



wwPDB EM Map/Model Validation Report ⓘ

Apr 10, 2016 – 02:43 PM BST

PDB ID : 4V91
EMDB ID: : EMD-2599
Title : Kluyveromyces lactis 80S ribosome in complex with CrPV-IRES
Authors : Fernandez, I.S.; Bai, X.; Scheres, S.H.W.; Ramakrishnan, V.
Deposited on : 2014-03-21
Resolution : 3.70 Å(reported)
Based on PDB ID : 3B31

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>

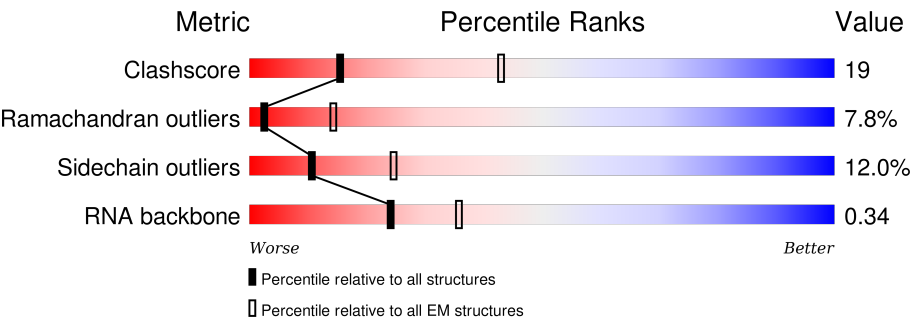
MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk27241

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 3.70 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	1	3397	
2	3	121	
3	4	158	
4	A	254	
5	B	387	
6	C	362	
7	D	297	
8	E	176	













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Mol	Chain	Length	Quality of chain
9	F	244	
10	G	256	
11	H	191	
12	I	221	
13	J	174	
14	L	199	
15	M	138	
16	N	204	
17	O	398	
18	P	184	
19	Q	186	
20	R	189	
21	S	172	
22	T	160	
23	U	121	
24	V	137	
25	W	155	
26	X	142	
27	Y	127	
28	Z	136	
29	a	149	
30	b	59	
31	c	105	
32	d	113	
33	e	130	

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Mol	Chain	Length	Quality of chain
34	f	107	 86% 9% . . .
35	g	121	 76% 13% • 7%
36	h	120	 78% 17% . . .
37	i	100	 82% 13% . .
38	j	88	 78% 17% . . .
39	k	78	 69% 26% . .
40	l	51	 76% 14% 8% .
41	m	128	 38% • 59%
42	n	25	 76% 20% .
43	o	106	 78% 15% 6% .
44	p	92	 85% 11% . .
45	t	217	 72% 19% 7% .

2 Entry composition

There are 45 unique types of molecules in this entry. The entry contains 125665 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 RNA chain called 25S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	3203	Total	C	N	O	P	0	0
			68514	30602	12358	22351	3203		

- Molecule 2 is a RNA chain called 5S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a protein called UL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	252	Total	C	N	O	S	0	0
			1914	1191	388	334	1		

- Molecule 5 is a protein called UL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 6 is a protein called UL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 7 is a protein called UL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	296	Total	C	N	O	S	0	0
			2375	1501	414	458	2		

- Molecule 8 is a protein called EL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 9 is a protein called UL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 10 is a protein called EL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 11 is a protein called UL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 12 is a protein called UL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	211	Total	C	N	O	S	0	0
			1705	1083	322	294	6		

- Molecule 13 is a protein called UL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 14 is a protein called EL13.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	L	193	Total	C	N	O	0	0
			1543	962	315	266		

- Molecule 15 is a protein called EL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 16 is a protein called EL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 17 is a protein called UL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	O	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 18 is a protein called UL22.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	P	183	Total	C	N	O	0	0
			1420	882	281	257		

- Molecule 19 is a protein called EL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 20 is a protein called EL19.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	R	188	Total	C	N	O	0	0
			1521	935	326	260		

- Molecule 21 is a protein called EL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 22 is a protein called EL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 23 is a protein called EL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	U	100	Total	C	N	O	S	0	0
			796	516	131	149			

- Molecule 24 is a protein called UL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 25 is a protein called EL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	60	Total	C	N	O	S	0	0
			500	322	98	79	1		

- Molecule 26 is a protein called UL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	X	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 27 is a protein called UL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Y	126	Total	C	N	O	S	0	0
			993	625	192	176			

- Molecule 28 is a protein called EL27.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Z	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 29 is a protein called UL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 30 is a protein called EL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	b	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 31 is a protein called EL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

- Molecule 32 is a protein called EL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 33 is a protein called EL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 34 is a protein called EL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 35 is a protein called EL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called UL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 37 is a protein called EL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 38 is a protein called EL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 39 is a protein called EL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	k	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 40 is a protein called EL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called EL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 42 is a protein called EL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	n	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 43 is a protein called EL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 44 is a protein called EL43.

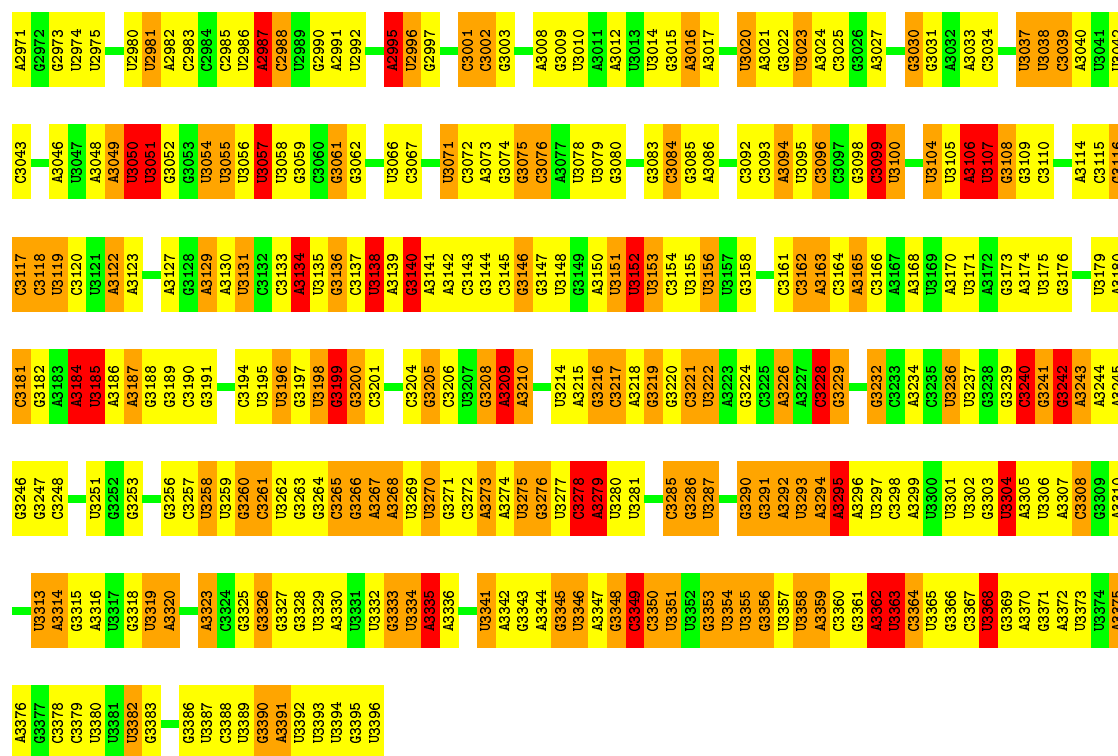
Mol	Chain	Residues	Atoms					AltConf	Trace
44	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 45 is a protein called UL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	t	217	Total	C	N	O	S	0	0
			1718	1097	299	312	10		

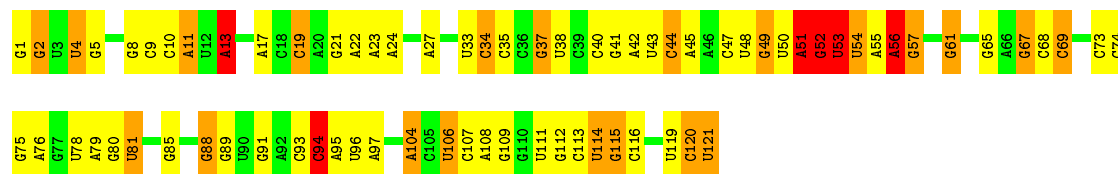
A1823	A1676	C1609	G1548	G1483	G1408	U1336	A1204	G1139	U1071	A997	A933	C861	C793
U1824	G1677	G1610	C1551	U1484	G1408	G1340	A1205	A1143	U1072	G1001	G934	U862	U794
C1826	G1678	G1611	G1562	G1485	G1412	G1340	G1206	U1144	U1073	A1002	U935	C863	G795
C1827		A1612	U1553	G1486	G1413	G1344	G1207	G1145		A1004	G937	G864	U796
A1828	U1682	A1613	U1554	G1488	G1413	G1345	U1209	G1146	U1077	U1004	G938	C868	G799
C1829	U1684	C1614	U1555	A1489	A1449	G1346	G1209	G1147	U1078	A1006	U939	G869	G800
G1830	C1685	U1616	C1556		G1420	U1347	A1212	G1148	A1079	G1005	U940	G870	A801
A1831	U1686	G1617	A1557	G1492	G1421	U1348	G1213	G1149	A1080	U1007	U941	U871	C802
C1832	U1687	G1618	A1558	G1493	G1422	G1349	U1214	A1150	U1081			U872	C803
	U1688	A1619	A1559	U1494	C1423	A1350	U1215	U1151	U1082	G1010	C944	C873	C804
A1835	U1689	U1620	G1560	U1495	U1425	U1351	C1216	G1152	G1083		C945	U874	G805
	C1690		G1561	U1496	U1426	A1352	G1219	A1153	U1084	G1013	U946	G875	A806
G1838	U1691	G1623	C1562	A1498	G1426	U1353	C1221	A1154	A1085	U1014	U947		A807
A1839	U1692	G1624	C1563	C1499	U1427	G1354	U1220	A1155	U1086	U1015	G948	G878	A808
U1840		A1625	U1564		A1428		A1221	C1156	G1087	C1016	C949	U879	
A1841	U1696	U1626	G1565	C1502	G1429	G1357	G1222	G1157	A1093	C1017	A952	A853	U811
A1842	U1697	U1627	A1566	A1503	U1430	C1358	A1223	A1158	G1018	G1018	U953	A854	G812
C1843	C1698	C1628	U1567	A1504	G1431	C1359	G1224	A1159	U094	G1019	G953	A855	G813
C1844	U1699	U1629	U1568	C1505		C1360	A1225	C1160	U095	G1020	U954	U856	U814
G1845	G1700	U1630	U1569	A1506	G1434	U1361	G1232	G1161	U096		U955	C886	G815
		C1631	U1570	C1507	A1435	G1362	C1233	U1162	G1097	C1023	U956	C890	A816
A1847	U1705	A1632	U1571	C1508	U1436	A1363	G1234	A1163	A1098	A1025		G891	C818
U1848			G1572	U1531	U1437	C1364	G1235	G1164	A1099	A1026	U960	U892	U819
U1849		U1636	G1573		U1438	G1365	A1231	A1165	U1000	A1027		C893	
A1850	C1708	A1637	C1574	U1514	U1439	A1366	G1232	G1166	G1101		G961	C894	A820
	C1709	U1638	A1575	G1515	G1440	C1367	G1233	U1167	A1102	C1031	A962		C824
U1853	C1710	C1639	G1576	A1516	G1441	U1368	G1234	A1168	A1103		A963	A895	U825
C1854	C1711	G1640	G1577	C1516	U1442	A1369	A1302	A1169	G1104	C1032	G964	A896	U826
U1855		U1641	C1578	G1517	G1443	G1370	G1236	A1170	A105	U1033	A965	U897	G826
C1856	A1714	U1642	C1579	U1518	G1444	G1371	G1237	G1171	G1106		U966	U898	A827
C1857	A1715	A1643	G1580	G1519	U1445	C1372	G1238	G1172	C1107	A1036	A967	U899	U828
A1858	U1716	C1644	C1581	G1520	A1446	A1373	C1239	U1173	U1108		G968	G900	U829
A1859	U1717	U1645	C1582	G1521	G1447	G1374	A1241	G1174	U1109	U1039	G969	G901	A830
G1860	G1718	G1646	U1583	U1522	U1448	G1375	U1240	C1175	A1110	A1040	G970	G902	A831
	G1719	A1647	U1584	U1523	A1449	C1376	G1242	G1176	U1111	U1041	G971	U903	G832
	U1720	U1648	C1585	A1524	G1450	G1377	G1243	G1177	A1112	U1042	A972	U904	G833
A1864	U1721	U1649	G1586	G1525	G1451		A1244	G1178	G1113	C1043	A973	A904	U834
			U1587	U1526	A1452	G1380	A1245	A1179	U1114	U1044	G974	G907	G835
A1867		G1650	A1588	C1527		A1381	G1246	A1180	G1115	C1045	C975	G908	A836
C1868	U1724	U1651	C1528	U1529	U1455	G1382	U1247	A1181	G1116	A1046		G909	A837
C1869	C1725	G1652	G1528	A1530	A1456	G1383	C1248	A1182	G1117	A1047	G978	C911	C840
C1870		A1654	U1530	C1531	C1459	U1384	G1249	G1183	C1118	A1048	U979	C912	A841
U1871	G1728	G1655	C1532	C1532	A1460	A1385		A1184	C1119	C1049	A980	A913	G842
C1805		A1656	U1533	U1533	A1461	C1386	C1254	G1185	A1120	U1050	U981	G912	A843
A1806	G1735	A1657	C1534	A1534	A1462	A1390	C1255	G1186	U1121	U1051	C982	A914	A844
G1807	U1736	C1657	U1535	C1535	U1463	C1391	G1256	U1187	U1122	A1052	A983	A915	G845
G1808	U1737	U1658	C1536	G1536	G1464	G1392	C1257	U1188	U1123	A1053	G984	G916	G846
A1809		U1659	U1537	A1537	A1465	A1393	U1258	G1189	U1124	A1054	U985	A917	A847
	U1740	G1660	G1538	G1538	G1466	A1394		A1190	U1125	A1055	U986	C918	A848
G1812	U1741	G1661	U1539	U1539			G1261	U1191	G1126	U1056	U987	U919	A849
A1813	U1742	C1662	C1600	U1540	A1467		G1262	C1192	G1127	A1057	U988	A920	C849
A1814	G1743	C1663	U1541	U1541	A1468	C1397	A1263		U1128	U1058	A989	A921	U850
A1815	C1745		G1542	G1542	C1469	U1398	G1264	C1196			U990	U922	C851
C1882	U1746	A1667	U1543	U1543	U1470	A1399	U1265	A1197	G1131	U1063	G991	C923	G856
A1883	G1747		G1544	G1544	U1479	C1400	G1266	C1198	C1132	A1064	A992	G924	G857
A1884	U1748		U1545	U1545		G1401	U1267		A1133	A1065	G993	A925	A858
U1885	G1749	U1672	A1546	A1546	G1480	A1401	G1268	C1201	G1134	U1066	G994		C859
A1886	U1750	G1673	U1547	U1547	A1481	C1402	U1269	A1202		U1067	U995	C931	A860
A1887					A1482	G1404		A1203	U1138	C1068	A996	U932	

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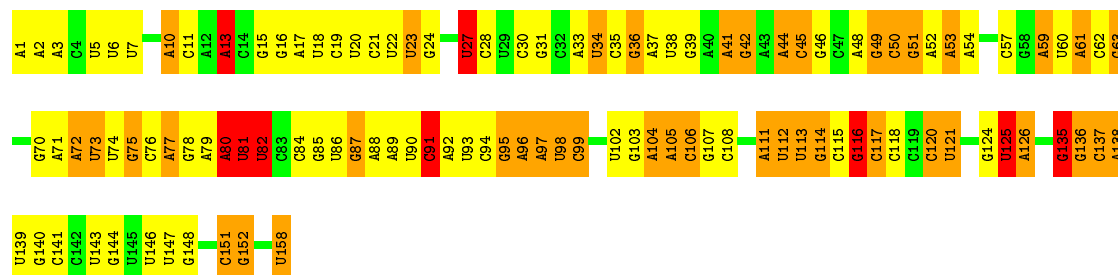
• Molecule 2: 5S RRNA

Chain 3: 39% 39% 17% 5%



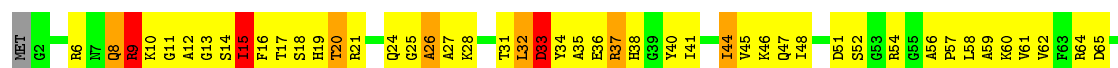
• Molecule 3: 5.8S RRNA

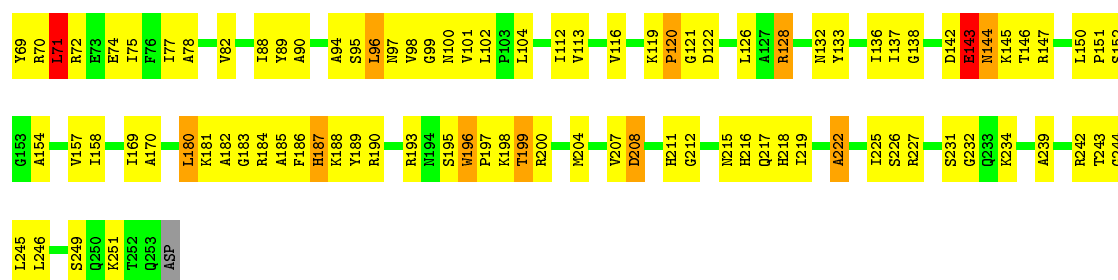
Chain 4: 29% 39% 27% 6%



• Molecule 4: UL2

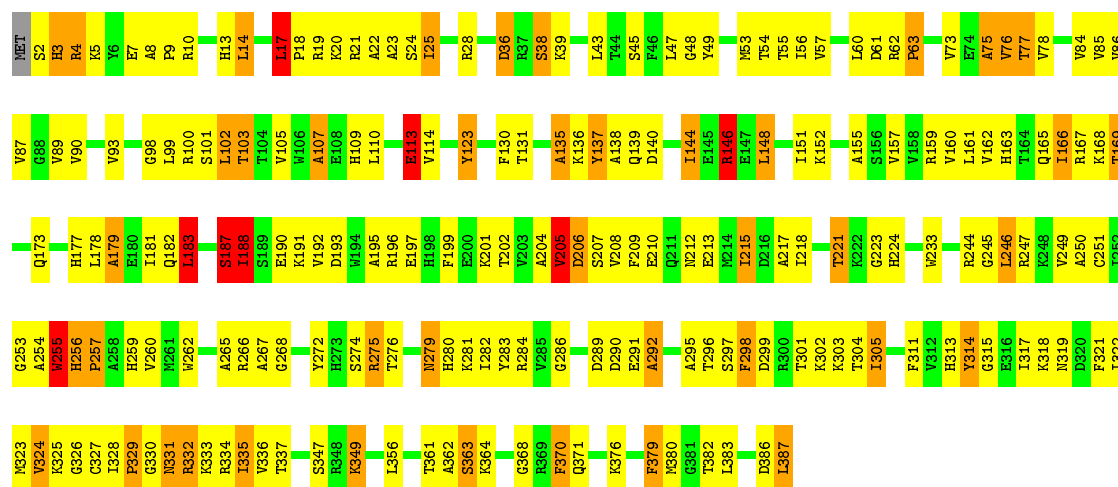
Chain A: 44% 47% 6% 2%





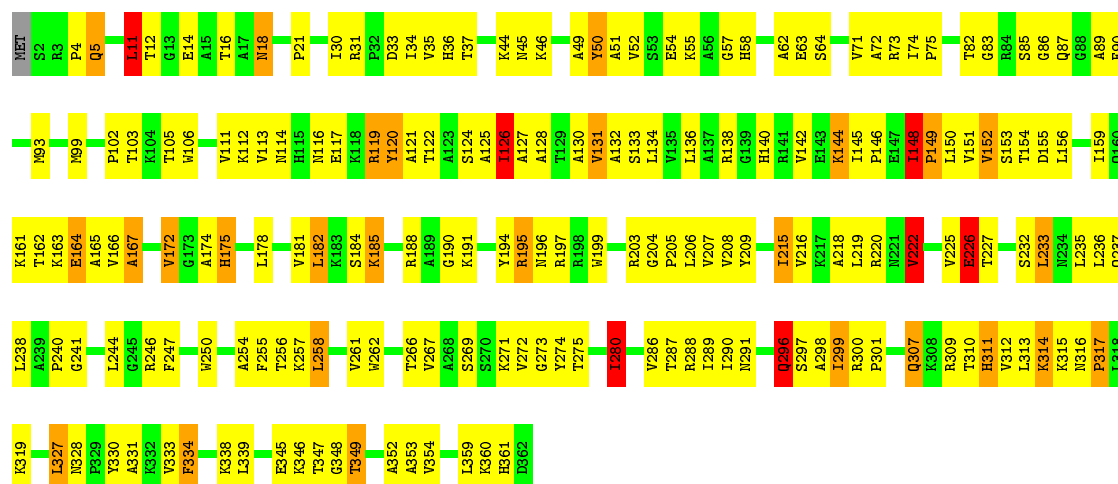
• Molecule 5: UL3

Chain B: 46% 40% 11% •



• Molecule 6: UL4

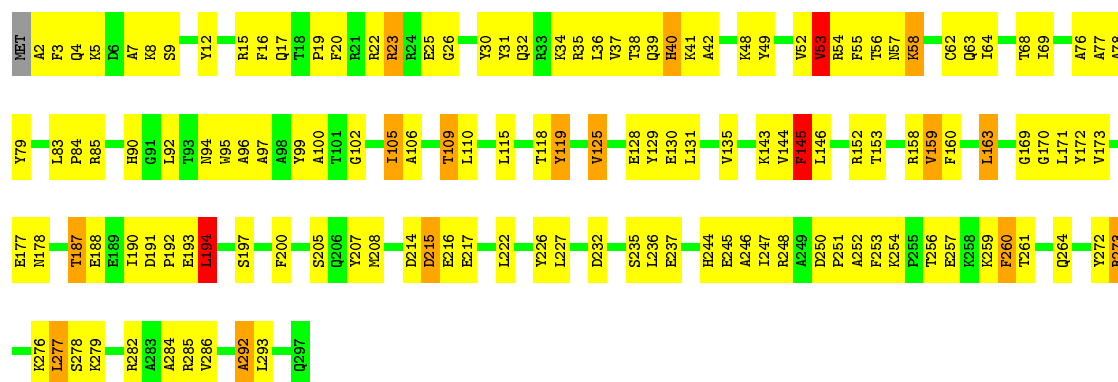
Chain C: 46% 44% 7% •



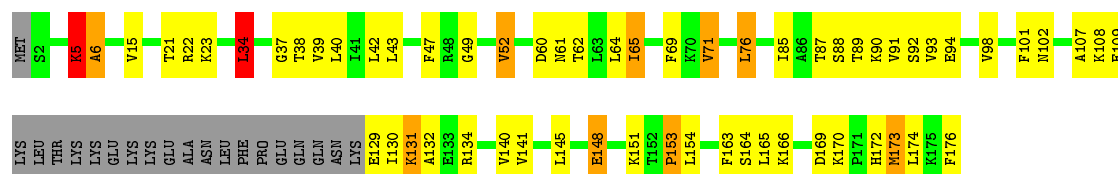
• Molecule 7: UL18

Chain D: 53% 41% 5% •

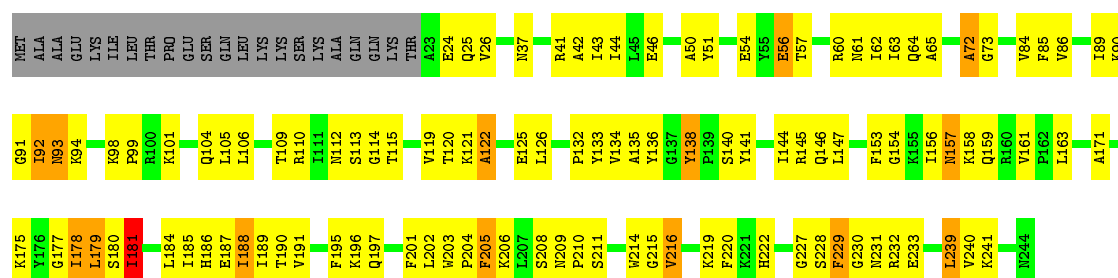




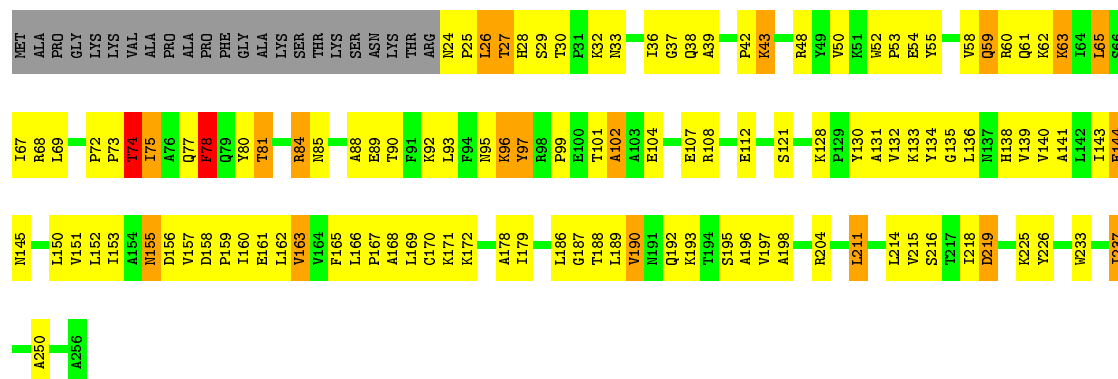
- Molecule 8: EL6



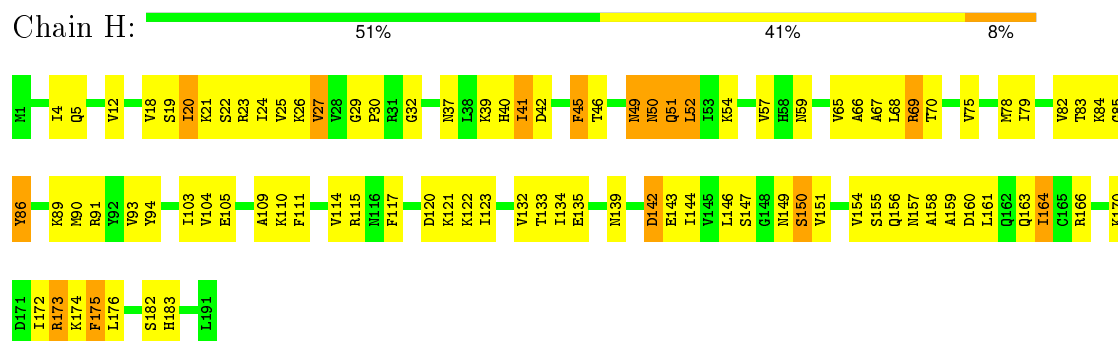
- Molecule 9: UL30



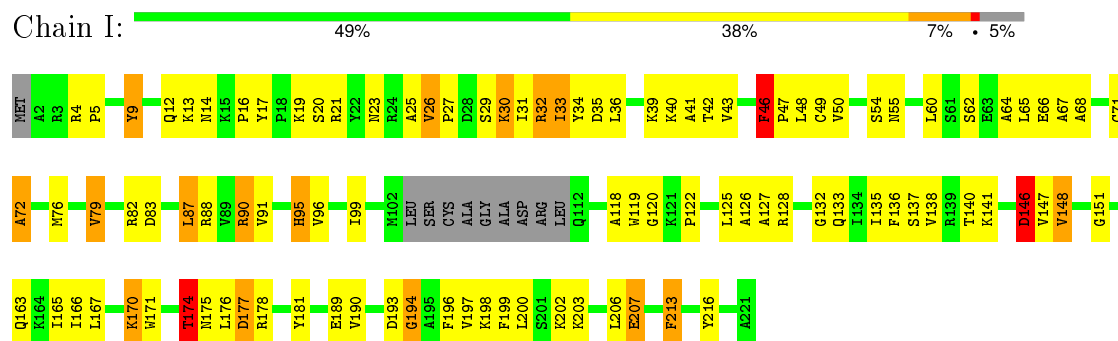
- Molecule 10: EL8



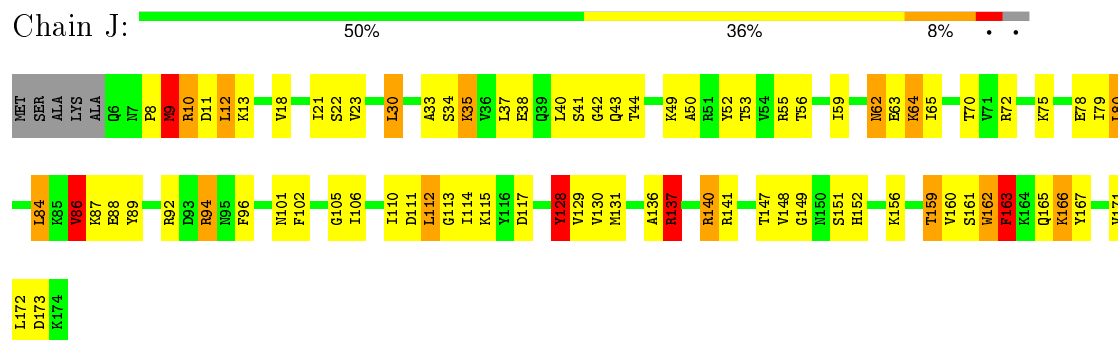
- Molecule 11: UL6



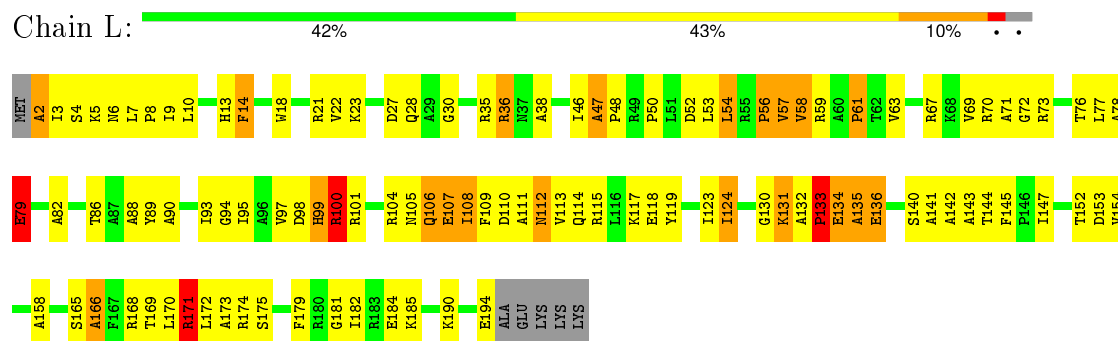
- Molecule 12: UL16



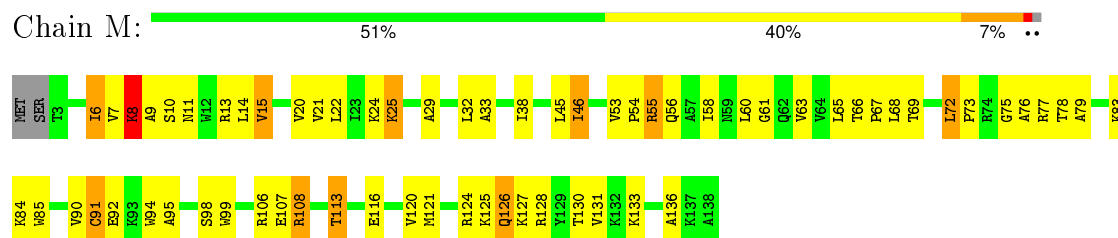
- Molecule 13: UL5



- Molecule 14: EL13

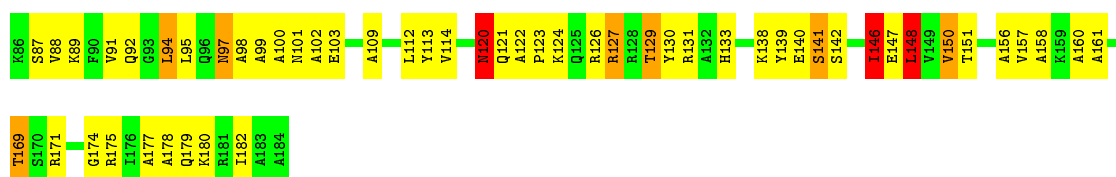


- Molecule 15: EL14



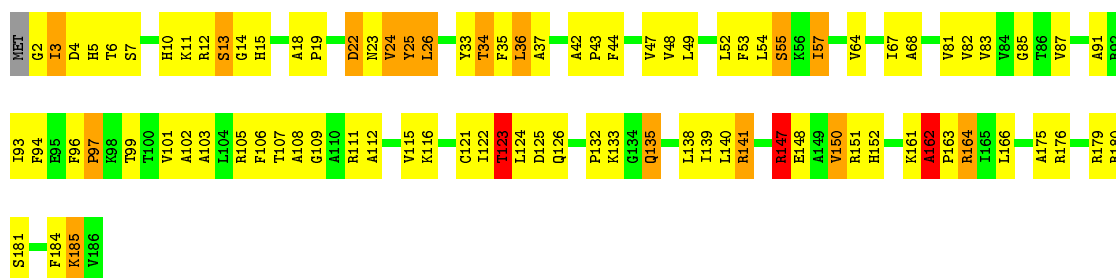
- Molecule 16: EL15





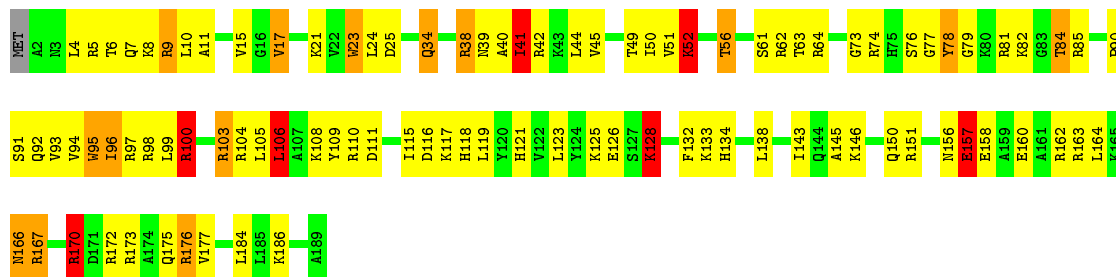
• Molecule 19: EL18

Chain Q: 51% 39% 9% ..



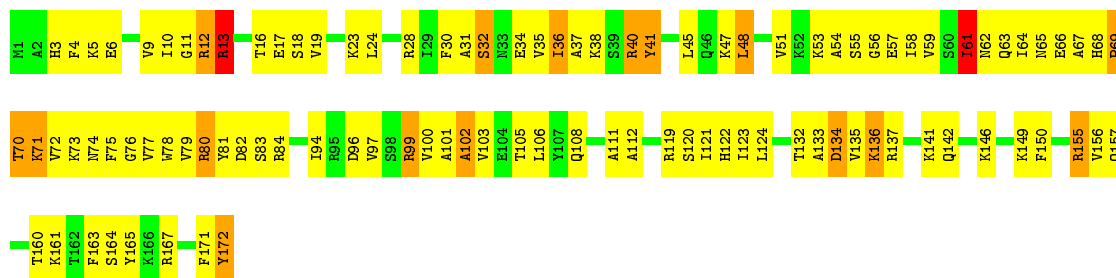
• Molecule 20: EL19

Chain R: 49% 40% 7% ..



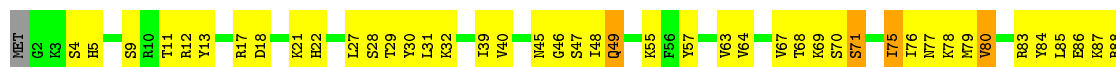
• Molecule 21: EL20

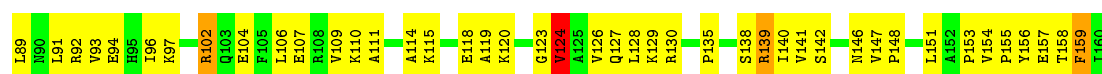
Chain S: 41% 49% 9% .



• Molecule 22: EL21

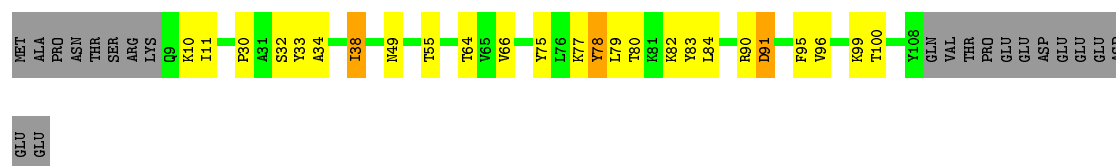
Chain T: 45% 49% ..





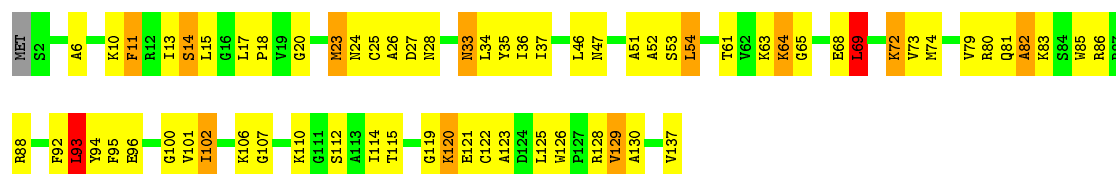
- Molecule 23: EL22

Chain U: 62% 18% 17%



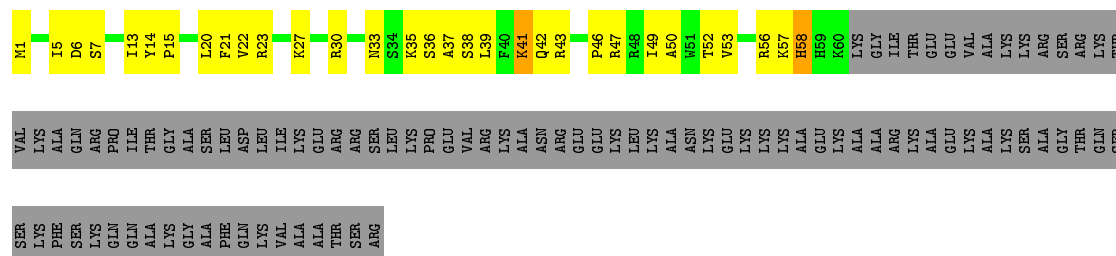
- Molecule 24: UL14

Chain V: 50% 40% 8%



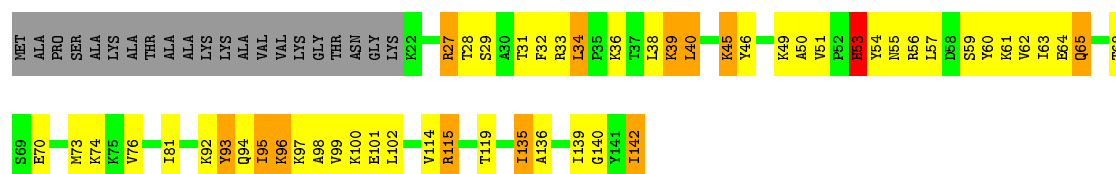
- Molecule 25: EL24

Chain W: 19% 19% 61%



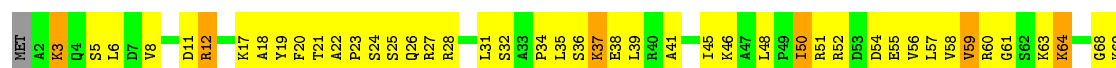
- Molecule 26: UL23

Chain X: 48% 28% 8% 15%



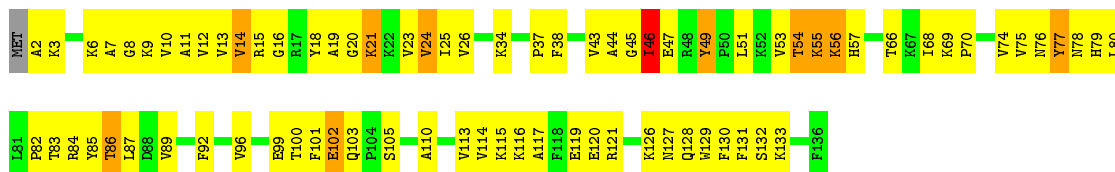
- Molecule 27: UL24

Chain Y: 43% 49% 7%

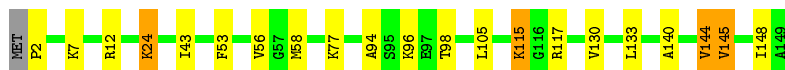
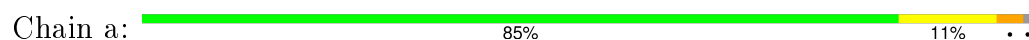




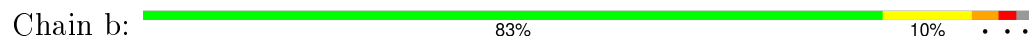
- Molecule 28: EL27



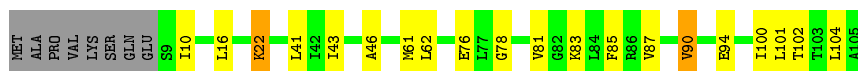
- Molecule 29: UL15



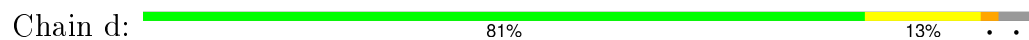
- Molecule 30: EL29



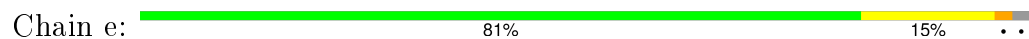
- Molecule 31: EL30



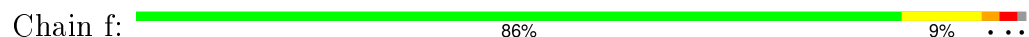
- Molecule 32: EL31

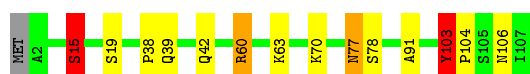


- Molecule 33: EL32

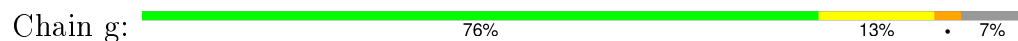


- Molecule 34: EL33

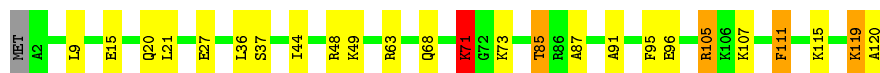
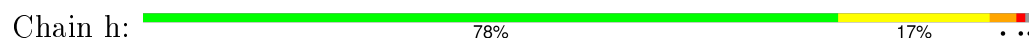




• Molecule 35: EL34



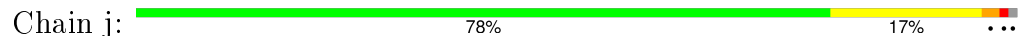
• Molecule 36: UL29



• Molecule 37: EL36



• Molecule 38: EL37



• Molecule 39: EL38

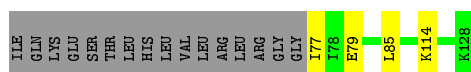


• Molecule 40: EL39



• Molecule 41: EL40

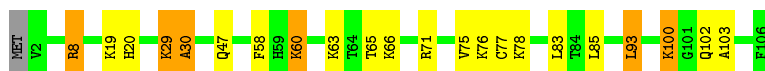
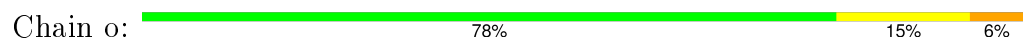




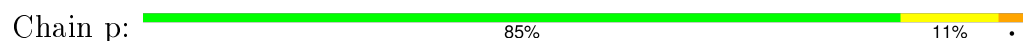
- Molecule 42: EL41



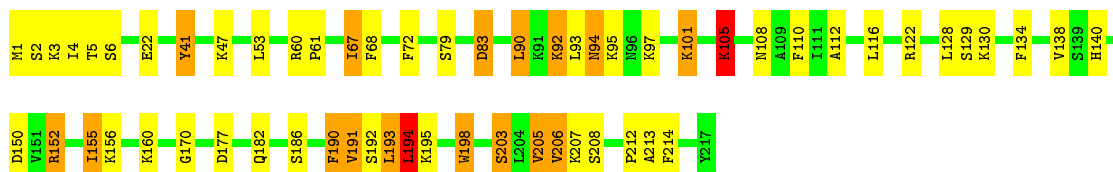
- Molecule 43: EL42



- Molecule 44: EL43



- Molecule 45: UL1



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	EACH PARTICLE	Depositor
Microscope	OTHER	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1.8	Depositor
Maximum defocus (nm)	3	Depositor
Magnification	47000	Depositor
Image detector	FEI FALCON II (4KX4K)	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	1	0.86	28/76106 (0.0%)	1.13	1805/117228 (1.5%)
10	G	0.35	0/1771	0.89	16/2286 (0.7%)
11	H	0.36	0/1493	0.89	12/1935 (0.6%)
12	I	0.75	1/1690 (0.1%)	0.88	12/2182 (0.5%)
13	J	0.35	0/1339	0.92	10/1737 (0.6%)
14	L	0.82	1/1518 (0.1%)	0.98	16/1956 (0.8%)
15	M	0.32	0/1040	0.77	4/1354 (0.3%)
16	N	0.35	0/1706	0.87	12/2201 (0.5%)
17	O	2.16	23/1577 (1.5%)	4.80	87/2104 (4.1%)
18	P	0.35	0/1400	0.91	13/1815 (0.7%)
19	Q	0.33	0/1417	0.96	12/1821 (0.7%)
2	3	0.27	0/2857	1.10	75/4387 (1.7%)
20	R	0.58	1/1492 (0.1%)	1.10	22/1912 (1.2%)
21	S	0.32	0/1435	0.88	10/1852 (0.5%)
22	T	0.33	0/1266	0.82	4/1641 (0.2%)
23	U	0.38	0/788	0.81	3/1027 (0.3%)
24	V	0.36	0/984	0.86	5/1267 (0.4%)
25	W	0.31	0/496	0.73	2/632 (0.3%)
26	X	0.30	0/957	0.76	5/1255 (0.4%)
27	Y	0.32	0/974	0.95	11/1251 (0.9%)
28	Z	0.38	0/1080	0.97	7/1383 (0.5%)
29	a	0.32	0/1163	0.82	8/1489 (0.5%)
3	4	1.27	3/3723 (0.1%)	1.19	101/5740 (1.8%)
30	b	0.31	0/456	0.94	4/578 (0.7%)
31	c	0.38	0/727	0.96	7/936 (0.7%)
32	d	0.32	0/867	0.81	4/1127 (0.4%)
33	e	0.32	0/1015	0.91	5/1316 (0.4%)
34	f	0.36	0/837	0.95	8/1075 (0.7%)
35	g	0.39	0/863	1.12	13/1108 (1.2%)
36	h	0.31	0/948	0.85	9/1211 (0.7%)
37	i	0.33	0/748	0.92	7/944 (0.7%)
38	j	0.37	0/674	0.97	8/857 (0.9%)
39	k	1.22	1/599 (0.2%)	0.93	6/769 (0.8%)
4	A	0.34	0/1881	0.90	15/2416 (0.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
40	l	0.39	0/431	1.01	6/552 (1.1%)
41	m	0.30	0/409	0.64	0/520
42	n	0.66	0/228	1.00	1/282 (0.4%)
43	o	0.37	0/843	0.99	10/1085 (0.9%)
44	p	0.36	0/684	0.86	5/883 (0.6%)
45	t	0.48	0/1692	1.11	24/2183 (1.1%)
5	B	0.38	0/3064	0.97	35/3982 (0.9%)
6	C	0.36	0/2721	0.90	19/3553 (0.5%)
7	D	0.38	0/2353	0.91	18/3055 (0.6%)
8	E	0.35	0/1233	0.88	9/1613 (0.6%)
9	F	0.35	0/1773	0.90	14/2307 (0.6%)
All	All	0.77	58/133318 (0.0%)	1.17	2479/192807 (1.3%)

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	1	103	0
10	G	6	0
11	H	5	0
12	I	4	0
13	J	3	0
14	L	6	1
15	M	2	0
16	N	2	0
17	O	3	16
18	P	5	0
19	Q	4	0
2	3	1	0
20	R	13	0
21	S	5	0
22	T	6	0
24	V	3	0
25	W	2	0
26	X	2	0
27	Y	4	0
28	Z	2	0
29	a	3	0
3	4	4	0
30	b	2	0

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Mol	Chain	#Chirality outliers	#Planarity outliers
31	c	3	0
32	d	3	0
33	e	2	0
34	f	4	2
35	g	4	0
36	h	4	0
37	i	2	0
38	j	3	1
4	A	7	0
40	l	3	0
43	o	7	0
44	p	1	0
45	t	8	5
5	B	11	3
6	C	11	3
7	D	6	0
8	E	3	0
9	F	5	0
All	All	277	31

All (58) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	41	G	O3'-P	49.28	2.20	1.61
1	1	1708	C	O3'-P	49.19	2.20	1.61
1	1	2361	A	O3'-P	49.04	2.19	1.61
1	1	554	A	O3'-P	48.77	2.19	1.61
1	1	968	G	O3'-P	48.44	2.19	1.61
1	1	1445	U	O3'-P	47.49	2.18	1.61
1	1	920	A	O3'-P	47.13	2.17	1.61
3	4	137	C	O3'-P	47.10	2.17	1.61
1	1	2812	C	O3'-P	46.76	2.17	1.61
1	1	1637	A	O3'-P	45.90	2.16	1.61
1	1	1162	U	O3'-P	45.53	2.15	1.61
1	1	1403	C	O3'-P	45.10	2.15	1.61
1	1	1390	A	O3'-P	44.84	2.15	1.61
1	1	268	A	O3'-P	44.83	2.15	1.61
1	1	2282	U	O3'-P	44.81	2.15	1.61
1	1	952	A	O3'-P	44.64	2.14	1.61
1	1	71	A	O3'-P	44.61	2.14	1.61
3	4	36	G	O3'-P	44.37	2.14	1.61
1	1	1101	G	O3'-P	43.53	2.13	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	1557	A	O3'-P	42.33	2.12	1.61
1	1	913	A	O3'-P	41.07	2.10	1.61
1	1	858	A	O3'-P	40.39	2.09	1.61
1	1	17	G	O3'-P	40.28	2.09	1.61
1	1	2965	U	O3'-P	40.14	2.09	1.61
3	4	41	A	O3'-P	39.01	2.08	1.61
17	O	143	THR	C-N	-38.07	0.46	1.34
1	1	1931	U	O3'-P	37.85	2.06	1.61
1	1	2116	G	O3'-P	36.70	2.05	1.61
1	1	47	C	O3'-P	35.27	2.03	1.61
1	1	2178	A	O3'-P	33.14	2.00	1.61
14	L	57	VAL	C-N	28.76	2.00	1.34
39	k	51	LEU	C-N	28.68	2.00	1.34
1	1	2881	C	O3'-P	28.24	1.95	1.61
12	I	95	HIS	C-N	27.47	1.97	1.34
17	O	171	LYS	C-N	26.25	1.94	1.34
17	O	67	THR	C-N	-25.71	0.74	1.34
17	O	74	ARG	C-N	-23.44	0.80	1.34
17	O	189	ASP	C-N	21.71	1.83	1.34
1	1	2355	G	O3'-P	21.57	1.87	1.61
17	O	80	PHE	C-N	20.90	1.82	1.34
17	O	167	TYR	C-N	19.53	1.78	1.34
17	O	153	VAL	C-N	-19.33	0.89	1.34
17	O	16	VAL	C-N	-17.86	1.00	1.33
17	O	128	ARG	C-N	16.18	1.71	1.34
17	O	193	GLN	C-N	-15.34	0.98	1.34
17	O	190	VAL	C-N	14.57	1.67	1.34
17	O	90	HIS	C-N	13.64	1.65	1.34
17	O	115	LYS	C-N	13.15	1.64	1.34
17	O	72	HIS	C-N	12.73	1.63	1.34
17	O	49	ARG	C-N	11.81	1.61	1.34
17	O	95	GLY	C-N	9.85	1.56	1.34
17	O	198	GLY	C-N	8.26	1.53	1.34
17	O	166	GLU	C-N	8.12	1.52	1.34
17	O	64	PHE	C-N	7.96	1.52	1.34
17	O	186	ALA	C-N	7.46	1.51	1.34
17	O	24	ALA	C-N	7.33	1.50	1.34
17	O	177	LYS	C-N	-6.73	1.18	1.34
20	R	163	ARG	C-O	5.69	1.34	1.23

