



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 3, 2017 – 05:34 PM EDT

PDB ID : 1W2B
Title : Trigger Factor ribosome binding domain in complex with 50S
Authors : Ferbitz, L.; Maier, T.; Patzelt, H.; Bukau, B.; Deuerling, E.; Ban, N.
Deposited on : unknown
Resolution : 3.50 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20029824

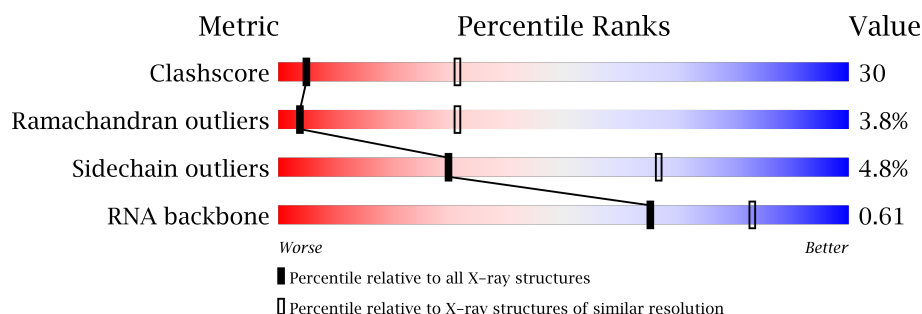
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	112137	1322 (3.60-3.40)
Ramachandran outliers	110173	1283 (3.60-3.40)
Sidechain outliers	110143	1284 (3.60-3.40)
RNA backbone	2435	1024 (4.10-2.86)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2922	
2	1	48	
3	2	92	
4	5	144	
5	9	122	
6	A	239	

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Mol	Chain	Length	Quality of chain
7	B	337	
8	C	246	
9	D	176	
10	E	177	
11	F	119	
12	G	348	
13	H	167	
14	I	145	
15	J	132	
16	K	164	
17	L	194	
18	M	186	
19	N	115	
20	O	148	
21	P	95	
22	Q	154	
23	R	84	
24	S	119	
25	T	66	
26	U	70	
27	V	154	
28	W	91	
29	X	240	
30	Y	73	
31	Z	56	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
35	CL	I	202	-	-	X	-
35	CL	L	202	-	-	X	-
35	CL	P	102	-	-	X	-
35	CL	X	301	-	-	X	-

2 Entry composition

There are 37 unique types of molecules in this entry. The entry contains 98859 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 RRNA.

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

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L39E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	1	46	Total	C	N	O	S	0	0	0
			394	238	86	69	1			

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L44E LA, HLA, RIBOSOMAL PROTEIN L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	2	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 4 is a protein called TRIGGER FACTOR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	5	35	Total	C	N	O	S	0	0	0
			273	173	52	47	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	9	122	Total	C	N	O	P	0	0	0
			2600	1160	472	847	121			

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	A	238	Total	C	N	O	S	0	0	1
			1755	1072	353	325	5			

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	337	Total	C	N	O	S	0	0	0
			2625	1616	493	511	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	310	ARG	PHE	conflict	UNP P20279

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	246	Total	C	N	O	S	0	0	0
			1859	1131	344	383	1			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5P HMAL5, HL13, RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	141	Total	C	N	O	S	0	0	1
			1095	685	196	210	4			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	173	Total	C	N	O	S	0	0	1
			1358	840	225	289	4			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L7AE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	119	Total	C	N	O	S	0	0	0
			886	552	141	192	1			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L10E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	30	Total	C	N	O	S	0	0	1
			241	149	40	51	1			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L10E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	156	Total	C	N	O	S	0	0	0
			1216	766	233	213	4			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	I	142	Total	C	N	O	S	0	0	0
			1120	696	199	222	3			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	132	Total	C	N	O	S	0	0	0
			994	609	189	192	4			

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L15P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	146	Total	C	N	O	S	0	0	1
			1115	668	223	224				

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L15E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	L	194	Total	C	N	O	S	0	0	0
			1606	988	346	267	5			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	M	186	Total	C	N	O	S	0	0	0
			1445	895	262	286	2			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L18E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	N	115	Total	C	N	O	0	0	0
			865	529	161	175			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L19E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	144	Total	C	N	O	0	0	1
			1134	680	231	223			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L21E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	P	95	Total	C	N	O	0	0	0
			735	450	141	144			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L22P HMAL22, HL23, RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	151	Total	C	N	O	S	0	0	1
			1150	713	210	223	4			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	84	Total	C	N	O	S	0	0	0
			664	405	114	142	3			

- Molecule 24 is a protein called RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
24	S	119	Total	C	N	O	0	0	0
			950	568	180	202			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L24P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	54	Total	C	N	O	S	0	0	1
			411	244	76	86	5			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L24E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	U	66	Total	C	N	O	S	0	0	1
			500	304	95	100	1			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	154	Total	C	N	O	S	0	0	0
			1196	737	209	244	6			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L31E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	83	Total	C	N	O	S	0	0	1
			655	402	130	122	1			

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L32E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	143	Total	C	N	O	S	0	0	1
			1131	686	229	216				

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L37AE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	73	Total	C	N	O	S	0	0	0
			564	359	111	87	7			

- Molecule 31 is a protein called RIBOSOMAL PROTEIN L37E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	0	105	Total	Mg	0	0
			105	105		
32	J	1	Total	Mg	0	0
			1	1		
32	B	3	Total	Mg	0	0
			3	3		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	A	3	Total 3	Mg 3	0	0
32	X	1	Total 1	Mg 1	0	0
32	2	1	Total 1	Mg 1	0	0
32	9	2	Total 2	Mg 2	0	0
32	S	1	Total 1	Mg 1	0	0

- Molecule 33 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	2	Total 2	K 2	0	0

- Molecule 34 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	0	74	Total 74	Na 74	0	0
34	P	1	Total 1	Na 1	0	0
34	Q	2	Total 2	Na 2	0	0
34	K	1	Total 1	Na 1	0	0
34	I	1	Total 1	Na 1	0	0
34	C	1	Total 1	Na 1	0	0
34	A	1	Total 1	Na 1	0	0
34	R	1	Total 1	Na 1	0	0
34	9	2	Total 2	Na 2	0	0
34	L	1	Total 1	Na 1	0	0
34	S	1	Total 1	Na 1	0	0

- Molecule 35 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	0	7	Total 7	Cl 7	0	0
35	P	1	Total 1	Cl 1	0	0
35	J	1	Total 1	Cl 1	0	0
35	Q	1	Total 1	Cl 1	0	0
35	K	2	Total 2	Cl 2	0	0
35	B	1	Total 1	Cl 1	0	0
35	I	3	Total 3	Cl 3	0	0
35	A	1	Total 1	Cl 1	0	0
35	N	1	Total 1	Cl 1	0	0
35	X	1	Total 1	Cl 1	0	0
35	2	1	Total 1	Cl 1	0	0
35	L	1	Total 1	Cl 1	0	0
35	M	1	Total 1	Cl 1	0	0

- Molecule 36 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	2	1	Total 1	Cd 1	0	0
36	Y	1	Total 1	Cd 1	0	0
36	T	1	Total 1	Cd 1	0	0
36	Z	1	Total 1	Cd 1	0	0
36	N	1	Total 1	Cd 1	0	0

- Molecule 37 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	0	5875	Total 5875	O 5875	0	0
37	1	49	Total 49	O 49	0	0
37	2	69	Total 69	O 69	0	0
37	9	153	Total 153	O 153	0	0
37	A	135	Total 135	O 135	0	0
37	B	156	Total 156	O 156	0	0
37	C	169	Total 169	O 169	0	0
37	D	52	Total 52	O 52	0	0
37	E	41	Total 41	O 41	0	0
37	F	30	Total 30	O 30	0	0
37	G	20	Total 20	O 20	0	0
37	H	80	Total 80	O 80	0	0
37	I	52	Total 52	O 52	0	0
37	J	61	Total 61	O 61	0	0
37	K	98	Total 98	O 98	0	0
37	L	155	Total 155	O 155	0	0
37	M	60	Total 60	O 60	0	0
37	N	38	Total 38	O 38	0	0
37	O	67	Total 67	O 67	0	0
37	P	53	Total 53	O 53	0	0
37	Q	83	Total 83	O 83	0	0
37	R	32	Total 32	O 32	0	0

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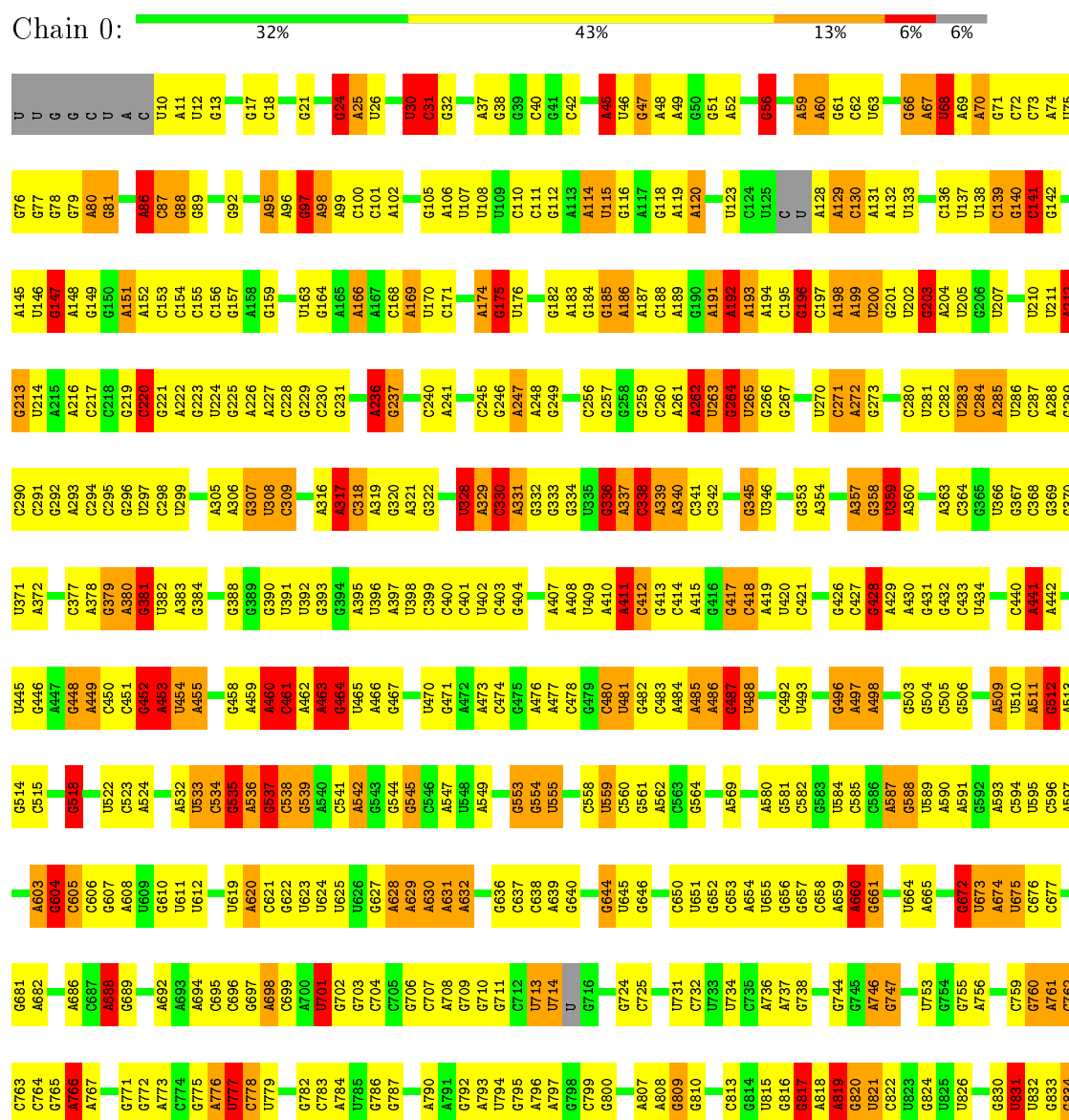
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	S	36	Total 36	O 36	0	0
37	T	25	Total 25	O 25	0	0
37	U	11	Total 11	O 11	0	0
37	V	69	Total 69	O 69	0	0
37	W	26	Total 26	O 26	0	0
37	X	107	Total 107	O 107	0	0
37	Y	35	Total 35	O 35	0	0
37	Z	50	Total 50	O 50	0	0

3 Residue-property plots [i](#)

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

Note EDS was not executed.

• Molecule 1: 23S rRNA



A1910	A1845	U1770	U1696	A1630	A1559	A1471	C1401	C1332	C1262	C1186	A1114	G1038	G	U903	U835
A1919	A1846	U1771	G1697	A1630	U	C1472	C1404	U1333	G1265	U1187	U1115	G1039	C	U904	G836
C1920	A1847	G1772	C1700	C1633	A1561	U1473	C1405	C1334	U1266	A1188	U1116	U1041	C	C905	U837
A1921	A1848	G1773	U1701	G1634	C1562	C1474	A1406	C1335	G1267	A1189	A1117	U1042	U	C906	U840
A1922	G1849	A1775	U1702	U1635	G1563	C1475	A1407	U1336	C1268	A1190	C1118	C1043	C	A907	A841
G1923	U1850	A1776	G1703	G1636	C1564	C1476	U1408	U1338	G1269	A1191	G1119	C1043	C	A908	A841
A1924	G1851	G1777	C1703	A1637	C1565	U1477	G1409	G1339	U1270	A1192	U1120	G1044	G	U909	C842
G1925	A1852	A1778	C1708	C1637	C1566	U1478	U1409	U1339	U1271	A1193	G1121	G1045	A	C910	A843
G1929	C1853	A1779	G1709	A1641	U1567	A1482	U1412	G1340	A1271	A1194	U1122	G1046	A	G911	A844
A1930	G1854	A1780	U1710	A1642	C1568	C1483	A1413	C1341	C1272	G1195	A1123	C1051	A	U919	U845
A1931	G1855	A1781	A1711	A1643	U1569	G1484	A1414	C1342	C1273	G1196	A1124	C1052	A	C920	A846
G1932	A1857	G1712	U1713	C1643	C1570	G1485	A1415	C1343	G1278	G1197	U1125	G1053	A	G921	C847
C1936	A1858	G1717	G1646	G1647	U1572	A1486	G1416	U1346	U1279	C1201	C1127	G1054	G	A922	C848
U1937	C1859	G1718	G1648	G1649	A1573	U1488	U1418	U1347	G1283	A1202	U1128	G1055	A	A923	C849
G1938	U1860	U1788	G1719	G1650	C1574	G1489	U1419	A1348	G1284	U1205	C1129	G1056	A	C924	U850
U1939	C1862	C1790	G1720	C1651	C1575	G1490	U1422	G1351	U1287	U1206	U1130	G1057	G	A926	C853
C1940	G1863	U1791	C1721	C1652	C1579	G1491	A1423	A1352	U1288	A1207	A1132	G1058	C	U925	C854
A1941	G1867	G1795	U1722	A1653	A1580	A1492	A1424	C1353	C1289	C1208	A1133	C1060	C	U926	U855
C1943	C1868	A1796	G1723	G1654	U1583	C1494	G1425	C1354	G1290	C1209	A1134	C1061	C	U932	G856
C1946	G1869	G1725	U1724	G1655	C1584	G1495	C1426	A1355	G1291	G1210	U1135	U1066	A	C933	U858
G1950	U1871	G1726	G1726	A1656	U1588	G1496	A1427	A1356	G1292	C1212	U1136	U1067	C	C934	C859
G1951	C1872	G1727	U1727	A1657	C1589	G1497	U1430	U1358	U1293	C1213	G1137	C1068	C	G935	U860
U	A1873	C1730	C1731	A1661	A1590	U1500	C1431	U1360	A1294	G1214	C1138	C1069	C	A861	A867
A	U1874	G1804	C1731	C1662	A1591	A1501	U1432	C1361	G1295	A1215	U1149	A1070	C	A939	U868
A	A1875	G1805	C1735	C1663	C1592	A1502	A1433	C1362	U1297	A1216	U1149	C1071	C	G940	U869
C	A1876	G1809	U1736	A1664	C1593	U1503	U1435	C1366	U1298	C1229	G1151	A1072	C	A1005	U870
U	C1877	A1812	A1737	G1665	C1594	A1504	U1436	U1367	G1299	A1231	C1153	A1073	C	U942	G871
C	U1878	G1813	U1741	G1666	U1595	U1505	G1438	A1368	G1302	A1232	C1154	G1076	C	U943	U872
G	C1880	U1814	A1742	A1667	C1597	C1507	U1439	U1370	C1303	U1233	G1155	G1077	C	U945	A875
A	A1881	G1814	C1745	G1672	G1600	U1510	U1442	A1372	U1304	U1234	C1157	C1080	C	U947	A876
C	C1882	A1815	A1746	C1673	G1601	G1511	G1443	A1373	C1305	G1235	U1158	A1081	C	G948	G878
C	U1883	C1816	C1746	C1674	C1602	G1512	G1444	C1374	U1306	U1236	G1159	A1082	C	G952	C881
U1964	G1884	U1817	G1675	C1676	A1603	C1513	U1446	A1375	U1308	C1238	G1160	C1083	C	G953	A882
U1967	A1885	U1748	G1676	G1677	G1604	A1514	U1447	C1376	U1309	G1239	A1161	C1084	C	U954	U883
U1968	A1886	U1749	U1677	U1678	G1605	C1515	A1448	G1377	U1310	G1240	G1162	C1085	C	A955	U883
A1969	U1890	G1820	C1756	A1678	A1606	U1516	G1449	A1378	G1311	G1241	U1163	G1087	C	G956	C884
A1969	C1893	G1827	G1751	C1679	C1609	A1522	C1450	U1380	G1312	A1242	U1164	A1088	C	A957	G885
G1970	C1894	G1828	C1753	C1680	G1610	G1523	C1451	A1381	U1313	U1243	A1165	G1089	C	G958	A886
A1971	A1895	A1829	A1754	A1681	U1615	U1524	G1452	G1382	G1315	U1244	A1166	U1096	C	C959	G887
A1973	G1898	U1831	G1756	A1683	A1616	G1525	A1526	C1386	G1317	A1245	C1167	C1097	C	G960	U888
G1974	C1899	G1832	U1757	A1684	C1617	A1527	U1457	U1388	A1318	A1246	C1168	A1098	C	A961	C889
U1977	A1900	U1833	U1758	C1686	G1618	A1528	A1459	C1389	G1319	A1248	U1169	C1099	C	C962	C890
A1978	G1901	C1834	U1759	C1687	G1619	G1532	G1460	U1392	U1320	C1250	A1173	G1100	C	G963	G892
G1979	C1902	A1835	G1760	C1688	C1620	A1533	U1461	A1393	G1325	C1251	G1174	C1104	C	U970	C893
U1980	U1903	G1837	U1761	A1689	G1621	C1534	C1462	A1394	U1326	C1252	G1175	C1105	C	G	A895
A1981	A1904	C1762	C1763	C1690	G1622	A1534	A1463	C1394	G1327	C1254	U1180	A1106	C	U	C896
C1982	U1905	U1839	C1763	A1691	C1623	G1543	C1467	C1397	U1328	G1257	U1181	A1107	C	G	G898
C1983	C1906	A1840	U1766	C1692	A1624	U1544	G1468	G1398	A1328	C1260	C1182	U1109	C	U	C899
U1984	U1984	C1841	U1666	G1694	A1626	C1545	C1469	A1399	A1330	G1260	C1183	G1110	C	U	G901
U1985	A1909	A1842	C1769	G1695	G1627	C1553	A1470	C1400	A1331	A1261	U1185	U1111	C	C	G902

G1986	C1987	G2075	G2076	G2077	G2078	G1995	G2079	G1996	A1997	G1998	C1999	G2000	U2004	G2005	G2006	A2007	U2008	G2009	A2010	A2011	U2012	G2013	C2021	A2022	U2028	C2029	G2033	U2034	G2037	A2038	A2039	G2040	G2041	U2042	U2043	G2044	G2045	G2050	G2053	A2054	A2055	C2056	U2057	G2058	U2059	A2060	U2063	U2064	G2065	C2066	C2071	G2072	G2073	A2074	
G2270	G2271	G2272	G2273	G2274	G2275	U2276	U2277	U2278	C2281	U2282	G2283	G2284	U2290	A2291	G2292	G2293	G2294	G2295	C2296	U2297	C2298	G2299	A2300	A2301	A2302	A2303	G2304	G2309	G2310	A2311	G2312	G2313	C2314	C2315	G2316	C2317	U2320	A2321	U2322	G2323	G2324	C2325	U2326	U2330	C2331	C2335	U2336	G2337	G2338	A	C	G	U		
A	G2344	G2345	G2346	G2347	C2348	G2349	G2350	C2351	G2352	A2353	A2354	G2355	A2356	G2357	U2358	A2361	A2362	G2363	A2367	A2368	A2369	A2370	G2371	U2377	U2378	G2379	A2380	C2381	A2382	G2385	U2386	U2387	C2388	U2389	U2390	C2391	C2392	C2393	A2394	A2395	C2396	G2397	A2402	C2403	G2404	C2405	U2406	G2407	A2408	C2411	G2412	A2413	A2414		
A2415	G2416	G2417	G2418	U2419	G2420	G2421	U2424	A2425	G2426	G2427	G2428	A2429	A2430	C2431	G2432	A2433	A2434	U2435	U2436	A2437	G2438	U2441	G2442	C2443	U2444	U2445	G2446	G2449	C2450	G2451	G2452	G2453	U2457	U2458	G2459	U2460	U2461	G2462	A2463	C2464	A2465	G2466	A2467	A2468	A2469	A2470	G2471	C2472	U2473	A2474	G2475	C2476	C2477	U2478	A2479
G2480	G2481	G2482	A2483	U2484	A2485	A2488	G2489	U2492	G2493	G2494	U2495	C2496	A2497	C2498	U2499	C2500	G2501	C2502	G2503	A2504	G2505	A2506	G2509	G2510	A2511	G2517	C2518	G2519	G2520	A2521	G2522	G2523	G2524	G2525	C2526	U2527	U2531	A2532	C2533	C2534	U2535	C2536	G2537	A2538	U2539	G2540	G2541	C2542	G2543	U2544	U2545	G2546	C2547	G2548	
C2549	U2550	C2551	C2552	A2553	U2554	C2555	C2561	U2562	U2563	G2564	C2565	A2566	G2573	C2574	G2575	A2576	G2577	G2578	G2579	G2580	U2581	G2582	A2583	G2584	G2585	U2586	U2587	G2588	U2589	G2592	C2593	G2594	U2595	A2596	U2597	U2598	A2601	G2602	A2607	C2608	G2609	U2610	G2613	C2614	U2615	G2616	G2617	G2618	U2619	U2620	A2621	A2622	G2623		
A2624	C2625	G2626	G2627	G2630	A2633	G2634	A2635	C2636	A2637	G2638	G2639	U2640	G2641	G2642	G2643	C2644	U2645	U2648	A2649	U2650	C2651	U2652	A2653	C2654	U2655	G2656	G2657	G2658	G2659	G2660	U2661	A2664	A	U	G2667	G2670	U2671	C2672	U2673	G2674	G2679	A2680	A2681	C2682	G2686	G2687	G2688	A2689	U2690	A2691	G2692	U2693			
A2694	G2698	A2699	G2700	G2701	A2702	A2703	C2704	U2705	A2706	C2707	G2708	G2709	U2710	U2711	G2712	U2713	U2714	G2715	G2716	C2717	C2718	A2719	C2720	U2721	G2722	G2723	U2726	A2727	C2728	G2729	G2730	U2731	U2732	U2733	G2734	U2735	U2736	C2737	G2738	G2742	A2743	G2744	C2747	G2748	U2749	G2750	C2751	C2752	G2753	G2754	G2755	U2756	A2757	G2758	C2759
G2760	A2761	G2762	G2763	A2766	G2767	A2768	C2769	G2770	A2775	A2776	G2777	A2778	G2779	G2780	U2781	G2782	A2783	A2784	G2785	C2786	G2787	G2788	G2789	A2791	A2792	A2793	G2794	G2795	G2796	C2797	A2800	A2801	G2806	U2807	U2808	G2809	G2810	A2811	A2812	A2813	A2814	G2815	A2816	G2817	A2818	C2819	A2820	A2821	C2822	G2823	C2824	C2825	G2826	A2827	G2828
G2829	U2830	C2831	C2832	G2833	C2834	C2835	G2836	U2837	A2838	C2839	C2840	A2841	G2842	A2843	G2844	G2845	G2846	U2847	U2848	C2850	G2851	A2852	U2853	U2857	U2858	G2862	G2863	U2864	G2865	U2866	G2869	C2870	G2871	U2872	C2873	G2874	A2875	G2876	G2877	U2878	A2879	A2883	G2887	U2888	U2889	A2890	A2891	G2896	C2897	G2898	A2899	G2900			
C2901	A2902	C2903	A2906	C2907	A2908	G2909	A2910	C2911	C2912	A2913	A2914	A	G	C	C	A	U	C	A	U	U	G	C	G	E31	VAL	GLN	R35	I36	R39	R40	H41	W42	R43	R44	D45	T47	D48	E49																

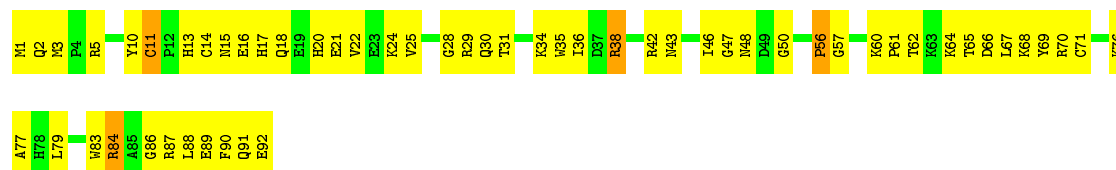
• Molecule 2: 50S RIBOSOMAL PROTEIN L39E

Chain 1:  38% 56%

G1	K2	R3	S4	R5	R9	R10	L11	A12	K13	L14	D15	H16	Q17	H18	V21	P22	K23	K24	V25	K28	T29	E30	E31	VAL	GLN	R35	I36	R39	R40	H41	W42	R43	R44	D45	T47	D48	E49
----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

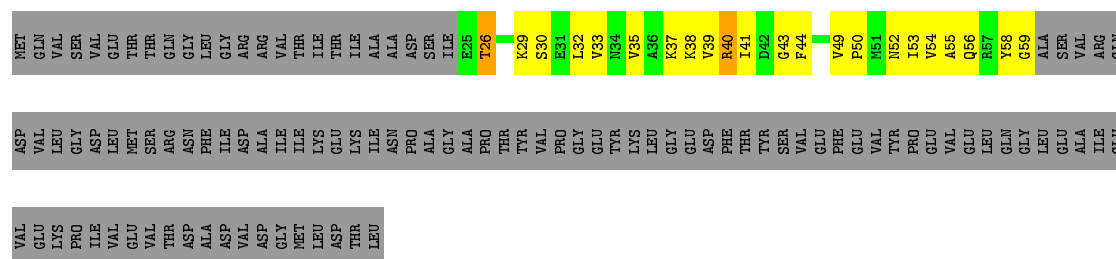
• Molecule 3: 50S RIBOSOMAL PROTEIN L44E LA, HLA, RIBOSOMAL PROTEIN L44E

Chain 2: 

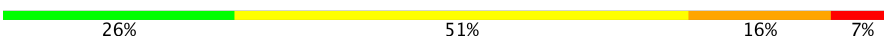


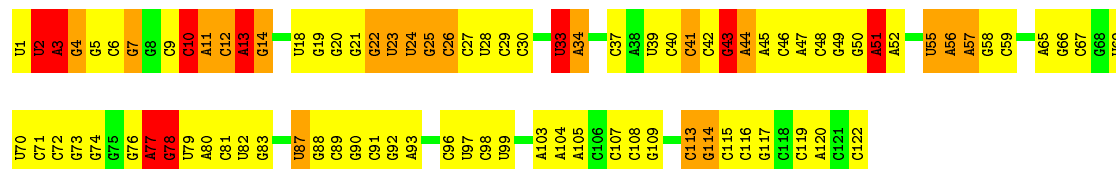
• Molecule 4: TRIGGER FACTOR

Chain 5: 



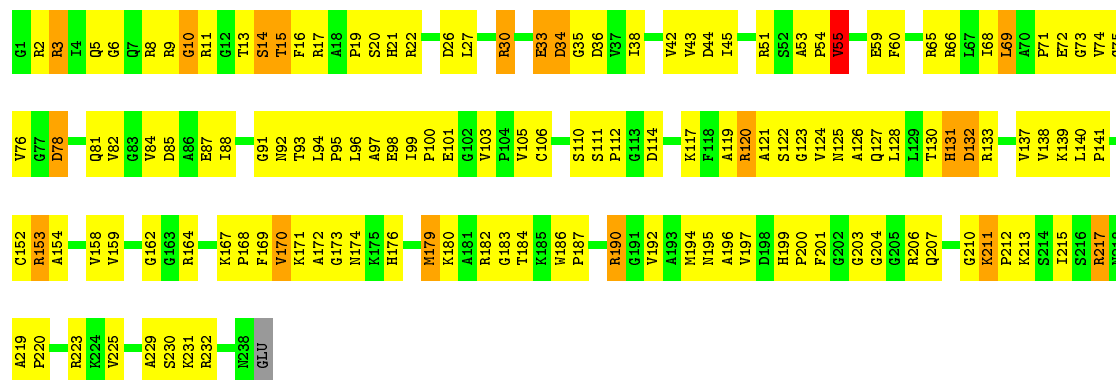
• Molecule 5: 5S RRNA

Chain 9: 

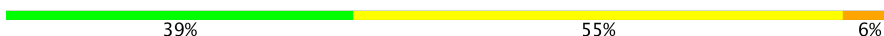


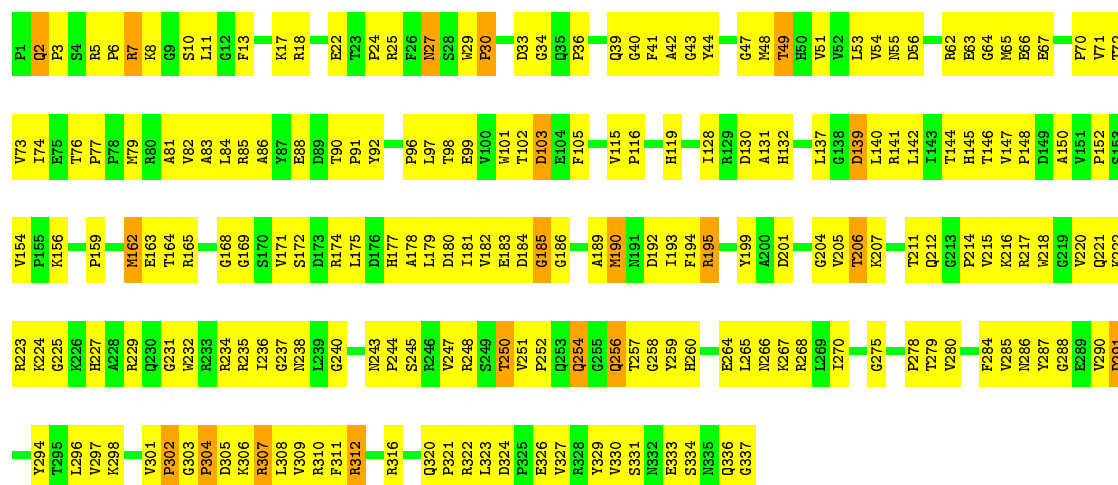
• Molecule 6: 50S RIBOSOMAL PROTEIN L2P

Chain A: 

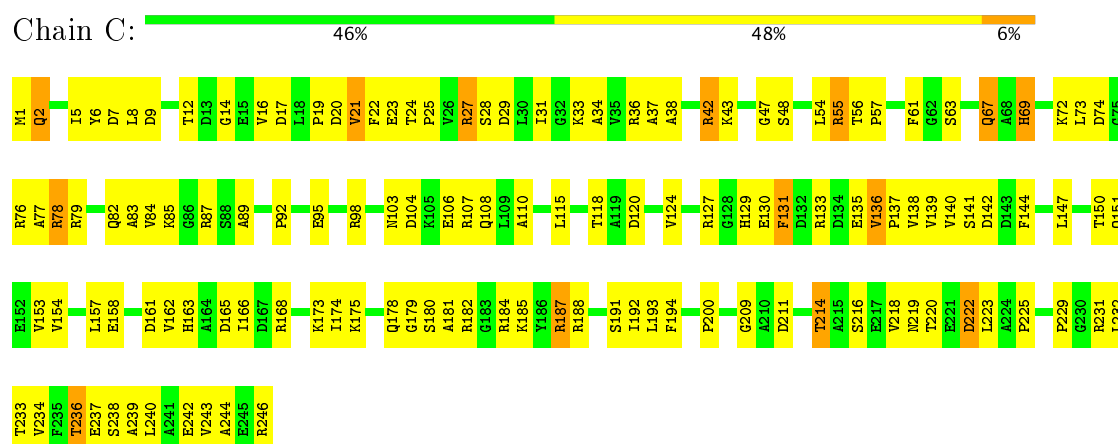


• Molecule 7: 50S RIBOSOMAL PROTEIN L3P

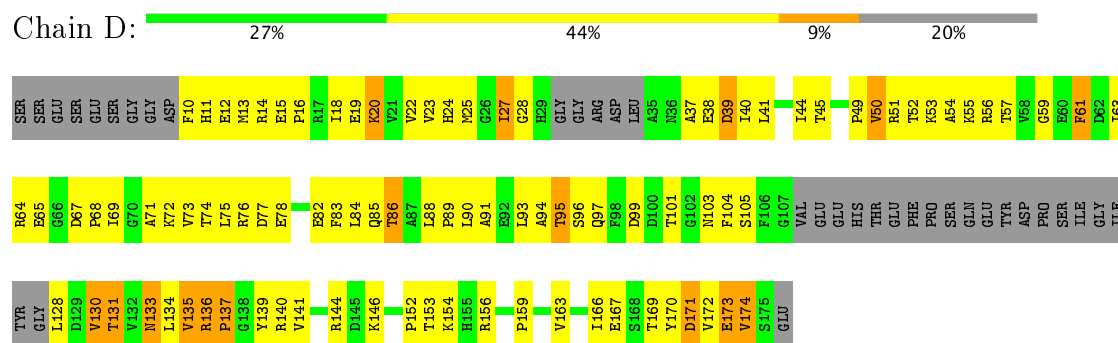
Chain B: 



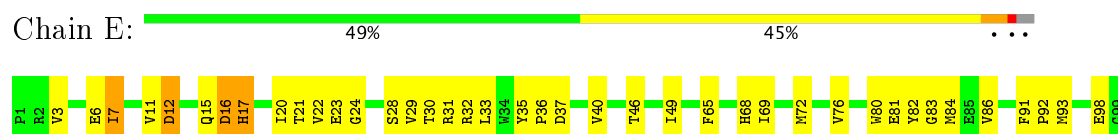
• Molecule 8: 50S RIBOSOMAL PROTEIN L4P



• Molecule 9: 50S RIBOSOMAL PROTEIN L5P HMA5, HL13, RIBOSOMAL PROTEIN L5



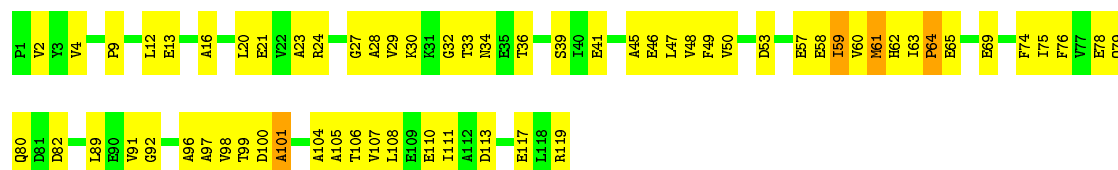
• Molecule 10: 50S RIBOSOMAL PROTEIN L6P





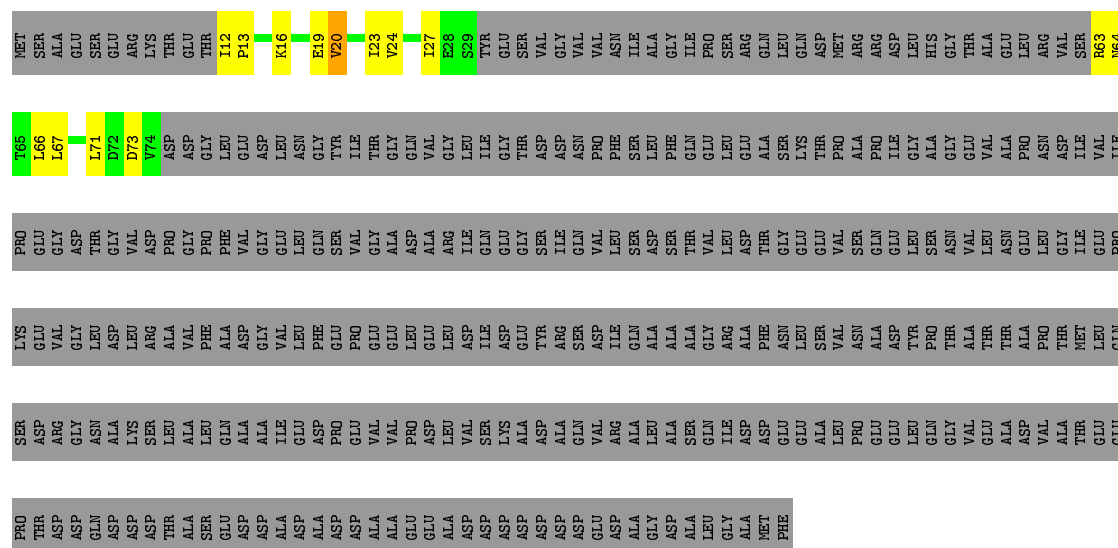
- Molecule 11: 50S RIBOSOMAL PROTEIN L7AE

Chain F: 47% 50%



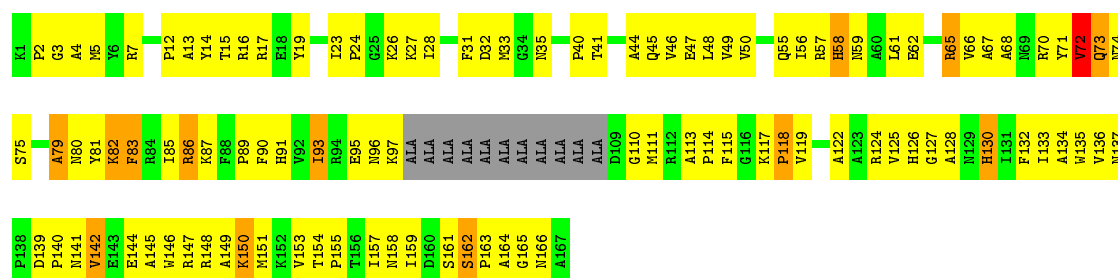
- Molecule 12: 50S RIBOSOMAL PROTEIN L10E

Chain G: 5% 91%

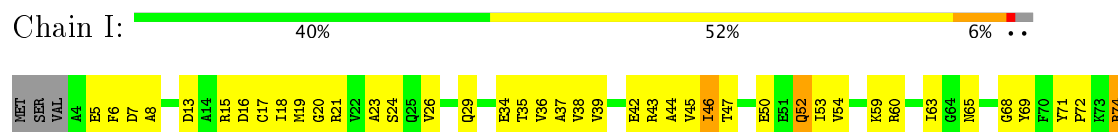


- Molecule 13: 50S RIBOSOMAL PROTEIN L10E

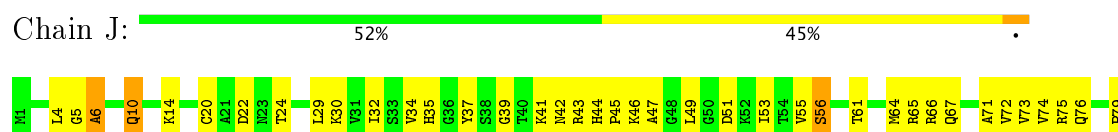
Chain H: 29% 56% 8% 7%



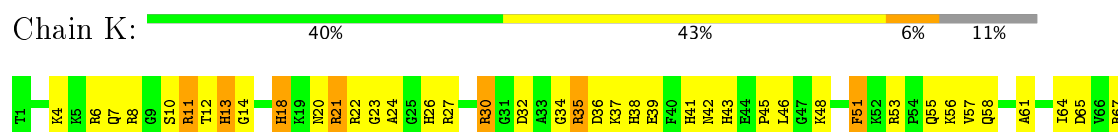
- Molecule 14: 50S RIBOSOMAL PROTEIN L13P



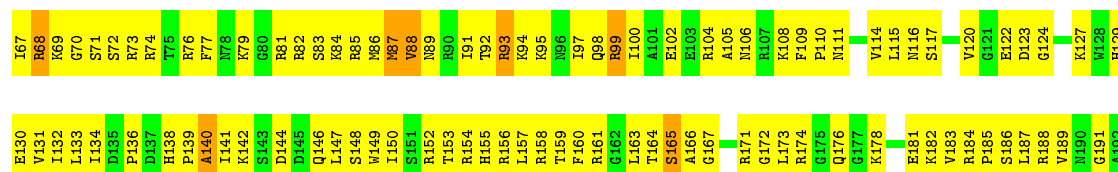
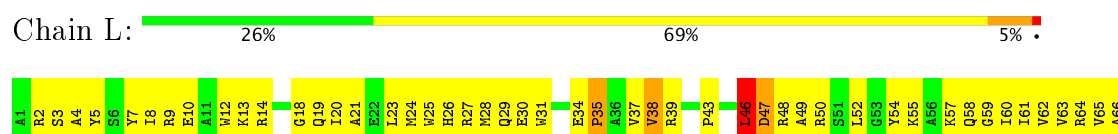
• Molecule 15: 50S RIBOSOMAL PROTEIN L14P



• Molecule 16: 50S RIBOSOMAL PROTEIN L15P

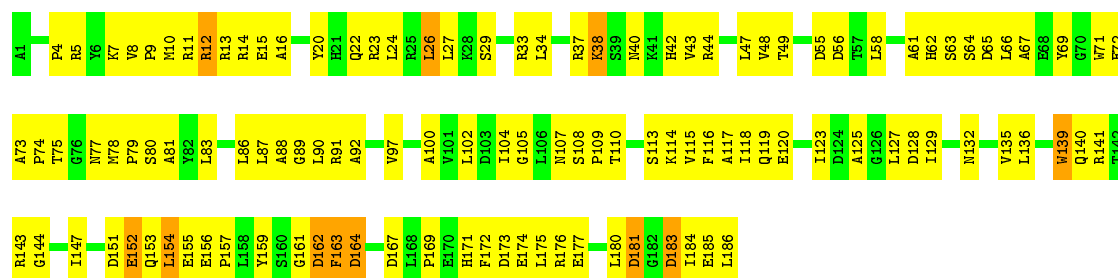


• Molecule 17: 50S RIBOSOMAL PROTEIN L15E



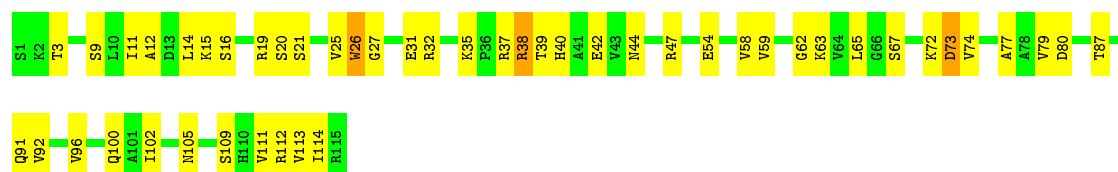
• Molecule 18: 50S RIBOSOMAL PROTEIN L18P





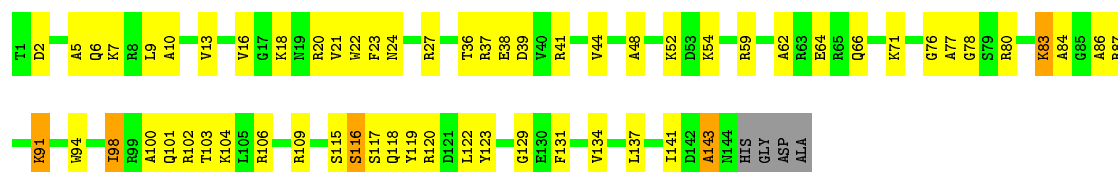
• Molecule 19: 50S RIBOSOMAL PROTEIN L18E

Chain N: 58% 39%



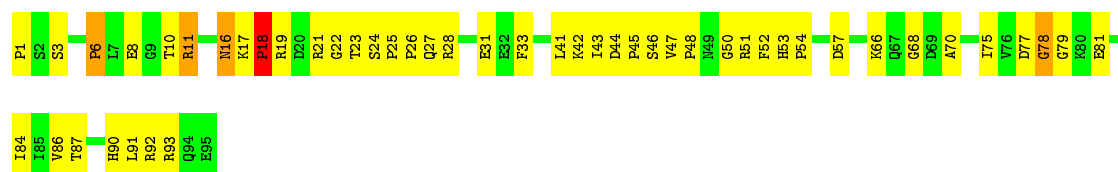
• Molecule 20: 50S RIBOSOMAL PROTEIN L19E

Chain O: 56% 38%



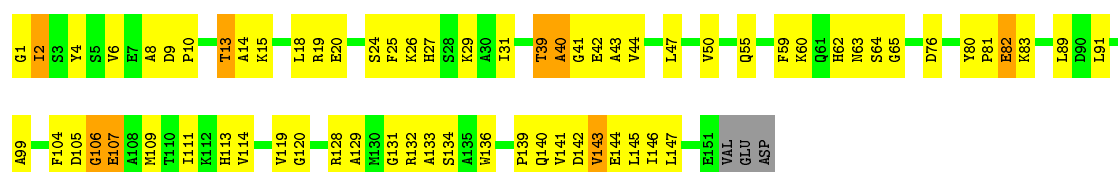
• Molecule 21: 50S RIBOSOMAL PROTEIN L21E

Chain P: 48% 46%

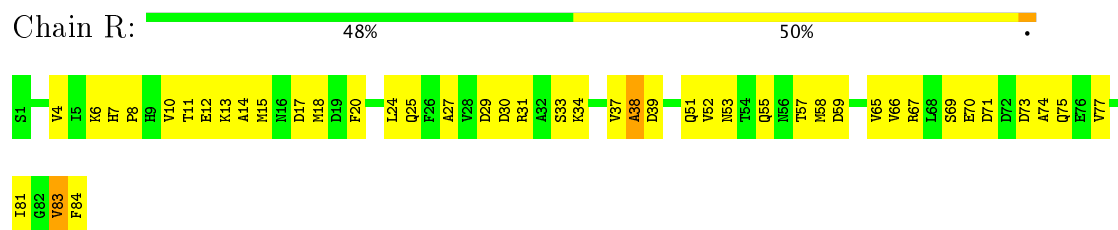


• Molecule 22: 50S RIBOSOMAL PROTEIN L22P HMAL22, HL23, RIBOSOMAL PROTEIN L22

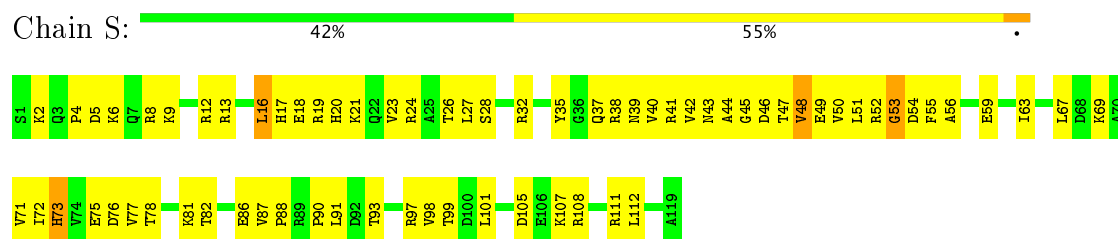
Chain Q: 54% 39% 5%



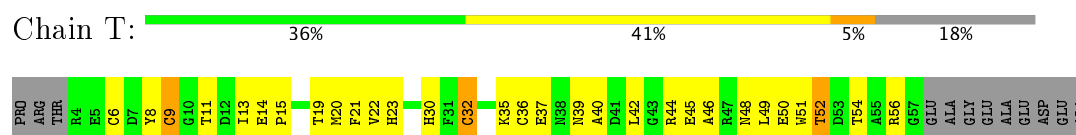
• Molecule 23: 50S RIBOSOMAL PROTEIN L23P



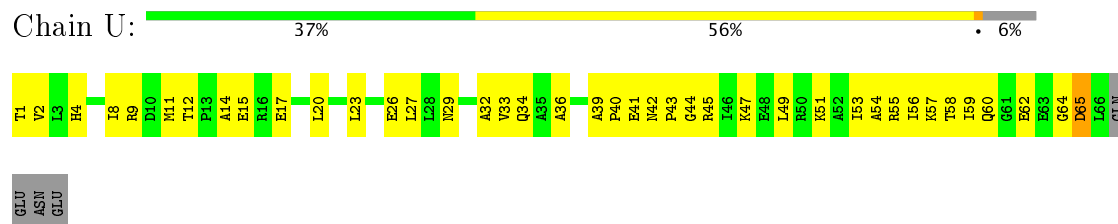
- Molecule 24: RIBOSOMAL PROTEIN L24



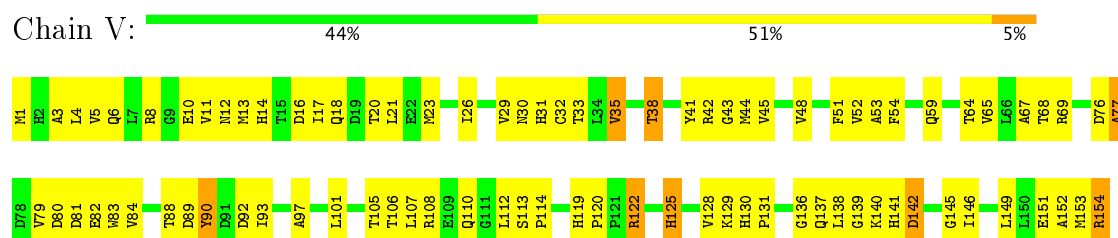
- Molecule 25: 50S RIBOSOMAL PROTEIN L24P



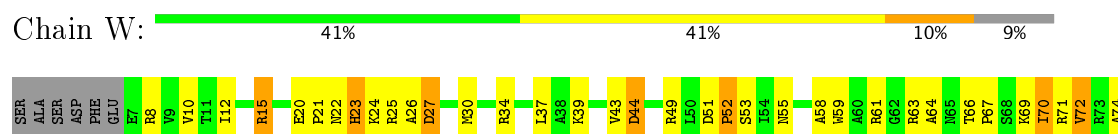
- Molecule 26: 50S RIBOSOMAL PROTEIN L24E

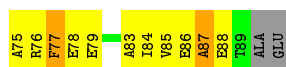


- Molecule 27: 50S RIBOSOMAL PROTEIN L30P



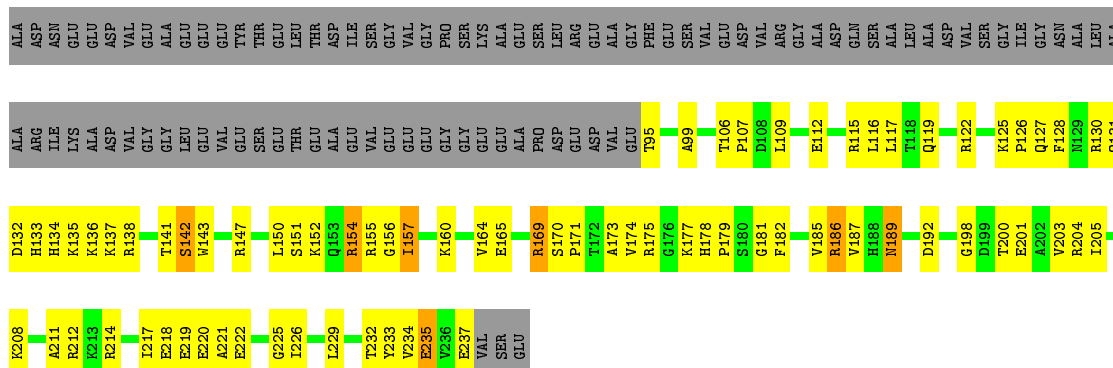
- Molecule 28: 50S RIBOSOMAL PROTEIN L31E





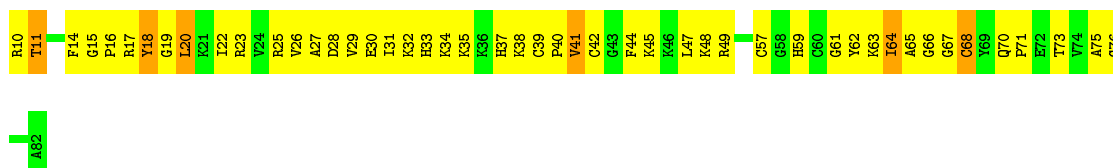
• Molecule 29: 50S RIBOSOMAL PROTEIN L32E

Chain X: 27% 30% 40%



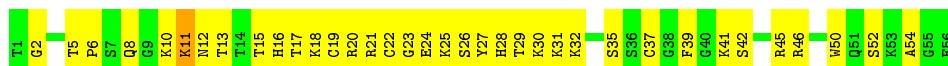
• Molecule 30: 50S RIBOSOMAL PROTEIN L37AE

Chain Y: 34% 58% 8%



• Molecule 31: RIBOSOMAL PROTEIN L37E

Chain Z: 36% 63%



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	210.75Å 298.87Å 574.17Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.50	Depositor
% Data completeness (in resolution range)	80.3 (30.00-3.50)	Depositor
R_{merge}	0.26	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.192 , 0.268	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	98859	wwPDB-VP
Average B, all atoms (Å ²)	41.0	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, MG, CD, K, CL

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	0	0.49	0/66076	0.85	218/103052 (0.2%)
2	1	0.34	0/399	0.56	0/527
3	2	0.34	0/771	0.55	0/1024
4	5	0.38	0/275	0.77	0/366
5	9	0.44	0/2905	0.84	11/4528 (0.2%)
6	A	0.36	0/1788	0.65	0/2411
7	B	0.36	0/2690	0.65	0/3652
8	C	0.37	0/1884	0.62	0/2551
9	D	0.35	0/1112	0.59	0/1500
10	E	0.38	0/1383	0.63	0/1882
11	F	0.35	0/897	0.59	0/1219
12	G	0.41	0/242	0.53	0/326
13	H	0.38	0/1247	0.68	0/1686
14	I	0.37	0/1136	0.63	0/1530
15	J	0.39	0/1004	0.68	0/1351
16	K	0.34	0/1127	0.64	0/1506
17	L	0.40	0/1634	0.66	0/2180
18	M	0.32	0/1474	0.66	0/1999
19	N	0.35	0/874	0.65	0/1181
20	O	0.37	0/1144	0.55	0/1523
21	P	0.37	0/749	0.67	0/1005
22	Q	0.41	0/1173	0.63	0/1580
23	R	0.53	0/672	0.69	0/906
24	S	0.34	0/958	0.65	0/1289
25	T	0.40	0/418	0.57	0/564
26	U	0.36	0/503	0.59	0/677
27	V	0.37	0/1219	0.64	0/1655
28	W	0.37	0/665	0.61	0/897
29	X	0.38	0/1147	0.65	0/1538
30	Y	0.34	0/576	0.58	0/763
31	Z	0.40	0/438	0.63	0/578
All	All	0.45	0/98580	0.80	229/147446 (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	0	0	65
5	9	0	4
27	V	0	1
All	All	0	70

There are no bond length outliers.

