



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 21, 2023 – 04:35 PM EDT

PDB ID : 2OTL
Title : Girodazole bound to the large subunit of Haloarcula marismortui
Authors : Blaha, G.; Schroeder, S.J.; Tirado-Rives, J.
Deposited on : 2007-02-08
Resolution : 2.70 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35

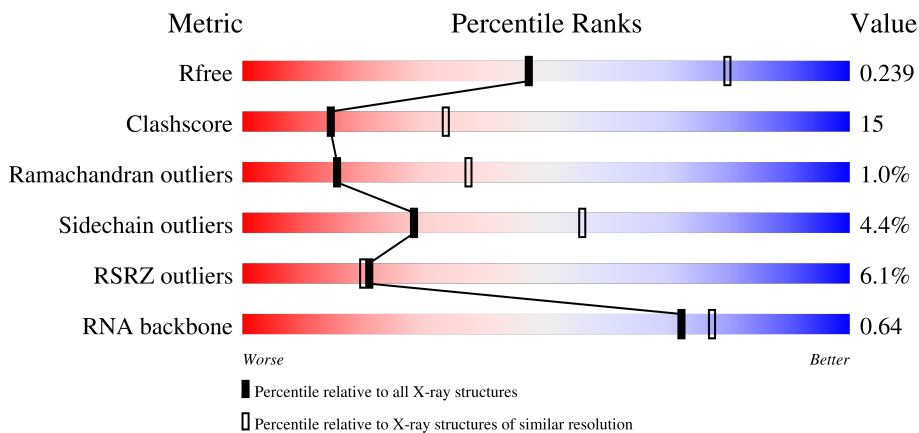
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 Å.

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






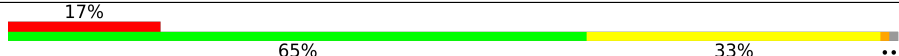
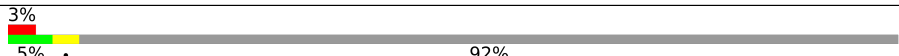
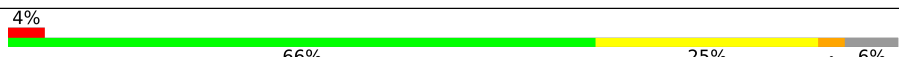
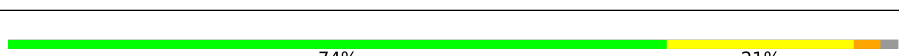
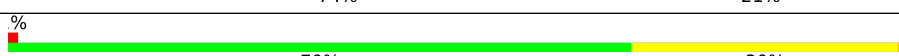
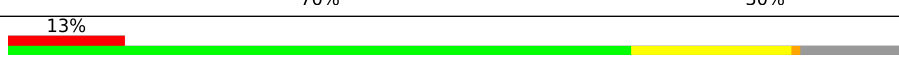

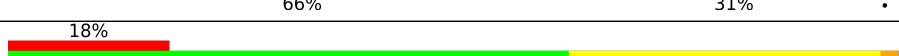
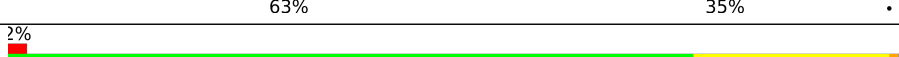

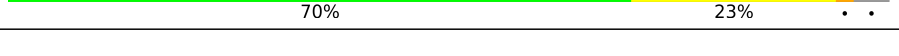
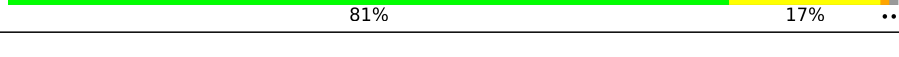




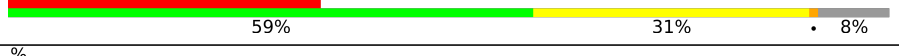

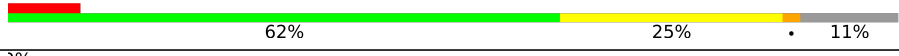
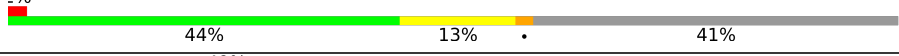
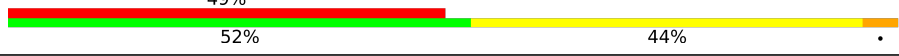

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)
RNA backbone	3102	1159 (3.00-2.40)

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

Mol	Chain	Length	Quality of chain
1	0	2922	 49% 39% 6% 6%
2	9	122	 43% 44% 12%
3	A	239	 70% 26% ..
4	B	337	 61% 35% .