All (2479) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	O	72	HIS	O-C-N	-63.40	21.26	122.70
17	O	186	ALA	O-C-N	-61.98	23.52	122.70
17	O	64	PHE	O-C-N	-60.21	26.36	122.70
17	O	129	LEU	O-C-N	-56.56	32.21	122.70
17	O	153	VAL	O-C-N	-52.15	39.27	122.70
17	O	125	ARG	O-C-N	-51.45	40.37	122.70
17	O	160	ARG	O-C-N	-48.19	45.60	122.70
17	O	67	THR	O-C-N	-46.06	49.00	122.70
17	O	16	VAL	O-C-N	-44.88	46.91	123.20
17	O	198	GLY	O-C-N	-43.77	52.67	122.70
17	O	145	VAL	O-C-N	-43.68	48.94	123.20
17	O	167	TYR	O-C-N	-43.47	53.15	122.70
1	1	554	A	P-O3'-C3'	42.05	170.16	119.70
17	O	177	LYS	O-C-N	-37.32	62.99	122.70
17	O	74	ARG	O-C-N	-30.22	74.35	122.70
17	O	177	LYS	CA-C-N	-27.08	57.63	117.20
17	O	143	THR	O-C-N	-26.41	80.44	122.70
17	O	90	HIS	C-N-CA	-25.84	57.09	121.70
1	1	920	A	P-O3'-C3'	25.05	149.75	119.70
17	O	128	ARG	C-N-CA	-21.26	68.56	121.70
17	O	84	LEU	CA-C-N	-20.25	72.65	117.20
1	1	858	A	P-O3'-C3'	19.89	143.56	119.70
17	O	36	VAL	O-C-N	-19.84	90.95	122.70
17	O	24	ALA	C-N-CA	-19.55	72.83	121.70
1	1	2116	G	P-O3'-C3'	19.35	142.92	119.70
17	O	84	LEU	O-C-N	-19.27	91.86	122.70
1	1	1557	A	P-O3'-C3'	19.20	142.73	119.70
17	O	171	LYS	O-C-N	18.88	152.91	122.70
17	O	16	VAL	CA-C-N	-18.64	78.92	116.20
1	1	2812	C	P-O3'-C3'	-18.13	97.95	119.70
17	O	128	ARG	O-C-N	16.91	149.75	122.70
1	1	1101	G	P-O3'-C3'	-16.63	99.75	119.70
17	O	190	VAL	O-C-N	-16.54	96.23	122.70
17	O	193	GLN	O-C-N	16.54	149.16	122.70
17	O	24	ALA	O-C-N	16.52	149.13	122.70
3	4	137	C	P-O3'-C3'	16.49	139.49	119.70
17	O	171	LYS	C-N-CA	-15.90	81.96	121.70
17	O	95	GLY	CA-C-N	-15.79	82.46	117.20
17	O	145	VAL	CA-C-N	-15.68	84.84	116.20
17	O	198	GLY	CA-C-N	-15.43	83.25	117.20
17	O	190	VAL	C-N-CA	-15.29	83.47	121.70
17	O	171	LYS	CA-C-N	-15.08	84.03	117.20
17	O	24	ALA	CA-C-N	-15.01	84.19	117.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	O	36	VAL	C-N-CA	-14.56	85.29	121.70
1	1	1162	U	P-O3'-C3'	-14.35	102.48	119.70
17	O	153	VAL	C-N-CA	-14.31	85.94	121.70
17	O	190	VAL	CA-C-N	-13.98	86.44	117.20
3	4	137	C	O3'-P-O5'	-13.82	77.73	104.00
17	O	193	GLN	CA-C-N	-13.76	86.92	117.20
17	O	84	LEU	C-N-CA	-13.75	87.31	121.70
17	O	128	ARG	CA-C-N	-13.60	87.28	117.20
17	O	189	ASP	CA-C-N	-13.23	88.09	117.20
17	O	36	VAL	CA-C-N	-13.22	88.11	117.20
17	O	129	LEU	CA-C-N	-13.14	88.30	117.20
17	O	74	ARG	C-N-CA	13.00	154.21	121.70
17	O	167	TYR	CA-C-N	-12.83	88.98	117.20
17	O	16	VAL	C-N-CA	-12.71	95.61	122.30
17	O	129	LEU	C-N-CA	-12.35	90.83	121.70
17	O	95	GLY	O-C-N	-12.32	102.99	122.70
17	O	125	ARG	C-N-CA	-12.00	91.69	121.70
17	O	49	ARG	O-C-N	11.94	141.81	122.70
17	O	125	ARG	CA-C-N	-11.94	90.94	117.20
1	1	2772	C	N1-C1'-C2'	11.49	128.94	114.00
1	1	2178	A	P-O3'-C3'	-11.47	105.94	119.70
1	1	387	A	C2'-C3'-O3'	11.32	134.40	109.50
1	1	2731	U	C2'-C3'-O3'	11.28	134.32	109.50
17	O	74	ARG	CA-C-N	11.20	141.83	117.20
17	O	49	ARG	CA-C-N	-11.19	92.58	117.20
3	4	10	A	C2'-C3'-O3'	11.18	134.10	109.50
1	1	1493	G	C4'-C3'-O3'	11.09	135.18	113.00
1	1	3368	U	N1-C1'-C2'	11.06	128.37	114.00
1	1	3292	A	C2'-C3'-O3'	11.01	133.73	109.50
1	1	2881	C	OP2-P-O3'	11.00	129.41	105.20
17	O	80	PHE	CA-C-N	-10.99	93.03	117.20
17	O	189	ASP	O-C-N	-10.87	105.31	122.70
17	O	80	PHE	O-C-N	-10.80	105.41	122.70
1	1	2659	G	C2'-C3'-O3'	10.75	133.16	109.50
1	1	2655	U	C2'-C3'-O3'	10.75	133.14	109.50
1	1	167	U	C2'-C3'-O3'	10.70	133.03	109.50
1	1	1303	A	C4'-C3'-O3'	10.69	134.38	113.00
1	1	2116	G	O3'-P-O5'	-10.68	83.70	104.00
1	1	549	U	N1-C1'-C2'	10.64	127.83	114.00
44	p	37	TYR	CD1-CE1-CZ	10.60	129.34	119.80
5	B	123	TYR	CD1-CE1-CZ	10.56	129.31	119.80
17	O	160	ARG	CA-C-N	10.53	140.36	117.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2288	G	C2'-C3'-O3'	10.49	132.58	109.50
1	1	763	G	C2'-C3'-O3'	10.46	132.51	109.50
1	1	2965	U	P-O3'-C3'	10.46	132.25	119.70
7	D	12	TYR	CZ-CE2-CD2	10.33	129.09	119.80
17	O	64	PHE	CA-C-N	-10.31	94.52	117.20
5	B	314	TYR	CD1-CE1-CZ	10.31	129.08	119.80
1	1	1524	A	N9-C1'-C2'	10.29	127.38	114.00
10	G	97	TYR	CZ-CE2-CD2	10.29	129.06	119.80
11	H	86	TYR	CD1-CE1-CZ	10.29	129.06	119.80
17	O	186	ALA	CA-C-N	10.29	139.83	117.20
20	R	78	TYR	CZ-CE2-CD2	10.27	129.04	119.80
17	O	143	THR	C-N-CA	10.26	147.36	121.70
18	P	47	TYR	CZ-CE2-CD2	10.25	129.02	119.80
1	1	2355	G	OP2-P-O3'	10.23	127.71	105.20
1	1	1673	G	C2'-C3'-O3'	10.23	132.00	109.50
7	D	99	TYR	CZ-CE2-CD2	10.20	128.98	119.80
1	1	424	G	C2'-C3'-O3'	10.19	131.92	109.50
1	1	3242	G	C2'-C3'-O3'	10.14	131.81	109.50
1	1	3116	G	N9-C1'-C2'	10.14	127.18	114.00
16	N	148	TYR	CZ-CE2-CD2	10.11	128.90	119.80
35	g	13	TYR	CZ-CE2-CD2	10.06	128.85	119.80
1	1	1351	U	C2'-C3'-O3'	10.05	131.61	109.50
1	1	917	A	C2'-C3'-O3'	10.03	131.55	109.50
1	1	2511	C	N1-C1'-C2'	9.97	126.96	114.00
1	1	702	C	C2'-C3'-O3'	9.95	131.38	109.50
1	1	2139	A	C2'-C3'-O3'	9.94	131.37	109.50
1	1	244	G	C2'-C3'-O3'	9.93	131.35	109.50
1	1	2156	C	C4'-C3'-O3'	9.92	132.84	113.00
1	1	1859	A	C2'-C3'-O3'	9.91	131.31	109.50
1	1	3205	G	N9-C1'-C2'	9.91	126.89	114.00
1	1	2298	U	N1-C1'-C2'	9.85	126.80	114.00
17	O	54	TYR	CG-CD2-CE2	9.84	129.17	121.30
1	1	368	G	C2'-C3'-O3'	9.69	130.81	109.50
1	1	1425	U	C2'-C3'-O3'	9.68	130.80	109.50
1	1	1578	C	C2'-C3'-O3'	9.64	130.72	109.50
1	1	2130	G	C2'-C3'-O3'	9.64	130.71	109.50
3	4	121	U	N1-C1'-C2'	9.61	126.50	114.00
1	1	1363	A	C2'-C3'-O3'	9.61	130.63	109.50
1	1	2643	A	C2'-C3'-O3'	9.61	130.63	109.50
17	O	193	GLN	C-N-CA	-9.57	97.78	121.70
1	1	115	A	C2'-C3'-O3'	9.52	130.43	109.50
1	1	2569	A	N9-C1'-C2'	9.50	126.35	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2206	G	N9-C1'-C2'	9.48	126.33	114.00
1	1	2881	C	O3'-P-O5'	-9.47	86.00	104.00
1	1	1906	G	C2'-C3'-O3'	9.46	130.30	109.50
2	3	49	G	N9-C1'-C2'	9.46	126.29	114.00
3	4	137	C	OP2-P-O3'	9.42	125.93	105.20
1	1	1107	C	N1-C1'-C2'	9.41	126.23	114.00
1	1	835	G	C2'-C3'-O3'	9.38	130.14	109.50
1	1	1637	A	O3'-P-O5'	-9.31	86.31	104.00
1	1	2812	C	OP2-P-O3'	9.28	125.62	105.20
1	1	1056	U	C4'-C3'-O3'	9.26	131.53	113.00
1	1	511	G	N9-C1'-C2'	9.26	126.04	114.00
1	1	845	G	C2'-C3'-O3'	9.25	129.84	109.50
17	O	115	LYS	C-N-CA	-9.18	98.76	121.70
1	1	1429	G	N9-C1'-C2'	9.16	125.91	114.00
1	1	1637	A	OP1-P-O3'	9.16	125.35	105.20
1	1	3221	C	C2'-C3'-O3'	9.16	129.65	109.50
1	1	1582	C	C2'-C3'-O3'	9.12	129.56	109.50
28	Z	77	TYR	CG-CD2-CE2	9.06	128.54	121.30
1	1	920	A	OP2-P-O3'	-9.04	85.30	105.20
1	1	1560	G	C2'-C3'-O3'	9.04	129.39	109.50
1	1	677	A	N9-C1'-C2'	9.03	125.74	114.00
1	1	936	A	C2'-C3'-O3'	9.02	129.34	109.50
23	U	75	TYR	CG-CD2-CE2	8.97	128.48	121.30
1	1	1275	C	N1-C1'-C2'	8.95	125.63	114.00
1	1	2152	A	C2'-C3'-O3'	8.94	129.18	109.50
1	1	2696	A	C2'-C3'-O3'	8.94	129.16	109.50
1	1	2955	U	C2'-C3'-O3'	8.94	129.16	109.50
1	1	1270	A	C2'-C3'-O3'	8.93	129.14	109.50
1	1	765	C	C2'-C3'-O3'	8.93	129.14	109.50
1	1	1708	C	P-O3'-C3'	-8.92	109.00	119.70
2	3	4	U	C2'-C3'-O3'	8.90	129.08	109.50
1	1	1184	A	C2'-C3'-O3'	8.89	129.06	109.50
9	F	138	TYR	CG-CD1-CE1	8.89	128.41	121.30
1	1	1117	G	C2'-C3'-O3'	8.88	129.05	109.50
1	1	2939	G	C2'-C3'-O3'	8.84	128.95	109.50
1	1	520	U	N1-C1'-C2'	8.84	125.49	114.00
1	1	844	G	C2'-C3'-O3'	8.83	128.93	109.50
1	1	894	G	C2'-C3'-O3'	8.83	128.92	109.50
28	Z	49	TYR	CG-CD2-CE2	8.82	128.36	121.30
1	1	1323	G	C2'-C3'-O3'	8.82	128.90	109.50
45	t	41	TYR	CG-CD1-CE1	8.82	128.35	121.30
1	1	726	G	C2'-C3'-O3'	8.81	128.88	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2625	C	C4'-C3'-O3'	8.81	130.61	113.00
1	1	1572	U	C2'-C3'-O3'	8.77	128.78	109.50
1	1	1882	G	C2'-C3'-O3'	8.76	128.77	109.50
1	1	3184	A	C2'-C3'-O3'	8.76	128.76	109.50
1	1	132	C	C2'-C3'-O3'	8.75	128.75	109.50
1	1	1464	G	C2'-C3'-O3'	8.75	128.75	109.50
1	1	2798	C	C2'-C3'-O3'	8.74	128.72	109.50
17	O	64	PHE	C-N-CA	-8.74	99.86	121.70
1	1	739	G	C4'-C3'-O3'	8.73	130.47	113.00
35	g	13	TYR	CG-CD1-CE1	8.73	128.28	121.30
1	1	413	U	C2'-C3'-O3'	8.72	128.69	109.50
1	1	3390	G	C2'-C3'-O3'	8.72	128.68	109.50
1	1	1027	A	C2'-C3'-O3'	8.71	128.66	109.50
1	1	1282	G	C2'-C3'-O3'	8.71	128.66	109.50
1	1	1353	U	N1-C1'-C2'	8.71	125.32	114.00
1	1	427	C	C2'-C3'-O3'	8.70	128.64	109.50
1	1	831	G	C2'-C3'-O3'	8.69	128.62	109.50
1	1	2453	C	N1-C1'-C2'	8.67	125.27	114.00
3	4	98	U	C2'-C3'-O3'	8.67	128.57	109.50
1	1	3228	C	N1-C1'-C2'	8.66	125.26	114.00
1	1	542	G	C2'-C3'-O3'	8.66	128.56	109.50
1	1	2096	A	N9-C1'-C2'	8.66	125.26	114.00
17	O	95	GLY	C-N-CA	-8.65	100.07	121.70
1	1	664	U	N1-C1'-C2'	8.64	125.24	114.00
1	1	3389	U	C2'-C3'-O3'	8.64	128.50	109.50
1	1	3071	U	C2'-C3'-O3'	8.62	128.46	109.50
1	1	3266	G	N9-C1'-C2'	8.62	125.20	114.00
1	1	2116	G	OP1-P-O3'	8.62	124.15	105.20
1	1	2505	U	N1-C1'-C2'	8.61	125.19	114.00
1	1	1106	G	C4'-C3'-O3'	8.61	130.22	113.00
1	1	1367	G	N9-C1'-C2'	8.61	125.19	114.00
1	1	2501	U	N1-C1'-C2'	8.59	125.17	114.00
1	1	996	A	C2'-C3'-O3'	8.59	128.39	109.50
5	B	272	TYR	CG-CD2-CE2	8.59	128.17	121.30
17	O	153	VAL	CA-C-N	-8.58	98.32	117.20
1	1	297	G	N9-C1'-C2'	8.58	125.15	114.00
3	4	71	A	N9-C1'-C2'	8.57	125.14	114.00
1	1	320	G	C2'-C3'-O3'	8.56	128.34	109.50
17	O	143	THR	CA-C-N	8.56	136.04	117.20
1	1	2240	G	C2'-C3'-O3'	8.54	128.30	109.50
1	1	3119	U	C2'-C3'-O3'	8.54	128.29	109.50
1	1	920	A	O3'-P-O5'	8.53	120.21	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	832	G	C2'-C3'-O3'	8.53	128.26	109.50
1	1	2178	A	OP2-P-O3'	-8.51	86.47	105.20
1	1	3061	G	C2'-C3'-O3'	8.51	128.23	109.50
1	1	3304	U	C2'-C3'-O3'	8.50	128.21	109.50
1	1	1623	G	C2'-C3'-O3'	8.50	128.20	109.50
1	1	2734	A	C2'-C3'-O3'	8.50	128.19	109.50
1	1	1568	U	N1-C1'-C2'	8.49	125.04	114.00
1	1	1926	C	N1-C1'-C2'	8.49	125.04	114.00
1	1	335	G	C4'-C3'-O3'	8.49	129.98	113.00
1	1	1086	C	C2'-C3'-O3'	8.49	128.18	109.50
1	1	91	G	C5'-C4'-O4'	8.48	119.28	109.10
1	1	981	U	C2'-C3'-O3'	8.48	128.16	109.50
1	1	273	A	C2'-C3'-O3'	8.48	128.15	109.50
1	1	1547	G	C2'-C3'-O3'	8.48	128.15	109.50
1	1	2947	G	C2'-C3'-O3'	8.48	128.15	109.50
3	4	91	C	C2'-C3'-O3'	8.47	128.14	109.50
1	1	932	U	N1-C1'-C2'	8.47	125.02	114.00
1	1	282	G	C2'-C3'-O3'	8.46	128.12	109.50
1	1	181	U	N1-C1'-C2'	8.45	124.98	114.00
1	1	598	A	C2'-C3'-O3'	8.45	128.08	109.50
1	1	2933	A	C2'-C3'-O3'	8.45	128.08	109.50
3	4	120	C	C2'-C3'-O3'	8.44	128.07	109.50
23	U	78	TYR	CG-CD1-CE1	8.44	128.05	121.30
1	1	2158	A	C2'-C3'-O3'	8.44	128.06	109.50
17	O	72	HIS	C-N-CA	-8.44	100.61	121.70
1	1	1367	G	C2'-C3'-O3'	8.43	128.04	109.50
1	1	1463	U	C2'-C3'-O3'	8.43	128.03	109.50
1	1	1203	A	C2'-C3'-O3'	8.42	128.01	109.50
1	1	2450	A	N9-C1'-C2'	8.41	124.93	114.00
1	1	2507	U	C2'-C3'-O3'	8.41	127.99	109.50
1	1	3122	A	C2'-C3'-O3'	8.41	128.00	109.50
2	3	13	A	N9-C1'-C2'	8.40	124.92	114.00
1	1	3291	G	C2'-C3'-O3'	8.40	127.97	109.50
1	1	1289	G	C2'-C3'-O3'	8.39	127.97	109.50
1	1	3241	G	C2'-C3'-O3'	8.39	127.96	109.50
1	1	1652	G	C2'-C3'-O3'	8.38	127.94	109.50
1	1	331	G	C2'-C3'-O3'	8.38	127.94	109.50
1	1	1838	G	C2'-C3'-O3'	8.38	127.94	109.50
1	1	637	C	C2'-C3'-O3'	8.37	127.91	109.50
1	1	879	U	N1-C1'-C2'	8.36	124.87	114.00
1	1	914	A	C2'-C3'-O3'	8.36	127.88	109.50
1	1	1918	C	N1-C1'-C2'	8.36	124.86	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2501	U	C2'-C3'-O3'	8.35	127.87	109.50
1	1	250	U	C2'-C3'-O3'	8.35	127.87	109.50
1	1	2661	G	C2'-C3'-O3'	8.34	127.85	109.50
17	O	47	PHE	CG-CD1-CE1	8.34	129.97	120.80
1	1	25	U	C2'-C3'-O3'	8.34	127.84	109.50
1	1	2686	A	C2'-C3'-O3'	8.34	127.84	109.50
1	1	3107	U	C2'-C3'-O3'	8.33	127.83	109.50
1	1	3313	U	C2'-C3'-O3'	8.33	127.83	109.50
1	1	1228	C	N1-C1'-C2'	8.32	124.81	114.00
1	1	760	G	N9-C1'-C2'	8.31	124.81	114.00
1	1	2784	G	C2'-C3'-O3'	8.31	127.79	109.50
1	1	1484	U	C2'-C3'-O3'	8.30	127.77	109.50
1	1	1257	C	C2'-C3'-O3'	8.30	127.76	109.50
1	1	276	U	C2'-C3'-O3'	8.30	127.75	109.50
1	1	2342	U	C4'-C3'-O3'	8.29	129.58	113.00
1	1	541	U	C2'-C3'-O3'	8.28	127.71	109.50
1	1	109	A	N9-C1'-C2'	8.27	124.76	114.00
1	1	632	G	N9-C1'-C2'	8.27	124.76	114.00
1	1	225	C	C2'-C3'-O3'	8.27	127.70	109.50
1	1	2758	A	N9-C1'-C2'	8.26	124.74	114.00
1	1	127	G	C2'-C3'-O3'	8.26	127.67	109.50
1	1	1488	G	C5'-C4'-O4'	8.26	119.01	109.10
1	1	1889	G	N9-C1'-C2'	8.26	124.74	114.00
1	1	1020	G	C2'-C3'-O3'	8.25	127.65	109.50
1	1	2650	U	C2'-C3'-O3'	8.25	127.65	109.50
1	1	1156	C	C2'-C3'-O3'	8.24	127.63	109.50
1	1	1462	A	C2'-C3'-O3'	8.24	127.62	109.50
1	1	345	G	C2'-C3'-O3'	8.23	127.61	109.50
1	1	2906	C	C2'-C3'-O3'	8.23	127.61	109.50
1	1	2368	A	C2'-C3'-O3'	8.22	127.59	109.50
1	1	1393	A	C2'-C3'-O3'	8.22	127.58	109.50
1	1	9	U	C2'-C3'-O3'	8.20	127.55	109.50
1	1	218	G	N9-C1'-C2'	8.21	124.67	114.00
1	1	2331	C	C2'-C3'-O3'	8.21	127.55	109.50
1	1	1151	U	N1-C1'-C2'	8.20	124.66	114.00
1	1	1812	G	N9-C1'-C2'	8.20	124.66	114.00
1	1	322	U	C2'-C3'-O3'	8.20	127.53	109.50
1	1	3119	U	C4'-C3'-O3'	8.20	129.39	113.00
1	1	1825	G	C2'-C3'-O3'	8.19	127.52	109.50
1	1	1422	G	C2'-C3'-O3'	8.19	127.51	109.50
1	1	1885	U	N1-C1'-C2'	8.19	124.64	114.00
1	1	2593	A	C2'-C3'-O3'	8.18	127.49	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	551	A	C2'-C3'-O3'	8.18	127.49	109.50
1	1	993	G	C2'-C3'-O3'	8.17	127.48	109.50
1	1	1024	G	C2'-C3'-O3'	8.17	127.48	109.50
1	1	2136	C	C2'-C3'-O3'	8.17	127.48	109.50
1	1	1451	C	C2'-C3'-O3'	8.17	127.47	109.50
17	O	189	ASP	C-N-CA	-8.17	101.28	121.70
1	1	1698	C	C2'-C3'-O3'	8.17	127.47	109.50
1	1	1043	C	C4'-C3'-O3'	8.16	129.32	113.00
1	1	1013	G	C2'-C3'-O3'	8.15	127.43	109.50
1	1	2513	U	C2'-C3'-O3'	8.15	127.42	109.50
1	1	589	A	N9-C1'-C2'	8.14	124.58	114.00
1	1	121	A	N9-C1'-C2'	8.14	124.58	114.00
3	4	41	A	OP1-P-O3'	8.13	123.10	105.20
1	1	2765	C	C2'-C3'-O3'	8.13	127.39	109.50
1	1	850	U	N1-C1'-C2'	8.13	124.57	114.00
1	1	3290	G	C2'-C3'-O3'	8.13	127.39	109.50
2	3	40	C	N1-C1'-C2'	8.12	124.55	114.00
1	1	1773	C	C2'-C3'-O3'	8.12	127.36	109.50
1	1	321	C	N1-C1'-C2'	8.11	124.54	114.00
3	4	53	A	C2'-C3'-O3'	8.11	127.34	109.50
1	1	1459	C	C2'-C3'-O3'	8.11	127.34	109.50
1	1	3200	G	C2'-C3'-O3'	8.11	127.34	109.50
1	1	301	G	C2'-C3'-O3'	8.11	127.33	109.50
1	1	994	G	N9-C1'-C2'	8.11	124.54	114.00
3	4	42	G	C2'-C3'-O3'	8.10	127.33	109.50
1	1	1033	U	N1-C1'-C2'	8.10	124.53	114.00
1	1	1600	U	C2'-C3'-O3'	8.09	127.30	109.50
1	1	1816	A	C2'-C3'-O3'	8.09	127.30	109.50
1	1	1025	A	N9-C1'-C2'	8.09	124.51	114.00
31	c	90	VAL	CG1-CB-CG2	8.08	123.83	110.90
1	1	2921	U	C2'-C3'-O3'	8.08	127.27	109.50
1	1	1686	U	C2'-C3'-O3'	8.08	127.27	109.50
1	1	769	G	N9-C1'-C2'	8.07	124.50	114.00
1	1	1629	U	C2'-C3'-O3'	8.07	127.26	109.50
1	1	2773	C	N1-C1'-C2'	8.07	124.49	114.00
1	1	3163	A	C2'-C3'-O3'	8.07	127.25	109.50
1	1	2406	C	C2'-C3'-O3'	8.06	127.24	109.50
1	1	2505	U	C2'-C3'-O3'	8.06	127.24	109.50
1	1	1349	G	C2'-C3'-O3'	8.06	127.23	109.50
1	1	1817	G	C2'-C3'-O3'	8.06	127.23	109.50
1	1	536	U	N1-C1'-C2'	8.05	124.47	114.00
1	1	722	G	C2'-C3'-O3'	8.06	127.22	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1562	C	C2'-C3'-O3'	8.04	127.19	109.50
1	1	862	U	C2'-C3'-O3'	8.04	127.19	109.50
1	1	3104	U	C2'-C3'-O3'	8.04	127.19	109.50
1	1	3246	G	N9-C1'-C2'	8.04	124.45	114.00
1	1	3216	G	C4'-C3'-O3'	8.02	129.05	113.00
1	1	2195	C	C2'-C3'-O3'	8.02	127.14	109.50
1	1	552	G	C2'-C3'-O3'	8.01	127.12	109.50
3	4	44	A	N9-C1'-C2'	8.01	124.41	114.00
1	1	1375	G	C2'-C3'-O3'	8.01	127.11	109.50
1	1	1153	A	C2'-C3'-O3'	8.00	127.10	109.50
1	1	3349	C	C2'-C3'-O3'	8.00	127.09	109.50
1	1	1640	G	N9-C1'-C2'	7.99	124.39	114.00
1	1	1838	G	C4'-C3'-O3'	7.99	128.99	113.00
1	1	2403	G	N9-C1'-C2'	7.99	124.39	114.00
1	1	2416	U	N1-C1'-C2'	7.98	124.38	114.00
1	1	3162	C	C2'-C3'-O3'	7.98	127.05	109.50
1	1	109	A	C4'-C3'-O3'	7.98	128.95	113.00
1	1	3256	G	N9-C1'-C2'	7.97	124.36	114.00
1	1	673	U	C2'-C3'-O3'	7.96	127.02	109.50
1	1	2304	C	C2'-C3'-O3'	7.96	127.02	109.50
1	1	2667	A	C2'-C3'-O3'	7.95	127.00	109.50
1	1	3066	U	N1-C1'-C2'	7.95	124.34	114.00
1	1	1620	U	C2'-C3'-O3'	7.95	126.99	109.50
1	1	1764	U	N1-C1'-C2'	7.94	124.32	114.00
1	1	3335	A	C2'-C3'-O3'	7.94	126.97	109.50
1	1	2607	G	C2'-C3'-O3'	7.93	126.95	109.50
1	1	920	A	N9-C1'-C2'	7.93	124.31	114.00
1	1	2137	U	N1-C1'-C2'	7.93	124.31	114.00
1	1	3099	C	C2'-C3'-O3'	7.92	126.93	109.50
2	3	44	C	C2'-C3'-O3'	7.92	126.93	109.50
1	1	794	U	N1-C1'-C2'	7.92	124.29	114.00
3	4	158	U	N1-C1'-C2'	7.92	124.29	114.00
1	1	2836	C	C2'-C3'-O3'	7.92	126.91	109.50
1	1	419	G	C2'-C3'-O3'	7.91	126.91	109.50
1	1	778	U	C2'-C3'-O3'	7.90	126.88	109.50
1	1	3285	C	C2'-C3'-O3'	7.90	126.88	109.50
1	1	2465	G	C2'-C3'-O3'	7.89	126.87	109.50
1	1	2960	C	C2'-C3'-O3'	7.89	126.86	109.50
1	1	2361	A	OP1-P-O3'	7.89	122.56	105.20
2	3	53	U	C2'-C3'-O3'	7.89	126.85	109.50
3	4	51	G	N9-C1'-C2'	7.88	124.25	114.00
1	1	2671	A	N9-C1'-C2'	7.88	124.25	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	322	U	C4'-C3'-O3'	7.88	128.75	113.00
1	1	366	A	C2'-C3'-O3'	7.88	126.82	109.50
1	1	913	A	O3'-P-O5'	7.88	118.96	104.00
1	1	2552	C	C2'-C3'-O3'	7.88	126.82	109.50
1	1	806	A	N9-C1'-C2'	7.87	124.24	114.00
1	1	3165	A	C2'-C3'-O3'	7.87	126.82	109.50
3	4	116	G	C2'-C3'-O3'	7.86	126.80	109.50
14	L	112	ASN	N-CA-C	7.86	132.23	111.00
1	1	2220	A	C2'-C3'-O3'	7.86	126.79	109.50
1	1	1691	U	C2'-C3'-O3'	7.86	126.78	109.50
1	1	1799	A	C2'-C3'-O3'	7.86	126.78	109.50
45	t	134	PHE	CD1-CE1-CZ	7.85	129.52	120.10
45	t	68	PHE	CZ-CE2-CD2	7.85	129.52	120.10
1	1	1479	U	N1-C1'-C2'	7.85	124.20	114.00
1	1	2159	U	C4'-C3'-O3'	7.85	128.69	113.00
1	1	65	A	C2'-C3'-O3'	7.85	126.76	109.50
1	1	2511	C	C2'-C3'-O3'	7.84	126.76	109.50
1	1	3084	C	N1-C1'-C2'	7.84	124.20	114.00
1	1	2094	C	N1-C1'-C2'	7.84	124.20	114.00
1	1	873	C	C4'-C3'-O3'	7.84	128.68	113.00
1	1	3326	G	C2'-C3'-O3'	7.84	126.75	109.50
1	1	573	C	C2'-C3'-O3'	7.84	126.75	109.50
1	1	1254	C	N1-C1'-C2'	7.84	124.19	114.00
1	1	902	G	C2'-C3'-O3'	7.83	126.73	109.50
1	1	1554	U	N1-C1'-C2'	7.82	124.17	114.00
1	1	373	A	C2'-C3'-O3'	7.82	126.70	109.50
1	1	1403	C	P-O3'-C3'	-7.82	110.32	119.70
1	1	1466	G	N9-C1'-C2'	7.82	124.16	114.00
19	Q	96	PHE	CZ-CE2-CD2	7.82	129.48	120.10
1	1	1224	C	C2'-C3'-O3'	7.81	126.68	109.50
1	1	190	U	C2'-C3'-O3'	7.81	126.67	109.50
1	1	1112	A	N9-C1'-C2'	7.80	124.14	114.00
1	1	862	U	N1-C1'-C2'	7.79	124.13	114.00
1	1	3362	A	C2'-C3'-O3'	7.79	126.64	109.50
1	1	2468	A	C2'-C3'-O3'	7.78	126.61	109.50
2	3	34	C	C2'-C3'-O3'	7.78	126.61	109.50
12	I	213	PHE	CZ-CE2-CD2	7.78	129.43	120.10
45	t	72	PHE	CD1-CE1-CZ	7.78	129.43	120.10
1	1	2987	A	C2'-C3'-O3'	7.78	126.61	109.50
1	1	1031	C	C2'-C3'-O3'	7.77	126.60	109.50
1	1	169	U	N1-C1'-C2'	7.77	124.10	114.00
1	1	28	C	C2'-C3'-O3'	7.76	126.58	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	G	78	PHE	CD1-CE1-CZ	7.76	129.41	120.10
1	1	2340	U	N1-C1'-C2'	7.76	124.08	114.00
1	1	1430	U	N1-C1'-C2'	7.76	124.08	114.00
1	1	3054	U	C2'-C3'-O3'	7.76	126.56	109.50
1	1	87	U	N1-C1'-C2'	7.75	124.08	114.00
1	1	411	U	C5'-C4'-O4'	7.75	118.40	109.10
1	1	3186	A	N9-C1'-C2'	7.75	124.07	114.00
21	S	61	ILE	CG1-CB-CG2	7.74	128.44	111.40
26	X	142	ILE	CG1-CB-CG2	7.74	128.43	111.40
1	1	2948	C	C2'-C3'-O3'	7.73	126.51	109.50
1	1	3037	U	C2'-C3'-O3'	7.73	126.51	109.50
1	1	583	G	N9-C1'-C2'	7.73	124.05	114.00
1	1	2311	G	C2'-C3'-O3'	7.73	126.50	109.50
1	1	3323	A	C2'-C3'-O3'	7.72	126.49	109.50
1	1	2699	G	C2'-C3'-O3'	7.72	126.48	109.50
11	H	175	PHE	CD1-CE1-CZ	7.72	129.36	120.10
3	4	81	U	C2'-C3'-O3'	7.71	126.47	109.50
1	1	3075	G	C2'-C3'-O3'	7.71	126.46	109.50
1	1	219	A	C2'-C3'-O3'	7.69	126.42	109.50
1	1	1048	A	C2'-C3'-O3'	7.69	126.42	109.50
1	1	3295	A	C2'-C3'-O3'	7.69	126.42	109.50
7	D	145	PHE	CZ-CE2-CD2	7.69	129.32	120.10
1	1	2626	A	C2'-C3'-O3'	7.68	126.40	109.50
1	1	530	G	C2'-C3'-O3'	7.68	126.39	109.50
1	1	1023	C	C2'-C3'-O3'	7.68	126.39	109.50
3	4	158	U	C2'-C3'-O3'	7.68	126.39	109.50
2	3	37	G	C2'-C3'-O3'	7.67	126.38	109.50
3	4	135	G	C2'-C3'-O3'	7.67	126.38	109.50
8	E	176	PHE	CG-CD2-CE2	7.67	129.24	120.80
1	1	2329	C	C2'-C3'-O3'	7.67	126.36	109.50
1	1	1324	U	C2'-C3'-O3'	7.66	126.36	109.50
1	1	3134	A	C2'-C3'-O3'	7.66	126.36	109.50
1	1	2297	U	N1-C1'-C2'	7.66	123.96	114.00
1	1	2734	A	C5'-C4'-O4'	7.66	118.29	109.10
1	1	1770	G	N9-C1'-C2'	7.66	123.95	114.00
1	1	3118	C	C2'-C3'-O3'	7.66	126.34	109.50
1	1	3241	G	C4'-C3'-O3'	7.65	128.30	113.00
1	1	313	A	N9-C1'-C2'	7.65	123.94	114.00
1	1	343	U	N1-C1'-C2'	7.65	123.94	114.00
1	1	3117	C	C2'-C3'-O3'	7.64	126.31	109.50
1	1	2791	G	C2'-C3'-O3'	7.64	126.30	109.50
1	1	2718	U	C2'-C3'-O3'	7.64	126.30	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2980	U	C2'-C3'-O3'	7.63	126.30	109.50
1	1	2310	U	N1-C1'-C2'	7.63	123.92	114.00
1	1	11	A	C2'-C3'-O3'	7.63	126.28	109.50
1	1	834	U	C4'-C3'-O3'	7.62	128.25	113.00
10	G	237	ILE	CG1-CB-CG2	7.62	128.18	111.40
1	1	1531	C	C2'-C3'-O3'	7.62	126.27	109.50
1	1	336	A	C2'-C3'-O3'	7.62	126.27	109.50
1	1	303	G	C2'-C3'-O3'	7.62	126.26	109.50
1	1	2472	C	N1-C1'-C2'	7.62	123.91	114.00
35	g	7	PHE	CD1-CE1-CZ	7.62	129.24	120.10
9	F	181	ILE	CG1-CB-CG2	7.61	128.15	111.40
1	1	1031	C	N1-C1'-C2'	7.61	123.89	114.00
1	1	2207	A	C5'-C4'-O4'	7.61	118.23	109.10
1	1	3020	U	C2'-C3'-O3'	7.60	126.23	109.50
1	1	1149	G	C2'-C3'-O3'	7.60	126.22	109.50
1	1	2165	G	C2'-C3'-O3'	7.59	126.20	109.50
8	E	47	PHE	CD1-CE1-CZ	7.59	129.21	120.10
1	1	690	A	C2'-C3'-O3'	7.59	126.19	109.50
1	1	856	G	N9-C1'-C2'	7.59	123.87	114.00
1	1	1888	U	C4'-C3'-O3'	7.59	128.17	113.00
1	1	2503	U	N1-C1'-C2'	7.59	123.86	114.00
5	B	311	PHE	CG-CD1-CE1	7.59	129.15	120.80
38	j	27	PHE	CG-CD2-CE2	7.59	129.15	120.80
1	1	1539	A	C2'-C3'-O3'	7.58	126.18	109.50
3	4	75	G	C2'-C3'-O3'	7.58	126.17	109.50
1	1	1239	C	N1-C1'-C2'	7.58	123.85	114.00
1	1	1623	G	N9-C1'-C2'	7.57	123.85	114.00
16	N	75	VAL	CG1-CB-CG2	7.57	123.02	110.90
1	1	1794	G	N9-C1'-C2'	7.57	123.84	114.00
1	1	2803	A	C2'-C3'-O3'	7.57	126.15	109.50
1	1	700	C	C2'-C3'-O3'	7.57	126.15	109.50
1	1	1285	G	N9-C1'-C2'	7.57	123.84	114.00
1	1	2506	C	N1-C1'-C2'	7.57	123.84	114.00
39	k	51	LEU	C-N-CA	-7.57	102.79	121.70
1	1	335	G	C2'-C3'-O3'	7.56	126.14	109.50
1	1	1169	A	N9-C1'-C2'	7.56	123.83	114.00
1	1	2452	G	N9-C1'-C2'	7.55	123.82	114.00
1	1	2909	U	C4'-C3'-O3'	7.55	128.11	113.00
3	4	27	U	N1-C1'-C2'	7.55	123.82	114.00
14	L	179	PHE	CG-CD1-CE1	7.54	129.09	120.80
1	1	710	A	N9-C1'-C2'	7.53	123.79	114.00
1	1	2776	C	N1-C1'-C2'	7.53	123.80	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	498	A	C2'-C3'-O3'	7.53	126.06	109.50
1	1	829	U	C2'-C3'-O3'	7.53	126.07	109.50
43	o	58	PHE	CG-CD1-CE1	7.53	129.08	120.80
1	1	3071	U	C4'-C3'-O3'	7.53	128.05	113.00
2	3	106	U	C2'-C3'-O3'	7.53	126.06	109.50
22	T	49	GLN	N-CA-C	7.52	131.31	111.00
1	1	3364	C	N1-C1'-C2'	7.52	123.78	114.00
1	1	3266	G	C2'-C3'-O3'	7.51	126.03	109.50
1	1	3094	A	C2'-C3'-O3'	7.51	126.02	109.50
1	1	2895	G	C2'-C3'-O3'	7.51	126.02	109.50
1	1	3362	A	C4'-C3'-O3'	7.50	128.01	113.00
1	1	1555	U	C2'-C3'-O3'	7.50	126.01	109.50
1	1	3033	A	N9-C1'-C2'	7.50	123.75	114.00
1	1	672	A	C2'-C3'-O3'	7.50	126.00	109.50
1	1	2787	G	C2'-C3'-O3'	7.50	125.99	109.50
1	1	1046	A	N9-C1'-C2'	7.49	123.74	114.00
1	1	538	G	C2'-C3'-O3'	7.49	125.98	109.50
1	1	1189	C	C4'-C3'-O3'	7.49	127.98	113.00
1	1	2222	A	N9-C1'-C2'	7.49	123.74	114.00
29	a	53	PHE	CG-CD1-CE1	7.48	129.03	120.80
1	1	2383	C	N1-C1'-C2'	7.48	123.72	114.00
1	1	546	C	C2'-C3'-O3'	7.48	125.95	109.50
1	1	2689	A	C4'-C3'-O3'	7.48	127.95	113.00
7	D	200	PHE	CG-CD1-CE1	7.48	129.03	120.80
1	1	2250	G	N9-C1'-C2'	7.47	123.72	114.00
1	1	1084	A	C2'-C3'-O3'	7.47	125.94	109.50
1	1	2362	C	C4'-C3'-O3'	7.47	127.94	113.00
1	1	2542	U	N1-C1'-C2'	7.47	123.71	114.00
1	1	200	C	C5'-C4'-O4'	7.47	118.06	109.10
1	1	961	C	N1-C1'-C2'	7.46	123.70	114.00
1	1	561	C	C2'-C3'-O3'	7.46	125.91	109.50
11	H	45	PHE	CG-CD1-CE1	7.46	129.01	120.80
1	1	2808	A	N9-C1'-C2'	7.45	123.69	114.00
1	1	2181	C	N1-C1'-C2'	7.45	123.68	114.00
1	1	3293	U	N1-C1'-C2'	7.45	123.68	114.00
1	1	1287	A	N9-C1'-C2'	7.44	123.67	114.00
1	1	1905	G	C2'-C3'-O3'	7.44	125.87	109.50
1	1	1421	G	C2'-C3'-O3'	7.44	125.86	109.50
1	1	643	U	C2'-C3'-O3'	7.44	125.86	109.50
2	3	115	G	C2'-C3'-O3'	7.44	125.86	109.50
1	1	2939	G	C5'-C4'-O4'	7.43	118.02	109.10
3	4	50	C	C2'-C3'-O3'	7.42	125.82	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	114	U	C5'-C4'-O4'	7.42	118.00	109.10
1	1	2303	A	C5'-C4'-O4'	7.41	118.00	109.10
1	1	2320	A	C2'-C3'-O3'	7.41	125.81	109.50
1	1	2475	G	N9-C1'-C2'	7.41	123.63	114.00
1	1	1264	G	C4'-C3'-O3'	7.40	127.81	113.00
1	1	2803	A	C4'-C3'-O3'	7.40	127.81	113.00
1	1	1534	A	C5'-C4'-O4'	7.40	117.98	109.10
1	1	637	C	C4'-C3'-O3'	7.39	127.78	113.00
1	1	2651	G	C2'-C3'-O3'	7.38	125.75	109.50
1	1	834	U	C2'-C3'-O3'	7.38	125.72	109.50
1	1	2348	A	N9-C1'-C2'	7.37	123.58	114.00
1	1	2652	U	C2'-C3'-O3'	7.37	125.70	109.50
1	1	336	A	C4'-C3'-O3'	7.36	127.72	113.00
1	1	1819	U	N1-C1'-C2'	7.36	123.57	114.00
1	1	1247	U	C2'-C3'-O3'	7.36	125.68	109.50
1	1	820	A	N9-C1'-C2'	7.35	123.56	114.00
1	1	2832	C	N1-C1'-C2'	7.34	123.54	114.00
1	1	647	A	C2'-C3'-O3'	7.34	125.64	109.50
7	D	53	VAL	CG1-CB-CG2	7.34	122.64	110.90
1	1	133	U	C2'-C3'-O3'	7.33	125.63	109.50
1	1	3184	A	N9-C1'-C2'	7.33	123.53	114.00
1	1	1289	G	C5'-C4'-O4'	7.33	117.89	109.10
3	4	114	G	C2'-C3'-O3'	7.33	125.62	109.50
1	1	255	A	N9-C1'-C2'	7.32	123.52	114.00
1	1	613	G	C5'-C4'-O4'	7.32	117.88	109.10
1	1	1451	C	N1-C1'-C2'	7.32	123.51	114.00
1	1	2766	U	N1-C1'-C2'	7.32	123.51	114.00
1	1	291	C	N1-C1'-C2'	7.31	123.51	114.00
1	1	41	G	OP2-P-O3'	7.31	121.28	105.20
1	1	1462	A	N9-C1'-C2'	7.31	123.50	114.00
9	F	26	VAL	CG1-CB-CG2	7.29	122.56	110.90
1	1	2908	G	C5'-C4'-O4'	7.29	117.85	109.10
1	1	3343	G	N9-C1'-C2'	7.29	123.47	114.00
1	1	1448	U	N1-C1'-C2'	7.27	123.45	114.00
1	1	1282	G	N9-C1'-C2'	7.27	123.45	114.00
1	1	1299	U	N1-C1'-C2'	7.27	123.45	114.00
1	1	2173	U	C2'-C3'-O3'	7.27	125.49	109.50
1	1	2523	A	N9-C1'-C2'	7.26	123.43	114.00
1	1	2136	C	C4'-C3'-O3'	7.25	127.51	113.00
1	1	396	A	N9-C1'-C2'	7.25	123.43	114.00
1	1	1841	A	N9-C1'-C2'	7.25	123.42	114.00
1	1	1110	U	C2'-C3'-O3'	7.24	125.44	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	498	A	C4'-C3'-O3'	7.24	127.48	113.00
14	L	14	PHE	CG-CD2-CE2	7.23	128.75	120.80
1	1	3016	A	C5'-C4'-O4'	7.22	117.77	109.10
1	1	1447	G	C4'-C3'-O3'	7.22	127.44	113.00
1	1	2885	C	C2'-C3'-O3'	7.22	125.38	109.50
1	1	1629	U	N1-C1'-C2'	7.20	123.36	114.00
1	1	2651	G	C4'-C3'-O3'	7.19	127.39	113.00
37	i	7	ILE	CG1-CB-CG2	7.19	127.21	111.40
1	1	507	U	N1-C1'-C2'	7.18	123.34	114.00
1	1	2995	A	N9-C1'-C2'	7.18	123.33	114.00
1	1	2387	A	C2'-C3'-O3'	7.18	125.29	109.50
1	1	952	A	OP1-P-O3'	7.17	120.97	105.20
1	1	31	C	C2'-C3'-O3'	7.16	125.26	109.50
1	1	2355	G	OP1-P-O3'	-7.16	89.45	105.20
1	1	179	C	O4'-C1'-N1	7.15	113.92	108.20
1	1	2199	G	C5'-C4'-O4'	7.14	117.67	109.10
1	1	2688	U	N1-C1'-C2'	7.14	123.28	114.00
1	1	2951	G	N9-C1'-C2'	7.13	123.27	114.00
4	A	120	PRO	N-CA-C	7.13	130.64	112.10
1	1	883	A	N9-C1'-C2'	7.13	123.27	114.00
3	4	112	U	C5'-C4'-O4'	7.13	117.65	109.10
1	1	2842	U	N1-C1'-C2'	7.12	123.26	114.00
1	1	625	G	C2'-C3'-O3'	7.12	125.16	109.50
1	1	3264	G	N9-C1'-C2'	7.12	123.25	114.00
20	R	41	ILE	CG1-CB-CG2	7.12	127.06	111.40
1	1	2295	A	C2'-C3'-O3'	7.12	125.16	109.50
33	e	50	ILE	CG1-CB-CG2	7.12	127.05	111.40
1	1	323	A	C2'-C3'-O3'	7.11	125.15	109.50
1	1	119	U	C5'-C4'-O4'	7.11	117.63	109.10
3	4	72	A	N9-C1'-C2'	7.10	123.24	114.00
1	1	2969	A	N9-C1'-C2'	7.10	123.23	114.00
1	1	1544	G	C5'-C4'-O4'	7.09	117.61	109.10
1	1	403	C	N1-C1'-C2'	7.09	123.22	114.00
1	1	701	G	C5'-C4'-O4'	7.08	117.60	109.10
1	1	655	C	N1-C1'-C2'	7.06	123.18	114.00
1	1	2836	C	N1-C1'-C2'	7.06	123.18	114.00
1	1	3368	U	O4'-C1'-N1	7.06	113.85	108.20
1	1	3140	G	C5'-C4'-O4'	7.05	117.57	109.10
1	1	397	A	N9-C1'-C2'	7.05	123.17	114.00
1	1	1187	C	N1-C1'-C2'	7.05	123.16	114.00
1	1	1264	G	C2'-C3'-O3'	7.05	125.00	109.50
1	1	1384	U	N1-C1'-C2'	7.05	123.16	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1596	C	C2'-C3'-O3'	7.04	125.00	109.50
13	J	59	ILE	CG1-CB-CG2	7.04	126.89	111.40
1	1	2362	C	C2'-C3'-O3'	7.03	124.97	109.50
1	1	609	G	N9-C1'-C2'	7.02	123.13	114.00
1	1	2872	A	N9-C1'-C2'	7.02	123.12	114.00
1	1	3387	U	N1-C1'-C2'	7.02	123.12	114.00
3	4	106	C	N1-C1'-C2'	7.02	123.12	114.00
1	1	676	G	N9-C1'-C2'	7.01	123.11	114.00
1	1	1282	G	C5'-C4'-O4'	7.01	117.51	109.10
2	3	57	G	C2'-C3'-O3'	7.00	124.91	109.50
1	1	1007	U	C5'-C4'-O4'	7.00	117.50	109.10
1	1	1229	G	N9-C1'-C2'	7.00	123.10	114.00
1	1	3023	U	C5'-C4'-O4'	7.00	117.50	109.10
1	1	107	A	N9-C1'-C2'	6.99	123.09	114.00
21	S	94	ILE	CG1-CB-CG2	6.99	126.77	111.40
1	1	2612	U	C4'-C3'-O3'	6.99	126.97	113.00
1	1	1390	A	C5'-C4'-O4'	6.97	117.46	109.10
1	1	1672	U	N1-C1'-C2'	6.96	123.06	114.00
6	C	21	PRO	N-CA-C	6.96	130.20	112.10
1	1	753	C	N1-C1'-C2'	6.96	123.05	114.00
1	1	931	C	N1-C1'-C2'	6.96	123.05	114.00
1	1	2140	U	C5'-C4'-O4'	6.95	117.44	109.10
1	1	1806	A	C2'-C3'-O3'	6.95	124.82	113.70
6	C	199	TRP	CG-CD1-NE1	6.95	117.05	110.10
1	1	3204	C	N1-C1'-C2'	6.95	123.03	114.00
19	Q	162	ALA	N-CA-C	6.94	129.74	111.00
35	g	59	PRO	N-CA-C	6.94	130.15	112.10
19	Q	57	ILE	CG1-CB-CG2	6.94	126.66	111.40
1	1	700	C	C4'-C3'-O3'	6.93	126.86	113.00
1	1	2612	U	C2'-C3'-O3'	6.93	124.78	113.70
37	i	83	ALA	N-CA-C	6.92	129.67	111.00
3	4	146	U	N1-C1'-C2'	6.92	122.99	114.00
1	1	91	G	C5'-C4'-C3'	6.91	127.06	116.00
1	1	1184	A	C5'-C4'-O4'	6.90	117.39	109.10
1	1	2792	A	N9-C1'-C2'	6.90	122.97	114.00
1	1	71	A	P-O3'-C3'	-6.90	111.42	119.70
1	1	250	U	C4'-C3'-O3'	6.90	126.80	113.00
1	1	1816	A	C4'-C3'-O3'	6.89	126.78	113.00
40	l	51	ILE	CG1-CB-CG2	6.89	126.55	111.40
1	1	2137	U	O4'-C1'-N1	6.88	113.71	108.20
3	4	53	A	C5'-C4'-O4'	6.88	117.36	109.10
1	1	522	A	N9-C1'-C2'	6.88	122.94	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	543	C	C2'-C3'-O3'	6.88	124.70	113.70
1	1	3094	A	C4'-C3'-O3'	6.87	126.74	113.00
1	1	1596	C	C4'-C3'-O3'	6.87	126.74	113.00
1	1	625	G	C4'-C3'-O3'	6.86	126.73	113.00
1	1	907	G	N9-C1'-C2'	6.86	122.92	114.00
1	1	2906	C	N1-C1'-C2'	6.85	122.91	114.00
1	1	1246	G	C5'-C4'-O4'	6.85	117.32	109.10
1	1	3320	A	N9-C1'-C2'	6.85	122.90	114.00
1	1	3258	U	N1-C1'-C2'	6.84	122.90	114.00
1	1	1013	G	C4'-C3'-O3'	6.84	126.69	113.00
1	1	2182	A	C5'-C4'-O4'	6.84	117.31	109.10
1	1	1451	C	C4'-C3'-O3'	6.84	126.67	113.00
1	1	2279	A	C5'-C4'-C3'	6.83	126.93	116.00
1	1	1931	U	P-O3'-C3'	6.83	127.90	119.70
1	1	3205	G	C2'-C3'-O3'	6.83	124.62	113.70
45	t	105	LYS	N-CA-C	6.82	129.43	111.00
1	1	1106	G	C2'-C3'-O3'	6.82	124.60	113.70
1	1	1769	G	N9-C1'-C2'	6.82	122.86	114.00
3	4	82	U	C5'-C4'-C3'	6.82	126.90	116.00
1	1	2245	C	N1-C1'-C2'	6.80	122.84	114.00
1	1	188	U	C5'-C4'-O4'	6.80	117.26	109.10
1	1	2968	G	C5'-C4'-O4'	6.79	117.25	109.10
1	1	2763	U	N1-C1'-C2'	6.79	122.83	114.00
1	1	1483	G	C5'-C4'-O4'	6.79	117.24	109.10
1	1	1455	U	C4'-C3'-O3'	6.79	126.57	113.00
1	1	1618	G	C5'-C4'-O4'	6.78	117.24	109.10
1	1	109	A	C2'-C3'-O3'	6.78	124.55	113.70
14	L	135	ALA	N-CA-C	6.78	129.30	111.00
2	3	51	A	C2'-C3'-O3'	6.77	124.53	113.70
1	1	1309	U	N1-C1'-C2'	6.76	122.79	114.00
1	1	1905	G	C5'-C4'-O4'	6.76	117.21	109.10
17	O	72	HIS	CA-C-N	-6.75	102.34	117.20
1	1	2901	G	N9-C1'-C2'	6.75	122.78	114.00
3	4	82	U	N1-C1'-C2'	6.75	122.78	114.00
1	1	2844	C	N1-C1'-C2'	6.73	122.75	114.00
1	1	345	G	C5'-C4'-O4'	6.73	117.18	109.10
1	1	3067	C	N1-C1'-C2'	6.73	122.75	114.00
1	1	1944	U	C5'-C4'-O4'	6.72	117.17	109.10
1	1	2746	A	N9-C1'-C2'	6.72	122.74	114.00
1	1	3226	A	C5'-C4'-O4'	6.72	117.17	109.10
1	1	3232	G	C5'-C4'-O4'	6.72	117.16	109.10
1	1	251	G	C5'-C4'-O4'	6.71	117.16	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	81	U	N1-C1'-C2'	6.71	122.73	114.00
21	S	102	ALA	N-CA-C	6.70	129.10	111.00
1	1	2619	G	N9-C1'-C2'	6.70	122.71	114.00
4	A	15	ILE	CG1-CB-CG2	6.70	126.14	111.40
1	1	241	G	N9-C1'-C2'	6.70	122.71	114.00
1	1	619	A	N9-C1'-C2'	6.70	122.71	114.00
1	1	972	A	C5'-C4'-O4'	6.70	117.13	109.10
1	1	2816	G	C5'-C4'-O4'	6.70	117.14	109.10
18	P	89	LYS	N-CA-C	6.70	129.08	111.00
1	1	975	C	N1-C1'-C2'	6.69	122.70	114.00
1	1	1278	A	C1'-C2'-O2'	6.69	130.67	110.60
1	1	1447	G	C2'-C3'-O3'	6.68	124.39	113.70
1	1	3037	U	C4'-C3'-O3'	6.68	126.37	113.00
1	1	1281	G	C5'-C4'-O4'	6.68	117.12	109.10
1	1	1556	C	N1-C1'-C2'	6.68	122.69	114.00
1	1	682	U	C5'-C4'-O4'	6.68	117.12	109.10
1	1	2664	C	N1-C1'-C2'	6.68	122.68	114.00
1	1	726	G	C5'-C4'-O4'	6.67	117.11	109.10
1	1	183	G	C5'-C4'-O4'	6.67	117.11	109.10
1	1	1305	U	C2'-C3'-O3'	6.67	124.37	113.70
1	1	1824	U	C5'-C4'-O4'	6.67	117.10	109.10
1	1	413	U	C5'-C4'-O4'	6.66	117.09	109.10
1	1	2549	G	C5'-C4'-O4'	6.66	117.09	109.10
1	1	2650	U	C4'-C3'-O3'	6.65	126.29	113.00
1	1	2652	U	C4'-C3'-O3'	6.64	126.29	113.00
3	4	50	C	C4'-C3'-O3'	6.64	126.29	113.00
7	D	159	VAL	CG1-CB-CG2	6.64	121.53	110.90
2	3	94	C	C5'-C4'-O4'	6.64	117.07	109.10
43	o	29	LYS	N-CA-C	6.63	128.91	111.00
1	1	1853	U	C5'-C4'-O4'	6.63	117.06	109.10
3	4	118	C	N1-C1'-C2'	6.63	122.62	114.00
1	1	1623	G	C4'-C3'-O3'	6.63	126.25	113.00
2	3	106	U	C4'-C3'-O3'	6.63	126.25	113.00
2	3	56	A	C5'-C4'-O4'	6.62	117.05	109.10
45	t	206	VAL	CG1-CB-CG2	6.62	121.50	110.90
1	1	2909	U	C2'-C3'-O3'	6.62	124.29	113.70
1	1	988	U	N1-C1'-C2'	6.62	122.60	114.00
1	1	1390	A	C5'-C4'-C3'	6.62	126.59	116.00
1	1	993	G	C5'-C4'-O4'	6.61	117.04	109.10
1	1	1744	G	N9-C1'-C2'	6.61	122.60	114.00
1	1	2511	C	C5'-C4'-O4'	6.61	117.03	109.10
1	1	3348	G	N9-C1'-C2'	6.61	122.59	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	Z	46	ILE	CG1-CB-CG2	6.61	125.94	111.40
1	1	2513	U	C4'-C3'-O3'	6.61	126.21	113.00
2	3	113	C	N1-C1'-C2'	6.61	122.59	114.00
1	1	2853	A	N9-C1'-C2'	6.60	122.58	114.00
1	1	2486	A	C5'-C4'-O4'	6.60	117.02	109.10
1	1	718	G	C5'-C4'-O4'	6.60	117.02	109.10
1	1	572	A	C5'-C4'-O4'	6.60	117.02	109.10
1	1	1812	G	C5'-C4'-O4'	6.59	117.01	109.10
1	1	373	A	C5'-C4'-O4'	6.59	117.01	109.10
1	1	311	C	C5'-C4'-C3'	6.58	126.53	116.00
3	4	45	C	C5'-C4'-O4'	6.58	117.00	109.10
1	1	3134	A	C4'-C3'-O3'	6.58	126.15	113.00
16	N	115	VAL	CG1-CB-CG2	6.57	121.42	110.90
1	1	1821	U	C4'-C3'-O3'	6.57	126.14	113.00
1	1	2823	G	C5'-C4'-O4'	6.57	116.99	109.10
1	1	3146	G	N9-C1'-C2'	6.57	122.54	114.00
36	h	111	PHE	N-CA-C	6.57	128.73	111.00
1	1	2822	U	C5'-C4'-O4'	6.57	116.98	109.10
1	1	1351	U	C5'-C4'-O4'	6.56	116.97	109.10
1	1	345	G	C4'-C3'-O3'	6.56	126.11	113.00
1	1	967	A	C5'-C4'-O4'	6.56	116.97	109.10
1	1	32	U	N1-C1'-C2'	6.55	122.52	114.00
1	1	2772	C	O4'-C1'-N1	6.55	113.44	108.20
1	1	2165	G	C4'-C3'-O3'	6.55	126.09	113.00
1	1	2342	U	C2'-C3'-O3'	6.55	124.17	113.70
9	F	122	ALA	N-CA-C	6.54	128.66	111.00
29	a	2	PRO	N-CA-C	6.54	129.11	112.10
1	1	1844	C	C5'-C4'-O4'	6.54	116.94	109.10
1	1	777	U	C5'-C4'-O4'	6.53	116.94	109.10
1	1	150	A	C5'-C4'-O4'	6.53	116.93	109.10
1	1	2208	A	C5'-C4'-O4'	6.53	116.93	109.10
1	1	3046	A	N9-C1'-C2'	6.53	122.48	114.00
1	1	845	G	C4'-C3'-O3'	6.52	126.04	113.00
1	1	1535	A	N9-C1'-C2'	6.52	122.47	114.00
1	1	1113	G	N9-C1'-C2'	6.52	122.47	114.00
13	J	86	VAL	CG1-CB-CG2	6.51	121.32	110.90
1	1	996	A	C4'-C3'-O3'	6.51	126.02	113.00
1	1	2267	C	C5'-C4'-O4'	6.51	116.92	109.10
1	1	2690	G	C5'-C4'-O4'	6.51	116.91	109.10
5	B	144	ILE	CG1-CB-CG2	6.51	125.73	111.40
1	1	387	A	C5'-C4'-O4'	6.51	116.91	109.10
3	4	151	C	N1-C1'-C2'	6.51	122.46	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3152	U	C4'-C3'-O3'	6.50	126.01	113.00
14	L	2	ALA	N-CA-C	6.50	128.56	111.00
1	1	1947	G	N9-C1'-C2'	6.50	122.45	114.00
1	1	702	C	C5'-C4'-O4'	6.49	116.89	109.10
1	1	1520	G	C1'-C2'-O2'	6.49	130.08	110.60
1	1	1799	A	C5'-C4'-O4'	6.49	116.89	109.10
2	3	52	G	C2'-C3'-O3'	6.49	124.08	113.70
1	1	504	A	C5'-C4'-O4'	6.49	116.88	109.10
1	1	1801	U	N1-C1'-C2'	6.49	122.43	114.00
1	1	2604	U	C5'-C4'-O4'	6.48	116.88	109.10
1	1	784	A	C5'-C4'-O4'	6.48	116.88	109.10
1	1	1117	G	C4'-C3'-O3'	6.48	125.96	113.00
1	1	741	U	C5'-C4'-O4'	6.48	116.88	109.10
1	1	2113	A	C5'-C4'-O4'	6.48	116.87	109.10
1	1	790	U	C5'-C4'-O4'	6.48	116.87	109.10
1	1	1178	G	N9-C1'-C2'	6.47	122.41	114.00
1	1	1571	A	N9-C1'-C2'	6.47	122.42	114.00
1	1	1363	A	N9-C1'-C2'	6.47	122.41	114.00
1	1	2454	G	C5'-C4'-O4'	6.47	116.86	109.10
3	4	21	C	N1-C1'-C2'	6.47	122.41	114.00
2	3	75	G	N9-C1'-C2'	6.47	122.41	114.00
1	1	3275	U	N1-C1'-C2'	6.47	122.41	114.00
1	1	3050	U	C2'-C3'-O3'	6.46	124.04	113.70
43	o	30	ALA	N-CA-C	6.46	128.46	111.00
43	o	103	ALA	N-CA-C	6.46	128.45	111.00
3	4	82	U	C5'-C4'-O4'	6.46	116.85	109.10
1	1	1119	C	N1-C1'-C2'	6.45	122.39	114.00
1	1	2103	U	N1-C1'-C2'	6.45	122.39	114.00
1	1	1483	G	C1'-C2'-O2'	6.45	129.95	110.60
1	1	1652	G	C4'-C3'-O3'	6.45	125.89	113.00
1	1	530	G	C4'-C3'-O3'	6.45	125.89	113.00
1	1	3189	G	C5'-C4'-O4'	6.45	116.83	109.10
1	1	408	A	N9-C1'-C2'	6.44	122.38	114.00
1	1	2116	G	N9-C1'-C2'	6.44	122.38	114.00
1	1	541	U	C4'-C3'-O3'	6.44	125.89	113.00
1	1	3290	G	C4'-C3'-O3'	6.44	125.88	113.00
1	1	1444	G	N9-C1'-C2'	6.44	122.37	114.00
1	1	1752	A	C5'-C4'-O4'	6.43	116.82	109.10
1	1	709	A	N9-C1'-C2'	6.42	122.35	114.00
1	1	3107	U	C4'-C3'-O3'	6.42	125.85	113.00
1	1	1538	G	N9-C1'-C2'	6.42	122.34	114.00
1	1	1374	G	C5'-C4'-O4'	6.42	116.80	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	C	280	ILE	CG1-CB-CG2	6.42	125.52	111.40
12	I	95	HIS	C-N-CA	-6.42	105.66	121.70
1	1	280	U	N1-C1'-C2'	6.41	122.34	114.00
1	1	1664	G	N9-C1'-C2'	6.41	122.34	114.00
1	1	1100	U	C5'-C4'-O4'	6.41	116.79	109.10
1	1	1531	C	C5'-C4'-O4'	6.41	116.79	109.10
1	1	189	G	C5'-C4'-C3'	6.41	126.25	116.00
1	1	1814	A	C5'-C4'-O4'	6.41	116.79	109.10
3	4	136	G	N9-C1'-C2'	6.41	122.33	114.00
1	1	2778	G	C5'-C4'-O4'	6.40	116.78	109.10
1	1	191	U	C5'-C4'-O4'	6.40	116.78	109.10
1	1	1282	G	C4'-C3'-O3'	6.40	125.80	113.00
5	B	187	SER	N-CA-C	6.40	128.28	111.00
32	d	58	ALA	N-CA-C	6.40	128.28	111.00
1	1	1520	G	N9-C1'-C2'	6.40	122.31	114.00
1	1	849	C	C5'-C4'-O4'	6.39	116.77	109.10
15	M	6	ILE	CG1-CB-CG2	6.39	125.47	111.40
1	1	2891	U	O4'-C1'-N1	6.39	113.31	108.20
1	1	311	C	C5'-C4'-O4'	6.39	116.76	109.10
1	1	2191	U	N1-C1'-C2'	6.39	122.30	114.00
1	1	2885	C	C4'-C3'-O3'	6.38	125.76	113.00
40	l	2	ALA	N-CA-C	6.38	128.23	111.00
1	1	1578	C	C4'-C3'-O3'	6.38	125.76	113.00
1	1	1654	A	C5'-C4'-O4'	6.38	116.75	109.10
1	1	133	U	C4'-C3'-O3'	6.37	125.74	113.00
18	P	179	GLN	N-CA-C	6.37	128.20	111.00
3	4	61	A	C5'-C4'-O4'	6.37	116.74	109.10
6	C	167	ALA	N-CA-C	6.37	128.19	111.00
1	1	397	A	C5'-C4'-O4'	6.36	116.74	109.10
1	1	3266	G	C4'-C3'-O3'	6.36	125.73	113.00
26	X	95	ILE	CG1-CB-CG2	6.36	125.40	111.40
30	b	21	ILE	CG1-CB-CG2	6.36	125.40	111.40
1	1	219	A	C5'-C4'-O4'	6.36	116.73	109.10
3	4	80	A	C5'-C4'-O4'	6.35	116.72	109.10
1	1	276	U	C5'-C4'-O4'	6.35	116.72	109.10
9	F	72	ALA	N-CA-C	6.35	128.15	111.00
1	1	235	A	C5'-C4'-O4'	6.35	116.72	109.10
1	1	2756	C	N1-C1'-C2'	6.35	122.26	114.00
1	1	1675	G	N9-C1'-C2'	6.35	122.25	114.00
10	G	250	ALA	N-CA-C	6.35	128.14	111.00
1	1	1547	G	C5'-C4'-O4'	6.34	116.71	109.10
5	B	329	PRO	N-CA-C	6.34	128.59	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	a	94	ALA	N-CA-C	6.34	128.13	111.00
1	1	1240	A	C5'-C4'-O4'	6.34	116.71	109.10
1	1	2447	G	C5'-C4'-O4'	6.34	116.71	109.10
1	1	2279	A	C5'-C4'-O4'	6.33	116.70	109.10
1	1	1176	C	C5'-C4'-O4'	6.33	116.70	109.10
1	1	2919	A	N9-C1'-C2'	6.33	122.23	114.00
6	C	215	ILE	CG1-CB-CG2	6.33	125.33	111.40
22	T	135	PRO	N-CA-C	6.33	128.55	112.10
1	1	782	U	N1-C1'-C2'	6.32	122.22	114.00
1	1	1459	C	C4'-C3'-O3'	6.32	125.64	113.00
1	1	635	G	C5'-C4'-O4'	6.32	116.69	109.10
1	1	1906	G	C5'-C4'-O4'	6.32	116.68	109.10
3	4	112	U	C5'-C4'-C3'	6.32	126.11	116.00
1	1	773	G	N9-C1'-C2'	6.32	122.21	114.00
1	1	2333	C	N1-C1'-C2'	6.32	122.21	114.00
1	1	3117	C	C5'-C4'-O4'	6.32	116.68	109.10
1	1	2678	A	C5'-C4'-O4'	6.31	116.67	109.10
1	1	2710	C	N1-C1'-C2'	6.31	122.20	114.00
1	1	2965	U	OP2-P-O3'	6.31	119.08	105.20
1	1	3349	C	C4'-C3'-O3'	6.31	125.62	113.00
1	1	2720	G	N9-C1'-C2'	6.31	122.20	114.00
1	1	1382	G	C5'-C4'-O4'	6.30	116.66	109.10
1	1	1541	G	C5'-C4'-O4'	6.30	116.67	109.10
17	O	80	PHE	C-N-CA	-6.30	105.94	121.70
25	W	21	PHE	N-CA-C	6.30	128.02	111.00
1	1	208	C	N1-C1'-C2'	6.30	122.19	114.00
1	1	1031	C	C4'-C3'-O3'	6.30	125.60	113.00
23	U	30	PRO	N-CA-C	6.30	128.48	112.10
1	1	71	A	OP1-P-O3'	6.30	119.06	105.20
1	1	2790	A	N9-C1'-C2'	6.30	122.19	114.00
2	3	4	U	C5'-C4'-O4'	6.29	116.65	109.10
1	1	925	A	C5'-C4'-O4'	6.29	116.64	109.10
1	1	1558	A	C4'-C3'-O3'	6.28	125.57	113.00
1	1	2304	C	C5'-C4'-O4'	6.28	116.64	109.10
6	C	11	LEU	N-CA-C	6.28	127.97	111.00
1	1	50	U	C5'-C4'-O4'	6.28	116.64	109.10
1	1	2244	A	N9-C1'-C2'	6.28	122.16	114.00
1	1	1504	A	C5'-C4'-O4'	6.28	116.63	109.10
1	1	27	C	N1-C1'-C2'	6.27	122.15	114.00
1	1	1628	C	C5'-C4'-C3'	6.27	126.03	116.00
4	A	222	ALA	N-CA-C	6.27	127.93	111.00
1	1	1527	C	N1-C1'-C2'	6.27	122.15	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	42	A	C5'-C4'-O4'	6.27	116.62	109.10
1	1	1684	U	C5'-C4'-O4'	6.27	116.62	109.10
1	1	2729	U	C5'-C4'-O4'	6.26	116.62	109.10
17	O	136	THR	N-CA-C	6.26	127.91	111.00
1	1	2247	G	N9-C1'-C2'	6.26	122.14	114.00
1	1	3248	C	C5'-C4'-O4'	6.26	116.61	109.10
6	C	119	ARG	N-CA-C	6.26	127.89	111.00
1	1	1372	C	C5'-C4'-O4'	6.25	116.61	109.10
1	1	2451	U	C5'-C4'-O4'	6.25	116.60	109.10
29	a	140	ALA	N-CA-C	6.25	127.89	111.00
1	1	88	A	C5'-C4'-O4'	6.25	116.60	109.10
1	1	914	A	C4'-C3'-O3'	6.25	125.50	113.00
1	1	3363	U	N1-C1'-C2'	6.25	122.12	114.00
22	T	138	SER	N-CA-C	6.25	127.87	111.00
1	1	41	G	P-O3'-C3'	-6.25	112.20	119.70
1	1	1938	U	C1'-C2'-O2'	6.25	129.34	110.60
1	1	1682	U	N1-C1'-C2'	6.25	122.12	114.00
19	Q	25	TYR	N-CA-C	6.24	127.86	111.00
14	L	99	HIS	N-CA-C	6.24	127.85	111.00
36	h	120	ALA	N-CA-C	6.24	127.85	111.00
1	1	844	G	C4'-C3'-O3'	6.24	125.47	113.00
1	1	295	A	C5'-C4'-O4'	6.23	116.58	109.10
1	1	206	G	N9-C1'-C2'	6.23	122.10	114.00
3	4	36	G	P-O3'-C3'	-6.23	112.23	119.70
1	1	1576	G	C5'-C4'-O4'	6.22	116.57	109.10
1	1	2283	G	C1'-C2'-O2'	6.22	129.26	110.60
1	1	1349	G	C4'-C3'-O3'	6.22	125.44	113.00
20	R	56	THR	CA-CB-CG2	6.22	121.10	112.40
1	1	843	A	C5'-C4'-O4'	6.21	116.56	109.10
1	1	2689	A	C5'-C4'-O4'	6.21	116.55	109.10
1	1	1317	A	C5'-C4'-O4'	6.21	116.55	109.10
21	S	40	ARG	N-CA-C	6.21	127.76	111.00
1	1	236	G	N9-C1'-C2'	6.20	122.06	114.00
1	1	2103	U	C5'-C4'-O4'	6.20	116.54	109.10
3	4	20	U	C1'-C2'-O2'	6.20	129.21	110.60
45	t	194	LEU	CB-CG-CD1	6.20	121.55	111.00
1	1	971	G	N9-C1'-C2'	6.20	122.06	114.00
1	1	898	U	C5'-C4'-O4'	6.20	116.54	109.10
1	1	1629	U	O4'-C1'-N1	6.20	113.16	108.20
34	f	39	GLN	N-CA-C	6.20	127.73	111.00
1	1	1816	A	O4'-C1'-N9	6.19	113.16	108.20
1	1	892	U	C5'-C4'-O4'	6.19	116.53	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3152	U	C2'-C3'-O3'	6.19	123.61	113.70
20	R	125	LYS	N-CA-C	6.19	127.72	111.00
1	1	1488	G	C5'-C4'-C3'	6.19	125.90	116.00
7	D	292	ALA	N-CA-C	6.18	127.70	111.00
1	1	3295	A	C5'-C4'-O4'	6.18	116.52	109.10
1	1	2156	C	O4'-C1'-N1	6.18	113.14	108.20
1	1	2643	A	C4'-C3'-O3'	6.18	125.36	113.00
1	1	282	G	C4'-C3'-O3'	6.18	125.36	113.00
1	1	1027	A	C4'-C3'-O3'	6.18	125.36	113.00
18	P	148	LEU	CB-CG-CD1	6.18	121.50	111.00
1	1	2511	C	O4'-C1'-N1	6.17	113.14	108.20
1	1	1043	C	C2'-C3'-O3'	6.17	123.57	113.70
16	N	141	ALA	N-CA-C	6.17	127.66	111.00
1	1	2276	G	N9-C1'-C2'	6.17	122.02	114.00
3	4	22	U	C1'-C2'-O2'	6.17	129.10	110.60
1	1	331	G	C5'-C4'-O4'	6.17	116.50	109.10
1	1	301	G	C5'-C4'-O4'	6.16	116.50	109.10
1	1	702	C	C4'-C3'-O3'	6.16	125.33	113.00
1	1	3099	C	C4'-C3'-O3'	6.16	125.33	113.00
1	1	3106	A	C4'-C3'-O3'	6.16	125.32	113.00
1	1	1506	A	N9-C1'-C2'	6.16	122.01	114.00
1	1	2895	G	C5'-C4'-O4'	6.16	116.49	109.10
1	1	132	C	C4'-C3'-O3'	6.16	125.31	113.00
1	1	3205	G	C4'-C3'-O3'	6.15	125.31	113.00
5	B	265	ALA	N-CA-C	6.15	127.61	111.00
20	R	9	ARG	N-CA-C	6.15	127.61	111.00
1	1	549	U	O4'-C1'-N1	6.15	113.12	108.20
1	1	2943	G	N9-C1'-C2'	6.15	121.99	114.00
1	1	1718	G	C5'-C4'-O4'	6.15	116.48	109.10
1	1	2440	G	C5'-C4'-O4'	6.14	116.47	109.10
1	1	520	U	O4'-C1'-N1	6.14	113.11	108.20
1	1	2596	U	C2'-C3'-O3'	6.14	123.52	113.70
2	3	24	A	C5'-C4'-O4'	6.14	116.47	109.10
1	1	297	G	O4'-C1'-N9	6.14	113.11	108.20
1	1	1179	A	C5'-C4'-O4'	6.14	116.46	109.10
1	1	1240	A	C5'-C4'-C3'	6.14	125.82	116.00
1	1	1827	C	N1-C1'-C2'	6.14	121.98	114.00
1	1	1888	U	C5'-C4'-O4'	6.14	116.46	109.10
2	3	9	C	N1-C1'-C2'	6.14	121.98	114.00
1	1	1462	A	C4'-C3'-O3'	6.13	125.27	113.00
1	1	2948	C	C4'-C3'-O3'	6.13	125.27	113.00
10	G	59	GLN	N-CA-C	6.13	127.56	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1212	A	C2'-C3'-O3'	6.13	123.51	113.70
3	4	3	A	N9-C1'-C2'	6.13	121.97	114.00
9	F	112	ASN	N-CA-C	6.13	127.54	111.00
1	1	3319	U	C5'-C4'-O4'	6.12	116.45	109.10
1	1	2505	U	C5'-C4'-O4'	6.12	116.45	109.10
1	1	2696	A	C4'-C3'-O3'	6.12	125.24	113.00
1	1	3205	G	O4'-C1'-N9	6.12	113.09	108.20
45	t	208	SER	N-CA-C	6.12	127.52	111.00
3	4	96	A	N9-C1'-C2'	6.12	121.95	114.00
1	1	1825	G	C5'-C4'-O4'	6.12	116.44	109.10
1	1	2787	G	C5'-C4'-O4'	6.12	116.44	109.10
1	1	3100	U	C5'-C4'-O4'	6.12	116.44	109.10
1	1	565	U	N1-C1'-C2'	6.11	121.95	114.00
1	1	2298	U	O4'-C1'-N1	6.11	113.09	108.20
1	1	2465	G	C5'-C4'-O4'	6.11	116.43	109.10
1	1	243	G	C5'-C4'-O4'	6.10	116.42	109.10
1	1	2906	C	C4'-C3'-O3'	6.10	125.20	113.00
1	1	3278	C	C5'-C4'-O4'	6.09	116.41	109.10
1	1	670	C	C5'-C4'-O4'	6.09	116.41	109.10
7	D	194	LEU	CB-CG-CD1	6.09	121.36	111.00
1	1	892	U	C5'-C4'-C3'	6.09	125.75	116.00
1	1	904	A	N9-C1'-C2'	6.09	121.92	114.00
2	3	114	U	C5'-C4'-C3'	6.09	125.74	116.00
14	L	158	ALA	N-CA-C	6.09	127.44	111.00
1	1	3176	G	C3'-C2'-O2'	6.09	130.95	113.30
1	1	873	C	C2'-C3'-O3'	6.08	123.44	113.70
1	1	920	A	C5'-C4'-O4'	6.08	116.40	109.10
1	1	1464	G	C4'-C3'-O3'	6.08	125.17	113.00
10	G	102	ALA	N-CA-C	6.08	127.43	111.00
29	a	58	MET	N-CA-C	6.08	127.42	111.00
1	1	2203	U	C5'-C4'-O4'	6.08	116.40	109.10
1	1	2304	C	C4'-C3'-O3'	6.08	125.16	113.00
1	1	1853	U	C5'-C4'-C3'	6.08	125.73	116.00
1	1	2493	C	C5'-C4'-O4'	6.08	116.39	109.10
1	1	424	G	C4'-C3'-O3'	6.08	125.15	113.00
1	1	3051	U	C5'-C4'-O4'	6.08	116.39	109.10
14	L	61	PRO	N-CA-C	6.08	127.90	112.10
45	t	67	ILE	CG1-CB-CG2	6.08	124.77	111.40
18	P	161	ALA	N-CA-C	6.07	127.40	111.00
1	1	301	G	C4'-C3'-O3'	6.07	125.14	113.00
1	1	815	G	N9-C1'-C2'	6.07	121.89	114.00
12	I	16	PRO	N-CA-C	6.07	127.88	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2291	A	N9-C1'-C2'	6.07	121.89	114.00
21	S	41	TYR	N-CA-C	6.07	127.39	111.00
1	1	1117	G	C5'-C4'-O4'	6.07	116.38	109.10
17	O	14	HIS	N-CA-C	6.06	127.37	111.00
1	1	1425	U	C4'-C3'-O3'	6.06	125.12	113.00
1	1	2427	U	C5'-C4'-O4'	6.06	116.38	109.10
1	1	3057	U	C4'-C3'-O3'	6.06	125.12	113.00
3	4	49	G	C5'-C4'-O4'	6.06	116.38	109.10
3	4	116	G	C4'-C3'-O3'	6.06	125.13	113.00
1	1	2215	A	C5'-C4'-O4'	6.06	116.37	109.10
1	1	2387	A	C4'-C3'-O3'	6.06	125.11	113.00
28	Z	110	ALA	N-CA-C	6.06	127.36	111.00
6	C	222	VAL	CB-CA-C	6.05	122.90	111.40
1	1	1024	G	C4'-C3'-O3'	6.05	125.10	113.00
1	1	521	A	C5'-C4'-O4'	6.05	116.36	109.10
1	1	3332	U	C5'-C4'-O4'	6.05	116.36	109.10
1	1	1257	C	C4'-C3'-O3'	6.04	125.09	113.00
1	1	952	A	O3'-P-O5'	-6.04	92.52	104.00
1	1	1162	U	O3'-P-O5'	-6.04	92.53	104.00
1	1	3075	G	C5'-C4'-O4'	6.04	116.35	109.10
1	1	3368	U	C4'-C3'-O3'	6.04	125.07	113.00
1	1	2661	G	C5'-C4'-O4'	6.04	116.34	109.10
1	1	3279	A	C3'-C2'-O2'	6.04	130.80	113.30
1	1	1773	C	C5'-C4'-O4'	6.03	116.34	109.10
1	1	1673	G	C5'-C4'-O4'	6.03	116.34	109.10
1	1	3333	G	C1'-C2'-O2'	6.03	128.69	110.60
1	1	326	U	C5'-C4'-O4'	6.03	116.33	109.10
1	1	683	U	C5'-C4'-O4'	6.03	116.33	109.10
19	Q	112	ALA	N-CA-C	6.02	127.27	111.00
1	1	1317	A	C5'-C4'-C3'	6.02	125.64	116.00
1	1	2152	A	N9-C1'-C2'	6.02	121.83	114.00
1	1	2668	U	C5'-C4'-O4'	6.02	116.32	109.10
2	3	97	A	N9-C1'-C2'	6.02	121.82	114.00
1	1	1289	G	C5'-C4'-C3'	6.02	125.63	116.00
1	1	1153	A	C4'-C3'-O3'	6.01	125.03	113.00
1	1	2718	U	C4'-C3'-O3'	6.01	125.02	113.00
35	g	92	ALA	N-CA-C	6.01	127.23	111.00
1	1	3349	C	C5'-C4'-O4'	6.01	116.31	109.10
1	1	411	U	C5'-C4'-C3'	6.00	125.61	116.00
17	O	189	ASP	N-CA-C	6.00	127.21	111.00
1	1	1821	U	C2'-C3'-O3'	6.00	123.30	113.70
1	1	1530	U	N1-C1'-C2'	6.00	121.80	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	J	162	TRP	N-CA-C	6.00	127.20	111.00
1	1	1770	G	C5'-C4'-O4'	6.00	116.30	109.10
1	1	2622	C	C1'-C2'-O2'	6.00	128.60	110.60
1	1	268	A	OP2-P-O3'	6.00	118.39	105.20
1	1	2742	C	C5'-C4'-O4'	6.00	116.29	109.10
5	B	183	LEU	CB-CG-CD2	6.00	121.19	111.00
1	1	1484	U	C5'-C4'-O4'	5.99	116.29	109.10
1	1	2574	G	C3'-C2'-O2'	5.99	130.68	113.30
1	1	936	A	C5'-C4'-O4'	5.99	116.29	109.10
13	J	35	LYS	N-CA-C	5.99	127.17	111.00
45	t	194	LEU	CB-CG-CD2	5.99	121.18	111.00
2	3	85	G	C5'-C4'-O4'	5.99	116.29	109.10
5	B	179	ALA	N-CA-C	5.99	127.17	111.00
20	R	6	THR	N-CA-C	5.99	127.17	111.00
40	l	19	GLN	N-CA-C	5.99	127.17	111.00
1	1	1667	A	C5'-C4'-O4'	5.98	116.28	109.10
1	1	2874	G	C3'-C2'-O2'	5.98	130.64	113.30
1	1	1929	G	C5'-C4'-O4'	5.98	116.27	109.10
11	H	51	GLN	N-CA-C	5.98	127.14	111.00
21	S	12	ARG	N-CA-C	5.98	127.14	111.00
1	1	938	C	N1-C1'-C2'	5.97	121.77	114.00
1	1	2734	A	C5'-C4'-C3'	5.97	125.56	116.00
21	S	71	LYS	N-CA-C	5.97	127.13	111.00
1	1	1502	C	C5'-C4'-O4'	5.97	116.27	109.10
1	1	3134	A	C5'-C4'-O4'	5.97	116.27	109.10
35	g	13	TYR	CG-CD2-CE2	-5.97	116.53	121.30
38	j	65	ARG	N-CA-C	5.97	127.12	111.00
1	1	673	U	C4'-C3'-O3'	5.97	124.94	113.00
1	1	701	G	C5'-C4'-C3'	5.97	125.55	116.00
1	1	987	U	C5'-C4'-O4'	5.97	116.26	109.10
1	1	1888	U	C2'-C3'-O3'	5.97	123.25	113.70
1	1	2787	G	C4'-C3'-O3'	5.97	124.93	113.00
1	1	3205	G	C1'-C2'-O2'	5.97	128.50	110.60
1	1	2772	C	C1'-C2'-O2'	5.96	128.49	110.60
17	O	191	ALA	N-CA-C	5.96	127.10	111.00
1	1	368	G	C4'-C3'-O3'	5.96	124.92	113.00
1	1	2782	U	N1-C1'-C2'	5.96	121.75	114.00
27	Y	39	LEU	N-CA-C	5.96	127.09	111.00
17	O	185	ALA	N-CA-C	5.96	127.09	111.00
8	E	153	PRO	N-CA-C	5.96	127.59	112.10
1	1	2950	G	C5'-C4'-O4'	5.96	116.25	109.10
1	1	2320	A	C5'-C4'-O4'	5.95	116.24	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	106	U	C5'-C4'-O4'	5.95	116.24	109.10
1	1	1451	C	C5'-C4'-O4'	5.95	116.24	109.10
11	H	176	LEU	CB-CG-CD2	5.95	121.11	111.00
24	V	14	SER	N-CA-C	5.95	127.07	111.00
3	4	81	U	C4'-C3'-O3'	5.95	124.89	113.00
1	1	3001	C	C1'-C2'-O2'	5.95	128.44	110.60
1	1	98	G	C5'-C4'-O4'	5.94	116.23	109.10
34	f	63	LYS	N-CA-C	5.94	127.04	111.00
1	1	1600	U	C4'-C3'-O3'	5.94	124.88	113.00
1	1	2152	A	C4'-C3'-O3'	5.94	124.88	113.00
16	N	46	ASP	N-CA-C	5.94	127.04	111.00
1	1	527	A	C5'-C4'-O4'	5.94	116.23	109.10
1	1	1176	C	C5'-C4'-C3'	5.94	125.50	116.00
1	1	1844	C	N1-C1'-C2'	5.94	121.72	114.00
1	1	2267	C	C5'-C4'-C3'	5.94	125.50	116.00
1	1	2331	C	C5'-C4'-O4'	5.94	116.23	109.10
1	1	613	G	C5'-C4'-C3'	5.93	125.50	116.00
1	1	635	G	C5'-C4'-C3'	5.93	125.50	116.00
1	1	1835	A	C3'-C2'-O2'	5.93	130.51	113.30
1	1	672	A	C4'-C3'-O3'	5.93	124.85	113.00
1	1	2711	C	C1'-C2'-O2'	5.93	128.38	110.60
34	f	91	ALA	N-CA-C	5.93	127.00	111.00
1	1	1673	G	C5'-C4'-C3'	5.92	125.48	116.00
4	A	8	GLN	N-CA-C	5.92	126.99	111.00
20	R	21	LYS	N-CA-C	5.92	127.00	111.00
3	4	114	G	C5'-C4'-O4'	5.92	116.21	109.10
1	1	722	G	C4'-C3'-O3'	5.92	124.84	113.00
1	1	2637	A	C5'-C4'-O4'	5.92	116.21	109.10
4	A	96	LEU	N-CA-C	5.92	126.99	111.00
1	1	1100	U	C5'-C4'-C3'	5.92	125.47	116.00
1	1	1247	U	C4'-C3'-O3'	5.92	124.84	113.00
1	1	1773	C	C4'-C3'-O3'	5.92	124.83	113.00
1	1	1944	U	N1-C1'-C2'	5.92	121.69	114.00
2	3	56	A	C5'-C4'-C3'	5.92	125.47	116.00
5	B	43	LEU	CB-CG-CD1	5.92	121.06	111.00
1	1	3285	C	C4'-C3'-O3'	5.91	124.83	113.00
1	1	2563	G	C5'-C4'-O4'	5.91	116.19	109.10
1	1	31	C	C4'-C3'-O3'	5.91	124.82	113.00
1	1	1110	U	C5'-C4'-O4'	5.91	116.19	109.10
1	1	1543	G	C5'-C4'-O4'	5.91	116.19	109.10
1	1	420	G	C5'-C4'-O4'	5.91	116.19	109.10
1	1	682	U	C5'-C4'-C3'	5.91	125.45	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2130	G	C4'-C3'-O3'	5.91	124.81	113.00
1	1	200	C	C5'-C4'-C3'	5.90	125.45	116.00
1	1	1336	U	N1-C1'-C2'	5.90	121.67	114.00
1	1	1832	C	N1-C1'-C2'	5.90	121.67	114.00
1	1	2428	U	C5'-C4'-O4'	5.90	116.18	109.10
1	1	2486	A	C5'-C4'-C3'	5.90	125.44	116.00
1	1	2593	A	C4'-C3'-O3'	5.90	124.80	113.00
1	1	3221	C	C5'-C4'-O4'	5.90	116.18	109.10
1	1	2311	G	C4'-C3'-O3'	5.90	124.80	113.00
1	1	2416	U	C1'-C2'-O2'	5.90	128.29	110.60
1	1	2782	U	C5'-C4'-O4'	5.90	116.17	109.10
1	1	3131	U	C5'-C4'-O4'	5.89	116.17	109.10
1	1	639	G	C1'-C2'-O2'	5.89	128.28	110.60
1	1	992	A	N9-C1'-C2'	5.89	121.66	114.00
1	1	2282	U	C5'-C4'-O4'	5.89	116.17	109.10
1	1	3232	G	C5'-C4'-C3'	5.89	125.42	116.00
1	1	313	A	C5'-C4'-O4'	5.89	116.17	109.10
4	A	26	ALA	N-CA-C	5.89	126.90	111.00
12	I	148	VAL	N-CA-C	5.89	126.90	111.00
1	1	560	G	C5'-C4'-O4'	5.88	116.16	109.10
5	B	173	GLN	N-CA-C	5.88	126.89	111.00
1	1	82	C	N1-C1'-C2'	5.88	121.65	114.00
1	1	2439	A	C1'-C2'-O2'	5.88	128.25	110.60
1	1	2596	U	C4'-C3'-O3'	5.88	124.77	113.00
16	N	7	LEU	N-CA-C	5.88	126.89	111.00
36	h	105	ARG	N-CA-C	5.88	126.88	111.00
1	1	2440	G	C5'-C4'-C3'	5.88	125.41	116.00
1	1	643	U	C4'-C3'-O3'	5.88	124.76	113.00
1	1	739	G	C2'-C3'-O3'	5.88	123.10	113.70
1	1	1911	A	C5'-C4'-O4'	5.88	116.15	109.10
34	f	15	SER	N-CA-C	5.88	126.87	111.00
1	1	981	U	C4'-C3'-O3'	5.88	124.75	113.00
1	1	1189	C	C2'-C3'-O3'	5.88	123.10	113.70
1	1	191	U	C5'-C4'-C3'	5.87	125.40	116.00
1	1	1649	U	C5'-C4'-O4'	5.87	116.14	109.10
1	1	1524	A	C5'-C4'-C3'	5.87	125.39	116.00
1	1	1686	U	C5'-C4'-O4'	5.87	116.14	109.10
39	k	18	ALA	N-CA-C	5.87	126.85	111.00
1	1	981	U	C5'-C4'-C3'	5.87	125.39	116.00
1	1	2511	C	C4'-C3'-O3'	5.87	124.73	113.00
1	1	897	U	C3'-C2'-O2'	5.86	130.31	113.30
1	1	2208	A	C5'-C4'-C3'	5.86	125.38	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	108	A	N9-C1'-C2'	5.86	121.62	114.00
1	1	1246	G	C5'-C4'-C3'	5.86	125.38	116.00
1	1	2960	C	C4'-C3'-O3'	5.86	124.72	113.00
1	1	1511	U	C1'-C2'-O2'	5.86	128.17	110.60
1	1	2511	C	C5'-C4'-C3'	5.85	125.37	116.00
1	1	2320	A	C5'-C4'-C3'	5.85	125.36	116.00
1	1	2451	U	C5'-C4'-C3'	5.85	125.36	116.00
1	1	3020	U	C5'-C4'-O4'	5.85	116.12	109.10
1	1	1570	U	C5'-C4'-O4'	5.85	116.12	109.10
1	1	2349	U	C5'-C4'-O4'	5.85	116.12	109.10
8	E	172	HIS	N-CA-C	5.85	126.79	111.00
1	1	32	U	C5'-C4'-O4'	5.85	116.12	109.10
1	1	2686	A	C5'-C4'-O4'	5.85	116.12	109.10
1	1	735	A	C5'-C4'-C3'	5.85	125.35	116.00
1	1	1704	A	C1'-C2'-O2'	5.84	128.13	110.60
4	A	32	LEU	N-CA-C	5.84	126.78	111.00
1	1	291	C	C3'-C2'-O2'	5.84	130.24	113.30
1	1	2357	A	N9-C1'-C2'	5.84	121.59	114.00
1	1	3236	U	N1-C1'-C2'	5.84	121.59	114.00
5	B	75	ALA	N-CA-C	5.84	126.76	111.00
14	L	38	ALA	N-CA-C	5.84	126.76	111.00
1	1	1944	U	C5'-C4'-C3'	5.83	125.34	116.00
1	1	1555	U	C4'-C3'-O3'	5.83	124.67	113.00
1	1	2385	G	C5'-C4'-O4'	5.83	116.10	109.10
1	1	2955	U	C5'-C4'-O4'	5.83	116.10	109.10
1	1	1596	C	C5'-C4'-O4'	5.83	116.09	109.10
1	1	2369	G	C5'-C4'-O4'	5.83	116.09	109.10
10	G	216	SER	N-CA-C	5.83	126.74	111.00
1	1	1162	U	OP2-P-O3'	5.82	118.01	105.20
1	1	3057	U	C2'-C3'-O3'	5.82	123.01	113.70
1	1	2393	G	C5'-C4'-O4'	5.82	116.08	109.10
1	1	542	G	C4'-C3'-O3'	5.82	124.63	113.00
43	o	77	CYS	N-CA-C	5.81	126.70	111.00
1	1	646	A	C5'-C4'-O4'	5.81	116.07	109.10
1	1	2597	U	C5'-C4'-O4'	5.81	116.07	109.10
1	1	175	C	C5'-C4'-O4'	5.81	116.07	109.10
31	c	46	ALA	N-CA-C	5.81	126.69	111.00
35	g	84	CYS	N-CA-C	5.81	126.68	111.00
1	1	134	U	C5'-C4'-O4'	5.81	116.07	109.10
9	F	188	ILE	CG1-CB-CG2	5.81	124.17	111.40
1	1	1535	A	C5'-C4'-O4'	5.80	116.06	109.10
13	J	62	ASN	N-CA-C	5.80	126.67	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3127	A	C3'-C2'-O2'	5.80	130.12	113.30
6	C	5	GLN	N-CA-C	5.80	126.67	111.00
20	R	5	ARG	N-CA-C	5.80	126.66	111.00
1	1	912	G	C5'-C4'-O4'	5.80	116.06	109.10
3	4	99	C	C5'-C4'-O4'	5.80	116.06	109.10
5	B	183	LEU	CB-CG-CD1	5.80	120.86	111.00
1	1	196	G	C1'-C2'-O2'	5.80	127.99	110.60
1	1	730	C	C3'-C2'-O2'	5.80	130.11	113.30
21	S	119	ARG	N-CA-C	5.80	126.65	111.00
1	1	2180	G	N9-C1'-C2'	5.79	121.53	114.00
1	1	415	G	C3'-C2'-O2'	5.79	130.09	113.30
1	1	3226	A	C5'-C4'-C3'	5.79	125.27	116.00
1	1	3297	U	C3'-C2'-O2'	5.79	130.09	113.30
3	4	52	A	C3'-C2'-O2'	5.79	130.09	113.30
7	D	109	THR	N-CA-C	5.79	126.64	111.00
1	1	2207	A	C5'-C4'-C3'	5.79	125.26	116.00
1	1	1623	G	C5'-C4'-C3'	5.79	125.26	116.00
16	N	161	ALA	N-CA-C	5.79	126.63	111.00
2	3	115	G	C5'-C4'-O4'	5.79	116.05	109.10
10	G	99	PRO	N-CA-C	5.79	127.15	112.10
1	1	189	G	C5'-C4'-O4'	5.79	116.04	109.10
1	1	1297	C	C5'-C4'-O4'	5.79	116.04	109.10
1	1	2150	G	C3'-C2'-O2'	5.79	130.08	113.30
1	1	2501	U	C4'-C3'-O3'	5.79	124.57	113.00
1	1	2967	A	N9-C1'-C2'	5.78	121.52	114.00
1	1	551	A	C4'-C3'-O3'	5.78	124.56	113.00
1	1	879	U	O4'-C1'-N1	5.78	112.83	108.20
1	1	560	G	C5'-C4'-C3'	5.78	125.25	116.00
1	1	250	U	C5'-C4'-O4'	5.78	116.03	109.10
1	1	2721	A	C3'-C2'-O2'	5.78	130.06	113.30
5	B	43	LEU	CB-CG-CD2	5.78	120.82	111.00
1	1	1422	G	C4'-C3'-O3'	5.77	124.55	113.00
6	C	172	VAL	N-CA-C	5.77	126.59	111.00
1	1	1186	G	C1'-C2'-O2'	5.77	127.91	110.60
3	4	75	G	C4'-C3'-O3'	5.77	124.54	113.00
1	1	538	G	C4'-C3'-O3'	5.76	124.53	113.00
1	1	1208	U	C1'-C2'-O2'	5.76	127.89	110.60
1	1	2454	G	C5'-C4'-C3'	5.76	125.22	116.00
2	3	61	G	C3'-C2'-O2'	5.76	130.02	113.30
3	4	63	G	C3'-C2'-O2'	5.76	130.02	113.30
21	S	70	THR	N-CA-C	5.76	126.56	111.00
31	c	76	GLU	N-CA-C	5.76	126.56	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1235	U	C5'-C4'-O4'	5.76	116.02	109.10
1	1	1282	G	C5'-C4'-C3'	5.76	125.22	116.00
1	1	1420	C	C3'-C2'-O2'	5.76	130.01	113.30
1	1	2282	U	C5'-C4'-C3'	5.76	125.22	116.00
1	1	3391	A	C3'-C2'-O2'	5.76	130.01	113.30
1	1	3319	U	C5'-C4'-C3'	5.76	125.22	116.00
36	h	63	ARG	N-CA-C	5.76	126.55	111.00
43	o	93	LEU	N-CA-C	5.76	126.56	111.00
1	1	837	A	N9-C1'-C2'	5.76	121.49	114.00
45	t	198	TRP	N-CA-C	5.76	126.55	111.00
1	1	1438	U	C5'-C4'-O4'	5.76	116.01	109.10
1	1	1298	C	C1'-C2'-O2'	5.76	127.87	110.60
3	4	71	A	O4'-C1'-N9	5.76	112.81	108.20
1	1	258	G	C3'-C2'-O2'	5.75	129.98	113.30
1	1	1357	G	N9-C1'-C2'	5.75	121.48	114.00
1	1	3209	A	C3'-C2'-O2'	5.75	129.98	113.30
13	J	112	LEU	N-CA-C	5.75	126.53	111.00
1	1	1711	C	C1'-C2'-O2'	5.75	127.84	110.60
1	1	1885	U	C1'-C2'-O2'	5.75	127.84	110.60
1	1	188	U	C5'-C4'-C3'	5.75	125.19	116.00
1	1	1212	A	C4'-C3'-O3'	5.75	124.49	113.00
1	1	832	G	C4'-C3'-O3'	5.74	124.49	113.00
1	1	759	U	C3'-C2'-O2'	5.74	129.94	113.30
28	Z	105	SER	N-CA-C	5.74	126.49	111.00
45	t	90	LEU	N-CA-C	5.74	126.49	111.00
15	M	46	ILE	N-CA-C	5.74	126.48	111.00
1	1	2956	A	C1'-C2'-O2'	5.73	127.80	110.60
1	1	581	U	C5'-C4'-O4'	5.73	115.98	109.10
1	1	778	U	C4'-C3'-O3'	5.73	124.47	113.00
1	1	2288	G	C4'-C3'-O3'	5.73	124.46	113.00
1	1	777	U	C5'-C4'-C3'	5.73	125.17	116.00
1	1	759	U	N1-C1'-C2'	5.73	121.45	114.00
1	1	3219	G	C1'-C2'-O2'	5.73	127.79	110.60
19	Q	97	PRO	N-CA-C	5.73	126.99	112.10
1	1	1296	C	C1'-C2'-O2'	5.72	127.78	110.60
1	1	2651	G	C5'-C4'-O4'	5.72	115.97	109.10
1	1	1445	U	OP2-P-O3'	5.72	117.79	105.20
1	1	1534	A	C5'-C4'-C3'	5.72	125.16	116.00
1	1	1942	U	C3'-C2'-O2'	5.72	129.89	113.30
1	1	2557	A	C1'-C2'-O2'	5.72	127.77	110.60
1	1	647	A	C4'-C3'-O3'	5.72	124.44	113.00
1	1	677	A	O4'-C1'-N9	5.72	112.78	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1848	G	C1'-C2'-O2'	5.72	127.75	110.60
3	4	82	U	O4'-C1'-N1	5.72	112.77	108.20
1	1	2784	G	C4'-C3'-O3'	5.71	124.43	113.00
35	g	73	SER	N-CA-C	5.71	126.43	111.00
1	1	1222	G	C5'-C4'-O4'	5.71	115.95	109.10
2	3	78	U	C5'-C4'-O4'	5.71	115.95	109.10
3	4	125	U	C2'-C3'-O3'	5.71	122.84	113.70
1	1	1946	A	N9-C1'-C2'	5.71	121.42	114.00
1	1	2156	C	C2'-C3'-O3'	5.71	122.84	113.70
13	J	163	PHE	N-CA-C	5.71	126.42	111.00
1	1	288	C	C1'-C2'-O2'	5.71	127.72	110.60
1	1	2165	G	C5'-C4'-O4'	5.71	115.95	109.10
2	3	49	G	C5'-C4'-O4'	5.71	115.95	109.10
34	f	78	SER	N-CA-C	5.71	126.41	111.00
1	1	3096	C	C5'-C4'-O4'	5.71	115.95	109.10
35	g	29	ILE	CG1-CB-CG2	5.71	123.95	111.40
1	1	884	A	C1'-C2'-O2'	5.71	127.71	110.60
6	C	195	ARG	N-CA-C	5.71	126.40	111.00
1	1	1382	G	C5'-C4'-C3'	5.70	125.12	116.00
25	W	41	LYS	N-CA-C	5.70	126.40	111.00
1	1	1459	C	C5'-C4'-O4'	5.70	115.94	109.10
36	h	73	LYS	N-CA-C	5.70	126.39	111.00
1	1	549	U	C1'-C2'-O2'	5.70	127.70	110.60
1	1	1558	A	C2'-C3'-O3'	5.70	122.82	113.70
1	1	2604	U	N1-C1'-C2'	5.70	121.41	114.00
1	1	1377	G	N9-C1'-C2'	5.70	121.41	114.00
1	1	1179	A	N9-C1'-C2'	5.70	121.40	114.00
1	1	2945	G	C5'-C4'-C3'	5.70	125.11	116.00
1	1	2291	A	C3'-C2'-O2'	5.69	129.81	113.30
3	4	141	C	C5'-C4'-O4'	5.69	115.93	109.10
7	D	293	LEU	N-CA-C	5.69	126.37	111.00
1	1	2789	U	C3'-C2'-O2'	5.69	129.80	113.30
1	1	3171	U	C3'-C2'-O2'	5.69	129.80	113.30
3	4	158	U	C4'-C3'-O3'	5.69	124.38	113.00
24	V	93	LEU	N-CA-C	5.69	126.36	111.00
1	1	2375	G	C5'-C4'-O4'	5.69	115.92	109.10
1	1	1533	U	C3'-C2'-O2'	5.69	129.79	113.30
1	1	3020	U	C4'-C3'-O3'	5.68	124.36	113.00
1	1	418	A	C3'-C2'-O2'	5.68	129.77	113.30
1	1	652	G	C1'-C2'-O2'	5.68	127.64	110.60
1	1	1301	A	C5'-C4'-O4'	5.68	115.92	109.10
1	1	1363	A	C4'-C3'-O3'	5.68	124.36	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2295	A	C4'-C3'-O3'	5.68	124.36	113.00
1	1	2945	G	C3'-C2'-O2'	5.68	129.77	113.30
1	1	86	G	C1'-C2'-O2'	5.68	127.63	110.60
1	1	1348	U	C3'-C2'-O2'	5.68	129.76	113.30
1	1	1524	A	C3'-C2'-O2'	5.68	129.76	113.30
1	1	1400	G	C3'-C2'-O2'	5.67	129.76	113.30
1	1	1372	C	C5'-C4'-C3'	5.67	125.08	116.00
1	1	2470	C	O4'-C1'-N1	5.67	112.74	108.20
3	4	120	C	C4'-C3'-O3'	5.67	124.35	113.00
1	1	84	U	C1'-C2'-O2'	5.67	127.61	110.60
1	1	1588	A	C1'-C2'-O2'	5.67	127.62	110.60
1	1	3165	A	C4'-C3'-O3'	5.67	124.34	113.00
3	4	135	G	C4'-C3'-O3'	5.67	124.34	113.00
5	B	314	TYR	CG-CD1-CE1	-5.67	116.76	121.30
1	1	572	A	C5'-C4'-C3'	5.67	125.07	116.00
43	o	76	LYS	N-CA-C	5.67	126.31	111.00
1	1	1519	G	C3'-C2'-O2'	5.67	129.74	113.30
1	1	3134	A	C5'-C4'-C3'	5.67	125.07	116.00
4	A	239	ALA	N-CA-C	5.67	126.30	111.00
12	I	79	VAL	CB-CA-C	5.67	122.17	111.40
1	1	1698	C	C4'-C3'-O3'	5.67	124.33	113.00
1	1	2511	C	C1'-C2'-O2'	5.67	127.60	110.60
45	t	93	LEU	N-CA-C	5.67	126.30	111.00
1	1	1185	C	C1'-C2'-O2'	5.67	127.59	110.60
1	1	2320	A	C4'-C3'-O3'	5.66	124.33	113.00
12	I	5	PRO	N-CA-C	5.66	126.82	112.10
1	1	1402	C	N1-C1'-C2'	5.66	121.36	114.00
1	1	1565	G	C5'-C4'-O4'	5.66	115.89	109.10
1	1	1466	G	C5'-C4'-O4'	5.66	115.89	109.10
1	1	2149	A	C3'-C2'-O2'	5.66	129.72	113.30
1	1	2955	U	C4'-C3'-O3'	5.66	124.32	113.00
10	G	74	THR	N-CA-C	5.66	126.28	111.00
1	1	514	G	C1'-C2'-O2'	5.66	127.57	110.60
1	1	2351	U	N1-C1'-C2'	5.66	121.35	114.00
1	1	2636	A	C5'-C4'-O4'	5.66	115.89	109.10
1	1	2539	C	C5'-C4'-O4'	5.65	115.88	109.10
9	F	61	ASN	N-CA-C	5.65	126.26	111.00
15	M	85	TRP	N-CA-C	5.65	126.26	111.00
45	t	101	LYS	N-CA-C	5.65	126.26	111.00
36	h	71	LYS	N-CA-C	5.65	126.26	111.00
1	1	323	A	C4'-C3'-O3'	5.65	124.30	113.00
1	1	538	G	C5'-C4'-O4'	5.65	115.88	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3146	G	C5'-C4'-O4'	5.65	115.88	109.10
21	S	99	ARG	N-CA-C	5.65	126.25	111.00
42	n	1	MET	N-CA-C	5.65	126.25	111.00
1	1	379	C	C3'-C2'-O2'	5.65	129.67	113.30
1	1	886	C	C1'-C2'-O2'	5.65	127.54	110.60
1	1	2126	A	C1'-C2'-O2'	5.65	127.54	110.60
1	1	364	G	C1'-C2'-O2'	5.64	127.53	110.60
1	1	1039	U	C3'-C2'-O2'	5.64	129.67	113.30
1	1	2520	A	C3'-C2'-O2'	5.64	129.67	113.30
1	1	3152	U	C5'-C4'-C3'	5.64	125.03	116.00
27	Y	91	ASN	N-CA-C	5.64	126.24	111.00
1	1	1785	U	C3'-C2'-O2'	5.64	129.67	113.30
1	1	3185	U	C5'-C4'-O4'	5.64	115.87	109.10
1	1	2175	U	C1'-C2'-O2'	5.64	127.52	110.60
2	3	11	A	C3'-C2'-O2'	5.64	129.65	113.30
1	1	573	C	C4'-C3'-O3'	5.64	124.28	113.00
1	1	961	C	C1'-C2'-O2'	5.64	127.51	110.60
1	1	2587	U	C1'-C2'-O2'	5.63	127.50	110.60
4	A	187	HIS	N-CA-C	5.63	126.22	111.00
1	1	141	C	C1'-C2'-O2'	5.63	127.50	110.60
1	1	1224	C	C4'-C3'-O3'	5.63	124.26	113.00
1	1	2195	C	C4'-C3'-O3'	5.63	124.26	113.00
1	1	3335	A	C4'-C3'-O3'	5.63	124.26	113.00
5	B	379	PHE	N-CA-C	5.63	126.20	111.00
1	1	2383	C	O4'-C1'-N1	5.63	112.70	108.20
36	h	9	LEU	N-CA-C	5.63	126.20	111.00
1	1	2619	G	C5'-C4'-O4'	5.63	115.85	109.10
20	R	104	ARG	N-CA-C	5.63	126.19	111.00
1	1	2225	U	C1'-C2'-O2'	5.62	127.47	110.60
26	X	53	HIS	N-CA-C	5.62	126.19	111.00
1	1	1735	G	C1'-C2'-O2'	5.62	127.47	110.60
1	1	3253	G	C3'-C2'-O2'	5.62	129.61	113.30
1	1	607	A	C5'-C4'-O4'	5.62	115.85	109.10
1	1	616	G	C1'-C2'-O2'	5.62	127.47	110.60
1	1	1132	C	C3'-C2'-O2'	5.62	129.60	113.30
1	1	1773	C	C5'-C4'-C3'	5.62	125.00	116.00
1	1	394	G	C1'-C2'-O2'	5.62	127.46	110.60
1	1	1769	G	C1'-C2'-O2'	5.62	127.46	110.60
1	1	2108	C	C3'-C2'-O2'	5.62	129.59	113.30
3	4	158	U	C5'-C4'-O4'	5.62	115.84	109.10
1	1	538	G	C5'-C4'-C3'	5.62	124.99	116.00
1	1	2700	G	C5'-C4'-O4'	5.62	115.84	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	387	A	C4'-C3'-O3'	5.62	124.23	113.00
1	1	2191	U	C3'-C2'-O2'	5.62	129.58	113.30
10	G	144	GLU	N-CA-C	5.62	126.16	111.00
1	1	1565	G	C5'-C4'-C3'	5.61	124.98	116.00
45	t	203	SER	N-CA-C	5.61	126.16	111.00
1	1	792	G	N9-C1'-C2'	5.61	121.30	114.00
1	1	1568	U	O4'-C1'-N1	5.61	112.69	108.20
12	I	72	ALA	N-CA-CB	5.61	117.96	110.10
1	1	824	C	N1-C1'-C2'	5.61	121.30	114.00
3	4	98	U	C4'-C3'-O3'	5.61	124.22	113.00
11	H	176	LEU	CB-CG-CD1	5.61	120.54	111.00
1	1	2378	C	N1-C1'-C2'	5.61	121.29	114.00
1	1	2316	G	C1'-C2'-O2'	5.61	127.42	110.60
1	1	2636	A	C5'-C4'-C3'	5.61	124.97	116.00
22	T	78	LYS	N-CA-C	5.61	126.14	111.00
39	k	69	LEU	N-CA-C	5.61	126.14	111.00
2	3	27	A	C1'-C2'-O2'	5.60	127.41	110.60
1	1	1547	G	C4'-C3'-O3'	5.60	124.20	113.00
1	1	2403	G	C1'-C2'-O2'	5.60	127.40	110.60
1	1	1499	C	C3'-C2'-O2'	5.60	129.54	113.30
1	1	527	A	C5'-C4'-C3'	5.60	124.96	116.00
1	1	735	A	C5'-C4'-O4'	5.60	115.82	109.10
1	1	3051	U	C5'-C4'-C3'	5.60	124.95	116.00
1	1	25	U	C4'-C3'-O3'	5.59	124.19	113.00
43	o	63	LYS	N-CA-C	5.59	126.11	111.00
1	1	3285	C	C5'-C4'-O4'	5.59	115.81	109.10
1	1	565	U	C3'-C2'-O2'	5.59	129.52	113.30
5	B	363	SER	N-CA-C	5.59	126.10	111.00
8	E	34	LEU	N-CA-C	5.59	126.10	111.00
3	4	106	C	O4'-C1'-N1	5.59	112.67	108.20
11	H	142	ASP	N-CA-C	5.59	126.09	111.00
18	P	169	THR	N-CA-C	5.59	126.09	111.00
1	1	1336	U	C3'-C2'-O2'	5.59	129.50	113.30
44	p	37	TYR	CG-CD1-CE1	-5.59	116.83	121.30
1	1	3295	A	C4'-C3'-O3'	5.59	124.17	113.00
6	C	50	TYR	N-CA-C	5.59	126.08	111.00
6	C	314	LYS	N-CA-C	5.59	126.08	111.00
1	1	2601	A	C1'-C2'-O2'	5.58	127.36	110.60
1	1	1547	G	C5'-C4'-C3'	5.58	124.93	116.00
1	1	2468	A	C4'-C3'-O3'	5.58	124.17	113.00
27	Y	12	ARG	N-CA-C	5.58	126.08	111.00
1	1	1462	A	C5'-C4'-O4'	5.58	115.80	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1504	A	C5'-C4'-C3'	5.58	124.93	116.00
3	4	53	A	C4'-C3'-O3'	5.58	124.16	113.00
14	L	194	GLU	N-CA-C	5.58	126.06	111.00
1	1	237	G	C1'-C2'-O2'	5.58	127.33	110.60
3	4	107	G	C3'-C2'-O2'	5.58	129.47	113.30
1	1	168	U	C5'-C4'-O4'	5.57	115.79	109.10
1	1	549	U	C3'-C2'-O2'	5.57	129.47	113.30
1	1	1629	U	C4'-C3'-O3'	5.57	124.15	113.00
1	1	3163	A	C4'-C3'-O3'	5.57	124.15	113.00
45	t	2	SER	N-CA-C	5.57	126.04	111.00
1	1	2114	C	C1'-C2'-O2'	5.57	127.31	110.60
1	1	2358	A	C3'-C2'-O2'	5.57	129.45	113.30
1	1	2789	U	N1-C1'-C2'	5.57	121.24	114.00
1	1	2842	U	O4'-C4'-C3'	5.57	110.56	106.10
1	1	1110	U	C4'-C3'-O3'	5.57	124.14	113.00
7	D	12	TYR	CG-CD2-CE2	-5.57	116.84	121.30
1	1	2505	U	C4'-C3'-O3'	5.57	124.14	113.00
1	1	1628	C	C5'-C4'-O4'	5.57	115.78	109.10
1	1	2777	G	C1'-C2'-O2'	5.56	127.29	110.60
20	R	100	ARG	N-CA-C	5.56	126.02	111.00
1	1	2273	G	C1'-C2'-O2'	5.56	127.29	110.60
1	1	2610	G	C1'-C2'-O2'	5.56	127.29	110.60
33	e	55	ILE	N-CA-C	5.56	126.02	111.00
1	1	3222	U	C3'-C2'-O2'	5.56	129.43	113.30
1	1	2838	A	C1'-C2'-O2'	5.56	127.28	110.60
44	p	90	VAL	N-CA-C	5.56	126.01	111.00
1	1	3243	A	C3'-C2'-O2'	5.56	129.42	113.30
1	1	3278	C	C5'-C4'-C3'	5.56	124.89	116.00
18	P	97	ASN	N-CA-C	5.56	126.00	111.00
1	1	32	U	C3'-C2'-O2'	5.56	129.41	113.30
33	e	123	LYS	N-CA-C	5.55	126.00	111.00
1	1	190	U	C4'-C3'-O3'	5.55	124.11	113.00
1	1	2308	C	C1'-C2'-O2'	5.55	127.26	110.60
14	L	133	PRO	N-CA-C	5.55	126.54	112.10
1	1	373	A	C5'-C4'-C3'	5.55	124.88	116.00
1	1	1892	G	C1'-C2'-O2'	5.55	127.26	110.60
1	1	2121	G	C3'-C2'-O2'	5.55	129.40	113.30
1	1	435	C	C3'-C2'-O2'	5.55	129.39	113.30
1	1	1599	G	N9-C1'-C2'	5.55	121.21	114.00
1	1	1673	G	C4'-C3'-O3'	5.55	124.10	113.00
1	1	1705	U	C1'-C2'-O2'	5.55	127.25	110.60
1	1	2667	A	C4'-C3'-O3'	5.55	124.10	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	R	106	LEU	N-CA-C	5.55	125.98	111.00
1	1	2314	U	C3'-C2'-O2'	5.55	129.39	113.30
5	B	301	THR	N-CA-C	5.55	125.98	111.00
17	O	20	ALA	N-CA-C	5.55	125.98	111.00
31	c	87	VAL	N-CA-C	5.55	125.98	111.00
1	1	41	G	OP1-P-O3'	-5.55	93.00	105.20
2	3	53	U	C4'-C3'-O3'	5.55	124.09	113.00
3	4	52	A	C1'-C2'-O2'	5.55	127.24	110.60
24	V	54	LEU	N-CA-C	5.55	125.98	111.00
24	V	69	LEU	N-CA-C	5.55	125.97	111.00
1	1	47	C	OP2-P-O3'	5.54	117.40	105.20
1	1	1448	U	C1'-C2'-O2'	5.54	127.23	110.60
1	1	3313	U	C4'-C3'-O3'	5.54	124.09	113.00
1	1	390	G	C3'-C2'-O2'	5.54	129.38	113.30
1	1	1324	U	C4'-C3'-O3'	5.54	124.08	113.00
1	1	1508	C	C3'-C2'-O2'	5.54	129.37	113.30
1	1	1005	G	C1'-C2'-O2'	5.54	127.22	110.60
5	B	123	TYR	CG-CD1-CE1	-5.54	116.87	121.30
16	N	87	GLN	N-CA-C	5.54	125.96	111.00
1	1	183	G	C5'-C4'-C3'	5.54	124.86	116.00
1	1	2690	G	C5'-C4'-C3'	5.54	124.86	116.00
3	4	106	C	C1'-C2'-O2'	5.54	127.22	110.60
1	1	864	G	C3'-C2'-O2'	5.54	129.36	113.30
1	1	1654	A	C5'-C4'-C3'	5.54	124.86	116.00
1	1	1725	C	C3'-C2'-O2'	5.54	129.35	113.30
1	1	2996	U	C1'-C2'-O2'	5.54	127.21	110.60
1	1	1854	C	N1-C1'-C2'	5.53	121.19	114.00
1	1	2833	A	C3'-C2'-O2'	5.53	129.34	113.30
1	1	1906	G	C5'-C4'-C3'	5.53	124.85	116.00
1	1	2777	G	C3'-C2'-O2'	5.53	129.34	113.30
1	1	547	G	C5'-C4'-C3'	5.53	124.85	116.00
1	1	2955	U	C5'-C4'-C3'	5.53	124.85	116.00
38	j	27	PHE	N-CA-C	5.53	125.93	111.00
1	1	2981	U	C3'-C2'-O2'	5.53	129.33	113.30
1	1	1839	A	C3'-C2'-O2'	5.53	129.33	113.30
3	4	13	A	C1'-C2'-O2'	5.53	127.18	110.60
1	1	741	U	C5'-C4'-C3'	5.53	124.84	116.00
1	1	1149	G	C4'-C3'-O3'	5.53	124.05	113.00
1	1	2199	G	C5'-C4'-C3'	5.53	124.84	116.00
1	1	1451	C	C5'-C4'-C3'	5.52	124.84	116.00
1	1	241	G	C3'-C2'-O2'	5.52	129.31	113.30
17	O	48	PHE	N-CA-C	5.52	125.91	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1498	A	C3'-C2'-O2'	5.52	129.31	113.30
1	1	2731	U	C4'-C3'-O3'	5.52	124.04	113.00
1	1	3116	G	O4'-C1'-N9	5.52	112.62	108.20
1	1	1905	G	C5'-C4'-C3'	5.52	124.83	116.00
1	1	2104	A	C3'-C2'-O2'	5.52	129.31	113.30
1	1	2700	G	N9-C1'-C2'	5.52	121.17	114.00
1	1	232	G	C3'-C2'-O2'	5.52	129.30	113.30
1	1	546	C	C4'-C3'-O3'	5.52	124.04	113.00
14	L	106	GLN	N-CA-C	5.52	125.90	111.00
1	1	584	G	C1'-C2'-O2'	5.52	127.15	110.60
3	4	121	U	C3'-C2'-O2'	5.51	129.29	113.30
8	E	131	LYS	N-CA-C	5.51	125.89	111.00
1	1	3308	C	C1'-C2'-O2'	5.51	127.14	110.60
1	1	1799	A	C5'-C4'-C3'	5.51	124.82	116.00
1	1	2689	A	C5'-C4'-C3'	5.51	124.82	116.00
3	4	111	A	C1'-C2'-O2'	5.51	127.13	110.60
10	G	96	LYS	N-CA-C	5.51	125.88	111.00
1	1	864	G	C1'-C2'-O2'	5.51	127.12	110.60
1	1	1812	G	C5'-C4'-C3'	5.51	124.81	116.00
39	k	28	ASN	N-CA-C	5.50	125.86	111.00
1	1	3016	A	C5'-C4'-C3'	5.50	124.80	116.00
2	3	8	G	C1'-C2'-O2'	5.50	127.11	110.60
1	1	208	C	C1'-C2'-O2'	5.50	127.10	110.60
1	1	250	U	C5'-C4'-C3'	5.50	124.80	116.00
1	1	2182	A	C5'-C4'-C3'	5.50	124.80	116.00
1	1	2965	U	OP1-P-O3'	-5.50	93.10	105.20
1	1	1040	A	N9-C1'-C2'	5.50	121.15	114.00
1	1	2776	C	C5'-C4'-C3'	5.50	124.80	116.00
1	1	3208	G	C1'-C2'-O2'	5.50	127.10	110.60
1	1	938	C	C5'-C4'-O4'	5.50	115.69	109.10
1	1	1099	A	N9-C1'-C2'	5.50	121.15	114.00
12	I	146	ASP	N-CA-C	5.50	125.84	111.00
17	O	41	LEU	N-CA-C	5.50	125.84	111.00
37	i	98	ARG	N-CA-C	5.50	125.84	111.00
1	1	1545	A	N9-C1'-C2'	5.49	121.14	114.00
1	1	1885	U	O4'-C1'-N1	5.49	112.59	108.20
1	1	2427	U	C5'-C4'-C3'	5.49	124.79	116.00
1	1	2968	G	C5'-C4'-C3'	5.49	124.79	116.00
1	1	1935	G	C1'-C2'-O2'	5.49	127.08	110.60
1	1	2374	C	C1'-C2'-O2'	5.49	127.08	110.60
1	1	2826	U	C1'-C2'-O2'	5.49	127.08	110.60
3	4	117	C	C3'-C2'-O2'	5.49	129.23	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1466	G	C3'-C2'-O2'	5.49	129.22	113.30
1	1	1556	C	C1'-C2'-O2'	5.49	127.07	110.60
1	1	2405	C	C3'-C2'-O2'	5.49	129.22	113.30
1	1	2439	A	C3'-C2'-O2'	5.49	129.22	113.30
1	1	2678	A	C5'-C4'-C3'	5.49	124.78	116.00
2	3	57	G	C4'-C3'-O3'	5.49	123.98	113.00
3	4	49	G	C5'-C4'-C3'	5.49	124.78	116.00
1	1	2623	G	C1'-C2'-O2'	5.49	127.07	110.60
35	g	14	ASN	N-CA-C	5.49	125.82	111.00
1	1	1737	U	C3'-C2'-O2'	5.49	129.21	113.30
1	1	2695	A	C5'-C4'-O4'	5.49	115.68	109.10
1	1	371	G	C1'-C2'-O2'	5.49	127.06	110.60
1	1	3050	U	C4'-C3'-O3'	5.49	123.97	113.00
1	1	275	U	C3'-C2'-O2'	5.48	129.20	113.30
1	1	311	C	C3'-C2'-O2'	5.48	129.20	113.30
1	1	1814	A	C5'-C4'-C3'	5.48	124.77	116.00
1	1	1817	G	C4'-C3'-O3'	5.48	123.97	113.00
1	1	1824	U	C5'-C4'-C3'	5.48	124.77	116.00
1	1	2110	G	C1'-C2'-O2'	5.48	127.05	110.60
1	1	2172	A	C3'-C2'-O2'	5.48	129.20	113.30
1	1	2421	U	C1'-C2'-O2'	5.48	127.05	110.60
27	Y	3	LYS	N-CA-C	5.48	125.80	111.00
38	j	45	ARG	N-CA-C	5.48	125.80	111.00
1	1	2505	U	C5'-C4'-C3'	5.48	124.77	116.00
18	P	146	ILE	CG1-CB-CG2	5.48	123.46	111.40
16	N	102	ALA	N-CA-C	5.48	125.79	111.00
2	3	67	G	C1'-C2'-O2'	5.48	127.03	110.60
1	1	358	G	C1'-C2'-O2'	5.47	127.02	110.60
1	1	3349	C	C5'-C4'-C3'	5.47	124.76	116.00
2	3	115	G	C4'-C3'-O3'	5.47	123.95	113.00
3	4	108	C	N1-C1'-C2'	5.47	121.12	114.00
1	1	2215	A	C5'-C4'-C3'	5.47	124.75	116.00
2	3	42	A	C5'-C4'-C3'	5.47	124.76	116.00
1	1	93	C	C3'-C2'-O2'	5.47	129.16	113.30
1	1	2787	G	C5'-C4'-C3'	5.47	124.75	116.00
1	1	1270	A	C4'-C3'-O3'	5.47	123.94	113.00
1	1	2623	G	C3'-C2'-O2'	5.47	129.16	113.30
45	t	22	GLU	N-CA-C	5.47	125.77	111.00
1	1	251	G	C5'-C4'-C3'	5.47	124.75	116.00
1	1	1351	U	C5'-C4'-C3'	5.47	124.75	116.00
1	1	2823	G	C5'-C4'-C3'	5.47	124.75	116.00
45	t	94	ASN	N-CA-C	5.47	125.76	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	H	183	HIS	CB-CA-C	5.46	121.33	110.40
1	1	95	A	C3'-C2'-O2'	5.46	129.14	113.30
1	1	2564	G	C3'-C2'-O2'	5.46	129.14	113.30
1	1	1455	U	C2'-C3'-O3'	5.46	122.44	113.70
1	1	3189	G	C5'-C4'-C3'	5.46	124.74	116.00
1	1	677	A	C1'-C2'-O2'	5.46	126.98	110.60
1	1	1691	U	C4'-C3'-O3'	5.46	123.92	113.00
2	3	69	C	C1'-C2'-O2'	5.46	126.97	110.60
16	N	109	ARG	N-CA-C	5.46	125.73	111.00
1	1	1740	U	C1'-C2'-O2'	5.46	126.97	110.60
3	4	152	G	C1'-C2'-O2'	5.46	126.97	110.60
11	H	54	LYS	N-CA-C	5.46	125.73	111.00
29	a	145	VAL	CB-CA-C	5.46	121.77	111.40
1	1	1048	A	C4'-C3'-O3'	5.46	123.91	113.00
12	I	170	LYS	N-CA-C	5.46	125.73	111.00
1	1	192	C	C3'-C2'-O2'	5.45	129.11	113.30
1	1	680	G	N9-C1'-C2'	5.45	121.09	114.00
1	1	1360	C	C3'-C2'-O2'	5.45	129.12	113.30
1	1	2597	U	C5'-C4'-C3'	5.45	124.72	116.00
3	4	141	C	C5'-C4'-C3'	5.45	124.72	116.00
17	O	114	LYS	N-CA-C	5.45	125.72	111.00
34	f	77	ASN	N-CA-C	5.45	125.73	111.00
17	O	54	TYR	CZ-CE2-CD2	-5.45	114.89	119.80
1	1	3326	G	C4'-C3'-O3'	5.45	123.90	113.00
27	Y	87	LYS	N-CA-C	5.45	125.72	111.00
1	1	840	C	C1'-C2'-O2'	5.45	126.94	110.60
1	1	1086	C	C4'-C3'-O3'	5.45	123.89	113.00
1	1	2218	G	C3'-C2'-O2'	5.45	129.10	113.30
1	1	1105	A	C3'-C2'-O2'	5.45	129.10	113.30
1	1	2558	U	C1'-C2'-O2'	5.45	126.94	110.60
1	1	3152	U	C5'-C4'-O4'	5.45	115.63	109.10
1	1	1929	G	C5'-C4'-C3'	5.44	124.71	116.00
1	1	2242	A	N9-C1'-C2'	5.44	121.07	114.00
1	1	3329	U	C1'-C2'-O2'	5.44	126.93	110.60
3	4	30	C	N1-C1'-C2'	5.44	121.08	114.00
1	1	1235	U	C5'-C4'-C3'	5.44	124.71	116.00
1	1	2742	C	C5'-C4'-C3'	5.44	124.70	116.00
2	3	104	A	C1'-C2'-O2'	5.44	126.92	110.60
1	1	925	A	C5'-C4'-C3'	5.44	124.70	116.00
1	1	1323	G	C4'-C3'-O3'	5.44	123.88	113.00
1	1	1483	G	C5'-C4'-C3'	5.44	124.70	116.00
3	4	30	C	C1'-C2'-O2'	5.44	126.91	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	426	G	C1'-C2'-O2'	5.43	126.90	110.60
1	1	1297	C	C5'-C4'-C3'	5.43	124.69	116.00
3	4	104	A	C3'-C2'-O2'	5.43	129.06	113.30
1	1	1580	A	C1'-C2'-O2'	5.43	126.90	110.60
1	1	2385	G	C5'-C4'-C3'	5.43	124.69	116.00
3	4	104	A	C1'-C2'-O2'	5.43	126.90	110.60
1	1	1797	A	C3'-C2'-O2'	5.43	129.05	113.30
1	1	2470	C	N1-C1'-C2'	5.43	121.06	114.00
32	d	46	THR	N-CA-C	5.43	125.66	111.00
1	1	2139	A	C4'-C3'-O3'	5.43	123.86	113.00
1	1	3222	U	C1'-C2'-O2'	5.43	126.89	110.60
45	t	186	SER	N-CA-C	5.43	125.66	111.00
1	1	175	C	C5'-C4'-C3'	5.43	124.68	116.00
1	1	2944	U	C1'-C2'-O2'	5.43	126.88	110.60
45	t	152	ARG	N-CA-C	5.43	125.65	111.00
1	1	387	A	C5'-C4'-C3'	5.42	124.68	116.00
1	1	2405	C	C1'-C2'-O2'	5.42	126.87	110.60
1	1	2505	U	O4'-C1'-N1	5.42	112.54	108.20
3	4	121	U	C1'-C2'-O2'	5.42	126.88	110.60
39	k	63	LYS	N-CA-C	5.42	125.64	111.00
1	1	69	C	C1'-C2'-O2'	5.42	126.87	110.60
1	1	829	U	C4'-C3'-O3'	5.42	123.84	113.00
1	1	857	G	C1'-C2'-O2'	5.42	126.86	110.60
1	1	3025	C	C3'-C2'-O2'	5.42	129.02	113.30
1	1	3199	G	C3'-C2'-O2'	5.42	129.02	113.30
1	1	1570	U	C5'-C4'-C3'	5.42	124.67	116.00
7	D	3	PHE	N-CA-C	5.42	125.63	111.00
1	1	587	U	C3'-C2'-O2'	5.42	129.01	113.30
1	1	1623	G	C5'-C4'-O4'	5.42	115.60	109.10
1	1	1631	C	C1'-C2'-O2'	5.42	126.85	110.60
1	1	2835	U	C3'-C2'-O2'	5.42	129.00	113.30
3	4	80	A	C5'-C4'-C3'	5.42	124.67	116.00
1	1	3023	U	C5'-C4'-C3'	5.42	124.67	116.00
5	B	331	ASN	N-CA-C	5.42	125.62	111.00
1	1	103	G	N9-C1'-C2'	5.41	121.04	114.00
1	1	167	U	C4'-C3'-O3'	5.41	123.83	113.00
1	1	260	C	C3'-C2'-O2'	5.41	129.00	113.30
1	1	334	A	C3'-C2'-O2'	5.41	129.00	113.30
1	1	1812	G	O4'-C4'-C3'	5.41	110.43	106.10
1	1	2895	G	C5'-C4'-C3'	5.41	124.66	116.00
5	B	233	TRP	N-CA-C	5.41	125.61	111.00
1	1	1806	A	C4'-C3'-O3'	5.41	123.82	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	107	ALA	N-CA-C	5.41	125.61	111.00
18	P	47	TYR	CG-CD2-CE2	-5.41	116.97	121.30
20	R	78	TYR	CG-CD2-CE2	-5.41	116.97	121.30
1	1	2729	U	C5'-C4'-C3'	5.41	124.65	116.00
1	1	2883	U	C3'-C2'-O2'	5.41	128.99	113.30
9	F	54	GLU	N-CA-C	5.41	125.60	111.00
31	c	85	PHE	CE1-CZ-CE2	5.41	129.73	120.00
45	t	6	SER	N-CA-C	5.41	125.60	111.00
1	1	1126	G	N9-C1'-C2'	5.41	121.03	114.00
1	1	697	A	C3'-C2'-O2'	5.41	128.97	113.30
1	1	1868	G	C1'-C2'-O2'	5.41	126.82	110.60
1	1	2822	U	C1'-C2'-O2'	5.41	126.81	110.60
1	1	2902	A	C3'-C2'-O2'	5.41	128.97	113.30
14	L	79	GLU	N-CA-C	5.41	125.59	111.00
1	1	1905	G	C4'-C3'-O3'	5.40	123.80	113.00
1	1	868	C	C3'-C2'-O2'	5.40	128.96	113.30
1	1	996	A	C5'-C4'-O4'	5.40	115.58	109.10
1	1	949	C	N1-C1'-C2'	5.40	121.02	114.00
1	1	1138	U	N1-C1'-C2'	5.40	121.02	114.00
1	1	1825	G	C5'-C4'-C3'	5.40	124.64	116.00
1	1	2178	A	C1'-C2'-O2'	5.40	126.79	110.60
1	1	3246	G	C1'-C2'-O2'	5.40	126.79	110.60
1	1	504	A	C5'-C4'-C3'	5.40	124.63	116.00
5	B	146	ARG	N-CA-C	5.40	125.57	111.00
19	Q	34	THR	N-CA-C	5.40	125.57	111.00
1	1	1562	C	C4'-C3'-O3'	5.39	123.79	113.00
1	1	2539	C	C5'-C4'-C3'	5.39	124.63	116.00
1	1	2895	G	C4'-C3'-O3'	5.39	123.79	113.00
1	1	3189	G	C3'-C2'-O2'	5.39	128.94	113.30
5	B	14	LEU	N-CA-C	5.39	125.56	111.00
35	g	76	TYR	N-CA-C	5.39	125.56	111.00
1	1	1007	U	C5'-C4'-C3'	5.39	124.63	116.00
1	1	1384	U	C1'-C2'-O2'	5.39	126.78	110.60
1	1	1933	A	C3'-C2'-O2'	5.39	128.94	113.30
18	P	52	LEU	N-CA-C	5.39	125.56	111.00
1	1	2604	U	C5'-C4'-C3'	5.39	124.63	116.00
1	1	938	C	C5'-C4'-C3'	5.39	124.62	116.00
1	1	266	A	C3'-C2'-O2'	5.39	128.93	113.30
1	1	1179	A	C5'-C4'-C3'	5.39	124.62	116.00
1	1	2569	A	O4'-C1'-N9	5.39	112.51	108.20
1	1	2842	U	C5'-C4'-O4'	5.39	115.56	109.10
1	1	3176	G	N9-C1'-C2'	5.39	121.00	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	43	U	C3'-C2'-O2'	5.39	128.92	113.30
1	1	51	A	C1'-C2'-O2'	5.38	126.75	110.60
1	1	1023	C	C4'-C3'-O3'	5.38	123.77	113.00
1	1	2622	C	C3'-C2'-O2'	5.38	128.92	113.30
1	1	3161	C	C3'-C2'-O2'	5.38	128.91	113.30
1	1	3323	A	C4'-C3'-O3'	5.38	123.77	113.00
32	d	112	ASP	N-CA-C	5.38	125.54	111.00
1	1	2329	C	C4'-C3'-O3'	5.38	123.77	113.00
1	1	405	U	C3'-C2'-O2'	5.38	128.91	113.30
1	1	2220	A	C4'-C3'-O3'	5.38	123.77	113.00
7	D	99	TYR	CG-CD2-CE2	-5.38	117.00	121.30
29	a	144	VAL	N-CA-C	5.38	125.53	111.00
1	1	1921	A	C3'-C2'-O2'	5.38	128.90	113.30
1	1	2194	G	C3'-C2'-O2'	5.38	128.90	113.30
3	4	13	A	C3'-C2'-O2'	5.38	128.90	113.30
3	4	30	C	C3'-C2'-O2'	5.38	128.90	113.30
1	1	273	A	C4'-C3'-O3'	5.38	123.76	113.00
1	1	2286	U	C1'-C2'-O2'	5.38	126.74	110.60
1	1	2374	C	C3'-C2'-O2'	5.38	128.90	113.30
2	3	88	G	C1'-C2'-O2'	5.38	126.74	110.60
1	1	552	G	C4'-C3'-O3'	5.38	123.75	113.00
1	1	2778	G	C5'-C4'-C3'	5.38	124.60	116.00
1	1	2812	C	OP1-P-O3'	-5.38	93.37	105.20
3	4	10	A	C3'-C2'-O2'	5.38	128.89	113.30
13	J	34	SER	N-CA-C	5.38	125.52	111.00
29	a	12	ARG	N-CA-C	5.38	125.52	111.00
1	1	1099	A	C1'-C2'-O2'	5.38	126.72	110.60
1	1	1746	U	C1'-C2'-O2'	5.38	126.72	110.60
1	1	816	A	C5'-C4'-O4'	5.37	115.55	109.10
1	1	1272	C	C1'-C2'-O2'	5.37	126.72	110.60
1	1	2789	U	C1'-C2'-O2'	5.37	126.72	110.60
2	3	33	U	C1'-C2'-O2'	5.37	126.72	110.60
2	3	44	C	C4'-C3'-O3'	5.37	123.75	113.00
1	1	497	C	C1'-C2'-O2'	5.37	126.72	110.60
1	1	696	C	C3'-C2'-O2'	5.37	128.88	113.30
1	1	813	G	C3'-C2'-O2'	5.37	128.88	113.30
1	1	916	G	C5'-C4'-O4'	5.37	115.55	109.10
1	1	3171	U	C1'-C2'-O2'	5.37	126.72	110.60
3	4	41	A	P-O3'-C3'	-5.37	113.25	119.70
20	R	186	LYS	N-CA-C	5.37	125.50	111.00
1	1	547	G	C5'-C4'-O4'	5.37	115.54	109.10
30	b	40	ARG	N-CA-C	5.37	125.50	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	595	G	C3'-C2'-O2'	5.37	128.86	113.30
1	1	1705	U	C3'-C2'-O2'	5.37	128.87	113.30
1	1	2187	G	C1'-C2'-O2'	5.37	126.70	110.60
4	A	9	ARG	N-CA-C	5.37	125.49	111.00
1	1	1538	G	C3'-C2'-O2'	5.37	128.86	113.30
1	1	1746	U	C3'-C2'-O2'	5.37	128.86	113.30
1	1	2149	A	C1'-C2'-O2'	5.37	126.70	110.60
1	1	2831	G	N9-C1'-C2'	5.37	120.98	114.00
1	1	2552	C	C4'-C3'-O3'	5.36	123.73	113.00
1	1	967	A	C5'-C4'-C3'	5.36	124.58	116.00
1	1	2461	A	C1'-C2'-O2'	5.36	126.69	110.60
1	1	2836	C	C4'-C3'-O3'	5.36	123.72	113.00
1	1	778	U	C5'-C4'-O4'	5.36	115.53	109.10
1	1	2776	C	C5'-C4'-O4'	5.36	115.53	109.10
20	R	157	GLU	N-CA-C	5.36	125.47	111.00
1	1	334	A	C1'-C2'-O2'	5.36	126.67	110.60
1	1	2103	U	C5'-C4'-C3'	5.36	124.57	116.00
1	1	1770	G	O4'-C4'-C3'	5.36	110.38	106.10
1	1	2331	C	C4'-C3'-O3'	5.36	123.71	113.00
1	1	3375	A	C1'-C2'-O2'	5.36	126.67	110.60
1	1	16	A	C3'-C2'-O2'	5.35	128.83	113.30
1	1	564	G	C1'-C2'-O2'	5.35	126.66	110.60
1	1	419	G	C4'-C3'-O3'	5.35	123.70	113.00
1	1	1099	A	C3'-C2'-O2'	5.35	128.82	113.30
1	1	1816	A	N9-C1'-C2'	5.35	120.96	114.00
4	A	37	ARG	N-CA-C	5.35	125.45	111.00
1	1	1102	A	C3'-C2'-O2'	5.35	128.82	113.30
1	1	813	G	C1'-C2'-O2'	5.35	126.65	110.60
1	1	2094	C	C1'-C2'-O2'	5.35	126.65	110.60
1	1	2297	U	C1'-C2'-O2'	5.35	126.65	110.60
1	1	69	C	C3'-C2'-O2'	5.35	128.81	113.30
1	1	90	C	C1'-C2'-O2'	5.35	126.64	110.60
1	1	1367	G	C5'-C4'-C3'	5.35	124.55	116.00
1	1	2291	A	C1'-C2'-O2'	5.35	126.64	110.60
1	1	1184	A	C4'-C3'-O3'	5.34	123.69	113.00
1	1	2158	A	C4'-C3'-O3'	5.34	123.69	113.00
8	E	151	LYS	N-CA-C	5.34	125.43	111.00
16	N	21	PHE	CE1-CZ-CE2	5.34	129.62	120.00
37	i	63	ASN	N-CA-C	5.34	125.43	111.00
1	1	390	G	C1'-C2'-O2'	5.34	126.62	110.60
1	1	2358	A	C1'-C2'-O2'	5.34	126.62	110.60
1	1	2864	A	N9-C1'-C2'	5.34	120.94	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3375	A	C3'-C2'-O2'	5.34	128.79	113.30
1	1	2094	C	C3'-C2'-O2'	5.34	128.78	113.30
1	1	2173	U	C4'-C3'-O3'	5.34	123.68	113.00
1	1	123	A	C1'-C2'-O2'	5.34	126.61	110.60
1	1	237	G	C3'-C2'-O2'	5.34	128.77	113.30
1	1	260	C	C1'-C2'-O2'	5.34	126.61	110.60
2	3	51	A	C4'-C3'-O3'	5.34	123.67	113.00
1	1	690	A	C4'-C3'-O3'	5.33	123.67	113.00
1	1	1556	C	C3'-C2'-O2'	5.33	128.77	113.30
1	1	2140	U	C5'-C4'-C3'	5.33	124.54	116.00
1	1	2659	G	C4'-C3'-O3'	5.33	123.67	113.00
1	1	200	C	C3'-C2'-O2'	5.33	128.76	113.30
1	1	712	G	C3'-C2'-O2'	5.33	128.77	113.30
1	1	1535	A	C5'-C4'-C3'	5.33	124.53	116.00
1	1	2833	A	C1'-C2'-O2'	5.33	126.60	110.60
1	1	1612	A	N9-C1'-C2'	5.33	120.93	114.00
1	1	2947	G	C4'-C3'-O3'	5.33	123.66	113.00
1	1	3355	U	C1'-C2'-O2'	5.33	126.59	110.60
6	C	185	LYS	N-CA-C	5.33	125.40	111.00
14	L	171	ARG	N-CA-C	5.33	125.40	111.00
1	1	790	U	C5'-C4'-C3'	5.33	124.53	116.00
1	1	1207	G	C1'-C2'-O2'	5.33	126.59	110.60
1	1	1700	G	C1'-C2'-O2'	5.33	126.59	110.60
2	3	40	C	O4'-C1'-N1	5.33	112.46	108.20
1	1	418	A	C1'-C2'-O2'	5.33	126.59	110.60
1	1	3138	U	C3'-C2'-O2'	5.33	128.75	113.30
2	3	37	G	C4'-C3'-O3'	5.32	123.64	113.00
1	1	2657	A	C1'-C2'-O2'	5.32	126.57	110.60
1	1	868	C	C1'-C2'-O2'	5.32	126.56	110.60
1	1	1318	A	C1'-C2'-O2'	5.32	126.56	110.60
1	1	3243	A	C1'-C2'-O2'	5.32	126.56	110.60
1	1	699	A	C1'-C2'-O2'	5.32	126.56	110.60
1	1	1942	U	C1'-C2'-O2'	5.32	126.56	110.60
1	1	2187	G	C3'-C2'-O2'	5.32	128.72	113.30
1	1	92	G	C1'-C2'-O2'	5.32	126.55	110.60
1	1	1359	C	C3'-C2'-O2'	5.32	128.72	113.30
1	1	1934	G	C1'-C2'-O2'	5.32	126.55	110.60
1	1	2486	A	C1'-C2'-O2'	5.32	126.55	110.60
1	1	2922	G	C1'-C2'-O2'	5.32	126.55	110.60
1	1	3208	G	C3'-C2'-O2'	5.32	128.72	113.30
1	1	652	G	C3'-C2'-O2'	5.32	128.71	113.30
7	D	197	SER	CB-CA-C	5.32	120.20	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	R	170	ARG	NE-CZ-NH2	-5.32	117.64	120.30
37	i	45	ARG	CB-CA-C	5.32	121.03	110.40
1	1	2263	C	C1'-C2'-O2'	5.31	126.54	110.60
1	1	3253	G	C1'-C2'-O2'	5.31	126.54	110.60
1	1	397	A	C5'-C4'-C3'	5.31	124.50	116.00
1	1	1005	G	C3'-C2'-O2'	5.31	128.71	113.30
1	1	2842	U	O4'-C1'-C2'	5.31	112.38	107.60
1	1	3240	C	C1'-C2'-O2'	5.31	126.54	110.60
1	1	698	U	C1'-C2'-O2'	5.31	126.53	110.60
1	1	2155	G	N9-C1'-C2'	5.31	120.90	114.00
27	Y	41	ALA	N-CA-C	5.31	125.33	111.00
31	c	22	LYS	N-CA-C	5.31	125.34	111.00
1	1	1686	U	C4'-C3'-O3'	5.31	123.61	113.00
20	R	167	ARG	N-CA-C	5.31	125.33	111.00
1	1	3106	A	C2'-C3'-O3'	5.31	122.19	113.70
1	1	1769	G	C3'-C2'-O2'	5.30	128.68	113.30
19	Q	135	GLN	N-CA-C	5.30	125.32	111.00
1	1	655	C	C1'-C2'-O2'	5.30	126.51	110.60
1	1	2350	C	C1'-C2'-O2'	5.30	126.51	110.60
1	1	2832	C	C1'-C2'-O2'	5.30	126.51	110.60
1	1	3251	U	C3'-C2'-O2'	5.30	128.68	113.30
5	B	76	VAL	N-CA-C	5.30	125.32	111.00
1	1	593	C	C3'-C2'-O2'	5.30	128.68	113.30
11	H	86	TYR	CG-CD1-CE1	-5.30	117.06	121.30
27	Y	26	GLN	N-CA-C	5.30	125.31	111.00
1	1	235	A	C5'-C4'-C3'	5.30	124.48	116.00
1	1	268	A	O3'-P-O5'	-5.30	93.93	104.00
1	1	3226	A	C1'-C2'-O2'	5.30	126.50	110.60
6	C	226	GLU	N-CA-C	5.30	125.31	111.00
6	C	299	ILE	N-CA-C	5.30	125.31	111.00
1	1	181	U	C1'-C2'-O2'	5.30	126.49	110.60
17	O	67	THR	CA-C-N	5.30	128.85	117.20
1	1	95	A	C1'-C2'-O2'	5.30	126.49	110.60
1	1	1239	C	O4'-C1'-N1	5.30	112.44	108.20
1	1	2908	G	C5'-C4'-C3'	5.30	124.47	116.00
1	1	3158	G	C3'-C2'-O2'	5.30	128.66	113.30
1	1	3368	U	C2'-C3'-O3'	5.30	122.17	113.70
1	1	1182	A	C1'-C2'-O2'	5.29	126.48	110.60
1	1	3200	G	C4'-C3'-O3'	5.29	123.59	113.00
37	i	57	LEU	N-CA-C	5.29	125.30	111.00
1	1	331	G	C4'-C3'-O3'	5.29	123.58	113.00
1	1	718	G	C5'-C4'-C3'	5.29	124.47	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	944	C	C1'-C2'-O2'	5.29	126.48	110.60
1	1	2378	C	C1'-C2'-O2'	5.29	126.48	110.60
1	1	2617	U	C1'-C2'-O2'	5.29	126.48	110.60
1	1	432	G	C1'-C2'-O2'	5.29	126.48	110.60
1	1	1658	G	C3'-C2'-O2'	5.29	128.65	113.30
1	1	1704	A	C3'-C2'-O2'	5.29	128.65	113.30
1	1	2657	A	C3'-C2'-O2'	5.29	128.65	113.30
1	1	3334	U	C1'-C2'-O2'	5.29	126.47	110.60
1	1	1937	U	C3'-C2'-O2'	5.29	128.64	113.30
1	1	2619	G	C1'-C2'-O2'	5.29	126.46	110.60
1	1	1484	U	C4'-C3'-O3'	5.29	123.57	113.00
1	1	3260	G	C1'-C2'-O2'	5.29	126.45	110.60
3	4	104	A	N9-C1'-C2'	5.29	120.87	114.00
19	Q	147	ARG	N-CA-C	5.29	125.27	111.00
1	1	266	A	C1'-C2'-O2'	5.28	126.45	110.60
1	1	760	G	O4'-C1'-N9	5.28	112.43	108.20
1	1	862	U	C4'-C3'-O3'	5.28	123.56	113.00
1	1	1797	A	C1'-C2'-O2'	5.28	126.45	110.60
1	1	2378	C	C3'-C2'-O2'	5.28	128.62	113.30
1	1	2677	G	C1'-C2'-O2'	5.28	126.45	110.60
1	1	2782	U	C5'-C4'-C3'	5.28	124.45	116.00
1	1	2303	A	C5'-C4'-C3'	5.28	124.45	116.00
1	1	2765	C	C5'-C4'-O4'	5.28	115.44	109.10
3	4	53	A	C5'-C4'-C3'	5.28	124.45	116.00
5	B	188	ILE	N-CA-C	5.28	125.26	111.00
11	H	173	ARG	N-CA-C	5.28	125.26	111.00
28	Z	113	VAL	N-CA-C	5.28	125.26	111.00
43	o	102	GLN	N-CA-C	5.28	125.26	111.00
1	1	249	U	C1'-C2'-O2'	5.28	126.44	110.60
1	1	1182	A	C3'-C2'-O2'	5.28	128.61	113.30
1	1	1770	G	C5'-C4'-C3'	5.28	124.44	116.00
1	1	3291	G	C4'-C3'-O3'	5.28	123.55	113.00
10	G	97	TYR	CG-CD2-CE2	-5.28	117.08	121.30
1	1	912	G	C5'-C4'-C3'	5.28	124.44	116.00
1	1	1229	G	C3'-C2'-O2'	5.28	128.60	113.30
6	C	164	GLU	N-CA-C	5.28	125.24	111.00
1	1	3046	A	C5'-C4'-O4'	5.27	115.43	109.10
1	1	1284	C	C1'-C2'-O2'	5.27	126.41	110.60
1	1	3358	U	C5'-C4'-O4'	5.27	115.42	109.10
1	1	632	G	C3'-C2'-O2'	5.27	128.58	113.30
1	1	3046	A	C5'-C4'-C3'	5.27	124.43	116.00
34	f	38	PRO	N-CA-C	5.27	125.80	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	94	G	C1'-C2'-O2'	5.27	126.40	110.60
1	1	972	A	C5'-C4'-C3'	5.27	124.43	116.00
1	1	1344	G	C3'-C2'-O2'	5.27	128.57	113.30
1	1	589	A	C1'-C2'-O2'	5.27	126.40	110.60
1	1	1560	G	C4'-C3'-O3'	5.27	123.53	113.00
1	1	2970	C	C3'-C2'-O2'	5.27	128.57	113.30
3	4	51	G	O4'-C1'-N9	5.27	112.41	108.20
1	1	11	A	C4'-C3'-O3'	5.26	123.53	113.00
1	1	1281	G	C5'-C4'-C3'	5.26	124.42	116.00
1	1	1649	U	C5'-C4'-C3'	5.26	124.42	116.00
17	O	4	GLU	N-CA-C	5.26	125.22	111.00
27	Y	46	LYS	N-CA-C	5.26	125.21	111.00
1	1	670	C	C5'-C4'-C3'	5.26	124.42	116.00
2	3	43	U	C1'-C2'-O2'	5.26	126.39	110.60
5	B	255	TRP	N-CA-C	5.26	125.20	111.00
1	1	51	A	C3'-C2'-O2'	5.26	128.56	113.30
1	1	565	U	C1'-C2'-O2'	5.26	126.38	110.60
5	B	38	SER	CB-CA-C	5.26	120.09	110.10
1	1	1216	C	C1'-C2'-O2'	5.26	126.38	110.60
1	1	2838	A	C3'-C2'-O2'	5.26	128.55	113.30
1	1	92	G	C3'-C2'-O2'	5.26	128.54	113.30
1	1	345	G	C5'-C4'-C3'	5.26	124.41	116.00
1	1	362	U	C3'-C2'-O2'	5.26	128.55	113.30
1	1	704	U	C3'-C2'-O2'	5.26	128.54	113.30
1	1	1237	G	C1'-C2'-O2'	5.26	126.37	110.60
1	1	1466	G	C5'-C4'-C3'	5.26	124.41	116.00
12	I	46	PHE	N-CA-C	5.26	125.19	111.00
1	1	1150	A	C3'-C2'-O2'	5.25	128.54	113.30
4	A	20	THR	N-CA-C	5.25	125.19	111.00
1	1	119	U	C5'-C4'-C3'	5.25	124.40	116.00
4	A	143	GLU	N-CA-C	5.25	125.18	111.00
38	j	63	ARG	N-CA-C	5.25	125.18	111.00
1	1	1298	C	C3'-C2'-O2'	5.25	128.53	113.30
1	1	1499	C	C1'-C2'-O2'	5.25	126.36	110.60
1	1	1575	A	C3'-C2'-O2'	5.25	128.53	113.30
1	1	379	C	C1'-C2'-O2'	5.25	126.35	110.60
1	1	1941	C	C5'-C4'-O4'	5.25	115.40	109.10
2	3	27	A	C3'-C2'-O2'	5.25	128.52	113.30
1	1	219	A	C4'-C3'-O3'	5.25	123.49	113.00
1	1	907	G	O4'-C1'-N9	5.25	112.40	108.20
1	1	1867	A	C1'-C2'-O2'	5.25	126.34	110.60
6	C	85	SER	N-CA-C	5.25	125.16	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	I	9	TYR	N-CA-C	5.25	125.16	111.00
1	1	361	A	C1'-C2'-O2'	5.24	126.33	110.60
1	1	373	A	C4'-C3'-O3'	5.24	123.49	113.00
1	1	583	G	C1'-C2'-O2'	5.24	126.33	110.60
1	1	1261	G	C1'-C2'-O2'	5.24	126.33	110.60
1	1	1909	A	N9-C1'-C2'	5.24	120.82	114.00
1	1	3332	U	C5'-C4'-C3'	5.24	124.39	116.00
1	1	3376	A	C3'-C2'-O2'	5.24	128.50	113.30
13	J	137	ARG	N-CA-C	5.24	125.16	111.00
1	1	243	G	C5'-C4'-C3'	5.24	124.39	116.00
1	1	1941	C	C1'-C2'-O2'	5.24	126.33	110.60
24	V	11	PHE	CE1-CZ-CE2	5.24	129.44	120.00
1	1	426	G	C3'-C2'-O2'	5.24	128.50	113.30
1	1	1003	A	C3'-C2'-O2'	5.24	128.50	113.30
1	1	2791	G	C4'-C3'-O3'	5.24	123.48	113.00
1	1	3293	U	O4'-C1'-N1	5.24	112.39	108.20
3	4	152	G	C3'-C2'-O2'	5.24	128.50	113.30
5	B	349	LYS	N-CA-C	5.24	125.15	111.00
9	F	140	SER	N-CA-C	5.24	125.15	111.00
1	1	208	C	C3'-C2'-O2'	5.24	128.49	113.30
1	1	760	G	C1'-C2'-O2'	5.24	126.32	110.60
1	1	1714	A	C3'-C2'-O2'	5.24	128.49	113.30
1	1	1285	G	C5'-C4'-C3'	5.24	124.38	116.00
1	1	1367	G	C4'-C3'-O3'	5.24	123.47	113.00
1	1	192	C	C1'-C2'-O2'	5.24	126.31	110.60
1	1	1328	C	C3'-C2'-O2'	5.24	128.48	113.30
1	1	2240	G	C4'-C3'-O3'	5.24	123.47	113.00
10	G	104	GLU	N-CA-C	5.24	125.14	111.00
1	1	3117	C	C5'-C4'-C3'	5.23	124.38	116.00
1	1	944	C	C3'-C2'-O2'	5.23	128.48	113.30
1	1	966	U	C1'-C2'-O2'	5.23	126.30	110.60
1	1	1212	A	C5'-C4'-O4'	5.23	115.38	109.10
1	1	2826	U	C3'-C2'-O2'	5.23	128.48	113.30
1	1	2956	A	N9-C1'-C2'	5.23	120.80	114.00
1	1	288	C	C3'-C2'-O2'	5.23	128.47	113.30
1	1	1819	U	C3'-C2'-O2'	5.23	128.47	113.30
1	1	2273	G	C3'-C2'-O2'	5.23	128.47	113.30
1	1	497	C	C3'-C2'-O2'	5.23	128.47	113.30
1	1	427	C	C4'-C3'-O3'	5.23	123.45	113.00
1	1	1672	U	O4'-C1'-N1	5.23	112.38	108.20
30	b	43	HIS	N-CA-C	5.23	125.11	111.00
1	1	1359	C	C1'-C2'-O2'	5.22	126.28	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2493	C	C5'-C4'-C3'	5.22	124.36	116.00
2	3	69	C	C3'-C2'-O2'	5.22	128.44	113.30
16	N	148	TYR	CG-CD2-CE2	-5.22	117.12	121.30
1	1	879	U	C3'-C2'-O2'	5.22	128.44	113.30
1	1	2160	G	C3'-C2'-O2'	5.22	128.44	113.30
1	1	2185	G	C3'-C2'-O2'	5.22	128.44	113.30
1	1	2661	G	C5'-C4'-C3'	5.22	124.35	116.00
1	1	276	U	C5'-C4'-C3'	5.22	124.35	116.00
1	1	403	C	O4'-C1'-C2'	5.22	112.30	107.60
1	1	1020	G	C4'-C3'-O3'	5.22	123.43	113.00
1	1	1540	U	C3'-C2'-O2'	5.22	128.43	113.30
1	1	1945	A	C3'-C2'-O2'	5.22	128.43	113.30
1	1	3071	U	C5'-C4'-O4'	5.22	115.36	109.10
3	4	63	G	N9-C1'-C2'	5.22	120.78	114.00
17	O	90	HIS	CA-C-N	-5.22	105.72	117.20
1	1	86	G	C3'-C2'-O2'	5.21	128.42	113.30
1	1	93	C	C1'-C2'-O2'	5.21	126.24	110.60
1	1	1174	G	C3'-C2'-O2'	5.21	128.42	113.30
4	A	33	ASP	N-CA-C	5.21	125.08	111.00
1	1	432	G	C3'-C2'-O2'	5.21	128.42	113.30
1	1	598	A	C4'-C3'-O3'	5.21	123.42	113.00
1	1	981	U	C5'-C4'-O4'	5.21	115.35	109.10
1	1	1102	A	C1'-C2'-O2'	5.21	126.23	110.60
1	1	1122	U	C3'-C2'-O2'	5.21	128.41	113.30
1	1	3104	U	C4'-C3'-O3'	5.21	123.42	113.00
2	3	19	C	C1'-C2'-O2'	5.21	126.23	110.60
5	B	135	ALA	N-CA-C	5.21	125.07	111.00
11	H	150	SER	N-CA-C	5.21	125.07	111.00
1	1	1184	A	C5'-C4'-C3'	5.21	124.33	116.00
1	1	2286	U	C3'-C2'-O2'	5.21	128.40	113.30
1	1	50	U	C5'-C4'-C3'	5.21	124.33	116.00
1	1	1941	C	C3'-C2'-O2'	5.21	128.40	113.30
1	1	1945	A	C1'-C2'-O2'	5.21	126.22	110.60
1	1	3266	G	O4'-C1'-N9	5.21	112.36	108.20
39	k	12	LEU	N-CA-C	5.21	125.06	111.00
1	1	614	C	N1-C1'-C2'	5.21	120.77	114.00
1	1	1938	U	C3'-C2'-O2'	5.20	128.39	113.30
1	1	1538	G	C1'-C2'-O2'	5.20	126.21	110.60
2	3	120	C	C1'-C2'-O2'	5.20	126.20	110.60
1	1	127	G	C4'-C3'-O3'	5.20	123.40	113.00
1	1	704	U	C1'-C2'-O2'	5.20	126.19	110.60
1	1	1229	G	C1'-C2'-O2'	5.20	126.19	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1357	G	O4'-C1'-N9	5.20	112.36	108.20
2	3	85	G	C5'-C4'-C3'	5.20	124.32	116.00
2	3	120	C	C3'-C2'-O2'	5.20	128.38	113.30
1	1	811	U	C1'-C2'-O2'	5.20	126.19	110.60
36	h	37	SER	N-CA-C	5.20	125.03	111.00
1	1	1531	C	C5'-C4'-C3'	5.19	124.31	116.00
1	1	2194	G	C1'-C2'-O2'	5.19	126.18	110.60
1	1	3096	C	C5'-C4'-C3'	5.19	124.31	116.00
1	1	3122	A	C4'-C3'-O3'	5.19	123.39	113.00
1	1	3205	G	C3'-C2'-O2'	5.19	128.36	113.30
33	e	112	ALA	N-CA-CB	5.19	117.37	110.10
1	1	1344	G	C1'-C2'-O2'	5.19	126.17	110.60
1	1	1451	C	C1'-C2'-O2'	5.19	126.17	110.60
1	1	2165	G	C5'-C4'-C3'	5.19	124.30	116.00
1	1	299	G	C3'-C2'-O2'	5.19	128.34	113.30
1	1	511	G	C1'-C2'-O2'	5.19	126.16	110.60
1	1	1421	G	C4'-C3'-O3'	5.19	123.38	113.00
40	l	5	LYS	N-CA-C	5.19	125.00	111.00
1	1	3376	A	C1'-C2'-O2'	5.19	126.16	110.60
1	1	581	U	C5'-C4'-C3'	5.18	124.30	116.00
1	1	1301	A	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1575	A	C1'-C2'-O2'	5.18	126.15	110.60
2	3	78	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1013	G	C3'-C2'-O2'	5.18	128.33	113.30
1	1	2428	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	303	G	C4'-C3'-O3'	5.18	123.36	113.00
1	1	3025	C	C1'-C2'-O2'	5.18	126.14	110.60
2	3	8	G	C3'-C2'-O2'	5.18	128.32	113.30
1	1	561	C	C4'-C3'-O3'	5.18	123.36	113.00
1	1	778	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1212	A	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1799	A	C4'-C3'-O3'	5.18	123.36	113.00
1	1	2314	U	C1'-C2'-O2'	5.18	126.14	110.60
1	1	2461	A	C3'-C2'-O2'	5.18	128.32	113.30
2	3	19	C	C3'-C2'-O2'	5.18	128.32	113.30
3	4	73	U	C1'-C2'-O2'	5.18	126.14	110.60
9	F	101	LYS	N-CA-C	5.18	124.99	111.00
19	Q	123	THR	OG1-CB-CG2	5.18	121.91	110.00
1	1	134	U	C5'-C4'-C3'	5.18	124.28	116.00
3	4	158	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	311	C	C1'-C2'-O2'	5.18	126.13	110.60
3	4	114	G	C5'-C4'-C3'	5.18	124.28	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1174	G	C1'-C2'-O2'	5.17	126.13	110.60
14	L	57	VAL	C-N-CA	-5.17	108.76	121.70
8	E	71	VAL	N-CA-C	5.17	124.97	111.00
19	Q	99	THR	N-CA-C	5.17	124.97	111.00
1	1	1289	G	C4'-C3'-O3'	5.17	123.34	113.00
1	1	2361	A	O3'-P-O5'	-5.17	94.17	104.00
15	M	126	GLN	N-CA-C	5.17	124.96	111.00
1	1	362	U	C1'-C2'-O2'	5.17	126.11	110.60
1	1	1700	G	C3'-C2'-O2'	5.17	128.29	113.30
2	3	23	A	C1'-C2'-O2'	5.17	126.11	110.60
1	1	219	A	C5'-C4'-C3'	5.17	124.27	116.00
1	1	1948	G	N9-C1'-C2'	5.17	120.72	114.00
1	1	3261	C	C1'-C2'-O2'	5.17	126.11	110.60
1	1	2505	U	O4'-C1'-C2'	5.17	112.25	107.60
20	R	184	LEU	N-CA-C	5.17	124.95	111.00
1	1	320	G	C4'-C3'-O3'	5.17	123.33	113.00
38	j	39	TYR	C-N-CD	-5.17	109.24	120.60
1	1	511	G	C3'-C2'-O2'	5.16	128.28	113.30
1	1	548	G	C1'-C2'-O2'	5.16	126.09	110.60
1	1	2410	U	C1'-C2'-O2'	5.16	126.09	110.60
1	1	3118	C	C4'-C3'-O3'	5.16	123.33	113.00
1	1	426	G	N9-C1'-C2'	5.16	120.71	114.00
1	1	3251	U	C1'-C2'-O2'	5.16	126.08	110.60
20	R	52	LYS	N-CA-C	5.16	124.94	111.00
36	h	85	THR	CA-CB-CG2	5.16	119.62	112.40
1	1	3373	U	O4'-C1'-N1	5.16	112.33	108.20
27	Y	119	ILE	N-CA-C	5.16	124.93	111.00
1	1	639	G	C3'-C2'-O2'	5.16	128.25	113.30
1	1	1531	C	C4'-C3'-O3'	5.16	123.31	113.00
1	1	2178	A	OP1-P-O3'	5.16	116.54	105.20
1	1	2501	U	O4'-C1'-N1	5.16	112.32	108.20
2	3	94	C	C5'-C4'-C3'	5.16	124.25	116.00
1	1	2150	G	C1'-C2'-O2'	5.15	126.06	110.60
1	1	2452	G	C1'-C2'-O2'	5.15	126.06	110.60
1	1	1400	G	C1'-C2'-O2'	5.15	126.06	110.60
1	1	2816	G	C5'-C4'-C3'	5.15	124.24	116.00
1	1	9	U	C4'-C3'-O3'	5.15	123.30	113.00
1	1	996	A	C5'-C4'-C3'	5.15	124.24	116.00
1	1	2661	G	C4'-C3'-O3'	5.15	123.30	113.00
2	3	61	G	N9-C1'-C2'	5.15	120.69	114.00
40	l	36	ARG	N-CA-C	5.15	124.90	111.00
1	1	857	G	C3'-C2'-O2'	5.15	128.22	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3146	G	C5'-C4'-C3'	5.15	124.24	116.00
18	P	120	ASN	N-CA-C	5.15	124.90	111.00
45	t	83	ASP	N-CA-C	5.15	124.90	111.00
1	1	1484	U	C5'-C4'-C3'	5.15	124.23	116.00
1	1	1618	G	C5'-C4'-C3'	5.15	124.23	116.00
1	1	1580	A	C3'-C2'-O2'	5.14	128.22	113.30
33	e	109	LEU	N-CA-C	5.14	124.89	111.00
1	1	381	U	C1'-C2'-O2'	5.14	126.03	110.60
1	1	1788	C	N1-C1'-C2'	5.14	120.68	114.00
1	1	2452	G	C3'-C2'-O2'	5.14	128.21	113.30
1	1	3236	U	O4'-C1'-N1	5.14	112.31	108.20
20	R	23	TRP	CE3-CZ3-CH2	5.14	126.86	121.20
1	1	1385	C	C1'-C2'-O2'	5.14	126.02	110.60
1	1	3390	G	C4'-C3'-O3'	5.14	123.28	113.00
1	1	2410	U	C3'-C2'-O2'	5.14	128.21	113.30
9	F	214	TRP	CE3-CZ3-CH2	5.14	126.85	121.20
1	1	1429	G	C5'-C4'-C3'	5.14	124.22	116.00
6	C	126	ILE	N-CA-C	5.14	124.87	111.00
8	E	173	MET	N-CA-C	5.14	124.87	111.00
1	1	2996	U	C3'-C2'-O2'	5.14	128.20	113.30
3	4	34	U	C3'-C2'-O2'	5.14	128.20	113.30
19	Q	91	ALA	N-CA-C	5.14	124.87	111.00
28	Z	47	GLU	N-CA-C	5.14	124.87	111.00
38	j	26	SER	N-CA-C	5.14	124.87	111.00
1	1	1686	U	C5'-C4'-C3'	5.13	124.22	116.00
20	R	95	TRP	CE3-CZ3-CH2	5.13	126.85	121.20
1	1	1819	U	C1'-C2'-O2'	5.13	126.00	110.60
1	1	2481	G	C3'-C2'-O2'	5.13	128.19	113.30
1	1	2619	G	C5'-C4'-C3'	5.13	124.21	116.00
1	1	2172	A	C1'-C2'-O2'	5.13	125.99	110.60
1	1	2185	G	C1'-C2'-O2'	5.13	125.99	110.60
1	1	1203	A	C3'-C2'-O2'	5.13	128.17	113.30
1	1	3161	C	C1'-C2'-O2'	5.13	125.99	110.60
14	L	100	ARG	N-CA-C	5.13	124.85	111.00
38	j	37	CYS	N-CA-C	5.13	124.85	111.00
1	1	759	U	C1'-C2'-O2'	5.13	125.98	110.60
1	1	843	A	O4'-C4'-C3'	5.13	110.20	106.10
1	1	1888	U	C5'-C4'-C3'	5.12	124.20	116.00
1	1	2558	U	C3'-C2'-O2'	5.12	128.16	113.30
1	1	1892	G	C3'-C2'-O2'	5.12	128.16	113.30
1	1	2398	A	C3'-C2'-O2'	5.12	128.15	113.30
1	1	3285	C	C5'-C4'-C3'	5.12	124.19	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	811	U	C3'-C2'-O2'	5.12	128.14	113.30
1	1	2883	U	C1'-C2'-O2'	5.12	125.95	110.60
9	F	42	ALA	N-CA-C	5.12	124.82	111.00
1	1	1687	U	C5'-C4'-O4'	5.12	115.24	109.10
2	3	115	G	C5'-C4'-C3'	5.12	124.19	116.00
3	4	45	C	C5'-C4'-C3'	5.12	124.19	116.00
1	1	343	U	O4'-C1'-N1	5.12	112.29	108.20
1	1	422	A	N9-C1'-C2'	5.12	120.65	114.00
1	1	1122	U	C1'-C2'-O2'	5.12	125.94	110.60
1	1	1524	A	O4'-C1'-C2'	5.12	112.20	107.60
27	Y	54	ASP	N-CA-C	5.12	124.81	111.00
44	p	25	GLN	N-CA-C	5.12	124.81	111.00
1	1	1207	G	C3'-C2'-O2'	5.11	128.13	113.30
1	1	1602	A	C1'-C2'-O2'	5.11	125.94	110.60
1	1	2218	G	C1'-C2'-O2'	5.11	125.94	110.60
1	1	3046	A	C1'-C2'-O2'	5.11	125.94	110.60
1	1	2587	U	C3'-C2'-O2'	5.11	128.12	113.30
2	3	4	U	C5'-C4'-C3'	5.11	124.18	116.00
2	3	33	U	C3'-C2'-O2'	5.11	128.12	113.30
1	1	313	A	C5'-C4'-C3'	5.11	124.17	116.00
1	1	1438	U	C5'-C4'-C3'	5.11	124.17	116.00
1	1	2550	U	C1'-C2'-O2'	5.11	125.92	110.60
1	1	2676	A	C1'-C2'-O2'	5.11	125.92	110.60
1	1	10	C	C1'-C2'-O2'	5.11	125.91	110.60
1	1	1841	A	O4'-C1'-C2'	5.11	112.20	107.60
1	1	2350	C	C3'-C2'-O2'	5.11	128.11	113.30
1	1	2403	G	C3'-C2'-O2'	5.11	128.10	113.30
1	1	3131	U	C5'-C4'-C3'	5.11	124.17	116.00
18	P	146	ILE	CB-CA-C	5.11	121.81	111.60
1	1	1261	G	C3'-C2'-O2'	5.10	128.10	113.30
1	1	2668	U	C5'-C4'-C3'	5.10	124.17	116.00
1	1	1448	U	C3'-C2'-O2'	5.10	128.10	113.30
1	1	1533	U	C1'-C2'-O2'	5.10	125.91	110.60
1	1	2772	C	C3'-C2'-O2'	5.10	128.10	113.30
1	1	3138	U	C1'-C2'-O2'	5.10	125.91	110.60
10	G	81	THR	N-CA-C	5.10	124.78	111.00
1	1	249	U	C3'-C2'-O2'	5.10	128.09	113.30
1	1	371	G	C3'-C2'-O2'	5.10	128.09	113.30
1	1	2458	G	C1'-C2'-O2'	5.10	125.90	110.60
2	3	106	U	C5'-C4'-C3'	5.10	124.16	116.00
17	O	55	HIS	N-CA-C	5.10	124.77	111.00
1	1	8	C	C3'-C2'-O2'	5.10	128.09	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1572	U	C4'-C3'-O3'	5.10	123.19	113.00
1	1	299	G	C1'-C2'-O2'	5.10	125.89	110.60
1	1	588	G	C1'-C2'-O2'	5.10	125.89	110.60
1	1	1374	G	C5'-C4'-C3'	5.10	124.15	116.00
1	1	1921	A	C1'-C2'-O2'	5.10	125.89	110.60
1	1	3295	A	C5'-C4'-C3'	5.10	124.15	116.00
9	F	171	ALA	N-CA-C	5.10	124.76	111.00
1	1	734	C	C1'-C2'-O2'	5.09	125.89	110.60
1	1	1544	G	C5'-C4'-C3'	5.09	124.15	116.00
1	1	3358	U	C5'-C4'-C3'	5.09	124.15	116.00
2	3	24	A	C5'-C4'-C3'	5.09	124.15	116.00
10	G	24	ASN	N-CA-C	5.09	124.75	111.00
1	1	1684	U	C5'-C4'-C3'	5.09	124.15	116.00
1	1	1658	G	C1'-C2'-O2'	5.09	125.87	110.60
1	1	784	A	C5'-C4'-C3'	5.09	124.14	116.00
1	1	331	G	C5'-C4'-C3'	5.08	124.14	116.00
1	1	1107	C	O4'-C1'-N1	5.08	112.27	108.20
1	1	1216	C	C3'-C2'-O2'	5.08	128.05	113.30
1	1	3199	G	C1'-C2'-O2'	5.08	125.86	110.60
1	1	2481	G	C1'-C2'-O2'	5.08	125.85	110.60
1	1	1185	C	C3'-C2'-O2'	5.08	128.04	113.30
1	1	2676	A	C3'-C2'-O2'	5.08	128.03	113.30
1	1	3046	A	C3'-C2'-O2'	5.08	128.03	113.30
3	4	106	C	C3'-C2'-O2'	5.08	128.04	113.30
40	l	33	ASN	N-CA-C	5.08	124.72	111.00
1	1	2331	C	C5'-C4'-C3'	5.08	124.12	116.00
2	3	23	A	C3'-C2'-O2'	5.08	128.03	113.30
3	4	114	G	C4'-C3'-O3'	5.08	123.16	113.00
20	R	34	GLN	N-CA-C	5.08	124.71	111.00
1	1	655	C	C3'-C2'-O2'	5.08	128.02	113.30
1	1	1508	C	C1'-C2'-O2'	5.08	125.83	110.60
1	1	1563	C	C1'-C2'-O2'	5.08	125.83	110.60
1	1	2186	U	C3'-C2'-O2'	5.08	128.02	113.30
1	1	2304	C	C5'-C4'-C3'	5.08	124.12	116.00
1	1	413	U	C5'-C4'-C3'	5.08	124.12	116.00
1	1	917	A	C4'-C3'-O3'	5.08	123.15	113.00
1	1	2922	G	C3'-C2'-O2'	5.08	128.02	113.30
26	X	93	TYR	N-CA-CB	5.08	119.74	110.60
30	b	12	GLN	N-CA-C	5.08	124.70	111.00
1	1	291	C	C1'-C2'-O2'	5.07	125.82	110.60
1	1	1367	G	C5'-C4'-O4'	5.07	115.19	109.10
1	1	1540	U	C1'-C2'-O2'	5.07	125.82	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1541	G	C5'-C4'-C3'	5.07	124.12	116.00
1	1	2375	G	C5'-C4'-C3'	5.07	124.12	116.00
1	1	2617	U	C3'-C2'-O2'	5.07	128.01	113.30
34	f	60	ARG	N-CA-C	5.07	124.70	111.00
1	1	588	G	C3'-C2'-O2'	5.07	128.01	113.30
1	1	1588	A	C3'-C2'-O2'	5.07	128.00	113.30
26	X	59	SER	N-CA-C	5.07	124.69	111.00
1	1	879	U	C1'-C2'-O2'	5.07	125.81	110.60
1	1	1667	A	C5'-C4'-C3'	5.07	124.11	116.00
1	1	1519	G	C1'-C2'-O2'	5.07	125.80	110.60
5	B	144	ILE	N-CA-C	5.07	124.68	111.00
1	1	2096	A	C1'-C2'-O2'	5.06	125.79	110.60
1	1	2607	G	C4'-C3'-O3'	5.06	123.13	113.00
1	1	2686	A	C4'-C3'-O3'	5.06	123.13	113.00
1	1	2803	A	C5'-C4'-O4'	5.06	115.17	109.10
3	4	97	A	N9-C1'-C2'	5.06	120.58	114.00
1	1	1848	G	C3'-C2'-O2'	5.06	127.98	113.30
35	g	96	GLU	N-CA-C	5.06	124.66	111.00
1	1	1110	U	C5'-C4'-C3'	5.06	124.09	116.00
1	1	1305	U	C4'-C3'-O3'	5.06	123.12	113.00
1	1	8	C	C1'-C2'-O2'	5.06	125.77	110.60
1	1	726	G	C5'-C4'-C3'	5.06	124.09	116.00
1	1	1273	A	C2'-C3'-O3'	5.06	121.79	113.70
1	1	2178	A	C3'-C2'-O2'	5.06	127.97	113.30
10	G	211	LEU	N-CA-C	5.06	124.65	111.00
12	I	174	THR	CA-CB-CG2	5.06	119.48	112.40
1	1	1885	U	C3'-C2'-O2'	5.06	127.96	113.30
1	1	2398	A	C1'-C2'-O2'	5.06	125.77	110.60
1	1	94	G	C3'-C2'-O2'	5.05	127.96	113.30
1	1	239	G	C3'-C2'-O2'	5.05	127.96	113.30
1	1	3140	G	C5'-C4'-C3'	5.05	124.09	116.00
1	1	2191	U	C1'-C2'-O2'	5.05	125.76	110.60
1	1	301	G	C5'-C4'-C3'	5.05	124.08	116.00
1	1	1718	G	C5'-C4'-C3'	5.05	124.08	116.00
1	1	910	G	C3'-C2'-O2'	5.05	127.94	113.30
1	1	1502	C	C5'-C4'-C3'	5.05	124.08	116.00
1	1	2096	A	C3'-C2'-O2'	5.05	127.94	113.30
2	3	61	G	C1'-C2'-O2'	5.05	125.75	110.60
3	4	99	C	C5'-C4'-C3'	5.05	124.08	116.00
5	B	193	ASP	N-CA-C	5.05	124.63	111.00
1	1	1941	C	C5'-C4'-C3'	5.05	124.08	116.00
1	1	2160	G	C1'-C2'-O2'	5.05	125.75	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2447	G	C5'-C4'-C3'	5.05	124.08	116.00
1	1	2832	C	C3'-C2'-O2'	5.05	127.94	113.30
1	1	1285	G	C5'-C4'-O4'	5.05	115.16	109.10
7	D	159	VAL	CA-CB-CG1	5.05	118.47	110.90
1	1	195	U	C1'-C2'-O2'	5.04	125.73	110.60
1	1	88	A	C5'-C4'-C3'	5.04	124.07	116.00
1	1	1740	U	C3'-C2'-O2'	5.04	127.92	113.30
1	1	2523	A	O4'-C1'-N9	5.04	112.23	108.20
1	1	3333	G	C3'-C2'-O2'	5.04	127.92	113.30
2	3	109	G	C1'-C2'-O2'	5.04	125.72	110.60
3	4	34	U	C1'-C2'-O2'	5.04	125.72	110.60
5	B	246	LEU	CB-CA-C	5.04	119.78	110.20
1	1	587	U	C1'-C2'-O2'	5.04	125.72	110.60
2	3	104	A	C3'-C2'-O2'	5.04	127.92	113.30
1	1	583	G	C3'-C2'-O2'	5.04	127.91	113.30
1	1	1440	G	N9-C1'-C2'	5.04	120.55	114.00
1	1	3329	U	C3'-C2'-O2'	5.04	127.91	113.30
1	1	141	C	C3'-C2'-O2'	5.04	127.91	113.30
1	1	699	A	C3'-C2'-O2'	5.04	127.91	113.30
35	g	25	THR	N-CA-C	5.04	124.60	111.00
1	1	712	G	C1'-C2'-O2'	5.04	125.71	110.60
43	o	8	ARG	N-CA-C	5.04	124.59	111.00
1	1	244	G	C4'-C3'-O3'	5.03	123.07	113.00
1	1	1272	C	C3'-C2'-O2'	5.03	127.89	113.30
1	1	1495	U	C3'-C2'-O2'	5.03	127.89	113.30
1	1	169	U	O4'-C1'-N1	5.03	112.22	108.20
1	1	1435	A	C1'-C2'-O2'	5.03	125.69	110.60
5	B	215	ILE	N-CA-C	5.03	124.58	111.00
31	c	43	ILE	N-CA-C	5.03	124.58	111.00
1	1	886	C	C3'-C2'-O2'	5.03	127.89	113.30
7	D	227	LEU	N-CA-C	5.03	124.58	111.00
1	1	910	G	C1'-C2'-O2'	5.03	125.68	110.60
1	1	1254	C	O4'-C1'-N1	5.03	112.22	108.20
1	1	1495	U	C1'-C2'-O2'	5.03	125.69	110.60
1	1	2970	C	C1'-C2'-O2'	5.03	125.68	110.60
1	1	677	A	C3'-C2'-O2'	5.03	127.87	113.30
1	1	2822	U	O4'-C4'-C3'	5.03	110.12	106.10
7	D	187	THR	OG1-CB-CG2	5.03	121.56	110.00
18	P	148	LEU	CB-CG-CD2	5.03	119.54	111.00
1	1	1563	C	C3'-C2'-O2'	5.02	127.87	113.30
1	1	3076	C	N1-C1'-C2'	5.02	120.53	114.00
1	1	676	G	O4'-C1'-N9	5.02	112.22	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3117	C	C4'-C3'-O3'	5.02	123.05	113.00
1	1	3162	C	C4'-C3'-O3'	5.02	123.05	113.00
1	1	1844	C	C5'-C4'-C3'	5.02	124.03	116.00
1	1	3226	A	C3'-C2'-O2'	5.02	127.86	113.30
1	1	3240	C	C3'-C2'-O2'	5.02	127.86	113.30
1	1	3273	A	C1'-C2'-O2'	5.02	125.66	110.60
1	1	966	U	C3'-C2'-O2'	5.02	127.85	113.30
1	1	987	U	C5'-C4'-C3'	5.02	124.03	116.00
1	1	1802	C	C3'-C2'-O2'	5.02	127.85	113.30
1	1	3308	C	C3'-C2'-O2'	5.02	127.85	113.30
20	R	128	LYS	N-CA-C	5.02	124.55	111.00
37	i	67	LYS	N-CA-C	5.02	124.55	111.00
1	1	195	U	C3'-C2'-O2'	5.01	127.84	113.30
1	1	397	A	O4'-C1'-N9	5.01	112.21	108.20
1	1	1468	A	C3'-C2'-O2'	5.01	127.84	113.30
2	3	49	G	C5'-C4'-C3'	5.01	124.02	116.00
1	1	1451	C	C3'-C2'-O2'	5.01	127.83	113.30
13	J	128	TYR	N-CA-C	5.01	124.53	111.00
27	Y	85	VAL	CB-CA-C	5.01	120.92	111.40
44	p	81	SER	N-CA-C	5.01	124.53	111.00
1	1	1144	U	C3'-C2'-O2'	5.01	127.83	113.30
1	1	1926	C	O4'-C1'-N1	5.01	112.21	108.20
1	1	2111	G	C5'-C4'-O4'	5.01	115.11	109.10
1	1	2452	G	O4'-C1'-N9	5.01	112.21	108.20
1	1	2619	G	C3'-C2'-O2'	5.01	127.82	113.30
1	1	3156	U	C1'-C2'-O2'	5.01	125.62	110.60
2	3	11	A	C1'-C2'-O2'	5.01	125.62	110.60
1	1	2950	G	C5'-C4'-C3'	5.01	124.01	116.00
3	4	111	A	C3'-C2'-O2'	5.01	127.82	113.30
45	t	205	VAL	CB-CA-C	5.01	120.91	111.40
4	A	71	LEU	CB-CA-C	5.00	119.71	110.20
7	D	207	TYR	N-CA-C	5.00	124.51	111.00
1	1	32	U	C5'-C4'-C3'	5.00	124.01	116.00
1	1	702	C	C5'-C4'-C3'	5.00	124.01	116.00
1	1	1237	G	C3'-C2'-O2'	5.00	127.81	113.30
32	d	51	LEU	N-CA-C	5.00	124.51	111.00
1	1	168	U	C5'-C4'-C3'	5.00	124.00	116.00
1	1	232	G	C1'-C2'-O2'	5.00	125.61	110.60
1	1	358	G	C3'-C2'-O2'	5.00	127.80	113.30
1	1	1934	G	C3'-C2'-O2'	5.00	127.81	113.30
1	1	2114	C	C3'-C2'-O2'	5.00	127.80	113.30
45	t	4	ILE	N-CA-C	5.00	124.50	111.00