All (229) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	535	G	N9-C1'-C2'	10.05	127.07	114.00
1	0	537	G	N9-C1'-C2'	9.91	126.88	114.00
1	0	1235	G	O4'-C1'-N9	8.50	115.00	108.20
1	0	1702	U	N1-C1'-C2'	8.48	125.03	114.00
1	0	337	A	N9-C1'-C2'	8.44	124.97	114.00
1	0	1119	G	N9-C1'-C2'	8.38	124.90	114.00
1	0	317	A	N9-C1'-C2'	8.37	124.88	114.00
1	0	2553	A	N9-C1'-C2'	8.30	124.79	114.00
1	0	1119	G	O4'-C1'-N9	8.28	114.82	108.20
1	0	867	A	N9-C1'-C2'	8.23	124.69	114.00
1	0	819	A	N9-C1'-C2'	8.18	124.63	114.00
1	0	307	G	N9-C1'-C2'	8.09	124.52	114.00
1	0	2102	G	N9-C1'-C2'	8.00	124.40	114.00
1	0	938	G	N9-C1'-C2'	7.96	124.35	114.00
1	0	2073	G	N9-C1'-C2'	7.87	124.23	114.00
1	0	1417	G	N9-C1'-C2'	7.86	124.22	114.00
1	0	2539	U	N1-C1'-C2'	7.81	124.16	114.00
1	0	766	A	N9-C1'-C2'	7.76	124.08	114.00
1	0	1072	G	N9-C1'-C2'	7.75	124.08	114.00
5	9	43	G	N9-C1'-C2'	7.60	123.88	114.00
1	0	1059	G	N9-C1'-C2'	7.59	123.87	114.00
1	0	2866	U	N1-C1'-C2'	7.53	123.79	114.00
1	0	777	U	O4'-C1'-N1	7.52	114.22	108.20
5	9	78	G	N9-C1'-C2'	7.50	123.75	114.00
1	0	1653	A	N9-C1'-C2'	7.48	123.73	114.00
1	0	2074	A	N9-C1'-C2'	7.45	123.69	114.00
1	0	262	A	N9-C1'-C2'	7.43	123.66	114.00
1	0	644	G	N9-C1'-C2'	7.43	123.66	114.00
1	0	1379	A	N9-C1'-C2'	7.32	123.52	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	9	78	G	O4'-C1'-N9	7.31	114.05	108.20
1	0	2645	U	N1-C1'-C2'	7.31	123.50	114.00
1	0	212	A	N9-C1'-C2'	7.30	123.49	114.00
1	0	1604	G	N9-C1'-C2'	7.28	123.46	114.00
1	0	1533	A	N9-C1'-C2'	7.18	123.34	114.00
1	0	487	G	N9-C1'-C2'	7.13	123.27	114.00
1	0	1996	U	N1-C1'-C2'	7.12	123.26	114.00
1	0	2007	A	N9-C1'-C2'	7.11	123.24	114.00
1	0	2532	A	N9-C1'-C2'	7.09	123.22	114.00
1	0	886	A	N9-C1'-C2'	7.06	123.17	114.00
1	0	2889	U	N1-C1'-C2'	7.04	123.14	114.00
1	0	2601	A	N9-C1'-C2'	7.01	123.12	114.00
1	0	31	C	N1-C1'-C2'	7.00	123.10	114.00
1	0	141	C	N1-C1'-C2'	6.97	123.06	114.00
1	0	2896	A	N9-C1'-C2'	6.95	123.03	114.00
1	0	2483	A	N9-C1'-C2'	6.95	123.03	114.00
1	0	701	U	N1-C1'-C2'	6.91	122.98	114.00
1	0	1340	G	N9-C1'-C2'	6.91	122.98	114.00
1	0	537	G	O4'-C1'-N9	6.90	113.72	108.20
1	0	512	G	N9-C1'-C2'	6.83	122.89	114.00
1	0	1164	U	OP1-P-O3'	6.83	120.23	105.20
1	0	2786	G	N9-C1'-C2'	6.83	122.88	114.00
1	0	1165	G	O5'-P-OP1	-6.83	99.55	105.70
1	0	203	G	N9-C1'-C2'	6.83	122.87	114.00
1	0	1030	U	N1-C1'-C2'	6.82	122.86	114.00
1	0	776	A	N9-C1'-C2'	6.73	122.74	114.00
1	0	760	G	N9-C1'-C2'	6.72	122.74	114.00
1	0	2577	A	N9-C1'-C2'	6.70	122.70	114.00
1	0	1407	A	N9-C1'-C2'	6.66	122.66	114.00
1	0	220	C	N1-C1'-C2'	6.65	122.65	114.00
1	0	2072	G	N9-C1'-C2'	6.65	122.64	114.00
1	0	2762	C	N1-C1'-C2'	6.62	122.60	114.00
1	0	2607	U	N1-C1'-C2'	6.60	122.58	114.00
1	0	2282	U	N1-C1'-C2'	6.60	122.57	114.00
1	0	1473	U	N1-C1'-C2'	6.58	122.56	114.00
1	0	338	C	O4'-C1'-N1	6.58	113.46	108.20
1	0	1777	G	N9-C1'-C2'	6.57	122.53	114.00
1	0	338	C	N1-C1'-C2'	6.56	122.52	114.00
1	0	2813	A	N9-C1'-C2'	6.54	122.50	114.00
1	0	1971	G	O4'-C1'-N9	6.51	113.41	108.20
1	0	2674	G	N9-C1'-C2'	6.49	122.44	114.00
1	0	453	A	N9-C1'-C2'	6.47	122.42	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1995	G	N9-C1'-C2'	6.47	122.42	114.00
1	0	1919	A	N9-C1'-C2'	6.47	122.41	114.00
1	0	953	G	N9-C1'-C2'	6.45	122.38	114.00
1	0	1855	G	N9-C1'-C2'	6.43	122.36	114.00
1	0	464	G	O4'-C1'-N9	6.36	113.29	108.20
1	0	1356	A	N9-C1'-C2'	6.34	122.25	114.00
1	0	2681	A	N9-C1'-C2'	6.33	122.22	114.00
1	0	1485	A	N9-C1'-C2'	6.30	122.19	114.00
1	0	45	A	N9-C1'-C2'	6.29	122.18	114.00
1	0	923	A	N9-C1'-C2'	6.29	122.18	114.00
1	0	1232	A	N9-C1'-C2'	6.29	122.18	114.00
1	0	428	G	N9-C1'-C2'	6.28	122.16	114.00
1	0	898	G	N9-C1'-C2'	6.26	122.14	114.00
5	9	10	C	N1-C1'-C2'	6.26	122.14	114.00
1	0	1031	G	N9-C1'-C2'	6.23	122.10	114.00
1	0	1109	U	N1-C1'-C2'	6.23	122.10	114.00
1	0	2718	C	N1-C1'-C2'	6.23	122.10	114.00
1	0	1731	C	N1-C1'-C2'	6.22	122.08	114.00
1	0	868	G	O4'-C1'-N9	6.20	113.16	108.20
1	0	461	C	N1-C1'-C2'	6.19	122.05	114.00
1	0	175	G	O4'-C1'-N9	6.19	113.16	108.20
1	0	1752	G	N9-C1'-C2'	6.19	122.04	114.00
1	0	1235	G	C1'-O4'-C4'	-6.18	104.95	109.90
1	0	1165	G	O5'-P-OP2	-6.18	100.14	105.70
1	0	147	G	N9-C1'-C2'	6.18	122.03	114.00
1	0	1506	U	N1-C1'-C2'	6.17	122.03	114.00
1	0	1730	G	O4'-C1'-N9	6.17	113.13	108.20
1	0	2538	A	N9-C1'-C2'	6.17	122.02	114.00
1	0	1534	C	N1-C1'-C2'	6.16	122.01	114.00
1	0	1234	U	N1-C1'-C2'	6.15	122.00	114.00
1	0	1230	A	N9-C1'-C2'	6.15	122.00	114.00
1	0	1435	U	N1-C1'-C2'	6.13	121.97	114.00
1	0	1664	A	N9-C1'-C2'	6.13	121.97	114.00
1	0	509	A	N9-C1'-C2'	6.12	121.95	114.00
1	0	1438	G	N9-C1'-C2'	6.11	121.94	114.00
1	0	2353	A	N9-C1'-C2'	6.11	121.94	114.00
1	0	86	A	N9-C1'-C2'	6.08	121.90	114.00
1	0	1837	G	N9-C1'-C2'	6.02	121.83	114.00
1	0	2320	U	N1-C1'-C2'	5.95	121.74	114.00
1	0	1504	A	N9-C1'-C2'	5.95	121.73	114.00
1	0	175	G	N9-C1'-C2'	5.94	121.73	114.00
1	0	2552	C	N1-C1'-C2'	5.93	121.71	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	952	G	N9-C1'-C2'	5.91	121.68	114.00
1	0	1044	C	O4'-C1'-N1	5.91	112.92	108.20
1	0	1030	U	C1'-O4'-C4'	-5.91	105.18	109.90
1	0	220	C	O4'-C1'-N1	5.90	112.92	108.20
5	9	113	C	O4'-C1'-N1	5.89	112.91	108.20
1	0	1151	G	N9-C1'-C2'	5.87	121.63	114.00
1	0	166	A	N9-C1'-C2'	5.86	121.62	114.00
1	0	2482	G	N9-C1'-C2'	5.86	121.61	114.00
1	0	1654	U	N1-C1'-C2'	5.85	121.61	114.00
1	0	831	U	N1-C1'-C2'	5.85	121.60	114.00
1	0	1355	A	N9-C1'-C2'	5.85	121.60	114.00
1	0	1407	A	O4'-C1'-N9	5.83	112.86	108.20
1	0	845	U	N1-C1'-C2'	5.81	121.55	114.00
1	0	1009	U	N1-C1'-C2'	5.80	121.54	114.00
1	0	1316	G	N9-C1'-C2'	5.80	121.54	114.00
1	0	95	A	N9-C1'-C2'	5.80	121.53	114.00
5	9	3	A	N9-C1'-C2'	5.79	121.53	114.00
1	0	1941	A	N9-C1'-C2'	5.78	121.51	114.00
1	0	1341	A	N9-C1'-C2'	5.76	121.49	114.00
1	0	817	G	N9-C1'-C2'	5.76	121.49	114.00
1	0	1370	G	O4'-C1'-N9	5.74	112.79	108.20
1	0	673	U	N1-C1'-C2'	5.73	121.45	114.00
1	0	904	U	N1-C1'-C2'	5.72	121.44	114.00
1	0	1979	G	C2'-C3'-O3'	5.72	122.85	113.70
1	0	174	A	N9-C1'-C2'	5.71	121.43	114.00
1	0	2316	G	O4'-C1'-N9	5.71	112.77	108.20
1	0	336	G	N9-C1'-C2'	5.71	121.42	114.00
1	0	604	G	N9-C1'-C2'	5.71	121.42	114.00
1	0	1819	G	C5'-C4'-C3'	5.71	125.13	116.00
1	0	66	G	N9-C1'-C2'	5.69	121.40	114.00
1	0	1237	U	N1-C1'-C2'	5.67	121.38	114.00
1	0	1119	G	C1'-O4'-C4'	-5.65	105.38	109.90
1	0	2242	U	N1-C1'-C2'	5.64	121.33	114.00
1	0	417	G	N9-C1'-C2'	5.63	121.32	114.00
1	0	672	G	N9-C1'-C2'	5.63	121.32	114.00
1	0	713	U	N1-C1'-C2'	5.63	121.32	114.00
1	0	1214	G	N9-C1'-C2'	5.63	121.32	114.00
1	0	1369	A	N9-C1'-C2'	5.60	121.28	114.00
1	0	510	U	N1-C1'-C2'	5.58	121.26	114.00
1	0	56	G	N9-C1'-C2'	5.56	121.23	114.00
1	0	192	A	N9-C1'-C2'	5.54	121.21	114.00
1	0	2443	C	N1-C1'-C2'	5.54	121.21	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	196	G	N9-C1'-C2'	5.54	121.21	114.00
1	0	1684	A	N9-C1'-C2'	5.54	121.20	114.00
1	0	330	C	N1-C1'-C2'	5.53	121.19	114.00
1	0	2394	A	N9-C1'-C2'	5.53	121.19	114.00
1	0	1692	C	O4'-C1'-N1	5.51	112.61	108.20
1	0	2037	C	N1-C1'-C2'	5.51	121.17	114.00
1	0	2761	A	C5'-C4'-O4'	-5.49	102.51	109.10
1	0	330	C	O4'-C1'-N1	5.49	112.59	108.20
1	0	381	G	O4'-C1'-N9	5.48	112.59	108.20
1	0	463	A	N9-C1'-C2'	5.48	121.12	114.00
1	0	1971	G	N9-C1'-C2'	5.46	121.10	114.00
1	0	893	C	N1-C1'-C2'	5.45	121.08	114.00
1	0	2258	A	N9-C1'-C2'	5.43	121.06	114.00
1	0	1722	U	N1-C1'-C2'	5.42	121.05	114.00
1	0	1030	U	O4'-C1'-N1	5.42	112.53	108.20
1	0	1746	A	O4'-C1'-N9	5.42	112.53	108.20
5	9	78	G	C1'-O4'-C4'	-5.41	105.58	109.90
1	0	2644	C	N1-C1'-C2'	5.40	121.03	114.00
1	0	2092	G	N9-C1'-C2'	5.39	121.01	114.00
1	0	2379	G	O4'-C1'-N9	5.38	112.50	108.20
1	0	1971	G	C1'-O4'-C4'	-5.36	105.61	109.90
1	0	411	A	N9-C1'-C2'	5.36	120.97	114.00
1	0	317	A	O4'-C1'-N9	5.36	112.49	108.20
1	0	338	C	C1'-O4'-C4'	-5.34	105.62	109.90
1	0	1235	G	N9-C1'-C2'	5.33	120.93	114.00
1	0	2749	U	N1-C1'-C2'	5.33	120.92	114.00
1	0	2462	G	N9-C1'-C2'	5.32	120.92	114.00
1	0	2292	C	N1-C1'-C2'	5.32	120.92	114.00
1	0	379	G	N9-C1'-C2'	5.31	120.91	114.00
1	0	1978	A	N9-C1'-C2'	5.31	120.90	114.00
1	0	330	C	C1'-O4'-C4'	-5.30	105.66	109.90
1	0	1494	A	N9-C1'-C2'	5.30	120.89	114.00
1	0	2102	G	O4'-C1'-N9	5.28	112.42	108.20
5	9	113	C	N1-C1'-C2'	5.25	120.82	114.00
1	0	97	G	N9-C1'-C2'	5.24	120.82	114.00
1	0	441	A	N9-C1'-C2'	5.22	120.79	114.00
1	0	2692	G	O4'-C1'-N9	5.22	112.38	108.20
1	0	1872	C	N1-C1'-C2'	5.21	120.78	114.00
1	0	2896	A	O4'-C1'-N9	5.21	112.37	108.20
1	0	236	A	N9-C1'-C2'	5.19	120.75	114.00
1	0	317	A	C1'-O4'-C4'	-5.17	105.77	109.90
1	0	1690	C	N1-C1'-C2'	5.16	120.71	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	24	G	N9-C1'-C2'	5.15	120.70	114.00
1	0	1137	G	O4'-C1'-N9	5.15	112.32	108.20
1	0	537	G	C1'-O4'-C4'	-5.15	105.78	109.90
5	9	77	A	N9-C1'-C2'	5.15	120.69	114.00
1	0	1149	U	N1-C1'-C2'	5.14	120.69	114.00
1	0	1029	U	N1-C1'-C2'	5.14	120.68	114.00
1	0	1126	C	N1-C1'-C2'	5.14	120.68	114.00
1	0	264	G	N9-C1'-C2'	5.13	120.68	114.00
1	0	452	G	N9-C1'-C2'	5.13	120.68	114.00
1	0	2902	A	O4'-C1'-N9	5.13	112.30	108.20
1	0	1842	A	N9-C1'-C2'	5.12	120.66	114.00
1	0	1088	A	N9-C1'-C2'	5.12	120.65	114.00
5	9	33	U	N1-C1'-C2'	5.11	120.64	114.00
1	0	1418	U	N1-C1'-C2'	5.11	120.64	114.00
1	0	2553	A	O4'-C1'-N9	5.11	112.28	108.20
1	0	1836	A	N9-C1'-C2'	5.10	120.63	114.00
1	0	1701	A	N9-C1'-C2'	5.10	120.63	114.00
1	0	328	U	N1-C1'-C2'	5.09	120.62	114.00
5	9	87	U	N1-C1'-C2'	5.09	120.62	114.00
1	0	68	U	N1-C1'-C2'	5.08	120.60	114.00
1	0	518	G	N9-C1'-C2'	5.07	120.59	114.00
1	0	1377	C	N1-C1'-C2'	5.07	120.59	114.00
1	0	460	A	N9-C1'-C2'	5.06	120.57	114.00
1	0	2102	G	C1'-O4'-C4'	-5.06	105.86	109.90
1	0	246	G	N9-C1'-C2'	5.05	120.57	114.00
1	0	1407	A	C1'-O4'-C4'	-5.05	105.86	109.90
1	0	688	A	O4'-C1'-N9	5.05	112.24	108.20
1	0	1431	C	O4'-C1'-N1	5.04	112.23	108.20
1	0	660	A	N9-C1'-C2'	5.04	120.55	114.00
1	0	2484	U	N1-C1'-C2'	5.03	120.54	114.00
1	0	2747	C	N1-C1'-C2'	5.03	120.54	114.00
1	0	1473	U	O4'-C1'-N1	5.02	112.22	108.20

There are no chirality outliers.

All (70) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1009	U	Sidechain
1	0	1017	U	Sidechain
1	0	1109	U	Sidechain
1	0	1149	U	Sidechain
1	0	1164	U	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1230	A	Sidechain
1	0	1234	U	Sidechain
1	0	1260	G	Sidechain
1	0	1314	U	Sidechain
1	0	1435	U	Sidechain
1	0	1506	U	Sidechain
1	0	1604	G	Sidechain
1	0	1654	U	Sidechain
1	0	1702	U	Sidechain
1	0	1736	A	Sidechain
1	0	1777	G	Sidechain
1	0	1809	G	Sidechain
1	0	1828	G	Sidechain
1	0	1874	U	Sidechain
1	0	1941	A	Sidechain
1	0	1977	U	Sidechain
1	0	1996	U	Sidechain
1	0	203	G	Sidechain
1	0	2072	G	Sidechain
1	0	224	U	Sidechain
1	0	2242	U	Sidechain
1	0	2282	U	Sidechain
1	0	2283	G	Sidechain
1	0	2330	U	Sidechain
1	0	2353	A	Sidechain
1	0	2467	A	Sidechain
1	0	2492	U	Sidechain
1	0	2493	C	Sidechain
1	0	2526	C	Sidechain
1	0	2532	A	Sidechain
1	0	2538	A	Sidechain
1	0	2539	U	Sidechain
1	0	2554	U	Sidechain
1	0	262	A	Sidechain
1	0	2645	U	Sidechain
1	0	2674	G	Sidechain
1	0	2681	A	Sidechain
1	0	2786	G	Sidechain
1	0	2791	U	Sidechain
1	0	2825	C	Sidechain
1	0	2836	G	Sidechain
1	0	2865	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2866	U	Sidechain
1	0	30	U	Sidechain
1	0	336	G	Sidechain
1	0	359	U	Sidechain
1	0	428	G	Sidechain
1	0	453	A	Sidechain
1	0	535	G	Sidechain
1	0	68	U	Sidechain
1	0	701	U	Sidechain
1	0	766	A	Sidechain
1	0	819	A	Sidechain
1	0	831	U	Sidechain
1	0	845	U	Sidechain
1	0	86	A	Sidechain
1	0	884	C	Sidechain
1	0	898	G	Sidechain
1	0	904	U	Sidechain
1	0	953	G	Sidechain
5	9	13	A	Sidechain
5	9	2	U	Sidechain
5	9	33	U	Sidechain
5	9	51	A	Sidechain
27	V	90	TYR	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59017	0	29808	2081	0
2	1	394	0	406	38	0
3	2	755	0	732	81	0
4	5	273	0	296	23	0
5	9	2600	0	1326	119	0
6	A	1755	0	1763	185	0
7	B	2625	0	2533	240	0
8	C	1859	0	1816	166	0
9	D	1095	0	1085	125	0
10	E	1358	0	1266	95	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	F	886	0	854	75	0
12	G	241	0	231	20	0
13	H	1216	0	1215	169	0
14	I	1120	0	1098	92	0
15	J	994	0	1027	82	0
16	K	1115	0	1072	91	0
17	L	1606	0	1676	241	0
18	M	1445	0	1401	149	0
19	N	865	0	873	52	0
20	O	1134	0	1127	65	0
21	P	735	0	729	49	0
22	Q	1150	0	1122	76	0
23	R	664	0	626	50	0
24	S	950	0	924	80	0
25	T	411	0	368	35	0
26	U	500	0	511	45	0
27	V	1196	0	1137	120	0
28	W	655	0	653	55	0
29	X	1131	0	1133	100	0
30	Y	564	0	601	85	0
31	Z	431	0	426	45	0
32	0	105	0	0	0	0
32	2	1	0	0	0	0
32	9	2	0	0	0	0
32	A	3	0	0	0	0
32	B	3	0	0	0	0
32	J	1	0	0	0	0
32	S	1	0	0	0	0
32	X	1	0	0	0	0
33	0	2	0	0	0	0
34	0	74	0	0	0	0
34	9	2	0	0	0	0
34	A	1	0	0	0	0
34	C	1	0	0	0	0
34	I	1	0	0	0	0
34	K	1	0	0	0	0
34	L	1	0	0	0	0
34	P	1	0	0	0	0
34	Q	2	0	0	0	0
34	R	1	0	0	0	0
34	S	1	0	0	0	0
35	0	7	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
35	2	1	0	0	0	0
35	A	1	0	0	0	0
35	B	1	0	0	0	0
35	I	3	0	0	3	0
35	J	1	0	0	0	0
35	K	2	0	0	0	0
35	L	1	0	0	2	0
35	M	1	0	0	1	0
35	N	1	0	0	0	0
35	P	1	0	0	2	0
35	Q	1	0	0	0	0
35	X	1	0	0	2	0
36	2	1	0	0	0	0
36	N	1	0	0	0	0
36	T	1	0	0	0	0
36	Y	1	0	0	0	0
36	Z	1	0	0	0	0
37	0	5875	0	0	346	0
37	1	49	0	0	8	0
37	2	69	0	0	7	0
37	9	153	0	0	16	0
37	A	135	0	0	29	0
37	B	156	0	0	31	0
37	C	169	0	0	43	0
37	D	52	0	0	15	0
37	E	41	0	0	8	0
37	F	30	0	0	6	0
37	G	20	0	0	3	0
37	H	80	0	0	19	0
37	I	52	0	0	4	0
37	J	61	0	0	18	0
37	K	98	0	0	23	0
37	L	155	0	0	34	0
37	M	60	0	0	18	0
37	N	38	0	0	5	0
37	O	67	0	0	7	0
37	P	53	0	0	6	0
37	Q	83	0	0	6	0
37	R	32	0	0	6	0
37	S	36	0	0	4	0
37	T	25	0	0	6	0
37	U	11	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	V	69	0	0	10	0
37	W	26	0	0	6	0
37	X	107	0	0	13	0
37	Y	35	0	0	10	0
37	Z	50	0	0	2	0
All	All	98859	0	59835	4534	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 30.

