



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 05:40 PM UTC

PDB ID : 1N8R / pdb_00001n8r
Title : Structure of large ribosomal subunit in complex with virginiamycin M
Authors : Hansen, J.L.; Moore, P.B.; Steitz, T.A.
Deposited on : 2002-11-21
Resolution : 3.00 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

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

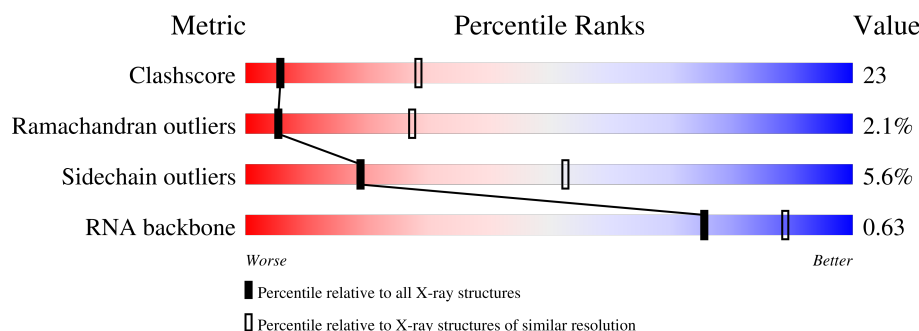
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 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	190562	2977 (3.00-3.00)
Ramachandran outliers	187476	2877 (3.00-3.00)
Sidechain outliers	187428	2880 (3.00-3.00)
RNA backbone	3983	1109 (3.20-2.80)

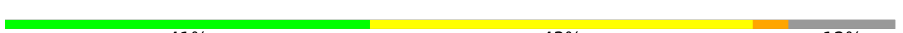
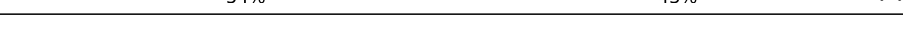
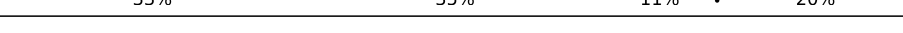
The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. 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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2922	48% 37% 8% • 6%
2	B	122	44% 43% 8% 5%
3	C	239	48% 42% 9% •
4	D	337	47% 44% 9%
5	E	246	50% 42% 7%
6	F	176	25% 45% 7% • 20%

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Mol	Chain	Length	Quality of chain
7	G	177	
8	H	119	
9	I	348	
10	J	167	
11	K	145	
12	L	132	
13	M	164	
14	N	194	
15	O	186	
16	P	115	
17	Q	148	
18	R	95	
19	S	154	
20	T	84	
21	U	119	
22	V	66	
23	W	70	
24	X	154	
25	Y	91	
26	Z	240	
27	1	73	
28	2	56	
29	3	48	
30	4	92	

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
35	CL	M	8510	-	-	X	-
35	CL	N	8518	-	-	X	-

2 Entry composition

There are 37 unique types of molecules in this entry. The entry contains 98569 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 RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2754	Total	C	N	O	P	0	0	0
			59017	26346	10878	19048	2745			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	122	Total	C	N	O	P	0	0	0
			2600	1160	472	847	121			

- Molecule 3 is a protein called 50S ribosomal protein L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	237	Total	C	N	O	S	0	0	0
			1754	1072	352	325	5			

- Molecule 4 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	337	Total	C	N	O	S	0	0	0
			2624	1616	493	510	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	?	-	PRO	deletion	UNP P20279
D	310	ARG	PHE	conflict	UNP P20279

- Molecule 5 is a protein called 50S ribosomal protein L4E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	246	Total	C	N	O	S	0	0	0
			1858	1131	344	382	1			

- Molecule 6 is a protein called 50S ribosomal protein L5P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	140	Total	C	N	O	S	0	0	0
			1094	685	195	210	4			

- Molecule 7 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	172	Total	C	N	O	S	0	0	0
			1357	840	224	289	4			

- Molecule 8 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	119	Total	C	N	O	S	0	0	0
			885	552	141	191	1			

- Molecule 9 is a protein called Acidic ribosomal protein P0 homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	29	Total	C	N	O	S	0	0	0
			240	149	39	51	1			

- Molecule 10 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	156	Total	C	N	O	S	0	0	0
			1215	766	233	212	4			

- Molecule 11 is a protein called 50S ribosomal protein L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	142	Total	C	N	O	S	0	0	0
			1119	696	199	221	3			

- Molecule 12 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	132	Total	C	N	O	S	0	0	0
			993	609	189	191	4			

- Molecule 13 is a protein called 50S ribosomal protein L15P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	M	145	Total	C	N	O	0	0	0
			1114	668	222	224			

- Molecule 14 is a protein called 50S ribosomal protein L15E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	194	Total	C	N	O	S	0	0	0
			1605	988	346	266	5			

- Molecule 15 is a protein called 50S ribosomal protein L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	186	Total	C	N	O	S	0	0	0
			1444	895	262	285	2			

- Molecule 16 is a protein called 50S ribosomal protein L18E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
16	P	115	Total	C	N	O	0	0	0
			864	529	161	174			

- Molecule 17 is a protein called 50S ribosomal protein L19E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	Q	143	Total	C	N	O	0	0	0
			1133	680	230	223			

- Molecule 18 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	95	Total	C	N	O	0	0	0
			734	450	141	143			

- Molecule 19 is a protein called 50S ribosomal protein L22P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	150	Total	C	N	O	S	0	0	0
			1149	713	209	223	4			

- Molecule 20 is a protein called 50S ribosomal protein L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	81	Total	C	N	O	S	0	0	0
			641	389	111	138	3			

- Molecule 21 is a protein called 50S ribosomal protein L24P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	119	Total	C	N	O		0	0	0
			949	568	180	201				

- Molecule 22 is a protein called 50S ribosomal protein L24E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	53	Total	C	N	O	S	0	0	0
			410	244	75	86	5			

- Molecule 23 is a protein called 50S ribosomal protein L29P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	65	Total	C	N	O	S	0	0	0
			499	304	94	100	1			

- Molecule 24 is a protein called 50S ribosomal protein L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	154	Total	C	N	O	S	0	0	0
			1195	737	209	243	6			

- Molecule 25 is a protein called 50S ribosomal protein L31E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	82	Total	C	N	O	S	0	0	0
			654	402	129	122	1			

- Molecule 26 is a protein called 50S ribosomal protein L32E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	142	Total	C	N	O		0	0	0
			1130	686	228	216				

- Molecule 27 is a protein called 50S ribosomal protein L37AE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	1	73	Total	C	N	O	S	0	0	0
			563	359	111	86	7			

- Molecule 28 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	56	Total	C	N	O	S	0	0	0
			430	258	86	82	4			

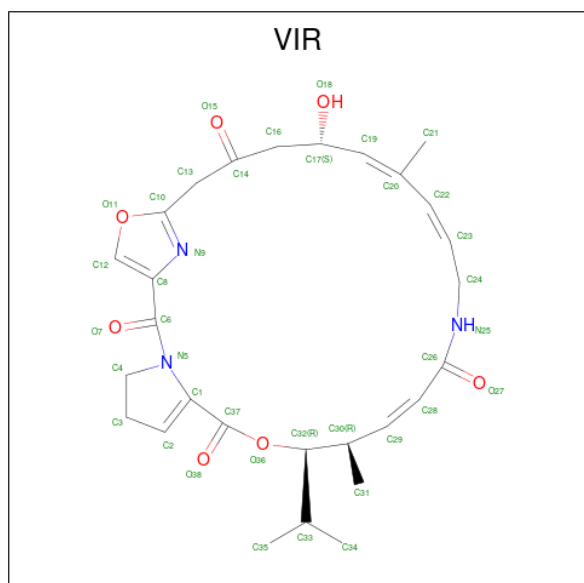
- Molecule 29 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	46	Total	C	N	O	S	0	0	0
			393	238	86	68	1			

- Molecule 30 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 31 is VIRGINIAMYCIN M1 (CCD ID: VIR) (formula: $C_{28}H_{35}N_3O_7$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
31	A	1	Total	C	N	O	0	0
			38	28	3	7		

- Molecule 32 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	A	109	Total 109	Mg 109	0	0
32	B	1	Total 1	Mg 1	0	0
32	C	2	Total 2	Mg 2	0	0
32	D	1	Total 1	Mg 1	0	0
32	L	1	Total 1	Mg 1	0	0
32	U	1	Total 1	Mg 1	0	0
32	Z	1	Total 1	Mg 1	0	0
32	4	1	Total 1	Mg 1	0	0

- Molecule 33 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	A	1	Total 1	K 1	0	0

- Molecule 34 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	A	71	Total 71	Na 71	0	0
34	B	2	Total 2	Na 2	0	0
34	C	1	Total 1	Na 1	0	0
34	E	1	Total 1	Na 1	0	0
34	J	2	Total 2	Na 2	0	0
34	K	1	Total 1	Na 1	0	0
34	M	1	Total 1	Na 1	0	0
34	N	1	Total 1	Na 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	R	1	Total 1	Na 1	0	0
34	S	2	Total 2	Na 2	0	0
34	T	1	Total 1	Na 1	0	0
34	U	1	Total 1	Na 1	0	0
34	4	1	Total 1	Na 1	0	0

- Molecule 35 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	A	8	Total 8	Cl 8	0	0
35	C	1	Total 1	Cl 1	0	0
35	D	1	Total 1	Cl 1	0	0
35	K	3	Total 3	Cl 3	0	0
35	L	1	Total 1	Cl 1	0	0
35	M	1	Total 1	Cl 1	0	0
35	N	1	Total 1	Cl 1	0	0
35	O	1	Total 1	Cl 1	0	0
35	P	1	Total 1	Cl 1	0	0
35	S	1	Total 1	Cl 1	0	0
35	Z	2	Total 2	Cl 2	0	0
35	4	1	Total 1	Cl 1	0	0

- Molecule 36 is CADMIUM ION (CCD ID: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	P	1	Total Cd 1 1	0	0
36	V	1	Total Cd 1 1	0	0
36	1	1	Total Cd 1 1	0	0
36	2	1	Total Cd 1 1	0	0
36	4	1	Total Cd 1 1	0	0

- Molecule 37 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	A	5881	Total O 5881 5881	0	0
37	B	146	Total O 146 146	0	0
37	C	135	Total O 135 135	0	0
37	D	141	Total O 141 141	0	0
37	E	178	Total O 178 178	0	0
37	F	49	Total O 49 49	0	0
37	G	43	Total O 43 43	0	0
37	H	30	Total O 30 30	0	0
37	I	21	Total O 21 21	0	0
37	J	76	Total O 76 76	0	0
37	K	55	Total O 55 55	0	0
37	L	64	Total O 64 64	0	0
37	M	85	Total O 85 85	0	0
37	N	141	Total O 141 141	0	0
37	O	67	Total O 67 67	0	0

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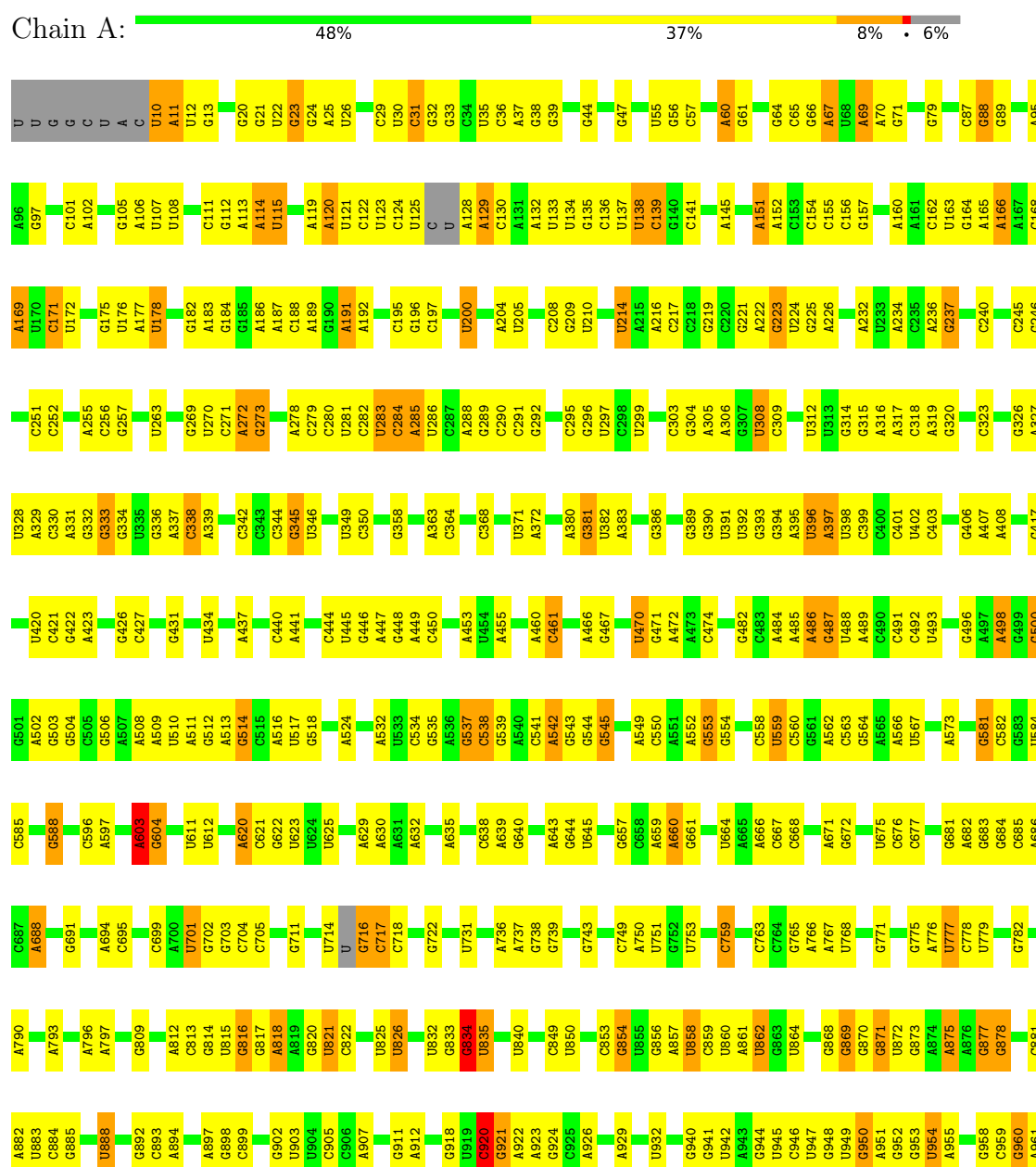
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	P	45	Total 45	O 45	0	0
37	Q	72	Total 72	O 72	0	0
37	R	57	Total 57	O 57	0	0
37	S	87	Total 87	O 87	0	0
37	T	34	Total 34	O 34	0	0
37	U	33	Total 33	O 33	0	0
37	V	27	Total 27	O 27	0	0
37	W	16	Total 16	O 16	0	0
37	X	68	Total 68	O 68	0	0
37	Y	27	Total 27	O 27	0	0
37	Z	100	Total 100	O 100	0	0
37	1	35	Total 35	O 35	0	0
37	2	57	Total 57	O 57	0	0
37	3	40	Total 40	O 40	0	0
37	4	72	Total 72	O 72	0	0

3 Residue-property plots

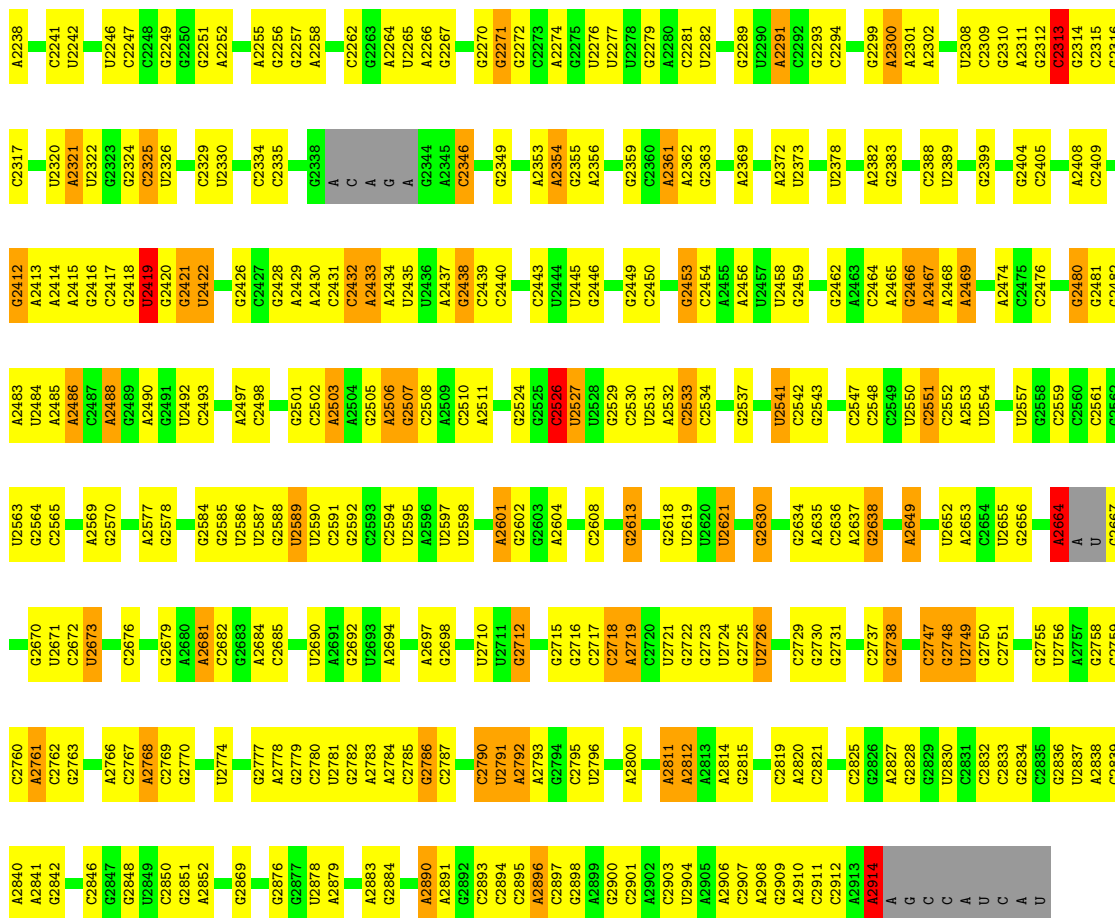
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

Note EDS was not executed.

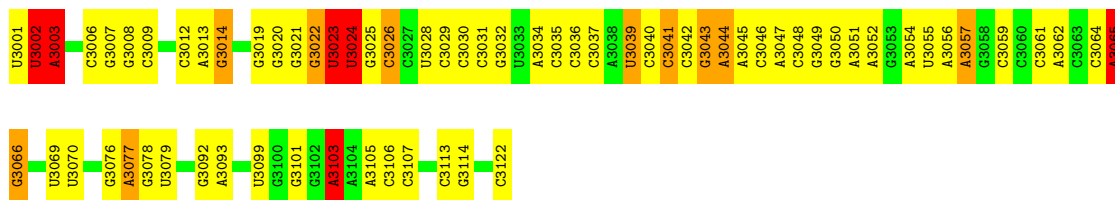
• Molecule 1: 23S ribosomal RNA



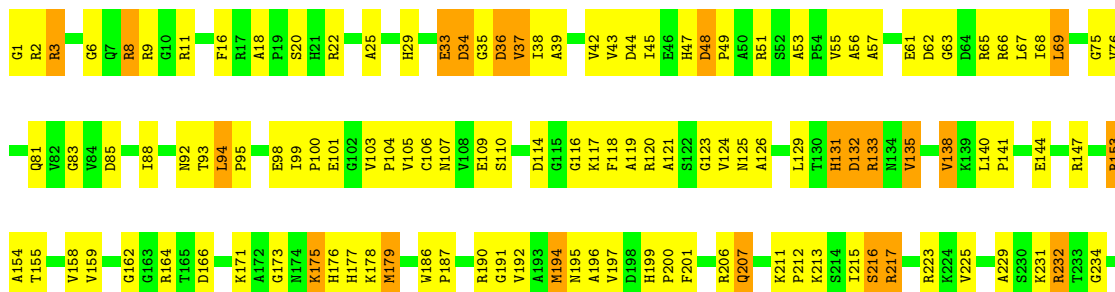
A	G	C2114	U2016	A1930	G1855	C1763	G1681	A1598	G1512	U1412	A1313	G1216	G1134	G1045	C962
G	C	U2115	A2019	C1936	C1856	U1766	A1682	G1601	C1512	U1413	U1314	G1226	G1135	G1061	C963
U	U	U2116	A2017	C1936	A1857	A1767	G1683	G1602	C1514	A1414	G1316	G1227	G1136	G1052	U970
A	C	A2118	G2023	U1939	A1858	C1768	A1685	A1603	A1515	G1417	G1319	C1228	G1143	G1053	G
C	C	C2119	C1940	U1940	A1859	C1769	A1686	G1604	A1516	U1418	G1324	G1229	G1151	G1055	U
C	C	U2120	U2028	A1941	U1860	U1770	C1687	G1605	U1517	U1419	G1325	U1234	G1151	G1056	G
C	C	G2121	C2029	A1942	C1861	U1771	G1688	A1606	G1523	U1420	G1326	U1235	G1151	U1066	U
C	C	C2122	C1943	C1862	C1862	C1772	C1692	A1607	G1524	U1421	G1327	G1236	G1151	A1067	C
C	C	A2123	U2032	G1863	C1863	G1773	C1692	G1608	U1524	U1422	G1328	U1237	G1158	A1058	C
G	G	G2033	G1944	A1865	C1864	G1777	C1699	G1609	U1525	U1423	A1328	U1238	G1158	G1059	G
C	C	U2034	G1945	A1866	C1865	A1778	C1700	G1610	U1526	U1424	A1329	G1239	G1160	C1060	C
U	U	C2035	G1947	A1866	C1866	A1779	A1701	G1611	U1527	A1424	A1330	G1239	G1161	C1061	C
A	A	G2038	G1951	G1867	C1867	A1779	A1702	C1613	U1528	U1425	A1331	G1240	G1162	U1062	U
G	G	A2039	U	A1868	C1868	A1779	U1702	G1614	U1529	U1426	C1332	A1242	G1163	G1063	C
C	C	G2040	A	A1869	C1869	C1787	G1706	A1615	U1530	U1427	C1333	C1243	G1163	C	C
G	G	G2041	A	C1872	C1872	U1788	G1706	U1616	U1531	U1428	C1334	C1244	G1165	A1067	G
C	C	U2042	C	U1873	G1873	U1791	A1710	C1617	G1535	U1429	G1340	C1245	G1166	C1068	A
C	C	G2043	U	U1874	A1874	C1792	A1711	U1625	C1536	U1430	A1341	A1246	G1167	C1069	G
C	C	A2054	A	A1878	G1878	G1795	A1712	A1626	U	U1431	A1342	A1247	G1168	A	A
A	A	A2055	U	U1879	A1879	A1796	G1713	G1627	G1543	U1432	C1343	A1248	U1169	G1072	G
C	C	U2063	G	C1880	A1880	A1797	A1717	G1633	U1544	U1433	G1344	U1249	U1170	A1073	G
C	C	U2064	C	A1881	C1881	C1798	G1718	G1634	C1545	U1434	G1345	C1250	A1171	G1074	A
A	A	G2068	C	C1882	C1882	G1798	G1718	U1635	C1546	U1435	U1350	C1251	A1172	G1075	G
G	G	C2072	U1964	U1883	U1883	A1804	U1722	G1636	A1547	C1436	G1351	C1252	A1173	U	U
U	U	G2073	C1965	G1884	A1885	G1805	G1723	G1637	G1557	C1437	G1352	C1253	A1174	C	C
C	C	U1965	U1965	A1886	A1886	G1806	C1725	A1559	C1558	U1438	C1353	G1260	G1175	G1080	G
C	C	A2074	U1966	U1887	U1887	C1810	G1725	A1561	U	U1439	C1354	C1261	A1177	A1082	C
A	A	A2081	A1969	U1888	C1888	U1813	G1728	C1642	U1561	U1440	C1360	G1265	U1180	A1086	A
C	C	G2082	G1970	C1889	C1889	G1813	A1729	C1643	C1562	U1441	C1361	G1266	A1181	G1087	C
U	U	A2083	U1972	C1894	C1894	C1818	G1730	U1645	U1563	U1442	C1362	C1268	A1182	A1088	G
G	G	C2084	A1973	A1895	A1895	G1819	G1731	G1646	C1564	U1443	C1363	G1269	C1183	U1095	U1003
C	C	A2085	G1974	U1896	U1896	G1820	C1734	G1647	C1565	U1444	C1364	U1270	C1184	A1005	G1004
A	A	C2088	A1978	U1897	U1897	A1821	C1734	C1651	C1566	C1439	C1365	U1279	C1185	A1006	A1007
U	U	A2089	G1979	C1898	C1898	U1822	C1735	C1652	C1567	C1440	C1366	C1287	C1186	A1008	A1007
C	C	G2090	U1980	C1899	C1899	A1825	A1736	C1653	C1570	U1441	C1367	A1288	C1187	G1110	U1109
C	C	G2091	C1983	G1902	G1902	C1826	C1738	U1654	G1571	U1442	C1368	C1289	C1188	G1116	U1116
A	A	G2092	U1983	U1903	U1903	G1827	C1738	G1655	A1572	U1443	C1369	C1290	C1189	G1117	C1010
U	U	C2093	U1986	A1904	A1904	G1828	U1741	A1656	A1573	U1444	C1370	C1291	C1190	A1117	G1011
C	C	A2095	U1996	A1909	A1909	A1829	A1742	A1657	C1574	U1445	C1371	C1292	C1191	A1118	A1012
C	C	G2096	C1999	A1910	A1910	C1834	G1743	A1658	U1580	U1446	C1372	C1293	C1192	G1119	A1013
G	G	G2097	C1911	C1911	C1911	U1835	G1743	G1660	U1581	U1447	C1373	A1294	C1193	U1120	C1015
U	U	A2100	U2004	C1916	C1916	U1835	U1749	A1661	U1583	U1448	C1374	U1298	C1201	G1121	U1016
C	C	A2101	G2005	C1917	C1917	A1839	C1750	C1666	U1586	U1449	C1375	U1299	U1205	A1021	G1021
G	G	G2102	A2007	U1918	U1918	A1840	G1751	A1667	U1587	U1450	C1376	G1300	U1206	A1022	A1022
C	C	A2103	U2008	C1919	C1919	C1844	G1752	U1668	G1588	U1451	C1377	U1304	U1207	U1125	C1023
G	G	C2104	G2009	A1920	A1920	A1845	A1754	G1669	G1589	U1452	C1378	C1305	C1208	C1126	G1024
C	C	C2105	A2011	A1921	A1921	U1846	A1755	G1670	U1590	U1453	C1379	C1306	C1209	C1127	C1025
A	A	C2106	A2011	A1922	A1922	U1847	A1755	C1671	G1592	U1454	C1380	U1307	G1210	U1128	G1026
U	U	U2012	U2012	A1923	A1923	U1848	A1759	C1672	C1594	U1455	C1381	A1308	G1211	G1129	G1027
C	C	A2013	G2013	A1924	A1924	G1848	G1760	C1673	C1595	U1456	C1382	A1309	G1212	U1038	U1038
C	C	G2014	G2014	U1850	U1850	U1850	G1761	C1674	G1596	U1457	C1383	G1311	C1213	U1029	U1029
C	C	G2111	A2015	G1925	G1925	C1851	C1762	C1680	A1597	U1506	A1407	G1312	A1215	A1133	C1044
C	C	G2237													



- Molecule 2: 5S ribosomal RNA

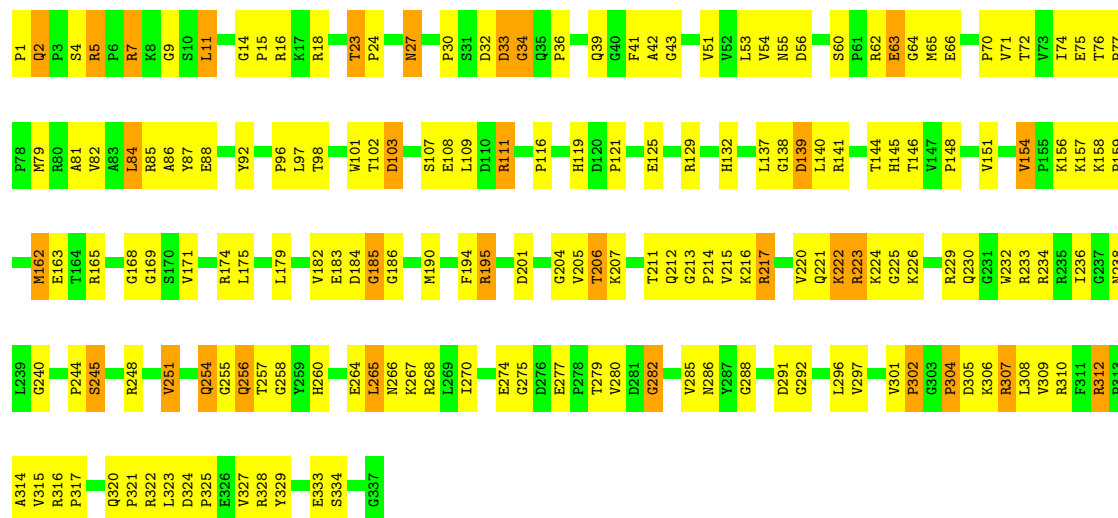


- Molecule 3: 50S ribosomal protein L2P

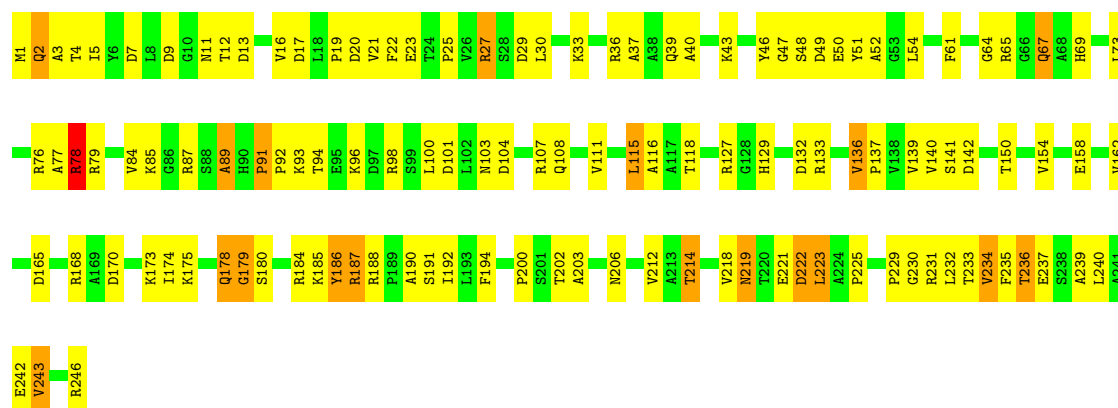




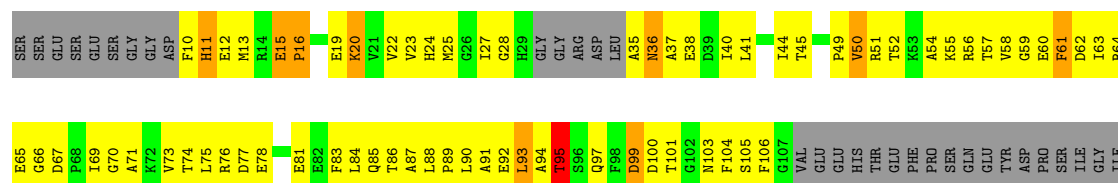
- Molecule 4: 50S ribosomal protein L3P



- Molecule 5: 50S ribosomal protein L4E

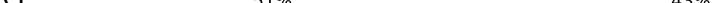


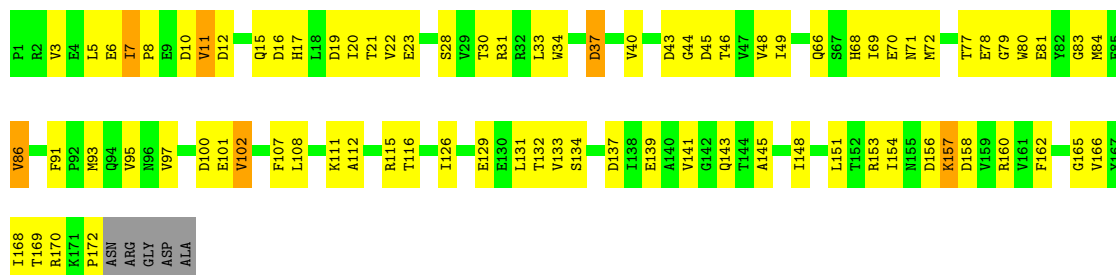
- Molecule 6: 50S ribosomal protein L5P





- Molecule 7: 50S ribosomal protein L6P

Chain G:  51% 43% . .



- Molecule 8: 50S ribosomal protein L7Ae

Chain H: 50% 45% .



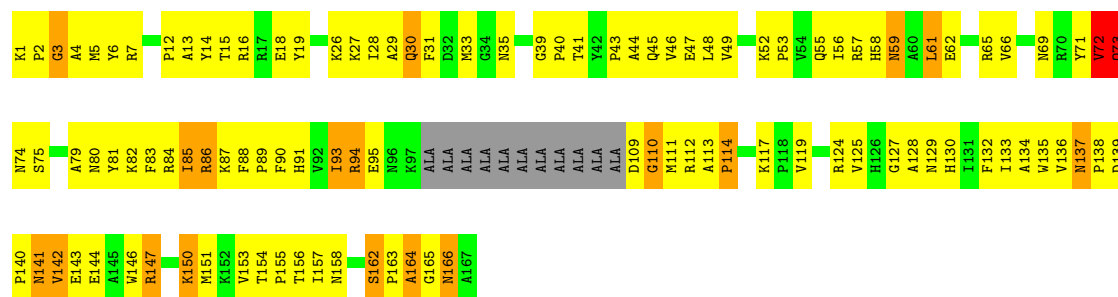
- Molecule 9: Acidic ribosomal protein P0 homolog

Chain I: 5% 92%



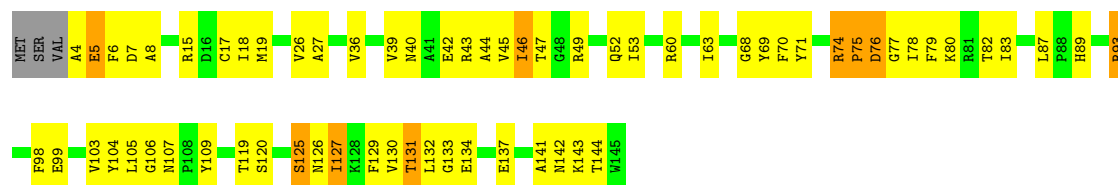
- Molecule 10: 50S ribosomal protein L10e

Chain J: 29% 52% 11% • 7%



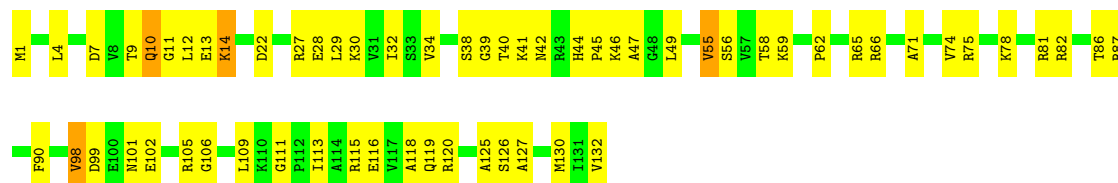
• Molecule 11: 50S ribosomal protein L13P

Chain K: 53% 39% 6% .



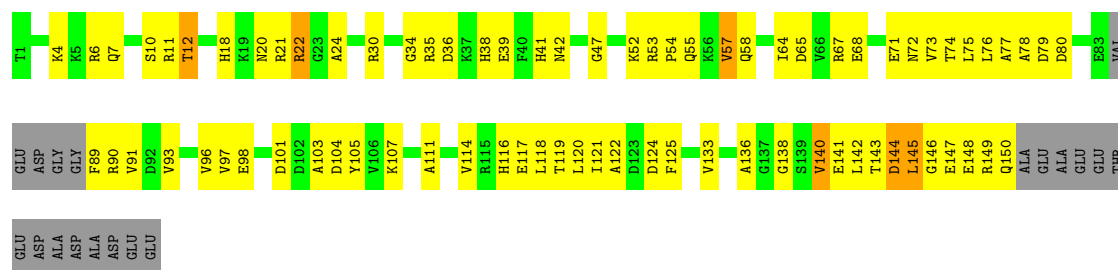
• Molecule 12: 50S ribosomal protein L14P

Chain L: 54% 43% .



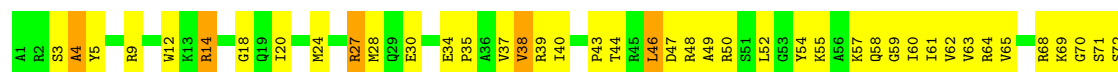
• Molecule 13: 50S ribosomal protein L15P

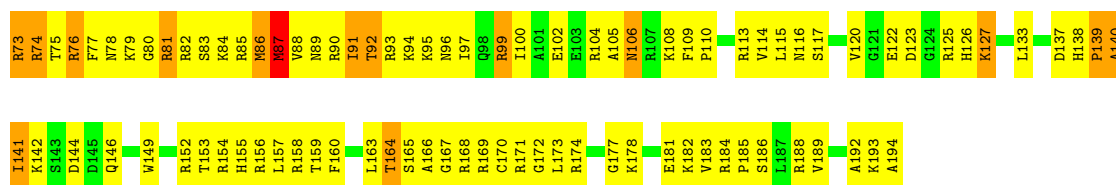
Chain M: 41% 43% 12% .



• Molecule 14: 50S ribosomal protein L15E

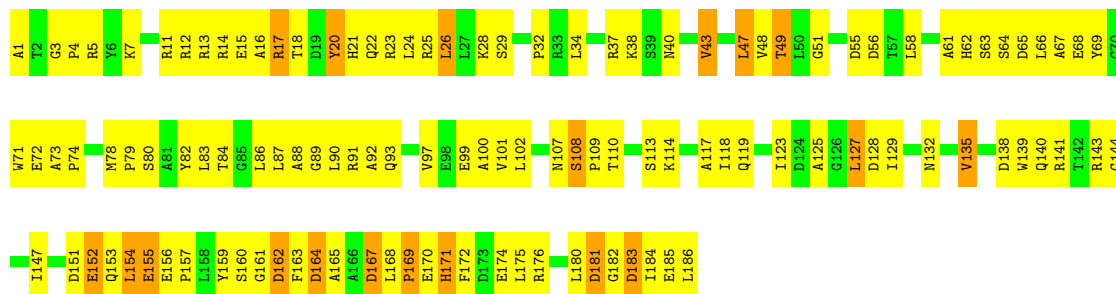
Chain N: 32% 57% 10% .





• Molecule 15: 50S ribosomal protein L18P

Chain O: 35% 54% 10%



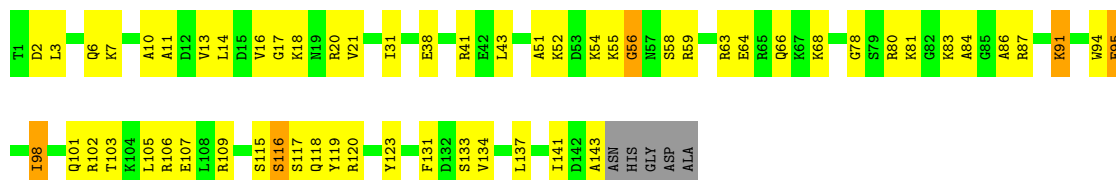
• Molecule 16: 50S ribosomal protein L18E

Chain P: 66% 32% .



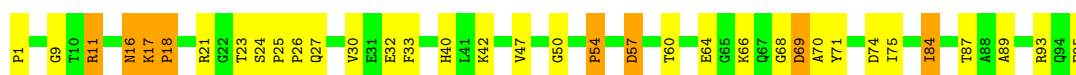
• Molecule 17: 50S ribosomal protein L19E

Chain Q: 57% 36% . .



• Molecule 18: 50S ribosomal protein L21e

Chain R: 63% 28% 8%



• Molecule 19: 50S ribosomal protein L22P

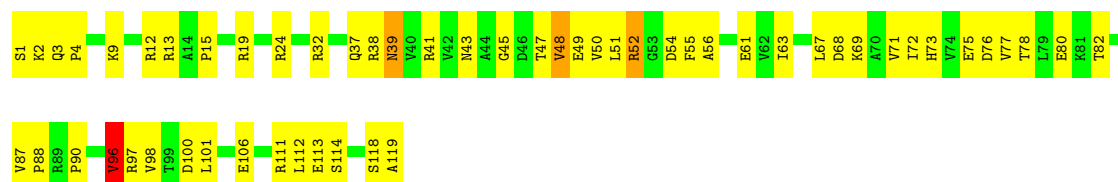
Chain S: 56% 37% . . .



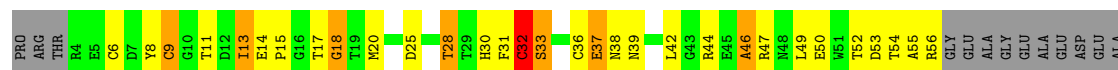
- Molecule 20: 50S ribosomal protein L23P



- Molecule 21: 50S ribosomal protein L24P



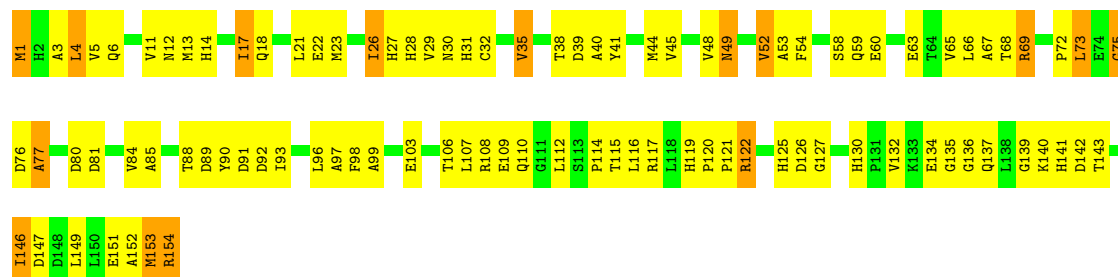
- Molecule 22: 50S ribosomal protein L24E



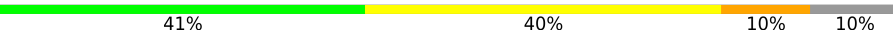
- Molecule 23: 50S ribosomal protein L29P

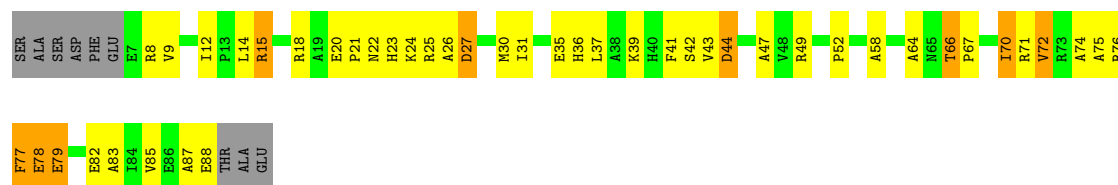


- Molecule 24: 50S ribosomal protein L30P

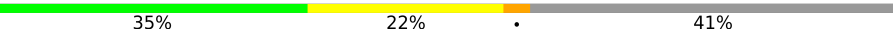


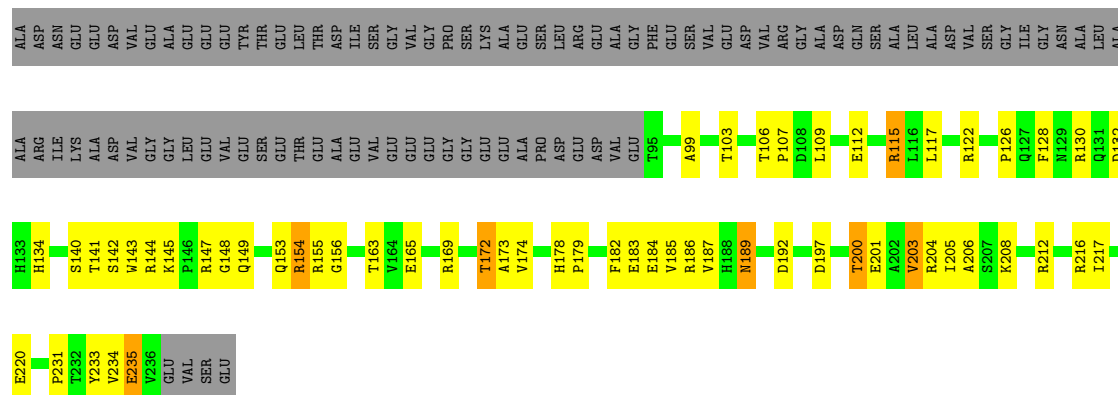
- Molecule 25: 50S ribosomal protein L31E

Chain Y: 



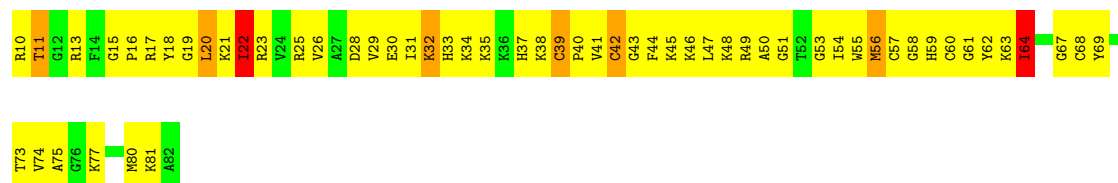
- Molecule 26: 50S ribosomal protein L32E

Chain Z: 



- Molecule 27: 50S ribosomal protein L37AE

Chain 1: 



- Molecule 28: 50S ribosomal protein L37e

Chain 2: 

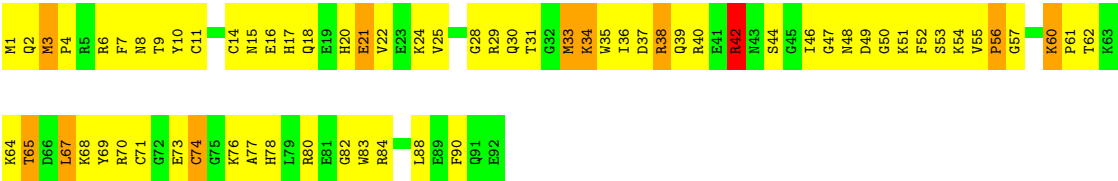
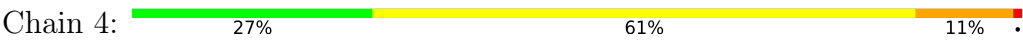


- Molecule 29: 50S ribosomal protein L39e

Chain 3: 



● Molecule 30: 50S ribosomal protein L44E



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	212.90Å 300.47Å 575.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.00	Depositor
% Data completeness (in resolution range)	94.6 (20.00-3.00)	Depositor
R_{merge}	0.14	Depositor
R_{sym}	0.14	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.201 , 0.242	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	98569	wwPDB-VP
Average B, all atoms (Å ²)	43.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: NA, CL, MG, VIR, CD, K

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$
1	A	0.49	5/66076 (0.0%)	0.73	44/103052 (0.0%)
2	B	0.72	8/2905 (0.3%)	0.89	14/4528 (0.3%)
3	C	0.58	1/1787 (0.1%)	1.12	11/2409 (0.5%)
4	D	0.54	0/2689	1.11	19/3652 (0.5%)
5	E	0.61	0/1883	1.12	11/2551 (0.4%)
6	F	0.47	0/1111	0.98	7/1498 (0.5%)
7	G	0.54	0/1382	0.98	7/1880 (0.4%)
8	H	0.49	0/896	0.97	3/1219 (0.2%)
9	I	0.47	0/241	0.82	0/324
10	J	0.62	0/1246	1.33	15/1686 (0.9%)
11	K	0.58	0/1135	1.04	5/1530 (0.3%)
12	L	0.55	0/1003	1.13	8/1351 (0.6%)
13	M	0.50	0/1126	1.13	11/1504 (0.7%)
14	N	0.80	3/1633 (0.2%)	1.29	19/2180 (0.9%)
15	O	0.52	0/1473	1.17	14/1999 (0.7%)
16	P	0.55	0/873	1.06	7/1181 (0.6%)
17	Q	0.55	0/1143	0.99	2/1521 (0.1%)
18	R	0.57	0/748	1.18	7/1005 (0.7%)
19	S	0.60	0/1172	1.11	10/1578 (0.6%)
20	T	0.50	0/648	1.01	4/875 (0.5%)
21	U	0.49	0/957	1.08	5/1289 (0.4%)
22	V	0.95	1/417 (0.2%)	1.23	5/562 (0.9%)
23	W	0.50	0/502	1.05	2/675 (0.3%)
24	X	0.72	2/1218 (0.2%)	1.07	5/1655 (0.3%)
25	Y	0.60	0/664	1.08	2/895 (0.2%)
26	Z	0.58	0/1146	1.06	4/1536 (0.3%)
27	1	0.94	1/575 (0.2%)	1.28	7/763 (0.9%)
28	2	0.66	0/437	1.14	4/578 (0.7%)
29	3	0.56	0/398	0.87	0/527
30	4	1.19	2/771 (0.3%)	1.16	5/1024 (0.5%)
All	All	0.54	23/98255 (0.0%)	0.85	257/147027 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	1	157
2	B	0	4
All	All	1	161