All (277) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	1	69	C	C2'
1	1	92	G	C2'
1	1	95	A	C2'
1	1	109	A	C3'
1	1	167	U	C3'
1	1	244	G	C3'
1	1	250	U	C3'
1	1	258	G	C2'
1	1	282	G	C3'
1	1	322	U	C3'
1	1	335	G	C3'
1	1	336	A	C3'
1	1	345	G	C3'
1	1	368	G	C3'
1	1	379	C	C2'
1	1	387	A	C3'
1	1	418	A	C2'
1	1	424	G	C3'
1	1	498	A	C3'
1	1	549	U	C2'
1	1	637	C	C3'
1	1	652	G	C2'
1	1	702	C	C3'
1	1	739	G	C3'
1	1	763	G	C3'
1	1	813	G	C2'
1	1	834	U	C3'
1	1	845	G	C3'
1	1	864	G	C2'
1	1	884	A	C2'
1	1	917	A	C3'
1	1	996	A	C3'
1	1	1013	G	C3'
1	1	1024	G	C3'
1	1	1043	C	C3'
1	1	1056	U	C3'
1	1	1106	G	C3'
1	1	1117	G	C3'
1	1	1122	U	C2'
1	1	1264	G	C3'
1	1	1278	A	C2'
1	1	1282	G	C3'

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Mol	Chain	Res	Type	Atom
1	1	1351	U	C3'
1	1	1363	A	C3'
1	1	1425	U	C3'
1	1	1451	C	C3'
1	1	1459	C	C3'
1	1	1464	G	C3'
1	1	1533	U	C2'
1	1	1578	C	C3'
1	1	1623	G	C3'
1	1	1652	G	C3'
1	1	1673	G	C3'
1	1	1704	A	C2'
1	1	1705	U	C2'
1	1	1816	A	C3'
1	1	1835	A	C2'
1	1	1838	G	C3'
1	1	1839	A	C2'
1	1	1888	U	C3'
1	1	1906	G	C3'
1	1	1938	U	C2'
1	1	1942	U	C2'
1	1	2130	G	C3'
1	1	2136	C	C3'
1	1	2139	A	C3'
1	1	2149	A	C2'
1	1	2152	A	C3'
1	1	2156	C	C3'
1	1	2273	G	C2'
1	1	2288	G	C3'
1	1	2342	U	C3'
1	1	2362	C	C3'
1	1	2374	C	C2'
1	1	2403	G	C2'
1	1	2405	C	C2'
1	1	2439	A	C2'
1	1	2612	U	C3'
1	1	2622	C	C2'
1	1	2643	A	C3'
1	1	2650	U	C3'
1	1	2659	G	C3'
1	1	2696	A	C3'
1	1	2731	U	C3'

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Mol	Chain	Res	Type	Atom
1	1	2777	G	C2'
1	1	2826	U	C2'
1	1	2835	U	C2'
1	1	2874	G	C2'
1	1	2885	C	C3'
1	1	2909	U	C3'
1	1	3037	U	C3'
1	1	3071	U	C3'
1	1	3094	A	C3'
1	1	3099	C	C3'
1	1	3107	U	C3'
1	1	3119	U	C3'
1	1	3171	U	C2'
1	1	3241	G	C3'
1	1	3243	A	C2'
1	1	3292	A	C3'
1	1	3333	G	C2'
1	1	3362	A	C3'
1	1	3391	A	C2'
2	3	11	A	C2'
3	4	10	A	C3'
3	4	34	U	C2'
3	4	50	C	C3'
3	4	52	A	C2'
4	A	9	ARG	CA
4	A	32	LEU	CA
4	A	33	ASP	CA
4	A	37	ARG	CA
4	A	96	LEU	CA
4	A	143	GLU	CA
4	A	196	TRP	CA
5	B	38	SER	CA
5	B	61	ASP	CA
5	B	79	VAL	CA
5	B	104	THR	CA
5	B	144	ILE	CA
5	B	173	GLN	CA
5	B	246	LEU	CA
5	B	265	ALA	CA
5	B	285	VAL	CA
5	B	331	ASN	CA
5	B	349	LYS	CA

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Mol	Chain	Res	Type	Atom
6	C	11	LEU	CA
6	C	21	PRO	CA
6	C	27	SER	CA
6	C	85	SER	CA
6	C	172	VAL	CA
6	C	195	ARG	CA
6	C	222	VAL	CA
6	C	226	GLU	CA
6	C	296	GLN	CA
6	C	299	ILE	CA
6	C	314	LYS	CA
7	D	57	ASN	CA
7	D	109	THR	CA
7	D	125	VAL	CA
7	D	197	SER	CA
7	D	273	ARG	CA
7	D	293	LEU	CA
8	E	34	LEU	CA
8	E	169	ASP	CA
8	E	172	HIS	CA
9	F	92	ILE	CA
9	F	101	LYS	CA
9	F	106	LEU	CA
9	F	112	ASN	CA
9	F	122	ALA	CA
10	G	27	THR	CA
10	G	59	GLN	CA
10	G	74	THR	CA
10	G	96	LYS	CA
10	G	155	ASN	CA
10	G	211	LEU	CA
11	H	27	VAL	CA
11	H	51	GLN	CA
11	H	142	ASP	CA
11	H	150	SER	CA
11	H	172	ILE	CA
12	I	33	ILE	CA
12	I	75	TYR	CA
12	I	79	VAL	CA
12	I	146	ASP	CA
13	J	35	LYS	CA
13	J	62	ASN	CA

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Mol	Chain	Res	Type	Atom
13	J	163	PHE	CA
14	L	6	ASN	CA
14	L	71	ALA	CA
14	L	112	ASN	CA
14	L	135	ALA	CA
14	L	171	ARG	CA
14	L	194	GLU	CA
15	M	53	VAL	CA
15	M	90	VAL	CA
16	N	46	ASP	CA
16	N	109	ARG	CA
17	O	48	PHE	CA
17	O	114	LYS	CA
17	O	136	THR	CA
18	P	52	LEU	CA
18	P	89	LYS	CA
18	P	101	ASN	CA
18	P	120	ASN	CA
18	P	179	GLN	CA
19	Q	25	TYR	CA
19	Q	112	ALA	CA
19	Q	148	GLU	CA
19	Q	150	VAL	CA
20	R	5	ARG	CA
20	R	21	LYS	CA
20	R	34	GLN	CA
20	R	41	ILE	CB,CA
20	R	84	THR	CA
20	R	104	ARG	CA
20	R	106	LEU	CA
20	R	125	LYS	CA
20	R	128	LYS	CA
20	R	135	LYS	CA
20	R	175	GLN	CA
20	R	186	LYS	CA
21	S	12	ARG	CA
21	S	36	ILE	CA
21	S	61	ILE	CB
21	S	99	ARG	CA
21	S	119	ARG	CA
22	T	25	VAL	CA
22	T	49	GLN	CA

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Mol	Chain	Res	Type	Atom
22	T	78	LYS	CA
22	T	118	GLU	CA
22	T	138	SER	CA
22	T	147	VAL	CA
24	V	14	SER	CA
24	V	102	ILE	CA
24	V	128	ARG	CA
25	W	21	PHE	CA
25	W	41	LYS	CA
26	X	59	SER	CA
26	X	142	ILE	CB
27	Y	26	GLN	CA
27	Y	87	LYS	CA
27	Y	91	ASN	CA
27	Y	119	ILE	CA
28	Z	31	GLU	CA
28	Z	47	GLU	CA
29	a	88	ASP	CA
29	a	145	VAL	CA
29	a	148	ILE	CA
30	b	12	GLN	CA
30	b	41	ARG	CA
31	c	46	ALA	CA
31	c	64	LYS	CA
31	c	76	GLU	CA
32	d	46	THR	CA
32	d	47	ASP	CA
32	d	58	ALA	CA
33	e	25	TYR	CA
33	e	55	ILE	CA
34	f	15	SER	CA
34	f	39	GLN	CA
34	f	60	ARG	CA
34	f	77	ASN	CA
35	g	73	SER	CA
35	g	76	TYR	CA
35	g	84	CYS	CA
35	g	96	GLU	CA
36	h	71	LYS	CA
36	h	73	LYS	CA
36	h	105	ARG	CA
36	h	111	PHE	CA

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Mol	Chain	Res	Type	Atom
37	i	45	ARG	CA
37	i	83	ALA	CA
38	j	26	SER	CA
38	j	45	ARG	CA
38	j	65	ARG	CA
40	l	19	GLN	CA
40	l	28	ARG	CA
40	l	33	ASN	CA
43	o	29	LYS	CA
43	o	30	ALA	CA
43	o	76	LYS	CA
43	o	77	CYS	CA
43	o	93	LEU	CA
43	o	102	GLN	CA
43	o	103	ALA	CA
44	p	90	VAL	CA
45	t	4	ILE	CA
45	t	83	ASP	CA
45	t	93	LEU	CA
45	t	105	LYS	CA
45	t	138	VAL	CA
45	t	151	VAL	CA
45	t	152	ARG	CA
45	t	198	TRP	CA

All (31) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	B	17	LEU	Peptide
5	B	256	HIS	Peptide
5	B	36	ASP	Peptide
6	C	148	ILE	Peptide
6	C	226	GLU	Peptide
6	C	296	GLN	Peptide
14	L	56	PRO	Peptide
17	O	125	ARG	Mainchain
17	O	143	THR	Mainchain
17	O	145	VAL	Mainchain
17	O	153	VAL	Mainchain
17	O	16	VAL	Mainchain
17	O	160	ARG	Mainchain
17	O	186	ALA	Mainchain

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Mol	Chain	Res	Type	Group
17	O	198	GLY	Mainchain,Peptide
17	O	36	VAL	Mainchain
17	O	67	THR	Mainchain
17	O	72	HIS	Mainchain
17	O	74	ARG	Mainchain
17	O	84	LEU	Mainchain
17	O	90	HIS	Mainchain
17	O	95	GLY	Mainchain
34	f	103	TYR	Peptide
34	f	15	SER	Peptide
38	j	39	TYR	Peptide
45	t	150	ASP	Peptide
45	t	190	PHE	Peptide
45	t	191	VAL	Peptide
45	t	193	LEU	Peptide
45	t	92	LYS	Peptide

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	1	68514	0	35042	1249	0
2	3	2579	0	1330	31	0
3	4	3353	0	1721	62	0
4	A	1914	0	1914	145	0
5	B	3075	0	3060	180	0
6	C	2748	0	2780	160	0
7	D	2375	0	2253	92	0
8	E	1239	0	1299	33	0
9	F	1784	0	1814	84	0
10	G	1804	0	1812	91	0
11	H	1518	0	1541	64	0
12	I	1705	0	1684	73	0
13	J	1353	0	1348	49	0
14	L	1543	0	1557	86	0
15	M	1053	0	1121	42	0
16	N	1720	0	1728	110	0
17	O	1555	0	1635	457	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	P	1420	0	1394	75	0
19	Q	1441	0	1495	66	0
20	R	1521	0	1571	73	0
21	S	1445	0	1441	74	0
22	T	1276	0	1289	52	0
23	U	796	0	788	13	0
24	V	1003	0	1014	58	0
25	W	500	0	508	21	0
26	X	964	0	1003	29	0
27	Y	993	0	1051	49	0
28	Z	1092	0	1117	51	0
29	a	1173	0	1174	0	0
30	b	462	0	474	0	0
31	c	743	0	773	0	0
32	d	876	0	889	0	0
33	e	1020	0	1064	0	0
34	f	850	0	849	0	0
35	g	880	0	918	0	0
36	h	969	0	1048	0	0
37	i	771	0	819	0	0
38	j	681	0	665	0	0
39	k	612	0	662	0	0
40	l	436	0	463	0	0
41	m	417	0	445	0	0
42	n	233	0	278	0	0
43	o	847	0	901	0	0
44	p	694	0	721	0	0
45	t	1718	0	1758	0	0
All	All	125665	0	90211	3435	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 19.

