.84 | 117.38 | 120.30 |
| 11 | A | 38 | C | C6-N1-C2 | 5.84 | 122.63 | 120.30 |
| 12 | B | 166 | U | C5-C4-O4 | -5.84 | 122.40 | 125.90 |
| 12 | B | 345 | A | C8-N9-C4 | -5.84 | 103.47 | 105.80 |
| 12 | B | 1003 | G | C2'-C3'-O3' | 5.84 | 123.04 | 113.70 |
| 12 | B | 1311 | G | P-O3'-C3' | -5.84 | 112.69 | 119.70 |
| 12 | B | 1612 | C | N3-C2-O2 | -5.84 | 117.81 | 121.90 |
| 12 | B | 1634 | A | C6-C5-N7 | -5.84 | 128.22 | 132.30 |
| 12 | B | 1696 | G | C4-C5-C6 | 5.84 | 122.30 | 118.80 |
| 12 | B | 1949 | G | N1-C2-N3 | -5.84 | 120.40 | 123.90 |
| 12 | B | 2164 | C | C5-C6-N1 | 5.84 | 123.92 | 121.00 |
| 12 | B | 2464 | G | C5-C6-N1 | -5.84 | 108.58 | 111.50 |
| 12 | B | 1344 | U | C5'-C4'-C3' | -5.83 | 106.67 | 116.00 |
| 12 | B | 1784 | A | C6-N1-C2 | -5.83 | 115.10 | 118.60 |
| 12 | B | 2252 | G | N1-C2-N3 | -5.83 | 120.40 | 123.90 |
| 12 | B | 2742 | G | C6-N1-C2 | -5.83 | 121.60 | 125.10 |
| 12 | B | 59 | U | C4-C5-C6 | -5.83 | 116.20 | 119.70 |
| 12 | B | 786 | C | P-O3'-C3' | -5.83 | 112.70 | 119.70 |
| 12 | B | 1263 | U | N3-C4-C5 | -5.83 | 111.10 | 114.60 |
| 12 | B | 1315 | C | C6-N1-C2 | 5.83 | 122.63 | 120.30 |
| 12 | B | 1436 | G | C3'-C2'-C1' | -5.83 | 96.83 | 101.50 |
| 12 | B | 2278 | A | C4-C5-C6 | 5.83 | 119.92 | 117.00 |
| 12 | B | 2676 | C | C2-N3-C4 | 5.83 | 122.82 | 119.90 |
| 17 | G | 41 | GLU | N-CA-CB | 5.83 | 121.10 | 110.60 |
| 17 | G | 162 | ARG | CG-CD-NE | -5.83 | 99.55 | 111.80 |
| 11 | A | 57 | A | C6-N1-C2 | 5.83 | 122.10 | 118.60 |
| 12 | B | 30 | G | C3'-C2'-C1' | 5.83 | 106.17 | 101.50 |
| 12 | B | 328 | U | N1-C2-N3 | 5.83 | 118.40 | 114.90 |
| 12 | B | 767 | U | N1-C2-N3 | -5.83 | 111.40 | 114.90 |
| 12 | B | 1193 | G | N3-C4-N9 | 5.83 | 129.50 | 126.00 |
| 12 | B | 1208 | C | C5'-C4'-C3' | 5.83 | 125.33 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1632 | A | C4-C5-C6 | 5.83 | 119.92 | 117.00 |
| 12 | B | 1846 | G | O4'-C1'-N9 | 5.83 | 112.86 | 108.20 |
| 12 | B | 28 | A | O4'-C4'-C3' | -5.83 | 98.17 | 104.00 |
| 12 | B | 259 | G | C4'-C3'-C2' | -5.83 | 96.77 | 102.60 |
| 12 | B | 648 | G | N3-C4-C5 | 5.83 | 131.51 | 128.60 |
| 12 | B | 1386 | C | C2-N1-C1' | -5.83 | 112.39 | 118.80 |
| 12 | B | 1879 | C | C2-N3-C4 | -5.83 | 116.98 | 119.90 |
| 11 | A | 39 | A | C5-N7-C8 | 5.83 | 106.81 | 103.90 |
| 12 | B | 27 | G | C6-N1-C2 | 5.83 | 128.60 | 125.10 |
| 12 | B | 154 | U | N1-C2-O2 | 5.83 | 126.88 | 122.80 |
| 12 | B | 625 | G | C5-C6-N1 | -5.83 | 108.59 | 111.50 |
| 12 | B | 1257 | C | N3-C4-C5 | -5.83 | 119.57 | 121.90 |
| 12 | B | 1541 | C | N1-C2-O2 | -5.83 | 115.40 | 118.90 |
| 12 | B | 1910 | G | C1'-O4'-C4' | -5.83 | 105.24 | 109.90 |
| 12 | B | 1927 | A | C5-N7-C8 | 5.83 | 106.81 | 103.90 |
| 12 | B | 2380 | C | C4-C5-C6 | 5.83 | 120.31 | 117.40 |
| 12 | B | 2409 | G | C5-C6-O6 | -5.83 | 125.10 | 128.60 |
| 12 | B | 2486 | C | N1-C2-O2 | 5.83 | 122.40 | 118.90 |
| 24 | N | 45 | ARG | CG-CD-NE | -5.83 | 99.56 | 111.80 |
| 12 | B | 2078 | C | N3-C4-N4 | 5.83 | 122.08 | 118.00 |
| 12 | B | 2138 | G | N1-C6-O6 | 5.83 | 123.40 | 119.90 |
| 11 | A | 76 | G | P-O3'-C3' | -5.83 | 112.71 | 119.70 |
| 12 | B | 1322 | A | O4'-C4'-C3' | -5.83 | 98.17 | 104.00 |
| 6 | 5 | 78 | PHE | CB-CG-CD2 | -5.82 | 116.72 | 120.80 |
| 12 | B | 815 | C | N3-C4-N4 | 5.82 | 122.08 | 118.00 |
| 12 | B | 1218 | G | O4'-C1'-N9 | 5.82 | 112.86 | 108.20 |
| 12 | B | 1220 | G | C5-C6-O6 | -5.82 | 125.11 | 128.60 |
| 12 | B | 1525 | A | N1-C2-N3 | 5.82 | 132.21 | 129.30 |
| 12 | B | 1824 | G | N9-C1'-C2' | -5.82 | 105.59 | 112.00 |
| 12 | B | 2010 | G | C5-N7-C8 | 5.82 | 107.21 | 104.30 |
| 12 | B | 2186 | G | N1-C2-N2 | 5.82 | 121.44 | 116.20 |
| 12 | B | 2500 | U | P-O3'-C3' | 5.82 | 126.69 | 119.70 |
| 12 | B | 125 | A | C3'-C2'-C1' | -5.82 | 96.84 | 101.50 |
| 12 | B | 432 | A | C8-N9-C4 | -5.82 | 103.47 | 105.80 |
| 12 | B | 639 | U | C2-N3-C4 | 5.82 | 130.49 | 127.00 |
| 12 | B | 1032 | A | C5-C6-N1 | -5.82 | 114.79 | 117.70 |
| 12 | B | 1663 | G | O4'-C1'-N9 | 5.82 | 112.86 | 108.20 |
| 12 | B | 2438 | U | C5-C6-N1 | 5.82 | 125.61 | 122.70 |
| 12 | B | 2638 | G | N1-C2-N2 | 5.82 | 121.44 | 116.20 |
| 11 | A | 46 | A | C1'-O4'-C4' | -5.82 | 105.24 | 109.90 |
| 12 | B | 30 | G | N9-C4-C5 | -5.82 | 103.07 | 105.40 |
| 12 | B | 1009 | A | P-O5'-C5' | 5.82 | 130.21 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1179 | G | C8-N9-C4 | -5.82 | 104.07 | 106.40 |
| 12 | B | 1852 | U | N3-C2-O2 | -5.82 | 118.13 | 122.20 |
| 12 | B | 1934 | C | C6-N1-C2 | -5.82 | 117.97 | 120.30 |
| 12 | B | 2033 | A | C4-C5-C6 | 5.82 | 119.91 | 117.00 |
| 12 | B | 2439 | A | C4-C5-N7 | -5.82 | 107.79 | 110.70 |
| 21 | K | 11 | ALA | CB-CA-C | -5.82 | 101.37 | 110.10 |
| 12 | B | 3 | U | C2-N3-C4 | -5.82 | 123.51 | 127.00 |
| 12 | B | 2735 | G | O4'-C1'-N9 | 5.82 | 112.86 | 108.20 |
| 12 | B | 585 | G | O4'-C1'-N9 | 5.82 | 112.85 | 108.20 |
| 12 | B | 631 | A | C5'-C4'-O4' | 5.82 | 116.08 | 109.10 |
| 12 | B | 1483 | G | C6-N1-C2 | 5.82 | 128.59 | 125.10 |
| 12 | B | 1840 | G | P-O3'-C3' | -5.82 | 112.72 | 119.70 |
| 12 | B | 2394 | C | C6-N1-C2 | -5.82 | 117.97 | 120.30 |
| 12 | B | 2458 | G | C6-C5-N7 | -5.82 | 126.91 | 130.40 |
| 12 | B | 2581 | G | C8-N9-C1' | -5.82 | 119.44 | 127.00 |
| 12 | B | 2611 | C | N3-C4-C5 | 5.82 | 124.23 | 121.90 |
| 12 | B | 300 | A | C4-C5-C6 | 5.82 | 119.91 | 117.00 |
| 12 | B | 320 | A | N1-C2-N3 | 5.82 | 132.21 | 129.30 |
| 12 | B | 377 | G | N1-C2-N3 | -5.82 | 120.41 | 123.90 |
| 12 | B | 797 | G | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |
| 12 | B | 1586 | A | N7-C8-N9 | -5.82 | 110.89 | 113.80 |
| 12 | B | 1754 | A | C4-C5-N7 | 5.82 | 113.61 | 110.70 |
| 12 | B | 1947 | C | P-O3'-C3' | -5.82 | 112.72 | 119.70 |
| 12 | B | 2344 | U | C2-N3-C4 | -5.82 | 123.51 | 127.00 |
| 12 | B | 2462 | C | N1-C2-N3 | -5.82 | 115.13 | 119.20 |
| 12 | B | 2588 | G | C5-N7-C8 | 5.82 | 107.21 | 104.30 |
| 12 | B | 2830 | C | C6-N1-C2 | 5.82 | 122.63 | 120.30 |
| 23 | M | 52 | ALA | N-CA-CB | 5.82 | 118.24 | 110.10 |
| 30 | T | 45 | ALA | CB-CA-C | -5.82 | 101.38 | 110.10 |
| 12 | B | 202 | U | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 12 | B | 569 | U | N3-C2-O2 | 5.81 | 126.27 | 122.20 |
| 12 | B | 1005 | C | N3-C4-N4 | 5.81 | 122.07 | 118.00 |
| 12 | B | 1483 | G | C4-N9-C1' | 5.81 | 134.06 | 126.50 |
| 12 | B | 2282 | G | C5-C6-N1 | -5.81 | 108.59 | 111.50 |
| 12 | B | 2605 | U | N3-C4-C5 | -5.81 | 111.11 | 114.60 |
| 6 | 5 | 90 | ALA | N-CA-CB | 5.81 | 118.24 | 110.10 |
| 11 | A | 77 | U | C4'-C3'-C2' | -5.81 | 96.79 | 102.60 |
| 12 | B | 386 | G | P-O3'-C3' | 5.81 | 126.68 | 119.70 |
| 12 | B | 621 | A | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 12 | B | 949 | G | C6-C5-N7 | -5.81 | 126.91 | 130.40 |
| 12 | B | 1496 | A | C5'-C4'-O4' | 5.81 | 116.08 | 109.10 |
| 12 | B | 1654 | A | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2260 | C | C1'-O4'-C4' | 5.81 | 114.55 | 109.90 |
| 12 | B | 2624 | G | C1'-O4'-C4' | 5.81 | 114.55 | 109.90 |
| 11 | A | 98 | G | C6-C5-N7 | -5.81 | 126.91 | 130.40 |
| 12 | B | 209 | C | C5-C4-N4 | -5.81 | 116.13 | 120.20 |
| 12 | B | 1502 | A | C5'-C4'-C3' | 5.81 | 125.30 | 116.00 |
| 12 | B | 1756 | G | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 12 | B | 397 | U | P-O3'-C3' | -5.81 | 112.73 | 119.70 |
| 12 | B | 593 | U | C2-N3-C4 | 5.81 | 130.49 | 127.00 |
| 12 | B | 1227 | G | N7-C8-N9 | 5.81 | 116.00 | 113.10 |
| 12 | B | 1958 | C | C4-C5-C6 | 5.81 | 120.31 | 117.40 |
| 12 | B | 1989 | G | C8-N9-C1' | 5.81 | 134.55 | 127.00 |
| 12 | B | 2240 | U | C5-C6-N1 | 5.81 | 125.60 | 122.70 |
| 12 | B | 2757 | A | C8-N9-C4 | -5.81 | 103.48 | 105.80 |
| 12 | B | 2815 | C | C2-N3-C4 | 5.81 | 122.81 | 119.90 |
| 20 | J | 13 | ARG | NE-CZ-NH1 | -5.81 | 117.39 | 120.30 |
| 12 | B | 252 | G | O4'-C1'-N9 | 5.81 | 112.84 | 108.20 |
| 12 | B | 442 | G | N3-C2-N2 | 5.81 | 123.97 | 119.90 |
| 12 | B | 514 | A | N7-C8-N9 | -5.81 | 110.90 | 113.80 |
| 12 | B | 1011 | G | N1-C2-N2 | 5.81 | 121.43 | 116.20 |
| 12 | B | 2255 | G | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 12 | B | 2402 | U | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 12 | B | 2554 | U | N3-C4-O4 | 5.81 | 123.47 | 119.40 |
| 12 | B | 863 | A | C6-C5-N7 | -5.81 | 128.24 | 132.30 |
| 12 | B | 1332 | G | C5'-C4'-O4' | 5.81 | 116.07 | 109.10 |
| 12 | B | 2345 | G | C5-C6-N1 | -5.81 | 108.60 | 111.50 |
| 12 | B | 2831 | G | N1-C2-N3 | -5.81 | 120.42 | 123.90 |
| 11 | A | 85 | G | C6-N1-C2 | 5.80 | 128.58 | 125.10 |
| 12 | B | 860 | U | N3-C4-C5 | -5.80 | 111.12 | 114.60 |
| 12 | B | 879 | G | C8-N9-C1' | -5.80 | 119.45 | 127.00 |
| 12 | B | 943 | A | C2-N3-C4 | -5.80 | 107.70 | 110.60 |
| 12 | B | 1128 | G | C8-N9-C4 | -5.80 | 104.08 | 106.40 |
| 12 | B | 1173 | U | N3-C4-C5 | -5.80 | 111.12 | 114.60 |
| 12 | B | 1397 | U | C2-N1-C1' | 5.80 | 124.67 | 117.70 |
| 12 | B | 1745 | A | C2-N3-C4 | 5.80 | 113.50 | 110.60 |
| 12 | B | 1934 | C | C5-C6-N1 | 5.80 | 123.90 | 121.00 |
| 12 | B | 2283 | C | C3'-C2'-C1' | -5.80 | 96.86 | 101.50 |
| 16 | F | 111 | ARG | NH1-CZ-NH2 | -5.80 | 113.02 | 119.40 |
| 11 | A | 53 | A | C6-C5-N7 | -5.80 | 128.24 | 132.30 |
| 12 | B | 138 | U | C4-C5-C6 | 5.80 | 123.18 | 119.70 |
| 12 | B | 521 | U | N1-C2-N3 | -5.80 | 111.42 | 114.90 |
| 12 | B | 552 | U | C5-C6-N1 | 5.80 | 125.60 | 122.70 |
| 12 | B | 871 | U | C5'-C4'-O4' | -5.80 | 102.14 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1026 | G | O4'-C1'-N9 | 5.80 | 112.84 | 108.20 |
| 12 | B | 1413 | A | C4-C5-C6 | 5.80 | 119.90 | 117.00 |
| 12 | B | 1645 | G | C4-N9-C1' | -5.80 | 118.96 | 126.50 |
| 12 | B | 2101 | A | N9-C4-C5 | 5.80 | 108.12 | 105.80 |
| 12 | B | 2277 | G | N1-C6-O6 | 5.80 | 123.38 | 119.90 |
| 11 | A | 69 | G | N3-C2-N2 | 5.80 | 123.96 | 119.90 |
| 12 | B | 256 | A | C5'-C4'-C3' | -5.80 | 106.72 | 116.00 |
| 12 | B | 319 | G | N9-C4-C5 | -5.80 | 103.08 | 105.40 |
| 12 | B | 1126 | A | N1-C6-N6 | -5.80 | 115.12 | 118.60 |
| 12 | B | 1292 | G | N9-C1'-C2' | -5.80 | 105.62 | 112.00 |
| 12 | B | 1416 | G | C5-C6-O6 | -5.80 | 125.12 | 128.60 |
| 12 | B | 2278 | A | C5-C6-N1 | -5.80 | 114.80 | 117.70 |
| 12 | B | 2766 | A | P-O3'-C3' | 5.80 | 126.66 | 119.70 |
| 3 | 2 | 50 | VAL | CB-CA-C | -5.80 | 100.38 | 111.40 |
| 12 | B | 29 | U | N3-C2-O2 | 5.80 | 126.26 | 122.20 |
| 12 | B | 135 | U | P-O3'-C3' | 5.80 | 126.66 | 119.70 |
| 12 | B | 1380 | G | N9-C4-C5 | -5.80 | 103.08 | 105.40 |
| 12 | B | 1726 | C | N3-C4-N4 | 5.80 | 122.06 | 118.00 |
| 12 | B | 1900 | A | C6-N1-C2 | 5.80 | 122.08 | 118.60 |
| 12 | B | 1991 | U | C3'-C2'-C1' | 5.80 | 106.14 | 101.50 |
| 12 | B | 2504 | U | C5-C4-O4 | -5.80 | 122.42 | 125.90 |
| 12 | B | 2878 | U | C5-C4-O4 | -5.80 | 122.42 | 125.90 |
| 27 | Q | 24 | TYR | CB-CG-CD1 | 5.80 | 124.48 | 121.00 |
| 12 | B | 256 | A | C5-C6-N6 | -5.80 | 119.06 | 123.70 |
| 12 | B | 948 | C | O4'-C1'-N1 | 5.80 | 112.84 | 108.20 |
| 12 | B | 1012 | U | P-O3'-C3' | 5.80 | 126.66 | 119.70 |
| 12 | B | 1727 | C | N3-C4-C5 | -5.80 | 119.58 | 121.90 |
| 11 | A | 23 | G | C8-N9-C4 | -5.80 | 104.08 | 106.40 |
| 12 | B | 114 | U | O4'-C1'-N1 | 5.80 | 112.84 | 108.20 |
| 12 | B | 350 | G | C8-N9-C1' | 5.80 | 134.53 | 127.00 |
| 12 | B | 459 | U | O4'-C4'-C3' | -5.80 | 98.20 | 104.00 |
| 12 | B | 686 | U | N3-C4-C5 | -5.80 | 111.12 | 114.60 |
| 12 | B | 730 | A | N9-C4-C5 | 5.80 | 108.12 | 105.80 |
| 12 | B | 887 | U | C2-N1-C1' | 5.80 | 124.66 | 117.70 |
| 12 | B | 1628 | G | N9-C4-C5 | -5.80 | 103.08 | 105.40 |
| 12 | B | 1765 | U | C3'-C2'-C1' | 5.80 | 106.14 | 101.50 |
| 12 | B | 1825 | U | P-O5'-C5' | 5.80 | 130.17 | 120.90 |
| 12 | B | 2157 | G | C4-N9-C1' | 5.80 | 134.04 | 126.50 |
| 12 | B | 2778 | A | C5-C6-N6 | -5.80 | 119.06 | 123.70 |
| 12 | B | 2780 | G | N7-C8-N9 | -5.80 | 110.20 | 113.10 |
| 12 | B | 2834 | G | C2-N3-C4 | 5.80 | 114.80 | 111.90 |
| 11 | A | 113 | C | N3-C4-C5 | -5.79 | 119.58 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 736 | C | C1'-O4'-C4' | 5.79 | 114.54 | 109.90 |
| 12 | B | 1127 | A | C6-C5-N7 | -5.79 | 128.24 | 132.30 |
| 12 | B | 1179 | G | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 12 | B | 1608 | A | P-O3'-C3' | 5.79 | 126.65 | 119.70 |
| 6 | 5 | 89 | ALA | N-CA-CB | -5.79 | 101.99 | 110.10 |
| 12 | B | 278 | A | P-O5'-C5' | 5.79 | 130.17 | 120.90 |
| 12 | B | 657 | U | C2-N3-C4 | 5.79 | 130.48 | 127.00 |
| 12 | B | 678 | C | O4'-C1'-N1 | 5.79 | 112.83 | 108.20 |
| 12 | B | 697 | G | C5-C6-O6 | -5.79 | 125.12 | 128.60 |
| 12 | B | 866 | A | C5-C6-N6 | -5.79 | 119.07 | 123.70 |
| 12 | B | 1986 | C | N3-C4-C5 | -5.79 | 119.58 | 121.90 |
| 12 | B | 2152 | G | N1-C2-N2 | -5.79 | 110.99 | 116.20 |
| 12 | B | 2244 | U | N3-C4-O4 | 5.79 | 123.45 | 119.40 |
| 12 | B | 2308 | G | C5-C6-N1 | -5.79 | 108.60 | 111.50 |
| 12 | B | 2525 | G | N3-C4-C5 | -5.79 | 125.70 | 128.60 |
| 12 | B | 2743 | U | C3'-C2'-C1' | -5.79 | 96.87 | 101.50 |
| 12 | B | 159 | G | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 12 | B | 2129 | C | C5-C6-N1 | 5.79 | 123.89 | 121.00 |
| 12 | B | 2429 | G | C2-N3-C4 | 5.79 | 114.80 | 111.90 |
| 12 | B | 2635 | A | C8-N9-C4 | -5.79 | 103.48 | 105.80 |
| 12 | B | 2748 | A | C6-C5-N7 | -5.79 | 128.25 | 132.30 |
| 10 | 9 | 193 | THR | CA-CB-CG2 | -5.79 | 104.29 | 112.40 |
| 12 | B | 81 | G | O4'-C1'-N9 | 5.79 | 112.83 | 108.20 |
| 12 | B | 365 | U | C6-N1-C2 | -5.79 | 117.53 | 121.00 |
| 12 | B | 1612 | C | O4'-C1'-N1 | 5.79 | 112.83 | 108.20 |
| 12 | B | 1902 | C | C6-N1-C2 | -5.79 | 117.98 | 120.30 |
| 12 | B | 2159 | G | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 12 | B | 2585 | U | C5-C6-N1 | -5.79 | 119.81 | 122.70 |
| 1 | 0 | 62 | GLY | N-CA-C | -5.79 | 98.63 | 113.10 |
| 12 | B | 444 | C | P-O3'-C3' | 5.79 | 126.65 | 119.70 |
| 12 | B | 449 | A | C6-C5-N7 | -5.79 | 128.25 | 132.30 |
| 12 | B | 803 | U | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 12 | B | 1271 | G | P-O3'-C3' | 5.79 | 126.64 | 119.70 |
| 12 | B | 1552 | A | C4-C5-C6 | 5.79 | 119.89 | 117.00 |
| 12 | B | 1666 | G | C4-N9-C1' | -5.79 | 118.97 | 126.50 |
| 12 | B | 1749 | A | C4-C5-C6 | 5.79 | 119.89 | 117.00 |
| 12 | B | 2095 | A | C5'-C4'-C3' | -5.79 | 106.74 | 116.00 |
| 12 | B | 2230 | G | N3-C4-N9 | -5.79 | 122.53 | 126.00 |
| 14 | D | 190 | LYS | O-C-N | 5.79 | 133.04 | 123.20 |
| 12 | B | 47 | C | O4'-C4'-C3' | -5.79 | 98.21 | 104.00 |
| 12 | B | 507 | A | C4-C5-C6 | -5.79 | 114.11 | 117.00 |
| 12 | B | 986 | C | P-O3'-C3' | 5.79 | 126.64 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2449 | U | N3-C4-O4 | 5.79 | 123.45 | 119.40 |
| 12 | B | 2641 | G | O4'-C4'-C3' | -5.79 | 98.21 | 104.00 |
| 12 | B | 2737 | G | C6-C5-N7 | -5.79 | 126.93 | 130.40 |
| 12 | B | 1040 | A | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 12 | B | 1271 | G | N7-C8-N9 | 5.79 | 115.99 | 113.10 |
| 12 | B | 1273 | U | N3-C4-O4 | 5.79 | 123.45 | 119.40 |
| 12 | B | 1367 | A | O4'-C1'-N9 | 5.79 | 112.83 | 108.20 |
| 12 | B | 1719 | G | N1-C6-O6 | 5.79 | 123.37 | 119.90 |
| 12 | B | 1752 | C | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 12 | B | 1761 | C | C3'-C2'-C1' | 5.79 | 106.13 | 101.50 |
| 12 | B | 1889 | A | C6-C5-N7 | -5.79 | 128.25 | 132.30 |
| 12 | B | 1961 | C | N3-C4-C5 | -5.79 | 119.59 | 121.90 |
| 12 | B | 2149 | U | O4'-C4'-C3' | -5.79 | 98.21 | 104.00 |
| 12 | B | 2587 | A | N1-C6-N6 | 5.79 | 122.07 | 118.60 |
| 21 | K | 68 | GLY | C-N-CA | 5.79 | 136.16 | 121.70 |
| 25 | O | 107 | ALA | N-CA-CB | 5.79 | 118.20 | 110.10 |
| 12 | B | 327 | G | C4-N9-C1' | -5.78 | 118.98 | 126.50 |
| 12 | B | 495 | G | C4-N9-C1' | -5.78 | 118.98 | 126.50 |
| 12 | B | 1124 | G | C6-N1-C2 | 5.78 | 128.57 | 125.10 |
| 12 | B | 1142 | A | C5'-C4'-O4' | 5.78 | 116.04 | 109.10 |
| 12 | B | 1280 | G | C6-N1-C2 | -5.78 | 121.63 | 125.10 |
| 12 | B | 1557 | C | C6-N1-C2 | 5.78 | 122.61 | 120.30 |
| 12 | B | 1724 | G | C1'-O4'-C4' | 5.78 | 114.53 | 109.90 |
| 12 | B | 2262 | U | C5-C4-O4 | -5.78 | 122.43 | 125.90 |
| 12 | B | 2317 | A | C6-C5-N7 | -5.78 | 128.25 | 132.30 |
| 21 | K | 7 | MET | CG-SD-CE | -5.78 | 90.95 | 100.20 |
| 12 | B | 446 | G | O4'-C1'-N9 | 5.78 | 112.83 | 108.20 |
| 12 | B | 1103 | A | C5'-C4'-O4' | 5.78 | 116.04 | 109.10 |
| 12 | B | 1158 | C | N3-C2-O2 | -5.78 | 117.85 | 121.90 |
| 12 | B | 1741 | C | P-O3'-C3' | -5.78 | 112.76 | 119.70 |
| 12 | B | 1926 | U | C5-C4-O4 | 5.78 | 129.37 | 125.90 |
| 12 | B | 2313 | C | C5-C6-N1 | 5.78 | 123.89 | 121.00 |
| 11 | A | 114 | C | N1-C2-O2 | 5.78 | 122.37 | 118.90 |
| 12 | B | 125 | A | C5-C6-N1 | -5.78 | 114.81 | 117.70 |
| 12 | B | 388 | G | C6-C5-N7 | -5.78 | 126.93 | 130.40 |
| 12 | B | 609 | A | P-O3'-C3' | 5.78 | 126.64 | 119.70 |
| 12 | B | 836 | G | N1-C2-N3 | -5.78 | 120.43 | 123.90 |
| 12 | B | 840 | C | C5-C6-N1 | 5.78 | 123.89 | 121.00 |
| 12 | B | 1173 | U | N3-C4-O4 | 5.78 | 123.45 | 119.40 |
| 12 | B | 1274 | A | C2-N3-C4 | -5.78 | 107.71 | 110.60 |
| 12 | B | 1514 | G | C6-C5-N7 | -5.78 | 126.93 | 130.40 |
| 12 | B | 1697 | G | C1'-O4'-C4' | -5.78 | 105.28 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2025 | C | C1'-O4'-C4' | 5.78 | 114.52 | 109.90 |
| 12 | B | 2128 | G | N1-C2-N3 | -5.78 | 120.43 | 123.90 |
| 12 | B | 2375 | G | N3-C4-C5 | 5.78 | 131.49 | 128.60 |
| 12 | B | 2508 | G | O5'-C5'-C4' | -5.78 | 100.72 | 111.70 |
| 12 | B | 2832 | U | C5-C4-O4 | -5.78 | 122.43 | 125.90 |
| 17 | G | 42 | VAL | CA-CB-CG2 | -5.78 | 102.23 | 110.90 |
| 8 | 7 | 44 | ARG | NE-CZ-NH1 | -5.78 | 117.41 | 120.30 |
| 12 | B | 54 | G | N3-C4-C5 | 5.78 | 131.49 | 128.60 |
| 12 | B | 482 | A | C6-C5-N7 | -5.78 | 128.25 | 132.30 |
| 12 | B | 549 | G | N7-C8-N9 | -5.78 | 110.21 | 113.10 |
| 12 | B | 1106 | G | N1-C2-N3 | 5.78 | 127.37 | 123.90 |
| 12 | B | 1944 | U | N3-C2-O2 | 5.78 | 126.25 | 122.20 |
| 12 | B | 2304 | G | C5-C6-O6 | -5.78 | 125.13 | 128.60 |
| 6 | 5 | 224 | VAL | CG1-CB-CG2 | -5.78 | 101.66 | 110.90 |
| 10 | 9 | 74 | ALA | CB-CA-C | -5.78 | 101.43 | 110.10 |
| 12 | B | 543 | G | N3-C2-N2 | 5.78 | 123.94 | 119.90 |
| 12 | B | 593 | U | N3-C4-O4 | 5.78 | 123.44 | 119.40 |
| 12 | B | 734 | A | C5-C6-N6 | -5.78 | 119.08 | 123.70 |
| 12 | B | 858 | G | C5'-C4'-O4' | 5.78 | 116.03 | 109.10 |
| 12 | B | 1010 | A | N1-C2-N3 | -5.78 | 126.41 | 129.30 |
| 12 | B | 1651 | G | C1'-O4'-C4' | 5.78 | 114.52 | 109.90 |
| 12 | B | 1782 | U | C5'-C4'-C3' | -5.78 | 106.76 | 116.00 |
| 12 | B | 1791 | A | C5-N7-C8 | 5.78 | 106.79 | 103.90 |
| 12 | B | 1853 | A | O4'-C1'-N9 | 5.78 | 112.82 | 108.20 |
| 12 | B | 1924 | C | N3-C2-O2 | 5.78 | 125.94 | 121.90 |
| 12 | B | 2813 | A | O4'-C4'-C3' | -5.78 | 98.22 | 104.00 |
| 16 | F | 122 | ASP | CB-CG-OD2 | -5.78 | 113.10 | 118.30 |
| 4 | 3 | 43 | THR | C-N-CA | 5.78 | 136.14 | 121.70 |
| 12 | B | 110 | G | P-O3'-C3' | -5.78 | 112.77 | 119.70 |
| 12 | B | 602 | A | C5'-C4'-O4' | 5.78 | 116.03 | 109.10 |
| 12 | B | 700 | G | N7-C8-N9 | 5.78 | 115.99 | 113.10 |
| 12 | B | 947 | A | C4-C5-N7 | 5.78 | 113.59 | 110.70 |
| 12 | B | 1001 | A | C5-C6-N6 | -5.78 | 119.08 | 123.70 |
| 12 | B | 1003 | G | C5-C6-O6 | -5.78 | 125.13 | 128.60 |
| 12 | B | 1117 | C | O4'-C4'-C3' | -5.78 | 98.22 | 104.00 |
| 12 | B | 1137 | G | O5'-P-OP2 | -5.78 | 100.50 | 105.70 |
| 12 | B | 1431 | A | N9-C1'-C2' | -5.78 | 105.65 | 112.00 |
| 12 | B | 1689 | A | C4'-C3'-C2' | -5.78 | 96.83 | 102.60 |
| 12 | B | 1894 | C | P-O3'-C3' | -5.78 | 112.77 | 119.70 |
| 12 | B | 2360 | G | N9-C4-C5 | 5.78 | 107.71 | 105.40 |
| 12 | B | 2607 | G | O4'-C1'-N9 | 5.78 | 112.82 | 108.20 |
| 12 | B | 2796 | U | N3-C4-C5 | -5.78 | 111.14 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2895 | G | C4'-C3'-C2' | -5.78 | 96.83 | 102.60 |
| 12 | B | 160 | A | C2-N3-C4 | -5.77 | 107.71 | 110.60 |
| 12 | B | 961 | C | C1'-O4'-C4' | 5.77 | 114.52 | 109.90 |
| 12 | B | 1144 | A | O4'-C1'-N9 | 5.77 | 112.82 | 108.20 |
| 12 | B | 1847 | A | N1-C2-N3 | 5.77 | 132.19 | 129.30 |
| 12 | B | 2222 | C | P-O5'-C5' | 5.77 | 130.14 | 120.90 |
| 12 | B | 85 | G | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 12 | B | 381 | G | C1'-O4'-C4' | -5.77 | 105.28 | 109.90 |
| 12 | B | 1046 | A | N7-C8-N9 | -5.77 | 110.91 | 113.80 |
| 12 | B | 1489 | C | O4'-C1'-N1 | 5.77 | 112.82 | 108.20 |
| 12 | B | 2381 | A | C5-C6-N6 | -5.77 | 119.08 | 123.70 |
| 12 | B | 2502 | G | C6-N1-C2 | 5.77 | 128.56 | 125.10 |
| 12 | B | 2576 | G | C1'-O4'-C4' | -5.77 | 105.28 | 109.90 |
| 12 | B | 2675 | A | C4-C5-N7 | -5.77 | 107.81 | 110.70 |
| 12 | B | 858 | G | N1-C2-N2 | 5.77 | 121.39 | 116.20 |
| 12 | B | 2259 | U | N1-C2-N3 | -5.77 | 111.44 | 114.90 |
| 12 | B | 2308 | G | C5'-C4'-C3' | -5.77 | 106.77 | 116.00 |
| 12 | B | 2547 | A | C8-N9-C4 | -5.77 | 103.49 | 105.80 |
| 12 | B | 2862 | G | N3-C4-C5 | -5.77 | 125.72 | 128.60 |
| 12 | B | 142 | A | C2-N3-C4 | 5.77 | 113.48 | 110.60 |
| 12 | B | 234 | U | C4-C5-C6 | -5.77 | 116.24 | 119.70 |
| 12 | B | 345 | A | C5-C6-N1 | -5.77 | 114.82 | 117.70 |
| 12 | B | 387 | U | C2-N3-C4 | -5.77 | 123.54 | 127.00 |
| 12 | B | 450 | G | C5-C6-O6 | -5.77 | 125.14 | 128.60 |
| 12 | B | 502 | A | N9-C4-C5 | -5.77 | 103.49 | 105.80 |
| 12 | B | 876 | C | C5-C4-N4 | -5.77 | 116.16 | 120.20 |
| 12 | B | 1309 | G | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 12 | B | 1627 | G | N1-C2-N2 | -5.77 | 111.01 | 116.20 |
| 12 | B | 1660 | G | C2'-C3'-O3' | 5.77 | 122.93 | 113.70 |
| 12 | B | 1802 | A | C6-C5-N7 | -5.77 | 128.26 | 132.30 |
| 12 | B | 1812 | U | N3-C4-O4 | 5.77 | 123.44 | 119.40 |
| 12 | B | 2440 | C | P-O3'-C3' | 5.77 | 126.62 | 119.70 |
| 12 | B | 2573 | C | C6-N1-C1' | -5.77 | 113.88 | 120.80 |
| 12 | B | 287 | G | C5'-C4'-C3' | -5.77 | 106.77 | 116.00 |
| 12 | B | 339 | U | C5-C4-O4 | -5.77 | 122.44 | 125.90 |
| 12 | B | 539 | G | P-O5'-C5' | 5.77 | 130.13 | 120.90 |
| 12 | B | 933 | A | O4'-C1'-N9 | 5.77 | 112.81 | 108.20 |
| 12 | B | 1077 | A | C5-C6-N6 | -5.77 | 119.09 | 123.70 |
| 12 | B | 1127 | A | N3-C4-N9 | 5.77 | 132.01 | 127.40 |
| 12 | B | 1406 | U | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 12 | B | 1566 | A | C4-C5-N7 | -5.77 | 107.82 | 110.70 |
| 12 | B | 1753 | G | C8-N9-C4 | -5.77 | 104.09 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1970 | A | C4-C5-N7 | -5.77 | 107.82 | 110.70 |
| 12 | B | 2472 | G | C4-C5-C6 | 5.77 | 122.26 | 118.80 |
| 12 | B | 2650 | U | C6-N1-C2 | -5.77 | 117.54 | 121.00 |
| 12 | B | 1091 | G | C2-N3-C4 | 5.77 | 114.78 | 111.90 |
| 12 | B | 1139 | G | C5-C6-O6 | -5.77 | 125.14 | 128.60 |
| 12 | B | 1628 | G | C4-C5-C6 | -5.77 | 115.34 | 118.80 |
| 12 | B | 2501 | C | C6-N1-C2 | -5.77 | 117.99 | 120.30 |
| 12 | B | 2542 | A | C3'-C2'-C1' | 5.77 | 106.11 | 101.50 |
| 12 | B | 2624 | G | C2-N3-C4 | -5.77 | 109.02 | 111.90 |
| 12 | B | 110 | G | C4-C5-C6 | 5.76 | 122.26 | 118.80 |
| 12 | B | 493 | G | C8-N9-C4 | -5.76 | 104.09 | 106.40 |
| 12 | B | 1803 | A | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 12 | B | 1858 | A | C4-C5-N7 | -5.76 | 107.82 | 110.70 |
| 12 | B | 1866 | A | P-O3'-C3' | -5.76 | 112.78 | 119.70 |
| 12 | B | 1906 | G | C4'-C3'-C2' | -5.76 | 96.83 | 102.60 |
| 12 | B | 2209 | G | N1-C2-N3 | -5.76 | 120.44 | 123.90 |
| 12 | B | 2428 | G | N9-C4-C5 | -5.76 | 103.09 | 105.40 |
| 12 | B | 2843 | G | N9-C4-C5 | 5.76 | 107.71 | 105.40 |
| 8 | 7 | 39 | ARG | NE-CZ-NH2 | -5.76 | 117.42 | 120.30 |
| 12 | B | 47 | C | C5-C4-N4 | -5.76 | 116.17 | 120.20 |
| 12 | B | 226 | A | C8-N9-C4 | 5.76 | 108.11 | 105.80 |
| 12 | B | 655 | A | P-O5'-C5' | -5.76 | 111.68 | 120.90 |
| 12 | B | 1194 | A | N1-C6-N6 | 5.76 | 122.06 | 118.60 |
| 12 | B | 1232 | G | O4'-C4'-C3' | -5.76 | 98.24 | 104.00 |
| 12 | B | 1686 | C | N1-C2-O2 | -5.76 | 115.44 | 118.90 |
| 12 | B | 1948 | G | C6-C5-N7 | -5.76 | 126.94 | 130.40 |
| 12 | B | 2033 | A | C6-N1-C2 | 5.76 | 122.06 | 118.60 |
| 12 | B | 2535 | G | N1-C6-O6 | 5.76 | 123.36 | 119.90 |
| 12 | B | 2722 | G | P-O5'-C5' | 5.76 | 130.12 | 120.90 |
| 12 | B | 2753 | A | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 12 | B | 2813 | A | C5-C6-N6 | -5.76 | 119.09 | 123.70 |
| 21 | K | 121 | GLU | N-CA-CB | 5.76 | 120.97 | 110.60 |
| 12 | B | 321 | U | P-O3'-C3' | -5.76 | 112.79 | 119.70 |
| 12 | B | 331 | C | C5-C4-N4 | -5.76 | 116.17 | 120.20 |
| 12 | B | 485 | C | N3-C4-C5 | -5.76 | 119.60 | 121.90 |
| 12 | B | 735 | A | C2-N3-C4 | -5.76 | 107.72 | 110.60 |
| 12 | B | 1004 | U | N3-C4-O4 | 5.76 | 123.43 | 119.40 |
| 12 | B | 1033 | U | N3-C4-C5 | -5.76 | 111.14 | 114.60 |
| 12 | B | 1731 | G | N7-C8-N9 | 5.76 | 115.98 | 113.10 |
| 12 | B | 2061 | G | C6-C5-N7 | -5.76 | 126.94 | 130.40 |
| 12 | B | 2843 | G | C4-C5-N7 | -5.76 | 108.50 | 110.80 |
| 12 | B | 85 | G | P-O5'-C5' | 5.76 | 130.11 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 514 | A | N1-C2-N3 | 5.76 | 132.18 | 129.30 |
| 12 | B | 661 | A | N1-C6-N6 | 5.76 | 122.06 | 118.60 |
| 12 | B | 1928 | A | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 12 | B | 2590 | A | P-O3'-C3' | 5.76 | 126.61 | 119.70 |
| 12 | B | 2879 | A | N1-C2-N3 | -5.76 | 126.42 | 129.30 |
| 11 | A | 80 | U | N3-C4-C5 | -5.76 | 111.15 | 114.60 |
| 12 | B | 243 | U | C3'-C2'-C1' | -5.76 | 96.89 | 101.50 |
| 12 | B | 309 | A | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 12 | B | 747 | U | N3-C2-O2 | 5.76 | 126.23 | 122.20 |
| 12 | B | 976 | G | N3-C2-N2 | 5.76 | 123.93 | 119.90 |
| 12 | B | 1134 | A | C6-N1-C2 | 5.76 | 122.05 | 118.60 |
| 12 | B | 1443 | U | C4-C5-C6 | -5.76 | 116.25 | 119.70 |
| 12 | B | 1911 | U | P-O5'-C5' | 5.76 | 130.11 | 120.90 |
| 12 | B | 1966 | A | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 12 | B | 2565 | A | C2-N3-C4 | -5.76 | 107.72 | 110.60 |
| 13 | C | 88 | ALA | N-CA-CB | 5.76 | 118.16 | 110.10 |
| 15 | E | 193 | VAL | CB-CA-C | -5.76 | 100.46 | 111.40 |
| 12 | B | 3 | U | C3'-C2'-C1' | 5.75 | 106.10 | 101.50 |
| 12 | B | 803 | U | N3-C2-O2 | 5.75 | 126.23 | 122.20 |
| 12 | B | 822 | G | C8-N9-C4 | -5.75 | 104.10 | 106.40 |
| 12 | B | 888 | C | O4'-C1'-N1 | 5.75 | 112.80 | 108.20 |
| 12 | B | 1151 | A | C8-N9-C4 | -5.75 | 103.50 | 105.80 |
| 12 | B | 1914 | C | C4-C5-C6 | 5.75 | 120.28 | 117.40 |
| 12 | B | 2229 | U | N1-C2-N3 | -5.75 | 111.45 | 114.90 |
| 12 | B | 2640 | G | OP1-P-OP2 | -5.75 | 110.97 | 119.60 |
| 12 | B | 1066 | U | O4'-C1'-N1 | 5.75 | 112.80 | 108.20 |
| 12 | B | 1072 | C | C6-N1-C2 | -5.75 | 118.00 | 120.30 |
| 12 | B | 1304 | A | P-O3'-C3' | -5.75 | 112.80 | 119.70 |
| 12 | B | 1430 | G | N1-C6-O6 | 5.75 | 123.35 | 119.90 |
| 12 | B | 1484 | U | C4-C5-C6 | -5.75 | 116.25 | 119.70 |
| 12 | B | 2846 | G | N3-C2-N2 | 5.75 | 123.93 | 119.90 |
| 12 | B | 2865 | U | C3'-C2'-C1' | -5.75 | 96.90 | 101.50 |
| 12 | B | 86 | G | C5-C6-O6 | -5.75 | 125.15 | 128.60 |
| 12 | B | 446 | G | C5-C6-O6 | -5.75 | 125.15 | 128.60 |
| 12 | B | 974 | G | P-O3'-C3' | 5.75 | 126.60 | 119.70 |
| 12 | B | 1004 | U | N1-C2-O2 | 5.75 | 126.83 | 122.80 |
| 12 | B | 1286 | A | N3-C4-C5 | -5.75 | 122.77 | 126.80 |
| 12 | B | 1895 | C | OP1-P-OP2 | -5.75 | 110.97 | 119.60 |
| 12 | B | 2076 | U | O4'-C4'-C3' | -5.75 | 98.25 | 104.00 |
| 12 | B | 2098 | U | C3'-C2'-C1' | 5.75 | 106.10 | 101.50 |
| 12 | B | 2388 | A | O4'-C1'-N9 | 5.75 | 112.80 | 108.20 |
| 11 | A | 90 | C | O4'-C1'-N1 | 5.75 | 112.80 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 47 | C | C2-N3-C4 | 5.75 | 122.78 | 119.90 |
| 12 | B | 999 | U | N3-C4-C5 | 5.75 | 118.05 | 114.60 |
| 6 | 5 | 78 | PHE | CG-CD1-CE1 | -5.75 | 114.48 | 120.80 |
| 12 | B | 87 | U | C5-C6-N1 | 5.75 | 125.57 | 122.70 |
| 12 | B | 154 | U | C5-C6-N1 | 5.75 | 125.57 | 122.70 |
| 12 | B | 183 | C | C5-C6-N1 | 5.75 | 123.87 | 121.00 |
| 12 | B | 252 | G | N1-C2-N3 | -5.75 | 120.45 | 123.90 |
| 12 | B | 484 | C | C6-N1-C2 | -5.75 | 118.00 | 120.30 |
| 12 | B | 1020 | A | C3'-C2'-C1' | 5.75 | 106.10 | 101.50 |
| 12 | B | 1407 | G | C2-N3-C4 | 5.75 | 114.77 | 111.90 |
| 12 | B | 1507 | C | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 12 | B | 1597 | A | C5-C6-N1 | -5.75 | 114.83 | 117.70 |
| 12 | B | 1878 | G | P-O3'-C3' | -5.75 | 112.80 | 119.70 |
| 22 | L | 60 | ARG | NE-CZ-NH2 | -5.75 | 117.43 | 120.30 |
| 12 | B | 98 | G | N3-C4-N9 | -5.75 | 122.55 | 126.00 |
| 12 | B | 283 | G | N1-C2-N2 | 5.75 | 121.37 | 116.20 |
| 12 | B | 901 | C | O4'-C1'-N1 | 5.75 | 112.80 | 108.20 |
| 12 | B | 955 | U | N3-C2-O2 | -5.75 | 118.18 | 122.20 |
| 12 | B | 1226 | A | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 12 | B | 1421 | G | N9-C4-C5 | 5.75 | 107.70 | 105.40 |
| 12 | B | 2263 | C | C4'-C3'-C2' | -5.75 | 96.85 | 102.60 |
| 12 | B | 2393 | U | N1-C2-O2 | -5.75 | 118.78 | 122.80 |
| 24 | N | 106 | ASP | O-C-N | -5.75 | 113.51 | 122.70 |
| 11 | A | 57 | A | C8-N9-C4 | 5.75 | 108.10 | 105.80 |
| 12 | B | 1 | G | C6-C5-N7 | -5.75 | 126.95 | 130.40 |
| 12 | B | 552 | U | C1'-O4'-C4' | 5.75 | 114.50 | 109.90 |
| 12 | B | 728 | G | C5-C6-O6 | -5.75 | 125.15 | 128.60 |
| 12 | B | 841 | G | C6-N1-C2 | 5.75 | 128.55 | 125.10 |
| 12 | B | 1761 | C | N3-C4-N4 | 5.75 | 122.02 | 118.00 |
| 12 | B | 2325 | G | C5-N7-C8 | -5.75 | 101.43 | 104.30 |
| 12 | B | 297 | G | N3-C2-N2 | 5.74 | 123.92 | 119.90 |
| 12 | B | 388 | G | N3-C4-C5 | -5.74 | 125.73 | 128.60 |
| 12 | B | 516 | C | P-O5'-C5' | 5.74 | 130.09 | 120.90 |
| 12 | B | 706 | A | C5-C6-N1 | -5.74 | 114.83 | 117.70 |
| 12 | B | 1350 | C | N3-C2-O2 | -5.74 | 117.88 | 121.90 |
| 12 | B | 1635 | A | N3-C4-C5 | -5.74 | 122.78 | 126.80 |
| 12 | B | 2105 | U | C2-N1-C1' | 5.74 | 124.59 | 117.70 |
| 12 | B | 2416 | C | O4'-C1'-N1 | 5.74 | 112.80 | 108.20 |
| 12 | B | 2629 | U | C5-C4-O4 | -5.74 | 122.45 | 125.90 |
| 12 | B | 1595 | C | N3-C4-C5 | -5.74 | 119.60 | 121.90 |
| 12 | B | 1825 | U | C5-C4-O4 | -5.74 | 122.45 | 125.90 |
| 12 | B | 1915 | U | C4'-C3'-C2' | -5.74 | 96.86 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2281 | A | C4-C5-C6 | 5.74 | 119.87 | 117.00 |
| 12 | B | 2285 | C | C4-C5-C6 | -5.74 | 114.53 | 117.40 |
| 17 | G | 48 | THR | N-CA-CB | 5.74 | 121.21 | 110.30 |
| 11 | A | 70 | C | N3-C2-O2 | 5.74 | 125.92 | 121.90 |
| 12 | B | 183 | C | P-O5'-C5' | 5.74 | 130.09 | 120.90 |
| 12 | B | 308 | G | O4'-C1'-N9 | 5.74 | 112.79 | 108.20 |
| 12 | B | 590 | A | C5-C6-N1 | -5.74 | 114.83 | 117.70 |
| 12 | B | 775 | G | P-O3'-C3' | 5.74 | 126.59 | 119.70 |
| 12 | B | 824 | U | O5'-P-OP2 | -5.74 | 100.53 | 105.70 |
| 12 | B | 884 | U | C5-C4-O4 | -5.74 | 122.46 | 125.90 |
| 12 | B | 1000 | A | O4'-C1'-C2' | 5.74 | 112.77 | 107.60 |
| 12 | B | 1329 | U | O4'-C1'-N1 | 5.74 | 112.79 | 108.20 |
| 12 | B | 1517 | G | N3-C2-N2 | 5.74 | 123.92 | 119.90 |
| 12 | B | 1598 | A | C6-C5-N7 | -5.74 | 128.28 | 132.30 |
| 12 | B | 1937 | A | C2-N3-C4 | -5.74 | 107.73 | 110.60 |
| 12 | B | 2116 | G | N9-C4-C5 | -5.74 | 103.10 | 105.40 |
| 12 | B | 2866 | U | C3'-C2'-C1' | -5.74 | 96.91 | 101.50 |
| 12 | B | 388 | G | P-O3'-C3' | -5.74 | 112.81 | 119.70 |
| 12 | B | 589 | U | N3-C4-O4 | -5.74 | 115.38 | 119.40 |
| 12 | B | 1240 | U | N3-C2-O2 | 5.74 | 126.22 | 122.20 |
| 12 | B | 1380 | G | C4'-C3'-C2' | -5.74 | 96.86 | 102.60 |
| 12 | B | 1545 | A | O4'-C1'-N9 | 5.74 | 112.79 | 108.20 |
| 12 | B | 1669 | A | C6-C5-N7 | -5.74 | 128.28 | 132.30 |
| 12 | B | 1706 | C | C6-N1-C2 | -5.74 | 118.00 | 120.30 |
| 12 | B | 1735 | A | C5-C6-N1 | -5.74 | 114.83 | 117.70 |
| 12 | B | 2103 | C | C5-C4-N4 | -5.74 | 116.18 | 120.20 |
| 12 | B | 2334 | U | C4'-C3'-C2' | -5.74 | 96.86 | 102.60 |
| 28 | R | 65 | ALA | N-CA-CB | 5.74 | 118.13 | 110.10 |
| 12 | B | 2208 | C | C4'-C3'-C2' | -5.74 | 96.86 | 102.60 |
| 12 | B | 2864 | G | C6-C5-N7 | -5.74 | 126.96 | 130.40 |
| 12 | B | 1101 | U | O4'-C1'-N1 | 5.74 | 112.79 | 108.20 |
| 12 | B | 1322 | A | C1'-O4'-C4' | 5.74 | 114.49 | 109.90 |
| 12 | B | 1789 | A | C5-C6-N1 | -5.74 | 114.83 | 117.70 |
| 12 | B | 2076 | U | N3-C4-C5 | -5.74 | 111.16 | 114.60 |
| 12 | B | 2126 | A | N9-C4-C5 | 5.74 | 108.09 | 105.80 |
| 12 | B | 703 | U | N3-C4-C5 | -5.73 | 111.16 | 114.60 |
| 12 | B | 1441 | G | C4-C5-N7 | 5.73 | 113.09 | 110.80 |
| 12 | B | 1792 | G | O4'-C4'-C3' | -5.73 | 98.27 | 104.00 |
| 12 | B | 2689 | U | C4-C5-C6 | 5.73 | 123.14 | 119.70 |
| 12 | B | 89 | A | C3'-C2'-C1' | -5.73 | 96.91 | 101.50 |
| 12 | B | 405 | U | C2-N3-C4 | -5.73 | 123.56 | 127.00 |
| 12 | B | 406 | G | C6-C5-N7 | -5.73 | 126.96 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 879 | G | O4'-C1'-N9 | 5.73 | 112.78 | 108.20 |
| 12 | B | 947 | A | N9-C1'-C2' | -5.73 | 105.69 | 112.00 |
| 12 | B | 1103 | A | C5-C6-N1 | -5.73 | 114.83 | 117.70 |
| 12 | B | 2168 | G | N3-C4-C5 | -5.73 | 125.73 | 128.60 |
| 12 | B | 2260 | C | N3-C4-C5 | -5.73 | 119.61 | 121.90 |
| 12 | B | 258 | G | N1-C2-N3 | -5.73 | 120.46 | 123.90 |
| 12 | B | 341 | C | C4'-C3'-C2' | -5.73 | 96.87 | 102.60 |
| 12 | B | 482 | A | C4-C5-C6 | 5.73 | 119.86 | 117.00 |
| 12 | B | 1317 | G | N3-C2-N2 | 5.73 | 123.91 | 119.90 |
| 12 | B | 1534 | U | N3-C2-O2 | -5.73 | 118.19 | 122.20 |
| 12 | B | 1640 | A | C6-C5-N7 | -5.73 | 128.29 | 132.30 |
| 12 | B | 1909 | C | O4'-C1'-C2' | 5.73 | 112.76 | 107.60 |
| 12 | B | 1945 | G | N7-C8-N9 | 5.73 | 115.97 | 113.10 |
| 12 | B | 2177 | C | N3-C2-O2 | 5.73 | 125.91 | 121.90 |
| 12 | B | 2725 | A | C5'-C4'-O4' | 5.73 | 115.97 | 109.10 |
| 11 | A | 60 | C | C6-N1-C2 | -5.73 | 118.01 | 120.30 |
| 11 | A | 83 | G | C4-C5-C6 | 5.73 | 122.24 | 118.80 |
| 11 | A | 116 | G | P-O3'-C3' | -5.73 | 112.83 | 119.70 |
| 12 | B | 242 | G | N7-C8-N9 | -5.73 | 110.23 | 113.10 |
| 12 | B | 1000 | A | O3'-P-O5' | -5.73 | 93.11 | 104.00 |
| 12 | B | 1778 | U | N3-C2-O2 | 5.73 | 126.21 | 122.20 |
| 12 | B | 2023 | C | C2-N1-C1' | 5.73 | 125.10 | 118.80 |
| 12 | B | 2084 | C | OP1-P-OP2 | -5.73 | 111.01 | 119.60 |
| 12 | B | 2252 | G | C3'-C2'-C1' | -5.73 | 96.92 | 101.50 |
| 12 | B | 2888 | C | N3-C4-C5 | -5.73 | 119.61 | 121.90 |
| 12 | B | 14 | A | O4'-C1'-N9 | 5.73 | 112.78 | 108.20 |
| 12 | B | 228 | C | C6-N1-C2 | -5.73 | 118.01 | 120.30 |
| 12 | B | 544 | C | C1'-O4'-C4' | -5.73 | 105.32 | 109.90 |
| 12 | B | 577 | G | N1-C6-O6 | 5.73 | 123.34 | 119.90 |
| 12 | B | 645 | C | C3'-C2'-C1' | 5.73 | 106.08 | 101.50 |
| 12 | B | 1839 | G | C6-N1-C2 | 5.73 | 128.54 | 125.10 |
| 12 | B | 1901 | A | O4'-C1'-N9 | 5.73 | 112.78 | 108.20 |
| 15 | E | 182 | ALA | O-C-N | -5.73 | 113.54 | 122.70 |
| 12 | B | 433 | C | C5-C6-N1 | 5.73 | 123.86 | 121.00 |
| 12 | B | 812 | C | C4'-C3'-C2' | -5.73 | 96.87 | 102.60 |
| 12 | B | 1312 | U | O4'-C1'-N1 | 5.73 | 112.78 | 108.20 |
| 12 | B | 1913 | A | C4-C5-C6 | 5.73 | 119.86 | 117.00 |
| 12 | B | 2386 | A | C5-C6-N6 | -5.73 | 119.12 | 123.70 |
| 12 | B | 2818 | U | C3'-C2'-C1' | 5.73 | 106.08 | 101.50 |
| 30 | T | 68 | LYS | C-N-CA | 5.73 | 136.02 | 121.70 |
| 11 | A | 30 | C | N1-C2-O2 | 5.72 | 122.33 | 118.90 |
| 12 | B | 188 | G | N1-C2-N3 | -5.72 | 120.47 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 387 | U | C5'-C4'-O4' | 5.72 | 115.97 | 109.10 |
| 12 | B | 611 | C | N3-C4-N4 | 5.72 | 122.01 | 118.00 |
| 12 | B | 622 | G | C6-C5-N7 | -5.72 | 126.97 | 130.40 |
| 12 | B | 636 | G | C5-C6-N1 | -5.72 | 108.64 | 111.50 |
| 12 | B | 793 | A | OP1-P-O3' | 5.72 | 117.79 | 105.20 |
| 12 | B | 1731 | G | C1'-O4'-C4' | 5.72 | 114.48 | 109.90 |
| 12 | B | 2616 | C | P-O5'-C5' | 5.72 | 130.06 | 120.90 |
| 12 | B | 2752 | C | C2-N1-C1' | 5.72 | 125.10 | 118.80 |
| 12 | B | 2764 | A | C6-N1-C2 | 5.72 | 122.03 | 118.60 |
| 22 | L | 10 | GLU | N-CA-CB | 5.72 | 120.91 | 110.60 |
| 12 | B | 31 | C | C2-N3-C4 | 5.72 | 122.76 | 119.90 |
| 12 | B | 87 | U | C5-C4-O4 | -5.72 | 122.47 | 125.90 |
| 12 | B | 238 | C | C5-C4-N4 | -5.72 | 116.19 | 120.20 |
| 12 | B | 400 | G | C4-C5-N7 | 5.72 | 113.09 | 110.80 |
| 12 | B | 631 | A | C5'-C4'-C3' | 5.72 | 125.16 | 116.00 |
| 12 | B | 752 | A | N1-C2-N3 | -5.72 | 126.44 | 129.30 |
| 12 | B | 1660 | G | N3-C2-N2 | 5.72 | 123.91 | 119.90 |
| 12 | B | 1882 | U | N3-C4-C5 | -5.72 | 111.17 | 114.60 |
| 12 | B | 2030 | A | C3'-C2'-C1' | -5.72 | 96.92 | 101.50 |
| 12 | B | 2051 | A | O4'-C4'-C3' | -5.72 | 98.28 | 104.00 |
| 12 | B | 2177 | C | N1-C2-N3 | -5.72 | 115.19 | 119.20 |
| 12 | B | 2321 | U | C2-N1-C1' | 5.72 | 124.57 | 117.70 |
| 12 | B | 2430 | A | C5'-C4'-O4' | 5.72 | 115.97 | 109.10 |
| 12 | B | 2605 | U | O4'-C4'-C3' | -5.72 | 98.28 | 104.00 |
| 13 | C | 98 | GLY | N-CA-C | -5.72 | 98.80 | 113.10 |
| 18 | H | 86 | ASP | CB-CG-OD2 | -5.72 | 113.15 | 118.30 |
| 12 | B | 88 | G | N1-C2-N2 | 5.72 | 121.35 | 116.20 |
| 12 | B | 350 | G | N1-C2-N3 | -5.72 | 120.47 | 123.90 |
| 12 | B | 2447 | G | C1'-O4'-C4' | -5.72 | 105.32 | 109.90 |
| 11 | A | 110 | C | N3-C4-C5 | -5.72 | 119.61 | 121.90 |
| 12 | B | 899 | A | C5-N7-C8 | 5.72 | 106.76 | 103.90 |
| 12 | B | 991 | C | C4-C5-C6 | 5.72 | 120.26 | 117.40 |
| 12 | B | 1030 | C | C5-C4-N4 | -5.72 | 116.20 | 120.20 |
| 12 | B | 1108 | U | O4'-C1'-N1 | 5.72 | 112.78 | 108.20 |
| 12 | B | 1244 | A | C6-C5-N7 | -5.72 | 128.30 | 132.30 |
| 12 | B | 1251 | C | C5-C4-N4 | -5.72 | 116.20 | 120.20 |
| 12 | B | 1577 | C | O4'-C1'-N1 | 5.72 | 112.78 | 108.20 |
| 12 | B | 1723 | G | N1-C6-O6 | 5.72 | 123.33 | 119.90 |
| 12 | B | 1732 | C | N3-C2-O2 | 5.72 | 125.90 | 121.90 |
| 12 | B | 1910 | G | N3-C2-N2 | 5.72 | 123.90 | 119.90 |
| 12 | B | 2662 | A | C8-N9-C4 | -5.72 | 103.51 | 105.80 |
| 33 | Y | 17 | ALA | N-CA-CB | 5.72 | 118.11 | 110.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 283 | G | C4-N9-C1' | -5.72 | 119.07 | 126.50 |
| 12 | B | 1019 | U | N3-C4-O4 | 5.72 | 123.40 | 119.40 |
| 12 | B | 1114 | C | C1'-O4'-C4' | -5.72 | 105.33 | 109.90 |
| 12 | B | 1274 | A | C5'-C4'-O4' | 5.72 | 115.96 | 109.10 |
| 12 | B | 1425 | G | C5'-C4'-O4' | 5.72 | 115.96 | 109.10 |
| 12 | B | 2841 | C | N3-C4-N4 | 5.72 | 122.00 | 118.00 |
| 15 | E | 91 | ASP | CB-CG-OD2 | -5.72 | 113.15 | 118.30 |
| 23 | M | 103 | TYR | CB-CG-CD2 | -5.72 | 117.57 | 121.00 |
| 31 | U | 47 | PRO | N-CA-C | -5.72 | 97.23 | 112.10 |
| 12 | B | 223 | A | C4-C5-N7 | -5.72 | 107.84 | 110.70 |
| 12 | B | 351 | C | C4'-C3'-C2' | -5.72 | 96.88 | 102.60 |
| 12 | B | 1259 | G | OP1-P-OP2 | -5.72 | 111.03 | 119.60 |
| 12 | B | 1661 | G | C8-N9-C4 | -5.72 | 104.11 | 106.40 |
| 12 | B | 1683 | U | N3-C2-O2 | 5.72 | 126.20 | 122.20 |
| 12 | B | 2049 | G | C5-N7-C8 | 5.72 | 107.16 | 104.30 |
| 12 | B | 2410 | G | N1-C6-O6 | 5.72 | 123.33 | 119.90 |
| 12 | B | 2589 | A | N3-C4-C5 | -5.72 | 122.80 | 126.80 |
| 12 | B | 2702 | G | O4'-C1'-N9 | 5.72 | 112.77 | 108.20 |
| 11 | A | 9 | G | C5-C6-O6 | -5.71 | 125.17 | 128.60 |
| 11 | A | 51 | G | C5'-C4'-C3' | -5.71 | 106.86 | 116.00 |
| 12 | B | 808 | G | C3'-C2'-C1' | -5.71 | 96.93 | 101.50 |
| 12 | B | 878 | A | C4'-C3'-C2' | -5.71 | 96.89 | 102.60 |
| 12 | B | 2151 | U | C2-N3-C4 | 5.71 | 130.43 | 127.00 |
| 11 | A | 42 | C | C1'-O4'-C4' | -5.71 | 105.33 | 109.90 |
| 12 | B | 42 | A | C1'-O4'-C4' | -5.71 | 105.33 | 109.90 |
| 12 | B | 148 | U | C2-N3-C4 | 5.71 | 130.43 | 127.00 |
| 12 | B | 1701 | A | C2-N3-C4 | 5.71 | 113.46 | 110.60 |
| 23 | M | 25 | ASP | CB-CG-OD2 | 5.71 | 123.44 | 118.30 |
| 26 | P | 98 | TYR | CD1-CE1-CZ | -5.71 | 114.66 | 119.80 |
| 11 | A | 21 | G | N9-C4-C5 | -5.71 | 103.11 | 105.40 |
| 12 | B | 145 | C | C4-C5-C6 | 5.71 | 120.26 | 117.40 |
| 12 | B | 524 | G | O4'-C1'-N9 | 5.71 | 112.77 | 108.20 |
| 12 | B | 1368 | G | C3'-C2'-C1' | -5.71 | 96.93 | 101.50 |
| 12 | B | 1708 | C | C2-N3-C4 | -5.71 | 117.04 | 119.90 |
| 12 | B | 1783 | A | N9-C4-C5 | -5.71 | 103.52 | 105.80 |
| 12 | B | 1841 | U | N3-C4-O4 | 5.71 | 123.40 | 119.40 |
| 12 | B | 2166 | U | C6-N1-C2 | -5.71 | 117.57 | 121.00 |
| 12 | B | 2313 | C | N3-C4-N4 | 5.71 | 122.00 | 118.00 |
| 12 | B | 2464 | G | O4'-C1'-N9 | 5.71 | 112.77 | 108.20 |
| 12 | B | 2710 | C | O4'-C1'-N1 | 5.71 | 112.77 | 108.20 |
| 12 | B | 2812 | G | C6-C5-N7 | -5.71 | 126.97 | 130.40 |
| 12 | B | 530 | G | O4'-C1'-N9 | 5.71 | 112.77 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 618 | G | C4-C5-C6 | 5.71 | 122.23 | 118.80 |
| 12 | B | 1190 | G | C2-N3-C4 | -5.71 | 109.05 | 111.90 |
| 12 | B | 262 | A | C5'-C4'-O4' | 5.71 | 115.95 | 109.10 |
| 12 | B | 394 | C | C6-N1-C2 | -5.71 | 118.02 | 120.30 |
| 12 | B | 1014 | A | C5-C6-N6 | -5.71 | 119.13 | 123.70 |
| 12 | B | 1110 | G | C3'-C2'-C1' | 5.71 | 106.07 | 101.50 |
| 12 | B | 1188 | U | P-O5'-C5' | -5.71 | 111.77 | 120.90 |
| 12 | B | 1326 | U | N3-C4-O4 | 5.71 | 123.40 | 119.40 |
| 12 | B | 1430 | G | N1-C2-N3 | -5.71 | 120.47 | 123.90 |
| 12 | B | 1529 | G | N1-C2-N3 | -5.71 | 120.47 | 123.90 |
| 12 | B | 2524 | G | OP1-P-OP2 | -5.71 | 111.04 | 119.60 |
| 12 | B | 2783 | U | N3-C4-C5 | -5.71 | 111.17 | 114.60 |
| 18 | H | 125 | THR | CA-CB-CG2 | -5.71 | 104.41 | 112.40 |
| 10 | 9 | 230 | ARG | CB-CA-C | -5.71 | 98.99 | 110.40 |
| 12 | B | 252 | G | C4-C5-N7 | 5.71 | 113.08 | 110.80 |
| 12 | B | 282 | A | O4'-C1'-N9 | 5.71 | 112.77 | 108.20 |
| 12 | B | 324 | A | N3-C4-N9 | -5.71 | 122.83 | 127.40 |
| 12 | B | 861 | A | N3-C4-C5 | -5.71 | 122.81 | 126.80 |
| 12 | B | 1044 | C | O4'-C1'-N1 | 5.71 | 112.77 | 108.20 |
| 12 | B | 1125 | G | C6-C5-N7 | -5.71 | 126.98 | 130.40 |
| 12 | B | 1417 | C | C4'-C3'-C2' | -5.71 | 96.89 | 102.60 |
| 12 | B | 1544 | A | P-O3'-C3' | -5.71 | 112.85 | 119.70 |
| 12 | B | 1703 | G | C5-C6-N1 | -5.71 | 108.65 | 111.50 |
| 12 | B | 2286 | G | P-O5'-C5' | 5.71 | 130.03 | 120.90 |
| 12 | B | 2393 | U | O5'-P-OP1 | -5.71 | 100.56 | 105.70 |
| 12 | B | 2453 | A | C5-N7-C8 | 5.71 | 106.75 | 103.90 |
| 12 | B | 2615 | U | C5-C6-N1 | 5.71 | 125.55 | 122.70 |
| 12 | B | 2639 | A | C5-C6-N1 | -5.71 | 114.85 | 117.70 |
| 28 | R | 81 | LYS | N-CA-CB | 5.71 | 120.87 | 110.60 |
| 12 | B | 758 | C | C5-C6-N1 | 5.71 | 123.85 | 121.00 |
| 12 | B | 1857 | G | N1-C2-N2 | -5.71 | 111.06 | 116.20 |
| 12 | B | 241 | A | C5'-C4'-O4' | 5.70 | 115.94 | 109.10 |
| 12 | B | 636 | G | N3-C4-C5 | 5.70 | 131.45 | 128.60 |
| 12 | B | 2655 | G | C3'-C2'-C1' | -5.70 | 96.94 | 101.50 |
| 18 | H | 17 | ASP | CB-CG-OD2 | 5.70 | 123.43 | 118.30 |
| 11 | A | 27 | C | C4-C5-C6 | 5.70 | 120.25 | 117.40 |
| 12 | B | 48 | G | P-O3'-C3' | 5.70 | 126.54 | 119.70 |
| 12 | B | 699 | A | C6-C5-N7 | -5.70 | 128.31 | 132.30 |
| 12 | B | 1572 | A | N9-C4-C5 | -5.70 | 103.52 | 105.80 |
| 12 | B | 1743 | G | C2-N3-C4 | -5.70 | 109.05 | 111.90 |
| 12 | B | 2458 | G | C5'-C4'-O4' | 5.70 | 115.94 | 109.10 |
| 11 | A | 51 | G | C4-C5-C6 | 5.70 | 122.22 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 673 | C | C5'-C4'-O4' | 5.70 | 115.94 | 109.10 |
| 12 | B | 1559 | U | O4'-C1'-N1 | 5.70 | 112.76 | 108.20 |
| 12 | B | 1938 | A | C4-C5-N7 | -5.70 | 107.85 | 110.70 |
| 12 | B | 2488 | G | C2-N3-C4 | 5.70 | 114.75 | 111.90 |
| 12 | B | 2578 | G | C5-C6-N1 | -5.70 | 108.65 | 111.50 |
| 12 | B | 2597 | G | C6-C5-N7 | -5.70 | 126.98 | 130.40 |
| 12 | B | 2677 | G | C5-C6-O6 | -5.70 | 125.18 | 128.60 |
| 12 | B | 467 | G | C5-N7-C8 | 5.70 | 107.15 | 104.30 |
| 12 | B | 1209 | U | C5-C6-N1 | -5.70 | 119.85 | 122.70 |
| 12 | B | 1328 | A | P-O3'-C3' | 5.70 | 126.54 | 119.70 |
| 12 | B | 1530 | G | C5-N7-C8 | -5.70 | 101.45 | 104.30 |
| 18 | H | 28 | ASN | N-CA-CB | 5.70 | 120.86 | 110.60 |
| 11 | A | 60 | C | C4'-C3'-C2' | -5.70 | 96.90 | 102.60 |
| 11 | A | 76 | G | N9-C4-C5 | 5.70 | 107.68 | 105.40 |
| 12 | B | 67 | U | P-O3'-C3' | -5.70 | 112.86 | 119.70 |
| 12 | B | 193 | U | C5-C6-N1 | 5.70 | 125.55 | 122.70 |
| 12 | B | 301 | G | C5-C6-N1 | -5.70 | 108.65 | 111.50 |
| 12 | B | 1088 | A | C8-N9-C4 | -5.70 | 103.52 | 105.80 |
| 14 | D | 36 | GLN | N-CA-CB | 5.70 | 120.85 | 110.60 |
| 11 | A | 109 | A | C4-C5-N7 | -5.70 | 107.85 | 110.70 |
| 12 | B | 167 | A | C8-N9-C4 | -5.70 | 103.52 | 105.80 |
| 12 | B | 255 | A | C5-C6-N1 | -5.70 | 114.85 | 117.70 |
| 12 | B | 764 | A | C6-C5-N7 | -5.70 | 128.31 | 132.30 |
| 12 | B | 868 | U | N3-C4-C5 | -5.70 | 111.18 | 114.60 |
| 12 | B | 1295 | C | C4-C5-C6 | 5.70 | 120.25 | 117.40 |
| 12 | B | 1887 | C | P-O3'-C3' | 5.70 | 126.54 | 119.70 |
| 12 | B | 1942 | C | O4'-C1'-N1 | 5.70 | 112.76 | 108.20 |
| 12 | B | 2058 | A | C6-C5-N7 | -5.70 | 128.31 | 132.30 |
| 12 | B | 2430 | A | N1-C2-N3 | 5.70 | 132.15 | 129.30 |
| 12 | B | 2556 | C | C4'-C3'-C2' | -5.70 | 96.90 | 102.60 |
| 12 | B | 1446 | C | N3-C4-N4 | 5.69 | 121.99 | 118.00 |
| 12 | B | 2312 | U | O4'-C1'-C2' | -5.69 | 100.11 | 105.80 |
| 12 | B | 2468 | A | C5-C6-N1 | -5.69 | 114.85 | 117.70 |
| 12 | B | 593 | U | N1-C2-N3 | -5.69 | 111.48 | 114.90 |
| 12 | B | 668 | A | O4'-C1'-N9 | 5.69 | 112.75 | 108.20 |
| 12 | B | 830 | G | C4-C5-N7 | 5.69 | 113.08 | 110.80 |
| 12 | B | 1933 | G | C8-N9-C4 | -5.69 | 104.12 | 106.40 |
| 12 | B | 2136 | G | N3-C4-C5 | -5.69 | 125.75 | 128.60 |
| 12 | B | 2781 | A | O4'-C1'-N9 | 5.69 | 112.75 | 108.20 |
| 12 | B | 120 | U | P-O3'-C3' | 5.69 | 126.53 | 119.70 |
| 12 | B | 402 | A | C6-C5-N7 | -5.69 | 128.32 | 132.30 |
| 12 | B | 968 | C | C5-C4-N4 | -5.69 | 116.22 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1064 | C | C5-C4-N4 | -5.69 | 116.22 | 120.20 |
| 12 | B | 2060 | A | C2-N3-C4 | 5.69 | 113.44 | 110.60 |
| 12 | B | 2115 | G | C8-N9-C4 | 5.69 | 108.68 | 106.40 |
| 12 | B | 2681 | C | C6-N1-C2 | -5.69 | 118.02 | 120.30 |
| 12 | B | 124 | G | N1-C2-N3 | -5.69 | 120.49 | 123.90 |
| 12 | B | 1722 | A | C5-N7-C8 | 5.69 | 106.74 | 103.90 |
| 12 | B | 1991 | U | N3-C4-C5 | -5.69 | 111.19 | 114.60 |
| 12 | B | 2337 | G | C6-C5-N7 | -5.69 | 126.99 | 130.40 |
| 12 | B | 2438 | U | C2-N3-C4 | -5.69 | 123.59 | 127.00 |
| 11 | A | 107 | G | C8-N9-C4 | -5.69 | 104.12 | 106.40 |
| 12 | B | 261 | G | C4-C5-C6 | 5.69 | 122.21 | 118.80 |
| 12 | B | 289 | G | C5-C6-O6 | -5.69 | 125.19 | 128.60 |
| 12 | B | 402 | A | C1'-O4'-C4' | -5.69 | 105.35 | 109.90 |
| 12 | B | 1190 | G | C8-N9-C1' | 5.69 | 134.39 | 127.00 |
| 12 | B | 1313 | U | C5-C4-O4 | -5.69 | 122.49 | 125.90 |
| 12 | B | 1829 | A | C6-N1-C2 | 5.69 | 122.01 | 118.60 |
| 12 | B | 1834 | U | C6-N1-C2 | -5.69 | 117.59 | 121.00 |
| 12 | B | 2797 | U | C6-N1-C2 | -5.69 | 117.59 | 121.00 |
| 12 | B | 2816 | G | C5-N7-C8 | -5.69 | 101.46 | 104.30 |
| 16 | F | 149 | ARG | NE-CZ-NH1 | 5.69 | 123.14 | 120.30 |
| 11 | A | 44 | G | C6-C5-N7 | -5.69 | 126.99 | 130.40 |
| 12 | B | 1141 | U | C6-N1-C2 | -5.69 | 117.59 | 121.00 |
| 12 | B | 1332 | G | P-O3'-C3' | -5.69 | 112.88 | 119.70 |
| 12 | B | 261 | G | N3-C2-N2 | 5.68 | 123.88 | 119.90 |
| 12 | B | 283 | G | P-O5'-C5' | 5.68 | 130.00 | 120.90 |
| 12 | B | 347 | A | C5'-C4'-O4' | 5.68 | 115.92 | 109.10 |
| 12 | B | 498 | G | N3-C2-N2 | 5.68 | 123.88 | 119.90 |
| 12 | B | 1284 | A | P-O5'-C5' | -5.68 | 111.80 | 120.90 |
| 12 | B | 1548 | A | N7-C8-N9 | 5.68 | 116.64 | 113.80 |
| 12 | B | 1741 | C | O4'-C1'-N1 | 5.68 | 112.75 | 108.20 |
| 12 | B | 2063 | C | C5-C4-N4 | -5.68 | 116.22 | 120.20 |
| 12 | B | 86 | G | C8-N9-C4 | -5.68 | 104.13 | 106.40 |
| 12 | B | 124 | G | N3-C4-N9 | 5.68 | 129.41 | 126.00 |
| 12 | B | 785 | G | C4-C5-C6 | 5.68 | 122.21 | 118.80 |
| 12 | B | 2307 | G | C5'-C4'-O4' | 5.68 | 115.92 | 109.10 |
| 12 | B | 802 | A | N3-C4-N9 | 5.68 | 131.94 | 127.40 |
| 12 | B | 868 | U | P-O3'-C3' | 5.68 | 126.52 | 119.70 |
| 12 | B | 1310 | G | N3-C4-N9 | 5.68 | 129.41 | 126.00 |
| 12 | B | 1714 | U | C5'-C4'-O4' | 5.68 | 115.92 | 109.10 |
| 12 | B | 195 | A | N1-C2-N3 | -5.68 | 126.46 | 129.30 |
| 12 | B | 535 | G | N1-C2-N3 | -5.68 | 120.49 | 123.90 |
| 12 | B | 647 | G | N3-C4-C5 | -5.68 | 125.76 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 782 | A | C4-C5-C6 | 5.68 | 119.84 | 117.00 |
| 12 | B | 1347 | A | C5-C6-N6 | -5.68 | 119.16 | 123.70 |
| 12 | B | 2362 | C | C5-C6-N1 | -5.68 | 118.16 | 121.00 |
| 12 | B | 2385 | C | O4'-C1'-N1 | 5.68 | 112.74 | 108.20 |
| 12 | B | 2818 | U | N3-C4-C5 | -5.68 | 111.19 | 114.60 |
| 24 | N | 61 | ALA | N-CA-CB | 5.68 | 118.05 | 110.10 |
| 12 | B | 653 | U | N3-C4-C5 | 5.68 | 118.01 | 114.60 |
| 12 | B | 1306 | C | C5-C6-N1 | 5.68 | 123.84 | 121.00 |
| 12 | B | 668 | A | C5-N7-C8 | 5.68 | 106.74 | 103.90 |
| 12 | B | 894 | U | N1-C2-N3 | 5.68 | 118.31 | 114.90 |
| 12 | B | 1259 | G | OP2-P-O3' | 5.68 | 117.69 | 105.20 |
| 12 | B | 2276 | G | P-O5'-C5' | 5.68 | 129.98 | 120.90 |
| 12 | B | 2425 | A | N1-C2-N3 | -5.68 | 126.46 | 129.30 |
| 12 | B | 2499 | C | N3-C4-C5 | 5.68 | 124.17 | 121.90 |
| 12 | B | 2568 | U | C5-C6-N1 | 5.68 | 125.54 | 122.70 |
| 12 | B | 2708 | G | C8-N9-C4 | -5.68 | 104.13 | 106.40 |
| 29 | S | 54 | ALA | CB-CA-C | -5.68 | 101.58 | 110.10 |
| 12 | B | 230 | G | C1'-O4'-C4' | -5.67 | 105.36 | 109.90 |
| 12 | B | 384 | A | C6-C5-N7 | -5.67 | 128.33 | 132.30 |
| 12 | B | 853 | C | C5'-C4'-C3' | -5.67 | 106.92 | 116.00 |
| 12 | B | 869 | G | C4-N9-C1' | -5.67 | 119.12 | 126.50 |
| 12 | B | 883 | G | N1-C2-N2 | 5.67 | 121.31 | 116.20 |
| 12 | B | 1787 | A | C6-N1-C2 | 5.67 | 122.00 | 118.60 |
| 12 | B | 2502 | G | P-O3'-C3' | 5.67 | 126.51 | 119.70 |
| 12 | B | 2691 | C | N1-C2-N3 | -5.67 | 115.23 | 119.20 |
| 14 | D | 82 | PHE | CB-CG-CD1 | 5.67 | 124.77 | 120.80 |
| 18 | H | 72 | ILE | CB-CA-C | -5.67 | 100.25 | 111.60 |
| 27 | Q | 12 | ARG | NE-CZ-NH2 | -5.67 | 117.46 | 120.30 |
| 12 | B | 427 | U | O4'-C1'-N1 | 5.67 | 112.74 | 108.20 |
| 12 | B | 889 | C | O4'-C1'-N1 | 5.67 | 112.74 | 108.20 |
| 12 | B | 919 | U | C5-C4-O4 | -5.67 | 122.50 | 125.90 |
| 12 | B | 1121 | C | C3'-C2'-C1' | -5.67 | 96.96 | 101.50 |
| 12 | B | 1590 | A | C3'-C2'-C1' | -5.67 | 96.96 | 101.50 |
| 12 | B | 1621 | U | P-O5'-C5' | 5.67 | 129.98 | 120.90 |
| 12 | B | 1746 | A | N7-C8-N9 | -5.67 | 110.96 | 113.80 |
| 12 | B | 1889 | A | C5-C6-N6 | -5.67 | 119.16 | 123.70 |
| 12 | B | 2620 | C | N3-C4-N4 | 5.67 | 121.97 | 118.00 |
| 12 | B | 2622 | U | C2-N3-C4 | -5.67 | 123.60 | 127.00 |
| 12 | B | 2710 | C | C5-C6-N1 | 5.67 | 123.84 | 121.00 |
| 12 | B | 2796 | U | P-O5'-C5' | 5.67 | 129.98 | 120.90 |
| 12 | B | 2878 | U | O5'-C5'-C4' | -5.67 | 100.92 | 111.70 |
| 12 | B | 101 | A | C5-C6-N1 | -5.67 | 114.86 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 611 | C | P-O5'-C5' | 5.67 | 129.97 | 120.90 |
| 12 | B | 1452 | G | C2-N3-C4 | 5.67 | 114.73 | 111.90 |
| 12 | B | 1679 | A | N3-C4-C5 | -5.67 | 122.83 | 126.80 |
| 12 | B | 1203 | U | N1-C1'-C2' | -5.67 | 105.76 | 112.00 |
| 12 | B | 1653 | G | N3-C4-N9 | -5.67 | 122.60 | 126.00 |
| 12 | B | 1834 | U | N1-C2-N3 | 5.67 | 118.30 | 114.90 |
| 11 | A | 20 | G | C1'-O4'-C4' | -5.67 | 105.36 | 109.90 |
| 11 | A | 75 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 12 | B | 1083 | U | N3-C4-C5 | -5.67 | 111.20 | 114.60 |
| 12 | B | 1421 | G | C5'-C4'-C3' | -5.67 | 106.93 | 116.00 |
| 12 | B | 1828 | G | C4-C5-N7 | 5.67 | 113.07 | 110.80 |
| 12 | B | 2280 | G | C5-N7-C8 | 5.67 | 107.13 | 104.30 |
| 12 | B | 2303 | G | C8-N9-C4 | -5.67 | 104.13 | 106.40 |
| 12 | B | 2726 | A | N3-C4-C5 | -5.67 | 122.83 | 126.80 |
| 11 | A | 25 | U | C6-N1-C1' | 5.67 | 129.13 | 121.20 |
| 12 | B | 1326 | U | N3-C2-O2 | 5.67 | 126.17 | 122.20 |
| 12 | B | 1369 | G | C5-C6-N1 | -5.67 | 108.67 | 111.50 |
| 12 | B | 1967 | C | N3-C4-C5 | -5.67 | 119.63 | 121.90 |
| 12 | B | 2664 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 12 | B | 2664 | G | C5-C6-O6 | -5.67 | 125.20 | 128.60 |
| 12 | B | 105 | C | C5-C4-N4 | -5.67 | 116.23 | 120.20 |
| 12 | B | 464 | U | O4'-C1'-N1 | 5.67 | 112.73 | 108.20 |
| 12 | B | 2253 | G | N1-C2-N3 | -5.67 | 120.50 | 123.90 |
| 12 | B | 2342 | C | C2-N3-C4 | 5.67 | 122.73 | 119.90 |
| 12 | B | 2834 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 12 | B | 2892 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 12 | B | 271 | G | P-O3'-C3' | 5.66 | 126.50 | 119.70 |
| 12 | B | 448 | U | C5-C4-O4 | -5.66 | 122.50 | 125.90 |
| 12 | B | 549 | G | N1-C6-O6 | 5.66 | 123.30 | 119.90 |
| 12 | B | 699 | A | C4-C5-C6 | 5.66 | 119.83 | 117.00 |
| 12 | B | 701 | G | N9-C1'-C2' | -5.66 | 105.77 | 112.00 |
| 12 | B | 1690 | A | C6-N1-C2 | -5.66 | 115.20 | 118.60 |
| 12 | B | 1970 | A | P-O5'-C5' | -5.66 | 111.84 | 120.90 |
| 12 | B | 2076 | U | C6-N1-C2 | -5.66 | 117.60 | 121.00 |
| 12 | B | 2242 | G | C8-N9-C1' | 5.66 | 134.36 | 127.00 |
| 12 | B | 2308 | G | N3-C2-N2 | 5.66 | 123.86 | 119.90 |
| 12 | B | 2329 | U | N1-C1'-C2' | -5.66 | 105.77 | 112.00 |
| 12 | B | 2379 | G | N3-C4-N9 | 5.66 | 129.40 | 126.00 |
| 12 | B | 2484 | G | C5-N7-C8 | 5.66 | 107.13 | 104.30 |
| 12 | B | 2490 | G | C4-C5-N7 | -5.66 | 108.53 | 110.80 |
| 12 | B | 272 | A | C5-C6-N6 | -5.66 | 119.17 | 123.70 |
| 12 | B | 975 | A | O4'-C1'-N9 | 5.66 | 112.73 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2371 | G | C6-N1-C2 | 5.66 | 128.50 | 125.10 |
| 12 | B | 2518 | A | C2-N3-C4 | -5.66 | 107.77 | 110.60 |
| 6 | 5 | 222 | VAL | CB-CA-C | -5.66 | 100.64 | 111.40 |
| 11 | A | 15 | A | C8-N9-C4 | -5.66 | 103.54 | 105.80 |
| 12 | B | 77 | G | N9-C4-C5 | 5.66 | 107.66 | 105.40 |
| 12 | B | 376 | G | C5-C6-O6 | -5.66 | 125.20 | 128.60 |
| 12 | B | 989 | G | C6-N1-C2 | 5.66 | 128.50 | 125.10 |
| 12 | B | 1150 | C | C1'-O4'-C4' | 5.66 | 114.43 | 109.90 |
| 12 | B | 1264 | A | C5-C6-N6 | -5.66 | 119.17 | 123.70 |
| 12 | B | 1277 | G | N1-C2-N3 | -5.66 | 120.50 | 123.90 |
| 12 | B | 1424 | G | C8-N9-C4 | -5.66 | 104.14 | 106.40 |
| 12 | B | 1638 | C | C6-N1-C2 | 5.66 | 122.56 | 120.30 |
| 12 | B | 1667 | G | C8-N9-C4 | 5.66 | 108.66 | 106.40 |
| 12 | B | 2146 | C | C2-N1-C1' | 5.66 | 125.03 | 118.80 |
| 12 | B | 2350 | C | P-O5'-C5' | -5.66 | 111.84 | 120.90 |
| 12 | B | 2760 | C | N3-C2-O2 | -5.66 | 117.94 | 121.90 |
| 12 | B | 2859 | G | C6-C5-N7 | -5.66 | 127.00 | 130.40 |
| 25 | O | 102 | ARG | NE-CZ-NH2 | -5.66 | 117.47 | 120.30 |
| 11 | A | 27 | C | O4'-C4'-C3' | -5.66 | 98.34 | 104.00 |
| 12 | B | 39 | G | C2'-C3'-O3' | 5.66 | 122.75 | 113.70 |
| 12 | B | 239 | C | N3-C2-O2 | 5.66 | 125.86 | 121.90 |
| 12 | B | 522 | A | O4'-C1'-C2' | 5.66 | 112.69 | 107.60 |
| 12 | B | 1141 | U | C2-N3-C4 | -5.66 | 123.61 | 127.00 |
| 12 | B | 1895 | C | N1-C2-O2 | 5.66 | 122.30 | 118.90 |
| 12 | B | 2449 | U | O4'-C1'-N1 | 5.66 | 112.73 | 108.20 |
| 12 | B | 2465 | C | N3-C2-O2 | -5.66 | 117.94 | 121.90 |
| 12 | B | 2588 | G | O4'-C1'-C2' | 5.66 | 112.69 | 107.60 |
| 16 | F | 148 | VAL | CG1-CB-CG2 | -5.66 | 101.85 | 110.90 |
| 23 | M | 50 | ARG | NE-CZ-NH1 | 5.66 | 123.13 | 120.30 |
| 11 | A | 96 | G | P-O3'-C3' | -5.66 | 112.91 | 119.70 |
| 12 | B | 830 | G | C4-C5-C6 | 5.66 | 122.19 | 118.80 |
| 12 | B | 1219 | U | C5-C4-O4 | -5.66 | 122.51 | 125.90 |
| 12 | B | 2223 | G | C4-N9-C1' | -5.66 | 119.14 | 126.50 |
| 12 | B | 2795 | C | N3-C4-C5 | -5.66 | 119.64 | 121.90 |
| 12 | B | 226 | A | C5'-C4'-O4' | 5.66 | 115.89 | 109.10 |
| 12 | B | 493 | G | C4-C5-N7 | 5.66 | 113.06 | 110.80 |
| 12 | B | 893 | C | P-O3'-C3' | -5.66 | 112.91 | 119.70 |
| 12 | B | 898 | C | OP1-P-OP2 | -5.66 | 111.12 | 119.60 |
| 12 | B | 1110 | G | N3-C2-N2 | 5.66 | 123.86 | 119.90 |
| 12 | B | 1634 | A | C5-C6-N1 | -5.66 | 114.87 | 117.70 |
| 12 | B | 1711 | A | C4-C5-N7 | -5.66 | 107.87 | 110.70 |
| 12 | B | 2286 | G | C8-N9-C4 | -5.66 | 104.14 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 84 | G | C4-C5-N7 | -5.65 | 108.54 | 110.80 |
| 12 | B | 214 | G | C5-N7-C8 | -5.65 | 101.47 | 104.30 |
| 12 | B | 1028 | A | C3'-C2'-C1' | 5.65 | 106.02 | 101.50 |
| 12 | B | 1627 | G | C5-N7-C8 | 5.65 | 107.13 | 104.30 |
| 12 | B | 1808 | A | C5-C6-N1 | -5.65 | 114.87 | 117.70 |
| 12 | B | 2394 | C | C5'-C4'-C3' | -5.65 | 106.95 | 116.00 |
| 12 | B | 2518 | A | C5-C6-N6 | -5.65 | 119.18 | 123.70 |
| 12 | B | 2780 | G | C4'-C3'-C2' | -5.65 | 96.95 | 102.60 |
| 10 | 9 | 129 | ARG | CB-CG-CD | 5.65 | 126.30 | 111.60 |
| 11 | A | 46 | A | C4-C5-N7 | -5.65 | 107.87 | 110.70 |
| 12 | B | 1191 | G | C5-N7-C8 | 5.65 | 107.13 | 104.30 |
| 12 | B | 1432 | G | C2-N3-C4 | -5.65 | 109.07 | 111.90 |
| 12 | B | 1516 | G | O4'-C1'-N9 | 5.65 | 112.72 | 108.20 |
| 12 | B | 2129 | C | O4'-C1'-N1 | 5.65 | 112.72 | 108.20 |
| 12 | B | 2182 | U | N3-C4-C5 | -5.65 | 111.21 | 114.60 |
| 12 | B | 2222 | C | C2-N3-C4 | 5.65 | 122.73 | 119.90 |
| 12 | B | 2722 | G | N1-C2-N3 | -5.65 | 120.51 | 123.90 |
| 12 | B | 2780 | G | O4'-C1'-C2' | -5.65 | 100.15 | 105.80 |
| 12 | B | 2856 | A | C8-N9-C4 | 5.65 | 108.06 | 105.80 |
| 20 | J | 125 | TYR | N-CA-CB | 5.65 | 120.77 | 110.60 |
| 27 | Q | 11 | ALA | N-CA-CB | 5.65 | 118.01 | 110.10 |
| 12 | B | 152 | A | C6-C5-N7 | -5.65 | 128.34 | 132.30 |
| 12 | B | 194 | G | C5-C6-N1 | -5.65 | 108.67 | 111.50 |
| 12 | B | 1161 | C | P-O3'-C3' | -5.65 | 112.92 | 119.70 |
| 12 | B | 1273 | U | C4-C5-C6 | 5.65 | 123.09 | 119.70 |
| 12 | B | 1811 | G | C3'-C2'-C1' | -5.65 | 96.98 | 101.50 |
| 12 | B | 1891 | G | C5-C6-N1 | -5.65 | 108.67 | 111.50 |
| 12 | B | 1908 | C | OP1-P-OP2 | -5.65 | 111.13 | 119.60 |
| 12 | B | 2171 | A | C5-C6-N1 | -5.65 | 114.88 | 117.70 |
| 12 | B | 2193 | G | C6-N1-C2 | -5.65 | 121.71 | 125.10 |
| 12 | B | 2404 | U | OP1-P-OP2 | -5.65 | 111.12 | 119.60 |
| 12 | B | 2757 | A | C6-C5-N7 | -5.65 | 128.34 | 132.30 |
| 12 | B | 1804 | C | C6-N1-C2 | -5.65 | 118.04 | 120.30 |
| 12 | B | 1959 | G | C5-N7-C8 | -5.65 | 101.48 | 104.30 |
| 12 | B | 2467 | C | N3-C4-N4 | 5.65 | 121.95 | 118.00 |
| 12 | B | 2892 | G | C5-C6-N1 | -5.65 | 108.67 | 111.50 |
| 11 | A | 107 | G | C4-C5-N7 | -5.65 | 108.54 | 110.80 |
| 12 | B | 338 | G | N3-C4-C5 | 5.65 | 131.42 | 128.60 |
| 12 | B | 520 | G | C6-C5-N7 | -5.65 | 127.01 | 130.40 |
| 12 | B | 526 | A | N7-C8-N9 | -5.65 | 110.98 | 113.80 |
| 12 | B | 2411 | A | C5-C6-N1 | -5.65 | 114.88 | 117.70 |
| 12 | B | 2803 | G | C5-C6-O6 | -5.65 | 125.21 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 149 | A | O4'-C1'-N9 | 5.65 | 112.72 | 108.20 |
| 12 | B | 1041 | G | C5-C6-N1 | -5.65 | 108.68 | 111.50 |
| 12 | B | 2011 | U | N3-C4-O4 | 5.65 | 123.35 | 119.40 |
| 12 | B | 2328 | A | C5-C6-N6 | -5.65 | 119.18 | 123.70 |
| 12 | B | 2612 | C | C2-N1-C1' | 5.65 | 125.01 | 118.80 |
| 17 | G | 166 | GLU | CB-CG-CD | -5.65 | 98.96 | 114.20 |
| 12 | B | 260 | G | P-O5'-C5' | 5.64 | 129.93 | 120.90 |
| 12 | B | 395 | U | N3-C4-O4 | 5.64 | 123.35 | 119.40 |
| 12 | B | 443 | A | C6-N1-C2 | -5.64 | 115.21 | 118.60 |
| 12 | B | 650 | C | C5-C6-N1 | 5.64 | 123.82 | 121.00 |
| 12 | B | 782 | A | C3'-C2'-C1' | -5.64 | 96.98 | 101.50 |
| 12 | B | 794 | A | O4'-C1'-N9 | 5.64 | 112.72 | 108.20 |
| 12 | B | 898 | C | P-O5'-C5' | 5.64 | 129.93 | 120.90 |
| 12 | B | 1351 | C | P-O3'-C3' | 5.64 | 126.47 | 119.70 |
| 12 | B | 1482 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 12 | B | 1559 | U | C5-C4-O4 | -5.64 | 122.51 | 125.90 |
| 12 | B | 1806 | C | C2-N3-C4 | 5.64 | 122.72 | 119.90 |
| 12 | B | 1836 | C | C6-N1-C2 | -5.64 | 118.04 | 120.30 |
| 12 | B | 1944 | U | C6-N1-C2 | 5.64 | 124.39 | 121.00 |
| 12 | B | 2158 | A | O4'-C1'-N9 | 5.64 | 112.72 | 108.20 |
| 12 | B | 2616 | C | C4-C5-C6 | 5.64 | 120.22 | 117.40 |
| 12 | B | 2772 | C | N3-C4-N4 | 5.64 | 121.95 | 118.00 |
| 12 | B | 969 | G | C6-N1-C2 | 5.64 | 128.49 | 125.10 |
| 12 | B | 1334 | G | C1'-O4'-C4' | -5.64 | 105.39 | 109.90 |
| 12 | B | 1700 | A | C4-C5-N7 | -5.64 | 107.88 | 110.70 |
| 12 | B | 2255 | G | N9-C4-C5 | -5.64 | 103.14 | 105.40 |
| 15 | E | 169 | VAL | CA-CB-CG2 | 5.64 | 119.36 | 110.90 |
| 12 | B | 37 | C | OP1-P-OP2 | -5.64 | 111.14 | 119.60 |
| 12 | B | 47 | C | N3-C4-C5 | -5.64 | 119.64 | 121.90 |
| 12 | B | 165 | A | C6-N1-C2 | -5.64 | 115.22 | 118.60 |
| 12 | B | 620 | G | C8-N9-C1' | -5.64 | 119.67 | 127.00 |
| 12 | B | 1340 | U | C1'-O4'-C4' | 5.64 | 114.41 | 109.90 |
| 12 | B | 1423 | G | P-O3'-C3' | -5.64 | 112.93 | 119.70 |
| 12 | B | 2222 | C | C5-C6-N1 | 5.64 | 123.82 | 121.00 |
| 12 | B | 341 | C | C5-C6-N1 | 5.64 | 123.82 | 121.00 |
| 12 | B | 549 | G | C6-N1-C2 | -5.64 | 121.72 | 125.10 |
| 12 | B | 1106 | G | N3-C4-C5 | 5.64 | 131.42 | 128.60 |
| 12 | B | 1483 | G | N9-C4-C5 | 5.64 | 107.66 | 105.40 |
| 12 | B | 2173 | A | C5-C6-N1 | -5.64 | 114.88 | 117.70 |
| 12 | B | 2621 | G | N3-C4-C5 | 5.64 | 131.42 | 128.60 |
| 12 | B | 2877 | G | C2-N3-C4 | -5.64 | 109.08 | 111.90 |
| 12 | B | 2883 | A | C5-C6-N1 | -5.64 | 114.88 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 313 | G | O4'-C1'-N9 | 5.64 | 112.71 | 108.20 |
| 12 | B | 1017 | G | C3'-C2'-C1' | -5.64 | 96.99 | 101.50 |
| 12 | B | 1237 | A | C5-C6-N6 | -5.64 | 119.19 | 123.70 |
| 12 | B | 1354 | A | P-O3'-C3' | 5.64 | 126.47 | 119.70 |
| 12 | B | 1370 | C | N1-C2-N3 | 5.64 | 123.15 | 119.20 |
| 12 | B | 2887 | A | C4-C5-N7 | -5.64 | 107.88 | 110.70 |
| 22 | L | 33 | ARG | NE-CZ-NH2 | 5.64 | 123.12 | 120.30 |
| 6 | 5 | 144 | THR | CA-CB-CG2 | -5.64 | 104.51 | 112.40 |
| 11 | A | 46 | A | N3-C4-C5 | -5.64 | 122.85 | 126.80 |
| 12 | B | 541 | A | N3-C4-N9 | 5.64 | 131.91 | 127.40 |
| 12 | B | 582 | A | C5-C6-N1 | -5.64 | 114.88 | 117.70 |
| 12 | B | 943 | A | C5-C6-N1 | -5.64 | 114.88 | 117.70 |
| 12 | B | 1273 | U | C5'-C4'-C3' | -5.64 | 106.98 | 116.00 |
| 12 | B | 1492 | G | N9-C1'-C2' | -5.64 | 105.80 | 112.00 |
| 12 | B | 1524 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 12 | B | 1668 | A | C6-C5-N7 | -5.64 | 128.35 | 132.30 |
| 12 | B | 1875 | G | C3'-C2'-C1' | -5.64 | 96.99 | 101.50 |
| 12 | B | 2565 | A | C4'-C3'-C2' | -5.64 | 96.96 | 102.60 |
| 12 | B | 2671 | G | C4'-C3'-C2' | -5.64 | 96.96 | 102.60 |
| 20 | J | 141 | ASP | CB-CG-OD1 | 5.64 | 123.37 | 118.30 |
| 25 | O | 108 | ASP | CB-CG-OD1 | -5.64 | 113.23 | 118.30 |
| 12 | B | 127 | A | O4'-C4'-C3' | -5.63 | 98.36 | 104.00 |
| 12 | B | 503 | A | C5-N7-C8 | 5.63 | 106.72 | 103.90 |
| 12 | B | 1134 | A | C6-C5-N7 | -5.63 | 128.36 | 132.30 |
| 12 | B | 1562 | U | N3-C4-O4 | 5.63 | 123.34 | 119.40 |
| 12 | B | 1591 | A | C8-N9-C4 | -5.63 | 103.55 | 105.80 |
| 12 | B | 2236 | U | N3-C2-O2 | 5.63 | 126.14 | 122.20 |
| 12 | B | 2816 | G | O4'-C1'-N9 | 5.63 | 112.71 | 108.20 |
| 26 | P | 73 | PHE | CB-CA-C | -5.63 | 99.13 | 110.40 |
| 11 | A | 39 | A | C6-N1-C2 | -5.63 | 115.22 | 118.60 |
| 12 | B | 256 | A | N9-C4-C5 | 5.63 | 108.05 | 105.80 |
| 12 | B | 312 | G | C4-N9-C1' | 5.63 | 133.82 | 126.50 |
| 12 | B | 861 | A | C5-N7-C8 | 5.63 | 106.72 | 103.90 |
| 12 | B | 1426 | G | N1-C2-N3 | -5.63 | 120.52 | 123.90 |
| 12 | B | 2817 | U | N1-C2-O2 | -5.63 | 118.86 | 122.80 |
| 12 | B | 300 | A | C5-C6-N6 | -5.63 | 119.19 | 123.70 |
| 12 | B | 1014 | A | N3-C4-C5 | -5.63 | 122.86 | 126.80 |
| 12 | B | 1693 | U | C5-C6-N1 | -5.63 | 119.88 | 122.70 |
| 12 | B | 1696 | G | C5-C6-N1 | -5.63 | 108.68 | 111.50 |
| 12 | B | 1711 | A | C5-C6-N6 | -5.63 | 119.19 | 123.70 |
| 12 | B | 2144 | G | C5'-C4'-C3' | -5.63 | 106.99 | 116.00 |
| 12 | B | 2294 | G | C4-C5-N7 | -5.63 | 108.55 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2836 | U | N1-C2-O2 | -5.63 | 118.86 | 122.80 |
| 12 | B | 175 | G | C8-N9-C4 | 5.63 | 108.65 | 106.40 |
| 12 | B | 816 | C | N1-C2-O2 | -5.63 | 115.52 | 118.90 |
| 12 | B | 829 | A | C4-C5-N7 | -5.63 | 107.89 | 110.70 |
| 12 | B | 1191 | G | O4'-C1'-N9 | 5.63 | 112.70 | 108.20 |
| 12 | B | 2622 | U | N1-C2-O2 | -5.63 | 118.86 | 122.80 |
| 12 | B | 2623 | G | C8-N9-C4 | -5.63 | 104.15 | 106.40 |
| 12 | B | 380 | G | C5-N7-C8 | 5.63 | 107.11 | 104.30 |
| 12 | B | 485 | C | C2-N3-C4 | 5.63 | 122.71 | 119.90 |
| 12 | B | 855 | G | O4'-C1'-N9 | 5.63 | 112.70 | 108.20 |
| 12 | B | 1517 | G | C2-N3-C4 | 5.63 | 114.71 | 111.90 |
| 12 | B | 2178 | C | C4-C5-C6 | 5.63 | 120.21 | 117.40 |
| 12 | B | 2187 | U | C4-C5-C6 | 5.63 | 123.08 | 119.70 |
| 12 | B | 2351 | G | O4'-C1'-N9 | 5.63 | 112.70 | 108.20 |
| 12 | B | 2420 | C | N3-C4-N4 | 5.63 | 121.94 | 118.00 |
| 12 | B | 2883 | A | N3-C4-C5 | -5.63 | 122.86 | 126.80 |
| 11 | A | 58 | A | O4'-C1'-N9 | 5.63 | 112.70 | 108.20 |
| 11 | A | 70 | C | C4-C5-C6 | 5.63 | 120.21 | 117.40 |
| 12 | B | 7 | G | C4-C5-N7 | -5.63 | 108.55 | 110.80 |
| 12 | B | 72 | U | C2-N3-C4 | 5.63 | 130.38 | 127.00 |
| 12 | B | 215 | G | C5-C6-O6 | -5.63 | 125.22 | 128.60 |
| 12 | B | 264 | C | O4'-C1'-N1 | 5.63 | 112.70 | 108.20 |
| 12 | B | 609 | A | C8-N9-C4 | -5.63 | 103.55 | 105.80 |
| 12 | B | 959 | A | C8-N9-C4 | -5.63 | 103.55 | 105.80 |
| 12 | B | 1131 | G | N1-C2-N3 | -5.63 | 120.52 | 123.90 |
| 12 | B | 1217 | U | C5'-C4'-C3' | -5.63 | 107.00 | 116.00 |
| 12 | B | 1503 | A | N1-C2-N3 | 5.63 | 132.11 | 129.30 |
| 12 | B | 1567 | G | N1-C2-N2 | -5.63 | 111.14 | 116.20 |
| 12 | B | 1836 | C | C5'-C4'-O4' | 5.63 | 115.85 | 109.10 |
| 12 | B | 2006 | C | N1-C2-O2 | 5.63 | 122.28 | 118.90 |
| 12 | B | 2062 | A | C5-N7-C8 | -5.63 | 101.09 | 103.90 |
| 12 | B | 2076 | U | P-O5'-C5' | 5.63 | 129.90 | 120.90 |
| 12 | B | 2187 | U | C6-N1-C2 | -5.63 | 117.62 | 121.00 |
| 26 | P | 61 | ARG | NE-CZ-NH2 | 5.63 | 123.11 | 120.30 |
| 11 | A | 56 | G | N3-C2-N2 | -5.62 | 115.96 | 119.90 |
| 12 | B | 197 | A | C5'-C4'-O4' | 5.62 | 115.85 | 109.10 |
| 12 | B | 1697 | G | N1-C2-N2 | -5.62 | 111.14 | 116.20 |
| 12 | B | 261 | G | C4-C5-N7 | -5.62 | 108.55 | 110.80 |
| 12 | B | 342 | A | N3-C4-N9 | 5.62 | 131.90 | 127.40 |
| 12 | B | 398 | C | O4'-C4'-C3' | -5.62 | 98.38 | 104.00 |
| 12 | B | 694 | U | N3-C4-O4 | 5.62 | 123.34 | 119.40 |
| 12 | B | 1068 | G | C4-C5-N7 | -5.62 | 108.55 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1120 | G | O5'-C5'-C4' | -5.62 | 101.02 | 111.70 |
| 12 | B | 1261 | C | P-O3'-C3' | -5.62 | 112.95 | 119.70 |
| 12 | B | 1576 | U | P-O3'-C3' | -5.62 | 112.95 | 119.70 |
| 12 | B | 2393 | U | C5-C6-N1 | 5.62 | 125.51 | 122.70 |
| 12 | B | 2663 | G | C6-C5-N7 | -5.62 | 127.03 | 130.40 |
| 11 | A | 87 | U | C5'-C4'-O4' | 5.62 | 115.85 | 109.10 |
| 12 | B | 1364 | G | C5-C6-N1 | -5.62 | 108.69 | 111.50 |
| 12 | B | 1580 | A | N1-C2-N3 | 5.62 | 132.11 | 129.30 |
| 12 | B | 1874 | C | C4-C5-C6 | 5.62 | 120.21 | 117.40 |
| 12 | B | 2456 | C | C5-C4-N4 | -5.62 | 116.27 | 120.20 |
| 12 | B | 2617 | U | OP1-P-OP2 | -5.62 | 111.17 | 119.60 |
| 12 | B | 2797 | U | N3-C4-O4 | -5.62 | 115.46 | 119.40 |
| 12 | B | 1103 | A | C5-C6-N6 | -5.62 | 119.20 | 123.70 |
| 12 | B | 1152 | C | C5-C4-N4 | -5.62 | 116.27 | 120.20 |
| 12 | B | 2273 | A | C2-N3-C4 | -5.62 | 107.79 | 110.60 |
| 11 | A | 9 | G | N3-C2-N2 | 5.62 | 123.83 | 119.90 |
| 11 | A | 43 | C | P-O5'-C5' | 5.62 | 129.89 | 120.90 |
| 12 | B | 118 | A | C5-C6-N6 | -5.62 | 119.20 | 123.70 |
| 12 | B | 589 | U | C6-N1-C2 | 5.62 | 124.37 | 121.00 |
| 12 | B | 1513 | U | N3-C4-O4 | 5.62 | 123.33 | 119.40 |
| 12 | B | 2227 | A | C5-N7-C8 | 5.62 | 106.71 | 103.90 |
| 12 | B | 2269 | G | C4'-C3'-C2' | -5.62 | 96.98 | 102.60 |
| 12 | B | 2290 | G | C4-C5-C6 | 5.62 | 122.17 | 118.80 |
| 11 | A | 18 | G | O4'-C1'-N9 | 5.62 | 112.69 | 108.20 |
| 12 | B | 179 | C | C4'-C3'-C2' | -5.62 | 96.98 | 102.60 |
| 12 | B | 271 | G | O5'-C5'-C4' | -5.62 | 101.03 | 111.70 |
| 12 | B | 540 | C | N1-C2-N3 | -5.62 | 115.27 | 119.20 |
| 12 | B | 1269 | A | N7-C8-N9 | 5.62 | 116.61 | 113.80 |
| 12 | B | 2548 | U | C6-N1-C2 | -5.62 | 117.63 | 121.00 |
| 13 | C | 160 | TYR | CG-CD1-CE1 | -5.62 | 116.81 | 121.30 |
| 11 | A | 81 | G | C6-C5-N7 | -5.62 | 127.03 | 130.40 |
| 12 | B | 394 | C | N1-C2-N3 | -5.62 | 115.27 | 119.20 |
| 12 | B | 567 | U | O4'-C1'-N1 | 5.62 | 112.69 | 108.20 |
| 12 | B | 759 | G | O4'-C1'-N9 | 5.62 | 112.69 | 108.20 |
| 12 | B | 836 | G | C2-N3-C4 | 5.62 | 114.71 | 111.90 |
| 12 | B | 962 | G | O4'-C4'-C3' | -5.62 | 98.39 | 104.00 |
| 12 | B | 1145 | C | C3'-C2'-C1' | -5.62 | 97.01 | 101.50 |
| 12 | B | 1393 | A | O4'-C1'-N9 | 5.62 | 112.69 | 108.20 |
| 12 | B | 1590 | A | N3-C4-C5 | -5.62 | 122.87 | 126.80 |
| 12 | B | 1755 | A | N9-C4-C5 | 5.62 | 108.05 | 105.80 |
| 12 | B | 1892 | C | C2-N1-C1' | 5.62 | 124.98 | 118.80 |
| 12 | B | 2125 | G | N3-C4-N9 | 5.62 | 129.37 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 15 | E | 49 | ARG | CD-NE-CZ | -5.62 | 115.74 | 123.60 |
| 10 | 9 | 52 | ASN | C-N-CA | 5.61 | 135.73 | 121.70 |
| 12 | B | 141 | G | C2-N3-C4 | 5.61 | 114.71 | 111.90 |
| 12 | B | 318 | C | C2-N1-C1' | 5.61 | 124.98 | 118.80 |
| 12 | B | 1054 | A | O4'-C4'-C3' | -5.61 | 98.39 | 104.00 |
| 12 | B | 1452 | G | N3-C4-C5 | -5.61 | 125.79 | 128.60 |
| 12 | B | 2476 | A | C4-C5-N7 | -5.61 | 107.89 | 110.70 |
| 12 | B | 2833 | U | N1-C1'-C2' | -5.61 | 105.83 | 112.00 |
| 1 | 0 | 48 | LEU | CB-CG-CD2 | 5.61 | 120.54 | 111.00 |
| 12 | B | 2609 | U | C5-C6-N1 | 5.61 | 125.51 | 122.70 |
| 25 | O | 29 | HIS | CB-CA-C | 5.61 | 121.62 | 110.40 |
| 11 | A | 97 | C | N3-C2-O2 | 5.61 | 125.83 | 121.90 |
| 12 | B | 161 | A | O4'-C4'-C3' | -5.61 | 98.39 | 104.00 |
| 12 | B | 684 | G | N9-C4-C5 | -5.61 | 103.16 | 105.40 |
| 12 | B | 697 | G | C8-N9-C1' | 5.61 | 134.29 | 127.00 |
| 12 | B | 1123 | C | C5-C6-N1 | 5.61 | 123.81 | 121.00 |
| 12 | B | 1448 | G | C4-C5-N7 | -5.61 | 108.56 | 110.80 |
| 12 | B | 1736 | U | C6-N1-C2 | -5.61 | 117.63 | 121.00 |
| 12 | B | 1775 | U | P-O5'-C5' | 5.61 | 129.88 | 120.90 |
| 12 | B | 2079 | U | O4'-C1'-N1 | 5.61 | 112.69 | 108.20 |
| 12 | B | 2331 | G | N1-C2-N2 | -5.61 | 111.15 | 116.20 |
| 21 | K | 20 | MET | CG-SD-CE | -5.61 | 91.22 | 100.20 |
| 33 | Y | 13 | ARG | O-C-N | 5.61 | 131.68 | 122.70 |
| 12 | B | 105 | C | O4'-C1'-N1 | 5.61 | 112.69 | 108.20 |
| 12 | B | 315 | G | O4'-C1'-N9 | 5.61 | 112.69 | 108.20 |
| 12 | B | 2901 | C | P-O5'-C5' | 5.61 | 129.88 | 120.90 |
| 12 | B | 293 | U | C4'-C3'-C2' | -5.61 | 96.99 | 102.60 |
| 12 | B | 493 | G | P-O5'-C5' | 5.61 | 129.87 | 120.90 |
| 12 | B | 894 | U | N3-C2-O2 | -5.61 | 118.28 | 122.20 |
| 12 | B | 1971 | U | N1-C2-N3 | -5.61 | 111.54 | 114.90 |
| 12 | B | 2049 | G | N7-C8-N9 | -5.61 | 110.30 | 113.10 |
| 12 | B | 2693 | G | C6-C5-N7 | -5.61 | 127.03 | 130.40 |
| 12 | B | 713 | G | C8-N9-C4 | -5.61 | 104.16 | 106.40 |
| 12 | B | 723 | C | C4'-C3'-C2' | -5.61 | 96.99 | 102.60 |
| 12 | B | 880 | G | C6-C5-N7 | -5.61 | 127.04 | 130.40 |
| 12 | B | 991 | C | C2-N3-C4 | 5.61 | 122.70 | 119.90 |
| 12 | B | 1005 | C | C3'-C2'-C1' | 5.61 | 105.98 | 101.50 |
| 12 | B | 2267 | A | C3'-C2'-C1' | -5.61 | 97.02 | 101.50 |
| 12 | B | 2484 | G | O5'-C5'-C4' | -5.61 | 101.05 | 111.70 |
| 12 | B | 2728 | U | C5'-C4'-C3' | -5.61 | 107.03 | 116.00 |
| 11 | A | 53 | A | N3-C4-C5 | -5.60 | 122.88 | 126.80 |
| 12 | B | 1674 | G | C6-C5-N7 | -5.60 | 127.04 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1892 | C | N1-C2-N3 | 5.60 | 123.12 | 119.20 |
| 12 | B | 2772 | C | O4'-C1'-N1 | 5.60 | 112.68 | 108.20 |
| 12 | B | 280 | U | C6-N1-C2 | -5.60 | 117.64 | 121.00 |
| 12 | B | 551 | G | N1-C6-O6 | 5.60 | 123.26 | 119.90 |
| 12 | B | 692 | C | C2-N3-C4 | 5.60 | 122.70 | 119.90 |
| 12 | B | 920 | A | N7-C8-N9 | 5.60 | 116.60 | 113.80 |
| 12 | B | 1159 | U | N3-C2-O2 | 5.60 | 126.12 | 122.20 |
| 12 | B | 1179 | G | C2-N3-C4 | 5.60 | 114.70 | 111.90 |
| 12 | B | 1210 | G | N3-C4-C5 | 5.60 | 131.40 | 128.60 |
| 12 | B | 1371 | G | C5-N7-C8 | 5.60 | 107.10 | 104.30 |
| 12 | B | 1495 | A | C5-C6-N1 | -5.60 | 114.90 | 117.70 |
| 12 | B | 1932 | A | C2-N3-C4 | -5.60 | 107.80 | 110.60 |
| 12 | B | 1965 | C | C5'-C4'-O4' | 5.60 | 115.82 | 109.10 |
| 12 | B | 2217 | G | N1-C6-O6 | 5.60 | 123.26 | 119.90 |
| 12 | B | 2312 | U | C5'-C4'-O4' | 5.60 | 115.82 | 109.10 |
| 12 | B | 2323 | G | C6-N1-C2 | 5.60 | 128.46 | 125.10 |
| 12 | B | 2726 | A | C4-C5-C6 | 5.60 | 119.80 | 117.00 |
| 16 | F | 141 | ASP | CB-CA-C | -5.60 | 99.19 | 110.40 |
| 12 | B | 1037 | G | N3-C4-N9 | -5.60 | 122.64 | 126.00 |
| 12 | B | 1632 | A | C5-C6-N6 | -5.60 | 119.22 | 123.70 |
| 16 | F | 127 | TYR | CD1-CG-CD2 | 5.60 | 124.06 | 117.90 |
| 10 | 9 | 152 | LEU | CB-CG-CD2 | -5.60 | 101.48 | 111.00 |
| 12 | B | 100 | U | C5-C4-O4 | -5.60 | 122.54 | 125.90 |
| 12 | B | 359 | G | C3'-C2'-C1' | 5.60 | 105.98 | 101.50 |
| 12 | B | 571 | U | C5-C4-O4 | -5.60 | 122.54 | 125.90 |
| 12 | B | 709 | U | C4'-C3'-C2' | -5.60 | 97.00 | 102.60 |
| 12 | B | 1074 | G | O4'-C4'-C3' | -5.60 | 98.40 | 104.00 |
| 12 | B | 1387 | A | C6-C5-N7 | -5.60 | 128.38 | 132.30 |
| 12 | B | 1452 | G | C4-C5-C6 | 5.60 | 122.16 | 118.80 |
| 12 | B | 1609 | A | P-O3'-C3' | -5.60 | 112.98 | 119.70 |
| 12 | B | 1663 | G | C6-C5-N7 | -5.60 | 127.04 | 130.40 |
| 12 | B | 1936 | A | C5-C6-N1 | -5.60 | 114.90 | 117.70 |
| 12 | B | 2477 | U | P-O3'-C3' | 5.60 | 126.42 | 119.70 |
| 12 | B | 2508 | G | C4-C5-N7 | 5.60 | 113.04 | 110.80 |
| 12 | B | 2666 | C | N1-C2-N3 | -5.60 | 115.28 | 119.20 |
| 12 | B | 2852 | G | N7-C8-N9 | 5.60 | 115.90 | 113.10 |
| 12 | B | 132 | G | N9-C4-C5 | -5.60 | 103.16 | 105.40 |
| 12 | B | 432 | A | N1-C2-N3 | -5.60 | 126.50 | 129.30 |
| 12 | B | 492 | A | C2-N3-C4 | -5.60 | 107.80 | 110.60 |
| 12 | B | 729 | G | C5'-C4'-C3' | 5.60 | 124.95 | 116.00 |
| 12 | B | 789 | A | C5-C6-N6 | -5.60 | 119.22 | 123.70 |
| 12 | B | 922 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1061 | U | N3-C4-C5 | -5.60 | 111.24 | 114.60 |
| 12 | B | 1089 | A | C4-C5-C6 | 5.60 | 119.80 | 117.00 |
| 12 | B | 1126 | A | O4'-C1'-N9 | -5.60 | 103.72 | 108.20 |
| 12 | B | 1295 | C | N3-C4-N4 | 5.60 | 121.92 | 118.00 |
| 12 | B | 1379 | U | C6-N1-C2 | -5.60 | 117.64 | 121.00 |
| 12 | B | 1606 | C | N3-C4-C5 | -5.60 | 119.66 | 121.90 |
| 12 | B | 1788 | C | C5-C4-N4 | -5.60 | 116.28 | 120.20 |
| 12 | B | 1875 | G | C2-N3-C4 | 5.60 | 114.70 | 111.90 |
| 12 | B | 1937 | A | O4'-C1'-N9 | 5.60 | 112.68 | 108.20 |
| 12 | B | 2290 | G | C4-C5-N7 | -5.60 | 108.56 | 110.80 |
| 12 | B | 2749 | A | N7-C8-N9 | 5.60 | 116.60 | 113.80 |
| 27 | Q | 10 | ARG | NH1-CZ-NH2 | 5.60 | 125.56 | 119.40 |
| 12 | B | 818 | G | C8-N9-C4 | -5.60 | 104.16 | 106.40 |
| 12 | B | 869 | G | P-O5'-C5' | 5.60 | 129.85 | 120.90 |
| 12 | B | 1742 | U | C4'-C3'-C2' | -5.60 | 97.00 | 102.60 |
| 12 | B | 2369 | A | N1-C6-N6 | 5.60 | 121.96 | 118.60 |
| 12 | B | 219 | A | N1-C2-N3 | -5.59 | 126.50 | 129.30 |
| 12 | B | 318 | C | P-O5'-C5' | 5.59 | 129.85 | 120.90 |
| 12 | B | 871 | U | C2-N1-C1' | 5.59 | 124.41 | 117.70 |
| 12 | B | 902 | C | C5-C4-N4 | -5.59 | 116.28 | 120.20 |
| 12 | B | 1054 | A | C4-C5-C6 | 5.59 | 119.80 | 117.00 |
| 12 | B | 1314 | C | C4-C5-C6 | 5.59 | 120.20 | 117.40 |
| 12 | B | 1407 | G | N9-C4-C5 | 5.59 | 107.64 | 105.40 |
| 12 | B | 1469 | A | C1'-O4'-C4' | -5.59 | 105.42 | 109.90 |
| 12 | B | 1767 | G | N9-C4-C5 | 5.59 | 107.64 | 105.40 |
| 12 | B | 1949 | G | C5'-C4'-O4' | 5.59 | 115.81 | 109.10 |
| 12 | B | 2197 | U | O4'-C1'-N1 | 5.59 | 112.67 | 108.20 |
| 12 | B | 2515 | C | N3-C4-N4 | 5.59 | 121.92 | 118.00 |
| 12 | B | 2541 | A | N7-C8-N9 | -5.59 | 111.00 | 113.80 |
| 12 | B | 2837 | A | C6-N1-C2 | 5.59 | 121.96 | 118.60 |
| 12 | B | 2876 | G | N3-C2-N2 | 5.59 | 123.82 | 119.90 |
| 22 | L | 58 | TYR | CD1-CG-CD2 | 5.59 | 124.05 | 117.90 |
| 11 | A | 23 | G | C4-C5-N7 | 5.59 | 113.04 | 110.80 |
| 12 | B | 46 | G | C6-C5-N7 | -5.59 | 127.04 | 130.40 |
| 12 | B | 93 | G | C4-N9-C1' | -5.59 | 119.23 | 126.50 |
| 12 | B | 910 | A | C5-N7-C8 | 5.59 | 106.70 | 103.90 |
| 1 | 0 | 49 | ARG | N-CA-CB | 5.59 | 120.67 | 110.60 |
| 12 | B | 46 | G | N1-C6-O6 | 5.59 | 123.25 | 119.90 |
| 12 | B | 126 | A | N9-C4-C5 | -5.59 | 103.56 | 105.80 |
| 12 | B | 344 | A | C4-C5-C6 | 5.59 | 119.80 | 117.00 |
| 12 | B | 874 | G | N9-C4-C5 | 5.59 | 107.64 | 105.40 |
| 12 | B | 1554 | U | P-O5'-C5' | -5.59 | 111.95 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1592 | C | C1'-O4'-C4' | -5.59 | 105.43 | 109.90 |
| 12 | B | 1593 | A | N1-C2-N3 | 5.59 | 132.10 | 129.30 |
| 12 | B | 2032 | G | C8-N9-C4 | 5.59 | 108.64 | 106.40 |
| 12 | B | 2049 | G | C3'-C2'-C1' | 5.59 | 105.97 | 101.50 |
| 12 | B | 2118 | U | C6-N1-C1' | -5.59 | 113.37 | 121.20 |
| 12 | B | 2370 | G | C4-C5-C6 | 5.59 | 122.15 | 118.80 |
| 12 | B | 2515 | C | C2-N3-C4 | 5.59 | 122.70 | 119.90 |
| 12 | B | 2782 | G | C4-C5-C6 | 5.59 | 122.16 | 118.80 |
| 12 | B | 2890 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 11 | A | 62 | C | N3-C4-N4 | 5.59 | 121.91 | 118.00 |
| 12 | B | 218 | A | P-O3'-C3' | 5.59 | 126.41 | 119.70 |
| 12 | B | 491 | G | C5-C6-O6 | -5.59 | 125.25 | 128.60 |
| 12 | B | 815 | C | C6-N1-C2 | -5.59 | 118.06 | 120.30 |
| 12 | B | 2082 | A | N3-C4-C5 | -5.59 | 122.89 | 126.80 |
| 12 | B | 2321 | U | P-O5'-C5' | -5.59 | 111.96 | 120.90 |
| 12 | B | 2736 | A | N7-C8-N9 | -5.59 | 111.01 | 113.80 |
| 12 | B | 2803 | G | C5'-C4'-C3' | -5.59 | 107.06 | 116.00 |
| 12 | B | 2878 | U | C4'-C3'-C2' | -5.59 | 97.01 | 102.60 |
| 12 | B | 554 | U | C5-C6-N1 | 5.59 | 125.49 | 122.70 |
| 12 | B | 692 | C | N1-C2-N3 | -5.59 | 115.29 | 119.20 |
| 12 | B | 853 | C | C4'-C3'-C2' | -5.59 | 97.01 | 102.60 |
| 11 | A | 7 | G | C2'-C3'-O3' | 5.59 | 122.64 | 113.70 |
| 12 | B | 877 | A | C5-C6-N1 | -5.59 | 114.91 | 117.70 |
| 12 | B | 1471 | G | C4-N9-C1' | -5.59 | 119.24 | 126.50 |
| 12 | B | 2013 | A | N9-C4-C5 | -5.59 | 103.56 | 105.80 |
| 12 | B | 133 | U | C5-C4-O4 | -5.58 | 122.55 | 125.90 |
| 12 | B | 190 | A | O4'-C1'-N9 | 5.58 | 112.67 | 108.20 |
| 12 | B | 772 | C | N3-C2-O2 | -5.58 | 117.99 | 121.90 |
| 12 | B | 886 | A | C3'-C2'-C1' | -5.58 | 97.03 | 101.50 |
| 12 | B | 2585 | U | C2-N3-C4 | 5.58 | 130.35 | 127.00 |
| 12 | B | 410 | G | N1-C2-N3 | -5.58 | 120.55 | 123.90 |
| 12 | B | 552 | U | C4'-C3'-C2' | -5.58 | 97.02 | 102.60 |
| 12 | B | 631 | A | C6-C5-N7 | -5.58 | 128.39 | 132.30 |
| 12 | B | 669 | G | C4-N9-C1' | 5.58 | 133.76 | 126.50 |
| 12 | B | 1614 | A | C6-C5-N7 | -5.58 | 128.39 | 132.30 |
| 12 | B | 2469 | A | C6-C5-N7 | -5.58 | 128.39 | 132.30 |
| 12 | B | 2603 | G | N7-C8-N9 | 5.58 | 115.89 | 113.10 |
| 12 | B | 2711 | A | N9-C4-C5 | 5.58 | 108.03 | 105.80 |
| 12 | B | 44 | A | C5-C6-N6 | -5.58 | 119.23 | 123.70 |
| 12 | B | 301 | G | N3-C2-N2 | 5.58 | 123.81 | 119.90 |
| 12 | B | 690 | G | N3-C4-N9 | 5.58 | 129.35 | 126.00 |
| 12 | B | 700 | G | C8-N9-C1' | 5.58 | 134.26 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 866 | A | C4-C5-C6 | 5.58 | 119.79 | 117.00 |
| 12 | B | 905 | A | N1-C6-N6 | 5.58 | 121.95 | 118.60 |
| 12 | B | 995 | C | C5-C6-N1 | -5.58 | 118.21 | 121.00 |
| 12 | B | 2068 | U | P-O3'-C3' | 5.58 | 126.40 | 119.70 |
| 12 | B | 2507 | C | O4'-C1'-N1 | 5.58 | 112.67 | 108.20 |
| 12 | B | 2532 | G | C5-N7-C8 | 5.58 | 107.09 | 104.30 |
| 12 | B | 2708 | G | C8-N9-C1' | 5.58 | 134.25 | 127.00 |
| 12 | B | 2843 | G | C5'-C4'-O4' | 5.58 | 115.80 | 109.10 |
| 12 | B | 481 | G | O4'-C1'-N9 | 5.58 | 112.66 | 108.20 |
| 12 | B | 875 | G | C5'-C4'-C3' | -5.58 | 107.07 | 116.00 |
| 12 | B | 887 | U | N1-C2-O2 | -5.58 | 118.89 | 122.80 |
| 12 | B | 1006 | C | N1-C2-O2 | -5.58 | 115.55 | 118.90 |
| 12 | B | 1236 | G | OP1-P-O3' | 5.58 | 117.48 | 105.20 |
| 12 | B | 1331 | G | C4-C5-N7 | 5.58 | 113.03 | 110.80 |
| 12 | B | 2094 | A | N3-C4-N9 | 5.58 | 131.86 | 127.40 |
| 12 | B | 2659 | G | P-O3'-C3' | -5.58 | 113.00 | 119.70 |
| 12 | B | 2853 | C | C6-N1-C2 | -5.58 | 118.07 | 120.30 |
| 6 | 5 | 53 | ARG | NE-CZ-NH1 | 5.58 | 123.09 | 120.30 |
| 12 | B | 77 | G | C3'-C2'-C1' | -5.58 | 97.04 | 101.50 |
| 12 | B | 609 | A | C5-C6-N6 | -5.58 | 119.24 | 123.70 |
| 12 | B | 1206 | G | O4'-C1'-N9 | 5.58 | 112.66 | 108.20 |
| 12 | B | 1334 | G | C5-C6-N1 | -5.58 | 108.71 | 111.50 |
| 12 | B | 1743 | G | C4-C5-C6 | 5.58 | 122.15 | 118.80 |
| 12 | B | 2102 | G | P-O5'-C5' | 5.58 | 129.82 | 120.90 |
| 12 | B | 2182 | U | O3'-P-O5' | -5.58 | 93.40 | 104.00 |
| 12 | B | 2448 | A | C5-C6-N6 | -5.58 | 119.24 | 123.70 |
| 12 | B | 2557 | G | C5'-C4'-C3' | -5.58 | 107.07 | 116.00 |
| 27 | Q | 68 | ALA | CB-CA-C | -5.58 | 101.73 | 110.10 |
| 12 | B | 197 | A | C4-C5-C6 | 5.58 | 119.79 | 117.00 |
| 12 | B | 350 | G | N3-C2-N2 | 5.58 | 123.80 | 119.90 |
| 12 | B | 822 | G | P-O5'-C5' | -5.58 | 111.98 | 120.90 |
| 12 | B | 833 | A | C5-C6-N1 | -5.58 | 114.91 | 117.70 |
| 12 | B | 879 | G | OP1-P-OP2 | -5.58 | 111.23 | 119.60 |
| 12 | B | 1494 | A | N7-C8-N9 | -5.58 | 111.01 | 113.80 |
| 12 | B | 1660 | G | O4'-C1'-N9 | 5.58 | 112.66 | 108.20 |
| 12 | B | 2770 | G | C6-N1-C2 | 5.58 | 128.45 | 125.10 |
| 8 | 7 | 6 | VAL | N-CA-C | -5.58 | 95.95 | 111.00 |
| 11 | A | 64 | G | C2-N3-C4 | 5.58 | 114.69 | 111.90 |
| 12 | B | 91 | A | N1-C2-N3 | 5.58 | 132.09 | 129.30 |
| 12 | B | 108 | G | C8-N9-C1' | 5.58 | 134.25 | 127.00 |
| 12 | B | 1066 | U | C5-C4-O4 | -5.58 | 122.56 | 125.90 |
| 12 | B | 1639 | C | N3-C4-N4 | 5.58 | 121.90 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1754 | A | C5-C6-N6 | -5.58 | 119.24 | 123.70 |
| 12 | B | 1920 | C | N3-C2-O2 | 5.58 | 125.80 | 121.90 |
| 12 | B | 2306 | C | P-O3'-C3' | 5.58 | 126.39 | 119.70 |
| 12 | B | 2329 | U | C5-C4-O4 | 5.58 | 129.25 | 125.90 |
| 12 | B | 2532 | G | C5'-C4'-O4' | 5.58 | 115.79 | 109.10 |
| 12 | B | 2730 | C | C3'-C2'-C1' | -5.58 | 97.04 | 101.50 |
| 12 | B | 2747 | G | N1-C6-O6 | 5.58 | 123.25 | 119.90 |
| 12 | B | 64 | A | N3-C4-C5 | -5.57 | 122.90 | 126.80 |
| 12 | B | 219 | A | C4-C5-N7 | 5.57 | 113.49 | 110.70 |
| 12 | B | 310 | A | N3-C4-N9 | 5.57 | 131.86 | 127.40 |
| 12 | B | 332 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 12 | B | 425 | G | OP1-P-OP2 | 5.57 | 127.96 | 119.60 |
| 12 | B | 485 | C | N3-C4-N4 | 5.57 | 121.90 | 118.00 |
| 12 | B | 574 | A | C8-N9-C4 | -5.57 | 103.57 | 105.80 |
| 12 | B | 743 | A | C5-C6-N1 | -5.57 | 114.91 | 117.70 |
| 12 | B | 765 | C | N3-C4-C5 | 5.57 | 124.13 | 121.90 |
| 12 | B | 978 | G | N7-C8-N9 | -5.57 | 110.31 | 113.10 |
| 12 | B | 986 | C | N3-C4-C5 | -5.57 | 119.67 | 121.90 |
| 12 | B | 1906 | G | C5'-C4'-O4' | -5.57 | 102.41 | 109.10 |
| 12 | B | 1927 | A | N9-C4-C5 | 5.57 | 108.03 | 105.80 |
| 12 | B | 2005 | A | N3-C4-N9 | 5.57 | 131.86 | 127.40 |
| 12 | B | 2190 | G | C5-C6-N1 | -5.57 | 108.71 | 111.50 |
| 12 | B | 2399 | G | C4-C5-C6 | 5.57 | 122.14 | 118.80 |
| 12 | B | 2417 | C | P-O3'-C3' | -5.57 | 113.01 | 119.70 |
| 12 | B | 2640 | G | C5-C6-O6 | -5.57 | 125.26 | 128.60 |
| 21 | K | 71 | ARG | N-CA-C | -5.57 | 95.95 | 111.00 |
| 10 | 9 | 311 | TYR | N-CA-C | -5.57 | 95.95 | 111.00 |
| 12 | B | 708 | G | C4'-C3'-C2' | -5.57 | 97.03 | 102.60 |
| 12 | B | 2400 | G | N3-C4-N9 | -5.57 | 122.66 | 126.00 |
| 12 | B | 2401 | U | N1-C2-N3 | -5.57 | 111.56 | 114.90 |
| 12 | B | 2647 | U | C5-C4-O4 | -5.57 | 122.56 | 125.90 |
| 11 | A | 13 | G | C6-C5-N7 | -5.57 | 127.06 | 130.40 |
| 11 | A | 82 | U | N3-C2-O2 | 5.57 | 126.10 | 122.20 |
| 12 | B | 229 | C | N1-C2-N3 | 5.57 | 123.10 | 119.20 |
| 12 | B | 440 | C | N3-C4-N4 | 5.57 | 121.90 | 118.00 |
| 12 | B | 977 | G | C6-C5-N7 | -5.57 | 127.06 | 130.40 |
| 12 | B | 1133 | A | C4-C5-C6 | 5.57 | 119.78 | 117.00 |
| 12 | B | 1263 | U | O4'-C1'-N1 | 5.57 | 112.66 | 108.20 |
| 12 | B | 1642 | G | C8-N9-C1' | 5.57 | 134.24 | 127.00 |
| 12 | B | 1719 | G | C5-C6-N1 | 5.57 | 114.28 | 111.50 |
| 16 | F | 121 | PHE | CB-CG-CD2 | -5.57 | 116.90 | 120.80 |
| 11 | A | 72 | G | N9-C4-C5 | -5.57 | 103.17 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 149 | A | C5-C6-N6 | -5.57 | 119.25 | 123.70 |
| 12 | B | 312 | G | O4'-C1'-N9 | 5.57 | 112.66 | 108.20 |
| 12 | B | 799 | G | N1-C2-N3 | -5.57 | 120.56 | 123.90 |
| 12 | B | 1036 | G | C4-N9-C1' | -5.57 | 119.26 | 126.50 |
| 12 | B | 1238 | G | O4'-C4'-C3' | -5.57 | 98.43 | 104.00 |
| 12 | B | 80 | G | N9-C4-C5 | -5.57 | 103.17 | 105.40 |
| 12 | B | 633 | A | C5-C6-N6 | -5.57 | 119.25 | 123.70 |
| 12 | B | 689 | A | C2-N3-C4 | 5.57 | 113.38 | 110.60 |
| 12 | B | 1051 | G | C5-C6-O6 | -5.57 | 125.26 | 128.60 |
| 12 | B | 1381 | G | N9-C4-C5 | -5.57 | 103.17 | 105.40 |
| 12 | B | 1428 | C | C5-C6-N1 | 5.57 | 123.78 | 121.00 |
| 12 | B | 1479 | G | N3-C4-N9 | -5.57 | 122.66 | 126.00 |
| 12 | B | 1655 | A | C4-C5-N7 | -5.57 | 107.92 | 110.70 |
| 12 | B | 1853 | A | C5-C6-N6 | -5.57 | 119.25 | 123.70 |
| 12 | B | 2351 | G | C6-N1-C2 | 5.57 | 128.44 | 125.10 |
| 12 | B | 9 | G | N1-C2-N3 | -5.57 | 120.56 | 123.90 |
| 12 | B | 210 | C | O4'-C1'-N1 | 5.57 | 112.65 | 108.20 |
| 12 | B | 216 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 12 | B | 327 | G | C8-N9-C1' | 5.57 | 134.24 | 127.00 |
| 12 | B | 702 | U | O4'-C1'-N1 | 5.57 | 112.65 | 108.20 |
| 12 | B | 942 | G | C5'-C4'-C3' | -5.57 | 107.10 | 116.00 |
| 12 | B | 1443 | U | C3'-C2'-C1' | 5.57 | 105.95 | 101.50 |
| 12 | B | 1739 | A | C5-N7-C8 | 5.57 | 106.68 | 103.90 |
| 12 | B | 1893 | C | N1-C2-N3 | -5.57 | 115.30 | 119.20 |
| 12 | B | 2500 | U | N1-C2-O2 | 5.57 | 126.70 | 122.80 |
| 12 | B | 2509 | G | C6-C5-N7 | -5.57 | 127.06 | 130.40 |
| 12 | B | 2553 | G | C6-C5-N7 | -5.57 | 127.06 | 130.40 |
| 12 | B | 967 | U | N3-C4-O4 | 5.56 | 123.30 | 119.40 |
| 12 | B | 2130 | U | N1-C1'-C2' | -5.56 | 105.88 | 112.00 |
| 15 | E | 117 | ARG | CG-CD-NE | -5.56 | 100.12 | 111.80 |
| 12 | B | 727 | A | C8-N9-C4 | 5.56 | 108.03 | 105.80 |
| 12 | B | 878 | A | P-O3'-C3' | -5.56 | 113.02 | 119.70 |
| 12 | B | 1684 | G | C5-N7-C8 | -5.56 | 101.52 | 104.30 |
| 12 | B | 1784 | A | N3-C4-C5 | -5.56 | 122.91 | 126.80 |
| 12 | B | 1812 | U | N3-C2-O2 | 5.56 | 126.09 | 122.20 |
| 12 | B | 2421 | G | C5-C6-O6 | -5.56 | 125.26 | 128.60 |
| 12 | B | 2820 | A | C5-N7-C8 | 5.56 | 106.68 | 103.90 |
| 12 | B | 659 | G | C5-N7-C8 | -5.56 | 101.52 | 104.30 |
| 12 | B | 2469 | A | O4'-C1'-N9 | 5.56 | 112.65 | 108.20 |
| 12 | B | 2626 | C | O4'-C4'-C3' | -5.56 | 98.44 | 104.00 |
| 12 | B | 2629 | U | C5'-C4'-C3' | 5.56 | 124.90 | 116.00 |
| 12 | B | 2643 | G | N3-C2-N2 | 5.56 | 123.79 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2766 | A | C5'-C4'-C3' | -5.56 | 107.10 | 116.00 |
| 11 | A | 85 | G | C4-C5-N7 | -5.56 | 108.58 | 110.80 |
| 11 | A | 101 | A | N9-C4-C5 | -5.56 | 103.58 | 105.80 |
| 12 | B | 480 | A | C5-C6-N6 | -5.56 | 119.25 | 123.70 |
| 12 | B | 543 | G | O4'-C1'-N9 | 5.56 | 112.65 | 108.20 |
| 12 | B | 827 | U | C6-N1-C2 | 5.56 | 124.34 | 121.00 |
| 12 | B | 952 | G | C6-N1-C2 | 5.56 | 128.44 | 125.10 |
| 12 | B | 1291 | C | C1'-O4'-C4' | -5.56 | 105.45 | 109.90 |
| 12 | B | 1572 | A | C2-N3-C4 | 5.56 | 113.38 | 110.60 |
| 12 | B | 1664 | A | C4-C5-N7 | -5.56 | 107.92 | 110.70 |
| 12 | B | 1711 | A | C5-N7-C8 | 5.56 | 106.68 | 103.90 |
| 12 | B | 2130 | U | C5'-C4'-O4' | 5.56 | 115.77 | 109.10 |
| 12 | B | 2482 | A | C4-C5-C6 | 5.56 | 119.78 | 117.00 |
| 12 | B | 2590 | A | C5-N7-C8 | 5.56 | 106.68 | 103.90 |
| 12 | B | 2714 | G | C5-N7-C8 | -5.56 | 101.52 | 104.30 |
| 11 | A | 70 | C | OP2-P-O3' | 5.56 | 117.42 | 105.20 |
| 12 | B | 81 | G | C6-C5-N7 | -5.56 | 127.07 | 130.40 |
| 12 | B | 241 | A | C5-N7-C8 | 5.56 | 106.68 | 103.90 |
| 12 | B | 263 | G | C5-C6-O6 | -5.56 | 125.27 | 128.60 |
| 12 | B | 784 | G | C1'-O4'-C4' | -5.56 | 105.45 | 109.90 |
| 12 | B | 940 | G | O4'-C4'-C3' | -5.56 | 98.44 | 104.00 |
| 12 | B | 1221 | C | C4-C5-C6 | 5.56 | 120.18 | 117.40 |
| 12 | B | 1963 | U | O4'-C1'-N1 | 5.56 | 112.65 | 108.20 |
| 12 | B | 2554 | U | O4'-C1'-N1 | 5.56 | 112.64 | 108.20 |
| 12 | B | 2846 | G | N1-C2-N3 | -5.56 | 120.57 | 123.90 |
| 11 | A | 115 | A | C5-N7-C8 | 5.56 | 106.68 | 103.90 |
| 12 | B | 260 | G | N3-C4-N9 | -5.56 | 122.67 | 126.00 |
| 12 | B | 558 | U | N3-C4-O4 | 5.56 | 123.29 | 119.40 |
| 12 | B | 1358 | G | N7-C8-N9 | -5.56 | 110.32 | 113.10 |
| 12 | B | 1378 | A | N1-C2-N3 | 5.56 | 132.08 | 129.30 |
| 12 | B | 1706 | C | C5'-C4'-C3' | -5.56 | 107.11 | 116.00 |
| 12 | B | 2235 | G | C2-N3-C4 | -5.56 | 109.12 | 111.90 |
| 12 | B | 2468 | A | C8-N9-C4 | -5.56 | 103.58 | 105.80 |
| 12 | B | 2666 | C | C6-N1-C2 | 5.56 | 122.52 | 120.30 |
| 11 | A | 46 | A | C5'-C4'-C3' | -5.55 | 107.11 | 116.00 |
| 11 | A | 65 | U | C6-N1-C2 | -5.55 | 117.67 | 121.00 |
| 12 | B | 861 | A | C3'-C2'-C1' | -5.55 | 97.06 | 101.50 |
| 12 | B | 983 | A | C4-C5-N7 | -5.55 | 107.92 | 110.70 |
| 12 | B | 1680 | U | C5-C6-N1 | -5.55 | 119.92 | 122.70 |
| 12 | B | 1932 | A | O4'-C4'-C3' | -5.55 | 98.44 | 104.00 |
| 12 | B | 1997 | C | C5-C4-N4 | -5.55 | 116.31 | 120.20 |
| 12 | B | 2149 | U | P-O3'-C3' | 5.55 | 126.36 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2589 | A | C8-N9-C4 | -5.55 | 103.58 | 105.80 |
| 12 | B | 761 | A | C4-C5-N7 | -5.55 | 107.92 | 110.70 |
| 12 | B | 957 | C | C4'-C3'-C2' | -5.55 | 97.05 | 102.60 |
| 12 | B | 1355 | G | O5'-P-OP1 | 5.55 | 117.36 | 110.70 |
| 12 | B | 2158 | A | N1-C2-N3 | -5.55 | 126.52 | 129.30 |
| 12 | B | 2217 | G | P-O3'-C3' | -5.55 | 113.04 | 119.70 |
| 12 | B | 25 | U | N3-C4-C5 | -5.55 | 111.27 | 114.60 |
| 12 | B | 888 | C | C2-N3-C4 | 5.55 | 122.68 | 119.90 |
| 12 | B | 899 | A | N9-C4-C5 | 5.55 | 108.02 | 105.80 |
| 12 | B | 1100 | C | C5-C6-N1 | 5.55 | 123.78 | 121.00 |
| 12 | B | 1164 | C | N3-C4-N4 | 5.55 | 121.89 | 118.00 |
| 12 | B | 1503 | A | N9-C4-C5 | 5.55 | 108.02 | 105.80 |
| 12 | B | 1751 | U | N1-C2-N3 | 5.55 | 118.23 | 114.90 |
| 12 | B | 2053 | G | C4-C5-C6 | -5.55 | 115.47 | 118.80 |
| 12 | B | 2585 | U | C5-C4-O4 | 5.55 | 129.23 | 125.90 |
| 12 | B | 2606 | C | O4'-C1'-N1 | 5.55 | 112.64 | 108.20 |
| 12 | B | 2851 | A | C8-N9-C1' | 5.55 | 137.69 | 127.70 |
| 12 | B | 2858 | C | C2-N3-C4 | 5.55 | 122.67 | 119.90 |
| 12 | B | 2868 | A | O4'-C1'-N9 | 5.55 | 112.64 | 108.20 |
| 22 | L | 41 | ARG | N-CA-CB | 5.55 | 120.59 | 110.60 |
| 12 | B | 52 | A | N9-C4-C5 | 5.55 | 108.02 | 105.80 |
| 12 | B | 63 | A | N9-C4-C5 | 5.55 | 108.02 | 105.80 |
| 12 | B | 415 | A | C4-C5-N7 | -5.55 | 107.92 | 110.70 |
| 12 | B | 970 | U | C5-C4-O4 | -5.55 | 122.57 | 125.90 |
| 12 | B | 630 | G | N3-C2-N2 | 5.55 | 123.78 | 119.90 |
| 12 | B | 1665 | A | C4'-C3'-C2' | -5.55 | 97.05 | 102.60 |
| 12 | B | 569 | U | OP1-P-OP2 | -5.55 | 111.28 | 119.60 |
| 12 | B | 745 | G | C6-C5-N7 | -5.55 | 127.07 | 130.40 |
| 12 | B | 948 | C | N3-C4-N4 | 5.55 | 121.88 | 118.00 |
| 12 | B | 1312 | U | P-O5'-C5' | -5.55 | 112.03 | 120.90 |
| 12 | B | 1324 | G | C3'-C2'-C1' | 5.55 | 105.94 | 101.50 |
| 12 | B | 2285 | C | N3-C2-O2 | 5.55 | 125.78 | 121.90 |
| 12 | B | 2536 | G | C5-N7-C8 | -5.55 | 101.53 | 104.30 |
| 12 | B | 2594 | C | P-O3'-C3' | -5.55 | 113.04 | 119.70 |
| 12 | B | 2773 | C | C4'-C3'-C2' | -5.55 | 97.05 | 102.60 |
| 12 | B | 2892 | G | OP1-P-O3' | 5.55 | 117.40 | 105.20 |
| 11 | A | 7 | G | O4'-C4'-C3' | -5.54 | 98.45 | 104.00 |
| 11 | A | 41 | G | O4'-C1'-N9 | 5.54 | 112.64 | 108.20 |
| 12 | B | 6 | A | N1-C2-N3 | 5.54 | 132.07 | 129.30 |
| 12 | B | 250 | G | N1-C6-O6 | 5.54 | 123.23 | 119.90 |
| 12 | B | 347 | A | C5-C6-N6 | -5.54 | 119.26 | 123.70 |
| 12 | B | 590 | A | N9-C1'-C2' | -5.54 | 105.90 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 876 | C | P-O3'-C3' | -5.54 | 113.05 | 119.70 |
| 12 | B | 1154 | G | C2-N3-C4 | -5.54 | 109.13 | 111.90 |
| 12 | B | 2006 | C | N3-C4-C5 | -5.54 | 119.68 | 121.90 |
| 12 | B | 2138 | G | C5-C6-N1 | 5.54 | 114.27 | 111.50 |
| 12 | B | 2146 | C | P-O3'-C3' | 5.54 | 126.35 | 119.70 |
| 11 | A | 14 | U | C6-N1-C2 | -5.54 | 117.67 | 121.00 |
| 12 | B | 271 | G | C5'-C4'-O4' | -5.54 | 102.45 | 109.10 |
| 12 | B | 822 | G | N3-C4-C5 | -5.54 | 125.83 | 128.60 |
| 12 | B | 1166 | G | N3-C4-N9 | -5.54 | 122.67 | 126.00 |
| 12 | B | 1287 | A | C2-N3-C4 | 5.54 | 113.37 | 110.60 |
| 12 | B | 1368 | G | C5-C6-O6 | -5.54 | 125.27 | 128.60 |
| 12 | B | 1560 | G | N1-C6-O6 | 5.54 | 123.23 | 119.90 |
| 12 | B | 1869 | G | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 12 | B | 1902 | C | C1'-O4'-C4' | -5.54 | 105.47 | 109.90 |
| 12 | B | 1959 | G | N9-C4-C5 | -5.54 | 103.18 | 105.40 |
| 12 | B | 2469 | A | C4'-C3'-C2' | -5.54 | 97.06 | 102.60 |
| 12 | B | 2592 | G | C8-N9-C4 | -5.54 | 104.18 | 106.40 |
| 12 | B | 2750 | A | OP1-P-O3' | 5.54 | 117.40 | 105.20 |
| 12 | B | 2776 | A | C6-C5-N7 | -5.54 | 128.42 | 132.30 |
| 5 | 4 | 37 | LYS | N-CA-CB | 5.54 | 120.58 | 110.60 |
| 10 | 9 | 245 | ILE | N-CA-C | -5.54 | 96.04 | 111.00 |
| 11 | A | 79 | G | C8-N9-C4 | -5.54 | 104.18 | 106.40 |
| 12 | B | 1 | G | C2-N3-C4 | 5.54 | 114.67 | 111.90 |
| 12 | B | 305 | C | N3-C4-C5 | -5.54 | 119.68 | 121.90 |
| 12 | B | 530 | G | C2-N3-C4 | 5.54 | 114.67 | 111.90 |
| 12 | B | 887 | U | C5-C4-O4 | -5.54 | 122.58 | 125.90 |
| 12 | B | 930 | G | N1-C2-N3 | -5.54 | 120.58 | 123.90 |
| 12 | B | 936 | A | C5-C6-N6 | -5.54 | 119.27 | 123.70 |
| 12 | B | 1244 | A | N1-C2-N3 | -5.54 | 126.53 | 129.30 |
| 12 | B | 1517 | G | OP1-P-OP2 | -5.54 | 111.29 | 119.60 |
| 12 | B | 1538 | G | C5-N7-C8 | 5.54 | 107.07 | 104.30 |
| 12 | B | 1551 | A | N7-C8-N9 | -5.54 | 111.03 | 113.80 |
| 12 | B | 1803 | A | C4-C5-C6 | 5.54 | 119.77 | 117.00 |
| 12 | B | 1972 | G | C8-N9-C4 | -5.54 | 104.18 | 106.40 |
| 12 | B | 2338 | C | N3-C4-C5 | -5.54 | 119.68 | 121.90 |
| 12 | B | 2387 | U | O4'-C1'-N1 | 5.54 | 112.63 | 108.20 |
| 12 | B | 2401 | U | C4'-C3'-C2' | 5.54 | 108.14 | 102.60 |
| 12 | B | 2439 | A | C1'-O4'-C4' | 5.54 | 114.33 | 109.90 |
| 12 | B | 2631 | G | C5-C6-N1 | -5.54 | 108.73 | 111.50 |
| 18 | H | 40 | THR | CA-CB-CG2 | -5.54 | 104.64 | 112.40 |
| 12 | B | 542 | C | C5-C6-N1 | -5.54 | 118.23 | 121.00 |
| 12 | B | 1579 | A | N1-C2-N3 | 5.54 | 132.07 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2882 | A | C6-N1-C2 | 5.54 | 121.92 | 118.60 |
| 11 | A | 68 | C | C4'-C3'-C2' | -5.54 | 97.06 | 102.60 |
| 11 | A | 98 | G | C2-N3-C4 | 5.54 | 114.67 | 111.90 |
| 12 | B | 4 | U | N3-C4-C5 | -5.54 | 111.28 | 114.60 |
| 12 | B | 68 | G | C5-C6-N1 | -5.54 | 108.73 | 111.50 |
| 12 | B | 109 | C | C6-N1-C1' | -5.54 | 114.15 | 120.80 |
| 12 | B | 157 | C | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 12 | B | 371 | A | C6-C5-N7 | -5.54 | 128.42 | 132.30 |
| 12 | B | 1312 | U | N3-C2-O2 | 5.54 | 126.08 | 122.20 |
| 12 | B | 1334 | G | C4-C5-N7 | -5.54 | 108.58 | 110.80 |
| 12 | B | 1470 | A | C6-N1-C2 | 5.54 | 121.92 | 118.60 |
| 12 | B | 1492 | G | N1-C2-N3 | -5.54 | 120.58 | 123.90 |
| 12 | B | 2120 | G | C5-C6-O6 | -5.54 | 125.28 | 128.60 |
| 8 | 7 | 59 | ALA | CB-CA-C | -5.54 | 101.79 | 110.10 |
| 12 | B | 585 | G | C4-C5-N7 | 5.54 | 113.02 | 110.80 |
| 12 | B | 1562 | U | C6-N1-C2 | -5.54 | 117.68 | 121.00 |
| 12 | B | 2811 | G | C5-C6-O6 | -5.54 | 125.28 | 128.60 |
| 20 | J | 37 | ARG | NE-CZ-NH2 | 5.54 | 123.07 | 120.30 |
| 12 | B | 1247 | A | C5-C6-N1 | -5.54 | 114.93 | 117.70 |
| 12 | B | 1276 | A | C5'-C4'-O4' | 5.54 | 115.74 | 109.10 |
| 12 | B | 1717 | A | O5'-C5'-C4' | -5.54 | 101.18 | 111.70 |
| 12 | B | 1776 | G | C4-C5-N7 | 5.54 | 113.01 | 110.80 |
| 12 | B | 2451 | A | N3-C4-N9 | -5.54 | 122.97 | 127.40 |
| 12 | B | 2713 | U | N3-C4-C5 | -5.54 | 111.28 | 114.60 |
| 12 | B | 350 | G | C3'-C2'-C1' | -5.53 | 97.07 | 101.50 |
| 12 | B | 478 | A | C5-N7-C8 | 5.53 | 106.67 | 103.90 |
| 12 | B | 1235 | G | N3-C4-C5 | 5.53 | 131.37 | 128.60 |
| 12 | B | 1595 | C | C6-N1-C2 | -5.53 | 118.09 | 120.30 |
| 12 | B | 2253 | G | N3-C4-C5 | -5.53 | 125.83 | 128.60 |
| 12 | B | 2368 | C | C2-N3-C4 | 5.53 | 122.67 | 119.90 |
| 12 | B | 2780 | G | N1-C2-N3 | -5.53 | 120.58 | 123.90 |
| 11 | A | 7 | G | C3'-C2'-C1' | 5.53 | 105.93 | 101.50 |
| 12 | B | 881 | G | C5'-C4'-O4' | 5.53 | 115.74 | 109.10 |
| 12 | B | 1897 | G | N1-C6-O6 | 5.53 | 123.22 | 119.90 |
| 11 | A | 43 | C | N1-C2-O2 | -5.53 | 115.58 | 118.90 |
| 12 | B | 750 | A | P-O3'-C3' | 5.53 | 126.34 | 119.70 |
| 12 | B | 937 | C | C6-N1-C2 | -5.53 | 118.09 | 120.30 |
| 12 | B | 1115 | G | C4-C5-N7 | -5.53 | 108.59 | 110.80 |
| 12 | B | 1143 | A | C6-C5-N7 | -5.53 | 128.43 | 132.30 |
| 12 | B | 1385 | A | C4'-C3'-C2' | -5.53 | 97.07 | 102.60 |
| 12 | B | 1450 | G | N1-C2-N2 | 5.53 | 121.18 | 116.20 |
| 12 | B | 1973 | G | N3-C2-N2 | 5.53 | 123.77 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2047 | C | N1-C2-O2 | -5.53 | 115.58 | 118.90 |
| 12 | B | 2066 | C | C5-C6-N1 | -5.53 | 118.23 | 121.00 |
| 12 | B | 2168 | G | N1-C2-N3 | -5.53 | 120.58 | 123.90 |
| 12 | B | 2476 | A | N1-C2-N3 | -5.53 | 126.53 | 129.30 |
| 12 | B | 2715 | C | N3-C4-N4 | 5.53 | 121.87 | 118.00 |
| 12 | B | 2847 | U | N1-C2-N3 | -5.53 | 111.58 | 114.90 |
| 12 | B | 468 | G | C5-C6-N1 | 5.53 | 114.26 | 111.50 |
| 12 | B | 1759 | A | N3-C4-C5 | -5.53 | 122.93 | 126.80 |
| 12 | B | 2531 | A | O4'-C1'-N9 | 5.53 | 112.62 | 108.20 |
| 12 | B | 79 | C | O4'-C1'-N1 | 5.53 | 112.62 | 108.20 |
| 12 | B | 83 | A | C5-N7-C8 | 5.53 | 106.66 | 103.90 |
| 12 | B | 106 | C | P-O5'-C5' | 5.53 | 129.74 | 120.90 |
| 12 | B | 216 | A | P-O3'-C3' | -5.53 | 113.07 | 119.70 |
| 12 | B | 515 | A | O4'-C1'-N9 | 5.53 | 112.62 | 108.20 |
| 12 | B | 516 | C | N3-C4-C5 | -5.53 | 119.69 | 121.90 |
| 12 | B | 539 | G | C4-C5-C6 | 5.53 | 122.12 | 118.80 |
| 12 | B | 764 | A | P-O5'-C5' | -5.53 | 112.06 | 120.90 |
| 12 | B | 1039 | A | C5-C6-N1 | -5.53 | 114.94 | 117.70 |
| 12 | B | 1190 | G | P-O3'-C3' | -5.53 | 113.07 | 119.70 |
| 12 | B | 1205 | A | C4-C5-C6 | 5.53 | 119.76 | 117.00 |
| 12 | B | 1249 | U | O4'-C1'-N1 | 5.53 | 112.62 | 108.20 |
| 12 | B | 1826 | G | C6-N1-C2 | 5.53 | 128.42 | 125.10 |
| 12 | B | 2001 | C | O4'-C1'-N1 | 5.53 | 112.62 | 108.20 |
| 12 | B | 2056 | G | C3'-C2'-C1' | -5.53 | 97.08 | 101.50 |
| 12 | B | 2185 | U | C1'-O4'-C4' | -5.53 | 105.48 | 109.90 |
| 12 | B | 2380 | C | C2-N1-C1' | 5.53 | 124.88 | 118.80 |
| 12 | B | 2639 | A | C5-C6-N6 | -5.53 | 119.28 | 123.70 |
| 12 | B | 2656 | U | C2-N3-C4 | -5.53 | 123.68 | 127.00 |
| 12 | B | 2780 | G | C4-C5-C6 | 5.53 | 122.12 | 118.80 |
| 12 | B | 2803 | G | N1-C2-N2 | -5.53 | 111.22 | 116.20 |
| 12 | B | 298 | G | C6-C5-N7 | -5.53 | 127.08 | 130.40 |
| 12 | B | 452 | G | C5-C6-N1 | -5.53 | 108.74 | 111.50 |
| 12 | B | 1034 | G | N3-C4-N9 | -5.53 | 122.68 | 126.00 |