All (23) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	3003	A	O5'-C5'	9.09	1.56	1.42
1	A	2488	A	O5'-C5'	-9.02	1.28	1.42
2	B	3024	U	O5'-C5'	8.96	1.55	1.42
30	4	33	MET	SD-CE	7.74	1.98	1.79
2	B	3019	G	O5'-C5'	7.51	1.53	1.42
2	B	3025	G	C2'-O2'	-7.14	1.31	1.42
1	A	2104	C	O5'-C5'	7.12	1.53	1.42
1	A	2621	U	O5'-C5'	-7.07	1.31	1.42
2	B	3023	U	O5'-C5'	6.33	1.51	1.42
2	B	3023	U	C4'-O4'	6.14	1.54	1.45
22	V	13	ILE	CA-CB	6.01	1.61	1.54
3	C	194	MET	SD-CE	-5.98	1.64	1.79
24	X	153	MET	SD-CE	-5.89	1.64	1.79
27	1	22	ILE	CA-CB	5.86	1.60	1.54
30	4	3	MET	SD-CE	5.77	1.94	1.79
14	N	86	MET	SD-CE	5.72	1.93	1.79
14	N	87	MET	CA-C	5.66	1.59	1.52
14	N	76	ARG	CA-C	5.48	1.59	1.52
24	X	1	MET	SD-CE	-5.21	1.66	1.79
2	B	3026	C	O5'-C5'	-5.11	1.34	1.42
1	A	2619	U	C2'-O2'	-5.07	1.34	1.42
1	A	2619	U	C4'-O4'	5.03	1.53	1.45
2	B	3023	U	C4'-C3'	5.03	1.60	1.52

All (257) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1164	U	OP2-P-O3'	-14.62	64.14	108.00
1	A	1164	U	OP1-P-O3'	-14.27	65.19	108.00
1	A	1979	G	C2'-C3'-O3'	14.26	130.90	109.50
1	A	1563	G	C2'-C3'-O3'	14.05	130.58	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	N	141	ILE	N-CA-C	-13.73	100.78	111.90
10	J	141	ASN	N-CA-C	-12.82	97.73	113.50
15	O	135	VAL	N-CA-C	-12.52	100.96	113.10
10	J	74	ASN	N-CA-C	-11.96	94.98	113.89
2	B	3023	U	C3'-C2'-O2'	10.79	126.88	110.70
10	J	137	ASN	N-CA-C	-10.28	98.31	110.13
2	B	3025	G	C3'-C2'-O2'	10.01	125.72	110.70
3	C	48	ASP	CA-C-N	9.32	129.07	119.56
3	C	48	ASP	C-N-CA	9.32	129.07	119.56
5	E	175	LYS	N-CA-C	9.08	122.04	110.24
10	J	156	THR	N-CA-C	-9.06	97.06	110.48
4	D	157	LYS	N-CA-C	-8.69	103.27	114.04
1	A	1563	G	C4'-C3'-O3'	8.60	122.29	109.40
14	N	74	ARG	N-CA-C	8.56	123.01	108.02
4	D	265	LEU	N-CA-C	8.43	122.39	110.50
6	F	136	ARG	CA-C-N	8.30	130.21	119.84
6	F	136	ARG	C-N-CA	8.30	130.21	119.84
8	H	62	HIS	N-CA-C	8.24	121.38	111.82
7	G	11	VAL	N-CA-C	8.21	121.93	109.20
1	A	1942	A	C5'-C4'-C3'	8.21	128.31	116.00
10	J	147	ARG	N-CA-C	-8.17	102.31	111.71
2	B	3024	U	C4'-C3'-O3'	8.05	125.07	113.00
4	D	154	VAL	CA-C-N	7.80	127.36	119.24
4	D	154	VAL	C-N-CA	7.80	127.36	119.24
4	D	230	GLN	N-CA-C	7.67	120.72	111.82
13	M	57	VAL	N-CA-C	-7.61	105.43	112.43
12	L	111	GLY	CA-C-N	7.61	127.56	120.03
12	L	111	GLY	C-N-CA	7.61	127.56	120.03
27	1	64	ILE	N-CA-C	7.53	120.33	108.89
14	N	139	PRO	N-CA-C	-7.52	99.69	111.34
2	B	3023	U	C5'-C4'-C3'	7.47	127.21	116.00
15	O	169	PRO	N-CA-C	-7.41	104.27	114.27
25	Y	22	ASN	N-CA-C	7.40	120.28	111.33
14	N	73	ARG	N-CA-C	-7.32	93.37	107.57
14	N	87	MET	N-CA-C	7.25	120.46	110.24
24	X	75	GLY	N-CA-C	7.08	119.26	112.04
2	B	3023	U	C4'-C3'-O3'	7.07	123.61	113.00
28	2	3	ALA	N-CA-C	-7.04	104.68	113.20
28	2	43	ALA	N-CA-C	-7.03	103.70	111.36
23	W	42	ASN	CA-C-N	7.02	128.62	119.84
23	W	42	ASN	C-N-CA	7.02	128.62	119.84
2	B	3023	U	O4'-C4'-C3'	-7.00	97.00	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	N	91	ILE	N-CA-C	-6.98	99.91	109.55
30	4	60	LYS	N-CA-C	-6.97	101.29	110.07
18	R	47	VAL	CA-C-N	6.95	128.53	119.84
18	R	47	VAL	C-N-CA	6.95	128.53	119.84
26	Z	183	GLU	N-CA-C	-6.95	98.29	109.96
13	M	7	GLN	N-CA-C	6.91	119.83	111.82
2	B	3023	U	C2'-C3'-O3'	-6.87	103.40	113.70
1	A	2432	C	N1-C1'-C2'	6.82	122.23	112.00
22	V	33	SER	N-CA-C	6.81	119.22	108.79
14	N	70	GLY	N-CA-C	6.81	125.35	112.62
15	O	102	LEU	N-CA-C	6.80	119.21	108.67
3	C	207	GLN	N-CA-C	6.75	119.28	108.41
1	A	2104	C	C3'-C2'-O2'	6.75	120.82	110.70
18	R	17	LYS	N-CA-C	-6.72	101.29	109.83
14	N	92	THR	N-CA-C	-6.70	99.12	109.24
19	S	137	ASN	N-CA-C	6.70	120.52	110.14
30	4	55	VAL	CA-C-N	6.68	128.20	119.84
30	4	55	VAL	C-N-CA	6.68	128.20	119.84
20	T	4	VAL	N-CA-C	6.59	116.73	110.53
10	J	1	LYS	CA-C-N	6.59	126.51	119.85
10	J	1	LYS	C-N-CA	6.59	126.51	119.85
15	O	153	GLN	N-CA-C	-6.57	103.78	112.72
6	F	100	ASP	N-CA-C	-6.56	105.28	113.28
19	S	34	GLU	N-CA-C	6.53	118.40	111.28
19	S	141	VAL	N-CA-C	6.51	117.97	108.53
5	E	179	GLY	N-CA-C	-6.51	104.61	113.27
1	A	129	A	C2'-C3'-O3'	6.50	123.45	113.70
4	D	213	GLY	CA-C-N	6.46	126.22	119.05
4	D	213	GLY	C-N-CA	6.46	126.22	119.05
5	E	64	GLY	N-CA-C	6.45	120.48	113.58
28	2	11	LYS	N-CA-C	6.43	119.61	109.39
2	B	3003	A	C5'-C4'-C3'	6.41	124.82	115.20
16	P	79	VAL	N-CA-C	-6.41	104.24	110.72
15	O	117	ALA	N-CA-C	-6.39	104.24	111.14
8	H	111	ILE	N-CA-C	-6.37	104.13	110.62
22	V	18	GLY	N-CA-C	6.34	122.19	112.81
19	S	82	GLU	N-CA-C	6.32	118.25	111.36
18	R	84	ILE	N-CA-C	6.32	116.96	107.80
5	E	78	ARG	N-CA-C	6.31	117.73	108.14
1	A	2618	G	C1'-C2'-O2'	-6.30	98.95	108.40
2	B	3039	U	N1-C1'-C2'	6.28	121.42	112.00
14	N	75	THR	CB-CA-C	-6.24	100.48	109.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	834	G	C2'-C3'-O3'	-6.24	104.35	113.70
15	O	13	ARG	N-CA-C	-6.22	105.35	113.12
1	A	2484	U	C3'-C2'-O2'	-6.20	105.30	114.60
19	S	3	SER	N-CA-C	-6.15	99.96	109.24
3	C	8	ARG	N-CA-C	-6.14	104.50	111.07
1	A	2419	U	N1-C1'-C2'	6.13	121.20	112.00
10	J	155	PRO	N-CA-C	6.13	119.80	111.22
16	P	69	VAL	N-CA-C	6.09	117.25	108.48
1	A	1120	U	C5'-C4'-C3'	-6.08	106.88	116.00
1	A	389	G	C5'-C4'-C3'	-6.07	106.89	116.00
16	P	82	SER	N-CA-C	-6.01	102.60	110.53
1	A	1359	U	N1-C1'-C2'	6.01	121.01	112.00
13	M	42	ASN	N-CA-C	5.99	119.82	111.74
2	B	3025	G	C4'-C3'-C2'	-5.99	96.61	102.60
14	N	4	ALA	N-CA-C	-5.98	104.76	111.28
4	D	23	THR	CA-C-N	5.97	125.93	119.78
4	D	23	THR	C-N-CA	5.97	125.93	119.78
7	G	157	LYS	N-CA-C	5.96	119.27	109.85
2	B	3039	U	C4'-C3'-O3'	-5.95	104.07	113.00
15	O	20	TYR	N-CA-C	5.95	118.72	111.82
3	C	118	PHE	N-CA-C	5.86	119.64	110.32
1	A	1561	U	O5'-C5'-C4'	5.86	120.29	111.50
27	1	32	LYS	CA-C-N	5.85	128.12	120.28
27	1	32	LYS	C-N-CA	5.85	128.12	120.28
1	A	1592	G	N9-C1'-C2'	5.85	120.77	112.00
5	E	91	PRO	CA-C-N	5.84	125.77	119.76
5	E	91	PRO	C-N-CA	5.84	125.77	119.76
13	M	145	LEU	N-CA-C	-5.83	105.00	111.36
1	A	2012	U	N1-C1'-C2'	5.81	120.71	112.00
1	A	1450	C	C2'-C3'-O3'	-5.79	105.02	113.70
26	Z	203	VAL	N-CA-C	5.78	116.91	108.53
1	A	2726	U	N1-C1'-C2'	5.78	120.67	112.00
12	L	14	LYS	N-CA-C	-5.77	101.30	109.96
1	A	1839	A	C4'-C3'-O3'	-5.77	104.34	113.00
19	S	18	LEU	N-CA-C	-5.77	100.30	109.59
4	D	223	ARG	N-CA-C	-5.76	102.75	110.24
10	J	73	GLN	N-CA-C	-5.75	103.41	110.65
13	M	12	THR	N-CA-C	5.75	119.91	113.02
15	O	108	SER	CA-C-N	5.73	127.01	119.84
15	O	108	SER	C-N-CA	5.73	127.01	119.84
10	J	114	PRO	N-CA-C	5.73	121.51	114.35
1	A	1165	G	N9-C1'-C2'	5.72	120.58	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	Q	95	GLU	N-CA-C	-5.71	105.14	111.36
14	N	90	ARG	N-CA-C	5.69	120.22	113.16
1	A	138	U	C2'-C3'-O3'	-5.69	105.17	113.70
11	K	75	PRO	N-CA-C	-5.68	106.76	113.86
21	U	87	VAL	CA-C-N	5.68	125.63	119.78
21	U	87	VAL	C-N-CA	5.68	125.63	119.78
5	E	219	ASN	N-CA-C	5.67	118.03	109.41
18	R	68	GLY	N-CA-C	-5.66	101.34	110.95
4	D	151	VAL	CA-C-N	5.64	125.32	119.05
4	D	151	VAL	C-N-CA	5.64	125.32	119.05
24	X	143	THR	N-CA-C	-5.64	105.22	111.71
24	X	49	ASN	N-CA-C	5.63	122.78	110.80
15	O	51	GLY	CA-C-N	5.62	125.73	119.32
15	O	51	GLY	C-N-CA	5.62	125.73	119.32
3	C	56	ALA	N-CA-C	5.61	118.39	109.24
1	A	920	C	C2'-C3'-O3'	-5.61	105.29	113.70
1	A	1504	A	C4'-C3'-O3'	-5.58	104.62	113.00
4	D	222	LYS	N-CA-C	-5.57	101.78	110.42
3	C	133	ARG	N-CA-C	-5.57	106.33	113.23
1	A	1559	A	C2'-C3'-O3'	5.56	122.04	113.70
1	A	1738	C	O4'-C4'-C3'	-5.56	98.44	104.00
20	T	27	ALA	N-CA-C	-5.55	99.69	108.73
18	R	57	ASP	N-CA-C	-5.54	102.44	110.24
1	A	2664	A	N9-C1'-C2'	5.53	120.30	112.00
22	V	32	CYS	N-CA-C	-5.51	106.39	113.23
5	E	186	TYR	N-CA-C	5.51	118.62	110.46
1	A	1911	C	C3'-C2'-O2'	5.51	118.96	110.70
6	F	151	ILE	CA-C-N	5.50	125.43	119.76
6	F	151	ILE	C-N-CA	5.50	125.43	119.76
19	S	122	GLN	N-CA-C	-5.50	99.55	108.41
3	C	213	LYS	N-CA-C	5.47	119.22	112.54
12	L	78	LYS	CA-C-N	5.47	125.38	119.85
12	L	78	LYS	C-N-CA	5.47	125.38	119.85
20	T	57	THR	N-CA-C	5.46	118.57	110.48
4	D	251	VAL	CA-C-N	5.46	126.67	119.84
4	D	251	VAL	C-N-CA	5.46	126.67	119.84
10	J	154	THR	N-CA-C	5.46	120.97	113.77
22	V	37	GLU	N-CA-C	-5.40	105.30	111.07
8	H	39	SER	N-CA-C	-5.39	105.09	110.97
11	K	44	ALA	N-CA-C	-5.38	103.79	110.41
30	4	42	ARG	N-CA-C	5.37	117.56	111.11
1	A	1723	G	C4'-C3'-O3'	-5.37	104.95	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	M	96	VAL	CB-CA-C	-5.36	105.47	111.80
16	P	43	VAL	N-CA-C	5.36	115.68	108.17
4	D	111	ARG	N-CA-C	-5.36	106.70	113.18
10	J	7	ARG	N-CA-C	5.33	119.41	113.01
26	Z	143	TRP	N-CA-C	5.32	117.94	109.96
1	A	2096	A	N9-C1'-C2'	5.32	119.98	112.00
14	N	106	ASN	N-CA-C	5.31	117.07	111.28
12	L	46	LYS	N-CA-C	5.31	118.39	109.95
2	B	3103	A	C4'-C3'-C2'	-5.29	97.31	102.60
14	N	14	ARG	CA-C-N	5.29	126.45	119.84
14	N	14	ARG	C-N-CA	5.29	126.45	119.84
24	X	69	ARG	N-CA-C	5.29	119.50	112.30
25	Y	79	GLU	N-CA-C	5.28	119.72	113.28
1	A	1504	A	C1'-O4'-C4'	-5.28	104.62	109.90
15	O	138	ASP	N-CA-C	5.28	119.41	111.81
21	U	52	ARG	N-CA-C	5.27	122.03	110.80
28	2	21	ARG	N-CA-C	5.27	119.62	112.04
10	J	3	GLY	N-CA-C	-5.26	106.32	113.37
19	S	9	ASP	CA-C-N	5.26	124.93	119.56
19	S	9	ASP	C-N-CA	5.26	124.93	119.56
7	G	37	ASP	N-CA-C	5.26	119.65	113.23
3	C	166	ASP	N-CA-C	5.26	117.76	111.71
15	O	165	ALA	N-CA-C	-5.26	106.92	113.55
27	1	32	LYS	N-CA-C	-5.26	105.63	111.36
7	G	48	VAL	N-CA-C	5.25	115.47	108.11
14	N	127	LYS	N-CA-C	-5.25	99.03	108.48
27	1	56	MET	CA-C-N	-5.25	115.70	123.05
27	1	56	MET	C-N-CA	-5.25	115.70	123.05
1	A	2914	A	C2'-C3'-O3'	5.24	121.56	113.70
13	M	20	ASN	N-CA-C	5.23	119.56	111.56
1	A	470	U	N1-C1'-C2'	5.22	119.84	112.00
27	1	39	CYS	N-CA-C	5.22	117.10	109.84
5	E	89	ALA	N-CA-C	5.21	117.37	111.11
1	A	2291	A	N9-C1'-C2'	5.21	119.81	112.00
21	U	78	THR	N-CA-C	5.20	116.20	108.86
7	G	112	ALA	CA-C-N	5.20	125.36	119.90
7	G	112	ALA	C-N-CA	5.20	125.36	119.90
11	K	68	GLY	N-CA-C	5.18	119.12	112.18
13	M	144	ASP	N-CA-C	-5.18	105.71	111.36
1	A	2121	G	C4'-C3'-O3'	-5.17	105.24	113.00
4	D	217	ARG	N-CA-C	5.17	117.00	111.36
4	D	282	GLY	N-CA-C	-5.17	108.54	114.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	Q	56	GLY	N-CA-C	-5.16	103.01	110.90
19	S	76	ASP	N-CA-C	5.16	119.03	112.12
12	L	55	VAL	N-CA-C	5.15	117.45	108.90
10	J	93	ILE	N-CA-C	5.15	115.32	108.11
1	A	2313	C	C5'-C4'-C3'	5.15	123.72	116.00
3	C	135	VAL	N-CA-C	5.14	115.89	108.48
10	J	110	GLY	N-CA-C	-5.14	101.00	113.18
13	M	22	ARG	CB-CA-C	-5.13	109.05	116.54
14	N	74	ARG	CA-C-N	5.13	128.39	121.05
14	N	74	ARG	C-N-CA	5.13	128.39	121.05
15	O	171	HIS	N-CA-C	-5.13	105.81	111.71
11	K	71	TYR	CA-C-N	5.12	125.06	119.78
11	K	71	TYR	C-N-CA	5.12	125.06	119.78
16	P	35	LYS	CA-C-N	5.11	125.39	119.93
16	P	35	LYS	C-N-CA	5.11	125.39	119.93
12	L	71	ALA	N-CA-C	5.10	116.56	108.96
13	M	47	GLY	N-CA-C	5.10	117.25	111.85
2	B	3002	U	C4'-C3'-O3'	5.09	117.04	109.40
21	U	96	VAL	N-CA-C	5.09	117.15	108.86
2	B	3026	C	C3'-C2'-O2'	5.08	118.32	110.70
6	F	15	GLU	CA-C-N	5.08	126.19	119.84
6	F	15	GLU	C-N-CA	5.08	126.19	119.84
30	4	67	LEU	N-CA-C	5.08	117.58	109.81
14	N	100	ILE	N-CA-C	-5.07	105.56	110.42
5	E	9	ASP	N-CA-C	-5.06	107.49	113.97
24	X	17	ILE	N-CA-C	-5.06	106.22	111.58
26	Z	140	SER	N-CA-C	5.06	117.06	110.53
14	N	27	ARG	N-CA-C	5.06	117.19	111.02
4	D	109	LEU	N-CA-C	-5.05	106.63	112.89
13	M	91	VAL	N-CA-C	5.05	115.39	108.12
1	A	1524	U	C2'-C3'-O3'	5.05	117.07	109.50
7	G	70	GLU	N-CA-C	-5.04	105.78	111.28
20	T	4	VAL	CB-CA-C	-5.04	105.41	112.02
22	V	46	ALA	N-CA-C	5.04	118.20	111.75
1	A	603	A	N9-C1'-C2'	5.03	121.55	114.00
1	A	1819	G	C5'-C4'-C3'	5.03	123.55	116.00
3	C	138	VAL	N-CA-C	5.03	115.15	108.11
1	A	2619	U	C3'-C2'-O2'	5.03	118.24	110.70
5	E	178	GLN	N-CA-C	5.03	119.17	113.19
18	R	69	ASP	N-CA-C	-5.01	107.01	113.23
1	A	1419	U	N1-C1'-C2'	5.01	119.51	112.00
1	A	1189	A	N9-C1'-C2'	5.00	119.50	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	P	66	GLY	N-CA-C	5.00	125.03	113.18

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1563	G	C3'

All (161) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1007	A	Sidechain
1	A	1012	A	Sidechain
1	A	1023	C	Sidechain
1	A	1027	G	Sidechain
1	A	1053	G	Sidechain
1	A	1055	G	Sidechain
1	A	1123	A	Sidechain
1	A	1125	U	Sidechain
1	A	1127	C	Sidechain
1	A	1136	U	Sidechain
1	A	1143	G	Sidechain
1	A	115	U	Sidechain
1	A	1206	U	Sidechain
1	A	1226	G	Sidechain
1	A	1260	G	Sidechain
1	A	1291	A	Sidechain
1	A	1300	G	Sidechain
1	A	1306	U	Sidechain
1	A	1362	U	Sidechain
1	A	1367	A	Sidechain
1	A	1368	U	Sidechain
1	A	1376	G	Sidechain
1	A	1377	C	Sidechain
1	A	1412	U	Sidechain
1	A	1417	G	Sidechain
1	A	1443	G	Sidechain
1	A	1478	U	Sidechain
1	A	1503	U	Sidechain
1	A	1531	U	Sidechain
1	A	1547	A	Sidechain
1	A	1595	G	Sidechain
1	A	1614	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1635	U	Sidechain
1	A	1645	U	Sidechain
1	A	1647	G	Sidechain
1	A	1654	U	Sidechain
1	A	166	A	Sidechain
1	A	1681	G	Sidechain
1	A	1688	G	Sidechain
1	A	1706	G	Sidechain
1	A	171	C	Sidechain
1	A	1736	A	Sidechain
1	A	1748	U	Sidechain
1	A	1750	C	Sidechain
1	A	1752	G	Sidechain
1	A	176	U	Sidechain
1	A	1777	G	Sidechain
1	A	178	U	Sidechain
1	A	1822	A	Sidechain
1	A	1825	U	Sidechain
1	A	1826	C	Sidechain
1	A	1835	U	Sidechain
1	A	1844	C	Sidechain
1	A	1845	A	Sidechain
1	A	1848	G	Sidechain
1	A	1851	G	Sidechain
1	A	1861	C	Sidechain
1	A	1878	G	Sidechain
1	A	191	A	Sidechain
1	A	1943	C	Sidechain
1	A	197	C	Sidechain
1	A	1972	U	Sidechain
1	A	2023	G	Sidechain
1	A	2034	U	Sidechain
1	A	2035	C	Sidechain
1	A	2041	G	Sidechain
1	A	2053	G	Sidechain
1	A	2063	U	Sidechain
1	A	2068	G	Sidechain
1	A	2082	G	Sidechain
1	A	2092	G	Sidechain
1	A	2097	G	Sidechain
1	A	2101	A	Sidechain
1	A	2102	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	214	U	Sidechain
1	A	22	U	Sidechain
1	A	223	G	Sidechain
1	A	224	U	Sidechain
1	A	225	G	Sidechain
1	A	23	G	Sidechain
1	A	2300	A	Sidechain
1	A	2308	U	Sidechain
1	A	2312	G	Sidechain
1	A	2313	C	Sidechain
1	A	2325	C	Sidechain
1	A	2399	G	Sidechain
1	A	2412	G	Sidechain
1	A	2419	U	Sidechain
1	A	2421	G	Sidechain
1	A	2433	A	Sidechain
1	A	2438	G	Sidechain
1	A	2453	G	Sidechain
1	A	2458	U	Sidechain
1	A	2480	G	Sidechain
1	A	2486	A	Sidechain
1	A	2492	U	Sidechain
1	A	2493	C	Sidechain
1	A	2503	A	Sidechain
1	A	2506	A	Sidechain
1	A	2526	C	Sidechain
1	A	2551	C	Sidechain
1	A	2554	U	Sidechain
1	A	26	U	Sidechain
1	A	2630	G	Sidechain
1	A	2673	U	Sidechain
1	A	2692	G	Sidechain
1	A	2712	G	Sidechain
1	A	2722	G	Sidechain
1	A	2738	G	Sidechain
1	A	2747	C	Sidechain
1	A	2774	U	Sidechain
1	A	2790	C	Sidechain
1	A	2793	A	Sidechain
1	A	2811	A	Sidechain
1	A	2842	G	Sidechain
1	A	2891	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	315	G	Sidechain
1	A	32	G	Sidechain
1	A	323	C	Sidechain
1	A	33	G	Sidechain
1	A	333	G	Sidechain
1	A	395	A	Sidechain
1	A	396	U	Sidechain
1	A	434	U	Sidechain
1	A	44	G	Sidechain
1	A	460	A	Sidechain
1	A	486	A	Sidechain
1	A	500	G	Sidechain
1	A	502	A	Sidechain
1	A	55	U	Sidechain
1	A	552	A	Sidechain
1	A	603	A	Sidechain
1	A	635	A	Sidechain
1	A	664	U	Sidechain
1	A	668	C	Sidechain
1	A	701	U	Sidechain
1	A	722	G	Sidechain
1	A	743	G	Sidechain
1	A	751	U	Sidechain
1	A	753	U	Sidechain
1	A	759	C	Sidechain
1	A	768	U	Sidechain
1	A	782	G	Sidechain
1	A	816	G	Sidechain
1	A	818	A	Sidechain
1	A	826	U	Sidechain
1	A	854	G	Sidechain
1	A	862	U	Sidechain
1	A	864	U	Sidechain
1	A	869	G	Sidechain
1	A	873	G	Sidechain
1	A	881	C	Sidechain
1	A	888	U	Sidechain
1	A	893	C	Sidechain
1	A	918	G	Sidechain
1	A	950	G	Sidechain
1	A	954	U	Sidechain
2	B	3022	G	Sidechain

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Mol	Chain	Res	Type	Group
2	B	3023	U	Sidechain
2	B	3065	A	Sidechain
2	B	3099	U	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	A	59017	0	29801	1311	0
2	B	2600	0	1326	85	0
3	C	1754	0	1763	149	0
4	D	2624	0	2533	205	0
5	E	1858	0	1816	150	0
6	F	1094	0	1085	139	0
7	G	1357	0	1266	88	0
8	H	885	0	854	77	0
9	I	240	0	231	24	0
10	J	1215	0	1215	172	0
11	K	1119	0	1098	70	0
12	L	993	0	1027	65	0
13	M	1114	0	1072	82	0
14	N	1605	0	1676	221	0
15	O	1444	0	1401	152	0
16	P	864	0	873	30	0
17	Q	1133	0	1127	70	0
18	R	734	0	729	29	0
19	S	1149	0	1122	69	0
20	T	641	0	605	27	0
21	U	949	0	923	53	0
22	V	410	0	368	48	0
23	W	499	0	511	34	0
24	X	1195	0	1137	125	0
25	Y	654	0	653	47	0
26	Z	1130	0	1133	63	0
27	1	563	0	601	85	0
28	2	430	0	426	31	0
29	3	393	0	406	22	0
30	4	755	0	732	91	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	A	38	0	34	3	0
32	4	1	0	0	0	0
32	A	109	0	0	0	0
32	B	1	0	0	0	0
32	C	2	0	0	0	0
32	D	1	0	0	0	0
32	L	1	0	0	0	0
32	U	1	0	0	0	0
32	Z	1	0	0	0	0
33	A	1	0	0	0	0
34	4	1	0	0	0	0
34	A	71	0	0	0	0
34	B	2	0	0	0	0
34	C	1	0	0	0	0
34	E	1	0	0	0	0
34	J	2	0	0	0	0
34	K	1	0	0	0	0
34	M	1	0	0	0	0
34	N	1	0	0	0	0
34	R	1	0	0	0	0
34	S	2	0	0	0	0
34	T	1	0	0	0	0
34	U	1	0	0	0	0
35	4	1	0	0	1	0
35	A	8	0	0	0	0
35	C	1	0	0	0	0
35	D	1	0	0	0	0
35	K	3	0	0	1	0
35	L	1	0	0	0	0
35	M	1	0	0	2	0
35	N	1	0	0	2	0
35	O	1	0	0	1	0
35	P	1	0	0	0	0
35	S	1	0	0	0	0
35	Z	2	0	0	0	0
36	1	1	0	0	0	0
36	2	1	0	0	0	0
36	4	1	0	0	0	0
36	P	1	0	0	0	0
36	V	1	0	0	0	0
37	1	35	0	0	15	0
37	2	57	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	3	40	0	0	6	0
37	4	72	0	0	11	0
37	A	5881	0	0	303	0
37	B	146	0	0	21	0
37	C	135	0	0	16	0
37	D	141	0	0	34	0
37	E	178	0	0	46	0
37	F	49	0	0	18	0
37	G	43	0	0	11	0
37	H	30	0	0	11	0
37	I	21	0	0	7	0
37	J	76	0	0	23	0
37	K	55	0	0	6	0
37	L	64	0	0	19	0
37	M	85	0	0	24	0
37	N	141	0	0	36	0
37	O	67	0	0	20	0
37	P	45	0	0	10	0
37	Q	72	0	0	10	0
37	R	57	0	0	3	0
37	S	87	0	0	9	0
37	T	34	0	0	5	0
37	U	33	0	0	6	0
37	V	27	0	0	6	0
37	W	16	0	0	2	0
37	X	68	0	0	11	0
37	Y	27	0	0	5	0
37	Z	100	0	0	14	0
All	All	98569	0	59544	3489	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 23.