All (3435) 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)
17:O:128:ARG:C	17:O:129:LEU:CA	1.80	1.50
17:O:190:VAL:C	17:O:191:ALA:N	1.67	1.46
17:O:128:ARG:C	17:O:129:LEU:N	1.71	1.44
17:O:63:ALA:O	17:O:64:PHE:CA	1.65	1.41
17:O:48:PHE:HB3	17:O:49:ARG:N	1.26	1.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:109:PRO:HB2	17:O:110:PRO:CD	1.49	1.37
17:O:190:VAL:C	17:O:191:ALA:HA	1.44	1.36
17:O:36:VAL:C	17:O:37:ARG:O	1.64	1.34
17:O:110:PRO:HG2	17:O:111:PRO:CD	1.58	1.33
17:O:128:ARG:C	17:O:129:LEU:HA	1.36	1.33
17:O:80:PHE:C	17:O:81:TYR:N	1.82	1.32
17:O:84:LEU:O	17:O:84:LEU:CD2	1.76	1.32
17:O:189:ASP:C	17:O:190:VAL:N	1.84	1.30
17:O:190:VAL:O	17:O:191:ALA:HA	1.17	1.30
17:O:103:LYS:O	17:O:104:VAL:CG2	1.79	1.28
17:O:114:LYS:O	17:O:115:LYS:N	1.66	1.28
17:O:63:ALA:O	17:O:64:PHE:HA	1.14	1.26
17:O:48:PHE:O	17:O:48:PHE:CD1	1.92	1.22
17:O:126:VAL:O	17:O:127:LEU:HD23	1.34	1.22
17:O:62:THR:O	17:O:64:PHE:N	1.71	1.22
17:O:21:SER:O	17:O:23:VAL:N	1.72	1.21
21:S:160:THR:HG1	21:S:161:LYS:N	1.36	1.21
17:O:171:LYS:C	17:O:172:ARG:N	1.94	1.20
1:1:2178:A:O3'	1:1:2179:C:P	2.00	1.20
17:O:103:LYS:O	17:O:104:VAL:HG23	1.02	1.19
17:O:63:ALA:O	17:O:64:PHE:N	1.73	1.19
11:H:83:THR:HG1	11:H:84:LYS:N	1.40	1.19
17:O:190:VAL:C	17:O:191:ALA:CA	2.09	1.18
12:I:95:HIS:C	12:I:96:VAL:N	1.97	1.18
17:O:110:PRO:CG	17:O:111:PRO:CD	2.22	1.18
17:O:128:ARG:H	17:O:129:LEU:N	1.40	1.17
17:O:85:ARG:O	17:O:87:MET:N	1.75	1.17
17:O:126:VAL:C	17:O:127:LEU:HD23	1.65	1.16
17:O:187:GLU:O	17:O:187:GLU:OE1	1.60	1.16
17:O:106:GLU:N	17:O:106:GLU:OE1	1.79	1.16
1:1:47:C:O3'	1:1:48:A:P	2.03	1.16
1:1:2116:G:O3'	1:1:2117:A:P	2.05	1.15
17:O:109:PRO:CB	17:O:110:PRO:HD3	1.75	1.13
17:O:79:ILE:O	17:O:80:PHE:O	1.65	1.13
17:O:171:LYS:N	17:O:172:ARG:N	1.96	1.13
14:L:57:VAL:C	14:L:58:VAL:N	2.00	1.13
17:O:6:VAL:CG1	17:O:7:VAL:H	1.61	1.13
1:1:1931:U:O3'	1:1:1932:A:P	2.06	1.13
3:4:41:A:O3'	3:4:42:G:P	2.08	1.12
17:O:136:THR:O	17:O:137:THR:OG1	1.65	1.12
21:S:64:ILE:C	21:S:65:ASN:N	2.03	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:132:PHE:C	20:R:133:LYS:N	2.03	1.11
1:1:17:G:O3'	1:1:18:G:P	2.09	1.11
4:A:40:TYR:C	4:A:41:ILE:N	2.03	1.11
26:X:94:GLN:C	26:X:95:ILE:N	2.03	1.11
9:F:144:ILE:C	9:F:145:ARG:N	2.04	1.10
1:1:858:A:O3'	1:1:859:G:P	2.09	1.10
9:F:158:LYS:O	9:F:159:GLN:N	1.83	1.10
17:O:110:PRO:CG	17:O:111:PRO:HD3	1.81	1.10
1:1:2965:U:O3'	1:1:2966:G:P	2.09	1.10
1:1:2163:C:HO2'	4:A:11:GLY:N	1.50	1.10
6:C:266:THR:HG1	6:C:267:VAL:N	1.50	1.09
17:O:128:ARG:N	17:O:129:LEU:N	2.00	1.09
17:O:190:VAL:N	17:O:191:ALA:N	2.00	1.09
17:O:41:LEU:O	17:O:42:ASN:HB2	1.54	1.08
1:1:913:A:O3'	1:1:914:A:P	2.10	1.08
17:O:110:PRO:HG2	17:O:111:PRO:HD3	1.24	1.08
17:O:128:ARG:O	17:O:129:LEU:HA	1.50	1.08
1:1:1557:A:O3'	1:1:1558:A:P	2.11	1.07
17:O:110:PRO:HG2	17:O:111:PRO:HD2	1.31	1.07
1:1:1101:G:O3'	1:1:1102:A:P	2.13	1.06
4:A:88:ILE:C	4:A:89:TYR:N	2.08	1.06
17:O:128:ARG:C	17:O:129:LEU:HD12	1.73	1.06
3:4:36:G:O3'	3:4:37:A:P	2.14	1.06
17:O:48:PHE:CB	17:O:49:ARG:N	2.18	1.05
1:1:952:A:O3'	1:1:953:G:P	2.14	1.05
1:1:2282:U:O3'	1:1:2283:G:P	2.14	1.05
17:O:114:LYS:C	17:O:115:LYS:N	2.09	1.05
17:O:187:GLU:O	17:O:188:SER:O	1.75	1.05
5:B:54:THR:C	5:B:55:THR:N	2.10	1.05
1:1:268:A:O3'	1:1:269:G:P	2.14	1.05
17:O:39:GLU:OE1	17:O:39:GLU:N	1.89	1.04
1:1:1162:U:O3'	1:1:1163:A:P	2.15	1.04
1:1:1403:C:O3'	1:1:1404:G:P	2.15	1.04
17:O:182:ASN:OD1	17:O:182:ASN:O	1.76	1.04
17:O:6:VAL:HG12	17:O:7:VAL:H	0.95	1.04
17:O:190:VAL:CA	17:O:191:ALA:N	2.19	1.04
17:O:63:ALA:C	17:O:64:PHE:N	2.10	1.04
5:B:249:VAL:C	5:B:250:ALA:N	2.11	1.04
1:1:71:A:O3'	1:1:72:C:P	2.14	1.04
9:F:146:GLN:C	9:F:147:LEU:N	2.10	1.04
9:F:120:THR:HG1	9:F:121:LYS:N	1.53	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:84:VAL:C	5:B:85:VAL:N	2.11	1.04
1:1:1637:A:O3'	1:1:1638:A:P	2.16	1.04
5:B:275:ARG:C	5:B:276:THR:N	2.11	1.04
1:1:1390:A:O3'	1:1:1391:C:P	2.15	1.04
6:C:261:VAL:C	6:C:262:TRP:N	2.12	1.03
1:1:413:U:H3'	1:1:414:U:P	1.97	1.03
17:O:84:LEU:O	17:O:84:LEU:HD23	0.86	1.03
6:C:133:SER:HG	6:C:134:LEU:N	1.56	1.03
12:I:87:LEU:C	12:I:88:ARG:N	2.11	1.03
17:O:171:LYS:C	17:O:172:ARG:CA	2.26	1.03
4:A:10:LYS:C	4:A:11:GLY:N	2.12	1.02
17:O:6:VAL:HG12	17:O:7:VAL:N	1.60	1.02
1:1:2812:C:O3'	1:1:2813:A:P	2.17	1.02
7:D:19:PRO:C	7:D:20:PHE:N	2.12	1.02
8:E:21:THR:HG1	8:E:22:ARG:N	1.57	1.02
19:Q:140:LEU:C	19:Q:141:ARG:N	2.13	1.02
1:1:920:A:O3'	1:1:921:A:P	2.17	1.02
22:T:84:TYR:C	22:T:85:LEU:N	2.13	1.02
1:1:1445:U:O3'	1:1:1446:A:P	2.18	1.02
20:R:98:ARG:C	20:R:99:LEU:N	2.13	1.02
17:O:11:GLY:O	17:O:14:HIS:ND1	1.90	1.01
17:O:4:GLU:HB2	17:O:5:PRO:HD2	1.39	1.01
1:1:1153:A:H3'	1:1:1154:A:P	2.00	1.01
6:C:112:LYS:C	6:C:113:VAL:N	2.12	1.01
17:O:128:ARG:CA	17:O:129:LEU:N	2.23	1.01
21:S:135:VAL:C	21:S:136:LYS:N	2.14	1.01
13:J:128:TYR:HA	13:J:129:VAL:N	1.75	1.01
17:O:126:VAL:HG13	17:O:127:LEU:HD21	1.42	1.01
16:N:9:GLU:C	16:N:10:LEU:N	2.14	1.01
3:4:137:C:O3'	3:4:138:A:P	2.17	1.01
17:O:190:VAL:O	17:O:191:ALA:CA	2.07	1.01
15:M:21:VAL:C	15:M:22:LEU:N	2.13	1.01
17:O:114:LYS:CA	17:O:115:LYS:N	2.24	1.01
17:O:126:VAL:HG13	17:O:127:LEU:CD2	1.90	1.00
1:1:1048:A:H3'	1:1:1049:C:P	2.01	1.00
24:V:34:LEU:C	24:V:35:TYR:N	2.15	1.00
17:O:121:PRO:HA	17:O:124:LEU:HD22	1.42	1.00
17:O:137:THR:O	17:O:139:GLY:N	1.92	1.00
21:S:123:ILE:C	21:S:124:LEU:N	2.13	1.00
1:1:968:G:O3'	1:1:969:C:P	2.19	1.00
1:1:41:G:O3'	1:1:42:C:P	2.20	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2361:A:O3'	1:1:2362:C:P	2.20	1.00
18:P:29:THR:C	18:P:30:ARG:N	2.15	0.99
24:V:14:SER:C	24:V:15:LEU:N	2.15	0.99
17:O:25:LYS:C	17:O:26:GLN:N	2.15	0.99
17:O:171:LYS:C	17:O:172:ARG:HA	1.81	0.99
1:1:554:A:O3'	1:1:555:U:P	2.19	0.99
17:O:120:VAL:HG12	17:O:120:VAL:O	1.59	0.99
16:N:132:VAL:C	16:N:133:ILE:N	2.16	0.99
17:O:38:ALA:O	17:O:40:GLU:N	1.96	0.99
1:1:1708:C:O3'	1:1:1709:C:P	2.20	0.99
1:1:1469:C:O3'	1:1:1470:U:P	2.20	0.99
14:L:21:ARG:C	14:L:22:VAL:N	2.16	0.98
1:1:784:A:O3'	1:1:785:G:P	2.20	0.98
1:1:217:U:O3'	1:1:218:G:P	2.21	0.98
1:1:1940:G:O3'	1:1:1941:C:P	2.21	0.98
16:N:37:HIS:C	16:N:38:ARG:N	2.16	0.98
28:Z:14:VAL:C	28:Z:15:ARG:N	2.16	0.98
17:O:78:ARG:O	17:O:81:TYR:HB3	1.62	0.98
17:O:168:TYR:O	17:O:170:LYS:N	1.95	0.98
2:3:10:C:O3'	2:3:11:A:P	2.21	0.98
27:Y:58:VAL:C	27:Y:59:VAL:N	2.18	0.98
1:1:872:U:O3'	1:1:873:C:P	2.22	0.97
1:1:83:U:HO2'	1:1:700:C:HO3'	1.07	0.97
18:P:146:ILE:C	18:P:147:GLU:N	2.16	0.97
17:O:36:VAL:O	17:O:37:ARG:O	1.79	0.97
3:4:44:A:H3'	3:4:45:C:P	2.03	0.97
26:X:28:THR:HG1	26:X:29:SER:N	1.61	0.97
6:C:208:VAL:C	6:C:209:TYR:N	2.18	0.97
27:Y:27:ARG:C	27:Y:28:ARG:N	2.18	0.97
1:1:1322:U:H3'	1:1:1323:G:P	2.05	0.97
17:O:110:PRO:CB	17:O:111:PRO:HD3	1.93	0.96
1:1:1376:C:O3'	1:1:1377:G:P	2.22	0.96
24:V:100:GLY:C	24:V:101:VAL:N	2.17	0.96
17:O:62:THR:HG22	17:O:62:THR:O	1.65	0.96
10:G:197:VAL:C	10:G:198:ALA:N	2.19	0.96
1:1:12:A:O3'	1:1:13:A:P	2.23	0.96
9:F:125:GLU:C	9:F:126:LEU:N	2.19	0.96
1:1:2986:U:O3'	1:1:2987:A:P	2.23	0.96
1:1:85:A:O3'	1:1:86:G:P	2.24	0.96
1:1:2785:A:O3'	1:1:2786:G:P	2.23	0.96
1:1:3298:C:O3'	1:1:3299:A:P	2.24	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:116:LYS:HG3	17:O:117:ARG:N	1.79	0.95
5:B:327:CYS:HA	5:B:328:ILE:N	1.80	0.95
1:1:362:U:O3'	1:1:363:G:P	2.23	0.95
17:O:4:GLU:HB2	17:O:5:PRO:CD	1.95	0.95
1:1:1793:C:O3'	1:1:1794:G:P	2.23	0.95
17:O:23:VAL:O	17:O:27:LEU:HG	1.67	0.95
4:A:187:HIS:C	4:A:188:LYS:N	2.19	0.95
1:1:1796:G:O3'	1:1:1797:A:P	2.25	0.95
17:O:121:PRO:O	17:O:123:ALA:N	1.98	0.95
17:O:95:GLY:O	17:O:98:ALA:N	1.99	0.95
4:A:207:VAL:C	4:A:208:ASP:N	2.20	0.95
19:Q:47:VAL:C	19:Q:48:VAL:N	2.20	0.95
17:O:197:LEU:O	17:O:198:GLY:HA3	1.65	0.95
17:O:110:PRO:CG	17:O:111:PRO:HD2	1.91	0.94
1:1:2865:U:O3'	1:1:2866:U:P	2.24	0.94
25:W:46:PRO:C	25:W:47:ARG:N	2.21	0.94
11:H:25:VAL:C	11:H:26:LYS:N	2.19	0.94
1:1:1159:A:OP2	9:F:92:ILE:N	1.99	0.94
6:C:35:VAL:C	6:C:36:HIS:N	2.19	0.94
1:1:376:G:O3'	1:1:377:A:P	2.24	0.94
17:O:31:GLN:HE21	17:O:31:GLN:C	1.71	0.94
17:O:40:GLU:OE1	17:O:40:GLU:HA	1.67	0.94
4:A:226:SER:HG	4:A:227:ARG:N	1.66	0.94
17:O:17:GLY:O	17:O:20:ALA:HB3	1.67	0.93
17:O:42:ASN:C	17:O:43:ILE:HG13	1.86	0.93
3:4:91:C:HO2'	27:Y:25:SER:N	1.66	0.93
10:G:132:VAL:C	10:G:133:LYS:N	2.22	0.93
20:R:172:ARG:O	20:R:176:ARG:CZ	2.16	0.93
1:1:2717:U:O3'	1:1:2718:U:P	2.25	0.93
1:1:1428:A:O3'	1:1:1429:G:P	2.26	0.93
1:1:3147:G:O3'	1:1:3148:U:P	2.26	0.93
15:M:127:LYS:C	15:M:128:ARG:N	2.20	0.93
28:Z:119:GLU:C	28:Z:120:GLU:N	2.20	0.93
9:F:204:PRO:C	9:F:205:PHE:N	2.21	0.93
12:I:33:ILE:O	12:I:34:TYR:N	2.02	0.93
1:1:863:C:O3'	1:1:864:G:P	2.27	0.93
17:O:6:VAL:O	17:O:7:VAL:CG2	2.16	0.93
17:O:109:PRO:CB	17:O:110:PRO:CD	2.32	0.92
17:O:27:LEU:O	17:O:29:ASN:N	2.01	0.92
1:1:608:A:O3'	1:1:609:G:P	2.28	0.92
4:A:189:TYR:C	4:A:190:ARG:N	2.23	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:145:ALA:C	20:R:146:LYS:N	2.23	0.92
1:1:963:G:O3'	1:1:964:G:P	2.28	0.92
1:1:397:A:O3'	1:1:398:A:P	2.28	0.92
1:1:145:G:O3'	1:1:146:U:P	2.28	0.92
9:F:208:SER:C	9:F:209:ASN:N	2.23	0.92
6:C:254:ALA:C	6:C:255:PHE:N	2.23	0.91
17:O:171:LYS:CA	17:O:172:ARG:N	2.34	0.91
17:O:168:TYR:C	17:O:170:LYS:H	1.72	0.91
3:4:37:A:O3'	3:4:38:U:P	2.29	0.91
5:B:77:THR:C	5:B:78:VAL:N	2.24	0.91
9:F:239:LEU:C	9:F:240:VAL:N	2.23	0.91
1:1:843:A:H3'	1:1:844:G:P	2.11	0.91
17:O:103:LYS:C	17:O:104:VAL:HG23	1.91	0.91
4:A:51:ASP:C	4:A:52:SER:N	2.25	0.90
6:C:235:LEU:C	6:C:236:LEU:N	2.23	0.90
1:1:92:G:H3'	1:1:93:C:P	2.11	0.90
26:X:73:MET:C	26:X:74:LYS:N	2.25	0.90
6:C:196:ASN:O	6:C:197:ARG:N	2.04	0.90
16:N:48:ALA:C	16:N:49:ARG:N	2.25	0.90
28:Z:74:VAL:C	28:Z:75:VAL:N	2.24	0.90
11:H:93:VAL:C	11:H:94:TYR:N	2.25	0.90
5:B:336:VAL:C	5:B:337:THR:N	2.25	0.90
5:B:191:LYS:C	5:B:192:VAL:N	2.25	0.90
19:Q:6:THR:N	19:Q:7:SER:HG	1.69	0.90
17:O:96:LYS:O	17:O:98:ALA:N	2.05	0.90
14:L:5:LYS:C	14:L:6:ASN:N	2.25	0.90
20:R:157:GLU:HA	20:R:160:GLU:HB2	1.50	0.90
17:O:164:SER:O	17:O:166:GLU:N	2.03	0.90
26:X:101:GLU:C	26:X:102:LEU:N	2.25	0.90
17:O:197:LEU:O	17:O:198:GLY:CA	2.19	0.89
21:S:23:LYS:C	21:S:24:LEU:N	2.25	0.89
4:A:99:GLY:C	4:A:100:ASN:N	2.25	0.89
3:4:60:U:O3'	3:4:61:A:P	2.29	0.89
1:1:1802:C:O2'	1:1:1803:C:O4'	1.90	0.89
17:O:106:GLU:H	17:O:106:GLU:CD	1.75	0.89
1:1:3151:U:O3'	1:1:3152:U:P	2.30	0.89
9:F:201:PHE:C	9:F:202:LEU:N	2.25	0.89
1:1:934:G:O3'	1:1:935:U:P	2.30	0.89
3:4:80:A:H4'	3:4:81:U:OP1	1.73	0.89
1:1:29:C:O3'	1:1:30:G:P	2.30	0.89
17:O:25:LYS:O	17:O:26:GLN:O	1.91	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:170:LYS:NZ	17:O:170:LYS:HB3	1.86	0.89
17:O:189:ASP:CA	17:O:190:VAL:N	2.35	0.89
6:C:113:VAL:C	6:C:114:ASN:N	2.26	0.89
20:R:51:VAL:C	20:R:52:LYS:HA	1.92	0.89
4:A:180:LEU:C	4:A:181:LYS:N	2.27	0.89
10:G:42:PRO:C	10:G:43:LYS:N	2.27	0.89
17:O:185:ALA:O	17:O:188:SER:OG	1.91	0.89
16:N:154:PRO:C	16:N:155:VAL:N	2.25	0.89
17:O:25:LYS:O	17:O:26:GLN:C	2.11	0.88
4:A:60:LYS:C	4:A:61:VAL:N	2.26	0.88
21:S:141:LYS:C	21:S:142:GLN:N	2.27	0.88
4:A:146:THR:C	4:A:147:ARG:N	2.27	0.88
5:B:89:VAL:C	5:B:90:VAL:N	2.27	0.88
1:1:2437:G:C4	1:1:2510:A:C2	2.61	0.88
1:1:407:A:O3'	1:1:408:A:P	2.32	0.88
10:G:54:GLU:C	10:G:55:TYR:N	2.27	0.88
1:1:1747:G:O3'	1:1:1748:G:P	2.32	0.88
24:V:46:LEU:C	24:V:47:ASN:N	2.27	0.88
1:1:860:G:O3'	1:1:861:C:P	2.32	0.88
1:1:394:G:O2'	1:1:396:A:N7	2.05	0.88
6:C:148:ILE:HG23	6:C:149:PRO:HD2	1.54	0.88
19:Q:132:PRO:C	19:Q:133:LYS:N	2.26	0.88
9:F:133:TYR:C	9:F:134:VAL:N	2.27	0.87
1:1:829:U:H3'	1:1:830:A:P	2.14	0.87
17:O:57:PHE:O	17:O:72:HIS:CD2	2.27	0.87
1:1:2169:G:O3'	1:1:2170:U:P	2.33	0.87
17:O:6:VAL:O	17:O:7:VAL:HG22	1.73	0.87
17:O:31:GLN:CA	17:O:31:GLN:HE21	1.86	0.87
1:1:1553:U:O3'	1:1:1554:U:P	2.33	0.87
1:1:2174:G:O3'	1:1:2175:U:P	2.33	0.87
18:P:36:ILE:HD11	18:P:44:ALA:HB1	1.55	0.87
18:P:70:THR:HG1	18:P:71:ALA:N	1.73	0.87
16:N:6:TYR:C	16:N:7:LEU:N	2.28	0.87
17:O:110:PRO:HB2	17:O:111:PRO:HD3	1.53	0.86
10:G:101:THR:HG1	10:G:102:ALA:N	1.73	0.86
17:O:49:ARG:O	17:O:51:LYS:N	2.08	0.86
17:O:65:ASN:O	17:O:67:THR:N	2.08	0.86
17:O:63:ALA:HB3	17:O:64:PHE:N	1.89	0.86
1:1:1111:U:O3'	1:1:1112:A:P	2.34	0.86
22:T:70:SER:N	22:T:71:SER:HG	1.73	0.86
1:1:1908:A:O3'	1:1:1909:A:P	2.33	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:48:GLY:C	5:B:49:TYR:N	2.28	0.86
1:1:2325:G:O3'	1:1:2326:A:P	2.34	0.86
1:1:341:G:O3'	1:1:342:A:P	2.34	0.86
1:1:2392:C:H3'	1:1:2393:G:P	2.15	0.86
17:O:126:VAL:O	17:O:126:VAL:HG22	1.75	0.85
9:F:135:ALA:C	9:F:136:TYR:N	2.29	0.85
17:O:80:PHE:O	17:O:81:TYR:C	2.15	0.85
1:1:1913:A:O3'	1:1:1914:G:P	2.34	0.85
1:1:2656:A:O3'	1:1:2657:A:P	2.33	0.85
10:G:78:PHE:O	10:G:80:TYR:N	2.09	0.85
4:A:215:ASN:C	4:A:216:HIS:N	2.29	0.85
6:C:49:ALA:C	6:C:50:TYR:N	2.30	0.85
15:M:45:LEU:C	15:M:46:ILE:N	2.30	0.85
10:G:165:PHE:C	10:G:166:LEU:N	2.30	0.85
10:G:26:LEU:HD13	28:Z:53:VAL:HG11	1.59	0.85
24:V:53:SER:C	24:V:54:LEU:N	2.30	0.84
18:P:59:PRO:C	18:P:60:PHE:N	2.31	0.84
17:O:176:LYS:HG2	17:O:176:LYS:O	1.77	0.84
28:Z:130:PHE:C	28:Z:131:PHE:N	2.31	0.84
17:O:31:GLN:HA	17:O:31:GLN:NE2	1.91	0.84
5:B:86:VAL:C	5:B:87:VAL:N	2.30	0.84
6:C:102:PRO:HA	6:C:103:THR:N	1.92	0.84
1:1:3129:A:O3'	1:1:3130:A:P	2.36	0.84
1:1:3265:C:C5	1:1:3265:C:N1	2.40	0.84
16:N:114:ARG:C	16:N:115:VAL:N	2.31	0.84
1:1:2641:U:O3'	1:1:2642:A:P	2.35	0.84
6:C:89:ALA:C	6:C:90:PHE:N	2.31	0.84
19:Q:34:THR:HG1	19:Q:35:PHE:N	1.75	0.84
1:1:959:C:O3'	1:1:960:U:OP2	1.96	0.84
17:O:185:ALA:O	17:O:188:SER:CB	2.26	0.84
23:U:77:LYS:C	23:U:78:TYR:N	2.31	0.84
17:O:84:LEU:CD1	17:O:102:LEU:HD22	2.08	0.84
17:O:165:ALA:O	17:O:168:TYR:HB3	1.77	0.84
1:1:300:G:H3'	1:1:301:G:P	2.17	0.84
18:P:49:GLU:C	18:P:50:GLN:N	2.32	0.83
19:Q:175:ALA:C	19:Q:176:ARG:N	2.31	0.83
3:4:45:C:O3'	3:4:46:G:P	2.36	0.83
1:1:76:G:O2'	14:L:100:ARG:NH1	2.11	0.83
1:1:1437:C:O3'	1:1:1438:U:P	2.37	0.83
19:Q:25:TYR:O	19:Q:26:LEU:N	2.11	0.83
17:O:84:LEU:HD13	17:O:102:LEU:CD2	2.08	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:27:U:H3'	3:4:28:C:P	2.19	0.83
1:1:210:U:O3'	1:1:211:A:P	2.35	0.83
1:1:1382:G:HO2'	6:C:241:GLY:N	1.77	0.83
10:G:75:ILE:O	10:G:77:GLN:N	2.12	0.83
1:1:1464:G:O2'	1:1:1466:G:N7	2.12	0.82
17:O:84:LEU:HD13	17:O:102:LEU:HD22	1.59	0.82
1:1:3136:G:O3'	1:1:3137:C:P	2.37	0.82
24:V:64:LYS:C	24:V:65:GLY:N	2.33	0.82
5:B:178:LEU:C	5:B:179:ALA:HA	2.00	0.82
6:C:121:ALA:C	6:C:122:THR:N	2.33	0.82
1:1:606:C:O3'	1:1:607:A:P	2.36	0.82
11:H:163:GLN:C	11:H:164:ILE:N	2.32	0.82
26:X:64:GLU:C	26:X:65:GLN:N	2.32	0.82
6:C:162:THR:C	6:C:163:LYS:N	2.32	0.82
17:O:22:VAL:O	17:O:26:GLN:HG2	1.79	0.82
17:O:65:ASN:OD1	17:O:67:THR:N	2.11	0.82
6:C:256:THR:HG1	6:C:257:LYS:N	1.77	0.82
19:Q:93:ILE:C	19:Q:94:PHE:N	2.34	0.82
1:1:1313:G:O3'	1:1:1314:C:P	2.38	0.82
21:S:34:GLU:C	21:S:35:VAL:N	2.34	0.82
24:V:92:PHE:C	24:V:93:LEU:N	2.33	0.82
17:O:80:PHE:CA	17:O:81:TYR:N	2.43	0.81
20:R:157:GLU:HA	20:R:160:GLU:CB	2.10	0.81
1:1:959:C:O3'	1:1:960:U:P	2.38	0.81
9:F:153:PHE:C	9:F:154:GLY:N	2.34	0.81
10:G:38:GLN:C	10:G:39:ALA:N	2.34	0.81
7:D:94:ASN:C	7:D:95:TRP:N	2.33	0.81
17:O:126:VAL:O	17:O:127:LEU:CD2	2.25	0.81
11:H:41:ILE:HD11	11:H:67:ALA:HB1	1.62	0.81
1:1:30:G:O3'	1:1:31:C:P	2.38	0.81
16:N:196:THR:C	16:N:197:LEU:N	2.34	0.81
17:O:47:PHE:C	17:O:47:PHE:HD1	1.83	0.81
9:F:157:ASN:C	9:F:158:LYS:C	2.38	0.81
16:N:201:ARG:C	16:N:202:TYR:N	2.33	0.81
1:1:2641:U:HO3'	1:1:2642:A:P	2.04	0.81
17:O:84:LEU:HD23	17:O:85:ARG:HA	1.60	0.81
14:L:13:HIS:O	14:L:14:PHE:N	2.13	0.81
1:1:2376:G:O3'	1:1:2377:G:P	2.39	0.81
4:A:146:THR:O	4:A:147:ARG:N	2.14	0.81
26:X:54:TYR:C	26:X:55:ASN:N	2.33	0.81
1:1:720:A:O3'	1:1:721:G:P	2.39	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:39:LYS:C	11:H:40:HIS:N	2.34	0.81
20:R:81:ARG:C	20:R:82:LYS:N	2.35	0.80
1:1:993:G:O3'	1:1:994:G:P	2.39	0.80
6:C:127:ALA:C	6:C:128:ALA:N	2.34	0.80
19:Q:67:ILE:C	19:Q:68:ALA:N	2.35	0.80
22:T:87:LYS:C	22:T:88:ARG:N	2.35	0.80
1:1:344:A:O3'	1:1:345:G:P	2.38	0.80
28:Z:19:ALA:O	28:Z:20:GLY:N	2.14	0.80
16:N:174:ILE:C	16:N:175:ASN:N	2.35	0.80
17:O:82:LYS:O	17:O:85:ARG:N	2.13	0.80
28:Z:37:PRO:C	28:Z:38:PHE:N	2.35	0.80
17:O:96:LYS:C	17:O:98:ALA:H	1.81	0.80
4:A:97:ASN:C	4:A:98:VAL:N	2.35	0.80
10:G:169:LEU:C	10:G:170:CYS:N	2.35	0.80
1:1:2757:U:O3'	1:1:2758:A:P	2.40	0.80
1:1:778:U:H3'	1:1:779:G:P	2.22	0.80
17:O:48:PHE:CD1	17:O:48:PHE:C	2.50	0.79
17:O:190:VAL:N	17:O:191:ALA:H	1.75	0.79
25:W:38:SER:C	25:W:39:LEU:N	2.35	0.79
1:1:1584:U:O3'	1:1:1585:C:P	2.39	0.79
17:O:116:LYS:CG	17:O:117:ARG:N	2.44	0.79
17:O:167:TYR:N	17:O:168:TYR:N	2.28	0.79
11:H:65:VAL:C	11:H:66:ALA:N	2.35	0.79
21:S:77:VAL:C	21:S:78:TRP:N	2.36	0.79
16:N:65:ARG:O	16:N:66:VAL:N	2.15	0.79
17:O:161:LYS:O	17:O:162:VAL:HG22	1.81	0.79
6:C:30:ILE:C	6:C:31:ARG:N	2.35	0.79
27:Y:31:LEU:HD11	27:Y:78:PHE:HA	1.64	0.79
28:Z:83:THR:O	28:Z:84:ARG:N	2.16	0.79
17:O:31:GLN:CA	17:O:31:GLN:NE2	2.44	0.79
28:Z:75:VAL:HG13	28:Z:80:LEU:HD21	1.63	0.79
27:Y:70:ILE:C	27:Y:71:SER:N	2.36	0.79
1:1:156:G:O3'	1:1:157:A:P	2.41	0.79
4:A:8:GLN:O	4:A:9:ARG:HA	1.83	0.79
1:1:2298:U:O3'	1:1:2299:A:P	2.41	0.79
1:1:1676:A:O3'	1:1:1677:G:P	2.40	0.79
1:1:3335:A:H3'	1:1:3336:A:P	2.23	0.79
5:B:333:LYS:C	5:B:334:ARG:N	2.36	0.79
1:1:2673:A:HO2'	13:J:105:GLY:N	1.81	0.79
1:1:1235:U:H4'	1:1:1236:G:H5'	1.63	0.79
6:C:44:LYS:C	6:C:45:ASN:N	2.36	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:37:VAL:C	7:D:38:THR:N	2.36	0.79
10:G:58:VAL:C	10:G:59:GLN:N	2.35	0.79
1:1:1192:C:N4	1:1:1302:A:OP2	2.16	0.79
28:Z:127:ASN:C	28:Z:128:GLN:N	2.36	0.79
1:1:3392:U:O3'	1:1:3393:U:P	2.41	0.79
17:O:25:LYS:C	17:O:26:GLN:O	2.21	0.78
1:1:2336:U:O3'	1:1:2337:C:P	2.42	0.78
17:O:25:LYS:C	17:O:26:GLN:C	2.42	0.78
17:O:185:ALA:O	17:O:188:SER:HB3	1.84	0.78
25:W:13:ILE:C	25:W:14:TYR:N	2.37	0.78
17:O:84:LEU:HD23	17:O:84:LEU:C	1.98	0.78
14:L:47:ALA:HB1	14:L:48:PRO:CD	2.14	0.78
9:F:89:ILE:C	9:F:90:LYS:N	2.36	0.78
1:1:3241:G:O2'	1:1:3242:G:H5"	1.84	0.78
18:P:120:ASN:C	18:P:121:GLN:N	2.37	0.78
21:S:80:ARG:C	21:S:81:TYR:N	2.37	0.78
1:1:2181:C:H3'	1:1:2182:A:P	2.23	0.78
4:A:9:ARG:C	4:A:10:LYS:N	1.33	0.78
28:Z:79:HIS:C	28:Z:80:LEU:N	2.37	0.78
17:O:127:LEU:O	17:O:128:ARG:HG2	1.84	0.78
1:1:2162:U:O3'	1:1:2163:C:P	2.42	0.78
10:G:67:ILE:C	10:G:68:ARG:N	2.37	0.78
5:B:212:ASN:C	5:B:213:GLU:N	2.37	0.78
1:1:1222:G:HO2'	1:1:1285:G:H1	1.30	0.78
17:O:171:LYS:H	17:O:172:ARG:N	1.78	0.78
10:G:73:PRO:O	10:G:74:THR:HA	1.83	0.78
20:R:10:LEU:C	20:R:11:ALA:N	2.37	0.78
25:W:52:THR:C	25:W:53:VAL:N	2.37	0.78
1:1:729:C:O3'	1:1:730:C:P	2.41	0.78
1:1:2111:G:H4'	1:1:2112:U:OP2	1.80	0.78
17:O:48:PHE:CG	17:O:48:PHE:O	2.37	0.78
17:O:23:VAL:HG12	17:O:23:VAL:O	1.84	0.77
17:O:36:VAL:HG23	17:O:37:ARG:N	1.97	0.77
17:O:171:LYS:HG2	17:O:171:LYS:O	1.83	0.77
16:N:135:VAL:C	16:N:136:ASP:N	2.36	0.77
12:I:90:ARG:C	12:I:91:VAL:N	2.37	0.77
1:1:818:C:H3'	1:1:819:U:P	2.24	0.77
19:Q:54:LEU:C	19:Q:55:SER:N	2.38	0.77
16:N:31:ARG:C	16:N:32:GLN:N	2.38	0.77
4:A:225:ILE:C	4:A:226:SER:N	2.38	0.77
5:B:102:LEU:C	5:B:103:THR:N	2.37	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:399:A:O3'	1:1:400:G:P	2.43	0.77
19:Q:124:LEU:C	19:Q:125:ASP:N	2.38	0.77
21:S:160:THR:OG1	21:S:161:LYS:N	2.16	0.77
5:B:305:ILE:HD13	5:B:317:ILE:HG21	1.66	0.77
1:1:595:G:O3'	1:1:596:C:P	2.43	0.77
17:O:187:GLU:C	17:O:187:GLU:OE1	2.22	0.77
1:1:2948:C:O3'	1:1:2949:U:OP2	2.03	0.77
2:3:48:U:O3'	2:3:49:G:P	2.43	0.77
17:O:110:PRO:CD	17:O:111:PRO:HD2	2.14	0.77
17:O:162:VAL:C	17:O:163:SER:N	2.38	0.77
14:L:123:ILE:C	14:L:124:ILE:N	2.38	0.76
1:1:3187:A:O3'	1:1:3188:G:P	2.43	0.76
16:N:182:ASN:C	16:N:183:THR:N	2.38	0.76
21:S:5:LYS:C	21:S:6:GLU:N	2.38	0.76
1:1:1524:A:O2'	1:1:1526:U:OP2	2.03	0.76
17:O:113:ASP:OD1	17:O:113:ASP:C	2.23	0.76
11:H:45:PHE:C	11:H:46:THR:N	2.39	0.76
16:N:127:TYR:C	16:N:128:LYS:N	2.38	0.76
10:G:160:ILE:C	10:G:161:GLU:N	2.38	0.76
17:O:75:ALA:O	17:O:76:PRO:C	2.22	0.76
1:1:2713:U:O3'	1:1:2714:G:P	2.44	0.76
1:1:326:U:H3'	1:1:327:A:P	2.25	0.76
1:1:3144:G:O3'	1:1:3145:C:P	2.44	0.76
14:L:76:THR:HG1	14:L:79:GLU:N	1.84	0.76
9:F:89:ILE:O	9:F:90:LYS:N	2.19	0.76
9:F:62:ILE:C	9:F:63:ILE:N	2.39	0.76
9:F:85:PHE:C	9:F:86:VAL:N	2.38	0.76
17:O:195:ALA:HA	17:O:199:TYR:O	1.86	0.76
4:A:197:PRO:O	4:A:198:LYS:HA	1.86	0.76
4:A:185:ALA:O	4:A:188:LYS:N	2.19	0.76
14:L:72:GLY:C	14:L:73:ARG:N	2.40	0.76
17:O:161:LYS:O	17:O:162:VAL:CG2	2.34	0.76
18:P:51:VAL:O	18:P:53:ASP:N	2.19	0.75
1:1:691:A:O3'	1:1:692:A:P	2.45	0.75
24:V:34:LEU:O	24:V:35:TYR:N	2.19	0.75
5:B:382:THR:HG1	5:B:383:LEU:N	1.84	0.75
1:1:1636:U:HO2'	28:Z:76:ASN:N	1.84	0.75
17:O:109:PRO:HB2	17:O:110:PRO:HD3	0.79	0.75
17:O:14:HIS:NE2	17:O:124:LEU:HD11	2.02	0.75
12:I:196:PHE:C	12:I:197:VAL:N	2.40	0.75
1:1:2383:C:H3'	1:1:2384:A:P	2.27	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:216:GLU:C	7:D:217:GLU:N	2.40	0.75
6:C:330:TYR:C	6:C:331:ALA:N	2.38	0.75
1:1:228:U:HO2'	27:Y:3:LYS:N	1.84	0.75
9:F:134:VAL:C	9:F:135:ALA:N	2.40	0.75
9:F:190:THR:HG1	9:F:191:VAL:N	1.84	0.75
1:1:2273:G:O3'	1:1:2274:U:C5'	2.34	0.75
1:1:1157:G:O3'	1:1:1158:A:OP1	2.03	0.75
12:I:135:ILE:C	12:I:136:PHE:N	2.40	0.75
19:Q:43:PRO:C	19:Q:44:PHE:N	2.40	0.75
17:O:81:TYR:O	17:O:84:LEU:N	2.18	0.75
3:4:23:U:O3'	3:4:24:G:P	2.44	0.75
1:1:2824:G:O3'	1:1:2825:C:P	2.44	0.75
17:O:42:ASN:O	17:O:43:ILE:HG13	1.87	0.75
17:O:47:PHE:C	17:O:47:PHE:CD1	2.57	0.75
6:C:35:VAL:HG21	6:C:244:LEU:HD21	1.68	0.75
1:1:818:C:O3'	1:1:819:U:P	2.44	0.75
4:A:181:LYS:C	4:A:182:ALA:N	2.41	0.74
1:1:90:C:O3'	1:1:91:G:P	2.45	0.74
6:C:105:THR:O	6:C:106:TRP:N	2.20	0.74
8:E:42:LEU:O	8:E:49:GLY:N	2.20	0.74
17:O:116:LYS:HG3	17:O:117:ARG:H	1.52	0.74
10:G:152:LEU:C	10:G:153:ILE:N	2.40	0.74
1:1:2178:A:C3'	1:1:2179:C:P	2.76	0.74
1:1:2944:U:O2'	1:1:2947:G:N7	2.19	0.74
17:O:95:GLY:O	17:O:96:LYS:C	2.20	0.74
1:1:315:C:O3'	1:1:316:U:P	2.45	0.74
1:1:2812:C:C3'	1:1:2813:A:P	2.75	0.74
1:1:1312:C:O3'	1:1:1313:G:P	2.45	0.74
4:A:34:TYR:O	4:A:37:ARG:N	2.21	0.74
1:1:1535:A:H3'	1:1:1536:G:P	2.28	0.74
25:W:57:LYS:O	25:W:58:HIS:N	2.20	0.74
22:T:30:TYR:C	22:T:31:LEU:N	2.41	0.74
17:O:96:LYS:C	17:O:98:ALA:N	2.39	0.74
5:B:313:HIS:C	5:B:314:TYR:HA	2.08	0.74
3:4:72:A:H3'	3:4:73:U:P	2.28	0.74
1:1:190:U:O2'	27:Y:60:ARG:NH2	2.20	0.74
14:L:69:VAL:C	14:L:70:ARG:N	2.40	0.74
13:J:151:SER:C	13:J:152:HIS:N	2.41	0.74
1:1:1125:U:H3'	1:1:1126:G:P	2.27	0.74
17:O:110:PRO:CB	17:O:111:PRO:CD	2.51	0.74
17:O:170:LYS:HZ1	17:O:170:LYS:HB3	1.49	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:65:ARG:C	16:N:66:VAL:N	2.41	0.74
17:O:186:ALA:C	17:O:188:SER:N	2.41	0.74
1:1:1419:A:O3'	1:1:1420:C:P	2.46	0.74
21:S:70:THR:O	21:S:71:LYS:N	2.21	0.73
1:1:1422:G:H3'	1:1:1423:C:P	2.28	0.73
1:1:2556:C:O3'	1:1:2557:A:P	2.46	0.73
1:1:3217:C:H2'	1:1:3217:C:O2	1.86	0.73
9:F:93:ASN:C	9:F:94:LYS:N	2.42	0.73
1:1:31:C:OP2	16:N:188:ARG:NH2	2.21	0.73
20:R:117:LYS:C	20:R:118:HIS:N	2.41	0.73
17:O:189:ASP:C	17:O:190:VAL:CA	2.56	0.73
17:O:128:ARG:C	17:O:129:LEU:CD1	2.56	0.73
17:O:14:HIS:O	17:O:15:LEU:HB2	1.88	0.73
17:O:76:PRO:O	17:O:77:SER:C	2.26	0.73
1:1:1101:G:C3'	1:1:1102:A:P	2.75	0.73
17:O:57:PHE:O	17:O:57:PHE:CD2	2.41	0.73
22:T:79:MET:C	22:T:80:VAL:N	2.42	0.73
9:F:184:LEU:C	9:F:185:ILE:N	2.42	0.73
13:J:41:SER:HG	13:J:42:GLY:N	1.85	0.73
1:1:2123:G:O3'	1:1:2124:G:P	2.47	0.73
4:A:231:SER:C	4:A:232:GLY:N	2.42	0.73
6:C:116:ASN:C	6:C:117:GLU:N	2.42	0.73
17:O:38:ALA:C	17:O:40:GLU:H	1.90	0.73
17:O:63:ALA:CB	17:O:64:PHE:N	2.51	0.73
24:V:17:LEU:O	24:V:52:ALA:N	2.21	0.73
24:V:106:LYS:C	24:V:107:GLY:N	2.42	0.73
1:1:1127:G:OP1	12:I:120:GLY:N	2.22	0.73
1:1:850:U:H3'	1:1:851:C:P	2.29	0.73
1:1:3009:G:O3'	1:1:3010:U:P	2.47	0.73
17:O:25:LYS:HD3	17:O:25:LYS:C	2.07	0.73
13:J:21:ILE:HG21	13:J:33:ALA:HB1	1.71	0.73
14:L:99:HIS:C	14:L:100:ARG:HA	2.09	0.73
6:C:359:LEU:C	6:C:360:LYS:N	2.42	0.73
1:1:2869:U:O3'	1:1:2870:C:P	2.46	0.73
17:O:67:THR:O	17:O:69:GLY:N	2.09	0.72
5:B:305:ILE:HD11	5:B:321:PHE:CE1	2.24	0.72
10:G:143:ILE:O	10:G:144:GLU:HA	1.89	0.72
1:1:3357:U:H3'	1:1:3358:U:P	2.29	0.72
17:O:171:LYS:O	17:O:175:THR:HG22	1.89	0.72
1:1:239:G:O2'	1:1:241:G:N7	2.22	0.72
1:1:2160:G:O3'	1:1:2161:G:P	2.47	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:11:GLY:HA3	17:O:41:LEU:HD11	1.71	0.72
1:1:1585:C:O3'	1:1:1586:G:P	2.47	0.72
1:1:1661:G:H3'	1:1:1662:G:P	2.29	0.72
10:G:140:VAL:HG22	10:G:166:LEU:HD21	1.70	0.72
9:F:104:GLN:O	9:F:105:LEU:N	2.23	0.72
20:R:93:VAL:C	20:R:94:VAL:N	2.43	0.72
4:A:36:GLU:O	4:A:37:ARG:HA	1.90	0.72
1:1:1449:A:O3'	1:1:1450:G:P	2.48	0.72
17:O:120:VAL:O	17:O:120:VAL:CG1	2.34	0.72
17:O:136:THR:O	17:O:137:THR:CB	2.38	0.72
17:O:168:TYR:O	17:O:171:LYS:N	2.20	0.72
1:1:842:G:H3'	1:1:843:A:P	2.30	0.72
1:1:1236:G:O2'	1:1:1237:G:OP1	2.04	0.72
1:1:347:G:O3'	1:1:348:A:P	2.48	0.72
17:O:62:THR:CG2	17:O:62:THR:O	2.35	0.72
1:1:11:A:H3'	1:1:12:A:P	2.28	0.72
4:A:70:ARG:C	4:A:71:LEU:HA	2.09	0.72
1:1:2872:A:O3'	1:1:2873:U:P	2.47	0.72
1:1:1203:A:O2'	1:1:1204:A:O4'	2.07	0.72
8:E:87:THR:HG1	8:E:89:THR:N	1.88	0.72
4:A:19:HIS:O	4:A:21:ARG:N	2.22	0.72
12:I:146:ASP:C	12:I:147:VAL:N	2.43	0.72
1:1:3294:A:O3'	1:1:3295:A:P	2.47	0.72
17:O:31:GLN:O	17:O:33:ILE:HG13	1.89	0.71
17:O:34:VAL:O	17:O:34:VAL:HG13	1.89	0.71
5:B:217:ALA:CB	5:B:328:ILE:HD11	2.20	0.71
7:D:272:TYR:O	7:D:273:ARG:HA	1.90	0.71
19:Q:180:ARG:O	19:Q:181:SER:N	2.23	0.71
6:C:286:VAL:C	6:C:287:THR:N	2.43	0.71
1:1:2447:G:N3	1:1:2447:G:H2'	2.04	0.71
5:B:267:ALA:C	5:B:268:GLY:N	2.43	0.71
17:O:18:ARG:O	17:O:19:LEU:C	2.29	0.71
17:O:85:ARG:O	17:O:86:GLY:C	2.28	0.71
18:P:91:VAL:C	18:P:92:GLN:N	2.44	0.71
1:1:2155:G:O2'	4:A:227:ARG:NH2	2.22	0.71
16:N:112:ASN:C	16:N:113:LEU:N	2.43	0.71
1:1:2853:A:H3'	1:1:2854:U:P	2.30	0.71
1:1:1718:G:O3'	1:1:1719:G:P	2.49	0.71
11:H:49:ASN:O	11:H:52:LEU:N	2.23	0.71
6:C:120:TYR:C	6:C:121:ALA:N	2.43	0.71
17:O:184:THR:HG23	17:O:185:ALA:N	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:40:ALA:C	20:R:41:ILE:N	2.43	0.71
17:O:6:VAL:C	17:O:7:VAL:HG23	2.10	0.71
1:1:2511:C:C5	1:1:2512:C:C5	2.77	0.71
5:B:317:ILE:C	5:B:318:LYS:N	2.44	0.71
1:1:1371:G:O3'	1:1:1372:C:P	2.49	0.71
19:Q:22:ASP:C	19:Q:23:ASN:N	2.44	0.71
1:1:3270:U:O3'	1:1:3271:G:P	2.48	0.71
17:O:137:THR:C	17:O:139:GLY:N	2.42	0.71
1:1:1937:U:O3'	1:1:1938:U:P	2.49	0.71
1:1:1146:C:O3'	1:1:1147:G:P	2.49	0.71
17:O:37:ARG:HA	17:O:107:GLY:H	1.54	0.71
17:O:41:LEU:O	17:O:42:ASN:CB	2.35	0.71
17:O:78:ARG:O	17:O:81:TYR:CB	2.37	0.71
14:L:172:LEU:C	14:L:173:ALA:N	2.44	0.71
16:N:118:SER:C	16:N:119:TYR:N	2.43	0.71
1:1:265:A:O3'	1:1:266:A:P	2.47	0.71
1:1:1149:G:H3'	1:1:1150:A:C5'	2.21	0.71
1:1:85:A:HO3'	1:1:86:G:P	2.12	0.70
27:Y:71:SER:HG	27:Y:72:SER:N	1.89	0.70
1:1:2430:A:H3'	1:1:2431:C:P	2.31	0.70
28:Z:25:ILE:C	28:Z:26:VAL:N	2.44	0.70
5:B:75:ALA:HA	5:B:76:VAL:N	2.06	0.70
17:O:27:LEU:C	17:O:29:ASN:H	1.91	0.70
1:1:1205:A:O3'	1:1:1206:G:P	2.49	0.70
1:1:2971:A:N3	1:1:2971:A:H3'	2.07	0.70
6:C:71:VAL:C	6:C:72:ALA:N	2.45	0.70
1:1:3084:C:H3'	1:1:3085:G:P	2.30	0.70
1:1:2208:A:H4'	1:1:2209:U:OP1	1.91	0.70
1:1:350:C:O3'	1:1:351:A:P	2.49	0.70
1:1:883:A:O3'	1:1:884:A:P	2.49	0.70
22:T:4:SER:C	22:T:5:HIS:N	2.45	0.70
18:P:66:SER:C	18:P:67:ILE:N	2.45	0.70
1:1:335:G:O2'	1:1:336:A:O4'	2.09	0.70
1:1:2996:U:O2	1:1:2996:U:H2'	1.90	0.70
1:1:364:G:O3'	1:1:365:A:P	2.49	0.70
20:R:99:LEU:HD11	20:R:103:ARG:CZ	2.21	0.70
1:1:1013:G:O2'	1:1:1014:U:O4'	2.08	0.70
3:4:44:A:C3'	3:4:45:C:P	2.79	0.70
14:L:174:ARG:C	14:L:175:SER:N	2.45	0.70
17:O:82:LYS:O	17:O:84:LEU:N	2.24	0.70
16:N:90:ASN:C	16:N:91:GLU:N	2.45	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:6:VAL:O	17:O:7:VAL:HG23	1.90	0.70
9:F:180:SER:C	9:F:181:ILE:N	2.45	0.70
12:I:132:GLY:C	12:I:133:GLN:N	2.46	0.70
1:1:3110:C:HO2'	11:H:155:SER:HG	1.40	0.70
1:1:1098:A:O3'	1:1:1099:A:P	2.49	0.70
6:C:148:ILE:HG23	6:C:149:PRO:CD	2.21	0.70
8:E:101:PHE:C	8:E:102:ASN:N	2.45	0.70
17:O:85:ARG:O	17:O:88:VAL:N	2.25	0.69
2:3:11:A:O2'	2:3:13:A:OP2	2.10	0.69
1:1:2764:C:O3'	1:1:2765:C:P	2.50	0.69
1:1:2273:G:O3'	1:1:2274:U:H5'	1.90	0.69
1:1:2502:G:O2'	1:1:2503:U:C2	2.45	0.69
26:X:56:ARG:C	26:X:57:LEU:N	2.45	0.69
5:B:77:THR:HG23	5:B:326:GLY:O	1.90	0.69
1:1:2437:G:C4	1:1:2510:A:H2	2.08	0.69
10:G:59:GLN:N	10:G:60:ARG:N	2.39	0.69
17:O:31:GLN:O	17:O:32:LYS:C	2.29	0.69
17:O:38:ALA:C	17:O:40:GLU:N	2.44	0.69
17:O:80:PHE:O	17:O:81:TYR:O	2.10	0.69
22:T:76:ILE:C	22:T:77:ASN:HA	2.11	0.69
4:A:34:TYR:O	4:A:35:ALA:N	2.25	0.69
6:C:184:SER:HG	6:C:185:LYS:N	1.89	0.69
17:O:57:PHE:CG	17:O:57:PHE:O	2.44	0.69
7:D:84:PRO:C	7:D:85:ARG:N	2.45	0.69
17:O:49:ARG:C	17:O:51:LYS:N	2.45	0.69
8:E:60:ASP:O	8:E:62:THR:N	2.25	0.69
10:G:73:PRO:C	10:G:74:THR:HA	2.13	0.69
25:W:56:ARG:C	25:W:57:LYS:N	2.45	0.69
17:O:121:PRO:C	17:O:123:ALA:H	1.96	0.69
19:Q:25:TYR:C	19:Q:26:LEU:N	2.45	0.69
20:R:84:THR:HG1	20:R:85:ARG:N	1.91	0.69
22:T:11:THR:C	22:T:12:ARG:N	2.45	0.69
1:1:2555:G:H8	1:1:2555:G:H5'	1.57	0.69
5:B:22:ALA:O	5:B:23:ALA:N	2.26	0.69
1:1:371:G:O2'	1:1:373:A:N7	2.25	0.69
19:Q:108:ALA:HB3	19:Q:109:GLY:N	2.07	0.69
6:C:151:VAL:C	6:C:152:VAL:N	2.45	0.69
1:1:2389:C:O3'	1:1:2390:A:P	2.51	0.69
1:1:545:U:O2	1:1:545:U:H2'	1.92	0.69
12:I:35:ASP:HA	12:I:36:LEU:N	2.08	0.69
1:1:1649:U:H3'	1:1:1650:G:P	2.33	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:165:ALA:O	17:O:168:TYR:N	2.27	0.68
17:O:110:PRO:HD2	17:O:111:PRO:HD2	1.74	0.68
14:L:8:PRO:C	14:L:9:ILE:HA	2.14	0.68
1:1:2785:A:C3'	1:1:2786:G:P	2.81	0.68
1:1:2444:C:O2	1:1:2444:C:H2'	1.93	0.68
25:W:35:LYS:C	25:W:36:SER:N	2.47	0.68
11:H:142:ASP:C	11:H:143:GLU:N	2.47	0.68
18:P:95:LEU:HD23	18:P:148:LEU:HD13	1.75	0.68
1:1:818:C:C3'	1:1:819:U:P	2.82	0.68
1:1:3134:A:H3'	1:1:3135:U:P	2.33	0.68
1:1:2918:G:O3'	1:1:2919:A:P	2.50	0.68
27:Y:35:LEU:C	27:Y:36:SER:N	2.46	0.68
17:O:38:ALA:O	17:O:41:LEU:N	2.26	0.68
10:G:139:VAL:C	10:G:140:VAL:N	2.46	0.68
21:S:23:LYS:O	21:S:24:LEU:N	2.25	0.68
17:O:85:ARG:C	17:O:87:MET:N	2.46	0.68
5:B:217:ALA:HA	5:B:218:ILE:N	2.08	0.68
11:H:12:VAL:HG22	11:H:79:ILE:HD11	1.74	0.68
17:O:113:ASP:HB2	17:O:160:ARG:HD2	1.74	0.68
1:1:2651:G:O3'	1:1:2652:U:P	2.51	0.68
14:L:86:THR:HG1	14:L:88:ALA:N	1.91	0.68
17:O:8:VAL:HG22	17:O:34:VAL:HG11	1.73	0.68
17:O:63:ALA:CA	17:O:64:PHE:N	2.56	0.68
17:O:165:ALA:O	17:O:168:TYR:CB	2.42	0.68
4:A:15:ILE:O	4:A:16:PHE:N	2.27	0.68
27:Y:5:SER:HG	27:Y:6:LEU:N	1.91	0.68
17:O:137:THR:C	17:O:139:GLY:H	1.97	0.68
23:U:32:SER:C	23:U:33:TYR:N	2.46	0.68
21:S:9:VAL:C	21:S:10:ILE:N	2.47	0.68
12:I:174:THR:C	12:I:175:ASN:N	2.48	0.68
28:Z:16:GLY:O	28:Z:18:TYR:N	2.26	0.68
4:A:183:GLY:O	4:A:186:PHE:N	2.26	0.68
6:C:124:SER:C	6:C:125:ALA:N	2.47	0.68
1:1:79:U:O3'	1:1:80:G:P	2.52	0.68
28:Z:24:VAL:HG11	28:Z:87:LEU:HD23	1.74	0.68
1:1:2163:C:O2'	4:A:11:GLY:N	2.26	0.68
1:1:2510:A:C5	1:1:2511:C:C5	2.81	0.68
9:F:210:PRO:C	9:F:211:SER:N	2.47	0.68
7:D:163:LEU:HD23	7:D:173:VAL:HG11	1.75	0.68
1:1:753:C:H3'	1:1:754:G:P	2.34	0.68
6:C:82:THR:C	6:C:83:GLY:N	2.47	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:621:A:O3'	1:1:622:A:P	2.52	0.67
6:C:299:ILE:C	6:C:300:ARG:N	2.47	0.67
5:B:105:VAL:HG11	5:B:148:LEU:HD13	1.76	0.67
6:C:338:LYS:C	6:C:339:LEU:N	2.48	0.67
1:1:1125:U:C3'	1:1:1126:G:P	2.82	0.67
24:V:18:PRO:HA	24:V:51:ALA:HB2	1.75	0.67
5:B:280:HIS:C	5:B:281:LYS:N	2.47	0.67
14:L:135:ALA:HB3	14:L:136:GLU:N	2.08	0.67
17:O:164:SER:O	17:O:165:ALA:C	2.31	0.67
17:O:197:LEU:C	17:O:198:GLY:N	2.47	0.67
9:F:179:LEU:C	9:F:180:SER:N	2.48	0.67
1:1:655:C:H2'	1:1:656:A:C8	2.29	0.67
5:B:223:GLY:C	5:B:224:HIS:N	2.47	0.67
17:O:195:ALA:CA	17:O:199:TYR:O	2.43	0.67
5:B:7:GLU:O	5:B:8:ALA:N	2.28	0.67
18:P:99:ALA:C	18:P:100:ALA:N	2.47	0.67
5:B:86:VAL:HG22	5:B:160:VAL:HG11	1.77	0.67
1:1:2486:A:H4'	1:1:2487:U:OP1	1.92	0.67
18:P:123:PRO:C	18:P:124:LYS:N	2.48	0.67
16:N:187:ARG:C	16:N:188:ARG:N	2.48	0.67
4:A:231:SER:O	4:A:232:GLY:N	2.28	0.67
21:S:155:ARG:NH1	21:S:171:PHE:O	2.28	0.67
24:V:23:MET:C	24:V:24:ASN:N	2.48	0.67
17:O:80:PHE:C	17:O:81:TYR:CA	2.62	0.67
17:O:187:GLU:OE1	17:O:187:GLU:CA	2.43	0.67
18:P:20:SER:C	18:P:21:TYR:N	2.48	0.67
1:1:1162:U:C3'	1:1:1163:A:P	2.82	0.67
3:4:91:C:O2'	27:Y:25:SER:N	2.26	0.67
1:1:2373:A:N3	1:1:2824:G:O2'	2.28	0.67
1:1:1125:U:O3'	1:1:1126:G:P	2.53	0.67
14:L:50:PRO:O	14:L:52:ASP:N	2.26	0.67
15:M:106:ARG:C	15:M:107:GLU:N	2.48	0.67
11:H:83:THR:C	11:H:84:LYS:N	2.47	0.67
4:A:58:LEU:HD13	4:A:75:ILE:HG21	1.75	0.67
5:B:250:ALA:C	5:B:251:CYS:N	2.48	0.67
6:C:16:THR:O	6:C:18:ASN:N	2.28	0.67
17:O:121:PRO:CA	17:O:124:LEU:HD22	2.23	0.67
17:O:6:VAL:C	17:O:7:VAL:CG2	2.63	0.67
1:1:2949:U:O3'	1:1:2950:G:P	2.53	0.67
1:1:362:U:C3'	1:1:363:G:P	2.83	0.67
1:1:1112:A:H3'	1:1:1113:G:P	2.35	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:91:GLU:N	16:N:92:LEU:N	2.43	0.67
5:B:370:PHE:C	5:B:371:GLN:N	2.48	0.67
17:O:164:SER:O	17:O:167:TYR:N	2.28	0.67
11:H:37:ASN:HD21	11:H:39:LYS:HG3	1.59	0.67
1:1:1814:A:H4'	1:1:1815:U:H5'	1.76	0.67
1:1:3362:A:H2'	1:1:3363:U:O4'	1.94	0.67
17:O:94:ARG:O	17:O:95:GLY:O	2.12	0.66
4:A:69:TYR:HA	4:A:70:ARG:N	2.10	0.66
1:1:2437:G:N3	1:1:2510:A:C2	2.64	0.66
1:1:2511:C:C5	1:1:2512:C:C6	2.83	0.66
4:A:27:ALA:O	4:A:128:ARG:NH2	2.28	0.66
1:1:1246:G:N3	1:1:1264:G:H2'	2.10	0.66
1:1:1724:U:H4'	1:1:1725:C:OP1	1.94	0.66
12:I:146:ASP:O	12:I:147:VAL:N	2.28	0.66
10:G:27:THR:HG1	10:G:28:HIS:N	1.92	0.66
1:1:2162:U:H3'	1:1:2163:C:P	2.35	0.66
1:1:914:A:C8	4:A:199:THR:HG21	2.29	0.66
3:4:91:C:H3'	3:4:92:A:P	2.34	0.66
1:1:1146:C:H3'	1:1:1147:G:P	2.36	0.66
12:I:171:TRP:O	12:I:174:THR:HG22	1.96	0.66
1:1:1554:U:O3'	1:1:1555:U:P	2.54	0.66
1:1:1347:U:H3'	1:1:1348:U:P	2.36	0.66
1:1:280:U:H3'	1:1:281:G:P	2.35	0.66
25:W:41:LYS:C	25:W:42:GLN:N	2.48	0.66
1:1:946:U:O3'	1:1:947:G:P	2.54	0.66
1:1:1870:C:O3'	1:1:1871:U:P	2.54	0.66
5:B:13:HIS:C	5:B:14:LEU:N	2.49	0.66
12:I:14:ASN:O	12:I:128:ARG:NH2	2.29	0.66
27:Y:55:GLU:C	27:Y:56:VAL:N	2.49	0.66
11:H:51:GLN:C	11:H:52:LEU:N	2.48	0.66
5:B:267:ALA:HA	5:B:268:GLY:N	2.09	0.66
13:J:161:SER:C	13:J:162:TRP:N	2.48	0.66
17:O:161:LYS:C	17:O:162:VAL:HG23	2.16	0.66
16:N:66:VAL:HG21	16:N:102:ALA:HB2	1.75	0.66
12:I:29:SER:HG	12:I:30:LYS:N	1.94	0.66
5:B:130:PHE:C	5:B:131:THR:N	2.49	0.66
19:Q:105:ARG:C	19:Q:106:PHE:N	2.49	0.66
17:O:161:LYS:C	17:O:162:VAL:CG2	2.64	0.66
17:O:27:LEU:HD23	17:O:27:LEU:H	1.61	0.66
17:O:36:VAL:CG2	17:O:37:ARG:N	2.40	0.66
16:N:154:PRO:O	16:N:157:LYS:N	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:92:SER:HG	8:E:94:GLU:N	1.94	0.66
5:B:362:ALA:C	5:B:363:SER:N	2.49	0.66
21:S:3:HIS:HA	21:S:4:PHE:N	2.10	0.66
1:1:3152:U:H3'	1:1:3153:U:C5'	2.26	0.66
1:1:395:A:O3'	1:1:396:A:P	2.54	0.66
20:R:15:VAL:HG13	20:R:17:VAL:HG23	1.77	0.66
3:4:88:A:O3'	3:4:89:A:P	2.54	0.66
4:A:121:GLY:C	4:A:122:ASP:N	2.50	0.65
12:I:50:VAL:HG22	12:I:167:LEU:HD22	1.77	0.65
17:O:140:LYS:O	17:O:143:THR:N	2.30	0.65
1:1:2812:C:H3'	1:1:2813:A:P	2.35	0.65
10:G:162:LEU:HA	16:N:7:LEU:HD21	1.77	0.65
16:N:65:ARG:O	16:N:66:VAL:HG23	1.97	0.65
20:R:170:ARG:HG2	20:R:170:ARG:O	1.95	0.65
18:P:94:LEU:HB3	18:P:148:LEU:HD21	1.78	0.65
1:1:364:G:H3'	1:1:365:A:P	2.36	0.65
9:F:89:ILE:O	9:F:89:ILE:HG22	1.96	0.65
5:B:215:ILE:CG1	5:B:282:ILE:HD11	2.26	0.65
17:O:22:VAL:CG1	17:O:122:GLN:OE1	2.44	0.65
17:O:6:VAL:CG1	17:O:7:VAL:N	2.30	0.65
17:O:76:PRO:O	17:O:77:SER:O	2.14	0.65
1:1:2162:U:C3'	1:1:2163:C:P	2.84	0.65
22:T:106:LEU:C	22:T:107:GLU:N	2.49	0.65
1:1:1614:C:O3'	1:1:1615:C:P	2.55	0.65
13:J:49:LYS:HB3	13:J:50:ALA:N	2.12	0.65
1:1:901:G:O3'	1:1:902:G:P	2.54	0.65
1:1:952:A:HO3'	1:1:953:G:P	2.19	0.65
17:O:65:ASN:OD1	17:O:67:THR:HB	1.97	0.65
10:G:171:LYS:C	10:G:172:LYS:N	2.50	0.65
1:1:2568:C:OP2	1:1:2570:U:O4	2.14	0.65
1:1:1017:C:O2'	1:1:1018:G:OP1	2.12	0.65
7:D:54:ARG:O	7:D:56:THR:N	2.30	0.65
4:A:58:LEU:C	4:A:59:ALA:N	2.50	0.65
1:1:3217:C:O2	1:1:3217:C:C2'	2.43	0.65
17:O:143:THR:HG22	17:O:143:THR:O	1.97	0.65
1:1:2768:U:O3'	1:1:2769:A:P	2.55	0.65
14:L:97:VAL:C	14:L:98:ASP:N	2.50	0.65
18:P:51:VAL:HG22	18:P:56:ARG:O	1.95	0.65
12:I:30:LYS:N	12:I:62:SER:HG	1.95	0.65
1:1:1083:G:H3'	1:1:1084:A:P	2.37	0.65
3:4:139:U:O3'	3:4:140:G:P	2.54	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:212:G:O3'	1:1:213:A:P	2.54	0.65
1:1:124:U:O3'	1:1:125:C:P	2.55	0.65
1:1:790:U:H3'	1:1:791:A:P	2.36	0.65
1:1:806:A:N3	1:1:2812:C:O2'	2.29	0.65
20:R:93:VAL:O	20:R:96:ILE:N	2.30	0.65
1:1:437:G:H2'	1:1:438:A:O4'	1.97	0.65
1:1:2315:G:H3'	1:1:2316:G:P	2.37	0.65
1:1:208:C:H2'	1:1:209:A:O4'	1.97	0.65
17:O:81:TYR:O	17:O:82:LYS:C	2.34	0.65
1:1:2947:G:N3	5:B:250:ALA:HB1	2.12	0.65
1:1:3136:G:C3'	1:1:3137:C:P	2.85	0.65
4:A:18:SER:HG	4:A:19:HIS:N	1.95	0.65
1:1:1763:U:H3'	1:1:1764:U:C6	2.32	0.65
1:1:318:A:HO3'	1:1:319:A:P	2.20	0.65
7:D:63:GLN:C	7:D:64:ILE:N	2.50	0.64
1:1:706:A:O3'	1:1:707:U:P	2.55	0.64
4:A:44:ILE:C	4:A:45:VAL:N	2.50	0.64
1:1:3308:C:HO2'	18:P:69:ARG:N	1.96	0.64
1:1:790:U:O3'	1:1:791:A:P	2.55	0.64
21:S:100:VAL:O	21:S:101:ALA:N	2.30	0.64
6:C:215:ILE:C	6:C:216:VAL:N	2.50	0.64
18:P:113:TYR:C	18:P:114:VAL:N	2.51	0.64
1:1:1056:U:O2'	1:1:1057:A:O4'	2.12	0.64
1:1:1601:U:O3'	1:1:1602:A:P	2.56	0.64
7:D:145:PHE:HA	7:D:146:LEU:N	2.12	0.64
17:O:57:PHE:O	17:O:72:HIS:HD2	1.78	0.64
16:N:159:ARG:C	16:N:160:GLU:N	2.50	0.64
14:L:117:LYS:C	14:L:118:GLU:N	2.51	0.64
1:1:872:U:C3'	1:1:873:C:P	2.84	0.64
1:1:212:G:H3'	1:1:213:A:P	2.37	0.64
1:1:2982:A:O3'	1:1:2983:C:P	2.56	0.64
6:C:144:LYS:C	6:C:145:ILE:N	2.51	0.64
17:O:184:THR:HG23	17:O:185:ALA:H	1.60	0.64
17:O:106:GLU:CA	17:O:106:GLU:OE1	2.45	0.64
11:H:86:TYR:CE1	11:H:151:VAL:HG22	2.33	0.64
1:1:963:G:HO3'	1:1:964:G:P	2.20	0.64
1:1:1134:G:O2'	1:1:2642:A:N3	2.28	0.64
15:M:32:LEU:HD11	15:M:94:TRP:CG	2.32	0.64
8:E:38:THR:C	8:E:39:VAL:N	2.51	0.64
27:Y:19:TYR:O	27:Y:20:PHE:N	2.31	0.64
17:O:120:VAL:O	17:O:121:PRO:C	2.36	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:92:LYS:C	10:G:93:LEU:N	2.51	0.64
10:G:138:HIS:C	10:G:139:VAL:N	2.51	0.64
1:1:3136:G:H3'	1:1:3137:C:P	2.37	0.64
1:1:859:G:O3'	1:1:860:G:P	2.55	0.64
1:1:1100:U:O2'	1:1:1101:G:O4'	2.13	0.64
3:4:37:A:C3'	3:4:38:U:P	2.86	0.64
1:1:2510:A:C4	1:1:2511:C:C6	2.86	0.64
4:A:152:SER:OG	4:A:154:ALA:N	2.31	0.64
21:S:105:THR:HG1	21:S:106:LEU:N	1.95	0.64
1:1:356:C:O3'	1:1:357:A:P	2.56	0.64
1:1:1236:G:N1	1:1:1244:A:OP1	2.30	0.64
1:1:2872:A:O3'	1:1:2873:U:O5'	2.16	0.64
1:1:2104:A:O2'	1:1:2105:G:O4'	2.14	0.64
7:D:48:LYS:HA	7:D:49:TYR:N	2.13	0.64
12:I:189:GLU:C	12:I:190:VAL:N	2.51	0.64
16:N:140:LYS:C	16:N:141:ALA:N	2.51	0.64
17:O:125:ARG:HD2	17:O:135:TYR:CG	2.33	0.64
11:H:83:THR:OG1	11:H:84:LYS:N	2.22	0.64
1:1:2949:U:HO3'	1:1:2950:G:P	2.21	0.64
5:B:282:ILE:HA	5:B:283:TYR:N	2.13	0.64
1:1:3098:G:O3'	1:1:3099:C:P	2.56	0.64
24:V:33:ASN:O	24:V:34:LEU:N	2.31	0.63
11:H:78:MET:C	11:H:79:ILE:N	2.51	0.63
7:D:96:ALA:C	7:D:97:ALA:N	2.51	0.63
1:1:993:G:HO3'	1:1:994:G:P	2.21	0.63
16:N:109:ARG:O	16:N:110:ALA:N	2.31	0.63
9:F:91:GLY:C	9:F:92:ILE:HD12	2.19	0.63
16:N:156:HIS:C	16:N:157:LYS:N	2.51	0.63
17:O:65:ASN:C	17:O:67:THR:H	2.01	0.63
1:1:1112:A:O2'	1:1:1370:G:O3'	2.16	0.63
1:1:2365:C:O3'	1:1:2366:C:P	2.57	0.63
17:O:31:GLN:HE21	17:O:31:GLN:HA	1.54	0.63
5:B:254:ALA:O	5:B:255:TRP:N	2.31	0.63
1:1:554:A:HO3'	1:1:555:U:P	2.21	0.63
1:1:2510:A:C6	1:1:2511:C:C4	2.85	0.63
1:1:372:A:O3'	1:1:373:A:P	2.57	0.63
18:P:71:ALA:O	18:P:72:GLN:N	2.31	0.63
23:U:95:PHE:C	23:U:96:VAL:N	2.52	0.63
16:N:135:VAL:O	16:N:136:ASP:N	2.30	0.63
1:1:1918:C:H3'	1:1:1919:G:P	2.38	0.63
21:S:83:SER:C	21:S:84:ARG:N	2.52	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:44:C:H3'	2:3:45:A:P	2.39	0.63
1:1:1885:U:O3'	1:1:1886:A:P	2.56	0.63
17:O:147:TRP:CZ2	17:O:149:TYR:O	2.51	0.63
5:B:21:ARG:C	5:B:22:ALA:N	2.52	0.63
1:1:1057:A:O3'	1:1:1058:U:P	2.57	0.63
1:1:2468:A:N3	1:1:2469:G:H1'	2.13	0.63
26:X:114:VAL:C	26:X:115:ARG:N	2.52	0.63
28:Z:37:PRO:O	28:Z:38:PHE:N	2.32	0.63
1:1:1921:A:O2'	1:1:1922:A:O4'	2.13	0.63
1:1:1444:G:O3'	1:1:1445:U:P	2.57	0.63
20:R:93:VAL:O	20:R:95:TRP:N	2.32	0.63
5:B:215:ILE:HG12	5:B:282:ILE:HD11	1.81	0.63
1:1:3106:A:H2'	1:1:3107:U:O4'	1.99	0.63
1:1:2902:A:O3'	1:1:2903:A:P	2.57	0.63
17:O:160:ARG:C	17:O:162:VAL:H	2.02	0.63
1:1:1157:G:O3'	1:1:1158:A:P	2.56	0.63
1:1:1345:G:H3'	1:1:1346:G:P	2.39	0.63
6:C:178:LEU:HD21	6:C:222:VAL:CG2	2.28	0.63
17:O:189:ASP:N	17:O:190:VAL:N	2.46	0.62
1:1:1718:G:C3'	1:1:1719:G:P	2.87	0.62
17:O:40:GLU:CA	17:O:40:GLU:OE1	2.42	0.62
4:A:6:ARG:O	4:A:9:ARG:N	2.32	0.62
14:L:5:LYS:O	14:L:6:ASN:N	2.32	0.62
6:C:54:GLU:C	6:C:55:LYS:N	2.52	0.62
24:V:94:TYR:HA	24:V:95:PHE:N	2.13	0.62
17:O:65:ASN:O	17:O:65:ASN:OD1	2.17	0.62
10:G:144:GLU:N	10:G:145:ASN:N	2.47	0.62
17:O:123:ALA:O	17:O:124:LEU:CD1	2.47	0.62
1:1:643:U:O2'	1:1:1153:A:N1	2.33	0.62
1:1:2509:U:O2'	1:1:2510:A:OP2	2.17	0.62
19:Q:179:ARG:C	19:Q:180:ARG:N	2.52	0.62
22:T:46:GLY:C	22:T:47:SER:N	2.53	0.62
1:1:583:G:H3'	1:1:584:G:P	2.40	0.62
17:O:147:TRP:O	17:O:149:TYR:N	2.32	0.62
18:P:19:GLY:HA3	18:P:22:LEU:HD21	1.81	0.62
1:1:2947:G:O3'	1:1:2948:C:P	2.58	0.62
10:G:60:ARG:C	10:G:61:GLN:N	2.62	0.62
1:1:1328:C:H2'	1:1:1329:U:C6	2.34	0.62
8:E:145:LEU:O	8:E:148:GLU:N	2.33	0.62
1:1:1481:A:O2'	1:1:1858:A:N3	2.30	0.62
16:N:112:ASN:O	16:N:113:LEU:N	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:77:LYS:C	27:Y:78:PHE:N	2.53	0.62
21:S:11:GLY:N	21:S:41:TYR:HH	1.98	0.62
16:N:146:ALA:C	16:N:147:ARG:N	2.52	0.62
1:1:2278:C:C2'	1:1:2279:A:H5''	2.30	0.62
28:Z:46:ILE:HD11	28:Z:49:TYR:HA	1.80	0.62
1:1:1793:C:C3'	1:1:1794:G:P	2.87	0.62
1:1:1802:C:H2'	1:1:1803:C:O4'	2.00	0.62
1:1:2447:G:O4'	1:1:2447:G:OP1	2.18	0.62
1:1:1710:C:O3'	1:1:1711:C:P	2.58	0.62
1:1:2932:U:O2	1:1:2934:A:H8	1.82	0.62
5:B:297:SER:HG	5:B:298:PHE:N	1.98	0.62
13:J:130:VAL:HA	13:J:131:MET:N	2.15	0.62
3:4:27:U:C3'	3:4:28:C:P	2.88	0.62
12:I:166:ILE:C	12:I:167:LEU:HA	2.20	0.62
17:O:77:SER:O	17:O:78:ARG:C	2.37	0.62
1:1:1468:A:O3'	1:1:1469:C:P	2.57	0.62
1:1:2511:C:N4	1:1:2512:C:C4	2.67	0.62
1:1:1347:U:O3'	1:1:1348:U:P	2.58	0.62
1:1:546:C:O2	1:1:546:C:H2'	1.99	0.62
1:1:2434:U:C5	1:1:2594:C:OP2	2.53	0.62
25:W:49:ILE:C	25:W:50:ALA:N	2.53	0.62
1:1:1424:C:O3'	1:1:1425:U:P	2.57	0.62
1:1:3240:C:O3'	1:1:3241:G:P	2.58	0.62
1:1:2982:A:C3'	1:1:2983:C:P	2.88	0.62
11:H:156:GLN:O	11:H:160:ASP:N	2.33	0.62
1:1:1054:A:O3'	1:1:1055:A:P	2.58	0.62
9:F:232:ARG:O	9:F:233:GLU:N	2.33	0.62
2:3:79:A:O3'	2:3:80:G:P	2.58	0.62
17:O:65:ASN:C	17:O:65:ASN:OD1	2.38	0.61
16:N:75:VAL:HG23	16:N:76:PRO:N	2.15	0.61
19:Q:10:HIS:C	19:Q:11:LYS:N	2.53	0.61
19:Q:82:VAL:C	19:Q:83:VAL:N	2.53	0.61
6:C:86:GLY:C	6:C:87:GLN:N	2.53	0.61
1:1:1868:G:O3'	1:1:1869:C:P	2.58	0.61
22:T:69:LYS:C	22:T:70:SER:N	2.53	0.61
4:A:18:SER:C	4:A:19:HIS:N	2.54	0.61
2:3:49:G:H4'	2:3:50:U:P	2.40	0.61
7:D:105:ILE:C	7:D:106:ALA:N	2.52	0.61
1:1:110:G:O3'	1:1:111:C:P	2.58	0.61
1:1:948:C:O3'	1:1:949:C:P	2.58	0.61
26:X:38:LEU:HD22	26:X:39:LYS:N	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:18:ALA:HB1	19:Q:19:PRO:HD2	1.81	0.61
5:B:19:ARG:C	5:B:20:LYS:N	2.52	0.61
12:I:40:LYS:C	12:I:41:ALA:N	2.53	0.61
1:1:2273:G:HO3'	1:1:2274:U:H5'	1.64	0.61
1:1:1146:C:C3'	1:1:1147:G:P	2.88	0.61
14:L:184:GLU:C	14:L:185:LYS:N	2.54	0.61
17:O:197:LEU:C	17:O:198:GLY:CA	2.68	0.61
10:G:169:LEU:O	10:G:172:LYS:N	2.33	0.61
12:I:119:TRP:C	12:I:120:GLY:N	2.54	0.61
1:1:1347:U:C3'	1:1:1348:U:P	2.89	0.61
7:D:247:ILE:C	7:D:248:ARG:N	2.53	0.61
14:L:141:ALA:N	14:L:144:THR:HG1	1.99	0.61
17:O:73:PHE:CD2	17:O:78:ARG:HG2	2.36	0.61
17:O:187:GLU:C	17:O:188:SER:O	2.39	0.61
6:C:266:THR:OG1	6:C:267:VAL:N	2.29	0.61
1:1:2606:G:H2'	1:1:2606:G:N3	2.15	0.61
1:1:2419:A:O3'	1:1:2420:C:OP1	2.18	0.61
5:B:331:ASN:C	5:B:332:ARG:N	2.54	0.61
1:1:2817:A:O3'	1:1:2818:U:P	2.58	0.61
1:1:362:U:H3'	1:1:363:G:P	2.41	0.61
1:1:504:A:H3'	1:1:505:G:P	2.40	0.61
10:G:167:PRO:C	10:G:168:ALA:N	2.54	0.61
1:1:1103:A:N6	1:1:1363:A:H1'	2.16	0.61
1:1:1320:C:H3'	1:1:1321:G:P	2.41	0.61
2:3:54:U:O3'	2:3:55:A:P	2.59	0.61
1:1:985:U:O3'	1:1:986:U:P	2.58	0.61
17:O:187:GLU:O	17:O:188:SER:C	2.38	0.61
5:B:327:CYS:CA	5:B:328:ILE:N	2.61	0.61
1:1:2175:U:O3'	1:1:2176:U:P	2.59	0.61
1:1:2960:C:H2'	1:1:2961:G:C8	2.35	0.61
1:1:1051:U:H3'	1:1:1052:U:P	2.41	0.61
4:A:40:TYR:C	4:A:41:ILE:CA	2.69	0.61
17:O:197:LEU:O	17:O:198:GLY:N	2.34	0.61
17:O:10:ASP:OD2	17:O:37:ARG:NE	2.32	0.61
17:O:85:ARG:C	17:O:87:MET:H	2.03	0.61
1:1:2943:G:HO2'	5:B:255:TRP:N	1.99	0.61
4:A:64:ARG:C	4:A:65:ASP:N	2.54	0.61
16:N:160:GLU:O	16:N:161:ALA:HA	2.00	0.61
1:1:1329:U:O2'	1:1:1330:A:H5''	2.00	0.61
1:1:2166:A:O3'	1:1:2167:A:P	2.59	0.61
20:R:172:ARG:O	20:R:176:ARG:NH2	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:38:ILE:HD11	21:S:150:PHE:CE2	2.36	0.60
18:P:36:ILE:CD1	18:P:44:ALA:HB1	2.30	0.60
1:1:1116:G:OP2	1:1:1117:G:OP2	2.19	0.60
16:N:53:TYR:CD1	16:N:54:LYS:N	2.69	0.60
1:1:664:U:O3'	1:1:665:A:P	2.59	0.60
1:1:2617:U:O2'	1:1:2620:G:OP2	2.18	0.60
17:O:25:LYS:HB3	17:O:26:GLN:N	2.16	0.60
17:O:47:PHE:CD1	17:O:47:PHE:O	2.53	0.60
1:1:1428:A:C3'	1:1:1429:G:P	2.88	0.60
6:C:102:PRO:CA	6:C:103:THR:N	2.62	0.60
1:1:2929:C:H3'	1:1:2930:A:P	2.41	0.60
6:C:334:PHE:HA	6:C:339:LEU:HD12	1.82	0.60
10:G:27:THR:HG23	10:G:28:HIS:N	2.16	0.60
17:O:14:HIS:O	17:O:15:LEU:CB	2.49	0.60
18:P:139:TYR:C	18:P:140:GLU:N	2.55	0.60
27:Y:58:VAL:HG11	27:Y:63:LYS:HB2	1.83	0.60
10:G:132:VAL:HG21	10:G:198:ALA:HB1	1.83	0.60
1:1:2917:G:OP1	24:V:47:ASN:N	2.35	0.60
16:N:64:VAL:HG13	16:N:102:ALA:HB1	1.83	0.60
27:Y:34:PRO:C	27:Y:35:LEU:N	2.54	0.60
17:O:140:LYS:O	17:O:141:LEU:C	2.40	0.60
1:1:2982:A:H3'	1:1:2983:C:P	2.40	0.60
3:4:135:G:H3'	3:4:136:G:P	2.41	0.60
13:J:86:VAL:HG22	13:J:111:ASP:HB3	1.83	0.60
1:1:1868:G:O2'	1:1:2118:C:O2'	2.17	0.60
12:I:88:ARG:N	12:I:137:SER:O	2.35	0.60
14:L:47:ALA:HB1	14:L:48:PRO:HD2	1.83	0.60
5:B:77:THR:CA	5:B:78:VAL:N	2.65	0.60
1:1:2658:G:OP1	1:1:2755:C:OP2	2.19	0.60
7:D:252:ALA:C	7:D:253:PHE:N	2.54	0.60
17:O:123:ALA:O	17:O:124:LEU:HD12	2.00	0.60
9:F:121:LYS:O	9:F:122:ALA:N	2.35	0.60
7:D:34:LYS:HA	22:T:27:LEU:HD11	1.83	0.60
4:A:62:VAL:HG11	4:A:71:LEU:HD23	1.82	0.60
1:1:2764:C:H3'	1:1:2765:C:P	2.41	0.60
15:M:32:LEU:C	15:M:33:ALA:N	2.55	0.60
17:O:99:LEU:N	17:O:99:LEU:HD23	2.16	0.60
24:V:74:MET:CE	24:V:102:ILE:HD13	2.31	0.60
16:N:165:THR:HG1	16:N:167:THR:N	2.00	0.60
21:S:30:PHE:CG	21:S:103:VAL:HG21	2.36	0.60
27:Y:51:ARG:C	27:Y:52:ARG:N	2.55	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1889:G:H3'	1:1:1890:U:P	2.41	0.60
7:D:32:GLN:O	7:D:35:ARG:N	2.35	0.60
20:R:78:TYR:C	20:R:79:GLY:N	2.55	0.60
1:1:670:C:OP1	19:Q:147:ARG:NH2	2.35	0.60
1:1:1107:C:H3'	1:1:1108:U:P	2.42	0.60
16:N:28:TRP:C	16:N:29:GLU:N	2.54	0.60
20:R:90:PRO:C	20:R:91:SER:N	2.55	0.60
9:F:104:GLN:C	9:F:105:LEU:N	2.55	0.60
7:D:69:ILE:HD13	22:T:28:SER:HB2	1.83	0.60
6:C:153:SER:HG	6:C:154:THR:N	2.00	0.60
17:O:111:PRO:O	17:O:112:TYR:CG	2.54	0.60
17:O:113:ASP:OD1	17:O:114:LYS:N	2.35	0.60
17:O:49:ARG:C	17:O:52:LEU:H	2.05	0.60
11:H:91:ARG:N	11:H:182:SER:HG	1.99	0.60
16:N:198:SER:HG	16:N:199:LEU:N	2.00	0.60
5:B:196:ARG:C	5:B:197:GLU:N	2.55	0.60
17:O:47:PHE:HD1	17:O:47:PHE:O	1.83	0.60
5:B:78:VAL:HG22	5:B:323:MET:HG3	1.83	0.60
11:H:22:SER:HG	11:H:24:ILE:N	2.00	0.60
6:C:105:THR:C	6:C:106:TRP:N	2.55	0.60
6:C:178:LEU:HD21	6:C:222:VAL:HG21	1.83	0.60
4:A:169:ILE:C	4:A:170:ALA:N	2.55	0.59
1:1:3356:G:H2'	1:1:3357:U:O4'	2.01	0.59
7:D:49:TYR:HB2	7:D:144:VAL:HG23	1.85	0.59
8:E:64:LEU:HD11	8:E:76:LEU:HD23	1.84	0.59
6:C:33:ASP:C	6:C:34:ILE:N	2.55	0.59
6:C:34:ILE:O	6:C:35:VAL:C	2.40	0.59
11:H:90:MET:C	11:H:91:ARG:HA	2.23	0.59
9:F:147:LEU:HB3	9:F:205:PHE:CD1	2.37	0.59
5:B:267:ALA:CA	5:B:268:GLY:N	2.65	0.59
20:R:41:ILE:C	20:R:42:ARG:N	2.55	0.59
22:T:119:ALA:C	22:T:120:LYS:N	2.55	0.59
20:R:170:ARG:O	20:R:170:ARG:CG	2.49	0.59
1:1:2101:C:O2'	1:1:2102:U:O5'	2.11	0.59
1:1:2696:A:H2'	1:1:2697:A:C8	2.37	0.59
1:1:770:G:O3'	1:1:771:A:P	2.60	0.59
17:O:159:LYS:O	17:O:160:ARG:C	2.40	0.59
18:P:24:VAL:HG21	18:P:87:SER:HA	1.84	0.59
3:4:143:U:H2'	3:4:144:G:O4'	2.03	0.59
17:O:65:ASN:C	17:O:67:THR:N	2.56	0.59
11:H:154:VAL:C	11:H:155:SER:N	2.56	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:160:GLU:N	16:N:160:GLU:OE1	2.35	0.59
1:1:195:U:H3'	1:1:196:G:P	2.43	0.59
7:D:8:LYS:C	7:D:9:SER:N	2.56	0.59
18:P:15:ALA:HB3	18:P:150:VAL:HG12	1.84	0.59
17:O:126:VAL:HG13	17:O:127:LEU:HD23	1.82	0.59
17:O:23:VAL:O	17:O:27:LEU:CG	2.46	0.59
22:T:63:VAL:C	22:T:64:VAL:N	2.55	0.59
1:1:2184:U:HO3'	1:1:2185:G:P	2.25	0.59
24:V:33:ASN:C	24:V:34:LEU:N	2.56	0.59
16:N:53:TYR:HA	16:N:54:LYS:N	2.18	0.59
1:1:3181:C:O4'	1:1:3181:C:O2	2.20	0.59
1:1:2449:G:H2'	1:1:2450:A:O4'	2.03	0.59
1:1:516:A:O3'	1:1:517:G:P	2.61	0.59
17:O:33:ILE:CG2	17:O:34:VAL:N	2.65	0.59
10:G:101:THR:OG1	10:G:102:ALA:N	2.34	0.59
14:L:152:THR:HG1	14:L:153:ASP:N	2.00	0.59
1:1:2392:C:C3'	1:1:2393:G:P	2.90	0.59
19:Q:35:PHE:C	19:Q:36:LEU:N	2.56	0.59
1:1:3294:A:C3'	1:1:3295:A:P	2.91	0.59
21:S:105:THR:C	21:S:106:LEU:N	2.56	0.59
1:1:733:G:H2'	1:1:735:A:N7	2.18	0.59
7:D:284:ALA:C	7:D:285:ARG:N	2.55	0.59
5:B:98:GLY:C	5:B:99:LEU:N	2.56	0.59
28:Z:12:VAL:C	28:Z:13:VAL:N	2.56	0.59
17:O:167:TYR:OH	17:O:171:LYS:HD2	2.03	0.59
1:1:2511:C:C4	1:1:2512:C:C4	2.91	0.59
15:M:91:CYS:O	15:M:95:ALA:N	2.36	0.59
6:C:271:LYS:C	6:C:272:VAL:HA	2.23	0.59
1:1:283:G:N3	1:1:283:G:H3'	2.18	0.59
17:O:126:VAL:C	17:O:127:LEU:CD2	2.57	0.59
1:1:1049:C:O3'	1:1:1050:U:P	2.61	0.59
6:C:57:GLY:C	6:C:58:HIS:N	2.56	0.59
1:1:2895:G:H3'	1:1:2896:A:OP2	2.02	0.59
1:1:2430:A:C3'	1:1:2431:C:P	2.91	0.59
1:1:212:G:C3'	1:1:213:A:P	2.91	0.59
9:F:215:GLY:O	9:F:216:VAL:HG22	2.03	0.59
1:1:2109:U:O3'	1:1:2110:G:P	2.60	0.59
1:1:1940:G:C3'	1:1:1941:C:P	2.90	0.58
11:H:4:ILE:HD11	21:S:150:PHE:CD2	2.38	0.58
1:1:326:U:C3'	1:1:327:A:P	2.91	0.58
4:A:137:ILE:C	4:A:138:GLY:N	2.56	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2609:A:H3'	1:1:2610:G:P	2.43	0.58
6:C:190:GLY:O	6:C:191:LYS:N	2.35	0.58
17:O:147:TRP:CE2	17:O:149:TYR:O	2.56	0.58
1:1:2655:U:O2'	1:1:2656:A:OP2	2.18	0.58
22:T:141:VAL:C	22:T:142:SER:HA	2.23	0.58
1:1:96:G:O3'	1:1:97:U:P	2.61	0.58
17:O:21:SER:O	17:O:22:VAL:C	2.39	0.58
17:O:4:GLU:CB	17:O:5:PRO:CD	2.72	0.58
17:O:5:PRO:HG2	17:O:6:VAL:H	1.68	0.58
5:B:85:VAL:C	5:B:86:VAL:C	2.62	0.58
12:I:76:MET:HE2	12:I:148:VAL:HG22	1.85	0.58
1:1:1376:C:C3'	1:1:1377:G:P	2.91	0.58
27:Y:31:LEU:C	27:Y:32:SER:N	2.57	0.58
6:C:184:SER:C	6:C:185:LYS:N	2.56	0.58
1:1:2165:G:H3'	1:1:2166:A:P	2.44	0.58
19:Q:14:GLY:C	19:Q:15:HIS:N	2.57	0.58
17:O:125:ARG:HD2	17:O:135:TYR:CD2	2.38	0.58
17:O:17:GLY:C	17:O:20:ALA:HB3	2.24	0.58
3:4:37:A:H3'	3:4:38:U:P	2.43	0.58
1:1:632:G:H3'	1:1:633:C:P	2.43	0.58
16:N:96:ARG:C	16:N:97:SER:N	2.56	0.58
1:1:1492:G:O3'	1:1:1493:G:P	2.61	0.58
18:P:70:THR:HG1	18:P:72:GLN:N	2.02	0.58
18:P:70:THR:OG1	18:P:71:ALA:N	2.35	0.58
1:1:1644:C:O3'	1:1:1645:U:P	2.61	0.58
1:1:2224:A:O3'	1:1:2225:U:P	2.61	0.58
17:O:77:SER:O	17:O:79:ILE:N	2.37	0.58
6:C:113:VAL:C	6:C:114:ASN:CA	2.71	0.58
17:O:67:THR:C	17:O:69:GLY:N	2.53	0.58
7:D:272:TYR:C	7:D:273:ARG:N	2.57	0.58
20:R:38:ARG:C	20:R:39:ASN:N	2.57	0.58
15:M:108:ARG:NH1	17:O:196:ALA:O	2.36	0.58
1:1:2651:G:HO3'	1:1:2652:U:P	2.26	0.58
7:D:78:ALA:CA	7:D:79:TYR:N	2.67	0.58
23:U:83:TYR:O	23:U:84:LEU:N	2.37	0.58
1:1:731:U:H2'	1:1:732:C:O4'	2.04	0.58
17:O:82:LYS:O	17:O:85:ARG:HB3	2.03	0.58
11:H:68:LEU:C	11:H:69:ARG:N	2.57	0.58
19:Q:53:PHE:O	19:Q:54:LEU:C	2.41	0.58
23:U:80:THR:HG21	23:U:95:PHE:CE2	2.38	0.58
1:1:3181:C:O3'	1:1:3182:G:P	2.62	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:315:LYS:HA	6:C:316:ASN:N	2.18	0.58
1:1:2520:A:O2'	1:1:2521:U:O4'	2.15	0.58
17:O:54:TYR:OH	17:O:74:ARG:HD3	2.04	0.58
22:T:12:ARG:HD3	22:T:13:TYR:CZ	2.39	0.58
11:H:142:ASP:O	11:H:143:GLU:N	2.36	0.58
6:C:274:TYR:HA	6:C:275:THR:N	2.19	0.58
16:N:104:GLU:O	16:N:108:ARG:N	2.37	0.58
21:S:18:SER:C	21:S:19:VAL:N	2.56	0.58
15:M:24:LYS:C	15:M:25:LYS:N	2.57	0.58
1:1:2260:U:H2'	1:1:2261:G:O4'	2.04	0.58
17:O:136:THR:C	17:O:137:THR:OG1	2.38	0.58
5:B:161:LEU:HD22	5:B:178:LEU:HD11	1.84	0.58
14:L:13:HIS:C	14:L:14:PHE:N	2.56	0.58
9:F:134:VAL:C	9:F:135:ALA:CA	2.72	0.58
21:S:100:VAL:N	21:S:101:ALA:N	2.52	0.58
13:J:140:ARG:C	13:J:141:ARG:N	2.57	0.58
9:F:50:ALA:C	9:F:51:TYR:N	1.33	0.57
1:1:314:U:H2'	1:1:315:C:C6	2.39	0.57
1:1:587:U:H3'	1:1:588:G:P	2.44	0.57
1:1:3306:U:O5'	1:1:3306:U:O2	2.22	0.57
26:X:60:TYR:C	26:X:61:LYS:N	2.58	0.57
14:L:47:ALA:CB	14:L:48:PRO:CD	2.82	0.57
11:H:103:ILE:HA	11:H:104:VAL:N	2.19	0.57
1:1:254:A:H2'	1:1:255:A:O4'	2.04	0.57
8:E:170:LYS:O	8:E:173:MET:N	2.37	0.57
1:1:2252:A:C2	1:1:2265:C:C2	2.92	0.57
17:O:34:VAL:HG21	17:O:112:TYR:CZ	2.39	0.57
11:H:89:LYS:C	11:H:90:MET:N	2.58	0.57
19:Q:179:ARG:O	19:Q:181:SER:N	2.37	0.57
1:1:1056:U:C2'	1:1:1057:A:O5'	2.53	0.57
7:D:109:THR:O	7:D:110:LEU:N	2.38	0.57
17:O:26:GLN:O	17:O:27:LEU:C	2.39	0.57
17:O:84:LEU:HD11	17:O:102:LEU:HD22	1.84	0.57
1:1:640:U:OP1	4:A:21:ARG:NH2	80.35	0.57
1:1:313:A:H2'	1:1:314:U:O4'	2.04	0.57
1:1:1420:C:O2'	1:1:1421:G:O5'	2.23	0.57
5:B:75:ALA:CA	5:B:76:VAL:N	2.67	0.57
17:O:126:VAL:O	17:O:126:VAL:CG2	2.48	0.57
1:1:1492:G:N7	14:L:2:ALA:CB	67.92	0.57
14:L:169:THR:C	14:L:170:LEU:N	2.57	0.57
1:1:1913:A:C3'	1:1:1914:G:P	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:545:U:C2'	1:1:545:U:O2	2.52	0.57
10:G:134:TYR:CG	10:G:190:VAL:HG21	2.40	0.57
4:A:57:PRO:C	4:A:58:LEU:N	2.58	0.57
1:1:917:A:H2'	1:1:918:C:C6	2.40	0.57
12:I:118:ALA:C	12:I:119:TRP:N	2.57	0.57
22:T:93:VAL:C	22:T:94:GLU:N	2.58	0.57
7:D:68:THR:C	7:D:69:ILE:HA	2.25	0.57
15:M:78:THR:C	15:M:79:ALA:N	2.58	0.57
18:P:80:LYS:C	18:P:81:ALA:N	2.58	0.57
1:1:2550:U:O4'	1:1:2550:U:O2	2.22	0.57
1:1:2430:A:O3'	1:1:2431:C:P	2.63	0.57
1:1:1601:U:H3'	1:1:1602:A:P	2.44	0.57
1:1:1103:A:H1'	1:1:1104:G:P	2.44	0.57
2:3:94:C:H3'	2:3:95:A:P	2.45	0.57
9:F:227:GLY:C	9:F:228:SER:N	2.58	0.57
1:1:1687:U:O3'	1:1:1688:U:P	2.63	0.57
16:N:35:VAL:C	16:N:36:ILE:N	2.58	0.57
15:M:55:ARG:C	15:M:56:GLN:N	2.58	0.57
17:O:12:LYS:O	17:O:14:HIS:ND1	2.33	0.57
1:1:364:G:C3'	1:1:365:A:P	2.93	0.57
3:4:124:G:H3'	3:4:125:U:C5'	2.35	0.57
9:F:219:LYS:C	9:F:220:PHE:N	2.58	0.57
1:1:1297:C:O3'	1:1:1298:C:P	2.63	0.57
6:C:30:ILE:O	6:C:31:ARG:N	2.37	0.57
5:B:254:ALA:C	5:B:255:TRP:N	2.57	0.57
20:R:99:LEU:HD11	20:R:103:ARG:NE	2.19	0.57
4:A:101:VAL:O	4:A:101:VAL:HG22	2.05	0.57
1:1:2174:G:C3'	1:1:2175:U:P	2.92	0.57
1:1:2840:C:O3'	1:1:2841:G:P	2.62	0.57
19:Q:3:ILE:C	19:Q:4:ASP:N	2.58	0.57
1:1:1307:G:C2	1:1:1308:A:C2	2.93	0.57
1:1:1122:U:H3'	1:1:1123:U:P	2.45	0.57
4:A:195:SER:C	4:A:196:TRP:HA	2.24	0.57
1:1:1930:A:O3'	1:1:1931:U:P	2.63	0.57
1:1:2290:C:H3'	1:1:2291:A:P	2.45	0.57
17:O:103:LYS:O	17:O:104:VAL:HG22	1.96	0.56
6:C:62:ALA:HB3	6:C:90:PHE:CE2	2.40	0.56
18:P:88:VAL:O	18:P:92:GLN:N	2.38	0.56
11:H:85:GLY:C	11:H:86:TYR:N	2.59	0.56
5:B:218:ILE:HG12	5:B:276:THR:HG23	1.86	0.56
1:1:1241:U:O4'	1:1:1241:U:O2	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:24:GLN:C	4:A:25:GLY:N	2.58	0.56
1:1:3083:G:H2'	1:1:3084:C:O4'	2.04	0.56
1:1:664:U:H3'	1:1:665:A:P	2.45	0.56
6:C:181:VAL:O	6:C:182:LEU:HB2	2.05	0.56
1:1:2238:G:O3'	1:1:2239:G:P	2.63	0.56
1:1:2991:A:O3'	1:1:2992:U:P	2.63	0.56
17:O:137:THR:O	17:O:138:LEU:C	2.42	0.56
26:X:94:GLN:C	26:X:95:ILE:CA	2.73	0.56
1:1:607:A:O3'	1:1:608:A:P	2.63	0.56
1:1:655:C:H2'	1:1:656:A:H8	1.70	0.56
1:1:1547:G:H3'	1:1:1548:C:P	2.45	0.56
17:O:33:ILE:HG22	17:O:34:VAL:N	2.20	0.56
17:O:171:LYS:CG	17:O:171:LYS:O	2.53	0.56
4:A:45:VAL:C	4:A:46:LYS:N	2.59	0.56
4:A:46:LYS:C	4:A:47:GLN:N	2.57	0.56
5:B:249:VAL:C	5:B:250:ALA:CA	2.73	0.56
5:B:217:ALA:CA	5:B:218:ILE:N	2.68	0.56
12:I:43:VAL:HG23	12:I:181:TYR:OH	2.05	0.56
1:1:145:G:C3'	1:1:146:U:P	2.93	0.56
17:O:65:ASN:OD1	17:O:67:THR:CB	2.53	0.56
1:1:959:C:O2	1:1:2614:G:O2'	2.14	0.56
20:R:8:LYS:O	20:R:11:ALA:N	2.38	0.56
20:R:8:LYS:C	20:R:9:ARG:N	2.59	0.56
20:R:38:ARG:O	20:R:41:ILE:N	2.37	0.56
1:1:1871:U:O3'	1:1:1872:C:P	2.63	0.56
6:C:274:TYR:CG	6:C:275:THR:N	2.74	0.56
1:1:3261:C:H2'	1:1:3261:C:O2	2.04	0.56
1:1:780:A:O4'	19:Q:162:ALA:HB2	2.05	0.56
17:O:48:PHE:HD1	17:O:48:PHE:C	2.07	0.56
1:1:916:G:H5'	1:1:917:A:OP1	2.05	0.56
11:H:18:VAL:C	11:H:19:SER:N	2.58	0.56
2:3:94:C:O3'	2:3:95:A:P	2.63	0.56
16:N:71:ARG:C	16:N:72:LYS:N	2.58	0.56
1:1:2093:A:H3'	1:1:2093:A:N3	2.21	0.56
18:P:18:ARG:C	18:P:19:GLY:N	2.59	0.56
1:1:2947:G:H3'	1:1:2948:C:OP2	2.06	0.56
1:1:2437:G:C2	1:1:2510:A:C2	2.93	0.56
10:G:73:PRO:C	10:G:74:THR:CA	2.74	0.56
24:V:92:PHE:O	24:V:93:LEU:HB3	2.04	0.56
1:1:946:U:H3'	1:1:947:G:P	2.45	0.56
7:D:68:THR:HG23	7:D:69:ILE:N	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2205:U:C3'	1:1:2206:G:H5'	2.35	0.56
1:1:1366:A:OP1	1:1:1367:G:OP2	2.24	0.56
17:O:124:LEU:C	17:O:126:VAL:N	2.52	0.56
22:T:153:PRO:C	22:T:154:VAL:N	2.59	0.56
1:1:1347:U:HO3'	1:1:1348:U:P	2.29	0.56
1:1:280:U:C3'	1:1:281:G:P	2.93	0.56
1:1:1598:G:O3'	1:1:1599:G:P	2.64	0.56
1:1:1608:C:O3'	1:1:1609:C:OP1	2.23	0.56
1:1:3140:G:H3'	1:1:3141:A:P	2.45	0.56
8:E:131:LYS:O	8:E:132:ALA:N	2.38	0.56
1:1:952:A:O3'	1:1:968:G:N2	2.39	0.56
15:M:94:TRP:C	15:M:95:ALA:N	2.59	0.56
10:G:141:ALA:O	10:G:144:GLU:N	2.38	0.56
5:B:107:ALA:HB2	5:B:199:PHE:CD2	2.41	0.56
15:M:75:GLY:C	15:M:76:ALA:N	2.59	0.56
17:O:76:PRO:HD2	17:O:147:TRP:CE2	2.41	0.56
17:O:147:TRP:O	17:O:148:LYS:C	2.42	0.56
16:N:45:PRO:O	16:N:49:ARG:N	2.39	0.56
5:B:305:ILE:HD11	5:B:321:PHE:CZ	2.39	0.56
1:1:932:U:O3'	1:1:933:A:P	2.63	0.56
21:S:163:PHE:C	21:S:164:SER:HA	2.26	0.56
1:1:230:U:H2'	1:1:231:G:O4'	2.06	0.56
17:O:128:ARG:O	17:O:129:LEU:HD12	2.03	0.56
1:1:16:A:H2'	1:1:17:G:O4'	2.06	0.56
11:H:65:VAL:C	11:H:66:ALA:CA	2.74	0.56
1:1:1747:G:C3'	1:1:1748:G:P	2.94	0.56
25:W:13:ILE:HA	25:W:14:TYR:N	2.21	0.56
1:1:1938:U:HO3'	20:R:79:GLY:N	2.03	0.56
7:D:78:ALA:N	7:D:79:TYR:N	2.54	0.56
5:B:47:LEU:HD12	5:B:335:ILE:HD11	1.87	0.56
5:B:221:THR:HA	5:B:330:GLY:HA2	1.88	0.56
16:N:84:PRO:C	16:N:85:THR:N	2.59	0.56
17:O:47:PHE:HA	17:O:136:THR:OG1	2.05	0.56
4:A:47:GLN:C	4:A:48:ILE:HA	2.25	0.56
18:P:20:SER:O	18:P:22:LEU:N	2.38	0.56
5:B:20:LYS:O	5:B:22:ALA:N	2.39	0.56
17:O:178:VAL:O	17:O:182:ASN:CB	2.54	0.56
17:O:67:THR:HG22	17:O:68:ARG:N	2.20	0.56
5:B:102:LEU:O	5:B:103:THR:HG23	2.06	0.56
22:T:57:TYR:CD1	22:T:89:LEU:HD11	2.41	0.56
7:D:78:ALA:C	7:D:79:TYR:N	2.59	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:790:U:C3'	1:1:791:A:P	2.94	0.56
1:1:196:G:H3'	1:1:197:G:P	2.46	0.56
1:1:1588:A:H4'	1:1:1589:A:OP2	2.06	0.56
27:Y:37:LYS:C	27:Y:38:GLU:N	2.59	0.56
9:F:98:LYS:HB3	9:F:99:PRO:HD3	1.88	0.55
1:1:2923:U:O3'	1:1:2924:U:P	2.64	0.55
1:1:392:G:O2'	27:Y:90:VAL:HG11	2.06	0.55
12:I:66:GLU:C	12:I:67:ALA:N	2.59	0.55
10:G:158:ASP:HB3	10:G:159:PRO:HD3	1.88	0.55
16:N:184:LYS:HB3	16:N:185:ALA:N	2.21	0.55
17:O:186:ALA:C	17:O:188:SER:H	2.08	0.55
1:1:1101:G:H3'	1:1:1102:A:P	2.45	0.55
6:C:112:LYS:C	6:C:113:VAL:CA	2.74	0.55
16:N:64:VAL:CG1	16:N:102:ALA:HB1	2.36	0.55
25:W:13:ILE:CA	25:W:14:TYR:N	2.69	0.55
6:C:311:HIS:HA	6:C:312:VAL:N	2.22	0.55
1:1:3198:U:H3'	1:1:3199:G:H5'	1.87	0.55
1:1:787:G:H3'	1:1:788:C:P	2.45	0.55
17:O:123:ALA:C	17:O:124:LEU:HD13	2.27	0.55
1:1:394:G:O3'	1:1:395:A:P	2.65	0.55
1:1:3241:G:O2'	1:1:3242:G:C5'	2.54	0.55
16:N:145:ASP:OD1	16:N:147:ARG:N	2.39	0.55
17:O:150:GLU:O	17:O:150:GLU:HG2	2.06	0.55
1:1:2397:A:O3'	1:1:2398:A:P	2.65	0.55
1:1:2792:A:H3'	1:1:2793:G:P	2.45	0.55
25:W:6:ASP:OD1	25:W:7:SER:N	2.39	0.55
1:1:34:A:O3'	1:1:35:A:P	2.65	0.55
1:1:1317:A:O2'	1:1:1318:A:H3'	2.06	0.55
7:D:205:SER:O	7:D:208:MET:N	2.39	0.55
21:S:56:GLY:C	21:S:57:GLU:N	2.60	0.55
17:O:23:VAL:CG1	17:O:23:VAL:O	2.54	0.55
6:C:119:ARG:O	6:C:122:THR:N	2.39	0.55
17:O:182:ASN:C	17:O:182:ASN:OD1	2.42	0.55
1:1:2865:U:C3'	1:1:2866:U:P	2.94	0.55
6:C:51:ALA:C	6:C:52:VAL:N	2.60	0.55
1:1:157:A:H2'	1:1:158:G:O4'	2.06	0.55
1:1:199:A:O3'	1:1:200:C:P	2.64	0.55
1:1:2684:C:O3'	1:1:2685:C:P	2.65	0.55
1:1:1484:U:O3'	1:1:1485:G:P	2.65	0.55
20:R:4:LEU:HD13	20:R:24:LEU:HD23	1.88	0.55
1:1:3051:U:O3'	1:1:3052:G:P	2.65	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:190:VAL:O	17:O:191:ALA:C	2.44	0.55
18:P:54:HIS:N	18:P:55:GLN:N	2.54	0.55
5:B:17:LEU:HB3	5:B:18:PRO:CD	2.36	0.55
20:R:97:ARG:O	20:R:100:ARG:N	2.40	0.55
1:1:300:G:C3'	1:1:301:G:P	2.94	0.55
1:1:1864:A:OP1	20:R:82:LYS:N	2.39	0.55
5:B:75:ALA:C	5:B:76:VAL:N	2.60	0.55
22:T:94:GLU:OE1	22:T:94:GLU:N	2.40	0.55
1:1:1017:C:O2	1:1:1017:C:O4'	2.21	0.55
1:1:2923:U:HO3'	1:1:2924:U:P	2.29	0.55
13:J:84:LEU:HD11	13:J:163:PHE:HE2	1.71	0.55
15:M:45:LEU:O	15:M:46:ILE:N	2.38	0.55
14:L:78:ALA:C	14:L:79:GLU:N	2.60	0.55
10:G:143:ILE:C	10:G:144:GLU:N	2.60	0.55
6:C:314:LYS:O	6:C:316:ASN:N	2.40	0.55
1:1:1322:U:C3'	1:1:1323:G:P	2.86	0.55
4:A:181:LYS:C	4:A:182:ALA:C	2.65	0.55
9:F:91:GLY:O	9:F:92:ILE:HA	2.06	0.55
6:C:163:LYS:C	6:C:164:GLU:N	2.60	0.55
3:4:72:A:C3'	3:4:73:U:P	2.95	0.55
21:S:9:VAL:CG1	21:S:58:ILE:HD12	2.37	0.55
12:I:48:LEU:C	12:I:49:CYS:N	2.60	0.55
17:O:144:SER:O	17:O:145:VAL:HG13	2.05	0.55
5:B:282:ILE:CA	5:B:283:TYR:N	2.70	0.55
16:N:85:THR:N	16:N:86:ASN:N	2.55	0.55
27:Y:103:LYS:C	27:Y:104:LEU:N	2.60	0.55
1:1:2273:G:O3'	1:1:2274:U:H5''	2.06	0.55
1:1:1888:U:O2'	1:1:1889:G:O4'	2.24	0.55
24:V:119:GLY:HA2	24:V:137:VAL:HG22	1.87	0.55
1:1:1516:C:H3'	1:1:1517:G:P	2.47	0.55
17:O:25:LYS:C	17:O:26:GLN:CA	2.75	0.55
3:4:41:A:C3'	3:4:42:G:P	2.94	0.55
1:1:355:A:N6	1:1:364:G:O2'	2.39	0.55
28:Z:44:ALA:CB	28:Z:114:VAL:HG11	2.37	0.55
27:Y:21:THR:C	27:Y:22:ALA:N	2.60	0.55
1:1:1935:G:O3'	1:1:1936:A:P	2.65	0.55
1:1:794:U:H3'	1:1:795:G:P	2.47	0.55
17:O:21:SER:O	17:O:24:ALA:N	2.40	0.55
17:O:80:PHE:C	17:O:81:TYR:C	2.66	0.55
4:A:145:LYS:HA	4:A:146:THR:N	2.22	0.55
8:E:107:ALA:O	8:E:108:LYS:N	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1718:G:H3'	1:1:1719:G:P	2.46	0.55
1:1:2996:U:O2	1:1:2996:U:C2'	2.55	0.55
23:U:80:THR:HG21	23:U:95:PHE:CD2	2.42	0.55
5:B:296:THR:O	5:B:299:ASP:N	2.39	0.55
1:1:2476:C:H2'	1:1:2477:G:O4'	2.07	0.55
14:L:95:ILE:HD11	14:L:119:TYR:CD2	2.42	0.55
17:O:80:PHE:CB	17:O:81:TYR:N	2.69	0.54
17:O:8:VAL:HG22	17:O:34:VAL:CG1	2.37	0.54
1:1:2131:A:H3'	1:1:2132:C:P	2.47	0.54
1:1:2764:C:C3'	1:1:2765:C:P	2.96	0.54
1:1:1157:G:O2'	1:1:1169:A:N3	2.32	0.54
24:V:94:TYR:C	24:V:95:PHE:HA	2.28	0.54
6:C:296:GLN:HE21	6:C:296:GLN:HA	1.73	0.54
20:R:61:SER:C	20:R:62:ARG:N	2.61	0.54
1:1:356:C:H3'	1:1:357:A:P	2.48	0.54
1:1:2510:A:H2'	1:1:2511:C:C1'	2.36	0.54
1:1:2952:G:O3'	1:1:2953:U:P	2.66	0.54
1:1:2109:U:H3'	1:1:2110:G:P	2.47	0.54
6:C:181:VAL:O	6:C:182:LEU:CB	2.54	0.54
5:B:205:VAL:HG11	5:B:322:ILE:HD11	1.88	0.54
1:1:44:U:H3'	1:1:45:A:P	2.47	0.54
12:I:95:HIS:C	12:I:96:VAL:CA	2.74	0.54
4:A:197:PRO:O	4:A:198:LYS:CA	2.55	0.54
17:O:178:VAL:O	17:O:182:ASN:HB2	2.07	0.54
5:B:178:LEU:C	5:B:179:ALA:CA	2.75	0.54
5:B:191:LYS:C	5:B:192:VAL:CA	2.75	0.54
4:A:104:LEU:HD22	4:A:158:ILE:HD11	1.90	0.54
24:V:51:ALA:HA	24:V:52:ALA:N	2.22	0.54
1:1:1878:G:H3'	1:1:1878:G:N3	2.23	0.54
1:1:612:U:H3'	1:1:613:G:P	2.47	0.54
6:C:289:ILE:N	6:C:290:ILE:N	2.56	0.54
17:O:18:ARG:C	17:O:20:ALA:N	2.58	0.54
14:L:28:GLN:HB3	16:N:201:ARG:HD3	1.88	0.54
19:Q:108:ALA:O	19:Q:109:GLY:N	2.40	0.54
7:D:260:PHE:C	7:D:261:THR:N	2.60	0.54
5:B:209:PHE:C	5:B:210:GLU:N	2.61	0.54
27:Y:11:ASP:O	27:Y:12:ARG:N	2.40	0.54
1:1:766:U:H4'	1:1:767:U:O4'	2.08	0.54
17:O:15:LEU:O	17:O:16:VAL:O	2.25	0.54
6:C:30:ILE:CA	6:C:31:ARG:N	2.70	0.54
17:O:184:THR:CG2	17:O:185:ALA:H	2.20	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:31:THR:C	26:X:32:PHE:N	2.61	0.54
24:V:33:ASN:O	24:V:33:ASN:ND2	2.39	0.54
1:1:2765:C:H2'	1:1:2766:U:C6	2.42	0.54
1:1:1676:A:C3'	1:1:1677:G:P	2.95	0.54
1:1:326:U:O3'	1:1:327:A:P	2.65	0.54
1:1:3307:A:O3'	1:1:3308:C:P	2.65	0.54
1:1:1721:U:O4	20:R:128:LYS:NZ	2.37	0.54
5:B:331:ASN:HB2	5:B:332:ARG:N	2.22	0.54
19:Q:161:LYS:O	19:Q:162:ALA:HB3	2.08	0.54
1:1:2890:A:O2'	1:1:2933:A:N3	2.38	0.54
1:1:3327:G:O3'	1:1:3328:G:P	2.66	0.54
1:1:2511:C:C4	1:1:2512:C:C5	2.95	0.54
3:4:73:U:H3'	3:4:74:U:P	2.47	0.54
20:R:167:ARG:HD3	20:R:170:ARG:NH2	2.22	0.54
1:1:1106:G:O2'	1:1:1107:C:O4'	2.24	0.54
1:1:632:G:H3'	1:1:633:C:OP2	2.08	0.54
1:1:1743:G:O3'	1:1:1744:G:P	2.65	0.54
14:L:93:ILE:C	14:L:94:GLY:N	2.61	0.54
17:O:21:SER:C	17:O:23:VAL:N	2.55	0.54
17:O:106:GLU:O	17:O:106:GLU:OE1	2.25	0.54
10:G:32:LYS:C	10:G:33:ASN:N	2.61	0.54
1:1:819:U:HO3'	1:1:820:A:P	2.31	0.54
1:1:506:U:H2'	1:1:507:U:O4'	2.08	0.54
17:O:174:PHE:O	17:O:176:LYS:N	2.41	0.54
12:I:42:THR:C	12:I:43:VAL:HA	2.28	0.54
1:1:2444:C:C2'	1:1:2444:C:O2	2.55	0.54
1:1:2853:A:C3'	1:1:2854:U:P	2.95	0.54
26:X:115:ARG:NH1	26:X:119:THR:OG1	2.41	0.54
15:M:10:SER:HA	15:M:11:ASN:N	2.23	0.54
6:C:225:VAL:HA	6:C:226:GLU:N	2.22	0.54
13:J:87:LYS:O	13:J:89:TYR:N	2.41	0.54
17:O:113:ASP:HA	17:O:117:ARG:HH12	1.73	0.54
17:O:38:ALA:N	17:O:39:GLU:OE1	2.34	0.54
10:G:90:THR:HA	10:G:214:LEU:HD21	1.90	0.54
4:A:58:LEU:HD13	4:A:75:ILE:CG2	2.38	0.54
4:A:41:ILE:N	4:A:90:ALA:O	2.41	0.54
18:P:97:ASN:C	18:P:98:ALA:N	2.61	0.54
8:E:88:SER:HG	8:E:89:THR:N	2.06	0.54
28:Z:24:VAL:CG1	28:Z:87:LEU:HD23	2.38	0.54
16:N:140:LYS:C	16:N:141:ALA:HA	2.28	0.54
1:1:1629:U:O3'	1:1:1630:U:P	2.66	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:130:TYR:O	10:G:131:ALA:N	2.41	0.54
22:T:129:LYS:C	22:T:130:ARG:N	2.61	0.54
1:1:2524:A:O3'	1:1:2525:G:P	2.65	0.54
1:1:221:A:C2	1:1:224:C:C5	2.95	0.54
17:O:26:GLN:O	17:O:28:LEU:N	2.41	0.54
6:C:119:ARG:O	6:C:121:ALA:N	2.41	0.54
6:C:254:ALA:O	6:C:255:PHE:N	2.40	0.54
1:1:265:A:O3'	16:N:5:LYS:NZ	2.41	0.54
1:1:714:G:H4'	1:1:753:C:O3'	2.08	0.54
21:S:155:ARG:HD3	21:S:172:TYR:CD1	2.43	0.54
19:Q:2:GLY:C	19:Q:3:ILE:HD13	2.28	0.54
1:1:1398:U:H3'	1:1:1399:A:P	2.47	0.54
18:P:97:ASN:O	18:P:100:ALA:N	2.41	0.53
1:1:1162:U:H3'	1:1:1163:A:P	2.48	0.53
1:1:716:A:C2	1:1:720:A:O4'	2.61	0.53
8:E:61:ASN:C	8:E:62:THR:N	2.61	0.53
1:1:3276:G:O6	18:P:171:ARG:NH1	2.41	0.53
1:1:32:U:OP1	16:N:95:GLN:N	2.41	0.53
6:C:35:VAL:CG2	6:C:244:LEU:HD21	2.36	0.53
1:1:1796:G:C3'	1:1:1797:A:P	2.95	0.53
1:1:280:U:O3'	1:1:281:G:P	2.67	0.53
1:1:2610:G:H2'	1:1:2611:U:O4'	2.08	0.53
1:1:1495:U:H2'	1:1:1842:A:C2	2.43	0.53
1:1:589:A:H3'	1:1:590:G:P	2.48	0.53
15:M:130:THR:C	15:M:131:VAL:N	2.61	0.53
1:1:2510:A:H2'	1:1:2511:C:H1'	1.90	0.53
17:O:67:THR:C	17:O:69:GLY:H	2.05	0.53
1:1:1371:G:C3'	1:1:1372:C:P	2.96	0.53
20:R:167:ARG:HA	20:R:170:ARG:HB3	1.91	0.53
19:Q:150:VAL:C	19:Q:152:HIS:N	2.62	0.53
18:P:174:GLY:C	18:P:175:ARG:N	2.62	0.53
24:V:114:ILE:HD11	24:V:129:VAL:HG22	1.89	0.53
1:1:2689:A:C8	1:1:2702:A:C6	2.96	0.53
1:1:982:C:O3'	1:1:983:A:P	2.67	0.53
5:B:217:ALA:HB3	5:B:328:ILE:HD11	1.89	0.53
12:I:87:LEU:HG	12:I:138:VAL:HG22	1.90	0.53
1:1:560:G:OP1	15:M:83:LYS:NZ	2.41	0.53
18:P:84:PRO:C	18:P:85:ALA:N	2.62	0.53
12:I:17:TYR:O	12:I:96:VAL:N	2.41	0.53
18:P:21:TYR:C	18:P:22:LEU:N	2.62	0.53
1:1:1403:C:C3'	1:1:1404:G:P	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:166:LEU:N	10:G:167:PRO:CD	2.72	0.53
1:1:1381:A:C2	1:1:1426:C:C2	2.96	0.53
17:O:69:GLY:O	17:O:71:PHE:CE1	2.61	0.53
14:L:76:THR:C	14:L:77:LEU:HA	2.29	0.53
1:1:1449:A:C2	1:1:2356:A:C4	2.96	0.53
5:B:376:LYS:O	5:B:380:MET:N	2.42	0.53
22:T:96:ILE:C	22:T:97:LYS:N	2.62	0.53
17:O:159:LYS:O	17:O:161:LYS:N	2.42	0.53
1:1:2511:C:C6	1:1:2512:C:C6	2.97	0.53
1:1:1913:A:C5	1:1:2120:A:C2	2.96	0.53
6:C:105:THR:N	6:C:106:TRP:N	2.57	0.53
1:1:1481:A:H3'	1:1:1482:A:P	2.49	0.53
1:1:2832:C:H3'	1:1:2833:A:P	2.48	0.53
17:O:14:HIS:CD2	17:O:124:LEU:CD1	2.92	0.53
17:O:84:LEU:HD13	17:O:102:LEU:HD21	1.88	0.53
5:B:250:ALA:HB3	5:B:251:CYS:N	2.23	0.53
1:1:3147:G:C3'	1:1:3148:U:P	2.97	0.53
4:A:17:THR:C	4:A:18:SER:CA	2.77	0.53
8:E:90:LYS:C	8:E:91:VAL:N	2.61	0.53
1:1:2564:G:H2'	1:1:2565:U:O4'	2.09	0.53
12:I:33:ILE:C	12:I:34:TYR:N	2.62	0.53
1:1:2714:G:O6	1:1:2741:C:N3	2.42	0.53
1:1:1017:C:O2'	1:1:1018:G:P	2.67	0.53
7:D:153:THR:HG23	7:D:160:PHE:HZ	1.73	0.53
1:1:974:G:O3'	1:1:975:C:P	2.67	0.53
17:O:82:LYS:C	17:O:84:LEU:N	2.62	0.53
1:1:1868:G:H3'	1:1:1869:C:P	2.48	0.53
20:R:132:PHE:O	20:R:134:HIS:N	2.42	0.53
1:1:71:A:C3'	1:1:72:C:P	2.97	0.53
1:1:2445:A:H5'	1:1:2446:A:O5'	2.09	0.53
1:1:1371:G:H3'	1:1:1372:C:P	2.49	0.53
13:J:161:SER:HG	13:J:162:TRP:N	2.06	0.53
17:O:144:SER:O	17:O:145:VAL:CG1	2.57	0.53
23:U:79:LEU:C	23:U:80:THR:N	2.62	0.53
1:1:2109:U:C3'	1:1:2110:G:P	2.96	0.53
7:D:192:PRO:O	7:D:193:GLU:C	2.48	0.53
9:F:141:TYR:HA	9:F:189:ILE:HD12	1.91	0.53
16:N:85:THR:C	16:N:86:ASN:N	2.62	0.53
1:1:1222:G:O2'	1:1:1285:G:N1	2.26	0.53
1:1:3144:G:C3'	1:1:3145:C:P	2.97	0.53
1:1:989:A:H2'	1:1:990:U:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2747:A:H2'	1:1:2748:A:C8	2.43	0.53
9:F:230:GLY:C	9:F:231:ASN:N	2.63	0.53
17:O:184:THR:CG2	17:O:185:ALA:N	2.71	0.52
15:M:15:VAL:HG12	15:M:65:LEU:HD11	1.90	0.52
1:1:698:U:H2'	1:1:699:A:O4'	2.08	0.52
11:H:41:ILE:HD11	11:H:67:ALA:CB	2.38	0.52
1:1:397:A:C3'	1:1:398:A:P	2.97	0.52
8:E:43:LEU:HD11	8:E:85:ILE:HG13	1.91	0.52
1:1:1535:A:C3'	1:1:1536:G:P	2.95	0.52
28:Z:114:VAL:C	28:Z:115:LYS:N	2.62	0.52
1:1:196:G:O2'	1:1:198:A:N7	2.38	0.52
5:B:107:ALA:HB2	5:B:199:PHE:HB3	1.91	0.52
1:1:1197:A:O3'	1:1:1198:C:P	2.67	0.52
17:O:15:LEU:O	17:O:16:VAL:C	2.46	0.52
1:1:1099:A:H2'	1:1:1100:U:O4'	2.09	0.52
17:O:95:GLY:O	17:O:97:ALA:N	2.42	0.52
13:J:40:LEU:HD23	13:J:114:ILE:HD13	1.90	0.52
10:G:58:VAL:C	10:G:59:GLN:HA	2.30	0.52
17:O:195:ALA:N	17:O:199:TYR:O	2.42	0.52
21:S:40:ARG:C	21:S:41:TYR:N	2.63	0.52
5:B:109:HIS:C	5:B:110:LEU:HA	2.30	0.52
1:1:568:G:H2'	1:1:569:A:O4'	2.09	0.52
1:1:3274:A:O3'	1:1:3275:U:P	2.67	0.52
6:C:35:VAL:CA	6:C:36:HIS:N	2.72	0.52
1:1:2510:A:C2	1:1:2511:C:C2	2.97	0.52
1:1:2918:G:N2	1:1:2929:C:C2	2.78	0.52
1:1:1614:C:H3'	1:1:1615:C:P	2.50	0.52
1:1:318:A:O3'	1:1:319:A:P	2.67	0.52
23:U:80:THR:O	23:U:82:LYS:N	2.40	0.52
9:F:227:GLY:HA3	9:F:228:SER:N	2.24	0.52
3:4:113:U:O2	3:4:113:U:O4'	2.28	0.52
1:1:1361:U:H3'	1:1:1362:G:P	2.48	0.52
6:C:11:LEU:HA	6:C:12:THR:N	2.24	0.52
20:R:173:ARG:O	20:R:177:VAL:HG23	2.09	0.52
1:1:34:A:H3'	1:1:35:A:P	2.50	0.52
1:1:824:C:O2'	1:1:1534:A:N3	2.43	0.52
1:1:275:U:H3'	1:1:276:U:P	2.49	0.52
18:P:109:ALA:HA	18:P:112:LEU:HD22	1.91	0.52
9:F:186:HIS:CG	9:F:186:HIS:O	2.63	0.52
1:1:2257:C:O2	1:1:2257:C:O4'	2.22	0.52
18:P:141:SER:C	18:P:142:SER:N	2.63	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:96:LYS:O	10:G:97:TYR:N	2.42	0.52
1:1:2853:A:O3'	1:1:2854:U:P	2.68	0.52
17:O:194:LEU:C	17:O:196:ALA:H	2.13	0.52
22:T:57:TYR:CG	22:T:89:LEU:HD11	2.45	0.52
13:J:96:PHE:CD2	13:J:160:VAL:HG12	2.45	0.52
1:1:2419:A:O3'	1:1:2420:C:P	2.68	0.52
1:1:932:U:H4'	1:1:933:A:P	2.49	0.52
1:1:1495:U:H5	1:1:1835:A:N1	2.07	0.52
1:1:1804:A:O3'	1:1:1805:C:P	2.67	0.52
1:1:1577:G:C6	1:1:1578:C:C4	2.98	0.52
7:D:119:TYR:CE1	7:D:135:VAL:HG23	2.45	0.52
17:O:79:ILE:O	17:O:80:PHE:C	2.39	0.52
1:1:3153:U:O2	1:1:3153:U:O4'	2.26	0.52
4:A:95:SER:C	4:A:96:LEU:N	2.63	0.52
1:1:2173:U:HO2'	1:1:2181:C:HO3'	1.57	0.52
16:N:183:THR:O	16:N:183:THR:HG23	2.10	0.52
19:Q:43:PRO:O	19:Q:44:PHE:N	2.42	0.52
1:1:946:U:C3'	1:1:947:G:P	2.98	0.52
5:B:282:ILE:C	5:B:283:TYR:N	2.62	0.52
12:I:54:SER:HG	12:I:55:ASN:N	2.07	0.52
20:R:105:LEU:HD11	20:R:109:TYR:CE1	2.44	0.52
1:1:2131:A:HO2'	1:1:2321:A:N6	2.08	0.52
18:P:91:VAL:C	18:P:92:GLN:CA	2.78	0.52
1:1:2184:U:O3'	1:1:2185:G:P	2.68	0.52
1:1:1793:C:H3'	1:1:1794:G:P	2.49	0.52
13:J:21:ILE:HG21	13:J:33:ALA:CB	2.39	0.52
4:A:216:HIS:O	4:A:218:HIS:N	2.43	0.52
13:J:18:VAL:HG22	13:J:70:THR:HG22	1.91	0.52
19:Q:106:PHE:C	19:Q:107:THR:N	2.63	0.52
12:I:99:ILE:HG23	12:I:99:ILE:O	2.09	0.52
17:O:8:VAL:HA	17:O:34:VAL:HG13	1.91	0.52
17:O:82:LYS:C	17:O:84:LEU:H	2.13	0.52
5:B:14:LEU:HD22	5:B:17:LEU:HD21	1.90	0.52
11:H:20:ILE:HG23	11:H:25:VAL:HA	1.92	0.52
6:C:274:TYR:CA	6:C:275:THR:N	2.73	0.52
24:V:10:LYS:C	24:V:11:PHE:N	2.63	0.52
1:1:3034:C:N3	11:H:121:LYS:N	2.57	0.52
19:Q:184:PHE:C	19:Q:185:LYS:N	2.62	0.52
6:C:347:THR:O	6:C:349:THR:N	2.42	0.52
17:O:78:ARG:HA	17:O:78:ARG:NE	2.24	0.52
1:1:2185:G:C5	1:1:2186:U:C5	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:699:A:H2'	1:1:700:C:O4'	2.09	0.52
1:1:2609:A:O3'	1:1:2610:G:P	2.68	0.52
5:B:291:GLU:O	5:B:292:ALA:HB3	2.10	0.52
1:1:101:G:H3'	1:1:102:C:P	2.50	0.52
10:G:192:GLN:C	10:G:193:LYS:N	2.63	0.52
4:A:198:LYS:O	4:A:200:ARG:N	2.43	0.52
9:F:43:ILE:N	9:F:44:ILE:N	2.58	0.52
1:1:3151:U:C3'	1:1:3152:U:P	2.98	0.52
1:1:2512:C:C4	1:1:2513:U:C4	2.98	0.52
6:C:49:ALA:O	6:C:50:TYR:N	2.43	0.52
1:1:1240:A:H3'	1:1:1241:U:C5'	2.40	0.52
1:1:1056:U:O2'	1:1:1057:A:O5'	2.28	0.52
6:C:144:LYS:O	6:C:145:ILE:N	2.43	0.52