| 12 | B | 1078 | U | C6-N1-C2 | 5.53 | 124.32 | 121.00 |
| 12 | B | 1088 | A | N7-C8-N9 | 5.53 | 116.56 | 113.80 |
| 12 | B | 1283 | G | C4-C5-N7 | -5.53 | 108.59 | 110.80 |
| 12 | B | 2732 | G | N9-C4-C5 | -5.53 | 103.19 | 105.40 |
| 13 | C | 238 | ASN | N-CA-CB | 5.53 | 120.54 | 110.60 |
| 10 | 9 | 74 | ALA | N-CA-CB | 5.52 | 117.83 | 110.10 |
| 12 | B | 1010 | A | N9-C4-C5 | 5.52 | 108.01 | 105.80 |
| 12 | B | 1319 | C | C5-C6-N1 | -5.52 | 118.24 | 121.00 |
| 12 | B | 1944 | U | C4'-C3'-C2' | 5.52 | 108.12 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2363 | G | C3'-C2'-C1' | 5.52 | 105.92 | 101.50 |
| 12 | B | 2797 | U | N1-C2-O2 | -5.52 | 118.93 | 122.80 |
| 10 | 9 | 64 | SER | N-CA-C | 5.52 | 125.91 | 111.00 |
| 12 | B | 151 | C | C4'-C3'-C2' | -5.52 | 97.08 | 102.60 |
| 12 | B | 325 | G | C4-C5-C6 | 5.52 | 122.11 | 118.80 |
| 12 | B | 647 | G | OP2-P-O3' | 5.52 | 117.35 | 105.20 |
| 12 | B | 691 | C | C4'-C3'-C2' | -5.52 | 97.08 | 102.60 |
| 12 | B | 757 | G | C6-N1-C2 | 5.52 | 128.41 | 125.10 |
| 12 | B | 1380 | G | N3-C4-C5 | 5.52 | 131.36 | 128.60 |
| 12 | B | 1579 | A | N1-C6-N6 | 5.52 | 121.91 | 118.60 |
| 12 | B | 1733 | G | C5-C6-O6 | -5.52 | 125.29 | 128.60 |
| 12 | B | 1744 | A | N7-C8-N9 | 5.52 | 116.56 | 113.80 |
| 12 | B | 1857 | G | C2-N3-C4 | -5.52 | 109.14 | 111.90 |
| 12 | B | 2261 | C | C5-C6-N1 | 5.52 | 123.76 | 121.00 |
| 12 | B | 220 | G | N9-C4-C5 | 5.52 | 107.61 | 105.40 |
| 12 | B | 422 | A | N3-C4-N9 | 5.52 | 131.82 | 127.40 |
| 12 | B | 885 | C | P-O3'-C3' | -5.52 | 113.08 | 119.70 |
| 12 | B | 973 | A | O4'-C1'-N9 | 5.52 | 112.62 | 108.20 |
| 12 | B | 1291 | C | C5-C4-N4 | -5.52 | 116.34 | 120.20 |
| 12 | B | 1384 | A | C6-C5-N7 | -5.52 | 128.44 | 132.30 |
| 12 | B | 1974 | C | P-O5'-C5' | -5.52 | 112.07 | 120.90 |
| 12 | B | 2864 | G | C5-C6-O6 | 5.52 | 131.91 | 128.60 |
| 12 | B | 481 | G | C8-N9-C4 | 5.52 | 108.61 | 106.40 |
| 12 | B | 624 | C | N3-C4-N4 | 5.52 | 121.86 | 118.00 |
| 12 | B | 696 | G | C4-C5-N7 | -5.52 | 108.59 | 110.80 |
| 12 | B | 936 | A | C8-N9-C4 | -5.52 | 103.59 | 105.80 |
| 12 | B | 957 | C | O4'-C1'-C2' | -5.52 | 100.28 | 105.80 |
| 12 | B | 1189 | A | O4'-C1'-N9 | 5.52 | 112.61 | 108.20 |
| 12 | B | 1316 | U | N1-C2-N3 | -5.52 | 111.59 | 114.90 |
| 12 | B | 1509 | A | C2-N3-C4 | -5.52 | 107.84 | 110.60 |
| 12 | B | 1783 | A | P-O3'-C3' | -5.52 | 113.08 | 119.70 |
| 12 | B | 2414 | G | C8-N9-C4 | 5.52 | 108.61 | 106.40 |
| 12 | B | 2560 | A | C3'-C2'-C1' | -5.52 | 97.08 | 101.50 |
| 12 | B | 2728 | U | C5-C6-N1 | 5.52 | 125.46 | 122.70 |
| 12 | B | 49 | A | N7-C8-N9 | 5.52 | 116.56 | 113.80 |
| 12 | B | 1042 | G | N3-C4-N9 | 5.52 | 129.31 | 126.00 |
| 12 | B | 1501 | G | C5-N7-C8 | 5.52 | 107.06 | 104.30 |
| 12 | B | 2143 | C | C4-C5-C6 | 5.52 | 120.16 | 117.40 |
| 12 | B | 2286 | G | C6-C5-N7 | -5.52 | 127.09 | 130.40 |
| 12 | B | 2324 | U | P-O3'-C3' | 5.52 | 126.32 | 119.70 |
| 12 | B | 2717 | C | O4'-C4'-C3' | -5.52 | 98.48 | 104.00 |
| 12 | B | 2732 | G | C4-C5-C6 | 5.52 | 122.11 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 18 | H | 108 | VAL | CA-CB-CG1 | 5.52 | 119.18 | 110.90 |
| 20 | J | 92 | MET | CA-CB-CG | 5.52 | 122.68 | 113.30 |
| 12 | B | 529 | A | C3'-C2'-C1' | 5.52 | 105.91 | 101.50 |
| 12 | B | 1423 | G | C5-C6-O6 | -5.52 | 125.29 | 128.60 |
| 12 | B | 2542 | A | N9-C4-C5 | 5.52 | 108.01 | 105.80 |
| 11 | A | 36 | C | C2-N3-C4 | 5.51 | 122.66 | 119.90 |
| 12 | B | 507 | A | C4-C5-N7 | 5.51 | 113.46 | 110.70 |
| 12 | B | 526 | A | C6-N1-C2 | -5.51 | 115.29 | 118.60 |
| 12 | B | 754 | U | C3'-C2'-C1' | 5.51 | 105.91 | 101.50 |
| 12 | B | 897 | C | O3'-P-O5' | 5.51 | 114.48 | 104.00 |
| 12 | B | 1725 | U | C6-N1-C2 | -5.51 | 117.69 | 121.00 |
| 12 | B | 2002 | G | C2-N3-C4 | 5.51 | 114.66 | 111.90 |
| 12 | B | 2092 | U | P-O3'-C3' | -5.51 | 113.08 | 119.70 |
| 12 | B | 2271 | G | C5'-C4'-O4' | -5.51 | 102.48 | 109.10 |
| 12 | B | 2375 | G | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 12 | B | 2507 | C | P-O5'-C5' | 5.51 | 129.72 | 120.90 |
| 12 | B | 2566 | A | C5-N7-C8 | 5.51 | 106.66 | 103.90 |
| 12 | B | 2685 | G | N7-C8-N9 | -5.51 | 110.34 | 113.10 |
| 12 | B | 2765 | A | C8-N9-C4 | -5.51 | 103.59 | 105.80 |
| 12 | B | 473 | G | C6-N1-C2 | -5.51 | 121.79 | 125.10 |
| 12 | B | 1191 | G | N7-C8-N9 | -5.51 | 110.34 | 113.10 |
| 12 | B | 1299 | G | C6-C5-N7 | -5.51 | 127.09 | 130.40 |
| 12 | B | 37 | C | N3-C4-N4 | 5.51 | 121.86 | 118.00 |
| 12 | B | 644 | A | N3-C4-C5 | -5.51 | 122.94 | 126.80 |
| 12 | B | 804 | A | N1-C2-N3 | 5.51 | 132.06 | 129.30 |
| 12 | B | 819 | A | C5'-C4'-O4' | -5.51 | 102.49 | 109.10 |
| 12 | B | 916 | G | C4-C5-C6 | 5.51 | 122.11 | 118.80 |
| 12 | B | 933 | A | C6-N1-C2 | 5.51 | 121.91 | 118.60 |
| 12 | B | 1112 | G | C5-C6-O6 | -5.51 | 125.29 | 128.60 |
| 12 | B | 1198 | U | C3'-C2'-C1' | 5.51 | 105.91 | 101.50 |
| 12 | B | 1418 | G | N3-C4-N9 | 5.51 | 129.31 | 126.00 |
| 12 | B | 1907 | G | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 12 | B | 2092 | U | N3-C4-O4 | 5.51 | 123.26 | 119.40 |
| 12 | B | 2109 | U | C6-N1-C2 | -5.51 | 117.69 | 121.00 |
| 12 | B | 2540 | C | O4'-C1'-N1 | 5.51 | 112.61 | 108.20 |
| 10 | 9 | 210 | VAL | CA-CB-CG2 | 5.51 | 119.16 | 110.90 |
| 10 | 9 | 316 | ALA | N-CA-CB | 5.51 | 117.81 | 110.10 |
| 11 | A | 81 | G | N9-C4-C5 | -5.51 | 103.20 | 105.40 |
| 12 | B | 101 | A | C4'-C3'-C2' | -5.51 | 97.09 | 102.60 |
| 12 | B | 155 | A | C8-N9-C4 | 5.51 | 108.00 | 105.80 |
| 12 | B | 319 | G | C6-N1-C2 | 5.51 | 128.41 | 125.10 |
| 12 | B | 496 | G | N3-C4-N9 | -5.51 | 122.69 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 499 | U | N3-C4-O4 | 5.51 | 123.26 | 119.40 |
| 12 | B | 772 | C | O4'-C1'-N1 | 5.51 | 112.61 | 108.20 |
| 12 | B | 1228 | G | C4-C5-C6 | 5.51 | 122.11 | 118.80 |
| 12 | B | 1512 | C | N3-C4-C5 | 5.51 | 124.10 | 121.90 |
| 12 | B | 1666 | G | P-O3'-C3' | -5.51 | 113.09 | 119.70 |
| 12 | B | 2132 | U | C5-C4-O4 | -5.51 | 122.59 | 125.90 |
| 12 | B | 449 | A | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 12 | B | 1749 | A | C8-N9-C4 | 5.51 | 108.00 | 105.80 |
| 12 | B | 1790 | C | N1-C2-N3 | -5.51 | 115.34 | 119.20 |
| 12 | B | 1870 | C | C2-N3-C4 | 5.51 | 122.65 | 119.90 |
| 12 | B | 2340 | A | O5'-C5'-C4' | -5.51 | 101.23 | 111.70 |
| 12 | B | 2750 | A | C5-N7-C8 | 5.51 | 106.65 | 103.90 |
| 29 | S | 105 | VAL | CA-CB-CG2 | -5.51 | 102.64 | 110.90 |
| 12 | B | 656 | G | N3-C4-N9 | 5.51 | 129.30 | 126.00 |
| 12 | B | 808 | G | N1-C2-N2 | 5.51 | 121.16 | 116.20 |
| 12 | B | 995 | C | C5-C4-N4 | -5.51 | 116.34 | 120.20 |
| 12 | B | 1528 | A | C6-C5-N7 | -5.51 | 128.44 | 132.30 |
| 12 | B | 1959 | G | O5'-C5'-C4' | -5.51 | 101.24 | 111.70 |
| 12 | B | 1983 | G | N1-C2-N3 | -5.51 | 120.60 | 123.90 |
| 12 | B | 2033 | A | N7-C8-N9 | -5.51 | 111.05 | 113.80 |
| 12 | B | 2182 | U | N3-C4-O4 | 5.51 | 123.25 | 119.40 |
| 12 | B | 2556 | C | C1'-O4'-C4' | -5.51 | 105.49 | 109.90 |
| 26 | P | 106 | ALA | N-CA-CB | 5.51 | 117.81 | 110.10 |
| 11 | A | 46 | A | C4'-C3'-C2' | -5.50 | 97.09 | 102.60 |
| 12 | B | 1431 | A | C2-N3-C4 | -5.50 | 107.85 | 110.60 |
| 12 | B | 1703 | G | N3-C2-N2 | 5.50 | 123.75 | 119.90 |
| 12 | B | 1798 | U | C5-C4-O4 | -5.50 | 122.60 | 125.90 |
| 8 | 7 | 63 | TYR | CB-CG-CD2 | -5.50 | 117.70 | 121.00 |
| 10 | 9 | 63 | LYS | N-CA-C | -5.50 | 96.14 | 111.00 |
| 12 | B | 10 | A | N1-C6-N6 | 5.50 | 121.90 | 118.60 |
| 12 | B | 133 | U | C4-C5-C6 | 5.50 | 123.00 | 119.70 |
| 12 | B | 177 | G | P-O5'-C5' | -5.50 | 112.09 | 120.90 |
| 12 | B | 408 | G | N7-C8-N9 | -5.50 | 110.35 | 113.10 |
| 12 | B | 436 | C | C5-C6-N1 | 5.50 | 123.75 | 121.00 |
| 12 | B | 525 | U | OP1-P-OP2 | -5.50 | 111.35 | 119.60 |
| 12 | B | 561 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 12 | B | 660 | C | O4'-C1'-N1 | 5.50 | 112.60 | 108.20 |
| 12 | B | 810 | U | N3-C4-O4 | 5.50 | 123.25 | 119.40 |
| 12 | B | 1092 | C | C2-N3-C4 | -5.50 | 117.15 | 119.90 |
| 12 | B | 1106 | G | O4'-C1'-N9 | 5.50 | 112.60 | 108.20 |
| 12 | B | 1115 | G | N1-C2-N3 | -5.50 | 120.60 | 123.90 |
| 12 | B | 1180 | U | N3-C4-O4 | 5.50 | 123.25 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2323 | G | N1-C2-N3 | -5.50 | 120.60 | 123.90 |
| 12 | B | 2465 | C | C5-C6-N1 | 5.50 | 123.75 | 121.00 |
| 10 | 9 | 53 | LEU | CB-CA-C | -5.50 | 99.75 | 110.20 |
| 12 | B | 126 | A | C5'-C4'-O4' | 5.50 | 115.70 | 109.10 |
| 12 | B | 908 | C | N1-C2-O2 | 5.50 | 122.20 | 118.90 |
| 12 | B | 1404 | C | N3-C2-O2 | -5.50 | 118.05 | 121.90 |
| 12 | B | 1617 | C | O4'-C1'-C2' | -5.50 | 100.30 | 105.80 |
| 12 | B | 1934 | C | N3-C4-C5 | -5.50 | 119.70 | 121.90 |
| 12 | B | 2168 | G | C6-N1-C2 | 5.50 | 128.40 | 125.10 |
| 12 | B | 2335 | A | C5-N7-C8 | 5.50 | 106.65 | 103.90 |
| 12 | B | 2341 | G | C5-N7-C8 | -5.50 | 101.55 | 104.30 |
| 12 | B | 2809 | A | C4-C5-N7 | -5.50 | 107.95 | 110.70 |
| 30 | T | 63 | VAL | N-CA-C | -5.50 | 96.15 | 111.00 |
| 11 | A | 48 | U | C5'-C4'-C3' | -5.50 | 107.20 | 116.00 |
| 12 | B | 548 | G | C4-N9-C1' | 5.50 | 133.65 | 126.50 |
| 12 | B | 1228 | G | P-O5'-C5' | -5.50 | 112.10 | 120.90 |
| 12 | B | 2012 | G | N3-C4-N9 | -5.50 | 122.70 | 126.00 |
| 5 | 4 | 18 | HIS | CA-CB-CG | 5.50 | 122.95 | 113.60 |
| 12 | B | 732 | C | N1-C2-O2 | 5.50 | 122.20 | 118.90 |
| 12 | B | 886 | A | N9-C1'-C2' | -5.50 | 105.95 | 112.00 |
| 12 | B | 956 | G | N9-C1'-C2' | -5.50 | 105.95 | 112.00 |
| 12 | B | 1023 | U | N3-C4-O4 | 5.50 | 123.25 | 119.40 |
| 12 | B | 2014 | A | C3'-C2'-C1' | 5.50 | 105.90 | 101.50 |
| 12 | B | 2185 | U | P-O5'-C5' | -5.50 | 112.10 | 120.90 |
| 12 | B | 2313 | C | C5'-C4'-C3' | -5.50 | 107.20 | 116.00 |
| 12 | B | 2351 | G | P-O3'-C3' | 5.50 | 126.30 | 119.70 |
| 12 | B | 2537 | U | N1-C2-O2 | 5.50 | 126.65 | 122.80 |
| 12 | B | 2787 | C | O4'-C1'-N1 | 5.50 | 112.60 | 108.20 |
| 12 | B | 264 | C | C4-C5-C6 | 5.50 | 120.15 | 117.40 |
| 12 | B | 312 | G | N3-C4-C5 | -5.50 | 125.85 | 128.60 |
| 12 | B | 338 | G | N1-C2-N2 | -5.50 | 111.25 | 116.20 |
| 12 | B | 1480 | C | N1-C2-O2 | -5.50 | 115.60 | 118.90 |
| 12 | B | 1801 | A | C4-C5-C6 | 5.50 | 119.75 | 117.00 |
| 12 | B | 1931 | U | P-O5'-C5' | -5.50 | 112.11 | 120.90 |
| 12 | B | 2218 | G | C6-N1-C2 | 5.50 | 128.40 | 125.10 |
| 12 | B | 2392 | A | C4-C5-C6 | 5.50 | 119.75 | 117.00 |
| 12 | B | 2772 | C | N3-C2-O2 | 5.50 | 125.75 | 121.90 |
| 30 | T | 57 | VAL | CA-CB-CG1 | 5.50 | 119.14 | 110.90 |
| 12 | B | 284 | U | C4-C5-C6 | -5.50 | 116.40 | 119.70 |
| 12 | B | 333 | G | C4-N9-C1' | 5.50 | 133.64 | 126.50 |
| 12 | B | 966 | G | C5-C6-N1 | -5.50 | 108.75 | 111.50 |
| 12 | B | 1818 | U | N1-C2-O2 | -5.50 | 118.95 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1959 | G | C8-N9-C4 | 5.50 | 108.60 | 106.40 |
| 12 | B | 2083 | G | C6-N1-C2 | 5.50 | 128.40 | 125.10 |
| 12 | B | 2428 | G | C4-C5-N7 | 5.50 | 113.00 | 110.80 |
| 12 | B | 683 | U | C4'-C3'-C2' | -5.49 | 97.11 | 102.60 |
| 12 | B | 1100 | C | N3-C2-O2 | 5.49 | 125.75 | 121.90 |
| 12 | B | 1181 | U | C5'-C4'-C3' | -5.49 | 107.21 | 116.00 |
| 12 | B | 1454 | C | C2-N3-C4 | 5.49 | 122.65 | 119.90 |
| 12 | B | 1524 | G | O4'-C1'-N9 | 5.49 | 112.59 | 108.20 |
| 12 | B | 1749 | A | C3'-C2'-C1' | -5.49 | 97.11 | 101.50 |
| 12 | B | 1804 | C | P-O3'-C3' | -5.49 | 113.11 | 119.70 |
| 12 | B | 1819 | A | C5-N7-C8 | 5.49 | 106.65 | 103.90 |
| 12 | B | 1991 | U | OP1-P-OP2 | -5.49 | 111.36 | 119.60 |
| 12 | B | 2502 | G | C5-C6-N1 | -5.49 | 108.75 | 111.50 |
| 12 | B | 2611 | C | N1-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 10 | 9 | 28 | TYR | CB-CG-CD2 | -5.49 | 117.70 | 121.00 |
| 12 | B | 215 | G | N7-C8-N9 | 5.49 | 115.85 | 113.10 |
| 12 | B | 271 | G | C8-N9-C4 | 5.49 | 108.60 | 106.40 |
| 12 | B | 721 | A | C8-N9-C1' | 5.49 | 137.59 | 127.70 |
| 12 | B | 1332 | G | C6-C5-N7 | -5.49 | 127.11 | 130.40 |
| 12 | B | 1638 | C | C6-N1-C1' | -5.49 | 114.21 | 120.80 |
| 12 | B | 2080 | A | C6-N1-C2 | 5.49 | 121.89 | 118.60 |
| 12 | B | 2095 | A | C6-N1-C2 | -5.49 | 115.31 | 118.60 |
| 12 | B | 2307 | G | N9-C4-C5 | -5.49 | 103.20 | 105.40 |
| 12 | B | 2900 | A | C6-C5-N7 | -5.49 | 128.46 | 132.30 |
| 13 | C | 68 | ARG | NE-CZ-NH1 | -5.49 | 117.55 | 120.30 |
| 27 | Q | 73 | ILE | CA-CB-CG1 | 5.49 | 121.44 | 111.00 |
| 12 | B | 30 | G | N7-C8-N9 | -5.49 | 110.36 | 113.10 |
| 12 | B | 711 | G | C4-N9-C1' | -5.49 | 119.36 | 126.50 |
| 12 | B | 795 | C | N3-C4-N4 | 5.49 | 121.84 | 118.00 |
| 12 | B | 1331 | G | P-O3'-C3' | -5.49 | 113.11 | 119.70 |
| 12 | B | 1360 | G | N1-C6-O6 | 5.49 | 123.19 | 119.90 |
| 12 | B | 1377 | G | C8-N9-C4 | -5.49 | 104.20 | 106.40 |
| 12 | B | 1448 | G | C6-N1-C2 | 5.49 | 128.39 | 125.10 |
| 12 | B | 1615 | C | C6-N1-C2 | 5.49 | 122.50 | 120.30 |
| 12 | B | 1670 | C | C2-N3-C4 | 5.49 | 122.64 | 119.90 |
| 12 | B | 2122 | U | N1-C2-O2 | -5.49 | 118.96 | 122.80 |
| 12 | B | 2220 | U | N3-C4-O4 | 5.49 | 123.24 | 119.40 |
| 12 | B | 2469 | A | O5'-P-OP2 | -5.49 | 100.76 | 105.70 |
| 29 | S | 85 | ILE | CB-CA-C | -5.49 | 100.62 | 111.60 |
| 12 | B | 640 | C | C5'-C4'-O4' | 5.49 | 115.69 | 109.10 |
| 12 | B | 1658 | C | C5-C6-N1 | 5.49 | 123.74 | 121.00 |
| 12 | B | 1871 | A | C5-C6-N1 | -5.49 | 114.96 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1912 | A | C4'-C3'-C2' | -5.49 | 97.11 | 102.60 |
| 12 | B | 2134 | A | N3-C4-N9 | 5.49 | 131.79 | 127.40 |
| 12 | B | 2159 | G | C5-C6-O6 | -5.49 | 125.31 | 128.60 |
| 12 | B | 2337 | G | C8-N9-C1' | -5.49 | 119.86 | 127.00 |
| 12 | B | 2405 | G | C6-C5-N7 | -5.49 | 127.11 | 130.40 |
| 12 | B | 2735 | G | P-O3'-C3' | -5.49 | 113.11 | 119.70 |
| 12 | B | 2769 | U | C2-N3-C4 | 5.49 | 130.29 | 127.00 |
| 12 | B | 2804 | U | C5-C6-N1 | 5.49 | 125.44 | 122.70 |
| 12 | B | 2858 | C | N3-C4-C5 | -5.49 | 119.70 | 121.90 |
| 12 | B | 2860 | A | C4-C5-C6 | 5.49 | 119.74 | 117.00 |
| 11 | A | 83 | G | N9-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 12 | B | 1020 | A | C4-C5-N7 | -5.49 | 107.96 | 110.70 |
| 12 | B | 1680 | U | C5-C4-O4 | -5.49 | 122.61 | 125.90 |
| 12 | B | 2070 | A | N9-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 30 | T | 15 | HIS | N-CA-CB | 5.49 | 120.48 | 110.60 |
| 6 | 5 | 145 | VAL | CA-CB-CG2 | -5.49 | 102.67 | 110.90 |
| 12 | B | 61 | C | OP1-P-OP2 | -5.49 | 111.37 | 119.60 |
| 12 | B | 814 | C | O4'-C1'-N1 | 5.49 | 112.59 | 108.20 |
| 12 | B | 874 | G | N7-C8-N9 | -5.49 | 110.36 | 113.10 |
| 12 | B | 1258 | U | C5-C6-N1 | 5.49 | 125.44 | 122.70 |
| 12 | B | 1987 | A | N7-C8-N9 | -5.49 | 111.06 | 113.80 |
| 12 | B | 2120 | G | N3-C2-N2 | 5.49 | 123.74 | 119.90 |
| 12 | B | 2669 | G | O4'-C1'-N9 | 5.49 | 112.59 | 108.20 |
| 12 | B | 2680 | U | C6-N1-C2 | -5.49 | 117.71 | 121.00 |
| 21 | K | 28 | SER | N-CA-CB | 5.49 | 118.73 | 110.50 |
| 12 | B | 789 | A | P-O3'-C3' | 5.48 | 126.28 | 119.70 |
| 12 | B | 1249 | U | C4-C5-C6 | 5.48 | 122.99 | 119.70 |
| 12 | B | 2204 | G | N1-C2-N3 | -5.48 | 120.61 | 123.90 |
| 12 | B | 2422 | C | O4'-C1'-C2' | 5.48 | 112.53 | 107.60 |
| 12 | B | 2826 | A | C4-C5-C6 | 5.48 | 119.74 | 117.00 |
| 12 | B | 423 | A | O5'-P-OP1 | -5.48 | 100.77 | 105.70 |
| 12 | B | 659 | G | N1-C2-N3 | -5.48 | 120.61 | 123.90 |
| 12 | B | 998 | C | N3-C2-O2 | 5.48 | 125.74 | 121.90 |
| 12 | B | 1108 | U | OP1-P-OP2 | -5.48 | 111.38 | 119.60 |
| 12 | B | 1481 | U | C3'-C2'-C1' | -5.48 | 97.11 | 101.50 |
| 12 | B | 1694 | C | OP1-P-O3' | 5.48 | 117.26 | 105.20 |
| 12 | B | 1804 | C | C5'-C4'-C3' | 5.48 | 124.77 | 116.00 |
| 12 | B | 1918 | A | N7-C8-N9 | 5.48 | 116.54 | 113.80 |
| 12 | B | 2042 | A | C6-N1-C2 | -5.48 | 115.31 | 118.60 |
| 12 | B | 2120 | G | C8-N9-C1' | 5.48 | 134.13 | 127.00 |
| 12 | B | 2200 | C | N3-C2-O2 | 5.48 | 125.74 | 121.90 |
| 12 | B | 2455 | G | N9-C4-C5 | 5.48 | 107.59 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2648 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 12 | B | 2751 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 12 | B | 2816 | G | OP1-P-OP2 | -5.48 | 111.38 | 119.60 |
| 12 | B | 2866 | U | C6-N1-C2 | -5.48 | 117.71 | 121.00 |
| 13 | C | 233 | GLY | N-CA-C | -5.48 | 99.39 | 113.10 |
| 12 | B | 140 | C | C5-C6-N1 | -5.48 | 118.26 | 121.00 |
| 12 | B | 545 | U | OP1-P-O3' | 5.48 | 117.26 | 105.20 |
| 12 | B | 601 | C | O4'-C1'-N1 | 5.48 | 112.58 | 108.20 |
| 12 | B | 737 | C | N1-C2-O2 | 5.48 | 122.19 | 118.90 |
| 12 | B | 1242 | U | N1-C2-N3 | -5.48 | 111.61 | 114.90 |
| 12 | B | 1639 | C | C2-N3-C4 | 5.48 | 122.64 | 119.90 |
| 12 | B | 1652 | A | C5-C6-N6 | 5.48 | 128.08 | 123.70 |
| 12 | B | 2458 | G | C8-N9-C4 | 5.48 | 108.59 | 106.40 |
| 12 | B | 2694 | G | O4'-C1'-N9 | 5.48 | 112.58 | 108.20 |
| 3 | 2 | 22 | THR | CA-CB-CG2 | -5.48 | 104.73 | 112.40 |
| 11 | A | 11 | C | N3-C4-N4 | 5.48 | 121.83 | 118.00 |
| 11 | A | 52 | A | P-O3'-C3' | 5.48 | 126.28 | 119.70 |
| 12 | B | 603 | A | C5-C6-N1 | -5.48 | 114.96 | 117.70 |
| 12 | B | 1465 | G | N3-C4-N9 | 5.48 | 129.29 | 126.00 |
| 12 | B | 2604 | U | C2-N3-C4 | -5.48 | 123.71 | 127.00 |
| 11 | A | 102 | G | N1-C6-O6 | 5.48 | 123.19 | 119.90 |
| 12 | B | 89 | A | C8-N9-C4 | -5.48 | 103.61 | 105.80 |
| 12 | B | 640 | C | C3'-C2'-C1' | 5.48 | 105.88 | 101.50 |
| 12 | B | 783 | A | N1-C2-N3 | 5.48 | 132.04 | 129.30 |
| 12 | B | 925 | A | OP1-P-OP2 | -5.48 | 111.38 | 119.60 |
| 12 | B | 1640 | A | OP2-P-O3' | 5.48 | 117.25 | 105.20 |
| 12 | B | 1718 | G | C5-C6-O6 | -5.48 | 125.31 | 128.60 |
| 12 | B | 1732 | C | N1-C2-O2 | -5.48 | 115.61 | 118.90 |
| 12 | B | 2598 | A | C6-N1-C2 | 5.48 | 121.89 | 118.60 |
| 12 | B | 72 | U | O4'-C1'-N1 | 5.48 | 112.58 | 108.20 |
| 12 | B | 80 | G | N1-C2-N3 | -5.48 | 120.61 | 123.90 |
| 12 | B | 241 | A | N3-C4-N9 | -5.48 | 123.02 | 127.40 |
| 12 | B | 266 | G | N9-C4-C5 | -5.48 | 103.21 | 105.40 |
| 12 | B | 597 | G | P-O3'-C3' | 5.48 | 126.27 | 119.70 |
| 12 | B | 1120 | G | C4-C5-C6 | 5.48 | 122.08 | 118.80 |
| 12 | B | 2233 | U | N1-C2-N3 | 5.48 | 118.19 | 114.90 |
| 12 | B | 2655 | G | C5-N7-C8 | -5.48 | 101.56 | 104.30 |
| 12 | B | 2844 | G | C8-N9-C4 | -5.48 | 104.21 | 106.40 |
| 23 | M | 103 | TYR | CG-CD1-CE1 | -5.48 | 116.92 | 121.30 |
| 11 | A | 28 | C | N1-C2-O2 | 5.47 | 122.18 | 118.90 |
| 12 | B | 437 | U | O4'-C1'-N1 | 5.47 | 112.58 | 108.20 |
| 12 | B | 575 | A | C5-N7-C8 | 5.47 | 106.64 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1043 | C | C4'-C3'-C2' | -5.47 | 97.13 | 102.60 |
| 12 | B | 1712 | U | N3-C4-O4 | 5.47 | 123.23 | 119.40 |
| 12 | B | 2688 | G | C4-C5-C6 | 5.47 | 122.08 | 118.80 |
| 12 | B | 172 | A | N1-C2-N3 | 5.47 | 132.04 | 129.30 |
| 12 | B | 914 | G | C2-N3-C4 | 5.47 | 114.64 | 111.90 |
| 12 | B | 1044 | C | N3-C4-N4 | 5.47 | 121.83 | 118.00 |
| 12 | B | 1086 | A | O3'-P-O5' | -5.47 | 93.60 | 104.00 |
| 12 | B | 1346 | G | N9-C4-C5 | -5.47 | 103.21 | 105.40 |
| 12 | B | 1368 | G | N1-C6-O6 | 5.47 | 123.18 | 119.90 |
| 12 | B | 1611 | C | C5-C4-N4 | -5.47 | 116.37 | 120.20 |
| 12 | B | 1808 | A | N7-C8-N9 | -5.47 | 111.06 | 113.80 |
| 12 | B | 2351 | G | C5-C6-N1 | -5.47 | 108.76 | 111.50 |
| 13 | C | 62 | ARG | NE-CZ-NH1 | -5.47 | 117.56 | 120.30 |
| 12 | B | 232 | G | C5-C6-N1 | -5.47 | 108.77 | 111.50 |
| 12 | B | 370 | G | C4-C5-N7 | -5.47 | 108.61 | 110.80 |
| 12 | B | 1950 | G | O4'-C1'-N9 | 5.47 | 112.58 | 108.20 |
| 12 | B | 2132 | U | C1'-O4'-C4' | -5.47 | 105.52 | 109.90 |
| 15 | E | 201 | ALA | CB-CA-C | -5.47 | 101.89 | 110.10 |
| 11 | A | 14 | U | N3-C2-O2 | -5.47 | 118.37 | 122.20 |
| 12 | B | 35 | G | N9-C4-C5 | 5.47 | 107.59 | 105.40 |
| 12 | B | 1142 | A | N1-C2-N3 | 5.47 | 132.03 | 129.30 |
| 12 | B | 1796 | U | N1-C2-O2 | -5.47 | 118.97 | 122.80 |
| 12 | B | 1802 | A | N9-C4-C5 | 5.47 | 107.99 | 105.80 |
| 12 | B | 1877 | A | O4'-C1'-N9 | 5.47 | 112.58 | 108.20 |
| 12 | B | 2119 | A | C5-C6-N1 | -5.47 | 114.97 | 117.70 |
| 12 | B | 2610 | C | O4'-C1'-N1 | 5.47 | 112.58 | 108.20 |
| 12 | B | 2802 | G | C5-C6-O6 | -5.47 | 125.32 | 128.60 |
| 32 | W | 57 | TYR | CB-CA-C | -5.47 | 99.46 | 110.40 |
| 12 | B | 1041 | G | N3-C4-N9 | 5.47 | 129.28 | 126.00 |
| 12 | B | 1381 | G | C5-C6-O6 | -5.47 | 125.32 | 128.60 |
| 12 | B | 1609 | A | O4'-C1'-N9 | 5.47 | 112.58 | 108.20 |
| 12 | B | 1652 | A | N1-C6-N6 | -5.47 | 115.32 | 118.60 |
| 12 | B | 2355 | G | N7-C8-N9 | 5.47 | 115.83 | 113.10 |
| 12 | B | 2510 | C | N3-C4-C5 | -5.47 | 119.71 | 121.90 |
| 12 | B | 2644 | G | C8-N9-C4 | -5.47 | 104.21 | 106.40 |
| 11 | A | 33 | G | N3-C4-N9 | 5.47 | 129.28 | 126.00 |
| 12 | B | 923 | G | N9-C4-C5 | -5.47 | 103.21 | 105.40 |
| 12 | B | 1274 | A | N9-C4-C5 | 5.47 | 107.99 | 105.80 |
| 12 | B | 1353 | A | C5-C6-N1 | -5.47 | 114.97 | 117.70 |
| 12 | B | 1645 | G | N3-C4-C5 | 5.47 | 131.33 | 128.60 |
| 12 | B | 1743 | G | N1-C6-O6 | 5.47 | 123.18 | 119.90 |
| 12 | B | 1788 | C | C5-C6-N1 | 5.47 | 123.73 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2279 | G | N3-C4-N9 | 5.47 | 129.28 | 126.00 |
| 12 | B | 2455 | G | N3-C2-N2 | 5.47 | 123.73 | 119.90 |
| 12 | B | 2860 | A | N1-C2-N3 | 5.47 | 132.03 | 129.30 |
| 15 | E | 67 | ARG | NE-CZ-NH2 | 5.47 | 123.03 | 120.30 |
| 15 | E | 135 | ALA | CB-CA-C | -5.47 | 101.90 | 110.10 |
| 11 | A | 33 | G | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 12 | B | 220 | G | C8-N9-C4 | -5.46 | 104.21 | 106.40 |
| 12 | B | 2402 | U | N3-C2-O2 | -5.46 | 118.38 | 122.20 |
| 12 | B | 2538 | C | P-O3'-C3' | -5.46 | 113.14 | 119.70 |
| 12 | B | 2736 | A | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 12 | B | 2756 | U | N3-C2-O2 | -5.46 | 118.38 | 122.20 |
| 13 | C | 247 | TRP | CE2-CD2-CE3 | 5.46 | 125.26 | 118.70 |
| 12 | B | 249 | C | C2-N1-C1' | 5.46 | 124.81 | 118.80 |
| 12 | B | 360 | U | N1-C2-O2 | 5.46 | 126.62 | 122.80 |
| 12 | B | 2201 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 12 | B | 2590 | A | N3-C4-C5 | -5.46 | 122.98 | 126.80 |
| 12 | B | 56 | A | C1'-O4'-C4' | 5.46 | 114.27 | 109.90 |
| 12 | B | 102 | U | N3-C4-C5 | -5.46 | 111.32 | 114.60 |
| 12 | B | 642 | U | N1-C2-O2 | -5.46 | 118.98 | 122.80 |
| 12 | B | 1266 | G | C5-C6-N1 | -5.46 | 108.77 | 111.50 |
| 12 | B | 1448 | G | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 12 | B | 1585 | C | N3-C4-N4 | 5.46 | 121.82 | 118.00 |
| 12 | B | 2331 | G | N7-C8-N9 | -5.46 | 110.37 | 113.10 |
| 12 | B | 2514 | U | O4'-C1'-N1 | 5.46 | 112.57 | 108.20 |
| 12 | B | 2867 | G | N1-C2-N2 | -5.46 | 111.28 | 116.20 |
| 18 | H | 123 | ARG | NE-CZ-NH2 | 5.46 | 123.03 | 120.30 |
| 12 | B | 468 | G | C4-C5-N7 | 5.46 | 112.98 | 110.80 |
| 12 | B | 611 | C | C3'-C2'-C1' | 5.46 | 105.87 | 101.50 |
| 12 | B | 1767 | G | C4-C5-N7 | -5.46 | 108.62 | 110.80 |
| 12 | B | 2736 | A | C8-N9-C4 | -5.46 | 103.62 | 105.80 |
| 11 | A | 33 | G | C3'-C2'-C1' | -5.46 | 97.13 | 101.50 |
| 12 | B | 2069 | G | N1-C6-O6 | 5.46 | 123.17 | 119.90 |
| 12 | B | 2585 | U | O4'-C4'-C3' | -5.46 | 98.54 | 104.00 |
| 12 | B | 2703 | C | C2-N1-C1' | 5.46 | 124.80 | 118.80 |
| 18 | H | 46 | PHE | CB-CG-CD2 | -5.46 | 116.98 | 120.80 |
| 11 | A | 53 | A | N1-C6-N6 | 5.46 | 121.87 | 118.60 |
| 12 | B | 362 | A | C5-C6-N1 | -5.46 | 114.97 | 117.70 |
| 12 | B | 593 | U | N3-C2-O2 | -5.46 | 118.38 | 122.20 |
| 12 | B | 710 | U | O5'-C5'-C4' | -5.46 | 101.33 | 111.70 |
| 12 | B | 1690 | A | C5-N7-C8 | 5.46 | 106.63 | 103.90 |
| 12 | B | 1738 | G | O4'-C1'-N9 | 5.46 | 112.56 | 108.20 |
| 12 | B | 2319 | G | O4'-C4'-C3' | -5.46 | 98.54 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2466 | C | C1'-O4'-C4' | -5.46 | 105.53 | 109.90 |
| 12 | B | 2585 | U | N3-C4-C5 | -5.46 | 111.33 | 114.60 |
| 12 | B | 2759 | G | C6-N1-C2 | -5.46 | 121.83 | 125.10 |
| 11 | A | 113 | C | N1-C2-N3 | -5.46 | 115.38 | 119.20 |
| 12 | B | 524 | G | OP2-P-O3' | 5.46 | 117.20 | 105.20 |
| 12 | B | 674 | G | O4'-C1'-C2' | 5.46 | 112.51 | 107.60 |
| 12 | B | 969 | G | N9-C4-C5 | -5.46 | 103.22 | 105.40 |
| 12 | B | 2212 | A | O4'-C1'-C2' | -5.46 | 100.34 | 105.80 |
| 12 | B | 2577 | A | C5-C6-N6 | -5.46 | 119.34 | 123.70 |
| 11 | A | 67 | G | C8-N9-C4 | -5.45 | 104.22 | 106.40 |
| 12 | B | 151 | C | C1'-O4'-C4' | 5.45 | 114.26 | 109.90 |
| 12 | B | 263 | G | C6-N1-C2 | -5.45 | 121.83 | 125.10 |
| 12 | B | 701 | G | N3-C2-N2 | 5.45 | 123.72 | 119.90 |
| 12 | B | 904 | G | C8-N9-C1' | 5.45 | 134.09 | 127.00 |
| 12 | B | 1126 | A | C5'-C4'-O4' | 5.45 | 115.64 | 109.10 |
| 12 | B | 1197 | G | N1-C2-N3 | -5.45 | 120.63 | 123.90 |
| 12 | B | 1499 | C | N3-C2-O2 | -5.45 | 118.08 | 121.90 |
| 12 | B | 1702 | G | C2-N3-C4 | 5.45 | 114.63 | 111.90 |
| 12 | B | 2526 | G | C8-N9-C4 | -5.45 | 104.22 | 106.40 |
| 12 | B | 2535 | G | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 12 | B | 2584 | U | N3-C2-O2 | -5.45 | 118.38 | 122.20 |
| 28 | R | 35 | PHE | CB-CG-CD2 | -5.45 | 116.98 | 120.80 |
| 11 | A | 56 | G | C4-C5-C6 | 5.45 | 122.07 | 118.80 |
| 12 | B | 442 | G | N3-C4-N9 | -5.45 | 122.73 | 126.00 |
| 12 | B | 790 | U | C2-N3-C4 | -5.45 | 123.73 | 127.00 |
| 12 | B | 884 | U | C4'-C3'-C2' | -5.45 | 97.15 | 102.60 |
| 12 | B | 1572 | A | C5-C6-N1 | -5.45 | 114.97 | 117.70 |
| 12 | B | 2572 | A | P-O3'-C3' | 5.45 | 126.24 | 119.70 |
| 12 | B | 2818 | U | O4'-C1'-N1 | 5.45 | 112.56 | 108.20 |
| 11 | A | 113 | C | C5'-C4'-C3' | 5.45 | 124.72 | 116.00 |
| 12 | B | 189 | G | C5-C6-O6 | -5.45 | 125.33 | 128.60 |
| 12 | B | 386 | G | N1-C2-N2 | 5.45 | 121.11 | 116.20 |
| 12 | B | 748 | G | C5'-C4'-C3' | -5.45 | 107.28 | 116.00 |
| 12 | B | 842 | U | C2-N3-C4 | 5.45 | 130.27 | 127.00 |
| 12 | B | 950 | G | N7-C8-N9 | 5.45 | 115.83 | 113.10 |
| 12 | B | 1226 | A | C4-C5-N7 | 5.45 | 113.42 | 110.70 |
| 12 | B | 1304 | A | N9-C4-C5 | 5.45 | 107.98 | 105.80 |
| 12 | B | 1312 | U | N1-C2-N3 | -5.45 | 111.63 | 114.90 |
| 12 | B | 1379 | U | N1-C2-N3 | 5.45 | 118.17 | 114.90 |
| 12 | B | 1776 | G | P-O3'-C3' | 5.45 | 126.24 | 119.70 |
| 12 | B | 1839 | G | C5-C6-O6 | -5.45 | 125.33 | 128.60 |
| 12 | B | 1888 | G | N7-C8-N9 | -5.45 | 110.38 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2071 | A | C5-N7-C8 | 5.45 | 106.63 | 103.90 |
| 12 | B | 2101 | A | C6-N1-C2 | 5.45 | 121.87 | 118.60 |
| 12 | B | 2135 | A | N1-C2-N3 | 5.45 | 132.03 | 129.30 |
| 12 | B | 2165 | C | C5-C4-N4 | -5.45 | 116.39 | 120.20 |
| 13 | C | 181 | ARG | NE-CZ-NH1 | 5.45 | 123.03 | 120.30 |
| 15 | E | 15 | SER | N-CA-CB | 5.45 | 118.67 | 110.50 |
| 22 | L | 103 | ILE | CB-CG1-CD1 | 5.45 | 129.16 | 113.90 |
| 27 | Q | 54 | ARG | NE-CZ-NH1 | -5.45 | 117.57 | 120.30 |
| 11 | A | 116 | G | C4'-C3'-C2' | -5.45 | 97.15 | 102.60 |
| 12 | B | 9 | G | N9-C4-C5 | 5.45 | 107.58 | 105.40 |
| 12 | B | 168 | G | N1-C2-N3 | -5.45 | 120.63 | 123.90 |
| 12 | B | 290 | U | C5-C4-O4 | -5.45 | 122.63 | 125.90 |
| 12 | B | 433 | C | C5'-C4'-O4' | 5.45 | 115.64 | 109.10 |
| 12 | B | 620 | G | C4-N9-C1' | 5.45 | 133.58 | 126.50 |
| 12 | B | 703 | U | N3-C2-O2 | 5.45 | 126.01 | 122.20 |
| 12 | B | 1286 | A | C6-C5-N7 | -5.45 | 128.49 | 132.30 |
| 12 | B | 1717 | A | C5-C6-N1 | -5.45 | 114.98 | 117.70 |
| 12 | B | 2059 | A | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 12 | B | 2084 | C | N3-C4-C5 | 5.45 | 124.08 | 121.90 |
| 12 | B | 2143 | C | C5-C4-N4 | 5.45 | 124.01 | 120.20 |
| 12 | B | 2427 | C | C4-C5-C6 | 5.45 | 120.12 | 117.40 |
| 12 | B | 2530 | A | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 12 | B | 2820 | A | N3-C4-C5 | -5.45 | 122.99 | 126.80 |
| 17 | G | 48 | THR | CA-CB-CG2 | -5.45 | 104.77 | 112.40 |
| 12 | B | 358 | U | N3-C4-O4 | 5.45 | 123.21 | 119.40 |
| 12 | B | 362 | A | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 12 | B | 1876 | A | N1-C6-N6 | 5.45 | 121.87 | 118.60 |
| 12 | B | 2305 | U | N3-C4-O4 | 5.45 | 123.21 | 119.40 |
| 10 | 9 | 129 | ARG | NH1-CZ-NH2 | -5.45 | 113.41 | 119.40 |
| 12 | B | 460 | A | C5-C6-N1 | -5.45 | 114.98 | 117.70 |
| 12 | B | 576 | U | O4'-C4'-C3' | -5.45 | 98.55 | 104.00 |
| 12 | B | 804 | A | C4-C5-C6 | 5.45 | 119.72 | 117.00 |
| 12 | B | 1010 | A | C4-C5-N7 | -5.45 | 107.98 | 110.70 |
| 12 | B | 1232 | G | C5-N7-C8 | 5.45 | 107.02 | 104.30 |
| 12 | B | 1688 | U | C5'-C4'-C3' | -5.45 | 107.29 | 116.00 |
| 12 | B | 2135 | A | C1'-O4'-C4' | -5.45 | 105.54 | 109.90 |
| 12 | B | 2147 | A | N7-C8-N9 | 5.45 | 116.52 | 113.80 |
| 12 | B | 2324 | U | C5'-C4'-C3' | -5.45 | 107.29 | 116.00 |
| 12 | B | 2625 | G | N1-C6-O6 | 5.45 | 123.17 | 119.90 |
| 12 | B | 2822 | G | P-O5'-C5' | 5.45 | 129.61 | 120.90 |
| 12 | B | 2823 | A | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 12 | B | 2843 | G | N7-C8-N9 | -5.45 | 110.38 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 346 | A | P-O3'-C3' | 5.44 | 126.23 | 119.70 |
| 12 | B | 742 | A | P-O5'-C5' | 5.44 | 129.61 | 120.90 |
| 12 | B | 1688 | U | C5-C4-O4 | -5.44 | 122.63 | 125.90 |
| 12 | B | 2133 | G | N3-C2-N2 | 5.44 | 123.71 | 119.90 |
| 12 | B | 2277 | G | N3-C4-C5 | -5.44 | 125.88 | 128.60 |
| 12 | B | 2318 | G | C5'-C4'-O4' | 5.44 | 115.63 | 109.10 |
| 12 | B | 2419 | U | C1'-O4'-C4' | -5.44 | 105.54 | 109.90 |
| 12 | B | 22 | C | N1-C1'-C2' | -5.44 | 106.01 | 112.00 |
| 12 | B | 299 | A | C4-C5-C6 | 5.44 | 119.72 | 117.00 |
| 12 | B | 335 | C | N1-C2-O2 | -5.44 | 115.64 | 118.90 |
| 12 | B | 765 | C | O5'-P-OP2 | -5.44 | 100.80 | 105.70 |
| 12 | B | 924 | G | O5'-C5'-C4' | -5.44 | 101.36 | 111.70 |
| 12 | B | 1093 | G | C6-C5-N7 | -5.44 | 127.13 | 130.40 |
| 12 | B | 1148 | U | P-O3'-C3' | -5.44 | 113.17 | 119.70 |
| 12 | B | 1354 | A | C3'-C2'-C1' | -5.44 | 97.15 | 101.50 |
| 12 | B | 1367 | A | C5-C6-N1 | -5.44 | 114.98 | 117.70 |
| 12 | B | 1533 | C | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 12 | B | 1893 | C | C2-N3-C4 | 5.44 | 122.62 | 119.90 |
| 12 | B | 2196 | C | C6-N1-C2 | -5.44 | 118.12 | 120.30 |
| 12 | B | 2232 | C | C4-C5-C6 | 5.44 | 120.12 | 117.40 |
| 12 | B | 2593 | U | N1-C2-O2 | -5.44 | 118.99 | 122.80 |
| 12 | B | 2818 | U | C4'-C3'-C2' | -5.44 | 97.16 | 102.60 |
| 12 | B | 2831 | G | C6-N1-C2 | 5.44 | 128.37 | 125.10 |
| 6 | 5 | 140 | PRO | N-CD-CG | 5.44 | 111.36 | 103.20 |
| 12 | B | 551 | G | C4-C5-N7 | 5.44 | 112.98 | 110.80 |
| 12 | B | 786 | C | O4'-C1'-N1 | 5.44 | 112.55 | 108.20 |
| 12 | B | 2158 | A | O3'-P-O5' | -5.44 | 93.67 | 104.00 |
| 12 | B | 2307 | G | O4'-C1'-N9 | 5.44 | 112.55 | 108.20 |
| 12 | B | 2603 | G | OP1-P-OP2 | -5.44 | 111.44 | 119.60 |
| 21 | K | 23 | LYS | N-CA-CB | 5.44 | 120.39 | 110.60 |
| 8 | 7 | 29 | ARG | NE-CZ-NH2 | 5.44 | 123.02 | 120.30 |
| 12 | B | 401 | A | C2-N3-C4 | 5.44 | 113.32 | 110.60 |
| 12 | B | 10 | A | N1-C2-N3 | -5.44 | 126.58 | 129.30 |
| 12 | B | 134 | G | C3'-C2'-C1' | -5.44 | 97.15 | 101.50 |
| 12 | B | 989 | G | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 12 | B | 1180 | U | N1-C1'-C2' | -5.44 | 106.02 | 112.00 |
| 12 | B | 1271 | G | N3-C2-N2 | 5.44 | 123.71 | 119.90 |
| 12 | B | 1477 | A | N9-C1'-C2' | -5.44 | 106.02 | 112.00 |
| 12 | B | 1853 | A | C8-N9-C4 | -5.44 | 103.62 | 105.80 |
| 12 | B | 2440 | C | C5-C6-N1 | 5.44 | 123.72 | 121.00 |
| 12 | B | 2633 | G | C4'-C3'-C2' | -5.44 | 97.16 | 102.60 |
| 12 | B | 2657 | A | C8-N9-C4 | 5.44 | 107.97 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2858 | C | C4-C5-C6 | -5.44 | 114.68 | 117.40 |
| 20 | J | 119 | PHE | CZ-CE2-CD2 | -5.44 | 113.58 | 120.10 |
| 12 | B | 422 | A | C5'-C4'-O4' | 5.44 | 115.62 | 109.10 |
| 12 | B | 593 | U | C5-C6-N1 | 5.44 | 125.42 | 122.70 |
| 12 | B | 1250 | G | C3'-C2'-C1' | 5.44 | 105.85 | 101.50 |
| 12 | B | 1269 | A | C6-N1-C2 | 5.44 | 121.86 | 118.60 |
| 12 | B | 1333 | G | C4-C5-N7 | 5.44 | 112.97 | 110.80 |
| 12 | B | 1450 | G | C5-N7-C8 | 5.44 | 107.02 | 104.30 |
| 12 | B | 1859 | U | O4'-C1'-N1 | 5.44 | 112.55 | 108.20 |
| 12 | B | 1877 | A | C5-C6-N6 | -5.44 | 119.35 | 123.70 |
| 12 | B | 2487 | G | C4-C5-N7 | 5.44 | 112.97 | 110.80 |
| 12 | B | 2850 | A | C4'-C3'-C2' | -5.44 | 97.16 | 102.60 |
| 27 | Q | 48 | ASP | CB-CG-OD1 | 5.44 | 123.19 | 118.30 |
| 12 | B | 656 | G | N7-C8-N9 | -5.43 | 110.38 | 113.10 |
| 12 | B | 890 | C | C2-N3-C4 | 5.43 | 122.62 | 119.90 |
| 12 | B | 1092 | C | C4-C5-C6 | 5.43 | 120.12 | 117.40 |
| 12 | B | 1516 | G | N1-C2-N3 | -5.43 | 120.64 | 123.90 |
| 12 | B | 1788 | C | N1-C2-N3 | 5.43 | 123.00 | 119.20 |
| 12 | B | 1938 | A | C5-N7-C8 | 5.43 | 106.62 | 103.90 |
| 12 | B | 2557 | G | P-O5'-C5' | -5.43 | 112.20 | 120.90 |
| 12 | B | 2655 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 12 | B | 2844 | G | N3-C2-N2 | -5.43 | 116.10 | 119.90 |
| 17 | G | 144 | ALA | N-CA-CB | 5.43 | 117.71 | 110.10 |
| 12 | B | 12 | U | C5-C6-N1 | 5.43 | 125.42 | 122.70 |
| 12 | B | 229 | C | C5-C6-N1 | 5.43 | 123.72 | 121.00 |
| 12 | B | 746 | U | C4-C5-C6 | 5.43 | 122.96 | 119.70 |
| 12 | B | 883 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 12 | B | 939 | G | C3'-C2'-C1' | -5.43 | 97.15 | 101.50 |
| 12 | B | 1313 | U | C2-N1-C1' | 5.43 | 124.22 | 117.70 |
| 12 | B | 1517 | G | N3-C4-C5 | -5.43 | 125.88 | 128.60 |
| 12 | B | 2172 | U | C2-N3-C4 | -5.43 | 123.74 | 127.00 |
| 12 | B | 2488 | G | P-O5'-C5' | 5.43 | 129.59 | 120.90 |
| 12 | B | 2523 | G | P-O5'-C5' | 5.43 | 129.59 | 120.90 |
| 12 | B | 2530 | A | C4-C5-C6 | 5.43 | 119.72 | 117.00 |
| 12 | B | 2816 | G | C6-C5-N7 | -5.43 | 127.14 | 130.40 |
| 12 | B | 797 | G | N7-C8-N9 | -5.43 | 110.39 | 113.10 |
| 12 | B | 2347 | C | N3-C4-N4 | 5.43 | 121.80 | 118.00 |
| 12 | B | 2351 | G | N7-C8-N9 | -5.43 | 110.38 | 113.10 |
| 12 | B | 2445 | G | N3-C2-N2 | 5.43 | 123.70 | 119.90 |
| 12 | B | 789 | A | C5'-C4'-C3' | -5.43 | 107.31 | 116.00 |
| 12 | B | 844 | A | O4'-C1'-N9 | 5.43 | 112.54 | 108.20 |
| 12 | B | 903 | C | N1-C2-O2 | 5.43 | 122.16 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 981 | A | C8-N9-C4 | -5.43 | 103.63 | 105.80 |
| 12 | B | 1063 | G | N1-C2-N3 | -5.43 | 120.64 | 123.90 |
| 12 | B | 1142 | A | C4'-C3'-C2' | 5.43 | 108.03 | 102.60 |
| 12 | B | 1579 | A | C4-C5-N7 | -5.43 | 107.98 | 110.70 |
| 12 | B | 1712 | U | C4-C5-C6 | 5.43 | 122.96 | 119.70 |
| 12 | B | 2105 | U | N1-C2-N3 | 5.43 | 118.16 | 114.90 |
| 12 | B | 2198 | A | N7-C8-N9 | 5.43 | 116.51 | 113.80 |
| 12 | B | 2785 | C | C6-N1-C2 | -5.43 | 118.13 | 120.30 |
| 29 | S | 96 | ILE | N-CA-C | -5.43 | 96.34 | 111.00 |
| 12 | B | 631 | A | N3-C4-C5 | -5.43 | 123.00 | 126.80 |
| 12 | B | 1243 | C | N3-C4-C5 | 5.43 | 124.07 | 121.90 |
| 12 | B | 1708 | C | O4'-C1'-N1 | 5.43 | 112.54 | 108.20 |
| 12 | B | 1766 | G | C5-N7-C8 | 5.43 | 107.01 | 104.30 |
| 12 | B | 2355 | G | C3'-C2'-C1' | -5.43 | 97.16 | 101.50 |
| 12 | B | 2663 | G | O4'-C1'-N9 | 5.43 | 112.54 | 108.20 |
| 12 | B | 215 | G | N9-C4-C5 | 5.43 | 107.57 | 105.40 |
| 12 | B | 449 | A | N3-C4-C5 | -5.43 | 123.00 | 126.80 |
| 12 | B | 601 | C | N1-C2-O2 | 5.43 | 122.16 | 118.90 |
| 12 | B | 1105 | U | OP1-P-OP2 | -5.43 | 111.46 | 119.60 |
| 12 | B | 1483 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 12 | B | 1803 | A | C5-C6-N6 | -5.43 | 119.36 | 123.70 |
| 12 | B | 1828 | G | C5-C6-O6 | -5.43 | 125.34 | 128.60 |
| 12 | B | 1899 | A | C4-C5-C6 | 5.43 | 119.71 | 117.00 |
| 12 | B | 2809 | A | N1-C2-N3 | 5.43 | 132.01 | 129.30 |
| 12 | B | 2861 | U | C5-C4-O4 | 5.43 | 129.16 | 125.90 |
| 12 | B | 108 | G | N3-C2-N2 | 5.42 | 123.70 | 119.90 |
| 12 | B | 220 | G | C4-C5-N7 | -5.42 | 108.63 | 110.80 |
| 12 | B | 685 | A | P-O5'-C5' | -5.42 | 112.22 | 120.90 |
| 12 | B | 714 | U | C4'-C3'-C2' | -5.42 | 97.17 | 102.60 |
| 12 | B | 1022 | G | C4'-C3'-C2' | -5.42 | 97.18 | 102.60 |
| 12 | B | 1152 | C | N3-C4-N4 | 5.42 | 121.80 | 118.00 |
| 12 | B | 1234 | U | C5-C6-N1 | -5.42 | 119.99 | 122.70 |
| 12 | B | 1352 | U | O4'-C1'-N1 | 5.42 | 112.54 | 108.20 |
| 12 | B | 1581 | G | C5'-C4'-O4' | 5.42 | 115.61 | 109.10 |
| 12 | B | 1609 | A | C6-C5-N7 | -5.42 | 128.50 | 132.30 |
| 12 | B | 1940 | U | C5-C6-N1 | -5.42 | 119.99 | 122.70 |
| 12 | B | 2104 | C | N1-C2-O2 | -5.42 | 115.65 | 118.90 |
| 12 | B | 2169 | A | O4'-C1'-N9 | 5.42 | 112.54 | 108.20 |
| 12 | B | 2187 | U | C1'-O4'-C4' | 5.42 | 114.24 | 109.90 |
| 12 | B | 2232 | C | O4'-C1'-N1 | 5.42 | 112.54 | 108.20 |
| 12 | B | 2449 | U | C2-N1-C1' | 5.42 | 124.21 | 117.70 |
| 21 | K | 9 | ASN | CA-CB-CG | -5.42 | 101.47 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 544 | C | C2-N3-C4 | 5.42 | 122.61 | 119.90 |
| 12 | B | 764 | A | C3'-C2'-C1' | 5.42 | 105.84 | 101.50 |
| 12 | B | 1121 | C | N3-C4-C5 | -5.42 | 119.73 | 121.90 |
| 12 | B | 2212 | A | C5'-C4'-O4' | 5.42 | 115.61 | 109.10 |
| 12 | B | 2733 | A | O4'-C1'-N9 | 5.42 | 112.54 | 108.20 |
| 20 | J | 53 | TYR | CB-CG-CD1 | -5.42 | 117.75 | 121.00 |
| 8 | 7 | 45 | PRO | O-C-N | 5.42 | 131.38 | 122.70 |
| 12 | B | 193 | U | N3-C4-O4 | -5.42 | 115.61 | 119.40 |
| 12 | B | 367 | G | N3-C2-N2 | 5.42 | 123.69 | 119.90 |
| 12 | B | 1833 | C | C5-C6-N1 | 5.42 | 123.71 | 121.00 |
| 12 | B | 2139 | U | O4'-C1'-N1 | 5.42 | 112.54 | 108.20 |
| 12 | B | 2542 | A | N1-C2-N3 | 5.42 | 132.01 | 129.30 |
| 12 | B | 2592 | G | N1-C2-N3 | -5.42 | 120.65 | 123.90 |
| 12 | B | 2801 | G | OP1-P-OP2 | -5.42 | 111.47 | 119.60 |
| 10 | 9 | 237 | ARG | N-CA-C | 5.42 | 125.64 | 111.00 |
| 12 | B | 1149 | G | C8-N9-C1' | 5.42 | 134.05 | 127.00 |
| 12 | B | 2116 | G | O4'-C1'-N9 | 5.42 | 112.54 | 108.20 |
| 10 | 9 | 61 | PHE | N-CA-CB | 5.42 | 120.35 | 110.60 |
| 12 | B | 321 | U | C5-C6-N1 | 5.42 | 125.41 | 122.70 |
| 12 | B | 690 | G | O4'-C1'-N9 | 5.42 | 112.53 | 108.20 |
| 12 | B | 738 | G | C6-C5-N7 | -5.42 | 127.15 | 130.40 |
| 12 | B | 905 | A | C5-C6-N1 | -5.42 | 114.99 | 117.70 |
| 12 | B | 1259 | G | N7-C8-N9 | 5.42 | 115.81 | 113.10 |
| 12 | B | 1275 | A | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |
| 12 | B | 1456 | G | N1-C6-O6 | 5.42 | 123.15 | 119.90 |
| 12 | B | 1536 | C | C2-N3-C4 | 5.42 | 122.61 | 119.90 |
| 12 | B | 1892 | C | C2-N3-C4 | -5.42 | 117.19 | 119.90 |
| 12 | B | 1972 | G | C6-N1-C2 | -5.42 | 121.85 | 125.10 |
| 12 | B | 2684 | U | C1'-O4'-C4' | -5.42 | 105.56 | 109.90 |
| 22 | L | 80 | SER | N-CA-CB | 5.42 | 118.63 | 110.50 |
| 30 | T | 90 | GLY | N-CA-C | -5.42 | 99.56 | 113.10 |
| 12 | B | 14 | A | N7-C8-N9 | 5.42 | 116.51 | 113.80 |
| 12 | B | 110 | G | N7-C8-N9 | -5.42 | 110.39 | 113.10 |
| 12 | B | 217 | A | P-O5'-C5' | 5.42 | 129.57 | 120.90 |
| 12 | B | 456 | C | O4'-C1'-N1 | 5.42 | 112.53 | 108.20 |
| 12 | B | 648 | G | C4-N9-C1' | -5.42 | 119.46 | 126.50 |
| 12 | B | 658 | U | P-O5'-C5' | 5.42 | 129.57 | 120.90 |
| 12 | B | 1138 | G | N9-C4-C5 | -5.42 | 103.23 | 105.40 |
| 12 | B | 1476 | U | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |
| 12 | B | 1522 | A | N7-C8-N9 | 5.42 | 116.51 | 113.80 |
| 12 | B | 1745 | A | C5-C6-N1 | -5.42 | 114.99 | 117.70 |
| 12 | B | 2034 | U | C5-C6-N1 | 5.42 | 125.41 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2188 | U | O5'-P-OP1 | -5.42 | 100.82 | 105.70 |
| 12 | B | 2337 | G | N3-C4-N9 | 5.42 | 129.25 | 126.00 |
| 12 | B | 2821 | A | C5-N7-C8 | 5.42 | 106.61 | 103.90 |
| 12 | B | 244 | A | N3-C4-C5 | -5.42 | 123.01 | 126.80 |
| 12 | B | 763 | G | C4'-C3'-C2' | 5.42 | 108.02 | 102.60 |
| 12 | B | 828 | U | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |
| 12 | B | 1103 | A | N1-C2-N3 | -5.42 | 126.59 | 129.30 |
| 12 | B | 1650 | A | O4'-C4'-C3' | -5.42 | 98.58 | 104.00 |
| 10 | 9 | 231 | PHE | CD1-CG-CD2 | -5.41 | 111.26 | 118.30 |
| 12 | B | 177 | G | C5-N7-C8 | 5.41 | 107.01 | 104.30 |
| 12 | B | 345 | A | N1-C2-N3 | -5.41 | 126.59 | 129.30 |
| 12 | B | 1025 | G | C6-N1-C2 | -5.41 | 121.85 | 125.10 |
| 12 | B | 1487 | U | P-O3'-C3' | -5.41 | 113.20 | 119.70 |
| 12 | B | 1583 | A | C6-C5-N7 | -5.41 | 128.51 | 132.30 |
| 12 | B | 1626 | A | C6-C5-N7 | -5.41 | 128.51 | 132.30 |
| 12 | B | 1871 | A | C5-N7-C8 | 5.41 | 106.61 | 103.90 |
| 12 | B | 2225 | A | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 12 | B | 563 | A | P-O3'-C3' | 5.41 | 126.19 | 119.70 |
| 12 | B | 899 | A | C5-C6-N6 | -5.41 | 119.37 | 123.70 |
| 12 | B | 2363 | G | C5-N7-C8 | -5.41 | 101.59 | 104.30 |
| 12 | B | 2659 | G | C5-C6-O6 | -5.41 | 125.35 | 128.60 |
| 12 | B | 2849 | U | C5-C4-O4 | -5.41 | 122.65 | 125.90 |
| 18 | H | 39 | ALA | N-CA-C | -5.41 | 96.39 | 111.00 |
| 11 | A | 29 | A | C8-N9-C4 | 5.41 | 107.96 | 105.80 |
| 12 | B | 22 | C | C2-N3-C4 | -5.41 | 117.19 | 119.90 |
| 12 | B | 226 | A | C5-N7-C8 | 5.41 | 106.61 | 103.90 |
| 12 | B | 287 | G | C4-C5-C6 | 5.41 | 122.05 | 118.80 |
| 12 | B | 622 | G | C5'-C4'-C3' | -5.41 | 107.34 | 116.00 |
| 12 | B | 1053 | C | C4-C5-C6 | -5.41 | 114.69 | 117.40 |
| 12 | B | 1071 | G | P-O5'-C5' | 5.41 | 129.56 | 120.90 |
| 12 | B | 1125 | G | N1-C6-O6 | 5.41 | 123.15 | 119.90 |
| 12 | B | 1794 | A | C6-N1-C2 | 5.41 | 121.85 | 118.60 |
| 12 | B | 2054 | A | N3-C4-N9 | 5.41 | 131.73 | 127.40 |
| 12 | B | 2267 | A | N1-C6-N6 | 5.41 | 121.85 | 118.60 |
| 12 | B | 525 | U | N3-C4-C5 | -5.41 | 111.36 | 114.60 |
| 12 | B | 535 | G | C4'-C3'-C2' | -5.41 | 97.19 | 102.60 |
| 12 | B | 550 | C | C4-C5-C6 | 5.41 | 120.10 | 117.40 |
| 12 | B | 560 | C | C2-N3-C4 | 5.41 | 122.60 | 119.90 |
| 12 | B | 1138 | G | N1-C6-O6 | 5.41 | 123.15 | 119.90 |
| 12 | B | 2035 | G | C8-N9-C4 | -5.41 | 104.24 | 106.40 |
| 12 | B | 2118 | U | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 12 | B | 2402 | U | C5-C4-O4 | -5.41 | 122.66 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 22 | L | 12 | SER | N-CA-CB | 5.41 | 118.61 | 110.50 |
| 26 | P | 39 | LEU | N-CA-C | -5.41 | 96.40 | 111.00 |
| 12 | B | 504 | A | C2-N3-C4 | -5.41 | 107.90 | 110.60 |
| 12 | B | 1140 | C | N3-C4-C5 | 5.41 | 124.06 | 121.90 |
| 12 | B | 1295 | C | N3-C4-C5 | -5.41 | 119.74 | 121.90 |
| 12 | B | 1815 | A | C6-N1-C2 | -5.41 | 115.36 | 118.60 |
| 12 | B | 1896 | G | C5-C6-N1 | 5.41 | 114.20 | 111.50 |
| 12 | B | 2142 | A | C6-N1-C2 | 5.41 | 121.84 | 118.60 |
| 12 | B | 2896 | C | C2-N3-C4 | 5.41 | 122.60 | 119.90 |
| 2 | 1 | 47 | ARG | NE-CZ-NH1 | 5.41 | 123.00 | 120.30 |
| 12 | B | 270 | A | C4-C5-C6 | 5.41 | 119.70 | 117.00 |
| 12 | B | 411 | G | N1-C6-O6 | 5.41 | 123.14 | 119.90 |
| 12 | B | 458 | G | C6-C5-N7 | -5.41 | 127.16 | 130.40 |
| 12 | B | 637 | A | C6-C5-N7 | -5.41 | 128.52 | 132.30 |
| 12 | B | 696 | G | C8-N9-C4 | -5.41 | 104.24 | 106.40 |
| 12 | B | 740 | C | C4-C5-C6 | -5.41 | 114.70 | 117.40 |
| 12 | B | 971 | G | N1-C6-O6 | 5.41 | 123.14 | 119.90 |
| 12 | B | 996 | A | O5'-C5'-C4' | 5.41 | 121.97 | 111.70 |
| 12 | B | 1054 | A | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 12 | B | 1061 | U | C2'-C3'-O3' | 5.41 | 122.35 | 113.70 |
| 12 | B | 1688 | U | C4'-C3'-C2' | -5.41 | 97.19 | 102.60 |
| 12 | B | 1797 | G | N3-C4-N9 | -5.41 | 122.76 | 126.00 |
| 12 | B | 1833 | C | O4'-C4'-C3' | -5.41 | 98.59 | 104.00 |
| 12 | B | 2125 | G | C8-N9-C4 | -5.41 | 104.24 | 106.40 |
| 12 | B | 2380 | C | C5-C4-N4 | -5.41 | 116.42 | 120.20 |
| 13 | C | 51 | ARG | NE-CZ-NH1 | 5.41 | 123.00 | 120.30 |
| 11 | A | 27 | C | N3-C4-N4 | 5.40 | 121.78 | 118.00 |
| 12 | B | 283 | G | C8-N9-C1' | 5.40 | 134.03 | 127.00 |
| 27 | Q | 27 | ARG | NE-CZ-NH2 | 5.40 | 123.00 | 120.30 |
| 11 | A | 19 | C | P-O5'-C5' | 5.40 | 129.54 | 120.90 |
| 12 | B | 164 | C | OP1-P-OP2 | -5.40 | 111.50 | 119.60 |
| 12 | B | 591 | U | C4'-C3'-C2' | -5.40 | 97.20 | 102.60 |
| 12 | B | 664 | G | N1-C2-N2 | 5.40 | 121.06 | 116.20 |
| 12 | B | 717 | C | C5-C6-N1 | -5.40 | 118.30 | 121.00 |
| 12 | B | 745 | G | C3'-C2'-C1' | 5.40 | 105.82 | 101.50 |
| 12 | B | 1448 | G | C3'-C2'-C1' | -5.40 | 97.18 | 101.50 |
| 12 | B | 1613 | G | C5-C6-N1 | -5.40 | 108.80 | 111.50 |
| 12 | B | 1700 | A | N9-C4-C5 | 5.40 | 107.96 | 105.80 |
| 12 | B | 1755 | A | P-O3'-C3' | 5.40 | 126.18 | 119.70 |
| 12 | B | 1901 | A | C4-C5-C6 | 5.40 | 119.70 | 117.00 |
| 12 | B | 2133 | G | N1-C2-N3 | -5.40 | 120.66 | 123.90 |
| 12 | B | 2607 | G | C4'-C3'-C2' | -5.40 | 97.20 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 97 | C | C2-N3-C4 | 5.40 | 122.60 | 119.90 |
| 12 | B | 845 | A | O3'-P-O5' | 5.40 | 114.26 | 104.00 |
| 12 | B | 1122 | G | N1-C2-N3 | -5.40 | 120.66 | 123.90 |
| 12 | B | 1223 | G | O4'-C1'-C2' | 5.40 | 112.46 | 107.60 |
| 12 | B | 1955 | U | N1-C2-O2 | -5.40 | 119.02 | 122.80 |
| 12 | B | 2858 | C | P-O3'-C3' | -5.40 | 113.22 | 119.70 |
| 12 | B | 147 | C | N3-C4-C5 | -5.40 | 119.74 | 121.90 |
| 12 | B | 983 | A | C5-N7-C8 | 5.40 | 106.60 | 103.90 |
| 12 | B | 983 | A | C4-C5-C6 | 5.40 | 119.70 | 117.00 |
| 12 | B | 1225 | G | C4-C5-N7 | -5.40 | 108.64 | 110.80 |
| 12 | B | 1451 | C | C5-C4-N4 | -5.40 | 116.42 | 120.20 |
| 12 | B | 1480 | C | N3-C4-N4 | 5.40 | 121.78 | 118.00 |
| 12 | B | 1726 | C | C5-C6-N1 | 5.40 | 123.70 | 121.00 |
| 12 | B | 1860 | G | C5-N7-C8 | -5.40 | 101.60 | 104.30 |
| 12 | B | 2750 | A | O4'-C1'-N9 | 5.40 | 112.52 | 108.20 |
| 12 | B | 2893 | A | C6-C5-N7 | -5.40 | 128.52 | 132.30 |
| 12 | B | 123 | G | N7-C8-N9 | -5.40 | 110.40 | 113.10 |
| 12 | B | 591 | U | C5-C6-N1 | -5.40 | 120.00 | 122.70 |
| 12 | B | 688 | U | C1'-O4'-C4' | 5.40 | 114.22 | 109.90 |
| 12 | B | 1235 | G | C5-N7-C8 | 5.40 | 107.00 | 104.30 |
| 12 | B | 1970 | A | N1-C2-N3 | 5.40 | 132.00 | 129.30 |
| 12 | B | 2525 | G | O5'-C5'-C4' | -5.40 | 101.44 | 111.70 |
| 12 | B | 2743 | U | OP1-P-OP2 | -5.40 | 111.50 | 119.60 |
| 12 | B | 39 | G | N1-C6-O6 | 5.40 | 123.14 | 119.90 |
| 12 | B | 517 | C | P-O3'-C3' | -5.40 | 113.22 | 119.70 |
| 12 | B | 804 | A | OP1-P-O3' | 5.40 | 117.07 | 105.20 |
| 12 | B | 1922 | G | C1'-O4'-C4' | -5.40 | 105.58 | 109.90 |
| 12 | B | 2083 | G | N1-C2-N2 | -5.40 | 111.34 | 116.20 |
| 12 | B | 2458 | G | C8-N9-C1' | -5.40 | 119.98 | 127.00 |
| 11 | A | 110 | C | OP1-P-OP2 | -5.39 | 111.51 | 119.60 |
| 12 | B | 37 | C | C5-C4-N4 | -5.39 | 116.42 | 120.20 |
| 12 | B | 163 | C | C5'-C4'-O4' | 5.39 | 115.57 | 109.10 |
| 12 | B | 314 | C | N1-C2-N3 | -5.39 | 115.42 | 119.20 |
| 12 | B | 734 | A | O4'-C1'-N9 | 5.39 | 112.52 | 108.20 |
| 12 | B | 1028 | A | C1'-O4'-C4' | -5.39 | 105.58 | 109.90 |
| 12 | B | 1298 | C | O4'-C1'-N1 | 5.39 | 112.52 | 108.20 |
| 12 | B | 1339 | G | C2-N3-C4 | 5.39 | 114.60 | 111.90 |
| 12 | B | 1418 | G | O5'-P-OP2 | -5.39 | 100.84 | 105.70 |
| 12 | B | 1863 | G | C4-C5-C6 | 5.39 | 122.04 | 118.80 |
| 12 | B | 2466 | C | C4-C5-C6 | 5.39 | 120.10 | 117.40 |
| 12 | B | 2596 | U | C5'-C4'-C3' | 5.39 | 124.63 | 116.00 |
| 12 | B | 2801 | G | N1-C6-O6 | 5.39 | 123.14 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | 0 | 27 | ARG | NE-CZ-NH1 | 5.39 | 123.00 | 120.30 |
| 12 | B | 39 | G | C4-C5-N7 | -5.39 | 108.64 | 110.80 |
| 12 | B | 189 | G | C4-N9-C1' | 5.39 | 133.51 | 126.50 |
| 12 | B | 301 | G | N3-C4-N9 | 5.39 | 129.24 | 126.00 |
| 12 | B | 412 | A | C2-N3-C4 | -5.39 | 107.90 | 110.60 |
| 12 | B | 494 | G | C4'-C3'-C2' | -5.39 | 97.21 | 102.60 |
| 12 | B | 626 | A | P-O3'-C3' | 5.39 | 126.17 | 119.70 |
| 12 | B | 1417 | C | N1-C1'-C2' | 5.39 | 121.01 | 114.00 |
| 12 | B | 1552 | A | C5-C6-N6 | -5.39 | 119.39 | 123.70 |
| 12 | B | 1653 | G | C4-C5-C6 | 5.39 | 122.03 | 118.80 |
| 12 | B | 1818 | U | P-O3'-C3' | 5.39 | 126.17 | 119.70 |
| 12 | B | 1859 | U | N1-C2-O2 | 5.39 | 126.57 | 122.80 |
| 12 | B | 1980 | G | P-O5'-C5' | -5.39 | 112.27 | 120.90 |
| 12 | B | 2583 | G | C5-C6-N1 | -5.39 | 108.80 | 111.50 |
| 12 | B | 2745 | C | N1-C2-O2 | -5.39 | 115.66 | 118.90 |
| 21 | K | 100 | PHE | CB-CG-CD1 | 5.39 | 124.57 | 120.80 |
| 22 | L | 2 | ARG | NE-CZ-NH2 | -5.39 | 117.60 | 120.30 |
| 12 | B | 183 | C | C2-N1-C1' | 5.39 | 124.73 | 118.80 |
| 12 | B | 578 | G | O4'-C1'-N9 | 5.39 | 112.51 | 108.20 |
| 12 | B | 625 | G | P-O3'-C3' | -5.39 | 113.23 | 119.70 |
| 12 | B | 1389 | G | N3-C4-N9 | -5.39 | 122.77 | 126.00 |
| 12 | B | 1890 | A | N9-C4-C5 | 5.39 | 107.96 | 105.80 |
| 18 | H | 130 | VAL | CA-CB-CG2 | -5.39 | 102.81 | 110.90 |
| 12 | B | 48 | G | O4'-C1'-N9 | 5.39 | 112.51 | 108.20 |
| 12 | B | 845 | A | C4-C5-N7 | -5.39 | 108.01 | 110.70 |
| 12 | B | 990 | A | C5-C6-N6 | -5.39 | 119.39 | 123.70 |
| 12 | B | 1288 | G | C6-C5-N7 | -5.39 | 127.17 | 130.40 |
| 12 | B | 1702 | G | C4-N9-C1' | -5.39 | 119.49 | 126.50 |
| 12 | B | 2162 | G | C2-N3-C4 | 5.39 | 114.59 | 111.90 |
| 12 | B | 2217 | G | O4'-C1'-N9 | 5.39 | 112.51 | 108.20 |
| 12 | B | 2388 | A | N9-C4-C5 | 5.39 | 107.96 | 105.80 |
| 12 | B | 2721 | A | N9-C4-C5 | 5.39 | 107.96 | 105.80 |
| 12 | B | 180 | G | N1-C2-N3 | -5.39 | 120.67 | 123.90 |
| 12 | B | 794 | A | C4-C5-C6 | 5.39 | 119.69 | 117.00 |
| 12 | B | 899 | A | C5-C6-N1 | -5.39 | 115.01 | 117.70 |
| 12 | B | 1489 | C | N3-C4-N4 | 5.39 | 121.77 | 118.00 |
| 12 | B | 2618 | G | C4-C5-N7 | -5.39 | 108.64 | 110.80 |
| 12 | B | 2668 | G | C6-N1-C2 | 5.39 | 128.33 | 125.10 |
| 12 | B | 2670 | A | N9-C4-C5 | 5.39 | 107.95 | 105.80 |
| 12 | B | 2820 | A | N1-C6-N6 | 5.39 | 121.83 | 118.60 |
| 17 | G | 54 | ARG | NE-CZ-NH1 | 5.39 | 122.99 | 120.30 |
| 12 | B | 22 | C | N1-C2-N3 | 5.39 | 122.97 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 89 | A | C5-N7-C8 | 5.39 | 106.59 | 103.90 |
| 12 | B | 1053 | C | N3-C4-C5 | 5.39 | 124.06 | 121.90 |
| 12 | B | 1165 | A | N1-C2-N3 | -5.39 | 126.61 | 129.30 |
| 12 | B | 1244 | A | C4'-C3'-C2' | -5.39 | 97.21 | 102.60 |
| 12 | B | 1387 | A | N3-C4-N9 | 5.39 | 131.71 | 127.40 |
| 12 | B | 2285 | C | C5-C6-N1 | 5.39 | 123.69 | 121.00 |
| 12 | B | 2348 | U | N3-C2-O2 | -5.39 | 118.43 | 122.20 |
| 12 | B | 2349 | G | C5-N7-C8 | 5.39 | 106.99 | 104.30 |
| 12 | B | 2380 | C | C6-N1-C2 | -5.39 | 118.15 | 120.30 |
| 10 | 9 | 116 | LEU | CB-CA-C | -5.38 | 99.97 | 110.20 |
| 11 | A | 15 | A | C1'-O4'-C4' | -5.38 | 105.59 | 109.90 |
| 12 | B | 24 | G | C8-N9-C4 | -5.38 | 104.25 | 106.40 |
| 12 | B | 78 | U | N1-C2-N3 | -5.38 | 111.67 | 114.90 |
| 12 | B | 109 | C | C4'-C3'-C2' | -5.38 | 97.22 | 102.60 |
| 12 | B | 205 | G | C6-C5-N7 | -5.38 | 127.17 | 130.40 |
| 12 | B | 348 | A | C2-N3-C4 | -5.38 | 107.91 | 110.60 |
| 12 | B | 377 | G | C8-N9-C4 | -5.38 | 104.25 | 106.40 |
| 12 | B | 400 | G | N3-C4-C5 | 5.38 | 131.29 | 128.60 |
| 12 | B | 599 | A | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 12 | B | 1190 | G | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 12 | B | 1245 | G | C3'-C2'-C1' | -5.38 | 97.19 | 101.50 |
| 12 | B | 1248 | G | N1-C2-N3 | -5.38 | 120.67 | 123.90 |
| 12 | B | 1346 | G | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 12 | B | 1529 | G | N3-C4-N9 | 5.38 | 129.23 | 126.00 |
| 12 | B | 2249 | U | C4-C5-C6 | -5.38 | 116.47 | 119.70 |
| 12 | B | 2773 | C | C4-C5-C6 | 5.38 | 120.09 | 117.40 |
| 12 | B | 2826 | A | C5-C6-N6 | -5.38 | 119.39 | 123.70 |
| 12 | B | 2893 | A | C5'-C4'-O4' | 5.38 | 115.56 | 109.10 |
| 12 | B | 55 | G | C2-N3-C4 | -5.38 | 109.21 | 111.90 |
| 12 | B | 368 | A | C6-C5-N7 | -5.38 | 128.53 | 132.30 |
| 12 | B | 559 | G | C4-C5-N7 | 5.38 | 112.95 | 110.80 |
| 12 | B | 768 | G | N3-C4-N9 | -5.38 | 122.77 | 126.00 |
| 12 | B | 1156 | A | C3'-C2'-C1' | -5.38 | 97.19 | 101.50 |
| 12 | B | 1383 | A | P-O5'-C5' | -5.38 | 112.29 | 120.90 |
| 12 | B | 2097 | A | C3'-C2'-C1' | -5.38 | 97.19 | 101.50 |
| 12 | B | 2599 | G | N9-C4-C5 | -5.38 | 103.25 | 105.40 |
| 12 | B | 1342 | A | C6-N1-C2 | 5.38 | 121.83 | 118.60 |
| 12 | B | 1638 | C | C4'-C3'-C2' | -5.38 | 97.22 | 102.60 |
| 12 | B | 1881 | C | N3-C2-O2 | 5.38 | 125.67 | 121.90 |
| 12 | B | 2150 | C | N3-C4-C5 | -5.38 | 119.75 | 121.90 |
| 12 | B | 2195 | U | OP1-P-OP2 | -5.38 | 111.53 | 119.60 |
| 12 | B | 2575 | C | N1-C2-O2 | 5.38 | 122.13 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2623 | G | C6-C5-N7 | -5.38 | 127.17 | 130.40 |
| 12 | B | 2662 | A | C3'-C2'-C1' | -5.38 | 97.19 | 101.50 |
| 12 | B | 2699 | C | O4'-C1'-N1 | 5.38 | 112.50 | 108.20 |
| 12 | B | 2737 | G | C8-N9-C4 | -5.38 | 104.25 | 106.40 |
| 15 | E | 142 | ALA | CB-CA-C | 5.38 | 118.17 | 110.10 |
| 10 | 9 | 272 | ASP | N-CA-CB | 5.38 | 120.28 | 110.60 |
| 11 | A | 76 | G | C6-C5-N7 | -5.38 | 127.17 | 130.40 |
| 12 | B | 492 | A | C4-C5-N7 | -5.38 | 108.01 | 110.70 |
| 12 | B | 573 | U | C5'-C4'-O4' | 5.38 | 115.56 | 109.10 |
| 12 | B | 575 | A | OP1-P-OP2 | -5.38 | 111.53 | 119.60 |
| 12 | B | 856 | G | N3-C4-C5 | 5.38 | 131.29 | 128.60 |
| 12 | B | 1047 | G | C6-C5-N7 | -5.38 | 127.17 | 130.40 |
| 12 | B | 1335 | C | N3-C4-C5 | -5.38 | 119.75 | 121.90 |
| 12 | B | 2241 | A | C4'-C3'-C2' | -5.38 | 97.22 | 102.60 |
| 20 | J | 89 | PHE | CB-CG-CD2 | 5.38 | 124.57 | 120.80 |
| 11 | A | 23 | G | N1-C6-O6 | 5.38 | 123.13 | 119.90 |
| 11 | A | 93 | C | N3-C4-N4 | 5.38 | 121.77 | 118.00 |
| 12 | B | 227 | A | C2-N3-C4 | -5.38 | 107.91 | 110.60 |
| 12 | B | 547 | A | O4'-C1'-N9 | 5.38 | 112.50 | 108.20 |
| 12 | B | 721 | A | C8-N9-C4 | -5.38 | 103.65 | 105.80 |
| 12 | B | 806 | C | C4-C5-C6 | 5.38 | 120.09 | 117.40 |
| 12 | B | 959 | A | C5-N7-C8 | 5.38 | 106.59 | 103.90 |
| 12 | B | 1090 | A | N7-C8-N9 | 5.38 | 116.49 | 113.80 |
| 12 | B | 1201 | U | O4'-C4'-C3' | -5.38 | 98.62 | 104.00 |
| 12 | B | 1537 | G | C4-N9-C1' | 5.38 | 133.49 | 126.50 |
| 12 | B | 1747 | U | C2-N1-C1' | -5.38 | 111.25 | 117.70 |
| 12 | B | 2082 | A | N3-C4-N9 | 5.38 | 131.70 | 127.40 |
| 11 | A | 43 | C | O4'-C1'-N1 | 5.38 | 112.50 | 108.20 |
| 11 | A | 102 | G | N9-C4-C5 | 5.38 | 107.55 | 105.40 |
| 12 | B | 380 | G | N9-C4-C5 | -5.38 | 103.25 | 105.40 |
| 12 | B | 722 | A | C5-C6-N1 | -5.38 | 115.01 | 117.70 |
| 12 | B | 1102 | C | C2'-C3'-O3' | 5.38 | 122.30 | 113.70 |
| 12 | B | 1995 | U | N3-C4-O4 | 5.38 | 123.16 | 119.40 |
| 12 | B | 2381 | A | N3-C4-C5 | -5.38 | 123.04 | 126.80 |
| 12 | B | 2697 | G | N1-C2-N3 | -5.38 | 120.67 | 123.90 |
| 12 | B | 2718 | G | O4'-C1'-N9 | 5.38 | 112.50 | 108.20 |
| 18 | H | 42 | LYS | C-N-CA | 5.38 | 135.14 | 121.70 |
| 12 | B | 423 | A | N3-C4-N9 | 5.38 | 131.70 | 127.40 |
| 12 | B | 824 | U | C5-C6-N1 | 5.38 | 125.39 | 122.70 |
| 12 | B | 1452 | G | C5-C6-N1 | -5.38 | 108.81 | 111.50 |
| 12 | B | 1613 | G | C4-C5-N7 | -5.38 | 108.65 | 110.80 |
| 12 | B | 1917 | U | C3'-C2'-C1' | 5.38 | 105.80 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2139 | U | C2-N3-C4 | -5.38 | 123.78 | 127.00 |
| 12 | B | 2885 | G | O4'-C1'-C2' | -5.38 | 100.42 | 105.80 |
| 12 | B | 2894 | G | N1-C2-N2 | -5.38 | 111.36 | 116.20 |
| 6 | 5 | 164 | ARG | NE-CZ-NH1 | 5.37 | 122.99 | 120.30 |
| 12 | B | 136 | G | OP1-P-OP2 | -5.37 | 111.54 | 119.60 |
| 12 | B | 328 | U | P-O3'-C3' | -5.37 | 113.25 | 119.70 |
| 12 | B | 735 | A | C6-N1-C2 | -5.37 | 115.38 | 118.60 |
| 12 | B | 927 | A | C2-N3-C4 | -5.37 | 107.91 | 110.60 |
| 12 | B | 1333 | G | N1-C2-N3 | -5.37 | 120.67 | 123.90 |
| 12 | B | 1616 | A | N9-C4-C5 | 5.37 | 107.95 | 105.80 |
| 12 | B | 1887 | C | C6-N1-C2 | 5.37 | 122.45 | 120.30 |
| 12 | B | 2430 | A | N9-C4-C5 | -5.37 | 103.65 | 105.80 |
| 12 | B | 2598 | A | N7-C8-N9 | -5.37 | 111.11 | 113.80 |
| 12 | B | 226 | A | C1'-O4'-C4' | 5.37 | 114.20 | 109.90 |
| 12 | B | 613 | A | C6-C5-N7 | -5.37 | 128.54 | 132.30 |
| 12 | B | 792 | A | C1'-O4'-C4' | -5.37 | 105.60 | 109.90 |
| 12 | B | 957 | C | C5'-C4'-C3' | -5.37 | 107.41 | 116.00 |
| 12 | B | 1631 | G | C5-C6-O6 | -5.37 | 125.38 | 128.60 |
| 12 | B | 1742 | U | N1-C2-N3 | 5.37 | 118.12 | 114.90 |
| 12 | B | 1753 | G | C5'-C4'-O4' | 5.37 | 115.55 | 109.10 |
| 12 | B | 1800 | C | C5-C4-N4 | -5.37 | 116.44 | 120.20 |
| 12 | B | 1857 | G | C5-C6-N1 | -5.37 | 108.81 | 111.50 |
| 12 | B | 2132 | U | C4-C5-C6 | -5.37 | 116.48 | 119.70 |
| 12 | B | 2140 | G | O4'-C1'-N9 | 5.37 | 112.50 | 108.20 |
| 12 | B | 2795 | C | C6-N1-C1' | -5.37 | 114.35 | 120.80 |
| 12 | B | 2892 | G | C5'-C4'-C3' | 5.37 | 124.59 | 116.00 |
| 16 | F | 153 | ILE | N-CA-CB | 5.37 | 123.16 | 110.80 |
| 6 | 5 | 101 | ALA | N-CA-CB | 5.37 | 117.62 | 110.10 |
| 12 | B | 1473 | G | N3-C2-N2 | 5.37 | 123.66 | 119.90 |
| 12 | B | 2564 | A | P-O3'-C3' | 5.37 | 126.14 | 119.70 |
| 11 | A | 58 | A | C4-N9-C1' | 5.37 | 135.96 | 126.30 |
| 12 | B | 1273 | U | C4'-C3'-C2' | -5.37 | 97.23 | 102.60 |
| 12 | B | 1543 | G | O4'-C1'-N9 | 5.37 | 112.50 | 108.20 |
| 12 | B | 1563 | U | N3-C4-O4 | 5.37 | 123.16 | 119.40 |
| 12 | B | 1831 | G | C8-N9-C4 | 5.37 | 108.55 | 106.40 |
| 12 | B | 1963 | U | O4'-C4'-C3' | -5.37 | 98.63 | 104.00 |
| 12 | B | 2063 | C | O4'-C4'-C3' | -5.37 | 98.63 | 104.00 |
| 12 | B | 2124 | G | N9-C4-C5 | -5.37 | 103.25 | 105.40 |
| 12 | B | 2136 | G | C6-N1-C2 | -5.37 | 121.88 | 125.10 |
| 12 | B | 2152 | G | C5-C6-N1 | -5.37 | 108.82 | 111.50 |
| 12 | B | 2489 | U | N3-C4-C5 | -5.37 | 111.38 | 114.60 |
| 12 | B | 1044 | C | C6-N1-C2 | 5.37 | 122.45 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1109 | C | P-O5'-C5' | -5.37 | 112.31 | 120.90 |
| 12 | B | 1149 | G | N1-C2-N2 | -5.37 | 111.37 | 116.20 |
| 12 | B | 1280 | G | N1-C2-N3 | -5.37 | 120.68 | 123.90 |
| 12 | B | 1940 | U | N1-C2-N3 | -5.37 | 111.68 | 114.90 |
| 22 | L | 107 | PHE | CB-CG-CD2 | -5.37 | 117.04 | 120.80 |
| 12 | B | 245 | G | O4'-C1'-N9 | 5.37 | 112.49 | 108.20 |
| 12 | B | 770 | G | C6-C5-N7 | -5.37 | 127.18 | 130.40 |
| 12 | B | 1287 | A | C4-C5-C6 | 5.37 | 119.68 | 117.00 |
| 12 | B | 1612 | C | P-O5'-C5' | 5.37 | 129.49 | 120.90 |
| 12 | B | 1676 | A | C4-C5-N7 | -5.37 | 108.02 | 110.70 |
| 11 | A | 73 | A | C6-N1-C2 | -5.36 | 115.38 | 118.60 |
| 12 | B | 140 | C | N3-C4-C5 | 5.36 | 124.05 | 121.90 |
| 12 | B | 364 | C | C2-N1-C1' | 5.36 | 124.70 | 118.80 |
| 12 | B | 381 | G | C6-C5-N7 | -5.36 | 127.18 | 130.40 |
| 12 | B | 732 | C | N1-C2-N3 | -5.36 | 115.44 | 119.20 |
| 12 | B | 1096 | A | C6-C5-N7 | -5.36 | 128.54 | 132.30 |
| 12 | B | 1960 | A | OP1-P-OP2 | -5.36 | 111.56 | 119.60 |
| 12 | B | 2093 | G | N3-C4-C5 | -5.36 | 125.92 | 128.60 |
| 12 | B | 2321 | U | C6-N1-C2 | -5.36 | 117.78 | 121.00 |
| 12 | B | 2553 | G | C5-N7-C8 | -5.36 | 101.62 | 104.30 |
| 12 | B | 2608 | G | C6-C5-N7 | -5.36 | 127.18 | 130.40 |
| 12 | B | 2641 | G | N3-C2-N2 | 5.36 | 123.66 | 119.90 |
| 12 | B | 2680 | U | C4'-C3'-C2' | -5.36 | 97.24 | 102.60 |
| 12 | B | 2727 | A | C8-N9-C4 | -5.36 | 103.66 | 105.80 |
| 22 | L | 136 | GLU | OE1-CD-OE2 | 5.36 | 129.74 | 123.30 |
| 12 | B | 278 | A | N9-C4-C5 | 5.36 | 107.94 | 105.80 |
| 12 | B | 332 | A | C6-C5-N7 | -5.36 | 128.55 | 132.30 |
| 12 | B | 1081 | U | N1-C2-N3 | -5.36 | 111.68 | 114.90 |
| 12 | B | 1268 | A | C1'-O4'-C4' | -5.36 | 105.61 | 109.90 |
| 12 | B | 1291 | C | N3-C4-N4 | 5.36 | 121.75 | 118.00 |
| 12 | B | 2216 | G | C5-C6-O6 | -5.36 | 125.38 | 128.60 |
| 24 | N | 1 | MET | C-N-CA | 5.36 | 135.10 | 121.70 |
| 12 | B | 156 | A | N1-C6-N6 | 5.36 | 121.82 | 118.60 |
| 12 | B | 541 | A | C4-C5-C6 | 5.36 | 119.68 | 117.00 |
| 12 | B | 1520 | U | C5-C6-N1 | 5.36 | 125.38 | 122.70 |
| 12 | B | 2204 | G | C5-C6-N1 | -5.36 | 108.82 | 111.50 |
| 12 | B | 2434 | A | C4-C5-C6 | 5.36 | 119.68 | 117.00 |
| 11 | A | 29 | A | C6-C5-N7 | -5.36 | 128.55 | 132.30 |
| 12 | B | 613 | A | N9-C4-C5 | -5.36 | 103.66 | 105.80 |
| 12 | B | 971 | G | C6-N1-C2 | 5.36 | 128.31 | 125.10 |
| 12 | B | 1334 | G | C8-N9-C4 | -5.36 | 104.26 | 106.40 |
| 12 | B | 1773 | A | C6-N1-C2 | -5.36 | 115.39 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1916 | A | C5'-C4'-C3' | 5.36 | 124.57 | 116.00 |
| 16 | F | 172 | PHE | CB-CG-CD2 | 5.36 | 124.55 | 120.80 |
| 12 | B | 323 | C | C5-C6-N1 | -5.36 | 118.32 | 121.00 |
| 12 | B | 674 | G | C3'-C2'-C1' | -5.36 | 97.21 | 101.50 |
| 12 | B | 1018 | U | O4'-C1'-N1 | 5.36 | 112.49 | 108.20 |
| 12 | B | 1032 | A | C8-N9-C4 | 5.36 | 107.94 | 105.80 |
| 12 | B | 1098 | A | C4'-C3'-C2' | 5.36 | 107.96 | 102.60 |
| 12 | B | 1200 | C | P-O3'-C3' | -5.36 | 113.27 | 119.70 |
| 12 | B | 1360 | G | C5-C6-N1 | -5.36 | 108.82 | 111.50 |
| 12 | B | 1593 | A | C2-N3-C4 | -5.36 | 107.92 | 110.60 |
| 12 | B | 1740 | G | O4'-C1'-N9 | 5.36 | 112.49 | 108.20 |
| 12 | B | 2544 | G | N3-C2-N2 | 5.36 | 123.65 | 119.90 |
| 12 | B | 2573 | C | C2-N1-C1' | 5.36 | 124.69 | 118.80 |
| 12 | B | 2574 | G | N7-C8-N9 | -5.36 | 110.42 | 113.10 |
| 12 | B | 2756 | U | C5-C4-O4 | -5.36 | 122.69 | 125.90 |
| 12 | B | 2793 | C | P-O3'-C3' | 5.36 | 126.13 | 119.70 |
| 12 | B | 1315 | C | N1-C2-N3 | -5.36 | 115.45 | 119.20 |
| 12 | B | 1585 | C | C2-N1-C1' | 5.36 | 124.69 | 118.80 |
| 12 | B | 2064 | C | C5-C6-N1 | 5.36 | 123.68 | 121.00 |
| 12 | B | 2720 | U | N3-C2-O2 | 5.36 | 125.95 | 122.20 |
| 12 | B | 2731 | G | C2-N3-C4 | 5.36 | 114.58 | 111.90 |
| 12 | B | 220 | G | C5-C6-N1 | -5.35 | 108.82 | 111.50 |
| 12 | B | 1031 | G | C8-N9-C4 | 5.35 | 108.54 | 106.40 |
| 12 | B | 1210 | G | N3-C2-N2 | 5.35 | 123.65 | 119.90 |
| 12 | B | 2252 | G | N3-C2-N2 | 5.35 | 123.65 | 119.90 |
| 1 | 0 | 51 | SER | N-CA-CB | 5.35 | 118.53 | 110.50 |
| 12 | B | 243 | U | P-O5'-C5' | 5.35 | 129.46 | 120.90 |
| 12 | B | 468 | G | O4'-C1'-N9 | 5.35 | 112.48 | 108.20 |
| 12 | B | 825 | A | O4'-C1'-N9 | 5.35 | 112.48 | 108.20 |
| 12 | B | 961 | C | N1-C2-N3 | -5.35 | 115.45 | 119.20 |
| 12 | B | 1110 | G | N7-C8-N9 | -5.35 | 110.42 | 113.10 |
| 12 | B | 1486 | U | C5-C4-O4 | 5.35 | 129.11 | 125.90 |
| 12 | B | 1488 | C | C4'-C3'-C2' | -5.35 | 97.25 | 102.60 |
| 12 | B | 1787 | A | N3-C4-C5 | -5.35 | 123.05 | 126.80 |
| 12 | B | 2170 | A | C4-C5-C6 | 5.35 | 119.68 | 117.00 |
| 12 | B | 2181 | U | C1'-O4'-C4' | -5.35 | 105.62 | 109.90 |
| 12 | B | 2734 | A | N7-C8-N9 | -5.35 | 111.12 | 113.80 |
| 12 | B | 2810 | A | N3-C4-C5 | -5.35 | 123.05 | 126.80 |
| 12 | B | 769 | U | N1-C2-O2 | -5.35 | 119.05 | 122.80 |
| 12 | B | 1642 | G | C4-C5-N7 | -5.35 | 108.66 | 110.80 |
| 12 | B | 2666 | C | N3-C4-N4 | 5.35 | 121.75 | 118.00 |
| 18 | H | 46 | PHE | CB-CG-CD1 | 5.35 | 124.55 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 285 | G | N3-C4-N9 | 5.35 | 129.21 | 126.00 |
| 12 | B | 467 | G | C4-C5-C6 | 5.35 | 122.01 | 118.80 |
| 12 | B | 566 | U | C3'-C2'-C1' | 5.35 | 105.78 | 101.50 |
| 12 | B | 603 | A | C5'-C4'-C3' | -5.35 | 107.44 | 116.00 |
| 12 | B | 636 | G | C5-C6-O6 | -5.35 | 125.39 | 128.60 |
| 12 | B | 940 | G | C3'-C2'-C1' | -5.35 | 97.22 | 101.50 |
| 12 | B | 1039 | A | P-O5'-C5' | 5.35 | 129.46 | 120.90 |
| 12 | B | 1491 | G | C3'-C2'-C1' | 5.35 | 105.78 | 101.50 |
| 12 | B | 1537 | G | C5-N7-C8 | 5.35 | 106.97 | 104.30 |
| 12 | B | 1635 | A | C6-N1-C2 | -5.35 | 115.39 | 118.60 |
| 12 | B | 2291 | U | C5'-C4'-O4' | 5.35 | 115.52 | 109.10 |
| 12 | B | 2388 | A | C3'-C2'-C1' | 5.35 | 105.78 | 101.50 |
| 12 | B | 2673 | G | C4'-C3'-C2' | -5.35 | 97.25 | 102.60 |
| 13 | C | 219 | VAL | CA-CB-CG1 | -5.35 | 102.88 | 110.90 |
| 10 | 9 | 44 | ASP | CB-CG-OD2 | -5.35 | 113.49 | 118.30 |
| 12 | B | 225 | C | P-O5'-C5' | 5.35 | 129.46 | 120.90 |
| 12 | B | 339 | U | C1'-O4'-C4' | 5.35 | 114.18 | 109.90 |
| 12 | B | 490 | C | C2-N3-C4 | -5.35 | 117.23 | 119.90 |
| 12 | B | 529 | A | P-O3'-C3' | -5.35 | 113.28 | 119.70 |
| 12 | B | 911 | A | C5-C6-N1 | -5.35 | 115.03 | 117.70 |
| 12 | B | 961 | C | N3-C4-N4 | 5.35 | 121.74 | 118.00 |
| 12 | B | 1031 | G | C6-N1-C2 | 5.35 | 128.31 | 125.10 |
| 12 | B | 1059 | G | C5-C6-O6 | -5.35 | 125.39 | 128.60 |
| 12 | B | 1979 | U | OP1-P-OP2 | -5.35 | 111.58 | 119.60 |
| 12 | B | 2353 | G | C5-C6-N1 | -5.35 | 108.83 | 111.50 |
| 12 | B | 2650 | U | N1-C2-O2 | -5.35 | 119.06 | 122.80 |
| 25 | O | 89 | ASP | CB-CG-OD2 | -5.35 | 113.49 | 118.30 |
| 27 | Q | 100 | PHE | CB-CG-CD2 | 5.35 | 124.54 | 120.80 |
| 12 | B | 379 | G | C8-N9-C1' | 5.35 | 133.95 | 127.00 |
| 12 | B | 387 | U | N3-C2-O2 | 5.35 | 125.94 | 122.20 |
| 12 | B | 420 | C | P-O3'-C3' | 5.35 | 126.11 | 119.70 |
| 12 | B | 1051 | G | N3-C4-C5 | -5.35 | 125.93 | 128.60 |
| 12 | B | 1298 | C | C6-N1-C2 | -5.35 | 118.16 | 120.30 |
| 12 | B | 1543 | G | N1-C6-O6 | 5.35 | 123.11 | 119.90 |
| 11 | A | 96 | G | C8-N9-C1' | 5.34 | 133.95 | 127.00 |
| 12 | B | 164 | C | C4'-C3'-C2' | -5.34 | 97.26 | 102.60 |
| 12 | B | 262 | A | N3-C4-N9 | -5.34 | 123.12 | 127.40 |
| 12 | B | 706 | A | N1-C6-N6 | 5.34 | 121.81 | 118.60 |
| 12 | B | 1216 | G | C1'-O4'-C4' | -5.34 | 105.62 | 109.90 |
| 12 | B | 2172 | U | C1'-O4'-C4' | -5.34 | 105.62 | 109.90 |
| 12 | B | 2691 | C | P-O5'-C5' | 5.34 | 129.45 | 120.90 |
| 12 | B | 2870 | C | P-O5'-C5' | 5.34 | 129.45 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 86 | G | N1-C6-O6 | 5.34 | 123.11 | 119.90 |
| 12 | B | 169 | G | C4-N9-C1' | -5.34 | 119.55 | 126.50 |
| 12 | B | 468 | G | C6-C5-N7 | -5.34 | 127.19 | 130.40 |
| 12 | B | 1231 | U | N3-C4-O4 | 5.34 | 123.14 | 119.40 |
| 12 | B | 1562 | U | N3-C4-C5 | -5.34 | 111.39 | 114.60 |
| 12 | B | 1688 | U | OP1-P-O3' | 5.34 | 116.95 | 105.20 |
| 4 | 3 | 47 | TYR | CB-CG-CD2 | -5.34 | 117.80 | 121.00 |
| 12 | B | 340 | A | C5-C6-N6 | -5.34 | 119.43 | 123.70 |
| 12 | B | 495 | G | C8-N9-C1' | 5.34 | 133.94 | 127.00 |
| 12 | B | 645 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 12 | B | 696 | G | C2-N3-C4 | 5.34 | 114.57 | 111.90 |
| 12 | B | 805 | G | C5-N7-C8 | 5.34 | 106.97 | 104.30 |
| 12 | B | 898 | C | P-O3'-C3' | 5.34 | 126.11 | 119.70 |
| 12 | B | 990 | A | C4-C5-N7 | 5.34 | 113.37 | 110.70 |
| 12 | B | 1108 | U | C5-C4-O4 | 5.34 | 129.10 | 125.90 |
| 12 | B | 1133 | A | O4'-C1'-N9 | -5.34 | 103.93 | 108.20 |
| 12 | B | 1288 | G | C4-C5-C6 | 5.34 | 122.00 | 118.80 |
| 12 | B | 1298 | C | C4-C5-C6 | 5.34 | 120.07 | 117.40 |
| 12 | B | 1321 | A | C5-N7-C8 | 5.34 | 106.57 | 103.90 |
| 12 | B | 1481 | U | C5'-C4'-C3' | 5.34 | 124.55 | 116.00 |
| 12 | B | 1512 | C | C5'-C4'-O4' | 5.34 | 115.51 | 109.10 |
| 12 | B | 1681 | G | N3-C4-N9 | -5.34 | 122.80 | 126.00 |
| 12 | B | 1952 | A | O4'-C1'-N9 | 5.34 | 112.47 | 108.20 |
| 12 | B | 2396 | G | C4-C5-C6 | 5.34 | 122.00 | 118.80 |
| 12 | B | 2416 | C | N1-C2-O2 | 5.34 | 122.11 | 118.90 |
| 12 | B | 2498 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 18 | H | 23 | ALA | N-CA-CB | 5.34 | 117.58 | 110.10 |
| 11 | A | 96 | G | C6-C5-N7 | -5.34 | 127.20 | 130.40 |
| 11 | A | 117 | G | C5-N7-C8 | -5.34 | 101.63 | 104.30 |
| 12 | B | 124 | G | N3-C2-N2 | 5.34 | 123.64 | 119.90 |
| 12 | B | 183 | C | N1-C1'-C2' | -5.34 | 106.13 | 112.00 |
| 12 | B | 491 | G | C6-C5-N7 | -5.34 | 127.20 | 130.40 |
| 12 | B | 1475 | G | C5-C6-O6 | -5.34 | 125.40 | 128.60 |
| 12 | B | 1491 | G | P-O5'-C5' | 5.34 | 129.44 | 120.90 |
| 12 | B | 1597 | A | P-O3'-C3' | 5.34 | 126.11 | 119.70 |
| 12 | B | 1642 | G | OP1-P-OP2 | -5.34 | 111.59 | 119.60 |
| 12 | B | 1756 | G | C1'-O4'-C4' | 5.34 | 114.17 | 109.90 |
| 12 | B | 2037 | A | C5'-C4'-C3' | -5.34 | 107.46 | 116.00 |
| 12 | B | 2700 | A | OP1-P-O3' | 5.34 | 116.94 | 105.20 |
| 12 | B | 2825 | G | N9-C1'-C2' | -5.34 | 106.13 | 112.00 |
| 13 | C | 189 | ALA | CB-CA-C | -5.34 | 102.09 | 110.10 |
| 12 | B | 749 | A | P-O5'-C5' | -5.34 | 112.36 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 827 | U | O4'-C1'-C2' | 5.34 | 112.41 | 107.60 |
| 12 | B | 1316 | U | C5-C6-N1 | 5.34 | 125.37 | 122.70 |
| 12 | B | 1580 | A | N7-C8-N9 | -5.34 | 111.13 | 113.80 |
| 12 | B | 1943 | U | P-O3'-C3' | 5.34 | 126.11 | 119.70 |
| 12 | B | 2720 | U | O4'-C1'-N1 | 5.34 | 112.47 | 108.20 |
| 14 | D | 165 | MET | N-CA-C | -5.34 | 96.59 | 111.00 |
| 12 | B | 612 | G | C8-N9-C4 | 5.34 | 108.53 | 106.40 |
| 12 | B | 1741 | C | C5-C6-N1 | -5.34 | 118.33 | 121.00 |
| 12 | B | 2427 | C | C2-N3-C4 | 5.34 | 122.57 | 119.90 |
| 12 | B | 2637 | U | C1'-O4'-C4' | -5.34 | 105.63 | 109.90 |
| 12 | B | 2794 | C | C1'-O4'-C4' | 5.34 | 114.17 | 109.90 |
| 17 | G | 150 | TYR | CB-CG-CD2 | 5.34 | 124.20 | 121.00 |
| 6 | 5 | 98 | GLU | CB-CA-C | -5.33 | 99.73 | 110.40 |
| 11 | A | 111 | U | C4-C5-C6 | 5.33 | 122.90 | 119.70 |
| 12 | B | 412 | A | O4'-C1'-N9 | 5.33 | 112.47 | 108.20 |
| 12 | B | 580 | U | C2-N3-C4 | -5.33 | 123.80 | 127.00 |
| 12 | B | 822 | G | C2-N3-C4 | 5.33 | 114.57 | 111.90 |
| 12 | B | 1239 | G | N3-C2-N2 | 5.33 | 123.63 | 119.90 |
| 12 | B | 1543 | G | C8-N9-C4 | 5.33 | 108.53 | 106.40 |
| 12 | B | 1623 | G | N1-C2-N2 | -5.33 | 111.40 | 116.20 |
| 12 | B | 1641 | A | C5-C6-N1 | -5.33 | 115.03 | 117.70 |
| 12 | B | 1873 | G | C6-C5-N7 | -5.33 | 127.20 | 130.40 |
| 3 | 2 | 26 | LEU | C-N-CA | 5.33 | 133.50 | 122.30 |
| 11 | A | 81 | G | C3'-C2'-C1' | 5.33 | 105.77 | 101.50 |
| 12 | B | 1 | G | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 12 | B | 117 | G | O5'-C5'-C4' | -5.33 | 101.56 | 111.70 |
| 12 | B | 120 | U | O4'-C1'-N1 | 5.33 | 112.47 | 108.20 |
| 12 | B | 894 | U | C3'-C2'-C1' | -5.33 | 97.23 | 101.50 |
| 12 | B | 1456 | G | C2-N3-C4 | 5.33 | 114.57 | 111.90 |
| 12 | B | 1898 | U | N1-C1'-C2' | -5.33 | 106.13 | 112.00 |
| 12 | B | 2040 | G | C6-C5-N7 | -5.33 | 127.20 | 130.40 |
| 12 | B | 2135 | A | O4'-C1'-N9 | 5.33 | 112.47 | 108.20 |
| 12 | B | 2453 | A | N9-C4-C5 | -5.33 | 103.67 | 105.80 |
| 12 | B | 2781 | A | N3-C4-C5 | -5.33 | 123.07 | 126.80 |
| 13 | C | 129 | LEU | CB-CG-CD1 | 5.33 | 120.07 | 111.00 |
| 17 | G | 96 | ALA | N-CA-CB | 5.33 | 117.57 | 110.10 |
| 29 | S | 86 | MET | CG-SD-CE | -5.33 | 91.67 | 100.20 |
| 11 | A | 21 | G | C4-C5-N7 | 5.33 | 112.93 | 110.80 |
| 12 | B | 45 | G | C5-C6-O6 | -5.33 | 125.40 | 128.60 |
| 12 | B | 160 | A | N9-C4-C5 | -5.33 | 103.67 | 105.80 |
| 12 | B | 187 | G | N1-C2-N3 | -5.33 | 120.70 | 123.90 |
| 12 | B | 707 | G | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 713 | G | P-O5'-C5' | 5.33 | 129.43 | 120.90 |
| 12 | B | 1488 | C | C4-C5-C6 | 5.33 | 120.07 | 117.40 |
| 12 | B | 1618 | A | C2-N3-C4 | -5.33 | 107.94 | 110.60 |
| 12 | B | 1762 | A | C4'-C3'-C2' | 5.33 | 107.93 | 102.60 |
| 12 | B | 1924 | C | N3-C4-C5 | -5.33 | 119.77 | 121.90 |
| 12 | B | 2357 | G | C4-C5-C6 | 5.33 | 122.00 | 118.80 |
| 12 | B | 2370 | G | C5'-C4'-C3' | -5.33 | 107.47 | 116.00 |
| 12 | B | 2508 | G | C6-N1-C2 | 5.33 | 128.30 | 125.10 |
| 12 | B | 2574 | G | N3-C2-N2 | 5.33 | 123.63 | 119.90 |
| 15 | E | 35 | TYR | CB-CG-CD1 | 5.33 | 124.20 | 121.00 |
| 12 | B | 373 | U | C6-N1-C2 | -5.33 | 117.80 | 121.00 |
| 12 | B | 896 | A | N3-C4-N9 | 5.33 | 131.66 | 127.40 |
| 12 | B | 990 | A | C4-C5-C6 | 5.33 | 119.67 | 117.00 |
| 12 | B | 1118 | C | O4'-C1'-N1 | 5.33 | 112.46 | 108.20 |
| 12 | B | 1194 | A | C6-N1-C2 | -5.33 | 115.40 | 118.60 |
| 12 | B | 1236 | G | N1-C6-O6 | 5.33 | 123.10 | 119.90 |
| 12 | B | 2521 | C | C5-C4-N4 | -5.33 | 116.47 | 120.20 |
| 25 | O | 36 | TYR | CB-CG-CD1 | -5.33 | 117.80 | 121.00 |
| 29 | S | 109 | ASP | N-CA-C | -5.33 | 96.61 | 111.00 |
| 11 | A | 39 | A | N7-C8-N9 | -5.33 | 111.14 | 113.80 |
| 12 | B | 242 | G | C2-N3-C4 | 5.33 | 114.56 | 111.90 |
| 12 | B | 263 | G | N3-C4-C5 | -5.33 | 125.94 | 128.60 |
| 12 | B | 489 | G | N3-C4-C5 | -5.33 | 125.94 | 128.60 |
| 12 | B | 492 | A | C5-C6-N6 | -5.33 | 119.44 | 123.70 |
| 12 | B | 562 | U | C5'-C4'-O4' | -5.33 | 102.71 | 109.10 |
| 12 | B | 597 | G | N3-C2-N2 | 5.33 | 123.63 | 119.90 |
| 12 | B | 708 | G | N9-C4-C5 | -5.33 | 103.27 | 105.40 |
| 12 | B | 812 | C | C2-N3-C4 | 5.33 | 122.56 | 119.90 |
| 12 | B | 845 | A | C5-C6-N6 | -5.33 | 119.44 | 123.70 |
| 12 | B | 1055 | G | C5-N7-C8 | 5.33 | 106.97 | 104.30 |
| 12 | B | 1461 | C | N3-C4-N4 | 5.33 | 121.73 | 118.00 |
| 12 | B | 1653 | G | C3'-C2'-C1' | -5.33 | 97.24 | 101.50 |
| 12 | B | 1657 | U | C3'-C2'-C1' | -5.33 | 97.24 | 101.50 |
| 12 | B | 1812 | U | N3-C4-C5 | -5.33 | 111.40 | 114.60 |
| 12 | B | 1959 | G | C3'-C2'-C1' | -5.33 | 97.24 | 101.50 |
| 12 | B | 1961 | C | C6-N1-C2 | 5.33 | 122.43 | 120.30 |
| 12 | B | 2027 | G | C5-C6-N1 | -5.33 | 108.83 | 111.50 |
| 12 | B | 2159 | G | N9-C4-C5 | 5.33 | 107.53 | 105.40 |
| 12 | B | 2636 | C | C5-C4-N4 | -5.33 | 116.47 | 120.20 |
| 12 | B | 2671 | G | C5-C6-N1 | -5.33 | 108.83 | 111.50 |
| 12 | B | 2743 | U | P-O3'-C3' | 5.33 | 126.09 | 119.70 |
| 30 | T | 80 | TRP | N-CA-C | -5.33 | 96.61 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 859 | G | C6-C5-N7 | -5.33 | 127.20 | 130.40 |
| 12 | B | 1559 | U | N3-C4-O4 | 5.33 | 123.13 | 119.40 |
| 12 | B | 2104 | C | N3-C4-N4 | 5.33 | 121.73 | 118.00 |
| 12 | B | 2326 | C | C1'-O4'-C4' | -5.33 | 105.64 | 109.90 |
| 12 | B | 2506 | U | P-O5'-C5' | -5.33 | 112.38 | 120.90 |
| 12 | B | 121 | G | C4'-C3'-C2' | -5.33 | 97.28 | 102.60 |
| 12 | B | 134 | G | P-O5'-C5' | -5.33 | 112.38 | 120.90 |
| 12 | B | 398 | C | C2-N3-C4 | 5.33 | 122.56 | 119.90 |
| 12 | B | 1228 | G | C8-N9-C4 | 5.33 | 108.53 | 106.40 |
| 12 | B | 1295 | C | O4'-C1'-N1 | 5.33 | 112.46 | 108.20 |
| 12 | B | 1307 | A | C5-C6-N6 | -5.33 | 119.44 | 123.70 |
| 12 | B | 1376 | C | O5'-P-OP2 | -5.33 | 100.91 | 105.70 |
| 12 | B | 1891 | G | N9-C1'-C2' | -5.33 | 106.14 | 112.00 |
| 12 | B | 2396 | G | C4-C5-N7 | 5.33 | 112.93 | 110.80 |
| 12 | B | 2424 | C | C2-N3-C4 | 5.33 | 122.56 | 119.90 |
| 12 | B | 92 | U | N3-C4-C5 | 5.32 | 117.79 | 114.60 |
| 12 | B | 106 | C | C6-N1-C2 | -5.32 | 118.17 | 120.30 |
| 12 | B | 230 | G | P-O5'-C5' | -5.32 | 112.38 | 120.90 |
| 12 | B | 262 | A | C4-C5-N7 | -5.32 | 108.04 | 110.70 |
| 12 | B | 637 | A | C5-C6-N6 | -5.32 | 119.44 | 123.70 |
| 12 | B | 879 | G | N7-C8-N9 | 5.32 | 115.76 | 113.10 |
| 12 | B | 990 | A | C2-N3-C4 | -5.32 | 107.94 | 110.60 |
| 12 | B | 1199 | U | N3-C4-O4 | 5.32 | 123.13 | 119.40 |
| 12 | B | 1356 | G | N3-C4-N9 | -5.32 | 122.81 | 126.00 |
| 12 | B | 1750 | G | N7-C8-N9 | -5.32 | 110.44 | 113.10 |
| 12 | B | 2107 | G | C6-N1-C2 | 5.32 | 128.29 | 125.10 |
| 12 | B | 2245 | U | OP1-P-OP2 | -5.32 | 111.61 | 119.60 |
| 12 | B | 2464 | G | P-O5'-C5' | -5.32 | 112.38 | 120.90 |
| 12 | B | 2690 | U | C6-N1-C2 | -5.32 | 117.81 | 121.00 |
| 23 | M | 6 | ARG | NE-CZ-NH1 | 5.32 | 122.96 | 120.30 |
| 12 | B | 404 | A | C5'-C4'-C3' | 5.32 | 124.52 | 116.00 |
| 12 | B | 1346 | G | P-O5'-C5' | -5.32 | 112.38 | 120.90 |
| 12 | B | 2086 | U | O4'-C4'-C3' | -5.32 | 98.68 | 104.00 |
| 12 | B | 141 | G | N9-C4-C5 | -5.32 | 103.27 | 105.40 |
| 12 | B | 682 | G | C4-C5-C6 | 5.32 | 121.99 | 118.80 |
| 12 | B | 1082 | U | N1-C2-O2 | -5.32 | 119.08 | 122.80 |
| 12 | B | 1320 | C | C6-N1-C2 | -5.32 | 118.17 | 120.30 |
| 12 | B | 1343 | G | O4'-C1'-N9 | 5.32 | 112.46 | 108.20 |
| 12 | B | 1491 | G | C4-C5-C6 | 5.32 | 121.99 | 118.80 |
| 12 | B | 1696 | G | C8-N9-C1' | 5.32 | 133.92 | 127.00 |
| 12 | B | 1722 | A | N7-C8-N9 | -5.32 | 111.14 | 113.80 |
| 12 | B | 2226 | C | C4-C5-C6 | 5.32 | 120.06 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2537 | U | N3-C4-O4 | 5.32 | 123.12 | 119.40 |
| 12 | B | 2667 | C | C5-C4-N4 | -5.32 | 116.47 | 120.20 |
| 12 | B | 2801 | G | P-O5'-C5' | 5.32 | 129.41 | 120.90 |
| 25 | O | 70 | ALA | N-CA-CB | 5.32 | 117.55 | 110.10 |
| 12 | B | 110 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 12 | B | 430 | A | N9-C4-C5 | 5.32 | 107.93 | 105.80 |
| 12 | B | 571 | U | N1-C2-N3 | 5.32 | 118.09 | 114.90 |
| 12 | B | 821 | A | C4-C5-N7 | -5.32 | 108.04 | 110.70 |
| 12 | B | 821 | A | O5'-P-OP2 | -5.32 | 100.91 | 105.70 |
| 12 | B | 2855 | C | N1-C2-O2 | 5.32 | 122.09 | 118.90 |
| 10 | 9 | 63 | LYS | C-N-CA | 5.32 | 134.99 | 121.70 |
| 12 | B | 1716 | U | O4'-C1'-N1 | 5.32 | 112.45 | 108.20 |
| 12 | B | 1964 | G | N3-C2-N2 | 5.32 | 123.62 | 119.90 |
| 12 | B | 2419 | U | C4'-C3'-C2' | -5.32 | 97.28 | 102.60 |
| 12 | B | 125 | A | N3-C4-C5 | -5.32 | 123.08 | 126.80 |
| 12 | B | 768 | G | N9-C4-C5 | 5.32 | 107.53 | 105.40 |
| 12 | B | 882 | G | C4-C5-C6 | 5.32 | 121.99 | 118.80 |
| 12 | B | 958 | U | P-O3'-C3' | 5.32 | 126.08 | 119.70 |
| 12 | B | 979 | A | C8-N9-C1' | 5.32 | 137.27 | 127.70 |
| 12 | B | 1028 | A | N9-C4-C5 | 5.32 | 107.93 | 105.80 |
| 12 | B | 1694 | C | C5-C6-N1 | 5.32 | 123.66 | 121.00 |
| 12 | B | 2233 | U | C4-C5-C6 | 5.32 | 122.89 | 119.70 |
| 12 | B | 2370 | G | C1'-O4'-C4' | -5.32 | 105.65 | 109.90 |
| 12 | B | 2524 | G | C5-C6-N1 | -5.32 | 108.84 | 111.50 |
| 20 | J | 99 | ARG | NE-CZ-NH2 | -5.32 | 117.64 | 120.30 |
| 8 | 7 | 33 | THR | CA-CB-CG2 | -5.31 | 104.96 | 112.40 |
| 12 | B | 600 | G | C6-N1-C2 | 5.31 | 128.29 | 125.10 |
| 12 | B | 614 | A | C5-N7-C8 | 5.31 | 106.56 | 103.90 |
| 12 | B | 1443 | U | C2-N3-C4 | -5.31 | 123.81 | 127.00 |
| 6 | 5 | 208 | TYR | CG-CD2-CE2 | 5.31 | 125.55 | 121.30 |
| 12 | B | 197 | A | C5-N7-C8 | 5.31 | 106.56 | 103.90 |
| 12 | B | 274 | C | O4'-C1'-N1 | 5.31 | 112.45 | 108.20 |
| 12 | B | 362 | A | C5-N7-C8 | 5.31 | 106.56 | 103.90 |
| 12 | B | 1060 | U | N3-C4-O4 | 5.31 | 123.12 | 119.40 |
| 12 | B | 1408 | G | C3'-C2'-C1' | -5.31 | 97.25 | 101.50 |
| 12 | B | 1420 | A | C1'-O4'-C4' | -5.31 | 105.65 | 109.90 |
| 12 | B | 1863 | G | N1-C6-O6 | 5.31 | 123.09 | 119.90 |
| 12 | B | 2633 | G | C2-N3-C4 | 5.31 | 114.56 | 111.90 |
| 20 | J | 89 | PHE | CB-CG-CD1 | -5.31 | 117.08 | 120.80 |
| 12 | B | 65 | U | C5-C4-O4 | -5.31 | 122.71 | 125.90 |
| 12 | B | 783 | A | C4-C5-C6 | 5.31 | 119.66 | 117.00 |
| 12 | B | 1176 | U | C2-N3-C4 | 5.31 | 130.19 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1284 | A | O4'-C1'-N9 | 5.31 | 112.45 | 108.20 |
| 12 | B | 1759 | A | O3'-P-O5' | -5.31 | 93.91 | 104.00 |
| 12 | B | 1904 | G | N1-C2-N3 | -5.31 | 120.71 | 123.90 |
| 12 | B | 2353 | G | C5-N7-C8 | -5.31 | 101.64 | 104.30 |
| 24 | N | 31 | HIS | N-CA-C | -5.31 | 96.66 | 111.00 |
| 12 | B | 365 | U | C5-C4-O4 | -5.31 | 122.71 | 125.90 |
| 12 | B | 481 | G | C4-N9-C1' | -5.31 | 119.60 | 126.50 |
| 12 | B | 806 | C | C6-N1-C2 | 5.31 | 122.42 | 120.30 |
| 12 | B | 908 | C | C5-C4-N4 | -5.31 | 116.48 | 120.20 |
| 12 | B | 1008 | A | N9-C4-C5 | 5.31 | 107.92 | 105.80 |
| 12 | B | 1918 | A | O4'-C1'-C2' | 5.31 | 112.38 | 107.60 |
| 12 | B | 2020 | A | C8-N9-C4 | -5.31 | 103.68 | 105.80 |
| 12 | B | 2306 | C | C4-C5-C6 | 5.31 | 120.06 | 117.40 |
| 12 | B | 2439 | A | C5'-C4'-O4' | 5.31 | 115.47 | 109.10 |
| 12 | B | 2439 | A | C6-N1-C2 | 5.31 | 121.79 | 118.60 |
| 12 | B | 2577 | A | N7-C8-N9 | 5.31 | 116.45 | 113.80 |
| 12 | B | 2592 | G | N7-C8-N9 | 5.31 | 115.75 | 113.10 |
| 12 | B | 579 | G | N3-C4-C5 | -5.31 | 125.95 | 128.60 |
| 12 | B | 685 | A | N1-C2-N3 | 5.31 | 131.95 | 129.30 |
| 12 | B | 795 | C | P-O5'-C5' | -5.31 | 112.41 | 120.90 |
| 12 | B | 1074 | G | O4'-C1'-N9 | 5.31 | 112.45 | 108.20 |
| 12 | B | 1885 | A | N7-C8-N9 | 5.31 | 116.45 | 113.80 |
| 12 | B | 2015 | A | C8-N9-C4 | -5.31 | 103.68 | 105.80 |
| 12 | B | 2414 | G | N1-C2-N3 | -5.31 | 120.72 | 123.90 |
| 12 | B | 2567 | G | N1-C2-N3 | -5.31 | 120.72 | 123.90 |
| 12 | B | 2600 | A | P-O3'-C3' | -5.31 | 113.33 | 119.70 |
| 12 | B | 2642 | G | C8-N9-C1' | 5.31 | 133.90 | 127.00 |
| 24 | N | 19 | ALA | O-C-N | 5.31 | 131.19 | 122.70 |
| 12 | B | 983 | A | N7-C8-N9 | -5.31 | 111.15 | 113.80 |
| 12 | B | 1989 | G | C4-N9-C1' | -5.31 | 119.60 | 126.50 |
| 12 | B | 1995 | U | C2-N3-C4 | -5.31 | 123.82 | 127.00 |
| 10 | 9 | 56 | LEU | CB-CG-CD1 | 5.30 | 120.02 | 111.00 |
| 12 | B | 219 | A | C5-C6-N6 | -5.30 | 119.46 | 123.70 |
| 12 | B | 521 | U | C2-N3-C4 | 5.30 | 130.18 | 127.00 |
| 12 | B | 1342 | A | C5-C6-N1 | -5.30 | 115.05 | 117.70 |
| 12 | B | 1426 | G | C5'-C4'-C3' | -5.30 | 107.51 | 116.00 |
| 12 | B | 1480 | C | C5'-C4'-C3' | 5.30 | 124.49 | 116.00 |
| 12 | B | 1609 | A | OP1-P-OP2 | -5.30 | 111.64 | 119.60 |
| 12 | B | 1731 | G | C5'-C4'-C3' | -5.30 | 107.51 | 116.00 |
| 12 | B | 1734 | G | C6-N1-C2 | 5.30 | 128.28 | 125.10 |
| 12 | B | 2125 | G | C4-N9-C1' | 5.30 | 133.40 | 126.50 |
| 12 | B | 2183 | A | C5-C6-N6 | -5.30 | 119.46 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2545 | G | C4-C5-C6 | 5.30 | 121.98 | 118.80 |
| 12 | B | 2595 | G | N1-C2-N3 | -5.30 | 120.72 | 123.90 |
| 12 | B | 1065 | U | C2-N3-C4 | -5.30 | 123.82 | 127.00 |
| 12 | B | 1333 | G | C6-C5-N7 | -5.30 | 127.22 | 130.40 |
| 12 | B | 1749 | A | OP1-P-OP2 | -5.30 | 111.64 | 119.60 |
| 12 | B | 1789 | A | C4-C5-C6 | 5.30 | 119.65 | 117.00 |
| 12 | B | 2594 | C | C2-N3-C4 | 5.30 | 122.55 | 119.90 |
| 12 | B | 2798 | U | C5-C4-O4 | -5.30 | 122.72 | 125.90 |
| 17 | G | 51 | PHE | CB-CG-CD1 | 5.30 | 124.51 | 120.80 |
| 12 | B | 298 | G | C4-N9-C1' | 5.30 | 133.39 | 126.50 |
| 12 | B | 808 | G | C4-C5-N7 | -5.30 | 108.68 | 110.80 |
| 12 | B | 861 | A | O4'-C1'-N9 | 5.30 | 112.44 | 108.20 |
| 12 | B | 1112 | G | C4-N9-C1' | -5.30 | 119.61 | 126.50 |
| 12 | B | 1314 | C | O4'-C1'-N1 | 5.30 | 112.44 | 108.20 |
| 12 | B | 1325 | U | P-O3'-C3' | -5.30 | 113.34 | 119.70 |
| 12 | B | 1497 | U | C4'-C3'-C2' | 5.30 | 107.90 | 102.60 |
| 12 | B | 1639 | C | O4'-C1'-N1 | 5.30 | 112.44 | 108.20 |
| 12 | B | 1650 | A | C6-C5-N7 | -5.30 | 128.59 | 132.30 |
| 12 | B | 1989 | G | C4-C5-N7 | 5.30 | 112.92 | 110.80 |
| 12 | B | 2318 | G | C8-N9-C1' | -5.30 | 120.11 | 127.00 |
| 12 | B | 2864 | G | N9-C1'-C2' | -5.30 | 106.17 | 112.00 |
| 9 | 8 | 29 | ALA | N-CA-CB | 5.30 | 117.52 | 110.10 |
| 12 | B | 6 | A | N9-C4-C5 | 5.30 | 107.92 | 105.80 |
| 12 | B | 46 | G | N1-C2-N3 | -5.30 | 120.72 | 123.90 |
| 12 | B | 356 | G | OP2-P-O3' | 5.30 | 116.86 | 105.20 |
| 12 | B | 548 | G | N7-C8-N9 | 5.30 | 115.75 | 113.10 |
| 12 | B | 707 | G | N1-C2-N2 | -5.30 | 111.43 | 116.20 |
| 12 | B | 759 | G | P-O5'-C5' | 5.30 | 129.38 | 120.90 |
| 12 | B | 1161 | C | N3-C4-C5 | -5.30 | 119.78 | 121.90 |
| 12 | B | 1204 | A | C4'-C3'-C2' | -5.30 | 97.30 | 102.60 |
| 12 | B | 1344 | U | P-O3'-C3' | 5.30 | 126.06 | 119.70 |
| 12 | B | 1653 | G | C5-C6-N1 | -5.30 | 108.85 | 111.50 |
| 12 | B | 2234 | G | C5-N7-C8 | -5.30 | 101.65 | 104.30 |
| 12 | B | 2304 | G | O4'-C1'-C2' | -5.30 | 100.50 | 105.80 |
| 12 | B | 2525 | G | P-O3'-C3' | -5.30 | 113.34 | 119.70 |
| 11 | A | 5 | U | C6-N1-C1' | -5.30 | 113.78 | 121.20 |
| 12 | B | 58 | G | N1-C2-N2 | -5.30 | 111.43 | 116.20 |
| 12 | B | 193 | U | C6-N1-C2 | -5.30 | 117.82 | 121.00 |
| 12 | B | 382 | A | N3-C4-C5 | -5.30 | 123.09 | 126.80 |
| 12 | B | 479 | A | O3'-P-O5' | -5.30 | 93.93 | 104.00 |
| 12 | B | 935 | C | N3-C4-N4 | 5.30 | 121.71 | 118.00 |
| 12 | B | 1159 | U | C5-C4-O4 | -5.30 | 122.72 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1394 | U | N3-C4-C5 | -5.30 | 111.42 | 114.60 |
| 12 | B | 1706 | C | N3-C4-C5 | -5.30 | 119.78 | 121.90 |
| 12 | B | 471 | A | C5-C6-N6 | -5.30 | 119.46 | 123.70 |
| 12 | B | 615 | U | C2-N3-C4 | -5.30 | 123.82 | 127.00 |
| 12 | B | 1236 | G | N3-C2-N2 | 5.30 | 123.61 | 119.90 |
| 12 | B | 1680 | U | C3'-C2'-C1' | -5.30 | 97.26 | 101.50 |
| 12 | B | 1722 | A | O4'-C4'-C3' | -5.30 | 98.70 | 104.00 |
| 12 | B | 2246 | G | N3-C2-N2 | 5.30 | 123.61 | 119.90 |
| 12 | B | 2254 | C | N1-C1'-C2' | -5.30 | 106.17 | 112.00 |
| 12 | B | 2306 | C | C5-C4-N4 | -5.30 | 116.49 | 120.20 |
| 12 | B | 2827 | C | C6-N1-C2 | 5.30 | 122.42 | 120.30 |
| 13 | C | 12 | ARG | NE-CZ-NH1 | -5.30 | 117.65 | 120.30 |
| 33 | Y | 40 | ARG | NE-CZ-NH1 | -5.30 | 117.65 | 120.30 |
| 2 | 1 | 53 | VAL | CA-CB-CG1 | -5.29 | 102.96 | 110.90 |
| 12 | B | 78 | U | C1'-O4'-C4' | -5.29 | 105.66 | 109.90 |
| 12 | B | 576 | U | N3-C4-O4 | 5.29 | 123.11 | 119.40 |
| 12 | B | 619 | G | O5'-C5'-C4' | -5.29 | 101.64 | 111.70 |
| 12 | B | 767 | U | C5-C4-O4 | -5.29 | 122.72 | 125.90 |
| 12 | B | 914 | G | C8-N9-C1' | -5.29 | 120.12 | 127.00 |
| 12 | B | 1056 | G | P-O3'-C3' | 5.29 | 126.05 | 119.70 |
| 12 | B | 1652 | A | O4'-C1'-N9 | 5.29 | 112.44 | 108.20 |
| 12 | B | 1856 | U | C6-N1-C2 | -5.29 | 117.82 | 121.00 |
| 12 | B | 2224 | G | P-O5'-C5' | 5.29 | 129.37 | 120.90 |
| 12 | B | 2634 | A | P-O3'-C3' | -5.29 | 113.35 | 119.70 |
| 14 | D | 82 | PHE | CB-CG-CD2 | -5.29 | 117.09 | 120.80 |
| 12 | B | 1017 | G | N1-C2-N3 | -5.29 | 120.72 | 123.90 |
| 12 | B | 1197 | G | C5-N7-C8 | 5.29 | 106.95 | 104.30 |
| 12 | B | 1344 | U | C5'-C4'-O4' | 5.29 | 115.45 | 109.10 |
| 12 | B | 1642 | G | C8-N9-C4 | -5.29 | 104.28 | 106.40 |
| 12 | B | 2155 | U | C6-N1-C2 | 5.29 | 124.18 | 121.00 |
| 12 | B | 2396 | G | N1-C6-O6 | 5.29 | 123.08 | 119.90 |
| 12 | B | 2459 | A | C8-N9-C4 | -5.29 | 103.68 | 105.80 |
| 12 | B | 2626 | C | N1-C2-N3 | 5.29 | 122.91 | 119.20 |
| 18 | H | 21 | VAL | CA-CB-CG2 | 5.29 | 118.84 | 110.90 |
| 21 | K | 99 | ILE | N-CA-C | -5.29 | 96.71 | 111.00 |
| 32 | W | 92 | VAL | CA-CB-CG2 | -5.29 | 102.96 | 110.90 |
| 7 | 6 | 14 | ARG | NE-CZ-NH1 | -5.29 | 117.65 | 120.30 |
| 12 | B | 439 | A | C6-C5-N7 | -5.29 | 128.59 | 132.30 |
| 12 | B | 589 | U | C4'-C3'-C2' | -5.29 | 97.31 | 102.60 |
| 12 | B | 729 | G | P-O3'-C3' | 5.29 | 126.05 | 119.70 |
| 12 | B | 1029 | A | C5-C6-N6 | -5.29 | 119.47 | 123.70 |
| 12 | B | 1030 | C | O4'-C1'-N1 | 5.29 | 112.43 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1185 | G | C4-C5-C6 | 5.29 | 121.97 | 118.80 |
| 12 | B | 1540 | G | C6-N1-C2 | 5.29 | 128.27 | 125.10 |
| 12 | B | 2035 | G | N9-C4-C5 | 5.29 | 107.52 | 105.40 |
| 12 | B | 2192 | U | C2-N3-C4 | 5.29 | 130.18 | 127.00 |
| 12 | B | 2330 | G | C3'-C2'-C1' | -5.29 | 97.27 | 101.50 |
| 12 | B | 2367 | G | C5-N7-C8 | -5.29 | 101.65 | 104.30 |
| 12 | B | 2427 | C | P-O3'-C3' | 5.29 | 126.05 | 119.70 |
| 12 | B | 2768 | U | N3-C4-C5 | 5.29 | 117.78 | 114.60 |
| 12 | B | 2857 | G | C5-N7-C8 | 5.29 | 106.94 | 104.30 |
| 21 | K | 11 | ALA | N-CA-CB | 5.29 | 117.51 | 110.10 |
| 12 | B | 306 | U | N1-C2-O2 | -5.29 | 119.10 | 122.80 |
| 12 | B | 1160 | G | N3-C4-N9 | -5.29 | 122.83 | 126.00 |
| 12 | B | 1401 | G | C4-C5-C6 | 5.29 | 121.97 | 118.80 |
| 12 | B | 1750 | G | C5-C6-O6 | -5.29 | 125.43 | 128.60 |
| 12 | B | 1975 | G | C1'-O4'-C4' | 5.29 | 114.13 | 109.90 |
| 12 | B | 2088 | A | C4-C5-N7 | -5.29 | 108.06 | 110.70 |
| 10 | 9 | 138 | PRO | N-CA-CB | 5.29 | 109.65 | 103.30 |
| 12 | B | 423 | A | C4'-C3'-C2' | 5.29 | 107.89 | 102.60 |
| 12 | B | 525 | U | C5-C6-N1 | 5.29 | 125.34 | 122.70 |
| 12 | B | 778 | G | N1-C2-N3 | -5.29 | 120.73 | 123.90 |
| 12 | B | 1080 | A | N9-C4-C5 | 5.29 | 107.92 | 105.80 |
| 12 | B | 1389 | G | C2-N3-C4 | -5.29 | 109.26 | 111.90 |
| 12 | B | 1464 | G | C5-C6-N1 | 5.29 | 114.14 | 111.50 |
| 12 | B | 1721 | G | C4-C5-C6 | 5.29 | 121.97 | 118.80 |
| 12 | B | 1762 | A | C5-C6-N1 | -5.29 | 115.06 | 117.70 |
| 12 | B | 2086 | U | OP2-P-O3' | 5.29 | 116.83 | 105.20 |
| 12 | B | 2241 | A | C3'-C2'-C1' | 5.29 | 105.73 | 101.50 |
| 12 | B | 2310 | C | C1'-O4'-C4' | -5.29 | 105.67 | 109.90 |
| 12 | B | 2314 | A | C4'-C3'-C2' | -5.29 | 97.31 | 102.60 |
| 12 | B | 2651 | C | N3-C4-C5 | -5.29 | 119.78 | 121.90 |
| 12 | B | 2757 | A | C3'-C2'-C1' | -5.29 | 97.27 | 101.50 |
| 12 | B | 588 | U | P-O3'-C3' | -5.29 | 113.36 | 119.70 |
| 12 | B | 2036 | C | N3-C4-N4 | 5.29 | 121.70 | 118.00 |
| 12 | B | 2349 | G | O4'-C1'-N9 | 5.29 | 112.43 | 108.20 |
| 12 | B | 2775 | G | C2-N3-C4 | 5.29 | 114.54 | 111.90 |
| 1 | 0 | 46 | VAL | C-N-CA | 5.29 | 134.91 | 121.70 |
| 10 | 9 | 297 | ALA | C-N-CA | 5.29 | 134.91 | 121.70 |
| 11 | A | 102 | G | C6-C5-N7 | -5.29 | 127.23 | 130.40 |
| 12 | B | 129 | C | P-O5'-C5' | 5.29 | 129.36 | 120.90 |
| 12 | B | 1946 | U | C1'-O4'-C4' | -5.29 | 105.67 | 109.90 |
| 12 | B | 2265 | U | N3-C4-C5 | -5.29 | 111.43 | 114.60 |
| 12 | B | 2418 | A | C4-C5-N7 | -5.29 | 108.06 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2501 | C | C5-C6-N1 | 5.29 | 123.64 | 121.00 |
| 12 | B | 2525 | G | C5-C6-N1 | -5.29 | 108.86 | 111.50 |
| 12 | B | 2588 | G | N3-C2-N2 | 5.29 | 123.60 | 119.90 |
| 12 | B | 2678 | C | N1-C2-O2 | 5.29 | 122.07 | 118.90 |
| 12 | B | 2754 | U | P-O3'-C3' | 5.29 | 126.04 | 119.70 |
| 12 | B | 2850 | A | N1-C2-N3 | 5.29 | 131.94 | 129.30 |
| 12 | B | 2861 | U | OP2-P-O3' | 5.29 | 116.83 | 105.20 |
| 17 | G | 1 | SER | CB-CA-C | 5.29 | 120.14 | 110.10 |
| 12 | B | 61 | C | C5-C6-N1 | -5.28 | 118.36 | 121.00 |
| 12 | B | 602 | A | C1'-O4'-C4' | 5.28 | 114.13 | 109.90 |
| 12 | B | 672 | C | N3-C4-N4 | 5.28 | 121.70 | 118.00 |
| 12 | B | 858 | G | P-O5'-C5' | -5.28 | 112.45 | 120.90 |
| 12 | B | 1112 | G | OP1-P-OP2 | -5.28 | 111.67 | 119.60 |
| 12 | B | 1476 | U | N3-C4-O4 | 5.28 | 123.10 | 119.40 |
| 12 | B | 1604 | C | N3-C4-C5 | 5.28 | 124.01 | 121.90 |
| 12 | B | 2203 | U | C2-N3-C4 | -5.28 | 123.83 | 127.00 |
| 12 | B | 2456 | C | N1-C2-N3 | -5.28 | 115.50 | 119.20 |
| 12 | B | 2563 | U | C2-N3-C4 | -5.28 | 123.83 | 127.00 |
| 25 | O | 7 | ARG | NE-CZ-NH2 | -5.28 | 117.66 | 120.30 |
| 11 | A | 109 | A | C4'-C3'-C2' | -5.28 | 97.32 | 102.60 |
| 12 | B | 30 | G | O5'-C5'-C4' | -5.28 | 101.67 | 111.70 |
| 12 | B | 684 | G | O4'-C1'-N9 | 5.28 | 112.43 | 108.20 |
| 12 | B | 1256 | G | C8-N9-C4 | 5.28 | 108.51 | 106.40 |
| 12 | B | 1580 | A | C5-C6-N6 | -5.28 | 119.47 | 123.70 |
| 6 | 5 | 180 | PHE | CB-CG-CD2 | 5.28 | 124.50 | 120.80 |
| 12 | B | 46 | G | C5'-C4'-O4' | 5.28 | 115.44 | 109.10 |
| 12 | B | 524 | G | N3-C4-C5 | 5.28 | 131.24 | 128.60 |
| 12 | B | 765 | C | C4-C5-C6 | -5.28 | 114.76 | 117.40 |
| 12 | B | 1087 | G | C4-N9-C1' | -5.28 | 119.64 | 126.50 |
| 12 | B | 1131 | G | C5-C6-N1 | -5.28 | 108.86 | 111.50 |
| 12 | B | 1387 | A | N3-C4-C5 | -5.28 | 123.10 | 126.80 |
| 12 | B | 1989 | G | C5-C6-O6 | -5.28 | 125.43 | 128.60 |
| 12 | B | 2368 | C | C4-C5-C6 | 5.28 | 120.04 | 117.40 |
| 12 | B | 2572 | A | O5'-P-OP2 | -5.28 | 100.95 | 105.70 |
| 12 | B | 2641 | G | C4-C5-N7 | -5.28 | 108.69 | 110.80 |
| 12 | B | 2654 | A | O4'-C1'-N9 | 5.28 | 112.42 | 108.20 |
| 28 | R | 14 | VAL | CA-CB-CG1 | 5.28 | 118.82 | 110.90 |
| 32 | W | 16 | ALA | CB-CA-C | -5.28 | 102.18 | 110.10 |
| 11 | A | 97 | C | N1-C1'-C2' | -5.28 | 106.19 | 112.00 |
| 11 | A | 99 | A | C4-C5-N7 | -5.28 | 108.06 | 110.70 |
| 12 | B | 1018 | U | P-O3'-C3' | 5.28 | 126.03 | 119.70 |
| 12 | B | 1027 | A | N1-C2-N3 | -5.28 | 126.66 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2210 | U | O4'-C4'-C3' | -5.28 | 98.72 | 104.00 |
| 12 | B | 2401 | U | N3-C4-C5 | -5.28 | 111.43 | 114.60 |
| 12 | B | 2459 | A | P-O3'-C3' | -5.28 | 113.36 | 119.70 |
| 27 | Q | 76 | SER | CA-C-O | 5.28 | 131.19 | 120.10 |
| 12 | B | 153 | U | C4-C5-C6 | 5.28 | 122.87 | 119.70 |
| 12 | B | 516 | C | C4-C5-C6 | -5.28 | 114.76 | 117.40 |
| 12 | B | 1022 | G | N3-C2-N2 | 5.28 | 123.59 | 119.90 |
| 12 | B | 1064 | C | N3-C4-N4 | 5.28 | 121.69 | 118.00 |
| 12 | B | 1117 | C | P-O5'-C5' | 5.28 | 129.34 | 120.90 |
| 12 | B | 1491 | G | C6-C5-N7 | -5.28 | 127.23 | 130.40 |
| 12 | B | 1699 | G | C5-N7-C8 | -5.28 | 101.66 | 104.30 |
| 12 | B | 1940 | U | C2-N1-C1' | 5.28 | 124.03 | 117.70 |
| 12 | B | 2135 | A | C5'-C4'-C3' | -5.28 | 107.56 | 116.00 |
| 12 | B | 2364 | C | C5-C6-N1 | -5.28 | 118.36 | 121.00 |
| 12 | B | 2547 | A | C4'-C3'-C2' | -5.28 | 97.32 | 102.60 |
| 12 | B | 2626 | C | C5-C4-N4 | -5.28 | 116.51 | 120.20 |
| 12 | B | 2692 | G | C5-C6-N1 | -5.28 | 108.86 | 111.50 |
| 11 | A | 48 | U | N1-C2-N3 | 5.28 | 118.07 | 114.90 |
| 12 | B | 264 | C | C1'-O4'-C4' | -5.28 | 105.68 | 109.90 |
| 12 | B | 324 | A | C2-N3-C4 | -5.28 | 107.96 | 110.60 |
| 12 | B | 354 | A | C8-N9-C4 | -5.28 | 103.69 | 105.80 |
| 12 | B | 366 | C | N1-C1'-C2' | -5.28 | 106.20 | 112.00 |
| 12 | B | 485 | C | P-O5'-C5' | 5.28 | 129.34 | 120.90 |
| 12 | B | 531 | C | O4'-C1'-C2' | -5.28 | 100.52 | 105.80 |
| 12 | B | 643 | A | P-O5'-C5' | -5.28 | 112.46 | 120.90 |
| 12 | B | 868 | U | C3'-C2'-C1' | -5.28 | 97.28 | 101.50 |
| 12 | B | 978 | G | P-O3'-C3' | -5.28 | 113.37 | 119.70 |
| 12 | B | 989 | G | N9-C4-C5 | 5.28 | 107.51 | 105.40 |
| 12 | B | 1059 | G | C8-N9-C4 | -5.28 | 104.29 | 106.40 |
| 12 | B | 1154 | G | OP1-P-OP2 | -5.28 | 111.69 | 119.60 |
| 12 | B | 1516 | G | C1'-O4'-C4' | 5.28 | 114.12 | 109.90 |
| 12 | B | 2189 | U | C2'-C3'-O3' | 5.28 | 122.14 | 113.70 |
| 12 | B | 2331 | G | C2-N3-C4 | -5.28 | 109.26 | 111.90 |
| 12 | B | 2498 | C | C5-C4-N4 | -5.28 | 116.51 | 120.20 |
| 12 | B | 2517 | C | N1-C2-N3 | -5.28 | 115.51 | 119.20 |
| 12 | B | 2550 | G | C5-C6-N1 | 5.28 | 114.14 | 111.50 |
| 12 | B | 391 | A | O4'-C1'-N9 | 5.27 | 112.42 | 108.20 |
| 12 | B | 504 | A | N1-C2-N3 | 5.27 | 131.94 | 129.30 |
| 12 | B | 1214 | A | C5-C6-N1 | -5.27 | 115.06 | 117.70 |
| 12 | B | 1805 | A | C4'-C3'-C2' | -5.27 | 97.33 | 102.60 |
| 12 | B | 1901 | A | C5-C6-N6 | -5.27 | 119.48 | 123.70 |
| 12 | B | 1901 | A | C4'-C3'-C2' | -5.27 | 97.33 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 13 | C | 267 | VAL | CB-CA-C | -5.27 | 101.38 | 111.40 |
| 16 | F | 16 | MET | N-CA-CB | 5.27 | 120.09 | 110.60 |
| 30 | T | 60 | THR | CA-CB-CG2 | -5.27 | 105.02 | 112.40 |
| 12 | B | 57 | C | C5-C4-N4 | -5.27 | 116.51 | 120.20 |
| 12 | B | 277 | G | C5'-C4'-C3' | 5.27 | 124.44 | 116.00 |
| 12 | B | 383 | C | P-O3'-C3' | -5.27 | 113.37 | 119.70 |
| 12 | B | 452 | G | N1-C2-N2 | -5.27 | 111.45 | 116.20 |
| 12 | B | 759 | G | N3-C2-N2 | 5.27 | 123.59 | 119.90 |
| 12 | B | 2865 | U | C2-N3-C4 | -5.27 | 123.84 | 127.00 |
| 29 | S | 18 | ARG | NE-CZ-NH2 | 5.27 | 122.94 | 120.30 |
| 11 | A | 9 | G | C8-N9-C4 | -5.27 | 104.29 | 106.40 |
| 12 | B | 118 | A | C1'-O4'-C4' | -5.27 | 105.68 | 109.90 |
| 12 | B | 238 | C | N1-C2-N3 | -5.27 | 115.51 | 119.20 |
| 12 | B | 250 | G | C8-N9-C4 | -5.27 | 104.29 | 106.40 |
| 12 | B | 314 | C | N3-C4-N4 | 5.27 | 121.69 | 118.00 |
| 12 | B | 850 | U | N1-C2-N3 | 5.27 | 118.06 | 114.90 |
| 12 | B | 2331 | G | C4-C5-N7 | 5.27 | 112.91 | 110.80 |
| 11 | A | 50 | A | C4-C5-C6 | 5.27 | 119.64 | 117.00 |
| 12 | B | 575 | A | C5'-C4'-O4' | 5.27 | 115.42 | 109.10 |
| 12 | B | 1030 | C | N3-C4-N4 | 5.27 | 121.69 | 118.00 |
| 12 | B | 2073 | C | O4'-C1'-N1 | 5.27 | 112.42 | 108.20 |
| 12 | B | 2271 | G | C6-C5-N7 | -5.27 | 127.24 | 130.40 |
| 12 | B | 2412 | A | N1-C2-N3 | 5.27 | 131.94 | 129.30 |
| 12 | B | 2553 | G | C4'-C3'-C2' | -5.27 | 97.33 | 102.60 |
| 12 | B | 2788 | C | N3-C2-O2 | -5.27 | 118.21 | 121.90 |
| 12 | B | 2789 | C | N3-C4-N4 | 5.27 | 121.69 | 118.00 |
| 18 | H | 17 | ASP | N-CA-CB | 5.27 | 120.08 | 110.60 |
| 10 | 9 | 165 | LEU | CB-CG-CD1 | 5.27 | 119.96 | 111.00 |
| 12 | B | 85 | G | O4'-C1'-N9 | 5.27 | 112.41 | 108.20 |
| 12 | B | 424 | G | N3-C4-C5 | -5.27 | 125.97 | 128.60 |
| 12 | B | 768 | G | C5-N7-C8 | -5.27 | 101.67 | 104.30 |
| 12 | B | 779 | U | C5-C6-N1 | 5.27 | 125.33 | 122.70 |
| 12 | B | 884 | U | OP1-P-OP2 | -5.27 | 111.70 | 119.60 |
| 12 | B | 910 | A | N7-C8-N9 | -5.27 | 111.17 | 113.80 |
| 12 | B | 1063 | G | C5'-C4'-C3' | 5.27 | 124.43 | 116.00 |
| 12 | B | 1327 | A | C2-N3-C4 | -5.27 | 107.97 | 110.60 |
| 12 | B | 1539 | U | N1-C2-N3 | -5.27 | 111.74 | 114.90 |
| 12 | B | 2070 | A | C5-N7-C8 | 5.27 | 106.53 | 103.90 |
| 12 | B | 2071 | A | P-O3'-C3' | 5.27 | 126.02 | 119.70 |
| 12 | B | 2155 | U | C1'-O4'-C4' | 5.27 | 114.11 | 109.90 |
| 12 | B | 2209 | G | C6-N1-C2 | 5.27 | 128.26 | 125.10 |
| 12 | B | 2319 | G | N1-C2-N3 | -5.27 | 120.74 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 24 | N | 91 | ALA | CB-CA-C | -5.27 | 102.20 | 110.10 |
| 12 | B | 439 | A | C5-N7-C8 | -5.27 | 101.27 | 103.90 |
| 12 | B | 1428 | C | N1-C2-O2 | 5.27 | 122.06 | 118.90 |
| 12 | B | 1731 | G | OP2-P-O3' | 5.27 | 116.78 | 105.20 |
| 12 | B | 1970 | A | O4'-C1'-N9 | 5.27 | 112.41 | 108.20 |
| 12 | B | 2029 | G | C4-C5-C6 | 5.27 | 121.96 | 118.80 |
| 12 | B | 2165 | C | O4'-C1'-N1 | 5.27 | 112.41 | 108.20 |
| 12 | B | 2688 | G | C6-N1-C2 | 5.27 | 128.26 | 125.10 |
| 11 | A | 13 | G | N1-C2-N3 | -5.26 | 120.74 | 123.90 |
| 12 | B | 230 | G | N9-C4-C5 | 5.26 | 107.51 | 105.40 |
| 12 | B | 564 | C | N3-C4-N4 | 5.26 | 121.68 | 118.00 |
| 12 | B | 921 | C | C5'-C4'-O4' | 5.26 | 115.42 | 109.10 |
| 12 | B | 1331 | G | C5'-C4'-C3' | -5.26 | 107.58 | 116.00 |
| 12 | B | 1405 | U | N3-C2-O2 | 5.26 | 125.88 | 122.20 |
| 12 | B | 1656 | C | O4'-C1'-N1 | 5.26 | 112.41 | 108.20 |
| 12 | B | 1986 | C | N3-C4-N4 | 5.26 | 121.69 | 118.00 |
| 12 | B | 2526 | G | N1-C6-O6 | 5.26 | 123.06 | 119.90 |
| 12 | B | 2777 | G | C5-C6-O6 | -5.26 | 125.44 | 128.60 |
| 12 | B | 2874 | C | OP1-P-O3' | 5.26 | 116.78 | 105.20 |
| 20 | J | 98 | GLU | CB-CA-C | -5.26 | 99.87 | 110.40 |
| 28 | R | 36 | ALA | N-CA-CB | -5.26 | 102.73 | 110.10 |
| 11 | A | 33 | G | C6-N1-C2 | 5.26 | 128.26 | 125.10 |
| 12 | B | 188 | G | O4'-C1'-N9 | 5.26 | 112.41 | 108.20 |
| 12 | B | 493 | G | C8-N9-C1' | 5.26 | 133.84 | 127.00 |
| 12 | B | 1097 | U | N3-C4-O4 | 5.26 | 123.08 | 119.40 |
| 12 | B | 1475 | G | C5-N7-C8 | 5.26 | 106.93 | 104.30 |
| 12 | B | 1943 | U | C2-N1-C1' | 5.26 | 124.02 | 117.70 |
| 12 | B | 2625 | G | C4-C5-C6 | 5.26 | 121.96 | 118.80 |
| 12 | B | 2763 | G | C5-C6-O6 | -5.26 | 125.44 | 128.60 |
| 13 | C | 244 | VAL | CA-CB-CG1 | -5.26 | 103.01 | 110.90 |
| 20 | J | 113 | PRO | N-CD-CG | 5.26 | 111.09 | 103.20 |
| 11 | A | 57 | A | C5'-C4'-O4' | 5.26 | 115.41 | 109.10 |
| 12 | B | 122 | G | C4-C5-N7 | 5.26 | 112.91 | 110.80 |
| 12 | B | 266 | G | C5-N7-C8 | -5.26 | 101.67 | 104.30 |
| 12 | B | 484 | C | C3'-C2'-C1' | -5.26 | 97.29 | 101.50 |
| 12 | B | 1501 | G | N1-C2-N3 | -5.26 | 120.74 | 123.90 |
| 12 | B | 1532 | A | C8-N9-C4 | 5.26 | 107.90 | 105.80 |
| 12 | B | 1664 | A | C3'-C2'-C1' | -5.26 | 97.29 | 101.50 |
| 12 | B | 2663 | G | P-O3'-C3' | -5.26 | 113.39 | 119.70 |
| 20 | J | 65 | THR | CA-CB-CG2 | -5.26 | 105.03 | 112.40 |
| 21 | K | 46 | ALA | N-CA-CB | 5.26 | 117.47 | 110.10 |
| 31 | U | 21 | ARG | NE-CZ-NH1 | 5.26 | 122.93 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 14 | A | N9-C4-C5 | 5.26 | 107.90 | 105.80 |
| 12 | B | 343 | C | N3-C4-C5 | -5.26 | 119.80 | 121.90 |
| 12 | B | 854 | C | N3-C4-C5 | -5.26 | 119.80 | 121.90 |
| 12 | B | 1609 | A | O3'-P-O5' | -5.26 | 94.01 | 104.00 |
| 18 | H | 46 | PHE | CB-CA-C | -5.26 | 99.88 | 110.40 |
| 11 | A | 85 | G | N3-C4-C5 | 5.26 | 131.23 | 128.60 |
| 12 | B | 423 | A | C8-N9-C4 | 5.26 | 107.90 | 105.80 |
| 12 | B | 474 | G | C5'-C4'-C3' | -5.26 | 107.59 | 116.00 |
| 12 | B | 1189 | A | C5-N7-C8 | 5.26 | 106.53 | 103.90 |
| 12 | B | 1231 | U | C5'-C4'-C3' | -5.26 | 107.59 | 116.00 |
