



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 07:56 AM GMT

PDB ID : 3CF5
Title : Thiopeptide antibiotic Thiostrepton bound to the large ribosomal subunit of *Deinococcus radiodurans*
Authors : Harms, J.M.; Wilson, D.N.; Schlutzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.
Deposited on : 2008-03-02
Resolution : 3.30 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

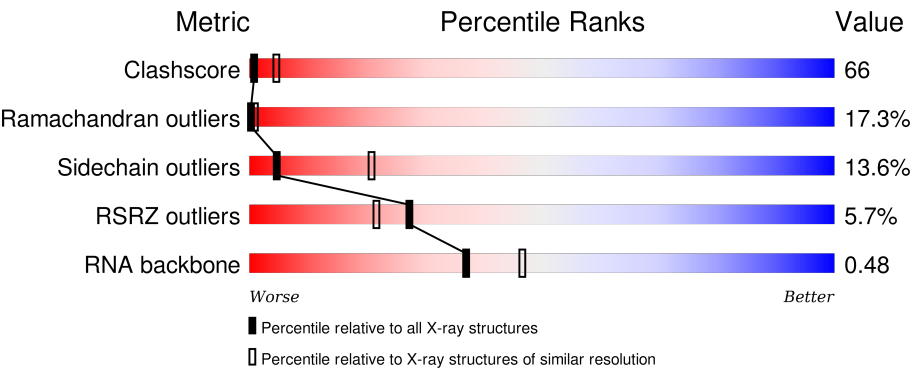
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.30 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)	Similar resolution (#Entries, resolution range(Å))
Clashscore	102246	1058 (3.38-3.22)
Ramachandran outliers	100387	1038 (3.38-3.22)
Sidechain outliers	100360	1037 (3.38-3.22)
RSRZ outliers	91569	2070 (3.40-3.20)
RNA backbone	2183	1005 (3.82-2.78)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower 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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	55	<div><div>73%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>96%</div><div>.</div></div>
2	2	47	<div><div>98%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>98%</div><div>.</div></div>
3	3	66	<div><div>89%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>94%</div><div>5%</div></div>
4	4	37	<div><div>19%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>8%</div><div>73%</div><div>19%</div></div>
5	5	19	<div><div>5%</div><div><div></div><div></div><div></div><div></div><div></div></div><div>68%</div><div>32%</div></div>

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Mol	Chain	Length	Quality of chain
6	A	274	
7	B	211	
8	C	205	
9	D	180	
10	E	185	
11	F	144	
12	G	174	
13	H	134	
14	I	156	
15	J	142	
16	K	116	
17	L	114	
18	M	166	
19	N	118	
20	O	100	
21	P	134	
22	Q	95	
23	R	115	
24	S	237	
25	T	91	
26	U	81	
27	V	67	
28	W	55	
29	X	2880	
30	Y	60	

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Mol	Chain	Length	Quality of chain
31	Z	123	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	X	2888	-	-	-	X
32	MG	X	2903	-	-	-	X
32	MG	X	2905	-	-	-	X
32	MG	X	2907	-	-	-	X
32	MG	X	2909	-	-	-	X
32	MG	Z	124	-	-	-	X

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 84475 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
1	1	53	Total C 53 53	0	0	53

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	2	46	Total C 46 46	0	0	46

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	3	63	Total C 63 63	0	0	63

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	4	37	Total C N O S 297 179 66 47 5	0	0	0

- Molecule 5 is a protein called THIOSTREPTON.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	19	Total C N O S 114 72 19 18 5	0	0	1

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	A	240	Total C N O S 1826 1137 366 321 2	0	0	0

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	144	Total	C	N	O	S	0	0	0
			1044	663	179	197	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	INITIATING METHIONINE	UNP Q9RXJ5

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 29 is a RNA chain called RRNA-23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

- Molecule 31 is a RNA chain called RRNA-5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

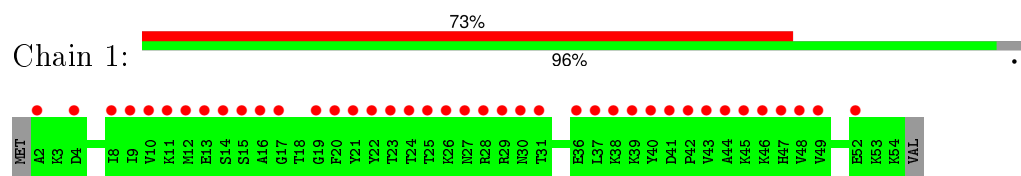
- Molecule 32 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	X	30	Total	Mg	0	0
			30	30		
32	Z	5	Total	Mg	0	0
			5	5		
32	M	1	Total	Mg	0	0
			1	1		

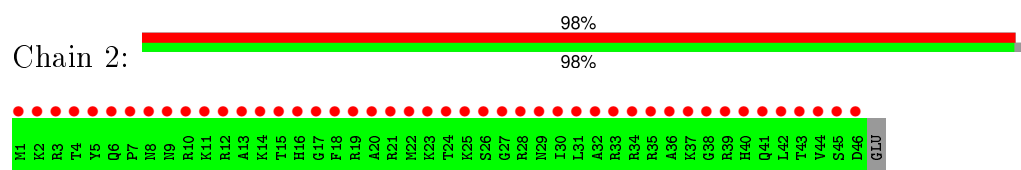
3 Residue-property plots

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

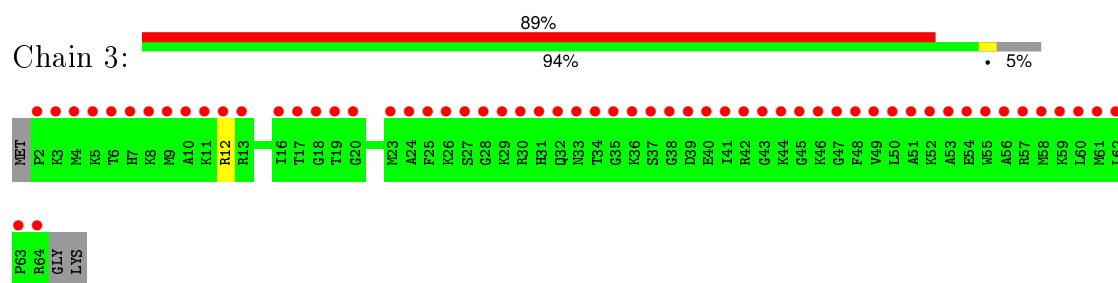
- Molecule 1: 50S RIBOSOMAL PROTEIN L33



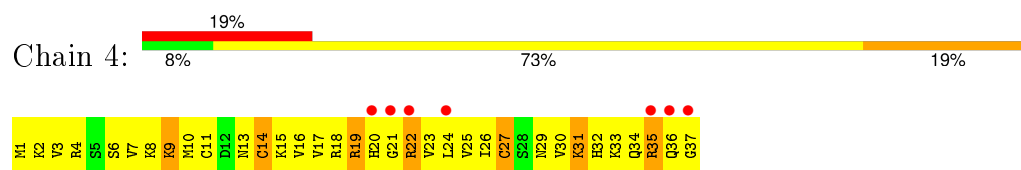
- Molecule 2: 50S RIBOSOMAL PROTEIN L34



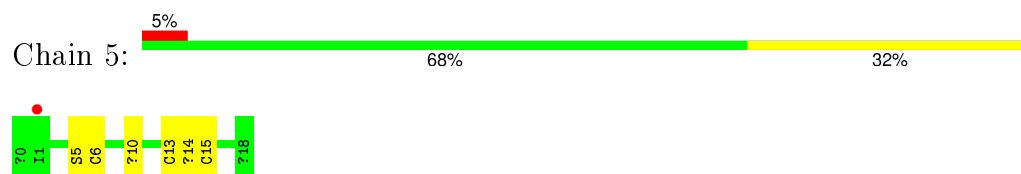
- Molecule 3: 50S RIBOSOMAL PROTEIN L35



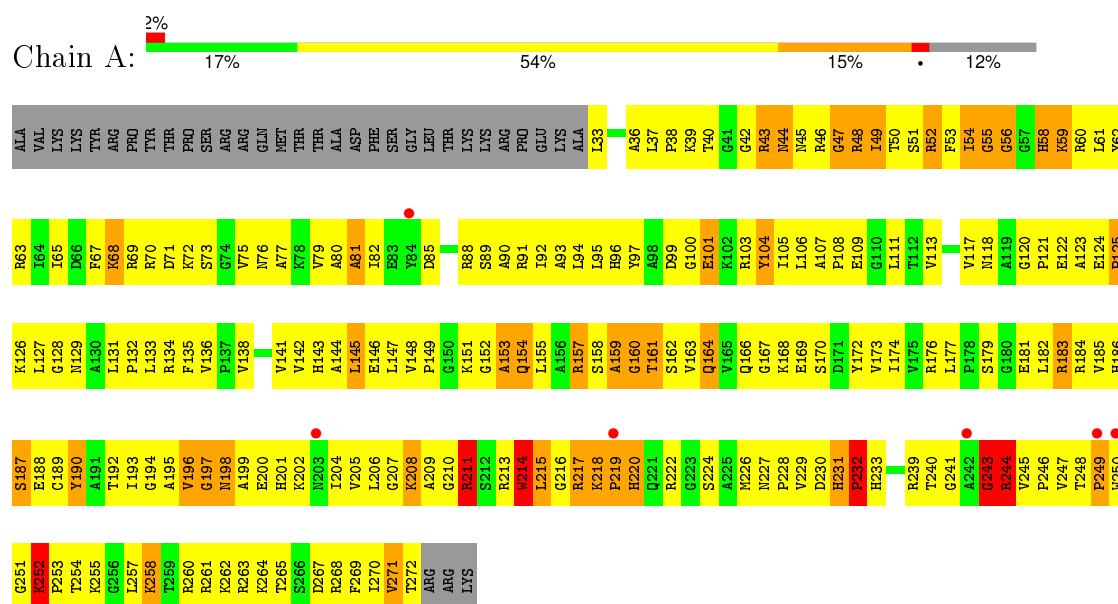
- Molecule 4: 50S RIBOSOMAL PROTEIN L36



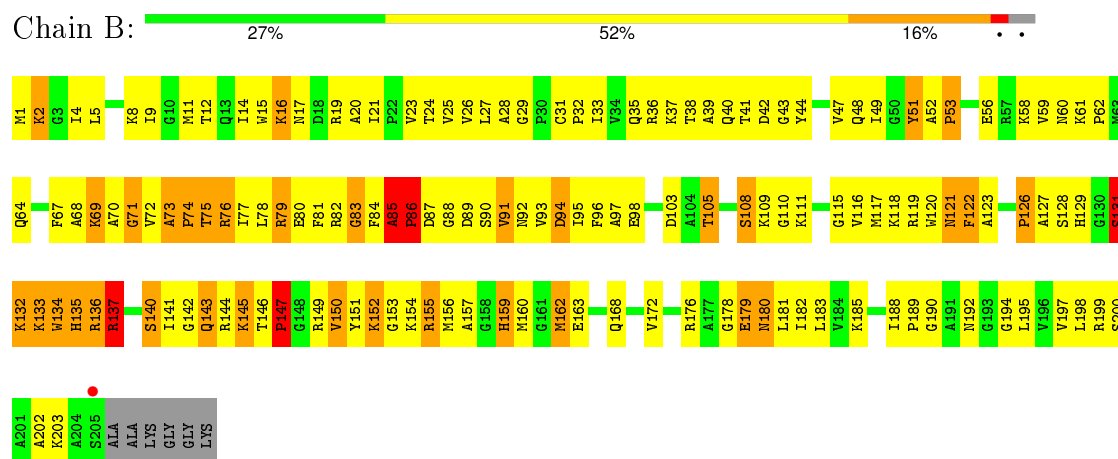
- Molecule 5: THIOSTREPTON



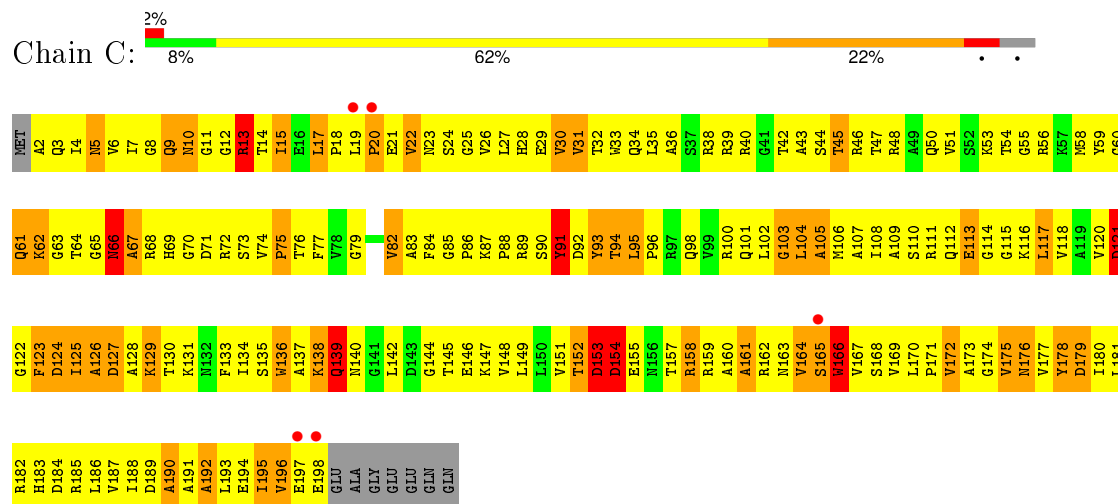
- Molecule 6: 50S RIBOSOMAL PROTEIN L2



• Molecule 7: 50S RIBOSOMAL PROTEIN L3



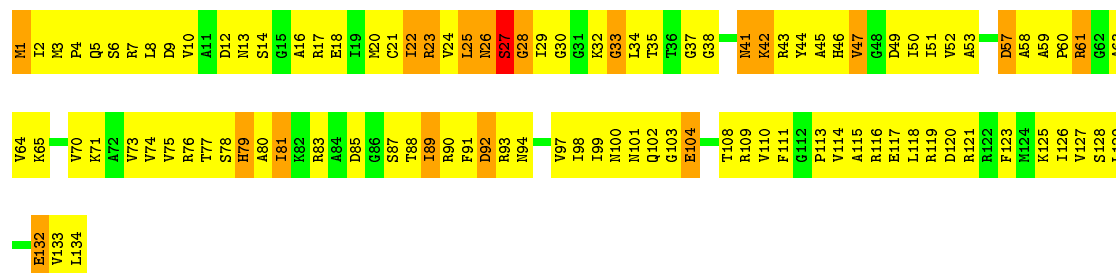
• Molecule 8: 50S RIBOSOMAL PROTEIN L4



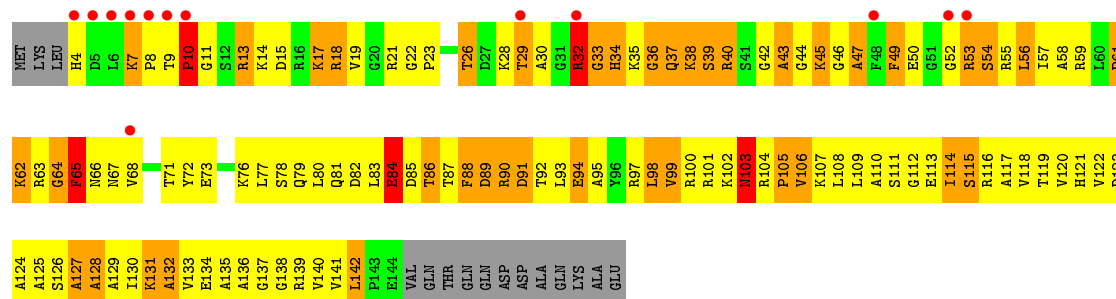
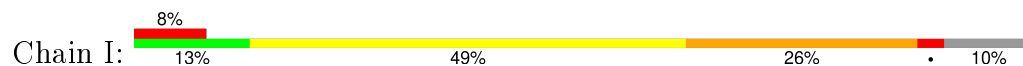
• Molecule 9: 50S RIBOSOMAL PROTEIN L5



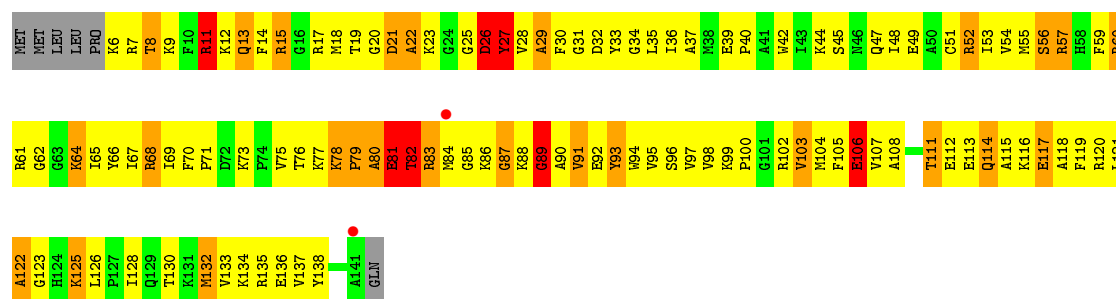
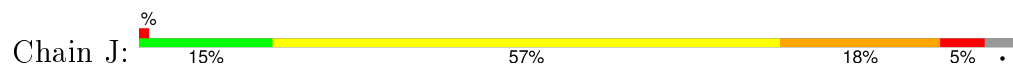
- Molecule 13: 50S RIBOSOMAL PROTEIN L14



- Molecule 14: 50S RIBOSOMAL PROTEIN L15



• Molecule 15: 50S RIBOSOMAL PROTEIN L16

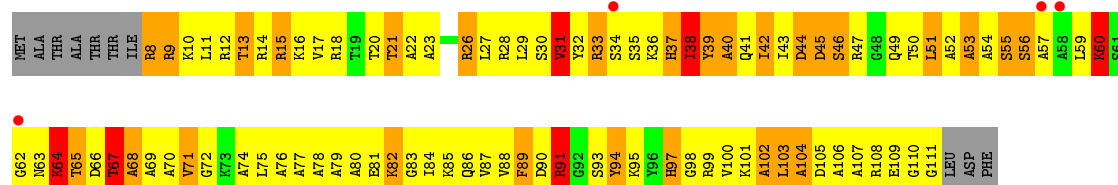


• Molecule 16: 50S RIBOSOMAL PROTEIN L17

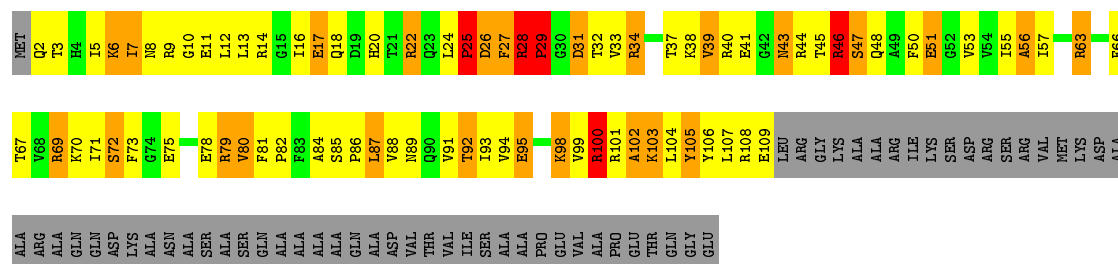
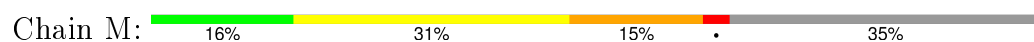




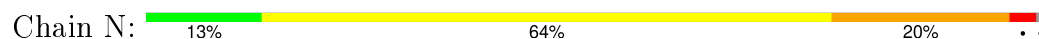
• Molecule 17: 50S RIBOSOMAL PROTEIN L18



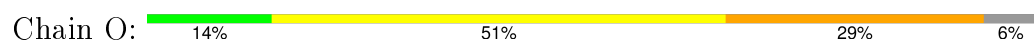
• Molecule 18: 50S RIBOSOMAL PROTEIN L19



• Molecule 19: 50S RIBOSOMAL PROTEIN L20

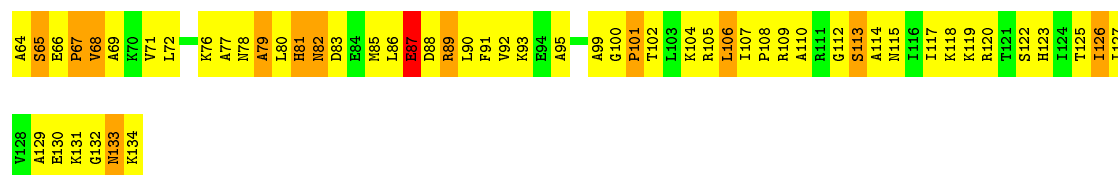


• Molecule 20: 50S RIBOSOMAL PROTEIN L21

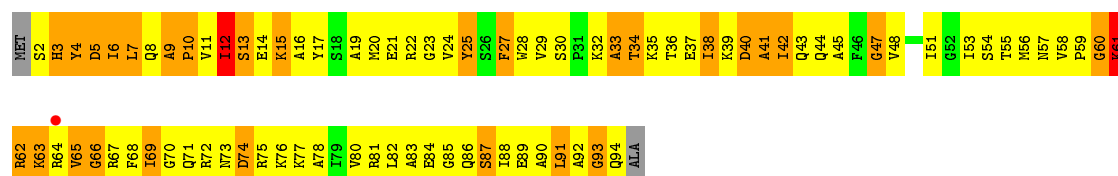
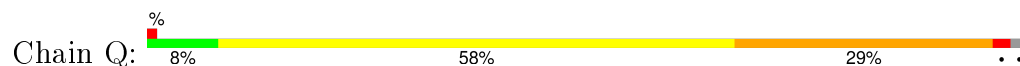


• Molecule 21: 50S RIBOSOMAL PROTEIN L22

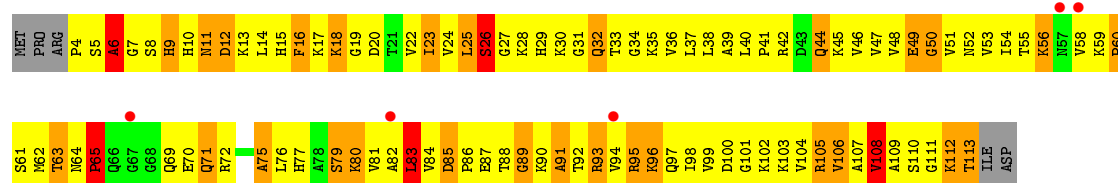
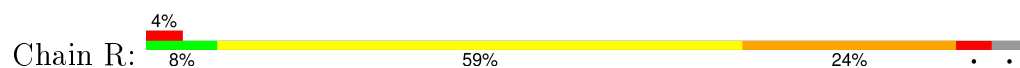




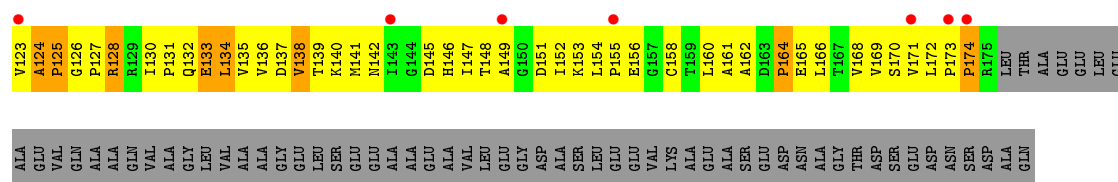
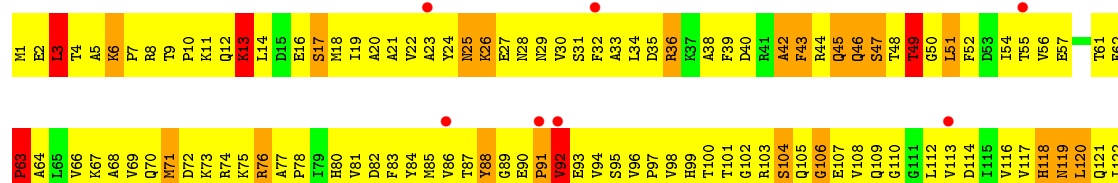
• Molecule 22: 50S RIBOSOMAL PROTEIN L23

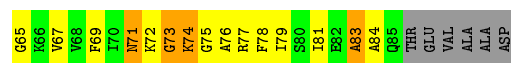


• Molecule 23: 50S RIBOSOMAL PROTEIN L24

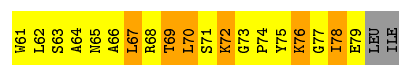
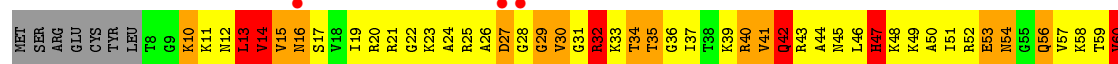
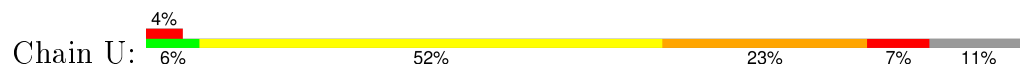


• Molecule 24: 50S RIBOSOMAL PROTEIN L25

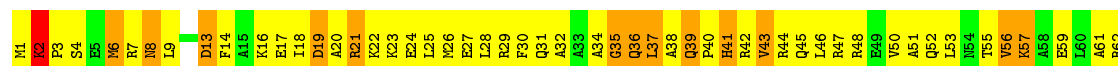




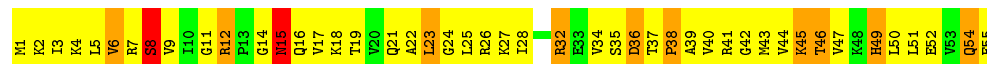
• Molecule 26: 50S RIBOSOMAL PROTEIN L28



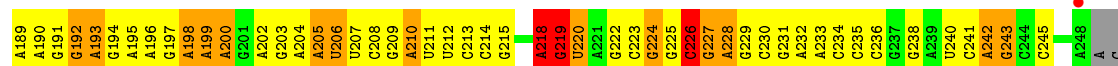
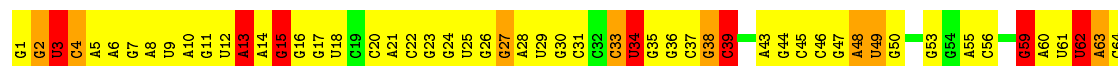
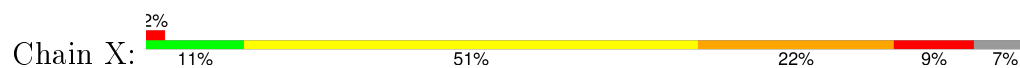
• Molecule 27: 50S RIBOSOMAL PROTEIN L29



• Molecule 28: 50S RIBOSOMAL PROTEIN L30

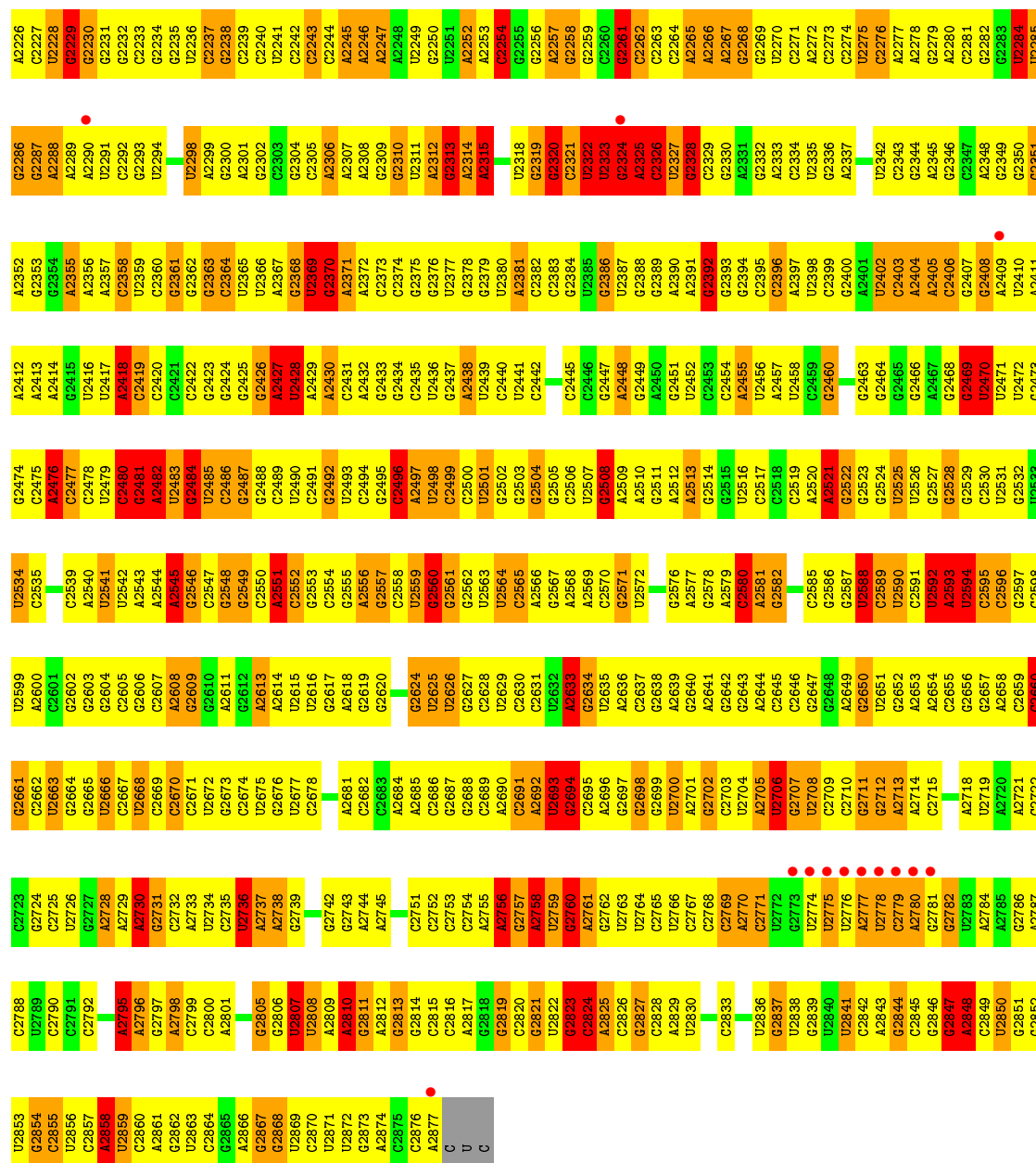


• Molecule 29: RRNA-23S RIBOSOMAL RNA





G2166	G2044	A1921	A1860	A1799	C1736	C1674	A1607	G1483	A1300
A2167	A2045	U1922	G1861	A1800	G1737	C1675	U1608	G1484	A1301
A2168	C2046	U1923	C1862	C1801	U1738	U1676	U1609	A1485	A1302
A2169	C2047	U1924	U1863	A1802	U1739	C1677	A1610	G1486	A1303
C2170	C2048	C1925	G1864	G1803	G1740	G1678	U1611	U1547	U1304
C2171	C2049	U1926	C1865	U1804	G1741	U1679	U1612	U1487	C1305
C2172	C2050	U1927	G1866	G1805	G1742	U1680	C1613	A1366	U1306
G2173	U2051	G1928	A1867	G1806	C1743	A1681	C1614	A1367	U1307
G2174	G2052	U1929	A1868	A1807	G1744	A1682	C1615	G1368	U1308
G2175	G2053	C1930	A1869	C1808	C1745	G1683	U1616	G1369	G1309
U2176	G2054	U1931	U1870	G1809	A1746	G1684	U1617	G1370	C1310
U2177	G2055	G1933	G1871	U1810	G1747	A1685	U1618	G1371	C1311
U2178	A2056	U1934	A1872	A1811	U1748	A1686	C1621	G1372	C1312
C2179	U2057	A1935	A1873	U1812	G1749	C1687	G1622	G1374	U1313
U2180	U2058	A1936	U1874	U1813	U1750	C1688	C1623	A1375	A1314
A2181	U2059	G1937	C1875	A1814	A1751	U1689	A1624	C1376	A1315
A2182	G2060	U1938	C1877	G1815	U1752	U1690	A1625	G1377	G1316
C2183	C2061	U1939	G1878	G1816	A1753	G1691	A1626	A1378	G1317
C2184	U2062	C1940	G1879	U1817	G1754	G1692	C1627	G1379	A1318
C2185	A2063	C1941	G1880	G1818	G1755	A1693	G1628	C1380	C1319
G2186	U2064	U1942	U1881	U1819	C1756	U1694	G1629	G1381	A1320
A2187	U2065	U1943	A1882	G1820	C1757	U1695	C1630	G1382	A1321
A2188	G2066	A1944	A1883	C1821	C1758	C1696	C1631	G1383	G1322
A2189	U2067	U1945	A1884	C1822	A1759	U1697	A1632	G1384	G1323
A2190	C2068	G1947	C1885	G1823	U1760	G1698	C1633	G1385	G1324
A2191	U2069	C1948	G1886	C1824	C1762	A1699	A1634	A1386	U1325
U2192	G2070	A1949	G1887	C1825	U1763	C1700	G1635	G1387	U1326
C2193	U2071	C1950	C1888	U1826	A1764	C1701	U1636	G1388	U1327
A2194	C2072	U1951	G	G1827	C1765	C1702	C1641	G1389	G1328
C2195	A2073	A1952	G	C1830	U1766	C1703	C1642	G1390	U1329
U2196	U2074	A1953	C	C1831	U1767	G1704	A1643	G1391	G1331
U2197	U2075	A1954	C	G1832	U1769	U1705	U1644	U1392	G1332
U2198	A2076	G1955	G	G1833	U1770	A1706	U1645	G1393	G1333
C2199	U2077	G1956	U	U1833	C1771	A1707	G1646	G1394	A1334
G2200	U2078	C1957	A	G1834	C1772	C1708	U1647	A1395	A1335
G2201	U2079	G1958	A	C1835	C1773	U1709	C1648	A1396	G1336
G2202	U2080	U1959	C	C1836	A1774	U1710	A1583	G1397	G1337
G2203	G2083	A1960	U	G1837	A1775	C1711	G1584	G1398	G1338
A2204	G2084	A1961	A	G1838	A1776	G1712	A1585	G1399	U1339
C2205	G2085	C1962	U	A1839	A1777	G1713	A1586	A1400	C1340
C2206	U2086	G1963	A	A1840	U1778	A1714	A1587	G1401	G1341
G2207	U2087	A1964	A	G1941	C1779	A1715	A1588	A1402	U1342
U2208	G2088	U1965	C	G1942	A1780	G1716	G1589	U1403	C1343
G2209	C2089	C1966	G	U1943	C1781	A1717	G1590	G1404	C1344
C2210	U2090	U1967	G	C1944	A1782	A1718	A1658	A1405	G1345
U2211	C	G1968	U	A1945	U1783	G1722	G1659	A1406	G1346
U2212	U2218	U1974	C	A1846	A1785	G1723	G1660	G1407	C1347
U2213	G2218	G1975	C	G1847	C1786	U1723	C1661	A1408	C1348
G2214	A	G1976	C	U1848	U1787	C1724	G1662	G1471	A1349
C2215	A	C1977	A1910	G1849	C1788	C1725	C1663	U1410	G1350
G2216	U	C1978	G1850	G1850	U1789	C1726	G1664	U1473	G1351
G2217	C	U1979	A1851	A1851	C1790	C1727	C1665	C1411	G1352
G2218	A	G1979	G1852	G1852	C1791	A1728	G1666	A1474	A1353
U2219	A	U1979	C1953	C1953	C1792	C1729	A1667	U1475	A1354
A2220	C	U1979	G1854	G1854	A1793	G1730	G1668	G1476	G1414
G2221	C	U1978	G1855	G1855	A1794	C1731	A1669	A1538	A1355
U2222	C	C1979	C1917	U1856	C1795	U1732	G1670	U1478	A1416
U2223	U	A1980	G1918	U1857	A1796	U1733	A1671	G1479	U1357
U2224	G	A1981	G1919	C1858	C1797	C1734	A1672	U1480	G1358
G2225	U	C1982	A1920	A1859	G1798	G1735	C1673	U1481	G1359
								U1482	G1360



● Molecule 30: 50S RIBOSOMAL PROTEIN L32



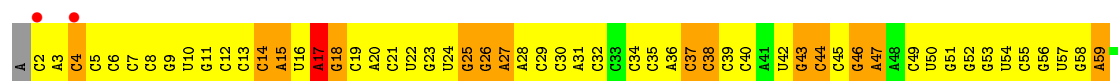
Chain Y:



- Molecule 31: RRNA-5S RIBOSOMAL RNA



Chain Z:





4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.30 29.76 – 3.31	Depositor EDS
% Data completeness (in resolution range)	94.1 (30.00-3.30) 93.2 (29.76-3.31)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.14 (at 3.31Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.276 , 0.318 0.241 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	DCC
Wilson B-factor (Å ²)	67.5	Xtriage
Anisotropy	0.110	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.18 , 60.6	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.25$	Xtriage
Outliers	1 of 332876 reflections (0.000%)	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	84475	wwPDB-VP
Average B, all atoms (Å ²)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.08% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, DCY, DHA, QUA, BB9, NH2, MH6, DBU, TS9

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 > 5$	RMSZ	# $ Z > 5$
4	4	0.46	0/298	0.67	0/390
5	5	1.46	0/31	1.18	0/38
6	A	0.55	0/1862	0.85	2/2510 (0.1%)
7	B	0.77	0/1567	1.04	4/2105 (0.2%)
8	C	0.63	0/1529	0.91	0/2070
9	D	0.48	0/1419	0.71	0/1903
10	E	0.48	0/1308	0.80	1/1771 (0.1%)
11	F	0.50	0/1063	0.71	0/1440
12	G	0.69	0/1138	1.00	3/1539 (0.2%)
13	H	0.79	0/1007	0.96	1/1352 (0.1%)
14	I	0.65	0/1081	0.94	3/1448 (0.2%)
15	J	0.67	0/1113	0.91	2/1486 (0.1%)
16	K	0.87	0/886	1.06	2/1188 (0.2%)
17	L	0.52	0/785	0.86	0/1048
18	M	0.73	0/884	1.20	6/1186 (0.5%)
19	N	0.63	0/994	0.89	0/1323
20	O	0.61	0/750	0.90	0/1000
21	P	0.77	0/1027	0.93	1/1373 (0.1%)
22	Q	0.67	0/737	0.98	4/988 (0.4%)
23	R	0.55	0/835	0.95	2/1121 (0.2%)
24	S	0.50	0/1370	0.75	0/1862
25	T	0.56	0/633	0.83	1/838 (0.1%)
26	U	0.58	0/556	0.95	1/741 (0.1%)
27	V	0.44	0/537	0.67	0/714
28	W	0.56	0/426	0.84	0/568
29	X	0.88	59/64561 (0.1%)	1.05	497/100708 (0.5%)
30	Y	0.70	0/469	1.11	2/629 (0.3%)
31	Z	0.55	0/2904	0.76	0/4525
All	All	0.81	59/91770 (0.1%)	1.01	532/137864 (0.4%)

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
6	A	0	1
19	N	0	2
22	Q	0	1
29	X	2	257
30	Y	0	1
31	Z	0	4
All	All	2	266

All (59) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	1856	U	C4'-C3'	-9.30	1.43	1.53
29	X	1856	U	O3'-P	-8.64	1.50	1.61
29	X	1056	U	P-O5'	8.52	1.68	1.59
29	X	1855	G	O3'-P	-8.11	1.51	1.61
29	X	551	A	O3'-P	-8.05	1.51	1.61
29	X	1860	A	O3'-P	-7.56	1.52	1.61
29	X	2189	A	N9-C4	7.30	1.42	1.37
29	X	1750	A	C5-C6	-7.03	1.34	1.41
29	X	1859	A	O3'-P	-6.91	1.52	1.61
29	X	1858	C	C4'-C3'	-6.73	1.45	1.53
29	X	728	G	C2'-C1'	6.65	1.60	1.53
29	X	1688	U	C4-O4	6.60	1.28	1.23
29	X	1858	C	N1-C2	-6.25	1.33	1.40
29	X	2199	C	N1-C2	-6.23	1.33	1.40
29	X	722	C	N1-C2	-6.12	1.34	1.40
29	X	2326	C	N1-C2	-6.10	1.34	1.40
29	X	731	A	C2'-C1'	6.03	1.59	1.53
29	X	2195	C	N1-C2	-6.03	1.34	1.40
29	X	415	A	C3'-O3'	6.01	1.50	1.42
29	X	1688	U	N3-C4	6.00	1.43	1.38
29	X	557	U	C2'-C1'	5.99	1.59	1.53
29	X	2190	A	C4'-C3'	5.95	1.59	1.53
29	X	1052	C	N1-C2	-5.93	1.34	1.40
29	X	1857	G	O3'-P	-5.90	1.54	1.61
29	X	725	C	N1-C2	-5.88	1.34	1.40
29	X	1282	A	C5-C6	-5.85	1.35	1.41
29	X	1853	C	N1-C2	-5.79	1.34	1.40
29	X	556	A	N7-C5	-5.75	1.35	1.39
29	X	1969	G	C5-C6	-5.72	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	1981	A	C5-C6	-5.67	1.35	1.41
29	X	1063	C	N1-C2	-5.66	1.34	1.40
29	X	1862	C	C2'-C1'	-5.54	1.47	1.53
29	X	1846	A	O3'-P	-5.48	1.54	1.61
29	X	728	G	N9-C4	5.48	1.42	1.38
29	X	415	A	C2'-C1'	5.47	1.59	1.53
29	X	1632	A	C5-C6	-5.46	1.36	1.41
29	X	728	G	C3'-O3'	5.42	1.49	1.42
29	X	2320	G	P-O5'	5.40	1.65	1.59
29	X	557	U	C1'-N1	5.39	1.56	1.48
29	X	552	C	N1-C2	-5.38	1.34	1.40
29	X	796	A	C5-C6	-5.37	1.36	1.41
29	X	1055	A	C3'-O3'	5.37	1.49	1.42
29	X	723	C	N1-C2	-5.37	1.34	1.40
29	X	774	A	C5-C6	-5.36	1.36	1.41
29	X	2189	A	C3'-O3'	5.34	1.49	1.42
29	X	1860	A	C4'-C3'	-5.34	1.47	1.52
29	X	699	G	N9-C4	-5.30	1.33	1.38
29	X	1859	A	C3'-C2'	-5.29	1.47	1.52
29	X	2571	G	C5-C6	-5.28	1.37	1.42
29	X	2189	A	C2'-C1'	5.26	1.59	1.53
29	X	1865	C	O3'-P	-5.24	1.54	1.61
29	X	975	C	C2-N3	-5.21	1.31	1.35
29	X	540	G	C2-N3	5.20	1.36	1.32
29	X	1644	G	C5-C6	-5.17	1.37	1.42
29	X	557	U	C3'-O3'	5.14	1.49	1.42
29	X	417	C	C2'-C1'	5.06	1.58	1.53
29	X	833	A	C5-C6	-5.04	1.36	1.41
29	X	1851	A	C3'-O3'	5.04	1.49	1.42
29	X	2189	A	C8-N7	-5.02	1.28	1.31

All (532) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1055	A	N9-C1'-C2'	-29.46	75.70	114.00
29	X	2324	G	N9-C1'-C2'	22.22	142.88	114.00
29	X	557	U	N1-C1'-C2'	19.61	139.50	114.00
29	X	417	C	N1-C1'-C2'	18.73	138.35	114.00
18	M	28	ARG	C-N-CD	-18.52	79.85	120.60
29	X	1856	U	P-O3'-C3'	-15.68	100.89	119.70
29	X	1854	G	P-O3'-C3'	-15.22	101.44	119.70
29	X	1861	G	P-O3'-C3'	-15.03	101.66	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2854	G	N9-C1'-C2'	14.06	132.28	114.00
29	X	558	G	C3'-C2'-C1'	-13.92	90.37	101.50
29	X	1632	A	N9-C1'-C2'	13.61	131.69	114.00
29	X	2327	U	P-O3'-C3'	-13.11	103.97	119.70
29	X	556	A	N9-C1'-C2'	12.66	130.46	114.00
29	X	728	G	P-O3'-C3'	12.40	134.58	119.70
29	X	1857	G	P-O3'-C3'	-12.39	104.83	119.70
29	X	2324	G	O4'-C1'-N9	-12.15	98.48	108.20
29	X	731	A	N9-C1'-C2'	12.13	129.76	114.00
29	X	557	U	C6-N1-C2	-11.69	113.98	121.00
29	X	1052	C	C6-N1-C2	11.50	124.90	120.30
29	X	1859	A	P-O3'-C3'	-11.34	106.09	119.70
29	X	2325	A	N9-C1'-C2'	11.12	128.46	114.00
29	X	554	U	C6-N1-C2	10.92	127.55	121.00
29	X	1055	A	P-O3'-C3'	10.87	132.74	119.70
29	X	556	A	P-O3'-C3'	10.81	132.67	119.70
29	X	1853	C	P-O3'-C3'	-10.76	106.79	119.70
29	X	2326	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1278	A	N9-C1'-C2'	10.70	127.91	114.00
29	X	2594	U	O5'-P-OP2	-10.68	96.09	105.70
29	X	2034	A	N9-C1'-C2'	10.63	127.82	114.00
29	X	1142	G	N9-C1'-C2'	10.54	127.70	114.00
29	X	557	U	C3'-C2'-C1'	10.53	109.92	101.50
29	X	1314	A	N9-C1'-C2'	10.38	127.50	114.00
29	X	417	C	C3'-C2'-C1'	10.33	109.76	101.50
29	X	1056	U	O4'-C1'-N1	10.05	116.24	108.20
29	X	580	A	N9-C1'-C2'	9.98	126.97	114.00
29	X	2319	G	P-O3'-C3'	-9.90	107.81	119.70
29	X	2189	A	P-O3'-C3'	9.83	131.50	119.70
29	X	1853	C	C6-N1-C2	9.81	124.23	120.30
29	X	2320	G	P-O3'-C3'	-9.74	108.02	119.70
29	X	1979	C	N1-C1'-C2'	9.72	126.64	114.00
29	X	2195	C	C6-N1-C2	9.71	124.18	120.30
29	X	728	G	C8-N9-C4	-9.70	102.52	106.40
29	X	2197	U	C3'-C2'-C1'	-9.61	93.81	101.50
29	X	1288	A	N9-C1'-C2'	9.58	126.46	114.00
29	X	1056	U	O4'-C4'-C3'	-9.51	94.49	104.00
29	X	415	A	P-O3'-C3'	9.45	131.04	119.70
29	X	2824	C	N1-C1'-C2'	9.24	126.01	114.00
29	X	417	C	P-O3'-C3'	9.13	130.66	119.70
29	X	218	A	N9-C1'-C2'	9.10	125.83	114.00
29	X	1353	A	N9-C1'-C2'	9.10	125.82	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1264	C	N1-C1'-C2'	9.02	125.72	114.00
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
29	X	1265	G	N9-C1'-C2'	8.93	125.60	114.00
29	X	2323	U	C3'-C2'-C1'	-8.90	94.38	101.50
29	X	551	A	P-O3'-C3'	8.90	130.38	119.70
29	X	1664	G	N9-C1'-C2'	8.85	125.51	114.00
29	X	1052	C	O4'-C1'-N1	-8.83	101.14	108.20
29	X	1852	G	P-O3'-C3'	-8.72	109.24	119.70
29	X	731	A	N9-C4-C5	8.70	109.28	105.80
29	X	558	G	C8-N9-C4	-8.70	102.92	106.40
29	X	571	U	N1-C1'-C2'	8.59	125.16	114.00
29	X	1862	C	P-O3'-C3'	-8.57	109.42	119.70
29	X	728	G	N9-C1'-C2'	8.50	125.05	114.00
29	X	2313	G	N9-C1'-C2'	8.43	124.95	114.00
29	X	1054	C	C6-N1-C2	-8.40	116.94	120.30
29	X	557	U	C5-C6-N1	8.35	126.87	122.70
29	X	1056	U	N1-C1'-C2'	-8.33	102.83	112.00
29	X	1975	G	C2'-C3'-O3'	8.31	127.79	109.50
29	X	2325	A	P-O3'-C3'	8.31	129.68	119.70
29	X	2189	A	N9-C4-C5	-8.31	102.48	105.80
29	X	2823	G	N9-C1'-C2'	8.31	124.80	114.00
29	X	2593	A	N9-C1'-C2'	8.31	124.80	114.00
29	X	1057	A	N9-C4-C5	8.27	109.11	105.80
29	X	984	A	N9-C1'-C2'	8.24	124.71	114.00
29	X	730	C	P-O3'-C3'	8.12	129.44	119.70
29	X	554	U	N1-C2-N3	-8.11	110.04	114.90
29	X	1266	G	N9-C1'-C2'	8.08	124.50	114.00
29	X	1947	G	N9-C1'-C2'	7.98	124.38	114.00
29	X	415	A	N9-C1'-C2'	7.98	124.38	114.00
29	X	1337	G	N9-C1'-C2'	7.98	124.38	114.00
29	X	1862	C	O4'-C4'-C3'	-7.96	96.04	104.00
29	X	985	G	N9-C1'-C2'	7.86	124.21	114.00
29	X	1167	A	N9-C1'-C2'	7.86	124.21	114.00
29	X	2476	A	N9-C1'-C2'	7.85	124.20	114.00
29	X	2521	A	N9-C1'-C2'	7.82	124.17	114.00
29	X	555	U	C3'-C2'-C1'	-7.78	95.28	101.50
29	X	683	A	N9-C1'-C2'	7.78	124.11	114.00
29	X	1055	A	C3'-C2'-C1'	-7.77	95.28	101.50
18	M	28	ARG	C-N-CA	7.77	154.64	122.00
29	X	2196	U	P-O3'-C3'	7.77	129.02	119.70
29	X	2428	U	N1-C1'-C2'	7.75	124.07	114.00
29	X	555	U	O4'-C4'-C3'	-7.74	96.26	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	312	G	N9-C1'-C2'	7.73	124.04	114.00
29	X	1867	A	O4'-C1'-N9	-7.71	102.03	108.20
29	X	460	U	N1-C1'-C2'	7.67	123.98	114.00
29	X	2190	A	N9-C1'-C2'	-7.66	103.58	112.00
29	X	1927	U	N1-C1'-C2'	7.61	123.90	114.00
29	X	1862	C	C4'-C3'-C2'	7.61	110.21	102.60
29	X	1582	A	N9-C1'-C2'	7.55	123.81	114.00
29	X	554	U	N1-C2-O2	7.54	128.08	122.80
29	X	417	C	O4'-C1'-N1	-7.54	102.17	108.20
29	X	1632	A	C2'-C3'-O3'	7.52	126.04	109.50
29	X	1139	A	N9-C1'-C2'	7.51	123.76	114.00
29	X	2608	A	N9-C1'-C2'	7.48	123.72	114.00
29	X	729	A	C3'-C2'-C1'	-7.47	95.52	101.50
29	X	804	C	N1-C1'-C2'	7.44	123.67	114.00
29	X	2496	C	N1-C1'-C2'	7.44	123.67	114.00
29	X	1975	G	N9-C1'-C2'	7.42	123.64	114.00
29	X	1581	C	N1-C1'-C2'	7.38	123.60	114.00
29	X	2854	G	O4'-C1'-N9	7.37	114.10	108.20
29	X	1855	G	OP1-P-OP2	-7.36	108.55	119.60
29	X	2320	G	OP1-P-OP2	-7.33	108.60	119.60
29	X	1855	G	P-O3'-C3'	-7.31	110.92	119.70
29	X	1854	G	OP1-P-OP2	-7.29	108.67	119.60
29	X	613	A	N9-C1'-C2'	7.28	123.46	114.00
29	X	1633	C	N1-C1'-C2'	7.28	123.46	114.00
29	X	1058	G	OP1-P-OP2	-7.26	108.72	119.60
29	X	490	A	N9-C1'-C2'	7.25	123.42	114.00
29	X	2015	G	N9-C1'-C2'	7.21	123.37	114.00
29	X	1858	C	C6-N1-C2	7.20	123.18	120.30
29	X	118	U	N1-C1'-C2'	7.20	123.36	114.00
29	X	1865	C	P-O3'-C3'	-7.16	111.10	119.70
29	X	727	U	C3'-C2'-C1'	7.15	107.22	101.50
29	X	419	G	OP1-P-OP2	-7.12	108.92	119.60
29	X	1716	G	N9-C1'-C2'	7.11	123.24	114.00
29	X	841	G	N9-C1'-C2'	7.10	123.23	114.00
29	X	555	U	OP1-P-OP2	-7.09	108.97	119.60
29	X	2325	A	C2'-C3'-O3'	7.08	125.07	109.50
29	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
29	X	747	A	C5'-C4'-C3'	7.05	127.28	116.00
29	X	418	C	N1-C1'-C2'	7.04	123.15	114.00
29	X	418	C	C6-N1-C2	7.03	123.11	120.30
29	X	2854	G	C1'-O4'-C4'	-7.02	104.28	109.90
12	G	119	LEU	CA-CB-CG	-7.00	99.21	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2323	U	OP1-P-OP2	-7.00	109.11	119.60
29	X	1864	G	P-O3'-C3'	-6.99	111.31	119.70
29	X	818	G	N9-C1'-C2'	6.99	123.08	114.00
29	X	1339	U	OP2-P-O3'	6.99	120.57	105.20
29	X	1869	A	OP1-P-OP2	-6.99	109.12	119.60
29	X	729	A	OP1-P-OP2	-6.97	109.14	119.60
29	X	2075	U	N1-C1'-C2'	6.97	123.06	114.00
29	X	1856	U	C4'-C3'-C2'	6.96	109.56	102.60
29	X	556	A	C3'-C2'-C1'	6.95	107.06	101.50
29	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
29	X	1033	G	N9-C1'-C2'	6.93	123.01	114.00
29	X	1807	A	N9-C1'-C2'	6.92	123.00	114.00
29	X	2589	C	N1-C1'-C2'	6.91	122.98	114.00
29	X	1921	A	N9-C1'-C2'	6.89	122.96	114.00
29	X	1285	A	N9-C1'-C2'	6.87	122.93	114.00
29	X	1060	C	OP1-P-OP2	-6.86	109.31	119.60
30	Y	36	CYS	CB-CA-C	6.85	124.09	110.40
29	X	1059	A	OP1-P-OP2	-6.84	109.34	119.60
29	X	2321	C	OP1-P-OP2	-6.83	109.35	119.60
29	X	420	C	OP1-P-OP2	-6.83	109.36	119.60
29	X	716	U	OP1-P-OP2	-6.82	109.37	119.60
29	X	1055	A	C8-N9-C4	-6.82	103.07	105.80
29	X	2326	C	C6-N1-C2	6.81	123.03	120.30
29	X	2848	A	N9-C1'-C2'	6.81	122.86	114.00
29	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
7	B	85	ALA	C-N-CD	-6.80	105.64	120.60
29	X	1864	G	O4'-C1'-N9	-6.80	102.76	108.20
29	X	1849	G	OP1-P-OP2	-6.79	109.41	119.60
29	X	728	G	N7-C8-N9	6.78	116.49	113.10
29	X	2188	A	OP1-P-OP2	-6.77	109.45	119.60
29	X	1583	A	N9-C1'-C2'	6.76	122.79	114.00
29	X	1847	G	OP1-P-OP2	-6.76	109.46	119.60
29	X	417	C	OP1-P-OP2	-6.76	109.47	119.60
29	X	1064	C	OP1-P-OP2	-6.75	109.47	119.60
29	X	1856	U	OP1-P-OP2	-6.75	109.47	119.60
29	X	557	U	N3-C4-O4	6.75	124.12	119.40
29	X	1046	U	OP1-P-OP2	-6.74	109.49	119.60
29	X	719	A	OP1-P-OP2	-6.73	109.50	119.60
29	X	2190	A	C3'-C2'-C1'	-6.73	96.12	101.50
29	X	2370	G	N9-C1'-C2'	6.73	122.75	114.00
29	X	1047	G	OP1-P-OP2	-6.73	109.51	119.60
29	X	558	G	O4'-C1'-N9	6.72	113.58	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1052	C	N1-C2-O2	6.72	122.93	118.90
29	X	1848	U	OP1-P-OP2	-6.71	109.53	119.60
29	X	1860	A	OP1-P-OP2	-6.71	109.53	119.60
29	X	1863	U	OP1-P-OP2	-6.70	109.54	119.60
29	X	2326	C	OP1-P-OP2	-6.70	109.55	119.60
29	X	739	G	OP1-P-OP2	-6.70	109.55	119.60
29	X	554	U	OP1-P-OP2	-6.68	109.57	119.60
29	X	1866	G	OP1-P-OP2	-6.67	109.59	119.60
18	M	3	THR	N-CA-C	-6.67	92.99	111.00
29	X	1333	G	N9-C1'-C2'	6.67	122.67	114.00
29	X	1664	G	O5'-P-OP1	-6.66	99.70	105.70
29	X	1723	U	C2'-C3'-O3'	6.66	124.36	113.70
29	X	736	G	OP1-P-OP2	-6.65	109.62	119.60
29	X	557	U	OP1-P-OP2	-6.65	109.62	119.60
29	X	1050	G	OP1-P-OP2	-6.65	109.63	119.60
29	X	1054	C	OP1-P-OP2	-6.64	109.63	119.60
29	X	2469	G	N9-C1'-C2'	6.64	122.63	114.00
29	X	1852	G	O4'-C4'-C3'	-6.64	97.36	104.00
29	X	2854	G	C4'-C3'-O3'	-6.63	95.47	109.40
29	X	552	C	OP1-P-OP2	-6.63	109.66	119.60
29	X	738	G	OP1-P-OP2	-6.62	109.67	119.60
29	X	1850	G	OP1-P-OP2	-6.62	109.67	119.60
29	X	458	G	N9-C1'-C2'	6.62	122.61	114.00
29	X	2201	G	OP1-P-OP2	-6.61	109.68	119.60
29	X	400	U	N1-C1'-C2'	6.61	122.59	114.00
29	X	2324	G	OP1-P-OP2	-6.61	109.69	119.60
29	X	780	U	C2'-C3'-O3'	6.60	124.26	113.70
29	X	726	G	OP1-P-OP2	-6.60	109.70	119.60
29	X	2323	U	O4'-C1'-N1	6.60	113.48	108.20
29	X	1618	U	N1-C1'-C2'	6.60	122.58	114.00
29	X	460	U	C4'-C3'-O3'	-6.59	95.55	109.40
29	X	2322	U	OP1-P-OP2	-6.59	109.71	119.60
29	X	2326	C	P-O3'-C3'	-6.58	111.80	119.70
29	X	2187	A	OP1-P-OP2	-6.57	109.75	119.60
29	X	416	U	N1-C1'-C2'	6.57	122.54	114.00
29	X	69	G	N9-C1'-C2'	6.56	122.53	114.00
29	X	1056	U	OP1-P-OP2	-6.56	109.76	119.60
29	X	2190	A	OP1-P-OP2	-6.56	109.77	119.60
29	X	734	G	OP1-P-OP2	-6.54	109.79	119.60
29	X	2186	G	OP1-P-OP2	-6.54	109.79	119.60
29	X	1869	A	P-O5'-C5'	-6.53	110.45	120.90
29	X	2016	A	N9-C1'-C2'	6.52	122.48	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	717	G	OP1-P-OP2	-6.51	109.83	119.60
29	X	724	C	C6-N1-C2	6.50	122.90	120.30
29	X	1870	U	P-O3'-C3'	6.50	127.50	119.70
29	X	731	A	C8-N9-C4	-6.49	103.20	105.80
29	X	725	C	OP1-P-OP2	-6.49	109.87	119.60
29	X	731	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	1866	G	P-O3'-C3'	6.48	127.48	119.70
29	X	1065	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	2190	A	O4'-C1'-N9	6.48	113.38	108.20
29	X	415	A	OP1-P-OP2	-6.47	109.89	119.60
29	X	720	A	OP1-P-OP2	-6.47	109.89	119.60
29	X	2197	U	OP1-P-OP2	-6.47	109.90	119.60
29	X	718	A	OP1-P-OP2	-6.47	109.90	119.60
29	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
29	X	421	G	OP1-P-OP2	-6.46	109.90	119.60
29	X	721	C	OP1-P-OP2	-6.46	109.90	119.60
29	X	1063	C	OP1-P-OP2	-6.46	109.91	119.60
29	X	968	C	N1-C1'-C2'	6.46	122.40	114.00
29	X	804	C	C4'-C3'-O3'	-6.46	95.83	109.40
29	X	562	G	OP1-P-OP2	-6.45	109.92	119.60
21	P	106	LEU	CA-CB-CG	-6.45	100.47	115.30
29	X	2185	U	OP1-P-OP2	-6.44	109.95	119.60
29	X	2200	G	OP1-P-OP2	-6.43	109.96	119.60
29	X	557	U	P-O3'-C3'	6.41	127.39	119.70
29	X	735	G	OP1-P-OP2	-6.41	109.98	119.60
29	X	1410	U	N1-C1'-C2'	6.38	122.30	114.00
29	X	2198	U	N1-C1'-C2'	6.38	122.29	114.00
29	X	1851	A	OP1-P-OP2	-6.37	110.04	119.60
29	X	722	C	OP1-P-OP2	-6.37	110.05	119.60
29	X	1052	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	724	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	730	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	2195	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	1865	C	OP1-P-OP2	-6.36	110.07	119.60
29	X	417	C	O4'-C4'-C3'	6.35	111.18	106.10
29	X	737	C	OP1-P-OP2	-6.34	110.09	119.60
29	X	1051	U	OP1-P-OP2	-6.34	110.09	119.60
29	X	1665	C	O5'-P-OP2	-6.33	100.00	105.70
29	X	741	G	OP1-P-OP2	-6.33	110.11	119.60
29	X	1852	G	OP1-P-OP2	-6.33	110.11	119.60
29	X	2841	U	N1-C1'-C2'	6.32	122.22	114.00
29	X	2760	G	N9-C1'-C2'	6.31	122.21	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2324	G	C1'-O4'-C4'	6.31	114.95	109.90
29	X	2325	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	731	A	C3'-C2'-C1'	6.31	106.55	101.50
29	X	2323	U	C6-N1-C1'	6.31	130.03	121.20
29	X	1859	A	OP1-P-OP2	-6.31	110.14	119.60
29	X	1342	U	N1-C1'-C2'	6.30	122.20	114.00
29	X	2481	G	O5'-P-OP1	-6.30	100.03	105.70
29	X	416	U	OP1-P-OP2	-6.30	110.15	119.60
29	X	1862	C	OP1-P-OP2	-6.30	110.15	119.60
29	X	1868	A	OP1-P-OP2	-6.29	110.16	119.60
29	X	1772	C	N1-C1'-C2'	6.28	122.17	114.00
29	X	1861	G	OP1-P-OP2	-6.28	110.18	119.60
29	X	795	A	C2'-C3'-O3'	-6.28	95.69	109.50
29	X	2191	A	OP1-P-OP2	-6.26	110.20	119.60
29	X	955	G	N9-C1'-C2'	6.26	122.14	114.00
29	X	1459	U	N1-C1'-C2'	6.26	122.14	114.00
29	X	2841	U	C2'-C3'-O3'	6.26	123.71	113.70
29	X	1799	A	N9-C1'-C2'	6.25	122.12	114.00
29	X	1865	C	O4'-C4'-C3'	-6.25	97.75	104.00
29	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
29	X	1631	C	N1-C1'-C2'	6.24	122.11	114.00
29	X	1867	A	OP1-P-OP2	-6.24	110.24	119.60
29	X	2328	G	OP1-P-OP2	-6.23	110.25	119.60
29	X	1055	A	OP1-P-OP2	-6.22	110.26	119.60
29	X	596	C	N1-C1'-C2'	6.22	122.08	114.00
29	X	1710	U	N1-C1'-C2'	6.21	122.08	114.00
29	X	2580	C	N1-C1'-C2'	6.21	122.08	114.00
29	X	1055	A	C4'-C3'-O3'	6.20	125.40	113.00
29	X	2323	U	C2-N1-C1'	-6.20	110.26	117.70
29	X	732	G	OP1-P-OP2	-6.20	110.31	119.60
29	X	1054	C	C5-C6-N1	6.20	124.10	121.00
29	X	414	A	OP1-P-OP2	-6.18	110.32	119.60
29	X	558	G	OP1-P-OP2	-6.18	110.33	119.60
29	X	796	A	N9-C1'-C2'	-6.16	105.22	112.00
29	X	1771	A	N9-C1'-C2'	6.16	122.01	114.00
29	X	2756	A	C2'-C3'-O3'	6.16	123.55	113.70
29	X	1049	C	OP1-P-OP2	-6.15	110.37	119.60
29	X	82	G	N9-C1'-C2'	6.15	121.99	114.00
29	X	343	A	N9-C1'-C2'	6.14	121.99	114.00
29	X	559	C	OP1-P-OP2	-6.14	110.38	119.60
29	X	1858	C	OP1-P-OP2	-6.14	110.39	119.60
29	X	560	G	OP1-P-OP2	-6.14	110.39	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	740	A	OP1-P-OP2	-6.14	110.39	119.60
29	X	1153	A	O4'-C1'-N9	-6.13	103.30	108.20
29	X	1152	C	N1-C1'-C2'	6.13	121.96	114.00
29	X	2196	U	OP1-P-OP2	-6.12	110.42	119.60
29	X	1871	G	OP1-P-OP2	-6.11	110.43	119.60
29	X	1288	A	O4'-C4'-C3'	-6.11	97.89	104.00
29	X	727	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	805	G	N9-C1'-C2'	6.09	121.92	114.00
29	X	1061	A	OP1-P-OP2	-6.09	110.47	119.60
29	X	582	G	OP2-P-O3'	6.08	118.58	105.20
29	X	801	A	N9-C1'-C2'	6.08	121.91	114.00
29	X	733	G	OP1-P-OP2	-6.07	110.49	119.60
29	X	1870	U	OP1-P-OP2	-6.06	110.50	119.60
12	G	108	GLY	N-CA-C	-6.06	97.95	113.10
29	X	557	U	O4'-C1'-N1	-6.06	103.35	108.20
29	X	2823	G	C2'-C3'-O3'	6.06	123.40	113.70
29	X	13	A	N9-C1'-C2'	6.05	121.86	114.00
29	X	2323	U	P-O3'-C3'	6.05	126.96	119.70
29	X	2322	U	C3'-C2'-C1'	-6.04	96.66	101.50
29	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
29	X	2327	U	OP1-P-OP2	-6.03	110.56	119.60
29	X	1062	G	OP1-P-OP2	-6.02	110.56	119.60
29	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
29	X	2668	U	C5'-C4'-C3'	-6.02	106.38	116.00
29	X	556	A	OP1-P-OP2	-6.01	110.59	119.60
29	X	2608	A	C2'-C3'-O3'	6.01	123.31	113.70
29	X	1624	A	N9-C1'-C2'	6.00	121.80	114.00
29	X	1266	G	O4'-C1'-N9	5.98	112.99	108.20
29	X	1860	A	C4'-C3'-C2'	5.97	108.57	102.60
29	X	2418	A	O4'-C1'-N9	5.96	112.97	108.20
29	X	219	G	N9-C1'-C2'	5.96	121.75	114.00
29	X	1278	A	C2'-C3'-O3'	5.96	123.24	113.70
29	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
29	X	2392	G	N9-C1'-C2'	-5.95	105.46	112.00
29	X	561	U	OP1-P-OP2	-5.93	110.70	119.60
29	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
29	X	2189	A	OP1-P-OP2	-5.92	110.72	119.60
29	X	467	U	N1-C1'-C2'	5.91	121.69	114.00
29	X	777	A	C2'-C3'-O3'	5.91	123.15	113.70
29	X	2198	U	P-O5'-C5'	-5.91	111.45	120.90
29	X	2322	U	C4'-C3'-O3'	5.90	124.81	113.00
29	X	728	G	C2'-C3'-O3'	5.90	123.14	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1866	G	O4'-C1'-N9	-5.89	103.49	108.20
29	X	731	A	P-O3'-C3'	5.89	126.77	119.70
18	M	29	PRO	CA-N-CD	-5.88	103.27	111.50
29	X	1285	A	C2'-C3'-O3'	5.88	123.11	113.70
29	X	553	C	OP1-P-OP2	-5.88	110.79	119.60
29	X	1053	G	OP1-P-OP2	-5.86	110.81	119.60
29	X	1153	A	C2'-C3'-O3'	5.86	123.08	113.70
29	X	539	A	N9-C1'-C2'	5.86	121.61	114.00
29	X	176	A	N9-C1'-C2'	5.85	121.61	114.00
29	X	728	G	OP1-P-OP2	-5.84	110.84	119.60
29	X	824	U	N1-C1'-C2'	5.81	121.55	114.00
29	X	1057	A	N9-C1'-C2'	-5.80	105.62	112.00
29	X	871	U	N1-C1'-C2'	5.79	121.53	114.00
29	X	1561	A	C2'-C3'-O3'	5.79	122.96	113.70
29	X	1851	A	P-O3'-C3'	5.76	126.61	119.70
29	X	177	U	N1-C1'-C2'	5.75	121.48	114.00
29	X	2633	A	N9-C1'-C2'	5.75	121.48	114.00
29	X	1057	A	OP1-P-OP2	-5.75	110.97	119.60
29	X	1865	C	O4'-C1'-N1	5.75	112.80	108.20
25	T	19	LYS	N-CA-C	5.74	126.51	111.00
29	X	226	C	O4'-C1'-N1	5.74	112.79	108.20
29	X	723	C	C5-C6-N1	5.74	123.87	121.00
29	X	2045	A	N9-C1'-C2'	5.74	121.46	114.00
29	X	73	A	N9-C1'-C2'	5.74	121.46	114.00
29	X	555	U	N1-C1'-C2'	-5.73	105.69	112.00
6	A	243	GLY	N-CA-C	5.73	127.43	113.10
29	X	2229	G	N9-C1'-C2'	5.72	121.44	114.00
29	X	730	C	N1-C1'-C2'	5.72	121.44	114.00
29	X	418	C	OP1-P-OP2	-5.71	111.04	119.60
29	X	1963	G	N9-C1'-C2'	5.70	121.41	114.00
29	X	1723	U	N1-C1'-C2'	5.69	121.40	114.00
29	X	2545	A	N9-C1'-C2'	5.69	121.40	114.00
29	X	1056	U	C6-N1-C2	-5.69	117.59	121.00
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
29	X	723	C	OP1-P-OP2	-5.68	111.08	119.60
29	X	1852	G	C4'-C3'-C2'	5.68	108.28	102.60
29	X	1810	U	N1-C1'-C2'	5.65	121.35	114.00
29	X	2323	U	C1'-O4'-C4'	-5.65	105.38	109.90
29	X	2199	C	OP1-P-OP2	-5.65	111.13	119.60
29	X	2693	U	N1-C1'-C2'	5.64	121.33	114.00
29	X	1853	C	O4'-C4'-C3'	-5.64	98.36	104.00
29	X	1057	A	N3-C4-N9	-5.64	122.89	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1854	G	O3'-P-O5'	5.63	114.70	104.00
29	X	557	U	N3-C4-C5	-5.62	111.23	114.60
29	X	2484	G	N9-C1'-C2'	-5.62	105.82	112.00
29	X	2823	G	OP2-P-O3'	5.62	117.56	105.20
29	X	1266	G	C1'-O4'-C4'	-5.61	105.42	109.90
29	X	2188	A	C4'-C3'-C2'	5.59	108.19	102.60
29	X	555	U	P-O3'-C3'	5.58	126.40	119.70
29	X	469	G	OP2-P-O3'	5.58	117.48	105.20
29	X	2315	A	N9-C1'-C2'	5.58	121.25	114.00
29	X	2592	U	C5-C4-O4	-5.58	122.55	125.90
29	X	580	A	C4'-C3'-O3'	-5.58	97.69	109.40
29	X	780	U	N1-C1'-C2'	-5.57	105.87	112.00
29	X	1854	G	C5'-C4'-C3'	5.57	124.92	116.00
29	X	538	A	C2'-C3'-O3'	5.57	122.61	113.70
29	X	1052	C	P-O5'-C5'	-5.57	111.99	120.90
29	X	1058	G	N9-C1'-C2'	5.56	121.23	114.00
29	X	731	A	O4'-C4'-C3'	5.56	110.55	106.10
29	X	459	A	N9-C1'-C2'	5.55	121.22	114.00
29	X	2189	A	C2'-C3'-O3'	5.55	122.58	113.70
29	X	2229	G	C4'-C3'-O3'	-5.54	97.76	109.40
29	X	2482	A	O4'-C1'-N9	5.54	112.63	108.20
29	X	721	C	C6-N1-C2	5.53	122.51	120.30
29	X	728	G	C4-N9-C1'	5.51	133.66	126.50
22	Q	61	LYS	N-CA-C	5.51	125.87	111.00
22	Q	85	GLY	N-CA-C	-5.50	99.34	113.10
29	X	818	G	C4'-C3'-O3'	-5.50	97.85	109.40
29	X	2807	U	C2'-C3'-O3'	5.50	122.50	113.70
29	X	418	C	C3'-C2'-C1'	5.50	105.90	101.50
29	X	447	U	N1-C1'-C2'	5.49	121.13	114.00
29	X	1048	U	OP1-P-OP2	-5.47	111.39	119.60
29	X	59	G	N9-C1'-C2'	5.46	121.10	114.00
29	X	1775	A	N9-C1'-C2'	5.46	121.10	114.00
18	M	103	LYS	N-CA-C	5.45	125.72	111.00
29	X	1858	C	C4'-C3'-C2'	5.45	108.05	102.60
29	X	2551	A	N9-C1'-C2'	5.45	121.09	114.00
29	X	34	U	N1-C1'-C2'	5.45	121.09	114.00
29	X	1407	G	N9-C1'-C2'	5.45	121.08	114.00
29	X	15	G	N9-C1'-C2'	-5.43	106.02	112.00
29	X	551	A	OP1-P-O3'	5.42	117.13	105.20
29	X	2320	G	C5'-C4'-C3'	5.42	124.67	116.00
29	X	2810	A	N9-C1'-C2'	5.42	121.05	114.00
29	X	1854	G	C4'-C3'-O3'	5.42	123.84	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1861	G	P-O5'-C5'	-5.42	112.23	120.90
29	X	2323	U	C5'-C4'-O4'	-5.42	102.60	109.10
29	X	797	A	N9-C1'-C2'	5.41	121.03	114.00
29	X	1373	G	C5-C6-O6	-5.41	125.36	128.60
29	X	1862	C	C1'-O4'-C4'	5.40	114.22	109.90
29	X	1800	A	N9-C1'-C2'	5.40	121.02	114.00
29	X	1666	G	O4'-C4'-C3'	-5.40	98.60	104.00
29	X	2482	A	N9-C1'-C2'	5.40	121.02	114.00
22	Q	66	GLY	N-CA-C	-5.40	99.61	113.10
29	X	557	U	N1-C2-N3	5.39	118.13	114.90
29	X	1857	G	OP1-P-OP2	-5.39	111.52	119.60
29	X	2198	U	OP1-P-OP2	-5.38	111.52	119.60
29	X	1685	A	C5'-C4'-C3'	-5.37	107.40	116.00
29	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
29	X	1345	G	O4'-C1'-N9	5.37	112.50	108.20
29	X	2592	U	C2-N1-C1'	5.37	124.15	117.70
29	X	2795	A	N9-C1'-C2'	5.37	120.98	114.00
23	R	71	GLN	N-CA-C	-5.37	96.51	111.00
29	X	1675	C	O5'-P-OP1	-5.35	100.89	105.70
29	X	2254	C	N1-C1'-C2'	5.34	120.95	114.00
7	B	137	ARG	N-CA-C	-5.33	96.61	111.00
29	X	1212	U	C2'-C3'-O3'	5.33	122.23	113.70
29	X	1496	G	C2'-C3'-O3'	5.33	122.23	113.70
29	X	2189	A	C4'-C3'-C2'	-5.32	97.28	102.60
7	B	51	TYR	N-CA-C	5.32	125.36	111.00
29	X	2015	G	C5'-C4'-C3'	-5.30	107.52	116.00
29	X	2769	C	O4'-C1'-N1	5.30	112.44	108.20
29	X	1850	G	O4'-C1'-N9	5.30	112.44	108.20
29	X	1866	G	N7-C8-N9	5.30	115.75	113.10
23	R	6	ALA	N-CA-C	5.28	125.27	111.00
29	X	2588	U	N1-C1'-C2'	5.27	120.85	114.00
29	X	1299	A	C2'-C3'-O3'	5.26	122.12	113.70
29	X	2261	G	O4'-C1'-N9	5.26	112.41	108.20
29	X	2322	U	C6-N1-C2	-5.26	117.84	121.00
29	X	1056	U	C5'-C4'-C3'	5.26	124.41	116.00
29	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20
29	X	795	A	N9-C1'-C2'	5.25	120.83	114.00
29	X	1871	G	O4'-C4'-C3'	-5.25	98.75	104.00
29	X	728	G	O3'-P-O5'	5.24	113.96	104.00
29	X	557	U	C1'-O4'-C4'	5.24	114.09	109.90
10	E	41	LEU	CA-CB-CG	5.24	127.35	115.30
29	X	723	C	C4-C5-C6	-5.24	114.78	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2193	C	C6-N1-C2	5.24	122.39	120.30
29	X	1849	G	C4'-C3'-C2'	-5.23	97.37	102.60
29	X	1716	G	OP1-P-O3'	5.23	116.70	105.20
29	X	2660	C	N1-C1'-C2'	5.23	120.80	114.00
29	X	2197	U	C6-N1-C2	-5.22	117.87	121.00
29	X	688	A	C5'-C4'-C3'	5.22	124.35	116.00
29	X	1071	U	N1-C1'-C2'	5.21	120.78	114.00
29	X	1847	G	P-O5'-C5'	-5.21	112.57	120.90
29	X	2480	C	N1-C1'-C2'	5.20	120.76	114.00
22	Q	60	GLY	N-CA-C	5.20	126.09	113.10
29	X	683	A	C2'-C3'-O3'	5.19	122.01	113.70
16	K	60	LEU	CA-CB-CG	5.18	127.22	115.30
29	X	742	G	N9-C1'-C2'	5.18	120.74	114.00
15	J	89	GLY	N-CA-C	5.18	126.05	113.10
29	X	1790	G	C2'-C3'-O3'	5.17	121.97	113.70
29	X	558	G	C4'-C3'-O3'	5.16	123.33	113.00
29	X	1715	A	C5'-C4'-O4'	-5.16	102.91	109.10
14	I	36	GLY	N-CA-C	5.16	125.99	113.10
7	B	16	LYS	N-CA-C	-5.14	97.11	111.00
14	I	32	ARG	N-CA-C	-5.14	97.11	111.00
29	X	334	G	N9-C1'-C2'	5.14	120.69	114.00
29	X	1855	G	O3'-P-O5'	5.14	113.77	104.00
29	X	684	C	C5'-C4'-C3'	-5.14	107.77	116.00
29	X	1634	A	N9-C1'-C2'	5.14	120.68	114.00
30	Y	53	ASP	CB-CG-OD2	5.14	122.92	118.30
29	X	2668	U	O4'-C1'-N1	5.13	112.31	108.20
16	K	95	THR	N-CA-C	-5.13	97.15	111.00
29	X	469	G	O4'-C1'-N9	5.13	112.30	108.20
29	X	552	C	C6-N1-C2	5.13	122.35	120.30
29	X	1194	U	C2'-C3'-O3'	5.13	121.90	113.70
29	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
6	A	211	ARG	N-CA-C	-5.11	97.20	111.00
29	X	2199	C	C2'-C3'-O3'	5.11	121.88	113.70
29	X	2756	A	OP2-P-O3'	5.11	116.44	105.20
29	X	469	G	N9-C1'-C2'	5.10	120.63	114.00
29	X	1249	G	C2'-C3'-O3'	5.09	121.85	113.70
29	X	3	U	C2'-C3'-O3'	5.09	121.84	113.70
29	X	558	G	N7-C8-N9	5.08	115.64	113.10
29	X	558	G	N9-C4-C5	5.08	107.43	105.40
29	X	1701	C	C5'-C4'-C3'	-5.08	107.87	116.00
29	X	1775	A	OP2-P-O3'	5.08	116.37	105.20
29	X	1978	U	OP2-P-O3'	5.08	116.37	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2188	A	P-O3'-C3'	-5.08	113.61	119.70
29	X	2200	G	P-O5'-C5'	-5.07	112.78	120.90
29	X	2470	U	N1-C1'-C2'	5.07	120.60	114.00
29	X	1849	G	N9-C1'-C2'	5.07	120.59	114.00
29	X	1337	G	C4'-C3'-O3'	-5.06	98.77	109.40
12	G	69	ASP	N-CA-C	-5.05	97.38	111.00
29	X	1000	G	N9-C1'-C2'	5.05	120.56	114.00
29	X	2758	A	O4'-C1'-N9	5.05	112.24	108.20
29	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
29	X	994	A	C2'-C3'-O3'	5.04	121.77	113.70
29	X	1685	A	C4'-C3'-C2'	5.04	107.64	102.60
29	X	1081	A	N9-C1'-C2'	5.04	120.55	114.00
18	M	100	ARG	NE-CZ-NH1	-5.03	117.78	120.30
29	X	1937	G	N9-C1'-C2'	5.02	120.53	114.00
13	H	28	GLY	N-CA-C	5.01	125.63	113.10
26	U	67	LEU	CB-CA-C	5.01	119.72	110.20
29	X	1710	U	OP1-P-O3'	5.01	116.23	105.20
14	I	35	LYS	N-CA-C	-5.01	97.47	111.00
29	X	583	C	OP2-P-O3'	5.01	116.22	105.20
15	J	85	GLY	N-CA-C	-5.01	100.58	113.10

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
29	X	1278	A	C1'
29	X	2592	U	C1'

All (266) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	A	104	TYR	Sidechain
19	N	32	TYR	Sidechain
19	N	76	TYR	Sidechain
22	Q	25	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1023	U	Sidechain
29	X	1030	U	Sidechain
29	X	1037	U	Sidechain
29	X	1044	U	Sidechain
29	X	1054	C	Sidechain
29	X	1056	U	Sidechain
29	X	112	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1124	U	Sidechain
29	X	1136	G	Sidechain
29	X	1141	U	Sidechain
29	X	1142	G	Sidechain
29	X	1143	A	Sidechain
29	X	1152	C	Sidechain
29	X	1153	A	Sidechain
29	X	1156	U	Sidechain
29	X	1165	G	Sidechain
29	X	1167	A	Sidechain
29	X	118	U	Sidechain
29	X	1184	G	Sidechain
29	X	12	U	Sidechain
29	X	1200	G	Sidechain
29	X	1202	U	Sidechain
29	X	1206	G	Sidechain
29	X	1213	U	Sidechain
29	X	1236	G	Sidechain
29	X	124	A	Sidechain
29	X	1240	G	Sidechain
29	X	1250	A	Sidechain
29	X	1251	G	Sidechain
29	X	1253	C	Sidechain
29	X	1261	G	Sidechain
29	X	1265	G	Sidechain
29	X	1269	G	Sidechain
29	X	1281	A	Sidechain
29	X	1282	A	Sidechain
29	X	1284	G	Sidechain
29	X	1287	A	Sidechain
29	X	1290	A	Sidechain
29	X	1294	G	Sidechain
29	X	13	A	Sidechain
29	X	1314	A	Sidechain
29	X	1322	G	Sidechain
29	X	1332	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1370	U	Sidechain
29	X	1373	G	Sidechain
29	X	1377	G	Sidechain
29	X	1452	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1467	U	Sidechain
29	X	15	G	Sidechain
29	X	1573	G	Sidechain
29	X	1574	A	Sidechain
29	X	1581	C	Sidechain
29	X	1583	A	Sidechain
29	X	1623	C	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	165	G	Sidechain
29	X	1651	U	Sidechain
29	X	1664	G	Sidechain
29	X	1666	G	Sidechain
29	X	1671	A	Sidechain
29	X	1672	A	Sidechain
29	X	1673	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain
29	X	1705	U	Sidechain
29	X	1710	U	Sidechain
29	X	1711	C	Sidechain
29	X	1716	G	Sidechain
29	X	172	A	Sidechain
29	X	1749	G	Sidechain
29	X	1752	U	Sidechain
29	X	1763	G	Sidechain
29	X	177	U	Sidechain
29	X	1772	C	Sidechain
29	X	1774	A	Sidechain
29	X	1777	A	Sidechain
29	X	178	C	Sidechain
29	X	1789	U	Sidechain
29	X	1792	C	Sidechain
29	X	1807	A	Sidechain
29	X	1810	U	Sidechain
29	X	1815	G	Sidechain
29	X	1819	U	Sidechain
29	X	1820	G	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1922	U	Sidechain
29	X	1938	U	Sidechain
29	X	1945	C	Sidechain
29	X	1947	G	Sidechain
29	X	1961	A	Sidechain
29	X	1974	U	Sidechain
29	X	1975	G	Sidechain
29	X	1976	U	Sidechain
29	X	1994	U	Sidechain
29	X	1996	A	Sidechain
29	X	1998	A	Sidechain
29	X	2009	U	Sidechain
29	X	2015	G	Sidechain
29	X	2016	A	Sidechain
29	X	2022	C	Sidechain
29	X	2028	C	Sidechain
29	X	2034	A	Sidechain
29	X	2037	A	Sidechain
29	X	2042	A	Sidechain
29	X	2045	A	Sidechain
29	X	214	C	Sidechain
29	X	218	A	Sidechain
29	X	2189	A	Sidechain
29	X	219	G	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2199	C	Sidechain
29	X	2211	U	Sidechain
29	X	2223	U	Sidechain
29	X	224	G	Sidechain
29	X	2243	C	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2284	U	Sidechain
29	X	2310	G	Sidechain
29	X	2313	G	Sidechain
29	X	2315	A	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain
29	X	2342	U	Sidechain
29	X	2355	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2361	G	Sidechain
29	X	2363	G	Sidechain
29	X	2369	U	Sidechain
29	X	2371	A	Sidechain
29	X	2392	G	Sidechain
29	X	2402	U	Sidechain
29	X	2416	U	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2430	A	Sidechain
29	X	2460	G	Sidechain
29	X	2482	A	Sidechain
29	X	2486	C	Sidechain
29	X	2487	G	Sidechain
29	X	2492	G	Sidechain
29	X	2496	C	Sidechain
29	X	2501	U	Sidechain
29	X	2504	G	Sidechain
29	X	2508	G	Sidechain
29	X	2513	A	Sidechain
29	X	2525	U	Sidechain
29	X	2528	G	Sidechain
29	X	2534	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2548	G	Sidechain
29	X	2549	G	Sidechain
29	X	2557	G	Sidechain
29	X	2559	U	Sidechain
29	X	2560	G	Sidechain
29	X	2580	C	Sidechain
29	X	2588	U	Sidechain
29	X	2590	U	Sidechain
29	X	2592	U	Sidechain
29	X	2595	C	Sidechain
29	X	2596	C	Sidechain
29	X	2613	A	Sidechain
29	X	2626	U	Sidechain
29	X	2663	U	Sidechain
29	X	2693	U	Sidechain
29	X	2694	G	Sidechain
29	X	2698	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2711	G	Sidechain
29	X	2730	A	Sidechain
29	X	2734	U	Sidechain
29	X	2736	U	Sidechain
29	X	2805	G	Sidechain
29	X	2813	G	Sidechain
29	X	2817	A	Sidechain
29	X	2819	G	Sidechain
29	X	2821	G	Sidechain
29	X	2824	C	Sidechain
29	X	2837	G	Sidechain
29	X	2844	G	Sidechain
29	X	2847	G	Sidechain
29	X	2855	C	Sidechain
29	X	2858	A	Sidechain
29	X	318	G	Sidechain
29	X	320	A	Sidechain
29	X	333	A	Sidechain
29	X	335	A	Sidechain
29	X	342	G	Sidechain
29	X	39	C	Sidechain
29	X	396	U	Sidechain
29	X	400	U	Sidechain
29	X	404	A	Sidechain
29	X	415	A	Sidechain
29	X	424	G	Sidechain
29	X	447	U	Sidechain
29	X	456	C	Sidechain
29	X	467	U	Sidechain
29	X	474	G	Sidechain
29	X	482	A	Sidechain
29	X	490	A	Sidechain
29	X	505	G	Sidechain
29	X	518	A	Sidechain
29	X	520	C	Sidechain
29	X	539	A	Sidechain
29	X	557	U	Sidechain
29	X	570	G	Sidechain
29	X	571	U	Sidechain
29	X	577	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	59	G	Sidechain
29	X	594	G	Sidechain
29	X	617	U	Sidechain
29	X	62	U	Sidechain
29	X	631	G	Sidechain
29	X	671	A	Sidechain
29	X	681	A	Sidechain
29	X	683	A	Sidechain
29	X	685	U	Sidechain
29	X	69	G	Sidechain
29	X	701	U	Sidechain
29	X	713	G	Sidechain
29	X	731	A	Sidechain
29	X	752	G	Sidechain
29	X	756	C	Sidechain
29	X	774	A	Sidechain
29	X	780	U	Sidechain
29	X	794	A	Sidechain
29	X	804	C	Sidechain
29	X	805	G	Sidechain
29	X	814	G	Sidechain
29	X	816	U	Sidechain
29	X	824	U	Sidechain
29	X	831	G	Sidechain
29	X	833	A	Sidechain
29	X	835	U	Sidechain
29	X	836	G	Sidechain
29	X	840	U	Sidechain
29	X	859	U	Sidechain
29	X	873	U	Sidechain
29	X	919	U	Sidechain
29	X	920	G	Sidechain
29	X	943	U	Sidechain
29	X	951	G	Sidechain
29	X	956	A	Sidechain
29	X	969	U	Sidechain
29	X	985	G	Sidechain
29	X	991	A	Sidechain
29	X	993	C	Sidechain
30	Y	52	TYR	Sidechain
31	Z	101	A	Sidechain
31	Z	17	A	Sidechain

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Mol	Chain	Res	Type	Group
31	Z	25	G	Sidechain
31	Z	68	A	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	53	0	0	0	0
2	2	46	0	0	0	0
3	3	63	0	0	1	0
4	4	297	0	330	62	0
5	5	114	0	79	5	0
6	A	1826	0	1885	451	0
7	B	1539	0	1600	303	0
8	C	1506	0	1525	371	0
9	D	1400	0	1481	373	0
10	E	1286	0	1336	264	0
11	F	1044	0	1088	176	0
12	G	1114	0	1144	310	0
13	H	997	0	1046	194	0
14	I	1067	0	1103	301	0
15	J	1090	0	1125	273	0
16	K	878	0	930	135	0
17	L	779	0	820	231	0
18	M	871	0	894	208	0
19	N	978	0	1020	239	0
20	O	741	0	756	186	0
21	P	1014	0	1096	181	0
22	Q	726	0	753	150	0
23	R	825	0	881	266	0
24	S	1345	0	1372	303	0
25	T	625	0	655	111	0
26	U	552	0	604	207	0
27	V	533	0	558	109	0
28	W	424	0	470	83	0
29	X	57651	0	29049	4301	0
30	Y	457	0	462	86	0
31	Z	2598	0	1328	185	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	M	1	0	0	0	0
32	X	30	0	0	0	0
32	Z	5	0	0	0	0
All	All	84475	0	55390	9214	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 66.