All (4534) 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)
1:0:156:C:H5''	17:L:171:ARG:HD3	1.28	1.14
3:2:46:ILE:HG21	17:L:87:MET:HG2	1.24	1.14
26:U:12:THR:HG22	26:U:15:GLU:HG3	1.28	1.14
11:F:91:VAL:HG12	11:F:92:GLY:H	1.09	1.13
5:9:6:C:H5''	18:M:37:ARG:HH12	1.08	1.11
1:0:871:G:H5'	1:0:871:G:H8	1.17	1.08
8:C:127:ARG:NH2	8:C:225:PRO:HG2	1.68	1.07
1:0:870:G:H2'	1:0:871:G:H5''	1.30	1.06
1:0:1160:G:H5'	1:0:1161:A:H5'	1.10	1.04
5:9:6:C:H5''	18:M:37:ARG:NH1	1.72	1.04
15:J:14:LYS:HB2	15:J:45:PRO:HG2	1.39	1.04
27:V:21:LEU:HD22	27:V:26:ILE:HD11	1.34	1.03
8:C:236:THR:HG22	8:C:239:ALA:H	0.91	1.03
1:0:660:A:H4'	1:0:661:G:O5'	1.57	1.03
15:J:29:LEU:HB3	15:J:55:VAL:HG11	1.41	1.03
8:C:136:VAL:HG22	8:C:137:PRO:HA	1.34	1.02
1:0:1840:A:H4'	1:0:1841:C:O5'	1.61	1.01
13:H:162:SER:HB2	13:H:163:PRO:HD3	1.43	1.01
7:B:162:MET:HE3	7:B:308:LEU:HD21	1.43	1.00
9:D:27:ILE:HG22	9:D:28:GLY:H	1.25	0.99
8:C:236:THR:HG22	8:C:239:ALA:N	1.76	0.99
13:H:45:GLN:HB3	13:H:163:PRO:HD2	1.40	0.99
22:Q:18:LEU:HG	22:Q:91:LEU:HD13	1.42	0.99
1:0:2680:A:H4'	1:0:2681:A:OP1	1.62	0.99
9:D:154:LYS:HD2	9:D:154:LYS:H	1.27	0.99
1:0:1381:A:H4'	1:0:1382:G:O5'	1.60	0.99
18:M:144:GLY:O	18:M:147:ILE:HG22	1.63	0.99
17:L:115:LEU:HD23	17:L:150:ILE:HD12	1.45	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2586:U:H3	1:0:2592:G:H22	1.12	0.97
28:W:15:ARG:HH11	28:W:15:ARG:HB3	1.28	0.97
1:0:1444:G:H5'	4:5:43:GLY:HA2	1.46	0.97
1:0:80:A:H4'	1:0:81:G:O5'	1.63	0.97
27:V:4:LEU:HD22	27:V:52:VAL:HG21	1.47	0.96
1:0:2243:C:HO2'	17:L:25:TRP:HZ2	1.10	0.96
6:A:96:LEU:HD22	6:A:128:LEU:HD22	1.45	0.96
3:2:70:ARG:HG2	3:2:77:ALA:HB2	1.43	0.95
1:0:1473:U:H1'	31:Z:42:SER:HB2	1.45	0.95
6:A:199:HIS:HD2	6:A:201:PHE:H	1.08	0.95
7:B:264:GLU:HG2	7:B:267:LYS:HE2	1.48	0.95
26:U:1:THR:HG23	26:U:2:VAL:H	1.32	0.95
29:X:187:VAL:HG23	29:X:192:ASP:HB2	1.47	0.95
1:0:21:G:H5'	22:Q:2:ILE:HA	1.48	0.95
1:0:2672:C:H1'	37:B:506:HOH:O	1.67	0.95
1:0:870:G:C2'	1:0:871:G:H5''	1.97	0.94
13:H:55:GLN:HE21	13:H:124:ARG:HE	1.04	0.93
15:J:10:GLN:H	15:J:10:GLN:NE2	1.66	0.93
11:F:63:ILE:HB	11:F:64:PRO:HD3	1.51	0.93
27:V:26:ILE:HG13	27:V:26:ILE:O	1.69	0.93
1:0:1242:A:H5'	14:I:82:THR:HG23	1.50	0.93
27:V:137:GLN:HE21	27:V:141:HIS:HE1	1.07	0.92
16:K:79:ASP:HB3	37:K:302:HOH:O	1.67	0.92
1:0:485:A:O2'	1:0:487:G:H5'	1.69	0.92
1:0:631:A:C5	1:0:2074:A:H5'	2.04	0.91
1:0:2716:G:H5''	7:B:206:THR:HG21	1.49	0.91
1:0:871:G:C8	1:0:871:G:H5'	2.05	0.91
1:0:1871:U:H4'	1:0:1872:C:O5'	1.71	0.91
8:C:115:LEU:HD21	8:C:243:VAL:HG13	1.52	0.91
8:C:5:ILE:HD11	8:C:16:VAL:HG23	1.52	0.91
1:0:1886:A:H4'	37:Y:203:HOH:O	1.70	0.91
1:0:1266:U:H4'	29:X:115:ARG:HH21	1.35	0.90
10:E:20:ILE:HD11	10:E:40:VAL:HG11	1.50	0.90
17:L:39:ARG:HA	17:L:63:VAL:HG22	1.51	0.90
1:0:2263:G:H4'	17:L:70:GLY:HA3	1.54	0.90
6:A:211:LYS:HB3	6:A:212:PRO:HD2	1.53	0.90
1:0:271:C:H4'	1:0:272:A:H5''	1.51	0.90
6:A:199:HIS:CD2	6:A:201:PHE:H	1.89	0.90
7:B:238:ASN:HD22	7:B:240:GLY:H	1.19	0.90
1:0:1407:A:O2'	1:0:1408:U:H3'	1.71	0.89
30:Y:37:HIS:HB2	30:Y:47:LEU:HB2	1.54	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:7857:HOH:O	7:B:211:THR:HG21	1.73	0.89
7:B:30:PRO:HB2	7:B:39:GLN:NE2	1.86	0.89
17:L:186:SER:O	17:L:189:VAL:HG12	1.71	0.89
1:O:1315:G:H4'	1:O:1316:G:OP2	1.70	0.89
5:9:24:U:O2'	5:9:25:G:H4'	1.73	0.89
27:V:88:THR:HB	37:V:203:HOH:O	1.72	0.89
30:Y:11:THR:OG1	30:Y:23:ARG:HB2	1.73	0.89
1:O:1116:U:HO2'	1:O:1118:A:H2	0.94	0.88
1:O:21:G:C5'	22:Q:2:ILE:HA	2.03	0.88
23:R:33:SER:O	23:R:37:VAL:HG23	1.73	0.88
26:U:42:ASN:HB3	37:U:111:HOH:O	1.74	0.88
37:O:4071:HOH:O	9:D:99:ASP:HA	1.73	0.88
19:N:32:ARG:HD3	19:N:32:ARG:O	1.72	0.88
1:O:1378:G:H4'	1:O:1379:A:O5'	1.73	0.88
3:2:24:LYS:HE3	3:2:90:PHE:HE1	1.38	0.88
18:M:169:PRO:O	18:M:172:PHE:HB3	1.74	0.88
1:O:856:G:H2'	37:O:3682:HOH:O	1.74	0.88
22:Q:8:ALA:HB1	22:Q:13:THR:HG21	1.55	0.88
30:Y:38:LYS:HG2	30:Y:45:LYS:HG2	1.56	0.88
1:O:1835:U:H5	1:O:1840:A:N7	1.71	0.88
37:O:8133:HOH:O	17:L:91:ILE:HG12	1.74	0.87
22:Q:99:ALA:HB1	22:Q:109:MET:HE1	1.53	0.87
5:9:29:C:H2'	5:9:30:C:H5'	1.57	0.87
13:H:75:SER:O	13:H:79:ALA:HB2	1.73	0.87
18:M:37:ARG:HH21	18:M:105:GLY:CA	1.88	0.87
9:D:25:MET:HE2	9:D:41:LEU:HG	1.56	0.87
37:O:3315:HOH:O	8:C:84:VAL:HA	1.74	0.87
15:J:81:ARG:HB2	15:J:87:ARG:HH11	1.38	0.87
28:W:72:VAL:HG22	28:W:85:VAL:HG12	1.56	0.87
13:H:86:ARG:NH1	13:H:133:ILE:HG13	1.89	0.87
13:H:2:PRO:HB2	37:H:215:HOH:O	1.75	0.87
14:I:39:VAL:HG13	14:I:106:GLY:O	1.72	0.87
5:9:92:G:H2'	5:9:93:A:C8	2.09	0.86
37:O:7544:HOH:O	6:A:6:GLY:HA3	1.75	0.86
11:F:91:VAL:HG12	11:F:92:GLY:N	1.90	0.86
1:O:24:G:N2	1:O:518:G:O2'	2.08	0.86
7:B:307:ARG:HB2	7:B:307:ARG:HH11	1.40	0.86
16:K:133:VAL:HA	37:K:343:HOH:O	1.74	0.86
5:9:56:A:H2'	5:9:57:A:H5"	1.57	0.86
1:O:1119:G:H22	1:O:1246:A:H2	1.23	0.86
23:R:77:VAL:HG12	23:R:81:ILE:HD11	1.58	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:236:THR:CG2	8:C:239:ALA:H	1.84	0.86
9:D:27:ILE:HD11	9:D:37:ALA:HB2	1.57	0.86
17:L:37:VAL:HG11	17:L:108:LYS:HG3	1.58	0.86
1:0:188:C:H5'	17:L:163:LEU:HD21	1.58	0.86
17:L:71:SER:HB2	17:L:92:THR:HG22	1.57	0.85
15:J:74:VAL:HG21	15:J:96:VAL:HG23	1.58	0.85
1:0:628:A:O2'	1:0:630:A:OP2	1.95	0.85
1:0:1118:A:H8	1:0:1119:G:H5'	1.42	0.85
23:R:10:VAL:HG11	26:U:36:ALA:HA	1.59	0.85
1:0:893:C:H4'	1:0:894:A:O5'	1.75	0.85
8:C:84:VAL:HG12	8:C:85:LYS:HG2	1.59	0.84
1:0:24:G:H22	1:0:518:G:HO2'	1.22	0.84
3:2:25:VAL:HG22	3:2:68:LYS:HG3	1.58	0.84
1:0:1679:C:H5'	37:0:5066:HOH:O	1.75	0.84
1:0:533:U:H4'	1:0:534:C:O5'	1.75	0.84
1:0:1819:G:H2'	1:0:1820:G:H4'	1.60	0.84
1:0:1884:G:O2'	1:0:1885:A:H5'	1.78	0.84
27:V:122:ARG:HH21	27:V:154:ARG:HD2	1.40	0.84
29:X:235:GLU:CD	29:X:235:GLU:H	1.81	0.84
7:B:321:PRO:HA	37:B:519:HOH:O	1.78	0.84
37:0:4206:HOH:O	17:L:157:LEU:HD11	1.78	0.84
1:0:1590:A:N6	1:0:1605:G:H1'	1.91	0.84
1:0:960:G:H4'	37:0:7054:HOH:O	1.77	0.84
14:I:75:PRO:HG2	14:I:105:LEU:HD21	1.60	0.83
37:0:3532:HOH:O	5:9:103:A:H4'	1.78	0.83
15:J:82:ARG:NH2	15:J:115:ARG:HG2	1.94	0.83
1:0:1118:A:C8	1:0:1119:G:H5'	2.13	0.83
1:0:1835:U:H2'	37:0:5187:HOH:O	1.78	0.83
7:B:27:ASN:H	7:B:27:ASN:HD22	1.24	0.83
1:0:1246:A:O2'	1:0:1247:A:H3'	1.78	0.83
1:0:1506:U:H2'	37:0:5535:HOH:O	1.78	0.83
1:0:2111:G:H1'	37:0:4903:HOH:O	1.78	0.83
8:C:1:MET:HG2	8:C:2:GLN:H	1.41	0.83
7:B:162:MET:HG3	7:B:310:ARG:HD3	1.61	0.83
1:0:2284:G:H5'	37:0:6604:HOH:O	1.78	0.83
2:1:41:HIS:H	2:1:45:ASN:HD22	1.25	0.83
1:0:1884:G:H4'	1:0:1885:A:OP1	1.77	0.82
21:P:75:ILE:HD13	21:P:84:ILE:HD11	1.60	0.82
1:0:1652:C:H1'	6:A:164:ARG:HD2	1.59	0.82
1:0:2825:C:H4'	1:0:2826:G:O5'	1.79	0.82
3:2:3:MET:O	3:2:90:PHE:HA	1.80	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2270:G:H4'	6:A:223:ARG:HH12	1.41	0.82
1:0:1688:G:H1	1:0:1692:C:H2'	1.43	0.82
37:0:7980:HOH:O	24:S:53:GLY:HA3	1.78	0.82
1:0:2330:U:H4'	1:0:2331:C:OP1	1.79	0.82
1:0:2638:G:H1'	37:0:4934:HOH:O	1.80	0.82
1:0:553:G:P	29:X:204:ARG:HH22	2.02	0.82
28:W:71:ARG:HB3	28:W:88:GLU:OE1	1.79	0.82
1:0:1166:A:H1'	1:0:1192:A:C2	2.14	0.81
1:0:1130:U:H2'	1:0:1131:G:O4'	1.80	0.81
1:0:1340:G:O2'	1:0:1341:A:H8	1.62	0.81
24:S:18:GLU:O	24:S:21:LYS:HG2	1.80	0.81
1:0:1105:C:H4'	1:0:1106:A:OP1	1.77	0.81
1:0:2503:A:HO2'	1:0:2504:A:H8	1.27	0.81
11:F:96:ALA:HA	37:F:201:HOH:O	1.80	0.81
1:0:1097:A:H5''	27:V:125:HIS:NE2	1.96	0.81
1:0:136:C:H2'	1:0:137:U:O4'	1.81	0.81
1:0:185:G:H4'	1:0:186:A:H4'	1.59	0.81
5:9:24:U:H4'	5:9:25:G:OP1	1.80	0.81
9:D:19:GLU:HG3	37:D:239:HOH:O	1.81	0.81
13:H:27:LYS:H	13:H:58:HIS:HD2	1.28	0.81
37:0:3650:HOH:O	17:L:146:GLN:HG2	1.80	0.81
24:S:71:VAL:HG11	24:S:90:PRO:HB3	1.61	0.81
19:N:47:ARG:HG3	19:N:47:ARG:HH11	1.46	0.81
1:0:182:G:H5'	37:0:3751:HOH:O	1.80	0.80
9:D:54:ALA:HB2	9:D:69:ILE:HD12	1.63	0.80
27:V:137:GLN:NE2	27:V:141:HIS:HE1	1.79	0.80
1:0:2321:A:H4'	1:0:2322:U:OP1	1.82	0.80
3:2:11:CYS:SG	3:2:20:HIS:NE2	2.54	0.80
7:B:51:VAL:HG23	7:B:330:VAL:HG22	1.61	0.80
24:S:71:VAL:HG13	24:S:91:LEU:O	1.81	0.80
1:0:1559:A:H1'	37:0:3551:HOH:O	1.79	0.80
1:0:1751:G:H2'	1:0:1752:G:H5''	1.64	0.80
37:0:4770:HOH:O	7:B:254:GLN:HG3	1.82	0.80
27:V:13:MET:HE2	27:V:18:GLN:HA	1.64	0.80
1:0:2312:G:H2'	1:0:2313:C:H5'	1.64	0.80
1:0:1430:G:H1'	1:0:1691:A:N6	1.96	0.80
15:J:74:VAL:HG13	15:J:113:ILE:HG23	1.62	0.80
11:F:34:ASN:HA	17:L:4:ALA:HB2	1.62	0.80
22:Q:119:VAL:HG21	22:Q:142:ASP:CG	2.02	0.80
27:V:130:HIS:O	27:V:136:GLY:HA3	1.82	0.80
27:V:52:VAL:HG22	27:V:53:ALA:N	1.96	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:65:THR:HG23	3:2:67:LEU:HG	1.62	0.80
13:H:56:ILE:HG22	13:H:61:LEU:HD22	1.63	0.80
1:0:1044:C:H5'	1:0:1045:G:OP2	1.82	0.79
13:H:28:ILE:HA	13:H:62:GLU:OE1	1.83	0.79
14:I:74:ARG:HH11	14:I:74:ARG:HB3	1.48	0.79
1:0:2577:A:H2'	37:0:6131:HOH:O	1.80	0.79
1:0:115:U:H1'	1:0:131:A:N7	1.97	0.79
1:0:2122:C:H3'	37:0:3439:HOH:O	1.80	0.79
1:0:790:A:H1'	1:0:1710:A:H2'	1.64	0.79
1:0:1776:A:H4'	1:0:1777:G:O5'	1.83	0.79
1:0:329:A:H4'	1:0:330:C:OP2	1.81	0.79
14:I:26:VAL:HG13	14:I:36:VAL:HG11	1.65	0.79
1:0:1260:G:H2'	37:0:4989:HOH:O	1.82	0.79
13:H:165:GLY:HA3	37:H:271:HOH:O	1.82	0.79
13:H:55:GLN:NE2	13:H:124:ARG:HE	1.79	0.79
21:P:21:ARG:HG2	21:P:22:GLY:H	1.48	0.79
27:V:52:VAL:HG22	27:V:53:ALA:H	1.48	0.79
1:0:1771:U:O2'	30:Y:23:ARG:NH2	2.15	0.79
1:0:2392:C:H4'	37:0:5308:HOH:O	1.83	0.79
6:A:71:PRO:HD2	6:A:74:VAL:HG21	1.64	0.79
37:9:350:HOH:O	21:P:25:PRO:HB2	1.81	0.79
22:Q:44:VAL:HG13	22:Q:89:LEU:HD22	1.65	0.79
1:0:1108:G:H4'	1:0:1109:U:OP1	1.82	0.79
14:I:131:THR:HG22	14:I:133:GLY:H	1.47	0.79
1:0:884:C:H2'	37:0:5983:HOH:O	1.82	0.79
8:C:115:LEU:HD21	8:C:243:VAL:CG1	2.12	0.79
24:S:19:ARG:HD3	24:S:67:LEU:O	1.83	0.78
1:0:198:A:H4'	1:0:199:A:O5'	1.83	0.78
1:0:2582:G:H4'	37:J:303:HOH:O	1.82	0.78
8:C:104:ASP:HA	8:C:107:ARG:HH12	1.47	0.78
18:M:34:LEU:HD13	18:M:47:LEU:HD21	1.65	0.78
13:H:86:ARG:HH11	13:H:133:ILE:HG13	1.45	0.78
1:0:2554:U:H4'	1:0:2555:C:OP1	1.82	0.78
7:B:55:ASN:HB3	7:B:63:GLU:HA	1.64	0.78
1:0:262:A:O2'	11:F:32:GLY:HA2	1.82	0.78
13:H:162:SER:HB2	13:H:163:PRO:CD	2.13	0.78
1:0:1719:G:H1'	37:0:3208:HOH:O	1.83	0.78
16:K:61:ALA:HA	37:K:309:HOH:O	1.82	0.78
18:M:49:THR:HG22	18:M:56:ASP:HB2	1.64	0.78
25:T:14:GLU:OE1	25:T:15:PRO:HD2	1.83	0.78
37:9:402:HOH:O	27:V:131:PRO:HB2	1.81	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:39:ASP:HB2	37:D:203:HOH:O	1.83	0.78
20:O:59:ARG:NH2	20:O:66:GLN:HE22	1.82	0.78
1:O:1342:C:O2'	1:O:1343:C:H5'	1.83	0.78
14:I:131:THR:HG22	14:I:133:GLY:N	1.99	0.78
1:O:2661:U:H3	1:O:2812:A:H62	1.32	0.78
22:Q:18:LEU:HB2	22:Q:143:VAL:HG13	1.64	0.78
5:9:78:G:N2	5:9:103:A:OP2	2.15	0.78
1:O:1593:C:H5'	20:O:116:SER:O	1.83	0.77
37:O:5010:HOH:O	22:Q:139:PRO:HD2	1.83	0.77
1:O:2610:U:H4'	37:O:3487:HOH:O	1.84	0.77
1:O:193:A:H3'	37:O:4603:HOH:O	1.84	0.77
1:O:2369:A:H3'	37:O:3788:HOH:O	1.83	0.77
7:B:141:ARG:HD2	7:B:163:GLU:OE2	1.84	0.77
12:G:12:ILE:N	12:G:13:PRO:HD3	2.00	0.77
16:K:35:ARG:HH12	16:K:43:HIS:HB3	1.48	0.77
16:K:67:ARG:O	16:K:71:GLU:HG3	1.85	0.77
1:O:2761:A:H4'	1:O:2762:C:OP1	1.83	0.77
7:B:238:ASN:ND2	7:B:240:GLY:H	1.82	0.77
15:J:29:LEU:HB3	15:J:55:VAL:CG1	2.14	0.77
18:M:24:LEU:HD13	21:P:26:PRO:HB3	1.65	0.77
3:2:70:ARG:HB3	37:2:221:HOH:O	1.83	0.77
37:9:347:HOH:O	18:M:147:ILE:HD12	1.84	0.77
1:O:1120:U:H5'	1:O:1121:G:OP2	1.84	0.77
1:O:2554:U:H2'	1:O:2576:A:H61	1.49	0.77
1:O:2555:C:H3'	37:O:3256:HOH:O	1.85	0.77
1:O:1164:U:H4'	1:O:1165:G:OP1	1.83	0.77
7:B:7:ARG:HG2	7:B:7:ARG:HH11	1.50	0.77
27:V:122:ARG:NH2	27:V:154:ARG:HD2	1.99	0.77
1:O:1984:U:H4'	1:O:1985:U:O5'	1.85	0.77
17:L:38:VAL:O	17:L:63:VAL:HG13	1.85	0.77
1:O:2263:G:H4'	17:L:70:GLY:CA	2.15	0.77
20:O:115:SER:OG	20:O:118:GLN:HG3	1.85	0.77
28:W:78:GLU:HG2	28:W:79:GLU:H	1.48	0.77
30:Y:75:ALA:HB3	37:Y:216:HOH:O	1.85	0.77
10:E:137:ASP:OD1	10:E:139:GLU:HB2	1.85	0.76
11:F:57:GLU:O	11:F:61:MET:HG3	1.85	0.76
17:L:67:ILE:HA	37:L:305:HOH:O	1.85	0.76
28:W:66:THR:HG23	28:W:67:PRO:HD2	1.65	0.76
5:9:76:G:H3'	5:9:77:A:H5"	1.67	0.76
1:O:2310:G:OP2	13:H:114:PRO:HD2	1.84	0.76
13:H:139:ASP:N	13:H:140:PRO:HD3	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:64:MET:HA	15:J:67:GLN:NE2	2.00	0.76
17:L:87:MET:HB2	17:L:91:ILE:HD11	1.67	0.76
7:B:195:ARG:HD2	7:B:324:ASP:OD1	1.85	0.76
7:B:86:ALA:HA	37:B:502:HOH:O	1.85	0.76
13:H:62:GLU:O	13:H:66:VAL:HG23	1.84	0.76
1:O:2815:G:H4'	1:O:2816:A:OP2	1.83	0.76
11:F:21:GLU:O	11:F:24:ARG:HG3	1.86	0.76
13:H:142:VAL:HG13	37:H:236:HOH:O	1.85	0.76
18:M:132:ASN:O	18:M:135:VAL:HG12	1.85	0.76
27:V:137:GLN:HE21	27:V:141:HIS:CE1	1.97	0.76
37:O:4355:HOH:O	6:A:192:VAL:HB	1.84	0.76
17:L:161:ARG:HD2	37:L:391:HOH:O	1.85	0.76
29:X:109:LEU:HA	37:X:440:HOH:O	1.85	0.76
1:O:1059:G:H2'	37:O:6358:HOH:O	1.85	0.76
1:O:1689:A:H62	22:Q:131:GLY:HA2	1.50	0.76
6:A:173:GLY:O	6:A:176:HIS:HB3	1.84	0.76
22:Q:82:GLU:HG3	22:Q:83:LYS:H	1.50	0.76
6:A:71:PRO:HG2	6:A:91:GLY:HA2	1.66	0.75
10:E:68:HIS:O	10:E:72:MET:HG3	1.86	0.75
1:O:2064:U:H2'	1:O:2065:C:H6	1.50	0.75
6:A:179:MET:HG2	6:A:186:TRP:HB2	1.69	0.75
3:2:46:ILE:CG2	17:L:87:MET:HG2	2.12	0.75
18:M:61:ALA:HB3	18:M:88:ALA:HB2	1.67	0.75
29:X:189:ASN:C	29:X:189:ASN:HD22	1.90	0.75
1:O:1137:G:H5''	1:O:1138:G:OP1	1.86	0.75
8:C:104:ASP:HA	8:C:107:ARG:NH1	2.02	0.75
1:O:196:G:O2'	1:O:198:A:N7	2.19	0.75
1:O:2074:A:O2'	1:O:2076:U:OP2	2.05	0.75
1:O:2092:G:O6	1:O:2649:A:H2'	1.86	0.75
1:O:542:A:H5'	1:O:542:A:H8	1.51	0.75
1:O:858:U:H2'	1:O:859:C:C6	2.22	0.75
3:2:46:ILE:HG21	17:L:87:MET:CG	2.12	0.75
6:A:153:ARG:HH11	6:A:153:ARG:HB2	1.52	0.75
1:O:1784:U:O2'	20:O:78:GLY:HA3	1.87	0.75
1:O:2243:C:O2'	17:L:25:TRP:HZ2	1.69	0.75
1:O:2816:A:H5''	1:O:2817:G:H5'	1.67	0.74
7:B:275:GLY:O	7:B:291:ASP:HA	1.87	0.74
17:L:164:THR:HG23	17:L:167:GLY:H	1.51	0.74
1:O:192:A:H4'	17:L:176:GLN:HE22	1.52	0.74
1:O:541:C:H2'	1:O:542:A:C5'	2.16	0.74
13:H:55:GLN:HE22	13:H:91:HIS:CD2	2.04	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:87:THR:O	19:N:91:GLN:HG3	1.85	0.74
1:0:1355:A:O2'	1:0:1356:A:H3'	1.88	0.74
20:O:87:ARG:HA	37:O:236:HOH:O	1.86	0.74
1:0:1086:A:N6	27:V:11:VAL:HG11	2.02	0.74
4:5:40:ARG:HG2	4:5:40:ARG:O	1.85	0.74
9:D:99:ASP:HB3	9:D:103:ASN:H	1.53	0.74
18:M:86:LEU:O	18:M:90:LEU:HG	1.87	0.74
1:0:1249:U:H2'	1:0:1250:C:C6	2.23	0.74
1:0:1342:C:C2'	1:0:1343:C:H5'	2.16	0.74
1:0:2300:A:H4'	1:0:2301:A:O5'	1.85	0.74
1:0:282:C:H1'	1:0:368:C:N4	2.02	0.74
8:C:78:ARG:HH11	8:C:78:ARG:HG3	1.51	0.74
1:0:289:G:O2'	1:0:290:C:H5'	1.88	0.74
1:0:2761:A:O2'	1:0:2762:C:H3'	1.88	0.74
18:M:183:ASP:OD2	18:M:186:LEU:HD12	1.87	0.74
1:0:1450:C:O2'	1:0:1494:A:H5'	1.86	0.74
1:0:2115:U:H2'	1:0:2116:U:C6	2.22	0.74
5:9:25:G:H3'	5:9:26:C:C5'	2.18	0.74
1:0:1589:G:H22	1:0:1605:G:H2'	1.51	0.74
1:0:1641:A:H2'	1:0:1642:A:H5'	1.69	0.74
1:0:2546:U:H5'	37:O:6374:HOH:O	1.87	0.74
1:0:271:C:H4'	1:0:272:A:C5'	2.18	0.74
3:2:46:ILE:HB	37:L:302:HOH:O	1.87	0.73
6:A:100:PRO:HG2	6:A:103:VAL:HG21	1.69	0.73
6:A:140:LEU:HB3	6:A:141:PRO:HD2	1.70	0.73
14:I:107:ASN:HD21	14:I:109:TYR:HB2	1.52	0.73
18:M:48:VAL:CG1	18:M:55:ASP:HB3	2.18	0.73
7:B:179:LEU:O	7:B:183:GLU:HG2	1.87	0.73
28:W:37:LEU:HD13	28:W:85:VAL:HG21	1.69	0.73
1:0:962:C:H1'	18:M:5:ARG:NH1	2.04	0.73
17:L:172:GLY:O	17:L:183:VAL:HG11	1.89	0.73
5:9:69:U:OP1	18:M:4:PRO:HG3	1.88	0.73
1:0:1209:C:H2'	1:0:1210:G:H8	1.53	0.73
12:G:12:ILE:HD12	37:G:418:HOH:O	1.88	0.73
15:J:64:MET:HA	15:J:67:GLN:HE21	1.53	0.73
17:L:87:MET:HB2	17:L:91:ILE:CD1	2.18	0.73
1:0:1292:G:H4'	37:O:3628:HOH:O	1.88	0.73
1:0:2790:C:H5'	37:O:7741:HOH:O	1.88	0.73
1:0:2811:A:H4'	1:0:2812:A:O5'	1.87	0.73
1:0:771:G:P	17:L:79:LYS:HG3	2.28	0.73
18:M:87:LEU:HD12	18:M:186:LEU:HD21	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:496:G:H4'	1:0:497:A:OP1	1.86	0.73
1:0:761:A:H4'	1:0:762:C:O5'	1.88	0.73
8:C:72:LYS:HG2	8:C:77:ALA:HA	1.70	0.73
19:N:25:VAL:HG23	19:N:26:TRP:N	2.03	0.73
1:0:1589:G:H4'	37:0:6643:HOH:O	1.88	0.73
1:0:2552:C:O2'	1:0:2553:A:H3'	1.89	0.73
37:0:4378:HOH:O	14:I:65:ASN:HB3	1.87	0.73
37:J:340:HOH:O	25:T:37:GLU:HB3	1.88	0.73
1:0:1293:U:H5'	29:X:154:ARG:HH21	1.54	0.73
1:0:157:G:H4'	17:L:95:LYS:HE2	1.70	0.73
1:0:675:U:H2'	1:0:676:C:H5'	1.71	0.73
5:9:77:A:O2'	5:9:78:G:H4'	1.89	0.73
9:D:135:VAL:HG22	9:D:136:ARG:N	2.02	0.73
18:M:67:ALA:HA	18:M:71:TRP:HB3	1.71	0.72
1:0:1853:C:H4'	6:A:217:ARG:NH2	2.03	0.72
1:0:2416:G:H2'	1:0:2417:C:C6	2.24	0.72
1:0:882:A:H5''	1:0:883:U:OP2	1.87	0.72
4:5:35:VAL:HG12	4:5:39:VAL:CG1	2.18	0.72
37:0:4929:HOH:O	10:E:143:GLN:HG2	1.89	0.72
13:H:71:TYR:C	13:H:73:GLN:H	1.92	0.72
1:0:1603:A:H5'	1:0:1605:G:O4'	1.89	0.72
5:9:56:A:C2'	5:9:57:A:H5''	2.18	0.72
1:0:1446:U:H3'	23:R:55:GLN:OE1	1.89	0.72
1:0:1730:G:H5'	1:0:1731:C:C6	2.25	0.72
1:0:907:A:H2'	1:0:908:A:H8	1.54	0.72
3:2:60:LYS:HG3	3:2:61:PRO:HD2	1.72	0.72
3:2:86:GLY:HA2	37:2:246:HOH:O	1.88	0.72
8:C:127:ARG:HD3	8:C:129:HIS:HE1	1.54	0.72
1:0:2441:U:H4'	16:K:53:ARG:HD2	1.71	0.72
3:2:24:LYS:HE3	3:2:90:PHE:CE1	2.21	0.72
31:Z:21:ARG:HD2	31:Z:37:CYS:SG	2.29	0.72
1:0:1160:G:H5'	1:0:1161:A:C5'	2.05	0.72
1:0:272:A:H3'	37:0:5183:HOH:O	1.89	0.72
10:E:152:THR:HG21	10:E:165:GLY:HA2	1.72	0.72
4:5:35:VAL:HG12	4:5:39:VAL:HG12	1.69	0.72
15:J:81:ARG:HB2	15:J:87:ARG:NH1	2.04	0.72
26:U:27:LEU:HA	26:U:49:LEU:HD13	1.71	0.72
1:0:1450:C:H4'	1:0:1451:C:OP2	1.89	0.72
1:0:2474:A:H4'	1:0:2475:C:O5'	1.90	0.72
7:B:154:VAL:HG12	7:B:156:LYS:HG2	1.71	0.72
8:C:5:ILE:HD11	8:C:16:VAL:CG2	2.20	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:31:PHE:CD2	13:H:85:ILE:HG23	2.25	0.72
27:V:35:VAL:HG23	27:V:41:TYR:CD2	2.25	0.72
4:5:29:LYS:O	4:5:33:VAL:HG23	1.90	0.72
6:A:35:GLY:O	6:A:36:ASP:HB3	1.90	0.72
27:V:141:HIS:HB2	27:V:146:ILE:HG12	1.70	0.72
1:0:1730:G:H5'	1:0:1731:C:H6	1.55	0.72
1:0:1819:G:H5'	37:0:5467:HOH:O	1.90	0.72
1:0:2483:A:H5'	1:0:2484:U:OP2	1.89	0.72
1:0:1923:G:H4'	3:2:31:THR:O	1.90	0.72
10:E:23:GLU:HG2	10:E:28:SER:HB3	1.71	0.72
1:0:2072:G:H2'	37:0:5026:HOH:O	1.89	0.71
25:T:9:CYS:SG	25:T:11:THR:HG23	2.29	0.71
26:U:12:THR:HG22	26:U:15:GLU:CG	2.12	0.71
2:1:39:ARG:HG2	37:1:142:HOH:O	1.89	0.71
14:I:74:ARG:O	14:I:78:ILE:HG12	1.90	0.71
24:S:43:ASN:HD22	24:S:108:ARG:NH2	1.88	0.71
1:0:2135:A:O4'	1:0:2243:C:N4	2.23	0.71
1:0:2415:A:H2'	1:0:2416:G:H5'	1.73	0.71
1:0:2469:A:H4'	37:0:3308:HOH:O	1.88	0.71
11:F:91:VAL:CG1	11:F:92:GLY:H	1.94	0.71
13:H:162:SER:CB	13:H:163:PRO:HD3	2.19	0.71
17:L:57:LYS:HG2	17:L:58:GLN:H	1.53	0.71
1:0:1735:C:O2'	1:0:1736:A:H5'	1.90	0.71
1:0:939:A:H4'	1:0:940:G:O5'	1.88	0.71
8:C:25:PRO:HG2	37:C:402:HOH:O	1.90	0.71
9:D:95:THR:C	9:D:97:GLN:H	1.90	0.71
1:0:2755:G:H1'	37:0:4723:HOH:O	1.91	0.71
2:1:36:ASN:HA	37:1:132:HOH:O	1.91	0.71
8:C:61:PHE:HB3	37:C:467:HOH:O	1.90	0.71
17:L:68:ARG:HD3	17:L:68:ARG:O	1.90	0.71
23:R:6:LYS:HB2	23:R:27:ALA:O	1.91	0.71
1:0:1829:A:H61	30:Y:18:TYR:H	1.38	0.71
1:0:2421:G:H1'	37:0:3206:HOH:O	1.90	0.71
5:9:25:G:H3'	5:9:26:C:H5'	1.72	0.71
27:V:68:THR:HG23	27:V:69:ARG:HG2	1.73	0.71
37:0:7115:HOH:O	29:X:165:GLU:HB3	1.89	0.71
1:0:1244:U:OP1	14:I:18:ILE:HD13	1.90	0.71
1:0:2659:U:H4'	37:Q:334:HOH:O	1.91	0.71
1:0:31:C:OP2	24:S:8:ARG:HD2	1.90	0.71
6:A:9:ARG:HG2	6:A:16:PHE:CD2	2.25	0.71
17:L:66:ALA:O	17:L:67:ILE:HD13	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:69:LYS:O	24:S:71:VAL:HG23	1.90	0.71
28:W:20:GLU:HG3	28:W:21:PRO:HD2	1.71	0.71
5:9:3:A:N6	5:9:22:G:H1'	2.06	0.71
6:A:101:GLU:OE2	6:A:131:HIS:HB2	1.91	0.71
7:B:216:LYS:HA	37:B:567:HOH:O	1.91	0.71
8:C:129:HIS:CE1	8:C:231:ARG:HA	2.26	0.71
13:H:58:HIS:HA	13:H:61:LEU:HD23	1.73	0.71
27:V:21:LEU:HD22	27:V:26:ILE:CD1	2.17	0.71
30:Y:31:ILE:O	30:Y:35:LYS:HG3	1.91	0.71
7:B:217:ARG:HG3	7:B:257:THR:HG22	1.73	0.71
8:C:242:GLU:HG3	37:C:439:HOH:O	1.90	0.71
1:0:2081:A:H4'	14:I:69:TYR:CE1	2.26	0.71
1:0:1160:G:C5'	1:0:1161:A:H5'	2.06	0.70
1:0:1417:G:O2'	1:0:1418:U:H6	1.73	0.70
1:0:631:A:N7	1:0:2074:A:H5'	2.05	0.70
37:0:7713:HOH:O	21:P:92:ARG:HG3	1.91	0.70
24:S:48:VAL:HG22	24:S:97:ARG:C	2.11	0.70
1:0:138:U:OP2	1:0:139:C:H5	1.73	0.70
1:0:1505:U:H5''	1:0:1506:U:OP2	1.91	0.70
1:0:328:U:H5''	1:0:329:A:OP2	1.91	0.70
3:2:11:CYS:SG	3:2:71:CYS:HB2	2.30	0.70
1:0:1811:A:C2	1:0:2752:C:H1'	2.25	0.70
18:M:119:GLN:O	18:M:123:ILE:HG13	1.91	0.70
29:X:155:ARG:HD2	37:X:449:HOH:O	1.91	0.70
6:A:162:GLY:HA3	30:Y:73:THR:HG21	1.74	0.70
1:0:105:G:O2'	1:0:106:A:H5'	1.91	0.70
1:0:2419:U:H5''	1:0:2420:G:H5'	1.71	0.70
6:A:88:ILE:HG22	6:A:88:ILE:O	1.92	0.70
10:E:11:VAL:HG12	10:E:12:ASP:N	2.07	0.70
18:M:62:HIS:HB3	18:M:65:ASP:OD1	1.92	0.70
1:0:2783:A:H2'	1:0:2784:A:C8	2.26	0.70
16:K:143:THR:HG22	16:K:144:ASP:N	2.07	0.70
1:0:1417:G:HO2'	1:0:1418:U:H6	1.40	0.70
4:5:35:VAL:O	4:5:39:VAL:HG13	1.91	0.70
37:9:397:HOH:O	18:M:107:ASN:HB3	1.91	0.70
37:0:4875:HOH:O	31:Z:46:ARG:HA	1.91	0.70
1:0:2874:G:H3'	37:0:5041:HOH:O	1.91	0.70
9:D:57:THR:HG23	9:D:63:ILE:HG22	1.74	0.70
10:E:69:ILE:HA	10:E:72:MET:CE	2.22	0.70
13:H:150:LYS:HB2	13:H:157:ILE:HD12	1.74	0.70
27:V:4:LEU:HD23	27:V:54:PHE:HB3	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1701:A:H4'	1:0:1702:U:O5'	1.91	0.70
1:0:2656:G:O2'	1:0:2657:G:H5'	1.91	0.70
5:9:48:C:H4'	18:M:141:ARG:HH21	1.55	0.70
6:A:199:HIS:HD2	6:A:201:PHE:N	1.86	0.70
8:C:214:THR:HG22	8:C:216:SER:H	1.57	0.70
19:N:105:ASN:HD21	19:N:109:SER:H	1.37	0.70
24:S:41:ARG:HH11	24:S:41:ARG:HG2	1.57	0.70
27:V:151:GLU:O	27:V:154:ARG:HB3	1.91	0.70
27:V:88:THR:HG23	27:V:110:GLN:NE2	2.07	0.69
1:0:569:A:H5''	1:0:587:A:N1	2.06	0.69
7:B:175:LEU:C	7:B:175:LEU:HD23	2.13	0.69
1:0:204:A:H2'	1:0:205:U:H5'	1.74	0.69
1:0:2463:A:H4'	1:0:2464:C:OP2	1.91	0.69
3:2:47:GLY:HA2	17:L:83:SER:HB2	1.74	0.69
8:C:72:LYS:HG2	8:C:77:ALA:CA	2.21	0.69
15:J:10:GLN:H	15:J:10:GLN:HE21	1.37	0.69
9:D:154:LYS:HD2	9:D:154:LYS:N	2.03	0.69
9:D:19:GLU:O	9:D:20:LYS:HG2	1.92	0.69
17:L:87:MET:SD	17:L:91:ILE:HD11	2.32	0.69
18:M:113:SER:HB2	37:M:301:HOH:O	1.92	0.69
27:V:88:THR:HG22	27:V:89:ASP:H	1.57	0.69
1:0:2303:A:H1'	37:0:5754:HOH:O	1.92	0.69
1:0:2493:C:H2'	1:0:2525:G:H1	1.56	0.69
1:0:450:C:H1'	37:0:4255:HOH:O	1.93	0.69
1:0:148:A:O2'	1:0:149:G:H5'	1.93	0.69
1:0:2791:U:O2'	1:0:2792:A:H5''	1.93	0.69
15:J:115:ARG:HG3	15:J:116:GLU:N	2.08	0.69
21:P:75:ILE:CD1	21:P:84:ILE:HD11	2.21	0.69
1:0:1328:A:OP1	29:X:169:ARG:HD2	1.92	0.69
1:0:2435:U:OP1	3:2:28:GLY:HA3	1.92	0.69
1:0:281:U:H2'	1:0:282:C:O4'	1.93	0.69
1:0:545:G:H8	1:0:545:G:H5'	1.57	0.69
1:0:1104:C:H4'	14:I:88:PRO:HD3	1.75	0.69
27:V:81:ASP:OD1	27:V:92:ASP:HB2	1.90	0.69
1:0:2269:C:H2'	1:0:2270:G:O4'	1.92	0.69
13:H:4:ALA:HB3	37:H:215:HOH:O	1.91	0.69
14:I:127:ILE:N	35:I:202:CL:CL	2.57	0.69
17:L:9:ARG:HG3	37:L:417:HOH:O	1.91	0.69
1:0:1697:G:H1'	37:0:3233:HOH:O	1.93	0.69
1:0:2636:C:H3'	37:0:4417:HOH:O	1.92	0.69
37:0:4533:HOH:O	27:V:10:GLU:HG2	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1116:U:H3	1:0:1246:A:H62	1.41	0.69
1:0:1486:A:H3'	1:0:1486:A:OP1	1.93	0.69
1:0:2453:G:H5''	37:K:306:HOH:O	1.92	0.69
1:0:2654:C:H5'	37:0:7489:HOH:O	1.92	0.69
7:B:162:MET:CE	7:B:308:LEU:HD21	2.21	0.69
1:0:1340:G:O2'	1:0:1341:A:C8	2.45	0.69
1:0:1579:C:H4'	1:0:1580:A:OP1	1.91	0.68
6:A:88:ILE:HD13	6:A:100:PRO:HD3	1.74	0.68
9:D:27:ILE:HG22	9:D:28:GLY:N	2.04	0.68
17:L:155:HIS:CE1	17:L:158:ARG:HE	2.10	0.68
19:N:77:ALA:HA	19:N:96:VAL:O	1.93	0.68
1:0:587:A:H5''	1:0:588:G:OP1	1.94	0.68
20:O:10:ALA:HA	20:O:13:VAL:HG12	1.75	0.68
1:0:21:G:H4'	22:Q:2:ILE:HG22	1.74	0.68
1:0:1525:G:H2'	1:0:1526:A:C8	2.27	0.68
1:0:339:A:H4'	1:0:340:A:OP1	1.93	0.68
1:0:962:C:H5''	37:0:4692:HOH:O	1.93	0.68
37:0:7228:HOH:O	3:2:61:PRO:HD3	1.93	0.68
5:9:55:U:H5''	5:9:56:A:OP1	1.93	0.68
6:A:27:LEU:HD11	6:A:55:VAL:HG21	1.75	0.68
17:L:88:VAL:HG12	37:L:324:HOH:O	1.93	0.68
1:0:2488:A:H1'	37:0:6810:HOH:O	1.91	0.68
1:0:25:A:H5'	37:0:5934:HOH:O	1.93	0.68
16:K:37:LYS:HA	37:K:341:HOH:O	1.94	0.68
1:0:1831:U:H2'	1:0:1832:G:H5'	1.75	0.68
6:A:93:THR:HG23	6:A:154:ALA:O	1.94	0.68
7:B:225:GLY:HA3	37:B:517:HOH:O	1.92	0.68
8:C:104:ASP:O	8:C:108:GLN:HG3	1.93	0.68
8:C:165:ASP:O	8:C:168:ARG:HB3	1.92	0.68
1:0:1596:U:H2'	1:0:1598:A:OP2	1.93	0.68
1:0:870:G:H2'	1:0:871:G:C5'	2.16	0.68
7:B:201:ASP:HB2	7:B:312:ARG:HD2	1.74	0.68
10:E:133:VAL:HG12	10:E:141:VAL:HG13	1.75	0.68
13:H:14:TYR:H	13:H:91:HIS:CE1	2.12	0.68
14:I:36:VAL:HB	14:I:101:VAL:HG13	1.75	0.68
17:L:97:ILE:HD12	17:L:127:LYS:HD2	1.75	0.68
19:N:105:ASN:HD21	19:N:109:SER:N	1.92	0.68
1:0:554:G:H4'	1:0:555:U:O5'	1.93	0.68
5:9:28:U:H2'	5:9:29:C:C6	2.28	0.68
6:A:51:ARG:HB2	37:A:439:HOH:O	1.93	0.68
7:B:215:VAL:HB	7:B:234:ARG:HH12	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1400:C:O2'	1:0:1401:G:H5'	1.94	0.68
17:L:35:PRO:CG	17:L:38:VAL:HG23	2.24	0.68
21:P:86:VAL:HG13	21:P:91:LEU:HD11	1.76	0.68
1:0:2489:G:H1'	37:0:6038:HOH:O	1.92	0.68
5:9:41:C:O4'	9:D:50:VAL:HG23	1.94	0.68
11:F:13:GLU:OE2	11:F:78:GLU:HG2	1.94	0.68
29:X:189:ASN:HA	29:X:217:ILE:HD11	1.76	0.68
30:Y:38:LYS:HE2	30:Y:45:LYS:HE2	1.75	0.68
1:0:130:C:H2'	37:0:3236:HOH:O	1.94	0.68
1:0:2403:C:H3'	37:0:4823:HOH:O	1.94	0.68
1:0:1834:C:H2'	1:0:1840:A:N6	2.09	0.67
1:0:2751:C:H3'	37:0:3316:HOH:O	1.94	0.67
5:9:12:C:H2'	37:9:361:HOH:O	1.93	0.67
6:A:110:SER:HB2	6:A:117:LYS:HG3	1.76	0.67
7:B:238:ASN:HD22	7:B:240:GLY:N	1.90	0.67
26:U:12:THR:CG2	26:U:15:GLU:HG3	2.18	0.67
1:0:30:U:H4'	1:0:31:C:OP1	1.92	0.67
1:0:485:A:H4'	1:0:486:A:H5'	1.76	0.67
9:D:166:ILE:HD12	37:D:226:HOH:O	1.95	0.67
17:L:20:ILE:HA	17:L:23:LEU:HB2	1.76	0.67
1:0:547:A:H3'	37:0:4319:HOH:O	1.92	0.67
1:0:877:G:H1'	37:0:5343:HOH:O	1.94	0.67
18:M:58:LEU:N	18:M:58:LEU:HD12	2.10	0.67
37:0:4891:HOH:O	24:S:9:LYS:HD2	1.94	0.67
1:0:1771:U:H4'	30:Y:20:LEU:HD21	1.75	0.67
11:F:20:LEU:O	11:F:23:ALA:HB3	1.94	0.67
13:H:118:PRO:HD2	37:H:273:HOH:O	1.94	0.67
37:0:5386:HOH:O	17:L:14:ARG:HG2	1.94	0.67
1:0:506:G:H3'	37:0:3965:HOH:O	1.92	0.67
1:0:2536:C:H3'	37:0:5890:HOH:O	1.94	0.67
1:0:509:A:H4'	1:0:511:A:H5''	1.77	0.67
9:D:23:VAL:HG12	9:D:130:VAL:HG22	1.76	0.67
30:Y:48:LYS:HG2	37:Y:214:HOH:O	1.93	0.67
1:0:1123:A:N1	1:0:1238:C:H5'	2.10	0.67
1:0:2414:A:H2'	1:0:2415:A:C8	2.30	0.67
1:0:2783:A:H3'	37:0:4874:HOH:O	1.93	0.67
1:0:2887:G:H2'	1:0:2888:U:C6	2.30	0.67
1:0:659:A:H5''	37:0:4678:HOH:O	1.94	0.67
27:V:80:ASP:O	27:V:84:VAL:HG23	1.95	0.67
1:0:631:A:C6	1:0:2074:A:H5'	2.30	0.67
1:0:2114:C:O2'	1:0:2115:U:H5'	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:153:ARG:CB	6:A:153:ARG:HH11	2.07	0.67
8:C:118:THR:HG22	8:C:137:PRO:HB3	1.76	0.67
1:O:12:U:H2'	1:O:13:G:H5'	1.76	0.67
1:O:2578:G:H5'	1:O:2578:G:H8	1.60	0.67
1:O:746:A:H4'	1:O:747:G:H5'	1.77	0.67
5:9:114:G:H2'	5:9:115:C:C6	2.30	0.67
7:B:72:THR:O	37:B:501:HOH:O	2.12	0.67
8:C:218:VAL:HG12	37:C:411:HOH:O	1.94	0.67
22:Q:99:ALA:HB1	22:Q:109:MET:CE	2.23	0.67
1:O:2379:G:H4'	1:O:2380:A:C5'	2.24	0.67
1:O:2769:C:C2'	1:O:2770:G:H5'	2.25	0.67
1:O:31:C:H2'	37:O:4680:HOH:O	1.95	0.67
7:B:168:GLY:H	7:B:174:ARG:HD3	1.60	0.67
9:D:99:ASP:CB	9:D:103:ASN:H	2.08	0.67
13:H:150:LYS:O	13:H:150:LYS:HG2	1.94	0.67
17:L:43:PRO:HG3	17:L:62:VAL:HG21	1.77	0.67
1:O:1051:C:H2'	1:O:1052:G:O4'	1.95	0.66
1:O:1151:G:O2'	1:O:1214:G:N2	2.28	0.66
1:O:1579:C:O2'	1:O:1580:A:C8	2.49	0.66
1:O:185:G:H4'	1:O:186:A:OP1	1.95	0.66
1:O:541:C:C2'	1:O:542:A:H5''	2.24	0.66
9:D:64:ARG:HB3	9:D:67:ASP:OD2	1.95	0.66
13:H:47:GLU:HB3	13:H:133:ILE:CD1	2.24	0.66
24:S:43:ASN:ND2	24:S:108:ARG:CZ	2.58	0.66
24:S:48:VAL:HG22	24:S:97:ARG:O	1.94	0.66
29:X:95:THR:N	29:X:237:GLU:N	2.43	0.66
1:O:1316:G:O2'	1:O:1340:G:N2	2.28	0.66
1:O:544:G:H2'	1:O:545:G:H5''	1.77	0.66
10:E:31:ARG:NH1	37:E:201:HOH:O	2.28	0.66
15:J:39:GLY:HA2	37:J:301:HOH:O	1.96	0.66
1:O:339:A:O2'	1:O:341:C:OP2	2.13	0.66
20:O:101:GLN:NE2	20:O:131:PHE:HB2	2.09	0.66
27:V:13:MET:HE1	27:V:17:ILE:HG22	1.77	0.66
29:X:222:GLU:HB2	37:X:429:HOH:O	1.95	0.66
1:O:1386:G:H1'	37:O:3331:HOH:O	1.95	0.66
1:O:1590:A:H61	1:O:1605:G:H1'	1.60	0.66
1:O:1855:G:H5'	1:O:1858:A:H1'	1.78	0.66
1:O:1189:A:H1'	1:O:1209:C:H1'	1.78	0.66
1:O:639:A:H2'	1:O:640:G:C8	2.31	0.66
9:D:134:LEU:HD11	9:D:166:ILE:HD11	1.78	0.66
15:J:22:ASP:HB2	37:J:307:HOH:O	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:45:GLU:HB2	25:T:48:ASN:ND2	2.11	0.66
1:O:1308:A:H4'	8:C:225:PRO:O	1.95	0.66
1:O:2278:U:H5'	37:O:3474:HOH:O	1.95	0.66
1:O:2670:G:O2'	1:O:2671:U:H5'	1.96	0.66
1:O:70:A:H4'	37:O:6278:HOH:O	1.94	0.66
1:O:817:G:O2'	1:O:818:A:H8	1.78	0.66
22:Q:39:THR:HB	22:Q:42:GLU:HG3	1.77	0.66
24:S:38:ARG:HG3	24:S:38:ARG:HH11	1.61	0.66
27:V:122:ARG:HH11	27:V:122:ARG:HG2	1.60	0.66
1:O:1691:A:H5''	1:O:1692:C:OP2	1.95	0.66
1:O:1878:G:H1'	37:O:5266:HOH:O	1.95	0.66
13:H:48:LEU:HG	13:H:157:ILE:HG21	1.77	0.66
16:K:142:LEU:HG	16:K:146:GLY:HA3	1.78	0.66
18:M:89:GLY:O	18:M:92:ALA:HB3	1.96	0.66
27:V:48:VAL:HG12	27:V:52:VAL:CG1	2.25	0.66
1:O:1115:U:H2'	1:O:1116:U:H6	1.60	0.66
1:O:1118:A:H2'	1:O:1119:G:H5''	1.78	0.66
1:O:558:C:H5'	37:O:3550:HOH:O	1.94	0.66
1:O:1187:U:H2'	37:O:4127:HOH:O	1.96	0.66
7:B:304:PRO:HD2	7:B:307:ARG:NH1	2.11	0.66
10:E:93:MET:CE	10:E:165:GLY:H	2.09	0.66
10:E:93:MET:HE1	10:E:165:GLY:N	2.11	0.66
17:L:172:GLY:O	17:L:183:VAL:HG21	1.96	0.66
25:T:45:GLU:HB2	25:T:48:ASN:HD22	1.61	0.66
27:V:52:VAL:CG2	27:V:53:ALA:H	2.08	0.66
2:1:41:HIS:N	2:1:45:ASN:HD22	1.94	0.66
6:A:65:ARG:O	6:A:66:ARG:HG3	1.94	0.66
20:O:13:VAL:HG21	20:O:41:ARG:HG2	1.78	0.66
1:O:1215:A:O2'	1:O:1216:G:O4'	2.13	0.65
1:O:1341:A:O2'	1:O:1342:C:O4'	2.13	0.65
1:O:1438:G:H5''	1:O:1439:C:OP2	1.96	0.65
1:O:2472:C:O2'	1:O:2634:G:H4'	1.96	0.65
1:O:541:C:H2'	1:O:542:A:H5'	1.78	0.65
1:O:938:G:H2'	37:O:5935:HOH:O	1.95	0.65
6:A:217:ARG:HG2	6:A:229:ALA:HB2	1.77	0.65
17:L:38:VAL:C	17:L:63:VAL:HG13	2.17	0.65
27:V:64:THR:O	27:V:68:THR:HG22	1.95	0.65
1:O:541:C:H2'	1:O:542:A:H5''	1.75	0.65
1:O:1886:A:N3	37:O:3227:HOH:O	2.28	0.65
13:H:149:ALA:C	13:H:151:MET:H	2.00	0.65
1:O:236:A:H4'	1:O:237:G:OP1	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:450:C:OP1	8:C:184:ARG:NH2	2.25	0.65
1:O:816:G:C6	1:O:817:G:N1	2.64	0.65
8:C:115:LEU:HD13	8:C:223:LEU:HD21	1.78	0.65
8:C:233:THR:HG22	8:C:234:VAL:H	1.62	0.65
11:F:48:VAL:HA	11:F:97:ALA:HA	1.79	0.65
28:W:21:PRO:HG2	28:W:24:LYS:HD3	1.79	0.65
1:O:2292:C:O2'	1:O:2464:C:OP2	2.15	0.65
6:A:168:PRO:O	6:A:170:VAL:HG23	1.97	0.65
7:B:305:ASP:O	7:B:306:LYS:HB2	1.96	0.65
1:O:338:C:H4'	8:C:174:ILE:HD11	1.78	0.65
11:F:99:THR:HA	37:F:202:HOH:O	1.95	0.65
16:K:130:ARG:HA	37:K:367:HOH:O	1.95	0.65
24:S:43:ASN:HD22	24:S:108:ARG:CZ	2.10	0.65
31:Z:28:HIS:CD2	31:Z:30:LYS:HB2	2.31	0.65
1:O:1741:U:H5'	1:O:1742:A:OP1	1.97	0.65
1:O:2353:A:H5''	1:O:2354:A:OP1	1.96	0.65
1:O:674:A:H2'	37:O:6653:HOH:O	1.96	0.65
1:O:711:G:H1'	37:O:5442:HOH:O	1.96	0.65
5:9:78:G:HO2'	5:9:79:U:P	2.19	0.65
8:C:246:ARG:HB3	8:C:246:ARG:HH11	1.61	0.65
10:E:154:ILE:HD11	10:E:157:LYS:HE2	1.79	0.65
13:H:148:ARG:O	13:H:151:MET:HB3	1.97	0.65
16:K:136:ALA:HB3	37:K:343:HOH:O	1.95	0.65
1:O:1777:G:H2'	37:O:3942:HOH:O	1.96	0.65
17:L:97:ILE:CD1	17:L:127:LYS:HD2	2.27	0.65
18:M:12:ARG:HB2	18:M:20:TYR:OH	1.96	0.65
1:O:1447:U:O4	23:R:13:LYS:HE2	1.96	0.65
1:O:1784:U:O2'	20:O:78:GLY:CA	2.45	0.65
1:O:1855:G:N2	1:O:1874:U:O2'	2.30	0.65
1:O:1978:A:N7	1:O:1980:U:H2'	2.11	0.65
1:O:2241:C:H2'	1:O:2242:U:C6	2.31	0.65
1:O:920:C:H5''	1:O:921:G:O5'	1.97	0.65
7:B:304:PRO:CD	7:B:307:ARG:NH1	2.60	0.65
12:G:20:VAL:O	12:G:24:VAL:HG23	1.96	0.65
13:H:44:ALA:HA	13:H:163:PRO:O	1.97	0.65
17:L:133:LEU:HD12	17:L:133:LEU:N	2.11	0.65
21:P:21:ARG:HG2	21:P:22:GLY:N	2.11	0.65
23:R:77:VAL:O	23:R:81:ILE:HG13	1.96	0.65
37:O:7272:HOH:O	31:Z:46:ARG:HB2	1.97	0.65
1:O:1134:G:H4'	13:H:151:MET:HE1	1.78	0.65
1:O:1615:A:H4'	37:O:3989:HOH:O	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:459:A:H5''	37:0:4693:HOH:O	1.97	0.65
7:B:140:LEU:HA	37:B:502:HOH:O	1.95	0.65
8:C:193:LEU:HD22	8:C:222:ASP:O	1.96	0.65
9:D:19:GLU:O	9:D:133:ASN:HB3	1.97	0.65
25:T:46:ALA:HB1	25:T:52:THR:HG21	1.79	0.65
1:0:1829:A:H61	30:Y:18:TYR:N	1.95	0.65
1:0:1372:A:H3'	37:0:4518:HOH:O	1.96	0.65
1:0:2379:G:H4'	1:0:2380:A:O5'	1.96	0.65
1:0:485:A:H4'	1:0:486:A:C5'	2.27	0.65
1:0:639:A:H2'	1:0:640:G:H8	1.61	0.65
4:5:39:VAL:O	4:5:40:ARG:HD3	1.96	0.65
5:9:14:G:H5'	5:9:14:G:H8	1.61	0.65
7:B:190:MET:HB3	37:B:582:HOH:O	1.96	0.65
13:H:137:ASN:O	13:H:139:ASP:N	2.30	0.65
13:H:26:LYS:HD2	13:H:28:ILE:HB	1.78	0.65
28:W:74:ALA:HB2	28:W:85:VAL:HG13	1.79	0.65
1:0:183:A:H5'	17:L:157:LEU:HD12	1.79	0.64
1:0:330:C:H5''	1:0:331:A:H5'	1.78	0.64
1:0:453:A:N1	1:0:460:A:H2'	2.11	0.64
18:M:43:VAL:HG13	18:M:118:ILE:HD11	1.78	0.64
22:Q:111:ILE:HG23	22:Q:145:LEU:HD11	1.79	0.64
1:0:1087:G:O2'	1:0:1088:A:H8	1.80	0.64
1:0:1173:A:H4'	1:0:1174:A:C8	2.31	0.64
1:0:256:C:H2'	1:0:257:G:O4'	1.98	0.64
1:0:2735:U:H2'	1:0:2736:U:C6	2.33	0.64
1:0:564:G:H1'	37:0:3637:HOH:O	1.97	0.64
6:A:170:VAL:HG22	30:Y:22:ILE:HG23	1.79	0.64
8:C:140:VAL:HB	37:C:424:HOH:O	1.97	0.64
18:M:38:LYS:HD2	18:M:114:LYS:HE3	1.79	0.64
27:V:48:VAL:HG12	27:V:52:VAL:HG11	1.79	0.64
1:0:1967:U:O2'	1:0:1968:A:C8	2.51	0.64
1:0:2637:A:H5'	37:0:8371:HOH:O	1.98	0.64
1:0:907:A:H2'	1:0:908:A:C8	2.32	0.64
7:B:248:ARG:O	7:B:251:VAL:HG12	1.98	0.64
8:C:33:LYS:HA	8:C:36:ARG:NH1	2.13	0.64
13:H:50:VAL:HG21	13:H:125:VAL:HG11	1.79	0.64
14:I:13:ASP:OD1	14:I:15:ARG:HB3	1.97	0.64
15:J:72:VAL:HG11	15:J:121:PHE:CD1	2.33	0.64
18:M:61:ALA:CB	18:M:88:ALA:HB2	2.27	0.64
28:W:15:ARG:NH1	28:W:15:ARG:HB3	2.08	0.64
1:0:1234:U:C2	7:B:244:PRO:HB3	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:855:U:H4'	1:0:856:G:O5'	1.97	0.64
1:0:1444:G:C5'	4:5:43:GLY:HA2	2.25	0.64
5:9:1:U:H5"	5:9:3:A:OP1	1.97	0.64
7:B:248:ARG:NH2	37:B:504:HOH:O	2.31	0.64
8:C:236:THR:HG21	37:C:426:HOH:O	1.96	0.64
13:H:71:TYR:O	13:H:73:GLN:N	2.31	0.64
16:K:92:ASP:OD1	16:K:94:ARG:HB2	1.98	0.64
17:L:64:ARG:HD2	37:L:335:HOH:O	1.97	0.64
22:Q:9:ASP:O	22:Q:13:THR:HB	1.97	0.64
29:X:187:VAL:HG23	29:X:192:ASP:CB	2.24	0.64
29:X:198:GLY:HA3	29:X:225:GLY:O	1.97	0.64
1:0:1316:G:H1'	1:0:1341:A:N6	2.12	0.64
1:0:1398:G:H2'	1:0:1399:A:C8	2.32	0.64
1:0:1685:A:H5"	1:0:1686:C:OP2	1.97	0.64
1:0:1984:U:H1'	1:0:1986:G:OP2	1.98	0.64
1:0:2379:G:H4'	1:0:2380:A:H5"	1.79	0.64
1:0:2896:A:H5'	1:0:2897:C:OP2	1.98	0.64
1:0:330:C:H5"	1:0:331:A:C5'	2.27	0.64
1:0:92:G:H4'	26:U:44:GLY:HA3	1.79	0.64
1:0:1447:U:O2'	23:R:53:ASN:HB3	1.97	0.64
26:U:56:ILE:O	26:U:60:GLN:HG3	1.97	0.64
27:V:125:HIS:HE1	37:V:229:HOH:O	1.80	0.64
37:C:506:HOH:O	24:S:2:LYS:HE2	1.97	0.64
29:X:135:LYS:HB3	37:X:460:HOH:O	1.98	0.64
29:X:152:LYS:HB3	29:X:160:LYS:HG3	1.80	0.64
1:0:115:U:H1'	1:0:131:A:C8	2.33	0.64
1:0:1758:U:H2'	1:0:1759:A:O4'	1.98	0.64
1:0:2823:G:O2'	1:0:2824:C:H5'	1.98	0.64
1:0:2902:A:H5'	1:0:2903:C:OP1	1.97	0.64
1:0:603:A:H4'	1:0:604:G:O5'	1.98	0.64
1:0:731:U:H2'	1:0:732:C:C6	2.33	0.64
9:D:45:THR:HB	9:D:75:LEU:HD21	1.80	0.64
15:J:74:VAL:HG11	15:J:113:ILE:HG12	1.79	0.64
22:Q:82:GLU:HG3	22:Q:83:LYS:N	2.13	0.64
1:0:813:C:H3'	37:0:5686:HOH:O	1.97	0.64
6:A:43:VAL:HG21	6:A:59:GLU:HG3	1.79	0.64
8:C:233:THR:HG22	8:C:234:VAL:N	2.12	0.64
9:D:135:VAL:HG22	9:D:136:ARG:H	1.61	0.64
1:0:259:G:H21	17:L:58:GLN:NE2	1.95	0.64
20:O:129:GLY:HA2	37:O:222:HOH:O	1.96	0.64
30:Y:30:GLU:HA	30:Y:33:HIS:HB3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:383:A:H2'	1:0:384:G:O4'	1.97	0.64
9:D:20:LYS:HA	9:D:75:LEU:O	1.97	0.64
13:H:27:LYS:H	13:H:58:HIS:CD2	2.14	0.64
17:L:12:TRP:CE2	17:L:20:ILE:HD11	2.33	0.64
20:O:10:ALA:HA	20:O:13:VAL:CG1	2.28	0.64
27:V:110:GLN:NE2	27:V:110:GLN:HA	2.13	0.64
1:0:1502:A:H2'	37:0:4448:HOH:O	1.97	0.64
1:0:2282:U:H3'	37:0:6544:HOH:O	1.97	0.64
1:0:2388:C:O2'	1:0:2389:U:H5'	1.98	0.64
1:0:2488:A:H61	1:0:2534:C:H42	1.45	0.64
8:C:246:ARG:NH1	8:C:246:ARG:HB3	2.13	0.64
10:E:49:ILE:HD11	10:E:69:ILE:HD12	1.80	0.64
13:H:5:MET:HG3	37:H:215:HOH:O	1.98	0.64
1:0:746:A:C6	19:N:65:LEU:HD13	2.33	0.64
1:0:1930:A:H2'	1:0:1931:A:C8	2.34	0.63
5:9:23:U:H4'	5:9:24:U:OP2	1.98	0.63
9:D:95:THR:O	9:D:97:GLN:N	2.31	0.63
14:I:17:CYS:HA	14:I:119:THR:O	1.98	0.63
37:0:4149:HOH:O	17:L:86:MET:HE3	1.98	0.63
18:M:139:TRP:HA	18:M:139:TRP:CE3	2.31	0.63
1:0:1044:C:H5''	37:0:5167:HOH:O	1.99	0.63
1:0:766:A:O2'	1:0:767:A:O4'	2.16	0.63
8:C:175:LYS:HD3	8:C:184:ARG:O	1.98	0.63
10:E:69:ILE:HA	10:E:72:MET:HE2	1.80	0.63
13:H:14:TYR:N	13:H:91:HIS:CE1	2.67	0.63
15:J:14:LYS:CB	15:J:45:PRO:HG2	2.23	0.63
17:L:84:LYS:HD3	37:L:302:HOH:O	1.97	0.63
27:V:6:GLN:HB2	27:V:26:ILE:HD12	1.80	0.63
6:A:186:TRP:CG	6:A:187:PRO:HA	2.34	0.63
1:0:2780:C:H1'	10:E:143:GLN:HE21	1.62	0.63
1:0:558:C:H2'	1:0:559:U:C5'	2.29	0.63
37:0:4026:HOH:O	7:B:211:THR:HG23	1.98	0.63
1:0:657:G:OP1	8:C:27:ARG:NH2	2.31	0.63
10:E:93:MET:HE1	10:E:165:GLY:H	1.62	0.63
15:J:34:VAL:HB	37:J:345:HOH:O	1.99	0.63
1:0:2649:A:H5''	1:0:2650:U:OP1	1.99	0.63
1:0:797:A:C4'	30:Y:10:ARG:N	2.60	0.63
13:H:17:ARG:HD3	13:H:23:ILE:HD12	1.81	0.63
13:H:3:GLY:HA2	13:H:57:ARG:HH12	1.62	0.63
17:L:37:VAL:CG1	17:L:108:LYS:HG3	2.26	0.63
22:Q:106:GLY:HA2	22:Q:109:MET:HE3	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:30:MET:HE1	28:W:55:ASN:HA	1.81	0.63
29:X:226:ILE:HA	37:X:428:HOH:O	1.97	0.63
1:0:2462:G:O6	3:2:61:PRO:HG3	1.98	0.63
6:A:179:MET:HG2	6:A:186:TRP:CB	2.27	0.63
6:A:19:PRO:HD3	37:A:401:HOH:O	1.99	0.63
7:B:70:PRO:O	7:B:71:VAL:HG23	1.99	0.63
9:D:99:ASP:HB2	9:D:103:ASN:HB2	1.80	0.63
18:M:180:LEU:O	18:M:181:ASP:HB3	1.96	0.63
1:0:1115:U:H2'	1:0:1116:U:C6	2.34	0.63
1:0:1835:U:C5	1:0:1840:A:N7	2.62	0.63
1:0:2479:A:H3'	37:0:3302:HOH:O	1.98	0.63
1:0:2581:U:O2'	1:0:2601:A:O2'	2.17	0.63
1:0:885:G:H5''	1:0:886:A:H5'	1.80	0.63
7:B:215:VAL:HB	7:B:234:ARG:NH1	2.13	0.63
26:U:39:ALA:N	26:U:40:PRO:CD	2.61	0.63
1:0:1827:G:H2'	1:0:1828:G:C8	2.34	0.63
1:0:619:U:H3'	37:0:5146:HOH:O	1.99	0.63
8:C:78:ARG:HG3	8:C:78:ARG:NH1	2.11	0.63
10:E:81:GLU:HG2	10:E:134:SER:HB3	1.80	0.63
13:H:26:LYS:HG2	13:H:28:ILE:H	1.63	0.63
15:J:75:ARG:HE	15:J:94:ALA:HB3	1.61	0.63
25:T:44:ARG:HB3	37:T:201:HOH:O	1.99	0.63
22:Q:44:VAL:HG13	22:Q:89:LEU:CD2	2.28	0.63
23:R:34:LYS:O	23:R:37:VAL:HB	1.99	0.63
26:U:39:ALA:N	26:U:40:PRO:HD2	2.13	0.63
1:0:2834:G:OP1	28:W:39:LYS:HE2	1.99	0.63
30:Y:49:ARG:HD2	37:Y:201:HOH:O	1.98	0.63
1:0:2837:U:O2'	7:B:307:ARG:NH1	2.31	0.62
11:F:39:SER:HB3	11:F:45:ALA:HB2	1.80	0.62
12:G:12:ILE:HG22	12:G:12:ILE:O	1.99	0.62
1:0:1151:G:HO2'	1:0:1214:G:N2	1.97	0.62
1:0:1242:A:OP2	14:I:60:ARG:NH2	2.29	0.62
1:0:2468:A:H61	3:2:48:ASN:HD21	1.46	0.62
1:0:2769:C:H2'	1:0:2770:G:O4'	1.98	0.62
1:0:398:U:H2'	1:0:399:C:C6	2.34	0.62
1:0:858:U:H2'	1:0:859:C:H6	1.64	0.62
6:A:192:VAL:CG1	6:A:207:GLN:HB3	2.30	0.62
7:B:214:PRO:HD2	37:B:551:HOH:O	1.99	0.62
7:B:199:TYR:CE2	7:B:268:ARG:HB2	2.33	0.62
7:B:56:ASP:OD1	7:B:322:ARG:HB3	1.98	0.62
8:C:107:ARG:NE	37:C:405:HOH:O	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:12:ILE:HA	37:G:408:HOH:O	1.99	0.62
14:I:59:LYS:O	14:I:63:ILE:HG13	2.00	0.62
17:L:104:ARG:O	17:L:108:LYS:HG2	1.99	0.62
22:Q:40:ALA:O	22:Q:44:VAL:HG23	1.99	0.62
23:R:73:ASP:OD1	23:R:75:GLN:HB2	2.00	0.62
1:0:1185:U:H2'	1:0:1186:C:C6	2.33	0.62
1:0:1666:C:C2'	1:0:1667:A:H5'	2.30	0.62
1:0:1946:C:O2'	1:0:1970:G:H1'	1.99	0.62
1:0:2362:A:H2'	1:0:2363:G:C8	2.33	0.62
1:0:2681:A:H4'	1:0:2682:C:O5'	1.98	0.62
5:9:13:A:H3'	5:9:14:G:C5'	2.29	0.62
5:9:41:C:C6	9:D:50:VAL:HG21	2.33	0.62
17:L:108:LYS:HD2	37:L:448:HOH:O	1.99	0.62
17:L:139:PRO:O	17:L:140:ALA:CB	2.46	0.62
21:P:41:LEU:HB3	21:P:52:PHE:CZ	2.33	0.62
1:0:1589:G:H22	1:0:1605:G:C2'	2.13	0.62
1:0:1641:A:C8	1:0:1702:U:O4	2.52	0.62
1:0:1760:G:H5'	1:0:1818:C:O2'	1.99	0.62
6:A:125:ASN:HB3	6:A:158:VAL:HG12	1.80	0.62
11:F:32:GLY:N	37:F:201:HOH:O	2.29	0.62
17:L:164:THR:CG2	17:L:167:GLY:H	2.11	0.62
27:V:48:VAL:O	27:V:52:VAL:HG12	2.00	0.62
1:0:1400:C:H1'	37:0:3870:HOH:O	2.00	0.62
1:0:2119:C:O2'	1:0:2120:U:H5'	2.00	0.62
1:0:2316:G:O2'	1:0:2427:C:N4	2.32	0.62
1:0:2680:A:C4'	1:0:2681:A:OP1	2.44	0.62
23:R:25:GLN:HG2	23:R:65:VAL:HG22	1.81	0.62
27:V:88:THR:HG22	27:V:89:ASP:N	2.14	0.62
28:W:25:ARG:HD3	28:W:64:ALA:O	1.99	0.62
1:0:1053:G:OP1	13:H:12:PRO:HG3	1.99	0.62
1:0:2106:C:H1'	1:0:2484:U:O2	2.00	0.62
1:0:2312:G:C2'	1:0:2313:C:H5'	2.28	0.62
1:0:2850:C:H5''	1:0:2851:G:OP2	1.99	0.62
1:0:449:A:C8	8:C:43:LYS:HG2	2.34	0.62
1:0:934:C:H2'	1:0:935:G:C8	2.34	0.62
9:D:140:ARG:N	37:D:202:HOH:O	2.32	0.62
24:S:48:VAL:CG2	24:S:98:VAL:HA	2.30	0.62
28:W:72:VAL:HG22	28:W:85:VAL:CG1	2.28	0.62
30:Y:18:TYR:HB3	30:Y:22:ILE:HG21	1.80	0.62
1:0:2493:C:H3'	37:0:4049:HOH:O	2.00	0.62
8:C:16:VAL:HG12	8:C:17:ASP:N	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:34:VAL:HG22	15:J:47:ALA:HB2	1.82	0.62
16:K:72:ASN:O	16:K:76:LEU:HG	1.99	0.62
24:S:20:HIS:O	24:S:23:VAL:HG22	2.00	0.62
1:O:2866:U:C5	25:T:50:GLU:HB2	2.35	0.62
1:O:2071:C:H5'	37:O:3854:HOH:O	2.00	0.62
1:O:820:G:H5'	1:O:821:U:H5'	1.81	0.62
7:B:84:LEU:HD23	7:B:142:LEU:HD23	1.81	0.62
37:O:5601:HOH:O	8:C:187:ARG:HD3	1.99	0.62
37:O:4901:HOH:O	17:L:172:GLY:HA2	1.98	0.62
27:V:110:GLN:HE21	27:V:110:GLN:HA	1.63	0.62
1:O:1123:A:C6	1:O:1238:C:H5'	2.35	0.62
1:O:1652:C:H5''	1:O:1653:A:OP2	2.00	0.62
1:O:2820:A:H2'	1:O:2821:C:O4'	2.00	0.62
8:C:1:MET:HG2	8:C:2:GLN:N	2.13	0.62
13:H:35:ASN:ND2	13:H:79:ALA:O	2.32	0.62
22:Q:119:VAL:O	22:Q:119:VAL:HG12	1.99	0.62
27:V:52:VAL:CG2	27:V:53:ALA:N	2.62	0.62
28:W:25:ARG:HD2	37:W:105:HOH:O	2.00	0.62
1:O:2424:U:H4'	21:P:6:PRO:HD2	1.82	0.62
1:O:766:A:H2'	37:O:6602:HOH:O	2.00	0.62
1:O:779:U:H5'	1:O:1836:A:N1	2.15	0.62
5:9:57:A:O2'	9:D:152:PRO:HD2	2.00	0.62
6:A:190:ARG:NH1	6:A:190:ARG:HB2	2.14	0.62
8:C:130:GLU:HG2	8:C:168:ARG:HD3	1.82	0.62
13:H:127:GLY:O	13:H:128:ALA:HB3	2.00	0.62
1:O:926:A:H1'	16:K:38:HIS:O	1.99	0.62
17:L:61:ILE:HA	37:L:338:HOH:O	1.98	0.62
18:M:151:ASP:HB3	37:M:311:HOH:O	2.00	0.62
1:O:115:U:H1'	1:O:131:A:C5	2.35	0.61
6:A:125:ASN:CB	6:A:158:VAL:HG12	2.29	0.61
7:B:258:GLY:H	7:B:260:HIS:CE1	2.17	0.61
16:K:68:GLU:HA	37:K:334:HOH:O	1.99	0.61
29:X:187:VAL:HB	37:X:413:HOH:O	1.98	0.61
1:O:2004:U:H5''	1:O:2005:G:C8	2.34	0.61
1:O:402:U:H2'	1:O:403:C:C6	2.35	0.61
1:O:2718:C:H4'	7:B:48:MET:SD	2.40	0.61
19:N:25:VAL:HG23	19:N:26:TRP:H	1.65	0.61
28:W:15:ARG:HH11	28:W:15:ARG:CB	2.08	0.61
31:Z:22:CYS:SG	31:Z:24:GLU:HB2	2.40	0.61
1:O:938:G:N2	1:O:1031:G:O2'	2.32	0.61
1:O:1209:C:H2'	1:O:1210:G:C8	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2506:A:H1'	37:0:6106:HOH:O	1.99	0.61
1:0:2714:U:H2'	1:0:2715:G:C8	2.35	0.61
1:0:894:A:H2'	37:0:8622:HOH:O	2.00	0.61
1:0:1878:G:H2'	1:0:1879:U:C6	2.35	0.61
2:1:21:VAL:HG23	2:1:36:ASN:HB2	1.81	0.61
37:0:8606:HOH:O	7:B:18:ARG:HD3	2.00	0.61
8:C:136:VAL:CG2	8:C:137:PRO:HA	2.21	0.61
9:D:97:GLN:O	9:D:97:GLN:HG2	2.00	0.61
1:0:1593:C:O2'	1:0:1594:C:H5'	2.01	0.61
1:0:1831:U:C2'	1:0:1832:G:H5'	2.29	0.61
1:0:1876:C:H4'	1:0:1877:G:OP2	2.01	0.61
1:0:393:G:H5''	37:0:3602:HOH:O	2.01	0.61
5:9:9:C:OP2	5:9:10:C:H5	1.83	0.61
7:B:71:VAL:HG11	7:B:296:LEU:HB3	1.82	0.61
9:D:64:ARG:CD	9:D:67:ASP:HB3	2.30	0.61
11:F:27:GLY:HA3	11:F:101:ALA:O	2.01	0.61
37:0:7543:HOH:O	17:L:174:ARG:HD3	1.99	0.61
20:O:9:LEU:O	20:O:13:VAL:HG12	2.00	0.61
23:R:57:THR:HG22	23:R:58:MET:N	2.15	0.61
26:U:64:GLY:O	26:U:65:ASP:HB2	2.00	0.61
1:0:1299:G:O6	16:K:6:ARG:HD3	2.01	0.61
2:1:40:ARG:HG3	2:1:45:ASN:CB	2.30	0.61
7:B:27:ASN:N	7:B:27:ASN:HD22	1.98	0.61
18:M:23:ARG:HA	18:M:26:LEU:HD23	1.83	0.61
1:0:1148:C:O3'	1:0:1151:G:H5'	2.00	0.61
1:0:1189:A:H1'	1:0:1209:C:C1'	2.31	0.61
1:0:432:G:O2'	1:0:433:C:H5'	2.00	0.61
1:0:1594:C:OP2	20:O:120:ARG:HD2	2.01	0.61
1:0:1683:G:H4'	37:0:6003:HOH:O	2.00	0.61
10:E:23:GLU:HG2	10:E:28:SER:CB	2.31	0.61
14:I:126:ASN:HA	35:I:202:CL:CL	2.38	0.61
17:L:184:ARG:HB2	17:L:184:ARG:CZ	2.29	0.61
17:L:98:GLN:O	17:L:102:GLU:HG3	2.00	0.61
1:0:1066:U:H2'	1:0:1067:A:C8	2.35	0.61
1:0:1370:G:O2'	1:0:1371:U:OP2	2.19	0.61
1:0:544:G:H2'	1:0:545:G:C5'	2.31	0.61
1:0:596:C:H2'	1:0:597:A:H8	1.66	0.61
6:A:200:PRO:HG2	6:A:225:VAL:HG21	1.81	0.61
37:0:6245:HOH:O	7:B:3:PRO:HG2	2.00	0.61
1:0:1105:C:C4'	1:0:1106:A:OP1	2.48	0.61
13:H:83:PHE:HZ	13:H:146:TRP:HE1	1.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:152:LYS:CB	29:X:160:LYS:HG3	2.31	0.61
1:0:777:U:H1'	31:Z:13:THR:HB	1.83	0.61
1:0:1497:G:H4'	1:0:1627:G:O2'	2.01	0.60
1:0:1504:A:O2'	1:0:1506:U:OP2	2.16	0.60
1:0:213:G:N2	1:0:225:G:H2'	2.16	0.60
1:0:2754:G:O2'	1:0:2755:G:H5'	2.01	0.60
1:0:625:U:H5''	1:0:1044:C:N4	2.15	0.60
8:C:154:VAL:O	8:C:158:GLU:HG3	2.01	0.60
10:E:7:ILE:HD11	10:E:11:VAL:C	2.21	0.60
12:G:67:LEU:O	12:G:71:LEU:HG	2.01	0.60
17:L:83:SER:HB3	37:L:412:HOH:O	2.00	0.60
37:0:5724:HOH:O	29:X:150:LEU:HB2	2.01	0.60
1:0:1118:A:H3'	1:0:1118:A:C8	2.36	0.60
1:0:2134:G:C6	1:0:2258:A:C8	2.89	0.60
1:0:2300:A:H2'	37:0:5869:HOH:O	2.01	0.60
1:0:284:C:H4'	1:0:285:A:OP2	2.01	0.60
6:A:72:GLU:CD	30:Y:76:GLY:HA3	2.22	0.60
7:B:144:THR:HG22	7:B:145:HIS:N	2.16	0.60
37:0:8112:HOH:O	7:B:216:LYS:HE2	2.00	0.60
17:L:155:HIS:ND1	17:L:158:ARG:NE	2.46	0.60
17:L:68:ARG:HB3	37:L:436:HOH:O	2.00	0.60
1:0:1333:U:H2'	1:0:1334:C:H6	1.66	0.60
1:0:1919:A:H4'	37:0:5811:HOH:O	2.01	0.60
1:0:2625:C:H4'	37:0:4858:HOH:O	2.00	0.60
11:F:117:GLU:C	11:F:119:ARG:H	2.03	0.60
17:L:57:LYS:CG	17:L:58:GLN:H	2.14	0.60
1:0:1080:C:H4'	1:0:1081:A:OP1	2.00	0.60
1:0:2811:A:H4'	1:0:2812:A:C5'	2.30	0.60
15:J:74:VAL:CG2	15:J:96:VAL:HG23	2.31	0.60
1:0:2890:A:H1'	25:T:56:ARG:NH2	2.16	0.60
1:0:1087:G:H4'	1:0:1088:A:OP1	2.00	0.60
1:0:1488:U:H4'	1:0:1489:G:OP1	2.00	0.60
5:9:25:G:C3'	5:9:26:C:H5'	2.32	0.60
37:0:6703:HOH:O	17:L:94:LYS:HE3	2.01	0.60
25:T:8:TYR:CD2	25:T:36:CYS:HB3	2.36	0.60
27:V:4:LEU:O	27:V:32:CYS:HA	2.02	0.60
1:0:1448:A:O2'	1:0:1450:C:OP2	2.14	0.60
1:0:1748:U:O2	1:0:2034:U:H1'	2.01	0.60
1:0:2064:U:H2'	1:0:2065:C:C6	2.34	0.60
1:0:2906:A:H5'	1:0:2907:C:O4'	2.01	0.60
1:0:871:G:C5'	1:0:871:G:H8	2.05	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:22:VAL:HG11	3:2:67:LEU:HD13	1.82	0.60
10:E:83:GLY:O	10:E:169:THR:N	2.31	0.60
11:F:63:ILE:HB	11:F:64:PRO:CD	2.28	0.60
17:L:140:ALA:O	17:L:144:ASP:HB2	2.01	0.60
1:0:2072:G:C6	1:0:2533:C:H1'	2.36	0.60
7:B:189:ALA:HB1	37:B:597:HOH:O	2.00	0.60
18:M:139:TRP:HE3	18:M:139:TRP:HA	1.64	0.60
18:M:37:ARG:HG3	18:M:37:ARG:HH11	1.66	0.60
5:9:6:C:C5'	18:M:37:ARG:NH1	2.58	0.60
22:Q:111:ILE:HG23	22:Q:145:LEU:CD1	2.32	0.60
23:R:51:GLN:HE21	23:R:53:ASN:HD21	1.47	0.60
1:0:1132:A:H3'	37:0:3323:HOH:O	2.00	0.60
1:0:2437:A:H2'	1:0:2438:G:C8	2.37	0.60
1:0:86:A:C2	2:1:25:VAL:HG13	2.37	0.60
2:1:40:ARG:HA	2:1:45:ASN:ND2	2.16	0.60
2:1:49:GLU:HB2	37:1:101:HOH:O	2.01	0.60
6:A:8:ARG:NH1	37:A:405:HOH:O	2.35	0.60
8:C:127:ARG:HD3	8:C:129:HIS:CE1	2.36	0.60
9:D:25:MET:CE	9:D:41:LEU:HG	2.31	0.60
25:T:9:CYS:HA	25:T:52:THR:HG23	1.83	0.60
30:Y:37:HIS:HB2	30:Y:47:LEU:CB	2.29	0.60
1:0:1132:A:N6	1:0:1229:C:H2'	2.16	0.60
1:0:1315:G:O2'	29:X:211:ALA:HB3	2.02	0.60
1:0:2089:A:O2'	1:0:2090:G:H5'	2.01	0.60
1:0:2760:C:H2'	37:0:4326:HOH:O	2.02	0.60
1:0:464:G:O2'	1:0:465:U:OP2	2.19	0.60
1:0:837:U:H5'	1:0:1737:A:OP1	2.01	0.60
1:0:79:G:N2	1:0:97:G:O2'	2.34	0.60
37:0:6187:HOH:O	3:2:79:LEU:HB2	2.02	0.60
4:5:26:THR:O	4:5:30:SER:HB3	2.01	0.60
6:A:27:LEU:HD11	6:A:55:VAL:CG2	2.31	0.60
7:B:30:PRO:HB2	7:B:39:GLN:HE22	1.63	0.60
28:W:79:GLU:HG3	37:W:123:HOH:O	2.02	0.60
1:0:1058:A:H2'	1:0:1060:C:H5'	1.84	0.60
1:0:1862:C:H1'	37:0:6635:HOH:O	2.01	0.60
1:0:2361:A:H2'	1:0:2362:A:C8	2.37	0.60
1:0:2505:G:O2'	1:0:2506:A:H5'	2.02	0.60
5:9:42:C:H2'	37:9:366:HOH:O	2.00	0.60
7:B:217:ARG:HG3	7:B:257:THR:CG2	2.31	0.60
14:I:131:THR:HB	14:I:134:GLU:HG3	1.82	0.60
1:0:1877:G:H5''	37:A:503:HOH:O	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:458:G:N2	1:0:463:A:O2'	2.35	0.59
37:0:4441:HOH:O	3:2:84:ARG:HB3	2.02	0.59
7:B:139:ASP:HB2	7:B:165:ARG:HE	1.67	0.59
13:H:46:VAL:HG12	13:H:146:TRP:HZ3	1.66	0.59
1:0:2064:U:H5'	1:0:2652:U:O3'	2.01	0.59
1:0:290:C:H1'	37:0:4581:HOH:O	2.02	0.59
1:0:631:A:C5	1:0:2074:A:C5'	2.83	0.59
1:0:650:C:O2'	1:0:651:U:H5'	2.02	0.59
5:9:57:A:H2'	5:9:58:G:H5'	1.84	0.59
37:0:3923:HOH:O	7:B:267:LYS:HD3	2.00	0.59
16:K:93:VAL:HG23	16:K:121:ILE:O	2.02	0.59
17:L:9:ARG:HA	37:L:406:HOH:O	2.01	0.59
18:M:43:VAL:HG11	18:M:81:ALA:HA	1.84	0.59
1:0:380:A:H4'	1:0:381:G:OP1	2.00	0.59
1:0:955:A:H2'	1:0:956:G:O4'	2.01	0.59
10:E:20:ILE:CD1	10:E:40:VAL:HG11	2.28	0.59
17:L:114:VAL:HG21	17:L:159:THR:HG21	1.84	0.59
18:M:22:GLN:HG2	18:M:26:LEU:HD22	1.84	0.59
20:O:101:GLN:HE22	20:O:131:PHE:HB2	1.67	0.59
29:X:212:ARG:HB3	37:X:431:HOH:O	2.01	0.59
1:0:637:C:H2'	1:0:638:C:C6	2.36	0.59
16:K:57:VAL:O	16:K:57:VAL:HG12	2.03	0.59
25:T:30:HIS:HB3	37:T:225:HOH:O	2.01	0.59
1:0:797:A:H4'	30:Y:10:ARG:N	2.18	0.59
2:1:49:GLU:H	31:Z:25:LYS:HD2	1.67	0.59
1:0:1426:C:H2'	37:0:6552:HOH:O	2.01	0.59
1:0:1795:G:H2'	1:0:1796:A:O4'	2.01	0.59
1:0:2748:G:H3'	37:0:4688:HOH:O	2.01	0.59
1:0:2747:C:H4'	1:0:2748:G:O5'	2.01	0.59
1:0:2857:C:H2'	1:0:2858:U:C6	2.37	0.59
6:A:192:VAL:HG12	6:A:207:GLN:HB3	1.83	0.59
14:I:36:VAL:HG12	14:I:37:ALA:N	2.16	0.59
20:O:143:ALA:HA	37:O:241:HOH:O	2.03	0.59
1:0:2813:A:H2'	37:0:6389:HOH:O	2.02	0.59
1:0:706:G:HO2'	1:0:707:C:H6	1.49	0.59
37:0:3502:HOH:O	17:L:52:LEU:HD23	2.02	0.59
26:U:29:ASN:O	26:U:33:VAL:HG23	2.02	0.59
28:W:20:GLU:CG	28:W:21:PRO:HD2	2.33	0.59
1:0:17:G:H2'	1:0:18:C:C6	2.37	0.59
1:0:2117:U:OP2	1:0:2271:G:N2	2.34	0.59
1:0:2758:G:H2'	1:0:2759:C:C6	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:39:VAL:C	4:5:40:ARG:HD3	2.23	0.59
7:B:307:ARG:CB	7:B:307:ARG:HH11	2.14	0.59
7:B:85:ARG:NH1	37:B:506:HOH:O	2.35	0.59
24:S:48:VAL:HG23	24:S:98:VAL:HA	1.85	0.59
1:0:131:A:OP2	1:0:141:C:H5	1.84	0.59
1:0:724:G:O2'	1:0:725:C:H5'	2.03	0.59
3:2:34:LYS:HD3	37:2:208:HOH:O	2.01	0.59
13:H:24:PRO:HG2	13:H:119:VAL:O	2.02	0.59
13:H:82:LYS:HB2	13:H:82:LYS:NZ	2.18	0.59
20:O:83:LYS:HG3	20:O:84:ALA:H	1.68	0.59
1:0:2320:U:H5''	1:0:2321:A:O5'	2.02	0.59
1:0:247:A:H2'	1:0:262:A:N6	2.17	0.59
8:C:140:VAL:N	37:C:406:HOH:O	2.34	0.59
9:D:88:LEU:HB2	9:D:89:PRO:HD3	1.84	0.59
13:H:41:THR:HA	37:H:203:HOH:O	2.01	0.59
1:0:771:G:OP2	17:L:79:LYS:HG3	2.03	0.59
18:M:86:LEU:HD12	18:M:125:ALA:HB2	1.85	0.59
1:0:1967:U:O2'	1:0:1968:A:H8	1.83	0.59
1:0:2426:G:H1'	37:0:3872:HOH:O	2.01	0.59
1:0:558:C:C2'	1:0:559:U:H5''	2.33	0.59
1:0:338:C:H4'	8:C:174:ILE:CD1	2.33	0.59
9:D:25:MET:SD	9:D:40:ILE:HD11	2.42	0.59
15:J:14:LYS:HG3	15:J:32:ILE:O	2.03	0.59
1:0:189:A:OP1	17:L:171:ARG:NH2	2.36	0.59
24:S:32:ARG:NH1	24:S:38:ARG:HH12	2.01	0.59
1:0:1118:A:H3'	1:0:1118:A:H8	1.67	0.58
1:0:1946:C:H2'	1:0:1971:G:C8	2.38	0.58
1:0:2275:G:H3'	37:0:6411:HOH:O	2.01	0.58
1:0:2325:C:H2'	1:0:2326:U:C6	2.37	0.58
1:0:366:U:H2'	1:0:367:G:O4'	2.03	0.58
1:0:821:U:H3'	37:0:3786:HOH:O	2.02	0.58
13:H:62:GLU:HA	37:H:209:HOH:O	2.03	0.58
18:M:87:LEU:CD1	18:M:186:LEU:HD21	2.33	0.58
22:Q:76:ASP:HA	37:Q:334:HOH:O	2.03	0.58
29:X:106:THR:HG23	29:X:107:PRO:HD2	1.84	0.58
30:Y:29:VAL:O	30:Y:33:HIS:HB2	2.03	0.58
31:Z:28:HIS:CD2	31:Z:31:LYS:HG3	2.38	0.58
1:0:1369:A:H5'	37:0:5290:HOH:O	2.03	0.58
1:0:1563:G:O2'	1:0:1564:C:O5'	2.21	0.58
1:0:1689:A:P	1:0:1689:A:H8	2.26	0.58
1:0:2251:G:H2'	1:0:2252:A:C8	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2674:G:H2'	1:0:2810:G:H22	1.68	0.58
3:2:22:VAL:CG1	3:2:67:LEU:HD13	2.33	0.58
5:9:24:U:O2'	5:9:25:G:C4'	2.49	0.58
5:9:96:C:H2'	5:9:97:U:C6	2.37	0.58
9:D:23:VAL:HG21	9:D:45:THR:HG21	1.83	0.58
37:0:5943:HOH:O	24:S:2:LYS:HB3	2.02	0.58
24:S:27:LEU:HD21	24:S:40:VAL:CG1	2.33	0.58
26:U:8:ILE:HG21	26:U:59:ILE:HG13	1.84	0.58
1:0:1187:U:O2'	1:0:1189:A:H2	1.86	0.58
1:0:1316:G:H1'	1:0:1341:A:H62	1.67	0.58
1:0:221:G:H2'	1:0:222:A:C8	2.38	0.58
1:0:30:U:OP2	8:C:181:ALA:HB2	2.02	0.58
1:0:1329:A:N1	35:0:3122:CL:CL	2.73	0.58
1:0:638:C:H2'	1:0:639:A:C8	2.38	0.58
1:0:895:A:H4'	37:0:4383:HOH:O	2.04	0.58
6:A:66:ARG:HH11	6:A:66:ARG:HB2	1.67	0.58
7:B:212:GLN:HB2	7:B:257:THR:HG21	1.86	0.58
17:L:133:LEU:O	17:L:134:ILE:HD13	2.03	0.58
21:P:86:VAL:HG11	21:P:91:LEU:HD21	1.86	0.58
26:U:1:THR:HG23	26:U:2:VAL:N	2.12	0.58
1:0:1446:U:H4'	1:0:1447:U:OP2	2.03	0.58
1:0:1666:C:H2'	1:0:1667:A:H5'	1.86	0.58
1:0:2118:A:H1'	37:0:3820:HOH:O	2.02	0.58
1:0:2620:U:H4'	1:0:2621:U:OP1	2.03	0.58
1:0:2721:U:H4'	15:J:87:ARG:HG3	1.84	0.58
1:0:2811:A:O2'	1:0:2812:A:H5'	2.03	0.58
37:0:4441:HOH:O	3:2:62:THR:HB	2.03	0.58
18:M:20:TYR:N	37:M:304:HOH:O	2.36	0.58
20:O:7:LYS:HD3	20:O:23:PHE:CZ	2.37	0.58
1:0:1097:A:H2'	1:0:1098:A:C8	2.38	0.58
1:0:2445:U:H2'	1:0:2446:G:H8	1.67	0.58
1:0:660:A:C4'	1:0:661:G:O5'	2.41	0.58
6:A:42:VAL:HG23	6:A:78:ASP:O	2.04	0.58
10:E:125:GLU:O	10:E:132:THR:HG22	2.03	0.58
15:J:41:LYS:HG2	15:J:42:ASN:ND2	2.18	0.58
1:0:247:A:H2'	1:0:262:A:H61	1.68	0.58
1:0:2780:C:H2'	1:0:2781:U:C6	2.38	0.58
6:A:13:THR:HA	37:A:483:HOH:O	2.04	0.58
1:0:262:A:HO2'	11:F:32:GLY:HA2	1.67	0.58
27:V:31:HIS:HB3	37:V:235:HOH:O	2.02	0.58
1:0:1249:U:H2'	1:0:1250:C:H6	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1328:A:C8	29:X:169:ARG:HD3	2.39	0.58
1:0:1406:A:H2'	1:0:1701:A:H61	1.68	0.58
1:0:2271:G:H5''	1:0:2272:G:OP1	2.03	0.58
1:0:2445:U:H2'	1:0:2446:G:C8	2.38	0.58
1:0:263:U:H4'	1:0:264:G:OP2	2.04	0.58
1:0:37:A:H2'	1:0:38:G:C8	2.38	0.58
1:0:775:G:HO2'	1:0:881:C:H5	1.51	0.58
2:1:41:HIS:H	2:1:45:ASN:ND2	1.99	0.58
37:0:4079:HOH:O	6:A:22:ARG:HD3	2.04	0.58
7:B:11:LEU:HD21	7:B:250:THR:HG22	1.85	0.58
13:H:163:PRO:HG2	37:H:266:HOH:O	2.04	0.58
37:0:3289:HOH:O	17:L:82:ARG:HD2	2.02	0.58
18:M:78:MET:HB2	18:M:79:PRO:HD3	1.86	0.58
28:W:43:VAL:HG12	28:W:44:ASP:N	2.19	0.58
1:0:1080:C:H5'	37:0:6316:HOH:O	2.02	0.58
37:0:4773:HOH:O	7:B:206:THR:HB	2.02	0.58
10:E:116:THR:HG22	10:E:151:LEU:HD22	1.85	0.58
11:F:48:VAL:HG12	11:F:97:ALA:CB	2.33	0.58
16:K:117:GLU:HG3	37:K:363:HOH:O	2.02	0.58
29:X:189:ASN:CA	29:X:217:ILE:HD11	2.33	0.58
1:0:1689:A:N6	22:Q:131:GLY:HA2	2.19	0.58
1:0:1701:A:C4'	1:0:1702:U:O5'	2.51	0.58
1:0:2043:U:O2'	1:0:2044:G:H5'	2.04	0.58
1:0:523:C:H2'	1:0:524:A:C8	2.39	0.58
1:0:833:G:H4'	37:0:5383:HOH:O	2.02	0.58
7:B:102:THR:HG21	37:B:566:HOH:O	2.02	0.58
8:C:162:VAL:HG12	8:C:192:ILE:HD11	1.86	0.58
13:H:65:ARG:HB3	37:H:209:HOH:O	2.03	0.58
1:0:221:G:O5'	16:K:46:LEU:HD22	2.04	0.58
18:M:67:ALA:HA	18:M:71:TRP:CB	2.32	0.58
19:N:42:GLU:N	37:N:301:HOH:O	2.32	0.58
1:0:2354:A:H2'	1:0:2354:A:N3	2.18	0.58
1:0:2526:C:H5'	1:0:2526:C:H6	1.68	0.58
1:0:25:A:O2'	1:0:26:U:H5'	2.04	0.58
1:0:2712:G:H5'	37:J:301:HOH:O	2.04	0.58
1:0:368:C:H6	1:0:368:C:O5'	1.87	0.58
1:0:408:A:H2'	1:0:409:U:O4'	2.04	0.58
1:0:544:G:C2'	1:0:545:G:H5''	2.33	0.58
1:0:710:G:O2'	1:0:711:G:H5'	2.04	0.58
7:B:268:ARG:HH12	7:B:322:ARG:NH2	2.02	0.58
10:E:84:MET:HG2	10:E:168:ILE:HD13	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:41:LYS:N	37:J:303:HOH:O	2.36	0.58
17:L:55:LYS:HB2	17:L:60:ILE:CD1	2.34	0.58
18:M:47:LEU:HD11	18:M:127:LEU:HD21	1.85	0.58
1:0:1023:C:O2'	1:0:1024:G:H5'	2.05	0.57
1:0:1235:G:H5''	1:0:1236:A:OP1	2.04	0.57
1:0:1117:A:N1	1:0:1244:U:H2'	2.18	0.57
1:0:213:G:O2'	1:0:214:U:OP2	2.22	0.57
1:0:868:G:H4'	1:0:869:G:O5'	2.03	0.57
2:1:42:TRP:CH2	2:1:43:ARG:HD2	2.39	0.57
5:9:43:G:O2'	5:9:44:A:OP2	2.19	0.57
7:B:132:HIS:HB2	7:B:137:LEU:HD22	1.86	0.57
7:B:51:VAL:HG13	7:B:53:LEU:HD13	1.86	0.57
9:D:86:THR:C	9:D:89:PRO:HD2	2.25	0.57
29:X:116:LEU:HD12	29:X:173:ALA:HB3	1.85	0.57
7:B:51:VAL:CG2	7:B:330:VAL:HG22	2.32	0.57
7:B:329:TYR:CE2	25:T:15:PRO:HG2	2.39	0.57
1:0:1342:C:H2'	1:0:1343:C:H5'	1.85	0.57
1:0:542:A:H5'	1:0:542:A:C8	2.37	0.57
37:0:6240:HOH:O	3:2:42:ARG:HD2	2.03	0.57
5:9:22:G:O2'	5:9:24:U:H5'	2.04	0.57
10:E:81:GLU:HA	10:E:133:VAL:O	2.03	0.57
13:H:3:GLY:HA2	13:H:57:ARG:NH1	2.19	0.57
29:X:185:VAL:HG12	37:X:413:HOH:O	2.03	0.57
1:0:1351:G:H4'	1:0:1352:A:OP1	2.04	0.57
1:0:1657:A:H2'	1:0:1658:A:C8	2.39	0.57
1:0:2321:A:C4'	1:0:2322:U:OP1	2.53	0.57
1:0:2326:U:H4'	1:0:2412:G:H4'	1.85	0.57
1:0:699:C:C2	1:0:744:G:C2	2.91	0.57
1:0:876:A:C2'	1:0:877:G:H5'	2.34	0.57
3:2:65:THR:CG2	3:2:67:LEU:HG	2.33	0.57
9:D:23:VAL:O	9:D:23:VAL:HG23	2.05	0.57
37:0:4583:HOH:O	14:I:47:THR:HG21	2.03	0.57
17:L:74:ARG:NH1	17:L:74:ARG:HG3	2.19	0.57
24:S:43:ASN:C	24:S:45:GLY:H	2.07	0.57
26:U:12:THR:HG23	26:U:14:ALA:H	1.68	0.57
1:0:1315:G:H2'	29:X:212:ARG:HB2	1.85	0.57
1:0:1408:U:H4'	1:0:1409:G:OP1	2.04	0.57
1:0:2387:U:H2'	1:0:2388:C:C6	2.39	0.57
1:0:2900:G:H2'	1:0:2901:C:O4'	2.04	0.57
1:0:821:U:H5''	37:0:3533:HOH:O	2.03	0.57
1:0:844:A:H2'	37:0:5217:HOH:O	2.02	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:898:G:H5''	1:0:899:C:OP2	2.04	0.57
2:1:40:ARG:HG3	2:1:45:ASN:HB2	1.86	0.57
5:9:29:C:C2'	5:9:30:C:H5'	2.29	0.57
13:H:130:HIS:CD2	13:H:133:ILE:HD11	2.39	0.57
16:K:7:GLN:HB3	16:K:13:HIS:ND1	2.19	0.57
17:L:24:MET:HE1	17:L:120:VAL:O	2.03	0.57
17:L:37:VAL:HG11	17:L:108:LYS:CG	2.32	0.57
1:0:157:G:H4'	17:L:95:LYS:CE	2.33	0.57
19:N:12:ALA:O	19:N:15:LYS:HB2	2.04	0.57
1:0:1522:A:H2'	1:0:1523:G:H5'	1.87	0.57
1:0:1579:C:O2'	1:0:1580:A:N7	2.37	0.57
1:0:262:A:H5''	1:0:264:G:O4'	2.05	0.57
1:0:2679:G:O3'	1:0:2680:A:H3'	2.04	0.57
1:0:2878:U:H2'	1:0:2879:A:O4'	2.05	0.57
1:0:2910:A:H5''	37:0:5076:HOH:O	2.05	0.57
6:A:211:LYS:HB3	6:A:212:PRO:CD	2.30	0.57
1:0:675:U:H4'	8:C:42:ARG:HB3	1.86	0.57
27:V:21:LEU:HD21	27:V:48:VAL:CG1	2.34	0.57
27:V:79:VAL:HG13	27:V:83:TRP:CE3	2.40	0.57
1:0:1684:A:O2'	2:1:43:ARG:NH2	2.38	0.57
1:0:1972:U:H2'	1:0:1973:A:H5'	1.87	0.57
1:0:2033:G:H5''	1:0:2034:U:OP1	2.05	0.57
1:0:2584:G:H4'	37:0:5279:HOH:O	2.03	0.57
1:0:604:G:H5'	1:0:605:C:OP1	2.04	0.57
1:0:2091:G:O3'	7:B:235:ARG:HD3	2.04	0.57
7:B:320:GLN:HG3	7:B:321:PRO:HD2	1.86	0.57
28:W:49:ARG:HG2	28:W:84:ILE:HG23	1.85	0.57
1:0:1060:C:H5''	37:0:4898:HOH:O	2.03	0.57
1:0:1242:A:H5'	14:I:82:THR:CG2	2.27	0.57
1:0:1417:G:O2'	1:0:1418:U:C6	2.53	0.57
6:A:123:GLY:HA2	6:A:159:VAL:O	2.04	0.57
1:0:1306:U:H5''	8:C:184:ARG:HD3	1.87	0.57
10:E:16:ASP:O	10:E:17:HIS:HB2	2.04	0.57
13:H:166:ASN:HD22	13:H:166:ASN:N	2.03	0.57
14:I:42:GLU:O	14:I:131:THR:HG23	2.05	0.57
17:L:74:ARG:HG3	17:L:74:ARG:HH11	1.69	0.57
17:L:76:ARG:HA	37:L:329:HOH:O	2.04	0.57
18:M:23:ARG:O	18:M:26:LEU:HB2	2.04	0.57
22:Q:18:LEU:HB2	22:Q:143:VAL:CG1	2.33	0.57
22:Q:40:ALA:O	22:Q:43:ALA:HB3	2.04	0.57
1:0:1305:C:H5'	37:0:6640:HOH:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1392:A:HO2'	1:0:1394:C:P	2.28	0.57
1:0:2083:A:H3'	37:0:3964:HOH:O	2.04	0.57
1:0:2782:G:O6	1:0:2790:C:H5''	2.04	0.57
1:0:596:C:H2'	1:0:597:A:C8	2.39	0.57
6:A:184:THR:N	37:A:408:HOH:O	2.37	0.57
7:B:280:VAL:HG23	7:B:284:PHE:CZ	2.39	0.57
8:C:236:THR:H	8:C:239:ALA:HB3	1.68	0.57
9:D:140:ARG:HG3	9:D:140:ARG:HH11	1.69	0.57
15:J:49:LEU:HD21	15:J:74:VAL:O	2.04	0.57
17:L:46:LEU:O	17:L:49:ALA:N	2.38	0.57
37:0:4155:HOH:O	24:S:82:THR:HA	2.04	0.57
27:V:122:ARG:HH11	27:V:122:ARG:CG	2.17	0.57
1:0:1193:A:O2'	1:0:1194:A:N7	2.38	0.57
1:0:1488:U:H5''	1:0:1489:G:OP1	2.05	0.57
1:0:1641:A:C2'	1:0:1642:A:H5'	2.35	0.57
1:0:2065:C:O2'	1:0:2066:C:H5'	2.05	0.57
1:0:2503:A:O2'	1:0:2504:A:H8	1.86	0.57
8:C:138:VAL:O	8:C:234:VAL:HA	2.05	0.57
16:K:10:SER:O	16:K:12:THR:N	2.38	0.57
5:9:114:G:O6	18:M:11:ARG:HD3	2.03	0.57
1:0:1407:A:HO2'	1:0:1408:U:H3'	1.70	0.56
1:0:1634:G:H3'	37:0:7433:HOH:O	2.05	0.56
1:0:2237:G:O2'	1:0:2238:A:O4'	2.23	0.56
1:0:2624:A:O2'	1:0:2625:C:H5'	2.04	0.56
1:0:2851:G:H2'	1:0:2902:A:H61	1.68	0.56
1:0:656:G:OP2	19:N:37:ARG:HD2	2.05	0.56
1:0:675:U:C2'	1:0:676:C:H5'	2.35	0.56
4:5:37:LYS:O	4:5:38:LYS:HD3	2.05	0.56
6:A:162:GLY:O	30:Y:68:CYS:HB2	2.05	0.56
7:B:7:ARG:HG2	7:B:7:ARG:NH1	2.18	0.56
9:D:65:GLU:HG3	37:D:219:HOH:O	2.03	0.56
24:S:9:LYS:HE3	24:S:13:ARG:NH1	2.20	0.56
27:V:129:LYS:HB2	37:V:244:HOH:O	2.04	0.56
31:Z:25:LYS:O	31:Z:25:LYS:HG2	2.05	0.56
31:Z:37:CYS:SG	31:Z:39:PHE:HB2	2.45	0.56
1:0:1392:A:O2'	1:0:1394:C:P	2.63	0.56
1:0:1379:A:H1'	1:0:1408:U:O4	2.06	0.56
1:0:195:C:H2'	1:0:196:G:H5'	1.87	0.56
1:0:2325:C:H1'	37:0:4935:HOH:O	2.04	0.56
1:0:1378:G:H1'	1:0:2747:C:N4	2.21	0.56
1:0:2852:A:H5''	1:0:2853:U:OP1	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:821:U:O2'	1:0:822:C:H5'	2.04	0.56
1:0:960:G:N3	1:0:960:G:H2'	2.19	0.56
7:B:128:ILE:O	7:B:131:ALA:HB3	2.05	0.56
7:B:251:VAL:HG13	37:B:535:HOH:O	2.05	0.56
7:B:264:GLU:HG2	7:B:267:LYS:CE	2.29	0.56
1:0:192:A:H4'	17:L:176:GLN:NE2	2.20	0.56
18:M:67:ALA:CA	18:M:71:TRP:HB3	2.36	0.56
22:Q:106:GLY:HA2	22:Q:109:MET:CE	2.35	0.56
30:Y:32:LYS:HA	30:Y:35:LYS:CD	2.35	0.56
1:0:1460:G:H1'	37:0:3267:HOH:O	2.06	0.56
1:0:1819:G:H2'	1:0:1820:G:C4'	2.32	0.56
1:0:1829:A:N6	30:Y:18:TYR:H	2.02	0.56
1:0:2124:G:H2'	1:0:2125:G:C8	2.41	0.56
1:0:461:C:H3'	37:0:6241:HOH:O	2.05	0.56
8:C:127:ARG:HH22	8:C:225:PRO:HG2	1.63	0.56
9:D:84:LEU:C	9:D:86:THR:H	2.08	0.56
10:E:108:LEU:HD11	10:E:164:ASP:HB2	1.87	0.56
14:I:107:ASN:ND2	14:I:109:TYR:H	2.03	0.56
17:L:30:GLU:O	17:L:34:GLU:HG3	2.05	0.56
26:U:27:LEU:CA	26:U:49:LEU:HD13	2.34	0.56
27:V:84:VAL:HG12	37:V:203:HOH:O	2.06	0.56
1:0:1477:C:O2'	1:0:1478:U:H5'	2.03	0.56
1:0:755:G:O2'	1:0:756:A:H5'	2.06	0.56
5:9:9:C:OP2	5:9:10:C:C5	2.58	0.56
7:B:223:ARG:HG3	7:B:232:TRP:O	2.05	0.56
12:G:12:ILE:N	12:G:13:PRO:CD	2.68	0.56
17:L:111:ASN:HB2	37:L:364:HOH:O	2.05	0.56
18:M:37:ARG:HH21	18:M:105:GLY:HA3	1.68	0.56
18:M:49:THR:CG2	18:M:56:ASP:HB2	2.34	0.56
21:P:50:GLY:HA3	21:P:87:THR:OG1	2.05	0.56
29:X:170:SER:OG	29:X:175:ARG:HG3	2.05	0.56
1:0:1634:G:H2'	1:0:1635:U:C6	2.40	0.56
1:0:2711:U:H6	1:0:2711:U:O5'	1.88	0.56
1:0:473:A:O2'	1:0:890:C:H5'	2.06	0.56
5:9:92:G:C6	5:9:93:A:C6	2.93	0.56
7:B:215:VAL:HG22	7:B:220:VAL:O	2.06	0.56
19:N:105:ASN:ND2	19:N:109:SER:H	2.04	0.56
37:0:7636:HOH:O	30:Y:31:ILE:HG13	2.04	0.56
1:0:1172:G:H1'	37:0:6554:HOH:O	2.05	0.56
1:0:169:A:O2'	3:2:48:ASN:HB3	2.05	0.56
1:0:1890:U:H1'	1:0:2013:G:N2	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:45:A:H61	1:0:147:G:H2'	1.70	0.56
6:A:230:SER:HB2	6:A:232:ARG:O	2.05	0.56
37:0:3814:HOH:O	13:H:151:MET:HE2	2.05	0.56
17:L:115:LEU:HD23	17:L:150:ILE:CD1	2.29	0.56
17:L:61:ILE:N	17:L:61:ILE:HD12	2.21	0.56
18:M:71:TRP:CE3	18:M:175:LEU:HD22	2.40	0.56
20:O:7:LYS:HD2	20:O:21:VAL:HG21	1.87	0.56
29:X:235:GLU:CD	29:X:235:GLU:N	2.56	0.56
1:0:1073:A:H1'	1:0:1088:A:C2	2.41	0.56
1:0:1333:U:H2'	1:0:1334:C:C6	2.40	0.56
1:0:2065:C:H4'	37:0:4539:HOH:O	2.05	0.56
1:0:2493:C:H1'	1:0:2494:G:N7	2.21	0.56
1:0:2722:G:O2'	1:0:2723:G:H5'	2.05	0.56
1:0:2908:A:H2'	1:0:2909:G:O4'	2.05	0.56
6:A:68:ILE:HD11	37:A:406:HOH:O	2.06	0.56
11:F:101:ALA:HA	37:F:207:HOH:O	2.04	0.56
17:L:65:VAL:HG21	17:L:105:ALA:HB2	1.86	0.56
37:C:461:HOH:O	19:N:3:THR:HG21	2.04	0.56
31:Z:22:CYS:HB2	37:Z:228:HOH:O	2.05	0.56
1:0:1681:G:H4'	1:0:1682:A:N3	2.21	0.56
1:0:1842:A:H2'	37:0:6895:HOH:O	2.05	0.56
1:0:2890:A:H2'	37:0:7465:HOH:O	2.04	0.56
1:0:604:G:H4'	1:0:605:C:O5'	2.05	0.56
3:2:46:ILE:HD13	17:L:87:MET:CG	2.35	0.56
11:F:34:ASN:HA	17:L:4:ALA:CB	2.33	0.56
18:M:91:ARG:HG3	18:M:186:LEU:HD23	1.87	0.56
27:V:21:LEU:CD2	27:V:26:ILE:HD11	2.22	0.56
27:V:38:THR:O	27:V:42:ARG:HB2	2.06	0.56
1:0:169:A:HO2'	3:2:48:ASN:HB3	1.71	0.56
1:0:1882:C:OP1	6:A:192:VAL:HG23	2.06	0.56
1:0:2638:G:H5'	37:0:8371:HOH:O	2.05	0.56
1:0:371:U:H2'	1:0:372:A:C8	2.41	0.56
2:1:48:ASP:O	2:1:49:GLU:HB2	2.05	0.56
6:A:84:VAL:HG13	6:A:98:GLU:HG3	1.88	0.56
7:B:305:ASP:O	7:B:306:LYS:CB	2.54	0.56
8:C:2:GLN:HB3	37:C:451:HOH:O	2.04	0.56
9:D:105:SER:HB2	9:D:131:THR:HG23	1.88	0.56
20:O:10:ALA:CA	20:O:13:VAL:HG12	2.35	0.56
24:S:47:THR:HG22	24:S:99:THR:OG1	2.06	0.56
26:U:4:HIS:HB3	37:U:107:HOH:O	2.05	0.56
1:0:170:U:H2'	1:0:171:C:H5'	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2781:U:H2'	1:0:2782:G:H5'	1.88	0.56
1:0:2837:U:H2'	37:0:7905:HOH:O	2.06	0.56
1:0:2849:U:O4	1:0:2906:A:H5''	2.06	0.56
1:0:357:A:H5''	1:0:358:G:OP1	2.06	0.56
1:0:558:C:H2'	1:0:559:U:H5''	1.87	0.56
7:B:86:ALA:O	7:B:97:LEU:N	2.36	0.56
8:C:133:ARG:HG3	8:C:133:ARG:HH11	1.71	0.56
10:E:104:ILE:HD12	10:E:151:LEU:HD23	1.88	0.56
1:0:1150:A:C2	12:G:20:VAL:HG21	2.40	0.56
15:J:81:ARG:HD3	15:J:87:ARG:NH1	2.20	0.56
18:M:48:VAL:HG11	18:M:55:ASP:HB3	1.88	0.56
1:0:1015:C:H2'	1:0:1016:U:H6	1.71	0.56
1:0:1032:A:N3	1:0:1032:A:H2'	2.21	0.56
1:0:1418:U:H2'	37:0:5165:HOH:O	2.06	0.56
1:0:1467:C:O2'	1:0:1468:G:H5'	2.06	0.56
1:0:2101:A:H5''	8:C:63:SER:HB3	1.88	0.56
1:0:2039:A:H4'	1:0:2760:C:O2'	2.06	0.56
1:0:902:G:N7	16:K:18:HIS:HD2	2.04	0.56
13:H:73:GLN:OE1	13:H:73:GLN:HA	2.06	0.56
16:K:143:THR:CG2	16:K:144:ASP:N	2.69	0.56
18:M:47:LEU:HD12	18:M:92:ALA:CB	2.35	0.56
19:N:25:VAL:CG2	19:N:26:TRP:N	2.69	0.56
1:0:1086:A:C6	27:V:11:VAL:HG11	2.40	0.56
37:K:320:HOH:O	29:X:147:ARG:HG3	2.04	0.56
1:0:2320:U:H4'	1:0:2321:A:O4'	2.07	0.55
1:0:2791:U:H4'	1:0:2792:A:O5'	2.05	0.55
1:0:2812:A:H2	1:0:2814:A:H62	1.53	0.55
1:0:31:C:H4'	37:0:6207:HOH:O	2.06	0.55
1:0:675:U:C4'	8:C:42:ARG:HB3	2.35	0.55
6:A:97:ALA:HA	6:A:131:HIS:HE2	1.71	0.55
6:A:153:ARG:NH1	6:A:153:ARG:HB2	2.18	0.55
7:B:168:GLY:N	7:B:174:ARG:HD3	2.20	0.55
11:F:4:VAL:HG13	11:F:76:PHE:CE1	2.42	0.55
13:H:46:VAL:HA	13:H:161:SER:HA	1.87	0.55
37:0:3633:HOH:O	14:I:47:THR:HB	2.06	0.55
17:L:37:VAL:CB	17:L:108:LYS:HG3	2.36	0.55
18:M:37:ARG:NH2	18:M:105:GLY:CA	2.64	0.55
18:M:47:LEU:HD12	18:M:92:ALA:HB1	1.88	0.55
37:0:7671:HOH:O	23:R:55:GLN:HG3	2.05	0.55
23:R:24:LEU:HD21	23:R:74:ALA:HB1	1.88	0.55
28:W:78:GLU:HG2	28:W:79:GLU:N	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1773:G:H4'	37:0:3817:HOH:O	2.07	0.55
9:D:163:VAL:HA	37:D:226:HOH:O	2.06	0.55
16:K:125:PHE:CZ	16:K:140:VAL:HG13	2.41	0.55