| 12 | B | 1479 | G | O5'-C5'-C4' | -5.26 | 101.71 | 111.70 |
| 12 | B | 1848 | A | N9-C1'-C2' | 5.26 | 120.83 | 114.00 |
| 12 | B | 2631 | G | C3'-C2'-C1' | 5.26 | 105.71 | 101.50 |
| 12 | B | 2742 | G | C5-C6-O6 | -5.26 | 125.44 | 128.60 |
| 12 | B | 84 | A | C4-C5-C6 | 5.26 | 119.63 | 117.00 |
| 12 | B | 179 | C | C5-C4-N4 | -5.26 | 116.52 | 120.20 |
| 12 | B | 283 | G | C6-C5-N7 | -5.26 | 127.25 | 130.40 |
| 12 | B | 352 | A | N9-C4-C5 | -5.26 | 103.70 | 105.80 |
| 12 | B | 390 | U | C5-C4-O4 | -5.26 | 122.75 | 125.90 |
| 12 | B | 407 | G | O4'-C1'-N9 | 5.26 | 112.41 | 108.20 |
| 12 | B | 705 | A | N3-C4-N9 | 5.26 | 131.60 | 127.40 |
| 12 | B | 776 | G | O4'-C1'-N9 | 5.26 | 112.41 | 108.20 |
| 12 | B | 1547 | C | C3'-C2'-C1' | -5.26 | 97.30 | 101.50 |
| 12 | B | 1696 | G | C1'-O4'-C4' | -5.26 | 105.69 | 109.90 |
| 12 | B | 1874 | C | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |
| 12 | B | 2376 | A | C8-N9-C4 | 5.26 | 107.90 | 105.80 |
| 12 | B | 2636 | C | N1-C2-N3 | -5.26 | 115.52 | 119.20 |
| 10 | 9 | 327 | ASP | CB-CG-OD2 | 5.25 | 123.03 | 118.30 |
| 12 | B | 75 | G | O4'-C4'-C3' | -5.25 | 98.75 | 104.00 |
| 12 | B | 1054 | A | C5-C6-N6 | -5.25 | 119.50 | 123.70 |
| 12 | B | 1693 | U | C2-N3-C4 | -5.25 | 123.85 | 127.00 |
| 12 | B | 1819 | A | C5-C6-N6 | -5.25 | 119.50 | 123.70 |
| 12 | B | 2319 | G | C5'-C4'-O4' | 5.25 | 115.41 | 109.10 |
| 12 | B | 2653 | U | O4'-C1'-N1 | 5.25 | 112.40 | 108.20 |
| 12 | B | 103 | A | C3'-C2'-C1' | -5.25 | 97.30 | 101.50 |
| 12 | B | 307 | G | C5-C6-O6 | -5.25 | 125.45 | 128.60 |
| 12 | B | 362 | A | C2-N3-C4 | -5.25 | 107.97 | 110.60 |
| 12 | B | 804 | A | OP1-P-OP2 | -5.25 | 111.72 | 119.60 |
| 12 | B | 2673 | G | C4-C5-C6 | 5.25 | 121.95 | 118.80 |
| 12 | B | 76 | C | C6-N1-C2 | -5.25 | 118.20 | 120.30 |
| 12 | B | 80 | G | C6-C5-N7 | -5.25 | 127.25 | 130.40 |
| 12 | B | 552 | U | O4'-C1'-C2' | -5.25 | 100.55 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 587 | C | C6-N1-C2 | -5.25 | 118.20 | 120.30 |
| 12 | B | 863 | A | OP2-P-O3' | 5.25 | 116.75 | 105.20 |
| 12 | B | 927 | A | C4-C5-C6 | 5.25 | 119.62 | 117.00 |
| 12 | B | 1461 | C | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 12 | B | 2134 | A | N9-C4-C5 | -5.25 | 103.70 | 105.80 |
| 12 | B | 2362 | C | C5-C4-N4 | -5.25 | 116.52 | 120.20 |
| 12 | B | 2608 | G | N1-C2-N2 | -5.25 | 111.47 | 116.20 |
| 12 | B | 2673 | G | N3-C4-N9 | -5.25 | 122.85 | 126.00 |
| 12 | B | 2867 | G | C6-C5-N7 | -5.25 | 127.25 | 130.40 |
| 13 | C | 139 | THR | CA-CB-CG2 | -5.25 | 105.05 | 112.40 |
| 12 | B | 215 | G | C1'-O4'-C4' | 5.25 | 114.10 | 109.90 |
| 12 | B | 434 | U | C2-N3-C4 | 5.25 | 130.15 | 127.00 |
| 12 | B | 1400 | U | C2-N3-C4 | -5.25 | 123.85 | 127.00 |
| 12 | B | 2279 | G | O4'-C1'-N9 | 5.25 | 112.40 | 108.20 |
| 12 | B | 72 | U | OP2-P-O3' | 5.25 | 116.75 | 105.20 |
| 12 | B | 311 | A | O5'-C5'-C4' | 5.25 | 121.67 | 111.70 |
| 12 | B | 470 | A | C8-N9-C4 | -5.25 | 103.70 | 105.80 |
| 12 | B | 547 | A | C4-C5-C6 | 5.25 | 119.62 | 117.00 |
| 12 | B | 1558 | C | C5-C6-N1 | 5.25 | 123.62 | 121.00 |
| 12 | B | 2070 | A | N3-C4-N9 | 5.25 | 131.60 | 127.40 |
| 12 | B | 2238 | G | N3-C4-C5 | 5.25 | 131.22 | 128.60 |
| 12 | B | 2299 | U | N3-C4-O4 | 5.25 | 123.07 | 119.40 |
| 12 | B | 2664 | G | P-O5'-C5' | 5.25 | 129.30 | 120.90 |
| 11 | A | 97 | C | O4'-C1'-N1 | 5.25 | 112.40 | 108.20 |
| 12 | B | 678 | C | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 12 | B | 2100 | G | N7-C8-N9 | 5.25 | 115.72 | 113.10 |
| 12 | B | 2650 | U | N3-C4-O4 | 5.25 | 123.07 | 119.40 |
| 12 | B | 2677 | G | C6-C5-N7 | -5.25 | 127.25 | 130.40 |
| 11 | A | 114 | C | C4'-C3'-C2' | -5.25 | 97.36 | 102.60 |
| 12 | B | 1584 | U | N3-C2-O2 | 5.25 | 125.87 | 122.20 |
| 12 | B | 1975 | G | N3-C2-N2 | 5.25 | 123.57 | 119.90 |
| 12 | B | 2413 | G | O4'-C1'-N9 | 5.25 | 112.40 | 108.20 |
| 12 | B | 2415 | G | O5'-C5'-C4' | -5.25 | 101.73 | 111.70 |
| 12 | B | 2587 | A | C1'-O4'-C4' | 5.25 | 114.10 | 109.90 |
| 12 | B | 311 | A | C5-C6-N1 | -5.24 | 115.08 | 117.70 |
| 12 | B | 1506 | U | P-O5'-C5' | 5.24 | 129.29 | 120.90 |
| 12 | B | 1767 | G | C5-C6-N1 | -5.24 | 108.88 | 111.50 |
| 12 | B | 2150 | C | O4'-C1'-N1 | 5.24 | 112.40 | 108.20 |
| 12 | B | 2531 | A | C5-N7-C8 | 5.24 | 106.52 | 103.90 |
| 12 | B | 2867 | G | C2-N3-C4 | -5.24 | 109.28 | 111.90 |
| 24 | N | 8 | ARG | NE-CZ-NH1 | -5.24 | 117.68 | 120.30 |
| 12 | B | 117 | G | C8-N9-C1' | 5.24 | 133.81 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 233 | A | C5-N7-C8 | 5.24 | 106.52 | 103.90 |
| 12 | B | 323 | C | C2-N1-C1' | 5.24 | 124.57 | 118.80 |
| 12 | B | 864 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 12 | B | 1116 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 12 | B | 1923 | U | C6-N1-C2 | -5.24 | 117.86 | 121.00 |
| 6 | 5 | 44 | VAL | CA-CB-CG1 | 5.24 | 118.76 | 110.90 |
| 11 | A | 13 | G | O4'-C1'-N9 | 5.24 | 112.39 | 108.20 |
| 12 | B | 35 | G | N3-C4-N9 | -5.24 | 122.86 | 126.00 |
| 12 | B | 396 | G | C5-N7-C8 | 5.24 | 106.92 | 104.30 |
| 12 | B | 550 | C | C2-N3-C4 | 5.24 | 122.52 | 119.90 |
| 12 | B | 754 | U | C4'-C3'-C2' | -5.24 | 97.36 | 102.60 |
| 12 | B | 1158 | C | N1-C2-O2 | 5.24 | 122.04 | 118.90 |
| 12 | B | 1492 | G | N3-C2-N2 | 5.24 | 123.57 | 119.90 |
| 12 | B | 1663 | G | N3-C4-N9 | 5.24 | 129.14 | 126.00 |
| 12 | B | 1822 | C | C2-N3-C4 | 5.24 | 122.52 | 119.90 |
| 12 | B | 2479 | U | N3-C4-O4 | 5.24 | 123.07 | 119.40 |
| 12 | B | 2660 | A | N3-C4-C5 | -5.24 | 123.13 | 126.80 |
| 12 | B | 2775 | G | N1-C2-N2 | 5.24 | 120.92 | 116.20 |
| 12 | B | 2826 | A | O4'-C1'-N9 | 5.24 | 112.39 | 108.20 |
| 12 | B | 84 | A | C8-N9-C4 | -5.24 | 103.70 | 105.80 |
| 12 | B | 173 | A | C1'-O4'-C4' | 5.24 | 114.09 | 109.90 |
| 12 | B | 847 | U | N3-C4-O4 | 5.24 | 123.07 | 119.40 |
| 12 | B | 947 | A | C3'-C2'-C1' | -5.24 | 97.31 | 101.50 |
| 12 | B | 1338 | G | C5-C6-N1 | 5.24 | 114.12 | 111.50 |
| 12 | B | 1462 | C | C4'-C3'-C2' | -5.24 | 97.36 | 102.60 |
| 12 | B | 1591 | A | C4-C5-C6 | 5.24 | 119.62 | 117.00 |
| 12 | B | 2161 | C | N1-C2-N3 | 5.24 | 122.87 | 119.20 |
| 12 | B | 2214 | C | O5'-C5'-C4' | -5.24 | 101.75 | 111.70 |
| 12 | B | 2453 | A | N3-C4-C5 | 5.24 | 130.47 | 126.80 |
| 12 | B | 75 | G | O3'-P-O5' | -5.24 | 94.05 | 104.00 |
| 12 | B | 833 | A | O4'-C4'-C3' | -5.24 | 98.76 | 104.00 |
| 12 | B | 1051 | G | C6-C5-N7 | -5.24 | 127.26 | 130.40 |
| 12 | B | 1147 | A | P-O3'-C3' | -5.24 | 113.42 | 119.70 |
| 12 | B | 2228 | G | N3-C4-N9 | 5.24 | 129.14 | 126.00 |
| 12 | B | 2426 | A | P-O5'-C5' | -5.24 | 112.52 | 120.90 |
| 11 | A | 50 | A | C8-N9-C4 | 5.24 | 107.89 | 105.80 |
| 11 | A | 114 | C | O4'-C1'-C2' | -5.24 | 100.56 | 105.80 |
| 11 | A | 117 | G | O4'-C4'-C3' | -5.24 | 98.77 | 104.00 |
| 12 | B | 1264 | A | P-O3'-C3' | 5.24 | 125.98 | 119.70 |
| 12 | B | 1535 | A | P-O3'-C3' | 5.24 | 125.98 | 119.70 |
| 12 | B | 1950 | G | C1'-O4'-C4' | -5.24 | 105.71 | 109.90 |
| 12 | B | 1987 | A | C5-C6-N1 | 5.24 | 120.32 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2150 | C | N1-C2-O2 | 5.24 | 122.04 | 118.90 |
| 12 | B | 2290 | G | N1-C2-N2 | -5.24 | 111.49 | 116.20 |
| 12 | B | 2356 | U | N1-C2-N3 | -5.24 | 111.76 | 114.90 |
| 12 | B | 2857 | G | C8-N9-C4 | 5.24 | 108.49 | 106.40 |
| 17 | G | 91 | VAL | CA-CB-CG1 | -5.24 | 103.05 | 110.90 |
| 29 | S | 44 | ALA | C-N-CA | 5.24 | 134.79 | 121.70 |
| 30 | T | 6 | ARG | NE-CZ-NH2 | -5.24 | 117.68 | 120.30 |
| 12 | B | 533 | G | N1-C2-N3 | -5.23 | 120.76 | 123.90 |
| 12 | B | 656 | G | N3-C4-C5 | -5.23 | 125.98 | 128.60 |
| 12 | B | 1365 | A | N9-C4-C5 | -5.23 | 103.71 | 105.80 |
| 12 | B | 2017 | U | C6-N1-C2 | -5.23 | 117.86 | 121.00 |
| 12 | B | 51 | G | C5-N7-C8 | 5.23 | 106.92 | 104.30 |
| 12 | B | 69 | C | O3'-P-O5' | -5.23 | 94.06 | 104.00 |
| 12 | B | 1060 | U | O4'-C1'-N1 | 5.23 | 112.39 | 108.20 |
| 12 | B | 1218 | G | N1-C6-O6 | 5.23 | 123.04 | 119.90 |
| 12 | B | 2052 | A | C8-N9-C4 | -5.23 | 103.71 | 105.80 |
| 12 | B | 2640 | G | C1'-O4'-C4' | 5.23 | 114.09 | 109.90 |
| 21 | K | 72 | PRO | N-CA-CB | -5.23 | 96.84 | 102.60 |
| 25 | O | 106 | LEU | N-CA-CB | 5.23 | 120.86 | 110.40 |
| 12 | B | 34 | U | N3-C4-C5 | -5.23 | 111.46 | 114.60 |
| 12 | B | 739 | A | C4'-C3'-C2' | -5.23 | 97.37 | 102.60 |
| 12 | B | 789 | A | N3-C4-N9 | 5.23 | 131.59 | 127.40 |
| 12 | B | 1230 | A | C6-N1-C2 | 5.23 | 121.74 | 118.60 |
| 12 | B | 1339 | G | OP1-P-O3' | 5.23 | 116.71 | 105.20 |
| 12 | B | 1412 | U | C1'-O4'-C4' | 5.23 | 114.08 | 109.90 |
| 12 | B | 2433 | A | C5-N7-C8 | 5.23 | 106.52 | 103.90 |
| 12 | B | 2500 | U | C5'-C4'-O4' | 5.23 | 115.38 | 109.10 |
| 12 | B | 2507 | C | C2-N3-C4 | 5.23 | 122.52 | 119.90 |
| 12 | B | 2617 | U | C4'-C3'-C2' | -5.23 | 97.37 | 102.60 |
| 18 | H | 57 | LYS | C-N-CA | 5.23 | 134.78 | 121.70 |
| 12 | B | 82 | U | P-O5'-C5' | 5.23 | 129.27 | 120.90 |
| 12 | B | 1715 | G | C4'-C3'-C2' | -5.23 | 97.37 | 102.60 |
| 12 | B | 2703 | C | C5-C4-N4 | -5.23 | 116.54 | 120.20 |
| 12 | B | 332 | A | N1-C2-N3 | -5.23 | 126.69 | 129.30 |
| 12 | B | 520 | G | C8-N9-C1' | 5.23 | 133.80 | 127.00 |
| 12 | B | 661 | A | C2-N3-C4 | -5.23 | 107.99 | 110.60 |
| 12 | B | 875 | G | N3-C4-N9 | -5.23 | 122.86 | 126.00 |
| 12 | B | 884 | U | C1'-O4'-C4' | -5.23 | 105.72 | 109.90 |
| 12 | B | 1916 | A | O4'-C1'-N9 | 5.23 | 112.38 | 108.20 |
| 12 | B | 2247 | A | C5-C6-N6 | -5.23 | 119.52 | 123.70 |
| 12 | B | 2515 | C | N1-C2-O2 | 5.23 | 122.04 | 118.90 |
| 12 | B | 2673 | G | N1-C6-O6 | 5.23 | 123.04 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2824 | C | N1-C2-N3 | -5.23 | 115.54 | 119.20 |
| 12 | B | 2848 | G | N3-C4-N9 | -5.23 | 122.86 | 126.00 |
| 13 | C | 176 | ARG | NH1-CZ-NH2 | -5.23 | 113.65 | 119.40 |
| 18 | H | 139 | PHE | CB-CG-CD1 | -5.23 | 117.14 | 120.80 |
| 23 | M | 27 | SER | CB-CA-C | -5.23 | 100.17 | 110.10 |
| 12 | B | 298 | G | N1-C2-N2 | -5.23 | 111.50 | 116.20 |
| 12 | B | 1393 | A | C4-C5-N7 | -5.23 | 108.09 | 110.70 |
| 12 | B | 1395 | A | N1-C6-N6 | 5.23 | 121.73 | 118.60 |
| 12 | B | 1542 | U | C5-C6-N1 | 5.23 | 125.31 | 122.70 |
| 12 | B | 1577 | C | C5'-C4'-C3' | 5.23 | 124.36 | 116.00 |
| 12 | B | 2814 | A | C4-C5-C6 | 5.23 | 119.61 | 117.00 |
| 16 | F | 151 | LEU | N-CA-CB | 5.23 | 120.85 | 110.40 |
| 11 | A | 21 | G | N7-C8-N9 | -5.22 | 110.49 | 113.10 |
| 12 | B | 466 | A | C4-C5-C6 | 5.22 | 119.61 | 117.00 |
| 12 | B | 829 | A | C4-C5-C6 | 5.22 | 119.61 | 117.00 |
| 12 | B | 862 | G | N9-C4-C5 | -5.22 | 103.31 | 105.40 |
| 12 | B | 899 | A | N7-C8-N9 | -5.22 | 111.19 | 113.80 |
| 12 | B | 926 | G | C3'-C2'-C1' | -5.22 | 97.32 | 101.50 |
| 12 | B | 941 | A | C5-N7-C8 | 5.22 | 106.51 | 103.90 |
| 12 | B | 1174 | U | C5-C6-N1 | 5.22 | 125.31 | 122.70 |
| 12 | B | 1213 | A | P-O3'-C3' | -5.22 | 113.43 | 119.70 |
| 12 | B | 1242 | U | O4'-C1'-N1 | 5.22 | 112.38 | 108.20 |
| 12 | B | 1528 | A | C1'-O4'-C4' | -5.22 | 105.72 | 109.90 |
| 12 | B | 1630 | A | N1-C6-N6 | 5.22 | 121.73 | 118.60 |
| 12 | B | 2627 | G | C5'-C4'-O4' | -5.22 | 102.83 | 109.10 |
| 13 | C | 174 | ARG | NH1-CZ-NH2 | -5.22 | 113.65 | 119.40 |
| 18 | H | 96 | THR | N-CA-CB | 5.22 | 120.23 | 110.30 |
| 11 | A | 86 | G | OP1-P-OP2 | -5.22 | 111.77 | 119.60 |
| 12 | B | 263 | G | N1-C6-O6 | 5.22 | 123.03 | 119.90 |
| 12 | B | 390 | U | O5'-P-OP2 | -5.22 | 101.00 | 105.70 |
| 12 | B | 667 | U | N1-C2-O2 | -5.22 | 119.14 | 122.80 |
| 12 | B | 1034 | G | C6-C5-N7 | -5.22 | 127.27 | 130.40 |
| 12 | B | 1246 | A | O4'-C1'-N9 | 5.22 | 112.38 | 108.20 |
| 12 | B | 1270 | C | N3-C4-N4 | 5.22 | 121.66 | 118.00 |
| 12 | B | 1365 | A | O4'-C4'-C3' | -5.22 | 98.78 | 104.00 |
| 12 | B | 1632 | A | C1'-O4'-C4' | 5.22 | 114.08 | 109.90 |
| 12 | B | 1644 | C | OP1-P-OP2 | -5.22 | 111.77 | 119.60 |
| 12 | B | 1761 | C | N1-C2-O2 | -5.22 | 115.77 | 118.90 |
| 12 | B | 1789 | A | C5-C6-N6 | -5.22 | 119.52 | 123.70 |
| 12 | B | 2790 | U | P-O5'-C5' | 5.22 | 129.26 | 120.90 |
| 12 | B | 2854 | G | OP1-P-OP2 | -5.22 | 111.77 | 119.60 |
| 14 | D | 15 | PHE | CB-CG-CD1 | 5.22 | 124.46 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 24 | N | 112 | TYR | CB-CG-CD2 | -5.22 | 117.87 | 121.00 |
| 12 | B | 561 | G | O5'-P-OP2 | 5.22 | 116.97 | 110.70 |
| 12 | B | 1682 | G | C8-N9-C4 | 5.22 | 108.49 | 106.40 |
| 12 | B | 2571 | U | C1'-O4'-C4' | 5.22 | 114.08 | 109.90 |
| 12 | B | 2711 | A | C2-N3-C4 | 5.22 | 113.21 | 110.60 |
| 11 | A | 55 | U | C6-N1-C1' | 5.22 | 128.51 | 121.20 |
| 12 | B | 690 | G | C8-N9-C1' | 5.22 | 133.78 | 127.00 |
| 12 | B | 1227 | G | N9-C1'-C2' | -5.22 | 106.26 | 112.00 |
| 12 | B | 1337 | G | OP2-P-O3' | 5.22 | 116.68 | 105.20 |
| 12 | B | 1361 | G | OP1-P-O3' | 5.22 | 116.68 | 105.20 |
| 12 | B | 1498 | C | C5-C4-N4 | -5.22 | 116.55 | 120.20 |
| 12 | B | 1547 | C | O4'-C4'-C3' | -5.22 | 98.78 | 104.00 |
| 12 | B | 1611 | C | C6-N1-C2 | -5.22 | 118.21 | 120.30 |
| 12 | B | 1667 | G | C2-N3-C4 | -5.22 | 109.29 | 111.90 |
| 12 | B | 1809 | A | C5-N7-C8 | 5.22 | 106.51 | 103.90 |
| 12 | B | 2014 | A | C5-C6-N1 | -5.22 | 115.09 | 117.70 |
| 12 | B | 2289 | G | N1-C2-N3 | -5.22 | 120.77 | 123.90 |
| 12 | B | 2324 | U | C5-C6-N1 | 5.22 | 125.31 | 122.70 |
| 12 | B | 2484 | G | P-O3'-C3' | -5.22 | 113.44 | 119.70 |
| 12 | B | 2572 | A | C5'-C4'-O4' | 5.22 | 115.36 | 109.10 |
| 20 | J | 62 | VAL | CA-CB-CG2 | 5.22 | 118.73 | 110.90 |
| 12 | B | 326 | G | C2-N3-C4 | 5.22 | 114.51 | 111.90 |
| 12 | B | 1948 | G | C5-C6-N1 | -5.22 | 108.89 | 111.50 |
| 12 | B | 2175 | C | C6-N1-C2 | -5.22 | 118.21 | 120.30 |
| 12 | B | 2586 | U | O5'-P-OP1 | -5.22 | 101.00 | 105.70 |
| 10 | 9 | 117 | VAL | N-CA-C | -5.22 | 96.91 | 111.00 |
| 12 | B | 734 | A | C4-C5-C6 | 5.22 | 119.61 | 117.00 |
| 12 | B | 916 | G | C6-C5-N7 | -5.22 | 127.27 | 130.40 |
| 12 | B | 1275 | A | P-O3'-C3' | 5.22 | 125.96 | 119.70 |
| 12 | B | 1546 | G | C4-C5-N7 | 5.22 | 112.89 | 110.80 |
| 12 | B | 1649 | G | C1'-O4'-C4' | -5.22 | 105.73 | 109.90 |
| 12 | B | 1959 | G | OP2-P-O3' | 5.22 | 116.68 | 105.20 |
| 12 | B | 2575 | C | P-O3'-C3' | 5.22 | 125.96 | 119.70 |
| 12 | B | 2673 | G | N1-C2-N3 | -5.22 | 120.77 | 123.90 |
| 12 | B | 2850 | A | C4-C5-C6 | 5.22 | 119.61 | 117.00 |
| 1 | 0 | 10 | ARG | NE-CZ-NH1 | -5.21 | 117.69 | 120.30 |
| 11 | A | 80 | U | N1-C2-N3 | -5.21 | 111.77 | 114.90 |
| 12 | B | 88 | G | N1-C2-N3 | -5.21 | 120.77 | 123.90 |
| 12 | B | 144 | A | N3-C4-C5 | -5.21 | 123.15 | 126.80 |
| 12 | B | 889 | C | P-O5'-C5' | -5.21 | 112.56 | 120.90 |
| 12 | B | 1126 | A | C5-C6-N6 | 5.21 | 127.87 | 123.70 |
| 12 | B | 1773 | A | N7-C8-N9 | 5.21 | 116.41 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2051 | A | C1'-O4'-C4' | 5.21 | 114.07 | 109.90 |
| 12 | B | 2088 | A | N7-C8-N9 | -5.21 | 111.19 | 113.80 |
| 12 | B | 2460 | U | N3-C4-O4 | 5.21 | 123.05 | 119.40 |
| 12 | B | 1650 | A | C8-N9-C4 | -5.21 | 103.72 | 105.80 |
| 12 | B | 1872 | A | C6-N1-C2 | 5.21 | 121.73 | 118.60 |
| 12 | B | 2565 | A | C5-C6-N6 | -5.21 | 119.53 | 123.70 |
| 12 | B | 2824 | C | N1-C2-O2 | 5.21 | 122.03 | 118.90 |
| 12 | B | 636 | G | C4-C5-C6 | 5.21 | 121.93 | 118.80 |
| 12 | B | 921 | C | C1'-O4'-C4' | 5.21 | 114.07 | 109.90 |
| 12 | B | 930 | G | O4'-C1'-N9 | 5.21 | 112.37 | 108.20 |
| 12 | B | 1027 | A | C6-C5-N7 | -5.21 | 128.65 | 132.30 |
| 12 | B | 1390 | U | N1-C2-N3 | 5.21 | 118.03 | 114.90 |
| 12 | B | 1967 | C | C6-N1-C2 | -5.21 | 118.22 | 120.30 |
| 12 | B | 2682 | A | C4-C5-C6 | 5.21 | 119.61 | 117.00 |
| 13 | C | 261 | ARG | N-CA-C | -5.21 | 96.93 | 111.00 |
| 12 | B | 1575 | C | N1-C2-O2 | 5.21 | 122.03 | 118.90 |
| 12 | B | 1684 | G | C6-N1-C2 | -5.21 | 121.97 | 125.10 |
| 12 | B | 1806 | C | C6-N1-C2 | 5.21 | 122.38 | 120.30 |
| 12 | B | 2078 | C | P-O5'-C5' | 5.21 | 129.24 | 120.90 |
| 11 | A | 86 | G | C5'-C4'-O4' | 5.21 | 115.35 | 109.10 |
| 12 | B | 422 | A | C2-N3-C4 | 5.21 | 113.20 | 110.60 |
| 12 | B | 755 | U | N3-C4-O4 | 5.21 | 123.05 | 119.40 |
| 12 | B | 1180 | U | C4-C5-C6 | -5.21 | 116.58 | 119.70 |
| 12 | B | 1379 | U | P-O3'-C3' | 5.21 | 125.95 | 119.70 |
| 12 | B | 1437 | C | C6-N1-C2 | 5.21 | 122.38 | 120.30 |
| 12 | B | 2001 | C | C4-C5-C6 | -5.21 | 114.80 | 117.40 |
| 12 | B | 2056 | G | N3-C4-N9 | 5.21 | 129.12 | 126.00 |
| 12 | B | 2293 | G | N9-C1'-C2' | -5.21 | 106.27 | 112.00 |
| 12 | B | 2410 | G | C4-C5-N7 | -5.21 | 108.72 | 110.80 |
| 12 | B | 1477 | A | N1-C2-N3 | 5.21 | 131.90 | 129.30 |
| 12 | B | 1513 | U | C2-N3-C4 | -5.21 | 123.88 | 127.00 |
| 12 | B | 1676 | A | P-O3'-C3' | 5.21 | 125.95 | 119.70 |
| 12 | B | 2089 | C | C2-N3-C4 | 5.21 | 122.50 | 119.90 |
| 12 | B | 2183 | A | N9-C1'-C2' | -5.21 | 106.27 | 112.00 |
| 27 | Q | 44 | TYR | CB-CG-CD1 | -5.21 | 117.88 | 121.00 |
| 27 | Q | 105 | PHE | O-C-N | -5.21 | 114.37 | 122.70 |
| 11 | A | 40 | U | N3-C4-C5 | -5.21 | 111.48 | 114.60 |
| 12 | B | 213 | A | O4'-C1'-N9 | 5.21 | 112.36 | 108.20 |
| 12 | B | 372 | G | N3-C2-N2 | 5.21 | 123.54 | 119.90 |
| 12 | B | 644 | A | C5-N7-C8 | 5.21 | 106.50 | 103.90 |
| 12 | B | 2211 | A | C8-N9-C1' | -5.21 | 118.33 | 127.70 |
| 12 | B | 2802 | G | C4'-C3'-C2' | -5.21 | 97.39 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 56 | G | N3-C4-C5 | 5.20 | 131.20 | 128.60 |
| 12 | B | 66 | C | O5'-C5'-C4' | -5.20 | 101.81 | 111.70 |
| 12 | B | 293 | U | C5-C4-O4 | -5.20 | 122.78 | 125.90 |
| 12 | B | 372 | G | N1-C2-N2 | -5.20 | 111.52 | 116.20 |
| 12 | B | 566 | U | N1-C2-O2 | -5.20 | 119.16 | 122.80 |
| 12 | B | 643 | A | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 12 | B | 1076 | C | C5'-C4'-C3' | 5.20 | 124.32 | 116.00 |
| 12 | B | 1553 | A | C8-N9-C4 | -5.20 | 103.72 | 105.80 |
| 12 | B | 1560 | G | O4'-C1'-N9 | 5.20 | 112.36 | 108.20 |
| 12 | B | 1573 | G | C8-N9-C4 | -5.20 | 104.32 | 106.40 |
| 12 | B | 1717 | A | C5'-C4'-C3' | 5.20 | 124.33 | 116.00 |
| 12 | B | 2153 | C | C1'-O4'-C4' | -5.20 | 105.74 | 109.90 |
| 12 | B | 2226 | C | C5-C4-N4 | 5.20 | 123.84 | 120.20 |
| 12 | B | 2740 | A | C5-N7-C8 | 5.20 | 106.50 | 103.90 |
| 12 | B | 722 | A | C4-C5-N7 | -5.20 | 108.10 | 110.70 |
| 12 | B | 2121 | G | N9-C4-C5 | 5.20 | 107.48 | 105.40 |
| 12 | B | 2317 | A | N7-C8-N9 | 5.20 | 116.40 | 113.80 |
| 12 | B | 2588 | G | C1'-O4'-C4' | -5.20 | 105.74 | 109.90 |
| 14 | D | 184 | ARG | C-N-CA | 5.20 | 134.71 | 121.70 |
| 12 | B | 475 | C | N1-C2-N3 | -5.20 | 115.56 | 119.20 |
| 12 | B | 761 | A | C5'-C4'-C3' | -5.20 | 107.68 | 116.00 |
| 12 | B | 1114 | C | N3-C4-C5 | -5.20 | 119.82 | 121.90 |
| 12 | B | 1746 | A | C3'-C2'-C1' | -5.20 | 97.34 | 101.50 |
| 12 | B | 1762 | A | C1'-O4'-C4' | 5.20 | 114.06 | 109.90 |
| 12 | B | 2157 | G | N1-C2-N3 | -5.20 | 120.78 | 123.90 |
| 12 | B | 2220 | U | C5'-C4'-C3' | 5.20 | 124.32 | 116.00 |
| 12 | B | 2286 | G | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 12 | B | 2302 | U | O5'-P-OP2 | -5.20 | 101.02 | 105.70 |
| 12 | B | 2461 | A | N9-C4-C5 | -5.20 | 103.72 | 105.80 |
| 24 | N | 65 | LEU | CB-CA-C | -5.20 | 100.32 | 110.20 |
| 12 | B | 4 | U | C5-C6-N1 | -5.20 | 120.10 | 122.70 |
| 12 | B | 119 | A | C2-N3-C4 | 5.20 | 113.20 | 110.60 |
| 12 | B | 492 | A | N3-C4-C5 | -5.20 | 123.16 | 126.80 |
| 12 | B | 857 | G | C6-C5-N7 | -5.20 | 127.28 | 130.40 |
| 12 | B | 1044 | C | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 12 | B | 1045 | C | C5-C6-N1 | 5.20 | 123.60 | 121.00 |
| 12 | B | 1071 | G | C5-C6-O6 | -5.20 | 125.48 | 128.60 |
| 12 | B | 1369 | G | N3-C2-N2 | 5.20 | 123.54 | 119.90 |
| 12 | B | 1381 | G | C6-C5-N7 | -5.20 | 127.28 | 130.40 |
| 12 | B | 1408 | G | C8-N9-C4 | -5.20 | 104.32 | 106.40 |
| 12 | B | 1572 | A | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 12 | B | 1784 | A | C4-C5-C6 | 5.20 | 119.60 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2008 | C | O4'-C1'-N1 | 5.20 | 112.36 | 108.20 |
| 12 | B | 2087 | G | C4-C5-N7 | -5.20 | 108.72 | 110.80 |
| 12 | B | 2139 | U | N3-C4-O4 | 5.20 | 123.04 | 119.40 |
| 12 | B | 2269 | G | O4'-C1'-N9 | 5.20 | 112.36 | 108.20 |
| 12 | B | 2465 | C | C5-C4-N4 | -5.20 | 116.56 | 120.20 |
| 12 | B | 2738 | A | C2-N3-C4 | -5.20 | 108.00 | 110.60 |
| 12 | B | 2798 | U | C6-N1-C2 | 5.20 | 124.12 | 121.00 |
| 6 | 5 | 32 | GLU | CB-CA-C | -5.20 | 100.01 | 110.40 |
| 12 | B | 119 | A | C4-C5-N7 | -5.20 | 108.10 | 110.70 |
| 12 | B | 322 | A | O3'-P-O5' | 5.20 | 113.87 | 104.00 |
| 12 | B | 354 | A | C4'-C3'-C2' | -5.20 | 97.40 | 102.60 |
| 12 | B | 785 | G | N3-C4-N9 | -5.20 | 122.88 | 126.00 |
| 12 | B | 885 | C | C4'-C3'-C2' | -5.20 | 97.40 | 102.60 |
| 12 | B | 1129 | A | C4-C5-N7 | -5.20 | 108.10 | 110.70 |
| 12 | B | 1337 | G | N7-C8-N9 | 5.20 | 115.70 | 113.10 |
| 11 | A | 2 | G | C1'-O4'-C4' | -5.20 | 105.74 | 109.90 |
| 12 | B | 46 | G | O4'-C1'-N9 | 5.20 | 112.36 | 108.20 |
| 12 | B | 476 | G | C4-C5-C6 | 5.20 | 121.92 | 118.80 |
| 12 | B | 538 | A | N9-C4-C5 | 5.20 | 107.88 | 105.80 |
| 12 | B | 1308 | A | C3'-C2'-C1' | -5.20 | 97.34 | 101.50 |
| 12 | B | 1624 | U | N3-C4-O4 | 5.20 | 123.04 | 119.40 |
| 12 | B | 1949 | G | C8-N9-C1' | -5.20 | 120.25 | 127.00 |
| 12 | B | 2053 | G | N1-C6-O6 | 5.20 | 123.02 | 119.90 |
| 12 | B | 2208 | C | C2-N1-C1' | 5.20 | 124.52 | 118.80 |
| 12 | B | 2351 | G | C4-C5-C6 | 5.20 | 121.92 | 118.80 |
| 12 | B | 2552 | U | O4'-C1'-N1 | 5.20 | 112.36 | 108.20 |
| 12 | B | 2552 | U | N3-C4-O4 | 5.20 | 123.04 | 119.40 |
| 12 | B | 2794 | C | C5-C4-N4 | -5.20 | 116.56 | 120.20 |
| 16 | F | 151 | LEU | CA-C-O | 5.20 | 131.01 | 120.10 |
| 24 | N | 40 | LYS | N-CA-CB | 5.20 | 119.95 | 110.60 |
| 11 | A | 16 | G | N3-C4-C5 | 5.19 | 131.20 | 128.60 |
| 12 | B | 304 | U | C4'-C3'-C2' | -5.19 | 97.41 | 102.60 |
| 12 | B | 345 | A | C4-C5-N7 | -5.19 | 108.10 | 110.70 |
| 12 | B | 417 | C | C2-N3-C4 | 5.19 | 122.50 | 119.90 |
| 12 | B | 472 | A | O4'-C1'-N9 | 5.19 | 112.36 | 108.20 |
| 12 | B | 659 | G | O4'-C1'-N9 | 5.19 | 112.36 | 108.20 |
| 12 | B | 1410 | G | C8-N9-C1' | 5.19 | 133.75 | 127.00 |
| 12 | B | 2487 | G | O5'-P-OP2 | -5.19 | 101.03 | 105.70 |
| 12 | B | 2752 | C | O4'-C1'-N1 | 5.19 | 112.36 | 108.20 |
| 12 | B | 296 | U | C5-C6-N1 | 5.19 | 125.30 | 122.70 |
| 12 | B | 314 | C | C1'-O4'-C4' | 5.19 | 114.05 | 109.90 |
| 12 | B | 717 | C | N1-C1'-C2' | -5.19 | 106.29 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 997 | G | N1-C2-N3 | -5.19 | 120.78 | 123.90 |
| 12 | B | 1124 | G | N1-C2-N2 | 5.19 | 120.87 | 116.20 |
| 12 | B | 1301 | A | C6-N1-C2 | -5.19 | 115.48 | 118.60 |
| 12 | B | 1340 | U | N3-C4-O4 | 5.19 | 123.03 | 119.40 |
| 12 | B | 1985 | C | C2-N3-C4 | -5.19 | 117.30 | 119.90 |
| 12 | B | 2183 | A | O4'-C4'-C3' | -5.19 | 98.81 | 104.00 |
| 12 | B | 2791 | G | N3-C4-C5 | 5.19 | 131.20 | 128.60 |
| 18 | H | 65 | ALA | CB-CA-C | -5.19 | 102.31 | 110.10 |
| 12 | B | 65 | U | N3-C4-O4 | 5.19 | 123.03 | 119.40 |
| 12 | B | 88 | G | OP1-P-OP2 | -5.19 | 111.81 | 119.60 |
| 12 | B | 557 | C | P-O5'-C5' | 5.19 | 129.20 | 120.90 |
| 12 | B | 882 | G | C8-N9-C1' | 5.19 | 133.75 | 127.00 |
| 12 | B | 943 | A | O3'-P-O5' | -5.19 | 94.14 | 104.00 |
| 12 | B | 1285 | A | P-O5'-C5' | 5.19 | 129.20 | 120.90 |
| 12 | B | 1441 | G | P-O5'-C5' | 5.19 | 129.20 | 120.90 |
| 12 | B | 1743 | G | C1'-O4'-C4' | -5.19 | 105.75 | 109.90 |
| 12 | B | 1825 | U | C4-C5-C6 | -5.19 | 116.59 | 119.70 |
| 12 | B | 2467 | C | C5-C4-N4 | -5.19 | 116.57 | 120.20 |
| 12 | B | 2680 | U | C2-N3-C4 | -5.19 | 123.89 | 127.00 |
| 12 | B | 2834 | G | N9-C4-C5 | 5.19 | 107.48 | 105.40 |
| 12 | B | 2871 | U | C2-N3-C4 | -5.19 | 123.89 | 127.00 |
| 30 | T | 66 | LYS | N-CA-C | -5.19 | 96.99 | 111.00 |
| 12 | B | 2373 | G | N3-C2-N2 | 5.19 | 123.53 | 119.90 |
| 28 | R | 42 | ALA | N-CA-CB | 5.19 | 117.36 | 110.10 |
| 11 | A | 8 | C | N3-C4-C5 | -5.19 | 119.83 | 121.90 |
| 12 | B | 473 | G | O3'-P-O5' | -5.19 | 94.15 | 104.00 |
| 12 | B | 476 | G | C6-N1-C2 | 5.19 | 128.21 | 125.10 |
| 12 | B | 615 | U | N1-C2-O2 | -5.19 | 119.17 | 122.80 |
| 12 | B | 1531 | C | C5-C6-N1 | 5.19 | 123.59 | 121.00 |
| 12 | B | 1552 | A | C1'-O4'-C4' | 5.19 | 114.05 | 109.90 |
| 12 | B | 1870 | C | C6-N1-C2 | -5.19 | 118.22 | 120.30 |
| 12 | B | 2706 | A | C6-N1-C2 | 5.19 | 121.71 | 118.60 |
| 12 | B | 2737 | G | O4'-C1'-N9 | 5.19 | 112.35 | 108.20 |
| 12 | B | 2881 | U | N3-C2-O2 | 5.19 | 125.83 | 122.20 |
| 14 | D | 15 | PHE | C-N-CA | 5.19 | 134.67 | 121.70 |
| 28 | R | 21 | ARG | N-CA-C | -5.19 | 96.99 | 111.00 |
| 12 | B | 527 | C | O4'-C1'-N1 | 5.19 | 112.35 | 108.20 |
| 12 | B | 670 | A | C6-C5-N7 | -5.19 | 128.67 | 132.30 |
| 12 | B | 996 | A | C5'-C4'-O4' | 5.19 | 115.32 | 109.10 |
| 12 | B | 1162 | G | C2-N3-C4 | -5.19 | 109.31 | 111.90 |
| 12 | B | 1562 | U | C5'-C4'-C3' | -5.19 | 107.70 | 116.00 |
| 28 | R | 21 | ARG | NE-CZ-NH2 | 5.19 | 122.89 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 357 | C | N3-C4-C5 | -5.18 | 119.83 | 121.90 |
| 12 | B | 408 | G | C5'-C4'-C3' | -5.18 | 107.70 | 116.00 |
| 12 | B | 520 | G | C8-N9-C4 | -5.18 | 104.33 | 106.40 |
| 12 | B | 709 | U | C2-N3-C4 | -5.18 | 123.89 | 127.00 |
| 12 | B | 1831 | G | C3'-C2'-C1' | -5.18 | 97.35 | 101.50 |
| 12 | B | 2116 | G | N7-C8-N9 | 5.18 | 115.69 | 113.10 |
| 12 | B | 2478 | A | C5-C6-N6 | -5.18 | 119.55 | 123.70 |
| 12 | B | 2616 | C | N3-C2-O2 | 5.18 | 125.53 | 121.90 |
| 12 | B | 133 | U | N3-C4-C5 | -5.18 | 111.49 | 114.60 |
| 12 | B | 371 | A | C5'-C4'-O4' | 5.18 | 115.32 | 109.10 |
| 12 | B | 662 | G | C5-C6-O6 | -5.18 | 125.49 | 128.60 |
| 12 | B | 682 | G | O4'-C1'-N9 | 5.18 | 112.35 | 108.20 |
| 12 | B | 688 | U | N3-C2-O2 | 5.18 | 125.83 | 122.20 |
| 12 | B | 743 | A | O4'-C1'-N9 | 5.18 | 112.35 | 108.20 |
| 12 | B | 1402 | U | C5-C6-N1 | 5.18 | 125.29 | 122.70 |
| 12 | B | 1762 | A | O4'-C4'-C3' | -5.18 | 98.82 | 104.00 |
| 12 | B | 1861 | G | C1'-O4'-C4' | -5.18 | 105.75 | 109.90 |
| 12 | B | 2305 | U | P-O3'-C3' | 5.18 | 125.92 | 119.70 |
| 12 | B | 2429 | G | C8-N9-C4 | 5.18 | 108.47 | 106.40 |
| 12 | B | 489 | G | C6-N1-C2 | 5.18 | 128.21 | 125.10 |
| 12 | B | 1454 | C | C4'-C3'-C2' | 5.18 | 107.78 | 102.60 |
| 12 | B | 1766 | G | C8-N9-C4 | 5.18 | 108.47 | 106.40 |
| 12 | B | 1841 | U | C5-C6-N1 | -5.18 | 120.11 | 122.70 |
| 12 | B | 2120 | G | C5'-C4'-C3' | -5.18 | 107.71 | 116.00 |
| 33 | Y | 65 | LYS | N-CA-CB | 5.18 | 119.93 | 110.60 |
| 12 | B | 199 | A | C6-N1-C2 | 5.18 | 121.71 | 118.60 |
| 12 | B | 251 | A | O5'-P-OP1 | -5.18 | 101.04 | 105.70 |
| 12 | B | 697 | G | C3'-C2'-C1' | 5.18 | 105.64 | 101.50 |
| 12 | B | 1165 | A | C8-N9-C4 | -5.18 | 103.73 | 105.80 |
| 12 | B | 1302 | A | C6-C5-N7 | -5.18 | 128.68 | 132.30 |
| 12 | B | 2064 | C | O4'-C1'-N1 | 5.18 | 112.34 | 108.20 |
| 12 | B | 189 | G | N1-C2-N3 | -5.18 | 120.79 | 123.90 |
| 12 | B | 628 | G | C6-C5-N7 | -5.18 | 127.29 | 130.40 |
| 12 | B | 721 | A | C2-N3-C4 | -5.18 | 108.01 | 110.60 |
| 12 | B | 1580 | A | C6-N1-C2 | -5.18 | 115.49 | 118.60 |
| 12 | B | 2059 | A | C6-C5-N7 | -5.18 | 128.68 | 132.30 |
| 12 | B | 2315 | G | OP2-P-O3' | 5.18 | 116.59 | 105.20 |
| 12 | B | 2629 | U | O3'-P-O5' | -5.18 | 94.16 | 104.00 |
| 22 | L | 27 | LEU | CB-CG-CD2 | 5.18 | 119.80 | 111.00 |
| 11 | A | 70 | C | O5'-C5'-C4' | -5.18 | 101.86 | 111.70 |
| 12 | B | 43 | G | P-O3'-C3' | -5.18 | 113.49 | 119.70 |
| 12 | B | 148 | U | OP1-P-O3' | 5.18 | 116.59 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 544 | C | N3-C2-O2 | -5.18 | 118.28 | 121.90 |
| 12 | B | 577 | G | N7-C8-N9 | 5.18 | 115.69 | 113.10 |
| 12 | B | 731 | C | N1-C2-O2 | -5.18 | 115.79 | 118.90 |
| 12 | B | 820 | A | C5'-C4'-C3' | 5.18 | 124.28 | 116.00 |
| 12 | B | 852 | U | C4-C5-C6 | -5.18 | 116.59 | 119.70 |
| 12 | B | 1060 | U | P-O3'-C3' | 5.18 | 125.91 | 119.70 |
| 12 | B | 1173 | U | C1'-O4'-C4' | 5.18 | 114.04 | 109.90 |
| 12 | B | 1337 | G | C8-N9-C4 | -5.18 | 104.33 | 106.40 |
| 12 | B | 1495 | A | C5-C6-N6 | -5.18 | 119.56 | 123.70 |
| 12 | B | 1571 | A | C5-N7-C8 | 5.18 | 106.49 | 103.90 |
| 12 | B | 1910 | G | N9-C4-C5 | -5.18 | 103.33 | 105.40 |
| 12 | B | 2052 | A | N9-C1'-C2' | -5.18 | 106.31 | 112.00 |
| 12 | B | 2583 | G | C5-N7-C8 | 5.18 | 106.89 | 104.30 |
| 12 | B | 2793 | C | C5-C4-N4 | -5.18 | 116.58 | 120.20 |
| 12 | B | 452 | G | C5-C6-O6 | -5.17 | 125.50 | 128.60 |
| 12 | B | 802 | A | C6-C5-N7 | -5.17 | 128.68 | 132.30 |
| 12 | B | 1223 | G | C4-C5-C6 | 5.17 | 121.91 | 118.80 |
| 12 | B | 1474 | U | N3-C2-O2 | 5.17 | 125.82 | 122.20 |
| 12 | B | 1556 | C | C4'-C3'-C2' | -5.17 | 97.42 | 102.60 |
| 12 | B | 1663 | G | N1-C2-N2 | 5.17 | 120.86 | 116.20 |
| 12 | B | 2019 | A | C6-C5-N7 | -5.17 | 128.68 | 132.30 |
| 10 | 9 | 40 | GLY | N-CA-C | 5.17 | 126.03 | 113.10 |
| 12 | B | 1155 | A | C5-N7-C8 | 5.17 | 106.49 | 103.90 |
| 12 | B | 1401 | G | N1-C6-O6 | 5.17 | 123.00 | 119.90 |
| 12 | B | 1966 | A | N7-C8-N9 | -5.17 | 111.21 | 113.80 |
| 12 | B | 1982 | U | N3-C4-O4 | 5.17 | 123.02 | 119.40 |
| 12 | B | 1984 | G | C8-N9-C4 | 5.17 | 108.47 | 106.40 |
| 12 | B | 2625 | G | C6-C5-N7 | -5.17 | 127.30 | 130.40 |
| 12 | B | 2838 | G | N3-C4-N9 | -5.17 | 122.90 | 126.00 |
| 27 | Q | 60 | TRP | CG-CD2-CE3 | -5.17 | 129.24 | 133.90 |
| 11 | A | 109 | A | C5-C6-N6 | -5.17 | 119.56 | 123.70 |
| 12 | B | 80 | G | N3-C2-N2 | 5.17 | 123.52 | 119.90 |
| 12 | B | 82 | U | C5'-C4'-O4' | 5.17 | 115.31 | 109.10 |
| 12 | B | 697 | G | C6-N1-C2 | 5.17 | 128.20 | 125.10 |
| 12 | B | 797 | G | O4'-C1'-N9 | 5.17 | 112.34 | 108.20 |
| 12 | B | 1436 | G | N1-C2-N2 | -5.17 | 111.55 | 116.20 |
| 12 | B | 1628 | G | O4'-C1'-N9 | 5.17 | 112.34 | 108.20 |
| 12 | B | 2206 | C | N3-C4-N4 | 5.17 | 121.62 | 118.00 |
| 12 | B | 2875 | C | C5'-C4'-C3' | -5.17 | 107.73 | 116.00 |
| 15 | E | 124 | PHE | CB-CG-CD2 | 5.17 | 124.42 | 120.80 |
| 11 | A | 39 | A | P-O5'-C5' | -5.17 | 112.63 | 120.90 |
| 12 | B | 757 | G | N3-C2-N2 | 5.17 | 123.52 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 834 | G | P-O3'-C3' | -5.17 | 113.50 | 119.70 |
| 12 | B | 939 | G | N3-C2-N2 | 5.17 | 123.52 | 119.90 |
| 12 | B | 1194 | A | C4-C5-C6 | 5.17 | 119.58 | 117.00 |
| 12 | B | 1306 | C | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 12 | B | 2047 | C | N1-C2-N3 | 5.17 | 122.82 | 119.20 |
| 12 | B | 2419 | U | N1-C1'-C2' | -5.17 | 106.31 | 112.00 |
| 12 | B | 563 | A | C2-N3-C4 | -5.17 | 108.02 | 110.60 |
| 12 | B | 631 | A | C8-N9-C4 | -5.17 | 103.73 | 105.80 |
| 12 | B | 654 | A | N9-C1'-C2' | -5.17 | 106.31 | 112.00 |
| 12 | B | 836 | G | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 12 | B | 935 | C | C1'-O4'-C4' | -5.17 | 105.77 | 109.90 |
| 12 | B | 2112 | G | C4-C5-C6 | 5.17 | 121.90 | 118.80 |
| 12 | B | 2364 | C | N3-C4-C5 | -5.17 | 119.83 | 121.90 |
| 13 | C | 47 | ARG | N-CA-CB | 5.17 | 119.90 | 110.60 |
| 1 | 0 | 77 | TYR | CB-CG-CD1 | -5.17 | 117.90 | 121.00 |
| 12 | B | 24 | G | N1-C2-N3 | -5.17 | 120.80 | 123.90 |
| 12 | B | 795 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 12 | B | 1161 | C | N1-C2-O2 | -5.17 | 115.80 | 118.90 |
| 12 | B | 1567 | G | C4-C5-C6 | 5.17 | 121.90 | 118.80 |
| 12 | B | 1583 | A | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 12 | B | 1686 | C | N3-C2-O2 | 5.17 | 125.52 | 121.90 |
| 12 | B | 2675 | A | C6-C5-N7 | -5.17 | 128.68 | 132.30 |
| 12 | B | 2704 | C | C5-C6-N1 | 5.17 | 123.58 | 121.00 |
| 12 | B | 2723 | C | C3'-C2'-C1' | 5.17 | 105.63 | 101.50 |
| 13 | C | 108 | GLY | N-CA-C | -5.17 | 100.18 | 113.10 |
| 22 | L | 89 | VAL | N-CA-C | -5.17 | 97.05 | 111.00 |
| 8 | 7 | 21 | PHE | CB-CG-CD1 | -5.17 | 117.18 | 120.80 |
| 12 | B | 2810 | A | C6-C5-N7 | -5.17 | 128.68 | 132.30 |
| 12 | B | 106 | C | N3-C4-N4 | 5.16 | 121.61 | 118.00 |
| 12 | B | 148 | U | P-O3'-C3' | 5.16 | 125.90 | 119.70 |
| 12 | B | 180 | G | C6-C5-N7 | -5.16 | 127.30 | 130.40 |
| 12 | B | 791 | C | OP1-P-OP2 | -5.16 | 111.86 | 119.60 |
| 12 | B | 1272 | A | O5'-C5'-C4' | 5.16 | 121.51 | 111.70 |
| 12 | B | 1351 | C | C4-C5-C6 | 5.16 | 119.98 | 117.40 |
| 12 | B | 1838 | C | C4-C5-C6 | 5.16 | 119.98 | 117.40 |
| 12 | B | 1939 | U | C5-C4-O4 | -5.16 | 122.80 | 125.90 |
| 12 | B | 2211 | A | N7-C8-N9 | -5.16 | 111.22 | 113.80 |
| 12 | B | 2221 | G | N7-C8-N9 | 5.16 | 115.68 | 113.10 |
| 12 | B | 2355 | G | C8-N9-C4 | -5.16 | 104.33 | 106.40 |
| 12 | B | 2608 | G | P-O3'-C3' | -5.16 | 113.50 | 119.70 |
| 26 | P | 58 | PHE | CG-CD1-CE1 | -5.16 | 115.12 | 120.80 |
| 12 | B | 152 | A | OP1-P-O3' | 5.16 | 116.56 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 644 | A | O3'-P-O5' | -5.16 | 94.19 | 104.00 |
| 12 | B | 901 | C | N3-C4-N4 | 5.16 | 121.61 | 118.00 |
| 12 | B | 1258 | U | N1-C2-N3 | -5.16 | 111.80 | 114.90 |
| 12 | B | 1535 | A | C4-C5-C6 | 5.16 | 119.58 | 117.00 |
| 12 | B | 1649 | G | C3'-C2'-C1' | -5.16 | 97.37 | 101.50 |
| 12 | B | 2023 | C | C5-C6-N1 | 5.16 | 123.58 | 121.00 |
| 12 | B | 2075 | U | C4-C5-C6 | 5.16 | 122.80 | 119.70 |
| 12 | B | 2609 | U | C4'-C3'-C2' | -5.16 | 97.44 | 102.60 |
| 12 | B | 802 | A | N3-C4-C5 | -5.16 | 123.19 | 126.80 |
| 12 | B | 1603 | A | C4-N9-C1' | 5.16 | 135.59 | 126.30 |
| 12 | B | 1789 | A | O4'-C1'-N9 | 5.16 | 112.33 | 108.20 |
| 12 | B | 1896 | G | C6-N1-C2 | -5.16 | 122.00 | 125.10 |
| 12 | B | 2099 | U | O4'-C4'-C3' | -5.16 | 98.84 | 104.00 |
| 22 | L | 61 | LEU | N-CA-CB | 5.16 | 120.72 | 110.40 |
| 12 | B | 488 | G | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 12 | B | 1115 | G | C5-N7-C8 | 5.16 | 106.88 | 104.30 |
| 12 | B | 1931 | U | O4'-C1'-N1 | 5.16 | 112.33 | 108.20 |
| 12 | B | 2021 | C | C6-N1-C2 | -5.16 | 118.24 | 120.30 |
| 12 | B | 2203 | U | OP1-P-OP2 | -5.16 | 111.86 | 119.60 |
| 12 | B | 2313 | C | C5-C4-N4 | -5.16 | 116.59 | 120.20 |
| 12 | B | 2756 | U | C6-N1-C1' | -5.16 | 113.98 | 121.20 |
| 12 | B | 2809 | A | C2-N3-C4 | -5.16 | 108.02 | 110.60 |
| 30 | T | 12 | ARG | NE-CZ-NH2 | -5.16 | 117.72 | 120.30 |
| 12 | B | 240 | C | C5-C4-N4 | -5.16 | 116.59 | 120.20 |
| 12 | B | 398 | C | N3-C4-C5 | -5.16 | 119.84 | 121.90 |
| 12 | B | 620 | G | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 12 | B | 651 | G | C2-N3-C4 | 5.16 | 114.48 | 111.90 |
| 12 | B | 995 | C | C5'-C4'-C3' | 5.16 | 124.25 | 116.00 |
| 12 | B | 995 | C | C4'-C3'-C2' | 5.16 | 107.76 | 102.60 |
| 12 | B | 1461 | C | P-O3'-C3' | 5.16 | 125.89 | 119.70 |
| 12 | B | 1812 | U | N1-C2-N3 | -5.16 | 111.81 | 114.90 |
| 12 | B | 2346 | A | N1-C6-N6 | 5.16 | 121.69 | 118.60 |
| 12 | B | 2511 | U | N3-C4-C5 | -5.16 | 111.51 | 114.60 |
| 12 | B | 2664 | G | N3-C4-N9 | 5.16 | 129.09 | 126.00 |
| 12 | B | 2864 | G | C1'-O4'-C4' | -5.16 | 105.77 | 109.90 |
| 32 | W | 64 | VAL | CG1-CB-CG2 | -5.16 | 102.65 | 110.90 |
| 12 | B | 464 | U | C6-N1-C2 | -5.16 | 117.91 | 121.00 |
| 12 | B | 604 | G | N1-C6-O6 | 5.16 | 122.99 | 119.90 |
| 12 | B | 676 | A | N9-C4-C5 | 5.16 | 107.86 | 105.80 |
| 12 | B | 706 | A | C5-N7-C8 | 5.16 | 106.48 | 103.90 |
| 12 | B | 1115 | G | N9-C4-C5 | 5.16 | 107.46 | 105.40 |
| 12 | B | 1298 | C | N3-C2-O2 | 5.16 | 125.51 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1351 | C | C2-N3-C4 | 5.16 | 122.48 | 119.90 |
| 12 | B | 1748 | C | C2-N1-C1' | 5.16 | 124.47 | 118.80 |
| 12 | B | 1987 | A | C5-C6-N6 | -5.16 | 119.58 | 123.70 |
| 20 | J | 27 | ARG | N-CA-C | -5.16 | 97.08 | 111.00 |
| 12 | B | 391 | A | N3-C4-C5 | -5.15 | 123.19 | 126.80 |
| 12 | B | 1463 | C | N1-C2-O2 | 5.15 | 121.99 | 118.90 |
| 12 | B | 2076 | U | C2-N3-C4 | 5.15 | 130.09 | 127.00 |
| 12 | B | 2158 | A | N3-C4-C5 | -5.15 | 123.19 | 126.80 |
| 12 | B | 2586 | U | C4-C5-C6 | 5.15 | 122.79 | 119.70 |
| 12 | B | 144 | A | N3-C4-N9 | 5.15 | 131.52 | 127.40 |
| 12 | B | 173 | A | O4'-C4'-C3' | -5.15 | 98.85 | 104.00 |
| 12 | B | 246 | C | P-O3'-C3' | -5.15 | 113.52 | 119.70 |
| 12 | B | 625 | G | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 12 | B | 1423 | G | C8-N9-C1' | 5.15 | 133.70 | 127.00 |
| 12 | B | 1518 | C | P-O3'-C3' | -5.15 | 113.52 | 119.70 |
| 12 | B | 1671 | U | N3-C4-O4 | -5.15 | 115.79 | 119.40 |
| 12 | B | 1733 | G | C8-N9-C1' | 5.15 | 133.70 | 127.00 |
| 12 | B | 1790 | C | N3-C4-C5 | -5.15 | 119.84 | 121.90 |
| 12 | B | 2058 | A | N9-C4-C5 | 5.15 | 107.86 | 105.80 |
| 33 | Y | 50 | VAL | CA-CB-CG1 | 5.15 | 118.63 | 110.90 |
| 12 | B | 287 | G | C5-N7-C8 | 5.15 | 106.88 | 104.30 |
| 12 | B | 584 | C | C4-C5-C6 | 5.15 | 119.97 | 117.40 |
| 12 | B | 628 | G | P-O5'-C5' | 5.15 | 129.14 | 120.90 |
| 12 | B | 993 | G | N3-C4-C5 | -5.15 | 126.03 | 128.60 |
| 12 | B | 1124 | G | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 12 | B | 1328 | A | C5-N7-C8 | 5.15 | 106.47 | 103.90 |
| 12 | B | 1332 | G | C3'-C2'-C1' | 5.15 | 105.62 | 101.50 |
| 12 | B | 1364 | G | N7-C8-N9 | -5.15 | 110.52 | 113.10 |
| 12 | B | 1649 | G | O5'-C5'-C4' | -5.15 | 101.92 | 111.70 |
| 12 | B | 1649 | G | C5-C6-N1 | -5.15 | 108.92 | 111.50 |
| 12 | B | 1663 | G | C5-C6-N1 | -5.15 | 108.92 | 111.50 |
| 12 | B | 1665 | A | C6-C5-N7 | -5.15 | 128.69 | 132.30 |
| 12 | B | 1770 | G | C5-C6-N1 | -5.15 | 108.92 | 111.50 |
| 12 | B | 1874 | C | N3-C2-O2 | -5.15 | 118.30 | 121.90 |
| 12 | B | 1901 | A | C5-C6-N1 | -5.15 | 115.12 | 117.70 |
| 12 | B | 2048 | G | P-O5'-C5' | 5.15 | 129.14 | 120.90 |
| 12 | B | 2527 | C | C2-N3-C4 | -5.15 | 117.33 | 119.90 |
| 16 | F | 131 | VAL | CG1-CB-CG2 | -5.15 | 102.66 | 110.90 |
| 23 | M | 66 | ARG | CB-CA-C | -5.15 | 100.10 | 110.40 |
| 28 | R | 5 | PHE | CB-CG-CD2 | -5.15 | 117.19 | 120.80 |
| 12 | B | 260 | G | C6-N1-C2 | 5.15 | 128.19 | 125.10 |
| 12 | B | 631 | A | O4'-C4'-C3' | -5.15 | 98.85 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2426 | A | N7-C8-N9 | -5.15 | 111.22 | 113.80 |
| 11 | A | 5 | U | C3'-C2'-C1' | 5.15 | 105.62 | 101.50 |
| 12 | B | 533 | G | N3-C4-N9 | 5.15 | 129.09 | 126.00 |
| 12 | B | 553 | G | O5'-C5'-C4' | -5.15 | 101.92 | 111.70 |
| 12 | B | 852 | U | C5'-C4'-O4' | 5.15 | 115.28 | 109.10 |
| 12 | B | 1317 | G | C4-C5-N7 | 5.15 | 112.86 | 110.80 |
| 12 | B | 1493 | C | OP1-P-O3' | 5.15 | 116.53 | 105.20 |
| 12 | B | 1708 | C | P-O3'-C3' | 5.15 | 125.88 | 119.70 |
| 12 | B | 1962 | C | C5-C6-N1 | -5.15 | 118.43 | 121.00 |
| 12 | B | 2088 | A | C5-N7-C8 | 5.15 | 106.47 | 103.90 |
| 12 | B | 2545 | G | C6-N1-C2 | 5.15 | 128.19 | 125.10 |
| 12 | B | 2653 | U | N3-C4-C5 | -5.15 | 111.51 | 114.60 |
| 12 | B | 2678 | C | OP1-P-OP2 | -5.15 | 111.88 | 119.60 |
| 12 | B | 2711 | A | C4-C5-C6 | 5.15 | 119.57 | 117.00 |
| 12 | B | 2726 | A | C6-N1-C2 | -5.15 | 115.51 | 118.60 |
| 15 | E | 173 | THR | CA-CB-CG2 | -5.15 | 105.19 | 112.40 |
| 12 | B | 395 | U | N1-C2-O2 | 5.15 | 126.40 | 122.80 |
| 12 | B | 1113 | U | N3-C2-O2 | 5.15 | 125.80 | 122.20 |
| 12 | B | 1416 | G | C8-N9-C4 | -5.15 | 104.34 | 106.40 |
| 12 | B | 2350 | C | C4-C5-C6 | 5.15 | 119.97 | 117.40 |
| 12 | B | 2902 | C | N3-C4-C5 | -5.15 | 119.84 | 121.90 |
| 27 | Q | 85 | ALA | N-CA-CB | 5.15 | 117.31 | 110.10 |
| 12 | B | 75 | G | N1-C2-N3 | -5.14 | 120.81 | 123.90 |
| 12 | B | 97 | C | O4'-C1'-N1 | 5.14 | 112.31 | 108.20 |
| 12 | B | 681 | G | N3-C4-N9 | -5.14 | 122.91 | 126.00 |
| 12 | B | 1131 | G | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 12 | B | 1251 | C | C1'-O4'-C4' | -5.14 | 105.78 | 109.90 |
| 12 | B | 1564 | C | C5'-C4'-C3' | 5.14 | 124.23 | 116.00 |
| 12 | B | 1921 | G | C2-N3-C4 | 5.14 | 114.47 | 111.90 |
| 12 | B | 2492 | U | C5-C6-N1 | 5.14 | 125.27 | 122.70 |
| 12 | B | 2568 | U | C1'-O4'-C4' | -5.14 | 105.78 | 109.90 |
| 12 | B | 309 | A | C4-C5-N7 | -5.14 | 108.13 | 110.70 |
| 12 | B | 618 | G | C8-N9-C1' | 5.14 | 133.68 | 127.00 |
| 12 | B | 640 | C | C5'-C4'-C3' | -5.14 | 107.77 | 116.00 |
| 12 | B | 803 | U | C2-N3-C4 | 5.14 | 130.09 | 127.00 |
| 12 | B | 1036 | G | O4'-C4'-C3' | -5.14 | 98.86 | 104.00 |
| 12 | B | 1581 | G | N7-C8-N9 | 5.14 | 115.67 | 113.10 |
| 12 | B | 1737 | G | P-O5'-C5' | 5.14 | 129.13 | 120.90 |
| 12 | B | 1748 | C | N3-C4-N4 | 5.14 | 121.60 | 118.00 |
| 12 | B | 2393 | U | C2-N3-C4 | -5.14 | 123.91 | 127.00 |
| 12 | B | 2408 | U | N3-C4-O4 | 5.14 | 123.00 | 119.40 |
| 12 | B | 461 | C | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1620 | G | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 12 | B | 1918 | A | C5'-C4'-C3' | -5.14 | 107.77 | 116.00 |
| 12 | B | 2050 | C | N1-C2-O2 | -5.14 | 115.82 | 118.90 |
| 12 | B | 2081 | U | C5-C4-O4 | -5.14 | 122.81 | 125.90 |
| 12 | B | 2508 | G | C8-N9-C1' | 5.14 | 133.68 | 127.00 |
| 12 | B | 2633 | G | C5'-C4'-C3' | -5.14 | 107.77 | 116.00 |
| 11 | A | 42 | C | C5-C4-N4 | -5.14 | 116.60 | 120.20 |
| 11 | A | 116 | G | N1-C6-O6 | 5.14 | 122.98 | 119.90 |
| 12 | B | 174 | U | N3-C4-C5 | -5.14 | 111.52 | 114.60 |
| 12 | B | 208 | C | O4'-C1'-N1 | 5.14 | 112.31 | 108.20 |
| 12 | B | 291 | G | O4'-C4'-C3' | -5.14 | 98.86 | 104.00 |
| 12 | B | 551 | G | N3-C4-C5 | 5.14 | 131.17 | 128.60 |
| 12 | B | 713 | G | C6-N1-C2 | -5.14 | 122.02 | 125.10 |
| 12 | B | 896 | A | C4'-C3'-C2' | -5.14 | 97.46 | 102.60 |
| 12 | B | 1124 | G | C5-N7-C8 | -5.14 | 101.73 | 104.30 |
| 12 | B | 1193 | G | N3-C2-N2 | -5.14 | 116.30 | 119.90 |
| 12 | B | 933 | A | C5-C6-N6 | -5.14 | 119.59 | 123.70 |
| 12 | B | 1427 | A | C5-N7-C8 | -5.14 | 101.33 | 103.90 |
| 12 | B | 2085 | U | C6-N1-C1' | 5.14 | 128.39 | 121.20 |
| 12 | B | 46 | G | C1'-O4'-C4' | 5.14 | 114.01 | 109.90 |
| 12 | B | 142 | A | N3-C4-C5 | -5.14 | 123.20 | 126.80 |
| 12 | B | 1029 | A | C5-C6-N1 | -5.14 | 115.13 | 117.70 |
| 12 | B | 1522 | A | C5-N7-C8 | -5.14 | 101.33 | 103.90 |
| 12 | B | 1986 | C | N3-C2-O2 | -5.14 | 118.31 | 121.90 |
| 12 | B | 2109 | U | N1-C2-N3 | 5.14 | 117.98 | 114.90 |
| 12 | B | 2494 | G | C6-N1-C2 | 5.14 | 128.18 | 125.10 |
| 12 | B | 2702 | G | C3'-C2'-C1' | -5.14 | 97.39 | 101.50 |
| 12 | B | 66 | C | N1-C2-O2 | 5.13 | 121.98 | 118.90 |
| 12 | B | 190 | A | C4-C5-C6 | 5.13 | 119.57 | 117.00 |
| 12 | B | 674 | G | C5-C6-O6 | -5.13 | 125.52 | 128.60 |
| 12 | B | 763 | G | C5-C6-N1 | -5.13 | 108.93 | 111.50 |
| 12 | B | 767 | U | N3-C4-O4 | 5.13 | 122.99 | 119.40 |
| 12 | B | 1419 | A | C4'-C3'-C2' | -5.13 | 97.47 | 102.60 |
| 12 | B | 1656 | C | N1-C2-O2 | 5.13 | 121.98 | 118.90 |
| 12 | B | 1692 | U | C6-N1-C2 | -5.13 | 117.92 | 121.00 |
| 12 | B | 2118 | U | C2-N1-C1' | 5.13 | 123.86 | 117.70 |
| 12 | B | 2725 | A | C5-C6-N1 | -5.13 | 115.13 | 117.70 |
| 12 | B | 748 | G | C5-C6-N1 | -5.13 | 108.93 | 111.50 |
| 12 | B | 922 | C | N1-C1'-C2' | -5.13 | 106.35 | 112.00 |
| 12 | B | 1443 | U | C5-C4-O4 | -5.13 | 122.82 | 125.90 |
| 12 | B | 1453 | A | N3-C4-C5 | -5.13 | 123.21 | 126.80 |
| 12 | B | 1494 | A | C4-C5-N7 | -5.13 | 108.13 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1789 | A | O4'-C4'-C3' | -5.13 | 98.87 | 104.00 |
| 12 | B | 2038 | G | O4'-C4'-C3' | -5.13 | 98.87 | 104.00 |
| 12 | B | 2527 | C | C4-C5-C6 | -5.13 | 114.83 | 117.40 |
| 6 | 5 | 87 | ALA | CB-CA-C | -5.13 | 102.40 | 110.10 |
| 11 | A | 104 | A | N3-C4-N9 | -5.13 | 123.29 | 127.40 |
| 12 | B | 413 | C | C2-N3-C4 | 5.13 | 122.47 | 119.90 |
| 12 | B | 500 | G | N3-C2-N2 | 5.13 | 123.49 | 119.90 |
| 12 | B | 829 | A | C2-N3-C4 | 5.13 | 113.17 | 110.60 |
| 12 | B | 1144 | A | N9-C4-C5 | -5.13 | 103.75 | 105.80 |
| 12 | B | 1429 | G | C8-N9-C1' | 5.13 | 133.67 | 127.00 |
| 12 | B | 1455 | G | N1-C2-N2 | -5.13 | 111.58 | 116.20 |
| 12 | B | 1632 | A | OP1-P-OP2 | -5.13 | 111.90 | 119.60 |
| 12 | B | 1878 | G | C2-N3-C4 | -5.13 | 109.33 | 111.90 |
| 12 | B | 2420 | C | C4'-C3'-C2' | 5.13 | 107.73 | 102.60 |
| 12 | B | 2499 | C | O3'-P-O5' | -5.13 | 94.25 | 104.00 |
| 12 | B | 2843 | G | N1-C6-O6 | 5.13 | 122.98 | 119.90 |
| 13 | C | 51 | ARG | NE-CZ-NH2 | -5.13 | 117.73 | 120.30 |
| 11 | A | 101 | A | C5'-C4'-C3' | -5.13 | 107.80 | 116.00 |
| 11 | A | 118 | C | C5-C4-N4 | -5.13 | 116.61 | 120.20 |
| 12 | B | 13 | A | C5'-C4'-O4' | 5.13 | 115.25 | 109.10 |
| 12 | B | 18 | U | C1'-O4'-C4' | 5.13 | 114.00 | 109.90 |
| 12 | B | 418 | C | C6-N1-C2 | -5.13 | 118.25 | 120.30 |
| 12 | B | 1026 | G | OP1-P-OP2 | -5.13 | 111.91 | 119.60 |
| 12 | B | 1138 | G | C2-N3-C4 | -5.13 | 109.33 | 111.90 |
| 12 | B | 1139 | G | N3-C2-N2 | 5.13 | 123.49 | 119.90 |
| 12 | B | 1213 | A | C8-N9-C4 | -5.13 | 103.75 | 105.80 |
| 12 | B | 1381 | G | N3-C2-N2 | -5.13 | 116.31 | 119.90 |
| 12 | B | 1574 | C | O3'-P-O5' | -5.13 | 94.26 | 104.00 |
| 12 | B | 2137 | U | N3-C4-O4 | 5.13 | 122.99 | 119.40 |
| 12 | B | 2142 | A | N3-C4-C5 | 5.13 | 130.39 | 126.80 |
| 12 | B | 2278 | A | N7-C8-N9 | -5.13 | 111.23 | 113.80 |
| 12 | B | 2658 | C | N3-C4-C5 | -5.13 | 119.85 | 121.90 |
| 12 | B | 2874 | C | C5'-C4'-O4' | 5.13 | 115.25 | 109.10 |
| 10 | 9 | 60 | ARG | CD-NE-CZ | 5.13 | 130.78 | 123.60 |
| 12 | B | 189 | G | C4-C5-C6 | 5.13 | 121.88 | 118.80 |
| 12 | B | 400 | G | O4'-C1'-N9 | 5.13 | 112.30 | 108.20 |
| 12 | B | 584 | C | C2-N1-C1' | 5.13 | 124.44 | 118.80 |
| 12 | B | 745 | G | N3-C4-N9 | 5.13 | 129.08 | 126.00 |
| 12 | B | 774 | G | N1-C2-N3 | -5.13 | 120.82 | 123.90 |
| 12 | B | 877 | A | C6-C5-N7 | -5.13 | 128.71 | 132.30 |
| 12 | B | 1151 | A | C5-C6-N1 | -5.13 | 115.14 | 117.70 |
| 12 | B | 1155 | A | C4-C5-N7 | -5.13 | 108.14 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1233 | C | N3-C2-O2 | 5.13 | 125.49 | 121.90 |
| 12 | B | 1244 | A | O4'-C1'-N9 | 5.13 | 112.30 | 108.20 |
| 12 | B | 1345 | C | N3-C4-N4 | 5.13 | 121.59 | 118.00 |
| 12 | B | 1658 | C | C5-C4-N4 | -5.13 | 116.61 | 120.20 |
| 12 | B | 1965 | C | N1-C2-N3 | -5.13 | 115.61 | 119.20 |
| 12 | B | 2438 | U | C5-C4-O4 | -5.13 | 122.82 | 125.90 |
| 12 | B | 2461 | A | N3-C4-N9 | 5.13 | 131.50 | 127.40 |
| 12 | B | 2555 | U | N1-C1'-C2' | -5.13 | 106.36 | 112.00 |
| 12 | B | 2630 | G | P-O3'-C3' | -5.13 | 113.55 | 119.70 |
| 12 | B | 2735 | G | C5'-C4'-C3' | -5.13 | 107.80 | 116.00 |
| 26 | P | 108 | ARG | NH1-CZ-NH2 | 5.13 | 125.04 | 119.40 |
| 27 | Q | 100 | PHE | CB-CG-CD1 | -5.13 | 117.21 | 120.80 |
| 12 | B | 24 | G | N1-C6-O6 | 5.12 | 122.97 | 119.90 |
| 12 | B | 632 | A | P-O5'-C5' | 5.12 | 129.10 | 120.90 |
| 12 | B | 1824 | G | P-O5'-C5' | -5.12 | 112.70 | 120.90 |
| 6 | 5 | 36 | ALA | N-CA-C | -5.12 | 97.17 | 111.00 |
| 12 | B | 110 | G | N9-C4-C5 | 5.12 | 107.45 | 105.40 |
| 12 | B | 540 | C | P-O3'-C3' | 5.12 | 125.85 | 119.70 |
| 12 | B | 639 | U | O3'-P-O5' | -5.12 | 94.27 | 104.00 |
| 12 | B | 764 | A | C4-C5-C6 | 5.12 | 119.56 | 117.00 |
| 12 | B | 897 | C | P-O3'-C3' | -5.12 | 113.55 | 119.70 |
| 12 | B | 1205 | A | N9-C4-C5 | 5.12 | 107.85 | 105.80 |
| 12 | B | 1551 | A | N3-C4-C5 | -5.12 | 123.21 | 126.80 |
| 12 | B | 1605 | C | N1-C2-N3 | -5.12 | 115.61 | 119.20 |
| 12 | B | 1629 | U | C6-N1-C2 | -5.12 | 117.93 | 121.00 |
| 12 | B | 1670 | C | C6-N1-C2 | 5.12 | 122.35 | 120.30 |
| 12 | B | 1696 | G | N1-C2-N3 | -5.12 | 120.83 | 123.90 |
| 12 | B | 2027 | G | C6-N1-C2 | 5.12 | 128.17 | 125.10 |
| 12 | B | 2136 | G | C8-N9-C4 | 5.12 | 108.45 | 106.40 |
| 12 | B | 2183 | A | C3'-C2'-C1' | 5.12 | 105.60 | 101.50 |
| 12 | B | 2492 | U | N3-C4-O4 | 5.12 | 122.99 | 119.40 |
| 27 | Q | 100 | PHE | CZ-CE2-CD2 | -5.12 | 113.95 | 120.10 |
| 12 | B | 40 | U | C6-N1-C2 | -5.12 | 117.93 | 121.00 |
| 12 | B | 498 | G | C6-N1-C2 | 5.12 | 128.17 | 125.10 |
| 12 | B | 660 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 12 | B | 1456 | G | C5-C6-O6 | -5.12 | 125.53 | 128.60 |
| 12 | B | 1521 | G | N1-C2-N3 | -5.12 | 120.83 | 123.90 |
| 12 | B | 1537 | G | O4'-C1'-N9 | 5.12 | 112.30 | 108.20 |
| 12 | B | 1669 | A | C2-N3-C4 | 5.12 | 113.16 | 110.60 |
| 12 | B | 1930 | G | N1-C2-N3 | -5.12 | 120.83 | 123.90 |
| 12 | B | 2120 | G | C5'-C4'-O4' | 5.12 | 115.25 | 109.10 |
| 12 | B | 2516 | A | O4'-C1'-N9 | 5.12 | 112.30 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2830 | C | N1-C2-N3 | -5.12 | 115.61 | 119.20 |
| 27 | Q | 50 | ARG | NE-CZ-NH2 | -5.12 | 117.74 | 120.30 |
| 12 | B | 753 | A | C4-C5-C6 | 5.12 | 119.56 | 117.00 |
| 12 | B | 1302 | A | O5'-C5'-C4' | 5.12 | 121.43 | 111.70 |
| 12 | B | 1460 | U | P-O5'-C5' | 5.12 | 129.09 | 120.90 |
| 12 | B | 1468 | U | N1-C2-O2 | 5.12 | 126.38 | 122.80 |
| 12 | B | 1587 | G | N1-C2-N2 | -5.12 | 111.59 | 116.20 |
| 12 | B | 1716 | U | N3-C4-O4 | 5.12 | 122.98 | 119.40 |
| 12 | B | 2250 | G | C2-N3-C4 | 5.12 | 114.46 | 111.90 |
| 12 | B | 443 | A | N9-C4-C5 | 5.12 | 107.85 | 105.80 |
| 12 | B | 1382 | G | C6-N1-C2 | -5.12 | 122.03 | 125.10 |
| 12 | B | 1484 | U | C6-N1-C1' | -5.12 | 114.03 | 121.20 |
| 12 | B | 1744 | A | OP1-P-O3' | 5.12 | 116.46 | 105.20 |
| 12 | B | 1809 | A | C1'-O4'-C4' | 5.12 | 114.00 | 109.90 |
| 12 | B | 2321 | U | C2-N3-C4 | -5.12 | 123.93 | 127.00 |
| 12 | B | 2544 | G | C2-N3-C4 | 5.12 | 114.46 | 111.90 |
| 12 | B | 15 | G | C5'-C4'-C3' | -5.12 | 107.81 | 116.00 |
| 12 | B | 852 | U | C5-C6-N1 | 5.12 | 125.26 | 122.70 |
| 12 | B | 1118 | C | N3-C4-N4 | 5.12 | 121.58 | 118.00 |
| 12 | B | 1446 | C | C5-C4-N4 | -5.12 | 116.62 | 120.20 |
| 12 | B | 2294 | G | C2-N3-C4 | 5.12 | 114.46 | 111.90 |
| 12 | B | 2395 | C | C2-N1-C1' | 5.12 | 124.43 | 118.80 |
| 15 | E | 123 | LYS | CB-CG-CD | 5.12 | 124.90 | 111.60 |
| 10 | 9 | 21 | VAL | CB-CA-C | -5.12 | 101.68 | 111.40 |
| 10 | 9 | 85 | ASP | CB-CG-OD2 | -5.12 | 113.70 | 118.30 |
| 12 | B | 334 | C | N3-C4-C5 | -5.12 | 119.85 | 121.90 |
| 12 | B | 496 | G | C5'-C4'-O4' | 5.12 | 115.24 | 109.10 |
| 12 | B | 656 | G | C5-C6-N1 | 5.12 | 114.06 | 111.50 |
| 12 | B | 903 | C | P-O3'-C3' | -5.12 | 113.56 | 119.70 |
| 12 | B | 1408 | G | N3-C2-N2 | 5.12 | 123.48 | 119.90 |
| 12 | B | 1432 | G | C1'-O4'-C4' | 5.12 | 113.99 | 109.90 |
| 12 | B | 1725 | U | OP1-P-OP2 | -5.12 | 111.93 | 119.60 |
| 12 | B | 2409 | G | C6-N1-C2 | 5.12 | 128.17 | 125.10 |
| 12 | B | 2607 | G | C4-C5-C6 | 5.12 | 121.87 | 118.80 |
| 27 | Q | 2 | ARG | NE-CZ-NH2 | 5.12 | 122.86 | 120.30 |
| 6 | 5 | 163 | TYR | CG-CD2-CE2 | -5.11 | 117.21 | 121.30 |
| 12 | B | 232 | G | C4-C5-C6 | 5.11 | 121.87 | 118.80 |
| 12 | B | 1098 | A | N3-C4-C5 | -5.11 | 123.22 | 126.80 |
| 12 | B | 1779 | U | C6-N1-C2 | 5.11 | 124.07 | 121.00 |
| 12 | B | 2073 | C | N1-C2-O2 | -5.11 | 115.83 | 118.90 |
| 12 | B | 2099 | U | N3-C4-C5 | -5.11 | 111.53 | 114.60 |
| 12 | B | 2134 | A | C6-N1-C2 | -5.11 | 115.53 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2138 | G | C4-C5-N7 | 5.11 | 112.85 | 110.80 |
| 12 | B | 2571 | U | C4-C5-C6 | -5.11 | 116.63 | 119.70 |
| 12 | B | 2573 | C | O5'-P-OP1 | 5.11 | 116.84 | 110.70 |
| 12 | B | 2577 | A | C4-N9-C1' | -5.11 | 117.10 | 126.30 |
| 12 | B | 2787 | C | C4-C5-C6 | 5.11 | 119.96 | 117.40 |
| 2 | 1 | 49 | ASP | O-C-N | -5.11 | 114.52 | 122.70 |
| 10 | 9 | 326 | TRP | CA-CB-CG | 5.11 | 123.41 | 113.70 |
| 11 | A | 94 | A | C6-C5-N7 | -5.11 | 128.72 | 132.30 |
| 12 | B | 457 | A | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 12 | B | 722 | A | C5-C6-N6 | -5.11 | 119.61 | 123.70 |
| 12 | B | 728 | G | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |
| 12 | B | 1582 | C | N1-C2-O2 | -5.11 | 115.83 | 118.90 |
| 12 | B | 1677 | A | C4-C5-N7 | -5.11 | 108.14 | 110.70 |
| 12 | B | 1694 | C | C6-N1-C2 | -5.11 | 118.25 | 120.30 |
| 12 | B | 2358 | A | N3-C4-C5 | 5.11 | 130.38 | 126.80 |
| 12 | B | 2402 | U | N3-C4-O4 | 5.11 | 122.98 | 119.40 |
| 12 | B | 2867 | G | C1'-O4'-C4' | -5.11 | 105.81 | 109.90 |
| 21 | K | 51 | LYS | C-N-CA | 5.11 | 134.48 | 121.70 |
| 27 | Q | 23 | TYR | CB-CG-CD2 | 5.11 | 124.07 | 121.00 |
| 12 | B | 155 | A | P-O3'-C3' | -5.11 | 113.57 | 119.70 |
| 12 | B | 486 | C | C6-N1-C2 | -5.11 | 118.26 | 120.30 |
| 12 | B | 505 | A | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 12 | B | 888 | C | N3-C4-N4 | 5.11 | 121.58 | 118.00 |
| 12 | B | 1104 | C | C1'-O4'-C4' | -5.11 | 105.81 | 109.90 |
| 12 | B | 1259 | G | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |
| 12 | B | 1478 | G | N3-C4-C5 | 5.11 | 131.16 | 128.60 |
| 12 | B | 2300 | C | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 12 | B | 2438 | U | N1-C2-O2 | -5.11 | 119.22 | 122.80 |
| 12 | B | 2495 | G | C4-C5-N7 | -5.11 | 108.76 | 110.80 |
| 12 | B | 2632 | A | O3'-P-O5' | -5.11 | 94.29 | 104.00 |
| 12 | B | 2751 | G | C5-N7-C8 | -5.11 | 101.74 | 104.30 |
| 12 | B | 126 | A | C4'-C3'-C2' | -5.11 | 97.49 | 102.60 |
| 12 | B | 412 | A | C8-N9-C4 | -5.11 | 103.76 | 105.80 |
| 12 | B | 526 | A | OP1-P-OP2 | -5.11 | 111.94 | 119.60 |
| 12 | B | 690 | G | N9-C1'-C2' | -5.11 | 106.38 | 112.00 |
| 12 | B | 1530 | G | O3'-P-O5' | -5.11 | 94.29 | 104.00 |
| 12 | B | 2165 | C | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 10 | 9 | 65 | PHE | CB-CG-CD2 | 5.11 | 124.38 | 120.80 |
| 12 | B | 176 | A | C4-C5-C6 | 5.11 | 119.55 | 117.00 |
| 12 | B | 473 | G | C3'-C2'-C1' | -5.11 | 97.41 | 101.50 |
| 12 | B | 555 | G | C4-N9-C1' | 5.11 | 133.14 | 126.50 |
| 12 | B | 586 | A | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 631 | A | N7-C8-N9 | 5.11 | 116.35 | 113.80 |
| 12 | B | 1508 | A | N1-C6-N6 | 5.11 | 121.67 | 118.60 |
| 12 | B | 1611 | C | C5-C6-N1 | 5.11 | 123.55 | 121.00 |
| 12 | B | 1772 | A | O5'-C5'-C4' | -5.11 | 102.00 | 111.70 |
| 12 | B | 1981 | A | C4-C5-C6 | 5.11 | 119.55 | 117.00 |
| 12 | B | 2163 | A | N1-C2-N3 | 5.11 | 131.85 | 129.30 |
| 12 | B | 2541 | A | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |
| 12 | B | 2713 | U | C5-C4-O4 | 5.11 | 128.96 | 125.90 |
| 12 | B | 2810 | A | N7-C8-N9 | 5.11 | 116.35 | 113.80 |
| 19 | I | 116 | MET | CG-SD-CE | -5.11 | 92.03 | 100.20 |
| 11 | A | 94 | A | C8-N9-C4 | -5.11 | 103.76 | 105.80 |
| 12 | B | 205 | G | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 12 | B | 761 | A | C5-N7-C8 | 5.11 | 106.45 | 103.90 |
| 12 | B | 775 | G | N7-C8-N9 | 5.11 | 115.65 | 113.10 |
| 12 | B | 1315 | C | P-O5'-C5' | -5.11 | 112.73 | 120.90 |
| 12 | B | 2135 | A | O4'-C1'-C2' | 5.11 | 112.19 | 107.60 |
| 12 | B | 2773 | C | N3-C2-O2 | 5.11 | 125.47 | 121.90 |
| 12 | B | 2824 | C | C5'-C4'-C3' | 5.11 | 124.17 | 116.00 |
| 15 | E | 150 | THR | N-CA-CB | 5.11 | 120.00 | 110.30 |
| 5 | 4 | 5 | ARG | N-CA-C | -5.10 | 97.22 | 111.00 |
| 11 | A | 71 | C | P-O5'-C5' | 5.10 | 129.07 | 120.90 |
| 12 | B | 88 | G | C6-C5-N7 | -5.10 | 127.34 | 130.40 |
| 12 | B | 689 | A | C5-C6-N1 | 5.10 | 120.25 | 117.70 |
| 12 | B | 1027 | A | N3-C4-C5 | -5.10 | 123.23 | 126.80 |
| 12 | B | 1509 | A | O4'-C1'-N9 | 5.10 | 112.28 | 108.20 |
| 12 | B | 2029 | G | N1-C2-N3 | -5.10 | 120.84 | 123.90 |
| 33 | Y | 22 | VAL | CA-CB-CG2 | 5.10 | 118.56 | 110.90 |
| 12 | B | 126 | A | C4-C5-C6 | 5.10 | 119.55 | 117.00 |
| 12 | B | 424 | G | C4-C5-C6 | 5.10 | 121.86 | 118.80 |
| 12 | B | 555 | G | C6-C5-N7 | -5.10 | 127.34 | 130.40 |
| 12 | B | 917 | A | N7-C8-N9 | -5.10 | 111.25 | 113.80 |
| 12 | B | 1276 | A | O4'-C1'-N9 | 5.10 | 112.28 | 108.20 |
| 12 | B | 1286 | A | N1-C6-N6 | 5.10 | 121.66 | 118.60 |
| 12 | B | 1295 | C | P-O5'-C5' | -5.10 | 112.74 | 120.90 |
| 12 | B | 1674 | G | N3-C4-C5 | -5.10 | 126.05 | 128.60 |
| 12 | B | 1703 | G | N1-C2-N3 | -5.10 | 120.84 | 123.90 |
| 12 | B | 1756 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 12 | B | 1929 | G | N3-C4-C5 | 5.10 | 131.15 | 128.60 |
| 12 | B | 1975 | G | N1-C2-N3 | -5.10 | 120.84 | 123.90 |
| 12 | B | 2079 | U | N1-C2-N3 | -5.10 | 111.84 | 114.90 |
| 12 | B | 2108 | A | O4'-C1'-N9 | 5.10 | 112.28 | 108.20 |
| 12 | B | 2271 | G | C6-N1-C2 | 5.10 | 128.16 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 25 | O | 105 | ALA | C-N-CA | 5.10 | 134.46 | 121.70 |
| 12 | B | 410 | G | C8-N9-C4 | 5.10 | 108.44 | 106.40 |
| 12 | B | 423 | A | N7-C8-N9 | -5.10 | 111.25 | 113.80 |
| 12 | B | 938 | G | P-O3'-C3' | -5.10 | 113.58 | 119.70 |
| 12 | B | 1240 | U | N3-C4-O4 | 5.10 | 122.97 | 119.40 |
| 12 | B | 1863 | G | N1-C2-N3 | -5.10 | 120.84 | 123.90 |
| 21 | K | 114 | LYS | N-CA-CB | 5.10 | 119.78 | 110.60 |
| 28 | R | 58 | VAL | CA-CB-CG2 | 5.10 | 118.55 | 110.90 |
| 10 | 9 | 310 | TYR | CB-CG-CD1 | -5.10 | 117.94 | 121.00 |
| 12 | B | 36 | G | C4-C5-C6 | 5.10 | 121.86 | 118.80 |
| 12 | B | 620 | G | N9-C4-C5 | -5.10 | 103.36 | 105.40 |
| 12 | B | 1736 | U | N1-C2-N3 | -5.10 | 111.84 | 114.90 |
| 12 | B | 2135 | A | C5-C6-N6 | -5.10 | 119.62 | 123.70 |
| 12 | B | 2316 | G | C4-C5-N7 | -5.10 | 108.76 | 110.80 |
| 12 | B | 2489 | U | N3-C2-O2 | 5.10 | 125.77 | 122.20 |
| 12 | B | 2855 | C | C5'-C4'-C3' | -5.10 | 107.84 | 116.00 |
| 18 | H | 14 | SER | N-CA-CB | 5.10 | 118.15 | 110.50 |
| 25 | O | 32 | PRO | N-CD-CG | 5.10 | 110.85 | 103.20 |
| 12 | B | 13 | A | C4-C5-C6 | 5.10 | 119.55 | 117.00 |
| 12 | B | 99 | U | N3-C4-O4 | 5.10 | 122.97 | 119.40 |
| 12 | B | 117 | G | C5-C6-O6 | -5.10 | 125.54 | 128.60 |
| 12 | B | 436 | C | C5-C4-N4 | -5.10 | 116.63 | 120.20 |
| 12 | B | 1182 | G | N1-C6-O6 | -5.10 | 116.84 | 119.90 |
| 12 | B | 1531 | C | C1'-O4'-C4' | -5.10 | 105.82 | 109.90 |
| 12 | B | 1973 | G | N1-C2-N3 | -5.10 | 120.84 | 123.90 |
| 12 | B | 2045 | C | P-O3'-C3' | 5.10 | 125.82 | 119.70 |
| 12 | B | 2577 | A | C8-N9-C4 | -5.10 | 103.76 | 105.80 |
| 12 | B | 2610 | C | OP1-P-O3' | 5.10 | 116.41 | 105.20 |
| 12 | B | 258 | G | C5-C6-O6 | -5.10 | 125.54 | 128.60 |
| 12 | B | 265 | A | C2-N3-C4 | -5.10 | 108.05 | 110.60 |
| 12 | B | 477 | A | P-O5'-C5' | -5.10 | 112.75 | 120.90 |
| 12 | B | 680 | C | N1-C2-N3 | -5.10 | 115.63 | 119.20 |
| 12 | B | 735 | A | C4-C5-C6 | 5.10 | 119.55 | 117.00 |
| 12 | B | 836 | G | N1-C6-O6 | 5.10 | 122.96 | 119.90 |
| 12 | B | 1407 | G | N3-C4-C5 | -5.10 | 126.05 | 128.60 |
| 12 | B | 1575 | C | C5-C4-N4 | -5.10 | 116.63 | 120.20 |
| 12 | B | 1634 | A | C5-C6-N6 | -5.10 | 119.62 | 123.70 |
| 12 | B | 2250 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 12 | B | 2333 | A | C8-N9-C1' | 5.10 | 136.87 | 127.70 |
| 12 | B | 2482 | A | N1-C2-N3 | 5.10 | 131.85 | 129.30 |
| 12 | B | 16 | C | C4-C5-C6 | -5.09 | 114.85 | 117.40 |
| 12 | B | 591 | U | N1-C2-O2 | 5.09 | 126.37 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1039 | A | P-O3'-C3' | -5.09 | 113.59 | 119.70 |
| 12 | B | 1275 | A | C5-C6-N6 | -5.09 | 119.62 | 123.70 |
| 12 | B | 1283 | G | N3-C2-N2 | 5.09 | 123.47 | 119.90 |
| 12 | B | 1289 | C | N3-C4-C5 | -5.09 | 119.86 | 121.90 |
| 12 | B | 1811 | G | C4-C5-N7 | 5.09 | 112.84 | 110.80 |
| 12 | B | 1879 | C | P-O5'-C5' | 5.09 | 129.05 | 120.90 |
| 12 | B | 2206 | C | C3'-C2'-C1' | -5.09 | 97.42 | 101.50 |
| 12 | B | 2262 | U | C2'-C3'-O3' | 5.09 | 121.85 | 113.70 |
| 12 | B | 2519 | U | C5-C6-N1 | -5.09 | 120.15 | 122.70 |
| 12 | B | 2893 | A | P-O3'-C3' | 5.09 | 125.81 | 119.70 |
| 12 | B | 52 | A | C4-C5-N7 | -5.09 | 108.15 | 110.70 |
| 12 | B | 905 | A | P-O3'-C3' | -5.09 | 113.59 | 119.70 |
| 12 | B | 2278 | A | C1'-O4'-C4' | 5.09 | 113.97 | 109.90 |
| 12 | B | 2699 | C | C5'-C4'-C3' | 5.09 | 124.15 | 116.00 |
| 4 | 3 | 16 | ARG | CG-CD-NE | -5.09 | 101.11 | 111.80 |
| 6 | 5 | 21 | TYR | CG-CD1-CE1 | -5.09 | 117.23 | 121.30 |
| 11 | A | 33 | G | C6-C5-N7 | -5.09 | 127.35 | 130.40 |
| 12 | B | 265 | A | C4'-C3'-C2' | -5.09 | 97.51 | 102.60 |
| 12 | B | 295 | G | O5'-C5'-C4' | -5.09 | 102.03 | 111.70 |
| 12 | B | 558 | U | O4'-C1'-N1 | 5.09 | 112.27 | 108.20 |
| 12 | B | 637 | A | C4-C5-C6 | 5.09 | 119.55 | 117.00 |
| 12 | B | 1280 | G | C4-C5-N7 | -5.09 | 108.76 | 110.80 |
| 12 | B | 1346 | G | C3'-C2'-C1' | -5.09 | 97.43 | 101.50 |
| 12 | B | 1403 | A | C5'-C4'-C3' | -5.09 | 107.85 | 116.00 |
| 12 | B | 1450 | G | C4-C5-N7 | -5.09 | 108.76 | 110.80 |
| 12 | B | 1763 | G | C5-C6-N1 | 5.09 | 114.05 | 111.50 |
| 12 | B | 2160 | C | O4'-C1'-N1 | 5.09 | 112.27 | 108.20 |
| 12 | B | 2736 | A | C6-N1-C2 | -5.09 | 115.55 | 118.60 |
| 12 | B | 2839 | G | N3-C4-N9 | 5.09 | 129.06 | 126.00 |
| 16 | F | 52 | ALA | N-CA-CB | 5.09 | 117.23 | 110.10 |
| 26 | P | 92 | ARG | NE-CZ-NH1 | 5.09 | 122.85 | 120.30 |
| 6 | 5 | 179 | ASP | CB-CG-OD1 | 5.09 | 122.88 | 118.30 |
| 12 | B | 480 | A | C4-C5-C6 | 5.09 | 119.54 | 117.00 |
| 12 | B | 1157 | G | O5'-C5'-C4' | -5.09 | 102.03 | 111.70 |
| 12 | B | 1212 | G | C6-N1-C2 | 5.09 | 128.15 | 125.10 |
| 12 | B | 1543 | G | N7-C8-N9 | -5.09 | 110.56 | 113.10 |
| 12 | B | 1594 | U | N3-C4-C5 | -5.09 | 111.55 | 114.60 |
| 12 | B | 1900 | A | C1'-O4'-C4' | -5.09 | 105.83 | 109.90 |
| 12 | B | 1930 | G | N3-C4-N9 | -5.09 | 122.95 | 126.00 |
| 12 | B | 1969 | A | C1'-O4'-C4' | -5.09 | 105.83 | 109.90 |
| 12 | B | 2255 | G | N1-C2-N3 | -5.09 | 120.85 | 123.90 |
| 12 | B | 2423 | U | N3-C4-C5 | -5.09 | 111.55 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2533 | U | C5-C4-O4 | -5.09 | 122.85 | 125.90 |
| 9 | 8 | 31 | PRO | N-CD-CG | 5.09 | 110.83 | 103.20 |
| 12 | B | 1453 | A | C4'-C3'-C2' | 5.09 | 107.69 | 102.60 |
| 12 | B | 1699 | G | C6-C5-N7 | -5.09 | 127.35 | 130.40 |
| 12 | B | 2503 | A | C5-C6-N1 | -5.09 | 115.16 | 117.70 |
| 11 | A | 65 | U | C4-C5-C6 | -5.09 | 116.65 | 119.70 |
| 12 | B | 338 | G | N3-C2-N2 | 5.09 | 123.46 | 119.90 |
| 12 | B | 705 | A | C5-C6-N1 | -5.09 | 115.16 | 117.70 |
| 12 | B | 723 | C | N3-C4-N4 | 5.09 | 121.56 | 118.00 |
| 12 | B | 890 | C | O4'-C4'-C3' | -5.09 | 98.91 | 104.00 |
| 12 | B | 905 | A | C4-C5-N7 | -5.09 | 108.16 | 110.70 |
| 12 | B | 1645 | G | P-O3'-C3' | 5.09 | 125.80 | 119.70 |
| 12 | B | 1949 | G | N3-C4-C5 | 5.09 | 131.14 | 128.60 |
| 12 | B | 2059 | A | N1-C2-N3 | 5.09 | 131.84 | 129.30 |
| 12 | B | 2471 | A | N7-C8-N9 | -5.09 | 111.26 | 113.80 |
| 12 | B | 122 | G | C1'-O4'-C4' | 5.08 | 113.97 | 109.90 |
| 12 | B | 439 | A | N3-C4-N9 | 5.08 | 131.47 | 127.40 |
| 12 | B | 579 | G | C6-C5-N7 | -5.08 | 127.35 | 130.40 |
| 12 | B | 1317 | G | N7-C8-N9 | -5.08 | 110.56 | 113.10 |
| 12 | B | 1330 | C | O4'-C1'-N1 | 5.08 | 112.27 | 108.20 |
| 12 | B | 2121 | G | N3-C4-N9 | -5.08 | 122.95 | 126.00 |
| 12 | B | 2161 | C | N3-C2-O2 | -5.08 | 118.34 | 121.90 |
| 12 | B | 2281 | A | N9-C4-C5 | -5.08 | 103.77 | 105.80 |
| 31 | U | 86 | PHE | CD1-CG-CD2 | 5.08 | 124.91 | 118.30 |
| 12 | B | 43 | G | O4'-C1'-N9 | 5.08 | 112.27 | 108.20 |
| 12 | B | 187 | G | N3-C4-N9 | 5.08 | 129.05 | 126.00 |
| 12 | B | 477 | A | P-O3'-C3' | -5.08 | 113.60 | 119.70 |
| 12 | B | 973 | A | C8-N9-C4 | -5.08 | 103.77 | 105.80 |
| 12 | B | 1027 | A | O4'-C4'-C3' | -5.08 | 98.92 | 104.00 |
| 12 | B | 1034 | G | C5'-C4'-C3' | -5.08 | 107.87 | 116.00 |
| 12 | B | 1298 | C | OP1-P-OP2 | -5.08 | 111.97 | 119.60 |
| 12 | B | 1319 | C | P-O3'-C3' | -5.08 | 113.60 | 119.70 |
| 12 | B | 1473 | G | C4'-C3'-C2' | -5.08 | 97.52 | 102.60 |
| 12 | B | 1910 | G | C6-N1-C2 | -5.08 | 122.05 | 125.10 |
| 12 | B | 2363 | G | N9-C4-C5 | -5.08 | 103.37 | 105.40 |
| 12 | B | 2392 | A | C6-C5-N7 | -5.08 | 128.74 | 132.30 |
| 12 | B | 2700 | A | C5-N7-C8 | 5.08 | 106.44 | 103.90 |
| 24 | N | 55 | ALA | N-CA-CB | 5.08 | 117.22 | 110.10 |
| 10 | 9 | 46 | TRP | CE2-CD2-CE3 | 5.08 | 124.80 | 118.70 |
| 11 | A | 43 | C | N3-C4-C5 | -5.08 | 119.87 | 121.90 |
| 11 | A | 49 | C | C2-N3-C4 | -5.08 | 117.36 | 119.90 |
| 11 | A | 59 | A | N1-C6-N6 | 5.08 | 121.65 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 11 | A | 114 | C | P-O3'-C3' | -5.08 | 113.60 | 119.70 |
| 12 | B | 167 | A | C2-N3-C4 | -5.08 | 108.06 | 110.60 |
| 12 | B | 277 | G | N3-C4-N9 | -5.08 | 122.95 | 126.00 |
| 12 | B | 552 | U | O5'-C5'-C4' | -5.08 | 102.05 | 111.70 |
| 12 | B | 788 | A | C2-N3-C4 | 5.08 | 113.14 | 110.60 |
| 12 | B | 1043 | C | N3-C4-N4 | 5.08 | 121.56 | 118.00 |
| 12 | B | 1767 | G | N9-C1'-C2' | -5.08 | 106.41 | 112.00 |
| 12 | B | 1930 | G | C3'-C2'-C1' | 5.08 | 105.57 | 101.50 |
| 12 | B | 2280 | G | C5'-C4'-C3' | -5.08 | 107.87 | 116.00 |
| 12 | B | 2553 | G | C2-N3-C4 | 5.08 | 114.44 | 111.90 |
| 16 | F | 147 | ARG | NE-CZ-NH2 | 5.08 | 122.84 | 120.30 |
| 11 | A | 82 | U | C4-C5-C6 | -5.08 | 116.65 | 119.70 |
| 12 | B | 404 | A | O3'-P-O5' | -5.08 | 94.35 | 104.00 |
| 12 | B | 701 | G | N9-C4-C5 | -5.08 | 103.37 | 105.40 |
| 12 | B | 775 | G | N3-C4-C5 | -5.08 | 126.06 | 128.60 |
| 12 | B | 826 | U | OP1-P-OP2 | -5.08 | 111.98 | 119.60 |
| 12 | B | 1125 | G | P-O3'-C3' | 5.08 | 125.80 | 119.70 |
| 12 | B | 1364 | G | N3-C2-N2 | 5.08 | 123.46 | 119.90 |
| 12 | B | 1420 | A | N3-C4-C5 | -5.08 | 123.24 | 126.80 |
| 12 | B | 1720 | U | C2-N3-C4 | -5.08 | 123.95 | 127.00 |
| 12 | B | 1789 | A | P-O5'-C5' | 5.08 | 129.03 | 120.90 |
| 12 | B | 2086 | U | N1-C2-N3 | -5.08 | 111.85 | 114.90 |
| 12 | B | 312 | G | N1-C2-N3 | -5.08 | 120.85 | 123.90 |
| 12 | B | 562 | U | C2-N3-C4 | -5.08 | 123.95 | 127.00 |
| 12 | B | 627 | A | C4-C5-C6 | 5.08 | 119.54 | 117.00 |
| 12 | B | 830 | G | C5-N7-C8 | -5.08 | 101.76 | 104.30 |
| 12 | B | 937 | C | C2-N3-C4 | 5.08 | 122.44 | 119.90 |
| 12 | B | 940 | G | C2-N3-C4 | 5.08 | 114.44 | 111.90 |
| 12 | B | 1077 | A | N1-C2-N3 | 5.08 | 131.84 | 129.30 |
| 12 | B | 1097 | U | C4-C5-C6 | 5.08 | 122.75 | 119.70 |
| 12 | B | 1325 | U | C5-C6-N1 | -5.08 | 120.16 | 122.70 |
| 12 | B | 1547 | C | C6-N1-C2 | -5.08 | 118.27 | 120.30 |
| 12 | B | 1683 | U | N1-C2-O2 | -5.08 | 119.25 | 122.80 |
| 12 | B | 1797 | G | N1-C2-N3 | -5.08 | 120.85 | 123.90 |
| 12 | B | 2210 | U | N1-C2-N3 | -5.08 | 111.85 | 114.90 |
| 12 | B | 2824 | C | N3-C4-C5 | -5.08 | 119.87 | 121.90 |
| 12 | B | 2900 | A | C5-C6-N6 | -5.08 | 119.64 | 123.70 |
| 22 | L | 42 | SER | N-CA-CB | 5.08 | 118.12 | 110.50 |
| 12 | B | 543 | G | C4-C5-C6 | 5.08 | 121.85 | 118.80 |
| 12 | B | 2032 | G | C5-N7-C8 | 5.08 | 106.84 | 104.30 |
| 12 | B | 2339 | C | C6-N1-C1' | -5.08 | 114.71 | 120.80 |
| 12 | B | 2589 | A | P-O5'-C5' | -5.08 | 112.78 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2856 | A | C5-C6-N1 | -5.08 | 115.16 | 117.70 |
| 12 | B | 539 | G | N1-C2-N2 | -5.08 | 111.63 | 116.20 |
| 12 | B | 1004 | U | C4-C5-C6 | -5.08 | 116.65 | 119.70 |
| 12 | B | 1120 | G | O4'-C1'-N9 | 5.08 | 112.26 | 108.20 |
| 12 | B | 1450 | G | C4-C5-C6 | 5.08 | 121.84 | 118.80 |
| 12 | B | 2076 | U | C3'-C2'-C1' | -5.08 | 97.44 | 101.50 |
| 12 | B | 2123 | G | C4-C5-N7 | 5.08 | 112.83 | 110.80 |
| 12 | B | 2443 | C | C2-N3-C4 | 5.08 | 122.44 | 119.90 |
| 12 | B | 2504 | U | N3-C2-O2 | 5.08 | 125.75 | 122.20 |
| 16 | F | 39 | VAL | CA-CB-CG2 | 5.08 | 118.51 | 110.90 |
| 3 | 2 | 55 | LYS | CA-C-N | -5.07 | 106.04 | 117.20 |
| 12 | B | 419 | U | N3-C2-O2 | 5.07 | 125.75 | 122.20 |
| 12 | B | 794 | A | C2-N3-C4 | -5.07 | 108.06 | 110.60 |
| 12 | B | 1416 | G | C5-N7-C8 | 5.07 | 106.84 | 104.30 |
| 12 | B | 1638 | C | P-O5'-C5' | 5.07 | 129.02 | 120.90 |
| 12 | B | 1747 | U | N1-C2-N3 | -5.07 | 111.86 | 114.90 |
| 12 | B | 2151 | U | N3-C4-C5 | -5.07 | 111.56 | 114.60 |
| 12 | B | 2377 | A | P-O5'-C5' | 5.07 | 129.02 | 120.90 |
| 12 | B | 2534 | A | C5-C6-N1 | -5.07 | 115.16 | 117.70 |
| 12 | B | 2557 | G | C5-N7-C8 | 5.07 | 106.84 | 104.30 |
| 12 | B | 2595 | G | N3-C2-N2 | 5.07 | 123.45 | 119.90 |
| 12 | B | 99 | U | P-O3'-C3' | 5.07 | 125.79 | 119.70 |
| 12 | B | 154 | U | C6-N1-C2 | -5.07 | 117.96 | 121.00 |
| 12 | B | 869 | G | C8-N9-C4 | -5.07 | 104.37 | 106.40 |
| 12 | B | 1317 | G | N9-C4-C5 | -5.07 | 103.37 | 105.40 |
| 12 | B | 1796 | U | C5-C4-O4 | -5.07 | 122.86 | 125.90 |
| 12 | B | 1844 | C | C6-N1-C2 | 5.07 | 122.33 | 120.30 |
| 12 | B | 2046 | G | N3-C2-N2 | 5.07 | 123.45 | 119.90 |
| 12 | B | 2263 | C | C5-C4-N4 | -5.07 | 116.65 | 120.20 |
| 12 | B | 2694 | G | N3-C2-N2 | 5.07 | 123.45 | 119.90 |
| 12 | B | 391 | A | C5-N7-C8 | 5.07 | 106.44 | 103.90 |
| 12 | B | 592 | A | N3-C4-N9 | 5.07 | 131.46 | 127.40 |
| 12 | B | 631 | A | N9-C1'-C2' | -5.07 | 106.42 | 112.00 |
| 12 | B | 848 | C | C4-C5-C6 | -5.07 | 114.86 | 117.40 |
| 12 | B | 1033 | U | O4'-C1'-N1 | 5.07 | 112.26 | 108.20 |
| 12 | B | 1177 | G | C3'-C2'-C1' | -5.07 | 97.44 | 101.50 |
| 12 | B | 1655 | A | N3-C4-N9 | -5.07 | 123.34 | 127.40 |
| 12 | B | 1910 | G | O4'-C1'-N9 | 5.07 | 112.26 | 108.20 |
| 12 | B | 2333 | A | C4-C5-N7 | -5.07 | 108.16 | 110.70 |
| 12 | B | 2467 | C | C6-N1-C2 | -5.07 | 118.27 | 120.30 |
| 12 | B | 2765 | A | N3-C4-N9 | 5.07 | 131.46 | 127.40 |
| 11 | A | 100 | G | C4-N9-C1' | -5.07 | 119.91 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 348 | A | C8-N9-C4 | -5.07 | 103.77 | 105.80 |
| 12 | B | 580 | U | O4'-C1'-N1 | 5.07 | 112.26 | 108.20 |
| 12 | B | 1204 | A | C6-C5-N7 | -5.07 | 128.75 | 132.30 |
| 12 | B | 2141 | G | C6-N1-C2 | -5.07 | 122.06 | 125.10 |
| 12 | B | 2178 | C | C5-C6-N1 | 5.07 | 123.53 | 121.00 |
| 12 | B | 2211 | A | C5-C6-N6 | -5.07 | 119.64 | 123.70 |
| 12 | B | 2274 | A | C4-C5-C6 | 5.07 | 119.53 | 117.00 |
| 12 | B | 2327 | A | C5-N7-C8 | -5.07 | 101.37 | 103.90 |
| 12 | B | 2754 | U | C5-C4-O4 | -5.07 | 122.86 | 125.90 |
| 12 | B | 2768 | U | O5'-C5'-C4' | -5.07 | 102.07 | 111.70 |
| 12 | B | 879 | G | N1-C2-N3 | -5.07 | 120.86 | 123.90 |
| 12 | B | 931 | U | C1'-O4'-C4' | 5.07 | 113.95 | 109.90 |
| 12 | B | 1207 | C | C2-N3-C4 | 5.07 | 122.43 | 119.90 |
| 12 | B | 1473 | G | C2-N3-C4 | 5.07 | 114.43 | 111.90 |
| 12 | B | 1552 | A | O4'-C4'-C3' | -5.07 | 98.93 | 104.00 |
| 12 | B | 1953 | A | C4-C5-C6 | 5.07 | 119.53 | 117.00 |
| 12 | B | 2512 | C | C6-N1-C1' | -5.07 | 114.72 | 120.80 |
| 12 | B | 2823 | A | C5-C6-N1 | -5.07 | 115.17 | 117.70 |
| 19 | I | 135 | MET | CB-CA-C | -5.07 | 100.27 | 110.40 |
| 22 | L | 123 | ARG | NE-CZ-NH2 | -5.07 | 117.77 | 120.30 |
| 12 | B | 534 | U | C4-C5-C6 | -5.07 | 116.66 | 119.70 |
| 12 | B | 621 | A | C4-C5-N7 | -5.07 | 108.17 | 110.70 |
| 12 | B | 772 | C | N1-C2-O2 | 5.07 | 121.94 | 118.90 |
| 12 | B | 1002 | G | C6-C5-N7 | -5.07 | 127.36 | 130.40 |
| 12 | B | 1055 | G | N3-C2-N2 | 5.07 | 123.44 | 119.90 |
| 12 | B | 1191 | G | O4'-C4'-C3' | -5.07 | 98.93 | 104.00 |
| 12 | B | 1770 | G | N1-C6-O6 | 5.07 | 122.94 | 119.90 |
| 12 | B | 2070 | A | OP1-P-OP2 | -5.07 | 112.00 | 119.60 |
| 12 | B | 2464 | G | N3-C2-N2 | 5.07 | 123.44 | 119.90 |
| 12 | B | 2608 | G | N3-C4-C5 | -5.07 | 126.07 | 128.60 |
| 12 | B | 517 | C | C2-N3-C4 | 5.06 | 122.43 | 119.90 |
| 12 | B | 523 | C | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 12 | B | 580 | U | C6-N1-C2 | -5.06 | 117.96 | 121.00 |
| 11 | A | 56 | G | N9-C4-C5 | 5.06 | 107.42 | 105.40 |
| 12 | B | 146 | A | N1-C6-N6 | 5.06 | 121.64 | 118.60 |
| 12 | B | 301 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |
| 12 | B | 313 | G | N7-C8-N9 | -5.06 | 110.57 | 113.10 |
| 12 | B | 905 | A | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 12 | B | 1667 | G | C6-N1-C2 | 5.06 | 128.14 | 125.10 |
| 12 | B | 1902 | C | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 12 | B | 1977 | A | C5-C6-N1 | -5.06 | 115.17 | 117.70 |
| 12 | B | 2027 | G | N1-C2-N3 | -5.06 | 120.86 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2175 | C | C3'-C2'-C1' | 5.06 | 105.55 | 101.50 |
| 12 | B | 2224 | G | C8-N9-C4 | -5.06 | 104.38 | 106.40 |
| 12 | B | 2840 | C | C2-N3-C4 | 5.06 | 122.43 | 119.90 |
| 11 | A | 48 | U | N1-C1'-C2' | -5.06 | 106.43 | 112.00 |
| 11 | A | 97 | C | C5'-C4'-C3' | 5.06 | 124.10 | 116.00 |
| 12 | B | 54 | G | N1-C6-O6 | 5.06 | 122.94 | 119.90 |
| 12 | B | 184 | C | C6-N1-C2 | 5.06 | 122.32 | 120.30 |
| 12 | B | 862 | G | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 12 | B | 1507 | C | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 12 | B | 2600 | A | C6-C5-N7 | -5.06 | 128.76 | 132.30 |
| 12 | B | 42 | A | C3'-C2'-C1' | 5.06 | 105.55 | 101.50 |
| 12 | B | 69 | C | C1'-O4'-C4' | 5.06 | 113.95 | 109.90 |
| 12 | B | 115 | C | O4'-C1'-N1 | 5.06 | 112.25 | 108.20 |
| 12 | B | 118 | A | C8-N9-C4 | 5.06 | 107.82 | 105.80 |
| 12 | B | 333 | G | O4'-C1'-N9 | 5.06 | 112.25 | 108.20 |
| 12 | B | 580 | U | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 12 | B | 1050 | A | N1-C2-N3 | 5.06 | 131.83 | 129.30 |
| 12 | B | 1353 | A | C5'-C4'-C3' | -5.06 | 107.90 | 116.00 |
| 12 | B | 1376 | C | C6-N1-C2 | 5.06 | 122.32 | 120.30 |
| 12 | B | 1378 | A | N7-C8-N9 | -5.06 | 111.27 | 113.80 |
| 12 | B | 1643 | G | C6-C5-N7 | -5.06 | 127.36 | 130.40 |
| 12 | B | 1892 | C | N3-C2-O2 | 5.06 | 125.44 | 121.90 |
| 12 | B | 2167 | U | O4'-C1'-N1 | 5.06 | 112.25 | 108.20 |
| 12 | B | 2395 | C | N1-C2-O2 | 5.06 | 121.94 | 118.90 |
| 12 | B | 2437 | G | C4-N9-C1' | -5.06 | 119.92 | 126.50 |
| 12 | B | 2781 | A | O4'-C1'-C2' | -5.06 | 100.74 | 105.80 |
| 12 | B | 2810 | A | N1-C2-N3 | 5.06 | 131.83 | 129.30 |
| 12 | B | 2857 | G | N1-C2-N3 | -5.06 | 120.86 | 123.90 |
| 4 | 3 | 28 | SER | N-CA-CB | 5.06 | 118.09 | 110.50 |
| 12 | B | 33 | C | O4'-C1'-C2' | -5.06 | 100.74 | 105.80 |
| 12 | B | 36 | G | N3-C2-N2 | 5.06 | 123.44 | 119.90 |
| 12 | B | 198 | C | P-O5'-C5' | 5.06 | 128.99 | 120.90 |
| 12 | B | 206 | U | N3-C2-O2 | -5.06 | 118.66 | 122.20 |
| 12 | B | 227 | A | C8-N9-C4 | -5.06 | 103.78 | 105.80 |
| 12 | B | 414 | C | C5-C4-N4 | -5.06 | 116.66 | 120.20 |
| 12 | B | 638 | G | C6-N1-C2 | 5.06 | 128.13 | 125.10 |
| 12 | B | 700 | G | C5-N7-C8 | -5.06 | 101.77 | 104.30 |
| 12 | B | 962 | G | C6-N1-C2 | 5.06 | 128.13 | 125.10 |
| 12 | B | 1270 | C | C2-N3-C4 | 5.06 | 122.43 | 119.90 |
| 12 | B | 1760 | C | N1-C2-O2 | 5.06 | 121.93 | 118.90 |
| 12 | B | 2036 | C | C5-C4-N4 | -5.06 | 116.66 | 120.20 |
| 12 | B | 2199 | A | C5-C6-N6 | -5.06 | 119.65 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2374 | C | N3-C4-N4 | 5.06 | 121.54 | 118.00 |
| 12 | B | 2872 | A | N3-C4-N9 | 5.06 | 131.45 | 127.40 |
| 15 | E | 174 | GLY | C-N-CA | 5.06 | 134.34 | 121.70 |
| 32 | W | 63 | ILE | CA-CB-CG2 | -5.06 | 100.78 | 110.90 |
| 33 | Y | 32 | ALA | N-CA-CB | 5.06 | 117.18 | 110.10 |
| 6 | 5 | 92 | ALA | N-CA-CB | 5.06 | 117.18 | 110.10 |
| 11 | A | 66 | A | C3'-C2'-C1' | 5.06 | 105.55 | 101.50 |
| 12 | B | 388 | G | N3-C2-N2 | 5.06 | 123.44 | 119.90 |
| 12 | B | 684 | G | N1-C2-N2 | -5.06 | 111.65 | 116.20 |
| 12 | B | 699 | A | N3-C4-C5 | -5.06 | 123.26 | 126.80 |
| 12 | B | 1368 | G | N7-C8-N9 | 5.06 | 115.63 | 113.10 |
| 12 | B | 1810 | A | OP1-P-O3' | 5.06 | 116.32 | 105.20 |
| 27 | Q | 60 | TRP | CB-CG-CD2 | -5.06 | 120.03 | 126.60 |
| 29 | S | 38 | TYR | CD1-CG-CD2 | 5.06 | 123.46 | 117.90 |
| 11 | A | 47 | C | C6-N1-C2 | -5.05 | 118.28 | 120.30 |
| 11 | A | 107 | G | C4-C5-C6 | 5.05 | 121.83 | 118.80 |
| 12 | B | 353 | C | O4'-C1'-N1 | 5.05 | 112.24 | 108.20 |
| 12 | B | 535 | G | O4'-C4'-C3' | -5.05 | 98.94 | 104.00 |
| 12 | B | 589 | U | O4'-C1'-N1 | 5.05 | 112.24 | 108.20 |
| 12 | B | 721 | A | C6-N1-C2 | -5.05 | 115.57 | 118.60 |
| 12 | B | 777 | G | N7-C8-N9 | 5.05 | 115.63 | 113.10 |
| 12 | B | 868 | U | C5-C6-N1 | 5.05 | 125.23 | 122.70 |
| 12 | B | 1700 | A | C5-C6-N1 | -5.05 | 115.17 | 117.70 |
| 12 | B | 1731 | G | N1-C2-N3 | -5.05 | 120.87 | 123.90 |
| 12 | B | 1750 | G | C4-C5-C6 | 5.05 | 121.83 | 118.80 |
| 12 | B | 1890 | A | N3-C4-C5 | -5.05 | 123.26 | 126.80 |
| 12 | B | 2077 | A | P-O5'-C5' | 5.05 | 128.99 | 120.90 |
| 12 | B | 2239 | G | O4'-C4'-C3' | -5.05 | 98.94 | 104.00 |
| 12 | B | 2595 | G | C5-N7-C8 | 5.05 | 106.83 | 104.30 |
| 12 | B | 2637 | U | C3'-C2'-C1' | 5.05 | 105.54 | 101.50 |
| 12 | B | 2842 | G | C8-N9-C4 | -5.05 | 104.38 | 106.40 |
| 12 | B | 553 | G | N3-C4-C5 | 5.05 | 131.13 | 128.60 |
| 12 | B | 618 | G | N3-C4-C5 | 5.05 | 131.13 | 128.60 |
| 12 | B | 2180 | U | C1'-O4'-C4' | 5.05 | 113.94 | 109.90 |
| 12 | B | 2772 | C | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 25 | O | 85 | LYS | O-C-N | -5.05 | 114.61 | 123.20 |
| 11 | A | 61 | G | O5'-C5'-C4' | -5.05 | 102.10 | 111.70 |
| 11 | A | 71 | C | P-O3'-C3' | 5.05 | 125.76 | 119.70 |
| 12 | B | 76 | C | C1'-O4'-C4' | -5.05 | 105.86 | 109.90 |
| 12 | B | 402 | A | N1-C2-N3 | -5.05 | 126.77 | 129.30 |
| 12 | B | 421 | C | P-O5'-C5' | -5.05 | 112.82 | 120.90 |
| 12 | B | 576 | U | O3'-P-O5' | -5.05 | 94.40 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 605 | G | C5-C6-O6 | -5.05 | 125.57 | 128.60 |
| 12 | B | 818 | G | C5-N7-C8 | -5.05 | 101.77 | 104.30 |
| 12 | B | 985 | C | N3-C4-C5 | 5.05 | 123.92 | 121.90 |
| 12 | B | 1127 | A | OP2-P-O3' | 5.05 | 116.31 | 105.20 |
| 12 | B | 1223 | G | C8-N9-C1' | 5.05 | 133.57 | 127.00 |
| 12 | B | 1259 | G | N3-C4-N9 | -5.05 | 122.97 | 126.00 |
| 12 | B | 1422 | G | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 12 | B | 1938 | A | OP2-P-O3' | 5.05 | 116.31 | 105.20 |
| 12 | B | 2157 | G | C5-C6-O6 | -5.05 | 125.57 | 128.60 |
| 12 | B | 2670 | A | N7-C8-N9 | -5.05 | 111.27 | 113.80 |
| 20 | J | 75 | TYR | CB-CG-CD1 | 5.05 | 124.03 | 121.00 |
| 27 | Q | 37 | ALA | CB-CA-C | -5.05 | 102.52 | 110.10 |
| 3 | 2 | 17 | PRO | N-CA-CB | 5.05 | 109.36 | 103.30 |
| 11 | A | 52 | A | N9-C1'-C2' | -5.05 | 106.44 | 112.00 |
| 11 | A | 79 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 12 | B | 308 | G | C4-N9-C1' | 5.05 | 133.06 | 126.50 |
| 12 | B | 682 | G | N3-C2-N2 | 5.05 | 123.44 | 119.90 |
| 12 | B | 1859 | U | C5-C4-O4 | -5.05 | 122.87 | 125.90 |
| 12 | B | 1976 | U | C2-N3-C4 | -5.05 | 123.97 | 127.00 |
| 12 | B | 2029 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 12 | B | 2139 | U | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 12 | B | 2589 | A | C5-N7-C8 | 5.05 | 106.42 | 103.90 |
| 12 | B | 2901 | C | C6-N1-C1' | 5.05 | 126.86 | 120.80 |
| 18 | H | 138 | VAL | CG1-CB-CG2 | -5.05 | 102.82 | 110.90 |
| 12 | B | 2200 | C | C6-N1-C2 | 5.05 | 122.32 | 120.30 |
| 12 | B | 2277 | G | N3-C2-N2 | 5.05 | 123.43 | 119.90 |
| 11 | A | 9 | G | O4'-C1'-N9 | 5.05 | 112.24 | 108.20 |
| 11 | A | 39 | A | N9-C4-C5 | 5.05 | 107.82 | 105.80 |
| 12 | B | 205 | G | N3-C4-C5 | -5.05 | 126.08 | 128.60 |
| 12 | B | 1213 | A | C5-C6-N1 | -5.05 | 115.18 | 117.70 |
| 12 | B | 1370 | C | O4'-C1'-C2' | 5.05 | 112.14 | 107.60 |
| 12 | B | 1467 | U | P-O3'-C3' | -5.05 | 113.64 | 119.70 |
| 12 | B | 2060 | A | C6-C5-N7 | -5.05 | 128.77 | 132.30 |
| 12 | B | 2317 | A | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 12 | B | 2417 | C | C4-C5-C6 | 5.05 | 119.92 | 117.40 |
| 12 | B | 2723 | C | C5-C6-N1 | 5.05 | 123.52 | 121.00 |
| 30 | T | 81 | LYS | N-CA-CB | 5.05 | 119.68 | 110.60 |
| 31 | U | 63 | ALA | N-CA-CB | 5.05 | 117.17 | 110.10 |
| 6 | 5 | 92 | ALA | O-C-N | -5.04 | 114.63 | 122.70 |
| 12 | B | 2 | G | C4-C5-N7 | 5.04 | 112.82 | 110.80 |
| 12 | B | 341 | C | C2-N3-C4 | 5.04 | 122.42 | 119.90 |
| 12 | B | 493 | G | O4'-C1'-C2' | -5.04 | 100.75 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1023 | U | C5'-C4'-O4' | 5.04 | 115.16 | 109.10 |
| 12 | B | 1243 | C | N1-C2-N3 | -5.04 | 115.67 | 119.20 |
| 12 | B | 1708 | C | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 12 | B | 1916 | A | C5-C6-N6 | -5.04 | 119.66 | 123.70 |
| 12 | B | 2230 | G | C4-C5-N7 | -5.04 | 108.78 | 110.80 |
| 3 | 2 | 8 | GLN | C-N-CA | 5.04 | 134.31 | 121.70 |
| 12 | B | 154 | U | N3-C2-O2 | -5.04 | 118.67 | 122.20 |
| 12 | B | 250 | G | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 12 | B | 692 | C | P-O5'-C5' | -5.04 | 112.83 | 120.90 |
| 12 | B | 897 | C | C2-N3-C4 | -5.04 | 117.38 | 119.90 |
| 12 | B | 2182 | U | C4-C5-C6 | 5.04 | 122.73 | 119.70 |
| 12 | B | 2183 | A | C5'-C4'-O4' | 5.04 | 115.15 | 109.10 |
| 12 | B | 2553 | G | C1'-O4'-C4' | -5.04 | 105.86 | 109.90 |
| 12 | B | 2818 | U | C5-C6-N1 | 5.04 | 125.22 | 122.70 |
| 16 | F | 110 | ILE | CA-CB-CG1 | 5.04 | 120.58 | 111.00 |
| 29 | S | 64 | ALA | CB-CA-C | -5.04 | 102.53 | 110.10 |
| 11 | A | 83 | G | P-O3'-C3' | -5.04 | 113.65 | 119.70 |
| 12 | B | 82 | U | C5-C4-O4 | -5.04 | 122.88 | 125.90 |
| 12 | B | 177 | G | C6-C5-N7 | -5.04 | 127.38 | 130.40 |
| 12 | B | 332 | A | C5-N7-C8 | 5.04 | 106.42 | 103.90 |
| 12 | B | 480 | A | C8-N9-C4 | -5.04 | 103.78 | 105.80 |
| 12 | B | 789 | A | N3-C4-C5 | -5.04 | 123.27 | 126.80 |
| 12 | B | 1182 | G | N3-C4-C5 | 5.04 | 131.12 | 128.60 |
| 12 | B | 1495 | A | C4-C5-C6 | 5.04 | 119.52 | 117.00 |
| 12 | B | 1572 | A | N1-C6-N6 | 5.04 | 121.62 | 118.60 |
| 12 | B | 1635 | A | C8-N9-C4 | 5.04 | 107.82 | 105.80 |
| 12 | B | 1673 | G | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 12 | B | 2448 | A | C5-N7-C8 | 5.04 | 106.42 | 103.90 |
| 12 | B | 2858 | C | C2-N1-C1' | 5.04 | 124.34 | 118.80 |
| 12 | B | 2881 | U | C5'-C4'-C3' | -5.04 | 107.93 | 116.00 |
| 11 | A | 8 | C | C5-C6-N1 | 5.04 | 123.52 | 121.00 |
| 12 | B | 514 | A | N1-C6-N6 | 5.04 | 121.62 | 118.60 |
| 12 | B | 707 | G | N9-C4-C5 | -5.04 | 103.38 | 105.40 |
| 12 | B | 1210 | G | C2-N3-C4 | -5.04 | 109.38 | 111.90 |
| 12 | B | 1709 | U | N3-C4-C5 | -5.04 | 111.58 | 114.60 |
| 12 | B | 1731 | G | C5-N7-C8 | -5.04 | 101.78 | 104.30 |
| 12 | B | 2289 | G | C5-C6-O6 | -5.04 | 125.58 | 128.60 |
| 12 | B | 2397 | G | N7-C8-N9 | 5.04 | 115.62 | 113.10 |
| 12 | B | 2561 | U | O4'-C1'-N1 | 5.04 | 112.23 | 108.20 |
| 21 | K | 70 | ARG | CD-NE-CZ | -5.04 | 116.55 | 123.60 |
| 11 | A | 9 | G | N3-C4-C5 | -5.04 | 126.08 | 128.60 |
| 11 | A | 51 | G | C2-N3-C4 | -5.04 | 109.38 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 381 | G | C5-C6-N1 | -5.04 | 108.98 | 111.50 |
| 12 | B | 455 | C | OP2-P-O3' | 5.04 | 116.29 | 105.20 |
| 12 | B | 1438 | U | N3-C2-O2 | -5.04 | 118.67 | 122.20 |
| 12 | B | 1746 | A | C6-C5-N7 | -5.04 | 128.77 | 132.30 |
| 12 | B | 1759 | A | C5-N7-C8 | 5.04 | 106.42 | 103.90 |
| 12 | B | 2106 | U | C6-N1-C1' | -5.04 | 114.15 | 121.20 |
| 12 | B | 2280 | G | N1-C2-N3 | -5.04 | 120.88 | 123.90 |
| 12 | B | 2337 | G | N9-C4-C5 | -5.04 | 103.39 | 105.40 |
| 12 | B | 2522 | U | O4'-C1'-N1 | 5.04 | 112.23 | 108.20 |
| 12 | B | 2673 | G | C5'-C4'-C3' | -5.04 | 107.94 | 116.00 |
| 12 | B | 864 | G | N3-C2-N2 | 5.04 | 123.43 | 119.90 |
| 12 | B | 1751 | U | P-O5'-C5' | 5.04 | 128.96 | 120.90 |
| 12 | B | 1992 | G | C2-N3-C4 | -5.04 | 109.38 | 111.90 |
| 12 | B | 2778 | A | N9-C4-C5 | 5.04 | 107.81 | 105.80 |
| 11 | A | 54 | G | C5-C6-N1 | -5.04 | 108.98 | 111.50 |
| 12 | B | 596 | U | OP1-P-O3' | 5.04 | 116.28 | 105.20 |
| 12 | B | 759 | G | P-O3'-C3' | -5.04 | 113.66 | 119.70 |
| 12 | B | 765 | C | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 12 | B | 823 | C | N1-C2-O2 | 5.04 | 121.92 | 118.90 |
| 12 | B | 1730 | C | OP1-P-OP2 | -5.04 | 112.05 | 119.60 |
| 12 | B | 2115 | G | C4-C5-C6 | -5.04 | 115.78 | 118.80 |
| 12 | B | 2264 | C | C2-N3-C4 | -5.04 | 117.38 | 119.90 |
| 12 | B | 2532 | G | C2-N3-C4 | 5.04 | 114.42 | 111.90 |
| 12 | B | 167 | A | C1'-O4'-C4' | -5.03 | 105.87 | 109.90 |
| 12 | B | 234 | U | N3-C2-O2 | 5.03 | 125.72 | 122.20 |
| 12 | B | 902 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 12 | B | 1043 | C | C5-C4-N4 | -5.03 | 116.68 | 120.20 |
| 12 | B | 1783 | A | OP2-P-O3' | 5.03 | 116.27 | 105.20 |
| 12 | B | 1871 | A | O4'-C1'-N9 | 5.03 | 112.23 | 108.20 |
| 12 | B | 1886 | U | O4'-C1'-N1 | 5.03 | 112.23 | 108.20 |
| 12 | B | 2247 | A | N1-C2-N3 | -5.03 | 126.78 | 129.30 |
| 12 | B | 2721 | A | N7-C8-N9 | -5.03 | 111.28 | 113.80 |
| 12 | B | 2855 | C | C3'-C2'-C1' | -5.03 | 97.47 | 101.50 |
| 18 | H | 80 | ILE | O-C-N | 5.03 | 130.75 | 122.70 |
| 11 | A | 77 | U | C4-C5-C6 | -5.03 | 116.68 | 119.70 |
| 12 | B | 10 | A | C3'-C2'-C1' | -5.03 | 97.47 | 101.50 |
| 12 | B | 17 | G | N1-C6-O6 | 5.03 | 122.92 | 119.90 |
| 12 | B | 1271 | G | C4-C5-N7 | 5.03 | 112.81 | 110.80 |
| 12 | B | 1680 | U | N3-C4-O4 | 5.03 | 122.92 | 119.40 |
| 12 | B | 2338 | C | O4'-C1'-N1 | 5.03 | 112.23 | 108.20 |
| 12 | B | 2627 | G | O3'-P-O5' | -5.03 | 94.44 | 104.00 |
| 20 | J | 27 | ARG | NE-CZ-NH1 | 5.03 | 122.82 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 10 | 9 | 166 | GLY | O-C-N | 5.03 | 130.75 | 122.70 |
| 12 | B | 123 | G | C4-C5-N7 | -5.03 | 108.79 | 110.80 |
| 12 | B | 375 | G | N1-C2-N3 | -5.03 | 120.88 | 123.90 |
| 12 | B | 376 | G | O4'-C1'-N9 | 5.03 | 112.22 | 108.20 |
| 12 | B | 453 | A | C4-C5-N7 | -5.03 | 108.18 | 110.70 |
| 12 | B | 690 | G | P-O5'-C5' | -5.03 | 112.85 | 120.90 |
| 12 | B | 908 | C | C1'-O4'-C4' | -5.03 | 105.88 | 109.90 |
| 12 | B | 1097 | U | P-O3'-C3' | 5.03 | 125.74 | 119.70 |
| 12 | B | 1122 | G | C4-C5-C6 | 5.03 | 121.82 | 118.80 |
| 12 | B | 1456 | G | N3-C2-N2 | 5.03 | 123.42 | 119.90 |
| 12 | B | 1628 | G | C5'-C4'-O4' | -5.03 | 103.06 | 109.10 |
| 12 | B | 1971 | U | N3-C4-O4 | 5.03 | 122.92 | 119.40 |
| 12 | B | 2041 | U | C5-C6-N1 | 5.03 | 125.22 | 122.70 |
| 12 | B | 2493 | U | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 12 | B | 2625 | G | C2-N3-C4 | -5.03 | 109.39 | 111.90 |
| 12 | B | 2640 | G | C5-C6-N1 | -5.03 | 108.98 | 111.50 |
| 12 | B | 2755 | C | N3-C4-N4 | 5.03 | 121.52 | 118.00 |
| 11 | A | 111 | U | N3-C4-O4 | -5.03 | 115.88 | 119.40 |
| 12 | B | 750 | A | C5-C6-N6 | -5.03 | 119.68 | 123.70 |
| 12 | B | 771 | G | N3-C2-N2 | -5.03 | 116.38 | 119.90 |
| 12 | B | 901 | C | P-O3'-C3' | 5.03 | 125.73 | 119.70 |
| 12 | B | 2600 | A | O4'-C1'-N9 | 5.03 | 112.22 | 108.20 |
| 12 | B | 2814 | A | N3-C4-C5 | -5.03 | 123.28 | 126.80 |
| 13 | C | 9 | SER | N-CA-C | -5.03 | 97.42 | 111.00 |
| 13 | C | 269 | ARG | NE-CZ-NH1 | 5.03 | 122.81 | 120.30 |
| 12 | B | 297 | G | N7-C8-N9 | -5.03 | 110.59 | 113.10 |
| 12 | B | 329 | G | C8-N9-C4 | -5.03 | 104.39 | 106.40 |
| 12 | B | 424 | G | C5-N7-C8 | 5.03 | 106.81 | 104.30 |
| 12 | B | 839 | U | N3-C4-C5 | -5.03 | 111.58 | 114.60 |
| 12 | B | 1314 | C | C2-N1-C1' | 5.03 | 124.33 | 118.80 |
| 12 | B | 1639 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 12 | B | 2190 | G | C5-N7-C8 | -5.03 | 101.79 | 104.30 |
| 12 | B | 2217 | G | C4-C5-N7 | 5.03 | 112.81 | 110.80 |
| 12 | B | 2263 | C | C5'-C4'-O4' | -5.03 | 103.07 | 109.10 |
| 12 | B | 2569 | G | C5-C6-N1 | -5.03 | 108.99 | 111.50 |
| 12 | B | 2677 | G | P-O3'-C3' | -5.03 | 113.67 | 119.70 |
| 14 | D | 200 | ASP | CB-CG-OD1 | 5.03 | 122.82 | 118.30 |
| 27 | Q | 78 | PHE | C-N-CA | 5.03 | 134.27 | 121.70 |
| 7 | 6 | 8 | SER | N-CA-CB | 5.03 | 118.04 | 110.50 |
| 11 | A | 46 | A | N3-C4-N9 | 5.03 | 131.42 | 127.40 |
| 12 | B | 533 | G | O4'-C1'-N9 | 5.03 | 112.22 | 108.20 |
| 12 | B | 540 | C | C3'-C2'-C1' | -5.03 | 97.48 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 554 | U | O4'-C4'-C3' | -5.03 | 98.97 | 104.00 |
| 12 | B | 587 | C | C5-C4-N4 | 5.03 | 123.72 | 120.20 |
| 12 | B | 883 | G | C5-C6-O6 | -5.03 | 125.58 | 128.60 |
| 12 | B | 930 | G | C8-N9-C4 | 5.03 | 108.41 | 106.40 |
| 12 | B | 1034 | G | C5-C6-N1 | -5.03 | 108.99 | 111.50 |
| 12 | B | 1611 | C | C2-N3-C4 | 5.03 | 122.41 | 119.90 |
| 12 | B | 1782 | U | C5-C6-N1 | 5.03 | 125.21 | 122.70 |
| 12 | B | 1983 | G | P-O3'-C3' | -5.03 | 113.67 | 119.70 |
| 12 | B | 2017 | U | N3-C4-O4 | 5.03 | 122.92 | 119.40 |
| 12 | B | 2052 | A | C3'-C2'-C1' | -5.03 | 97.48 | 101.50 |
| 12 | B | 2117 | A | C2-N3-C4 | -5.03 | 108.09 | 110.60 |
| 12 | B | 2142 | A | C5-N7-C8 | 5.03 | 106.41 | 103.90 |
| 12 | B | 2183 | A | C5-C6-N1 | -5.03 | 115.19 | 117.70 |
| 12 | B | 2492 | U | N3-C2-O2 | 5.03 | 125.72 | 122.20 |
| 12 | B | 2502 | G | C5-C6-O6 | -5.03 | 125.58 | 128.60 |
| 12 | B | 2616 | C | C3'-C2'-C1' | -5.03 | 97.48 | 101.50 |
| 12 | B | 2720 | U | C4'-C3'-C2' | -5.03 | 97.58 | 102.60 |
| 12 | B | 2774 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 12 | B | 52 | A | C5-C6-N1 | -5.02 | 115.19 | 117.70 |
| 12 | B | 1313 | U | C6-N1-C1' | -5.02 | 114.17 | 121.20 |
| 12 | B | 2154 | A | C4-C5-N7 | -5.02 | 108.19 | 110.70 |
| 11 | A | 101 | A | C6-C5-N7 | -5.02 | 128.78 | 132.30 |
| 12 | B | 481 | G | C2-N3-C4 | 5.02 | 114.41 | 111.90 |
| 12 | B | 654 | A | N1-C2-N3 | 5.02 | 131.81 | 129.30 |
| 12 | B | 677 | A | O4'-C1'-N9 | 5.02 | 112.22 | 108.20 |
| 12 | B | 1075 | C | N3-C4-C5 | -5.02 | 119.89 | 121.90 |
| 12 | B | 1113 | U | C5-C4-O4 | -5.02 | 122.89 | 125.90 |
| 12 | B | 1135 | C | C4-C5-C6 | 5.02 | 119.91 | 117.40 |
| 12 | B | 1154 | G | N9-C4-C5 | -5.02 | 103.39 | 105.40 |
| 12 | B | 1228 | G | C5-N7-C8 | 5.02 | 106.81 | 104.30 |
| 12 | B | 1304 | A | C6-C5-N7 | -5.02 | 128.78 | 132.30 |
| 12 | B | 1385 | A | N1-C2-N3 | 5.02 | 131.81 | 129.30 |
| 12 | B | 1545 | A | P-O3'-C3' | -5.02 | 113.67 | 119.70 |
| 12 | B | 1707 | G | C5'-C4'-C3' | -5.02 | 107.96 | 116.00 |
| 12 | B | 2171 | A | N7-C8-N9 | 5.02 | 116.31 | 113.80 |
| 12 | B | 2359 | C | N3-C4-C5 | -5.02 | 119.89 | 121.90 |
| 12 | B | 2670 | A | C8-N9-C4 | -5.02 | 103.79 | 105.80 |
| 17 | G | 57 | TYR | CB-CG-CD2 | -5.02 | 117.99 | 121.00 |
| 12 | B | 125 | A | C5-C6-N6 | -5.02 | 119.68 | 123.70 |
| 12 | B | 438 | G | N1-C2-N3 | -5.02 | 120.89 | 123.90 |
| 12 | B | 892 | A | C3'-C2'-C1' | 5.02 | 105.52 | 101.50 |
| 12 | B | 1476 | U | C4-C5-C6 | 5.02 | 122.71 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 22 | L | 35 | HIS | O-C-N | 5.02 | 130.73 | 122.70 |
| 10 | 9 | 196 | PRO | CA-N-CD | -5.02 | 104.47 | 111.50 |
| 11 | A | 80 | U | C5-C6-N1 | 5.02 | 125.21 | 122.70 |
| 12 | B | 171 | U | O4'-C1'-N1 | 5.02 | 112.22 | 108.20 |
| 12 | B | 896 | A | C4-C5-N7 | -5.02 | 108.19 | 110.70 |
| 12 | B | 907 | G | C4-C5-C6 | 5.02 | 121.81 | 118.80 |
| 12 | B | 956 | G | C6-N1-C2 | 5.02 | 128.11 | 125.10 |
| 12 | B | 1306 | C | O4'-C1'-N1 | 5.02 | 112.22 | 108.20 |
| 12 | B | 1453 | A | C5-N7-C8 | 5.02 | 106.41 | 103.90 |
| 12 | B | 1620 | G | C4-N9-C1' | -5.02 | 119.97 | 126.50 |
| 12 | B | 1946 | U | C5-C4-O4 | -5.02 | 122.89 | 125.90 |
| 12 | B | 2096 | C | C4-C5-C6 | 5.02 | 119.91 | 117.40 |
| 12 | B | 2221 | G | C5-N7-C8 | -5.02 | 101.79 | 104.30 |
| 12 | B | 2370 | G | N1-C6-O6 | 5.02 | 122.91 | 119.90 |
| 12 | B | 2526 | G | C2'-C3'-O3' | 5.02 | 121.73 | 113.70 |
| 12 | B | 2744 | G | C5-C6-N1 | 5.02 | 114.01 | 111.50 |
| 12 | B | 2767 | C | N1-C2-N3 | 5.02 | 122.71 | 119.20 |
| 12 | B | 2798 | U | C6-N1-C1' | -5.02 | 114.17 | 121.20 |
| 13 | C | 254 | LYS | CB-CA-C | 5.02 | 120.44 | 110.40 |
| 18 | H | 118 | PRO | N-CA-CB | 5.02 | 109.32 | 103.30 |
| 29 | S | 53 | SER | N-CA-C | -5.02 | 97.45 | 111.00 |
| 12 | B | 432 | A | C6-N1-C2 | 5.02 | 121.61 | 118.60 |
| 12 | B | 462 | C | N1-C2-N3 | -5.02 | 115.69 | 119.20 |
| 12 | B | 792 | A | C6-C5-N7 | -5.02 | 128.79 | 132.30 |
| 12 | B | 943 | A | C4-C5-C6 | 5.02 | 119.51 | 117.00 |
| 12 | B | 1111 | A | O4'-C1'-N9 | 5.02 | 112.21 | 108.20 |
| 12 | B | 1173 | U | OP2-P-O3' | 5.02 | 116.24 | 105.20 |
| 12 | B | 1650 | A | N9-C4-C5 | 5.02 | 107.81 | 105.80 |
| 12 | B | 1688 | U | C6-N1-C2 | -5.02 | 117.99 | 121.00 |
| 12 | B | 1933 | G | N1-C2-N3 | -5.02 | 120.89 | 123.90 |
| 12 | B | 2018 | G | N9-C1'-C2' | -5.02 | 106.48 | 112.00 |
| 12 | B | 2219 | U | N3-C4-C5 | -5.02 | 111.59 | 114.60 |
| 12 | B | 2749 | A | C6-C5-N7 | -5.02 | 128.79 | 132.30 |
| 12 | B | 2899 | A | N1-C6-N6 | 5.02 | 121.61 | 118.60 |
| 16 | F | 149 | ARG | N-CA-CB | 5.02 | 119.63 | 110.60 |
| 12 | B | 589 | U | C2-N3-C4 | 5.02 | 130.01 | 127.00 |
| 12 | B | 744 | U | C2-N3-C4 | 5.02 | 130.01 | 127.00 |
| 12 | B | 1146 | C | C3'-C2'-C1' | -5.02 | 97.49 | 101.50 |
| 12 | B | 1437 | C | N1-C1'-C2' | -5.02 | 106.48 | 112.00 |
| 12 | B | 1580 | A | P-O5'-C5' | -5.02 | 112.87 | 120.90 |
| 12 | B | 2297 | A | C8-N9-C1' | 5.02 | 136.73 | 127.70 |
| 12 | B | 2540 | C | C5-C4-N4 | -5.02 | 116.69 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 2713 | U | N3-C2-O2 | 5.02 | 125.71 | 122.20 |
| 14 | D | 70 | LYS | CA-CB-CG | 5.02 | 124.43 | 113.40 |
| 12 | B | 48 | G | C3'-C2'-C1' | -5.01 | 97.49 | 101.50 |
| 12 | B | 271 | G | C4-C5-C6 | -5.01 | 115.79 | 118.80 |
| 12 | B | 2099 | U | C4-C5-C6 | 5.01 | 122.71 | 119.70 |
| 12 | B | 2558 | C | N3-C4-N4 | 5.01 | 121.51 | 118.00 |
| 12 | B | 2721 | A | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 12 | B | 2747 | G | C5-C6-O6 | -5.01 | 125.59 | 128.60 |
| 12 | B | 51 | G | C4-C5-C6 | -5.01 | 115.79 | 118.80 |
| 12 | B | 156 | A | O4'-C1'-N9 | 5.01 | 112.21 | 108.20 |
| 12 | B | 290 | U | N1-C2-O2 | -5.01 | 119.29 | 122.80 |
| 12 | B | 410 | G | C1'-O4'-C4' | 5.01 | 113.91 | 109.90 |
| 12 | B | 673 | C | C5'-C4'-C3' | -5.01 | 107.98 | 116.00 |
| 12 | B | 681 | G | C5-N7-C8 | 5.01 | 106.81 | 104.30 |
| 12 | B | 869 | G | N9-C4-C5 | 5.01 | 107.41 | 105.40 |
| 12 | B | 1339 | G | C4-C5-N7 | 5.01 | 112.81 | 110.80 |
| 12 | B | 2220 | U | O4'-C4'-C3' | -5.01 | 98.99 | 104.00 |
| 12 | B | 2893 | A | C5-N7-C8 | 5.01 | 106.41 | 103.90 |
| 15 | E | 61 | ARG | CA-CB-CG | 5.01 | 124.43 | 113.40 |
| 11 | A | 17 | C | N3-C4-C5 | -5.01 | 119.89 | 121.90 |
| 11 | A | 44 | G | C8-N9-C1' | 5.01 | 133.51 | 127.00 |
| 12 | B | 327 | G | C5-N7-C8 | 5.01 | 106.81 | 104.30 |
| 12 | B | 729 | G | N1-C2-N2 | 5.01 | 120.71 | 116.20 |
| 12 | B | 841 | G | N9-C4-C5 | -5.01 | 103.40 | 105.40 |
| 12 | B | 1139 | G | N3-C4-C5 | -5.01 | 126.09 | 128.60 |
| 12 | B | 1506 | U | N1-C2-N3 | -5.01 | 111.89 | 114.90 |
| 12 | B | 1716 | U | N1-C2-N3 | -5.01 | 111.89 | 114.90 |
| 12 | B | 1863 | G | C5-C6-N1 | -5.01 | 108.99 | 111.50 |
| 12 | B | 1885 | A | C5-C6-N6 | -5.01 | 119.69 | 123.70 |
| 12 | B | 2028 | U | N3-C2-O2 | -5.01 | 118.69 | 122.20 |
| 12 | B | 2099 | U | N3-C4-O4 | 5.01 | 122.91 | 119.40 |
| 12 | B | 2212 | A | N7-C8-N9 | 5.01 | 116.31 | 113.80 |
| 12 | B | 2533 | U | N3-C4-O4 | 5.01 | 122.91 | 119.40 |
| 12 | B | 2880 | C | C5-C6-N1 | 5.01 | 123.51 | 121.00 |
| 13 | C | 208 | GLY | C-N-CA | 5.01 | 134.23 | 121.70 |
| 11 | A | 28 | C | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |
| 12 | B | 186 | G | N3-C2-N2 | 5.01 | 123.41 | 119.90 |
| 12 | B | 676 | A | N7-C8-N9 | 5.01 | 116.31 | 113.80 |
| 12 | B | 736 | C | N3-C4-N4 | 5.01 | 121.51 | 118.00 |
| 12 | B | 1474 | U | O4'-C1'-N1 | 5.01 | 112.21 | 108.20 |
| 12 | B | 1621 | U | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 12 | B | 1762 | A | C4-C5-N7 | 5.01 | 113.20 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1811 | G | C5-C6-O6 | -5.01 | 125.59 | 128.60 |
| 12 | B | 2230 | G | C5-C6-N1 | -5.01 | 109.00 | 111.50 |
| 12 | B | 2332 | C | C5-C4-N4 | -5.01 | 116.69 | 120.20 |
| 12 | B | 2445 | G | C3'-C2'-C1' | -5.01 | 97.49 | 101.50 |
| 12 | B | 2455 | G | C4-C5-N7 | -5.01 | 108.80 | 110.80 |
| 12 | B | 2744 | G | O5'-C5'-C4' | -5.01 | 102.18 | 111.70 |
| 12 | B | 1627 | G | P-O3'-C3' | -5.01 | 113.69 | 119.70 |
| 12 | B | 2087 | G | C5-N7-C8 | 5.01 | 106.80 | 104.30 |
| 11 | A | 77 | U | OP1-P-OP2 | -5.01 | 112.09 | 119.60 |
| 12 | B | 424 | G | C6-C5-N7 | -5.01 | 127.40 | 130.40 |
| 12 | B | 515 | A | C5-C6-N6 | -5.01 | 119.69 | 123.70 |
| 12 | B | 659 | G | C6-C5-N7 | -5.01 | 127.40 | 130.40 |
| 12 | B | 1170 | C | C3'-C2'-C1' | -5.01 | 97.50 | 101.50 |
| 12 | B | 2171 | A | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 12 | B | 2341 | G | O5'-C5'-C4' | -5.01 | 102.19 | 111.70 |
| 12 | B | 2365 | G | N1-C2-N3 | -5.01 | 120.90 | 123.90 |
| 12 | B | 2461 | A | OP1-P-O3' | 5.01 | 116.21 | 105.20 |
| 12 | B | 2623 | G | P-O3'-C3' | -5.01 | 113.69 | 119.70 |
| 12 | B | 2660 | A | P-O3'-C3' | 5.01 | 125.71 | 119.70 |
| 13 | C | 245 | THR | CA-CB-CG2 | -5.01 | 105.39 | 112.40 |
| 20 | J | 5 | THR | CA-CB-OG1 | 5.01 | 119.51 | 109.00 |
| 7 | 6 | 5 | PHE | CB-CG-CD1 | -5.00 | 117.30 | 120.80 |
| 12 | B | 135 | U | C1'-O4'-C4' | -5.00 | 105.90 | 109.90 |
| 12 | B | 361 | G | P-O3'-C3' | -5.00 | 113.69 | 119.70 |
| 12 | B | 661 | A | O5'-C5'-C4' | -5.00 | 102.19 | 111.70 |
| 12 | B | 1092 | C | P-O3'-C3' | 5.00 | 125.70 | 119.70 |
| 12 | B | 1454 | C | O4'-C4'-C3' | -5.00 | 99.00 | 104.00 |
| 12 | B | 1701 | A | N3-C4-C5 | -5.00 | 123.30 | 126.80 |
| 12 | B | 1724 | G | C5-C6-O6 | -5.00 | 125.60 | 128.60 |
| 12 | B | 2090 | A | C5-C6-N1 | -5.00 | 115.20 | 117.70 |
| 12 | B | 2444 | G | N3-C2-N2 | 5.00 | 123.40 | 119.90 |
| 10 | 9 | 105 | MET | N-CA-C | -5.00 | 97.49 | 111.00 |
| 12 | B | 67 | U | C4-C5-C6 | -5.00 | 116.70 | 119.70 |
| 12 | B | 170 | U | P-O5'-C5' | 5.00 | 128.90 | 120.90 |
| 12 | B | 443 | A | N1-C6-N6 | 5.00 | 121.60 | 118.60 |
| 12 | B | 591 | U | P-O5'-C5' | 5.00 | 128.91 | 120.90 |
| 12 | B | 762 | U | C3'-C2'-C1' | -5.00 | 97.50 | 101.50 |
| 12 | B | 788 | A | C5-C6-N6 | -5.00 | 119.70 | 123.70 |
| 12 | B | 987 | C | C5-C6-N1 | 5.00 | 123.50 | 121.00 |
| 12 | B | 1150 | C | N3-C4-C5 | -5.00 | 119.90 | 121.90 |
| 12 | B | 1259 | G | C8-N9-C1' | 5.00 | 133.50 | 127.00 |
| 12 | B | 1445 | G | N1-C2-N2 | -5.00 | 111.70 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | B | 1620 | G | N3-C4-C5 | -5.00 | 126.10 | 128.60 |
| 12 | B | 1635 | A | C4-C5-N7 | -5.00 | 108.20 | 110.70 |
| 12 | B | 2020 | A | P-O3'-C3' | -5.00 | 113.70 | 119.70 |
| 12 | B | 2371 | G | C4-C5-N7 | -5.00 | 108.80 | 110.80 |
| 12 | B | 2418 | A | C1'-O4'-C4' | -5.00 | 105.90 | 109.90 |
| 12 | B | 2480 | C | O4'-C1'-C2' | -5.00 | 100.80 | 105.80 |
| 12 | B | 2484 | G | N1-C6-O6 | 5.00 | 122.90 | 119.90 |
| 15 | E | 57 | LYS | O-C-N | 5.00 | 130.70 | 122.70 |
| 25 | O | 40 | ILE | O-C-N | 5.00 | 130.71 | 122.70 |
| 12 | B | 95 | A | C5-C6-N1 | -5.00 | 115.20 | 117.70 |
| 12 | B | 192 | C | P-O5'-C5' | 5.00 | 128.90 | 120.90 |
| 12 | B | 423 | A | C5-N7-C8 | 5.00 | 106.40 | 103.90 |
| 12 | B | 493 | G | N1-C2-N3 | -5.00 | 120.90 | 123.90 |
| 12 | B | 505 | A | OP1-P-O3' | 5.00 | 116.20 | 105.20 |
| 12 | B | 770 | G | C5-C6-N1 | -5.00 | 109.00 | 111.50 |
| 12 | B | 1300 | G | C8-N9-C1' | -5.00 | 120.50 | 127.00 |
| 12 | B | 1833 | C | C4-C5-C6 | 5.00 | 119.90 | 117.40 |
| 12 | B | 1919 | A | N9-C4-C5 | 5.00 | 107.80 | 105.80 |
| 12 | B | 2293 | G | OP1-P-OP2 | -5.00 | 112.10 | 119.60 |
| 12 | B | 2318 | G | N7-C8-N9 | -5.00 | 110.60 | 113.10 |
| 12 | B | 2376 | A | N1-C6-N6 | 5.00 | 121.60 | 118.60 |
| 12 | B | 2395 | C | C6-N1-C2 | -5.00 | 118.30 | 120.30 |
| 12 | B | 2409 | G | N1-C2-N3 | -5.00 | 120.90 | 123.90 |
| 12 | B | 2705 | A | P-O3'-C3' | -5.00 | 113.70 | 119.70 |
| 21 | K | 4 | GLU | N-CA-CB | 5.00 | 119.60 | 110.60 |
| 33 | Y | 55 | ASP | CB-CG-OD2 | 5.00 | 122.80 | 118.30 |