All (3489) 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)
10:J:86:ARG:NH1	10:J:133:ILE:HG13	1.52	1.20
10:J:165:GLY:HA3	37:J:8397:HOH:O	1.39	1.18
27:1:39:CYS:SG	27:1:47:LEU:HD21	1.84	1.17
14:N:87:MET:HG2	30:4:46:ILE:HG21	1.25	1.15
6:F:25:MET:HE2	6:F:41:LEU:HG	1.23	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:99:ALA:HB1	19:S:109:MET:HE1	1.25	1.13
21:U:71:VAL:HG11	21:U:90:PRO:HB3	1.31	1.11
5:E:236:THR:HG22	5:E:239:ALA:H	1.01	1.10
23:W:12:THR:HG22	23:W:15:GLU:HG3	1.30	1.10
27:1:46:LYS:HD3	27:1:59:HIS:HB2	1.33	1.09
1:A:1751:G:H2'	1:A:1752:G:H5''	1.34	1.09
4:D:162:MET:HE1	4:D:308:LEU:HD21	1.30	1.07
11:K:19:MET:HE3	11:K:132:LEU:HD11	1.26	1.07
5:E:115:LEU:HD13	5:E:223:LEU:HD21	1.35	1.06
10:J:86:ARG:HH11	10:J:133:ILE:CG1	1.67	1.06
5:E:5:ILE:HD11	5:E:16:VAL:HG23	1.39	1.04
6:F:134:LEU:HD11	6:F:166:ILE:HD11	1.35	1.04
1:A:2717:C:H2'	1:A:2718:C:H5''	1.37	1.04
10:J:29:ALA:HB3	10:J:65:ARG:HH12	1.22	1.03
1:A:1134:G:H4'	10:J:151:MET:HE1	1.37	1.03
1:A:1160:G:H5'	1:A:1161:A:H5'	1.37	1.03
26:Z:200:THR:HG22	26:Z:201:GLU:HG3	1.39	1.02
10:J:45:GLN:HB3	10:J:163:PRO:HD2	1.40	1.02
1:A:856:G:H2'	37:A:5789:HOH:O	1.60	1.02
14:N:164:THR:HG22	14:N:167:GLY:H	1.19	1.01
27:1:40:PRO:HD3	27:1:47:LEU:HD11	1.41	1.01
1:A:156:C:H5''	14:N:171:ARG:HD3	1.40	1.01
1:A:2121:G:OP2	37:A:3888:HOH:O	1.79	1.01
5:E:127:ARG:NH2	5:E:225:PRO:HG2	1.77	0.99
14:N:74:ARG:O	14:N:88:VAL:HG13	1.60	0.99
1:A:1835:U:H5	1:A:1840:A:N7	1.61	0.98
1:A:870:G:H2'	1:A:871:G:H5''	1.43	0.98
14:N:87:MET:CG	30:4:46:ILE:HG21	1.93	0.98
4:D:238:ASN:HD22	4:D:240:GLY:H	1.10	0.97
5:E:78:ARG:HG3	5:E:78:ARG:HH11	1.29	0.97
4:D:86:ALA:HA	37:D:8580:HOH:O	1.65	0.97
2:B:3006:C:H5''	15:O:37:ARG:NH1	1.77	0.96
2:B:3076:G:H3'	2:B:3077:A:H5''	1.47	0.96
1:A:962:C:H1'	15:O:5:ARG:NH1	1.80	0.96
4:D:258:GLY:H	4:D:260:HIS:CE1	1.83	0.96
5:E:140:VAL:HB	37:E:8458:HOH:O	1.65	0.96
1:A:871:G:H5'	1:A:871:G:H8	1.30	0.95
1:A:542:A:H5'	1:A:542:A:H8	1.31	0.95
25:Y:37:LEU:HD13	25:Y:85:VAL:HG21	1.44	0.95
12:L:81:ARG:HB2	12:L:87:ARG:HH11	1.31	0.95
10:J:27:LYS:H	10:J:58:HIS:HD2	1.14	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1242:A:H5'	11:K:82:THR:HG23	1.46	0.94
1:A:2717:C:C2'	1:A:2718:C:H5''	1.96	0.94
24:X:88:THR:HG22	24:X:89:ASP:H	1.31	0.94
11:K:76:ASP:HA	37:K:5907:HOH:O	1.67	0.94
4:D:264:GLU:HG2	4:D:267:LYS:HE2	1.47	0.94
14:N:69:LYS:O	14:N:73:ARG:NH2	2.01	0.94
1:A:1474:C:H6	1:A:1474:C:H5'	1.31	0.94
10:J:162:SER:HB2	10:J:163:PRO:HD3	1.50	0.94
1:A:21:G:H5'	19:S:2:ILE:HA	1.48	0.94
15:O:47:LEU:HD11	15:O:127:LEU:HD21	1.46	0.94
2:B:3056:A:H2'	2:B:3057:A:H5''	1.49	0.94
1:A:2467:A:H2'	37:A:5819:HOH:O	1.68	0.93
5:E:242:GLU:HG3	37:E:8386:HOH:O	1.67	0.93
1:A:871:G:H5'	1:A:871:G:C8	2.02	0.93
14:N:52:LEU:HD11	37:N:8620:HOH:O	1.67	0.93
30:4:48:ASN:ND2	30:4:50:GLY:H	1.66	0.93
1:A:2123:A:OP2	37:A:5652:HOH:O	1.85	0.93
1:A:1603:A:H5'	1:A:1605:G:O4'	1.68	0.93
10:J:86:ARG:HH11	10:J:133:ILE:HG13	0.77	0.93
17:Q:115:SER:H	17:Q:118:GLN:HE21	0.96	0.92
3:C:211:LYS:HB3	3:C:212:PRO:HD2	1.51	0.92
15:O:49:THR:HG22	15:O:56:ASP:HB2	1.52	0.92
5:E:236:THR:HG21	37:E:8378:HOH:O	1.70	0.92
37:A:5314:HOH:O	2:B:3103:A:H4'	1.67	0.92
10:J:55:GLN:HE21	10:J:124:ARG:HE	1.12	0.92
14:N:35:PRO:CG	14:N:38:VAL:HG23	1.98	0.92
17:Q:115:SER:OG	17:Q:118:GLN:HG3	1.69	0.92
26:Z:187:VAL:HG23	26:Z:192:ASP:HB2	1.52	0.92
37:A:4103:HOH:O	14:N:157:LEU:HD11	1.69	0.91
1:A:506:G:H22	1:A:509:A:H5'	1.35	0.91
15:O:87:LEU:HD12	15:O:186:LEU:HD21	1.52	0.91
37:A:5224:HOH:O	14:N:14:ARG:HG2	1.68	0.91
10:J:59:ASN:H	10:J:59:ASN:HD22	1.17	0.91
24:X:88:THR:HB	37:X:6679:HOH:O	1.69	0.91
5:E:2:GLN:HB3	37:E:8337:HOH:O	1.70	0.91
25:Y:78:GLU:HG2	25:Y:79:GLU:H	1.37	0.90
1:A:960:G:H4'	37:A:7787:HOH:O	1.69	0.90
10:J:26:LYS:HD2	10:J:28:ILE:HD12	1.53	0.90
1:A:2122:C:OP2	37:A:6938:HOH:O	1.90	0.90
5:E:236:THR:HG22	5:E:239:ALA:N	1.86	0.90
17:Q:115:SER:H	17:Q:118:GLN:NE2	1.70	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:25:PRO:HB2	37:R:4350:HOH:O	1.71	0.90
1:A:1116:U:HO2'	1:A:1118:A:H2	0.91	0.89
27:1:42:CYS:SG	27:1:44:PHE:HB2	2.12	0.89
26:Z:212:ARG:HD2	37:Z:8605:HOH:O	1.71	0.89
14:N:35:PRO:HG2	14:N:38:VAL:HG23	1.54	0.89
1:A:2064:U:H4'	1:A:2653:A:OP1	1.72	0.89
30:4:70:ARG:HG2	30:4:77:ALA:HB2	1.53	0.89
17:Q:55:LYS:HA	37:Q:185:HOH:O	1.73	0.89
37:A:7916:HOH:O	30:4:60:LYS:HG3	1.71	0.88
1:A:31:C:H4'	37:A:7781:HOH:O	1.74	0.88
1:A:1701:A:H5'	37:A:6644:HOH:O	1.73	0.88
5:E:132:ASP:HB3	37:E:8367:HOH:O	1.73	0.88
13:M:68:GLU:HA	37:M:8547:HOH:O	1.73	0.88
14:N:84:LYS:O	37:N:8534:HOH:O	1.89	0.88
1:A:1372:A:H3'	37:A:7549:HOH:O	1.72	0.88
4:D:162:MET:HE2	4:D:310:ARG:HD3	1.54	0.88
11:K:19:MET:CE	11:K:132:LEU:HD11	2.04	0.88
1:A:1474:C:H5'	1:A:1474:C:C6	2.09	0.87
14:N:173:LEU:HD23	14:N:183:VAL:HG12	1.56	0.87
1:A:1244:U:OP1	11:K:18:ILE:HD13	1.74	0.87
1:A:1166:A:H1'	1:A:1192:A:C2	2.09	0.87
1:A:2420:G:O2'	1:A:2421:G:H5'	1.72	0.87
3:C:88:ILE:HD13	3:C:100:PRO:HD3	1.57	0.87
3:C:192:VAL:HB	37:C:8602:HOH:O	1.72	0.87
24:X:137:GLN:HE21	24:X:141:HIS:HE1	1.21	0.87
1:A:2432:C:O4'	37:A:3119:HOH:O	1.92	0.86
7:G:100:ASP:HB2	37:G:2789:HOH:O	1.73	0.86
8:H:96:ALA:HA	37:H:3111:HOH:O	1.74	0.86
19:S:9:ASP:O	19:S:13:THR:HB	1.75	0.86
10:J:162:SER:HB2	10:J:163:PRO:CD	2.05	0.86
24:X:4:LEU:HD22	24:X:52:VAL:HG21	1.56	0.86
5:E:214:THR:HG21	37:E:8410:HOH:O	1.74	0.86
25:Y:15:ARG:HB3	25:Y:15:ARG:HH11	1.41	0.86
22:V:9:CYS:SG	22:V:11:THR:HG23	2.14	0.86
30:4:74:CYS:SG	30:4:76:LYS:HB2	2.16	0.86
24:X:149:LEU:HG	24:X:153:MET:HE2	1.57	0.85
12:L:10:GLN:NE2	12:L:10:GLN:H	1.72	0.85
14:N:24:MET:HE3	14:N:28:MET:HE3	1.55	0.85
11:K:99:GLU:HA	37:K:7377:HOH:O	1.74	0.85
5:E:104:ASP:HA	5:E:107:ARG:HH12	1.39	0.85
4:D:140:LEU:HA	37:D:8580:HOH:O	1.76	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:5445:HOH:O	4:D:216:LYS:HA	1.77	0.85
20:T:57:THR:HG22	20:T:59:ASP:H	1.41	0.85
24:X:122:ARG:HH21	24:X:154:ARG:HD2	1.42	0.85
1:A:2506:A:HO2'	1:A:2507:G:H8	0.87	0.85
12:L:29:LEU:HB3	12:L:55:VAL:HG11	1.57	0.84
13:M:133:VAL:HA	37:M:8578:HOH:O	1.75	0.84
28:2:8:GLN:HE22	28:2:11:LYS:NZ	1.74	0.84
10:J:150:LYS:HE2	37:J:8381:HOH:O	1.77	0.84
1:A:1184:C:H1'	37:A:7822:HOH:O	1.77	0.84
1:A:2755:G:H1'	37:A:5048:HOH:O	1.78	0.84
24:X:130:HIS:O	24:X:136:GLY:HA3	1.76	0.84
1:A:2094:G:H4'	4:D:245:SER:HB3	1.59	0.84
14:N:87:MET:HG2	30:4:46:ILE:CG2	2.06	0.84
1:A:2064:U:H5'	1:A:2652:U:O3'	1.78	0.84
1:A:2533:C:H6	1:A:2533:C:H5'	1.43	0.84
14:N:164:THR:HG23	14:N:165:SER:N	1.91	0.84
1:A:962:C:H1'	15:O:5:ARG:HH12	1.43	0.84
24:X:65:VAL:HA	24:X:68:THR:HG22	1.60	0.84
4:D:212:GLN:HB2	4:D:257:THR:HG21	1.57	0.84
9:I:12:ILE:HA	37:I:4499:HOH:O	1.77	0.84
7:G:6:GLU:HA	7:G:46:THR:HG22	1.60	0.83
1:A:1116:U:H3	1:A:1246:A:H62	1.26	0.83
22:V:20:MET:HE2	22:V:30:HIS:NE2	1.92	0.83
6:F:105:SER:HB2	6:F:131:THR:HG23	1.58	0.83
1:A:1165:G:H4'	1:A:1174:A:O2'	1.78	0.83
1:A:1205:U:H2'	1:A:1206:U:H5'	1.61	0.83
21:U:9:LYS:HE3	21:U:13:ARG:NH1	1.93	0.82
6:F:20:LYS:HA	6:F:75:LEU:O	1.80	0.82
12:L:81:ARG:HB2	12:L:87:ARG:NH1	1.94	0.82
1:A:2271:G:OP2	37:A:9817:HOH:O	1.98	0.82
37:A:4163:HOH:O	14:N:189:VAL:HG21	1.78	0.82
1:A:541:C:H2'	1:A:542:A:H5''	1.61	0.82
4:D:62:ARG:HA	4:D:65:MET:HE3	1.61	0.82
29:3:41:HIS:H	29:3:45:ASN:HD22	1.27	0.82
1:A:1450:C:H4'	1:A:1451:C:OP2	1.78	0.82
12:L:10:GLN:H	12:L:10:GLN:HE21	1.24	0.81
1:A:288:A:H61	1:A:364:C:H42	1.27	0.81
4:D:18:ARG:HG3	4:D:256:GLN:HG3	1.63	0.81
19:S:39:THR:HB	19:S:42:GLU:HG3	1.60	0.81
27:1:38:LYS:HE2	27:1:45:LYS:HE2	1.62	0.81
12:L:39:GLY:HA2	37:L:4183:HOH:O	1.81	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:220:GLU:HG2	37:Z:8552:HOH:O	1.81	0.81
1:A:541:C:C2'	1:A:542:A:H5''	2.10	0.81
37:A:9513:HOH:O	14:N:82:ARG:HD2	1.78	0.81
6:F:27:ILE:HG22	6:F:28:GLY:H	1.45	0.81
9:I:23:ILE:HD13	9:I:67:LEU:HD23	1.60	0.81
17:Q:59:ARG:NH2	17:Q:66:GLN:HE22	1.78	0.81
3:C:121:ALA:O	3:C:124:VAL:HG22	1.80	0.81
24:X:68:THR:HG23	24:X:69:ARG:HG2	1.61	0.81
25:Y:30:MET:HE1	25:Y:58:ALA:HB3	1.61	0.81
14:N:164:THR:HG22	14:N:167:GLY:N	1.95	0.81
10:J:59:ASN:HD22	10:J:59:ASN:N	1.77	0.81
11:K:26:VAL:HG13	11:K:36:VAL:HG11	1.63	0.81
1:A:1209:C:H4'	37:A:5643:HOH:O	1.81	0.81
4:D:190:MET:HE2	4:D:194:PHE:CD1	2.16	0.81
12:L:22:ASP:HB2	37:L:5264:HOH:O	1.78	0.81
19:S:17:MET:HE1	19:S:19:ARG:NH2	1.96	0.81
1:A:2426:G:H1'	37:A:6453:HOH:O	1.81	0.80
4:D:321:PRO:HA	37:D:8653:HOH:O	1.80	0.80
1:A:870:G:C2'	1:A:871:G:H5''	2.10	0.80
24:X:122:ARG:HG2	24:X:122:ARG:HH11	1.43	0.80
1:A:1080:C:H4'	1:A:1081:A:OP1	1.80	0.80
10:J:26:LYS:HG2	10:J:28:ILE:H	1.46	0.80
13:M:79:ASP:HB3	37:M:8563:HOH:O	1.79	0.80
1:A:2502:C:H2'	1:A:2503:A:H5'	1.62	0.80
37:A:4832:HOH:O	14:N:146:GLN:HG2	1.82	0.80
3:C:36:ASP:OD2	3:C:85:ASP:HB2	1.80	0.80
8:H:63:ILE:HB	8:H:64:PRO:HD3	1.63	0.80
16:P:42:GLU:HB2	37:P:2176:HOH:O	1.81	0.80
24:X:4:LEU:HD22	24:X:52:VAL:CG2	2.12	0.80
22:V:13:ILE:HG12	22:V:32:CYS:CB	2.12	0.80
3:C:35:GLY:O	3:C:36:ASP:HB3	1.80	0.80
12:L:14:LYS:HB2	12:L:45:PRO:HG2	1.62	0.80
12:L:62:PRO:HG3	12:L:65:ARG:HH21	1.46	0.80
25:Y:25:ARG:HD2	37:Y:3861:HOH:O	1.82	0.80
1:A:871:G:H8	1:A:871:G:C5'	1.96	0.79
15:O:144:GLY:O	15:O:147:ILE:HG22	1.81	0.79
25:Y:71:ARG:HB3	25:Y:88:GLU:OE1	1.83	0.79
1:A:2363:G:O3'	18:R:11:ARG:NH1	2.15	0.79
8:H:2:VAL:HG22	8:H:57:GLU:OE1	1.82	0.79
6:F:154:LYS:H	6:F:154:LYS:HD2	1.45	0.79
1:A:56:G:H5''	23:W:50:ARG:HH12	1.48	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:282:C:H1'	1:A:368:C:N4	1.96	0.79
7:G:97:VAL:HG12	37:G:4191:HOH:O	1.82	0.79
10:J:142:VAL:HG13	37:J:8379:HOH:O	1.82	0.79
7:G:84:MET:HE1	7:G:148:ILE:CD1	2.12	0.79
1:A:545:G:H5'	1:A:545:G:H8	1.47	0.79
10:J:56:ILE:HG22	10:J:61:LEU:HD22	1.65	0.79
17:Q:115:SER:N	17:Q:118:GLN:HE21	1.77	0.79
19:S:18:LEU:HD12	19:S:143:VAL:HG11	1.65	0.79
19:S:106:GLY:HA2	19:S:109:MET:HE3	1.63	0.79
29:3:35:ARG:HB2	37:3:2691:HOH:O	1.83	0.79
10:J:139:ASP:N	10:J:140:PRO:HD3	1.97	0.79
1:A:1118:A:C8	1:A:1118:A:H3'	2.18	0.78
2:B:3020:G:H3'	37:B:2984:HOH:O	1.83	0.78
14:N:102:GLU:OE1	14:N:164:THR:HG21	1.82	0.78
15:O:7:LYS:HE3	18:R:21:ARG:O	1.84	0.78
26:Z:187:VAL:HG23	26:Z:192:ASP:CB	2.14	0.78
13:M:120:LEU:HD12	13:M:133:VAL:HG21	1.65	0.78
26:Z:216:ARG:HD3	37:Z:8574:HOH:O	1.83	0.78
1:A:1771:U:H4'	27:1:20:LEU:HD21	1.64	0.78
1:A:2433:A:H2'	1:A:2434:A:H8	1.48	0.78
11:K:74:ARG:HB3	11:K:74:ARG:HH11	1.49	0.78
1:A:560:C:H42	1:A:597:A:H61	1.30	0.78
1:A:2435:U:OP1	30:4:28:GLY:HA3	1.84	0.78
14:N:74:ARG:HH11	14:N:74:ARG:HG3	1.46	0.78
1:A:2466:G:H5''	37:A:4025:HOH:O	1.82	0.78
1:A:2502:C:C2'	1:A:2503:A:H5'	2.14	0.78
14:N:12:TRP:CE2	14:N:20:ILE:HD11	2.19	0.78
22:V:9:CYS:HA	22:V:52:THR:HG23	1.65	0.78
1:A:2466:G:OP1	37:A:4025:HOH:O	2.01	0.78
5:E:214:THR:HG23	37:E:8443:HOH:O	1.84	0.78
14:N:186:SER:O	14:N:189:VAL:HG12	1.83	0.78
27:1:29:VAL:O	27:1:33:HIS:HB2	1.83	0.78
1:A:21:G:C5'	19:S:2:ILE:HA	2.13	0.78
5:E:78:ARG:HG3	5:E:78:ARG:NH1	1.98	0.78
1:A:1835:U:C5	1:A:1840:A:N7	2.50	0.78
37:A:6857:HOH:O	26:Z:141:THR:HG23	1.83	0.78
11:K:131:THR:HG22	11:K:134:GLU:H	1.47	0.78
25:Y:41:PHE:O	25:Y:43:VAL:HG23	1.82	0.78
1:A:506:G:H22	1:A:509:A:C5'	1.96	0.77
4:D:238:ASN:HD22	4:D:240:GLY:N	1.82	0.77
7:G:84:MET:HE1	7:G:148:ILE:HD12	1.65	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:38:LYS:HG2	27:1:45:LYS:HG2	1.64	0.77
1:A:820:G:OP1	27:1:17:ARG:NH2	2.17	0.77
37:A:5198:HOH:O	11:K:47:THR:HB	1.83	0.77
37:A:6656:HOH:O	6:F:99:ASP:HA	1.84	0.77
26:Z:186:ARG:HG2	26:Z:186:ARG:HH11	1.47	0.77
15:O:113:SER:HB2	37:O:8560:HOH:O	1.83	0.77
27:1:39:CYS:HA	27:1:47:LEU:HD11	1.65	0.77
1:A:1160:G:C5'	1:A:1161:A:H5'	2.14	0.77
14:N:169:ARG:HD2	37:N:8593:HOH:O	1.84	0.77
21:U:61:GLU:HG3	37:U:3851:HOH:O	1.82	0.77
10:J:139:ASP:HA	37:J:8369:HOH:O	1.83	0.77
12:L:74:VAL:HG13	12:L:113:ILE:HG23	1.66	0.77
1:A:2433:A:H2'	1:A:2434:A:C8	2.20	0.77
10:J:2:PRO:HB2	37:J:8364:HOH:O	1.84	0.77
11:K:19:MET:HE2	11:K:79:PHE:HA	1.67	0.77
4:D:162:MET:HE2	4:D:310:ARG:CD	2.15	0.77
5:E:5:ILE:HD11	5:E:16:VAL:CG2	2.13	0.77
13:M:67:ARG:O	13:M:71:GLU:HG3	1.85	0.77
22:V:6:CYS:SG	22:V:31:PHE:HA	2.24	0.77
24:X:154:ARG:C	37:X:4276:HOH:O	2.27	0.76
6:F:64:ARG:HG2	6:F:67:ASP:HB3	1.67	0.76
19:S:8:ALA:HB1	19:S:13:THR:HG21	1.68	0.76
1:A:1118:A:H3'	1:A:1118:A:H8	1.48	0.76
23:W:12:THR:HG22	23:W:15:GLU:CG	2.15	0.76
24:X:6:GLN:HB2	24:X:26:ILE:HD12	1.66	0.76
1:A:1886:A:N3	37:A:5184:HOH:O	2.16	0.76
1:A:558:C:H5'	37:A:5621:HOH:O	1.85	0.76
1:A:2586:U:H3	1:A:2592:G:H22	1.31	0.76
5:E:236:THR:H	5:E:239:ALA:HB3	1.51	0.76
23:W:1:THR:HG23	23:W:2:VAL:H	1.50	0.76
27:1:49:ARG:HD2	37:1:8425:HOH:O	1.85	0.76
1:A:645:U:OP2	13:M:4:LYS:HE2	1.85	0.76
27:1:30:GLU:HA	27:1:33:HIS:HB3	1.68	0.76
3:C:69:LEU:HD21	3:C:120:ARG:HB3	1.67	0.76
12:L:62:PRO:HG3	12:L:65:ARG:NH2	1.99	0.76
2:B:3006:C:H5''	15:O:37:ARG:HH12	1.48	0.76
23:W:42:ASN:HB3	37:W:7247:HOH:O	1.84	0.76
30:4:69:TYR:HB2	30:4:78:HIS:CE1	2.21	0.76
1:A:381:G:H5''	37:A:4688:HOH:O	1.84	0.76
1:A:2780:C:H1'	7:G:143:GLN:HE21	1.49	0.76
25:Y:76:ARG:HH11	25:Y:76:ARG:HG3	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2748:G:H2'	37:A:7899:HOH:O	1.86	0.75
5:E:139:VAL:HG13	37:E:8455:HOH:O	1.83	0.75
1:A:56:G:H5''	23:W:50:ARG:NH1	2.01	0.75
1:A:2467:A:H3'	37:A:5819:HOH:O	1.85	0.75
8:H:58:GLU:HA	8:H:61:MET:HG3	1.69	0.75
1:A:1679:C:H5'	37:A:9711:HOH:O	1.86	0.75
5:E:47:GLY:HA2	5:E:92:PRO:HB2	1.68	0.75
20:T:57:THR:HG22	20:T:59:ASP:N	2.00	0.75
1:A:1684:A:H1'	29:3:43:ARG:HH22	1.51	0.75
1:A:2768:A:H2'	1:A:2769:C:O4'	1.86	0.75
2:B:3048:C:H4'	15:O:141:ARG:HH21	1.51	0.75
10:J:130:HIS:CD2	10:J:133:ILE:HD11	2.21	0.75
5:E:219:ASN:O	5:E:222:ASP:OD1	2.05	0.75
1:A:1172:G:H1'	37:A:5338:HOH:O	1.85	0.74
1:A:2346:C:O2'	6:F:52:THR:HG21	1.86	0.74
37:A:7357:HOH:O	18:R:9:GLY:HA2	1.87	0.74
10:J:27:LYS:N	10:J:58:HIS:HD2	1.84	0.74
15:O:71:TRP:CE3	15:O:175:LEU:HD22	2.22	0.74
1:A:1751:G:C2'	1:A:1752:G:H5''	2.15	0.74
1:A:2758:G:H2'	1:A:2759:C:C6	2.22	0.74
1:A:2812:A:N7	37:A:7874:HOH:O	2.19	0.74
3:C:153:ARG:HB2	3:C:153:ARG:HH11	1.52	0.74
1:A:1134:G:C4'	10:J:151:MET:HE1	2.17	0.74
10:J:41:THR:HA	37:J:8395:HOH:O	1.86	0.74
15:O:43:VAL:HG13	15:O:118:ILE:HD11	1.70	0.74
27:1:46:LYS:HB2	27:1:57:CYS:SG	2.27	0.74
1:A:541:C:H2'	1:A:542:A:C5'	2.17	0.74
14:N:87:MET:CB	30:4:46:ILE:HG21	2.17	0.74
1:A:559:U:H6	1:A:559:U:H5'	1.53	0.74
1:A:272:A:H3'	37:A:7887:HOH:O	1.87	0.74
1:A:877:G:H5'	1:A:878:G:OP1	1.88	0.74
14:N:60:ILE:C	14:N:61:ILE:HD12	2.12	0.74
15:O:48:VAL:CG1	15:O:55:ASP:HB3	2.17	0.74
1:A:2526:C:O2'	1:A:2527:U:H5'	1.87	0.74
3:C:191:GLY:HA2	3:C:194:MET:HE2	1.70	0.74
14:N:59:GLY:HA3	14:N:141:ILE:CD1	2.17	0.74
1:A:1759:A:N7	37:A:9936:HOH:O	2.21	0.74
24:X:88:THR:HG22	24:X:89:ASP:N	2.03	0.74
1:A:2291:A:C8	1:A:2309:C:H5'	2.23	0.73
1:A:2432:C:O2'	1:A:2433:A:H5'	1.88	0.73
2:B:3014:G:H5'	2:B:3014:G:H8	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:140:PRO:HB3	37:J:8379:HOH:O	1.88	0.73
1:A:284:C:H4'	1:A:285:A:O5'	1.87	0.73
1:A:1886:A:H4'	37:1:8405:HOH:O	1.87	0.73
1:A:2506:A:O2'	1:A:2507:G:H8	1.66	0.73
1:A:1191:A:H3'	1:A:1192:A:H5''	1.68	0.73
1:A:2467:A:OP1	37:A:9444:HOH:O	2.06	0.73
1:A:2635:A:O2'	1:A:2636:C:H5'	1.89	0.73
7:G:107:PHE:CE2	7:G:108:LEU:HD13	2.23	0.73
27:1:31:ILE:O	27:1:35:LYS:HG3	1.88	0.73
13:M:143:THR:HG22	13:M:144:ASP:N	2.02	0.73
16:P:38:ARG:NH1	37:P:7674:HOH:O	2.20	0.73
30:4:25:VAL:HG22	30:4:68:LYS:HG3	1.68	0.73
1:A:711:G:H1'	37:A:7453:HOH:O	1.88	0.73
4:D:41:PHE:CD1	4:D:79:MET:HE2	2.24	0.73
7:G:166:VAL:HG12	37:G:3134:HOH:O	1.88	0.73
9:I:12:ILE:HB	37:I:4714:HOH:O	1.89	0.73
10:J:150:LYS:HB2	10:J:157:ILE:HD12	1.71	0.73
15:O:86:LEU:HD12	15:O:125:ALA:HB2	1.70	0.73
1:A:113:A:H3'	1:A:114:A:H5''	1.70	0.73
1:A:2271:G:P	37:A:9817:HOH:O	2.46	0.73
37:A:7781:HOH:O	21:U:9:LYS:HB2	1.86	0.73
1:A:2467:A:C2'	37:A:5819:HOH:O	2.33	0.73
2:B:3006:C:C5'	15:O:37:ARG:NH1	2.52	0.73
15:O:183:ASP:OD2	15:O:186:LEU:HD12	1.89	0.73
5:E:115:LEU:O	5:E:118:THR:HB	1.89	0.73
13:M:65:ASP:CG	13:M:111:ALA:HB3	2.14	0.73
15:O:164:ASP:CG	15:O:167:ASP:HA	2.14	0.73
22:V:9:CYS:CA	22:V:52:THR:HG23	2.19	0.73
1:A:1477:C:O2'	1:A:1478:U:H5'	1.87	0.72
1:A:2578:G:H5'	1:A:2578:G:H8	1.53	0.72
37:A:4440:HOH:O	4:D:27:ASN:HB2	1.88	0.72
28:2:8:GLN:HE22	28:2:11:LYS:HZ1	1.34	0.72
7:G:84:MET:HE2	7:G:133:VAL:CG2	2.18	0.72
11:K:74:ARG:HH11	11:K:74:ARG:CB	2.01	0.72
15:O:73:ALA:N	37:O:8567:HOH:O	2.22	0.72
3:C:88:ILE:HD13	3:C:100:PRO:CD	2.19	0.72
10:J:162:SER:CB	10:J:163:PRO:HD3	2.18	0.72
12:L:82:ARG:NH2	12:L:115:ARG:HG2	2.04	0.72
19:S:132:ARG:NH2	37:S:8585:HOH:O	2.20	0.72
24:X:84:VAL:HG12	37:X:6679:HOH:O	1.90	0.72
30:4:48:ASN:ND2	30:4:50:GLY:N	2.38	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:338:C:H4'	5:E:174:ILE:CD1	2.19	0.72
13:M:52:LYS:HA	35:M:8510:CL:CL	2.27	0.72
14:N:87:MET:CB	30:4:46:ILE:HD13	2.18	0.72
19:S:39:THR:HG22	19:S:42:GLU:H	1.54	0.72
1:A:2276:U:H2'	1:A:2277:U:C6	2.25	0.72
10:J:5:MET:HG3	37:J:8364:HOH:O	1.89	0.72
10:J:49:VAL:O	10:J:157:ILE:HG23	1.90	0.72
6:F:146:LYS:NZ	15:O:107:ASN:HD21	1.88	0.72
27:1:42:CYS:SG	27:1:44:PHE:N	2.58	0.72
1:A:1909:A:N1	1:A:2128:G:H1'	2.04	0.72
6:F:88:LEU:HB2	6:F:89:PRO:HD3	1.72	0.72
10:J:3:GLY:HA2	10:J:57:ARG:HH12	1.55	0.72
1:A:69:A:H5'	1:A:69:A:C8	2.25	0.72
1:A:69:A:H5'	1:A:69:A:H8	1.53	0.72
1:A:1164:U:H3	1:A:1192:A:H2	1.35	0.72
11:K:45:VAL:HG23	11:K:130:VAL:O	1.90	0.72
1:A:182:G:H5'	37:A:5522:HOH:O	1.89	0.72
1:A:1874:U:H2'	3:C:120:ARG:HG3	1.70	0.72
7:G:20:ILE:HD11	7:G:40:VAL:HG11	1.72	0.72
10:J:14:TYR:H	10:J:91:HIS:CE1	2.08	0.72
10:J:141:ASN:HA	37:J:8365:HOH:O	1.90	0.72
13:M:30:ARG:NH2	37:M:8523:HOH:O	2.19	0.72
1:A:2716:G:H5''	4:D:206:THR:HG21	1.72	0.72
14:N:59:GLY:HA3	14:N:141:ILE:HD12	1.71	0.72
1:A:1170:U:O2'	1:A:1172:G:N7	2.22	0.71
1:A:1919:A:H4'	37:A:5211:HOH:O	1.89	0.71
2:B:3056:A:C2'	2:B:3057:A:H5''	2.19	0.71
4:D:314:ALA:HB3	4:D:317:PRO:HG3	1.72	0.71
4:D:329:TYR:CE2	22:V:15:PRO:HG2	2.25	0.71
22:V:13:ILE:HG12	22:V:32:CYS:HB2	1.71	0.71
1:A:2004:U:H4'	37:A:5669:HOH:O	1.91	0.71
4:D:36:PRO:HA	4:D:168:GLY:HA3	1.72	0.71
14:N:64:ARG:HD2	37:N:8588:HOH:O	1.88	0.71
14:N:122:GLU:OE2	14:N:127:LYS:HE2	1.90	0.71
15:O:119:GLN:O	15:O:123:ILE:HG13	1.89	0.71
24:X:88:THR:HG23	24:X:110:GLN:NE2	2.05	0.71
2:B:3092:G:H2'	2:B:3093:A:C8	2.25	0.71
7:G:23:GLU:HG2	7:G:28:SER:HB3	1.72	0.71
15:O:83:LEU:HD13	15:O:175:LEU:HD23	1.72	0.71
19:S:14:ALA:HB3	19:S:147:LEU:HB2	1.72	0.71
2:B:3023:U:H5''	2:B:3024:U:OP2	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:52:LEU:HD13	14:N:116:ASN:HB3	1.73	0.71
14:N:81:ARG:O	14:N:86:MET:HE2	1.89	0.71
30:4:74:CYS:SG	30:4:76:LYS:CB	2.78	0.71
2:B:3007:G:H4'	15:O:55:ASP:OD2	1.90	0.71
27:1:18:TYR:HB3	27:1:22:ILE:HG21	1.72	0.71
5:E:246:ARG:HB3	5:E:246:ARG:NH1	2.05	0.71
14:N:172:GLY:O	14:N:183:VAL:HG11	1.91	0.71
26:Z:115:ARG:NE	37:Z:8559:HOH:O	2.22	0.71
1:A:175:G:H2'	14:N:192:ALA:HB3	1.71	0.71
1:A:603:A:H5''	1:A:604:G:OP1	1.91	0.71
1:A:1160:G:H5'	1:A:1161:A:C5'	2.16	0.71
2:B:3049:G:H5''	37:B:4707:HOH:O	1.90	0.71
7:G:31:ARG:NH1	37:G:5919:HOH:O	2.22	0.71
10:J:27:LYS:H	10:J:58:HIS:CD2	2.04	0.71
1:A:1119:G:H2'	11:K:52:GLN:NE2	2.06	0.71
1:A:2851:G:O2'	1:A:2852:A:H5'	1.91	0.71
3:C:199:HIS:CD2	3:C:201:PHE:H	2.09	0.71
3:C:223:ARG:HG3	37:C:8610:HOH:O	1.90	0.71
10:J:47:GLU:HB3	10:J:133:ILE:HD13	1.72	0.71
1:A:1329:A:H2	37:A:5049:HOH:O	1.74	0.71
1:A:2690:U:O2'	7:G:111:LYS:HE3	1.90	0.71
9:I:12:ILE:N	9:I:13:PRO:HD3	2.06	0.71
15:O:159:TYR:HB3	15:O:162:ASP:HB2	1.73	0.71
27:1:28:ASP:O	27:1:31:ILE:HG22	1.90	0.71
2:B:3029:C:H2'	2:B:3030:C:H5'	1.73	0.70
4:D:141:ARG:HD2	4:D:163:GLU:OE2	1.90	0.70
4:D:145:HIS:HD2	4:D:146:THR:O	1.74	0.70
7:G:15:GLN:HG3	7:G:20:ILE:HG12	1.72	0.70
12:L:34:VAL:HG22	12:L:47:ALA:HB2	1.71	0.70
1:A:1380:U:OP1	37:A:8414:HOH:O	2.09	0.70
1:A:1625:U:H4'	37:A:5033:HOH:O	1.89	0.70
1:A:1834:C:H2'	1:A:1840:A:N6	2.07	0.70
17:Q:98:ILE:HD12	17:Q:102:ARG:NE	2.06	0.70
26:Z:187:VAL:CG2	26:Z:192:ASP:HB2	2.21	0.70
1:A:289:G:H22	1:A:363:A:H2	1.40	0.70
1:A:2421:G:H3'	1:A:2422:U:H5''	1.74	0.70
37:A:4948:HOH:O	14:N:87:MET:HE1	1.90	0.70
4:D:258:GLY:H	4:D:260:HIS:HE1	1.33	0.70
12:L:10:GLN:HE21	12:L:10:GLN:N	1.89	0.70
1:A:125:U:H2'	37:A:4146:HOH:O	1.91	0.70
1:A:1176:C:H1'	37:A:4310:HOH:O	1.90	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2054:A:N3	19:S:128:ARG:NH2	2.40	0.70
1:A:2812:A:H2	1:A:2814:A:H62	1.36	0.70
5:E:61:PHE:HB3	37:E:8451:HOH:O	1.89	0.70
6:F:19:GLU:O	6:F:20:LYS:HG2	1.92	0.70
14:N:139:PRO:O	14:N:140:ALA:CB	2.39	0.70
15:O:61:ALA:HB3	15:O:88:ALA:HB2	1.73	0.70
27:1:23:ARG:NH1	37:1:8404:HOH:O	2.24	0.70
2:B:3006:C:OP1	15:O:37:ARG:NH1	2.24	0.70
3:C:33:GLU:O	3:C:34:ASP:HB2	1.91	0.70
1:A:1666:C:H2'	1:A:1667:A:H5'	1.73	0.70
21:U:71:VAL:HG11	21:U:90:PRO:CB	2.17	0.70
1:A:1130:U:H2'	1:A:1131:G:O4'	1.92	0.70
1:A:1086:A:C6	24:X:11:VAL:HG11	2.26	0.70
37:A:7128:HOH:O	15:O:4:PRO:HD2	1.90	0.70
2:B:3039:U:H1'	2:B:3044:A:H61	1.56	0.70
10:J:84:ARG:NH2	10:J:135:TRP:HH2	1.89	0.70
10:J:137:ASN:O	10:J:139:ASP:N	2.25	0.70
14:N:78:ASN:ND2	37:N:8654:HOH:O	2.24	0.70
1:A:2710:U:H1'	37:A:7983:HOH:O	1.91	0.70
4:D:179:LEU:O	4:D:183:GLU:HG2	1.92	0.70
1:A:738:G:H3'	37:A:7405:HOH:O	1.92	0.69
4:D:307:ARG:HH11	4:D:307:ARG:HB2	1.57	0.69
6:F:57:THR:HG23	6:F:63:ILE:HG22	1.74	0.69
10:J:47:GLU:HB3	10:J:133:ILE:CD1	2.21	0.69
10:J:59:ASN:H	10:J:59:ASN:ND2	1.90	0.69
4:D:201:ASP:HB2	4:D:312:ARG:HD2	1.73	0.69
14:N:34:GLU:HB3	14:N:35:PRO:HD2	1.75	0.69
1:A:1699:C:H4'	37:A:6803:HOH:O	1.92	0.69
1:A:2267:G:OP1	37:A:3905:HOH:O	2.10	0.69
1:A:2508:C:H2'	37:A:7110:HOH:O	1.90	0.69
16:P:7:LEU:HD22	37:P:5650:HOH:O	1.91	0.69
1:A:236:A:H4'	1:A:237:G:H5'	1.75	0.69
23:W:39:ALA:N	23:W:40:PRO:HD2	2.08	0.69
1:A:168:C:O2'	1:A:169:A:H5'	1.92	0.69
1:A:338:C:H5''	37:E:8428:HOH:O	1.92	0.69
14:N:72:SER:OG	14:N:74:ARG:HB2	1.92	0.69
1:A:281:U:H2'	1:A:282:C:O4'	1.93	0.69
1:A:1701:A:H4'	1:A:1702:U:H5''	1.74	0.69
5:E:127:ARG:HD2	5:E:229:PRO:O	1.93	0.69
7:G:11:VAL:HG12	7:G:12:ASP:N	2.06	0.69
1:A:157:G:H4'	14:N:95:LYS:CE	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1362:U:H5'	37:A:3641:HOH:O	1.92	0.69
5:E:37:ALA:HB2	37:E:8385:HOH:O	1.93	0.69
10:J:56:ILE:HG22	10:J:61:LEU:CD2	2.22	0.69
16:P:47:ARG:HH11	16:P:47:ARG:HG3	1.58	0.69
26:Z:235:GLU:H	26:Z:235:GLU:CD	2.01	0.69
1:A:739:G:C5	37:A:7901:HOH:O	2.45	0.69
37:A:7231:HOH:O	14:N:178:LYS:HB2	1.92	0.69
6:F:174:VAL:HG13	37:F:6555:HOH:O	1.93	0.69
25:Y:78:GLU:CG	25:Y:79:GLU:H	2.05	0.69
5:E:77:ALA:O	5:E:78:ARG:HG3	1.93	0.69
10:J:55:GLN:NE2	10:J:124:ARG:HE	1.89	0.69
22:V:9:CYS:HA	22:V:52:THR:CG2	2.23	0.69
37:A:7811:HOH:O	4:D:211:THR:HG21	1.93	0.68
1:A:450:C:OP1	5:E:184:ARG:NH2	2.23	0.68
1:A:797:A:H4'	27:1:10:ARG:N	2.09	0.68
1:A:2361:A:H5''	37:A:9404:HOH:O	1.92	0.68
1:A:346:U:H4'	37:A:7200:HOH:O	1.93	0.68
1:A:1130:U:H5'	37:A:8142:HOH:O	1.93	0.68
1:A:2783:A:H3'	37:A:5596:HOH:O	1.91	0.68
14:N:84:LYS:HE2	37:N:8580:HOH:O	1.93	0.68
14:N:172:GLY:C	14:N:183:VAL:HG11	2.19	0.68
1:A:1730:G:H5'	1:A:1731:C:C5	2.29	0.68
10:J:136:VAL:HG22	10:J:137:ASN:O	1.93	0.68
12:L:27:ARG:HD2	37:L:4747:HOH:O	1.93	0.68
17:Q:143:ALA:HA	37:Q:169:HOH:O	1.92	0.68
26:Z:189:ASN:HD22	26:Z:189:ASN:C	2.01	0.68
30:4:39:GLN:HA	30:4:42:ARG:NH2	2.08	0.68
1:A:1086:A:N6	24:X:11:VAL:HG11	2.08	0.68
19:S:18:LEU:HD12	19:S:143:VAL:CG1	2.24	0.68
10:J:33:MET:HB2	10:J:83:PHE:HB3	1.75	0.68
11:K:103:VAL:HG12	37:K:5907:HOH:O	1.93	0.68
13:M:125:PHE:CZ	13:M:140:VAL:HG13	2.28	0.68
14:N:139:PRO:O	14:N:140:ALA:HB3	1.92	0.68
1:A:797:A:C4'	27:1:10:ARG:N	2.56	0.68
4:D:258:GLY:N	4:D:260:HIS:CE1	2.59	0.68
14:N:35:PRO:O	37:N:8539:HOH:O	2.11	0.68
14:N:152:ARG:HG3	37:N:8558:HOH:O	1.94	0.68
27:1:77:LYS:HA	27:1:80:MET:HE2	1.76	0.68
1:A:1118:A:H62	1:A:1244:U:H3	1.39	0.68
37:A:7063:HOH:O	26:Z:165:GLU:HB3	1.93	0.68
6:F:97:GLN:HG2	6:F:97:GLN:O	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:17:MET:SD	37:S:8549:HOH:O	2.52	0.68
1:A:2896:A:H5''	37:A:6460:HOH:O	1.92	0.68
4:D:248:ARG:NH2	37:D:8524:HOH:O	2.26	0.68
14:N:74:ARG:NH2	37:N:8634:HOH:O	2.27	0.68
14:N:91:ILE:HG23	37:N:8652:HOH:O	1.94	0.68
16:P:32:ARG:O	16:P:32:ARG:HD3	1.93	0.68
27:1:30:GLU:HA	27:1:33:HIS:CB	2.24	0.68
3:C:194:MET:HE3	3:C:199:HIS:HB2	1.76	0.68
5:E:127:ARG:HG2	5:E:127:ARG:HH11	1.58	0.68
24:X:122:ARG:HH22	24:X:154:ARG:C	2.01	0.68
1:A:1829:A:H61	27:1:18:TYR:HA	1.60	0.67
2:B:3020:G:O2'	2:B:3021:G:H5'	1.94	0.67
1:A:182:G:O3'	14:N:157:LEU:HD13	1.94	0.67
1:A:815:U:OP1	37:A:3044:HOH:O	2.11	0.67
1:A:2408:A:H2	37:4:8517:HOH:O	1.76	0.67
8:H:107:VAL:HG23	37:H:6617:HOH:O	1.93	0.67
24:X:122:ARG:NH2	24:X:154:ARG:HD2	2.07	0.67
1:A:948:G:N7	37:A:6210:HOH:O	2.26	0.67
1:A:2748:G:H5'	37:A:7899:HOH:O	1.93	0.67
3:C:53:ALA:HB3	37:C:8616:HOH:O	1.94	0.67
10:J:71:TYR:C	10:J:73:GLN:H	2.03	0.67
1:A:2604:A:H5'	37:A:6153:HOH:O	1.95	0.67
5:E:107:ARG:NH1	5:E:107:ARG:HB3	2.10	0.67
6:F:101:THR:HG22	37:F:7400:HOH:O	1.95	0.67
8:H:91:VAL:HG12	8:H:92:GLY:N	2.09	0.67
10:J:58:HIS:HA	10:J:61:LEU:HD23	1.76	0.67
1:A:1058:A:H2'	1:A:1060:C:H5''	1.75	0.67
14:N:85:ARG:HA	14:N:87:MET:HE2	1.77	0.67
1:A:542:A:H5'	1:A:542:A:C8	2.21	0.67
1:A:2123:A:P	14:N:89:ASN:HD22	2.18	0.67
6:F:64:ARG:CG	6:F:67:ASP:HB3	2.24	0.67
6:F:95:THR:O	6:F:97:GLN:N	2.25	0.67
1:A:1869:A:N3	37:A:9744:HOH:O	2.28	0.67
4:D:36:PRO:HA	4:D:168:GLY:CA	2.25	0.67
4:D:138:GLY:O	4:D:139:ASP:O	2.13	0.67
15:O:61:ALA:CB	15:O:88:ALA:HB2	2.23	0.67
15:O:164:ASP:OD2	15:O:167:ASP:HA	1.95	0.67
1:A:2467:A:C3'	37:A:5819:HOH:O	2.41	0.67
1:A:2502:C:H4'	10:J:151:MET:HG2	1.76	0.67
37:A:3176:HOH:O	12:L:39:GLY:HA3	1.94	0.67
1:A:299:U:H5'	37:A:7695:HOH:O	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:821:U:H2'	1:A:822:C:H6	1.59	0.67
1:A:2241:C:O2'	1:A:2242:U:H5'	1.95	0.67
1:A:2890:A:H1'	22:V:56:ARG:NH2	2.10	0.67
5:E:104:ASP:HA	5:E:107:ARG:NH1	2.08	0.67
9:I:12:ILE:HD12	37:I:692:HOH:O	1.94	0.67
10:J:45:GLN:HE21	10:J:135:TRP:HE1	1.41	0.67
1:A:1015:C:H2'	1:A:1016:U:H6	1.60	0.66
37:A:6155:HOH:O	14:N:170:CYS:SG	2.53	0.66
37:A:7813:HOH:O	5:E:188:ARG:HD2	1.95	0.66
2:B:3069:U:OP1	15:O:4:PRO:HG3	1.94	0.66
3:C:76:VAL:HG23	27:1:63:LYS:HB3	1.77	0.66
4:D:51:VAL:HG23	4:D:329:TYR:O	1.94	0.66
1:A:2717:C:H2'	1:A:2718:C:C5'	2.20	0.66
37:B:5071:HOH:O	15:O:20:TYR:CE2	2.48	0.66
25:Y:72:VAL:HG22	25:Y:85:VAL:HG12	1.76	0.66
1:A:2123:A:OP1	14:N:89:ASN:ND2	2.26	0.66
3:C:199:HIS:HD2	3:C:201:PHE:H	1.42	0.66
4:D:72:THR:HB	37:D:8603:HOH:O	1.96	0.66
6:F:41:LEU:HA	6:F:44:ILE:HG22	1.76	0.66
6:F:64:ARG:O	6:F:67:ASP:OD2	2.12	0.66
24:X:21:LEU:HD21	24:X:48:VAL:CG1	2.25	0.66
1:A:1651:C:OP1	37:A:5877:HOH:O	2.12	0.66
8:H:53:ASP:OD1	8:H:80:GLN:HB2	1.96	0.66
10:J:4:ALA:HB3	37:J:8364:HOH:O	1.94	0.66
10:J:69:ASN:O	10:J:72:VAL:HG12	1.95	0.66
17:Q:78:GLY:O	37:Q:155:HOH:O	2.13	0.66
18:R:11:ARG:HD3	37:R:5620:HOH:O	1.95	0.66
1:A:21:G:H4'	19:S:2:ILE:HG22	1.78	0.66
1:A:2781:U:H2'	1:A:2782:G:H5'	1.77	0.66
13:M:143:THR:HG22	13:M:145:LEU:H	1.59	0.66
14:N:24:MET:HE1	14:N:120:VAL:O	1.96	0.66
27:1:37:HIS:HB2	27:1:47:LEU:HB2	1.77	0.66
1:A:31:C:H2'	37:A:8158:HOH:O	1.96	0.66
37:B:4707:HOH:O	15:O:147:ILE:HD12	1.95	0.66
17:Q:58:SER:HB3	37:Q:186:HOH:O	1.94	0.66
29:3:39:ARG:HG2	37:3:3143:HOH:O	1.95	0.66
1:A:1377:C:H6	1:A:1377:C:H5'	1.61	0.66
4:D:62:ARG:HA	4:D:65:MET:CE	2.24	0.66
14:N:114:VAL:HG21	14:N:159:THR:HG21	1.77	0.66
27:1:53:GLY:HA2	27:1:67:GLY:O	1.96	0.66
25:Y:66:THR:HG23	25:Y:67:PRO:HD2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:31:THR:HB	30:4:33:MET:HE3	1.77	0.66
1:A:775:G:OP1	28:2:16:HIS:HE1	1.79	0.66
1:A:1474:C:H6	1:A:1474:C:C5'	2.07	0.66
15:O:12:ARG:HD3	15:O:18:THR:OG1	1.95	0.66
24:X:6:GLN:HB2	24:X:26:ILE:CD1	2.26	0.66
25:Y:18:ARG:NH1	37:Y:4132:HOH:O	2.24	0.66
27:1:75:ALA:HB3	37:1:8434:HOH:O	1.95	0.66
1:A:1441:G:O2'	1:A:1442:A:H5'	1.95	0.66
1:A:1666:C:O2'	1:A:1667:A:H5''	1.96	0.66
1:A:2414:A:H2'	1:A:2415:A:C8	2.31	0.66
10:J:48:LEU:HG	10:J:157:ILE:HG21	1.78	0.66
10:J:127:GLY:O	10:J:128:ALA:HB3	1.96	0.66
1:A:461:C:H2'	37:A:4377:HOH:O	1.95	0.65
3:C:100:PRO:HG2	3:C:103:VAL:HG21	1.77	0.65
6:F:25:MET:HE2	6:F:41:LEU:CG	2.15	0.65
18:R:24:SER:O	37:R:2847:HOH:O	2.13	0.65
6:F:95:THR:C	6:F:97:GLN:H	2.04	0.65
14:N:138:HIS:ND1	14:N:139:PRO:O	2.26	0.65
1:A:1741:U:H5'	1:A:1742:A:OP1	1.96	0.65
1:A:2281:C:C2'	1:A:2282:U:H5'	2.25	0.65
1:A:2359:G:N7	37:A:4080:HOH:O	2.28	0.65
4:D:312:ARG:HD3	4:D:315:VAL:HG13	1.77	0.65
25:Y:37:LEU:CD1	25:Y:85:VAL:HG21	2.25	0.65
28:2:1:THR:HA	37:2:435:HOH:O	1.94	0.65
1:A:671:A:O2'	1:A:672:G:H2'	1.97	0.65
1:A:2748:G:C5'	37:A:7899:HOH:O	2.43	0.65
10:J:166:ASN:N	10:J:166:ASN:HD22	1.93	0.65
12:L:74:VAL:HG11	12:L:113:ILE:HG12	1.79	0.65
23:W:4:HIS:HB3	37:W:6622:HOH:O	1.95	0.65
5:E:1:MET:HG2	5:E:2:GLN:H	1.61	0.65
6:F:35:ALA:N	37:F:5576:HOH:O	2.29	0.65
6:F:54:ALA:HB2	6:F:69:ILE:HD12	1.78	0.65
7:G:23:GLU:HG2	7:G:28:SER:CB	2.27	0.65
14:N:39:ARG:NH2	37:N:8626:HOH:O	2.30	0.65
8:H:46:GLU:O	8:H:73:PRO:HD2	1.97	0.65
24:X:72:PRO:HG2	24:X:77:ALA:HB3	1.78	0.65
30:4:65:THR:HG23	30:4:67:LEU:HG	1.77	0.65
1:A:731:U:OP2	37:A:4402:HOH:O	2.14	0.65
1:A:1743:G:N7	37:A:9647:HOH:O	2.28	0.65
10:J:28:ILE:HA	10:J:62:GLU:OE1	1.96	0.65
1:A:2827:A:H2'	1:A:2828:G:O4'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:135:VAL:HG22	6:F:136:ARG:H	1.60	0.65
14:N:68:ARG:O	14:N:68:ARG:HD3	1.96	0.65
15:O:71:TRP:HE3	15:O:175:LEU:HD22	1.62	0.65
19:S:132:ARG:CZ	37:S:8585:HOH:O	2.45	0.65
24:X:21:LEU:HD21	24:X:48:VAL:HG11	1.78	0.65
1:A:1874:U:OP1	37:A:4691:HOH:O	2.15	0.64
1:A:1923:G:H4'	30:4:31:THR:O	1.96	0.64
8:H:110:GLU:HG2	37:H:6926:HOH:O	1.95	0.64
15:O:32:PRO:HD2	15:O:99:GLU:O	1.97	0.64
23:W:8:ILE:HA	23:W:11:MET:HE3	1.78	0.64
23:W:39:ALA:C	23:W:41:GLU:H	2.05	0.64
25:Y:78:GLU:HG2	25:Y:79:GLU:N	2.10	0.64
1:A:2310:G:OP2	10:J:114:PRO:HD2	1.96	0.64
1:A:2421:G:H3'	1:A:2422:U:C5'	2.28	0.64
1:A:2459:G:OP1	30:4:64:LYS:N	2.19	0.64
6:F:55:LYS:HA	37:F:6752:HOH:O	1.97	0.64
16:P:14:LEU:HD23	16:P:102:ILE:HD11	1.78	0.64
17:Q:64:GLU:HG2	37:Q:170:HOH:O	1.97	0.64
19:S:18:LEU:HB2	19:S:143:VAL:HG12	1.78	0.64
24:X:13:MET:HE2	24:X:18:GLN:CA	2.28	0.64
5:E:162:VAL:HG12	5:E:192:ILE:HD11	1.78	0.64
6:F:69:ILE:HG22	6:F:69:ILE:O	1.96	0.64
11:K:74:ARG:O	11:K:78:ILE:HG12	1.98	0.64
21:U:9:LYS:HE3	21:U:13:ARG:HH11	1.61	0.64
1:A:1003:U:HO2'	10:J:90:PHE:HE1	1.43	0.64
1:A:1713:G:C2'	37:A:5435:HOH:O	2.44	0.64
1:A:1741:U:O2'	1:A:2723:G:H4'	1.97	0.64
1:A:1197:G:N2	37:A:6597:HOH:O	2.31	0.64
11:K:45:VAL:HG21	11:K:129:PHE:CD1	2.33	0.64
20:T:23:LYS:HE2	37:T:8330:HOH:O	1.97	0.64
27:1:30:GLU:HB3	27:1:34:LYS:HE3	1.80	0.64
1:A:407:A:H5'	37:A:6386:HOH:O	1.97	0.64
1:A:485:A:N3	1:A:487:G:H5''	2.13	0.64
1:A:814:G:H4'	37:A:3507:HOH:O	1.97	0.64
4:D:75:GLU:C	4:D:77:PRO:HD3	2.22	0.64
10:J:136:VAL:HG23	37:J:8343:HOH:O	1.97	0.64
12:L:115:ARG:HG3	12:L:116:GLU:N	2.13	0.64
14:N:164:THR:CG2	14:N:167:GLY:H	2.03	0.64
1:A:1209:C:H2'	1:A:1210:G:H8	1.61	0.64
1:A:1484:G:H2'	37:A:9501:HOH:O	1.96	0.64
2:B:3003:A:H2'	37:B:2430:HOH:O	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:24:MET:HE3	14:N:28:MET:CE	2.28	0.64
17:Q:87:ARG:HG2	37:Q:190:HOH:O	1.97	0.64
1:A:382:U:C5	1:A:406:G:N2	2.65	0.64
1:A:447:A:OP1	21:U:2:LYS:HG2	1.97	0.64
3:C:94:LEU:N	3:C:94:LEU:HD23	2.12	0.64
4:D:140:LEU:HD23	37:D:8580:HOH:O	1.96	0.64
15:O:49:THR:CG2	15:O:56:ASP:HB2	2.26	0.64
15:O:89:GLY:O	15:O:92:ALA:HB3	1.98	0.64
19:S:39:THR:HG23	19:S:107:GLU:O	1.97	0.64
19:S:113:HIS:O	19:S:145:LEU:HD12	1.98	0.64
1:A:1119:G:N2	1:A:1246:A:C2	2.63	0.64
1:A:1594:C:OP2	17:Q:120:ARG:HD2	1.98	0.64
1:A:1659:A:H2'	1:A:1660:G:O4'	1.98	0.64
1:A:1829:A:N6	27:1:18:TYR:HA	2.13	0.64
15:O:169:PRO:O	15:O:172:PHE:HB3	1.98	0.64
25:Y:15:ARG:HB3	25:Y:15:ARG:NH1	2.10	0.64
1:A:1234:U:N3	4:D:244:PRO:HB3	2.13	0.63
1:A:2763:G:OP1	12:L:9:THR:OG1	2.13	0.63
3:C:179:MET:HA	3:C:179:MET:HE3	1.80	0.63
5:E:54:LEU:HD21	5:E:87:ARG:HD2	1.80	0.63
7:G:37:ASP:OD1	11:K:125:SER:HB3	1.98	0.63
1:A:111:C:O2'	28:2:20:ARG:HG2	1.97	0.63
1:A:263:U:O4'	8:H:59:ILE:HD13	1.99	0.63
1:A:2431:C:N3	37:A:4064:HOH:O	2.30	0.63
5:E:12:THR:HB	37:E:8448:HOH:O	1.97	0.63
6:F:23:VAL:HG21	6:F:45:THR:HG21	1.79	0.63
7:G:79:GLY:HA3	37:G:7046:HOH:O	1.98	0.63
12:L:28:GLU:OE2	12:L:58:THR:HG21	1.99	0.63
24:X:137:GLN:HE21	24:X:141:HIS:CE1	2.09	0.63
1:A:282:C:H1'	1:A:368:C:H42	1.60	0.63
1:A:285:A:H2'	1:A:286:U:O4'	1.98	0.63
1:A:2781:U:C2'	1:A:2782:G:H5'	2.28	0.63
37:A:7384:HOH:O	3:C:211:LYS:HG2	1.97	0.63
17:Q:16:VAL:HG12	17:Q:17:GLY:N	2.13	0.63
27:1:47:LEU:HD23	27:1:57:CYS:HB2	1.80	0.63
1:A:926:A:O2'	13:M:41:HIS:HD2	1.80	0.63
10:J:55:GLN:HE22	10:J:91:HIS:CD2	2.16	0.63
19:S:99:ALA:HB1	19:S:109:MET:CE	2.14	0.63
24:X:110:GLN:NE2	24:X:110:GLN:HA	2.13	0.63
1:A:2359:G:H3'	37:A:6051:HOH:O	1.97	0.63
1:A:2758:G:H2'	1:A:2759:C:H6	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:238:ASN:ND2	4:D:240:GLY:H	1.91	0.63
6:F:38:GLU:HB3	6:F:49:PRO:HG2	1.80	0.63
26:Z:144:ARG:CZ	37:Z:8616:HOH:O	2.46	0.63
30:4:11:CYS:SG	30:4:71:CYS:HB2	2.39	0.63
1:A:793:A:N3	37:A:4475:HOH:O	2.31	0.63
1:A:2270:G:H4'	3:C:223:ARG:HH12	1.64	0.63
2:B:3107:C:C5	37:B:3167:HOH:O	2.51	0.63
14:N:113:ARG:NH2	14:N:156:ARG:HG2	2.14	0.63
19:S:119:VAL:HG21	19:S:142:ASP:CG	2.24	0.63
24:X:21:LEU:HB3	24:X:26:ILE:HG12	1.80	0.63
1:A:2421:G:H4'	37:A:5144:HOH:O	1.98	0.63
4:D:141:ARG:HG2	4:D:165:ARG:HA	1.79	0.63
8:H:101:ALA:HA	37:H:5413:HOH:O	1.99	0.63
20:T:51:GLN:HE21	20:T:53:ASN:HD21	1.46	0.63
23:W:64:GLY:O	23:W:65:ASP:HB2	1.97	0.63
1:A:1015:C:H2'	1:A:1016:U:C6	2.33	0.63
17:Q:103:THR:HA	17:Q:106:ARG:NH1	2.12	0.63
26:Z:200:THR:HG22	26:Z:201:GLU:CG	2.23	0.63
28:2:25:LYS:HE2	37:3:7213:HOH:O	1.98	0.63
2:B:3107:C:H5	37:B:3167:HOH:O	1.82	0.63
5:E:76:ARG:HD2	37:E:8441:HOH:O	1.99	0.63
14:N:61:ILE:HD12	14:N:61:ILE:N	2.14	0.63
3:C:171:LYS:NZ	37:C:8525:HOH:O	2.22	0.62
6:F:51:ARG:HD3	37:F:7636:HOH:O	1.99	0.62
14:N:48:ARG:NH2	37:N:8565:HOH:O	2.32	0.62
18:R:64:GLU:HG3	18:R:74:ASP:OD2	1.97	0.62
24:X:21:LEU:HD22	24:X:26:ILE:CD1	2.29	0.62
1:A:1185:U:H5'	37:A:7822:HOH:O	1.99	0.62
1:A:2437:A:H2'	1:A:2438:G:C8	2.34	0.62
6:F:23:VAL:HG23	6:F:23:VAL:O	1.99	0.62
6:F:91:ALA:HB1	37:F:5198:HOH:O	1.99	0.62
7:G:69:ILE:HA	7:G:72:MET:CE	2.29	0.62
8:H:99:THR:HA	37:H:3461:HOH:O	2.00	0.62
22:V:46:ALA:HB1	22:V:52:THR:HG21	1.81	0.62
30:4:35:TRP:HA	30:4:38:ARG:NH1	2.13	0.62
1:A:1116:U:O2'	1:A:1118:A:C2	2.51	0.62
1:A:1872:C:C2	37:A:7669:HOH:O	2.50	0.62
1:A:2769:C:H2'	1:A:2770:G:O4'	2.00	0.62
13:M:114:VAL:HG11	37:M:8578:HOH:O	1.99	0.62
14:N:37:VAL:HG21	14:N:108:LYS:HG3	1.80	0.62
15:O:48:VAL:HG11	15:O:55:ASP:HB3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:488:U:H2'	37:A:4384:HOH:O	1.99	0.62
1:A:776:A:OP1	28:2:28:HIS:HE1	1.82	0.62
1:A:820:G:C6	3:C:171:LYS:HB2	2.34	0.62
1:A:871:G:C8	1:A:871:G:C5'	2.74	0.62
1:A:1759:A:N3	1:A:1818:C:H2'	2.14	0.62
1:A:2419:U:H5''	1:A:2420:G:H5'	1.82	0.62
6:F:22:VAL:HG22	6:F:74:THR:HG22	1.81	0.62
1:A:1878:G:H1'	37:A:6482:HOH:O	2.00	0.62
4:D:71:VAL:HG11	4:D:296:LEU:HB3	1.82	0.62
8:H:50:VAL:HG21	8:H:63:ILE:HG21	1.81	0.62
1:A:1053:G:OP1	10:J:12:PRO:HG3	1.98	0.62
1:A:2346:C:O5'	1:A:2346:C:H6	1.83	0.62
3:C:37:VAL:HG22	37:C:8605:HOH:O	2.00	0.62
14:N:61:ILE:HG13	37:N:8626:HOH:O	1.99	0.62
24:X:139:GLY:O	24:X:141:HIS:HD2	1.83	0.62
1:A:157:G:H4'	14:N:95:LYS:HE2	1.82	0.62
1:A:2533:C:H5'	1:A:2533:C:C6	2.32	0.62
2:B:3047:A:C2	2:B:3048:C:C2	2.87	0.62
6:F:105:SER:CB	6:F:131:THR:HG23	2.30	0.62
15:O:37:ARG:NH2	37:O:8534:HOH:O	2.32	0.62
22:V:14:GLU:O	22:V:17:THR:HB	1.99	0.62
1:A:2276:U:H2'	1:A:2277:U:H6	1.65	0.62
1:A:2301:A:H5''	1:A:2302:A:H5'	1.82	0.62
37:A:4060:HOH:O	14:N:79:LYS:HD3	1.98	0.62
9:I:23:ILE:O	9:I:27:ILE:HG13	2.00	0.62
10:J:3:GLY:HA2	10:J:57:ARG:NH1	2.14	0.62
1:A:558:C:O2'	1:A:559:U:H5''	2.00	0.62
3:C:179:MET:HG2	3:C:186:TRP:CB	2.30	0.62
4:D:74:ILE:HD13	4:D:309:VAL:HG21	1.80	0.62
4:D:85:ARG:NH1	37:D:8632:HOH:O	2.32	0.62
5:E:27:ARG:HG3	5:E:29:ASP:OD1	1.99	0.62
14:N:38:VAL:C	14:N:63:VAL:HG13	2.25	0.62
1:A:282:C:O2'	1:A:283:U:H5'	2.00	0.62
1:A:303:C:O2'	1:A:304:G:H5'	2.00	0.62
1:A:396:U:H1'	37:A:7991:HOH:O	1.99	0.62
1:A:1942:A:H3'	37:A:7704:HOH:O	2.00	0.62
9:I:12:ILE:N	9:I:13:PRO:CD	2.63	0.62
14:N:74:ARG:HG3	14:N:74:ARG:NH1	2.10	0.62
19:S:39:THR:HB	19:S:42:GLU:CG	2.29	0.62
19:S:61:GLN:NE2	37:S:8541:HOH:O	2.32	0.62
24:X:22:GLU:HG2	24:X:27:HIS:CD2	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:39:CYS:CB	27:1:47:LEU:HD21	2.29	0.62
1:A:902:G:N7	13:M:18:HIS:HD2	1.98	0.61
8:H:117:GLU:C	8:H:119:ARG:H	2.06	0.61
9:I:64:ASN:HD22	9:I:64:ASN:N	1.96	0.61
15:O:151:ASP:O	15:O:154:LEU:HB2	2.00	0.61
15:O:154:LEU:O	15:O:155:GLU:HB3	1.99	0.61
24:X:5:VAL:HG11	24:X:153:MET:HE1	1.82	0.61
24:X:149:LEU:CG	24:X:153:MET:HE2	2.27	0.61
1:A:12:U:H2'	1:A:13:G:H5'	1.81	0.61
1:A:1268:C:O2'	1:A:1269:G:H5'	2.00	0.61
1:A:1819:G:H2'	1:A:1820:G:H4'	1.81	0.61
1:A:2531:U:O2'	1:A:2532:A:H5'	2.00	0.61
37:A:3837:HOH:O	11:K:46:ILE:HD12	1.99	0.61
4:D:314:ALA:CB	4:D:317:PRO:HG3	2.30	0.61
7:G:3:VAL:HG22	7:G:49:ILE:HB	1.82	0.61
10:J:29:ALA:HB3	10:J:65:ARG:NH1	2.06	0.61
10:J:86:ARG:NH1	10:J:130:HIS:CD2	2.69	0.61
1:A:567:U:H5''	37:X:5817:HOH:O	2.00	0.61
1:A:2428:G:O6	1:A:2464:C:H1'	2.01	0.61
2:B:3014:G:H5'	2:B:3014:G:C8	2.34	0.61
5:E:180:SER:HB2	37:E:8452:HOH:O	1.99	0.61
8:H:50:VAL:HG13	8:H:60:VAL:HG11	1.82	0.61
12:L:28:GLU:HG2	12:L:58:THR:HB	1.83	0.61
24:X:141:HIS:HB2	24:X:146:ILE:HG12	1.82	0.61
1:A:2505:G:O2'	1:A:2506:A:H5'	2.00	0.61
10:J:53:PRO:HG3	10:J:127:GLY:H	1.64	0.61
13:M:104:ASP:HB3	37:M:8569:HOH:O	1.99	0.61
28:2:21:ARG:HD2	28:2:37:CYS:SG	2.41	0.61
1:A:280:C:H2'	1:A:281:U:O4'	2.01	0.61
3:C:105:VAL:CG1	3:C:154:ALA:HB1	2.30	0.61
17:Q:115:SER:O	17:Q:117:SER:N	2.34	0.61
1:A:1164:U:C4'	1:A:1165:G:OP1	2.44	0.61
1:A:1974:G:OP1	37:A:7219:HOH:O	2.16	0.61
1:A:2274:A:N3	14:N:86:MET:HE1	2.15	0.61
3:C:88:ILE:CD1	3:C:100:PRO:HD3	2.29	0.61
3:C:131:HIS:O	3:C:132:ASP:HB2	1.99	0.61
4:D:103:ASP:HB2	37:D:8591:HOH:O	1.99	0.61
5:E:236:THR:O	5:E:237:GLU:C	2.42	0.61
11:K:79:PHE:O	11:K:83:ILE:HG13	2.00	0.61
15:O:11:ARG:HG3	15:O:14:ARG:NH1	2.14	0.61
24:X:106:THR:OG1	24:X:109:GLU:HG3	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:661:G:C5	1:A:686:A:C2	2.88	0.61
1:A:2123:A:P	14:N:89:ASN:ND2	2.73	0.61
37:A:3079:HOH:O	4:D:254:GLN:HG3	2.00	0.61
17:Q:83:LYS:O	17:Q:86:ALA:HB3	2.01	0.61
21:U:50:VAL:HG12	21:U:56:ALA:HA	1.81	0.61
24:X:81:ASP:OD1	24:X:92:ASP:HB2	2.00	0.61
1:A:558:C:C2'	1:A:559:U:H5''	2.31	0.61
37:B:5071:HOH:O	15:O:23:ARG:HD3	2.00	0.61
11:K:75:PRO:HG2	11:K:105:LEU:HD21	1.81	0.61
1:A:1120:U:H5'	1:A:1121:G:OP2	2.00	0.61
1:A:2466:G:C5'	37:A:4025:HOH:O	2.45	0.61
37:A:7813:HOH:O	5:E:188:ARG:CD	2.48	0.61
37:A:9782:HOH:O	14:N:94:LYS:HE2	2.00	0.61
3:C:192:VAL:O	3:C:192:VAL:HG12	2.00	0.61
4:D:204:GLY:HA3	37:D:8649:HOH:O	2.01	0.61
3:C:88:ILE:HG22	3:C:88:ILE:O	2.00	0.61
6:F:67:ASP:O	6:F:69:ILE:HG13	2.01	0.61
19:S:99:ALA:CB	19:S:109:MET:HE1	2.17	0.61
1:A:500:G:H21	19:S:98:ASN:HD21	1.49	0.60
1:A:2432:C:C4'	37:A:3119:HOH:O	2.46	0.60
4:D:223:ARG:HG3	4:D:232:TRP:O	2.01	0.60
1:A:349:U:O2'	1:A:350:C:H5'	2.01	0.60
1:A:1972:U:H2'	1:A:1973:A:H5'	1.83	0.60
1:A:2081:A:H4'	11:K:69:TYR:CE1	2.36	0.60
1:A:2435:U:P	30:4:28:GLY:HA3	2.40	0.60
1:A:2717:C:O2'	1:A:2718:C:H5''	2.01	0.60
4:D:305:ASP:O	4:D:306:LYS:HB2	2.01	0.60
10:J:26:LYS:HD2	10:J:28:ILE:CD1	2.28	0.60
14:N:52:LEU:HD13	14:N:116:ASN:CG	2.26	0.60
14:N:173:LEU:HD23	14:N:183:VAL:CG1	2.31	0.60
1:A:2105:C:H2'	1:A:2106:C:C6	2.36	0.60
5:E:16:VAL:HG12	5:E:17:ASP:N	2.16	0.60
7:G:93:MET:HE1	7:G:165:GLY:N	2.16	0.60
13:M:145:LEU:O	13:M:148:GLU:HG3	2.01	0.60
16:P:87:THR:O	16:P:91:GLN:HG3	2.02	0.60
24:X:65:VAL:HA	24:X:68:THR:CG2	2.31	0.60
27:1:57:CYS:O	27:1:61:GLY:N	2.31	0.60
1:A:1393:A:H2'	1:A:1394:C:C6	2.36	0.60
1:A:2506:A:O2'	1:A:2507:G:O5'	2.19	0.60
3:C:211:LYS:NZ	37:C:8579:HOH:O	2.34	0.60
29:3:18:ASN:HD21	29:3:40:ARG:H	1.46	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1788:U:C2	1:A:1805:G:N2	2.69	0.60
1:A:1942:A:O2'	1:A:1943:C:H5'	2.01	0.60
1:A:2621:U:OP2	37:A:3360:HOH:O	2.16	0.60
6:F:170:TYR:O	6:F:171:ASP:HB3	2.01	0.60
10:J:75:SER:C	10:J:79:ALA:HB2	2.27	0.60
25:Y:15:ARG:HH11	25:Y:15:ARG:CB	2.12	0.60
29:3:41:HIS:N	29:3:45:ASN:HD22	1.98	0.60
30:4:73:GLU:HB3	37:4:8561:HOH:O	2.00	0.60
1:A:39:G:N2	1:A:444:C:C2	2.70	0.60
1:A:2468:A:H61	30:4:48:ASN:HD21	1.48	0.60
2:B:3039:U:H1'	2:B:3044:A:N6	2.16	0.60
9:I:12:ILE:HG13	37:I:6833:HOH:O	2.00	0.60
10:J:147:ARG:HA	10:J:150:LYS:NZ	2.17	0.60
14:N:96:ASN:ND2	37:N:8542:HOH:O	2.28	0.60
26:Z:216:ARG:CD	37:Z:8574:HOH:O	2.47	0.60
27:1:11:THR:CG2	27:1:23:ARG:HB2	2.32	0.60
30:4:18:GLN:OE1	30:4:73:GLU:HB3	2.01	0.60
1:A:470:U:O2'	28:2:16:HIS:HD2	1.83	0.60
1:A:1123:A:C6	1:A:1238:C:H5'	2.37	0.60
1:A:1884:G:O6	3:C:190:ARG:HD2	2.01	0.60
1:A:2584:G:C2	1:A:2585:G:N7	2.69	0.60
37:A:7042:HOH:O	21:U:38:ARG:NH1	2.35	0.60
1:A:1165:G:OP1	1:A:1165:G:H3'	2.01	0.60
1:A:1667:A:H5'	1:A:1667:A:H8	1.67	0.60
1:A:1918:U:OP2	37:A:4400:HOH:O	2.16	0.60
4:D:175:LEU:HD23	4:D:175:LEU:C	2.26	0.60
6:F:65:GLU:HG3	37:F:6752:HOH:O	2.00	0.60
11:K:93:ARG:HB3	11:K:93:ARG:HH11	1.66	0.60
17:Q:105:LEU:HD21	17:Q:137:LEU:HD21	1.82	0.60
1:A:134:U:C2	1:A:145:A:C2	2.90	0.60
1:A:1182:C:H1'	1:A:1192:A:H8	1.67	0.60
11:K:75:PRO:HG2	11:K:105:LEU:CD2	2.32	0.60
11:K:107:ASN:ND2	11:K:109:TYR:H	2.00	0.60
6:F:54:ALA:CB	6:F:69:ILE:HD12	2.31	0.60
8:H:19:ALA:O	8:H:22:VAL:HG22	2.02	0.60
10:J:75:SER:O	10:J:79:ALA:HB2	2.02	0.60
27:1:39:CYS:HA	27:1:47:LEU:CD1	2.32	0.60
1:A:386:G:N7	37:A:5778:HOH:O	2.31	0.59
1:A:2104:C:O2	1:A:2486:A:C2	2.55	0.59
4:D:297:VAL:HB	37:D:8603:HOH:O	2.02	0.59
24:X:13:MET:HE2	24:X:18:GLN:HA	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:182:G:O3'	14:N:157:LEU:CD1	2.50	0.59
1:A:1751:G:H2'	1:A:1752:G:C5'	2.21	0.59
37:A:4937:HOH:O	14:N:86:MET:SD	2.57	0.59
2:B:3001:U:O3'	2:B:3003:A:H5''	2.02	0.59
4:D:7:ARG:HG2	4:D:7:ARG:HH11	1.67	0.59
4:D:207:LYS:HG2	4:D:304:PRO:HB3	1.84	0.59
6:F:135:VAL:HG22	6:F:136:ARG:N	2.17	0.59
15:O:47:LEU:HD13	15:O:97:VAL:HG11	1.84	0.59
26:Z:186:ARG:HG2	26:Z:186:ARG:NH1	2.15	0.59
27:1:62:TYR:CE2	27:1:64:ILE:HG23	2.37	0.59
28:2:5:THR:N	28:2:6:PRO:HD2	2.16	0.59
1:A:659:A:H5''	37:P:6799:HOH:O	2.01	0.59
1:A:1834:C:H2'	1:A:1840:A:H62	1.66	0.59
1:A:2316:G:H8	37:A:6015:HOH:O	1.85	0.59
1:A:2326:U:H4'	1:A:2412:G:C4'	2.33	0.59
4:D:55:ASN:HB3	4:D:63:GLU:HA	1.83	0.59
5:E:178:GLN:OE1	37:E:8474:HOH:O	2.16	0.59
6:F:19:GLU:HG3	37:F:6165:HOH:O	2.01	0.59
12:L:109:LEU:HD13	12:L:113:ILE:HD11	1.84	0.59
14:N:87:MET:HB3	30:4:46:ILE:HG21	1.84	0.59
17:Q:55:LYS:CA	37:Q:185:HOH:O	2.41	0.59
24:X:21:LEU:HD22	24:X:26:ILE:HD11	1.84	0.59
25:Y:74:ALA:CB	25:Y:85:VAL:HG22	2.32	0.59
26:Z:112:GLU:CD	26:Z:115:ARG:NH1	2.60	0.59
1:A:611:U:H2'	1:A:612:U:C6	2.37	0.59
1:A:1887:U:OP1	27:1:21:LYS:HE3	2.02	0.59
20:T:81:ILE:HG23	37:T:8336:HOH:O	2.02	0.59
26:Z:155:ARG:NH1	37:Z:8561:HOH:O	2.35	0.59
1:A:691:G:N2	1:A:694:A:OP2	2.28	0.59
1:A:951:A:C2'	1:A:952:G:H5'	2.33	0.59
1:A:1713:G:H1'	37:A:5435:HOH:O	2.02	0.59
4:D:88:GLU:O	4:D:88:GLU:HG3	2.01	0.59
5:E:246:ARG:HB3	5:E:246:ARG:HH11	1.66	0.59
10:J:13:ALA:HA	10:J:91:HIS:CE1	2.38	0.59
12:L:99:ASP:OD1	12:L:101:ASN:N	2.36	0.59
14:N:87:MET:CG	30:4:46:ILE:HD13	2.33	0.59
21:U:37:GLN:OE1	21:U:118:SER:HA	2.02	0.59
1:A:138:U:H5''	1:A:139:C:OP2	2.03	0.59
4:D:7:ARG:HD3	4:D:9:GLY:O	2.03	0.59
4:D:154:VAL:HG12	4:D:156:LYS:HG2	1.84	0.59
6:F:99:ASP:CB	6:F:103:ASN:H	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:34:ASN:HA	14:N:4:ALA:HB2	1.84	0.59
17:Q:105:LEU:CD2	17:Q:137:LEU:HD21	2.33	0.59
1:A:121:U:OP2	29:3:10:ARG:NH2	2.36	0.59
1:A:447:A:O2'	1:A:448:G:H5'	2.03	0.59
1:A:1127:C:H2'	1:A:1128:U:H5'	1.84	0.59
1:A:2459:G:P	30:4:64:LYS:HB2	2.42	0.59
2:B:3002:U:OP2	2:B:3002:U:H4'	2.03	0.59
2:B:3044:A:O4'	6:F:76:ARG:NE	2.36	0.59
10:J:45:GLN:HE21	10:J:135:TRP:NE1	1.99	0.59
1:A:154:C:H2'	1:A:155:C:H6	1.67	0.59
1:A:920:C:H4'	1:A:921:G:C2	2.37	0.59
3:C:101:GLU:OE2	3:C:131:HIS:HB2	2.03	0.59
10:J:44:ALA:HA	10:J:163:PRO:O	2.02	0.59
14:N:37:VAL:HG21	14:N:108:LYS:CG	2.32	0.59
22:V:38:ASN:O	22:V:42:LEU:HG	2.03	0.59
1:A:553:G:P	26:Z:204:ARG:HH22	2.26	0.59
1:A:1461:U:H2'	1:A:1462:C:C6	2.38	0.59
5:E:191:SER:OG	5:E:192:ILE:N	2.36	0.59
6:F:155:HIS:NE2	37:F:7597:HOH:O	2.32	0.59
15:O:34:LEU:HA	15:O:47:LEU:HD23	1.85	0.59
21:U:48:VAL:HG23	21:U:98:VAL:HA	1.84	0.59
24:X:75:GLY:HA3	37:X:5763:HOH:O	2.02	0.59
27:1:22:ILE:O	27:1:26:VAL:HG23	2.03	0.59
1:A:629:A:C2	1:A:2074:A:C2	2.91	0.59
1:A:739:G:N7	37:A:7901:HOH:O	2.35	0.59
1:A:2247:C:H5''	37:A:7702:HOH:O	2.02	0.59
13:M:104:ASP:O	13:M:105:TYR:HB3	2.03	0.59
17:Q:115:SER:C	17:Q:117:SER:H	2.11	0.59
24:X:125:HIS:HE1	37:X:3071:HOH:O	1.85	0.59
1:A:184:G:H5''	14:N:153:THR:HG22	1.84	0.58
1:A:1951:G:N2	37:A:6623:HOH:O	2.35	0.58
1:A:2548:C:OP2	4:D:5:ARG:NH2	2.36	0.58
6:F:166:ILE:HD12	37:F:6326:HOH:O	2.03	0.58
14:N:52:LEU:HD13	14:N:116:ASN:CB	2.33	0.58
17:Q:80:ARG:HG2	17:Q:87:ARG:CZ	2.33	0.58
24:X:88:THR:CG2	24:X:89:ASP:H	2.12	0.58
1:A:382:U:C5	1:A:406:G:C2	2.91	0.58
1:A:926:A:O2'	13:M:41:HIS:CD2	2.56	0.58
1:A:1185:U:H2'	1:A:1186:C:C6	2.38	0.58
1:A:2314:G:C2'	1:A:2315:C:H5'	2.33	0.58
2:B:3029:C:C2'	2:B:3030:C:H5'	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:25:MET:CE	6:F:37:ALA:HB1	2.32	0.58
19:S:111:ILE:HG23	19:S:145:LEU:HD11	1.84	0.58
1:A:1515:A:H2'	1:A:1516:C:C6	2.38	0.58
1:A:2587:U:H2'	1:A:2589:U:H5''	1.85	0.58
13:M:143:THR:CG2	13:M:144:ASP:N	2.66	0.58
14:N:58:GLN:HG3	37:N:8610:HOH:O	2.03	0.58
14:N:87:MET:SD	30:4:46:ILE:HD13	2.43	0.58
1:A:1766:U:O2	1:A:1778:A:H5'	2.04	0.58
15:O:91:ARG:HG3	15:O:186:LEU:HD23	1.85	0.58
17:Q:59:ARG:HH22	17:Q:66:GLN:HE22	1.50	0.58
19:S:44:VAL:O	19:S:48:GLU:HG3	2.04	0.58
1:A:105:G:O2'	1:A:106:A:H5'	2.02	0.58
1:A:544:G:C2'	1:A:545:G:H5''	2.34	0.58
4:D:217:ARG:HG3	4:D:257:THR:HG22	1.84	0.58
5:E:133:ARG:HD2	37:E:8419:HOH:O	2.03	0.58
6:F:36:ASN:HA	37:F:7500:HOH:O	2.03	0.58
7:G:126:ILE:HB	7:G:131:LEU:CD2	2.33	0.58
14:N:154:ARG:HD3	37:N:8648:HOH:O	2.03	0.58
1:A:1730:G:H5'	1:A:1731:C:C6	2.39	0.58
1:A:2594:C:O2'	1:A:2595:U:H5'	2.04	0.58
4:D:62:ARG:CA	4:D:65:MET:HE3	2.30	0.58
7:G:31:ARG:HH12	7:G:68:HIS:CE1	2.21	0.58
8:H:107:VAL:O	8:H:111:ILE:HG13	2.02	0.58
15:O:86:LEU:O	15:O:90:LEU:HG	2.04	0.58
25:Y:31:ILE:O	25:Y:35:GLU:HG3	2.04	0.58
1:A:1666:C:C2'	1:A:1667:A:H5'	2.33	0.58
1:A:2694:A:H4'	7:G:91:PHE:CE1	2.38	0.58
5:E:236:THR:HA	37:E:8458:HOH:O	2.03	0.58
20:T:80:ARG:HG2	37:T:8336:HOH:O	2.02	0.58
23:W:11:MET:HB3	23:W:15:GLU:HB2	1.85	0.58
1:A:407:A:C2	1:A:408:A:C4	2.92	0.58
1:A:558:C:H2'	1:A:559:U:C5'	2.34	0.58
1:A:1535:G:H2'	1:A:1536:C:C6	2.39	0.58
1:A:1773:G:C8	27:1:16:PRO:HA	2.39	0.58
1:A:2115:U:H2'	1:A:2116:U:C6	2.38	0.58
1:A:2761:A:C4	1:A:2763:G:C8	2.91	0.58
37:A:5336:HOH:O	10:J:57:ARG:HG3	2.04	0.58
13:M:54:PRO:HG2	13:M:57:VAL:CG2	2.34	0.58
14:N:97:ILE:CD1	14:N:127:LYS:HD2	2.34	0.58
1:A:2878:U:H2'	1:A:2879:A:O4'	2.04	0.58
2:B:3057:A:N6	37:B:3535:HOH:O	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:94:LEU:HG	3:C:99:ILE:HD11	1.85	0.58
6:F:86:THR:O	6:F:90:LEU:HG	2.04	0.58
7:G:126:ILE:HB	7:G:131:LEU:HD23	1.84	0.58
8:H:48:VAL:HG23	8:H:74:PHE:CB	2.34	0.58
11:K:130:VAL:HG12	11:K:131:THR:N	2.17	0.58
12:L:125:ALA:C	12:L:127:ALA:H	2.11	0.58
25:Y:75:ALA:O	25:Y:83:ALA:HA	2.04	0.58
29:3:22:PRO:HG2	29:3:25:VAL:HG23	1.86	0.58
30:4:3:MET:O	30:4:90:PHE:HA	2.04	0.58
1:A:2094:G:C4'	4:D:245:SER:HB3	2.32	0.58
14:N:123:ASP:C	14:N:123:ASP:OD1	2.46	0.58
15:O:43:VAL:CG1	15:O:118:ILE:HD11	2.33	0.58
20:T:57:THR:C	20:T:59:ASP:H	2.12	0.58
1:A:2281:C:H2'	1:A:2282:U:H5'	1.84	0.57
4:D:162:MET:CE	4:D:308:LEU:HD21	2.19	0.57
5:E:142:ASP:OD1	5:E:237:GLU:HB3	2.04	0.57
7:G:84:MET:HE2	7:G:133:VAL:HG21	1.85	0.57
11:K:107:ASN:HD21	11:K:109:TYR:HB2	1.68	0.57
19:S:18:LEU:HB2	19:S:143:VAL:CG1	2.34	0.57
19:S:65:GLY:C	37:S:8518:HOH:O	2.46	0.57
1:A:240:C:H4'	14:N:146:GLN:NE2	2.20	0.57
4:D:205:VAL:O	4:D:307:ARG:NE	2.37	0.57
23:W:56:ILE:O	23:W:60:GLN:HG3	2.04	0.57
24:X:80:ASP:O	24:X:84:VAL:HG23	2.03	0.57
1:A:1528:A:H2'	1:A:1529:G:O4'	2.04	0.57
1:A:2748:G:OP1	1:A:2749:U:H5''	2.04	0.57
4:D:264:GLU:HG2	4:D:267:LYS:CE	2.30	0.57
6:F:44:ILE:HG23	6:F:45:THR:HG23	1.86	0.57
7:G:7:ILE:HD11	7:G:11:VAL:C	2.28	0.57
7:G:7:ILE:HG22	7:G:45:ASP:O	2.04	0.57
13:M:148:GLU:HA	37:M:8577:HOH:O	2.02	0.57
14:N:97:ILE:HD13	14:N:127:LYS:HD2	1.87	0.57
24:X:4:LEU:O	24:X:32:CYS:HA	2.04	0.57
24:X:108:ARG:HE	24:X:114:PRO:HG3	1.69	0.57
1:A:816:G:H5'	1:A:1598:A:H4'	1.85	0.57
1:A:834:G:H4'	1:A:835:U:OP2	2.04	0.57
1:A:1132:A:N6	1:A:1229:C:H2'	2.20	0.57
1:A:1681:G:H5''	1:A:1682:A:H5'	1.86	0.57
1:A:2465:A:H3'	37:A:4025:HOH:O	2.04	0.57
1:A:2791:U:H1'	1:A:2792:A:H5''	1.86	0.57
15:O:22:GLN:HG2	15:O:26:LEU:HD22	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:75:ILE:CD1	18:R:84:ILE:HD11	2.35	0.57
20:T:53:ASN:ND2	37:T:8321:HOH:O	2.37	0.57
1:A:189:A:OP1	14:N:171:ARG:NH2	2.38	0.57
1:A:537:G:C6	1:A:620:A:C8	2.92	0.57
13:M:136:ALA:HB3	37:M:8578:HOH:O	2.05	0.57
19:S:119:VAL:O	19:S:119:VAL:HG12	2.03	0.57
24:X:54:PHE:CZ	24:X:140:LYS:HB2	2.39	0.57
1:A:1134:G:C5'	10:J:151:MET:HE1	2.33	0.57
1:A:1174:A:C5	1:A:1201:C:H4'	2.39	0.57
1:A:2256:G:H2'	1:A:2257:G:H5'	1.87	0.57
3:C:140:LEU:HB3	3:C:141:PRO:HD2	1.87	0.57
8:H:46:GLU:N	37:H:3461:HOH:O	2.37	0.57
14:N:87:MET:HB3	30:4:46:ILE:HD13	1.86	0.57
14:N:164:THR:CG2	14:N:165:SER:N	2.59	0.57
1:A:371:U:H2'	1:A:372:A:H8	1.69	0.57
4:D:2:GLN:CD	37:D:8619:HOH:O	2.47	0.57
37:E:8360:HOH:O	16:P:3:THR:HG21	2.04	0.57
6:F:37:ALA:O	6:F:40:ILE:HG12	2.05	0.57
8:H:47:LEU:HB2	8:H:108:LEU:HD11	1.87	0.57
13:M:10:SER:O	13:M:11:ARG:HB3	2.04	0.57
14:N:55:LYS:HB2	14:N:60:ILE:CD1	2.35	0.57
15:O:141:ARG:HB3	37:O:8570:HOH:O	2.05	0.57
21:U:69:LYS:O	21:U:71:VAL:HG23	2.04	0.57
1:A:1135:G:H5'	37:A:6290:HOH:O	2.03	0.57
1:A:2840:A:OP1	4:D:211:THR:HG23	2.05	0.57
6:F:44:ILE:HG12	6:F:83:PHE:HE1	1.68	0.57
8:H:58:GLU:OE1	14:N:27:ARG:NH2	2.38	0.57
10:J:117:LYS:O	10:J:119:VAL:HG13	2.05	0.57
14:N:89:ASN:HA	37:N:8556:HOH:O	2.04	0.57
16:P:113:VAL:O	16:P:114:ILE:HD13	2.05	0.57
1:A:524:A:H5'	19:S:29:LYS:HE2	1.85	0.57
1:A:544:G:H2'	1:A:545:G:H5''	1.87	0.57
37:A:8150:HOH:O	14:N:154:ARG:HB2	2.05	0.57
4:D:275:GLY:O	4:D:291:ASP:HA	2.05	0.57
7:G:15:GLN:NE2	7:G:40:VAL:O	2.36	0.57
10:J:75:SER:HB3	10:J:79:ALA:HB1	1.85	0.57
15:O:37:ARG:NE	37:O:8534:HOH:O	2.37	0.57
15:O:58:LEU:HD12	15:O:58:LEU:N	2.20	0.57
26:Z:187:VAL:HB	37:Z:8575:HOH:O	2.04	0.57
1:A:1471:A:H2'	1:A:1472:C:C6	2.40	0.57
1:A:1733:A:H4'	4:D:212:GLN:HA	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2637:A:H5'	37:A:9663:HOH:O	2.04	0.57
1:A:2638:G:H1'	37:A:8230:HOH:O	2.05	0.57
5:E:162:VAL:HG12	5:E:162:VAL:O	2.03	0.57
5:E:236:THR:CG2	5:E:239:ALA:H	1.95	0.57
10:J:147:ARG:HA	10:J:150:LYS:HZ2	1.70	0.57
15:O:154:LEU:HG	15:O:155:GLU:H	1.68	0.57