16:K:145:LEU:HB2	37:K:375:HOH:O	2.07	0.55
24:S:71:VAL:HG11	24:S:90:PRO:CB	2.33	0.55
27:V:3:ALA:O	27:V:54:PHE:HA	2.07	0.55
1:0:1625:U:H4'	37:0:3604:HOH:O	2.05	0.55
1:0:2842:G:H2'	1:0:2843:A:H5'	1.88	0.55
1:0:934:C:H2'	1:0:935:G:H8	1.69	0.55
8:C:219:ASN:HB2	37:C:440:HOH:O	2.06	0.55
9:D:99:ASP:CB	9:D:103:ASN:HB2	2.37	0.55
9:D:37:ALA:O	9:D:40:ILE:HG12	2.06	0.55
1:0:1201:C:H5''	37:0:3924:HOH:O	2.05	0.55
1:0:1342:C:H2'	1:0:1343:C:C5'	2.37	0.55
1:0:1833:U:O2'	1:0:1834:C:H5'	2.06	0.55
1:0:2290:U:H4'	1:0:2291:A:OP1	2.06	0.55
1:0:830:G:H2'	1:0:831:U:O4'	2.06	0.55
7:B:175:LEU:O	7:B:175:LEU:HD23	2.07	0.55
7:B:304:PRO:CG	7:B:307:ARG:NH1	2.70	0.55
9:D:94:ALA:O	9:D:95:THR:O	2.24	0.55
11:F:46:GLU:N	37:F:202:HOH:O	2.40	0.55
16:K:113:GLN:HA	37:K:356:HOH:O	2.06	0.55
18:M:33:ARG:HG3	37:M:325:HOH:O	2.05	0.55
27:V:20:THR:O	27:V:23:MET:N	2.39	0.55
1:0:1127:C:C5	1:0:1128:U:C5	2.94	0.55
1:0:1189:A:H3'	37:0:3297:HOH:O	2.06	0.55
1:0:1837:G:H2'	37:0:7630:HOH:O	2.06	0.55
1:0:371:U:H2'	1:0:372:A:H8	1.71	0.55
1:0:37:A:H2'	1:0:38:G:H8	1.72	0.55
1:0:470:U:H2'	1:0:471:G:O4'	2.07	0.55
1:0:790:A:H4'	1:0:1710:A:N7	2.22	0.55
1:0:87:C:H5''	1:0:88:G:OP2	2.07	0.55
3:2:18:GLN:O	3:2:20:HIS:ND1	2.38	0.55
7:B:205:VAL:O	7:B:307:ARG:NE	2.39	0.55
11:F:78:GLU:HB3	37:F:230:HOH:O	2.06	0.55
14:I:45:VAL:HG23	14:I:130:VAL:O	2.06	0.55
16:K:36:ASP:HB2	37:K:386:HOH:O	2.07	0.55
17:L:139:PRO:O	17:L:140:ALA:HB3	2.05	0.55
22:Q:145:LEU:HD12	22:Q:146:ILE:H	1.71	0.55
24:S:40:VAL:HG22	24:S:41:ARG:N	2.22	0.55
1:0:1340:G:H2'	37:0:6445:HOH:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2460:A:O2'	1:0:2461:U:O5'	2.24	0.55
1:0:392:U:C5'	17:L:193:LYS:HB3	2.36	0.55
1:0:694:A:H2'	1:0:695:C:H5'	1.88	0.55
10:E:166:VAL:HG12	37:E:225:HOH:O	2.06	0.55
13:H:17:ARG:HD3	13:H:23:ILE:CD1	2.36	0.55
14:I:44:ALA:HB3	14:I:132:LEU:HG	1.89	0.55
15:J:76:GLN:HB2	37:J:330:HOH:O	2.06	0.55
23:R:83:VAL:HG12	23:R:84:PHE:N	2.21	0.55
25:T:52:THR:HA	37:T:206:HOH:O	2.06	0.55
1:0:1595:G:O2'	1:0:1596:U:H5'	2.06	0.55
1:0:1942:A:H3'	37:0:3845:HOH:O	2.07	0.55
1:0:2082:G:O2'	1:0:2083:A:H5'	2.06	0.55
1:0:2460:A:O2'	1:0:2461:U:O4'	2.25	0.55
1:0:308:U:C4	1:0:342:C:H1'	2.42	0.55
6:A:167:LYS:HE3	30:Y:26:VAL:HG13	1.89	0.55
8:C:180:SER:N	37:C:412:HOH:O	2.40	0.55
22:Q:59:PHE:O	22:Q:63:ASN:HB3	2.07	0.55
29:X:217:ILE:O	29:X:221:ALA:HB2	2.07	0.55
1:0:1267:C:O2'	29:X:171:PRO:HG3	2.07	0.55
1:0:1331:A:OP2	29:X:142:SER:OG	2.24	0.55
1:0:2464:C:H5''	1:0:2465:A:OP1	2.06	0.55
1:0:381:G:O2'	1:0:382:U:OP2	2.25	0.55
18:M:157:PRO:HA	37:M:312:HOH:O	2.05	0.55
18:M:174:GLU:O	18:M:177:GLU:HB3	2.07	0.55
29:X:117:LEU:HA	29:X:174:VAL:HG11	1.89	0.55
29:X:219:GLU:HG3	29:X:220:GLU:N	2.21	0.55
30:Y:10:ARG:HG3	30:Y:11:THR:N	2.21	0.55
6:A:76:VAL:HG23	30:Y:63:LYS:HB3	1.87	0.55
1:0:1702:U:O2'	1:0:1703:G:H5''	2.07	0.55
1:0:1790:C:H2'	1:0:1791:U:H6	1.71	0.55
1:0:2432:C:O2'	1:0:2433:A:H5'	2.07	0.55
37:0:3763:HOH:O	6:A:11:ARG:HD3	2.05	0.55
8:C:8:LEU:HD13	8:C:147:LEU:HD21	1.89	0.55
11:F:47:LEU:O	11:F:98:VAL:N	2.26	0.55
1:0:1150:A:O2'	12:G:16:LYS:HD3	2.07	0.55
14:I:29:GLN:O	14:I:34:GLU:HB2	2.06	0.55
15:J:106:GLY:HA3	37:J:307:HOH:O	2.07	0.55
17:L:34:GLU:HB3	17:L:35:PRO:HD2	1.88	0.55
17:L:35:PRO:HG3	17:L:38:VAL:HG23	1.86	0.55
1:0:771:G:OP1	17:L:79:LYS:HG3	2.07	0.55
18:M:14:ARG:O	18:M:16:ALA:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:72:GLU:H	18:M:171:HIS:CE1	2.25	0.55
22:Q:6:VAL:HG21	22:Q:113:HIS:CD2	2.42	0.55
24:S:20:HIS:HB3	24:S:41:ARG:HD2	1.89	0.55
26:U:39:ALA:C	26:U:41:GLU:H	2.10	0.55
28:W:63:ARG:O	28:W:63:ARG:HG2	2.06	0.55
29:X:126:PRO:HG2	29:X:128:PHE:CD1	2.42	0.55
1:0:1474:C:H6	1:0:1474:C:H5'	1.72	0.55
1:0:1741:U:O2'	1:0:2723:G:H4'	2.07	0.55
1:0:204:A:C2'	1:0:205:U:H5'	2.37	0.55
1:0:2576:A:N6	37:0:3376:HOH:O	2.39	0.55
1:0:264:G:O2'	1:0:265:U:C5	2.59	0.55
1:0:2827:A:H2'	1:0:2828:G:O4'	2.06	0.55
1:0:346:U:H4'	37:0:3863:HOH:O	2.06	0.55
1:0:561:G:H2'	1:0:562:A:H8	1.73	0.55
37:0:5153:HOH:O	3:2:31:THR:HG22	2.06	0.55
7:B:177:HIS:O	7:B:180:ASP:HB2	2.07	0.55
7:B:18:ARG:HG3	7:B:256:GLN:HG3	1.88	0.55
15:J:115:ARG:HG3	15:J:116:GLU:H	1.72	0.55
27:V:142:ASP:HB3	27:V:145:GLY:H	1.71	0.55
1:0:1270:U:H2'	1:0:1271:A:C8	2.42	0.54
1:0:2037:C:H4'	1:0:2038:A:O5'	2.06	0.54
1:0:2321:A:O2'	1:0:2322:U:H3'	2.08	0.54
5:9:12:C:H5''	5:9:13:A:OP2	2.07	0.54
5:9:56:A:C3'	5:9:57:A:H5''	2.37	0.54
8:C:34:ALA:HB3	8:C:220:THR:HG21	1.89	0.54
12:G:64:ASN:N	12:G:64:ASN:HD22	2.04	0.54
21:P:66:LYS:HB2	21:P:70:ALA:O	2.07	0.54
29:X:126:PRO:HG2	29:X:128:PHE:CE1	2.42	0.54
1:0:2499:U:H2'	1:0:2500:C:C6	2.42	0.54
1:0:2587:U:H2'	1:0:2589:U:H5''	1.88	0.54
1:0:2714:U:H2'	1:0:2715:G:H8	1.70	0.54
1:0:2819:C:O4'	7:B:96:PRO:HB2	2.08	0.54
1:0:473:A:H1'	37:0:3358:HOH:O	2.07	0.54
1:0:753:U:H3'	37:0:3966:HOH:O	2.07	0.54
11:F:107:VAL:O	11:F:111:ILE:HG13	2.07	0.54
15:J:75:ARG:CZ	37:J:320:HOH:O	2.55	0.54
18:M:83:LEU:HD13	18:M:175:LEU:HD23	1.89	0.54
18:M:77:ASN:OD1	18:M:80:SER:HB2	2.06	0.54
20:O:103:THR:O	20:O:106:ARG:HB3	2.06	0.54
29:X:186:ARG:HG2	29:X:186:ARG:HH11	1.71	0.54
1:0:1477:C:H5'	1:0:1868:G:C5'	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1971:G:O2'	1:0:1972:U:OP2	2.22	0.54
1:0:2133:U:H4'	1:0:2134:G:O5'	2.07	0.54
1:0:2354:A:H5''	1:0:2355:G:OP1	2.07	0.54
1:0:2468:A:H61	3:2:48:ASN:ND2	2.04	0.54
1:0:2499:U:H2'	1:0:2500:C:H6	1.72	0.54
1:0:2769:C:H2'	1:0:2770:G:H5'	1.89	0.54
1:0:2791:U:H1'	1:0:2792:A:H5''	1.88	0.54
1:0:463:A:N1	1:0:476:A:H5''	2.23	0.54
1:0:628:A:H2	37:0:5070:HOH:O	1.90	0.54
1:0:62:C:H2'	1:0:63:U:C6	2.42	0.54
1:0:896:C:O2'	1:0:897:A:H5'	2.08	0.54
3:2:87:ARG:HG3	37:2:268:HOH:O	2.06	0.54
7:B:62:ARG:HG2	7:B:62:ARG:HH11	1.72	0.54
11:F:117:GLU:C	11:F:119:ARG:N	2.61	0.54
12:G:23:ILE:O	12:G:27:ILE:HG13	2.07	0.54
13:H:132:PHE:O	13:H:133:ILE:HD13	2.07	0.54
20:O:6:GLN:N	20:O:6:GLN:OE1	2.37	0.54
24:S:38:ARG:HG3	24:S:38:ARG:NH1	2.21	0.54
1:0:1942:A:H4'	6:A:213:LYS:HE2	1.89	0.54
6:A:54:PRO:HG2	37:A:407:HOH:O	2.07	0.54
7:B:243:ASN:HA	7:B:244:PRO:C	2.26	0.54
8:C:200:PRO:HA	37:C:470:HOH:O	2.07	0.54
13:H:136:VAL:HG21	13:H:139:ASP:O	2.08	0.54
18:M:80:SER:HB2	37:M:306:HOH:O	2.06	0.54
23:R:6:LYS:O	23:R:7:HIS:HB3	2.07	0.54
26:U:49:LEU:O	26:U:53:ILE:HG13	2.07	0.54
1:0:1755:A:H4'	37:0:4699:HOH:O	2.08	0.54
1:0:1853:C:OP1	6:A:231:LYS:HG3	2.07	0.54
1:0:2416:G:H2'	1:0:2417:C:H6	1.72	0.54
1:0:2661:U:H3	1:0:2812:A:N6	2.02	0.54
1:0:293:A:O2'	1:0:294:C:H5'	2.08	0.54
6:A:82:VAL:HG22	6:A:93:THR:HB	1.88	0.54
13:H:26:LYS:CG	13:H:28:ILE:H	2.21	0.54
13:H:72:VAL:HG13	13:H:72:VAL:O	2.07	0.54
17:L:139:PRO:HA	17:L:142:LYS:HB2	1.90	0.54
19:N:44:ASN:OD1	19:N:65:LEU:HB2	2.07	0.54
24:S:24:ARG:O	24:S:93:THR:HB	2.07	0.54
1:0:264:G:O2'	1:0:265:U:H5	1.89	0.54
1:0:2781:U:C2'	1:0:2782:G:H5'	2.37	0.54
7:B:279:THR:HA	7:B:284:PHE:HE1	1.73	0.54
7:B:41:PHE:HA	7:B:79:MET:HE2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:188:ARG:HD3	37:C:445:HOH:O	2.07	0.54
8:C:72:LYS:HA	8:C:77:ALA:HA	1.89	0.54
9:D:65:GLU:HA	37:D:219:HOH:O	2.08	0.54
10:E:84:MET:HG2	10:E:168:ILE:HA	1.90	0.54
1:0:1098:A:H2'	1:0:1099:G:O4'	2.08	0.54
1:0:1311:G:O2'	1:0:1312:G:H5'	2.07	0.54
1:0:2028:U:H2'	1:0:2029:C:C6	2.43	0.54
1:0:2769:C:O2'	1:0:2770:G:H5'	2.08	0.54
1:0:60:A:C2	1:0:61:G:C8	2.96	0.54
6:A:94:LEU:N	6:A:94:LEU:HD23	2.23	0.54
7:B:74:ILE:HD13	7:B:309:VAL:HG21	1.90	0.54
9:D:37:ALA:O	9:D:38:GLU:C	2.46	0.54
13:H:136:VAL:HG22	13:H:137:ASN:O	2.07	0.54
13:H:57:ARG:C	13:H:59:ASN:H	2.11	0.54
14:I:77:GLY:O	14:I:78:ILE:C	2.46	0.54
25:T:49:LEU:HD13	25:T:51:TRP:NE1	2.22	0.54
1:0:1165:G:H4'	1:0:1174:A:O2'	2.07	0.54
1:0:2124:G:H2'	1:0:2125:G:H8	1.72	0.54
1:0:2909:G:O2'	1:0:2910:A:H5'	2.07	0.54
1:0:846:A:O2'	1:0:847:C:H5'	2.08	0.54
4:5:53:ILE:C	4:5:55:ALA:H	2.11	0.54
6:A:190:ARG:HH11	6:A:190:ARG:HB2	1.72	0.54
1:0:2295:G:N2	1:0:2314:G:H1'	2.22	0.54
1:0:2656:G:C2'	1:0:2657:G:H5'	2.37	0.54
1:0:2761:A:H3'	37:0:7026:HOH:O	2.07	0.54
1:0:428:G:H5'	37:0:4341:HOH:O	2.07	0.54
1:0:470:U:O2'	31:Z:16:HIS:CD2	2.61	0.54
1:0:88:G:N3	2:1:24:TRP:HB2	2.23	0.54
4:5:29:LYS:HA	4:5:32:LEU:HD23	1.90	0.54
5:9:5:G:O2'	5:9:6:C:H5'	2.07	0.54
8:C:79:ARG:O	8:C:87:ARG:HG2	2.08	0.54
1:0:2346:C:O3'	9:D:52:THR:CG2	2.56	0.54
16:K:65:ASP:HA	16:K:109:LEU:O	2.07	0.54
17:L:74:ARG:O	17:L:88:VAL:HG13	2.07	0.54
19:N:73:ASP:HA	19:N:92:VAL:O	2.08	0.54
27:V:26:ILE:CG1	27:V:26:ILE:O	2.51	0.54
28:W:26:ALA:HB2	28:W:63:ARG:HA	1.90	0.54
29:X:134:HIS:CE1	29:X:135:LYS:HE3	2.42	0.54
1:0:1426:C:H3'	37:0:3482:HOH:O	2.06	0.54
1:0:1460:G:N3	37:0:3267:HOH:O	2.33	0.54
1:0:1783:A:H2'	1:0:1784:U:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2078:U:O2'	1:0:2079:G:H5'	2.09	0.54
1:0:79:G:N1	1:0:97:G:O2'	2.41	0.54
6:A:211:LYS:HD2	37:A:532:HOH:O	2.06	0.54
7:B:62:ARG:HA	7:B:65:MET:HE3	1.90	0.54
8:C:214:THR:CG2	8:C:216:SER:H	2.20	0.54
9:D:135:VAL:CG2	9:D:136:ARG:N	2.70	0.54
10:E:101:GLU:HA	10:E:118:ILE:HG13	1.89	0.54
14:I:45:VAL:HG21	14:I:129:PHE:CD1	2.43	0.54
15:J:10:GLN:HE21	15:J:10:GLN:N	2.05	0.54
21:P:93:ARG:HG3	21:P:93:ARG:HH11	1.72	0.54
21:P:93:ARG:HG3	21:P:93:ARG:NH1	2.23	0.54
29:X:200:THR:HG22	29:X:201:GLU:CG	2.38	0.54
1:0:2361:A:H5''	37:0:5349:HOH:O	2.08	0.53
1:0:2416:G:H1'	37:0:4703:HOH:O	2.07	0.53
1:0:2594:C:O2'	1:0:2595:U:H5'	2.07	0.53
1:0:621:C:H5'	29:X:132:ASP:OD2	2.08	0.53
2:1:3:LYS:HE3	37:1:127:HOH:O	2.07	0.53
3:2:5:ARG:O	3:2:21:GLU:HA	2.08	0.53
3:2:48:ASN:ND2	3:2:50:GLY:H	2.05	0.53
8:C:178:GLN:C	8:C:180:SER:N	2.61	0.53
1:0:450:C:P	8:C:184:ARG:HH22	2.31	0.53
8:C:129:HIS:HE1	8:C:231:ARG:HA	1.73	0.53
13:H:71:TYR:C	13:H:73:GLN:N	2.60	0.53
14:I:15:ARG:O	14:I:16:ASP:HB2	2.08	0.53
16:K:149:ARG:N	37:K:305:HOH:O	2.41	0.53
18:M:154:LEU:O	18:M:155:GLU:HB3	2.07	0.53
20:O:102:ARG:HB2	37:O:201:HOH:O	2.08	0.53
23:R:57:THR:HG23	37:R:227:HOH:O	2.07	0.53
24:S:41:ARG:HG2	24:S:41:ARG:NH1	2.20	0.53
26:U:8:ILE:CG2	26:U:59:ILE:HG13	2.38	0.53
27:V:80:ASP:HB2	37:V:248:HOH:O	2.07	0.53
1:0:1070:A:H2'	1:0:1071:G:C8	2.43	0.53
1:0:114:A:H4'	1:0:115:U:OP1	2.07	0.53
1:0:2809:G:H2'	1:0:2810:G:O4'	2.08	0.53
1:0:281:U:O2'	1:0:282:C:H5'	2.09	0.53
6:A:2:ARG:NH1	37:A:413:HOH:O	2.41	0.53
7:B:193:ILE:HB	7:B:194:PHE:CD1	2.43	0.53
7:B:205:VAL:HB	7:B:307:ARG:HE	1.74	0.53
9:D:95:THR:C	9:D:97:GLN:N	2.59	0.53
10:E:32:ARG:C	10:E:33:LEU:HD23	2.29	0.53
10:E:69:ILE:HA	10:E:72:MET:HE3	1.88	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:87:ARG:NH1	37:J:305:HOH:O	2.40	0.53
20:O:131:PHE:CE2	20:O:137:LEU:HD12	2.43	0.53
21:P:3:SER:HB3	37:P:203:HOH:O	2.07	0.53
31:Z:5:THR:N	31:Z:6:PRO:HD2	2.22	0.53
1:O:1580:A:H8	1:O:1580:A:O5'	1.91	0.53
1:O:170:U:H4'	3:2:48:ASN:O	2.08	0.53
1:O:1968:A:H2'	1:O:1969:A:C8	2.43	0.53
1:O:2754:G:C2'	1:O:2755:G:H5'	2.37	0.53
3:2:60:LYS:CG	3:2:61:PRO:HD2	2.36	0.53
1:O:1853:C:H4'	6:A:217:ARG:HH22	1.72	0.53
7:B:162:MET:HG3	7:B:310:ARG:NH1	2.24	0.53
8:C:120:ASP:O	8:C:124:VAL:HG23	2.07	0.53
8:C:19:PRO:CB	8:C:244:ALA:HB2	2.38	0.53
8:C:95:GLU:HG3	37:C:563:HOH:O	2.07	0.53
15:J:30:LYS:HD3	37:J:350:HOH:O	2.07	0.53
15:J:49:LEU:HD12	15:J:80:ILE:HG21	1.91	0.53
18:M:120:GLU:HG3	18:M:136:LEU:HD13	1.90	0.53
19:N:62:GLY:O	19:N:79:VAL:HB	2.08	0.53
23:R:10:VAL:O	23:R:10:VAL:HG13	2.08	0.53
23:R:57:THR:C	23:R:59:ASP:H	2.12	0.53
23:R:73:ASP:O	23:R:77:VAL:HG23	2.08	0.53
26:U:12:THR:CG2	26:U:15:GLU:H	2.21	0.53
27:V:122:ARG:NH2	27:V:154:ARG:CD	2.71	0.53
1:O:169:A:H2'	37:O:6066:HOH:O	2.09	0.53
1:O:2060:A:H4'	37:O:6968:HOH:O	2.07	0.53
1:O:2316:G:H5'	1:O:2317:C:O4'	2.08	0.53
1:O:2326:U:H4'	1:O:2412:G:C4'	2.39	0.53
1:O:2698:G:H2'	1:O:2699:A:C8	2.44	0.53
1:O:2897:C:O2'	1:O:2898:G:H5'	2.09	0.53
1:O:152:A:H1'	1:O:440:C:O2'	2.08	0.53
7:B:229:ARG:HA	37:B:548:HOH:O	2.08	0.53
13:H:56:ILE:HG22	13:H:61:LEU:CD2	2.37	0.53
17:L:26:HIS:O	17:L:29:GLN:HB2	2.08	0.53
37:9:349:HOH:O	18:M:113:SER:HB3	2.08	0.53
18:M:7:LYS:HB2	37:P:207:HOH:O	2.09	0.53
27:V:21:LEU:HD21	27:V:48:VAL:HG13	1.91	0.53
1:O:119:A:H2'	1:O:120:A:H5''	1.90	0.53
1:O:1131:G:O6	1:O:1230:A:H1'	2.09	0.53
1:O:2362:A:H8	1:O:2362:A:O5'	1.92	0.53
1:O:2442:G:H3'	37:O:3862:HOH:O	2.06	0.53
1:O:2497:A:C2	1:O:2524:G:C2	2.95	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2686:C:O2'	1:0:2687:G:H5'	2.08	0.53
3:2:30:GLN:NE2	37:2:204:HOH:O	2.41	0.53
6:A:131:HIS:O	6:A:132:ASP:HB2	2.07	0.53
9:D:159:PRO:O	9:D:163:VAL:HG23	2.09	0.53
10:E:126:ILE:HB	10:E:131:LEU:HD21	1.91	0.53
10:E:11:VAL:HG11	10:E:22:VAL:CG1	2.38	0.53
17:L:52:LEU:HD21	37:L:301:HOH:O	2.09	0.53
19:N:26:TRP:CE3	19:N:26:TRP:HA	2.44	0.53
20:O:98:ILE:HD12	20:O:102:ARG:NE	2.23	0.53
27:V:14:HIS:HB2	27:V:17:ILE:HG13	1.90	0.53
28:W:75:ALA:O	28:W:83:ALA:HA	2.08	0.53
30:Y:39:CYS:HB2	30:Y:47:LEU:HG	1.90	0.53
1:0:1044:C:O3'	1:0:1045:G:H4'	2.09	0.53
1:0:1735:C:H2'	1:0:1736:A:H8	1.73	0.53
1:0:2256:G:H2'	1:0:2257:G:H5'	1.90	0.53
1:0:2897:C:H2'	1:0:2898:G:H8	1.72	0.53
9:D:173:GLU:HG3	9:D:174:VAL:N	2.24	0.53
5:9:44:A:O4'	9:D:76:ARG:NE	2.41	0.53
1:0:1884:G:O6	6:A:190:ARG:HD3	2.08	0.53
1:0:2346:C:O2'	9:D:52:THR:HG21	2.08	0.53
1:0:2432:C:H2'	1:0:2433:A:H8	1.73	0.53
1:0:2761:A:H2'	1:0:2763:G:N7	2.24	0.53
7:B:162:MET:CE	7:B:310:ARG:HD3	2.39	0.53
8:C:246:ARG:NE	37:C:411:HOH:O	2.40	0.53
9:D:55:LYS:HA	37:D:219:HOH:O	2.07	0.53
11:F:58:GLU:HB3	17:L:8:ILE:HG23	1.91	0.53
14:I:95:ARG:O	14:I:99:GLU:HB2	2.09	0.53
17:L:99:ARG:HD2	17:L:167:GLY:HA2	1.89	0.53
24:S:41:ARG:NH1	24:S:42:VAL:O	2.42	0.53
29:X:106:THR:CG2	29:X:107:PRO:HD2	2.39	0.53
1:0:1527:A:O2'	1:0:1528:A:O4'	2.27	0.53
1:0:1574:C:H2'	1:0:1575:C:H6	1.72	0.53
1:0:538:C:H4'	1:0:539:G:OP2	2.08	0.53
6:A:9:ARG:HG2	6:A:16:PHE:CE2	2.43	0.53
7:B:98:THR:HG22	7:B:99:GLU:H	1.74	0.53
9:D:55:LYS:O	9:D:56:ARG:HB2	2.08	0.53
1:0:2443:C:O2'	16:K:56:LYS:CE	2.56	0.53
20:O:80:ARG:HG2	20:O:87:ARG:CZ	2.39	0.53
21:P:24:SER:HB3	21:P:28:ARG:HH21	1.73	0.53
1:0:1132:A:H2'	1:0:1133:A:C8	2.44	0.53
1:0:1803:C:H2'	1:0:1804:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1850:U:O4'	1:0:1941:A:C2	2.62	0.53
1:0:210:U:H2'	1:0:211:U:C6	2.44	0.53
1:0:2473:U:H1'	37:0:5468:HOH:O	2.08	0.53
1:0:2537:G:H5''	1:0:2538:A:H5''	1.91	0.53
1:0:558:C:H2'	1:0:559:U:H5'	1.89	0.53
1:0:945:U:O2'	27:V:43:GLY:HA3	2.09	0.53
6:A:13:THR:O	6:A:14:SER:C	2.47	0.53
6:A:30:ARG:HG3	6:A:66:ARG:NH1	2.23	0.53
17:L:48:ARG:NH1	17:L:52:LEU:HD21	2.24	0.53
19:N:42:GLU:HB2	37:N:308:HOH:O	2.09	0.53
23:R:57:THR:HG22	23:R:59:ASP:N	2.24	0.53
1:0:110:C:H2'	1:0:111:C:H6	1.74	0.53
1:0:1356:A:O2'	1:0:1357:A:O4'	2.27	0.53
1:0:2842:G:C2'	1:0:2843:A:H5'	2.39	0.53
1:0:941:G:H2'	1:0:942:U:O4'	2.09	0.53
9:D:94:ALA:HB3	9:D:174:VAL:HA	1.91	0.53
11:F:53:ASP:OD1	11:F:80:GLN:HB2	2.09	0.53
14:I:68:GLY:HA2	35:I:204:CL:CL	2.46	0.53
17:L:69:LYS:HD3	17:L:124:GLY:O	2.08	0.53
19:N:72:LYS:O	19:N:74:VAL:HG22	2.09	0.53
23:R:11:THR:O	23:R:12:GLU:C	2.44	0.53
1:0:1293:U:O2'	1:0:1294:A:H5'	2.09	0.52
1:0:1766:U:O2	1:0:1778:A:H5'	2.09	0.52
1:0:1941:A:H4'	37:0:5758:HOH:O	2.09	0.52
1:0:249:G:H1'	1:0:265:U:O2	2.08	0.52
1:0:2889:U:H1'	1:0:2891:A:H1'	1.90	0.52
1:0:67:A:OP2	1:0:108:U:H5'	2.08	0.52
11:F:65:GLU:O	11:F:69:GLU:HG2	2.10	0.52
1:0:145:A:H2'	1:0:146:U:C6	2.44	0.52
1:0:1636:G:O2'	1:0:1637:A:H5'	2.08	0.52
1:0:1875:A:H1'	1:0:1877:G:C5	2.44	0.52
6:A:192:VAL:HG12	6:A:192:VAL:O	2.08	0.52
7:B:81:ALA:O	7:B:186:GLY:HA3	2.08	0.52
8:C:130:GLU:O	8:C:131:PHE:HB3	2.09	0.52
5:9:56:A:C4	9:D:13:MET:HB3	2.43	0.52
18:M:67:ALA:HA	18:M:71:TRP:H	1.74	0.52
18:M:73:ALA:N	37:M:308:HOH:O	2.42	0.52
21:P:11:ARG:HD3	37:P:211:HOH:O	2.08	0.52
25:T:9:CYS:HA	25:T:52:THR:CG2	2.40	0.52
26:U:51:LYS:O	26:U:54:ALA:HB3	2.08	0.52
27:V:8:ARG:HD3	27:V:51:PHE:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:27:ASP:OD2	28:W:27:ASP:N	2.42	0.52
29:X:133:HIS:HD2	37:X:435:HOH:O	1.92	0.52
29:X:189:ASN:HB2	37:X:415:HOH:O	2.10	0.52
31:Z:50:TRP:C	31:Z:52:SER:H	2.10	0.52
1:0:1325:G:O2'	1:0:1326:U:H5'	2.08	0.52
1:0:1471:A:H2'	1:0:1472:C:C6	2.44	0.52
1:0:1886:A:H5''	37:0:8274:HOH:O	2.09	0.52
1:0:2703:A:H2'	1:0:2704:C:H6	1.75	0.52
1:0:333:G:O2'	1:0:334:G:H5'	2.08	0.52
1:0:746:A:O2'	1:0:747:G:C8	2.61	0.52
1:0:921:G:H4'	1:0:924:G:C6	2.44	0.52
37:0:5559:HOH:O	16:K:8:ARG:HD3	2.08	0.52
23:R:29:ASP:OD1	23:R:31:ARG:NH1	2.43	0.52
26:U:55:ARG:O	26:U:58:THR:HB	2.09	0.52
30:Y:10:ARG:HA	37:Y:218:HOH:O	2.09	0.52
1:0:2478:U:O2'	1:0:2479:A:H5'	2.08	0.52
1:0:2550:U:H2'	1:0:2551:C:H6	1.73	0.52
1:0:2597:U:H2'	1:0:2598:U:H5'	1.91	0.52
1:0:280:C:H2'	1:0:281:U:O4'	2.09	0.52
1:0:541:C:C2'	1:0:542:A:C5'	2.84	0.52
7:B:83:ALA:HB2	7:B:101:TRP:CD2	2.44	0.52
9:D:59:GLY:C	9:D:61:PHE:H	2.13	0.52
14:I:38:VAL:HB	14:I:103:VAL:HG13	1.91	0.52
15:J:71:ALA:HB2	15:J:97:ILE:HA	1.91	0.52
16:K:26:HIS:HB2	37:K:336:HOH:O	2.09	0.52
16:K:35:ARG:C	16:K:35:ARG:HD3	2.30	0.52
19:N:11:ILE:HG22	19:N:12:ALA:N	2.25	0.52
1:0:2659:U:H4'	22:Q:76:ASP:HB3	1.91	0.52
1:0:1469:C:N3	1:0:1472:C:OP2	2.43	0.52
1:0:1488:U:C4'	1:0:1489:G:OP1	2.57	0.52
1:0:1785:G:H8	1:0:1785:G:O5'	1.91	0.52
1:0:1829:A:N6	30:Y:18:TYR:HA	2.25	0.52
1:0:1852:A:C2	1:0:1880:C:C2	2.98	0.52
1:0:1894:C:H5''	1:0:1895:A:OP1	2.09	0.52
1:0:229:G:O2'	1:0:230:C:H5'	2.09	0.52
1:0:485:A:C4'	1:0:486:A:H5'	2.39	0.52
1:0:625:U:H2'	1:0:627:G:OP2	2.10	0.52
1:0:761:A:H4'	1:0:762:C:C5'	2.39	0.52
4:5:54:VAL:HG12	4:5:54:VAL:O	2.09	0.52
9:D:154:LYS:CD	9:D:154:LYS:H	2.08	0.52
9:D:23:VAL:HG21	9:D:45:THR:CG2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:166:VAL:HG12	10:E:167:TYR:N	2.23	0.52
25:T:36:CYS:HG	25:T:51:TRP:HH2	1.57	0.52
28:W:70:ILE:O	28:W:70:ILE:HG23	2.08	0.52
37:0:5824:HOH:O	29:X:136:LYS:HB2	2.10	0.52
30:Y:19:GLY:O	30:Y:23:ARG:HG2	2.09	0.52
1:0:1296:A:H8	1:0:1296:A:O5'	1.91	0.52
1:0:1526:A:H5''	1:0:1527:A:OP1	2.10	0.52
1:0:1574:C:H2'	1:0:1575:C:C6	2.44	0.52
1:0:1746:A:N6	1:0:1754:A:H61	2.08	0.52
1:0:2419:U:H5''	1:0:2420:G:C5'	2.39	0.52
1:0:2620:U:C4'	1:0:2621:U:OP1	2.58	0.52
1:0:395:A:N1	1:0:2443:C:N4	2.56	0.52
3:2:91:GLN:O	3:2:92:GLU:HB2	2.09	0.52
5:9:119:C:H2'	5:9:120:A:H8	1.75	0.52
8:C:133:ARG:NH1	37:C:413:HOH:O	2.42	0.52
10:E:11:VAL:CG1	10:E:12:ASP:N	2.72	0.52
15:J:125:ALA:C	15:J:127:ALA:H	2.13	0.52
15:J:82:ARG:HH21	15:J:115:ARG:HG2	1.71	0.52
17:L:85:ARG:NE	37:L:311:HOH:O	2.43	0.52
18:M:37:ARG:HE	18:M:105:GLY:HA3	1.75	0.52
18:M:37:ARG:HH21	18:M:105:GLY:N	2.08	0.52
22:Q:113:HIS:HE1	22:Q:144:GLU:CD	2.13	0.52
25:T:8:TYR:CE1	25:T:40:ALA:HB2	2.44	0.52
1:0:1589:G:N2	1:0:1605:G:O2'	2.43	0.52
1:0:321:A:O2'	1:0:322:G:H5'	2.09	0.52
1:0:42:C:H1'	37:0:6413:HOH:O	2.10	0.52
1:0:88:G:H2'	1:0:89:G:C8	2.44	0.52
5:9:119:C:H1'	37:9:321:HOH:O	2.09	0.52
5:9:77:A:H1'	5:9:79:U:C6	2.44	0.52
7:B:304:PRO:HD2	7:B:307:ARG:HH11	1.75	0.52
13:H:149:ALA:C	13:H:151:MET:N	2.63	0.52
17:L:115:LEU:CD2	17:L:150:ILE:HD12	2.29	0.52
19:N:113:VAL:O	19:N:114:ILE:HD13	2.08	0.52
22:Q:132:ARG:HG2	22:Q:133:ALA:N	2.25	0.52
27:V:4:LEU:HB2	27:V:33:THR:HG22	1.91	0.52
29:X:125:LYS:HB2	29:X:126:PRO:HD2	1.91	0.52
30:Y:39:CYS:HA	30:Y:47:LEU:HD11	1.92	0.52
6:A:73:GLY:N	30:Y:65:ALA:O	2.35	0.52
1:0:1126:C:N4	1:0:1129:C:H1'	2.25	0.52
1:0:2419:U:OP1	1:0:2420:G:H5''	2.09	0.52
1:0:2587:U:C2	1:0:2589:U:H5'	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2691:A:H5''	1:0:2692:G:OP1	2.10	0.52
1:0:2911:C:H2'	1:0:2912:C:C6	2.45	0.52
1:0:692:A:HO2'	16:K:51:PHE:HD2	1.58	0.52
2:1:22:PRO:HG2	2:1:25:VAL:HG23	1.91	0.52
8:C:118:THR:O	8:C:136:VAL:HG13	2.10	0.52
18:M:37:ARG:NH2	18:M:105:GLY:HA3	2.24	0.52
24:S:23:VAL:HG23	24:S:41:ARG:HG3	1.92	0.52
27:V:13:MET:HE2	27:V:18:GLN:CA	2.38	0.52
1:0:1015:C:C2	1:0:1016:U:C5	2.98	0.52
1:0:1941:A:O2'	1:0:1942:A:OP2	2.25	0.52
1:0:2642:G:H2'	1:0:2643:G:O4'	2.09	0.52
1:0:2670:G:N2	7:B:85:ARG:HH22	2.08	0.52
1:0:402:U:H1'	37:0:3378:HOH:O	2.08	0.52
10:E:158:ASP:OD1	10:E:160:ARG:N	2.36	0.52
1:0:1235:G:H1'	14:I:63:ILE:HG23	1.91	0.52
17:L:159:THR:HA	37:L:360:HOH:O	2.10	0.52
27:V:14:HIS:HB3	27:V:16:ASP:OD1	2.10	0.52
1:0:1109:U:O4	14:I:21:ARG:HA	2.10	0.52
1:0:1338:U:H2'	1:0:1339:G:O4'	2.10	0.52
1:0:1406:A:H2'	1:0:1701:A:N6	2.24	0.52
1:0:1840:A:H4'	1:0:1841:C:C5'	2.38	0.52
1:0:184:G:O2'	1:0:185:G:H5'	2.09	0.52
1:0:2295:G:O2'	1:0:2296:C:H5'	2.09	0.52
1:0:2524:G:H21	1:0:2526:C:N4	2.07	0.52
1:0:460:A:H5''	1:0:461:C:OP2	2.10	0.52
1:0:820:G:H5'	1:0:821:U:C5'	2.40	0.52
5:9:10:C:H4'	5:9:13:A:N6	2.25	0.52
7:B:41:PHE:HB2	7:B:193:ILE:HD12	1.91	0.52
1:0:2781:U:H1'	10:E:139:GLU:OE2	2.10	0.52
1:0:1008:C:H5''	13:H:16:ARG:HH12	1.75	0.52
1:0:1085:C:H2'	1:0:1086:A:H5'	1.91	0.51
1:0:1298:U:H2'	1:0:1299:G:C8	2.44	0.51
1:0:2310:G:H2'	1:0:2311:A:H8	1.74	0.51
1:0:523:C:H2'	1:0:524:A:H8	1.75	0.51
6:A:53:ALA:HB3	37:A:439:HOH:O	2.09	0.51
11:F:48:VAL:HG12	11:F:97:ALA:HB1	1.92	0.51
13:H:26:LYS:HD2	13:H:28:ILE:HD12	1.91	0.51
13:H:75:SER:HB3	13:H:79:ALA:CB	2.40	0.51
15:J:79:PRO:HA	15:J:88:VAL:O	2.10	0.51
20:O:22:TRP:C	20:O:23:PHE:HD1	2.13	0.51
30:Y:30:GLU:HB3	30:Y:34:LYS:HE3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1114:A:O2'	1:0:1115:U:H5'	2.10	0.51
1:0:1288:U:H5''	37:0:5537:HOH:O	2.09	0.51
1:0:1883:U:H2'	1:0:1884:G:O4'	2.10	0.51
1:0:1909:A:N1	1:0:2128:G:H1'	2.26	0.51
1:0:380:A:C4'	1:0:381:G:OP1	2.57	0.51
1:0:485:A:N3	1:0:487:G:H5''	2.25	0.51
1:0:899:C:OP1	1:0:923:A:O2'	2.29	0.51
5:9:57:A:H2'	5:9:58:G:C5'	2.40	0.51
7:B:175:LEU:C	7:B:175:LEU:CD2	2.78	0.51
10:E:84:MET:HE1	10:E:133:VAL:CG2	2.40	0.51
18:M:100:ALA:O	18:M:129:ILE:HG23	2.10	0.51
5:9:34:A:H1'	18:M:153:GLN:HE22	1.75	0.51
22:Q:83:LYS:HB3	37:Q:306:HOH:O	2.08	0.51
30:Y:14:PHE:HB3	30:Y:18:TYR:HD1	1.74	0.51
1:0:1235:G:C1'	14:I:63:ILE:HG23	2.40	0.51
1:0:1641:A:H2'	1:0:1642:A:C5'	2.39	0.51
1:0:1829:A:H61	30:Y:18:TYR:HA	1.74	0.51
1:0:1874:U:HO2'	1:0:1875:A:P	2.34	0.51
1:0:2795:C:O2'	1:0:2796:U:H5'	2.10	0.51
1:0:2909:G:H2'	1:0:2910:A:H8	1.76	0.51
1:0:30:U:O4	1:0:452:G:O2'	2.27	0.51
1:0:420:U:H2'	1:0:421:C:C6	2.45	0.51
1:0:595:U:O2'	1:0:596:C:H5'	2.11	0.51
1:0:68:U:C5	1:0:107:U:H4'	2.46	0.51
1:0:2408:A:H1'	3:2:10:TYR:CD1	2.45	0.51
5:9:23:U:C4'	5:9:24:U:OP2	2.58	0.51
6:A:220:PRO:HD2	6:A:223:ARG:HD3	1.92	0.51
10:E:152:THR:HG21	10:E:165:GLY:CA	2.40	0.51
13:H:87:LYS:HE2	37:H:240:HOH:O	2.11	0.51
17:L:82:ARG:O	17:L:86:MET:HG3	2.11	0.51
30:Y:39:CYS:SG	30:Y:40:PRO:HD2	2.50	0.51
1:0:1238:C:H5''	1:0:1239:G:OP2	2.09	0.51
1:0:1894:C:C2	1:0:1939:U:C4	2.99	0.51
1:0:653:C:H5''	37:N:304:HOH:O	2.10	0.51
4:5:44:PHE:HB3	4:5:49:VAL:HG22	1.92	0.51
6:A:211:LYS:NZ	37:A:416:HOH:O	2.42	0.51
6:A:20:SER:O	6:A:22:ARG:N	2.43	0.51
8:C:76:ARG:HD2	37:C:528:HOH:O	2.09	0.51
9:D:135:VAL:CG2	9:D:136:ARG:H	2.24	0.51
22:Q:27:HIS:ND1	22:Q:81:PRO:HB3	2.25	0.51
25:T:49:LEU:HD13	25:T:51:TRP:HE1	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1088:A:O2'	1:0:1089:G:H5''	2.11	0.51
1:0:1118:A:H3'	1:0:1119:G:H5'	1.93	0.51
1:0:145:A:H2'	1:0:146:U:H6	1.75	0.51
1:0:1674:C:P	23:R:34:LYS:HG3	2.50	0.51
1:0:590:A:H2'	1:0:591:A:H5'	1.92	0.51
1:0:629:A:H4'	37:0:4917:HOH:O	2.11	0.51
7:B:268:ARG:NH1	7:B:322:ARG:NH2	2.59	0.51
8:C:67:GLN:HA	37:C:518:HOH:O	2.10	0.51
11:F:63:ILE:CB	11:F:64:PRO:HD3	2.31	0.51
13:H:161:SER:HB3	37:H:237:HOH:O	2.11	0.51
1:0:2712:G:OP1	15:J:43:ARG:NH1	2.44	0.51
16:K:41:HIS:O	16:K:42:ASN:HB2	2.10	0.51
26:U:55:ARG:O	26:U:58:THR:N	2.43	0.51
29:X:119:GLN:O	29:X:122:ARG:N	2.43	0.51
30:Y:14:PHE:HB3	30:Y:18:TYR:CD1	2.45	0.51
6:A:72:GLU:HG3	30:Y:66:GLY:HA2	1.93	0.51
1:0:106:A:H1'	37:0:4331:HOH:O	2.09	0.51
1:0:1165:G:H1'	1:0:1174:A:H1'	1.92	0.51
1:0:1701:A:C2	1:0:1710:A:H1'	2.46	0.51
1:0:2534:C:OP2	37:0:3201:HOH:O	2.19	0.51
1:0:485:A:HO2'	1:0:486:A:P	2.33	0.51
6:A:51:ARG:HH11	6:A:51:ARG:HB3	1.75	0.51
37:0:3608:HOH:O	8:C:77:ALA:HB3	2.10	0.51
11:F:106:THR:O	11:F:110:GLU:HG3	2.11	0.51
13:H:45:GLN:HB2	13:H:135:TRP:CD1	2.46	0.51
19:N:25:VAL:CG2	19:N:26:TRP:H	2.24	0.51
27:V:1:MET:HE3	27:V:101:LEU:HA	1.92	0.51
29:X:134:HIS:HE1	29:X:135:LYS:HE3	1.74	0.51
1:0:1001:U:O2'	1:0:1002:G:H5'	2.11	0.51
1:0:1307:A:H2'	1:0:1308:A:C8	2.45	0.51
1:0:1589:G:O2'	1:0:1590:A:C8	2.64	0.51
1:0:1859:A:N7	1:0:1860:U:C5	2.79	0.51
1:0:623:U:O2'	1:0:624:U:H5'	2.11	0.51
1:0:74:A:H5'	26:U:9:ARG:HH22	1.75	0.51
1:0:2504:A:H4'	13:H:70:ARG:HH11	1.75	0.51
14:I:42:GLU:HG2	14:I:43:ARG:N	2.26	0.51
15:J:10:GLN:N	15:J:10:GLN:NE2	2.48	0.51
17:L:185:PRO:HG2	37:L:381:HOH:O	2.10	0.51
1:0:1315:G:O2'	29:X:212:ARG:N	2.44	0.51
31:Z:28:HIS:CD2	31:Z:31:LYS:HE2	2.46	0.51
31:Z:5:THR:HB	31:Z:6:PRO:CD	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1118:A:H2'	1:0:1119:G:C5'	2.40	0.51
1:0:1186:C:H42	1:0:1190:G:H22	1.58	0.51
1:0:1563:G:O2'	1:0:1564:C:P	2.69	0.51
1:0:2106:C:H6	1:0:2106:C:O5'	1.94	0.51
1:0:2239:C:H2'	1:0:2240:U:C6	2.46	0.51
1:0:2263:G:O2'	17:L:70:GLY:HA2	2.10	0.51
1:0:2761:A:O2'	1:0:2762:C:C3'	2.59	0.51
1:0:496:G:C6	1:0:498:A:C6	2.98	0.51
1:0:631:A:C2	1:0:2073:G:O2'	2.64	0.51
1:0:657:G:H2'	1:0:658:C:C6	2.46	0.51
1:0:938:G:OP2	1:0:938:G:C8	2.63	0.51
7:B:206:THR:O	7:B:259:TYR:HA	2.11	0.51
13:H:83:PHE:CD1	13:H:134:ALA:HB2	2.46	0.51
14:I:131:THR:CG2	14:I:133:GLY:H	2.19	0.51
14:I:74:ARG:NH1	14:I:76:ASP:HB2	2.25	0.51
7:B:221:GLN:HE22	15:J:42:ASN:HD22	1.57	0.51
20:O:64:GLU:HG2	37:O:247:HOH:O	2.11	0.51
1:0:1085:C:C2'	1:0:1086:A:H5'	2.40	0.51
1:0:2330:U:H2'	37:O:6868:HOH:O	2.10	0.51
1:0:271:C:H4'	1:0:272:A:OP1	2.11	0.51
1:0:48:A:H2'	1:0:49:A:C8	2.46	0.51
1:0:631:A:N3	1:0:2073:G:O2'	2.43	0.51
7:B:154:VAL:CG1	7:B:156:LYS:HG2	2.38	0.51
8:C:103:ASN:HA	37:C:484:HOH:O	2.11	0.51
13:H:15:THR:HG22	13:H:90:PHE:O	2.11	0.51
15:J:20:CYS:HB2	15:J:29:LEU:HG	1.92	0.51
28:W:61:ARG:N	37:W:102:HOH:O	2.44	0.51
29:X:200:THR:HG22	29:X:201:GLU:HG3	1.93	0.51
1:0:1034:G:O2'	1:0:1035:C:H5'	2.10	0.51
1:0:1069:C:O2'	1:0:1070:A:H5'	2.11	0.51
1:0:1486:A:C4	2:1:2:LYS:HG3	2.46	0.51
1:0:1496:G:H2'	1:0:1497:G:H8	1.75	0.51
1:0:1579:C:C4'	1:0:1580:A:OP1	2.56	0.51
1:0:1527:A:N6	1:0:1663:G:H2'	2.26	0.51
1:0:2457:U:H2'	1:0:2458:U:H6	1.75	0.51
1:0:538:C:O2	1:0:538:C:H2'	2.11	0.51
3:2:2:GLN:OE1	3:2:89:GLU:HB2	2.10	0.51
6:A:186:TRP:CD1	6:A:187:PRO:HA	2.46	0.51
6:A:217:ARG:HG2	6:A:229:ALA:CB	2.41	0.51
7:B:162:MET:HG3	7:B:310:ARG:CD	2.35	0.51
11:F:21:GLU:O	11:F:24:ARG:CG	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:122:ALA:HB3	16:K:125:PHE:CZ	2.46	0.51
1:O:187:A:OP1	17:L:154:ARG:NE	2.44	0.51
17:L:37:VAL:HG21	17:L:108:LYS:HG3	1.92	0.51
23:R:15:MET:O	23:R:18:MET:N	2.44	0.51
24:S:50:VAL:HG12	24:S:56:ALA:HA	1.91	0.51
1:O:486:A:H4'	24:S:81:LYS:HG2	1.93	0.51
26:U:58:THR:O	26:U:62:GLU:HG3	2.11	0.51
29:X:187:VAL:HG13	29:X:205:ILE:HA	1.93	0.51
1:O:1515:A:H2'	1:O:1516:C:C6	2.46	0.50
1:O:151:A:C2	1:O:442:A:C8	2.99	0.50
1:O:1609:C:H2'	1:O:1610:G:C8	2.46	0.50
1:O:1759:A:H5''	37:O:7566:HOH:O	2.10	0.50
1:O:2064:U:O2'	1:O:2065:C:H5'	2.11	0.50
1:O:1057:A:H1'	1:O:2492:U:O2'	2.12	0.50
1:O:2757:A:O3'	7:B:285:VAL:HG11	2.11	0.50
1:O:697:G:H5''	37:O:3693:HOH:O	2.11	0.50
9:D:170:TYR:O	9:D:171:ASP:HB3	2.12	0.50
9:D:27:ILE:CD1	9:D:37:ALA:HB2	2.37	0.50
10:E:80:TRP:O	10:E:134:SER:HA	2.11	0.50
13:H:86:ARG:HH11	13:H:133:ILE:CG1	2.21	0.50
17:L:149:TRP:CD2	17:L:150:ILE:N	2.79	0.50
17:L:71:SER:CB	17:L:92:THR:HG22	2.35	0.50
18:M:139:TRP:N	37:M:309:HOH:O	2.43	0.50
19:N:26:TRP:HE3	19:N:26:TRP:HA	1.76	0.50
25:T:39:ASN:HD22	25:T:49:LEU:HD11	1.76	0.50
29:X:132:ASP:OD1	29:X:135:LYS:NZ	2.44	0.50
1:O:1118:A:C3'	1:O:1118:A:C8	2.94	0.50
1:O:1185:U:H2'	1:O:1186:C:H6	1.74	0.50
1:O:1449:G:H2'	1:O:1493:A:C2	2.47	0.50
1:O:1875:A:H1'	1:O:1877:G:C6	2.46	0.50
1:O:1378:G:H1'	1:O:2747:C:C4	2.46	0.50
1:O:316:A:N3	1:O:336:G:O2'	2.42	0.50
1:O:675:U:H2'	1:O:676:C:C5'	2.39	0.50
1:O:868:G:H3'	37:O:8544:HOH:O	2.09	0.50
1:O:962:C:H1'	18:M:5:ARG:HH12	1.75	0.50
8:C:21:VAL:HG13	37:C:494:HOH:O	2.09	0.50
9:D:51:ARG:HD3	37:D:228:HOH:O	2.11	0.50
11:F:104:ALA:O	11:F:106:THR:N	2.45	0.50
17:L:147:LEU:O	17:L:150:ILE:HG22	2.12	0.50
37:O:3724:HOH:O	19:N:39:THR:HB	2.10	0.50
20:O:115:SER:C	20:O:117:SER:H	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:76:GLY:C	20:O:78:GLY:H	2.15	0.50
1:O:2053:G:H4'	22:Q:136:TRP:CE2	2.46	0.50
1:O:1719:G:O2'	1:O:1720:C:H5'	2.10	0.50
1:O:1736:A:C2	1:O:1737:A:C4	2.99	0.50
1:O:1745:G:H2'	37:O:8659:HOH:O	2.11	0.50
1:O:226:A:H1'	1:O:393:G:C5	2.46	0.50
1:O:2577:A:OP2	37:O:3202:HOH:O	2.19	0.50
1:O:2586:U:H3	1:O:2592:G:N2	1.95	0.50
1:O:2073:G:C6	1:O:2607:U:C2	2.99	0.50
1:O:2700:G:H2'	1:O:2701:G:C5'	2.42	0.50
1:O:2769:C:H2'	1:O:2770:G:C5'	2.42	0.50
1:O:560:C:H42	1:O:597:A:H61	1.59	0.50
1:O:98:A:C2'	1:O:99:A:H5'	2.41	0.50
7:B:150:ALA:O	7:B:152:PRO:HD3	2.11	0.50
9:D:153:THR:HG22	37:D:242:HOH:O	2.11	0.50
13:H:31:PHE:HA	13:H:85:ILE:CG2	2.41	0.50
13:H:68:ALA:HB2	13:H:149:ALA:HB2	1.94	0.50
26:U:34:GLN:HG3	26:U:41:GLU:OE2	2.12	0.50
27:V:128:VAL:O	27:V:138:LEU:HD11	2.11	0.50
28:W:74:ALA:CB	28:W:85:VAL:HG22	2.42	0.50
29:X:178:HIS:CG	29:X:179:PRO:HD2	2.46	0.50
1:O:892:G:H5''	31:Z:54:ALA:HB2	1.92	0.50
1:O:1400:C:C2'	1:O:1401:G:H5'	2.41	0.50
1:O:1392:A:N1	1:O:1435:U:H2'	2.27	0.50
1:O:1762:C:H2'	1:O:1763:C:C6	2.46	0.50
1:O:1787:C:O2'	1:O:1788:U:H5'	2.11	0.50
1:O:2367:A:H5''	1:O:2368:A:OP1	2.11	0.50
1:O:2520:G:O2'	1:O:2521:A:H5'	2.12	0.50
1:O:2768:A:H2'	1:O:2769:C:O4'	2.12	0.50
1:O:637:C:H2'	1:O:638:C:H6	1.76	0.50
1:O:772:G:H2'	1:O:773:A:O4'	2.12	0.50
5:9:20:G:O2'	5:9:21:G:H5'	2.12	0.50
5:9:37:C:O2	5:9:47:A:H1'	2.11	0.50
7:B:44:TYR:OH	7:B:148:PRO:HG3	2.12	0.50
9:D:135:VAL:HG21	9:D:139:TYR:HB2	1.92	0.50
9:D:22:VAL:HG22	9:D:74:THR:HG22	1.92	0.50
10:E:145:ALA:O	10:E:148:ILE:HB	2.12	0.50
17:L:104:ARG:HD3	37:L:379:HOH:O	2.10	0.50
18:M:34:LEU:HA	18:M:47:LEU:HD23	1.93	0.50
22:Q:114:VAL:HA	22:Q:144:GLU:O	2.10	0.50
1:O:1196:C:H2'	1:O:1197:G:H5'	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1708:C:O2'	1:0:1709:G:H5'	2.12	0.50
1:0:2071:C:H4'	1:0:2072:G:C8	2.47	0.50
1:0:2688:U:H2'	1:0:2689:A:C8	2.46	0.50
1:0:588:G:O2'	1:0:589:U:OP2	2.30	0.50
1:0:1925:G:H5'	3:2:29:ARG:NH1	2.27	0.50
5:9:29:C:H2'	5:9:30:C:C5'	2.36	0.50
7:B:171:VAL:HG23	7:B:172:SER:H	1.75	0.50
8:C:144:PHE:CD1	8:C:147:LEU:HD12	2.46	0.50
13:H:26:LYS:CD	13:H:28:ILE:HB	2.41	0.50
13:H:97:LYS:HD3	13:H:117:LYS:HE2	1.94	0.50
15:J:90:PHE:HB3	37:J:336:HOH:O	2.11	0.50
16:K:73:VAL:HG23	16:K:74:THR:N	2.26	0.50
17:L:84:LYS:HD3	17:L:84:LYS:O	2.12	0.50
18:M:184:ILE:HG22	18:M:185:GLU:N	2.25	0.50
24:S:4:PRO:O	24:S:8:ARG:HG3	2.12	0.50
24:S:81:LYS:HD2	24:S:87:VAL:HG11	1.93	0.50
15:J:132:VAL:HG11	25:T:22:VAL:HG22	1.93	0.50
30:Y:39:CYS:O	30:Y:42:CYS:O	2.28	0.50
1:0:1473:U:C1'	31:Z:42:SER:HB2	2.32	0.50
1:0:1087:G:HO2'	1:0:1088:A:H8	1.50	0.50
1:0:1272:C:O2'	1:0:1273:C:H5'	2.12	0.50
1:0:163:U:O3'	1:0:896:C:H4'	2.11	0.50
1:0:2614:C:H3'	37:0:3333:HOH:O	2.10	0.50
1:0:284:C:N4	37:0:3526:HOH:O	2.44	0.50
1:0:440:C:H2'	1:0:441:A:O4'	2.12	0.50
1:0:584:U:H3'	37:0:3695:HOH:O	2.12	0.50
9:D:27:ILE:CG2	9:D:28:GLY:H	2.09	0.50
10:E:3:VAL:CG2	10:E:49:ILE:HB	2.41	0.50
11:F:36:THR:HG23	11:F:97:ALA:HB2	1.93	0.50
13:H:24:PRO:HG2	13:H:119:VAL:C	2.32	0.50
14:I:75:PRO:HD3	14:I:136:SER:OG	2.11	0.50
15:J:89:LYS:HA	37:J:312:HOH:O	2.12	0.50
16:K:143:THR:HG22	16:K:145:LEU:H	1.77	0.50
17:L:49:ALA:HB1	17:L:54:TYR:CB	2.42	0.50
1:0:1674:C:OP1	23:R:34:LYS:HG3	2.12	0.50
24:S:37:GLN:HB3	37:S:308:HOH:O	2.11	0.50
1:0:1674:C:OP1	23:R:34:LYS:N	2.40	0.50
1:0:182:G:H4'	17:L:157:LEU:HD13	1.93	0.50
1:0:1942:A:H2'	1:0:1943:C:H6	1.77	0.50
1:0:1942:A:O2'	1:0:1943:C:H5'	2.11	0.50
1:0:2313:C:H1'	37:0:3598:HOH:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:589:U:H2'	1:0:590:A:H8	1.77	0.50
1:0:899:C:H5'	37:0:4913:HOH:O	2.10	0.50
1:0:952:G:OP1	21:P:42:LYS:HE2	2.11	0.50
6:A:51:ARG:C	6:A:53:ALA:H	2.15	0.50
9:D:128:LEU:HB2	37:D:224:HOH:O	2.11	0.50
16:K:105:TYR:N	37:K:309:HOH:O	2.44	0.50
18:M:102:LEU:HG	18:M:104:ILE:HG23	1.93	0.50
23:R:52:VAL:HG22	23:R:66:VAL:HG13	1.93	0.50
24:S:35:TYR:CD2	24:S:112:LEU:HD22	2.47	0.50
30:Y:67:GLY:CA	30:Y:70:GLN:O	2.60	0.50
1:0:102:A:H1'	37:0:6057:HOH:O	2.11	0.50
1:0:1316:G:C2'	1:0:1340:G:H22	2.25	0.50
1:0:1746:A:H61	1:0:1754:A:H61	1.58	0.50
1:0:1773:G:N7	37:0:3284:HOH:O	2.35	0.50
1:0:2321:A:O2'	1:0:2322:U:C3'	2.60	0.50
1:0:2543:G:H2'	1:0:2544:G:O4'	2.11	0.50
1:0:536:A:C6	1:0:2076:U:H5'	2.47	0.50
13:H:157:ILE:HG22	13:H:158:ASN:N	2.27	0.50
13:H:159:ILE:HG22	13:H:159:ILE:O	2.11	0.50
14:I:15:ARG:NH1	14:I:43:ARG:NH1	2.60	0.50
17:L:152:ARG:HA	37:L:380:HOH:O	2.10	0.50
27:V:122:ARG:HG3	27:V:152:ALA:O	2.12	0.50
27:V:5:VAL:C	27:V:52:VAL:HG23	2.32	0.50
29:X:169:ARG:NH2	35:X:301:CL:CL	2.81	0.50
30:Y:22:ILE:O	30:Y:26:VAL:HG23	2.12	0.50
1:0:1422:U:H2'	1:0:1423:C:C6	2.47	0.50
1:0:2324:G:N2	1:0:2377:U:H1'	2.27	0.50
1:0:2335:C:H2'	1:0:2336:G:C8	2.47	0.50
1:0:466:A:H2'	1:0:467:G:O4'	2.12	0.50
8:C:7:ASP:OD2	8:C:9:ASP:HB2	2.12	0.50
13:H:127:GLY:O	13:H:128:ALA:CB	2.59	0.50
27:V:122:ARG:HH21	27:V:154:ARG:CD	2.18	0.50
1:0:1512:G:O2'	1:0:1513:C:H5'	2.11	0.49
1:0:1701:A:H5''	1:0:1702:U:O5'	2.12	0.49
1:0:1856:C:N4	1:0:1877:G:H21	2.10	0.49
1:0:1898:G:O2'	1:0:1899:C:H5'	2.12	0.49
1:0:2110:G:H4'	37:0:5461:HOH:O	2.12	0.49
1:0:561:G:O2'	1:0:562:A:H5'	2.11	0.49
1:0:796:A:C2	1:0:797:A:C4	2.99	0.49
1:0:807:A:H2'	1:0:808:A:C8	2.46	0.49
1:0:817:G:O2'	1:0:818:A:C8	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:11:HIS:C	9:D:13:MET:H	2.14	0.49
1:0:1007:A:H2'	13:H:19:TYR:CZ	2.47	0.49
15:J:74:VAL:CG1	15:J:113:ILE:HG23	2.39	0.49
17:L:46:LEU:HG	37:L:312:HOH:O	2.11	0.49
22:Q:25:PHE:CE2	22:Q:29:LYS:HE2	2.47	0.49
1:0:1181:A:O2'	1:0:1182:C:H5'	2.12	0.49
1:0:1302:G:O2'	1:0:1303:C:H5'	2.12	0.49
1:0:1326:U:H1'	37:0:6912:HOH:O	2.12	0.49
1:0:138:U:H5''	1:0:139:C:OP2	2.12	0.49
1:0:631:A:N7	1:0:2074:A:C5'	2.75	0.49
1:0:21:G:H5''	22:Q:1:GLY:O	2.11	0.49
1:0:265:U:C2	1:0:266:G:C8	3.00	0.49
1:0:892:G:C6	1:0:893:C:C4	3.01	0.49
6:A:132:ASP:OD1	6:A:133:ARG:N	2.44	0.49
11:F:108:LEU:O	11:F:108:LEU:HD12	2.11	0.49
11:F:60:VAL:O	11:F:62:HIS:N	2.46	0.49
11:F:48:VAL:CG2	11:F:74:PHE:HB3	2.42	0.49
13:H:15:THR:HG22	13:H:91:HIS:HA	1.92	0.49
13:H:57:ARG:O	13:H:59:ASN:N	2.45	0.49
37:0:4174:HOH:O	19:N:37:ARG:HG3	2.12	0.49
1:0:1688:G:H4'	31:Z:8:GLN:HG3	1.94	0.49
1:0:1031:G:O2'	1:0:1032:A:OP2	2.29	0.49
1:0:1393:A:H2'	1:0:1394:C:C6	2.46	0.49
1:0:1790:C:H2'	1:0:1791:U:C6	2.47	0.49
1:0:2378:U:H4'	1:0:2379:G:OP1	2.12	0.49
1:0:2694:A:H4'	10:E:91:PHE:CE1	2.48	0.49
1:0:2766:A:O2'	1:0:2767:C:H5'	2.13	0.49
1:0:285:A:H2'	1:0:286:U:O4'	2.11	0.49
1:0:645:U:H2'	1:0:646:G:C8	2.47	0.49
1:0:923:A:H8	37:0:4683:HOH:O	1.95	0.49
5:9:70:U:H2'	5:9:71:C:O4'	2.12	0.49
8:C:84:VAL:O	8:C:85:LYS:HB2	2.12	0.49
10:E:103:VAL:HG12	10:E:104:ILE:N	2.26	0.49
10:E:126:ILE:HB	10:E:131:LEU:CD2	2.42	0.49
14:I:74:ARG:NH1	14:I:76:ASP:OD2	2.42	0.49
15:J:5:GLY:O	15:J:6:ALA:HB2	2.12	0.49
17:L:27:ARG:O	17:L:28:MET:C	2.50	0.49
1:0:2415:A:N3	18:M:26:LEU:HD13	2.27	0.49
28:W:20:GLU:HG3	28:W:21:PRO:CD	2.41	0.49
28:W:26:ALA:HB3	28:W:63:ARG:HG3	1.94	0.49
1:0:1009:U:HO2'	1:0:1010:C:H5	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1748:U:C5	1:0:1749:U:C4	3.00	0.49
1:0:1987:C:O5'	1:0:1987:C:H6	1.94	0.49
1:0:2408:A:H1'	3:2:10:TYR:CE1	2.47	0.49
1:0:840:U:H2'	1:0:2648:U:O4	2.12	0.49
1:0:2757:A:H2'	1:0:2758:G:O4'	2.12	0.49
1:0:952:G:O2'	1:0:2302:A:O2'	2.23	0.49
1:0:1486:A:C5	2:1:2:LYS:HG3	2.48	0.49
7:B:195:ARG:HG2	7:B:323:LEU:HD22	1.94	0.49
7:B:279:THR:CG2	7:B:280:VAL:N	2.75	0.49
18:M:29:SER:HA	37:M:319:HOH:O	2.11	0.49
19:N:47:ARG:NH1	19:N:47:ARG:HG3	2.18	0.49
20:O:120:ARG:NH2	20:O:123:TYR:CD2	2.79	0.49
29:X:186:ARG:NH1	29:X:186:ARG:HG2	2.27	0.49
1:0:1543:G:N1	1:0:1641:A:OP2	2.42	0.49
1:0:2010:A:H2'	37:0:3377:HOH:O	2.12	0.49
1:0:2713:G:O2'	1:0:2714:U:H5'	2.12	0.49
1:0:418:C:H2'	1:0:419:A:H8	1.77	0.49
1:0:505:C:N3	1:0:509:A:N7	2.61	0.49
1:0:737:A:H2'	1:0:738:G:O4'	2.12	0.49
1:0:797:A:O4'	30:Y:10:ARG:N	2.46	0.49
1:0:869:G:H1'	1:0:886:A:C2	2.48	0.49
2:1:36:ASN:O	2:1:39:ARG:HG3	2.12	0.49
9:D:101:THR:HG22	9:D:101:THR:O	2.12	0.49
13:H:57:ARG:C	13:H:59:ASN:N	2.64	0.49
16:K:20:ASN:HB2	37:K:314:HOH:O	2.11	0.49
1:0:164:G:O3'	16:K:30:ARG:HB2	2.13	0.49
17:L:97:ILE:O	17:L:100:ILE:N	2.46	0.49
18:M:37:ARG:CG	18:M:37:ARG:HH11	2.25	0.49
20:O:41:ARG:O	20:O:44:VAL:HB	2.12	0.49
24:S:55:PHE:CD2	24:S:77:VAL:HG13	2.47	0.49
29:X:141:THR:HG23	29:X:142:SER:H	1.77	0.49
30:Y:10:ARG:HB2	30:Y:27:ALA:CB	2.42	0.49
1:0:1060:C:O2'	1:0:1061:C:H5'	2.13	0.49
1:0:1278:A:H4'	1:0:1279:U:C4	2.47	0.49
1:0:1753:C:O2	7:B:229:ARG:NH2	2.45	0.49
1:0:1759:A:O2'	1:0:1818:C:H2'	2.13	0.49
1:0:2502:C:C2'	1:0:2503:A:H5'	2.42	0.49
1:0:2587:U:O2	1:0:2589:U:H5'	2.13	0.49
5:9:91:C:H2'	5:9:92:G:O4'	2.12	0.49
1:0:1855:G:O6	6:A:141:PRO:HG2	2.12	0.49
7:B:142:LEU:HD22	7:B:182:VAL:CG2	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:66:GLU:HG2	37:B:641:HOH:O	2.12	0.49
16:K:4:LYS:HA	16:K:7:GLN:HG2	1.92	0.49
17:L:172:GLY:C	17:L:183:VAL:HG11	2.32	0.49
19:N:25:VAL:HG23	19:N:26:TRP:CE3	2.48	0.49
20:O:59:ARG:O	20:O:62:ALA:HB3	2.12	0.49
22:Q:43:ALA:O	22:Q:47:LEU:HG	2.13	0.49
27:V:139:GLY:O	27:V:141:HIS:HD2	1.96	0.49
27:V:38:THR:HG22	37:V:217:HOH:O	2.12	0.49
28:W:71:ARG:N	37:W:101:HOH:O	2.43	0.49
31:Z:21:ARG:NH1	31:Z:45:ARG:HD3	2.27	0.49
1:0:1015:C:H2'	1:0:1016:U:C6	2.47	0.49
1:0:1076:G:O2'	1:0:1077:G:H5'	2.11	0.49
1:0:1150:A:H2	12:G:20:VAL:HG21	1.77	0.49
1:0:1117:A:N6	1:0:1244:U:HO2'	2.11	0.49
1:0:1450:C:C4'	1:0:1451:C:OP2	2.58	0.49
1:0:1503:U:H2'	1:0:1504:A:O4'	2.12	0.49
1:0:1446:U:O2'	1:0:1677:U:H2'	2.13	0.49
1:0:1684:A:H1'	1:0:1691:A:H1'	1.94	0.49
1:0:1773:G:C2'	1:0:1774:G:H5'	2.42	0.49
1:0:1867:G:N2	1:0:1868:G:H1'	2.28	0.49
1:0:2411:C:O2'	1:0:2412:G:H5'	2.13	0.49
1:0:363:A:H1'	37:0:3877:HOH:O	2.12	0.49
6:A:179:MET:HA	6:A:179:MET:CE	2.43	0.49
6:A:215:ILE:HD11	6:A:219:ALA:HB2	1.94	0.49
1:0:2819:C:H4'	7:B:97:LEU:O	2.13	0.49
9:D:91:ALA:HB1	37:D:223:HOH:O	2.11	0.49
11:F:53:ASP:OD2	11:F:80:GLN:HB3	2.12	0.49
13:H:113:ALA:N	13:H:114:PRO:CD	2.75	0.49
27:V:42:ARG:O	27:V:45:VAL:HG22	2.13	0.49
1:0:1128:U:H5''	1:0:1129:C:OP2	2.13	0.49
1:0:1134:G:H4'	13:H:151:MET:CE	2.43	0.49
1:0:1135:G:P	37:H:204:HOH:O	2.71	0.49
1:0:11:A:O3'	22:Q:60:LYS:NZ	2.45	0.49
1:0:1859:A:H8	1:0:1859:A:O5'	1.95	0.49
1:0:2004:U:H2'	1:0:2005:G:OP1	2.13	0.49
1:0:299:U:H5'	37:0:3445:HOH:O	2.11	0.49
1:0:332:G:O5'	1:0:332:G:H8	1.96	0.49
1:0:45:A:N6	1:0:147:G:H2'	2.28	0.49
1:0:603:A:H5''	1:0:604:G:OP1	2.12	0.49
1:0:61:G:C6	1:0:86:A:N6	2.81	0.49
1:0:699:C:H2'	1:0:744:G:N3	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:792:G:O2'	1:0:793:A:H5'	2.13	0.49
8:C:19:PRO:HB3	8:C:244:ALA:HB2	1.94	0.49
13:H:49:VAL:O	13:H:157:ILE:HG23	2.12	0.49
14:I:6:PHE:HB3	14:I:109:TYR:OH	2.13	0.49
14:I:15:ARG:HA	14:I:43:ARG:O	2.12	0.49
17:L:5:TYR:CE2	17:L:46:LEU:HD13	2.48	0.49
17:L:61:ILE:HG22	17:L:62:VAL:N	2.27	0.49
29:X:112:GLU:OE1	29:X:115:ARG:NH1	2.45	0.49
29:X:141:THR:O	29:X:142:SER:C	2.51	0.49
1:0:1237:U:H3	1:0:1241:G:P	2.36	0.49
1:0:1477:C:C5'	1:0:1868:G:H5''	2.43	0.49
1:0:2533:C:H5'	1:0:2533:C:H6	1.78	0.49
1:0:2839:C:H2'	1:0:2840:A:H5''	1.95	0.49
1:0:513:A:N3	37:0:3283:HOH:O	2.35	0.49
1:0:821:U:H2'	1:0:822:C:H6	1.78	0.49
1:0:848:C:H5'	37:0:3412:HOH:O	2.11	0.49
37:0:5689:HOH:O	3:2:66:ASP:HB2	2.11	0.49
5:9:20:G:H3'	37:9:316:HOH:O	2.12	0.49
7:B:103:ASP:HB2	37:B:575:HOH:O	2.12	0.49
7:B:195:ARG:NE	7:B:323:LEU:HD13	2.28	0.49
7:B:258:GLY:N	7:B:260:HIS:CE1	2.80	0.49
37:0:3543:HOH:O	7:B:337:GLY:N	2.46	0.49
10:E:81:GLU:HG2	10:E:134:SER:CB	2.43	0.49
1:0:2309:C:O2'	13:H:113:ALA:N	2.46	0.49
13:H:12:PRO:O	13:H:91:HIS:HE1	1.96	0.49
14:I:142:ASN:O	14:I:144:THR:N	2.46	0.49
14:I:89:HIS:O	14:I:95:ARG:HB2	2.12	0.49
15:J:105:ARG:O	15:J:105:ARG:HG2	2.13	0.49
15:J:35:HIS:HB2	37:J:346:HOH:O	2.13	0.49
17:L:48:ARG:NH1	37:L:301:HOH:O	2.45	0.49
21:P:8:GLU:O	21:P:10:THR:HG23	2.12	0.49
37:0:3699:HOH:O	27:V:119:HIS:HE1	1.94	0.49
1:0:1137:G:C5'	1:0:1138:G:OP1	2.59	0.49
1:0:1351:G:H3'	37:0:7814:HOH:O	2.12	0.49
1:0:1388:U:H2'	1:0:1389:G:O4'	2.13	0.49
1:0:1474:C:O2'	1:0:1475:G:H5'	2.13	0.49
1:0:1657:A:N6	37:0:3503:HOH:O	2.44	0.49
1:0:216:A:H2'	1:0:217:C:H6	1.78	0.49
1:0:2466:G:H5''	37:0:6588:HOH:O	2.12	0.49
1:0:306:A:H2'	1:0:341:C:O2'	2.13	0.49
10:E:107:PHE:CE2	10:E:108:LEU:HD13	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:77:GLY:O	14:I:79:PHE:N	2.46	0.49
16:K:149:ARG:O	16:K:150:GLN:HB2	2.12	0.49
20:O:7:LYS:HD2	20:O:21:VAL:CG2	2.43	0.49
27:V:1:MET:CE	27:V:101:LEU:HD23	2.42	0.49
30:Y:39:CYS:SG	30:Y:62:TYR:HD2	2.36	0.49
1:O:1019:C:O2'	1:O:1020:A:H5'	2.13	0.48
1:O:1081:A:H5''	37:O:7179:HOH:O	2.12	0.48
1:O:1313:A:H5'	29:X:208:LYS:O	2.12	0.48
1:O:1380:U:H2'	37:O:8155:HOH:O	2.13	0.48
1:O:1462:C:H2'	1:O:1463:A:C8	2.48	0.48
1:O:1829:A:H61	30:Y:18:TYR:CA	2.26	0.48
1:O:2300:A:C4'	1:O:2301:A:O5'	2.60	0.48
1:O:240:C:H5''	1:O:270:U:O4	2.13	0.48
1:O:2480:G:O2'	1:O:2481:G:H5'	2.13	0.48
1:O:2727:A:C6	1:O:2756:U:C2	3.01	0.48
37:O:3546:HOH:O	7:B:48:MET:N	2.46	0.48
7:B:41:PHE:CE1	7:B:79:MET:HG3	2.47	0.48
8:C:31:ILE:HD13	8:C:229:PRO:HB3	1.94	0.48
9:D:139:TYR:HB3	37:D:202:HOH:O	2.12	0.48
9:D:18:ILE:HG12	9:D:134:LEU:CD2	2.43	0.48
9:D:64:ARG:HD3	9:D:67:ASP:HB3	1.93	0.48
17:L:37:VAL:HG21	17:L:108:LYS:HE3	1.94	0.48
1:O:183:A:C5'	17:L:157:LEU:HD12	2.43	0.48
37:2:227:HOH:O	17:L:84:LYS:HE2	2.13	0.48
21:P:45:PRO:O	21:P:51:ARG:NH2	2.46	0.48
22:Q:39:THR:O	22:Q:41:GLY:N	2.46	0.48
24:S:43:ASN:ND2	24:S:108:ARG:NE	2.60	0.48
25:T:45:GLU:HB3	37:T:215:HOH:O	2.13	0.48
1:O:1266:U:O3'	29:X:115:ARG:NH2	2.46	0.48
1:O:1689:A:OP2	1:O:1689:A:H8	1.96	0.48
1:O:2059:U:H2'	1:O:2060:A:C8	2.48	0.48
1:O:2325:C:H2'	1:O:2326:U:H6	1.78	0.48
1:O:2588:G:H3'	1:O:2589:U:H5''	1.94	0.48
1:O:2657:G:O2'	1:O:2842:G:N7	2.42	0.48
1:O:358:G:H3'	37:O:7912:HOH:O	2.13	0.48
1:O:764:C:C2'	1:O:765:G:H5'	2.43	0.48
5:9:119:C:H2'	5:9:120:A:C8	2.48	0.48
8:C:193:LEU:HA	8:C:211:ASP:O	2.13	0.48
17:L:12:TRP:HB2	37:L:406:HOH:O	2.12	0.48
20:O:80:ARG:HG2	20:O:87:ARG:NE	2.28	0.48
24:S:27:LEU:HD21	24:S:40:VAL:HB	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:112:GLU:HA	29:X:112:GLU:OE1	2.14	0.48
1:0:1003:U:O2	13:H:90:PHE:HZ	1.96	0.48
1:0:1088:A:C6	1:0:1291:A:H1'	2.48	0.48
1:0:1527:A:O2'	1:0:1528:A:O5'	2.31	0.48
1:0:1711:A:O2'	1:0:1712:A:H5'	2.12	0.48
1:0:1941:A:HO2'	1:0:1942:A:P	2.35	0.48
1:0:2415:A:C2'	1:0:2416:G:H5'	2.40	0.48
1:0:2729:C:H1'	1:0:2864:U:O2'	2.13	0.48
1:0:2732:U:O2'	1:0:2733:U:H5'	2.13	0.48
1:0:2747:C:H4'	1:0:2748:G:H4'	1.94	0.48
1:0:2754:G:H4'	37:0:6082:HOH:O	2.12	0.48
1:0:849:C:O2'	1:0:850:U:H5'	2.12	0.48
37:0:5920:HOH:O	7:B:236:ILE:HA	2.13	0.48
7:B:24:PRO:HG2	7:B:204:GLY:HA2	1.96	0.48
10:E:11:VAL:HG12	10:E:12:ASP:H	1.78	0.48
10:E:81:GLU:O	10:E:172:PRO:HD3	2.12	0.48
13:H:27:LYS:N	13:H:58:HIS:HD2	2.05	0.48
3:2:46:ILE:HD13	17:L:87:MET:HB3	1.96	0.48
18:M:175:LEU:O	18:M:176:ARG:C	2.49	0.48
23:R:10:VAL:CG1	26:U:36:ALA:HA	2.38	0.48
27:V:35:VAL:CG2	27:V:41:TYR:CD2	2.96	0.48
30:Y:33:HIS:NE2	37:Y:201:HOH:O	2.35	0.48
1:0:202:U:H2'	1:0:203:G:O4'	2.13	0.48
1:0:559:U:H6	1:0:559:U:H5'	1.78	0.48
1:0:585:C:H5''	37:0:7364:HOH:O	2.12	0.48
1:0:87:C:H2'	2:1:30:ASP:OD2	2.14	0.48
1:0:88:G:C2	2:1:24:TRP:HB2	2.48	0.48
7:B:223:ARG:NH1	7:B:232:TRP:CB	2.76	0.48
7:B:258:GLY:H	7:B:260:HIS:HE1	1.61	0.48
7:B:53:LEU:HD21	7:B:270:ILE:HG23	1.94	0.48
12:G:27:ILE:HD13	12:G:71:LEU:HD23	1.95	0.48
13:H:136:VAL:HG22	13:H:137:ASN:N	2.27	0.48
14:I:46:ILE:HA	37:I:304:HOH:O	2.13	0.48
17:L:87:MET:H	17:L:87:MET:HG3	1.41	0.48
18:M:58:LEU:N	18:M:58:LEU:CD1	2.76	0.48
23:R:57:THR:HG22	23:R:59:ASP:H	1.78	0.48
26:U:64:GLY:O	26:U:65:ASP:CB	2.62	0.48
27:V:48:VAL:O	27:V:48:VAL:HG12	2.14	0.48
30:Y:30:GLU:HA	30:Y:33:HIS:CB	2.43	0.48
1:0:1617:C:H5''	1:0:1618:G:OP2	2.13	0.48
1:0:198:A:C5	1:0:2444:U:O4'	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2483:A:H4'	37:0:5975:HOH:O	2.14	0.48
1:0:2768:A:O2'	1:0:2769:C:H5'	2.13	0.48
1:0:485:A:H4'	1:0:486:A:OP1	2.12	0.48
1:0:881:C:H2'	37:0:5626:HOH:O	2.11	0.48
1:0:2715:G:N2	7:B:264:GLU:OE1	2.46	0.48
8:C:161:ASP:HA	37:C:545:HOH:O	2.12	0.48
8:C:5:ILE:HG22	8:C:6:TYR:N	2.28	0.48
13:H:46:VAL:O	13:H:146:TRP:HH2	1.97	0.48
16:K:143:THR:HG22	16:K:144:ASP:H	1.77	0.48
1:0:220:C:C2	16:K:48:LYS:HE2	2.49	0.48
17:L:184:ARG:HG3	17:L:185:PRO:HA	1.95	0.48
17:L:85:ARG:HA	17:L:87:MET:CE	2.43	0.48
18:M:163:PHE:O	18:M:164:ASP:O	2.32	0.48
19:N:96:VAL:CG1	19:N:100:GLN:HB2	2.43	0.48
21:P:53:HIS:N	35:P:102:CL:CL	2.76	0.48
22:Q:50:VAL:HA	22:Q:55:GLN:O	2.14	0.48
25:T:13:ILE:HG12	25:T:32:CYS:HB2	1.94	0.48
1:0:2034:U:H5''	37:0:7528:HOH:O	2.13	0.48
1:0:2379:G:H8	37:0:4249:HOH:O	1.97	0.48
1:0:2674:G:H1'	1:0:2813:A:N6	2.28	0.48
1:0:2842:G:H2'	1:0:2843:A:C5'	2.43	0.48
8:C:136:VAL:HA	8:C:137:PRO:O	2.14	0.48
11:F:16:ALA:HA	11:F:111:ILE:HD13	1.96	0.48
13:H:157:ILE:CG2	13:H:158:ASN:N	2.77	0.48
24:S:71:VAL:HG12	24:S:72:ILE:N	2.28	0.48
27:V:149:LEU:HG	27:V:153:MET:CE	2.42	0.48
29:X:127:GLN:HB2	37:X:409:HOH:O	2.13	0.48
1:0:1009:U:O2'	1:0:1010:C:C5	2.66	0.48
1:0:1020:A:H2'	1:0:1021:G:C8	2.48	0.48
1:0:155:C:OP2	17:L:188:ARG:NH1	2.35	0.48
1:0:1594:C:O2'	1:0:1595:G:H5'	2.13	0.48
1:0:228:C:C2'	1:0:229:G:H5'	2.43	0.48
1:0:2322:U:H4'	1:0:2323:G:OP1	2.14	0.48
1:0:2429:A:H2'	1:0:2430:A:C8	2.49	0.48
1:0:24:G:O2'	1:0:25:A:P	2.71	0.48
1:0:2573:G:O2'	1:0:2574:G:H5'	2.14	0.48
1:0:2735:U:H2'	1:0:2736:U:H6	1.79	0.48
1:0:297:U:H2'	1:0:298:C:C6	2.49	0.48
1:0:764:C:H2'	1:0:765:G:O4'	2.14	0.48
1:0:824:G:H2'	1:0:826:U:OP1	2.13	0.48
1:0:907:A:H4'	1:0:1328:A:C2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:40:ARG:HD2	2:1:47:THR:HG22	1.95	0.48
3:2:16:GLU:HG3	3:2:18:GLN:HE21	1.78	0.48
37:B:523:HOH:O	14:I:104:TYR:HA	2.13	0.48
16:K:98:GLU:O	16:K:99:GLU:HB2	2.14	0.48
17:L:47:ASP:CG	17:L:48:ARG:N	2.67	0.48
18:M:152:GLU:C	18:M:154:LEU:H	2.17	0.48
18:M:97:VAL:HG12	18:M:127:LEU:HD11	1.96	0.48
27:V:54:PHE:CZ	27:V:140:LYS:HB2	2.49	0.48
1:0:1003:U:H4'	13:H:86:ARG:O	2.13	0.48
1:0:1589:G:N2	1:0:1605:G:C2'	2.77	0.48
1:0:1736:A:OP1	7:B:231:GLY:HA2	2.14	0.48
1:0:2463:A:C4'	1:0:2464:C:OP2	2.59	0.48
1:0:477:A:C2	1:0:478:C:C2	3.02	0.48
1:0:877:G:H5'	1:0:878:G:OP1	2.14	0.48
8:C:20:ASP:O	8:C:23:GLU:N	2.46	0.48
1:0:2780:C:C1'	10:E:143:GLN:HE21	2.26	0.48
10:E:32:ARG:O	10:E:33:LEU:HD23	2.14	0.48
17:L:123:ASP:OD1	17:L:123:ASP:C	2.52	0.48
21:P:41:LEU:N	21:P:41:LEU:HD12	2.28	0.48
26:U:27:LEU:HD13	26:U:49:LEU:HB3	1.96	0.48
27:V:4:LEU:HB2	27:V:33:THR:CG2	2.43	0.48
28:W:22:ASN:O	28:W:24:LYS:N	2.46	0.48
1:0:1020:A:H2'	1:0:1021:G:H8	1.79	0.48
1:0:1158:G:O2'	1:0:1159:G:H5'	2.14	0.48
1:0:1266:U:H4'	29:X:115:ARG:NH2	2.17	0.48
1:0:1295:G:H5''	16:K:14:GLY:O	2.13	0.48
1:0:1756:G:H1'	37:0:3286:HOH:O	2.12	0.48
1:0:2054:A:N3	22:Q:128:ARG:NH2	2.62	0.48
1:0:230:C:O2'	1:0:231:G:H5'	2.14	0.48
1:0:761:A:H5'	1:0:763:C:OP2	2.13	0.48
1:0:954:U:H3'	37:0:3457:HOH:O	2.13	0.48
6:A:105:VAL:HG12	6:A:106:CYS:N	2.28	0.48
37:0:6635:HOH:O	6:A:11:ARG:HA	2.13	0.48
6:A:33:GLU:O	6:A:34:ASP:HB2	2.14	0.48
6:A:9:ARG:NE	37:A:424:HOH:O	2.47	0.48
7:B:76:THR:N	7:B:77:PRO:HD3	2.28	0.48
17:L:157:LEU:HA	35:L:202:CL:CL	2.50	0.48
17:L:173:LEU:HD23	17:L:183:VAL:HG12	1.96	0.48
17:L:37:VAL:CG1	17:L:63:VAL:HG11	2.43	0.48
21:P:77:ASP:O	21:P:79:GLY:N	2.47	0.48
1:0:1262:C:H1'	27:V:120:PRO:HG3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:26:SER:HB3	31:Z:35:SER:OG	2.14	0.48
1:0:1270:U:H2'	1:0:1271:A:H8	1.79	0.48
1:0:1346:U:H2'	1:0:1347:U:C6	2.49	0.48
1:0:1921:A:O2'	1:0:1922:A:H5'	2.14	0.48
1:0:2561:C:O2'	1:0:2562:G:H5'	2.14	0.48
1:0:473:A:O2'	1:0:474:C:H5'	2.14	0.48
3:2:35:TRP:HA	3:2:38:ARG:NH1	2.28	0.48
6:A:105:VAL:O	6:A:126:ALA:N	2.35	0.48
7:B:144:THR:CG2	7:B:145:HIS:N	2.77	0.48
7:B:70:PRO:O	7:B:71:VAL:CG2	2.62	0.48
9:D:27:ILE:HD11	9:D:37:ALA:CB	2.36	0.48
14:I:92:GLN:O	14:I:96:GLU:HB2	2.14	0.48
17:L:48:ARG:O	17:L:52:LEU:HG	2.14	0.48
24:S:46:ASP:OD1	24:S:101:LEU:HA	2.14	0.48
24:S:26:THR:HG23	24:S:26:THR:O	2.13	0.48
26:U:42:ASN:O	26:U:44:GLY:N	2.47	0.48
31:Z:22:CYS:SG	31:Z:24:GLU:N	2.79	0.48
1:0:1085:C:H2'	1:0:1086:A:C5'	2.44	0.47
1:0:114:A:H5'	1:0:115:U:OP1	2.14	0.47
1:0:139:C:H4'	1:0:140:G:C2	2.49	0.47
1:0:1647:G:O2'	1:0:1648:G:H5'	2.14	0.47
1:0:185:G:C4'	1:0:186:A:OP1	2.61	0.47
1:0:1901:G:O2'	1:0:1902:G:H5'	2.14	0.47
1:0:2121:G:H5''	37:0:4557:HOH:O	2.12	0.47
1:0:2691:A:N1	1:0:2702:A:H5''	2.28	0.47
1:0:358:G:C2'	1:0:359:U:OP2	2.62	0.47
1:0:80:A:H1'	1:0:81:G:O4'	2.14	0.47
1:0:868:G:O5'	1:0:870:G:H1'	2.14	0.47
5:9:74:G:H1	5:9:107:C:H42	1.62	0.47
5:9:43:G:C2	5:9:47:A:C2	3.02	0.47
8:C:236:THR:HA	37:C:424:HOH:O	2.14	0.47
1:0:264:G:O6	11:F:32:GLY:HA3	2.14	0.47
22:Q:145:LEU:HD12	22:Q:146:ILE:N	2.28	0.47
24:S:105:ASP:OD1	24:S:107:LYS:N	2.42	0.47
27:V:122:ARG:NH1	27:V:122:ARG:CG	2.76	0.47
29:X:151:SER:HB3	29:X:154:ARG:CB	2.44	0.47
30:Y:10:ARG:HG3	30:Y:11:THR:H	1.78	0.47
1:0:1058:A:H2'	1:0:1060:C:C5'	2.44	0.47
1:0:1309:U:H2'	1:0:1310:U:O4'	2.14	0.47
1:0:1851:G:O2'	1:0:1852:A:H5'	2.14	0.47
1:0:1878:G:H1'	37:0:3893:HOH:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2272:G:N2	1:0:2273:C:H1'	2.29	0.47
1:0:746:A:H4'	1:0:747:G:C5'	2.43	0.47
1:0:799:C:O2'	1:0:800:G:H5'	2.15	0.47
1:0:904:U:O2	1:0:1354:G:O5'	2.33	0.47
5:9:98:C:O2'	5:9:99:U:H5'	2.14	0.47
9:D:23:VAL:CG2	9:D:73:VAL:HB	2.44	0.47
12:G:19:GLU:HG3	12:G:23:ILE:HD11	1.96	0.47
13:H:137:ASN:ND2	37:H:206:HOH:O	2.46	0.47
15:J:87:ARG:NE	37:J:315:HOH:O	2.48	0.47
16:K:126:SER:O	16:K:129:ALA:HB3	2.14	0.47
17:L:173:LEU:HA	17:L:183:VAL:HG11	1.96	0.47
18:M:140:GLN:O	18:M:143:ARG:HB2	2.13	0.47
18:M:73:ALA:HB1	18:M:74:PRO:HD2	1.95	0.47
26:U:12:THR:HG23	26:U:14:ALA:N	2.30	0.47
26:U:57:LYS:HA	26:U:60:GLN:HE21	1.80	0.47
1:0:1503:U:H3'	1:0:1503:U:H6	1.80	0.47
1:0:1666:C:O2'	1:0:1667:A:H5'	2.14	0.47
1:0:1862:C:O2'	1:0:1863:G:H5'	2.14	0.47
1:0:2451:G:H8	37:0:3393:HOH:O	1.97	0.47
1:0:2526:C:O2'	1:0:2527:U:H5'	2.14	0.47
1:0:2756:U:H2'	1:0:2757:A:C8	2.50	0.47
1:0:2793:A:H2'	1:0:2794:G:H5'	1.96	0.47
1:0:451:C:H2'	1:0:452:G:O4'	2.15	0.47
1:0:901:G:OP2	16:K:18:HIS:HE1	1.96	0.47
1:0:98:A:H2'	1:0:99:A:H5'	1.96	0.47
3:2:84:ARG:HG3	3:2:84:ARG:HH11	1.78	0.47
5:9:13:A:H1'	5:9:114:G:C5	2.49	0.47
8:C:141:SER:HB2	37:C:551:HOH:O	2.14	0.47
9:D:54:ALA:CB	9:D:69:ILE:HD12	2.40	0.47
16:K:145:LEU:HD23	16:K:145:LEU:O	2.13	0.47
16:K:35:ARG:HB2	16:K:35:ARG:NH1	2.30	0.47
1:0:709:G:O2'	19:N:25:VAL:HG12	2.13	0.47
19:N:35:LYS:O	19:N:40:HIS:NE2	2.48	0.47
1:0:1088:A:OP2	1:0:1261:A:H4'	2.14	0.47
1:0:1253:C:H2'	1:0:1254:C:H6	1.80	0.47
1:0:1798:C:O5'	1:0:1798:C:H6	1.96	0.47
1:0:1847:A:C8	1:0:1848:G:C8	3.03	0.47
1:0:2084:C:N4	37:0:3612:HOH:O	2.46	0.47
1:0:2670:G:N2	37:0:3512:HOH:O	2.44	0.47
1:0:2821:C:H4'	7:B:116:PRO:HG3	1.97	0.47
5:9:6:C:OP1	18:M:37:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:217:ARG:HE	7:B:257:THR:HG22	1.78	0.47
8:C:107:ARG:O	8:C:110:ALA:N	2.48	0.47
9:D:173:GLU:OE1	9:D:174:VAL:HG23	2.14	0.47
13:H:154:THR:HB	13:H:155:PRO:HD3	1.97	0.47
1:0:380:A:C4	17:L:13:LYS:HG2	2.49	0.47
17:L:49:ALA:C	17:L:54:TYR:HB3	2.33	0.47
22:Q:104:PHE:HB2	22:Q:109:MET:HE1	1.95	0.47
22:Q:39:THR:O	22:Q:40:ALA:C	2.53	0.47
26:U:12:THR:HG22	26:U:15:GLU:H	1.79	0.47
1:0:1292:G:O5'	1:0:1292:G:H8	1.97	0.47
1:0:1389:G:H1'	1:0:1435:U:O2	2.15	0.47
1:0:1525:G:H2'	1:0:1526:A:H8	1.74	0.47
1:0:2776:A:H2'	1:0:2777:G:O4'	2.14	0.47
1:0:282:C:H1'	1:0:368:C:H42	1.80	0.47
1:0:2851:G:H2'	1:0:2902:A:N6	2.28	0.47
1:0:2866:U:H5'	37:0:7935:HOH:O	2.13	0.47
1:0:458:G:C2	1:0:464:G:C4	3.02	0.47
1:0:731:U:H2'	1:0:732:C:H6	1.80	0.47
7:B:280:VAL:HG13	7:B:333:GLU:O	2.15	0.47
7:B:40:GLY:HA2	7:B:311:PHE:O	2.15	0.47
8:C:69:HIS:CD2	8:C:69:HIS:N	2.80	0.47
9:D:25:MET:CE	9:D:37:ALA:HB1	2.43	0.47
10:E:98:GLU:OE1	10:E:103:VAL:HG21	2.14	0.47
13:H:47:GLU:HB3	13:H:133:ILE:HD13	1.95	0.47
1:0:392:U:H5''	17:L:193:LYS:HB3	1.96	0.47
20:O:71:LYS:HG2	37:O:267:HOH:O	2.13	0.47
23:R:57:THR:CG2	23:R:58:MET:N	2.77	0.47
24:S:43:ASN:HB2	24:S:46:ASP:OD2	2.14	0.47
28:W:76:ARG:O	28:W:77:PHE:HB3	2.14	0.47
37:0:6032:HOH:O	30:Y:17:ARG:HG2	2.14	0.47
1:0:1023:C:C2'	1:0:1024:G:H5'	2.44	0.47
1:0:1268:C:O2'	1:0:1269:G:H5'	2.14	0.47
1:0:1688:G:N1	1:0:1692:C:H2'	2.21	0.47
1:0:220:C:H1'	37:0:5823:HOH:O	2.14	0.47
1:0:2597:U:H5''	37:0:3268:HOH:O	2.13	0.47
1:0:876:A:O2'	1:0:877:G:H5'	2.14	0.47
5:9:119:C:O2'	5:9:120:A:H5'	2.14	0.47
7:B:147:VAL:O	7:B:147:VAL:HG12	2.14	0.47
15:J:80:ILE:O	15:J:87:ARG:HA	2.15	0.47
17:L:134:ILE:HG23	17:L:141:ILE:HD13	1.96	0.47
18:M:13:ARG:HD3	37:M:358:HOH:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:7:LYS:HE3	21:P:21:ARG:O	2.14	0.47
27:V:54:PHE:CE1	27:V:140:LYS:HB2	2.49	0.47
28:W:87:ALA:O	28:W:88:GLU:HG2	2.14	0.47
1:O:1710:A:H5''	1:O:1711:A:OP2	2.15	0.47
1:O:2634:G:H2'	1:O:2635:A:H8	1.80	0.47
1:O:778:C:C2	1:O:881:C:O4'	2.68	0.47
1:O:954:U:O2'	1:O:955:A:H5'	2.14	0.47
5:9:2:U:H4'	37:9:301:HOH:O	2.14	0.47
6:A:127:GLN:HB3	6:A:139:LYS:HB3	1.95	0.47
7:B:43:GLY:O	7:B:309:VAL:HG22	2.15	0.47
7:B:6:PRO:HB3	37:B:613:HOH:O	2.13	0.47
7:B:74:ILE:HG13	37:B:501:HOH:O	2.15	0.47
8:C:107:ARG:CB	8:C:107:ARG:HH11	2.27	0.47
14:I:71:TYR:CD2	14:I:72:PRO:O	2.67	0.47
20:O:36:THR:O	20:O:39:ASP:HB2	2.14	0.47
20:O:76:GLY:C	20:O:78:GLY:N	2.67	0.47
21:P:33:PHE:HE2	21:P:93:ARG:HG3	1.79	0.47
29:X:178:HIS:CD2	29:X:229:LEU:HD13	2.50	0.47
30:Y:27:ALA:HA	37:Y:218:HOH:O	2.14	0.47
30:Y:57:CYS:O	30:Y:61:GLY:N	2.39	0.47
1:O:1619:G:H2'	1:O:1620:C:C6	2.48	0.47
1:O:842:C:O2	1:O:1693:A:H2'	2.14	0.47
1:O:2270:G:H4'	6:A:223:ARG:NH1	2.20	0.47
1:O:2581:U:H5''	1:O:2582:G:H5'	1.96	0.47
1:O:2700:G:H2'	1:O:2701:G:H5'	1.96	0.47
1:O:289:G:N2	1:O:363:A:H2	2.13	0.47
7:B:82:VAL:HG12	7:B:101:TRP:CE3	2.50	0.47
9:D:86:THR:O	9:D:90:LEU:HG	2.14	0.47
10:E:101:GLU:HB3	10:E:117:THR:HA	1.97	0.47
14:I:45:VAL:HG22	14:I:46:ILE:N	2.30	0.47
14:I:71:TYR:CD1	14:I:72:PRO:HD2	2.50	0.47
17:L:134:ILE:O	17:L:136:PRO:HD3	2.15	0.47
37:O:4174:HOH:O	19:N:37:ARG:CG	2.62	0.47
23:R:20:PHE:CD2	23:R:20:PHE:N	2.81	0.47
25:T:36:CYS:SG	25:T:51:TRP:HH2	2.37	0.47
28:W:52:PRO:O	28:W:53:SER:C	2.52	0.47
29:X:107:PRO:HD3	29:X:182:PHE:CE1	2.49	0.47
1:O:1131:G:C6	1:O:1230:A:C4	3.03	0.47
1:O:1544:U:H2'	1:O:1545:C:C6	2.50	0.47
1:O:1566:C:O2'	1:O:1567:A:H5'	2.15	0.47
1:O:1574:C:H6	1:O:1574:C:O5'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1882:C:OP1	6:A:192:VAL:N	2.43	0.47
1:0:1925:G:H5'	3:2:29:ARG:HH12	1.79	0.47
1:0:2033:G:C6	1:0:2038:A:C2	3.03	0.47
1:0:922:A:N7	1:0:2281:C:H5'	2.30	0.47
1:0:2474:A:H4'	1:0:2475:C:C5'	2.45	0.47
1:0:2747:C:H4'	1:0:2748:G:C4'	2.45	0.47
1:0:656:G:H2'	1:0:657:G:H8	1.80	0.47
1:0:661:G:C5	1:0:686:A:C2	3.03	0.47
5:9:108:C:O2'	5:9:109:G:H5'	2.15	0.47
6:A:200:PRO:CG	6:A:225:VAL:HG21	2.44	0.47
7:B:139:ASP:HB2	7:B:165:ARG:NE	2.30	0.47
8:C:219:ASN:O	8:C:222:ASP:OD1	2.33	0.47
9:D:84:LEU:HD22	9:D:88:LEU:HD21	1.96	0.47
11:F:101:ALA:HB2	11:F:108:LEU:HD23	1.96	0.47
17:L:106:ASN:HB2	17:L:114:VAL:CG2	2.45	0.47
17:L:174:ARG:NH1	37:L:310:HOH:O	2.42	0.47
17:L:77:PHE:CD1	17:L:77:PHE:O	2.68	0.47
3:2:47:GLY:CA	17:L:83:SER:HB2	2.45	0.47
18:M:154:LEU:O	18:M:155:GLU:CB	2.62	0.47
29:X:156:GLY:O	29:X:157:ILE:C	2.52	0.47
29:X:189:ASN:C	29:X:189:ASN:ND2	2.62	0.47
1:0:1392:A:O2'	1:0:1394:C:OP2	2.31	0.47
1:0:1618:G:O2'	1:0:1619:G:H5'	2.15	0.47
1:0:1930:A:C6	1:0:1931:A:C6	3.03	0.47
1:0:2040:C:H2'	1:0:2041:G:O4'	2.14	0.47
1:0:2681:A:H62	7:B:10:SER:HA	1.80	0.47
7:B:222:LYS:O	7:B:223:ARG:C	2.52	0.47
9:D:11:HIS:O	9:D:12:GLU:HB3	2.15	0.47
11:F:4:VAL:HG13	11:F:76:PHE:CD1	2.49	0.47
13:H:50:VAL:CG2	13:H:125:VAL:HG11	2.44	0.47
16:K:65:ASP:OD1	16:K:109:LEU:HB2	2.15	0.47
18:M:143:ARG:HA	18:M:172:PHE:CD2	2.50	0.47
19:N:113:VAL:C	19:N:114:ILE:HD13	2.36	0.47
21:P:43:ILE:HA	21:P:90:HIS:ND1	2.30	0.47
22:Q:39:THR:HB	22:Q:42:GLU:CG	2.44	0.47
26:U:1:THR:HG23	26:U:2:VAL:HG23	1.96	0.47
6:A:167:LYS:CE	30:Y:26:VAL:HG13	2.44	0.47
1:0:1473:U:O2'	31:Z:41:LYS:HE2	2.15	0.47
1:0:1154:A:H2'	1:0:1155:G:C8	2.50	0.47
1:0:1268:C:H2'	1:0:1269:G:H8	1.80	0.47
1:0:1727:G:H5'	37:0:4763:HOH:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2493:C:H5''	1:0:2494:G:OP1	2.14	0.47
1:0:2897:C:H2'	1:0:2898:G:C8	2.50	0.47
1:0:367:G:O2'	1:0:368:C:H5'	2.15	0.47
1:0:487:G:H1'	1:0:512:G:H21	1.80	0.47
1:0:640:G:H1'	37:0:4381:HOH:O	2.15	0.47
1:0:656:G:O2'	1:0:657:G:H5'	2.14	0.47
2:1:13:LYS:O	2:1:16:ASN:N	2.48	0.47
1:0:1845:A:P	6:A:190:ARG:NH1	2.88	0.47
8:C:19:PRO:HG2	8:C:22:PHE:CD1	2.50	0.47
9:D:41:LEU:O	9:D:44:ILE:HG22	2.15	0.47
13:H:44:ALA:HB3	13:H:136:VAL:O	2.15	0.47
1:0:2503:A:P	13:H:147:ARG:HH22	2.38	0.47
13:H:50:VAL:HA	13:H:157:ILE:HG12	1.97	0.47
14:I:46:ILE:HG12	14:I:53:ILE:HD13	1.96	0.47
1:0:380:A:C6	17:L:13:LYS:HD3	2.50	0.47
11:F:61:MET:HB3	17:L:19:GLN:OE1	2.15	0.47
18:M:171:HIS:CE1	37:M:308:HOH:O	2.68	0.47
18:M:37:ARG:NE	18:M:105:GLY:HA3	2.30	0.47
20:O:76:GLY:O	20:O:78:GLY:N	2.47	0.47
21:P:21:ARG:NH2	37:P:207:HOH:O	2.46	0.47
24:S:51:LEU:HD11	24:S:97:ARG:HB2	1.97	0.47
24:S:63:ILE:N	24:S:73:HIS:O	2.46	0.47
28:W:87:ALA:O	28:W:88:GLU:CG	2.63	0.47
1:0:1039:G:H2'	1:0:1040:A:O4'	2.15	0.46
1:0:1096:U:O2'	1:0:1097:A:H5'	2.15	0.46
1:0:1270:U:O2'	1:0:1271:A:H5'	2.15	0.46
1:0:1441:G:H1'	37:0:6651:HOH:O	2.15	0.46
1:0:1496:G:H2'	1:0:1497:G:C8	2.50	0.46
1:0:1776:A:O2'	1:0:1777:G:H5''	2.14	0.46
1:0:404:G:H5''	1:0:2131:G:O4'	2.15	0.46
1:0:2353:A:O2'	18:M:7:LYS:HB3	2.15	0.46
1:0:2726:U:P	1:0:2755:G:H22	2.38	0.46
1:0:2871:G:C6	1:0:2872:U:C4	3.04	0.46
1:0:381:G:OP1	17:L:48:ARG:NH2	2.39	0.46
1:0:452:G:H4'	1:0:455:A:N3	2.30	0.46
1:0:522:U:O2'	1:0:1366:C:H5'	2.16	0.46
1:0:654:A:H2'	1:0:655:U:C6	2.51	0.46
5:9:4:G:O2'	18:M:44:ARG:NH2	2.48	0.46
5:9:76:G:C3'	5:9:77:A:H5''	2.41	0.46
6:A:121:ALA:O	6:A:124:VAL:HG22	2.15	0.46
37:0:5476:HOH:O	6:A:182:ARG:HD2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:51:VAL:HG13	7:B:53:LEU:CD1	2.45	0.46
8:C:103:ASN:HB2	8:C:106:GLU:HB2	1.96	0.46
14:I:52:GLN:HG3	14:I:53:ILE:N	2.29	0.46
16:K:32:ASP:O	16:K:35:ARG:HB3	2.15	0.46
17:L:185:PRO:HG2	17:L:189:VAL:HG11	1.97	0.46
17:L:71:SER:O	17:L:73:ARG:NH1	2.48	0.46
21:P:46:SER:O	21:P:48:PRO:HD3	2.14	0.46
27:V:154:ARG:HB3	27:V:154:ARG:HE	1.45	0.46
29:X:143:TRP:CE2	29:X:164:VAL:HG23	2.50	0.46
1:0:1448:A:H4'	37:0:3565:HOH:O	2.14	0.46
1:0:2050:G:H3'	37:0:3360:HOH:O	2.15	0.46
1:0:2271:G:H5'	1:0:2272:G:N7	2.30	0.46
1:0:492:C:O2'	1:0:493:U:H5'	2.16	0.46
3:2:14:CYS:CB	3:2:18:GLN:HE22	2.28	0.46
6:A:100:PRO:HG2	6:A:103:VAL:CG2	2.41	0.46
7:B:24:PRO:HD3	37:B:524:HOH:O	2.15	0.46
7:B:206:THR:HA	7:B:303:GLY:H	1.80	0.46
7:B:41:PHE:N	37:B:521:HOH:O	2.48	0.46
8:C:185:LYS:N	37:C:410:HOH:O	2.48	0.46
1:0:263:U:O4	11:F:80:GLN:OE1	2.34	0.46
13:H:130:HIS:CG	13:H:133:ILE:HD11	2.50	0.46
16:K:91:VAL:HG13	16:K:120:LEU:HD23	1.96	0.46
16:K:92:ASP:HA	16:K:121:ILE:HB	1.98	0.46
18:M:73:ALA:HB1	18:M:74:PRO:CD	2.46	0.46
26:U:12:THR:HG23	26:U:14:ALA:HB3	1.97	0.46
1:0:1014:A:H2'	1:0:1015:C:H5'	1.97	0.46
1:0:1515:A:C2	1:0:1672:G:C2	3.03	0.46
1:0:1684:A:O2'	1:0:1685:A:H5'	2.15	0.46
1:0:1754:A:H2'	1:0:1755:A:O4'	2.16	0.46
1:0:1762:C:H2'	1:0:1763:C:H6	1.81	0.46
1:0:1769:C:O5'	1:0:1769:C:H6	1.97	0.46
1:0:840:U:C2	1:0:2648:U:C4	3.04	0.46
1:0:541:C:O2'	1:0:542:A:H5"	2.14	0.46
1:0:630:A:H2	1:0:2072:G:OP2	1.99	0.46
1:0:714:U:H6	1:0:714:U:O5'	1.98	0.46
1:0:777:U:H2'	37:0:4817:HOH:O	2.15	0.46
1:0:910:C:O2'	1:0:932:U:OP1	2.28	0.46
1:0:968:G:O2'	1:0:969:G:H5'	2.15	0.46
7:B:27:ASN:H	7:B:27:ASN:ND2	2.03	0.46
7:B:301:VAL:O	7:B:302:PRO:O	2.34	0.46
8:C:219:ASN:N	8:C:222:ASP:OD1	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:139:ASP:HA	37:H:211:HOH:O	2.16	0.46
14:I:24:SER:HA	14:I:86:MET:SD	2.55	0.46
15:J:114:ALA:O	15:J:117:VAL:HG23	2.16	0.46
20:O:27:ARG:HD3	20:O:48:ALA:HB2	1.98	0.46
22:Q:89:LEU:HA	22:Q:89:LEU:HD23	1.78	0.46
37:O:8317:HOH:O	29:X:208:LYS:HD2	2.15	0.46
1:O:1004:C:O2'	1:O:1005:A:H5'	2.16	0.46
1:O:1009:U:O2'	1:O:1010:C:H5	1.98	0.46
1:O:1130:U:H5'	37:O:5078:HOH:O	2.16	0.46
1:O:1700:C:N4	37:O:3691:HOH:O	2.48	0.46
1:O:1730:G:C5'	1:O:1731:C:H6	2.25	0.46
1:O:1998:G:C6	1:O:1999:C:C4	3.04	0.46
1:O:2757:A:C2'	1:O:2758:G:H5'	2.45	0.46
1:O:2791:U:C4	1:O:2794:G:C6	3.03	0.46
1:O:2815:G:C4'	1:O:2816:A:OP2	2.59	0.46
1:O:664:U:O2'	1:O:665:A:H5'	2.15	0.46
1:O:894:A:H5''	1:O:895:A:OP2	2.15	0.46
1:O:963:C:H2'	1:O:964:G:C8	2.50	0.46
5:9:1:U:O3'	5:9:3:A:H5'	2.16	0.46
7:B:29:TRP:CH2	7:B:164:THR:HA	2.51	0.46
7:B:51:VAL:CG2	7:B:327:VAL:HG13	2.44	0.46
13:H:31:PHE:HE2	13:H:87:LYS:O	1.97	0.46
16:K:133:VAL:HG13	37:K:311:HOH:O	2.15	0.46
1:O:2055:A:H5'	22:Q:134:SER:HB2	1.98	0.46
27:V:110:GLN:NE2	27:V:110:GLN:CA	2.78	0.46
27:V:93:ILE:HB	37:V:206:HOH:O	2.14	0.46
1:O:1041:U:H2'	1:O:1042:U:H5'	1.98	0.46
1:O:1159:G:H1	1:O:1208:C:H42	1.64	0.46
1:O:1589:G:O2'	1:O:1590:A:H8	1.99	0.46
1:O:1680:C:H2'	1:O:1681:G:O4'	2.15	0.46
1:O:1832:G:O2'	1:O:1833:U:H5'	2.15	0.46
1:O:1905:U:H2'	1:O:1906:C:C6	2.51	0.46
1:O:1981:A:O2'	1:O:1983:C:N4	2.49	0.46
1:O:2083:A:H2'	1:O:2084:C:H5''	1.98	0.46
1:O:2103:A:H2'	1:O:2104:C:H5'	1.97	0.46
1:O:2626:C:H2'	1:O:2627:G:C8	2.50	0.46
1:O:675:U:H6	1:O:675:U:O5'	1.99	0.46
1:O:708:A:H2'	1:O:709:G:O4'	2.14	0.46
1:O:783:C:O2'	1:O:784:A:H5'	2.16	0.46
1:O:78:G:C6	1:O:79:G:N1	2.83	0.46
1:O:816:G:C6	1:O:817:G:C6	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:795:G:H2'	1:0:817:G:H22	1.80	0.46
1:0:926:A:O2'	16:K:41:HIS:CD2	2.69	0.46
6:A:195:ASN:HB2	6:A:197:VAL:HG12	1.96	0.46
7:B:168:GLY:O	7:B:174:ARG:NH1	2.49	0.46
8:C:180:SER:HB2	37:C:408:HOH:O	2.14	0.46
5:9:57:A:C8	9:D:141:VAL:HG21	2.50	0.46
10:E:100:ASP:HB2	37:E:230:HOH:O	2.15	0.46
10:E:154:ILE:HD11	10:E:157:LYS:CE	2.45	0.46
13:H:57:ARG:HG3	13:H:57:ARG:HH11	1.81	0.46
14:I:107:ASN:ND2	14:I:109:TYR:HB2	2.27	0.46
14:I:77:GLY:O	14:I:80:LYS:N	2.49	0.46
17:L:61:ILE:CG2	17:L:62:VAL:N	2.77	0.46
19:N:40:HIS:HA	37:N:307:HOH:O	2.14	0.46
1:0:1013:A:C2	1:0:1014:A:H1'	2.49	0.46
1:0:2241:C:H2'	1:0:2242:U:H6	1.79	0.46
1:0:2700:G:C2'	1:0:2701:G:H5'	2.45	0.46
1:0:2911:C:H2'	1:0:2912:C:H6	1.80	0.46
1:0:418:C:H2'	1:0:419:A:C8	2.50	0.46
2:1:1:GLY:HA3	37:1:112:HOH:O	2.15	0.46
7:B:162:MET:HE2	7:B:310:ARG:HD3	1.96	0.46
7:B:217:ARG:HD3	7:B:218:TRP:NE1	2.31	0.46
7:B:251:VAL:HG23	7:B:252:PRO:HD2	1.97	0.46
8:C:16:VAL:CG1	8:C:17:ASP:N	2.77	0.46
8:C:236:THR:O	8:C:237:GLU:C	2.53	0.46
13:H:142:VAL:C	13:H:144:GLU:N	2.69	0.46
13:H:68:ALA:CB	13:H:145:ALA:O	2.63	0.46
14:I:93:ARG:HH11	14:I:93:ARG:HB3	1.79	0.46
15:J:53:ILE:HG13	15:J:55:VAL:HG23	1.98	0.46
16:K:144:ASP:O	16:K:147:GLU:HB2	2.15	0.46
16:K:38:HIS:CD2	16:K:39:GLU:HG3	2.51	0.46
17:L:31:TRP:HA	17:L:34:GLU:HG3	1.97	0.46
17:L:69:LYS:O	17:L:73:ARG:NH2	2.49	0.46
17:L:81:ARG:O	17:L:86:MET:HE2	2.16	0.46
18:M:72:GLU:H	18:M:171:HIS:HE1	1.63	0.46
24:S:50:VAL:HG11	24:S:55:PHE:C	2.36	0.46
1:0:111:C:O2'	31:Z:20:ARG:HG2	2.15	0.46
1:0:1023:C:H2'	1:0:1024:G:O4'	2.15	0.46
1:0:1175:G:H8	37:0:7234:HOH:O	1.97	0.46
1:0:1211:G:O2'	1:0:1212:C:H5'	2.16	0.46
1:0:1291:A:O2'	1:0:1292:G:H5'	2.16	0.46
1:0:1488:U:C5'	1:0:1489:G:OP1	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:790:A:H4'	1:0:1710:A:C8	2.51	0.46
1:0:1746:A:H61	1:0:1754:A:N6	2.14	0.46
1:0:17:G:H2'	1:0:18:C:H6	1.75	0.46
1:0:1999:C:H2'	1:0:2000:G:H8	1.80	0.46
1:0:2073:G:H1	1:0:2607:U:H1'	1.81	0.46
1:0:2579:G:O2'	1:0:2580:G:H5'	2.16	0.46
1:0:25:A:N6	1:0:518:G:H1'	2.30	0.46
1:0:2831:C:H2'	1:0:2832:C:H5'	1.97	0.46
1:0:319:A:H4'	1:0:338:C:C5	2.51	0.46
1:0:10:U:O4	1:0:532:A:OP2	2.34	0.46
1:0:672:G:H1'	37:0:7432:HOH:O	2.15	0.46
1:0:818:A:C6	1:0:819:A:C2	3.03	0.46
1:0:871:G:C8	1:0:871:G:C5'	2.88	0.46
4:5:58:TYR:HB3	4:5:59:GLY:H	1.57	0.46
6:A:51:ARG:HB3	6:A:51:ARG:NH1	2.31	0.46
7:B:2:GLN:HG3	37:B:651:HOH:O	2.16	0.46
15:J:72:VAL:HG11	15:J:121:PHE:CE1	2.50	0.46
15:J:32:ILE:HD11	15:J:56:SER:HB3	1.97	0.46
17:L:63:VAL:HG21	17:L:109:PHE:CZ	2.51	0.46
24:S:52:ARG:O	24:S:53:GLY:O	2.34	0.46
24:S:75:GLU:O	24:S:76:ASP:HB2	2.16	0.46
25:T:49:LEU:HD11	37:T:201:HOH:O	2.14	0.46
31:Z:22:CYS:SG	31:Z:23:GLY:N	2.88	0.46
1:0:1184:C:H2'	1:0:1185:U:H6	1.80	0.46
1:0:1186:C:H42	1:0:1190:G:N2	2.14	0.46
1:0:1392:A:O2'	1:0:1394:C:OP1	2.34	0.46
1:0:1444:G:O2'	1:0:1445:G:H5'	2.16	0.46
1:0:1749:U:H3'	37:0:3204:HOH:O	2.16	0.46
1:0:1778:A:H2'	1:0:1779:A:H5'	1.98	0.46
1:0:1787:C:H4'	1:0:2883:A:O4'	2.14	0.46
1:0:198:A:N7	1:0:2444:U:H5'	2.31	0.46
1:0:2348:C:O2'	1:0:2349:G:H5'	2.16	0.46
1:0:2812:A:H4'	1:0:2813:A:O5'	2.15	0.46
1:0:448:G:H3'	37:C:478:HOH:O	2.15	0.46
1:0:653:C:H2'	1:0:654:A:C8	2.51	0.46
1:0:86:A:O2'	2:1:28:LYS:HE2	2.15	0.46
3:2:13:HIS:CD2	3:2:76:LYS:HB3	2.51	0.46
6:A:128:LEU:HG	37:A:462:HOH:O	2.15	0.46
6:A:172:ALA:O	6:A:173:GLY:C	2.53	0.46
1:0:1872:C:O2'	6:A:26:ASP:HA	2.16	0.46
8:C:238:SER:HB3	37:C:439:HOH:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:46:LEU:O	17:L:47:ASP:C	2.54	0.46
22:Q:4:TYR:N	37:Q:304:HOH:O	2.47	0.46
27:V:13:MET:CE	27:V:17:ILE:HG22	2.45	0.46
1:0:1126:C:O2'	1:0:1128:U:C5	2.68	0.46
1:0:1412:U:O2'	1:0:1413:A:H5'	2.15	0.46
1:0:1570:C:C2'	1:0:1571:G:H5'	2.46	0.46
1:0:175:G:HO2'	1:0:176:U:P	2.36	0.46
1:0:536:A:N6	1:0:2076:U:H5'	2.30	0.46
1:0:2106:C:H2'	1:0:2107:U:C6	2.51	0.46
1:0:2533:C:H3'	37:0:3201:HOH:O	2.16	0.46
1:0:264:G:HO2'	1:0:265:U:H5	1.61	0.46
1:0:2688:U:H2'	1:0:2689:A:H8	1.81	0.46