There are no chirality outliers.

All (1675) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | 0 | 37 | PHE | Sidechain |
| 1 | 0 | 56 | ARG | Sidechain |
| 2 | 1 | 23 | ARG | Sidechain |
| 2 | 1 | 7 | ARG | Sidechain |
| 3 | 2 | 44 | ARG | Sidechain |
| 4 | 3 | 12 | ARG | Sidechain |
| 4 | 3 | 9 | ARG | Sidechain |
| 5 | 4 | 20 | TYR | Sidechain |
| 5 | 4 | 48 | TYR | Sidechain |
| 6 | 5 | 134 | ARG | Sidechain |
| 6 | 5 | 38 | PHE | Sidechain |

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| Mol | Chain | Res | Type | Group |
|------------|--------------|------------|-------------|--------------|
| 6 | 5 | 53 | ARG | Sidechain |
| 7 | 6 | 12 | ARG | Sidechain |
| 7 | 6 | 19 | ARG | Sidechain |
| 7 | 6 | 28 | ARG | Sidechain |
| 7 | 6 | 33 | ARG | Sidechain |
| 7 | 6 | 35 | ARG | Sidechain |
| 7 | 6 | 5 | PHE | Sidechain |
| 8 | 7 | 23 | HIS | Sidechain |
| 8 | 7 | 44 | ARG | Sidechain |
| 8 | 7 | 7 | ARG | Sidechain |
| 9 | 8 | 4 | ARG | Sidechain |
| 10 | 9 | 108 | MET | Peptide |
| 10 | 9 | 114 | ARG | Sidechain |
| 10 | 9 | 130 | PHE | Sidechain |
| 10 | 9 | 139 | ARG | Sidechain |
| 10 | 9 | 150 | ARG | Sidechain |
| 10 | 9 | 157 | MET | Peptide |
| 10 | 9 | 158 | LEU | Peptide |
| 10 | 9 | 175 | PHE | Sidechain |
| 10 | 9 | 183 | LYS | Mainchain |
| 10 | 9 | 189 | TYR | Sidechain |
| 10 | 9 | 202 | ARG | Sidechain |
| 10 | 9 | 226 | GLY | Peptide |
| 10 | 9 | 231 | PHE | Sidechain |
| 10 | 9 | 234 | HIS | Sidechain |
| 10 | 9 | 239 | ARG | Sidechain |
| 10 | 9 | 24 | ARG | Sidechain |
| 10 | 9 | 25 | ARG | Sidechain |
| 10 | 9 | 28 | TYR | Sidechain |
| 10 | 9 | 282 | PHE | Sidechain |
| 10 | 9 | 310 | TYR | Sidechain |
| 10 | 9 | 311 | TYR | Sidechain |
| 10 | 9 | 331 | PHE | Sidechain |
| 10 | 9 | 40 | GLY | Mainchain |
| 10 | 9 | 53 | LEU | Peptide |
| 10 | 9 | 54 | ASN | Mainchain |
| 10 | 9 | 60 | ARG | Peptide |
| 10 | 9 | 82 | ARG | Sidechain |
| 11 | A | 10 | G | Sidechain |
| 11 | A | 100 | G | Sidechain |
| 11 | A | 104 | A | Sidechain |
| 11 | A | 105 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 11 | A | 107 | G | Sidechain |
| 11 | A | 11 | C | Sidechain |
| 11 | A | 111 | U | Sidechain |
| 11 | A | 114 | C | Sidechain |
| 11 | A | 115 | A | Sidechain |
| 11 | A | 116 | G | Sidechain |
| 11 | A | 117 | G | Sidechain |
| 11 | A | 118 | C | Sidechain |
| 11 | A | 13 | G | Sidechain |
| 11 | A | 14 | U | Sidechain |
| 11 | A | 17 | C | Sidechain |
| 11 | A | 18 | G | Sidechain |
| 11 | A | 20 | G | Sidechain |
| 11 | A | 23 | G | Sidechain |
| 11 | A | 24 | G | Sidechain |
| 11 | A | 25 | U | Sidechain |
| 11 | A | 32 | U | Sidechain |
| 11 | A | 33 | G | Sidechain |
| 11 | A | 36 | C | Sidechain |
| 11 | A | 37 | C | Sidechain |
| 11 | A | 38 | C | Sidechain |
| 11 | A | 4 | C | Sidechain |
| 11 | A | 40 | U | Sidechain |
| 11 | A | 43 | C | Sidechain |
| 11 | A | 44 | G | Sidechain |
| 11 | A | 49 | C | Sidechain |
| 11 | A | 53 | A | Sidechain |
| 11 | A | 55 | U | Sidechain |
| 11 | A | 56 | G | Sidechain |
| 11 | A | 57 | A | Sidechain |
| 11 | A | 58 | A | Sidechain |
| 11 | A | 59 | A | Sidechain |
| 11 | A | 62 | C | Sidechain |
| 11 | A | 63 | C | Sidechain |
| 11 | A | 64 | G | Sidechain |
| 11 | A | 65 | U | Sidechain |
| 11 | A | 66 | A | Sidechain |
| 11 | A | 70 | C | Sidechain |
| 11 | A | 71 | C | Sidechain |
| 11 | A | 72 | G | Sidechain |
| 11 | A | 74 | U | Sidechain |
| 11 | A | 76 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 11 | A | 79 | G | Sidechain |
| 11 | A | 82 | U | Sidechain |
| 11 | A | 84 | G | Sidechain |
| 11 | A | 85 | G | Sidechain |
| 11 | A | 86 | G | Sidechain |
| 11 | A | 87 | U | Sidechain |
| 11 | A | 92 | C | Sidechain |
| 11 | A | 96 | G | Sidechain |
| 11 | A | 98 | G | Sidechain |
| 12 | B | 1 | G | Sidechain |
| 12 | B | 10 | A | Sidechain |
| 12 | B | 1001 | A | Sidechain |
| 12 | B | 1002 | G | Sidechain |
| 12 | B | 1003 | G | Sidechain |
| 12 | B | 1005 | C | Sidechain |
| 12 | B | 1006 | C | Sidechain |
| 12 | B | 1007 | C | Sidechain |
| 12 | B | 1008 | A | Sidechain |
| 12 | B | 101 | A | Sidechain |
| 12 | B | 1011 | G | Sidechain |
| 12 | B | 1014 | A | Sidechain |
| 12 | B | 1016 | G | Sidechain |
| 12 | B | 1019 | U | Sidechain |
| 12 | B | 102 | U | Sidechain |
| 12 | B | 1021 | A | Sidechain |
| 12 | B | 1022 | G | Sidechain |
| 12 | B | 1023 | U | Sidechain |
| 12 | B | 1024 | G | Sidechain |
| 12 | B | 1025 | G | Sidechain |
| 12 | B | 1026 | G | Sidechain |
| 12 | B | 1027 | A | Sidechain |
| 12 | B | 1031 | G | Sidechain |
| 12 | B | 1034 | G | Sidechain |
| 12 | B | 1035 | U | Sidechain |
| 12 | B | 1038 | G | Sidechain |
| 12 | B | 1040 | A | Sidechain |
| 12 | B | 1042 | G | Sidechain |
| 12 | B | 1044 | C | Sidechain |
| 12 | B | 1045 | C | Sidechain |
| 12 | B | 1047 | G | Sidechain |
| 12 | B | 1054 | A | Sidechain |
| 12 | B | 1056 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1059 | G | Sidechain |
| 12 | B | 1060 | U | Sidechain |
| 12 | B | 1061 | U | Sidechain |
| 12 | B | 1063 | G | Sidechain |
| 12 | B | 1065 | U | Sidechain |
| 12 | B | 1067 | A | Sidechain |
| 12 | B | 1068 | G | Sidechain |
| 12 | B | 1069 | A | Sidechain |
| 12 | B | 1070 | A | Sidechain |
| 12 | B | 1071 | G | Sidechain |
| 12 | B | 1074 | G | Sidechain |
| 12 | B | 1077 | A | Sidechain |
| 12 | B | 1081 | U | Sidechain |
| 12 | B | 1085 | A | Sidechain |
| 12 | B | 1086 | A | Sidechain |
| 12 | B | 1087 | G | Sidechain |
| 12 | B | 1088 | A | Sidechain |
| 12 | B | 1090 | A | Sidechain |
| 12 | B | 1091 | G | Sidechain |
| 12 | B | 1095 | A | Sidechain |
| 12 | B | 1096 | A | Sidechain |
| 12 | B | 1098 | A | Sidechain |
| 12 | B | 1099 | G | Sidechain |
| 12 | B | 110 | G | Sidechain |
| 12 | B | 1100 | C | Sidechain |
| 12 | B | 1103 | A | Sidechain |
| 12 | B | 1105 | U | Sidechain |
| 12 | B | 111 | A | Sidechain |
| 12 | B | 1110 | G | Sidechain |
| 12 | B | 1116 | G | Sidechain |
| 12 | B | 1122 | G | Sidechain |
| 12 | B | 1123 | C | Sidechain |
| 12 | B | 1124 | G | Sidechain |
| 12 | B | 1125 | G | Sidechain |
| 12 | B | 1126 | A | Sidechain |
| 12 | B | 1127 | A | Sidechain |
| 12 | B | 1128 | G | Sidechain |
| 12 | B | 1129 | A | Sidechain |
| 12 | B | 1131 | G | Sidechain |
| 12 | B | 1132 | U | Sidechain |
| 12 | B | 1134 | A | Sidechain |
| 12 | B | 1135 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1136 | G | Sidechain |
| 12 | B | 1137 | G | Sidechain |
| 12 | B | 1138 | G | Sidechain |
| 12 | B | 1139 | G | Sidechain |
| 12 | B | 1140 | C | Sidechain |
| 12 | B | 1141 | U | Sidechain |
| 12 | B | 1142 | A | Sidechain |
| 12 | B | 1143 | A | Sidechain |
| 12 | B | 1144 | A | Sidechain |
| 12 | B | 1146 | C | Sidechain |
| 12 | B | 1147 | A | Sidechain |
| 12 | B | 1157 | G | Sidechain |
| 12 | B | 1158 | C | Sidechain |
| 12 | B | 1166 | G | Sidechain |
| 12 | B | 1167 | C | Sidechain |
| 12 | B | 1168 | G | Sidechain |
| 12 | B | 117 | G | Sidechain |
| 12 | B | 1171 | G | Sidechain |
| 12 | B | 1172 | C | Sidechain |
| 12 | B | 1173 | U | Sidechain |
| 12 | B | 1174 | U | Sidechain |
| 12 | B | 118 | A | Sidechain |
| 12 | B | 1180 | U | Sidechain |
| 12 | B | 1181 | U | Sidechain |
| 12 | B | 1183 | U | Sidechain |
| 12 | B | 1185 | G | Sidechain |
| 12 | B | 1186 | G | Sidechain |
| 12 | B | 1189 | A | Sidechain |
| 12 | B | 119 | A | Sidechain |
| 12 | B | 1190 | G | Sidechain |
| 12 | B | 1192 | G | Sidechain |
| 12 | B | 1193 | G | Sidechain |
| 12 | B | 1194 | A | Sidechain |
| 12 | B | 1195 | G | Sidechain |
| 12 | B | 1198 | U | Sidechain |
| 12 | B | 1199 | U | Sidechain |
| 12 | B | 1204 | A | Sidechain |
| 12 | B | 1205 | A | Sidechain |
| 12 | B | 1206 | G | Sidechain |
| 12 | B | 1208 | C | Sidechain |
| 12 | B | 1209 | U | Sidechain |
| 12 | B | 1210 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1211 | C | Sidechain |
| 12 | B | 1212 | G | Sidechain |
| 12 | B | 1213 | A | Sidechain |
| 12 | B | 1216 | G | Sidechain |
| 12 | B | 1220 | G | Sidechain |
| 12 | B | 1223 | G | Sidechain |
| 12 | B | 1225 | G | Sidechain |
| 12 | B | 1227 | G | Sidechain |
| 12 | B | 1228 | G | Sidechain |
| 12 | B | 1230 | A | Sidechain |
| 12 | B | 1231 | U | Sidechain |
| 12 | B | 1232 | G | Sidechain |
| 12 | B | 1234 | U | Sidechain |
| 12 | B | 1235 | G | Sidechain |
| 12 | B | 1236 | G | Sidechain |
| 12 | B | 1237 | A | Sidechain |
| 12 | B | 1238 | G | Sidechain |
| 12 | B | 1240 | U | Sidechain |
| 12 | B | 1241 | A | Sidechain |
| 12 | B | 1242 | U | Sidechain |
| 12 | B | 1244 | A | Sidechain |
| 12 | B | 125 | A | Sidechain |
| 12 | B | 1250 | G | Sidechain |
| 12 | B | 1251 | C | Sidechain |
| 12 | B | 1252 | G | Sidechain |
| 12 | B | 1253 | A | Sidechain |
| 12 | B | 1256 | G | Sidechain |
| 12 | B | 1258 | U | Sidechain |
| 12 | B | 126 | A | Sidechain |
| 12 | B | 1260 | A | Sidechain |
| 12 | B | 1261 | C | Sidechain |
| 12 | B | 1264 | A | Sidechain |
| 12 | B | 1267 | U | Sidechain |
| 12 | B | 1269 | A | Sidechain |
| 12 | B | 1271 | G | Sidechain |
| 12 | B | 1272 | A | Sidechain |
| 12 | B | 1273 | U | Sidechain |
| 12 | B | 1275 | A | Sidechain |
| 12 | B | 1277 | G | Sidechain |
| 12 | B | 128 | C | Sidechain |
| 12 | B | 1280 | G | Sidechain |
| 12 | B | 1284 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1285 | A | Sidechain |
| 12 | B | 1289 | C | Sidechain |
| 12 | B | 1290 | C | Sidechain |
| 12 | B | 1291 | C | Sidechain |
| 12 | B | 1293 | C | Sidechain |
| 12 | B | 1294 | U | Sidechain |
| 12 | B | 1296 | G | Sidechain |
| 12 | B | 1298 | C | Sidechain |
| 12 | B | 1303 | G | Sidechain |
| 12 | B | 1305 | C | Sidechain |
| 12 | B | 1307 | A | Sidechain |
| 12 | B | 1310 | G | Sidechain |
| 12 | B | 1317 | G | Sidechain |
| 12 | B | 1318 | U | Sidechain |
| 12 | B | 132 | G | Sidechain |
| 12 | B | 1320 | C | Sidechain |
| 12 | B | 1324 | G | Sidechain |
| 12 | B | 1326 | U | Sidechain |
| 12 | B | 1327 | A | Sidechain |
| 12 | B | 1328 | A | Sidechain |
| 12 | B | 1331 | G | Sidechain |
| 12 | B | 1333 | G | Sidechain |
| 12 | B | 1335 | C | Sidechain |
| 12 | B | 1336 | A | Sidechain |
| 12 | B | 1337 | G | Sidechain |
| 12 | B | 134 | G | Sidechain |
| 12 | B | 1340 | U | Sidechain |
| 12 | B | 1341 | G | Sidechain |
| 12 | B | 1344 | U | Sidechain |
| 12 | B | 1345 | C | Sidechain |
| 12 | B | 1346 | G | Sidechain |
| 12 | B | 1347 | A | Sidechain |
| 12 | B | 1349 | C | Sidechain |
| 12 | B | 135 | U | Sidechain |
| 12 | B | 1352 | U | Sidechain |
| 12 | B | 1353 | A | Sidechain |
| 12 | B | 1355 | G | Sidechain |
| 12 | B | 1356 | G | Sidechain |
| 12 | B | 1358 | G | Sidechain |
| 12 | B | 136 | G | Sidechain |
| 12 | B | 1360 | G | Sidechain |
| 12 | B | 1363 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1366 | A | Sidechain |
| 12 | B | 137 | U | Sidechain |
| 12 | B | 1371 | G | Sidechain |
| 12 | B | 1375 | U | Sidechain |
| 12 | B | 1378 | A | Sidechain |
| 12 | B | 1379 | U | Sidechain |
| 12 | B | 1381 | G | Sidechain |
| 12 | B | 1382 | G | Sidechain |
| 12 | B | 1383 | A | Sidechain |
| 12 | B | 1384 | A | Sidechain |
| 12 | B | 1387 | A | Sidechain |
| 12 | B | 1388 | G | Sidechain |
| 12 | B | 139 | U | Sidechain |
| 12 | B | 1390 | U | Sidechain |
| 12 | B | 1392 | A | Sidechain |
| 12 | B | 1395 | A | Sidechain |
| 12 | B | 1396 | U | Sidechain |
| 12 | B | 1397 | U | Sidechain |
| 12 | B | 1399 | C | Sidechain |
| 12 | B | 14 | A | Sidechain |
| 12 | B | 1400 | U | Sidechain |
| 12 | B | 1401 | G | Sidechain |
| 12 | B | 1402 | U | Sidechain |
| 12 | B | 1405 | U | Sidechain |
| 12 | B | 1406 | U | Sidechain |
| 12 | B | 1407 | G | Sidechain |
| 12 | B | 1408 | G | Sidechain |
| 12 | B | 1409 | U | Sidechain |
| 12 | B | 1410 | G | Sidechain |
| 12 | B | 1415 | U | Sidechain |
| 12 | B | 1416 | G | Sidechain |
| 12 | B | 1417 | C | Sidechain |
| 12 | B | 1418 | G | Sidechain |
| 12 | B | 142 | A | Sidechain |
| 12 | B | 1421 | G | Sidechain |
| 12 | B | 1422 | G | Sidechain |
| 12 | B | 1423 | G | Sidechain |
| 12 | B | 1424 | G | Sidechain |
| 12 | B | 1425 | G | Sidechain |
| 12 | B | 1429 | G | Sidechain |
| 12 | B | 143 | C | Sidechain |
| 12 | B | 1432 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1433 | A | Sidechain |
| 12 | B | 1435 | G | Sidechain |
| 12 | B | 1438 | U | Sidechain |
| 12 | B | 1439 | A | Sidechain |
| 12 | B | 1440 | U | Sidechain |
| 12 | B | 1441 | G | Sidechain |
| 12 | B | 1445 | G | Sidechain |
| 12 | B | 1447 | C | Sidechain |
| 12 | B | 1448 | G | Sidechain |
| 12 | B | 1450 | G | Sidechain |
| 12 | B | 1451 | C | Sidechain |
| 12 | B | 1453 | A | Sidechain |
| 12 | B | 1454 | C | Sidechain |
| 12 | B | 1456 | G | Sidechain |
| 12 | B | 1458 | U | Sidechain |
| 12 | B | 1459 | G | Sidechain |
| 12 | B | 146 | A | Sidechain |
| 12 | B | 1460 | U | Sidechain |
| 12 | B | 1462 | C | Sidechain |
| 12 | B | 1464 | G | Sidechain |
| 12 | B | 1467 | U | Sidechain |
| 12 | B | 1468 | U | Sidechain |
| 12 | B | 1471 | G | Sidechain |
| 12 | B | 1474 | U | Sidechain |
| 12 | B | 1475 | G | Sidechain |
| 12 | B | 1476 | U | Sidechain |
| 12 | B | 1477 | A | Sidechain |
| 12 | B | 1478 | G | Sidechain |
| 12 | B | 148 | U | Sidechain |
| 12 | B | 1480 | C | Sidechain |
| 12 | B | 1482 | G | Sidechain |
| 12 | B | 1484 | U | Sidechain |
| 12 | B | 1485 | U | Sidechain |
| 12 | B | 1486 | U | Sidechain |
| 12 | B | 1487 | U | Sidechain |
| 12 | B | 1489 | C | Sidechain |
| 12 | B | 1490 | A | Sidechain |
| 12 | B | 1492 | G | Sidechain |
| 12 | B | 1493 | C | Sidechain |
| 12 | B | 1494 | A | Sidechain |
| 12 | B | 1495 | A | Sidechain |
| 12 | B | 1497 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1499 | C | Sidechain |
| 12 | B | 15 | G | Sidechain |
| 12 | B | 1504 | A | Sidechain |
| 12 | B | 1505 | A | Sidechain |
| 12 | B | 1506 | U | Sidechain |
| 12 | B | 1508 | A | Sidechain |
| 12 | B | 151 | C | Sidechain |
| 12 | B | 1510 | G | Sidechain |
| 12 | B | 1512 | C | Sidechain |
| 12 | B | 1514 | G | Sidechain |
| 12 | B | 1515 | A | Sidechain |
| 12 | B | 1516 | G | Sidechain |
| 12 | B | 1517 | G | Sidechain |
| 12 | B | 1518 | C | Sidechain |
| 12 | B | 1519 | G | Sidechain |
| 12 | B | 1520 | U | Sidechain |
| 12 | B | 1522 | A | Sidechain |
| 12 | B | 1524 | G | Sidechain |
| 12 | B | 1526 | C | Sidechain |
| 12 | B | 1527 | G | Sidechain |
| 12 | B | 153 | U | Sidechain |
| 12 | B | 1531 | C | Sidechain |
| 12 | B | 1533 | C | Sidechain |
| 12 | B | 1534 | U | Sidechain |
| 12 | B | 1536 | C | Sidechain |
| 12 | B | 1537 | G | Sidechain |
| 12 | B | 1538 | G | Sidechain |
| 12 | B | 1539 | U | Sidechain |
| 12 | B | 154 | U | Sidechain |
| 12 | B | 1541 | C | Sidechain |
| 12 | B | 1543 | G | Sidechain |
| 12 | B | 1545 | A | Sidechain |
| 12 | B | 1547 | C | Sidechain |
| 12 | B | 1549 | A | Sidechain |
| 12 | B | 1551 | A | Sidechain |
| 12 | B | 1552 | A | Sidechain |
| 12 | B | 1558 | C | Sidechain |
| 12 | B | 1559 | U | Sidechain |
| 12 | B | 1563 | U | Sidechain |
| 12 | B | 1564 | C | Sidechain |
| 12 | B | 1565 | C | Sidechain |
| 12 | B | 1567 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1568 | G | Sidechain |
| 12 | B | 1569 | A | Sidechain |
| 12 | B | 1571 | A | Sidechain |
| 12 | B | 1573 | G | Sidechain |
| 12 | B | 1574 | C | Sidechain |
| 12 | B | 1576 | U | Sidechain |
| 12 | B | 1577 | C | Sidechain |
| 12 | B | 1580 | A | Sidechain |
| 12 | B | 1581 | G | Sidechain |
| 12 | B | 1583 | A | Sidechain |
| 12 | B | 1584 | U | Sidechain |
| 12 | B | 1585 | C | Sidechain |
| 12 | B | 1588 | G | Sidechain |
| 12 | B | 159 | G | Sidechain |
| 12 | B | 1592 | C | Sidechain |
| 12 | B | 1598 | A | Sidechain |
| 12 | B | 1599 | U | Sidechain |
| 12 | B | 160 | A | Sidechain |
| 12 | B | 1600 | C | Sidechain |
| 12 | B | 1602 | U | Sidechain |
| 12 | B | 1603 | A | Sidechain |
| 12 | B | 1605 | C | Sidechain |
| 12 | B | 1607 | C | Sidechain |
| 12 | B | 161 | A | Sidechain |
| 12 | B | 1610 | A | Sidechain |
| 12 | B | 1611 | C | Sidechain |
| 12 | B | 1613 | G | Sidechain |
| 12 | B | 1616 | A | Sidechain |
| 12 | B | 1619 | G | Sidechain |
| 12 | B | 162 | U | Sidechain |
| 12 | B | 1620 | G | Sidechain |
| 12 | B | 1621 | U | Sidechain |
| 12 | B | 1627 | G | Sidechain |
| 12 | B | 1628 | G | Sidechain |
| 12 | B | 1629 | U | Sidechain |
| 12 | B | 163 | C | Sidechain |
| 12 | B | 1630 | A | Sidechain |
| 12 | B | 1631 | G | Sidechain |
| 12 | B | 1633 | G | Sidechain |
| 12 | B | 1634 | A | Sidechain |
| 12 | B | 1638 | C | Sidechain |
| 12 | B | 1639 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1641 | A | Sidechain |
| 12 | B | 1645 | G | Sidechain |
| 12 | B | 1646 | C | Sidechain |
| 12 | B | 1649 | G | Sidechain |
| 12 | B | 1652 | A | Sidechain |
| 12 | B | 1656 | C | Sidechain |
| 12 | B | 1658 | C | Sidechain |
| 12 | B | 166 | U | Sidechain |
| 12 | B | 1660 | G | Sidechain |
| 12 | B | 1661 | G | Sidechain |
| 12 | B | 1662 | U | Sidechain |
| 12 | B | 1663 | G | Sidechain |
| 12 | B | 1666 | G | Sidechain |
| 12 | B | 1668 | A | Sidechain |
| 12 | B | 1669 | A | Sidechain |
| 12 | B | 1671 | U | Sidechain |
| 12 | B | 1672 | A | Sidechain |
| 12 | B | 1673 | G | Sidechain |
| 12 | B | 1674 | G | Sidechain |
| 12 | B | 1676 | A | Sidechain |
| 12 | B | 1677 | A | Sidechain |
| 12 | B | 1679 | A | Sidechain |
| 12 | B | 1680 | U | Sidechain |
| 12 | B | 1688 | U | Sidechain |
| 12 | B | 1692 | U | Sidechain |
| 12 | B | 17 | G | Sidechain |
| 12 | B | 1700 | A | Sidechain |
| 12 | B | 1701 | A | Sidechain |
| 12 | B | 1702 | G | Sidechain |
| 12 | B | 1703 | G | Sidechain |
| 12 | B | 1705 | A | Sidechain |
| 12 | B | 1706 | C | Sidechain |
| 12 | B | 1711 | A | Sidechain |
| 12 | B | 1712 | U | Sidechain |
| 12 | B | 1713 | A | Sidechain |
| 12 | B | 1715 | G | Sidechain |
| 12 | B | 1716 | U | Sidechain |
| 12 | B | 1717 | A | Sidechain |
| 12 | B | 1718 | G | Sidechain |
| 12 | B | 1719 | G | Sidechain |
| 12 | B | 1720 | U | Sidechain |
| 12 | B | 1721 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1722 | A | Sidechain |
| 12 | B | 1723 | G | Sidechain |
| 12 | B | 1724 | G | Sidechain |
| 12 | B | 173 | A | Sidechain |
| 12 | B | 1732 | C | Sidechain |
| 12 | B | 1733 | G | Sidechain |
| 12 | B | 1737 | G | Sidechain |
| 12 | B | 1738 | G | Sidechain |
| 12 | B | 174 | U | Sidechain |
| 12 | B | 1741 | C | Sidechain |
| 12 | B | 1743 | G | Sidechain |
| 12 | B | 1745 | A | Sidechain |
| 12 | B | 1746 | A | Sidechain |
| 12 | B | 1750 | G | Sidechain |
| 12 | B | 1751 | U | Sidechain |
| 12 | B | 1753 | G | Sidechain |
| 12 | B | 1756 | G | Sidechain |
| 12 | B | 1757 | A | Sidechain |
| 12 | B | 1759 | A | Sidechain |
| 12 | B | 176 | A | Sidechain |
| 12 | B | 1761 | C | Sidechain |
| 12 | B | 1762 | A | Sidechain |
| 12 | B | 1763 | G | Sidechain |
| 12 | B | 1764 | C | Sidechain |
| 12 | B | 1766 | G | Sidechain |
| 12 | B | 1768 | C | Sidechain |
| 12 | B | 1769 | U | Sidechain |
| 12 | B | 1771 | C | Sidechain |
| 12 | B | 1774 | C | Sidechain |
| 12 | B | 1775 | U | Sidechain |
| 12 | B | 1776 | G | Sidechain |
| 12 | B | 1777 | U | Sidechain |
| 12 | B | 1778 | U | Sidechain |
| 12 | B | 1781 | U | Sidechain |
| 12 | B | 1783 | A | Sidechain |
| 12 | B | 1784 | A | Sidechain |
| 12 | B | 1785 | A | Sidechain |
| 12 | B | 1787 | A | Sidechain |
| 12 | B | 1788 | C | Sidechain |
| 12 | B | 1789 | A | Sidechain |
| 12 | B | 179 | C | Sidechain |
| 12 | B | 1792 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1793 | C | Sidechain |
| 12 | B | 1797 | G | Sidechain |
| 12 | B | 1798 | U | Sidechain |
| 12 | B | 1799 | G | Sidechain |
| 12 | B | 180 | G | Sidechain |
| 12 | B | 1801 | A | Sidechain |
| 12 | B | 1806 | C | Sidechain |
| 12 | B | 1809 | A | Sidechain |
| 12 | B | 181 | A | Sidechain |
| 12 | B | 1813 | G | Sidechain |
| 12 | B | 1815 | A | Sidechain |
| 12 | B | 1819 | A | Sidechain |
| 12 | B | 1821 | A | Sidechain |
| 12 | B | 1823 | G | Sidechain |
| 12 | B | 1824 | G | Sidechain |
| 12 | B | 1825 | U | Sidechain |
| 12 | B | 1827 | U | Sidechain |
| 12 | B | 1829 | A | Sidechain |
| 12 | B | 1831 | G | Sidechain |
| 12 | B | 1832 | C | Sidechain |
| 12 | B | 1835 | G | Sidechain |
| 12 | B | 1838 | C | Sidechain |
| 12 | B | 1841 | U | Sidechain |
| 12 | B | 1842 | G | Sidechain |
| 12 | B | 1843 | C | Sidechain |
| 12 | B | 1844 | C | Sidechain |
| 12 | B | 1845 | G | Sidechain |
| 12 | B | 1846 | G | Sidechain |
| 12 | B | 1849 | G | Sidechain |
| 12 | B | 1850 | G | Sidechain |
| 12 | B | 1856 | U | Sidechain |
| 12 | B | 1858 | A | Sidechain |
| 12 | B | 1859 | U | Sidechain |
| 12 | B | 1860 | G | Sidechain |
| 12 | B | 1861 | G | Sidechain |
| 12 | B | 1862 | G | Sidechain |
| 12 | B | 1863 | G | Sidechain |
| 12 | B | 1864 | U | Sidechain |
| 12 | B | 1866 | A | Sidechain |
| 12 | B | 1867 | G | Sidechain |
| 12 | B | 187 | G | Sidechain |
| 12 | B | 1872 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1875 | G | Sidechain |
| 12 | B | 1879 | C | Sidechain |
| 12 | B | 1880 | U | Sidechain |
| 12 | B | 1882 | U | Sidechain |
| 12 | B | 1883 | U | Sidechain |
| 12 | B | 1885 | A | Sidechain |
| 12 | B | 1887 | C | Sidechain |
| 12 | B | 1888 | G | Sidechain |
| 12 | B | 1889 | A | Sidechain |
| 12 | B | 189 | G | Sidechain |
| 12 | B | 1891 | G | Sidechain |
| 12 | B | 1893 | C | Sidechain |
| 12 | B | 1896 | G | Sidechain |
| 12 | B | 1897 | G | Sidechain |
| 12 | B | 1899 | A | Sidechain |
| 12 | B | 190 | A | Sidechain |
| 12 | B | 1900 | A | Sidechain |
| 12 | B | 1903 | G | Sidechain |
| 12 | B | 1906 | G | Sidechain |
| 12 | B | 1907 | G | Sidechain |
| 12 | B | 1908 | C | Sidechain |
| 12 | B | 1909 | C | Sidechain |
| 12 | B | 191 | A | Sidechain |
| 12 | B | 1915 | U | Sidechain |
| 12 | B | 1918 | A | Sidechain |
| 12 | B | 1919 | A | Sidechain |
| 12 | B | 1920 | C | Sidechain |
| 12 | B | 1922 | G | Sidechain |
| 12 | B | 1923 | U | Sidechain |
| 12 | B | 1924 | C | Sidechain |
| 12 | B | 1925 | C | Sidechain |
| 12 | B | 1927 | A | Sidechain |
| 12 | B | 1928 | A | Sidechain |
| 12 | B | 1929 | G | Sidechain |
| 12 | B | 193 | U | Sidechain |
| 12 | B | 1930 | G | Sidechain |
| 12 | B | 1936 | A | Sidechain |
| 12 | B | 1937 | A | Sidechain |
| 12 | B | 1939 | U | Sidechain |
| 12 | B | 1941 | C | Sidechain |
| 12 | B | 1943 | U | Sidechain |
| 12 | B | 1944 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 1945 | G | Sidechain |
| 12 | B | 1948 | G | Sidechain |
| 12 | B | 1949 | G | Sidechain |
| 12 | B | 1952 | A | Sidechain |
| 12 | B | 1953 | A | Sidechain |
| 12 | B | 1954 | G | Sidechain |
| 12 | B | 1956 | U | Sidechain |
| 12 | B | 1960 | A | Sidechain |
| 12 | B | 1962 | C | Sidechain |
| 12 | B | 1963 | U | Sidechain |
| 12 | B | 1964 | G | Sidechain |
| 12 | B | 1967 | C | Sidechain |
| 12 | B | 1968 | G | Sidechain |
| 12 | B | 1970 | A | Sidechain |
| 12 | B | 1971 | U | Sidechain |
| 12 | B | 1973 | G | Sidechain |
| 12 | B | 1975 | G | Sidechain |
| 12 | B | 1978 | A | Sidechain |
| 12 | B | 1979 | U | Sidechain |
| 12 | B | 198 | C | Sidechain |
| 12 | B | 1983 | G | Sidechain |
| 12 | B | 1988 | G | Sidechain |
| 12 | B | 1991 | U | Sidechain |
| 12 | B | 1992 | G | Sidechain |
| 12 | B | 1993 | U | Sidechain |
| 12 | B | 1999 | C | Sidechain |
| 12 | B | 2 | G | Sidechain |
| 12 | B | 200 | U | Sidechain |
| 12 | B | 2003 | A | Sidechain |
| 12 | B | 2005 | A | Sidechain |
| 12 | B | 2007 | U | Sidechain |
| 12 | B | 201 | C | Sidechain |
| 12 | B | 2010 | G | Sidechain |
| 12 | B | 2012 | G | Sidechain |
| 12 | B | 2013 | A | Sidechain |
| 12 | B | 2014 | A | Sidechain |
| 12 | B | 2015 | A | Sidechain |
| 12 | B | 2017 | U | Sidechain |
| 12 | B | 2022 | U | Sidechain |
| 12 | B | 2024 | G | Sidechain |
| 12 | B | 2028 | U | Sidechain |
| 12 | B | 2029 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 203 | A | Sidechain |
| 12 | B | 2032 | G | Sidechain |
| 12 | B | 2033 | A | Sidechain |
| 12 | B | 2038 | G | Sidechain |
| 12 | B | 204 | A | Sidechain |
| 12 | B | 2041 | U | Sidechain |
| 12 | B | 2042 | A | Sidechain |
| 12 | B | 2046 | G | Sidechain |
| 12 | B | 2048 | G | Sidechain |
| 12 | B | 205 | G | Sidechain |
| 12 | B | 2051 | A | Sidechain |
| 12 | B | 2053 | G | Sidechain |
| 12 | B | 2057 | G | Sidechain |
| 12 | B | 2058 | A | Sidechain |
| 12 | B | 2061 | G | Sidechain |
| 12 | B | 2062 | A | Sidechain |
| 12 | B | 2066 | C | Sidechain |
| 12 | B | 2067 | G | Sidechain |
| 12 | B | 2070 | A | Sidechain |
| 12 | B | 2071 | A | Sidechain |
| 12 | B | 2075 | U | Sidechain |
| 12 | B | 2076 | U | Sidechain |
| 12 | B | 2077 | A | Sidechain |
| 12 | B | 2079 | U | Sidechain |
| 12 | B | 208 | C | Sidechain |
| 12 | B | 2081 | U | Sidechain |
| 12 | B | 2085 | U | Sidechain |
| 12 | B | 2086 | U | Sidechain |
| 12 | B | 2088 | A | Sidechain |
| 12 | B | 209 | C | Sidechain |
| 12 | B | 2093 | G | Sidechain |
| 12 | B | 2094 | A | Sidechain |
| 12 | B | 2097 | A | Sidechain |
| 12 | B | 2098 | U | Sidechain |
| 12 | B | 210 | C | Sidechain |
| 12 | B | 2100 | G | Sidechain |
| 12 | B | 2101 | A | Sidechain |
| 12 | B | 2105 | U | Sidechain |
| 12 | B | 2106 | U | Sidechain |
| 12 | B | 2109 | U | Sidechain |
| 12 | B | 2110 | G | Sidechain |
| 12 | B | 2111 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2112 | G | Sidechain |
| 12 | B | 2113 | U | Sidechain |
| 12 | B | 2115 | G | Sidechain |
| 12 | B | 2116 | G | Sidechain |
| 12 | B | 2117 | A | Sidechain |
| 12 | B | 2123 | G | Sidechain |
| 12 | B | 2125 | G | Sidechain |
| 12 | B | 2126 | A | Sidechain |
| 12 | B | 2127 | G | Sidechain |
| 12 | B | 2128 | G | Sidechain |
| 12 | B | 2129 | C | Sidechain |
| 12 | B | 2130 | U | Sidechain |
| 12 | B | 2133 | G | Sidechain |
| 12 | B | 2134 | A | Sidechain |
| 12 | B | 2136 | G | Sidechain |
| 12 | B | 2137 | U | Sidechain |
| 12 | B | 2138 | G | Sidechain |
| 12 | B | 214 | G | Sidechain |
| 12 | B | 2141 | G | Sidechain |
| 12 | B | 2142 | A | Sidechain |
| 12 | B | 2144 | G | Sidechain |
| 12 | B | 2147 | A | Sidechain |
| 12 | B | 2148 | G | Sidechain |
| 12 | B | 215 | G | Sidechain |
| 12 | B | 2151 | U | Sidechain |
| 12 | B | 2152 | G | Sidechain |
| 12 | B | 2155 | U | Sidechain |
| 12 | B | 2156 | G | Sidechain |
| 12 | B | 216 | A | Sidechain |
| 12 | B | 2160 | C | Sidechain |
| 12 | B | 2162 | G | Sidechain |
| 12 | B | 2164 | C | Sidechain |
| 12 | B | 2168 | G | Sidechain |
| 12 | B | 2171 | A | Sidechain |
| 12 | B | 2175 | C | Sidechain |
| 12 | B | 2180 | U | Sidechain |
| 12 | B | 2182 | U | Sidechain |
| 12 | B | 2185 | U | Sidechain |
| 12 | B | 2186 | G | Sidechain |
| 12 | B | 2187 | U | Sidechain |
| 12 | B | 2191 | A | Sidechain |
| 12 | B | 2193 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2194 | U | Sidechain |
| 12 | B | 2195 | U | Sidechain |
| 12 | B | 2197 | U | Sidechain |
| 12 | B | 2199 | A | Sidechain |
| 12 | B | 22 | C | Sidechain |
| 12 | B | 220 | G | Sidechain |
| 12 | B | 2200 | C | Sidechain |
| 12 | B | 2202 | U | Sidechain |
| 12 | B | 2207 | C | Sidechain |
| 12 | B | 2210 | U | Sidechain |
| 12 | B | 2213 | U | Sidechain |
| 12 | B | 2214 | C | Sidechain |
| 12 | B | 2216 | G | Sidechain |
| 12 | B | 2217 | G | Sidechain |
| 12 | B | 2218 | G | Sidechain |
| 12 | B | 222 | A | Sidechain |
| 12 | B | 2220 | U | Sidechain |
| 12 | B | 2221 | G | Sidechain |
| 12 | B | 2223 | G | Sidechain |
| 12 | B | 2224 | G | Sidechain |
| 12 | B | 2227 | A | Sidechain |
| 12 | B | 2228 | G | Sidechain |
| 12 | B | 2229 | U | Sidechain |
| 12 | B | 2230 | G | Sidechain |
| 12 | B | 2231 | U | Sidechain |
| 12 | B | 2232 | C | Sidechain |
| 12 | B | 2233 | U | Sidechain |
| 12 | B | 2235 | G | Sidechain |
| 12 | B | 2236 | U | Sidechain |
| 12 | B | 2237 | G | Sidechain |
| 12 | B | 2238 | G | Sidechain |
| 12 | B | 224 | U | Sidechain |
| 12 | B | 2241 | A | Sidechain |
| 12 | B | 2242 | G | Sidechain |
| 12 | B | 2244 | U | Sidechain |
| 12 | B | 2248 | C | Sidechain |
| 12 | B | 2253 | G | Sidechain |
| 12 | B | 2254 | C | Sidechain |
| 12 | B | 2255 | G | Sidechain |
| 12 | B | 2256 | G | Sidechain |
| 12 | B | 2258 | C | Sidechain |
| 12 | B | 226 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2260 | C | Sidechain |
| 12 | B | 2262 | U | Sidechain |
| 12 | B | 2263 | C | Sidechain |
| 12 | B | 2264 | C | Sidechain |
| 12 | B | 2265 | U | Sidechain |
| 12 | B | 2266 | A | Sidechain |
| 12 | B | 2269 | G | Sidechain |
| 12 | B | 2270 | A | Sidechain |
| 12 | B | 2271 | G | Sidechain |
| 12 | B | 2273 | A | Sidechain |
| 12 | B | 2275 | C | Sidechain |
| 12 | B | 2279 | G | Sidechain |
| 12 | B | 2280 | G | Sidechain |
| 12 | B | 2281 | A | Sidechain |
| 12 | B | 2282 | G | Sidechain |
| 12 | B | 2284 | A | Sidechain |
| 12 | B | 2285 | C | Sidechain |
| 12 | B | 2286 | G | Sidechain |
| 12 | B | 2288 | A | Sidechain |
| 12 | B | 2289 | G | Sidechain |
| 12 | B | 2290 | G | Sidechain |
| 12 | B | 2292 | U | Sidechain |
| 12 | B | 2293 | G | Sidechain |
| 12 | B | 2294 | G | Sidechain |
| 12 | B | 2296 | U | Sidechain |
| 12 | B | 2298 | A | Sidechain |
| 12 | B | 2303 | G | Sidechain |
| 12 | B | 2304 | G | Sidechain |
| 12 | B | 2305 | U | Sidechain |
| 12 | B | 2306 | C | Sidechain |
| 12 | B | 2307 | G | Sidechain |
| 12 | B | 2308 | G | Sidechain |
| 12 | B | 231 | A | Sidechain |
| 12 | B | 2316 | G | Sidechain |
| 12 | B | 2318 | G | Sidechain |
| 12 | B | 2319 | G | Sidechain |
| 12 | B | 2321 | U | Sidechain |
| 12 | B | 2324 | U | Sidechain |
| 12 | B | 2325 | G | Sidechain |
| 12 | B | 2327 | A | Sidechain |
| 12 | B | 2328 | A | Sidechain |
| 12 | B | 233 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2330 | G | Sidechain |
| 12 | B | 2333 | A | Sidechain |
| 12 | B | 2334 | U | Sidechain |
| 12 | B | 2336 | A | Sidechain |
| 12 | B | 2337 | G | Sidechain |
| 12 | B | 2338 | C | Sidechain |
| 12 | B | 234 | U | Sidechain |
| 12 | B | 2340 | A | Sidechain |
| 12 | B | 2342 | C | Sidechain |
| 12 | B | 2344 | U | Sidechain |
| 12 | B | 2345 | G | Sidechain |
| 12 | B | 2349 | G | Sidechain |
| 12 | B | 2350 | C | Sidechain |
| 12 | B | 2351 | G | Sidechain |
| 12 | B | 2352 | A | Sidechain |
| 12 | B | 2353 | G | Sidechain |
| 12 | B | 2355 | G | Sidechain |
| 12 | B | 2356 | U | Sidechain |
| 12 | B | 2357 | G | Sidechain |
| 12 | B | 2359 | C | Sidechain |
| 12 | B | 2360 | G | Sidechain |
| 12 | B | 2363 | G | Sidechain |
| 12 | B | 2364 | C | Sidechain |
| 12 | B | 2365 | G | Sidechain |
| 12 | B | 2370 | G | Sidechain |
| 12 | B | 2373 | G | Sidechain |
| 12 | B | 2375 | G | Sidechain |
| 12 | B | 2377 | A | Sidechain |
| 12 | B | 2378 | A | Sidechain |
| 12 | B | 2380 | C | Sidechain |
| 12 | B | 2381 | A | Sidechain |
| 12 | B | 2382 | G | Sidechain |
| 12 | B | 2383 | G | Sidechain |
| 12 | B | 2384 | U | Sidechain |
| 12 | B | 2385 | C | Sidechain |
| 12 | B | 2386 | A | Sidechain |
| 12 | B | 2388 | A | Sidechain |
| 12 | B | 239 | C | Sidechain |
| 12 | B | 2390 | U | Sidechain |
| 12 | B | 2392 | A | Sidechain |
| 12 | B | 2393 | U | Sidechain |
| 12 | B | 2395 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2396 | G | Sidechain |
| 12 | B | 2397 | G | Sidechain |
| 12 | B | 2399 | G | Sidechain |
| 12 | B | 24 | G | Sidechain |
| 12 | B | 2400 | G | Sidechain |
| 12 | B | 2401 | U | Sidechain |
| 12 | B | 2403 | C | Sidechain |
| 12 | B | 2405 | G | Sidechain |
| 12 | B | 2406 | A | Sidechain |
| 12 | B | 2407 | A | Sidechain |
| 12 | B | 2408 | U | Sidechain |
| 12 | B | 241 | A | Sidechain |
| 12 | B | 2410 | G | Sidechain |
| 12 | B | 2412 | A | Sidechain |
| 12 | B | 2413 | G | Sidechain |
| 12 | B | 2414 | G | Sidechain |
| 12 | B | 2415 | G | Sidechain |
| 12 | B | 2416 | C | Sidechain |
| 12 | B | 2419 | U | Sidechain |
| 12 | B | 242 | G | Sidechain |
| 12 | B | 2421 | G | Sidechain |
| 12 | B | 2422 | C | Sidechain |
| 12 | B | 2423 | U | Sidechain |
| 12 | B | 2424 | C | Sidechain |
| 12 | B | 2425 | A | Sidechain |
| 12 | B | 2426 | A | Sidechain |
| 12 | B | 2427 | C | Sidechain |
| 12 | B | 2429 | G | Sidechain |
| 12 | B | 243 | U | Sidechain |
| 12 | B | 2430 | A | Sidechain |
| 12 | B | 2432 | A | Sidechain |
| 12 | B | 2433 | A | Sidechain |
| 12 | B | 2435 | A | Sidechain |
| 12 | B | 2436 | G | Sidechain |
| 12 | B | 2437 | G | Sidechain |
| 12 | B | 2439 | A | Sidechain |
| 12 | B | 244 | A | Sidechain |
| 12 | B | 2440 | C | Sidechain |
| 12 | B | 2441 | U | Sidechain |
| 12 | B | 2444 | G | Sidechain |
| 12 | B | 2445 | G | Sidechain |
| 12 | B | 2448 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2450 | A | Sidechain |
| 12 | B | 2451 | A | Sidechain |
| 12 | B | 2452 | C | Sidechain |
| 12 | B | 2457 | U | Sidechain |
| 12 | B | 2458 | G | Sidechain |
| 12 | B | 246 | C | Sidechain |
| 12 | B | 2463 | C | Sidechain |
| 12 | B | 2464 | G | Sidechain |
| 12 | B | 2467 | C | Sidechain |
| 12 | B | 2468 | A | Sidechain |
| 12 | B | 2470 | G | Sidechain |
| 12 | B | 2471 | A | Sidechain |
| 12 | B | 2473 | U | Sidechain |
| 12 | B | 2474 | U | Sidechain |
| 12 | B | 2475 | C | Sidechain |
| 12 | B | 2476 | A | Sidechain |
| 12 | B | 2477 | U | Sidechain |
| 12 | B | 248 | G | Sidechain |
| 12 | B | 2481 | G | Sidechain |
| 12 | B | 2482 | A | Sidechain |
| 12 | B | 2483 | C | Sidechain |
| 12 | B | 2484 | G | Sidechain |
| 12 | B | 2485 | G | Sidechain |
| 12 | B | 2487 | G | Sidechain |
| 12 | B | 2488 | G | Sidechain |
| 12 | B | 249 | C | Sidechain |
| 12 | B | 2493 | U | Sidechain |
| 12 | B | 2494 | G | Sidechain |
| 12 | B | 2495 | G | Sidechain |
| 12 | B | 2497 | A | Sidechain |
| 12 | B | 2498 | C | Sidechain |
| 12 | B | 2499 | C | Sidechain |
| 12 | B | 25 | U | Sidechain |
| 12 | B | 250 | G | Sidechain |
| 12 | B | 2500 | U | Sidechain |
| 12 | B | 2502 | G | Sidechain |
| 12 | B | 2503 | A | Sidechain |
| 12 | B | 2504 | U | Sidechain |
| 12 | B | 2506 | U | Sidechain |
| 12 | B | 2507 | C | Sidechain |
| 12 | B | 2509 | G | Sidechain |
| 12 | B | 251 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2513 | A | Sidechain |
| 12 | B | 2516 | A | Sidechain |
| 12 | B | 2518 | A | Sidechain |
| 12 | B | 252 | G | Sidechain |
| 12 | B | 2523 | G | Sidechain |
| 12 | B | 2524 | G | Sidechain |
| 12 | B | 2526 | G | Sidechain |
| 12 | B | 2527 | C | Sidechain |
| 12 | B | 2529 | G | Sidechain |
| 12 | B | 2532 | G | Sidechain |
| 12 | B | 2535 | G | Sidechain |
| 12 | B | 2536 | G | Sidechain |
| 12 | B | 2538 | C | Sidechain |
| 12 | B | 254 | G | Sidechain |
| 12 | B | 2541 | A | Sidechain |
| 12 | B | 2543 | G | Sidechain |
| 12 | B | 2545 | G | Sidechain |
| 12 | B | 2548 | U | Sidechain |
| 12 | B | 2551 | C | Sidechain |
| 12 | B | 2552 | U | Sidechain |
| 12 | B | 2553 | G | Sidechain |
| 12 | B | 2554 | U | Sidechain |
| 12 | B | 2556 | C | Sidechain |
| 12 | B | 2557 | G | Sidechain |
| 12 | B | 2558 | C | Sidechain |
| 12 | B | 2560 | A | Sidechain |
| 12 | B | 2561 | U | Sidechain |
| 12 | B | 2562 | U | Sidechain |
| 12 | B | 2563 | U | Sidechain |
| 12 | B | 2565 | A | Sidechain |
| 12 | B | 2566 | A | Sidechain |
| 12 | B | 2569 | G | Sidechain |
| 12 | B | 2573 | C | Sidechain |
| 12 | B | 2576 | G | Sidechain |
| 12 | B | 2577 | A | Sidechain |
| 12 | B | 258 | G | Sidechain |
| 12 | B | 2580 | U | Sidechain |
| 12 | B | 2582 | G | Sidechain |
| 12 | B | 2583 | G | Sidechain |
| 12 | B | 2584 | U | Sidechain |
| 12 | B | 2586 | U | Sidechain |
| 12 | B | 2590 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2593 | U | Sidechain |
| 12 | B | 2597 | G | Sidechain |
| 12 | B | 2599 | G | Sidechain |
| 12 | B | 26 | G | Sidechain |
| 12 | B | 2600 | A | Sidechain |
| 12 | B | 2602 | A | Sidechain |
| 12 | B | 2604 | U | Sidechain |
| 12 | B | 2605 | U | Sidechain |
| 12 | B | 2606 | C | Sidechain |
| 12 | B | 2607 | G | Sidechain |
| 12 | B | 261 | G | Sidechain |
| 12 | B | 2610 | C | Sidechain |
| 12 | B | 2611 | C | Sidechain |
| 12 | B | 2614 | A | Sidechain |
| 12 | B | 2615 | U | Sidechain |
| 12 | B | 2617 | U | Sidechain |
| 12 | B | 2618 | G | Sidechain |
| 12 | B | 2619 | C | Sidechain |
| 12 | B | 262 | A | Sidechain |
| 12 | B | 2621 | G | Sidechain |
| 12 | B | 2623 | G | Sidechain |
| 12 | B | 2624 | G | Sidechain |
| 12 | B | 2630 | G | Sidechain |
| 12 | B | 2631 | G | Sidechain |
| 12 | B | 2632 | A | Sidechain |
| 12 | B | 2633 | G | Sidechain |
| 12 | B | 2636 | C | Sidechain |
| 12 | B | 2637 | U | Sidechain |
| 12 | B | 2638 | G | Sidechain |
| 12 | B | 2639 | A | Sidechain |
| 12 | B | 2641 | G | Sidechain |
| 12 | B | 2642 | G | Sidechain |
| 12 | B | 2643 | G | Sidechain |
| 12 | B | 2644 | G | Sidechain |
| 12 | B | 2647 | U | Sidechain |
| 12 | B | 265 | A | Sidechain |
| 12 | B | 2650 | U | Sidechain |
| 12 | B | 2651 | C | Sidechain |
| 12 | B | 2652 | C | Sidechain |
| 12 | B | 2655 | G | Sidechain |
| 12 | B | 2657 | A | Sidechain |
| 12 | B | 2658 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 266 | G | Sidechain |
| 12 | B | 2660 | A | Sidechain |
| 12 | B | 2662 | A | Sidechain |
| 12 | B | 2664 | G | Sidechain |
| 12 | B | 2666 | C | Sidechain |
| 12 | B | 2669 | G | Sidechain |
| 12 | B | 2672 | U | Sidechain |
| 12 | B | 2674 | G | Sidechain |
| 12 | B | 2675 | A | Sidechain |
| 12 | B | 2677 | G | Sidechain |
| 12 | B | 2679 | A | Sidechain |
| 12 | B | 2680 | U | Sidechain |
| 12 | B | 2683 | C | Sidechain |
| 12 | B | 2684 | U | Sidechain |
| 12 | B | 2685 | G | Sidechain |
| 12 | B | 2686 | G | Sidechain |
| 12 | B | 2688 | G | Sidechain |
| 12 | B | 269 | C | Sidechain |
| 12 | B | 2692 | G | Sidechain |
| 12 | B | 2693 | G | Sidechain |
| 12 | B | 2699 | C | Sidechain |
| 12 | B | 27 | G | Sidechain |
| 12 | B | 270 | A | Sidechain |
| 12 | B | 2702 | G | Sidechain |
| 12 | B | 2705 | A | Sidechain |
| 12 | B | 2706 | A | Sidechain |
| 12 | B | 2707 | U | Sidechain |
| 12 | B | 2709 | G | Sidechain |
| 12 | B | 2710 | C | Sidechain |
| 12 | B | 2711 | A | Sidechain |
| 12 | B | 2712 | C | Sidechain |
| 12 | B | 2713 | U | Sidechain |
| 12 | B | 2714 | G | Sidechain |
| 12 | B | 2715 | C | Sidechain |
| 12 | B | 2719 | G | Sidechain |
| 12 | B | 2722 | G | Sidechain |
| 12 | B | 2725 | A | Sidechain |
| 12 | B | 2726 | A | Sidechain |
| 12 | B | 2728 | U | Sidechain |
| 12 | B | 2729 | G | Sidechain |
| 12 | B | 2730 | C | Sidechain |
| 12 | B | 2731 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 2732 | G | Sidechain |
| 12 | B | 2735 | G | Sidechain |
| 12 | B | 2736 | A | Sidechain |
| 12 | B | 2737 | G | Sidechain |
| 12 | B | 2738 | A | Sidechain |
| 12 | B | 274 | C | Sidechain |
| 12 | B | 2742 | G | Sidechain |
| 12 | B | 2746 | U | Sidechain |
| 12 | B | 275 | C | Sidechain |
| 12 | B | 2750 | A | Sidechain |
| 12 | B | 2751 | G | Sidechain |
| 12 | B | 2752 | C | Sidechain |
| 12 | B | 2754 | U | Sidechain |
| 12 | B | 2755 | C | Sidechain |
| 12 | B | 2756 | U | Sidechain |
| 12 | B | 2758 | A | Sidechain |
| 12 | B | 276 | U | Sidechain |
| 12 | B | 2762 | C | Sidechain |
| 12 | B | 2763 | G | Sidechain |
| 12 | B | 2764 | A | Sidechain |
| 12 | B | 2765 | A | Sidechain |
| 12 | B | 2766 | A | Sidechain |
| 12 | B | 2767 | C | Sidechain |
| 12 | B | 277 | G | Sidechain |
| 12 | B | 2770 | G | Sidechain |
| 12 | B | 2771 | C | Sidechain |
| 12 | B | 2773 | C | Sidechain |
| 12 | B | 2774 | C | Sidechain |
| 12 | B | 2775 | G | Sidechain |
| 12 | B | 278 | A | Sidechain |
| 12 | B | 2780 | G | Sidechain |
| 12 | B | 2787 | C | Sidechain |
| 12 | B | 2795 | C | Sidechain |
| 12 | B | 2797 | U | Sidechain |
| 12 | B | 2799 | A | Sidechain |
| 12 | B | 2803 | G | Sidechain |
| 12 | B | 2804 | U | Sidechain |
| 12 | B | 2805 | C | Sidechain |
| 12 | B | 2810 | A | Sidechain |
| 12 | B | 2813 | A | Sidechain |
| 12 | B | 2816 | G | Sidechain |
| 12 | B | 2819 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 12 | B | 282 | A | Sidechain |
| 12 | B | 2824 | C | Sidechain |
| 12 | B | 2825 | G | Sidechain |
| 12 | B | 2827 | C | Sidechain |
| 12 | B | 2831 | G | Sidechain |
| 12 | B | 2833 | U | Sidechain |
| 12 | B | 2834 | G | Sidechain |
| 12 | B | 2842 | G | Sidechain |
| 12 | B | 2843 | G | Sidechain |
| 12 | B | 2844 | G | Sidechain |
| 12 | B | 2845 | U | Sidechain |
| 12 | B | 2846 | G | Sidechain |
| 12 | B | 2847 | U | Sidechain |
| 12 | B | 285 | G | Sidechain |
| 12 | B | 2852 | G | Sidechain |
| 12 | B | 2854 | G | Sidechain |
| 12 | B | 2856 | A | Sidechain |
| 12 | B | 2857 | G | Sidechain |
| 12 | B | 2858 | C | Sidechain |
| 12 | B | 2861 | U | Sidechain |
| 12 | B | 2862 | G | Sidechain |
| 12 | B | 2863 | C | Sidechain |
| 12 | B | 2864 | G | Sidechain |
| 12 | B | 2866 | U | Sidechain |
| 12 | B | 2867 | G | Sidechain |
| 12 | B | 2869 | G | Sidechain |
| 12 | B | 2871 | U | Sidechain |
| 12 | B | 2872 | A | Sidechain |
| 12 | B | 2881 | U | Sidechain |
| 12 | B | 2882 | A | Sidechain |
| 12 | B | 2883 | A | Sidechain |
| 12 | B | 2884 | U | Sidechain |
| 12 | B | 2892 | G | Sidechain |
| 12 | B | 2893 | A | Sidechain |
| 12 | B | 2894 | G | Sidechain |
| 12 | B | 2899 | A | Sidechain |
| 12 | B | 29 | U | Sidechain |
| 12 | B | 290 | U | Sidechain |
| 12 | B | 2902 | C | Sidechain |
| 12 | B | 293 | U | Sidechain |
| 12 | B | 295 | G | Sidechain |
| 12 | B | 296 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 297 | G | Sidechain |
| 12 | B | 30 | G | Sidechain |
| 12 | B | 300 | A | Sidechain |
| 12 | B | 301 | G | Sidechain |
| 12 | B | 303 | G | Sidechain |
| 12 | B | 304 | U | Sidechain |
| 12 | B | 306 | U | Sidechain |
| 12 | B | 308 | G | Sidechain |
| 12 | B | 310 | A | Sidechain |
| 12 | B | 311 | A | Sidechain |
| 12 | B | 312 | G | Sidechain |
| 12 | B | 313 | G | Sidechain |
| 12 | B | 314 | C | Sidechain |
| 12 | B | 319 | G | Sidechain |
| 12 | B | 322 | A | Sidechain |
| 12 | B | 324 | A | Sidechain |
| 12 | B | 325 | G | Sidechain |
| 12 | B | 327 | G | Sidechain |
| 12 | B | 328 | U | Sidechain |
| 12 | B | 329 | G | Sidechain |
| 12 | B | 33 | C | Sidechain |
| 12 | B | 332 | A | Sidechain |
| 12 | B | 333 | G | Sidechain |
| 12 | B | 335 | C | Sidechain |
| 12 | B | 336 | C | Sidechain |
| 12 | B | 338 | G | Sidechain |
| 12 | B | 339 | U | Sidechain |
| 12 | B | 34 | U | Sidechain |
| 12 | B | 340 | A | Sidechain |
| 12 | B | 343 | C | Sidechain |
| 12 | B | 344 | A | Sidechain |
| 12 | B | 346 | A | Sidechain |
| 12 | B | 352 | A | Sidechain |
| 12 | B | 359 | G | Sidechain |
| 12 | B | 360 | U | Sidechain |
| 12 | B | 361 | G | Sidechain |
| 12 | B | 363 | G | Sidechain |
| 12 | B | 365 | U | Sidechain |
| 12 | B | 366 | C | Sidechain |
| 12 | B | 368 | A | Sidechain |
| 12 | B | 37 | C | Sidechain |
| 12 | B | 370 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 371 | A | Sidechain |
| 12 | B | 373 | U | Sidechain |
| 12 | B | 376 | G | Sidechain |
| 12 | B | 377 | G | Sidechain |
| 12 | B | 379 | G | Sidechain |
| 12 | B | 38 | A | Sidechain |
| 12 | B | 380 | G | Sidechain |
| 12 | B | 382 | A | Sidechain |
| 12 | B | 383 | C | Sidechain |
| 12 | B | 384 | A | Sidechain |
| 12 | B | 386 | G | Sidechain |
| 12 | B | 387 | U | Sidechain |
| 12 | B | 388 | G | Sidechain |
| 12 | B | 39 | G | Sidechain |
| 12 | B | 390 | U | Sidechain |
| 12 | B | 391 | A | Sidechain |
| 12 | B | 392 | U | Sidechain |
| 12 | B | 393 | C | Sidechain |
| 12 | B | 394 | C | Sidechain |
| 12 | B | 397 | U | Sidechain |
| 12 | B | 4 | U | Sidechain |
| 12 | B | 402 | A | Sidechain |
| 12 | B | 404 | A | Sidechain |
| 12 | B | 405 | U | Sidechain |
| 12 | B | 406 | G | Sidechain |
| 12 | B | 408 | G | Sidechain |
| 12 | B | 410 | G | Sidechain |
| 12 | B | 413 | C | Sidechain |
| 12 | B | 414 | C | Sidechain |
| 12 | B | 415 | A | Sidechain |
| 12 | B | 417 | C | Sidechain |
| 12 | B | 420 | C | Sidechain |
| 12 | B | 423 | A | Sidechain |
| 12 | B | 424 | G | Sidechain |
| 12 | B | 425 | G | Sidechain |
| 12 | B | 428 | A | Sidechain |
| 12 | B | 429 | A | Sidechain |
| 12 | B | 434 | U | Sidechain |
| 12 | B | 438 | G | Sidechain |
| 12 | B | 439 | A | Sidechain |
| 12 | B | 443 | A | Sidechain |
| 12 | B | 445 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 446 | G | Sidechain |
| 12 | B | 448 | U | Sidechain |
| 12 | B | 450 | G | Sidechain |
| 12 | B | 452 | G | Sidechain |
| 12 | B | 455 | C | Sidechain |
| 12 | B | 457 | A | Sidechain |
| 12 | B | 459 | U | Sidechain |
| 12 | B | 460 | A | Sidechain |
| 12 | B | 461 | C | Sidechain |
| 12 | B | 463 | G | Sidechain |
| 12 | B | 464 | U | Sidechain |
| 12 | B | 465 | G | Sidechain |
| 12 | B | 468 | G | Sidechain |
| 12 | B | 469 | G | Sidechain |
| 12 | B | 473 | G | Sidechain |
| 12 | B | 474 | G | Sidechain |
| 12 | B | 477 | A | Sidechain |
| 12 | B | 48 | G | Sidechain |
| 12 | B | 480 | A | Sidechain |
| 12 | B | 481 | G | Sidechain |
| 12 | B | 482 | A | Sidechain |
| 12 | B | 483 | A | Sidechain |
| 12 | B | 484 | C | Sidechain |
| 12 | B | 486 | C | Sidechain |
| 12 | B | 489 | G | Sidechain |
| 12 | B | 490 | C | Sidechain |
| 12 | B | 491 | G | Sidechain |
| 12 | B | 497 | A | Sidechain |
| 12 | B | 498 | G | Sidechain |
| 12 | B | 499 | U | Sidechain |
| 12 | B | 5 | A | Sidechain |
| 12 | B | 50 | U | Sidechain |
| 12 | B | 502 | A | Sidechain |
| 12 | B | 503 | A | Sidechain |
| 12 | B | 51 | G | Sidechain |
| 12 | B | 511 | U | Sidechain |
| 12 | B | 513 | A | Sidechain |
| 12 | B | 516 | C | Sidechain |
| 12 | B | 518 | G | Sidechain |
| 12 | B | 520 | G | Sidechain |
| 12 | B | 525 | U | Sidechain |
| 12 | B | 527 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 529 | A | Sidechain |
| 12 | B | 531 | C | Sidechain |
| 12 | B | 535 | G | Sidechain |
| 12 | B | 537 | G | Sidechain |
| 12 | B | 539 | G | Sidechain |
| 12 | B | 540 | C | Sidechain |
| 12 | B | 541 | A | Sidechain |
| 12 | B | 548 | G | Sidechain |
| 12 | B | 549 | G | Sidechain |
| 12 | B | 551 | G | Sidechain |
| 12 | B | 553 | G | Sidechain |
| 12 | B | 554 | U | Sidechain |
| 12 | B | 557 | C | Sidechain |
| 12 | B | 562 | U | Sidechain |
| 12 | B | 564 | C | Sidechain |
| 12 | B | 566 | U | Sidechain |
| 12 | B | 567 | U | Sidechain |
| 12 | B | 568 | U | Sidechain |
| 12 | B | 569 | U | Sidechain |
| 12 | B | 57 | C | Sidechain |
| 12 | B | 572 | A | Sidechain |
| 12 | B | 575 | A | Sidechain |
| 12 | B | 577 | G | Sidechain |
| 12 | B | 579 | G | Sidechain |
| 12 | B | 580 | U | Sidechain |
| 12 | B | 581 | C | Sidechain |
| 12 | B | 582 | A | Sidechain |
| 12 | B | 585 | G | Sidechain |
| 12 | B | 586 | A | Sidechain |
| 12 | B | 587 | C | Sidechain |
| 12 | B | 588 | U | Sidechain |
| 12 | B | 589 | U | Sidechain |
| 12 | B | 590 | A | Sidechain |
| 12 | B | 595 | C | Sidechain |
| 12 | B | 596 | U | Sidechain |
| 12 | B | 598 | U | Sidechain |
| 12 | B | 599 | A | Sidechain |
| 12 | B | 600 | G | Sidechain |
| 12 | B | 604 | G | Sidechain |
| 12 | B | 605 | G | Sidechain |
| 12 | B | 607 | U | Sidechain |
| 12 | B | 608 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 611 | C | Sidechain |
| 12 | B | 612 | G | Sidechain |
| 12 | B | 615 | U | Sidechain |
| 12 | B | 617 | G | Sidechain |
| 12 | B | 619 | G | Sidechain |
| 12 | B | 620 | G | Sidechain |
| 12 | B | 622 | G | Sidechain |
| 12 | B | 624 | C | Sidechain |
| 12 | B | 625 | G | Sidechain |
| 12 | B | 626 | A | Sidechain |
| 12 | B | 627 | A | Sidechain |
| 12 | B | 629 | G | Sidechain |
| 12 | B | 63 | A | Sidechain |
| 12 | B | 630 | G | Sidechain |
| 12 | B | 633 | A | Sidechain |
| 12 | B | 639 | U | Sidechain |
| 12 | B | 640 | C | Sidechain |
| 12 | B | 642 | U | Sidechain |
| 12 | B | 643 | A | Sidechain |
| 12 | B | 644 | A | Sidechain |
| 12 | B | 645 | C | Sidechain |
| 12 | B | 646 | U | Sidechain |
| 12 | B | 647 | G | Sidechain |
| 12 | B | 651 | G | Sidechain |
| 12 | B | 653 | U | Sidechain |
| 12 | B | 654 | A | Sidechain |
| 12 | B | 655 | A | Sidechain |
| 12 | B | 656 | G | Sidechain |
| 12 | B | 658 | U | Sidechain |
| 12 | B | 660 | C | Sidechain |
| 12 | B | 663 | G | Sidechain |
| 12 | B | 666 | A | Sidechain |
| 12 | B | 667 | U | Sidechain |
| 12 | B | 668 | A | Sidechain |
| 12 | B | 669 | G | Sidechain |
| 12 | B | 670 | A | Sidechain |
| 12 | B | 674 | G | Sidechain |
| 12 | B | 675 | A | Sidechain |
| 12 | B | 677 | A | Sidechain |
| 12 | B | 682 | G | Sidechain |
| 12 | B | 684 | G | Sidechain |
| 12 | B | 685 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 687 | C | Sidechain |
| 12 | B | 688 | U | Sidechain |
| 12 | B | 689 | A | Sidechain |
| 12 | B | 690 | G | Sidechain |
| 12 | B | 694 | U | Sidechain |
| 12 | B | 695 | G | Sidechain |
| 12 | B | 696 | G | Sidechain |
| 12 | B | 697 | G | Sidechain |
| 12 | B | 7 | G | Sidechain |
| 12 | B | 70 | G | Sidechain |
| 12 | B | 701 | G | Sidechain |
| 12 | B | 706 | A | Sidechain |
| 12 | B | 709 | U | Sidechain |
| 12 | B | 71 | A | Sidechain |
| 12 | B | 711 | G | Sidechain |
| 12 | B | 712 | G | Sidechain |
| 12 | B | 713 | G | Sidechain |
| 12 | B | 714 | U | Sidechain |
| 12 | B | 715 | A | Sidechain |
| 12 | B | 716 | A | Sidechain |
| 12 | B | 718 | A | Sidechain |
| 12 | B | 721 | A | Sidechain |
| 12 | B | 722 | A | Sidechain |
| 12 | B | 723 | C | Sidechain |
| 12 | B | 724 | U | Sidechain |
| 12 | B | 726 | G | Sidechain |
| 12 | B | 727 | A | Sidechain |
| 12 | B | 729 | G | Sidechain |
| 12 | B | 734 | A | Sidechain |
| 12 | B | 736 | C | Sidechain |
| 12 | B | 737 | C | Sidechain |
| 12 | B | 738 | G | Sidechain |
| 12 | B | 739 | A | Sidechain |
| 12 | B | 74 | A | Sidechain |
| 12 | B | 740 | C | Sidechain |
| 12 | B | 744 | U | Sidechain |
| 12 | B | 746 | U | Sidechain |
| 12 | B | 748 | G | Sidechain |
| 12 | B | 749 | A | Sidechain |
| 12 | B | 75 | G | Sidechain |
| 12 | B | 750 | A | Sidechain |
| 12 | B | 753 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 754 | U | Sidechain |
| 12 | B | 756 | A | Sidechain |
| 12 | B | 757 | G | Sidechain |
| 12 | B | 759 | G | Sidechain |
| 12 | B | 76 | C | Sidechain |
| 12 | B | 760 | G | Sidechain |
| 12 | B | 765 | C | Sidechain |
| 12 | B | 767 | U | Sidechain |
| 12 | B | 770 | G | Sidechain |
| 12 | B | 771 | G | Sidechain |
| 12 | B | 772 | C | Sidechain |
| 12 | B | 773 | U | Sidechain |
| 12 | B | 775 | G | Sidechain |
| 12 | B | 776 | G | Sidechain |
| 12 | B | 777 | G | Sidechain |
| 12 | B | 779 | U | Sidechain |
| 12 | B | 78 | U | Sidechain |
| 12 | B | 780 | G | Sidechain |
| 12 | B | 783 | A | Sidechain |
| 12 | B | 784 | G | Sidechain |
| 12 | B | 786 | C | Sidechain |
| 12 | B | 788 | A | Sidechain |
| 12 | B | 792 | A | Sidechain |
| 12 | B | 793 | A | Sidechain |
| 12 | B | 794 | A | Sidechain |
| 12 | B | 796 | C | Sidechain |
| 12 | B | 797 | G | Sidechain |
| 12 | B | 798 | G | Sidechain |
| 12 | B | 799 | G | Sidechain |
| 12 | B | 801 | G | Sidechain |
| 12 | B | 802 | A | Sidechain |
| 12 | B | 803 | U | Sidechain |
| 12 | B | 806 | C | Sidechain |
| 12 | B | 809 | G | Sidechain |
| 12 | B | 81 | G | Sidechain |
| 12 | B | 815 | C | Sidechain |
| 12 | B | 817 | C | Sidechain |
| 12 | B | 818 | G | Sidechain |
| 12 | B | 819 | A | Sidechain |
| 12 | B | 827 | U | Sidechain |
| 12 | B | 836 | G | Sidechain |
| 12 | B | 84 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 840 | C | Sidechain |
| 12 | B | 847 | U | Sidechain |
| 12 | B | 848 | C | Sidechain |
| 12 | B | 85 | G | Sidechain |
| 12 | B | 850 | U | Sidechain |
| 12 | B | 851 | C | Sidechain |
| 12 | B | 852 | U | Sidechain |
| 12 | B | 854 | C | Sidechain |
| 12 | B | 856 | G | Sidechain |
| 12 | B | 857 | G | Sidechain |
| 12 | B | 858 | G | Sidechain |
| 12 | B | 859 | G | Sidechain |
| 12 | B | 86 | G | Sidechain |
| 12 | B | 860 | U | Sidechain |
| 12 | B | 866 | A | Sidechain |
| 12 | B | 868 | U | Sidechain |
| 12 | B | 869 | G | Sidechain |
| 12 | B | 870 | U | Sidechain |
| 12 | B | 873 | C | Sidechain |
| 12 | B | 875 | G | Sidechain |
| 12 | B | 876 | C | Sidechain |
| 12 | B | 878 | A | Sidechain |
| 12 | B | 880 | G | Sidechain |
| 12 | B | 882 | G | Sidechain |
| 12 | B | 883 | G | Sidechain |
| 12 | B | 884 | U | Sidechain |
| 12 | B | 886 | A | Sidechain |
| 12 | B | 887 | U | Sidechain |
| 12 | B | 891 | G | Sidechain |
| 12 | B | 892 | A | Sidechain |
| 12 | B | 893 | C | Sidechain |
| 12 | B | 894 | U | Sidechain |
| 12 | B | 895 | U | Sidechain |
| 12 | B | 897 | C | Sidechain |
| 12 | B | 898 | C | Sidechain |
| 12 | B | 899 | A | Sidechain |
| 12 | B | 9 | G | Sidechain |
| 12 | B | 90 | U | Sidechain |
| 12 | B | 900 | A | Sidechain |
| 12 | B | 902 | C | Sidechain |
| 12 | B | 904 | G | Sidechain |
| 12 | B | 905 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 906 | U | Sidechain |
| 12 | B | 908 | C | Sidechain |
| 12 | B | 91 | A | Sidechain |
| 12 | B | 910 | A | Sidechain |
| 12 | B | 911 | A | Sidechain |
| 12 | B | 912 | C | Sidechain |
| 12 | B | 913 | U | Sidechain |
| 12 | B | 915 | C | Sidechain |
| 12 | B | 916 | G | Sidechain |
| 12 | B | 917 | A | Sidechain |
| 12 | B | 919 | U | Sidechain |
| 12 | B | 92 | U | Sidechain |
| 12 | B | 921 | C | Sidechain |
| 12 | B | 923 | G | Sidechain |
| 12 | B | 924 | G | Sidechain |
| 12 | B | 926 | G | Sidechain |
| 12 | B | 929 | U | Sidechain |
| 12 | B | 93 | G | Sidechain |
| 12 | B | 931 | U | Sidechain |
| 12 | B | 932 | U | Sidechain |
| 12 | B | 935 | C | Sidechain |
| 12 | B | 937 | C | Sidechain |
| 12 | B | 939 | G | Sidechain |
| 12 | B | 94 | A | Sidechain |
| 12 | B | 940 | G | Sidechain |
| 12 | B | 941 | A | Sidechain |
| 12 | B | 943 | A | Sidechain |
| 12 | B | 946 | C | Sidechain |
| 12 | B | 947 | A | Sidechain |
| 12 | B | 949 | G | Sidechain |
| 12 | B | 950 | G | Sidechain |
| 12 | B | 951 | C | Sidechain |
| 12 | B | 953 | G | Sidechain |
| 12 | B | 955 | U | Sidechain |
| 12 | B | 956 | G | Sidechain |
| 12 | B | 957 | C | Sidechain |
| 12 | B | 958 | U | Sidechain |
| 12 | B | 959 | A | Sidechain |
| 12 | B | 960 | A | Sidechain |
| 12 | B | 961 | C | Sidechain |
| 12 | B | 962 | G | Sidechain |
| 12 | B | 965 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 12 | B | 966 | G | Sidechain |
| 12 | B | 97 | C | Sidechain |
| 12 | B | 971 | G | Sidechain |
| 12 | B | 972 | A | Sidechain |
| 12 | B | 973 | A | Sidechain |
| 12 | B | 974 | G | Sidechain |
| 12 | B | 975 | A | Sidechain |
| 12 | B | 977 | G | Sidechain |
| 12 | B | 978 | G | Sidechain |
| 12 | B | 98 | G | Sidechain |
| 12 | B | 981 | A | Sidechain |
| 12 | B | 982 | C | Sidechain |
| 12 | B | 988 | A | Sidechain |
| 12 | B | 99 | U | Sidechain |
| 12 | B | 990 | A | Sidechain |
| 12 | B | 991 | C | Sidechain |
| 12 | B | 992 | C | Sidechain |
| 12 | B | 995 | C | Sidechain |
| 12 | B | 996 | A | Sidechain |
| 12 | B | 997 | G | Sidechain |
| 12 | B | 999 | U | Sidechain |
| 13 | C | 160 | TYR | Sidechain |
| 13 | C | 170 | TYR | Sidechain |
| 13 | C | 176 | ARG | Sidechain |
| 13 | C | 216 | ARG | Sidechain |
| 13 | C | 270 | ARG | Sidechain |
| 13 | C | 29 | PHE | Sidechain |
| 13 | C | 51 | ARG | Sidechain |
| 13 | C | 68 | ARG | Sidechain |
| 13 | C | 95 | TYR | Sidechain |
| 14 | D | 127 | PHE | Sidechain |
| 14 | D | 141 | ARG | Sidechain |
| 14 | D | 151 | THR | Peptide |
| 14 | D | 59 | ARG | Sidechain |
| 15 | E | 102 | ARG | Sidechain |
| 15 | E | 35 | TYR | Sidechain |
| 15 | E | 57 | LYS | Peptide |
| 15 | E | 88 | ARG | Sidechain |
| 15 | E | 92 | HIS | Sidechain |
| 16 | F | 127 | TYR | Sidechain |
| 16 | F | 137 | PHE | Sidechain |
| 16 | F | 147 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-------------------|
| 16 | F | 176 | PHE | Sidechain |
| 16 | F | 6 | TYR | Sidechain |
| 16 | F | 7 | TYR | Sidechain |
| 17 | G | 150 | TYR | Sidechain |
| 17 | G | 152 | ARG | Sidechain |
| 17 | G | 156 | TYR | Sidechain |
| 17 | G | 82 | PHE | Sidechain |
| 18 | H | 123 | ARG | Sidechain |
| 18 | H | 97 | ARG | Sidechain |
| 20 | J | 120 | ARG | Sidechain |
| 20 | J | 44 | TYR | Sidechain |
| 20 | J | 53 | TYR | Sidechain |
| 20 | J | 69 | ARG | Sidechain |
| 20 | J | 75 | TYR | Sidechain |
| 20 | J | 99 | ARG | Sidechain |
| 21 | K | 100 | PHE | Sidechain |
| 21 | K | 112 | PHE | Sidechain |
| 21 | K | 31 | ARG | Sidechain |
| 21 | K | 70 | ARG | Sidechain |
| 21 | K | 71 | ARG | Sidechain,Peptide |
| 21 | K | 79 | PHE | Sidechain |
| 22 | L | 64 | PHE | Sidechain |
| 22 | L | 78 | ARG | Sidechain |
| 23 | M | 114 | ARG | Sidechain |
| 23 | M | 16 | ARG | Sidechain |
| 23 | M | 31 | PHE | Sidechain |
| 23 | M | 44 | ARG | Sidechain |
| 23 | M | 50 | ARG | Sidechain |
| 23 | M | 81 | ARG | Sidechain |
| 23 | M | 91 | TYR | Sidechain |
| 24 | N | 101 | GLY | Peptide |
| 24 | N | 17 | ARG | Sidechain |
| 24 | N | 2 | ARG | Sidechain |
| 24 | N | 22 | ARG | Sidechain |
| 24 | N | 4 | ARG | Sidechain |
| 24 | N | 64 | ARG | Sidechain |
| 24 | N | 80 | PHE | Sidechain |
| 25 | O | 111 | ARG | Sidechain |
| 25 | O | 117 | PHE | Sidechain |
| 25 | O | 13 | ARG | Sidechain |
| 25 | O | 36 | TYR | Sidechain |
| 25 | O | 9 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 26 | P | 102 | ARG | Sidechain |
| 26 | P | 51 | ASN | Peptide |
| 26 | P | 71 | ARG | Sidechain |
| 27 | Q | 24 | TYR | Sidechain |
| 27 | Q | 35 | PHE | Sidechain |
| 27 | Q | 49 | ARG | Sidechain |
| 27 | Q | 78 | PHE | Sidechain |
| 28 | R | 21 | ARG | Sidechain |
| 28 | R | 79 | ARG | Sidechain |
| 28 | R | 80 | ARG | Mainchain |
| 28 | R | 82 | HIS | Peptide |
| 28 | R | 83 | TYR | Sidechain |
| 29 | S | 25 | ARG | Sidechain |
| 29 | S | 88 | ARG | Sidechain |
| 29 | S | 92 | ARG | Sidechain |
| 30 | T | 3 | ARG | Sidechain |
| 30 | T | 76 | ARG | Sidechain |
| 31 | U | 21 | ARG | Sidechain |
| 31 | U | 93 | ARG | Sidechain |
| 32 | W | 26 | PHE | Sidechain |
| 32 | W | 57 | TYR | Sidechain |
| 32 | W | 79 | ARG | Sidechain |
| 33 | Y | 24 | ARG | Sidechain |
| 33 | Y | 68 | PHE | Sidechain |
| 33 | Y | 76 | ARG | Sidechain |