14:L:95:ILE:HD11	14:L:119:TYR:CE2	2.45	0.52
1:1:2835:U:H3'	1:1:2836:C:P	2.50	0.52
1:1:1460:A:H2'	1:1:1461:A:O4'	2.11	0.52
7:D:177:GLU:C	7:D:178:ASN:N	2.64	0.52
1:1:3367:C:H3'	1:1:3368:U:P	2.49	0.52
1:1:403:C:H3'	1:1:404:G:P	2.50	0.52
1:1:284:A:N1	1:1:2784:G:O2'	2.44	0.51
17:O:110:PRO:HB2	17:O:111:PRO:CD	2.23	0.51
17:O:76:PRO:HD3	17:O:142:SER:OG	2.10	0.51
6:C:89:ALA:O	6:C:90:PHE:N	2.43	0.51
1:1:607:A:H4'	1:1:608:A:OP2	2.09	0.51
16:N:182:ASN:N	16:N:183:THR:HG22	2.25	0.51
16:N:92:LEU:C	16:N:93:LYS:HA	2.31	0.51
1:1:1117:G:H2'	1:1:1118:C:C6	2.45	0.51
1:1:3051:U:H3'	1:1:3052:G:P	2.50	0.51
6:C:205:PRO:O	6:C:226:GLU:N	2.44	0.51
1:1:2588:U:H3'	1:1:2589:G:P	2.50	0.51
1:1:36:C:H3'	1:1:37:U:O5'	2.10	0.51
11:H:174:LYS:C	11:H:175:PHE:N	2.64	0.51
3:4:36:G:C3'	3:4:37:A:P	2.98	0.51
1:1:2880:U:HO2'	5:B:250:ALA:N	2.08	0.51
9:F:91:GLY:C	9:F:92:ILE:HA	2.30	0.51
1:1:2511:C:O2	1:1:2511:C:H2'	2.10	0.51
27:Y:77:LYS:O	27:Y:78:PHE:N	2.43	0.51
1:1:1526:U:H5''	1:1:1594:A:C6	2.44	0.51
5:B:215:ILE:HG13	5:B:282:ILE:HD11	1.93	0.51
18:P:126:ARG:HA	18:P:140:GLU:HG2	1.91	0.51
1:1:516:A:O3'	9:F:60:ARG:NH2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:244:GLY:C	4:A:245:LEU:N	2.64	0.51
9:F:156:ILE:O	9:F:157:ASN:HB2	2.10	0.51
1:1:2785:A:H3'	1:1:2786:G:P	2.49	0.51
5:B:77:THR:HA	5:B:78:VAL:N	2.26	0.51
1:1:2372:A:O3'	1:1:2373:A:P	2.68	0.51
19:Q:23:ASN:C	19:Q:24:VAL:N	2.64	0.51
1:1:1149:G:H3'	1:1:1150:A:H5''	1.92	0.51
4:A:132:ASN:HB3	4:A:133:TYR:N	2.26	0.51
1:1:1481:A:O2'	1:1:1858:A:H1'	2.10	0.51
1:1:110:G:H3'	1:1:111:C:P	2.50	0.51
26:X:135:ILE:C	26:X:136:ALA:N	2.63	0.51
28:Z:54:THR:O	28:Z:55:LYS:C	2.48	0.51
10:G:155:ASN:N	10:G:155:ASN:OD1	2.43	0.51
1:1:3314:A:O3'	1:1:3315:G:P	2.68	0.51
24:V:85:TRP:C	24:V:86:ARG:HA	2.30	0.51
1:1:2947:G:C4	5:B:250:ALA:HB1	2.44	0.51
7:D:55:PHE:HA	7:D:56:THR:N	2.26	0.51
1:1:664:U:C3'	1:1:665:A:P	2.99	0.51
1:1:36:C:O3'	1:1:37:U:P	2.68	0.51
1:1:2295:A:H5'	24:V:61:THR:HG21	1.93	0.51
8:E:163:PHE:C	8:E:164:SER:N	2.64	0.51
6:C:63:GLU:C	6:C:64:SER:N	2.64	0.51
19:Q:122:ILE:HG23	19:Q:126:GLN:HB2	1.91	0.51
4:A:57:PRO:CG	4:A:170:ALA:HB3	2.41	0.51
4:A:8:GLN:C	4:A:9:ARG:HA	2.31	0.51
1:1:83:U:H2'	1:1:84:U:O4'	2.10	0.51
15:M:127:LYS:O	15:M:130:THR:N	2.44	0.51
1:1:1584:U:C3'	1:1:1585:C:P	2.98	0.51
1:1:2888:U:C6	1:1:2911:A:N6	2.78	0.51
1:1:1672:U:H1'	1:1:1776:G:N2	2.25	0.51
17:O:76:PRO:HD3	17:O:142:SER:CB	2.41	0.51
17:O:25:LYS:O	17:O:27:LEU:HB2	2.10	0.51
17:O:62:THR:O	17:O:63:ALA:HB3	2.10	0.51
11:H:149:ASN:C	11:H:150:SER:HA	2.31	0.51
4:A:184:ARG:O	4:A:185:ALA:N	2.43	0.51
5:B:89:VAL:CA	5:B:90:VAL:N	2.74	0.51
1:1:2757:U:C3'	1:1:2758:A:P	2.99	0.51
1:1:2181:C:C3'	1:1:2182:A:P	2.97	0.51
14:L:124:ILE:HD13	14:L:124:ILE:N	2.25	0.51
1:1:1614:C:C3'	1:1:1615:C:P	2.99	0.51
21:S:132:THR:O	21:S:133:ALA:HB3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Z:101:PHE:O	28:Z:102:GLU:CB	2.58	0.51
1:1:2676:A:O3'	1:1:2677:G:P	2.68	0.51
26:X:45:LYS:C	26:X:46:TYR:N	2.63	0.51
7:D:129:TYR:HA	7:D:130:GLU:N	2.26	0.51
18:P:29:THR:HG1	18:P:30:ARG:N	2.09	0.51
14:L:22:VAL:C	14:L:23:LYS:N	2.64	0.51
5:B:25:ILE:H	5:B:25:ILE:HD13	1.76	0.51
1:1:2325:G:C3'	1:1:2326:A:P	2.98	0.51
1:1:194:U:H3'	1:1:195:U:P	2.51	0.51
1:1:1351:U:O2'	1:1:1352:A:H5'	2.10	0.51
6:C:30:ILE:HA	6:C:31:ARG:N	2.26	0.51
4:A:51:ASP:C	4:A:52:SER:CA	2.79	0.51
18:P:91:VAL:C	18:P:92:GLN:HA	2.31	0.51
1:1:2965:U:HO3'	1:1:2966:G:P	2.32	0.51
1:1:2947:G:C2	5:B:250:ALA:HB1	2.46	0.51
9:F:121:LYS:N	9:F:122:ALA:N	2.59	0.51
10:G:162:LEU:HD23	16:N:7:LEU:HD21	1.93	0.51
1:1:1708:C:C3'	1:1:1709:C:P	2.98	0.51
1:1:1601:U:C3'	1:1:1602:A:P	2.99	0.51
1:1:826:G:O3'	1:1:827:A:P	2.69	0.51
24:V:120:LYS:O	24:V:123:ALA:N	2.44	0.51
24:V:81:GLN:O	24:V:82:ALA:CB	2.59	0.51
11:H:90:MET:N	11:H:144:ILE:O	2.43	0.51
11:H:24:ILE:HD11	11:H:37:ASN:HD22	1.75	0.51
1:1:2336:U:C3'	1:1:2337:C:P	2.99	0.51
4:A:36:GLU:C	4:A:37:ARG:HA	2.30	0.51
4:A:36:GLU:C	4:A:37:ARG:N	2.64	0.51
24:V:25:CYS:HA	24:V:26:ALA:N	2.26	0.51
1:1:3359:A:C5	1:1:3360:C:C5	2.98	0.51
17:O:19:LEU:O	17:O:22:VAL:CG2	2.58	0.51
18:P:53:ASP:O	18:P:55:GLN:N	2.44	0.51
13:J:102:PHE:CE2	13:J:129:VAL:HG21	2.45	0.51
10:G:166:LEU:CD1	10:G:197:VAL:HG11	2.40	0.51
4:A:143:GLU:O	4:A:145:LYS:HG2	2.10	0.51
1:1:30:G:C3'	1:1:31:C:P	2.99	0.51
5:B:286:GLY:HA3	5:B:321:PHE:CE1	2.45	0.51
1:1:2954:U:H4'	1:1:2955:U:H5'	1.93	0.51
17:O:14:HIS:CE1	17:O:124:LEU:HD11	2.46	0.50
17:O:27:LEU:HD23	17:O:27:LEU:N	2.22	0.50
19:Q:93:ILE:O	19:Q:94:PHE:N	2.44	0.50
23:U:33:TYR:C	23:U:34:ALA:N	2.64	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:70:G:O2'	3:4:87:G:N2	2.44	0.50
16:N:78:GLY:O	16:N:79:ALA:C	2.50	0.50
1:1:1520:G:O2'	1:1:1603:A:N1	2.43	0.50
4:A:20:THR:C	4:A:21:ARG:N	2.65	0.50
5:B:332:ARG:HD3	5:B:332:ARG:N	2.26	0.50
21:S:30:PHE:C	21:S:31:ALA:N	2.64	0.50
21:S:16:THR:HG1	21:S:19:VAL:N	2.08	0.50
28:Z:2:ALA:HB1	28:Z:3:LYS:N	2.27	0.50
1:1:298:U:H2'	1:1:298:U:O2	2.10	0.50
1:1:1349:G:N3	1:1:1349:G:H2'	2.25	0.50
20:R:115:ILE:HD11	20:R:119:LEU:HG	1.94	0.50
17:O:50:ASN:O	17:O:54:TYR:N	2.39	0.50
17:O:174:PHE:O	17:O:177:LYS:N	2.44	0.50
1:1:2985:C:H2'	1:1:2986:U:O4'	2.11	0.50
11:H:29:GLY:N	11:H:32:GLY:O	2.44	0.50
3:4:91:C:O3'	3:4:92:A:P	2.69	0.50
7:D:58:LYS:N	7:D:58:LYS:HD3	2.27	0.50
1:1:2983:C:O2	1:1:2983:C:O4'	2.27	0.50
14:L:140:SER:HG	14:L:143:ALA:N	2.10	0.50
1:1:2164:A:H3'	1:1:2165:G:P	2.51	0.50
1:1:1902:G:O3'	1:1:1903:U:H5'	2.11	0.50
1:1:2494:C:O2	1:1:2494:C:H2'	2.10	0.50
1:1:3196:U:O4'	1:1:3196:U:O2	2.29	0.50
17:O:27:LEU:O	17:O:30:GLY:N	2.43	0.50
4:A:57:PRO:O	4:A:78:ALA:N	2.44	0.50
17:O:178:VAL:O	17:O:178:VAL:HG12	2.12	0.50
6:C:254:ALA:C	6:C:257:LYS:N	2.65	0.50
2:3:11:A:N1	2:3:67:G:O2'	2.42	0.50
1:1:1159:A:O3'	1:1:1160:C:P	2.69	0.50
1:1:1747:G:H3'	1:1:1748:G:P	2.51	0.50
1:1:1553:U:C3'	1:1:1554:U:P	2.99	0.50
18:P:72:GLN:N	18:P:73:GLY:N	2.59	0.50
6:C:156:LEU:HD22	6:C:159:ILE:HD12	1.94	0.50
6:C:161:LYS:O	6:C:163:LYS:N	2.45	0.50
7:D:97:ALA:O	7:D:100:ALA:N	2.45	0.50
1:1:1661:G:C3'	1:1:1662:G:P	2.99	0.50
7:D:244:HIS:HA	7:D:247:ILE:HD12	1.93	0.50
6:C:64:SER:HA	6:C:75:PRO:HA	1.92	0.50
1:1:2195:C:H3'	1:1:2196:C:P	2.52	0.50
1:1:1659:U:H2'	1:1:1660:C:C6	2.46	0.50
1:1:768:C:O3'	1:1:769:G:P	2.70	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:38:ALA:O	17:O:39:GLU:C	2.50	0.50
17:O:62:THR:C	17:O:64:PHE:N	2.59	0.50
1:1:912:G:C2	1:1:914:A:C2	2.99	0.50
5:B:13:HIS:C	5:B:14:LEU:HA	2.32	0.50
16:N:48:ALA:CA	16:N:49:ARG:N	2.75	0.50
20:R:115:ILE:C	20:R:116:ASP:N	2.65	0.50
1:1:2846:U:O2	1:1:2846:U:O4'	2.29	0.50
10:G:88:ALA:C	10:G:89:GLU:N	2.65	0.50
1:1:993:G:H3'	1:1:994:G:OP2	2.11	0.50
19:Q:44:PHE:CD1	19:Q:139:ILE:HD11	2.47	0.50
1:1:1203:A:N3	1:1:2855:U:O2'	2.43	0.50
1:1:2447:G:N3	1:1:2447:G:C2'	2.74	0.50
17:O:110:PRO:O	17:O:113:ASP:N	2.45	0.50
1:1:17:G:C3'	1:1:18:G:P	2.98	0.50
7:D:36:LEU:C	7:D:37:VAL:N	2.65	0.50
1:1:2803:A:H4'	1:1:2804:A:OP1	2.11	0.50
1:1:1428:A:H3'	1:1:1429:G:P	2.51	0.50
14:L:97:VAL:O	14:L:98:ASP:N	2.44	0.50
1:1:2434:U:O4'	1:1:2434:U:O2	2.30	0.50
1:1:504:A:C2	1:1:588:G:C2	2.99	0.50
1:1:1604:G:H4'	1:1:1835:A:H4'	1.94	0.50
14:L:181:GLY:C	14:L:182:ILE:N	2.65	0.50
18:P:56:ARG:C	18:P:57:ALA:N	2.65	0.50
1:1:41:G:N2	1:1:2803:A:N7	2.57	0.50
1:1:1381:A:OP1	6:C:197:ARG:NH1	2.40	0.50
5:B:314:TYR:HB3	5:B:315:GLY:O	2.11	0.50
3:4:140:G:O2'	16:N:109:ARG:O	2.30	0.50
16:N:94:TYR:C	16:N:95:GLN:N	2.65	0.50
8:E:153:PRO:C	8:E:154:LEU:HB2	2.32	0.50
1:1:2899:C:O2'	1:1:2901:G:OP2	2.29	0.50
17:O:121:PRO:C	17:O:123:ALA:N	2.53	0.50
4:A:77:ILE:C	4:A:78:ALA:N	2.65	0.50
1:1:1426:C:O3'	1:1:1427:U:P	2.70	0.50
1:1:2736:A:H2'	1:1:2737:C:O4'	2.11	0.50
4:A:17:THR:C	4:A:18:SER:C	2.71	0.50
1:1:2365:C:HO3'	1:1:2366:C:P	2.33	0.50
10:G:225:LYS:C	10:G:226:TYR:N	2.66	0.50
7:D:25:GLU:C	7:D:26:GLY:N	2.65	0.50
24:V:72:LYS:C	24:V:73:VAL:N	2.66	0.50
1:1:878:G:O3'	1:1:879:U:OP2	2.29	0.50
17:O:7:VAL:O	17:O:34:VAL:HG12	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:37:ARG:HG3	17:O:108:ILE:HG13	1.94	0.49
17:O:189:ASP:C	17:O:190:VAL:HA	2.31	0.49
1:1:353:G:N7	13:J:55:ARG:HD2	108.73	0.49
11:H:23:ARG:C	11:H:24:ILE:N	2.65	0.49
27:Y:60:ARG:C	27:Y:61:GLY:N	2.65	0.49
16:N:54:LYS:O	16:N:56:LYS:N	2.45	0.49
15:M:60:LEU:C	15:M:61:GLY:N	2.65	0.49
1:1:3139:A:OP1	5:B:274:SER:N	2.44	0.49
17:O:36:VAL:HG23	17:O:36:VAL:O	2.12	0.49
1:1:47:C:C3'	1:1:48:A:P	2.98	0.49
6:C:113:VAL:HG12	6:C:114:ASN:N	2.27	0.49
1:1:2510:A:C6	1:1:2511:C:C5	3.00	0.49
1:1:883:A:HO3'	1:1:884:A:P	2.35	0.49
25:W:41:LYS:O	25:W:42:GLN:N	2.44	0.49
9:F:232:ARG:C	9:F:233:GLU:N	2.65	0.49
1:1:1547:G:H3'	1:1:1548:C:OP2	2.12	0.49
12:I:64:ALA:O	12:I:67:ALA:N	2.45	0.49
1:1:34:A:HO3'	1:1:35:A:P	2.35	0.49
1:1:1039:U:H2'	1:1:1040:A:C8	2.46	0.49
1:1:2184:U:H3'	1:1:2185:G:OP2	2.12	0.49
17:O:176:LYS:CG	17:O:176:LYS:O	2.56	0.49
1:1:2947:G:H2'	1:1:2948:C:H5'	1.93	0.49
1:1:2949:U:O3'	1:1:2950:G:O5'	2.29	0.49
1:1:71:A:HO3'	1:1:72:C:P	2.30	0.49
1:1:3214:U:O2	1:1:3214:U:O4'	2.27	0.49
4:A:60:LYS:O	4:A:61:VAL:N	2.44	0.49
5:B:370:PHE:CD1	5:B:370:PHE:N	2.80	0.49
1:1:1262:G:H2'	1:1:1264:G:C8	2.48	0.49
1:1:281:G:C6	1:1:282:G:C6	3.00	0.49
1:1:2709:C:O3'	1:1:2710:C:P	2.71	0.49
1:1:2940:A:N7	5:B:2:SER:N	2.59	0.49
5:B:182:GLN:HA	5:B:183:LEU:N	2.26	0.49
17:O:93:ALA:C	17:O:95:GLY:N	2.65	0.49
1:1:2437:G:C5	1:1:2510:A:N1	2.80	0.49
17:O:65:ASN:OD1	17:O:67:THR:CA	2.59	0.49
28:Z:83:THR:HG21	28:Z:85:TYR:HB2	1.94	0.49
5:B:313:HIS:C	5:B:314:TYR:CA	2.80	0.49
15:M:120:VAL:C	15:M:121:MET:N	2.66	0.49
1:1:655:C:O2'	1:1:656:A:O4'	2.25	0.49
7:D:53:VAL:HG13	7:D:62:CYS:SG	2.53	0.49
1:1:2746:A:C8	7:D:153:THR:HG21	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:25:CYS:SG	24:V:27:ASP:OD1	2.70	0.49
1:1:836:A:O3'	1:1:837:A:P	2.70	0.49
6:C:161:LYS:O	6:C:162:THR:C	2.51	0.49
21:S:6:GLU:OE2	21:S:28:ARG:NE	2.41	0.49
1:1:2136:C:H2'	1:1:2142:A:N6	2.28	0.49
16:N:35:VAL:C	16:N:36:ILE:HA	2.32	0.49
1:1:1019:G:H2'	1:1:1020:G:O4'	2.12	0.49
3:4:33:A:O3'	3:4:34:U:P	2.70	0.49
1:1:2634:U:H3'	1:1:2635:A:P	2.53	0.49
27:Y:100:HIS:O	27:Y:102:SER:N	2.46	0.49
17:O:18:ARG:O	17:O:20:ALA:N	2.44	0.49
17:O:5:PRO:CG	17:O:6:VAL:H	2.26	0.49
10:G:26:LEU:HD21	28:Z:66:THR:HG21	1.95	0.49
1:1:3144:G:H3'	1:1:3145:C:P	2.53	0.49
1:1:1122:U:O3'	1:1:1123:U:P	2.71	0.49
6:C:205:PRO:HB3	6:C:247:PHE:CD2	2.47	0.49
1:1:1072:G:O3'	1:1:1073:U:P	2.70	0.49
13:J:30:LEU:HD13	13:J:30:LEU:O	2.11	0.49
1:1:3257:C:H2'	1:1:3258:U:O4'	2.13	0.49
11:H:134:ILE:N	11:H:134:ILE:HD12	2.27	0.49
5:B:137:TYR:CZ	5:B:144:ILE:HG21	2.48	0.49
17:O:100:GLU:O	17:O:102:LEU:N	2.46	0.49
17:O:11:GLY:CA	17:O:41:LEU:HD11	2.39	0.49
17:O:42:ASN:C	17:O:43:ILE:CG1	2.72	0.49
17:O:8:VAL:HA	17:O:34:VAL:CG1	2.42	0.49
4:A:15:ILE:HD11	4:A:16:PHE:CZ	2.48	0.49
7:D:36:LEU:O	7:D:37:VAL:C	2.51	0.49
11:H:18:VAL:HG12	11:H:27:VAL:HG13	1.95	0.49
5:B:152:LYS:HE3	5:B:192:VAL:HG13	1.95	0.49
1:1:3152:U:C3'	1:1:3153:U:C5'	2.90	0.49
1:1:1745:C:O3'	1:1:1746:U:P	2.71	0.49
14:L:170:LEU:O	14:L:173:ALA:N	2.45	0.49
4:A:218:HIS:C	4:A:219:ILE:CA	2.81	0.49
11:H:21:LYS:O	11:H:24:ILE:N	2.45	0.49
14:L:171:ARG:O	14:L:175:SER:N	2.46	0.49
7:D:78:ALA:HB3	7:D:105:ILE:HG12	1.95	0.49
1:1:1051:U:O3'	1:1:1052:U:P	2.70	0.49
1:1:2550:U:C5	10:G:37:GLY:HA3	2.48	0.49
1:1:3360:C:O5'	1:1:3360:C:H6	1.95	0.49
5:B:138:ALA:HB3	5:B:139:GLN:N	2.27	0.49
3:4:27:U:O3'	3:4:28:C:P	2.71	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:438:A:H3'	1:1:439:C:H5''	1.94	0.49
16:N:53:TYR:CG	16:N:54:LYS:N	2.80	0.49
1:1:34:A:C6	1:1:35:A:C6	3.00	0.49
1:1:3347:A:C2	1:1:3359:A:C6	3.01	0.49
1:1:2846:U:H3'	1:1:2847:A:P	2.53	0.49
1:1:2938:G:C2	1:1:2939:G:C8	3.00	0.49
8:E:169:ASP:HB3	8:E:174:LEU:HD11	1.94	0.49
18:P:102:ALA:C	18:P:103:GLU:N	2.66	0.49
1:1:321:C:O3'	1:1:322:U:P	2.70	0.49
1:1:149:U:OP2	16:N:49:ARG:NH2	2.38	0.49
1:1:2970:C:O3'	1:1:2971:A:P	2.71	0.49
1:1:883:A:H3'	1:1:884:A:P	2.52	0.49
1:1:2164:A:H3'	1:1:2165:G:OP2	2.13	0.49
6:C:315:LYS:O	6:C:316:ASN:N	2.45	0.49
1:1:824:C:H2'	1:1:825:U:C6	2.48	0.49
1:1:561:C:H3'	1:1:562:C:OP2	2.12	0.49
28:Z:11:ALA:HB3	28:Z:23:VAL:HG23	1.95	0.49
14:L:113:VAL:C	14:L:114:GLN:N	2.66	0.49
17:O:24:ALA:C	17:O:25:LYS:O	2.51	0.49
1:1:2949:U:HO3'	1:1:2950:G:C5'	2.26	0.49
26:X:28:THR:OG1	26:X:29:SER:N	2.37	0.49
10:G:135:GLY:O	10:G:139:VAL:N	2.45	0.49
1:1:187:A:N1	1:1:211:A:O2'	2.38	0.49
1:1:2336:U:H3'	1:1:2337:C:P	2.53	0.49
1:1:2824:G:C3'	1:1:2825:C:P	3.01	0.49
1:1:2502:G:O2'	1:1:2503:U:N3	2.44	0.49
1:1:1820:U:O2	1:1:1820:U:O4'	2.29	0.49
1:1:2328:U:H2'	1:1:2329:C:O4'	2.13	0.49
17:O:159:LYS:O	17:O:162:VAL:HG23	2.13	0.48
1:1:1868:G:C3'	1:1:1869:C:P	3.01	0.48
4:A:45:VAL:HG11	4:A:82:VAL:CG1	2.42	0.48
5:B:18:PRO:O	5:B:19:ARG:C	2.50	0.48
1:1:2947:G:C2'	1:1:2948:C:H5'	2.43	0.48
4:A:101:VAL:HA	4:A:102:LEU:HD12	1.95	0.48
1:1:3152:U:H3'	1:1:3153:U:H5'	1.92	0.48
1:1:1237:G:N3	1:1:1237:G:H2'	2.28	0.48
1:1:883:A:C3'	1:1:884:A:P	3.01	0.48
1:1:1724:U:OP2	20:R:128:LYS:NZ	2.44	0.48
27:Y:19:TYR:O	27:Y:22:ALA:N	2.46	0.48
16:N:53:TYR:CA	16:N:54:LYS:N	2.76	0.48
7:D:252:ALA:O	7:D:253:PHE:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:165:SER:O	14:L:166:ALA:HB2	2.12	0.48
1:1:3341:U:O2'	1:1:3342:A:H5'	2.13	0.48
17:O:130:LYS:HG3	17:O:131:PRO:HD2	1.94	0.48
1:1:3001:C:H2'	1:1:3002:C:O4'	2.11	0.48
17:O:14:HIS:CD2	17:O:123:ALA:O	2.66	0.48
17:O:160:ARG:C	17:O:162:VAL:N	2.64	0.48
17:O:168:TYR:C	17:O:170:LYS:N	2.40	0.48
4:A:47:GLN:C	4:A:48:ILE:CA	2.80	0.48
10:G:50:VAL:CG2	10:G:52:TRP:CE2	2.96	0.48
27:Y:58:VAL:HA	27:Y:104:LEU:HD23	1.95	0.48
14:L:9:ILE:HG23	14:L:10:LEU:N	2.29	0.48
1:1:299:G:H2'	1:1:300:G:O4'	2.13	0.48
1:1:2649:A:O2'	1:1:2758:A:N1	2.40	0.48
28:Z:82:PRO:HA	28:Z:83:THR:N	2.27	0.48
27:Y:71:SER:N	27:Y:72:SER:N	2.61	0.48
7:D:78:ALA:O	7:D:79:TYR:N	2.45	0.48
1:1:1383:G:O3'	6:C:138:ARG:NH2	2.46	0.48
18:P:14:SER:OG	18:P:151:THR:HG23	2.13	0.48
11:H:144:ILE:HD13	11:H:161:LEU:HD11	1.95	0.48
1:1:1444:G:H2'	1:1:1445:U:O4'	2.14	0.48
1:1:376:G:HO3'	1:1:377:A:P	2.32	0.48
4:A:226:SER:OG	4:A:227:ARG:N	2.39	0.48
16:N:63:ARG:C	16:N:64:VAL:N	2.66	0.48
12:I:76:MET:CE	12:I:148:VAL:HG22	2.42	0.48
22:T:39:ILE:C	22:T:40:VAL:N	2.66	0.48
1:1:1724:U:H1'	1:1:1725:C:C6	2.48	0.48
1:1:3286:G:C6	1:1:3287:U:C5	3.01	0.48
1:1:1881:A:O3'	1:1:1882:G:P	2.71	0.48
1:1:844:G:C2'	1:1:845:G:O5'	2.62	0.48
11:H:12:VAL:HG22	11:H:79:ILE:CD1	2.41	0.48
7:D:191:ASP:O	7:D:194:LEU:N	2.46	0.48
5:B:347:SER:OG	5:B:349:LYS:N	2.47	0.48
6:C:35:VAL:HA	6:C:121:ALA:HB1	1.95	0.48
6:C:34:ILE:O	6:C:36:HIS:N	2.46	0.48
1:1:2178:A:H3'	1:1:2179:C:P	2.52	0.48
22:T:109:VAL:C	22:T:110:LYS:N	2.67	0.48
5:B:14:LEU:HD13	5:B:262:TRP:CH2	2.49	0.48
14:L:46:ILE:O	14:L:47:ALA:HB3	2.14	0.48
14:L:4:SER:C	14:L:5:LYS:N	2.67	0.48
1:1:2526:C:C2	10:G:48:ARG:NH2	2.82	0.48
5:B:207:SER:C	5:B:208:VAL:N	2.67	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:40:HIS:CD2	7:D:42:ALA:HB3	2.49	0.48
1:1:2625:C:H4'	1:1:2626:A:O5'	2.13	0.48
17:O:147:TRP:CH2	17:O:149:TYR:O	2.67	0.48
1:1:2117:A:H2'	1:1:2118:C:O4'	2.14	0.48
1:1:1492:G:N7	14:L:2:ALA:HB3	67.86	0.48
10:G:163:VAL:O	10:G:166:LEU:N	2.47	0.48
1:1:2786:G:H3'	1:1:2787:G:P	2.54	0.48
25:W:14:TYR:HB3	25:W:15:PRO:HD2	1.96	0.48
19:Q:87:VAL:O	19:Q:107:THR:N	2.46	0.48
1:1:634:C:O3'	1:1:635:G:P	2.71	0.48
1:1:2793:G:O3'	1:1:2794:G:P	2.72	0.48
1:1:1881:A:H3'	1:1:1882:G:P	2.53	0.48
1:1:2245:C:H3'	1:1:2246:G:OP2	2.13	0.48
18:P:22:LEU:HD12	18:P:146:ILE:HG13	1.94	0.48
1:1:353:G:O2'	1:1:364:G:O6	2.25	0.48
1:1:913:A:HO3'	1:1:914:A:P	2.33	0.48
1:1:2949:U:C3'	1:1:2950:G:O5'	2.62	0.48
5:B:195:ALA:O	5:B:196:ARG:C	2.51	0.48
1:1:619:A:O3'	1:1:620:U:P	2.72	0.48
1:1:2935:U:O3'	1:1:2936:A:P	2.71	0.48
1:1:1508:C:OP1	18:P:127:ARG:NH2	2.47	0.48
17:O:120:VAL:O	17:O:122:GLN:N	2.46	0.48
17:O:190:VAL:O	17:O:192:LYS:N	2.46	0.48
22:T:39:ILE:HD12	22:T:102:ARG:HD3	1.96	0.48
1:1:436:A:H2'	1:1:437:G:O4'	2.13	0.48
26:X:115:ARG:N	26:X:119:THR:O	2.46	0.48
15:M:83:LYS:C	15:M:84:LYS:N	2.67	0.48
15:M:72:LEU:HD23	15:M:73:PRO:HD2	1.95	0.48
1:1:119:U:H3'	1:1:120:G:P	2.53	0.48
14:L:106:GLN:O	14:L:107:GLU:N	2.46	0.48
9:F:113:SER:C	9:F:114:GLY:N	2.67	0.48
1:1:1558:A:O2'	26:X:34:LEU:HG	2.13	0.48
5:B:323:MET:O	5:B:324:VAL:N	2.47	0.48
1:1:591:G:N2	1:1:612:U:OP1	2.39	0.48
1:1:2573:G:H2'	1:1:2574:G:O4'	2.13	0.48
24:V:123:ALA:HB1	24:V:130:ALA:HB2	1.95	0.48
1:1:2634:U:O3'	1:1:2635:A:P	2.72	0.48
12:I:19:LYS:C	12:I:20:SER:N	2.67	0.48
6:C:142:VAL:HG13	6:C:142:VAL:O	2.13	0.48
21:S:54:ALA:HB3	21:S:55:SER:N	2.29	0.48
10:G:214:LEU:N	10:G:215:VAL:N	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:299:G:O2'	1:1:300:G:O4'	2.32	0.48
12:I:118:ALA:HB3	12:I:119:TRP:N	2.29	0.48
1:1:1204:A:O3'	1:1:1205:A:P	2.71	0.48
1:1:3364:C:H3'	1:1:3365:U:P	2.54	0.48
1:1:197:G:O3'	1:1:198:A:P	2.72	0.48
19:Q:2:GLY:O	19:Q:3:ILE:HD13	2.14	0.48
12:I:65:LEU:HD11	12:I:127:ALA:HB2	1.95	0.48
2:3:88:G:H3'	2:3:89:G:P	2.54	0.48
1:1:3354:U:O4'	1:1:3354:U:O2	2.31	0.48
1:1:1595:U:O2'	1:1:1606:U:O2	2.25	0.48
17:O:75:ALA:O	17:O:76:PRO:O	2.32	0.47
1:1:356:C:C3'	1:1:357:A:P	3.02	0.47
1:1:1492:G:H1'	1:1:1843:C:H5''	1.95	0.47
6:C:237:GLN:C	6:C:238:LEU:N	2.67	0.47
16:N:48:ALA:N	16:N:49:ARG:N	2.62	0.47
11:H:154:VAL:HG12	11:H:155:SER:HA	1.96	0.47
1:1:3133:C:H2'	1:1:3134:A:O4'	2.14	0.47
10:G:187:GLY:C	10:G:188:THR:N	2.67	0.47
6:C:310:THR:O	6:C:311:HIS:C	2.52	0.47
1:1:404:G:O3'	1:1:405:U:P	2.72	0.47
12:I:26:VAL:HG23	12:I:27:PRO:O	2.14	0.47
1:1:3315:G:C5	5:B:123:TYR:CE1	3.02	0.47
1:1:2245:C:H3'	1:1:2246:G:P	2.54	0.47
14:L:130:GLY:O	14:L:132:ALA:N	2.47	0.47
10:G:211:LEU:O	10:G:211:LEU:HD12	2.14	0.47
1:1:1326:A:H2'	1:1:1327:C:O4'	2.14	0.47
17:O:76:PRO:O	17:O:79:ILE:N	2.47	0.47
1:1:872:U:H3'	1:1:873:C:P	2.54	0.47
3:4:78:G:H2'	3:4:79:A:C8	2.49	0.47
1:1:2175:U:O3'	1:1:2176:U:OP1	2.32	0.47
1:1:2206:G:H5''	1:1:2207:A:OP2	2.15	0.47
1:1:3301:U:O3'	1:1:3302:U:P	2.72	0.47
5:B:85:VAL:HG13	5:B:163:HIS:NE2	2.29	0.47
4:A:225:ILE:HG22	4:A:226:SER:C	2.34	0.47
1:1:341:G:C3'	1:1:342:A:P	3.03	0.47
1:1:1437:C:O3'	1:1:1438:U:O5'	2.31	0.47
6:C:162:THR:O	6:C:165:ALA:N	2.47	0.47
1:1:2272:G:O3'	1:1:2273:G:OP2	2.33	0.47
1:1:2315:G:C3'	1:1:2316:G:P	3.02	0.47
1:1:2278:C:O2'	1:1:2279:A:H5''	2.13	0.47
1:1:2140:U:H3'	1:1:2141:U:P	2.54	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:3:ILE:O	19:Q:4:ASP:N	2.47	0.47
5:B:4:ARG:C	5:B:5:LYS:N	2.68	0.47
1:1:724:U:H3'	1:1:725:G:P	2.55	0.47
1:1:2108:C:H1'	1:1:3344:A:H8	1.79	0.47
9:F:203:TRP:CD1	9:F:204:PRO:HD2	2.49	0.47
6:C:300:ARG:HB2	6:C:301:PRO:CD	2.45	0.47
1:1:1765:U:H4'	1:1:1765:U:OP1	2.14	0.47
2:3:44:C:OP2	13:J:137:ARG:NH2	2.47	0.47
2:3:56:A:HO3'	13:J:149:GLY:H	1.63	0.47
1:1:403:C:C3'	1:1:404:G:P	3.02	0.47
7:D:25:GLU:O	7:D:26:GLY:N	2.47	0.47
1:1:1556:C:O4'	1:1:1556:C:O2	2.30	0.47
1:1:637:C:C2	1:1:638:C:C5	3.02	0.47
12:I:68:ALA:O	12:I:71:CYS:O	2.32	0.47
1:1:2421:U:H2'	1:1:2422:C:O4'	2.15	0.47
21:S:36:ILE:HD12	21:S:36:ILE:N	2.29	0.47
17:O:22:VAL:HG23	17:O:23:VAL:HG23	1.97	0.47
17:O:42:ASN:O	17:O:43:ILE:CG1	2.61	0.47
22:T:76:ILE:O	22:T:77:ASN:HA	2.14	0.47
10:G:72:PRO:HA	10:G:233:TRP:CE3	2.49	0.47
24:V:51:ALA:CA	24:V:52:ALA:N	2.78	0.47
17:O:141:LEU:O	17:O:144:SER:OG	2.22	0.47
19:Q:81:VAL:HA	19:Q:82:VAL:N	2.29	0.47
7:D:244:HIS:C	7:D:245:GLU:N	2.67	0.47
12:I:64:ALA:C	12:I:65:LEU:N	2.68	0.47
1:1:501:A:C2	1:1:613:G:C2	3.02	0.47
1:1:2836:C:O2	1:1:2836:C:O4'	2.28	0.47
28:Z:6:LYS:O	28:Z:7:ALA:C	2.52	0.47
16:N:138:GLN:HA	16:N:143:ARG:HD2	1.96	0.47
5:B:135:ALA:HB3	5:B:136:LYS:N	2.30	0.47
1:1:2882:U:H2'	1:1:2883:U:O4'	2.14	0.47
1:1:776:U:H5	1:1:2719:U:O2	1.97	0.47
16:N:170:LYS:C	16:N:171:SER:N	2.68	0.47
7:D:90:HIS:HB2	7:D:226:TYR:CZ	2.49	0.47
6:C:166:VAL:C	6:C:167:ALA:N	2.68	0.47
17:O:119:VAL:HG23	17:O:121:PRO:HD3	1.96	0.47
17:O:24:ALA:HA	17:O:27:LEU:HG	1.95	0.47
22:T:4:SER:O	22:T:5:HIS:N	2.47	0.47
18:P:94:LEU:HD23	18:P:146:ILE:HG22	1.96	0.47
18:P:94:LEU:O	18:P:98:ALA:N	2.46	0.47
1:1:358:G:O2'	1:1:360:G:N7	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2162:U:OP1	4:A:234:LYS:NZ	2.47	0.47
20:R:97:ARG:O	20:R:98:ARG:C	2.53	0.47
15:M:21:VAL:CG1	15:M:65:LEU:HD23	2.45	0.47
27:Y:59:VAL:N	27:Y:103:LYS:O	2.47	0.47
10:G:60:ARG:O	10:G:63:LYS:N	2.45	0.47
1:1:314:U:OP1	14:L:104:ARG:NH1	2.47	0.47
10:G:145:ASN:N	10:G:145:ASN:HD22	2.13	0.47
1:1:2137:U:OP2	1:1:2142:A:N6	2.47	0.47
28:Z:54:THR:HG1	28:Z:56:LYS:N	2.12	0.47
1:1:1214:U:OP2	21:S:137:ARG:NH2	2.47	0.47
17:O:15:LEU:O	17:O:17:GLY:N	2.48	0.47
1:1:44:U:C3'	1:1:45:A:P	3.03	0.47
26:X:95:ILE:O	26:X:96:LYS:C	2.53	0.47
4:A:197:PRO:C	4:A:198:LYS:N	2.68	0.47
20:R:92:GLN:O	20:R:96:ILE:HB	2.15	0.47
14:L:47:ALA:HB1	14:L:48:PRO:HD3	1.93	0.47
14:L:8:PRO:C	14:L:10:LEU:N	2.68	0.47
17:O:197:LEU:N	17:O:198:GLY:N	2.62	0.47
1:1:2437:G:C5	1:1:2510:A:C2	3.01	0.47
20:R:11:ALA:O	20:R:15:VAL:HG12	2.14	0.47
24:V:51:ALA:C	24:V:52:ALA:N	2.68	0.47
5:B:223:GLY:CA	5:B:224:HIS:N	2.78	0.47
13:J:156:LYS:O	13:J:160:VAL:N	2.48	0.47
13:J:12:LEU:HD12	13:J:131:MET:HG3	1.96	0.47
6:C:314:LYS:O	6:C:314:LYS:HG2	2.14	0.47
2:3:94:C:C3'	2:3:95:A:P	3.03	0.47
12:I:65:LEU:C	12:I:66:GLU:N	2.68	0.47
5:B:206:ASP:C	5:B:207:SER:N	2.68	0.47
1:1:2295:A:OP1	24:V:63:LYS:NZ	2.43	0.47
2:3:17:A:OP1	7:D:2:ALA:N	2.48	0.47
12:I:125:LEU:C	12:I:126:ALA:N	2.67	0.47
1:1:1596:C:H2'	1:1:1597:C:C6	2.50	0.47
1:1:690:A:OP2	1:1:690:A:H3'	2.14	0.47
1:1:236:G:H2'	1:1:237:G:O4'	2.15	0.47
17:O:38:ALA:HA	17:O:41:LEU:HD13	1.97	0.47
21:S:65:ASN:C	21:S:66:GLU:N	2.68	0.47
6:C:195:ARG:O	6:C:196:ASN:CB	2.62	0.47
20:R:51:VAL:C	20:R:52:LYS:N	2.68	0.47
18:P:120:ASN:C	18:P:121:GLN:CA	2.83	0.47
27:Y:17:LYS:O	27:Y:20:PHE:N	2.48	0.47
19:Q:83:VAL:HG12	19:Q:85:GLY:N	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:38:LEU:HD11	26:X:40:LEU:HD13	1.97	0.47
1:1:3261:C:O2	1:1:3261:C:C2'	2.63	0.47
1:1:2792:A:O3'	1:1:2793:G:P	2.72	0.47
21:S:132:THR:O	21:S:134:ASP:N	2.48	0.47
1:1:2653:C:O3'	1:1:2654:C:P	2.73	0.47
1:1:3073:A:H3'	1:1:3074:G:P	2.55	0.47
22:T:158:THR:O	22:T:159:PHE:C	2.53	0.47
1:1:2253:G:H2'	1:1:2254:U:O4'	2.14	0.47
16:N:84:PRO:O	16:N:86:ASN:N	2.48	0.47
17:O:8:VAL:O	17:O:117:ARG:HA	2.15	0.47
14:L:57:VAL:C	14:L:58:VAL:CA	2.82	0.47
6:C:111:VAL:O	6:C:112:LYS:C	2.53	0.47
15:M:21:VAL:HG12	15:M:65:LEU:HD23	1.96	0.47
5:B:49:TYR:OH	5:B:177:HIS:ND1	2.45	0.47
14:L:78:ALA:O	14:L:79:GLU:HA	2.15	0.47
1:1:1156:C:OP2	9:F:94:LYS:NZ	2.47	0.47
28:Z:89:VAL:HG23	28:Z:92:PHE:CE2	2.50	0.47
5:B:8:ALA:HB1	5:B:9:PRO:HD2	1.97	0.47
24:V:36:ILE:C	24:V:37:ILE:N	2.68	0.47
28:Z:45:GLY:C	28:Z:46:ILE:N	2.69	0.47
1:1:1604:G:OP1	1:1:1605:A:OP2	2.33	0.47
28:Z:55:LYS:HG2	28:Z:56:LYS:N	2.30	0.47
1:1:835:G:O2'	1:1:836:A:OP2	2.28	0.47
21:S:36:ILE:O	21:S:38:LYS:N	2.48	0.47
10:G:65:LEU:HD13	10:G:65:LEU:O	2.14	0.47
21:S:13:ARG:HG2	21:S:51:VAL:HG12	1.97	0.47
1:1:132:C:H3'	1:1:133:U:P	2.55	0.47
26:X:99:VAL:C	26:X:100:LYS:N	2.68	0.47
17:O:123:ALA:O	17:O:124:LEU:HD13	2.15	0.47
17:O:182:ASN:CG	17:O:182:ASN:O	2.52	0.47
5:B:178:LEU:C	5:B:179:ALA:N	2.68	0.47
13:J:41:SER:O	13:J:42:GLY:N	2.48	0.47
1:1:2176:U:O3'	1:1:2177:G:P	2.73	0.47
8:E:108:LYS:O	8:E:109:GLU:C	2.53	0.47
12:I:132:GLY:CA	12:I:133:GLN:N	2.77	0.47
18:P:123:PRO:CA	18:P:124:LYS:N	2.78	0.47
4:A:151:PRO:O	4:A:152:SER:C	2.52	0.47
7:D:246:ALA:O	7:D:250:ASP:N	2.48	0.47
1:1:1640:G:H3'	1:1:1641:U:P	2.54	0.47
1:1:1525:G:H2'	1:1:1525:G:N3	2.30	0.47
1:1:2151:C:H2'	1:1:2152:A:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:115:VAL:O	19:Q:116:LYS:C	2.53	0.47
17:O:138:LEU:HA	17:O:138:LEU:HD12	1.58	0.46
7:D:34:LYS:C	7:D:35:ARG:N	2.69	0.46
1:1:85:A:O3'	1:1:86:G:O5'	2.24	0.46
1:1:29:C:HO3'	1:1:30:G:P	2.38	0.46
1:1:3304:U:O2'	5:B:334:ARG:NH2	2.45	0.46
5:B:56:ILE:HD13	5:B:76:VAL:HG22	1.98	0.46
1:1:2953:U:H2'	1:1:2954:U:H2'	1.97	0.46
1:1:2483:G:N2	1:1:2485:A:H3'	2.30	0.46
1:1:3277:U:O4'	1:1:3277:U:O2	2.31	0.46
6:C:204:GLY:O	6:C:246:ARG:NH1	2.48	0.46
17:O:22:VAL:HG11	17:O:122:GLN:OE1	2.13	0.46
17:O:18:ARG:O	17:O:21:SER:N	2.47	0.46
7:D:34:LYS:C	7:D:35:ARG:HA	2.35	0.46
27:Y:58:VAL:C	27:Y:59:VAL:CA	2.82	0.46
1:1:3214:U:OP2	15:M:128:ARG:NH2	2.48	0.46
19:Q:64:VAL:HA	19:Q:67:ILE:HD12	1.97	0.46
4:A:19:HIS:O	4:A:20:THR:N	2.48	0.46
1:1:2445:A:N6	1:1:2447:G:O6	2.47	0.46
1:1:2257:C:H2'	1:1:2258:U:O4'	2.15	0.46
21:S:62:ASN:C	21:S:63:GLN:N	2.68	0.46
2:3:121:U:O4'	2:3:121:U:O2	2.31	0.46
5:B:166:ILE:O	5:B:169:THR:HG22	2.15	0.46
1:1:1394:A:N3	3:4:19:C:O2'	2.47	0.46
24:V:79:VAL:HG23	24:V:80:ARG:HG3	1.97	0.46
26:X:49:LYS:O	26:X:51:VAL:N	2.48	0.46
1:1:3379:C:O3'	1:1:3380:U:P	2.73	0.46
17:O:136:THR:HG22	17:O:137:THR:N	2.30	0.46
17:O:167:TYR:O	17:O:167:TYR:CG	2.68	0.46
4:A:51:ASP:HB2	4:A:58:LEU:HG	1.96	0.46
1:1:608:A:C3'	1:1:609:G:P	3.03	0.46
1:1:145:G:H3'	1:1:146:U:P	2.55	0.46
15:M:45:LEU:HD22	21:S:72:VAL:HG23	1.97	0.46
19:Q:36:LEU:O	19:Q:37:ALA:N	2.49	0.46
9:F:154:GLY:N	9:F:161:VAL:O	2.48	0.46
5:B:305:ILE:CD1	5:B:317:ILE:HG21	2.41	0.46
1:1:3009:G:C3'	1:1:3010:U:P	3.03	0.46
1:1:3009:G:H3'	1:1:3010:U:P	2.55	0.46
1:1:3085:G:O3'	1:1:3086:A:O5'	2.29	0.46
1:1:1649:U:C3'	1:1:1650:G:P	3.03	0.46
5:B:296:THR:O	5:B:298:PHE:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:18:ALA:HB1	19:Q:19:PRO:CD	2.45	0.46
1:1:2609:A:C3'	1:1:2610:G:P	3.02	0.46
1:1:2550:U:C6	10:G:37:GLY:HA3	2.50	0.46
7:D:236:LEU:C	7:D:237:GLU:N	2.69	0.46
5:B:206:ASP:OD1	5:B:206:ASP:N	2.43	0.46
14:L:165:SER:O	14:L:166:ALA:CB	2.62	0.46
8:E:5:LYS:O	8:E:6:ALA:HB2	2.16	0.46
1:1:534:U:O3'	1:1:535:G:P	2.74	0.46
28:Z:68:ILE:C	28:Z:69:LYS:N	2.69	0.46
1:1:411:U:C2	3:4:13:A:C2	3.03	0.46
12:I:12:GLN:C	12:I:13:LYS:HA	2.36	0.46
20:R:76:SER:C	20:R:77:GLY:N	2.69	0.46
17:O:124:LEU:C	17:O:126:VAL:H	2.13	0.46
17:O:22:VAL:HG23	17:O:23:VAL:N	2.30	0.46
16:N:4:TYR:O	16:N:7:LEU:N	2.49	0.46
12:I:189:GLU:O	12:I:190:VAL:N	2.49	0.46
20:R:172:ARG:CA	20:R:173:ARG:N	2.79	0.46
6:C:196:ASN:C	6:C:197:ARG:N	2.67	0.46
1:1:1802:C:HO2'	1:1:1803:C:C4'	2.17	0.46
20:R:51:VAL:O	20:R:52:LYS:HA	2.15	0.46
1:1:1192:C:C2'	1:1:1192:C:O2	2.63	0.46
1:1:2261:G:O2'	1:1:2263:C:N4	2.49	0.46
28:Z:101:PHE:O	28:Z:102:GLU:HB3	2.15	0.46
1:1:711:A:H3'	1:1:712:G:P	2.55	0.46
1:1:1001:G:O2'	1:1:1041:U:OP2	2.34	0.46
1:1:799:G:O2'	14:L:18:TRP:NE1	2.48	0.46
1:1:895:A:C6	1:1:897:U:C4	3.02	0.46
17:O:112:TYR:C	17:O:114:LYS:H	2.19	0.46
17:O:14:HIS:NE2	17:O:124:LEU:CD1	2.77	0.46
17:O:21:SER:C	17:O:23:VAL:H	2.13	0.46
10:G:53:PRO:O	10:G:54:GLU:C	2.54	0.46
9:F:91:GLY:HA3	9:F:92:ILE:N	2.31	0.46
1:1:370:U:C4	1:1:371:G:C6	3.04	0.46
1:1:77:A:H5'	14:L:100:ARG:NH1	2.31	0.46
1:1:3362:A:C2	1:1:3363:U:C2	3.03	0.46
1:1:587:U:O3'	1:1:588:G:P	2.74	0.46
1:1:2138:A:OP1	1:1:2141:U:OP2	2.33	0.46
5:B:204:ALA:O	5:B:207:SER:N	2.48	0.46
1:1:119:U:O3'	1:1:120:G:P	2.74	0.46
1:1:2404:A:N3	1:1:2404:A:H2'	2.29	0.46
17:O:41:LEU:HD12	17:O:41:LEU:HA	1.70	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:48:LEU:N	21:S:48:LEU:HD13	2.30	0.46
18:P:54:HIS:CD2	18:P:83:TRP:CD2	3.04	0.46
7:D:20:PHE:O	7:D:23:ARG:N	2.49	0.46
2:3:67:G:H2'	2:3:68:C:H6	1.81	0.46
1:1:1328:C:O2'	1:1:1329:U:O5'	2.28	0.46
5:B:291:GLU:O	5:B:292:ALA:CB	2.63	0.46
1:1:1520:G:H2'	1:1:1521:G:O4'	2.14	0.46
11:H:117:PHE:O	11:H:120:ASP:N	2.49	0.46
1:1:293:C:H2'	1:1:294:U:O4'	2.16	0.46
1:1:3268:A:C8	8:E:130:ILE:HD11	2.51	0.46
24:V:6:ALA:HB1	24:V:125:LEU:HD11	1.98	0.46
8:E:52:VAL:HG11	8:E:65:ILE:HG13	1.97	0.46
1:1:3017:A:C2	1:1:3038:U:O2	2.69	0.46
8:E:21:THR:OG1	8:E:22:ARG:N	2.35	0.46
6:C:57:GLY:N	6:C:58:HIS:N	2.64	0.46
19:Q:125:ASP:OD1	19:Q:125:ASP:N	2.49	0.46
7:D:143:LYS:HA	7:D:144:VAL:N	2.30	0.46
6:C:153:SER:HG	6:C:155:ASP:H	1.64	0.46
1:1:3051:U:C3'	1:1:3052:G:P	3.04	0.46
6:C:136:LEU:HD13	6:C:136:LEU:O	2.16	0.46
20:R:150:GLN:O	20:R:151:ARG:N	2.49	0.46
1:1:3115:C:O2	1:1:3117:C:N4	2.48	0.46
1:1:2464:U:H2'	1:1:2465:G:C8	2.51	0.46
4:A:44:ILE:C	4:A:45:VAL:HA	2.36	0.46
17:O:178:VAL:O	17:O:182:ASN:HB3	2.16	0.46
1:1:2949:U:C5	1:1:2950:G:C6	3.04	0.46
6:C:130:ALA:O	6:C:131:VAL:HB	2.16	0.46
5:B:325:LYS:CG	5:B:326:GLY:N	2.78	0.46
11:H:4:ILE:N	21:S:142:GLN:OE1	2.49	0.46
1:1:340:C:O2'	1:1:344:A:N3	2.46	0.46
4:A:97:ASN:C	4:A:98:VAL:CA	2.83	0.46
15:M:32:LEU:HD11	15:M:94:TRP:CD1	2.51	0.46
4:A:37:ARG:C	4:A:38:HIS:N	2.68	0.46
1:1:212:G:O3'	1:1:213:A:O5'	2.32	0.46
1:1:2633:U:O3'	1:1:2634:U:P	2.74	0.46
21:S:12:ARG:O	21:S:13:ARG:CB	2.64	0.46
24:V:125:LEU:C	24:V:126:TRP:N	2.69	0.46
21:S:75:PHE:C	21:S:76:GLY:N	2.69	0.46
1:1:2861:U:O3'	1:1:2862:U:P	2.73	0.46
1:1:2974:U:H2'	1:1:2975:U:C6	2.51	0.46
22:T:156:TYR:C	22:T:157:GLU:N	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:327:LEU:O	6:C:328:ASN:C	2.54	0.46
14:L:56:PRO:HB2	14:L:112:ASN:HD21	1.81	0.46
22:T:64:VAL:HG11	22:T:67:VAL:CG2	2.45	0.46
13:J:63:GLU:O	13:J:64:LYS:HB2	2.16	0.46
7:D:16:PHE:C	7:D:17:GLN:CA	2.84	0.46
1:1:2177:G:OP2	4:A:128:ARG:NH1	2.49	0.46
18:P:123:PRO:HA	18:P:124:LYS:N	2.31	0.46
9:F:186:HIS:C	9:F:187:GLU:N	2.68	0.46
6:C:63:GLU:O	6:C:64:SER:N	2.49	0.46
1:1:1881:A:C3'	1:1:1882:G:P	3.04	0.46
1:1:2108:C:H1'	1:1:3344:A:C8	2.51	0.46
9:F:229:PHE:C	9:F:229:PHE:CD1	2.88	0.46
21:S:156:VAL:HA	21:S:157:GLN:N	2.30	0.46
1:1:1575:A:C6	1:1:1576:G:C5	3.04	0.46
1:1:2340:U:H3'	1:1:2341:A:P	2.56	0.46
1:1:1522:U:H4'	1:1:1523:U:OP2	2.16	0.46
17:O:112:TYR:C	17:O:114:LYS:N	2.69	0.46
17:O:54:TYR:OH	17:O:73:PHE:O	2.27	0.46
4:A:13:GLY:C	4:A:14:SER:N	2.69	0.46
17:O:177:LYS:C	17:O:178:VAL:HG23	2.32	0.46
1:1:41:G:C3'	1:1:42:C:P	3.03	0.46
14:L:9:ILE:N	14:L:9:ILE:HD12	2.31	0.46
4:A:225:ILE:HD12	4:A:225:ILE:N	2.31	0.46
3:4:79:A:C6	3:4:80:A:N1	2.84	0.46
1:1:993:G:C4	1:1:2637:A:C2	3.04	0.46
1:1:2444:C:O3'	1:1:2445:A:C5'	2.64	0.46
20:R:40:ALA:C	20:R:42:ARG:N	2.70	0.46
1:1:2208:A:O2'	1:1:2209:U:C4	2.67	0.46
4:A:112:ILE:HG23	4:A:133:TYR:CD2	2.51	0.46
7:D:53:VAL:HA	7:D:54:ARG:N	2.30	0.46
1:1:1051:U:C3'	1:1:1052:U:P	3.04	0.46
9:F:219:LYS:C	9:F:220:PHE:HA	2.37	0.46
12:I:177:ASP:OD1	12:I:177:ASP:N	2.49	0.46
25:W:20:LEU:C	25:W:20:LEU:HD23	2.36	0.46
1:1:2311:G:C2'	1:1:2312:A:O5'	2.64	0.46
6:C:317:PRO:O	6:C:319:LYS:N	2.49	0.46
17:O:11:GLY:O	17:O:14:HIS:CG	2.66	0.45
17:O:157:GLU:O	17:O:158:ALA:C	2.52	0.45
1:1:2118:C:O3'	1:1:2119:A:P	2.74	0.45
1:1:952:A:C3'	1:1:953:G:P	3.03	0.45
5:B:85:VAL:HA	5:B:86:VAL:N	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:140:LEU:O	19:Q:141:ARG:N	2.49	0.45
10:G:162:LEU:HD23	16:N:7:LEU:CD2	2.46	0.45
1:1:30:G:H3'	1:1:31:C:P	2.56	0.45
17:O:67:THR:CG2	17:O:68:ARG:N	2.79	0.45
6:C:126:ILE:O	6:C:127:ALA:C	2.53	0.45
10:G:143:ILE:CD1	10:G:151:VAL:HG21	2.47	0.45
1:1:1764:U:H3'	1:1:1765:U:C5'	2.46	0.45
18:P:129:THR:HG21	18:P:139:TYR:CD2	2.52	0.45
14:L:113:VAL:O	14:L:114:GLN:N	2.49	0.45
27:Y:68:GLY:HA3	27:Y:69:LYS:N	2.31	0.45
22:T:139:ARG:HA	22:T:140:ILE:N	2.31	0.45
1:1:2995:A:H4'	3:4:1:A:C2	2.51	0.45
17:O:128:ARG:C	17:O:129:LEU:CB	2.74	0.45
17:O:81:TYR:O	17:O:84:LEU:HB3	2.16	0.45
21:S:48:LEU:HD23	22:T:151:LEU:HD13	1.97	0.45
7:D:37:VAL:HG11	22:T:27:LEU:HD12	1.98	0.45
5:B:325:LYS:HG2	5:B:326:GLY:N	2.30	0.45
4:A:143:GLU:O	4:A:144:ASN:C	2.55	0.45
24:V:53:SER:C	24:V:54:LEU:CA	2.84	0.45
12:I:140:THR:HB	12:I:141:LYS:N	2.32	0.45
10:G:150:LEU:HD11	10:G:152:LEU:HD13	1.99	0.45
1:1:2969:A:H2'	1:1:2970:C:O4'	2.16	0.45
20:R:84:THR:C	20:R:85:ARG:N	2.69	0.45
17:O:144:SER:C	17:O:145:VAL:HG13	2.36	0.45
7:D:69:ILE:HD12	7:D:69:ILE:C	2.36	0.45
1:1:2093:A:O5'	20:R:143:ILE:HD11	2.16	0.45
14:L:105:ASN:O	14:L:107:GLU:N	2.49	0.45
1:1:2219:A:O3'	1:1:2220:A:P	2.74	0.45
1:1:271:C:H2'	1:1:272:G:O4'	2.15	0.45
6:C:280:ILE:O	19:Q:123:THR:HG22	2.16	0.45
17:O:110:PRO:CD	17:O:111:PRO:CD	2.82	0.45
17:O:84:LEU:CD2	17:O:85:ARG:HA	2.30	0.45
1:1:987:U:C2	1:1:1098:A:C2	3.04	0.45
11:H:57:VAL:HG23	11:H:68:LEU:HD23	1.99	0.45
9:F:37:ASN:O	9:F:41:ARG:N	2.49	0.45
3:4:59:A:C2	3:4:61:A:C2	3.05	0.45
16:N:187:ARG:HB3	16:N:188:ARG:N	2.31	0.45
4:A:218:HIS:C	4:A:219:ILE:N	2.70	0.45
27:Y:77:LYS:O	27:Y:78:PHE:C	2.54	0.45
1:1:2561:A:C4	10:G:32:LYS:HD3	2.52	0.45
1:1:819:U:H3'	1:1:820:A:OP2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:80:G:H2'	2:3:81:U:O4'	2.17	0.45
1:1:793:C:H2'	1:1:794:U:O4'	2.16	0.45
1:1:1566:A:N3	1:1:1573:G:O6	2.49	0.45
1:1:3348:G:H2'	1:1:3349:C:C6	2.51	0.45
4:A:126:LEU:HD13	4:A:150:LEU:HD21	1.98	0.45
6:C:207:VAL:HG21	6:C:219:LEU:HD13	1.98	0.45
1:1:2321:A:O3'	1:1:2322:C:P	2.74	0.45
1:1:2948:C:H2'	1:1:2949:U:O4'	2.17	0.45
1:1:597:G:C2	1:1:608:A:H1'	2.52	0.45
1:1:2376:G:C3'	1:1:2377:G:P	3.04	0.45
1:1:2757:U:H3'	1:1:2758:A:P	2.56	0.45
1:1:2278:C:H2'	1:1:2279:A:H5''	1.97	0.45
1:1:948:C:O3'	1:1:949:C:OP1	2.35	0.45
21:S:102:ALA:C	21:S:103:VAL:N	2.69	0.45
14:L:53:LEU:HD23	14:L:53:LEU:N	2.31	0.45
27:Y:68:GLY:CA	27:Y:69:LYS:N	2.80	0.45
1:1:800:G:H2'	1:1:801:A:C8	2.51	0.45
1:1:2571:U:O2	1:1:2571:U:C2'	2.64	0.45
1:1:2228:A:H2'	1:1:2229:A:C8	2.51	0.45
4:A:211:HIS:C	4:A:212:GLY:N	2.70	0.45
1:1:2727:A:OP2	1:1:2728:G:N2	2.45	0.45
21:S:124:LEU:HD13	22:T:155:PRO:HB3	1.99	0.45
1:1:606:C:C3'	1:1:607:A:P	3.04	0.45
16:N:45:PRO:O	16:N:47:LYS:N	2.49	0.45
1:1:934:G:C3'	1:1:935:U:P	3.05	0.45
16:N:172:ARG:NE	16:N:174:ILE:HD11	2.31	0.45
1:1:2173:U:OP1	4:A:18:SER:N	2.49	0.45
10:G:161:GLU:OE1	10:G:161:GLU:N	2.50	0.45
19:Q:22:ASP:O	19:Q:23:ASN:N	2.50	0.45
21:S:10:ILE:C	21:S:11:GLY:N	2.70	0.45
13:J:110:ILE:C	13:J:111:ASP:N	2.69	0.45
10:G:187:GLY:HA2	10:G:190:VAL:HG12	1.99	0.45
9:F:186:HIS:O	9:F:187:GLU:HA	2.16	0.45
12:I:23:ASN:O	12:I:25:ALA:N	2.50	0.45
28:Z:55:LYS:CG	28:Z:56:LYS:HA	2.46	0.45
6:C:352:ALA:O	6:C:353:ALA:C	2.54	0.45
8:E:140:VAL:C	8:E:141:VAL:N	2.70	0.45
22:T:110:LYS:O	22:T:111:ALA:C	2.54	0.45
1:1:268:A:C3'	1:1:269:G:P	3.02	0.45
5:B:251:CYS:SG	5:B:253:GLY:O	2.74	0.45
1:1:1376:C:H3'	1:1:1377:G:P	2.57	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:34:TYR:O	12:I:35:ASP:N	2.50	0.45
4:A:101:VAL:CA	4:A:102:LEU:HD12	2.46	0.45
10:G:101:THR:C	10:G:102:ALA:HA	2.36	0.45
1:1:2376:G:N1	1:1:2377:G:C6	2.85	0.45
1:1:68:C:H3'	1:1:69:C:OP2	2.17	0.45
5:B:363:SER:OG	5:B:364:LYS:N	2.50	0.45
6:C:274:TYR:C	6:C:275:THR:N	2.70	0.45
9:F:227:GLY:CA	9:F:228:SER:N	2.79	0.45
14:L:165:SER:HG	14:L:168:ARG:N	2.13	0.45
1:1:696:C:O2'	1:1:697:A:O4'	2.33	0.45
17:O:162:VAL:O	17:O:163:SER:C	2.55	0.45
17:O:28:LEU:HD21	17:O:88:VAL:HG13	1.99	0.45
4:A:40:TYR:CA	4:A:41:ILE:N	2.79	0.45
7:D:30:TYR:O	7:D:31:TYR:C	2.54	0.45
4:A:183:GLY:O	4:A:184:ARG:C	2.55	0.45
20:R:156:ASN:O	20:R:157:GLU:CB	2.64	0.45
24:V:13:ILE:HD11	24:V:54:LEU:O	2.16	0.45
1:1:2712:U:H2'	1:1:2713:U:C6	2.51	0.45
15:M:116:GLU:O	15:M:120:VAL:HG13	2.17	0.45
28:Z:26:VAL:HG12	28:Z:89:VAL:HG21	1.97	0.45
4:A:112:ILE:N	4:A:112:ILE:HD12	2.32	0.45
27:Y:18:ALA:C	27:Y:19:TYR:N	2.70	0.45
15:M:54:PRO:HA	15:M:55:ARG:N	2.32	0.45
1:1:2991:A:H3'	1:1:2992:U:P	2.57	0.45
20:R:61:SER:O	20:R:63:THR:N	2.49	0.45
14:L:53:LEU:HD22	14:L:94:GLY:HA2	1.99	0.45
11:H:134:ILE:HA	11:H:135:GLU:N	2.31	0.45
1:1:3055:U:O2'	1:1:3057:U:OP1	2.35	0.45
1:1:1667:A:H61	1:1:1782:U:H3	1.63	0.45
23:U:90:ARG:O	23:U:91:ASP:CB	2.65	0.45
21:S:108:GLN:O	21:S:112:ALA:N	2.49	0.45
1:1:1616:U:O3'	1:1:1617:G:P	2.74	0.45
11:H:150:SER:OG	11:H:151:VAL:N	2.49	0.45
9:F:147:LEU:HD21	9:F:240:VAL:HG13	1.99	0.45
5:B:114:VAL:HG22	5:B:163:HIS:CD2	2.52	0.45
27:Y:101:PRO:O	27:Y:104:LEU:N	2.50	0.45
17:O:69:GLY:O	17:O:71:PHE:CD1	2.69	0.45
1:1:2737:C:H4'	22:T:68:THR:OG1	2.17	0.45
22:T:68:THR:OG1	22:T:69:LYS:N	2.48	0.45
2:3:47:C:OP1	7:D:95:TRP:N	2.50	0.45
7:D:83:LEU:N	7:D:84:PRO:CD	2.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3363:U:H2'	1:1:3364:C:O4'	2.17	0.45
27:Y:17:LYS:O	27:Y:18:ALA:C	2.55	0.45
2:3:55:A:H2'	2:3:56:A:O4'	2.17	0.45
13:J:84:LEU:HD11	13:J:163:PHE:CE2	2.51	0.45
22:T:45:ASN:HB3	22:T:48:ILE:HG12	1.98	0.45
6:C:174:ALA:O	6:C:175:HIS:C	2.55	0.45
27:Y:114:ASP:O	27:Y:118:LEU:N	2.50	0.45
5:B:279:ASN:OD1	5:B:279:ASN:N	2.50	0.45
1:1:1225:A:C2	1:1:3116:G:C4	3.05	0.45
14:L:57:VAL:HG12	14:L:147:ILE:HD12	1.99	0.45
13:J:52:TYR:C	13:J:53:THR:N	2.70	0.45
1:1:913:A:C3'	1:1:914:A:P	3.05	0.45
20:R:96:ILE:HG22	20:R:97:ARG:N	2.31	0.45
1:1:1003:A:H3'	1:1:1004:U:P	2.57	0.45
28:Z:18:TYR:O	28:Z:21:LYS:HB2	2.17	0.45
1:1:1245:A:C3'	1:1:1246:G:H5"	2.47	0.45
1:1:1764:U:H3'	1:1:1765:U:H5"	1.99	0.45
16:N:198:SER:O	16:N:199:LEU:N	2.49	0.45
1:1:637:C:H1'	1:1:638:C:C6	2.51	0.45
1:1:1565:G:N2	1:1:1566:A:H1'	2.31	0.45
13:J:165:GLN:C	13:J:166:LYS:N	2.70	0.45
1:1:160:G:N2	1:1:262:U:O2	2.50	0.45
13:J:92:ARG:NH2	13:J:173:ASP:OD2	2.46	0.45
1:1:641:C:H2'	1:1:642:U:O4'	2.17	0.45
1:1:126:U:H2'	1:1:127:G:O4'	2.17	0.45
9:F:157:ASN:HD22	9:F:157:ASN:N	2.15	0.45
5:B:19:ARG:O	5:B:20:LYS:N	2.50	0.45
1:1:1493:G:O6	14:L:2:ALA:HB2	67.45	0.45
12:I:176:LEU:HD11	12:I:199:PHE:CE1	2.52	0.45
21:S:3:HIS:CG	21:S:4:PHE:N	2.85	0.45
19:Q:81:VAL:HG22	19:Q:101:VAL:HG22	1.98	0.45
1:1:2574:G:N7	28:Z:56:LYS:HB3	2.32	0.45
21:S:62:ASN:HA	21:S:63:GLN:N	2.31	0.45
1:1:2541:U:O2	1:1:2541:U:C2'	2.65	0.45
1:1:2773:C:H3'	1:1:2774:C:P	2.57	0.45
1:1:575:G:C6	1:1:576:C:C4	3.05	0.45
9:F:196:LYS:O	9:F:197:GLN:N	2.50	0.45
1:1:2733:A:H2'	1:1:2734:A:O4'	2.17	0.45
17:O:116:LYS:HG3	17:O:117:ARG:O	2.17	0.44
17:O:187:GLU:HA	17:O:187:GLU:OE1	2.16	0.44
1:1:1431:G:OP2	4:A:9:ARG:NH2	63.59	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1637:A:C3'	1:1:1638:A:P	3.05	0.44
17:O:174:PHE:C	17:O:176:LYS:N	2.69	0.44
11:H:49:ASN:O	11:H:50:ASN:C	2.55	0.44
16:N:64:VAL:N	16:N:130:PHE:O	2.49	0.44
18:P:68:GLY:O	18:P:69:ARG:HA	2.18	0.44
1:1:2620:G:O3'	1:1:2621:G:P	2.75	0.44
13:J:80:LEU:HD22	13:J:84:LEU:HD12	1.99	0.44
1:1:2574:G:C2	1:1:2575:G:N7	2.85	0.44
21:S:111:ALA:C	21:S:112:ALA:N	2.71	0.44
3:4:85:G:O3'	3:4:86:U:P	2.75	0.44
1:1:2213:A:H2'	1:1:2214:A:C8	2.52	0.44
1:1:1926:C:H4'	1:1:1927:G:C4	2.52	0.44
1:1:678:G:H2'	1:1:679:U:O4'	2.16	0.44
5:B:257:PRO:O	5:B:259:HIS:N	2.47	0.44
10:G:186:LEU:HB2	10:G:195:SER:HB3	1.97	0.44
1:1:2821:C:O3'	1:1:2822:U:P	2.75	0.44
17:O:107:GLY:O	17:O:109:PRO:HD3	2.17	0.44
17:O:158:ALA:O	17:O:159:LYS:O	2.35	0.44
17:O:78:ARG:HG3	17:O:78:ARG:NH1	2.32	0.44
17:O:84:LEU:O	17:O:84:LEU:CG	2.53	0.44
17:O:190:VAL:O	17:O:191:ALA:N	2.18	0.44
18:P:94:LEU:CB	18:P:148:LEU:HD21	2.47	0.44
26:X:31:THR:HA	26:X:32:PHE:N	2.33	0.44
4:A:88:ILE:C	4:A:89:TYR:CA	2.84	0.44
1:1:2941:A:C8	5:B:255:TRP:CD2	3.05	0.44
16:N:38:ARG:N	16:N:62:TYR:CE2	2.85	0.44
1:1:916:G:N1	4:A:207:VAL:HG21	2.32	0.44
9:F:208:SER:HG	9:F:209:ASN:N	2.15	0.44
4:A:215:ASN:O	4:A:216:HIS:N	2.50	0.44
1:1:819:U:O3'	1:1:820:A:P	2.75	0.44
12:I:76:MET:HG2	12:I:147:VAL:HG12	1.98	0.44
1:1:546:C:H5''	1:1:546:C:C6	2.52	0.44
1:1:1608:C:HO3'	1:1:1609:C:P	2.40	0.44
27:Y:11:ASP:C	27:Y:12:ARG:N	2.71	0.44
1:1:2835:U:H2'	1:1:2836:C:O2	2.17	0.44
1:1:826:G:OP1	1:1:1590:G:O2'	2.29	0.44
24:V:28:ASN:HD21	24:V:112:SER:H	1.65	0.44
1:1:1263:A:N3	1:1:1263:A:H2'	2.32	0.44
8:E:165:LEU:C	8:E:166:LYS:N	2.70	0.44
19:Q:163:PRO:HA	19:Q:164:ARG:N	2.32	0.44
1:1:687:U:OP2	14:L:36:ARG:NH2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:83:THR:O	11:H:84:LYS:N	2.50	0.44
4:A:47:GLN:C	4:A:48:ILE:N	2.71	0.44
6:C:132:ALA:O	6:C:133:SER:C	2.55	0.44
1:1:1049:C:H2'	1:1:1050:U:H6	1.82	0.44
1:1:1913:A:C4	1:1:2120:A:C2	3.05	0.44
7:D:94:ASN:OD1	7:D:97:ALA:N	2.50	0.44
1:1:2873:U:O4'	1:1:2873:U:O2	2.36	0.44
1:1:587:U:C3'	1:1:588:G:P	3.05	0.44
1:1:900:G:H1'	1:1:1589:A:N6	2.32	0.44
16:N:184:LYS:H	16:N:185:ALA:N	2.14	0.44
7:D:205:SER:HB3	7:D:236:LEU:HD12	1.99	0.44
1:1:2585:G:N3	1:1:2585:G:H2'	2.32	0.44
1:1:3014:U:H3'	1:1:3015:G:OP2	2.17	0.44
17:O:43:ILE:HG22	17:O:44:SER:O	2.17	0.44
18:P:48:LEU:HD13	18:P:88:VAL:HG13	2.00	0.44
5:B:275:ARG:C	5:B:276:THR:CA	2.85	0.44
2:3:67:G:O2'	2:3:68:C:O4'	2.34	0.44
5:B:151:ILE:O	5:B:152:LYS:C	2.56	0.44
16:N:155:VAL:O	16:N:162:ARG:NH2	2.50	0.44
5:B:305:ILE:HG12	5:B:321:PHE:CE2	2.52	0.44
1:1:2617:U:O2	1:1:2617:U:H2'	2.17	0.44
3:4:125:U:O2'	3:4:126:A:O5'	2.35	0.44
19:Q:151:ARG:C	19:Q:152:HIS:HA	2.38	0.44
1:1:639:G:OP1	8:E:37:GLY:HA3	77.49	0.44
1:1:802:C:O3'	1:1:803:C:P	2.75	0.44
1:1:1673:G:H2'	1:1:1674:G:O5'	2.17	0.44
1:1:3280:U:O2'	1:1:3281:U:H5'	2.18	0.44
5:B:260:VAL:HG11	5:B:266:ARG:NH1	2.32	0.44
4:A:44:ILE:C	4:A:45:VAL:CA	2.86	0.44
4:A:10:LYS:C	4:A:11:GLY:CA	2.84	0.44
1:1:2943:G:H2'	1:1:2944:U:O4'	2.17	0.44
6:C:256:THR:C	6:C:257:LYS:N	2.71	0.44
1:1:1445:U:C3'	1:1:1446:A:P	3.05	0.44
1:1:2717:U:HO3'	1:1:2718:U:P	2.39	0.44
1:1:844:G:H2'	1:1:845:G:O5'	2.18	0.44
6:C:163:LYS:O	6:C:164:GLU:N	2.51	0.44
1:1:2824:G:H3'	1:1:2825:C:P	2.58	0.44
22:T:29:THR:O	22:T:30:TYR:N	2.51	0.44
1:1:350:C:C3'	1:1:351:A:P	3.05	0.44
1:1:110:G:C3'	1:1:111:C:P	3.05	0.44
1:1:1320:C:C3'	1:1:1321:G:P	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:16:THR:C	21:S:17:GLU:N	2.70	0.44
1:1:1605:A:O2'	1:1:1607:U:OP2	2.35	0.44
1:1:2770:G:O3'	1:1:2771:U:P	2.75	0.44
11:H:133:THR:N	11:H:147:SER:O	2.51	0.44
5:B:244:ARG:C	5:B:245:GLY:N	2.71	0.44
1:1:2530:G:H2'	1:1:2531:C:O4'	2.18	0.44
5:B:38:SER:HB2	5:B:39:LYS:N	2.32	0.44
17:O:111:PRO:O	17:O:112:TYR:CD1	2.70	0.44
1:1:1046:A:H2'	1:1:1049:C:C5	2.52	0.44
12:I:197:VAL:HA	12:I:198:LYS:N	2.31	0.44
16:N:181:ASN:C	16:N:182:ASN:N	2.71	0.44
9:F:190:THR:C	9:F:191:VAL:N	2.70	0.44
28:Z:26:VAL:HG21	28:Z:96:VAL:HB	1.99	0.44
28:Z:25:ILE:HA	28:Z:43:VAL:HG12	1.99	0.44
1:1:883:A:O4'	18:P:133:HIS:HA	2.18	0.44
5:B:137:TYR:CE2	5:B:144:ILE:HD13	2.53	0.44
1:1:2555:G:C8	1:1:2555:G:H5'	2.46	0.44
18:P:56:ARG:C	18:P:57:ALA:HA	2.38	0.44
1:1:873:C:H3'	1:1:874:U:H4'	2.00	0.44
14:L:27:ASP:O	14:L:30:GLY:N	2.50	0.44
16:N:201:ARG:C	16:N:202:TYR:CA	2.86	0.44
1:1:2372:A:O3'	1:1:2373:A:OP2	2.36	0.44
15:M:107:GLU:C	15:M:108:ARG:N	2.71	0.44
19:Q:4:ASP:O	19:Q:5:HIS:N	2.51	0.44
1:1:59:G:H2'	3:4:33:A:H2'	1.99	0.44
3:4:18:U:H2'	3:4:19:C:O4'	2.18	0.44
20:R:123:LEU:O	20:R:126:GLU:N	2.50	0.44
1:1:676:G:H3'	1:1:677:A:OP2	2.18	0.44
1:1:2333:C:H2'	1:1:2334:U:O4'	2.18	0.44
1:1:3095:U:H2'	1:1:3096:C:C6	2.53	0.44
3:4:15:G:C6	3:4:16:G:N1	2.86	0.44
1:1:1690:C:H2'	1:1:1691:U:O4'	2.17	0.44
1:1:153:U:C2'	1:1:154:U:H5'	2.48	0.44
17:O:10:ASP:OD1	17:O:10:ASP:C	2.55	0.44
17:O:162:VAL:O	17:O:163:SER:O	2.36	0.44
6:C:119:ARG:C	6:C:120:TYR:N	2.71	0.44
9:F:202:LEU:O	9:F:203:TRP:N	2.50	0.44
1:1:1940:G:H3'	1:1:1941:C:P	2.57	0.44
16:N:186:GLY:O	16:N:187:ARG:C	2.56	0.44
16:N:113:LEU:HD12	16:N:136:ASP:N	2.33	0.44
1:1:1676:A:H3'	1:1:1677:G:P	2.57	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:317:ILE:C	5:B:318:LYS:CA	2.86	0.44
11:H:154:VAL:C	11:H:155:SER:CA	2.86	0.44
12:I:30:LYS:N	12:I:31:ILE:N	2.65	0.44
1:1:1613:A:C2	1:1:1614:C:C2	3.06	0.44
1:1:1363:A:C2'	1:1:1364:C:O5'	2.66	0.44
27:Y:50:ILE:C	27:Y:51:ARG:N	2.71	0.44
10:G:128:LYS:O	10:G:130:TYR:N	2.51	0.44
24:V:11:PHE:HB2	24:V:88:ARG:CZ	2.47	0.44
7:D:177:GLU:O	7:D:178:ASN:N	2.51	0.44
9:F:132:PRO:HA	9:F:229:PHE:CD1	2.53	0.44
28:Z:116:LYS:C	28:Z:117:ALA:N	2.71	0.44
4:A:40:TYR:HB2	4:A:94:ALA:HB2	2.00	0.44
5:B:87:VAL:N	5:B:161:LEU:O	2.51	0.44
5:B:84:VAL:CA	5:B:85:VAL:N	2.81	0.44
1:1:1390:A:C3'	1:1:1391:C:P	3.04	0.44
1:1:2785:A:H2'	1:1:2786:G:O4'	2.17	0.44
4:A:181:LYS:O	4:A:183:GLY:N	2.51	0.44
20:R:172:ARG:O	20:R:176:ARG:NE	2.50	0.44
5:B:284:ARG:HB3	5:B:323:MET:HB3	1.99	0.44
5:B:48:GLY:CA	5:B:49:TYR:N	2.81	0.44
5:B:48:GLY:O	5:B:49:TYR:N	2.50	0.44
1:1:1301:A:H4'	1:1:1302:A:O5'	2.18	0.44
12:I:140:THR:HG21	12:I:148:VAL:HG21	2.00	0.44
5:B:386:ASP:HB3	5:B:387:LEU:HD12	1.99	0.44
1:1:3356:G:H2'	1:1:3357:U:C6	2.53	0.44
1:1:2443:A:C2	1:1:2444:C:C4	3.05	0.44
16:N:92:LEU:C	16:N:93:LYS:HG2	2.38	0.44
13:J:96:PHE:CE2	13:J:160:VAL:HG12	2.52	0.44
1:1:1167:U:H2'	1:1:1168:U:O4'	2.18	0.44
27:Y:50:ILE:C	27:Y:51:ARG:HA	2.38	0.44
1:1:2140:U:O3'	1:1:2141:U:P	2.75	0.44
1:1:2571:U:O3'	1:1:2572:C:P	2.76	0.44
1:1:251:G:H4'	1:1:252:U:H5'	2.00	0.44
3:4:93:U:H2'	3:4:94:C:O4'	2.17	0.44
20:R:162:ARG:O	20:R:166:ASN:HB2	2.16	0.44
17:O:152:VAL:O	17:O:152:VAL:HG12	2.17	0.44
5:B:187:SER:O	5:B:190:GLU:N	2.50	0.44
17:O:42:ASN:HA	17:O:42:ASN:HD22	1.53	0.43
14:L:47:ALA:CB	14:L:48:PRO:HD2	2.48	0.43
1:1:796:U:H1'	14:L:7:LEU:HD13	1.99	0.43
1:1:2325:G:H3'	1:1:2326:A:P	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:720:A:O3'	1:1:721:G:C5'	2.66	0.43
4:A:54:ARG:HD3	4:A:56:ALA:HB3	2.00	0.43
6:C:190:GLY:C	6:C:191:LYS:N	2.72	0.43
17:O:152:VAL:O	17:O:156:LEU:HG	2.18	0.43
15:M:98:SER:O	15:M:99:TRP:C	2.55	0.43
27:Y:23:PRO:O	27:Y:24:SER:C	2.56	0.43
17:O:14:HIS:O	17:O:123:ALA:O	2.37	0.43
4:A:11:GLY:O	4:A:12:ALA:C	2.57	0.43
1:1:1323:G:C2'	1:1:1324:U:O5'	2.66	0.43
11:H:105:GLU:HG3	11:H:109:ALA:N	2.33	0.43
4:A:187:HIS:O	4:A:190:ARG:N	2.50	0.43
1:1:3008:A:H2'	1:1:3009:G:O4'	2.18	0.43
1:1:2479:C:C5	1:1:2480:G:C5	3.06	0.43
6:C:299:ILE:O	6:C:300:ARG:N	2.50	0.43
1:1:1117:G:C2	1:1:1118:C:C2	3.06	0.43
1:1:34:A:C3'	1:1:35:A:P	3.06	0.43
24:V:26:ALA:O	24:V:115:THR:N	2.51	0.43
1:1:406:G:H1'	3:4:16:G:N2	2.33	0.43
23:U:55:THR:HG1	23:U:66:VAL:N	2.17	0.43
1:1:2669:G:C2	1:1:2686:A:C2	3.06	0.43
5:B:302:LYS:O	5:B:303:LYS:N	2.51	0.43
1:1:73:C:C2	14:L:59:ARG:HD3	2.52	0.43
22:T:114:ALA:C	22:T:115:LYS:N	2.71	0.43
1:1:3108:G:H3'	1:1:3109:G:OP2	2.18	0.43
14:L:110:ASP:O	14:L:111:ALA:N	2.51	0.43
17:O:26:GLN:OE1	17:O:31:GLN:HG2	2.17	0.43
22:T:76:ILE:HG22	22:T:77:ASN:HA	2.01	0.43
1:1:1003:A:O3'	1:1:1004:U:P	2.76	0.43
4:A:101:VAL:HA	4:A:102:LEU:N	2.34	0.43
15:M:38:ILE:HD11	21:S:150:PHE:CZ	2.53	0.43
9:F:64:GLN:O	9:F:65:ALA:C	2.56	0.43
20:R:23:TRP:O	20:R:50:ILE:HA	2.19	0.43
12:I:148:VAL:O	12:I:151:GLY:N	2.50	0.43
7:D:76:ALA:C	7:D:77:ALA:N	2.71	0.43
19:Q:105:ARG:CA	19:Q:106:PHE:N	2.81	0.43
1:1:2768:U:C3'	1:1:2769:A:P	3.06	0.43
1:1:1122:U:C3'	1:1:1123:U:P	3.07	0.43
1:1:787:G:O3'	1:1:788:C:P	2.75	0.43
20:R:4:LEU:HD13	20:R:24:LEU:CD2	2.48	0.43
17:O:56:ASP:HA	17:O:59:ARG:HG2	2.01	0.43
1:1:3138:U:O2'	1:1:3139:A:O4'	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:32:SER:OG	21:S:36:ILE:HD13	2.17	0.43
12:I:200:LEU:HD13	12:I:213:PHE:CD2	2.54	0.43
1:1:2144:A:H1'	1:1:2281:A:N6	2.32	0.43
17:O:80:PHE:HB3	17:O:81:TYR:N	2.33	0.43
6:C:35:VAL:CB	6:C:36:HIS:N	2.80	0.43
6:C:35:VAL:HB	6:C:36:HIS:N	2.33	0.43
9:F:144:ILE:HD13	9:F:188:ILE:HG22	2.00	0.43
1:1:3298:C:C3'	1:1:3299:A:P	3.06	0.43
1:1:2865:U:H3'	1:1:2866:U:P	2.58	0.43
28:Z:74:VAL:O	28:Z:75:VAL:N	2.51	0.43
5:B:24:SER:OG	5:B:25:ILE:N	2.51	0.43
10:G:61:GLN:HE21	10:G:61:GLN:HA	4.05	0.43
4:A:19:HIS:C	4:A:20:THR:N	2.72	0.43
28:Z:43:VAL:HA	28:Z:44:ALA:N	2.33	0.43
1:1:2425:G:OP2	16:N:90:ASN:ND2	2.50	0.43
1:1:1600:U:H3'	1:1:1601:U:P	2.59	0.43
9:F:138:TYR:CD2	9:F:233:GLU:HA	2.53	0.43
2:3:95:A:O3'	2:3:96:U:P	2.76	0.43
17:O:59:ARG:H	17:O:59:ARG:HG2	1.51	0.43
9:F:132:PRO:HA	9:F:229:PHE:CG	2.53	0.43
1:1:2297:U:O2	1:1:2920:U:H5'	2.18	0.43
1:1:3042:U:O3'	1:1:3043:C:P	2.76	0.43
1:1:3023:U:O3'	1:1:3024:A:P	2.76	0.43
15:M:7:VAL:O	15:M:8:LYS:C	2.56	0.43
4:A:15:ILE:HD11	4:A:16:PHE:CE2	2.53	0.43
5:B:217:ALA:C	5:B:218:ILE:N	2.72	0.43
14:L:8:PRO:O	14:L:9:ILE:HA	2.18	0.43
12:I:190:VAL:HG13	12:I:197:VAL:HG22	1.99	0.43
12:I:43:VAL:HG21	12:I:197:VAL:HG11	1.99	0.43
4:A:113:VAL:HG22	4:A:136:ILE:HD11	2.00	0.43
1:1:728:G:H2'	1:1:729:C:O4'	2.19	0.43
10:G:150:LEU:HD21	10:G:218:ILE:HD13	2.01	0.43
1:1:68:C:N4	1:1:314:U:O3'	2.51	0.43
1:1:265:A:HO3'	1:1:266:A:P	2.40	0.43
1:1:2895:G:H3'	1:1:2896:A:P	2.59	0.43
8:E:101:PHE:CA	8:E:102:ASN:N	2.81	0.43
7:D:102:GLY:O	7:D:106:ALA:N	2.52	0.43
1:1:3198:U:H3'	1:1:3199:G:C5'	2.48	0.43
22:T:96:ILE:O	22:T:97:LYS:N	2.50	0.43
5:B:4:ARG:N	5:B:5:LYS:N	2.67	0.43
16:N:39:ALA:C	16:N:40:ALA:N	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:158:ALA:O	11:H:159:ALA:C	2.57	0.43
16:N:67:ARG:C	16:N:68:ARG:N	2.71	0.43
1:1:2731:U:H2'	1:1:2732:G:O4'	2.19	0.43
18:P:95:LEU:CD2	18:P:148:LEU:HD13	2.47	0.43
7:D:17:GLN:OE1	22:T:22:HIS:N	2.51	0.43
26:X:98:ALA:O	26:X:102:LEU:N	2.52	0.43
1:1:2511:C:O2	1:1:2511:C:C2'	2.66	0.43
6:C:45:ASN:C	6:C:46:LYS:N	2.72	0.43
16:N:90:ASN:O	16:N:91:GLU:N	2.50	0.43
21:S:10:ILE:C	21:S:59:VAL:HB	2.39	0.43
1:1:2419:A:HO3'	1:1:2420:C:P	2.40	0.43
14:L:53:LEU:C	14:L:54:LEU:N	2.72	0.43
1:1:321:C:H3'	1:1:322:U:P	2.58	0.43
1:1:734:C:O2	1:1:734:C:H2'	2.18	0.43
19:Q:12:ARG:O	19:Q:13:SER:C	2.56	0.43
17:O:49:ARG:O	17:O:51:LYS:HB3	2.18	0.43
18:P:18:ARG:C	18:P:19:GLY:CA	2.87	0.43
1:1:91:G:N7	1:1:93:C:C2	2.87	0.43
1:1:30:G:C2	1:1:31:C:C2	3.07	0.43
18:P:70:THR:C	18:P:71:ALA:N	2.72	0.43
1:1:1908:A:C3'	1:1:1909:A:P	3.07	0.43
1:1:1203:A:H2'	1:1:1204:A:C8	2.53	0.43
21:S:99:ARG:O	21:S:100:VAL:N	2.52	0.43
21:S:99:ARG:N	21:S:100:VAL:N	2.67	0.43
5:B:295:ALA:O	5:B:296:THR:N	2.52	0.43
1:1:2137:U:C3'	1:1:2138:A:P	3.07	0.43
5:B:335:ILE:O	5:B:335:ILE:HG23	2.18	0.43
4:A:243:THR:OG1	4:A:244:GLY:N	2.50	0.43
20:R:116:ASP:OD1	20:R:119:LEU:N	2.51	0.43
26:X:76:VAL:HG22	26:X:81:ILE:O	2.19	0.43
1:1:1529:A:O3'	1:1:1530:U:P	2.77	0.43
3:4:76:C:H2'	3:4:77:A:O4'	2.18	0.43
1:1:2270:A:C6	1:1:2271:A:C6	3.06	0.43
1:1:1067:U:H3'	1:1:1068:C:P	2.59	0.43
2:3:119:U:O3'	2:3:120:C:P	2.77	0.43
9:F:202:LEU:C	9:F:203:TRP:N	2.72	0.43
16:N:7:LEU:C	16:N:8:GLU:N	2.72	0.43
14:L:172:LEU:C	14:L:173:ALA:CA	2.87	0.43
4:A:104:LEU:CD2	4:A:158:ILE:HD11	2.48	0.43
18:P:120:ASN:O	18:P:122:ALA:N	2.52	0.43
4:A:34:TYR:C	4:A:35:ALA:N	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:74:MET:SD	24:V:102:ILE:HD13	2.59	0.43
1:1:2792:A:C3'	1:1:2793:G:P	3.06	0.43
1:1:1483:G:H4'	1:1:1484:U:OP1	2.19	0.43
1:1:1208:U:O2	1:1:3115:C:N4	2.52	0.43
9:F:195:PHE:O	9:F:196:LYS:C	2.57	0.43
21:S:67:ALA:C	21:S:68:HIS:N	2.72	0.43
3:4:116:G:H3'	3:4:117:C:P	2.59	0.43
14:L:133:PRO:O	14:L:134:GLU:C	2.57	0.43
13:J:43:GLN:C	13:J:44:THR:N	2.72	0.43
11:H:41:ILE:HD13	11:H:41:ILE:O	2.19	0.43
6:C:235:LEU:O	6:C:238:LEU:N	2.52	0.43
3:4:81:U:O2	3:4:82:U:C6	2.72	0.43
1:1:1240:A:N6	1:1:1244:A:H5''	2.34	0.43
1:1:1938:U:O3'	1:1:1939:G:P	2.77	0.43
1:1:1765:U:C2'	1:1:1766:G:O4'	2.67	0.43
1:1:589:A:O3'	1:1:590:G:P	2.77	0.43
1:1:559:A:H2'	1:1:560:G:O4'	2.19	0.43
6:C:307:GLN:N	6:C:307:GLN:HE21	2.17	0.43
1:1:1646:G:O3'	1:1:1647:A:P	2.77	0.43
1:1:3371:G:C6	1:1:3372:A:C6	3.06	0.43
1:1:3190:C:H3'	1:1:3191:G:P	2.59	0.43
5:B:162:VAL:HG21	5:B:181:ILE:HD12	1.99	0.43
1:1:615:U:H3'	1:1:616:G:P	2.59	0.43
17:O:36:VAL:O	17:O:37:ARG:C	2.21	0.43
17:O:49:ARG:HB2	17:O:50:ASN:H	1.18	0.43
12:I:42:THR:C	12:I:43:VAL:CA	2.88	0.43
24:V:100:GLY:CA	24:V:101:VAL:N	2.81	0.43
1:1:2986:U:C3'	1:1:2987:A:P	3.06	0.43
1:1:200:C:OP1	27:Y:60:ARG:NH1	2.52	0.43
4:A:132:ASN:CA	4:A:133:TYR:N	2.82	0.43
1:1:1077:U:O2	1:1:1083:G:C2	2.72	0.43
1:1:633:C:H2'	1:1:634:C:O4'	2.18	0.43
1:1:1398:U:H5''	1:1:1399:A:P	2.59	0.43
7:D:39:GLN:O	7:D:40:HIS:C	2.57	0.43
5:B:289:ASP:O	5:B:290:ASP:N	2.52	0.43
26:X:139:ILE:N	26:X:140:GLY:N	2.67	0.43
11:H:110:LYS:O	11:H:111:PHE:HA	2.19	0.43
1:1:1654:A:H2'	1:1:1655:G:H5'	2.00	0.43
22:T:75:ILE:HD11	22:T:86:GLU:HG3	2.00	0.43
9:F:56:GLU:C	9:F:57:THR:N	2.73	0.43
1:1:891:G:C5	1:1:892:U:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:154:VAL:HB	22:T:155:PRO:HD2	2.01	0.42
6:C:208:VAL:HG12	6:C:209:TYR:N	2.32	0.42
1:1:595:G:H1	1:1:609:G:H5''	1.84	0.42
28:Z:77:TYR:O	28:Z:80:LEU:N	2.51	0.42
12:I:82:ARG:C	12:I:83:ASP:N	2.72	0.42
10:G:60:ARG:O	10:G:62:LYS:N	2.52	0.42
14:L:76:THR:OG1	14:L:79:GLU:N	2.48	0.42
1:1:438:A:H2'	1:1:439:C:O4'	2.19	0.42
1:1:517:G:H8	1:1:517:G:H5''	1.84	0.42
24:V:137:VAL:HG12	25:W:22:VAL:HG21	2.00	0.42
19:Q:184:PHE:C	19:Q:185:LYS:HA	2.38	0.42
14:L:89:TYR:C	14:L:90:ALA:N	2.72	0.42
1:1:1229:G:OP2	1:1:1229:G:H8	2.01	0.42
7:D:278:SER:O	7:D:279:LYS:N	2.52	0.42
24:V:68:GLU:C	24:V:69:LEU:N	2.72	0.42
15:M:14:LEU:HD13	21:S:149:LYS:CB	2.49	0.42
1:1:1223:A:O3'	1:1:1224:C:P	2.76	0.42
7:D:232:ASP:O	7:D:235:SER:OG	2.30	0.42
17:O:123:ALA:C	17:O:124:LEU:CD1	2.87	0.42
21:S:123:ILE:O	21:S:124:LEU:N	2.48	0.42
5:B:86:VAL:HG13	5:B:160:VAL:HG13	2.01	0.42
2:3:67:G:H2'	2:3:68:C:O4'	2.19	0.42
12:I:198:LYS:C	12:I:199:PHE:N	2.73	0.42
1:1:1885:U:HO3'	1:1:1886:A:P	2.42	0.42
16:N:75:VAL:CG2	16:N:76:PRO:N	2.79	0.42
3:4:103:G:C6	3:4:105:A:C6	3.07	0.42
6:C:309:ARG:CZ	6:C:312:VAL:HG11	2.49	0.42
1:1:1495:U:O2'	1:1:1842:A:C2	2.70	0.42
24:V:120:LYS:C	24:V:121:GLU:N	2.73	0.42
5:B:3:HIS:C	5:B:4:ARG:N	2.72	0.42
1:1:1617:G:C2	1:1:1828:A:C2	3.07	0.42
28:Z:8:GLY:C	28:Z:9:LYS:N	2.72	0.42
1:1:185:C:H2'	1:1:186:U:O4'	2.19	0.42
20:R:44:LEU:C	20:R:45:VAL:N	2.72	0.42
6:C:33:ASP:O	6:C:37:THR:HG23	2.19	0.42
1:1:355:A:O3'	1:1:356:C:P	2.78	0.42
13:J:9:MET:O	13:J:11:ASP:N	2.49	0.42
1:1:1709:C:C2	1:1:1736:G:N2	2.87	0.42
14:L:76:THR:O	14:L:79:GLU:N	2.52	0.42
3:4:23:U:O3'	3:4:24:G:H5'	2.19	0.42
1:1:2160:G:C3'	1:1:2161:G:P	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:48:LEU:C	12:I:48:LEU:HD13	2.39	0.42
1:1:3261:C:H3'	1:1:3262:U:P	2.58	0.42
25:W:6:ASP:C	25:W:7:SER:N	2.73	0.42
1:1:2634:U:C3'	1:1:2635:A:P	3.07	0.42
1:1:3278:C:H3'	1:1:3279:A:H5''	2.02	0.42
1:1:1063:G:N7	1:1:1097:G:H2'	2.35	0.42
2:3:52:G:C2'	2:3:53:U:O5'	2.67	0.42
9:F:106:LEU:N	9:F:106:LEU:HD23	2.34	0.42
13:J:50:ALA:HB2	13:J:65:ILE:CD1	2.49	0.42
4:A:199:THR:HA	4:A:200:ARG:N	2.34	0.42
20:R:91:SER:HA	20:R:94:VAL:HG11	2.02	0.42
3:4:143:U:OP1	16:N:38:ARG:NH2	2.52	0.42
4:A:121:GLY:O	4:A:122:ASP:N	2.52	0.42
4:A:31:THR:C	4:A:32:LEU:N	2.73	0.42
1:1:1420:C:O2'	1:1:1421:G:O4'	2.37	0.42
6:C:116:ASN:O	6:C:117:GLU:N	2.52	0.42
5:B:75:ALA:O	5:B:76:VAL:HA	2.19	0.42
1:1:826:G:H3'	1:1:827:A:P	2.59	0.42
26:X:97:LYS:O	26:X:100:LYS:N	2.53	0.42
1:1:894:G:O3'	1:1:895:A:O4'	2.36	0.42
6:C:219:LEU:C	6:C:220:ARG:N	2.72	0.42
24:V:68:GLU:O	24:V:69:LEU:N	2.53	0.42
10:G:107:GLU:C	10:G:108:ARG:N	2.72	0.42
13:J:171:VAL:HG13	13:J:172:LEU:N	2.35	0.42
16:N:134:LEU:HD12	16:N:134:LEU:N	2.35	0.42
1:1:3382:U:C2'	1:1:3382:U:O2	2.64	0.42
7:D:214:ASP:O	7:D:215:ASP:HB2	2.19	0.42
17:O:155:LYS:C	17:O:157:GLU:N	2.72	0.42
17:O:165:ALA:O	17:O:168:TYR:CA	2.67	0.42
18:P:97:ASN:C	18:P:98:ALA:HA	2.40	0.42
1:1:2186:U:OP2	4:A:200:ARG:HD2	2.20	0.42
1:1:1558:A:C6	10:G:55:TYR:CE1	3.08	0.42
10:G:50:VAL:HG11	26:X:27:ARG:HG3	2.00	0.42
1:1:211:A:O4'	1:1:229:G:H1'	2.19	0.42
1:1:2356:A:C2	1:1:2357:A:N9	2.88	0.42
7:D:251:PRO:O	7:D:253:PHE:N	2.53	0.42
16:N:35:VAL:C	16:N:36:ILE:CA	2.88	0.42
1:1:802:C:H2'	1:1:803:C:O5'	2.19	0.42
27:Y:112:ASP:HB2	27:Y:115:ARG:HB2	2.00	0.42
18:P:177:ALA:C	18:P:178:ALA:N	2.73	0.42
25:W:23:ARG:N	25:W:27:LYS:O	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:282:ARG:O	7:D:286:VAL:HG23	2.20	0.42
12:I:206:LEU:O	12:I:207:GLU:C	2.57	0.42
19:Q:102:ALA:C	19:Q:103:ALA:N	2.73	0.42
14:L:115:ARG:NH1	14:L:145:PHE:O	2.52	0.42
17:O:100:GLU:O	17:O:101:ARG:C	2.58	0.42
18:P:24:VAL:HG13	18:P:29:THR:HG21	2.01	0.42
1:1:1404:G:C2	1:1:1408:G:C2	3.08	0.42
2:3:10:C:C3'	2:3:11:A:P	3.07	0.42
27:Y:63:LYS:O	27:Y:64:LYS:C	2.58	0.42
1:1:829:U:O3'	1:1:830:A:P	2.77	0.42
6:C:72:ALA:HB3	6:C:74:ILE:HG13	2.00	0.42
8:E:101:PHE:HA	8:E:102:ASN:N	2.33	0.42
24:V:23:MET:CE	24:V:36:ILE:HD11	2.49	0.42
13:J:160:VAL:O	13:J:161:SER:C	2.58	0.42
1:1:2932:U:O2	1:1:2934:A:C8	2.68	0.42
5:B:205:VAL:O	5:B:208:VAL:N	2.53	0.42
1:1:1742:U:H2'	1:1:1743:G:O4'	2.19	0.42
8:E:37:GLY:O	8:E:91:VAL:N	2.52	0.42
1:1:1895:A:N6	1:1:2341:A:N6	2.67	0.42
21:S:73:LYS:O	21:S:74:ASN:HA	2.18	0.42
7:D:118:THR:HG23	7:D:118:THR:O	2.19	0.42
1:1:2778:G:H2'	1:1:2779:A:H5'	2.01	0.42
17:O:125:ARG:C	17:O:127:LEU:N	2.71	0.42
17:O:19:LEU:O	17:O:22:VAL:HG22	2.20	0.42
17:O:36:VAL:CG2	17:O:37:ARG:H	1.98	0.42
4:A:78:ALA:O	4:A:170:ALA:N	2.52	0.42
13:J:38:GLU:O	13:J:42:GLY:N	2.52	0.42
9:F:135:ALA:C	9:F:136:TYR:CA	2.88	0.42
18:P:75:GLU:C	18:P:76:PHE:N	2.73	0.42
1:1:2641:U:O2	1:1:2641:U:H2'	2.19	0.42
1:1:1535:A:O3'	1:1:1536:G:P	2.78	0.42
11:H:75:VAL:O	11:H:78:MET:N	2.52	0.42
1:1:1168:U:O4	1:1:1329:U:H2'	2.20	0.42
14:L:140:SER:O	14:L:141:ALA:N	2.53	0.42
7:D:109:THR:C	7:D:110:LEU:N	2.73	0.42
2:3:95:A:C6	2:3:96:U:C4	3.08	0.42
4:A:211:HIS:C	4:A:212:GLY:HA2	2.40	0.42
1:1:406:G:N3	3:4:16:G:C2	2.88	0.42
1:1:551:A:H2'	1:1:552:G:O4'	2.20	0.42
1:1:87:U:O3'	1:1:88:A:P	2.78	0.42
17:O:78:ARG:HG3	17:O:78:ARG:HH11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:205:PHE:HA	9:F:206:LYS:N	2.35	0.42
6:C:131:VAL:O	6:C:134:LEU:N	2.53	0.42
16:N:7:LEU:O	16:N:10:LEU:N	2.52	0.42
24:V:14:SER:C	24:V:15:LEU:CA	2.85	0.42
1:1:1843:C:O3'	1:1:1844:C:P	2.78	0.42
4:A:71:LEU:CD1	4:A:71:LEU:N	2.82	0.42
1:1:841:A:H2'	1:1:842:G:O4'	2.20	0.42
1:1:1554:U:HO2'	1:1:1582:C:H5	1.64	0.42
1:1:2674:A:O4'	13:J:105:GLY:HA3	2.20	0.42
1:1:336:A:O2'	1:1:337:G:O4'	2.38	0.42
1:1:2137:U:H3'	1:1:2138:A:P	2.59	0.42
1:1:1599:G:N2	1:1:1609:C:C2	2.87	0.42
1:1:1316:C:O3'	1:1:1317:A:P	2.78	0.42
24:V:81:GLN:O	24:V:82:ALA:HB3	2.19	0.42
13:J:166:LYS:O	13:J:167:TYR:CB	2.67	0.42
10:G:195:SER:O	10:G:196:ALA:HB3	2.20	0.42
1:1:2270:A:N1	1:1:2271:A:C2	2.88	0.42
1:1:1655:G:C6	1:1:1656:A:C6	3.08	0.42
1:1:1354:G:C2	1:1:1357:G:O3'	2.73	0.42
20:R:25:ASP:N	20:R:49:THR:O	2.53	0.42
17:O:46:GLU:O	17:O:47:PHE:C	2.58	0.42
17:O:5:PRO:CG	17:O:6:VAL:N	2.83	0.42
1:1:2941:A:N7	5:B:255:TRP:CE2	2.88	0.42
1:1:1323:G:H2'	1:1:1324:U:O5'	2.20	0.42
20:R:173:ARG:HA	20:R:176:ARG:HB2	2.01	0.42
1:1:2513:U:C5	1:1:2592:G:C6	3.08	0.42
10:G:84:ARG:C	10:G:85:ASN:C	2.78	0.42
1:1:2655:U:H1'	1:1:2656:A:C2	2.55	0.42
1:1:2641:U:C3'	1:1:2642:A:P	3.07	0.42
1:1:1584:U:H3'	1:1:1585:C:P	2.59	0.42
1:1:2768:U:H3'	1:1:2769:A:P	2.60	0.42
2:3:79:A:H3'	2:3:80:G:P	2.59	0.42
1:1:283:G:N3	1:1:283:G:C3'	2.82	0.42
7:D:261:THR:HG1	7:D:264:GLN:N	2.18	0.42
9:F:141:TYR:CA	9:F:189:ILE:HD12	2.50	0.42
1:1:321:C:C3'	1:1:322:U:P	3.08	0.42
24:V:69:LEU:N	24:V:69:LEU:HD22	2.35	0.42
1:1:1757:A:C2	1:1:1769:G:C2	3.08	0.42
1:1:1856:C:H2'	1:1:1857:C:C6	2.55	0.42
1:1:955:U:H2'	1:1:956:U:C6	2.55	0.42
13:J:78:GLU:HB2	13:J:79:ILE:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:48:PHE:CA	17:O:49:ARG:N	2.79	0.42
1:1:3152:U:C5	1:1:3395:G:C6	3.08	0.42
16:N:135:VAL:HG23	16:N:142:ILE:HG12	2.01	0.42
1:1:960:U:O2'	1:1:961:C:O5'	2.35	0.42
6:C:71:VAL:C	6:C:72:ALA:CA	2.87	0.42
1:1:1363:A:H2'	1:1:1364:C:O5'	2.20	0.42
6:C:346:LYS:O	6:C:347:THR:N	2.52	0.42
1:1:2861:U:H2'	1:1:2862:U:O4'	2.20	0.42
21:S:69:PRO:O	21:S:97:VAL:HG22	2.20	0.42
1:1:304:G:H2'	1:1:304:G:N3	2.35	0.42
10:G:189:LEU:C	10:G:189:LEU:HD12	2.40	0.42
1:1:2726:C:O5'	1:1:2726:C:O2	2.37	0.42
11:H:122:LYS:C	11:H:123:ILE:HA	2.40	0.42
17:O:164:SER:C	17:O:166:GLU:N	2.73	0.41
1:1:1921:A:OP2	1:1:1930:A:N6	2.46	0.41
4:A:40:TYR:CB	4:A:94:ALA:HB2	2.49	0.41
1:1:80:G:O3'	1:1:81:C:P	2.78	0.41
7:D:77:ALA:CA	7:D:78:ALA:HB2	2.50	0.41
13:J:159:THR:C	13:J:160:VAL:N	2.74	0.41
3:4:88:A:C6	3:4:89:A:C2	3.07	0.41
1:1:212:G:HO3'	1:1:213:A:C5'	2.33	0.41
1:1:1329:U:H4'	1:1:1330:A:OP1	2.19	0.41
25:W:7:SER:N	25:W:30:ARG:O	2.53	0.41
24:V:85:TRP:O	24:V:86:ARG:HA	2.20	0.41
24:V:122:CYS:C	24:V:123:ALA:N	2.74	0.41
1:1:2341:A:OP2	5:B:247:ARG:NH2	2.53	0.41
1:1:1164:G:H3'	1:1:1165:A:P	2.60	0.41
15:M:68:LEU:C	15:M:69:THR:N	2.74	0.41
1:1:1467:A:N1	1:1:1511:U:O2'	2.49	0.41
1:1:649:A:H2'	1:1:650:C:C6	2.55	0.41
1:1:3345:G:C5'	1:1:3346:U:OP2	2.68	0.41
1:1:1120:A:C2	1:1:1139:G:C2	3.07	0.41
21:S:45:LEU:C	21:S:47:LYS:H	2.23	0.41
3:4:6:U:H3'	3:4:7:U:OP2	2.20	0.41
18:P:16:SER:O	18:P:17:ALA:HB2	2.20	0.41
13:J:21:ILE:HG13	13:J:37:LEU:HD11	2.02	0.41
1:1:372:A:N6	1:1:394:G:O3'	2.53	0.41
7:D:58:LYS:N	7:D:58:LYS:CD	2.82	0.41
1:1:2551:U:O4	4:A:95:SER:N	2.53	0.41
28:Z:44:ALA:HB2	28:Z:114:VAL:HG11	2.01	0.41
1:1:2814:G:OP1	6:C:73:ARG:NH2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:705:A:N1	1:1:714:G:O2'	2.40	0.41
1:1:787:G:C3'	1:1:788:C:P	3.07	0.41
1:1:3367:C:C3'	1:1:3368:U:P	3.08	0.41
1:1:879:U:O2'	18:P:131:ARG:NH2	2.53	0.41
1:1:2634:U:O4	1:1:2635:A:C6	2.73	0.41
1:1:619:A:C3'	1:1:620:U:P	3.08	0.41
22:T:17:ARG:NH1	22:T:21:LYS:O	2.53	0.41
1:1:333:G:C2	3:4:31:G:C2	3.07	0.41
18:P:157:VAL:HG12	18:P:158:ALA:HB3	2.02	0.41
1:1:2555:G:H2'	1:1:2556:C:O4'	2.20	0.41
17:O:178:VAL:O	17:O:178:VAL:CG1	2.69	0.41
3:4:45:C:C3'	3:4:46:G:P	3.07	0.41
6:C:50:TYR:O	6:C:51:ALA:HB2	2.20	0.41
19:Q:52:LEU:C	19:Q:53:PHE:N	2.73	0.41
1:1:2383:C:C3'	1:1:2384:A:P	3.02	0.41
5:B:295:ALA:C	5:B:296:THR:N	2.74	0.41
13:J:101:ASN:OD1	13:J:131:MET:N	2.53	0.41
14:L:142:ALA:C	14:L:143:ALA:N	2.73	0.41
13:J:86:VAL:HG22	13:J:111:ASP:CB	2.49	0.41
4:A:193:ARG:O	4:A:195:SER:N	2.54	0.41
1:1:1564:U:H2'	1:1:1565:G:O4'	2.20	0.41
4:A:126:LEU:HD13	4:A:150:LEU:CD2	2.51	0.41
17:O:167:TYR:CZ	17:O:171:LYS:HD2	2.56	0.41
10:G:53:PRO:HD3	26:X:32:PHE:CD2	2.55	0.41
7:D:37:VAL:HG12	7:D:38:THR:HA	2.02	0.41
2:3:67:G:C4	2:3:68:C:C6	3.08	0.41
13:J:21:ILE:HG22	13:J:23:VAL:HG23	2.01	0.41
6:C:51:ALA:HA	6:C:52:VAL:N	2.35	0.41
1:1:959:C:O3'	1:1:960:U:OP1	2.39	0.41
21:S:82:ASP:N	21:S:120:SER:O	2.53	0.41
22:T:119:ALA:O	22:T:124:VAL:N	2.53	0.41
1:1:1764:U:H2'	1:1:1765:U:H4'	2.01	0.41
1:1:1781:C:H2'	1:1:1782:U:O4'	2.20	0.41
1:1:676:G:O3'	1:1:677:A:P	2.78	0.41
19:Q:102:ALA:CA	19:Q:103:ALA:N	2.83	0.41
5:B:57:VAL:HG22	5:B:73:VAL:HG12	2.03	0.41
10:G:178:ALA:C	10:G:179:ILE:N	2.74	0.41
1:1:244:G:H2'	1:1:245:U:O4'	2.19	0.41
17:O:24:ALA:O	17:O:25:LYS:O	2.38	0.41
12:I:87:LEU:CA	12:I:88:ARG:N	2.83	0.41
6:C:112:LYS:C	6:C:113:VAL:HA	2.41	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2864:A:H2'	1:1:2865:U:O4'	2.20	0.41
1:1:3214:U:O4	15:M:124:ARG:NH1	2.54	0.41
5:B:323:MET:CA	5:B:324:VAL:N	2.83	0.41
6:C:233:LEU:HD22	6:C:238:LEU:HD11	2.02	0.41
20:R:156:ASN:O	20:R:157:GLU:HB3	2.21	0.41
6:C:55:LYS:O	6:C:58:HIS:N	2.54	0.41
3:4:72:A:O3'	3:4:73:U:P	2.77	0.41
1:1:3294:A:H3'	1:1:3295:A:P	2.61	0.41
7:D:163:LEU:C	7:D:163:LEU:HD22	2.41	0.41
6:C:18:ASN:N	6:C:18:ASN:HD22	2.18	0.41
10:G:29:SER:C	10:G:30:THR:N	2.74	0.41
7:D:153:THR:HG23	7:D:160:PHE:CZ	2.53	0.41
17:O:130:LYS:HA	17:O:131:PRO:HD3	1.94	0.41
12:I:177:ASP:O	12:I:178:ARG:N	2.53	0.41
1:1:3042:U:H3'	1:1:3043:C:P	2.60	0.41
15:M:66:THR:HB	15:M:67:PRO:HD2	2.02	0.41
20:R:138:LEU:HD23	20:R:138:LEU:O	2.20	0.41
12:I:193:ASP:O	12:I:194:GLY:C	2.58	0.41
1:1:1278:A:O2'	1:1:1279:C:C6	2.70	0.41
1:1:65:A:O3'	1:1:66:A:P	2.79	0.41
9:F:177:GLY:O	9:F:178:ILE:C	2.58	0.41
1:1:205:C:H3'	1:1:206:G:P	2.61	0.41
1:1:3236:U:H2'	1:1:3237:U:H6	1.86	0.41
17:O:39:GLU:N	17:O:39:GLU:CD	2.70	0.41
1:1:2184:U:H3'	1:1:2185:G:P	2.61	0.41
17:O:174:PHE:C	17:O:176:LYS:H	2.22	0.41
9:F:239:LEU:O	9:F:240:VAL:N	2.54	0.41
1:1:359:U:C2	1:1:920:A:N6	2.89	0.41
5:B:77:THR:O	5:B:78:VAL:N	2.54	0.41
16:N:156:HIS:O	16:N:157:LYS:N	2.53	0.41
1:1:1553:U:H3'	1:1:1554:U:P	2.61	0.41
10:G:143:ILE:HD11	10:G:151:VAL:HG21	2.02	0.41
6:C:287:THR:O	6:C:288:ARG:C	2.57	0.41
5:B:8:ALA:HB1	5:B:9:PRO:CD	2.51	0.41
12:I:31:ILE:C	12:I:32:ARG:HA	2.41	0.41
1:1:1295:G:OP1	21:S:84:ARG:N	2.53	0.41
6:C:271:LYS:HB2	6:C:274:TYR:HB3	2.02	0.41
1:1:2923:U:O3'	1:1:2924:U:OP1	2.35	0.41
1:1:1902:G:C6	1:1:1903:U:C2	3.08	0.41
1:1:2195:C:H3'	1:1:2196:C:OP1	2.20	0.41
1:1:2341:A:C6	1:1:2342:U:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:159:ARG:HA	5:B:181:ILE:O	2.21	0.41
1:1:1551:C:H2'	1:1:1552:G:O4'	2.20	0.41
1:1:55:G:H3'	1:1:56:G:P	2.61	0.41
1:1:45:A:P	16:N:85:THR:HG21	2.61	0.41
17:O:186:ALA:HA	17:O:188:SER:OG	2.20	0.41
1:1:1868:G:C5	1:1:1869:C:C5	3.08	0.41
1:1:1468:A:H2'	1:1:1468:A:N3	2.35	0.41
4:A:185:ALA:O	4:A:186:PHE:C	2.59	0.41
4:A:136:ILE:HG23	4:A:146:THR:CG2	2.50	0.41
1:1:3151:U:H3'	1:1:3152:U:P	2.61	0.41
6:C:298:ALA:HB1	19:Q:133:LYS:HG3	2.02	0.41
1:1:1111:U:C3'	1:1:1112:A:P	3.07	0.41
6:C:240:PRO:C	6:C:241:GLY:N	2.74	0.41
5:B:382:THR:OG1	5:B:387:LEU:HD13	2.21	0.41
22:T:79:MET:CA	22:T:80:VAL:N	2.83	0.41
15:M:113:THR:O	15:M:116:GLU:N	2.53	0.41
1:1:2971:A:N3	1:1:2971:A:C3'	2.80	0.41
3:4:5:U:H2'	3:4:6:U:O4'	2.20	0.41
1:1:3228:C:O2'	1:1:3229:G:P	2.79	0.41
5:B:62:ARG:O	5:B:63:PRO:C	2.59	0.41
5:B:201:LYS:C	5:B:202:THR:N	2.74	0.41
7:D:171:LEU:C	7:D:172:TYR:N	2.73	0.41
1:1:366:A:H2'	1:1:367:A:O4'	2.21	0.41
1:1:1488:G:C2	1:1:1489:A:C8	3.08	0.41
1:1:1498:A:C2	1:1:1519:G:C2	3.09	0.41
16:N:84:PRO:O	16:N:85:THR:N	2.54	0.41
12:I:87:LEU:C	12:I:88:ARG:CA	2.85	0.41
10:G:197:VAL:CA	10:G:198:ALA:N	2.84	0.41
1:1:3394:U:O3'	1:1:3395:G:P	2.79	0.41
11:H:114:VAL:C	11:H:115:ARG:N	2.74	0.41
16:N:113:LEU:C	16:N:114:ARG:N	2.74	0.41
16:N:113:LEU:HD12	16:N:136:ASP:CA	2.51	0.41
7:D:76:ALA:O	7:D:77:ALA:N	2.53	0.41
16:N:159:ARG:O	16:N:160:GLU:N	2.54	0.41
24:V:102:ILE:HD11	24:V:110:LYS:HE2	2.03	0.41
1:1:2101:C:C2	1:1:2102:U:C5	3.09	0.41
1:1:2223:A:H2'	1:1:2224:A:O4'	2.20	0.41
1:1:1628:C:H5''	1:1:1629:U:H3'	2.03	0.41
1:1:1398:U:C3'	1:1:1399:A:P	3.08	0.41
8:E:165:LEU:HA	8:E:166:LYS:N	2.36	0.41
1:1:3190:C:O3'	1:1:3191:G:P	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2190:U:C4	1:1:2191:U:C4	3.09	0.41
21:S:79:VAL:HG13	21:S:121:ILE:HG23	2.03	0.41
1:1:2661:G:H3'	1:1:2662:G:OP2	2.21	0.41
1:1:3267:A:N6	8:E:71:VAL:O	2.49	0.41
17:O:46:GLU:HB3	17:O:134:LYS:HE3	2.02	0.41
16:N:84:PRO:O	16:N:85:THR:C	2.60	0.41
17:O:28:LEU:N	17:O:28:LEU:HD23	2.34	0.41
1:1:860:G:HO3'	1:1:861:C:P	2.41	0.41
6:C:257:LYS:O	6:C:261:VAL:HG12	2.20	0.41
1:1:1444:G:H3'	1:1:1445:U:P	2.61	0.41
15:M:13:ARG:NH1	15:M:65:LEU:O	2.52	0.41
6:C:194:TYR:C	6:C:195:ARG:HG3	2.41	0.41
1:1:29:C:C3'	1:1:30:G:P	3.08	0.41
20:R:51:VAL:HG23	20:R:51:VAL:O	2.21	0.41
14:L:27:ASP:O	14:L:28:GLN:C	2.59	0.41
19:Q:67:ILE:O	19:Q:68:ALA:N	2.53	0.41
5:B:305:ILE:H	5:B:305:ILE:HD12	1.86	0.41
5:B:317:ILE:C	5:B:318:LYS:HA	2.41	0.41
2:3:50:U:H2'	2:3:51:A:H5''	2.03	0.41
4:A:33:ASP:OD1	4:A:36:GLU:N	2.54	0.41
12:I:47:PRO:HB3	12:I:171:TRP:CH2	2.56	0.41
22:T:92:ARG:O	22:T:93:VAL:C	2.58	0.41
9:F:84:VAL:HG13	9:F:119:VAL:HG21	2.03	0.41
1:1:1320:C:O3'	1:1:1321:G:P	2.79	0.41
1:1:255:A:H2'	1:1:256:G:H5'	2.03	0.41
1:1:275:U:C3'	1:1:276:U:P	3.08	0.41
1:1:1578:C:H2'	1:1:1579:C:C6	2.56	0.41
19:Q:121:CYS:C	19:Q:122:ILE:HD12	2.42	0.41
1:1:298:U:C2'	1:1:298:U:O2	2.69	0.41
1:1:1658:G:H2'	1:1:1659:U:O4'	2.19	0.41
1:1:2632:G:H2'	1:1:2633:U:O4'	2.20	0.41
9:F:106:LEU:O	9:F:115:THR:HG21	2.21	0.41
1:1:3209:A:O2'	1:1:3210:A:H5'	2.20	0.41
3:4:95:G:O3'	3:4:96:A:P	2.79	0.41
1:1:3184:A:H2'	1:1:3185:U:O5'	2.21	0.41
7:D:169:GLY:C	7:D:170:GLY:N	2.74	0.41
1:1:3049:A:O3'	1:1:3050:U:P	2.79	0.41
17:O:109:PRO:CG	17:O:110:PRO:CD	2.93	0.41
1:1:1746:U:H2'	1:1:1747:G:O4'	2.21	0.41
1:1:394:G:H3'	1:1:395:A:P	2.61	0.41
6:C:159:ILE:HD13	6:C:165:ALA:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:58:VAL:O	10:G:60:ARG:N	2.54	0.41
21:S:81:TYR:C	21:S:82:ASP:N	2.74	0.41
1:1:1916:U:OP1	20:R:85:ARG:N	2.54	0.41
6:C:300:ARG:HB2	6:C:301:PRO:HD2	2.02	0.41
3:4:88:A:N6	3:4:89:A:C2	2.89	0.41
23:U:82:LYS:O	23:U:83:TYR:C	2.59	0.41
13:J:136:ALA:O	13:J:137:ARG:N	2.54	0.41
1:1:3353:G:O2'	1:1:3354:U:OP1	2.30	0.41
1:1:2682:C:O3'	1:1:2683:U:P	2.79	0.41
1:1:180:C:H2'	1:1:181:U:O4'	2.21	0.41
1:1:1309:U:H3'	1:1:1310:G:C5'	2.51	0.41
1:1:357:A:H2'	1:1:358:G:O4'	2.21	0.40
28:Z:114:VAL:O	28:Z:115:LYS:N	2.54	0.40
25:W:36:SER:C	25:W:37:ALA:N	2.74	0.40
25:W:36:SER:O	25:W:37:ALA:N	2.54	0.40
1:1:2929:C:C3'	1:1:2930:A:P	3.09	0.40
14:L:98:ASP:O	14:L:101:ARG:N	2.50	0.40
6:C:215:ILE:C	6:C:216:VAL:CA	2.90	0.40
27:Y:19:TYR:O	27:Y:20:PHE:CA	2.69	0.40
1:1:2676:A:N6	1:1:2680:A:N1	2.69	0.40
5:B:113:GLU:OE1	5:B:166:ILE:N	2.53	0.40
1:1:3038:U:H2'	1:1:3039:C:O4'	2.21	0.40
1:1:3030:G:C6	1:1:3031:G:C4	3.09	0.40
11:H:146:LEU:HD12	11:H:146:LEU:N	2.36	0.40
27:Y:105:VAL:O	27:Y:106:ILE:C	2.59	0.40
17:O:121:PRO:O	17:O:124:LEU:N	2.54	0.40
4:A:207:VAL:C	4:A:208:ASP:CA	2.89	0.40
11:H:18:VAL:HG12	11:H:27:VAL:HG22	2.02	0.40
16:N:112:ASN:ND2	16:N:113:LEU:HD13	2.36	0.40
3:4:27:U:H2'	3:4:28:C:C6	2.57	0.40
1:1:993:G:O3'	1:1:994:G:OP2	2.39	0.40
1:1:63:A:H5''	16:N:174:ILE:HG21	2.04	0.40
1:1:1244:A:N6	1:1:1271:A:OP2	2.54	0.40
1:1:68:C:O3'	1:1:69:C:P	2.79	0.40
1:1:1422:G:H2'	1:1:1423:C:C6	2.56	0.40
28:Z:96:VAL:HG13	28:Z:100:THR:HG21	2.03	0.40
5:B:56:ILE:HG13	5:B:356:LEU:HD22	2.02	0.40
21:S:9:VAL:HG22	21:S:61:ILE:HG12	2.03	0.40
7:D:62:CYS:HA	7:D:63:GLN:N	2.36	0.40
1:1:1103:A:N3	1:1:1103:A:H2'	2.36	0.40
1:1:2165:G:O2'	1:1:2167:A:N7	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:204:ALA:O	5:B:205:VAL:C	2.60	0.40
1:1:589:A:C5	1:1:610:G:N3	2.89	0.40
1:1:776:U:C5	1:1:2719:U:O2	2.74	0.40
7:D:190:ILE:O	7:D:190:ILE:HG23	2.20	0.40
1:1:1412:G:HO3'	1:1:1413:G:P	2.44	0.40
27:Y:45:ILE:HD13	27:Y:48:LEU:HD21	2.03	0.40
1:1:1334:U:H2'	1:1:1335:C:C6	2.56	0.40
1:1:123:A:C6	1:1:150:A:C5	3.09	0.40
17:O:124:LEU:HA	17:O:124:LEU:HD12	1.81	0.40
20:R:145:ALA:O	20:R:146:LYS:N	2.52	0.40
1:1:992:A:H2'	1:1:993:G:O4'	2.21	0.40
6:C:330:TYR:O	6:C:331:ALA:N	2.53	0.40
19:Q:42:ALA:HB1	19:Q:43:PRO:HD2	2.03	0.40
7:D:145:PHE:CA	7:D:146:LEU:N	2.83	0.40
1:1:1116:G:N2	1:1:2817:A:O4'	2.54	0.40
18:P:80:LYS:O	18:P:81:ALA:HA	2.21	0.40
1:1:1397:C:H2'	1:1:1398:U:O4'	2.22	0.40
1:1:878:G:O3'	1:1:879:U:P	2.80	0.40
23:U:90:ARG:O	23:U:91:ASP:HB2	2.21	0.40
1:1:1354:G:C6	1:1:1358:C:H5'	2.57	0.40
1:1:547:G:H2'	1:1:548:G:C8	2.56	0.40
1:1:694:C:O3'	1:1:695:C:P	2.80	0.40
1:1:600:G:H2'	1:1:602:A:N7	2.36	0.40
17:O:12:LYS:O	17:O:13:GLY:C	2.59	0.40
17:O:168:TYR:O	17:O:172:ARG:N	2.54	0.40
1:1:913:A:O2'	1:1:2146:C:O2	2.37	0.40
1:1:1558:A:N6	10:G:55:TYR:CE1	2.89	0.40
5:B:323:MET:C	5:B:324:VAL:N	2.75	0.40
20:R:11:ALA:HB2	20:R:50:ILE:HG21	2.02	0.40
10:G:145:ASN:ND2	10:G:145:ASN:N	2.69	0.40
1:1:2487:U:O2'	1:1:2488:A:O5'	2.38	0.40
24:V:20:GLY:N	24:V:36:ILE:O	2.54	0.40
1:1:1017:C:HO2'	1:1:1018:G:P	2.39	0.40
20:R:63:THR:O	20:R:64:ARG:C	2.59	0.40
1:1:275:U:O2'	1:1:276:U:O4'	2.33	0.40
1:1:2107:A:C5	1:1:2108:C:C5	3.10	0.40
1:1:2988:C:O2	5:B:266:ARG:NH1	2.54	0.40
1:1:3022:G:O2'	1:1:3023:U:P	2.79	0.40
1:1:922:U:C2'	1:1:922:U:O2	2.68	0.40
1:1:1740:U:H4'	1:1:1741:A:H5'	2.03	0.40
28:Z:132:SER:C	28:Z:133:LYS:N	2.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2266:U:H2'	1:1:2267:C:C6	2.56	0.40
14:L:108:ILE:O	14:L:109:PHE:C	2.60	0.40
17:O:127:LEU:HD23	17:O:127:LEU:N	2.23	0.40
17:O:5:PRO:HG2	17:O:6:VAL:N	2.35	0.40
22:T:76:ILE:HG22	22:T:77:ASN:CA	2.51	0.40
1:1:2131:A:HO2'	1:1:2321:A:H61	1.69	0.40
18:P:94:LEU:CD2	18:P:146:ILE:HG22	2.51	0.40
9:F:239:LEU:O	9:F:241:LYS:N	2.54	0.40
9:F:72:ALA:O	9:F:73:GLY:N	2.54	0.40
1:1:90:C:C3'	1:1:91:G:P	3.09	0.40
1:1:1425:U:H2'	1:1:1426:C:C6	2.57	0.40
1:1:2437:G:N3	1:1:2510:A:H2	2.12	0.40
4:A:128:ARG:NH1	14:L:63:VAL:HG12	93.66	0.40
13:J:72:ARG:O	13:J:75:LYS:N	4.17	0.40
12:I:46:PHE:HA	12:I:47:PRO:HD2	1.90	0.40
8:E:39:VAL:HG12	8:E:40:LEU:O	2.22	0.40
1:1:2617:U:O2	1:1:2617:U:C2'	2.70	0.40
1:1:632:G:H2'	1:1:633:C:C6	2.55	0.40
1:1:2238:G:H3'	1:1:2239:G:P	2.62	0.40
12:I:12:GLN:C	12:I:13:LYS:N	2.75	0.40
1:1:804:C:H3'	1:1:805:G:OP2	2.21	0.40
15:M:125:LYS:C	15:M:126:GLN:N	2.75	0.40
1:1:739:G:HO2'	1:1:740:G:H8	1.69	0.40
28:Z:10:VAL:HG23	28:Z:86:THR:HA	2.03	0.40
1:1:3350:C:O2'	1:1:3351:U:O5'	2.32	0.40
2:3:1:G:C2	2:3:2:G:C8	3.10	0.40
6:C:250:TRP:CZ3	6:C:258:LEU:HD21	2.57	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	
4	A	135/254 (53%)	107 (79%)	21 (16%)	7 (5%)	2	30
5	B	240/387 (62%)	198 (82%)	25 (10%)	17 (7%)	1	22
6	C	215/362 (59%)	168 (78%)	26 (12%)	21 (10%)	1	13
7	D	164/297 (55%)	128 (78%)	25 (15%)	11 (7%)	1	24
8	E	103/176 (58%)	91 (88%)	7 (7%)	5 (5%)	3	32
9	F	136/244 (56%)	121 (89%)	10 (7%)	5 (4%)	4	40
10	G	122/256 (48%)	100 (82%)	13 (11%)	9 (7%)	1	21
11	H	106/191 (56%)	84 (79%)	18 (17%)	4 (4%)	4	39
12	I	119/221 (54%)	102 (86%)	12 (10%)	5 (4%)	3	36
13	J	103/174 (59%)	85 (82%)	10 (10%)	8 (8%)	1	19
14	L	103/199 (52%)	79 (77%)	14 (14%)	10 (10%)	1	13
15	M	84/138 (61%)	68 (81%)	10 (12%)	6 (7%)	1	22
16	N	114/204 (56%)	94 (82%)	11 (10%)	9 (8%)	1	18
17	O	181/398 (46%)	69 (38%)	53 (29%)	59 (33%)	0	0
18	P	106/184 (58%)	96 (91%)	7 (7%)	3 (3%)	6	47
19	Q	100/186 (54%)	81 (81%)	13 (13%)	6 (6%)	2	26
20	R	105/189 (56%)	74 (70%)	26 (25%)	5 (5%)	3	32
21	S	87/172 (51%)	63 (72%)	17 (20%)	7 (8%)	1	18
22	T	93/160 (58%)	69 (74%)	19 (20%)	5 (5%)	2	29
23	U	58/121 (48%)	50 (86%)	5 (9%)	3 (5%)	2	30
24	V	73/137 (53%)	65 (89%)	6 (8%)	2 (3%)	6	48
25	W	33/155 (21%)	29 (88%)	4 (12%)	0	100	100
26	X	76/142 (54%)	63 (83%)	8 (10%)	5 (7%)	1	24
27	Y	71/127 (56%)	50 (70%)	17 (24%)	4 (6%)	2	28
28	Z	66/136 (48%)	48 (73%)	13 (20%)	5 (8%)	1	19
29	a	75/149 (50%)	56 (75%)	13 (17%)	6 (8%)	1	18
30	b	27/59 (46%)	19 (70%)	5 (18%)	3 (11%)	0	10
31	c	56/105 (53%)	44 (79%)	8 (14%)	4 (7%)	1	22
32	d	68/113 (60%)	59 (87%)	6 (9%)	3 (4%)	3	35
33	e	82/130 (63%)	68 (83%)	8 (10%)	6 (7%)	1	21
34	f	52/107 (49%)	42 (81%)	7 (14%)	3 (6%)	2	27
35	g	65/121 (54%)	57 (88%)	6 (9%)	2 (3%)	5	45