1:0:2723:G:H1'	37:0:4629:HOH:O	2.15	0.46
1:0:2869:G:H2'	1:0:2870:C:C6	2.51	0.46
1:0:308:U:C2	24:S:52:ARG:NH2	2.84	0.46
1:0:559:U:H2'	1:0:560:C:O4'	2.15	0.46
6:A:199:HIS:CG	6:A:200:PRO:HD2	2.51	0.46
6:A:66:ARG:CB	6:A:66:ARG:NH1	2.78	0.46
7:B:265:LEU:N	7:B:265:LEU:HD12	2.31	0.46
8:C:24:THR:HG23	8:C:25:PRO:HD2	1.97	0.46
9:D:57:THR:HG23	9:D:63:ILE:CG2	2.44	0.46
12:G:19:GLU:O	12:G:20:VAL:C	2.54	0.46
1:0:1007:A:H2'	13:H:19:TYR:CE1	2.51	0.46
37:0:3237:HOH:O	13:H:95:GLU:HA	2.15	0.46
16:K:53:ARG:NH2	16:K:57:VAL:HG12	2.31	0.46
37:0:3460:HOH:O	17:L:104:ARG:HG3	2.14	0.46
17:L:24:MET:HB3	17:L:28:MET:HE3	1.97	0.46
18:M:115:VAL:HG23	18:M:116:PHE:N	2.30	0.46
23:R:25:GLN:CG	23:R:65:VAL:HG22	2.46	0.46
1:0:100:C:H5'	24:S:16:LEU:HD12	1.97	0.46
24:S:78:THR:CB	24:S:86:GLU:HG2	2.45	0.46
28:W:85:VAL:HG12	28:W:86:GLU:N	2.30	0.46
1:0:1335:C:H2'	1:0:1336:U:C6	2.50	0.46
1:0:1441:G:H2'	1:0:1442:A:H8	1.81	0.46
1:0:2087:C:O2'	1:0:2088:C:H5'	2.16	0.46
1:0:2847:G:H4'	37:0:3369:HOH:O	2.15	0.46
1:0:407:A:H3'	37:0:3234:HOH:O	2.15	0.46
1:0:558:C:C2'	1:0:559:U:C5'	2.93	0.46
2:1:10:ARG:O	2:1:11:LEU:C	2.55	0.46
5:9:47:A:C2	5:9:48:C:C2	3.04	0.46
6:A:9:ARG:O	6:A:10:GLY:C	2.54	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:128:LEU:HD13	6:A:138:VAL:HG22	1.98	0.46
7:B:223:ARG:NH1	7:B:232:TRP:HB3	2.31	0.46
7:B:7:ARG:CG	7:B:7:ARG:NH1	2.79	0.46
8:C:21:VAL:C	8:C:23:GLU:H	2.20	0.46
8:C:27:ARG:HG3	8:C:29:ASP:OD1	2.16	0.46
10:E:86:VAL:HA	10:E:166:VAL:HA	1.98	0.46
11:F:100:ASP:O	11:F:101:ALA:O	2.34	0.46
12:G:63:ARG:HB2	12:G:66:LEU:HG	1.97	0.46
15:J:113:ILE:HD12	15:J:128:ALA:HB2	1.98	0.46
17:L:35:PRO:HG2	17:L:38:VAL:HG23	1.97	0.46
20:O:109:ARG:NH1	20:O:119:TYR:CE2	2.84	0.46
23:R:51:GLN:NE2	37:R:203:HOH:O	2.49	0.46
28:W:12:ILE:O	28:W:69:LYS:HA	2.16	0.46
28:W:22:ASN:C	28:W:24:LYS:H	2.18	0.46
30:Y:11:THR:O	30:Y:11:THR:HG23	2.16	0.46
31:Z:19:CYS:HA	31:Z:27:TYR:HB2	1.98	0.46
1:O:1042:U:O2'	1:O:1043:C:H5'	2.16	0.45
1:O:1419:U:H2'	1:O:1685:A:C2	2.51	0.45
1:O:2115:U:H2'	1:O:2116:U:H6	1.79	0.45
1:O:2758:G:H2'	1:O:2759:C:H6	1.81	0.45
1:O:2829:G:N2	1:O:2912:C:C2	2.84	0.45
1:O:289:G:N2	1:O:363:A:C2	2.84	0.45
1:O:370:G:N2	1:O:371:U:C2	2.84	0.45
1:O:381:G:H5''	37:O:3623:HOH:O	2.15	0.45
1:O:458:G:C6	1:O:459:A:C6	3.04	0.45
1:O:559:U:O2'	1:O:560:C:H5'	2.16	0.45
5:9:14:G:C8	5:9:14:G:H5'	2.45	0.45
5:9:39:U:H1'	5:9:44:A:H61	1.81	0.45
5:9:11:A:C2	5:9:69:U:O4'	2.69	0.45
6:A:66:ARG:CB	6:A:66:ARG:HH11	2.29	0.45
7:B:181:ILE:HD11	37:B:587:HOH:O	2.15	0.45
1:O:2862:G:H4'	7:B:336:GLN:O	2.17	0.45
11:F:9:PRO:O	11:F:12:LEU:N	2.48	0.45
13:H:113:ALA:N	13:H:114:PRO:HD3	2.31	0.45
13:H:139:ASP:N	13:H:140:PRO:CD	2.75	0.45
13:H:13:ALA:HA	13:H:91:HIS:CE1	2.51	0.45
14:I:97:ALA:O	14:I:100:SER:N	2.45	0.45
14:I:36:VAL:CG1	14:I:37:ALA:N	2.79	0.45
16:K:143:THR:CG2	16:K:144:ASP:H	2.28	0.45
17:L:134:ILE:CG2	17:L:141:ILE:HD13	2.46	0.45
18:M:14:ARG:C	18:M:16:ALA:N	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:8:ARG:NH1	37:W:104:HOH:O	2.49	0.45
30:Y:11:THR:CG2	30:Y:23:ARG:HB2	2.46	0.45
30:Y:40:PRO:CD	30:Y:64:ILE:HD13	2.46	0.45
1:0:1609:C:H2'	1:0:1610:G:H8	1.81	0.45
1:0:1667:A:H2'	1:0:1668:U:C6	2.50	0.45
1:0:1702:U:H1'	37:0:3886:HOH:O	2.16	0.45
1:0:191:A:N1	1:0:236:A:O2'	2.49	0.45
1:0:2033:G:C2	1:0:2038:A:C5	3.04	0.45
1:0:2113:G:O2'	1:0:2114:C:H5'	2.16	0.45
1:0:213:G:O2'	1:0:225:G:N1	2.49	0.45
1:0:2467:A:H3'	37:0:4925:HOH:O	2.16	0.45
1:0:2709:G:O2'	1:0:2710:U:H5'	2.17	0.45
1:0:736:A:H5''	37:0:3521:HOH:O	2.16	0.45
4:5:41:ILE:HD11	4:5:49:VAL:CG1	2.46	0.45
5:9:24:U:O2'	5:9:25:G:C5'	2.64	0.45
7:B:232:TRP:CD1	7:B:235:ARG:HD2	2.52	0.45
7:B:2:GLN:HB2	37:B:591:HOH:O	2.15	0.45
13:H:35:ASN:ND2	13:H:80:ASN:HA	2.31	0.45
17:L:157:LEU:HD23	37:L:430:HOH:O	2.16	0.45
17:L:77:PHE:HE2	17:L:86:MET:HB3	1.80	0.45
18:M:14:ARG:C	18:M:16:ALA:H	2.19	0.45
1:0:841:A:C8	22:Q:129:ALA:HB1	2.51	0.45
25:T:52:THR:HG22	25:T:54:THR:H	1.81	0.45
27:V:110:GLN:HE21	27:V:110:GLN:CA	2.26	0.45
27:V:17:ILE:O	27:V:20:THR:HB	2.17	0.45
1:0:1165:G:O2'	1:0:1174:A:H1'	2.16	0.45
1:0:1278:A:P	19:N:19:ARG:HH22	2.39	0.45
1:0:779:U:H5'	1:0:1836:A:C2	2.51	0.45
1:0:2311:A:H4'	13:H:115:PHE:CZ	2.51	0.45
1:0:2370:A:H5''	1:0:2371:G:OP2	2.15	0.45
1:0:2898:G:H4'	7:B:288:GLY:HA2	1.98	0.45
1:0:485:A:H1'	1:0:486:A:C8	2.51	0.45
1:0:51:G:O2'	1:0:52:A:H5'	2.15	0.45
3:2:65:THR:HB	3:2:83:TRP:H	1.81	0.45
5:9:92:G:H2'	5:9:93:A:H8	1.71	0.45
6:A:95:PRO:HA	6:A:153:ARG:HA	1.97	0.45
7:B:90:THR:C	7:B:92:TYR:H	2.20	0.45
14:I:97:ALA:O	14:I:101:VAL:HG23	2.16	0.45
5:9:28:U:H5''	18:M:40:ASN:ND2	2.32	0.45
21:P:66:LYS:HD3	21:P:68:GLY:O	2.16	0.45
22:Q:120:GLY:O	22:Q:140:GLN:N	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:141:VAL:HG12	22:Q:142:ASP:N	2.31	0.45
24:S:26:THR:OG1	24:S:32:ARG:NH2	2.47	0.45
1:O:1331:A:O2'	1:O:1332:C:H5'	2.17	0.45
1:O:1514:C:H2'	1:O:1515:A:C8	2.52	0.45
1:O:1642:A:C8	1:O:1643:C:C5	3.04	0.45
1:O:1882:C:H5''	6:A:192:VAL:CG2	2.47	0.45
1:O:2103:A:N3	1:O:2103:A:H2'	2.32	0.45
1:O:2411:C:H4'	37:O:4941:HOH:O	2.17	0.45
1:O:2397:G:C5	1:O:2465:A:C6	3.04	0.45
1:O:2517:A:O2'	1:O:2518:C:H5'	2.16	0.45
1:O:2517:A:C2'	1:O:2518:C:H5'	2.46	0.45
1:O:2554:U:C4'	1:O:2555:C:OP1	2.57	0.45
1:O:381:G:O2'	1:O:382:U:H5	1.98	0.45
1:O:958:G:O2'	1:O:959:C:H5'	2.16	0.45
2:1:22:PRO:HG2	2:1:25:VAL:CG2	2.46	0.45
6:A:211:LYS:HB2	37:A:421:HOH:O	2.16	0.45
7:B:49:THR:HG21	7:B:331:SER:O	2.17	0.45
11:F:101:ALA:HB2	11:F:108:LEU:CD2	2.46	0.45
11:F:62:HIS:O	11:F:63:ILE:C	2.54	0.45
13:H:32:ASP:C	13:H:33:MET:HG3	2.37	0.45
13:H:81:TYR:C	13:H:81:TYR:CD1	2.90	0.45
1:O:197:C:OP2	16:K:56:LYS:HD2	2.16	0.45
18:M:114:LYS:O	18:M:117:ALA:HB3	2.16	0.45
22:Q:39:THR:O	22:Q:42:GLU:N	2.49	0.45
27:V:67:ALA:HB2	27:V:93:ILE:HD13	1.97	0.45
31:Z:17:THR:N	31:Z:27:TYR:O	2.50	0.45
1:O:1572:A:O2'	1:O:1573:A:H5'	2.17	0.45
1:O:1893:C:O2	1:O:1968:A:H2	2.00	0.45
1:O:2125:G:H4'	37:O:8118:HOH:O	2.15	0.45
1:O:786:G:O2'	1:O:787:G:H5'	2.17	0.45
6:A:200:PRO:HA	37:A:471:HOH:O	2.17	0.45
9:D:50:VAL:O	9:D:71:ALA:HA	2.17	0.45
10:E:36:PRO:CG	14:I:127:ILE:HB	2.47	0.45
13:H:45:GLN:HE21	13:H:135:TRP:HZ2	1.64	0.45
13:H:86:ARG:HD3	13:H:133:ILE:HG12	1.98	0.45
14:I:8:ALA:HA	14:I:35:THR:HG22	1.99	0.45
15:J:115:ARG:HD2	15:J:116:GLU:OE2	2.16	0.45
16:K:73:VAL:HG21	16:K:116:HIS:CD2	2.52	0.45
18:M:164:ASP:OD1	18:M:167:ASP:HA	2.16	0.45
27:V:54:PHE:C	27:V:146:ILE:HD11	2.36	0.45
1:O:101:C:H2'	1:O:102:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:939:A:N6	1:0:1031:G:H1'	2.31	0.45
1:0:1119:G:C6	1:0:1243:C:C4	3.05	0.45
1:0:1251:C:H2'	1:0:1252:A:O4'	2.17	0.45
1:0:1423:C:O2'	1:0:1424:A:H5'	2.16	0.45
1:0:1476:A:H8	1:0:1476:A:O5'	2.00	0.45
1:0:1513:C:O2'	1:0:1514:C:H5'	2.16	0.45
1:0:24:G:HO2'	1:0:25:A:H8	1.61	0.45
1:0:2687:G:O2'	1:0:2688:U:H5'	2.17	0.45
1:0:2752:C:O2'	1:0:2753:G:H5'	2.16	0.45
1:0:2873:C:N4	1:0:2874:G:C6	2.85	0.45
1:0:30:U:C4	1:0:452:G:O2'	2.70	0.45
5:9:45:A:H2'	5:9:46:C:C6	2.52	0.45
6:A:53:ALA:HB1	6:A:54:PRO:HD2	1.99	0.45
6:A:8:ARG:HG2	37:A:405:HOH:O	2.17	0.45
8:C:73:LEU:N	8:C:76:ARG:O	2.36	0.45
11:F:58:GLU:OE1	17:L:27:ARG:NH2	2.36	0.45
13:H:153:VAL:HG21	13:H:157:ILE:CD1	2.47	0.45
13:H:150:LYS:HB2	13:H:157:ILE:HB	1.99	0.45
15:J:66:ARG:HH11	15:J:66:ARG:HG2	1.80	0.45
16:K:98:GLU:O	16:K:99:GLU:CB	2.63	0.45
17:L:52:LEU:HD13	17:L:116:ASN:OD1	2.16	0.45
17:L:39:ARG:CA	17:L:63:VAL:HG22	2.34	0.45
37:O:3403:HOH:O	20:O:37:ARG:HB2	2.16	0.45
20:O:13:VAL:CG2	20:O:41:ARG:HG2	2.46	0.45
29:X:133:HIS:CD2	37:X:435:HOH:O	2.68	0.45
37:O:6879:HOH:O	31:Z:10:LYS:HB3	2.16	0.45
1:0:1266:U:H2'	1:0:1267:C:O4'	2.17	0.45
1:0:1701:A:C5'	1:0:1702:U:O5'	2.65	0.45
1:0:1866:A:N7	1:0:1867:G:H1'	2.31	0.45
1:0:1905:U:H2'	1:0:1906:C:H6	1.80	0.45
1:0:214:U:H5'	37:O:7574:HOH:O	2.16	0.45
1:0:228:C:H2'	1:0:229:G:H5'	1.98	0.45
1:0:2443:C:O2'	16:K:56:LYS:HE3	2.17	0.45
1:0:2578:G:C8	1:0:2578:G:H5'	2.46	0.45
1:0:537:G:C6	1:0:620:A:C8	3.04	0.45
1:0:625:U:H5'	37:O:3746:HOH:O	2.16	0.45
1:0:629:A:H2'	1:0:630:A:O4'	2.16	0.45
2:1:43:ARG:HD3	37:1:136:HOH:O	2.17	0.45
6:A:153:ARG:HD3	37:A:526:HOH:O	2.15	0.45
8:C:12:THR:HB	37:C:429:HOH:O	2.16	0.45
8:C:135:GLU:HB3	37:C:450:HOH:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:69:HIS:CD2	8:C:69:HIS:H	2.34	0.45
18:M:34:LEU:HD22	18:M:129:ILE:HD13	1.99	0.45
24:S:78:THR:HB	24:S:86:GLU:HG2	1.99	0.45
29:X:218:GLU:OE1	29:X:232:THR:OG1	2.25	0.45
30:Y:32:LYS:HA	30:Y:35:LYS:HG3	1.99	0.45
31:Z:28:HIS:NE2	31:Z:31:LYS:HE2	2.31	0.45
1:0:114:A:C4'	1:0:115:U:OP1	2.63	0.45
1:0:1501:A:H4'	37:0:6307:HOH:O	2.16	0.45
1:0:1447:U:H3'	1:0:1506:U:O2	2.16	0.45
1:0:1570:C:O2'	1:0:1571:G:H5'	2.16	0.45
1:0:1708:C:O4'	20:O:86:ALA:HB1	2.16	0.45
1:0:222:A:H2'	1:0:223:G:O4'	2.17	0.45
1:0:2630:G:N2	1:0:2633:A:OP2	2.48	0.45
1:0:482:G:N2	1:0:484:A:H3'	2.32	0.45
1:0:894:A:N1	8:C:87:ARG:NH2	2.65	0.45
1:0:2317:C:OP2	3:2:62:THR:HB	2.17	0.45
5:9:42:C:O2	9:D:76:ARG:NH1	2.49	0.45
11:F:41:GLU:OE2	17:L:2:ARG:HB2	2.17	0.45
1:0:2264:A:OP1	17:L:71:SER:HB3	2.17	0.45
22:Q:19:ARG:O	22:Q:20:GLU:C	2.55	0.45
15:J:87:ARG:HB2	25:T:19:THR:HG23	1.98	0.45
25:T:20:MET:CE	25:T:30:HIS:NE2	2.80	0.45
27:V:113:SER:HA	27:V:114:PRO:HD3	1.81	0.45
29:X:214:ARG:HG2	29:X:214:ARG:HH11	1.82	0.45
30:Y:62:TYR:CE2	30:Y:64:ILE:HG23	2.51	0.45
1:0:1191:A:H3'	1:0:1192:A:H5''	1.99	0.45
1:0:907:A:H4'	1:0:1328:A:N1	2.30	0.45
1:0:12:U:C2'	1:0:13:G:H5'	2.47	0.45
1:0:1875:A:OP1	6:A:120:ARG:N	2.45	0.45
1:0:2784:A:H8	1:0:2784:A:O5'	2.00	0.45
1:0:418:C:C4	1:0:2442:G:N2	2.85	0.45
1:0:450:C:H6	1:0:450:C:O5'	1.99	0.45
1:0:99:A:N1	24:S:20:HIS:NE2	2.61	0.45
6:A:36:ASP:OD2	6:A:85:ASP:HB2	2.16	0.45
7:B:185:GLY:HA2	37:B:566:HOH:O	2.16	0.45
7:B:55:ASN:HB3	7:B:64:GLY:H	1.82	0.45
9:D:167:GLU:C	9:D:169:THR:H	2.20	0.45
11:F:49:PHE:HE1	11:F:98:VAL:HG23	1.82	0.45
18:M:47:LEU:HD23	18:M:47:LEU:HA	1.71	0.45
19:N:14:LEU:HD23	19:N:102:ILE:HD11	1.99	0.45
1:0:654:A:OP2	19:N:38:ARG:HD3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:2:ASP:C	20:O:2:ASP:OD1	2.54	0.45
1:O:1717:A:H5''	20:O:54:LYS:HB2	1.98	0.45
1:O:2393:C:H4'	21:P:78:GLY:HA3	1.99	0.45
28:W:34:ARG:HG3	28:W:34:ARG:HH11	1.81	0.45
29:X:211:ALA:HA	29:X:214:ARG:HD3	1.99	0.45
29:X:234:VAL:HG12	29:X:235:GLU:N	2.32	0.45
31:Z:37:CYS:SG	31:Z:39:PHE:CB	3.05	0.45
1:O:1181:A:C2'	1:O:1182:C:H5'	2.47	0.45
1:O:1236:A:H2'	1:O:1237:U:O4'	2.17	0.45
1:O:1318:A:H2'	1:O:1319:G:O4'	2.17	0.45
1:O:1359:U:O5'	1:O:1360:C:H5''	2.17	0.45
1:O:2102:G:C2	1:O:2104:C:C4	3.05	0.45
1:O:2316:G:H2'	1:O:2462:G:O6	2.17	0.45
1:O:2321:A:O2'	1:O:2322:U:O3'	2.35	0.45
1:O:2617:G:C2	1:O:2618:G:C8	3.05	0.45
1:O:2626:C:H2'	1:O:2627:G:H8	1.82	0.45
1:O:2091:G:H22	1:O:2653:A:H2	1.63	0.45
1:O:358:G:O2'	1:O:359:U:OP2	2.34	0.45
3:2:1:MET:SD	3:2:83:TRP:NE1	2.80	0.45
5:9:58:G:H3'	5:9:59:C:C6	2.51	0.45
8:C:78:ARG:HG2	37:C:421:HOH:O	2.16	0.45
13:H:14:TYR:N	13:H:91:HIS:HE1	2.14	0.45
14:I:74:ARG:C	14:I:76:ASP:N	2.70	0.45
16:K:64:ILE:O	16:K:64:ILE:HG23	2.16	0.45
17:L:87:MET:CE	37:L:351:HOH:O	2.66	0.45
18:M:127:LEU:HA	18:M:127:LEU:HD12	1.85	0.45
4:5:50:PRO:HG2	23:R:15:MET:HG3	1.99	0.45
27:V:122:ARG:NH1	27:V:152:ALA:O	2.50	0.45
27:V:21:LEU:HD23	27:V:48:VAL:HG21	1.98	0.45
30:Y:10:ARG:CG	30:Y:11:THR:H	2.28	0.45
30:Y:32:LYS:HA	30:Y:35:LYS:HD2	1.98	0.45
1:O:1507:C:O5'	1:O:1507:C:H6	2.00	0.44
1:O:1510:G:H2'	1:O:1511:U:O4'	2.16	0.44
1:O:1675:C:H5''	2:1:5:LYS:HD2	1.99	0.44
1:O:2768:A:C8	7:B:316:ARG:HB2	2.52	0.44
1:O:429:A:C6	1:O:430:A:C6	3.05	0.44
1:O:72:C:H2'	1:O:73:C:H6	1.81	0.44
1:O:821:U:H2'	1:O:822:C:C6	2.52	0.44
1:O:775:G:O2'	1:O:881:C:C5	2.69	0.44
1:O:889:C:H2'	1:O:890:C:C6	2.52	0.44
9:D:94:ALA:HB3	9:D:174:VAL:CA	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:138:ILE:HG23	10:E:139:GLU:N	2.32	0.44
11:F:104:ALA:C	11:F:106:THR:H	2.21	0.44
1:0:431:G:P	17:L:48:ARG:HH12	2.40	0.44
22:Q:4:TYR:CZ	22:Q:15:LYS:HB3	2.51	0.44
27:V:105:THR:HG23	27:V:106:THR:N	2.31	0.44
28:W:10:VAL:HG13	37:W:115:HOH:O	2.16	0.44
1:0:1131:G:O2'	1:0:1132:A:H5'	2.17	0.44
1:0:1201:C:H2'	1:0:1202:A:H5'	1.99	0.44
1:0:1205:U:H2'	1:0:1206:U:C5'	2.47	0.44
1:0:1532:G:C6	1:0:1533:A:C6	3.05	0.44
1:0:1747:A:H1'	37:0:7019:HOH:O	2.17	0.44
1:0:1754:A:H5''	37:0:3950:HOH:O	2.16	0.44
1:0:2814:A:H4'	1:0:2815:G:H5''	1.98	0.44
1:0:290:C:H2'	1:0:291:C:O4'	2.17	0.44
1:0:703:G:O2'	1:0:704:C:H5'	2.17	0.44
5:9:50:G:C6	5:9:51:A:C6	3.04	0.44
6:A:97:ALA:HA	6:A:131:HIS:NE2	2.32	0.44
6:A:22:ARG:NH1	37:A:426:HOH:O	2.50	0.44
7:B:22:GLU:HA	7:B:205:VAL:HG21	1.99	0.44
7:B:265:LEU:CD2	7:B:316:ARG:HD3	2.47	0.44
8:C:72:LYS:HD2	37:C:536:HOH:O	2.17	0.44
10:E:157:LYS:NZ	37:E:204:HOH:O	2.47	0.44
10:E:6:GLU:HA	10:E:46:THR:HG22	1.99	0.44
10:E:37:ASP:OD1	14:I:125:SER:HB3	2.17	0.44
14:I:19:MET:O	14:I:20:GLY:C	2.55	0.44
17:L:102:GLU:OE2	17:L:117:SER:OG	2.29	0.44
17:L:9:ARG:O	17:L:10:GLU:C	2.55	0.44
17:L:48:ARG:HH11	17:L:52:LEU:HD21	1.80	0.44
37:0:3724:HOH:O	19:N:32:ARG:NH2	2.50	0.44
20:O:134:VAL:O	20:O:137:LEU:HB3	2.17	0.44
20:O:7:LYS:HD3	20:O:23:PHE:CE1	2.53	0.44
23:R:8:PRO:HD2	26:U:32:ALA:HA	1.98	0.44
30:Y:73:THR:HG22	37:Y:213:HOH:O	2.17	0.44
1:0:118:G:N2	1:0:123:U:H1'	2.32	0.44
1:0:159:G:H1	1:0:175:G:HO2'	1.65	0.44
1:0:1971:G:C2'	1:0:1972:U:OP2	2.65	0.44
1:0:207:U:H5'	37:0:7029:HOH:O	2.18	0.44
1:0:2547:C:H2'	1:0:2548:C:H6	1.81	0.44
1:0:2580:G:H1'	37:0:5019:HOH:O	2.16	0.44
1:0:2846:C:H4'	7:B:156:LYS:HB3	1.99	0.44
1:0:287:C:H6	1:0:287:C:O5'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:321:A:H1'	37:0:3740:HOH:O	2.16	0.44
1:0:413:G:H2'	1:0:414:C:C6	2.52	0.44
1:0:621:C:H2'	1:0:622:G:C8	2.53	0.44
1:0:876:A:N7	1:0:878:G:H1'	2.31	0.44
1:0:892:G:C6	1:0:893:C:N3	2.86	0.44
4:5:50:PRO:O	4:5:54:VAL:HG23	2.17	0.44
6:A:14:SER:N	6:A:17:ARG:HH21	2.15	0.44
6:A:81:GLN:HG3	6:A:92:ASN:HD21	1.82	0.44
9:D:15:GLU:HA	9:D:16:PRO:HD3	1.77	0.44
11:F:28:ALA:HB3	11:F:99:THR:O	2.18	0.44
13:H:55:GLN:HE22	13:H:91:HIS:HD2	1.60	0.44
13:H:73:GLN:OE1	13:H:73:GLN:CA	2.64	0.44
14:I:89:HIS:CE1	37:I:333:HOH:O	2.70	0.44
16:K:21:ARG:N	37:K:308:HOH:O	2.50	0.44
18:M:110:THR:HB	18:M:113:SER:OG	2.18	0.44
21:P:18:PRO:O	21:P:21:ARG:HB2	2.18	0.44
22:Q:39:THR:HG23	22:Q:107:GLU:O	2.17	0.44
1:0:317:A:OP1	24:S:52:ARG:O	2.35	0.44
1:0:1205:U:H2'	1:0:1206:U:H5''	1.98	0.44
1:0:1361:C:H1'	8:C:83:ALA:HA	1.99	0.44
1:0:1450:C:O2'	1:0:1493:A:H2'	2.17	0.44
1:0:1500:U:P	20:O:41:ARG:HH22	2.40	0.44
1:0:2251:G:H2'	1:0:2252:A:H8	1.81	0.44
1:0:2325:C:O2'	1:0:2411:C:H1'	2.18	0.44
1:0:24:G:O2'	1:0:25:A:H8	2.01	0.44
1:0:2806:C:H2'	1:0:2807:U:C6	2.53	0.44
1:0:309:C:OP1	24:S:97:ARG:NH2	2.49	0.44
1:0:454:U:H3'	37:0:8058:HOH:O	2.17	0.44
1:0:777:U:O2'	31:Z:11:LYS:HA	2.18	0.44
1:0:841:A:C4	1:0:843:A:C6	3.06	0.44
5:9:104:A:O2'	5:9:105:A:H5'	2.17	0.44
7:B:42:ALA:H	7:B:79:MET:HE2	1.83	0.44
8:C:133:ARG:HG3	8:C:133:ARG:NH1	2.31	0.44
8:C:193:LEU:O	8:C:233:THR:HG23	2.17	0.44
8:C:76:ARG:HG2	8:C:78:ARG:NH1	2.31	0.44
9:D:78:GLU:O	9:D:82:GLU:HG3	2.18	0.44
10:E:103:VAL:CG1	10:E:104:ILE:N	2.81	0.44
17:L:133:LEU:N	17:L:133:LEU:CD1	2.79	0.44
18:M:132:ASN:HA	37:M:345:HOH:O	2.17	0.44
18:M:73:ALA:HB2	18:M:163:PHE:CZ	2.52	0.44
28:W:66:THR:CG2	28:W:67:PRO:HD2	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:187:VAL:CG1	29:X:205:ILE:HA	2.47	0.44
1:O:1886:A:O2'	30:Y:20:LEU:HB2	2.18	0.44
1:O:471:G:H4'	31:Z:16:HIS:CE1	2.52	0.44
1:O:1067:A:C2	1:O:1068:C:C2	3.05	0.44
1:O:2102:G:H2'	37:O:5265:HOH:O	2.17	0.44
1:O:400:C:H2'	1:O:401:C:C6	2.53	0.44
1:O:815:U:O2'	1:O:816:G:H5'	2.18	0.44
1:O:938:G:OP2	1:O:938:G:H8	2.01	0.44
1:O:960:G:N3	1:O:960:G:C2'	2.80	0.44
5:9:27:C:H2'	5:9:28:U:O4'	2.17	0.44
1:O:1942:A:O3'	6:A:213:LYS:HE2	2.18	0.44
7:B:279:THR:OG1	7:B:290:VAL:O	2.32	0.44
8:C:142:ASP:OD1	8:C:236:THR:HG23	2.18	0.44
9:D:69:ILE:HG22	9:D:69:ILE:O	2.18	0.44
10:E:49:ILE:HD11	10:E:69:ILE:CD1	2.46	0.44
16:K:65:ASP:CG	16:K:111:ALA:HB3	2.37	0.44
17:L:52:LEU:HD11	37:L:301:HOH:O	2.16	0.44
19:N:59:VAL:HG23	19:N:111:VAL:HG23	1.99	0.44
21:P:44:ASP:O	21:P:47:VAL:N	2.49	0.44
22:Q:104:PHE:CB	22:Q:109:MET:HE1	2.48	0.44
27:V:65:VAL:HA	27:V:68:THR:HG22	1.99	0.44
37:O:6841:HOH:O	31:Z:12:ASN:HB3	2.17	0.44
31:Z:28:HIS:O	31:Z:30:LYS:N	2.50	0.44
1:O:111:C:H2'	1:O:112:G:O4'	2.18	0.44
1:O:1320:U:H2'	1:O:1321:A:C8	2.52	0.44
1:O:1346:U:H2'	1:O:1347:U:H6	1.83	0.44
1:O:1370:G:N7	22:Q:24:SER:OG	2.45	0.44
1:O:1634:G:H2'	1:O:1635:U:H6	1.79	0.44
1:O:1527:A:H61	1:O:1663:G:H2'	1.83	0.44
1:O:2135:A:O2'	1:O:2136:G:H5'	2.18	0.44
1:O:2357:G:O2'	1:O:2358:U:H5'	2.18	0.44
1:O:809:G:O2'	1:O:810:G:H5'	2.18	0.44
5:9:41:C:N4	9:D:72:LYS:HE3	2.32	0.44
6:A:55:VAL:HG12	6:A:55:VAL:O	2.17	0.44
7:B:142:LEU:HD21	7:B:178:ALA:HB1	1.98	0.44
8:C:178:GLN:C	8:C:180:SER:H	2.19	0.44
1:O:1306:U:OP1	8:C:179:GLY:HA3	2.18	0.44
10:E:82:TYR:CD1	10:E:141:VAL:HG12	2.53	0.44
10:E:20:ILE:O	10:E:30:THR:HA	2.18	0.44
10:E:24:GLY:N	10:E:76:VAL:HB	2.32	0.44
13:H:47:GLU:CB	13:H:133:ILE:CD1	2.95	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:2443:C:O2'	16:K:56:LYS:HE2	2.17	0.44
17:L:187:LEU:HD23	17:L:187:LEU:HA	1.80	0.44
18:M:108:SER:HA	18:M:109:PRO:HD3	1.74	0.44
18:M:37:ARG:CZ	37:M:305:HOH:O	2.66	0.44
21:P:25:PRO:HA	21:P:26:PRO:HD3	1.84	0.44
27:V:29:VAL:O	27:V:30:ASN:HB2	2.18	0.44
28:W:74:ALA:HB2	28:W:85:VAL:CG1	2.47	0.44
28:W:86:GLU:O	28:W:87:ALA:O	2.35	0.44
31:Z:15:THR:HB	31:Z:28:HIS:CE1	2.53	0.44
1:O:1024:G:C6	1:O:1025:C:N3	2.86	0.44
1:O:1448:A:N9	1:O:1506:U:H1'	2.33	0.44
1:O:1562:C:H42	1:O:2738:G:H1	1.65	0.44
1:O:1855:G:N1	1:O:1875:A:C8	2.85	0.44
1:O:1898:G:H2'	1:O:1899:C:C6	2.52	0.44
1:O:840:U:O2	1:O:2055:A:H1'	2.18	0.44
1:O:2531:U:H2'	1:O:2532:A:O4'	2.17	0.44
1:O:2634:G:H2'	1:O:2635:A:C8	2.53	0.44
1:O:2716:G:H5''	7:B:206:THR:CG2	2.34	0.44
1:O:2775:A:C6	1:O:2776:A:C6	3.05	0.44
1:O:782:G:N2	37:O:3844:HOH:O	2.51	0.44
5:9:25:G:H4'	37:9:339:HOH:O	2.17	0.44
7:B:278:PRO:HD3	7:B:294:TYR:CE2	2.52	0.44
9:D:10:PHE:CD1	9:D:11:HIS:N	2.86	0.44
13:H:150:LYS:HA	13:H:153:VAL:HG22	1.99	0.44
13:H:153:VAL:HA	37:H:218:HOH:O	2.17	0.44
13:H:2:PRO:HD2	13:H:5:MET:SD	2.57	0.44
14:I:23:ALA:O	14:I:26:VAL:N	2.50	0.44
18:M:159:TYR:HE2	18:M:163:PHE:HE2	1.66	0.44
18:M:23:ARG:O	18:M:27:LEU:HG	2.17	0.44
23:R:18:MET:HG3	23:R:74:ALA:CB	2.48	0.44
24:S:105:ASP:HA	37:S:324:HOH:O	2.17	0.44
29:X:131:GLN:O	29:X:132:ASP:HB2	2.17	0.44
1:O:1189:A:O2'	1:O:1208:C:H2'	2.17	0.44
1:O:1284:G:N2	37:O:3725:HOH:O	2.49	0.44
1:O:1491:G:H4'	1:O:1492:A:OP2	2.17	0.44
1:O:1816:C:H2'	1:O:1817:U:O4'	2.18	0.44
1:O:2057:U:O5'	1:O:2057:U:H6	2.00	0.44
1:O:2644:C:O2'	1:O:2645:U:H5'	2.18	0.44
1:O:2791:U:O2'	1:O:2792:A:C5'	2.62	0.44
1:O:2843:A:H2'	1:O:2844:C:H5'	1.99	0.44
1:O:947:U:O2'	1:O:948:G:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:46:ILE:HD13	17:L:87:MET:HG2	2.00	0.44
6:A:19:PRO:O	6:A:20:SER:C	2.55	0.44
6:A:51:ARG:O	6:A:53:ALA:N	2.50	0.44
6:A:5:GLN:HB2	37:A:445:HOH:O	2.18	0.44
6:A:84:VAL:HG13	6:A:98:GLU:CG	2.47	0.44
8:C:107:ARG:NH1	8:C:107:ARG:HB3	2.32	0.44
8:C:37:ALA:O	8:C:38:ALA:C	2.56	0.44
11:F:29:VAL:HA	11:F:99:THR:HG22	2.00	0.44
11:F:2:VAL:HG22	11:F:57:GLU:OE1	2.17	0.44
1:0:1109:U:O4	14:I:24:SER:HB3	2.18	0.44
14:I:71:TYR:CG	14:I:72:PRO:HD2	2.53	0.44
17:L:106:ASN:ND2	35:L:202:CL:CL	2.87	0.44
17:L:106:ASN:O	17:L:109:PHE:N	2.47	0.44
18:M:37:ARG:NE	37:M:305:HOH:O	2.51	0.44
20:O:38:GLU:HA	20:O:41:ARG:HH11	1.82	0.44
26:U:17:GLU:O	26:U:20:LEU:HB3	2.17	0.44
29:X:170:SER:HG	29:X:175:ARG:HG3	1.82	0.44
30:Y:17:ARG:O	30:Y:18:TYR:HB2	2.18	0.44
1:0:1046:G:N3	1:0:1082:A:H2	2.15	0.44
1:0:1109:U:C2	14:I:21:ARG:NH1	2.86	0.44
1:0:1118:A:C3'	1:0:1119:G:H5'	2.48	0.44
1:0:130:C:O2'	1:0:131:A:N7	2.51	0.44
1:0:1370:G:OP2	22:Q:26:LYS:NZ	2.48	0.44
1:0:1598:A:H2'	1:0:1599:U:O4'	2.18	0.44
1:0:1650:C:H6	1:0:1650:C:O5'	2.01	0.44
1:0:1870:C:O5'	1:0:1870:C:H6	2.01	0.44
1:0:2754:G:H2'	1:0:2755:G:C5'	2.47	0.44
1:0:285:A:N6	1:0:367:G:H1'	2.33	0.44
2:1:14:LEU:HD23	2:1:14:LEU:HA	1.83	0.44
7:B:130:ASP:HB2	37:B:640:HOH:O	2.18	0.44
7:B:47:GLY:O	7:B:73:VAL:N	2.50	0.44
9:D:146:LYS:NZ	18:M:107:ASN:HD21	2.16	0.44
9:D:146:LYS:NZ	18:M:107:ASN:ND2	2.65	0.44
11:F:104:ALA:C	11:F:106:THR:N	2.70	0.44
11:F:33:THR:HG21	11:F:59:ILE:O	2.17	0.44
13:H:142:VAL:C	13:H:144:GLU:H	2.21	0.44
13:H:150:LYS:HE2	37:H:204:HOH:O	2.17	0.44
13:H:47:GLU:OE2	13:H:162:SER:OG	2.34	0.44
13:H:72:VAL:C	13:H:74:ASN:H	2.20	0.44
16:K:51:PHE:H	16:K:51:PHE:HD2	1.66	0.44
17:L:57:LYS:HG2	17:L:58:GLN:N	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:72:LYS:O	19:N:74:VAL:N	2.41	0.44
23:R:81:ILE:O	23:R:83:VAL:HG23	2.17	0.44
24:S:43:ASN:C	24:S:45:GLY:N	2.71	0.44
29:X:141:THR:HG23	29:X:142:SER:N	2.32	0.44
30:Y:32:LYS:HG2	30:Y:35:LYS:NZ	2.32	0.44
31:Z:16:HIS:N	37:Z:211:HOH:O	2.51	0.44
1:0:101:C:H2'	1:0:102:A:H8	1.83	0.43
1:0:1283:G:O2'	1:0:1284:G:H5'	2.17	0.43
1:0:1314:U:H1'	1:0:1316:G:C2	2.53	0.43
1:0:1819:G:H2'	1:0:1820:G:C5'	2.48	0.43
1:0:192:A:N6	1:0:194:A:C2	2.86	0.43
1:0:2256:G:H2'	1:0:2257:G:C5'	2.48	0.43
1:0:2379:G:O2'	1:0:2418:G:H2'	2.17	0.43
1:0:2825:C:H4'	1:0:2826:G:O4'	2.18	0.43
1:0:593:A:C2'	1:0:594:C:H5'	2.47	0.43
1:0:710:G:C2'	1:0:711:G:H5'	2.48	0.43
3:2:64:LYS:HE2	3:2:84:ARG:NH1	2.33	0.43
3:2:64:LYS:HE2	3:2:84:ARG:HH12	1.83	0.43
5:9:107:C:O2'	5:9:108:C:H5'	2.18	0.43
7:B:62:ARG:HA	7:B:65:MET:CE	2.47	0.43
8:C:104:ASP:OD1	8:C:107:ARG:NH2	2.51	0.43
8:C:214:THR:HG22	8:C:216:SER:N	2.28	0.43
9:D:10:PHE:CG	9:D:11:HIS:N	2.86	0.43
9:D:173:GLU:CG	9:D:174:VAL:H	2.31	0.43
17:L:165:SER:HB3	37:L:303:HOH:O	2.17	0.43
18:M:141:ARG:N	37:M:309:HOH:O	2.50	0.43
19:N:38:ARG:NH1	37:N:304:HOH:O	2.51	0.43
1:0:1719:G:OP1	20:O:18:LYS:HG3	2.18	0.43
31:Z:28:HIS:O	31:Z:32:LYS:N	2.41	0.43
1:0:1055:G:H5'	13:H:114:PRO:O	2.19	0.43
1:0:106:A:C2	1:0:107:U:C2	3.06	0.43
1:0:1347:U:O2'	1:0:1348:A:H5'	2.18	0.43
1:0:1527:A:O2'	1:0:1528:A:C8	2.68	0.43
1:0:1656:A:H2'	1:0:1657:A:O4'	2.18	0.43
1:0:2276:U:H2'	1:0:2277:U:C6	2.53	0.43
1:0:2754:G:H2'	1:0:2755:G:O4'	2.18	0.43
1:0:538:C:O2	1:0:538:C:C2'	2.65	0.43
1:0:820:G:C5'	1:0:821:U:H5'	2.48	0.43
1:0:919:U:P	37:0:3429:HOH:O	2.76	0.43
5:9:28:U:H5	37:9:435:HOH:O	2.01	0.43
6:A:122:SER:O	6:A:124:VAL:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:6803:HOH:O	17:L:91:ILE:HD13	2.18	0.43
21:P:19:ARG:C	21:P:21:ARG:H	2.21	0.43
27:V:8:ARG:HB2	27:V:51:PHE:HB3	2.00	0.43
29:X:142:SER:HB2	37:X:465:HOH:O	2.18	0.43
1:O:1041:U:C2'	1:O:1042:U:H5'	2.48	0.43
1:O:1859:A:H2'	1:O:1860:U:H5'	1.99	0.43
1:O:1878:G:H2'	1:O:1879:U:H6	1.79	0.43
1:O:2630:G:O6	6:A:206:ARG:NH2	2.51	0.43
1:O:2831:C:C2'	1:O:2832:C:H5'	2.48	0.43
1:O:363:A:H2'	1:O:364:C:C6	2.52	0.43
1:O:480:C:H5''	1:O:481:U:OP2	2.19	0.43
1:O:396:U:H5'	3:2:42:ARG:NH1	2.34	0.43
6:A:112:PRO:N	6:A:152:CYS:SG	2.91	0.43
6:A:51:ARG:CB	6:A:51:ARG:NH1	2.81	0.43
7:B:105:PHE:CD1	7:B:115:VAL:HG13	2.54	0.43
8:C:55:ARG:HB2	37:C:462:HOH:O	2.17	0.43
10:E:112:ALA:HA	10:E:113:PRO:HD3	1.87	0.43
10:E:146:ALA:O	10:E:150:GLN:HG2	2.18	0.43
15:J:61:THR:HB	37:J:348:HOH:O	2.18	0.43
16:K:55:GLN:HA	16:K:58:GLN:HE21	1.83	0.43
17:L:54:TYR:HB2	17:L:132:ILE:HD13	1.99	0.43
37:O:3782:HOH:O	17:L:178:LYS:HB2	2.18	0.43
27:V:76:ASP:O	27:V:77:ALA:C	2.56	0.43
37:O:6727:HOH:O	29:X:137:LYS:HD3	2.18	0.43
30:Y:67:GLY:HA3	30:Y:70:GLN:O	2.18	0.43
31:Z:28:HIS:HD2	31:Z:31:LYS:HG3	1.83	0.43
1:O:2519:C:O2'	1:O:2520:G:H5'	2.19	0.43
1:O:2553:A:H5''	37:O:6999:HOH:O	2.18	0.43
1:O:2616:G:H2'	1:O:2645:U:O4	2.17	0.43
1:O:2791:U:C4	1:O:2794:G:O6	2.70	0.43
1:O:318:C:H41	1:O:336:G:H5''	1.84	0.43
1:O:377:C:H5	37:O:4985:HOH:O	2.01	0.43
1:O:766:A:H1'	1:O:2478:U:O2'	2.19	0.43
5:9:114:G:H2'	5:9:115:C:H6	1.79	0.43
6:A:194:MET:HE3	37:A:499:HOH:O	2.18	0.43
9:D:14:ARG:NH1	37:D:208:HOH:O	2.48	0.43
10:E:15:GLN:HG3	10:E:20:ILE:HG12	2.00	0.43
10:E:21:THR:HA	10:E:29:VAL:O	2.18	0.43
14:I:138:THR:C	14:I:140:GLY:H	2.21	0.43
14:I:46:ILE:O	14:I:46:ILE:HG12	2.18	0.43
17:L:156:ARG:NH1	37:L:322:HOH:O	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:64:SER:C	18:M:66:LEU:H	2.21	0.43
20:O:115:SER:C	20:O:117:SER:N	2.71	0.43
20:O:22:TRP:CZ2	20:O:24:ASN:HA	2.53	0.43
25:T:9:CYS:CA	25:T:52:THR:HG23	2.49	0.43
37:O:8155:HOH:O	28:W:23:HIS:HD2	2.00	0.43
29:X:177:LYS:HD3	29:X:181:GLY:O	2.18	0.43
1:O:1119:G:N2	1:O:1246:A:C2	2.82	0.43
1:O:1682:A:H5''	37:O:4885:HOH:O	2.17	0.43
1:O:1929:G:H1'	37:O:6275:HOH:O	2.18	0.43
1:O:2028:U:H2'	1:O:2029:C:H6	1.83	0.43
1:O:2550:U:O2'	1:O:2551:C:H5'	2.19	0.43
1:O:558:C:O2'	1:O:559:U:H5''	2.19	0.43
1:O:590:A:C2'	1:O:591:A:H5'	2.48	0.43
1:O:747:G:H1'	37:O:3792:HOH:O	2.19	0.43
1:O:796:A:H62	1:O:817:G:H1'	1.82	0.43
1:O:909:U:C2	1:O:910:C:C6	3.06	0.43
3:2:64:LYS:HA	3:2:84:ARG:HA	1.99	0.43
7:B:62:ARG:CB	7:B:65:MET:HE3	2.49	0.43
9:D:49:PRO:HG3	37:D:204:HOH:O	2.18	0.43
9:D:84:LEU:C	9:D:86:THR:N	2.71	0.43
11:F:49:PHE:N	11:F:49:PHE:CD1	2.86	0.43
12:G:64:ASN:ND2	12:G:64:ASN:N	2.66	0.43
17:L:83:SER:N	17:L:86:MET:HE2	2.34	0.43
20:O:120:ARG:NH2	20:O:123:TYR:HD2	2.17	0.43
20:O:16:VAL:HG12	20:O:20:ARG:HB2	2.00	0.43
21:P:11:ARG:NH1	37:P:211:HOH:O	2.51	0.43
26:U:12:THR:CG2	26:U:14:ALA:HB3	2.48	0.43
37:K:360:HOH:O	29:X:147:ARG:HD2	2.18	0.43
1:O:1168:C:H2'	1:O:1169:U:O4'	2.18	0.43
1:O:1189:A:H1'	1:O:1209:C:O4'	2.19	0.43
1:O:1335:C:H2'	1:O:1336:U:H6	1.83	0.43
1:O:1414:A:H2'	1:O:1415:G:O4'	2.18	0.43
1:O:1673:U:P	37:O:3561:HOH:O	2.76	0.43
1:O:175:G:O2'	1:O:176:U:OP2	2.24	0.43
1:O:1839:A:H5'	1:O:2643:G:H4'	2.01	0.43
1:O:1902:G:H2'	1:O:1903:U:O4'	2.19	0.43
1:O:1909:A:H2'	1:O:1910:A:C8	2.53	0.43
1:O:213:G:H22	1:O:225:G:H2'	1.83	0.43
1:O:228:C:H2'	1:O:229:G:O4'	2.19	0.43
1:O:402:U:H2'	1:O:403:C:H6	1.81	0.43
1:O:483:C:N4	1:O:506:G:O2'	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:487:G:O2'	1:0:488:U:OP2	2.37	0.43
1:0:627:G:H1'	37:0:3703:HOH:O	2.19	0.43
1:0:77:G:C2'	1:0:78:G:H5'	2.49	0.43
1:0:955:A:C2	1:0:1013:A:C4	3.07	0.43
3:2:69:TYR:O	3:2:77:ALA:HA	2.17	0.43
5:9:45:A:OP1	9:D:140:ARG:NH1	2.51	0.43
6:A:15:THR:N	37:A:422:HOH:O	2.46	0.43
6:A:20:SER:C	6:A:22:ARG:N	2.72	0.43
7:B:183:GLU:OE1	7:B:183:GLU:HA	2.18	0.43
7:B:247:VAL:HG13	7:B:251:VAL:HG11	1.99	0.43
7:B:41:PHE:CD1	7:B:79:MET:HE2	2.54	0.43
11:F:108:LEU:C	11:F:108:LEU:HD12	2.39	0.43
13:H:111:MET:O	13:H:114:PRO:HD3	2.17	0.43
15:J:41:LYS:O	15:J:42:ASN:HB2	2.18	0.43
1:0:2413:A:N7	18:M:109:PRO:HB3	2.34	0.43
1:0:100:C:H4'	24:S:16:LEU:HB2	1.99	0.43
1:0:488:U:O2'	24:S:82:THR:HG21	2.19	0.43
30:Y:47:LEU:HD23	30:Y:57:CYS:HB2	2.00	0.43
1:0:112:G:OP1	31:Z:20:ARG:NH1	2.50	0.43
1:0:1299:G:N2	37:0:3868:HOH:O	2.52	0.43
1:0:1318:A:O2'	1:0:1319:G:H5'	2.17	0.43
1:0:1589:G:N2	1:0:1605:G:H2'	2.27	0.43
1:0:1876:C:C4'	1:0:1877:G:OP2	2.66	0.43
1:0:187:A:H3'	1:0:188:C:H6	1.83	0.43
1:0:2290:U:C4'	1:0:2291:A:OP1	2.67	0.43
1:0:2595:U:H2'	1:0:2596:A:C8	2.54	0.43
1:0:2866:U:H2'	37:T:208:HOH:O	2.18	0.43
3:2:38:ARG:O	3:2:42:ARG:HB2	2.18	0.43
3:2:60:LYS:HG3	3:2:61:PRO:CD	2.47	0.43
4:5:52:ASN:O	4:5:55:ALA:HB2	2.19	0.43
5:9:82:U:H2'	5:9:83:G:C8	2.54	0.43
6:A:199:HIS:CD2	6:A:201:PHE:HB2	2.53	0.43
1:0:1943:C:O4'	6:A:212:PRO:HA	2.18	0.43
7:B:212:GLN:HB2	7:B:257:THR:CG2	2.48	0.43
7:B:195:ARG:HE	7:B:323:LEU:HD13	1.84	0.43
8:C:98:ARG:NH1	37:C:403:HOH:O	2.30	0.43
10:E:32:ARG:NH2	37:E:206:HOH:O	2.51	0.43
15:J:14:LYS:HD2	15:J:45:PRO:HG3	1.99	0.43
15:J:65:ARG:O	15:J:66:ARG:HB2	2.18	0.43
16:K:73:VAL:HG23	16:K:74:THR:H	1.84	0.43
17:L:59:GLY:HA3	17:L:141:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:120:GLU:O	18:M:123:ILE:HB	2.18	0.43
20:O:5:ALA:HB3	20:O:6:GLN:OE1	2.19	0.43
1:O:1370:G:H5'	22:Q:64:SER:OG	2.18	0.43
23:R:38:ALA:O	23:R:39:ASP:C	2.57	0.43
27:V:59:GLN:NE2	27:V:97:ALA:HB3	2.33	0.43
1:O:1031:G:HO2'	1:O:1032:A:P	2.42	0.43
1:O:1165:G:H8	1:O:1165:G:OP1	2.02	0.43
1:O:1325:G:H2'	1:O:1326:U:H6	1.84	0.43
1:O:1666:C:O2'	1:O:1667:A:C5'	2.67	0.43
1:O:1759:A:O2'	1:O:1818:C:C2'	2.66	0.43
1:O:1846:U:H2'	1:O:1847:A:C5	2.54	0.43
1:O:1477:C:H5'	1:O:1868:G:H5''	2.01	0.43
1:O:1884:G:O2'	1:O:1885:A:C5'	2.57	0.43
1:O:213:G:HO2'	1:O:214:U:H5	1.65	0.43
1:O:388:G:H5''	1:O:2266:A:OP1	2.18	0.43
1:O:2298:C:H2'	1:O:2299:G:O4'	2.19	0.43
1:O:2350:G:H2'	1:O:2351:C:H6	1.82	0.43
1:O:2659:U:C4'	22:Q:76:ASP:HB3	2.49	0.43
1:O:545:G:C8	1:O:545:G:H5'	2.46	0.43
1:O:638:C:H2'	1:O:639:A:H8	1.84	0.43
6:A:190:ARG:NH2	6:A:207:GLN:OE1	2.52	0.43
6:A:94:LEU:HG	6:A:99:ILE:CD1	2.49	0.43
10:E:40:VAL:HB	37:E:232:HOH:O	2.18	0.43
12:G:71:LEU:C	12:G:73:ASP:N	2.72	0.43
15:J:34:VAL:O	15:J:35:HIS:C	2.57	0.43
24:S:2:LYS:HE2	37:S:321:HOH:O	2.17	0.43
1:O:1871:U:O4'	1:O:1873:G:C8	2.72	0.43
1:O:2112:A:N1	1:O:2113:G:C6	2.87	0.43
1:O:2488:A:H2'	1:O:2489:G:O4'	2.19	0.43
1:O:2101:A:H1'	1:O:2537:G:C1'	2.49	0.43
1:O:2563:U:H2'	1:O:2565:C:O5'	2.19	0.43
1:O:2088:C:H1'	1:O:2841:A:N1	2.34	0.43
1:O:305:A:N1	1:O:329:A:H2'	2.33	0.43
1:O:816:G:H2'	1:O:817:G:O4'	2.18	0.43
3:2:67:LEU:HD11	3:2:88:LEU:HD21	2.00	0.43
6:A:36:ASP:CG	6:A:36:ASP:O	2.57	0.43
7:B:36:PRO:HA	7:B:168:GLY:CA	2.48	0.43
1:O:2657:G:OP1	7:B:17:LYS:HB2	2.18	0.43
8:C:151:GLN:HB3	37:C:447:HOH:O	2.18	0.43
15:J:113:ILE:HG22	15:J:114:ALA:N	2.33	0.43
16:K:35:ARG:NH1	16:K:43:HIS:HB3	2.25	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:102:GLU:OE1	17:L:164:THR:HG21	2.19	0.43
17:L:98:GLN:HB2	17:L:129:HIS:CD2	2.54	0.43
17:L:184:ARG:HB2	17:L:184:ARG:NH1	2.33	0.43
17:L:4:ALA:O	17:L:7:TYR:HB2	2.19	0.43
17:L:8:ILE:HD13	37:L:330:HOH:O	2.18	0.43
18:M:33:ARG:O	18:M:47:LEU:HA	2.19	0.43
19:N:11:ILE:O	19:N:14:LEU:HB2	2.19	0.43
23:R:24:LEU:CD2	23:R:74:ALA:HB1	2.49	0.43
27:V:48:VAL:CG1	27:V:48:VAL:O	2.67	0.43
1:O:110:C:H2'	1:O:111:C:C6	2.51	0.43
1:O:1245:C:O5'	1:O:1245:C:H6	2.02	0.43
1:O:1273:C:C2	1:O:1284:G:C2	3.07	0.43
1:O:1311:G:O6	8:C:173:LYS:HE3	2.19	0.43
1:O:1449:G:H5''	1:O:1450:C:OP2	2.18	0.43
1:O:1682:A:O2'	1:O:1683:G:H5''	2.18	0.43
1:O:169:A:O2'	3:2:48:ASN:ND2	2.50	0.43
1:O:1829:A:C8	1:O:1885:A:C8	3.06	0.43
1:O:1925:G:OP1	3:2:29:ARG:NH2	2.52	0.43
1:O:200:U:H5''	1:O:201:G:OP2	2.19	0.43
1:O:2524:G:C6	1:O:2525:G:N1	2.87	0.43
1:O:45:A:C8	1:O:47:G:N2	2.87	0.43
1:O:638:C:OP2	29:X:138:ARG:HD3	2.18	0.43
1:O:696:C:O2'	1:O:697:G:H5'	2.18	0.43
1:O:933:C:H2'	1:O:934:C:C6	2.54	0.43
4:5:41:ILE:HD11	4:5:49:VAL:HG13	2.01	0.43
5:9:45:A:H2'	5:9:46:C:H6	1.83	0.43
6:A:130:THR:HB	6:A:137:VAL:HB	2.01	0.43
6:A:3:ARG:H	6:A:3:ARG:HG2	1.62	0.43
6:A:72:GLU:OE2	30:Y:76:GLY:HA3	2.18	0.43
7:B:232:TRP:HD1	7:B:235:ARG:HD2	1.84	0.43
8:C:194:PHE:HA	8:C:234:VAL:HG13	2.00	0.43
5:9:57:A:H8	9:D:141:VAL:HG21	1.84	0.43
10:E:11:VAL:HG11	10:E:22:VAL:HG13	1.99	0.43
13:H:47:GLU:HG2	13:H:133:ILE:HD12	2.00	0.43
13:H:85:ILE:HG23	13:H:85:ILE:O	2.19	0.43
14:I:39:VAL:HG11	14:I:107:ASN:CB	2.49	0.43
14:I:50:GLU:O	14:I:54:VAL:HG23	2.18	0.43
1:O:2123:A:H5'	17:L:89:ASN:ND2	2.34	0.43
18:M:69:TYR:HE2	18:M:183:ASP:OD2	2.02	0.43
18:M:91:ARG:HG3	18:M:186:LEU:CD2	2.48	0.43
20:O:38:GLU:HA	20:O:41:ARG:NH1	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:43:ASN:O	24:S:45:GLY:N	2.52	0.43
27:V:11:VAL:O	27:V:12:ASN:HB2	2.18	0.43
28:W:78:GLU:OE2	28:W:79:GLU:OE2	2.36	0.43
1:0:210:U:H2'	1:0:211:U:H6	1.83	0.42
1:0:2110:G:O2'	1:0:2111:G:H5'	2.19	0.42
1:0:217:C:H5'	1:0:395:A:H1'	1.99	0.42
1:0:2324:G:H4'	1:0:2418:G:O2'	2.18	0.42
1:0:319:A:H4'	1:0:338:C:C4	2.54	0.42
1:0:503:G:C2	1:0:504:G:C8	3.07	0.42
1:0:537:G:C4	1:0:538:C:N4	2.87	0.42
1:0:582:C:N4	37:0:3904:HOH:O	2.52	0.42
1:0:645:U:H2'	1:0:646:G:H8	1.84	0.42
37:0:8580:HOH:O	3:2:36:ILE:HG21	2.18	0.42
1:0:2717:C:OP1	7:B:207:LYS:HG3	2.18	0.42
9:D:166:ILE:O	9:D:167:GLU:C	2.56	0.42
10:E:132:THR:HB	37:E:220:HOH:O	2.18	0.42
10:E:93:MET:HE2	10:E:93:MET:HB2	1.84	0.42
13:H:59:ASN:HD22	13:H:59:ASN:N	2.17	0.42
13:H:65:ARG:NH2	13:H:66:VAL:HG22	2.34	0.42
17:L:57:LYS:NZ	17:L:144:ASP:OD2	2.47	0.42
18:M:151:ASP:O	18:M:154:LEU:HB2	2.19	0.42
1:0:656:G:H5'	19:N:3:THR:HB	2.01	0.42
22:Q:27:HIS:O	22:Q:31:ILE:HG13	2.19	0.42
1:0:2050:G:H5''	22:Q:80:TYR:O	2.19	0.42
23:R:69:SER:C	23:R:71:ASP:H	2.23	0.42
24:S:48:VAL:HG22	24:S:98:VAL:HA	1.99	0.42
25:T:52:THR:HG22	25:T:54:THR:N	2.34	0.42
26:U:23:LEU:O	26:U:26:GLU:N	2.51	0.42
27:V:149:LEU:HG	27:V:153:MET:HE2	1.99	0.42
27:V:88:THR:HG23	27:V:110:GLN:HE21	1.81	0.42
1:0:1382:G:O2'	28:W:27:ASP:OD1	2.36	0.42
29:X:200:THR:HG22	29:X:201:GLU:HG2	2.01	0.42
1:0:1153:C:N3	1:0:2786:G:O6	2.52	0.42
1:0:1155:G:H2'	1:0:1156:C:C6	2.53	0.42
1:0:1167:G:O2'	1:0:1168:C:H5'	2.18	0.42
1:0:1664:A:O2'	1:0:1665:G:OP2	2.35	0.42
1:0:1831:U:H2'	1:0:1832:G:C5'	2.46	0.42
1:0:1872:C:H5	6:A:20:SER:HB3	1.84	0.42
1:0:1882:C:O2'	1:0:2012:U:OP2	2.37	0.42
1:0:2239:C:H2'	1:0:2240:U:H6	1.83	0.42
1:0:2301:A:H5''	1:0:2302:A:H5'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2387:U:O2	1:0:2402:A:C2	2.72	0.42
1:0:2670:G:C2'	1:0:2671:U:H5'	2.49	0.42
1:0:2700:G:O2'	1:0:2701:G:H5'	2.18	0.42
1:0:51:G:H4'	31:Z:22:CYS:O	2.19	0.42
1:0:652:G:H5''	37:0:4237:HOH:O	2.17	0.42
2:1:9:LYS:O	2:1:12:ALA:HB3	2.18	0.42
5:9:25:G:H5''	5:9:26:C:C6	2.54	0.42
6:A:183:GLY:HA2	37:A:408:HOH:O	2.17	0.42
37:0:5284:HOH:O	6:A:206:ARG:HD3	2.19	0.42
6:A:192:VAL:HG11	6:A:207:GLN:HB3	1.99	0.42
8:C:222:ASP:O	8:C:231:ARG:HD3	2.19	0.42
10:E:106:ASN:ND2	10:E:109:GLY:HA2	2.34	0.42
13:H:75:SER:HB3	13:H:79:ALA:HB1	2.01	0.42
17:L:144:ASP:O	17:L:148:SER:HB3	2.18	0.42
21:P:86:VAL:CG1	21:P:91:LEU:HD11	2.46	0.42
28:W:43:VAL:CG1	28:W:44:ASP:N	2.82	0.42
1:0:1307:A:OP2	8:C:175:LYS:NZ	2.53	0.42
1:0:1374:C:H4'	1:0:1431:C:C4	2.54	0.42
1:0:1619:G:C5	1:0:1620:C:C4	3.07	0.42
1:0:1790:C:H5	20:O:71:LYS:HE3	1.85	0.42
1:0:1810:C:H1'	25:T:42:LEU:HD22	2.01	0.42
1:0:2085:A:C2	1:0:2660:G:N3	2.88	0.42
1:0:2417:C:H6	1:0:2417:C:O5'	2.03	0.42
1:0:2597:U:C2'	1:0:2598:U:H5'	2.49	0.42
1:0:2706:A:H2'	1:0:2707:C:O4'	2.19	0.42
1:0:2843:A:C2'	1:0:2844:C:H5'	2.49	0.42
1:0:319:A:O2'	1:0:320:G:H5'	2.19	0.42
1:0:47:G:O2'	1:0:114:A:N6	2.52	0.42
3:2:10:TYR:HB2	3:2:17:HIS:CE1	2.54	0.42
3:2:67:LEU:HD21	3:2:88:LEU:CD2	2.49	0.42
8:C:150:THR:O	8:C:153:VAL:N	2.53	0.42
8:C:233:THR:CG2	8:C:234:VAL:N	2.80	0.42
9:D:18:ILE:HG12	9:D:134:LEU:HD21	2.02	0.42
9:D:99:ASP:HB2	9:D:103:ASN:CB	2.48	0.42
10:E:104:ILE:CD1	10:E:151:LEU:HD23	2.49	0.42
10:E:11:VAL:CG1	10:E:12:ASP:H	2.32	0.42
10:E:156:ASP:OD2	10:E:157:LYS:NZ	2.46	0.42
15:J:97:ILE:HG22	15:J:98:VAL:N	2.33	0.42
1:0:901:G:OP2	16:K:18:HIS:CE1	2.72	0.42
1:0:904:U:H2'	16:K:8:ARG:HD2	2.00	0.42
17:L:18:GLY:O	17:L:21:ALA:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:13:ARG:HA	18:M:13:ARG:HD2	1.83	0.42
19:N:63:LYS:HA	19:N:80:ASP:O	2.19	0.42
22:Q:26:LYS:HD3	22:Q:62:HIS:CG	2.54	0.42
1:O:1571:G:C2'	1:O:1626:A:H61	2.32	0.42
1:O:1666:C:H2'	1:O:1667:A:H8	1.85	0.42
1:O:1773:G:C8	30:Y:16:PRO:HA	2.55	0.42
1:O:2011:A:H4'	1:O:2012:U:O5'	2.19	0.42
1:O:2088:C:OP1	22:Q:65:GLY:N	2.32	0.42
1:O:2281:C:H2'	1:O:2282:U:O4'	2.19	0.42
1:O:2357:G:C2'	1:O:2358:U:H5'	2.50	0.42
1:O:2493:C:H2'	1:O:2525:G:N1	2.29	0.42
1:O:2518:C:C4	1:O:2519:C:C4	3.08	0.42
1:O:2857:C:H2'	1:O:2858:U:H6	1.80	0.42
1:O:581:G:H5'	37:O:6332:HOH:O	2.20	0.42
1:O:882:A:H4'	1:O:1837:G:O6	2.19	0.42
1:O:955:A:C2'	1:O:956:G:H5'	2.49	0.42
3:2:84:ARG:HB2	37:2:245:HOH:O	2.19	0.42
4:5:41:ILE:CD1	4:5:49:VAL:HG11	2.49	0.42
5:9:67:C:C6	5:9:67:C:H3'	2.55	0.42
6:A:105:VAL:CG1	6:A:106:CYS:N	2.82	0.42
37:O:4108:HOH:O	8:C:103:ASN:HB3	2.18	0.42
11:F:99:THR:HG23	11:F:99:THR:O	2.19	0.42
13:H:93:ILE:H	13:H:93:ILE:HG12	1.58	0.42
14:I:47:THR:N	37:I:304:HOH:O	2.47	0.42
15:J:51:ASP:HA	37:J:328:HOH:O	2.18	0.42
15:J:49:LEU:HA	15:J:73:VAL:HG12	2.01	0.42
17:L:37:VAL:HG13	17:L:63:VAL:HG11	2.00	0.42
17:L:37:VAL:HG21	17:L:108:LYS:CG	2.49	0.42
3:2:46:ILE:O	17:L:84:LYS:HG2	2.20	0.42
37:9:365:HOH:O	18:M:23:ARG:HD3	2.18	0.42
19:N:58:VAL:HG13	19:N:114:ILE:HG12	2.02	0.42
23:R:67:ARG:NH1	37:R:203:HOH:O	2.53	0.42
24:S:77:VAL:HB	37:S:317:HOH:O	2.19	0.42
29:X:152:LYS:HB2	29:X:160:LYS:HG3	2.02	0.42
31:Z:22:CYS:SG	31:Z:24:GLU:CB	3.07	0.42
1:O:1342:C:C2'	1:O:1343:C:C5'	2.90	0.42
1:O:1761:U:H2'	1:O:1762:C:H6	1.85	0.42
1:O:2045:G:H5''	37:O:7174:HOH:O	2.18	0.42
1:O:2265:U:H2'	1:O:2266:A:C8	2.55	0.42
1:O:2381:C:H2'	1:O:2382:A:H8	1.84	0.42
1:O:2526:C:C6	1:O:2526:C:H5'	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2654:C:O2'	1:0:2655:U:H5'	2.19	0.42
1:0:412:C:O2'	1:0:413:G:H5'	2.18	0.42
1:0:45:A:H5'	1:0:47:G:O4'	2.19	0.42
1:0:786:G:H2'	1:0:787:G:O4'	2.19	0.42
1:0:855:U:H5"	37:0:5079:HOH:O	2.19	0.42
7:B:238:ASN:ND2	7:B:240:GLY:N	2.55	0.42
7:B:62:ARG:CA	7:B:65:MET:HE3	2.48	0.42
7:B:84:LEU:O	7:B:99:GLU:HA	2.19	0.42
8:C:14:GLY:N	37:C:429:HOH:O	2.52	0.42
8:C:191:SER:OG	8:C:209:GLY:C	2.58	0.42
8:C:73:LEU:O	8:C:74:ASP:HB2	2.20	0.42
10:E:132:THR:O	10:E:132:THR:HG23	2.19	0.42
13:H:33:MET:HB2	13:H:83:PHE:HB3	2.01	0.42
1:0:533:U:O2'	14:I:95:ARG:NH1	2.52	0.42
15:J:4:LEU:HA	15:J:4:LEU:HD23	1.84	0.42
16:K:94:ARG:NH1	16:K:143:THR:HG21	2.35	0.42
16:K:20:ASN:N	37:K:308:HOH:O	2.51	0.42
17:L:146:GLN:O	17:L:147:LEU:HD23	2.19	0.42
17:L:165:SER:OG	17:L:166:ALA:N	2.51	0.42
18:M:34:LEU:CD2	18:M:129:ILE:HD13	2.49	0.42
18:M:161:GLY:O	18:M:162:ASP:C	2.58	0.42
20:O:131:PHE:CD2	20:O:137:LEU:HA	2.53	0.42
24:S:12:ARG:O	24:S:19:ARG:NH2	2.53	0.42
31:Z:50:TRP:C	31:Z:52:SER:N	2.73	0.42
1:0:132:A:O2'	1:0:133:U:H5'	2.20	0.42
1:0:1788:U:C2	1:0:1805:G:N2	2.88	0.42
1:0:2406:U:C4	1:0:2407:G:N7	2.88	0.42
1:0:241:A:C2	1:0:378:A:H4'	2.55	0.42
1:0:2731:G:H2'	1:0:2732:U:O4'	2.20	0.42
1:0:288:A:H61	1:0:364:C:H42	1.67	0.42
1:0:433:C:H2'	1:0:434:U:O4'	2.20	0.42
1:0:77:G:H2'	1:0:78:G:H5'	2.01	0.42
1:0:79:G:C2	1:0:97:G:O2'	2.73	0.42
1:0:876:A:H2'	1:0:877:G:H5'	2.01	0.42
5:9:81:C:C2'	5:9:82:U:H5'	2.50	0.42
5:9:89:C:O2'	5:9:90:G:H5'	2.19	0.42
6:A:203:GLY:HA2	37:A:456:HOH:O	2.19	0.42
6:A:85:ASP:HA	37:A:417:HOH:O	2.19	0.42
7:B:171:VAL:HG23	7:B:172:SER:N	2.34	0.42
37:0:3953:HOH:O	7:B:227:HIS:HB3	2.19	0.42
1:0:1234:U:N3	7:B:244:PRO:HB3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:297:VAL:HB	37:B:501:HOH:O	2.19	0.42
7:B:5:ARG:HD2	7:B:8:LYS:NZ	2.35	0.42
7:B:70:PRO:C	7:B:71:VAL:HG23	2.40	0.42
9:D:25:MET:HE1	9:D:37:ALA:HB1	2.01	0.42
10:E:162:PHE:CD1	10:E:162:PHE:N	2.88	0.42
10:E:145:ALA:HB1	10:E:168:ILE:CD1	2.49	0.42
18:M:47:LEU:HD11	18:M:127:LEU:CD2	2.49	0.42
19:N:112:ARG:HG2	19:N:114:ILE:HD11	2.00	0.42
21:P:52:PHE:HB2	35:P:102:CL:CL	2.57	0.42
27:V:1:MET:HE1	27:V:101:LEU:HD23	2.02	0.42
27:V:90:TYR:N	27:V:90:TYR:CD1	2.87	0.42
28:W:30:MET:HE3	28:W:59:TRP:HE1	1.84	0.42
28:W:85:VAL:HG12	28:W:86:GLU:H	1.84	0.42
29:X:151:SER:HB3	29:X:154:ARG:HB2	2.02	0.42
1:0:106:A:H2'	1:0:107:U:O4'	2.19	0.42
1:0:1118:A:C3'	1:0:1119:G:C5'	2.98	0.42
1:0:47:G:O2'	1:0:114:A:N1	2.35	0.42
1:0:1152:A:C4	1:0:1215:A:C2	3.07	0.42
1:0:1165:G:O2'	1:0:1174:A:C1'	2.68	0.42
1:0:1166:A:OP1	1:0:1174:A:H4'	2.20	0.42
1:0:1268:C:H2'	1:0:1269:G:C8	2.55	0.42
1:0:1761:U:H2'	1:0:1762:C:C6	2.55	0.42
1:0:2059:U:H2'	1:0:2060:A:H8	1.84	0.42
1:0:2462:G:H4'	1:0:2464:C:C6	2.54	0.42
1:0:2546:U:O2'	7:B:237:GLY:N	2.53	0.42
1:0:2643:G:N2	37:0:3902:HOH:O	2.52	0.42
1:0:316:A:H5'	24:S:54:ASP:OD2	2.20	0.42
1:0:632:A:H4'	1:0:2535:U:H4'	2.01	0.42
1:0:939:A:N1	1:0:1027:G:O2'	2.40	0.42
1:0:946:C:H6	1:0:946:C:O5'	2.02	0.42
6:A:164:ARG:HB2	30:Y:68:CYS:SG	2.60	0.42
6:A:93:THR:HA	6:A:154:ALA:O	2.19	0.42
7:B:265:LEU:HD23	7:B:316:ARG:CG	2.49	0.42
8:C:211:ASP:HA	37:C:465:HOH:O	2.19	0.42
37:0:8283:HOH:O	8:C:73:LEU:HD11	2.20	0.42
13:H:162:SER:CB	13:H:163:PRO:CD	2.85	0.42
14:I:45:VAL:HA	14:I:130:VAL:O	2.19	0.42
16:K:11:ARG:NH2	16:K:18:HIS:HB3	2.35	0.42
21:P:31:GLU:HA	21:P:31:GLU:OE1	2.19	0.42
22:Q:132:ARG:NH2	37:Q:310:HOH:O	2.52	0.42
30:Y:25:ARG:O	30:Y:29:VAL:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1135:G:O2'	1:0:1136:U:H5'	2.20	0.42
1:0:1173:A:H4'	1:0:1174:A:H8	1.82	0.42
1:0:1431:C:H5'	1:0:1432:U:OP2	2.19	0.42
1:0:1449:G:N2	1:0:1514:C:C2	2.88	0.42
1:0:1453:G:OP2	1:0:1491:G:N2	2.47	0.42
1:0:861:A:H1'	1:0:1488:U:O4	2.19	0.42
1:0:168:C:H6	1:0:168:C:O5'	2.02	0.42
1:0:2084:C:O2'	1:0:2085:A:H5'	2.19	0.42
1:0:212:A:N6	1:0:227:A:OP2	2.53	0.42
1:0:2382:A:H1'	3:2:10:TYR:CE2	2.55	0.42
1:0:2635:A:N7	37:0:3300:HOH:O	2.36	0.42
1:0:282:C:H2'	1:0:283:U:O4'	2.20	0.42
1:0:793:A:O2'	1:0:794:U:H5'	2.19	0.42
3:2:42:ARG:HB3	3:2:43:ASN:OD1	2.19	0.42
7:B:179:LEU:O	7:B:183:GLU:CG	2.64	0.42
7:B:36:PRO:HA	7:B:168:GLY:HA3	2.02	0.42
8:C:107:ARG:HH11	8:C:107:ARG:HB3	1.84	0.42
8:C:82:GLN:C	37:C:419:HOH:O	2.58	0.42
9:D:44:ILE:HG23	9:D:45:THR:HG23	2.02	0.42
11:F:50:VAL:HG21	11:F:63:ILE:HG21	2.01	0.42
11:F:59:ILE:HG22	11:F:59:ILE:O	2.19	0.42
14:I:76:ASP:HA	37:I:312:HOH:O	2.19	0.42
15:J:74:VAL:CG1	15:J:113:ILE:HG12	2.48	0.42
37:0:7102:HOH:O	15:J:41:LYS:HE3	2.19	0.42
1:0:2430:A:H4'	16:K:46:LEU:O	2.19	0.42
18:M:10:MET:HG3	37:M:327:HOH:O	2.19	0.42
18:M:63:SER:O	18:M:66:LEU:CB	2.68	0.42
19:N:44:ASN:HB3	19:N:67:SER:O	2.19	0.42
21:P:44:ASP:O	21:P:45:PRO:C	2.57	0.42
25:T:52:THR:CG2	25:T:54:THR:HB	2.50	0.42
37:0:5824:HOH:O	29:X:136:LYS:HD3	2.19	0.42
29:X:99:ALA:HA	29:X:232:THR:O	2.20	0.42
1:0:1566:C:H2'	1:0:1567:A:H8	1.85	0.42
1:0:1592:G:O2'	1:0:1593:C:O4'	2.38	0.42
1:0:1602:C:H4'	37:0:4177:HOH:O	2.20	0.42
1:0:1623:C:C4	1:0:1624:A:C6	3.08	0.42
1:0:1636:G:C2'	1:0:1637:A:H5'	2.49	0.42
1:0:1950:G:N2	37:0:3934:HOH:O	2.53	0.42
1:0:2105:C:O2'	1:0:2284:G:N2	2.52	0.42
1:0:1052:G:O2'	1:0:2300:A:OP2	2.32	0.42
1:0:2304:G:H5'	37:P:213:HOH:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2657:G:N2	1:0:2658:G:H1'	2.35	0.42
1:0:2670:G:H22	7:B:85:ARG:HH22	1.67	0.42
1:0:2785:C:H5''	1:0:2786:G:OP2	2.19	0.42
1:0:414:C:O2'	1:0:415:A:H5'	2.19	0.42
1:0:509:A:C6	1:0:512:G:C6	3.08	0.42
1:0:56:G:C8	1:0:59:A:C8	3.07	0.42
1:0:795:G:H1'	1:0:818:A:N6	2.34	0.42
1:0:853:C:H2'	1:0:854:G:O4'	2.20	0.42
1:0:902:G:H5''	37:0:4689:HOH:O	2.20	0.42
1:0:944:G:H21	27:V:44:MET:CE	2.33	0.42
5:9:18:U:O2'	5:9:19:G:H5'	2.20	0.42
5:9:42:C:O2	9:D:76:ARG:HD2	2.20	0.42
6:A:65:ARG:C	6:A:66:ARG:HG3	2.40	0.42
6:A:75:GLY:HA2	30:Y:63:LYS:O	2.19	0.42
7:B:139:ASP:CB	7:B:165:ARG:HE	2.31	0.42
7:B:279:THR:OG1	7:B:290:VAL:HB	2.20	0.42
7:B:286:ASN:O	7:B:306:LYS:HE3	2.18	0.42
8:C:163:HIS:O	8:C:166:ILE:N	2.53	0.42
14:I:74:ARG:HH11	14:I:74:ARG:CB	2.27	0.42
15:J:34:VAL:HG21	15:J:46:LYS:O	2.19	0.42
17:L:61:ILE:HG13	37:L:338:HOH:O	2.20	0.42
37:0:7621:HOH:O	17:L:68:ARG:CB	2.68	0.42
18:M:113:SER:C	37:M:301:HOH:O	2.57	0.42
20:O:104:LYS:HD2	20:O:104:LYS:HA	1.86	0.42
23:R:11:THR:O	23:R:14:ALA:HB3	2.19	0.42
28:W:76:ARG:HH11	28:W:76:ARG:HG3	1.85	0.42
29:X:232:THR:HG22	29:X:233:TYR:N	2.34	0.42
30:Y:47:LEU:CD1	30:Y:64:ILE:HD11	2.50	0.42
1:0:580:A:N3	1:0:1111:U:H1'	2.35	0.42
1:0:1184:C:H2'	1:0:1185:U:C6	2.55	0.42
1:0:1184:C:O2'	1:0:1185:U:H5'	2.20	0.42
1:0:1117:A:C2	1:0:1244:U:C2	3.08	0.42
1:0:1329:A:H2	37:0:3868:HOH:O	2.02	0.42
1:0:1630:A:H8	1:0:1630:A:OP1	2.03	0.42
1:0:2323:G:N2	1:0:2378:U:H1'	2.34	0.42
1:0:2503:A:O2'	1:0:2504:A:C8	2.63	0.42
1:0:2523:U:O5'	1:0:2523:U:H6	2.03	0.42
1:0:37:A:C2	1:0:446:G:C2	3.08	0.42
1:0:581:G:O2'	1:0:582:C:H5'	2.20	0.42
1:0:952:G:O2'	1:0:2302:A:C2'	2.68	0.42
5:9:116:C:O2'	5:9:117:G:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:9:40:C:N4	9:D:53:LYS:HE3	2.34	0.42
6:A:110:SER:N	6:A:114:ASP:OD2	2.52	0.42
6:A:111:SER:N	6:A:114:ASP:OD2	2.49	0.42
7:B:54:VAL:HB	37:B:550:HOH:O	2.18	0.42
9:D:156:ARG:HH11	9:D:156:ARG:HG3	1.85	0.42
13:H:96:ASN:OD1	13:H:114:PRO:HA	2.19	0.42
13:H:162:SER:O	13:H:164:ALA:N	2.53	0.42
14:I:83:ILE:O	14:I:84:ARG:C	2.59	0.42
16:K:125:PHE:CD1	16:K:125:PHE:N	2.87	0.42
1:0:156:C:C5'	17:L:171:ARG:HD3	2.22	0.42
17:L:181:GLU:CD	17:L:181:GLU:H	2.22	0.42
1:0:189:A:O2'	17:L:184:ARG:HD3	2.19	0.42
17:L:5:TYR:HE2	17:L:46:LEU:HD13	1.84	0.42
23:R:13:LYS:NZ	37:R:204:HOH:O	2.53	0.42
27:V:122:ARG:CZ	37:V:216:HOH:O	2.68	0.42
27:V:128:VAL:C	27:V:138:LEU:HD11	2.40	0.42
27:V:130:HIS:C	27:V:136:GLY:HA3	2.39	0.42
29:X:169:ARG:NE	35:X:301:CL:CL	2.89	0.42
1:0:1197:G:N2	37:0:3924:HOH:O	2.53	0.41
1:0:1398:G:H2'	1:0:1399:A:H8	1.81	0.41
1:0:1482:A:O2'	1:0:1483:C:H5'	2.20	0.41
1:0:1920:C:O2'	1:0:1921:A:H5'	2.19	0.41
1:0:204:A:H2'	1:0:205:U:C5'	2.48	0.41
1:0:2495:U:O2'	1:0:2496:C:H5'	2.20	0.41
1:0:2619:U:H2'	1:0:2620:U:C6	2.55	0.41
1:0:295:C:O2'	1:0:296:G:H5'	2.20	0.41
1:0:426:G:C6	1:0:427:C:C4	3.08	0.41
1:0:883:U:O2	1:0:883:U:H3'	2.20	0.41
5:9:12:C:OP2	5:9:69:U:O2'	2.38	0.41
5:9:3:A:H61	5:9:22:G:H1'	1.82	0.41
5:9:39:U:H3'	5:9:40:C:H5''	2.01	0.41
5:9:43:G:C2'	5:9:44:A:OP2	2.68	0.41
6:A:75:GLY:HA2	30:Y:64:ILE:HA	2.01	0.41
6:A:87:GLU:HB3	37:A:452:HOH:O	2.19	0.41
7:B:280:VAL:HG12	7:B:334:SER:HA	2.02	0.41
8:C:85:LYS:HB3	37:C:438:HOH:O	2.20	0.41
8:C:47:GLY:HA2	8:C:92:PRO:HB2	2.02	0.41
1:0:2566:A:H4'	10:E:161:VAL:HG21	2.01	0.41
11:F:53:ASP:OD2	11:F:80:GLN:CB	2.68	0.41
14:I:18:ILE:HA	14:I:45:VAL:O	2.20	0.41
15:J:125:ALA:O	15:J:127:ALA:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:186:SER:OG	17:L:189:VAL:HG12	2.20	0.41
17:L:3:SER:O	17:L:4:ALA:C	2.57	0.41
17:L:62:VAL:HA	17:L:131:VAL:O	2.20	0.41
21:P:16:ASN:HA	21:P:16:ASN:HD22	1.65	0.41
21:P:90:HIS:O	21:P:91:LEU:HD23	2.19	0.41
22:Q:9:ASP:HA	22:Q:10:PRO:HD2	1.89	0.41
29:X:107:PRO:HB3	29:X:182:PHE:CE2	2.55	0.41
30:Y:30:GLU:HB2	37:Y:218:HOH:O	2.18	0.41
1:0:1246:A:O2'	1:0:1247:A:C3'	2.61	0.41
1:0:1702:U:HO2'	1:0:1703:G:H5''	1.85	0.41
1:0:1813:U:H3'	1:0:1814:G:H5'	2.02	0.41
1:0:2449:G:H2'	1:0:2450:C:C6	2.55	0.41
1:0:2757:A:O2'	1:0:2758:G:H5'	2.20	0.41
1:0:353:G:C6	1:0:354:A:C6	3.08	0.41
1:0:62:C:H2'	1:0:63:U:H6	1.85	0.41
1:0:630:A:H4'	1:0:631:A:OP1	2.18	0.41
1:0:75:U:H2'	1:0:76:G:H8	1.85	0.41
5:9:51:A:H4'	37:9:358:HOH:O	2.20	0.41
1:0:1942:A:H4'	6:A:213:LYS:CE	2.49	0.41
7:B:265:LEU:HD21	7:B:316:ARG:HD3	2.02	0.41
7:B:54:VAL:CG2	7:B:326:GLU:HB3	2.51	0.41
9:D:104:PHE:CE2	9:D:166:ILE:CD1	3.02	0.41
11:F:63:ILE:CB	11:F:64:PRO:CD	2.92	0.41
14:I:72:PRO:HG2	14:I:78:ILE:HD13	2.01	0.41
17:L:157:LEU:HB3	17:L:160:PHE:HD1	1.85	0.41
17:L:46:LEU:HA	17:L:46:LEU:HD23	1.89	0.41
17:L:46:LEU:HD22	17:L:50:ARG:HG3	2.01	0.41
17:L:59:GLY:HA3	17:L:141:ILE:CD1	2.50	0.41
17:L:93:ARG:H	17:L:93:ARG:HG2	1.51	0.41
21:P:45:PRO:HA	21:P:51:ARG:NH2	2.35	0.41
22:Q:119:VAL:CG1	22:Q:119:VAL:O	2.66	0.41
24:S:48:VAL:HG13	24:S:49:GLU:N	2.34	0.41
27:V:20:THR:O	27:V:21:LEU:C	2.56	0.41
29:X:178:HIS:HD2	29:X:229:LEU:HD13	1.85	0.41
1:0:1196:C:C2'	1:0:1197:G:H5'	2.50	0.41
1:0:1213:C:H2'	1:0:1214:G:O4'	2.20	0.41
1:0:1598:A:C2	1:0:1599:U:C2	3.09	0.41
1:0:1476:A:O2'	1:0:1868:G:H5'	2.21	0.41
1:0:1878:G:H5'	37:0:3784:HOH:O	2.19	0.41
1:0:24:G:C2'	1:0:25:A:OP2	2.68	0.41
1:0:292:G:H8	1:0:292:G:O5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:331:A:N6	1:0:345:G:O2'	2.54	0.41
3:2:25:VAL:CG2	3:2:68:LYS:HG3	2.41	0.41
9:D:67:ASP:HA	9:D:68:PRO:HD3	1.96	0.41
17:L:28:MET:HA	17:L:31:TRP:HB2	2.02	0.41
18:M:37:ARG:HD3	35:M:201:CL:CL	2.57	0.41
22:Q:14:ALA:HB3	22:Q:147:LEU:HB2	2.02	0.41
24:S:17:HIS:O	24:S:20:HIS:HD2	2.03	0.41
25:T:6:CYS:SG	25:T:8:TYR:HB3	2.60	0.41
31:Z:21:ARG:HD2	31:Z:39:PHE:HB2	2.01	0.41
1:0:1117:A:N1	1:0:1244:U:C2'	2.82	0.41
1:0:1924:A:H1'	37:0:3547:HOH:O	2.20	0.41
1:0:1932:G:H8	1:0:1932:G:O5'	2.03	0.41
1:0:2039:A:OP2	7:B:234:ARG:NH2	2.53	0.41
1:0:2124:G:H1'	37:0:3442:HOH:O	2.21	0.41
1:0:2389:U:H4'	21:P:53:HIS:HD2	1.86	0.41
1:0:2387:U:C2	1:0:2402:A:C2	3.08	0.41
1:0:2497:A:C2	1:0:2524:G:N3	2.88	0.41
1:0:2653:A:H2'	1:0:2654:C:C6	2.55	0.41
1:0:2690:U:H4'	10:E:111:LYS:HE3	2.03	0.41
5:9:13:A:N3	5:9:114:G:C6	2.88	0.41
7:B:195:ARG:NH1	7:B:324:ASP:OD1	2.49	0.41
13:H:16:ARG:HB2	37:H:224:HOH:O	2.19	0.41
13:H:89:PRO:HA	13:H:122:ALA:O	2.20	0.41
14:I:75:PRO:HD3	14:I:136:SER:CB	2.50	0.41
16:K:91:VAL:CG1	16:K:120:LEU:HD23	2.49	0.41
17:L:57:LYS:CG	17:L:58:GLN:N	2.81	0.41
37:0:4335:HOH:O	20:O:91:LYS:HE3	2.21	0.41
21:P:17:LYS:O	21:P:18:PRO:C	2.58	0.41
24:S:28:SER:O	24:S:32:ARG:HG3	2.19	0.41
25:T:21:PHE:HE2	25:T:23:HIS:ND1	2.19	0.41
1:0:68:U:C4	1:0:107:U:H4'	2.56	0.41
1:0:129:A:O2'	1:0:130:C:H5''	2.20	0.41
1:0:1463:A:O5'	1:0:1463:A:H8	2.03	0.41
1:0:1493:A:O2'	1:0:1494:A:H5''	2.19	0.41
1:0:1507:C:H4'	37:0:3606:HOH:O	2.19	0.41
1:0:1701:A:H4'	1:0:1702:U:C5'	2.50	0.41
1:0:1847:A:C2'	1:0:1848:G:H5'	2.50	0.41
1:0:2071:C:H4'	1:0:2072:G:H8	1.85	0.41
1:0:2433:A:OP1	3:2:36:ILE:CG2	2.69	0.41
1:0:2554:U:H3'	1:0:2554:U:OP1	2.21	0.41
1:0:2620:U:H5''	1:0:2621:U:OP1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2655:U:C4	1:0:2656:G:N7	2.89	0.41
1:0:2718:C:H5	37:0:8135:HOH:O	2.03	0.41
1:0:2735:U:N3	1:0:2736:U:C4	2.89	0.41
1:0:368:C:H2'	1:0:369:G:H5'	2.03	0.41
1:0:445:U:H1'	37:0:3445:HOH:O	2.20	0.41
1:0:605:C:C2	1:0:606:C:C5	3.08	0.41
5:9:48:C:H4'	18:M:141:ARG:NH2	2.29	0.41
6:A:195:ASN:O	6:A:196:ALA:C	2.58	0.41
7:B:101:TRP:HB2	7:B:119:HIS:CD2	2.55	0.41
7:B:145:HIS:HD2	7:B:146:THR:O	2.03	0.41
7:B:25:ARG:HA	7:B:310:ARG:HH21	1.84	0.41
7:B:304:PRO:HD2	7:B:307:ARG:HD2	2.02	0.41
8:C:136:VAL:HA	8:C:137:PRO:C	2.40	0.41
8:C:232:LEU:HA	37:C:512:HOH:O	2.20	0.41
13:H:26:LYS:HB2	37:H:256:HOH:O	2.20	0.41
15:J:6:ALA:HB3	15:J:116:GLU:HG2	2.02	0.41
17:L:153:THR:O	17:L:156:ARG:HG3	2.20	0.41
17:L:114:VAL:HB	17:L:159:THR:HG23	2.02	0.41
17:L:186:SER:O	17:L:187:LEU:C	2.57	0.41
20:O:122:LEU:HD11	20:O:141:ILE:HG12	2.02	0.41
37:9:315:HOH:O	21:P:27:GLN:HB2	2.20	0.41
24:S:6:LYS:HA	24:S:9:LYS:HB3	2.02	0.41
1:0:1167:G:N2	1:0:1180:U:C2	2.89	0.41
1:0:1279:U:O2	1:0:1279:U:H2'	2.20	0.41
1:0:1522:A:C2'	1:0:1523:G:H5'	2.51	0.41
1:0:1367:A:C2	1:0:2058:G:C2	3.08	0.41
1:0:2092:G:H5'	37:B:554:HOH:O	2.19	0.41
1:0:2407:G:O2'	1:0:2408:A:H5'	2.21	0.41
1:0:2493:C:O2'	1:0:2495:U:O4	2.22	0.41
1:0:383:A:H2'	1:0:384:G:C5'	2.51	0.41
1:0:512:G:H5''	1:0:515:C:H1'	2.02	0.41
1:0:818:A:N6	1:0:819:A:N1	2.69	0.41
1:0:840:U:C2	1:0:2648:U:O4	2.73	0.41
1:0:911:G:H5'	1:0:932:U:OP1	2.20	0.41
1:0:953:G:H5'	1:0:954:U:OP1	2.21	0.41
5:9:72:C:O2'	5:9:73:G:H5'	2.20	0.41
6:A:130:THR:HG22	6:A:131:HIS:O	2.20	0.41
6:A:44:ASP:OD1	6:A:45:ILE:N	2.54	0.41
7:B:13:PHE:N	7:B:13:PHE:CD1	2.88	0.41
7:B:56:ASP:HB3	7:B:322:ARG:HH21	1.84	0.41
10:E:31:ARG:HH12	10:E:68:HIS:CE1	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:91:PHE:HA	10:E:92:PRO:HD3	1.85	0.41
11:F:30:LYS:HE2	11:F:99:THR:HG21	2.02	0.41
13:H:144:GLU:HA	13:H:144:GLU:OE1	2.20	0.41
13:H:7:ARG:HD2	13:H:154:THR:HG21	2.02	0.41
17:L:182:LYS:HG2	37:L:387:HOH:O	2.19	0.41
17:L:77:PHE:CD1	17:L:79:LYS:O	2.74	0.41
19:N:15:LYS:O	19:N:16:SER:C	2.58	0.41
22:Q:105:ASP:O	22:Q:106:GLY:C	2.59	0.41
24:S:49:GLU:HB3	24:S:59:GLU:HG2	2.03	0.41
30:Y:33:HIS:NE2	30:Y:49:ARG:HD2	2.35	0.41
1:0:1115:U:O2'	1:0:1116:U:H5'	2.20	0.41
1:0:154:C:H2'	1:0:155:C:H6	1.86	0.41
1:0:1599:U:H2'	1:0:1600:G:O4'	2.21	0.41
1:0:1700:C:H5''	1:0:1701:A:OP2	2.21	0.41
1:0:1936:C:O2'	1:0:1937:U:H5'	2.21	0.41
1:0:197:C:H5	35:0:3121:CL:CL	2.41	0.41
1:0:2037:C:OP1	1:0:2037:C:H6	2.03	0.41
1:0:245:C:C2	1:0:267:G:N1	2.88	0.41
1:0:2691:A:C4'	1:0:2692:G:OP1	2.69	0.41
1:0:538:C:C4'	1:0:539:G:OP2	2.68	0.41
1:0:876:A:N3	1:0:876:A:H2'	2.36	0.41
1:0:931:C:H2'	1:0:932:U:H6	1.86	0.41
5:9:33:U:H3'	37:9:410:HOH:O	2.21	0.41
6:A:190:ARG:NH2	37:A:431:HOH:O	2.53	0.41
6:A:210:GLY:HA3	37:A:476:HOH:O	2.19	0.41
6:A:20:SER:C	6:A:22:ARG:H	2.24	0.41
7:B:320:GLN:HG3	7:B:321:PRO:CD	2.50	0.41
13:H:32:ASP:O	13:H:33:MET:HG3	2.20	0.41
15:J:44:HIS:N	15:J:44:HIS:CD2	2.88	0.41
17:L:68:ARG:N	37:L:305:HOH:O	2.36	0.41
18:M:102:LEU:N	37:M:310:HOH:O	2.44	0.41
18:M:115:VAL:O	18:M:118:ILE:HB	2.21	0.41
18:M:143:ARG:NH1	18:M:173:ASP:OD2	2.53	0.41
18:M:175:LEU:HD12	18:M:175:LEU:HA	1.87	0.41
18:M:37:ARG:HH21	18:M:105:GLY:HA2	1.77	0.41
21:P:47:VAL:CG1	21:P:90:HIS:HE2	2.33	0.41
22:Q:113:HIS:O	22:Q:145:LEU:HD12	2.21	0.41
1:0:79:G:H3'	24:S:111:ARG:HH12	1.86	0.41
24:S:88:PRO:O	24:S:90:PRO:HD3	2.21	0.41
27:V:88:THR:HG23	27:V:110:GLN:HB3	2.03	0.41
27:V:154:ARG:NH2	37:V:209:HOH:O	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:944:G:C8	27:V:23:MET:HE1	2.55	0.41
1:0:1025:C:H2'	1:0:1026:C:C6	2.55	0.41
1:0:1246:A:C4	1:0:1248:A:C8	3.08	0.41
1:0:1666:C:H2'	1:0:1667:A:C8	2.55	0.41
1:0:1695:G:O2'	1:0:1696:U:H5'	2.21	0.41
1:0:1735:C:H5'	7:B:235:ARG:HH21	1.85	0.41
1:0:834:G:H4'	1:0:1754:A:H5'	2.03	0.41
1:0:1979:G:O2'	1:0:1980:U:OP1	2.37	0.41
1:0:2005:G:H4'	1:0:2006:C:OP2	2.21	0.41
1:0:2691:A:H4'	1:0:2692:G:OP1	2.20	0.41
1:0:2692:G:O2'	1:0:2701:G:N1	2.54	0.41
1:0:308:U:H2'	24:S:52:ARG:HH22	1.84	0.41
1:0:486:A:H1'	37:0:3238:HOH:O	2.19	0.41
5:9:49:G:O2'	5:9:50:G:H5'	2.21	0.41
6:A:204:GLY:HA3	37:A:480:HOH:O	2.21	0.41
7:B:148:PRO:HB2	7:B:156:LYS:O	2.20	0.41
7:B:316:ARG:O	7:B:316:ARG:HG3	2.20	0.41
8:C:157:LEU:HD11	8:C:194:PHE:HZ	1.86	0.41
8:C:193:LEU:CD2	8:C:223:LEU:HD12	2.50	0.41
11:F:16:ALA:HB2	11:F:75:ILE:HD13	2.03	0.41
11:F:79:GLN:O	11:F:82:ASP:HB2	2.21	0.41
1:0:2502:C:C4'	13:H:151:MET:HG2	2.51	0.41
14:I:122:ASP:HB3	14:I:125:SER:OG	2.21	0.41
15:J:34:VAL:CG2	15:J:47:ALA:HB2	2.48	0.41
15:J:4:LEU:HD22	15:J:116:GLU:HB3	2.02	0.41
15:J:55:VAL:HG12	15:J:56:SER:N	2.34	0.41
16:K:140:VAL:HG12	16:K:140:VAL:O	2.20	0.41
37:0:4580:HOH:O	16:K:34:GLY:HA2	2.21	0.41
17:L:149:TRP:CE3	17:L:150:ILE:HA	2.56	0.41
1:0:175:G:H3'	17:L:191:GLY:O	2.21	0.41
23:R:69:SER:O	23:R:71:ASP:N	2.54	0.41
26:U:45:ARG:C	26:U:47:LYS:N	2.73	0.41
26:U:26:GLU:HB3	26:U:49:LEU:HD21	2.02	0.41
29:X:178:HIS:CE1	29:X:179:PRO:HG2	2.56	0.41
30:Y:17:ARG:O	30:Y:18:TYR:CB	2.68	0.41
2:1:48:ASP:HA	31:Z:25:LYS:HD2	2.03	0.41
1:0:1015:C:O5'	1:0:1015:C:H6	2.04	0.41
1:0:931:C:C2	1:0:1040:A:C6	3.09	0.41
1:0:1327:G:N1	1:0:1331:A:C6	2.88	0.41
1:0:1730:G:H5'	1:0:1731:C:C5	2.55	0.41
1:0:1902:G:O2'	1:0:1903:U:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2369:A:O2'	1:0:2370:A:C8	2.74	0.41
1:0:2753:G:O2'	1:0:2754:G:H5'	2.20	0.41
1:0:2811:A:H4'	1:0:2812:A:H5''	2.01	0.41
1:0:333:G:C2'	1:0:334:G:H5'	2.51	0.41
1:0:390:G:H2'	1:0:391:U:C6	2.55	0.41
1:0:391:U:OP2	17:L:84:LYS:NZ	2.51	0.41
1:0:451:C:OP2	8:C:182:ARG:NH2	2.53	0.41
1:0:60:A:N6	2:1:25:VAL:HG21	2.36	0.41
5:9:13:A:H3'	5:9:14:G:H5''	2.02	0.41
6:A:94:LEU:HG	6:A:99:ILE:HD11	2.02	0.41
7:B:146:THR:O	7:B:159:PRO:HB3	2.21	0.41
1:0:2338:G:H1'	9:D:105:SER:OG	2.21	0.41
9:D:173:GLU:HG3	9:D:174:VAL:H	1.84	0.41
10:E:33:LEU:HB3	10:E:65:PHE:CE1	2.56	0.41
10:E:72:MET:O	10:E:76:VAL:HG22	2.21	0.41
11:F:48:VAL:HG22	11:F:74:PHE:HB3	2.03	0.41
13:H:48:LEU:HB3	13:H:132:PHE:HB2	2.03	0.41
13:H:46:VAL:HG12	13:H:146:TRP:CZ3	2.52	0.41
14:I:130:VAL:HG12	14:I:131:THR:N	2.36	0.41
18:M:164:ASP:CG	18:M:167:ASP:HA	2.40	0.41
18:M:8:VAL:O	18:M:8:VAL:HG12	2.21	0.41
19:N:44:ASN:HA	19:N:65:LEU:O	2.21	0.41
1:0:2299:G:O6	21:P:1:PRO:HA	2.20	0.41
22:Q:111:ILE:O	22:Q:111:ILE:HG22	2.21	0.41
27:V:108:ARG:CG	27:V:114:PRO:HG3	2.51	0.41
27:V:125:HIS:HB2	27:V:137:GLN:OE1	2.21	0.41
27:V:137:GLN:O	27:V:137:GLN:HG3	2.20	0.41
30:Y:39:CYS:HA	30:Y:47:LEU:CD1	2.50	0.41
1:0:1037:G:O2'	1:0:1038:G:H5'	2.21	0.41
1:0:1089:G:N7	1:0:1290:G:C6	2.89	0.41
1:0:1329:A:OP2	29:X:125:LYS:NZ	2.51	0.41
1:0:1495:C:H1'	1:0:1573:A:H1'	2.03	0.41
1:0:152:A:O2'	1:0:153:C:H5'	2.20	0.41
1:0:1646:G:O2'	1:0:1647:G:H5'	2.20	0.41
1:0:1661:A:H2'	1:0:1662:C:O4'	2.21	0.41
1:0:1447:U:OP1	1:0:1677:U:H2'	2.21	0.41
1:0:2404:G:H1'	37:0:6989:HOH:O	2.20	0.41
1:0:623:U:H2'	1:0:624:U:C6	2.56	0.41
5:9:7:G:OP1	18:M:23:ARG:NE	2.54	0.41
1:0:1852:A:H4'	6:A:230:SER:CB	2.51	0.41
1:0:1874:U:P	6:A:51:ARG:HD2	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:94:LEU:HD12	6:A:98:GLU:HB2	2.02	0.41
7:B:30:PRO:HB2	7:B:39:GLN:HE21	1.79	0.41
8:C:54:LEU:O	8:C:56:THR:N	2.52	0.41
9:D:59:GLY:C	9:D:61:PHE:N	2.73	0.41
5:9:44:A:C1'	9:D:76:ARG:HE	2.33	0.41
10:E:35:TYR:CD2	10:E:36:PRO:HD2	2.56	0.41
17:L:87:MET:CE	17:L:91:ILE:HD11	2.50	0.41
20:O:115:SER:O	20:O:117:SER:N	2.54	0.41
22:Q:41:GLY:O	22:Q:42:GLU:C	2.59	0.41
23:R:55:GLN:NE2	37:R:206:HOH:O	2.54	0.41
23:R:69:SER:C	23:R:71:ASP:N	2.74	0.41
27:V:107:LEU:HD23	27:V:112:LEU:HD12	2.03	0.41
28:W:30:MET:HE1	28:W:58:ALA:HB3	2.03	0.41
1:0:2744:G:H5''	28:W:61:ARG:O	2.21	0.41
29:X:218:GLU:OE2	29:X:232:THR:N	2.54	0.41
1:0:938:G:N1	1:0:1031:G:O2'	2.52	0.41
1:0:1100:G:N3	1:0:1107:A:H2	2.19	0.41
1:0:1205:U:C2'	1:0:1206:U:H5''	2.51	0.41
1:0:1289:C:H3'	37:0:5354:HOH:O	2.20	0.41
1:0:2525:G:H5''	1:0:2526:C:OP1	2.21	0.41
1:0:2616:G:H5''	1:0:2617:G:OP1	2.21	0.41
1:0:2716:G:H1'	37:B:526:HOH:O	2.19	0.41
1:0:2778:A:C2	1:0:2797:C:O2	2.73	0.41
1:0:2831:C:H2'	1:0:2832:C:C5'	2.50	0.41
1:0:298:C:H1'	37:0:4344:HOH:O	2.20	0.41
1:0:411:A:H4'	1:0:412:C:OP2	2.21	0.41
1:0:636:G:H5'	1:0:2059:U:OP2	2.21	0.41
1:0:677:C:H6	1:0:677:C:O5'	2.03	0.41
1:0:962:C:C4	1:0:963:C:C4	3.09	0.41
2:1:1:GLY:CA	37:1:112:HOH:O	2.69	0.41
6:A:125:ASN:HB2	6:A:158:VAL:HG12	2.00	0.41
6:A:38:ILE:HG23	6:A:60:PHE:HD2	1.86	0.41
8:C:139:VAL:HG13	37:C:406:HOH:O	2.21	0.41
13:H:166:ASN:ND2	13:H:166:ASN:N	2.68	0.41
13:H:31:PHE:HD2	13:H:85:ILE:HG23	1.81	0.41
15:J:24:THR:OG1	15:J:97:ILE:HD12	2.21	0.41
16:K:22:ARG:HB3	16:K:23:GLY:H	1.53	0.41
17:L:120:VAL:HG11	17:L:130:GLU:OE2	2.21	0.41
17:L:87:MET:HE1	37:L:351:HOH:O	2.20	0.41
20:O:100:ALA:HA	37:O:209:HOH:O	2.20	0.41
27:V:59:GLN:HE22	27:V:97:ALA:HB3	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y:66:GLY:HA3	30:Y:71:PRO:O	2.21	0.41
1:0:1006:A:N1	1:0:2311:A:H1'	2.35	0.40
1:0:1158:G:C2'	1:0:1159:G:H5'	2.51	0.40
1:0:1244:U:H2'	37:0:4583:HOH:O	2.20	0.40
1:0:128:A:C8	1:0:128:A:H3'	2.56	0.40
1:0:1500:U:OP2	20:O:41:ARG:NH2	2.54	0.40
1:0:1791:U:O2'	1:0:1792:C:H5'	2.21	0.40
1:0:2385:G:H2'	1:0:2386:U:C6	2.56	0.40
1:0:2472:C:O2'	1:0:2473:U:H5'	2.20	0.40
1:0:2640:U:H2'	1:0:2641:C:C6	2.56	0.40
1:0:2742:G:C2	1:0:2743:A:C4	3.09	0.40
1:0:2768:A:N7	7:B:316:ARG:HB2	2.35	0.40
1:0:2898:G:H2'	1:0:2899:A:C8	2.57	0.40
1:0:297:U:H6	1:0:297:U:O5'	2.04	0.40
1:0:297:U:H2'	1:0:298:C:H6	1.85	0.40
1:0:336:G:C2	1:0:483:C:C2	3.09	0.40
1:0:363:A:H2'	1:0:364:C:H6	1.86	0.40
1:0:607:G:H2'	1:0:608:A:O4'	2.21	0.40
1:0:686:A:H1'	1:0:747:G:O2'	2.22	0.40
2:1:11:LEU:HA	2:1:11:LEU:HD23	1.89	0.40
5:9:80:A:H2'	5:9:81:C:O4'	2.21	0.40
37:0:3527:HOH:O	6:A:164:ARG:NH2	2.53	0.40
7:B:243:ASN:HA	7:B:245:SER:N	2.35	0.40
9:D:146:LYS:HZ1	18:M:107:ASN:ND2	2.19	0.40
9:D:172:VAL:HG12	9:D:173:GLU:N	2.35	0.40
13:H:151:MET:CE	13:H:151:MET:HA	2.51	0.40
15:J:37:TYR:CE2	15:J:45:PRO:HA	2.56	0.40
16:K:68:GLU:O	16:K:69:ILE:C	2.60	0.40
17:L:138:HIS:ND1	17:L:139:PRO:O	2.52	0.40
18:M:154:LEU:C	18:M:156:GLU:H	2.24	0.40
25:T:35:LYS:O	25:T:39:ASN:OD1	2.39	0.40
26:U:12:THR:O	26:U:14:ALA:N	2.54	0.40
30:Y:40:PRO:HD3	30:Y:47:LEU:HD11	2.03	0.40
1:0:1019:C:H2'	1:0:1020:A:H8	1.87	0.40
1:0:1150:A:C2'	12:G:16:LYS:HD3	2.51	0.40
1:0:1180:U:H2'	1:0:1181:A:O4'	2.21	0.40
1:0:1206:U:H2'	1:0:1207:A:O4'	2.20	0.40
1:0:1041:U:H4'	1:0:1295:G:H5'	2.04	0.40
1:0:1327:G:N2	1:0:1331:A:C4	2.89	0.40
1:0:1339:G:C6	1:0:1340:G:N1	2.89	0.40
1:0:1621:G:O2'	1:0:1622:G:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1649:G:O2'	1:0:1650:C:H5'	2.20	0.40
1:0:1942:A:H5''	6:A:213:LYS:CE	2.51	0.40
1:0:2005:G:O2'	1:0:2008:U:OP2	2.24	0.40
1:0:535:G:C5	1:0:2063:U:C4	3.09	0.40
1:0:2320:U:H5	3:2:1:MET:CE	2.33	0.40
1:0:290:C:N3	1:0:363:A:C2	2.89	0.40
1:0:359:U:H2'	1:0:360:A:H8	1.85	0.40
1:0:477:A:C6	1:0:478:C:C4	3.10	0.40
1:0:79:G:N2	1:0:98:A:C8	2.89	0.40
3:2:11:CYS:SG	3:2:20:HIS:CE1	3.11	0.40
1:0:2433:A:O3'	3:2:30:GLN:OE1	2.39	0.40
5:9:25:G:H2'	5:9:26:C:H5'	2.03	0.40
6:A:170:VAL:HG13	30:Y:22:ILE:HG21	2.02	0.40
7:B:88:GLU:O	7:B:88:GLU:HG3	2.21	0.40
8:C:211:ASP:HB2	8:C:231:ARG:NH2	2.37	0.40
9:D:23:VAL:HG11	9:D:83:PHE:CZ	2.56	0.40
11:F:29:VAL:HG12	11:F:98:VAL:HA	2.03	0.40
11:F:20:LEU:HD13	11:F:98:VAL:HG22	2.03	0.40
12:G:63:ARG:N	37:G:403:HOH:O	2.54	0.40
1:0:259:G:N2	17:L:58:GLN:NE2	2.66	0.40
18:M:22:GLN:O	18:M:26:LEU:HD22	2.22	0.40
27:V:51:PHE:CD1	27:V:51:PHE:N	2.89	0.40
29:X:130:ARG:HG2	29:X:131:GLN:N	2.36	0.40
1:0:1243:C:H6	1:0:1243:C:O5'	2.03	0.40
1:0:1271:A:O2'	1:0:1272:C:H5'	2.22	0.40
1:0:1404:C:H4'	1:0:1408:U:C5	2.55	0.40
1:0:1457:U:O2'	1:0:1458:A:H5'	2.21	0.40
1:0:1553:C:H6	1:0:1553:C:O5'	2.04	0.40
1:0:1568:G:O2'	1:0:1569:U:H5'	2.21	0.40
1:0:1583:U:O2'	1:0:1584:C:H5'	2.22	0.40
1:0:1713:G:C2'	37:0:3224:HOH:O	2.67	0.40
1:0:1769:C:O2'	1:0:1770:U:H5'	2.22	0.40
1:0:1847:A:H4'	6:A:169:PHE:HB2	2.03	0.40
1:0:1860:U:H2'	1:0:1861:C:O4'	2.21	0.40
1:0:1866:A:C5	1:0:1867:G:H1'	2.56	0.40
1:0:1985:U:H5''	1:0:1986:G:OP2	2.20	0.40
1:0:2525:G:H2'	37:0:8692:HOH:O	2.21	0.40
1:0:2607:U:O5'	1:0:2609:G:H4'	2.21	0.40
1:0:2616:G:C4	1:0:2645:U:C4	3.10	0.40
1:0:2750:G:H2'	1:0:2751:C:O4'	2.22	0.40
1:0:2908:A:H8	1:0:2908:A:O5'	2.05	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:473:A:H8	1:0:473:A:O5'	2.04	0.40
1:0:645:U:OP2	16:K:4:LYS:HE2	2.21	0.40
1:0:688:A:N6	1:0:698:A:O5'	2.51	0.40
7:B:223:ARG:O	7:B:224:LYS:HD3	2.21	0.40
7:B:284:PHE:O	7:B:287:TYR:N	2.52	0.40
37:0:4050:HOH:O	7:B:298:LYS:HD3	2.21	0.40
8:C:57:PRO:HD2	8:C:73:LEU:HD22	2.03	0.40
10:E:84:MET:HE3	10:E:131:LEU:HD13	2.02	0.40
10:E:6:GLU:HG2	10:E:46:THR:HG22	2.03	0.40
11:F:89:LEU:HA	11:F:89:LEU:HD23	1.88	0.40
13:H:141:ASN:O	13:H:144:GLU:HB3	2.21	0.40
14:I:130:VAL:CG1	14:I:131:THR:N	2.84	0.40
16:K:24:ALA:HB2	16:K:27:ARG:NH2	2.36	0.40
17:L:131:VAL:HG12	17:L:133:LEU:HD12	2.03	0.40
1:0:380:A:C2	17:L:13:LYS:HB3	2.55	0.40
18:M:42:HIS:CE1	18:M:75:THR:OG1	2.74	0.40
19:N:27:GLY:O	19:N:31:GLU:HG3	2.22	0.40
21:P:86:VAL:CG2	21:P:90:HIS:HB2	2.51	0.40
27:V:108:ARG:HG3	27:V:114:PRO:HG3	2.04	0.40
27:V:80:ASP:OD1	27:V:82:GLU:HB3	2.21	0.40
28:W:30:MET:CE	28:W:55:ASN:HA	2.49	0.40
30:Y:41:VAL:HG23	30:Y:62:TYR:CD2	2.56	0.40
1:0:1265:G:C6	1:0:1266:U:C4	3.10	0.40
1:0:2038:A:O2'	1:0:2039:A:H5'	2.21	0.40
1:0:2101:A:H1'	1:0:2537:G:O4'	2.21	0.40
1:0:2110:G:C2	1:0:2478:U:C2	3.09	0.40
1:0:171:C:O2	1:0:222:A:H2	2.05	0.40
1:0:2256:G:C2'	1:0:2257:G:H5'	2.51	0.40
1:0:2517:A:H2'	1:0:2518:C:O4'	2.22	0.40
1:0:2692:G:O2'	1:0:2693:U:OP2	2.38	0.40
1:0:623:U:H2'	1:0:624:U:H6	1.87	0.40
1:0:955:A:H2'	1:0:956:G:H5'	2.04	0.40
4:5:53:ILE:CG1	23:R:15:MET:HE2	2.52	0.40
5:9:25:G:C2'	5:9:26:C:H5'	2.51	0.40
6:A:171:LYS:HE3	6:A:174:ASN:OD1	2.21	0.40
7:B:27:ASN:ND2	7:B:27:ASN:N	2.67	0.40
8:C:5:ILE:CD1	8:C:16:VAL:HG23	2.37	0.40
8:C:20:ASP:O	8:C:21:VAL:C	2.60	0.40
8:C:76:ARG:HG2	8:C:78:ARG:HH12	1.86	0.40
9:D:166:ILE:O	9:D:169:THR:N	2.55	0.40
11:F:110:GLU:HA	11:F:113:ASP:OD2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:45:GLN:HG3	13:H:135:TRP:NE1	2.36	0.40
13:H:153:VAL:HG21	13:H:157:ILE:HD11	2.04	0.40
13:H:57:ARG:HG3	13:H:57:ARG:NH1	2.37	0.40
14:I:39:VAL:HG11	14:I:107:ASN:CG	2.42	0.40
16:K:43:HIS:HE1	37:K:376:HOH:O	2.03	0.40
17:L:122:GLU:OE2	17:L:127:LYS:HE2	2.22	0.40
19:N:47:ARG:NH1	19:N:47:ARG:CG	2.79	0.40
23:R:53:ASN:ND2	37:R:205:HOH:O	2.53	0.40
26:U:11:MET:HB3	26:U:15:GLU:HB2	2.03	0.40
30:Y:14:PHE:HE2	37:Y:206:HOH:O	2.05	0.40
30:Y:47:LEU:HD11	30:Y:64:ILE:HD11	2.02	0.40
1:0:1137:G:C4'	1:0:1138:G:OP1	2.69	0.40
1:0:1153:C:C4	1:0:1154:A:N7	2.90	0.40
1:0:1107:A:N3	1:0:1257:C:H1'	2.37	0.40
1:0:1386:G:C2	1:0:1397:C:N3	2.89	0.40
1:0:1460:G:O2'	1:0:1461:U:H5'	2.21	0.40
1:0:1718:G:OP1	20:O:20:ARG:HD3	2.21	0.40
1:0:1884:G:O6	6:A:190:ARG:CD	2.69	0.40
1:0:1946:C:C5	1:0:1971:G:C6	3.08	0.40
1:0:2246:U:O2'	1:0:2247:C:H5'	2.22	0.40
1:0:260:C:H2'	1:0:261:A:C8	2.57	0.40
1:0:2623:G:C6	1:0:2642:G:N1	2.89	0.40
1:0:40:C:H6	1:0:40:C:O5'	2.05	0.40
1:0:611:U:H2'	1:0:612:U:C6	2.57	0.40
1:0:610:G:O2'	1:0:611:U:H5'	2.21	0.40
1:0:926:A:H5'	16:K:39:GLU:OE2	2.22	0.40
2:1:49:GLU:HB2	37:1:108:HOH:O	2.22	0.40
6:A:170:VAL:HG13	30:Y:22:ILE:CG2	2.51	0.40
8:C:108:GLN:HB3	37:C:513:HOH:O	2.21	0.40
9:D:76:ARG:O	9:D:77:ASP:HB2	2.22	0.40
10:E:166:VAL:HB	37:E:214:HOH:O	2.21	0.40
13:H:130:HIS:HB2	13:H:133:ILE:HD11	2.02	0.40
16:K:72:ASN:HB2	37:K:317:HOH:O	2.20	0.40
17:L:47:ASP:CG	17:L:48:ARG:H	2.24	0.40
22:Q:15:LYS:HE3	37:Q:368:HOH:O	2.21	0.40
24:S:26:THR:O	24:S:97:ARG:HG3	2.22	0.40
29:X:160:LYS:HA	29:X:160:LYS:HD3	1.94	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	
2	1	42/48 (88%)	37 (88%)	5 (12%)	0	100	100
3	2	90/92 (98%)	82 (91%)	5 (6%)	3 (3%)	4	35
4	5	33/144 (23%)	24 (73%)	9 (27%)	0	100	100
6	A	236/239 (99%)	197 (84%)	27 (11%)	12 (5%)	2	23
7	B	335/337 (99%)	281 (84%)	40 (12%)	14 (4%)	3	28
8	C	244/246 (99%)	201 (82%)	37 (15%)	6 (2%)	6	41
9	D	135/176 (77%)	90 (67%)	31 (23%)	14 (10%)	0	7
10	E	171/177 (97%)	147 (86%)	21 (12%)	3 (2%)	10	48
11	F	117/119 (98%)	97 (83%)	16 (14%)	4 (3%)	4	35
12	G	26/348 (8%)	23 (88%)	2 (8%)	1 (4%)	4	31
13	H	152/167 (91%)	123 (81%)	21 (14%)	8 (5%)	2	22
14	I	140/145 (97%)	117 (84%)	17 (12%)	6 (4%)	3	28
15	J	130/132 (98%)	115 (88%)	13 (10%)	2 (2%)	12	52
16	K	142/164 (87%)	116 (82%)	20 (14%)	6 (4%)	3	28
17	L	192/194 (99%)	144 (75%)	40 (21%)	8 (4%)	3	28
18	M	184/186 (99%)	153 (83%)	24 (13%)	7 (4%)	4	31
19	N	113/115 (98%)	92 (81%)	17 (15%)	4 (4%)	4	34
20	O	142/148 (96%)	126 (89%)	12 (8%)	4 (3%)	6	39
21	P	93/95 (98%)	72 (77%)	16 (17%)	5 (5%)	2	22
22	Q	149/154 (97%)	127 (85%)	18 (12%)	4 (3%)	6	40
23	R	82/84 (98%)	68 (83%)	9 (11%)	5 (6%)	2	19
24	S	117/119 (98%)	101 (86%)	13 (11%)	3 (3%)	6	40
25	T	52/66 (79%)	49 (94%)	3 (6%)	0	100	100
26	U	64/70 (91%)	49 (77%)	13 (20%)	2 (3%)	5	37
27	V	152/154 (99%)	132 (87%)	19 (12%)	1 (1%)	25	68