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | 0 | 625 | 0 | 655 | 4 | 0 |
| 2 | 1 | 509 | 0 | 543 | 1 | 0 |
| 3 | 2 | 449 | 0 | 491 | 0 | 0 |
| 4 | 3 | 444 | 0 | 461 | 3 | 0 |
| 5 | 4 | 410 | 0 | 440 | 2 | 0 |
| 6 | 5 | 1733 | 0 | 1824 | 6 | 0 |
| 7 | 6 | 377 | 0 | 418 | 3 | 0 |
| 8 | 7 | 504 | 0 | 574 | 8 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 9 | 8 | 302 | 0 | 343 | 1 | 0 |
| 10 | 9 | 2541 | 0 | 2555 | 66 | 0 |
| 11 | A | 2455 | 0 | 1253 | 15 | 0 |
| 12 | B | 62317 | 0 | 31306 | 522 | 0 |
| 13 | C | 2083 | 0 | 2157 | 14 | 0 |
| 14 | D | 1565 | 0 | 1616 | 9 | 0 |
| 15 | E | 1552 | 0 | 1619 | 6 | 0 |
| 16 | F | 1420 | 0 | 1460 | 8 | 0 |
| 17 | G | 1317 | 0 | 1364 | 7 | 0 |
| 18 | H | 1111 | 0 | 1148 | 2 | 0 |
| 19 | I | 495 | 0 | 525 | 4 | 0 |
| 20 | J | 1129 | 0 | 1162 | 7 | 0 |
| 21 | K | 932 | 0 | 1003 | 9 | 0 |
| 22 | L | 1045 | 0 | 1117 | 8 | 0 |
| 23 | M | 1074 | 0 | 1157 | 7 | 0 |
| 24 | N | 961 | 0 | 1000 | 8 | 0 |
| 25 | O | 892 | 0 | 923 | 3 | 0 |
| 26 | P | 917 | 0 | 965 | 13 | 0 |
| 27 | Q | 947 | 0 | 1022 | 4 | 0 |
| 28 | R | 816 | 0 | 839 | 5 | 0 |
| 29 | S | 857 | 0 | 922 | 9 | 0 |
| 30 | T | 739 | 0 | 807 | 7 | 0 |
| 31 | U | 758 | 0 | 807 | 8 | 0 |
| 32 | W | 753 | 0 | 780 | 1 | 0 |
| 33 | Y | 596 | 0 | 610 | 5 | 0 |
| All | All | 94625 | 0 | 63866 | 702 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 4.