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Mol	Chain	Length	Quality of chain
5	C	246	
6	D	177	
7	E	178	
8	F	120	
9	G	348	
10	H	171	
11	J	145	
12	K	132	
13	L	165	
14	M	194	
15	N	187	
16	O	116	
17	P	149	
18	Q	96	
19	R	155	
20	S	85	
21	T	120	
22	U	66	
23	V	71	
24	W	154	
25	X	92	
26	Y	241	
27	Z	73	
28	1	57	
29	2	50	

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Mol	Chain	Length	Quality of chain
30	3	92	
31	I	162	

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
33	MG	0	8090	-	-	-	X
35	NA	0	8529	-	-	-	X
35	NA	0	8571	-	-	-	X
35	NA	R	8586	-	-	-	X
36	CL	0	8713	-	-	X	-
36	CL	J	8701	-	-	X	-
36	CL	M	8718	-	-	X	-

2 Entry composition [i](#)

There are 38 unique types of molecules in this entry. The entry contains 99016 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2754	59021	26350	10878	19048	2745	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	560	C	U	conflict	GB 3377779
0	628	1MA	A	modified residue	GB 3377779
0	2587	OMU	U	modified residue	GB 3377779
0	2588	OMG	G	modified residue	GB 3377779
0	2619	UR3	U	modified residue	GB 3377779
0	2621	PSU	U	modified residue	GB 3377779

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	9	122	2600	1160	472	847	121	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A	237	1753	1072	352	324	5	0	0	0

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

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

- Molecule 5 is a protein called 50S ribosomal protein L4P.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	73	LEU	GLN	conflict	UNP P12735

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	F	119	890	551	141	197	1	0	0	0

- Molecule 9 is a protein called 50S ribosomal protein L10E.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	248	ASP	ALA	conflict	UNP P15825

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	H	160	1266	785	237	238	6	0	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	164	ASP	-	insertion	UNP P60617
H	165	SER	-	insertion	UNP P60617
H	166	SER	-	insertion	UNP P60617
H	167	PRO	-	insertion	UNP P60617
H	168	ALA	-	insertion	UNP P60617
H	169	GLY	-	insertion	UNP P60617
H	170	ASN	-	insertion	UNP P60617
H	171	ALA	-	insertion	UNP P60617

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	K	132	992	609	187	192	4	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	44	LEU	HIS	conflict	UNP P22450

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
13	L	145	1118	670	222	226	0	0	0

- Molecule 14 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	M	194	1560	943	332	284	1	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	conflict	UNP P60618
M	194	ALA	-	insertion	UNP P60618

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

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

- Molecule 16 is a protein called 50S ribosomal protein L18e.

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

- Molecule 17 is a protein called 50S ribosomal protein L19e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
17	P	143	1136	683	229	224	0	0	0

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

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

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

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

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

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

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

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

- Molecule 22 is a protein called 50S ribosomal protein L24e.

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

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

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

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

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

- Molecule 25 is a protein called 50S ribosomal protein L31e.

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

- Molecule 26 is a protein called 50S ribosomal protein L32e.

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

- Molecule 27 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	Z	73	Total	C	N	O	S	0	0	0
			579	346	116	112	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	10	ARG	-	insertion	UNP P60619

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	1	56	430	258	86	82	4	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
29	2	46	396	239	89	67	1	0	0	0