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	W	81/91 (89%)	65 (80%)	11 (14%)	5 (6%)	2	19
29	X	141/240 (59%)	126 (89%)	12 (8%)	3 (2%)	8	45
30	Y	71/73 (97%)	59 (83%)	7 (10%)	5 (7%)	1	15
31	Z	54/56 (96%)	43 (80%)	7 (13%)	4 (7%)	1	14
All	All	3680/4379 (84%)	3056 (83%)	485 (13%)	139 (4%)	4	31

All (139) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	D	20	LYS
9	D	93	LEU
9	D	95	THR
9	D	144	ARG
9	D	173	GLU
9	D	174	VAL
11	F	61	MET
11	F	101	ALA
13	H	72	VAL
13	H	162	SER
14	I	143	LYS
16	K	80	ASP
16	K	150	GLN
18	M	154	LEU
18	M	162	ASP
18	M	164	ASP
18	M	183	ASP
21	P	23	THR
23	R	83	VAL
26	U	65	ASP
28	W	87	ALA
3	2	84	ARG
6	A	15	THR
6	A	21	HIS
7	B	139	ASP
7	B	169	GLY
7	B	184	ASP
7	B	266	ASN
10	E	164	ASP
11	F	105	ALA
14	I	76	ASP
14	I	78	ILE