All (9214) 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)
7:B:116:VAL:N	7:B:136:ARG:HE	1.23	1.30
29:X:1053:G:H2'	29:X:1054:C:C6	1.70	1.26
29:X:2196:U:H2'	29:X:2197:U:O4'	1.31	1.23
29:X:2736:U:O2'	29:X:2737:A:H5''	1.36	1.21
29:X:2496:C:O2'	29:X:2497:A:H3'	1.40	1.19
6:A:252:LYS:N	6:A:252:LYS:HE3	1.58	1.18
7:B:116:VAL:H	7:B:136:ARG:NE	1.39	1.18
8:C:3:GLN:HG2	8:C:116:LYS:HD2	1.27	1.17
18:M:108:ARG:O	18:M:109:GLU:HG3	1.03	1.17
4:4:19:ARG:HA	29:X:2736:U:H5''	1.25	1.17
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.25	1.16
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.27	1.16
29:X:1128:G:H3'	29:X:1129:A:H5''	1.28	1.15
26:U:27:ASP:HA	26:U:32:ARG:NH2	1.58	1.15
28:W:23:LEU:HD21	28:W:43:MET:HB3	1.25	1.14
31:Z:43:G:H5'	31:Z:44:C:H5'	1.28	1.14
8:C:162:ARG:CZ	29:X:333:A:H3'	1.77	1.14
18:M:108:ARG:O	18:M:109:GLU:CG	1.95	1.13
19:N:47:TYR:HE1	20:O:73:LYS:HE2	1.13	1.13
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.11	1.13
14:I:30:ALA:HB3	14:I:34:HIS:CE1	1.83	1.13
29:X:517:A:H5''	29:X:518:A:H5'	1.26	1.12
29:X:1854:G:H2'	29:X:1855:G:OP2	1.39	1.12
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.27	1.12
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.18	1.12
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.30	1.11
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.18	1.11
29:X:1052:C:C3'	29:X:1053:G:H5''	1.79	1.11
17:L:97:HIS:O	17:L:101:LYS:HB2	1.50	1.11
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.33	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:183:LEU:HD21	18:M:16:ILE:HD13	1.32	1.11
7:B:38:THR:HG22	7:B:40:GLN:H	1.07	1.11
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.27	1.11
4:4:10:MET:HE3	4:4:32:HIS:HA	1.32	1.11
29:X:2323:U:H6	29:X:2323:U:H5''	1.09	1.11
18:M:34:ARG:NH1	18:M:88:VAL:HG21	1.65	1.11
13:H:116:ARG:HD2	18:M:38:LYS:HE2	1.11	1.11
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.31	1.10
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.33	1.10
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.28	1.10
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.20	1.10
29:X:558:G:N3	29:X:558:G:H3'	1.67	1.10
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.28	1.10
29:X:1468:A:H5''	29:X:1472:C:N4	1.66	1.10
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.67	1.09
26:U:51:ILE:HG23	26:U:59:THR:HA	1.18	1.09
29:X:304:A:H2'	29:X:305:A:H5''	1.32	1.09
6:A:43:ARG:H	6:A:43:ARG:HD2	0.97	1.09
29:X:729:A:H2'	29:X:730:C:O4'	1.50	1.09
6:A:43:ARG:N	6:A:43:ARG:HD2	1.63	1.09
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.09
26:U:32:ARG:NE	26:U:32:ARG:H	1.50	1.09
12:G:103:TYR:HB3	12:G:107:GLN:HE21	1.12	1.08
11:F:19:PRO:HG2	11:F:21:PRO:HD2	1.12	1.08
29:X:1550:C:H2'	29:X:1553:G:N2	1.67	1.08
29:X:542:A:C2	29:X:2004:U:H2'	1.87	1.08
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.28	1.08
26:U:48:LYS:HG2	26:U:49:LYS:H	0.95	1.08
18:M:6:LYS:H	18:M:6:LYS:HD2	1.08	1.08
11:F:126:THR:HA	29:X:1091:C:H1'	1.34	1.08
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.31	1.08
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.33	1.08
29:X:2194:A:C3'	29:X:2195:C:H5''	1.84	1.08
29:X:1058:G:H2'	29:X:1121:G:H1	1.10	1.08
6:A:183:ARG:HB3	6:A:183:ARG:HH11	1.05	1.08
15:J:37:ALA:HA	15:J:130:THR:HG22	1.33	1.07
16:K:100:VAL:HG12	16:K:101:GLY:H	0.92	1.07
20:O:40:VAL:HG12	20:O:45:THR:HA	1.33	1.07
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.13	1.07
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.37	1.07
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.06	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:663:G:H3'	29:X:664:C:H5''	1.36	1.07
29:X:752:G:H4'	29:X:753:U:OP1	1.53	1.07
29:X:2170:C:H3'	29:X:2171:U:H5''	1.35	1.07
29:X:1056:U:O2	29:X:1056:U:C2'	1.98	1.06
16:K:5:LYS:HE2	29:X:2795:A:H4'	1.27	1.06
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.36	1.06
13:H:23:ARG:HH12	13:H:25:LEU:HD23	1.18	1.06
16:K:3:HIS:ND1	16:K:5:LYS:HD2	1.68	1.06
24:S:104:SER:HA	24:S:139:THR:HA	1.36	1.06
29:X:2194:A:H3'	29:X:2195:C:H5''	1.33	1.06
6:A:77:ALA:HB2	6:A:97:TYR:HD1	1.20	1.05
29:X:1052:C:C2'	29:X:1053:G:H5''	1.86	1.05
13:H:23:ARG:NH1	13:H:25:LEU:HD23	1.71	1.05
29:X:1058:G:H2'	29:X:1121:G:N1	1.72	1.05
29:X:109:A:H2'	29:X:110:U:H5''	1.38	1.05
15:J:64:LYS:HD2	15:J:64:LYS:H	1.15	1.05
12:G:33:ILE:HB	12:G:34:PRO:CD	1.87	1.05
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.33	1.05
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.36	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
24:S:120:LEU:HD21	24:S:162:ALA:HB2	1.38	1.05
28:W:8:SER:HB2	29:X:999:A:H5''	1.36	1.05
9:D:66:ILE:HD11	31:Z:43:G:H5''	1.35	1.05
29:X:1508:G:H5'	29:X:1509:A:H5''	1.33	1.05
11:F:112:MET:HG3	11:F:113:PRO:HD3	1.09	1.04
29:X:317:U:H2'	29:X:318:G:H5''	1.38	1.04
14:I:94:GLU:HA	14:I:97:ARG:NE	1.70	1.04
9:D:150:ARG:HG2	9:D:151:GLY:H	1.19	1.04
8:C:68:ARG:NH1	29:X:2043:A:H62	1.53	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
17:L:60:LYS:HG2	17:L:62:GLY:H	1.20	1.04
16:K:100:VAL:HG12	16:K:101:GLY:N	1.67	1.04
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.39	1.04
23:R:22:VAL:HG11	23:R:80:LYS:HD2	1.40	1.04
27:V:41:HIS:CD2	27:V:42:ARG:H	1.76	1.04
17:L:15:ARG:HH11	17:L:15:ARG:HA	1.22	1.03
6:A:72:LYS:HE2	6:A:97:TYR:CD2	1.94	1.03
29:X:2563:U:H2'	29:X:2564:U:H5''	1.35	1.03
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.36	1.03
14:I:94:GLU:HA	14:I:97:ARG:HE	0.88	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2769:C:H2'	29:X:2770:A:H8	1.24	1.03
8:C:68:ARG:HH12	29:X:2043:A:N6	1.55	1.03
29:X:871:U:O2'	29:X:2247:A:H2'	1.57	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.00	1.03
19:N:66:ASN:HB2	19:N:70:ARG:HH12	1.18	1.03
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.19	1.03
9:D:81:GLN:HG2	9:D:82:GLY:H	1.24	1.03
29:X:1118:G:H2'	29:X:1119:U:H5''	1.39	1.03
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.07	1.03
14:I:11:GLY:H	14:I:14:LYS:HB3	1.21	1.02
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.41	1.02
29:X:2516:U:H2'	29:X:2517:C:C6	1.94	1.02
29:X:2482:A:H4'	29:X:2483:U:OP1	1.56	1.02
6:A:252:LYS:H	6:A:252:LYS:HE3	0.88	1.02
19:N:82:GLY:HA3	19:N:113:SER:OG	1.59	1.02
12:G:61:ARG:HE	12:G:65:LYS:HD2	1.22	1.02
14:I:93:LEU:O	14:I:97:ARG:HG3	1.61	1.01
13:H:47:VAL:HA	13:H:74:VAL:HG12	1.42	1.01
25:T:39:ARG:HH21	29:X:2334:C:H1'	1.17	1.01
19:N:47:TYR:CE1	20:O:73:LYS:HE2	1.95	1.01
13:H:116:ARG:CD	18:M:38:LYS:HE2	1.90	1.01
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.42	1.01
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.17	1.01
9:D:40:LEU:HB3	9:D:150:ARG:HE	1.23	1.01
8:C:2:ALA:HA	8:C:13:ARG:HA	1.40	1.01
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.39	1.00
29:X:2672:U:H2'	29:X:2673:G:H8	1.24	1.00
26:U:41:VAL:HG23	26:U:42:GLN:H	1.22	1.00
29:X:2222:U:H2'	29:X:2223:U:C6	1.95	1.00
28:W:2:LYS:HB3	28:W:54:GLN:CB	1.91	1.00
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.21	1.00
26:U:27:ASP:HA	26:U:32:ARG:HH21	1.25	1.00
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.43	1.00
29:X:219:G:N2	29:X:231:G:H2'	1.76	1.00
29:X:542:A:H2	29:X:2004:U:H2'	1.19	1.00
24:S:123:VAL:N	24:S:161:ALA:HB2	1.77	1.00
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.23	0.99
29:X:2286:G:H21	29:X:2290:A:H61	1.07	0.99
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.44	0.99
7:B:116:VAL:HG22	7:B:136:ARG:CZ	1.91	0.99
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.42	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.44	0.99
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.44	0.99
29:X:1978:U:H3'	29:X:1979:C:H5''	1.41	0.99
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.45	0.99
29:X:1710:U:H5'	29:X:1711:C:H5	1.23	0.99
29:X:2781:G:H2'	29:X:2782:G:H5''	1.43	0.99
29:X:653:G:H2'	29:X:654:A:H5''	1.43	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99
29:X:1052:C:H3'	29:X:1053:G:H5''	1.40	0.98
13:H:116:ARG:HG2	18:M:40:ARG:HH21	1.20	0.98
29:X:1542:G:N2	29:X:1562:G:H1	1.61	0.98
26:U:49:LYS:HB3	26:U:61:TRP:CE3	1.97	0.98
10:E:58:ALA:H	10:E:62:ARG:HG3	1.28	0.98
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.45	0.98
29:X:623:G:H3'	29:X:624:A:H5''	1.45	0.98
29:X:1448:A:H61	29:X:1574:A:H61	1.11	0.98
7:B:117:MET:H	7:B:136:ARG:HD2	1.21	0.98
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.43	0.98
7:B:2:LYS:HA	7:B:84:PHE:CE1	1.98	0.98
29:X:2581:A:H3'	29:X:2582:G:H5''	1.43	0.98
29:X:88:G:H3'	29:X:89:A:H5''	1.41	0.98
13:H:23:ARG:HH11	29:X:2541:U:H4'	1.26	0.98
29:X:1314:A:O2'	29:X:1315:A:H3'	1.64	0.98
26:U:48:LYS:HG2	26:U:49:LYS:N	1.74	0.98
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.43	0.98
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.98
15:J:21:ASP:HA	15:J:99:LYS:HG3	1.46	0.97
29:X:1281:A:H1'	29:X:2592:U:C5	1.98	0.97
29:X:1128:G:C3'	29:X:1129:A:H5''	1.93	0.97
29:X:1542:G:H22	29:X:1562:G:H1	1.02	0.97
19:N:66:ASN:HB2	19:N:70:ARG:NH1	1.78	0.97
29:X:2306:A:H2'	29:X:2307:A:C8	1.99	0.97
29:X:2447:G:O2'	29:X:2448:A:H5'	1.64	0.97
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.30	0.97
15:J:12:LYS:O	15:J:13:GLN:HB2	1.65	0.97
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.45	0.97
18:M:6:LYS:HD2	18:M:6:LYS:N	1.80	0.97
29:X:1252:C:O2'	29:X:1253:C:H5''	1.64	0.97
23:R:15:HIS:CD2	29:X:347:C:H4'	1.99	0.97
17:L:38:ILE:HD12	17:L:39:TYR:H	1.25	0.97
29:X:717:G:H2'	29:X:739:G:H22	1.24	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.26	0.97
29:X:1223:G:H4'	29:X:1224:A:H5''	1.46	0.97
9:D:12:VAL:HG12	9:D:16:LEU:HD11	1.46	0.97
7:B:154:LYS:HE3	7:B:156:MET:SD	2.05	0.97
19:N:81:ASN:O	19:N:84:LYS:HB3	1.64	0.97
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.45	0.97
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.43	0.97
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.79	0.96
14:I:90:ARG:HD2	14:I:93:LEU:HD12	1.47	0.96
22:Q:7:LEU:HD21	27:V:30:PHE:HE2	1.28	0.96
13:H:13:ASN:HD21	13:H:109:ARG:HG2	1.30	0.96
29:X:143:A:H2'	29:X:144:U:C6	2.01	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.79	0.96
17:L:55:SER:O	17:L:71:VAL:HB	1.64	0.96
12:G:110:LEU:N	12:G:110:LEU:HD23	1.80	0.96
6:A:211:ARG:HH11	6:A:211:ARG:HG2	1.28	0.96
6:A:246:PRO:HG2	6:A:248:THR:O	1.66	0.96
17:L:20:THR:HG21	17:L:23:ALA:HB3	1.45	0.96
29:X:758:G:H2'	29:X:759:C:H5''	1.44	0.96
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.47	0.96
29:X:1052:C:H3'	29:X:1053:G:C5'	1.95	0.96
9:D:75:SER:H	9:D:79:LEU:HD22	1.29	0.96
8:C:98:GLN:HE22	29:X:611:C:C4'	1.78	0.96
29:X:862:A:H2'	29:X:863:C:H6	1.31	0.96
29:X:1854:G:O2'	29:X:1855:G:H5'	1.66	0.96
29:X:2323:U:C6	29:X:2323:U:H5''	2.00	0.95
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.45	0.95
26:U:32:ARG:HE	26:U:32:ARG:H	0.97	0.95
29:X:2498:U:H4'	29:X:2499:C:OP1	1.65	0.95
29:X:1057:A:H2'	29:X:1057:A:N3	1.79	0.95
18:M:79:ARG:HH11	18:M:79:ARG:HG3	1.29	0.95
18:M:101:ARG:HH22	29:X:1745:C:P	1.89	0.95
17:L:16:LYS:HE2	17:L:28:ARG:HH12	1.31	0.95
22:Q:75:ARG:HH11	22:Q:75:ARG:HG3	1.30	0.95
29:X:788:G:H5'	29:X:790:A:H1'	1.47	0.95
8:C:162:ARG:HH11	29:X:333:A:H5''	1.31	0.95
8:C:162:ARG:NH1	29:X:333:A:H5''	1.81	0.95
9:D:148:LYS:HG3	9:D:149:THR:H	1.32	0.95
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.44	0.95
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.49	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.47	0.95
29:X:1113:C:H2'	29:X:1114:A:H8	1.28	0.95
26:U:29:GLY:C	26:U:31:GLY:H	1.49	0.94
29:X:1854:G:C2'	29:X:1855:G:OP2	2.10	0.94
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.48	0.94
29:X:516:G:HO2'	29:X:517:A:H8	1.07	0.94
7:B:9:ILE:HD13	18:M:12:LEU:HD13	1.48	0.94
14:I:94:GLU:HB3	14:I:97:ARG:HH11	1.32	0.94
8:C:162:ARG:HD2	29:X:333:A:C5'	1.98	0.94
16:K:11:ASN:ND2	16:K:12:ARG:HE	1.63	0.94
29:X:2811:G:H2'	29:X:2812:A:C8	2.03	0.94
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.46	0.94
6:A:206:LEU:C	6:A:211:ARG:HD3	1.87	0.94
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.67	0.94
29:X:2661:G:O6	29:X:2708:U:H1'	1.66	0.94
13:H:23:ARG:HH12	13:H:25:LEU:CD2	1.81	0.94
13:H:13:ASN:ND2	13:H:109:ARG:HG2	1.82	0.94
12:G:61:ARG:NE	12:G:65:LYS:HD2	1.82	0.94
18:M:34:ARG:CZ	18:M:88:VAL:HG11	1.96	0.94
29:X:76:C:H6	29:X:76:C:H5'	1.31	0.94
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.49	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.93
19:N:24:PHE:CE1	29:X:543:G:H5'	2.02	0.93
29:X:1052:C:H2'	29:X:1053:G:H5''	1.47	0.93
31:Z:53:G:H21	31:Z:54:U:H5	1.11	0.93
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.47	0.93
29:X:2404:A:H4'	29:X:2405:A:C5'	1.99	0.93
19:N:101:ARG:O	19:N:103:PRO:HD3	1.68	0.93
29:X:636:G:H8	29:X:636:G:H5'	1.34	0.93
6:A:36:ALA:HB1	6:A:62:TYR:O	1.66	0.93
17:L:15:ARG:CD	17:L:91:ARG:HH11	1.82	0.93
18:M:33:VAL:HG22	18:M:51:GLU:CB	1.99	0.93
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.11	0.93
29:X:1067:G:H21	29:X:1114:A:H62	1.16	0.93
21:P:114:ALA:HB2	29:X:1630:A:N1	1.83	0.93
11:F:112:MET:CG	11:F:113:PRO:HD3	1.97	0.93
29:X:1386:A:H5''	29:X:2191:A:N6	1.84	0.93
18:M:27:PHE:C	18:M:28:ARG:HG2	1.87	0.93
11:F:54:PRO:HG2	11:F:70:LYS:HB2	1.48	0.93
11:F:20:ALA:H	11:F:21:PRO:HD2	1.30	0.93
29:X:2662:C:H2'	29:X:2663:U:H6	1.34	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1128:G:H3'	29:X:1129:A:C5'	1.98	0.93
9:D:13:ARG:CZ	9:D:14:PRO:HG3	1.99	0.93
25:T:40:GLN:NE2	25:T:43:THR:HA	1.84	0.93
29:X:558:G:C4	29:X:558:G:H3'	1.98	0.93
17:L:10:LYS:HB2	17:L:14:ARG:HH21	1.33	0.93
29:X:224:G:H4'	29:X:399:G:C6	2.04	0.93
10:E:30:LYS:HG2	10:E:79:VAL:O	1.69	0.93
29:X:317:U:C2'	29:X:318:G:H5''	1.99	0.92
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.46	0.92
29:X:1056:U:H2'	29:X:1056:U:O2	1.13	0.92
24:S:113:VAL:HA	24:S:171:VAL:HA	1.51	0.92
29:X:1539:U:H2'	29:X:1540:C:H6	1.34	0.92
4:4:9:LYS:H	4:4:9:LYS:HD2	1.32	0.92
28:W:4:LYS:CG	28:W:52:GLU:HB3	1.97	0.92
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.33	0.92
29:X:2083:G:H1	29:X:2172:U:H3	1.17	0.92
29:X:109:A:C2'	29:X:110:U:H5''	1.98	0.92
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.32	0.92
29:X:2736:U:HO2'	29:X:2737:A:H5''	1.15	0.92
29:X:558:G:C5'	29:X:558:G:N3	2.33	0.92
29:X:1473:U:OP2	29:X:1473:U:H6	1.51	0.92
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.51	0.92
29:X:1670:G:H4'	29:X:1671:A:OP1	1.68	0.92
29:X:2023:C:H2'	29:X:2024:U:H6	1.35	0.92
28:W:40:VAL:HA	28:W:43:MET:HG2	1.51	0.92
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.50	0.92
6:A:44:ASN:HB3	6:A:49:ILE:HA	1.50	0.92
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.00	0.92
29:X:1118:G:C2'	29:X:1119:U:H5''	1.99	0.92
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
10:E:18:ASN:HB2	10:E:25:LYS:HB3	1.51	0.91
23:R:15:HIS:HD1	23:R:16:PHE:HD2	1.10	0.91
29:X:2212:U:H2'	29:X:2213:G:C8	2.05	0.91
31:Z:36:A:HO2'	31:Z:37:C:H5	1.14	0.91
29:X:1467:U:H3'	29:X:1467:U:H6	1.32	0.91
19:N:88:ILE:HA	20:O:49:GLU:HG3	1.53	0.91
9:D:150:ARG:CG	9:D:151:GLY:H	1.83	0.91
6:A:270:ILE:HG13	6:A:271:VAL:H	1.32	0.91
8:C:110:SER:HA	8:C:113:GLU:OE1	1.71	0.91
29:X:176:A:H3'	29:X:177:U:H5	1.35	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:23:LEU:HD21	28:W:43:MET:CB	1.99	0.91
11:F:79:ARG:HB3	11:F:84:ILE:O	1.71	0.91
23:R:9:HIS:HD1	29:X:337:G:HO2'	1.18	0.91
20:O:57:GLN:H	20:O:97:GLY:CA	1.84	0.91
29:X:2691:C:HO2'	29:X:2692:A:H8	0.93	0.91
29:X:537:C:H1'	29:X:538:A:C6	2.05	0.91
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.06	0.91
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.52	0.91
17:L:97:HIS:CD2	17:L:98:GLY:H	1.89	0.91
7:B:75:THR:O	7:B:76:ARG:HB3	1.68	0.91
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.70	0.91
6:A:211:ARG:HH11	6:A:211:ARG:CG	1.84	0.91
29:X:652:C:H42	29:X:657:A:H61	1.18	0.91
20:O:26:GLN:HG2	20:O:27:GLY:H	1.35	0.91
6:A:72:LYS:HE2	6:A:97:TYR:HD2	1.32	0.90
20:O:28:GLU:O	20:O:30:GLY:N	2.04	0.90
27:V:42:ARG:NH1	27:V:45:GLN:HE22	1.69	0.90
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.50	0.90
29:X:1919:A:H2	29:X:1926:U:N3	1.67	0.90
21:P:50:VAL:HB	21:P:90:LEU:O	1.70	0.90
29:X:497:C:H6	29:X:497:C:H5'	1.35	0.90
6:A:132:PRO:HA	6:A:190:TYR:HA	1.53	0.90
10:E:89:LEU:HB2	10:E:129:THR:HA	1.53	0.90
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.51	0.90
29:X:2490:U:H2'	29:X:2491:C:C6	2.06	0.90
17:L:38:ILE:CD1	17:L:40:ALA:H	1.85	0.90
8:C:47:THR:HG23	8:C:85:GLY:H	1.36	0.90
29:X:482:A:H2'	29:X:483:A:O4'	1.71	0.90
6:A:88:ARG:HG2	6:A:90:ALA:HB3	1.53	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
14:I:94:GLU:CA	14:I:97:ARG:HE	1.80	0.90
14:I:11:GLY:H	14:I:14:LYS:CB	1.84	0.90
17:L:38:ILE:HD11	17:L:40:ALA:H	1.35	0.90
29:X:1095:A:C3'	29:X:1096:A:H5''	2.02	0.90
29:X:1281:A:H1'	29:X:2592:U:C4	2.06	0.90
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.88	0.90
6:A:50:THR:HG21	29:X:1805:G:N3	1.86	0.90
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.71	0.89
16:K:60:LEU:HD11	16:K:64:ARG:HE	1.38	0.89
11:F:71:THR:HG22	11:F:110:THR:HG22	1.52	0.89
21:P:8:PHE:O	21:P:9:ARG:HB2	1.71	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1086:C:H3'	29:X:1087:C:H5''	1.54	0.89
29:X:538:A:N3	29:X:538:A:H3'	1.87	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
24:S:133:GLU:OE2	24:S:135:VAL:HG23	1.73	0.89
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.35	0.89
10:E:109:TYR:HE1	10:E:152:ARG:CZ	1.85	0.89
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.07	0.89
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.87	0.89
9:D:40:LEU:HB3	9:D:150:ARG:NE	1.86	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.06	0.89
9:D:12:VAL:O	9:D:16:LEU:HG	1.72	0.89
13:H:76:ARG:O	13:H:94:ASN:HA	1.71	0.89
20:O:57:GLN:H	20:O:97:GLY:HA2	1.35	0.89
10:E:126:PRO:HG2	10:E:127:GLU:H	1.37	0.89
29:X:1734:C:C5	29:X:1735:G:H1'	2.08	0.89
26:U:29:GLY:C	26:U:31:GLY:N	2.26	0.89
15:J:15:ARG:HH11	15:J:15:ARG:HG3	1.38	0.89
14:I:122:VAL:HG21	14:I:125:ALA:HB2	1.55	0.89
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.52	0.89
8:C:112:GLN:O	8:C:116:LYS:HE2	1.72	0.89
26:U:27:ASP:C	26:U:32:ARG:HD3	1.93	0.89
26:U:70:LEU:HD21	26:U:77:GLY:O	1.72	0.89
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.02	0.89
29:X:98:U:H5'	29:X:99:U:H5''	1.55	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.73	0.89
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.55	0.89
29:X:169:C:H2'	29:X:170:U:H5'	1.54	0.89
23:R:95:ARG:CZ	23:R:106:VAL:HG12	2.03	0.88
29:X:635:C:H2'	29:X:636:G:H5''	1.54	0.88
29:X:2195:C:H2'	29:X:2196:U:H6	1.31	0.88
29:X:2075:U:O2'	29:X:2076:G:H5''	1.71	0.88
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.53	0.88
29:X:729:A:H3'	29:X:729:A:N3	1.86	0.88
20:O:5:ILE:HD11	20:O:8:GLY:O	1.72	0.88
26:U:32:ARG:N	26:U:32:ARG:HE	1.72	0.88
11:F:13:PRO:HA	11:F:52:ILE:HA	1.54	0.88
10:E:44:ARG:NH2	10:E:46:ASP:HB2	1.88	0.88
12:G:61:ARG:HE	12:G:65:LYS:CD	1.84	0.88
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.88	0.88
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.54	0.88
14:I:101:ARG:HD3	29:X:637:G:H1	1.39	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:36:ASN:O	12:G:38:GLU:N	2.06	0.88
29:X:914:C:H2'	29:X:915:C:H6	1.35	0.88
29:X:857:U:H2'	29:X:858:G:O4'	1.73	0.88
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.03	0.88
6:A:125:PRO:HG3	6:A:131:LEU:HD13	1.53	0.88
6:A:77:ALA:HB2	6:A:97:TYR:CD1	2.09	0.88
6:A:246:PRO:HD3	6:A:251:GLY:H	1.38	0.88
26:U:67:LEU:HD23	26:U:67:LEU:O	1.73	0.88
11:F:19:PRO:HG2	11:F:21:PRO:CD	2.02	0.88
19:N:70:ARG:HH11	19:N:70:ARG:HG3	1.38	0.88
27:V:7:ARG:HD2	27:V:8:ASN:N	1.87	0.88
29:X:2871:U:H2'	29:X:2872:U:C6	2.09	0.88
6:A:70:ARG:HG2	6:A:190:TYR:CE1	2.09	0.88
10:E:139:GLN:HB3	10:E:143:GLN:CD	1.94	0.88
26:U:13:LEU:HD12	26:U:14:VAL:H	1.37	0.87
29:X:116:A:H5'	29:X:117:A:H8	1.36	0.87
6:A:68:LYS:HD3	6:A:68:LYS:H	1.39	0.87
6:A:231:HIS:HD2	6:A:233:HIS:H	1.21	0.87
29:X:862:A:H2'	29:X:863:C:C6	2.08	0.87
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.39	0.87
20:O:36:LYS:HZ2	20:O:54:TYR:HB3	1.36	0.87
29:X:1354:A:H3'	29:X:1410:U:O2	1.73	0.87
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.55	0.87
25:T:71:ASN:ND2	25:T:77:ARG:HD3	1.89	0.87
29:X:1181:C:H2'	29:X:1182:U:H5''	1.54	0.87
12:G:52:GLY:O	12:G:55:ALA:HB3	1.74	0.87
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.56	0.87
29:X:1223:G:H4'	29:X:1224:A:C5'	2.04	0.87
29:X:314:G:H2'	29:X:315:G:H8	1.36	0.87
29:X:2170:C:H3'	29:X:2171:U:C5'	2.04	0.87
29:X:1313:U:H4'	29:X:1314:A:O5'	1.75	0.87
29:X:1018:C:H3'	29:X:1019:U:C5'	2.04	0.87
7:B:194:GLY:HA2	18:M:2:GLN:HB3	1.55	0.87
29:X:2326:C:C2	29:X:2327:U:C5	2.63	0.87
11:F:12:LEU:HD13	11:F:18:THR:HG21	1.54	0.87
29:X:689:A:C8	29:X:2422:C:H1'	2.09	0.87
10:E:43:VAL:HB	10:E:52:VAL:HA	1.55	0.87
29:X:497:C:C6	29:X:497:C:H5'	2.09	0.87
10:E:37:TYR:CD2	10:E:68:THR:HG23	2.09	0.87
29:X:2058:U:H3'	29:X:2217:G:N2	1.89	0.87
29:X:2796:A:H2'	29:X:2797:G:C8	2.09	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:788:G:H5'	29:X:790:A:C1'	2.04	0.87
29:X:389:G:H2'	29:X:390:U:C6	2.10	0.87
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.10	0.87
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	2.03	0.87
25:T:40:GLN:HE22	25:T:43:THR:HA	1.35	0.87
15:J:78:LYS:HA	15:J:88:LYS:HZ3	1.40	0.87
29:X:516:G:O2'	29:X:517:A:H8	1.58	0.86
7:B:53:PRO:HD2	18:M:6:LYS:HZ2	1.40	0.86
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.57	0.86
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.40	0.86
29:X:2691:C:H2'	29:X:2692:A:H5''	1.55	0.86
7:B:2:LYS:HA	7:B:84:PHE:HE1	1.36	0.86
29:X:176:A:H3'	29:X:177:U:C5	2.09	0.86
21:P:45:ILE:HD11	21:P:57:LEU:HG	1.57	0.86
22:Q:90:ALA:C	22:Q:92:ALA:H	1.75	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
29:X:1052:C:C3'	29:X:1053:G:C5'	2.53	0.86
22:Q:7:LEU:HD22	22:Q:7:LEU:C	1.96	0.86
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.86
6:A:183:ARG:HB3	6:A:183:ARG:NH1	1.90	0.86
29:X:1573:G:H3'	29:X:1574:A:H5''	1.56	0.86
14:I:13:ARG:HH11	29:X:1218:C:C4'	1.87	0.86
29:X:2198:U:H2'	29:X:2199:C:O4'	1.75	0.86
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.09	0.86
17:L:63:ASN:HB3	17:L:66:ASP:HB2	1.55	0.86
22:Q:66:GLY:O	22:Q:68:PHE:N	2.07	0.86
29:X:1775:A:H4'	29:X:1776:A:O5'	1.72	0.86
26:U:13:LEU:CD1	26:U:14:VAL:H	1.87	0.86
26:U:53:GLU:O	26:U:78:ILE:HG22	1.74	0.86
29:X:1512:A:H2'	29:X:1514:C:C5	2.09	0.86
29:X:789:G:H4'	29:X:790:A:O5'	1.76	0.86
23:R:93:ARG:HH12	23:R:108:VAL:HA	1.38	0.86
8:C:22:VAL:HA	8:C:106:MET:HG3	1.56	0.86
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.55	0.86
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.58	0.86
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.73	0.86
26:U:51:ILE:HA	26:U:59:THR:O	1.76	0.86
20:O:13:ARG:HG2	20:O:14:VAL:H	1.39	0.86
6:A:258:LYS:NZ	6:A:261:ARG:HE	1.74	0.86
29:X:1468:A:H5''	29:X:1472:C:H41	1.36	0.86
25:T:71:ASN:HD22	25:T:77:ARG:CD	1.89	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:3:HIS:CD2	25:T:5:LYS:HD3	2.10	0.86
29:X:1856:U:C2'	29:X:1857:G:O5'	2.24	0.86
22:Q:25:TYR:OH	22:Q:87:SER:HA	1.74	0.86
23:R:38:LEU:HD12	23:R:47:VAL:HG21	1.58	0.86
19:N:66:ASN:CB	19:N:70:ARG:HH12	1.88	0.86
13:H:10:VAL:HG21	13:H:16:ALA:O	1.76	0.86
12:G:115:ALA:O	12:G:118:ALA:HB3	1.76	0.86
19:N:13:ARG:NE	29:X:1264:C:H5''	1.91	0.85
29:X:824:U:H1'	29:X:1264:C:H1'	1.58	0.85
29:X:476:G:H2'	29:X:477:A:C8	2.10	0.85
17:L:33:ARG:NH2	17:L:103:LEU:HB2	1.90	0.85
18:M:34:ARG:NH1	18:M:81:PHE:HB3	1.91	0.85
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.55	0.85
8:C:186:LEU:HG	8:C:188:ILE:HG12	1.56	0.85
23:R:18:LYS:HE2	23:R:18:LYS:N	1.91	0.85
9:D:33:LYS:HG3	9:D:157:VAL:HG21	1.57	0.85
10:E:88:GLU:OE2	10:E:90:ARG:HD2	1.76	0.85
19:N:8:ILE:O	19:N:12:ARG:HG3	1.75	0.85
24:S:105:GLN:OE1	24:S:140:LYS:HA	1.76	0.85
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.11	0.85
12:G:98:LYS:HB3	12:G:116:ARG:HB2	1.58	0.85
8:C:28:HIS:CE1	14:I:21:ARG:HH11	1.93	0.85
30:Y:19:ARG:HB3	30:Y:19:ARG:HH11	1.39	0.85
16:K:100:VAL:CG1	16:K:101:GLY:H	1.78	0.85
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.58	0.85
29:X:1119:U:H5'	29:X:1119:U:H6	1.40	0.85
29:X:958:G:H2'	29:X:959:C:H6	1.40	0.85
29:X:1281:A:C1'	29:X:2592:U:H5	1.89	0.85
22:Q:69:ILE:HD13	22:Q:70:GLY:O	1.77	0.85
7:B:37:LYS:HD2	7:B:42:ASP:OD1	1.75	0.85
14:I:11:GLY:N	14:I:14:LYS:HB3	1.90	0.85
29:X:1031:C:H41	29:X:1153:A:N6	1.74	0.85
8:C:162:ARG:HD2	29:X:333:A:H5'	1.59	0.85
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.59	0.85
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.58	0.85
24:S:51:LEU:H	24:S:51:LEU:HD23	1.39	0.85
8:C:93:TYR:CD1	29:X:673:G:H5'	2.11	0.85
18:M:99:VAL:HG22	18:M:100:ARG:N	1.90	0.85
12:G:36:ASN:C	12:G:38:GLU:H	1.78	0.85
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.57	0.85
29:X:623:G:C3'	29:X:624:A:H5''	2.07	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1813:A:H2'	29:X:1814:G:H8	1.41	0.85
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.06	0.85
6:A:231:HIS:CD2	6:A:233:HIS:H	1.94	0.85
29:X:149:A:H2'	29:X:150:A:C8	2.11	0.85
29:X:2023:C:H2'	29:X:2024:U:C6	2.10	0.85
10:E:103:LEU:HD21	10:E:131:ILE:HD13	1.59	0.85
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.76	0.85
12:G:132:PHE:CZ	12:G:145:HIS:HB2	2.10	0.84
29:X:2706:U:H2'	29:X:2706:U:O2	1.76	0.84
29:X:1710:U:H5'	29:X:1711:C:C5	2.11	0.84
29:X:1185:C:H2'	29:X:1186:G:H3'	1.59	0.84
29:X:833:A:H1'	29:X:954:U:O2'	1.77	0.84
7:B:116:VAL:N	7:B:136:ARG:NE	2.09	0.84
9:D:142:THR:O	9:D:146:VAL:HG13	1.75	0.84
29:X:1018:C:H3'	29:X:1019:U:H5''	1.59	0.84
29:X:2177:U:H2'	29:X:2178:U:C6	2.12	0.84
24:S:3:LEU:HD12	24:S:4:THR:N	1.91	0.84
21:P:46:ARG:HG2	21:P:46:ARG:HH11	1.42	0.84
29:X:2490:U:H2'	29:X:2491:C:H6	1.38	0.84
29:X:2850:U:H6	29:X:2850:U:H5'	1.41	0.84
19:N:31:GLN:NE2	29:X:589:C:H4'	1.92	0.84
26:U:50:ALA:HB3	26:U:52:ARG:HH22	1.42	0.84
29:X:555:U:H3'	29:X:555:U:H6	1.42	0.84
8:C:148:VAL:CB	8:C:167:VAL:HG12	2.03	0.84
29:X:1385:C:H1'	29:X:2192:U:C5	2.12	0.84
29:X:1526:U:H2'	29:X:1527:G:O4'	1.75	0.84
8:C:27:LEU:O	8:C:31:VAL:HG22	1.76	0.84
6:A:244:ARG:HB3	6:A:252:LYS:NZ	1.91	0.84
26:U:51:ILE:CG2	26:U:59:THR:HA	2.05	0.84
29:X:553:C:H5'	29:X:554:U:OP1	1.76	0.84
25:T:60:PHE:CE1	29:X:2344:G:H4'	2.12	0.84
7:B:188:ILE:CG2	7:B:189:PRO:HD2	2.07	0.84
23:R:25:LEU:HD11	23:R:81:VAL:HG23	1.60	0.84
18:M:33:VAL:CG2	18:M:51:GLU:HB2	2.07	0.84
12:G:34:PRO:HA	12:G:69:ASP:CG	1.98	0.84
14:I:53:ARG:O	14:I:53:ARG:HD2	1.76	0.84
26:U:22:GLY:H	26:U:39:LYS:HB2	1.41	0.84
29:X:2240:C:O2'	29:X:2241:U:H5'	1.78	0.84
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.58	0.84
29:X:759:C:H5'	29:X:759:C:H6	1.40	0.84
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.90	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:20:ASP:OD1	23:R:83:LEU:HD23	1.76	0.84
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.78	0.84
23:R:56:LYS:HA	23:R:69:GLN:HA	1.60	0.84
29:X:1194:U:H2'	29:X:1195:U:C6	2.12	0.84
8:C:93:TYR:HD2	8:C:93:TYR:H	1.24	0.84
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.92	0.84
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.84
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.59	0.84
19:N:114:ARG:NH1	19:N:115:ASN:HD21	1.74	0.84
9:D:115:ARG:HB2	9:D:178:ARG:HD2	1.60	0.84
29:X:2040:A:H2'	29:X:2041:A:H8	1.43	0.84
29:X:1231:A:H2'	29:X:1232:U:H6	1.42	0.84
13:H:116:ARG:HD2	18:M:38:LYS:CE	2.04	0.83
10:E:50:LEU:HD23	10:E:51:LEU:H	1.41	0.83
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.59	0.83
16:K:73:LYS:O	16:K:76:VAL:HG12	1.78	0.83
29:X:2712:G:H3'	29:X:2713:A:H5'	1.59	0.83
7:B:117:MET:H	7:B:136:ARG:CD	1.91	0.83
29:X:777:A:H62	29:X:1766:U:H3	1.20	0.83
11:F:10:LEU:HD21	11:F:57:ILE:HG13	1.60	0.83
6:A:183:ARG:CB	6:A:183:ARG:HH11	1.90	0.83
24:S:120:LEU:HD23	24:S:121:GLN:N	1.93	0.83
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.08	0.83
29:X:173:A:H61	29:X:844:G:H21	1.26	0.83
14:I:81:GLN:HE22	14:I:115:SER:HA	1.42	0.83
29:X:318:G:H8	29:X:318:G:H5'	1.40	0.83
6:A:160:GLY:HA2	6:A:196:VAL:O	1.78	0.83
29:X:1574:A:H2'	29:X:1575:C:H5''	1.60	0.83
13:H:16:ALA:HB3	13:H:98:ILE:HD11	1.60	0.83
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.42	0.83
23:R:85:ASP:H	23:R:86:PRO:HD3	1.41	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.58	0.83
18:M:99:VAL:HG22	18:M:100:ARG:H	1.43	0.83
9:D:119:PRO:HG2	9:D:120:ASN:H	1.40	0.83
29:X:751:G:H2'	29:X:752:G:C8	2.14	0.83
29:X:1698:C:O2'	29:X:1753:A:H2'	1.78	0.83
26:U:13:LEU:O	26:U:14:VAL:HG13	1.78	0.83
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.76	0.83
29:X:1513:U:H5''	29:X:1514:C:OP2	1.77	0.83
16:K:87:TYR:HE1	16:K:94:TYR:CD2	1.95	0.83
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.09	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:112:LYS:O	23:R:113:THR:HG23	1.78	0.83
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.60	0.83
6:A:54:ILE:O	6:A:54:ILE:HG23	1.78	0.83
18:M:34:ARG:NH2	18:M:88:VAL:HG11	1.92	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
20:O:38:LEU:HD13	20:O:39:PHE:N	1.93	0.83
31:Z:64:C:H2'	31:Z:65:A:H8	1.42	0.83
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.59	0.83
29:X:2484:G:O2'	29:X:2485:U:H5'	1.76	0.83
21:P:29:LYS:HG2	21:P:123:HIS:CE1	2.12	0.83
19:N:13:ARG:HG3	19:N:13:ARG:HH21	1.43	0.83
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.92	0.83
29:X:760:U:C5	30:Y:3:LYS:HG3	2.14	0.83
9:D:4:LEU:CG	9:D:5:LYS:H	1.90	0.83
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.77	0.83
10:E:43:VAL:HG23	10:E:51:LEU:O	1.77	0.83
29:X:2581:A:H5'	29:X:2582:G:OP2	1.78	0.83
14:I:28:LYS:HZ2	14:I:37:GLN:N	1.76	0.83
29:X:760:U:C4	30:Y:3:LYS:HG3	2.13	0.83
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.59	0.83
10:E:29:PRO:HG2	10:E:79:VAL:O	1.76	0.83
29:X:704:G:H2'	29:X:705:C:H6	1.42	0.83
29:X:2440:C:H2'	29:X:2441:U:H6	1.44	0.83
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.43	0.82
29:X:2672:U:H2'	29:X:2673:G:C8	2.14	0.82
6:A:244:ARG:HD2	29:X:1885:C:H5'	1.60	0.82
17:L:33:ARG:NH1	17:L:100:VAL:HA	1.93	0.82
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.61	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.96	0.82
6:A:250:TRP:O	6:A:255:LYS:NZ	2.13	0.82
9:D:12:VAL:HG11	9:D:169:LEU:HD12	1.59	0.82
15:J:69:ILE:HG23	15:J:104:MET:HA	1.61	0.82
15:J:22:ALA:HB2	15:J:100:PRO:O	1.79	0.82
13:H:41:ASN:H	13:H:41:ASN:ND2	1.78	0.82
12:G:103:TYR:CZ	12:G:111:LYS:HB2	2.14	0.82
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.79	0.82
29:X:940:G:OP1	29:X:940:G:H4'	1.79	0.82
24:S:67:LYS:HZ3	31:Z:106:U:H4'	1.43	0.82
15:J:17:ARG:NH1	29:X:969:U:H5''	1.93	0.82
23:R:4:PRO:N	29:X:34:U:HO2'	1.78	0.82
29:X:2029:G:H5'	30:Y:19:ARG:HB2	1.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:30:VAL:HG12	4:4:33:LYS:HE3	1.61	0.82
18:M:105:TYR:O	18:M:108:ARG:HG3	1.78	0.82
7:B:38:THR:HG22	7:B:40:GLN:N	1.92	0.82
27:V:21:ARG:HH11	27:V:53:LEU:HD11	1.44	0.82
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.62	0.82
8:C:3:GLN:HE22	8:C:4:ILE:HG12	1.44	0.82
24:S:10:PRO:O	24:S:13:LYS:HG3	1.77	0.82
18:M:46:ARG:CG	18:M:47:SER:H	1.92	0.82
29:X:757:U:O2'	29:X:758:G:H5'	1.79	0.82
22:Q:70:GLY:HA2	29:X:63:A:O2'	1.80	0.82
30:Y:35:GLN:O	30:Y:36:CYS:HB3	1.79	0.82
23:R:56:LYS:HE3	29:X:493:A:H4'	1.60	0.82
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.08	0.82
29:X:2634:G:H2'	29:X:2643:G:O6	1.80	0.82
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.60	0.82
29:X:501:G:H2'	29:X:502:A:H8	1.44	0.82
7:B:198:LEU:N	7:B:198:LEU:HD12	1.95	0.82
8:C:179:ASP:O	8:C:182:ARG:HB3	1.80	0.82
19:N:13:ARG:HE	29:X:1264:C:H5''	1.43	0.82
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.79	0.82
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.59	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
15:J:125:LYS:H	15:J:125:LYS:HD2	1.43	0.82
15:J:64:LYS:HD2	15:J:64:LYS:N	1.95	0.82
26:U:14:VAL:HB	26:U:47:HIS:CE1	2.15	0.82
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.33	0.82
29:X:1711:C:H4'	29:X:1712:G:H5''	1.59	0.82
10:E:105:MET:HE3	10:E:131:ILE:HD11	1.61	0.82
29:X:501:G:H2'	29:X:502:A:C8	2.15	0.82
23:R:90:LYS:HB2	23:R:108:VAL:HG11	1.62	0.82
9:D:4:LEU:HG	9:D:5:LYS:H	1.43	0.82
7:B:176:ARG:HE	18:M:16:ILE:HG12	1.45	0.82
29:X:663:G:C3'	29:X:664:C:H5''	2.10	0.82
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.10	0.82
29:X:2787:A:H2'	29:X:2788:C:H6	1.43	0.82
29:X:2275:U:H4'	29:X:2276:C:OP1	1.78	0.82
29:X:2405:A:H4'	29:X:2406:C:OP2	1.80	0.82
29:X:2769:C:H2'	29:X:2770:A:C8	2.14	0.81
29:X:2516:U:H2'	29:X:2517:C:H6	1.42	0.81
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.62	0.81
29:X:2222:U:H2'	29:X:2223:U:H6	1.40	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1919:A:C2	29:X:1926:U:N3	2.46	0.81
13:H:116:ARG:CG	18:M:40:ARG:HH21	1.93	0.81
29:X:555:U:C6	29:X:555:U:H3'	2.16	0.81
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.63	0.81
29:X:427:C:H1'	29:X:1856:U:H1'	1.60	0.81
29:X:3:U:H2'	29:X:4:C:C6	2.15	0.81
21:P:25:PHE:HD1	21:P:127:ILE:HD11	1.46	0.81
29:X:1429:A:H1'	29:X:1603:A:C6	2.15	0.81
29:X:37:C:H2'	29:X:38:G:H8	1.45	0.81
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.60	0.81
18:M:5:ILE:HD13	18:M:7:ILE:HB	1.62	0.81
29:X:143:A:H2'	29:X:144:U:H6	1.43	0.81
21:P:102:THR:HG22	21:P:102:THR:O	1.81	0.81
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.45	0.81
29:X:813:A:H4'	29:X:814:G:O5'	1.78	0.81
29:X:2326:C:H2'	29:X:2327:U:H6	1.44	0.81
19:N:50:ARG:C	19:N:52:ASN:H	1.83	0.81
9:D:74:ILE:HG12	9:D:80:ARG:O	1.80	0.81
29:X:1118:G:H2'	29:X:1119:U:C5'	2.10	0.81
29:X:857:U:H3'	29:X:858:G:C8	2.16	0.81
15:J:78:LYS:HE2	15:J:81:GLU:HA	1.62	0.81
21:P:71:VAL:HG12	21:P:126:ILE:HG23	1.61	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
29:X:1787:U:H2'	29:X:1788:C:H6	1.43	0.81
17:L:36:LYS:HE3	17:L:36:LYS:HA	1.61	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
11:F:27:LEU:HD22	11:F:57:ILE:HD12	1.60	0.81
29:X:759:C:H5'	29:X:759:C:C6	2.16	0.81
16:K:60:LEU:HD11	16:K:64:ARG:NE	1.94	0.81
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.79	0.81
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.46	0.81
29:X:1385:C:H1'	29:X:2192:U:C6	2.15	0.81
29:X:1194:U:H5'	29:X:1194:U:H6	1.43	0.81
16:K:91:PRO:O	16:K:92:GLY:O	1.98	0.81
29:X:689:A:H8	29:X:2422:C:H1'	1.44	0.81
26:U:40:ARG:NE	29:X:178:C:OP1	2.14	0.81
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
29:X:187:U:H2'	29:X:188:G:H8	1.46	0.81
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.09	0.81
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.81	0.81
26:U:27:ASP:CA	26:U:32:ARG:HH21	1.93	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:70:VAL:HG21	13:H:98:ILE:HG23	1.61	0.81
12:G:158:HIS:HA	12:G:161:GLN:CD	2.01	0.81
10:E:136:ILE:H	10:E:136:ILE:HD12	1.46	0.81
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.16	0.81
6:A:246:PRO:CD	6:A:251:GLY:H	1.93	0.81
9:D:123:ASP:C	9:D:125:ARG:H	1.84	0.81
15:J:44:LYS:HB2	15:J:47:GLN:CD	2.02	0.81
14:I:108:LEU:O	14:I:109:LEU:HD23	1.80	0.81
29:X:2177:U:H2'	29:X:2178:U:H6	1.43	0.81
29:X:404:A:H1'	29:X:424:G:H1'	1.63	0.81
8:C:44:SER:OG	29:X:37:C:H1'	1.79	0.80
6:A:252:LYS:H	6:A:252:LYS:CE	1.84	0.80
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.06	0.80
22:Q:6:ILE:HG22	22:Q:7:LEU:N	1.96	0.80
16:K:13:ASN:ND2	16:K:16:ALA:H	1.79	0.80
29:X:2225:G:H2'	29:X:2226:A:H8	1.46	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80
7:B:189:PRO:HA	29:X:2659:C:H5'	1.61	0.80
12:G:154:GLU:N	12:G:154:GLU:OE1	2.14	0.80
14:I:77:LEU:HB2	14:I:111:SER:H	1.45	0.80
13:H:27:SER:HB3	13:H:50:ILE:H	1.45	0.80
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.60	0.80
10:E:98:LEU:HD12	10:E:99:THR:H	1.45	0.80
29:X:914:C:H2'	29:X:915:C:C6	2.16	0.80
10:E:139:GLN:HE21	29:X:2726:U:H1'	1.46	0.80
29:X:2617:G:HO2'	29:X:2618:A:H8	1.28	0.80
16:K:103:ARG:NH2	16:K:106:ASP:OD2	2.14	0.80
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.62	0.80
29:X:1107:A:H3'	29:X:1108:U:H5''	1.60	0.80
29:X:1231:A:H2'	29:X:1232:U:C6	2.16	0.80
29:X:402:A:C8	29:X:2392:G:H4'	2.16	0.80
24:S:10:PRO:O	24:S:14:LEU:HG	1.81	0.80
24:S:127:PRO:CA	24:S:130:ILE:HD11	2.12	0.80
24:S:120:LEU:HD23	24:S:121:GLN:H	1.46	0.80
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.17	0.80
24:S:154:LEU:HD21	24:S:160:LEU:HD21	1.64	0.80
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.62	0.80
8:C:39:ARG:HH21	8:C:91:TYR:HD2	1.27	0.80
12:G:116:ARG:HD2	12:G:119:LEU:HD12	1.64	0.80
9:D:4:LEU:HG	9:D:5:LYS:N	1.96	0.80
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1439:G:H2'	29:X:1440:G:C8	2.17	0.80
19:N:55:ARG:HD3	29:X:1166:A:H5''	1.63	0.80
29:X:1452:U:O2'	29:X:1453:A:H5'	1.81	0.80
29:X:693:A:H2'	29:X:694:G:H8	1.45	0.80
29:X:1811:A:H4'	29:X:1812:U:H5''	1.62	0.80
9:D:122:PHE:HA	29:X:2282:G:H4'	1.64	0.80
26:U:49:LYS:HB2	26:U:61:TRP:CA	2.10	0.80
14:I:86:THR:H	14:I:116:ARG:NH1	1.79	0.80
29:X:2326:C:H2'	29:X:2327:U:C6	2.16	0.80
29:X:2324:G:N3	29:X:2360:C:H2'	1.97	0.80
26:U:22:GLY:N	26:U:39:LYS:HB2	1.96	0.80
29:X:2563:U:C2'	29:X:2564:U:H5''	2.11	0.80
29:X:2311:U:H5'	29:X:2315:A:N6	1.95	0.80
31:Z:53:G:N2	31:Z:54:U:H5	1.80	0.80
29:X:2266:A:N6	29:X:2323:U:N3	2.29	0.80
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.45	0.80
28:W:40:VAL:HA	28:W:43:MET:CG	2.10	0.80
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.63	0.80
28:W:46:THR:HG22	28:W:47:VAL:HG13	1.63	0.80
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.16	0.80
29:X:2426:G:H3'	29:X:2479:U:OP2	1.82	0.80
29:X:685:U:O2'	29:X:686:C:H5'	1.82	0.80
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.81	0.79
26:U:51:ILE:HG12	26:U:59:THR:HB	1.63	0.79
13:H:35:THR:HG21	29:X:2629:U:H5'	1.64	0.79
17:L:21:THR:HG22	17:L:22:ALA:N	1.97	0.79
17:L:32:TYR:CE2	31:Z:9:G:H5'	2.16	0.79
12:G:103:TYR:CD2	29:X:1142:G:H1'	2.17	0.79
12:G:104:THR:OG1	12:G:110:LEU:HB3	1.82	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
17:L:89:PHE:CE2	29:X:2356:A:H1'	2.17	0.79
26:U:13:LEU:CG	26:U:14:VAL:H	1.95	0.79
18:M:79:ARG:NH1	18:M:79:ARG:HG3	1.93	0.79
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.64	0.79
13:H:9:ASP:OD1	13:H:93:ARG:NH2	2.16	0.79
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.13	0.79
23:R:15:HIS:HD2	29:X:347:C:H4'	1.46	0.79
29:X:631:G:H4'	29:X:632:A:H5''	1.65	0.79
29:X:1468:A:O5'	29:X:1468:A:H8	1.64	0.79
31:Z:108:G:O2'	31:Z:109:G:H5'	1.83	0.79
12:G:35:LYS:O	12:G:36:ASN:HB3	1.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2781:G:C2'	29:X:2782:G:H5''	2.11	0.79
12:G:155:THR:HG23	12:G:156:HIS:H	1.46	0.79
29:X:1281:A:C1'	29:X:2592:U:C5	2.62	0.79
9:D:8:TYR:HD1	9:D:173:MET:SD	2.05	0.79
26:U:48:LYS:CG	26:U:49:LYS:H	1.86	0.79
29:X:1432:G:H2'	29:X:1594:U:O4	1.81	0.79
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.63	0.79
23:R:83:LEU:O	23:R:84:VAL:HG23	1.83	0.79
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.66	0.79
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.44	0.79
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.12	0.79
26:U:41:VAL:HG23	26:U:42:GLN:N	1.97	0.79
29:X:104:C:H2'	29:X:105:G:H5'	1.62	0.79
23:R:22:VAL:HG13	23:R:81:VAL:O	1.83	0.79
29:X:1882:G:H21	29:X:1885:C:H41	1.29	0.79
29:X:1473:U:OP2	29:X:1473:U:C6	2.36	0.79
16:K:98:LEU:HD22	30:Y:56:GLN:HG2	1.64	0.79
29:X:693:A:H2'	29:X:694:G:C8	2.17	0.79
27:V:42:ARG:O	27:V:46:LEU:HG	1.83	0.79
24:S:141:MET:SD	24:S:147:ILE:HG12	2.21	0.79
9:D:38:GLU:CB	9:D:87:ILE:HB	2.11	0.79
12:G:162:LYS:H	12:G:163:PRO:CD	1.95	0.79
8:C:194:GLU:O	8:C:195:ILE:HG12	1.83	0.79
29:X:1909:U:H5	29:X:1911:A:H62	1.29	0.79
17:L:66:ASP:C	17:L:68:ALA:H	1.86	0.79
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.64	0.79
29:X:2628:C:H2'	29:X:2629:U:H6	1.48	0.79
29:X:958:G:H2'	29:X:959:C:C6	2.18	0.79
29:X:37:C:H2'	29:X:38:G:C8	2.16	0.79
15:J:125:LYS:HB3	15:J:125:LYS:NZ	1.96	0.79
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.13	0.79
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.62	0.79
29:X:2821:G:H2'	29:X:2822:U:C6	2.17	0.79
21:P:71:VAL:CG1	21:P:126:ILE:HG23	2.13	0.79
12:G:150:VAL:HG12	12:G:151:TYR:N	1.98	0.79
29:X:1625:A:H4'	29:X:1626:A:OP1	1.81	0.79
29:X:2263:C:H1'	29:X:2304:G:N2	1.98	0.79
8:C:23:ASN:HB3	8:C:26:VAL:HG23	1.64	0.79
25:T:41:ARG:NH1	29:X:2366:U:H1'	1.98	0.79
26:U:54:ASN:C	26:U:56:GLN:H	1.86	0.79
29:X:555:U:OP2	29:X:556:A:H2'	1.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1467:U:H3'	29:X:1467:U:C6	2.18	0.79
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.47	0.79
29:X:857:U:H3'	29:X:858:G:H8	1.46	0.79
7:B:142:GLY:C	7:B:143:GLN:HE21	1.84	0.79
8:C:162:ARG:O	8:C:162:ARG:HG2	1.83	0.78
23:R:112:LYS:N	23:R:112:LYS:HD2	1.97	0.78
29:X:314:G:H2'	29:X:315:G:C8	2.17	0.78
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78
29:X:865:A:H2'	29:X:866:U:C6	2.18	0.78
13:H:23:ARG:HB3	13:H:23:ARG:NH2	1.98	0.78
13:H:28:GLY:O	13:H:35:THR:N	2.16	0.78
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.65	0.78
10:E:68:THR:O	10:E:72:VAL:HG23	1.83	0.78
8:C:162:ARG:HH22	29:X:310:A:H61	1.30	0.78
15:J:44:LYS:HD3	15:J:47:GLN:NE2	1.98	0.78
11:F:122:ALA:HA	29:X:1092:U:H4'	1.65	0.78
8:C:148:VAL:HB	8:C:167:VAL:CG1	2.07	0.78
12:G:67:ARG:HE	12:G:70:PHE:HA	1.48	0.78
6:A:48:ARG:NH2	29:X:787:A:H5''	1.99	0.78
23:R:84:VAL:HG13	23:R:86:PRO:HD2	1.65	0.78
29:X:2040:A:H2'	29:X:2041:A:C8	2.17	0.78
19:N:13:ARG:NH1	29:X:825:C:OP1	2.16	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
6:A:124:GLU:O	6:A:126:LYS:HG3	1.83	0.78
18:M:100:ARG:HD2	29:X:1744:G:OP1	1.83	0.78
29:X:558:G:C3'	29:X:558:G:N3	2.45	0.78
15:J:21:ASP:HA	15:J:99:LYS:CG	2.14	0.78
29:X:999:A:HO2'	29:X:1166:A:H2	1.31	0.78
11:F:112:MET:HG3	11:F:113:PRO:CD	2.04	0.78
29:X:2259:G:H4'	29:X:2306:A:H5'	1.64	0.78
7:B:134:TRP:H	7:B:134:TRP:HD1	1.27	0.78
12:G:100:TYR:HB2	12:G:116:ARG:HH12	1.48	0.78
12:G:103:TYR:HD2	29:X:1142:G:C1'	1.97	0.78
29:X:1281:A:H1'	29:X:2592:U:O4	1.83	0.78
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.64	0.78
13:H:41:ASN:O	13:H:42:LYS:O	2.01	0.78
14:I:53:ARG:HG3	14:I:53:ARG:HH21	1.49	0.78
29:X:2569:A:H2'	29:X:2570:C:H6	1.49	0.78
29:X:2475:C:C2'	29:X:2476:A:H5'	2.13	0.78
29:X:2440:C:H2'	29:X:2441:U:C6	2.17	0.78
8:C:162:ARG:NH1	29:X:333:A:H3'	1.97	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:69:ARG:HD3	6:A:105:ILE:HD11	1.64	0.78
6:A:231:HIS:ND1	6:A:247:VAL:HA	1.97	0.78
13:H:27:SER:HB3	13:H:50:ILE:N	1.97	0.78
29:X:2170:C:H2'	29:X:2171:U:H4'	1.66	0.78
19:N:76:TYR:CZ	19:N:80:ILE:HG13	2.17	0.78
10:E:71:LEU:O	10:E:74:ASN:HB2	1.82	0.78
23:R:105:ARG:HH22	23:R:112:LYS:CA	1.96	0.78
6:A:132:PRO:O	6:A:136:VAL:HG23	1.84	0.78
26:U:50:ALA:CB	26:U:52:ARG:HH22	1.97	0.78
12:G:67:ARG:HH21	12:G:70:PHE:C	1.86	0.78
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.66	0.78
15:J:55:MET:HG2	15:J:118:ALA:O	1.83	0.78
7:B:131:SER:O	7:B:132:LYS:HG2	1.83	0.78
25:T:51:VAL:HG21	25:T:79:ILE:O	1.82	0.78
8:C:66:ASN:HB3	29:X:1268:U:C2'	2.12	0.78
23:R:84:VAL:HG21	23:R:89:GLY:HA2	1.63	0.78
29:X:687:G:O2'	29:X:688:A:H5'	1.84	0.78
26:U:49:LYS:CB	26:U:61:TRP:HA	2.11	0.78
14:I:66:ASN:HD21	14:I:68:VAL:HG23	1.48	0.78
11:F:41:PHE:O	11:F:45:THR:HG23	1.83	0.78
29:X:1474:A:H4'	29:X:1475:U:O5'	1.83	0.78
20:O:12:TYR:O	20:O:13:ARG:HB2	1.84	0.78
29:X:104:C:H2'	29:X:105:G:C5'	2.13	0.78
6:A:163:VAL:HG22	6:A:177:LEU:HA	1.63	0.78
10:E:154:PRO:HA	10:E:160:LYS:O	1.83	0.78
10:E:149:ARG:HH21	10:E:149:ARG:HG2	1.49	0.78
19:N:3:ARG:HD3	29:X:457:C:O3'	1.81	0.78
24:S:13:LYS:HB2	24:S:13:LYS:NZ	1.98	0.78
24:S:127:PRO:O	24:S:128:ARG:HG2	1.82	0.78
31:Z:17:A:H1'	31:Z:112:A:C8	2.19	0.78
12:G:62:ILE:O	12:G:77:GLY:HA3	1.84	0.78
8:C:30:VAL:HG12	8:C:31:VAL:H	1.48	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78
21:P:40:LEU:HD22	30:Y:25:LEU:CD1	2.14	0.78
29:X:704:G:H2'	29:X:705:C:C6	2.19	0.78
12:G:162:LYS:NZ	29:X:5:A:H1'	1.99	0.78
12:G:103:TYR:CB	12:G:107:GLN:HE21	1.96	0.78
26:U:33:LYS:NZ	29:X:2400:G:H21	1.80	0.78
11:F:54:PRO:HG2	11:F:70:LYS:HD2	1.66	0.78
10:E:44:ARG:HG3	10:E:44:ARG:HH21	1.49	0.78
29:X:2796:A:H2'	29:X:2797:G:H8	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:4:HIS:HA	14:I:7:LYS:NZ	1.98	0.77
29:X:652:C:H42	29:X:657:A:N6	1.83	0.77
29:X:1539:U:H2'	29:X:1540:C:C6	2.18	0.77
29:X:1337:G:H1'	29:X:1632:A:N6	1.98	0.77
29:X:925:U:H4'	29:X:926:C:OP1	1.84	0.77
30:Y:58:LEU:HD12	30:Y:58:LEU:H	1.48	0.77
18:M:103:LYS:O	18:M:104:LEU:HB2	1.82	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
26:U:23:LYS:HD2	26:U:35:THR:OG1	1.84	0.77
11:F:23:VAL:HA	11:F:26:ALA:HB3	1.65	0.77
9:D:71:LYS:HB2	29:X:2291:U:OP1	1.84	0.77
22:Q:54:SER:HB2	29:X:1354:A:O2'	1.85	0.77
29:X:2228:U:H5''	29:X:2229:G:OP2	1.83	0.77
8:C:84:PHE:HE1	29:X:596:C:H5'	1.48	0.77
6:A:43:ARG:N	6:A:43:ARG:CD	2.43	0.77
13:H:116:ARG:HG2	18:M:40:ARG:NH2	1.97	0.77
29:X:987:G:H4'	29:X:1167:A:N7	1.98	0.77
29:X:1117:G:H2'	29:X:1118:G:C8	2.19	0.77
29:X:172:A:C5	29:X:175:C:H5	2.01	0.77
29:X:1597:A:H2'	29:X:1598:C:C6	2.20	0.77
12:G:107:GLN:HA	12:G:110:LEU:HG	1.65	0.77
23:R:82:ALA:O	23:R:83:LEU:HD12	1.85	0.77
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.11	0.77
16:K:11:ASN:HD21	16:K:12:ARG:HE	1.30	0.77
29:X:1095:A:C2'	29:X:1096:A:H5''	2.14	0.77
24:S:6:LYS:H	24:S:7:PRO:CD	1.97	0.77
23:R:54:ILE:HA	23:R:70:GLU:O	1.84	0.77
29:X:1061:A:O2'	29:X:1062:G:H5'	1.85	0.77
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.18	0.77
19:N:24:PHE:CD1	29:X:543:G:H5'	2.19	0.77
21:P:37:LYS:HG3	29:X:1279:G:N1	1.99	0.77
23:R:82:ALA:O	23:R:83:LEU:O	2.03	0.77
18:M:104:LEU:HA	18:M:106:TYR:CE2	2.19	0.77
26:U:10:LYS:HG2	26:U:11:LYS:N	2.00	0.77
27:V:21:ARG:NH1	27:V:53:LEU:HD11	1.99	0.77
13:H:27:SER:HB3	13:H:50:ILE:HG13	1.67	0.77
8:C:148:VAL:O	8:C:167:VAL:HA	1.84	0.77
24:S:141:MET:HA	24:S:145:ASP:OD1	1.84	0.77
20:O:20:ILE:HD12	20:O:21:ARG:N	1.99	0.77
29:X:172:A:N1	29:X:178:C:N3	2.33	0.77
23:R:18:LYS:HE3	23:R:19:GLY:N	1.99	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2:G:H2'	29:X:3:U:C6	2.18	0.77
29:X:215:G:H21	29:X:632:A:H8	1.31	0.77
17:L:16:LYS:HD3	31:Z:11:G:OP1	1.84	0.77
29:X:1095:A:H2'	29:X:1096:A:H5''	1.65	0.77
29:X:2074:U:H3'	29:X:2075:U:H5''	1.65	0.77
29:X:1072:U:H1'	29:X:1081:A:H1'	1.65	0.77
12:G:67:ARG:HB3	12:G:70:PHE:CA	2.14	0.77
10:E:98:LEU:HD12	10:E:99:THR:N	1.98	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
9:D:92:ARG:HH12	31:Z:46:G:C4'	1.97	0.77
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.14	0.77
31:Z:16:U:H1'	31:Z:109:G:H21	1.50	0.77
19:N:48:ARG:O	19:N:52:ASN:HB2	1.84	0.77
29:X:427:C:H2'	29:X:428:A:C8	2.20	0.77
29:X:2871:U:H2'	29:X:2872:U:H6	1.49	0.77
29:X:445:A:H2'	29:X:446:C:C6	2.20	0.77
29:X:746:G:N7	29:X:774:A:C5	2.53	0.77
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.77
28:W:12:ARG:HH11	28:W:12:ARG:HG2	1.48	0.77
29:X:861:G:H2'	29:X:862:A:H5'	1.66	0.77
27:V:41:HIS:CD2	27:V:42:ARG:N	2.52	0.77
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.67	0.77
20:O:20:ILE:HD12	20:O:21:ARG:H	1.50	0.77
29:X:1448:A:N6	29:X:1574:A:H61	1.83	0.77
8:C:48:ARG:H	8:C:48:ARG:HD2	1.48	0.77
8:C:75:PRO:CG	8:C:83:ALA:HB2	2.14	0.77
23:R:93:ARG:HH12	23:R:108:VAL:CA	1.97	0.77
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.77
8:C:147:LYS:HA	8:C:165:SER:O	1.85	0.77
22:Q:7:LEU:O	22:Q:7:LEU:HD13	1.85	0.77
18:M:79:ARG:HH11	18:M:79:ARG:CG	1.96	0.77
24:S:67:LYS:NZ	31:Z:106:U:H4'	1.99	0.77
29:X:208:C:C2'	29:X:209:G:H5'	2.15	0.77
23:R:93:ARG:HH22	23:R:108:VAL:HA	1.49	0.76
29:X:1505:U:H2'	29:X:1506:C:H5''	1.66	0.76
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.05	0.76
8:C:162:ARG:HD2	29:X:333:A:H5''	1.65	0.76
17:L:33:ARG:CG	17:L:38:ILE:HB	2.14	0.76
26:U:28:GLY:O	26:U:30:VAL:N	2.18	0.76
19:N:66:ASN:HD22	19:N:70:ARG:NH1	1.84	0.76
25:T:24:LYS:HD2	29:X:2334:C:H4'	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:126:SER:O	14:I:129:ALA:HB3	1.85	0.76
7:B:33:ILE:HD13	7:B:36:ARG:HH12	1.50	0.76
29:X:847:C:C2	29:X:848:A:C8	2.73	0.76
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.33	0.76
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.48	0.76
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.85	0.76
7:B:82:ARG:HH22	29:X:2617:G:P	2.09	0.76
8:C:30:VAL:O	8:C:32:THR:N	2.18	0.76
12:G:72:PRO:O	12:G:73:ASN:C	2.24	0.76
29:X:482:A:O2'	29:X:483:A:H5'	1.84	0.76
6:A:134:ARG:N	6:A:187:SER:HB2	2.00	0.76
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.19	0.76
29:X:490:A:O2'	29:X:491:A:H5'	1.85	0.76
29:X:517:A:C5'	29:X:518:A:H5'	2.12	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.85	0.76
19:N:66:ASN:CB	19:N:76:TYR:H	1.99	0.76
29:X:2769:C:C2'	29:X:2770:A:H8	1.97	0.76
24:S:103:ARG:HH21	24:S:108:VAL:HG23	1.48	0.76
29:X:1964:A:H5''	29:X:1965:U:OP2	1.85	0.76
14:I:89:ASP:OD2	14:I:120:VAL:HA	1.85	0.76
11:F:20:ALA:H	11:F:21:PRO:CD	1.99	0.76
24:S:120:LEU:HD21	24:S:162:ALA:CB	2.14	0.76
29:X:1229:C:H2'	29:X:1230:C:H6	1.50	0.76
6:A:67:PHE:HB3	6:A:153:ALA:H	1.49	0.76
8:C:22:VAL:HG11	8:C:110:SER:OG	1.85	0.76
9:D:10:ASP:O	9:D:14:PRO:HD2	1.85	0.76
29:X:652:C:N4	29:X:657:A:H61	1.83	0.76
29:X:2265:A:H4'	29:X:2266:A:O5'	1.86	0.76
20:O:71:ILE:HD13	29:X:1003:C:O3'	1.85	0.76
21:P:106:LEU:HD23	21:P:107:ILE:H	1.51	0.76
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.65	0.76
8:C:180:ILE:HG23	8:C:181:LEU:H	1.49	0.76
29:X:627:A:H2'	29:X:628:A:C8	2.21	0.76
6:A:43:ARG:HH11	6:A:43:ARG:N	1.84	0.76
29:X:1834:G:H2'	29:X:1835:C:C6	2.21	0.76
29:X:487:G:H4'	29:X:512:A:N1	2.00	0.76
13:H:132:GLU:HG3	13:H:133:VAL:N	2.01	0.76
27:V:41:HIS:HA	27:V:44:ARG:HE	1.50	0.76
29:X:2286:G:N2	29:X:2290:A:H61	1.82	0.76
29:X:717:G:H2'	29:X:739:G:N2	1.99	0.76
13:H:70:VAL:HG22	13:H:71:LYS:H	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:95:ARG:CZ	10:E:97:LYS:HE2	2.15	0.76
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.67	0.76
24:S:23:ALA:HB2	24:S:83:PHE:HB2	1.67	0.76
29:X:1953:A:H5'	29:X:1954:A:OP1	1.84	0.76
14:I:13:ARG:HB3	14:I:13:ARG:CZ	2.14	0.76
6:A:43:ARG:HH11	6:A:43:ARG:CB	1.99	0.76
17:L:68:ALA:O	17:L:71:VAL:HG13	1.86	0.76
26:U:51:ILE:HG23	26:U:59:THR:CA	2.10	0.76
14:I:94:GLU:HB3	14:I:97:ARG:NH1	2.00	0.76
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.84	0.76
14:I:133:VAL:HG21	14:I:140:VAL:CG2	2.16	0.76
15:J:106:GLU:CD	15:J:106:GLU:N	2.38	0.76
29:X:2329:C:H2'	29:X:2330:G:O4'	1.86	0.76
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.01	0.76
12:G:67:ARG:HE	12:G:70:PHE:CA	1.99	0.76
29:X:1729:C:H2'	29:X:1730:G:C8	2.21	0.76
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.16	0.76
29:X:2660:C:C2	29:X:2704:U:O4	2.39	0.76
9:D:30:ARG:HE	9:D:159:THR:HG21	1.51	0.76
29:X:1468:A:O5'	29:X:1468:A:C8	2.39	0.76
7:B:142:GLY:CA	7:B:143:GLN:HE21	1.98	0.76
6:A:250:TRP:CD1	6:A:255:LYS:HD2	2.21	0.75
29:X:1778:U:H2'	29:X:1779:C:C6	2.20	0.75
29:X:1448:A:H61	29:X:1574:A:N6	1.84	0.75
14:I:13:ARG:HE	29:X:1218:C:H1'	1.51	0.75
29:X:318:G:N2	29:X:320:A:H3'	2.01	0.75
14:I:13:ARG:HE	29:X:1218:C:C1'	2.00	0.75
23:R:10:HIS:O	23:R:11:ASN:HB3	1.85	0.75
8:C:84:PHE:CE1	29:X:596:C:H5'	2.21	0.75
6:A:89:SER:OG	6:A:159:ALA:HB2	1.86	0.75
29:X:1503:G:H2'	29:X:1504:G:C8	2.21	0.75
29:X:2175:A:H2'	29:X:2176:U:H6	1.51	0.75
23:R:38:LEU:HB2	23:R:47:VAL:CG2	2.16	0.75
30:Y:35:GLN:O	30:Y:36:CYS:CB	2.34	0.75
29:X:1426:U:H2'	29:X:1427:G:O4'	1.86	0.75
12:G:140:GLN:HG2	12:G:144:MET:HE2	1.66	0.75
6:A:229:VAL:HG21	29:X:797:A:C5	2.21	0.75
29:X:917:U:H2'	29:X:918:A:H5'	1.68	0.75
29:X:1279:G:O2'	29:X:1995:G:N1	2.20	0.75
17:L:15:ARG:HD2	17:L:91:ARG:NH1	1.95	0.75
17:L:64:LYS:N	17:L:64:LYS:HD3	2.02	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.17	0.75
14:I:53:ARG:HB3	29:X:228:A:OP1	1.86	0.75
29:X:1374:G:O2'	29:X:1375:C:H5'	1.87	0.75
29:X:1737:G:H2'	29:X:1738:U:H6	1.50	0.75
23:R:93:ARG:NH1	23:R:108:VAL:HA	2.01	0.75
29:X:2548:G:O2'	29:X:2549:G:H5'	1.87	0.75
6:A:245:VAL:HA	6:A:252:LYS:HE2	1.68	0.75
13:H:79:HIS:CD2	13:H:80:ALA:H	2.05	0.75
17:L:76:ALA:HB1	17:L:111:GLY:N	2.01	0.75
29:X:1508:G:H5'	29:X:1509:A:C5'	2.16	0.75
29:X:617:U:O2	29:X:617:U:H3'	1.86	0.75
17:L:91:ARG:HH22	29:X:2356:A:H2	1.35	0.75
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.17	0.75
29:X:304:A:C2'	29:X:305:A:H5''	2.13	0.75
25:T:74:LYS:O	25:T:76:ALA:N	2.19	0.75
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.49	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
24:S:3:LEU:HD21	24:S:32:PHE:HB3	1.67	0.75
15:J:17:ARG:HH11	29:X:969:U:H5''	1.48	0.75
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.69	0.75
23:R:93:ARG:HG2	23:R:94:VAL:H	1.52	0.75
15:J:69:ILE:CG2	15:J:104:MET:HA	2.17	0.75
4:4:9:LYS:H	4:4:9:LYS:CD	1.98	0.75
29:X:1283:C:H5''	29:X:1284:G:H5'	1.68	0.75
29:X:1811:A:H1'	29:X:1813:A:C6	2.22	0.75
17:L:10:LYS:O	17:L:14:ARG:HG3	1.87	0.75
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.68	0.75
12:G:61:ARG:NH2	12:G:61:ARG:HB3	2.02	0.75
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.21	0.75
8:C:7:ILE:O	8:C:120:VAL:HB	1.86	0.75
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.22	0.75
12:G:117:GLU:C	12:G:119:LEU:H	1.89	0.74
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.69	0.74
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.51	0.74
19:N:93:LYS:HE2	20:O:10:LYS:HZ3	1.51	0.74
23:R:60:PRO:O	23:R:62:MET:N	2.19	0.74
8:C:68:ARG:HH12	29:X:2043:A:H62	0.79	0.74
29:X:1051:U:H2'	29:X:1052:C:O4'	1.86	0.74
6:A:149:PRO:HD3	6:A:186:HIS:NE2	2.02	0.74
7:B:75:THR:O	7:B:76:ARG:CB	2.35	0.74
29:X:2867:G:H4'	29:X:2868:G:O5'	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:70:VAL:HG22	13:H:71:LYS:N	2.02	0.74
20:O:29:ALA:O	20:O:31:ASP:N	2.20	0.74
10:E:126:PRO:HD2	10:E:130:ARG:O	1.86	0.74
29:X:2640:G:H2'	29:X:2641:A:C8	2.22	0.74
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.69	0.74
12:G:39:GLN:O	12:G:39:GLN:HG3	1.87	0.74
29:X:1416:A:H2'	29:X:1417:C:H6	1.52	0.74
29:X:1830:C:H41	29:X:1881:U:H3'	1.51	0.74
8:C:31:VAL:HG23	8:C:32:THR:H	1.52	0.74
23:R:111:GLY:C	23:R:112:LYS:HD2	2.07	0.74
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.87	0.74
29:X:689:A:H1'	29:X:2422:C:O4'	1.87	0.74
18:M:99:VAL:CG2	18:M:100:ARG:H	1.99	0.74
18:M:46:ARG:HG3	18:M:47:SER:H	1.49	0.74
29:X:306:G:N2	29:X:355:G:H1'	2.02	0.74
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.22	0.74
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.85	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:2641:A:H2'	29:X:2642:G:O4'	1.87	0.74
21:P:27:VAL:HB	21:P:125:THR:HG22	1.68	0.74
31:Z:42:U:H1'	31:Z:47:A:N6	2.02	0.74
15:J:20:GLY:C	15:J:99:LYS:HE2	2.06	0.74
29:X:2706:U:O2'	29:X:2707:G:OP1	2.05	0.74
29:X:1312:G:H5''	29:X:1313:U:OP1	1.87	0.74
9:D:66:ILE:CD1	31:Z:43:G:H5''	2.15	0.74
26:U:15:VAL:HG12	26:U:46:LEU:HD22	1.67	0.74
29:X:651:C:H2'	29:X:652:C:H5''	1.69	0.74
29:X:1193:G:C2'	29:X:1194:U:H5''	2.17	0.74
29:X:1913:G:H5''	29:X:1914:U:OP1	1.87	0.74
25:T:26:PHE:HE2	29:X:870:C:H1'	1.52	0.74
29:X:2856:U:O2'	29:X:2857:C:H5'	1.88	0.74
6:A:95:LEU:CD1	6:A:105:ILE:HD12	2.17	0.74
7:B:120:TRP:O	7:B:121:ASN:HB2	1.88	0.74
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.69	0.74
21:P:11:LYS:O	21:P:14:ARG:N	2.19	0.74
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.70	0.74
29:X:1525:A:H3'	29:X:1526:U:H6	1.51	0.74
29:X:1416:A:H2'	29:X:1417:C:C6	2.23	0.74
29:X:242:A:H61	29:X:440:U:H2'	1.53	0.74
22:Q:4:TYR:CD2	27:V:23:LYS:HB2	2.22	0.74
14:I:45:LYS:HG2	14:I:46:GLY:H	1.53	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.01	0.74
29:X:1775:A:H3'	29:X:1775:A:OP1	1.88	0.74
29:X:2266:A:N6	29:X:2323:U:H3	1.83	0.74
29:X:2320:G:H2'	29:X:2321:C:H6	1.52	0.74
29:X:1071:U:H1'	29:X:1073:G:H5'	1.70	0.74
29:X:1466:C:H2'	29:X:1467:U:O4'	1.87	0.74
11:F:122:ALA:CA	29:X:1092:U:H4'	2.18	0.74
12:G:34:PRO:HA	12:G:69:ASP:OD2	1.86	0.74
20:O:44:GLN:O	20:O:46:VAL:HG23	1.87	0.74
29:X:1007:A:C2	29:X:1008:G:C8	2.76	0.74
29:X:2286:G:C6	29:X:2287:G:H1'	2.23	0.74
14:I:28:LYS:CD	14:I:36:GLY:HA3	2.17	0.74
24:S:4:THR:HB	24:S:57:GLU:HB2	1.70	0.74
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.53	0.74
12:G:110:LEU:CD2	12:G:110:LEU:N	2.51	0.74
14:I:13:ARG:HH21	14:I:13:ARG:CG	2.01	0.74
14:I:42:GLY:O	14:I:43:ALA:HB2	1.87	0.74
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.70	0.74
29:X:847:C:H2'	29:X:848:A:H8	1.53	0.74
19:N:66:ASN:HB3	19:N:76:TYR:H	1.53	0.74
22:Q:32:LYS:O	22:Q:33:ALA:HB2	1.87	0.74
21:P:66:GLU:O	21:P:69:ALA:HB3	1.87	0.74
15:J:17:ARG:NH2	29:X:967:G:O6	2.20	0.74
27:V:18:ILE:C	27:V:20:ALA:H	1.91	0.74
8:C:23:ASN:O	8:C:27:LEU:HD12	1.87	0.73
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.73
29:X:1058:G:C2'	29:X:1121:G:H1	1.96	0.73
4:4:9:LYS:HD2	4:4:9:LYS:N	2.03	0.73
29:X:2639:A:H2'	29:X:2640:G:O4'	1.88	0.73
14:I:28:LYS:NZ	14:I:36:GLY:CA	2.51	0.73
29:X:2677:U:H2'	29:X:2678:C:C6	2.23	0.73
9:D:13:ARG:O	9:D:16:LEU:HB2	1.89	0.73
10:E:50:LEU:HD23	10:E:51:LEU:N	2.02	0.73
15:J:100:PRO:HG2	24:S:74:ARG:HH11	1.53	0.73
29:X:871:U:O2'	29:X:2247:A:C2'	2.36	0.73
29:X:2764:U:H2'	29:X:2765:C:C6	2.22	0.73
24:S:71:MET:CB	24:S:78:PRO:HA	2.19	0.73
29:X:2852:G:O2'	29:X:2853:U:H5'	1.88	0.73
29:X:469:G:O2'	29:X:470:U:OP2	2.06	0.73
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.70	0.73
6:A:43:ARG:NH1	6:A:43:ARG:HB3	2.04	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:27:PHE:O	18:M:28:ARG:HG2	1.86	0.73
26:U:78:ILE:HD13	26:U:79:GLU:N	2.03	0.73
11:F:88:SER:O	29:X:1075:C:H4'	1.89	0.73
29:X:1475:U:H4'	29:X:1475:U:OP2	1.87	0.73
13:H:14:SER:OG	13:H:98:ILE:HD12	1.87	0.73
29:X:1086:C:C3'	29:X:1087:C:H5''	2.18	0.73
29:X:954:U:H2'	29:X:955:G:H5''	1.70	0.73
12:G:162:LYS:H	12:G:163:PRO:HD2	1.51	0.73
29:X:2252:A:O2'	29:X:2253:A:H5'	1.88	0.73
12:G:105:GLY:O	12:G:106:TYR:C	2.27	0.73
6:A:257:LEU:HD22	29:X:1795:C:OP1	1.88	0.73
29:X:1787:U:H2'	29:X:1788:C:C6	2.23	0.73
26:U:49:LYS:HB3	26:U:61:TRP:HE3	1.52	0.73
14:I:108:LEU:HB3	14:I:125:ALA:CB	2.19	0.73
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.69	0.73
24:S:97:PRO:HA	24:S:119:ASN:HA	1.70	0.73
12:G:33:ILE:HB	12:G:34:PRO:HD3	1.71	0.73
28:W:8:SER:CB	29:X:999:A:H5''	2.15	0.73
29:X:1574:A:O2'	29:X:1575:C:H3'	1.87	0.73
29:X:2404:A:H4'	29:X:2405:A:H5'	1.68	0.73
8:C:3:GLN:HE22	8:C:4:ILE:CG1	2.00	0.73
29:X:939:C:H5''	29:X:940:G:O5'	1.87	0.73
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.03	0.73
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.69	0.73
9:D:35:VAL:HG12	9:D:36:VAL:H	1.54	0.73
22:Q:53:ILE:HG13	22:Q:54:SER:H	1.54	0.73
29:X:98:U:C5'	29:X:99:U:H5''	2.18	0.73
29:X:2451:G:O6	29:X:2455:A:H4'	1.88	0.73
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.03	0.73
29:X:1055:A:C4	29:X:1055:A:H3'	2.20	0.73
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.02	0.73
8:C:117:LEU:HD23	8:C:117:LEU:C	2.09	0.73
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.71	0.73
10:E:109:TYR:O	10:E:111:HIS:N	2.21	0.73
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.53	0.73
24:S:51:LEU:N	24:S:51:LEU:HD23	2.04	0.73
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.73
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.71	0.73
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.18	0.73
19:N:13:ARG:HG3	19:N:13:ARG:NH2	2.02	0.73
6:A:43:ARG:HH11	6:A:43:ARG:HB3	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:67:THR:O	17:L:70:ALA:HB3	1.89	0.73
14:I:85:ASP:O	14:I:87:THR:N	2.21	0.73
29:X:554:U:H2'	29:X:554:U:O2	1.87	0.73
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.17	0.73
29:X:116:A:H5'	29:X:117:A:C8	2.22	0.73
24:S:44:ARG:HD3	24:S:45:GLN:HE22	1.54	0.73
27:V:37:LEU:HD11	29:X:60:A:H4'	1.70	0.73
8:C:43:ALA:HB1	8:C:86:PRO:O	1.89	0.73
12:G:103:TYR:O	12:G:107:GLN:NE2	2.22	0.73
19:N:11:ARG:HH22	29:X:29:U:C4'	2.01	0.73
9:D:28:VAL:O	9:D:30:ARG:HG3	1.87	0.73
29:X:76:C:H5'	29:X:76:C:C6	2.20	0.73
29:X:610:G:H1	29:X:670:U:H3	1.37	0.73
25:T:32:LYS:N	25:T:35:ASN:HD22	1.87	0.73
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.71	0.73
29:X:2194:A:C2'	29:X:2195:C:H5''	2.17	0.73
17:L:38:ILE:HD12	17:L:39:TYR:N	2.02	0.73
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.20	0.73
29:X:2225:G:H2'	29:X:2226:A:C8	2.23	0.73
25:T:37:LEU:O	25:T:38:VAL:HG23	1.87	0.73
27:V:38:ALA:C	27:V:40:PRO:HD3	2.09	0.73
8:C:62:LYS:HD3	8:C:63:GLY:N	2.03	0.73
29:X:1149:G:N3	29:X:1154:A:H2	1.86	0.73
21:P:37:LYS:HG3	29:X:1279:G:N2	2.04	0.73
29:X:465:C:O2'	29:X:467:U:H1'	1.89	0.73
17:L:8:ARG:HH11	17:L:8:ARG:CB	2.02	0.73
26:U:32:ARG:HG2	26:U:34:THR:H	1.54	0.73
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.02	0.73
22:Q:9:ALA:HB1	22:Q:10:PRO:HD2	1.69	0.73
29:X:1524:C:H5''	29:X:1525:A:H8	1.54	0.73
29:X:1644:G:H2'	29:X:1645:U:C6	2.24	0.73
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.29	0.73
7:B:116:VAL:HG13	7:B:136:ARG:NH2	2.03	0.72
8:C:162:ARG:NH2	29:X:333:A:H3'	2.02	0.72
12:G:142:ARG:HH12	29:X:538:A:H5''	1.54	0.72
6:A:153:ALA:O	6:A:154:GLN:HG3	1.88	0.72
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.03	0.72
14:I:63:ARG:O	14:I:64:GLY:C	2.27	0.72
31:Z:19:C:H2'	31:Z:20:A:O4'	1.88	0.72
9:D:111:ILE:CB	9:D:114:PHE:HB2	2.17	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2569:A:H2'	29:X:2570:C:C6	2.23	0.72
12:G:124:GLU:N	12:G:124:GLU:OE1	2.21	0.72
7:B:131:SER:C	7:B:132:LYS:HG2	2.08	0.72
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.68	0.72
29:X:564:U:H2'	29:X:565:A:C8	2.25	0.72
29:X:617:U:C5	29:X:632:A:C2	2.77	0.72
6:A:208:LYS:CE	29:X:1782:A:H1'	2.17	0.72
29:X:558:G:H5''	29:X:558:G:N3	2.03	0.72
29:X:1058:G:C2'	29:X:1121:G:N1	2.52	0.72
24:S:122:ILE:HG21	24:S:160:LEU:HD23	1.71	0.72
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.18	0.72
14:I:82:ASP:H	14:I:114:ILE:HG21	1.54	0.72
6:A:63:ARG:O	6:A:65:ILE:HG13	1.88	0.72
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.22	0.72
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.53	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
29:X:1778:U:H2'	29:X:1779:C:H6	1.52	0.72
29:X:793:G:H21	29:X:796:A:H62	1.35	0.72
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.70	0.72
17:L:16:LYS:HE2	17:L:28:ARG:NH1	2.03	0.72
11:F:87:GLY:HA3	29:X:1075:C:H5''	1.69	0.72
29:X:356:A:H2'	29:X:357:A:C8	2.23	0.72
8:C:164:VAL:O	8:C:166:TRP:N	2.23	0.72
29:X:2058:U:H3'	29:X:2217:G:H21	1.53	0.72
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.70	0.72
6:A:261:ARG:HH22	29:X:1790:G:H5''	1.53	0.72
17:L:28:ARG:HA	17:L:88:VAL:O	1.89	0.72
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.72	0.72
29:X:1314:A:H2	29:X:1642:G:N3	1.87	0.72
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.17	0.72
12:G:150:VAL:HG12	12:G:151:TYR:H	1.52	0.72
29:X:1283:C:H5''	29:X:1284:G:C5'	2.19	0.72
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.70	0.72
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.71	0.72
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.19	0.72
29:X:653:G:C2'	29:X:654:A:H5''	2.20	0.72
14:I:28:LYS:HZ2	14:I:37:GLN:H	1.35	0.72
12:G:58:ILE:HG23	12:G:80:VAL:HG11	1.71	0.72
9:D:5:LYS:O	9:D:8:TYR:HB3	1.89	0.72
18:M:5:ILE:CD1	18:M:7:ILE:HB	2.19	0.72
16:K:3:HIS:HE1	29:X:2796:A:P	2.13	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:50:ARG:O	19:N:52:ASN:N	2.22	0.72
29:X:1979:C:O2'	29:X:1980:A:O4'	2.07	0.72
9:D:33:LYS:HG3	9:D:157:VAL:CG2	2.18	0.72
29:X:1231:A:C4	29:X:1232:U:C5	2.78	0.72
21:P:126:ILE:HD12	21:P:127:ILE:N	2.04	0.72
29:X:1061:A:C2'	29:X:1062:G:H5'	2.19	0.72
29:X:1329:U:O2'	29:X:1330:G:H5'	1.90	0.72
7:B:140:SER:HB2	29:X:2557:G:N7	2.05	0.72
29:X:1255:A:H2'	29:X:1256:C:C6	2.25	0.72
14:I:30:ALA:H	14:I:34:HIS:CG	2.06	0.72
24:S:13:LYS:O	24:S:16:GLU:O	2.07	0.72
24:S:18:MET:HA	24:S:36:ARG:H	1.55	0.72
29:X:1233:A:O2'	29:X:1234:C:OP1	2.07	0.72
20:O:40:VAL:HG12	20:O:45:THR:CA	2.15	0.72
29:X:2662:C:H2'	29:X:2663:U:C6	2.23	0.72
29:X:428:A:H2'	29:X:429:C:C6	2.23	0.72
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.70	0.72
29:X:746:G:N7	29:X:774:A:C6	2.57	0.72
23:R:11:ASN:HD22	23:R:11:ASN:C	1.93	0.72
29:X:317:U:C3'	29:X:318:G:H5''	2.20	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
6:A:252:LYS:N	6:A:252:LYS:CE	2.48	0.72
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.14	0.72
29:X:2225:G:C2	29:X:2405:A:H1'	2.24	0.72
29:X:150:A:H2'	29:X:151:G:O4'	1.90	0.72
14:I:28:LYS:NZ	14:I:36:GLY:HA3	2.04	0.72
29:X:2441:U:H2'	29:X:2442:C:H6	1.54	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.89	0.72
29:X:925:U:O2'	29:X:926:C:H5'	1.89	0.72
29:X:1060:C:H2'	29:X:1061:A:H8	1.54	0.72
7:B:117:MET:N	7:B:136:ARG:HD2	2.00	0.72
23:R:4:PRO:N	29:X:34:U:H1'	2.05	0.72
23:R:84:VAL:HA	23:R:90:LYS:CD	2.18	0.72
21:P:37:LYS:HG3	29:X:1279:G:C2	2.24	0.72
6:A:243:GLY:CA	6:A:244:ARG:NH1	2.53	0.72
6:A:244:ARG:N	6:A:244:ARG:HD3	2.04	0.72
29:X:777:A:O2'	29:X:778:G:OP1	2.08	0.72
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.71	0.72
29:X:1057:A:N3	29:X:1057:A:C2'	2.52	0.72
29:X:1113:C:H2'	29:X:1114:A:C8	2.19	0.72
29:X:1857:G:N2	29:X:1860:A:OP2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:27:VAL:CG2	21:P:125:THR:HG22	2.20	0.72
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.71	0.72
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.19	0.72
8:C:95:LEU:CD2	8:C:96:PRO:HD2	2.16	0.72
29:X:521:U:H5''	29:X:522:G:OP2	1.89	0.72
6:A:134:ARG:H	6:A:187:SER:HB2	1.53	0.72
17:L:101:LYS:O	17:L:104:ALA:HB3	1.90	0.72
17:L:97:HIS:O	17:L:101:LYS:CB	2.35	0.72
26:U:33:LYS:O	26:U:34:THR:HB	1.89	0.72
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.72	0.72
8:C:45:THR:HG21	8:C:85:GLY:HA3	1.72	0.71
23:R:22:VAL:CG1	23:R:80:LYS:HD2	2.18	0.71
6:A:42:GLY:C	6:A:43:ARG:NH1	2.43	0.71
17:L:37:HIS:CB	31:Z:30:C:OP1	2.38	0.71
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.38	0.71
16:K:11:ASN:OD1	16:K:17:ARG:CZ	2.37	0.71
29:X:172:A:N7	29:X:175:C:H5	1.88	0.71
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.19	0.71
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.52	0.71
17:L:97:HIS:CG	17:L:98:GLY:H	2.05	0.71
14:I:101:ARG:HD3	29:X:637:G:N1	2.04	0.71
25:T:56:ASP:OD1	29:X:2343:C:H4'	1.89	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
8:C:135:SER:O	8:C:138:LYS:HB2	1.90	0.71
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.06	0.71
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.72	0.71
27:V:1:MET:HG3	27:V:2:LYS:HG3	1.70	0.71
29:X:1122:A:C2	29:X:1123:G:H1'	2.25	0.71
29:X:1850:G:HO2'	29:X:1851:A:H8	0.72	0.71
31:Z:4:C:O2'	31:Z:5:C:H5'	1.91	0.71
23:R:27:GLY:N	29:X:321:A:OP1	2.23	0.71
29:X:1072:U:C1'	29:X:1081:A:H1'	2.21	0.71
10:E:45:GLN:HG3	10:E:49:GLN:O	1.90	0.71
29:X:1554:G:H2'	29:X:1555:A:C8	2.26	0.71
29:X:173:A:H5'	29:X:174:A:OP2	1.90	0.71
10:E:105:MET:HE3	10:E:131:ILE:CD1	2.20	0.71
10:E:157:TYR:C	10:E:171:LEU:HD23	2.11	0.71
8:C:128:ALA:O	8:C:130:THR:N	2.24	0.71
7:B:152:LYS:HD2	12:G:106:TYR:H	1.55	0.71
23:R:24:VAL:O	23:R:30:LYS:HA	1.90	0.71
29:X:27:G:H1'	29:X:523:A:H62	1.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:246:PRO:HD2	6:A:250:TRP:H	1.55	0.71
29:X:1468:A:H5''	29:X:1472:C:H42	1.52	0.71
19:N:52:ASN:OD1	19:N:55:ARG:NH2	2.23	0.71
22:Q:29:VAL:CG1	22:Q:38:ILE:HD12	2.20	0.71
13:H:10:VAL:HG23	13:H:17:ARG:O	1.91	0.71
10:E:107:ILE:N	10:E:107:ILE:HD13	2.06	0.71
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.71
29:X:1193:G:H2'	29:X:1194:U:H5''	1.71	0.71
29:X:1391:A:O2'	29:X:1392:U:C6	2.43	0.71
29:X:1724:C:O2'	29:X:1725:C:H5'	1.90	0.71
9:D:123:ASP:O	9:D:125:ARG:N	2.24	0.71
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.10	0.71
17:L:54:ALA:CB	17:L:75:LEU:HB2	2.19	0.71
17:L:28:ARG:NH1	17:L:90:ASP:OD2	2.24	0.71
26:U:32:ARG:O	29:X:2375:G:H4'	1.90	0.71
27:V:55:THR:O	27:V:59:GLU:HG3	1.90	0.71
29:X:2306:A:H2'	29:X:2307:A:H8	1.56	0.71
29:X:429:C:H2'	29:X:430:C:H6	1.56	0.71
22:Q:20:MET:HA	22:Q:24:VAL:O	1.91	0.71
29:X:48:A:H4'	29:X:49:U:H5'	1.71	0.71
29:X:1682:A:O2'	29:X:1683:G:H5'	1.91	0.71
10:E:84:THR:HA	10:E:134:SER:HA	1.72	0.71
6:A:250:TRP:HD1	6:A:255:LYS:HD2	1.55	0.71
9:D:10:ASP:HA	9:D:14:PRO:HG2	1.71	0.71
24:S:100:THR:HG23	24:S:138:VAL:HG11	1.71	0.71
24:S:105:GLN:O	24:S:142:ASN:HA	1.91	0.71
20:O:5:ILE:HG21	20:O:10:LYS:HE2	1.71	0.71
20:O:64:GLY:HA3	20:O:90:PHE:CZ	2.25	0.71
13:H:109:ARG:HA	13:H:129:LEU:HD13	1.73	0.71
29:X:1095:A:H3'	29:X:1096:A:H5''	1.70	0.71
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.21	0.71
23:R:80:LYS:HE3	23:R:80:LYS:O	1.91	0.71
29:X:594:G:H2'	29:X:1264:C:H42	1.56	0.71
10:E:143:GLN:HG2	29:X:2725:C:O2'	1.91	0.71
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.04	0.71
17:L:60:LYS:HG2	17:L:62:GLY:N	2.02	0.71
17:L:87:VAL:HG12	17:L:88:VAL:N	2.05	0.71
14:I:61:PRO:HB3	29:X:2372:A:H5''	1.72	0.71
29:X:2323:U:C5'	29:X:2323:U:H6	1.97	0.71
19:N:44:THR:O	19:N:48:ARG:HG3	1.91	0.71
26:U:41:VAL:O	26:U:42:GLN:HB2	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2713:A:O2'	29:X:2714:A:H5'	1.90	0.71
8:C:91:TYR:HE2	29:X:1259:A:H4'	1.54	0.71
29:X:1317:G:O2'	29:X:1318:A:H5'	1.91	0.71
12:G:105:GLY:O	12:G:110:LEU:HD12	1.91	0.71
29:X:547:U:H2'	29:X:548:G:C8	2.26	0.71
9:D:125:ARG:HG3	29:X:2294:U:O2'	1.91	0.71
9:D:166:ALA:O	9:D:170:LEU:HG	1.90	0.71
9:D:4:LEU:CG	9:D:5:LYS:N	2.53	0.71
7:B:25:VAL:HG13	7:B:183:LEU:CD2	2.20	0.71
14:I:107:LYS:HE3	29:X:647:G:O6	1.91	0.71
29:X:2323:U:O2'	29:X:2324:G:H5'	1.90	0.71
20:O:36:LYS:NZ	20:O:54:TYR:HB3	2.05	0.71
9:D:38:GLU:HB3	9:D:87:ILE:CB	2.19	0.71
30:Y:45:ILE:HG21	30:Y:57:VAL:CG2	2.21	0.71
29:X:2555:G:H3'	29:X:2555:G:OP1	1.91	0.71
16:K:30:ARG:HG3	16:K:30:ARG:O	1.91	0.71
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.20	0.71
9:D:92:ARG:HH12	31:Z:46:G:H5'	1.55	0.71
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.05	0.71
29:X:1730:G:O2'	29:X:1731:C:H5'	1.91	0.71
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.05	0.71
29:X:1655:C:H4'	29:X:2689:C:O2	1.91	0.71
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.21	0.70
12:G:103:TYR:CD2	29:X:1142:G:C1'	2.73	0.70
29:X:540:G:O2'	29:X:542:A:C2	2.44	0.70
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
14:I:103:ASN:OD1	14:I:104:ARG:HG3	1.90	0.70
14:I:107:LYS:HG2	14:I:109:LEU:HD21	1.73	0.70
29:X:659:G:H2'	29:X:660:G:H8	1.56	0.70
29:X:666:U:H2'	29:X:667:U:H4'	1.73	0.70
19:N:70:ARG:NH1	19:N:70:ARG:HG3	2.02	0.70
9:D:74:ILE:HG12	9:D:80:ARG:C	2.11	0.70
12:G:104:THR:O	12:G:105:GLY:O	2.08	0.70
12:G:56:THR:N	12:G:134:MET:HE1	2.07	0.70
29:X:460:U:C4	29:X:592:G:H1'	2.26	0.70
29:X:617:U:H5	29:X:632:A:C2	2.09	0.70
29:X:689:A:H2'	29:X:690:A:H5'	1.73	0.70
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.44	0.70
29:X:537:C:O2'	29:X:538:A:C2	2.44	0.70
10:E:139:GLN:C	10:E:143:GLN:HG3	2.11	0.70
9:D:8:TYR:O	9:D:12:VAL:HB	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:64:C:H2'	31:Z:65:A:C8	2.24	0.70
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.73	0.70
23:R:85:ASP:H	23:R:86:PRO:CD	2.05	0.70
29:X:2594:U:O2'	29:X:2595:C:H5'	1.91	0.70
9:D:4:LEU:CD1	9:D:5:LYS:H	2.04	0.70
29:X:636:G:H2'	29:X:637:G:H5'	1.71	0.70
29:X:554:U:C2'	29:X:554:U:O2	2.38	0.70
29:X:1978:U:C3'	29:X:1979:C:H5''	2.18	0.70
29:X:1373:G:O6	29:X:1385:C:C4	2.43	0.70
12:G:154:GLU:N	12:G:157:PRO:HG2	2.05	0.70
24:S:64:ALA:N	24:S:86:VAL:HG23	2.05	0.70
12:G:106:TYR:O	12:G:110:LEU:HG	1.91	0.70
8:C:112:GLN:HB3	8:C:116:LYS:NZ	2.06	0.70
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.54	0.70
29:X:1429:A:O2'	29:X:1430:G:H4'	1.91	0.70
29:X:709:A:O2'	29:X:710:C:H5'	1.92	0.70
7:B:154:LYS:CE	7:B:156:MET:SD	2.80	0.70
29:X:826:U:H2'	29:X:827:C:C6	2.27	0.70
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
18:M:99:VAL:CG2	18:M:100:ARG:N	2.54	0.70
29:X:400:U:O2'	29:X:401:G:H5''	1.92	0.70
29:X:651:C:C2'	29:X:652:C:H5''	2.22	0.70
25:T:44:LYS:HG2	25:T:45:PHE:HD1	1.57	0.70
9:D:38:GLU:N	9:D:87:ILE:O	2.24	0.70
25:T:52:GLY:HA3	25:T:60:PHE:CE2	2.26	0.70
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.22	0.70
21:P:14:ARG:HA	21:P:17:GLN:CG	2.20	0.70
29:X:1656:U:O2'	29:X:1657:A:H5''	1.92	0.70
29:X:2560:G:H4'	29:X:2561:G:C8	2.27	0.70
7:B:150:VAL:CG2	7:B:154:LYS:HE2	2.18	0.70
29:X:1467:U:C3'	29:X:1467:U:H6	2.05	0.70
29:X:2691:C:C2'	29:X:2692:A:H5''	2.21	0.70
29:X:1354:A:H2'	29:X:1410:U:O2'	1.90	0.70
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.56	0.70
24:S:6:LYS:H	24:S:7:PRO:HD3	1.57	0.70
29:X:503:G:H2'	29:X:504:G:O4'	1.92	0.70
8:C:122:GLY:HA2	8:C:124:ASP:OD1	1.92	0.70
9:D:58:ALA:O	9:D:62:LEU:HA	1.91	0.70
29:X:1490:U:H2'	29:X:1491:C:H6	1.57	0.70
8:C:115:GLY:O	8:C:185:ARG:HD2	1.91	0.70
12:G:141:GLY:O	12:G:144:MET:HB2	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:687:G:C2'	29:X:688:A:H5'	2.22	0.70
6:A:68:LYS:HA	6:A:152:GLY:HA2	1.71	0.70
29:X:796:A:H8	29:X:797:A:H4'	1.57	0.70
29:X:490:A:O2'	29:X:491:A:H3'	1.91	0.70
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.74	0.70
7:B:9:ILE:HD13	18:M:12:LEU:CD1	2.21	0.70
13:H:23:ARG:HH21	13:H:23:ARG:CG	2.04	0.70
29:X:1071:U:H1'	29:X:1073:G:C5'	2.21	0.70
19:N:50:ARG:C	19:N:52:ASN:N	2.44	0.70
15:J:84:MET:HG2	29:X:2229:G:H5'	1.74	0.70
8:C:139:GLN:CA	8:C:139:GLN:HE21	2.05	0.70
29:X:1644:G:H2'	29:X:1645:U:H6	1.56	0.70
29:X:1177:U:H2'	29:X:1178:C:C6	2.27	0.70
29:X:1741:G:O2'	29:X:1742:G:H5'	1.91	0.70
21:P:133:ASN:N	21:P:133:ASN:HD22	1.90	0.70
7:B:146:THR:HB	7:B:147:PRO:HD2	1.73	0.70
6:A:91:ARG:HB2	6:A:107:ALA:HB3	1.72	0.70
6:A:77:ALA:CB	6:A:97:TYR:HD1	2.03	0.70
25:T:73:GLY:O	25:T:74:LYS:HB2	1.91	0.70
20:O:13:ARG:HD3	20:O:16:GLU:OE1	1.92	0.70
20:O:13:ARG:HG2	20:O:14:VAL:N	2.07	0.70
10:E:29:PRO:HD2	10:E:79:VAL:HB	1.73	0.70
29:X:2387:U:H2'	29:X:2388:G:H8	1.56	0.70
29:X:1911:A:H2'	29:X:1912:G:H1'	1.72	0.70
29:X:1255:A:H2'	29:X:1256:C:H6	1.56	0.70
6:A:188:GLU:OE2	29:X:2201:G:H5''	1.90	0.70
31:Z:15:A:C6	31:Z:72:C:H5'	2.26	0.70
24:S:138:VAL:HA	24:S:141:MET:HE2	1.74	0.70
18:M:43:ASN:C	18:M:43:ASN:ND2	2.45	0.70
29:X:683:A:H4'	29:X:684:C:H5'	1.74	0.69
6:A:206:LEU:O	6:A:211:ARG:HD3	1.91	0.69
25:T:40:GLN:HE21	25:T:57:HIS:HB3	1.54	0.69
26:U:33:LYS:CE	29:X:2400:G:H21	2.05	0.69
26:U:69:THR:HG22	26:U:70:LEU:N	2.06	0.69
29:X:1467:U:C3'	29:X:1467:U:C6	2.74	0.69
11:F:10:LEU:HD12	11:F:12:LEU:HG	1.72	0.69
21:P:40:LEU:HD13	21:P:62:ARG:HH12	1.57	0.69
19:N:31:GLN:HE22	29:X:589:C:H4'	1.55	0.69
12:G:138:GLY:O	12:G:141:GLY:N	2.24	0.69
14:I:43:ALA:HB1	29:X:684:C:C5	2.26	0.69
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1845:A:N1	29:X:2070:G:H1'	2.06	0.69
19:N:93:LYS:CE	20:O:10:LYS:HZ3	2.05	0.69
9:D:70:ALA:C	9:D:72:LYS:H	1.92	0.69
29:X:1840:A:H2'	29:X:1841:G:O4'	1.91	0.69
7:B:20:ALA:HB2	13:H:85:ASP:O	1.92	0.69
12:G:103:TYR:CD1	12:G:111:LYS:HA	2.26	0.69
6:A:108:PRO:HB3	6:A:143:HIS:HE2	1.57	0.69
6:A:158:SER:O	6:A:196:VAL:HG21	1.92	0.69
6:A:68:LYS:CA	6:A:152:GLY:HA2	2.22	0.69
29:X:2585:C:H2'	29:X:2586:G:H5'	1.74	0.69
7:B:49:ILE:HD11	7:B:90:SER:HB3	1.73	0.69
29:X:70:A:H4'	29:X:71:A:H3'	1.73	0.69
14:I:39:SER:O	14:I:40:ARG:HB2	1.92	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.57	0.69
6:A:200:GLU:HG3	6:A:202:LYS:HB2	1.74	0.69
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.12	0.69
17:L:41:GLN:HG2	17:L:43:ILE:HD11	1.74	0.69
29:X:2211:U:O2'	29:X:2212:U:H5'	1.93	0.69
14:I:107:LYS:HG3	14:I:108:LEU:N	2.06	0.69
29:X:651:C:C3'	29:X:652:C:H5''	2.22	0.69
29:X:931:G:H4'	31:Z:83:C:H4'	1.74	0.69
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.73	0.69
29:X:2671:C:O2'	29:X:2672:U:H5'	1.92	0.69
13:H:1:MET:HB3	13:H:44:TYR:HB3	1.73	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
29:X:717:G:H1'	29:X:740:A:N6	2.08	0.69
8:C:98:GLN:HE22	29:X:611:C:H4'	1.56	0.69
29:X:2628:C:H2'	29:X:2629:U:C6	2.27	0.69
10:E:38:ASN:HB2	10:E:41:LEU:HB2	1.73	0.69
29:X:2441:U:H2'	29:X:2442:C:C6	2.27	0.69
29:X:5:A:H2'	29:X:6:A:H8	1.57	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
29:X:1478:U:H2'	29:X:1479:G:H8	1.56	0.69
29:X:520:C:H2'	29:X:520:C:O2	1.92	0.69
19:N:28:ARG:HH21	29:X:542:A:H8	1.39	0.69
29:X:469:G:N2	29:X:480:G:H2'	2.07	0.69
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.26	0.69
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.75	0.69
20:O:6:GLN:HG2	29:X:1007:A:H1'	1.74	0.69
29:X:757:U:C2'	29:X:758:G:H5'	2.22	0.69
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:105:MET:CE	10:E:131:ILE:HD11	2.22	0.69
23:R:59:LYS:O	23:R:60:PRO:O	2.10	0.69
7:B:117:MET:HB2	7:B:136:ARG:HD2	1.75	0.69
8:C:83:ALA:O	8:C:84:PHE:HB2	1.92	0.69
29:X:2596:C:O2'	29:X:2597:G:H5'	1.93	0.69
15:J:113:GLU:C	15:J:115:ALA:H	1.92	0.69
29:X:732:G:P	29:X:732:G:H8	2.15	0.69
10:E:96:ALA:HA	10:E:104:GLU:O	1.92	0.69
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.06	0.69
9:D:11:GLN:O	9:D:15:ALA:HB3	1.93	0.69
29:X:1107:A:C3'	29:X:1108:U:H5''	2.22	0.69
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.23	0.69
24:S:3:LEU:CD2	24:S:32:PHE:HB3	2.21	0.69
12:G:84:ASN:O	12:G:85:ALA:HB3	1.91	0.69
29:X:1437:A:H2'	29:X:1438:G:H8	1.55	0.69
29:X:445:A:H2'	29:X:446:C:H6	1.56	0.69
11:F:5:ALA:HB2	11:F:60:TYR:O	1.92	0.69
8:C:62:LYS:HD3	8:C:62:LYS:C	2.12	0.69
29:X:1672:A:H3'	29:X:1673:C:C6	2.27	0.69
21:P:35:PRO:HG2	21:P:99:ALA:HB2	1.75	0.69
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
6:A:245:VAL:CA	6:A:252:LYS:HE2	2.22	0.69
25:T:41:ARG:HH12	29:X:2366:U:H1'	1.58	0.69
31:Z:58:G:H4'	31:Z:59:A:H5''	1.74	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
26:U:67:LEU:O	26:U:71:SER:HB3	1.93	0.69
13:H:23:ARG:CB	13:H:23:ARG:NH2	2.56	0.69
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.39	0.69
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
11:F:21:PRO:CD	11:F:22:PRO:HD3	2.23	0.69
29:X:871:U:H2'	29:X:2247:A:N3	2.08	0.69
9:D:75:SER:N	9:D:79:LEU:HD22	2.06	0.69
29:X:2633:A:H61	29:X:2644:A:H3'	1.58	0.69
29:X:104:C:C2'	29:X:105:G:H5''	2.22	0.69
29:X:48:A:H1'	29:X:50:G:N3	2.08	0.69
14:I:56:LEU:O	14:I:58:ALA:O	2.11	0.69
13:H:7:ARG:NH1	13:H:20:MET:HE3	2.07	0.69
29:X:1301:U:H5''	29:X:1302:C:OP2	1.93	0.69
29:X:1813:A:H2'	29:X:1814:G:C8	2.26	0.69
29:X:2736:U:H4'	29:X:2737:A:OP1	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:65:ILE:HG12	15:J:107:VAL:HG12	1.74	0.69
26:U:10:LYS:HZ3	26:U:70:LEU:HG	1.56	0.69
29:X:1072:U:H4'	29:X:1073:G:OP2	1.92	0.69
29:X:1850:G:O2'	29:X:1851:A:O4'	2.11	0.69
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.56	0.69
21:P:29:LYS:HG2	21:P:123:HIS:ND1	2.07	0.69
29:X:188:G:O2'	29:X:189:A:H5'	1.93	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.28	0.69
29:X:2266:A:H62	29:X:2323:U:H3	1.35	0.69
29:X:1681:A:N1	29:X:2706:U:C6	2.61	0.69
29:X:2581:A:H3'	29:X:2582:G:C5'	2.22	0.69
29:X:1737:G:H2'	29:X:1738:U:C6	2.27	0.69
29:X:5:A:O2'	29:X:6:A:H5'	1.92	0.69
24:S:24:TYR:HB3	24:S:29:ASN:HA	1.75	0.69
29:X:765:C:O2'	29:X:766:A:OP2	2.10	0.69
8:C:58:MET:HB2	8:C:70:GLY:O	1.93	0.69
8:C:93:TYR:N	8:C:93:TYR:CD2	2.61	0.68
29:X:2756:A:O2'	29:X:2757:G:OP2	2.10	0.68
6:A:181:GLU:HG2	6:A:182:LEU:N	2.08	0.68
4:4:3:VAL:HA	4:4:35:ARG:O	1.93	0.68
6:A:243:GLY:O	6:A:244:ARG:CZ	2.41	0.68
9:D:126:GLY:O	9:D:160:ALA:HB3	1.93	0.68
26:U:51:ILE:HG12	26:U:59:THR:CB	2.22	0.68
29:X:635:C:C2'	29:X:636:G:H5''	2.22	0.68
9:D:79:LEU:HA	9:D:80:ARG:CZ	2.22	0.68
29:X:2708:U:H2'	29:X:2709:C:C6	2.28	0.68
29:X:173:A:H61	29:X:844:G:N2	1.91	0.68
29:X:2873:G:H2'	29:X:2874:A:C8	2.28	0.68
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.57	0.68
11:F:98:LYS:HB2	11:F:137:THR:OG1	1.93	0.68
29:X:738:G:O5'	29:X:738:G:H8	1.76	0.68
6:A:181:GLU:HG3	6:A:269:PHE:O	1.93	0.68
9:D:123:ASP:OD1	29:X:2294:U:H1'	1.93	0.68
31:Z:25:G:H2'	31:Z:26:G:N7	2.08	0.68
29:X:2169:A:H2'	29:X:2170:C:C6	2.28	0.68
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.75	0.68
29:X:946:U:H2'	29:X:947:C:H6	1.57	0.68
15:J:102:ARG:HG3	15:J:103:VAL:H	1.58	0.68
31:Z:112:A:H2'	31:Z:113:G:C8	2.29	0.68
29:X:1729:C:H2'	29:X:1730:G:H8	1.55	0.68
8:C:8:GLY:O	8:C:9:GLN:HB3	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:61:VAL:HG23	20:O:94:LYS:H	1.58	0.68
29:X:1275:A:H2	30:Y:10:LYS:HE2	1.57	0.68
29:X:617:U:H5	29:X:632:A:H2	1.40	0.68
4:4:1:MET:HA	4:4:1:MET:HE2	1.74	0.68
17:L:87:VAL:HG12	17:L:88:VAL:H	1.59	0.68
13:H:23:ARG:CB	13:H:23:ARG:HH21	2.07	0.68
24:S:92:VAL:HG23	24:S:93:GLU:H	1.57	0.68
22:Q:54:SER:HB2	29:X:1354:A:HO2'	1.58	0.68
24:S:103:ARG:NH2	24:S:108:VAL:HG23	2.09	0.68
12:G:42:VAL:HG13	12:G:166:LEU:O	1.94	0.68
29:X:1522:C:H2'	29:X:1523:A:C4'	2.23	0.68
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.08	0.68
19:N:11:ARG:HH22	29:X:29:U:H4'	1.56	0.68
29:X:2586:G:N1	29:X:2587:G:C2	2.62	0.68
15:J:116:LYS:NZ	15:J:132:MET:HB3	2.09	0.68
29:X:649:G:N2	29:X:661:C:H1'	2.08	0.68
22:Q:7:LEU:HD21	27:V:30:PHE:CE2	2.19	0.68
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.23	0.68
22:Q:62:ARG:O	22:Q:70:GLY:HA3	1.93	0.68
29:X:1441:A:H1'	29:X:1442:C:C5	2.28	0.68
23:R:93:ARG:NH2	23:R:108:VAL:HA	2.09	0.68
30:Y:19:ARG:O	30:Y:21:SER:N	2.27	0.68
29:X:922:A:H2'	29:X:923:A:C8	2.28	0.68
31:Z:12:C:H2'	31:Z:13:C:O4'	1.93	0.68
8:C:5:ASN:HB2	8:C:10:ASN:HA	1.74	0.68
9:D:83:MET:O	9:D:85:VAL:HG13	1.94	0.68
29:X:2448:A:H2'	29:X:2449:G:O4'	1.92	0.68
29:X:172:A:C5	29:X:175:C:C5	2.80	0.68
15:J:17:ARG:O	15:J:17:ARG:HG3	1.92	0.68
12:G:162:LYS:N	12:G:163:PRO:CD	2.56	0.68
12:G:153:GLY:C	12:G:157:PRO:HG2	2.14	0.68
24:S:71:MET:HB2	24:S:78:PRO:HA	1.75	0.68
29:X:416:U:O2'	29:X:417:C:H5	1.77	0.68
29:X:1478:U:O2'	29:X:1479:G:H5'	1.93	0.68
19:N:24:PHE:HB3	19:N:28:ARG:O	1.92	0.68
29:X:1672:A:H3'	29:X:1673:C:H6	1.58	0.68
29:X:539:A:H5'	29:X:540:G:OP1	1.93	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.08	0.68
18:M:26:ASP:OD1	18:M:27:PHE:N	2.26	0.68
26:U:34:THR:HG23	26:U:35:THR:N	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:558:G:N3	29:X:558:G:O5'	2.27	0.68
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.24	0.68
24:S:133:GLU:HG3	24:S:134:LEU:N	2.06	0.68
29:X:1681:A:H61	29:X:1979:C:H42	1.42	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
21:P:85:MET:CE	21:P:130:GLU:HG3	2.24	0.68
10:E:105:MET:HB3	10:E:107:ILE:CD1	2.23	0.68
29:X:431:G:H2'	29:X:432:C:C6	2.28	0.68
29:X:2057:U:H5''	29:X:2057:U:H6	1.58	0.68
24:S:3:LEU:HD13	24:S:33:ALA:H	1.57	0.68
29:X:2699:G:O2'	29:X:2700:U:H5'	1.93	0.68
23:R:60:PRO:O	23:R:65:PRO:HG3	1.93	0.68
28:W:38:PRO:N	28:W:41:ARG:HE	1.92	0.68
7:B:147:PRO:HD3	29:X:1141:U:C4	2.29	0.68
19:N:10:ARG:HH11	29:X:592:G:P	2.16	0.68
15:J:102:ARG:HG3	15:J:103:VAL:N	2.07	0.68
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.23	0.68
15:J:40:PRO:HB3	15:J:99:LYS:HZ2	1.58	0.68
21:P:87:GLU:HA	21:P:90:LEU:CD1	2.24	0.68
29:X:2644:A:O2'	29:X:2645:C:H5'	1.93	0.68
29:X:1323:G:H3'	29:X:1324:G:H21	1.57	0.68
29:X:1430:G:H2'	29:X:1431:U:C6	2.29	0.68
24:S:103:ARG:HH21	24:S:108:VAL:CG2	2.05	0.68
6:A:33:LEU:HD12	6:A:63:ARG:HH22	1.59	0.68
26:U:48:LYS:CE	29:X:2074:U:H1'	2.19	0.68
18:M:34:ARG:CZ	18:M:88:VAL:HG21	2.23	0.68
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.76	0.68
29:X:1459:U:C2	29:X:1475:U:H1'	2.29	0.68
20:O:13:ARG:CG	20:O:14:VAL:H	2.04	0.68
29:X:1514:C:O4'	29:X:1593:C:H4'	1.93	0.68
24:S:122:ILE:HG22	24:S:160:LEU:HA	1.75	0.68
29:X:1252:C:HO2'	29:X:1253:C:H5''	1.58	0.68
14:I:28:LYS:CE	14:I:36:GLY:HA3	2.24	0.68
29:X:2787:A:H2'	29:X:2788:C:C6	2.28	0.68
6:A:79:VAL:O	6:A:113:VAL:HG13	1.94	0.68
23:R:5:SER:O	23:R:6:ALA:HB3	1.94	0.68
7:B:28:ALA:O	7:B:180:ASN:HB3	1.94	0.68
11:F:52:ILE:H	11:F:73:PRO:CD	2.07	0.68
22:Q:92:ALA:O	22:Q:94:GLN:N	2.27	0.68
6:A:48:ARG:HH22	29:X:787:A:H5''	1.58	0.68
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1031:C:H41	29:X:1153:A:H61	1.39	0.67
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.24	0.67
29:X:837:U:H2'	29:X:838:A:H8	1.60	0.67
11:F:48:LYS:HD3	11:F:72:PRO:HD3	1.75	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
14:I:38:LYS:HZ3	29:X:954:U:P	2.15	0.67
29:X:2665:G:C2	29:X:2704:U:O2	2.48	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.74	0.67
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.27	0.67
29:X:313:U:H2'	29:X:314:G:H8	1.58	0.67
9:D:92:ARG:HH12	31:Z:46:G:C5'	2.06	0.67
14:I:63:ARG:CZ	29:X:2394:G:OP1	2.42	0.67
29:X:1399:C:H2'	29:X:1400:A:H8	1.59	0.67
29:X:1922:U:H4'	29:X:1923:U:OP2	1.94	0.67
10:E:126:PRO:HG2	10:E:127:GLU:N	2.09	0.67
29:X:2700:U:H6	29:X:2700:U:H5'	1.59	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.93	0.67
6:A:81:ALA:HA	6:A:113:VAL:HG22	1.76	0.67
13:H:102:GLN:HB2	13:H:104:GLU:HG3	1.74	0.67
29:X:2845:C:C4	29:X:2846:G:N7	2.62	0.67
16:K:20:LEU:O	16:K:21:ALA:C	2.31	0.67
8:C:28:HIS:ND1	14:I:21:ARG:NH1	2.42	0.67
6:A:54:ILE:O	6:A:54:ILE:CG2	2.42	0.67
29:X:777:A:N6	29:X:1766:U:H3	1.92	0.67
29:X:1837:G:O2'	29:X:1838:G:H5'	1.94	0.67
29:X:2837:G:O2'	29:X:2838:U:H5'	1.94	0.67
7:B:76:ARG:HG2	7:B:77:ILE:HG13	1.75	0.67
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.74	0.67
12:G:69:ASP:C	12:G:70:PHE:HD2	1.96	0.67
29:X:421:G:H2'	29:X:422:C:H6	1.57	0.67
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.42	0.67
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.07	0.67
7:B:116:VAL:H	7:B:136:ARG:CZ	2.07	0.67
12:G:103:TYR:HB3	12:G:107:GLN:NE2	1.98	0.67
19:N:10:ARG:HD2	29:X:592:G:OP2	1.95	0.67
29:X:2594:U:H2'	29:X:2595:C:C6	2.29	0.67
29:X:341:A:HO2'	29:X:342:G:H8	1.36	0.67
29:X:529:U:H2'	29:X:530:G:H8	1.56	0.67
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.67
24:S:137:ASP:OD2	24:S:138:VAL:N	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:94:VAL:HG12	24:S:95:SER:H	1.58	0.67
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.30	0.67
9:D:81:GLN:HG2	9:D:82:GLY:N	2.05	0.67
11:F:84:ILE:HD12	11:F:96:VAL:HG13	1.76	0.67
10:E:41:LEU:HD21	10:E:68:THR:OG1	1.93	0.67
29:X:2057:U:H5''	29:X:2057:U:C6	2.30	0.67
22:Q:63:LYS:HB3	22:Q:69:ILE:O	1.94	0.67
29:X:1329:U:H2'	29:X:1330:G:H8	1.59	0.67
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.25	0.67
24:S:87:THR:O	24:S:88:TYR:HB2	1.94	0.67
5:5:5:SER:H	5:5:13:BB9:HN1	1.41	0.67
29:X:890:U:H2'	29:X:891:A:H8	1.59	0.67
17:L:27:LEU:O	17:L:88:VAL:N	2.28	0.67
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.60	0.67
29:X:659:G:H2'	29:X:660:G:C8	2.28	0.67
29:X:1468:A:P	29:X:1468:A:H8	2.18	0.67
29:X:76:C:H6	29:X:76:C:C5'	2.07	0.67
8:C:2:ALA:CA	8:C:13:ARG:HA	2.21	0.67
29:X:421:G:H2'	29:X:422:C:C6	2.29	0.67
7:B:143:GLN:O	29:X:2035:G:H4'	1.93	0.67
31:Z:5:C:H2'	31:Z:6:C:O4'	1.94	0.67
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.77	0.67
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.77	0.67
6:A:243:GLY:HA2	6:A:244:ARG:NH1	2.10	0.67
26:U:28:GLY:N	26:U:32:ARG:HD3	2.09	0.67
15:J:64:LYS:CB	15:J:108:ALA:O	2.43	0.67
7:B:72:VAL:O	7:B:73:ALA:CB	2.41	0.67
14:I:109:LEU:HB3	29:X:648:A:OP2	1.94	0.67
14:I:86:THR:C	14:I:88:PHE:H	1.95	0.67
11:F:50:ASP:O	11:F:51:ALA:HB2	1.95	0.67
29:X:732:G:C8	29:X:732:G:OP2	2.48	0.67
25:T:71:ASN:HB2	25:T:77:ARG:HD2	1.76	0.67
29:X:2501:U:H5'	29:X:2502:G:OP2	1.95	0.67
23:R:71:GLN:O	23:R:72:ARG:HG3	1.94	0.67
29:X:1973:C:H2'	29:X:1974:U:C6	2.29	0.67
28:W:36:ASP:CG	28:W:41:ARG:HH12	1.98	0.67
17:L:85:LYS:HG2	17:L:86:GLN:HG2	1.74	0.67
29:X:1064:C:O5'	29:X:1064:C:H6	1.77	0.67
29:X:33:C:O2'	29:X:34:U:H5''	1.94	0.67
6:A:44:ASN:N	6:A:44:ASN:ND2	2.41	0.67
8:C:166:TRP:H	8:C:166:TRP:HE3	1.40	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:19:THR:HB	31:Z:93:G:OP1	1.95	0.67
24:S:113:VAL:CG2	24:S:171:VAL:HG22	2.23	0.67
24:S:122:ILE:HA	24:S:161:ALA:H	1.59	0.67
29:X:2178:U:O2'	29:X:2179:C:H5'	1.93	0.67
21:P:93:LYS:HD2	21:P:129:ALA:HB2	1.77	0.67
29:X:136:A:H2'	29:X:137:A:O4'	1.94	0.67
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.59	0.67
14:I:45:LYS:NZ	29:X:818:G:OP1	2.27	0.67
29:X:2828:C:H2'	29:X:2829:A:H8	1.59	0.67
9:D:16:LEU:O	9:D:20:PHE:N	2.27	0.67
29:X:2352:A:H2'	29:X:2353:G:C8	2.28	0.67
15:J:20:GLY:O	15:J:99:LYS:HG2	1.95	0.67
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.29	0.67
29:X:422:C:O2'	29:X:423:G:H5'	1.95	0.67
14:I:28:LYS:HZ3	14:I:36:GLY:CA	2.08	0.67
17:L:32:TYR:CD2	31:Z:9:G:H5'	2.30	0.67
29:X:416:U:O2'	29:X:417:C:C5	2.48	0.67
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.67
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.29	0.67
29:X:192:G:H4'	29:X:193:A:O5'	1.94	0.67
29:X:841:G:H2'	29:X:842:A:C8	2.30	0.67
19:N:7:GLY:O	19:N:8:ILE:HG12	1.94	0.67
23:R:22:VAL:HG11	23:R:80:LYS:CD	2.20	0.67
29:X:455:A:C2	29:X:1258:G:N3	2.62	0.67
4:4:10:MET:N	4:4:14:CYS:SG	2.65	0.67
29:X:1770:U:C2	29:X:1774:A:N7	2.63	0.67
9:D:16:LEU:O	9:D:20:PHE:HD1	1.77	0.67
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.95	0.67
29:X:2319:G:O2'	29:X:2320:G:H5'	1.95	0.67
27:V:56:VAL:O	27:V:59:GLU:N	2.25	0.67
20:O:48:GLY:O	20:O:50:ASP:N	2.27	0.67
19:N:58:ARG:NH2	29:X:1007:A:H3'	2.09	0.67
22:Q:59:PRO:HA	22:Q:74:ASP:OD1	1.95	0.67
29:X:1937:G:O2'	29:X:1939:U:C5	2.47	0.67
21:P:79:ALA:O	21:P:85:MET:HB2	1.95	0.67
14:I:54:SER:OG	14:I:59:ARG:CZ	2.43	0.67
29:X:2165:A:H2'	29:X:2166:G:H8	1.59	0.67
23:R:25:LEU:HD22	23:R:26:SER:HB3	1.77	0.67
6:A:67:PHE:HB3	6:A:153:ALA:N	2.10	0.67
29:X:2395:C:H2'	29:X:2396:C:H5'	1.77	0.67
19:N:66:ASN:ND2	19:N:70:ARG:NH1	2.43	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:758:G:C2'	29:X:759:C:H5''	2.22	0.67
16:K:10:LEU:HD22	16:K:17:ARG:HB2	1.75	0.67
29:X:1391:A:O2'	29:X:1392:U:P	2.53	0.67
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.30	0.67
4:4:26:ILE:HG13	4:4:26:ILE:O	1.93	0.66
8:C:125:ILE:O	8:C:126:ALA:HB3	1.94	0.66
12:G:105:GLY:C	12:G:110:LEU:HD12	2.15	0.66
23:R:93:ARG:HG2	23:R:94:VAL:N	2.09	0.66
29:X:1031:C:H2'	29:X:1031:C:O2	1.94	0.66
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.66
29:X:1053:G:H1	29:X:1124:U:H3	1.39	0.66
25:T:43:THR:H	29:X:2310:G:H4'	1.60	0.66
18:M:16:ILE:HG22	18:M:16:ILE:O	1.95	0.66
29:X:1467:U:H3'	29:X:1468:A:H5'	1.76	0.66
29:X:1171:A:H2'	29:X:1172:U:C6	2.31	0.66
22:Q:53:ILE:HG13	22:Q:54:SER:N	2.10	0.66
29:X:1246:G:H2'	29:X:1247:U:H6	1.60	0.66
22:Q:90:ALA:C	22:Q:92:ALA:N	2.49	0.66
25:T:31:VAL:HG11	25:T:37:LEU:HD21	1.77	0.66
29:X:1347:C:O2'	29:X:1348:C:H5'	1.94	0.66
24:S:64:ALA:HA	24:S:86:VAL:H	1.60	0.66
28:W:38:PRO:HA	28:W:41:ARG:HD2	1.77	0.66
9:D:92:ARG:NH1	31:Z:46:G:H5'	2.10	0.66
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.25	0.66
7:B:178:GLY:O	7:B:179:GLU:HG3	1.94	0.66
14:I:101:ARG:CD	29:X:637:G:H1	2.06	0.66
29:X:1071:U:H4'	29:X:1072:U:O5'	1.94	0.66
16:K:28:LEU:HD21	16:K:115:LEU:HG	1.77	0.66
29:X:2691:C:O2'	29:X:2692:A:O5'	2.13	0.66
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.25	0.66
29:X:1442:C:O2'	29:X:1443:G:OP1	2.09	0.66
29:X:1069:G:H2'	29:X:1070:G:H5''	1.77	0.66
29:X:2470:U:H2'	29:X:2470:U:O2	1.93	0.66
29:X:1648:C:H5'	29:X:1648:C:H6	1.60	0.66
12:G:117:GLU:O	12:G:119:LEU:N	2.27	0.66
23:R:11:ASN:O	23:R:13:LYS:N	2.28	0.66
6:A:251:GLY:HA3	6:A:255:LYS:NZ	2.10	0.66
9:D:123:ASP:C	9:D:125:ARG:N	2.45	0.66
29:X:939:C:H5''	29:X:940:G:C5'	2.25	0.66
29:X:666:U:H2'	29:X:667:U:C4'	2.24	0.66
24:S:145:ASP:O	24:S:170:SER:HA	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.76	0.66
29:X:173:A:N6	29:X:844:G:H21	1.93	0.66
29:X:1856:U:H2'	29:X:1857:G:O5'	1.94	0.66
29:X:2387:U:H2'	29:X:2388:G:C8	2.29	0.66
29:X:1332:G:C5	29:X:1333:G:C6	2.83	0.66
17:L:26:ARG:NH1	29:X:2357:A:H4'	2.09	0.66
29:X:2482:A:C4'	29:X:2483:U:OP1	2.40	0.66
29:X:2302:G:H1	29:X:2311:U:H5	1.41	0.66
15:J:103:VAL:O	15:J:103:VAL:HG12	1.94	0.66
26:U:10:LYS:HG2	26:U:11:LYS:HG3	1.76	0.66
29:X:1234:C:H2'	29:X:1235:C:H6	1.58	0.66
29:X:2634:G:HO2'	29:X:2643:G:H1	1.44	0.66
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.60	0.66
29:X:1348:C:H2'	29:X:1349:A:H8	1.59	0.66
29:X:417:C:C5	29:X:419:G:C4	2.84	0.66
29:X:417:C:C6	29:X:419:G:N9	2.64	0.66
11:F:111:LYS:O	11:F:115:LEU:HG	1.95	0.66
23:R:102:LYS:HE2	29:X:100:G:O6	1.95	0.66
18:M:31:ASP:OD2	18:M:31:ASP:N	2.25	0.66
23:R:9:HIS:CE1	29:X:338:G:H5'	2.30	0.66
17:L:54:ALA:O	17:L:71:VAL:HG23	1.96	0.66
16:K:25:ALA:HB2	16:K:47:PHE:HE2	1.61	0.66
23:R:96:LYS:HG3	23:R:97:GLN:N	2.10	0.66
6:A:252:LYS:HB2	6:A:253:PRO:CD	2.26	0.66
18:M:102:ALA:O	18:M:103:LYS:HD2	1.95	0.66
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.78	0.66
29:X:1247:U:O2'	29:X:1248:G:H5'	1.96	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.96	0.66
29:X:2426:G:O2'	29:X:2427:A:OP2	2.14	0.66
17:L:30:SER:C	17:L:31:VAL:HG12	2.16	0.66
29:X:1151:U:C5'	29:X:1153:A:H5''	2.26	0.66
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.11	0.66
29:X:1745:C:O2'	29:X:1746:A:H5'	1.94	0.66
9:D:9:ASN:O	9:D:13:ARG:N	2.28	0.66
26:U:45:ASN:HA	29:X:2210:C:OP1	1.94	0.66
7:B:14:ILE:HD11	7:B:183:LEU:CD1	2.26	0.66
10:E:58:ALA:N	10:E:62:ARG:HG3	2.07	0.66
29:X:1437:A:H2'	29:X:1438:G:C8	2.31	0.66
29:X:104:C:O2'	29:X:105:G:H5''	1.95	0.66
29:X:965:G:N3	29:X:2253:A:C2	2.64	0.66
31:Z:4:C:C2'	31:Z:5:C:H5'	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:6:ALA:HB1	29:X:2848:A:H2	1.61	0.66
6:A:161:THR:O	6:A:195:ALA:HB1	1.95	0.66
8:C:162:ARG:CZ	29:X:333:A:C3'	2.66	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.59	0.66
29:X:946:U:H2'	29:X:947:C:C6	2.30	0.66
15:J:37:ALA:HB2	15:J:104:MET:CE	2.25	0.66
24:S:19:ILE:HG22	24:S:20:ALA:H	1.61	0.66
29:X:2407:G:H5''	29:X:2408:G:OP1	1.94	0.66
11:F:25:PRO:HG2	11:F:26:ALA:H	1.61	0.66
19:N:84:LYS:HB2	19:N:92:ARG:NH2	2.11	0.66
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.78	0.66
12:G:162:LYS:N	12:G:163:PRO:HD2	2.09	0.66
7:B:143:GLN:HE21	7:B:143:GLN:N	1.94	0.66
4:4:31:LYS:H	4:4:31:LYS:CD	2.09	0.66
23:R:84:VAL:HG21	23:R:89:GLY:CA	2.26	0.66
18:M:101:ARG:HH21	18:M:101:ARG:HG2	1.61	0.66
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.78	0.66
29:X:2266:A:O2'	29:X:2267:A:H3'	1.94	0.66
29:X:357:A:N7	29:X:358:C:H1'	2.11	0.66
24:S:142:ASN:H	24:S:145:ASP:CG	1.98	0.66
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.78	0.66
29:X:914:C:O2'	29:X:915:C:H5'	1.96	0.66
29:X:1517:C:H2'	29:X:1518:C:H6	1.61	0.66
21:P:27:VAL:CB	21:P:125:THR:HG22	2.25	0.66
29:X:197:G:N3	29:X:210:A:H2	1.93	0.66
29:X:2506:C:O2'	29:X:2507:U:H5'	1.96	0.66
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.63	0.66
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.10	0.66
29:X:1135:C:H2'	29:X:1136:G:H8	1.59	0.66
29:X:591:G:H2'	29:X:592:G:C8	2.31	0.66
28:W:4:LYS:HG2	28:W:52:GLU:O	1.96	0.66
29:X:1554:G:H2'	29:X:1555:A:H8	1.61	0.66
16:K:79:VAL:HA	16:K:83:VAL:CG1	2.25	0.66
25:T:39:ARG:NH2	29:X:2334:C:H1'	2.01	0.66
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.25	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.96	0.66
12:G:92:GLY:HA3	12:G:93:LYS:HE2	1.77	0.65
6:A:244:ARG:HD2	29:X:1885:C:C4'	2.26	0.65
29:X:796:A:C8	29:X:797:A:H4'	2.30	0.65
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.60	0.65
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.59	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1850:G:C2'	29:X:1851:A:H8	2.07	0.65
21:P:108:PRO:HG2	29:X:1631:C:C1'	2.25	0.65
29:X:1086:C:H3'	29:X:1087:C:C5'	2.25	0.65
29:X:2700:U:C6	29:X:2700:U:H5'	2.30	0.65
29:X:2712:G:H3'	29:X:2713:A:C5'	2.26	0.65
24:S:68:ALA:H	24:S:82:ASP:HB2	1.60	0.65
16:K:44:LEU:O	16:K:44:LEU:HD12	1.95	0.65
20:O:93:ILE:O	20:O:93:ILE:HG13	1.96	0.65
29:X:322:A:O2'	29:X:343:A:H4'	1.96	0.65
29:X:350:U:O5'	29:X:350:U:H6	1.78	0.65
9:D:122:PHE:CB	9:D:129:ASN:HD22	2.04	0.65
31:Z:43:G:C5'	31:Z:44:C:H5'	2.18	0.65
11:F:39:LYS:O	11:F:43:ALA:HB2	1.96	0.65
29:X:168:A:O2'	29:X:169:C:H5'	1.96	0.65
29:X:2405:A:H2'	29:X:2405:A:N3	2.11	0.65
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.77	0.65
29:X:2368:G:H5''	29:X:2369:U:O5'	1.96	0.65
29:X:1830:C:N4	29:X:1881:U:H3'	2.11	0.65
29:X:801:A:O2'	29:X:802:A:P	2.53	0.65
29:X:820:U:H2'	29:X:821:A:H8	1.60	0.65
29:X:1059:A:N6	29:X:1122:A:C2	2.65	0.65
29:X:71:A:C6	29:X:110:U:H4'	2.32	0.65
9:D:150:ARG:CG	9:D:151:GLY:N	2.53	0.65
14:I:53:ARG:NH2	29:X:173:A:OP2	2.29	0.65
29:X:1386:A:H5''	29:X:2191:A:C6	2.31	0.65
28:W:38:PRO:CD	28:W:41:ARG:HE	2.10	0.65
4:4:6:SER:HB2	29:X:2445:C:H5''	1.78	0.65
8:C:30:VAL:HG12	8:C:31:VAL:N	2.11	0.65
19:N:22:LYS:HG3	19:N:23:GLY:H	1.60	0.65
23:R:93:ARG:NH1	23:R:107:ALA:O	2.29	0.65
29:X:1501:C:H2'	29:X:1502:G:O4'	1.96	0.65
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65
6:A:206:LEU:CA	6:A:211:ARG:HD3	2.26	0.65
15:J:66:TYR:O	15:J:106:GLU:OE2	2.14	0.65
26:U:15:VAL:O	26:U:16:ASN:O	2.15	0.65
29:X:1482:U:H2'	29:X:1483:G:H8	1.60	0.65
29:X:2796:A:O2'	29:X:2797:G:H5'	1.96	0.65
29:X:70:A:OP1	29:X:110:U:H2'	1.96	0.65
9:D:153:ASP:C	9:D:154:ILE:HD12	2.16	0.65
29:X:1681:A:N1	29:X:2706:U:C5	2.65	0.65
25:T:18:PRO:HD2	29:X:2240:C:OP2	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:71:GLN:HG2	22:Q:72:ARG:O	1.97	0.65
27:V:18:ILE:O	27:V:20:ALA:N	2.28	0.65
12:G:148:LEU:HD12	12:G:149:LYS:N	2.11	0.65
29:X:645:G:H2'	29:X:646:C:C6	2.32	0.65
17:L:81:GLU:O	17:L:82:LYS:HG2	1.96	0.65
19:N:24:PHE:CB	19:N:29:SER:HB3	2.22	0.65
29:X:865:A:H2'	29:X:866:U:H6	1.60	0.65
26:U:13:LEU:CG	26:U:14:VAL:N	2.59	0.65
27:V:41:HIS:HB3	27:V:44:ARG:HH21	1.61	0.65
15:J:23:LYS:HD3	29:X:876:A:P	2.37	0.65
24:S:84:TYR:HE1	31:Z:107:C:H4'	1.61	0.65
19:N:88:ILE:HA	20:O:49:GLU:CG	2.25	0.65
13:H:110:VAL:HG12	13:H:111:PHE:N	2.12	0.65
29:X:5:A:H2'	29:X:6:A:C8	2.31	0.65
29:X:1914:U:H6	29:X:1914:U:H5'	1.61	0.65
12:G:103:TYR:CZ	12:G:111:LYS:CB	2.79	0.65
29:X:2320:G:H2'	29:X:2321:C:C6	2.32	0.65
29:X:930:A:N6	29:X:2247:A:C8	2.63	0.65
29:X:1446:U:H2'	29:X:1447:U:C6	2.32	0.65
25:T:4:LYS:C	25:T:5:LYS:HD2	2.17	0.65
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.95	0.65
14:I:81:GLN:NE2	14:I:115:SER:HA	2.09	0.65
12:G:157:PRO:O	12:G:161:GLN:NE2	2.28	0.65
29:X:1212:U:H2'	29:X:1213:U:C6	2.32	0.65
29:X:104:C:C2'	29:X:105:G:C5'	2.75	0.65
6:A:213:ARG:O	6:A:215:LEU:N	2.30	0.65
12:G:55:ALA:CB	12:G:134:MET:HE1	2.26	0.65
23:R:15:HIS:ND1	23:R:16:PHE:HD2	1.90	0.65
6:A:218:LYS:C	6:A:218:LYS:HD2	2.17	0.65
26:U:23:LYS:HD2	26:U:35:THR:CG2	2.27	0.65
26:U:33:LYS:NZ	29:X:2400:G:N2	2.45	0.65
18:M:6:LYS:H	18:M:6:LYS:CD	1.97	0.65
18:M:34:ARG:CZ	18:M:88:VAL:CG1	2.73	0.65
11:F:13:PRO:HG3	11:F:52:ILE:HG12	1.77	0.65
16:K:5:LYS:HE2	29:X:2795:A:C4'	2.17	0.65
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.78	0.65
9:D:134:GLU:HG2	9:D:136:LEU:H	1.61	0.65
11:F:93:LYS:NZ	29:X:1087:C:OP2	2.29	0.65
11:F:101:TRP:O	11:F:104:VAL:HB	1.97	0.65
29:X:433:G:N2	29:X:434:C:H1'	2.11	0.65
29:X:2775:U:H5'	29:X:2776:U:H5''	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1486:A:H2'	29:X:1487:C:C6	2.32	0.65
23:R:105:ARG:NH1	23:R:113:THR:N	2.44	0.65
29:X:691:C:H2'	29:X:692:C:H6	1.62	0.65
29:X:1503:G:H2'	29:X:1504:G:H8	1.59	0.65
17:L:66:ASP:C	17:L:68:ALA:N	2.49	0.65
31:Z:39:C:H5'	31:Z:40:C:OP2	1.97	0.65
10:E:44:ARG:HG3	10:E:44:ARG:NH2	2.12	0.65
20:O:18:ASP:OD1	20:O:20:ILE:HG22	1.97	0.65
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.32	0.65
29:X:1711:C:C4'	29:X:1712:G:H5''	2.27	0.65
29:X:1314:A:C2'	29:X:1315:A:H3'	2.26	0.65
23:R:35:LYS:HE3	23:R:37:LEU:HD21	1.78	0.65
24:S:62:PHE:HB3	24:S:85:MET:SD	2.36	0.65
19:N:3:ARG:HG2	19:N:3:ARG:NH1	2.06	0.65
29:X:2030:U:O2'	29:X:2031:A:H5'	1.96	0.65
7:B:70:ALA:O	7:B:72:VAL:HG23	1.96	0.65
19:N:88:ILE:HG22	20:O:48:GLY:O	1.96	0.65
29:X:1514:C:H4'	29:X:1593:C:H5'	1.79	0.65
28:W:54:GLN:HG2	28:W:55:GLU:N	2.11	0.65
29:X:219:G:H22	29:X:231:G:H2'	1.59	0.65
29:X:2706:U:O2	29:X:2706:U:C2'	2.45	0.65
29:X:2226:A:H2'	29:X:2227:C:H6	1.60	0.65
29:X:2475:C:H2'	29:X:2476:A:H5'	1.77	0.65
29:X:2484:G:O2'	29:X:2485:U:C5'	2.44	0.65
29:X:415:A:C2'	29:X:416:U:H5'	2.26	0.65
12:G:108:GLY:C	12:G:110:LEU:HD23	2.18	0.65
29:X:1151:U:H5''	29:X:1153:A:H5''	1.79	0.65
29:X:687:G:H2'	29:X:817:A:H61	1.61	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
6:A:108:PRO:HB3	6:A:143:HIS:NE2	2.12	0.65
26:U:29:GLY:O	26:U:31:GLY:N	2.27	0.65
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.94	0.65
14:I:29:THR:HA	14:I:34:HIS:HB2	1.78	0.65
14:I:88:PHE:HB3	14:I:93:LEU:HD12	1.79	0.65
18:M:34:ARG:HH21	18:M:91:VAL:CG2	2.09	0.65
11:F:55:VAL:HG22	11:F:69:THR:HA	1.79	0.65
26:U:41:VAL:HG21	26:U:43:ARG:NH2	2.12	0.65
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.26	0.65
29:X:174:A:C2	29:X:175:C:O2	2.49	0.65
29:X:1332:G:C6	29:X:1333:G:N1	2.65	0.65
29:X:1975:G:O2'	29:X:1976:U:OP2	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:102:GLN:HB2	13:H:104:GLU:CG	2.26	0.65
12:G:127:ILE:HG22	12:G:128:GLU:N	2.12	0.64
23:R:15:HIS:ND1	23:R:16:PHE:CD2	2.66	0.64
6:A:258:LYS:HE3	6:A:264:LYS:HD3	1.78	0.64
26:U:13:LEU:HD12	26:U:14:VAL:N	2.12	0.64
29:X:408:U:O2'	29:X:409:G:H8	1.80	0.64
29:X:357:A:H3'	29:X:358:C:C6	2.32	0.64
19:N:107:LYS:O	19:N:110:VAL:HB	1.97	0.64
29:X:169:C:C2'	29:X:170:U:H5'	2.27	0.64
22:Q:81:ARG:HH11	22:Q:81:ARG:HG3	1.63	0.64
22:Q:63:LYS:CB	22:Q:69:ILE:O	2.44	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.29	0.64
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.26	0.64
22:Q:4:TYR:HE1	22:Q:45:ALA:HA	1.60	0.64
21:P:89:ARG:CZ	21:P:132:GLY:HA2	2.27	0.64
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.79	0.64
6:A:257:LEU:HD13	29:X:1794:A:O3'	1.96	0.64
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.66	0.64
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.12	0.64
15:J:71:PRO:HA	15:J:96:SER:HB2	1.80	0.64
29:X:1242:A:O2'	29:X:1243:G:H5'	1.96	0.64
29:X:75:C:H2'	29:X:76:C:H5''	1.78	0.64
29:X:1553:G:H2'	29:X:1554:G:C8	2.32	0.64
19:N:60:LEU:HD11	19:N:64:ARG:NE	2.12	0.64
29:X:2663:U:N3	29:X:2664:G:C8	2.66	0.64
7:B:1:MET:HG3	7:B:83:GLY:O	1.97	0.64
29:X:187:U:O2'	29:X:188:G:H5'	1.97	0.64
7:B:168:GLN:O	29:X:2710:C:H4'	1.97	0.64
29:X:2345:A:H2'	29:X:2346:G:O4'	1.97	0.64
29:X:2807:U:H4'	29:X:2808:U:H5''	1.79	0.64
29:X:2838:U:O2'	29:X:2839:G:H5'	1.97	0.64
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.80	0.64
21:P:79:ALA:HB1	21:P:85:MET:SD	2.37	0.64
29:X:1856:U:O2'	29:X:1857:G:O5'	2.15	0.64
24:S:3:LEU:HD21	24:S:32:PHE:CB	2.27	0.64
21:P:134:LYS:HB2	29:X:2777:A:C5	2.31	0.64
29:X:1536:G:H2'	29:X:1537:U:C6	2.33	0.64
29:X:1629:G:H2'	29:X:1633:C:N4	2.12	0.64
8:C:172:VAL:O	8:C:172:VAL:HG12	1.97	0.64
29:X:701:U:O2	29:X:800:U:H4'	1.97	0.64
7:B:127:ALA:HB2	7:B:135:HIS:CE1	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:229:VAL:HG21	29:X:797:A:C6	2.33	0.64
18:M:103:LYS:O	18:M:104:LEU:CB	2.44	0.64
15:J:35:LEU:N	15:J:105:PHE:O	2.26	0.64
26:U:78:ILE:HD13	26:U:79:GLU:O	1.96	0.64
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.80	0.64
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.95	0.64
24:S:43:PHE:CE1	24:S:66:VAL:HG11	2.32	0.64
7:B:92:ASN:HA	7:B:95:ILE:HB	1.80	0.64
19:N:27:SER:C	19:N:29:SER:H	2.00	0.64
29:X:1218:C:O2'	29:X:1219:C:H5'	1.96	0.64
29:X:824:U:H1'	29:X:1264:C:C1'	2.27	0.64
29:X:583:C:H4'	29:X:584:A:O5'	1.96	0.64
6:A:186:HIS:HD1	6:A:186:HIS:H	1.45	0.64
6:A:214:TRP:HH2	29:X:777:A:OP2	1.80	0.64
17:L:75:LEU:O	17:L:78:ALA:HB3	1.97	0.64
15:J:30:PHE:CE1	29:X:886:A:H1'	2.33	0.64
29:X:2074:U:H3'	29:X:2075:U:C5'	2.27	0.64
7:B:51:TYR:N	7:B:75:THR:OG1	2.29	0.64
14:I:102:LYS:O	14:I:104:ARG:N	2.29	0.64
11:F:42:ASN:HA	11:F:45:THR:CG2	2.27	0.64
11:F:27:LEU:HA	11:F:30:TYR:CD2	2.32	0.64
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.64
13:H:41:ASN:H	13:H:41:ASN:HD22	1.43	0.64
29:X:1065:A:O2'	29:X:1066:G:H5'	1.97	0.64
15:J:79:PRO:HD3	15:J:88:LYS:NZ	2.13	0.64
14:I:38:LYS:NZ	29:X:954:U:OP2	2.29	0.64
29:X:889:C:H2'	29:X:890:U:O4'	1.97	0.64
23:R:33:THR:OG1	23:R:34:GLY:N	2.29	0.64
8:C:158:ARG:O	8:C:160:ALA:N	2.31	0.64
29:X:2030:U:H2'	29:X:2031:A:C8	2.32	0.64
6:A:55:GLY:O	6:A:56:GLY:O	2.14	0.64
29:X:1128:G:C2'	29:X:1129:A:H5''	2.27	0.64
29:X:392:G:N2	29:X:409:G:C4	2.66	0.64
29:X:2373:C:H2'	29:X:2374:C:C6	2.32	0.64
29:X:839:U:OP1	29:X:2408:G:OP2	2.15	0.64
13:H:23:ARG:NH1	13:H:25:LEU:CD2	2.48	0.64
25:T:72:LYS:HD3	31:Z:14:C:H5''	1.80	0.64
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.12	0.64
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.28	0.64
29:X:2261:G:H21	29:X:2369:U:H3	1.44	0.64
29:X:995:A:OP2	29:X:996:C:N4	2.22	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:712:A:H2'	29:X:713:G:O4'	1.98	0.64
13:H:26:ASN:HB3	13:H:38:GLY:H	1.61	0.64
8:C:75:PRO:HG3	8:C:83:ALA:HB2	1.79	0.64
10:E:139:GLN:O	10:E:142:GLY:N	2.31	0.64
7:B:14:ILE:HD11	7:B:183:LEU:HD13	1.80	0.64
7:B:72:VAL:O	7:B:73:ALA:HB2	1.98	0.64
29:X:648:A:H5'	29:X:649:G:H4'	1.80	0.64
10:E:16:THR:O	10:E:16:THR:HG22	1.97	0.64
29:X:752:G:C4'	29:X:753:U:OP1	2.40	0.64
20:O:38:LEU:HA	20:O:46:VAL:O	1.98	0.64
9:D:111:ILE:CG2	9:D:114:PHE:HB2	2.28	0.64
24:S:3:LEU:CD1	24:S:33:ALA:H	2.11	0.64
29:X:1440:G:H3'	29:X:1441:A:H5''	1.78	0.64
29:X:1069:G:C3'	29:X:1070:G:H5''	2.27	0.64
8:C:176:ASN:O	8:C:180:ILE:HG22	1.98	0.64
29:X:1016:C:H4'	29:X:1023:U:H5''	1.79	0.64
6:A:169:GLU:HG2	6:A:170:SER:H	1.63	0.64
6:A:219:PRO:O	6:A:220:HIS:O	2.16	0.64
6:A:244:ARG:HB3	6:A:252:LYS:HZ1	1.62	0.64
29:X:1882:G:H21	29:X:1885:C:N4	1.95	0.64
29:X:742:G:O2'	29:X:776:G:H4'	1.97	0.64
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.26	0.64
15:J:35:LEU:HB2	15:J:119:PHE:CE1	2.32	0.64
15:J:9:LYS:HG3	29:X:884:C:OP1	1.98	0.64
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.80	0.64
29:X:1471:G:O2'	29:X:1472:C:H5'	1.97	0.64
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.27	0.64
29:X:2226:A:H2'	29:X:2227:C:C6	2.32	0.64
6:A:270:ILE:HG13	6:A:271:VAL:N	2.11	0.64
29:X:2437:G:O2'	29:X:2438:A:N7	2.30	0.64
14:I:76:LYS:CG	14:I:111:SER:HB2	2.28	0.64
29:X:879:A:H2'	29:X:879:A:N3	2.13	0.64
29:X:1215:A:H2'	29:X:1216:G:C8	2.33	0.64
29:X:1281:A:O4'	29:X:2592:U:H5	1.80	0.64
29:X:760:U:O2	29:X:1997:A:H1'	1.98	0.64
29:X:456:C:O2'	29:X:457:C:H5'	1.97	0.64
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64
29:X:2736:U:O2'	29:X:2737:A:C5'	2.31	0.64
29:X:2494:C:O2	29:X:2549:G:C2	2.51	0.64
29:X:2825:A:C2	29:X:2826:C:C2	2.86	0.64
29:X:2824:C:H1'	29:X:2843:A:C4	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.63	0.64
15:J:116:LYS:HD3	15:J:132:MET:SD	2.37	0.64
29:X:553:C:C5'	29:X:554:U:OP1	2.45	0.64
29:X:1095:A:H2'	29:X:1096:A:O4'	1.97	0.64
29:X:163:A:H2'	29:X:164:G:H8	1.61	0.64
14:I:130:ILE:O	14:I:132:ALA:N	2.26	0.64
29:X:48:A:C8	29:X:50:G:N2	2.66	0.64
29:X:1563:U:H2'	29:X:1564:U:C6	2.32	0.64
29:X:699:G:H4'	29:X:700:C:OP2	1.98	0.64
8:C:24:SER:HA	8:C:27:LEU:HD13	1.80	0.64
29:X:1997:A:H2'	29:X:1998:A:C8	2.33	0.64
29:X:2030:U:H2'	29:X:2031:A:H8	1.62	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64
29:X:1782:A:N6	29:X:1820:G:O2'	2.31	0.64
17:L:8:ARG:HB2	17:L:8:ARG:NH1	2.13	0.64
29:X:490:A:O2'	29:X:491:A:C5'	2.46	0.64
7:B:67:PHE:CZ	7:B:75:THR:HG22	2.33	0.64
29:X:763:A:OP1	29:X:1631:C:N4	2.30	0.64
29:X:1188:A:H8	29:X:1188:A:O5'	1.79	0.64
12:G:51:LEU:HD12	12:G:88:VAL:HG21	1.79	0.64
23:R:93:ARG:NH1	23:R:108:VAL:CA	2.61	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.61	0.63
6:A:252:LYS:HG2	29:X:1816:G:O2'	1.98	0.63
17:L:63:ASN:CB	17:L:66:ASP:HB2	2.28	0.63
24:S:13:LYS:HB2	24:S:13:LYS:HZ2	1.60	0.63
24:S:18:MET:SD	24:S:35:ASP:HA	2.37	0.63
11:F:11:GLN:HG2	11:F:52:ILE:CG2	2.29	0.63
16:K:100:VAL:CG1	16:K:101:GLY:N	2.43	0.63
29:X:1002:C:C4	29:X:1003:C:H5	2.15	0.63
9:D:35:VAL:O	9:D:154:ILE:HG13	1.98	0.63
29:X:455:A:H2	29:X:1258:G:N3	1.95	0.63
29:X:311:A:N7	29:X:345:U:H4'	2.13	0.63
29:X:1773:C:H2'	29:X:2587:G:O2'	1.98	0.63
9:D:13:ARG:NH1	9:D:14:PRO:CG	2.55	0.63
26:U:53:GLU:CD	26:U:57:VAL:HA	2.18	0.63
27:V:41:HIS:HD2	27:V:42:ARG:H	1.43	0.63
9:D:75:SER:O	9:D:79:LEU:HD13	1.99	0.63
29:X:191:G:O2'	29:X:192:G:H5'	1.98	0.63
8:C:162:ARG:CD	29:X:333:A:H5'	2.27	0.63
21:P:37:LYS:CE	21:P:64:ALA:HB2	2.28	0.63
12:G:107:GLN:HG2	29:X:1142:G:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1793:A:H2'	29:X:1794:A:C8	2.33	0.63
29:X:648:A:H4'	29:X:649:G:O4'	1.98	0.63
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.28	0.63
29:X:717:G:HO2'	29:X:718:A:P	2.21	0.63
21:P:13:GLN:O	21:P:16:GLN:HG3	1.97	0.63
29:X:2473:G:H2'	29:X:2474:G:H8	1.63	0.63
10:E:136:ILE:N	10:E:136:ILE:HD12	2.13	0.63
8:C:39:ARG:NH2	8:C:91:TYR:HD2	1.95	0.63
4:4:1:MET:SD	4:4:35:ARG:HB2	2.39	0.63
6:A:227:ASN:O	6:A:228:PRO:C	2.34	0.63
25:T:42:GLY:HA3	29:X:2310:G:O4'	1.99	0.63
22:Q:35:LYS:HE3	29:X:1615:C:OP2	1.98	0.63
29:X:2633:A:N1	29:X:2644:A:H5''	2.14	0.63
14:I:38:LYS:HG2	29:X:954:U:OP2	1.98	0.63
24:S:48:THR:O	24:S:49:THR:HG23	1.98	0.63
14:I:77:LEU:HD22	14:I:110:ALA:HA	1.81	0.63
27:V:24:GLU:O	27:V:28:LEU:HD23	1.97	0.63
12:G:73:ASN:O	12:G:140:GLN:OE1	2.16	0.63
29:X:2477:C:O2'	29:X:2478:C:H5'	1.98	0.63
29:X:2556:A:H5''	29:X:2557:G:H5'	1.80	0.63
25:T:21:LEU:HD11	25:T:41:ARG:NE	2.13	0.63
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.47	0.63
26:U:45:ASN:HB3	29:X:409:G:O2'	1.99	0.63
29:X:1001:A:H5'	29:X:1168:G:OP1	1.98	0.63
22:Q:75:ARG:NH1	22:Q:75:ARG:HG3	2.04	0.63
29:X:1922:U:O2	29:X:2570:C:O2'	2.16	0.63
27:V:7:ARG:O	27:V:9:LEU:N	2.32	0.63
15:J:78:LYS:HA	15:J:88:LYS:NZ	2.13	0.63
7:B:37:LYS:HD2	7:B:42:ASP:CG	2.18	0.63
29:X:1061:A:H2'	29:X:1062:G:H5'	1.79	0.63
27:V:37:LEU:HD13	29:X:60:A:O2'	1.99	0.63
14:I:58:ALA:O	14:I:59:ARG:HB2	1.99	0.63
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.80	0.63
19:N:19:LYS:O	19:N:19:LYS:HG3	1.97	0.63
8:C:48:ARG:O	8:C:51:VAL:HG22	1.99	0.63
14:I:14:LYS:O	14:I:14:LYS:HG3	1.98	0.63
29:X:532:A:H2'	29:X:533:C:C6	2.33	0.63
29:X:546:A:H2'	29:X:547:U:H6	1.64	0.63
6:A:181:GLU:HG2	6:A:182:LEU:H	1.62	0.63
29:X:1965:U:OP1	29:X:1965:U:H3'	1.98	0.63
29:X:490:A:HO2'	29:X:491:A:H5'	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:15:ARG:NH1	15:J:15:ARG:HG3	2.09	0.63
26:U:13:LEU:HG	26:U:14:VAL:N	2.14	0.63
18:M:11:GLU:O	18:M:14:ARG:N	2.31	0.63
14:I:73:GLU:OE1	14:I:73:GLU:N	2.32	0.63
13:H:132:GLU:HG2	13:H:134:LEU:HG	1.79	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CG	2.10	0.63
29:X:1073:G:OP2	29:X:1081:A:H4'	1.98	0.63
13:H:46:HIS:N	13:H:49:ASP:OD2	2.27	0.63
29:X:1122:A:H2	29:X:1123:G:H1'	1.63	0.63
24:S:100:THR:O	24:S:101:THR:HG23	1.98	0.63
20:O:36:LYS:HD3	20:O:39:PHE:CE2	2.34	0.63
12:G:155:THR:HA	12:G:158:HIS:HD2	1.64	0.63
29:X:719:A:H2'	29:X:720:A:O4'	1.98	0.63
29:X:2737:A:H2'	29:X:2737:A:N3	2.13	0.63
15:J:125:LYS:HD2	15:J:125:LYS:N	2.14	0.63
7:B:52:ALA:O	7:B:75:THR:O	2.17	0.63
29:X:2383:C:H2'	29:X:2384:G:O4'	1.99	0.63
29:X:1072:U:H1'	29:X:1081:A:C1'	2.28	0.63
9:D:133:LYS:O	9:D:151:GLY:HA2	1.99	0.63
9:D:75:SER:H	9:D:79:LEU:CD2	2.10	0.63
9:D:79:LEU:HD21	29:X:2289:A:H2	1.64	0.63
29:X:1493:A:H2'	29:X:1494:G:O4'	1.99	0.63
29:X:1372:A:C5	29:X:1373:G:N7	2.67	0.63
22:Q:90:ALA:O	22:Q:92:ALA:N	2.29	0.63
29:X:1909:U:C5	29:X:1911:A:N6	2.67	0.63
29:X:198:A:H4'	29:X:199:A:OP2	1.98	0.63
29:X:48:A:H1'	29:X:50:G:C2	2.33	0.63
7:B:20:ALA:C	7:B:21:ILE:HG13	2.19	0.63
29:X:766:A:O2'	29:X:767:G:H5'	1.99	0.63
29:X:13:A:C2	29:X:15:G:O6	2.52	0.63
23:R:28:LYS:O	23:R:29:HIS:HB2	1.97	0.63
29:X:542:A:N6	29:X:2003:A:N3	2.47	0.63
29:X:1764:A:H2'	29:X:1765:C:H5'	1.79	0.63
17:L:35:SER:C	17:L:36:LYS:HD2	2.19	0.63
13:H:23:ARG:C	13:H:23:ARG:NH2	2.51	0.63
24:S:89:GLY:O	24:S:90:GLU:HG2	1.98	0.63
29:X:663:G:H2'	29:X:664:C:C4'	2.29	0.63
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.80	0.63
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.11	0.63
29:X:1175:A:C2	29:X:1176:U:C2	2.87	0.63
26:U:19:ILE:HA	26:U:42:GLN:HA	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:46:ASP:C	9:D:48:LYS:H	1.99	0.63
9:D:46:ASP:C	9:D:48:LYS:N	2.50	0.63
29:X:801:A:O2'	29:X:802:A:OP2	2.17	0.63
29:X:1141:U:O2'	29:X:1142:G:O5'	2.17	0.63
29:X:469:G:HO2'	29:X:480:G:H1	1.47	0.63
29:X:1791:C:H5'	29:X:1792:C:OP1	1.99	0.63
8:C:112:GLN:HA	8:C:116:LYS:CG	2.29	0.63
17:L:33:ARG:NH2	17:L:103:LEU:CB	2.61	0.63
20:O:19:VAL:HG13	20:O:90:PHE:CD1	2.34	0.63
19:N:93:LYS:HB3	29:X:1007:A:O3'	1.99	0.63
29:X:2286:G:H21	29:X:2290:A:N6	1.87	0.63
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.63
10:E:56:SER:HB2	10:E:61:HIS:HD2	1.63	0.63
10:E:92:VAL:O	10:E:94:PHE:N	2.31	0.63
21:P:10:ASN:O	21:P:10:ASN:OD1	2.17	0.63
24:S:3:LEU:HD13	24:S:33:ALA:C	2.19	0.63
29:X:2850:U:C6	29:X:2850:U:H5'	2.28	0.63
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.47	0.63
9:D:101:GLU:HA	9:D:104:ILE:HD12	1.79	0.63
23:R:102:LYS:HE2	29:X:100:G:C6	2.34	0.63
20:O:65:ARG:HG3	20:O:65:ARG:HH11	1.64	0.63
20:O:65:ARG:HG3	20:O:89:ASN:OD1	1.99	0.63
29:X:1705:U:O2	29:X:1717:A:H5''	1.99	0.63
17:L:34:SER:HB2	17:L:94:TYR:CE2	2.34	0.63
29:X:38:G:H1	29:X:453:U:H3	1.47	0.62
6:A:93:ALA:HB1	6:A:95:LEU:HD21	1.81	0.62
25:T:43:THR:N	29:X:2310:G:H4'	2.13	0.62
31:Z:36:A:O2'	31:Z:37:C:H5	1.80	0.62
27:V:46:LEU:O	27:V:50:VAL:HG23	1.98	0.62
8:C:148:VAL:N	8:C:166:TRP:O	2.25	0.62
12:G:65:LYS:HE3	12:G:66:HIS:CE1	2.33	0.62
19:N:79:PHE:O	19:N:83:LEU:HD12	1.98	0.62
29:X:1250:A:O2'	29:X:1251:G:O4'	2.15	0.62
29:X:2239:C:H2'	29:X:2240:C:H6	1.63	0.62
8:C:194:GLU:O	8:C:195:ILE:HG23	1.99	0.62
12:G:132:PHE:HB2	12:G:145:HIS:CE1	2.33	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
9:D:63:GLN:HG3	9:D:95:ARG:HH21	1.64	0.62
29:X:492:G:H1'	29:X:516:G:H21	1.63	0.62
14:I:97:ARG:O	14:I:98:LEU:HB3	1.98	0.62
24:S:98:VAL:HG21	24:S:168:VAL:HG13	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.13	0.62
29:X:2222:U:C2	29:X:2223:U:C5	2.86	0.62
29:X:654:A:N3	29:X:654:A:H2'	2.14	0.62
14:I:38:LYS:NZ	14:I:38:LYS:HB3	2.14	0.62
29:X:1337:G:O2'	29:X:1632:A:C6	2.51	0.62
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.62
16:K:31:GLU:O	16:K:33:ARG:N	2.32	0.62
18:M:43:ASN:C	18:M:43:ASN:HD22	2.03	0.62
14:I:43:ALA:HB1	29:X:684:C:H5	1.65	0.62
23:R:80:LYS:HE3	23:R:80:LYS:C	2.19	0.62
12:G:66:HIS:O	19:N:67:ALA:HB1	1.99	0.62
9:D:136:LEU:O	9:D:137:ILE:HG23	1.99	0.62
29:X:717:G:C2'	29:X:739:G:N2	2.61	0.62
29:X:2850:U:H6	29:X:2850:U:C5'	2.12	0.62
14:I:76:LYS:O	14:I:79:GLN:HG2	1.99	0.62
29:X:1536:G:H2'	29:X:1537:U:H6	1.65	0.62
29:X:1610:A:H2'	29:X:1611:U:C6	2.33	0.62
21:P:37:LYS:HG3	29:X:1279:G:H22	1.64	0.62
23:R:8:SER:O	23:R:11:ASN:N	2.31	0.62
23:R:23:ILE:HD12	23:R:23:ILE:H	1.62	0.62
23:R:84:VAL:CG2	23:R:89:GLY:HA2	2.29	0.62
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.80	0.62
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.62
18:M:93:ILE:N	18:M:93:ILE:HD12	2.14	0.62
29:X:2212:U:H2'	29:X:2213:G:H8	1.62	0.62
29:X:748:A:H3'	29:X:749:C:C6	2.35	0.62
12:G:64:GLY:C	12:G:67:ARG:HG3	2.20	0.62
22:Q:68:PHE:O	22:Q:69:ILE:C	2.38	0.62
23:R:37:LEU:HD11	23:R:49:GLU:HG2	1.82	0.62
14:I:40:ARG:NH2	29:X:577:U:OP1	2.32	0.62
24:S:3:LEU:HB2	24:S:34:LEU:CA	2.30	0.62
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.82	0.62
29:X:417:C:H1'	29:X:419:G:C8	2.35	0.62
21:P:93:LYS:HD2	21:P:129:ALA:CB	2.29	0.62
30:Y:43:HIS:C	30:Y:44:HIS:HD2	2.02	0.62
8:C:134:ILE:O	8:C:137:ALA:HB3	1.98	0.62
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.13	0.62
29:X:343:A:H1'	29:X:346:C:N4	2.15	0.62
29:X:481:A:C6	29:X:482:A:C6	2.88	0.62
29:X:27:G:H1'	29:X:523:A:N6	2.14	0.62
8:C:176:ASN:HB2	29:X:626:A:O2'	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1053:G:C4	29:X:1054:C:C5	2.88	0.62
6:A:219:PRO:HB2	29:X:1781:C:OP1	1.99	0.62
29:X:1963:G:C4	29:X:1965:U:C5	2.88	0.62
17:L:89:PHE:CE1	29:X:2356:A:N3	2.68	0.62
29:X:2310:G:N2	29:X:2364:C:C4	2.68	0.62
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.82	0.62
29:X:2081:U:H2'	29:X:2082:C:C6	2.33	0.62
24:S:106:GLY:HA2	24:S:109:GLN:OE1	1.98	0.62
19:N:76:TYR:CE2	19:N:80:ILE:HG13	2.34	0.62
7:B:1:MET:HG2	7:B:2:LYS:N	2.14	0.62
10:E:30:LYS:HG2	10:E:79:VAL:C	2.20	0.62
24:S:6:LYS:HB2	24:S:31:SER:HB3	1.82	0.62
29:X:433:G:H21	29:X:434:C:H1'	1.63	0.62
29:X:1040:A:C8	29:X:1041:G:C8	2.88	0.62
23:R:29:HIS:CE1	23:R:51:VAL:HG22	2.35	0.62
29:X:1223:G:C4'	29:X:1224:A:H5''	2.28	0.62
29:X:451:A:H2'	29:X:452:G:H8	1.61	0.62
29:X:580:A:C8	29:X:584:A:N6	2.67	0.62
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
9:D:122:PHE:HD2	9:D:129:ASN:H	1.46	0.62
29:X:2311:U:O2	29:X:2311:U:H3'	1.99	0.62
29:X:754:G:H2'	29:X:755:C:H6	1.63	0.62
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.81	0.62
29:X:2691:C:H2'	29:X:2692:A:C5'	2.28	0.62
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.80	0.62
29:X:2240:C:C2'	29:X:2241:U:H5'	2.29	0.62
10:E:41:LEU:HD13	10:E:64:LEU:HB3	1.81	0.62
29:X:1193:G:H2'	29:X:1194:U:C5'	2.30	0.62
29:X:403:A:H5''	29:X:404:A:OP1	2.00	0.62
29:X:774:A:C8	29:X:774:A:O5'	2.53	0.62
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.00	0.62
8:C:104:LEU:HD23	8:C:104:LEU:N	2.14	0.62
12:G:103:TYR:OH	12:G:111:LYS:HB2	1.99	0.62
12:G:93:LYS:HB3	12:G:96:ASP:O	2.00	0.62
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.26	0.62
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.28	0.62
16:K:74:ASP:OD1	16:K:77:ARG:NH2	2.32	0.62
29:X:2663:U:C2	29:X:2664:G:C8	2.87	0.62
29:X:1066:G:H2'	29:X:1067:G:C8	2.35	0.62
29:X:396:U:O4	29:X:398:C:C2	2.52	0.62
29:X:1919:A:H1'	29:X:1923:U:C2	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1923:U:H4'	29:X:1924:C:O5'	1.99	0.62
29:X:2471:U:O2'	29:X:2472:U:H5'	2.00	0.62
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.29	0.62
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.63	0.62
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.77	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
29:X:1356:G:H1'	29:X:1613:G:C2	2.35	0.62
16:K:49:GLU:O	16:K:52:ILE:HG12	2.00	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	1.99	0.62
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.62
29:X:566:U:H2'	29:X:567:G:H8	1.65	0.62
29:X:1838:G:H2'	29:X:1839:A:O4'	1.99	0.62
13:H:90:ARG:HH22	18:M:78:GLU:CD	2.03	0.62
29:X:748:A:H5'	29:X:749:C:OP2	2.00	0.62
20:O:88:GLN:NE2	29:X:1004:A:N3	2.45	0.62
29:X:2220:A:H2'	29:X:2221:G:C8	2.35	0.62
22:Q:29:VAL:HG23	22:Q:30:SER:O	1.99	0.62
29:X:2876:C:H2'	29:X:2877:A:C4	2.34	0.62
19:N:42:ALA:O	19:N:46:GLU:HG3	1.99	0.62
29:X:972:C:H4'	29:X:973:U:OP2	1.98	0.62
23:R:85:ASP:N	23:R:86:PRO:CD	2.63	0.62
29:X:530:G:O2'	29:X:531:G:H5'	1.99	0.62
19:N:28:ARG:CD	29:X:542:A:H3'	2.29	0.62
18:M:22:ARG:HD3	18:M:24:LEU:HD23	1.81	0.62
7:B:183:LEU:CD2	18:M:16:ILE:HD13	2.21	0.62
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.30	0.62
18:M:46:ARG:HG3	18:M:47:SER:N	2.14	0.62
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.30	0.62
29:X:2053:G:C2	29:X:2054:A:C4	2.88	0.62
29:X:1919:A:H2	29:X:1926:U:H3	1.28	0.62
10:E:37:TYR:CZ	10:E:72:VAL:HG22	2.34	0.62
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.62
14:I:127:ALA:O	14:I:129:ALA:N	2.33	0.62
29:X:416:U:O2'	29:X:419:G:H1'	1.99	0.62
16:K:6:ALA:HB1	29:X:2848:A:C2	2.35	0.62
11:F:62:ASP:C	11:F:63:ARG:HD3	2.20	0.62
7:B:141:ILE:HG21	7:B:154:LYS:HZ3	1.65	0.62
29:X:341:A:H2	29:X:1223:G:H2'	1.65	0.62
8:C:112:GLN:HA	8:C:116:LYS:CD	2.30	0.62
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.82	0.62
17:L:15:ARG:HD2	17:L:91:ARG:CD	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
29:X:2355:A:H2'	29:X:2356:A:O4'	1.99	0.62
29:X:922:A:N1	29:X:2256:G:H1'	2.14	0.62
11:F:54:PRO:CG	11:F:70:LYS:HD2	2.30	0.62
29:X:1466:C:H2'	29:X:1467:U:C1'	2.30	0.62
27:V:13:ASP:O	27:V:17:GLU:HG2	2.00	0.62
19:N:75:ASN:O	19:N:76:TYR:C	2.38	0.62
19:N:74:MET:CE	19:N:79:PHE:HA	2.30	0.62
20:O:9:GLY:O	20:O:10:LYS:HB3	2.00	0.62
20:O:14:VAL:O	20:O:15:SER:CB	2.47	0.62
29:X:2642:G:H2'	29:X:2643:G:C5'	2.30	0.62
15:J:75:VAL:HG12	15:J:76:THR:H	1.65	0.62
21:P:62:ARG:HG3	21:P:62:ARG:HH11	1.65	0.62
24:S:44:ARG:HD3	24:S:45:GLN:NE2	2.15	0.62
7:B:12:THR:OG1	18:M:17:GLU:OE1	2.15	0.62
29:X:194:G:H3'	29:X:195:A:H8	1.65	0.62
7:B:136:ARG:HH11	7:B:136:ARG:CG	2.14	0.61
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.30	0.61
29:X:585:U:H2'	29:X:586:G:C8	2.35	0.61
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.82	0.61
18:M:95:GLU:HG3	18:M:95:GLU:O	2.00	0.61
14:I:86:THR:C	14:I:88:PHE:N	2.53	0.61
13:H:116:ARG:HG3	13:H:116:ARG:HH11	1.65	0.61
29:X:732:G:H8	29:X:732:G:OP2	1.81	0.61
11:F:121:GLU:CD	11:F:121:GLU:H	2.04	0.61
29:X:872:G:H2'	29:X:928:G:C6	2.35	0.61
29:X:748:A:H3'	29:X:749:C:H6	1.65	0.61
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.82	0.61
20:O:36:LYS:HD2	20:O:54:TYR:C	2.20	0.61
9:D:75:SER:CB	9:D:79:LEU:HD22	2.30	0.61
13:H:1:MET:HE2	13:H:44:TYR:CZ	2.35	0.61
29:X:179:U:H2'	29:X:180:C:C6	2.35	0.61
29:X:429:C:H2'	29:X:430:C:C6	2.35	0.61
29:X:2426:G:H4'	29:X:2427:A:O5'	2.00	0.61
14:I:112:GLY:O	14:I:113:GLU:HG3	2.00	0.61
29:X:415:A:C3'	29:X:416:U:H5'	2.30	0.61
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.21	0.61
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.82	0.61
29:X:583:C:H1'	29:X:2038:C:C6	2.35	0.61
31:Z:35:C:H2'	31:Z:36:A:O4'	2.00	0.61
14:I:86:THR:O	14:I:86:THR:HG22	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1121:G:H2'	29:X:1122:A:C8	2.35	0.61
29:X:497:C:C5'	29:X:497:C:H6	2.09	0.61
24:S:6:LYS:N	24:S:7:PRO:CD	2.63	0.61
14:I:82:ASP:H	14:I:114:ILE:CG2	2.12	0.61
29:X:65:C:H2'	29:X:66:U:H6	1.65	0.61
7:B:153:GLY:O	7:B:154:LYS:C	2.39	0.61
8:C:129:LYS:C	8:C:131:LYS:H	2.03	0.61
23:R:39:ALA:O	23:R:41:PRO:HD3	2.01	0.61
29:X:590:C:H2'	29:X:591:G:H8	1.64	0.61
4:4:10:MET:HE3	4:4:32:HIS:CA	2.21	0.61
10:E:84:THR:HA	10:E:133:VAL:O	2.01	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
15:J:64:LYS:CD	15:J:64:LYS:H	1.87	0.61
18:M:24:LEU:O	18:M:25:PRO:O	2.18	0.61
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.31	0.61
29:X:731:A:C3'	29:X:732:G:O4'	2.47	0.61
20:O:18:ASP:C	20:O:18:ASP:OD1	2.39	0.61
9:D:150:ARG:HH11	9:D:150:ARG:HG3	1.65	0.61
20:O:78:VAL:O	20:O:79:GLN:HB2	2.01	0.61
11:F:100:ASN:OD1	11:F:101:TRP:N	2.33	0.61
14:I:54:SER:OG	14:I:59:ARG:NH1	2.34	0.61
29:X:2245:A:H4'	29:X:2246:A:OP2	1.98	0.61
12:G:103:TYR:CE1	12:G:111:LYS:HA	2.35	0.61
14:I:10:PRO:CA	14:I:14:LYS:HB2	2.28	0.61
29:X:26:G:N1	29:X:27:G:N2	2.47	0.61
29:X:471:A:H2'	29:X:472:C:O4'	2.00	0.61
21:P:39:ARG:NH2	29:X:527:C:O2'	2.32	0.61
29:X:2585:C:C2'	29:X:2586:G:H5'	2.30	0.61
17:L:9:ARG:O	17:L:10:LYS:C	2.39	0.61
29:X:917:U:C2'	29:X:918:A:H5'	2.30	0.61
14:I:117:ALA:HA	14:I:137:GLY:O	1.98	0.61
29:X:999:A:O2'	29:X:1166:A:H2	1.82	0.61
14:I:53:ARG:CD	14:I:53:ARG:O	2.47	0.61
15:J:77:LYS:HG3	15:J:78:LYS:H	1.64	0.61
17:L:30:SER:O	17:L:31:VAL:HG12	1.99	0.61
8:C:197:GLU:HG2	8:C:198:GLU:N	2.14	0.61
29:X:1383:C:C2	29:X:1384:G:C8	2.87	0.61
23:R:63:THR:HG22	23:R:64:ASN:HD22	1.65	0.61
18:M:105:TYR:CD1	18:M:108:ARG:NH2	2.68	0.61
9:D:63:GLN:NE2	9:D:91:LEU:HD23	2.15	0.61
26:U:11:LYS:NZ	26:U:75:TYR:CD1	2.68	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:731:A:H3'	29:X:732:G:O4'	1.99	0.61
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.61
24:S:138:VAL:HA	24:S:141:MET:CE	2.29	0.61
29:X:988:G:N3	29:X:1012:A:H2	1.97	0.61
9:D:36:VAL:HG11	9:D:57:LEU:HD22	1.83	0.61
6:A:37:LEU:HD12	29:X:1808:C:H41	1.65	0.61
6:A:39:LYS:HE2	29:X:1808:C:O5'	2.00	0.61
15:J:49:GLU:O	15:J:53:ILE:HG13	1.99	0.61
29:X:774:A:C8	29:X:774:A:H3'	2.35	0.61
29:X:774:A:H8	29:X:774:A:H3'	1.62	0.61
29:X:1974:U:H2'	29:X:1975:G:H5'	1.82	0.61
31:Z:95:U:H2'	31:Z:96:C:C6	2.35	0.61
6:A:69:ARG:CZ	6:A:105:ILE:HD13	2.29	0.61
18:M:108:ARG:C	18:M:109:GLU:HG3	2.06	0.61
29:X:2301:A:H2'	29:X:2302:G:H8	1.66	0.61
29:X:649:G:H22	29:X:661:C:H1'	1.66	0.61
19:N:84:LYS:HB2	19:N:92:ARG:HH22	1.62	0.61
26:U:20:ARG:HB2	26:U:43:ARG:HD2	1.82	0.61
29:X:2543:A:C2	29:X:2626:U:H4'	2.36	0.61
16:K:11:ASN:OD1	16:K:17:ARG:NH2	2.34	0.61
29:X:224:G:H4'	29:X:399:G:C5	2.34	0.61
10:E:17:VAL:HG12	10:E:18:ASN:N	2.15	0.61
10:E:89:LEU:HD11	10:E:96:ALA:CB	2.31	0.61
10:E:38:ASN:H	10:E:41:LEU:HD23	1.64	0.61
29:X:208:C:O2'	29:X:209:G:H5'	2.00	0.61
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.82	0.61
29:X:822:G:C2'	29:X:823:U:H5'	2.31	0.61
6:A:76:ASN:OD1	6:A:118:ASN:HB2	2.01	0.61
29:X:320:A:N3	29:X:340:G:O2'	2.30	0.61
29:X:333:A:H2'	29:X:350:U:O2	2.00	0.61
29:X:38:G:H2'	29:X:39:C:C6	2.35	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61
6:A:226:MET:HE2	6:A:230:ASP:HB3	1.83	0.61
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.82	0.61
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.18	0.61
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.22	0.61
24:S:13:LYS:NZ	24:S:18:MET:HB2	2.15	0.61
18:M:13:LEU:HD12	18:M:13:LEU:N	2.15	0.61
15:J:99:LYS:HD2	15:J:100:PRO:HD3	1.82	0.61
25:T:71:ASN:HD21	25:T:74:LYS:HD3	1.64	0.61
29:X:716:U:H2'	29:X:717:G:O4'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2500:C:H2'	29:X:2501:U:C6	2.36	0.61
29:X:1324:G:H1'	29:X:1326:U:O4	2.00	0.61
29:X:1431:U:H4'	29:X:1604:A:H4'	1.82	0.61
12:G:54:LEU:O	12:G:58:ILE:HG13	2.01	0.61
29:X:1909:U:H5	29:X:1911:A:N6	1.96	0.61
8:C:93:TYR:N	8:C:93:TYR:HD2	1.98	0.61
23:R:24:VAL:HB	23:R:29:HIS:O	2.01	0.61
23:R:25:LEU:CD1	23:R:25:LEU:H	2.12	0.61
29:X:1142:G:C8	29:X:2008:C:H4'	2.36	0.61
29:X:1339:U:OP2	29:X:1339:U:C6	2.53	0.61
29:X:2594:U:C2	29:X:2595:C:C5	2.88	0.61
29:X:2312:A:H4'	29:X:2313:G:O5'	2.00	0.61
29:X:408:U:O2'	29:X:409:G:C8	2.53	0.61
29:X:1468:A:C5'	29:X:1472:C:N4	2.55	0.61
29:X:1122:A:O2'	29:X:1123:G:H4'	2.01	0.61
31:Z:14:C:H4'	31:Z:17:A:N6	2.16	0.61
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.01	0.61
14:I:53:ARG:NE	29:X:227:G:O2'	2.33	0.61
29:X:2389:G:N2	29:X:2390:A:H1'	2.16	0.61
29:X:1982:C:OP1	29:X:2704:U:H5'	2.00	0.61
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.81	0.61
16:K:20:LEU:O	16:K:23:ALA:N	2.34	0.61
4:4:2:LYS:HG2	4:4:4:ARG:CD	2.31	0.61
28:W:11:GLY:HA2	29:X:980:G:O3'	2.00	0.61
8:C:47:THR:CG2	8:C:85:GLY:H	2.13	0.61
23:R:93:ARG:CG	23:R:94:VAL:N	2.63	0.61
4:4:19:ARG:NH1	4:4:24:LEU:HD22	2.15	0.61
29:X:936:A:O2'	29:X:937:C:H5'	2.01	0.61
7:B:78:LEU:O	7:B:79:ARG:NE	2.34	0.61
29:X:638:A:O2'	29:X:639:G:C8	2.51	0.61
29:X:2080:U:H2'	29:X:2081:U:C6	2.35	0.61
19:N:91:ASN:O	19:N:93:LYS:N	2.34	0.61
20:O:12:TYR:O	20:O:13:ARG:CB	2.48	0.61
29:X:987:G:H5'	29:X:1167:A:N6	2.16	0.61
29:X:1171:A:H2'	29:X:1172:U:H6	1.64	0.61
9:D:35:VAL:HG12	9:D:36:VAL:N	2.15	0.61
29:X:2220:A:H2'	29:X:2221:G:H8	1.66	0.61
24:S:123:VAL:O	24:S:124:ALA:O	2.19	0.61
24:S:154:LEU:HD21	24:S:160:LEU:CD2	2.30	0.61
29:X:174:A:N3	29:X:174:A:H2'	2.16	0.61
10:E:105:MET:HB2	10:E:113:VAL:HB	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:76:LYS:HG3	14:I:111:SER:CB	2.31	0.61
29:X:1624:A:O2'	29:X:1625:A:H5'	2.00	0.61
24:S:1:MET:HG3	24:S:52:PHE:CD2	2.36	0.61
8:C:66:ASN:HA	29:X:1268:U:C6	2.36	0.61
14:I:8:PRO:O	29:X:1218:C:H1'	2.01	0.61
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.12	0.61
23:R:108:VAL:C	23:R:110:SER:H	2.03	0.61
6:A:132:PRO:HD3	6:A:190:TYR:CD2	2.35	0.61
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.27	0.61
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.64	0.61
29:X:1854:G:HO2'	29:X:1855:G:H5'	1.65	0.61
18:M:32:THR:HG22	18:M:33:VAL:N	2.16	0.61
7:B:183:LEU:HD23	7:B:183:LEU:N	2.16	0.61
11:F:71:THR:CG2	11:F:110:THR:HG22	2.28	0.61
27:V:16:LYS:HG2	27:V:17:GLU:OE2	2.01	0.61
27:V:21:ARG:N	27:V:21:ARG:HD2	2.15	0.61
31:Z:17:A:HO2'	31:Z:112:A:H8	1.47	0.61
24:S:109:GLN:NE2	24:S:142:ASN:OD1	2.33	0.61
9:D:72:LYS:HA	9:D:81:GLN:C	2.21	0.61
9:D:85:VAL:HG23	9:D:86:GLY:H	1.65	0.61
25:T:24:LYS:HZ2	29:X:2335:U:P	2.23	0.61
22:Q:35:LYS:HA	22:Q:38:ILE:HG23	1.83	0.61
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.29	0.61
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.83	0.61
7:B:121:ASN:O	7:B:122:PHE:C	2.38	0.60
8:C:34:GLN:HG2	29:X:627:A:OP1	2.01	0.60
23:R:110:SER:OG	23:R:111:GLY:N	2.34	0.60
29:X:580:A:N7	29:X:584:A:C5	2.68	0.60
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.01	0.60
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.83	0.60
29:X:2352:A:H2'	29:X:2353:G:H8	1.65	0.60
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.82	0.60
18:M:44:ARG:HD2	18:M:46:ARG:HH21	1.66	0.60
29:X:754:G:H2'	29:X:755:C:C6	2.36	0.60
19:N:79:PHE:CE2	19:N:83:LEU:HD11	2.36	0.60
20:O:24:SER:O	20:O:26:GLN:N	2.34	0.60
9:D:108:LEU:HD22	9:D:114:PHE:CE1	2.36	0.60
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.60
29:X:2498:U:C4'	29:X:2499:C:OP1	2.44	0.60
29:X:172:A:N7	29:X:175:C:C5	2.69	0.60
29:X:2238:G:H1'	29:X:2406:C:C2	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:127:ALA:C	14:I:129:ALA:H	2.05	0.60
24:S:64:ALA:HA	24:S:86:VAL:N	2.16	0.60
29:X:1629:G:H2'	29:X:1633:C:H42	1.65	0.60
29:X:1578:U:H2'	29:X:1579:G:H8	1.64	0.60
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.81	0.60
29:X:2422:C:O2'	29:X:2423:G:H5'	2.00	0.60
29:X:2431:C:H42	29:X:2483:U:H3	1.48	0.60
6:A:172:TYR:HA	6:A:186:HIS:HA	1.82	0.60
29:X:2495:G:O2'	29:X:2496:C:H5'	2.01	0.60
6:A:227:ASN:ND2	29:X:797:A:H5''	2.16	0.60
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.36	0.60
26:U:13:LEU:HG	26:U:14:VAL:H	1.65	0.60
29:X:837:U:H3	29:X:846:A:H61	1.49	0.60
24:S:130:ILE:HD12	24:S:130:ILE:N	2.16	0.60
13:H:43:ARG:HD3	13:H:44:TYR:CE2	2.35	0.60
29:X:1373:G:N2	29:X:1374:G:H1'	2.17	0.60
7:B:195:LEU:H	18:M:2:GLN:HG2	1.65	0.60
14:I:28:LYS:HZ3	14:I:36:GLY:HA2	1.65	0.60
29:X:187:U:H2'	29:X:188:G:C8	2.34	0.60
12:G:158:HIS:HA	12:G:161:GLN:OE1	2.01	0.60
29:X:2857:C:H2'	29:X:2858:A:O5'	2.02	0.60
29:X:48:A:H4'	29:X:49:U:C5'	2.31	0.60
20:O:66:GLY:O	20:O:87:ARG:NH1	2.33	0.60
14:I:141:VAL:C	14:I:142:LEU:HD23	2.20	0.60
29:X:107:G:N2	29:X:108:G:H1'	2.15	0.60
21:P:68:VAL:HG12	21:P:68:VAL:O	2.01	0.60
7:B:116:VAL:H	7:B:136:ARG:HE	0.64	0.60
14:I:13:ARG:NH2	14:I:13:ARG:CG	2.61	0.60
29:X:1339:U:H5''	29:X:1994:U:H1'	1.83	0.60
29:X:538:A:C2	29:X:2025:A:C6	2.89	0.60
29:X:760:U:C4	29:X:2592:U:O2	2.54	0.60
30:Y:19:ARG:CB	30:Y:19:ARG:HH11	2.13	0.60
29:X:2725:C:H2'	29:X:2726:U:H6	1.65	0.60
9:D:122:PHE:O	9:D:124:GLY:N	2.35	0.60
17:L:38:ILE:CD1	17:L:39:TYR:H	2.06	0.60
17:L:8:ARG:HH11	17:L:8:ARG:HB2	1.65	0.60
7:B:176:ARG:HH21	18:M:16:ILE:HA	1.66	0.60
29:X:2327:U:O4	29:X:2361:G:C2	2.53	0.60
29:X:1467:U:C6	29:X:1467:U:H5''	2.36	0.60
8:C:147:LYS:N	8:C:184:ASP:OD2	2.27	0.60
9:D:103:LEU:HA	9:D:107:GLY:HA3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1690:U:H2'	29:X:1691:G:H5'	1.82	0.60
11:F:60:TYR:O	11:F:61:ALA:HB2	2.00	0.60
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.81	0.60
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.82	0.60
14:I:100:ARG:O	14:I:100:ARG:HG3	2.02	0.60
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.36	0.60
19:N:13:ARG:CG	19:N:13:ARG:HH21	2.13	0.60
23:R:8:SER:C	23:R:10:HIS:N	2.54	0.60
6:A:105:ILE:HG22	6:A:106:LEU:O	2.01	0.60
13:H:79:HIS:CG	13:H:80:ALA:H	2.17	0.60
17:L:37:HIS:O	17:L:38:ILE:O	2.19	0.60
15:J:37:ALA:CA	15:J:130:THR:HG22	2.21	0.60
13:H:23:ARG:CZ	13:H:23:ARG:HB3	2.32	0.60
29:X:1090:C:O2'	29:X:1091:C:H5'	2.01	0.60
9:D:151:GLY:O	9:D:152:MET:HB3	2.01	0.60
21:P:106:LEU:HD23	21:P:107:ILE:N	2.16	0.60
29:X:2812:A:H2'	29:X:2813:G:H8	1.66	0.60
29:X:1373:G:H2'	29:X:1374:G:H5'	1.84	0.60
29:X:1181:C:H2'	29:X:1182:U:C5'	2.27	0.60
29:X:162:C:H2'	29:X:163:A:H8	1.66	0.60
29:X:1841:G:H2'	29:X:1842:G:H5'	1.82	0.60
23:R:98:ILE:HB	23:R:100:ASP:H	1.67	0.60
22:Q:76:LYS:HG2	22:Q:76:LYS:O	2.00	0.60
6:A:68:LYS:H	6:A:68:LYS:CD	2.12	0.60
28:W:19:THR:O	28:W:23:LEU:HG	2.01	0.60
7:B:40:GLN:O	7:B:40:GLN:HG2	2.01	0.60
29:X:1473:U:O2'	29:X:1474:A:OP2	2.19	0.60
29:X:1734:C:H5''	29:X:1735:G:C8	2.36	0.60
21:P:46:ARG:CG	21:P:46:ARG:HH11	2.10	0.60
12:G:154:GLU:H	12:G:157:PRO:HD2	1.66	0.60
24:S:1:MET:CE	24:S:52:PHE:HB3	2.31	0.60
22:Q:91:LEU:N	22:Q:91:LEU:HD22	2.15	0.60
18:M:57:ILE:HG13	18:M:57:ILE:O	2.00	0.60
8:C:33:TRP:CD1	8:C:95:LEU:HB2	2.37	0.60
12:G:140:GLN:O	12:G:143:ALA:HB3	2.02	0.60
29:X:1134:C:H2'	29:X:1135:C:H6	1.67	0.60
29:X:527:C:O2'	29:X:528:G:H5'	2.01	0.60
29:X:2298:U:H4'	29:X:2299:A:C8	2.37	0.60
13:H:116:ARG:HH21	18:M:40:ARG:CB	2.11	0.60
27:V:2:LYS:HA	27:V:6:MET:HE2	1.83	0.60
29:X:2170:C:H2'	29:X:2171:U:C4'	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.83	0.60
9:D:136:LEU:HD11	9:D:149:THR:HG21	1.83	0.60
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.60
29:X:2501:U:O2'	29:X:2626:U:H5''	2.02	0.60
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.31	0.60
29:X:1919:A:H2	29:X:1926:U:C2	2.20	0.60
29:X:2522:G:H2'	29:X:2523:G:C8	2.37	0.60
29:X:1698:C:C2'	29:X:1753:A:H2'	2.32	0.60
29:X:2553:G:H2'	29:X:2554:C:C6	2.37	0.60
29:X:2252:A:C2	29:X:2253:A:C5	2.90	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
20:O:65:ARG:NE	20:O:87:ARG:HD2	2.17	0.60
6:A:184:ARG:NH2	6:A:268:ARG:NH1	2.50	0.60
10:E:84:THR:CA	10:E:134:SER:HA	2.30	0.60
29:X:2824:C:H4'	29:X:2825:A:H5'	1.83	0.60
17:L:33:ARG:HH22	17:L:103:LEU:CB	2.14	0.60
31:Z:39:C:H3'	31:Z:40:C:C6	2.37	0.60
29:X:510:G:N2	29:X:512:A:H3'	2.17	0.60
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.31	0.60
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.12	0.60
25:T:71:ASN:HD21	25:T:74:LYS:HA	1.66	0.60
29:X:663:G:H2'	29:X:664:C:H4'	1.83	0.60
24:S:94:VAL:HG12	24:S:95:SER:N	2.16	0.60
29:X:1166:A:C2'	29:X:1167:A:H5''	2.32	0.60
29:X:1508:G:C5'	29:X:1509:A:H5''	2.21	0.60
9:D:75:SER:HB2	29:X:2289:A:C2	2.36	0.60
22:Q:56:MET:SD	29:X:1355:A:OP2	2.60	0.60
13:H:17:ARG:N	13:H:57:ASP:O	2.35	0.60
10:E:109:TYR:HE1	10:E:152:ARG:NH1	1.99	0.60
15:J:80:ALA:CB	15:J:81:GLU:OE1	2.49	0.60
29:X:2370:G:O2'	29:X:2403:C:N4	2.35	0.60
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.84	0.60
12:G:55:ALA:C	12:G:134:MET:HE1	2.22	0.60
23:R:25:LEU:HD12	23:R:81:VAL:N	2.17	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
31:Z:58:G:H4'	31:Z:59:A:C5'	2.31	0.60
29:X:871:U:C2'	29:X:2247:A:H2'	2.31	0.60
25:T:17:ASN:ND2	29:X:2241:U:C5	2.70	0.60
29:X:840:U:O2	29:X:2225:G:H4'	2.02	0.60
21:P:114:ALA:HB2	29:X:1630:A:C2	2.36	0.60
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:155:THR:HG23	12:G:156:HIS:ND1	2.17	0.60
29:X:1454:U:H2'	29:X:1455:C:H6	1.65	0.60
29:X:93:A:O2'	29:X:94:C:H5'	2.02	0.60
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.83	0.60
23:R:15:HIS:O	23:R:16:PHE:HB3	2.01	0.60
21:P:117:ILE:HD13	29:X:1996:A:H4'	1.83	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
17:L:97:HIS:CG	17:L:98:GLY:N	2.70	0.60
29:X:2279:G:H2'	29:X:2280:A:C8	2.37	0.60
29:X:2292:C:O2'	29:X:2293:G:H5'	2.02	0.60
31:Z:37:C:H2'	31:Z:38:C:O4'	2.01	0.60
14:I:62:LYS:HG3	14:I:63:ARG:H	1.67	0.60
14:I:62:LYS:CG	14:I:63:ARG:N	2.64	0.60
11:F:52:ILE:O	11:F:73:PRO:HD3	2.02	0.60
29:X:1551:U:H5'	29:X:1552:C:C6	2.36	0.60
29:X:664:C:H5'	29:X:664:C:H6	1.66	0.60
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.84	0.60
29:X:1448:A:H2'	29:X:1449:C:H6	1.67	0.60
29:X:913:A:H2'	29:X:914:C:O5'	2.02	0.60
10:E:35:VAL:HB	10:E:37:TYR:CE1	2.36	0.60
29:X:2475:C:O2'	29:X:2476:A:H5'	2.02	0.60
29:X:957:G:O2'	29:X:958:G:H5'	2.01	0.60
16:K:91:PRO:C	16:K:92:GLY:O	2.40	0.60
25:T:26:PHE:CE2	29:X:870:C:H1'	2.36	0.60
24:S:64:ALA:CB	24:S:85:MET:HA	2.32	0.60
18:M:43:ASN:ND2	18:M:43:ASN:O	2.34	0.60
29:X:449:C:H2'	29:X:450:C:H6	1.66	0.60
29:X:2860:C:H2'	29:X:2861:A:O4'	2.02	0.60
7:B:146:THR:O	7:B:147:PRO:C	2.40	0.60
12:G:107:GLN:O	29:X:1142:G:OP1	2.20	0.60
6:A:53:PHE:O	6:A:54:ILE:HG22	2.01	0.60
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.31	0.60
7:B:53:PRO:HD2	18:M:6:LYS:NZ	2.14	0.60
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.83	0.60
18:M:11:GLU:O	18:M:12:LEU:C	2.40	0.60
29:X:648:A:H4'	29:X:649:G:O5'	2.01	0.60
18:M:34:ARG:HH21	18:M:91:VAL:HG23	1.65	0.60
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.26	0.60
15:J:21:ASP:HA	15:J:99:LYS:CE	2.32	0.60
29:X:1004:A:C5	29:X:1005:U:C5	2.90	0.60
29:X:2500:C:H2'	29:X:2501:U:H6	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:176:A:C3'	29:X:177:U:H5	2.09	0.60
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.84	0.60
29:X:2699:G:O2'	29:X:2700:U:C5'	2.49	0.60
29:X:1685:A:H2'	29:X:1691:G:N7	2.16	0.60
15:J:51:CYS:O	15:J:52:ARG:C	2.39	0.60
8:C:54:THR:HG21	8:C:72:ARG:H	1.66	0.60
15:J:61:ARG:HD3	24:S:174:PRO:HB2	1.83	0.60
29:X:2011:U:O2'	29:X:2012:A:H5'	2.02	0.60
10:E:121:VAL:HG12	10:E:122:THR:N	2.17	0.60
7:B:119:ARG:HA	7:B:160:MET:CE	2.31	0.60
7:B:121:ASN:O	7:B:122:PHE:O	2.20	0.59
19:N:24:PHE:O	19:N:29:SER:OG	2.12	0.59
12:G:103:TYR:CE2	29:X:1142:G:H4'	2.37	0.59
6:A:246:PRO:HD3	6:A:251:GLY:N	2.15	0.59
18:M:55:ILE:O	18:M:56:ALA:HB2	2.01	0.59
14:I:98:LEU:O	14:I:99:VAL:HG13	2.02	0.59
12:G:64:GLY:CA	12:G:67:ARG:HG3	2.32	0.59
19:N:86:ALA:C	19:N:88:ILE:N	2.53	0.59
29:X:1921:A:O2'	29:X:1922:U:OP1	2.20	0.59
29:X:148:C:OP1	29:X:148:C:H6	1.85	0.59
29:X:2677:U:H2'	29:X:2678:C:H6	1.65	0.59
29:X:1685:A:C8	29:X:1691:G:C5	2.89	0.59
29:X:1069:G:C2'	29:X:1070:G:H5''	2.32	0.59
12:G:107:GLN:CA	12:G:110:LEU:HG	2.32	0.59
19:N:10:ARG:O	19:N:13:ARG:HB3	2.03	0.59
29:X:1135:C:N4	29:X:1136:G:O6	2.34	0.59
8:C:67:ALA:N	29:X:1268:U:C5	2.60	0.59
29:X:464:G:H2'	29:X:465:C:C6	2.37	0.59
29:X:633:G:O2'	29:X:634:G:H5'	2.01	0.59
6:A:244:ARG:N	6:A:244:ARG:CD	2.64	0.59
29:X:400:U:HO2'	29:X:401:G:H5''	1.66	0.59
11:F:18:THR:HB	11:F:22:PRO:HB2	1.84	0.59
29:X:1058:G:H2'	29:X:1121:G:C6	2.36	0.59
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.70	0.59
22:Q:11:VAL:HG22	22:Q:28:TRP:NE1	2.18	0.59
29:X:715:U:O2'	29:X:716:U:H5'	2.00	0.59
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.32	0.59
29:X:1524:C:H3'	29:X:1525:A:O4'	2.02	0.59
28:W:38:PRO:N	28:W:41:ARG:NE	2.50	0.59
16:K:72:ASP:HB3	16:K:75:VAL:HG23	1.84	0.59