All (702) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 12:B:1481:U:H3 | 12:B:1511:G:H21 | 1.23 | 0.85 |
| 12:B:2267:A:H61 | 12:B:2271:G:H1 | 1.25 | 0.79 |
| 30:T:20:ALA:H | 30:T:23:ALA:HB3 | 1.50 | 0.75 |
| 10:9:279:TRP:CG | 10:9:328:VAL:HG13 | 2.21 | 0.75 |
| 12:B:2507:C:H41 | 12:B:2576:G:H22 | 1.35 | 0.74 |
| 20:J:35:ARG:HA | 20:J:40:HIS:CD2 | 2.22 | 0.74 |
| 10:9:279:TRP:CD2 | 10:9:328:VAL:HG13 | 2.23 | 0.73 |
| 12:B:91:A:H61 | 30:T:69:ARG:HH22 | 1.36 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 10:9:182:ALA:HB2 | 12:B:2661:G:H1' | 1.71 | 0.72 |
| 12:B:2719:G:H21 | 12:B:2872:A:H61 | 1.37 | 0.70 |
| 6:5:114:VAL:H | 6:5:162:ARG:HH21 | 1.40 | 0.68 |
| 12:B:962:G:H21 | 12:B:2250:G:H1 | 1.41 | 0.68 |
| 8:7:6:VAL:HG13 | 12:B:247:G:H1 | 1.59 | 0.67 |
| 12:B:327:G:H21 | 31:U:67:SER:HB3 | 1.61 | 0.66 |
| 26:P:63:ILE:H | 26:P:68:GLY:HA2 | 1.59 | 0.66 |
| 12:B:877:A:H61 | 12:B:900:A:H62 | 1.44 | 0.66 |
| 10:9:200:VAL:HG22 | 10:9:210:VAL:HG12 | 1.78 | 0.65 |
| 10:9:187:ALA:HB3 | 10:9:189:TYR:CZ | 2.33 | 0.63 |
| 14:D:141:ARG:HA | 14:D:141:ARG:HE | 1.64 | 0.62 |
| 12:B:2013:A:H2 | 29:S:88:ARG:HH22 | 1.47 | 0.62 |
| 10:9:56:LEU:HD22 | 12:B:2529:G:H4' | 1.81 | 0.61 |
| 12:B:1048:A:H61 | 17:G:2:ARG:HH22 | 1.49 | 0.61 |
| 6:5:172:HIS:CG | 12:B:2123:G:H21 | 2.18 | 0.61 |
| 13:C:74:PRO:HB2 | 13:C:114:GLN:HE21 | 1.66 | 0.61 |
| 20:J:24:THR:HG23 | 20:J:64:VAL:HA | 1.83 | 0.60 |
| 12:B:546:U:H4' | 12:B:547:A:H5'' | 1.83 | 0.60 |
| 12:B:64:A:H2' | 12:B:65:U:C6 | 2.35 | 0.60 |
| 12:B:2320:U:H5'' | 12:B:2321:U:C2 | 2.37 | 0.59 |
| 12:B:2132:U:H5'' | 12:B:2133:G:C8 | 2.37 | 0.59 |
| 12:B:1782:U:O5' | 12:B:1782:U:H6 | 1.86 | 0.59 |
| 10:9:46:TRP:CE2 | 10:9:116:LEU:HB3 | 2.38 | 0.58 |
| 12:B:2472:G:H3' | 12:B:2473:U:H5'' | 1.85 | 0.58 |
| 12:B:28:A:C2 | 12:B:513:A:C8 | 2.91 | 0.58 |
| 10:9:95:ARG:HH21 | 10:9:97:ILE:CG2 | 2.16 | 0.58 |
| 12:B:2847:U:C5 | 12:B:2848:G:C5 | 2.92 | 0.58 |
| 12:B:1715:G:H1' | 12:B:1716:U:C5 | 2.39 | 0.57 |
| 12:B:446:G:H5'' | 27:Q:2:ARG:HH11 | 1.69 | 0.57 |
| 12:B:855:G:H21 | 33:Y:23:LYS:HE3 | 1.70 | 0.57 |
| 12:B:2267:A:N6 | 12:B:2271:G:H1 | 2.00 | 0.57 |
| 12:B:1820:U:H3 | 13:C:197:ALA:HA | 1.68 | 0.57 |
| 12:B:2233:U:H2' | 12:B:2234:G:C8 | 2.40 | 0.57 |
| 12:B:2311:A:C5 | 16:F:76:PHE:CE2 | 2.93 | 0.57 |
| 12:B:17:G:H2' | 12:B:18:U:C6 | 2.40 | 0.57 |
| 12:B:713:G:H21 | 12:B:718:A:H2 | 1.53 | 0.56 |
| 12:B:2086:U:H2' | 12:B:2087:G:C8 | 2.40 | 0.56 |
| 12:B:661:A:C2 | 12:B:662:G:C5 | 2.93 | 0.56 |
| 26:P:77:SER:HB2 | 26:P:80:VAL:HG23 | 1.87 | 0.56 |
| 11:A:54:G:H21 | 16:F:25:MET:HG3 | 1.70 | 0.56 |
| 10:9:60:ARG:HA | 12:B:2478:A:N1 | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:B:2202:U:H4' | 12:B:2203:U:C5 | 2.41 | 0.56 |
| 23:M:3:GLN:H | 23:M:3:GLN:CD | 2.09 | 0.56 |
| 12:B:1394:U:H4' | 12:B:1603:A:H5'' | 1.87 | 0.56 |
| 18:H:94:ILE:HD12 | 18:H:94:ILE:H | 1.70 | 0.56 |
| 10:9:189:TYR:HB2 | 10:9:191:PHE:CE1 | 2.41 | 0.55 |
| 10:9:95:ARG:HH21 | 10:9:97:ILE:HG21 | 1.72 | 0.55 |
| 12:B:1281:G:C5 | 12:B:1282:U:C4 | 2.94 | 0.55 |
| 12:B:2446:G:H21 | 12:B:2449:U:H3 | 1.54 | 0.55 |
| 12:B:480:A:H3' | 12:B:481:G:H5'' | 1.89 | 0.55 |
| 10:9:229:ILE:HG22 | 12:B:1069:A:H62 | 1.72 | 0.55 |
| 12:B:2453:A:N6 | 12:B:2499:C:H42 | 2.04 | 0.55 |
| 8:7:44:ARG:H | 8:7:45:PRO:CD | 2.20 | 0.54 |
| 13:C:221:GLY:HA3 | 13:C:229:HIS:CD2 | 2.43 | 0.54 |
| 12:B:1172:C:C4 | 12:B:1173:U:C2 | 2.95 | 0.54 |
| 12:B:2115:G:H3' | 12:B:2116:G:C5' | 2.38 | 0.54 |
| 4:3:8:THR:H | 4:3:11:LYS:HD2 | 1.71 | 0.54 |
| 6:5:57:GLN:HB3 | 6:5:202:THR:HG21 | 1.90 | 0.54 |
| 12:B:604:G:C6 | 12:B:625:G:C6 | 2.96 | 0.54 |
| 21:K:11:ALA:HB2 | 21:K:83:ALA:HB1 | 1.90 | 0.54 |
| 12:B:1454:C:N4 | 12:B:2703:C:H41 | 2.06 | 0.54 |
| 7:6:7:PRO:HB3 | 7:6:12:ARG:HH12 | 1.73 | 0.54 |
| 10:9:279:TRP:CG | 10:9:328:VAL:CG1 | 2.90 | 0.54 |
| 12:B:2627:G:H2' | 12:B:2628:C:C6 | 2.42 | 0.54 |
| 12:B:2849:U:H2' | 26:P:92:ARG:HH12 | 1.72 | 0.54 |
| 12:B:1711:A:C2 | 12:B:1748:C:O2 | 2.61 | 0.53 |
| 10:9:5:ASP:HB3 | 10:9:191:PHE:HA | 1.90 | 0.53 |
| 12:B:870:U:H2' | 12:B:871:U:H5'' | 1.90 | 0.53 |
| 12:B:895:U:O4 | 12:B:897:C:C4 | 2.61 | 0.53 |
| 13:C:42:ARG:HA | 13:C:48:ILE:HA | 1.90 | 0.53 |
| 12:B:919:U:H2' | 12:B:920:A:C8 | 2.43 | 0.53 |
| 12:B:1496:A:H2' | 12:B:1498:C:C6 | 2.43 | 0.53 |
| 12:B:2095:A:H2' | 12:B:2096:C:C6 | 2.43 | 0.53 |
| 12:B:2505:G:H21 | 12:B:2506:U:H5 | 1.55 | 0.53 |
| 12:B:2411:A:H2' | 12:B:2412:A:C8 | 2.44 | 0.53 |
| 12:B:1167:C:H42 | 12:B:1182:G:H1 | 1.56 | 0.53 |
| 12:B:1827:U:H4' | 12:B:1972:G:H5'' | 1.90 | 0.53 |
| 10:9:53:LEU:HD22 | 10:9:91:PRO:HB3 | 1.90 | 0.53 |
| 10:9:209:PHE:CZ | 10:9:333:ILE:HD11 | 2.44 | 0.53 |
| 12:B:603:A:H1' | 12:B:625:G:N2 | 2.24 | 0.53 |
| 12:B:1343:G:H1' | 12:B:1597:A:C4 | 2.44 | 0.53 |
| 12:B:1800:C:C5 | 13:C:153:LEU:HD21 | 2.44 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:B:1620:G:C6 | 12:B:1621:U:C4 | 2.97 | 0.52 |
| 12:B:2199:A:C2 | 12:B:2225:A:C4 | 2.98 | 0.52 |
| 14:D:33:ARG:HH12 | 14:D:53:GLY:HA2 | 1.74 | 0.52 |
| 12:B:851:C:H2' | 12:B:852:U:C6 | 2.43 | 0.52 |
| 26:P:73:PHE:CD1 | 26:P:80:VAL:HG22 | 2.45 | 0.52 |
| 24:N:52:ILE:HG21 | 24:N:94:TYR:CG | 2.44 | 0.52 |
| 12:B:1269:A:H2' | 12:B:1270:C:C6 | 2.44 | 0.52 |
| 12:B:626:A:H3' | 22:L:78:ARG:HH21 | 1.74 | 0.52 |
| 12:B:722:A:C5 | 12:B:723:C:C5 | 2.97 | 0.52 |
| 12:B:1455:G:H5' | 24:N:63:ARG:HH12 | 1.75 | 0.52 |
| 20:J:47:HIS:CG | 20:J:48:VAL:H | 2.27 | 0.52 |
| 12:B:46:G:C6 | 12:B:47:C:C4 | 2.97 | 0.52 |
| 12:B:2120:G:H2' | 12:B:2121:G:C8 | 2.44 | 0.52 |
| 12:B:1518:C:C2 | 12:B:1519:G:C8 | 2.97 | 0.52 |
| 12:B:1837:C:H2' | 12:B:1838:C:H5' | 1.91 | 0.52 |
| 12:B:1040:A:C2 | 12:B:1116:G:N1 | 2.78 | 0.52 |
| 12:B:2849:U:H6 | 26:P:92:ARG:HH22 | 1.57 | 0.51 |
| 12:B:1214:A:H61 | 12:B:1235:G:H1' | 1.75 | 0.51 |
| 12:B:1275:A:H61 | 12:B:1295:C:H1' | 1.75 | 0.51 |
| 21:K:72:PRO:HD2 | 26:P:71:ARG:HH12 | 1.74 | 0.51 |
| 10:9:301:ALA:HB1 | 10:9:309:LYS:HA | 1.93 | 0.51 |
| 12:B:1205:A:H3' | 15:E:165:HIS:CE1 | 2.45 | 0.51 |
| 12:B:1281:G:H2' | 12:B:1282:U:C6 | 2.45 | 0.51 |
| 12:B:2402:U:H6 | 12:B:2403:C:H41 | 1.57 | 0.51 |
| 12:B:2370:G:C6 | 12:B:2371:G:C5 | 2.99 | 0.51 |
| 10:9:20:CYS:H | 10:9:127:ASN:HD21 | 1.59 | 0.51 |
| 21:K:46:ALA:HB3 | 21:K:51:LYS:HG3 | 1.93 | 0.51 |
| 13:C:257:ARG:HB3 | 13:C:269:ARG:HH22 | 1.76 | 0.51 |
| 12:B:1749:A:C2 | 12:B:1750:G:C4 | 2.98 | 0.51 |
| 12:B:247:G:C2 | 12:B:252:G:C6 | 2.98 | 0.51 |
| 26:P:63:ILE:H | 26:P:68:GLY:CA | 2.24 | 0.51 |
| 14:D:173:GLN:HE21 | 14:D:209:ALA:HA | 1.76 | 0.51 |
| 12:B:2359:C:H2' | 12:B:2360:G:C8 | 2.45 | 0.51 |
| 12:B:661:A:C2 | 12:B:662:G:C4 | 2.98 | 0.51 |
| 12:B:1341:G:OP1 | 12:B:1602:U:C2 | 2.64 | 0.51 |
| 12:B:1632:A:H2' | 12:B:1633:G:C2 | 2.45 | 0.51 |
| 10:9:61:PHE:CD2 | 12:B:2472:G:H5" | 2.46 | 0.50 |
| 26:P:49:ILE:HG23 | 26:P:52:ARG:HH22 | 1.77 | 0.50 |
| 12:B:2820:A:H4' | 24:N:3:HIS:CG | 2.46 | 0.50 |
| 12:B:1476:U:C4 | 12:B:1516:G:C6 | 2.99 | 0.50 |
| 12:B:2564:A:C2 | 12:B:2647:U:H4' | 2.46 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:B:1637:A:H4' | 12:B:1760:C:H1' | 1.93 | 0.50 |
| 12:B:618:G:C6 | 12:B:619:G:C5 | 3.00 | 0.50 |
| 21:K:19:VAL:HG13 | 21:K:43:ILE:HA | 1.92 | 0.50 |
| 10:9:207:LYS:HA | 12:B:2662:A:O2' | 2.10 | 0.50 |
| 12:B:2838:G:C6 | 12:B:2839:G:C5 | 3.00 | 0.50 |
| 12:B:24:G:C5 | 12:B:25:U:C4 | 3.00 | 0.50 |
| 12:B:2556:C:C5 | 12:B:2557:G:C8 | 3.00 | 0.50 |
| 12:B:1456:G:C6 | 12:B:1457:U:C4 | 3.00 | 0.50 |
| 12:B:1473:G:C5 | 12:B:1474:U:C4 | 3.00 | 0.50 |
| 19:I:85:ILE:HD13 | 19:I:85:ILE:H | 1.77 | 0.50 |
| 10:9:242:LEU:HD11 | 10:9:279:TRP:HB2 | 1.93 | 0.50 |
| 12:B:2858:C:C4 | 12:B:2859:G:C6 | 2.99 | 0.50 |
| 10:9:200:VAL:HG13 | 10:9:210:VAL:HG12 | 1.94 | 0.50 |
| 12:B:418:C:C4 | 12:B:419:U:C4 | 3.00 | 0.50 |
| 18:H:37:VAL:HB | 18:H:47:PHE:CE1 | 2.47 | 0.50 |
| 12:B:1655:A:H4' | 14:D:118:PHE:CD2 | 2.46 | 0.50 |
| 12:B:619:G:H3' | 12:B:620:G:H21 | 1.76 | 0.50 |
| 12:B:2712:C:H3' | 12:B:2714:G:H5" | 1.94 | 0.50 |
| 10:9:54:ASN:HD21 | 10:9:185:LYS:HZ1 | 1.60 | 0.50 |
| 12:B:1537:G:C6 | 12:B:1538:G:H1' | 2.47 | 0.50 |
| 10:9:228:GLY:HA3 | 12:B:1095:A:N3 | 2.27 | 0.49 |
| 10:9:181:ALA:H | 10:9:202:ARG:HG3 | 1.77 | 0.49 |
| 12:B:178:G:C6 | 12:B:179:C:C5 | 3.00 | 0.49 |
| 12:B:519:U:H4' | 29:S:25:ARG:HH22 | 1.77 | 0.49 |
| 12:B:1062:G:C4 | 12:B:1077:A:C2 | 3.00 | 0.49 |
| 29:S:33:LEU:HA | 29:S:36:LEU:HD12 | 1.93 | 0.49 |
| 12:B:2756:U:H1' | 12:B:2757:A:H5" | 1.94 | 0.49 |
| 12:B:1090:A:H61 | 12:B:1101:U:H3 | 1.60 | 0.49 |
| 12:B:371:A:C8 | 12:B:373:U:C2 | 3.00 | 0.49 |
| 31:U:39:ASN:HB3 | 31:U:62:ALA:H | 1.76 | 0.49 |
| 12:B:952:G:C6 | 12:B:966:G:C6 | 3.00 | 0.49 |
| 12:B:2722:G:H2' | 12:B:2723:C:C6 | 2.47 | 0.49 |
| 7:6:1:MET:HG2 | 7:6:2:LYS:H | 1.76 | 0.49 |
| 12:B:1065:U:C5 | 12:B:1066:U:C4 | 3.01 | 0.49 |
| 12:B:646:U:C5 | 12:B:647:G:H1' | 2.48 | 0.49 |
| 12:B:892:A:C6 | 12:B:893:C:C4 | 2.99 | 0.49 |
| 12:B:629:G:C6 | 12:B:630:G:C5 | 3.00 | 0.49 |
| 28:R:2:TYR:O | 28:R:3:ALA:HB2 | 2.13 | 0.49 |
| 4:3:42:ILE:HG22 | 24:N:100:CYS:HA | 1.94 | 0.49 |
| 16:F:114:ARG:NE | 16:F:114:ARG:HA | 2.28 | 0.49 |
| 8:7:44:ARG:H | 8:7:45:PRO:HD2 | 1.76 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 24:N:15:SER:HA | 24:N:18:GLN:HE21 | 1.77 | 0.49 |
| 12:B:30:G:H2' | 12:B:31:C:C6 | 2.47 | 0.49 |
| 12:B:866:A:C5 | 12:B:867:C:C5 | 3.01 | 0.49 |
| 12:B:71:A:H5'' | 12:B:73:A:C4 | 2.47 | 0.49 |
| 14:D:126:ASN:HD22 | 14:D:141:ARG:HH12 | 1.59 | 0.49 |
| 12:B:2444:G:C6 | 12:B:2445:G:C5 | 3.01 | 0.49 |
| 11:A:34:A:H3' | 16:F:91:ARG:HH22 | 1.78 | 0.49 |
| 12:B:5:A:C2 | 12:B:6:A:C4 | 3.01 | 0.49 |
| 12:B:957:C:C5 | 12:B:959:A:C5 | 3.01 | 0.49 |
| 12:B:1483:G:H22 | 12:B:1507:C:H1' | 1.78 | 0.49 |
| 24:N:37:THR:HG22 | 24:N:39:PRO:HD2 | 1.95 | 0.49 |
| 12:B:150:U:H2' | 12:B:151:C:O4' | 2.13 | 0.49 |
| 12:B:262:A:C6 | 12:B:263:G:C4 | 3.01 | 0.49 |
| 12:B:1218:G:C6 | 12:B:1232:G:C6 | 3.01 | 0.48 |
| 11:A:69:G:H3' | 11:A:70:C:H6 | 1.77 | 0.48 |
| 12:B:2065:C:C2 | 12:B:2446:G:N2 | 2.82 | 0.48 |
| 12:B:1341:G:H1' | 30:T:59:ASN:HB3 | 1.95 | 0.48 |
| 12:B:898:C:H3' | 12:B:899:A:H8 | 1.78 | 0.48 |
| 12:B:2373:G:C2 | 12:B:2381:A:C2 | 3.01 | 0.48 |
| 28:R:39:LEU:HB2 | 28:R:53:PHE:H | 1.78 | 0.48 |
| 13:C:70:LYS:H | 13:C:101:ARG:NH2 | 2.11 | 0.48 |
| 12:B:664:G:H2' | 12:B:665:U:H6 | 1.79 | 0.48 |
| 12:B:719:C:C5 | 12:B:720:U:C5 | 3.01 | 0.48 |
| 10:9:227:LEU:HB3 | 10:9:231:PHE:CG | 2.48 | 0.48 |
| 12:B:1024:G:H3' | 12:B:1025:G:H5'' | 1.94 | 0.48 |
| 12:B:1721:G:H1' | 12:B:1739:A:H61 | 1.78 | 0.48 |
| 12:B:1037:G:C2 | 12:B:1119:U:C2 | 3.01 | 0.48 |
| 12:B:519:U:H2' | 12:B:520:G:C8 | 2.48 | 0.48 |
| 12:B:322:A:H5' | 12:B:340:A:H1' | 1.94 | 0.48 |
| 12:B:195:A:H61 | 12:B:198:C:H3' | 1.77 | 0.48 |
| 12:B:2681:C:C4 | 12:B:2724:U:C4 | 3.01 | 0.48 |
| 10:9:182:ALA:CB | 12:B:2661:G:H1' | 2.43 | 0.48 |
| 12:B:870:U:C2' | 12:B:871:U:H5'' | 2.44 | 0.48 |
| 12:B:1023:U:C5 | 12:B:1024:G:C4 | 3.01 | 0.48 |
| 12:B:1877:A:H2' | 12:B:1878:G:C8 | 2.49 | 0.48 |
| 12:B:2373:G:H2' | 12:B:2374:C:C6 | 2.48 | 0.48 |
| 12:B:1503:A:H2' | 12:B:1504:A:C8 | 2.48 | 0.48 |
| 12:B:346:A:H3' | 12:B:347:A:C8 | 2.49 | 0.48 |
| 12:B:452:G:H3' | 12:B:453:A:H8 | 1.79 | 0.48 |
| 12:B:494:G:C2 | 12:B:495:G:C4 | 3.02 | 0.48 |
| 12:B:2661:G:H2' | 12:B:2662:A:C8 | 2.49 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:B:1128:G:C6 | 12:B:2518:A:C6 | 3.02 | 0.48 |
| 5:4:38:PHE:CD2 | 12:B:2348:U:H1' | 2.49 | 0.48 |
| 12:B:486:C:H2' | 12:B:487:C:C6 | 2.48 | 0.48 |
| 12:B:813:U:H5'' | 28:R:84:ARG:HH11 | 1.78 | 0.48 |
| 10:9:123:HIS:H | 10:9:145:THR:HG21 | 1.78 | 0.48 |
| 12:B:1620:G:C5 | 12:B:1621:U:C5 | 3.02 | 0.48 |
| 12:B:1752:C:H2' | 12:B:1753:G:C8 | 2.49 | 0.48 |
| 12:B:1300:G:H1' | 12:B:1626:A:C2 | 2.49 | 0.48 |
| 12:B:901:C:H2' | 12:B:902:C:C6 | 2.49 | 0.48 |
| 12:B:1551:A:H3' | 12:B:1552:A:H5'' | 1.94 | 0.48 |
| 15:E:35:TYR:CD1 | 15:E:178:VAL:HG21 | 2.49 | 0.48 |
| 12:B:546:U:OP1 | 12:B:548:G:C8 | 2.67 | 0.48 |
| 28:R:6:GLN:HE22 | 28:R:11:GLN:HE21 | 1.61 | 0.48 |
| 12:B:298:G:C2 | 12:B:339:U:C5 | 3.02 | 0.48 |
| 11:A:33:G:H21 | 11:A:35:C:N4 | 2.12 | 0.48 |
| 22:L:48:ARG:H | 22:L:48:ARG:HD2 | 1.78 | 0.48 |
| 10:9:180:SER:OG | 10:9:182:ALA:HB3 | 2.13 | 0.47 |
| 12:B:1838:C:C6 | 12:B:1899:A:C6 | 3.03 | 0.47 |
| 8:7:54:LEU:H | 8:7:54:LEU:HD12 | 1.78 | 0.47 |
| 12:B:2846:G:C5 | 12:B:2847:U:C4 | 3.02 | 0.47 |
| 12:B:1311:G:H21 | 12:B:1603:A:H62 | 1.62 | 0.47 |
| 12:B:2063:C:C5 | 12:B:2064:C:C5 | 3.01 | 0.47 |
| 6:5:76:ALA:HB2 | 6:5:111:PHE:CD2 | 2.48 | 0.47 |
| 12:B:1019:U:H2' | 12:B:1020:A:C8 | 2.49 | 0.47 |
| 12:B:1887:C:C5 | 12:B:1888:G:C6 | 3.02 | 0.47 |
| 12:B:2458:G:H8 | 12:B:2459:A:H62 | 1.63 | 0.47 |
| 12:B:1074:G:C5 | 12:B:1075:C:C5 | 3.02 | 0.47 |
| 11:A:51:G:C8 | 25:O:64:TYR:HE2 | 2.32 | 0.47 |
| 12:B:1120:G:C6 | 12:B:1121:C:C4 | 3.02 | 0.47 |
| 10:9:26:GLU:HB2 | 10:9:29:ILE:H | 1.79 | 0.47 |
| 12:B:1613:G:C6 | 12:B:1619:G:C6 | 3.02 | 0.47 |
| 12:B:155:A:C2 | 12:B:172:A:C2 | 3.02 | 0.47 |
| 29:S:87:PRO:HA | 29:S:93:ALA:HA | 1.97 | 0.47 |
| 12:B:490:C:H4' | 12:B:491:G:OP2 | 2.15 | 0.47 |
| 12:B:2043:C:C4 | 12:B:2777:G:C5 | 3.02 | 0.47 |
| 31:U:101:THR:HG22 | 31:U:102:ILE:H | 1.80 | 0.47 |
| 12:B:2849:U:H5' | 12:B:2868:A:C6 | 2.50 | 0.47 |
| 11:A:48:U:H4' | 25:O:100:HIS:HB2 | 1.95 | 0.47 |
| 13:C:57:HIS:CD2 | 13:C:59:GLN:H | 2.32 | 0.47 |
| 12:B:1551:A:N6 | 12:B:1552:A:C2 | 2.83 | 0.47 |
| 12:B:27:G:H22 | 12:B:512:G:H2' | 1.79 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 12:B:559:G:C5 | 12:B:560:C:C5 | 3.03 | 0.47 |
| 12:B:1209:U:N3 | 12:B:1238:G:C6 | 2.83 | 0.47 |
| 12:B:1778:U:C2 | 12:B:1787:A:C2 | 3.03 | 0.47 |
| 12:B:603:A:C4 | 12:B:655:A:C2 | 3.03 | 0.47 |
| 12:B:603:A:H1' | 12:B:625:G:H21 | 1.79 | 0.47 |
| 12:B:704:G:H2' | 12:B:726:G:H22 | 1.80 | 0.47 |
| 12:B:298:G:C2 | 12:B:339:U:C4 | 3.03 | 0.47 |
| 12:B:338:G:C4 | 12:B:339:U:C6 | 3.03 | 0.47 |
| 12:B:1308:A:N6 | 12:B:1606:C:H1' | 2.30 | 0.47 |
| 10:9:66:ARG:HH22 | 12:B:2481:G:H5' | 1.79 | 0.47 |
| 12:B:1478:G:C6 | 12:B:1479:G:C6 | 3.03 | 0.47 |
| 12:B:68:G:C5 | 12:B:69:C:C5 | 3.03 | 0.47 |
| 12:B:2401:U:H2' | 12:B:2402:U:C2 | 2.50 | 0.46 |
| 12:B:863:A:H2' | 12:B:864:G:C8 | 2.50 | 0.46 |
| 12:B:1550:C:H5'' | 12:B:1740:G:H21 | 1.80 | 0.46 |
| 12:B:136:G:C5 | 12:B:137:U:C5 | 3.02 | 0.46 |
| 12:B:2688:G:C2 | 12:B:2720:U:C5 | 3.03 | 0.46 |
| 12:B:221:A:H61 | 12:B:428:A:H62 | 1.63 | 0.46 |
| 12:B:554:U:C4 | 12:B:555:G:C5 | 3.03 | 0.46 |
| 12:B:41:C:C2 | 12:B:439:A:C2 | 3.03 | 0.46 |
| 12:B:858:G:H3' | 12:B:859:G:C8 | 2.50 | 0.46 |
| 12:B:2306:C:C5 | 12:B:2307:G:C5 | 3.04 | 0.46 |
| 12:B:1381:G:C5 | 12:B:1382:G:C2 | 3.02 | 0.46 |
| 12:B:422:A:H3' | 12:B:423:A:C8 | 2.50 | 0.46 |
| 11:A:18:G:C2 | 11:A:67:G:C5 | 3.04 | 0.46 |
| 19:I:123:ALA:HA | 19:I:126:ARG:HH21 | 1.81 | 0.46 |
| 31:U:11:ILE:HD13 | 31:U:21:ARG:HH11 | 1.80 | 0.46 |
| 12:B:633:A:H5'' | 22:L:70:LYS:HE3 | 1.97 | 0.46 |
| 12:B:1420:A:C5 | 12:B:2211:A:C8 | 3.04 | 0.46 |
| 6:5:65:LEU:HD22 | 6:5:191:ALA:HB1 | 1.97 | 0.46 |
| 12:B:1324:G:H3' | 12:B:1325:U:H4' | 1.98 | 0.46 |
| 12:B:898:C:H3' | 12:B:899:A:C8 | 2.51 | 0.46 |
| 12:B:1933:G:C5 | 12:B:1934:C:C5 | 3.04 | 0.46 |
| 12:B:1154:G:H5'' | 27:Q:58:GLN:HE22 | 1.80 | 0.46 |
| 21:K:104:THR:HB | 21:K:106:GLU:H | 1.81 | 0.46 |
| 12:B:2091:C:C5 | 12:B:2092:U:H2' | 2.50 | 0.46 |
| 11:A:100:G:C6 | 11:A:101:A:C5 | 3.04 | 0.46 |
| 12:B:1906:G:H1 | 12:B:1924:C:H42 | 1.63 | 0.46 |
| 12:B:2427:C:C5' | 12:B:2429:G:H5' | 2.46 | 0.46 |
| 12:B:548:G:H5' | 12:B:549:G:C5 | 2.51 | 0.46 |
| 12:B:1128:G:C5 | 12:B:2518:A:N1 | 2.83 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 12:B:1613:G:H3' | 12:B:1617:C:H42 | 1.81 | 0.46 |
| 12:B:1011:G:C2 | 12:B:1013:C:C2 | 3.04 | 0.46 |
| 12:B:2364:C:H2' | 12:B:2365:G:C8 | 2.50 | 0.46 |
| 10:9:69:ARG:NH1 | 10:9:147:GLY:H | 2.14 | 0.46 |
| 12:B:715:A:H2' | 12:B:716:A:C8 | 2.51 | 0.46 |
| 12:B:1900:A:C2 | 12:B:1970:A:C4 | 3.04 | 0.46 |
| 10:9:21:VAL:HG13 | 10:9:72:ASN:HD21 | 1.81 | 0.46 |
| 10:9:164:MET:HA | 10:9:242:LEU:HB2 | 1.98 | 0.46 |
| 12:B:907:G:H21 | 23:M:68:PHE:HB3 | 1.81 | 0.46 |
| 12:B:404:A:C6 | 12:B:421:C:H2' | 2.51 | 0.46 |
| 16:F:63:LYS:HB2 | 16:F:64:PRO:HD2 | 1.98 | 0.46 |
| 12:B:2318:G:C5 | 12:B:2319:G:C6 | 3.04 | 0.46 |
| 12:B:892:A:C5 | 12:B:893:C:C4 | 3.04 | 0.46 |
| 12:B:1850:G:C4 | 12:B:1851:U:C5 | 3.04 | 0.46 |
| 12:B:2555:U:C5 | 12:B:2556:C:C2 | 3.03 | 0.45 |
| 12:B:415:A:C5 | 12:B:416:U:C5 | 3.04 | 0.45 |
| 12:B:605:G:H21 | 12:B:658:U:H5' | 1.82 | 0.45 |
| 12:B:2104:C:H42 | 12:B:2184:A:N6 | 2.14 | 0.45 |
| 12:B:710:U:H2' | 12:B:711:G:C8 | 2.51 | 0.45 |
| 29:S:100:THR:HG22 | 29:S:101:SER:N | 2.31 | 0.45 |
| 12:B:2495:G:C5 | 12:B:2496:C:C5 | 3.04 | 0.45 |
| 10:9:53:LEU:HD13 | 10:9:91:PRO:HA | 1.98 | 0.45 |
| 10:9:54:ASN:HD21 | 10:9:185:LYS:NZ | 2.15 | 0.45 |
| 12:B:2625:G:C6 | 12:B:2626:C:C4 | 3.04 | 0.45 |
| 12:B:2409:G:C6 | 12:B:2410:G:C5 | 3.04 | 0.45 |
| 10:9:27:LYS:HE3 | 12:B:2504:U:H3' | 1.98 | 0.45 |
| 31:U:66:VAL:O | 31:U:66:VAL:HG22 | 2.16 | 0.45 |
| 12:B:2400:G:C5 | 12:B:2401:U:C5 | 3.05 | 0.45 |
| 12:B:843:G:C6 | 12:B:844:A:C6 | 3.05 | 0.45 |
| 24:N:59:SER:HB2 | 24:N:62:ASN:H | 1.80 | 0.45 |
| 12:B:232:G:H22 | 12:B:420:C:H5'' | 1.82 | 0.45 |
| 12:B:1705:A:C5 | 12:B:1706:C:C4 | 3.04 | 0.45 |
| 23:M:6:ARG:HH21 | 23:M:8:LYS:HB3 | 1.82 | 0.45 |
| 12:B:657:U:H2' | 12:B:658:U:C6 | 2.52 | 0.45 |
| 7:6:28:ARG:HA | 7:6:31:LEU:HD12 | 1.98 | 0.45 |
| 12:B:61:C:H2' | 12:B:62:U:C6 | 2.51 | 0.45 |
| 12:B:1584:U:C6 | 12:B:1584:U:H3' | 2.52 | 0.45 |
| 12:B:443:A:H2' | 12:B:443:A:N3 | 2.32 | 0.45 |
| 10:9:242:LEU:CD1 | 10:9:279:TRP:HB2 | 2.46 | 0.45 |
| 12:B:858:G:H22 | 12:B:919:U:H3 | 1.64 | 0.45 |
| 12:B:1270:C:HO2' | 12:B:1325:U:H6 | 1.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 11:A:96:G:C5 | 11:A:97:C:C5 | 3.05 | 0.45 |
| 12:B:1696:G:C6 | 12:B:1697:G:C4 | 3.05 | 0.45 |
| 12:B:1641:A:C8 | 12:B:1642:G:C8 | 3.05 | 0.45 |
| 12:B:876:C:HO2' | 12:B:877:A:H8 | 1.63 | 0.45 |
| 12:B:94:A:H3' | 12:B:95:A:H8 | 1.81 | 0.45 |
| 12:B:372:G:H22 | 12:B:400:G:H3' | 1.82 | 0.45 |
| 30:T:29:THR:H | 30:T:91:GLN:HG2 | 1.82 | 0.45 |
| 12:B:2568:U:H2' | 12:B:2569:G:C8 | 2.51 | 0.45 |
| 12:B:1583:A:H4' | 12:B:1585:C:C6 | 2.52 | 0.45 |
| 12:B:1874:C:C5 | 12:B:1875:G:C8 | 3.05 | 0.45 |
| 12:B:1797:G:N1 | 12:B:1823:G:C5 | 2.85 | 0.45 |
| 12:B:599:A:C6 | 12:B:659:G:C6 | 3.05 | 0.45 |
| 10:9:188:ASP:HB2 | 17:G:175:LYS:HZ1 | 1.82 | 0.45 |
| 12:B:1902:C:C5 | 12:B:1903:G:C8 | 3.05 | 0.45 |
| 12:B:741:U:H2' | 12:B:742:A:C8 | 2.52 | 0.45 |
| 12:B:1320:C:C5 | 12:B:1329:U:H5'' | 2.51 | 0.44 |
| 13:C:158:GLY:H | 13:C:194:VAL:HG13 | 1.82 | 0.44 |
| 12:B:360:U:C6 | 12:B:361:G:C6 | 3.06 | 0.44 |
| 12:B:947:A:H2' | 12:B:948:C:C6 | 2.52 | 0.44 |
| 12:B:672:C:C2 | 12:B:809:G:C2 | 3.05 | 0.44 |
| 12:B:960:A:C8 | 12:B:962:G:C8 | 3.05 | 0.44 |
| 12:B:2757:A:H2' | 12:B:2758:A:H5' | 1.99 | 0.44 |
| 12:B:2805:C:C4 | 12:B:2806:C:C4 | 3.05 | 0.44 |
| 12:B:1071:G:H1' | 12:B:1089:A:H3' | 1.98 | 0.44 |
| 12:B:1082:U:O2 | 12:B:1086:A:C6 | 2.70 | 0.44 |
| 12:B:23:G:C6 | 12:B:518:G:C6 | 3.05 | 0.44 |
| 12:B:858:G:N2 | 12:B:919:U:H3 | 2.15 | 0.44 |
| 12:B:1056:G:H5' | 12:B:1057:A:H5' | 1.98 | 0.44 |
| 12:B:1484:U:C5 | 12:B:1485:U:C5 | 3.05 | 0.44 |
| 12:B:532:A:H4' | 12:B:533:G:C8 | 2.51 | 0.44 |
| 12:B:826:U:C2 | 12:B:828:U:H4' | 2.53 | 0.44 |
| 12:B:455:C:C6 | 12:B:472:A:C2 | 3.06 | 0.44 |
| 12:B:1877:A:C2' | 12:B:1878:G:C8 | 3.00 | 0.44 |
| 12:B:656:G:H2' | 12:B:657:U:C6 | 2.53 | 0.44 |
| 16:F:118:ALA:HB3 | 16:F:176:PHE:HA | 1.99 | 0.44 |
| 12:B:1948:G:C6 | 12:B:1949:G:C5 | 3.06 | 0.44 |
| 12:B:764:A:C6 | 13:C:207:ALA:HB1 | 2.53 | 0.44 |
| 12:B:533:G:C6 | 12:B:534:U:C4 | 3.06 | 0.44 |
| 27:Q:31:TYR:O | 27:Q:34:ALA:HB3 | 2.17 | 0.44 |
| 30:T:69:ARG:HD2 | 30:T:70:HIS:CE1 | 2.52 | 0.44 |
| 12:B:1715:G:H1' | 12:B:1716:U:C6 | 2.52 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 12:B:871:U:H4' | 23:M:68:PHE:CE1 | 2.52 | 0.44 |
| 10:9:52:ASN:HB3 | 10:9:54:ASN:HD22 | 1.83 | 0.44 |
| 12:B:1090:A:N6 | 12:B:1101:U:H3 | 2.15 | 0.44 |
| 12:B:2306:C:C4 | 12:B:2307:G:C6 | 3.06 | 0.44 |
| 12:B:1416:G:N2 | 12:B:1585:C:H41 | 2.16 | 0.44 |
| 12:B:2527:C:C4 | 12:B:2528:U:C4 | 3.05 | 0.44 |
| 12:B:1256:G:H21 | 15:E:77:ILE:HB | 1.82 | 0.44 |
| 12:B:1265:A:H62 | 12:B:2015:A:N6 | 2.16 | 0.44 |
| 10:9:226:GLY:H | 10:9:228:GLY:H | 1.65 | 0.44 |
| 12:B:2624:G:C2 | 12:B:2625:G:C8 | 3.06 | 0.44 |
| 12:B:610:C:H2' | 12:B:611:C:C6 | 2.53 | 0.44 |
| 12:B:2464:G:C6 | 12:B:2487:G:C6 | 3.06 | 0.44 |
| 12:B:280:U:C4 | 12:B:281:C:C4 | 3.06 | 0.44 |
| 12:B:2884:U:OP2 | 12:B:2885:G:C2 | 2.71 | 0.44 |
| 12:B:2061:G:C8 | 12:B:2503:A:H5' | 2.52 | 0.44 |
| 12:B:81:G:N7 | 12:B:82:U:C5 | 2.85 | 0.44 |
| 12:B:89:A:C5 | 12:B:90:U:C5 | 3.06 | 0.44 |
| 21:K:78:ARG:H | 26:P:70:GLU:HB3 | 1.83 | 0.44 |
| 12:B:2191:A:H3' | 12:B:2192:U:H6 | 1.83 | 0.44 |
| 12:B:2563:U:O2 | 12:B:2565:A:C8 | 2.71 | 0.44 |
| 12:B:2396:G:C6 | 12:B:2421:G:C6 | 3.05 | 0.44 |
| 12:B:2768:U:C4 | 12:B:2769:U:C5 | 3.05 | 0.44 |
| 12:B:2461:A:C2 | 12:B:2491:U:O4 | 2.71 | 0.44 |
| 12:B:649:G:H2' | 12:B:650:C:C6 | 2.53 | 0.44 |
| 12:B:1069:A:C2 | 12:B:1095:A:H2' | 2.53 | 0.44 |
| 12:B:1877:A:O2' | 12:B:1878:G:C8 | 2.69 | 0.44 |
| 12:B:1000:A:H62 | 12:B:1154:G:H2' | 1.83 | 0.44 |
| 12:B:1418:G:O6 | 12:B:1578:U:H5'' | 2.18 | 0.44 |
| 12:B:391:A:C5 | 12:B:392:U:C6 | 3.06 | 0.44 |
| 12:B:2111:U:C4 | 12:B:2142:A:H4' | 2.53 | 0.44 |
| 12:B:927:A:H2' | 12:B:928:A:C8 | 2.53 | 0.44 |
| 12:B:2714:G:C4 | 12:B:2715:C:C6 | 3.06 | 0.43 |
| 12:B:2305:U:H2' | 12:B:2306:C:C6 | 2.53 | 0.43 |
| 12:B:1000:A:C4 | 12:B:1155:A:C6 | 3.06 | 0.43 |
| 12:B:89:A:H2' | 12:B:90:U:H6 | 1.83 | 0.43 |
| 13:C:77:VAL:HG22 | 13:C:93:VAL:HG22 | 1.98 | 0.43 |
| 12:B:2279:G:C8 | 33:Y:9:THR:HG21 | 2.53 | 0.43 |
| 12:B:2411:A:H2' | 12:B:2412:A:H8 | 1.83 | 0.43 |
| 10:9:69:ARG:HH12 | 10:9:147:GLY:H | 1.66 | 0.43 |
| 12:B:1141:U:C4 | 20:J:67:ASN:HB2 | 2.54 | 0.43 |
| 12:B:1375:U:N3 | 12:B:1376:C:C5 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 12:B:2371:G:C6 | 12:B:2372:U:C4 | 3.06 | 0.43 |
| 12:B:519:U:H2' | 12:B:520:G:H8 | 1.81 | 0.43 |
| 12:B:532:A:N6 | 12:B:2020:A:H1' | 2.33 | 0.43 |
| 12:B:696:G:C2 | 12:B:767:U:C2 | 3.06 | 0.43 |
| 12:B:1451:C:H4' | 12:B:1452:G:C8 | 2.53 | 0.43 |
| 12:B:1468:U:H2' | 12:B:1522:A:H61 | 1.82 | 0.43 |
| 12:B:1564:C:H2' | 12:B:1565:C:C6 | 2.53 | 0.43 |
| 12:B:1784:A:C8 | 12:B:1784:A:O5' | 2.71 | 0.43 |
| 12:B:118:A:H5' | 12:B:119:A:H8 | 1.84 | 0.43 |
| 25:O:106:LEU:H | 25:O:109:ALA:HB3 | 1.82 | 0.43 |
| 12:B:2681:C:C5 | 12:B:2724:U:C5 | 3.06 | 0.43 |
| 12:B:1935:G:N2 | 12:B:1964:G:C5 | 2.86 | 0.43 |
| 12:B:1484:U:C5 | 12:B:1485:U:C4 | 3.06 | 0.43 |
| 12:B:1798:U:C4 | 12:B:1819:A:C2 | 3.06 | 0.43 |
| 12:B:2292:U:H5'' | 12:B:2378:A:H61 | 1.83 | 0.43 |
| 12:B:2747:G:O6 | 12:B:2755:C:H5'' | 2.17 | 0.43 |
| 12:B:1681:G:H4' | 12:B:1763:G:N7 | 2.34 | 0.43 |
| 12:B:1281:G:C6 | 12:B:1282:U:C4 | 3.07 | 0.43 |
| 12:B:2199:A:H61 | 12:B:2224:G:H1' | 1.82 | 0.43 |
| 10:9:25:ARG:HB3 | 12:B:2452:C:H4' | 2.01 | 0.43 |
| 13:C:206:LYS:HG3 | 13:C:209:ALA:H | 1.83 | 0.43 |
| 12:B:1180:U:C4 | 12:B:1181:U:C4 | 3.05 | 0.43 |
| 12:B:42:A:C2 | 12:B:43:G:H1' | 2.54 | 0.43 |
| 8:7:23:HIS:HA | 22:L:64:PHE:CZ | 2.54 | 0.43 |
| 12:B:2199:A:H5' | 12:B:2200:C:OP2 | 2.18 | 0.43 |
| 12:B:892:A:C5 | 12:B:893:C:C5 | 3.06 | 0.43 |
| 12:B:696:G:C2 | 12:B:697:G:C4 | 3.07 | 0.43 |
| 15:E:98:LYS:HA | 15:E:101:TYR:CD1 | 2.54 | 0.43 |
| 12:B:189:G:H2' | 12:B:205:G:H22 | 1.82 | 0.43 |
| 10:9:288:LEU:HD23 | 10:9:288:LEU:HA | 1.96 | 0.43 |
| 12:B:667:U:H2' | 12:B:668:A:O4' | 2.18 | 0.43 |
| 12:B:2267:A:C8 | 12:B:2267:A:H3' | 2.53 | 0.43 |
| 10:9:91:PRO:HG3 | 10:9:189:TYR:HA | 2.01 | 0.43 |
| 11:A:33:G:H21 | 11:A:35:C:H41 | 1.65 | 0.43 |
| 12:B:1484:U:C6 | 12:B:1485:U:C5 | 3.07 | 0.43 |
| 26:P:59:THR:HG22 | 26:P:72:VAL:HA | 2.00 | 0.43 |
| 17:G:122:ALA:HB2 | 17:G:132:LEU:HA | 2.00 | 0.43 |
| 12:B:2714:G:C6 | 12:B:2715:C:C4 | 3.07 | 0.43 |
| 31:U:3:LYS:HD3 | 31:U:84:PHE:CZ | 2.54 | 0.43 |
| 12:B:2516:A:C5 | 12:B:2517:C:C4 | 3.07 | 0.43 |
| 12:B:12:U:O2 | 12:B:2626:C:H4' | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 20:J:57:LEU:HD22 | 20:J:129:GLU:H | 1.83 | 0.43 |
| 12:B:1448:G:H1' | 12:B:1528:A:C2 | 2.54 | 0.43 |
| 12:B:825:A:C2 | 12:B:833:A:C2 | 3.07 | 0.43 |
| 10:9:4:VAL:HA | 10:9:191:PHE:CE2 | 2.53 | 0.43 |
| 12:B:329:G:H1 | 31:U:16:LYS:HE3 | 1.84 | 0.43 |
| 12:B:636:G:H3' | 22:L:128:THR:HB | 2.00 | 0.43 |
| 29:S:75:PHE:HD2 | 29:S:76:VAL:H | 1.67 | 0.43 |
| 12:B:1237:A:H2' | 12:B:1237:A:N3 | 2.33 | 0.43 |
| 11:A:34:A:C2 | 11:A:49:C:N3 | 2.87 | 0.42 |
| 12:B:2064:C:H1' | 12:B:2450:A:C6 | 2.54 | 0.42 |
| 10:9:179:VAL:HB | 10:9:314:SER:H | 1.83 | 0.42 |
| 12:B:2352:A:C2 | 12:B:2366:A:C2 | 3.07 | 0.42 |
| 12:B:354:A:H3' | 12:B:355:U:C6 | 2.54 | 0.42 |
| 12:B:2553:G:N3 | 12:B:2583:G:H1' | 2.34 | 0.42 |
| 12:B:1460:U:H5'' | 12:B:1461:C:C5 | 2.54 | 0.42 |
| 12:B:1462:C:C4 | 12:B:1463:C:C5 | 3.06 | 0.42 |
| 12:B:740:C:H1' | 12:B:1981:A:C4 | 2.54 | 0.42 |
| 12:B:1567:G:H4' | 12:B:1568:G:C2 | 2.54 | 0.42 |
| 22:L:6:LEU:HD23 | 22:L:6:LEU:H | 1.84 | 0.42 |
| 12:B:251:A:C5 | 12:B:252:G:H1' | 2.54 | 0.42 |
| 12:B:1418:G:C2 | 12:B:1579:A:N7 | 2.86 | 0.42 |
| 33:Y:25:PHE:CE1 | 33:Y:32:ALA:O | 2.72 | 0.42 |
| 12:B:2219:U:C4 | 12:B:2220:U:C5 | 3.07 | 0.42 |
| 12:B:2476:A:N1 | 12:B:2477:U:C5 | 2.87 | 0.42 |
| 8:7:9:ALA:HA | 8:7:12:ARG:HH21 | 1.84 | 0.42 |
| 1:0:19:HIS:O | 1:0:19:HIS:CG | 2.73 | 0.42 |
| 10:9:54:ASN:C | 12:B:2531:A:OP1 | 2.58 | 0.42 |
| 12:B:711:G:C2 | 12:B:712:G:C5 | 3.08 | 0.42 |
| 33:Y:27:GLY:HA3 | 33:Y:31:LEU:HD13 | 2.00 | 0.42 |
| 12:B:165:A:C2 | 12:B:166:U:C2 | 3.07 | 0.42 |
| 12:B:2209:G:C6 | 12:B:2210:U:C4 | 3.07 | 0.42 |
| 12:B:2596:U:C5 | 12:B:2597:G:C6 | 3.08 | 0.42 |
| 12:B:1855:U:H2' | 12:B:1856:U:C6 | 2.54 | 0.42 |
| 12:B:2513:A:C2 | 12:B:2514:U:C2 | 3.07 | 0.42 |
| 12:B:2446:G:H2' | 12:B:2447:G:H4' | 2.01 | 0.42 |
| 12:B:2868:A:H2' | 12:B:2869:G:C8 | 2.54 | 0.42 |
| 12:B:607:U:C5 | 12:B:620:G:C2 | 3.07 | 0.42 |
| 12:B:2165:C:C5 | 12:B:2166:U:C2 | 3.07 | 0.42 |
| 12:B:974:G:H5'' | 12:B:1186:G:H21 | 1.84 | 0.42 |
| 12:B:288:U:H2' | 12:B:289:G:O4' | 2.19 | 0.42 |
| 30:T:66:LYS:H | 30:T:77:ARG:HB3 | 1.84 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:B:81:G:C8 | 12:B:82:U:C5 | 3.07 | 0.42 |
| 12:B:307:G:C2 | 12:B:310:A:C8 | 3.08 | 0.42 |
| 12:B:1440:U:H2' | 12:B:1441:G:C8 | 2.54 | 0.42 |
| 12:B:1651:G:H2' | 12:B:1652:A:C8 | 2.54 | 0.42 |
| 12:B:891:G:H2' | 12:B:892:A:C8 | 2.55 | 0.42 |
| 12:B:7:G:H2' | 12:B:8:C:C6 | 2.54 | 0.42 |
| 12:B:2355:G:C6 | 12:B:2363:G:C6 | 3.08 | 0.42 |
| 12:B:2543:G:H21 | 12:B:2646:C:H5'' | 1.85 | 0.42 |
| 12:B:608:A:C2 | 12:B:609:A:C4 | 3.07 | 0.42 |
| 12:B:2368:C:H2' | 12:B:2369:A:C8 | 2.55 | 0.42 |
| 12:B:1252:G:C2 | 12:B:1253:A:C2 | 3.08 | 0.42 |
| 12:B:801:G:C4 | 15:E:49:ARG:HD3 | 2.54 | 0.42 |
| 12:B:2028:U:N3 | 12:B:2029:G:C5 | 2.87 | 0.42 |
| 12:B:2846:G:C6 | 12:B:2847:U:C4 | 3.07 | 0.42 |
| 12:B:2681:C:C4 | 12:B:2724:U:C5 | 3.08 | 0.42 |
| 12:B:486:C:H4' | 29:S:60:HIS:CE1 | 2.54 | 0.42 |
| 10:9:245:ILE:HG21 | 10:9:282:PHE:CD2 | 2.54 | 0.42 |
| 12:B:1477:A:C2 | 12:B:1515:A:C2 | 3.07 | 0.42 |
| 12:B:1658:C:H5'' | 14:D:138:LEU:HD22 | 2.02 | 0.42 |
| 12:B:2663:G:C8 | 12:B:2664:G:C8 | 3.07 | 0.42 |
| 12:B:460:A:C2 | 12:B:470:A:C4 | 3.07 | 0.42 |
| 14:D:183:GLU:H | 14:D:183:GLU:CD | 2.23 | 0.42 |
| 30:T:30:ILE:HG23 | 30:T:86:THR:H | 1.85 | 0.42 |
| 10:9:180:SER:HG | 10:9:182:ALA:HB3 | 1.84 | 0.42 |
| 12:B:2846:G:H5'' | 26:P:52:ARG:NH1 | 2.34 | 0.42 |
| 10:9:60:ARG:HG3 | 12:B:2478:A:C2 | 2.55 | 0.42 |
| 12:B:1171:G:C5 | 12:B:1172:C:C4 | 3.07 | 0.42 |
| 12:B:559:G:C6 | 12:B:560:C:C4 | 3.07 | 0.42 |
| 12:B:1935:G:N2 | 12:B:1964:G:C4 | 2.88 | 0.42 |
| 12:B:1797:G:C2 | 12:B:1823:G:C4 | 3.08 | 0.42 |
| 12:B:2279:G:C6 | 12:B:2280:G:C5 | 3.07 | 0.42 |
| 11:A:73:A:C4 | 11:A:104:A:C2 | 3.07 | 0.42 |
| 12:B:1867:G:C6 | 12:B:1868:C:C4 | 3.08 | 0.42 |
| 12:B:1247:A:H3' | 12:B:1248:G:H5'' | 2.02 | 0.42 |
| 22:L:6:LEU:CD2 | 22:L:6:LEU:H | 2.33 | 0.42 |
| 12:B:2596:U:C4 | 12:B:2597:G:C2 | 3.08 | 0.42 |
| 12:B:1930:G:H22 | 12:B:1968:G:H2' | 1.85 | 0.42 |
| 12:B:1791:A:C8 | 12:B:1792:G:C8 | 3.07 | 0.42 |
| 12:B:2652:C:C4 | 12:B:2653:U:C4 | 3.08 | 0.42 |
| 12:B:1547:C:H2' | 12:B:1548:A:H8 | 1.84 | 0.42 |
| 12:B:823:C:H2' | 12:B:824:U:C6 | 2.55 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 12:B:1783:A:C2 | 12:B:2587:A:C5 | 3.07 | 0.42 |
| 12:B:572:A:C2 | 12:B:2033:A:C2 | 3.08 | 0.42 |
| 16:F:105:ILE:HG23 | 16:F:138:PRO:HD3 | 2.02 | 0.42 |
| 12:B:940:G:C2 | 12:B:941:A:H1' | 2.54 | 0.42 |
| 10:9:206:GLU:HA | 12:B:2662:A:H5'' | 2.02 | 0.42 |
| 13:C:221:GLY:HA3 | 13:C:229:HIS:HD2 | 1.81 | 0.42 |
| 12:B:870:U:C3' | 12:B:871:U:H5'' | 2.50 | 0.42 |
| 12:B:1498:C:H2' | 12:B:1499:C:C6 | 2.55 | 0.42 |
| 12:B:2091:C:H3' | 12:B:2092:U:H5'' | 2.02 | 0.42 |
| 12:B:1585:C:H3' | 12:B:1586:A:H8 | 1.85 | 0.42 |
| 12:B:2028:U:C4 | 12:B:2029:G:C5 | 3.08 | 0.42 |
| 23:M:20:LEU:HD22 | 32:W:81:PRO:HG2 | 2.01 | 0.42 |
| 12:B:783:A:H4' | 12:B:2588:G:H4' | 2.02 | 0.42 |
| 12:B:2724:U:H2' | 12:B:2725:A:C8 | 2.54 | 0.41 |
| 12:B:422:A:H3' | 12:B:423:A:H8 | 1.85 | 0.41 |
| 12:B:1448:G:H21 | 12:B:1529:G:H5' | 1.85 | 0.41 |
| 4:3:5:ASN:HD21 | 12:B:2019:A:H3' | 1.85 | 0.41 |
| 12:B:1022:G:C6 | 12:B:1140:C:C4 | 3.07 | 0.41 |
| 10:9:183:LYS:NZ | 12:B:2661:G:C6 | 2.78 | 0.41 |
| 12:B:2472:G:C5 | 12:B:2475:C:C4 | 3.08 | 0.41 |
| 12:B:2792:A:C2 | 12:B:2805:C:C2 | 3.08 | 0.41 |
| 12:B:89:A:C6 | 12:B:90:U:C4 | 3.08 | 0.41 |
| 9:8:2:LYS:HG3 | 9:8:3:VAL:H | 1.85 | 0.41 |
| 12:B:1467:U:C5 | 12:B:1546:G:H2' | 2.55 | 0.41 |
| 12:B:1473:G:C6 | 12:B:1474:U:C4 | 3.08 | 0.41 |
| 12:B:646:U:C6 | 12:B:647:G:H1' | 2.55 | 0.41 |
| 10:9:231:PHE:N | 10:9:231:PHE:CD2 | 2.88 | 0.41 |
| 12:B:221:A:C2 | 12:B:233:A:C5 | 3.08 | 0.41 |
| 12:B:2352:A:C8 | 12:B:2353:G:C8 | 3.08 | 0.41 |
| 12:B:2455:G:C6 | 12:B:2456:C:C4 | 3.08 | 0.41 |
| 12:B:1316:U:H3 | 12:B:1336:A:H61 | 1.68 | 0.41 |
| 12:B:1380:G:N2 | 12:B:1571:A:C2 | 2.88 | 0.41 |
| 21:K:66:LYS:HE3 | 21:K:82:ASN:HD21 | 1.85 | 0.41 |
| 12:B:1444:G:H2' | 12:B:1445:G:C8 | 2.55 | 0.41 |
| 2:1:11:VAL:HG23 | 2:1:12:GLU:N | 2.36 | 0.41 |
| 12:B:925:A:C2 | 12:B:926:G:C4 | 3.08 | 0.41 |
| 12:B:2323:G:C5 | 12:B:2324:U:C5 | 3.08 | 0.41 |
| 12:B:2328:A:C2 | 12:B:2329:U:C2 | 3.08 | 0.41 |
| 12:B:2073:C:C2 | 12:B:2437:G:C2 | 3.08 | 0.41 |
| 12:B:1425:G:H2' | 12:B:1426:G:C8 | 2.55 | 0.41 |
| 29:S:2:GLU:HA | 29:S:108:SER:HA | 2.01 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:5:172:HIS:CD2 | 12:B:2123:G:H21 | 2.38 | 0.41 |
| 12:B:2232:C:C4 | 12:B:2233:U:C4 | 3.09 | 0.41 |
| 12:B:2345:G:H1' | 12:B:2382:G:H5' | 2.00 | 0.41 |
| 12:B:410:G:H2' | 12:B:2407:A:N7 | 2.36 | 0.41 |
| 12:B:1223:G:C6 | 12:B:1227:G:C6 | 3.09 | 0.41 |
| 12:B:883:G:C5 | 12:B:884:U:C5 | 3.09 | 0.41 |
| 12:B:2812:G:C2 | 12:B:2813:A:C4 | 3.08 | 0.41 |
| 12:B:2832:U:H1' | 12:B:2834:G:C4 | 2.55 | 0.41 |
| 12:B:190:A:C4 | 12:B:207:A:C2 | 3.07 | 0.41 |
| 10:9:200:VAL:HG11 | 12:B:2661:G:C2 | 2.56 | 0.41 |
| 12:B:6:A:C2 | 12:B:7:G:C5 | 3.09 | 0.41 |
| 12:B:1071:G:OP1 | 12:B:1097:U:H4' | 2.20 | 0.41 |
| 12:B:1219:U:H2' | 12:B:1220:G:H8 | 1.85 | 0.41 |
| 12:B:1688:U:N3 | 12:B:1698:A:C2 | 2.88 | 0.41 |
| 21:K:40:LYS:HE3 | 21:K:57:VAL:HB | 2.02 | 0.41 |
| 12:B:2284:A:H61 | 12:B:2384:U:H3 | 1.68 | 0.41 |
| 12:B:2294:G:C5 | 12:B:2295:C:C5 | 3.08 | 0.41 |
| 12:B:539:G:C5 | 12:B:540:C:C5 | 3.08 | 0.41 |
| 12:B:1028:A:H2' | 12:B:1029:A:C8 | 2.55 | 0.41 |
| 12:B:327:G:C2 | 12:B:336:C:C2 | 3.08 | 0.41 |
| 17:G:86:LEU:HB2 | 17:G:132:LEU:HD11 | 2.02 | 0.41 |
| 8:7:32:LEU:HB3 | 8:7:39:ARG:HH12 | 1.86 | 0.41 |
| 12:B:695:G:C2 | 12:B:768:G:C4 | 3.09 | 0.41 |
| 12:B:2800:A:N6 | 12:B:2801:G:C5 | 2.89 | 0.41 |
| 12:B:1665:A:C2 | 12:B:1666:G:C4 | 3.08 | 0.41 |
| 12:B:2393:U:H1' | 22:L:59:ARG:HG2 | 2.03 | 0.41 |
| 12:B:2578:G:C5 | 14:D:145:SER:HB2 | 2.55 | 0.41 |
| 12:B:634:C:H2' | 12:B:635:C:C6 | 2.55 | 0.41 |
| 12:B:1005:C:C2 | 12:B:1143:A:C6 | 3.09 | 0.41 |
| 12:B:694:U:H5'' | 12:B:1569:A:C6 | 2.54 | 0.41 |
| 16:F:124:ARG:HD3 | 16:F:124:ARG:HA | 1.91 | 0.41 |
| 12:B:1167:C:N4 | 12:B:1182:G:H1 | 2.17 | 0.41 |
| 12:B:869:G:C2 | 12:B:909:A:C2 | 3.09 | 0.41 |
| 19:I:79:LEU:HD11 | 19:I:128:ILE:HG23 | 2.03 | 0.41 |
| 12:B:77:G:C6 | 12:B:110:G:C6 | 3.08 | 0.41 |
| 17:G:88:LEU:HD21 | 17:G:95:ALA:CB | 2.51 | 0.41 |
| 12:B:247:G:C5 | 12:B:249:C:H1' | 2.56 | 0.41 |
| 10:9:61:PHE:HD1 | 10:9:61:PHE:H | 1.68 | 0.41 |
| 12:B:895:U:O4 | 12:B:897:C:C5 | 2.74 | 0.41 |
| 12:B:361:G:H2' | 12:B:362:A:H8 | 1.85 | 0.41 |
| 12:B:2804:U:N3 | 12:B:2805:C:C5 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 12:B:2542:A:H4' | 12:B:2543:G:H5' | 2.01 | 0.41 |
| 12:B:2834:G:H1' | 12:B:2883:A:N6 | 2.34 | 0.41 |
| 12:B:1960:A:C5 | 12:B:1961:C:C5 | 3.09 | 0.41 |
| 12:B:138:U:H2' | 12:B:140:C:C4 | 2.56 | 0.41 |
| 10:9:223:GLU:OE2 | 12:B:1067:A:C8 | 2.73 | 0.41 |
| 12:B:2656:U:C2 | 12:B:2657:A:C8 | 3.09 | 0.41 |
| 29:S:6:LYS:HD2 | 29:S:8:ARG:HH11 | 1.85 | 0.41 |
| 12:B:638:G:C5 | 12:B:639:U:C4 | 3.09 | 0.41 |
| 24:N:96:ARG:HH22 | 24:N:120:GLU:H | 1.69 | 0.41 |
| 1:0:71:ARG:NH1 | 1:0:75:GLU:H | 2.19 | 0.41 |
| 14:D:78:GLY:HA3 | 14:D:80:TRP:CZ2 | 2.56 | 0.41 |
| 12:B:293:U:C5 | 12:B:345:A:C6 | 3.08 | 0.41 |
| 12:B:255:A:C6 | 12:B:256:A:C4 | 3.09 | 0.41 |
| 23:M:65:ILE:HG22 | 23:M:103:TYR:CE1 | 2.56 | 0.41 |
| 8:7:38:LYS:O | 8:7:42:HIS:CD2 | 2.74 | 0.41 |
| 12:B:2345:G:C6 | 12:B:2381:A:C6 | 3.09 | 0.41 |
| 12:B:1873:G:C6 | 12:B:1874:C:C4 | 3.09 | 0.41 |
| 10:9:175:PHE:CZ | 10:9:284:LYS:HG2 | 2.56 | 0.41 |
| 12:B:2714:G:C5 | 12:B:2715:C:C4 | 3.10 | 0.40 |
| 12:B:611:C:C4 | 12:B:612:G:C5 | 3.09 | 0.40 |
| 12:B:668:A:H2' | 12:B:670:A:H62 | 1.85 | 0.40 |
| 12:B:883:G:C5 | 12:B:884:U:C4 | 3.10 | 0.40 |
| 15:E:36:ALA:O | 15:E:39:ALA:HB3 | 2.21 | 0.40 |
| 13:C:154:ALA:HB1 | 13:C:160:TYR:HA | 2.04 | 0.40 |
| 12:B:1638:C:C4 | 12:B:1639:C:C5 | 3.09 | 0.40 |
| 10:9:182:ALA:HB1 | 10:9:200:VAL:HB | 2.03 | 0.40 |
| 10:9:61:PHE:CE2 | 12:B:2472:G:H5'' | 2.56 | 0.40 |
| 12:B:893:C:C4 | 12:B:894:U:C6 | 3.10 | 0.40 |
| 12:B:232:G:H22 | 12:B:420:C:C5' | 2.33 | 0.40 |
| 12:B:277:G:H1' | 12:B:360:U:O4 | 2.22 | 0.40 |
| 12:B:1485:U:C4 | 12:B:1486:U:C4 | 3.09 | 0.40 |
| 12:B:2279:G:N7 | 33:Y:9:THR:HG21 | 2.35 | 0.40 |
| 12:B:2744:G:H5' | 12:B:2755:C:C5 | 2.56 | 0.40 |
| 10:9:24:ARG:HH12 | 12:B:2583:G:H2' | 1.87 | 0.40 |
| 12:B:1319:C:H1' | 12:B:1334:G:N2 | 2.36 | 0.40 |
| 10:9:13:ALA:CB | 10:9:43:GLY:O | 2.69 | 0.40 |
| 20:J:26:GLY:H | 20:J:29:ALA:HB3 | 1.86 | 0.40 |
| 11:A:9:G:C6 | 11:A:112:G:C6 | 3.09 | 0.40 |
| 12:B:380:G:H2' | 12:B:381:G:O4' | 2.21 | 0.40 |
| 23:M:114:ARG:HG2 | 23:M:130:PHE:CE1 | 2.56 | 0.40 |
| 12:B:1301:A:C8 | 12:B:1303:G:C8 | 3.10 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 10:9:61:PHE:CG | 12:B:2472:G:H5' | 2.56 | 0.40 |
| 21:K:105:ARG:HH12 | 26:P:71:ARG:HD3 | 1.85 | 0.40 |
| 12:B:7:G:C6 | 12:B:8:C:C4 | 3.09 | 0.40 |
| 12:B:2345:G:C5 | 12:B:2347:C:C5 | 3.09 | 0.40 |
| 10:9:175:PHE:CD1 | 10:9:175:PHE:N | 2.85 | 0.40 |
| 26:P:54:LEU:HD12 | 26:P:76:HIS:CD2 | 2.56 | 0.40 |
| 12:B:759:G:C4 | 12:B:760:G:C8 | 3.09 | 0.40 |
| 12:B:1346:G:C6 | 12:B:1347:A:C5 | 3.10 | 0.40 |
| 12:B:904:G:C2 | 12:B:905:A:C4 | 3.09 | 0.40 |
| 12:B:577:G:C6 | 12:B:578:G:C6 | 3.09 | 0.40 |
| 12:B:363:G:C6 | 12:B:364:C:C4 | 3.09 | 0.40 |
| 12:B:2371:G:C6 | 12:B:2372:U:C5 | 3.09 | 0.40 |
| 28:R:39:LEU:CB | 28:R:53:PHE:H | 2.35 | 0.40 |
| 12:B:1381:G:C2' | 12:B:1382:G:H5' | 2.51 | 0.40 |
| 12:B:1934:C:H2' | 12:B:1935:G:C8 | 2.56 | 0.40 |
| 12:B:531:C:N3 | 12:B:2019:A:C2 | 2.90 | 0.40 |
| 12:B:1684:G:C5 | 12:B:1685:C:C5 | 3.09 | 0.40 |
| 12:B:1628:G:C6 | 12:B:1629:U:C4 | 3.10 | 0.40 |
| 5:4:6:GLU:HB3 | 5:4:27:ARG:HH21 | 1.86 | 0.40 |
| 12:B:1558:C:C6 | 12:B:1560:G:H1' | 2.57 | 0.40 |
| 12:B:283:G:C6 | 12:B:284:U:C4 | 3.09 | 0.40 |
| 17:G:40:VAL:HG13 | 17:G:63:GLN:HB3 | 2.03 | 0.40 |
| 12:B:2127:G:HO2' | 12:B:2173:A:H2 | 1.67 | 0.40 |
| 19:I:81:LYS:HD2 | 19:I:81:LYS:C | 2.42 | 0.40 |
| 12:B:18:U:H2' | 12:B:19:A:C8 | 2.57 | 0.40 |
| 11:A:69:G:H3' | 11:A:70:C:C6 | 2.54 | 0.40 |
| 11:A:47:C:C4 | 11:A:48:U:C4 | 3.10 | 0.40 |
| 27:Q:31:TYR:CZ | 27:Q:35:PHE:CZ | 3.10 | 0.40 |
| 12:B:2528:U:C2 | 12:B:2536:G:C2 | 3.10 | 0.40 |
| 12:B:1563:U:H2' | 12:B:1564:C:C6 | 2.56 | 0.40 |
| 12:B:1961:C:H2' | 12:B:1963:U:H3 | 1.86 | 0.40 |
| 10:9:23:PHE:HB3 | 10:9:31:LYS:HE3 | 2.04 | 0.40 |
| 10:9:273:LEU:HA | 10:9:276:LYS:HG2 | 2.04 | 0.40 |
| 1:0:18:SER:HB2 | 1:0:22:ASN:H | 1.86 | 0.40 |
| 1:0:28:PHE:HB3 | 12:B:396:G:H1' | 2.04 | 0.40 |
| 17:G:66:THR:HG22 | 17:G:70:LEU:HD22 | 2.04 | 0.40 |
| 20:J:103:ILE:HG21 | 20:J:103:ILE:HD13 | 1.87 | 0.40 |
| 31:U:36:GLU:CD | 31:U:36:GLU:H | 2.25 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|----|
| 1 | 0 | 75/77 (97%) | 61 (81%) | 10 (13%) | 4 (5%) | 2 | 29 |
| 2 | 1 | 61/63 (97%) | 50 (82%) | 8 (13%) | 3 (5%) | 3 | 31 |
| 3 | 2 | 56/58 (97%) | 50 (89%) | 5 (9%) | 1 (2%) | 11 | 53 |
| 4 | 3 | 54/56 (96%) | 43 (80%) | 4 (7%) | 7 (13%) | 0 | 7 |
| 5 | 4 | 49/54 (91%) | 43 (88%) | 4 (8%) | 2 (4%) | 3 | 34 |
| 6 | 5 | 232/234 (99%) | 197 (85%) | 25 (11%) | 10 (4%) | 3 | 34 |
| 7 | 6 | 44/46 (96%) | 33 (75%) | 8 (18%) | 3 (7%) | 1 | 23 |
| 8 | 7 | 62/64 (97%) | 47 (76%) | 10 (16%) | 5 (8%) | 1 | 18 |
| 9 | 8 | 36/38 (95%) | 27 (75%) | 7 (19%) | 2 (6%) | 2 | 28 |
| 10 | 9 | 332/390 (85%) | 261 (79%) | 43 (13%) | 28 (8%) | 1 | 17 |
| 13 | C | 270/272 (99%) | 216 (80%) | 31 (12%) | 23 (8%) | 1 | 17 |
| 14 | D | 207/209 (99%) | 160 (77%) | 34 (16%) | 13 (6%) | 2 | 25 |
| 15 | E | 199/201 (99%) | 163 (82%) | 16 (8%) | 20 (10%) | 1 | 13 |
| 16 | F | 176/178 (99%) | 135 (77%) | 22 (12%) | 19 (11%) | 0 | 11 |
| 17 | G | 172/176 (98%) | 126 (73%) | 31 (18%) | 15 (9%) | 1 | 17 |
| 18 | H | 147/149 (99%) | 112 (76%) | 21 (14%) | 14 (10%) | 1 | 15 |
| 19 | I | 67/141 (48%) | 65 (97%) | 0 | 2 (3%) | 5 | 42 |
| 20 | J | 140/142 (99%) | 108 (77%) | 20 (14%) | 12 (9%) | 1 | 17 |
| 21 | K | 120/123 (98%) | 98 (82%) | 16 (13%) | 6 (5%) | 3 | 30 |
| 22 | L | 141/143 (99%) | 115 (82%) | 17 (12%) | 9 (6%) | 2 | 25 |
| 23 | M | 134/136 (98%) | 112 (84%) | 16 (12%) | 6 (4%) | 3 | 33 |
| 24 | N | 119/127 (94%) | 94 (79%) | 17 (14%) | 8 (7%) | 1 | 23 |
| 25 | O | 114/116 (98%) | 88 (77%) | 20 (18%) | 6 (5%) | 2 | 29 |
| 26 | P | 112/114 (98%) | 84 (75%) | 19 (17%) | 9 (8%) | 1 | 19 |
| 27 | Q | 115/117 (98%) | 95 (83%) | 12 (10%) | 8 (7%) | 1 | 22 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|-----------|----------|-------------|----|
| 28 | R | 101/103 (98%) | 83 (82%) | 14 (14%) | 4 (4%) | 4 | 35 |
| 29 | S | 108/110 (98%) | 87 (81%) | 11 (10%) | 10 (9%) | 1 | 16 |
| 30 | T | 92/100 (92%) | 68 (74%) | 16 (17%) | 8 (9%) | 1 | 17 |
| 31 | U | 96/103 (93%) | 73 (76%) | 15 (16%) | 8 (8%) | 1 | 18 |
| 32 | W | 92/94 (98%) | 78 (85%) | 11 (12%) | 3 (3%) | 5 | 40 |
| 33 | Y | 77/84 (92%) | 54 (70%) | 15 (20%) | 8 (10%) | 1 | 12 |
| All | All | 3800/4018 (95%) | 3026 (80%) | 498 (13%) | 276 (7%) | 3 | 21 |