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	h	66/120 (55%)	52 (79%)	8 (12%)	6 (9%)	1	15
37	i	47/100 (47%)	33 (70%)	10 (21%)	4 (8%)	1	16
38	j	48/88 (54%)	35 (73%)	7 (15%)	6 (12%)	0	8
39	k	43/78 (55%)	32 (74%)	9 (21%)	2 (5%)	3	33
40	l	27/51 (53%)	20 (74%)	5 (18%)	2 (7%)	1	21
41	m	26/128 (20%)	22 (85%)	3 (12%)	1 (4%)	4	39
42	n	14/25 (56%)	9 (64%)	4 (29%)	1 (7%)	1	22
43	o	71/106 (67%)	58 (82%)	10 (14%)	3 (4%)	3	36
44	p	59/92 (64%)	53 (90%)	4 (7%)	2 (3%)	5	43
45	t	121/217 (56%)	82 (68%)	24 (20%)	15 (12%)	0	8
All	All	3740/6999 (53%)	2923 (78%)	527 (14%)	290 (8%)	2	19

All (290) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	A	33	ASP
4	A	120	PRO
5	B	61	ASP
5	B	113	GLU
5	B	146	ARG
5	B	165	GLN
5	B	188	ILE
5	B	205	VAL
5	B	256	HIS
5	B	257	PRO
5	B	292	ALA
6	C	5	GLN
6	C	140	HIS
6	C	149	PRO
6	C	175	HIS
6	C	269	SER
7	D	57	ASN
7	D	58	LYS
7	D	119	TYR
7	D	215	ASP
7	D	256	THR
10	G	81	THR
10	G	219	ASP

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Mol	Chain	Res	Type
12	I	72	ALA
12	I	79	VAL
12	I	194	GLY
13	J	10	ARG
13	J	88	GLU
14	L	47	ALA
14	L	82	ALA
14	L	131	LYS
15	M	8	LYS
15	M	9	ALA
16	N	74	PRO
16	N	79	ALA
17	O	7	VAL
17	O	12	LYS
17	O	15	LEU
17	O	21	SER
17	O	22	VAL
17	O	27	LEU
17	O	28	LEU
17	O	37	ARG
17	O	39	GLU
17	O	41	LEU
17	O	42	ASN
17	O	50	ASN
17	O	57	PHE
17	O	66	LYS
17	O	68	ARG
17	O	77	SER
17	O	78	ARG
17	O	81	TYR
17	O	82	LYS
17	O	86	GLY
17	O	97	ALA
17	O	104	VAL
17	O	109	PRO
17	O	110	PRO
17	O	111	PRO
17	O	121	PRO
17	O	122	GLN
17	O	137	THR
17	O	138	LEU
17	O	148	LYS

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Mol	Chain	Res	Type
17	O	159	LYS
17	O	160	ARG
17	O	161	LYS
17	O	165	ALA
17	O	169	ALA
17	O	187	GLU
17	O	188	SER
19	Q	162	ALA
20	R	157	GLU
21	S	37	ALA
21	S	53	LYS
22	T	118	GLU
22	T	124	VAL
23	U	38	ILE
23	U	91	ASP
26	X	53	HIS
27	Y	87	LYS
27	Y	101	PRO
28	Z	129	TRP
29	a	117	ARG
30	b	21	ILE
31	c	10	ILE
31	c	81	VAL
33	e	7	PRO
33	e	127	ALA
34	f	42	GLN
34	f	104	PRO
35	g	59	PRO
37	i	13	LYS
37	i	70	ARG
38	j	39	TYR
38	j	40	PRO
38	j	85	LYS
39	k	50	SER
39	k	75	VAL
40	l	28	ARG
40	l	50	ASN
43	o	30	ALA
43	o	60	LYS
44	p	25	GLN
45	t	90	LEU
45	t	105	LYS

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Mol	Chain	Res	Type
45	t	160	LYS
45	t	170	GLY
45	t	193	LEU
45	t	194	LEU
45	t	195	LYS
45	t	213	ALA
4	A	144	ASN
4	A	217	GLN
4	A	251	LYS
5	B	17	LEU
5	B	187	SER
5	B	368	GLY
6	C	4	PRO
6	C	146	PRO
6	C	182	LEU
6	C	233	LEU
6	C	273	GLY
6	C	296	GLN
6	C	348	GLY
7	D	276	LYS
8	E	69	PHE
9	F	24	GLU
9	F	163	LEU
9	F	178	ILE
9	F	222	HIS
10	G	25	PRO
10	G	121	SER
11	H	27	VAL
13	J	8	PRO
13	J	94	ARG
13	J	113	GLY
14	L	71	ALA
14	L	166	ALA
15	M	136	ALA
16	N	55	ALA
16	N	87	GLN
17	O	55	HIS
17	O	76	PRO
17	O	83	ALA
17	O	175	THR
20	R	121	HIS
24	V	82	ALA

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Mol	Chain	Res	Type
26	X	50	ALA
26	X	62	VAL
29	a	24	LYS
29	a	145	VAL
31	c	78	GLY
31	c	100	ILE
33	e	86	THR
38	j	48	ASN
42	n	4	LYS
45	t	79	SER
45	t	108	ASN
45	t	155	ILE
5	B	63	PRO
5	B	155	ALA
6	C	232	SER
6	C	291	ASN
7	D	7	ALA
7	D	40	HIS
8	E	5	LYS
8	E	34	LEU
13	J	64	LYS
14	L	108	ILE
15	M	133	LYS
16	N	76	PRO
17	O	20	ALA
17	O	128	ARG
17	O	141	LEU
17	O	178	VAL
18	P	160	ALA
19	Q	13	SER
19	Q	33	TYR
19	Q	147	ARG
20	R	106	LEU
27	Y	64	LYS
29	a	115	LYS
30	b	11	ASN
32	d	61	LYS
33	e	12	LYS
33	e	21	HIS
34	f	103	TYR
36	h	87	ALA
36	h	119	LYS

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Mol	Chain	Res	Type
38	j	53	ALA
38	j	84	SER
44	p	60	CYS
4	A	26	ALA
5	B	60	LEU
5	B	304	THR
6	C	218	ALA
6	C	317	PRO
6	C	334	PHE
6	C	361	HIS
7	D	277	LEU
10	G	36	ILE
10	G	65	LEU
10	G	157	VAL
11	H	50	ASN
14	L	133	PRO
14	L	134	GLU
15	M	29	ALA
16	N	75	VAL
17	O	75	ALA
17	O	101	ARG
17	O	145	VAL
17	O	177	LYS
17	O	195	ALA
18	P	156	ALA
20	R	100	ARG
21	S	13	ARG
21	S	146	LYS
21	S	167	ARG
26	X	70	GLU
26	X	96	LYS
28	Z	102	GLU
33	e	5	PRO
35	g	46	ASP
36	h	71	LYS
36	h	95	PHE
37	i	3	VAL
41	m	79	GLU
43	o	100	LYS
4	A	222	ALA
6	C	131	VAL
6	C	148	ILE

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Mol	Chain	Res	Type
7	D	125	VAL
7	D	292	ALA
8	E	98	VAL
10	G	75	ILE
10	G	78	PHE
13	J	9	MET
13	J	117	ASP
14	L	61	PRO
14	L	171	ARG
15	M	6	ILE
16	N	158	HIS
17	O	32	LYS
17	O	53	LYS
17	O	56	ASP
17	O	140	LYS
18	P	182	ILE
19	Q	166	LEU
20	R	73	GLY
22	T	123	GLY
22	T	146	ASN
23	U	11	ILE
28	Z	78	ASN
29	a	77	LYS
32	d	83	GLU
37	i	45	ARG
45	t	112	ALA
45	t	212	PRO
6	C	14	GLU
9	F	216	VAL
11	H	59	ASN
17	O	5	PRO
17	O	16	VAL
19	Q	97	PRO
21	S	61	ILE
21	S	69	PRO
27	Y	8	VAL
28	Z	103	GLN
29	a	148	ILE
32	d	9	THR
36	h	91	ALA
45	t	61	PRO
5	B	329	PRO

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Mol	Chain	Res	Type
8	E	6	ALA
12	I	122	PRO
17	O	34	VAL
22	T	148	PRO
28	Z	70	PRO
36	h	111	PHE
11	H	30	PRO
16	N	89	VAL
16	N	186	GLY
17	O	36	VAL
24	V	129	VAL
17	O	146	GLY
30	b	29	TYR
45	t	191	VAL
12	I	46	PHE

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	
4	A	193/196 (98%)	172 (89%)	21 (11%)	8	40
5	B	321/323 (99%)	278 (87%)	43 (13%)	5	31
6	C	288/289 (100%)	261 (91%)	27 (9%)	11	48
7	D	244/245 (100%)	215 (88%)	29 (12%)	6	35
8	E	134/153 (88%)	123 (92%)	11 (8%)	14	53
9	F	186/205 (91%)	172 (92%)	14 (8%)	17	57
10	G	187/208 (90%)	170 (91%)	17 (9%)	12	49
11	H	171/171 (100%)	154 (90%)	17 (10%)	10	45
12	I	177/187 (95%)	156 (88%)	21 (12%)	6	35
13	J	147/150 (98%)	123 (84%)	24 (16%)	3	21
14	L	154/159 (97%)	140 (91%)	14 (9%)	12	49
15	M	107/109 (98%)	92 (86%)	15 (14%)	4	29