7:B:48:GLN:NE2	29:X:2614:A:O2'	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.02	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.37	0.59
8:C:187:VAL:HG12	8:C:189:ASP:HB2	1.84	0.59
29:X:1033:G:O2'	29:X:1034:U:H5'	2.02	0.59
29:X:2496:C:C5	29:X:2521:A:C5	2.90	0.59
18:M:55:ILE:CG1	18:M:67:THR:HG22	2.33	0.59
9:D:4:LEU:HD11	9:D:173:MET:CE	2.32	0.59
17:L:37:HIS:CE1	17:L:39:TYR:CZ	2.91	0.59
29:X:1129:A:H8	29:X:1129:A:H5'	1.68	0.59
27:V:41:HIS:ND1	29:X:95:G:H4'	2.18	0.59
24:S:97:PRO:HB2	24:S:99:HIS:HE1	1.67	0.59
29:X:1323:G:H3'	29:X:1324:G:N2	2.17	0.59
29:X:1953:A:H1'	29:X:1955:G:C8	2.37	0.59
29:X:2451:G:H2'	29:X:2454:C:H42	1.68	0.59
22:Q:91:LEU:CD2	22:Q:91:LEU:N	2.64	0.59
29:X:1994:U:H2'	29:X:1995:G:H5'	1.84	0.59
29:X:1786:C:H2'	29:X:1787:U:O4'	2.01	0.59
17:L:38:ILE:HD11	17:L:40:ALA:N	2.10	0.59
25:T:20:TYR:O	25:T:21:LEU:HG	2.03	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
15:J:64:LYS:HB2	15:J:108:ALA:O	2.02	0.59
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.85	0.59
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.18	0.59
26:U:52:ARG:C	26:U:53:GLU:HG2	2.20	0.59
19:N:66:ASN:HB3	19:N:76:TYR:N	2.17	0.59
20:O:14:VAL:O	20:O:15:SER:HB2	2.01	0.59
9:D:70:ALA:O	9:D:72:LYS:N	2.35	0.59
24:S:123:VAL:H	24:S:161:ALA:HB2	1.66	0.59
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.37	0.59
19:N:17:VAL:HG13	19:N:39:LEU:HD12	1.85	0.59
7:B:155:ARG:NH1	7:B:155:ARG:HG3	2.16	0.59
23:R:85:ASP:N	23:R:86:PRO:HD3	2.16	0.59
29:X:2598:C:O2'	29:X:2599:U:H5'	2.03	0.59
29:X:531:G:H2'	29:X:532:A:H8	1.67	0.59
6:A:184:ARG:NH2	6:A:268:ARG:HH11	2.01	0.59
9:D:15:ALA:HA	9:D:18:GLN:HB2	1.83	0.59
15:J:69:ILE:HD13	15:J:104:MET:CG	2.33	0.59
24:S:11:LYS:O	24:S:13:LYS:N	2.31	0.59
29:X:2075:U:HO2'	29:X:2076:G:H5''	1.67	0.59
29:X:2210:C:H2'	29:X:2211:U:H6	1.67	0.59
29:X:837:U:H2'	29:X:838:A:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2264:C:H42	29:X:2325:A:H2	1.51	0.59
29:X:1081:A:C6	29:X:1108:U:H4'	2.38	0.59
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.36	0.59
29:X:1710:U:H4'	29:X:1711:C:OP2	2.03	0.59
29:X:88:G:C3'	29:X:89:A:H5''	2.25	0.59
29:X:98:U:H5''	29:X:99:U:OP1	2.03	0.59
29:X:2046:C:O2	29:X:2430:A:C2	2.55	0.59
29:X:2857:C:C2'	29:X:2858:A:O5'	2.51	0.59
28:W:38:PRO:HD3	28:W:41:ARG:HE	1.67	0.59
29:X:1705:U:O4'	29:X:1718:A:N6	2.35	0.59
14:I:22:GLY:CA	29:X:674:U:H1'	2.32	0.59
8:C:62:LYS:CD	8:C:63:GLY:N	2.66	0.59
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.64	0.59
14:I:17:LYS:HA	14:I:21:ARG:HE	1.67	0.59
19:N:25:TRP:CE3	19:N:26:GLY:N	2.70	0.59
6:A:52:ARG:NH2	6:A:53:PHE:HZ	2.00	0.59
9:D:13:ARG:HH12	9:D:14:PRO:HG3	1.63	0.59
15:J:14:PHE:O	15:J:15:ARG:HG3	2.03	0.59
7:B:31:CYS:HB3	7:B:49:ILE:CG1	2.32	0.59
7:B:39:ALA:HA	7:B:43:GLY:C	2.23	0.59
29:X:872:G:OP2	29:X:872:G:C8	2.56	0.59
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.32	0.59
16:K:28:LEU:CD2	16:K:115:LEU:HG	2.31	0.59
22:Q:29:VAL:HG11	22:Q:38:ILE:CD1	2.24	0.59
29:X:717:G:C2'	29:X:739:G:H22	2.04	0.59
10:E:87:LEU:O	10:E:131:ILE:N	2.36	0.59
29:X:2429:A:C2	29:X:2430:A:C4	2.90	0.59
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.67	0.59
29:X:890:U:H2'	29:X:891:A:C8	2.37	0.59
16:K:25:ALA:HB2	16:K:47:PHE:CE2	2.37	0.59
29:X:181:A:H4'	29:X:182:G:OP1	2.03	0.59
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.16	0.59
12:G:125:ARG:HD3	12:G:128:GLU:OE1	2.01	0.59
29:X:562:G:H2'	29:X:563:U:O4'	2.01	0.59
29:X:236:C:O2'	29:X:632:A:O2'	2.19	0.59
6:A:182:LEU:HB2	6:A:268:ARG:O	2.03	0.59
29:X:2194:A:H2'	29:X:2195:C:H5''	1.84	0.59
8:C:22:VAL:HA	8:C:106:MET:CG	2.31	0.59
29:X:2391:A:H2'	29:X:2392:G:O4'	2.03	0.59
18:M:93:ILE:HG22	18:M:94:VAL:N	2.18	0.59
26:U:17:SER:HB2	26:U:44:ALA:HA	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:872:G:H2'	29:X:928:G:N1	2.18	0.59
31:Z:15:A:C2	31:Z:71:G:H2'	2.38	0.59
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.58	0.59
9:D:103:LEU:CD1	9:D:108:LEU:HG	2.32	0.59
29:X:1573:G:H3'	29:X:1574:A:C5'	2.31	0.59
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.14	0.59
29:X:2236:U:H2'	29:X:2237:C:C6	2.38	0.59
21:P:78:ASN:O	21:P:80:LEU:N	2.35	0.59
10:E:37:TYR:HE2	10:E:71:LEU:HB2	1.67	0.59
29:X:1578:U:H2'	29:X:1579:G:C8	2.37	0.59
29:X:784:U:H2'	29:X:785:U:H6	1.67	0.59
31:Z:75:A:C2	31:Z:76:U:H1'	2.37	0.59
21:P:33:MET:SD	21:P:64:ALA:HA	2.43	0.59
29:X:542:A:N6	29:X:2003:A:H1'	2.17	0.59
8:C:50:GLN:CD	29:X:814:G:OP1	2.40	0.59
6:A:134:ARG:NE	6:A:135:PHE:CE2	2.70	0.59
6:A:222:ARG:NH1	29:X:1779:C:H5''	2.18	0.59
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.33	0.59
17:L:28:ARG:NH2	31:Z:10:U:O3'	2.30	0.59
29:X:492:G:HO2'	29:X:517:A:N6	2.00	0.59
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.85	0.59
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.00	0.59
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.32	0.59
18:M:34:ARG:HH12	18:M:81:PHE:HB3	1.66	0.59
11:F:20:ALA:N	11:F:21:PRO:HD2	2.09	0.59
29:X:1252:C:C2'	29:X:1253:C:H5''	2.33	0.59
29:X:224:G:OP2	29:X:226:C:N4	2.36	0.59
10:E:128:PRO:O	10:E:129:THR:HG23	2.02	0.59
10:E:87:LEU:N	10:E:131:ILE:O	2.31	0.59
30:Y:55:ARG:NH1	30:Y:59:ALA:HB2	2.17	0.59
29:X:1699:A:H2'	29:X:1700:C:C6	2.37	0.59
12:G:45:ASP:OD1	12:G:47:SER:HB2	2.03	0.59
24:S:23:ALA:HA	24:S:83:PHE:O	2.03	0.59
29:X:1973:C:H2'	29:X:1974:U:H6	1.67	0.59
29:X:1686:A:C2	29:X:1977:C:H1'	2.37	0.59
29:X:1656:U:C2'	29:X:1657:A:H5''	2.33	0.59
13:H:63:ALA:O	13:H:65:LYS:HD2	2.02	0.59
29:X:2685:A:C2	29:X:2686:C:C2	2.91	0.59
29:X:542:A:N1	29:X:2004:U:H2'	2.16	0.59
29:X:631:G:H4'	29:X:632:A:C5'	2.31	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2280:A:H2'	29:X:2281:C:C6	2.38	0.59
29:X:941:U:H2'	29:X:942:U:O4'	2.02	0.59
29:X:487:G:H4'	29:X:512:A:H61	1.68	0.59
15:J:34:GLY:CA	15:J:106:GLU:HA	2.19	0.59
15:J:44:LYS:HD3	15:J:47:GLN:HE22	1.68	0.59
24:S:19:ILE:HD11	24:S:36:ARG:HG3	1.85	0.59
7:B:67:PHE:CE2	7:B:74:PRO:HA	2.37	0.59
11:F:117:ALA:HB1	11:F:122:ALA:HB1	1.84	0.59
31:Z:20:A:H2'	31:Z:21:C:C6	2.37	0.59
31:Z:81:C:H6	31:Z:81:C:O5'	1.86	0.59
29:X:2175:A:H2'	29:X:2176:U:C6	2.34	0.59
20:O:26:GLN:HG2	20:O:27:GLY:N	2.11	0.59
9:D:74:ILE:HA	9:D:79:LEU:CB	2.32	0.59
29:X:2779:C:H2'	29:X:2780:A:O4'	2.03	0.59
10:E:103:LEU:CD2	10:E:131:ILE:HD13	2.30	0.59
15:J:80:ALA:O	15:J:81:GLU:HB3	2.03	0.59
29:X:2764:U:H2'	29:X:2765:C:H6	1.63	0.59
29:X:2624:G:H4'	29:X:2712:G:O2'	2.02	0.59
20:O:68:LYS:HD2	20:O:86:HIS:O	2.03	0.59
7:B:141:ILE:HG21	7:B:150:VAL:HG11	1.85	0.59
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.59
12:G:96:ASP:O	12:G:98:LYS:N	2.27	0.59
29:X:322:A:O2'	29:X:343:A:C4'	2.51	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
29:X:2492:G:N2	29:X:2493:U:C2	2.70	0.59
9:D:13:ARG:HA	9:D:16:LEU:HD12	1.82	0.59
25:T:42:GLY:O	25:T:57:HIS:CD2	2.56	0.59
26:U:28:GLY:HA3	26:U:32:ARG:HB3	1.85	0.59
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.38	0.59
15:J:73:LYS:HB3	15:J:95:VAL:O	2.03	0.59
29:X:1238:A:C6	29:X:1239:A:N1	2.71	0.59
9:D:152:MET:HE3	9:D:154:ILE:HD11	1.83	0.59
29:X:2690:A:OP1	29:X:2692:A:P	2.61	0.59
29:X:2448:A:N6	29:X:2460:G:H1'	2.18	0.59
29:X:2058:U:H1'	29:X:2576:G:H21	1.67	0.59
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.84	0.59
12:G:84:ASN:HA	12:G:152:ALA:O	2.02	0.59
12:G:85:ALA:O	12:G:88:VAL:N	2.33	0.59
7:B:82:ARG:NH2	29:X:2617:G:P	2.76	0.59
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.66	0.59
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:6:LYS:HG2	15:J:7:ARG:HG3	1.83	0.59
6:A:73:SER:HB2	6:A:120:GLY:CA	2.33	0.59
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.31	0.58
28:W:15:ASN:ND2	28:W:15:ASN:H	2.01	0.58
14:I:108:LEU:HB3	14:I:125:ALA:HB1	1.84	0.58
13:H:132:GLU:HG3	13:H:133:VAL:H	1.66	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.03	0.58
20:O:15:SER:C	20:O:16:GLU:HG3	2.22	0.58
20:O:71:ILE:CD1	29:X:1003:C:O3'	2.50	0.58
29:X:1011:A:O2'	29:X:1012:A:H5'	2.02	0.58
29:X:2286:G:C5	29:X:2287:G:H1'	2.37	0.58
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.85	0.58
22:Q:32:LYS:O	22:Q:33:ALA:CB	2.51	0.58
10:E:76:VAL:C	10:E:78:GLY:H	2.05	0.58
30:Y:45:ILE:HD13	30:Y:57:VAL:HG22	1.84	0.58
10:E:39:THR:C	10:E:41:LEU:H	2.07	0.58
6:A:48:ARG:NH1	6:A:48:ARG:HB3	2.18	0.58
9:D:46:ASP:HB2	9:D:49:ALA:H	1.67	0.58
16:K:69:ASP:O	16:K:70:ILE:HD13	2.03	0.58
29:X:1419:G:H2'	29:X:1420:A:C8	2.38	0.58
29:X:318:G:C8	29:X:318:G:H5'	2.30	0.58
6:A:160:GLY:O	29:X:1812:U:C4	2.56	0.58
6:A:52:ARG:HD3	29:X:1816:G:OP1	2.02	0.58
17:L:13:THR:O	17:L:17:VAL:HG12	2.02	0.58
15:J:69:ILE:HD13	15:J:104:MET:HG2	1.84	0.58
15:J:136:GLU:HA	15:J:138:TYR:HE2	1.67	0.58
29:X:636:G:H5'	29:X:636:G:C8	2.25	0.58
27:V:25:LEU:HD21	27:V:47:ARG:HD2	1.85	0.58
27:V:1:MET:HG3	27:V:2:LYS:N	2.17	0.58
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.85	0.58
29:X:1541:G:H2'	29:X:1542:G:C8	2.38	0.58
8:C:147:LYS:HA	8:C:166:TRP:O	2.03	0.58
29:X:874:A:H2	31:Z:80:A:C2	2.21	0.58
16:K:3:HIS:CG	16:K:5:LYS:HD2	2.36	0.58
19:N:74:MET:HE1	19:N:79:PHE:HA	1.83	0.58
19:N:82:GLY:O	19:N:85:ARG:N	2.36	0.58
20:O:46:VAL:HG12	20:O:51:ALA:HB2	1.86	0.58
28:W:8:SER:HB2	29:X:999:A:C5'	2.23	0.58
9:D:60:ILE:HG22	9:D:140:GLU:CB	2.30	0.58
29:X:1253:C:H5'	29:X:1253:C:H6	1.67	0.58
13:H:70:VAL:CG2	13:H:98:ILE:HG23	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:82:THR:O	15:J:83:ARG:CB	2.52	0.58
22:Q:71:GLN:HG2	22:Q:72:ARG:N	2.17	0.58
29:X:1426:U:C2'	29:X:1427:G:H5'	2.33	0.58
29:X:189:A:O2'	29:X:190:A:H5'	2.03	0.58
12:G:158:HIS:HA	12:G:161:GLN:NE2	2.18	0.58
29:X:1450:G:O2'	29:X:1451:C:H5'	2.03	0.58
29:X:2181:A:O2'	29:X:2182:A:H5'	2.02	0.58
8:C:12:GLY:O	8:C:14:THR:N	2.36	0.58
6:A:71:ASP:CG	6:A:103:ARG:HH12	2.06	0.58
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.85	0.58
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.17	0.58
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.34	0.58
6:A:92:ILE:CG2	6:A:104:TYR:HD2	2.15	0.58
18:M:101:ARG:O	18:M:103:LYS:N	2.37	0.58
17:L:17:VAL:HG13	17:L:18:ARG:N	2.18	0.58
17:L:99:ARG:HG3	17:L:100:VAL:N	2.17	0.58
15:J:30:PHE:HE1	29:X:886:A:H1'	1.69	0.58
14:I:105:PRO:O	14:I:106:VAL:CG2	2.52	0.58
29:X:838:A:O2'	29:X:839:U:H5'	2.02	0.58
9:D:60:ILE:HD12	9:D:138:PHE:CE2	2.38	0.58
29:X:2335:U:H2'	29:X:2336:G:H8	1.69	0.58
29:X:2190:A:C8	29:X:2190:A:H3'	2.39	0.58
21:P:87:GLU:HG3	21:P:88:ASP:OD2	2.04	0.58
29:X:428:A:H2'	29:X:429:C:H6	1.67	0.58
29:X:1283:C:H5''	29:X:1284:G:O5'	2.02	0.58
29:X:2560:G:H4'	29:X:2561:G:N7	2.18	0.58
16:K:36:THR:OG1	16:K:37:THR:N	2.33	0.58
8:C:74:VAL:O	8:C:77:PHE:N	2.32	0.58
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.38	0.58
29:X:2029:G:H5'	30:Y:19:ARG:CB	2.31	0.58
6:A:149:PRO:HG2	29:X:2200:G:HO2'	1.68	0.58
8:C:109:ALA:O	8:C:112:GLN:N	2.34	0.58
17:L:33:ARG:O	17:L:99:ARG:CZ	2.50	0.58
14:I:29:THR:HG22	14:I:29:THR:O	2.03	0.58
26:U:75:TYR:O	26:U:76:LYS:HB2	2.03	0.58
14:I:107:LYS:HG3	14:I:108:LEU:H	1.66	0.58
29:X:640:C:C4'	29:X:660:G:H21	2.16	0.58
29:X:1074:G:H2'	29:X:1075:C:O4'	2.03	0.58
12:G:66:HIS:O	12:G:70:PHE:CD1	2.56	0.58
9:D:102:LYS:O	9:D:106:ILE:N	2.32	0.58
9:D:74:ILE:CG2	9:D:80:ARG:HA	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2628:C:C2	29:X:2629:U:C5	2.92	0.58
29:X:1068:A:C8	29:X:1097:A:H2'	2.38	0.58
21:P:9:ARG:O	21:P:10:ASN:HB3	2.03	0.58
29:X:2217:G:H5''	29:X:2218:G:OP1	2.02	0.58
29:X:417:C:O3'	29:X:418:C:H4'	2.02	0.58
24:S:64:ALA:HB2	24:S:85:MET:HA	1.85	0.58
29:X:1522:C:H2'	29:X:1523:A:H4'	1.84	0.58
28:W:32:ARG:HG3	28:W:32:ARG:O	2.02	0.58
22:Q:21:GLU:C	22:Q:23:GLY:H	2.05	0.58
7:B:144:ARG:HD3	29:X:2551:A:C8	2.38	0.58
23:R:27:GLY:O	23:R:30:LYS:HG2	2.03	0.58
29:X:826:U:C2	29:X:827:C:C5	2.90	0.58
18:M:104:LEU:O	18:M:105:TYR:C	2.40	0.58
9:D:92:ARG:HE	31:Z:47:A:H8	1.51	0.58
29:X:861:G:C2'	29:X:862:A:H5'	2.32	0.58
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.68	0.58
14:I:80:LEU:HD21	14:I:97:ARG:NH2	2.18	0.58
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.19	0.58
13:H:23:ARG:HH21	13:H:23:ARG:HG2	1.66	0.58
29:X:1108:U:H2'	29:X:1109:A:O4'	2.02	0.58
27:V:42:ARG:NE	27:V:46:LEU:HD21	2.18	0.58
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.34	0.58
11:F:34:ILE:O	11:F:37:PHE:HB3	2.04	0.58
29:X:930:A:O5'	29:X:930:A:H8	1.86	0.58
25:T:36:ILE:HD11	29:X:2343:C:O2	2.04	0.58
29:X:1409:U:H5''	29:X:1410:U:OP2	2.03	0.58
7:B:2:LYS:HA	7:B:84:PHE:CD1	2.38	0.58
29:X:1322:G:O2'	29:X:1323:G:H5'	2.03	0.58
29:X:1524:C:H5''	29:X:1525:A:C8	2.36	0.58
24:S:25:ASN:OD1	24:S:27:GLU:N	2.37	0.58
12:G:42:VAL:HG13	12:G:168:THR:HG23	1.84	0.58
10:E:172:LYS:HD3	29:X:2508:G:OP2	2.03	0.58
7:B:103:ASP:OD2	7:B:202:ALA:N	2.33	0.58
8:C:61:GLN:HA	8:C:61:GLN:NE2	2.18	0.58
29:X:476:G:C6	29:X:477:A:N6	2.72	0.58
17:L:52:ALA:O	17:L:53:ALA:CB	2.52	0.58
29:X:2301:A:C4	29:X:2302:G:C8	2.91	0.58
7:B:4:ILE:HG21	7:B:28:ALA:HB1	1.86	0.58
29:X:1105:U:N3	29:X:1107:A:H5''	2.18	0.58
29:X:1002:C:N4	29:X:1003:C:H41	2.02	0.58
29:X:2609:G:H1'	29:X:2868:G:C4	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1631:C:O2	29:X:1631:C:H2'	2.02	0.58
29:X:175:C:C6	29:X:175:C:H3'	2.39	0.58
29:X:175:C:H6	29:X:175:C:H3'	1.67	0.58
29:X:204:A:N6	29:X:2386:G:C8	2.72	0.58
29:X:163:A:H2'	29:X:164:G:C8	2.38	0.58
11:F:101:TRP:HA	11:F:104:VAL:CG2	2.33	0.58
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.85	0.58
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.03	0.58
29:X:810:U:H2'	29:X:811:G:O4'	2.03	0.58
8:C:130:THR:OG1	8:C:160:ALA:HA	2.04	0.58
23:R:44:GLN:O	23:R:77:HIS:HA	2.04	0.58
29:X:542:A:H2	29:X:2004:U:C2'	2.05	0.58
6:A:200:GLU:OE2	6:A:201:HIS:N	2.36	0.58
6:A:244:ARG:CB	6:A:252:LYS:NZ	2.66	0.58
6:A:251:GLY:HA3	6:A:255:LYS:HZ1	1.69	0.58
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.85	0.58
31:Z:25:G:H2'	31:Z:26:G:C5	2.38	0.58
29:X:1067:G:H21	29:X:1114:A:N6	1.94	0.58
29:X:1112:U:O2'	29:X:1113:C:H5'	2.03	0.58
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.02	0.58
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.33	0.58
29:X:2550:C:N4	29:X:2553:G:C8	2.72	0.58
29:X:196:A:O2'	29:X:197:G:H5'	2.04	0.58
29:X:2284:U:H2'	29:X:2285:U:H5''	1.85	0.58
8:C:40:ARG:NH2	29:X:39:C:O2	2.36	0.58
29:X:542:A:H5'	29:X:543:G:O4'	2.04	0.58
29:X:2836:U:O2'	29:X:2837:G:H5'	2.03	0.58
9:D:22:TYR:CD2	9:D:27:ALA:O	2.57	0.58
17:L:15:ARG:HD2	17:L:91:ARG:HD3	1.84	0.58
25:T:21:LEU:CD1	25:T:41:ARG:HG2	2.34	0.58
31:Z:31:A:H2'	31:Z:32:C:C6	2.39	0.58
29:X:639:G:O5'	29:X:639:G:H8	1.87	0.58
29:X:649:G:N1	29:X:660:G:N1	2.52	0.58
29:X:2266:A:C2	29:X:2325:A:N7	2.71	0.58
29:X:2358:C:H2'	29:X:2359:U:H6	1.69	0.58
13:H:23:ARG:HH21	13:H:23:ARG:C	2.06	0.58
29:X:357:A:H3'	29:X:358:C:H6	1.67	0.58
12:G:67:ARG:O	12:G:70:PHE:CG	2.57	0.58
12:G:66:HIS:CD2	19:N:71:LEU:HD12	2.38	0.58
9:D:52:LYS:HZ1	9:D:149:THR:HA	1.68	0.58
29:X:2448:A:H61	29:X:2460:G:H1'	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:222:G:O2'	29:X:223:C:H5'	2.04	0.58
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.85	0.58
29:X:1525:A:H3'	29:X:1526:U:C6	2.37	0.58
29:X:1698:C:O2'	29:X:1753:A:C2'	2.51	0.58
27:V:38:ALA:O	27:V:40:PRO:HD3	2.02	0.58
6:A:79:VAL:HG12	6:A:79:VAL:O	2.02	0.58
10:E:172:LYS:HE2	29:X:2508:G:OP2	2.02	0.58
29:X:530:G:H2'	29:X:531:G:H8	1.68	0.58
29:X:540:G:N2	29:X:2005:U:OP1	2.37	0.58
29:X:2725:C:H2'	29:X:2726:U:C6	2.39	0.58
6:A:247:VAL:HG23	6:A:248:THR:N	2.19	0.58
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.32	0.58
13:H:133:VAL:HG12	13:H:133:VAL:O	2.03	0.58
27:V:50:VAL:O	27:V:53:LEU:HB2	2.03	0.58
7:B:42:ASP:OD2	29:X:2764:U:H4'	2.04	0.58
29:X:2819:G:H2'	29:X:2820:C:H6	1.68	0.58
24:S:21:ALA:HB2	24:S:81:VAL:HB	1.86	0.58
13:H:5:GLN:HG3	29:X:1685:A:OP1	2.03	0.58
29:X:977:G:O4'	29:X:2246:A:N6	2.37	0.58
7:B:47:VAL:O	7:B:80:GLU:HA	2.04	0.58
29:X:2511:G:H2'	29:X:2512:A:H8	1.68	0.58
8:C:45:THR:HG22	8:C:47:THR:OG1	2.03	0.58
29:X:689:A:C2'	29:X:690:A:H5'	2.34	0.58
29:X:2039:G:O2'	30:Y:8:LYS:HE2	2.04	0.58
4:4:1:MET:H1	29:X:2505:G:C2'	2.17	0.58
6:A:247:VAL:CG2	6:A:248:THR:N	2.67	0.58
29:X:2829:A:H2'	29:X:2830:U:C6	2.39	0.58
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.17	0.58
29:X:2265:A:H4'	29:X:2266:A:C5'	2.33	0.58
29:X:2081:U:H2'	29:X:2082:C:H6	1.69	0.58
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.34	0.58
20:O:54:TYR:N	20:O:54:TYR:CD1	2.71	0.58
29:X:1868:A:H2'	29:X:1869:A:O4'	2.03	0.58
12:G:82:VAL:HB	12:G:150:VAL:HG13	1.86	0.58
10:E:171:LEU:N	10:E:171:LEU:HD12	2.19	0.58
6:A:46:ARG:HD3	6:A:47:GLY:N	2.19	0.58
8:C:180:ILE:HG23	8:C:181:LEU:N	2.16	0.57
23:R:90:LYS:HB2	23:R:108:VAL:CG1	2.33	0.57
29:X:538:A:H2'	29:X:2025:A:C2	2.39	0.57
18:M:94:VAL:O	18:M:95:GLU:HB3	2.03	0.57
13:H:114:VAL:HG22	13:H:133:VAL:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1071:U:H5'	29:X:1072:U:OP1	2.04	0.57
24:S:75:LYS:C	24:S:77:ALA:H	2.05	0.57
20:O:11:GLN:HA	20:O:38:LEU:O	2.04	0.57
29:X:1174:G:C2	29:X:1175:A:C5	2.92	0.57
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.86	0.57
29:X:2691:C:C2'	29:X:2692:A:C5'	2.82	0.57
13:H:41:ASN:ND2	13:H:41:ASN:N	2.45	0.57
29:X:205:A:H2'	29:X:206:U:H5'	1.86	0.57
14:I:28:LYS:HD2	14:I:36:GLY:HA3	1.86	0.57
29:X:1425:G:O2'	29:X:1426:U:H5'	2.04	0.57
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.03	0.57
29:X:1294:G:H2'	29:X:1295:U:H6	1.69	0.57
8:C:129:LYS:O	8:C:130:THR:HB	2.03	0.57
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.04	0.57
6:A:267:ASP:O	6:A:268:ARG:HD2	2.04	0.57
17:L:74:ALA:O	17:L:78:ALA:HB2	2.04	0.57
14:I:68:VAL:O	14:I:68:VAL:HG12	2.04	0.57
19:N:88:ILE:HG22	20:O:48:GLY:C	2.25	0.57
9:D:103:LEU:HD11	9:D:108:LEU:HG	1.86	0.57
29:X:833:A:C1'	29:X:954:U:O2'	2.50	0.57
29:X:1598:C:H6	29:X:1598:C:O5'	1.87	0.57
6:A:96:HIS:HE1	6:A:100:GLY:CA	2.17	0.57
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.84	0.57
29:X:994:A:O2'	29:X:995:A:OP1	2.21	0.57
8:C:173:ALA:CB	8:C:193:LEU:HB2	2.35	0.57
8:C:48:ARG:C	8:C:50:GLN:N	2.57	0.57
6:A:99:ASP:OD1	29:X:1506:C:H2'	2.05	0.57
8:C:109:ALA:O	8:C:113:GLU:HG3	2.04	0.57
15:J:113:GLU:HA	15:J:113:GLU:OE2	2.05	0.57
15:J:25:GLY:O	15:J:26:ASP:O	2.23	0.57
15:J:35:LEU:HD11	15:J:130:THR:HB	1.86	0.57
13:H:22:ILE:HD11	29:X:1935:A:N3	2.18	0.57
29:X:558:G:N3	29:X:558:G:C4'	2.65	0.57
10:E:43:VAL:CB	10:E:52:VAL:HA	2.30	0.57
27:V:45:GLN:O	27:V:46:LEU:C	2.42	0.57
9:D:85:VAL:HG23	9:D:86:GLY:N	2.19	0.57
9:D:75:SER:HB2	29:X:2289:A:H2	1.68	0.57
29:X:1979:C:C2'	29:X:1980:A:O4'	2.52	0.57
29:X:1310:C:H2'	29:X:1311:C:H6	1.67	0.57
29:X:174:A:H8	29:X:2051:U:N3	2.02	0.57
29:X:2237:C:H4'	29:X:2238:G:OP2	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:50:VAL:HG23	21:P:72:LEU:HD11	1.86	0.57
7:B:203:LYS:HG2	29:X:2713:A:C6	2.39	0.57
12:G:150:VAL:CG1	12:G:151:TYR:N	2.68	0.57
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.86	0.57
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.33	0.57
6:A:164:GLN:HE22	6:A:166:GLN:NE2	2.01	0.57
23:R:8:SER:O	23:R:10:HIS:N	2.37	0.57
29:X:596:C:C2	29:X:684:C:C1'	2.87	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
6:A:217:ARG:O	6:A:218:LYS:C	2.42	0.57
6:A:243:GLY:C	6:A:244:ARG:CZ	2.73	0.57
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.34	0.57
26:U:11:LYS:HZ1	26:U:75:TYR:HB2	1.69	0.57
29:X:2372:A:H2'	29:X:2373:C:H6	1.69	0.57
13:H:23:ARG:HH21	13:H:24:VAL:N	2.02	0.57
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.19	0.57
18:M:46:ARG:CG	18:M:47:SER:N	2.63	0.57
31:Z:15:A:H2	31:Z:71:G:N3	2.02	0.57
10:E:30:LYS:CB	10:E:79:VAL:HA	2.33	0.57
29:X:1919:A:H1'	29:X:1923:U:N3	2.19	0.57
29:X:2474:G:N2	29:X:2475:C:O2	2.37	0.57
14:I:38:LYS:HZ3	14:I:38:LYS:HB3	1.69	0.57
9:D:115:ARG:HD2	9:D:178:ARG:NH2	2.18	0.57
12:G:84:ASN:O	12:G:86:ALA:N	2.30	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
8:C:122:GLY:C	8:C:124:ASP:N	2.56	0.57
29:X:888:G:O2'	29:X:889:C:H5'	2.04	0.57
29:X:1611:U:H2'	29:X:1612:U:O4'	2.03	0.57
29:X:16:G:C2	29:X:17:G:C8	2.92	0.57
29:X:590:C:H2'	29:X:591:G:C8	2.38	0.57
30:Y:19:ARG:HG3	30:Y:20:ARG:N	2.20	0.57
29:X:1775:A:H4'	29:X:1776:A:C5'	2.34	0.57
9:D:122:PHE:HE2	9:D:129:ASN:O	1.88	0.57
17:L:14:ARG:O	17:L:17:VAL:HG12	2.04	0.57
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.85	0.57
7:B:39:ALA:HA	7:B:44:TYR:N	2.18	0.57
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.86	0.57
13:H:27:SER:CB	13:H:50:ILE:HG13	2.35	0.57
29:X:1545:G:O2'	29:X:1546:C:H5'	2.04	0.57
29:X:1354:A:C2'	29:X:1410:U:O2'	2.53	0.57
22:Q:63:LYS:HE3	22:Q:65:VAL:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2702:G:C6	29:X:2703:C:N3	2.72	0.57
29:X:1463:A:H2'	29:X:1464:A:C8	2.39	0.57
29:X:2071:G:O2'	29:X:2072:C:H5'	2.04	0.57
13:H:3:MET:O	13:H:6:SER:CB	2.52	0.57
29:X:2009:U:H6	29:X:2009:U:H5''	1.70	0.57
29:X:2483:U:H6	29:X:2483:U:O5'	1.87	0.57
9:D:92:ARG:NH2	31:Z:47:A:OP1	2.37	0.57
29:X:937:C:H2'	29:X:938:G:O4'	2.04	0.57
14:I:30:ALA:H	14:I:34:HIS:CD2	2.22	0.57
26:U:49:LYS:HD3	26:U:61:TRP:CG	2.39	0.57
29:X:2265:A:C2	29:X:2325:A:N7	2.73	0.57
29:X:2081:U:H3	29:X:2174:G:H1	1.52	0.57
14:I:82:ASP:N	14:I:114:ILE:HG21	2.20	0.57
14:I:76:LYS:HE3	14:I:111:SER:CB	2.35	0.57
29:X:1343:C:H2'	29:X:1344:C:H6	1.69	0.57
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.87	0.57
14:I:22:GLY:HA2	29:X:674:U:H1'	1.84	0.57
7:B:154:LYS:CE	29:X:2598:C:H1'	2.34	0.57
23:R:45:LYS:HA	23:R:76:LEU:O	2.04	0.57
29:X:1153:A:H5'	29:X:1153:A:C8	2.39	0.57
29:X:692:C:O2'	29:X:693:A:H5'	2.05	0.57
28:W:5:LEU:HD12	28:W:50:LEU:O	2.03	0.57
15:J:113:GLU:C	15:J:115:ALA:N	2.56	0.57
15:J:116:LYS:HG2	15:J:132:MET:HE1	1.85	0.57
18:M:5:ILE:HD12	18:M:5:ILE:O	2.04	0.57
10:E:9:ILE:HD12	10:E:51:LEU:N	2.20	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57
24:S:75:LYS:C	24:S:77:ALA:N	2.58	0.57
19:N:66:ASN:HD22	19:N:70:ARG:CZ	2.17	0.57
20:O:88:GLN:NE2	29:X:1173:G:N3	2.53	0.57
9:D:79:LEU:HD21	29:X:2289:A:C2	2.40	0.57
22:Q:33:ALA:O	22:Q:34:THR:C	2.43	0.57
15:J:77:LYS:O	15:J:88:LYS:NZ	2.36	0.57
31:Z:63:A:O2'	31:Z:64:C:H5'	2.04	0.57
29:X:2441:U:C2	29:X:2442:C:C5	2.93	0.57
29:X:1886:G:H2'	29:X:1887:G:H8	1.70	0.57
29:X:208:C:H2'	29:X:209:G:H5'	1.86	0.57
14:I:130:ILE:O	14:I:133:VAL:HG23	2.04	0.57
29:X:303:C:H6	29:X:303:C:O5'	1.88	0.57
8:C:42:THR:HB	29:X:454:G:H21	1.69	0.57
29:X:538:A:H4'	29:X:539:A:OP1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:813:A:C4'	29:X:814:G:O5'	2.53	0.57
6:A:43:ARG:NH1	6:A:43:ARG:N	2.51	0.57
6:A:214:TRP:CD1	29:X:1582:A:O4'	2.57	0.57
26:U:31:GLY:HA2	26:U:32:ARG:CZ	2.35	0.57
18:M:91:VAL:HG12	18:M:92:THR:N	2.18	0.57
19:N:66:ASN:HB2	19:N:76:TYR:H	1.70	0.57
20:O:5:ILE:CG2	20:O:10:LYS:HE2	2.35	0.57
25:T:24:LYS:HE3	29:X:2334:C:O2'	2.05	0.57
29:X:1573:G:C3'	29:X:1574:A:H5''	2.31	0.57
10:E:77:LYS:HA	10:E:80:SER:HB3	1.86	0.57
29:X:1194:U:H2'	29:X:1195:U:H6	1.68	0.57
29:X:547:U:H2'	29:X:548:G:H8	1.68	0.57
8:C:108:ILE:O	8:C:111:ARG:HB2	2.04	0.57
9:D:119:PRO:CG	9:D:120:ASN:H	2.15	0.57
31:Z:53:G:N2	31:Z:54:U:C5	2.67	0.57
26:U:27:ASP:N	26:U:32:ARG:HH21	2.03	0.57
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.17	0.57
28:W:42:GLY:HA3	29:X:864:C:O2'	2.05	0.57
15:J:111:THR:HG23	15:J:114:GLN:HB2	1.86	0.57
11:F:26:ALA:C	11:F:27:LEU:HD12	2.25	0.57
25:T:32:LYS:N	25:T:35:ASN:ND2	2.51	0.57
29:X:13:A:O2'	29:X:15:G:N7	2.36	0.57
24:S:148:THR:HB	24:S:164:PRO:O	2.04	0.57
29:X:124:A:H2'	29:X:125:A:C8	2.40	0.57
28:W:27:LYS:O	28:W:28:ILE:C	2.38	0.57
8:C:56:ARG:HA	8:C:71:ASP:OD2	2.05	0.57
8:C:47:THR:HG23	8:C:84:PHE:N	2.20	0.57
29:X:2434:G:H2'	29:X:2435:C:C6	2.40	0.57
6:A:211:ARG:NH1	29:X:1582:A:OP1	2.37	0.57
9:D:4:LEU:HD12	9:D:5:LYS:H	1.69	0.57
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.86	0.57
15:J:116:LYS:HZ1	15:J:132:MET:HB3	1.70	0.57
29:X:1552:C:H1'	29:X:1553:G:N3	2.20	0.57
15:J:21:ASP:HA	15:J:99:LYS:HE3	1.86	0.57
12:G:61:ARG:NH2	12:G:78:ASP:OD2	2.33	0.57
7:B:188:ILE:HG22	7:B:189:PRO:HD2	1.83	0.57
29:X:324:C:H2'	29:X:325:U:O4'	2.04	0.57
14:I:7:LYS:O	14:I:7:LYS:HG2	2.05	0.56
29:X:1997:A:C2	29:X:1998:A:C2	2.93	0.56
7:B:146:THR:HG23	29:X:2015:G:H21	1.70	0.56
29:X:328:A:H2'	29:X:329:C:H6	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:580:A:O2'	29:X:582:G:OP2	2.23	0.56
6:A:258:LYS:HZ1	6:A:261:ARG:HE	1.51	0.56
6:A:258:LYS:NZ	6:A:261:ARG:HH21	2.03	0.56
29:X:1770:U:O2	29:X:1774:A:C5	2.58	0.56
6:A:214:TRP:CH2	29:X:777:A:OP2	2.58	0.56
8:C:116:LYS:O	8:C:117:LEU:HB2	2.05	0.56
18:M:104:LEU:O	18:M:106:TYR:N	2.38	0.56
29:X:2271:C:H2'	29:X:2272:A:H8	1.70	0.56
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.86	0.56
24:S:13:LYS:NZ	24:S:18:MET:O	2.38	0.56
26:U:46:LEU:C	26:U:47:HIS:CG	2.77	0.56
29:X:2210:C:C2	29:X:2211:U:C6	2.92	0.56
14:I:72:TYR:CD2	14:I:107:LYS:HB2	2.40	0.56
15:J:19:THR:CG2	15:J:99:LYS:NZ	2.68	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.04	0.56
29:X:1004:A:C5	29:X:1005:U:H5	2.22	0.56
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.20	0.56
13:H:16:ALA:HA	13:H:58:ALA:HA	1.87	0.56
10:E:18:ASN:HB2	10:E:25:LYS:CB	2.32	0.56
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.86	0.56
11:F:100:ASN:HB3	11:F:103:GLN:OE1	2.05	0.56
14:I:126:SER:OG	14:I:129:ALA:HB2	2.05	0.56
13:H:7:ARG:NH1	13:H:20:MET:CE	2.68	0.56
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.35	0.56
7:B:108:SER:OG	7:B:163:GLU:N	2.38	0.56
23:R:96:LYS:O	23:R:104:VAL:HA	2.05	0.56
23:R:96:LYS:HG3	23:R:97:GLN:H	1.70	0.56
29:X:341:A:C2	29:X:1223:G:H2'	2.39	0.56
29:X:529:U:C2	29:X:530:G:C8	2.94	0.56
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.86	0.56
6:A:258:LYS:HZ2	6:A:261:ARG:HE	1.49	0.56
4:4:24:LEU:HD12	4:4:24:LEU:N	2.20	0.56
6:A:252:LYS:CE	6:A:253:PRO:HD2	2.35	0.56
29:X:1770:U:H5	29:X:1775:A:N7	2.03	0.56
9:D:92:ARG:HG3	9:D:92:ARG:HH21	1.70	0.56
17:L:28:ARG:HH22	31:Z:10:U:C3'	2.18	0.56
17:L:37:HIS:O	17:L:37:HIS:ND1	2.38	0.56
19:N:47:TYR:C	19:N:47:TYR:CD2	2.79	0.56
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.35	0.56
29:X:1466:C:C2'	29:X:1467:U:O4'	2.53	0.56
29:X:305:A:H2'	29:X:306:G:H5'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:754:G:C6	29:X:755:C:N4	2.73	0.56
9:D:108:LEU:HB3	9:D:114:PHE:CZ	2.39	0.56
9:D:52:LYS:NZ	9:D:149:THR:HA	2.20	0.56
29:X:2691:C:OP1	29:X:2694:G:H4'	2.05	0.56
29:X:1734:C:C4	29:X:1735:G:H1'	2.41	0.56
10:E:65:HIS:C	10:E:67:LEU:H	2.08	0.56
15:J:75:VAL:HG21	15:J:93:TYR:HE2	1.69	0.56
29:X:2819:G:H2'	29:X:2820:C:C6	2.40	0.56
29:X:1:G:H2'	29:X:2:G:C8	2.39	0.56
29:X:2792:C:C2	29:X:2805:G:N2	2.73	0.56
29:X:242:A:H61	29:X:440:U:C2'	2.18	0.56
21:P:134:LYS:OXT	21:P:134:LYS:HG2	2.05	0.56
29:X:603:C:O2	29:X:603:C:H2'	2.05	0.56
29:X:2526:U:H2'	29:X:2527:G:H8	1.68	0.56
29:X:614:G:O2'	29:X:615:C:H5'	2.05	0.56
8:C:130:THR:O	8:C:134:ILE:HG13	2.03	0.56
23:R:80:LYS:O	23:R:80:LYS:CE	2.52	0.56
29:X:313:U:O2'	29:X:314:G:H5'	2.06	0.56
29:X:340:G:H8	29:X:340:G:OP2	1.87	0.56
8:C:162:ARG:NH1	29:X:333:A:C8	2.73	0.56
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.87	0.56
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.71	0.56
29:X:531:G:H2'	29:X:532:A:C8	2.41	0.56
29:X:2203:G:H4'	29:X:2205:C:C2	2.39	0.56
10:E:143:GLN:CG	29:X:2725:C:O2'	2.53	0.56
29:X:2564:U:H5'	29:X:2565:C:OP1	2.06	0.56
6:A:244:ARG:C	6:A:252:LYS:NZ	2.58	0.56
6:A:44:ASN:N	6:A:44:ASN:HD22	2.00	0.56
9:D:12:VAL:HG22	9:D:172:SER:OG	2.05	0.56
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.39	0.56
9:D:66:ILE:HG13	31:Z:44:C:O4'	2.05	0.56
15:J:117:GLU:O	15:J:121:LEU:HG	2.05	0.56
29:X:2463:G:O2'	29:X:2464:G:H5'	2.04	0.56
29:X:648:A:H5''	29:X:649:G:OP1	2.05	0.56
18:M:13:LEU:CD1	18:M:13:LEU:N	2.69	0.56
29:X:2264:C:N4	29:X:2325:A:H2	2.02	0.56
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.87	0.56
29:X:1465:G:H2'	29:X:1466:C:C6	2.41	0.56
11:F:19:PRO:HG2	11:F:20:ALA:H	1.70	0.56
11:F:10:LEU:N	11:F:10:LEU:HD23	2.19	0.56
15:J:21:ASP:CA	15:J:99:LYS:HG3	2.30	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:874:A:H2'	29:X:875:G:O4'	2.05	0.56
31:Z:16:U:C1'	31:Z:109:G:H21	2.15	0.56
25:T:44:LYS:HE3	25:T:45:PHE:CE1	2.40	0.56
19:N:93:LYS:O	19:N:93:LYS:HD2	2.05	0.56
19:N:93:LYS:O	19:N:94:VAL:CB	2.52	0.56
19:N:96:ALA:O	19:N:99:ALA:HB3	2.05	0.56
29:X:1002:C:N3	29:X:1003:C:C5	2.73	0.56
29:X:1509:A:H2'	29:X:1510:A:H5'	1.87	0.56
29:X:1514:C:C4'	29:X:1593:C:H5'	2.35	0.56
29:X:2627:G:O2'	29:X:2628:C:H5'	2.05	0.56
11:F:83:GLY:O	11:F:84:ILE:HG13	2.05	0.56
29:X:1926:U:C1'	29:X:1928:G:H5'	2.35	0.56
29:X:431:G:H2'	29:X:432:C:H6	1.70	0.56
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.05	0.56
22:Q:61:LYS:HD3	22:Q:72:ARG:NH2	2.20	0.56
29:X:2426:G:HO2'	29:X:2427:A:P	2.28	0.56
24:S:30:VAL:HB	24:S:32:PHE:CZ	2.41	0.56
29:X:2:G:H2'	29:X:3:U:H6	1.70	0.56
29:X:2553:G:H2'	29:X:2554:C:H6	1.70	0.56
29:X:242:A:O2'	29:X:243:G:H4'	2.05	0.56
25:T:23:VAL:HG13	25:T:38:VAL:CG2	2.35	0.56
16:K:7:GLY:O	16:K:8:ARG:HG2	2.04	0.56
20:O:42:GLY:O	20:O:43:GLU:HB2	2.04	0.56
16:K:96:ARG:HD2	16:K:114:GLU:OE2	2.05	0.56
22:Q:88:ILE:HD12	22:Q:88:ILE:O	2.05	0.56
8:C:47:THR:HB	8:C:48:ARG:HD2	1.87	0.56
7:B:152:LYS:H	12:G:106:TYR:CB	2.18	0.56
23:R:9:HIS:CG	29:X:338:G:H4'	2.41	0.56
29:X:21:A:C6	29:X:530:G:C6	2.94	0.56
6:A:254:THR:O	29:X:1836:C:H5'	2.06	0.56
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.36	0.56
14:I:73:GLU:OE2	14:I:105:PRO:O	2.23	0.56
29:X:1933:G:C8	29:X:1934:U:C5	2.93	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
25:T:45:PHE:HZ	25:T:77:ARG:NH2	2.04	0.56
21:P:50:VAL:O	21:P:54:GLU:HG3	2.06	0.56
10:E:95:ARG:NH1	10:E:97:LYS:NZ	2.54	0.56
21:P:25:PHE:HA	21:P:127:ILE:HG12	1.88	0.56
10:E:149:ARG:HG2	10:E:149:ARG:NH2	2.17	0.56
29:X:782:U:O2'	29:X:783:G:H5'	2.06	0.56
24:S:125:PRO:HA	24:S:158:CYS:SG	2.45	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:154:LYS:NZ	7:B:156:MET:CE	2.68	0.56
8:C:46:ARG:O	8:C:47:THR:C	2.43	0.56
23:R:25:LEU:O	23:R:25:LEU:HD13	2.05	0.56
10:E:84:THR:CB	10:E:134:SER:HA	2.36	0.56
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.05	0.56
17:L:38:ILE:CD1	17:L:39:TYR:N	2.67	0.56
29:X:2299:A:N3	29:X:2299:A:H2'	2.20	0.56
11:F:133:SER:HB3	29:X:1073:G:H21	1.70	0.56
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.34	0.56
29:X:1162:A:H2'	29:X:1163:C:H6	1.70	0.56
29:X:1001:A:H1'	29:X:1167:A:C2	2.39	0.56
10:E:64:LEU:HA	10:E:67:LEU:HB2	1.88	0.56
23:R:17:LYS:C	23:R:19:GLY:H	2.09	0.56
29:X:47:G:N3	29:X:48:A:H2	2.03	0.56
29:X:1802:A:O2'	29:X:1803:G:H5'	2.05	0.56
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.19	0.56
23:R:23:ILE:HD12	23:R:81:VAL:O	2.05	0.56
29:X:824:U:O2	29:X:1263:G:H3'	2.05	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56
6:A:265:THR:C	6:A:267:ASP:H	2.06	0.56
6:A:226:MET:CE	6:A:230:ASP:HB3	2.36	0.56
29:X:796:A:H4'	29:X:2567:G:H4'	1.86	0.56
18:M:55:ILE:HD11	18:M:67:THR:HG22	1.88	0.56
9:D:8:TYR:HA	9:D:173:MET:SD	2.45	0.56
27:V:2:LYS:HA	27:V:6:MET:CE	2.35	0.56
24:S:72:ASP:OD1	24:S:75:LYS:HD2	2.06	0.56
29:X:876:A:H2'	29:X:877:G:C8	2.41	0.56
12:G:61:ARG:NE	12:G:65:LYS:CD	2.57	0.56
29:X:2672:U:O2'	29:X:2673:G:H5'	2.06	0.56
21:P:108:PRO:CG	29:X:1631:C:H1'	2.30	0.56
29:X:1938:U:O3'	29:X:1939:U:H6	1.89	0.56
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:203:G:C2	29:X:204:A:C2	2.93	0.56
11:F:103:GLN:O	11:F:107:ILE:HG13	2.05	0.56
29:X:1949:A:O2'	29:X:2572:U:H5'	2.06	0.56
4:4:1:MET:CE	4:4:33:LYS:HB3	2.36	0.56
29:X:2493:U:N3	29:X:2494:C:C4	2.74	0.56
29:X:1815:G:O2'	29:X:1816:G:H5'	2.05	0.56
29:X:1835:C:O5'	29:X:1835:C:H6	1.89	0.56
29:X:1965:U:H2'	29:X:1966:C:C6	2.40	0.56
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:13:ARG:CZ	9:D:14:PRO:CG	2.79	0.56
14:I:116:ARG:HG2	14:I:117:ALA:N	2.20	0.56
29:X:2395:C:O2'	29:X:2396:C:H5''	2.05	0.56
13:H:25:LEU:HD11	13:H:52:VAL:HG23	1.88	0.56
15:J:19:THR:HG23	15:J:20:GLY:N	2.20	0.56
24:S:94:VAL:O	24:S:121:GLN:HG3	2.05	0.56
29:X:109:A:C3'	29:X:110:U:H5''	2.36	0.56
12:G:33:ILE:CD1	12:G:34:PRO:N	2.69	0.56
12:G:35:LYS:N	12:G:69:ASP:OD2	2.39	0.56
10:E:54:ARG:HE	10:E:57:ASP:CB	2.18	0.56
10:E:97:LYS:O	10:E:98:LEU:CB	2.53	0.56
15:J:79:PRO:O	15:J:80:ALA:HB2	2.05	0.56
7:B:136:ARG:NH1	7:B:136:ARG:HG2	2.19	0.56
8:C:40:ARG:HH22	29:X:452:G:N2	2.04	0.56
29:X:1339:U:OP2	29:X:1339:U:H6	1.88	0.56
29:X:1675:C:H2'	29:X:1676:U:C6	2.41	0.56
29:X:537:C:O2'	29:X:538:A:N3	2.39	0.56
6:A:131:LEU:HD23	6:A:131:LEU:H	1.70	0.56
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.36	0.56
6:A:261:ARG:HH22	29:X:1790:G:C5'	2.19	0.56
17:L:29:LEU:HA	17:L:41:GLN:O	2.06	0.56
24:S:36:ARG:O	24:S:40:ASP:OD2	2.23	0.56
29:X:1107:A:H3'	29:X:1108:U:C5'	2.35	0.56
19:N:66:ASN:HD22	19:N:70:ARG:NH2	2.03	0.56
9:D:69:LYS:HE2	9:D:84:PRO:CG	2.25	0.56
10:E:54:ARG:NE	10:E:57:ASP:OD2	2.38	0.56
10:E:30:LYS:HG3	10:E:78:GLY:O	2.06	0.56
15:J:77:LYS:O	15:J:79:PRO:HD3	2.06	0.56
29:X:2047:C:H2'	29:X:2048:C:C6	2.41	0.56
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.54	0.56
21:P:67:PRO:C	21:P:69:ALA:H	2.09	0.56
11:F:103:GLN:O	11:F:106:GLU:HG2	2.05	0.56
6:A:213:ARG:C	6:A:215:LEU:H	2.10	0.56
8:C:153:ASP:C	8:C:154:ASP:OD1	2.44	0.56
29:X:621:U:H2'	29:X:622:U:C6	2.41	0.56
29:X:1368:G:C4	29:X:1369:G:C8	2.94	0.56
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.88	0.56
8:C:161:ALA:HB3	8:C:169:VAL:CG2	2.36	0.56
23:R:105:ARG:NH1	23:R:113:THR:H	2.04	0.56
23:R:25:LEU:HD22	23:R:26:SER:N	2.21	0.56
8:C:162:ARG:CD	29:X:333:A:C5'	2.80	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:830:C:H2'	29:X:831:G:C8	2.41	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.21	0.56
30:Y:19:ARG:C	30:Y:21:SER:H	2.09	0.56
6:A:184:ARG:HH21	6:A:268:ARG:HH11	1.53	0.56
10:E:84:THR:HB	10:E:134:SER:HA	1.87	0.56
29:X:401:G:H5'	29:X:402:A:OP2	2.05	0.56
24:S:13:LYS:HA	24:S:16:GLU:HB2	1.87	0.56
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.20	0.56
26:U:10:LYS:NZ	26:U:70:LEU:HG	2.20	0.56
29:X:409:G:O2'	29:X:410:A:H5'	2.05	0.56
29:X:2379:G:C2'	29:X:2380:U:H5'	2.35	0.56
10:E:45:GLN:HA	10:E:50:LEU:HG	1.88	0.56
29:X:75:C:C2'	29:X:76:C:H5''	2.35	0.56
13:H:47:VAL:O	13:H:117:GLU:OE2	2.23	0.56
11:F:129:GLY:HA3	29:X:1090:C:O2	2.05	0.56
29:X:1058:G:C4	29:X:1121:G:C6	2.94	0.56
29:X:874:A:H2	31:Z:80:A:H2	1.53	0.56
12:G:64:GLY:HA3	12:G:67:ARG:CG	2.36	0.56
12:G:64:GLY:HA3	12:G:67:ARG:HG3	1.87	0.56
22:Q:7:LEU:CD2	22:Q:7:LEU:C	2.71	0.56
29:X:1979:C:O2'	29:X:1980:A:P	2.64	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
29:X:1623:C:H4'	29:X:1624:A:O5'	2.05	0.56
31:Z:4:C:H3'	31:Z:4:C:C6	2.41	0.56
29:X:765:C:N4	29:X:1772:C:O2	2.39	0.56
6:A:141:VAL:HG22	6:A:164:GLN:HB3	1.87	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
19:N:40:LEU:O	19:N:43:ALA:HB3	2.06	0.56
8:C:136:TRP:C	8:C:140:ASN:HD22	2.10	0.56
12:G:128:GLU:O	12:G:145:HIS:CE1	2.58	0.56
12:G:92:GLY:C	12:G:93:LYS:HE2	2.25	0.56
29:X:829:C:C2	29:X:1206:G:N2	2.74	0.56
10:E:137:ASP:O	10:E:141:VAL:HG23	2.06	0.56
18:M:55:ILE:O	18:M:103:LYS:O	2.23	0.56
25:T:40:GLN:NE2	25:T:42:GLY:O	2.39	0.56
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.41	0.56
29:X:2074:U:OP2	29:X:2075:U:H3'	2.05	0.56
26:U:46:LEU:HB2	29:X:2209:G:H5''	1.88	0.56
14:I:71:THR:O	14:I:104:ARG:HD3	2.05	0.56
24:S:75:LYS:O	24:S:77:ALA:N	2.39	0.56
29:X:931:G:H4'	31:Z:83:C:C4'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:112:A:H2'	31:Z:113:G:H8	1.69	0.56
12:G:67:ARG:O	12:G:70:PHE:CD1	2.59	0.56
29:X:1979:C:O2'	29:X:1980:A:C4'	2.54	0.56
29:X:759:C:C5'	29:X:759:C:H6	2.17	0.56
21:P:108:PRO:HG2	29:X:1631:C:N1	2.20	0.56
29:X:1921:A:HO2'	29:X:1922:U:P	2.27	0.56
21:P:27:VAL:HB	21:P:125:THR:CG2	2.36	0.56
8:C:58:MET:SD	8:C:69:HIS:HB2	2.46	0.56
13:H:75:VAL:HA	13:H:118:LEU:HD11	1.87	0.56
7:B:88:GLY:O	7:B:89:ASP:OD1	2.23	0.56
13:H:60:PRO:O	13:H:61:ARG:HB2	2.05	0.56
29:X:1320:A:H2'	29:X:1321:A:O4'	2.06	0.56
29:X:233:A:O2'	29:X:234:C:H5'	2.06	0.56
12:G:55:ALA:HB1	12:G:134:MET:CE	2.34	0.55
29:X:333:A:C2'	29:X:350:U:O2	2.54	0.55
19:N:28:ARG:HD2	29:X:543:G:OP1	2.06	0.55
20:O:82:ARG:HA	29:X:827:C:OP1	2.05	0.55
6:A:227:ASN:HD21	29:X:797:A:H5''	1.71	0.55
9:D:163:ASP:O	9:D:166:ALA:HB3	2.05	0.55
17:L:107:ALA:C	17:L:109:GLU:H	2.10	0.55
14:I:83:LEU:O	14:I:84:GLU:HB2	2.05	0.55
29:X:558:G:O4'	29:X:558:G:P	2.64	0.55
19:N:74:MET:HE2	19:N:78:THR:HG22	1.86	0.55
9:D:135:GLN:O	9:D:141:ILE:HG13	2.05	0.55
14:I:33:GLY:HA2	20:O:79:GLN:HG3	1.88	0.55
9:D:46:ASP:HB3	9:D:48:LYS:HG3	1.87	0.55
19:N:40:LEU:HB3	20:O:74:TYR:CE2	2.41	0.55
29:X:1662:G:H5''	29:X:1663:C:H5'	1.88	0.55
8:C:136:TRP:CD1	8:C:137:ALA:N	2.74	0.55
23:R:93:ARG:CZ	23:R:108:VAL:HA	2.37	0.55
23:R:92:THR:C	23:R:95:ARG:HH22	2.09	0.55
29:X:632:A:C2	29:X:633:G:C4	2.94	0.55
6:A:231:HIS:C	6:A:231:HIS:CD2	2.79	0.55
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.88	0.55
17:L:102:ALA:O	17:L:103:LEU:C	2.44	0.55
17:L:89:PHE:CZ	29:X:2356:A:N3	2.74	0.55
18:M:6:LYS:CD	18:M:6:LYS:N	2.59	0.55
14:I:108:LEU:CB	14:I:122:VAL:HG11	2.19	0.55
29:X:2323:U:O2'	29:X:2324:G:C5'	2.53	0.55
29:X:1073:G:H2'	29:X:1074:G:C8	2.41	0.55
29:X:560:G:O2'	29:X:1233:A:N3	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:558:G:H8	29:X:559:C:C5	2.21	0.55
27:V:42:ARG:HE	27:V:46:LEU:HD21	1.71	0.55
5:5:14:MH6:N	11:F:25:PRO:HG3	2.21	0.55
20:O:40:VAL:CG1	20:O:45:THR:HA	2.22	0.55
8:C:166:TRP:HE3	8:C:166:TRP:N	2.01	0.55
29:X:749:C:H2'	29:X:750:C:H6	1.71	0.55
29:X:2082:C:H2'	29:X:2083:G:C5'	2.36	0.55
9:D:80:ARG:HG2	9:D:81:GLN:N	2.21	0.55
25:T:56:ASP:OD2	25:T:58:THR:OG1	2.24	0.55
29:X:2812:A:H2'	29:X:2813:G:C8	2.42	0.55
15:J:78:LYS:HG2	15:J:78:LYS:O	2.04	0.55
14:I:81:GLN:HB3	14:I:114:ILE:HG22	1.88	0.55
8:C:90:SER:O	8:C:91:TYR:C	2.44	0.55
29:X:765:C:C4	29:X:1772:C:H1'	2.42	0.55
29:X:1648:C:H5'	29:X:1648:C:C6	2.40	0.55
20:O:86:HIS:CG	20:O:87:ARG:N	2.74	0.55
19:N:36:PHE:O	19:N:39:LEU:HB2	2.06	0.55
6:A:58:HIS:O	6:A:59:LYS:CB	2.55	0.55
29:X:387:A:H2'	29:X:387:A:N3	2.22	0.55
21:P:91:PHE:CD1	21:P:131:LYS:HB2	2.41	0.55
29:X:2065:A:H2'	29:X:2066:G:O4'	2.06	0.55
21:P:44:VAL:HG21	21:P:60:ILE:CD1	2.36	0.55
23:R:95:ARG:HG3	23:R:105:ARG:O	2.05	0.55
29:X:2203:G:H4'	29:X:2205:C:O2	2.07	0.55
6:A:218:LYS:HD2	6:A:219:PRO:O	2.06	0.55
29:X:1770:U:C5	29:X:1775:A:N7	2.74	0.55
17:L:38:ILE:HG12	17:L:71:VAL:HG21	1.87	0.55
7:B:179:GLU:O	7:B:181:LEU:N	2.39	0.55
29:X:2397:A:H2'	29:X:2398:U:O4'	2.06	0.55
29:X:638:A:C6	29:X:648:A:C8	2.94	0.55
13:H:116:ARG:HA	13:H:133:VAL:HG13	1.88	0.55
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.29	0.55
27:V:13:ASP:O	27:V:17:GLU:N	2.38	0.55
24:S:120:LEU:CD2	24:S:121:GLN:N	2.67	0.55
9:D:148:LYS:HG3	9:D:149:THR:N	2.11	0.55
29:X:169:C:H2'	29:X:170:U:C5'	2.32	0.55
21:P:14:ARG:CA	21:P:17:GLN:HG2	2.32	0.55
29:X:2229:G:O2'	29:X:2230:G:OP2	2.25	0.55
29:X:957:G:H2'	29:X:958:G:H8	1.72	0.55
24:S:42:ALA:O	24:S:44:ARG:N	2.40	0.55
29:X:1391:A:N7	29:X:1393:G:C5	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:976:C:O2'	29:X:977:G:H5'	2.06	0.55
29:X:810:U:C6	29:X:810:U:H3'	2.41	0.55
8:C:149:LEU:HD12	8:C:168:SER:O	2.07	0.55
29:X:127:C:O2'	29:X:128:C:H5'	2.07	0.55
12:G:105:GLY:CA	12:G:110:LEU:HD12	2.37	0.55
23:R:11:ASN:ND2	23:R:11:ASN:C	2.58	0.55
14:I:18:ARG:HD3	29:X:608:G:O2'	2.05	0.55
6:A:126:LYS:O	6:A:193:ILE:HB	2.07	0.55
6:A:131:LEU:HG	6:A:131:LEU:O	2.05	0.55
6:A:244:ARG:CB	6:A:252:LYS:HZ1	2.18	0.55
29:X:1966:C:H4'	29:X:2585:C:H4'	1.87	0.55
29:X:1746:A:C2'	29:X:1747:G:O5'	2.55	0.55
17:L:43:ILE:HG23	17:L:49:GLN:O	2.06	0.55
17:L:63:ASN:C	17:L:64:LYS:HD3	2.27	0.55
26:U:64:ALA:C	26:U:66:ALA:H	2.08	0.55
24:S:116:VAL:HG12	24:S:117:VAL:HG13	1.88	0.55
24:S:96:VAL:O	24:S:120:LEU:N	2.28	0.55
29:X:2695:C:O2'	29:X:2696:A:H5'	2.07	0.55
22:Q:9:ALA:HB1	22:Q:10:PRO:CD	2.34	0.55
24:S:123:VAL:N	24:S:161:ALA:CB	2.61	0.55
10:E:89:LEU:HD21	10:E:105:MET:HE1	1.88	0.55
29:X:1182:U:C2'	29:X:1183:C:O5'	2.54	0.55
23:R:18:LYS:HA	23:R:36:VAL:HG12	1.88	0.55
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.89	0.55
12:G:159:SER:C	12:G:161:GLN:H	2.10	0.55
29:X:1442:C:N4	29:X:1586:A:OP2	2.39	0.55
31:Z:4:C:H2'	31:Z:5:C:H5'	1.89	0.55
29:X:1391:A:O2'	29:X:1392:U:O5'	2.23	0.55
16:K:30:ARG:HG2	16:K:31:GLU:HG2	1.88	0.55
29:X:1522:C:H2'	29:X:1523:A:H5''	1.88	0.55
9:D:112:ARG:O	9:D:113:ASP:HB2	2.06	0.55
29:X:573:C:H2'	29:X:574:C:O4'	2.06	0.55
7:B:127:ALA:CB	7:B:135:HIS:CE1	2.90	0.55
23:R:11:ASN:O	23:R:12:ASP:C	2.44	0.55
29:X:1301:U:H2'	29:X:1340:C:O2	2.07	0.55
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.70	0.55
15:J:35:LEU:HB3	15:J:105:PHE:HB2	1.89	0.55
7:B:73:ALA:O	7:B:74:PRO:C	2.45	0.55
29:X:555:U:C6	29:X:555:U:C3'	2.85	0.55
29:X:554:U:H5''	29:X:556:A:C2	2.41	0.55
11:F:57:ILE:HG22	11:F:58:THR:N	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
10:E:109:TYR:CE1	10:E:152:ARG:CZ	2.77	0.55
22:Q:51:ILE:CD1	22:Q:82:LEU:O	2.55	0.55
29:X:1189:G:H2'	29:X:1190:C:O4'	2.07	0.55
22:Q:2:SER:O	22:Q:3:HIS:CG	2.60	0.55
24:S:54:ILE:HG22	24:S:54:ILE:O	2.06	0.55
14:I:42:GLY:O	14:I:43:ALA:CB	2.53	0.55
23:R:103:LYS:HG3	23:R:104:VAL:H	1.72	0.55
23:R:23:ILE:CD1	23:R:81:VAL:O	2.54	0.55
23:R:9:HIS:CD2	29:X:338:G:H4'	2.42	0.55
29:X:563:U:H2'	29:X:564:U:O4'	2.07	0.55
29:X:2198:U:H2'	29:X:2199:C:C1'	2.36	0.55
29:X:2585:C:H2'	29:X:2586:G:C5'	2.35	0.55
29:X:2270:U:O2'	29:X:2271:C:H5'	2.06	0.55
29:X:2210:C:H2'	29:X:2211:U:C6	2.41	0.55
7:B:53:PRO:CD	18:M:6:LYS:HZ2	2.16	0.55
18:M:34:ARG:NH1	18:M:81:PHE:CB	2.66	0.55
29:X:1242:A:H2'	29:X:1243:G:H8	1.71	0.55
29:X:1681:A:C2	29:X:2706:U:C6	2.95	0.55
29:X:171:G:H2'	29:X:172:A:O4'	2.06	0.55
29:X:1919:A:C6	29:X:1928:G:C4	2.94	0.55
29:X:2217:G:H5'	29:X:2218:G:N7	2.21	0.55
22:Q:72:ARG:O	22:Q:73:ASN:OD1	2.25	0.55
9:D:33:LYS:CG	9:D:157:VAL:HG21	2.34	0.55
29:X:1229:C:O2'	29:X:1230:C:H5'	2.07	0.55
29:X:1427:G:H2'	29:X:1428:G:H1'	1.89	0.55
29:X:1586:A:H2'	29:X:1587:A:H8	1.72	0.55
12:G:150:VAL:CG1	12:G:151:TYR:H	2.20	0.55
10:E:170:ALA:C	10:E:171:LEU:HD12	2.27	0.55
29:X:746:G:C8	29:X:774:A:C6	2.95	0.55
29:X:1918:G:H2'	29:X:1945:C:H42	1.71	0.55
8:C:104:LEU:N	8:C:177:VAL:HG22	2.22	0.55
12:G:92:GLY:CA	12:G:93:LYS:HE2	2.36	0.55
19:N:25:TRP:O	19:N:28:ARG:HB2	2.07	0.55
21:P:34:SER:O	21:P:35:PRO:C	2.45	0.55
23:R:29:HIS:ND1	23:R:51:VAL:HG22	2.21	0.55
23:R:5:SER:O	23:R:6:ALA:CB	2.55	0.55
29:X:1300:A:H5''	29:X:1301:U:OP2	2.06	0.55
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.72	0.55
29:X:2586:G:C2	29:X:2587:G:N3	2.75	0.55
8:C:108:ILE:HG22	8:C:109:ALA:N	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:101:ARG:NH2	29:X:1745:C:P	2.71	0.55
9:D:168:ALA:O	9:D:169:LEU:C	2.45	0.55
26:U:60:VAL:HG23	26:U:61:TRP:O	2.06	0.55
29:X:2326:C:C4	29:X:2327:U:O4	2.60	0.55
29:X:1474:A:O2'	29:X:1475:U:H5'	2.07	0.55
29:X:2083:G:H2'	29:X:2084:G:C8	2.42	0.55
24:S:113:VAL:HG13	24:S:171:VAL:CG2	2.36	0.55
20:O:71:ILE:HD11	29:X:1004:A:H5'	1.89	0.55
29:X:1174:G:C2	29:X:1175:A:N7	2.75	0.55
8:C:98:GLN:NE2	29:X:611:C:H4'	2.22	0.55
29:X:788:G:C5'	29:X:790:A:H1'	2.30	0.55
29:X:2474:G:C2	29:X:2475:C:C2	2.94	0.55
29:X:2849:C:H2'	29:X:2850:U:C5'	2.37	0.55
19:N:31:GLN:O	19:N:32:TYR:C	2.45	0.55
6:A:96:HIS:HE1	6:A:100:GLY:C	2.10	0.55
29:X:981:C:O2'	29:X:995:A:H4'	2.07	0.55
4:4:2:LYS:HG2	4:4:4:ARG:HD3	1.87	0.55
29:X:1910:A:O5'	29:X:1910:A:H8	1.90	0.55
29:X:1641:C:O2	29:X:1641:C:H2'	2.06	0.55
29:X:706:A:O2'	29:X:707:U:H5'	2.07	0.55
8:C:173:ALA:C	8:C:175:VAL:H	2.10	0.55
12:G:100:TYR:CB	12:G:116:ARG:NH1	2.63	0.55
23:R:93:ARG:O	23:R:95:ARG:CZ	2.54	0.55
14:I:13:ARG:NH1	29:X:1218:C:O4'	2.32	0.55
29:X:1996:A:N6	29:X:2592:U:C4	2.75	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2492:G:C2	29:X:2493:U:C2	2.95	0.55
28:W:16:GLN:OE1	28:W:49:HIS:CE1	2.60	0.55
14:I:72:TYR:HD2	14:I:107:LYS:HB2	1.72	0.55
14:I:61:PRO:O	14:I:62:LYS:HB2	2.07	0.55
13:H:116:ARG:HE	18:M:40:ARG:HE	1.54	0.55
11:F:54:PRO:HG2	11:F:70:LYS:CB	2.30	0.55
29:X:76:C:O2'	29:X:77:C:H5'	2.07	0.55
12:G:32:TYR:OH	12:G:35:LYS:HE3	2.06	0.55
20:O:57:GLN:H	20:O:97:GLY:HA3	1.66	0.55
20:O:15:SER:OG	20:O:96:LEU:HA	2.06	0.55
9:D:99:PHE:O	9:D:102:LYS:HB2	2.06	0.55
29:X:2057:U:H3'	29:X:2058:U:C6	2.42	0.55
15:J:75:VAL:HG12	15:J:76:THR:N	2.21	0.55
22:Q:69:ILE:CD1	22:Q:70:GLY:N	2.70	0.55
29:X:2873:G:H2'	29:X:2874:A:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:162:LYS:NZ	29:X:5:A:N3	2.49	0.55
21:P:25:PHE:CD1	21:P:127:ILE:HD11	2.34	0.55
12:G:85:ALA:O	12:G:87:GLN:N	2.39	0.55
29:X:105:G:H8	29:X:105:G:H5'	1.72	0.55
29:X:1102:G:O2'	29:X:1103:C:H5'	2.06	0.55
29:X:2604:G:H2'	29:X:2605:C:C6	2.41	0.55
15:J:97:VAL:HG23	15:J:97:VAL:O	2.06	0.55
7:B:117:MET:CG	7:B:136:ARG:HG3	2.37	0.55
23:R:29:HIS:CE1	23:R:51:VAL:HA	2.42	0.55
23:R:96:LYS:O	23:R:104:VAL:HG12	2.06	0.55
29:X:20:C:H2'	29:X:21:A:H8	1.72	0.55
29:X:481:A:H2'	29:X:481:A:N3	2.22	0.55
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
4:4:23:VAL:C	4:4:24:LEU:HD12	2.27	0.55
29:X:2823:G:O2'	29:X:2824:C:OP2	2.25	0.55
31:Z:27:A:H61	31:Z:55:C:C5'	2.19	0.55
26:U:25:ARG:O	26:U:32:ARG:HG3	2.06	0.55
26:U:69:THR:HG23	26:U:75:TYR:CE1	2.41	0.55
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.89	0.55
27:V:41:HIS:CB	27:V:44:ARG:HH21	2.20	0.55
20:O:40:VAL:HG23	20:O:40:VAL:O	2.06	0.55
15:J:100:PRO:HB2	24:S:74:ARG:HG2	1.89	0.55
29:X:71:A:N6	29:X:110:U:H4'	2.22	0.55
20:O:12:TYR:CG	20:O:13:ARG:N	2.74	0.55
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.87	0.55
29:X:2674:C:H2'	29:X:2675:U:H6	1.72	0.55
29:X:1373:G:N2	29:X:1374:G:C1'	2.70	0.55
10:E:146:ALA:O	10:E:149:ARG:N	2.39	0.55
29:X:1953:A:C5'	29:X:1954:A:OP1	2.54	0.55
16:K:99:ARG:HH11	16:K:99:ARG:HG2	1.71	0.55
29:X:965:G:O2'	29:X:2253:A:N1	2.35	0.55
8:C:122:GLY:O	8:C:124:ASP:N	2.39	0.55
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.70	0.55
21:P:32:ARG:NH2	21:P:120:ARG:O	2.37	0.55
7:B:155:ARG:HG3	7:B:155:ARG:HH11	1.70	0.55
8:C:104:LEU:HA	8:C:107:ALA:CB	2.37	0.55
29:X:1153:A:O2'	29:X:1154:A:H3'	2.08	0.55
29:X:2432:A:O2'	29:X:2433:G:H5'	2.07	0.55
6:A:144:ALA:O	6:A:153:ALA:HB1	2.07	0.55
6:A:42:GLY:C	6:A:43:ARG:HH11	2.08	0.55
6:A:207:GLY:O	29:X:1782:A:H4'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:11:LEU:HD21	29:X:2273:C:H5''	1.89	0.55
29:X:1128:G:C3'	29:X:1129:A:C5'	2.71	0.55
28:W:9:VAL:HG12	28:W:17:VAL:HG22	1.89	0.55
26:U:51:ILE:O	26:U:52:ARG:HD3	2.07	0.55
29:X:1467:U:C6	29:X:1468:A:H5'	2.42	0.55
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.37	0.55
9:D:108:LEU:HD13	9:D:117:ILE:HD11	1.87	0.55
29:X:1750:A:C8	29:X:2675:U:H1'	2.42	0.55
29:X:1711:C:H4'	29:X:1712:G:OP1	2.06	0.55
29:X:172:A:C2	29:X:178:C:C2	2.95	0.55
29:X:2642:G:H2'	29:X:2643:G:H5'	1.88	0.55
14:I:36:GLY:O	14:I:37:GLN:CB	2.55	0.55
29:X:2665:G:C6	29:X:2666:U:N3	2.75	0.55
29:X:2616:U:H2'	29:X:2617:G:O4'	2.06	0.55
14:I:56:LEU:O	14:I:57:ILE:C	2.44	0.55
29:X:1294:G:C5	29:X:1295:U:C5	2.95	0.55
12:G:106:TYR:O	12:G:110:LEU:CG	2.54	0.54
29:X:1038:U:O2'	29:X:1039:A:H5'	2.07	0.54
29:X:1302:C:H2'	29:X:1303:U:C6	2.41	0.54
29:X:457:C:O2'	29:X:458:G:H5'	2.07	0.54
29:X:827:C:O2'	29:X:828:C:H5'	2.07	0.54
6:A:173:VAL:N	6:A:185:VAL:O	2.40	0.54
17:L:52:ALA:O	17:L:53:ALA:HB3	2.07	0.54
31:Z:46:G:C2	31:Z:50:U:O2	2.60	0.54
29:X:939:C:H5''	29:X:940:G:H5''	1.89	0.54
24:S:91:PRO:CD	24:S:92:VAL:H	2.19	0.54
10:E:43:VAL:HB	10:E:52:VAL:CG1	2.35	0.54
25:T:44:LYS:CE	29:X:871:U:OP1	2.55	0.54
29:X:1512:A:H2'	29:X:1514:C:H5	1.71	0.54
29:X:175:C:C3'	29:X:175:C:C6	2.90	0.54
4:4:9:LYS:HZ2	4:4:16:VAL:HG21	1.71	0.54
23:R:18:LYS:CE	23:R:19:GLY:N	2.68	0.54
29:X:956:A:C4	29:X:2427:A:C2	2.95	0.54
7:B:203:LYS:HG2	29:X:2713:A:N1	2.22	0.54
21:P:28:ALA:HB2	21:P:71:VAL:CG2	2.37	0.54
29:X:2617:G:O2'	29:X:2618:A:H8	1.88	0.54
22:Q:12:ILE:H	22:Q:12:ILE:HD13	1.71	0.54
9:D:46:ASP:O	9:D:48:LYS:N	2.39	0.54
29:X:1499:A:H2'	29:X:1500:U:O4'	2.07	0.54
23:R:101:GLY:C	23:R:103:LYS:H	2.10	0.54
4:4:7:VAL:HG13	4:4:34:GLN:HE21	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:796:A:H5''	29:X:2567:G:O3'	2.07	0.54
29:X:490:A:HO2'	29:X:491:A:H3'	1.72	0.54
24:S:13:LYS:NZ	24:S:18:MET:CB	2.70	0.54
14:I:85:ASP:HA	14:I:116:ARG:NH1	2.21	0.54
11:F:25:PRO:HA	11:F:29:GLN:HG3	1.89	0.54
20:O:36:LYS:HZ2	20:O:54:TYR:CB	2.13	0.54
27:V:31:GLN:O	27:V:35:GLY:N	2.40	0.54
13:H:10:VAL:CG2	13:H:16:ALA:O	2.53	0.54
29:X:1324:G:H2'	29:X:1325:U:C6	2.42	0.54
14:I:37:GLN:O	14:I:38:LYS:C	2.44	0.54
24:S:3:LEU:CB	24:S:34:LEU:HB3	2.36	0.54
12:G:150:VAL:O	12:G:151:TYR:CG	2.60	0.54
25:T:31:VAL:HG13	25:T:67:VAL:CG2	2.37	0.54
29:X:1456:C:H4'	29:X:1645:U:OP1	2.06	0.54
29:X:81:C:C5	29:X:82:G:C6	2.95	0.54
29:X:16:G:O2'	29:X:17:G:H5'	2.07	0.54
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.89	0.54
8:C:24:SER:HB2	14:I:15:ASP:OD1	2.07	0.54
20:O:72:ARG:HA	20:O:82:ARG:O	2.07	0.54
23:R:9:HIS:ND1	29:X:338:G:H5'	2.22	0.54
8:C:44:SER:HA	29:X:37:C:O2'	2.07	0.54
6:A:126:LYS:HB2	6:A:129:ASN:ND2	2.22	0.54
6:A:160:GLY:H	6:A:196:VAL:HG23	1.72	0.54
6:A:197:GLY:O	6:A:198:ASN:C	2.46	0.54
17:L:42:ILE:HD11	17:L:87:VAL:HG11	1.88	0.54
17:L:68:ALA:HB1	17:L:102:ALA:HB1	1.89	0.54
28:W:22:ALA:C	28:W:24:GLY:H	2.11	0.54
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.89	0.54
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.37	0.54
7:B:70:ALA:O	7:B:72:VAL:N	2.40	0.54
29:X:2358:C:H2'	29:X:2359:U:C6	2.41	0.54
18:M:34:ARG:NH1	18:M:88:VAL:CG2	2.55	0.54
29:X:1467:U:C4	29:X:1473:U:N3	2.66	0.54
31:Z:108:G:C2'	31:Z:109:G:H5'	2.37	0.54
29:X:2779:C:H2'	29:X:2780:A:C1'	2.37	0.54
29:X:1574:A:C2'	29:X:1575:C:H5''	2.36	0.54
29:X:145:C:C2	29:X:153:A:C2	2.95	0.54
10:E:76:VAL:O	10:E:80:SER:HB2	2.06	0.54
29:X:2058:U:C4	29:X:2217:G:C6	2.95	0.54
21:P:67:PRO:O	21:P:69:ALA:N	2.40	0.54
29:X:1695:U:H2'	29:X:1696:C:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1629:G:C2	29:X:1633:C:C2	2.96	0.54
8:C:154:ASP:HB2	8:C:157:THR:HG23	1.90	0.54
10:E:121:VAL:CG1	10:E:122:THR:N	2.71	0.54
29:X:2542:U:O2	29:X:2544:A:H8	1.90	0.54
29:X:2526:U:C5	29:X:2545:A:C5	2.96	0.54
29:X:1608:U:H2'	29:X:1609:G:H8	1.72	0.54
29:X:2863:U:H2'	29:X:2864:C:O4'	2.07	0.54
17:L:84:ILE:HD12	17:L:84:ILE:N	2.23	0.54
7:B:116:VAL:HG22	7:B:136:ARG:NH2	2.23	0.54
29:X:1145:C:C6	29:X:1147:G:OP2	2.60	0.54
29:X:26:G:C2	29:X:27:G:N2	2.76	0.54
29:X:313:U:H2'	29:X:314:G:C8	2.42	0.54
29:X:471:A:C8	29:X:472:C:C6	2.96	0.54
29:X:1053:G:H2'	29:X:1054:C:O4'	2.08	0.54
6:A:108:PRO:HA	6:A:196:VAL:HA	1.90	0.54
6:A:69:ARG:NH1	6:A:105:ILE:HD13	2.22	0.54
29:X:2209:G:C5	29:X:2210:C:H5	2.26	0.54
14:I:101:ARG:NH1	14:I:104:ARG:NH2	2.55	0.54
29:X:640:C:H4'	29:X:660:G:N3	2.23	0.54
13:H:23:ARG:NH2	13:H:24:VAL:N	2.55	0.54
27:V:41:HIS:O	27:V:42:ARG:C	2.46	0.54
20:O:14:VAL:HG12	20:O:14:VAL:O	2.08	0.54
10:E:54:ARG:HE	10:E:57:ASP:HA	1.73	0.54
29:X:2501:U:C5'	29:X:2502:G:OP2	2.55	0.54
10:E:102:ALA:HA	10:E:117:PRO:HD3	1.90	0.54
10:E:92:VAL:O	10:E:94:PHE:HD1	1.91	0.54
29:X:2058:U:C3'	29:X:2217:G:N2	2.67	0.54
24:S:21:ALA:O	24:S:22:VAL:HG13	2.06	0.54
6:A:213:ARG:C	6:A:215:LEU:N	2.61	0.54
13:H:26:ASN:ND2	13:H:26:ASN:O	2.39	0.54
19:N:37:GLN:HE22	29:X:572:G:H21	1.55	0.54
29:X:1026:U:O2'	29:X:1027:C:H5'	2.07	0.54
8:C:20:PRO:HG2	8:C:21:GLU:H	1.71	0.54
23:R:93:ARG:O	23:R:95:ARG:HD2	2.07	0.54
29:X:525:A:H2	29:X:1273:G:N3	2.06	0.54
29:X:588:G:O2'	29:X:2002:A:OP1	2.19	0.54
9:D:17:MET:N	9:D:17:MET:SD	2.80	0.54
15:J:37:ALA:HB2	15:J:104:MET:HE1	1.90	0.54
7:B:72:VAL:HG12	7:B:73:ALA:N	2.23	0.54
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.41	0.54
29:X:2247:A:H8	29:X:2247:A:H5''	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:930:A:H5''	31:Z:100:G:O2'	2.07	0.54
19:N:88:ILE:CG2	20:O:48:GLY:O	2.55	0.54
12:G:157:PRO:C	12:G:161:GLN:NE2	2.60	0.54
8:C:7:ILE:HG21	8:C:121:ASP:O	2.08	0.54
16:K:30:ARG:O	16:K:30:ARG:CG	2.56	0.54
14:I:119:THR:HG23	14:I:139:ARG:O	2.08	0.54
29:X:1115:C:O5'	29:X:1115:C:H6	1.89	0.54
8:C:43:ALA:HB3	8:C:87:LYS:C	2.27	0.54
19:N:10:ARG:HA	19:N:13:ARG:HD2	1.88	0.54
23:R:103:LYS:HG3	23:R:104:VAL:N	2.23	0.54
23:R:40:LEU:CB	23:R:45:LYS:HB2	2.34	0.54
29:X:2204:A:H4'	29:X:2205:C:O5'	2.08	0.54
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.88	0.54
31:Z:34:C:H2'	31:Z:35:C:H6	1.72	0.54
15:J:34:GLY:O	15:J:133:VAL:HG22	2.08	0.54
26:U:54:ASN:OD1	26:U:54:ASN:C	2.45	0.54
26:U:53:GLU:HB2	26:U:56:GLN:O	2.07	0.54
29:X:2070:G:O5'	29:X:2070:G:H8	1.90	0.54
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.54
29:X:2268:G:C2	29:X:2269:G:C8	2.96	0.54
11:F:52:ILE:C	11:F:73:PRO:HD3	2.27	0.54
15:J:21:ASP:O	15:J:22:ALA:O	2.25	0.54
12:G:61:ARG:HH22	12:G:78:ASP:CG	2.11	0.54
19:N:66:ASN:C	19:N:68:GLY:H	2.10	0.54
13:H:1:MET:HB2	13:H:44:TYR:CD1	2.43	0.54
29:X:1431:U:H4'	29:X:1604:A:C4'	2.37	0.54
6:A:117:VAL:HG22	6:A:128:GLY:HA3	1.89	0.54
10:E:148:VAL:C	10:E:150:LYS:H	2.10	0.54
29:X:2469:G:H8	29:X:2469:G:OP2	1.91	0.54
8:C:158:ARG:HH11	8:C:158:ARG:HB2	1.73	0.54
29:X:2034:A:C5	29:X:2593:A:N7	2.76	0.54
29:X:2494:C:O2'	29:X:2495:G:H5'	2.08	0.54
29:X:1745:C:N3	29:X:1746:A:C5	2.75	0.54
29:X:402:A:H8	29:X:2392:G:H4'	1.72	0.54
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.38	0.54
14:I:62:LYS:HG3	14:I:63:ARG:N	2.21	0.54
29:X:649:G:O2'	29:X:650:U:H5'	2.07	0.54
10:E:6:LYS:HD2	10:E:66:GLY:HA2	1.90	0.54
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.37	0.54
29:X:304:A:N7	29:X:356:A:N6	2.53	0.54
11:F:58:THR:HB	11:F:66:THR:OG1	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:872:G:H1'	29:X:2247:A:H1'	1.90	0.54
29:X:2084:G:H2'	29:X:2085:G:H8	1.72	0.54
19:N:89:ASP:OD1	20:O:47:PHE:HB2	2.08	0.54
25:T:39:ARG:HD3	25:T:58:THR:HG23	1.89	0.54
23:R:18:LYS:HE2	23:R:18:LYS:H	1.69	0.54
29:X:1588:A:H2'	29:X:1589:G:O4'	2.07	0.54
29:X:1336:G:C2'	29:X:1337:G:H5'	2.37	0.54
29:X:2263:C:H1'	29:X:2304:G:C2	2.42	0.54
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.38	0.54
29:X:139:A:O2'	29:X:140:G:H5'	2.08	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
17:L:94:TYR:CD2	17:L:94:TYR:N	2.72	0.54
6:A:166:GLN:HE22	6:A:176:ARG:NH2	2.06	0.54
13:H:60:PRO:O	13:H:61:ARG:CB	2.55	0.54
7:B:105:THR:HG21	7:B:199:ARG:HH21	1.73	0.54
6:A:145:LEU:HD12	6:A:146:GLU:N	2.23	0.54
16:K:59:ASP:N	16:K:59:ASP:OD1	2.41	0.54
19:N:13:ARG:O	19:N:16:LYS:HB2	2.08	0.54
23:R:93:ARG:NH1	23:R:108:VAL:O	2.41	0.54
29:X:695:G:O2'	29:X:696:U:H5'	2.08	0.54
29:X:1812:U:O2	29:X:1812:U:H2'	2.08	0.54
6:A:206:LEU:HA	6:A:211:ARG:HD3	1.89	0.54
15:J:56:SER:O	15:J:59:PHE:N	2.35	0.54
14:I:108:LEU:HB3	14:I:125:ALA:HB2	1.88	0.54
14:I:85:ASP:O	14:I:86:THR:C	2.46	0.54
29:X:1074:G:C2'	29:X:1075:C:H5'	2.37	0.54
29:X:1544:A:C2	29:X:1560:A:C5	2.96	0.54
29:X:2174:G:H2'	29:X:2175:A:C8	2.43	0.54
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.71	0.54
16:K:10:LEU:CD2	16:K:17:ARG:CB	2.85	0.54
29:X:1096:A:H4'	29:X:1097:A:OP1	2.06	0.54
14:I:32:ARG:HD2	20:O:81:ARG:HG3	1.90	0.54
29:X:954:U:C2'	29:X:955:G:H5''	2.38	0.54
12:G:154:GLU:H	12:G:157:PRO:CD	2.21	0.54
14:I:76:LYS:O	14:I:79:GLN:CG	2.56	0.54
7:B:82:ARG:NH2	29:X:2616:U:H5''	2.22	0.54
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.89	0.54
29:X:888:G:H2'	29:X:889:C:O4'	2.08	0.54
20:O:74:TYR:OH	20:O:76:SER:HB3	2.08	0.54
29:X:573:C:O2'	29:X:574:C:H5'	2.08	0.54
24:S:149:ALA:C	24:S:151:ASP:H	2.11	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:92:THR:C	23:R:95:ARG:NH2	2.61	0.54
29:X:594:G:H2'	29:X:1264:C:N4	2.20	0.54
29:X:482:A:C2'	29:X:483:A:H5'	2.37	0.54
29:X:528:G:H2'	29:X:529:U:C6	2.43	0.54
29:X:829:C:H2'	29:X:830:C:H6	1.72	0.54
29:X:1053:G:N2	29:X:1124:U:O2	2.38	0.54
29:X:2202:G:C2	29:X:2203:G:H1'	2.43	0.54
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.89	0.54
17:L:15:ARG:HH11	17:L:15:ARG:CA	2.08	0.54
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.90	0.54
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.89	0.54
26:U:54:ASN:O	26:U:56:GLN:N	2.38	0.54
29:X:660:G:C2'	29:X:661:C:H5'	2.37	0.54
9:D:52:LYS:HE2	9:D:56:GLU:OE2	2.08	0.54
29:X:1979:C:H6	29:X:1979:C:OP1	1.91	0.54
9:D:143:TYR:CA	9:D:146:VAL:HG22	2.32	0.54
16:K:16:ALA:O	16:K:17:ARG:C	2.45	0.54
26:U:22:GLY:HA3	26:U:39:LYS:HD2	1.89	0.54
29:X:1804:U:H2'	29:X:1805:G:H8	1.73	0.54
7:B:37:LYS:CD	7:B:42:ASP:OD1	2.51	0.54
14:I:28:LYS:NZ	14:I:37:GLN:H	2.03	0.54
29:X:1752:U:H5''	29:X:1753:A:OP2	2.07	0.54
12:G:160:ALA:C	12:G:161:GLN:HG3	2.28	0.54
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.90	0.54
10:E:149:ARG:HG2	10:E:149:ARG:O	2.08	0.54
29:X:418:C:O4'	29:X:418:C:OP2	2.26	0.54
29:X:699:G:C4'	29:X:700:C:OP2	2.55	0.54
12:G:72:PRO:O	12:G:74:MET:N	2.41	0.54
29:X:471:A:C8	29:X:472:C:C5	2.96	0.54
4:4:25:VAL:O	4:4:33:LYS:HA	2.07	0.54
29:X:2824:C:O2'	29:X:2825:A:O5'	2.24	0.54
9:D:5:LYS:HA	9:D:8:TYR:HB3	1.90	0.54
17:L:91:ARG:NH2	29:X:2356:A:H2	2.03	0.54
9:D:26:MET:HB3	31:Z:59:A:C2	2.42	0.54
15:J:35:LEU:HD11	15:J:130:THR:CB	2.38	0.54
7:B:68:ALA:O	7:B:70:ALA:N	2.40	0.54
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.29	0.54
5:5:15:BB9:HN1	11:F:29:GLN:NE2	2.05	0.54
12:G:69:ASP:C	12:G:70:PHE:CD2	2.81	0.54
16:K:13:ASN:HD22	16:K:14:SER:N	2.05	0.54
26:U:39:LYS:O	26:U:40:ARG:CB	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:18:ILE:C	27:V:20:ALA:N	2.61	0.54
21:P:133:ASN:N	21:P:133:ASN:ND2	2.54	0.54
6:A:80:ALA:O	6:A:81:ALA:HB2	2.08	0.54
9:D:100:LEU:HG	9:D:104:ILE:HD11	1.89	0.54
29:X:1402:G:H2'	29:X:1403:U:O4'	2.07	0.54
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.91	0.53
19:N:7:GLY:O	19:N:9:VAL:N	2.38	0.53
29:X:1673:C:N3	29:X:1674:C:C5	2.76	0.53
29:X:544:U:H2'	29:X:545:C:C6	2.43	0.53
6:A:160:GLY:HA2	6:A:196:VAL:C	2.26	0.53
6:A:43:ARG:HB3	6:A:54:ILE:HG23	1.90	0.53
6:A:55:GLY:H	6:A:217:ARG:H	1.56	0.53
9:D:92:ARG:NH1	31:Z:46:G:O3'	2.40	0.53
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.38	0.53
29:X:493:A:OP2	29:X:517:A:N6	2.40	0.53
24:S:18:MET:HA	24:S:36:ARG:N	2.23	0.53
29:X:660:G:O2'	29:X:661:C:H5'	2.07	0.53
29:X:2323:U:C5'	29:X:2323:U:C6	2.81	0.53
18:M:66:PHE:CE2	18:M:81:PHE:HB2	2.43	0.53
10:E:43:VAL:HB	10:E:52:VAL:CA	2.32	0.53
19:N:93:LYS:O	19:N:94:VAL:HG23	2.08	0.53
29:X:2286:G:N2	29:X:2290:A:N6	2.52	0.53
29:X:739:G:O2'	29:X:740:A:OP2	2.26	0.53
29:X:759:C:C5'	29:X:759:C:C6	2.90	0.53
29:X:176:A:H2'	29:X:177:U:C5	2.43	0.53
29:X:2570:C:H2'	29:X:2571:G:C8	2.43	0.53
15:J:83:ARG:HH22	29:X:971:A:H61	1.54	0.53
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.88	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.43	0.53
7:B:111:LYS:NZ	29:X:2704:U:OP1	2.41	0.53
29:X:2820:C:O2'	29:X:2821:G:H5'	2.08	0.53
29:X:1419:G:H2'	29:X:1420:A:H8	1.72	0.53
29:X:1359:G:O2'	29:X:1360:G:H5'	2.08	0.53
29:X:130:C:H2'	29:X:131:C:C6	2.43	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.70	0.53
23:R:25:LEU:HD22	23:R:26:SER:CB	2.37	0.53
23:R:25:LEU:HD12	23:R:25:LEU:H	1.74	0.53
23:R:41:PRO:HG2	23:R:42:ARG:H	1.73	0.53
29:X:690:A:O2'	29:X:691:C:H5'	2.08	0.53
29:X:828:C:H2'	29:X:829:C:H6	1.74	0.53
29:X:1965:U:H2'	29:X:1966:C:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:102:ALA:C	18:M:103:LYS:HD2	2.28	0.53
26:U:66:ALA:O	26:U:70:LEU:HB2	2.09	0.53
29:X:665:A:N3	29:X:665:A:H3'	2.23	0.53
12:G:66:HIS:O	12:G:70:PHE:CE1	2.61	0.53
29:X:988:G:N3	29:X:1012:A:C2	2.76	0.53
9:D:54:ALA:O	9:D:55:LYS:C	2.46	0.53
29:X:2288:A:H2'	29:X:2289:A:H8	1.72	0.53
25:T:24:LYS:NZ	29:X:2335:U:OP1	2.40	0.53
29:X:219:G:C2'	29:X:220:U:OP2	2.56	0.53
29:X:88:G:H3'	29:X:89:A:C5'	2.28	0.53
22:Q:61:LYS:HD3	22:Q:72:ARG:CZ	2.38	0.53
12:G:154:GLU:O	12:G:157:PRO:HD2	2.08	0.53
8:C:9:GLN:HG2	8:C:120:VAL:HG21	1.89	0.53
29:X:2766:U:O2'	29:X:2767:C:H5'	2.07	0.53
29:X:801:A:C2'	29:X:802:A:OP2	2.57	0.53
7:B:105:THR:HG23	7:B:197:VAL:HB	1.89	0.53
29:X:2184:C:C4	29:X:2185:U:C4	2.97	0.53
8:C:125:ILE:HD12	8:C:133:PHE:HA	1.89	0.53
8:C:169:VAL:O	8:C:170:LEU:HD13	2.08	0.53
23:R:93:ARG:C	23:R:95:ARG:CZ	2.76	0.53
29:X:2757:G:OP2	29:X:2761:A:O2'	2.25	0.53
29:X:460:U:O2'	29:X:461:A:OP1	2.22	0.53
6:A:131:LEU:HD11	6:A:136:VAL:HG22	1.90	0.53
9:D:156:ILE:HG23	9:D:158:THR:HG23	1.90	0.53
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.38	0.53
29:X:732:G:H8	29:X:732:G:O5'	1.91	0.53
29:X:872:G:OP2	29:X:872:G:H8	1.91	0.53
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.43	0.53
29:X:1509:A:C8	29:X:1510:A:C8	2.97	0.53
9:D:70:ALA:C	9:D:72:LYS:N	2.61	0.53
29:X:393:U:O2'	29:X:394:U:H5'	2.08	0.53
29:X:1067:G:N2	29:X:1114:A:H62	1.98	0.53
29:X:2404:A:H1'	29:X:2406:C:C5	2.43	0.53
29:X:116:A:H1'	29:X:155:G:O4'	2.08	0.53
8:C:120:VAL:O	8:C:121:ASP:O	2.27	0.53
29:X:1416:A:C2	29:X:1417:C:C2	2.96	0.53
24:S:64:ALA:CA	24:S:86:VAL:HG23	2.39	0.53
23:R:98:ILE:HG22	23:R:99:VAL:H	1.72	0.53
10:E:33:LEU:HG	10:E:34:THR:H	1.73	0.53
29:X:2546:G:H2'	29:X:2547:C:H6	1.73	0.53
29:X:1515:U:H2'	29:X:1516:A:H8	1.71	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.74	0.53
14:I:123:ASP:O	14:I:123:ASP:OD1	2.25	0.53
8:C:125:ILE:O	8:C:126:ALA:CB	2.56	0.53
21:P:110:ALA:HB3	29:X:760:U:O3'	2.09	0.53
23:R:46:VAL:O	23:R:75:ALA:HA	2.08	0.53
29:X:1032:A:H8	29:X:1032:A:H3'	1.73	0.53
29:X:1278:A:H61	29:X:1996:A:H5''	1.74	0.53
19:N:10:ARG:NH1	29:X:592:G:OP2	2.29	0.53
6:A:169:GLU:CG	6:A:170:SER:H	2.19	0.53
10:E:139:GLN:HB3	10:E:143:GLN:OE1	2.07	0.53
29:X:1835:C:H2'	29:X:1836:C:H6	1.72	0.53
29:X:1724:C:N3	29:X:1747:G:C6	2.77	0.53
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.44	0.53
15:J:19:THR:CG2	15:J:20:GLY:N	2.71	0.53
29:X:2080:U:H2'	29:X:2081:U:H6	1.74	0.53
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.53
29:X:1166:A:H2'	29:X:1167:A:H5''	1.91	0.53
29:X:1982:C:H4'	29:X:2703:C:O2	2.08	0.53
21:P:24:GLY:O	21:P:127:ILE:HA	2.08	0.53
12:G:84:ASN:O	12:G:85:ALA:CB	2.57	0.53
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.74	0.53
8:C:53:LYS:O	8:C:54:THR:OG1	2.19	0.53
7:B:159:HIS:NE2	7:B:162:MET:HB2	2.23	0.53
11:F:2:LYS:HD3	11:F:2:LYS:N	2.23	0.53
8:C:138:LYS:C	8:C:140:ASN:H	2.11	0.53
8:C:43:ALA:HB3	8:C:88:PRO:N	2.23	0.53
14:I:45:LYS:HA	29:X:683:A:H5''	1.89	0.53
7:B:150:VAL:CG2	29:X:2598:C:O4'	2.56	0.53
29:X:462:G:N1	29:X:466:A:OP2	2.40	0.53
29:X:537:C:O2'	29:X:538:A:C4	2.61	0.53
29:X:2200:G:H2'	29:X:2201:G:H8	1.73	0.53
6:A:224:SER:HA	6:A:233:HIS:O	2.08	0.53
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.24	0.53
15:J:128:ILE:C	15:J:128:ILE:HD12	2.29	0.53
15:J:44:LYS:HD3	15:J:47:GLN:CD	2.29	0.53
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.91	0.53
26:U:10:LYS:HG2	26:U:11:LYS:CG	2.38	0.53
26:U:10:LYS:CD	26:U:11:LYS:HG3	2.38	0.53
14:I:117:ALA:HB2	14:I:137:GLY:HA3	1.91	0.53
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.53
25:T:72:LYS:O	25:T:74:LYS:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:99:HIS:O	24:S:136:VAL:N	2.42	0.53
9:D:75:SER:C	9:D:79:LEU:HD13	2.28	0.53
23:R:17:LYS:HB3	23:R:18:LYS:HE2	1.89	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.56	0.53
7:B:149:ARG:HA	29:X:2035:G:N3	2.23	0.53
29:X:1356:G:H1'	29:X:1613:G:N3	2.23	0.53
29:X:1802:A:H2'	29:X:1803:G:O4'	2.08	0.53
6:A:151:LYS:HD3	29:X:2186:G:O3'	2.09	0.53
7:B:134:TRP:O	7:B:135:HIS:C	2.45	0.53
8:C:158:ARG:C	8:C:160:ALA:N	2.62	0.53
7:B:152:LYS:CB	12:G:106:TYR:HB3	2.28	0.53
6:A:154:GLN:O	6:A:155:LEU:HD23	2.07	0.53
8:C:112:GLN:HB3	8:C:116:LYS:HZ2	1.74	0.53
9:D:92:ARG:NE	31:Z:47:A:H8	2.05	0.53
17:L:99:ARG:O	17:L:102:ALA:HB3	2.08	0.53
17:L:15:ARG:HA	17:L:15:ARG:NH1	2.07	0.53
26:U:10:LYS:CG	26:U:11:LYS:HG3	2.39	0.53
26:U:15:VAL:H	26:U:47:HIS:CE1	2.27	0.53
26:U:64:ALA:O	26:U:66:ALA:N	2.42	0.53
14:I:101:ARG:HD3	29:X:637:G:C6	2.43	0.53
29:X:2396:C:H6	29:X:2396:C:H5'	1.74	0.53
13:H:23:ARG:NH1	29:X:2541:U:H4'	2.10	0.53
29:X:2800:C:H3'	29:X:2801:A:H8	1.74	0.53
12:G:36:ASN:CG	12:G:37:ASP:N	2.61	0.53
29:X:717:G:O2'	29:X:718:A:P	2.65	0.53
21:P:78:ASN:C	21:P:80:LEU:N	2.60	0.53
29:X:1731:C:H3'	29:X:1732:U:C5'	2.38	0.53
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.44	0.53
29:X:3:U:H2'	29:X:4:C:H6	1.73	0.53
17:L:21:THR:CG2	17:L:22:ALA:N	2.68	0.53
29:X:1685:A:C8	29:X:1691:G:C6	2.96	0.53
29:X:1478:U:H2'	29:X:1479:G:C8	2.41	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
12:G:168:THR:O	12:G:169:GLN:O	2.26	0.53
4:4:22:ARG:HD2	4:4:37:GLY:HA3	1.91	0.53
19:N:3:ARG:HD3	29:X:458:G:P	2.47	0.53
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.89	0.53
23:R:84:VAL:HG11	23:R:88:THR:N	2.24	0.53
29:X:1148:G:H5''	29:X:1149:G:OP2	2.08	0.53
29:X:617:U:O2	29:X:617:U:C3'	2.56	0.53
6:A:70:ARG:NH2	6:A:189:CYS:HA	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:69:ARG:NH2	6:A:192:THR:OG1	2.42	0.53
13:H:90:ARG:NH1	18:M:78:GLU:OE1	2.42	0.53
18:M:55:ILE:HD11	18:M:67:THR:CG2	2.38	0.53
13:H:88:THR:HB	18:M:80:VAL:HB	1.91	0.53
9:D:15:ALA:O	9:D:19:GLN:HB2	2.09	0.53
9:D:92:ARG:HG3	9:D:92:ARG:NH2	2.22	0.53
26:U:67:LEU:HD23	26:U:67:LEU:C	2.29	0.53
14:I:84:GLU:O	14:I:116:ARG:NH2	2.38	0.53
14:I:80:LEU:HG	14:I:97:ARG:HH22	1.74	0.53
10:E:13:SER:O	10:E:15:VAL:N	2.42	0.53
29:X:872:G:O2'	29:X:873:U:H6	1.92	0.53
31:Z:15:A:O2'	31:Z:17:A:H5''	2.08	0.53
9:D:135:GLN:OE1	9:D:150:ARG:HB3	2.08	0.53
9:D:79:LEU:HA	9:D:80:ARG:NH2	2.24	0.53
7:B:1:MET:O	7:B:2:LYS:C	2.47	0.53
29:X:2849:C:C2	29:X:2850:U:C5	2.96	0.53
12:G:155:THR:O	12:G:158:HIS:HB2	2.08	0.53
29:X:1690:U:C2'	29:X:1691:G:H5'	2.38	0.53
8:C:153:ASP:OD1	8:C:172:VAL:HA	2.08	0.53
29:X:1610:A:H2'	29:X:1611:U:H6	1.74	0.53
24:S:125:PRO:HG2	24:S:126:GLY:H	1.74	0.53
29:X:2546:G:H2'	29:X:2547:C:C6	2.44	0.53
20:O:32:LYS:N	20:O:58:ALA:O	2.19	0.53
23:R:22:VAL:HG12	23:R:23:ILE:N	2.24	0.53
29:X:538:A:H2'	29:X:2025:A:H2	1.73	0.53
19:N:11:ARG:NH2	29:X:29:U:H4'	2.22	0.53
29:X:312:G:O2'	29:X:313:U:O4'	2.27	0.53
29:X:537:C:H1'	29:X:538:A:N6	2.23	0.53
29:X:580:A:C8	29:X:584:A:C6	2.96	0.53
6:A:49:ILE:HD11	6:A:52:ARG:HA	1.91	0.53
8:C:102:LEU:HD23	8:C:102:LEU:O	2.09	0.53
26:U:11:LYS:HZ1	26:U:75:TYR:HD1	1.51	0.53
29:X:836:G:H2'	29:X:837:U:H6	1.73	0.53
29:X:1474:A:H1'	29:X:1475:U:H5'	1.91	0.53
11:F:9:LYS:C	11:F:10:LEU:HD23	2.29	0.53
29:X:1058:G:C4	29:X:1121:G:O6	2.62	0.53
15:J:23:LYS:HA	24:S:73:LYS:NZ	2.23	0.53
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.39	0.53
20:O:54:TYR:HD1	20:O:54:TYR:H	1.57	0.53
9:D:35:VAL:O	9:D:154:ILE:HA	2.08	0.53
9:D:52:LYS:HG2	9:D:56:GLU:OE2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.57	0.53
13:H:110:VAL:C	13:H:111:PHE:HD1	2.12	0.53
8:C:98:GLN:NE2	29:X:611:C:O5'	2.42	0.53
29:X:172:A:C2	29:X:178:C:O2	2.62	0.53
29:X:1469:U:O5'	29:X:1470:G:OP2	2.26	0.53
29:X:202:A:H2'	29:X:203:G:O4'	2.09	0.53
27:V:7:ARG:C	27:V:9:LEU:N	2.62	0.53
31:Z:4:C:H2'	31:Z:5:C:C5'	2.38	0.53
29:X:1685:A:N6	29:X:1693:A:H61	2.07	0.53
6:A:59:LYS:O	29:X:1584:G:H5'	2.09	0.53
14:I:141:VAL:O	14:I:142:LEU:HD23	2.09	0.53
22:Q:14:GLU:HG3	22:Q:15:LYS:HD2	1.91	0.53
8:C:14:THR:O	8:C:15:ILE:HB	2.09	0.53
29:X:2234:G:H2'	29:X:2235:G:O4'	2.09	0.53
20:O:33:VAL:O	20:O:33:VAL:HG23	2.09	0.53
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.44	0.53
29:X:2037:A:N7	29:X:2039:G:H1'	2.24	0.53
29:X:454:G:H4'	29:X:455:A:OP1	2.09	0.53
6:A:169:GLU:CG	6:A:170:SER:N	2.71	0.53
29:X:1505:U:H3'	29:X:1505:U:H6	1.74	0.53
13:H:90:ARG:NH2	18:M:78:GLU:OE1	2.41	0.53
29:X:2391:A:C8	29:X:2392:G:C8	2.96	0.53
15:J:116:LYS:O	15:J:117:GLU:HB2	2.09	0.53
7:B:38:THR:HB	7:B:41:THR:HG23	1.90	0.53
29:X:1233:A:HO2'	29:X:1234:C:P	2.31	0.53
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.53
13:H:27:SER:CB	13:H:50:ILE:H	2.20	0.53
29:X:1092:U:H2'	29:X:1093:U:C6	2.44	0.53
19:N:82:GLY:HA3	19:N:113:SER:HG	1.72	0.53
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.53
16:K:83:VAL:HG23	16:K:87:TYR:HE2	1.73	0.53
29:X:2675:U:H2'	29:X:2676:G:C8	2.44	0.53
22:Q:35:LYS:HG2	22:Q:53:ILE:HG12	1.91	0.53
10:E:18:ASN:C	10:E:20:GLN:H	2.12	0.53
10:E:92:VAL:O	10:E:94:PHE:CD1	2.62	0.53
29:X:913:A:C2'	29:X:914:C:O5'	2.57	0.53
15:J:79:PRO:CD	15:J:88:LYS:HZ3	2.22	0.53
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.39	0.53
29:X:984:A:C4	29:X:1202:U:O4	2.62	0.53
14:I:38:LYS:HA	29:X:953:G:O3'	2.09	0.53
29:X:446:C:H2'	29:X:447:U:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:5:C:H2'	31:Z:6:C:H6	1.74	0.53
29:X:1958:G:H2'	29:X:1959:U:C6	2.43	0.53
8:C:45:THR:CG2	8:C:47:THR:OG1	2.57	0.53
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.44	0.53
12:G:56:THR:HG21	29:X:1016:C:O2'	2.09	0.53
14:I:45:LYS:CG	14:I:46:GLY:H	2.22	0.53
16:K:106:ASP:CG	16:K:108:VAL:HG23	2.30	0.53
29:X:322:A:HO2'	29:X:323:G:P	2.32	0.53
29:X:692:C:H2'	29:X:693:A:H8	1.73	0.53
6:A:142:VAL:HA	6:A:194:GLY:O	2.09	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
29:X:2200:G:H2'	29:X:2201:G:C8	2.43	0.53
4:4:30:VAL:O	4:4:33:LYS:N	2.32	0.53
6:A:252:LYS:NZ	6:A:253:PRO:HD2	2.24	0.53
29:X:1769:U:O4	29:X:1775:A:H1'	2.09	0.53
17:L:89:PHE:CD2	29:X:2355:A:H2	2.26	0.53
13:H:25:LEU:HD21	13:H:52:VAL:CG2	2.39	0.53
29:X:663:G:C3'	29:X:664:C:C5'	2.86	0.53
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.90	0.53
22:Q:55:THR:O	22:Q:56:MET:HG2	2.07	0.53
29:X:1288:A:H2'	29:X:1289:A:O4'	2.09	0.53
21:P:87:GLU:HA	21:P:90:LEU:HG	1.90	0.53
29:X:73:A:H5''	29:X:74:G:O4'	2.08	0.53
24:S:81:VAL:HG12	24:S:82:ASP:N	2.23	0.53
10:E:154:PRO:HG3	10:E:162:VAL:O	2.08	0.53
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
29:X:1685:A:C5	29:X:1691:G:C4	2.97	0.53
7:B:19:ARG:HG3	7:B:21:ILE:HD11	1.91	0.53
29:X:1648:C:H6	29:X:1648:C:C5'	2.22	0.53
22:Q:89:GLU:CB	22:Q:91:LEU:HD23	2.38	0.53
29:X:581:A:C2	29:X:2016:A:C2	2.97	0.53
10:E:33:LEU:O	10:E:34:THR:HG23	2.09	0.53
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.91	0.53
25:T:50:GLY:O	25:T:81:ILE:HD12	2.09	0.53
8:C:29:GLU:OE1	14:I:18:ARG:NH1	2.27	0.52
29:X:1339:U:H5	29:X:1664:G:O2'	1.92	0.52
29:X:332:C:H5''	29:X:333:A:OP2	2.09	0.52
21:P:39:ARG:HH12	29:X:528:G:C5'	2.22	0.52
6:A:132:PRO:HB3	6:A:190:TYR:HD2	1.74	0.52
26:U:32:ARG:H	26:U:32:ARG:CD	2.18	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:13:LYS:HB2	24:S:18:MET:HB2	1.91	0.52
7:B:25:VAL:HG13	7:B:183:LEU:HD22	1.89	0.52
14:I:107:LYS:HA	14:I:124:ALA:O	2.10	0.52
29:X:661:C:C2	29:X:662:G:C8	2.96	0.52
29:X:1473:U:O2'	29:X:1474:A:P	2.67	0.52
29:X:2171:U:H4'	29:X:2171:U:OP1	2.09	0.52
24:S:120:LEU:CD2	24:S:162:ALA:HB2	2.24	0.52
12:G:33:ILE:CB	12:G:34:PRO:CD	2.70	0.52
12:G:66:HIS:HA	19:N:67:ALA:HB1	1.90	0.52
29:X:1399:C:O2'	29:X:1400:A:H5'	2.09	0.52
10:E:76:VAL:C	10:E:78:GLY:N	2.62	0.52
29:X:1094:C:H2'	29:X:1096:A:C5'	2.38	0.52
29:X:1703:C:H2'	29:X:1704:G:O4'	2.09	0.52
29:X:2063:A:H2'	29:X:2064:U:C6	2.44	0.52
25:T:53:MET:HE2	25:T:59:LEU:HD21	1.91	0.52
7:B:118:LYS:CG	7:B:118:LYS:O	2.57	0.52
8:C:129:LYS:C	8:C:131:LYS:N	2.62	0.52
12:G:117:GLU:C	12:G:119:LEU:N	2.57	0.52
29:X:1300:A:C2	29:X:1301:U:C2	2.97	0.52
6:A:181:GLU:O	6:A:182:LEU:HD23	2.09	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.73	0.52
29:X:2824:C:O2'	29:X:2825:A:P	2.67	0.52
26:U:23:LYS:HE3	26:U:26:ALA:HA	1.90	0.52
26:U:71:SER:HA	26:U:79:GLU:HG3	1.92	0.52
7:B:53:PRO:CD	18:M:5:ILE:HG22	2.38	0.52
29:X:1474:A:C2	29:X:1476:G:C6	2.97	0.52
11:F:25:PRO:HG2	11:F:26:ALA:N	2.24	0.52
29:X:1541:G:H2'	29:X:1542:G:H8	1.72	0.52
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.73	0.52
9:D:152:MET:CE	9:D:154:ILE:HD11	2.39	0.52
9:D:74:ILE:HG23	9:D:80:ARG:CA	2.33	0.52
16:K:94:TYR:CE1	16:K:115:LEU:O	2.62	0.52
26:U:22:GLY:HA3	26:U:39:LYS:HG3	1.91	0.52
10:E:103:LEU:HD21	10:E:131:ILE:CD1	2.37	0.52
29:X:204:A:O2'	29:X:205:A:C8	2.61	0.52
29:X:404:A:C4	29:X:424:G:C2	2.97	0.52
29:X:2261:G:H5'	29:X:2262:C:O4'	2.09	0.52
14:I:127:ALA:C	14:I:129:ALA:N	2.61	0.52
31:Z:3:A:H2'	31:Z:4:C:H5'	1.91	0.52
13:H:29:ILE:O	13:H:29:ILE:HG23	2.09	0.52
29:X:2507:U:O2'	29:X:2508:G:H3'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1713:G:C6	29:X:1714:A:C4	2.97	0.52
29:X:810:U:H6	29:X:810:U:H3'	1.73	0.52
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.44	0.52
27:V:62:ARG:HH11	27:V:62:ARG:HG2	1.75	0.52
16:K:95:THR:O	16:K:95:THR:HG22	2.08	0.52
8:C:23:ASN:HB3	8:C:26:VAL:CG2	2.36	0.52
23:R:11:ASN:ND2	23:R:11:ASN:O	2.42	0.52
29:X:1141:U:HO2'	29:X:1142:G:P	2.32	0.52
6:A:261:ARG:NH2	29:X:1790:G:O3'	2.42	0.52
6:A:149:PRO:CG	29:X:2200:G:O2'	2.53	0.52
31:Z:54:U:O2'	31:Z:55:C:H5'	2.08	0.52
11:F:12:LEU:HD12	11:F:37:PHE:CE2	2.44	0.52
11:F:23:VAL:O	11:F:26:ALA:N	2.42	0.52
29:X:1558:C:O2'	29:X:1559:G:H5'	2.09	0.52
15:J:18:MET:HG2	15:J:19:THR:H	1.74	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.24	0.52
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.52
24:S:3:LEU:HD13	24:S:33:ALA:O	2.09	0.52
8:C:104:LEU:N	8:C:104:LEU:CD2	2.72	0.52
8:C:138:LYS:O	8:C:140:ASN:N	2.37	0.52
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.45	0.52
29:X:1145:C:C6	29:X:1147:G:P	3.03	0.52
17:L:66:ASP:O	17:L:68:ALA:N	2.42	0.52
26:U:49:LYS:HD3	26:U:61:TRP:CD2	2.45	0.52
7:B:179:GLU:O	7:B:180:ASN:C	2.47	0.52
29:X:649:G:H22	29:X:661:C:C1'	2.22	0.52
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.90	0.52
29:X:1555:A:H2'	29:X:1556:A:O4'	2.09	0.52
16:K:3:HIS:NE2	29:X:2797:G:OP2	2.42	0.52
12:G:36:ASN:C	12:G:38:GLU:N	2.52	0.52
20:O:13:ARG:HB2	20:O:13:ARG:NH2	2.23	0.52
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.39	0.52
16:K:76:VAL:HG13	16:K:77:ARG:N	2.24	0.52
29:X:219:G:O2'	29:X:220:U:P	2.67	0.52
29:X:203:G:N2	29:X:204:A:C2	2.77	0.52
29:X:1318:A:C2	29:X:1319:C:C2	2.97	0.52
29:X:17:G:N2	29:X:18:U:C2	2.78	0.52
8:C:175:VAL:HG23	8:C:176:ASN:N	2.24	0.52
23:R:10:HIS:CB	23:R:44:GLN:NE2	2.72	0.52
7:B:136:ARG:O	29:X:1674:C:OP1	2.27	0.52
8:C:128:ALA:HB1	29:X:332:C:H5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:829:C:O2'	29:X:830:C:H5'	2.10	0.52
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.91	0.52
6:A:143:HIS:ND1	6:A:143:HIS:N	2.57	0.52
6:A:182:LEU:O	6:A:268:ARG:N	2.39	0.52
29:X:1504:G:H2'	29:X:1505:U:C2	2.45	0.52
29:X:1793:A:C6	29:X:1809:G:N2	2.77	0.52
8:C:102:LEU:HD21	8:C:106:MET:CE	2.39	0.52
29:X:2837:G:C6	29:X:2838:U:C4	2.98	0.52
17:L:60:LYS:HG3	17:L:63:ASN:O	2.08	0.52
31:Z:36:A:C2	31:Z:51:G:C6	2.98	0.52
29:X:836:G:H2'	29:X:837:U:C6	2.43	0.52
13:H:116:ARG:CD	18:M:40:ARG:HH21	2.22	0.52
15:J:21:ASP:N	15:J:99:LYS:HE2	2.23	0.52
24:S:84:TYR:CE1	31:Z:107:C:H4'	2.42	0.52
12:G:70:PHE:N	12:G:70:PHE:CD2	2.78	0.52
20:O:20:ILE:CD1	20:O:21:ARG:N	2.72	0.52
20:O:35:LEU:HD22	20:O:36:LYS:O	2.09	0.52
20:O:64:GLY:HA3	20:O:90:PHE:CE1	2.44	0.52
29:X:1002:C:C4	29:X:1003:C:C5	2.97	0.52
16:K:76:VAL:O	16:K:79:VAL:CG1	2.57	0.52
29:X:1313:U:O2'	29:X:1314:A:P	2.67	0.52
29:X:223:C:H2'	29:X:224:G:H5'	1.92	0.52
29:X:2576:G:C5	29:X:2577:A:C6	2.98	0.52
15:J:76:THR:CG2	15:J:88:LYS:O	2.57	0.52
29:X:4:C:O2'	29:X:5:A:H5'	2.09	0.52
29:X:1603:A:OP2	29:X:1603:A:H8	1.93	0.52
6:A:210:GLY:HA2	6:A:213:ARG:CG	2.39	0.52
29:X:2856:U:C2	29:X:2857:C:C5	2.98	0.52
29:X:1657:A:H8	29:X:1657:A:H5'	1.74	0.52
14:I:26:THR:OG1	29:X:676:G:OP1	2.28	0.52
29:X:8:A:H2'	29:X:9:U:O4'	2.10	0.52
29:X:122:G:C2'	29:X:123:A:H5''	2.40	0.52
8:C:35:LEU:HD23	8:C:38:ARG:HD2	1.91	0.52
29:X:1398:G:H4'	29:X:1398:G:OP1	2.10	0.52
8:C:136:TRP:CD2	8:C:140:ASN:ND2	2.78	0.52
8:C:176:ASN:CB	29:X:626:A:O2'	2.58	0.52
23:R:4:PRO:CA	29:X:34:U:H1'	2.40	0.52
29:X:1135:C:C4	29:X:1136:G:N7	2.77	0.52
29:X:2204:A:O2'	29:X:2205:C:OP2	2.20	0.52
8:C:186:LEU:HG	8:C:188:ILE:CG1	2.34	0.52
17:L:33:ARG:HH12	17:L:103:LEU:H	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:89:PHE:CZ	29:X:2356:A:H1'	2.44	0.52
28:W:1:MET:O	28:W:34:VAL:HG12	2.09	0.52
15:J:47:GLN:NE2	29:X:2464:G:OP1	2.40	0.52
29:X:1240:G:O2'	29:X:1241:G:H5'	2.09	0.52
29:X:77:C:C2	29:X:78:C:C5	2.97	0.52
16:K:3:HIS:CE1	29:X:2796:A:P	2.97	0.52
16:K:28:LEU:HD23	16:K:28:LEU:C	2.29	0.52
29:X:2705:A:O2'	29:X:2706:U:C6	2.63	0.52
10:E:57:ASP:O	10:E:58:ALA:HB2	2.09	0.52
29:X:1249:G:O2'	29:X:1250:A:O5'	2.25	0.52
29:X:756:C:C2'	29:X:757:U:H5'	2.40	0.52
29:X:1372:A:C4	29:X:1373:G:C8	2.98	0.52
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.52
29:X:1602:G:H5'	29:X:1603:A:OP2	2.10	0.52
10:E:144:VAL:C	10:E:146:ALA:N	2.61	0.52
29:X:208:C:N4	29:X:209:G:N2	2.57	0.52
22:Q:24:VAL:HG13	22:Q:80:VAL:O	2.09	0.52
27:V:37:LEU:CD1	29:X:60:A:H4'	2.37	0.52
24:S:64:ALA:HA	24:S:85:MET:HA	1.91	0.52
29:X:1569:A:N1	29:X:1571:G:H1'	2.24	0.52
31:Z:123:U:H3'	31:Z:123:U:OP1	2.09	0.52
29:X:682:G:H2'	29:X:682:G:N3	2.23	0.52
12:G:131:VAL:C	12:G:133:GLY:N	2.63	0.52
29:X:1052:C:H3'	29:X:1053:G:H5'	1.89	0.52
6:A:123:ALA:O	6:A:125:PRO:HD3	2.10	0.52
29:X:1505:U:H2'	29:X:1506:C:C5'	2.37	0.52
6:A:205:VAL:O	6:A:206:LEU:HB2	2.09	0.52
29:X:1817:U:H2'	29:X:1818:G:O4'	2.10	0.52
8:C:108:ILE:O	8:C:111:ARG:N	2.43	0.52
17:L:56:SER:HG	17:L:71:VAL:HB	1.75	0.52
11:F:52:ILE:H	11:F:73:PRO:HD2	1.75	0.52
29:X:1242:A:C2	29:X:1243:G:C4	2.98	0.52
29:X:356:A:C2'	29:X:357:A:C8	2.92	0.52
29:X:2175:A:O2'	29:X:2176:U:H5'	2.09	0.52
29:X:2674:C:H2'	29:X:2675:U:C6	2.44	0.52
26:U:22:GLY:CA	26:U:39:LYS:HD2	2.39	0.52
13:H:16:ALA:HB3	13:H:98:ILE:CD1	2.36	0.52
29:X:1920:A:C2	29:X:1922:U:H5	2.28	0.52
21:P:18:VAL:HG12	21:P:19:LYS:N	2.23	0.52
15:J:82:THR:O	15:J:83:ARG:HB2	2.10	0.52
29:X:2660:C:C4	29:X:2704:U:C5	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:198:LEU:CD1	7:B:198:LEU:N	2.68	0.52
10:E:160:LYS:HZ1	29:X:2637:C:P	2.32	0.52
29:X:2805:G:H2'	29:X:2806:G:O4'	2.10	0.52
7:B:115:GLY:HA2	7:B:157:ALA:HB2	1.91	0.52
29:X:1350:G:C4	29:X:1351:G:C8	2.97	0.52
29:X:1179:A:H2'	29:X:1180:A:C8	2.45	0.52
7:B:127:ALA:CB	7:B:135:HIS:HE1	2.23	0.52
23:R:25:LEU:CD1	23:R:25:LEU:N	2.72	0.52
8:C:42:THR:HG22	29:X:38:G:N3	2.25	0.52
29:X:565:A:H2'	29:X:566:U:C6	2.45	0.52
29:X:566:U:H2'	29:X:567:G:C8	2.44	0.52
6:A:211:ARG:NH1	6:A:211:ARG:CG	2.55	0.52
6:A:254:THR:H	29:X:1787:U:H4'	1.75	0.52
9:D:155:THR:HG21	29:X:2293:G:H4'	1.92	0.52
29:X:1128:G:H2'	29:X:1129:A:H5''	1.91	0.52
15:J:95:VAL:HG12	15:J:96:SER:N	2.25	0.52
29:X:636:G:C5'	29:X:636:G:H8	2.14	0.52
29:X:847:C:N3	29:X:848:A:N7	2.58	0.52
29:X:1242:A:H2'	29:X:1243:G:C8	2.44	0.52
29:X:929:A:H2	31:Z:81:C:O2	1.93	0.52
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.36	0.52
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.82	0.52
29:X:1068:A:H2'	29:X:1068:A:N3	2.24	0.52
14:I:32:ARG:CD	20:O:81:ARG:HD2	2.39	0.52
16:K:24:GLN:O	16:K:25:ALA:C	2.48	0.52
19:N:45:TYR:O	19:N:46:GLU:C	2.48	0.52
29:X:571:U:O2	29:X:581:A:C4	2.63	0.52
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.45	0.52
8:C:66:ASN:HA	29:X:1268:U:C5	2.45	0.52
29:X:2431:C:O2'	29:X:2432:A:H5'	2.10	0.52
29:X:457:C:N4	29:X:458:G:C6	2.78	0.52
29:X:694:G:H2'	29:X:695:G:O4'	2.09	0.52
29:X:2039:G:N2	30:Y:4:HIS:O	2.43	0.52
6:A:134:ARG:HG3	6:A:135:PHE:CD2	2.45	0.52
6:A:186:HIS:C	6:A:188:GLU:H	2.14	0.52
6:A:184:ARG:HH21	6:A:268:ARG:NH1	2.06	0.52
6:A:243:GLY:C	6:A:244:ARG:HD3	2.30	0.52
29:X:777:A:HO2'	29:X:778:G:P	2.31	0.52
18:M:101:ARG:HG2	18:M:101:ARG:NH2	2.23	0.52
9:D:27:ALA:HB2	31:Z:59:A:C1'	2.23	0.52
17:L:89:PHE:O	17:L:89:PHE:HD1	1.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:11:LEU:HD21	29:X:2273:C:C5'	2.40	0.52
28:W:9:VAL:O	28:W:12:ARG:HB2	2.10	0.52
15:J:27:TYR:HB3	15:J:137:VAL:CG1	2.40	0.52
15:J:15:ARG:NH1	15:J:15:ARG:CG	2.72	0.52
26:U:10:LYS:HD3	26:U:11:LYS:HG3	1.92	0.52
29:X:1074:G:O2'	29:X:1075:C:H5'	2.10	0.52
13:H:27:SER:OG	13:H:49:ASP:HA	2.09	0.52
29:X:872:G:N2	29:X:928:G:H2'	2.25	0.52
12:G:33:ILE:HD12	12:G:34:PRO:N	2.25	0.52
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.39	0.52
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.40	0.52
29:X:229:G:H2'	29:X:230:C:H6	1.75	0.52
29:X:1448:A:H2'	29:X:1449:C:C6	2.45	0.52
13:H:70:VAL:CG2	13:H:71:LYS:H	2.22	0.52
29:X:1939:U:H1'	29:X:2531:U:OP1	2.10	0.52
29:X:1753:A:H8	29:X:1753:A:O5'	1.93	0.52
29:X:1425:G:C2'	29:X:1426:U:H5'	2.39	0.52
12:G:148:LEU:HD12	12:G:148:LEU:C	2.31	0.52
7:B:95:ILE:HG22	7:B:96:PHE:N	2.25	0.52
13:H:3:MET:O	13:H:6:SER:HB3	2.10	0.52
6:A:132:PRO:HD3	6:A:190:TYR:CE2	2.45	0.52
6:A:132:PRO:CA	6:A:190:TYR:HA	2.34	0.52
17:L:67:THR:O	17:L:71:VAL:HG12	2.10	0.52
15:J:69:ILE:HD13	15:J:104:MET:CB	2.40	0.52
26:U:59:THR:O	26:U:60:VAL:O	2.28	0.52
29:X:930:A:C8	29:X:931:G:C8	2.98	0.52
29:X:219:G:H2'	29:X:231:G:O6	2.10	0.52
29:X:2662:C:O2'	29:X:2663:U:H5'	2.10	0.52
29:X:654:A:OP1	29:X:654:A:O4'	2.28	0.52
29:X:222:G:H1'	29:X:397:U:O2	2.10	0.52
29:X:2178:U:H2'	29:X:2179:C:H6	1.73	0.52
7:B:188:ILE:CG2	7:B:189:PRO:CD	2.84	0.52
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.28	0.52
24:S:67:LYS:NZ	31:Z:106:U:O3'	2.43	0.52
29:X:1336:G:O2'	29:X:1337:G:H5'	2.10	0.52
7:B:93:VAL:O	7:B:94:ASP:HB2	2.08	0.52
29:X:1918:G:C4	29:X:1945:C:N4	2.77	0.52
29:X:1918:G:H1'	29:X:1947:G:N2	2.25	0.52
29:X:1987:G:C5	29:X:1988:A:C8	2.98	0.52
11:F:78:ILE:O	11:F:81:ALA:N	2.40	0.52
7:B:141:ILE:HG23	7:B:154:LYS:HD3	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:151:VAL:HG11	8:C:175:VAL:HG12	1.92	0.51
8:C:171:PRO:O	8:C:173:ALA:N	2.42	0.51
12:G:103:TYR:CG	12:G:111:LYS:HA	2.45	0.51
29:X:1216:G:C6	29:X:1217:U:C4	2.98	0.51
6:A:121:PRO:HB2	6:A:135:PHE:CE1	2.45	0.51
6:A:142:VAL:HB	6:A:192:THR:O	2.10	0.51
8:C:186:LEU:CG	8:C:188:ILE:HG12	2.35	0.51
9:D:34:ILE:HD11	9:D:156:ILE:HG12	1.92	0.51
17:L:89:PHE:HZ	29:X:2356:A:HO2'	1.50	0.51
29:X:945:G:C5	29:X:946:U:C5	2.97	0.51
29:X:946:U:C2	29:X:947:C:C5	2.98	0.51
26:U:46:LEU:C	26:U:47:HIS:ND1	2.63	0.51
12:G:68:PRO:O	12:G:70:PHE:CE2	2.63	0.51
19:N:66:ASN:CG	19:N:70:ARG:HH12	2.12	0.51
20:O:13:ARG:HB2	20:O:13:ARG:CZ	2.40	0.51
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.31	0.51
25:T:60:PHE:CZ	29:X:2344:G:H4'	2.45	0.51
29:X:1494:G:N2	29:X:1495:G:H1'	2.25	0.51
29:X:172:A:C2	29:X:227:G:N2	2.60	0.51
29:X:497:C:C6	29:X:497:C:C3'	2.93	0.51
29:X:2228:U:N3	29:X:2232:G:OP2	2.42	0.51
14:I:39:SER:O	14:I:40:ARG:CB	2.58	0.51
19:N:114:ARG:NH1	19:N:115:ASN:ND2	2.54	0.51
29:X:1430:G:H2'	29:X:1431:U:H6	1.71	0.51
12:G:84:ASN:C	12:G:86:ALA:N	2.63	0.51
17:L:21:THR:HG22	17:L:22:ALA:H	1.70	0.51
29:X:1911:A:H2'	29:X:1912:G:C1'	2.39	0.51
29:X:197:G:N3	29:X:210:A:C2	2.76	0.51
29:X:1329:U:C2	29:X:1330:G:C8	2.98	0.51
13:H:100:ASN:OD1	13:H:100:ASN:C	2.49	0.51
27:V:64:GLY:O	27:V:65:GLU:CB	2.57	0.51
29:X:102:C:C4	29:X:103:U:C4	2.98	0.51
23:R:8:SER:C	23:R:10:HIS:H	2.13	0.51
29:X:1154:A:H4'	29:X:1155:G:OP2	2.08	0.51
29:X:584:A:C2	29:X:585:U:C5	2.97	0.51
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.09	0.51
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.40	0.51
17:L:53:ALA:C	17:L:75:LEU:HD13	2.30	0.51
29:X:2309:G:C2'	29:X:2310:G:H5'	2.39	0.51
28:W:49:HIS:CD2	31:Z:85:G:H5'	2.46	0.51
29:X:492:G:H1'	29:X:516:G:N2	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2210:C:C2	29:X:2211:U:C5	2.97	0.51
7:B:68:ALA:C	7:B:70:ALA:H	2.12	0.51
29:X:2379:G:O2'	29:X:2380:U:H5'	2.09	0.51
29:X:2264:C:H5'	29:X:2267:A:N6	2.25	0.51
29:X:1236:G:H2'	29:X:1238:A:OP2	2.10	0.51
10:E:9:ILE:O	10:E:11:VAL:HG23	2.09	0.51
29:X:1544:A:C2	29:X:1560:A:C4	2.98	0.51
29:X:664:C:H3'	29:X:665:A:C2	2.45	0.51
29:X:1432:G:H21	29:X:1596:A:H62	1.58	0.51
29:X:171:G:C2	29:X:179:U:H1'	2.45	0.51
22:Q:63:LYS:HG3	22:Q:64:ARG:N	2.25	0.51
24:S:71:MET:N	24:S:71:MET:HE2	2.25	0.51
27:V:37:LEU:C	27:V:37:LEU:HD23	2.30	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.46	0.51
29:X:549:G:H2'	29:X:550:C:H6	1.75	0.51
29:X:762:A:C6	29:X:1634:A:C2	2.98	0.51
12:G:116:ARG:CZ	12:G:126:VAL:HG13	2.39	0.51
14:I:11:GLY:N	14:I:14:LYS:CB	2.61	0.51
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.92	0.51
23:R:111:GLY:H	23:R:112:LYS:HD2	1.75	0.51
29:X:1016:C:C2	29:X:1154:A:C5	2.99	0.51
28:W:18:LYS:O	28:W:21:GLN:N	2.43	0.51
15:J:119:PHE:O	15:J:123:GLY:N	2.43	0.51
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.46	0.51
7:B:9:ILE:O	7:B:9:ILE:HG22	2.08	0.51
24:S:127:PRO:O	24:S:128:ARG:CG	2.56	0.51
9:D:60:ILE:HD12	9:D:138:PHE:CD2	2.45	0.51
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.39	0.51
29:X:220:U:H2'	29:X:220:U:O2	2.10	0.51
29:X:1246:G:C5	29:X:1247:U:C5	2.99	0.51
16:K:11:ASN:HD21	16:K:12:ARG:NE	2.06	0.51
26:U:22:GLY:HA3	26:U:39:LYS:CG	2.40	0.51
10:E:103:LEU:HB2	10:E:123:PHE:CE2	2.45	0.51
29:X:2060:A:H1'	29:X:2414:A:O4'	2.09	0.51
29:X:1194:U:C6	29:X:1194:U:H5'	2.33	0.51
31:Z:62:C:H2'	31:Z:63:A:C8	2.45	0.51
17:L:32:TYR:CZ	31:Z:9:G:H5'	2.45	0.51
29:X:105:G:O2'	29:X:106:G:H5'	2.10	0.51
8:C:195:ILE:HG13	8:C:195:ILE:O	2.11	0.51
25:T:23:VAL:HG13	25:T:38:VAL:HG22	1.91	0.51
29:X:994:A:N7	29:X:995:A:C6	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2018:G:H4'	29:X:2019:C:OP2	2.09	0.51
29:X:1970:G:O2'	29:X:1971:C:H5'	2.10	0.51
7:B:152:LYS:H	12:G:106:TYR:HB3	1.74	0.51
8:C:162:ARG:NH1	29:X:310:A:N1	2.59	0.51
12:G:74:MET:SD	29:X:566:U:H4'	2.50	0.51
23:R:93:ARG:NH2	23:R:108:VAL:CA	2.73	0.51
29:X:1302:C:H2'	29:X:1303:U:H6	1.75	0.51
29:X:20:C:H2'	29:X:21:A:C8	2.46	0.51
15:J:36:ILE:HG23	15:J:102:ARG:O	2.10	0.51
14:I:86:THR:H	14:I:116:ARG:HH11	1.58	0.51
14:I:89:ASP:C	14:I:90:ARG:HG3	2.31	0.51
24:S:91:PRO:CD	24:S:127:PRO:HG3	2.39	0.51
11:F:52:ILE:H	11:F:73:PRO:CG	2.24	0.51
29:X:357:A:H2'	29:X:358:C:H5'	1.93	0.51
11:F:10:LEU:HD21	11:F:57:ILE:CG1	2.38	0.51
20:O:47:PHE:O	20:O:48:GLY:O	2.28	0.51
29:X:1750:A:N7	29:X:2675:U:H1'	2.25	0.51
29:X:2236:U:H2'	29:X:2237:C:H6	1.75	0.51
21:P:62:ARG:O	21:P:65:SER:HB2	2.10	0.51
29:X:1525:A:C5	29:X:1526:U:H1'	2.46	0.51
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.93	0.51
15:J:17:ARG:NH1	29:X:967:G:O6	2.43	0.51
29:X:2619:G:C6	29:X:2755:A:C2	2.98	0.51
13:H:73:VAL:O	13:H:73:VAL:HG13	2.11	0.51
16:K:45:ARG:O	16:K:48:VAL:HG12	2.10	0.51
29:X:1705:U:O2	29:X:1717:A:C5'	2.58	0.51
29:X:822:G:H2'	29:X:823:U:H5'	1.92	0.51
29:X:182:G:O2'	29:X:183:U:P	2.69	0.51
29:X:1404:C:H5'	29:X:1405:A:OP2	2.10	0.51
29:X:498:C:C5	29:X:499:G:N7	2.79	0.51
29:X:1139:A:O2'	29:X:1140:A:P	2.68	0.51
8:C:129:LYS:O	8:C:131:LYS:N	2.35	0.51
8:C:136:TRP:O	8:C:137:ALA:C	2.48	0.51
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.59	0.51
12:G:141:GLY:O	12:G:142:ARG:C	2.49	0.51
6:A:149:PRO:HA	6:A:189:CYS:SG	2.50	0.51
6:A:226:MET:HE2	29:X:795:A:C2	2.46	0.51
9:D:13:ARG:HG2	9:D:13:ARG:HH21	1.74	0.51
9:D:166:ALA:C	9:D:170:LEU:HG	2.31	0.51
9:D:16:LEU:HD13	9:D:28:VAL:CG1	2.41	0.51
29:X:939:C:C5'	29:X:940:G:O5'	2.57	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:119:PHE:O	15:J:120:ARG:C	2.49	0.51
24:S:19:ILE:CD1	24:S:36:ARG:HG3	2.41	0.51
29:X:2376:G:C2	29:X:2399:C:C2	2.99	0.51
13:H:116:ARG:NE	18:M:40:ARG:HE	2.09	0.51
29:X:1234:C:N3	29:X:1242:A:C6	2.78	0.51
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.10	0.51
25:T:44:LYS:NZ	29:X:871:U:OP1	2.42	0.51
29:X:748:A:C5'	29:X:749:C:OP2	2.58	0.51
19:N:79:PHE:CZ	19:N:83:LEU:HD11	2.46	0.51
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.51
25:T:52:GLY:N	25:T:62:LEU:HD21	2.25	0.51
29:X:2334:C:H6	29:X:2334:C:O5'	1.93	0.51
22:Q:27:PHE:CZ	22:Q:42:ILE:HD13	2.45	0.51
21:P:67:PRO:C	21:P:69:ALA:N	2.62	0.51
29:X:2816:C:C2	29:X:2852:G:N2	2.78	0.51
29:X:765:C:C4	29:X:1772:C:C2	2.98	0.51
29:X:1069:G:H3'	29:X:1070:G:H5''	1.93	0.51
29:X:2345:A:O2'	29:X:2346:G:H5'	2.11	0.51
29:X:1629:G:C6	29:X:1633:C:C6	2.97	0.51
29:X:165:G:H1'	29:X:1378:A:C6	2.45	0.51
29:X:549:G:H2'	29:X:550:C:C6	2.46	0.51
29:X:24:G:H2'	29:X:25:U:H6	1.75	0.51
29:X:24:G:N2	29:X:25:U:H1'	2.25	0.51
14:I:134:GLU:C	14:I:136:ALA:H	2.13	0.51
29:X:361:G:O5'	29:X:361:G:H8	1.93	0.51
29:X:1871:G:H3'	29:X:1871:G:N3	2.25	0.51
8:C:158:ARG:HB3	8:C:169:VAL:HG11	1.92	0.51
14:I:9:THR:O	14:I:13:ARG:HD2	2.11	0.51
29:X:1031:C:O2'	29:X:1032:A:H5''	2.11	0.51
29:X:2607:C:O2'	29:X:2761:A:H2'	2.10	0.51
29:X:1999:U:O2'	30:Y:7:PRO:O	2.25	0.51
9:D:122:PHE:HD2	9:D:129:ASN:N	2.09	0.51
17:L:87:VAL:CG1	17:L:88:VAL:N	2.73	0.51
24:S:10:PRO:O	24:S:13:LYS:CG	2.56	0.51
24:S:92:VAL:HG23	24:S:93:GLU:N	2.25	0.51
11:F:21:PRO:N	11:F:22:PRO:HD3	2.25	0.51
31:Z:112:A:H2'	31:Z:113:G:O4'	2.10	0.51
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.23	0.51
29:X:2417:U:O2'	29:X:2419:C:OP1	2.23	0.51
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.75	0.51
7:B:37:LYS:HB3	7:B:42:ASP:HB2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:155:THR:O	12:G:158:HIS:N	2.39	0.51
29:X:1646:G:C6	29:X:1647:U:N3	2.79	0.51
17:L:34:SER:HB2	17:L:94:TYR:HE2	1.75	0.51
29:X:2016:A:N1	29:X:2019:C:C6	2.78	0.51
28:W:27:LYS:C	28:W:28:ILE:O	2.46	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51
21:P:49:SER:OG	21:P:51:GLN:HB2	2.10	0.51
29:X:1125:G:H2'	29:X:1126:A:H8	1.76	0.51
7:B:144:ARG:O	7:B:146:THR:N	2.44	0.51
8:C:169:VAL:CG1	8:C:170:LEU:N	2.74	0.51
29:X:1031:C:C2'	29:X:1031:C:O2	2.57	0.51
29:X:1820:G:O2'	29:X:1821:A:H5'	2.11	0.51
9:D:11:GLN:O	9:D:15:ALA:CB	2.59	0.51
9:D:16:LEU:O	9:D:20:PHE:CD1	2.63	0.51
17:L:10:LYS:C	17:L:14:ARG:HE	2.14	0.51
31:Z:42:U:N3	31:Z:45:C:H5''	2.25	0.51
28:W:39:ALA:O	28:W:43:MET:HG2	2.10	0.51
15:J:56:SER:O	15:J:57:ARG:C	2.49	0.51
18:M:38:LYS:HD3	18:M:41:GLU:OE2	2.11	0.51
29:X:357:A:C5	29:X:358:C:H1'	2.45	0.51
11:F:21:PRO:N	11:F:22:PRO:CD	2.74	0.51
11:F:27:LEU:HD12	11:F:27:LEU:N	2.26	0.51
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.39	0.51
24:S:105:GLN:OE1	24:S:140:LYS:CA	2.53	0.51
24:S:138:VAL:O	24:S:141:MET:HB2	2.10	0.51
12:G:67:ARG:NH2	12:G:70:PHE:C	2.59	0.51
9:D:138:PHE:HB2	9:D:141:ILE:HG12	1.91	0.51
21:P:106:LEU:HD23	21:P:115:ASN:O	2.10	0.51
29:X:2404:A:H4'	29:X:2405:A:H5''	1.85	0.51
29:X:1186:G:H2'	29:X:1188:A:N6	2.25	0.51
29:X:437:G:O2'	29:X:438:G:H5'	2.10	0.51
29:X:2852:G:C2'	29:X:2853:U:H5'	2.41	0.51
7:B:61:LYS:N	7:B:62:PRO:CD	2.73	0.51
17:L:83:GLY:C	17:L:84:ILE:HD12	2.31	0.51
8:C:30:VAL:O	8:C:31:VAL:C	2.47	0.51
8:C:42:THR:HG21	29:X:454:G:N3	2.24	0.51
8:C:48:ARG:O	8:C:51:VAL:CG2	2.59	0.51
14:I:13:ARG:HG2	14:I:14:LYS:N	2.24	0.51
23:R:93:ARG:O	23:R:95:ARG:NE	2.44	0.51
29:X:539:A:N3	29:X:540:G:O6	2.43	0.51
29:X:813:A:C2	29:X:815:A:C8	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:92:ILE:HG21	6:A:104:TYR:CD2	2.46	0.51
29:X:1838:G:H3'	29:X:1839:A:H8	1.75	0.51
29:X:2826:C:H6	29:X:2826:C:O5'	1.92	0.51
15:J:28:VAL:O	15:J:29:ALA:HB2	2.11	0.51
18:M:93:ILE:N	18:M:93:ILE:CD1	2.74	0.51
26:U:46:LEU:O	26:U:47:HIS:ND1	2.44	0.51
29:X:2266:A:N6	29:X:2323:U:C4	2.77	0.51
10:E:11:VAL:HG21	10:E:50:LEU:HB2	1.91	0.51
10:E:43:VAL:CB	10:E:52:VAL:HG13	2.37	0.51
24:S:105:GLN:O	24:S:141:MET:O	2.29	0.51
24:S:117:VAL:CG2	24:S:168:VAL:HA	2.35	0.51
29:X:1511:A:C6	29:X:1512:A:C6	2.99	0.51
27:V:26:MET:HA	27:V:29:ARG:NH2	2.25	0.51
29:X:1681:A:O5'	29:X:1681:A:H8	1.93	0.51
29:X:223:C:O2'	29:X:398:C:H5'	2.11	0.51
10:E:89:LEU:HD11	10:E:96:ALA:N	2.26	0.51
7:B:188:ILE:HG22	7:B:189:PRO:CD	2.41	0.51
29:X:162:C:O2'	29:X:163:A:H5'	2.11	0.51
22:Q:19:ALA:O	22:Q:22:ARG:HG2	2.11	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
7:B:119:ARG:HA	7:B:160:MET:HE3	1.92	0.51
29:X:1949:A:H1'	29:X:2572:U:C5'	2.40	0.51
29:X:1570:C:H5'	29:X:1571:G:OP2	2.11	0.51
17:L:77:ALA:O	17:L:80:ALA:HB3	2.11	0.51
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.93	0.51
12:G:103:TYR:CE2	29:X:1142:G:H1'	2.45	0.51
12:G:109:GLY:C	12:G:110:LEU:HD23	2.31	0.51
29:X:2597:G:C2	29:X:2598:C:C2	2.99	0.51
29:X:546:A:H2'	29:X:547:U:C6	2.44	0.51
6:A:92:ILE:HG22	6:A:104:TYR:HD2	1.75	0.51
6:A:69:ARG:CD	6:A:105:ILE:HD11	2.35	0.51
29:X:1779:C:H2'	29:X:1780:A:C8	2.46	0.51
13:H:79:HIS:CG	13:H:80:ALA:N	2.79	0.51
9:D:14:PRO:O	9:D:17:MET:N	2.44	0.51
14:I:94:GLU:O	14:I:99:VAL:HG22	2.10	0.51
29:X:2379:G:H2'	29:X:2380:U:H5'	1.91	0.51
10:E:43:VAL:CG2	10:E:44:ARG:N	2.74	0.51
24:S:72:ASP:O	24:S:75:LYS:O	2.29	0.51
29:X:2247:A:H5''	29:X:2247:A:C8	2.46	0.51
29:X:750:C:H2'	29:X:751:G:H5'	1.93	0.51
9:D:111:ILE:HB	9:D:114:PHE:CB	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:117:ILE:HD12	9:D:175:LEU:HD12	1.93	0.51
25:T:52:GLY:N	25:T:62:LEU:CD2	2.74	0.51
14:I:53:ARG:HH22	29:X:173:A:P	2.33	0.51
10:E:126:PRO:CG	10:E:127:GLU:H	2.10	0.51
10:E:89:LEU:HD12	10:E:129:THR:HA	1.93	0.51
29:X:2645:C:H3'	29:X:2646:C:C6	2.45	0.51
29:X:389:G:H2'	29:X:390:U:C5	2.44	0.51
29:X:2048:C:O2'	29:X:2049:C:H5'	2.11	0.51
23:R:17:LYS:C	23:R:19:GLY:N	2.65	0.51
29:X:575:U:H2'	29:X:576:A:H8	1.76	0.51
31:Z:106:U:H6	31:Z:106:U:O5'	1.94	0.51
29:X:972:C:C4'	29:X:973:U:OP2	2.57	0.51
29:X:2510:A:C6	29:X:2511:G:C5	2.99	0.51
29:X:2216:G:H8	29:X:2216:G:O5'	1.94	0.51
26:U:68:ARG:NH1	29:X:412:U:C5	2.79	0.51
12:G:73:ASN:HD21	29:X:547:U:H1'	1.76	0.51
21:P:38:VAL:HG22	21:P:64:ALA:CB	2.41	0.51
29:X:462:G:O6	29:X:465:C:OP1	2.28	0.51
29:X:1053:G:C2'	29:X:1054:C:O4'	2.59	0.51
29:X:1782:A:N1	29:X:1821:A:H5'	2.26	0.51
9:D:119:PRO:HG2	9:D:120:ASN:N	2.20	0.51
17:L:106:ALA:O	17:L:109:GLU:HG2	2.11	0.51
9:D:88:LYS:NZ	29:X:2293:G:OP1	2.42	0.51
31:Z:29:C:C5	31:Z:30:C:C5	2.99	0.51
31:Z:49:C:H5'	31:Z:50:U:OP2	2.10	0.51
28:W:14:GLY:O	28:W:18:LYS:HG2	2.10	0.51
29:X:490:A:O2'	29:X:492:G:H5''	2.11	0.51
15:J:128:ILE:CD1	15:J:130:THR:HG23	2.42	0.51
15:J:31:GLY:CA	15:J:108:ALA:HB2	2.40	0.51
14:I:63:ARG:CZ	29:X:2394:G:P	2.99	0.51
29:X:2322:U:H4'	29:X:2323:U:OP1	2.11	0.51
13:H:25:LEU:HD11	13:H:52:VAL:CG2	2.40	0.51
11:F:52:ILE:H	11:F:73:PRO:HG2	1.75	0.51
29:X:79:G:H2'	29:X:80:A:O4'	2.11	0.51
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.75	0.51
12:G:67:ARG:HB3	12:G:70:PHE:CB	2.40	0.51
19:N:93:LYS:HD2	20:O:10:LYS:HZ1	1.76	0.51
26:U:41:VAL:O	26:U:42:GLN:CB	2.59	0.51
29:X:1361:G:C6	29:X:1615:C:N4	2.78	0.51
29:X:2778:U:H5'	29:X:2779:C:H1'	1.93	0.51
29:X:1495:G:H5'	29:X:1574:A:C2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.41	0.51
29:X:2635:U:OP2	29:X:2643:G:N1	2.31	0.51
27:V:7:ARG:C	27:V:9:LEU:H	2.13	0.51
29:X:2228:U:C5'	29:X:2229:G:OP2	2.57	0.51
29:X:2429:A:OP1	29:X:2476:A:C8	2.64	0.51
14:I:36:GLY:O	14:I:37:GLN:HB2	2.11	0.51
29:X:774:A:C8	29:X:774:A:C3'	2.94	0.51
29:X:242:A:H2'	29:X:243:G:O4'	2.10	0.51
29:X:1332:G:C2	29:X:1333:G:N2	2.79	0.51
7:B:129:HIS:CE1	29:X:1692:C:N3	2.79	0.51
29:X:194:G:H2'	29:X:195:A:O4'	2.10	0.51
29:X:2284:U:C2'	29:X:2285:U:H5''	2.41	0.51
29:X:1757:C:O2	29:X:1970:G:C2	2.64	0.51
13:H:125:LYS:O	13:H:128:SER:HB2	2.10	0.51
13:H:78:SER:HA	13:H:91:PHE:O	2.11	0.51
12:G:106:TYR:O	12:G:108:GLY:N	2.38	0.50
19:N:11:ARG:O	19:N:15:LYS:HG3	2.11	0.50
19:N:22:LYS:C	19:N:24:PHE:H	2.14	0.50
23:R:95:ARG:NH1	23:R:106:VAL:HG12	2.25	0.50
21:P:36:ARG:NH2	29:X:1279:G:H5''	2.26	0.50
29:X:341:A:O2'	29:X:342:G:H8	1.92	0.50
29:X:469:G:O2'	29:X:470:U:P	2.68	0.50
29:X:591:G:H2'	29:X:592:G:H8	1.74	0.50
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.89	0.50
6:A:77:ALA:CB	6:A:97:TYR:CD1	2.87	0.50
18:M:28:ARG:CB	18:M:29:PRO:CD	2.73	0.50
28:W:14:GLY:O	28:W:17:VAL:HB	2.11	0.50
15:J:8:THR:HA	15:J:70:PHE:HZ	1.77	0.50
7:B:52:ALA:HB3	7:B:76:ARG:HD2	1.92	0.50
14:I:80:LEU:CD2	14:I:97:ARG:NH2	2.74	0.50
29:X:1542:G:N2	29:X:1562:G:N1	2.42	0.50
9:D:110:ARG:HH21	9:D:110:ARG:HG2	1.75	0.50
9:D:65:PRO:HB3	9:D:89:VAL:CG2	2.39	0.50
29:X:2288:A:H2'	29:X:2289:A:C8	2.45	0.50
11:F:83:GLY:C	11:F:84:ILE:HG13	2.31	0.50
29:X:1731:C:C3'	29:X:1732:U:C5'	2.89	0.50
14:I:36:GLY:O	14:I:37:GLN:HG3	2.11	0.50
14:I:76:LYS:HB3	14:I:79:GLN:NE2	2.26	0.50
29:X:1652:G:C4	29:X:1653:C:C5	2.99	0.50
29:X:1563:U:H2'	29:X:1564:U:H6	1.72	0.50
27:V:62:ARG:O	27:V:66:GLN:HA	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:136:ARG:HH11	7:B:136:ARG:HG2	1.76	0.50
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.47	0.50
23:R:95:ARG:CG	23:R:105:ARG:O	2.58	0.50
29:X:1032:A:C8	29:X:1032:A:H3'	2.46	0.50
29:X:1261:G:O2'	29:X:1262:U:P	2.69	0.50
29:X:1996:A:C2'	29:X:1997:A:H5'	2.41	0.50
29:X:2756:A:H4'	29:X:2757:G:H5''	1.93	0.50
29:X:27:G:HO2'	29:X:28:A:H8	1.60	0.50
6:A:111:LEU:HD21	6:A:127:LEU:O	2.11	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
9:D:29:PRO:HA	9:D:159:THR:OG1	2.09	0.50
17:L:42:ILE:HG22	17:L:51:LEU:HB2	1.93	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.10	0.50
29:X:754:G:C6	29:X:770:U:O2	2.64	0.50
24:S:97:PRO:HB2	24:S:99:HIS:CE1	2.45	0.50
19:N:66:ASN:HD22	19:N:70:ARG:HH22	1.59	0.50
29:X:2707:G:H8	29:X:2707:G:H5'	1.76	0.50
18:M:39:VAL:HA	18:M:45:THR:HA	1.93	0.50
29:X:176:A:C3'	29:X:177:U:C5	2.88	0.50
29:X:1042:G:H2'	29:X:1043:A:C8	2.47	0.50
10:E:97:LYS:O	10:E:98:LEU:HB3	2.11	0.50
15:J:79:PRO:CD	15:J:88:LYS:NZ	2.74	0.50
23:R:52:ASN:HD21	23:R:71:GLN:CG	2.23	0.50
6:A:163:VAL:HG12	6:A:163:VAL:O	2.11	0.50
29:X:1391:A:H1'	29:X:1392:U:C4	2.46	0.50
30:Y:43:HIS:C	30:Y:44:HIS:CD2	2.84	0.50
29:X:2016:A:N6	29:X:2019:C:C2	2.80	0.50
29:X:165:G:H1'	29:X:1378:A:N6	2.26	0.50
29:X:182:G:C2'	29:X:183:U:OP2	2.59	0.50
29:X:1949:A:H1'	29:X:2572:U:H5'	1.92	0.50
27:V:62:ARG:HG2	27:V:62:ARG:NH1	2.27	0.50
29:X:1139:A:O2'	29:X:1140:A:O4'	2.28	0.50
29:X:1762:C:H2'	29:X:1763:G:O4'	2.11	0.50
23:R:24:VAL:HG11	23:R:29:HIS:HB2	1.92	0.50
29:X:1034:U:H2'	29:X:1035:G:H5'	1.92	0.50
29:X:2031:A:H2'	29:X:2032:G:O4'	2.11	0.50
29:X:2038:C:H2'	29:X:2483:U:C4'	2.42	0.50
23:R:13:LYS:NZ	29:X:349:G:OP1	2.29	0.50
8:C:3:GLN:NE2	8:C:4:ILE:CG1	2.71	0.50
29:X:2829:A:C6	29:X:2839:G:C6	2.99	0.50
17:L:42:ILE:CG2	17:L:51:LEU:HB2	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:32:ARG:HG2	26:U:34:THR:N	2.25	0.50
28:W:22:ALA:O	28:W:24:GLY:N	2.44	0.50
29:X:861:G:H1'	29:X:944:A:N3	2.26	0.50
26:U:49:LYS:CD	26:U:61:TRP:HA	2.41	0.50
7:B:53:PRO:HD3	18:M:5:ILE:HG22	1.93	0.50
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.93	0.50
27:V:14:PHE:HE2	27:V:57:LYS:N	2.09	0.50
9:D:108:LEU:HA	9:D:111:ILE:HD12	1.92	0.50
9:D:74:ILE:HG23	9:D:79:LEU:C	2.31	0.50
29:X:1357:U:C2'	29:X:1358:C:OP1	2.60	0.50
7:B:1:MET:CG	7:B:2:LYS:N	2.73	0.50
29:X:2651:U:O2	29:X:2652:G:C8	2.64	0.50
29:X:172:A:C6	29:X:175:C:C5	3.00	0.50
29:X:171:G:C6	29:X:179:U:C2	2.98	0.50
21:P:53:ALA:HB3	21:P:72:LEU:HD21	1.92	0.50
10:E:103:LEU:HD21	10:E:105:MET:HE3	1.93	0.50
22:Q:66:GLY:C	22:Q:68:PHE:H	2.06	0.50
29:X:1194:U:C5'	29:X:1194:U:H6	2.18	0.50
29:X:1363:C:O2'	29:X:1364:C:H5'	2.11	0.50
29:X:1284:G:OP2	29:X:1285:A:OP1	2.30	0.50
29:X:1517:C:H2'	29:X:1518:C:C6	2.43	0.50
29:X:1332:G:C2	29:X:1333:G:C2	2.98	0.50
8:C:122:GLY:C	8:C:124:ASP:H	2.14	0.50
4:4:29:ASN:OD1	4:4:31:LYS:HD3	2.11	0.50
22:Q:3:HIS:C	22:Q:5:ASP:H	2.12	0.50
29:X:1366:A:C6	29:X:1367:A:C6	2.99	0.50
29:X:2590:U:O2	30:Y:2:ALA:N	2.44	0.50
30:Y:52:TYR:O	30:Y:53:ASP:HB2	2.11	0.50
13:H:119:ARG:HH11	13:H:119:ARG:HG3	1.77	0.50
8:C:47:THR:CG2	8:C:84:PHE:H	2.24	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ1	1.74	0.50
29:X:342:G:H4'	29:X:343:A:OP1	2.10	0.50
6:A:252:LYS:HE3	6:A:253:PRO:HD2	1.93	0.50
6:A:252:LYS:O	6:A:253:PRO:C	2.50	0.50
29:X:2279:G:H2'	29:X:2280:A:H8	1.74	0.50
29:X:2299:A:C2	29:X:2312:A:C5	2.99	0.50
15:J:64:LYS:HG2	15:J:108:ALA:O	2.11	0.50
7:B:67:PHE:CE1	7:B:75:THR:HG22	2.47	0.50
27:V:1:MET:HG3	27:V:2:LYS:H	1.75	0.50
29:X:75:C:H2'	29:X:76:C:C5'	2.42	0.50
24:S:73:LYS:O	24:S:75:LYS:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:874:A:C2	31:Z:80:A:H2	2.29	0.50
19:N:91:ASN:HA	20:O:10:LYS:HZ2	1.76	0.50
29:X:2055:G:O2'	29:X:2056:C:H5'	2.11	0.50
29:X:176:A:H2'	29:X:2412:A:H61	1.77	0.50
6:A:62:TYR:CE2	29:X:1808:C:C4	3.00	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
29:X:956:A:H5'	29:X:957:G:OP2	2.11	0.50
24:S:3:LEU:HD13	24:S:33:ALA:N	2.25	0.50
29:X:2701:A:H2'	29:X:2702:G:O4'	2.11	0.50
29:X:2660:C:C2	29:X:2704:U:C4	2.99	0.50
8:C:191:ALA:O	8:C:194:GLU:O	2.29	0.50
29:X:670:U:H2'	29:X:671:A:C8	2.46	0.50
31:Z:4:C:C6	31:Z:4:C:C3'	2.95	0.50
29:X:1629:G:C6	29:X:1633:C:C5	3.00	0.50
29:X:994:A:H2'	29:X:995:A:C8	2.47	0.50
25:T:65:GLY:HA3	25:T:83:ALA:HA	1.92	0.50
29:X:1307:U:H2'	29:X:1308:C:O4'	2.11	0.50
29:X:1411:C:H2'	29:X:1412:C:H6	1.76	0.50
29:X:218:A:N6	29:X:232:A:H5''	2.26	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ2	1.76	0.50
23:R:96:LYS:CG	23:R:97:GLN:N	2.70	0.50
19:N:13:ARG:CZ	29:X:1264:C:H5''	2.41	0.50
29:X:2551:A:O2'	29:X:2552:C:OP2	2.28	0.50
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.74	0.50
6:A:70:ARG:HG2	6:A:190:TYR:CD1	2.44	0.50
29:X:2299:A:H2'	29:X:2312:A:N6	2.27	0.50
29:X:917:U:H2'	29:X:918:A:C5'	2.40	0.50
14:I:118:VAL:O	14:I:138:GLY:HA3	2.12	0.50
24:S:90:GLU:HA	24:S:90:GLU:OE1	2.12	0.50
27:V:21:ARG:O	27:V:25:LEU:N	2.37	0.50
8:C:147:LYS:HB2	8:C:184:ASP:OD2	2.11	0.50
9:D:52:LYS:O	9:D:56:GLU:HB2	2.11	0.50
26:U:19:ILE:HG22	26:U:41:VAL:O	2.12	0.50
22:Q:75:ARG:NH1	22:Q:75:ARG:CG	2.71	0.50
29:X:1681:A:C6	29:X:2706:U:C5	3.00	0.50
29:X:1926:U:H5''	29:X:1927:U:OP1	2.12	0.50
29:X:1938:U:O2'	29:X:1939:U:OP1	2.24	0.50
10:E:94:PHE:CD2	10:E:107:ILE:HG22	2.47	0.50
20:O:79:GLN:OE1	20:O:79:GLN:CA	2.58	0.50
11:F:101:TRP:HA	11:F:104:VAL:HG21	1.93	0.50
21:P:27:VAL:HG13	29:X:504:G:H4'	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1479:G:C2	29:X:1480:G:C4	2.99	0.50
6:A:79:VAL:HG12	6:A:113:VAL:HA	1.94	0.50
29:X:2165:A:H2'	29:X:2166:G:C8	2.45	0.50
29:X:581:A:N1	29:X:2012:A:H2	2.10	0.50
6:A:46:ARG:C	6:A:46:ARG:HD3	2.32	0.50
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.50
29:X:413:G:H8	29:X:413:G:O5'	1.94	0.50
19:N:12:ARG:O	19:N:13:ARG:C	2.50	0.50
29:X:1219:C:H2'	29:X:1220:G:O4'	2.11	0.50
30:Y:20:ARG:C	30:Y:22:HIS:H	2.15	0.50
6:A:200:GLU:CG	6:A:202:LYS:HB2	2.40	0.50
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
4:4:1:MET:HE2	4:4:33:LYS:HB3	1.94	0.50
17:L:38:ILE:CG1	17:L:39:TYR:N	2.74	0.50
24:S:19:ILE:HG22	24:S:20:ALA:N	2.26	0.50
29:X:641:G:N2	29:X:643:A:H3'	2.26	0.50
11:F:50:ASP:O	11:F:51:ALA:CB	2.60	0.50
29:X:555:U:C5	29:X:1233:A:H3'	2.47	0.50
29:X:1468:A:P	29:X:1468:A:C8	3.02	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
8:C:166:TRP:CE3	8:C:166:TRP:N	2.79	0.50
12:G:33:ILE:O	12:G:69:ASP:HB3	2.12	0.50
20:O:22:VAL:HA	20:O:91:THR:OG1	2.10	0.50
9:D:130:LEU:HD23	9:D:131:GLY:N	2.27	0.50
9:D:56:GLU:O	9:D:57:LEU:C	2.49	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.11	0.50
27:V:35:GLY:O	27:V:36:GLN:HB2	2.10	0.50
13:H:1:MET:CE	29:X:2706:U:H1'	2.41	0.50
16:K:10:LEU:HD23	16:K:17:ARG:HG2	1.94	0.50
10:E:107:ILE:HD13	10:E:107:ILE:H	1.76	0.50
29:X:186:C:O2'	29:X:187:U:H5'	2.10	0.50
12:G:154:GLU:O	12:G:157:PRO:HB2	2.10	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:1490:U:H3'	29:X:1490:U:P	2.52	0.50
16:K:24:GLN:CB	16:K:44:LEU:HD22	2.42	0.50
29:X:165:G:H2'	29:X:166:G:C5'	2.42	0.50
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.93	0.50
8:C:19:LEU:HA	8:C:20:PRO:O	2.10	0.50
29:X:859:U:H1'	29:X:860:U:N3	2.27	0.50
13:H:92:ASP:OD1	18:M:69:ARG:NH1	2.45	0.50
31:Z:78:A:H2'	31:Z:79:U:O4'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:55:THR:HG23	23:R:55:THR:O	2.11	0.50
7:B:133:LYS:O	7:B:134:TRP:C	2.49	0.50
7:B:136:ARG:NH1	7:B:136:ARG:CG	2.73	0.50
19:N:13:ARG:NH1	29:X:1264:C:H5'	2.27	0.50
14:I:13:ARG:NH1	29:X:1218:C:C4'	2.67	0.50
29:X:1223:G:C5'	29:X:1224:A:H5''	2.41	0.50
29:X:1995:G:O5'	29:X:1995:G:H8	1.94	0.50
29:X:1794:A:H2	29:X:1814:G:N3	2.10	0.50
6:A:252:LYS:HZ2	6:A:253:PRO:HD2	1.77	0.50
29:X:793:G:H21	29:X:796:A:N6	2.07	0.50
29:X:2314:A:O2'	29:X:2315:A:H8	1.95	0.50
31:Z:42:U:H1'	31:Z:47:A:H61	1.75	0.50
28:W:34:VAL:HG22	28:W:40:VAL:CG1	2.39	0.50
26:U:48:LYS:CG	26:U:49:LYS:N	2.54	0.50
29:X:1845:A:H2'	29:X:1846:A:C8	2.47	0.50
7:B:183:LEU:HD11	18:M:16:ILE:HG23	1.94	0.50
29:X:873:U:O2	29:X:873:U:H2'	2.12	0.50
9:D:111:ILE:HG22	9:D:114:PHE:HB2	1.92	0.50
6:A:50:THR:HG22	6:A:51:SER:N	2.26	0.50
29:X:2642:G:C2'	29:X:2643:G:H5'	2.41	0.50
29:X:1731:C:H2'	29:X:1732:U:H5''	1.94	0.50
29:X:2701:A:H2'	29:X:2702:G:C5'	2.41	0.50
11:F:100:ASN:HA	11:F:139:GLU:OE1	2.12	0.50
29:X:1336:G:H2'	29:X:1337:G:H5'	1.92	0.50
29:X:1624:A:C5	29:X:1627:C:C4	2.98	0.50
6:A:96:HIS:HE1	6:A:100:GLY:HA2	1.77	0.50
29:X:141:G:H2'	29:X:142:U:O4'	2.11	0.50
29:X:996:C:OP2	29:X:996:C:H3'	2.11	0.50
29:X:1419:G:H2'	29:X:1420:A:O4'	2.11	0.50
6:A:101:GLU:CD	6:A:103:ARG:HE	2.14	0.50
27:V:65:GLU:O	27:V:66:GLN:HB2	2.12	0.50
29:X:860:U:C2'	29:X:860:U:O2	2.60	0.50
29:X:1135:C:C2	29:X:1136:G:C8	2.99	0.50
29:X:330:C:C2	29:X:331:U:C6	3.00	0.50
29:X:455:A:H5''	29:X:456:C:OP1	2.12	0.50
29:X:463:C:C2	29:X:465:C:C5	3.00	0.50
29:X:1770:U:O2	29:X:1774:A:C6	2.65	0.50
29:X:1818:G:C5	29:X:1819:U:C5	2.99	0.50
8:C:117:LEU:CD2	8:C:117:LEU:C	2.80	0.50
17:L:27:LEU:HD23	17:L:44:ASP:HA	1.94	0.50
25:T:20:TYR:O	25:T:21:LEU:CB	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:86:LYS:HB2	29:X:2256:G:P	2.52	0.50
29:X:391:C:O2'	29:X:392:G:H5'	2.11	0.50
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.93	0.50
13:H:23:ARG:NH2	13:H:24:VAL:C	2.65	0.50
27:V:52:GLN:O	27:V:53:LEU:C	2.50	0.50
15:J:100:PRO:CB	24:S:74:ARG:HE	2.25	0.50
24:S:73:LYS:O	24:S:74:ARG:HB2	2.12	0.50
24:S:98:VAL:HG23	24:S:118:HIS:O	2.12	0.50
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.42	0.50
20:O:15:SER:HB3	20:O:95:ILE:O	2.12	0.50
29:X:1361:G:C6	29:X:1362:A:C6	3.00	0.50
29:X:2779:C:H6	29:X:2779:C:H3'	1.77	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
10:E:76:VAL:O	10:E:78:GLY:N	2.45	0.50
29:X:1524:C:H2'	29:X:1524:C:O2	2.10	0.50
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.38	0.50
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	2.09	0.50
24:S:71:MET:HA	24:S:78:PRO:HA	1.93	0.50
27:V:38:ALA:O	27:V:40:PRO:CD	2.59	0.50
31:Z:5:C:H2'	31:Z:6:C:C6	2.46	0.50
29:X:1685:A:N7	29:X:1691:G:C6	2.79	0.50
30:Y:42:SER:O	30:Y:43:HIS:HB2	2.11	0.50
29:X:1450:G:C2'	29:X:1451:C:H5'	2.41	0.50
29:X:1484:G:H2'	29:X:1485:U:O4'	2.12	0.50
10:E:83:TYR:OH	10:E:138:LYS:HD2	2.10	0.50
29:X:2243:C:H2'	29:X:2244:C:O4'	2.12	0.50
29:X:2738:A:OP2	29:X:2739:G:OP2	2.30	0.50
7:B:150:VAL:CG2	29:X:2598:C:C4'	2.90	0.50
29:X:1035:G:C8	29:X:1036:G:C8	2.99	0.50
29:X:1256:C:H2'	29:X:1257:U:O4'	2.12	0.50
23:R:4:PRO:HA	29:X:34:U:H1'	1.94	0.50
29:X:533:C:H1'	29:X:563:U:O2'	2.11	0.50
19:N:10:ARG:NH1	29:X:592:G:P	2.83	0.50
29:X:695:G:H2'	29:X:696:U:H6	1.75	0.50
30:Y:16:ARG:HD3	30:Y:20:ARG:NH1	2.24	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50
17:L:8:ARG:CB	17:L:8:ARG:NH1	2.71	0.50
28:W:43:MET:HE1	29:X:941:U:O2	2.12	0.50
26:U:14:VAL:O	26:U:15:VAL:CG2	2.60	0.50
29:X:2396:C:H2'	29:X:2397:A:O4'	2.11	0.50
14:I:107:LYS:HE3	29:X:647:G:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:7:GLN:H	10:E:8:PRO:CD	2.25	0.50
29:X:1475:U:O2	29:X:1475:U:H2'	2.12	0.50
29:X:731:A:H5''	29:X:731:A:N3	2.26	0.50
29:X:1557:G:O2'	29:X:1558:C:H5'	2.12	0.50
29:X:751:G:H2'	29:X:752:G:H8	1.68	0.50
29:X:2082:C:H2'	29:X:2083:G:H5'	1.93	0.50
19:N:50:ARG:HA	19:N:53:LYS:HG2	1.94	0.50
9:D:108:LEU:HA	9:D:111:ILE:HG13	1.94	0.50
29:X:2662:C:C2	29:X:2663:U:C5	3.00	0.50
29:X:2782:G:O6	29:X:2867:G:O6	2.30	0.50
7:B:1:MET:CG	7:B:2:LYS:H	2.24	0.50
22:Q:81:ARG:HG3	22:Q:81:ARG:NH1	2.26	0.50
22:Q:25:TYR:CE2	22:Q:82:LEU:HD11	2.47	0.50
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.26	0.50
29:X:1430:G:H2'	29:X:1431:U:O4'	2.11	0.50
29:X:1442:C:C4	29:X:1585:A:H5''	2.46	0.50
29:X:810:U:C3'	29:X:810:U:C6	2.95	0.50
29:X:2214:G:H2'	29:X:2215:C:O4'	2.12	0.50
29:X:1304:U:O2'	29:X:1305:C:H5'	2.12	0.50
7:B:117:MET:HB2	7:B:136:ARG:CD	2.42	0.49
14:I:13:ARG:NH2	14:I:13:ARG:CB	2.75	0.49
14:I:45:LYS:HG2	14:I:46:GLY:N	2.22	0.49
19:N:13:ARG:NH1	29:X:1264:C:C5'	2.75	0.49
29:X:531:G:C2	29:X:532:A:C5	3.00	0.49
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.49
6:A:182:LEU:HB2	6:A:268:ARG:HB2	1.93	0.49
6:A:197:GLY:O	6:A:199:ALA:O	2.30	0.49
29:X:1776:A:C8	29:X:1778:U:C5	3.00	0.49
29:X:1780:A:H2'	29:X:1781:C:O4'	2.12	0.49
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.42	0.49
9:D:12:VAL:C	9:D:16:LEU:HG	2.33	0.49
17:L:37:HIS:HD2	31:Z:29:C:O3'	1.94	0.49
17:L:41:GLN:HG2	17:L:43:ILE:CD1	2.42	0.49
17:L:89:PHE:CD1	17:L:91:ARG:NH2	2.80	0.49
9:D:63:GLN:HG3	9:D:95:ARG:NH2	2.27	0.49
15:J:113:GLU:O	15:J:115:ALA:N	2.45	0.49
29:X:2209:G:C5	29:X:2210:C:C5	3.00	0.49
29:X:1467:U:H3'	29:X:1468:A:C5'	2.42	0.49
11:F:23:VAL:HA	11:F:26:ALA:CB	2.40	0.49
12:G:35:LYS:O	12:G:36:ASN:CB	2.55	0.49
20:O:49:GLU:C	20:O:51:ALA:H	2.15	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:805:G:N7	29:X:2419:C:H1'	2.27	0.49
21:P:45:ILE:CD1	21:P:57:LEU:HG	2.35	0.49
29:X:1804:U:H2'	29:X:1805:G:C8	2.47	0.49
27:V:4:SER:HA	27:V:7:ARG:HG3	1.94	0.49
29:X:1182:U:H2'	29:X:1183:C:O5'	2.12	0.49
12:G:115:ALA:O	12:G:118:ALA:CB	2.56	0.49
12:G:44:VAL:HG12	12:G:45:ASP:N	2.27	0.49
29:X:2550:C:C4	29:X:2553:G:C8	3.00	0.49
25:T:31:VAL:C	25:T:35:ASN:HD22	2.15	0.49
24:S:64:ALA:CA	24:S:85:MET:HA	2.42	0.49
29:X:1842:G:H2'	29:X:1843:U:H6	1.77	0.49
29:X:1179:A:C2	29:X:1196:G:C2	3.00	0.49
13:H:119:ARG:HG3	13:H:119:ARG:NH1	2.27	0.49
29:X:919:U:O2'	29:X:920:G:H5'	2.12	0.49
29:X:1994:U:C2'	29:X:1995:G:H5'	2.41	0.49
7:B:141:ILE:CD1	29:X:2034:A:H4'	2.42	0.49
29:X:350:U:C6	29:X:350:U:O5'	2.61	0.49
29:X:777:A:O2'	29:X:778:G:P	2.70	0.49
9:D:10:ASP:C	9:D:14:PRO:HD2	2.32	0.49
29:X:2293:G:H2'	29:X:2294:U:C6	2.48	0.49
29:X:884:C:H2'	29:X:885:A:H8	1.77	0.49
7:B:183:LEU:HD21	18:M:16:ILE:CD1	2.24	0.49
10:E:12:PRO:O	10:E:15:VAL:HG13	2.13	0.49
29:X:78:C:O2'	29:X:79:G:H5'	2.11	0.49
13:H:46:HIS:O	13:H:47:VAL:C	2.50	0.49
11:F:7:ILE:HG22	11:F:8:VAL:N	2.27	0.49
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.43	0.49
24:S:117:VAL:HG22	24:S:168:VAL:CA	2.36	0.49
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.42	0.49
29:X:1385:C:H2'	29:X:1386:A:O4'	2.11	0.49
10:E:105:MET:HB3	10:E:107:ILE:HD11	1.94	0.49
29:X:154:U:H5'	29:X:155:G:OP2	2.11	0.49
29:X:2057:U:H6	29:X:2057:U:C5'	2.24	0.49
29:X:212:U:C2	29:X:443:A:C2	3.00	0.49
29:X:1348:C:H2'	29:X:1349:A:C8	2.44	0.49
29:X:1695:U:O2'	29:X:1696:C:H5'	2.12	0.49
29:X:1974:U:O2'	29:X:1975:G:H5''	2.12	0.49
29:X:1771:A:O2'	29:X:1772:C:OP1	2.29	0.49
29:X:768:U:H2'	29:X:769:C:O4'	2.11	0.49
29:X:141:G:O2'	29:X:142:U:H5'	2.12	0.49
29:X:571:U:O2'	29:X:581:A:O4'	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2742:G:O2'	29:X:2743:G:H5'	2.11	0.49
29:X:2753:C:O2'	29:X:2754:C:H5'	2.12	0.49
7:B:127:ALA:HB2	7:B:135:HIS:HE1	1.76	0.49
23:R:24:VAL:O	23:R:31:GLY:N	2.45	0.49
29:X:333:A:O4'	29:X:351:A:H1'	2.11	0.49
29:X:36:G:HO2'	29:X:462:G:C2'	2.25	0.49
29:X:564:U:H2'	29:X:565:A:H8	1.76	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
9:D:125:ARG:HB2	9:D:127:ASN:HD22	1.78	0.49
9:D:6:THR:HG22	9:D:7:LYS:N	2.26	0.49
29:X:863:C:H2'	29:X:864:C:C6	2.47	0.49
7:B:75:THR:HG23	7:B:76:ARG:H	1.76	0.49
14:I:105:PRO:O	14:I:106:VAL:HG23	2.11	0.49
29:X:847:C:H2'	29:X:848:A:C8	2.40	0.49
29:X:1459:U:H4'	29:X:1460:G:OP1	2.10	0.49
29:X:2797:G:H2'	29:X:2798:A:H5''	1.94	0.49
19:N:66:ASN:CB	19:N:70:ARG:NH1	2.59	0.49
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.47	0.49
20:O:36:LYS:HD2	20:O:55:THR:N	2.27	0.49
24:S:123:VAL:H	24:S:161:ALA:N	2.09	0.49
21:P:76:LYS:C	21:P:78:ASN:H	2.16	0.49
10:E:95:ARG:HG3	10:E:106:ASN:HB3	1.94	0.49
15:J:81:GLU:HG2	15:J:82:THR:N	2.28	0.49
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.49
29:X:1441:A:H4'	29:X:1442:C:O5'	2.12	0.49
7:B:159:HIS:CE1	7:B:162:MET:HB2	2.47	0.49
29:X:240:U:H2'	29:X:241:C:O4'	2.12	0.49
15:J:60:ARG:HH11	15:J:60:ARG:HG2	1.77	0.49
8:C:104:LEU:HD23	8:C:105:ALA:H	1.77	0.49
29:X:1278:A:O2'	29:X:1279:G:P	2.70	0.49
29:X:542:A:C2	29:X:2004:U:C2'	2.77	0.49
4:4:27:CYS:HG	4:4:32:HIS:CG	2.30	0.49
9:D:6:THR:O	9:D:10:ASP:HB2	2.12	0.49
31:Z:26:G:N3	31:Z:29:C:N4	2.60	0.49
26:U:27:ASP:H	26:U:32:ARG:HH21	1.60	0.49
15:J:30:PHE:CD1	15:J:66:TYR:CE2	3.00	0.49
24:S:17:SER:O	24:S:18:MET:HG2	2.13	0.49
13:H:76:ARG:NH2	18:M:75:GLU:OE2	2.46	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
11:F:35:MET:C	11:F:37:PHE:H	2.15	0.49
29:X:1560:A:N1	29:X:1561:A:C2	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:872:G:H2'	29:X:928:G:O6	2.11	0.49
29:X:1287:A:H2	29:X:1661:C:O2	1.95	0.49
29:X:789:G:O6	29:X:2055:G:OP1	2.31	0.49
21:P:112:GLY:O	21:P:113:SER:O	2.31	0.49
29:X:1372:A:N7	29:X:1373:G:N7	2.61	0.49
29:X:1386:A:N6	29:X:1387:G:C2	2.80	0.49
10:E:17:VAL:CG1	10:E:18:ASN:N	2.74	0.49
15:J:76:THR:HG21	15:J:88:LYS:O	2.13	0.49
29:X:2522:G:H21	29:X:2625:U:H5''	1.76	0.49
29:X:47:G:N3	29:X:48:A:C2	2.80	0.49
23:R:98:ILE:C	23:R:100:ASP:N	2.64	0.49
29:X:65:C:O2'	29:X:66:U:H5'	2.11	0.49
29:X:1578:U:C2	29:X:1579:G:C8	3.00	0.49
29:X:2526:U:H2'	29:X:2527:G:C8	2.45	0.49
29:X:2851:G:H5''	29:X:2851:G:H8	1.77	0.49
29:X:2532:G:C2	29:X:2562:G:H1'	2.47	0.49
8:C:158:ARG:C	8:C:160:ALA:H	2.16	0.49
8:C:104:LEU:HD12	8:C:175:VAL:HG21	1.93	0.49
8:C:43:ALA:HB1	8:C:86:PRO:C	2.31	0.49
8:C:48:ARG:HD2	8:C:48:ARG:N	2.24	0.49
23:R:48:VAL:HG12	23:R:50:GLY:H	1.76	0.49
29:X:1673:C:H2'	29:X:1674:C:H6	1.77	0.49
29:X:580:A:N7	29:X:584:A:C6	2.81	0.49
29:X:815:A:H2'	29:X:816:U:H6	1.77	0.49
6:A:131:LEU:HD21	6:A:193:ILE:CG1	2.41	0.49
29:X:2201:G:H2'	29:X:2202:G:H8	1.77	0.49
17:L:102:ALA:O	17:L:104:ALA:N	2.46	0.49
26:U:32:ARG:NE	26:U:32:ARG:N	2.35	0.49
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.40	0.49
7:B:38:THR:HG22	7:B:39:ALA:N	2.28	0.49
11:F:54:PRO:HD2	11:F:71:THR:O	2.11	0.49
29:X:1468:A:C5'	29:X:1472:C:H42	2.23	0.49
27:V:43:VAL:O	27:V:46:LEU:HB2	2.12	0.49
29:X:1594:U:H2'	29:X:1595:A:H8	1.77	0.49
9:D:71:LYS:HE2	29:X:2277:A:OP1	2.13	0.49
29:X:1246:G:O2'	29:X:1247:U:H5'	2.13	0.49
16:K:60:LEU:CD1	16:K:64:ARG:NE	2.72	0.49
29:X:119:G:H2'	29:X:120:G:H8	1.76	0.49
29:X:118:U:O2'	29:X:119:G:OP2	2.23	0.49
29:X:2522:G:H2'	29:X:2523:G:O4'	2.12	0.49
29:X:1427:G:H21	29:X:1604:A:H62	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:84:ASN:CA	12:G:153:GLY:O	2.61	0.49
29:X:1842:G:O2'	29:X:1843:U:H5'	2.12	0.49
29:X:1569:A:C6	29:X:1571:G:C4	3.00	0.49
29:X:1352:G:H2'	29:X:1353:A:C8	2.48	0.49
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.60	0.49
29:X:353:G:H2'	29:X:354:C:H6	1.78	0.49
29:X:55:A:H2'	29:X:56:C:C6	2.48	0.49
6:A:60:ARG:NH2	29:X:1583:A:OP1	2.46	0.49
28:W:45:LYS:HA	28:W:45:LYS:HE3	1.94	0.49
8:C:24:SER:O	8:C:25:GLY:C	2.51	0.49
23:R:25:LEU:C	23:R:25:LEU:HD22	2.33	0.49
29:X:455:A:H1'	29:X:1215:A:O4'	2.13	0.49
29:X:2026:C:H1'	29:X:2759:U:O4	2.13	0.49
29:X:632:A:C2	29:X:633:G:C5	3.01	0.49
29:X:692:C:O2	29:X:693:A:C8	2.65	0.49
29:X:1053:G:O2'	29:X:1054:C:O4'	2.19	0.49
6:A:169:GLU:HB3	6:A:172:TYR:O	2.12	0.49
29:X:1782:A:C6	29:X:1821:A:H5'	2.47	0.49
9:D:122:PHE:CE2	9:D:129:ASN:O	2.65	0.49
9:D:34:ILE:HA	9:D:155:THR:O	2.13	0.49
17:L:15:ARG:HH21	29:X:2272:A:P	2.35	0.49
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.78	0.49
29:X:937:C:C4	29:X:938:G:N7	2.81	0.49
26:U:75:TYR:O	26:U:76:LYS:CB	2.60	0.49
11:F:54:PRO:CG	11:F:70:LYS:HB2	2.30	0.49
29:X:1476:G:C6	29:X:1477:C:C4	3.01	0.49
15:J:40:PRO:HG3	15:J:99:LYS:HZ1	1.77	0.49
29:X:929:A:C2	31:Z:81:C:O2	2.66	0.49
29:X:663:G:H3'	29:X:664:C:C5'	2.25	0.49
20:O:11:GLN:OE1	20:O:38:LEU:HD12	2.13	0.49
9:D:81:GLN:CG	9:D:82:GLY:H	2.06	0.49
22:Q:53:ILE:CG1	22:Q:54:SER:H	2.23	0.49
29:X:2239:C:C2	29:X:2240:C:C5	3.00	0.49
29:X:1373:G:H2'	29:X:1374:G:C5'	2.43	0.49
29:X:1324:G:H4'	29:X:1325:U:OP1	2.12	0.49
7:B:203:LYS:HE3	29:X:2713:A:N1	2.28	0.49
29:X:1699:A:C2	29:X:1700:C:C2	3.01	0.49
29:X:403:A:OP2	29:X:403:A:H3'	2.13	0.49
29:X:438:G:O2'	29:X:439:C:H5'	2.13	0.49
29:X:1684:G:O2'	29:X:1974:U:O4	2.30	0.49
29:X:1695:U:O2	29:X:1974:U:O4'	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:62:PHE:HB3	24:S:85:MET:CE	2.43	0.49
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.61	0.49
29:X:192:G:C4'	29:X:193:A:H4'	2.42	0.49
22:Q:15:LYS:HD3	29:X:1406:A:H62	1.77	0.49
29:X:1687:C:P	29:X:1688:U:H5	2.36	0.49
12:G:135:LEU:O	12:G:136:PRO:C	2.51	0.49
7:B:172:VAL:HG12	7:B:172:VAL:O	2.10	0.49
7:B:141:ILE:HG23	7:B:154:LYS:CD	2.43	0.49
19:N:7:GLY:O	19:N:8:ILE:CG1	2.59	0.49
29:X:1673:C:C2	29:X:1674:C:C5	3.01	0.49
29:X:683:A:H4'	29:X:684:C:C5'	2.39	0.49
6:A:147:LEU:O	6:A:148:VAL:HG23	2.12	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
6:A:250:TRP:O	6:A:255:LYS:CD	2.60	0.49
29:X:1965:U:C2	29:X:1966:C:C5	3.01	0.49
9:D:29:PRO:O	9:D:169:LEU:HD13	2.13	0.49
9:D:5:LYS:C	9:D:8:TYR:HB3	2.32	0.49
17:L:8:ARG:O	17:L:9:ARG:C	2.49	0.49
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.94	0.49
15:J:71:PRO:CA	15:J:96:SER:HB2	2.43	0.49
26:U:53:GLU:OE1	26:U:58:LYS:N	2.37	0.49
26:U:49:LYS:CB	26:U:61:TRP:CE3	2.84	0.49
15:J:18:MET:HG2	15:J:19:THR:N	2.27	0.49
24:S:106:GLY:N	24:S:109:GLN:HG3	2.28	0.49
10:E:101:LYS:HB2	10:E:117:PRO:HG3	1.95	0.49
29:X:1095:A:H2'	29:X:1096:A:C5'	2.41	0.49
29:X:1858:C:H2'	29:X:1859:A:O4'	2.13	0.49
30:Y:25:LEU:N	30:Y:25:LEU:HD12	2.27	0.49
24:S:3:LEU:HB2	24:S:34:LEU:HA	1.94	0.49
19:N:31:GLN:CD	29:X:589:C:H4'	2.33	0.49
12:G:154:GLU:N	12:G:157:PRO:HD2	2.26	0.49
12:G:155:THR:HG23	12:G:156:HIS:N	2.21	0.49
14:I:76:LYS:C	14:I:79:GLN:HG2	2.31	0.49
29:X:2261:G:H5'	29:X:2262:C:C4'	2.42	0.49
29:X:242:A:N6	29:X:440:U:H2'	2.24	0.49
29:X:1177:U:C2	29:X:1198:C:O2	2.66	0.49
13:H:7:ARG:HH12	13:H:20:MET:CE	2.25	0.49
29:X:165:G:H2'	29:X:166:G:H5'	1.94	0.49
29:X:182:G:H1'	29:X:183:U:H5	1.77	0.49
31:Z:75:A:N3	31:Z:75:A:H2'	2.28	0.49
29:X:11:G:O5'	29:X:11:G:H8	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:46:ARG:HA	8:C:51:VAL:HG21	1.93	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49
29:X:545:C:O2'	29:X:546:A:H5'	2.13	0.49
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.42	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
9:D:10:ASP:HA	9:D:14:PRO:CG	2.42	0.49
17:L:76:ALA:HB1	17:L:110:GLY:C	2.33	0.49
29:X:2395:C:C2'	29:X:2396:C:H5'	2.42	0.49
29:X:1482:U:OP2	29:X:1562:G:O2'	2.30	0.49
27:V:30:PHE:O	27:V:31:GLN:C	2.50	0.49
16:K:10:LEU:O	16:K:11:ASN:OD1	2.31	0.49
10:E:18:ASN:O	10:E:20:GLN:N	2.46	0.49
11:F:83:GLY:O	11:F:84:ILE:CG1	2.61	0.49
29:X:1920:A:C5	29:X:1922:U:C5	3.01	0.49
29:X:1927:U:O2'	29:X:1928:G:OP1	2.29	0.49
12:G:46:ALA:HB3	12:G:85:ALA:H	1.77	0.49
14:I:77:LEU:HB3	14:I:112:GLY:N	2.28	0.49
14:I:54:SER:HA	14:I:58:ALA:HB3	1.95	0.49
30:Y:31:THR:HG22	30:Y:32:GLU:N	2.27	0.49
24:S:112:LEU:O	24:S:172:LEU:HB2	2.12	0.49
29:X:2284:U:C3'	29:X:2285:U:H5''	2.42	0.49
29:X:1025:A:O2'	29:X:1026:U:H5'	2.13	0.49
29:X:921:A:C6	29:X:924:C:C2	3.01	0.49
10:E:27:LYS:HG2	10:E:32:GLU:HB2	1.95	0.49
8:C:145:THR:O	8:C:146:GLU:OE2	2.30	0.49
29:X:1679:U:H2'	29:X:1680:U:O4'	2.12	0.49
8:C:60:GLY:O	8:C:61:GLN:C	2.52	0.49
19:N:27:SER:C	19:N:29:SER:N	2.66	0.49
23:R:97:GLN:CB	23:R:101:GLY:HA2	2.28	0.49
29:X:1142:G:H8	29:X:2008:C:H4'	1.76	0.49
29:X:328:A:H2'	29:X:329:C:C6	2.47	0.49
29:X:2827:G:C6	29:X:2828:C:N3	2.81	0.49
9:D:119:PRO:O	9:D:167:ARG:NH2	2.46	0.49
17:L:39:TYR:O	17:L:40:ALA:C	2.51	0.49
29:X:2271:C:N4	29:X:2272:A:H62	2.09	0.49
19:N:47:TYR:O	19:N:51:ARG:HG2	2.13	0.49
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.48	0.49
26:U:17:SER:OG	26:U:45:ASN:N	2.46	0.49
7:B:75:THR:HG21	7:B:78:LEU:HD21	1.94	0.49
29:X:1241:G:O2'	29:X:1242:A:H5'	2.13	0.49
13:H:81:ILE:HD12	13:H:117:GLU:OE1	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:69:G:O2'	31:Z:70:C:H5'	2.13	0.49
20:O:71:ILE:CD1	29:X:1003:C:O2'	2.61	0.49
29:X:1022:A:C6	29:X:1162:A:C6	3.00	0.49
10:E:54:ARG:HD2	10:E:56:SER:O	2.13	0.49
29:X:1249:G:HO2'	29:X:1250:A:P	2.34	0.49
29:X:2236:U:C4	29:X:2237:C:N4	2.81	0.49
21:P:8:PHE:O	21:P:9:ARG:CB	2.52	0.49
10:E:41:LEU:CD1	10:E:64:LEU:HB3	2.43	0.49
29:X:2044:G:O2'	29:X:2046:C:H5	1.96	0.49
7:B:42:ASP:OD2	29:X:2764:U:C4'	2.61	0.49
21:P:71:VAL:HG11	21:P:126:ILE:HG23	1.91	0.49
12:G:44:VAL:CG1	12:G:45:ASP:N	2.75	0.49
7:B:33:ILE:HG21	7:B:36:ARG:HH12	1.77	0.49
23:R:59:LYS:CD	23:R:62:MET:HG3	2.42	0.49
16:K:99:ARG:NH1	16:K:99:ARG:HG2	2.28	0.49
29:X:2844:G:O2'	29:X:2845:C:H5'	2.13	0.49
22:Q:15:LYS:HG2	29:X:1404:C:O2	2.13	0.49
29:X:1606:C:O2'	29:X:1607:A:H5'	2.13	0.49
8:C:24:SER:O	8:C:28:HIS:N	2.41	0.49
8:C:40:ARG:NH1	29:X:453:U:O2'	2.46	0.49
12:G:103:TYR:CE1	12:G:111:LYS:CA	2.96	0.49
6:A:131:LEU:HD23	6:A:131:LEU:N	2.28	0.49
6:A:153:ALA:O	6:A:154:GLN:CG	2.59	0.49
6:A:68:LYS:HG2	6:A:69:ARG:H	1.78	0.49
29:X:2826:C:H2'	29:X:2827:G:C5'	2.43	0.49
9:D:7:LYS:O	9:D:11:GLN:HB2	2.12	0.49
9:D:122:PHE:O	9:D:123:ASP:C	2.51	0.49
9:D:9:ASN:O	9:D:14:PRO:HD2	2.13	0.49
31:Z:35:C:H2'	31:Z:36:A:C8	2.47	0.49
19:N:47:TYR:C	19:N:47:TYR:HD2	2.16	0.49
29:X:922:A:C2	29:X:923:A:C2	3.01	0.49
14:I:67:ASN:HB2	29:X:643:A:H4'	1.95	0.49
29:X:1235:C:H2'	29:X:1236:G:C8	2.48	0.49
27:V:41:HIS:CG	27:V:42:ARG:N	2.81	0.49
19:N:117:ARG:HG2	19:N:118:GLN:HG3	1.95	0.49
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.27	0.49
9:D:102:LYS:NZ	9:D:140:GLU:OE2	2.42	0.49
16:K:76:VAL:O	16:K:79:VAL:HG13	2.13	0.49
22:Q:35:LYS:O	22:Q:38:ILE:HG23	2.12	0.49
8:C:98:GLN:NE2	29:X:611:C:C4'	2.61	0.49
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2417:U:O2'	29:X:2418:A:H5''	2.13	0.49
29:X:177:U:H3'	29:X:178:C:H6	1.78	0.49
4:4:9:LYS:NZ	4:4:16:VAL:HG21	2.27	0.49
16:K:60:LEU:HD13	29:X:1469:U:H2'	1.95	0.49
29:X:2440:C:C2	29:X:2441:U:C5	3.01	0.49
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.46	0.49
29:X:2304:G:OP2	29:X:2304:G:H8	1.95	0.49
8:C:7:ILE:HB	8:C:120:VAL:H	1.78	0.49
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.49
11:F:116:ASN:OD1	29:X:1069:G:H1'	2.13	0.49
8:C:154:ASP:HB2	8:C:157:THR:CG2	2.43	0.49
29:X:572:G:C4	29:X:2001:G:C2	3.00	0.49
29:X:1411:C:C2	29:X:1412:C:C5	3.01	0.49
29:X:1371:G:H8	29:X:1371:G:O5'	1.95	0.49
8:C:46:ARG:HB3	8:C:51:VAL:HG23	1.94	0.48
8:C:48:ARG:CZ	8:C:87:LYS:HE2	2.43	0.48
12:G:107:GLN:HG2	29:X:1142:G:C8	2.48	0.48
12:G:116:ARG:NH2	12:G:126:VAL:HG13	2.28	0.48
19:N:24:PHE:CB	19:N:28:ARG:O	2.61	0.48
23:R:27:GLY:HA2	29:X:320:A:O3'	2.13	0.48
29:X:317:U:C3'	29:X:318:G:C5'	2.91	0.48
29:X:338:G:O6	29:X:343:A:C8	2.65	0.48
29:X:683:A:O2'	29:X:684:C:P	2.71	0.48
4:4:19:ARG:HH11	4:4:24:LEU:HD22	1.76	0.48
29:X:1770:U:C2	29:X:1774:A:C5	3.01	0.48
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.48
18:M:24:LEU:C	18:M:25:PRO:O	2.51	0.48
14:I:97:ARG:O	14:I:98:LEU:CB	2.61	0.48
29:X:2382:C:N4	29:X:2394:G:C6	2.80	0.48
29:X:1935:A:H2	29:X:2539:C:O2	1.95	0.48
11:F:57:ILE:CG2	11:F:58:THR:N	2.76	0.48
29:X:1089:C:H5''	29:X:1090:C:OP1	2.12	0.48
29:X:930:A:H61	29:X:2247:A:H8	1.56	0.48
31:Z:73:C:H2'	31:Z:74:A:O4'	2.13	0.48
29:X:753:U:C2	29:X:754:G:N7	2.81	0.48
29:X:1514:C:O4'	29:X:1593:C:C4'	2.61	0.48
29:X:1312:G:C5'	29:X:1313:U:OP1	2.60	0.48
21:P:109:ARG:HH11	21:P:115:ASN:ND2	2.10	0.48
29:X:2240:C:HO2'	29:X:2241:U:H5'	1.75	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
29:X:1734:C:H3'	29:X:1735:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1734:C:C6	29:X:1735:G:H1'	2.48	0.48
29:X:1735:G:C6	29:X:1736:C:C4	3.02	0.48
29:X:116:A:C5'	29:X:117:A:H8	2.18	0.48
29:X:2057:U:H3'	29:X:2058:U:H6	1.77	0.48
24:S:4:THR:CB	24:S:57:GLU:HB2	2.39	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.43	0.48
29:X:136:A:H8	29:X:136:A:O5'	1.95	0.48
24:S:152:ILE:HG22	24:S:153:LYS:O	2.13	0.48
29:X:2578:G:N2	29:X:2579:A:H1'	2.28	0.48
29:X:952:A:O2'	29:X:1204:G:H4'	2.13	0.48
8:C:48:ARG:C	8:C:50:GLN:H	2.15	0.48
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.44	0.48
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.96	0.48
23:R:28:LYS:O	23:R:29:HIS:CB	2.60	0.48
23:R:96:LYS:HG3	23:R:97:GLN:O	2.12	0.48
29:X:477:A:C2	29:X:809:C:O4'	2.66	0.48
29:X:1504:G:H21	29:X:1506:C:H41	1.61	0.48
29:X:1774:A:H5'	29:X:2587:G:H4'	1.95	0.48
17:L:10:LYS:CB	17:L:14:ARG:HH21	2.15	0.48
29:X:490:A:H1'	29:X:491:A:C8	2.47	0.48
15:J:37:ALA:HB2	15:J:104:MET:HE2	1.94	0.48
15:J:70:PHE:O	15:J:96:SER:OG	2.29	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
29:X:1873:A:H2	29:X:2213:G:N3	2.10	0.48
29:X:2067:U:H2'	29:X:2068:C:C6	2.47	0.48
7:B:4:ILE:HG23	7:B:5:LEU:N	2.28	0.48
13:H:133:VAL:O	18:M:38:LYS:NZ	2.41	0.48
11:F:89:SER:HA	29:X:1075:C:O2'	2.13	0.48
29:X:1236:G:N2	29:X:1239:A:OP2	2.40	0.48
29:X:2681:A:O2'	29:X:2682:C:H5'	2.13	0.48
27:V:56:VAL:HA	27:V:59:GLU:OE1	2.13	0.48
29:X:872:G:H2'	29:X:928:G:H1	1.78	0.48
19:N:84:LYS:CA	19:N:92:ARG:NH2	2.76	0.48
29:X:1002:C:O2	29:X:1175:A:C2	2.66	0.48
9:D:138:PHE:CZ	9:D:152:MET:SD	3.06	0.48
16:K:16:ALA:O	16:K:18:VAL:N	2.45	0.48
10:E:108:GLY:O	29:X:2645:C:N4	2.42	0.48
10:E:109:TYR:CE1	10:E:152:ARG:NH1	2.80	0.48
29:X:428:A:C5	29:X:429:C:C4	3.01	0.48
22:Q:51:ILE:HD12	22:Q:81:ARG:HG2	1.94	0.48
29:X:958:G:C4	29:X:959:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:40:LEU:CD1	21:P:62:ARG:HH12	2.26	0.48
7:B:109:LYS:HZ3	29:X:2703:C:P	2.36	0.48
12:G:162:LYS:HZ2	29:X:5:A:H1'	1.74	0.48
12:G:47:SER:O	12:G:49:VAL:HG23	2.13	0.48
29:X:395:G:C4	29:X:406:G:N2	2.81	0.48
29:X:1587:A:C2	29:X:1588:A:C4	3.01	0.48
29:X:1685:A:H4'	29:X:1686:A:O5'	2.12	0.48
29:X:1536:G:C2	29:X:1537:U:C2	3.00	0.48
8:C:19:LEU:HA	8:C:20:PRO:C	2.33	0.48
29:X:43:A:H8	29:X:43:A:O5'	1.96	0.48
7:B:120:TRP:O	7:B:121:ASN:CB	2.58	0.48
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.22	0.48
23:R:101:GLY:C	23:R:103:LYS:N	2.66	0.48
23:R:6:ALA:O	23:R:8:SER:N	2.46	0.48
29:X:1145:C:C5	29:X:1147:G:P	3.06	0.48
29:X:2007:G:C2	29:X:2023:C:C2	3.01	0.48
6:A:143:HIS:CE1	6:A:192:THR:HG22	2.48	0.48
17:L:46:SER:OG	17:L:47:ARG:N	2.46	0.48
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.77	0.48
15:J:28:VAL:HG22	15:J:134:LYS:O	2.13	0.48
15:J:27:TYR:CB	15:J:137:VAL:CG1	2.91	0.48
7:B:67:PHE:CD2	7:B:74:PRO:HA	2.48	0.48
29:X:640:C:C4	29:X:641:G:N7	2.82	0.48
11:F:27:LEU:HA	11:F:30:TYR:CE2	2.48	0.48
24:S:141:MET:SD	24:S:147:ILE:CG1	2.99	0.48
29:X:1002:C:C2	29:X:1003:C:C5	3.01	0.48
29:X:1174:G:H2'	29:X:1175:A:H8	1.76	0.48
9:D:106:ILE:O	9:D:107:GLY:C	2.51	0.48
29:X:2673:G:C6	29:X:2696:A:C6	3.01	0.48
29:X:1711:C:H4'	29:X:1712:G:C5'	2.36	0.48
29:X:222:G:H2'	29:X:223:C:H6	1.77	0.48
29:X:2404:A:H1'	29:X:2406:C:C4	2.48	0.48
29:X:2190:A:C8	29:X:2190:A:C3'	2.87	0.48
29:X:1920:A:C6	29:X:1922:U:H5	2.31	0.48
10:E:37:TYR:CE2	10:E:68:THR:HG23	2.47	0.48
29:X:971:A:H4'	29:X:2436:U:H4'	1.96	0.48
16:K:99:ARG:NH2	29:X:2792:C:OP1	2.39	0.48
29:X:1331:G:N2	29:X:1332:G:H1'	2.29	0.48
29:X:2559:U:C2'	29:X:2560:G:H5'	2.44	0.48
14:I:49:PHE:O	14:I:50:GLU:HG2	2.14	0.48
30:Y:44:HIS:CD2	30:Y:44:HIS:N	2.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:96:C:H2'	31:Z:97:C:C6	2.48	0.48
21:P:44:VAL:HG21	21:P:60:ILE:HD11	1.95	0.48
10:E:83:TYR:O	10:E:135:GLY:N	2.46	0.48
29:X:1269:G:N3	29:X:1269:G:H2'	2.27	0.48
29:X:1153:A:C4	29:X:1155:G:N7	2.82	0.48
29:X:340:G:C8	29:X:340:G:OP2	2.65	0.48
29:X:311:A:C5	29:X:345:U:H4'	2.48	0.48
12:G:142:ARG:NH1	29:X:538:A:H5''	2.25	0.48
30:Y:16:ARG:O	30:Y:20:ARG:HG3	2.14	0.48
6:A:93:ALA:HB3	6:A:105:ILE:O	2.13	0.48
29:X:1835:C:H2'	29:X:1836:C:C6	2.47	0.48
18:M:100:ARG:HD3	29:X:1744:G:H5''	1.96	0.48
19:N:47:TYR:CD1	20:O:73:LYS:HG2	2.49	0.48
7:B:27:LEU:HD23	7:B:27:LEU:O	2.14	0.48
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.43	0.48
24:S:117:VAL:HG23	24:S:117:VAL:O	2.12	0.48
9:D:60:ILE:HG13	9:D:61:THR:HG23	1.96	0.48
29:X:1631:C:C2'	29:X:1631:C:O2	2.62	0.48
29:X:170:U:O2'	29:X:171:G:H5'	2.13	0.48
29:X:1920:A:C6	29:X:1922:U:C5	3.02	0.48
10:E:94:PHE:CG	10:E:107:ILE:HG22	2.48	0.48
29:X:427:C:O2	29:X:1856:U:H4'	2.13	0.48
29:X:1730:G:C2'	29:X:1731:C:H5'	2.43	0.48
22:Q:68:PHE:O	22:Q:69:ILE:O	2.31	0.48
21:P:65:SER:O	21:P:66:GLU:C	2.51	0.48
14:I:38:LYS:CG	29:X:954:U:OP2	2.61	0.48
29:X:1428:G:H2'	29:X:1428:G:N3	2.29	0.48
7:B:131:SER:O	7:B:132:LYS:CG	2.59	0.48
29:X:1368:G:H2'	29:X:1369:G:O4'	2.12	0.48
7:B:159:HIS:CE1	7:B:162:MET:CB	2.97	0.48
6:A:138:VAL:HG22	6:A:167:GLY:HA2	1.95	0.48
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.44	0.48
8:C:173:ALA:HB1	8:C:193:LEU:HB2	1.95	0.48
8:C:43:ALA:CB	8:C:87:LYS:C	2.81	0.48
8:C:33:TRP:CG	8:C:95:LEU:HD12	2.49	0.48
29:X:1994:U:H2'	29:X:1995:G:C5'	2.43	0.48
29:X:2756:A:HO2'	29:X:2757:G:P	2.36	0.48
29:X:596:C:C2	29:X:684:C:H1'	2.47	0.48
6:A:68:LYS:HG2	6:A:69:ARG:N	2.28	0.48
17:L:18:ARG:HH12	29:X:2272:A:P	2.36	0.48
26:U:23:LYS:HB2	26:U:36:GLY:O	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:40:VAL:CG1	28:W:40:VAL:O	2.60	0.48
7:B:182:ILE:O	7:B:182:ILE:HG23	2.13	0.48
29:X:2266:A:C2	29:X:2268:G:H1'	2.49	0.48
29:X:873:U:O4	29:X:929:A:N7	2.46	0.48
29:X:2170:C:C2'	29:X:2171:U:H4'	2.41	0.48
12:G:70:PHE:CG	19:N:64:ARG:HG2	2.48	0.48
9:D:60:ILE:HA	9:D:140:GLU:HG3	1.95	0.48
29:X:2769:C:O2	29:X:2866:A:H2	1.97	0.48
16:K:16:ALA:O	16:K:19:ALA:N	2.45	0.48
29:X:1929:U:H2'	29:X:1930:C:C6	2.48	0.48
29:X:2634:G:C2'	29:X:2643:G:O6	2.58	0.48
24:S:3:LEU:HD12	24:S:3:LEU:C	2.33	0.48
29:X:1228:G:C6	29:X:1229:C:C4	3.02	0.48
29:X:1229:C:H2'	29:X:1230:C:C6	2.40	0.48
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.95	0.48
25:T:31:VAL:HG11	25:T:37:LEU:CD2	2.43	0.48
16:K:24:GLN:HB3	16:K:44:LEU:HD22	1.95	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
24:S:125:PRO:HG2	24:S:126:GLY:N	2.29	0.48
29:X:1687:C:H3'	29:X:1688:U:C6	2.47	0.48
7:B:141:ILE:HG21	7:B:150:VAL:CG1	2.43	0.48
23:R:82:ALA:C	23:R:83:LEU:HD12	2.34	0.48
6:A:209:ALA:CB	29:X:1781:C:H4'	2.43	0.48
29:X:1836:C:H2'	29:X:1837:G:H8	1.77	0.48
8:C:112:GLN:HA	8:C:116:LYS:CB	2.44	0.48
17:L:18:ARG:HH21	29:X:2271:C:P	2.36	0.48
17:L:42:ILE:HG22	17:L:42:ILE:O	2.13	0.48
26:U:24:ALA:O	26:U:25:ARG:HB2	2.13	0.48
15:J:36:ILE:HG12	15:J:103:VAL:HG23	1.95	0.48
29:X:2084:G:O2'	29:X:2085:G:H5'	2.13	0.48
29:X:2799:C:H2'	29:X:2800:C:O4'	2.14	0.48
19:N:108:ALA:O	19:N:112:ALA:N	2.39	0.48
19:N:79:PHE:CE2	19:N:80:ILE:HD13	2.48	0.48
20:O:13:ARG:CG	20:O:14:VAL:N	2.72	0.48
20:O:23:GLU:HB2	20:O:91:THR:HG21	1.95	0.48
9:D:132:ILE:HG22	9:D:133:LYS:N	2.28	0.48
29:X:2784:A:C6	29:X:2866:A:C8	3.02	0.48
29:X:2651:U:C2'	29:X:2652:G:O5'	2.61	0.48
16:K:13:ASN:HD21	16:K:16:ALA:H	1.60	0.48
29:X:1094:C:H2'	29:X:1096:A:H5'	1.95	0.48
29:X:1856:U:O3'	29:X:2388:G:N2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:38:LYS:CE	29:X:954:U:OP2	2.61	0.48
29:X:1657:A:H2'	29:X:1658:A:O4'	2.14	0.48
29:X:82:G:N2	29:X:100:G:H2'	2.28	0.48
29:X:2511:G:C6	29:X:2512:A:C5	3.02	0.48
29:X:17:G:C2	29:X:18:U:C2	3.01	0.48
29:X:435:A:C2	29:X:436:A:C2	3.01	0.48
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.13	0.48
12:G:108:GLY:O	12:G:110:LEU:CD2	2.61	0.48
12:G:125:ARG:HA	12:G:128:GLU:HB3	1.96	0.48
23:R:48:VAL:O	23:R:50:GLY:N	2.45	0.48
29:X:1273:G:H2'	29:X:1274:C:O4'	2.14	0.48
29:X:465:C:HO2'	29:X:467:U:H1'	1.77	0.48
29:X:624:A:N3	29:X:624:A:H5'	2.29	0.48
6:A:258:LYS:NZ	6:A:261:ARG:NE	2.53	0.48
6:A:68:LYS:N	6:A:152:GLY:HA2	2.27	0.48
29:X:2301:A:C6	29:X:2312:A:N6	2.77	0.48
15:J:30:PHE:HD1	15:J:66:TYR:CE2	2.32	0.48
13:H:24:VAL:HA	13:H:51:ILE:HG22	1.96	0.48
29:X:558:G:H8	29:X:559:C:C4	2.31	0.48
15:J:22:ALA:CB	15:J:100:PRO:O	2.55	0.48
29:X:875:G:C2'	29:X:876:A:H5'	2.44	0.48
29:X:1168:G:C2	29:X:1169:C:C2	3.02	0.48
9:D:151:GLY:O	9:D:152:MET:CB	2.62	0.48
26:U:19:ILE:O	29:X:393:U:H4'	2.13	0.48
29:X:2779:C:H2'	29:X:2780:A:C8	2.49	0.48
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.78	0.48
29:X:396:U:N3	29:X:398:C:C4	2.82	0.48
29:X:1538:A:H2'	29:X:1539:U:O4'	2.13	0.48
29:X:497:C:C6	29:X:497:C:H3'	2.48	0.48
7:B:109:LYS:NZ	29:X:2703:C:P	2.86	0.48
29:X:1830:C:N4	29:X:1881:U:C3'	2.77	0.48
29:X:1827:G:H1'	29:X:1914:U:C2	2.49	0.48
24:S:71:MET:CA	24:S:78:PRO:HA	2.42	0.48
29:X:2345:A:H2'	29:X:2346:G:C8	2.49	0.48
18:M:17:GLU:OE2	18:M:63:ARG:NH2	2.47	0.48
7:B:85:ALA:CB	7:B:86:PRO:CD	2.88	0.48
29:X:353:G:O2'	29:X:354:C:H5'	2.13	0.48
23:R:48:VAL:C	23:R:50:GLY:H	2.17	0.48
23:R:93:ARG:NH1	23:R:93:ARG:HG2	2.21	0.48
29:X:2040:A:O2'	29:X:2041:A:H5'	2.14	0.48
29:X:697:G:C2	29:X:807:A:C2	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:825:C:H2'	29:X:826:U:H6	1.78	0.48
30:Y:3:LYS:O	30:Y:4:HIS:C	2.52	0.48
6:A:91:ARG:HG2	6:A:198:ASN:OD1	2.14	0.48
29:X:1504:G:H2'	29:X:1505:U:O2	2.14	0.48
17:L:54:ALA:HB2	17:L:75:LEU:HA	1.96	0.48
31:Z:30:C:H42	31:Z:58:G:H1	1.62	0.48
26:U:11:LYS:HZ2	26:U:69:THR:HG21	1.79	0.48
29:X:1121:G:C2'	29:X:1122:A:C8	2.97	0.48
29:X:1002:C:N3	29:X:1003:C:H5	2.09	0.48
29:X:2692:A:H5'	29:X:2693:U:OP2	2.14	0.48
6:A:270:ILE:O	6:A:271:VAL:C	2.51	0.48
6:A:271:VAL:O	6:A:272:THR:OG1	2.29	0.48
6:A:239:ARG:HD3	29:X:2570:C:OP1	2.14	0.48
10:E:109:TYR:C	10:E:111:HIS:N	2.64	0.48
29:X:1736:C:H2'	29:X:1737:G:C8	2.48	0.48
29:X:576:A:C2	29:X:577:U:H1'	2.49	0.48
21:P:71:VAL:CG1	21:P:126:ILE:CG2	2.87	0.48
29:X:395:G:C2	29:X:406:G:C2	3.01	0.48
29:X:1626:A:H5''	29:X:1627:C:OP2	2.12	0.48
29:X:1332:G:C5	29:X:1333:G:N1	2.82	0.48
29:X:765:C:C5	29:X:1772:C:C2	3.02	0.48
29:X:1547:U:H2'	29:X:1548:U:C6	2.48	0.48
16:K:102:THR:HA	16:K:109:THR:HA	1.96	0.48
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.41	0.48
29:X:309:G:N2	29:X:352:G:O6	2.47	0.48
29:X:632:A:H3'	29:X:633:G:H8	1.78	0.48
29:X:694:G:C2	29:X:695:G:C4	3.02	0.48
6:A:246:PRO:O	6:A:247:VAL:C	2.51	0.48
17:L:11:LEU:HD21	29:X:2273:C:O5'	2.13	0.48
26:U:24:ALA:C	26:U:26:ALA:H	2.14	0.48
28:W:21:GLN:O	28:W:24:GLY:N	2.37	0.48
29:X:865:A:H61	29:X:937:C:H42	1.60	0.48
29:X:487:G:H4'	29:X:512:A:C6	2.48	0.48
15:J:125:LYS:HZ2	15:J:125:LYS:CA	2.27	0.48
15:J:116:LYS:HZ3	15:J:132:MET:HB3	1.79	0.48
7:B:27:LEU:O	7:B:29:GLY:N	2.47	0.48
14:I:108:LEU:H	14:I:125:ALA:HA	1.78	0.48
14:I:116:ARG:CG	14:I:117:ALA:N	2.77	0.48
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.78	0.48
29:X:649:G:N2	29:X:660:G:N2	2.62	0.48
10:E:6:LYS:O	10:E:7:GLN:HG3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2335:U:H2'	29:X:2336:G:C8	2.49	0.48
29:X:1399:C:C2	29:X:1400:A:C8	3.02	0.48
4:4:9:LYS:NZ	29:X:1043:A:H5''	2.29	0.48
29:X:833:A:N3	29:X:954:U:O2'	2.43	0.48
21:P:46:ARG:CG	21:P:46:ARG:NH1	2.72	0.48
29:X:1440:G:H3'	29:X:1441:A:C5'	2.40	0.48
29:X:1343:C:H2'	29:X:1344:C:C6	2.49	0.48
29:X:1329:U:H2'	29:X:1330:G:C8	2.44	0.48
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.96	0.48
29:X:140:G:H2'	29:X:141:G:C8	2.49	0.48
29:X:581:A:N1	29:X:2012:A:C2	2.82	0.48
29:X:982:C:OP2	29:X:985:G:N7	2.46	0.48
29:X:2511:G:H2'	29:X:2512:A:C8	2.48	0.48
21:P:82:ASN:OD1	29:X:506:G:H1'	2.13	0.48
4:4:17:VAL:HG12	4:4:18:ARG:N	2.28	0.48
8:C:67:ALA:H	29:X:1268:U:H5	1.53	0.48
14:I:11:GLY:C	14:I:13:ARG:N	2.66	0.48
21:P:117:ILE:CD1	29:X:1996:A:H4'	2.43	0.48
17:L:54:ALA:N	17:L:75:LEU:HD13	2.29	0.48
29:X:947:C:H2'	29:X:948:C:C6	2.49	0.48
29:X:947:C:C2	29:X:948:C:C5	3.01	0.48
15:J:106:GLU:N	15:J:106:GLU:OE1	2.47	0.48
26:U:78:ILE:CD1	26:U:79:GLU:O	2.61	0.48
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.44	0.48
14:I:86:THR:N	14:I:116:ARG:NH1	2.57	0.48
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.95	0.48
10:E:9:ILE:HB	10:E:50:LEU:O	2.13	0.48
27:V:6:MET:CE	27:V:52:GLN:HB3	2.43	0.48
20:O:19:VAL:CG1	20:O:90:PHE:CG	2.97	0.48
29:X:1513:U:C5'	29:X:1514:C:OP2	2.56	0.48
9:D:111:ILE:HA	9:D:137:ILE:HG21	1.95	0.48
29:X:2705:A:O2'	29:X:2706:U:C5	2.66	0.48
29:X:1313:U:H1'	29:X:1642:G:N2	2.28	0.48
29:X:2306:A:C5	29:X:2367:A:N1	2.82	0.48
29:X:2651:U:H2'	29:X:2652:G:O5'	2.14	0.48
25:T:17:ASN:ND2	29:X:2241:U:H5	2.10	0.48
29:X:227:G:H2'	29:X:228:A:C8	2.49	0.48
29:X:155:G:O2'	29:X:156:G:H5'	2.14	0.48
29:X:971:A:H4'	29:X:2436:U:H5'	1.95	0.48
24:S:3:LEU:HD11	24:S:5:ALA:O	2.14	0.48
7:B:203:LYS:CG	29:X:2713:A:N1	2.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:36:ASP:O	28:W:36:ASP:OD1	2.32	0.48
29:X:982:C:H2'	29:X:983:G:O5'	2.14	0.48
8:C:24:SER:HA	8:C:27:LEU:CD1	2.43	0.47
8:C:47:THR:HG23	8:C:85:GLY:N	2.18	0.47
8:C:62:LYS:HE3	29:X:2042:A:O3'	2.14	0.47
23:R:93:ARG:HH12	23:R:107:ALA:C	2.16	0.47
29:X:1301:U:O2'	29:X:1664:G:N2	2.38	0.47
29:X:1339:U:H5	29:X:1664:G:HO2'	1.59	0.47
29:X:566:U:O2'	29:X:567:G:H5'	2.15	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47
6:A:93:ALA:HB1	6:A:95:LEU:CD2	2.44	0.47
29:X:2824:C:H2'	29:X:2824:C:O2	2.14	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:2321:C:O2'	29:X:2353:G:OP1	2.31	0.47
18:M:91:VAL:CG1	18:M:92:THR:N	2.76	0.47
13:H:21:CYS:SG	13:H:22:ILE:N	2.87	0.47
29:X:1238:A:C2	29:X:1239:A:C2	3.02	0.47
29:X:1550:C:C2'	29:X:1553:G:N2	2.58	0.47
11:F:121:GLU:HA	11:F:124:ALA:HB3	1.96	0.47
19:N:88:ILE:HG23	20:O:49:GLU:CB	2.34	0.47
20:O:90:PHE:CD1	20:O:90:PHE:C	2.88	0.47
29:X:2289:A:H3'	29:X:2290:A:H8	1.78	0.47
22:Q:7:LEU:HD22	22:Q:8:GLN:N	2.28	0.47
29:X:1286:U:H4'	29:X:1288:A:OP2	2.13	0.47
25:T:3:HIS:C	25:T:4:LYS:HG2	2.35	0.47
15:J:92:GLU:OE1	15:J:92:GLU:HA	2.13	0.47
14:I:32:ARG:HD2	20:O:81:ARG:CG	2.44	0.47
29:X:1212:U:H2'	29:X:1213:U:H6	1.77	0.47
10:E:155:ASP:C	10:E:157:TYR:H	2.18	0.47
24:S:103:ARG:NH2	24:S:108:VAL:CG2	2.73	0.47
11:F:78:ILE:C	11:F:81:ALA:H	2.17	0.47
29:X:30:G:H2'	29:X:31:C:C6	2.49	0.47
7:B:136:ARG:O	7:B:137:ARG:HB2	2.14	0.47
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.97	0.47
23:R:77:HIS:C	23:R:79:SER:H	2.16	0.47
23:R:84:VAL:CG1	23:R:88:THR:O	2.61	0.47
29:X:828:C:C2	29:X:1207:G:C2	3.02	0.47
29:X:1256:C:H2'	29:X:1257:U:C6	2.49	0.47
29:X:815:A:H2'	29:X:816:U:C6	2.49	0.47
6:A:206:LEU:O	6:A:207:GLY:C	2.51	0.47
17:L:104:ALA:O	17:L:105:ASP:C	2.52	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:18:LYS:HB2	29:X:863:C:H4'	1.96	0.47
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.47
26:U:63:SER:O	26:U:64:ALA:C	2.52	0.47
13:H:116:ARG:HA	13:H:133:VAL:CG1	2.45	0.47
29:X:1091:C:O2'	29:X:1092:U:H5'	2.14	0.47
29:X:929:A:N6	29:X:930:A:C2	2.82	0.47
12:G:66:HIS:CG	19:N:71:LEU:HD12	2.49	0.47
19:N:86:ALA:O	19:N:88:ILE:N	2.47	0.47
19:N:93:LYS:HD2	20:O:10:LYS:NZ	2.29	0.47
20:O:13:ARG:O	20:O:14:VAL:CG2	2.62	0.47
9:D:80:ARG:N	9:D:80:ARG:HD2	2.29	0.47
9:D:67:ILE:O	9:D:69:LYS:N	2.47	0.47
29:X:1253:C:H5'	29:X:1253:C:C6	2.47	0.47
16:K:13:ASN:HD22	16:K:16:ALA:H	1.60	0.47
29:X:1920:A:C4	29:X:1922:U:C5	3.02	0.47
21:P:53:ALA:CB	21:P:72:LEU:HD21	2.44	0.47
21:P:11:LYS:O	21:P:12:LYS:C	2.53	0.47
29:X:2058:U:H1'	29:X:2576:G:N2	2.29	0.47
29:X:2046:C:O2	29:X:2429:A:N1	2.47	0.47
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.62	0.47
21:P:102:THR:CG2	21:P:102:THR:O	2.52	0.47
29:X:1391:A:N3	29:X:1392:U:C2	2.83	0.47
12:G:168:THR:O	12:G:169:GLN:C	2.52	0.47