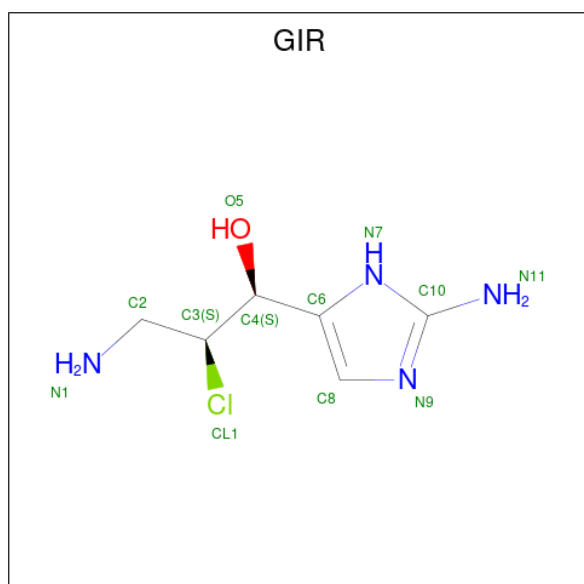
- Molecule 30 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	3	92	755	458	153	137	7	0	0	0

- Molecule 31 is a protein called 50S ribosomal protein L11P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
31	I	70	519	323	81	114	1	0	0	0

- Molecule 32 is GIRODAZOLE (three-letter code: GIR) (formula: C₆H₁₁ClN₄O).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	Cl	N	O		
32	0	1	12	6	1	4	1	0	0

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	107	Total	Mg	0	0
			107	107		
33	9	1	Total	Mg	0	0
			1	1		
33	A	2	Total	Mg	0	0
			2	2		
33	B	2	Total	Mg	0	0
			2	2		
33	K	1	Total	Mg	0	0
			1	1		
33	T	1	Total	Mg	0	0
			1	1		
33	Y	1	Total	Mg	0	0
			1	1		
33	3	1	Total	Mg	0	0
			1	1		

- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	0	2	Total	K	0	0
			2	2		

- Molecule 35 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	0	71	Total	Na	0	0
			71	71		
35	9	2	Total	Na	0	0
			2	2		
35	A	1	Total	Na	0	0
			1	1		
35	C	1	Total	Na	0	0
			1	1		
35	H	2	Total	Na	0	0
			2	2		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	J	1	Total 1	Na 1	0	0
35	L	1	Total 1	Na 1	0	0
35	M	1	Total 1	Na 1	0	0
35	Q	1	Total 1	Na 1	0	0
35	R	3	Total 3	Na 3	0	0
35	S	1	Total 1	Na 1	0	0

- Molecule 36 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	0	9	Total 9	Cl 9	0	0
36	A	1	Total 1	Cl 1	0	0
36	B	1	Total 1	Cl 1	0	0
36	J	3	Total 3	Cl 3	0	0
36	L	1	Total 1	Cl 1	0	0
36	M	1	Total 1	Cl 1	0	0
36	N	1	Total 1	Cl 1	0	0
36	O	1	Total 1	Cl 1	0	0
36	Q	1	Total 1	Cl 1	0	0
36	R	1	Total 1	Cl 1	0	0
36	Y	1	Total 1	Cl 1	0	0
36	3	1	Total 1	Cl 1	0	0

- Molecule 37 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	O	1	Total Cd 1 1	0	0
37	U	1	Total Cd 1 1	0	0
37	Z	1	Total Cd 1 1	0	0
37	1	1	Total Cd 1 1	0	0
37	3	1	Total Cd 1 1	0	0

- Molecule 38 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	0	5893	Total O 5893 5893	0	0
38	9	145	Total O 145 145	0	0
38	A	118	Total O 118 118	0	0
38	B	147	Total O 147 147	0	0
38	C	163	Total O 163 163	0	0
38	D	48	Total O 48 48	0	0
38	E	46	Total O 46 46	0	0
38	F	23	Total O 23 23	0	0
38	G	19	Total O 19 19	0	0
38	H	69	Total O 69 69	0	0
38	J	58	Total O 58 58	0	0
38	K	58	Total O 58 58	0	0
38	L	81	Total O 81 81	0	0
38	M	115	Total O 115 115	0	0
38	N	58	Total O 58 58	0	0