1:A:329:A:OP2	5:E:206:ASN:HB2	2.05	0.56
1:A:920:C:H5'	1:A:921:G:C4	2.39	0.56
1:A:2908:A:H2'	1:A:2909:G:O4'	2.04	0.56
2:B:3048:C:H4'	15:O:141:ARG:NH2	2.20	0.56
7:G:69:ILE:HA	7:G:72:MET:HE2	1.87	0.56
13:M:143:THR:HG22	13:M:144:ASP:H	1.70	0.56
15:O:67:ALA:HA	15:O:71:TRP:H	1.67	0.56
21:U:48:VAL:HG22	21:U:97:ARG:C	2.30	0.56
21:U:101:LEU:HD13	21:U:112:LEU:HD11	1.86	0.56
5:E:39:GLN:O	5:E:43:LYS:HD3	2.05	0.56
5:E:168:ARG:NH2	5:E:190:ALA:O	2.38	0.56
10:J:62:GLU:O	10:J:66:VAL:HG23	2.05	0.56
26:Z:99:ALA:HB2	26:Z:233:TYR:CZ	2.40	0.56
1:A:251:C:O2'	1:A:252:C:H5'	2.05	0.56
1:A:449:A:N7	5:E:43:LYS:HG2	2.19	0.56
1:A:694:A:H2'	1:A:695:C:H5'	1.87	0.56
1:A:1249:U:H2'	1:A:1250:C:C6	2.40	0.56
1:A:2405:C:P	37:A:6957:HOH:O	2.63	0.56
37:A:6387:HOH:O	18:R:50:GLY:HA2	2.05	0.56
3:C:36:ASP:HA	3:C:83:GLY:HA3	1.87	0.56
4:D:132:HIS:CE1	4:D:171:VAL:HG21	2.39	0.56
6:F:99:ASP:HB2	6:F:103:ASN:HB2	1.87	0.56
10:J:46:VAL:HG12	10:J:146:TRP:HZ3	1.70	0.56
12:L:55:VAL:HG12	12:L:56:SER:N	2.20	0.56
14:N:57:LYS:HE2	14:N:140:ALA:O	2.05	0.56
15:O:37:ARG:CZ	37:O:8534:HOH:O	2.54	0.56
17:Q:94:TRP:CZ2	17:Q:98:ILE:HG13	2.40	0.56
22:V:31:PHE:CG	22:V:37:GLU:HG2	2.40	0.56
23:W:39:ALA:N	23:W:40:PRO:CD	2.67	0.56
23:W:39:ALA:O	23:W:41:GLU:N	2.38	0.56
24:X:4:LEU:HD23	24:X:54:PHE:HB3	1.88	0.56
24:X:119:HIS:HD2	24:X:120:PRO:O	1.89	0.56
26:Z:189:ASN:ND2	26:Z:192:ASP:H	2.04	0.56
1:A:113:A:H3'	1:A:114:A:C5'	2.35	0.56
1:A:1181:A:H2'	1:A:1182:C:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:25:ALA:HA	37:C:8571:HOH:O	2.04	0.56
12:L:34:VAL:CG2	12:L:47:ALA:HB2	2.34	0.56
13:M:149:ARG:O	13:M:150:GLN:HB2	2.06	0.56
14:N:74:ARG:O	14:N:88:VAL:CG1	2.46	0.56
21:U:1:SER:N	37:U:5837:HOH:O	2.39	0.56
26:Z:112:GLU:OE1	26:Z:112:GLU:HA	2.06	0.56
1:A:1333:U:H2'	1:A:1334:C:C6	2.40	0.56
1:A:2121:G:C2'	1:A:2122:C:H5'	2.35	0.56
37:A:4988:HOH:O	3:C:6:GLY:HA3	2.04	0.56
3:C:199:HIS:HD2	3:C:201:PHE:HB2	1.69	0.56
4:D:204:GLY:C	37:D:8649:HOH:O	2.47	0.56
12:L:14:LYS:HG3	12:L:32:ILE:O	2.06	0.56
1:A:281:U:H3'	37:A:7566:HOH:O	2.06	0.56
1:A:777:U:O2'	28:2:11:LYS:HG2	2.05	0.56
1:A:1527:A:H1'	1:A:1528:A:C8	2.40	0.56
1:A:2329:C:O2'	1:A:2330:U:H5'	2.04	0.56
5:E:129:HIS:HD2	5:E:165:ASP:OD2	1.89	0.56
5:E:221:GLU:OE1	37:E:8332:HOH:O	2.18	0.56
6:F:41:LEU:HA	6:F:44:ILE:CG2	2.35	0.56
6:F:64:ARG:CD	6:F:67:ASP:HB3	2.36	0.56
10:J:130:HIS:CG	10:J:133:ILE:HD11	2.40	0.56
12:L:30:LYS:O	12:L:55:VAL:HG13	2.05	0.56
24:X:88:THR:HG23	24:X:110:GLN:HE21	1.71	0.56
30:4:48:ASN:HD22	30:4:50:GLY:H	1.47	0.56
1:A:2547:C:H2'	1:A:2548:C:H6	1.69	0.56
3:C:105:VAL:HG11	3:C:154:ALA:HB1	1.86	0.56
3:C:135:VAL:HG21	3:C:147:ARG:NH1	2.21	0.56
4:D:2:GLN:HA	37:D:8619:HOH:O	2.05	0.56
6:F:38:GLU:OE2	6:F:51:ARG:CZ	2.54	0.56
7:G:31:ARG:NH1	7:G:68:HIS:CG	2.74	0.56
8:H:100:ASP:O	8:H:101:ALA:O	2.24	0.56
11:K:104:TYR:HA	37:K:2238:HOH:O	2.04	0.56
19:S:114:VAL:O	19:S:114:VAL:HG13	2.06	0.56
23:W:44:GLY:O	23:W:48:GLU:HG2	2.05	0.56
24:X:122:ARG:HH11	24:X:122:ARG:CG	2.16	0.56
26:Z:117:LEU:HD12	26:Z:174:VAL:HG11	1.87	0.56
4:D:55:ASN:HB3	4:D:64:GLY:H	1.70	0.56
4:D:148:PRO:HD2	37:D:8581:HOH:O	2.05	0.56
5:E:162:VAL:HG13	5:E:232:LEU:HD21	1.86	0.56
6:F:99:ASP:HB3	6:F:103:ASN:H	1.71	0.56
8:H:91:VAL:HG12	8:H:92:GLY:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:35:PRO:HG3	14:N:38:VAL:HG23	1.87	0.56
14:N:102:GLU:OE2	14:N:117:SER:OG	2.22	0.56
14:N:114:VAL:HB	14:N:159:THR:HG23	1.86	0.56
1:A:2719:A:OP1	37:A:4389:HOH:O	2.18	0.56
3:C:105:VAL:HG13	3:C:155:THR:O	2.06	0.56
7:G:7:ILE:HD11	7:G:11:VAL:O	2.06	0.56
11:K:39:VAL:HG13	11:K:106:GLY:O	2.05	0.56
11:K:133:GLY:O	11:K:137:GLU:HG3	2.06	0.56
13:M:21:ARG:N	37:M:8533:HOH:O	2.39	0.56
13:M:72:ASN:O	13:M:76:LEU:HG	2.05	0.56
14:N:104:ARG:O	14:N:108:LYS:HG2	2.05	0.56
27:1:25:ARG:O	27:1:29:VAL:HG23	2.06	0.56
27:1:42:CYS:SG	27:1:43:GLY:N	2.79	0.56
30:4:60:LYS:HD2	30:4:61:PRO:HD2	1.88	0.56
1:A:128:A:H3'	1:A:128:A:C8	2.40	0.56
1:A:564:G:H1'	37:A:6670:HOH:O	2.06	0.56
1:A:2787:C:H5	37:A:4999:HOH:O	1.88	0.56
37:B:4707:HOH:O	15:O:147:ILE:HB	2.05	0.56
3:C:211:LYS:NZ	37:C:8631:HOH:O	2.39	0.56
13:M:89:PHE:N	37:M:8576:HOH:O	2.39	0.56
24:X:139:GLY:O	24:X:141:HIS:CD2	2.58	0.56
30:4:62:THR:HB	37:4:8551:HOH:O	2.04	0.56
1:A:188:C:H5''	14:N:163:LEU:HD21	1.87	0.55
1:A:921:G:H4'	1:A:924:G:C6	2.42	0.55
1:A:1166:A:H1'	1:A:1192:A:N1	2.20	0.55
1:A:1187:U:O2'	1:A:1189:A:H2	1.89	0.55
1:A:1189:A:O2'	1:A:1208:C:H2'	2.05	0.55
1:A:2450:C:H3'	37:A:5544:HOH:O	2.06	0.55
2:B:3040:C:N4	6:F:51:ARG:HB2	2.21	0.55
3:C:81:GLN:HB2	3:C:92:ASN:ND2	2.21	0.55
4:D:307:ARG:HH11	4:D:307:ARG:CB	2.20	0.55
6:F:10:PHE:CG	6:F:11:HIS:N	2.74	0.55
6:F:50:VAL:O	6:F:71:ALA:HA	2.06	0.55
12:L:32:ILE:HD11	12:L:56:SER:HB3	1.89	0.55
22:V:17:THR:HG22	22:V:18:GLY:N	2.21	0.55
1:A:1119:G:H2'	11:K:52:GLN:HE22	1.68	0.55
1:A:1183:C:N4	37:A:4768:HOH:O	2.34	0.55
1:A:1497:G:H4'	1:A:1627:G:O2'	2.06	0.55
1:A:1862:C:H1'	37:A:7579:HOH:O	2.06	0.55
1:A:2064:U:H4'	1:A:2653:A:P	2.47	0.55
1:A:2897:C:H2'	1:A:2898:G:H8	1.69	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:20:ILE:CD1	7:G:40:VAL:HG11	2.35	0.55
13:M:73:VAL:HG23	13:M:74:THR:H	1.70	0.55
15:O:34:LEU:HD22	15:O:129:ILE:CD1	2.35	0.55
26:Z:154:ARG:HH12	26:Z:155:ARG:HG3	1.70	0.55
29:3:49:GLU:CD	37:3:719:HOH:O	2.48	0.55
1:A:453:A:H4'	1:A:455:A:N7	2.21	0.55
1:A:1008:C:H5''	10:J:16:ARG:HH12	1.71	0.55
3:C:9:ARG:HG2	3:C:16:PHE:CD2	2.42	0.55
6:F:23:VAL:HG22	6:F:73:VAL:HB	1.87	0.55
21:U:9:LYS:CE	21:U:13:ARG:NH1	2.66	0.55
27:1:37:HIS:O	27:1:45:LYS:HA	2.05	0.55
29:3:18:ASN:ND2	29:3:40:ARG:H	2.05	0.55
30:4:10:TYR:HB2	30:4:17:HIS:CE1	2.41	0.55
1:A:156:C:H5''	14:N:171:ARG:CD	2.26	0.55
1:A:625:U:H5''	1:A:1044:C:N4	2.21	0.55
1:A:2634:G:O2'	1:A:2635:A:H5'	2.06	0.55
15:O:67:ALA:C	15:O:69:TYR:N	2.64	0.55
15:O:159:TYR:HE2	15:O:163:PHE:HE2	1.54	0.55
1:A:1205:U:H2'	1:A:1206:U:C5'	2.34	0.55
1:A:2266:A:P	37:A:6221:HOH:O	2.63	0.55
3:C:211:LYS:HB3	3:C:212:PRO:CD	2.33	0.55
7:G:10:ASP:HA	37:G:3707:HOH:O	2.06	0.55
1:A:214:U:H5'	37:A:6502:HOH:O	2.05	0.55
1:A:553:G:O4'	1:A:1325:G:H5'	2.06	0.55
1:A:681:G:H5'	1:A:681:G:N3	2.22	0.55
1:A:2783:A:O2'	1:A:2784:A:H5'	2.06	0.55
4:D:221:GLN:HE22	12:L:42:ASN:HD22	1.52	0.55
5:E:200:PRO:HB3	5:E:212:VAL:HG23	1.89	0.55
11:K:126:ASN:O	11:K:129:PHE:HE2	1.90	0.55
15:O:24:LEU:O	15:O:28:LYS:HG2	2.06	0.55
26:Z:185:VAL:HA	37:Z:8567:HOH:O	2.05	0.55
1:A:394:G:H1	14:N:181:GLU:CD	2.15	0.55
1:A:714:U:H3'	37:A:7299:HOH:O	2.07	0.55
1:A:1119:G:H8	11:K:52:GLN:HE22	1.54	0.55
1:A:1159:G:H21	1:A:1189:A:H8	1.53	0.55
1:A:1299:G:N2	37:A:5049:HOH:O	2.40	0.55
1:A:1717:A:H5''	17:Q:54:LYS:HB2	1.89	0.55
1:A:2324:G:H4'	1:A:2418:G:O2'	2.07	0.55
7:G:84:MET:HE1	7:G:148:ILE:HD13	1.87	0.55
8:H:99:THR:O	8:H:100:ASP:HB2	2.06	0.55
14:N:59:GLY:HA3	14:N:141:ILE:HD11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:289:G:O2'	1:A:290:C:H5'	2.06	0.55
1:A:485:A:O2'	1:A:487:G:H5'	2.07	0.55
1:A:1168:C:H2'	1:A:1169:U:O4'	2.06	0.55
1:A:2256:G:C2'	1:A:2257:G:H5'	2.37	0.55
1:A:2467:A:P	37:A:9444:HOH:O	2.64	0.55
2:B:3031:C:H1'	37:B:1137:HOH:O	2.07	0.55
12:L:74:VAL:HG12	12:L:75:ARG:HG3	1.89	0.55
13:M:57:VAL:O	13:M:57:VAL:HG12	2.06	0.55
14:N:85:ARG:NE	37:N:8519:HOH:O	2.40	0.55
1:A:1874:U:P	3:C:51:ARG:HD2	2.47	0.55
1:A:2563:U:H2'	1:A:2565:C:O5'	2.07	0.55
3:C:109:GLU:HG2	3:C:116:GLY:H	1.71	0.55
4:D:32:ASP:HA	37:D:8574:HOH:O	2.06	0.55
4:D:329:TYR:HE2	22:V:15:PRO:HG2	1.72	0.55
6:F:11:HIS:O	6:F:12:GLU:HB3	2.06	0.55
12:L:65:ARG:HD3	37:L:5358:HOH:O	2.07	0.55
20:T:37:VAL:O	20:T:41:VAL:HG23	2.06	0.55
24:X:110:GLN:HA	24:X:110:GLN:HE21	1.71	0.55
26:Z:178:HIS:CG	26:Z:179:PRO:HD2	2.42	0.55
1:A:2507:G:H2'	1:A:2510:C:H42	1.72	0.55
37:A:9608:HOH:O	3:C:11:ARG:HD3	2.06	0.55
4:D:185:GLY:HA2	37:D:8631:HOH:O	2.07	0.55
8:H:100:ASP:HB3	37:H:5691:HOH:O	2.07	0.55
9:I:64:ASN:O	9:I:68:GLU:HG3	2.07	0.55
11:K:46:ILE:HG12	11:K:53:ILE:HD13	1.89	0.55
24:X:90:TYR:CE2	24:X:99:ALA:HB2	2.42	0.55
26:Z:154:ARG:NH1	26:Z:155:ARG:HG3	2.22	0.55
27:1:30:GLU:HB2	37:1:8414:HOH:O	2.07	0.55
1:A:29:C:O2'	1:A:30:U:H5'	2.07	0.54
1:A:1187:U:H2'	37:A:7253:HOH:O	2.05	0.54
1:A:2524:G:H21	1:A:2526:C:N4	2.04	0.54
1:A:2756:U:H3	1:A:2896:A:H2	1.52	0.54
1:A:2781:U:H2'	1:A:2782:G:C5'	2.36	0.54
37:A:9476:HOH:O	4:D:214:PRO:HD2	2.07	0.54
3:C:199:HIS:CD2	3:C:201:PHE:HB2	2.42	0.54
5:E:184:ARG:NE	37:E:8420:HOH:O	2.32	0.54
11:K:127:ILE:N	35:K:8501:CL:CL	2.67	0.54
12:L:75:ARG:CZ	37:L:4172:HOH:O	2.54	0.54
21:U:47:THR:HB	21:U:100:ASP:HB3	1.89	0.54
22:V:11:THR:HG22	22:V:53:ASP:OD2	2.06	0.54
24:X:4:LEU:CD2	24:X:52:VAL:HG21	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:70:ILE:O	25:Y:70:ILE:HG23	2.07	0.54
26:Z:107:PRO:HB3	26:Z:182:PHE:CE2	2.42	0.54
1:A:1118:A:C8	1:A:1118:A:C3'	2.85	0.54
1:A:1500:U:P	17:Q:41:ARG:HH22	2.30	0.54
1:A:2836:G:C6	1:A:2838:A:C2	2.95	0.54
3:C:57:ALA:HA	3:C:67:LEU:HD23	1.88	0.54
10:J:35:ASN:ND2	10:J:80:ASN:HA	2.22	0.54
14:N:84:LYS:HA	30:4:46:ILE:O	2.06	0.54
15:O:107:ASN:OD1	35:O:8507:CL:CL	2.62	0.54
15:O:184:ILE:HG22	15:O:185:GLU:HG3	1.88	0.54
24:X:65:VAL:HG12	24:X:116:LEU:HD13	1.89	0.54
27:1:19:GLY:O	27:1:23:ARG:HG2	2.06	0.54
1:A:283:U:H5''	1:A:284:C:P	2.47	0.54
1:A:1503:U:H2'	1:A:1504:A:O4'	2.07	0.54
5:E:65:ARG:HG3	5:E:67:GLN:HB2	1.89	0.54
15:O:64:SER:C	15:O:66:LEU:H	2.16	0.54
15:O:152:GLU:C	15:O:154:LEU:H	2.13	0.54
16:P:14:LEU:CD2	16:P:102:ILE:HD11	2.36	0.54
22:V:33:SER:O	22:V:37:GLU:HG3	2.07	0.54
24:X:38:THR:HG22	24:X:39:ASP:N	2.22	0.54
27:1:46:LYS:HE2	37:1:8436:HOH:O	2.07	0.54
1:A:20:G:H21	19:S:117:HIS:HD2	1.55	0.54
1:A:2453:G:H5''	37:M:8546:HOH:O	2.06	0.54
1:A:2502:C:C4'	10:J:151:MET:HG2	2.36	0.54
1:A:1589:G:N2	1:A:1605:G:H1'	2.23	0.54
1:A:1743:G:H1'	37:A:5254:HOH:O	2.06	0.54
1:A:1787:C:OP1	17:Q:68:LYS:HE2	2.08	0.54
1:A:2111:G:H1'	37:A:9448:HOH:O	2.07	0.54
3:C:192:VAL:O	3:C:192:VAL:CG1	2.55	0.54
3:C:217:ARG:HG2	3:C:229:ALA:HB2	1.90	0.54
10:J:165:GLY:C	10:J:166:ASN:HD22	2.15	0.54
11:K:39:VAL:HG12	11:K:40:ASN:ND2	2.22	0.54
12:L:9:THR:O	12:L:10:GLN:C	2.49	0.54
17:Q:31:ILE:HG12	17:Q:43:LEU:HD13	1.90	0.54
22:V:47:ARG:HG3	37:V:4381:HOH:O	2.07	0.54
25:Y:74:ALA:HB2	25:Y:85:VAL:HG13	1.89	0.54
29:3:41:HIS:H	29:3:45:ASN:ND2	2.01	0.54
1:A:1250:C:O2'	1:A:1251:C:H5'	2.08	0.54
2:B:3049:G:O2'	2:B:3050:G:H5'	2.08	0.54
3:C:93:THR:C	3:C:94:LEU:HD23	2.32	0.54
4:D:27:ASN:HB3	37:D:8626:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:25:PRO:HG2	37:E:8324:HOH:O	2.08	0.54
10:J:150:LYS:HA	10:J:153:VAL:HG22	1.89	0.54
24:X:121:PRO:HA	24:X:153:MET:HG2	1.89	0.54
30:4:74:CYS:SG	30:4:76:LYS:CG	2.95	0.54
30:4:84:ARG:HB3	37:4:8551:HOH:O	2.08	0.54
2:B:3023:U:C5'	2:B:3024:U:OP2	2.55	0.54
5:E:111:VAL:HB	37:E:8323:HOH:O	2.07	0.54
10:J:59:ASN:N	10:J:59:ASN:ND2	2.51	0.54
10:J:166:ASN:N	10:J:166:ASN:ND2	2.55	0.54
12:L:106:GLY:HA3	37:L:5264:HOH:O	2.07	0.54
25:Y:76:ARG:O	25:Y:77:PHE:HB3	2.07	0.54
28:2:28:HIS:O	28:2:32:LYS:N	2.40	0.54
1:A:920:C:H4'	1:A:921:G:N2	2.21	0.54
1:A:1583:U:H1'	37:A:3355:HOH:O	2.07	0.54
3:C:18:ALA:O	3:C:20:SER:N	2.38	0.54
4:D:7:ARG:NH1	4:D:11:LEU:HD22	2.23	0.54
5:E:40:ALA:CB	5:E:100:LEU:HD12	2.38	0.54
5:E:127:ARG:HG2	5:E:127:ARG:NH1	2.23	0.54
6:F:23:VAL:HG21	6:F:45:THR:CG2	2.37	0.54
8:H:60:VAL:O	8:H:61:MET:C	2.50	0.54
11:K:19:MET:HE1	11:K:78:ILE:HG22	1.90	0.54
25:Y:9:VAL:HG22	25:Y:88:GLU:OE2	2.07	0.54
1:A:396:U:H4'	37:A:4800:HOH:O	2.08	0.54
1:A:420:U:H2'	1:A:421:C:C6	2.42	0.54
1:A:1421:C:O2'	1:A:1422:U:H5'	2.08	0.54
3:C:29:HIS:CE1	3:C:107:ASN:ND2	2.76	0.54
3:C:109:GLU:HG2	3:C:116:GLY:N	2.23	0.54
4:D:320:GLN:HG3	4:D:321:PRO:HD2	1.90	0.54
5:E:246:ARG:NH1	37:E:8374:HOH:O	2.41	0.54
6:F:27:ILE:HG22	6:F:28:GLY:N	2.17	0.54
7:G:86:VAL:CG1	7:G:129:GLU:HA	2.38	0.54
17:Q:103:THR:O	17:Q:107:GLU:HG3	2.08	0.54
19:S:39:THR:CB	19:S:42:GLU:HG3	2.34	0.54
29:3:48:ASP:O	29:3:49:GLU:HB2	2.08	0.54
1:A:558:C:H2'	1:A:559:U:H5'	1.90	0.54
1:A:797:A:O4'	27:1:10:ARG:N	2.41	0.54
1:A:2123:A:H5'	14:N:89:ASN:HD21	1.73	0.54
37:A:4153:HOH:O	22:V:17:THR:CG2	2.56	0.54
14:N:30:GLU:O	14:N:34:GLU:HG3	2.08	0.54
19:S:82:GLU:O	19:S:86:LYS:HG3	2.08	0.54
21:U:12:ARG:NH1	37:U:3035:HOH:O	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:545:G:H5'	1:A:545:G:C8	2.36	0.53
1:A:820:G:C5	3:C:171:LYS:HB2	2.43	0.53
1:A:1246:A:O2'	1:A:1247:A:H3'	2.08	0.53
1:A:1595:G:O2'	1:A:1596:U:H5'	2.08	0.53
2:B:3051:A:H5'	15:O:160:SER:HB3	1.91	0.53
4:D:280:VAL:HG13	4:D:334:SER:HA	1.90	0.53
4:D:333:GLU:HB2	22:V:14:GLU:OE2	2.08	0.53
14:N:65:VAL:HG21	14:N:105:ALA:HB2	1.90	0.53
14:N:168:ARG:NH1	37:N:8606:HOH:O	2.36	0.53
1:A:622:G:O2'	1:A:623:U:H5'	2.08	0.53
1:A:1056:U:H2'	1:A:1057:A:O4'	2.08	0.53
1:A:1209:C:H2'	1:A:1210:G:C8	2.42	0.53
1:A:1500:U:OP2	17:Q:41:ARG:NH2	2.41	0.53
1:A:1753:C:O2	4:D:229:ARG:NH2	2.41	0.53
1:A:2326:U:H4'	1:A:2412:G:H4'	1.90	0.53
1:A:2488:A:H61	1:A:2534:C:H42	1.56	0.53
37:A:5093:HOH:O	15:O:21:HIS:HD2	1.91	0.53
3:C:8:ARG:HG2	37:C:8556:HOH:O	2.08	0.53
13:M:125:PHE:CE1	13:M:140:VAL:HG13	2.44	0.53
14:N:39:ARG:CZ	37:N:8626:HOH:O	2.56	0.53
14:N:106:ASN:ND2	35:N:8518:CL:CL	2.79	0.53
14:N:122:GLU:HB2	14:N:126:HIS:O	2.08	0.53
19:S:31:ILE:O	19:S:32:ALA:C	2.50	0.53
19:S:132:ARG:HG2	19:S:133:ALA:N	2.22	0.53
23:W:64:GLY:O	23:W:65:ASP:CB	2.56	0.53
27:1:39:CYS:SG	27:1:47:LEU:CD2	2.78	0.53
27:1:47:LEU:CD2	27:1:57:CYS:HB2	2.38	0.53
30:4:44:SER:HA	30:4:49:ASP:OD1	2.08	0.53
1:A:970:U:H2'	37:A:6688:HOH:O	2.08	0.53
1:A:2503:A:OP1	10:J:147:ARG:NH2	2.31	0.53
3:C:173:GLY:O	3:C:177:HIS:CD2	2.62	0.53
4:D:30:PRO:HB2	4:D:39:GLN:NE2	2.23	0.53
15:O:67:ALA:C	15:O:69:TYR:H	2.17	0.53
22:V:44:ARG:HB3	37:V:3805:HOH:O	2.07	0.53
24:X:14:HIS:HB2	24:X:17:ILE:HG13	1.90	0.53
1:A:1189:A:H1'	1:A:1209:C:O4'	2.08	0.53
1:A:1687:C:O2	28:2:9:GLY:HA2	2.08	0.53
1:A:2415:A:N3	15:O:26:LEU:HD13	2.23	0.53
3:C:164:ARG:NE	37:C:8596:HOH:O	2.41	0.53
3:C:200:PRO:HD3	37:C:8520:HOH:O	2.07	0.53
5:E:154:VAL:O	5:E:158:GLU:HG3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:246:ARG:NE	37:E:8431:HOH:O	2.42	0.53
14:N:87:MET:HE1	37:N:8532:HOH:O	2.07	0.53
26:Z:235:GLU:CD	26:Z:235:GLU:N	2.66	0.53
27:1:50:ALA:HB3	27:1:54:ILE:HG22	1.91	0.53
1:A:506:G:N2	1:A:509:A:H5'	2.16	0.53
1:A:513:A:N3	37:A:4039:HOH:O	2.34	0.53
1:A:912:A:C4	1:A:1294:A:C2	2.97	0.53
1:A:1845:A:OP2	3:C:190:ARG:NH1	2.41	0.53
3:C:194:MET:HE3	3:C:199:HIS:CB	2.37	0.53
4:D:217:ARG:HG3	4:D:257:THR:CG2	2.38	0.53
8:H:37:THR:O	8:H:41:GLU:HG3	2.09	0.53
1:A:113:A:OP2	1:A:114:A:H2'	2.08	0.53
1:A:960:G:H2'	1:A:960:G:N3	2.24	0.53
1:A:1119:G:H8	11:K:52:GLN:NE2	2.06	0.53
1:A:1304:U:H2'	1:A:1305:C:C6	2.44	0.53
1:A:2766:A:O2'	1:A:2767:C:H5'	2.09	0.53
5:E:118:THR:O	5:E:136:VAL:HG13	2.07	0.53
10:J:71:TYR:C	10:J:73:GLN:N	2.65	0.53
13:M:90:ARG:NH2	13:M:121:ILE:HD11	2.22	0.53
1:A:172:U:OP2	37:A:6574:HOH:O	2.18	0.53
1:A:639:A:H2'	1:A:640:G:C8	2.43	0.53
1:A:2093:G:H5''	37:A:9864:HOH:O	2.07	0.53
1:A:2256:G:H2'	1:A:2257:G:C5'	2.39	0.53
1:A:2432:C:H2'	1:A:2433:A:H8	1.74	0.53
1:A:2445:U:H2'	1:A:2446:G:C8	2.44	0.53
1:A:2541:U:H2'	1:A:2542:C:H6	1.74	0.53
1:A:2737:C:H2'	37:A:6504:HOH:O	2.08	0.53
4:D:51:VAL:CG2	4:D:327:VAL:HG13	2.38	0.53
6:F:86:THR:C	6:F:89:PRO:HD2	2.34	0.53
9:I:12:ILE:HG22	9:I:12:ILE:O	2.08	0.53
10:J:53:PRO:HA	10:J:125:VAL:O	2.08	0.53
10:J:56:ILE:HG21	10:J:61:LEU:HD13	1.90	0.53
21:U:32:ARG:NH1	21:U:38:ARG:HH12	2.06	0.53
1:A:1718:G:OP2	17:Q:20:ARG:HD2	2.08	0.53
1:A:2432:C:H4'	30:4:36:ILE:HG12	1.90	0.53
1:A:2464:C:H5''	1:A:2465:A:OP1	2.08	0.53
37:A:4777:HOH:O	3:C:11:ARG:CZ	2.57	0.53
15:O:87:LEU:CD1	15:O:186:LEU:HD21	2.33	0.53
19:S:82:GLU:HG3	19:S:83:LYS:N	2.24	0.53
1:A:221:G:H2'	1:A:222:A:C8	2.43	0.53
1:A:952:G:OP1	18:R:42:LYS:HE2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1735:C:O2'	1:A:1736:A:H5'	2.08	0.53
4:D:14:GLY:HA2	4:D:15:PRO:C	2.34	0.53
1:A:474:C:O3'	5:E:73:LEU:HD21	2.08	0.53
1:A:1173:A:H2'	37:A:4715:HOH:O	2.09	0.53
1:A:1213:C:O2'	1:A:1214:G:H5'	2.09	0.53
1:A:1299:G:O6	13:M:6:ARG:HD3	2.09	0.53
1:A:1943:C:O4'	3:C:212:PRO:HA	2.08	0.53
1:A:2088:C:H1'	1:A:2841:A:N1	2.23	0.53
1:A:2505:G:H8	37:A:5999:HOH:O	1.92	0.53
1:A:2578:G:H5'	1:A:2578:G:C8	2.40	0.53
4:D:307:ARG:HH11	4:D:307:ARG:CG	2.22	0.53
14:N:154:ARG:CD	37:N:8648:HOH:O	2.56	0.53
25:Y:76:ARG:HG3	25:Y:76:ARG:NH1	2.22	0.53
26:Z:144:ARG:NE	37:Z:8616:HOH:O	2.42	0.53
1:A:61:G:OP1	29:3:17:GLN:HG2	2.09	0.52
1:A:272:A:H5'	1:A:273:G:OP2	2.09	0.52
1:A:1713:G:C1'	37:A:5435:HOH:O	2.56	0.52
1:A:2073:G:OP2	1:A:2490:A:H5'	2.09	0.52
5:E:89:ALA:O	37:E:8315:HOH:O	2.19	0.52
10:J:85:ILE:HB	10:J:132:PHE:CE2	2.44	0.52
13:M:72:ASN:OD1	13:M:75:LEU:HD12	2.09	0.52
24:X:151:GLU:O	24:X:154:ARG:HB3	2.09	0.52
26:Z:126:PRO:HG2	26:Z:128:PHE:CE1	2.43	0.52
1:A:542:A:H2'	1:A:543:G:O4'	2.08	0.52
1:A:2320:U:H4'	1:A:2321:A:O4'	2.09	0.52
7:G:11:VAL:CG1	7:G:12:ASP:N	2.71	0.52
7:G:43:ASP:HA	37:G:5864:HOH:O	2.10	0.52
11:K:52:GLN:HG3	11:K:53:ILE:N	2.24	0.52
29:3:49:GLU:HB2	37:3:719:HOH:O	2.08	0.52
1:A:47:G:N3	1:A:114:A:C2	2.77	0.52
1:A:538:C:OP2	26:Z:134:HIS:HE1	1.93	0.52
1:A:962:C:C1'	15:O:5:ARG:NH1	2.66	0.52
1:A:1787:C:H4'	1:A:2883:A:O4'	2.09	0.52
1:A:2428:G:C6	1:A:2464:C:H1'	2.44	0.52
1:A:2724:U:H2'	1:A:2725:G:O4'	2.08	0.52
37:A:6680:HOH:O	6:F:55:LYS:HB2	2.09	0.52
3:C:153:ARG:HH11	3:C:153:ARG:CB	2.22	0.52
8:H:21:GLU:O	8:H:24:ARG:HG3	2.08	0.52
8:H:48:VAL:CG2	8:H:74:PHE:HB3	2.38	0.52
10:J:47:GLU:CB	10:J:133:ILE:HD13	2.39	0.52
1:A:344:C:H2'	1:A:345:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:383:A:H4'	37:A:5690:HOH:O	2.09	0.52
1:A:796:A:C2	1:A:818:A:H1'	2.45	0.52
1:A:1711:A:O2'	1:A:1712:A:H5'	2.10	0.52
1:A:2015:A:H2'	1:A:2016:U:O4'	2.08	0.52
1:A:2064:U:H5'	1:A:2652:U:H4'	1.91	0.52
1:A:2262:C:O5'	1:A:2262:C:H6	1.91	0.52
37:A:7762:HOH:O	21:U:2:LYS:HE2	2.08	0.52
4:D:24:PRO:CG	4:D:204:GLY:HA2	2.40	0.52
5:E:40:ALA:HB3	5:E:100:LEU:HD12	1.90	0.52
6:F:65:GLU:HA	37:F:6752:HOH:O	2.08	0.52
14:N:108:LYS:HE3	37:N:8618:HOH:O	2.10	0.52
16:P:44:ASN:HA	16:P:65:LEU:O	2.10	0.52
16:P:59:VAL:HG23	16:P:111:VAL:HG23	1.90	0.52
25:Y:21:PRO:HG2	25:Y:24:LYS:HD3	1.91	0.52
1:A:392:U:O2'	14:N:182:LYS:HE2	2.08	0.52
1:A:431:G:P	14:N:48:ARG:HH12	2.31	0.52
1:A:1730:G:H4'	1:A:1731:C:O5'	2.10	0.52
1:A:1878:G:O2'	1:A:1879:U:C6	2.60	0.52
1:A:2249:G:OP2	37:A:5804:HOH:O	2.18	0.52
1:A:2779:G:H21	7:G:143:GLN:NE2	2.08	0.52
1:A:2837:U:H2'	37:A:7196:HOH:O	2.09	0.52
5:E:115:LEU:HD13	5:E:223:LEU:CD2	2.24	0.52
6:F:84:LEU:C	6:F:86:THR:H	2.17	0.52
8:H:110:GLU:O	8:H:114:LYS:HG3	2.09	0.52
10:J:29:ALA:N	10:J:62:GLU:OE1	2.40	0.52
24:X:121:PRO:CA	24:X:153:MET:HG2	2.40	0.52
26:Z:184:GLU:OE1	26:Z:204:ARG:NH1	2.42	0.52
30:4:11:CYS:SG	30:4:20:HIS:NE2	2.82	0.52
1:A:316:A:H5'	21:U:54:ASP:OD2	2.09	0.52
1:A:911:G:H5'	1:A:932:U:OP1	2.10	0.52
1:A:1778:A:H2'	1:A:1779:A:H5'	1.91	0.52
3:C:81:GLN:H	3:C:92:ASN:CG	2.18	0.52
6:F:146:LYS:HZ3	15:O:107:ASN:HD21	1.56	0.52
7:G:116:THR:HG22	7:G:151:LEU:HD22	1.92	0.52
13:M:143:THR:CG2	13:M:144:ASP:H	2.23	0.52
14:N:106:ASN:HD22	14:N:114:VAL:HG23	1.74	0.52
15:O:29:SER:HA	37:O:8557:HOH:O	2.09	0.52
24:X:130:HIS:C	24:X:136:GLY:HA3	2.34	0.52
28:2:44:LYS:NZ	37:2:7145:HOH:O	2.43	0.52
1:A:1636:G:O2'	1:A:1637:A:H5'	2.09	0.52
1:A:2851:G:C2'	1:A:2852:A:H5'	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:11:HIS:C	6:F:13:MET:H	2.18	0.52
15:O:143:ARG:HA	15:O:172:PHE:CD2	2.45	0.52
17:Q:115:SER:HG	17:Q:118:GLN:HG3	1.73	0.52
19:S:61:GLN:CD	37:S:8541:HOH:O	2.52	0.52
21:U:75:GLU:O	21:U:76:ASP:HB2	2.09	0.52
22:V:13:ILE:HG12	22:V:32:CYS:HB3	1.90	0.52
1:A:256:C:H2'	1:A:257:G:O4'	2.09	0.52
1:A:675:U:H2'	1:A:676:C:H5'	1.91	0.52
1:A:1559:A:H1'	37:A:6226:HOH:O	2.10	0.52
1:A:1603:A:H5'	1:A:1605:G:C4'	2.40	0.52
2:B:3045:A:H2'	2:B:3046:C:H6	1.74	0.52
3:C:51:ARG:HB2	37:C:8616:HOH:O	2.09	0.52
5:E:118:THR:HG22	5:E:137:PRO:HB3	1.92	0.52
6:F:41:LEU:CA	6:F:44:ILE:HG22	2.39	0.52
6:F:103:ASN:ND2	6:F:134:LEU:H	2.07	0.52
30:4:40:ARG:HG3	30:4:52:PHE:CD2	2.44	0.52
30:4:62:THR:HG23	37:4:8530:HOH:O	2.10	0.52
1:A:1886:A:O2'	27:1:20:LEU:HB2	2.10	0.52
1:A:1887:U:OP1	27:1:21:LYS:HG3	2.10	0.52
3:C:217:ARG:HH11	3:C:217:ARG:CG	2.22	0.52
8:H:6:PHE:CD1	8:H:6:PHE:O	2.63	0.52
8:H:39:SER:HB3	8:H:45:ALA:HB2	1.91	0.52
37:L:408:HOH:O	22:V:37:GLU:HB3	2.09	0.52
16:P:47:ARG:NH1	37:P:4564:HOH:O	2.42	0.52
1:A:542:A:H1'	37:A:5042:HOH:O	2.10	0.52
1:A:1189:A:H1'	1:A:1209:C:C1'	2.39	0.52
1:A:1211:G:O2'	1:A:1212:C:H5'	2.09	0.52
1:A:2314:G:H2'	1:A:2315:C:H5'	1.92	0.52
1:A:2443:C:H3'	37:A:3850:HOH:O	2.09	0.52
1:A:2630:G:O6	3:C:206:ARG:NH2	2.43	0.52
1:A:2909:G:O2'	1:A:2910:A:H5'	2.10	0.52
2:B:3013:A:O2'	2:B:3014:G:H5''	2.10	0.52
4:D:215:VAL:HA	4:D:220:VAL:HG22	1.92	0.52
15:O:43:VAL:O	15:O:43:VAL:HG12	2.10	0.52
21:U:19:ARG:NH1	21:U:68:ASP:O	2.42	0.52
1:A:1164:U:O4'	1:A:1165:G:OP1	2.27	0.51
1:A:2559:C:H4'	37:A:7614:HOH:O	2.09	0.51
8:H:58:GLU:CA	8:H:61:MET:HG3	2.38	0.51
15:O:113:SER:HB3	37:O:8555:HOH:O	2.10	0.51
17:Q:115:SER:C	17:Q:117:SER:N	2.68	0.51
1:A:2429:A:H2'	1:A:2430:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:7781:HOH:O	21:U:9:LYS:HD2	2.10	0.51
37:A:7855:HOH:O	22:V:50:GLU:CD	2.53	0.51
5:E:185:LYS:HD3	5:E:186:TYR:CE1	2.44	0.51
18:R:50:GLY:HA3	18:R:87:THR:OG1	2.11	0.51
24:X:122:ARG:HG2	24:X:152:ALA:O	2.09	0.51
27:1:48:LYS:HG2	37:1:8428:HOH:O	2.11	0.51
1:A:1010:C:H4'	15:O:4:PRO:HB2	1.92	0.51
1:A:2114:C:OP1	3:C:1:GLY:HA2	2.11	0.51
1:A:2768:A:O2'	1:A:2769:C:H5'	2.10	0.51
1:A:2894:C:O2'	1:A:2895:C:H5'	2.10	0.51
5:E:237:GLU:HB2	37:E:8438:HOH:O	2.10	0.51
7:G:101:GLU:HB2	7:G:116:THR:O	2.09	0.51
10:J:110:GLY:N	37:J:8396:HOH:O	2.42	0.51
37:L:7438:HOH:O	22:V:20:MET:HE1	2.10	0.51
13:M:140:VAL:HG23	37:M:8562:HOH:O	2.09	0.51
15:O:25:ARG:HA	15:O:28:LYS:HG3	1.92	0.51
1:A:1391:G:H2'	1:A:1392:A:H5'	1.93	0.51
1:A:1791:U:H2'	1:A:1792:C:C6	2.46	0.51
1:A:2010:A:C2'	37:A:6320:HOH:O	2.59	0.51
3:C:99:ILE:O	3:C:131:HIS:CE1	2.62	0.51
3:C:123:GLY:HA2	3:C:159:VAL:O	2.11	0.51
4:D:280:VAL:CG1	4:D:334:SER:HA	2.41	0.51
6:F:59:GLY:C	6:F:61:PHE:H	2.19	0.51
20:T:11:THR:H	20:T:14:ALA:HB3	1.74	0.51
23:W:49:LEU:O	23:W:53:ILE:HG13	2.10	0.51
24:X:122:ARG:CG	24:X:152:ALA:O	2.59	0.51
4:D:1:PRO:O	4:D:2:GLN:HB2	2.10	0.51
14:N:184:ARG:HG3	14:N:185:PRO:HA	1.91	0.51
16:P:80:ASP:OD1	16:P:81:PHE:N	2.44	0.51
22:V:9:CYS:SG	22:V:11:THR:N	2.74	0.51
24:X:90:TYR:N	24:X:90:TYR:CD1	2.78	0.51
30:4:69:TYR:CB	30:4:78:HIS:CE1	2.93	0.51
1:A:88:G:H5'	1:A:88:G:H8	1.76	0.51
1:A:1014:A:H5''	2:B:3101:G:O2'	2.10	0.51
1:A:1180:U:H2'	1:A:1181:A:O4'	2.11	0.51
1:A:1188:A:C5	1:A:1189:A:C2	2.99	0.51
1:A:1316:G:H1'	1:A:1340:G:N2	2.26	0.51
1:A:1666:C:O2'	1:A:1667:A:C5'	2.58	0.51
1:A:1979:G:OP1	37:A:6674:HOH:O	2.19	0.51
37:A:4235:HOH:O	10:J:90:PHE:CD2	2.55	0.51
4:D:82:VAL:O	4:D:82:VAL:HG12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:35:ASN:ND2	10:J:79:ALA:O	2.43	0.51
1:A:1669:A:H2'	1:A:1670:G:C8	2.46	0.51
1:A:2092:G:H2'	1:A:2613:G:OP1	2.11	0.51
1:A:2782:G:OP1	7:G:71:ASN:ND2	2.41	0.51
7:G:20:ILE:CD1	7:G:33:LEU:HD12	2.40	0.51
10:J:26:LYS:HD3	10:J:89:PRO:HG3	1.93	0.51
14:N:76:ARG:HB2	14:N:88:VAL:HG21	1.92	0.51
14:N:87:MET:CE	37:N:8532:HOH:O	2.58	0.51
24:X:13:MET:HE2	24:X:18:GLN:N	2.26	0.51
1:A:120:A:H2'	1:A:120:A:N3	2.26	0.51
1:A:398:U:H2'	1:A:399:C:C6	2.46	0.51
1:A:541:C:O2'	1:A:542:A:H5''	2.10	0.51
1:A:1377:C:H5'	1:A:1377:C:C6	2.43	0.51
1:A:1504:A:O2'	1:A:1506:U:OP2	2.29	0.51
1:A:2869:G:H5'	37:A:5856:HOH:O	2.11	0.51
6:F:99:ASP:O	6:F:159:PRO:HG3	2.10	0.51
11:K:19:MET:SD	11:K:132:LEU:HD21	2.51	0.51
13:M:73:VAL:HG23	13:M:74:THR:N	2.26	0.51
13:M:143:THR:HG21	37:M:8543:HOH:O	2.10	0.51
30:4:6:ARG:NH1	30:4:21:GLU:HB2	2.25	0.51
1:A:1791:U:H2'	1:A:1792:C:H6	1.74	0.51
1:A:2004:U:H1'	37:A:3569:HOH:O	2.09	0.51
37:A:4889:HOH:O	14:N:94:LYS:HE3	2.11	0.51
3:C:195:ASN:O	3:C:196:ALA:C	2.54	0.51
4:D:132:HIS:CE1	4:D:171:VAL:CG2	2.94	0.51
6:F:57:THR:HG23	6:F:63:ILE:CG2	2.39	0.51
14:N:71:SER:O	14:N:73:ARG:NH1	2.41	0.51
20:T:29:ASP:OD1	20:T:31:ARG:NH1	2.44	0.51
1:A:585:C:H6	37:A:6456:HOH:O	1.93	0.51
1:A:1384:C:H5'	25:Y:30:MET:HG2	1.93	0.51
1:A:1654:U:H2'	3:C:47:HIS:CD2	2.47	0.51
1:A:1862:C:O2'	1:A:1863:G:H5'	2.11	0.51
7:G:133:VAL:HG12	7:G:141:VAL:HG13	1.93	0.51
10:J:83:PHE:HZ	10:J:146:TRP:HE1	1.53	0.51
10:J:157:ILE:HG22	10:J:158:ASN:N	2.26	0.51
11:K:80:LYS:HE2	11:K:98:PHE:CZ	2.46	0.51
15:O:3:GLY:HA3	37:O:8512:HOH:O	2.10	0.51
1:A:269:G:C2	1:A:270:U:O4	2.64	0.50
1:A:401:C:H5'	37:A:6155:HOH:O	2.10	0.50
1:A:508:A:H2'	1:A:509:A:H5''	1.92	0.50
1:A:657:G:OP1	5:E:27:ARG:NH2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:821:U:H2'	1:A:822:C:C6	2.44	0.50
37:A:3326:HOH:O	25:Y:23:HIS:HD2	1.93	0.50
4:D:125:GLU:O	4:D:129:ARG:HG3	2.11	0.50
10:J:62:GLU:HA	37:J:8383:HOH:O	2.09	0.50
15:O:139:TRP:HA	15:O:139:TRP:CE3	2.45	0.50
20:T:43:GLU:HB3	37:T:8343:HOH:O	2.12	0.50
1:A:559:U:H2'	1:A:560:C:O4'	2.11	0.50
1:A:1921:A:C6	1:A:1922:A:C2	2.99	0.50
8:H:117:GLU:C	8:H:119:ARG:N	2.69	0.50
10:J:39:GLY:O	10:J:41:THR:N	2.45	0.50
10:J:151:MET:HA	10:J:151:MET:HE3	1.92	0.50
15:O:80:SER:HB2	37:O:8536:HOH:O	2.12	0.50
15:O:154:LEU:O	15:O:155:GLU:CB	2.60	0.50
15:O:180:LEU:O	15:O:181:ASP:HB3	2.10	0.50
17:Q:10:ALA:HA	17:Q:13:VAL:HG12	1.92	0.50
24:X:4:LEU:HD21	24:X:52:VAL:HG11	1.93	0.50
1:A:111:C:H2'	1:A:112:G:O4'	2.12	0.50
1:A:660:A:H4'	1:A:661:G:O5'	2.12	0.50
1:A:1129:C:H5''	1:A:1130:U:OP2	2.11	0.50
1:A:2482:G:N2	1:A:2485:A:OP2	2.43	0.50
2:B:3059:C:H5'	37:B:5233:HOH:O	2.10	0.50
5:E:133:ARG:NH2	37:E:8433:HOH:O	2.44	0.50
5:E:150:THR:HA	5:E:203:ALA:O	2.10	0.50
10:J:127:GLY:O	10:J:128:ALA:CB	2.59	0.50
10:J:141:ASN:CA	37:J:8365:HOH:O	2.54	0.50
12:L:58:THR:HG22	12:L:59:LYS:HG3	1.94	0.50
15:O:154:LEU:HG	15:O:155:GLU:N	2.26	0.50
15:O:161:GLY:O	15:O:162:ASP:C	2.53	0.50
21:U:49:GLU:OE2	21:U:97:ARG:HD2	2.11	0.50
26:Z:172:THR:HG22	26:Z:173:ALA:N	2.24	0.50
29:3:22:PRO:HG2	29:3:25:VAL:CG2	2.40	0.50
1:A:1641:A:H2'	1:A:1642:A:H5'	1.93	0.50
1:A:2010:A:H2'	37:A:6320:HOH:O	2.11	0.50
37:A:4562:HOH:O	26:Z:186:ARG:HD2	2.11	0.50
37:A:7500:HOH:O	28:2:1:THR:HB	2.10	0.50
2:B:3055:U:H4'	2:B:3056:A:C8	2.46	0.50
4:D:248:ARG:HG2	37:K:3517:HOH:O	2.11	0.50
6:F:136:ARG:HD2	6:F:155:HIS:O	2.11	0.50
7:G:11:VAL:HG13	7:G:23:GLU:O	2.10	0.50
14:N:37:VAL:CG1	14:N:63:VAL:HG11	2.41	0.50
15:O:110:THR:HB	15:O:113:SER:OG	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:38:GLU:HA	17:Q:41:ARG:NH1	2.27	0.50
18:R:75:ILE:HD13	18:R:84:ILE:HD11	1.94	0.50
24:X:26:ILE:O	24:X:26:ILE:CG1	2.57	0.50
1:A:88:G:H2'	1:A:89:G:C8	2.45	0.50
1:A:2718:C:H6	1:A:2718:C:H5'	1.77	0.50
5:E:20:ASP:O	5:E:23:GLU:HB2	2.12	0.50
7:G:20:ILE:HD12	7:G:33:LEU:HD12	1.93	0.50
7:G:69:ILE:HA	7:G:72:MET:HE3	1.94	0.50
8:H:34:ASN:O	8:H:38:LYS:HG3	2.11	0.50
12:L:40:THR:O	12:L:41:LYS:C	2.55	0.50
14:N:115:LEU:HD13	14:N:116:ASN:HB2	1.94	0.50
21:U:80:GLU:HA	37:U:6653:HOH:O	2.12	0.50
24:X:65:VAL:CA	24:X:68:THR:HG22	2.36	0.50
1:A:289:G:N2	1:A:363:A:H2	2.06	0.50
1:A:466:A:H2'	1:A:467:G:O4'	2.12	0.50
1:A:470:U:O2'	28:2:16:HIS:CD2	2.63	0.50
1:A:488:U:C2'	37:A:4384:HOH:O	2.59	0.50
1:A:2434:A:H2'	1:A:2435:U:H6	1.77	0.50
1:A:2570:G:H5''	37:A:5277:HOH:O	2.11	0.50
37:A:3337:HOH:O	30:4:84:ARG:HB2	2.12	0.50
37:A:3364:HOH:O	13:M:22:ARG:HG2	2.12	0.50
23:W:58:THR:O	23:W:62:GLU:HG3	2.11	0.50
26:Z:234:VAL:HG12	26:Z:235:GLU:N	2.26	0.50
30:4:7:PHE:CE1	30:4:9:THR:HB	2.47	0.50
1:A:160:A:C4	1:A:177:A:C2	2.99	0.50
1:A:1183:C:O2	37:A:6608:HOH:O	2.20	0.50
1:A:2413:A:N7	15:O:109:PRO:HB3	2.27	0.50
1:A:2679:G:H2'	1:A:2681:A:OP2	2.11	0.50
4:D:76:THR:N	4:D:77:PRO:HD3	2.26	0.50
5:E:104:ASP:O	5:E:108:GLN:HG3	2.12	0.50
7:G:5:LEU:HD21	7:G:66:GLN:HG3	1.93	0.50
7:G:11:VAL:HG12	7:G:12:ASP:H	1.76	0.50
8:H:50:VAL:CG2	8:H:63:ILE:HG21	2.42	0.50
14:N:95:LYS:HG2	14:N:99:ARG:HB3	1.93	0.50
19:S:39:THR:O	19:S:40:ALA:C	2.53	0.50
24:X:26:ILE:O	24:X:26:ILE:HG13	2.10	0.50
25:Y:43:VAL:HG12	25:Y:44:ASP:N	2.26	0.50
26:Z:106:THR:HG23	26:Z:107:PRO:HD2	1.94	0.50
30:4:40:ARG:HA	30:4:52:PHE:CZ	2.47	0.50
1:A:1331:A:OP2	26:Z:142:SER:OG	2.29	0.50
1:A:1593:C:H5'	17:Q:116:SER:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3030:C:OP1	6:F:137:PRO:O	2.29	0.50
5:E:236:THR:C	37:E:8455:HOH:O	2.54	0.50
6:F:25:MET:HE3	6:F:37:ALA:HB1	1.92	0.50
10:J:72:VAL:HG11	10:J:81:TYR:CZ	2.47	0.50
10:J:163:PRO:HG2	37:J:8338:HOH:O	2.11	0.50
13:M:90:ARG:HH11	13:M:90:ARG:HG3	1.76	0.50
13:M:93:VAL:HG12	13:M:97:VAL:HG23	1.94	0.50
24:X:3:ALA:O	24:X:54:PHE:HA	2.11	0.50
1:A:151:A:H2'	1:A:152:A:O4'	2.11	0.50
1:A:940:G:C5	1:A:1027:G:C2	2.99	0.50
1:A:1060:C:H6	1:A:1060:C:H5'	1.77	0.50
1:A:1422:U:H2'	1:A:1423:C:C6	2.46	0.50
1:A:1450:C:C4'	1:A:1451:C:OP2	2.57	0.50
1:A:1760:G:OP2	37:A:3298:HOH:O	2.18	0.50
6:F:173:GLU:O	6:F:174:VAL:C	2.54	0.50
10:J:13:ALA:HA	10:J:91:HIS:HE1	1.77	0.50
12:L:105:ARG:HG3	37:L:3385:HOH:O	2.12	0.50
14:N:35:PRO:CG	14:N:38:VAL:CG2	2.83	0.50
1:A:422:G:C6	1:A:2446:G:C6	3.00	0.49
1:A:1265:G:H1'	37:A:5365:HOH:O	2.11	0.49
1:A:1434:A:H2'	1:A:1436:C:C5	2.47	0.49
1:A:2291:A:H8	37:A:6831:HOH:O	1.94	0.49
1:A:2694:A:H4'	7:G:91:PHE:HE1	1.76	0.49
1:A:2697:A:H2'	1:A:2698:G:O4'	2.12	0.49
4:D:254:GLN:HG2	4:D:255:GLY:N	2.26	0.49
4:D:305:ASP:O	4:D:306:LYS:CB	2.59	0.49
10:J:14:TYR:N	10:J:91:HIS:CE1	2.78	0.49
10:J:81:TYR:CD1	10:J:81:TYR:C	2.90	0.49
14:N:39:ARG:NE	37:N:8626:HOH:O	2.45	0.49
14:N:59:GLY:C	14:N:141:ILE:HD11	2.36	0.49
14:N:113:ARG:HH21	14:N:156:ARG:HG2	1.76	0.49
15:O:132:ASN:O	15:O:135:VAL:HG12	2.12	0.49
17:Q:7:LYS:HD2	17:Q:21:VAL:CG2	2.41	0.49
27:1:47:LEU:HD13	27:1:64:ILE:HD11	1.94	0.49
30:4:65:THR:O	30:4:82:GLY:HA3	2.12	0.49
1:A:195:C:H2'	1:A:196:G:H5'	1.94	0.49
1:A:611:U:H2'	1:A:612:U:H6	1.75	0.49
1:A:1166:A:H61	1:A:1180:U:H3	1.59	0.49
1:A:1861:C:H4'	3:C:6:GLY:O	2.12	0.49
1:A:2729:C:O2'	1:A:2730:G:H5'	2.12	0.49
5:E:50:GLU:HG2	37:E:8392:HOH:O	2.10	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:49:PRO:HA	6:F:73:VAL:HG22	1.93	0.49
7:G:31:ARG:CZ	37:G:5919:HOH:O	2.60	0.49
9:I:67:LEU:O	9:I:71:LEU:HG	2.12	0.49
1:A:157:G:H4'	14:N:95:LYS:HE3	1.95	0.49
1:A:200:U:H2'	37:A:3820:HOH:O	2.11	0.49
1:A:288:A:H2'	1:A:289:G:C8	2.47	0.49
1:A:371:U:H2'	1:A:372:A:C8	2.46	0.49
1:A:516:A:OP2	37:A:6006:HOH:O	2.19	0.49
1:A:812:A:H1'	37:A:4337:HOH:O	2.13	0.49
1:A:1137:G:H1'	37:A:4257:HOH:O	2.11	0.49
4:D:145:HIS:CD2	4:D:146:THR:O	2.61	0.49
5:E:233:THR:HG22	5:E:234:VAL:N	2.26	0.49
9:I:69:ARG:NH1	37:I:3513:HOH:O	2.45	0.49
10:J:48:LEU:HD13	10:J:146:TRP:HB3	1.95	0.49
12:L:1:MET:HE1	37:L:6646:HOH:O	2.11	0.49
15:O:155:GLU:O	15:O:156:GLU:HG3	2.12	0.49
23:W:12:THR:CG2	23:W:15:GLU:HG3	2.21	0.49
25:Y:25:ARG:HG2	37:Y:5356:HOH:O	2.11	0.49
1:A:949:U:O2'	18:R:40:HIS:HE1	1.95	0.49
37:A:5313:HOH:O	14:N:82:ARG:HB3	2.13	0.49
7:G:93:MET:HE1	7:G:165:GLY:H	1.75	0.49
14:N:49:ALA:C	14:N:54:TYR:HB3	2.37	0.49
14:N:173:LEU:HA	14:N:183:VAL:HG11	1.95	0.49
17:Q:16:VAL:CG1	17:Q:17:GLY:N	2.75	0.49
28:2:8:GLN:HE22	28:2:11:LYS:HZ2	1.55	0.49
1:A:338:C:H4'	5:E:174:ILE:HD11	1.94	0.49
1:A:2004:U:O2	1:A:2004:U:H2'	2.11	0.49
1:A:2019:A:H5'	37:A:4905:HOH:O	2.12	0.49
1:A:2404:G:OP1	18:R:69:ASP:N	2.38	0.49
1:A:2780:C:H1'	7:G:143:GLN:NE2	2.23	0.49
4:D:190:MET:HE2	4:D:194:PHE:HD1	1.71	0.49
6:F:163:VAL:HA	37:F:6326:HOH:O	2.11	0.49
9:I:12:ILE:O	9:I:13:PRO:C	2.54	0.49
13:M:53:ARG:N	35:M:8510:CL:CL	2.80	0.49
24:X:6:GLN:CB	24:X:26:ILE:HD12	2.38	0.49
24:X:149:LEU:CD1	24:X:153:MET:HE2	2.42	0.49
27:1:77:LYS:HA	27:1:80:MET:CE	2.43	0.49
1:A:1125:U:H2'	1:A:1126:C:H5'	1.95	0.49
1:A:1205:U:C2'	1:A:1206:U:H5'	2.39	0.49
1:A:1483:C:O2'	1:A:1484:G:H5'	2.13	0.49
1:A:1819:G:H5'	37:A:5076:HOH:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2769:C:O2'	1:A:2770:G:H5'	2.12	0.49
4:D:162:MET:HE2	4:D:310:ARG:CG	2.43	0.49
10:J:45:GLN:HG3	10:J:135:TRP:NE1	2.28	0.49
15:O:90:LEU:HB2	15:O:186:LEU:HD22	1.93	0.49
17:Q:7:LYS:CD	17:Q:21:VAL:CG2	2.91	0.49
21:U:48:VAL:HG22	21:U:97:ARG:O	2.13	0.49
1:A:10:U:H5'	37:A:6399:HOH:O	2.12	0.49
1:A:661:G:C4	1:A:686:A:C2	3.01	0.49
1:A:1505:U:H6	1:A:1505:U:H5'	1.76	0.49
1:A:1562:C:O2	1:A:1562:C:H2'	2.11	0.49
1:A:2730:G:O2'	1:A:2731:G:H5'	2.13	0.49
1:A:2791:U:C1'	1:A:2792:A:H5''	2.43	0.49
1:A:2846:C:H4'	37:A:5443:HOH:O	2.11	0.49
6:F:25:MET:HE1	6:F:37:ALA:O	2.13	0.49
9:I:27:ILE:HD12	9:I:70:ALA:HB1	1.94	0.49
13:M:146:GLY:C	13:M:148:GLU:H	2.21	0.49
14:N:149:TRP:O	14:N:152:ARG:HG2	2.12	0.49
15:O:62:HIS:HB3	15:O:65:ASP:OD1	2.12	0.49
18:R:40:HIS:HD2	18:R:60:THR:OG1	1.96	0.49
19:S:32:ALA:O	19:S:33:ARG:C	2.56	0.49
22:V:20:MET:HG3	22:V:28:THR:HG23	1.94	0.49
24:X:35:VAL:HG23	24:X:41:TYR:CD2	2.48	0.49
26:Z:112:GLU:OE1	26:Z:115:ARG:NH1	2.45	0.49
1:A:835:U:H3'	37:A:9757:HOH:O	2.13	0.49
1:A:1119:G:OP1	11:K:49:ARG:NH1	2.46	0.49
1:A:1328:A:OP1	26:Z:169:ARG:HD2	2.13	0.49
1:A:1462:C:H2'	1:A:1463:A:C8	2.48	0.49
1:A:2712:G:H5'	37:L:4183:HOH:O	2.11	0.49
5:E:187:ARG:NH2	37:E:8369:HOH:O	2.33	0.49
11:K:39:VAL:CG1	11:K:40:ASN:N	2.75	0.49
12:L:87:ARG:CZ	37:L:4854:HOH:O	2.61	0.49
14:N:77:PHE:HD2	37:N:8528:HOH:O	1.96	0.49
22:V:44:ARG:HD3	22:V:49:LEU:HD21	1.93	0.49
27:1:51:GLY:HA3	37:1:8416:HOH:O	2.12	0.49
1:A:392:U:C5'	14:N:193:LYS:HB3	2.42	0.49
1:A:558:C:C2'	1:A:559:U:C5'	2.91	0.49
1:A:2055:A:H4'	19:S:132:ARG:NH2	2.27	0.49
1:A:2906:A:H5'	1:A:2907:C:O4'	2.12	0.49
4:D:66:GLU:OE1	4:D:328:ARG:HD2	2.13	0.49
4:D:168:GLY:N	4:D:174:ARG:HD3	2.28	0.49
6:F:57:THR:HG23	6:F:63:ILE:CB	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:84:MET:HE2	7:G:133:VAL:HG23	1.91	0.49
13:M:55:GLN:HA	13:M:58:GLN:NE2	2.26	0.49
37:A:5198:HOH:O	11:K:47:THR:CB	2.53	0.49
37:A:6556:HOH:O	29:3:44:ARG:HG2	2.13	0.49
3:C:123:GLY:HA3	3:C:162:GLY:HA2	1.95	0.49
24:X:6:GLN:HG2	24:X:29:VAL:HA	1.94	0.49
1:A:950:G:O2'	1:A:951:A:H5'	2.12	0.48
1:A:1684:A:N1	37:A:9689:HOH:O	2.35	0.48
1:A:2120:U:H2'	1:A:2121:G:O4'	2.13	0.48
4:D:82:VAL:HG12	4:D:101:TRP:CE3	2.48	0.48
5:E:19:PRO:HG2	5:E:22:PHE:CD1	2.48	0.48
6:F:94:ALA:HB3	6:F:174:VAL:HA	1.95	0.48
8:H:16:ALA:HA	8:H:111:ILE:HD13	1.95	0.48
22:V:49:LEU:O	22:V:55:ALA:CB	2.61	0.48
27:1:11:THR:OG1	27:1:23:ARG:HB2	2.13	0.48
30:4:69:TYR:O	30:4:77:ALA:HA	2.13	0.48
1:A:306:A:P	21:U:38:ARG:HH21	2.36	0.48
1:A:514:G:H8	1:A:514:G:O5'	1.96	0.48
1:A:1805:G:H2'	1:A:1806:G:H8	1.78	0.48
1:A:1886:A:C5'	37:1:8405:HOH:O	2.60	0.48
3:C:36:ASP:O	3:C:37:VAL:C	2.56	0.48
3:C:173:GLY:O	3:C:176:HIS:HB3	2.13	0.48
8:H:91:VAL:CG1	8:H:92:GLY:N	2.76	0.48
20:T:32:ALA:HA	20:T:36:GLU:OE1	2.13	0.48
1:A:596:C:H2'	1:A:597:A:C8	2.49	0.48
1:A:1003:U:O2'	10:J:90:PHE:HE1	1.95	0.48
1:A:1351:G:OP1	5:E:96:LYS:NZ	2.45	0.48
1:A:1878:G:C1'	37:A:6482:HOH:O	2.60	0.48
3:C:36:ASP:HB2	3:C:85:ASP:H	1.79	0.48
6:F:95:THR:C	6:F:97:GLN:N	2.68	0.48
7:G:16:ASP:O	7:G:17:HIS:HB2	2.13	0.48
8:H:58:GLU:HA	8:H:61:MET:HE2	1.95	0.48
16:P:26:TRP:HA	16:P:26:TRP:CE3	2.49	0.48
26:Z:112:GLU:CD	26:Z:115:ARG:HH12	2.21	0.48
30:4:7:PHE:HE1	30:4:9:THR:HB	1.78	0.48
30:4:39:GLN:CA	30:4:42:ARG:NH2	2.74	0.48
1:A:338:C:H4'	5:E:174:ILE:HD12	1.94	0.48
1:A:1051:C:H2'	1:A:1052:G:O4'	2.13	0.48
1:A:1523:G:H2'	1:A:1524:U:C6	2.48	0.48
37:A:4937:HOH:O	14:N:83:SER:HA	2.12	0.48
2:B:3026:C:P	37:B:3472:HOH:O	2.71	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3054:A:O2'	2:B:3055:U:H5'	2.13	0.48
4:D:238:ASN:ND2	4:D:240:GLY:N	2.57	0.48
4:D:274:GLU:HA	4:D:292:GLY:O	2.12	0.48
11:K:6:PHE:HB3	11:K:109:TYR:OH	2.12	0.48
11:K:74:ARG:HD3	37:K:5061:HOH:O	2.12	0.48
15:O:171:HIS:CE1	37:O:8567:HOH:O	2.65	0.48
18:R:26:PRO:O	18:R:30:VAL:HG23	2.13	0.48
22:V:9:CYS:O	22:V:52:THR:HG23	2.12	0.48
24:X:76:ASP:O	24:X:77:ALA:C	2.57	0.48
1:A:79:G:H22	1:A:97:G:H1'	1.79	0.48
1:A:380:A:H5''	14:N:48:ARG:NH2	2.28	0.48
1:A:860:U:C2'	37:A:6042:HOH:O	2.62	0.48
1:A:1450:C:O2'	1:A:1494:A:H5'	2.13	0.48
1:A:1667:A:H2'	1:A:1668:U:C6	2.48	0.48
1:A:1684:A:O2'	1:A:1685:A:H5''	2.13	0.48
1:A:1701:A:H4'	1:A:1702:U:C5'	2.43	0.48
1:A:2251:G:H2'	1:A:2252:A:C8	2.49	0.48
1:A:2420:G:H4'	37:A:4471:HOH:O	2.14	0.48
8:H:63:ILE:HB	8:H:64:PRO:CD	2.38	0.48
8:H:101:ALA:HB2	8:H:108:LEU:HD22	1.96	0.48
15:O:182:GLY:O	15:O:183:ASP:O	2.31	0.48
16:P:39:THR:O	16:P:115:ARG:NH2	2.46	0.48
1:A:136:C:H2'	1:A:137:U:O4'	2.13	0.48
1:A:1565:C:O4'	1:A:2738:G:H1'	2.13	0.48
1:A:1850:U:H2'	1:A:1851:G:H8	1.77	0.48
1:A:1910:A:N1	1:A:2128:G:O2'	2.43	0.48
1:A:2089:A:O2'	1:A:2090:G:H5'	2.13	0.48
1:A:2271:G:H2'	1:A:2271:G:N3	2.28	0.48
1:A:2721:U:H4'	12:L:87:ARG:HG3	1.96	0.48
1:A:2815:G:N7	11:K:80:LYS:NZ	2.61	0.48
2:B:3055:U:H4'	2:B:3056:A:H8	1.78	0.48
10:J:144:GLU:OE1	10:J:144:GLU:HA	2.13	0.48
13:M:105:TYR:CD1	13:M:105:TYR:C	2.92	0.48
15:O:38:LYS:HE2	15:O:107:ASN:ND2	2.29	0.48
17:Q:2:ASP:C	17:Q:2:ASP:OD1	2.57	0.48
24:X:122:ARG:CG	24:X:122:ARG:NH1	2.76	0.48
1:A:281:U:O2'	1:A:282:C:H5'	2.14	0.48
1:A:638:C:H2'	1:A:639:A:C8	2.48	0.48
1:A:1123:A:N6	1:A:1238:C:H5'	2.29	0.48
1:A:1245:C:O5'	1:A:1245:C:H6	1.97	0.48
1:A:1586:G:O2'	1:A:1587:U:H5'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2256:G:O2'	1:A:2257:G:H5'	2.13	0.48
1:A:2265:U:H2'	1:A:2266:A:C8	2.49	0.48
1:A:2432:C:O2'	37:A:6651:HOH:O	2.20	0.48
1:A:2529:G:O2'	1:A:2530:C:H5'	2.13	0.48
1:A:2830:U:H3'	37:A:5592:HOH:O	2.12	0.48
2:B:3012:C:H5'	2:B:3070:U:O4'	2.14	0.48
37:B:466:HOH:O	18:R:27:GLN:HB2	2.13	0.48
4:D:265:LEU:CD2	4:D:316:ARG:HD3	2.44	0.48
5:E:214:THR:CG2	37:E:8443:HOH:O	2.50	0.48
7:G:145:ALA:HB1	7:G:168:ILE:CD1	2.43	0.48
8:H:13:GLU:OE2	8:H:78:GLU:HG2	2.14	0.48
8:H:46:GLU:OE1	8:H:100:ASP:HA	2.13	0.48
10:J:84:ARG:CZ	10:J:135:TRP:HH2	2.25	0.48
11:K:107:ASN:C	11:K:107:ASN:HD22	2.21	0.48
14:N:182:LYS:HB2	14:N:194:ALA:HB2	1.94	0.48
15:O:47:LEU:CD1	15:O:97:VAL:HG11	2.44	0.48
1:A:182:G:H4'	14:N:157:LEU:HD13	1.95	0.48
1:A:396:U:C3'	37:A:4712:HOH:O	2.61	0.48
1:A:694:A:C2'	1:A:695:C:H5'	2.43	0.48
1:A:1060:C:H2'	1:A:1061:C:H6	1.78	0.48
1:A:1192:A:H3'	1:A:1193:A:H5'	1.95	0.48
4:D:320:GLN:HG3	4:D:321:PRO:CD	2.43	0.48
6:F:93:LEU:HB3	6:F:97:GLN:OE1	2.13	0.48
9:I:63:ARG:O	9:I:67:LEU:HG	2.14	0.48
10:J:112:ARG:O	10:J:113:ALA:C	2.56	0.48
12:L:11:GLY:O	12:L:12:LEU:HD23	2.13	0.48
12:L:34:VAL:HB	37:L:7169:HOH:O	2.14	0.48
14:N:20:ILE:O	14:N:24:MET:HG2	2.13	0.48
14:N:184:ARG:HB2	14:N:184:ARG:CZ	2.43	0.48
24:X:154:ARG:HB3	24:X:154:ARG:HE	1.53	0.48
27:1:56:MET:HA	27:1:62:TYR:O	2.13	0.48
1:A:1342:C:C2'	1:A:1343:C:H5'	2.44	0.48
1:A:1609:C:H2'	1:A:1610:G:H8	1.79	0.48
1:A:1819:G:H2'	1:A:1820:G:C5'	2.44	0.48
1:A:1829:A:H61	27:1:18:TYR:CA	2.27	0.48
1:A:2533:C:O2'	1:A:2534:C:H5'	2.13	0.48
1:A:2911:C:H2'	1:A:2912:C:C6	2.49	0.48
4:D:27:ASN:HD22	4:D:27:ASN:H	1.61	0.48
4:D:56:ASP:OD1	4:D:322:ARG:HB3	2.12	0.48
6:F:128:LEU:HD23	6:F:128:LEU:C	2.38	0.48
10:J:26:LYS:HD2	10:J:28:ILE:HB	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:45:PRO:HB2	37:L:7169:HOH:O	2.14	0.48
14:N:37:VAL:HG13	14:N:63:VAL:HG11	1.96	0.48
16:P:39:THR:HB	37:P:3360:HOH:O	2.13	0.48
24:X:122:ARG:HG2	24:X:122:ARG:NH1	2.19	0.48
30:4:74:CYS:SG	30:4:76:LYS:HG3	2.54	0.48
1:A:107:U:H2'	1:A:108:U:H5'	1.96	0.48
1:A:128:A:H3'	1:A:128:A:H8	1.79	0.48
1:A:1205:U:C2'	1:A:1206:U:C5'	2.91	0.48
1:A:1311:G:C2	1:A:1312:G:C8	3.02	0.48
2:B:3026:C:OP2	37:B:3472:HOH:O	2.20	0.48
4:D:195:ARG:HG2	4:D:323:LEU:HD22	1.96	0.48
4:D:301:VAL:O	4:D:302:PRO:C	2.56	0.48
5:E:51:TYR:CE2	28:2:53:LYS:HB3	2.49	0.48
13:M:11:ARG:HG2	13:M:12:THR:HG23	1.96	0.48
1:A:25:A:H5'	37:A:9515:HOH:O	2.14	0.47
1:A:282:C:H2'	1:A:283:U:O4'	2.13	0.47
1:A:488:U:C4	1:A:512:G:C5	3.01	0.47
1:A:1616:A:H5''	1:A:1617:C:OP1	2.13	0.47
1:A:2769:C:C2'	1:A:2770:G:H5'	2.43	0.47
37:A:4458:HOH:O	8:H:31:LYS:HE3	2.13	0.47
4:D:51:VAL:HG13	4:D:53:LEU:HD13	1.95	0.47
5:E:162:VAL:O	5:E:162:VAL:CG1	2.61	0.47
1:A:516:A:P	37:A:6006:HOH:O	2.72	0.47
1:A:584:U:H3'	37:A:6456:HOH:O	2.14	0.47
1:A:1308:A:H5'	37:A:7291:HOH:O	2.13	0.47
1:A:1543:G:N1	1:A:1641:A:OP2	2.38	0.47
1:A:1804:A:H2'	1:A:1805:G:C8	2.49	0.47
37:A:3446:HOH:O	19:S:83:LYS:HB3	2.14	0.47
37:A:3571:HOH:O	13:M:4:LYS:HG3	2.14	0.47
37:A:6905:HOH:O	27:1:22:ILE:HG13	2.13	0.47
3:C:33:GLU:H	3:C:33:GLU:CD	2.15	0.47
3:C:192:VAL:O	3:C:207:GLN:HG2	2.14	0.47
6:F:92:GLU:O	6:F:93:LEU:O	2.32	0.47
1:A:119:A:H2'	1:A:120:A:H5''	1.96	0.47
1:A:860:U:H2'	1:A:861:A:C8	2.49	0.47
1:A:1461:U:H2'	1:A:1462:C:H6	1.75	0.47
1:A:1925:G:OP1	30:4:29:ARG:NH2	2.48	0.47
1:A:2676:C:H4'	11:K:70:PHE:CE1	2.49	0.47
37:A:6704:HOH:O	14:N:125:ARG:HB2	2.14	0.47
3:C:22:ARG:HG2	37:C:8612:HOH:O	2.13	0.47
8:H:38:LYS:NZ	14:N:3:SER:HA	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:31:PHE:CD2	10:J:88:PHE:CZ	3.02	0.47
10:J:139:ASP:H	10:J:140:PRO:HD3	1.73	0.47
13:M:54:PRO:HG2	13:M:57:VAL:HG21	1.94	0.47
13:M:90:ARG:NH1	13:M:119:THR:HG21	2.29	0.47
23:W:55:ARG:O	23:W:59:ILE:HG12	2.13	0.47
1:A:37:A:H2'	1:A:38:G:C8	2.48	0.47
1:A:278:A:H2'	1:A:279:C:O4'	2.15	0.47
1:A:403:C:H6	1:A:403:C:O5'	1.97	0.47
1:A:553:G:H2'	1:A:554:G:H5'	1.96	0.47
1:A:1574:C:H6	1:A:1574:C:O5'	1.97	0.47
1:A:2011:A:P	37:A:6320:HOH:O	2.72	0.47
1:A:2353:A:H4'	1:A:2354:A:O5'	2.14	0.47
37:A:6021:HOH:O	21:U:68:ASP:HB2	2.12	0.47
2:B:3006:C:P	15:O:37:ARG:NH1	2.87	0.47
4:D:53:LEU:HD21	4:D:270:ILE:HD12	1.97	0.47
4:D:55:ASN:HB3	4:D:64:GLY:N	2.29	0.47
4:D:222:LYS:HE2	37:D:8547:HOH:O	2.14	0.47
7:G:158:ASP:OD1	7:G:160:ARG:HB2	2.14	0.47
8:H:28:ALA:HB3	8:H:99:THR:O	2.13	0.47
8:H:47:LEU:HD22	8:H:108:LEU:CD1	2.45	0.47
10:J:83:PHE:CD1	10:J:134:ALA:HB2	2.49	0.47
11:K:45:VAL:HG22	11:K:46:ILE:N	2.28	0.47
11:K:70:PHE:CD2	11:K:70:PHE:O	2.68	0.47
14:N:114:VAL:HG21	14:N:159:THR:CG2	2.44	0.47
16:P:4:ASN:HB3	16:P:7:LEU:HB3	1.96	0.47
25:Y:43:VAL:CG1	25:Y:47:ALA:HB3	2.44	0.47
30:4:11:CYS:HB2	30:4:20:HIS:CE1	2.49	0.47
1:A:164:G:C6	1:A:165:A:C5	3.02	0.47
1:A:164:G:O6	1:A:165:A:C6	2.68	0.47
1:A:177:A:H2'	1:A:178:U:O4'	2.14	0.47
1:A:1930:A:H1'	1:A:2128:G:H5'	1.96	0.47
2:B:3041:C:O4'	6:F:50:VAL:HG23	2.15	0.47
6:F:19:GLU:O	6:F:133:ASN:HB3	2.15	0.47
8:H:6:PHE:CD1	8:H:6:PHE:C	2.93	0.47
8:H:48:VAL:HG23	8:H:74:PHE:HB3	1.97	0.47
10:J:84:ARG:CZ	10:J:135:TRP:CH2	2.98	0.47
24:X:122:ARG:NH2	37:X:4276:HOH:O	2.44	0.47
25:Y:41:PHE:O	25:Y:42:SER:C	2.57	0.47
1:A:39:G:C2	1:A:444:C:N3	2.83	0.47
1:A:283:U:H5	1:A:284:C:N4	2.12	0.47
1:A:308:U:H5'	21:U:97:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:319:A:H4'	1:A:338:C:C4	2.49	0.47
1:A:407:A:H2'	1:A:408:A:C8	2.50	0.47
1:A:1015:C:H6	1:A:1015:C:O5'	1.97	0.47
1:A:1116:U:H3	1:A:1246:A:N6	2.04	0.47
1:A:1768:C:H2'	1:A:1769:C:O4'	2.14	0.47
1:A:2405:C:OP1	37:A:6957:HOH:O	2.20	0.47
1:A:2541:U:H2'	1:A:2542:C:C6	2.49	0.47
1:A:2896:A:H2'	1:A:2896:A:N3	2.29	0.47
2:B:3006:C:P	15:O:37:ARG:HH11	2.38	0.47
2:B:3014:G:O2'	15:O:1:ALA:HB2	2.14	0.47
3:C:81:GLN:HG3	3:C:92:ASN:HD21	1.79	0.47
3:C:94:LEU:HG	3:C:99:ILE:CD1	2.44	0.47
5:E:200:PRO:HB3	5:E:212:VAL:CG2	2.45	0.47
10:J:157:ILE:CG2	10:J:158:ASN:N	2.78	0.47
10:J:162:SER:CB	10:J:163:PRO:CD	2.80	0.47
30:4:74:CYS:SG	30:4:76:LYS:N	2.81	0.47
1:A:21:G:H5''	19:S:1:GLY:O	2.15	0.47
1:A:128:A:C8	1:A:128:A:C3'	2.98	0.47
1:A:183:A:H5'	14:N:157:LEU:HD12	1.97	0.47
1:A:1079:A:N1	1:A:2068:G:O2'	2.43	0.47
1:A:1151:G:OP1	9:I:63:ARG:NH1	2.47	0.47
1:A:1162:G:H2'	37:A:6944:HOH:O	2.14	0.47
1:A:1494:A:H1'	1:A:1495:C:C6	2.49	0.47
1:A:1653:A:H5'	3:C:178:LYS:HA	1.97	0.47
1:A:2670:G:O2'	1:A:2671:U:H5'	2.14	0.47
1:A:2900:G:H2'	1:A:2901:C:O4'	2.15	0.47
2:B:3028:U:H5''	15:O:40:ASN:ND2	2.30	0.47
2:B:3064:C:H2'	2:B:3065:A:H5'	1.97	0.47
2:B:3092:G:H22	10:J:52:LYS:NZ	2.12	0.47
3:C:43:VAL:O	3:C:44:ASP:HB2	2.14	0.47
3:C:186:TRP:CG	3:C:187:PRO:HA	2.49	0.47
3:C:217:ARG:CG	3:C:217:ARG:NH1	2.77	0.47
5:E:107:ARG:CB	5:E:107:ARG:HH11	2.27	0.47
5:E:115:LEU:HD21	5:E:243:VAL:HG13	1.95	0.47
5:E:129:HIS:CE1	5:E:231:ARG:HA	2.50	0.47
5:E:219:ASN:N	5:E:222:ASP:OD1	2.48	0.47
6:F:81:GLU:O	6:F:85:GLN:HG3	2.15	0.47
6:F:86:THR:HG23	37:F:7477:HOH:O	2.13	0.47
8:H:56:PRO:CG	14:N:44:THR:HA	2.44	0.47
10:J:14:TYR:HB2	37:J:8352:HOH:O	2.15	0.47
10:J:46:VAL:O	10:J:146:TRP:HH2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:111:MET:O	10:J:114:PRO:HD3	2.15	0.47
11:K:77:GLY:O	11:K:78:ILE:C	2.57	0.47
14:N:80:GLY:O	14:N:81:ARG:HD3	2.15	0.47
14:N:155:HIS:ND1	14:N:158:ARG:NE	2.58	0.47
15:O:67:ALA:O	15:O:69:TYR:N	2.48	0.47
15:O:101:VAL:HG12	37:O:8530:HOH:O	2.14	0.47
17:Q:13:VAL:HG21	17:Q:41:ARG:HG2	1.97	0.47
17:Q:98:ILE:CD1	17:Q:102:ARG:NE	2.78	0.47
26:Z:122:ARG:NH2	37:Z:8538:HOH:O	2.47	0.47
26:Z:189:ASN:HA	26:Z:217:ILE:HD11	1.95	0.47
27:1:38:LYS:HE2	27:1:45:LYS:CE	2.39	0.47
1:A:234:A:H4'	1:A:437:A:O4'	2.14	0.47
1:A:1525:G:H5'	1:A:1526:A:OP2	2.15	0.47
2:B:3006:C:C5'	15:O:37:ARG:HH12	2.19	0.47
2:B:3042:C:O2	6:F:76:ARG:NH1	2.48	0.47
6:F:95:THR:OG1	6:F:174:VAL:HG22	2.15	0.47
7:G:102:VAL:HG11	7:G:148:ILE:HD11	1.96	0.47
14:N:139:PRO:HA	14:N:142:LYS:HB2	1.97	0.47
17:Q:10:ALA:O	17:Q:13:VAL:HG12	2.15	0.47
27:1:57:CYS:O	27:1:61:GLY:CA	2.62	0.47
27:1:59:HIS:HA	37:1:8438:HOH:O	2.14	0.47
30:4:7:PHE:HE2	30:4:22:VAL:HG21	1.79	0.47
1:A:60:A:C2	1:A:61:G:C8	3.03	0.47
1:A:945:U:H2'	1:A:946:C:C6	2.50	0.47
1:A:1021:G:O2'	1:A:1022:A:H5'	2.14	0.47
1:A:1191:A:C3'	1:A:1192:A:H5''	2.40	0.47
1:A:1730:G:H5'	1:A:1731:C:H5	1.77	0.47
1:A:1825:U:O4'	1:A:1999:C:H5''	2.14	0.47
1:A:2103:A:N7	31:A:9403:VIR:H241	2.29	0.47
1:A:2409:C:O2'	30:4:17:HIS:CD2	2.68	0.47
3:C:47:HIS:O	3:C:49:PRO:HD3	2.15	0.47
3:C:105:VAL:HG12	3:C:106:CYS:N	2.30	0.47
4:D:7:ARG:CD	4:D:9:GLY:O	2.63	0.47
4:D:42:ALA:HB1	4:D:308:LEU:HD11	1.96	0.47
4:D:195:ARG:HD2	4:D:324:ASP:OD1	2.15	0.47
6:F:94:ALA:O	6:F:95:THR:O	2.33	0.47
7:G:49:ILE:HD11	7:G:69:ILE:HD12	1.97	0.47
11:K:74:ARG:NH1	11:K:76:ASP:HB2	2.30	0.47
16:P:25:VAL:HG23	16:P:26:TRP:N	2.30	0.47
16:P:96:VAL:HG13	16:P:100:GLN:HB2	1.96	0.47
17:Q:59:ARG:HH22	17:Q:66:GLN:NE2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:39:ALA:C	23:W:41:GLU:N	2.73	0.47
1:A:120:A:H5'	28:2:20:ARG:HH21	1.80	0.47
1:A:155:C:O2'	1:A:156:C:H5'	2.15	0.47
1:A:204:A:H2'	1:A:205:U:H5'	1.96	0.47
1:A:1058:A:H2'	1:A:1060:C:C5'	2.42	0.47
1:A:1072:G:OP2	26:Z:154:ARG:NH2	2.47	0.47
1:A:1098:A:H2'	1:A:1099:G:O4'	2.14	0.47
1:A:1882:C:O2'	1:A:2012:U:OP2	2.30	0.47
1:A:2440:C:C2	1:A:2453:G:C2	3.03	0.47
1:A:2667:G:H1'	1:A:2914:A:N3	2.29	0.47
3:C:36:ASP:CB	3:C:85:ASP:H	2.28	0.47
3:C:132:ASP:OD1	3:C:133:ARG:N	2.47	0.47
4:D:204:GLY:CA	37:D:8649:HOH:O	2.62	0.47
6:F:10:PHE:CD1	6:F:11:HIS:N	2.83	0.47
6:F:23:VAL:CG2	6:F:73:VAL:HB	2.44	0.47
6:F:35:ALA:O	6:F:37:ALA:N	2.47	0.47
14:N:155:HIS:CE1	14:N:158:ARG:HE	2.32	0.47
15:O:67:ALA:HA	15:O:71:TRP:HB3	1.96	0.47
15:O:108:SER:HA	15:O:109:PRO:HD3	1.75	0.47
22:V:8:TYR:CD2	22:V:36:CYS:HB3	2.50	0.47
24:X:6:GLN:HA	24:X:52:VAL:HG23	1.95	0.47
1:A:123:U:O2'	1:A:124:C:H5'	2.15	0.46
1:A:135:G:OP1	14:N:39:ARG:NH1	2.42	0.46
1:A:251:C:H1'	14:N:58:GLN:HE22	1.79	0.46
1:A:1189:A:H1'	1:A:1209:C:H1'	1.97	0.46
1:A:1314:U:H5''	1:A:1316:G:O4'	2.15	0.46
1:A:1754:A:H2'	1:A:1755:A:O4'	2.15	0.46
1:A:1819:G:H2'	1:A:1820:G:C4'	2.46	0.46
1:A:2084:C:H2'	1:A:2085:A:C8	2.50	0.46
1:A:2557:U:O2'	1:A:2684:A:H5''	2.16	0.46
2:B:3049:G:H2'	2:B:3050:G:O4'	2.15	0.46
4:D:24:PRO:HG3	4:D:204:GLY:HA2	1.96	0.46
4:D:63:GLU:O	4:D:63:GLU:HG3	2.14	0.46
5:E:7:ASP:OD1	5:E:11:ASN:O	2.33	0.46
5:E:78:ARG:NH1	5:E:78:ARG:CG	2.72	0.46
6:F:169:THR:O	6:F:170:TYR:HB2	2.15	0.46
7:G:7:ILE:CG2	7:G:45:ASP:O	2.62	0.46
10:J:43:PRO:HD2	10:J:137:ASN:HA	1.96	0.46
10:J:47:GLU:HG2	10:J:133:ILE:HD12	1.95	0.46
11:K:4:ALA:O	11:K:5:GLU:O	2.33	0.46
15:O:62:HIS:O	15:O:65:ASP:OD1	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:10:VAL:CG1	23:W:35:ALA:O	2.63	0.46
27:1:38:LYS:HG2	37:1:8409:HOH:O	2.15	0.46
1:A:2119:C:O2'	1:A:2120:U:H5'	2.15	0.46
1:A:2300:A:H4'	1:A:2301:A:O5'	2.15	0.46
1:A:2449:G:H2'	1:A:2450:C:C6	2.51	0.46
1:A:2896:A:OP1	25:Y:15:ARG:NH1	2.48	0.46
2:B:3028:U:H5	37:B:1361:HOH:O	1.97	0.46
3:C:51:ARG:NH2	3:C:69:LEU:HD13	2.29	0.46
3:C:75:GLY:HA2	27:1:63:LYS:O	2.15	0.46
4:D:16:ARG:NH1	37:D:8614:HOH:O	2.48	0.46
4:D:36:PRO:CA	4:D:168:GLY:HA3	2.43	0.46
4:D:225:GLY:HA3	37:D:8569:HOH:O	2.15	0.46
4:D:304:PRO:CG	4:D:307:ARG:NH1	2.78	0.46
6:F:140:ARG:HH11	6:F:140:ARG:HG3	1.79	0.46
10:J:26:LYS:CD	10:J:28:ILE:HB	2.46	0.46
10:J:150:LYS:NZ	37:J:8377:HOH:O	2.46	0.46
14:N:38:VAL:O	14:N:38:VAL:HG12	2.14	0.46
15:O:11:ARG:O	15:O:15:GLU:HG3	2.15	0.46
19:S:39:THR:HB	19:S:42:GLU:CD	2.40	0.46
30:4:7:PHE:HE2	30:4:22:VAL:CG2	2.28	0.46
1:A:470:U:H2'	1:A:471:G:O4'	2.16	0.46
1:A:951:A:H2'	1:A:952:G:H5'	1.97	0.46
1:A:1517:U:C2	1:A:1670:G:N2	2.83	0.46
1:A:1847:A:OP1	3:C:175:LYS:HG3	2.15	0.46
1:A:2247:C:C5'	37:A:7702:HOH:O	2.63	0.46
1:A:2382:A:OP1	30:4:80:ARG:HG2	2.15	0.46
3:C:95:PRO:HG2	3:C:98:GLU:HG2	1.96	0.46
4:D:132:HIS:HB2	4:D:137:LEU:HD22	1.98	0.46
6:F:135:VAL:HG21	6:F:139:TYR:CD1	2.50	0.46
7:G:170:ARG:HE	7:G:170:ARG:HB2	1.55	0.46
14:N:185:PRO:HD2	14:N:189:VAL:HG11	1.97	0.46
16:P:45:LEU:HD12	16:P:88:LYS:HD2	1.97	0.46
17:Q:11:ALA:HB2	17:Q:18:LYS:HA	1.97	0.46
30:4:40:ARG:HA	30:4:52:PHE:CE1	2.50	0.46
1:A:514:G:OP1	1:A:514:G:H2'	2.15	0.46
1:A:1592:G:O2'	1:A:1593:C:O5'	2.33	0.46
1:A:1973:A:H2'	1:A:1974:G:O4'	2.16	0.46
1:A:2100:A:H5'	37:E:8470:HOH:O	2.14	0.46
1:A:2672:C:H1'	37:D:8632:HOH:O	2.15	0.46
37:A:6558:HOH:O	14:N:174:ARG:HD3	2.14	0.46
3:C:99:ILE:O	3:C:131:HIS:HE1	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:41:PHE:HB3	4:D:190:MET:HE1	1.97	0.46
4:D:277:GLU:N	37:D:8646:HOH:O	2.30	0.46
4:D:285:VAL:O	4:D:286:ASN:HB2	2.14	0.46
5:E:235:PHE:HE2	5:E:243:VAL:HG21	1.80	0.46
13:M:78:ALA:N	37:M:8532:HOH:O	2.48	0.46
19:S:128:ARG:HB2	19:S:132:ARG:O	2.14	0.46
28:2:29:THR:O	28:2:32:LYS:HE2	2.15	0.46
1:A:333:G:O2'	1:A:334:G:H5'	2.16	0.46
1:A:1143:G:N7	37:A:7758:HOH:O	2.36	0.46
1:A:1352:A:N1	5:E:48:SER:HB3	2.30	0.46
1:A:2281:C:O2'	1:A:2282:U:H5'	2.16	0.46
1:A:2672:C:O2'	1:A:2673:U:H5'	2.15	0.46
1:A:2819:C:O4'	4:D:96:PRO:HB2	2.16	0.46
7:G:154:ILE:HG13	7:G:156:ASP:OD1	2.15	0.46
11:K:15:ARG:NH1	11:K:43:ARG:NH1	2.63	0.46
13:M:101:ASP:C	13:M:103:ALA:H	2.22	0.46
20:T:51:GLN:HE21	20:T:53:ASN:ND2	2.13	0.46
1:A:10:U:O4	1:A:532:A:OP2	2.34	0.46
1:A:1419:U:H2'	1:A:1685:A:C2	2.51	0.46
1:A:1924:A:C2'	37:A:6109:HOH:O	2.64	0.46
1:A:2434:A:O3'	30:4:28:GLY:HA3	2.15	0.46
6:F:154:LYS:H	6:F:154:LYS:CD	2.21	0.46
14:N:40:ILE:HG13	14:N:40:ILE:O	2.16	0.46
14:N:69:LYS:N	14:N:125:ARG:O	2.46	0.46
16:P:26:TRP:HA	16:P:26:TRP:HE3	1.79	0.46
1:A:297:U:H1'	37:A:4315:HOH:O	2.14	0.46
1:A:849:C:O2'	1:A:850:U:H5'	2.16	0.46
1:A:1874:U:OP1	3:C:51:ARG:HD2	2.15	0.46
1:A:2039:A:H4'	1:A:2760:C:O2'	2.16	0.46
1:A:2264:A:H2'	1:A:2265:U:O4'	2.16	0.46
2:B:3023:U:C4'	2:B:3024:U:OP2	2.64	0.46
2:B:3031:C:H2'	2:B:3032:G:O4'	2.16	0.46
7:G:21:THR:HG23	7:G:30:THR:OG1	2.16	0.46
7:G:22:VAL:O	7:G:28:SER:HA	2.16	0.46
13:M:24:ALA:HB2	13:M:30:ARG:HD2	1.98	0.46
13:M:125:PHE:CE2	13:M:140:VAL:HG22	2.51	0.46
21:U:43:ASN:C	21:U:45:GLY:H	2.24	0.46