16:K:44:LEU:O	16:K:45:ARG:C	2.53	0.47
29:X:2710:C:O2'	29:X:2711:G:H5'	2.14	0.47
29:X:2613:A:H2'	29:X:2614:A:H8	1.79	0.47
19:N:34:ASN:O	19:N:35:ALA:C	2.52	0.47
8:C:62:LYS:CG	8:C:63:GLY:N	2.77	0.47
16:K:105:GLY:HA2	29:X:1301:U:O4	2.14	0.47
29:X:1142:G:O2'	29:X:1143:A:P	2.72	0.47
29:X:343:A:OP2	29:X:343:A:C4	2.67	0.47
29:X:826:U:O2	29:X:827:C:C6	2.68	0.47
29:X:2494:C:N3	29:X:2549:G:C6	2.82	0.47
29:X:1818:G:C6	29:X:1819:U:C4	3.02	0.47
29:X:1744:G:O6	29:X:1747:G:C6	2.66	0.47
29:X:1724:C:C4	29:X:1747:G:C6	3.02	0.47
17:L:37:HIS:CG	17:L:37:HIS:O	2.67	0.47
29:X:2393:G:C6	29:X:2394:G:N7	2.82	0.47
29:X:613:A:C4	29:X:668:A:C2	3.02	0.47
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.43	0.47
18:M:72:SER:O	18:M:73:PHE:C	2.51	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1933:G:H2'	29:X:1934:U:H6	1.79	0.47
10:E:10:ALA:O	10:E:12:PRO:CD	2.62	0.47
29:X:358:C:H6	29:X:358:C:O5'	1.98	0.47
29:X:873:U:O4	29:X:929:A:C8	2.66	0.47
31:Z:16:U:HO2'	31:Z:110:U:C2'	2.27	0.47
24:S:146:HIS:O	24:S:147:ILE:HD13	2.14	0.47
19:N:109:LEU:O	19:N:112:ALA:HB3	2.14	0.47
19:N:76:TYR:O	19:N:77:SER:C	2.53	0.47
12:G:31:THR:OG1	29:X:1006:C:N3	2.45	0.47
28:W:54:GLN:CG	28:W:55:GLU:N	2.72	0.47
24:S:123:VAL:HG23	24:S:161:ALA:HB2	1.96	0.47
8:C:98:GLN:HE22	29:X:611:C:C5'	2.25	0.47
20:O:78:VAL:O	20:O:78:VAL:HG22	2.14	0.47
16:K:98:LEU:O	16:K:112:LEU:N	2.36	0.47
8:C:194:GLU:O	8:C:195:ILE:CG1	2.58	0.47
29:X:485:G:C4	29:X:520:C:C5	3.01	0.47
12:G:42:VAL:CG1	12:G:168:THR:HG23	2.43	0.47
29:X:614:G:C2'	29:X:615:C:H5'	2.45	0.47
29:X:2604:G:H2'	29:X:2605:C:O4'	2.15	0.47
19:N:37:GLN:HE22	29:X:572:G:N2	2.12	0.47
26:U:68:ARG:NH1	29:X:412:U:H5	2.12	0.47
7:B:136:ARG:HG2	7:B:137:ARG:H	1.79	0.47
8:C:44:SER:CB	29:X:37:C:H1'	2.44	0.47
14:I:43:ALA:CB	29:X:684:C:H41	2.27	0.47
19:N:21:ALA:CB	19:N:24:PHE:CD2	2.97	0.47
29:X:1301:U:C5'	29:X:1302:C:OP2	2.63	0.47
29:X:1339:U:H5''	29:X:1994:U:C1'	2.44	0.47
29:X:540:G:C2	29:X:2005:U:OP1	2.67	0.47
29:X:2029:G:O5'	30:Y:19:ARG:HA	2.13	0.47
29:X:2760:G:C2'	29:X:2761:A:OP1	2.61	0.47
29:X:322:A:O2'	29:X:343:A:H5'	2.14	0.47
8:C:162:ARG:CZ	29:X:333:A:H5''	2.44	0.47
29:X:826:U:N3	29:X:827:C:C4	2.82	0.47
29:X:2587:G:H8	29:X:2587:G:O5'	1.98	0.47
9:D:156:ILE:HG22	9:D:156:ILE:O	2.13	0.47
9:D:22:TYR:HD2	9:D:27:ALA:O	1.97	0.47
29:X:2311:U:C5'	29:X:2315:A:N6	2.72	0.47
17:L:89:PHE:CD2	29:X:2355:A:C2	3.03	0.47
28:W:49:HIS:CD2	31:Z:85:G:C5'	2.98	0.47
29:X:487:G:H4'	29:X:512:A:N6	2.28	0.47
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:59:VAL:HG12	7:B:64:GLN:HG3	1.95	0.47
14:I:65:PHE:HB3	29:X:642:A:O2'	2.14	0.47
29:X:2327:U:C4	29:X:2361:G:N2	2.82	0.47
13:H:76:ARG:NH1	13:H:113:PRO:O	2.43	0.47
31:Z:110:U:H2'	31:Z:110:U:O2	2.13	0.47
29:X:666:U:H3'	29:X:667:U:H5''	1.95	0.47
19:N:76:TYR:CE1	19:N:80:ILE:HG13	2.49	0.47
20:O:34:GLU:O	20:O:35:LEU:O	2.33	0.47
22:Q:53:ILE:CG1	22:Q:54:SER:N	2.77	0.47
29:X:1494:G:O2'	29:X:1574:A:H2	1.97	0.47
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.96	0.47
29:X:2386:G:H2'	29:X:2387:U:C6	2.49	0.47
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.80	0.47
29:X:2426:G:C4	29:X:2480:C:C4	3.02	0.47
29:X:6:A:C4	29:X:7:G:C8	3.01	0.47
29:X:1601:U:H4'	29:X:1602:G:OP2	2.14	0.47
29:X:1909:U:H5'	29:X:1911:A:OP2	2.14	0.47
29:X:1061:A:H2'	29:X:1062:G:C5'	2.44	0.47
24:S:64:ALA:HB2	24:S:85:MET:CE	2.45	0.47
16:K:41:ALA:O	16:K:44:LEU:N	2.47	0.47
29:X:2685:A:C2	29:X:2686:C:N1	2.82	0.47
18:M:69:ARG:HG3	18:M:70:LYS:N	2.30	0.47
29:X:2528:G:O2'	29:X:2529:G:H5'	2.14	0.47
29:X:2249:U:H2'	29:X:2250:G:O4'	2.13	0.47
29:X:597:U:H2'	29:X:598:U:C6	2.49	0.47
12:G:142:ARG:O	12:G:144:MET:N	2.48	0.47
29:X:1135:C:H2'	29:X:1136:G:C8	2.46	0.47
29:X:623:G:H3'	29:X:624:A:C5'	2.29	0.47
25:T:40:GLN:O	25:T:41:ARG:HD3	2.14	0.47
26:U:28:GLY:O	26:U:31:GLY:N	2.47	0.47
24:S:13:LYS:HZ2	24:S:18:MET:HB2	1.80	0.47
7:B:68:ALA:C	7:B:70:ALA:N	2.68	0.47
7:B:181:LEU:CD1	18:M:16:ILE:HD11	2.45	0.47
10:E:43:VAL:HG22	10:E:44:ARG:N	2.30	0.47
29:X:1544:A:N7	29:X:1545:G:C4	2.83	0.47
11:F:129:GLY:O	11:F:132:ARG:HB3	2.13	0.47
19:N:81:ASN:HD21	19:N:85:ARG:NE	2.12	0.47
9:D:135:GLN:O	9:D:138:PHE:CD1	2.67	0.47
26:U:20:ARG:CB	26:U:43:ARG:HD2	2.43	0.47
14:I:53:ARG:NH2	14:I:53:ARG:CG	2.78	0.47
29:X:2625:U:OP2	29:X:2625:U:H6	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:105:G:H5'	29:X:105:G:C8	2.48	0.47
29:X:1337:G:H4'	29:X:1632:A:N7	2.29	0.47
10:E:158:HIS:N	10:E:171:LEU:HD23	2.28	0.47
29:X:766:A:H8	29:X:766:A:O5'	1.97	0.47
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.96	0.47
16:K:44:LEU:HD11	16:K:48:VAL:HB	1.95	0.47
17:L:79:ALA:O	17:L:82:LYS:HB2	2.14	0.47
29:X:2859:U:OP2	30:Y:43:HIS:CE1	2.68	0.47
29:X:982:C:OP2	29:X:985:G:C8	2.67	0.47
11:F:1:MET:HB3	11:F:2:LYS:HD3	1.95	0.47
29:X:1412:C:HO2'	29:X:1413:U:P	2.37	0.47
18:M:50:PHE:CZ	18:M:70:LYS:HB3	2.48	0.47
7:B:15:TRP:CE2	18:M:86:PRO:HD3	2.50	0.47
7:B:117:MET:O	7:B:121:ASN:HA	2.15	0.47
12:G:131:VAL:C	12:G:133:GLY:H	2.18	0.47
29:X:1207:G:O2'	29:X:1208:A:H5'	2.14	0.47
29:X:2594:U:O2	29:X:2595:C:C6	2.67	0.47
29:X:540:G:N3	29:X:2004:U:O2'	2.48	0.47
29:X:632:A:H3'	29:X:633:G:C8	2.50	0.47
30:Y:8:LYS:O	30:Y:9:LYS:HD3	2.14	0.47
6:A:131:LEU:CD1	6:A:136:VAL:HG22	2.45	0.47
4:4:19:ARG:HE	29:X:2735:C:H3'	1.79	0.47
17:L:42:ILE:C	17:L:43:ILE:HD12	2.35	0.47
29:X:426:C:H4'	29:X:1863:U:O2'	2.14	0.47
15:J:35:LEU:CD1	15:J:130:THR:HB	2.43	0.47
7:B:5:LEU:CD1	7:B:81:PHE:CZ	2.97	0.47
29:X:2321:C:O2'	29:X:2353:G:H5''	2.15	0.47
13:H:83:ARG:HH11	18:M:40:ARG:CD	2.28	0.47
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.45	0.47
10:E:9:ILE:HB	10:E:50:LEU:C	2.34	0.47
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.97	0.47
11:F:12:LEU:HD22	11:F:22:PRO:CB	2.44	0.47
11:F:25:PRO:CG	11:F:26:ALA:H	2.27	0.47
31:Z:71:G:C5	31:Z:72:C:C5	3.03	0.47
29:X:2084:G:H2'	29:X:2085:G:C8	2.49	0.47
19:N:66:ASN:HA	19:N:69:ALA:CB	2.45	0.47
19:N:84:LYS:CB	19:N:92:ARG:HH22	2.26	0.47
20:O:53:LYS:HB2	20:O:54:TYR:CD1	2.50	0.47
16:K:76:VAL:HA	16:K:79:VAL:HG12	1.97	0.47
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.50	0.47
10:E:127:GLU:O	10:E:129:THR:N	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:89:GLY:O	15:J:91:VAL:N	2.48	0.47
29:X:63:A:N3	29:X:63:A:H2'	2.29	0.47
21:P:66:GLU:O	21:P:69:ALA:CB	2.60	0.47
7:B:189:PRO:HA	29:X:2659:C:C5'	2.40	0.47
29:X:2659:C:N4	29:X:2660:C:H41	2.12	0.47
29:X:2659:C:H2'	29:X:2660:C:C6	2.50	0.47
10:E:155:ASP:OD1	10:E:160:LYS:N	2.47	0.47
30:Y:58:LEU:CD1	30:Y:58:LEU:H	2.22	0.47
29:X:1656:U:H2'	29:X:1657:A:H5''	1.97	0.47
20:O:65:ARG:CG	20:O:65:ARG:HH11	2.27	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.43	0.47
29:X:601:A:H2'	29:X:602:C:OP1	2.14	0.47
29:X:1359:G:H8	29:X:1359:G:H5'	1.79	0.47
7:B:118:LYS:HG3	7:B:118:LYS:O	2.14	0.47
29:X:682:G:C2'	29:X:682:G:N3	2.77	0.47
29:X:1350:G:H2'	29:X:1351:G:H8	1.79	0.47
28:W:45:LYS:HE3	28:W:45:LYS:CA	2.44	0.47
29:X:780:U:H4'	29:X:781:G:OP1	2.14	0.47
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.50	0.47
23:R:95:ARG:NH2	23:R:106:VAL:HG12	2.30	0.47
19:N:13:ARG:CZ	29:X:1264:C:C5'	2.93	0.47
29:X:347:C:O2'	29:X:348:U:H5'	2.13	0.47
29:X:529:U:C2	29:X:530:G:N7	2.83	0.47
29:X:689:A:C2	29:X:815:A:N6	2.83	0.47
8:C:173:ALA:HB1	8:C:193:LEU:CD1	2.44	0.47
8:C:47:THR:HA	8:C:82:VAL:HB	1.95	0.47
12:G:104:THR:OG1	12:G:110:LEU:HD13	2.15	0.47
23:R:112:LYS:O	23:R:113:THR:CG2	2.57	0.47
29:X:2021:G:O2'	29:X:2022:C:H5'	2.15	0.47
29:X:538:A:C4	29:X:2025:A:C2	3.02	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.95	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
6:A:143:HIS:O	6:A:144:ALA:HB3	2.15	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
4:4:30:VAL:C	4:4:32:HIS:N	2.65	0.47
29:X:797:A:OP2	29:X:2568:A:OP1	2.32	0.47
29:X:1746:A:H2'	29:X:1747:G:O5'	2.15	0.47
9:D:12:VAL:CG1	9:D:16:LEU:HD11	2.32	0.47
17:L:89:PHE:O	17:L:91:ARG:NH2	2.47	0.47
31:Z:47:A:H2'	31:Z:47:A:N3	2.28	0.47
28:W:40:VAL:HA	28:W:43:MET:HG3	1.93	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:71:PRO:HA	15:J:96:SER:CB	2.43	0.47
29:X:1872:A:N1	29:X:2213:G:H1'	2.29	0.47
7:B:14:ILE:CD1	7:B:183:LEU:CD1	2.91	0.47
29:X:2395:C:C2'	29:X:2396:C:C5'	2.93	0.47
29:X:658:G:H2'	29:X:659:G:H8	1.79	0.47
24:S:90:GLU:HA	24:S:127:PRO:HD3	1.96	0.47
11:F:38:THR:O	11:F:42:ASN:HB2	2.14	0.47
10:E:12:PRO:O	10:E:15:VAL:HG22	2.15	0.47
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.47
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.44	0.47
9:D:71:LYS:C	9:D:73:SER:H	2.17	0.47
29:X:1575:C:H4'	29:X:1576:G:OP2	2.14	0.47
25:T:17:ASN:OD1	29:X:2240:C:C6	2.68	0.47
21:P:45:ILE:HD12	21:P:57:LEU:HD21	1.96	0.47
10:E:89:LEU:HB2	10:E:129:THR:CA	2.33	0.47
21:P:10:ASN:O	21:P:11:LYS:C	2.53	0.47
29:X:2058:U:N3	29:X:2414:A:C2	2.83	0.47
29:X:2436:U:H2'	29:X:2437:G:O4'	2.15	0.47
22:Q:66:GLY:C	22:Q:68:PHE:N	2.68	0.47
22:Q:63:LYS:HB2	22:Q:69:ILE:O	2.13	0.47
22:Q:72:ARG:NH2	29:X:1324:G:O3'	2.44	0.47
29:X:63:A:C2	29:X:64:C:C6	3.03	0.47
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.96	0.47
30:Y:51:TYR:CZ	30:Y:55:ARG:HB2	2.49	0.47
20:O:78:VAL:HG22	29:X:1202:U:H5'	1.97	0.47
24:S:43:PHE:HD1	24:S:66:VAL:HG21	1.79	0.47
14:I:78:SER:CA	14:I:112:GLY:HA3	2.45	0.47
29:X:1364:C:HO2'	29:X:1587:A:H1'	1.79	0.47
29:X:746:G:O6	29:X:774:A:C8	2.67	0.47
29:X:1332:G:N2	29:X:1347:C:C2	2.83	0.47
29:X:416:U:H4'	29:X:419:G:O2'	2.14	0.47
31:Z:4:C:HO2'	31:Z:5:C:H5'	1.80	0.47
29:X:1841:G:C2'	29:X:1842:G:H5'	2.44	0.47
29:X:1771:A:HO2'	29:X:1772:C:P	2.37	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47
16:K:65:LEU:HD11	29:X:2845:C:H5''	1.96	0.47
24:S:87:THR:O	24:S:88:TYR:CB	2.62	0.47
20:O:87:ARG:HG3	20:O:87:ARG:O	2.14	0.47
29:X:982:C:O2'	29:X:983:G:H5'	2.14	0.47
8:C:15:ILE:HG22	8:C:17:LEU:HD13	1.95	0.47
29:X:2071:G:H2'	29:X:2072:C:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1304:U:H2'	29:X:1305:C:C6	2.50	0.47
21:P:81:HIS:CD2	21:P:82:ASN:N	2.83	0.47
29:X:1395:A:H2'	29:X:1396:C:C6	2.50	0.47
29:X:1038:U:H2'	29:X:1039:A:H8	1.79	0.47
29:X:2015:G:O6	29:X:2551:A:C4	2.67	0.47
29:X:830:C:H2'	29:X:831:G:H8	1.80	0.47
6:A:44:ASN:CB	6:A:49:ILE:HA	2.34	0.47
29:X:2823:G:O2'	29:X:2824:C:P	2.73	0.47
9:D:13:ARG:CB	9:D:14:PRO:CD	2.92	0.47
9:D:22:TYR:CD2	9:D:28:VAL:HG22	2.49	0.47
17:L:9:ARG:O	17:L:12:ARG:N	2.44	0.47
17:L:50:THR:N	31:Z:116:C:O2'	2.44	0.47
28:W:49:HIS:ND1	28:W:50:LEU:HG	2.29	0.47
29:X:938:G:HO2'	29:X:939:C:P	2.38	0.47
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.45	0.47
13:H:22:ILE:HG22	13:H:52:VAL:C	2.35	0.47
29:X:1552:C:H1'	29:X:1553:G:C4	2.50	0.47
24:S:98:VAL:HG11	24:S:168:VAL:CG1	2.44	0.47
12:G:33:ILE:O	12:G:69:ASP:CG	2.53	0.47
19:N:82:GLY:HA2	19:N:85:ARG:HB2	1.96	0.47
29:X:1162:A:H2'	29:X:1163:C:C6	2.49	0.47
9:D:175:LEU:HG	9:D:177:PHE:HE1	1.80	0.47
29:X:2286:G:N7	29:X:2287:G:C8	2.83	0.47
22:Q:42:ILE:O	22:Q:43:GLN:C	2.52	0.47
29:X:2779:C:C2'	29:X:2780:A:O4'	2.63	0.47
10:E:110:SER:OG	29:X:2646:C:N3	2.47	0.47
29:X:428:A:H2'	29:X:429:C:O4'	2.15	0.47
23:R:35:LYS:HE3	23:R:37:LEU:CD2	2.44	0.47
24:S:48:THR:HG22	24:S:66:VAL:HB	1.96	0.47
21:P:105:ARG:HH12	21:P:119:LYS:HZ1	1.63	0.47
29:X:2262:C:C5	29:X:2368:G:C4	3.03	0.47
29:X:774:A:H8	29:X:774:A:O5'	1.97	0.47
29:X:708:G:OP1	29:X:1393:G:O2'	2.32	0.47
7:B:128:SER:OG	29:X:1692:C:N3	2.47	0.47
29:X:1629:G:C2'	29:X:1633:C:H42	2.28	0.47
8:C:172:VAL:C	8:C:174:GLY:N	2.68	0.47
16:K:72:ASP:CB	16:K:75:VAL:HG23	2.45	0.47
29:X:860:U:H2'	29:X:860:U:O2	2.15	0.47
29:X:2488:G:H2'	29:X:2489:C:H6	1.80	0.47
12:G:104:THR:HB	29:X:2620:G:H5''	1.97	0.47
14:I:13:ARG:HB3	14:I:13:ARG:NH2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:160:GLY:CA	6:A:197:GLY:HA2	2.44	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
6:A:227:ASN:H	6:A:230:ASP:HB2	1.78	0.47
6:A:214:TRP:HD1	29:X:1582:A:O4'	1.97	0.47
29:X:1725:C:O2'	29:X:1726:C:H5'	2.15	0.47
17:L:107:ALA:O	17:L:109:GLU:N	2.47	0.47
25:T:42:GLY:C	25:T:57:HIS:CD2	2.89	0.47
26:U:48:LYS:NZ	29:X:2208:U:O2	2.47	0.47
7:B:14:ILE:HD12	7:B:23:VAL:HG21	1.97	0.47
7:B:192:ASN:HD22	18:M:9:ARG:NH1	2.12	0.47
14:I:92:THR:C	14:I:94:GLU:N	2.68	0.47
24:S:128:ARG:N	24:S:130:ILE:HD11	2.29	0.47
27:V:21:ARG:CD	27:V:21:ARG:N	2.78	0.47
15:J:100:PRO:HG2	24:S:74:ARG:NH1	2.27	0.47
31:Z:20:A:C2	31:Z:69:G:C6	3.03	0.47
31:Z:80:A:H2'	31:Z:81:C:O4'	2.15	0.47
29:X:2082:C:H2'	29:X:2083:G:H5''	1.97	0.47
29:X:2220:A:O2'	29:X:2221:G:H5'	2.15	0.47
29:X:2708:U:H2'	29:X:2709:C:H6	1.79	0.47
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.79	0.47
29:X:1448:A:H2'	29:X:1449:C:O4'	2.14	0.47
29:X:790:A:C2	29:X:791:G:C8	3.03	0.47
29:X:2411:A:H2'	29:X:2412:A:O4'	2.15	0.47
29:X:428:A:N1	29:X:2388:G:C6	2.83	0.47
23:R:36:VAL:O	23:R:37:LEU:HD23	2.15	0.47
29:X:162:C:H2'	29:X:163:A:C8	2.49	0.47
12:G:124:GLU:CD	12:G:124:GLU:H	2.11	0.47
24:S:71:MET:HE3	24:S:71:MET:O	2.15	0.47
29:X:520:C:O2	29:X:520:C:C2'	2.59	0.47
9:D:44:LYS:HB3	9:D:46:ASP:OD2	2.15	0.47
20:O:65:ARG:CZ	20:O:87:ARG:HD2	2.44	0.47
4:4:2:LYS:HE3	29:X:2457:A:OP2	2.15	0.47
24:S:148:THR:CB	24:S:164:PRO:O	2.62	0.47
29:X:2242:C:N4	29:X:2243:C:N4	2.62	0.47
8:C:169:VAL:HG12	8:C:170:LEU:N	2.29	0.47
12:G:108:GLY:C	12:G:110:LEU:CD2	2.83	0.47
23:R:16:PHE:CD2	23:R:80:LYS:NZ	2.83	0.47
23:R:46:VAL:HG12	23:R:48:VAL:HG23	1.96	0.47
29:X:26:G:C6	29:X:27:G:N2	2.83	0.47
17:L:38:ILE:HD12	17:L:40:ALA:H	1.74	0.47
17:L:91:ARG:NH2	29:X:2356:A:C2	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.96	0.47
11:F:23:VAL:HG11	11:F:34:ILE:HG12	1.96	0.47
20:O:90:PHE:HD1	20:O:91:THR:N	2.13	0.47
22:Q:7:LEU:HD22	22:Q:7:LEU:O	2.13	0.47
13:H:1:MET:CB	13:H:44:TYR:HB3	2.41	0.47
29:X:1249:G:O2'	29:X:1250:A:P	2.73	0.47
29:X:2498:U:H2'	29:X:2520:A:H61	1.79	0.47
29:X:1920:A:H62	29:X:1923:U:H5	1.62	0.47
29:X:2654:A:C2	29:X:2655:C:C2	3.03	0.47
29:X:403:A:H4'	29:X:404:A:O5'	2.14	0.47
8:C:195:ILE:O	8:C:196:VAL:HB	2.14	0.47
29:X:1685:A:N7	29:X:1691:G:C5	2.83	0.47
29:X:1693:A:C2	29:X:1976:U:H5'	2.50	0.47
24:S:63:PRO:C	24:S:86:VAL:HG23	2.34	0.47
7:B:16:LYS:HB2	7:B:21:ILE:CD1	2.45	0.47
14:I:22:GLY:HA3	29:X:674:U:H1'	1.97	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.61	0.47
10:E:150:LYS:NZ	29:X:2724:G:H1'	2.29	0.47
29:X:2348:A:H2'	29:X:2349:G:C8	2.50	0.47
29:X:1879:G:O2'	29:X:1880:G:H5'	2.14	0.47
29:X:991:A:C5	29:X:992:A:C6	3.03	0.47
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.80	0.46
8:C:65:GLY:O	8:C:66:ASN:O	2.33	0.46
12:G:103:TYR:HD2	29:X:1142:G:O4'	1.98	0.46
29:X:1134:C:H2'	29:X:1135:C:C6	2.48	0.46
29:X:1296:G:H22	29:X:1299:A:H5''	1.79	0.46
29:X:541:C:O2'	29:X:542:A:OP2	2.31	0.46
4:4:8:LYS:N	4:4:34:GLN:HE22	2.13	0.46
29:X:2496:C:O2'	29:X:2497:A:O5'	2.31	0.46
6:A:227:ASN:O	6:A:230:ASP:N	2.49	0.46
8:C:108:ILE:O	8:C:109:ALA:C	2.50	0.46
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.36	0.46
9:D:14:PRO:O	9:D:16:LEU:N	2.48	0.46
17:L:87:VAL:CG1	17:L:88:VAL:H	2.25	0.46
31:Z:39:C:N4	31:Z:51:G:O4'	2.48	0.46
26:U:23:LYS:HE3	26:U:26:ALA:CB	2.45	0.46
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.98	0.46
15:J:64:LYS:CG	15:J:108:ALA:O	2.63	0.46
29:X:886:A:C2	29:X:917:U:O2	2.68	0.46
24:S:13:LYS:HE2	24:S:20:ALA:HB2	1.97	0.46
26:U:13:LEU:C	26:U:14:VAL:HG22	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:183:LEU:HD11	18:M:16:ILE:CG2	2.46	0.46
14:I:90:ARG:HD2	14:I:93:LEU:CD1	2.32	0.46
29:X:2379:G:H2'	29:X:2380:U:C5'	2.45	0.46
13:H:22:ILE:HG22	13:H:52:VAL:O	2.15	0.46
29:X:1933:G:C8	29:X:1934:U:H5	2.31	0.46
10:E:66:GLY:O	29:X:2728:A:H4'	2.15	0.46
29:X:2729:A:N1	29:X:2730:A:N6	2.64	0.46
29:X:1474:A:C1'	29:X:1475:U:H5'	2.44	0.46
29:X:2681:A:N7	29:X:2682:C:C5	2.83	0.46
27:V:39:GLN:HB3	27:V:42:ARG:CB	2.45	0.46
31:Z:72:C:O2'	31:Z:73:C:H5'	2.15	0.46
19:N:81:ASN:HD21	19:N:85:ARG:HE	1.63	0.46
19:N:82:GLY:C	19:N:84:LYS:N	2.68	0.46
20:O:23:GLU:O	20:O:24:SER:HB3	2.15	0.46
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.15	0.46
28:W:8:SER:HB2	29:X:999:A:P	2.55	0.46
29:X:1594:U:H2'	29:X:1595:A:C8	2.49	0.46
29:X:1681:A:N6	29:X:1979:C:H42	2.10	0.46
29:X:2780:A:H2'	29:X:2781:G:H8	1.80	0.46
29:X:89:A:O4'	29:X:89:A:OP1	2.33	0.46
6:A:62:TYR:CE2	29:X:1808:C:C5	3.03	0.46
29:X:1919:A:C2	29:X:1928:G:C8	3.03	0.46
29:X:971:A:H4'	29:X:2436:U:C5'	2.45	0.46
29:X:1883:A:C2	29:X:1953:A:C2	3.03	0.46
28:W:37:THR:C	28:W:41:ARG:HG3	2.34	0.46
17:L:81:GLU:O	17:L:82:LYS:CG	2.64	0.46
29:X:1200:G:N7	29:X:1201:G:N7	2.62	0.46
10:E:150:LYS:HZ2	29:X:2724:G:H1'	1.81	0.46
29:X:2468:G:H2'	29:X:2469:G:O4'	2.14	0.46
10:E:83:TYR:CE2	10:E:138:LYS:HG3	2.50	0.46
29:X:921:A:N1	29:X:924:C:H1'	2.30	0.46
29:X:1206:G:O2'	29:X:1207:G:H5'	2.14	0.46
29:X:1224:A:HO2'	29:X:1225:G:P	2.39	0.46
29:X:1281:A:OP1	29:X:1989:C:OP1	2.33	0.46
29:X:343:A:H1'	29:X:346:C:H42	1.79	0.46
29:X:215:G:N2	29:X:632:A:H8	2.06	0.46
6:A:231:HIS:CG	6:A:232:PRO:HD2	2.50	0.46
29:X:792:U:O2'	29:X:793:G:H5'	2.15	0.46
6:A:218:LYS:NZ	29:X:794:A:H5'	2.31	0.46
29:X:1722:G:C6	29:X:1723:U:N3	2.83	0.46
9:D:128:TYR:H	9:D:156:ILE:HG22	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1129:A:OP1	29:X:1129:A:H4'	2.14	0.46
15:J:106:GLU:OE1	15:J:106:GLU:O	2.34	0.46
26:U:58:LYS:O	26:U:59:THR:HG23	2.16	0.46
29:X:2075:U:O2	29:X:2075:U:H2'	2.14	0.46
7:B:9:ILE:CD1	18:M:12:LEU:HD13	2.32	0.46
29:X:2379:G:N2	29:X:2380:U:H1'	2.30	0.46
18:M:34:ARG:NE	18:M:88:VAL:CG1	2.78	0.46
24:S:92:VAL:CG2	24:S:93:GLU:H	2.20	0.46
29:X:1108:U:C2	29:X:1109:A:H1'	2.50	0.46
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.98	0.46
9:D:36:VAL:O	9:D:89:VAL:HG23	2.15	0.46
9:D:53:ALA:O	9:D:57:LEU:N	2.45	0.46
29:X:1313:U:H1'	29:X:1642:G:C2	2.50	0.46
29:X:2448:A:H5'	29:X:2448:A:H8	1.80	0.46
29:X:2652:G:N3	29:X:2653:A:C8	2.83	0.46
25:T:3:HIS:CG	25:T:4:LYS:H	2.32	0.46
21:P:56:LEU:O	21:P:57:LEU:C	2.53	0.46
10:E:107:ILE:N	10:E:107:ILE:CD1	2.74	0.46
29:X:2388:G:C4	29:X:2389:G:C8	3.03	0.46
10:E:24:PHE:CD1	10:E:37:TYR:HD1	2.32	0.46
30:Y:51:TYR:CE1	30:Y:55:ARG:CB	2.94	0.46
12:G:155:THR:HG23	12:G:156:HIS:CE1	2.50	0.46
29:X:1887:G:N3	29:X:1911:A:H2	2.13	0.46
29:X:1629:G:N1	29:X:1633:C:C6	2.83	0.46
15:J:61:ARG:HD3	24:S:174:PRO:CB	2.44	0.46
29:X:2185:U:H2'	29:X:2186:G:C8	2.50	0.46
29:X:112:U:C2	29:X:113:C:C5	3.04	0.46
29:X:2017:U:OP1	29:X:2017:U:H6	1.97	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.42	0.46
12:G:131:VAL:O	12:G:133:GLY:N	2.48	0.46
14:I:7:LYS:O	29:X:1219:C:H5'	2.15	0.46
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.45	0.46
29:X:596:C:N1	29:X:684:C:H1'	2.30	0.46
6:A:92:ILE:CG2	6:A:104:TYR:CD2	2.98	0.46
6:A:246:PRO:HD2	6:A:251:GLY:H	1.76	0.46
26:U:33:LYS:HE3	29:X:2400:G:H21	1.80	0.46
26:U:35:THR:HB	29:X:401:G:OP1	2.15	0.46
29:X:613:A:C2	29:X:636:G:N3	2.83	0.46
29:X:2264:C:N4	29:X:2325:A:C2	2.82	0.46
18:M:34:ARG:CZ	18:M:88:VAL:CG2	2.93	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:34:ARG:NE	18:M:88:VAL:HG11	2.30	0.46
27:V:14:PHE:HZ	27:V:56:VAL:HG11	1.80	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.50	0.46
29:X:1355:A:O2'	29:X:1357:U:OP2	2.15	0.46
29:X:1924:C:C4	29:X:1925:C:C4	3.03	0.46
21:P:52:ASP:O	21:P:53:ALA:C	2.53	0.46
29:X:2046:C:C5	29:X:2047:C:N4	2.83	0.46
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.80	0.46
29:X:1193:G:C6	29:X:1194:U:C4	3.02	0.46
25:T:51:VAL:CG2	25:T:79:ILE:O	2.58	0.46
29:X:138:G:H2'	29:X:139:A:H8	1.80	0.46
23:R:100:ASP:C	23:R:102:LYS:N	2.66	0.46
6:A:61:LEU:CD1	29:X:1584:G:H5''	2.45	0.46
29:X:1401:G:O2'	29:X:1402:G:H5'	2.15	0.46
20:O:25:LEU:HG	20:O:32:LYS:NZ	2.30	0.46
30:Y:17:ASP:O	30:Y:18:MET:C	2.53	0.46
12:G:142:ARG:O	12:G:143:ALA:C	2.53	0.46
23:R:106:VAL:O	23:R:107:ALA:HB2	2.15	0.46
23:R:90:LYS:C	23:R:91:ALA:O	2.49	0.46
7:B:145:LYS:HB2	29:X:2551:A:N7	2.30	0.46
29:X:633:G:H2'	29:X:634:G:H8	1.80	0.46
6:A:124:GLU:O	6:A:126:LYS:N	2.49	0.46
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.79	0.46
9:D:14:PRO:C	9:D:16:LEU:N	2.68	0.46
9:D:22:TYR:CE2	9:D:28:VAL:HA	2.50	0.46
17:L:28:ARG:O	17:L:42:ILE:HD13	2.16	0.46
17:L:99:ARG:HD3	31:Z:51:G:OP2	2.15	0.46
18:M:26:ASP:O	18:M:27:PHE:CG	2.68	0.46
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.45	0.46
18:M:94:VAL:HG12	18:M:95:GLU:HG2	1.98	0.46
29:X:837:U:H3	29:X:846:A:N6	2.13	0.46
29:X:1934:U:C2	29:X:1936:A:OP2	2.68	0.46
29:X:1467:U:H2'	29:X:1468:A:OP1	2.15	0.46
27:V:6:MET:HE1	27:V:52:GLN:HB3	1.96	0.46
11:F:23:VAL:O	11:F:25:PRO:N	2.49	0.46
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.51	0.46
31:Z:18:G:O2'	31:Z:19:C:H5'	2.16	0.46
24:S:142:ASN:O	24:S:171:VAL:HG11	2.15	0.46
20:O:71:ILE:HD11	29:X:1003:C:O2'	2.15	0.46
9:D:108:LEU:HA	9:D:111:ILE:CG1	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.97	0.46
29:X:393:U:H2'	29:X:394:U:H6	1.80	0.46
29:X:230:C:H2'	29:X:231:G:H5'	1.97	0.46
29:X:740:A:OP1	29:X:1445:A:O2'	2.31	0.46
29:X:144:U:O2'	29:X:145:C:H5'	2.16	0.46
29:X:497:C:C6	29:X:497:C:C5'	2.89	0.46
10:E:131:ILE:HG22	10:E:132:ASP:N	2.29	0.46
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.46
6:A:50:THR:HG21	29:X:1805:G:C2	2.49	0.46
10:E:110:SER:HB2	29:X:2646:C:O2	2.16	0.46
29:X:2762:G:C2	29:X:2763:U:C6	3.02	0.46
29:X:2763:U:O2'	29:X:2764:U:H5'	2.15	0.46
24:S:22:VAL:HG11	31:Z:77:G:C1'	2.45	0.46
21:P:25:PHE:C	21:P:25:PHE:CD2	2.89	0.46
29:X:1336:G:C2	29:X:1346:C:H1'	2.50	0.46
11:F:5:ALA:HB1	11:F:59:ILE:O	2.14	0.46
29:X:889:C:O5'	29:X:889:C:H6	1.99	0.46
29:X:644:A:H2'	29:X:645:G:O4'	2.15	0.46
29:X:972:C:C5'	29:X:973:U:OP2	2.63	0.46
22:Q:21:GLU:C	22:Q:23:GLY:N	2.69	0.46
24:S:148:THR:HA	24:S:166:LEU:O	2.14	0.46
29:X:2526:U:C6	29:X:2545:A:C6	3.03	0.46
29:X:1569:A:C5	29:X:1571:G:C5	3.04	0.46
29:X:2028:C:O2'	30:Y:18:MET:O	2.32	0.46
13:H:30:GLY:O	13:H:33:GLY:O	2.33	0.46
29:X:771:C:O2'	29:X:772:G:H5'	2.15	0.46
12:G:98:LYS:CB	12:G:116:ARG:HB2	2.37	0.46
19:N:13:ARG:NE	29:X:1264:C:C5'	2.74	0.46
29:X:1044:U:H4'	29:X:1045:G:OP1	2.15	0.46
29:X:1274:C:H2'	29:X:1275:A:O5'	2.16	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.16	0.46
29:X:1996:A:N6	29:X:2592:U:C5	2.83	0.46
30:Y:12:SER:C	30:Y:14:SER:N	2.64	0.46
29:X:760:U:C6	30:Y:3:LYS:HG3	2.50	0.46
6:A:55:GLY:N	6:A:217:ARG:HB2	2.31	0.46
9:D:159:THR:O	9:D:160:ALA:C	2.54	0.46
17:L:69:ALA:HA	17:L:106:ALA:HB2	1.98	0.46
29:X:2280:A:H2'	29:X:2281:C:H6	1.80	0.46
26:U:47:HIS:HB2	26:U:48:LYS:H	1.54	0.46
29:X:641:G:H4'	29:X:651:C:O2'	2.15	0.46
29:X:2324:G:N7	29:X:2351:G:C2	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:49:GLY:O	11:F:50:ASP:CB	2.63	0.46
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.96	0.46
29:X:1557:G:H2'	29:X:1558:C:H6	1.79	0.46
15:J:22:ALA:N	15:J:99:LYS:HG3	2.31	0.46
29:X:931:G:C4	29:X:932:G:C8	3.04	0.46
29:X:754:G:C4	29:X:755:C:C5	3.03	0.46
29:X:2170:C:C3'	29:X:2171:U:C5'	2.87	0.46
20:O:35:LEU:HD21	20:O:52:GLY:CA	2.41	0.46
29:X:1010:U:O2'	29:X:1011:A:H5'	2.16	0.46
29:X:1175:A:H2'	29:X:1176:U:O4'	2.16	0.46
29:X:1514:C:H4'	29:X:1592:U:O2'	2.16	0.46
29:X:1357:U:O2'	29:X:1358:C:OP1	2.33	0.46
29:X:172:A:N1	29:X:178:C:C2	2.84	0.46
29:X:224:G:C4'	29:X:399:G:C6	2.87	0.46
29:X:1018:C:C3'	29:X:1019:U:C5'	2.87	0.46
10:E:37:TYR:HE2	10:E:71:LEU:CB	2.27	0.46
29:X:2821:G:H2'	29:X:2822:U:H6	1.73	0.46
29:X:501:G:H2'	29:X:502:A:O4'	2.15	0.46
29:X:2618:A:N7	29:X:2755:A:H2	2.13	0.46
29:X:1587:A:C2	29:X:1588:A:C5	3.04	0.46
29:X:1391:A:C8	29:X:1393:G:N7	2.83	0.46
29:X:2508:G:O5'	29:X:2509:A:H5''	2.15	0.46
29:X:801:A:HO2'	29:X:802:A:P	2.35	0.46
29:X:1918:G:C2'	29:X:1945:C:H42	2.28	0.46
29:X:353:G:H2'	29:X:354:C:O4'	2.15	0.46
29:X:55:A:C2	29:X:56:C:C2	3.02	0.46
29:X:934:G:H2'	29:X:935:C:O4'	2.16	0.46
29:X:1941:C:O2'	29:X:1942:G:H5'	2.16	0.46
29:X:868:U:H2'	29:X:869:C:C6	2.50	0.46
19:N:28:ARG:HG2	19:N:38:THR:OG1	2.15	0.46
19:N:3:ARG:HB2	29:X:457:C:H5''	1.97	0.46
29:X:1215:A:H2'	29:X:1216:G:H8	1.78	0.46
29:X:2433:G:C4	29:X:2434:G:C8	3.03	0.46
29:X:529:U:O2'	29:X:530:G:H5'	2.15	0.46
29:X:1807:A:H1'	29:X:1809:G:C8	2.51	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.98	0.46
6:A:208:LYS:CE	6:A:208:LYS:HA	2.46	0.46
29:X:1744:G:N2	29:X:1746:A:H3'	2.31	0.46
28:W:18:LYS:O	28:W:22:ALA:N	2.43	0.46
29:X:516:G:O2'	29:X:517:A:P	2.74	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:121:LEU:O	15:J:125:LYS:HE2	2.16	0.46
15:J:28:VAL:N	15:J:137:VAL:HG11	2.30	0.46
15:J:8:THR:CA	15:J:70:PHE:HZ	2.29	0.46
11:F:54:PRO:HG2	11:F:70:LYS:CD	2.40	0.46
27:V:2:LYS:H	27:V:3:PRO:CD	2.28	0.46
11:F:122:ALA:HA	29:X:1092:U:C4'	2.42	0.46
15:J:19:THR:CG2	15:J:99:LYS:HZ3	2.29	0.46
29:X:875:G:H2'	29:X:876:A:H5'	1.97	0.46
29:X:2083:G:C8	29:X:2083:G:H3'	2.50	0.46
20:O:35:LEU:HD22	20:O:36:LYS:N	2.31	0.46
29:X:1119:U:C5'	29:X:1119:U:H6	2.21	0.46
25:T:24:LYS:CD	29:X:2334:C:H4'	2.42	0.46
29:X:1313:U:HO2'	29:X:1314:A:P	2.39	0.46
21:P:76:LYS:O	21:P:78:ASN:N	2.49	0.46
10:E:89:LEU:CD1	10:E:96:ALA:N	2.78	0.46
10:E:22:GLY:O	10:E:24:PHE:CE1	2.68	0.46
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.46
15:J:17:ARG:HB2	29:X:969:U:C4	2.51	0.46
29:X:969:U:O2'	29:X:970:A:P	2.74	0.46
10:E:162:VAL:HG12	10:E:163:ARG:N	2.29	0.46
29:X:2792:C:C2	29:X:2805:G:C2	3.04	0.46
25:T:37:LEU:HD12	25:T:37:LEU:N	2.31	0.46
29:X:1741:G:C2'	29:X:1742:G:H5'	2.46	0.46
21:P:93:LYS:HB2	21:P:129:ALA:CB	2.46	0.46
29:X:192:G:H4'	29:X:193:A:H4'	1.97	0.46
29:X:1463:A:H2'	29:X:1464:A:H8	1.79	0.46
29:X:1986:G:C6	29:X:1987:G:C5	3.03	0.46
29:X:494:A:C8	29:X:495:C:C5	3.04	0.46
29:X:1952:A:H1'	29:X:1956:G:O4'	2.15	0.46
6:A:94:LEU:HG	6:A:94:LEU:O	2.16	0.46
8:C:31:VAL:O	8:C:34:GLN:HB2	2.16	0.46
23:R:16:PHE:CZ	23:R:46:VAL:HG22	2.49	0.46
29:X:796:A:H3'	29:X:796:A:C8	2.51	0.46
8:C:109:ALA:O	8:C:110:SER:C	2.52	0.46
29:X:2838:U:C2'	29:X:2839:G:H5'	2.46	0.46
17:L:75:LEU:HA	17:L:78:ALA:HB3	1.97	0.46
15:J:125:LYS:CD	15:J:125:LYS:N	2.79	0.46
15:J:33:TYR:CE2	15:J:112:GLU:HA	2.51	0.46
29:X:649:G:C5	29:X:650:U:C5	3.04	0.46
13:H:116:ARG:HH11	18:M:38:LYS:HZ3	1.62	0.46
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:15:VAL:O	10:E:16:THR:OG1	2.23	0.46
29:X:78:C:O2	29:X:357:A:H2	1.99	0.46
13:H:27:SER:HA	13:H:50:ILE:HD12	1.97	0.46
25:T:45:PHE:CZ	25:T:77:ARG:CZ	2.98	0.46
31:Z:93:G:H2'	31:Z:94:G:O4'	2.16	0.46
12:G:32:TYR:OH	12:G:35:LYS:CE	2.64	0.46
12:G:69:ASP:O	19:N:64:ARG:NE	2.48	0.46
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.46	0.46
29:X:1117:G:H2'	29:X:1118:G:H8	1.72	0.46
29:X:1289:A:C2	29:X:1290:A:C5	3.04	0.46
29:X:805:G:N7	29:X:2419:C:C1'	2.79	0.46
10:E:37:TYR:HB3	10:E:41:LEU:HD23	1.97	0.46
24:S:2:GLU:O	24:S:3:LEU:C	2.53	0.46
12:G:154:GLU:N	12:G:157:PRO:CD	2.79	0.46
29:X:417:C:H4'	29:X:418:C:C5'	2.45	0.46
29:X:1479:G:H2'	29:X:1480:G:C8	2.50	0.46
10:E:172:LYS:CE	29:X:2508:G:OP2	2.63	0.46
29:X:1486:A:H2'	29:X:1487:C:H6	1.78	0.46
29:X:972:C:H5'	29:X:973:U:OP2	2.16	0.46
21:P:68:VAL:CG1	21:P:68:VAL:O	2.63	0.46
22:Q:89:GLU:HB2	22:Q:91:LEU:HD23	1.98	0.46
29:X:1947:G:O2'	29:X:1950:C:OP2	2.27	0.46
29:X:412:U:H2'	29:X:413:G:O4'	2.15	0.46
29:X:1292:A:H2'	29:X:1293:A:O4'	2.16	0.46
29:X:319:G:H1'	29:X:511:A:O4'	2.16	0.46
8:C:158:ARG:HB3	8:C:169:VAL:CG1	2.46	0.46
12:G:108:GLY:O	12:G:110:LEU:HD23	2.16	0.46
23:R:15:HIS:O	23:R:82:ALA:HB1	2.16	0.46
29:X:1302:C:O2'	29:X:1303:U:H5'	2.15	0.46
29:X:2034:A:C4	29:X:2593:A:N6	2.83	0.46
6:A:126:LYS:C	6:A:193:ILE:HG21	2.36	0.46
6:A:169:GLU:OE1	6:A:184:ARG:NH1	2.48	0.46
6:A:257:LEU:HD12	29:X:1794:A:O2'	2.15	0.46
6:A:70:ARG:C	6:A:72:LYS:H	2.18	0.46
6:A:72:LYS:HE3	6:A:99:ASP:OD2	2.16	0.46
29:X:1502:G:O2'	29:X:1503:G:H5'	2.15	0.46
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
17:L:44:ASP:OD1	17:L:44:ASP:C	2.53	0.46
31:Z:42:U:H1'	31:Z:47:A:H62	1.78	0.46
29:X:402:A:N7	29:X:2392:G:O2'	2.42	0.46
23:R:56:LYS:HG2	23:R:56:LYS:H	1.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:59:PHE:CD1	15:J:65:ILE:HD11	2.50	0.46
14:I:101:ARG:HH11	14:I:104:ARG:NH2	2.14	0.46
29:X:664:C:C5'	29:X:664:C:H6	2.29	0.46
19:N:75:ASN:O	19:N:75:ASN:ND2	2.48	0.46
19:N:65:ILE:HG21	19:N:80:ILE:HD11	1.96	0.46
29:X:1510:A:H2'	29:X:1511:A:C8	2.51	0.46
9:D:175:LEU:HG	9:D:177:PHE:CE1	2.51	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.29	0.46
29:X:1750:A:H4'	29:X:2695:C:O4'	2.16	0.46
29:X:2222:U:H2'	29:X:2223:U:C5	2.45	0.46
22:Q:27:PHE:HZ	22:Q:42:ILE:HD13	1.81	0.46
27:V:4:SER:HB3	27:V:7:ARG:HE	1.81	0.46
30:Y:25:LEU:CD1	30:Y:25:LEU:H	2.28	0.46
21:P:105:ARG:NH1	21:P:119:LYS:HZ2	2.13	0.46
7:B:142:GLY:CA	7:B:143:GLN:NE2	2.74	0.46
13:H:85:ASP:OD2	13:H:87:SER:HB3	2.16	0.46
29:X:66:U:H1'	29:X:87:G:N2	2.31	0.46
29:X:2687:G:O2'	29:X:2688:G:H5'	2.15	0.46
9:D:77:PHE:CD1	9:D:77:PHE:N	2.84	0.46
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.51	0.46
29:X:1036:G:C4	29:X:1145:C:H1'	2.51	0.46
29:X:1208:A:H2'	29:X:1209:G:O4'	2.16	0.46
29:X:1209:G:C2	29:X:1210:C:C5	3.04	0.46
29:X:340:G:H4'	29:X:341:A:OP1	2.14	0.46
29:X:459:A:H4'	29:X:461:A:N7	2.30	0.46
6:A:133:LEU:O	6:A:136:VAL:N	2.44	0.46
6:A:72:LYS:NZ	6:A:99:ASP:OD2	2.49	0.46
6:A:55:GLY:C	6:A:56:GLY:O	2.54	0.46
18:M:108:ARG:O	18:M:109:GLU:CB	2.62	0.46
17:L:18:ARG:NH2	29:X:2271:C:O5'	2.49	0.46
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.97	0.46
29:X:2309:G:N2	29:X:2365:U:C2	2.84	0.46
29:X:947:C:H2'	29:X:948:C:H6	1.81	0.46
15:J:44:LYS:CB	15:J:47:GLN:HG3	2.39	0.46
29:X:2799:C:C4	29:X:2800:C:N3	2.83	0.46
22:Q:7:LEU:HD11	27:V:26:MET:HG3	1.98	0.46
29:X:756:C:H2'	29:X:757:U:H5'	1.97	0.46
29:X:1920:A:C2	29:X:1922:U:C5	3.04	0.46
29:X:2849:C:C2'	29:X:2850:U:H5''	2.46	0.46
12:G:86:ALA:HA	12:G:123:PRO:HB3	1.96	0.46
12:G:122:HIS:C	12:G:124:GLU:OE1	2.54	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:215:LEU:HD12	6:A:215:LEU:N	2.31	0.46
29:X:1391:A:N7	29:X:1393:G:C6	2.83	0.46
29:X:2561:G:H5'	29:X:2561:G:H8	1.80	0.46
7:B:19:ARG:O	7:B:19:ARG:HG3	2.15	0.46
29:X:678:G:O2'	29:X:679:C:H5'	2.16	0.46
29:X:13:A:N3	29:X:15:G:O6	2.49	0.46
29:X:194:G:H3'	29:X:195:A:C8	2.49	0.46
19:N:59:ARG:O	19:N:63:GLN:HG3	2.16	0.46
29:X:2718:A:C2	29:X:2719:U:H1'	2.51	0.46
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.51	0.46
23:R:105:ARG:NH2	23:R:112:LYS:CA	2.67	0.46
29:X:2043:A:C2	29:X:2481:G:C5	3.04	0.46
6:A:186:HIS:O	6:A:188:GLU:N	2.45	0.46
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.98	0.46
29:X:1819:U:O2'	29:X:1820:G:H5'	2.16	0.46
29:X:2585:C:O2'	29:X:2586:G:H5'	2.16	0.46
9:D:123:ASP:HB3	9:D:127:ASN:HB2	1.97	0.46
18:M:33:VAL:HG23	18:M:94:VAL:HG21	1.97	0.46
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.46
18:M:5:ILE:C	18:M:5:ILE:HD12	2.35	0.46
14:I:102:LYS:C	14:I:104:ARG:H	2.17	0.46
29:X:2359:U:N3	29:X:2360:C:C5	2.85	0.46
13:H:133:VAL:HG12	18:M:38:LYS:NZ	2.31	0.46
29:X:1074:G:C2	29:X:1075:C:H1'	2.50	0.46
24:S:137:ASP:O	24:S:138:VAL:HG13	2.16	0.46
12:G:66:HIS:C	19:N:67:ALA:HB1	2.37	0.46
19:N:93:LYS:O	19:N:94:VAL:CG2	2.64	0.46
29:X:1373:G:N2	29:X:2193:C:H1'	2.30	0.46
29:X:1920:A:N1	29:X:1922:U:H5	2.13	0.46
29:X:2870:C:H2'	29:X:2871:U:H6	1.81	0.46
29:X:2849:C:O2'	29:X:2850:U:H5''	2.16	0.46
24:S:47:SER:OG	24:S:48:THR:N	2.49	0.46
29:X:185:C:H2'	29:X:186:C:H6	1.81	0.46
11:F:103:GLN:CD	11:F:103:GLN:H	2.19	0.46
12:G:79:PHE:CZ	12:G:147:ARG:NE	2.84	0.46
29:X:1455:C:O2'	29:X:1456:C:H5'	2.16	0.46
8:C:187:VAL:O	8:C:187:VAL:HG12	2.15	0.46
23:R:83:LEU:O	23:R:84:VAL:CG2	2.59	0.45
23:R:88:THR:O	23:R:89:GLY:C	2.54	0.45
23:R:93:ARG:NH1	23:R:108:VAL:C	2.70	0.45
14:I:17:LYS:NZ	29:X:1258:G:OP2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:327:C:H2'	29:X:328:A:H5'	1.98	0.45
8:C:44:SER:HG	29:X:37:C:H1'	1.81	0.45
29:X:537:C:O2	29:X:537:C:H2'	2.17	0.45
6:A:268:ARG:HB3	6:A:269:PHE:CD2	2.51	0.45
6:A:157:ARG:HD2	29:X:1810:U:C6	2.51	0.45
4:4:7:VAL:HG22	4:4:34:GLN:HB3	1.97	0.45
9:D:10:ASP:CA	9:D:14:PRO:HD2	2.46	0.45
31:Z:27:A:N6	31:Z:56:G:OP2	2.50	0.45
9:D:92:ARG:NH1	31:Z:46:G:C4'	2.67	0.45
7:B:14:ILE:CD1	7:B:183:LEU:HD12	2.46	0.45
14:I:116:ARG:HG2	14:I:117:ALA:H	1.80	0.45
29:X:649:G:N2	29:X:661:C:C2	2.84	0.45
11:F:42:ASN:HA	11:F:45:THR:HG23	1.98	0.45
27:V:39:GLN:HB3	27:V:42:ARG:HB2	1.98	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.64	0.45
8:C:164:VAL:HB	8:C:165:SER:H	1.41	0.45
15:J:19:THR:CG2	31:Z:93:G:H5'	2.45	0.45
24:S:133:GLU:O	24:S:134:LEU:HB2	2.16	0.45
29:X:109:A:C2	29:X:110:U:C2	3.04	0.45
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.51	0.45
20:O:49:GLU:C	20:O:51:ALA:N	2.68	0.45
29:X:1513:U:OP2	29:X:1514:C:H5	1.99	0.45
9:D:136:LEU:C	9:D:137:ILE:HG12	2.37	0.45
29:X:2289:A:H3'	29:X:2290:A:C8	2.51	0.45
29:X:88:G:O5'	29:X:89:A:H5''	2.15	0.45
29:X:2055:G:C6	29:X:2056:C:C4	3.04	0.45
25:T:3:HIS:HD2	25:T:5:LYS:CD	2.15	0.45
10:E:18:ASN:CB	10:E:25:LYS:HB3	2.33	0.45
10:E:109:TYR:O	10:E:110:SER:C	2.55	0.45
29:X:2642:G:O2'	29:X:2643:G:H5'	2.16	0.45
29:X:427:C:H2'	29:X:428:A:H8	1.79	0.45
10:E:38:ASN:HB2	10:E:41:LEU:CB	2.42	0.45
15:J:75:VAL:HG21	15:J:93:TYR:CE2	2.51	0.45
24:S:56:VAL:O	24:S:57:GLU:C	2.54	0.45
29:X:2698:G:H2'	29:X:2699:G:C8	2.51	0.45
29:X:2625:U:C6	29:X:2625:U:OP2	2.69	0.45
15:J:17:ARG:HH11	29:X:969:U:C5'	2.21	0.45
23:R:52:ASN:HD21	23:R:71:GLN:NE2	2.14	0.45
29:X:196:A:H2	29:X:211:U:O2	1.99	0.45
29:X:438:G:H2'	29:X:439:C:C6	2.50	0.45
29:X:1024:G:O2'	29:X:1025:A:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:122:G:O2'	29:X:123:A:H5''	2.16	0.45
12:G:106:TYR:O	12:G:110:LEU:CD1	2.64	0.45
12:G:94:LYS:O	12:G:117:GLU:N	2.49	0.45
23:R:90:LYS:HG3	23:R:91:ALA:O	2.16	0.45
29:X:2038:C:H2'	29:X:2483:U:H4'	1.98	0.45
29:X:695:G:H2'	29:X:696:U:C6	2.51	0.45
6:A:134:ARG:HH21	6:A:135:PHE:HZ	1.63	0.45
29:X:2199:C:C2	29:X:2200:G:C8	3.04	0.45
29:X:796:A:C3'	29:X:796:A:C8	3.00	0.45
29:X:1724:C:C2'	29:X:1725:C:H5'	2.46	0.45
29:X:862:A:H2'	29:X:863:C:O4'	2.16	0.45
15:J:111:THR:HG23	15:J:114:GLN:CG	2.46	0.45
15:J:136:GLU:OE1	15:J:136:GLU:HA	2.16	0.45
15:J:28:VAL:H	15:J:137:VAL:HG21	1.80	0.45
26:U:15:VAL:O	26:U:16:ASN:C	2.54	0.45
14:I:64:GLY:O	14:I:65:PHE:CB	2.63	0.45
29:X:638:A:H4'	29:X:639:G:H5'	1.98	0.45
11:F:13:PRO:CG	11:F:52:ILE:HG12	2.44	0.45
29:X:1234:C:O2	29:X:1242:A:C2	2.70	0.45
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.45
27:V:17:GLU:O	27:V:21:ARG:HD3	2.16	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
29:X:2797:G:O2'	29:X:2798:A:O5'	2.34	0.45
20:O:19:VAL:HG13	20:O:90:PHE:CG	2.51	0.45
29:X:1173:G:C4	29:X:1174:G:C8	3.04	0.45
29:X:1288:A:C2	29:X:1289:A:H1'	2.51	0.45
29:X:2404:A:O2'	29:X:2405:A:OP2	2.32	0.45
29:X:1376:C:C2	29:X:1377:G:C8	3.05	0.45
21:P:12:LYS:O	21:P:16:GLN:HG2	2.16	0.45
29:X:1858:C:C2'	29:X:1859:A:O5'	2.64	0.45
15:J:77:LYS:HG3	15:J:78:LYS:N	2.30	0.45
15:J:81:GLU:HG2	15:J:82:THR:H	1.80	0.45
29:X:2849:C:H2'	29:X:2850:U:H5'	1.97	0.45
12:G:154:GLU:N	12:G:157:PRO:CG	2.75	0.45
29:X:404:A:C6	29:X:405:C:C4	3.05	0.45
12:G:59:ALA:O	12:G:62:ILE:HB	2.16	0.45
29:X:745:C:H2'	29:X:746:G:O4'	2.16	0.45
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.99	0.45
29:X:192:G:O2'	29:X:193:A:OP2	2.32	0.45
22:Q:91:LEU:CD2	22:Q:91:LEU:H	2.29	0.45
29:X:1802:A:C2'	29:X:1803:G:H5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
29:X:741:G:C4	29:X:743:A:C8	3.04	0.45
29:X:1847:G:O5'	29:X:1847:G:H8	1.99	0.45
8:C:173:ALA:HB1	8:C:193:LEU:CB	2.47	0.45
8:C:45:THR:O	8:C:87:LYS:NZ	2.47	0.45
23:R:93:ARG:O	23:R:95:ARG:CD	2.64	0.45
29:X:20:C:N4	29:X:21:A:H62	2.14	0.45
29:X:2043:A:C2	29:X:2481:G:C6	3.04	0.45
29:X:815:A:C5	29:X:816:U:C4	3.04	0.45
6:A:121:PRO:HA	6:A:132:PRO:HD2	1.98	0.45
6:A:131:LEU:CD2	6:A:193:ILE:HG12	2.44	0.45
6:A:72:LYS:HG3	6:A:97:TYR:HE2	1.82	0.45
6:A:231:HIS:CE1	6:A:247:VAL:HA	2.52	0.45
29:X:2293:G:H2'	29:X:2294:U:H6	1.82	0.45
29:X:2315:A:C2	29:X:2364:C:H1'	2.51	0.45
29:X:1129:A:H2'	29:X:1130:U:O4'	2.16	0.45
29:X:2209:G:C4	29:X:2210:C:C5	3.04	0.45
29:X:558:G:H2'	29:X:559:C:O4'	2.15	0.45
11:F:122:ALA:CB	29:X:1092:U:H4'	2.46	0.45
8:C:144:GLY:CA	8:C:166:TRP:CE2	2.99	0.45
25:T:71:ASN:ND2	25:T:74:LYS:HA	2.28	0.45
19:N:66:ASN:C	19:N:68:GLY:N	2.65	0.45
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.98	0.45
29:X:1681:A:C8	29:X:1681:A:O5'	2.70	0.45
29:X:1710:U:C5'	29:X:1711:C:C5	2.93	0.45
21:P:45:ILE:HD11	21:P:57:LEU:CG	2.39	0.45
29:X:2048:C:O2	29:X:2428:U:N3	2.44	0.45
15:J:17:ARG:CZ	29:X:967:G:O6	2.64	0.45
29:X:404:A:C5	29:X:405:C:C4	3.03	0.45
29:X:1651:U:H4'	29:X:1652:G:OP2	2.10	0.45
29:X:1332:G:C2	29:X:1347:C:C2	3.05	0.45
14:I:54:SER:O	14:I:59:ARG:HD3	2.16	0.45
8:C:154:ASP:O	8:C:157:THR:OG1	2.34	0.45
8:C:74:VAL:O	8:C:76:THR:N	2.49	0.45
7:B:136:ARG:NH1	7:B:137:ARG:N	2.65	0.45
23:R:10:HIS:CD2	23:R:44:GLN:HE21	2.35	0.45
29:X:1033:G:N2	29:X:1035:G:N2	2.64	0.45
29:X:2043:A:H1'	29:X:2481:G:O4'	2.16	0.45
29:X:329:C:O2'	29:X:330:C:H5'	2.17	0.45
29:X:343:A:O2'	29:X:346:C:N4	2.48	0.45
29:X:531:G:O2'	29:X:532:A:H5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:618:A:N9	29:X:632:A:N6	2.65	0.45
29:X:1811:A:O2'	29:X:1812:U:P	2.75	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
29:X:2721:A:H2'	29:X:2722:C:O4'	2.16	0.45
9:D:8:TYR:O	9:D:12:VAL:CB	2.61	0.45
17:L:37:HIS:HB2	31:Z:30:C:OP1	2.13	0.45
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.16	0.45
15:J:64:LYS:O	15:J:107:VAL:HA	2.16	0.45
7:B:38:THR:CG2	7:B:39:ALA:N	2.79	0.45
14:I:72:TYR:CE1	14:I:105:PRO:HG3	2.51	0.45
29:X:2323:U:C6	29:X:2323:U:H3'	2.51	0.45
11:F:50:ASP:HB3	11:F:76:TYR:CE2	2.51	0.45
20:O:38:LEU:O	20:O:39:PHE:CB	2.64	0.45
29:X:1173:G:C6	29:X:1174:G:N7	2.84	0.45
29:X:1174:G:N2	29:X:1175:A:C4	2.84	0.45
16:K:94:TYR:CZ	16:K:115:LEU:O	2.70	0.45
22:Q:77:LYS:HG3	22:Q:78:ALA:N	2.30	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.33	0.45
29:X:654:A:N3	29:X:654:A:C2'	2.80	0.45
29:X:805:G:C8	29:X:2419:C:H1'	2.51	0.45
29:X:1373:G:N2	29:X:1374:G:O4'	2.50	0.45
29:X:2576:G:C6	29:X:2577:A:C6	3.05	0.45
22:Q:64:ARG:O	22:Q:65:VAL:HG22	2.17	0.45
19:N:33:ARG:HH11	19:N:33:ARG:HG3	1.81	0.45
16:K:84:ALA:N	16:K:85:PRO:CD	2.80	0.45
29:X:1491:C:C2	29:X:1492:A:C8	3.04	0.45
11:F:62:ASP:HB3	11:F:63:ARG:CZ	2.46	0.45
8:C:54:THR:HB	8:C:73:SER:HB3	1.98	0.45
29:X:181:A:H1'	29:X:183:U:C5	2.52	0.45
18:M:8:ASN:HA	29:X:2851:G:OP1	2.16	0.45
8:C:101:GLN:C	8:C:103:GLY:N	2.70	0.45
29:X:1796:A:C2	29:X:1797:C:C5	3.04	0.45
8:C:50:GLN:HB2	29:X:814:G:OP1	2.17	0.45
6:A:91:ARG:HE	6:A:198:ASN:HA	1.81	0.45
6:A:200:GLU:OE1	29:X:1812:U:C2	2.69	0.45
4:4:11:CYS:HG	4:4:32:HIS:CE1	2.35	0.45
6:A:42:GLY:H	6:A:43:ARG:NH1	2.15	0.45
6:A:52:ARG:NH2	6:A:53:PHE:CZ	2.83	0.45
8:C:102:LEU:HD21	8:C:106:MET:HE1	1.97	0.45
29:X:2827:G:C2	29:X:2828:C:C2	3.05	0.45
17:L:47:ARG:O	17:L:49:GLN:N	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:54:U:H2'	31:Z:55:C:O4'	2.17	0.45
26:U:28:GLY:HA3	26:U:32:ARG:CB	2.45	0.45
28:W:46:THR:OG1	29:X:864:C:H5''	2.16	0.45
29:X:862:A:C4	29:X:863:C:C5	3.04	0.45
29:X:2351:G:C2	29:X:2352:A:N7	2.84	0.45
10:E:9:ILE:HG22	10:E:11:VAL:CG2	2.46	0.45
11:F:119:SER:O	11:F:121:GLU:N	2.50	0.45
29:X:872:G:O2'	29:X:873:U:C6	2.68	0.45
19:N:81:ASN:ND2	19:N:85:ARG:HE	2.14	0.45
9:D:108:LEU:HD22	9:D:114:PHE:HE1	1.80	0.45
26:U:41:VAL:CG2	26:U:42:GLN:N	2.66	0.45
22:Q:58:VAL:O	22:Q:75:ARG:N	2.41	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45
29:X:1385:C:C1'	29:X:2192:U:C6	2.94	0.45
25:T:3:HIS:CD2	25:T:4:LYS:H	2.34	0.45
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.99	0.45
29:X:1086:C:C2'	29:X:1087:C:H5''	2.46	0.45
29:X:1086:C:H2'	29:X:1087:C:H5''	1.99	0.45
29:X:2386:G:H2'	29:X:2387:U:H6	1.82	0.45
29:X:2058:U:C2	29:X:2414:A:C2	3.05	0.45
29:X:2438:A:C6	29:X:2473:G:C2	3.05	0.45
29:X:1324:G:O2'	29:X:1325:U:O5'	2.32	0.45
29:X:832:A:H2'	29:X:833:A:O5'	2.17	0.45
7:B:143:GLN:HB3	29:X:2553:G:O2'	2.17	0.45
10:E:160:LYS:NZ	29:X:2636:A:O3'	2.50	0.45
29:X:965:G:C2'	29:X:2253:A:N1	2.79	0.45
11:F:111:LYS:HE3	11:F:111:LYS:HB3	1.87	0.45
29:X:2511:G:C4	29:X:2512:A:C8	3.05	0.45
29:X:620:G:O2'	29:X:621:U:H5'	2.17	0.45
29:X:24:G:H2'	29:X:25:U:C6	2.51	0.45
29:X:2602:G:H2'	29:X:2603:G:H8	1.82	0.45
19:N:24:PHE:CD1	29:X:543:G:C5'	2.97	0.45
23:R:25:LEU:N	23:R:25:LEU:HD13	2.32	0.45
29:X:689:A:H8	29:X:2052:G:H21	1.58	0.45
6:A:257:LEU:O	6:A:258:LYS:C	2.55	0.45
6:A:226:MET:HB3	6:A:230:ASP:HB2	1.98	0.45
29:X:1773:C:C2'	29:X:2587:G:O2'	2.65	0.45
18:M:100:ARG:O	18:M:101:ARG:HB3	2.15	0.45
9:D:14:PRO:O	9:D:15:ALA:C	2.55	0.45
29:X:2282:G:C6	29:X:2293:G:C6	3.05	0.45
31:Z:35:C:H2'	31:Z:36:A:H8	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:50:U:H2'	31:Z:51:G:H8	1.81	0.45
31:Z:54:U:H2'	31:Z:55:C:C6	2.51	0.45
29:X:492:G:O2'	29:X:517:A:N6	2.50	0.45
18:M:9:ARG:O	18:M:13:LEU:HD13	2.16	0.45
14:I:120:VAL:HG11	14:I:122:VAL:HG13	1.99	0.45
29:X:651:C:H42	29:X:658:G:H1	1.63	0.45
13:H:47:VAL:HG12	13:H:117:GLU:CD	2.36	0.45
31:Z:93:G:N2	31:Z:94:G:H1'	2.31	0.45
29:X:664:C:O2'	29:X:665:A:OP1	2.31	0.45
29:X:2797:G:H8	29:X:2797:G:O5'	2.00	0.45
20:O:6:GLN:O	20:O:7:THR:CB	2.64	0.45
29:X:2290:A:C8	29:X:2290:A:O5'	2.70	0.45
29:X:2779:C:C6	29:X:2779:C:H3'	2.51	0.45
10:E:113:VAL:HG11	10:E:151:VAL:HG13	1.98	0.45
22:Q:25:TYR:CD2	22:Q:25:TYR:N	2.84	0.45
10:E:38:ASN:H	10:E:41:LEU:CD2	2.29	0.45
15:J:78:LYS:HG3	15:J:80:ALA:H	1.81	0.45
29:X:2437:G:O2'	29:X:2439:U:C4	2.70	0.45
22:Q:68:PHE:C	22:Q:69:ILE:HD12	2.35	0.45
17:L:32:TYR:CE1	31:Z:9:G:H5''	2.51	0.45
8:C:8:GLY:O	8:C:9:GLN:CB	2.62	0.45
22:Q:12:ILE:O	22:Q:16:ALA:HB3	2.17	0.45
29:X:1393:G:C2	29:X:1394:G:C8	3.05	0.45
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	2.14	0.45
29:X:677:G:H4'	29:X:951:G:H5''	1.99	0.45
7:B:35:GLN:HB3	7:B:48:GLN:HB3	1.99	0.45
29:X:1608:U:H2'	29:X:1609:G:C8	2.51	0.45
12:G:43:VAL:HG23	12:G:165:VAL:HA	1.98	0.45
7:B:136:ARG:HH12	7:B:137:ARG:HA	1.82	0.45
12:G:107:GLN:C	12:G:109:GLY:N	2.69	0.45
29:X:2036:G:O2'	29:X:2037:A:H5'	2.17	0.45
29:X:235:C:C5	29:X:236:C:C5	3.05	0.45
29:X:235:C:C5	29:X:236:C:C4	3.04	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:314:G:C6	29:X:326:A:C2	3.05	0.45
29:X:482:A:HO2'	29:X:483:A:H5'	1.78	0.45
29:X:1963:G:HO2'	29:X:1965:U:P	2.39	0.45
31:Z:38:C:OP2	31:Z:38:C:H6	1.98	0.45
26:U:28:GLY:HA3	26:U:32:ARG:N	2.32	0.45
15:J:29:ALA:O	15:J:30:PHE:HB2	2.17	0.45
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.61	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:5:LEU:CD1	7:B:81:PHE:HZ	2.29	0.45
29:X:2380:U:C4	29:X:2381:A:C2	3.05	0.45
29:X:2324:G:C2	29:X:2360:C:H2'	2.52	0.45
11:F:53:ILE:CG2	11:F:54:PRO:HD2	2.47	0.45
29:X:732:G:O5'	29:X:732:G:C8	2.70	0.45
19:N:49:ASP:O	19:N:53:LYS:HG2	2.16	0.45
9:D:138:PHE:N	9:D:138:PHE:HD1	2.15	0.45
9:D:138:PHE:N	9:D:138:PHE:CD1	2.83	0.45
9:D:36:VAL:CG1	9:D:57:LEU:HD22	2.45	0.45
29:X:2770:A:O2'	29:X:2771:C:P	2.75	0.45
16:K:115:LEU:HA	16:K:115:LEU:HD23	1.63	0.45
22:Q:27:PHE:CD1	22:Q:27:PHE:N	2.85	0.45
29:X:2652:G:C2	29:X:2653:A:C8	3.05	0.45
26:U:22:GLY:N	26:U:39:LYS:HD2	2.32	0.45
29:X:1777:A:H1'	29:X:1921:A:N6	2.32	0.45
29:X:203:G:N2	29:X:204:A:H2	2.15	0.45
22:Q:51:ILE:HD12	22:Q:82:LEU:O	2.17	0.45
23:R:59:LYS:HD3	23:R:62:MET:HG3	1.97	0.45
29:X:198:A:C8	29:X:243:G:C5	3.04	0.45
29:X:415:A:H2'	29:X:416:U:O4'	2.17	0.45
29:X:415:A:O2'	29:X:416:U:H5'	2.16	0.45
8:C:122:GLY:CA	8:C:124:ASP:OD1	2.61	0.45
29:X:2876:C:H2'	29:X:2877:A:C8	2.50	0.45
6:A:164:GLN:OE1	6:A:176:ARG:HB3	2.17	0.45
29:X:2738:A:C2'	29:X:2739:G:H5'	2.46	0.45
26:U:72:LYS:HB2	26:U:73:GLY:H	1.57	0.45
23:R:93:ARG:CG	23:R:93:ARG:HH11	2.16	0.45
29:X:1147:G:C4	29:X:1148:G:C8	3.05	0.45
29:X:2756:A:O2'	29:X:2761:A:O2'	2.32	0.45
29:X:311:A:N3	29:X:330:C:H1'	2.32	0.45
29:X:33:C:N4	29:X:458:G:O2'	2.50	0.45
29:X:529:U:H2'	29:X:530:G:C8	2.45	0.45
29:X:623:G:C6	29:X:627:A:N6	2.85	0.45
6:A:143:HIS:HD2	6:A:196:VAL:HG12	1.82	0.45
6:A:144:ALA:O	6:A:153:ALA:CB	2.65	0.45
29:X:1773:C:O4'	29:X:2588:U:C2	2.70	0.45
15:J:15:ARG:HD3	15:J:73:LYS:NZ	2.31	0.45
29:X:837:U:C2	29:X:838:A:C8	3.05	0.45
29:X:2264:C:H4'	29:X:2267:A:C5	2.51	0.45
29:X:1072:U:O4'	29:X:1081:A:H1'	2.17	0.45
13:H:47:VAL:H	13:H:77:THR:HG21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:133:LYS:O	9:D:134:GLU:C	2.54	0.45
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.46	0.45
9:D:70:ALA:O	9:D:82:GLY:HA2	2.17	0.45
24:S:123:VAL:CA	24:S:161:ALA:HB2	2.45	0.45
13:H:110:VAL:HG12	13:H:111:PHE:H	1.82	0.45
29:X:1376:C:H2'	29:X:1377:G:O4'	2.17	0.45
13:H:17:ARG:HE	13:H:59:ALA:HB2	1.82	0.45
20:O:30:GLY:O	20:O:31:ASP:C	2.55	0.45
29:X:496:C:C2'	29:X:497:C:H5''	2.47	0.45
29:X:2646:C:H2'	29:X:2647:G:O4'	2.17	0.45
29:X:1730:G:C6	29:X:1737:G:N1	2.85	0.45
12:G:162:LYS:NZ	29:X:2873:G:H21	2.15	0.45
12:G:45:ASP:O	12:G:54:LEU:HD11	2.16	0.45
29:X:1586:A:C5	29:X:1587:A:N7	2.85	0.45
29:X:13:A:C2	29:X:15:G:C6	3.04	0.45
16:K:72:ASP:CG	16:K:75:VAL:HG23	2.37	0.45
29:X:165:G:O2'	29:X:166:G:H5'	2.16	0.45
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.99	0.45
7:B:147:PRO:HG3	29:X:1141:U:C2	2.51	0.45
29:X:2030:U:O2'	29:X:2031:A:C5'	2.65	0.45
29:X:330:C:C4	29:X:331:U:C4	3.05	0.45
30:Y:6:VAL:HG13	30:Y:7:PRO:HD2	1.98	0.45
10:E:139:GLN:O	10:E:140:LEU:C	2.55	0.45
18:M:100:ARG:HB3	18:M:100:ARG:HE	1.65	0.45
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.99	0.45
25:T:20:TYR:O	25:T:21:LEU:HB2	2.17	0.45
28:W:40:VAL:HG12	28:W:40:VAL:O	2.17	0.45
15:J:103:VAL:O	15:J:103:VAL:CG1	2.63	0.45
15:J:12:LYS:HD3	29:X:923:A:C6	2.52	0.45
15:J:12:LYS:O	15:J:13:GLN:CB	2.48	0.45
29:X:1107:A:C2'	29:X:1108:U:H5''	2.47	0.45
27:V:25:LEU:HD21	27:V:47:ARG:CD	2.47	0.45
11:F:26:ALA:O	11:F:30:TYR:HE2	2.00	0.45
29:X:1556:A:H2'	29:X:1557:G:H8	1.82	0.45
29:X:1558:C:C2'	29:X:1559:G:O5'	2.65	0.45
8:C:165:SER:O	8:C:166:TRP:O	2.34	0.45
15:J:19:THR:HG21	15:J:99:LYS:HZ2	1.81	0.45
29:X:876:A:C2	29:X:877:G:C4	3.05	0.45
31:Z:15:A:N1	31:Z:72:C:H5'	2.31	0.45
29:X:2629:U:H2'	29:X:2630:C:H6	1.82	0.45
21:P:11:LYS:O	21:P:13:GLN:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2229:G:O4'	29:X:2229:G:N3	2.46	0.45
23:R:17:LYS:HB3	23:R:18:LYS:CE	2.47	0.45
29:X:2849:C:H2'	29:X:2850:U:H5''	1.98	0.45
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.05	0.45
31:Z:62:C:H2'	31:Z:63:A:H8	1.81	0.45
13:H:4:PRO:O	13:H:5:GLN:HB2	2.17	0.45
29:X:677:G:H5'	29:X:951:G:H4'	1.98	0.45
29:X:2847:G:C4	29:X:2848:A:N7	2.85	0.45
29:X:764:A:C6	29:X:802:A:C6	3.05	0.45
29:X:1714:A:OP2	29:X:1715:A:H3'	2.16	0.45
6:A:61:LEU:HG	29:X:1584:G:H5''	1.99	0.45
22:Q:15:LYS:CG	29:X:1404:C:O2	2.64	0.45
29:X:24:G:C4	29:X:25:U:C6	3.05	0.45
29:X:849:G:C5	29:X:850:C:C4	3.04	0.45
9:D:94:GLU:O	9:D:98:VAL:HG23	2.17	0.45
31:Z:2:C:HO5'	31:Z:2:C:H6	1.64	0.45
29:X:1520:G:H2'	29:X:1521:U:O4'	2.17	0.45
12:G:93:LYS:HE3	29:X:1151:U:O4	2.17	0.45
23:R:23:ILE:HD12	23:R:23:ILE:O	2.17	0.45
7:B:154:LYS:HE3	29:X:2598:C:O2'	2.17	0.45
29:X:522:G:HO2'	29:X:523:A:P	2.40	0.45
8:C:94:THR:HG21	29:X:618:A:OP1	2.17	0.45
8:C:93:TYR:CE1	29:X:673:G:H5'	2.51	0.45
29:X:808:C:O2'	29:X:809:C:H5'	2.17	0.45
29:X:1793:A:O5'	29:X:1793:A:H8	1.99	0.45
6:A:42:GLY:H	6:A:43:ARG:CZ	2.30	0.45
29:X:1778:U:C4	29:X:1779:C:N4	2.85	0.45
17:L:76:ALA:HB1	17:L:111:GLY:CA	2.47	0.45
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.45
28:W:9:VAL:CG1	28:W:17:VAL:HG22	2.47	0.45
24:S:8:ARG:O	24:S:10:PRO:HD3	2.17	0.45
18:M:32:THR:HG22	18:M:33:VAL:H	1.82	0.45
26:U:12:ASN:O	26:U:13:LEU:O	2.35	0.45
11:F:41:PHE:CE1	11:F:55:VAL:HG21	2.52	0.45
29:X:1073:G:H2'	29:X:1074:G:H8	1.81	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
19:N:79:PHE:CE2	19:N:83:LEU:CD1	2.99	0.45
20:O:26:GLN:O	20:O:27:GLY:C	2.55	0.45
29:X:1008:G:C2	29:X:1170:U:C2	3.06	0.45
9:D:36:VAL:HG13	9:D:152:MET:HE3	1.99	0.45
22:Q:28:TRP:CZ3	22:Q:75:ARG:HB3	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1399:C:O2'	29:X:1400:A:C5'	2.65	0.45
29:X:1226:A:C2	29:X:1250:A:H1'	2.51	0.45
29:X:1939:U:C4	29:X:1940:C:C4	3.05	0.45
29:X:2870:C:H2'	29:X:2871:U:C6	2.52	0.45
29:X:2179:C:H2'	29:X:2180:U:O4'	2.17	0.45
12:G:85:ALA:C	12:G:87:GLN:N	2.70	0.45
22:Q:16:ALA:O	22:Q:19:ALA:HB3	2.16	0.45
29:X:2487:G:C2	29:X:2561:G:C6	3.05	0.45
11:F:60:TYR:O	11:F:61:ALA:CB	2.65	0.45
29:X:677:G:C4'	29:X:951:G:H5''	2.46	0.45
29:X:194:G:O6	29:X:444:U:O2	2.35	0.45
24:S:173:PRO:HB2	24:S:174:PRO:HD2	1.98	0.45
13:H:3:MET:O	13:H:6:SER:HB2	2.16	0.45
6:A:60:ARG:CZ	29:X:1583:A:OP1	2.64	0.45
29:X:2088:U:H2'	29:X:2089:C:C6	2.52	0.45
22:Q:84:GLU:HA	22:Q:84:GLU:OE2	2.17	0.45
21:P:35:PRO:O	21:P:39:ARG:HD2	2.17	0.44
23:R:10:HIS:O	23:R:11:ASN:CB	2.59	0.44
23:R:85:ASP:C	23:R:87:GLU:H	2.21	0.44
29:X:1153:A:O2'	29:X:1154:A:C3'	2.65	0.44
29:X:2026:C:N3	29:X:2757:G:C2	2.85	0.44
29:X:474:G:N2	29:X:477:A:C8	2.85	0.44
6:A:82:ILE:HG21	6:A:91:ARG:HB3	1.98	0.44
9:D:123:ASP:CB	9:D:127:ASN:HB2	2.48	0.44
17:L:15:ARG:CD	17:L:91:ARG:NH1	2.65	0.44
17:L:64:LYS:HZ3	31:Z:53:G:P	2.40	0.44
17:L:97:HIS:CD2	17:L:98:GLY:N	2.72	0.44
15:J:59:PHE:HE2	15:J:114:GLN:O	2.00	0.44
11:F:53:ILE:HA	11:F:72:PRO:HA	1.99	0.44
10:E:9:ILE:HG22	10:E:11:VAL:HG22	1.99	0.44
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.46	0.44
19:N:93:LYS:HE3	20:O:5:ILE:HB	1.99	0.44
26:U:21:ARG:NH1	29:X:394:U:OP2	2.50	0.44
29:X:2661:G:N2	29:X:2662:C:H1'	2.32	0.44
29:X:2707:G:H2'	29:X:2708:U:H6	1.82	0.44
29:X:1289:A:C2	29:X:1290:A:C8	3.05	0.44
29:X:757:U:H2'	29:X:758:G:C5'	2.47	0.44
21:P:78:ASN:O	21:P:79:ALA:C	2.54	0.44
22:Q:25:TYR:CD2	22:Q:82:LEU:HD11	2.52	0.44
14:I:28:LYS:HZ2	14:I:36:GLY:CA	2.30	0.44
19:N:31:GLN:NE2	29:X:589:C:C4'	2.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:43:PHE:CE1	24:S:47:SER:HA	2.52	0.44
29:X:1600:U:H5'	29:X:1601:U:OP1	2.16	0.44
29:X:82:G:C2	29:X:100:G:H2'	2.52	0.44
29:X:1715:A:OP1	29:X:1715:A:H8	1.99	0.44
29:X:1716:G:O3'	29:X:1717:A:H4'	2.17	0.44
29:X:1991:C:O2'	29:X:1992:G:H5'	2.17	0.44
7:B:85:ALA:N	7:B:86:PRO:HD2	2.30	0.44
16:K:66:VAL:CG1	16:K:70:ILE:HG13	2.48	0.44
29:X:1607:A:HO2'	29:X:1608:U:P	2.41	0.44
29:X:91:A:H2'	29:X:92:U:C6	2.52	0.44
8:C:28:HIS:O	8:C:29:GLU:C	2.56	0.44
8:C:83:ALA:O	8:C:84:PHE:CB	2.64	0.44
21:P:39:ARG:O	21:P:43:ASP:N	2.46	0.44
29:X:2759:U:H4'	29:X:2760:G:H5''	1.99	0.44
6:A:143:HIS:HE1	6:A:193:ILE:O	2.00	0.44
6:A:200:GLU:OE1	29:X:1812:U:N3	2.50	0.44
6:A:216:GLY:O	6:A:217:ARG:O	2.34	0.44
6:A:250:TRP:O	6:A:255:LYS:HD2	2.17	0.44
6:A:49:ILE:HG22	29:X:792:U:P	2.57	0.44
6:A:208:LYS:HD2	29:X:1764:A:N6	2.31	0.44
29:X:1775:A:H3'	29:X:1775:A:P	2.55	0.44
29:X:1820:G:O2'	29:X:1821:A:C5'	2.65	0.44
8:C:112:GLN:HB3	8:C:116:LYS:HD3	1.98	0.44
17:L:33:ARG:HH22	17:L:103:LEU:CA	2.31	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
29:X:939:C:C4'	29:X:940:G:O5'	2.65	0.44
26:U:63:SER:O	26:U:66:ALA:N	2.43	0.44
18:M:38:LYS:O	18:M:40:ARG:N	2.50	0.44
27:V:1:MET:HG3	27:V:3:PRO:CD	2.48	0.44
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
8:C:144:GLY:HA2	8:C:166:TRP:NE1	2.32	0.44
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.45	0.44
24:S:132:GLN:O	24:S:133:GLU:HB3	2.17	0.44
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.00	0.44
12:G:66:HIS:CA	19:N:67:ALA:HB1	2.46	0.44
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.33	0.44
29:X:1003:C:O2	29:X:1003:C:H2'	2.16	0.44
29:X:1175:A:O2'	29:X:1176:U:H5'	2.17	0.44
9:D:108:LEU:O	9:D:111:ILE:HG13	2.16	0.44
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.99	0.44
25:T:56:ASP:CG	25:T:58:THR:OG1	2.56	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:55:THR:O	22:Q:56:MET:CG	2.65	0.44
6:A:39:LYS:HA	6:A:39:LYS:HD2	1.73	0.44
6:A:37:LEU:CD1	29:X:1808:C:H41	2.29	0.44
29:X:2634:G:O2'	29:X:2643:G:C6	2.71	0.44
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.37	0.44
29:X:2057:U:H1'	29:X:2577:A:N3	2.32	0.44
29:X:984:A:C4	29:X:1202:U:C4	3.05	0.44
29:X:1698:C:H4'	29:X:1699:A:OP2	2.13	0.44
25:T:32:LYS:HB2	25:T:35:ASN:ND2	2.32	0.44
29:X:1645:U:H2'	29:X:1646:G:O4'	2.17	0.44
13:H:7:ARG:HA	13:H:20:MET:HA	1.99	0.44
28:W:36:ASP:CG	28:W:41:ARG:NH1	2.68	0.44
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.46	0.44
29:X:1462:C:O2'	29:X:1463:A:H5'	2.18	0.44
19:N:40:LEU:HD13	20:O:74:TYR:CE1	2.53	0.44
29:X:1411:C:O2'	29:X:1412:C:H5'	2.17	0.44
10:E:83:TYR:CE1	10:E:138:LYS:HB2	2.52	0.44
21:P:81:HIS:O	21:P:83:ASP:N	2.50	0.44
31:Z:120:G:C6	31:Z:121:G:N7	2.85	0.44
12:G:107:GLN:HA	12:G:110:LEU:CG	2.43	0.44
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.47	0.44
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.98	0.44
23:R:23:ILE:H	23:R:23:ILE:CD1	2.22	0.44
23:R:22:VAL:HG22	23:R:83:LEU:H	1.81	0.44
23:R:93:ARG:C	23:R:95:ARG:NH1	2.70	0.44
29:X:1135:C:C2	29:X:1136:G:N7	2.86	0.44
29:X:1996:A:H2'	29:X:1997:A:H5'	1.97	0.44
29:X:467:U:H3'	29:X:467:U:O2	2.17	0.44
29:X:692:C:H2'	29:X:693:A:C8	2.52	0.44
6:A:158:SER:O	6:A:196:VAL:CG2	2.63	0.44
6:A:179:SER:CB	29:X:1790:G:O6	2.65	0.44
6:A:88:ARG:HG2	6:A:90:ALA:CB	2.37	0.44
6:A:82:ILE:HA	6:A:92:ILE:O	2.17	0.44
6:A:205:VAL:HG23	6:A:207:GLY:H	1.81	0.44
6:A:218:LYS:HZ2	29:X:794:A:H5'	1.81	0.44
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.33	0.44
28:W:25:LEU:HA	28:W:25:LEU:HD23	1.60	0.44
29:X:2073:A:C6	29:X:2074:U:C4	3.06	0.44
7:B:176:ARG:NE	18:M:16:ILE:HG12	2.24	0.44
13:H:22:ILE:HD11	29:X:1935:A:C4	2.52	0.44
31:Z:16:U:O2'	31:Z:110:U:O2'	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:32:TYR:CD1	12:G:33:ILE:N	2.85	0.44
19:N:74:MET:SD	19:N:110:VAL:HG13	2.57	0.44
20:O:36:LYS:NZ	20:O:55:THR:O	2.48	0.44
19:N:58:ARG:CZ	29:X:1008:G:OP2	2.65	0.44
13:H:1:MET:HE1	29:X:2706:U:H1'	2.00	0.44
8:C:98:GLN:NE2	29:X:611:C:O4'	2.48	0.44
29:X:2055:G:N1	29:X:2417:U:C2	2.85	0.44
29:X:2814:G:C4	29:X:2815:C:C6	3.05	0.44
29:X:1375:C:N3	29:X:1376:C:C6	2.85	0.44
29:X:1920:A:N6	29:X:1923:U:H5	2.16	0.44
29:X:1804:U:O2'	29:X:1805:G:H5'	2.16	0.44
29:X:1182:U:H5'	29:X:1182:U:H6	1.81	0.44
10:E:22:GLY:O	10:E:24:PHE:CD1	2.70	0.44
9:D:115:ARG:CB	9:D:178:ARG:HD2	2.39	0.44
29:X:1424:U:H2'	29:X:1425:G:H8	1.82	0.44
12:G:155:THR:O	12:G:156:HIS:C	2.56	0.44
23:R:58:VAL:C	23:R:60:PRO:HD3	2.38	0.44
29:X:1332:G:C2	29:X:1347:C:N3	2.86	0.44
29:X:1629:G:H3'	29:X:1633:C:N4	2.33	0.44
11:F:63:ARG:N	11:F:63:ARG:HD3	2.32	0.44
29:X:1569:A:C5	29:X:1571:G:C4	3.05	0.44
29:X:1013:G:H5''	29:X:1013:G:H8	1.83	0.44
12:G:140:GLN:O	12:G:141:GLY:C	2.54	0.44
14:I:8:PRO:C	29:X:1218:C:O2'	2.55	0.44
23:R:108:VAL:HB	23:R:109:ALA:H	1.44	0.44
23:R:25:LEU:C	23:R:25:LEU:HD13	2.38	0.44
29:X:1136:G:H3'	29:X:1137:A:H8	1.82	0.44
29:X:2036:G:C2'	29:X:2037:A:H5'	2.47	0.44
29:X:1038:U:O2	29:X:2466:G:O3'	2.35	0.44
29:X:309:G:C2	29:X:350:U:C4	3.05	0.44
21:P:39:ARG:HH12	29:X:528:G:H5''	1.83	0.44
29:X:580:A:C5	29:X:584:A:N7	2.86	0.44
29:X:632:A:H2'	29:X:633:G:C5'	2.47	0.44
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.44
29:X:1816:G:C6	29:X:1817:U:C4	3.05	0.44
29:X:1963:G:N3	29:X:1965:U:C5	2.86	0.44
29:X:2824:C:H1'	29:X:2843:A:C5	2.51	0.44
9:D:120:ASN:O	9:D:122:PHE:CE1	2.71	0.44
29:X:2311:U:C3'	29:X:2311:U:O2	2.65	0.44
31:Z:25:G:H2'	31:Z:26:G:C8	2.52	0.44
29:X:936:A:H2'	29:X:937:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:944:A:O2'	29:X:945:G:H5'	2.17	0.44
15:J:112:GLU:O	15:J:115:ALA:HB3	2.17	0.44
26:U:64:ALA:C	26:U:66:ALA:N	2.70	0.44
24:S:105:GLN:O	24:S:109:GLN:CD	2.56	0.44
9:D:133:LYS:O	9:D:151:GLY:CA	2.64	0.44
9:D:40:LEU:HA	9:D:150:ARG:HH21	1.82	0.44
29:X:1248:G:C6	29:X:1249:G:N1	2.86	0.44
29:X:757:U:C2'	29:X:758:G:C5'	2.92	0.44
29:X:1372:A:C5	29:X:1373:G:C8	3.05	0.44
21:P:87:GLU:HA	21:P:90:LEU:CG	2.47	0.44
29:X:2576:G:C6	29:X:2577:A:N6	2.86	0.44
29:X:59:G:N3	29:X:73:A:C2	2.85	0.44
29:X:208:C:N4	29:X:209:G:H21	2.15	0.44
31:Z:3:A:C8	31:Z:3:A:O5'	2.71	0.44
28:W:37:THR:HA	28:W:41:ARG:NH2	2.32	0.44
13:H:121:ARG:HB3	13:H:123:PHE:CD1	2.52	0.44
7:B:80:GLU:OE2	29:X:2615:U:C4'	2.64	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.05	0.44
29:X:2526:U:O2'	29:X:2527:G:H5'	2.17	0.44
29:X:1947:G:N1	29:X:1950:C:C4	2.85	0.44
31:Z:22:U:H2'	31:Z:23:G:C8	2.53	0.44
16:K:56:LYS:HG2	16:K:56:LYS:O	2.16	0.44
24:S:70:GLN:HA	24:S:70:GLN:NE2	2.33	0.44
8:C:161:ALA:HB3	8:C:169:VAL:HG21	1.99	0.44
29:X:1215:A:C2	29:X:1258:G:C4	3.05	0.44
29:X:1281:A:H2'	29:X:1282:A:H8	1.82	0.44
29:X:2759:U:H5''	29:X:2760:G:H3'	1.98	0.44
6:A:149:PRO:CA	6:A:189:CYS:SG	3.06	0.44
4:4:1:MET:HA	4:4:1:MET:CE	2.45	0.44
29:X:2493:U:N3	29:X:2494:C:N4	2.65	0.44
29:X:938:G:O2'	29:X:939:C:O5'	2.26	0.44
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.47	0.44
26:U:11:LYS:NZ	26:U:75:TYR:CB	2.76	0.44
26:U:53:GLU:OE1	26:U:57:VAL:HG13	2.18	0.44
26:U:78:ILE:HD13	26:U:78:ILE:C	2.38	0.44
29:X:2212:U:C2'	29:X:2213:G:H8	2.29	0.44
7:B:59:VAL:HG21	7:B:74:PRO:HB3	1.99	0.44
14:I:116:ARG:CG	14:I:117:ALA:H	2.30	0.44
24:S:127:PRO:O	24:S:128:ARG:CB	2.65	0.44
11:F:69:THR:HG22	11:F:70:LYS:N	2.32	0.44
10:E:10:ALA:O	10:E:12:PRO:HD3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:14:PHE:HE2	27:V:57:LYS:H	1.65	0.44
31:Z:16:U:O2'	31:Z:110:U:H1'	2.18	0.44
20:O:13:ARG:O	20:O:14:VAL:HG23	2.17	0.44
29:X:1005:U:O2	29:X:1007:A:N7	2.51	0.44
29:X:2307:A:H2'	29:X:2308:A:H8	1.80	0.44
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.95	0.44
29:X:2239:C:N3	29:X:2240:C:C5	2.86	0.44
29:X:1375:C:N3	29:X:1376:C:C5	2.85	0.44
29:X:1922:U:O2'	29:X:2571:G:C1'	2.66	0.44
21:P:18:VAL:CG1	21:P:19:LYS:N	2.80	0.44
6:A:249:PRO:CG	29:X:2218:G:H5'	2.47	0.44
23:R:17:LYS:O	23:R:19:GLY:N	2.51	0.44
29:X:2618:A:H1'	29:X:2758:A:C2	2.52	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
25:T:29:GLU:O	25:T:31:VAL:N	2.50	0.44
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.98	0.44
29:X:1842:G:H2'	29:X:1843:U:O4'	2.17	0.44
29:X:2767:C:O2'	29:X:2768:C:H5'	2.17	0.44
24:S:1:MET:N	24:S:52:PHE:HE2	2.15	0.44
29:X:1351:G:C2	29:X:1352:G:C4	3.06	0.44
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.47	0.44
12:G:75:ILE:HD13	12:G:144:MET:HG2	1.99	0.44
14:I:7:LYS:HD3	14:I:7:LYS:N	2.32	0.44
23:R:41:PRO:O	23:R:44:GLN:OE1	2.35	0.44
29:X:2033:C:C4	29:X:2034:A:C6	3.06	0.44
29:X:2423:G:C2	29:X:2424:G:H1'	2.53	0.44
29:X:2031:A:C6	29:X:2600:A:N1	2.85	0.44
6:A:257:LEU:HA	6:A:257:LEU:HD23	1.64	0.44
4:4:8:LYS:H	4:4:34:GLN:HE22	1.66	0.44
6:A:219:PRO:O	6:A:220:HIS:C	2.55	0.44
6:A:247:VAL:CG2	6:A:248:THR:H	2.31	0.44
29:X:777:A:C3'	29:X:778:G:H5'	2.47	0.44
29:X:2828:C:O2'	29:X:2829:A:H5'	2.17	0.44
17:L:39:TYR:O	17:L:41:GLN:N	2.51	0.44
31:Z:116:C:H2'	31:Z:117:G:O4'	2.18	0.44
29:X:2329:C:H2'	29:X:2330:G:C8	2.53	0.44
29:X:2327:U:O4	29:X:2361:G:N2	2.51	0.44
13:H:22:ILE:HG21	13:H:52:VAL:HG12	1.99	0.44
29:X:76:C:H2'	29:X:77:C:H6	1.83	0.44
11:F:25:PRO:O	11:F:26:ALA:C	2.54	0.44
29:X:1552:C:O2	29:X:1553:G:C2	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:99:LYS:CD	15:J:100:PRO:CD	2.95	0.44
29:X:2085:G:H2'	29:X:2086:U:C6	2.53	0.44
29:X:1174:G:N2	29:X:1175:A:C5	2.86	0.44
29:X:2690:A:OP1	29:X:2692:A:OP1	2.36	0.44
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.32	0.44
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.44
21:P:112:GLY:O	21:P:113:SER:C	2.54	0.44
6:A:50:THR:CG2	29:X:1805:G:H21	2.31	0.44
29:X:204:A:N7	29:X:2386:G:C4'	2.81	0.44
6:A:249:PRO:CD	29:X:2218:G:H5'	2.48	0.44
29:X:2232:G:H2'	29:X:2233:C:C6	2.53	0.44
9:D:33:LYS:HE3	9:D:157:VAL:HG21	1.98	0.44
21:P:63:SER:C	21:P:65:SER:N	2.69	0.44
29:X:2666:U:C5	29:X:2667:C:C4	3.06	0.44
29:X:1230:C:N3	29:X:1231:A:N7	2.66	0.44
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.44
16:K:90:ARG:HA	16:K:91:PRO:HD3	1.62	0.44
29:X:184:A:C8	29:X:185:C:C5	3.05	0.44
12:G:123:PRO:N	12:G:124:GLU:OE1	2.50	0.44
11:F:100:ASN:O	11:F:103:GLN:NE2	2.51	0.44
29:X:1621:C:O4'	29:X:1626:A:C6	2.70	0.44
24:S:71:MET:H	24:S:71:MET:HE2	1.83	0.44
29:X:671:A:H2'	29:X:672:C:C6	2.53	0.44
29:X:416:U:H4'	29:X:419:G:C1'	2.47	0.44
24:S:24:TYR:O	24:S:85:MET:HB2	2.17	0.44
29:X:1840:A:C8	29:X:1841:G:C8	3.06	0.44
28:W:38:PRO:HA	28:W:41:ARG:CD	2.47	0.44
29:X:644:A:H2'	29:X:645:G:C4'	2.47	0.44
21:P:41:VAL:O	21:P:44:VAL:HG22	2.18	0.44
29:X:2063:A:H2'	29:X:2064:U:H6	1.82	0.44
25:T:65:GLY:CA	25:T:83:ALA:HA	2.47	0.44
29:X:1832:G:C6	29:X:1833:U:C4	3.06	0.44
29:X:121:G:O3'	29:X:1389:C:H4'	2.17	0.44
25:T:6:GLY:O	25:T:7:VAL:C	2.56	0.44
6:A:204:ILE:HG22	6:A:204:ILE:O	2.17	0.44
7:B:117:MET:SD	7:B:136:ARG:HG3	2.58	0.44
12:G:119:LEU:HD23	12:G:119:LEU:HA	1.64	0.44
23:R:95:ARG:O	23:R:96:LYS:HB3	2.17	0.44
29:X:1031:C:P	29:X:1045:G:H21	2.40	0.44
29:X:2022:C:C4	29:X:2023:C:C5	3.05	0.44
29:X:320:A:O2'	29:X:340:G:H2'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:338:G:N7	29:X:343:A:N7	2.66	0.44
29:X:532:A:H2'	29:X:533:C:H6	1.82	0.44
6:A:147:LEU:HD23	6:A:147:LEU:HA	1.83	0.44
6:A:159:ALA:O	29:X:1812:U:C2	2.70	0.44
6:A:160:GLY:HA2	6:A:197:GLY:HA2	2.00	0.44
6:A:243:GLY:C	6:A:244:ARG:NE	2.71	0.44
29:X:2586:G:C2	29:X:2587:G:C4	3.05	0.44
17:L:107:ALA:C	17:L:109:GLU:N	2.71	0.44
29:X:2301:A:C5	29:X:2312:A:N6	2.85	0.44
18:M:93:ILE:CG2	18:M:94:VAL:N	2.81	0.44
26:U:11:LYS:O	26:U:12:ASN:HB2	2.17	0.44
11:F:42:ASN:HA	11:F:45:THR:HG21	1.99	0.44
24:S:73:LYS:C	24:S:75:LYS:N	2.70	0.44
19:N:60:LEU:HD11	19:N:64:ARG:CZ	2.48	0.44
19:N:108:ALA:O	19:N:109:LEU:C	2.56	0.44
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.17	0.44
10:E:54:ARG:HE	10:E:57:ASP:CA	2.29	0.44
29:X:2499:C:O2'	29:X:2500:C:H5'	2.17	0.44
29:X:1385:C:H1'	29:X:2192:U:C4	2.52	0.44
21:P:85:MET:HE2	21:P:130:GLU:HG3	2.00	0.44
29:X:1094:C:C2'	29:X:1096:A:H5'	2.46	0.44
29:X:427:C:H1'	29:X:1856:U:C1'	2.41	0.44
29:X:915:C:O2'	29:X:916:U:H5'	2.18	0.44
29:X:1183:C:H2'	29:X:1184:G:C8	2.53	0.44
29:X:2229:G:HO2'	29:X:2230:G:P	2.41	0.44
29:X:2232:G:H2'	29:X:2233:C:H6	1.83	0.44
24:S:6:LYS:HB2	24:S:31:SER:CB	2.45	0.44
29:X:2698:G:O2'	29:X:2822:U:OP1	2.35	0.44
24:S:67:LYS:HB3	24:S:82:ASP:CB	2.48	0.44
29:X:1:G:H2'	29:X:2:G:O4'	2.17	0.44
7:B:143:GLN:NE2	7:B:143:GLN:N	2.61	0.44
29:X:1652:G:C6	29:X:1653:C:C4	3.05	0.44
29:X:676:G:C6	29:X:677:G:C5	3.06	0.44
29:X:972:C:H5'	29:X:973:U:P	2.58	0.44
29:X:973:U:C4	29:X:974:U:C5	3.06	0.44
29:X:2861:A:O2'	30:Y:31:THR:HG23	2.18	0.44
29:X:1949:A:C2	29:X:2572:U:O4'	2.70	0.44
29:X:1515:U:O2'	29:X:1516:A:H5'	2.18	0.44
21:P:48:LYS:O	21:P:49:SER:C	2.56	0.44
29:X:353:G:H2'	29:X:354:C:C6	2.53	0.44
12:G:43:VAL:O	12:G:167:LYS:HG3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:136:ARG:HH11	7:B:136:ARG:CB	2.31	0.44
7:B:141:ILE:CG2	7:B:150:VAL:CG1	2.95	0.44
8:C:158:ARG:HD2	8:C:169:VAL:CG1	2.48	0.44
8:C:179:ASP:C	8:C:182:ARG:HB3	2.37	0.44
21:P:37:LYS:NZ	21:P:64:ALA:N	2.66	0.44
21:P:39:ARG:HH22	29:X:528:G:H5'	1.83	0.44
29:X:469:G:H22	29:X:480:G:H2'	1.82	0.44
29:X:26:G:H1'	29:X:524:A:H61	1.82	0.44
14:I:45:LYS:NZ	29:X:817:A:OP1	2.47	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.86	0.44
13:H:79:HIS:O	13:H:90:ARG:HB3	2.17	0.44
17:L:37:HIS:C	17:L:38:ILE:O	2.55	0.44
17:L:89:PHE:CD1	17:L:89:PHE:N	2.83	0.44
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.44
15:J:44:LYS:O	15:J:45:SER:C	2.55	0.44
7:B:179:GLU:C	7:B:181:LEU:N	2.70	0.44
7:B:75:THR:CG2	7:B:78:LEU:HD21	2.48	0.44
11:F:13:PRO:HG3	11:F:52:ILE:CG1	2.46	0.44
11:F:41:PHE:C	11:F:43:ALA:H	2.21	0.44
29:X:2174:G:H2'	29:X:2175:A:H8	1.83	0.44
24:S:98:VAL:HG11	24:S:168:VAL:HG12	1.98	0.44
9:D:80:ARG:CG	9:D:81:GLN:N	2.80	0.44
29:X:1926:U:N1	29:X:1928:G:H5'	2.33	0.44
21:P:8:PHE:O	21:P:17:GLN:NE2	2.46	0.44
29:X:423:G:C6	29:X:431:G:C6	3.06	0.44
15:J:89:GLY:C	15:J:91:VAL:N	2.72	0.44
30:Y:55:ARG:CZ	30:Y:59:ALA:HB2	2.47	0.44
29:X:959:C:H2'	29:X:960:U:C6	2.52	0.44
29:X:2697:G:O2'	29:X:2698:G:H5'	2.18	0.44
29:X:161:U:C4	29:X:190:A:N6	2.86	0.44
29:X:1974:U:H2'	29:X:1975:G:C5'	2.47	0.44
14:I:55:ARG:O	14:I:56:LEU:HB2	2.17	0.44
29:X:679:C:H2'	29:X:680:U:C6	2.52	0.44
17:L:81:GLU:C	17:L:82:LYS:HG2	2.38	0.44
29:X:1369:G:N2	29:X:1370:U:H1'	2.33	0.44
22:Q:3:HIS:O	22:Q:5:ASP:N	2.51	0.44
21:P:118:LYS:HD2	21:P:120:ARG:NH2	2.33	0.44
29:X:1269:G:C2	29:X:1270:C:C6	3.04	0.44
29:X:84:G:N3	29:X:101:A:C2	2.86	0.44
29:X:1414:G:H2'	29:X:1415:C:O4'	2.18	0.44
8:C:31:VAL:O	8:C:32:THR:C	2.57	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:45:THR:O	8:C:45:THR:HG22	2.18	0.44
12:G:104:THR:OG1	12:G:105:GLY:N	2.49	0.44
14:I:11:GLY:O	14:I:13:ARG:N	2.50	0.44
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.47	0.44
29:X:2271:C:H2'	29:X:2272:A:C8	2.52	0.44
28:W:5:LEU:HD13	28:W:51:LEU:HD23	2.00	0.44
29:X:862:A:C4	29:X:863:C:C6	3.06	0.44
24:S:35:ASP:OD1	24:S:38:ALA:N	2.36	0.44
26:U:52:ARG:NH1	26:U:67:LEU:HD11	2.33	0.44
29:X:2321:C:H2'	29:X:2321:C:O2	2.18	0.44
20:O:97:GLY:O	20:O:98:ILE:O	2.35	0.44
29:X:714:G:C6	29:X:715:U:C5	3.06	0.44
13:H:53:ALA:N	13:H:70:VAL:O	2.46	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.06	0.44
29:X:857:U:C3'	29:X:858:G:H8	2.24	0.44
29:X:2262:C:C2	29:X:2368:G:C2	3.06	0.44
15:J:53:ILE:O	15:J:54:VAL:C	2.54	0.44
29:X:209:G:N2	29:X:433:G:OP1	2.51	0.44
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.44
24:S:172:LEU:HD22	24:S:173:PRO:HD2	1.99	0.44
24:S:172:LEU:HA	24:S:172:LEU:HD23	1.81	0.44
29:X:985:G:C4	29:X:1200:G:N2	2.85	0.44
6:A:164:GLN:NE2	6:A:176:ARG:NH1	2.66	0.44
20:O:32:LYS:HA	20:O:32:LYS:HD3	1.89	0.44
29:X:927:C:O2	31:Z:103:A:H4'	2.17	0.44
8:C:179:ASP:HA	8:C:182:ARG:HB3	1.99	0.43
8:C:61:GLN:HA	8:C:61:GLN:HE21	1.80	0.43
12:G:107:GLN:O	12:G:109:GLY:N	2.47	0.43
8:C:28:HIS:CG	14:I:21:ARG:NH1	2.86	0.43
21:P:39:ARG:HH12	29:X:528:G:H5'	1.81	0.43
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.99	0.43
29:X:349:G:H3'	29:X:350:U:C5	2.52	0.43
29:X:688:A:C2	29:X:689:A:N7	2.86	0.43
29:X:2491:C:N3	29:X:2492:G:C8	2.86	0.43
8:C:3:GLN:HE22	8:C:4:ILE:HG13	1.81	0.43
9:D:8:TYR:CD1	9:D:173:MET:SD	2.97	0.43
9:D:88:LYS:HE3	29:X:2293:G:OP1	2.18	0.43
25:T:46:LYS:HB2	25:T:78:PHE:CE2	2.52	0.43
31:Z:35:C:O2'	31:Z:36:A:H5'	2.18	0.43
15:J:26:ASP:O	15:J:27:TYR:HD1	2.01	0.43
29:X:2212:U:C2'	29:X:2213:G:C8	2.90	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:23:ARG:HH22	13:H:24:VAL:C	2.20	0.43
11:F:49:GLY:O	11:F:50:ASP:HB2	2.18	0.43
11:F:26:ALA:HB1	11:F:27:LEU:HD12	2.00	0.43
11:F:7:ILE:HG23	11:F:57:ILE:O	2.18	0.43
29:X:1549:C:H2'	29:X:1550:C:C6	2.52	0.43
29:X:1092:U:H2'	29:X:1093:U:H6	1.82	0.43
29:X:930:A:N7	29:X:931:G:C8	2.85	0.43
7:B:110:GLY:O	16:K:3:HIS:CD2	2.71	0.43
12:G:33:ILE:HD12	12:G:33:ILE:C	2.38	0.43
29:X:2277:A:H2'	29:X:2278:A:O4'	2.17	0.43
29:X:2663:U:C4	29:X:2664:G:N7	2.86	0.43
29:X:2663:U:N3	29:X:2664:G:N7	2.65	0.43
29:X:757:U:H2'	29:X:758:G:H5'	1.98	0.43
29:X:1114:A:N3	29:X:1114:A:H2'	2.33	0.43
29:X:1539:U:C2	29:X:1540:C:C5	3.06	0.43
29:X:2048:C:H1'	29:X:2428:U:N3	2.33	0.43
29:X:2438:A:C6	29:X:2439:U:C2	3.06	0.43
18:M:10:GLY:HA3	29:X:2850:U:O2'	2.18	0.43
29:X:2787:A:C4	29:X:2788:C:C5	3.06	0.43
29:X:197:G:N2	29:X:242:A:H62	2.15	0.43
29:X:1055:A:C4	29:X:1055:A:C3'	2.83	0.43
29:X:1973:C:H2'	29:X:1974:U:O4'	2.16	0.43
22:Q:89:GLU:HB3	22:Q:91:LEU:HD23	2.00	0.43
29:X:601:A:C2'	29:X:602:C:OP1	2.65	0.43
27:V:64:GLY:O	27:V:65:GLU:HB2	2.17	0.43
30:Y:46:CYS:HA	30:Y:47:PRO:HD2	1.80	0.43
23:R:84:VAL:HG11	23:R:88:THR:C	2.38	0.43
29:X:1051:U:C6	29:X:1051:U:H3'	2.52	0.43
6:A:135:PHE:CD2	6:A:135:PHE:N	2.85	0.43
6:A:182:LEU:O	6:A:268:ARG:HB2	2.18	0.43
29:X:1786:C:C2	29:X:1787:U:C6	3.05	0.43
18:M:78:GLU:OE2	18:M:108:ARG:CZ	2.65	0.43
9:D:13:ARG:NH2	9:D:14:PRO:HG3	2.32	0.43
28:W:40:VAL:HG23	29:X:940:G:O2'	2.17	0.43
28:W:5:LEU:HD12	28:W:6:VAL:N	2.33	0.43
15:J:86:LYS:CD	29:X:2256:G:OP2	2.66	0.43
14:I:66:ASN:ND2	14:I:68:VAL:HG23	2.26	0.43
29:X:2372:A:H2'	29:X:2373:C:C6	2.51	0.43
29:X:1237:G:H2'	29:X:1238:A:C8	2.53	0.43
31:Z:17:A:OP2	31:Z:110:U:O2	2.36	0.43
16:K:3:HIS:CE1	29:X:2795:A:O3'	2.68	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1004:A:O2'	29:X:1005:U:H5'	2.18	0.43
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.99	0.43
16:K:76:VAL:CG1	16:K:77:ARG:N	2.82	0.43
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.82	0.43
22:Q:28:TRP:CE3	22:Q:77:LYS:N	2.86	0.43
29:X:2663:U:H2'	29:X:2664:G:O4'	2.17	0.43
29:X:1445:A:H2'	29:X:1446:U:C6	2.53	0.43
29:X:2642:G:H2'	29:X:2643:G:O5'	2.18	0.43
29:X:148:C:OP1	29:X:148:C:C6	2.68	0.43
29:X:1186:G:H21	29:X:1187:A:H62	1.66	0.43
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.06	0.43
7:B:189:PRO:HB3	29:X:2658:A:O2'	2.17	0.43
29:X:2667:C:H5	29:X:2699:G:C5	2.36	0.43
14:I:82:ASP:HA	14:I:114:ILE:HG21	2.00	0.43
29:X:1436:G:C4	29:X:1437:A:C8	3.07	0.43
12:G:150:VAL:O	12:G:151:TYR:CD1	2.71	0.43
10:E:163:ARG:HD3	10:E:167:GLU:HB3	2.01	0.43
12:G:39:GLN:HB2	12:G:79:PHE:CE1	2.52	0.43
24:S:25:ASN:O	24:S:26:LYS:HB3	2.18	0.43
29:X:1479:G:H2'	29:X:1480:G:H8	1.83	0.43
29:X:1916:G:H2'	29:X:1917:C:O4'	2.17	0.43
29:X:1030:U:H5'	29:X:1132:C:H1'	1.99	0.43
29:X:1388:C:H6	29:X:1388:C:O5'	2.01	0.43
29:X:1707:A:H3'	29:X:1708:C:H6	1.83	0.43
8:C:86:PRO:HD3	29:X:1261:G:O5'	2.18	0.43
12:G:90:LEU:HD23	12:G:94:LYS:HA	1.99	0.43
14:I:9:THR:OG1	29:X:1218:C:H4'	2.18	0.43
29:X:1039:A:C5	29:X:1136:G:N2	2.85	0.43
29:X:1144:U:H2'	29:X:1147:G:OP1	2.18	0.43
29:X:2198:U:C2'	29:X:2199:C:O4'	2.58	0.43
17:L:38:ILE:HG13	17:L:39:TYR:N	2.32	0.43
17:L:72:GLY:HA3	17:L:106:ALA:HB3	2.00	0.43
15:J:33:TYR:O	15:J:106:GLU:CA	2.66	0.43
15:J:11:ARG:HB3	15:J:12:LYS:H	1.47	0.43
29:X:2383:C:C6	29:X:2393:G:N2	2.86	0.43
14:I:101:ARG:HD3	29:X:637:G:O6	2.18	0.43
29:X:2319:G:C2'	29:X:2320:G:H5'	2.48	0.43
29:X:1549:C:H2'	29:X:1550:C:O4'	2.18	0.43
29:X:1082:G:H1'	29:X:1100:G:C4	2.53	0.43
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.99	0.43
29:X:1174:G:N3	29:X:1175:A:C8	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:138:PHE:CE2	9:D:152:MET:SD	3.11	0.43
9:D:80:ARG:CD	9:D:80:ARG:N	2.81	0.43
27:V:26:MET:O	27:V:27:GLU:C	2.56	0.43
29:X:2778:U:H4'	29:X:2779:C:O2	2.18	0.43
29:X:1375:C:C4	29:X:1376:C:C5	3.06	0.43
29:X:2849:C:C2'	29:X:2850:U:C5'	2.96	0.43
29:X:2820:C:O2	29:X:2821:G:C8	2.71	0.43
29:X:2523:G:O2'	29:X:2524:G:H5'	2.19	0.43
21:P:95:ALA:HB1	21:P:126:ILE:HB	2.00	0.43
29:X:161:U:H2'	29:X:162:C:C6	2.52	0.43
12:G:53:ARG:O	12:G:54:LEU:C	2.56	0.43
29:X:1830:C:H41	29:X:1881:U:C3'	2.25	0.43
16:K:30:ARG:C	16:K:31:GLU:HG2	2.38	0.43
20:O:65:ARG:HG2	20:O:87:ARG:CD	2.47	0.43
29:X:2861:A:H2'	29:X:2862:G:H8	1.84	0.43
30:Y:31:THR:CG2	30:Y:32:GLU:N	2.81	0.43
8:C:189:ASP:O	8:C:190:ALA:C	2.57	0.43
29:X:182:G:O2'	29:X:183:U:OP2	2.37	0.43
28:W:27:LYS:O	28:W:28:ILE:O	2.35	0.43
10:E:33:LEU:O	10:E:34:THR:CG2	2.65	0.43
29:X:1126:A:C2	29:X:1127:C:C2	3.06	0.43
28:W:45:LYS:N	28:W:45:LYS:HE3	2.33	0.43
8:C:145:THR:O	8:C:145:THR:HG22	2.19	0.43
29:X:991:A:C6	29:X:992:A:N1	2.85	0.43
29:X:2167:A:H2'	29:X:2168:A:C8	2.53	0.43
29:X:514:G:N3	29:X:514:G:H2'	2.33	0.43
8:C:125:ILE:CD1	8:C:133:PHE:HA	2.48	0.43
8:C:75:PRO:HG2	8:C:83:ALA:HB2	1.93	0.43
12:G:110:LEU:H	12:G:110:LEU:HD23	1.77	0.43
14:I:17:LYS:HE2	29:X:1258:G:P	2.57	0.43
23:R:86:PRO:O	23:R:87:GLU:HB2	2.18	0.43
29:X:1255:A:C4	29:X:1256:C:C5	3.06	0.43
29:X:23:G:C6	29:X:528:G:C6	3.07	0.43
29:X:471:A:C2	29:X:481:A:C4	3.06	0.43
29:X:830:C:O2'	29:X:831:G:H5'	2.19	0.43
29:X:1275:A:N3	30:Y:10:LYS:CE	2.81	0.43
29:X:2594:U:C6	30:Y:7:PRO:HA	2.53	0.43
29:X:1051:U:C6	29:X:1051:U:C3'	3.02	0.43
10:E:133:VAL:HG12	10:E:141:VAL:HG13	2.00	0.43
29:X:1785:A:H2'	29:X:1786:C:C6	2.52	0.43
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:37:HIS:O	17:L:38:ILE:C	2.56	0.43
31:Z:42:U:H2'	31:Z:45:C:H5	1.82	0.43
15:J:69:ILE:HG13	15:J:69:ILE:O	2.18	0.43
15:J:86:LYS:HD2	29:X:2256:G:OP2	2.18	0.43
7:B:178:GLY:O	7:B:179:GLU:CG	2.63	0.43
7:B:59:VAL:HG21	7:B:74:PRO:CB	2.48	0.43
29:X:2351:G:C2	29:X:2352:A:C8	3.07	0.43
13:H:24:VAL:HG22	13:H:45:ALA:HB2	2.00	0.43
13:H:116:ARG:NH1	18:M:38:LYS:HZ3	2.16	0.43
11:F:19:PRO:HD2	11:F:22:PRO:HG2	2.00	0.43
31:Z:15:A:C2'	31:Z:16:U:H5''	2.49	0.43
22:Q:41:ALA:O	22:Q:42:ILE:C	2.56	0.43
29:X:1681:A:C2	29:X:2706:U:N1	2.86	0.43
7:B:1:MET:O	7:B:2:LYS:O	2.35	0.43
29:X:840:U:H2'	29:X:2051:U:O2	2.18	0.43
10:E:96:ALA:HB2	10:E:105:MET:HE1	1.99	0.43
29:X:1097:A:N3	29:X:1097:A:H3'	2.33	0.43
29:X:2386:G:O2'	29:X:2387:U:H5'	2.19	0.43
29:X:421:G:O2'	29:X:422:C:H5'	2.18	0.43
9:D:33:LYS:O	9:D:157:VAL:HG23	2.19	0.43
7:B:37:LYS:HB3	7:B:42:ASP:OD1	2.19	0.43
24:S:6:LYS:HB2	24:S:31:SER:C	2.39	0.43
29:X:164:G:C2	29:X:187:U:O2	2.71	0.43
8:C:139:GLN:NE2	8:C:139:GLN:CA	2.74	0.43
29:X:965:G:H1'	29:X:2253:A:N1	2.32	0.43
9:D:97:TYR:HA	9:D:100:LEU:HB3	1.99	0.43
9:D:41:GLY:O	9:D:43:SER:N	2.50	0.43
29:X:82:G:OP2	29:X:82:G:C8	2.72	0.43
29:X:2876:C:H2'	29:X:2877:A:N9	2.34	0.43
29:X:822:G:O2'	29:X:823:U:H5'	2.18	0.43
29:X:2018:G:O2'	29:X:2019:C:OP1	2.35	0.43
29:X:166:G:H2'	29:X:182:G:N2	2.34	0.43
7:B:85:ALA:H	7:B:86:PRO:HD2	1.83	0.43
20:O:74:TYR:OH	20:O:76:SER:CB	2.65	0.43
29:X:1025:A:C2	29:X:1160:C:C2	3.06	0.43
29:X:131:C:O2'	29:X:132:U:H5'	2.17	0.43
29:X:1371:G:C8	29:X:1371:G:H3'	2.53	0.43
29:X:1529:C:H2'	29:X:1530:U:O4'	2.17	0.43
8:C:160:ALA:O	8:C:161:ALA:HB2	2.18	0.43
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.53	0.43
23:R:25:LEU:O	23:R:79:SER:O	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2022:C:C5	29:X:2023:C:C5	3.06	0.43
29:X:2024:U:O2'	29:X:2025:A:H5'	2.18	0.43
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.43
29:X:2551:A:HO2'	29:X:2552:C:P	2.40	0.43
29:X:588:G:C2	29:X:1275:A:C5	3.06	0.43
29:X:1053:G:H4'	29:X:1054:C:OP1	2.18	0.43
6:A:93:ALA:N	6:A:105:ILE:O	2.41	0.43
6:A:159:ALA:HB1	29:X:1812:U:O2	2.18	0.43
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.43
17:L:89:PHE:HE2	29:X:2356:A:HO2'	1.59	0.43
26:U:24:ALA:C	26:U:26:ALA:N	2.69	0.43
29:X:2371:A:C8	29:X:2372:A:C8	3.06	0.43
18:M:82:PRO:O	18:M:84:ALA:N	2.51	0.43
29:X:1933:G:H2'	29:X:1934:U:C6	2.52	0.43
29:X:1459:U:N3	29:X:1475:U:H1'	2.33	0.43
29:X:2086:U:H6	29:X:2086:U:O5'	2.00	0.43
19:N:86:ALA:O	19:N:87:ASN:C	2.56	0.43
29:X:2222:U:O2	29:X:2223:U:C6	2.71	0.43
22:Q:36:THR:O	22:Q:37:GLU:C	2.57	0.43
22:Q:43:GLN:O	22:Q:47:GLY:N	2.51	0.43
29:X:2061:C:O4'	29:X:2413:A:O4'	2.36	0.43
29:X:2642:G:C6	29:X:2643:G:C4	3.06	0.43
7:B:109:LYS:NZ	29:X:2703:C:OP2	2.50	0.43
14:I:82:ASP:CA	14:I:114:ILE:HG21	2.48	0.43
29:X:704:G:C2	29:X:705:C:C2	3.07	0.43
29:X:1437:A:O2'	29:X:1438:G:H5'	2.19	0.43
29:X:2252:A:C2	29:X:2253:A:C4	3.07	0.43
29:X:1692:C:H2'	29:X:1693:A:O4'	2.18	0.43
29:X:2345:A:H2'	29:X:2346:G:H8	1.83	0.43
10:E:59:GLN:O	10:E:60:LYS:C	2.57	0.43
29:X:334:G:O2'	29:X:335:A:P	2.77	0.43
18:M:98:LYS:HD2	18:M:98:LYS:HA	1.93	0.43
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.49	0.43
21:P:33:MET:SD	21:P:37:LYS:NZ	2.91	0.43
23:R:84:VAL:HG13	23:R:88:THR:O	2.18	0.43
29:X:310:A:H2	29:X:331:U:O4'	2.01	0.43
29:X:1778:U:C2'	29:X:1779:C:C6	2.98	0.43
29:X:2586:G:N1	29:X:2587:G:N3	2.66	0.43
9:D:122:PHE:HD2	9:D:129:ASN:HB2	1.81	0.43
17:L:17:VAL:CG1	17:L:18:ARG:N	2.80	0.43
17:L:28:ARG:HD2	17:L:90:ASP:OD1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:90:ASP:CG	17:L:90:ASP:O	2.57	0.43
15:J:33:TYR:O	15:J:106:GLU:HA	2.19	0.43
29:X:1872:A:H1'	29:X:2070:G:O4'	2.19	0.43
14:I:72:TYR:HB3	14:I:107:LYS:CB	2.48	0.43
11:F:121:GLU:O	11:F:122:ALA:C	2.56	0.43
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.84	0.43
31:Z:15:A:C2	31:Z:71:G:N3	2.85	0.43
12:G:61:ARG:HH11	12:G:65:LYS:HD3	1.83	0.43
8:C:5:ASN:N	8:C:5:ASN:HD22	2.17	0.43
11:F:112:MET:C	11:F:114:ASP:H	2.21	0.43
9:D:75:SER:HB2	9:D:79:LEU:CD2	2.49	0.43
29:X:230:C:C2'	29:X:231:G:H5'	2.49	0.43
21:P:112:GLY:O	29:X:1630:A:N6	2.51	0.43
29:X:1928:G:N2	29:X:1929:U:C2	2.86	0.43
21:P:80:LEU:HD21	21:P:90:LEU:HD11	2.00	0.43
10:E:113:VAL:HG11	10:E:151:VAL:CG1	2.49	0.43
29:X:204:A:H1'	29:X:205:A:N7	2.33	0.43
23:R:36:VAL:HG12	23:R:37:LEU:N	2.34	0.43
14:I:32:ARG:HH21	20:O:81:ARG:CG	2.28	0.43
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.33	0.43
21:P:95:ALA:CB	21:P:126:ILE:HB	2.48	0.43
29:X:1587:A:N1	29:X:1588:A:C6	2.86	0.43
29:X:197:G:H22	29:X:242:A:H62	1.65	0.43
23:R:98:ILE:C	23:R:100:ASP:H	2.14	0.43
16:K:25:ALA:CB	16:K:47:PHE:HE2	2.29	0.43
8:C:197:GLU:HG2	8:C:198:GLU:CG	2.48	0.43
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.72	0.43
29:X:1040:A:N7	29:X:1041:G:C8	2.86	0.43
29:X:2876:C:H2'	29:X:2877:A:C5	2.53	0.43
29:X:982:C:P	29:X:985:G:C8	3.12	0.43
29:X:1189:G:H8	29:X:1189:G:O5'	2.02	0.43
29:X:1605:A:O2'	29:X:1606:C:H5'	2.18	0.43
29:X:319:G:C1'	29:X:511:A:O4'	2.66	0.43
29:X:912:A:O5'	29:X:912:A:H8	2.02	0.43
13:H:12:ASP:OD1	13:H:12:ASP:O	2.37	0.43
8:C:170:LEU:HD12	8:C:170:LEU:HA	1.80	0.43
8:C:28:HIS:C	8:C:30:VAL:N	2.69	0.43
19:N:12:ARG:O	19:N:15:LYS:N	2.51	0.43
23:R:15:HIS:O	23:R:16:PHE:CB	2.66	0.43
29:X:2431:C:C4	29:X:2432:A:C6	3.07	0.43
29:X:27:G:N2	29:X:522:G:O2'	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:34:GLN:CG	29:X:627:A:OP1	2.67	0.43
6:A:258:LYS:HZ2	6:A:261:ARG:NE	2.13	0.43
8:C:108:ILE:O	8:C:112:GLN:N	2.51	0.43
8:C:111:ARG:NH2	8:C:111:ARG:HG2	2.34	0.43
18:M:104:LEU:O	18:M:107:LEU:HG	2.19	0.43
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.48	0.43
9:D:125:ARG:CG	29:X:2294:U:O2'	2.64	0.43
15:J:29:ALA:C	15:J:30:PHE:CD2	2.92	0.43
13:H:115:ALA:C	13:H:117:GLU:N	2.71	0.43
29:X:1099:A:H4'	29:X:1100:G:H8	1.84	0.43
29:X:1122:A:H2'	29:X:1123:G:O5'	2.19	0.43
31:Z:20:A:C2	31:Z:69:G:O6	2.72	0.43
24:S:100:THR:CG2	24:S:101:THR:N	2.81	0.43
12:G:67:ARG:O	12:G:70:PHE:CD2	2.72	0.43
19:N:106:PHE:O	19:N:107:LYS:C	2.56	0.43
19:N:78:THR:HG23	19:N:117:ARG:CZ	2.49	0.43
19:N:66:ASN:HA	19:N:69:ALA:HB3	2.01	0.43
20:O:22:VAL:HG21	29:X:1173:G:O3'	2.19	0.43
9:D:105:ASN:O	9:D:109:PRO:HG2	2.19	0.43
29:X:2516:U:C2	29:X:2517:C:C5	3.06	0.43
29:X:1399:C:OP2	29:X:1409:U:N3	2.45	0.43
29:X:1287:A:H2'	29:X:1288:A:H5''	1.99	0.43
13:H:110:VAL:CG1	13:H:111:PHE:N	2.80	0.43
29:X:2630:C:H2'	29:X:2631:C:H6	1.83	0.43
29:X:168:A:H2'	29:X:169:C:C6	2.54	0.43
29:X:2404:A:P	29:X:2406:C:H5'	2.59	0.43
21:P:79:ALA:CB	21:P:85:MET:SD	3.06	0.43
29:X:2524:G:O2'	29:X:2525:U:H5'	2.18	0.43
29:X:2441:U:C2	29:X:2442:C:C6	3.06	0.43
29:X:967:G:H3'	29:X:968:C:H5''	2.00	0.43
12:G:84:ASN:HA	12:G:153:GLY:O	2.18	0.43
29:X:1330:G:C4	29:X:1331:G:C8	3.07	0.43
29:X:710:C:O2'	29:X:711:C:H5'	2.19	0.43
6:A:81:ALA:HA	6:A:113:VAL:CG2	2.47	0.43
29:X:1611:U:O2'	29:X:1612:U:H5'	2.19	0.43
6:A:59:LYS:O	29:X:1584:G:H4'	2.18	0.43
29:X:2503:G:N2	29:X:2504:G:H1'	2.34	0.43
29:X:1047:G:C2	29:X:1131:G:C4	3.06	0.43
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.99	0.43
12:G:131:VAL:O	12:G:134:MET:N	2.51	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:36:G:C5	29:X:37:C:C5	3.06	0.43
29:X:586:G:O3'	29:X:1268:U:H4'	2.17	0.43
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.48	0.43
6:A:143:HIS:CD2	6:A:196:VAL:HG12	2.54	0.43
4:4:25:VAL:HB	4:4:34:GLN:H	1.84	0.43
4:4:25:VAL:HG21	4:4:34:GLN:NE2	2.33	0.43
4:4:7:VAL:HG13	4:4:34:GLN:NE2	2.34	0.43
18:M:55:ILE:CD1	18:M:67:THR:HG22	2.47	0.43
29:X:2825:A:H2'	29:X:2826:C:C6	2.54	0.43
17:L:43:ILE:HD12	17:L:43:ILE:N	2.33	0.43
26:U:28:GLY:N	26:U:32:ARG:CD	2.81	0.43
29:X:492:G:HO2'	29:X:493:A:P	2.39	0.43
15:J:31:GLY:HA2	15:J:108:ALA:HB2	2.01	0.43
7:B:179:GLU:HB3	7:B:181:LEU:HG	1.99	0.43
14:I:92:THR:C	14:I:94:GLU:H	2.22	0.43
29:X:2350:G:C6	29:X:2351:G:N7	2.86	0.43
18:M:34:ARG:NH1	18:M:81:PHE:CG	2.86	0.43
12:G:61:ARG:HH22	12:G:78:ASP:CB	2.32	0.43
29:X:1172:U:H2'	29:X:1173:G:H8	1.84	0.43
9:D:150:ARG:HG3	9:D:150:ARG:NH1	2.33	0.43
29:X:2335:U:O2'	29:X:2336:G:H5'	2.19	0.43
29:X:2652:G:C4	29:X:2653:A:C8	3.07	0.43
16:K:18:VAL:HG12	16:K:19:ALA:N	2.34	0.43
10:E:108:GLY:C	10:E:109:TYR:HD1	2.22	0.43
27:V:4:SER:O	27:V:8:ASN:OD1	2.36	0.43
29:X:832:A:C4	29:X:833:A:C8	3.07	0.43
23:R:52:ASN:O	23:R:53:VAL:HG23	2.19	0.43
29:X:1337:G:N2	29:X:1344:C:C2	2.86	0.43
29:X:2806:G:H4'	29:X:2858:A:C6	2.54	0.43
27:V:37:LEU:HD11	29:X:60:A:C4'	2.46	0.43
29:X:1454:U:H2'	29:X:1455:C:C6	2.50	0.43
29:X:1331:G:N3	29:X:1331:G:H2'	2.33	0.43
11:F:61:ALA:O	11:F:64:SER:HB2	2.19	0.43
14:I:52:GLY:HA3	14:I:55:ARG:CZ	2.48	0.43
9:D:43:SER:C	9:D:44:LYS:HG3	2.38	0.43
14:I:47:ALA:C	14:I:49:PHE:N	2.71	0.43
18:M:63:ARG:HG3	18:M:63:ARG:H	1.53	0.43
29:X:1383:C:C4	29:X:1384:G:N7	2.86	0.43
6:A:58:HIS:O	6:A:59:LYS:HB2	2.18	0.43
30:Y:32:GLU:OE1	30:Y:37:HIS:O	2.37	0.43
29:X:2235:G:N2	29:X:2254:C:C4	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2215:C:N4	29:X:2216:G:C2	2.86	0.43
29:X:1687:C:H6	29:X:1687:C:O5'	2.02	0.43
29:X:2250:G:O5'	29:X:2250:G:H8	2.02	0.43
7:B:117:MET:HB2	7:B:136:ARG:HG3	2.01	0.43
7:B:137:ARG:HG2	7:B:137:ARG:NH2	2.34	0.43
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.31	0.43
19:N:24:PHE:O	19:N:29:SER:CB	2.67	0.43
29:X:1136:G:N1	29:X:1137:A:N6	2.66	0.43
29:X:1274:C:C2'	29:X:1275:A:O5'	2.67	0.43
29:X:466:A:O2'	29:X:467:U:OP2	2.30	0.43
29:X:522:G:O2'	29:X:523:A:P	2.77	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:815:A:C5	29:X:816:U:C5	3.07	0.43
6:A:124:GLU:O	6:A:129:ASN:ND2	2.52	0.43
29:X:1789:U:C4	29:X:1811:A:C2	3.07	0.43
29:X:778:G:H2'	29:X:779:U:H6	1.83	0.43
18:M:80:VAL:HG12	18:M:80:VAL:O	2.19	0.43
14:I:66:ASN:ND2	14:I:67:ASN:N	2.67	0.43
29:X:2327:U:O2'	29:X:2328:G:H5'	2.19	0.43
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.68	0.43
13:H:83:ARG:HH11	18:M:40:ARG:HD3	1.84	0.43
24:S:91:PRO:CG	24:S:92:VAL:H	2.32	0.43
11:F:54:PRO:CD	11:F:71:THR:O	2.67	0.43
29:X:2173:G:O2'	29:X:2174:G:H5'	2.19	0.43
24:S:101:THR:CG2	24:S:135:VAL:HG13	2.48	0.43
24:S:94:VAL:O	24:S:121:GLN:HA	2.19	0.43
19:N:107:LYS:O	19:N:108:ALA:C	2.56	0.43
29:X:2778:U:H5'	29:X:2779:C:C1'	2.49	0.43
29:X:177:U:H2'	29:X:178:C:O4'	2.18	0.43
25:T:17:ASN:OD1	29:X:2240:C:O5'	2.37	0.43
6:A:62:TYR:HE1	29:X:1808:C:H3'	1.83	0.43
29:X:2386:G:C4	29:X:2387:U:C5	3.07	0.43
29:X:2871:U:C2	29:X:2872:U:C5	3.07	0.43
29:X:1324:G:O2'	29:X:1325:U:P	2.76	0.43
29:X:62:U:H4'	29:X:63:A:OP1	2.19	0.43
29:X:2703:C:H2'	29:X:2704:U:C5'	2.48	0.43
21:P:126:ILE:HD12	21:P:126:ILE:C	2.39	0.43
29:X:1599:G:N2	29:X:1600:U:H1'	2.33	0.43
29:X:1586:A:H2'	29:X:1587:A:C8	2.51	0.43
29:X:820:U:C2	29:X:821:A:C8	3.07	0.43
30:Y:37:HIS:C	30:Y:38:GLY:O	2.55	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:48:ILE:O	15:J:51:CYS:N	2.47	0.43
29:X:603:C:O2	29:X:603:C:C2'	2.64	0.43
29:X:1948:C:C6	29:X:1949:A:C8	3.07	0.43
17:L:84:ILE:N	17:L:84:ILE:CD1	2.81	0.43
29:X:2235:G:N2	29:X:2254:C:N4	2.67	0.43
29:X:549:G:O2'	29:X:550:C:H5'	2.19	0.43
8:C:158:ARG:HH11	8:C:158:ARG:CG	2.32	0.43
8:C:162:ARG:NH1	29:X:333:A:C3'	2.77	0.43
23:R:93:ARG:CZ	23:R:108:VAL:C	2.87	0.43
23:R:95:ARG:N	23:R:95:ARG:HD2	2.34	0.43
29:X:1135:C:N3	29:X:1136:G:N7	2.67	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.87	0.43
29:X:2022:C:H2'	29:X:2023:C:O5'	2.19	0.43
29:X:312:G:C5	29:X:313:U:C4	3.07	0.43
29:X:314:G:C6	29:X:326:A:N1	2.87	0.43
6:A:193:ILE:HA	6:A:193:ILE:HD13	1.92	0.43
29:X:1811:A:H1'	29:X:1813:A:C5	2.53	0.43
29:X:1882:G:N2	29:X:1885:C:N4	2.66	0.43
9:D:5:LYS:HA	9:D:8:TYR:CB	2.49	0.43
25:T:20:TYR:HB3	25:T:21:LEU:H	1.64	0.43
9:D:88:LYS:CE	29:X:2293:G:OP1	2.67	0.43
10:E:9:ILE:HD12	10:E:51:LEU:HA	2.00	0.43
11:F:23:VAL:CA	11:F:26:ALA:HB3	2.43	0.43
29:X:930:A:C3'	29:X:930:A:C8	3.02	0.43
24:S:96:VAL:N	24:S:119:ASN:OD1	2.52	0.43
19:N:77:SER:HB2	29:X:1022:A:OP1	2.19	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.49	0.43
9:D:37:ASN:HA	9:D:87:ILE:O	2.19	0.43
9:D:78:LYS:C	9:D:79:LEU:HD12	2.39	0.43
29:X:2276:C:O2'	29:X:2277:A:H5'	2.18	0.43
29:X:2695:C:H2'	29:X:2696:A:H8	1.83	0.43
29:X:393:U:H2'	29:X:394:U:C6	2.54	0.43
22:Q:35:LYS:CA	22:Q:38:ILE:HG23	2.49	0.43
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.15	0.43
21:P:109:ARG:HA	21:P:109:ARG:HD2	1.73	0.43
10:E:117:PRO:HB3	10:E:123:PHE:CD1	2.54	0.43
29:X:430:C:C2	29:X:431:G:C8	3.07	0.43
29:X:2044:G:O2'	29:X:2046:C:C5	2.71	0.43
29:X:577:U:H2'	29:X:579:G:OP2	2.19	0.43
29:X:2714:A:H2'	29:X:2715:C:H6	1.84	0.43
29:X:1318:A:H2'	29:X:1319:C:O5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1478:U:C2	29:X:1479:G:C8	3.07	0.43
29:X:765:C:N4	29:X:1772:C:C2	2.87	0.43
13:H:73:VAL:HG21	13:H:123:PHE:CE2	2.54	0.43
14:I:50:GLU:OE1	29:X:678:G:H4'	2.19	0.43
29:X:2528:G:C2	29:X:2529:G:N7	2.87	0.43
29:X:30:G:H2'	29:X:31:C:H6	1.84	0.43
29:X:83:A:O3'	29:X:84:G:O4'	2.37	0.43
7:B:155:ARG:HH11	7:B:155:ARG:CG	2.31	0.42
8:C:178:TYR:O	8:C:179:ASP:C	2.56	0.42
23:R:22:VAL:CG1	23:R:23:ILE:N	2.82	0.42
29:X:2759:U:H1'	29:X:2761:A:C6	2.54	0.42
19:N:28:ARG:HD2	29:X:542:A:H3'	2.01	0.42
29:X:623:G:C2'	29:X:624:A:H5''	2.49	0.42
29:X:815:A:C4	29:X:816:U:C6	3.06	0.42
9:D:123:ASP:HB2	9:D:127:ASN:O	2.19	0.42
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.54	0.42
17:L:27:LEU:O	17:L:88:VAL:HG23	2.19	0.42
17:L:89:PHE:O	17:L:89:PHE:CD1	2.72	0.42
31:Z:42:U:H3	31:Z:45:C:H5''	1.84	0.42
15:J:34:GLY:C	15:J:119:PHE:HE1	2.23	0.42
18:M:93:ILE:CD1	18:M:93:ILE:H	2.32	0.42
26:U:69:THR:HG23	26:U:75:TYR:HE1	1.82	0.42
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.42
11:F:71:THR:HG22	11:F:110:THR:CG2	2.37	0.42
11:F:23:VAL:HB	11:F:34:ILE:HD13	2.00	0.42
19:N:66:ASN:N	19:N:66:ASN:OD1	2.52	0.42
29:X:1007:A:N6	29:X:1171:A:C6	2.87	0.42
25:T:52:GLY:H	25:T:62:LEU:HD22	1.84	0.42
22:Q:36:THR:O	22:Q:39:LYS:N	2.50	0.42
29:X:1287:A:C2	29:X:1315:A:H2	2.36	0.42
29:X:1446:U:H2'	29:X:1447:U:H6	1.80	0.42
29:X:788:G:H4'	29:X:789:G:O5'	2.18	0.42
29:X:2813:G:H2'	29:X:2814:G:O4'	2.19	0.42
29:X:171:G:O2'	29:X:172:A:H5'	2.18	0.42
29:X:172:A:C6	29:X:175:C:H5	2.32	0.42
29:X:915:C:H2'	29:X:916:U:H6	1.84	0.42
29:X:1182:U:H2'	29:X:1183:C:O4'	2.19	0.42
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.01	0.42
24:S:43:PHE:O	24:S:44:ARG:C	2.57	0.42
12:G:83:ILE:HB	12:G:154:GLU:HA	2.00	0.42
14:I:76:LYS:HB3	14:I:79:GLN:HE21	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:54:VAL:HG12	15:J:55:MET:N	2.33	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.87	0.42
29:X:212:U:O2'	29:X:213:C:H5'	2.18	0.42
25:T:23:VAL:HA	25:T:38:VAL:HG22	2.01	0.42
11:F:111:LYS:HB2	11:F:115:LEU:HD11	2.01	0.42
29:X:982:C:C2'	29:X:983:G:O5'	2.67	0.42
31:Z:75:A:C2	31:Z:76:U:C1'	3.01	0.42
29:X:2511:G:C5	29:X:2512:A:N7	2.87	0.42
29:X:1987:G:C6	29:X:1988:A:C4	3.07	0.42
29:X:1971:C:O2'	29:X:1972:G:H5'	2.19	0.42
29:X:997:C:O2'	29:X:998:C:H5'	2.19	0.42
29:X:1824:C:H6	29:X:1824:C:O5'	2.02	0.42
7:B:154:LYS:HZ2	7:B:156:MET:HE3	1.83	0.42
8:C:32:THR:HG22	8:C:33:TRP:N	2.33	0.42
8:C:82:VAL:O	8:C:83:ALA:C	2.57	0.42
12:G:74:MET:HA	12:G:140:GLN:OE1	2.19	0.42
21:P:110:ALA:HB2	29:X:761:G:O5'	2.18	0.42
23:R:8:SER:O	23:R:9:HIS:C	2.57	0.42
29:X:1031:C:O2'	29:X:1032:A:P	2.77	0.42
29:X:1210:C:C2	29:X:1211:G:C8	3.08	0.42
29:X:2423:G:C2'	29:X:2424:G:O5'	2.67	0.42
29:X:309:G:H5''	29:X:310:A:OP1	2.19	0.42
29:X:522:G:O2'	29:X:523:A:OP2	2.31	0.42
29:X:544:U:C4	29:X:545:C:N4	2.87	0.42
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.48	0.42
6:A:107:ALA:HA	6:A:108:PRO:HD2	1.90	0.42
29:X:2493:U:C2	29:X:2494:C:C5	3.06	0.42
6:A:209:ALA:HB2	29:X:1781:C:H4'	2.00	0.42
6:A:214:TRP:HH2	29:X:777:A:P	2.42	0.42
8:C:112:GLN:HB3	8:C:116:LYS:HZ3	1.82	0.42
9:D:119:PRO:CG	9:D:120:ASN:N	2.80	0.42
29:X:2292:C:C2'	29:X:2293:G:H5'	2.49	0.42
31:Z:26:G:H5''	31:Z:27:A:OP1	2.19	0.42
15:J:111:THR:O	15:J:112:GLU:C	2.57	0.42
15:J:95:VAL:CG1	15:J:96:SER:N	2.82	0.42
26:U:14:VAL:C	26:U:15:VAL:HG22	2.39	0.42
7:B:26:VAL:HG12	7:B:27:LEU:N	2.33	0.42
18:M:11:GLU:O	18:M:13:LEU:N	2.51	0.42
7:B:181:LEU:HD13	18:M:16:ILE:CD1	2.49	0.42
29:X:657:A:O2'	29:X:2330:G:H4'	2.19	0.42
29:X:1467:U:N3	29:X:1473:U:N3	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:754:G:C6	29:X:755:C:C4	3.07	0.42
12:G:33:ILE:O	12:G:69:ASP:OD1	2.36	0.42
19:N:84:LYS:CB	19:N:92:ARG:NH2	2.81	0.42
19:N:84:LYS:HA	19:N:92:ARG:NH2	2.34	0.42
29:X:1172:U:O2'	29:X:1173:G:H5'	2.19	0.42
9:D:108:LEU:O	9:D:109:PRO:C	2.56	0.42
9:D:117:ILE:HD12	9:D:175:LEU:CD1	2.48	0.42
29:X:1979:C:O2'	29:X:1980:A:O5'	2.36	0.42
29:X:1250:A:O2'	29:X:1251:G:C4'	2.67	0.42
29:X:174:A:N1	29:X:175:C:O2	2.52	0.42
29:X:2240:C:N3	29:X:2241:U:C5	2.87	0.42
29:X:577:U:O4	29:X:984:A:OP2	2.37	0.42
29:X:2484:G:C6	29:X:2555:G:C5	3.06	0.42
29:X:2786:G:C6	29:X:2787:A:C5	3.08	0.42
29:X:2617:G:C5	29:X:2755:A:C6	3.07	0.42
29:X:1337:G:C5	29:X:1341:G:O6	2.72	0.42
29:X:212:U:O2	29:X:443:A:C2	2.72	0.42
29:X:1391:A:O2'	29:X:1392:U:OP1	2.36	0.42
24:S:114:ASP:HB2	24:S:172:LEU:HD12	2.01	0.42
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.42
13:H:12:ASP:OD1	13:H:12:ASP:C	2.58	0.42
4:4:18:ARG:HG3	29:X:1045:G:H5'	2.00	0.42
7:B:141:ILE:CG2	7:B:154:LYS:NZ	2.82	0.42
23:R:95:ARG:HG3	23:R:95:ARG:NH1	2.33	0.42
29:X:1296:G:H2'	29:X:1298:G:OP2	2.19	0.42
7:B:156:MET:CE	29:X:2033:C:H1'	2.50	0.42
12:G:139:ARG:HB2	29:X:567:G:OP1	2.19	0.42
29:X:760:U:C1'	30:Y:3:LYS:HE3	2.49	0.42
29:X:807:A:C4	29:X:808:C:C5	3.07	0.42
29:X:1505:U:H3'	29:X:1505:U:C6	2.53	0.42
4:4:19:ARG:HH11	4:4:19:ARG:HG3	1.84	0.42
10:E:139:GLN:O	10:E:143:GLN:HG3	2.18	0.42
29:X:796:A:O3'	29:X:2567:G:H5''	2.19	0.42
31:Z:52:G:N2	31:Z:53:G:H1'	2.33	0.42
29:X:862:A:C2'	29:X:863:C:H6	2.17	0.42
26:U:49:LYS:HB2	26:U:62:LEU:N	2.35	0.42
29:X:2074:U:C4	29:X:2075:U:C4	3.08	0.42
7:B:8:LYS:HD3	7:B:190:GLY:O	2.19	0.42
13:H:83:ARG:HE	18:M:40:ARG:NH1	2.17	0.42
11:F:25:PRO:HB2	11:F:29:GLN:OE1	2.20	0.42
11:F:27:LEU:HD22	11:F:57:ILE:CD1	2.41	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:147:LYS:O	8:C:183:HIS:HB3	2.19	0.42
15:J:19:THR:HB	31:Z:93:G:H5'	2.00	0.42
12:G:67:ARG:CB	12:G:70:PHE:HA	2.30	0.42
19:N:94:VAL:O	19:N:95:LEU:C	2.57	0.42
20:O:13:ARG:C	20:O:14:VAL:HG23	2.38	0.42
29:X:1118:G:C2'	29:X:1119:U:C5'	2.80	0.42
29:X:718:A:C8	29:X:740:A:C4	3.07	0.42
29:X:1924:C:C4	29:X:1925:C:N4	2.87	0.42
29:X:428:A:C2	29:X:429:C:C2	3.07	0.42
29:X:1737:G:C4	29:X:1738:U:C5	3.07	0.42
27:V:4:SER:HB3	27:V:7:ARG:NE	2.35	0.42
15:J:76:THR:HG22	15:J:89:GLY:C	2.40	0.42
22:Q:92:ALA:O	22:Q:93:GLY:C	2.57	0.42
29:X:188:G:C2	29:X:189:A:C4	3.08	0.42
29:X:1214:C:O2	29:X:1259:A:C2	2.72	0.42
11:F:100:ASN:H	11:F:103:GLN:HE22	1.65	0.42
11:F:139:GLU:HG2	11:F:140:GLY:N	2.34	0.42
24:S:71:MET:O	24:S:71:MET:CE	2.68	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
24:S:26:LYS:HE3	24:S:26:LYS:HB2	1.75	0.42
9:D:58:ALA:O	9:D:62:LEU:CA	2.64	0.42
29:X:1490:U:H2'	29:X:1491:C:C6	2.45	0.42
6:A:79:VAL:CG1	6:A:113:VAL:HA	2.49	0.42
29:X:994:A:HO2'	29:X:995:A:P	2.38	0.42
19:N:17:VAL:O	19:N:18:LEU:C	2.55	0.42
29:X:2613:A:O2'	29:X:2614:A:H5'	2.19	0.42
29:X:127:C:H2'	29:X:128:C:C6	2.55	0.42
29:X:1025:A:H2'	29:X:1026:U:C6	2.54	0.42
29:X:2738:A:H2'	29:X:2739:G:O4'	2.20	0.42
29:X:1191:G:C6	29:X:1192:A:C6	3.07	0.42
29:X:1048:U:H6	29:X:1048:U:O5'	2.02	0.42
29:X:829:C:C2	29:X:1206:G:C2	3.07	0.42
29:X:26:G:H1'	29:X:524:A:N6	2.34	0.42
29:X:630:G:H3'	29:X:631:G:H21	1.84	0.42
29:X:695:G:N2	29:X:809:C:C2	2.87	0.42
29:X:1050:G:C2'	29:X:1051:U:H5''	2.50	0.42
6:A:70:ARG:HH21	6:A:189:CYS:HA	1.85	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
29:X:2496:C:C6	29:X:2521:A:N7	2.87	0.42
17:L:42:ILE:HD11	17:L:87:VAL:HG13	2.02	0.42
15:J:86:LYS:HE3	25:T:12:ASN:HA	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:32:THR:CG2	18:M:33:VAL:N	2.82	0.42
26:U:10:LYS:HE2	26:U:11:LYS:HE2	2.02	0.42
29:X:659:G:C6	29:X:660:G:C6	3.07	0.42
29:X:640:C:H4'	29:X:660:G:H21	1.82	0.42
29:X:1467:U:C2'	29:X:1468:A:OP1	2.67	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
11:F:27:LEU:C	11:F:30:TYR:HD2	2.23	0.42
31:Z:18:G:C2'	31:Z:19:C:H5'	2.50	0.42
29:X:987:G:C2	29:X:988:G:C8	3.07	0.42
9:D:52:LYS:NZ	9:D:149:THR:CA	2.82	0.42
9:D:52:LYS:CE	9:D:56:GLU:OE2	2.67	0.42
9:D:74:ILE:HG12	9:D:80:ARG:CA	2.49	0.42
29:X:1355:A:OP2	29:X:1618:U:O4	2.38	0.42
29:X:1869:A:O2'	29:X:1870:U:H5'	2.19	0.42
21:P:79:ALA:O	21:P:85:MET:CB	2.64	0.42
10:E:72:VAL:C	10:E:74:ASN:N	2.72	0.42
22:Q:92:ALA:C	22:Q:94:GLN:N	2.72	0.42
22:Q:72:ARG:HH22	29:X:1324:G:C3'	2.31	0.42
29:X:1586:A:N6	29:X:1587:A:N6	2.67	0.42
29:X:1391:A:H1'	29:X:1392:U:C5	2.54	0.42
19:N:39:LEU:HA	19:N:42:ALA:CB	2.49	0.42
6:A:59:LYS:O	29:X:1584:G:C4'	2.68	0.42
29:X:1687:C:H2'	29:X:1688:U:O4'	2.20	0.42
29:X:2257:A:H2'	29:X:2258:G:H5'	2.01	0.42
8:C:34:GLN:OE1	8:C:176:ASN:OD1	2.37	0.42
12:G:101:THR:CG2	12:G:102:ARG:N	2.81	0.42
21:P:35:PRO:HA	21:P:122:SER:OG	2.19	0.42
14:I:13:ARG:NE	29:X:1218:C:H1'	2.29	0.42
29:X:1256:C:H2'	29:X:1257:U:H6	1.84	0.42
29:X:2003:A:O2'	29:X:2004:U:H3'	2.19	0.42
29:X:2594:U:O2	29:X:2595:C:C5	2.73	0.42
29:X:322:A:O2'	29:X:343:A:C5'	2.67	0.42
29:X:341:A:O2'	29:X:342:G:OP1	2.38	0.42
29:X:463:C:O2	29:X:465:C:N4	2.53	0.42
29:X:807:A:H2'	29:X:808:C:C6	2.55	0.42
29:X:830:C:H2'	29:X:831:G:O4'	2.19	0.42
6:A:172:TYR:CZ	6:A:186:HIS:HB3	2.52	0.42
6:A:200:GLU:O	6:A:202:LYS:N	2.52	0.42
18:M:67:THR:OG1	18:M:80:VAL:HG22	2.20	0.42
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
9:D:34:ILE:CD1	9:D:156:ILE:HG12	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2301:A:H2'	29:X:2302:G:C8	2.50	0.42
18:M:25:PRO:HB3	18:M:93:ILE:CD1	2.48	0.42
29:X:837:U:H1'	29:X:2337:A:N7	2.35	0.42
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.83	0.42
24:S:128:ARG:H	24:S:130:ILE:HD11	1.85	0.42
11:F:54:PRO:CB	11:F:70:LYS:HD2	2.50	0.42
29:X:729:A:C4	29:X:729:A:H3'	2.54	0.42
11:F:122:ALA:HA	29:X:1092:U:C5'	2.49	0.42
8:C:147:LYS:O	8:C:184:ASP:N	2.53	0.42
15:J:19:THR:HG21	15:J:99:LYS:NZ	2.33	0.42
12:G:40:ASN:HB3	12:G:78:ASP:OD1	2.19	0.42
19:N:52:ASN:C	19:N:54:LYS:N	2.70	0.42
20:O:26:GLN:CG	20:O:27:GLY:N	2.76	0.42
20:O:21:ARG:HH22	29:X:1005:U:C1'	2.32	0.42
29:X:1101:U:O2	29:X:1113:C:H1'	2.19	0.42
29:X:1376:C:C4	29:X:1377:G:N7	2.86	0.42
29:X:2641:A:O5'	29:X:2641:A:H8	2.03	0.42
29:X:1858:C:H2'	29:X:1859:A:C8	2.54	0.42
23:R:38:LEU:HB2	23:R:47:VAL:HG23	2.00	0.42
9:D:32:GLU:HB3	9:D:157:VAL:HG12	2.01	0.42
29:X:1428:G:H2'	29:X:1429:A:OP2	2.19	0.42
29:X:1363:C:C2'	29:X:1364:C:H5'	2.48	0.42
29:X:2559:U:C5	29:X:2560:G:C5	3.07	0.42
7:B:20:ALA:O	7:B:21:ILE:HG13	2.19	0.42
28:W:37:THR:O	28:W:41:ARG:HG3	2.19	0.42
4:A:4:ARG:HH12	29:X:2456:U:H3	1.68	0.42
6:A:166:GLN:NE2	6:A:176:ARG:NH2	2.67	0.42
29:X:1606:C:H2'	29:X:1607:A:H8	1.85	0.42
29:X:1707:A:C8	29:X:1708:C:C6	3.08	0.42
15:J:67:ILE:HG22	15:J:67:ILE:O	2.18	0.42
23:R:105:ARG:NH1	23:R:112:LYS:CA	2.79	0.42
23:R:23:ILE:HD12	23:R:23:ILE:N	2.27	0.42
29:X:1032:A:C8	29:X:1032:A:C3'	3.03	0.42
29:X:1032:A:O2'	29:X:1134:C:H5''	2.19	0.42
29:X:566:U:C2	29:X:567:G:C8	3.07	0.42
29:X:629:C:H2'	29:X:630:G:O4'	2.19	0.42
6:A:106:LEU:HA	6:A:106:LEU:HD23	1.71	0.42
6:A:149:PRO:N	6:A:189:CYS:SG	2.92	0.42
29:X:1791:C:C5'	29:X:1792:C:OP1	2.66	0.42
6:A:244:ARG:HB3	6:A:252:LYS:HZ3	1.81	0.42
6:A:243:GLY:N	6:A:244:ARG:HH11	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1778:U:C2'	29:X:1779:C:H6	2.24	0.42
18:M:104:LEU:HD23	18:M:104:LEU:HA	1.74	0.42
9:D:15:ALA:O	9:D:18:GLN:C	2.58	0.42
17:L:95:LYS:HD3	31:Z:49:C:O2'	2.20	0.42
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.33	0.42
15:J:31:GLY:HA2	15:J:108:ALA:CB	2.49	0.42
18:M:22:ARG:CD	18:M:24:LEU:CD2	2.96	0.42
14:I:89:ASP:O	14:I:91:ASP:N	2.53	0.42
10:E:7:GLN:O	10:E:9:ILE:HG13	2.18	0.42
27:V:25:LEU:CD2	27:V:47:ARG:HG2	2.50	0.42
27:V:6:MET:O	27:V:14:PHE:HE1	2.02	0.42
19:N:89:ASP:OD1	20:O:47:PHE:CB	2.68	0.42
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.42
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.67	0.42
29:X:1287:A:N3	29:X:1310:C:H1'	2.35	0.42
29:X:2627:G:C6	29:X:2652:G:C5	3.07	0.42
29:X:177:U:H3'	29:X:178:C:C6	2.54	0.42
29:X:1670:G:C4'	29:X:1671:A:OP1	2.55	0.42
20:O:28:GLU:C	20:O:30:GLY:N	2.71	0.42
29:X:1094:C:O5'	29:X:1094:C:H6	2.02	0.42
22:Q:69:ILE:HB	22:Q:70:GLY:H	1.42	0.42
29:X:1231:A:C5	29:X:1232:U:C4	3.08	0.42
12:G:157:PRO:C	12:G:159:SER:H	2.23	0.42
12:G:51:LEU:HD13	12:G:88:VAL:HG11	2.02	0.42
29:X:210:A:H2'	29:X:211:U:H5'	2.02	0.42
29:X:2810:A:C2	29:X:2853:U:C4	3.07	0.42
29:X:2470:U:O2	29:X:2470:U:C2'	2.63	0.42
16:K:54:THR:HG22	16:K:66:VAL:HG23	2.02	0.42
29:X:599:A:H2'	29:X:600:G:C8	2.55	0.42
29:X:602:C:H2'	29:X:603:C:H6	1.85	0.42
29:X:387:A:C2	29:X:388:G:C8	3.08	0.42
19:N:37:GLN:NE2	29:X:572:G:N3	2.68	0.42
29:X:1571:G:N2	29:X:1572:C:C2	2.88	0.42
29:X:2656:G:O2'	29:X:2657:G:H5'	2.19	0.42
21:P:100:GLY:C	21:P:101:PRO:O	2.57	0.42
25:T:14:ARG:O	25:T:15:ASP:HB2	2.19	0.42
29:X:1968:G:O2'	29:X:1969:G:H5'	2.19	0.42
4:4:13:ASN:O	4:4:15:LYS:HG3	2.20	0.42
4:4:15:LYS:O	4:4:17:VAL:HG23	2.19	0.42
8:C:56:ARG:NH1	29:X:814:G:OP2	2.53	0.42
16:K:103:ARG:O	16:K:107:GLY:HA2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:25:LEU:HD12	23:R:81:VAL:H	1.82	0.42
29:X:1674:C:O2'	29:X:1675:C:H5'	2.20	0.42
29:X:531:G:N2	29:X:532:A:C4	2.87	0.42
4:4:30:VAL:C	4:4:32:HIS:H	2.23	0.42
29:X:1701:C:C2	29:X:1722:G:N2	2.87	0.42
17:L:29:LEU:HD12	17:L:41:GLN:O	2.19	0.42
17:L:36:LYS:N	17:L:36:LYS:HD2	2.34	0.42
25:T:20:TYR:O	25:T:21:LEU:CG	2.68	0.42
29:X:2309:G:H2'	29:X:2310:G:O4'	2.19	0.42
26:U:11:LYS:NZ	26:U:75:TYR:CG	2.87	0.42
26:U:17:SER:CB	26:U:44:ALA:HA	2.49	0.42
26:U:53:GLU:CB	26:U:56:GLN:O	2.68	0.42
29:X:2399:C:O5'	29:X:2399:C:H6	2.02	0.42
29:X:2324:G:H4'	29:X:2326:C:H5''	2.01	0.42
11:F:11:GLN:HB2	29:X:1072:U:O4	2.19	0.42
10:E:9:ILE:HB	10:E:50:LEU:HB3	2.01	0.42
29:X:1122:A:C2'	29:X:1123:G:H4'	2.50	0.42
29:X:931:G:C5	29:X:932:G:C8	3.08	0.42
29:X:749:C:C2	29:X:750:C:C5	3.08	0.42
12:G:32:TYR:OH	12:G:35:LYS:NZ	2.47	0.42
22:Q:56:MET:SD	29:X:1618:U:O4	2.77	0.42
29:X:2707:G:H2'	29:X:2708:U:C6	2.55	0.42
29:X:1386:A:H5''	29:X:2191:A:H62	1.78	0.42
10:E:115:ILE:HD11	10:E:151:VAL:HG21	2.00	0.42
10:E:126:PRO:CG	10:E:127:GLU:N	2.70	0.42
29:X:953:G:O5'	29:X:953:G:H8	2.03	0.42
24:S:30:VAL:HG12	24:S:31:SER:O	2.20	0.42
29:X:1525:A:H2'	29:X:1526:U:H5'	2.02	0.42
29:X:2703:C:H2'	29:X:2704:U:O5'	2.19	0.42
6:A:96:HIS:CE1	6:A:100:GLY:HA2	2.54	0.42
23:R:60:PRO:C	23:R:62:MET:N	2.73	0.42
27:V:37:LEU:C	27:V:37:LEU:CD2	2.88	0.42
29:X:416:U:H5''	29:X:419:G:H4'	2.01	0.42
29:X:1973:C:H6	29:X:1973:C:O5'	2.02	0.42
16:K:27:ALA:O	16:K:30:ARG:N	2.50	0.42
24:S:24:TYR:HB2	24:S:25:ASN:H	1.68	0.42
29:X:1759:A:C6	29:X:1968:G:C6	3.07	0.42
29:X:1496:G:C2'	29:X:1497:C:O5'	2.67	0.42
19:N:12:ARG:HB2	19:N:13:ARG:H	1.67	0.42
23:R:93:ARG:CG	23:R:94:VAL:HG23	2.50	0.42
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1299:A:C4	29:X:1342:U:C4	3.07	0.42
29:X:2007:G:O2'	29:X:2008:C:H5'	2.20	0.42
29:X:2005:U:H2'	29:X:2595:C:O2'	2.20	0.42
7:B:154:LYS:HE2	29:X:2598:C:H1'	2.01	0.42
29:X:580:A:C6	29:X:584:A:C8	3.07	0.42
29:X:587:A:H2'	29:X:588:G:H5''	2.01	0.42
21:P:36:ARG:CZ	30:Y:20:ARG:NH1	2.83	0.42
6:A:263:ARG:O	6:A:264:LYS:C	2.58	0.42
29:X:1807:A:OP2	29:X:1814:G:H5''	2.20	0.42
29:X:1790:G:C4	29:X:1811:A:N6	2.88	0.42
8:C:112:GLN:NE2	8:C:188:ILE:HD11	2.34	0.42
29:X:2299:A:C2'	29:X:2312:A:N6	2.83	0.42
29:X:2210:C:O2	29:X:2211:U:C6	2.73	0.42
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.49	0.42
29:X:651:C:N4	29:X:658:G:H1	2.18	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
15:J:99:LYS:HA	15:J:99:LYS:HD2	1.81	0.42
31:Z:15:A:N1	31:Z:71:G:H2'	2.34	0.42
24:S:141:MET:HB3	24:S:171:VAL:HG23	2.01	0.42
20:O:22:VAL:CG2	29:X:1173:G:C4'	2.87	0.42
29:X:1512:A:N3	29:X:1593:C:O2'	2.51	0.42
29:X:2290:A:N1	29:X:2291:U:C4	2.88	0.42
16:K:76:VAL:HA	16:K:79:VAL:CG1	2.50	0.42
29:X:2519:C:H2'	29:X:2520:A:H5'	2.02	0.42
10:E:25:LYS:O	10:E:26:VAL:HG23	2.19	0.42
19:N:32:TYR:O	19:N:33:ARG:C	2.58	0.42
29:X:2624:G:H5''	29:X:2625:U:OP2	2.19	0.42
29:X:6:A:C5	29:X:7:G:N7	2.88	0.42
8:C:39:ARG:HG2	8:C:39:ARG:HH11	1.85	0.42
29:X:1318:A:C2'	29:X:1319:C:O5'	2.67	0.42
20:O:61:VAL:N	20:O:92:ALA:O	2.50	0.42
29:X:137:A:H2'	29:X:138:G:H5'	2.01	0.42
29:X:677:G:C2	29:X:678:G:C8	3.08	0.42
29:X:1629:G:C2'	29:X:1633:C:N4	2.81	0.42
29:X:1715:A:H4'	29:X:1716:G:O5'	2.20	0.42
22:Q:57:ASN:OD1	22:Q:76:LYS:HD2	2.20	0.42
29:X:2860:C:C2'	29:X:2861:A:H5'	2.50	0.42
24:S:172:LEU:CD2	24:S:173:PRO:HD2	2.50	0.42
29:X:2027:C:C2	29:X:2604:G:C2	3.07	0.42
29:X:43:A:N1	29:X:44:G:C6	2.88	0.42
29:X:1727:C:H4'	29:X:2833:C:N3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1030:U:H5'	29:X:1132:C:O2	2.19	0.42
29:X:1876:C:C5	29:X:1877:C:C5	3.08	0.42
7:B:134:TRP:CD1	7:B:134:TRP:N	2.72	0.42
8:C:137:ALA:HB1	8:C:142:LEU:HB2	2.02	0.42
8:C:161:ALA:CB	8:C:169:VAL:CG2	2.98	0.42
12:G:105:GLY:O	12:G:110:LEU:CD1	2.64	0.42
23:R:15:HIS:CE1	23:R:16:PHE:CE2	3.08	0.42
23:R:48:VAL:C	23:R:50:GLY:N	2.73	0.42
29:X:1153:A:O2'	29:X:1154:A:O5'	2.38	0.42
14:I:8:PRO:C	29:X:1218:C:HO2'	2.23	0.42
29:X:21:A:N1	29:X:530:G:C6	2.88	0.42
29:X:346:C:O2	29:X:347:C:C6	2.73	0.42
29:X:33:C:O2	29:X:466:A:C2	2.73	0.42
10:E:140:LEU:HD23	10:E:140:LEU:HA	1.84	0.42
6:A:250:TRP:O	6:A:255:LYS:CE	2.68	0.42
8:C:117:LEU:HD23	8:C:117:LEU:O	2.20	0.42
29:X:2312:A:O2'	29:X:2313:G:P	2.78	0.42
26:U:33:LYS:HD3	29:X:2375:G:H1'	2.01	0.42
29:X:923:A:H2	29:X:2256:G:N3	2.17	0.42
24:S:13:LYS:CB	24:S:13:LYS:HZ2	2.31	0.42
26:U:46:LEU:HA	26:U:47:HIS:CE1	2.54	0.42
29:X:1873:A:H4'	29:X:2069:U:H4'	2.02	0.42
13:H:47:VAL:CG1	13:H:117:GLU:HB3	2.50	0.42
24:S:139:THR:O	24:S:140:LYS:C	2.57	0.42
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.34	0.42
9:D:53:ALA:O	9:D:56:GLU:HB2	2.20	0.42
29:X:788:G:H5'	29:X:790:A:O4'	2.20	0.42
29:X:2814:G:C5	29:X:2815:C:C4	3.07	0.42
29:X:2869:U:H2'	29:X:2870:C:O4'	2.20	0.42
29:X:2057:U:H5'	29:X:2058:U:OP2	2.19	0.42
29:X:403:A:H4'	29:X:404:A:C5'	2.50	0.42
16:K:97:ILE:HA	16:K:112:LEU:O	2.20	0.42
29:X:1888:C:H2'	29:X:1913:G:N7	2.35	0.42
4:4:31:LYS:H	4:4:31:LYS:HD2	1.81	0.42
29:X:1992:G:O2'	29:X:1993:G:H5'	2.20	0.42
29:X:783:G:C6	29:X:784:U:N3	2.87	0.42
29:X:1125:G:O2'	29:X:1126:A:H5'	2.20	0.42
29:X:2534:U:C5	29:X:2535:C:C2	3.07	0.42
7:B:154:LYS:HE3	29:X:2598:C:H1'	2.02	0.42
8:C:173:ALA:C	8:C:175:VAL:N	2.72	0.42
29:X:1147:G:O2'	29:X:2022:C:H5''	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:328:A:O2'	29:X:329:C:H5'	2.20	0.42
6:A:265:THR:C	6:A:267:ASP:N	2.71	0.42
6:A:209:ALA:HA	29:X:1782:A:H5'	2.02	0.42
29:X:2829:A:H2'	29:X:2830:U:H6	1.83	0.42
9:D:156:ILE:CG2	9:D:158:THR:HG23	2.49	0.42
9:D:92:ARG:HH12	31:Z:46:G:C3'	2.32	0.42
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.49	0.42
17:L:44:ASP:O	17:L:44:ASP:OD1	2.38	0.42
25:T:41:ARG:NH1	25:T:41:ARG:HG3	2.33	0.42
26:U:27:ASP:CA	26:U:32:ARG:CD	2.95	0.42
26:U:46:LEU:HD23	26:U:46:LEU:N	2.35	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.74	0.42
9:D:106:ILE:HG23	9:D:110:ARG:HD2	2.01	0.42
9:D:135:GLN:HG3	9:D:151:GLY:N	2.35	0.42
16:K:78:LYS:HG2	16:K:83:VAL:HG12	2.02	0.42
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.20	0.42
29:X:1445:A:H2'	29:X:1446:U:H6	1.84	0.42
29:X:2054:A:H2'	29:X:2055:G:H8	1.85	0.42
21:P:45:ILE:HD13	21:P:53:ALA:HB1	2.02	0.42
9:D:32:GLU:N	9:D:157:VAL:O	2.49	0.42
9:D:33:LYS:H	9:D:157:VAL:HB	1.85	0.42
29:X:984:A:C8	29:X:1202:U:N3	2.88	0.42
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.42
24:S:4:THR:HB	24:S:57:GLU:CB	2.44	0.42
15:J:17:ARG:NH1	29:X:969:U:C5'	2.75	0.42
29:X:404:A:C5	29:X:405:C:C5	3.07	0.42
29:X:1441:A:O2'	29:X:1442:C:OP2	2.34	0.42
13:H:9:ASP:OD1	13:H:93:ARG:CZ	2.68	0.42
29:X:2792:C:N3	29:X:2805:G:C2	2.88	0.42
29:X:60:A:C6	29:X:61:U:C4	3.07	0.42
29:X:1682:A:C2'	29:X:1683:G:H5'	2.50	0.42
7:B:95:ILE:HA	7:B:95:ILE:HD13	1.65	0.42
29:X:879:A:OP1	29:X:879:A:C8	2.73	0.42
16:K:51:LEU:HD12	16:K:66:VAL:HG22	2.01	0.42
29:X:2542:U:O2	29:X:2544:A:C8	2.70	0.42
29:X:2546:G:O2'	29:X:2547:C:H5'	2.20	0.42
18:M:70:LYS:HG2	18:M:71:ILE:N	2.34	0.42
29:X:200:A:C6	29:X:435:A:C5	3.08	0.42
18:M:18:GLN:C	18:M:20:HIS:H	2.23	0.42
25:T:11:LYS:H	25:T:11:LYS:HG3	1.77	0.42
8:C:158:ARG:HH11	8:C:158:ARG:CB	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:50:GLN:CG	8:C:50:GLN:O	2.68	0.41
6:A:264:LYS:HD2	6:A:264:LYS:HA	1.83	0.41
29:X:1778:U:C6	29:X:1779:C:H5	2.38	0.41
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.55	0.41
17:L:98:GLY:O	17:L:99:ARG:C	2.58	0.41
26:U:23:LYS:HE3	26:U:26:ALA:CA	2.49	0.41
15:J:36:ILE:HA	15:J:102:ARG:O	2.20	0.41
15:J:12:LYS:HD3	29:X:923:A:C5	2.55	0.41
3:3:12:ARG:CA	14:I:62:LYS:HB3	2.50	0.41
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.41
29:X:2381:A:C2'	29:X:2382:C:OP2	2.68	0.41
29:X:612:G:H2'	29:X:668:A:H61	1.85	0.41
29:X:847:C:C2	29:X:848:A:N7	2.88	0.41
27:V:47:ARG:O	27:V:50:VAL:N	2.52	0.41
15:J:23:LYS:HA	24:S:73:LYS:HZ3	1.83	0.41
19:N:117:ARG:HG3	19:N:117:ARG:NH2	2.34	0.41
29:X:1002:C:H2'	29:X:1003:C:H6	1.84	0.41
29:X:2343:C:H2'	29:X:2344:G:H5'	2.02	0.41
29:X:2219:U:O2'	29:X:2220:A:H5'	2.19	0.41
29:X:2707:G:C8	29:X:2707:G:H5'	2.55	0.41
29:X:1247:U:C2'	29:X:1248:G:H5'	2.50	0.41
29:X:1248:G:O5'	29:X:1248:G:H8	2.03	0.41
10:E:109:TYR:HE1	10:E:152:ARG:NE	2.16	0.41
29:X:2217:G:H2'	29:X:2217:G:N3	2.34	0.41
15:J:75:VAL:CG2	15:J:93:TYR:HE2	2.32	0.41
29:X:2440:C:C4	29:X:2441:U:O4	2.72	0.41
29:X:1426:U:O2'	29:X:1427:G:H5'	2.20	0.41
8:C:122:GLY:O	8:C:123:PHE:C	2.58	0.41
20:O:86:HIS:CD2	20:O:87:ARG:N	2.88	0.41
29:X:1200:G:H2'	29:X:1201:G:H8	1.85	0.41
7:B:85:ALA:HB3	7:B:86:PRO:HD2	2.02	0.41
6:A:101:GLU:OE2	6:A:103:ARG:NE	2.53	0.41
21:P:42:VAL:HG12	21:P:42:VAL:O	2.19	0.41
8:C:32:THR:O	8:C:33:TRP:C	2.59	0.41
12:G:132:PHE:CB	12:G:145:HIS:CE1	3.03	0.41
29:X:2029:G:N2	29:X:2030:U:C2	2.88	0.41
29:X:312:G:C4	29:X:313:U:C5	3.08	0.41
29:X:471:A:C2	29:X:481:A:C5	3.08	0.41
29:X:586:G:C6	29:X:587:A:N6	2.87	0.41
29:X:618:A:O2'	29:X:619:A:H5'	2.20	0.41
6:A:160:GLY:N	6:A:196:VAL:CG2	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:102:LEU:CD2	8:C:106:MET:CE	2.98	0.41
9:D:13:ARG:HG2	9:D:13:ARG:NH2	2.35	0.41
29:X:400:U:H4'	29:X:401:G:O4'	2.19	0.41
28:W:46:THR:HG22	28:W:47:VAL:N	2.35	0.41
29:X:518:A:C4'	29:X:518:A:OP2	2.67	0.41
15:J:119:PHE:HD1	15:J:132:MET:HG3	1.84	0.41
18:M:72:SER:HG	18:M:73:PHE:HD1	1.68	0.41
27:V:50:VAL:CA	27:V:53:LEU:HD12	2.33	0.41
29:X:356:A:H2'	29:X:357:A:N7	2.35	0.41
24:S:72:ASP:N	24:S:77:ALA:O	2.49	0.41
29:X:665:A:C2	29:X:666:U:C6	3.08	0.41
29:X:751:G:O2'	29:X:752:G:OP1	2.35	0.41
12:G:66:HIS:HB3	19:N:67:ALA:O	2.20	0.41
9:D:70:ALA:HB3	9:D:83:MET:H	1.84	0.41
29:X:1495:G:H5'	29:X:1574:A:H2	1.85	0.41
10:E:106:ASN:N	10:E:107:ILE:HD13	2.35	0.41
10:E:131:ILE:CG2	10:E:132:ASP:N	2.82	0.41
29:X:1730:G:C4	29:X:1737:G:N2	2.88	0.41
29:X:117:A:H4'	29:X:118:U:O5'	2.20	0.41
29:X:59:G:H1'	29:X:73:A:C2	2.55	0.41
20:O:78:VAL:CG2	29:X:1202:U:H5'	2.50	0.41
21:P:62:ARG:CG	21:P:62:ARG:HH11	2.29	0.41
21:P:71:VAL:HG11	21:P:126:ILE:CG2	2.50	0.41
29:X:1426:U:H2'	29:X:1427:G:C5'	2.50	0.41
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.51	0.41
29:X:404:A:C6	29:X:405:C:N3	2.87	0.41
29:X:2261:G:H5'	29:X:2262:C:O5'	2.20	0.41
29:X:439:C:O2'	29:X:440:U:H5'	2.19	0.41
29:X:1693:A:N6	29:X:1694:A:C6	2.88	0.41
29:X:767:G:O2'	29:X:768:U:H5'	2.20	0.41
31:Z:68:A:C2	31:Z:111:C:C2	3.09	0.41
29:X:973:U:O2'	29:X:974:U:H5'	2.19	0.41
6:A:59:LYS:CG	29:X:1584:G:H4'	2.50	0.41
19:N:40:LEU:HA	19:N:40:LEU:HD23	1.80	0.41
21:P:82:ASN:ND2	29:X:505:G:N3	2.68	0.41
31:Z:23:G:C6	31:Z:24:U:C4	3.08	0.41
24:S:55:THR:HG22	24:S:55:THR:O	2.19	0.41
8:C:130:THR:HA	8:C:160:ALA:HB1	2.01	0.41
29:X:1217:U:H2'	29:X:1218:C:H6	1.85	0.41
29:X:2041:A:O5'	29:X:2041:A:H8	2.03	0.41
29:X:308:C:H2'	29:X:309:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:351:A:C6	29:X:352:G:C4	3.08	0.41
29:X:628:A:H2'	29:X:629:C:O4'	2.20	0.41
29:X:815:A:C4	29:X:816:U:C5	3.08	0.41
6:A:133:LEU:HB2	6:A:187:SER:HA	2.03	0.41
6:A:258:LYS:HZ2	6:A:261:ARG:HH21	1.67	0.41
6:A:209:ALA:HB2	29:X:1781:C:C2'	2.49	0.41
17:L:10:LYS:HB2	17:L:14:ARG:NH2	2.15	0.41
25:T:43:THR:HG22	25:T:46:LYS:HG2	2.02	0.41
14:I:83:LEU:HA	14:I:83:LEU:HD23	1.80	0.41
11:F:51:ALA:CB	11:F:72:PRO:HB2	2.51	0.41
27:V:1:MET:O	27:V:6:MET:HE1	2.20	0.41
31:Z:16:U:HO2'	31:Z:17:A:P	2.42	0.41
19:N:78:THR:O	19:N:81:ASN:N	2.53	0.41
26:U:41:VAL:CG2	26:U:43:ARG:NH2	2.81	0.41
29:X:219:G:H2'	29:X:231:G:C6	2.55	0.41
29:X:2781:G:C3'	29:X:2782:G:H5''	2.49	0.41
13:H:28:GLY:O	13:H:35:THR:OG1	2.38	0.41
13:H:41:ASN:O	13:H:42:LYS:C	2.58	0.41
29:X:2626:U:O2'	29:X:2627:G:H5'	2.20	0.41
10:E:102:ALA:HB1	10:E:115:ILE:O	2.21	0.41
10:E:89:LEU:HD11	10:E:96:ALA:HB2	2.02	0.41
21:P:9:ARG:HB3	21:P:13:GLN:HB2	2.02	0.41
23:R:18:LYS:C	23:R:36:VAL:HB	2.40	0.41
29:X:1526:U:H2'	29:X:1527:G:C8	2.55	0.41
29:X:1697:U:H2'	29:X:1698:C:O4'	2.20	0.41
24:S:43:PHE:CD1	24:S:66:VAL:HG21	2.55	0.41
11:F:98:LYS:HE2	11:F:139:GLU:HB2	2.01	0.41
14:I:126:SER:O	14:I:130:ILE:HG13	2.20	0.41
24:S:71:MET:CE	24:S:71:MET:H	2.33	0.41
13:H:100:ASN:C	13:H:102:GLN:H	2.23	0.41
9:D:46:ASP:O	9:D:50:ILE:HG13	2.20	0.41
29:X:2611:A:C2	29:X:2767:C:C2	3.08	0.41
29:X:2670:C:C6	29:X:2847:G:C6	3.08	0.41
29:X:1991:C:H2'	29:X:1992:G:C8	2.51	0.41
11:F:63:ARG:N	11:F:63:ARG:CD	2.83	0.41
29:X:18:U:H6	29:X:18:U:O5'	2.04	0.41
6:A:151:LYS:HD2	6:A:151:LYS:HA	1.87	0.41
29:X:123:A:O4'	29:X:123:A:OP1	2.38	0.41
29:X:102:C:C5	29:X:103:U:C4	3.08	0.41
29:X:2528:G:C2	29:X:2529:G:C8	3.08	0.41
29:X:803:C:H4'	29:X:804:C:OP1	2.15	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:53:G:C6	29:X:115:G:N2	2.89	0.41
10:E:164:PHE:O	10:E:165:VAL:C	2.58	0.41
9:D:24:SER:OG	31:Z:57:U:O3'	2.37	0.41
29:X:2731:G:N3	29:X:2731:G:O4'	2.53	0.41
8:C:47:THR:HA	8:C:82:VAL:O	2.21	0.41
23:R:84:VAL:HG22	23:R:90:LYS:N	2.35	0.41
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.85	0.41
29:X:2006:G:H5'	29:X:2596:C:H4'	2.02	0.41
29:X:21:A:H2'	29:X:22:C:C6	2.54	0.41
29:X:459:A:C2	29:X:466:A:C8	3.09	0.41
6:A:126:LYS:O	6:A:129:ASN:HB2	2.21	0.41
6:A:148:VAL:C	6:A:189:CYS:SG	2.99	0.41
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.48	0.41
6:A:244:ARG:HE	6:A:244:ARG:HB2	1.69	0.41
29:X:1781:C:H2'	29:X:1782:A:C5	2.55	0.41
18:M:104:LEU:HD23	18:M:106:TYR:HE2	1.84	0.41
25:T:40:GLN:NE2	25:T:57:HIS:HB3	2.29	0.41
29:X:2301:A:O2'	29:X:2302:G:H5'	2.21	0.41
29:X:1129:A:C6	29:X:1130:U:N3	2.89	0.41
26:U:17:SER:HB2	26:U:44:ALA:CA	2.50	0.41
7:B:77:ILE:O	7:B:78:LEU:HD23	2.19	0.41
14:I:107:LYS:HB2	14:I:107:LYS:HE2	1.87	0.41
13:H:83:ARG:HD2	13:H:89:ILE:HD11	2.01	0.41
29:X:1933:G:N7	29:X:1934:U:C5	2.88	0.41
11:F:13:PRO:HG3	11:F:52:ILE:CD1	2.50	0.41
10:E:69:ARG:O	10:E:70:THR:C	2.57	0.41
29:X:2082:C:C2'	29:X:2083:G:H5''	2.50	0.41
29:X:2799:C:N3	29:X:2800:C:C2	2.89	0.41
24:S:116:VAL:HG12	24:S:117:VAL:CG1	2.50	0.41
19:N:75:ASN:ND2	19:N:78:THR:H	2.18	0.41
20:O:39:PHE:CE1	20:O:46:VAL:HB	2.56	0.41
9:D:71:LYS:C	9:D:73:SER:N	2.74	0.41
29:X:2779:C:C6	29:X:2779:C:C3'	3.03	0.41
29:X:1042:G:H2'	29:X:1043:A:H8	1.85	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.89	0.41
29:X:1939:U:H2'	29:X:1939:U:O2	2.19	0.41
29:X:1438:G:H2'	29:X:1439:G:C8	2.56	0.41
6:A:210:GLY:O	6:A:213:ARG:HB2	2.20	0.41
29:X:1658:A:N6	29:X:1659:G:C2	2.88	0.41
29:X:820:U:H2'	29:X:821:A:C8	2.49	0.41
12:G:50:PRO:HD3	29:X:1152:C:H42	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:177:VAL:O	8:C:180:ILE:HG23	2.20	0.41
8:C:61:GLN:CD	29:X:688:A:H4'	2.40	0.41
29:X:2434:G:N1	29:X:2477:C:N4	2.69	0.41
29:X:312:G:C6	29:X:328:A:C6	3.08	0.41
29:X:584:A:OP1	29:X:584:A:H8	2.04	0.41
29:X:618:A:C2	29:X:619:A:C4	3.08	0.41
29:X:630:G:H3'	29:X:631:G:N2	2.36	0.41
29:X:812:G:C6	29:X:813:A:C6	3.08	0.41
29:X:1997:A:O2'	30:Y:3:LYS:HE2	2.20	0.41
29:X:2564:U:H4'	29:X:2565:C:OP1	2.21	0.41
29:X:2566:A:N6	29:X:2587:G:H1'	2.35	0.41
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.85	0.41
17:L:14:ARG:HH12	29:X:2274:C:H5	1.69	0.41
29:X:1845:A:N3	29:X:2212:U:O2'	2.45	0.41
29:X:2070:G:C6	29:X:2212:U:N3	2.89	0.41
29:X:640:C:N4	29:X:641:G:O6	2.54	0.41
13:H:116:ARG:CZ	18:M:38:LYS:HD3	2.50	0.41
11:F:11:GLN:HG2	11:F:11:GLN:O	2.21	0.41
11:F:38:THR:C	11:F:42:ASN:HD22	2.23	0.41
10:E:9:ILE:CD1	10:E:51:LEU:HA	2.50	0.41
27:V:42:ARG:CZ	27:V:46:LEU:HD21	2.51	0.41
11:F:12:LEU:HD12	11:F:37:PHE:CZ	2.56	0.41
20:O:13:ARG:CZ	20:O:13:ARG:CB	2.98	0.41
9:D:35:VAL:CG1	9:D:36:VAL:H	2.29	0.41
29:X:1978:U:H3'	29:X:1979:C:C5'	2.30	0.41
29:X:2650:G:C5	29:X:2651:U:C5	3.08	0.41
9:D:146:VAL:HB	9:D:147:ASP:H	1.62	0.41
16:K:60:LEU:O	16:K:63:ARG:HB3	2.20	0.41
29:X:1732:U:H4'	29:X:1733:U:OP2	2.20	0.41
10:E:41:LEU:HD22	10:E:64:LEU:HD22	2.02	0.41
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.49	0.41
29:X:2047:C:H1'	29:X:2429:A:C5	2.56	0.41
29:X:59:G:C5	29:X:62:U:C4	3.09	0.41
14:I:28:LYS:NZ	14:I:37:GLN:N	2.58	0.41
24:S:5:ALA:HB1	24:S:7:PRO:HD3	2.03	0.41
29:X:1424:U:H2'	29:X:1425:G:C8	2.56	0.41
12:G:45:ASP:OD1	12:G:47:SER:N	2.47	0.41
7:B:82:ARG:NH2	29:X:2617:G:OP2	2.53	0.41
29:X:1625:A:C2	29:X:1632:A:C4	3.09	0.41
29:X:210:A:C2'	29:X:211:U:H5'	2.49	0.41
16:K:31:GLU:C	16:K:33:ARG:H	2.22	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1742:G:C2	29:X:1743:C:C4	3.09	0.41
29:X:994:A:O2'	29:X:995:A:P	2.79	0.41
29:X:2684:A:C4	29:X:2685:A:C8	3.08	0.41
6:A:117:VAL:HG13	6:A:128:GLY:O	2.21	0.41
29:X:24:G:C5	29:X:25:U:C5	3.09	0.41
29:X:920:G:C2'	29:X:921:A:O5'	2.69	0.41
29:X:1915:A:H61	29:X:1951:G:H1'	1.85	0.41
23:R:94:VAL:C	23:R:95:ARG:HH11	2.24	0.41
29:X:1149:G:N3	29:X:1154:A:C2	2.77	0.41
29:X:1153:A:C4	29:X:1155:G:C5	3.09	0.41
29:X:1281:A:C2	29:X:1996:A:C4	3.09	0.41
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
29:X:341:A:O2'	29:X:342:G:P	2.78	0.41
29:X:468:A:H1'	29:X:470:U:C6	2.55	0.41
29:X:524:A:O2'	29:X:525:A:H5'	2.21	0.41
29:X:2201:G:C2	29:X:2202:G:C8	3.09	0.41
10:E:84:THR:HB	10:E:134:SER:CB	2.50	0.41
8:C:22:VAL:HG21	8:C:110:SER:OG	2.20	0.41
29:X:942:U:O2	29:X:942:U:H2'	2.19	0.41
15:J:136:GLU:CA	15:J:138:TYR:CE2	3.04	0.41
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.20	0.41
15:J:66:TYR:CE2	29:X:886:A:H4'	2.55	0.41
24:S:11:LYS:C	24:S:13:LYS:H	2.17	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.19	0.41
29:X:2728:A:H2'	29:X:2729:A:H8	1.86	0.41
29:X:1473:U:C2'	29:X:1474:A:OP2	2.68	0.41
27:V:39:GLN:O	27:V:42:ARG:HB3	2.20	0.41
27:V:50:VAL:HA	27:V:53:LEU:CD1	2.34	0.41
29:X:95:G:O2'	29:X:96:C:H5'	2.20	0.41
29:X:930:A:H3'	29:X:930:A:C8	2.55	0.41
29:X:2171:U:C4	29:X:2172:U:C4	3.09	0.41
29:X:2798:A:C5	29:X:2799:C:C5	3.08	0.41
19:N:93:LYS:HG2	29:X:1007:A:O2'	2.20	0.41
9:D:53:ALA:O	9:D:54:ALA:C	2.58	0.41
9:D:71:LYS:O	9:D:72:LYS:HB2	2.20	0.41
29:X:2673:G:H2'	29:X:2674:C:H6	1.86	0.41
10:E:95:ARG:O	10:E:106:ASN:HB3	2.20	0.41
10:E:64:LEU:CA	10:E:67:LEU:HB2	2.49	0.41
15:J:80:ALA:C	15:J:81:GLU:OE1	2.59	0.41
23:R:17:LYS:HB3	23:R:18:LYS:NZ	2.36	0.41
29:X:1982:C:O2	29:X:2666:U:O2'	2.30	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:29:LYS:O	21:P:30:TYR:HB2	2.20	0.41
29:X:2441:U:N3	29:X:2442:C:C5	2.89	0.41
29:X:184:A:H2'	29:X:185:C:O4'	2.21	0.41
8:C:191:ALA:O	8:C:192:ALA:C	2.57	0.41
6:A:48:ARG:CZ	6:A:48:ARG:HB3	2.50	0.41
10:E:158:HIS:NE2	29:X:2638:G:OP1	2.41	0.41
29:X:447:U:O2'	29:X:448:C:C5	2.72	0.41
29:X:242:A:H2'	29:X:243:G:C1'	2.50	0.41
22:Q:12:ILE:O	22:Q:13:SER:OG	2.37	0.41
7:B:16:LYS:O	7:B:17:ASN:HB2	2.20	0.41
24:S:125:PRO:CG	24:S:126:GLY:N	2.83	0.41
21:P:49:SER:C	21:P:51:GLN:N	2.73	0.41
29:X:1164:C:O2'	29:X:1165:G:H5'	2.20	0.41
29:X:2513:A:C6	29:X:2514:G:C8	3.09	0.41
12:G:96:ASP:OD1	12:G:97:ASP:HB2	2.21	0.41
23:R:84:VAL:CA	23:R:90:LYS:HD3	2.24	0.41
29:X:1211:G:N2	29:X:1263:G:C5	2.89	0.41
29:X:318:G:H21	29:X:341:A:H62	1.69	0.41
29:X:541:C:O2'	29:X:542:A:P	2.79	0.41
6:A:186:HIS:N	6:A:186:HIS:ND1	2.69	0.41
6:A:218:LYS:CD	6:A:218:LYS:O	2.69	0.41
6:A:227:ASN:HD21	29:X:797:A:C5'	2.34	0.41
13:H:90:ARG:NH2	18:M:78:GLU:CD	2.71	0.41
17:L:104:ALA:O	17:L:107:ALA:N	2.54	0.41
17:L:33:ARG:NH1	17:L:99:ARG:O	2.54	0.41
17:L:99:ARG:HG2	31:Z:51:G:OP1	2.21	0.41
26:U:23:LYS:HD2	26:U:35:THR:CB	2.50	0.41
15:J:125:LYS:HB2	29:X:2463:G:H1'	2.03	0.41
26:U:50:ALA:HB3	26:U:52:ARG:NH2	2.24	0.41
26:U:53:GLU:HB3	26:U:58:LYS:N	2.36	0.41
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.75	0.41
29:X:2373:C:H2'	29:X:2374:C:H6	1.84	0.41
29:X:657:A:N3	29:X:2329:C:O2'	2.47	0.41
29:X:2328:G:H8	29:X:2328:G:OP2	2.03	0.41
29:X:1081:A:C5	29:X:1108:U:H4'	2.56	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.53	0.41
11:F:25:PRO:CG	11:F:26:ALA:N	2.83	0.41
8:C:163:ASN:O	8:C:164:VAL:O	2.38	0.41
20:O:9:GLY:O	20:O:10:LYS:CB	2.67	0.41
29:X:1170:U:O2'	29:X:1171:A:H5'	2.21	0.41
29:X:1509:A:C2'	29:X:1510:A:H5'	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:76:VAL:O	16:K:79:VAL:HG12	2.19	0.41
7:B:11:MET:HG2	7:B:24:THR:OG1	2.21	0.41
29:X:1494:G:H2'	29:X:1495:G:O4'	2.21	0.41
29:X:1313:U:O2'	29:X:1314:A:OP2	2.36	0.41
10:E:18:ASN:C	10:E:20:GLN:N	2.73	0.41
20:O:29:ALA:O	20:O:30:GLY:C	2.57	0.41
10:E:106:ASN:H	10:E:107:ILE:HD13	1.85	0.41
29:X:204:A:N7	29:X:2386:G:H5'	2.36	0.41
10:E:24:PHE:CD1	10:E:24:PHE:N	2.88	0.41
24:S:45:GLN:HB2	24:S:46:GLN:H	1.71	0.41
24:S:46:GLN:O	24:S:47:SER:C	2.59	0.41
7:B:131:SER:C	7:B:132:LYS:CG	2.80	0.41
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.41
16:K:38:LEU:O	16:K:41:ALA:HB3	2.20	0.41
6:A:61:LEU:HD23	6:A:61:LEU:HA	1.81	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.53	0.41
20:O:25:LEU:HG	20:O:32:LYS:HZ3	1.85	0.41
14:I:134:GLU:C	14:I:136:ALA:N	2.74	0.41
29:X:1547:U:H2'	29:X:1548:U:H6	1.85	0.41
29:X:1707:A:C8	29:X:1708:C:C5	3.09	0.41
9:D:144:ASP:O	9:D:145:MET:HG2	2.20	0.41
18:M:87:LEU:HD13	18:M:87:LEU:O	2.20	0.41
8:C:33:TRP:CH2	8:C:100:ARG:HD2	2.55	0.41
29:X:340:G:OP1	29:X:340:G:H3'	2.20	0.41
29:X:760:U:C4	30:Y:3:LYS:CG	2.95	0.41
29:X:1053:G:O6	29:X:1124:U:O4	2.39	0.41
6:A:108:PRO:HG2	6:A:111:LEU:HG	2.02	0.41
6:A:67:PHE:CE1	6:A:157:ARG:NH2	2.89	0.41
29:X:1794:A:H2'	29:X:1795:C:H5'	2.02	0.41
29:X:1811:A:HO2'	29:X:1812:U:P	2.44	0.41
29:X:2505:G:H5'	29:X:2722:C:O2'	2.20	0.41
29:X:2587:G:C8	29:X:2587:G:H3'	2.56	0.41
9:D:167:ARG:O	9:D:168:ALA:C	2.58	0.41
29:X:2299:A:O2'	29:X:2312:A:N6	2.54	0.41
29:X:2309:G:O2'	29:X:2310:G:H5'	2.21	0.41
29:X:861:G:N2	29:X:943:U:H1'	2.36	0.41
29:X:516:G:O2'	29:X:517:A:C8	2.50	0.41
15:J:69:ILE:HG21	15:J:104:MET:HA	1.98	0.41
15:J:119:PHE:HA	15:J:122:ALA:HB3	2.02	0.41
15:J:104:MET:CE	15:J:130:THR:HG21	2.50	0.41
15:J:70:PHE:CG	29:X:884:C:H4'	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:36:ARG:C	24:S:40:ASP:OD2	2.59	0.41
14:I:88:PHE:O	14:I:93:LEU:HB2	2.21	0.41
29:X:656:U:C2'	29:X:657:A:OP2	2.69	0.41
20:O:35:LEU:CD2	20:O:36:LYS:N	2.84	0.41
29:X:1006:C:HO2'	29:X:1007:A:C5'	2.34	0.41
29:X:1166:A:C3'	29:X:1167:A:H5''	2.50	0.41
28:W:7:ARG:HD3	29:X:999:A:OP1	2.21	0.41
9:D:61:THR:HG22	9:D:99:PHE:CE2	2.56	0.41
9:D:79:LEU:HA	9:D:80:ARG:NH1	2.34	0.41
29:X:1355:A:H1'	29:X:1410:U:H4'	2.02	0.41
29:X:2519:C:C2'	29:X:2520:A:H5'	2.50	0.41
10:E:77:LYS:HA	10:E:80:SER:CB	2.51	0.41
29:X:2472:U:H2'	29:X:2473:G:O4'	2.20	0.41
29:X:2229:G:H2'	29:X:2475:C:OP1	2.21	0.41
29:X:2701:A:O2'	29:X:2702:G:H5'	2.21	0.41
29:X:1981:A:O3'	29:X:2704:U:H4'	2.20	0.41
29:X:2510:A:N6	29:X:2511:G:C6	2.88	0.41
29:X:620:G:C4	29:X:621:U:C5	3.09	0.41
29:X:1569:A:C4	29:X:1571:G:C8	3.09	0.41
29:X:1687:C:OP2	29:X:1688:U:O4	2.39	0.41
29:X:1879:G:H2'	29:X:1880:G:O4'	2.21	0.41
29:X:1759:A:N1	29:X:1968:G:C6	2.89	0.41
29:X:2733:A:O5'	29:X:2733:A:H8	2.04	0.41
16:K:71:HIS:ND1	16:K:71:HIS:N	2.68	0.41
8:C:23:ASN:C	8:C:27:LEU:HD12	2.41	0.41
19:N:25:TRP:CE3	19:N:26:GLY:CA	3.03	0.41
29:X:1142:G:O2'	29:X:1143:A:O5'	2.39	0.41
29:X:1211:G:C2	29:X:1263:G:C5	3.09	0.41
29:X:1281:A:H2'	29:X:1282:A:O4'	2.20	0.41
29:X:2433:G:C5	29:X:2434:G:N7	2.89	0.41
29:X:760:U:H1'	30:Y:3:LYS:HE3	2.01	0.41
8:C:137:ALA:HA	8:C:142:LEU:HD12	2.03	0.41
8:C:60:GLY:O	8:C:62:LYS:N	2.54	0.41
8:C:67:ALA:O	8:C:68:ARG:HB3	2.21	0.41
12:G:125:ARG:O	12:G:126:VAL:C	2.59	0.41
14:I:9:THR:OG1	14:I:13:ARG:CZ	2.69	0.41
19:N:4:ALA:HB3	29:X:1262:U:H5''	2.02	0.41
29:X:1299:A:C6	29:X:1302:C:C4	3.09	0.41
29:X:1672:A:H3'	29:X:1673:C:C5	2.55	0.41
29:X:33:C:O2'	29:X:34:U:O4'	2.39	0.41
6:A:124:GLU:CB	6:A:126:LYS:HD2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1505:U:C6	29:X:1505:U:C3'	3.04	0.41
29:X:1811:A:C4	29:X:1813:A:N1	2.89	0.41
6:A:262:LYS:O	6:A:263:ARG:C	2.58	0.41
6:A:88:ARG:O	6:A:89:SER:HB3	2.21	0.41
4:4:24:LEU:HG	4:4:35:ARG:CG	2.41	0.41
4:4:11:CYS:SG	4:4:32:HIS:CE1	3.14	0.41
4:4:25:VAL:HG12	4:4:25:VAL:O	2.21	0.41
6:A:218:LYS:C	6:A:218:LYS:CD	2.84	0.41
29:X:2281:C:C2	29:X:2282:G:C8	3.09	0.41
9:D:120:ASN:O	9:D:122:PHE:CD1	2.74	0.41
17:L:101:LYS:O	17:L:102:ALA:O	2.38	0.41
17:L:64:LYS:HA	17:L:67:THR:OG1	2.20	0.41
9:D:91:LEU:HB3	9:D:96:MET:HA	2.03	0.41
29:X:492:G:C2'	29:X:493:A:OP2	2.68	0.41
15:J:68:ARG:HE	15:J:103:VAL:HG11	1.86	0.41
24:S:13:LYS:HZ2	24:S:18:MET:CB	2.33	0.41
18:M:22:ARG:CD	18:M:24:LEU:HD21	2.50	0.41
29:X:2209:G:C6	29:X:2210:C:N4	2.89	0.41
14:I:92:THR:O	14:I:95:ALA:N	2.53	0.41
29:X:2394:G:C6	29:X:2395:C:C4	3.08	0.41
29:X:2371:A:C2	29:X:2408:G:C2	3.09	0.41
29:X:643:A:N3	29:X:2382:C:H1'	2.36	0.41
29:X:658:G:H4'	29:X:2330:G:H5''	2.03	0.41
14:I:90:ARG:O	14:I:91:ASP:HB3	2.21	0.41
29:X:2264:C:C4'	29:X:2267:A:C6	3.03	0.41
24:S:89:GLY:C	24:S:127:PRO:HD2	2.41	0.41
24:S:91:PRO:CG	24:S:92:VAL:N	2.84	0.41
27:V:42:ARG:HD2	27:V:42:ARG:HA	1.91	0.41
27:V:47:ARG:O	27:V:48:ARG:C	2.57	0.41
27:V:51:ALA:HB3	29:X:75:C:H4'	2.03	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
11:F:20:ALA:N	11:F:21:PRO:CD	2.68	0.41
31:Z:70:C:H2'	31:Z:71:G:O4'	2.21	0.41
29:X:872:G:C1'	29:X:2247:A:H1'	2.50	0.41
29:X:2800:C:C5	29:X:2801:A:C8	3.09	0.41
12:G:61:ARG:HH22	12:G:78:ASP:HB2	1.84	0.41
19:N:86:ALA:C	19:N:88:ILE:H	2.22	0.41
20:O:26:GLN:CG	20:O:27:GLY:H	2.09	0.41
9:D:138:PHE:CB	9:D:141:ILE:HG12	2.51	0.41
16:K:94:TYR:CD1	16:K:115:LEU:O	2.74	0.41
29:X:2676:G:C2	29:X:2690:A:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1355:A:C2'	29:X:1357:U:OP2	2.69	0.41
29:X:1494:G:HO2'	29:X:1574:A:H2	1.69	0.41
29:X:1309:G:C2'	29:X:1310:C:O5'	2.68	0.41
29:X:2307:A:C2	29:X:2308:A:C5	3.09	0.41
29:X:759:C:C4'	29:X:759:C:C6	3.04	0.41
29:X:2649:A:C2	29:X:2650:G:C4	3.09	0.41
29:X:2543:A:C2	29:X:2626:U:C4'	3.03	0.41
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.94	0.41
26:U:39:LYS:HB3	26:U:40:ARG:H	1.59	0.41
29:X:176:A:N6	29:X:2413:A:C5	2.89	0.41
29:X:179:U:H2'	29:X:180:C:O4'	2.21	0.41
29:X:2238:G:C6	29:X:2239:C:C4	3.09	0.41
10:E:28:GLY:HA3	10:E:79:VAL:HB	2.02	0.41
25:T:5:LYS:HD2	25:T:5:LYS:N	2.36	0.41
10:E:20:GLN:O	10:E:21:ASP:HB2	2.20	0.41
29:X:497:C:C4'	29:X:497:C:C6	3.03	0.41
29:X:1737:G:O2'	29:X:1738:U:H5'	2.20	0.41
29:X:2046:C:N3	29:X:2429:A:N6	2.61	0.41
29:X:971:A:H4'	29:X:2436:U:C4'	2.50	0.41
29:X:1526:U:H3'	29:X:1527:G:C8	2.56	0.41
24:S:22:VAL:HG22	24:S:80:HIS:CE1	2.56	0.41
29:X:1429:A:C2'	29:X:1430:G:H4'	2.51	0.41
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.51	0.41
29:X:1438:G:C2	29:X:1591:U:C2	3.09	0.41
29:X:685:U:O2'	29:X:686:C:C5'	2.63	0.41
29:X:1623:C:O2'	29:X:1624:A:OP2	2.34	0.41
29:X:2262:C:H2'	29:X:2263:C:O4'	2.20	0.41
10:E:155:ASP:OD2	10:E:158:HIS:HB2	2.20	0.41
29:X:925:U:C4'	29:X:926:C:OP1	2.63	0.41
29:X:1830:C:N4	29:X:1881:U:H2'	2.36	0.41
29:X:1347:C:H2'	29:X:1348:C:O5'	2.20	0.41
29:X:1695:U:C2'	29:X:1696:C:H5'	2.51	0.41
29:X:1683:G:O2'	29:X:1684:G:H5'	2.21	0.41
20:O:61:VAL:HG23	20:O:94:LYS:N	2.30	0.41
16:K:22:ARG:O	16:K:25:ALA:HB3	2.21	0.41
10:E:172:LYS:CD	29:X:2508:G:OP2	2.69	0.41
29:X:644:A:C8	29:X:645:G:H1'	2.55	0.41
21:P:134:LYS:HD3	29:X:2776:U:O2	2.21	0.41
29:X:1641:C:O2	29:X:1641:C:C2'	2.64	0.41
29:X:2864:C:H2'	29:X:2864:C:O2	2.21	0.41
10:E:148:VAL:C	10:E:150:LYS:N	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:20:HIS:O	4:4:22:ARG:N	2.53	0.41
29:X:1350:G:H2'	29:X:1351:G:O4'	2.21	0.41
28:W:45:LYS:CE	28:W:45:LYS:HA	2.51	0.41
29:X:2578:G:C2	29:X:2579:A:C8	3.08	0.41
29:X:1414:G:C5	29:X:1415:C:C4	3.09	0.41
29:X:551:A:H2'	29:X:552:C:O4'	2.20	0.41
5:5:6:BB9:O	29:X:1106:A:H1'	2.20	0.41
10:E:175:LYS:HD3	10:E:175:LYS:HA	1.89	0.41
5:5:10:TS9:CD1	29:X:1078:A:H1'	2.51	0.41
29:X:1014:G:C6	29:X:1015:U:C4	3.09	0.41
29:X:1244:U:C2	29:X:1245:G:C8	3.09	0.41
8:C:47:THR:HG23	8:C:84:PHE:H	1.82	0.41
14:I:17:LYS:HE2	29:X:1258:G:OP2	2.21	0.41
23:R:25:LEU:CD1	23:R:81:VAL:N	2.83	0.41
23:R:84:VAL:CG2	23:R:89:GLY:CA	2.94	0.41
29:X:1023:U:O2	29:X:1154:A:H8	2.04	0.41
12:G:130:ALA:CB	29:X:1149:G:OP1	2.69	0.41
29:X:1211:G:C2	29:X:1263:G:C6	3.09	0.41
29:X:2004:U:H4'	29:X:2005:U:OP2	2.15	0.41
29:X:464:G:C6	29:X:465:C:N4	2.89	0.41
29:X:466:A:H4'	29:X:467:U:O5'	2.20	0.41
30:Y:15:LYS:O	30:Y:16:ARG:C	2.57	0.41
30:Y:19:ARG:C	30:Y:21:SER:N	2.70	0.41
6:A:160:GLY:N	6:A:196:VAL:HG23	2.34	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
6:A:172:TYR:HH	29:X:2202:G:P	2.44	0.41
10:E:143:GLN:HG2	29:X:2725:C:C2'	2.51	0.41
18:M:104:LEU:HA	18:M:106:TYR:HE2	1.82	0.41
17:L:54:ALA:CB	17:L:75:LEU:CA	2.99	0.41
26:U:54:ASN:C	26:U:56:GLN:N	2.58	0.41
7:B:52:ALA:HA	18:M:5:ILE:CG2	2.50	0.41
14:I:71:THR:HG21	14:I:104:ARG:CZ	2.51	0.41
29:X:847:C:H2'	29:X:848:A:O4'	2.21	0.41
13:H:23:ARG:HH22	13:H:25:LEU:N	2.18	0.41
27:V:56:VAL:O	27:V:57:LYS:C	2.59	0.41
19:N:91:ASN:O	19:N:92:ARG:HB2	2.21	0.41
29:X:1514:C:C1'	29:X:1593:C:H4'	2.51	0.41
9:D:175:LEU:CG	9:D:177:PHE:HE1	2.34	0.41
29:X:2691:C:H1'	29:X:2692:A:C8	2.55	0.41
27:V:31:GLN:CA	27:V:34:ALA:HB3	2.49	0.41
29:X:172:A:H2'	29:X:175:C:H42	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:53:ARG:NE	29:X:227:G:HO2'	2.18	0.41
25:T:3:HIS:HB2	25:T:5:LYS:HE2	2.03	0.41
29:X:1923:U:O2'	29:X:1924:C:P	2.79	0.41
27:V:4:SER:O	27:V:7:ARG:HG3	2.21	0.41
29:X:2869:U:O2'	29:X:2870:C:H5'	2.21	0.41
29:X:2698:G:H2'	29:X:2699:G:H8	1.86	0.41
7:B:109:LYS:NZ	29:X:2703:C:OP1	2.50	0.41
21:P:102:THR:HG22	21:P:104:LYS:HD3	2.01	0.41
12:G:155:THR:CG2	12:G:156:HIS:H	2.24	0.41
29:X:208:C:H2'	29:X:209:G:C5'	2.50	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41
31:Z:5:C:C2'	31:Z:6:C:O4'	2.68	0.41
8:C:17:LEU:HA	8:C:18:PRO:HD3	1.79	0.41
8:C:77:PHE:O	8:C:79:GLY:N	2.54	0.41
29:X:2332:G:H2'	29:X:2333:A:O4'	2.21	0.41
29:X:1423:A:C2	29:X:1609:G:C2	3.09	0.41
10:E:27:LYS:HA	10:E:32:GLU:HA	2.01	0.41
29:X:1876:C:H2'	29:X:1877:C:H5'	2.02	0.41
29:X:1098:G:H8	29:X:1098:G:P	2.44	0.41
7:B:117:MET:CB	7:B:136:ARG:HG3	2.51	0.40
12:G:141:GLY:O	12:G:144:MET:N	2.55	0.40
21:P:37:LYS:HZ3	21:P:64:ALA:CA	2.34	0.40
23:R:28:LYS:HG2	23:R:29:HIS:CD2	2.55	0.40
23:R:29:HIS:O	23:R:32:GLN:HB2	2.21	0.40
29:X:1145:C:C6	29:X:1147:G:OP1	2.74	0.40
29:X:2557:G:H2'	29:X:2558:C:C6	2.56	0.40
29:X:311:A:C5	29:X:345:U:C4'	3.04	0.40
29:X:825:C:H1'	29:X:1263:G:N2	2.36	0.40
6:A:209:ALA:O	29:X:742:G:N7	2.54	0.40
6:A:214:TRP:CH2	29:X:777:A:P	3.14	0.40
6:A:217:ARG:NH1	29:X:793:G:OP1	2.53	0.40
6:A:245:VAL:N	6:A:252:LYS:HE2	2.36	0.40
29:X:1581:C:O2'	29:X:1582:A:O5'	2.27	0.40
17:L:12:ARG:O	17:L:16:LYS:HB2	2.21	0.40
31:Z:26:G:O3'	31:Z:27:A:O4'	2.40	0.40
9:D:92:ARG:NH1	31:Z:46:G:C5'	2.76	0.40
29:X:939:C:H4'	29:X:940:G:O5'	2.20	0.40
29:X:487:G:N2	29:X:490:A:O4'	2.54	0.40
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.40
15:J:86:LYS:O	15:J:87:GLY:O	2.39	0.40
28:W:3:ILE:CG2	28:W:4:LYS:N	2.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:391:C:C2'	29:X:392:G:H5'	2.51	0.40
7:B:27:LEU:HD22	7:B:51:TYR:OH	2.21	0.40
13:H:116:ARG:CZ	18:M:38:LYS:CD	2.98	0.40
29:X:1460:G:C6	29:X:1461:C:C4	3.09	0.40
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.36	0.40
29:X:664:C:O3'	29:X:665:A:H3'	2.21	0.40
29:X:70:A:C4'	29:X:71:A:H3'	2.46	0.40
20:O:20:ILE:O	20:O:21:ARG:O	2.38	0.40
29:X:1007:A:O2'	29:X:1008:G:H5'	2.22	0.40
29:X:1511:A:H2	29:X:1594:U:H1'	1.85	0.40
22:Q:43:GLN:HA	22:Q:48:VAL:O	2.21	0.40
29:X:1710:U:O2'	29:X:1711:C:P	2.79	0.40
29:X:1850:G:H2'	29:X:1851:A:H8	1.85	0.40
29:X:759:C:C3'	29:X:759:C:C6	3.04	0.40
29:X:172:A:H2'	29:X:175:C:N4	2.35	0.40
29:X:224:G:N2	29:X:227:G:H3'	2.36	0.40
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.56	0.40
29:X:2645:C:H3'	29:X:2646:C:H6	1.84	0.40
29:X:1730:G:N2	29:X:1731:C:H1'	2.37	0.40
29:X:1018:C:C4	29:X:1019:U:H5	2.40	0.40
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.56	0.40
21:P:28:ALA:HB2	21:P:71:VAL:HG22	2.02	0.40
12:G:154:GLU:O	12:G:157:PRO:CD	2.69	0.40
6:A:73:SER:HB2	6:A:120:GLY:HA3	2.03	0.40
6:A:71:ASP:OD2	6:A:103:ARG:NH1	2.54	0.40
7:B:97:ALA:O	7:B:98:GLU:C	2.57	0.40
29:X:1678:G:C4	29:X:1983:G:N2	2.90	0.40
19:N:5:LYS:HB3	19:N:7:GLY:H	1.86	0.40
8:C:75:PRO:O	29:X:594:G:H4'	2.21	0.40
29:X:760:U:H6	29:X:760:U:O5'	2.04	0.40
6:A:134:ARG:NH2	6:A:135:PHE:CZ	2.85	0.40
6:A:144:ALA:O	6:A:153:ALA:HA	2.21	0.40
29:X:1506:C:H2'	29:X:1507:A:H5'	2.03	0.40
29:X:1807:A:P	29:X:1814:G:H4'	2.61	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
6:A:52:ARG:HH11	6:A:247:VAL:HG11	1.87	0.40
6:A:43:ARG:NH1	6:A:43:ARG:CB	2.69	0.40
6:A:52:ARG:HH21	6:A:53:PHE:HZ	1.69	0.40
29:X:1764:A:C2'	29:X:1765:C:H5'	2.49	0.40
9:D:122:PHE:HA	29:X:2282:G:C4'	2.43	0.40
17:L:69:ALA:CB	17:L:106:ALA:HB2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2280:A:C6	29:X:2281:C:N4	2.90	0.40
26:U:62:LEU:HD23	26:U:67:LEU:HG	2.03	0.40
29:X:2209:G:C4	29:X:2210:C:H5	2.40	0.40
7:B:53:PRO:HG2	18:M:6:LYS:NZ	2.35	0.40
18:M:11:GLU:C	18:M:13:LEU:N	2.70	0.40
13:H:83:ARG:HH11	18:M:40:ARG:NE	2.19	0.40
11:F:54:PRO:HB2	11:F:70:LYS:HD2	2.04	0.40
29:X:1477:C:H1'	29:X:2681:A:N3	2.36	0.40
8:C:164:VAL:C	8:C:166:TRP:N	2.74	0.40
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.50	0.40
13:H:108:THR:O	13:H:109:ARG:HB3	2.22	0.40
26:U:40:ARG:HH21	26:U:40:ARG:HG2	1.87	0.40
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.42	0.40
21:P:19:LYS:O	21:P:20:LEU:CB	2.67	0.40
15:J:91:VAL:O	15:J:92:GLU:C	2.58	0.40
29:X:2047:C:C4	29:X:2048:C:N4	2.90	0.40
29:X:2231:G:C6	29:X:2232:G:N7	2.89	0.40
22:Q:69:ILE:HD13	22:Q:70:GLY:N	2.36	0.40
20:O:78:VAL:HG22	29:X:1202:U:C5'	2.51	0.40
29:X:956:A:C5	29:X:2427:A:N1	2.90	0.40
29:X:577:U:O5'	29:X:956:A:N6	2.54	0.40
24:S:51:LEU:CD2	24:S:51:LEU:N	2.74	0.40
12:G:88:VAL:HG22	12:G:89:ALA:H	1.85	0.40
12:G:88:VAL:HG13	12:G:89:ALA:N	2.36	0.40
14:I:56:LEU:C	14:I:58:ALA:O	2.59	0.40
9:D:41:GLY:HA2	9:D:44:LYS:O	2.21	0.40
29:X:2071:G:C5	29:X:2072:C:C5	3.09	0.40
29:X:126:C:C2	29:X:127:C:C5	3.09	0.40
10:E:33:LEU:CG	10:E:34:THR:H	2.34	0.40
29:X:2529:G:C6	29:X:2530:C:C4	3.10	0.40
29:X:2028:C:C2	29:X:2603:G:C2	3.09	0.40
29:X:2718:A:H2'	29:X:2719:U:O5'	2.21	0.40
29:X:1739:G:H2'	29:X:1740:G:C8	2.56	0.40
29:X:1379:A:H2'	29:X:1380:C:C6	2.56	0.40
25:T:9:SER:O	25:T:10:SER:O	2.40	0.40
7:B:56:GLU:C	7:B:58:LYS:H	2.23	0.40
29:X:2377:U:O5'	29:X:2377:U:H6	2.04	0.40
8:C:130:THR:O	8:C:133:PHE:N	2.54	0.40
8:C:33:TRP:O	8:C:36:ALA:HB3	2.21	0.40
23:R:15:HIS:CE1	23:R:16:PHE:HE2	2.40	0.40
12:G:107:GLN:O	29:X:1142:G:P	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:540:G:O6	29:X:2006:G:OP1	2.40	0.40
29:X:2036:G:N1	29:X:2037:A:C4	2.89	0.40
29:X:2039:G:C5	29:X:2556:A:C4	3.10	0.40
29:X:689:A:N1	29:X:815:A:N1	2.69	0.40
29:X:2594:U:C4	30:Y:6:VAL:O	2.74	0.40
6:A:97:TYR:O	6:A:99:ASP:N	2.55	0.40
6:A:209:ALA:CB	29:X:1781:C:O2'	2.58	0.40
8:C:111:ARG:HA	8:C:111:ARG:HD3	1.86	0.40
17:L:100:VAL:HG13	17:L:101:LYS:N	2.37	0.40
17:L:17:VAL:HB	29:X:2313:G:N2	2.37	0.40
17:L:72:GLY:O	17:L:107:ALA:HB2	2.21	0.40
25:T:57:HIS:ND1	25:T:57:HIS:N	2.68	0.40
29:X:2309:G:H2'	29:X:2310:G:H5'	2.01	0.40
29:X:885:A:C5	29:X:918:A:C2	3.09	0.40
14:I:65:PHE:CB	29:X:642:A:O2'	2.69	0.40
14:I:61:PRO:CB	29:X:2372:A:H5''	2.47	0.40
29:X:648:A:H4'	29:X:649:G:C4'	2.52	0.40
29:X:2323:U:C6	29:X:2323:U:C3'	3.04	0.40
29:X:1235:C:H2'	29:X:1236:G:H8	1.85	0.40
11:F:12:LEU:CD1	11:F:37:PHE:HE2	2.34	0.40
29:X:1089:C:O2	29:X:1099:A:H5'	2.21	0.40
15:J:40:PRO:HG3	15:J:99:LYS:NZ	2.36	0.40
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.22	0.40
24:S:99:HIS:HB2	24:S:135:VAL:HA	2.03	0.40
19:N:86:ALA:O	19:N:89:ASP:N	2.54	0.40
19:N:54:LYS:NZ	29:X:1007:A:N7	2.67	0.40
9:D:148:LYS:O	9:D:149:THR:OG1	2.21	0.40
9:D:154:ILE:HD12	9:D:154:ILE:N	2.36	0.40
29:X:2221:G:C2'	29:X:2222:U:O5'	2.69	0.40
29:X:654:A:N3	29:X:655:A:H5'	2.36	0.40
29:X:1251:G:O2'	29:X:1252:C:H5'	2.21	0.40
29:X:739:G:O2'	29:X:740:A:O5'	2.40	0.40
18:M:39:VAL:HA	18:M:45:THR:HG23	2.03	0.40
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.37	0.40
7:B:37:LYS:CG	7:B:42:ASP:OD1	2.70	0.40
21:P:30:TYR:H	21:P:123:HIS:CE1	2.38	0.40
14:I:78:SER:N	14:I:112:GLY:HA3	2.36	0.40
29:X:1213:U:H2'	29:X:1214:C:O4'	2.22	0.40
29:X:1625:A:H1'	29:X:1632:A:O2'	2.21	0.40
23:R:59:LYS:HA	23:R:62:MET:HG3	2.03	0.40
22:Q:17:TYR:C	22:Q:19:ALA:H	2.24	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1659:G:H2'	29:X:1660:G:O4'	2.20	0.40
13:H:7:ARG:HH12	13:H:20:MET:HE1	1.86	0.40
16:K:20:LEU:HA	16:K:20:LEU:HD12	1.87	0.40
29:X:674:U:H2'	29:X:675:C:O4'	2.22	0.40
29:X:2605:C:H2'	29:X:2606:G:O4'	2.21	0.40
21:P:118:LYS:HD2	21:P:120:ARG:HH21	1.86	0.40
29:X:1987:G:C4	29:X:1988:A:C8	3.08	0.40
11:F:81:ALA:O	11:F:82:ALA:HB2	2.21	0.40
29:X:55:A:H2'	29:X:56:C:H6	1.86	0.40
29:X:1687:C:OP2	29:X:2529:G:OP1	2.40	0.40
29:X:30:G:O2'	29:X:31:C:H5'	2.21	0.40
29:X:488:A:C6	29:X:489:A:C6	3.09	0.40
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.22	0.40
7:B:116:VAL:CG2	7:B:136:ARG:NE	2.74	0.40
8:C:151:VAL:HA	8:C:170:LEU:O	2.22	0.40
8:C:66:ASN:HA	29:X:1268:U:C2	2.56	0.40
21:P:36:ARG:HA	21:P:39:ARG:HD3	2.03	0.40
23:R:105:ARG:HH12	23:R:113:THR:N	2.16	0.40
29:X:1023:U:H3'	29:X:1023:U:H6	1.87	0.40
29:X:2424:G:C6	29:X:2425:G:C5	3.09	0.40
29:X:29:U:H6	29:X:29:U:O5'	2.05	0.40
29:X:312:G:C4	29:X:313:U:C4	3.10	0.40
29:X:36:G:HO2'	29:X:462:G:H2'	1.86	0.40
29:X:2202:G:N2	29:X:2203:G:H1'	2.36	0.40
8:C:116:LYS:O	8:C:117:LEU:CB	2.70	0.40
18:M:105:TYR:O	18:M:107:LEU:N	2.55	0.40
29:X:2827:G:C2	29:X:2828:C:O2	2.74	0.40
17:L:46:SER:OG	17:L:47:ARG:HG3	2.22	0.40
17:L:41:GLN:HG3	17:L:50:THR:HG21	2.03	0.40
17:L:40:ALA:CB	17:L:75:LEU:HD22	2.42	0.40
29:X:936:A:H2'	29:X:937:C:O4'	2.21	0.40
9:D:63:GLN:HG2	31:Z:44:C:O2'	2.21	0.40
29:X:518:A:H4'	29:X:518:A:OP2	2.21	0.40
15:J:122:ALA:HA	15:J:125:LYS:HD3	2.03	0.40
29:X:2326:C:H2'	29:X:2327:U:C5	2.56	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:1460:G:N3	29:X:1460:G:H2'	2.36	0.40
29:X:1551:U:OP2	29:X:1553:G:N2	2.48	0.40
29:X:1544:A:N3	29:X:1560:A:C6	2.90	0.40
11:F:120:VAL:O	11:F:121:GLU:C	2.59	0.40
29:X:1082:G:O2'	29:X:1100:G:H3'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:872:G:H22	29:X:929:A:P	2.43	0.40
29:X:749:C:N3	29:X:750:C:C5	2.89	0.40
16:K:3:HIS:HB3	16:K:5:LYS:HG3	2.04	0.40
24:S:99:HIS:O	24:S:136:VAL:HB	2.22	0.40
20:O:34:GLU:HB2	20:O:56:VAL:HG23	2.03	0.40
29:X:1514:C:O4'	29:X:1593:C:C5'	2.69	0.40
9:D:79:LEU:CA	9:D:80:ARG:CZ	2.97	0.40
9:D:80:ARG:HG2	9:D:81:GLN:H	1.85	0.40
7:B:11:MET:SD	29:X:2661:G:C8	3.15	0.40
29:X:1226:A:C8	29:X:1250:A:C2	3.09	0.40
13:H:41:ASN:N	13:H:41:ASN:HD22	2.06	0.40
29:X:2811:G:C6	29:X:2812:A:N6	2.90	0.40
29:X:2060:A:C5	29:X:2414:A:C5	3.10	0.40
14:I:38:LYS:HB3	29:X:954:U:P	2.62	0.40
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.51	0.40
11:F:101:TRP:O	11:F:104:VAL:CB	2.67	0.40
25:T:69:PHE:CE2	25:T:79:ILE:HG12	2.56	0.40
16:K:99:ARG:HH21	29:X:2792:C:P	2.44	0.40
29:X:46:C:O2'	29:X:47:G:H5'	2.21	0.40
24:S:61:THR:O	24:S:62:PHE:HD2	2.04	0.40
29:X:82:G:N1	29:X:100:G:H2'	2.37	0.40
19:N:18:LEU:HA	19:N:18:LEU:HD13	1.88	0.40
29:X:2860:C:H2'	29:X:2861:A:C5'	2.51	0.40
29:X:2018:G:HO2'	29:X:2019:C:P	2.45	0.40
29:X:17:G:C2	29:X:18:U:N3	2.89	0.40
29:X:2542:U:H1'	29:X:2545:A:C6	2.56	0.40
29:X:2751:C:H2'	29:X:2752:C:C6	2.57	0.40
7:B:141:ILE:HG21	7:B:154:LYS:NZ	2.34	0.40
8:C:47:THR:HG23	8:C:82:VAL:O	2.21	0.40
16:K:103:ARG:NH1	16:K:110:MET:CE	2.85	0.40
23:R:103:LYS:CG	23:R:104:VAL:N	2.85	0.40
16:K:105:GLY:CA	29:X:1301:U:O4	2.69	0.40
29:X:2594:U:H5'	29:X:2594:U:C6	2.56	0.40
29:X:2599:U:C2'	29:X:2600:A:O5'	2.69	0.40
12:G:125:ARG:NH1	29:X:2760:G:N1	2.69	0.40
29:X:464:G:C2	29:X:469:G:C5	3.10	0.40
19:N:28:ARG:NE	29:X:542:A:H3'	2.35	0.40
29:X:631:G:N3	29:X:631:G:O4'	2.54	0.40
29:X:683:A:O2'	29:X:684:C:O5'	2.37	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
6:A:179:SER:HB3	29:X:1790:G:O6	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1812:U:O2	29:X:1812:U:C2'	2.70	0.40
29:X:2202:G:H2'	29:X:2203:G:O4'	2.21	0.40
29:X:1778:U:C2	29:X:1779:C:C5	3.10	0.40
29:X:2564:U:C4'	29:X:2565:C:OP1	2.70	0.40
17:L:15:ARG:NH2	17:L:18:ARG:NH1	2.70	0.40
28:W:12:ARG:CG	28:W:12:ARG:NH1	2.79	0.40
15:J:11:ARG:HG3	15:J:11:ARG:NH1	2.37	0.40
15:J:27:TYR:O	15:J:28:VAL:C	2.59	0.40
7:B:5:LEU:HD22	7:B:49:ILE:HG23	2.03	0.40
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.40
29:X:640:C:H4'	29:X:660:G:N2	2.37	0.40
29:X:2728:A:H2'	29:X:2729:A:C8	2.56	0.40
11:F:122:ALA:HB1	29:X:1092:U:H4'	2.03	0.40
29:X:2085:G:N1	29:X:2171:U:O2	2.55	0.40
19:N:82:GLY:O	19:N:83:LEU:C	2.59	0.40
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.47	0.40
29:X:2705:A:O2'	29:X:2706:U:P	2.80	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
29:X:2240:C:H2'	29:X:2241:U:H5'	2.02	0.40
29:X:1927:U:O2	29:X:1938:U:H5''	2.22	0.40
10:E:95:ARG:CZ	10:E:97:LYS:CE	2.93	0.40
22:Q:61:LYS:HB2	22:Q:72:ARG:CD	2.51	0.40
29:X:73:A:H4'	29:X:74:G:O5'	2.21	0.40
24:S:80:HIS:CG	24:S:81:VAL:N	2.89	0.40
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.49	0.40
29:X:1436:G:C5	29:X:1437:A:N7	2.89	0.40
29:X:1438:G:C5	29:X:1439:G:C5	3.10	0.40
29:X:1336:G:O6	29:X:1337:G:C6	2.74	0.40
10:E:156:ALA:C	10:E:157:TYR:CD1	2.95	0.40
14:I:133:VAL:HG21	14:I:140:VAL:HG22	2.01	0.40
29:X:2457:A:H2'	29:X:2458:U:O4'	2.21	0.40
24:S:1:MET:HE1	24:S:52:PHE:HB3	2.03	0.40
29:X:2016:A:C5	29:X:2019:C:C4	3.09	0.40
7:B:115:GLY:O	7:B:119:ARG:HB3	2.22	0.40
29:X:834:A:H5''	29:X:835:U:C6	2.56	0.40
29:X:2526:U:C2	29:X:2527:G:C8	3.09	0.40
24:S:125:PRO:CG	24:S:126:GLY:H	2.32	0.40
19:N:43:ALA:HB3	20:O:74:TYR:HB3	2.03	0.40
29:X:103:U:H6	29:X:103:U:O5'	2.04	0.40
29:X:1534:A:O2'	29:X:1535:C:H5'	2.21	0.40
31:Z:7:C:H2'	31:Z:8:C:C6	2.56	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 X-ray entries followed by that with respect to entries of similar resolution.