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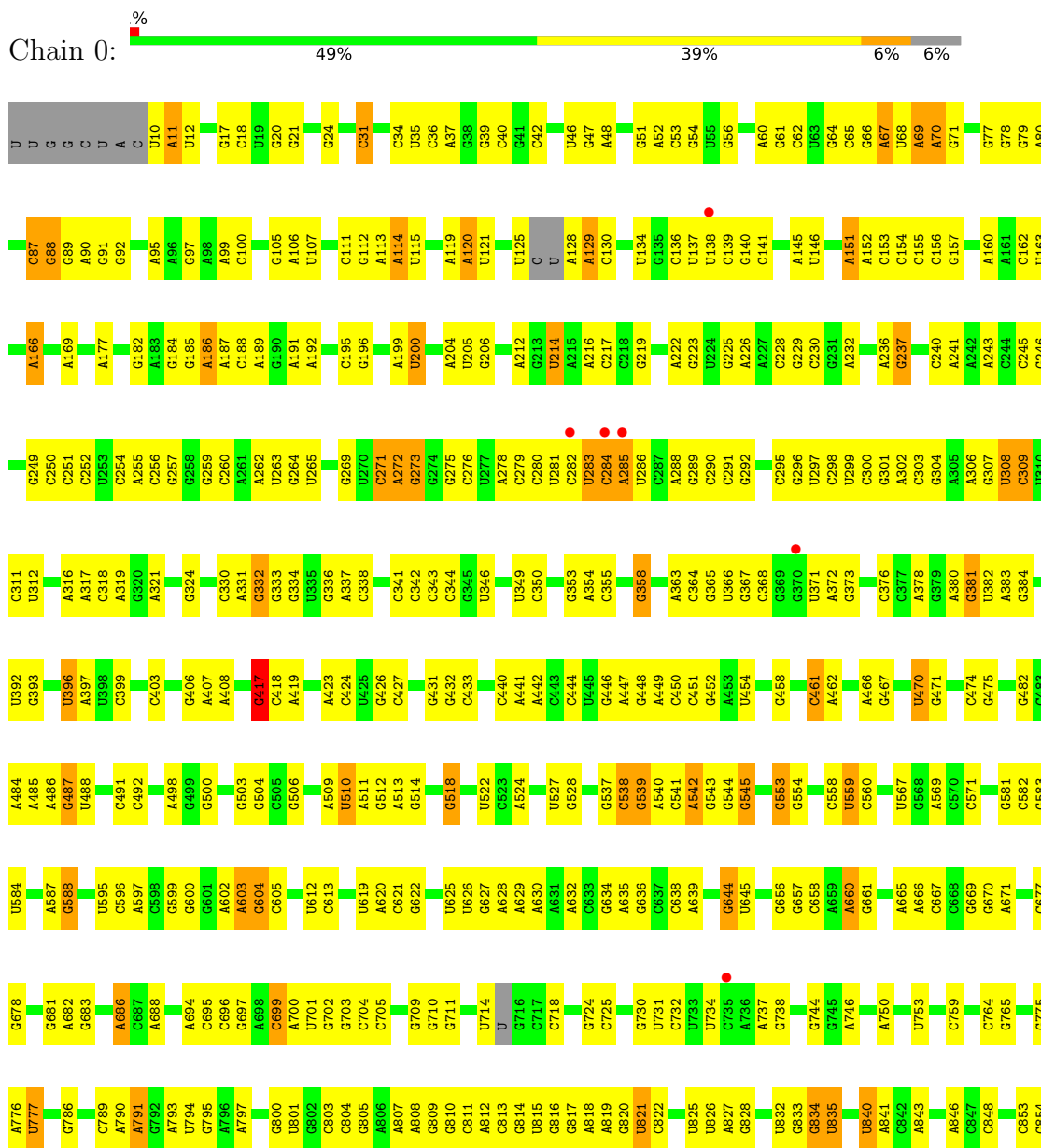
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	O	44	Total 44	O 44	0	0
38	P	61	Total 61	O 61	0	0
38	Q	55	Total 55	O 55	0	0
38	R	81	Total 81	O 81	0	0
38	S	37	Total 37	O 37	0	0
38	T	39	Total 39	O 39	0	0
38	U	28	Total 28	O 28	0	0
38	V	11	Total 11	O 11	0	0
38	W	70	Total 70	O 70	0	0
38	X	26	Total 26	O 26	0	0
38	Y	99	Total 99	O 99	0	0
38	Z	32	Total 32	O 32	0	0
38	1	56	Total 56	O 56	0	0
38	2	40	Total 40	O 40	0	0
38	3	66	Total 66	O 66	0	0
38	I	4	Total 4	O 4	0	0