24:X:13:MET:HE3	24:X:17:ILE:CG2	2.46	0.46
24:X:88:THR:HG23	24:X:110:GLN:HB3	1.98	0.46
1:A:37:A:H2'	1:A:38:G:H8	1.81	0.46
1:A:401:C:C5'	37:A:6155:HOH:O	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:524:A:C5'	19:S:29:LYS:HE2	2.45	0.46
1:A:771:G:OP2	14:N:79:LYS:HE3	2.15	0.46
1:A:1242:A:OP2	11:K:60:ARG:NH2	2.47	0.46
1:A:2819:C:H2'	1:A:2820:A:C8	2.51	0.46
37:A:6304:HOH:O	27:1:34:LYS:HE2	2.16	0.46
2:B:3045:A:H2'	2:B:3046:C:C6	2.51	0.46
5:E:140:VAL:HG12	5:E:141:SER:N	2.31	0.46
6:F:23:VAL:O	6:F:23:VAL:CG2	2.63	0.46
6:F:52:THR:N	6:F:70:GLY:O	2.49	0.46
6:F:94:ALA:HB3	6:F:174:VAL:CA	2.45	0.46
9:I:64:ASN:N	9:I:64:ASN:ND2	2.60	0.46
10:J:30:GLN:H	10:J:65:ARG:NH1	2.13	0.46
10:J:45:GLN:NE2	10:J:135:TRP:HE1	2.11	0.46
14:N:61:ILE:HA	37:N:8626:HOH:O	2.16	0.46
14:N:137:ASP:HA	14:N:142:LYS:HE3	1.98	0.46
15:O:23:ARG:NH2	15:O:55:ASP:OD1	2.49	0.46
18:R:32:GLU:HA	18:R:71:TYR:OH	2.16	0.46
20:T:29:ASP:OD1	20:T:31:ARG:HG3	2.16	0.46
24:X:115:THR:HG23	37:X:5420:HOH:O	2.14	0.46
25:Y:12:ILE:HG23	25:Y:36:HIS:CG	2.51	0.46
1:A:517:U:C2'	1:A:518:G:H5'	2.46	0.46
1:A:682:A:H2'	1:A:683:G:O4'	2.16	0.46
1:A:2004:U:H5''	1:A:2005:G:C8	2.51	0.46
1:A:2055:A:H5'	19:S:134:SER:HB2	1.97	0.46
1:A:2506:A:O2'	1:A:2507:G:P	2.74	0.46
37:A:9917:HOH:O	17:Q:81:LYS:HG2	2.15	0.46
3:C:105:VAL:HG11	3:C:154:ALA:CB	2.46	0.46
4:D:223:ARG:HG3	4:D:232:TRP:C	2.41	0.46
6:F:76:ARG:O	6:F:77:ASP:HB2	2.16	0.46
7:G:101:GLU:OE2	7:G:115:ARG:HD3	2.15	0.46
10:J:14:TYR:N	10:J:91:HIS:HE1	2.13	0.46
11:K:142:ASN:O	11:K:144:THR:N	2.49	0.46
13:M:107:LYS:HD2	13:M:124:ASP:OD2	2.16	0.46
14:N:155:HIS:O	14:N:158:ARG:HG2	2.15	0.46
21:U:19:ARG:HD3	21:U:67:LEU:O	2.15	0.46
21:U:63:ILE:HD11	21:U:75:GLU:HB2	1.98	0.46
23:W:57:LYS:HA	23:W:60:GLN:HE21	1.81	0.46
24:X:73:LEU:HD12	24:X:73:LEU:HA	1.81	0.46
1:A:666:A:H2'	1:A:667:C:O4'	2.16	0.46
1:A:875:A:C2	3:C:194:MET:SD	3.09	0.46
1:A:1006:A:N1	1:A:2311:A:HI'	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1857:A:N6	1:A:2247:C:H1'	2.31	0.46
1:A:2474:A:N3	37:A:5025:HOH:O	2.36	0.46
1:A:2897:C:O2'	1:A:2898:G:H5'	2.16	0.46
4:D:304:PRO:HD2	4:D:307:ARG:HD2	1.98	0.46
5:E:173:LYS:HB3	5:E:187:ARG:HG3	1.97	0.46
7:G:81:GLU:HG2	7:G:134:SER:HB3	1.98	0.46
24:X:31:HIS:HB3	37:X:5420:HOH:O	2.16	0.46
24:X:106:THR:HG1	24:X:109:GLU:HG3	1.80	0.46
24:X:108:ARG:HG3	37:X:3483:HOH:O	2.16	0.46
25:Y:8:ARG:NH1	37:Y:2479:HOH:O	2.29	0.46
25:Y:26:ALA:O	25:Y:27:ASP:C	2.57	0.46
1:A:1289:C:O2'	1:A:1290:G:H5'	2.16	0.45
1:A:1859:A:H8	1:A:1859:A:O5'	2.00	0.45
1:A:1947:G:N2	1:A:1966:U:C2	2.85	0.45
1:A:2264:A:OP1	14:N:71:SER:HB3	2.16	0.45
1:A:2909:G:H2'	1:A:2910:A:H8	1.81	0.45
4:D:146:THR:O	4:D:159:PRO:HB3	2.15	0.45
5:E:107:ARG:HB3	5:E:107:ARG:HH11	1.81	0.45
8:H:28:ALA:CB	8:H:99:THR:HG23	2.45	0.45
10:J:33:MET:SD	10:J:83:PHE:HD2	2.38	0.45
11:K:19:MET:CE	11:K:132:LEU:CD1	2.88	0.45
15:O:141:ARG:N	37:O:8570:HOH:O	2.49	0.45
17:Q:120:ARG:NH2	17:Q:123:TYR:CD2	2.84	0.45
20:T:33:SER:OG	20:T:36:GLU:HG3	2.15	0.45
27:1:39:CYS:SG	27:1:40:PRO:HD2	2.55	0.45
1:A:24:G:N2	1:A:518:G:H1'	2.31	0.45
1:A:303:C:H2'	1:A:304:G:O4'	2.16	0.45
1:A:426:G:H2'	1:A:427:C:O4'	2.16	0.45
1:A:1902:G:H2'	1:A:1903:U:O4'	2.15	0.45
1:A:2122:C:P	37:A:6938:HOH:O	2.65	0.45
1:A:2490:A:C2	1:A:2533:C:N4	2.85	0.45
37:A:6611:HOH:O	22:V:56:ARG:HB3	2.15	0.45
4:D:108:GLU:HB3	4:D:111:ARG:HD2	1.97	0.45
8:H:21:GLU:HA	8:H:24:ARG:HE	1.81	0.45
10:J:31:PHE:HE2	10:J:87:LYS:O	1.98	0.45
12:L:4:LEU:HD22	12:L:116:GLU:HB3	1.99	0.45
14:N:27:ARG:O	14:N:30:GLU:N	2.49	0.45
14:N:115:LEU:HD13	14:N:115:LEU:C	2.41	0.45
14:N:157:LEU:HA	35:N:8518:CL:CL	2.54	0.45
22:V:52:THR:HG22	22:V:54:THR:HB	1.98	0.45
24:X:4:LEU:HD22	24:X:52:VAL:HG22	1.95	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:60:GLU:O	24:X:63:GLU:HB2	2.17	0.45
24:X:67:ALA:HB2	24:X:93:ILE:HD13	1.97	0.45
27:1:59:HIS:CE1	37:1:8435:HOH:O	2.69	0.45
1:A:204:A:C2'	1:A:205:U:H5'	2.46	0.45
1:A:380:A:OP2	14:N:9:ARG:HD2	2.16	0.45
1:A:903:U:OP2	13:M:11:ARG:NH1	2.45	0.45
1:A:1057:A:C6	1:A:1058:A:C6	3.05	0.45
1:A:1329:A:C2	37:A:5049:HOH:O	2.56	0.45
1:A:1829:A:H5''	37:A:3458:HOH:O	2.16	0.45
1:A:1880:C:C2	1:A:1881:A:C8	3.04	0.45
1:A:2408:A:O2'	30:4:16:GLU:HA	2.16	0.45
1:A:2684:A:H2'	1:A:2685:C:C6	2.51	0.45
1:A:2795:C:O2'	1:A:2796:U:H5'	2.15	0.45
3:C:125:ASN:HB3	3:C:158:VAL:HG12	1.99	0.45
4:D:233:ARG:HG2	4:D:233:ARG:HH11	1.81	0.45
6:F:173:GLU:HG3	6:F:174:VAL:N	2.30	0.45
7:G:11:VAL:CG1	7:G:12:ASP:H	2.29	0.45
8:H:24:ARG:NH2	37:H:6800:HOH:O	2.50	0.45
9:I:71:LEU:C	9:I:73:ASP:H	2.24	0.45
10:J:27:LYS:HG3	10:J:58:HIS:CD2	2.51	0.45
11:K:27:ALA:HB1	11:K:87:LEU:CD2	2.47	0.45
12:L:81:ARG:HD3	12:L:87:ARG:NH1	2.31	0.45
14:N:74:ARG:HD3	14:N:91:ILE:HD12	1.97	0.45
15:O:5:ARG:HG3	18:R:18:PRO:CB	2.46	0.45
15:O:47:LEU:HD23	15:O:47:LEU:HA	1.70	0.45
15:O:184:ILE:HG22	15:O:185:GLU:N	2.31	0.45
19:S:26:LYS:HD3	19:S:62:HIS:CG	2.51	0.45
23:W:12:THR:HG23	23:W:14:ALA:H	1.80	0.45
25:Y:25:ARG:HD3	25:Y:64:ALA:O	2.16	0.45
25:Y:74:ALA:HB2	25:Y:85:VAL:HG22	1.98	0.45
25:Y:78:GLU:CG	25:Y:79:GLU:N	2.70	0.45
27:1:38:LYS:HA	27:1:45:LYS:HA	1.98	0.45
28:2:8:GLN:NE2	28:2:11:LYS:NZ	2.54	0.45
30:4:3:MET:HG3	30:4:4:PRO:HD2	1.98	0.45
1:A:154:C:H2'	1:A:155:C:C6	2.47	0.45
1:A:694:A:H8	1:A:694:A:O5'	1.99	0.45
1:A:797:A:H5'	27:1:10:ARG:HG2	1.99	0.45
1:A:2121:G:H2'	1:A:2122:C:H5'	1.98	0.45
1:A:2459:G:OP2	30:4:64:LYS:HD2	2.16	0.45
1:A:2469:A:H1'	37:A:3797:HOH:O	2.16	0.45
1:A:2832:C:H5	37:A:7573:HOH:O	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:69:LEU:CD2	3:C:120:ARG:HB3	2.40	0.45
3:C:110:SER:N	3:C:114:ASP:OD2	2.49	0.45
4:D:266:ASN:OD1	4:D:317:PRO:HA	2.16	0.45
5:E:246:ARG:NH2	37:E:8431:HOH:O	2.48	0.45
11:K:131:THR:HG22	11:K:133:GLY:N	2.31	0.45
16:P:47:ARG:HG3	16:P:47:ARG:NH1	2.29	0.45
28:2:29:THR:O	28:2:32:LYS:CE	2.65	0.45
1:A:716:G:H2'	1:A:717:C:O5'	2.17	0.45
1:A:883:U:O2	1:A:883:U:C2'	2.65	0.45
1:A:947:U:O2'	1:A:948:G:H5'	2.17	0.45
1:A:1175:G:H1'	1:A:1193:A:H2'	1.99	0.45
1:A:1730:G:C5'	1:A:1731:C:C6	3.00	0.45
1:A:1827:G:H2'	1:A:1828:G:C8	2.51	0.45
1:A:2445:U:H2'	1:A:2446:G:H8	1.81	0.45
2:B:3065:A:O2'	2:B:3066:G:P	2.74	0.45
5:E:178:GLN:C	5:E:180:SER:N	2.71	0.45
5:E:223:LEU:HD12	5:E:223:LEU:HA	1.74	0.45
8:H:57:GLU:O	8:H:61:MET:HG3	2.17	0.45
10:J:86:ARG:HD3	10:J:130:HIS:HD2	1.81	0.45
12:L:66:ARG:HG2	12:L:66:ARG:HH11	1.82	0.45
12:L:74:VAL:HG12	12:L:74:VAL:O	2.16	0.45
14:N:59:GLY:CA	14:N:141:ILE:HD11	2.46	0.45
15:O:72:GLU:H	15:O:171:HIS:CE1	2.34	0.45
23:W:42:ASN:O	23:W:44:GLY:N	2.49	0.45
24:X:21:LEU:HD21	24:X:48:VAL:HG13	1.97	0.45
27:1:47:LEU:HD23	27:1:57:CYS:CB	2.46	0.45
28:2:8:GLN:NE2	28:2:11:LYS:HZ1	2.09	0.45
1:A:283:U:H5''	1:A:284:C:OP2	2.17	0.45
1:A:383:A:C6	1:A:407:A:C8	3.05	0.45
1:A:512:G:O3'	1:A:513:A:H8	2.00	0.45
1:A:818:A:H5''	37:A:6949:HOH:O	2.16	0.45
1:A:1206:U:H5'	1:A:1206:U:H6	1.80	0.45
1:A:2116:U:C4	1:A:2271:G:C6	3.04	0.45
1:A:2349:G:OP1	6:F:20:LYS:NZ	2.43	0.45
1:A:2409:C:H4'	30:4:17:HIS:HB2	1.98	0.45
2:B:3045:A:C8	2:B:3046:C:C5	3.05	0.45
37:B:7568:HOH:O	15:O:107:ASN:HB3	2.17	0.45
5:E:36:ARG:NH1	37:E:8403:HOH:O	2.49	0.45
8:H:78:GLU:HG3	37:H:5966:HOH:O	2.17	0.45
10:J:95:GLU:HB3	10:J:119:VAL:HG11	1.98	0.45
13:M:73:VAL:HG11	13:M:118:LEU:HD21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:63:VAL:HG21	14:N:109:PHE:CE1	2.51	0.45
15:O:93:GLN:HG2	37:O:8558:HOH:O	2.15	0.45
21:U:48:VAL:CG2	21:U:98:VAL:HA	2.46	0.45
1:A:566:A:H2'	1:A:567:U:O4'	2.17	0.45
1:A:639:A:H2'	1:A:640:G:H8	1.81	0.45
1:A:639:A:C2	1:A:1363:G:C2	3.05	0.45
1:A:929:A:H8	1:A:929:A:O5'	1.99	0.45
1:A:1189:A:C4	37:A:8151:HOH:O	2.56	0.45
1:A:1495:C:H1'	1:A:1573:A:H1'	1.99	0.45
1:A:2094:G:C2	1:A:2652:U:O2	2.69	0.45
1:A:2123:A:H5'	14:N:89:ASN:ND2	2.31	0.45
3:C:81:GLN:H	3:C:92:ASN:ND2	2.15	0.45
3:C:200:PRO:HG2	3:C:225:VAL:HG21	1.99	0.45
4:D:74:ILE:HG13	37:D:8603:HOH:O	2.15	0.45
5:E:16:VAL:HG12	5:E:17:ASP:H	1.80	0.45
16:P:73:ASP:HA	16:P:92:VAL:O	2.17	0.45
1:A:236:A:H4'	1:A:237:G:OP1	2.16	0.45
1:A:484:A:C6	1:A:486:A:C6	3.05	0.45
1:A:1557:G:O2'	1:A:1558:C:H5'	2.17	0.45
1:A:1940:C:H5''	3:C:234:GLY:HA3	1.98	0.45
1:A:2547:C:H2'	1:A:2548:C:C6	2.50	0.45
1:A:2883:A:H2'	1:A:2884:G:O4'	2.17	0.45
6:F:91:ALA:HB2	6:F:106:PHE:CD2	2.51	0.45
10:J:55:GLN:NE2	10:J:91:HIS:CD2	2.84	0.45
13:M:97:VAL:HG12	13:M:98:GLU:O	2.16	0.45
15:O:58:LEU:N	15:O:58:LEU:CD1	2.79	0.45
15:O:80:SER:CB	37:O:8536:HOH:O	2.64	0.45
20:T:2:TRP:CZ3	20:T:29:ASP:HB3	2.51	0.45
21:U:24:ARG:HH21	21:U:39:ASN:HD22	1.64	0.45
1:A:255:A:C5	1:A:256:C:C4	3.05	0.45
1:A:331:A:C6	1:A:332:G:C4	3.04	0.45
1:A:517:U:H2'	1:A:518:G:H5'	1.98	0.45
1:A:897:A:H2'	1:A:899:C:C5	2.52	0.45
1:A:1095:U:O2	24:X:120:PRO:HG2	2.17	0.45
1:A:1498:G:O2'	1:A:1499:U:H5'	2.17	0.45
1:A:2084:C:H2'	1:A:2085:A:H8	1.82	0.45
1:A:2363:G:O2'	18:R:11:ARG:HG3	2.17	0.45
1:A:2450:C:O5'	1:A:2450:C:H6	2.00	0.45
1:A:2453:G:H2'	1:A:2454:C:C6	2.52	0.45
1:A:2456:A:H5'	37:A:6055:HOH:O	2.17	0.45
37:A:4137:HOH:O	21:U:9:LYS:HD3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:87:TYR:O	4:D:138:GLY:N	2.42	0.45
5:E:165:ASP:O	5:E:168:ARG:HB3	2.16	0.45
6:F:60:GLU:C	6:F:62:ASP:N	2.72	0.45
8:H:58:GLU:HG3	8:H:61:MET:HE2	1.99	0.45
12:L:98:VAL:HG22	12:L:102:GLU:C	2.42	0.45
21:U:49:GLU:OE2	21:U:51:LEU:HD21	2.17	0.45
24:X:5:VAL:HG22	24:X:32:CYS:HB2	1.99	0.45
1:A:23:G:C6	1:A:24:G:N1	2.85	0.45
1:A:67:A:H5''	1:A:69:A:C8	2.52	0.45
1:A:922:A:N7	1:A:2281:C:H5'	2.32	0.45
37:A:7384:HOH:O	3:C:211:LYS:CG	2.60	0.45
3:C:81:GLN:CB	3:C:92:ASN:ND2	2.80	0.45
4:D:154:VAL:CG1	4:D:156:LYS:HG2	2.47	0.45
5:E:1:MET:HG2	5:E:2:GLN:NE2	2.32	0.45
5:E:25:PRO:HD2	37:E:8436:HOH:O	2.15	0.45
5:E:27:ARG:HG2	5:E:30:LEU:HG	1.98	0.45
5:E:118:THR:CG2	5:E:137:PRO:HB3	2.47	0.45
5:E:218:VAL:HG12	37:E:8431:HOH:O	2.17	0.45
6:F:58:VAL:HG12	6:F:59:GLY:N	2.31	0.45
7:G:31:ARG:HH12	7:G:68:HIS:CG	2.35	0.45
8:H:58:GLU:HA	8:H:61:MET:CG	2.45	0.45
8:H:59:ILE:O	8:H:59:ILE:HG22	2.15	0.45
17:Q:3:LEU:HA	17:Q:6:GLN:OE1	2.16	0.45
19:S:106:GLY:HA2	19:S:109:MET:CE	2.40	0.45
26:Z:107:PRO:HB3	26:Z:182:PHE:CD2	2.52	0.45
26:Z:130:ARG:HB2	26:Z:142:SER:O	2.17	0.45
28:2:28:HIS:HD2	28:2:30:LYS:H	1.65	0.45
30:4:10:TYR:HB2	30:4:17:HIS:HE1	1.80	0.45
1:A:496:G:C6	1:A:498:A:C6	3.06	0.44
1:A:716:G:C2'	1:A:717:C:O5'	2.66	0.44
1:A:1023:C:O2'	1:A:1024:G:H5'	2.17	0.44
1:A:1570:C:C2'	1:A:1571:G:H5'	2.47	0.44
1:A:2550:U:O2'	1:A:2551:C:H5'	2.17	0.44
5:E:1:MET:HG2	5:E:2:GLN:N	2.30	0.44
5:E:192:ILE:CG2	5:E:234:VAL:HG12	2.48	0.44
6:F:64:ARG:HG2	6:F:66:GLY:O	2.18	0.44
12:L:130:MET:SD	22:V:25:ASP:O	2.74	0.44
14:N:104:ARG:O	14:N:108:LYS:HE2	2.17	0.44
17:Q:38:GLU:HA	17:Q:41:ARG:HH11	1.81	0.44
20:T:6:LYS:HB2	20:T:27:ALA:O	2.17	0.44
25:Y:74:ALA:HB1	25:Y:85:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:295:C:H2'	1:A:296:G:O4'	2.17	0.44
1:A:688:A:H62	13:M:111:ALA:HB2	1.82	0.44
1:A:920:C:C4'	1:A:921:G:C2	3.00	0.44
1:A:1125:U:C2'	1:A:1126:C:H5'	2.47	0.44
1:A:1167:G:O2'	1:A:1168:C:H5'	2.17	0.44
1:A:1192:A:O2'	1:A:1193:A:OP1	2.28	0.44
1:A:1314:U:C2	1:A:1316:G:N2	2.86	0.44
1:A:1512:G:O2'	1:A:1513:C:H5'	2.17	0.44
1:A:1945:G:O2'	1:A:1946:C:H5'	2.17	0.44
1:A:2053:G:OP1	19:S:138:SER:OG	2.32	0.44
1:A:2453:G:H3'	37:A:6282:HOH:O	2.16	0.44
1:A:2502:C:H2'	1:A:2503:A:C5'	2.39	0.44
1:A:2833:C:C2	1:A:2848:G:N2	2.85	0.44
2:B:3042:C:H5'	2:B:3043:G:OP2	2.16	0.44
3:C:211:LYS:CB	3:C:212:PRO:HD2	2.35	0.44
4:D:144:THR:HG22	4:D:145:HIS:N	2.31	0.44
5:E:218:VAL:CG1	37:E:8431:HOH:O	2.65	0.44
8:H:99:THR:O	8:H:99:THR:HG23	2.17	0.44
10:J:72:VAL:O	10:J:72:VAL:HG13	2.15	0.44
14:N:156:ARG:NH1	37:N:8563:HOH:O	2.49	0.44
15:O:34:LEU:HD22	15:O:129:ILE:HD13	1.98	0.44
15:O:163:PHE:HA	37:O:8518:HOH:O	2.17	0.44
20:T:29:ASP:CG	20:T:31:ARG:NH1	2.75	0.44
22:V:49:LEU:HD11	37:V:3805:HOH:O	2.17	0.44
1:A:35:U:H2'	1:A:36:C:C6	2.52	0.44
1:A:534:C:N4	37:A:7937:HOH:O	2.49	0.44
1:A:1127:C:C2'	1:A:1128:U:H5'	2.47	0.44
1:A:1287:A:O4'	24:X:117:ARG:HD3	2.17	0.44
1:A:1380:U:O4	1:A:2748:G:O2'	2.33	0.44
1:A:1855:G:H8	3:C:144:GLU:OE2	2.01	0.44
1:A:2072:G:H3'	1:A:2073:G:C5'	2.48	0.44
1:A:2320:U:H2'	30:4:2:GLN:O	2.17	0.44
37:A:4235:HOH:O	10:J:90:PHE:HD2	1.99	0.44
2:B:3105:A:H2'	2:B:3106:C:O4'	2.17	0.44
3:C:126:ALA:HB1	3:C:138:VAL:CG1	2.47	0.44
4:D:195:ARG:NH1	4:D:324:ASP:OD1	2.51	0.44
6:F:35:ALA:C	6:F:37:ALA:N	2.75	0.44
7:G:15:GLN:HG2	7:G:19:ASP:O	2.17	0.44
8:H:33:THR:HG21	8:H:59:ILE:O	2.18	0.44
11:K:39:VAL:HG11	11:K:107:ASN:HB2	1.99	0.44
21:U:55:PHE:HB2	37:U:6384:HOH:O	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:1:THR:C	23:W:3:LEU:N	2.75	0.44
23:W:45:ARG:C	23:W:47:LYS:N	2.73	0.44
24:X:13:MET:CE	24:X:17:ILE:HG22	2.47	0.44
1:A:291:C:H2'	1:A:292:G:O4'	2.17	0.44
1:A:445:U:H2'	1:A:446:G:H8	1.82	0.44
1:A:958:G:O2'	1:A:959:C:H5'	2.18	0.44
1:A:1024:G:C5	1:A:1025:C:C4	3.05	0.44
1:A:1024:G:C6	1:A:1025:C:N3	2.85	0.44
1:A:1477:C:H5'	1:A:1868:G:C5'	2.48	0.44
1:A:1983:C:O5'	1:A:1983:C:H6	2.01	0.44
1:A:2321:A:O2'	1:A:2322:U:H3'	2.18	0.44
1:A:2715:G:N2	4:D:264:GLU:OE1	2.50	0.44
1:A:2821:C:H4'	4:D:116:PRO:HB3	1.98	0.44
4:D:84:LEU:C	4:D:84:LEU:HD13	2.43	0.44
6:F:169:THR:C	6:F:170:TYR:HD1	2.25	0.44
7:G:132:THR:HB	37:G:2227:HOH:O	2.17	0.44
10:J:136:VAL:HA	37:J:8343:HOH:O	2.18	0.44
12:L:118:ALA:C	12:L:120:ARG:H	2.26	0.44
14:N:77:PHE:CD1	14:N:77:PHE:O	2.71	0.44
14:N:94:LYS:NZ	37:N:8578:HOH:O	2.48	0.44
15:O:71:TRP:CE3	15:O:175:LEU:CD2	2.96	0.44
17:Q:7:LYS:CD	17:Q:21:VAL:HG21	2.48	0.44
18:R:33:PHE:N	18:R:71:TYR:OH	2.36	0.44
24:X:122:ARG:NH1	24:X:152:ALA:O	2.51	0.44
30:4:50:GLY:O	30:4:53:SER:HB2	2.17	0.44
1:A:245:C:H2'	1:A:246:G:H5'	1.98	0.44
1:A:703:G:O2'	1:A:704:C:H5'	2.17	0.44
1:A:1119:G:H22	1:A:1246:A:H2	1.51	0.44
1:A:1313:A:H5'	26:Z:208:LYS:O	2.18	0.44
1:A:1494:A:C4	1:A:1495:C:C5	3.05	0.44
1:A:2551:C:O2'	1:A:2552:C:H5'	2.17	0.44
2:B:3042:C:H2'	37:B:6700:HOH:O	2.17	0.44
4:D:268:ARG:NE	37:D:8605:HOH:O	2.50	0.44
7:G:31:ARG:HH12	7:G:68:HIS:CD2	2.36	0.44
12:L:125:ALA:C	12:L:127:ALA:N	2.76	0.44
15:O:110:THR:CG2	37:O:8553:HOH:O	2.65	0.44
19:S:35:ILE:O	19:S:38:LYS:HB2	2.17	0.44
24:X:125:HIS:CD2	24:X:127:GLY:H	2.36	0.44
25:Y:25:ARG:NH1	37:Y:3861:HOH:O	2.51	0.44
1:A:10:U:HO2'	1:A:11:A:P	2.41	0.44
1:A:332:G:O2'	1:A:333:G:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:482:G:H4'	1:A:508:A:N1	2.33	0.44
1:A:765:G:O3'	5:E:69:HIS:HB3	2.18	0.44
1:A:1127:C:C5	1:A:1128:U:C4	3.05	0.44
1:A:1730:G:C5'	1:A:1731:C:H6	2.30	0.44
1:A:2547:C:OP2	4:D:5:ARG:NH1	2.50	0.44
2:B:3008:G:O6	15:O:11:ARG:NH1	2.48	0.44
3:C:35:GLY:O	3:C:36:ASP:CB	2.58	0.44
3:C:36:ASP:O	3:C:38:ILE:N	2.50	0.44
8:H:38:LYS:HZ3	14:N:3:SER:HA	1.82	0.44
10:J:57:ARG:C	10:J:59:ASN:N	2.75	0.44
14:N:154:ARG:NE	37:N:8648:HOH:O	2.51	0.44
15:O:170:GLU:O	15:O:174:GLU:HG3	2.17	0.44
17:Q:10:ALA:HA	17:Q:13:VAL:CG1	2.48	0.44
20:T:51:GLN:NE2	20:T:53:ASN:HD21	2.12	0.44
23:W:12:THR:O	23:W:13:PRO:C	2.61	0.44
24:X:40:ALA:O	24:X:44:MET:HG3	2.18	0.44
1:A:825:U:H5''	1:A:826:U:OP1	2.18	0.44
1:A:920:C:H5'	1:A:921:G:N3	2.33	0.44
1:A:1003:U:O2	10:J:90:PHE:CZ	2.71	0.44
1:A:1592:G:HO2'	1:A:1593:C:C4'	2.31	0.44
1:A:2064:U:C5'	1:A:2652:U:O3'	2.59	0.44
1:A:2897:C:H2'	1:A:2898:G:C8	2.51	0.44
37:A:9509:HOH:O	5:E:103:ASN:HB3	2.17	0.44
3:C:61:GLU:C	3:C:63:GLY:H	2.26	0.44
5:E:93:LYS:O	5:E:98:ARG:NH2	2.51	0.44
6:F:101:THR:CG2	37:F:7400:HOH:O	2.61	0.44
10:J:6:TYR:HE2	10:J:94:ARG:O	2.01	0.44
10:J:139:ASP:N	10:J:140:PRO:CD	2.73	0.44
14:N:61:ILE:N	14:N:61:ILE:CD1	2.80	0.44
21:U:96:VAL:HG13	21:U:97:ARG:N	2.32	0.44
22:V:44:ARG:CB	37:V:3805:HOH:O	2.65	0.44
1:A:308:U:C4	1:A:342:C:H1'	2.52	0.44
1:A:711:G:C2	1:A:718:C:C2	3.06	0.44
1:A:1165:G:H4'	1:A:1174:A:HO2'	1.80	0.44
1:A:1436:C:O2'	1:A:1437:A:H5'	2.17	0.44
1:A:1453:G:H2'	1:A:1454:U:O4'	2.18	0.44
1:A:2299:G:O6	18:R:1:PRO:HA	2.18	0.44
1:A:2361:A:H2'	1:A:2362:A:C8	2.53	0.44
1:A:2432:C:C1'	37:A:4455:HOH:O	2.66	0.44
1:A:2621:U:H5	37:A:3360:HOH:O	2.00	0.44
1:A:2724:U:H6	1:A:2724:U:O5'	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3078:G:N2	2:B:3103:A:OP2	2.48	0.44
3:C:94:LEU:N	3:C:94:LEU:CD2	2.81	0.44
5:E:76:ARG:HD3	37:E:8371:HOH:O	2.17	0.44
7:G:172:PRO:HB3	37:G:6931:HOH:O	2.18	0.44
10:J:31:PHE:HA	10:J:85:ILE:CG2	2.48	0.44
14:N:157:LEU:HB3	14:N:160:PHE:HD1	1.83	0.44
15:O:67:ALA:HA	15:O:71:TRP:CB	2.48	0.44
15:O:164:ASP:C	15:O:164:ASP:OD1	2.61	0.44
23:W:20:LEU:HD22	23:W:60:GLN:HE22	1.82	0.44
24:X:13:MET:HE3	24:X:17:ILE:HG22	2.00	0.44
24:X:21:LEU:HB3	24:X:26:ILE:CG1	2.47	0.44
1:A:489:A:C8	21:U:82:THR:HG22	2.53	0.44
1:A:1160:G:N3	37:A:5993:HOH:O	2.36	0.44
1:A:1293:U:O2'	26:Z:149:GLN:NE2	2.46	0.44
1:A:2118:A:H2'	1:A:2119:C:H6	1.83	0.44
1:A:2649:A:H5'	1:A:2649:A:H8	1.83	0.44
4:D:265:LEU:HD21	4:D:316:ARG:HD3	2.00	0.44
5:E:214:THR:HB	37:E:8326:HOH:O	2.18	0.44
6:F:52:THR:HB	6:F:70:GLY:O	2.17	0.44
15:O:47:LEU:HD12	15:O:92:ALA:HB1	1.99	0.44
15:O:127:LEU:HD12	15:O:127:LEU:HA	1.84	0.44
17:Q:143:ALA:HA	37:Q:197:HOH:O	2.16	0.44
19:S:104:PHE:CB	19:S:109:MET:HE2	2.48	0.44
24:X:107:LEU:O	24:X:112:LEU:HB2	2.16	0.44
30:4:40:ARG:HD2	37:4:8549:HOH:O	2.16	0.44
1:A:1119:G:C5	1:A:1243:C:C4	3.06	0.43
1:A:1682:A:H5''	37:A:9839:HOH:O	2.17	0.43
1:A:1845:A:P	3:C:190:ARG:HH11	2.41	0.43
1:A:2038:A:H5''	4:D:222:LYS:HG3	2.00	0.43
3:C:153:ARG:HB2	3:C:153:ARG:NH1	2.28	0.43
4:D:24:PRO:HG2	4:D:204:GLY:HA2	2.00	0.43
4:D:301:VAL:O	4:D:302:PRO:O	2.36	0.43
5:E:46:TYR:CE2	5:E:98:ARG:NH1	2.86	0.43
12:L:99:ASP:OD1	12:L:99:ASP:C	2.60	0.43
15:O:139:TRP:HA	15:O:139:TRP:HE3	1.83	0.43
20:T:57:THR:CG2	20:T:58:MET:N	2.81	0.43
21:U:106:GLU:HG3	37:U:4913:HOH:O	2.18	0.43
24:X:58:SER:OG	24:X:147:ASP:OD2	2.36	0.43
1:A:39:G:C2	1:A:444:C:C2	3.06	0.43
1:A:155:C:OP2	14:N:188:ARG:HD3	2.18	0.43
1:A:169:A:C6	1:A:2469:A:C6	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:305:A:C5	1:A:329:A:C2	3.06	0.43
1:A:328:U:O4'	5:E:202:THR:HG22	2.18	0.43
1:A:702:G:O2'	1:A:703:G:H5'	2.18	0.43
1:A:1360:C:H4'	37:A:9575:HOH:O	2.17	0.43
1:A:1773:G:O2'	27:1:15:GLY:HA2	2.18	0.43
1:A:1888:C:N4	1:A:1889:C:C4	2.87	0.43
1:A:2121:G:O2'	30:4:47:GLY:HA2	2.18	0.43
1:A:2122:C:H3'	37:A:5652:HOH:O	2.18	0.43
1:A:2416:G:H2'	1:A:2417:C:C6	2.53	0.43
1:A:2748:G:C2'	37:A:7899:HOH:O	2.53	0.43
3:C:42:VAL:HG11	3:C:75:GLY:O	2.18	0.43
7:G:34:TRP:O	11:K:127:ILE:HD11	2.18	0.43
7:G:137:ASP:C	7:G:137:ASP:OD1	2.61	0.43
7:G:157:LYS:HE2	7:G:157:LYS:HB2	1.84	0.43
10:J:26:LYS:CG	10:J:28:ILE:H	2.21	0.43
11:K:6:PHE:O	11:K:8:ALA:N	2.51	0.43
11:K:27:ALA:HB1	11:K:87:LEU:HD21	1.99	0.43
11:K:130:VAL:CG1	11:K:131:THR:N	2.80	0.43
12:L:13:GLU:OE2	12:L:44:HIS:HB2	2.18	0.43
14:N:3:SER:OG	14:N:5:TYR:HB2	2.18	0.43
14:N:43:PRO:O	37:N:8625:HOH:O	2.20	0.43
14:N:87:MET:HB2	14:N:91:ILE:HD11	1.99	0.43
17:Q:91:LYS:O	17:Q:95:GLU:HG3	2.18	0.43
19:S:75:TRP:CG	19:S:76:ASP:H	2.36	0.43
26:Z:197:ASP:C	26:Z:197:ASP:OD1	2.60	0.43
27:1:10:ARG:HA	37:1:8414:HOH:O	2.18	0.43
27:1:13:ARG:NH1	37:1:8419:HOH:O	2.50	0.43
27:1:30:GLU:CA	27:1:33:HIS:HB3	2.45	0.43
1:A:588:G:O6	24:X:154:ARG:NH1	2.52	0.43
1:A:2846:C:OP1	4:D:158:LYS:HD3	2.19	0.43
5:E:13:ASP:OD1	5:E:13:ASP:O	2.36	0.43
6:F:55:LYS:O	6:F:56:ARG:HB2	2.18	0.43
10:J:84:ARG:NH2	10:J:135:TRP:CH2	2.79	0.43
10:J:139:ASP:OD2	37:J:8392:HOH:O	2.21	0.43
14:N:133:LEU:HD12	14:N:133:LEU:N	2.33	0.43
15:O:3:GLY:CA	37:O:8512:HOH:O	2.65	0.43
15:O:14:ARG:C	15:O:16:ALA:H	2.26	0.43
19:S:73:ASP:OD1	37:S:8525:HOH:O	2.21	0.43
24:X:97:ALA:O	24:X:98:PHE:C	2.61	0.43
30:4:70:ARG:HG2	30:4:77:ALA:CB	2.38	0.43
1:A:101:C:O2'	1:A:102:A:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:175:G:C2'	14:N:192:ALA:HB3	2.44	0.43
1:A:422:G:O2'	1:A:423:A:H5'	2.17	0.43
1:A:484:A:N6	1:A:486:A:C6	2.86	0.43
1:A:737:A:H2'	1:A:738:G:O4'	2.18	0.43
1:A:766:A:O2'	1:A:767:A:H5''	2.18	0.43
1:A:1298:U:H2'	1:A:1299:G:C8	2.53	0.43
1:A:2241:C:H2'	1:A:2242:U:C6	2.53	0.43
37:A:9942:HOH:O	4:D:267:LYS:HD3	2.17	0.43
3:C:215:ILE:HG13	3:C:216:SER:N	2.33	0.43
4:D:43:GLY:O	4:D:308:LEU:HD12	2.17	0.43
5:E:84:VAL:O	5:E:85:LYS:HB2	2.17	0.43
6:F:59:GLY:C	6:F:61:PHE:N	2.77	0.43
9:I:16:LYS:O	9:I:20:VAL:HG23	2.18	0.43
10:J:47:GLU:CB	10:J:133:ILE:CD1	2.94	0.43
12:L:86:THR:HG22	12:L:87:ARG:N	2.32	0.43
14:N:52:LEU:CD1	14:N:116:ASN:HB3	2.46	0.43
15:O:157:PRO:HA	37:O:8525:HOH:O	2.17	0.43
24:X:110:GLN:NE2	24:X:110:GLN:CA	2.76	0.43
29:3:18:ASN:HD22	29:3:18:ASN:HA	1.58	0.43
30:4:22:VAL:CG1	30:4:67:LEU:HD13	2.48	0.43
30:4:37:ASP:HA	37:4:8557:HOH:O	2.18	0.43
1:A:391:U:OP2	14:N:84:LYS:NZ	2.51	0.43
1:A:677:C:H4'	5:E:246:ARG:NH2	2.34	0.43
1:A:778:C:C4	1:A:779:U:C4	3.07	0.43
1:A:941:G:C6	1:A:942:U:C4	3.06	0.43
1:A:962:C:H5''	37:A:5279:HOH:O	2.17	0.43
1:A:1134:G:H4'	10:J:151:MET:CE	2.28	0.43
1:A:1566:C:H2'	1:A:1567:A:H8	1.84	0.43
1:A:1825:U:O2'	1:A:1826:C:H5'	2.18	0.43
1:A:1896:G:C6	1:A:1897:U:C4	3.06	0.43
1:A:2543:G:O3'	1:A:2590:U:H5'	2.19	0.43
1:A:2837:U:H1'	4:D:307:ARG:HH12	1.84	0.43
2:B:3028:U:H2'	2:B:3029:C:C6	2.54	0.43
4:D:41:PHE:CZ	4:D:79:MET:HG3	2.54	0.43
4:D:119:HIS:O	4:D:121:PRO:HD3	2.18	0.43
15:O:43:VAL:O	15:O:84:THR:HG21	2.18	0.43
15:O:139:TRP:CH2	15:O:176:ARG:NH1	2.87	0.43
15:O:152:GLU:OE1	15:O:152:GLU:HA	2.18	0.43
19:S:39:THR:CG2	19:S:42:GLU:HG3	2.49	0.43
22:V:39:ASN:ND2	22:V:44:ARG:HH11	2.16	0.43
27:1:55:TRP:HB2	27:1:64:ILE:HG13	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:492:C:O2'	1:A:493:U:H5'	2.19	0.43
1:A:503:G:H2'	1:A:504:G:H8	1.83	0.43
1:A:643:A:N1	1:A:902:G:O2'	2.49	0.43
1:A:944:G:H1'	24:X:23:MET:SD	2.59	0.43
1:A:1052:G:N3	1:A:1052:G:H2'	2.32	0.43
1:A:1069:C:H4'	1:A:1081:A:O2'	2.18	0.43
1:A:1544:U:H2'	1:A:1545:C:H6	1.83	0.43
1:A:2467:A:O2'	1:A:2468:A:H2'	2.19	0.43
31:A:9403:VIR:HC42	31:A:9403:VIR:N9	2.33	0.43
4:D:222:LYS:O	4:D:223:ARG:C	2.58	0.43
4:D:224:LYS:HD3	4:D:224:LYS:HA	1.74	0.43
4:D:310:ARG:HD2	37:D:8644:HOH:O	2.18	0.43
5:E:142:ASP:OD1	5:E:236:THR:HG23	2.18	0.43
6:F:49:PRO:HG3	37:F:5828:HOH:O	2.18	0.43
7:G:132:THR:O	7:G:132:THR:HG23	2.18	0.43
10:J:86:ARG:CZ	10:J:130:HIS:CD2	3.01	0.43
13:M:72:ASN:HB2	37:M:8587:HOH:O	2.19	0.43
20:T:57:THR:C	20:T:59:ASP:N	2.74	0.43
21:U:71:VAL:HG12	21:U:72:ILE:N	2.33	0.43
24:X:58:SER:O	24:X:59:GLN:C	2.60	0.43
30:4:65:THR:HB	30:4:83:TRP:H	1.83	0.43
1:A:95:A:H5''	1:A:97:G:O4'	2.18	0.43
1:A:1594:C:C2	1:A:1601:G:C2	3.06	0.43
1:A:1666:C:C2'	1:A:1667:A:C5'	2.95	0.43
1:A:2279:G:OP1	37:A:5460:HOH:O	2.21	0.43
1:A:2430:A:H2'	1:A:2431:C:C6	2.53	0.43
1:A:2533:C:H6	1:A:2533:C:C5'	2.23	0.43
1:A:2777:G:O2'	1:A:2778:A:H5'	2.18	0.43
31:A:9403:VIR:N9	31:A:9403:VIR:C4	2.82	0.43
2:B:3061:C:H2'	2:B:3062:A:H8	1.83	0.43
4:D:238:ASN:HA	37:D:8522:HOH:O	2.17	0.43
5:E:21:VAL:C	5:E:23:GLU:H	2.26	0.43
5:E:194:PHE:HA	5:E:234:VAL:HG13	2.01	0.43
6:F:59:GLY:O	6:F:61:PHE:N	2.42	0.43
8:H:50:VAL:CG1	8:H:60:VAL:HG11	2.48	0.43
10:J:129:ASN:N	10:J:129:ASN:HD22	2.16	0.43
14:N:57:LYS:NZ	14:N:144:ASP:OD2	2.49	0.43
16:P:77:ALA:HA	16:P:96:VAL:O	2.18	0.43
20:T:10:VAL:HG13	23:W:35:ALA:O	2.19	0.43
26:Z:109:LEU:HA	37:Z:8576:HOH:O	2.18	0.43
26:Z:187:VAL:HG23	26:Z:192:ASP:HB3	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:65:C:O2'	1:A:66:G:H5'	2.18	0.43
1:A:183:A:O2'	1:A:184:G:H5'	2.19	0.43
1:A:208:C:N3	1:A:232:A:C2	2.87	0.43
1:A:736:A:H2'	1:A:737:A:O4'	2.19	0.43
1:A:790:A:H1'	1:A:1710:A:H2'	2.00	0.43
1:A:894:A:C2	5:E:87:ARG:NH2	2.87	0.43
1:A:963:C:O2	1:A:1005:A:N1	2.52	0.43
1:A:1023:C:H2'	1:A:1024:G:O4'	2.18	0.43
1:A:1262:C:H1'	24:X:120:PRO:HG3	2.00	0.43
1:A:1398:G:H2'	1:A:1399:A:C8	2.54	0.43
1:A:1423:C:O2'	1:A:1424:A:H5'	2.19	0.43
1:A:1654:U:H2'	3:C:47:HIS:HD2	1.83	0.43
1:A:2346:C:H4'	6:F:52:THR:HG22	2.01	0.43
1:A:2501:G:H1'	37:A:4910:HOH:O	2.18	0.43
1:A:2894:C:HO2'	1:A:2895:C:H5'	1.83	0.43
1:A:2898:G:H4'	4:D:288:GLY:HA2	2.00	0.43
5:E:103:ASN:O	5:E:104:ASP:C	2.62	0.43
6:F:84:LEU:HA	6:F:87:ALA:HB3	2.01	0.43
6:F:104:PHE:CE2	6:F:166:ILE:CD1	3.02	0.43
10:J:26:LYS:HD3	10:J:89:PRO:CG	2.49	0.43
14:N:47:ASP:CG	14:N:48:ARG:N	2.77	0.43
19:S:6:VAL:HG21	19:S:113:HIS:CD2	2.53	0.43
24:X:85:ALA:HB2	24:X:91:ASP:O	2.18	0.43
27:1:22:ILE:HG22	27:1:23:ARG:N	2.33	0.43
28:2:15:THR:O	28:2:29:THR:HG22	2.18	0.43
1:A:330:C:H5	5:E:170:ASP:OD2	2.02	0.43
1:A:1593:C:OP1	17:Q:117:SER:CB	2.66	0.43
1:A:1613:C:H2'	1:A:1614:G:O4'	2.18	0.43
1:A:1675:C:O2'	1:A:1676:G:H5'	2.19	0.43
1:A:1878:G:H4'	37:A:4492:HOH:O	2.18	0.43
1:A:2011:A:C1'	1:A:2013:G:C8	3.02	0.43
1:A:2601:A:N1	12:L:38:SER:HB2	2.33	0.43
2:B:3061:C:C2	2:B:3062:A:C8	3.07	0.43
3:C:217:ARG:HH11	3:C:217:ARG:HG3	1.84	0.43
10:J:158:ASN:ND2	37:J:8387:HOH:O	2.51	0.43
13:M:121:ILE:HG12	13:M:141:GLU:HB2	1.99	0.43
15:O:34:LEU:HD13	15:O:47:LEU:HD21	2.01	0.43
17:Q:56:GLY:N	37:Q:185:HOH:O	2.50	0.43
19:S:104:PHE:HB3	19:S:109:MET:HE2	2.00	0.43
24:X:41:TYR:O	24:X:45:VAL:HG13	2.19	0.43
28:2:17:THR:N	28:2:27:TYR:O	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:11:CYS:HB2	30:4:20:HIS:HE1	1.81	0.43
1:A:544:G:H2'	1:A:545:G:C5'	2.49	0.43
1:A:834:G:H3'	1:A:835:U:H4'	2.01	0.43
1:A:2293:G:C5	1:A:2294:C:C5	3.07	0.43
1:A:2428:G:C5	37:A:4161:HOH:O	2.56	0.43
1:A:2655:U:C4	1:A:2656:G:N7	2.87	0.43
1:A:2749:U:O2'	1:A:2751:C:OP2	2.23	0.43
1:A:2781:U:H1'	7:G:139:GLU:OE2	2.17	0.43
4:D:268:ARG:NH2	4:D:325:PRO:HG3	2.33	0.43
5:E:127:ARG:HD3	5:E:230:GLY:O	2.19	0.43
5:E:178:GLN:O	5:E:179:GLY:C	2.62	0.43
6:F:99:ASP:HB2	6:F:103:ASN:H	1.84	0.43
12:L:74:VAL:O	12:L:74:VAL:CG1	2.66	0.43
13:M:125:PHE:O	37:M:8592:HOH:O	2.22	0.43
14:N:49:ALA:HB1	14:N:54:TYR:CB	2.48	0.43
18:R:93:ARG:HH11	18:R:93:ARG:HG3	1.84	0.43
23:W:12:THR:HG23	23:W:14:ALA:N	2.34	0.43
26:Z:144:ARG:NH2	37:Z:8616:HOH:O	2.52	0.43
28:2:29:THR:O	28:2:32:LYS:NZ	2.51	0.43
1:A:133:U:C4	1:A:134:U:C5	3.07	0.42
1:A:162:C:H2'	1:A:163:U:H5'	2.00	0.42
1:A:813:C:H3'	37:A:7569:HOH:O	2.19	0.42
1:A:1417:G:OP2	29:3:47:THR:OG1	2.31	0.42
1:A:1477:C:C2'	1:A:1478:U:H5'	2.48	0.42
1:A:1850:U:O4'	1:A:1941:A:C2	2.71	0.42
1:A:2820:A:H2'	1:A:2821:C:C6	2.54	0.42
2:B:3009:C:OP2	37:B:466:HOH:O	2.22	0.42
3:C:164:ARG:HA	27:1:69:TYR:CE1	2.54	0.42
5:E:115:LEU:CD1	5:E:223:LEU:HD21	2.27	0.42
6:F:81:GLU:C	6:F:83:PHE:N	2.76	0.42
7:G:162:PHE:CD1	7:G:162:PHE:N	2.86	0.42
8:H:110:GLU:HA	8:H:113:ASP:OD2	2.19	0.42
10:J:71:TYR:O	10:J:73:GLN:N	2.52	0.42
12:L:75:ARG:HG2	12:L:90:PHE:CD2	2.53	0.42
13:M:140:VAL:CG2	37:M:8562:HOH:O	2.67	0.42
15:O:100:ALA:O	15:O:129:ILE:HG23	2.19	0.42
19:S:40:ALA:O	19:S:44:VAL:HG23	2.19	0.42
21:U:3:GLN:HA	21:U:4:PRO:HD3	1.91	0.42
24:X:1:MET:HB2	24:X:103:GLU:HG2	2.01	0.42
26:Z:205:ILE:O	26:Z:206:ALA:C	2.62	0.42
1:A:119:A:C2	1:A:122:C:N3	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:941:G:C5	1:A:942:U:C4	3.07	0.42
1:A:1067:A:C6	1:A:1068:C:C4	3.07	0.42
1:A:1080:C:O5'	1:A:1080:C:H6	2.01	0.42
1:A:1182:C:H1'	1:A:1192:A:C8	2.51	0.42
1:A:1566:C:O2'	1:A:1567:A:H5'	2.19	0.42
1:A:1588:G:C6	1:A:1589:G:N1	2.87	0.42
1:A:1916:C:C2	1:A:1924:A:C2	3.07	0.42
1:A:2679:G:H5'	4:D:11:LEU:HB3	2.00	0.42
1:A:2779:G:N7	1:A:2790:C:C2	2.87	0.42
2:B:3076:G:C3'	2:B:3077:A:H5''	2.30	0.42
4:D:79:MET:HE3	4:D:144:THR:HG21	2.01	0.42
5:E:246:ARG:CZ	37:E:8431:HOH:O	2.67	0.42
9:I:12:ILE:CD1	37:I:692:HOH:O	2.60	0.42
10:J:163:PRO:O	10:J:164:ALA:HB2	2.19	0.42
12:L:132:VAL:C	37:L:3160:HOH:O	2.61	0.42
17:Q:14:LEU:HD13	17:Q:51:ALA:HB2	2.00	0.42
17:Q:134:VAL:O	17:Q:137:LEU:HB3	2.18	0.42
1:A:24:G:C2	1:A:518:G:N3	2.87	0.42
1:A:445:U:H1'	37:A:7695:HOH:O	2.19	0.42
1:A:1269:G:H2'	1:A:1270:U:C6	2.54	0.42
1:A:1385:G:O3'	25:Y:49:ARG:NH1	2.53	0.42
1:A:1414:A:H2	37:A:5267:HOH:O	2.02	0.42
1:A:2577:A:H5'	37:A:8223:HOH:O	2.19	0.42
1:A:2898:G:H1'	4:D:282:GLY:O	2.19	0.42
4:D:138:GLY:O	4:D:139:ASP:C	2.61	0.42
4:D:205:VAL:O	4:D:307:ARG:CD	2.68	0.42
4:D:234:ARG:NH1	37:D:8617:HOH:O	2.44	0.42
8:H:53:ASP:CG	8:H:80:GLN:HB2	2.44	0.42
10:J:48:LEU:CG	10:J:157:ILE:HG21	2.48	0.42
29:3:11:LEU:HD23	29:3:11:LEU:HA	1.85	0.42
1:A:326:G:O2'	1:A:327:A:H5'	2.18	0.42
1:A:401:C:H2'	1:A:402:U:C6	2.54	0.42
1:A:440:C:H2'	1:A:441:A:C8	2.55	0.42
1:A:541:C:H2'	1:A:542:A:H5'	1.94	0.42
1:A:549:A:O2'	1:A:550:C:H5'	2.19	0.42
1:A:629:A:H2'	1:A:630:A:O4'	2.20	0.42
1:A:820:G:OP2	3:C:171:LYS:NZ	2.46	0.42
1:A:1164:U:C1'	1:A:1165:G:OP1	2.67	0.42
1:A:1265:G:C1'	37:A:5365:HOH:O	2.67	0.42
1:A:1762:C:H2'	1:A:1763:C:H6	1.85	0.42
1:A:2839:C:H2'	1:A:2840:A:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3008:G:P	37:B:5071:HOH:O	2.76	0.42
2:B:3041:C:C6	6:F:50:VAL:HG21	2.55	0.42
7:G:80:TRP:O	7:G:134:SER:HA	2.19	0.42
8:H:17:LEU:O	8:H:20:LEU:HB3	2.19	0.42
8:H:21:GLU:O	8:H:24:ARG:CG	2.67	0.42
10:J:56:ILE:HG21	10:J:61:LEU:CD1	2.49	0.42
11:K:17:CYS:HA	11:K:119:THR:O	2.20	0.42
14:N:146:GLN:NE2	37:N:8656:HOH:O	2.52	0.42
26:Z:185:VAL:HG12	37:Z:8575:HOH:O	2.17	0.42
27:1:56:MET:HE2	27:1:63:LYS:HG3	2.01	0.42
27:1:57:CYS:O	27:1:61:GLY:HA2	2.19	0.42
1:A:101:C:H2'	1:A:102:A:C8	2.54	0.42
1:A:1902:G:O2'	1:A:1903:U:H5'	2.20	0.42
1:A:2355:G:H5''	1:A:2356:A:OP2	2.20	0.42
1:A:2481:G:H3'	1:A:2482:G:H5''	2.00	0.42
2:B:3092:G:C6	2:B:3093:A:C6	3.08	0.42
3:C:44:ASP:O	3:C:45:ILE:HD13	2.20	0.42
6:F:104:PHE:CE2	6:F:166:ILE:HD13	2.55	0.42
7:G:83:GLY:O	7:G:169:THR:N	2.39	0.42
8:H:4:VAL:HA	8:H:76:PHE:CE1	2.54	0.42
8:H:63:ILE:O	8:H:64:PRO:C	2.61	0.42
10:J:150:LYS:CB	10:J:157:ILE:HD12	2.46	0.42
12:L:65:ARG:CD	37:L:5358:HOH:O	2.66	0.42
14:N:35:PRO:HD2	14:N:38:VAL:HG21	2.02	0.42
17:Q:14:LEU:O	17:Q:16:VAL:HG23	2.20	0.42
19:S:39:THR:HG22	19:S:41:GLY:N	2.35	0.42
24:X:11:VAL:O	24:X:12:ASN:HB2	2.19	0.42
24:X:29:VAL:O	24:X:30:ASN:HB2	2.19	0.42
24:X:65:VAL:CG1	24:X:116:LEU:HD13	2.49	0.42
25:Y:20:GLU:O	25:Y:21:PRO:C	2.61	0.42
26:Z:153:GLN:O	26:Z:156:GLY:N	2.38	0.42
1:A:484:A:N1	1:A:506:G:H4'	2.35	0.42
1:A:621:C:H5'	26:Z:132:ASP:OD2	2.20	0.42
1:A:793:A:H5''	17:Q:83:LYS:HG2	2.01	0.42
1:A:1025:C:H5'	24:X:23:MET:O	2.20	0.42
1:A:1244:U:P	11:K:18:ILE:HD13	2.60	0.42
1:A:1279:U:H5''	37:A:9970:HOH:O	2.19	0.42
1:A:1734:C:O5'	1:A:1734:C:H6	2.02	0.42
1:A:1734:C:OP1	4:D:234:ARG:HD3	2.18	0.42
1:A:1883:U:O2'	1:A:1884:G:H5'	2.19	0.42
1:A:1972:U:C2'	1:A:1973:A:H5'	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:16:ARG:NE	37:D:8553:HOH:O	2.36	0.42
10:J:26:LYS:HD2	10:J:28:ILE:CG1	2.49	0.42
13:M:122:ALA:HB3	13:M:125:PHE:CZ	2.55	0.42
15:O:163:PHE:CZ	15:O:164:ASP:OD2	2.72	0.42
16:P:73:ASP:CG	16:P:73:ASP:O	2.61	0.42
21:U:111:ARG:HB3	21:U:119:ALA:HB2	2.02	0.42
26:Z:112:GLU:OE2	26:Z:115:ARG:NH1	2.53	0.42
26:Z:126:PRO:HG2	26:Z:128:PHE:CZ	2.55	0.42
1:A:240:C:O2	1:A:240:C:H2'	2.20	0.42
1:A:812:A:H2'	1:A:813:C:C6	2.54	0.42
1:A:1174:A:N7	1:A:1201:C:O5'	2.53	0.42
1:A:1570:C:O2'	1:A:1571:G:H5'	2.18	0.42
1:A:2437:A:H2'	1:A:2438:G:H8	1.83	0.42
1:A:2561:C:OP1	7:G:153:ARG:NH2	2.52	0.42
4:D:7:ARG:NH1	4:D:11:LEU:CD2	2.83	0.42
4:D:81:ALA:O	4:D:186:GLY:HA3	2.20	0.42
4:D:279:THR:CG2	4:D:280:VAL:N	2.82	0.42
4:D:316:ARG:N	4:D:317:PRO:HD3	2.35	0.42
5:E:3:ALA:HA	37:E:8460:HOH:O	2.19	0.42
7:G:84:MET:HB2	7:G:131:LEU:HB2	2.01	0.42
12:L:62:PRO:CG	12:L:65:ARG:HH21	2.25	0.42
14:N:62:VAL:C	14:N:63:VAL:HG23	2.45	0.42
14:N:177:GLY:O	14:N:178:LYS:C	2.62	0.42
15:O:176:ARG:O	15:O:180:LEU:HG	2.19	0.42
16:P:115:ARG:NH1	37:P:6194:HOH:O	2.53	0.42
27:1:58:GLY:HA3	37:1:8436:HOH:O	2.20	0.42
30:4:34:LYS:HB2	30:4:37:ASP:OD2	2.20	0.42
1:A:222:A:H2'	1:A:223:G:O4'	2.19	0.42
1:A:1188:A:C6	1:A:1189:A:C6	3.08	0.42
1:A:1375:A:C2'	1:A:1376:G:H5'	2.49	0.42
1:A:1609:C:H2'	1:A:1610:G:C8	2.55	0.42
1:A:1795:G:H2'	1:A:1796:A:O4'	2.19	0.42
1:A:1850:U:H2'	1:A:1851:G:C8	2.54	0.42
1:A:1894:C:C2	1:A:1939:U:C4	3.07	0.42
1:A:1898:G:H2'	1:A:1899:C:C6	2.55	0.42
1:A:2781:U:O2'	1:A:2782:G:H5'	2.19	0.42
5:E:49:ASP:HB3	5:E:52:ALA:HB2	2.01	0.42
9:I:20:VAL:O	9:I:24:VAL:HG23	2.20	0.42
10:J:62:GLU:OE2	10:J:66:VAL:CG2	2.68	0.42
14:N:68:ARG:O	14:N:68:ARG:CD	2.66	0.42
15:O:63:SER:O	15:O:66:LEU:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:78:MET:HB2	15:O:79:PRO:HD3	2.00	0.42
16:P:39:THR:CB	37:P:3360:HOH:O	2.68	0.42
21:U:15:PRO:O	21:U:19:ARG:HG3	2.19	0.42
21:U:113:GLU:O	21:U:114:SER:C	2.63	0.42
24:X:21:LEU:HD22	24:X:26:ILE:HD13	1.99	0.42
24:X:38:THR:HG22	37:X:3580:HOH:O	2.19	0.42
30:4:1:MET:HG3	30:4:88:LEU:HD12	2.02	0.42
1:A:1516:C:H2'	1:A:1517:U:C6	2.55	0.42
1:A:1940:C:H4'	37:A:7704:HOH:O	2.19	0.42
1:A:2028:U:H2'	1:A:2029:C:C6	2.54	0.42
1:A:2289:G:C2	1:A:2309:C:N4	2.88	0.42
1:A:2434:A:H2'	1:A:2435:U:C6	2.55	0.42
1:A:2438:G:H2'	1:A:2439:C:O4'	2.20	0.42
2:B:3035:C:H5''	37:B:4078:HOH:O	2.19	0.42
2:B:3057:A:C8	6:F:141:VAL:HG21	2.55	0.42
4:D:70:PRO:O	4:D:71:VAL:HG23	2.19	0.42
5:E:79:ARG:O	5:E:87:ARG:HG2	2.20	0.42
6:F:25:MET:HE1	6:F:40:ILE:CG1	2.49	0.42
10:J:109:ASP:HB2	37:J:8345:HOH:O	2.18	0.42
1:A:57:C:H5''	37:A:7115:HOH:O	2.20	0.42
1:A:216:A:O2'	1:A:217:C:H5'	2.20	0.42
1:A:226:A:H1'	1:A:393:G:C5	2.54	0.42
1:A:319:A:H4'	1:A:338:C:C5	2.54	0.42
1:A:332:G:H4'	21:U:2:LYS:O	2.20	0.42
1:A:553:G:C2'	1:A:554:G:H5'	2.50	0.42
1:A:562:A:C6	1:A:563:C:C4	3.07	0.42
1:A:775:G:OP1	28:2:16:HIS:CE1	2.67	0.42
1:A:1215:A:O3'	1:A:1216:G:C4'	2.68	0.42
1:A:1215:A:O3'	1:A:1216:G:H4'	2.19	0.42
1:A:1314:U:H2'	37:A:6235:HOH:O	2.18	0.42
1:A:1420:C:C2	1:A:1445:G:N2	2.87	0.42
1:A:1762:C:H2'	1:A:1763:C:C6	2.55	0.42
1:A:1771:U:O2'	27:1:23:ARG:NH2	2.51	0.42
1:A:1916:C:O2	1:A:1924:A:C2	2.72	0.42
1:A:2428:G:N7	37:A:4161:HOH:O	2.53	0.42
1:A:2464:C:P	37:A:3313:HOH:O	2.78	0.42
1:A:2638:G:H5'	37:A:5293:HOH:O	2.19	0.42
1:A:2834:G:OP1	25:Y:39:LYS:HE2	2.20	0.42
37:A:9933:HOH:O	24:X:119:HIS:HE1	2.01	0.42
2:B:3064:C:C2'	2:B:3065:A:H5'	2.50	0.42
7:G:20:ILE:HD12	7:G:33:LEU:CD1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:131:THR:HB	11:K:134:GLU:HG3	2.00	0.42
14:N:46:LEU:CD2	14:N:50:ARG:HG3	2.50	0.42
15:O:38:LYS:HD2	15:O:114:LYS:HE3	2.01	0.42
15:O:82:TYR:OH	15:O:176:ARG:NH1	2.53	0.42
17:Q:38:GLU:OE1	17:Q:41:ARG:NH1	2.53	0.42
20:T:73:ASP:OD1	20:T:75:GLN:HB2	2.20	0.42
26:Z:99:ALA:HB2	26:Z:233:TYR:CE2	2.54	0.42
30:4:70:ARG:HA	37:4:8572:HOH:O	2.19	0.42
1:A:111:C:O2'	1:A:112:G:H5'	2.20	0.41
1:A:951:A:O2'	1:A:952:G:H5'	2.20	0.41
1:A:960:G:N3	1:A:960:G:C2'	2.82	0.41
1:A:1641:A:C8	1:A:1702:U:O4	2.73	0.41
3:C:125:ASN:ND2	37:C:8539:HOH:O	2.52	0.41
3:C:191:GLY:HA2	3:C:194:MET:CE	2.46	0.41
6:F:99:ASP:CB	6:F:103:ASN:HB2	2.50	0.41
8:H:20:LEU:O	8:H:23:ALA:HB3	2.21	0.41
13:M:138:GLY:HA3	37:M:8558:HOH:O	2.20	0.41
14:N:74:ARG:CD	14:N:91:ILE:CD1	2.98	0.41
15:O:140:GLN:O	15:O:143:ARG:HB2	2.19	0.41
18:R:25:PRO:HA	18:R:26:PRO:HD3	1.90	0.41
18:R:66:LYS:HB2	18:R:70:ALA:O	2.19	0.41
19:S:104:PHE:HB2	19:S:109:MET:CE	2.49	0.41
21:U:41:ARG:O	21:U:43:ASN:ND2	2.53	0.41
24:X:126:ASP:HB3	24:X:135:GLY:O	2.20	0.41
29:3:31:GLU:O	37:3:2890:HOH:O	2.22	0.41
1:A:401:C:H5''	14:N:96:ASN:HB3	2.02	0.41
1:A:835:U:OP2	1:A:1753:C:O2'	2.34	0.41
1:A:853:C:H2'	1:A:854:G:O4'	2.19	0.41
1:A:870:G:OP2	3:C:3:ARG:NH1	2.53	0.41
1:A:954:U:O2'	1:A:955:A:H5'	2.20	0.41
1:A:1902:G:N2	1:A:1936:C:C2	2.89	0.41
1:A:2314:G:O2'	1:A:2315:C:H5'	2.20	0.41
37:A:5770:HOH:O	13:M:34:GLY:HA2	2.20	0.41
3:C:66:ARG:HB2	3:C:66:ARG:HH11	1.83	0.41
3:C:231:LYS:O	3:C:232:ARG:HB3	2.20	0.41
6:F:25:MET:SD	6:F:40:ILE:HD11	2.60	0.41
10:J:132:PHE:O	10:J:133:ILE:HD13	2.20	0.41
12:L:74:VAL:CG1	12:L:113:ILE:HG12	2.47	0.41
14:N:91:ILE:HA	37:N:8652:HOH:O	2.20	0.41
22:V:14:GLU:HA	22:V:15:PRO:HD2	1.89	0.41
24:X:28:HIS:HD2	24:X:31:HIS:CE1	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:G:H2'	1:A:65:C:O4'	2.21	0.41
1:A:154:C:H3'	14:N:188:ARG:NH1	2.35	0.41
1:A:290:C:H1'	37:A:6465:HOH:O	2.20	0.41
1:A:314:G:N2	1:A:316:A:H3'	2.34	0.41
1:A:849:C:C2'	1:A:850:U:H5'	2.51	0.41
1:A:1159:G:P	37:A:4662:HOH:O	2.79	0.41
1:A:1441:G:H1'	37:A:8236:HOH:O	2.19	0.41
1:A:1531:U:O2	1:A:1661:A:C2	2.74	0.41
1:A:1617:C:C4	1:A:1643:C:H4'	2.55	0.41
1:A:1810:C:OP1	22:V:44:ARG:NE	2.31	0.41
1:A:1846:U:H5''	3:C:186:TRP:CZ2	2.55	0.41
1:A:2004:U:H2'	1:A:2005:G:OP1	2.19	0.41
1:A:2325:C:H2'	1:A:2326:U:C6	2.55	0.41
1:A:2481:G:C3'	1:A:2482:G:H5''	2.50	0.41
1:A:2684:A:H2'	1:A:2685:C:H6	1.84	0.41
1:A:2785:C:H4'	1:A:2786:G:OP2	2.21	0.41
2:B:3056:A:C3'	2:B:3057:A:H5''	2.50	0.41
3:C:81:GLN:N	3:C:92:ASN:ND2	2.67	0.41
3:C:129:LEU:C	37:C:8580:HOH:O	2.63	0.41
4:D:7:ARG:HH11	4:D:7:ARG:CG	2.31	0.41
4:D:84:LEU:HD13	4:D:84:LEU:O	2.19	0.41
4:D:102:THR:HG23	4:D:182:VAL:HG12	2.02	0.41
4:D:226:LYS:NZ	37:D:8527:HOH:O	2.53	0.41
6:F:84:LEU:HD23	6:F:87:ALA:HB3	2.03	0.41
8:H:28:ALA:HB3	8:H:99:THR:HG23	2.02	0.41
14:N:125:ARG:NH1	37:N:8599:HOH:O	2.52	0.41
15:O:15:GLU:HB2	15:O:17:ARG:HG3	2.01	0.41
17:Q:109:ARG:NH1	17:Q:119:TYR:CE2	2.88	0.41
25:Y:76:ARG:HA	25:Y:82:GLU:O	2.20	0.41
26:Z:145:LYS:O	26:Z:147:ARG:HG2	2.20	0.41
30:4:51:LYS:HG3	30:4:52:PHE:N	2.34	0.41
1:A:1324:G:C2	1:A:1334:C:O2	2.74	0.41
1:A:1494:A:C2	1:A:1495:C:C4	3.08	0.41
1:A:1878:G:O2'	1:A:1879:U:OP2	2.37	0.41
1:A:2716:G:H1'	37:D:8543:HOH:O	2.20	0.41
2:B:3007:G:OP1	15:O:23:ARG:NE	2.54	0.41
2:B:3078:G:O2'	2:B:3079:U:P	2.78	0.41
3:C:125:ASN:CB	3:C:158:VAL:HG12	2.50	0.41
6:F:140:ARG:O	6:F:144:ARG:HG2	2.20	0.41
10:J:75:SER:HB3	10:J:79:ALA:CB	2.49	0.41
13:M:133:VAL:HB	37:M:8562:HOH:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:142:LEU:HG	13:M:146:GLY:HA3	2.02	0.41
13:M:149:ARG:C	37:M:8574:HOH:O	2.64	0.41
14:N:94:LYS:CE	37:N:8653:HOH:O	2.68	0.41
18:R:16:ASN:HD22	18:R:16:ASN:HA	1.61	0.41
21:U:55:PHE:CD2	21:U:77:VAL:HG13	2.56	0.41
1:A:24:G:C4	1:A:518:G:N2	2.88	0.41
1:A:312:U:C2	1:A:320:G:N2	2.88	0.41
1:A:622:G:P	26:Z:148:GLY:HA3	2.60	0.41
1:A:1074:G:C2	1:A:1075:G:C8	3.08	0.41
1:A:1081:A:C6	1:A:1082:A:N1	2.88	0.41
1:A:1333:U:H2'	1:A:1334:C:H6	1.82	0.41
1:A:1728:G:N1	1:A:1729:A:C5	2.89	0.41
1:A:2032:U:H2'	1:A:2033:G:H5'	2.03	0.41
1:A:2246:U:N3	1:A:2256:G:C2	2.88	0.41
1:A:2334:C:O2'	1:A:2335:C:H5'	2.21	0.41
2:B:3078:G:O2'	2:B:3079:U:OP2	2.38	0.41
4:D:23:THR:HA	4:D:24:PRO:HD3	1.88	0.41
4:D:54:VAL:O	4:D:55:ASN:C	2.62	0.41
4:D:92:TYR:CD1	4:D:92:TYR:N	2.88	0.41
6:F:57:THR:HA	6:F:63:ILE:HA	2.01	0.41
6:F:170:TYR:N	6:F:170:TYR:CD1	2.89	0.41
6:F:174:VAL:HG11	37:F:2195:HOH:O	2.21	0.41
12:L:87:ARG:NE	37:L:4854:HOH:O	2.52	0.41
13:M:34:GLY:C	13:M:36:ASP:H	2.28	0.41
13:M:53:ARG:NH2	13:M:57:VAL:HG12	2.35	0.41
13:M:77:ALA:HB3	37:M:8532:HOH:O	2.20	0.41
13:M:107:LYS:CD	13:M:124:ASP:OD2	2.68	0.41
19:S:15:LYS:HE3	37:S:8580:HOH:O	2.20	0.41
20:T:58:MET:SD	29:3:8:LYS:HE3	2.60	0.41
21:U:73:HIS:CD2	21:U:88:PRO:HG3	2.55	0.41
22:V:52:THR:HG22	22:V:54:THR:N	2.36	0.41
28:2:28:HIS:CE1	28:2:31:LYS:HE2	2.56	0.41
1:A:12:U:C2'	1:A:13:G:H5'	2.50	0.41
1:A:472:A:N1	1:A:888:U:O2'	2.51	0.41
1:A:816:G:C6	1:A:817:G:N1	2.88	0.41
1:A:921:G:H4'	1:A:924:G:N1	2.36	0.41
1:A:1014:A:H2'	1:A:1015:C:H5'	2.02	0.41
1:A:1135:G:C6	1:A:1136:U:C4	3.08	0.41
1:A:1238:C:H4'	37:A:6381:HOH:O	2.20	0.41
1:A:1545:C:O2'	1:A:1546:G:H5'	2.20	0.41
1:A:1644:C:C2	1:A:1645:U:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1657:A:H2'	1:A:1658:A:C8	2.55	0.41
1:A:2133:U:H4'	1:A:2134:G:H5'	2.02	0.41
1:A:2453:G:H5'	37:A:5057:HOH:O	2.21	0.41
4:D:156:LYS:HE3	37:D:8628:HOH:O	2.20	0.41
7:G:95:VAL:O	7:G:126:ILE:HD13	2.20	0.41
13:M:73:VAL:HG21	13:M:116:HIS:CD2	2.56	0.41
14:N:68:ARG:O	14:N:68:ARG:CG	2.67	0.41
15:O:113:SER:CB	37:O:8560:HOH:O	2.55	0.41
17:Q:58:SER:CB	37:Q:186:HOH:O	2.61	0.41
1:A:171:C:OP2	14:N:84:LYS:HG3	2.21	0.41
1:A:1185:U:C5'	37:A:7822:HOH:O	2.65	0.41
1:A:1813:U:O2'	17:Q:81:LYS:HE3	2.20	0.41
1:A:2291:A:N9	1:A:2309:C:H5'	2.35	0.41
1:A:2388:C:H2'	1:A:2389:U:O4'	2.20	0.41
1:A:2430:A:O5'	1:A:2430:A:H8	2.03	0.41
1:A:2497:A:H2'	1:A:2498:C:O4'	2.21	0.41
3:C:65:ARG:HH11	3:C:65:ARG:HG2	1.86	0.41
4:D:102:THR:CG2	4:D:182:VAL:HG12	2.51	0.41
4:D:315:VAL:HG23	4:D:316:ARG:HG2	2.03	0.41
5:E:4:THR:N	37:E:8460:HOH:O	2.53	0.41
5:E:43:LYS:NZ	37:E:8396:HOH:O	2.45	0.41
8:H:34:ASN:HB2	37:H:1111:HOH:O	2.21	0.41
9:I:71:LEU:C	9:I:73:ASP:N	2.78	0.41
15:O:154:LEU:CG	15:O:155:GLU:H	2.27	0.41
18:R:93:ARG:HG3	18:R:93:ARG:NH1	2.36	0.41
19:S:25:PHE:CE2	19:S:29:LYS:HE2	2.55	0.41
22:V:6:CYS:HB2	22:V:32:CYS:HB3	2.03	0.41
24:X:96:LEU:O	24:X:97:ALA:C	2.63	0.41
1:A:187:A:H3'	1:A:188:C:H6	1.85	0.41
1:A:382:U:H5	1:A:406:G:C2	2.37	0.41
1:A:559:U:H5'	1:A:559:U:C6	2.44	0.41
1:A:573:A:P	37:A:7403:HOH:O	2.78	0.41
1:A:661:G:C6	1:A:686:A:C2	3.09	0.41
1:A:1380:U:P	37:A:8414:HOH:O	2.77	0.41
1:A:1634:G:H2'	1:A:1635:U:C6	2.55	0.41
1:A:1652:C:O2	3:C:164:ARG:HD2	2.21	0.41
1:A:1874:U:O4	3:C:117:LYS:HD2	2.21	0.41
1:A:2419:U:C1'	37:A:3284:HOH:O	2.68	0.41
1:A:2904:U:H4'	25:Y:8:ARG:NH1	2.35	0.41
37:A:3881:HOH:O	17:Q:133:SER:HA	2.21	0.41
2:B:3036:C:C5	2:B:3037:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:255:GLY:O	4:D:257:THR:HG23	2.20	0.41
7:G:7:ILE:HA	7:G:8:PRO:HD3	1.94	0.41
10:J:15:THR:HG22	10:J:90:PHE:O	2.20	0.41
10:J:83:PHE:HD1	10:J:134:ALA:HB2	1.86	0.41
17:Q:84:ALA:C	17:Q:86:ALA:N	2.79	0.41
17:Q:141:ILE:C	17:Q:143:ALA:H	2.27	0.41
19:S:17:MET:HG2	19:S:144:GLU:HA	2.02	0.41
22:V:49:LEU:CD1	37:V:3805:HOH:O	2.69	0.41
27:1:39:CYS:O	27:1:42:CYS:O	2.39	0.41
30:4:7:PHE:CD1	30:4:7:PHE:C	2.98	0.41
30:4:15:ASN:ND2	37:4:8548:HOH:O	2.52	0.41
1:A:101:C:H2'	1:A:102:A:H8	1.86	0.41
1:A:208:C:C2	1:A:232:A:C2	3.08	0.41
1:A:308:U:C2	21:U:52:ARG:NH2	2.89	0.41
1:A:396:U:O2'	1:A:397:A:P	2.79	0.41
1:A:541:C:C2'	1:A:542:A:C5'	2.84	0.41
1:A:684:G:H2'	1:A:685:C:C6	2.56	0.41
1:A:821:U:H5''	37:A:3427:HOH:O	2.21	0.41
1:A:861:A:H2'	1:A:862:U:C6	2.55	0.41
1:A:877:G:C5'	1:A:878:G:OP1	2.65	0.41
1:A:1158:G:C2'	1:A:1159:G:H5'	2.51	0.41
1:A:1849:G:C6	1:A:1850:U:C5	3.09	0.41
1:A:2011:A:H4'	1:A:2012:U:O5'	2.21	0.41
1:A:2378:U:H3'	30:4:8:ASN:O	2.20	0.41
1:A:2383:G:N3	37:A:7062:HOH:O	2.37	0.41
1:A:2712:G:P	37:L:4183:HOH:O	2.79	0.41
1:A:2719:A:C2	4:D:70:PRO:HG3	2.55	0.41
1:A:2748:G:OP1	1:A:2749:U:C5'	2.67	0.41
37:A:6387:HOH:O	18:R:50:GLY:C	2.62	0.41
37:A:9778:HOH:O	27:1:34:LYS:HD3	2.21	0.41
2:B:3034:A:H2'	2:B:3035:C:O4'	2.20	0.41
3:C:103:VAL:HA	3:C:104:PRO:HD3	1.87	0.41
3:C:192:VAL:CG1	3:C:207:GLN:HB3	2.50	0.41
4:D:2:GLN:HB2	37:D:8634:HOH:O	2.20	0.41
4:D:4:SER:O	4:D:5:ARG:HB2	2.21	0.41
4:D:140:LEU:HD13	4:D:175:LEU:HA	2.01	0.41
4:D:307:ARG:CG	4:D:307:ARG:NH1	2.84	0.41
5:E:16:VAL:CG1	5:E:17:ASP:N	2.82	0.41
5:E:33:LYS:HE2	37:E:8362:HOH:O	2.20	0.41
6:F:58:VAL:CG1	6:F:59:GLY:N	2.83	0.41
7:G:77:THR:OG1	7:G:78:GLU:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:58:GLU:CD	14:N:27:ARG:HH22	2.27	0.41
8:H:109:GLU:O	8:H:112:ALA:HB3	2.21	0.41
10:J:139:ASP:HB2	37:J:8346:HOH:O	2.21	0.41
11:K:42:GLU:O	11:K:131:THR:HG23	2.20	0.41
12:L:87:ARG:NH1	37:L:4066:HOH:O	2.53	0.41
13:M:34:GLY:HA3	13:M:38:HIS:CE1	2.56	0.41
13:M:39:GLU:CD	37:M:8516:HOH:O	2.64	0.41
13:M:104:ASP:HB2	37:M:8581:HOH:O	2.20	0.41
14:N:165:SER:HB2	37:N:8550:HOH:O	2.21	0.41
14:N:184:ARG:CG	14:N:185:PRO:HA	2.50	0.41
15:O:175:LEU:HD12	15:O:175:LEU:HA	1.88	0.41
16:P:56:GLU:HB2	37:P:6111:HOH:O	2.20	0.41
17:Q:101:GLN:NE2	17:Q:131:PHE:O	2.47	0.41
19:S:9:ASP:HA	19:S:10:PRO:HD2	1.91	0.41
22:V:28:THR:CG2	22:V:30:HIS:CE1	3.04	0.41
22:V:52:THR:CG2	22:V:54:THR:HB	2.51	0.41
24:X:119:HIS:CG	24:X:120:PRO:HD2	2.56	0.41
27:1:42:CYS:SG	27:1:44:PHE:CB	2.98	0.41
29:3:9:LYS:O	29:3:12:ALA:HB3	2.21	0.41
30:4:39:GLN:HA	30:4:42:ARG:CZ	2.51	0.41
30:4:54:LYS:HD3	37:4:8534:HOH:O	2.21	0.41
1:A:535:G:C5	1:A:2063:U:C4	3.09	0.41
1:A:558:C:H2'	1:A:559:U:H5''	1.96	0.41
1:A:1969:A:N7	1:A:1970:G:C6	2.89	0.41
1:A:2372:A:H2'	1:A:2373:U:C6	2.56	0.41
1:A:2432:C:H1'	37:A:4455:HOH:O	2.21	0.41
1:A:2664:A:H8	1:A:2664:A:OP1	2.04	0.41
4:D:54:VAL:HB	37:D:8610:HOH:O	2.21	0.41
5:E:115:LEU:HD12	5:E:115:LEU:HA	1.91	0.41
5:E:136:VAL:HG22	5:E:137:PRO:HA	2.03	0.41
6:F:27:ILE:HD11	6:F:37:ALA:CB	2.50	0.41
10:J:150:LYS:HE2	37:J:8377:HOH:O	2.21	0.41
13:M:142:LEU:HD12	13:M:142:LEU:HA	1.94	0.41
14:N:71:SER:HB2	14:N:92:THR:HG22	2.03	0.41
14:N:184:ARG:HB2	14:N:184:ARG:NH1	2.36	0.41
15:O:163:PHE:O	15:O:164:ASP:O	2.38	0.41
15:O:167:ASP:O	15:O:168:LEU:HD23	2.21	0.41
21:U:96:VAL:CG1	21:U:97:ARG:N	2.81	0.41
24:X:52:VAL:HG22	24:X:53:ALA:H	1.85	0.41
24:X:66:LEU:HD23	24:X:66:LEU:HA	1.82	0.41
30:4:38:ARG:O	30:4:42:ARG:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:491:C:O2'	1:A:492:C:H5'	2.21	0.40
1:A:820:G:O2'	1:A:856:G:H4'	2.21	0.40
1:A:1007:A:H2'	10:J:19:TYR:CZ	2.57	0.40
1:A:1349:G:H5''	37:A:4166:HOH:O	2.21	0.40
1:A:1594:C:O2'	1:A:1607:A:H4'	2.21	0.40
1:A:1874:U:C2'	3:C:120:ARG:HG3	2.47	0.40
1:A:2265:U:H2'	1:A:2266:A:H8	1.86	0.40
1:A:2717:C:OP1	4:D:207:LYS:HG3	2.21	0.40
1:A:2729:C:H4'	1:A:2893:C:O2	2.21	0.40
37:A:6632:HOH:O	17:Q:63:ARG:NH2	2.38	0.40
3:C:2:ARG:HB3	37:C:8528:HOH:O	2.21	0.40
3:C:39:ALA:HB3	3:C:61:GLU:OE2	2.21	0.40
4:D:85:ARG:HD2	4:D:163:GLU:OE1	2.21	0.40
6:F:77:ASP:HB3	6:F:78:GLU:H	1.61	0.40
8:H:48:VAL:HG23	8:H:74:PHE:HB2	2.02	0.40
10:J:140:PRO:HA	10:J:142:VAL:HG12	2.02	0.40
15:O:139:TRP:HH2	15:O:176:ARG:HH11	1.68	0.40
22:V:17:THR:CG2	22:V:18:GLY:N	2.84	0.40
22:V:47:ARG:CG	37:V:4381:HOH:O	2.67	0.40
25:Y:14:LEU:HD12	25:Y:67:PRO:O	2.21	0.40
27:1:73:THR:O	27:1:74:VAL:C	2.64	0.40
28:2:15:THR:OG1	28:2:16:HIS:N	2.54	0.40
30:4:24:LYS:HG2	35:4:8504:CL:CL	2.59	0.40
1:A:132:A:C6	1:A:133:U:C4	3.10	0.40
1:A:797:A:N1	37:A:3783:HOH:O	2.37	0.40
1:A:902:G:N7	13:M:18:HIS:CD2	2.85	0.40
1:A:1055:G:OP2	10:J:94:ARG:NH1	2.54	0.40
1:A:1236:A:C8	11:K:63:ILE:HD11	2.56	0.40
1:A:1592:G:H2'	1:A:1593:C:C6	2.57	0.40
1:A:1603:A:H5''	1:A:1605:G:H5'	2.02	0.40
1:A:1897:U:O2'	1:A:1898:G:H5'	2.21	0.40
1:A:2123:A:C5'	14:N:89:ASN:HD21	2.34	0.40
1:A:2126:C:C4	1:A:2127:U:C4	3.09	0.40
1:A:2588:G:C6	1:A:2589:U:O2	2.74	0.40
1:A:2591:C:H2'	1:A:2592:G:O4'	2.22	0.40
1:A:2724:U:C4	1:A:2725:G:C6	3.09	0.40
1:A:2896:A:C4	37:A:6460:HOH:O	2.71	0.40
1:A:2910:A:H5''	37:A:4505:HOH:O	2.22	0.40
3:C:48:ASP:HA	3:C:49:PRO:HD3	1.78	0.40
4:D:70:PRO:C	4:D:71:VAL:HG23	2.45	0.40
4:D:132:HIS:HE1	4:D:171:VAL:HG21	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:5:ILE:HG12	37:E:8438:HOH:O	2.20	0.40
7:G:107:PHE:CZ	7:G:108:LEU:HD13	2.55	0.40
10:J:46:VAL:HG12	10:J:146:TRP:CZ3	2.54	0.40
13:M:147:GLU:C	37:M:8544:HOH:O	2.64	0.40
14:N:164:THR:HG23	14:N:166:ALA:N	2.36	0.40
17:Q:10:ALA:CA	17:Q:13:VAL:HG12	2.52	0.40
18:R:17:LYS:O	18:R:18:PRO:C	2.64	0.40
19:S:29:LYS:HD3	37:S:8534:HOH:O	2.20	0.40
19:S:84:ALA:O	19:S:88:PHE:HD1	2.04	0.40
19:S:119:VAL:O	19:S:119:VAL:CG1	2.69	0.40
20:T:10:VAL:O	20:T:10:VAL:HG22	2.21	0.40
21:U:71:VAL:CG1	21:U:90:PRO:HB3	2.23	0.40
22:V:9:CYS:C	22:V:52:THR:HG23	2.45	0.40
30:4:25:VAL:HG22	30:4:68:LYS:CG	2.45	0.40
30:4:30:GLN:NE2	37:4:8554:HOH:O	2.32	0.40
1:A:209:G:C6	1:A:210:U:N3	2.90	0.40
1:A:581:G:O2'	1:A:582:C:H5'	2.21	0.40
1:A:749:C:O2'	1:A:750:A:H5'	2.21	0.40
1:A:763:C:H5''	37:A:9507:HOH:O	2.21	0.40
1:A:775:G:H1'	37:A:9703:HOH:O	2.22	0.40
1:A:832:U:H2'	1:A:833:G:C8	2.56	0.40
1:A:858:U:H2'	1:A:859:C:C6	2.56	0.40
1:A:892:G:H5''	28:2:54:ALA:HB2	2.02	0.40
1:A:907:A:H4'	1:A:1328:A:C2	2.57	0.40
1:A:1135:G:C2	1:A:1228:C:C2	3.09	0.40
1:A:1319:G:H1'	37:A:5058:HOH:O	2.20	0.40
1:A:1512:G:N2	1:A:1513:C:H1'	2.36	0.40
1:A:1592:G:O2'	1:A:1593:C:O4'	2.32	0.40
1:A:1712:A:H2'	1:A:1713:G:O4'	2.21	0.40
1:A:1761:U:H5'	17:Q:81:LYS:O	2.20	0.40
1:A:2016:U:O5'	1:A:2016:U:H6	2.04	0.40
1:A:2597:U:H2'	1:A:2598:U:H5'	2.03	0.40
1:A:2748:G:H1'	37:A:8442:HOH:O	2.21	0.40
37:A:5313:HOH:O	14:N:82:ARG:CB	2.68	0.40
3:C:36:ASP:HB2	3:C:83:GLY:C	2.47	0.40
4:D:175:LEU:C	4:D:175:LEU:CD2	2.94	0.40
5:E:19:PRO:HG2	5:E:22:PHE:CE1	2.56	0.40
5:E:108:GLN:HA	37:E:8323:HOH:O	2.20	0.40
6:F:15:GLU:HA	6:F:16:PRO:HD3	1.87	0.40
7:G:139:GLU:CD	37:G:5919:HOH:O	2.63	0.40
8:H:104:ALA:O	8:H:108:LEU:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:63:VAL:HG21	14:N:109:PHE:CZ	2.56	0.40
25:Y:76:ARG:NH1	25:Y:76:ARG:CG	2.84	0.40
1:A:35:U:H2'	1:A:36:C:H6	1.87	0.40
1:A:1189:A:N3	37:A:8151:HOH:O	2.54	0.40
1:A:1252:A:H2'	1:A:1253:C:O4'	2.21	0.40
1:A:1314:U:C2	1:A:1316:G:C2	3.10	0.40
1:A:1562:C:H42	1:A:2738:G:H1	1.70	0.40
1:A:1805:G:H2'	1:A:1806:G:C8	2.55	0.40
1:A:1865:A:H2'	1:A:1866:A:C8	2.56	0.40
1:A:1943:C:C4'	3:C:212:PRO:HA	2.51	0.40
1:A:2587:U:C2	1:A:2589:U:H5'	2.57	0.40
1:A:2769:C:H2'	1:A:2770:G:C5'	2.51	0.40
6:F:63:ILE:C	37:F:5728:HOH:O	2.63	0.40
8:H:104:ALA:HA	37:H:6617:HOH:O	2.19	0.40
9:I:12:ILE:CB	37:I:4714:HOH:O	2.57	0.40
12:L:65:ARG:O	12:L:66:ARG:HB2	2.22	0.40
13:M:64:ILE:O	13:M:64:ILE:HG23	2.21	0.40
13:M:140:VAL:O	13:M:140:VAL:HG12	2.21	0.40
15:O:73:ALA:HB1	15:O:74:PRO:CD	2.50	0.40
23:W:38:GLY:C	23:W:40:PRO:HD2	2.46	0.40
27:1:39:CYS:HA	27:1:40:PRO:HD3	1.82	0.40
30:4:34:LYS:O	30:4:37:ASP:HB2	2.21	0.40
1:A:390:G:OP1	30:4:46:ILE:N	2.32	0.40
1:A:702:G:C2	1:A:703:G:C8	3.09	0.40
1:A:812:A:H2'	1:A:813:C:O4'	2.21	0.40
1:A:940:G:C6	1:A:1027:G:C2	3.10	0.40
1:A:958:G:H2'	1:A:959:C:C6	2.57	0.40
1:A:1052:G:C5	1:A:1063:G:C6	3.09	0.40
1:A:1894:C:N4	1:A:1939:U:H2'	2.37	0.40
1:A:2255:A:H2'	1:A:2256:G:O4'	2.21	0.40
1:A:2469:A:H1'	37:A:3618:HOH:O	2.20	0.40
1:A:2505:G:C2'	1:A:2506:A:H5'	2.51	0.40
1:A:2569:A:H2'	1:A:2570:G:O5'	2.21	0.40
3:C:1:GLY:HA2	3:C:197:VAL:HG23	2.03	0.40
4:D:33:ASP:HB3	4:D:34:GLY:H	1.77	0.40
4:D:60:SER:C	4:D:62:ARG:H	2.28	0.40
5:E:116:ALA:C	5:E:118:THR:N	2.79	0.40
16:P:32:ARG:NH1	37:P:2336:HOH:O	2.55	0.40
23:W:12:THR:HG23	23:W:14:ALA:HB3	2.03	0.40
24:X:132:VAL:C	24:X:134:GLU:N	2.78	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	
3	C	235/239 (98%)	200 (85%)	29 (12%)	6 (3%)	4	23
4	D	335/337 (99%)	302 (90%)	22 (7%)	11 (3%)	3	17
5	E	244/246 (99%)	222 (91%)	22 (9%)	0	100	100
6	F	134/176 (76%)	95 (71%)	27 (20%)	12 (9%)	0	3
7	G	170/177 (96%)	157 (92%)	12 (7%)	1 (1%)	21	56
8	H	117/119 (98%)	104 (89%)	10 (8%)	3 (3%)	4	23
9	I	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	2	14
10	J	152/167 (91%)	130 (86%)	17 (11%)	5 (3%)	3	17
11	K	140/145 (97%)	127 (91%)	8 (6%)	5 (4%)	2	16
12	L	130/132 (98%)	120 (92%)	8 (6%)	2 (2%)	8	35
13	M	141/164 (86%)	120 (85%)	20 (14%)	1 (1%)	18	53
14	N	192/194 (99%)	165 (86%)	24 (12%)	3 (2%)	7	34
15	O	184/186 (99%)	164 (89%)	12 (6%)	8 (4%)	2	12
16	P	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
17	Q	141/148 (95%)	135 (96%)	5 (4%)	1 (1%)	18	53
18	R	93/95 (98%)	86 (92%)	3 (3%)	4 (4%)	2	12
19	S	148/154 (96%)	134 (90%)	13 (9%)	1 (1%)	18	53
20	T	79/84 (94%)	73 (92%)	6 (8%)	0	100	100
21	U	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
22	V	51/66 (77%)	48 (94%)	3 (6%)	0	100	100
23	W	63/70 (90%)	58 (92%)	3 (5%)	2 (3%)	3	18
24	X	152/154 (99%)	142 (93%)	8 (5%)	2 (1%)	9	38
25	Y	80/91 (88%)	71 (89%)	5 (6%)	4 (5%)	1	10
26	Z	140/240 (58%)	133 (95%)	7 (5%)	0	100	100
27	1	71/73 (97%)	61 (86%)	7 (10%)	3 (4%)	2	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	2	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
29	3	42/48 (88%)	41 (98%)	1 (2%)	0	100	100
30	4	90/92 (98%)	83 (92%)	5 (6%)	2 (2%)	5	26
All	All	3633/4235 (86%)	3265 (90%)	291 (8%)	77 (2%)	5	27