All (276) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 0 | 73 | ARG |
| 3 | 2 | 9 | THR |
| 4 | 3 | 3 | GLN |
| 6 | 5 | 40 | GLU |
| 10 | 9 | 54 | ASN |
| 10 | 9 | 55 | THR |
| 10 | 9 | 63 | LYS |
| 10 | 9 | 64 | SER |
| 10 | 9 | 68 | GLU |
| 10 | 9 | 77 | ASP |
| 10 | 9 | 92 | VAL |
| 10 | 9 | 145 | THR |
| 10 | 9 | 159 | LEU |
| 10 | 9 | 225 | ALA |
| 10 | 9 | 227 | LEU |
| 10 | 9 | 254 | ASP |
| 10 | 9 | 308 | ASP |
| 13 | C | 52 | HIS |
| 13 | C | 166 | ARG |
| 13 | C | 177 | SER |
| 14 | D | 107 | VAL |
| 14 | D | 123 | LYS |
| 15 | E | 44 | ARG |
| 15 | E | 96 | VAL |
| 15 | E | 130 | LYS |
| 16 | F | 46 | LYS |
| 16 | F | 110 | ILE |
| 17 | G | 95 | ALA |
| 17 | G | 120 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 18 | H | 84 | ALA |
| 20 | J | 45 | THR |
| 20 | J | 59 | ALA |
| 20 | J | 68 | LYS |
| 20 | J | 111 | LYS |
| 20 | J | 132 | HIS |
| 21 | K | 33 | ALA |
| 21 | K | 71 | ARG |
| 22 | L | 3 | LEU |
| 22 | L | 50 | PHE |
| 22 | L | 113 | ALA |
| 24 | N | 2 | ARG |
| 24 | N | 3 | HIS |
| 25 | O | 37 | ALA |
| 25 | O | 59 | ALA |
| 26 | P | 25 | VAL |
| 26 | P | 45 | VAL |
| 26 | P | 90 | ALA |
| 26 | P | 106 | ALA |
| 27 | Q | 101 | ASP |
| 29 | S | 2 | GLU |
| 29 | S | 62 | ASP |
| 29 | S | 76 | VAL |
| 30 | T | 9 | LYS |
| 30 | T | 36 | LYS |
| 30 | T | 57 | VAL |
| 31 | U | 12 | VAL |
| 31 | U | 80 | ASP |
| 33 | Y | 17 | ALA |
| 33 | Y | 75 | ASN |
| 1 | 0 | 2 | ARG |
| 2 | 1 | 34 | SER |
| 4 | 3 | 33 | SER |
| 4 | 3 | 48 | TYR |
| 5 | 4 | 50 | GLU |
| 6 | 5 | 181 | ASP |
| 6 | 5 | 229 | LEU |
| 7 | 6 | 40 | ALA |
| 8 | 7 | 35 | LYS |
| 8 | 7 | 51 | LYS |
| 10 | 9 | 40 | GLY |
| 10 | 9 | 53 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 10 | 9 | 74 | ALA |
| 10 | 9 | 148 | ASP |
| 10 | 9 | 157 | MET |
| 10 | 9 | 161 | ASP |
| 10 | 9 | 214 | ILE |
| 10 | 9 | 316 | ALA |
| 13 | C | 120 | ASP |
| 13 | C | 189 | ALA |
| 13 | C | 233 | GLY |
| 13 | C | 235 | GLU |
| 14 | D | 74 | GLU |
| 15 | E | 4 | VAL |
| 15 | E | 30 | GLN |
| 15 | E | 52 | VAL |
| 15 | E | 80 | SER |
| 15 | E | 123 | LYS |
| 15 | E | 125 | SER |
| 16 | F | 84 | ILE |
| 16 | F | 143 | ASP |
| 16 | F | 148 | VAL |
| 17 | G | 3 | VAL |
| 17 | G | 21 | GLN |
| 17 | G | 84 | LYS |
| 17 | G | 135 | ALA |
| 18 | H | 28 | ASN |
| 18 | H | 41 | LYS |
| 18 | H | 76 | GLU |
| 20 | J | 65 | THR |
| 21 | K | 110 | GLU |
| 22 | L | 64 | PHE |
| 23 | M | 67 | VAL |
| 24 | N | 63 | ARG |
| 25 | O | 57 | ALA |
| 26 | P | 71 | ARG |
| 27 | Q | 27 | ARG |
| 29 | S | 12 | SER |
| 29 | S | 28 | LYS |
| 29 | S | 29 | VAL |
| 29 | S | 53 | SER |
| 29 | S | 61 | ASN |
| 29 | S | 64 | ALA |
| 30 | T | 69 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 30 | T | 90 | GLY |
| 31 | U | 13 | LEU |
| 33 | Y | 46 | ALA |
| 33 | Y | 52 | CYS |
| 1 | 0 | 26 | ARG |
| 2 | 1 | 2 | LYS |
| 2 | 1 | 38 | GLN |
| 4 | 3 | 22 | THR |
| 6 | 5 | 159 | GLY |
| 6 | 5 | 219 | GLY |
| 6 | 5 | 220 | ALA |
| 9 | 8 | 37 | GLN |
| 10 | 9 | 38 | ASP |
| 13 | C | 26 | GLY |
| 13 | C | 35 | LYS |
| 13 | C | 79 | ARG |
| 13 | C | 204 | LEU |
| 14 | D | 71 | ALA |
| 14 | D | 94 | GLN |
| 14 | D | 131 | ASP |
| 14 | D | 152 | PRO |
| 14 | D | 159 | LYS |
| 14 | D | 194 | PRO |
| 15 | E | 8 | ALA |
| 15 | E | 20 | GLY |
| 15 | E | 62 | GLN |
| 15 | E | 64 | GLY |
| 15 | E | 82 | GLY |
| 15 | E | 150 | THR |
| 16 | F | 16 | MET |
| 16 | F | 77 | LYS |
| 16 | F | 114 | ARG |
| 16 | F | 123 | GLY |
| 16 | F | 136 | ILE |
| 17 | G | 80 | GLU |
| 17 | G | 151 | ARG |
| 18 | H | 107 | GLY |
| 20 | J | 48 | VAL |
| 20 | J | 64 | VAL |
| 22 | L | 44 | GLY |
| 23 | M | 72 | PRO |
| 24 | N | 42 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 25 | O | 60 | GLU |
| 25 | O | 107 | ALA |
| 26 | P | 13 | LYS |
| 27 | Q | 71 | ASN |
| 27 | Q | 81 | GLY |
| 28 | R | 3 | ALA |
| 28 | R | 17 | GLY |
| 28 | R | 87 | GLN |
| 30 | T | 88 | LYS |
| 33 | Y | 20 | LEU |
| 4 | 3 | 51 | ARG |
| 5 | 4 | 33 | LEU |
| 6 | 5 | 228 | GLY |
| 7 | 6 | 35 | ARG |
| 8 | 7 | 30 | HIS |
| 8 | 7 | 32 | LEU |
| 8 | 7 | 44 | ARG |
| 10 | 9 | 146 | PRO |
| 10 | 9 | 196 | PRO |
| 13 | C | 27 | LYS |
| 13 | C | 112 | GLY |
| 13 | C | 125 | PRO |
| 13 | C | 152 | GLN |
| 13 | C | 205 | GLY |
| 13 | C | 231 | HIS |
| 13 | C | 236 | GLY |
| 14 | D | 43 | ASP |
| 14 | D | 109 | VAL |
| 14 | D | 140 | HIS |
| 15 | E | 106 | LYS |
| 15 | E | 128 | ALA |
| 16 | F | 6 | TYR |
| 16 | F | 19 | PHE |
| 16 | F | 124 | ARG |
| 16 | F | 173 | ASP |
| 17 | G | 39 | ALA |
| 18 | H | 14 | SER |
| 18 | H | 17 | ASP |
| 18 | H | 29 | PHE |
| 18 | H | 32 | PRO |
| 18 | H | 33 | GLN |
| 18 | H | 75 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 19 | I | 140 | GLU |
| 20 | J | 22 | GLY |
| 21 | K | 29 | HIS |
| 21 | K | 113 | MET |
| 22 | L | 41 | ARG |
| 22 | L | 42 | SER |
| 23 | M | 27 | SER |
| 23 | M | 73 | ILE |
| 23 | M | 79 | ALA |
| 24 | N | 98 | LEU |
| 24 | N | 100 | CYS |
| 26 | P | 87 | ARG |
| 30 | T | 21 | SER |
| 31 | U | 50 | ALA |
| 31 | U | 63 | ALA |
| 32 | W | 24 | ASN |
| 33 | Y | 16 | GLU |
| 33 | Y | 28 | GLU |
| 33 | Y | 41 | GLY |
| 1 | 0 | 71 | ARG |
| 9 | 8 | 16 | ILE |
| 10 | 9 | 93 | GLY |
| 10 | 9 | 314 | SER |
| 13 | C | 132 | ARG |
| 13 | C | 229 | HIS |
| 13 | C | 241 | LYS |
| 15 | E | 11 | ALA |
| 16 | F | 32 | LYS |
| 16 | F | 64 | PRO |
| 16 | F | 79 | ARG |
| 18 | H | 117 | LEU |
| 20 | J | 136 | GLN |
| 21 | K | 53 | LYS |
| 24 | N | 43 | GLU |
| 25 | O | 41 | ALA |
| 26 | P | 97 | TYR |
| 28 | R | 98 | ILE |
| 30 | T | 18 | GLU |
| 31 | U | 14 | THR |
| 31 | U | 98 | ASN |
| 32 | W | 44 | HIS |
| 4 | 3 | 44 | ALA |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | 5 | 53 | ARG |
| 10 | 9 | 251 | ASP |
| 13 | C | 196 | ASN |
| 14 | D | 132 | ALA |
| 15 | E | 59 | PRO |
| 16 | F | 59 | ILE |
| 17 | G | 110 | HIS |
| 17 | G | 123 | GLU |
| 18 | H | 38 | PRO |
| 18 | H | 93 | SER |
| 19 | I | 93 | ASN |
| 22 | L | 10 | GLU |
| 22 | L | 62 | PRO |
| 23 | M | 21 | ALA |
| 26 | P | 52 | ARG |
| 27 | Q | 78 | PHE |
| 27 | Q | 91 | ARG |
| 31 | U | 52 | ASN |
| 16 | F | 39 | VAL |
| 17 | G | 11 | PRO |
| 4 | 3 | 53 | VAL |
| 10 | 9 | 220 | GLY |
| 13 | C | 123 | ILE |
| 17 | G | 125 | PRO |
| 17 | G | 155 | PRO |
| 20 | J | 137 | PRO |
| 6 | 5 | 59 | VAL |
| 7 | 6 | 44 | VAL |
| 15 | E | 175 | ILE |
| 20 | J | 81 | ILE |
| 27 | Q | 33 | VAL |
| 29 | S | 87 | PRO |
| 6 | 5 | 133 | PRO |
| 17 | G | 53 | PRO |
| 24 | N | 97 | ILE |
| 27 | Q | 97 | ILE |
| 32 | W | 33 | GLY |