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Mol	Chain	Res	Type
14	I	89	HIS
17	L	72	SER
17	L	140	ALA
18	M	15	GLU
18	M	181	ASP
20	O	143	ALA
22	Q	40	ALA
22	Q	106	GLY
23	R	4	VAL
23	R	30	ASP
24	S	16	LEU
24	S	53	GLY
27	V	77	ALA
28	W	23	HIS
28	W	70	ILE
29	X	157	ILE
30	Y	20	LEU
31	Z	2	GLY
31	Z	18	LYS
3	2	56	PRO
6	A	14	SER
6	A	119	ALA
6	A	180	LYS
7	B	192	ASP
7	B	302	PRO
8	C	69	HIS
8	C	131	PHE
9	D	39	ASP
9	D	96	SER
9	D	137	PRO
10	E	17	HIS
10	E	145	ALA
13	H	40	PRO
13	H	79	ALA
14	I	5	GLU
15	J	126	SER
16	K	11	ARG
16	K	21	ARG
17	L	35	PRO
17	L	46	LEU
18	M	9	PRO
19	N	20	SER

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Mol	Chain	Res	Type
19	N	21	SER
19	N	73	ASP
20	O	116	SER
24	S	44	ALA
26	U	43	PRO
28	W	77	PHE
29	X	142	SER
30	Y	18	TYR
31	Z	29	THR
3	2	57	GLY
6	A	34	ASP
6	A	55	VAL
6	A	132	ASP
7	B	206	THR
7	B	291	ASP
9	D	85	GLN
9	D	171	ASP
14	I	7	ASP
15	J	6	ALA
17	L	165	SER
19	N	54	GLU
20	O	77	ALA
21	P	54	PRO
21	P	78	GLY
22	Q	107	GLU
29	X	169	ARG
31	Z	11	LYS
6	A	69	LEU
7	B	2	GLN
7	B	34	GLY
7	B	67	GLU
7	B	91	PRO
7	B	185	GLY
8	C	48	SER
8	C	55	ARG
13	H	58	HIS
16	K	45	PRO
17	L	47	ASP
17	L	110	PRO
20	O	83	LYS
21	P	18	PRO
23	R	38	ALA