All (77) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	139	ASP
6	F	93	LEU
6	F	95	THR
6	F	173	GLU
8	H	101	ALA
10	J	162	SER
13	M	80	ASP
15	O	154	LEU
15	O	164	ASP
15	O	167	ASP
15	O	183	ASP
23	W	43	PRO
3	C	34	ASP
3	C	119	ALA
4	D	34	GLY
4	D	107	SER
4	D	169	GLY
6	F	11	HIS
6	F	20	LYS
6	F	36	ASN
6	F	137	PRO
6	F	171	ASP
10	J	164	ALA
11	K	5	GLU
11	K	7	ASP
11	K	89	HIS
11	K	143	LYS
14	N	140	ALA
15	O	162	ASP
15	O	181	ASP
17	Q	116	SER
18	R	89	ALA
24	X	77	ALA

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Mol	Chain	Res	Type
27	1	81	LYS
3	C	132	ASP
4	D	184	ASP
6	F	61	PHE
7	G	44	GLY
8	H	64	PRO
10	J	40	PRO
10	J	138	PRO
12	L	119	GLN
18	R	23	THR
25	Y	77	PHE
25	Y	87	ALA
30	4	56	PRO
3	C	37	VAL
3	C	62	ASP
12	L	126	SER
15	O	68	GLU
15	O	155	GLU
24	X	49	ASN
27	1	20	LEU
4	D	2	GLN
4	D	185	GLY
6	F	16	PRO
6	F	147	ALA
8	H	61	MET
9	I	72	ASP
11	K	141	ALA
18	R	54	PRO
25	Y	78	GLU
30	4	57	GLY
3	C	232	ARG
4	D	206	THR
6	F	170	TYR
10	J	72	VAL
23	W	40	PRO
19	S	81	PRO
14	N	18	GLY
4	D	236	ILE
27	1	41	VAL
4	D	302	PRO
14	N	110	PRO
18	R	18	PRO