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	N	175/176 (99%)	162 (93%)	13 (7%)	17	58
17	O	160/324 (49%)	134 (84%)	26 (16%)	3	21
18	P	140/146 (96%)	120 (86%)	20 (14%)	4	28
19	Q	150/151 (99%)	133 (89%)	17 (11%)	7	38
20	R	153/154 (99%)	132 (86%)	21 (14%)	4	30
21	S	156/156 (100%)	143 (92%)	13 (8%)	14	53
22	T	136/137 (99%)	117 (86%)	19 (14%)	4	29
23	U	87/107 (81%)	81 (93%)	6 (7%)	19	61
24	V	104/105 (99%)	93 (89%)	11 (11%)	8	42
25	W	53/129 (41%)	48 (91%)	5 (9%)	11	48
26	X	104/118 (88%)	88 (85%)	16 (15%)	3	24
27	Y	109/110 (99%)	99 (91%)	10 (9%)	11	49
28	Z	115/116 (99%)	101 (88%)	14 (12%)	6	34
29	a	118/119 (99%)	107 (91%)	11 (9%)	11	49
30	b	46/47 (98%)	40 (87%)	6 (13%)	5	32
31	c	81/88 (92%)	70 (86%)	11 (14%)	5	30
32	d	92/97 (95%)	80 (87%)	12 (13%)	5	32
33	e	109/111 (98%)	96 (88%)	13 (12%)	6	35
34	f	90/91 (99%)	83 (92%)	7 (8%)	16	56
35	g	95/103 (92%)	84 (88%)	11 (12%)	7	37
36	h	104/105 (99%)	88 (85%)	16 (15%)	3	24
37	i	81/82 (99%)	71 (88%)	10 (12%)	6	34
38	j	70/71 (99%)	62 (89%)	8 (11%)	7	38
39	k	68/69 (99%)	50 (74%)	18 (26%)	0	5
40	l	45/46 (98%)	38 (84%)	7 (16%)	3	24
41	m	47/116 (40%)	44 (94%)	3 (6%)	22	64
42	n	23/23 (100%)	18 (78%)	5 (22%)	1	9
43	o	90/91 (99%)	75 (83%)	15 (17%)	3	19
44	p	71/72 (99%)	61 (86%)	10 (14%)	4	29
45	t	198/198 (100%)	161 (81%)	37 (19%)	2	14
All	All	5379/5853 (92%)	4735 (88%)	644 (12%)	11	35

All (644) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	9	ARG
4	A	15	ILE
4	A	28	LYS
4	A	44	ILE
4	A	71	LEU
4	A	72	ARG
4	A	74	GLU
4	A	116	VAL
4	A	119	LYS
4	A	128	ARG
4	A	142	ASP
4	A	143	GLU
4	A	157	VAL
4	A	180	LEU
4	A	196	TRP
4	A	199	THR
4	A	204	MET
4	A	208	ASP
4	A	242	ARG
4	A	246	LEU
4	A	249	SER
5	B	3	HIS
5	B	4	ARG
5	B	10	ARG
5	B	25	ILE
5	B	28	ARG
5	B	36	ASP
5	B	45	SER
5	B	53	MET
5	B	77	THR
5	B	93	VAL
5	B	100	ARG
5	B	101	SER
5	B	102	LEU
5	B	103	THR
5	B	113	GLU
5	B	137	TYR
5	B	140	ASP
5	B	146	ARG
5	B	148	LEU
5	B	157	VAL
5	B	166	ILE

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Mol	Chain	Res	Type
5	B	167	ARG
5	B	168	LYS
5	B	169	THR
5	B	183	LEU
5	B	188	ILE
5	B	205	VAL
5	B	206	ASP
5	B	221	THR
5	B	246	LEU
5	B	255	TRP
5	B	275	ARG
5	B	279	ASN
5	B	298	PHE
5	B	305	ILE
5	B	319	ASN
5	B	324	VAL
5	B	332	ARG
5	B	335	ILE
5	B	361	THR
5	B	370	PHE
5	B	379	PHE
5	B	387	LEU
6	C	11	LEU
6	C	18	ASN
6	C	93	MET
6	C	99	MET
6	C	120	TYR
6	C	126	ILE
6	C	144	LYS
6	C	150	LEU
6	C	152	VAL
6	C	172	VAL
6	C	188	ARG
6	C	203	ARG
6	C	206	LEU
6	C	222	VAL
6	C	227	THR
6	C	258	LEU
6	C	280	ILE
6	C	296	GLN
6	C	297	SER
6	C	307	GLN

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Mol	Chain	Res	Type
6	C	311	HIS
6	C	313	LEU
6	C	327	LEU
6	C	333	VAL
6	C	345	GLU
6	C	349	THR
6	C	354	VAL
7	D	4	GLN
7	D	5	LYS
7	D	15	ARG
7	D	22	ARG
7	D	23	ARG
7	D	41	LYS
7	D	52	VAL
7	D	53	VAL
7	D	92	LEU
7	D	105	ILE
7	D	115	LEU
7	D	125	VAL
7	D	128	GLU
7	D	131	LEU
7	D	145	PHE
7	D	152	ARG
7	D	158	ARG
7	D	159	VAL
7	D	163	LEU
7	D	187	THR
7	D	188	GLU
7	D	194	LEU
7	D	222	LEU
7	D	254	LYS
7	D	257	GLU
7	D	259	LYS
7	D	260	PHE
7	D	273	ARG
7	D	277	LEU
8	E	5	LYS
8	E	15	VAL
8	E	23	LYS
8	E	34	LEU
8	E	52	VAL
8	E	65	ILE

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Mol	Chain	Res	Type
8	E	76	LEU
8	E	93	VAL
8	E	129	GLU
8	E	134	ARG
8	E	148	GLU
9	F	25	GLN
9	F	46	GLU
9	F	56	GLU
9	F	92	ILE
9	F	93	ASN
9	F	109	THR
9	F	110	ARG
9	F	157	ASN
9	F	175	LYS
9	F	179	LEU
9	F	181	ILE
9	F	205	PHE
9	F	229	PHE
9	F	239	LEU
10	G	26	LEU
10	G	27	THR
10	G	43	LYS
10	G	63	LYS
10	G	69	LEU
10	G	74	THR
10	G	84	ARG
10	G	95	ASN
10	G	112	GLU
10	G	136	LEU
10	G	155	ASN
10	G	156	ASP
10	G	163	VAL
10	G	190	VAL
10	G	204	ARG
10	G	219	ASP
10	G	237	ILE
11	H	5	GLN
11	H	20	ILE
11	H	41	ILE
11	H	42	ASP
11	H	49	ASN
11	H	52	LEU

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Mol	Chain	Res	Type
11	H	69	ARG
11	H	70	THR
11	H	82	VAL
11	H	132	VAL
11	H	139	ASN
11	H	157	ASN
11	H	164	ILE
11	H	166	ARG
11	H	170	LYS
11	H	172	ILE
11	H	173	ARG
12	I	4	ARG
12	I	9	TYR
12	I	21	ARG
12	I	26	VAL
12	I	30	LYS
12	I	32	ARG
12	I	33	ILE
12	I	39	LYS
12	I	60	LEU
12	I	87	LEU
12	I	90	ARG
12	I	146	ASP
12	I	163	GLN
12	I	165	ILE
12	I	170	LYS
12	I	174	THR
12	I	177	ASP
12	I	202	LYS
12	I	203	LYS
12	I	207	GLU
12	I	216	TYR
13	J	9	MET
13	J	10	ARG
13	J	12	LEU
13	J	13	LYS
13	J	22	SER
13	J	30	LEU
13	J	35	LYS
13	J	56	THR
13	J	62	ASN
13	J	80	LEU

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Mol	Chain	Res	Type
13	J	84	LEU
13	J	86	VAL
13	J	94	ARG
13	J	106	ILE
13	J	112	LEU
13	J	115	LYS
13	J	128	TYR
13	J	137	ARG
13	J	140	ARG
13	J	147	THR
13	J	148	VAL
13	J	159	THR
13	J	163	PHE
13	J	166	LYS
14	L	3	ILE
14	L	35	ARG
14	L	36	ARG
14	L	54	LEU
14	L	58	VAL
14	L	67	ARG
14	L	79	GLU
14	L	100	ARG
14	L	107	GLU
14	L	124	ILE
14	L	131	LYS
14	L	136	GLU
14	L	154	VAL
14	L	190	LYS
15	M	8	LYS
15	M	15	VAL
15	M	20	VAL
15	M	25	LYS
15	M	53	VAL
15	M	55	ARG
15	M	58	ILE
15	M	63	VAL
15	M	72	LEU
15	M	77	ARG
15	M	90	VAL
15	M	91	CYS
15	M	92	GLU
15	M	108	ARG

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Mol	Chain	Res	Type
15	M	113	THR
16	N	10	LEU
16	N	22	LEU
16	N	59	PHE
16	N	92	LEU
16	N	98	LEU
16	N	104	GLU
16	N	113	LEU
16	N	114	ARG
16	N	116	LEU
16	N	133	ILE
16	N	155	VAL
16	N	164	LEU
16	N	188	ARG
17	O	25	LYS
17	O	31	GLN
17	O	41	LEU
17	O	42	ASN
17	O	47	PHE
17	O	52	LEU
17	O	58	LEU
17	O	59	ARG
17	O	78	ARG
17	O	82	LYS
17	O	85	ARG
17	O	91	LYS
17	O	99	LEU
17	O	105	PHE
17	O	106	GLU
17	O	117	ARG
17	O	124	LEU
17	O	127	LEU
17	O	133	ARG
17	O	134	LYS
17	O	141	LEU
17	O	151	ASP
17	O	160	ARG
17	O	170	LYS
17	O	182	ASN
17	O	187	GLU
18	P	3	ARG
18	P	26	PHE

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Mol	Chain	Res	Type
18	P	30	ARG
18	P	42	THR
18	P	52	LEU
18	P	54	HIS
18	P	69	ARG
18	P	94	LEU
18	P	101	ASN
18	P	120	ASN
18	P	127	ARG
18	P	129	THR
18	P	130	TYR
18	P	138	LYS
18	P	141	SER
18	P	146	ILE
18	P	148	LEU
18	P	150	VAL
18	P	169	THR
18	P	180	LYS
19	Q	3	ILE
19	Q	22	ASP
19	Q	24	VAL
19	Q	26	LEU
19	Q	36	LEU
19	Q	49	LEU
19	Q	55	SER
19	Q	57	ILE
19	Q	111	ARG
19	Q	123	THR
19	Q	135	GLN
19	Q	138	LEU
19	Q	141	ARG
19	Q	148	GLU
19	Q	150	VAL
19	Q	164	ARG
19	Q	185	LYS
20	R	7	GLN
20	R	17	VAL
20	R	34	GLN
20	R	38	ARG
20	R	52	LYS
20	R	56	THR
20	R	74	ARG

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Mol	Chain	Res	Type
20	R	84	THR
20	R	96	ILE
20	R	103	ARG
20	R	106	LEU
20	R	108	LYS
20	R	110	ARG
20	R	111	ASP
20	R	128	LYS
20	R	158	GLU
20	R	164	LEU
20	R	166	ASN
20	R	170	ARG
20	R	175	GLN
20	R	176	ARG
21	S	13	ARG
21	S	32	SER
21	S	36	ILE
21	S	48	LEU
21	S	61	ILE
21	S	80	ARG
21	S	96	ASP
21	S	122	HIS
21	S	134	ASP
21	S	136	LYS
21	S	155	ARG
21	S	165	TYR
21	S	172	TYR
22	T	9	SER
22	T	18	ASP
22	T	32	LYS
22	T	49	GLN
22	T	55	LYS
22	T	71	SER
22	T	75	ILE
22	T	80	VAL
22	T	83	ARG
22	T	91	LEU
22	T	102	ARG
22	T	104	GLU
22	T	124	VAL
22	T	126	VAL
22	T	127	GLN

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Mol	Chain	Res	Type
22	T	128	LEU
22	T	139	ARG
22	T	147	VAL
22	T	159	PHE
23	U	10	LYS
23	U	38	ILE
23	U	49	ASN
23	U	64	THR
23	U	99	LYS
23	U	100	THR
24	V	23	MET
24	V	33	ASN
24	V	64	LYS
24	V	69	LEU
24	V	72	LYS
24	V	83	LYS
24	V	93	LEU
24	V	96	GLU
24	V	102	ILE
24	V	120	LYS
24	V	128	ARG
25	W	1	MET
25	W	5	ILE
25	W	33	ASN
25	W	43	ARG
25	W	58	HIS
26	X	27	ARG
26	X	33	ARG
26	X	34	LEU
26	X	36	LYS
26	X	39	LYS
26	X	40	LEU
26	X	45	LYS
26	X	53	HIS
26	X	63	ILE
26	X	65	GLN
26	X	68	THR
26	X	92	LYS
26	X	93	TYR
26	X	115	ARG
26	X	135	ILE
26	X	142	ILE

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Mol	Chain	Res	Type
27	Y	37	LYS
27	Y	50	ILE
27	Y	57	LEU
27	Y	59	VAL
27	Y	74	TYR
27	Y	80	VAL
27	Y	99	LEU
27	Y	111	LEU
27	Y	114	ASP
27	Y	126	LEU
28	Z	14	VAL
28	Z	21	LYS
28	Z	24	VAL
28	Z	34	LYS
28	Z	46	ILE
28	Z	51	LEU
28	Z	54	THR
28	Z	55	LYS
28	Z	56	LYS
28	Z	57	HIS
28	Z	86	THR
28	Z	99	GLU
28	Z	121	ARG
28	Z	126	LYS
29	a	7	LYS
29	a	24	LYS
29	a	43	ILE
29	a	56	VAL
29	a	96	LYS
29	a	98	THR
29	a	105	LEU
29	a	115	LYS
29	a	130	VAL
29	a	133	LEU
29	a	144	VAL
30	b	12	GLN
30	b	21	ILE
30	b	25	LYS
30	b	28	LYS
30	b	40	ARG
30	b	59	LYS
31	c	16	LEU

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Mol	Chain	Res	Type
31	c	22	LYS
31	c	41	LEU
31	c	61	MET
31	c	62	LEU
31	c	83	LYS
31	c	90	VAL
31	c	94	GLU
31	c	101	LEU
31	c	102	THR
31	c	104	LEU
32	d	26	LYS
32	d	35	GLU
32	d	50	ARG
32	d	51	LEU
32	d	55	LEU
32	d	61	LYS
32	d	68	GLU
32	d	74	ARG
32	d	79	ARG
32	d	86	LYS
32	d	89	LEU
32	d	110	GLU
33	e	8	LYS
33	e	18	LYS
33	e	19	ARG
33	e	25	TYR
33	e	27	ARG
33	e	46	PHE
33	e	50	ILE
33	e	61	LYS
33	e	81	ASP
33	e	82	LEU
33	e	107	VAL
33	e	109	LEU
33	e	128	LEU
34	f	15	SER
34	f	19	SER
34	f	60	ARG
34	f	70	LYS
34	f	77	ASN
34	f	103	TYR
34	f	106	ASN

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Mol	Chain	Res	Type
35	g	24	LYS
35	g	25	THR
35	g	29	ILE
35	g	51	LEU
35	g	58	ARG
35	g	61	GLN
35	g	76	TYR
35	g	80	ARG
35	g	81	CYS
35	g	102	LYS
35	g	103	LYS
36	h	15	GLU
36	h	20	GLN
36	h	21	LEU
36	h	27	GLU
36	h	36	LEU
36	h	44	ILE
36	h	48	ARG
36	h	49	LYS
36	h	68	GLN
36	h	71	LYS
36	h	85	THR
36	h	96	GLU
36	h	105	ARG
36	h	107	LYS
36	h	115	LYS
36	h	119	LYS
37	i	7	ILE
37	i	9	ILE
37	i	36	ARG
37	i	57	LEU
37	i	58	ILE
37	i	62	ARG
37	i	68	ARG
37	i	76	ARG
37	i	98	ARG
37	i	99	ARG
38	j	17	THR
38	j	25	ARG
38	j	27	PHE
38	j	46	SER
38	j	57	HIS

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Mol	Chain	Res	Type
38	j	65	ARG
38	j	75	LYS
38	j	80	THR
39	k	3	ARG
39	k	5	ILE
39	k	9	LYS
39	k	24	THR
39	k	25	VAL
39	k	26	LYS
39	k	28	ASN
39	k	29	LYS
39	k	32	ASN
39	k	41	THR
39	k	45	VAL
39	k	54	LEU
39	k	64	LYS
39	k	65	LEU
39	k	67	GLN
39	k	69	LEU
39	k	75	VAL
39	k	77	ARG
40	l	5	LYS
40	l	21	ARG
40	l	29	LEU
40	l	33	ASN
40	l	36	ARG
40	l	48	LYS
40	l	51	ILE
41	m	77	ILE
41	m	85	LEU
41	m	114	LYS
42	n	1	MET
42	n	5	TRP
42	n	8	LYS
42	n	9	ARG
42	n	13	LEU
43	o	8	ARG
43	o	19	LYS
43	o	20	HIS
43	o	29	LYS
43	o	47	GLN
43	o	60	LYS

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Mol	Chain	Res	Type
43	o	65	THR
43	o	66	LYS
43	o	71	ARG
43	o	75	VAL
43	o	78	LYS
43	o	83	LEU
43	o	85	LEU
43	o	93	LEU
43	o	100	LYS
44	p	11	THR
44	p	22	LEU
44	p	42	CYS
44	p	45	LYS
44	p	46	THR
44	p	56	THR
44	p	60	CYS
44	p	70	THR
44	p	84	ARG
44	p	90	VAL
45	t	1	MET
45	t	3	LYS
45	t	5	THR
45	t	41	TYR
45	t	47	LYS
45	t	53	LEU
45	t	60	ARG
45	t	67	ILE
45	t	83	ASP
45	t	92	LYS
45	t	94	ASN
45	t	95	LYS
45	t	97	LYS
45	t	101	LYS
45	t	105	LYS
45	t	110	PHE
45	t	116	LEU
45	t	122	ARG
45	t	128	LEU
45	t	129	SER
45	t	130	LYS
45	t	138	VAL
45	t	140	HIS

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Mol	Chain	Res	Type
45	t	152	ARG
45	t	155	ILE
45	t	156	LYS
45	t	177	ASP
45	t	182	GLN
45	t	190	PHE
45	t	192	SER
45	t	194	LEU
45	t	198	TRP
45	t	203	SER
45	t	205	VAL
45	t	206	VAL
45	t	207	LYS
45	t	214	PHE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	140	ASN
4	A	194	ASN
4	A	209	HIS
4	A	216	HIS
4	A	250	GLN
5	B	279	ASN
5	B	293	ASN
6	C	114	ASN
6	C	221	ASN
6	C	296	GLN
6	C	307	GLN
7	D	32	GLN
7	D	63	GLN
7	D	264	GLN
8	E	72	ASN
8	E	167	ASN
9	F	157	ASN
9	F	231	ASN
11	H	37	ASN
11	H	49	ASN
11	H	163	GLN
12	I	12	GLN
12	I	14	ASN
12	I	100	ASN

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Mol	Chain	Res	Type
12	I	163	GLN
13	J	6	GLN
13	J	101	ASN
13	J	132	ASN
14	L	137	GLN
16	N	37	HIS
16	N	87	GLN
16	N	139	HIS
16	N	175	ASN
16	N	182	ASN
17	O	31	GLN
17	O	42	ASN
17	O	72	HIS
18	P	55	GLN
18	P	96	GLN
19	Q	73	GLN
20	R	166	ASN
21	S	63	GLN
21	S	138	GLN
22	T	146	ASN
23	U	101	ASN
24	V	132	ASN
25	W	42	GLN
26	X	111	ASN
28	Z	106	GLN
30	b	6	ASN
33	e	88	HIS
33	e	104	ASN
35	g	52	GLN
35	g	61	GLN
36	h	62	GLN
38	j	13	ASN
39	k	32	ASN
40	l	4	GLN
40	l	32	ASN
40	l	50	ASN
43	o	82	GLN
44	p	25	GLN
45	t	27	ASN
45	t	127	GLN
45	t	188	ASN
45	t	199	GLN

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Mol	Chain	Res	Type
45	t	200	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2683/3397 (78%)	1145 (42%)	379 (14%)
2	3	97/121 (80%)	31 (31%)	10 (10%)
3	4	135/158 (85%)	52 (38%)	14 (10%)
All	All	2915/3676 (79%)	1228 (42%)	403 (13%)

All (1228) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	6	A
1	1	9	U
1	1	10	C
1	1	11	A
1	1	15	C
1	1	18	G
1	1	25	U
1	1	26	A
1	1	32	U
1	1	40	A
1	1	41	G
1	1	43	A
1	1	48	A
1	1	49	A
1	1	59	G
1	1	60	A
1	1	73	C
1	1	74	G
1	1	75	G
1	1	77	A
1	1	83	U
1	1	84	U
1	1	85	A
1	1	89	A
1	1	92	G
1	1	96	G
1	1	105	C
1	1	109	A

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Mol	Chain	Res	Type
1	1	110	G
1	1	115	A
1	1	116	A
1	1	119	U
1	1	122	A
1	1	127	G
1	1	128	G
1	1	132	C
1	1	134	U
1	1	135	C
1	1	136	G
1	1	141	C
1	1	142	C
1	1	154	U
1	1	155	G
1	1	156	G
1	1	160	G
1	1	161	G
1	1	165	A
1	1	166	C
1	1	168	U
1	1	169	U
1	1	172	G
1	1	173	G
1	1	175	C
1	1	177	U
1	1	181	U
1	1	189	G
1	1	190	U
1	1	191	U
1	1	192	C
1	1	205	C
1	1	210	U
1	1	219	A
1	1	220	G
1	1	222	A
1	1	223	U
1	1	225	C
1	1	226	C
1	1	231	G
1	1	234	G
1	1	237	G

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Mol	Chain	Res	Type
1	1	238	A
1	1	239	G
1	1	240	U
1	1	242	C
1	1	245	U
1	1	249	U
1	1	250	U
1	1	251	G
1	1	252	U
1	1	255	A
1	1	257	U
1	1	259	C
1	1	260	C
1	1	263	C
1	1	269	G
1	1	273	A
1	1	274	G
1	1	277	G
1	1	282	G
1	1	283	G
1	1	284	A
1	1	286	U
1	1	294	U
1	1	295	A
1	1	297	G
1	1	298	U
1	1	302	U
1	1	303	G
1	1	304	G
1	1	305	U
1	1	306	A
1	1	307	A
1	1	315	C
1	1	320	G
1	1	321	C
1	1	323	A
1	1	324	A
1	1	331	G
1	1	332	C
1	1	334	A
1	1	335	G
1	1	336	A

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Mol	Chain	Res	Type
1	1	338	A
1	1	339	C
1	1	346	C
1	1	347	G
1	1	355	A
1	1	362	U
1	1	368	G
1	1	369	A
1	1	370	U
1	1	376	G
1	1	385	A
1	1	387	A
1	1	388	G
1	1	394	G
1	1	399	A
1	1	401	U
1	1	402	A
1	1	403	C
1	1	407	A
1	1	411	U
1	1	412	G
1	1	413	U
1	1	419	G
1	1	420	G
1	1	421	G
1	1	422	A
1	1	424	G
1	1	425	G
1	1	427	C
1	1	428	A
1	1	429	U
1	1	498	A
1	1	499	G
1	1	503	C
1	1	510	G
1	1	511	G
1	1	518	G
1	1	520	U
1	1	521	A
1	1	523	A
1	1	525	C
1	1	529	A

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Mol	Chain	Res	Type
1	1	530	G
1	1	531	G
1	1	532	A
1	1	534	U
1	1	538	G
1	1	539	C
1	1	541	U
1	1	542	G
1	1	543	C
1	1	544	C
1	1	545	U
1	1	546	C
1	1	547	G
1	1	550	A
1	1	551	A
1	1	552	G
1	1	555	U
1	1	556	U
1	1	557	A
1	1	559	A
1	1	569	A
1	1	570	A
1	1	572	A
1	1	573	C
1	1	574	U
1	1	579	G
1	1	583	G
1	1	587	U
1	1	592	A
1	1	594	U
1	1	595	G
1	1	597	G
1	1	598	A
1	1	599	C
1	1	600	G
1	1	604	G
1	1	611	A
1	1	612	U
1	1	615	U
1	1	621	A
1	1	625	G
1	1	626	U

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Mol	Chain	Res	Type
1	1	632	G
1	1	634	C
1	1	636	C
1	1	637	C
1	1	638	C
1	1	643	U
1	1	644	G
1	1	649	A
1	1	651	G
1	1	657	A
1	1	658	G
1	1	660	A
1	1	662	U
1	1	664	U
1	1	669	U
1	1	673	U
1	1	674	G
1	1	675	C
1	1	676	G
1	1	681	U
1	1	682	U
1	1	684	G
1	1	690	A
1	1	700	C
1	1	702	C
1	1	703	G
1	1	705	A
1	1	708	G
1	1	715	A
1	1	716	A
1	1	718	G
1	1	719	U
1	1	720	A
1	1	722	G
1	1	723	U
1	1	726	G
1	1	727	G
1	1	734	C
1	1	735	A
1	1	739	G
1	1	742	G
1	1	750	G

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Mol	Chain	Res	Type
1	1	752	C
1	1	761	A
1	1	763	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	767	U
1	1	774	G
1	1	778	U
1	1	780	A
1	1	781	G
1	1	784	A
1	1	786	A
1	1	787	G
1	1	801	A
1	1	802	C
1	1	806	A
1	1	808	A
1	1	812	G
1	1	813	G
1	1	817	A
1	1	826	G
1	1	829	U
1	1	831	G
1	1	832	G
1	1	833	G
1	1	835	G
1	1	845	G
1	1	846	A
1	1	847	A
1	1	848	A
1	1	849	C
1	1	857	G
1	1	858	A
1	1	862	U
1	1	863	C
1	1	869	G
1	1	871	U
1	1	874	U
1	1	875	G
1	1	883	A
1	1	885	U

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Mol	Chain	Res	Type
1	1	890	C
1	1	894	G
1	1	895	A
1	1	896	A
1	1	897	U
1	1	907	G
1	1	908	G
1	1	910	G
1	1	914	A
1	1	915	A
1	1	916	G
1	1	917	A
1	1	918	C
1	1	920	A
1	1	921	A
1	1	922	U
1	1	923	C
1	1	924	G
1	1	925	A
1	1	931	C
1	1	932	U
1	1	937	G
1	1	938	C
1	1	939	U
1	1	940	G
1	1	941	G
1	1	944	C
1	1	953	G
1	1	959	C
1	1	961	C
1	1	962	A
1	1	979	U
1	1	980	A
1	1	981	U
1	1	982	C
1	1	984	G
1	1	991	G
1	1	996	A
1	1	997	A
1	1	1001	G
1	1	1002	A
1	1	1003	A

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Mol	Chain	Res	Type
1	1	1005	G
1	1	1010	G
1	1	1013	G
1	1	1014	U
1	1	1015	U
1	1	1017	C
1	1	1018	G
1	1	1020	G
1	1	1023	C
1	1	1024	G
1	1	1025	A
1	1	1026	A
1	1	1032	C
1	1	1036	A
1	1	1041	U
1	1	1043	C
1	1	1044	U
1	1	1047	A
1	1	1056	U
1	1	1057	A
1	1	1064	A
1	1	1066	G
1	1	1067	U
1	1	1071	U
1	1	1079	A
1	1	1081	U
1	1	1082	U
1	1	1086	C
1	1	1087	G
1	1	1093	A
1	1	1094	U
1	1	1095	U
1	1	1096	U
1	1	1098	A
1	1	1100	U
1	1	1103	A
1	1	1104	G
1	1	1107	C
1	1	1110	U
1	1	1111	U
1	1	1115	G
1	1	1116	G

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Mol	Chain	Res	Type
1	1	1117	G
1	1	1118	C
1	1	1122	U
1	1	1128	U
1	1	1131	G
1	1	1143	A
1	1	1144	U
1	1	1145	G
1	1	1149	G
1	1	1150	A
1	1	1151	U
1	1	1153	A
1	1	1155	C
1	1	1159	A
1	1	1163	A
1	1	1164	G
1	1	1168	U
1	1	1171	G
1	1	1172	G
1	1	1174	G
1	1	1176	C
1	1	1177	G
1	1	1178	G
1	1	1179	A
1	1	1180	A
1	1	1181	U
1	1	1184	A
1	1	1185	C
1	1	1189	C
1	1	1190	A
1	1	1192	C
1	1	1196	C
1	1	1201	C
1	1	1208	U
1	1	1209	G
1	1	1212	A
1	1	1213	G
1	1	1219	C
1	1	1220	U
1	1	1221	A
1	1	1222	G
1	1	1223	A

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Mol	Chain	Res	Type
1	1	1225	A
1	1	1230	G
1	1	1232	C
1	1	1233	G
1	1	1236	G
1	1	1237	G
1	1	1240	A
1	1	1241	U
1	1	1242	G
1	1	1243	G
1	1	1244	A
1	1	1246	G
1	1	1247	U
1	1	1248	C
1	1	1249	G
1	1	1256	G
1	1	1257	C
1	1	1258	U
1	1	1262	G
1	1	1263	A
1	1	1264	G
1	1	1265	U
1	1	1266	G
1	1	1267	U
1	1	1269	U
1	1	1271	A
1	1	1272	C
1	1	1274	A
1	1	1277	C
1	1	1278	A
1	1	1279	C
1	1	1281	G
1	1	1282	G
1	1	1283	C
1	1	1285	G
1	1	1287	A
1	1	1288	U
1	1	1290	A
1	1	1295	G
1	1	1303	A
1	1	1304	A
1	1	1305	U

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Mol	Chain	Res	Type
1	1	1307	G
1	1	1309	U
1	1	1310	G
1	1	1316	C
1	1	1318	A
1	1	1319	G
1	1	1324	U
1	1	1325	U
1	1	1329	U
1	1	1330	A
1	1	1340	G
1	1	1344	G
1	1	1345	G
1	1	1347	U
1	1	1349	G
1	1	1350	A
1	1	1351	U
1	1	1352	A
1	1	1353	U
1	1	1354	G
1	1	1357	G
1	1	1359	C
1	1	1363	A
1	1	1364	C
1	1	1367	G
1	1	1368	U
1	1	1370	G
1	1	1374	G
1	1	1375	G
1	1	1380	G
1	1	1381	A
1	1	1386	A
1	1	1390	A
1	1	1391	C
1	1	1398	U
1	1	1400	G
1	1	1419	A
1	1	1422	G
1	1	1426	C
1	1	1430	U
1	1	1434	G
1	1	1437	C

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Mol	Chain	Res	Type
1	1	1441	G
1	1	1443	G
1	1	1446	A
1	1	1447	G
1	1	1448	U
1	1	1449	A
1	1	1451	C
1	1	1452	A
1	1	1455	U
1	1	1456	A
1	1	1459	C
1	1	1460	A
1	1	1463	U
1	1	1464	G
1	1	1465	A
1	1	1466	G
1	1	1481	A
1	1	1483	G
1	1	1484	U
1	1	1486	G
1	1	1488	G
1	1	1494	U
1	1	1503	A
1	1	1508	C
1	1	1511	U
1	1	1514	G
1	1	1524	A
1	1	1525	G
1	1	1526	U
1	1	1531	C
1	1	1532	C
1	1	1535	A
1	1	1544	G
1	1	1547	G
1	1	1556	C
1	1	1557	A
1	1	1558	A
1	1	1560	G
1	1	1561	G
1	1	1562	C
1	1	1563	C
1	1	1564	U

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Mol	Chain	Res	Type
1	1	1565	G
1	1	1566	A
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1570	U
1	1	1571	A
1	1	1572	U
1	1	1573	G
1	1	1574	C
1	1	1576	G
1	1	1579	C
1	1	1583	A
1	1	1587	A
1	1	1589	A
1	1	1590	G
1	1	1591	G
1	1	1593	A
1	1	1595	U
1	1	1596	C
1	1	1597	C
1	1	1600	U
1	1	1603	A
1	1	1605	A
1	1	1607	U
1	1	1611	G
1	1	1620	U
1	1	1623	G
1	1	1624	G
1	1	1626	U
1	1	1628	C
1	1	1632	A
1	1	1640	G
1	1	1643	A
1	1	1644	C
1	1	1657	C
1	1	1673	G
1	1	1674	G
1	1	1675	G
1	1	1678	G
1	1	1683	A
1	1	1686	U

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Mol	Chain	Res	Type
1	1	1687	U
1	1	1689	U
1	1	1691	U
1	1	1692	U
1	1	1696	A
1	1	1698	C
1	1	1699	A
1	1	1700	G
1	1	1715	A
1	1	1716	U
1	1	1717	U
1	1	1724	U
1	1	1725	C
1	1	1728	G
1	1	1736	G
1	1	1741	A
1	1	1743	G
1	1	1747	G
1	1	1750	A
1	1	1751	G
1	1	1753	G
1	1	1756	C
1	1	1760	A
1	1	1761	C
1	1	1762	C
1	1	1764	U
1	1	1765	U
1	1	1766	G
1	1	1769	G
1	1	1770	G
1	1	1772	U
1	1	1773	C
1	1	1774	C
1	1	1784	G
1	1	1785	U
1	1	1795	U
1	1	1796	G
1	1	1799	A
1	1	1800	A
1	1	1806	A
1	1	1807	G
1	1	1808	G

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Mol	Chain	Res	Type
1	1	1809	A
1	1	1812	G
1	1	1814	A
1	1	1815	U
1	1	1816	A
1	1	1817	G
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1822	C
1	1	1825	G
1	1	1826	C
1	1	1830	G
1	1	1831	U
1	1	1835	A
1	1	1838	G
1	1	1839	A
1	1	1841	A
1	1	1842	A
1	1	1843	C
1	1	1846	C
1	1	1850	A
1	1	1855	U
1	1	1859	A
1	1	1860	G
1	1	1864	A
1	1	1868	G
1	1	1874	A
1	1	1876	U
1	1	1880	U
1	1	1881	A
1	1	1883	A
1	1	1887	A
1	1	1888	U
1	1	1889	G
1	1	1892	G
1	1	1893	A
1	1	1896	A
1	1	1905	G
1	1	1906	G
1	1	1907	C
1	1	1918	C

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Mol	Chain	Res	Type
1	1	1920	U
1	1	1927	G
1	1	1929	G
1	1	1930	A
1	1	1932	A
1	1	1935	G
1	1	1943	C
1	1	1944	U
1	1	1952	G
1	1	1953	G
1	1	1954	G
1	1	2094	C
1	1	2095	G
1	1	2098	C
1	1	2101	C
1	1	2102	U
1	1	2103	U
1	1	2111	G
1	1	2112	U
1	1	2114	C
1	1	2115	G
1	1	2116	G
1	1	2121	G
1	1	2122	G
1	1	2126	A
1	1	2127	U
1	1	2130	G
1	1	2131	A
1	1	2140	U
1	1	2144	A
1	1	2152	A
1	1	2153	U
1	1	2156	C
1	1	2157	G
1	1	2158	A
1	1	2159	U
1	1	2160	G
1	1	2164	A
1	1	2169	G
1	1	2171	G
1	1	2173	U
1	1	2174	G

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Mol	Chain	Res	Type
1	1	2178	A
1	1	2187	G
1	1	2188	A
1	1	2192	C
1	1	2198	A
1	1	2205	U
1	1	2206	G
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2210	G
1	1	2213	A
1	1	2215	A
1	1	2240	G
1	1	2241	U
1	1	2244	A
1	1	2249	G
1	1	2250	G
1	1	2252	A
1	1	2256	A
1	1	2257	C
1	1	2261	G
1	1	2263	C
1	1	2272	G
1	1	2278	C
1	1	2279	A
1	1	2280	A
1	1	2281	A
1	1	2282	U
1	1	2283	G
1	1	2288	G
1	1	2289	U
1	1	2295	A
1	1	2298	U
1	1	2304	C
1	1	2305	G
1	1	2306	C
1	1	2307	G
1	1	2310	U
1	1	2312	A
1	1	2313	A
1	1	2314	U

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Mol	Chain	Res	Type
1	1	2315	G
1	1	2320	A
1	1	2321	A
1	1	2329	C
1	1	2330	C
1	1	2331	C
1	1	2332	A
1	1	2334	U
1	1	2335	G
1	1	2336	U
1	1	2365	C
1	1	2368	A
1	1	2369	G
1	1	2372	A
1	1	2374	C
1	1	2375	G
1	1	2383	C
1	1	2385	G
1	1	2386	A
1	1	2388	U
1	1	2392	C
1	1	2394	G
1	1	2397	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2405	C
1	1	2406	C
1	1	2407	C
1	1	2411	U
1	1	2412	G
1	1	2415	C
1	1	2417	U
1	1	2418	G
1	1	2429	G
1	1	2434	U
1	1	2435	G
1	1	2437	G
1	1	2440	G
1	1	2443	A
1	1	2444	C
1	1	2446	A

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Mol	Chain	Res	Type
1	1	2447	G
1	1	2449	G
1	1	2452	G
1	1	2453	C
1	1	2454	G
1	1	2456	A
1	1	2457	G
1	1	2458	G
1	1	2459	A
1	1	2460	U
1	1	2461	A
1	1	2464	U
1	1	2465	G
1	1	2466	G
1	1	2470	C
1	1	2473	A
1	1	2485	A
1	1	2487	U
1	1	2488	A
1	1	2489	C
1	1	2492	C
1	1	2493	C
1	1	2495	U
1	1	2499	C
1	1	2500	A
1	1	2501	U
1	1	2502	G
1	1	2503	U
1	1	2504	U
1	1	2506	C
1	1	2507	U
1	1	2508	U
1	1	2510	A
1	1	2511	C
1	1	2513	U
1	1	2515	A
1	1	2526	C
1	1	2529	A
1	1	2531	C
1	1	2533	G
1	1	2537	U
1	1	2538	U

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Mol	Chain	Res	Type
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2544	U
1	1	2547	A
1	1	2549	G
1	1	2550	U
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2556	C
1	1	2561	A
1	1	2568	C
1	1	2569	A
1	1	2570	U
1	1	2574	G
1	1	2575	G
1	1	2582	C
1	1	2585	G
1	1	2586	G
1	1	2594	C
1	1	2596	U
1	1	2597	U
1	1	2600	C
1	1	2603	G
1	1	2604	U
1	1	2606	G
1	1	2607	G
1	1	2608	G
1	1	2611	U
1	1	2613	U
1	1	2614	G
1	1	2618	G
1	1	2620	G
1	1	2622	C
1	1	2625	C
1	1	2626	A
1	1	2628	A
1	1	2629	U
1	1	2630	C
1	1	2636	A

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Mol	Chain	Res	Type
1	1	2641	U
1	1	2643	A
1	1	2644	C
1	1	2649	A
1	1	2651	G
1	1	2653	C
1	1	2655	U
1	1	2656	A
1	1	2658	G
1	1	2660	G
1	1	2661	G
1	1	2664	C
1	1	2667	A
1	1	2668	U
1	1	2673	A
1	1	2674	A
1	1	2681	U
1	1	2686	A
1	1	2687	G
1	1	2688	U
1	1	2690	G
1	1	2691	A
1	1	2692	A
1	1	2694	A
1	1	2700	G
1	1	2703	A
1	1	2704	A
1	1	2705	A
1	1	2719	U
1	1	2720	G
1	1	2728	G
1	1	2729	U
1	1	2731	U
1	1	2732	G
1	1	2734	A
1	1	2735	U
1	1	2737	C
1	1	2740	A
1	1	2749	G
1	1	2752	U
1	1	2753	G
1	1	2756	C

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Mol	Chain	Res	Type
1	1	2766	U
1	1	2772	C
1	1	2776	C
1	1	2777	G
1	1	2778	G
1	1	2779	A
1	1	2784	G
1	1	2785	A
1	1	2788	C
1	1	2791	G
1	1	2792	A
1	1	2796	G
1	1	2799	A
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2803	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2812	C
1	1	2814	G
1	1	2816	G
1	1	2817	A
1	1	2819	A
1	1	2821	C
1	1	2834	G
1	1	2837	A
1	1	2838	A
1	1	2842	U
1	1	2843	U
1	1	2844	C
1	1	2845	A
1	1	2853	A
1	1	2855	U
1	1	2860	U
1	1	2861	U
1	1	2867	C
1	1	2871	G
1	1	2872	A
1	1	2875	U
1	1	2887	A

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Mol	Chain	Res	Type
1	1	2889	C
1	1	2895	G
1	1	2898	G
1	1	2899	C
1	1	2905	U
1	1	2906	C
1	1	2907	G
1	1	2912	G
1	1	2923	U
1	1	2928	C
1	1	2931	C
1	1	2935	U
1	1	2938	G
1	1	2939	G
1	1	2940	A
1	1	2942	C
1	1	2943	G
1	1	2945	G
1	1	2947	G
1	1	2951	G
1	1	2955	U
1	1	2960	C
1	1	2961	G
1	1	2965	U
1	1	2966	G
1	1	2973	G
1	1	2981	U
1	1	2988	C
1	1	2990	G
1	1	2995	A
1	1	2997	G
1	1	3002	C
1	1	3003	G
1	1	3012	A
1	1	3016	A
1	1	3020	U
1	1	3021	A
1	1	3027	A
1	1	3030	G
1	1	3037	U
1	1	3038	U
1	1	3039	C

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Mol	Chain	Res	Type
1	1	3040	A
1	1	3049	A
1	1	3051	U
1	1	3055	U
1	1	3056	U
1	1	3057	U
1	1	3058	U
1	1	3059	G
1	1	3061	G
1	1	3062	G
1	1	3071	U
1	1	3072	C
1	1	3075	G
1	1	3076	C
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3092	C
1	1	3094	A
1	1	3100	U
1	1	3104	U
1	1	3105	U
1	1	3106	A
1	1	3107	U
1	1	3108	G
1	1	3114	A
1	1	3119	U
1	1	3120	C
1	1	3123	A
1	1	3129	A
1	1	3131	U
1	1	3134	A
1	1	3136	G
1	1	3138	U
1	1	3140	G
1	1	3142	A
1	1	3143	C
1	1	3146	G
1	1	3150	A
1	1	3151	U
1	1	3153	U
1	1	3154	C

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Mol	Chain	Res	Type
1	1	3155	U
1	1	3156	U
1	1	3162	C
1	1	3164	C
1	1	3165	A
1	1	3166	C
1	1	3168	A
1	1	3170	A
1	1	3173	G
1	1	3174	A
1	1	3175	U
1	1	3179	U
1	1	3180	A
1	1	3181	C
1	1	3184	A
1	1	3185	U
1	1	3187	A
1	1	3194	C
1	1	3196	U
1	1	3197	G
1	1	3198	U
1	1	3199	G
1	1	3200	G
1	1	3201	C
1	1	3205	G
1	1	3206	C
1	1	3208	G
1	1	3209	A
1	1	3210	A
1	1	3215	A
1	1	3216	G
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3220	G
1	1	3221	C
1	1	3222	U
1	1	3224	G
1	1	3229	G
1	1	3234	A
1	1	3239	G
1	1	3240	C

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Mol	Chain	Res	Type
1	1	3242	G
1	1	3243	A
1	1	3244	A
1	1	3245	A
1	1	3247	G
1	1	3259	U
1	1	3260	G
1	1	3263	G
1	1	3265	C
1	1	3266	G
1	1	3267	A
1	1	3268	A
1	1	3269	U
1	1	3270	U
1	1	3272	C
1	1	3273	A
1	1	3276	G
1	1	3278	C
1	1	3279	A
1	1	3285	C
1	1	3286	G
1	1	3287	U
1	1	3291	G
1	1	3292	A
1	1	3293	U
1	1	3294	A
1	1	3296	A
1	1	3304	U
1	1	3305	A
1	1	3310	A
1	1	3313	U
1	1	3314	A
1	1	3316	A
1	1	3318	G
1	1	3319	U
1	1	3320	A
1	1	3325	G
1	1	3326	G
1	1	3330	A
1	1	3333	G
1	1	3334	U
1	1	3335	A

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Mol	Chain	Res	Type
1	1	3341	U
1	1	3345	G
1	1	3346	U
1	1	3349	C
1	1	3350	C
1	1	3351	U
1	1	3354	U
1	1	3355	U
1	1	3356	G
1	1	3359	A
1	1	3361	G
1	1	3362	A
1	1	3363	U
1	1	3366	G
1	1	3369	G
1	1	3370	A
1	1	3375	A
1	1	3378	C
1	1	3382	U
1	1	3383	G
1	1	3386	G
1	1	3388	C
1	1	3390	G
1	1	3391	A
1	1	3396	U
2	3	2	G
2	3	4	U
2	3	5	G
2	3	13	A
2	3	19	C
2	3	21	G
2	3	22	A
2	3	35	C
2	3	38	U
2	3	41	G
2	3	51	A
2	3	53	U
2	3	54	U
2	3	56	A
2	3	61	G
2	3	65	G
2	3	69	C

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Mol	Chain	Res	Type
2	3	73	C
2	3	74	C
2	3	76	A
2	3	91	G
2	3	93	C
2	3	94	C
2	3	104	A
2	3	107	C
2	3	111	U
2	3	112	G
2	3	114	U
2	3	115	G
2	3	116	C
2	3	121	U
3	4	2	A
3	4	10	A
3	4	11	C
3	4	13	A
3	4	17	A
3	4	23	U
3	4	27	U
3	4	35	C
3	4	39	G
3	4	48	A
3	4	49	G
3	4	50	C
3	4	51	G
3	4	53	A
3	4	54	A
3	4	57	C
3	4	59	A
3	4	62	C
3	4	63	G
3	4	75	G
3	4	77	A
3	4	81	U
3	4	82	U
3	4	84	C
3	4	87	G
3	4	90	U
3	4	91	C
3	4	95	G

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Mol	Chain	Res	Type
3	4	97	A
3	4	98	U
3	4	99	C
3	4	102	U
3	4	104	A
3	4	105	A
3	4	106	C
3	4	111	A
3	4	112	U
3	4	113	U
3	4	114	G
3	4	115	C
3	4	116	G
3	4	120	C
3	4	121	U
3	4	125	U
3	4	126	A
3	4	135	G
3	4	138	A
3	4	147	U
3	4	148	G
3	4	151	C
3	4	152	G
3	4	158	U

All (403) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	9	U
1	1	25	U
1	1	28	C
1	1	31	C
1	1	32	U
1	1	40	A
1	1	66	A
1	1	91	G
1	1	109	A
1	1	115	A
1	1	127	G
1	1	133	U
1	1	134	U
1	1	147	U

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Mol	Chain	Res	Type
1	1	155	G
1	1	167	U
1	1	189	G
1	1	219	A
1	1	220	G
1	1	225	C
1	1	239	G
1	1	244	G
1	1	251	G
1	1	273	A
1	1	276	U
1	1	282	G
1	1	283	G
1	1	285	A
1	1	301	G
1	1	303	G
1	1	311	C
1	1	320	G
1	1	323	A
1	1	331	G
1	1	335	G
1	1	345	G
1	1	368	G
1	1	373	A
1	1	387	A
1	1	402	A
1	1	406	G
1	1	411	U
1	1	419	G
1	1	420	G
1	1	424	G
1	1	427	C
1	1	498	A
1	1	517	G
1	1	530	G
1	1	538	G
1	1	541	U
1	1	542	G
1	1	551	A
1	1	552	G
1	1	573	C
1	1	594	U

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Mol	Chain	Res	Type
1	1	598	A
1	1	625	G
1	1	635	G
1	1	637	C
1	1	643	U
1	1	672	A
1	1	673	U
1	1	702	C
1	1	718	G
1	1	722	G
1	1	726	G
1	1	739	G
1	1	741	U
1	1	763	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	806	A
1	1	816	A
1	1	831	G
1	1	832	G
1	1	835	G
1	1	844	G
1	1	862	U
1	1	873	C
1	1	884	A
1	1	894	G
1	1	902	G
1	1	914	A
1	1	916	G
1	1	917	A
1	1	923	C
1	1	925	A
1	1	936	A
1	1	938	C
1	1	960	U
1	1	961	C
1	1	972	A
1	1	978	G
1	1	979	U
1	1	981	U
1	1	996	A

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Mol	Chain	Res	Type
1	1	1007	U
1	1	1013	G
1	1	1017	C
1	1	1023	C
1	1	1024	G
1	1	1031	C
1	1	1043	C
1	1	1056	U
1	1	1081	U
1	1	1084	A
1	1	1086	C
1	1	1094	U
1	1	1097	G
1	1	1103	A
1	1	1110	U
1	1	1116	G
1	1	1117	G
1	1	1144	U
1	1	1149	G
1	1	1154	A
1	1	1156	C
1	1	1177	G
1	1	1184	A
1	1	1189	C
1	1	1191	U
1	1	1196	C
1	1	1203	A
1	1	1208	U
1	1	1212	A
1	1	1220	U
1	1	1222	G
1	1	1224	C
1	1	1235	U
1	1	1240	A
1	1	1241	U
1	1	1247	U
1	1	1257	C
1	1	1262	G
1	1	1264	G
1	1	1270	A
1	1	1273	A
1	1	1277	C

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Mol	Chain	Res	Type
1	1	1282	G
1	1	1289	G
1	1	1301	A
1	1	1303	A
1	1	1305	U
1	1	1317	A
1	1	1323	G
1	1	1324	U
1	1	1329	U
1	1	1348	U
1	1	1349	G
1	1	1351	U
1	1	1352	A
1	1	1363	A
1	1	1367	G
1	1	1382	G
1	1	1393	A
1	1	1425	U
1	1	1447	G
1	1	1451	C
1	1	1455	U
1	1	1459	C
1	1	1462	A
1	1	1463	U
1	1	1464	G
1	1	1483	G
1	1	1488	G
1	1	1493	G
1	1	1502	C
1	1	1524	A
1	1	1531	C
1	1	1539	A
1	1	1556	C
1	1	1560	G
1	1	1562	C
1	1	1568	U
1	1	1570	U
1	1	1572	U
1	1	1582	C
1	1	1588	A
1	1	1589	A
1	1	1596	C

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Mol	Chain	Res	Type
1	1	1605	A
1	1	1620	U
1	1	1623	G
1	1	1673	G
1	1	1686	U
1	1	1691	U
1	1	1698	C
1	1	1716	U
1	1	1724	U
1	1	1761	C
1	1	1763	U
1	1	1773	C
1	1	1795	U
1	1	1799	A
1	1	1806	A
1	1	1814	A
1	1	1815	U
1	1	1816	A
1	1	1820	U
1	1	1821	U
1	1	1825	G
1	1	1838	G
1	1	1839	A
1	1	1841	A
1	1	1846	C
1	1	1853	U
1	1	1858	A
1	1	1859	A
1	1	1878	G
1	1	1879	A
1	1	1882	G
1	1	1888	U
1	1	1905	G
1	1	1906	G
1	1	1944	U
1	1	2101	C
1	1	2103	U
1	1	2110	G
1	1	2111	G
1	1	2130	G
1	1	2139	A
1	1	2144	A

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Mol	Chain	Res	Type
1	1	2152	A
1	1	2156	C
1	1	2157	G
1	1	2158	A
1	1	2159	U
1	1	2173	U
1	1	2182	A
1	1	2206	G
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2220	A
1	1	2240	G
1	1	2256	A
1	1	2267	C
1	1	2279	A
1	1	2281	A
1	1	2288	G
1	1	2303	A
1	1	2304	C
1	1	2311	G
1	1	2313	A
1	1	2320	A
1	1	2329	C
1	1	2331	C
1	1	2342	U
1	1	2362	C
1	1	2368	A
1	1	2385	G
1	1	2387	A
1	1	2393	G
1	1	2403	G
1	1	2406	C
1	1	2428	U
1	1	2448	G
1	1	2453	C
1	1	2458	G
1	1	2460	U
1	1	2465	G
1	1	2469	G
1	1	2486	A
1	1	2487	U

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Mol	Chain	Res	Type
1	1	2499	C
1	1	2500	A
1	1	2501	U
1	1	2505	U
1	1	2507	U
1	1	2510	A
1	1	2514	U
1	1	2537	U
1	1	2539	C
1	1	2541	U
1	1	2549	G
1	1	2554	A
1	1	2568	C
1	1	2585	G
1	1	2593	A
1	1	2596	U
1	1	2604	U
1	1	2606	G
1	1	2607	G
1	1	2612	U
1	1	2622	C
1	1	2625	C
1	1	2643	A
1	1	2652	U
1	1	2655	U
1	1	2659	G
1	1	2667	A
1	1	2686	A
1	1	2689	A
1	1	2704	A
1	1	2718	U
1	1	2728	G
1	1	2731	U
1	1	2734	A
1	1	2765	C
1	1	2771	U
1	1	2784	G
1	1	2787	G
1	1	2791	G
1	1	2802	A
1	1	2803	A
1	1	2816	G

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Mol	Chain	Res	Type
1	1	2836	C
1	1	2842	U
1	1	2898	G
1	1	2906	C
1	1	2909	U
1	1	2921	U
1	1	2939	G
1	1	2950	G
1	1	2960	C
1	1	2968	G
1	1	2987	A
1	1	3020	U
1	1	3037	U
1	1	3048	A
1	1	3050	U
1	1	3054	U
1	1	3055	U
1	1	3056	U
1	1	3057	U
1	1	3061	G
1	1	3071	U
1	1	3075	G
1	1	3078	U
1	1	3093	C
1	1	3094	A
1	1	3099	C
1	1	3104	U
1	1	3106	A
1	1	3107	U
1	1	3118	C
1	1	3119	U
1	1	3122	A
1	1	3143	C
1	1	3152	U
1	1	3163	A
1	1	3164	C
1	1	3165	A
1	1	3184	A
1	1	3185	U
1	1	3195	U
1	1	3196	U
1	1	3200	G

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Mol	Chain	Res	Type
1	1	3205	G
1	1	3216	G
1	1	3218	A
1	1	3221	C
1	1	3226	A
1	1	3228	C
1	1	3232	G
1	1	3242	G
1	1	3243	A
1	1	3244	A
1	1	3266	G
1	1	3267	A
1	1	3269	U
1	1	3278	C
1	1	3285	C
1	1	3290	G
1	1	3291	G
1	1	3292	A
1	1	3295	A
1	1	3303	G
1	1	3304	U
1	1	3313	U
1	1	3323	A
1	1	3334	U
1	1	3349	C
1	1	3350	C
1	1	3353	G
1	1	3368	U
1	1	3390	G
2	3	4	U
2	3	34	C
2	3	37	G
2	3	52	G
2	3	53	U
2	3	57	G
2	3	106	U
2	3	111	U
2	3	114	U
2	3	115	G
3	4	10	A
3	4	48	A
3	4	50	C

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Mol	Chain	Res	Type
3	4	53	A
3	4	75	G
3	4	80	A
3	4	81	U
3	4	82	U
3	4	98	U
3	4	105	A
3	4	112	U
3	4	114	G
3	4	120	C
3	4	125	U

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	1	613
5	B	82
6	C	79
7	D	72
4	A	67

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Mol	Chain	Number of breaks
10	G	65
45	t	53
12	I	52
16	N	51
14	L	51
19	Q	48
9	F	48
21	S	46
20	R	46
11	H	46
18	P	43
29	a	41
28	Z	38
13	J	35
24	V	34
22	T	34
34	f	31
36	h	30
37	i	30
27	Y	30
15	M	28
35	g	27
8	E	27
33	e	26
3	4	26
2	3	26
31	c	24
23	U	24
32	d	23
26	X	22
38	j	22
39	k	20
17	O	18
43	o	17
44	p	17
30	b	17
25	W	16
41	m	14
40	l	12
42	n	6

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	171:ASP	C	172:ARG	N	8.98
1	t	52:SER	C	53:LEU	N	8.07
1	1	2511:C	O3'	2512:C	P	7.92
1	R	170:ARG	C	171:ASP	N	7.88
1	1	2468:A	O3'	2469:G	P	6.79
1	1	2454:G	O3'	2455:U	P	6.22
1	e	2:ALA	C	3:SER	N	6.18
1	1	1234:G	O3'	1235:U	P	6.14
1	t	80:CYS	C	81:GLY	N	6.07
1	1	1230:G	O3'	1231:A	P	5.83
1	1	1269:U	O3'	1270:A	P	5.78
1	o	102:GLN	C	103:ALA	N	5.77
1	1	2461:A	O3'	2462:G	P	5.70
1	t	69:GLY	C	70:ASP	N	5.70
1	t	198:TRP	C	199:GLN	N	5.68
1	1	1628:C	O3'	1629:U	P	5.42
1	1	2570:U	O3'	2571:U	P	5.35
1	1	3287:U	O3'	3288:G	P	5.33
1	1	2440:G	O3'	2441:A	P	5.27
1	1	2441:A	O3'	2442:G	P	5.27
1	D	295:GLY	C	296:GLN	N	5.27
1	t	201:VAL	C	202:GLY	N	5.25
1	t	93:LEU	C	94:ASN	N	5.24
1	G	249:ARG	C	250:ALA	N	5.20
1	R	163:ARG	C	164:LEU	N	5.19
1	R	186:LYS	C	187:GLU	N	5.19
1	1	1237:G	O3'	1238:C	P	5.14
1	1	1228:C	O3'	1229:G	P	5.09
1	1	1272:C	O3'	1273:A	P	5.02
1	t	22:GLU	C	23:THR	N	5.00
1	1	1032:C	O3'	1033:U	P	4.93
1	1	1770:G	O3'	1771:C	P	4.92
1	V	3:GLY	C	4:ASN	N	4.91
1	B	35:ASP	C	36:ASP	N	4.82
1	1	1238:C	O3'	1239:C	P	4.81
1	1	1227:C	O3'	1228:C	P	4.80
1	t	28:PHE	C	29:LEU	N	4.80
1	1	1817:G	O3'	1818:U	P	4.76
1	1	1233:G	O3'	1234:G	P	4.70
1	1	1100:U	O3'	1101:G	P	4.68
1	o	103:ALA	C	104:LEU	N	4.66
1	1	1812:G	O3'	1813:A	P	4.63
1	b	57:ALA	C	58:LYS	N	4.61

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	252:THR	C	253:GLN	N	4.59
1	P	162:GLU	C	163:LYS	N	4.59
1	i	18:THR	C	19:SER	N	4.54
1	1	613:G	O3'	614:C	P	4.53
1	J	23:VAL	C	24:GLY	N	4.52
1	d	84:ASP	C	85:ALA	N	4.52
1	J	6:GLN	C	7:ASN	N	4.50
1	t	197:ASN	C	198:TRP	N	4.50
1	t	208:SER	C	209:SER	N	4.45
1	t	214:PHE	C	215:ARG	N	4.44
1	1	2485:A	O3'	2486:A	P	4.43
1	1	3288:G	O3'	3289:G	P	4.41
1	b	41:ARG	C	42:ASN	N	4.41
1	C	2:SER	C	3:ARG	N	4.38
1	t	124:LEU	C	125:GLY	N	4.38
1	1	547:G	O3'	548:G	P	4.37
1	1	2538:U	O3'	2539:C	P	4.33
1	t	57:ASN	C	58:CYS	N	4.33
1	1	2257:C	O3'	2258:U	P	4.32
1	1	1267:U	O3'	1268:G	P	4.29
1	A	248:GLY	C	249:SER	N	4.29
1	p	90:VAL	C	91:GLU	N	4.28
1	1	1762:C	O3'	1763:U	P	4.26
1	t	40:ASN	C	41:TYR	N	4.26
1	t	62:ASN	C	63:MET	N	4.25
1	1	181:U	O3'	182:U	P	4.24
1	E	12:SER	C	13:GLU	N	4.22
1	P	183:ALA	C	184:ALA	N	4.22
1	P	161:ALA	C	162:GLU	N	4.20
1	1	1954:G	O3'	1955:U	P	4.19
1	L	135:ALA	C	136:GLU	N	4.19
1	R	187:GLU	C	188:ASP	N	4.18
1	1	612:U	O3'	613:G	P	4.17
1	1	1107:C	O3'	1108:U	P	4.16
1	1	2547:A	O3'	2548:C	P	4.16
1	1	3252:G	O3'	3253:G	P	4.16
1	G	220:ALA	C	221:ASN	N	4.16
1	t	122:ARG	C	123:LEU	N	4.15
1	C	21:PRO	C	22:LEU	N	4.13
1	1	245:U	O3'	246:U	P	4.12
1	U	59:ASP	C	60:GLY	N	4.12
1	1	3280:U	O3'	3281:U	P	4.11

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	155:ASN	C	156:ASP	N	4.10
1	J	27:GLY	C	28:ASP	N	4.10
1	B	38:SER	C	39:LYS	N	4.09
1	P	89:LYS	C	90:PHE	N	4.09
1	D	132:THR	C	133:GLU	N	4.08
1	D	293:LEU	C	294:ALA	N	4.08
1	R	173:ARG	C	174:ALA	N	4.08
1	l	2480:G	O3'	2481:G	P	4.06
1	d	109:VAL	C	110:GLU	N	4.06
1	l	2572:C	O3'	2573:G	P	4.04
1	b	25:LYS	C	26:THR	N	4.04
1	l	3289:G	O3'	3290:G	P	4.03
1	J	48:SER	C	49:LYS	N	4.03
1	t	199:GLN	C	200:ASN	N	4.03
1	Y	88:GLU	C	89:LYS	N	4.01
1	G	247:ASP	C	248:LYS	N	3.99
1	l	1355:A	O3'	1356:U	P	3.98
1	l	2450:A	O3'	2451:U	P	3.95
1	l	511:G	O3'	512:U	P	3.94
1	l	536:U	O3'	537:A	P	3.94
1	l	2096:A	O3'	2097:U	P	3.93
1	l	2521:U	O3'	2522:G	P	3.93
1	C	172:VAL	C	173:GLY	N	3.93
1	t	6:SER	C	7:SER	N	3.93
1	l	1253:U	O3'	1254:C	P	3.92
1	e	123:LYS	C	124:GLY	N	3.92
1	R	166:ASN	C	167:ARG	N	3.91
1	V	2:SER	C	3:GLY	N	3.91
1	R	4:LEU	C	5:ARG	N	3.90
1	n	1:MET	C	2:ARG	N	3.89
1	P	157:VAL	C	158:ALA	N	3.85
1	l	439:C	O3'	440:A	P	3.84
1	l	583:G	O3'	584:G	P	3.83
1	l	2493:C	O3'	2494:C	P	3.83
1	l	3357:U	O3'	3358:U	P	3.83
1	C	271:LYS	C	272:VAL	N	3.83
1	l	1274:A	O3'	1275:C	P	3.82
1	M	27:GLN	C	28:SER	N	3.82
1	R	104:ARG	C	105:LEU	N	3.82
1	l	1285:G	O3'	1286:A	P	3.81
1	l	3027:A	O3'	3028:G	P	3.80
1	O	48:PHE	C	49:ARG	N	3.80

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Q	5:HIS	C	6:THR	N	3.80
1	R	185:LEU	C	186:LYS	N	3.80
1	d	4:LEU	C	5:LYS	N	3.79
1	V	43:GLY	C	44:SER	N	3.78
1	3	2:G	O3'	3:U	P	3.77
1	d	58:ALA	C	59:ILE	N	3.77
1	f	39:GLN	C	40:ASP	N	3.77
1	t	3:LYS	C	4:ILE	N	3.77
1	1	2495:U	O3'	2496:U	P	3.76
1	1	700:C	O3'	701:G	P	3.75
1	1	3:U	O3'	4:U	P	3.74
1	E	172:HIS	C	173:MET	N	3.73
1	R	183:ALA	C	184:LEU	N	3.73
1	t	106:LYS	C	107:TYR	N	3.73
1	1	1096:U	O3'	1097:G	P	3.72
1	E	71:VAL	C	72:ASN	N	3.72
1	E	2:SER	C	3:ALA	N	3.71
1	H	149:ASN	C	150:SER	N	3.71
1	1	3326:G	O3'	3327:G	P	3.70
1	1	2955:U	O3'	2956:A	P	3.69
1	4	116:G	O3'	117:C	P	3.69
1	1	1028:U	O3'	1029:G	P	3.68
1	D	129:TYR	C	130:GLU	N	3.68
1	D	131:LEU	C	132:THR	N	3.68
1	i	16:LYS	C	17:VAL	N	3.68
1	1	532:A	O3'	533:A	P	3.67
1	P	52:LEU	C	53:ASP	N	3.67
1	g	74:ARG	C	75:ALA	N	3.67
1	1	736:A	O3'	737:G	P	3.66
1	t	168:ALA	C	169:VAL	N	3.66
1	1	2418:G	O3'	2419:A	P	3.65
1	1	4:U	O3'	5:G	P	3.64
1	1	2479:C	O3'	2480:G	P	3.64
1	C	225:VAL	C	226:GLU	N	3.64
1	B	111:SER	C	112:ASP	N	3.63
1	1	1283:C	O3'	1284:C	P	3.61
1	1	2504:U	O3'	2505:U	P	3.61
1	1	850:U	O3'	851:C	P	3.60
1	3	36:C	O3'	37:G	P	3.60
1	J	102:PHE	C	103:GLY	N	3.60
1	t	1:MET	C	2:SER	N	3.59
1	t	100:ILE	C	101:LYS	N	3.59

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	79:GLN	C	80:TYR	N	3.58
1	J	163:PHE	C	164:LYS	N	3.58
1	M	25:LYS	C	26:GLY	N	3.58
1	E	16:ALA	C	17:ALA	N	3.57
1	S	3:HIS	C	4:PHE	N	3.57
1	1	1037:C	O3'	1038:C	P	3.56
1	1	3156:U	O3'	3157:U	P	3.56
1	1	3157:U	O3'	3158:G	P	3.56
1	B	138:ALA	C	139:GLN	N	3.56
1	G	100:GLU	C	101:THR	N	3.56
1	1	731:U	O3'	732:C	P	3.55
1	D	181:PRO	C	182:GLY	N	3.55
1	G	246:MET	C	247:ASP	N	3.55
1	I	100:ASN	C	101:LYS	N	3.55
1	Q	163:PRO	C	164:ARG	N	3.55
1	b	55:ALA	C	56:ALA	N	3.55
1	1	1030:A	O3'	1031:C	P	3.54
1	1	1600:U	O3'	1601:U	P	3.54
1	1	2839:G	O3'	2840:C	P	3.54
1	H	90:MET	C	91:ARG	N	3.54
1	1	163:C	O3'	164:A	P	3.53
1	1	2263:C	O3'	2264:U	P	3.53
1	1	2447:G	O3'	2448:G	P	3.53
1	I	35:ASP	C	36:LEU	N	3.53
1	a	140:ALA	C	141:ALA	N	3.53
1	t	206:VAL	C	207:LYS	N	3.53
1	1	1574:C	O3'	1575:A	P	3.52
1	C	17:ALA	C	18:ASN	N	3.52
1	G	59:GLN	C	60:ARG	N	3.52
1	G	104:GLU	C	105:LYS	N	3.52
1	1	1501:U	O3'	1502:C	P	3.51
1	1	3346:U	O3'	3347:A	P	3.51
1	A	142:ASP	C	143:GLU	N	3.51
1	R	177:VAL	C	178:ALA	N	3.51
1	a	55:LYS	C	56:VAL	N	3.51
1	t	196:LYS	C	197:ASN	N	3.50
1	1	632:G	O3'	633:C	P	3.49
1	3	41:G	O3'	42:A	P	3.48
1	C	12:THR	C	13:GLY	N	3.48
1	D	88:ILE	C	89:THR	N	3.48
1	Q	41:ASP	C	42:ALA	N	3.48
1	1	535:G	O3'	536:U	P	3.47

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2661:G	O3'	2662:G	P	3.47
1	U	58:GLU	C	59:ASP	N	3.47
1	1	2165:G	O3'	2166:A	P	3.46
1	Q	98:LYS	C	99:THR	N	3.46
1	b	12:GLN	C	13:THR	N	3.46
1	t	109:ALA	C	110:PHE	N	3.46
1	L	8:PRO	C	9:ILE	N	3.45
1	B	288:GLY	C	289:ASP	N	3.44
1	N	66:VAL	C	67:ARG	N	3.44
1	k	63:LYS	C	64:LYS	N	3.44
1	I	219:ALA	C	220:GLN	N	3.43
1	1	1226:G	O3'	1227:C	P	3.41
1	1	2832:C	O3'	2833:A	P	3.41
1	L	76:THR	C	77:LEU	N	3.41
1	1	242:C	O3'	243:G	P	3.40
1	B	135:ALA	C	136:LYS	N	3.40
1	N	92:LEU	C	93:LYS	N	3.40
1	1	843:A	O3'	844:G	P	3.39
1	M	26:GLY	C	27:GLN	N	3.39
1	d	102:LYS	C	103:GLY	N	3.39
1	j	79:GLN	C	80:THR	N	3.39
1	1	438:A	O3'	439:C	P	3.38
1	1	1216:C	O3'	1217:A	P	3.38
1	1	2195:C	O3'	2196:C	P	3.38
1	T	49:GLN	C	50:LYS	N	3.38
1	1	548:G	O3'	549:U	P	3.37
1	1	753:C	O3'	754:G	P	3.37
1	1	1626:U	O3'	1627:U	P	3.37
1	1	2535:A	O3'	2536:A	P	3.37
1	1	3134:A	O3'	3135:U	P	3.37
1	3	19:C	O3'	20:A	P	3.37
1	1	255:A	O3'	256:G	P	3.36
1	D	137:ASP	C	138:GLY	N	3.36
1	1	324:A	O3'	325:A	P	3.35
1	1	2508:U	O3'	2509:U	P	3.35
1	1	2533:G	O3'	2534:G	P	3.35
1	4	135:G	O3'	136:G	P	3.35
1	T	70:SER	C	71:SER	N	3.35
1	U	47:VAL	C	48:GLY	N	3.35
1	c	76:GLU	C	77:LEU	N	3.35
1	g	51:LEU	C	52:GLN	N	3.35
1	m	107:ALA	C	108:THR	N	3.35

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2438:A	O3'	2439:A	P	3.34
1	B	315:GLY	C	316:GLU	N	3.34
1	I	197:VAL	C	198:LYS	N	3.34
1	J	172:LEU	C	173:ASP	N	3.34
1	t	131:ALA	C	132:GLY	N	3.34
1	4	79:A	O3'	80:A	P	3.33
1	C	194:TYR	C	195:ARG	N	3.33
1	T	99:SER	C	100:LYS	N	3.33
1	V	87:ARG	C	88:ARG	N	3.33
1	t	98:LYS	C	99:LEU	N	3.33
1	1	690:A	O3'	691:A	P	3.32
1	J	130:VAL	C	131:MET	N	3.32
1	S	143:PHE	C	144:LEU	N	3.32
1	i	78:GLY	C	79:SER	N	3.32
1	o	96:GLU	C	97:LYS	N	3.32
1	1	132:C	O3'	133:U	P	3.31
1	1	794:U	O3'	795:G	P	3.31
1	1	2258:U	O3'	2259:A	P	3.31
1	S	168:PRO	C	169:SER	N	3.31
1	a	97:GLU	C	98:THR	N	3.31
1	1	182:U	O3'	183:G	P	3.30
1	1	195:U	O3'	196:G	P	3.30
1	1	1307:G	O3'	1308:A	P	3.30
1	1	1422:G	O3'	1423:C	P	3.30
1	3	109:G	O3'	110:G	P	3.30
1	E	93:VAL	C	94:GLU	N	3.30
1	N	46:ASP	C	47:LYS	N	3.30
1	a	42:ARG	C	43:ILE	N	3.30
1	f	33:GLU	C	34:GLY	N	3.30
1	1	257:U	O3'	258:G	P	3.29
1	D	193:GLU	C	194:LEU	N	3.29
1	E	131:LYS	C	132:ALA	N	3.29
1	H	159:ALA	C	160:ASP	N	3.29
1	J	173:ASP	C	174:LYS	N	3.29
1	Y	68:GLY	C	69:LYS	N	3.29
1	i	22:PRO	C	23:ALA	N	3.29
1	E	151:LYS	C	152:THR	N	3.28
1	G	27:THR	C	28:HIS	N	3.28
1	N	166:ALA	C	167:THR	N	3.28
1	S	144:LEU	C	145:THR	N	3.28
1	T	76:ILE	C	77:ASN	N	3.28
1	n	17:ARG	C	18:ARG	N	3.28

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	o	98:LYS	C	99:GLN	N	3.28
1	1	1112:A	O3'	1113:G	P	3.27
1	F	54:GLU	C	55:TYR	N	3.27
1	R	52:LYS	C	53:LYS	N	3.27
1	1	396:A	O3'	397:A	P	3.26
1	1	2482:U	O3'	2483:G	P	3.26
1	L	193:ALA	C	194:GLU	N	3.26
1	Q	34:THR	C	35:PHE	N	3.26
1	Z	47:GLU	C	48:ARG	N	3.26
1	t	5:THR	C	6:SER	N	3.26
1	t	174:MET	C	175:GLU	N	3.26
1	1	142:C	O3'	143:G	P	3.25
1	1	775:A	O3'	776:U	P	3.25
1	1	1618:G	O3'	1619:A	P	3.25
1	1	1785:U	O3'	1786:G	P	3.25
1	1	3359:A	O3'	3360:C	P	3.25
1	D	68:THR	C	69:ILE	N	3.25
1	D	133:GLU	C	134:ALA	N	3.25
1	F	42:ALA	C	43:ILE	N	3.25
1	F	157:ASN	C	158:LYS	N	3.25
1	t	97:LYS	C	98:LYS	N	3.25
1	1	1244:A	O3'	1245:A	P	3.24
1	1	2095:G	O3'	2096:A	P	3.24
1	1	3175:U	O3'	3176:G	P	3.24
1	B	327:CYS	C	328:ILE	N	3.24
1	B	349:LYS	C	350:ALA	N	3.24
1	C	297:SER	C	298:ALA	N	3.24
1	H	122:LYS	C	123:ILE	N	3.24
1	L	9:ILE	C	10:LEU	N	3.24
1	P	154:GLU	C	155:GLU	N	3.24
1	X	139:ILE	C	140:GLY	N	3.24
1	c	41:LEU	C	42:ILE	N	3.24
1	i	60:LEU	C	61:ILE	N	3.24
1	o	95:GLY	C	96:GLU	N	3.24
1	t	85:MET	C	86:SER	N	3.24
1	1	11:A	O3'	12:A	P	3.23
1	1	166:C	O3'	167:U	P	3.23
1	1	849:C	O3'	850:U	P	3.23
1	1	2252:A	O3'	2253:G	P	3.23
1	1	2478:C	O3'	2479:C	P	3.23
1	B	85:VAL	C	86:VAL	N	3.23
1	B	302:LYS	C	303:LYS	N	3.23

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	153:PRO	C	154:LEU	N	3.23
1	E	173:MET	C	174:LEU	N	3.23
1	t	48:ARG	C	49:PHE	N	3.23
1	1	560:G	O3'	561:C	P	3.22
1	1	3254:G	O3'	3255:U	P	3.22
1	F	43:ILE	C	44:ILE	N	3.22
1	G	113:ALA	C	114:ALA	N	3.22
1	a	93:SER	C	94:ALA	N	3.22
1	t	183:ILE	C	184:LEU	N	3.22
1	1	243:G	O3'	244:G	P	3.21
1	1	1918:C	O3'	1919:G	P	3.21
1	G	115:ALA	C	116:VAL	N	3.21
1	G	250:ALA	C	251:LYS	N	3.21
1	I	114:GLY	C	115:MET	N	3.21
1	J	49:LYS	C	50:ALA	N	3.21
1	J	136:ALA	C	137:ARG	N	3.21
1	L	110:ASP	C	111:ALA	N	3.21
1	Q	84:VAL	C	85:GLY	N	3.21
1	U	26:GLY	C	27:VAL	N	3.21
1	i	62:ARG	C	63:ASN	N	3.21
1	j	77:GLY	C	78:PHE	N	3.21
1	k	34:ALA	C	35:GLY	N	3.21
1	t	18:LYS	C	19:TYR	N	3.21
1	1	1526:U	O3'	1527:C	P	3.20
1	1	1607:U	O3'	1608:C	P	3.20
1	1	3261:C	O3'	3262:U	P	3.20
1	B	139:GLN	C	140:ASP	N	3.20
1	D	126:GLU	C	127:GLY	N	3.20
1	D	187:THR	C	188:GLU	N	3.20
1	G	99:PRO	C	100:GLU	N	3.20
1	d	7:VAL	C	8:VAL	N	3.20
1	m	127:LEU	C	128:LYS	N	3.20
1	1	193:C	O3'	194:U	P	3.19
1	1	2302:G	O3'	2303:A	P	3.19
1	1	2995:A	O3'	2996:U	P	3.19
1	D	228:ALA	C	229:ASP	N	3.19
1	F	29:GLU	C	30:ARG	N	3.19
1	V	30:GLY	C	31:ALA	N	3.19
1	h	114:ARG	C	115:LYS	N	3.19
1	k	5:ILE	C	6:THR	N	3.19
1	k	68:SER	C	69:LEU	N	3.19
1	p	91:GLU	C	92:ALA	N	3.19

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1322:U	O3'	1323:G	P	3.18
1	B	352:GLU	C	353:GLU	N	3.18
1	F	61:ASN	C	62:ILE	N	3.18
1	G	168:ALA	C	169:LEU	N	3.18
1	V	134:GLY	C	135:VAL	N	3.18
1	X	42:ARG	C	43:ALA	N	3.18
1	Z	2:ALA	C	3:LYS	N	3.18
1	i	29:LYS	C	30:LYS	N	3.18
1	i	32:ALA	C	33:ALA	N	3.18
1	k	29:LYS	C	30:LYS	N	3.18
1	k	30:LYS	C	31:LEU	N	3.18
1	k	72:THR	C	73:LEU	N	3.18
1	p	58:SER	C	59:CYS	N	3.18
1	1	92:G	O3'	93:C	P	3.17
1	1	647:A	O3'	648:C	P	3.17
1	1	1260:A	O3'	1261:G	P	3.17
1	1	2290:C	O3'	2291:A	P	3.17
1	1	2340:U	O3'	2341:A	P	3.17
1	1	3046:A	O3'	3047:U	P	3.17
1	D	278:SER	C	279:LYS	N	3.17
1	N	91:GLU	C	92:LEU	N	3.17
1	N	184:LYS	C	185:ALA	N	3.17
1	R	182:ASP	C	183:ALA	N	3.17
1	S	156:VAL	C	157:GLN	N	3.17
1	b	2:ALA	C	3:LYS	N	3.17
1	h	29:ALA	C	30:GLU	N	3.17
1	t	182:GLN	C	183:ILE	N	3.17
1	1	55:G	O3'	56:G	P	3.16
1	1	776:U	O3'	777:U	P	3.16
1	1	778:U	O3'	779:G	P	3.16
1	1	1225:A	O3'	1226:G	P	3.16
1	1	2725:U	O3'	2726:C	P	3.16
1	1	2895:G	O3'	2896:A	P	3.16
1	1	3121:U	O3'	3122:A	P	3.16
1	1	3162:C	O3'	3163:A	P	3.16
1	1	3237:U	O3'	3238:G	P	3.16
1	B	41:VAL	C	42:ALA	N	3.16
1	E	96:VAL	C	97:ASN	N	3.16
1	J	104:PHE	C	105:GLY	N	3.16
1	L	102:GLN	C	103:ASN	N	3.16
1	M	10:SER	C	11:ASN	N	3.16
1	m	85:LEU	C	86:ALA	N	3.16

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	t	143:ASP	C	144:LEU	N	3.16
1	1	205:C	O3'	206:G	P	3.15
1	1	711:A	O3'	712:G	P	3.15
1	1	1409:G	O3'	1410:U	P	3.15
1	1	1516:C	O3'	1517:G	P	3.15
1	1	1652:G	O3'	1653:G	P	3.15
1	1	2773:C	O3'	2774:C	P	3.15
1	3	22:A	O3'	23:A	P	3.15
1	B	6:TYR	C	7:GLU	N	3.15
1	D	143:LYS	C	144:VAL	N	3.15
1	H	151:VAL	C	152:GLU	N	3.15
1	S	99:ARG	C	100:VAL	N	3.15
1	T	159:PHE	C	160:ILE	N	3.15
1	b	54:LEU	C	55:ALA	N	3.15
1	m	83:LYS	C	84:ALA	N	3.15
1	1	403:C	O3'	404:G	P	3.14
1	1	2545:C	O3'	2546:C	P	3.14
1	1	2671:A	O3'	2672:G	P	3.14
1	1	3168:A	O3'	3169:U	P	3.14
1	C	267:VAL	C	268:ALA	N	3.14
1	D	287:ALA	C	288:ALA	N	3.14
1	P	111:LYS	C	112:LEU	N	3.14
1	Q	180:ARG	C	181:SER	N	3.14
1	Z	7:ALA	C	8:GLY	N	3.14
1	Z	105:SER	C	106:GLN	N	3.14
1	c	32:LYS	C	33:SER	N	3.14
1	h	3:GLY	C	4:VAL	N	3.14
1	h	28:LEU	C	29:ALA	N	3.14
1	k	67:GLN	C	68:SER	N	3.14
1	t	70:ASP	C	71:ALA	N	3.14
1	1	389:A	O3'	390:G	P	3.13
1	1	626:U	O3'	627:U	P	3.13
1	1	1083:G	O3'	1084:A	P	3.13
1	1	3281:U	O3'	3282:U	P	3.13
1	B	382:THR	C	383:LEU	N	3.13
1	G	96:LYS	C	97:TYR	N	3.13
1	J	90:GLN	C	91:LEU	N	3.13
1	O	163:SER	C	164:SER	N	3.13
1	P	53:ASP	C	54:HIS	N	3.13
1	S	163:PHE	C	164:SER	N	3.13
1	j	65:ARG	C	66:TYR	N	3.13
1	p	29:LEU	C	30:GLU	N	3.13

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	588:G	O3'	589:A	P	3.12
1	1	723:U	O3'	724:U	P	3.12
1	1	1779:C	O3'	1780:G	P	3.12
1	1	1836:C	O3'	1837:U	P	3.12
1	1	3388:C	O3'	3389:U	P	3.12
1	A	8:GLN	C	9:ARG	N	3.12
1	B	385:LYS	C	386:ASP	N	3.12
1	C	311:HIS	C	312:VAL	N	3.12
1	E	60:ASP	C	61:ASN	N	3.12
1	F	26:VAL	C	27:ALA	N	3.12
1	G	101:THR	C	102:ALA	N	3.12
1	G	144:GLU	C	145:ASN	N	3.12
1	H	132:VAL	C	133:THR	N	3.12
1	Q	4:ASP	C	5:HIS	N	3.12
1	S	127:ALA	C	128:GLU	N	3.12
1	U	46:ALA	C	47:VAL	N	3.12
1	a	98:THR	C	99:ALA	N	3.12
1	c	39:SER	C	40:LYS	N	3.12
1	j	86:ALA	C	87:SER	N	3.12
1	k	31:LEU	C	32:ASN	N	3.12
1	1	557:A	O3'	558:U	P	3.11
1	1	2299:A	O3'	2300:G	P	3.11
1	3	49:G	O3'	50:U	P	3.11
1	B	298:PHE	C	299:ASP	N	3.11
1	D	266:ALA	C	267:ALA	N	3.11
1	G	131:ALA	C	132:VAL	N	3.11
1	T	44:ALA	C	45:ASN	N	3.11
1	U	83:TYR	C	84:LEU	N	3.11
1	Z	117:ALA	C	118:PHE	N	3.11
1	a	37:GLY	C	38:GLN	N	3.11
1	c	97:ASP	C	98:SER	N	3.11
1	f	91:ALA	C	92:LYS	N	3.11
1	1	2531:C	O3'	2532:U	P	3.10
1	C	164:GLU	C	165:ALA	N	3.10
1	D	188:GLU	C	189:GLU	N	3.10
1	E	8:LYS	C	9:TRP	N	3.10
1	E	21:THR	C	22:ARG	N	3.10
1	E	72:ASN	C	73:GLY	N	3.10
1	E	147:ALA	C	148:GLU	N	3.10
1	F	121:LYS	C	122:ALA	N	3.10
1	G	248:LYS	C	249:ARG	N	3.10
1	H	14:GLU	C	15:GLY	N	3.10

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	188:ARG	C	189:GLU	N	3.10
1	S	54:ALA	C	55:SER	N	3.10
1	V	94:TYR	C	95:PHE	N	3.10
1	Z	17:ARG	C	18:TYR	N	3.10
1	b	34:GLY	C	35:VAL	N	3.10
1	g	29:ILE	C	30:LEU	N	3.10
1	h	27:GLU	C	28:LEU	N	3.10
1	t	21:ASN	C	22:GLU	N	3.10
1	l	13:A	O3'	14:U	P	3.09
1	l	3171:U	O3'	3172:A	P	3.09
1	C	104:LYS	C	105:THR	N	3.09
1	C	346:LYS	C	347:THR	N	3.09
1	G	106:LYS	C	107:GLU	N	3.09
1	H	13:PRO	C	14:GLU	N	3.09
1	I	217:PHE	C	218:ALA	N	3.09
1	V	70:ARG	C	71:LYS	N	3.09
1	X	38:LEU	C	39:LYS	N	3.09
1	X	105:VAL	C	106:ASP	N	3.09
1	a	95:SER	C	96:LYS	N	3.09
1	i	31:GLY	C	32:ALA	N	3.09
1	t	76:ARG	C	77:ALA	N	3.09
1	l	1288:U	O3'	1289:G	P	3.08
1	l	1430:U	O3'	1431:G	P	3.08
1	l	1581:C	O3'	1582:C	P	3.08
1	l	2164:A	O3'	2165:G	P	3.08
1	l	2808:A	O3'	2809:C	P	3.08
1	B	307:PRO	C	308:MET	N	3.08
1	C	341:SER	C	342:LYS	N	3.08
1	E	107:ALA	C	108:LYS	N	3.08
1	F	65:ALA	C	66:LYS	N	3.08
1	F	91:GLY	C	92:ILE	N	3.08
1	N	197:LEU	C	198:SER	N	3.08
1	Q	108:ALA	C	109:GLY	N	3.08
1	e	114:ALA	C	115:LEU	N	3.08
1	l	24:PRO	C	25:GLN	N	3.08
1	t	17:LEU	C	18:LYS	N	3.08
1	l	1648:A	O3'	1649:U	P	3.07
1	D	55:PHE	C	56:THR	N	3.07
1	D	249:ALA	C	250:ASP	N	3.07
1	I	31:ILE	C	32:ARG	N	3.07
1	I	166:ILE	C	167:LEU	N	3.07
1	U	56:VAL	C	57:THR	N	3.07

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	W	59:HIS	C	60:LYS	N	3.07
1	1	561:C	O3'	562:C	P	3.06
1	1	842:G	O3'	843:A	P	3.06
1	1	1617:G	O3'	1618:G	P	3.06
1	1	2662:G	O3'	2663:G	P	3.06
1	1	2822:U	O3'	2823:G	P	3.06
1	3	56:A	O3'	57:G	P	3.06
1	B	182:GLN	C	183:LEU	N	3.06
1	H	71:VAL	C	72:LYS	N	3.06
1	I	99:ILE	C	100:ASN	N	3.06
1	U	106:ALA	C	107:PHE	N	3.06
1	c	102:THR	C	103:THR	N	3.06
1	h	100:VAL	C	101:THR	N	3.06
1	l	29:LEU	C	30:ARG	N	3.06
1	m	120:GLN	C	121:LEU	N	3.06
1	t	31:THR	C	32:VAL	N	3.06
1	t	202:GLY	C	203:SER	N	3.06
1	1	1165:A	O3'	1166:G	P	3.05
1	A	152:SER	C	153:GLY	N	3.05
1	C	153:SER	C	154:THR	N	3.05
1	I	207:GLU	C	208:ASN	N	3.05
1	X	24:LEU	C	25:LYS	N	3.05
1	t	34:LEU	C	35:GLN	N	3.05
1	1	1291:A	O3'	1292:C	P	3.04
1	1	1461:A	O3'	1462:A	P	3.04
1	1	2254:U	O3'	2255:A	P	3.04
1	1	3250:U	O3'	3251:U	P	3.04
1	B	7:GLU	C	8:ALA	N	3.04
1	B	314:TYR	C	315:GLY	N	3.04
1	B	386:ASP	C	387:LEU	N	3.04
1	D	48:LYS	C	49:TYR	N	3.04
1	D	62:CYS	C	63:GLN	N	3.04
1	D	274:GLN	C	275:THR	N	3.04
1	I	25:ALA	C	26:VAL	N	3.04
1	J	30:LEU	C	31:THR	N	3.04
1	U	80:THR	C	81:LYS	N	3.04
1	Z	110:ALA	C	111:LYS	N	3.04
1	a	135:GLU	C	136:GLU	N	3.04
1	b	31:SER	C	32:LEU	N	3.04
1	d	85:ALA	C	86:LYS	N	3.04
1	p	74:ALA	C	75:ALA	N	3.04
1	1	615:U	O3'	616:G	P	3.03