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	4	35/37 (95%)	20 (57%)	10 (29%)	5 (14%)	0	1
5	5	5/19 (26%)	4 (80%)	1 (20%)	0	100	100
6	A	238/274 (87%)	154 (65%)	50 (21%)	34 (14%)	0	1
7	B	203/211 (96%)	148 (73%)	32 (16%)	23 (11%)	0	3
8	C	195/205 (95%)	97 (50%)	54 (28%)	44 (23%)	0	0
9	D	175/180 (97%)	95 (54%)	48 (27%)	32 (18%)	0	1
10	E	169/185 (91%)	100 (59%)	38 (22%)	31 (18%)	0	1
11	F	142/144 (99%)	94 (66%)	29 (20%)	19 (13%)	0	2
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0	0
13	H	132/134 (98%)	105 (80%)	18 (14%)	9 (7%)	1	12
14	I	139/156 (89%)	59 (42%)	45 (32%)	35 (25%)	0	0
15	J	134/142 (94%)	82 (61%)	31 (23%)	21 (16%)	0	1
16	K	111/116 (96%)	74 (67%)	25 (22%)	12 (11%)	0	4
17	L	102/114 (90%)	59 (58%)	19 (19%)	24 (24%)	0	0
18	M	106/166 (64%)	70 (66%)	23 (22%)	13 (12%)	0	2
19	N	115/118 (98%)	57 (50%)	40 (35%)	18 (16%)	0	1
20	O	92/100 (92%)	57 (62%)	10 (11%)	25 (27%)	0	0
21	P	125/134 (93%)	89 (71%)	21 (17%)	15 (12%)	0	3
22	Q	91/95 (96%)	39 (43%)	28 (31%)	24 (26%)	0	0
23	R	108/115 (94%)	62 (57%)	27 (25%)	19 (18%)	0	1
24	S	173/237 (73%)	93 (54%)	46 (27%)	34 (20%)	0	1
25	T	82/91 (90%)	47 (57%)	19 (23%)	16 (20%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	U	70/81 (86%)	35 (50%)	16 (23%)	19 (27%)	0	0
27	V	64/67 (96%)	35 (55%)	16 (25%)	13 (20%)	0	1
28	W	53/55 (96%)	38 (72%)	9 (17%)	6 (11%)	0	3
30	Y	56/60 (93%)	40 (71%)	9 (16%)	7 (12%)	0	2
All	All	3055/3410 (90%)	1829 (60%)	698 (23%)	528 (17%)	0	1