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Mol	Chain	Res	Type
25	Y	70	ILE
4	D	5	ARG

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	
3	C	179/181 (99%)	166 (93%)	13 (7%)	13	42
4	D	282/282 (100%)	264 (94%)	18 (6%)	16	48
5	E	193/193 (100%)	176 (91%)	17 (9%)	9	35
6	F	117/147 (80%)	109 (93%)	8 (7%)	14	45
7	G	152/155 (98%)	149 (98%)	3 (2%)	48	76
8	H	92/92 (100%)	90 (98%)	2 (2%)	45	74
9	I	27/283 (10%)	27 (100%)	0	100	100
10	J	122/122 (100%)	107 (88%)	15 (12%)	4	21
11	K	118/121 (98%)	110 (93%)	8 (7%)	14	45
12	L	106/106 (100%)	102 (96%)	4 (4%)	29	63
13	M	112/126 (89%)	109 (97%)	3 (3%)	39	71
14	N	166/166 (100%)	159 (96%)	7 (4%)	26	61
15	O	149/149 (100%)	141 (95%)	8 (5%)	20	53
16	P	93/93 (100%)	89 (96%)	4 (4%)	26	60
17	Q	113/116 (97%)	110 (97%)	3 (3%)	39	71
18	R	79/79 (100%)	74 (94%)	5 (6%)	16	48
19	S	117/121 (97%)	113 (97%)	4 (3%)	32	66
20	T	71/73 (97%)	70 (99%)	1 (1%)	59	80
21	U	105/105 (100%)	102 (97%)	3 (3%)	37	70
22	V	44/52 (85%)	41 (93%)	3 (7%)	14	45
23	W	51/56 (91%)	50 (98%)	1 (2%)	48	76
24	X	130/130 (100%)	121 (93%)	9 (7%)	14	45