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM

entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 1 | 0 | 67/67 (100%) | 60 (90%) | 7 (10%) | 9 | 37 |
| 2 | 1 | 55/55 (100%) | 51 (93%) | 4 (7%) | 17 | 55 |
| 3 | 2 | 48/48 (100%) | 46 (96%) | 2 (4%) | 36 | 70 |
| 4 | 3 | 47/47 (100%) | 44 (94%) | 3 (6%) | 22 | 59 |
| 5 | 4 | 45/48 (94%) | 43 (96%) | 2 (4%) | 35 | 69 |
| 6 | 5 | 181/181 (100%) | 179 (99%) | 2 (1%) | 80 | 91 |
| 7 | 6 | 38/38 (100%) | 35 (92%) | 3 (8%) | 15 | 51 |
| 8 | 7 | 51/51 (100%) | 45 (88%) | 6 (12%) | 6 | 32 |
| 9 | 8 | 34/34 (100%) | 31 (91%) | 3 (9%) | 12 | 45 |
| 10 | 9 | 268/321 (84%) | 230 (86%) | 38 (14%) | 4 | 26 |
| 13 | C | 216/217 (100%) | 208 (96%) | 8 (4%) | 41 | 74 |
| 14 | D | 164/164 (100%) | 146 (89%) | 18 (11%) | 8 | 35 |
| 15 | E | 165/165 (100%) | 156 (94%) | 9 (6%) | 27 | 64 |
| 16 | F | 149/149 (100%) | 143 (96%) | 6 (4%) | 38 | 71 |
| 17 | G | 136/137 (99%) | 128 (94%) | 8 (6%) | 24 | 61 |
| 18 | H | 114/114 (100%) | 105 (92%) | 9 (8%) | 15 | 51 |
| 19 | I | 51/109 (47%) | 46 (90%) | 5 (10%) | 10 | 40 |
| 20 | J | 116/116 (100%) | 108 (93%) | 8 (7%) | 19 | 57 |
| 21 | K | 102/104 (98%) | 95 (93%) | 7 (7%) | 19 | 57 |
| 22 | L | 102/102 (100%) | 95 (93%) | 7 (7%) | 19 | 57 |
| 23 | M | 109/109 (100%) | 98 (90%) | 11 (10%) | 9 | 38 |
| 24 | N | 100/103 (97%) | 93 (93%) | 7 (7%) | 19 | 56 |
| 25 | O | 86/86 (100%) | 82 (95%) | 4 (5%) | 32 | 68 |
| 26 | P | 99/99 (100%) | 94 (95%) | 5 (5%) | 29 | 66 |
| 27 | Q | 89/89 (100%) | 84 (94%) | 5 (6%) | 26 | 63 |
| 28 | R | 84/84 (100%) | 79 (94%) | 5 (6%) | 24 | 61 |
| 29 | S | 93/93 (100%) | 89 (96%) | 4 (4%) | 35 | 70 |
| 30 | T | 80/84 (95%) | 72 (90%) | 8 (10%) | 9 | 38 |
| 31 | U | 81/84 (96%) | 76 (94%) | 5 (6%) | 23 | 60 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|-----------------|------------|----------|-------------|
| 32 | W | 78/78 (100%) | 74 (95%) | 4 (5%) | 29 66 |
| 33 | Y | 59/62 (95%) | 54 (92%) | 5 (8%) | 13 48 |
| All | All | 3107/3238 (96%) | 2889 (93%) | 218 (7%) | 23 56 |

All (218) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 0 | 5 | GLN |
| 1 | 0 | 11 | PRO |
| 1 | 0 | 15 | ASN |
| 1 | 0 | 22 | ASN |
| 1 | 0 | 26 | ARG |
| 1 | 0 | 55 | MET |
| 1 | 0 | 69 | GLU |
| 2 | 1 | 25 | GLN |
| 2 | 1 | 38 | GLN |
| 2 | 1 | 43 | LEU |
| 2 | 1 | 57 | LEU |
| 3 | 2 | 2 | LYS |
| 3 | 2 | 55 | LYS |
| 4 | 3 | 14 | MET |
| 4 | 3 | 27 | LEU |
| 4 | 3 | 48 | TYR |
| 5 | 4 | 6 | GLU |
| 5 | 4 | 44 | GLN |
| 6 | 5 | 53 | ARG |
| 6 | 5 | 137 | MET |
| 7 | 6 | 1 | MET |
| 7 | 6 | 5 | PHE |
| 7 | 6 | 22 | MET |
| 8 | 7 | 15 | LYS |
| 8 | 7 | 28 | LEU |
| 8 | 7 | 41 | ARG |
| 8 | 7 | 45 | PRO |
| 8 | 7 | 46 | LYS |
| 8 | 7 | 51 | LYS |
| 9 | 8 | 8 | LYS |
| 9 | 8 | 12 | ARG |
| 9 | 8 | 20 | ASP |
| 10 | 9 | 6 | GLU |
| 10 | 9 | 20 | CYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 10 | 9 | 31 | LYS |
| 10 | 9 | 55 | THR |
| 10 | 9 | 56 | LEU |
| 10 | 9 | 60 | ARG |
| 10 | 9 | 61 | PHE |
| 10 | 9 | 63 | LYS |
| 10 | 9 | 64 | SER |
| 10 | 9 | 69 | ARG |
| 10 | 9 | 82 | ARG |
| 10 | 9 | 97 | ILE |
| 10 | 9 | 99 | GLN |
| 10 | 9 | 103 | GLU |
| 10 | 9 | 108 | MET |
| 10 | 9 | 116 | LEU |
| 10 | 9 | 129 | ARG |
| 10 | 9 | 156 | LEU |
| 10 | 9 | 161 | ASP |
| 10 | 9 | 162 | VAL |
| 10 | 9 | 167 | MET |
| 10 | 9 | 174 | THR |
| 10 | 9 | 179 | VAL |
| 10 | 9 | 183 | LYS |
| 10 | 9 | 189 | TYR |
| 10 | 9 | 201 | VAL |
| 10 | 9 | 203 | MET |
| 10 | 9 | 207 | LYS |
| 10 | 9 | 257 | GLU |
| 10 | 9 | 263 | ILE |
| 10 | 9 | 286 | ASP |
| 10 | 9 | 292 | GLU |
| 10 | 9 | 294 | GLU |
| 10 | 9 | 310 | TYR |
| 10 | 9 | 311 | TYR |
| 10 | 9 | 326 | TRP |
| 10 | 9 | 329 | MET |
| 10 | 9 | 331 | PHE |
| 13 | C | 3 | VAL |
| 13 | C | 22 | GLU |
| 13 | C | 76 | VAL |
| 13 | C | 100 | ARG |
| 13 | C | 120 | ASP |
| 13 | C | 174 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 13 | C | 180 | MET |
| 13 | C | 193 | GLU |
| 14 | D | 1 | MET |
| 14 | D | 2 | ILE |
| 14 | D | 9 | VAL |
| 14 | D | 22 | ILE |
| 14 | D | 33 | ARG |
| 14 | D | 40 | LEU |
| 14 | D | 43 | ASP |
| 14 | D | 74 | GLU |
| 14 | D | 84 | LEU |
| 14 | D | 99 | GLU |
| 14 | D | 103 | ASP |
| 14 | D | 123 | LYS |
| 14 | D | 128 | ARG |
| 14 | D | 141 | ARG |
| 14 | D | 146 | ILE |
| 14 | D | 167 | ASN |
| 14 | D | 183 | GLU |
| 14 | D | 201 | LEU |
| 15 | E | 61 | ARG |
| 15 | E | 72 | SER |
| 15 | E | 78 | TRP |
| 15 | E | 102 | ARG |
| 15 | E | 153 | LEU |
| 15 | E | 165 | HIS |
| 15 | E | 170 | ARG |
| 15 | E | 173 | THR |
| 15 | E | 188 | MET |
| 16 | F | 62 | GLN |
| 16 | F | 67 | THR |
| 16 | F | 79 | ARG |
| 16 | F | 87 | LYS |
| 16 | F | 91 | ARG |
| 16 | F | 122 | ASP |
| 17 | G | 28 | LYS |
| 17 | G | 36 | LEU |
| 17 | G | 63 | GLN |
| 17 | G | 70 | LEU |
| 17 | G | 86 | LEU |
| 17 | G | 88 | LEU |
| 17 | G | 94 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 17 | G | 127 | GLN |
| 18 | H | 9 | VAL |
| 18 | H | 19 | VAL |
| 18 | H | 37 | VAL |
| 18 | H | 44 | ILE |
| 18 | H | 50 | ARG |
| 18 | H | 61 | VAL |
| 18 | H | 68 | ARG |
| 18 | H | 94 | ILE |
| 18 | H | 109 | GLU |
| 19 | I | 81 | LYS |
| 19 | I | 85 | ILE |
| 19 | I | 99 | LYS |
| 19 | I | 105 | LEU |
| 19 | I | 138 | VAL |
| 20 | J | 9 | GLU |
| 20 | J | 12 | LYS |
| 20 | J | 32 | LEU |
| 20 | J | 47 | HIS |
| 20 | J | 75 | TYR |
| 20 | J | 89 | PHE |
| 20 | J | 101 | ILE |
| 20 | J | 130 | HIS |
| 21 | K | 41 | ILE |
| 21 | K | 49 | ARG |
| 21 | K | 56 | ASP |
| 21 | K | 61 | VAL |
| 21 | K | 71 | ARG |
| 21 | K | 111 | LYS |
| 21 | K | 114 | LYS |
| 22 | L | 2 | ARG |
| 22 | L | 6 | LEU |
| 22 | L | 29 | LYS |
| 22 | L | 48 | ARG |
| 22 | L | 57 | LEU |
| 22 | L | 63 | LYS |
| 22 | L | 118 | THR |
| 23 | M | 10 | ARG |
| 23 | M | 24 | THR |
| 23 | M | 36 | VAL |
| 23 | M | 47 | GLU |
| 23 | M | 53 | MET |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 23 | M | 69 | PRO |
| 23 | M | 70 | ASP |
| 23 | M | 84 | LYS |
| 23 | M | 105 | MET |
| 23 | M | 115 | GLU |
| 23 | M | 119 | LEU |
| 24 | N | 2 | ARG |
| 24 | N | 4 | ARG |
| 24 | N | 37 | THR |
| 24 | N | 40 | LYS |
| 24 | N | 86 | ARG |
| 24 | N | 90 | ARG |
| 24 | N | 114 | GLU |
| 25 | O | 35 | ILE |
| 25 | O | 49 | VAL |
| 25 | O | 69 | ASP |
| 25 | O | 112 | GLU |
| 26 | P | 6 | GLN |
| 26 | P | 21 | PRO |
| 26 | P | 23 | ASP |
| 26 | P | 26 | GLU |
| 26 | P | 50 | ARG |
| 27 | Q | 43 | GLN |
| 27 | Q | 48 | ASP |
| 27 | Q | 73 | ILE |
| 27 | Q | 87 | VAL |
| 27 | Q | 111 | LYS |
| 28 | R | 2 | TYR |
| 28 | R | 4 | VAL |
| 28 | R | 21 | ARG |
| 28 | R | 22 | LEU |
| 28 | R | 37 | GLU |
| 29 | S | 15 | GLN |
| 29 | S | 31 | GLN |
| 29 | S | 33 | LEU |
| 29 | S | 46 | LEU |
| 30 | T | 1 | MET |
| 30 | T | 7 | LEU |
| 30 | T | 16 | VAL |
| 30 | T | 32 | LEU |
| 30 | T | 48 | GLN |
| 30 | T | 52 | GLU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 30 | T | 66 | LYS |
| 30 | T | 80 | TRP |
| 31 | U | 3 | LYS |
| 31 | U | 13 | LEU |
| 31 | U | 36 | GLU |
| 31 | U | 61 | GLU |
| 31 | U | 81 | ARG |
| 32 | W | 30 | ILE |
| 32 | W | 47 | VAL |
| 32 | W | 51 | GLN |
| 32 | W | 69 | GLU |
| 33 | Y | 16 | GLU |
| 33 | Y | 22 | VAL |
| 33 | Y | 35 | ILE |
| 33 | Y | 44 | PHE |
| 33 | Y | 50 | VAL |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (44) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 0 | 5 | GLN |
| 3 | 2 | 8 | GLN |
| 4 | 3 | 40 | HIS |
| 6 | 5 | 58 | ASN |
| 10 | 9 | 52 | ASN |
| 10 | 9 | 54 | ASN |
| 10 | 9 | 99 | GLN |
| 10 | 9 | 127 | ASN |
| 10 | 9 | 243 | HIS |
| 13 | C | 14 | HIS |
| 13 | C | 24 | HIS |
| 13 | C | 57 | HIS |
| 13 | C | 114 | GLN |
| 13 | C | 229 | HIS |
| 14 | D | 32 | ASN |
| 14 | D | 58 | ASN |
| 14 | D | 126 | ASN |
| 14 | D | 164 | GLN |
| 14 | D | 173 | GLN |
| 15 | E | 29 | HIS |
| 15 | E | 156 | ASN |
| 15 | E | 165 | HIS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 16 | F | 126 | ASN |
| 17 | G | 44 | HIS |
| 17 | G | 87 | GLN |
| 17 | G | 127 | GLN |
| 20 | J | 40 | HIS |
| 21 | K | 3 | GLN |
| 21 | K | 29 | HIS |
| 22 | L | 38 | GLN |
| 22 | L | 54 | GLN |
| 23 | M | 13 | HIS |
| 24 | N | 3 | HIS |
| 24 | N | 18 | GLN |
| 24 | N | 81 | ASN |
| 25 | O | 34 | HIS |
| 27 | Q | 19 | GLN |
| 27 | Q | 58 | GLN |
| 28 | R | 6 | GLN |
| 28 | R | 82 | HIS |
| 28 | R | 89 | HIS |
| 30 | T | 70 | HIS |
| 31 | U | 65 | GLN |
| 32 | W | 44 | HIS |

5.3.3 RNA ⓘ

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 11 | A | 112/118 (94%) | 21 (18%) | 3 (2%) |
| 12 | B | 2902/2903 (99%) | 540 (18%) | 96 (3%) |
| All | All | 3014/3021 (99%) | 561 (18%) | 99 (3%) |

All (561) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | A | 9 | G |
| 11 | A | 13 | G |
| 11 | A | 14 | U |
| 11 | A | 16 | G |
| 11 | A | 26 | C |
| 11 | A | 29 | A |
| 11 | A | 30 | C |
| 11 | A | 41 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | A | 42 | C |
| 11 | A | 45 | A |
| 11 | A | 52 | A |
| 11 | A | 53 | A |
| 11 | A | 57 | A |
| 11 | A | 66 | A |
| 11 | A | 67 | G |
| 11 | A | 88 | C |
| 11 | A | 89 | U |
| 11 | A | 90 | C |
| 11 | A | 91 | C |
| 11 | A | 99 | A |
| 11 | A | 109 | A |
| 12 | B | 11 | C |
| 12 | B | 34 | U |
| 12 | B | 35 | G |
| 12 | B | 46 | G |
| 12 | B | 50 | U |
| 12 | B | 51 | G |
| 12 | B | 63 | A |
| 12 | B | 71 | A |
| 12 | B | 74 | A |
| 12 | B | 75 | G |
| 12 | B | 84 | A |
| 12 | B | 91 | A |
| 12 | B | 92 | U |
| 12 | B | 94 | A |
| 12 | B | 95 | A |
| 12 | B | 100 | U |
| 12 | B | 103 | A |
| 12 | B | 118 | A |
| 12 | B | 119 | A |
| 12 | B | 120 | U |
| 12 | B | 126 | A |
| 12 | B | 128 | C |
| 12 | B | 136 | G |
| 12 | B | 137 | U |
| 12 | B | 139 | U |
| 12 | B | 140 | C |
| 12 | B | 141 | G |
| 12 | B | 143 | C |
| 12 | B | 144 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 12 | B | 160 | A |
| 12 | B | 163 | C |
| 12 | B | 164 | C |
| 12 | B | 180 | G |
| 12 | B | 181 | A |
| 12 | B | 196 | A |
| 12 | B | 199 | A |
| 12 | B | 216 | A |
| 12 | B | 217 | A |
| 12 | B | 221 | A |
| 12 | B | 222 | A |
| 12 | B | 228 | C |
| 12 | B | 233 | A |
| 12 | B | 241 | A |
| 12 | B | 248 | G |
| 12 | B | 249 | C |
| 12 | B | 252 | G |
| 12 | B | 265 | A |
| 12 | B | 266 | G |
| 12 | B | 268 | C |
| 12 | B | 271 | G |
| 12 | B | 273 | G |
| 12 | B | 276 | U |
| 12 | B | 277 | G |
| 12 | B | 281 | C |
| 12 | B | 283 | G |
| 12 | B | 286 | U |
| 12 | B | 294 | A |
| 12 | B | 299 | A |
| 12 | B | 311 | A |
| 12 | B | 312 | G |
| 12 | B | 321 | U |
| 12 | B | 329 | G |
| 12 | B | 330 | A |
| 12 | B | 333 | G |
| 12 | B | 346 | A |
| 12 | B | 347 | A |
| 12 | B | 352 | A |
| 12 | B | 353 | C |
| 12 | B | 362 | A |
| 12 | B | 363 | G |
| 12 | B | 364 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 12 | B | 371 | A |
| 12 | B | 372 | G |
| 12 | B | 387 | U |
| 12 | B | 388 | G |
| 12 | B | 389 | G |
| 12 | B | 403 | U |
| 12 | B | 404 | A |
| 12 | B | 405 | U |
| 12 | B | 406 | G |
| 12 | B | 411 | G |
| 12 | B | 412 | A |
| 12 | B | 424 | G |
| 12 | B | 451 | U |
| 12 | B | 457 | A |
| 12 | B | 461 | C |
| 12 | B | 479 | A |
| 12 | B | 481 | G |
| 12 | B | 489 | G |
| 12 | B | 490 | C |
| 12 | B | 491 | G |
| 12 | B | 498 | G |
| 12 | B | 504 | A |
| 12 | B | 505 | A |
| 12 | B | 508 | A |
| 12 | B | 509 | C |
| 12 | B | 512 | G |
| 12 | B | 533 | G |
| 12 | B | 544 | C |
| 12 | B | 545 | U |
| 12 | B | 546 | U |
| 12 | B | 547 | A |
| 12 | B | 548 | G |
| 12 | B | 549 | G |
| 12 | B | 555 | G |
| 12 | B | 563 | A |
| 12 | B | 568 | U |
| 12 | B | 573 | U |
| 12 | B | 575 | A |
| 12 | B | 586 | A |
| 12 | B | 603 | A |
| 12 | B | 613 | A |
| 12 | B | 614 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 12 | B | 615 | U |
| 12 | B | 620 | G |
| 12 | B | 631 | A |
| 12 | B | 637 | A |
| 12 | B | 647 | G |
| 12 | B | 651 | G |
| 12 | B | 653 | U |
| 12 | B | 654 | A |
| 12 | B | 656 | G |
| 12 | B | 669 | G |
| 12 | B | 670 | A |
| 12 | B | 671 | C |
| 12 | B | 686 | U |
| 12 | B | 687 | C |
| 12 | B | 730 | A |
| 12 | B | 747 | U |
| 12 | B | 748 | G |
| 12 | B | 751 | A |
| 12 | B | 757 | G |
| 12 | B | 764 | A |
| 12 | B | 775 | G |
| 12 | B | 782 | A |
| 12 | B | 784 | G |
| 12 | B | 785 | G |
| 12 | B | 788 | A |
| 12 | B | 789 | A |
| 12 | B | 790 | U |
| 12 | B | 792 | A |
| 12 | B | 793 | A |
| 12 | B | 802 | A |
| 12 | B | 805 | G |
| 12 | B | 811 | U |
| 12 | B | 812 | C |
| 12 | B | 819 | A |
| 12 | B | 827 | U |
| 12 | B | 828 | U |
| 12 | B | 830 | G |
| 12 | B | 846 | U |
| 12 | B | 847 | U |
| 12 | B | 859 | G |
| 12 | B | 869 | G |
| 12 | B | 871 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 875 | G |
| 12 | B | 878 | A |
| 12 | B | 881 | G |
| 12 | B | 887 | U |
| 12 | B | 888 | C |
| 12 | B | 889 | C |
| 12 | B | 890 | C |
| 12 | B | 891 | G |
| 12 | B | 896 | A |
| 12 | B | 897 | C |
| 12 | B | 901 | C |
| 12 | B | 910 | A |
| 12 | B | 912 | C |
| 12 | B | 919 | U |
| 12 | B | 931 | U |
| 12 | B | 932 | U |
| 12 | B | 933 | A |
| 12 | B | 941 | A |
| 12 | B | 946 | C |
| 12 | B | 958 | U |
| 12 | B | 961 | C |
| 12 | B | 962 | G |
| 12 | B | 973 | A |
| 12 | B | 974 | G |
| 12 | B | 980 | A |
| 12 | B | 981 | A |
| 12 | B | 982 | C |
| 12 | B | 983 | A |
| 12 | B | 984 | A |
| 12 | B | 988 | A |
| 12 | B | 991 | C |
| 12 | B | 995 | C |
| 12 | B | 996 | A |
| 12 | B | 1005 | C |
| 12 | B | 1012 | U |
| 12 | B | 1013 | C |
| 12 | B | 1022 | G |
| 12 | B | 1025 | G |
| 12 | B | 1033 | U |
| 12 | B | 1046 | A |
| 12 | B | 1054 | A |
| 12 | B | 1056 | G |

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Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 1057 | A |
| 12 | B | 1061 | U |
| 12 | B | 1062 | G |
| 12 | B | 1070 | A |
| 12 | B | 1071 | G |
| 12 | B | 1077 | A |
| 12 | B | 1078 | U |
| 12 | B | 1083 | U |
| 12 | B | 1085 | A |
| 12 | B | 1088 | A |
| 12 | B | 1090 | A |
| 12 | B | 1095 | A |
| 12 | B | 1096 | A |
| 12 | B | 1104 | C |
| 12 | B | 1112 | G |
| 12 | B | 1116 | G |
| 12 | B | 1130 | U |
| 12 | B | 1132 | U |
| 12 | B | 1133 | A |
| 12 | B | 1134 | A |
| 12 | B | 1135 | C |
| 12 | B | 1136 | G |
| 12 | B | 1142 | A |
| 12 | B | 1171 | G |
| 12 | B | 1174 | U |
| 12 | B | 1175 | A |
| 12 | B | 1176 | U |
| 12 | B | 1205 | A |
| 12 | B | 1206 | G |
| 12 | B | 1211 | C |
| 12 | B | 1212 | G |
| 12 | B | 1237 | A |
| 12 | B | 1238 | G |
| 12 | B | 1241 | A |
| 12 | B | 1242 | U |
| 12 | B | 1248 | G |
| 12 | B | 1250 | G |
| 12 | B | 1253 | A |
| 12 | B | 1256 | G |
| 12 | B | 1266 | G |
| 12 | B | 1271 | G |
| 12 | B | 1272 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 1273 | U |
| 12 | B | 1275 | A |
| 12 | B | 1276 | A |
| 12 | B | 1284 | A |
| 12 | B | 1285 | A |
| 12 | B | 1300 | G |
| 12 | B | 1301 | A |
| 12 | B | 1312 | U |
| 12 | B | 1313 | U |
| 12 | B | 1321 | A |
| 12 | B | 1325 | U |
| 12 | B | 1332 | G |
| 12 | B | 1333 | G |
| 12 | B | 1337 | G |
| 12 | B | 1341 | G |
| 12 | B | 1352 | U |
| 12 | B | 1365 | A |
| 12 | B | 1368 | G |
| 12 | B | 1374 | G |
| 12 | B | 1379 | U |
| 12 | B | 1380 | G |
| 12 | B | 1383 | A |
| 12 | B | 1386 | C |
| 12 | B | 1392 | A |
| 12 | B | 1393 | A |
| 12 | B | 1394 | U |
| 12 | B | 1396 | U |
| 12 | B | 1416 | G |
| 12 | B | 1417 | C |
| 12 | B | 1419 | A |
| 12 | B | 1420 | A |
| 12 | B | 1421 | G |
| 12 | B | 1427 | A |
| 12 | B | 1428 | C |
| 12 | B | 1452 | G |
| 12 | B | 1453 | A |
| 12 | B | 1458 | U |
| 12 | B | 1459 | G |
| 12 | B | 1460 | U |
| 12 | B | 1461 | C |
| 12 | B | 1469 | A |
| 12 | B | 1476 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 1477 | A |
| 12 | B | 1478 | G |
| 12 | B | 1482 | G |
| 12 | B | 1490 | A |
| 12 | B | 1493 | C |
| 12 | B | 1496 | A |
| 12 | B | 1497 | U |
| 12 | B | 1498 | C |
| 12 | B | 1504 | A |
| 12 | B | 1505 | A |
| 12 | B | 1507 | C |
| 12 | B | 1509 | A |
| 12 | B | 1510 | G |
| 12 | B | 1523 | U |
| 12 | B | 1524 | G |
| 12 | B | 1532 | A |
| 12 | B | 1535 | A |
| 12 | B | 1536 | C |
| 12 | B | 1538 | G |
| 12 | B | 1552 | A |
| 12 | B | 1578 | U |
| 12 | B | 1585 | C |
| 12 | B | 1608 | A |
| 12 | B | 1610 | A |
| 12 | B | 1614 | A |
| 12 | B | 1617 | C |
| 12 | B | 1618 | A |
| 12 | B | 1634 | A |
| 12 | B | 1635 | A |
| 12 | B | 1640 | A |
| 12 | B | 1647 | U |
| 12 | B | 1648 | U |
| 12 | B | 1654 | A |
| 12 | B | 1671 | U |
| 12 | B | 1672 | A |
| 12 | B | 1674 | G |
| 12 | B | 1676 | A |
| 12 | B | 1700 | A |
| 12 | B | 1714 | U |
| 12 | B | 1715 | G |
| 12 | B | 1729 | U |
| 12 | B | 1731 | G |

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Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 1733 | G |
| 12 | B | 1738 | G |
| 12 | B | 1739 | A |
| 12 | B | 1756 | G |
| 12 | B | 1758 | U |
| 12 | B | 1759 | A |
| 12 | B | 1761 | C |
| 12 | B | 1763 | G |
| 12 | B | 1764 | C |
| 12 | B | 1773 | A |
| 12 | B | 1781 | U |
| 12 | B | 1784 | A |
| 12 | B | 1786 | A |
| 12 | B | 1787 | A |
| 12 | B | 1800 | C |
| 12 | B | 1801 | A |
| 12 | B | 1808 | A |
| 12 | B | 1809 | A |
| 12 | B | 1816 | C |
| 12 | B | 1828 | G |
| 12 | B | 1829 | A |
| 12 | B | 1847 | A |
| 12 | B | 1848 | A |
| 12 | B | 1870 | C |
| 12 | B | 1871 | A |
| 12 | B | 1884 | G |
| 12 | B | 1888 | G |
| 12 | B | 1889 | A |
| 12 | B | 1906 | G |
| 12 | B | 1913 | A |
| 12 | B | 1916 | A |
| 12 | B | 1917 | U |
| 12 | B | 1929 | G |
| 12 | B | 1930 | G |
| 12 | B | 1936 | A |
| 12 | B | 1938 | A |
| 12 | B | 1940 | U |
| 12 | B | 1941 | C |
| 12 | B | 1942 | C |
| 12 | B | 1944 | U |
| 12 | B | 1952 | A |
| 12 | B | 1955 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 1962 | C |
| 12 | B | 1963 | U |
| 12 | B | 1965 | C |
| 12 | B | 1966 | A |
| 12 | B | 1967 | C |
| 12 | B | 1970 | A |
| 12 | B | 1971 | U |
| 12 | B | 1972 | G |
| 12 | B | 1991 | U |
| 12 | B | 1993 | U |
| 12 | B | 1997 | C |
| 12 | B | 2020 | A |
| 12 | B | 2022 | U |
| 12 | B | 2023 | C |
| 12 | B | 2032 | G |
| 12 | B | 2043 | C |
| 12 | B | 2055 | C |
| 12 | B | 2056 | G |
| 12 | B | 2059 | A |
| 12 | B | 2060 | A |
| 12 | B | 2061 | G |
| 12 | B | 2062 | A |
| 12 | B | 2065 | C |
| 12 | B | 2069 | G |
| 12 | B | 2076 | U |
| 12 | B | 2077 | A |
| 12 | B | 2102 | G |
| 12 | B | 2104 | C |
| 12 | B | 2111 | U |
| 12 | B | 2112 | G |
| 12 | B | 2116 | G |
| 12 | B | 2117 | A |
| 12 | B | 2119 | A |
| 12 | B | 2120 | G |
| 12 | B | 2126 | A |
| 12 | B | 2128 | G |
| 12 | B | 2129 | C |
| 12 | B | 2131 | U |
| 12 | B | 2132 | U |
| 12 | B | 2133 | G |
| 12 | B | 2134 | A |
| 12 | B | 2135 | A |

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Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 2136 | G |
| 12 | B | 2137 | U |
| 12 | B | 2144 | G |
| 12 | B | 2145 | C |
| 12 | B | 2147 | A |
| 12 | B | 2148 | G |
| 12 | B | 2149 | U |
| 12 | B | 2153 | C |
| 12 | B | 2155 | U |
| 12 | B | 2158 | A |
| 12 | B | 2159 | G |
| 12 | B | 2160 | C |
| 12 | B | 2161 | C |
| 12 | B | 2164 | C |
| 12 | B | 2165 | C |
| 12 | B | 2166 | U |
| 12 | B | 2167 | U |
| 12 | B | 2172 | U |
| 12 | B | 2176 | A |
| 12 | B | 2178 | C |
| 12 | B | 2179 | C |
| 12 | B | 2181 | U |
| 12 | B | 2183 | A |
| 12 | B | 2187 | U |
| 12 | B | 2192 | U |
| 12 | B | 2198 | A |
| 12 | B | 2199 | A |
| 12 | B | 2203 | U |
| 12 | B | 2204 | G |
| 12 | B | 2210 | U |
| 12 | B | 2211 | A |
| 12 | B | 2212 | A |
| 12 | B | 2213 | U |
| 12 | B | 2214 | C |
| 12 | B | 2225 | A |
| 12 | B | 2238 | G |
| 12 | B | 2239 | G |
| 12 | B | 2251 | G |
| 12 | B | 2266 | A |
| 12 | B | 2278 | A |
| 12 | B | 2279 | G |
| 12 | B | 2283 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 2286 | G |
| 12 | B | 2287 | A |
| 12 | B | 2288 | A |
| 12 | B | 2297 | A |
| 12 | B | 2305 | U |
| 12 | B | 2307 | G |
| 12 | B | 2308 | G |
| 12 | B | 2310 | C |
| 12 | B | 2311 | A |
| 12 | B | 2320 | U |
| 12 | B | 2321 | U |
| 12 | B | 2322 | A |
| 12 | B | 2324 | U |
| 12 | B | 2325 | G |
| 12 | B | 2334 | U |
| 12 | B | 2335 | A |
| 12 | B | 2336 | A |
| 12 | B | 2337 | G |
| 12 | B | 2347 | C |
| 12 | B | 2383 | G |
| 12 | B | 2385 | C |
| 12 | B | 2396 | G |
| 12 | B | 2402 | U |
| 12 | B | 2406 | A |
| 12 | B | 2407 | A |
| 12 | B | 2423 | U |
| 12 | B | 2426 | A |
| 12 | B | 2429 | G |
| 12 | B | 2430 | A |
| 12 | B | 2434 | A |
| 12 | B | 2441 | U |
| 12 | B | 2447 | G |
| 12 | B | 2448 | A |
| 12 | B | 2449 | U |
| 12 | B | 2472 | G |
| 12 | B | 2474 | U |
| 12 | B | 2476 | A |
| 12 | B | 2478 | A |
| 12 | B | 2491 | U |
| 12 | B | 2498 | C |
| 12 | B | 2502 | G |
| 12 | B | 2503 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 2505 | G |
| 12 | B | 2506 | U |
| 12 | B | 2519 | U |
| 12 | B | 2520 | C |
| 12 | B | 2529 | G |
| 12 | B | 2535 | G |
| 12 | B | 2554 | U |
| 12 | B | 2566 | A |
| 12 | B | 2567 | G |
| 12 | B | 2573 | C |
| 12 | B | 2585 | U |
| 12 | B | 2586 | U |
| 12 | B | 2602 | A |
| 12 | B | 2609 | U |
| 12 | B | 2613 | U |
| 12 | B | 2629 | U |
| 12 | B | 2661 | G |
| 12 | B | 2682 | A |
| 12 | B | 2689 | U |
| 12 | B | 2690 | U |
| 12 | B | 2691 | C |
| 12 | B | 2714 | G |
| 12 | B | 2744 | G |
| 12 | B | 2748 | A |
| 12 | B | 2751 | G |
| 12 | B | 2757 | A |
| 12 | B | 2765 | A |
| 12 | B | 2778 | A |
| 12 | B | 2780 | G |
| 12 | B | 2791 | G |
| 12 | B | 2793 | C |
| 12 | B | 2797 | U |
| 12 | B | 2799 | A |
| 12 | B | 2800 | A |
| 12 | B | 2820 | A |
| 12 | B | 2821 | A |
| 12 | B | 2833 | U |
| 12 | B | 2834 | G |
| 12 | B | 2836 | U |
| 12 | B | 2849 | U |
| 12 | B | 2850 | A |
| 12 | B | 2867 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 2872 | A |
| 12 | B | 2873 | A |
| 12 | B | 2879 | A |
| 12 | B | 2883 | A |
| 12 | B | 2885 | G |
| 12 | B | 2893 | A |
| 12 | B | 2894 | G |

All (99) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | A | 15 | A |
| 11 | A | 66 | A |
| 11 | A | 87 | U |
| 12 | B | 50 | U |
| 12 | B | 102 | U |
| 12 | B | 139 | U |
| 12 | B | 180 | G |
| 12 | B | 196 | A |
| 12 | B | 276 | U |
| 12 | B | 311 | A |
| 12 | B | 320 | A |
| 12 | B | 329 | G |
| 12 | B | 451 | U |
| 12 | B | 491 | G |
| 12 | B | 532 | A |
| 12 | B | 614 | A |
| 12 | B | 615 | U |
| 12 | B | 631 | A |
| 12 | B | 653 | U |
| 12 | B | 669 | G |
| 12 | B | 670 | A |
| 12 | B | 686 | U |
| 12 | B | 784 | G |
| 12 | B | 788 | A |
| 12 | B | 811 | U |
| 12 | B | 827 | U |
| 12 | B | 830 | G |
| 12 | B | 858 | G |
| 12 | B | 880 | G |
| 12 | B | 888 | C |
| 12 | B | 889 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 890 | C |
| 12 | B | 891 | G |
| 12 | B | 933 | A |
| 12 | B | 961 | C |
| 12 | B | 973 | A |
| 12 | B | 1008 | A |
| 12 | B | 1050 | A |
| 12 | B | 1133 | A |
| 12 | B | 1205 | A |
| 12 | B | 1248 | G |
| 12 | B | 1272 | A |
| 12 | B | 1275 | A |
| 12 | B | 1312 | U |
| 12 | B | 1332 | G |
| 12 | B | 1452 | G |
| 12 | B | 1497 | U |
| 12 | B | 1508 | A |
| 12 | B | 1608 | A |
| 12 | B | 1617 | C |
| 12 | B | 1633 | G |
| 12 | B | 1671 | U |
| 12 | B | 1677 | A |
| 12 | B | 1679 | A |
| 12 | B | 1730 | C |
| 12 | B | 1758 | U |
| 12 | B | 1763 | G |
| 12 | B | 1786 | A |
| 12 | B | 1801 | A |
| 12 | B | 1847 | A |
| 12 | B | 1888 | G |
| 12 | B | 1938 | A |
| 12 | B | 1940 | U |
| 12 | B | 1943 | U |
| 12 | B | 1963 | U |
| 12 | B | 2051 | A |
| 12 | B | 2058 | A |
| 12 | B | 2076 | U |
| 12 | B | 2111 | U |
| 12 | B | 2116 | G |
| 12 | B | 2118 | U |
| 12 | B | 2133 | G |
| 12 | B | 2134 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 12 | B | 2145 | C |
| 12 | B | 2147 | A |
| 12 | B | 2158 | A |
| 12 | B | 2160 | C |
| 12 | B | 2172 | U |
| 12 | B | 2198 | A |
| 12 | B | 2282 | G |
| 12 | B | 2286 | G |
| 12 | B | 2307 | G |
| 12 | B | 2308 | G |
| 12 | B | 2320 | U |
| 12 | B | 2324 | U |
| 12 | B | 2333 | A |
| 12 | B | 2336 | A |
| 12 | B | 2425 | A |
| 12 | B | 2430 | A |
| 12 | B | 2447 | G |
| 12 | B | 2502 | G |
| 12 | B | 2519 | U |
| 12 | B | 2585 | U |
| 12 | B | 2601 | C |
| 12 | B | 2660 | A |
| 12 | B | 2712 | C |
| 12 | B | 2713 | U |
| 12 | B | 2756 | U |
| 12 | B | 2893 | A |

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.