All (528) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	59	LYS
6	A	145	LEU
6	A	168	LYS
6	A	217	ARG
6	A	220	HIS
7	B	71	GLY
7	B	73	ALA
7	B	85	ALA
7	B	86	PRO
7	B	122	PHE
7	B	132	LYS
7	B	137	ARG
7	B	147	PRO
7	B	179	GLU
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	30	VAL
8	C	31	VAL
8	C	66	ASN
8	C	67	ALA
8	C	75	PRO
8	C	121	ASP
8	C	138	LYS
8	C	161	ALA
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	175	VAL
8	C	192	ALA
8	C	195	ILE

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Mol	Chain	Res	Type
9	D	10	ASP
9	D	120	ASN
9	D	123	ASP
9	D	137	ILE
9	D	149	THR
10	E	13	SER
10	E	14	GLY
10	E	15	VAL
10	E	16	THR
10	E	55	PRO
10	E	58	ALA
10	E	93	GLY
10	E	98	LEU
10	E	110	SER
10	E	126	PRO
10	E	129	THR
10	E	143	GLN
10	E	165	VAL
11	F	14	ALA
11	F	20	ALA
11	F	26	ALA
11	F	50	ASP
11	F	82	ALA
11	F	117	ALA
11	F	120	VAL
12	G	33	ILE
12	G	34	PRO
12	G	36	ASN
12	G	37	ASP
12	G	65	LYS
12	G	67	ARG
12	G	72	PRO
12	G	73	ASN
12	G	97	ASP
12	G	104	THR
12	G	107	GLN
12	G	118	ALA
12	G	163	PRO
12	G	170	PRO
13	H	27	SER
13	H	42	LYS
14	I	17	LYS