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	Y	66/73 (90%)	60 (91%)	6 (9%)	9	33
26	Z	120/195 (62%)	110 (92%)	10 (8%)	10	37
27	1	56/56 (100%)	49 (88%)	7 (12%)	4	20
28	2	46/46 (100%)	46 (100%)	0	100	100
29	3	42/44 (96%)	41 (98%)	1 (2%)	43	73
30	4	79/79 (100%)	71 (90%)	8 (10%)	7	29
All	All	3027/3441 (88%)	2856 (94%)	171 (6%)	19	52

All (171) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	3	ARG
3	C	33	GLU
3	C	36	ASP
3	C	55	VAL
3	C	68	ILE
3	C	69	LEU
3	C	94	LEU
3	C	131	HIS
3	C	153	ARG
3	C	175	LYS
3	C	179	MET
3	C	216	SER
3	C	217	ARG
4	D	7	ARG
4	D	11	LEU
4	D	27	ASN
4	D	33	ASP
4	D	63	GLU
4	D	84	LEU
4	D	97	LEU
4	D	98	THR
4	D	103	ASP
4	D	162	MET
4	D	195	ARG
4	D	245	SER
4	D	251	VAL
4	D	254	GLN
4	D	256	GLN
4	D	304	PRO

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Mol	Chain	Res	Type
4	D	307	ARG
4	D	312	ARG
5	E	2	GLN
5	E	27	ARG
5	E	67	GLN
5	E	78	ARG
5	E	91	PRO
5	E	94	THR
5	E	101	ASP
5	E	115	LEU
5	E	136	VAL
5	E	187	ARG
5	E	214	THR
5	E	222	ASP
5	E	223	LEU
5	E	234	VAL
5	E	236	THR
5	E	240	LEU
5	E	243	VAL
6	F	24	HIS
6	F	50	VAL
6	F	95	THR
6	F	99	ASP
6	F	131	THR
6	F	136	ARG
6	F	137	PRO
6	F	149	ARG
7	G	7	ILE
7	G	86	VAL
7	G	102	VAL
8	H	1	PRO
8	H	12	LEU
10	J	18	GLU
10	J	30	GLN
10	J	59	ASN
10	J	61	LEU
10	J	72	VAL
10	J	73	GLN
10	J	82	LYS
10	J	85	ILE
10	J	86	ARG
10	J	93	ILE

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Mol	Chain	Res	Type
10	J	94	ARG
10	J	142	VAL
10	J	143	GLU
10	J	150	LYS
10	J	166	ASN
11	K	46	ILE
11	K	74	ARG
11	K	76	ASP
11	K	93	ARG
11	K	120	SER
11	K	125	SER
11	K	127	ILE
11	K	131	THR
12	L	7	ASP
12	L	10	GLN
12	L	49	LEU
12	L	98	VAL
13	M	35	ARG
13	M	117	GLU
13	M	140	VAL
14	N	38	VAL
14	N	46	LEU
14	N	81	ARG
14	N	87	MET
14	N	93	ARG
14	N	99	ARG
14	N	164	THR
15	O	17	ARG
15	O	26	LEU
15	O	43	VAL
15	O	47	LEU
15	O	49	THR
15	O	127	LEU
15	O	128	ASP
15	O	152	GLU
16	P	3	THR
16	P	28	ASP
16	P	98	LEU
16	P	111	VAL
17	Q	52	LYS
17	Q	91	LYS
17	Q	98	ILE

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Mol	Chain	Res	Type
18	R	11	ARG
18	R	16	ASN
18	R	54	PRO
18	R	57	ASP
18	R	95	GLU
19	S	13	THR
19	S	39	THR
19	S	82	GLU
19	S	132	ARG
20	T	10	VAL
21	U	39	ASN
21	U	48	VAL
21	U	96	VAL
22	V	9	CYS
22	V	28	THR
22	V	32	CYS
23	W	43	PRO
24	X	4	LEU
24	X	26	ILE
24	X	35	VAL
24	X	52	VAL
24	X	73	LEU
24	X	122	ARG
24	X	142	ASP
24	X	146	ILE
24	X	154	ARG
25	Y	15	ARG
25	Y	27	ASP
25	Y	44	ASP
25	Y	52	PRO
25	Y	66	THR
25	Y	72	VAL
26	Z	103	THR
26	Z	115	ARG
26	Z	154	ARG
26	Z	163	THR
26	Z	172	THR
26	Z	189	ASN
26	Z	200	THR
26	Z	203	VAL
26	Z	231	PRO
26	Z	235	GLU

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Mol	Chain	Res	Type
27	1	11	THR
27	1	22	ILE
27	1	32	LYS
27	1	42	CYS
27	1	60	CYS
27	1	64	ILE
27	1	68	CYS
29	3	18	ASN
30	4	14	CYS
30	4	21	GLU
30	4	34	LYS
30	4	38	ARG
30	4	42	ARG
30	4	56	PRO
30	4	65	THR
30	4	74	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (107) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	47	HIS
3	C	92	ASN
3	C	127	GLN
3	C	177	HIS
3	C	199	HIS
4	D	27	ASN
4	D	55	ASN
4	D	94	GLN
4	D	145	HIS
4	D	230	GLN
4	D	238	ASN
4	D	243	ASN
4	D	256	GLN
4	D	260	HIS
4	D	332	ASN
5	E	2	GLN
5	E	39	GLN
5	E	67	GLN
5	E	108	GLN
5	E	129	HIS
5	E	163	HIS
6	F	103	ASN

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Mol	Chain	Res	Type
6	F	133	ASN
7	G	96	ASN
7	G	106	ASN
7	G	143	GLN
9	I	17	GLN
9	I	64	ASN
10	J	8	ASN
10	J	45	GLN
10	J	55	GLN
10	J	58	HIS
10	J	59	ASN
10	J	69	ASN
10	J	74	ASN
10	J	80	ASN
10	J	91	HIS
10	J	129	ASN
10	J	130	HIS
10	J	137	ASN
10	J	166	ASN
11	K	25	GLN
11	K	52	GLN
11	K	107	ASN
12	L	10	GLN
12	L	42	ASN
13	M	18	HIS
13	M	41	HIS
13	M	42	ASN
13	M	58	GLN
13	M	116	HIS
14	N	26	HIS
14	N	58	GLN
14	N	89	ASN
14	N	176	GLN
15	O	107	ASN
15	O	140	GLN
15	O	153	GLN
17	Q	50	GLN
17	Q	66	GLN
17	Q	73	HIS
17	Q	118	GLN
18	R	16	ASN
18	R	40	HIS

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Mol	Chain	Res	Type
18	R	67	GLN
19	S	61	GLN
19	S	98	ASN
19	S	113	HIS
19	S	117	HIS
19	S	122	GLN
19	S	140	GLN
20	T	9	HIS
20	T	51	GLN
20	T	53	ASN
20	T	55	GLN
21	U	39	ASN
21	U	43	ASN
21	U	73	HIS
22	V	39	ASN
22	V	48	ASN
23	W	4	HIS
23	W	60	GLN
24	X	27	HIS
24	X	28	HIS
24	X	31	HIS
24	X	87	HIS
24	X	110	GLN
24	X	119	HIS
24	X	125	HIS
24	X	141	HIS
25	Y	23	HIS
26	Z	133	HIS
26	Z	134	HIS
26	Z	149	GLN
26	Z	189	ASN
27	1	33	HIS
27	1	70	GLN
28	2	8	GLN
28	2	16	HIS
28	2	28	HIS
29	3	16	ASN
29	3	18	ASN
29	3	37	HIS
29	3	45	ASN
30	4	17	HIS
30	4	30	GLN

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Mol	Chain	Res	Type
30	4	48	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2747/2922 (94%)	256 (9%)	38 (1%)
2	B	121/122 (99%)	14 (11%)	4 (3%)
All	All	2868/3044 (94%)	270 (9%)	42 (1%)

All (270) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	11	A
1	A	31	C
1	A	60	A
1	A	67	A
1	A	69	A
1	A	70	A
1	A	71	G
1	A	87	C
1	A	88	G
1	A	114	A
1	A	115	U
1	A	120	A
1	A	130	C
1	A	139	C
1	A	141	C
1	A	151	A
1	A	166	A
1	A	169	A
1	A	186	A
1	A	191	A
1	A	192	A
1	A	200	U
1	A	219	G
1	A	237	G
1	A	271	C
1	A	272	A
1	A	273	G
1	A	283	U
1	A	284	C

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Mol	Chain	Res	Type
1	A	285	A
1	A	308	U
1	A	309	C
1	A	317	A
1	A	318	C
1	A	336	G
1	A	337	A
1	A	338	C
1	A	339	A
1	A	345	G
1	A	358	G
1	A	381	G
1	A	397	A
1	A	417	G
1	A	461	C
1	A	487	G
1	A	498	A
1	A	510	U
1	A	511	A
1	A	514	G
1	A	537	G
1	A	538	C
1	A	539	G
1	A	542	A
1	A	545	G
1	A	553	G
1	A	559	U
1	A	581	G
1	A	588	G
1	A	604	G
1	A	620	A
1	A	632	A
1	A	644	G
1	A	660	A
1	A	688	A
1	A	701	U
1	A	705	C
1	A	717	C
1	A	759	C
1	A	777	U
1	A	809	G
1	A	821	U

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Mol	Chain	Res	Type
1	A	835	U
1	A	840	U
1	A	857	A
1	A	858	U
1	A	868	G
1	A	869	G
1	A	871	G
1	A	872	U
1	A	875	A
1	A	877	G
1	A	878	G
1	A	882	A
1	A	884	C
1	A	885	G
1	A	898	G
1	A	905	C
1	A	920	C
1	A	921	G
1	A	923	A
1	A	953	G
1	A	960	G
1	A	961	A
1	A	1006	A
1	A	1008	C
1	A	1029	U
1	A	1045	G
1	A	1059	G
1	A	1060	C
1	A	1072	G
1	A	1081	A
1	A	1088	A
1	A	1109	U
1	A	1110	G
1	A	1119	G
1	A	1130	U
1	A	1137	G
1	A	1162	G
1	A	1164	U
1	A	1165	G
1	A	1166	A
1	A	1171	A
1	A	1174	A

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Mol	Chain	Res	Type
1	A	1175	G
1	A	1177	A
1	A	1185	U
1	A	1192	A
1	A	1193	A
1	A	1206	U
1	A	1208	C
1	A	1216	G
1	A	1237	U
1	A	1238	C
1	A	1239	G
1	A	1279	U
1	A	1287	A
1	A	1289	C
1	A	1342	C
1	A	1353	C
1	A	1360	C
1	A	1377	C
1	A	1378	G
1	A	1406	A
1	A	1407	A
1	A	1451	C
1	A	1474	C
1	A	1475	G
1	A	1485	A
1	A	1505	U
1	A	1506	U
1	A	1524	U
1	A	1525	G
1	A	1526	A
1	A	1528	A
1	A	1564	C
1	A	1580	A
1	A	1592	G
1	A	1617	C
1	A	1625	U
1	A	1626	A
1	A	1633	C
1	A	1634	G
1	A	1656	A
1	A	1667	A
1	A	1682	A

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Mol	Chain	Res	Type
1	A	1684	A
1	A	1685	A
1	A	1692	C
1	A	1701	A
1	A	1722	U
1	A	1723	G
1	A	1725	C
1	A	1731	C
1	A	1752	G
1	A	1778	A
1	A	1779	A
1	A	1798	C
1	A	1820	G
1	A	1829	A
1	A	1856	C
1	A	1857	A
1	A	1879	U
1	A	1904	A
1	A	1919	A
1	A	1942	A
1	A	1971	G
1	A	1973	A
1	A	1974	G
1	A	1978	A
1	A	1979	G
1	A	1980	U
1	A	1996	U
1	A	2006	C
1	A	2008	U
1	A	2011	A
1	A	2012	U
1	A	2013	G
1	A	2033	G
1	A	2034	U
1	A	2064	U
1	A	2072	G
1	A	2073	G
1	A	2074	A
1	A	2096	A
1	A	2101	A
1	A	2102	G
1	A	2103	A

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Mol	Chain	Res	Type
1	A	2110	G
1	A	2238	A
1	A	2258	A
1	A	2271	G
1	A	2272	G
1	A	2317	C
1	A	2321	A
1	A	2346	C
1	A	2354	A
1	A	2361	A
1	A	2369	A
1	A	2422	U
1	A	2462	G
1	A	2466	G
1	A	2467	A
1	A	2469	A
1	A	2476	C
1	A	2480	G
1	A	2483	A
1	A	2507	G
1	A	2511	A
1	A	2526	C
1	A	2527	U
1	A	2533	C
1	A	2537	G
1	A	2541	U
1	A	2553	A
1	A	2564	G
1	A	2589	U
1	A	2601	A
1	A	2602	G
1	A	2608	C
1	A	2613	G
1	A	2638	G
1	A	2649	A
1	A	2664	A
1	A	2681	A
1	A	2682	C
1	A	2718	C
1	A	2719	A
1	A	2726	U
1	A	2747	C

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Mol	Chain	Res	Type
1	A	2748	G
1	A	2749	U
1	A	2750	G
1	A	2762	C
1	A	2768	A
1	A	2786	G
1	A	2792	A
1	A	2800	A
1	A	2811	A
1	A	2812	A
1	A	2825	C
1	A	2850	C
1	A	2876	G
1	A	2890	A
1	A	2896	A
1	A	2903	C
1	A	2914	A
2	B	3002	U
2	B	3003	A
2	B	3014	G
2	B	3022	G
2	B	3024	U
2	B	3041	C
2	B	3043	G
2	B	3044	A
2	B	3052	A
2	B	3057	A
2	B	3066	G
2	B	3077	A
2	B	3114	G
2	B	3122	C

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	10	U
1	A	69	A
1	A	129	A
1	A	284	C
1	A	338	C
1	A	603	A
1	A	644	G

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Mol	Chain	Res	Type
1	A	699	C
1	A	716	G
1	A	834	G
1	A	857	A
1	A	871	G
1	A	877	G
1	A	898	G
1	A	1080	C
1	A	1164	U
1	A	1237	U
1	A	1246	A
1	A	1352	A
1	A	1377	C
1	A	1450	C
1	A	1474	C
1	A	1563	G
1	A	1667	A
1	A	1685	A
1	A	1856	C
1	A	1942	A
1	A	1979	G
1	A	2005	G
1	A	2011	A
1	A	2313	C
1	A	2466	G
1	A	2467	A
1	A	2526	C
1	A	2649	A
1	A	2718	C
1	A	2761	A
1	A	2791	U
2	B	3023	U
2	B	3065	A
2	B	3103	A
2	B	3113	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 232 ligands modelled in this entry, 231 are monoatomic - leaving 1 for Mogul analysis.

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	$\# Z > 2$
31	VIR	A	9403	-	38,40,40	2.51	17 (44%)	42,55,55	1.96	13 (30%)

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
31	VIR	A	9403	-	-	11/48/58/58	0/2/3/3

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	A	9403	VIR	C28-C29	-7.80	1.15	1.32
31	A	9403	VIR	C13-C10	-4.87	1.44	1.50
31	A	9403	VIR	C4-N5	4.41	1.53	1.47
31	A	9403	VIR	C17-C19	-3.50	1.46	1.50
31	A	9403	VIR	C28-C26	3.49	1.55	1.48
31	A	9403	VIR	C34-C33	3.37	1.64	1.52
31	A	9403	VIR	C1-C37	-3.26	1.38	1.48
31	A	9403	VIR	C30-C32	3.00	1.61	1.54
31	A	9403	VIR	C10-N9	-2.87	1.26	1.29
31	A	9403	VIR	C26-N25	2.84	1.40	1.34
31	A	9403	VIR	O36-C32	2.81	1.49	1.44
31	A	9403	VIR	C1-N5	2.37	1.42	1.39
31	A	9403	VIR	O15-C14	2.35	1.25	1.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	A	9403	VIR	C21-C20	2.11	1.55	1.50
31	A	9403	VIR	O38-C37	2.09	1.25	1.21
31	A	9403	VIR	C16-C17	-2.05	1.50	1.54
31	A	9403	VIR	O36-C37	2.03	1.39	1.34

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	A	9403	VIR	O27-C26-C28	5.57	135.79	122.95
31	A	9403	VIR	C28-C26-N25	-5.30	103.44	115.07
31	A	9403	VIR	O7-C6-C8	3.39	123.92	118.65
31	A	9403	VIR	C12-C8-C6	-2.91	122.14	127.60
31	A	9403	VIR	C4-N5-C6	2.80	126.88	120.74
31	A	9403	VIR	O36-C37-C1	2.67	114.56	110.77
31	A	9403	VIR	O11-C10-C13	-2.65	115.26	117.70
31	A	9403	VIR	O7-C6-N5	2.46	125.35	120.69
31	A	9403	VIR	C30-C29-C28	2.43	132.74	126.30
31	A	9403	VIR	C6-C8-N9	2.36	127.84	123.70
31	A	9403	VIR	C31-C30-C32	2.35	115.25	111.11
31	A	9403	VIR	C22-C20-C19	-2.26	112.77	118.82
31	A	9403	VIR	C32-C30-C29	-2.24	102.34	109.46

There are no chirality outliers.

All (11) torsion outliers are listed below:

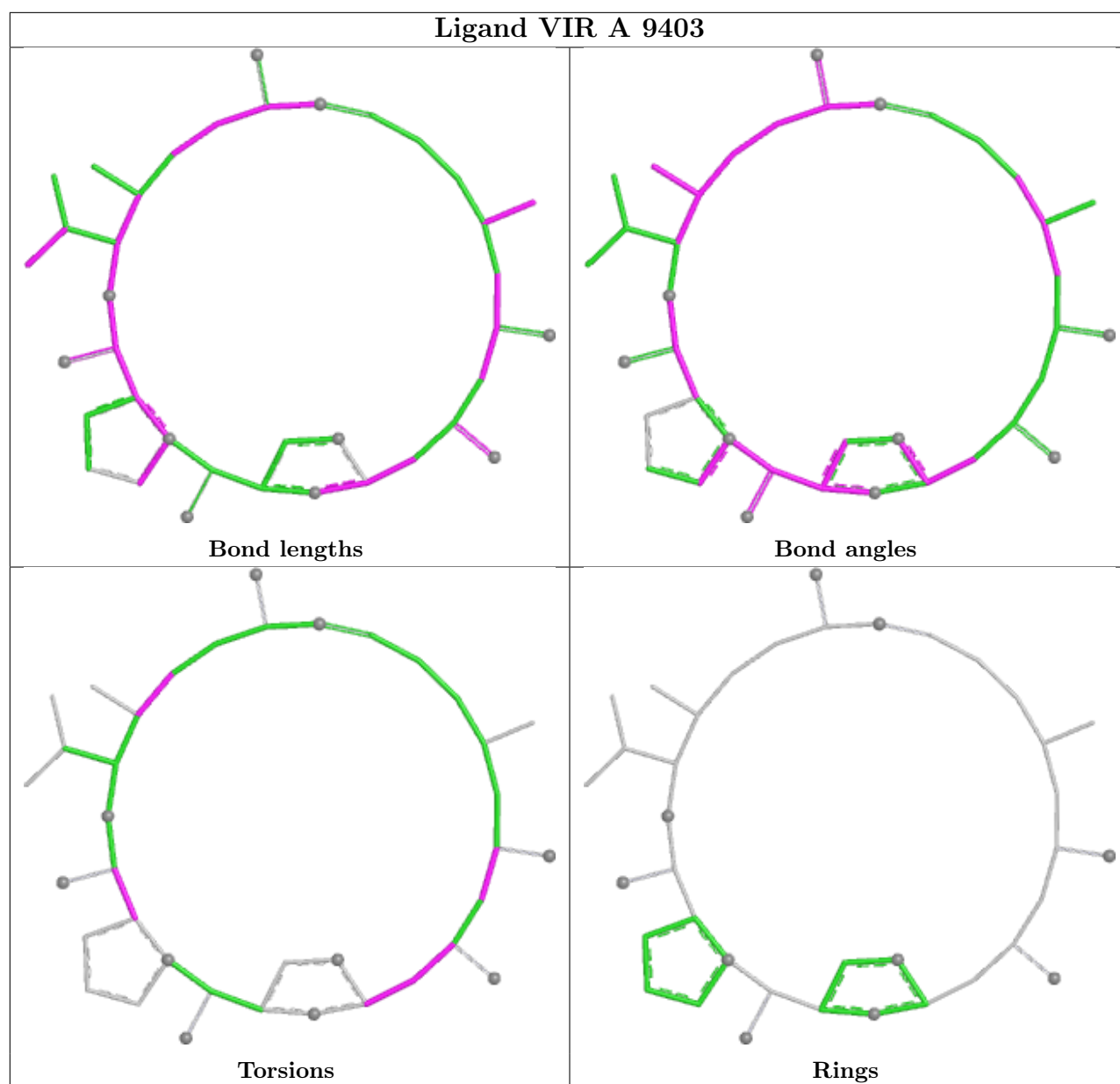
Mol	Chain	Res	Type	Atoms
31	A	9403	VIR	N9-C10-C13-C14
31	A	9403	VIR	O11-C10-C13-C14
31	A	9403	VIR	C14-C16-C17-O18
31	A	9403	VIR	N5-C1-C37-O38
31	A	9403	VIR	N5-C1-C37-O36
31	A	9403	VIR	C10-C13-C14-O15
31	A	9403	VIR	C14-C16-C17-C19
31	A	9403	VIR	C10-C13-C14-C16
31	A	9403	VIR	C2-C1-C37-O38
31	A	9403	VIR	C2-C1-C37-O36
31	A	9403	VIR	C28-C29-C30-C31

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	A	9403	VIR	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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

6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.