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Mol	Chain	Res	Type
23	R	70	GLU
30	Y	41	VAL
30	Y	59	HIS
6	A	10	GLY
6	A	211	LYS
8	C	89	ALA
9	D	27	ILE
13	H	67	ALA
16	K	13	HIS
28	W	52	PRO
6	A	170	VAL
21	P	6	PRO
30	Y	15	GLY
9	D	135	VAL
11	F	59	ILE
13	H	110	GLY
13	H	118	PRO
17	L	88	VAL
22	Q	2	ILE
7	B	30	PRO
8	C	21	VAL
12	G	20	VAL
9	D	130	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	1	42/44 (96%)	40 (95%)	2 (5%)	30	67
3	2	79/79 (100%)	75 (95%)	4 (5%)	28	64
4	5	29/122 (24%)	26 (90%)	3 (10%)	8	36
6	A	179/181 (99%)	167 (93%)	12 (7%)	19	57
7	B	282/282 (100%)	268 (95%)	14 (5%)	28	65
8	C	193/193 (100%)	181 (94%)	12 (6%)	21	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	D	117/147 (80%)	109 (93%)	8 (7%)	18	56
10	E	152/155 (98%)	147 (97%)	5 (3%)	43	76
11	F	92/92 (100%)	91 (99%)	1 (1%)	78	91
12	G	27/283 (10%)	27 (100%)	0	100	100
13	H	122/122 (100%)	111 (91%)	11 (9%)	11	42
14	I	118/121 (98%)	111 (94%)	7 (6%)	23	61
15	J	106/106 (100%)	102 (96%)	4 (4%)	38	72
16	K	112/126 (89%)	106 (95%)	6 (5%)	26	63
17	L	166/166 (100%)	160 (96%)	6 (4%)	40	74
18	M	149/149 (100%)	142 (95%)	7 (5%)	30	67
19	N	93/93 (100%)	90 (97%)	3 (3%)	44	76
20	O	113/116 (97%)	109 (96%)	4 (4%)	41	75
21	P	79/79 (100%)	74 (94%)	5 (6%)	21	59
22	Q	117/121 (97%)	113 (97%)	4 (3%)	42	75
23	R	73/73 (100%)	72 (99%)	1 (1%)	71	89
24	S	105/105 (100%)	101 (96%)	4 (4%)	38	72
25	T	44/52 (85%)	41 (93%)	3 (7%)	18	56
26	U	51/56 (91%)	51 (100%)	0	100	100
27	V	130/130 (100%)	124 (95%)	6 (5%)	31	68
28	W	66/73 (90%)	61 (92%)	5 (8%)	15	51
29	X	120/195 (62%)	115 (96%)	5 (4%)	34	70
30	Y	56/56 (100%)	51 (91%)	5 (9%)	11	43
31	Z	46/46 (100%)	46 (100%)	0	100	100
All	All	3058/3563 (86%)	2911 (95%)	147 (5%)	30	67

All (147) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	1	16	ASN
2	1	18	ASN
3	2	11	CYS
3	2	15	ASN
3	2	38	ARG
3	2	56	PRO

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Mol	Chain	Res	Type
4	5	26	THR
4	5	40	ARG
4	5	56	GLN
6	A	3	ARG
6	A	30	ARG
6	A	33	GLU
6	A	55	VAL
6	A	69	LEU
6	A	78	ASP
6	A	120	ARG
6	A	131	HIS
6	A	153	ARG
6	A	179	MET
6	A	190	ARG
6	A	217	ARG
7	B	7	ARG
7	B	27	ASN
7	B	33	ASP
7	B	49	THR
7	B	103	ASP
7	B	162	MET
7	B	190	MET
7	B	195	ARG
7	B	250	THR
7	B	254	GLN
7	B	256	GLN
7	B	304	PRO
7	B	307	ARG
7	B	312	ARG
8	C	2	GLN
8	C	27	ARG
8	C	28	SER
8	C	42	ARG
8	C	67	GLN
8	C	78	ARG
8	C	136	VAL
8	C	187	ARG
8	C	214	THR
8	C	222	ASP
8	C	236	THR
8	C	240	LEU
9	D	24	HIS

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Mol	Chain	Res	Type
9	D	50	VAL
9	D	61	PHE
9	D	86	THR
9	D	131	THR
9	D	133	ASN
9	D	136	ARG
9	D	137	PRO
10	E	7	ILE
10	E	12	ASP
10	E	16	ASP
10	E	102	VAL
10	E	164	ASP
11	F	64	PRO
13	H	65	ARG
13	H	72	VAL
13	H	73	GLN
13	H	82	LYS
13	H	83	PHE
13	H	86	ARG
13	H	93	ILE
13	H	126	HIS
13	H	130	HIS
13	H	142	VAL
13	H	150	LYS
14	I	46	ILE
14	I	52	GLN
14	I	74	ARG
14	I	76	ASP
14	I	79	PHE
14	I	107	ASN
14	I	127	ILE
15	J	10	GLN
15	J	56	SER
15	J	83	PRO
15	J	98	VAL
16	K	18	HIS
16	K	30	ARG
16	K	35	ARG
16	K	51	PHE
16	K	80	ASP
16	K	117	GLU
17	L	38	VAL

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Mol	Chain	Res	Type
17	L	46	LEU
17	L	68	ARG
17	L	87	MET
17	L	93	ARG
17	L	99	ARG
18	M	12	ARG
18	M	26	LEU
18	M	38	LYS
18	M	128	ASP
18	M	139	TRP
18	M	152	GLU
18	M	163	PHE
19	N	9	SER
19	N	26	TRP
19	N	38	ARG
20	O	52	LYS
20	O	91	LYS
20	O	94	TRP
20	O	98	ILE
21	P	11	ARG
21	P	16	ASN
21	P	18	PRO
21	P	57	ASP
21	P	81	GLU
22	Q	13	THR
22	Q	39	THR
22	Q	82	GLU
22	Q	143	VAL
23	R	17	ASP
24	S	5	ASP
24	S	39	ASN
24	S	48	VAL
24	S	73	HIS
25	T	9	CYS
25	T	32	CYS
25	T	52	THR
27	V	35	VAL
27	V	38	THR
27	V	122	ARG
27	V	125	HIS
27	V	142	ASP
27	V	154	ARG

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Mol	Chain	Res	Type
28	W	15	ARG
28	W	27	ASP
28	W	44	ASP
28	W	51	ASP
28	W	72	VAL
29	X	154	ARG
29	X	186	ARG
29	X	189	ASN
29	X	203	VAL
29	X	235	GLU
30	Y	11	THR
30	Y	28	ASP
30	Y	44	PHE
30	Y	64	ILE
30	Y	68	CYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (87) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	16	ASN
2	1	18	ASN
2	1	41	HIS
2	1	45	ASN
3	2	13	HIS
3	2	17	HIS
3	2	48	ASN
4	5	56	GLN
6	A	92	ASN
6	A	199	HIS
7	B	27	ASN
7	B	39	GLN
7	B	145	HIS
7	B	238	ASN
7	B	260	HIS
7	B	320	GLN
8	C	39	GLN
8	C	41	ASN
8	C	129	HIS
9	D	47	GLN
9	D	103	ASN
9	D	133	ASN
10	E	15	GLN

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Mol	Chain	Res	Type
10	E	106	ASN
10	E	143	GLN
10	E	150	GLN
11	F	80	GLN
12	G	64	ASN
13	H	8	ASN
13	H	55	GLN
13	H	58	HIS
13	H	59	ASN
13	H	69	ASN
13	H	74	ASN
13	H	80	ASN
13	H	91	HIS
13	H	126	HIS
13	H	137	ASN
13	H	166	ASN
14	I	107	ASN
15	J	10	GLN
15	J	42	ASN
16	K	18	HIS
16	K	41	HIS
16	K	42	ASN
16	K	43	HIS
16	K	58	GLN
17	L	26	HIS
17	L	58	GLN
17	L	78	ASN
17	L	89	ASN
17	L	176	GLN
18	M	40	ASN
18	M	93	GLN
18	M	107	ASN
18	M	119	GLN
18	M	153	GLN
19	N	105	ASN
20	O	50	GLN
20	O	66	GLN
21	P	16	ASN
21	P	40	HIS
22	Q	61	GLN
22	Q	94	ASN
22	Q	98	ASN

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Mol	Chain	Res	Type
22	Q	113	HIS
23	R	21	GLN
23	R	51	GLN
24	S	43	ASN
25	T	39	ASN
25	T	48	ASN
26	U	60	GLN
27	V	6	GLN
27	V	59	GLN
27	V	87	HIS
27	V	110	GLN
27	V	119	HIS
27	V	125	HIS
27	V	141	HIS
28	W	23	HIS
29	X	119	GLN
29	X	133	HIS
29	X	134	HIS
29	X	149	GLN
29	X	189	ASN
31	Z	16	HIS
31	Z	28	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2745/2922 (93%)	542 (19%)	360 (13%)
5	9	121/122 (99%)	27 (22%)	14 (11%)
All	All	2866/3044 (94%)	569 (19%)	374 (13%)

All (569) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	24	G
1	0	25	A
1	0	31	C
1	0	32	G
1	0	46	U
1	0	47	G
1	0	56	G
1	0	60	A

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Mol	Chain	Res	Type
1	0	67	A
1	0	68	U
1	0	69	A
1	0	70	A
1	0	71	G
1	0	81	G
1	0	86	A
1	0	87	C
1	0	88	G
1	0	95	A
1	0	96	A
1	0	97	G
1	0	98	A
1	0	114	A
1	0	115	U
1	0	116	G
1	0	120	A
1	0	130	C
1	0	139	C
1	0	140	G
1	0	141	C
1	0	142	G
1	0	151	A
1	0	166	A
1	0	174	A
1	0	175	G
1	0	186	A
1	0	191	A
1	0	192	A
1	0	193	A
1	0	198	A
1	0	199	A
1	0	212	A
1	0	213	G
1	0	219	G
1	0	220	C
1	0	237	G
1	0	247	A
1	0	248	A
1	0	262	A
1	0	263	U
1	0	264	G

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Mol	Chain	Res	Type
1	0	265	U
1	0	271	C
1	0	272	A
1	0	273	G
1	0	283	U
1	0	284	C
1	0	285	A
1	0	307	G
1	0	308	U
1	0	309	C
1	0	317	A
1	0	318	C
1	0	329	A
1	0	330	C
1	0	331	A
1	0	336	G
1	0	337	A
1	0	338	C
1	0	340	A
1	0	345	G
1	0	357	A
1	0	358	G
1	0	359	U
1	0	379	G
1	0	380	A
1	0	381	G
1	0	397	A
1	0	410	A
1	0	411	A
1	0	412	C
1	0	417	G
1	0	418	C
1	0	441	A
1	0	448	G
1	0	449	A
1	0	452	G
1	0	453	A
1	0	454	U
1	0	455	A
1	0	460	A
1	0	461	C
1	0	462	A

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Mol	Chain	Res	Type
1	0	463	A
1	0	464	G
1	0	481	U
1	0	485	A
1	0	486	A
1	0	487	G
1	0	488	U
1	0	497	A
1	0	498	A
1	0	511	A
1	0	514	G
1	0	533	U
1	0	534	C
1	0	535	G
1	0	536	A
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	549	A
1	0	553	G
1	0	555	U
1	0	559	U
1	0	587	A
1	0	588	G
1	0	604	G
1	0	605	C
1	0	620	A
1	0	628	A
1	0	629	A
1	0	631	A
1	0	632	A
1	0	661	G
1	0	673	U
1	0	674	A
1	0	675	U
1	0	681	G
1	0	682	A
1	0	688	A
1	0	689	G
1	0	698	A

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Mol	Chain	Res	Type
1	0	701	U
1	0	702	G
1	0	713	U
1	0	714	U
1	0	734	U
1	0	746	A
1	0	747	G
1	0	759	C
1	0	761	A
1	0	762	C
1	0	778	C
1	0	809	G
1	0	817	G
1	0	819	A
1	0	820	G
1	0	821	U
1	0	831	U
1	0	832	U
1	0	835	U
1	0	840	U
1	0	845	U
1	0	846	A
1	0	856	G
1	0	868	G
1	0	869	G
1	0	870	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	876	A
1	0	877	G
1	0	878	G
1	0	882	A
1	0	883	U
1	0	884	C
1	0	885	G
1	0	886	A
1	0	887	G
1	0	893	C
1	0	894	A
1	0	895	A
1	0	898	G

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Mol	Chain	Res	Type
1	0	904	U
1	0	905	C
1	0	920	C
1	0	921	G
1	0	923	A
1	0	938	G
1	0	939	A
1	0	940	G
1	0	942	U
1	0	943	A
1	0	953	G
1	0	954	U
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C
1	0	1009	U
1	0	1010	C
1	0	1029	U
1	0	1030	U
1	0	1032	A
1	0	1044	C
1	0	1045	G
1	0	1059	G
1	0	1060	C
1	0	1071	G
1	0	1072	G
1	0	1081	A
1	0	1083	C
1	0	1087	G
1	0	1088	A
1	0	1105	C
1	0	1106	A
1	0	1108	G
1	0	1109	U
1	0	1110	G
1	0	1117	A
1	0	1118	A
1	0	1119	G
1	0	1120	U
1	0	1124	A
1	0	1126	C

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Mol	Chain	Res	Type
1	0	1127	C
1	0	1128	U
1	0	1129	C
1	0	1130	U
1	0	1138	G
1	0	1149	U
1	0	1150	A
1	0	1151	G
1	0	1162	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1174	A
1	0	1175	G
1	0	1193	A
1	0	1194	A
1	0	1206	U
1	0	1214	G
1	0	1216	G
1	0	1230	A
1	0	1231	A
1	0	1233	A
1	0	1234	U
1	0	1235	G
1	0	1236	A
1	0	1238	C
1	0	1239	G
1	0	1242	A
1	0	1245	C
1	0	1247	A
1	0	1248	A
1	0	1261	A
1	0	1279	U
1	0	1287	A
1	0	1289	C
1	0	1290	G
1	0	1291	A
1	0	1314	U
1	0	1315	G
1	0	1316	G
1	0	1340	G
1	0	1342	C

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Mol	Chain	Res	Type
1	0	1352	A
1	0	1353	C
1	0	1354	G
1	0	1355	A
1	0	1356	A
1	0	1357	A
1	0	1358	A
1	0	1360	C
1	0	1369	A
1	0	1370	G
1	0	1376	G
1	0	1377	C
1	0	1378	G
1	0	1379	A
1	0	1381	A
1	0	1382	G
1	0	1393	A
1	0	1408	U
1	0	1409	G
1	0	1417	G
1	0	1418	U
1	0	1419	U
1	0	1426	C
1	0	1427	A
1	0	1431	C
1	0	1435	U
1	0	1439	C
1	0	1447	U
1	0	1448	A
1	0	1451	C
1	0	1473	U
1	0	1474	C
1	0	1485	A
1	0	1486	A
1	0	1487	A
1	0	1489	G
1	0	1492	A
1	0	1494	A
1	0	1505	U
1	0	1506	U
1	0	1507	C
1	0	1524	U

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Mol	Chain	Res	Type
1	0	1525	G
1	0	1526	A
1	0	1527	A
1	0	1533	A
1	0	1534	C
1	0	1562	C
1	0	1564	C
1	0	1580	A
1	0	1589	G
1	0	1592	G
1	0	1604	G
1	0	1605	G
1	0	1606	A
1	0	1617	C
1	0	1618	G
1	0	1624	A
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1653	A
1	0	1654	U
1	0	1656	A
1	0	1664	A
1	0	1667	A
1	0	1677	U
1	0	1678	A
1	0	1682	A
1	0	1684	A
1	0	1686	C
1	0	1691	A
1	0	1692	C
1	0	1693	A
1	0	1701	A
1	0	1702	U
1	0	1711	A
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1731	C
1	0	1745	G
1	0	1746	A

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Mol	Chain	Res	Type
1	0	1747	A
1	0	1759	A
1	0	1760	G
1	0	1772	C
1	0	1776	A
1	0	1777	G
1	0	1778	A
1	0	1784	U
1	0	1785	G
1	0	1798	C
1	0	1814	G
1	0	1815	A
1	0	1820	G
1	0	1829	A
1	0	1836	A
1	0	1837	G
1	0	1840	A
1	0	1841	C
1	0	1842	A
1	0	1855	G
1	0	1856	C
1	0	1857	A
1	0	1858	A
1	0	1871	U
1	0	1872	C
1	0	1873	G
1	0	1875	A
1	0	1876	C
1	0	1877	G
1	0	1885	A
1	0	1895	A
1	0	1904	A
1	0	1919	A
1	0	1920	C
1	0	1942	A
1	0	1968	A
1	0	1971	G
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U

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Mol	Chain	Res	Type
1	0	1981	A
1	0	1982	C
1	0	1984	U
1	0	1985	U
1	0	1986	G
1	0	1996	U
1	0	1997	A
1	0	2005	G
1	0	2006	C
1	0	2007	A
1	0	2008	U
1	0	2012	U
1	0	2013	G
1	0	2021	C
1	0	2022	A
1	0	2033	G
1	0	2034	U
1	0	2037	C
1	0	2038	A
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2075	G
1	0	2076	U
1	0	2077	C
1	0	2093	G
1	0	2096	A
1	0	2101	A
1	0	2102	G
1	0	2103	A
1	0	2108	A
1	0	2109	U
1	0	2110	G
1	0	2133	U
1	0	2134	G
1	0	2243	C
1	0	2271	G
1	0	2272	G
1	0	2282	U
1	0	2283	G
1	0	2284	G
1	0	2291	A

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Mol	Chain	Res	Type
1	0	2293	G
1	0	2300	A
1	0	2301	A
1	0	2317	C
1	0	2321	A
1	0	2322	U
1	0	2323	G
1	0	2331	C
1	0	2354	A
1	0	2355	G
1	0	2361	A
1	0	2368	A
1	0	2369	A
1	0	2370	A
1	0	2371	G
1	0	2378	U
1	0	2379	G
1	0	2380	A
1	0	2381	C
1	0	2391	C
1	0	2392	C
1	0	2394	A
1	0	2395	A
1	0	2444	U
1	0	2462	G
1	0	2463	A
1	0	2464	C
1	0	2465	A
1	0	2466	G
1	0	2467	A
1	0	2469	A
1	0	2470	A
1	0	2474	A
1	0	2475	C
1	0	2476	C
1	0	2480	G
1	0	2482	G
1	0	2483	A
1	0	2484	U
1	0	2485	A
1	0	2493	C
1	0	2494	G

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Mol	Chain	Res	Type
1	0	2509	A
1	0	2511	A
1	0	2525	G
1	0	2526	C
1	0	2532	A
1	0	2533	C
1	0	2537	G
1	0	2538	A
1	0	2539	U
1	0	2540	G
1	0	2541	U
1	0	2553	A
1	0	2554	U
1	0	2555	C
1	0	2564	G
1	0	2577	A
1	0	2578	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2608	C
1	0	2613	G
1	0	2616	G
1	0	2617	G
1	0	2621	U
1	0	2637	A
1	0	2638	G
1	0	2645	U
1	0	2648	U
1	0	2649	A
1	0	2650	U
1	0	2664	A
1	0	2680	A
1	0	2681	A
1	0	2682	C
1	0	2691	A
1	0	2692	G
1	0	2719	A
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2761	A

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Mol	Chain	Res	Type
1	0	2762	C
1	0	2768	A
1	0	2785	C
1	0	2786	G
1	0	2787	C
1	0	2791	U
1	0	2792	A
1	0	2800	A
1	0	2801	A
1	0	2811	A
1	0	2812	A
1	0	2813	A
1	0	2814	A
1	0	2815	G
1	0	2816	A
1	0	2826	G
1	0	2838	A
1	0	2850	C
1	0	2851	G
1	0	2852	A
1	0	2853	U
1	0	2866	U
1	0	2876	G
1	0	2889	U
1	0	2890	A
1	0	2896	A
1	0	2897	C
1	0	2903	C
1	0	2909	G
1	0	2914	A
5	9	2	U
5	9	4	G
5	9	7	G
5	9	10	C
5	9	11	A
5	9	12	C
5	9	13	A
5	9	14	G
5	9	22	G
5	9	23	U
5	9	24	U
5	9	25	G

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Mol	Chain	Res	Type
5	9	26	C
5	9	34	A
5	9	41	C
5	9	43	G
5	9	44	A
5	9	51	A
5	9	52	A
5	9	56	A
5	9	57	A
5	9	66	G
5	9	77	A
5	9	78	G
5	9	88	G
5	9	114	G
5	9	122	C

All (374) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	24	G
1	0	30	U
1	0	31	C
1	0	45	A
1	0	46	U
1	0	56	G
1	0	59	A
1	0	66	G
1	0	67	A
1	0	68	U
1	0	70	A
1	0	80	A
1	0	86	A
1	0	87	C
1	0	95	A
1	0	96	A
1	0	97	G
1	0	114	A
1	0	115	U
1	0	129	A
1	0	139	C
1	0	141	C
1	0	147	G

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Mol	Chain	Res	Type
1	0	166	A
1	0	169	A
1	0	174	A
1	0	175	G
1	0	185	G
1	0	191	A
1	0	192	A
1	0	196	G
1	0	198	A
1	0	200	U
1	0	203	G
1	0	212	A
1	0	220	C
1	0	236	A
1	0	247	A
1	0	262	A
1	0	263	U
1	0	264	G
1	0	271	C
1	0	284	C
1	0	307	G
1	0	317	A
1	0	318	C
1	0	328	U
1	0	329	A
1	0	330	C
1	0	336	G
1	0	337	A
1	0	338	C
1	0	339	A
1	0	357	A
1	0	358	G
1	0	379	G
1	0	380	A
1	0	381	G
1	0	410	A
1	0	411	A
1	0	417	G
1	0	441	A
1	0	448	G
1	0	452	G
1	0	453	A

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Mol	Chain	Res	Type
1	0	454	U
1	0	460	A
1	0	461	C
1	0	463	A
1	0	464	G
1	0	480	C
1	0	485	A
1	0	487	G
1	0	496	G
1	0	512	G
1	0	518	G
1	0	533	U
1	0	535	G
1	0	537	G
1	0	538	C
1	0	554	G
1	0	587	A
1	0	603	A
1	0	604	G
1	0	628	A
1	0	630	A
1	0	631	A
1	0	644	G
1	0	660	A
1	0	672	G
1	0	673	U
1	0	674	A
1	0	681	G
1	0	688	A
1	0	701	U
1	0	713	U
1	0	746	A
1	0	760	G
1	0	761	A
1	0	766	A
1	0	776	A
1	0	777	U
1	0	817	G
1	0	819	A
1	0	831	U
1	0	834	G
1	0	845	U

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Mol	Chain	Res	Type
1	0	855	U
1	0	857	A
1	0	867	A
1	0	868	G
1	0	869	G
1	0	871	G
1	0	875	A
1	0	877	G
1	0	882	A
1	0	884	C
1	0	885	G
1	0	886	A
1	0	893	C
1	0	894	A
1	0	898	G
1	0	904	U
1	0	923	A
1	0	938	G
1	0	939	A
1	0	942	U
1	0	952	G
1	0	953	G
1	0	1009	U
1	0	1029	U
1	0	1030	U
1	0	1031	G
1	0	1044	C
1	0	1059	G
1	0	1071	G
1	0	1072	G
1	0	1080	C
1	0	1087	G
1	0	1105	C
1	0	1108	G
1	0	1117	A
1	0	1119	G
1	0	1123	A
1	0	1126	C
1	0	1128	U
1	0	1137	G
1	0	1149	U
1	0	1150	A

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Mol	Chain	Res	Type
1	0	1151	G
1	0	1164	U
1	0	1193	A
1	0	1215	A
1	0	1230	A
1	0	1232	A
1	0	1234	U
1	0	1235	G
1	0	1237	U
1	0	1246	A
1	0	1247	A
1	0	1260	G
1	0	1290	G
1	0	1314	U
1	0	1315	G
1	0	1316	G
1	0	1340	G
1	0	1341	A
1	0	1351	G
1	0	1352	A
1	0	1354	G
1	0	1355	A
1	0	1356	A
1	0	1357	A
1	0	1369	A
1	0	1370	G
1	0	1376	G
1	0	1377	C
1	0	1378	G
1	0	1379	A
1	0	1380	U
1	0	1381	A
1	0	1392	A
1	0	1405	U
1	0	1406	A
1	0	1407	A
1	0	1408	U
1	0	1417	G
1	0	1418	U
1	0	1426	C
1	0	1430	G
1	0	1431	C

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Mol	Chain	Res	Type
1	0	1435	U
1	0	1438	G
1	0	1446	U
1	0	1447	U
1	0	1448	A
1	0	1450	C
1	0	1473	U
1	0	1485	A
1	0	1486	A
1	0	1488	U
1	0	1491	G
1	0	1494	A
1	0	1505	U
1	0	1506	U
1	0	1524	U
1	0	1526	A
1	0	1533	A
1	0	1534	C
1	0	1563	G
1	0	1579	C
1	0	1591	A
1	0	1603	A
1	0	1604	G
1	0	1605	G
1	0	1617	C
1	0	1652	C
1	0	1653	A
1	0	1654	U
1	0	1664	A
1	0	1677	U
1	0	1683	G
1	0	1684	A
1	0	1685	A
1	0	1690	C
1	0	1691	A
1	0	1692	C
1	0	1693	A
1	0	1701	A
1	0	1702	U
1	0	1710	A
1	0	1722	U
1	0	1730	G

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Mol	Chain	Res	Type
1	0	1731	C
1	0	1745	G
1	0	1746	A
1	0	1752	G
1	0	1759	A
1	0	1771	U
1	0	1772	C
1	0	1776	A
1	0	1777	G
1	0	1784	U
1	0	1814	G
1	0	1836	A
1	0	1837	G
1	0	1840	A
1	0	1842	A
1	0	1855	G
1	0	1856	C
1	0	1857	A
1	0	1871	U
1	0	1872	C
1	0	1875	A
1	0	1876	C
1	0	1884	G
1	0	1894	C
1	0	1919	A
1	0	1941	A
1	0	1970	G
1	0	1977	U
1	0	1978	A
1	0	1979	G
1	0	1980	U
1	0	1981	A
1	0	1984	U
1	0	1985	U
1	0	1995	G
1	0	1996	U
1	0	2005	G
1	0	2007	A
1	0	2011	A
1	0	2021	C
1	0	2033	G
1	0	2037	C

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Mol	Chain	Res	Type
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2076	U
1	0	2092	G
1	0	2102	G
1	0	2108	A
1	0	2133	U
1	0	2243	C
1	0	2258	A
1	0	2271	G
1	0	2282	U
1	0	2283	G
1	0	2290	U
1	0	2292	C
1	0	2300	A
1	0	2309	C
1	0	2316	G
1	0	2320	U
1	0	2321	A
1	0	2322	U
1	0	2330	U
1	0	2353	A
1	0	2354	A
1	0	2367	A
1	0	2370	A
1	0	2378	U
1	0	2379	G
1	0	2380	A
1	0	2391	C
1	0	2394	A
1	0	2443	C
1	0	2462	G
1	0	2463	A
1	0	2465	A
1	0	2469	A
1	0	2474	A
1	0	2482	G
1	0	2483	A
1	0	2484	U
1	0	2493	C
1	0	2525	G

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Mol	Chain	Res	Type
1	0	2526	C
1	0	2532	A
1	0	2538	A
1	0	2539	U
1	0	2553	A
1	0	2554	U
1	0	2577	A
1	0	2601	A
1	0	2607	U
1	0	2616	G
1	0	2620	U
1	0	2636	C
1	0	2637	A
1	0	2644	C
1	0	2645	U
1	0	2648	U
1	0	2649	A
1	0	2680	A
1	0	2681	A
1	0	2691	A
1	0	2718	C
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2761	A
1	0	2762	C
1	0	2785	C
1	0	2786	G
1	0	2791	U
1	0	2811	A
1	0	2812	A
1	0	2813	A
1	0	2814	A
1	0	2815	G
1	0	2825	C
1	0	2837	U
1	0	2849	U
1	0	2850	C
1	0	2852	A
1	0	2866	U
1	0	2889	U
1	0	2896	A

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Mol	Chain	Res	Type
1	0	2902	A
5	9	3	A
5	9	10	C
5	9	12	C
5	9	13	A
5	9	23	U
5	9	24	U
5	9	33	U
5	9	43	G
5	9	51	A
5	9	55	U
5	9	65	A
5	9	78	G
5	9	87	U
5	9	113	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 ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 232 ligands modelled in this entry, 232 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

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.