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Mol	Chain	Res	Type
14	I	38	LYS
14	I	39	SER
14	I	54	SER
14	I	65	PHE
14	I	86	THR
14	I	91	ASP
14	I	103	ASN
14	I	114	ILE
14	I	127	ALA
14	I	131	LYS
15	J	11	ARG
15	J	22	ALA
15	J	26	ASP
15	J	29	ALA
15	J	80	ALA
15	J	82	THR
15	J	87	GLY
15	J	117	GLU
16	K	6	ALA
16	K	11	ASN
16	K	92	GLY
17	L	26	ARG
17	L	31	VAL
17	L	38	ILE
17	L	40	ALA
17	L	45	ASP
17	L	55	SER
17	L	56	SER
17	L	60	LYS
17	L	68	ALA
17	L	94	TYR
17	L	102	ALA
17	L	104	ALA
18	M	25	PRO
18	M	28	ARG
18	M	29	PRO
18	M	39	VAL
18	M	46	ARG
18	M	53	VAL
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE

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Mol	Chain	Res	Type
19	N	76	TYR
19	N	94	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	21	ARG
20	O	25	LEU
20	O	26	GLN
20	O	29	ALA
20	O	30	GLY
20	O	35	LEU
20	O	36	LYS
20	O	48	GLY
20	O	49	GLU
20	O	97	GLY
21	P	9	ARG
21	P	11	LYS
21	P	32	ARG
21	P	81	HIS
22	Q	33	ALA
22	Q	40	ASP
22	Q	41	ALA
22	Q	63	LYS
22	Q	67	ARG
22	Q	69	ILE
22	Q	74	ASP
22	Q	87	SER
23	R	7	GLY
23	R	12	ASP
23	R	26	SER
23	R	60	PRO
23	R	65	PRO
23	R	75	ALA
23	R	83	LEU
23	R	96	LYS
24	S	6	LYS
24	S	12	GLN
24	S	26	LYS
24	S	36	ARG
24	S	49	THR
24	S	88	TYR