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1547:G	O3'	1548:C	P	3.03
1	1	2398:A	O3'	2399:A	P	3.03
1	1	3014:U	O3'	3015:G	P	3.03
1	A	154:ALA	C	155:LYS	N	3.03
1	A	195:SER	C	196:TRP	N	3.03
1	B	369:ARG	C	370:PHE	N	3.03
1	I	162:GLN	C	163:GLN	N	3.03
1	I	186:GLU	C	187:ALA	N	3.03
1	J	61:ARG	C	62:ASN	N	3.03
1	M	54:PRO	C	55:ARG	N	3.03
1	T	33:VAL	C	34:TYR	N	3.03
1	e	115:LEU	C	116:GLY	N	3.03
1	l	19:GLN	C	20:ASN	N	3.03
1	o	46:LYS	C	47:GLN	N	3.03
1	t	33:GLU	C	34:LEU	N	3.03
1	t	185:MET	C	186:SER	N	3.03
1	1	1683:A	O3'	1684:U	P	3.02
1	1	2230:C	O3'	2231:C	P	3.02
1	1	3084:C	O3'	3085:G	P	3.02
1	D	77:ALA	C	78:ALA	N	3.02
1	D	145:PHE	C	146:LEU	N	3.02
1	D	161:GLY	C	162:ALA	N	3.02
1	D	213:ASP	C	214:ASP	N	3.02
1	F	30:ARG	C	31:ALA	N	3.02
1	G	76:ALA	C	77:GLN	N	3.02
1	H	134:ILE	C	135:GLU	N	3.02
1	S	119:ARG	C	120:SER	N	3.02
1	U	105:LEU	C	106:ALA	N	3.02
1	Y	67:GLU	C	68:GLY	N	3.02
1	a	146:GLU	C	147:LEU	N	3.02
1	1	1048:A	O3'	1049:C	P	3.01
1	1	1073:U	O3'	1074:U	P	3.01
1	1	2729:U	O3'	2730:G	P	3.01
1	1	3351:U	O3'	3352:U	P	3.01
1	3	17:A	O3'	18:C	P	3.01
1	3	58:C	O3'	59:U	P	3.01
1	C	188:ARG	C	189:ALA	N	3.01
1	D	66:SER	C	67:SER	N	3.01
1	R	60:LYS	C	61:SER	N	3.01
1	R	128:LYS	C	129:GLY	N	3.01
1	V	119:GLY	C	120:LYS	N	3.01
1	W	57:LYS	C	58:HIS	N	3.01

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	g	39:ALA	C	40:THR	N	3.01
1	i	37:THR	C	38:LYS	N	3.01
1	i	52:PRO	C	53:TYR	N	3.01
1	i	83:ALA	C	84:LYS	N	3.01
1	1	186:U	O3'	187:A	P	3.00
1	1	692:A	O3'	693:A	P	3.00
1	1	1357:G	O3'	1358:C	P	3.00
1	1	2413:A	O3'	2414:G	P	3.00
1	1	2527:G	O3'	2528:G	P	3.00
1	3	105:C	O3'	106:U	P	3.00
1	E	88:SER	C	89:THR	N	3.00
1	G	109:LEU	C	110:THR	N	3.00
1	L	189:GLU	C	190:LYS	N	3.00
1	Q	36:LEU	C	37:ALA	N	3.00
1	g	38:LEU	C	39:ALA	N	3.00
1	1	1164:G	O3'	1165:A	P	2.99
1	1	2234:G	O3'	2235:C	P	2.99
1	1	3016:A	O3'	3017:A	P	2.99
1	1	3085:G	O3'	3086:A	P	2.99
1	4	73:U	O3'	74:U	P	2.99
1	D	259:LYS	C	260:PHE	N	2.99
1	F	72:ALA	C	73:GLY	N	2.99
1	G	117:ALA	C	118:GLU	N	2.99
1	J	78:GLU	C	79:ILE	N	2.99
1	L	186:ARG	C	187:ALA	N	2.99
1	M	70:PHE	C	71:ALA	N	2.99
1	S	169:SER	C	170:THR	N	2.99
1	Y	83:ASP	C	84:LYS	N	2.99
1	a	119:PRO	C	120:ASN	N	2.99
1	d	101:ALA	C	102:LYS	N	2.99
1	e	46:PHE	C	47:ARG	N	2.99
1	j	14:LYS	C	15:SER	N	2.99
1	j	49:TRP	C	50:GLY	N	2.99
1	k	19:ASP	C	20:VAL	N	2.99
1	o	31:GLY	C	32:LYS	N	2.99
1	1	316:U	O3'	317:A	P	2.98
1	1	1345:G	O3'	1346:G	P	2.98
1	1	1470:U	O3'	1471:U	P	2.98
1	1	2542:U	O3'	2543:U	P	2.98
1	A	70:ARG	C	71:LEU	N	2.98
1	A	139:HIS	C	140:ASN	N	2.98
1	A	184:ARG	C	185:ALA	N	2.98

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	194:ASN	C	195:SER	N	2.98
1	B	297:SER	C	298:PHE	N	2.98
1	B	379:PHE	C	380:MET	N	2.98
1	D	26:GLY	C	27:LYS	N	2.98
1	F	205:PHE	C	206:LYS	N	2.98
1	R	24:LEU	C	25:ASP	N	2.98
1	T	23:GLY	C	24:ALA	N	2.98
1	X	35:PRO	C	36:LYS	N	2.98
1	Z	113:VAL	C	114:VAL	N	2.98
1	c	98:SER	C	99:ASP	N	2.98
1	d	103:GLY	C	104:LEU	N	2.98
1	p	87:ARG	C	88:GLU	N	2.98
1	t	114:GLU	C	115:VAL	N	2.98
1	1	290:G	O3'	291:C	P	2.97
1	1	312:C	O3'	313:A	P	2.97
1	1	1640:G	O3'	1641:U	P	2.97
1	1	2137:U	O3'	2138:A	P	2.97
1	1	3117:C	O3'	3118:C	P	2.97
1	4	154:C	O3'	155:A	P	2.97
1	A	182:ALA	C	183:GLY	N	2.97
1	F	196:LYS	C	197:GLN	N	2.97
1	H	69:ARG	C	70:THR	N	2.97
1	M	67:PRO	C	68:LEU	N	2.97
1	Q	116:LYS	C	117:ALA	N	2.97
1	Q	151:ARG	C	152:HIS	N	2.97
1	R	56:THR	C	57:VAL	N	2.97
1	W	7:SER	C	8:PHE	N	2.97
1	Z	93:LYS	C	94:SER	N	2.97
1	j	44:THR	C	45:ARG	N	2.97
1	j	87:SER	C	88:ALA	N	2.97
1	l	32:ASN	C	33:ASN	N	2.97
1	1	564:G	O3'	565:U	P	2.96
1	1	1067:U	O3'	1068:C	P	2.96
1	C	11:LEU	C	12:THR	N	2.96
1	C	133:SER	C	134:LEU	N	2.96
1	E	150:LYS	C	151:LYS	N	2.96
1	G	210:ALA	C	211:LEU	N	2.96
1	I	215:GLU	C	216:TYR	N	2.96
1	L	99:HIS	C	100:ARG	N	2.96
1	L	112:ASN	C	113:VAL	N	2.96
1	N	198:SER	C	199:LEU	N	2.96
1	Q	62:VAL	C	63:SER	N	2.96

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	S	85:SER	C	86:GLY	N	2.96
1	T	5:HIS	C	6:GLY	N	2.96
1	T	139:ARG	C	140:ILE	N	2.96
1	Y	71:SER	C	72:SER	N	2.96
1	Y	92:GLY	C	93:ALA	N	2.96
1	Z	82:PRO	C	83:THR	N	2.96
1	Z	83:THR	C	84:ARG	N	2.96
1	e	28:VAL	C	29:ALA	N	2.96
1	g	76:TYR	C	77:GLY	N	2.96
1	g	102:LYS	C	103:LYS	N	2.96
1	l	25:GLN	C	26:TRP	N	2.96
1	1	196:G	O3'	197:G	P	2.95
1	1	275:U	O3'	276:U	P	2.95
1	1	1415:U	O3'	1416:C	P	2.95
1	1	1902:G	O3'	1903:U	P	2.95
1	1	2112:U	O3'	2113:A	P	2.95
1	1	2181:C	O3'	2182:A	P	2.95
1	1	2315:G	O3'	2316:G	P	2.95
1	1	2386:A	O3'	2387:A	P	2.95
1	1	3110:C	O3'	3111:U	P	2.95
1	3	44:C	O3'	45:A	P	2.95
1	4	14:C	O3'	15:G	P	2.95
1	A	35:ALA	C	36:GLU	N	2.95
1	Q	101:VAL	C	102:ALA	N	2.95
1	R	96:ILE	C	97:ARG	N	2.95
1	S	160:THR	C	161:LYS	N	2.95
1	a	85:ASP	C	86:LYS	N	2.95
1	1	1597:C	O3'	1598:G	P	2.94
1	1	1933:A	O3'	1934:G	P	2.94
1	1	2565:U	O3'	2566:C	P	2.94
1	1	3386:G	O3'	3387:U	P	2.94
1	3	24:A	O3'	25:G	P	2.94
1	B	144:ILE	C	145:GLU	N	2.94
1	J	37:LEU	C	38:GLU	N	2.94
1	N	109:ARG	C	110:ALA	N	2.94
1	P	68:GLY	C	69:ARG	N	2.94
1	V	28:ASN	C	29:SER	N	2.94
1	V	133:SER	C	134:GLY	N	2.94
1	Z	67:LYS	C	68:ILE	N	2.94
1	b	14:ARG	C	15:LYS	N	2.94
1	b	26:THR	C	27:TYR	N	2.94
1	1	518:G	O3'	519:A	P	2.93

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	563:U	O3'	564:G	P	2.93
1	1	1045:C	O3'	1046:A	P	2.93
1	1	1884:A	O3'	1885:U	P	2.93
1	1	1889:G	O3'	1890:U	P	2.93
1	1	2786:G	O3'	2787:G	P	2.93
1	1	2948:C	O3'	2949:U	P	2.93
1	3	88:G	O3'	89:G	P	2.93
1	3	112:G	O3'	113:C	P	2.93
1	B	313:HIS	C	314:TYR	N	2.93
1	D	47:PRO	C	48:LYS	N	2.93
1	D	263:GLU	C	264:GLN	N	2.93
1	F	28:ALA	C	29:GLU	N	2.93
1	G	245:LYS	C	246:MET	N	2.93
1	I	204:GLY	C	205:SER	N	2.93
1	P	16:SER	C	17:ALA	N	2.93
1	P	103:GLU	C	104:ALA	N	2.93
1	R	150:GLN	C	151:ARG	N	2.93
1	S	70:THR	C	71:LYS	N	2.93
1	U	42:LYS	C	43:VAL	N	2.93
1	h	63:ARG	C	64:GLU	N	2.93
1	i	77:LEU	C	78:GLY	N	2.93
1	1	194:U	O3'	195:U	P	2.92
1	1	300:G	O3'	301:G	P	2.92
1	1	2261:G	O3'	2262:A	P	2.92
1	1	2383:C	O3'	2384:A	P	2.92
1	1	2649:A	O3'	2650:U	P	2.92
1	1	2749:G	O3'	2750:U	P	2.92
1	A	69:TYR	C	70:ARG	N	2.92
1	C	289:ILE	C	290:ILE	N	2.92
1	C	315:LYS	C	316:ASN	N	2.92
1	G	182:GLY	C	183:LYS	N	2.92
1	H	28:VAL	C	29:GLY	N	2.92
1	I	13:LYS	C	14:ASN	N	2.92
1	I	171:TRP	C	172:GLY	N	2.92
1	L	152:THR	C	153:ASP	N	2.92
1	Q	68:ALA	C	69:ARG	N	2.92
1	T	116:ARG	C	117:ALA	N	2.92
1	Y	5:SER	C	6:LEU	N	2.92
1	Z	3:LYS	C	4:PHE	N	2.92
1	f	59:VAL	C	60:ARG	N	2.92
1	h	106:LYS	C	107:LYS	N	2.92
1	n	2:ARG	C	3:ALA	N	2.92

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	169:U	O3'	170:G	P	2.91
1	1	679:U	O3'	680:G	P	2.91
1	1	742:G	O3'	743:C	P	2.91
1	1	1412:G	O3'	1413:G	P	2.91
1	1	2231:C	O3'	2232:A	P	2.91
1	1	2235:C	O3'	2236:G	P	2.91
1	1	2513:U	O3'	2514:U	P	2.91
1	1	2645:G	O3'	2646:C	P	2.91
1	3	30:G	O3'	31:U	P	2.91
1	B	18:PRO	C	19:ARG	N	2.91
1	D	207:TYR	C	208:MET	N	2.91
1	F	40:LYS	C	41:ARG	N	2.91
1	F	112:ASN	C	113:SER	N	2.91
1	H	91:ARG	C	92:TYR	N	2.91
1	H	119:GLY	C	120:ASP	N	2.91
1	I	38:LYS	C	39:LYS	N	2.91
1	Q	99:THR	C	100:THR	N	2.91
1	U	13:LYS	C	14:THR	N	2.91
1	U	44:GLU	C	45:GLY	N	2.91
1	U	66:VAL	C	67:SER	N	2.91
1	W	58:HIS	C	59:HIS	N	2.91
1	b	42:ASN	C	43:HIS	N	2.91
1	k	62:ALA	C	63:LYS	N	2.91
1	t	129:SER	C	130:LYS	N	2.91
1	1	101:G	O3'	102:C	P	2.90
1	1	277:G	O3'	278:U	P	2.90
1	1	1361:U	O3'	1362:G	P	2.90
1	1	2131:A	O3'	2132:C	P	2.90
1	1	2273:G	O3'	2274:U	P	2.90
1	1	2929:C	O3'	2930:A	P	2.90
1	1	3260:G	O3'	3261:C	P	2.90
1	4	39:G	O3'	40:A	P	2.90
1	4	148:G	O3'	149:A	P	2.90
1	A	17:THR	C	18:SER	N	2.90
1	A	132:ASN	C	133:TYR	N	2.90
1	A	230:VAL	C	231:SER	N	2.90
1	C	102:PRO	C	103:THR	N	2.90
1	C	167:ALA	C	168:ALA	N	2.90
1	I	185:ARG	C	186:GLU	N	2.90
1	R	80:LYS	C	81:ARG	N	2.90
1	R	125:LYS	C	126:GLU	N	2.90
1	Z	55:LYS	C	56:LYS	N	2.90

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	a	143:GLY	C	144:VAL	N	2.90
1	j	75:LYS	C	76:ASN	N	2.90
1	1	413:U	O3'	414:U	P	2.89
1	1	724:U	O3'	725:G	P	2.89
1	1	1153:A	O3'	1154:A	P	2.89
1	1	1481:A	O3'	1482:A	P	2.89
1	1	1661:G	O3'	1662:G	P	2.89
1	1	1712:G	O3'	1713:G	P	2.89
1	1	2211:U	O3'	2212:C	P	2.89
1	1	2611:U	O3'	2612:U	P	2.89
1	1	2924:U	O3'	2925:C	P	2.89
1	1	3032:A	O3'	3033:A	P	2.89
1	1	3100:U	O3'	3101:G	P	2.89
1	1	3335:A	O3'	3336:A	P	2.89
1	B	22:ALA	C	23:ALA	N	2.89
1	B	310:GLY	C	311:PHE	N	2.89
1	F	120:THR	C	121:LYS	N	2.89
1	G	84:ARG	C	85:ASN	N	2.89
1	I	24:ARG	C	25:ALA	N	2.89
1	I	29:SER	C	30:LYS	N	2.89
1	I	54:SER	C	55:ASN	N	2.89
1	L	106:GLN	C	107:GLU	N	2.89
1	L	155:GLU	C	156:ALA	N	2.89
1	L	163:GLY	C	164:GLU	N	2.89
1	M	36:VAL	C	37:GLU	N	2.89
1	N	160:GLU	C	161:ALA	N	2.89
1	Q	85:GLY	C	86:THR	N	2.89
1	R	111:ASP	C	112:ALA	N	2.89
1	T	141:VAL	C	142:SER	N	2.89
1	V	15:LEU	C	16:GLY	N	2.89
1	d	95:PRO	C	96:VAL	N	2.89
1	h	16:GLN	C	17:LEU	N	2.89
1	n	12:ARG	C	13:LEU	N	2.89
1	1	504:A	O3'	505:G	P	2.88
1	1	1398:U	O3'	1399:A	P	2.88
1	1	1649:U	O3'	1650:G	P	2.88
1	1	2272:G	O3'	2273:G	P	2.88
1	3	102:A	O3'	103:A	P	2.88
1	A	199:THR	C	200:ARG	N	2.88
1	A	228:GLY	C	229:ALA	N	2.88
1	D	31:TYR	C	32:GLN	N	2.88
1	H	152:GLU	C	153:ASP	N	2.88

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	I	140:THR	C	141:LYS	N	2.88
1	J	21:ILE	C	22:SER	N	2.88
1	L	3:ILE	C	4:SER	N	2.88
1	L	104:ARG	C	105:ASN	N	2.88
1	P	54:HIS	C	55:GLN	N	2.88
1	Q	6:THR	C	7:SER	N	2.88
1	S	148:LEU	C	149:LYS	N	2.88
1	V	85:TRP	C	86:ARG	N	2.88
1	Z	95:VAL	C	96:VAL	N	2.88
1	f	63:LYS	C	64:ILE	N	2.88
1	h	83:LYS	C	84:LYS	N	2.88
1	i	57:LEU	C	58:ILE	N	2.88
1	m	88:LYS	C	89:TYR	N	2.88
1	t	14:LYS	C	15:GLU	N	2.88
1	t	210:MET	C	211:GLY	N	2.88
1	1	328:U	O3'	329:U	P	2.87
1	1	685:G	O3'	686:G	P	2.87
1	1	1137:C	O3'	1138:U	P	2.87
1	1	1657:C	O3'	1658:G	P	2.87
1	1	1704:A	O3'	1705:U	P	2.87
1	1	1866:C	O3'	1867:A	P	2.87
1	1	1907:C	O3'	1908:A	P	2.87
1	1	3031:G	O3'	3032:A	P	2.87
1	3	101:G	O3'	102:A	P	2.87
1	B	157:VAL	C	158:VAL	N	2.87
1	B	208:VAL	C	209:PHE	N	2.87
1	D	44:TYR	C	45:ASN	N	2.87
1	D	69:ILE	C	70:THR	N	2.87
1	D	201:GLY	C	202:GLY	N	2.87
1	J	85:LYS	C	86:VAL	N	2.87
1	P	137:ASN	C	138:LYS	N	2.87
1	Q	81:VAL	C	82:VAL	N	2.87
1	Q	153:PHE	C	154:GLY	N	2.87
1	T	111:ALA	C	112:ASN	N	2.87
1	V	25:CYS	C	26:ALA	N	2.87
1	Y	30:LEU	C	31:LEU	N	2.87
1	Z	19:ALA	C	20:GLY	N	2.87
1	f	43:PHE	C	44:TYR	N	2.87
1	h	6:ALA	C	7:TYR	N	2.87
1	h	30:GLU	C	31:LEU	N	2.87
1	n	7:LYS	C	8:LYS	N	2.87
1	1	44:U	O3'	45:A	P	2.86

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	750:G	O3'	751:A	P	2.86
1	1	1608:C	O3'	1609:C	P	2.86
1	1	1741:A	O3'	1742:U	P	2.86
1	1	2369:G	O3'	2370:G	P	2.86
1	1	2392:C	O3'	2393:G	P	2.86
1	1	2835:U	O3'	2836:C	P	2.86
1	1	2846:U	O3'	2847:A	P	2.86
1	4	19:C	O3'	20:U	P	2.86
1	A	54:ARG	C	55:GLY	N	2.86
1	B	2:SER	C	3:HIS	N	2.86
1	B	109:HIS	C	110:LEU	N	2.86
1	C	48:GLN	C	49:ALA	N	2.86
1	C	125:ALA	C	126:ILE	N	2.86
1	H	77:ASN	C	78:MET	N	2.86
1	I	30:LYS	C	31:ILE	N	2.86
1	J	41:SER	C	42:GLY	N	2.86
1	L	140:SER	C	141:ALA	N	2.86
1	P	74:LYS	C	75:GLU	N	2.86
1	R	7:GLN	C	8:LYS	N	2.86
1	a	123:VAL	C	124:ILE	N	2.86
1	e	66:LEU	C	67:SER	N	2.86
1	j	51:ALA	C	52:LYS	N	2.86
1	p	55:TRP	C	56:THR	N	2.86
1	1	506:U	O3'	507:U	P	2.85
1	1	605:U	O3'	606:C	P	2.85
1	1	804:C	O3'	805:G	P	2.85
1	1	1427:U	O3'	1428:A	P	2.85
1	1	2522:G	O3'	2523:A	P	2.85
1	4	44:A	O3'	45:C	P	2.85
1	G	216:SER	C	217:THR	N	2.85
1	H	108:GLY	C	109:ALA	N	2.85
1	H	140:VAL	C	141:LYS	N	2.85
1	I	36:LEU	C	37:GLY	N	2.85
1	J	35:LYS	C	36:VAL	N	2.85
1	J	114:ILE	C	115:LYS	N	2.85
1	L	95:ILE	C	96:ALA	N	2.85
1	L	167:PHE	C	168:ARG	N	2.85
1	N	38:ARG	C	39:ALA	N	2.85
1	Z	99:GLU	C	100:THR	N	2.85
1	a	67:HIS	C	68:PHE	N	2.85
1	a	126:LYS	C	127:ALA	N	2.85
1	c	42:ILE	C	43:ILE	N	2.85

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	g	91:ARG	C	92:ALA	N	2.85
1	h	31:LEU	C	32:LYS	N	2.85
1	o	61:LYS	C	62:ALA	N	2.85
1	1	120:G	O3'	121:A	P	2.84
1	1	682:U	O3'	683:U	P	2.84
1	1	758:C	O3'	759:U	P	2.84
1	1	2900:A	O3'	2901:G	P	2.84
1	1	3108:G	O3'	3109:G	P	2.84
1	1	3364:C	O3'	3365:U	P	2.84
1	I	34:TYR	C	35:ASP	N	2.84
1	L	10:LEU	C	11:LYS	N	2.84
1	Q	173:GLU	C	174:ARG	N	2.84
1	S	73:LYS	C	74:ASN	N	2.84
1	U	41:ILE	C	42:LYS	N	2.84
1	Z	125:GLY	C	126:LYS	N	2.84
1	a	92:LYS	C	93:SER	N	2.84
1	c	30:THR	C	31:VAL	N	2.84
1	e	29:ALA	C	30:GLU	N	2.84
1	e	47:ARG	C	48:GLY	N	2.84
1	f	75:HIS	C	76:GLY	N	2.84
1	k	73:LEU	C	74:LYS	N	2.84
1	m	113:ARG	C	114:LYS	N	2.84
1	o	50:PHE	C	51:GLY	N	2.84
1	o	89:LYS	C	90:HIS	N	2.84
1	1	1486:G	O3'	1487:G	P	2.83
1	1	2444:C	O3'	2445:A	P	2.83
1	1	2912:G	O3'	2913:C	P	2.83
1	1	3073:A	O3'	3074:G	P	2.83
1	1	3140:G	O3'	3141:A	P	2.83
1	1	3206:C	O3'	3207:U	P	2.83
1	A	101:VAL	C	102:LEU	N	2.83
1	A	145:LYS	C	146:THR	N	2.83
1	C	223:PRO	C	224:GLY	N	2.83
1	C	318:LEU	C	319:LYS	N	2.83
1	I	42:THR	C	43:VAL	N	2.83
1	I	84:ALA	C	85:PHE	N	2.83
1	S	100:VAL	C	101:ALA	N	2.83
1	S	133:ALA	C	134:ASP	N	2.83
1	X	138:ARG	C	139:ILE	N	2.83
1	Y	120:GLN	C	121:ARG	N	2.83
1	Z	75:VAL	C	76:ASN	N	2.83
1	a	84:GLU	C	85:ASP	N	2.83

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	f	68:TRP	C	69:GLY	N	2.83
1	g	6:THR	C	7:PHE	N	2.83
1	i	68:ARG	C	69:ALA	N	2.83
1	o	76:LYS	C	77:CYS	N	2.83
1	1	200:C	O3'	201:A	P	2.82
1	1	1896:A	O3'	1897:G	P	2.82
1	1	3322:A	O3'	3323:A	P	2.82
1	4	6:U	O3'	7:U	P	2.82
1	A	178:PRO	C	179:LEU	N	2.82
1	C	59:GLN	C	60:THR	N	2.82
1	C	159:ILE	C	160:GLN	N	2.82
1	D	16:PHE	C	17:GLN	N	2.82
1	D	206:GLN	C	207:TYR	N	2.82
1	G	252:ASN	C	253:SER	N	2.82
1	H	2:LYS	C	3:TYR	N	2.82
1	L	51:LEU	C	52:ASP	N	2.82
1	L	137:GLN	C	138:VAL	N	2.82
1	M	85:TRP	C	86:ALA	N	2.82
1	N	53:TYR	C	54:LYS	N	2.82
1	Q	89:ASP	C	90:ASP	N	2.82
1	U	18:ASP	C	19:VAL	N	2.82
1	V	19:VAL	C	20:GLY	N	2.82
1	X	28:THR	C	29:SER	N	2.82
1	Y	117:ALA	C	118:LEU	N	2.82
1	Z	85:TYR	C	86:THR	N	2.82
1	c	21:GLY	C	22:LYS	N	2.82
1	g	79:SER	C	80:ARG	N	2.82
1	h	105:ARG	C	106:LYS	N	2.82
1	i	6:GLY	C	7:ILE	N	2.82
1	p	49:ARG	C	50:GLY	N	2.82
1	1	1190:A	O3'	1191:U	P	2.81
1	1	1603:A	O3'	1604:G	P	2.81
1	1	2245:C	O3'	2246:G	P	2.81
1	1	2658:G	O3'	2659:G	P	2.81
1	1	3245:A	O3'	3246:G	P	2.81
1	1	3367:C	O3'	3368:U	P	2.81
1	A	226:SER	C	227:ARG	N	2.81
1	B	278:ILE	C	279:ASN	N	2.81
1	B	347:SER	C	348:ARG	N	2.81
1	G	214:LEU	C	215:VAL	N	2.81
1	I	148:VAL	C	149:VAL	N	2.81
1	I	177:ASP	C	178:ARG	N	2.81

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	109:PHE	C	110:ASP	N	2.81
1	M	99:TRP	C	100:ALA	N	2.81
1	N	107:GLY	C	108:ARG	N	2.81
1	P	73:GLY	C	74:LYS	N	2.81
1	R	172:ARG	C	173:ARG	N	2.81
1	W	22:VAL	C	23:ARG	N	2.81
1	W	23:ARG	C	24:GLY	N	2.81
1	X	68:THR	C	69:SER	N	2.81
1	Y	2:ALA	C	3:LYS	N	2.81
1	Y	19:TYR	C	20:PHE	N	2.81
1	Z	66:THR	C	67:LYS	N	2.81
1	c	35:ARG	C	36:GLN	N	2.81
1	e	44:ARG	C	45:ARG	N	2.81
1	f	7:LEU	C	8:TYR	N	2.81
1	g	26:PRO	C	27:GLY	N	2.81
1	p	66:GLY	C	67:GLY	N	2.81
1	1	694:C	O3'	695:C	P	2.80
1	1	878:G	O3'	879:U	P	2.80
1	1	2588:U	O3'	2589:G	P	2.80
1	B	273:HIS	C	274:SER	N	2.80
1	C	80:GLY	C	81:GLY	N	2.80
1	D	22:ARG	C	23:ARG	N	2.80
1	D	72:ASP	C	73:VAL	N	2.80
1	E	48:ARG	C	49:GLY	N	2.80
1	G	97:TYR	C	98:ARG	N	2.80
1	H	32:GLY	C	33:THR	N	2.80
1	H	110:LYS	C	111:PHE	N	2.80
1	J	108:GLU	C	109:HIS	N	2.80
1	M	18:GLY	C	19:ARG	N	2.80
1	Q	167:SER	C	168:THR	N	2.80
1	Q	171:LYS	C	172:PHE	N	2.80
1	S	35:VAL	C	36:ILE	N	2.80
1	T	29:THR	C	30:TYR	N	2.80
1	U	101:ASN	C	102:GLU	N	2.80
1	X	71:THR	C	72:ALA	N	2.80
1	Z	43:VAL	C	44:ALA	N	2.80
1	i	7:ILE	C	8:ALA	N	2.80
1	o	81:ALA	C	82:GLN	N	2.80
1	1	65:A	O3'	66:A	P	2.79
1	1	68:C	O3'	69:C	P	2.79
1	1	1320:C	O3'	1321:G	P	2.79
1	1	2682:C	O3'	2683:U	P	2.79

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	3049:A	O3'	3050:U	P	2.79
1	1	3190:C	O3'	3191:G	P	2.79
1	1	3394:U	O3'	3395:G	P	2.79
1	3	80:G	O3'	81:U	P	2.79
1	4	95:G	O3'	96:A	P	2.79
1	G	73:PRO	C	74:THR	N	2.79
1	G	203:VAL	C	204:ARG	N	2.79
1	H	55:VAL	C	56:ALA	N	2.79
1	H	80:THR	C	81:GLY	N	2.79
1	H	111:PHE	C	112:ILE	N	2.79
1	J	91:LEU	C	92:ARG	N	2.79
1	J	131:MET	C	132:ASN	N	2.79
1	L	2:ALA	C	3:ILE	N	2.79
1	T	14:MET	C	15:PHE	N	2.79
1	U	65:VAL	C	66:VAL	N	2.79
1	Y	24:SER	C	25:SER	N	2.79
1	n	8:LYS	C	9:ARG	N	2.79
1	t	161:LYS	C	162:VAL	N	2.79
1	1	80:G	O3'	81:C	P	2.78
1	1	87:U	O3'	88:A	P	2.78
1	1	355:A	O3'	356:C	P	2.78
1	1	676:G	O3'	677:A	P	2.78
1	1	1316:C	O3'	1317:A	P	2.78
1	1	1535:A	O3'	1536:G	P	2.78
1	1	1843:C	O3'	1844:C	P	2.78
1	C	288:ARG	C	289:ILE	N	2.78
1	D	54:ARG	C	55:PHE	N	2.78
1	D	155:THR	C	156:GLY	N	2.78
1	D	289:LYS	C	290:ILE	N	2.78
1	G	129:PRO	C	130:TYR	N	2.78
1	G	181:LYS	C	182:GLY	N	2.78
1	H	147:SER	C	148:GLY	N	2.78
1	L	50:PRO	C	51:LEU	N	2.78
1	P	71:ALA	C	72:GLN	N	2.78
1	Q	110:ALA	C	111:ARG	N	2.78
1	R	71:ARG	C	72:GLU	N	2.78
1	S	128:GLU	C	129:ILE	N	2.78
1	U	102:GLU	C	103:TYR	N	2.78
1	d	17:HIS	C	18:LYS	N	2.78
1	e	50:ILE	C	51:SER	N	2.78
1	i	15:LYS	C	16:LYS	N	2.78
1	i	25:LYS	C	26:ILE	N	2.78

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	589:A	O3'	590:G	P	2.77
1	1	829:U	O3'	830:A	P	2.77
1	1	1529:A	O3'	1530:U	P	2.77
1	1	1646:G	O3'	1647:A	P	2.77
1	1	1938:U	O3'	1939:G	P	2.77
1	3	119:U	O3'	120:C	P	2.77
1	4	72:A	O3'	73:U	P	2.77
1	A	94:ALA	C	95:SER	N	2.77
1	B	289:ASP	C	290:ASP	N	2.77
1	C	266:THR	C	267:VAL	N	2.77
1	G	130:TYR	C	131:ALA	N	2.77
1	H	103:ILE	C	104:VAL	N	2.77
1	L	87:ALA	C	88:ALA	N	2.77
1	R	107:ALA	C	108:LYS	N	2.77
1	S	98:SER	C	99:ARG	N	2.77
1	V	31:ALA	C	32:ARG	N	2.77
1	b	50:THR	C	51:ALA	N	2.77
1	e	59:SER	C	60:ASN	N	2.77
1	j	23:GLY	C	24:ARG	N	2.77
1	j	58:THR	C	59:THR	N	2.77
1	1	1003:A	O3'	1004:U	P	2.76
1	1	1223:A	O3'	1224:C	P	2.76
1	1	2571:U	O3'	2572:C	P	2.76
1	1	3023:U	O3'	3024:A	P	2.76
1	1	3042:U	O3'	3043:C	P	2.76
1	3	95:A	O3'	96:U	P	2.76
1	B	9:PRO	C	10:ARG	N	2.76
1	B	152:LYS	C	153:LYS	N	2.76
1	C	353:ALA	C	354:VAL	N	2.76
1	D	141:PRO	C	142:PHE	N	2.76
1	F	158:LYS	C	159:GLN	N	2.76
1	G	85:ASN	C	86:THR	N	2.76
1	H	131:GLY	C	132:VAL	N	2.76
1	J	128:TYR	C	129:VAL	N	2.76
1	J	167:TYR	C	168:ASP	N	2.76
1	L	85:LEU	C	86:THR	N	2.76
1	N	68:ARG	C	69:GLY	N	2.76
1	Z	97:SER	C	98:THR	N	2.76
1	g	101:VAL	C	102:LYS	N	2.76
1	h	35:LYS	C	36:LEU	N	2.76
1	h	109:ILE	C	110:ALA	N	2.76
1	t	87:VAL	C	88:ASP	N	2.76

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	787:G	O3'	788:C	P	2.75
1	1	802:C	O3'	803:C	P	2.75
1	1	819:U	O3'	820:A	P	2.75
1	1	2140:U	O3'	2141:U	P	2.75
1	1	2620:G	O3'	2621:G	P	2.75
1	1	2770:G	O3'	2771:U	P	2.75
1	1	2821:C	O3'	2822:U	P	2.75
1	4	85:G	O3'	86:U	P	2.75
1	A	15:ILE	C	16:PHE	N	2.75
1	B	323:MET	C	324:VAL	N	2.75
1	D	53:VAL	C	54:ARG	N	2.75
1	G	213:LYS	C	214:LEU	N	2.75
1	H	120:ASP	C	121:LYS	N	2.75
1	I	12:GLN	C	13:LYS	N	2.75
1	M	125:LYS	C	126:GLN	N	2.75
1	P	72:GLN	C	73:GLY	N	2.75
1	P	106:GLY	C	107:LEU	N	2.75
1	Y	111:LEU	C	112:ASP	N	2.75
1	Z	132:SER	C	133:LYS	N	2.75
1	a	12:ARG	C	13:GLY	N	2.75
1	1	119:U	O3'	120:G	P	2.74
1	1	534:U	O3'	535:G	P	2.74
1	1	587:U	O3'	588:G	P	2.74
1	1	1616:U	O3'	1617:G	P	2.74
1	1	2118:C	O3'	2119:A	P	2.74
1	1	2219:A	O3'	2220:A	P	2.74
1	1	2321:A	O3'	2322:C	P	2.74
1	1	2633:U	O3'	2634:U	P	2.74
1	B	201:LYS	C	202:THR	N	2.74
1	B	295:ALA	C	296:THR	N	2.74
1	C	240:PRO	C	241:GLY	N	2.74
1	D	169:GLY	C	170:GLY	N	2.74
1	G	29:SER	C	30:THR	N	2.74
1	G	178:ALA	C	179:ILE	N	2.74
1	H	114:VAL	C	115:ARG	N	2.74
1	J	159:THR	C	160:VAL	N	2.74
1	M	68:LEU	C	69:THR	N	2.74
1	N	113:LEU	C	114:ARG	N	2.74
1	S	81:TYR	C	82:ASP	N	2.74
1	V	122:CYS	C	123:ALA	N	2.74
1	W	36:SER	C	37:ALA	N	2.74
1	a	66:ALA	C	67:HIS	N	2.74

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	d	55:LEU	C	56:ASN	N	2.74
1	k	14:LEU	C	15:THR	N	2.74
1	1	2176:U	O3'	2177:G	P	2.73
1	1	2653:C	O3'	2654:C	P	2.73
1	1	2861:U	O3'	2862:U	P	2.73
1	1	3379:C	O3'	3380:U	P	2.73
1	A	31:THR	C	32:LEU	N	2.73
1	D	109:THR	C	110:LEU	N	2.73
1	D	171:LEU	C	172:TYR	N	2.73
1	F	56:GLU	C	57:THR	N	2.73
1	I	198:LYS	C	199:PHE	N	2.73
1	L	142:ALA	C	143:ALA	N	2.73
1	P	75:GLU	C	76:PHE	N	2.73
1	P	177:ALA	C	178:ALA	N	2.73
1	Q	52:LEU	C	53:PHE	N	2.73
1	Q	102:ALA	C	103:ALA	N	2.73
1	V	120:LYS	C	121:GLU	N	2.73
1	W	6:ASP	C	7:SER	N	2.73
1	a	20:GLY	C	21:ARG	N	2.73
1	c	23:TYR	C	24:THR	N	2.73
1	g	93:PHE	C	94:LEU	N	2.73
1	1	197:G	O3'	198:A	P	2.72
1	1	404:G	O3'	405:U	P	2.72
1	1	619:A	O3'	620:U	P	2.72
1	1	2634:U	O3'	2635:A	P	2.72
1	1	2792:A	O3'	2793:G	P	2.72
1	1	2793:G	O3'	2794:G	P	2.72
1	1	3301:U	O3'	3302:U	P	2.72
1	A	19:HIS	C	20:THR	N	2.72
1	B	3:HIS	C	4:ARG	N	2.72
1	B	217:ALA	C	218:ILE	N	2.72
1	C	45:ASN	C	46:LYS	N	2.72
1	C	190:GLY	C	191:LYS	N	2.72
1	C	219:LEU	C	220:ARG	N	2.72
1	F	202:LEU	C	203:TRP	N	2.72
1	G	107:GLU	C	108:ARG	N	2.72
1	I	82:ARG	C	83:ASP	N	2.72
1	J	43:GLN	C	44:THR	N	2.72
1	L	53:LEU	C	54:LEU	N	2.72
1	L	89:TYR	C	90:ALA	N	2.72
1	N	7:LEU	C	8:GLU	N	2.72
1	N	39:ALA	C	40:ALA	N	2.72

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	70:THR	C	71:ALA	N	2.72
1	R	44:LEU	C	45:VAL	N	2.72
1	S	67:ALA	C	68:HIS	N	2.72
1	V	68:GLU	C	69:LEU	N	2.72
1	Z	8:GLY	C	9:LYS	N	2.72
1	a	14:HIS	C	15:VAL	N	2.72
1	f	16:TYR	C	17:GLN	N	2.72
1	k	13:GLU	C	14:LEU	N	2.72
1	m	89:TYR	C	90:ASN	N	2.72
1	l	634:C	O3'	635:G	P	2.71
1	l	1122:U	O3'	1123:U	P	2.71
1	l	1204:A	O3'	1205:A	P	2.71
1	l	1745:C	O3'	1746:U	P	2.71
1	l	1881:A	O3'	1882:G	P	2.71
1	l	2709:C	O3'	2710:C	P	2.71
1	l	2935:U	O3'	2936:A	P	2.71
1	l	2970:C	O3'	2971:A	P	2.71
1	4	27:U	O3'	28:C	P	2.71
1	A	34:TYR	C	35:ALA	N	2.71
1	A	47:GLN	C	48:ILE	N	2.71
1	B	244:ARG	C	245:GLY	N	2.71
1	C	119:ARG	C	120:TYR	N	2.71
1	C	256:THR	C	257:LYS	N	2.71
1	D	76:ALA	C	77:ALA	N	2.71
1	M	107:GLU	C	108:ARG	N	2.71
1	N	67:ARG	C	68:ARG	N	2.71
1	N	181:ASN	C	182:ASN	N	2.71
1	S	111:ALA	C	112:ALA	N	2.71
1	T	114:ALA	C	115:LYS	N	2.71
1	Y	11:ASP	C	12:ARG	N	2.71
1	Y	50:ILE	C	51:ARG	N	2.71
1	Z	116:LYS	C	117:ALA	N	2.71
1	a	54:GLY	C	55:LYS	N	2.71
1	f	64:ILE	C	65:ARG	N	2.71
1	i	59:ASP	C	60:LEU	N	2.71
1	p	76:ALA	C	77:ALA	N	2.71
1	l	321:C	O3'	322:U	P	2.70
1	l	768:C	O3'	769:G	P	2.70
1	l	836:A	O3'	837:A	P	2.70
1	l	1051:U	O3'	1052:U	P	2.70
1	l	1072:G	O3'	1073:U	P	2.70
1	l	1426:C	O3'	1427:U	P	2.70

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	4	33:A	O3'	34:U	P	2.70
1	A	211:HIS	C	212:GLY	N	2.70
1	A	218:HIS	C	219:ILE	N	2.70
1	C	274:TYR	C	275:THR	N	2.70
1	E	140:VAL	C	141:VAL	N	2.70
1	E	165:LEU	C	166:LYS	N	2.70
1	F	190:THR	C	191:VAL	N	2.70
1	J	52:TYR	C	53:THR	N	2.70
1	J	165:GLN	C	166:LYS	N	2.70
1	S	10:ILE	C	11:GLY	N	2.70
1	S	16:THR	C	17:GLU	N	2.70
1	Y	18:ALA	C	19:TYR	N	2.70
1	a	63:LYS	C	64:GLN	N	2.70
1	c	24:THR	C	25:LEU	N	2.70
1	c	73:GLY	C	74:ASN	N	2.70
1	h	74:LYS	C	75:TYR	N	2.70
1	p	23:ARG	C	24:ARG	N	2.70
1	1	826:G	O3'	827:A	P	2.69
1	1	1159:A	O3'	1160:C	P	2.69
1	4	91:C	O3'	92:A	P	2.69
1	A	13:GLY	C	14:SER	N	2.69
1	D	34:LYS	C	35:ARG	N	2.69
1	D	236:LEU	C	237:GLU	N	2.69
1	J	110:ILE	C	111:ASP	N	2.69
1	R	76:SER	C	77:GLY	N	2.69
1	R	84:THR	C	85:ARG	N	2.69
1	S	75:PHE	C	76:GLY	N	2.69
1	S	102:ALA	C	103:VAL	N	2.69
1	V	125:LEU	C	126:TRP	N	2.69
1	Z	45:GLY	C	46:ILE	N	2.69
1	Z	68:ILE	C	69:LYS	N	2.69
1	a	45:MET	C	46:ASP	N	2.69
1	i	55:ARG	C	56:ARG	N	2.69
1	p	64:VAL	C	65:ALA	N	2.69
1	1	36:C	O3'	37:U	P	2.68
1	1	2184:U	O3'	2185:G	P	2.68
1	1	2372:A	O3'	2373:A	P	2.68
1	1	2419:A	O3'	2420:C	P	2.68
1	1	2609:A	O3'	2610:G	P	2.68
1	1	2676:A	O3'	2677:G	P	2.68
1	1	2853:A	O3'	2854:U	P	2.68
1	1	3314:A	O3'	3315:G	P	2.68

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	37:ARG	C	38:HIS	N	2.68
1	A	197:PRO	C	198:LYS	N	2.68
1	B	4:ARG	C	5:LYS	N	2.68
1	B	178:LEU	C	179:ALA	N	2.68
1	B	206:ASP	C	207:SER	N	2.68
1	C	166:VAL	C	167:ALA	N	2.68
1	F	186:HIS	C	187:GLU	N	2.68
1	I	64:ALA	C	65:LEU	N	2.68
1	I	65:LEU	C	66:GLU	N	2.68
1	N	170:LYS	C	171:SER	N	2.68
1	R	51:VAL	C	52:LYS	N	2.68
1	S	62:ASN	C	63:GLN	N	2.68
1	S	65:ASN	C	66:GLU	N	2.68
1	T	156:TYR	C	157:GLU	N	2.68
1	V	36:ILE	C	37:ILE	N	2.68
1	V	51:ALA	C	52:ALA	N	2.68
1	X	99:VAL	C	100:LYS	N	2.68
1	b	3:LYS	C	4:SER	N	2.68
1	c	31:VAL	C	32:LYS	N	2.68
1	f	82:ARG	C	83:ALA	N	2.68
1	1	280:U	O3'	281:G	P	2.67
1	1	318:A	O3'	319:A	P	2.67
1	1	974:G	O3'	975:C	P	2.67
1	1	982:C	O3'	983:A	P	2.67
1	1	1197:A	O3'	1198:C	P	2.67
1	1	1804:A	O3'	1805:C	P	2.67
1	1	3274:A	O3'	3275:U	P	2.67
1	B	207:SER	C	208:VAL	N	2.67
1	C	196:ASN	C	197:ARG	N	2.67
1	C	237:GLN	C	238:LEU	N	2.67
1	D	244:HIS	C	245:GLU	N	2.67
1	F	113:SER	C	114:GLY	N	2.67
1	G	187:GLY	C	188:THR	N	2.67
1	I	19:LYS	C	20:SER	N	2.67
1	I	125:LEU	C	126:ALA	N	2.67
1	L	4:SER	C	5:LYS	N	2.67
1	M	83:LYS	C	84:LYS	N	2.67
1	T	109:VAL	C	110:LYS	N	2.67
1	g	53:GLY	C	54:ILE	N	2.67
1	h	46:THR	C	47:VAL	N	2.67
1	t	12:HIS	C	13:VAL	N	2.67
1	1	1629:U	O3'	1630:U	P	2.66

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2952:G	O3'	2953:U	P	2.66
1	1	3327:G	O3'	3328:G	P	2.66
1	G	225:LYS	C	226:TYR	N	2.66
1	L	113:VAL	C	114:GLN	N	2.66
1	M	120:VAL	C	121:MET	N	2.66
1	N	63:ARG	C	64:VAL	N	2.66
1	P	102:ALA	C	103:GLU	N	2.66
1	T	39:ILE	C	40:VAL	N	2.66
1	V	72:LYS	C	73:VAL	N	2.66
1	b	8:THR	C	9:ALA	N	2.66
1	f	83:ALA	C	84:THR	N	2.66
1	i	19:SER	C	20:MET	N	2.66
1	o	5:PRO	C	6:LYS	N	2.66
1	1	34:A	O3'	35:A	P	2.65
1	1	326:U	O3'	327:A	P	2.65
1	1	394:G	O3'	395:A	P	2.65
1	1	1484:U	O3'	1485:G	P	2.65
1	1	1743:G	O3'	1744:G	P	2.65
1	1	1935:G	O3'	1936:A	P	2.65
1	1	2397:A	O3'	2398:A	P	2.65
1	1	2524:A	O3'	2525:G	P	2.65
1	1	2684:C	O3'	2685:C	P	2.65
1	1	3051:U	O3'	3052:G	P	2.65
1	1	3307:A	O3'	3308:C	P	2.65
1	A	20:THR	C	21:ARG	N	2.65
1	A	77:ILE	C	78:ALA	N	2.65
1	D	25:GLU	C	26:GLY	N	2.65
1	D	36:LEU	C	37:VAL	N	2.65
1	F	232:ARG	C	233:GLU	N	2.65
1	G	88:ALA	C	89:GLU	N	2.65
1	H	23:ARG	C	24:ILE	N	2.65
1	L	181:GLY	C	182:ILE	N	2.65
1	M	60:LEU	C	61:GLY	N	2.65
1	N	94:TYR	C	95:GLN	N	2.65
1	P	56:ARG	C	57:ALA	N	2.65
1	R	115:ILE	C	116:ASP	N	2.65
1	Y	60:ARG	C	61:GLY	N	2.65
1	d	27:LYS	C	28:ARG	N	2.65
1	f	51:TYR	C	52:VAL	N	2.65
1	h	14:LYS	C	15:GLU	N	2.65
1	m	80:PRO	C	81:SER	N	2.65
1	1	199:A	O3'	200:C	P	2.64

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1598:G	O3'	1599:G	P	2.64
1	1	2923:U	O3'	2924:U	P	2.64
1	A	36:GLU	C	37:ARG	N	2.64
1	A	244:GLY	C	245:LEU	N	2.64
1	C	63:GLU	C	64:SER	N	2.64
1	D	177:GLU	C	178:ASN	N	2.64
1	E	163:PHE	C	164:SER	N	2.64
1	H	174:LYS	C	175:PHE	N	2.64
1	L	22:VAL	C	23:LYS	N	2.64
1	Q	23:ASN	C	24:VAL	N	2.64
1	S	30:PHE	C	31:ALA	N	2.64
1	U	33:TYR	C	34:ALA	N	2.64
1	c	34:LEU	C	35:ARG	N	2.64
1	g	86:LYS	C	87:GLU	N	2.64
1	i	47:ILE	C	48:ALA	N	2.64
1	m	82:LEU	C	83:LYS	N	2.64
1	1	607:A	O3'	608:A	P	2.63
1	1	932:U	O3'	933:A	P	2.63
1	1	1297:C	O3'	1298:C	P	2.63
1	1	1687:U	O3'	1688:U	P	2.63
1	1	1871:U	O3'	1872:C	P	2.63
1	1	1930:A	O3'	1931:U	P	2.63
1	1	2238:G	O3'	2239:G	P	2.63
1	1	2430:A	O3'	2431:C	P	2.63
1	1	2991:A	O3'	2992:U	P	2.63
1	3	94:C	O3'	95:A	P	2.63
1	A	95:SER	C	96:LEU	N	2.63
1	F	230:GLY	C	231:ASN	N	2.63
1	G	192:GLN	C	193:LYS	N	2.63
1	P	141:SER	C	142:SER	N	2.63
1	Q	106:PHE	C	107:THR	N	2.63
1	S	40:ARG	C	41:TYR	N	2.63
1	V	10:LYS	C	11:PHE	N	2.63
1	X	45:LYS	C	46:TYR	N	2.63
1	X	135:ILE	C	136:ALA	N	2.63
1	f	88:ASN	C	89:LEU	N	2.63
1	g	31:ARG	C	32:ALA	N	2.63
1	g	56:THR	C	57:LEU	N	2.63
1	k	55:VAL	C	56:ILE	N	2.63
1	1	2840:C	O3'	2841:G	P	2.62
1	1	3181:C	O3'	3182:G	P	2.62
1	B	282:ILE	C	283:TYR	N	2.62

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	60:ARG	C	61:GLN	N	2.62
1	I	33:ILE	C	34:TYR	N	2.62
1	N	85:THR	C	86:ASN	N	2.62
1	P	21:TYR	C	22:LEU	N	2.62
1	P	84:PRO	C	85:ALA	N	2.62
1	P	174:GLY	C	175:ARG	N	2.62
1	Q	184:PHE	C	185:LYS	N	2.62
1	T	96:ILE	C	97:LYS	N	2.62
1	U	79:LEU	C	80:THR	N	2.62
1	Z	114:VAL	C	115:LYS	N	2.62
1	b	19:ASN	C	20:GLY	N	2.62
1	k	40:GLN	C	41:THR	N	2.62
1	1	96:G	O3'	97:U	P	2.61
1	1	516:A	O3'	517:G	P	2.61
1	1	1049:C	O3'	1050:U	P	2.61
1	1	1492:G	O3'	1493:G	P	2.61
1	1	1644:C	O3'	1645:U	P	2.61
1	1	2224:A	O3'	2225:U	P	2.61
1	B	209:PHE	C	210:GLU	N	2.61
1	E	61:ASN	C	62:THR	N	2.61
1	E	90:LYS	C	91:VAL	N	2.61
1	G	32:LYS	C	33:ASN	N	2.61
1	L	93:ILE	C	94:GLY	N	2.61
1	M	130:THR	C	131:VAL	N	2.61
1	P	97:ASN	C	98:ALA	N	2.61
1	R	61:SER	C	62:ARG	N	2.61
1	T	129:LYS	C	130:ARG	N	2.61
1	X	31:THR	C	32:PHE	N	2.61
1	d	76:SER	C	77:ARG	N	2.61
1	f	6:ARG	C	7:LEU	N	2.61
1	k	42:LYS	C	43:PHE	N	2.61
1	1	770:G	O3'	771:A	P	2.60
1	1	2109:U	O3'	2110:G	P	2.60
1	B	75:ALA	C	76:VAL	N	2.60
1	C	51:ALA	C	52:VAL	N	2.60
1	C	163:LYS	C	164:GLU	N	2.60
1	D	260:PHE	C	261:THR	N	2.60
1	G	143:ILE	C	144:GLU	N	2.60
1	I	48:LEU	C	49:CYS	N	2.60
1	L	78:ALA	C	79:GLU	N	2.60
1	S	56:GLY	C	57:GLU	N	2.60
1	Y	21:THR	C	22:ALA	N	2.60

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Y	103:LYS	C	104:LEU	N	2.60
1	a	32:ARG	C	33:GLY	N	2.60
1	f	40:ASP	C	41:ALA	N	2.60
1	f	99:ARG	C	100:ILE	N	2.60
1	g	48:GLY	C	49:SER	N	2.60
1	g	72:VAL	C	73:SER	N	2.60
1	g	103:LYS	C	104:VAL	N	2.60
1	l	4:GLN	C	5:LYS	N	2.60
1	1	664:U	O3'	665:A	P	2.59
1	1	2166:A	O3'	2167:A	P	2.59
1	1	2175:U	O3'	2176:U	P	2.59
1	3	54:U	O3'	55:A	P	2.59
1	A	45:VAL	C	46:LYS	N	2.59
1	D	78:ALA	C	79:TYR	N	2.59
1	H	85:GLY	C	86:TYR	N	2.59
1	I	66:GLU	C	67:ALA	N	2.59
1	M	75:GLY	C	76:ALA	N	2.59
1	M	94:TRP	C	95:ALA	N	2.59
1	N	84:PRO	C	85:THR	N	2.59
1	P	18:ARG	C	19:GLY	N	2.59
1	R	8:LYS	C	9:ARG	N	2.59
1	T	153:PRO	C	154:VAL	N	2.59
1	Y	37:LYS	C	38:GLU	N	2.59
1	e	68:PRO	C	69:SER	N	2.59
1	g	50:ALA	C	51:LEU	N	2.59
1	i	61:ILE	C	62:ARG	N	2.59
1	1	110:G	O3'	111:C	P	2.58
1	1	948:C	O3'	949:C	P	2.58
1	1	985:U	O3'	986:U	P	2.58
1	1	1054:A	O3'	1055:A	P	2.58
1	1	1347:U	O3'	1348:U	P	2.58
1	1	1710:C	O3'	1711:C	P	2.58
1	1	1868:G	O3'	1869:C	P	2.58
1	1	2817:A	O3'	2818:U	P	2.58
1	1	2947:G	O3'	2948:C	P	2.58
1	1	3240:C	O3'	3241:G	P	2.58
1	3	79:A	O3'	80:G	P	2.58
1	A	24:GLN	C	25:GLY	N	2.58
1	A	57:PRO	C	58:LEU	N	2.58
1	F	219:LYS	C	220:PHE	N	2.58
1	F	227:GLY	C	228:SER	N	2.58
1	H	18:VAL	C	19:SER	N	2.58

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	H	89:LYS	C	90:MET	N	2.58
1	M	55:ARG	C	56:GLN	N	2.58
1	M	78:THR	C	79:ALA	N	2.58
1	N	35:VAL	C	36:ILE	N	2.58
1	N	71:ARG	C	72:LYS	N	2.58
1	P	80:LYS	C	81:ALA	N	2.58
1	Q	3:ILE	C	4:ASP	N	2.58
1	T	93:VAL	C	94:GLU	N	2.58
1	X	60:TYR	C	61:LYS	N	2.58
1	e	57:TYR	C	58:GLY	N	2.58
1	j	46:SER	C	47:TYR	N	2.58
1	1	372:A	O3'	373:A	P	2.57
1	1	1057:A	O3'	1058:U	P	2.57
1	1	1424:C	O3'	1425:U	P	2.57
1	1	1444:G	O3'	1445:U	P	2.57
1	1	1468:A	O3'	1469:C	P	2.57
1	1	2365:C	O3'	2366:C	P	2.57
1	1	2902:A	O3'	2903:A	P	2.57
1	A	46:LYS	C	47:GLN	N	2.57
1	B	254:ALA	C	255:TRP	N	2.57
1	D	272:TYR	C	273:ARG	N	2.57
1	H	68:LEU	C	69:ARG	N	2.57
1	I	118:ALA	C	119:TRP	N	2.57
1	J	140:ARG	C	141:ARG	N	2.57
1	L	169:THR	C	170:LEU	N	2.57
1	M	24:LYS	C	25:LYS	N	2.57
1	Q	14:GLY	C	15:HIS	N	2.57
1	R	38:ARG	C	39:ASN	N	2.57
1	Y	31:LEU	C	32:SER	N	2.57
1	f	50:ALA	C	51:TYR	N	2.57
1	h	66:VAL	C	67:ARG	N	2.57
1	h	85:THR	C	86:ARG	N	2.57
1	1	356:C	O3'	357:A	P	2.56
1	1	1157:G	O3'	1158:A	P	2.56
1	1	1601:U	O3'	1602:A	P	2.56
1	1	1885:U	O3'	1886:A	P	2.56
1	1	2982:A	O3'	2983:C	P	2.56
1	1	3098:G	O3'	3099:C	P	2.56
1	A	137:ILE	C	138:GLY	N	2.56
1	B	98:GLY	C	99:LEU	N	2.56
1	C	57:GLY	C	58:HIS	N	2.56
1	C	184:SER	C	185:LYS	N	2.56

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	8:LYS	C	9:SER	N	2.56
1	H	154:VAL	C	155:SER	N	2.56
1	L	13:HIS	C	14:PHE	N	2.56
1	N	96:ARG	C	97:SER	N	2.56
1	Q	35:PHE	C	36:LEU	N	2.56
1	S	18:SER	C	19:VAL	N	2.56
1	S	105:THR	C	106:LEU	N	2.56
1	V	33:ASN	C	34:LEU	N	2.56
1	Z	12:VAL	C	13:VAL	N	2.56
1	e	100:ILE	C	101:SER	N	2.56
1	f	29:LEU	C	30:ILE	N	2.56
1	h	45:LYS	C	46:THR	N	2.56
1	1	124:U	O3'	125:C	P	2.55
1	1	706:A	O3'	707:U	P	2.55
1	1	790:U	O3'	791:A	P	2.55
1	1	859:G	O3'	860:G	P	2.55
1	1	1614:C	O3'	1615:C	P	2.55
1	1	2768:U	O3'	2769:A	P	2.55
1	A	169:ILE	C	170:ALA	N	2.55
1	B	196:ARG	C	197:GLU	N	2.55
1	C	33:ASP	C	34:ILE	N	2.55
1	C	105:THR	C	106:TRP	N	2.55
1	D	284:ALA	C	285:ARG	N	2.55
1	F	104:GLN	C	105:LEU	N	2.55
1	M	32:LEU	C	33:ALA	N	2.55
1	P	139:TYR	C	140:GLU	N	2.55
1	R	41:ILE	C	42:ARG	N	2.55
1	R	78:TYR	C	79:GLY	N	2.55
1	R	90:PRO	C	91:SER	N	2.55
1	T	63:VAL	C	64:VAL	N	2.55
1	T	119:ALA	C	120:LYS	N	2.55
1	Y	51:ARG	C	52:ARG	N	2.55
1	p	53:GLY	C	54:ILE	N	2.55
1	1	212:G	O3'	213:A	P	2.54
1	1	395:A	O3'	396:A	P	2.54
1	1	901:G	O3'	902:G	P	2.54
1	1	946:U	O3'	947:G	P	2.54
1	1	1554:U	O3'	1555:U	P	2.54
1	1	1870:C	O3'	1871:U	P	2.54
1	4	88:A	O3'	89:A	P	2.54
1	4	139:U	O3'	140:G	P	2.54
1	A	18:SER	C	19:HIS	N	2.54

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	64:ARG	C	65:ASP	N	2.54
1	B	331:ASN	C	332:ARG	N	2.54
1	D	252:ALA	C	253:PHE	N	2.54
1	G	167:PRO	C	168:ALA	N	2.54
1	I	119:TRP	C	120:GLY	N	2.54
1	L	184:GLU	C	185:LYS	N	2.54
1	N	28:TRP	C	29:GLU	N	2.54
1	Y	34:PRO	C	35:LEU	N	2.54
1	e	17:PHE	C	18:LYS	N	2.54
1	l	1125:U	O3'	1126:G	P	2.53
1	l	2949:U	O3'	2950:G	P	2.53
1	C	86:GLY	C	87:GLN	N	2.53
1	D	247:ILE	C	248:ARG	N	2.53
1	I	40:LYS	C	41:ALA	N	2.53
1	Q	10:HIS	C	11:LYS	N	2.53
1	Q	82:VAL	C	83:VAL	N	2.53
1	T	46:GLY	C	47:SER	N	2.53
1	T	69:LYS	C	70:SER	N	2.53
1	W	49:ILE	C	50:ALA	N	2.53
1	Y	77:LYS	C	78:PHE	N	2.53
1	a	72:VAL	C	73:LEU	N	2.53
1	c	40:LYS	C	41:LEU	N	2.53
1	g	60:ARG	C	61:GLN	N	2.53
1	g	84:CYS	C	85:VAL	N	2.53
1	l	79:U	O3'	80:G	P	2.52
1	l	621:A	O3'	622:A	P	2.52
1	B	19:ARG	C	20:LYS	N	2.52
1	B	21:ARG	C	22:ALA	N	2.52
1	C	54:GLU	C	55:LYS	N	2.52
1	D	105:ILE	C	106:ALA	N	2.52
1	N	146:ALA	C	147:ARG	N	2.52
1	Q	179:ARG	C	180:ARG	N	2.52
1	S	83:SER	C	84:ARG	N	2.52
1	U	95:PHE	C	96:VAL	N	2.52
1	X	114:VAL	C	115:ARG	N	2.52
1	f	90:PRO	C	91:ALA	N	2.52
1	l	2389:C	O3'	2390:A	P	2.51
1	l	2651:G	O3'	2652:U	P	2.51
1	C	144:LYS	C	145:ILE	N	2.51
1	D	96:ALA	C	97:ALA	N	2.51
1	E	38:THR	C	39:VAL	N	2.51
1	G	92:LYS	C	93:LEU	N	2.51

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	138:HIS	C	139:VAL	N	2.51
1	H	78:MET	C	79:ILE	N	2.51
1	I	189:GLU	C	190:VAL	N	2.51
1	L	117:LYS	C	118:GLU	N	2.51
1	N	140:LYS	C	141:ALA	N	2.51
1	N	156:HIS	C	157:LYS	N	2.51
1	P	113:TYR	C	114:VAL	N	2.51
1	a	100:PRO	C	101:VAL	N	2.51
1	e	48:GLY	C	49:ASN	N	2.51
1	f	72:THR	C	73:ARG	N	2.51
1	h	79:ASP	C	80:LEU	N	2.51
1	i	49:GLY	C	50:LEU	N	2.51
1	l	2764:C	O3'	2765:C	P	2.50
1	l	2918:G	O3'	2919:A	P	2.50
1	A	44:ILE	C	45:VAL	N	2.50
1	A	58:LEU	C	59:ALA	N	2.50
1	A	121:GLY	C	122:ASP	N	2.50
1	C	215:ILE	C	216:VAL	N	2.50
1	D	63:GLN	C	64:ILE	N	2.50
1	G	171:LYS	C	172:LYS	N	2.50
1	L	97:VAL	C	98:ASP	N	2.50
1	N	159:ARG	C	160:GLU	N	2.50
1	e	43:ARG	C	44:ARG	N	2.50
1	e	99:ASN	C	100:ILE	N	2.50
1	f	79:GLY	C	80:VAL	N	2.50
1	g	10:ARG	C	11:ASN	N	2.50
1	i	76:ARG	C	77:LEU	N	2.50
1	o	70:LEU	C	71:ARG	N	2.50
1	l	350:C	O3'	351:A	P	2.49
1	l	364:G	O3'	365:A	P	2.49
1	l	883:A	O3'	884:A	P	2.49
1	l	1098:A	O3'	1099:A	P	2.49
1	l	1146:C	O3'	1147:G	P	2.49
1	l	1205:A	O3'	1206:G	P	2.49
1	l	1371:G	O3'	1372:C	P	2.49
1	l	1718:G	O3'	1719:G	P	2.49
1	l	1937:U	O3'	1938:U	P	2.49
1	B	13:HIS	C	14:LEU	N	2.49
1	B	130:PHE	C	131:THR	N	2.49
1	B	362:ALA	C	363:SER	N	2.49
1	Q	105:ARG	C	106:PHE	N	2.49
1	T	106:LEU	C	107:GLU	N	2.49

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Y	55:GLU	C	56:VAL	N	2.49
1	a	39:HIS	C	40:HIS	N	2.49
1	e	45:ARG	C	46:PHE	N	2.49
1	f	69:GLY	C	70:LYS	N	2.49
1	j	26:SER	C	27:PHE	N	2.49
1	j	74:PHE	C	75:LYS	N	2.49
1	l	347:G	O3'	348:A	P	2.48
1	l	1449:A	O3'	1450:G	P	2.48
1	l	3270:U	O3'	3271:G	P	2.48
1	B	250:ALA	C	251:CYS	N	2.48
1	B	370:PHE	C	371:GLN	N	2.48
1	C	338:LYS	C	339:LEU	N	2.48
1	F	179:LEU	C	180:SER	N	2.48
1	H	51:GLN	C	52:LEU	N	2.48
1	I	174:THR	C	175:ASN	N	2.48
1	J	161:SER	C	162:TRP	N	2.48
1	M	106:ARG	C	107:GLU	N	2.48
1	N	187:ARG	C	188:ARG	N	2.48
1	P	20:SER	C	21:TYR	N	2.48
1	P	123:PRO	C	124:LYS	N	2.48
1	V	23:MET	C	24:ASN	N	2.48
1	W	41:LYS	C	42:GLN	N	2.48
1	d	77:ARG	C	78:LYS	N	2.48
1	p	26:VAL	C	27:LYS	N	2.48
1	l	265:A	O3'	266:A	P	2.47
1	l	1585:C	O3'	1586:G	P	2.47
1	l	2123:G	O3'	2124:G	P	2.47
1	l	2160:G	O3'	2161:G	P	2.47
1	l	2872:A	O3'	2873:U	P	2.47
1	l	3009:G	O3'	3010:U	P	2.47
1	l	3294:A	O3'	3295:A	P	2.47
1	B	223:GLY	C	224:HIS	N	2.47
1	B	280:HIS	C	281:LYS	N	2.47
1	C	82:THR	C	83:GLY	N	2.47
1	C	124:SER	C	125:ALA	N	2.47
1	C	299:ILE	C	300:ARG	N	2.47
1	F	210:PRO	C	211:SER	N	2.47
1	H	83:THR	C	84:LYS	N	2.47
1	H	142:ASP	C	143:GLU	N	2.47
1	O	197:LEU	C	198:GLY	N	2.47
1	P	99:ALA	C	100:ALA	N	2.47
1	S	9:VAL	C	10:ILE	N	2.47

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	W	35:LYS	C	36:SER	N	2.47
1	i	42:SER	C	43:LEU	N	2.47
1	1	1419:A	O3'	1420:C	P	2.46
1	1	2556:C	O3'	2557:A	P	2.46
1	1	2869:U	O3'	2870:C	P	2.46
1	G	139:VAL	C	140:VAL	N	2.46
1	I	132:GLY	C	133:GLN	N	2.46
1	U	32:SER	C	33:TYR	N	2.46
1	Y	35:LEU	C	36:SER	N	2.46
1	k	45:VAL	C	46:ARG	N	2.46
1	1	90:C	O3'	91:G	P	2.45
1	1	315:C	O3'	316:U	P	2.45
1	1	691:A	O3'	692:A	P	2.45
1	1	1312:C	O3'	1313:G	P	2.45
1	C	71:VAL	C	72:ALA	N	2.45
1	C	151:VAL	C	152:VAL	N	2.45
1	D	84:PRO	C	85:ARG	N	2.45
1	E	101:PHE	C	102:ASN	N	2.45
1	F	180:SER	C	181:ILE	N	2.45
1	L	174:ARG	C	175:SER	N	2.45
1	N	90:ASN	C	91:GLU	N	2.45
1	P	66:SER	C	67:ILE	N	2.45
1	Q	25:TYR	C	26:LEU	N	2.45
1	T	4:SER	C	5:HIS	N	2.45
1	T	11:THR	C	12:ARG	N	2.45
1	W	56:ARG	C	57:LYS	N	2.45
1	X	56:ARG	C	57:LEU	N	2.45
1	c	91:SER	C	92:ILE	N	2.45
1	d	30:PRO	C	31:ARG	N	2.45
1	m	105:PRO	C	106:ARG	N	2.45
1	m	115:CYS	C	116:GLY	N	2.45
1	m	121:LEU	C	122:ARG	N	2.45
1	1	818:C	O3'	819:U	P	2.44
1	1	2713:U	O3'	2714:G	P	2.44
1	1	2824:G	O3'	2825:C	P	2.44
1	1	3144:G	O3'	3145:C	P	2.44
1	4	23:U	O3'	24:G	P	2.44
1	B	317:ILE	C	318:LYS	N	2.44
1	L	172:LEU	C	173:ALA	N	2.44
1	P	91:VAL	C	92:GLN	N	2.44
1	Q	22:ASP	C	23:ASN	N	2.44
1	Z	25:ILE	C	26:VAL	N	2.44

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	a	131:SER	C	132:LYS	N	2.44
1	f	44:TYR	C	45:LEU	N	2.44
1	h	93:THR	C	94:LYS	N	2.44
1	1	399:A	O3'	400:G	P	2.43
1	1	595:G	O3'	596:C	P	2.43
1	1	3187:A	O3'	3188:G	P	2.43
1	3	48:U	O3'	49:G	P	2.43
1	B	267:ALA	C	268:GLY	N	2.43
1	C	120:TYR	C	121:ALA	N	2.43
1	C	286:VAL	C	287:THR	N	2.43
1	I	146:ASP	C	147:VAL	N	2.43
1	N	112:ASN	C	113:LEU	N	2.43
1	N	118:SER	C	119:TYR	N	2.43
1	R	40:ALA	C	41:ILE	N	2.43
1	R	93:VAL	C	94:VAL	N	2.43
1	a	122:PRO	C	123:VAL	N	2.43
1	e	22:SER	C	23:ASP	N	2.43
1	e	55:ILE	C	56:GLY	N	2.43
1	g	52:GLN	C	53:GLY	N	2.43
1	l	8:ARG	C	9:ILE	N	2.43
1	p	17:ARG	C	18:TYR	N	2.43
1	1	2162:U	O3'	2163:C	P	2.42
1	1	2336:U	O3'	2337:C	P	2.42
1	A	231:SER	C	232:GLY	N	2.42
1	C	116:ASN	C	117:GLU	N	2.42
1	C	359:LEU	C	360:LYS	N	2.42
1	F	93:ASN	C	94:LYS	N	2.42
1	F	184:LEU	C	185:ILE	N	2.42
1	T	79:MET	C	80:VAL	N	2.42
1	V	106:LYS	C	107:GLY	N	2.42
1	i	79:SER	C	80:PHE	N	2.42
1	1	156:G	O3'	157:A	P	2.41
1	1	729:C	O3'	730:C	P	2.41
1	1	2298:U	O3'	2299:A	P	2.41
1	1	3392:U	O3'	3393:U	P	2.41
1	A	181:LYS	C	182:ALA	N	2.41
1	J	151:SER	C	152:HIS	N	2.41
1	N	65:ARG	C	66:VAL	N	2.41
1	R	117:LYS	C	118:HIS	N	2.41
1	T	30:TYR	C	31:LEU	N	2.41
1	a	30:GLY	C	31:GLY	N	2.41
1	i	88:GLU	C	89:GLU	N	2.41

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1676:A	O3'	1677:G	P	2.40
1	1	2757:U	O3'	2758:A	P	2.40
1	D	216:GLU	C	217:GLU	N	2.40
1	F	134:VAL	C	135:ALA	N	2.40
1	G	152:LEU	C	153:ILE	N	2.40
1	I	135:ILE	C	136:PHE	N	2.40
1	I	196:PHE	C	197:VAL	N	2.40
1	L	69:VAL	C	70:ARG	N	2.40
1	L	72:GLY	C	73:ARG	N	2.40
1	Q	43:PRO	C	44:PHE	N	2.40
1	a	17:ALA	C	18:GLY	N	2.40
1	d	23:VAL	C	24:SER	N	2.40
1	d	74:ARG	C	75:ILE	N	2.40
1	l	11:GLN	C	12:LYS	N	2.40
1	p	67:GLY	C	68:ALA	N	2.40
1	1	720:A	O3'	721:G	P	2.39
1	1	993:G	O3'	994:G	P	2.39
1	1	1584:U	O3'	1585:C	P	2.39
1	1	2376:G	O3'	2377:G	P	2.39
1	F	62:ILE	C	63:ILE	N	2.39
1	H	45:PHE	C	46:THR	N	2.39
1	b	17:HIS	C	18:ARG	N	2.39
1	1	30:G	O3'	31:C	P	2.38
1	1	344:A	O3'	345:G	P	2.38
1	1	959:C	O3'	960:U	P	2.38
1	1	1313:G	O3'	1314:C	P	2.38
1	A	225:ILE	C	226:SER	N	2.38
1	C	330:TYR	C	331:ALA	N	2.38
1	F	85:PHE	C	86:VAL	N	2.38
1	G	160:ILE	C	161:GLU	N	2.38
1	L	123:ILE	C	124:ILE	N	2.38
1	N	31:ARG	C	32:GLN	N	2.38
1	N	127:TYR	C	128:LYS	N	2.38
1	N	182:ASN	C	183:THR	N	2.38
1	O	162:VAL	C	163:SER	N	2.38
1	Q	54:LEU	C	55:SER	N	2.38
1	Q	124:LEU	C	125:ASP	N	2.38
1	S	5:LYS	C	6:GLU	N	2.38
1	h	69:LEU	C	70:TYR	N	2.38
1	j	66:TYR	C	67:LEU	N	2.38
1	p	28:LYS	C	29:LEU	N	2.38
1	1	1437:C	O3'	1438:U	P	2.37

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	3136:G	O3'	3137:C	P	2.37
1	B	102:LEU	C	103:THR	N	2.37
1	B	212:ASN	C	213:GLU	N	2.37
1	G	67:ILE	C	68:ARG	N	2.37
1	I	90:ARG	C	91:VAL	N	2.37
1	P	120:ASN	C	121:GLN	N	2.37
1	R	10:LEU	C	11:ALA	N	2.37
1	S	80:ARG	C	81:TYR	N	2.37
1	W	13:ILE	C	14:TYR	N	2.37
1	W	52:THR	C	53:VAL	N	2.37
1	Z	79:HIS	C	80:LEU	N	2.37
1	a	9:ARG	C	10:LYS	N	2.37
1	a	40:HIS	C	41:HIS	N	2.37
1	g	32:ALA	C	33:GLN	N	2.37
1	l	41:ARG	C	42:ARG	N	2.37
1	1	606:C	O3'	607:A	P	2.36
1	1	3129:A	O3'	3130:A	P	2.36
1	4	45:C	O3'	46:G	P	2.36
1	B	333:LYS	C	334:ARG	N	2.36
1	C	44:LYS	C	45:ASN	N	2.36
1	D	37:VAL	C	38:THR	N	2.36
1	F	89:ILE	C	90:LYS	N	2.36
1	N	135:VAL	C	136:ASP	N	2.36
1	S	77:VAL	C	78:TRP	N	2.36
1	Y	70:ILE	C	71:SER	N	2.36
1	Z	127:ASN	C	128:GLN	N	2.36
1	a	78:LEU	C	79:TRP	N	2.36
1	d	28:ARG	C	29:ALA	N	2.36
1	e	26:HIS	C	27:ARG	N	2.36
1	h	44:ILE	C	45:LYS	N	2.36
1	m	94:SER	C	95:VAL	N	2.36
1	1	210:U	O3'	211:A	P	2.35
1	1	2641:U	O3'	2642:A	P	2.35
1	A	97:ASN	C	98:VAL	N	2.35
1	C	30:ILE	C	31:ARG	N	2.35
1	G	58:VAL	C	59:GLN	N	2.35
1	G	169:LEU	C	170:CYS	N	2.35
1	H	65:VAL	C	66:ALA	N	2.35
1	N	174:ILE	C	175:ASN	N	2.35
1	Q	67:ILE	C	68:ALA	N	2.35
1	R	81:ARG	C	82:LYS	N	2.35
1	T	87:LYS	C	88:ARG	N	2.35

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	W	38:SER	C	39:LEU	N	2.35
1	Z	37:PRO	C	38:PHE	N	2.35
1	a	104:THR	C	105:LEU	N	2.35
1	j	34:CYS	C	35:SER	N	2.35
1	o	54:THR	C	55:LYS	N	2.35
1	l	341:G	O3'	342:A	P	2.34
1	l	1111:U	O3'	1112:A	P	2.34
1	l	1913:A	O3'	1914:G	P	2.34
1	l	2325:G	O3'	2326:A	P	2.34
1	C	127:ALA	C	128:ALA	N	2.34
1	F	153:PHE	C	154:GLY	N	2.34
1	G	38:GLN	C	39:ALA	N	2.34
1	H	39:LYS	C	40:HIS	N	2.34
1	N	196:THR	C	197:LEU	N	2.34
1	Q	93:ILE	C	94:PHE	N	2.34
1	S	34:GLU	C	35:VAL	N	2.34
1	c	60:ALA	C	61:MET	N	2.34
1	d	21:HIS	C	22:GLY	N	2.34
1	d	57:GLN	C	58:ALA	N	2.34
1	e	108:ILE	C	109:LEU	N	2.34
1	i	73:ALA	C	74:LYS	N	2.34
1	l	1553:U	O3'	1554:U	P	2.33
1	l	1908:A	O3'	1909:A	P	2.33
1	l	2169:G	O3'	2170:U	P	2.33
1	l	2174:G	O3'	2175:U	P	2.33
1	l	2656:A	O3'	2657:A	P	2.33
1	C	121:ALA	C	122:THR	N	2.33
1	D	94:ASN	C	95:TRP	N	2.33
1	N	201:ARG	C	202:TYR	N	2.33
1	V	64:LYS	C	65:GLY	N	2.33
1	V	92:PHE	C	93:LEU	N	2.33
1	X	54:TYR	C	55:ASN	N	2.33
1	a	41:HIS	C	42:ARG	N	2.33
1	h	96:GLU	C	97:ALA	N	2.33
1	l	407:A	O3'	408:A	P	2.32
1	l	860:G	O3'	861:C	P	2.32
1	l	1747:G	O3'	1748:G	P	2.32
1	C	162:THR	C	163:LYS	N	2.32
1	H	163:GLN	C	164:ILE	N	2.32
1	P	49:GLU	C	50:GLN	N	2.32
1	X	64:GLU	C	65:GLN	N	2.32
1	d	32:ALA	C	33:VAL	N	2.32

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	d	70:ARG	C	71:LEU	N	2.32
1	f	31:LYS	C	32:ILE	N	2.32
1	f	85:PHE	C	86:ARG	N	2.32
1	C	89:ALA	C	90:PHE	N	2.31
1	N	114:ARG	C	115:VAL	N	2.31
1	P	59:PRO	C	60:PHE	N	2.31
1	Q	175:ALA	C	176:ARG	N	2.31
1	U	77:LYS	C	78:TYR	N	2.31
1	Z	130:PHE	C	131:PHE	N	2.31
1	1	29:C	O3'	30:G	P	2.30
1	1	934:G	O3'	935:U	P	2.30
1	1	3151:U	O3'	3152:U	P	2.30
1	B	86:VAL	C	87:VAL	N	2.30
1	C	49:ALA	C	50:TYR	N	2.30
1	G	165:PHE	C	166:LEU	N	2.30
1	M	45:LEU	C	46:ILE	N	2.30
1	V	53:SER	C	54:LEU	N	2.30
1	c	27:TYR	C	28:LYS	N	2.30
1	l	30:ARG	C	31:THR	N	2.30
1	4	37:A	O3'	38:U	P	2.29
1	4	60:U	O3'	61:A	P	2.29
1	A	215:ASN	C	216:HIS	N	2.29
1	F	135:ALA	C	136:TYR	N	2.29
1	g	85:VAL	C	86:LYS	N	2.29
1	j	64:MET	C	65:ARG	N	2.29
1	1	145:G	O3'	146:U	P	2.28
1	1	397:A	O3'	398:A	P	2.28
1	1	608:A	O3'	609:G	P	2.28
1	1	963:G	O3'	964:G	P	2.28
1	B	48:GLY	C	49:TYR	N	2.28
1	N	6:TYR	C	7:LEU	N	2.28
1	a	128:ARG	C	129:PHE	N	2.28
1	e	79:VAL	C	80:LYS	N	2.28
1	f	17:GLN	C	18:ARG	N	2.28
1	f	53:TYR	C	54:ARG	N	2.28
1	1	863:C	O3'	864:G	P	2.27
1	A	146:THR	C	147:ARG	N	2.27
1	A	180:LEU	C	181:LYS	N	2.27
1	B	89:VAL	C	90:VAL	N	2.27
1	F	133:TYR	C	134:VAL	N	2.27
1	G	42:PRO	C	43:LYS	N	2.27
1	G	54:GLU	C	55:TYR	N	2.27

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	O	3:VAL	C	4:GLU	N	2.27
1	S	141:LYS	C	142:GLN	N	2.27
1	V	46:LEU	C	47:ASN	N	2.27
1	e	32:TRP	C	33:ARG	N	2.27
1	h	115:LYS	C	116:TYR	N	2.27
1	j	22:CYS	C	23:GLY	N	2.27
1	l	1428:A	O3'	1429:G	P	2.26
1	l	3147:G	O3'	3148:U	P	2.26
1	A	60:LYS	C	61:VAL	N	2.26
1	C	113:VAL	C	114:ASN	N	2.26
1	Q	132:PRO	C	133:LYS	N	2.26
1	c	29:SER	C	30:THR	N	2.26
1	c	58:TYR	C	59:TYR	N	2.26
1	h	51:ILE	C	52:ALA	N	2.26
1	l	1796:G	O3'	1797:A	P	2.25
1	l	2717:U	O3'	2718:U	P	2.25
1	A	51:ASP	C	52:SER	N	2.25
1	A	99:GLY	C	100:ASN	N	2.25
1	B	191:LYS	C	192:VAL	N	2.25
1	B	336:VAL	C	337:THR	N	2.25
1	F	201:PHE	C	202:LEU	N	2.25
1	H	93:VAL	C	94:TYR	N	2.25
1	L	5:LYS	C	6:ASN	N	2.25
1	N	48:ALA	C	49:ARG	N	2.25
1	N	154:PRO	C	155:VAL	N	2.25
1	S	23:LYS	C	24:LEU	N	2.25
1	X	73:MET	C	74:LYS	N	2.25
1	X	101:GLU	C	102:LEU	N	2.25
1	l	85:A	O3'	86:G	P	2.24
1	l	376:G	O3'	377:A	P	2.24
1	l	2865:U	O3'	2866:U	P	2.24
1	l	3298:C	O3'	3299:A	P	2.24
1	B	77:THR	C	78:VAL	N	2.24
1	Z	74:VAL	C	75:VAL	N	2.24
1	l	12:A	O3'	13:A	P	2.23
1	l	362:U	O3'	363:G	P	2.23
1	l	1793:C	O3'	1794:G	P	2.23
1	l	2785:A	O3'	2786:G	P	2.23
1	l	2986:U	O3'	2987:A	P	2.23
1	A	189:TYR	C	190:ARG	N	2.23
1	C	235:LEU	C	236:LEU	N	2.23
1	C	254:ALA	C	255:PHE	N	2.23

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	F	208:SER	C	209:ASN	N	2.23
1	F	239:LEU	C	240:VAL	N	2.23
1	R	145:ALA	C	146:LYS	N	2.23
1	1	872:U	O3'	873:C	P	2.22
1	1	1376:C	O3'	1377:G	P	2.22
1	G	132:VAL	C	133:LYS	N	2.22
1	a	71:PRO	C	72:VAL	N	2.22
1	c	47:ASN	C	48:THR	N	2.22
1	o	42:ARG	C	43:TYR	N	2.22
1	1	217:U	O3'	218:G	P	2.21
1	1	1940:G	O3'	1941:C	P	2.21
1	3	10:C	O3'	11:A	P	2.21
1	F	204:PRO	C	205:PHE	N	2.21
1	W	46:PRO	C	47:ARG	N	2.21
1	a	43:ILE	C	44:ASN	N	2.21
1	f	71:VAL	C	72:THR	N	2.21
1	1	41:G	O3'	42:C	P	2.20
1	1	784:A	O3'	785:G	P	2.20
1	1	1469:C	O3'	1470:U	P	2.20
1	1	1708:C	O3'	1709:C	P	2.20
1	1	2361:A	O3'	2362:C	P	2.20
1	A	207:VAL	C	208:ASP	N	2.20
1	M	127:LYS	C	128:ARG	N	2.20
1	Q	47:VAL	C	48:VAL	N	2.20
1	Z	119:GLU	C	120:GLU	N	2.20
1	c	84:LEU	C	85:PHE	N	2.20
1	1	554:A	O3'	555:U	P	2.19
1	1	968:G	O3'	969:C	P	2.19
1	A	187:HIS	C	188:LYS	N	2.19
1	C	35:VAL	C	36:HIS	N	2.19
1	F	125:GLU	C	126:LEU	N	2.19
1	G	197:VAL	C	198:ALA	N	2.19
1	H	25:VAL	C	26:LYS	N	2.19
1	h	104:GLN	C	105:ARG	N	2.19
1	k	23:ALA	C	24:THR	N	2.19
1	1	1445:U	O3'	1446:A	P	2.18
1	C	208:VAL	C	209:TYR	N	2.18
1	Y	27:ARG	C	28:ARG	N	2.18
1	Y	58:VAL	C	59:VAL	N	2.18
1	l	7:PHE	C	8:ARG	N	2.18
1	1	920:A	O3'	921:A	P	2.17
1	1	2812:C	O3'	2813:A	P	2.17

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	4	137:C	O3'	138:A	P	2.17
1	V	100:GLY	C	101:VAL	N	2.17
1	1	1637:A	O3'	1638:A	P	2.16
1	L	21:ARG	C	22:VAL	N	2.16
1	N	37:HIS	C	38:ARG	N	2.16
1	N	132:VAL	C	133:ILE	N	2.16
1	P	146:ILE	C	147:GLU	N	2.16
1	Z	14:VAL	C	15:ARG	N	2.16
1	1	1162:U	O3'	1163:A	P	2.15
1	1	1390:A	O3'	1391:C	P	2.15
1	1	1403:C	O3'	1404:G	P	2.15
1	O	25:LYS	C	26:GLN	N	2.15
1	P	29:THR	C	30:ARG	N	2.15
1	V	14:SER	C	15:LEU	N	2.15
1	V	34:LEU	C	35:TYR	N	2.15
1	f	11:GLY	C	12:LYS	N	2.15
1	l	43:ASN	C	44:TRP	N	2.15
1	1	71:A	O3'	72:C	P	2.14
1	1	268:A	O3'	269:G	P	2.14
1	1	952:A	O3'	953:G	P	2.14
1	1	2282:U	O3'	2283:G	P	2.14
1	4	36:G	O3'	37:A	P	2.14
1	N	9:GLU	C	10:LEU	N	2.14
1	S	135:VAL	C	136:LYS	N	2.14
1	1	1101:G	O3'	1102:A	P	2.13
1	M	21:VAL	C	22:LEU	N	2.13
1	Q	140:LEU	C	141:ARG	N	2.13
1	R	98:ARG	C	99:LEU	N	2.13
1	S	123:ILE	C	124:LEU	N	2.13
1	T	84:TYR	C	85:LEU	N	2.13
1	j	8:PHE	C	9:GLY	N	2.13
1	A	10:LYS	C	11:GLY	N	2.12
1	C	112:LYS	C	113:VAL	N	2.12
1	C	261:VAL	C	262:TRP	N	2.12
1	D	19:PRO	C	20:PHE	N	2.12
1	1	1557:A	O3'	1558:A	P	2.11
1	B	84:VAL	C	85:VAL	N	2.11
1	B	249:VAL	C	250:ALA	N	2.11
1	B	275:ARG	C	276:THR	N	2.11
1	I	87:LEU	C	88:ARG	N	2.11
1	1	913:A	O3'	914:A	P	2.10
1	B	54:THR	C	55:THR	N	2.10

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	F	146:GLN	C	147:LEU	N	2.10
1	O	63:ALA	C	64:PHE	N	2.10
1	1	17:G	O3'	18:G	P	2.09
1	1	858:A	O3'	859:G	P	2.09
1	1	2965:U	O3'	2966:G	P	2.09
1	O	114:LYS	C	115:LYS	N	2.09
1	4	41:A	O3'	42:G	P	2.08
1	A	88:ILE	C	89:TYR	N	2.08
1	j	59:THR	C	60:GLY	N	2.08
1	o	40:LYS	C	41:ARG	N	2.07
1	1	1931:U	O3'	1932:A	P	2.06
1	1	2116:G	O3'	2117:A	P	2.05
1	j	54:LYS	C	55:ARG	N	2.05
1	F	144:ILE	C	145:ARG	N	2.04
1	1	47:C	O3'	48:A	P	2.03
1	A	40:TYR	C	41:ILE	N	2.03
1	R	132:PHE	C	133:LYS	N	2.03
1	S	64:ILE	C	65:ASN	N	2.03
1	X	94:GLN	C	95:ILE	N	2.03
1	1	2178:A	O3'	2179:C	P	2.00
1	L	57:VAL	C	58:VAL	N	2.00
1	k	51:LEU	C	52:TYR	N	2.00
1	I	95:HIS	C	96:VAL	N	1.97
1	1	2881:C	O3'	2882:U	P	1.95
1	O	171:LYS	C	172:ARG	N	1.94
1	O	189:ASP	C	190:VAL	N	1.84
1	O	80:PHE	C	81:TYR	N	1.82
1	O	167:TYR	C	168:TYR	N	1.79
1	O	16:VAL	C	17:GLY	N	1.00
1	O	193:GLN	C	194:LEU	N	0.98
1	O	153:VAL	C	154:ALA	N	0.89
1	O	74:ARG	C	75:ALA	N	0.80
1	O	67:THR	C	68:ARG	N	0.74
1	O	143:THR	C	144:SER	N	0.46