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Mol	Chain	Res	Type
24	S	92	VAL
24	S	118	HIS
24	S	124	ALA
24	S	125	PRO
25	T	3	HIS
25	T	4	LYS
25	T	7	VAL
25	T	10	SER
25	T	19	LYS
25	T	21	LEU
25	T	31	VAL
25	T	75	GLY
26	U	13	LEU
26	U	14	VAL
26	U	16	ASN
26	U	29	GLY
26	U	30	VAL
26	U	34	THR
26	U	41	VAL
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	8	ASN
27	V	19	ASP
27	V	36	GLN
28	W	54	GLN
30	Y	4	HIS
30	Y	20	ARG
30	Y	36	CYS
30	Y	52	TYR
30	Y	53	ASP
4	4	14	CYS
4	4	21	GLY
6	A	45	ASN
6	A	47	GLY
6	A	52	ARG
6	A	56	GLY
6	A	109	GLU
6	A	125	PRO
6	A	159	ALA
6	A	160	GLY
6	A	187	SER

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Mol	Chain	Res	Type
6	A	214	TRP
6	A	232	PRO
6	A	240	THR
6	A	243	GLY
6	A	244	ARG
6	A	252	LYS
7	B	2	LYS
7	B	69	LYS
7	B	74	PRO
7	B	76	ARG
7	B	123	ALA
7	B	145	LYS
7	B	152	LYS
7	B	180	ASN
8	C	11	GLY
8	C	15	ILE
8	C	22	VAL
8	C	103	GLY
8	C	117	LEU
8	C	129	LYS
8	C	139	GLN
8	C	152	THR
8	C	153	ASP
8	C	159	ARG
8	C	178	TYR
8	C	196	VAL
9	D	9	ASN
9	D	71	LYS
9	D	77	PHE
9	D	94	GLU
9	D	107	GLY
9	D	119	PRO
9	D	124	GLY
9	D	145	MET
10	E	19	ALA
10	E	106	ASN
10	E	112	PRO
10	E	119	ALA
10	E	139	GLN
11	F	24	GLY
11	F	51	ALA
11	F	61	ALA

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Mol	Chain	Res	Type
11	F	118	GLY
12	G	55	ALA
12	G	86	ALA
12	G	105	GLY
12	G	139	ARG
13	H	37	GLY
13	H	79	HIS
13	H	101	ASN
14	I	29	THR
14	I	43	ALA
14	I	44	GLY
14	I	47	ALA
14	I	56	LEU
14	I	98	LEU
14	I	99	VAL
14	I	105	PRO
14	I	106	VAL
14	I	115	SER
14	I	128	ALA
14	I	135	ALA
15	J	13	GLN
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
16	K	7	GLY
16	K	32	GLY
16	K	95	THR
17	L	33	ARG
17	L	53	ALA
17	L	82	LYS
17	L	91	ARG
17	L	108	ARG
18	M	27	PHE
18	M	47	SER
18	M	95	GLU
19	N	51	ARG
19	N	110	VAL
20	O	8	GLY
20	O	14	VAL
20	O	15	SER
20	O	66	GLY
21	P	10	ASN

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Mol	Chain	Res	Type
21	P	12	LYS
21	P	77	ALA
21	P	82	ASN
21	P	89	ARG
21	P	113	SER
22	Q	4	TYR
22	Q	12	ILE
22	Q	42	ILE
22	Q	60	GLY
22	Q	61	LYS
22	Q	65	VAL
22	Q	86	GLN
22	Q	93	GLY
23	R	6	ALA
23	R	9	HIS
23	R	50	GLY
23	R	61	SER
23	R	63	THR
23	R	89	GLY
24	S	17	SER
24	S	43	PHE
24	S	45	GLN
24	S	46	GLN
24	S	128	ARG
24	S	134	LEU
24	S	156	GLU
25	T	11	LYS
25	T	30	VAL
25	T	73	GLY
25	T	74	LYS
25	T	83	ALA
26	U	10	LYS
26	U	27	ASP
26	U	42	GLN
26	U	65	ASN
26	U	76	LYS
27	V	65	GLU
30	Y	37	HIS
4	4	9	LYS
4	4	35	ARG
6	A	81	ALA
6	A	154	GLN

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Mol	Chain	Res	Type
6	A	197	GLY
6	A	241	GLY
6	A	258	LYS
7	B	121	ASN
7	B	135	HIS
8	C	179	ASP
9	D	5	LYS
9	D	53	ALA
9	D	68	THR
9	D	152	MET
9	D	168	ALA
10	E	7	GLN
10	E	76	VAL
10	E	77	LYS
10	E	149	ARG
10	E	156	ALA
10	E	173	ALA
12	G	169	GLN
13	H	32	LYS
14	I	10	PRO
14	I	18	ARG
14	I	37	GLN
14	I	40	ARG
14	I	49	PHE
14	I	62	LYS
14	I	132	ALA
15	J	106	GLU
16	K	20	LEU
16	K	56	LYS
16	K	91	PRO
18	M	17	GLU
18	M	105	TYR
19	N	3	ARG
19	N	13	ARG
19	N	75	ASN
19	N	77	SER
19	N	78	THR
20	O	39	PHE
20	O	87	ARG
21	P	79	ALA
21	P	101	PRO
22	Q	3	HIS

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Mol	Chain	Res	Type
22	Q	13	SER
22	Q	91	LEU
23	R	49	GLU
24	S	13	LYS
24	S	25	ASN
24	S	63	PRO
24	S	110	GLY
24	S	133	GLU
24	S	165	GLU
25	T	54	GLY
26	U	32	ARG
26	U	47	HIS
26	U	72	LYS
27	V	57	LYS
28	W	8	SER
28	W	15	ASN
28	W	23	LEU
28	W	49	HIS
6	A	54	ILE
6	A	55	GLY
6	A	58	HIS
6	A	219	PRO
7	B	131	SER
8	C	20	PRO
8	C	89	ARG
8	C	105	ALA
8	C	114	GLY
8	C	126	ALA
8	C	127	ASP
8	C	190	ALA
9	D	41	GLY
9	D	146	VAL
9	D	164	GLU
11	F	19	PRO
11	F	22	PRO
11	F	84	ILE
11	F	122	ALA
11	F	135	GLY
12	G	68	PRO
12	G	70	PHE
12	G	143	ALA
12	G	154	GLU

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Mol	Chain	Res	Type
12	G	155	THR
13	H	61	ARG
14	I	33	GLY
14	I	64	GLY
15	J	52	ARG
15	J	56	SER
15	J	114	GLN
15	J	122	ALA
16	K	45	ARG
17	L	21	THR
17	L	67	THR
19	N	12	ARG
19	N	28	ARG
19	N	46	GLU
19	N	73	GLY
19	N	88	ILE
19	N	108	ALA
20	O	12	TYR
20	O	24	SER
20	O	44	GLN
20	O	96	LEU
21	P	87	GLU
22	Q	44	GLN
23	R	16	PHE
23	R	91	ALA
23	R	108	VAL
24	S	42	ALA
24	S	47	SER
24	S	91	PRO
24	S	106	GLY
24	S	107	GLU
24	S	138	VAL
25	T	13	GLY
26	U	15	VAL
27	V	39	GLN
27	V	43	VAL
27	V	61	ALA
4	4	19	ARG
6	A	153	ALA
6	A	198	ASN
6	A	249	PRO
7	B	108	SER

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Mol	Chain	Res	Type
8	C	61	GLN
8	C	91	TYR
8	C	123	PHE
8	C	125	ILE
8	C	154	ASP
9	D	13	ARG
9	D	19	GLN
9	D	40	LEU
9	D	47	SER
9	D	141	ILE
10	E	25	LYS
10	E	140	LEU
10	E	152	ARG
12	G	40	ASN
12	G	48	GLY
12	G	53	ARG
12	G	162	LYS
13	H	33	GLY
13	H	47	VAL
14	I	84	GLU
14	I	90	ARG
15	J	15	ARG
15	J	57	ARG
15	J	89	GLY
15	J	90	ALA
16	K	21	ALA
17	L	97	HIS
17	L	103	LEU
18	M	56	ALA
22	Q	34	THR
24	S	3	LEU
24	S	76	ARG
25	T	84	ALA
26	U	40	ARG
27	V	32	ALA
27	V	37	LEU
27	V	56	VAL
30	Y	21	SER
6	A	190	TYR
6	A	271	VAL
9	D	15	ALA
9	D	54	ALA

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Mol	Chain	Res	Type
9	D	76	ASN
10	E	11	VAL
12	G	84	ASN
12	G	165	VAL
14	I	19	VAL
17	L	9	ARG
17	L	46	SER
17	L	64	LYS
28	W	38	PRO
7	B	126	PRO
8	C	55	GLY
11	F	25	PRO
16	K	100	VAL
9	D	12	VAL
10	E	128	PRO
11	F	87	GLY
22	Q	6	ILE
22	Q	47	GLY
24	S	174	PRO
7	B	83	GLY
9	D	21	GLY
11	F	140	GLY
19	N	65	ILE
20	O	60	VAL
21	P	68	VAL
22	Q	9	ALA
23	R	85	ASP
24	S	102	GLY
24	S	164	PRO
9	D	14	PRO
10	E	43	VAL
10	E	144	VAL
27	V	35	GLY
21	P	92	VAL

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 X-ray entries followed by that with respect to entries of similar resolution.

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	4	35/35 (100%)	32 (91%)	3 (9%)	13	45
5	5	3/4 (75%)	3 (100%)	0	100	100
6	A	185/215 (86%)	161 (87%)	24 (13%)	5	22
7	B	155/157 (99%)	132 (85%)	23 (15%)	4	17
8	C	157/163 (96%)	131 (83%)	26 (17%)	3	13
9	D	153/156 (98%)	138 (90%)	15 (10%)	10	37
10	E	136/144 (94%)	128 (94%)	8 (6%)	24	63
11	F	107/107 (100%)	100 (94%)	7 (6%)	21	59
12	G	118/146 (81%)	96 (81%)	22 (19%)	2	9
13	H	103/103 (100%)	88 (85%)	15 (15%)	4	18
14	I	108/121 (89%)	91 (84%)	17 (16%)	3	15
15	J	110/116 (95%)	89 (81%)	21 (19%)	2	8
16	K	90/93 (97%)	76 (84%)	14 (16%)	3	16
17	L	74/82 (90%)	54 (73%)	20 (27%)	0	2
18	M	94/134 (70%)	72 (77%)	22 (23%)	1	4
19	N	96/97 (99%)	83 (86%)	13 (14%)	5	21
20	O	75/79 (95%)	70 (93%)	5 (7%)	20	58
21	P	109/115 (95%)	100 (92%)	9 (8%)	14	47
22	Q	75/76 (99%)	67 (89%)	8 (11%)	8	32
23	R	91/96 (95%)	72 (79%)	19 (21%)	1	6
24	S	149/192 (78%)	137 (92%)	12 (8%)	15	48
25	T	62/67 (92%)	57 (92%)	5 (8%)	15	48
26	U	57/66 (86%)	44 (77%)	13 (23%)	1	4
27	V	54/55 (98%)	48 (89%)	6 (11%)	8	31
28	W	48/48 (100%)	38 (79%)	10 (21%)	1	6
30	Y	51/53 (96%)	48 (94%)	3 (6%)	24	63
All	All	2495/2720 (92%)	2155 (86%)	340 (14%)	5	21

All (340) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	4	22	ARG
4	4	27	CYS
4	4	31	LYS

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Mol	Chain	Res	Type
6	A	40	THR
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	49	ILE
6	A	68	LYS
6	A	101	GLU
6	A	122	GLU
6	A	157	ARG
6	A	161	THR
6	A	162	SER
6	A	164	GLN
6	A	183	ARG
6	A	196	VAL
6	A	208	LYS
6	A	211	ARG
6	A	214	TRP
6	A	215	LEU
6	A	218	LYS
6	A	231	HIS
6	A	232	PRO
6	A	244	ARG
6	A	252	LYS
6	A	260	ARG
7	B	53	PRO
7	B	69	LYS
7	B	75	THR
7	B	79	ARG
7	B	86	PRO
7	B	87	ASP
7	B	91	VAL
7	B	94	ASP
7	B	105	THR
7	B	126	PRO
7	B	131	SER
7	B	133	LYS
7	B	134	TRP
7	B	136	ARG
7	B	137	ARG
7	B	140	SER
7	B	143	GLN
7	B	147	PRO

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Mol	Chain	Res	Type
7	B	150	VAL
7	B	155	ARG
7	B	159	HIS
7	B	162	MET
7	B	200	SER
8	C	5	ASN
8	C	13	ARG
8	C	17	LEU
8	C	45	THR
8	C	59	TYR
8	C	62	LYS
8	C	64	THR
8	C	66	ASN
8	C	82	VAL
8	C	91	TYR
8	C	92	ASP
8	C	93	TYR
8	C	94	THR
8	C	95	LEU
8	C	104	LEU
8	C	113	GLU
8	C	121	ASP
8	C	124	ASP
8	C	136	TRP
8	C	139	GLN
8	C	153	ASP
8	C	154	ASP
8	C	155	GLU
8	C	158	ARG
8	C	166	TRP
8	C	176	ASN
9	D	6	THR
9	D	10	ASP
9	D	40	LEU
9	D	51	ASP
9	D	80	ARG
9	D	89	VAL
9	D	112	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
9	D	137	ILE

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Mol	Chain	Res	Type
9	D	138	PHE
9	D	144	ASP
9	D	147	ASP
9	D	156	ILE
10	E	35	VAL
10	E	67	LEU
10	E	72	VAL
10	E	80	SER
10	E	107	ILE
10	E	129	THR
10	E	136	ILE
10	E	163	ARG
11	F	2	LYS
11	F	10	LEU
11	F	63	ARG
11	F	99	LEU
11	F	103	GLN
11	F	119	SER
11	F	137	THR
12	G	31	THR
12	G	34	PRO
12	G	37	ASP
12	G	38	GLU
12	G	41	TRP
12	G	61	ARG
12	G	70	PHE
12	G	71	THR
12	G	93	LYS
12	G	94	LYS
12	G	100	TYR
12	G	101	THR
12	G	102	ARG
12	G	104	THR
12	G	106	TYR
12	G	110	LEU
12	G	113	GLU
12	G	123	PRO
12	G	132	PHE
12	G	154	GLU
12	G	157	PRO
12	G	169	GLN
13	H	1	MET

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Mol	Chain	Res	Type
13	H	22	ILE
13	H	23	ARG
13	H	25	LEU
13	H	26	ASN
13	H	27	SER
13	H	41	ASN
13	H	57	ASP
13	H	81	ILE
13	H	89	ILE
13	H	92	ASP
13	H	104	GLU
13	H	120	ASP
13	H	127	VAL
13	H	132	GLU
14	I	7	LYS
14	I	10	PRO
14	I	13	ARG
14	I	23	PRO
14	I	26	THR
14	I	32	ARG
14	I	34	HIS
14	I	45	LYS
14	I	53	ARG
14	I	61	PRO
14	I	65	PHE
14	I	84	GLU
14	I	88	PHE
14	I	89	ASP
14	I	94	GLU
14	I	103	ASN
14	I	142	LEU
15	J	8	THR
15	J	11	ARG
15	J	21	ASP
15	J	26	ASP
15	J	27	TYR
15	J	32	ASP
15	J	60	ARG
15	J	64	LYS
15	J	68	ARG
15	J	78	LYS
15	J	79	PRO

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Mol	Chain	Res	Type
15	J	81	GLU
15	J	82	THR
15	J	91	VAL
15	J	93	TYR
15	J	94	TRP
15	J	103	VAL
15	J	106	GLU
15	J	111	THR
15	J	125	LYS
15	J	132	MET
16	K	3	HIS
16	K	5	LYS
16	K	11	ASN
16	K	13	ASN
16	K	17	ARG
16	K	37	THR
16	K	43	GLU
16	K	51	LEU
16	K	71	HIS
16	K	83	VAL
16	K	95	THR
16	K	98	LEU
16	K	102	THR
16	K	104	ARG
17	L	8	ARG
17	L	13	THR
17	L	15	ARG
17	L	31	VAL
17	L	37	HIS
17	L	38	ILE
17	L	39	TYR
17	L	42	ILE
17	L	44	ASP
17	L	45	ASP
17	L	51	LEU
17	L	59	LEU
17	L	60	LYS
17	L	64	LYS
17	L	65	THR
17	L	67	THR
17	L	71	VAL
17	L	89	PHE

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Mol	Chain	Res	Type
17	L	91	ARG
17	L	93	SER
18	M	6	LYS
18	M	7	ILE
18	M	22	ARG
18	M	25	PRO
18	M	26	ASP
18	M	28	ARG
18	M	31	ASP
18	M	34	ARG
18	M	43	ASN
18	M	46	ARG
18	M	48	GLN
18	M	51	GLU
18	M	63	ARG
18	M	69	ARG
18	M	72	SER
18	M	79	ARG
18	M	80	VAL
18	M	87	LEU
18	M	89	ASN
18	M	92	THR
18	M	98	LYS
18	M	100	ARG
19	N	3	ARG
19	N	9	VAL
19	N	13	ARG
19	N	18	LEU
19	N	22	LYS
19	N	33	ARG
19	N	47	TYR
19	N	60	LEU
19	N	71	LEU
19	N	85	ARG
19	N	90	LEU
19	N	93	LYS
19	N	111	ASP
20	O	18	ASP
20	O	20	ILE
20	O	28	GLU
20	O	47	PHE
20	O	54	TYR

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Mol	Chain	Res	Type
21	P	16	GLN
21	P	32	ARG
21	P	46	ARG
21	P	65	SER
21	P	67	PRO
21	P	86	LEU
21	P	87	GLU
21	P	126	ILE
21	P	133	ASN
22	Q	5	ASP
22	Q	7	LEU
22	Q	10	PRO
22	Q	12	ILE
22	Q	15	LYS
22	Q	27	PHE
22	Q	38	ILE
22	Q	62	ARG
23	R	11	ASN
23	R	18	LYS
23	R	23	ILE
23	R	25	LEU
23	R	26	SER
23	R	32	GLN
23	R	44	GLN
23	R	56	LYS
23	R	65	PRO
23	R	79	SER
23	R	80	LYS
23	R	83	LEU
23	R	93	ARG
23	R	95	ARG
23	R	105	ARG
23	R	106	VAL
23	R	108	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	28	ASN
24	S	49	THR
24	S	51	LEU

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Mol	Chain	Res	Type
24	S	63	PRO
24	S	71	MET
24	S	92	VAL
24	S	104	SER
24	S	119	ASN
24	S	120	LEU
25	T	5	LYS
25	T	18	PRO
25	T	31	VAL
25	T	41	ARG
25	T	71	ASN
26	U	13	LEU
26	U	14	VAL
26	U	32	ARG
26	U	35	THR
26	U	37	ILE
26	U	42	GLN
26	U	47	HIS
26	U	53	GLU
26	U	54	ASN
26	U	60	VAL
26	U	69	THR
26	U	70	LEU
26	U	78	ILE
27	V	2	LYS
27	V	6	MET
27	V	13	ASP
27	V	19	ASP
27	V	21	ARG
27	V	41	HIS
28	W	6	VAL
28	W	8	SER
28	W	12	ARG
28	W	15	ASN
28	W	26	ARG
28	W	32	ARG
28	W	35	SER
28	W	36	ASP
28	W	45	LYS
28	W	46	THR
30	Y	19	ARG
30	Y	57	VAL

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Mol	Chain	Res	Type
30	Y	58	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	96	HIS
6	A	129	ASN
6	A	166	GLN
6	A	231	HIS
7	B	135	HIS
7	B	143	GLN
7	B	192	ASN
8	C	3	GLN
8	C	5	ASN
8	C	50	GLN
8	C	61	GLN
8	C	98	GLN
8	C	112	GLN
8	C	132	ASN
8	C	139	GLN
8	C	140	ASN
9	D	120	ASN
9	D	129	ASN
10	E	18	ASN
10	E	45	GLN
10	E	61	HIS
10	E	111	HIS
10	E	139	GLN
11	F	29	GLN
11	F	42	ASN
11	F	92	ASN
12	G	73	ASN
12	G	107	GLN
12	G	122	HIS
12	G	140	GLN
12	G	158	HIS
13	H	5	GLN
13	H	41	ASN
13	H	79	HIS

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Mol	Chain	Res	Type
14	I	34	HIS
14	I	37	GLN
14	I	66	ASN
14	I	79	GLN
14	I	81	GLN
15	J	13	GLN
16	K	13	ASN
17	L	37	HIS
17	L	49	GLN
17	L	97	HIS
18	M	48	GLN
19	N	31	GLN
19	N	72	HIS
19	N	75	ASN
19	N	115	ASN
20	O	11	GLN
20	O	57	GLN
21	P	73	ASN
21	P	78	ASN
21	P	81	HIS
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	29	HIS
23	R	64	ASN
23	R	71	GLN
24	S	45	GLN
24	S	70	GLN
24	S	146	HIS
25	T	3	HIS
25	T	17	ASN
25	T	35	ASN
25	T	71	ASN
27	V	41	HIS
27	V	45	GLN
28	W	15	ASN
28	W	49	HIS
30	Y	29	ASN
30	Y	43	HIS
30	Y	44	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	688 (25%)	313 (11%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	712 (25%)	314 (11%)

All (712) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	2	G
29	X	4	C
29	X	13	A
29	X	14	A
29	X	27	G
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	59	G
29	X	63	A
29	X	70	A
29	X	71	A
29	X	72	A
29	X	74	G
29	X	76	C
29	X	82	G
29	X	83	A
29	X	84	G
29	X	87	G
29	X	89	A
29	X	90	G
29	X	91	A
29	X	98	U
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	116	A
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A

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Mol	Chain	Res	Type
29	X	124	A
29	X	126	C
29	X	127	C
29	X	135	U
29	X	143	A
29	X	147	G
29	X	149	A
29	X	158	A
29	X	173	A
29	X	181	A
29	X	182	G
29	X	183	U
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	207	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	220	U
29	X	225	G
29	X	226	C
29	X	227	G
29	X	242	A
29	X	243	G
29	X	245	C
29	X	304	A
29	X	305	A
29	X	318	G
29	X	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G

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Mol	Chain	Res	Type
29	X	403	A
29	X	404	A
29	X	414	A
29	X	416	U
29	X	417	C
29	X	418	C
29	X	419	G
29	X	424	G
29	X	425	A
29	X	441	A
29	X	447	U
29	X	448	C
29	X	453	U
29	X	455	A
29	X	456	C
29	X	458	G
29	X	459	A
29	X	460	U
29	X	461	A
29	X	463	C
29	X	466	A
29	X	467	U
29	X	468	A
29	X	470	U
29	X	491	A
29	X	492	G
29	X	497	C
29	X	498	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	523	A
29	X	534	U
29	X	537	C
29	X	538	A
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	554	U
29	X	555	U

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Mol	Chain	Res	Type
29	X	556	A
29	X	557	U
29	X	558	G
29	X	559	C
29	X	571	U
29	X	572	G
29	X	580	A
29	X	581	A
29	X	582	G
29	X	583	C
29	X	584	A
29	X	587	A
29	X	595	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	617	U
29	X	624	A
29	X	625	A
29	X	626	A
29	X	627	A
29	X	628	A
29	X	631	G
29	X	632	A
29	X	633	G
29	X	636	G
29	X	639	G
29	X	649	G
29	X	652	C
29	X	654	A
29	X	655	A
29	X	657	A
29	X	664	C
29	X	665	A
29	X	666	U
29	X	667	U
29	X	668	A
29	X	684	C
29	X	699	G
29	X	700	C
29	X	718	A
29	X	728	G

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Mol	Chain	Res	Type
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	741	G
29	X	742	G
29	X	743	A
29	X	752	G
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	775	U
29	X	776	G
29	X	778	G
29	X	781	G
29	X	789	G
29	X	790	A
29	X	795	A
29	X	797	A
29	X	798	G
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	807	A
29	X	813	A
29	X	814	G
29	X	815	A
29	X	818	G
29	X	819	C
29	X	825	C
29	X	832	A
29	X	833	A
29	X	840	U
29	X	841	G
29	X	843	G
29	X	844	G
29	X	859	U
29	X	862	A

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Mol	Chain	Res	Type
29	X	872	G
29	X	873	U
29	X	878	C
29	X	879	A
29	X	914	C
29	X	919	U
29	X	922	A
29	X	926	C
29	X	927	C
29	X	939	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	955	G
29	X	956	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	A
29	X	972	C
29	X	973	U
29	X	984	A
29	X	985	G
29	X	994	A
29	X	995	A
29	X	996	C
29	X	1000	G
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
29	X	1023	U
29	X	1024	G
29	X	1032	A
29	X	1033	G
29	X	1034	U
29	X	1036	G
29	X	1037	U
29	X	1044	U
29	X	1045	G
29	X	1051	U
29	X	1053	G

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Mol	Chain	Res	Type
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1069	G
29	X	1070	G
29	X	1071	U
29	X	1072	U
29	X	1073	G
29	X	1078	A
29	X	1079	G
29	X	1081	A
29	X	1082	G
29	X	1087	C
29	X	1090	C
29	X	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1107	A
29	X	1108	U
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1133	G
29	X	1137	A
29	X	1139	A
29	X	1140	A
29	X	1142	G
29	X	1145	C
29	X	1146	G
29	X	1149	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1167	A
29	X	1168	G

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Mol	Chain	Res	Type
29	X	1182	U
29	X	1183	C
29	X	1185	C
29	X	1187	A
29	X	1189	G
29	X	1192	A
29	X	1194	U
29	X	1195	U
29	X	1213	U
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1234	C
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1261	G
29	X	1262	U
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1269	G
29	X	1278	A
29	X	1279	G
29	X	1282	A
29	X	1284	G
29	X	1285	A
29	X	1286	U
29	X	1288	A
29	X	1289	A
29	X	1300	A
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1315	A
29	X	1316	G
29	X	1319	C
29	X	1325	U
29	X	1326	U
29	X	1333	G
29	X	1334	A
29	X	1338	G

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Mol	Chain	Res	Type
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1345	G
29	X	1346	C
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1356	G
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1381	G
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1404	C
29	X	1409	U
29	X	1410	U
29	X	1411	C
29	X	1413	U
29	X	1428	G
29	X	1429	A
29	X	1432	G
29	X	1433	A
29	X	1434	U
29	X	1440	G
29	X	1441	A
29	X	1442	C
29	X	1443	G
29	X	1460	G
29	X	1465	G
29	X	1467	U
29	X	1468	A
29	X	1469	U
29	X	1470	G
29	X	1473	U
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U

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Mol	Chain	Res	Type
29	X	1497	C
29	X	1498	G
29	X	1513	U
29	X	1514	C
29	X	1522	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C
29	X	1531	C
29	X	1551	U
29	X	1553	G
29	X	1554	G
29	X	1562	G
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1582	A
29	X	1583	A
29	X	1585	A
29	X	1594	U
29	X	1601	U
29	X	1602	G
29	X	1603	A
29	X	1608	U
29	X	1614	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1627	C
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1635	G
29	X	1648	C
29	X	1651	U
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C

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Mol	Chain	Res	Type
29	X	1668	G
29	X	1671	A
29	X	1686	A
29	X	1691	G
29	X	1692	C
29	X	1699	A
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1713	G
29	X	1715	A
29	X	1716	G
29	X	1717	A
29	X	1718	A
29	X	1724	C
29	X	1732	U
29	X	1733	U
29	X	1734	C
29	X	1747	G
29	X	1749	G
29	X	1750	A
29	X	1754	G
29	X	1755	G
29	X	1764	A
29	X	1771	A
29	X	1772	C
29	X	1773	C
29	X	1776	A
29	X	1778	U
29	X	1782	A
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1800	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1813	A
29	X	1821	A

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Mol	Chain	Res	Type
29	X	1822	C
29	X	1825	C
29	X	1831	G
29	X	1842	G
29	X	1851	A
29	X	1852	G
29	X	1854	G
29	X	1855	G
29	X	1856	U
29	X	1857	G
29	X	1859	A
29	X	1861	G
29	X	1865	C
29	X	1867	A
29	X	1868	A
29	X	1869	A
29	X	1871	G
29	X	1883	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1920	A
29	X	1922	U
29	X	1923	U
29	X	1924	C
29	X	1926	U
29	X	1927	U
29	X	1928	G
29	X	1938	U
29	X	1939	U
29	X	1946	U
29	X	1947	G
29	X	1948	C
29	X	1949	A
29	X	1950	C
29	X	1953	A
29	X	1954	A
29	X	1955	G
29	X	1964	A
29	X	1965	U
29	X	1976	U

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Mol	Chain	Res	Type
29	X	1979	C
29	X	1980	A
29	X	2004	U
29	X	2005	U
29	X	2006	G
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2019	C
29	X	2026	C
29	X	2034	A
29	X	2035	G
29	X	2038	C
29	X	2039	G
29	X	2044	G
29	X	2045	A
29	X	2046	C
29	X	2052	G
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
29	X	2190	A
29	X	2191	A
29	X	2192	U
29	X	2195	C
29	X	2196	U
29	X	2197	U
29	X	2198	U
29	X	2199	C
29	X	2200	G
29	X	2205	C
29	X	2217	G
29	X	2218	G
29	X	2229	G
29	X	2230	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2252	A

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Mol	Chain	Res	Type
29	X	2257	A
29	X	2261	G
29	X	2262	C
29	X	2265	A
29	X	2266	A
29	X	2267	A
29	X	2268	G
29	X	2276	C
29	X	2284	U
29	X	2285	U
29	X	2286	G
29	X	2287	G
29	X	2288	A
29	X	2298	U
29	X	2300	G
29	X	2305	C
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A
29	X	2318	U
29	X	2320	G
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2328	G
29	X	2351	G
29	X	2358	C
29	X	2362	G
29	X	2364	C
29	X	2368	G
29	X	2369	U
29	X	2381	A
29	X	2386	G
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A
29	X	2406	C
29	X	2408	G

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Mol	Chain	Res	Type
29	X	2409	A
29	X	2410	U
29	X	2418	A
29	X	2419	C
29	X	2420	C
29	X	2427	A
29	X	2428	U
29	X	2438	A
29	X	2448	A
29	X	2452	U
29	X	2455	A
29	X	2469	G
29	X	2470	U
29	X	2476	A
29	X	2477	C
29	X	2480	C
29	X	2481	G
29	X	2482	A
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2486	C
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2521	A
29	X	2522	G
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2556	A
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2580	C
29	X	2581	A
29	X	2582	G
29	X	2588	U
29	X	2591	C
29	X	2592	U

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Mol	Chain	Res	Type
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2609	G
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2661	G
29	X	2666	U
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2691	C
29	X	2692	A
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2706	U
29	X	2707	G
29	X	2708	U
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
29	X	2757	G
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2761	A
29	X	2770	A
29	X	2771	C
29	X	2774	U
29	X	2775	U
29	X	2777	A

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Mol	Chain	Res	Type
29	X	2778	U
29	X	2779	C
29	X	2780	A
29	X	2782	G
29	X	2795	A
29	X	2796	A
29	X	2798	A
29	X	2808	U
29	X	2809	A
29	X	2810	A
29	X	2811	G
29	X	2824	C
29	X	2825	A
29	X	2827	G
29	X	2841	U
29	X	2842	C
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2859	U
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	14	C
31	Z	15	A
31	Z	17	A
31	Z	18	G
31	Z	26	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	38	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	93	G

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Mol	Chain	Res	Type
31	Z	102	A
31	Z	110	U
31	Z	111	C
31	Z	112	A
31	Z	115	G
31	Z	123	U

All (314) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	X	3	U
29	X	13	A
29	X	33	C
29	X	38	G
29	X	48	A
29	X	62	U
29	X	69	G
29	X	71	A
29	X	73	A
29	X	82	G
29	X	117	A
29	X	118	U
29	X	154	U
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	192	G
29	X	198	A
29	X	199	A
29	X	218	A
29	X	219	G
29	X	226	C
29	X	312	G
29	X	322	A
29	X	332	C
29	X	333	A
29	X	334	G
29	X	340	G
29	X	341	A
29	X	342	G
29	X	399	G

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Mol	Chain	Res	Type
29	X	400	U
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	458	G
29	X	459	A
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A
29	X	469	G
29	X	490	A
29	X	513	A
29	X	516	G
29	X	522	G
29	X	538	A
29	X	539	A
29	X	541	C
29	X	542	A
29	X	553	C
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	571	U
29	X	580	A
29	X	582	G
29	X	583	C
29	X	596	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A
29	X	664	C
29	X	682	G
29	X	683	A
29	X	698	A
29	X	699	G
29	X	717	G
29	X	729	A
29	X	730	C

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Mol	Chain	Res	Type
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A
29	X	797	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	813	A
29	X	814	G
29	X	818	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	872	G
29	X	878	C
29	X	925	U
29	X	938	G
29	X	939	C
29	X	955	G
29	X	956	A
29	X	968	C
29	X	969	U
29	X	972	C
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1000	G
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G

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Mol	Chain	Res	Type
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1137	A
29	X	1139	A
29	X	1141	U
29	X	1142	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1182	U
29	X	1186	G
29	X	1188	A
29	X	1194	U
29	X	1212	U
29	X	1223	G
29	X	1224	A
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
29	X	1265	G
29	X	1266	G
29	X	1278	A
29	X	1285	A
29	X	1299	A
29	X	1301	U
29	X	1313	U
29	X	1314	A
29	X	1315	A
29	X	1324	G
29	X	1325	U
29	X	1333	G
29	X	1337	G
29	X	1338	G

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Mol	Chain	Res	Type
29	X	1342	U
29	X	1345	G
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1357	U
29	X	1391	A
29	X	1409	U
29	X	1410	U
29	X	1412	C
29	X	1439	G
29	X	1441	A
29	X	1442	C
29	X	1459	U
29	X	1473	U
29	X	1474	A
29	X	1496	G
29	X	1552	C
29	X	1561	A
29	X	1575	C
29	X	1581	C
29	X	1582	A
29	X	1583	A
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1685	A
29	X	1691	G
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1712	G

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Mol	Chain	Res	Type
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1749	G
29	X	1771	A
29	X	1772	C
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C
29	X	1799	A
29	X	1807	A
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1920	A
29	X	1921	A
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1937	G
29	X	1938	U
29	X	1947	G
29	X	1953	A
29	X	1963	G
29	X	1975	G
29	X	1979	C
29	X	2004	U
29	X	2005	U
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2018	G
29	X	2034	A
29	X	2044	G
29	X	2045	A
29	X	2050	G
29	X	2075	U
29	X	2088	U

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Mol	Chain	Res	Type
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2229	G
29	X	2237	C
29	X	2245	A
29	X	2254	C
29	X	2261	G
29	X	2265	A
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2313	G
29	X	2315	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2370	G
29	X	2396	C
29	X	2402	U
29	X	2404	A
29	X	2405	A
29	X	2418	A
29	X	2426	G
29	X	2427	A
29	X	2428	U
29	X	2469	G
29	X	2476	A
29	X	2482	A
29	X	2485	U
29	X	2496	C
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2551	A
29	X	2560	G
29	X	2564	U
29	X	2580	C
29	X	2589	C

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Mol	Chain	Res	Type
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2624	G
29	X	2633	A
29	X	2660	C
29	X	2668	U
29	X	2669	C
29	X	2691	C
29	X	2693	U
29	X	2700	U
29	X	2705	A
29	X	2706	U
29	X	2712	G
29	X	2736	U
29	X	2756	A
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2770	A
29	X	2807	U
29	X	2810	A
29	X	2823	G
29	X	2824	C
29	X	2841	U
29	X	2848	A
29	X	2854	G
29	X	2867	G
31	Z	26	G

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

11 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	TS9	5	10	5	6,8,10	0.89	0	6,12,15	1.16	0
5	BB9	5	11	5	3,5,6	1.35	0	1,5,7	2.19	1 (100%)
5	BB9	5	13	5	0,4,6	0.00	-	0,4,7	0.00	-
5	MH6	5	14	5	3,3,6	1.61	1 (33%)	1,3,7	0.51	0
5	BB9	5	15	5	3,5,6	3.63	1 (33%)	1,5,7	3.43	1 (100%)
5	DHA	5	16	5	4,4,5	4.09	2 (50%)	3,4,6	4.29	1 (33%)
5	DHA	5	17	5	4,4,5	1.86	1 (25%)	3,4,6	2.19	2 (66%)
5	DHA	5	3	5	4,4,5	2.07	2 (50%)	3,4,6	1.71	1 (33%)
5	BB9	5	6	5	3,5,6	1.81	1 (33%)	1,5,7	2.21	1 (100%)
5	DBU	5	8	5	2,4,6	0.78	0	0,4,7	0.00	-
5	DCY	5	9	5	4,5,6	0.33	0	3,5,7	3.07	2 (66%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	TS9	5	10	5	-	0/9/12/16	0/0/0/0
5	BB9	5	11	5	-	0/0/4/6	0/0/0/0
5	BB9	5	13	5	-	0/0/2/6	0/0/0/0
5	MH6	5	14	5	-	0/0/0/6	0/0/0/0
5	BB9	5	15	5	-	0/0/4/6	0/0/0/0
5	DHA	5	16	5	-	0/0/2/4	0/0/0/0
5	DHA	5	17	5	-	0/0/2/4	0/0/0/0
5	DHA	5	3	5	-	0/0/2/4	0/0/0/0
5	BB9	5	6	5	-	0/0/4/6	0/0/0/0
5	DBU	5	8	5	-	0/1/2/6	0/0/0/0
5	DCY	5	9	5	-	0/1/4/6	0/0/0/0

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	15	BB9	O-C	-6.26	1.07	1.22
5	5	16	DHA	C-CA	-2.72	1.40	1.45
5	5	14	MH6	C-CA	2.17	1.53	1.49
5	5	3	DHA	C-CA	2.48	1.48	1.45
5	5	3	DHA	CA-N	2.82	1.42	1.34
5	5	6	BB9	O-C	2.82	1.28	1.22
5	5	17	DHA	CA-N	3.09	1.43	1.34
5	5	16	DHA	CA-N	7.68	1.55	1.34

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	16	DHA	O-C-CA	-7.39	111.08	125.35
5	5	9	DCY	CA-CB-SG	-4.49	104.20	114.48
5	5	9	DCY	O-C-CA	-2.86	118.03	125.49
5	5	17	DHA	O-C-CA	-2.81	119.92	125.35
5	5	3	DHA	O-C-CA	-2.35	120.82	125.35
5	5	17	DHA	CB-CA-N	-2.33	121.10	126.27
5	5	6	BB9	O-C-CA	-2.21	122.15	125.40
5	5	11	BB9	O-C-CA	-2.19	122.17	125.40
5	5	15	BB9	O-C-CA	3.43	130.46	125.40

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	5	10	TS9	1	0
5	5	13	BB9	1	0
5	5	14	MH6	1	0
5	5	15	BB9	1	0
5	5	6	BB9	1	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 36 ligands modelled in this entry, 36 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	1	53/55 (96%)	3.55	40 (75%) 0 0	48, 56, 77, 82	0
2	2	46/47 (97%)	5.68	46 (100%) 0 0	9, 29, 38, 40	0
3	3	63/66 (95%)	5.20	59 (93%) 0 0	23, 41, 51, 57	0
4	4	37/37 (100%)	1.21	7 (18%) 2 1	60, 69, 77, 81	0
5	5	6/19 (31%)	1.14	1 (16%) 2 2	79, 83, 86, 86	0
6	A	240/274 (87%)	-0.09	6 (2%) 61 54	25, 63, 77, 84	0
7	B	205/211 (97%)	-0.68	1 (0%) 91 90	3, 22, 49, 63	0
8	C	197/205 (96%)	-0.29	5 (2%) 61 54	8, 51, 73, 83	0
9	D	177/180 (98%)	0.06	10 (5%) 28 22	60, 75, 85, 91	0
10	E	171/185 (92%)	-0.33	3 (1%) 71 65	44, 66, 79, 88	0
11	F	144/144 (100%)	1.53	43 (29%) 1 1	74, 89, 98, 102	0
12	G	142/174 (81%)	-0.27	4 (2%) 56 50	22, 43, 67, 72	0
13	H	134/134 (100%)	-0.77	0 100 100	3, 16, 37, 45	0
14	I	141/156 (90%)	0.28	13 (9%) 11 9	22, 62, 77, 85	0
15	J	136/142 (95%)	-0.30	2 (1%) 76 71	27, 51, 73, 80	0
16	K	113/116 (97%)	-0.83	0 100 100	3, 9, 24, 34	0
17	L	104/114 (91%)	-0.04	4 (3%) 44 37	43, 62, 72, 75	0
18	M	108/166 (65%)	-0.73	0 100 100	4, 19, 43, 64	0
19	N	117/118 (99%)	-0.56	0 100 100	4, 40, 62, 73	0
20	O	94/100 (94%)	-0.42	0 100 100	18, 53, 71, 81	0
21	P	127/134 (94%)	-0.71	0 100 100	4, 18, 53, 76	0
22	Q	93/95 (97%)	-0.39	1 (1%) 82 78	32, 50, 69, 80	0
23	R	110/115 (95%)	-0.13	5 (4%) 37 30	36, 54, 80, 87	0
24	S	175/237 (73%)	0.26	14 (8%) 15 12	61, 71, 82, 87	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	T	84/91 (92%)	0.04	9 (10%) 8 6	35, 51, 80, 90	0
26	U	72/81 (88%)	0.11	3 (4%) 40 33	45, 61, 72, 78	0
27	V	66/67 (98%)	-0.48	0 100 100	49, 61, 81, 88	0
28	W	55/55 (100%)	-0.41	0 100 100	23, 41, 61, 78	0
29	X	2686/2880 (93%)	-0.36	67 (2%) 61 54	4, 41, 116, 151	0
30	Y	58/60 (96%)	-0.51	1 (1%) 73 67	4, 17, 44, 52	0
31	Z	122/123 (99%)	-0.09	3 (2%) 61 54	30, 75, 102, 129	0
All	All	6076/6581 (92%)	-0.13	347 (5%) 27 22	3, 49, 95, 151	0

All (347) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	3	39	ASP	16.2
2	2	26	SER	9.9
2	2	4	THR	9.8
1	1	2	ALA	9.8
3	3	31	HIS	9.7
2	2	36	ALA	9.5
3	3	33	ASN	9.4
3	3	41	ILE	9.3
2	2	1	MET	9.2
3	3	32	GLN	9.0
3	3	42	ARG	8.8
3	3	37	SER	8.7
3	3	30	ARG	8.7
3	3	7	HIS	8.7
2	2	29	ASN	8.5
3	3	34	THR	8.5
2	2	37	LYS	8.3
1	1	25	THR	8.2
3	3	35	GLY	8.2
2	2	24	THR	8.1
2	2	7	PRO	8.1
3	3	27	SER	8.1
2	2	2	LYS	8.0
2	2	9	ASN	8.0
3	3	63	PRO	7.9
3	3	28	GLY	7.9
1	1	43	VAL	7.8
2	2	8	ASN	7.7

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Mol	Chain	Res	Type	RSRZ
31	Z	123	U	7.5
1	1	42	PRO	7.0
2	2	22	MET	6.9
2	2	35	ARG	6.9
2	2	25	LYS	6.7
1	1	41	ASP	6.6
3	3	44	LYS	6.6
3	3	8	LYS	6.5
1	1	23	THR	6.3
3	3	40	GLU	6.3
3	3	4	MET	6.3
3	3	10	ALA	6.2
3	3	11	LYS	6.2
3	3	6	THR	6.2
3	3	36	LYS	6.2
29	X	731	A	6.1
1	1	44	ALA	6.1
1	1	47	HIS	6.1
2	2	3	ARG	6.0
24	S	91	PRO	6.0
2	2	32	ALA	5.8
2	2	40	HIS	5.8
2	2	20	ALA	5.7
1	1	24	THR	5.7
2	2	15	THR	5.7
3	3	2	PRO	5.7
2	2	16	HIS	5.6
2	2	23	LYS	5.6
2	2	28	ARG	5.5
11	F	137	THR	5.5
1	1	27	ASN	5.5
29	X	1085	G	5.5
3	3	38	GLY	5.4
1	1	9	ILE	5.4
3	3	58	MET	5.3
3	3	46	LYS	5.3
9	D	43	SER	5.2
1	1	40	TYR	5.2
14	I	6	LEU	5.2
2	2	6	GLN	5.2
2	2	33	ARG	5.2
2	2	42	LEU	5.1

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Mol	Chain	Res	Type	RSRZ
1	1	26	LYS	5.1
2	2	10	ARG	5.0
2	2	5	TYR	4.9
2	2	45	SER	4.9
3	3	9	MET	4.9
3	3	55	TRP	4.9
29	X	2780	A	4.9
1	1	20	PHE	4.8
3	3	51	ALA	4.8
3	3	18	GLY	4.8
14	I	5	ASP	4.7
3	3	45	GLY	4.7
1	1	10	VAL	4.7
11	F	18	THR	4.6
2	2	43	THR	4.6
3	3	47	GLY	4.5
2	2	11	LYS	4.5
29	X	891	A	4.5
11	F	114	ASP	4.5
29	X	1187	A	4.4
6	A	250	TRP	4.4
24	S	92	VAL	4.4
8	C	19	LEU	4.4
2	2	12	ARG	4.3
11	F	84	ILE	4.3
3	3	19	THR	4.3
3	3	62	LEU	4.3
2	2	13	ALA	4.3
3	3	5	LYS	4.3
3	3	17	THR	4.3
11	F	125	ASN	4.2
3	3	54	GLU	4.2
2	2	44	VAL	4.2
29	X	2088	U	4.2
2	2	38	GLY	4.2
29	X	2779	C	4.2
3	3	53	ALA	4.1
1	1	38	LYS	4.1
2	2	31	LEU	4.1
14	I	52	GLY	4.1
11	F	119	SER	4.1
12	G	97	ASP	4.1

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Mol	Chain	Res	Type	RSRZ
30	Y	2	ALA	4.1
2	2	41	GLN	4.1
11	F	83	GLY	4.1
29	X	558	G	4.0
14	I	10	PRO	4.0
2	2	46	ASP	4.0
23	R	58	VAL	4.0
3	3	25	PHE	4.0
3	3	64	ARG	4.0
9	D	147	ASP	4.0
11	F	129	GLY	3.9
3	3	61	MET	3.9
29	X	514	G	3.9
1	1	19	GLY	3.9
1	1	45	LYS	3.9
1	1	31	THR	3.9
29	X	1057	A	3.9
9	D	42	SER	3.9
29	X	1086	C	3.9
1	1	30	ASN	3.8
1	1	22	TYR	3.8
11	F	97	GLY	3.8
29	X	1067	G	3.8
3	3	12	ARG	3.8
11	F	32	ALA	3.8
2	2	27	GLY	3.8
14	I	8	PRO	3.8
1	1	21	TYR	3.7
3	3	26	LYS	3.7
2	2	18	PHE	3.7
29	X	1552	C	3.7
1	1	14	SER	3.7
1	1	36	GLU	3.7
29	X	248	A	3.7
3	3	56	ALA	3.6
11	F	122	ALA	3.6
11	F	136	VAL	3.6
1	1	46	LYS	3.6
1	1	39	LYS	3.6
4	4	20	HIS	3.6
25	T	7	VAL	3.6
1	1	28	ARG	3.6

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Mol	Chain	Res	Type	RSRZ
2	2	14	LYS	3.6
11	F	144	ALA	3.6
2	2	21	ARG	3.6
2	2	17	GLY	3.6
4	4	22	ARG	3.6
3	3	49	VAL	3.6
4	4	24	LEU	3.6
6	A	203	ASN	3.5
11	F	35	MET	3.5
9	D	145	MET	3.5
29	X	1077	U	3.5
11	F	80	LYS	3.5
2	2	30	ILE	3.4
29	X	1058	G	3.4
2	2	34	ARG	3.4
1	1	37	LEU	3.4
1	1	11	LYS	3.4
11	F	10	LEU	3.4
15	J	84	MET	3.3
14	I	29	THR	3.3
29	X	1553	G	3.3
11	F	27	LEU	3.3
2	2	39	ARG	3.3
29	X	1095	A	3.3
29	X	2409	A	3.3
29	X	730	C	3.3
29	X	2776	U	3.2
11	F	67	PHE	3.2
1	1	16	ALA	3.2
5	5	1	ILE	3.2
25	T	15	ASP	3.2
29	X	1523	A	3.2
3	3	52	LYS	3.2
29	X	727	U	3.2
29	X	1037	U	3.1
25	T	9	SER	3.1
29	X	1055	A	3.1
3	3	57	ARG	3.1
3	3	3	LYS	3.1
3	3	29	LYS	3.1
23	R	67	GLY	3.1
7	B	205	SER	3.0

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Mol	Chain	Res	Type	RSRZ
11	F	143	ASN	3.0
23	R	57	ASN	3.0
29	X	2778	U	3.0
8	C	20	PRO	3.0
3	3	23	MET	3.0
11	F	96	VAL	3.0
12	G	156	HIS	3.0
8	C	165	SER	3.0
29	X	2170	C	3.0
29	X	2775	U	2.9
3	3	59	LYS	2.9
24	S	174	PRO	2.9
1	1	12	MET	2.9
3	3	24	ALA	2.9
26	U	16	ASN	2.9
9	D	73	SER	2.9
14	I	9	THR	2.9
11	F	120	VAL	2.9
31	Z	2	C	2.9
1	1	48	VAL	2.8
11	F	111	LYS	2.8
12	G	155	THR	2.8
9	D	142	THR	2.8
24	S	32	PHE	2.8
29	X	2781	G	2.8
8	C	197	GLU	2.7
14	I	53	ARG	2.7
29	X	2774	U	2.7
4	4	36	GLN	2.7
6	A	249	PRO	2.7
3	3	60	LEU	2.7
11	F	128	ALA	2.7
24	S	155	PRO	2.7
3	3	43	GLY	2.7
11	F	113	PRO	2.7
15	J	141	ALA	2.7
1	1	15	SER	2.7
3	3	50	LEU	2.7
11	F	12	LEU	2.7
29	X	1090	C	2.7
29	X	2173	G	2.7
29	X	2877	A	2.6

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Mol	Chain	Res	Type	RSRZ
2	2	19	ARG	2.6
4	4	37	GLY	2.6
17	L	58	ALA	2.6
25	T	10	SER	2.6
29	X	1054	C	2.6
1	1	17	GLY	2.6
25	T	3	HIS	2.6
11	F	126	THR	2.6
11	F	130	THR	2.6
11	F	121	GLU	2.6
11	F	52	ILE	2.6
4	4	21	GLY	2.6
29	X	2290	A	2.5
3	3	48	PHE	2.5
29	X	729	A	2.5
17	L	62	GLY	2.5
24	S	23	ALA	2.5
29	X	665	A	2.5
29	X	1524	C	2.5
9	D	146	VAL	2.5
24	S	143	ILE	2.5
11	F	82	ALA	2.5
14	I	68	VAL	2.5
23	R	82	ALA	2.5
11	F	28	GLY	2.5
1	1	52	GLU	2.5
11	F	123	ALA	2.5
4	4	35	ARG	2.5
11	F	17	ALA	2.5
11	F	34	ILE	2.4
25	T	8	GLY	2.4
14	I	48	PHE	2.4
11	F	13	PRO	2.4
1	1	13	GLU	2.4
3	3	16	ILE	2.4
29	X	2087	U	2.4
10	E	37	TYR	2.4
24	S	86	VAL	2.4
6	A	242	ALA	2.4
3	3	20	GLY	2.4
22	Q	64	ARG	2.4
29	X	1069	G	2.4

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Mol	Chain	Res	Type	RSRZ
25	T	6	GLY	2.4
11	F	127	VAL	2.4
1	1	4	ASP	2.4
29	X	1068	A	2.4
29	X	1114	A	2.4
10	E	46	ASP	2.4
29	X	2090	U	2.4
17	L	57	ALA	2.3
29	X	1551	U	2.3
29	X	2773	G	2.3
29	X	1120	C	2.3
29	X	1080	A	2.3
29	X	1099	A	2.3
1	1	8	ILE	2.3
29	X	1104	G	2.3
29	X	1084	A	2.3
3	3	13	ARG	2.3
24	S	123	VAL	2.3
29	X	1188	A	2.3
1	1	49	VAL	2.3
9	D	144	ASP	2.2
9	D	44	LYS	2.2
14	I	7	LYS	2.2
29	X	1100	G	2.2
11	F	14	ALA	2.2
11	F	56	GLU	2.2
29	X	418	C	2.2
29	X	1071	U	2.2
24	S	171	VAL	2.2
26	U	27	ASP	2.2
26	U	28	GLY	2.2
25	T	4	LYS	2.2
6	A	219	PRO	2.2
29	X	1909	U	2.2
31	Z	4	C	2.2
10	E	58	ALA	2.2
29	X	1556	A	2.1
29	X	2777	A	2.1
6	A	84	TYR	2.1
14	I	4	HIS	2.1
17	L	34	SER	2.1
11	F	81	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
29	X	1093	U	2.1
24	S	173	PRO	2.1
24	S	149	ALA	2.1
14	I	32	ARG	2.1
29	X	1107	A	2.1
29	X	2324	G	2.1
29	X	1103	C	2.1
11	F	116	ASN	2.1
29	X	1189	G	2.1
29	X	1549	C	2.1
23	R	94	VAL	2.1
24	S	113	VAL	2.1
9	D	86	GLY	2.1
1	1	29	ARG	2.1
8	C	198	GLU	2.1
11	F	5	ALA	2.1
29	X	1074	G	2.0
29	X	2085	G	2.0
25	T	2	ALA	2.0
12	G	129	HIS	2.0
11	F	72	PRO	2.0
29	X	728	G	2.0
24	S	55	THR	2.0
11	F	41	PHE	2.0
29	X	2080	U	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
5	BB9	5	15	6/7	0.78	0.48	-	88,88,88,88	0
5	TS9	5	10	9/11	0.87	0.38	-	87,88,89,89	0
5	BB9	5	6	6/7	0.89	0.18	-	82,84,85,86	0
5	BB9	5	11	6/7	0.86	0.23	-	85,87,87,88	0
5	DHA	5	3	5/6	0.77	0.47	-	82,83,84,85	0
5	DHA	5	16	5/6	0.52	0.55	-	83,83,85,86	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
5	BB9	5	13	5/7	0.83	0.22	-	85,86,86,87	0
5	DHA	5	17	5/6	0.55	0.39	-	76,77,78,80	2
5	MH6	5	14	4/7	0.85	0.30	-	86,86,87,87	0
5	DCY	5	9	6/7	0.81	0.18	-	87,87,87,87	0
5	DBU	5	8	5/7	0.93	0.16	-	85,86,87,87	0

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2907	1/1	0.96	0.73	63.93	17,17,17,17	0
32	MG	X	2905	1/1	0.97	0.50	9.56	13,13,13,13	0
32	MG	X	2888	1/1	0.95	0.30	8.43	3,3,3,3	0
32	MG	X	2903	1/1	0.95	0.30	6.38	3,3,3,3	0
32	MG	Z	124	1/1	0.95	0.31	6.24	26,26,26,26	0
32	MG	X	2909	1/1	0.96	0.21	5.32	3,3,3,3	0
32	MG	X	2895	1/1	0.98	0.25	1.39	3,3,3,3	0
32	MG	X	2910	1/1	0.90	0.38	-	19,19,19,19	0
32	MG	X	2885	1/1	0.93	0.41	-	56,56,56,56	0
32	MG	X	2901	1/1	0.98	0.08	-	60,60,60,60	0
32	MG	X	2887	1/1	0.98	0.18	-	3,3,3,3	0
32	MG	X	2881	1/1	0.95	0.25	-	59,59,59,59	0
32	MG	X	2899	1/1	0.99	0.53	-	3,3,3,3	0
32	MG	X	2882	1/1	0.97	0.36	-	12,12,12,12	0
32	MG	X	2906	1/1	0.98	0.19	-	58,58,58,58	0
32	MG	X	2883	1/1	0.99	0.10	-	49,49,49,49	0
32	MG	X	2897	1/1	0.98	0.47	-	3,3,3,3	0
32	MG	X	2884	1/1	0.83	0.79	-	55,55,55,55	0
32	MG	X	2904	1/1	0.97	0.31	-	6,6,6,6	0
32	MG	X	2900	1/1	0.96	0.26	-	3,3,3,3	0
32	MG	Z	126	1/1	0.95	0.34	-	25,25,25,25	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2893	1/1	0.96	0.15	-	13,13,13,13	0
32	MG	M	167	1/1	0.98	0.54	-	3,3,3,3	0
32	MG	X	2894	1/1	0.99	0.40	-	15,15,15,15	0
32	MG	X	2898	1/1	0.90	0.54	-	19,19,19,19	0
32	MG	X	2902	1/1	0.96	0.38	-	24,24,24,24	0
32	MG	Z	128	1/1	0.95	0.09	-	41,41,41,41	0
32	MG	X	2889	1/1	0.95	0.77	-	3,3,3,3	0
32	MG	X	2890	1/1	0.91	0.34	-	49,49,49,49	0
32	MG	X	2886	1/1	0.91	0.26	-	41,41,41,41	0
32	MG	Z	127	1/1	0.95	0.17	-	12,12,12,12	0
32	MG	X	2892	1/1	0.95	0.16	-	22,22,22,22	0
32	MG	X	2896	1/1	0.95	0.27	-	3,3,3,3	0
32	MG	X	2908	1/1	0.97	0.11	-	3,3,3,3	0
32	MG	X	2891	1/1	0.99	0.41	-	12,12,12,12	0
32	MG	Z	125	1/1	0.98	0.29	-	9,9,9,9	0

6.5 Other polymers [i](#)

There are no such residues in this entry.