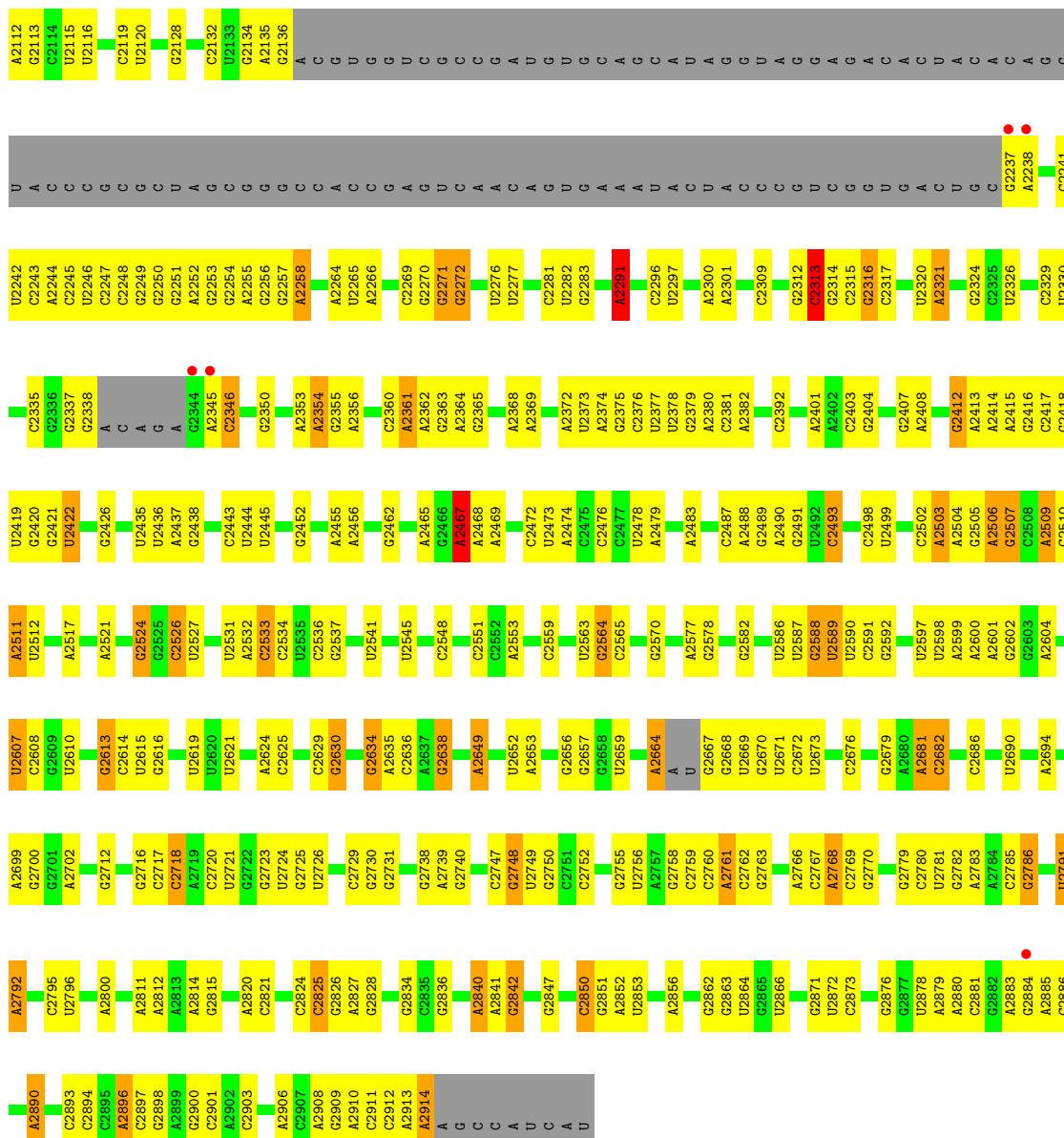
3 Residue-property plots

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

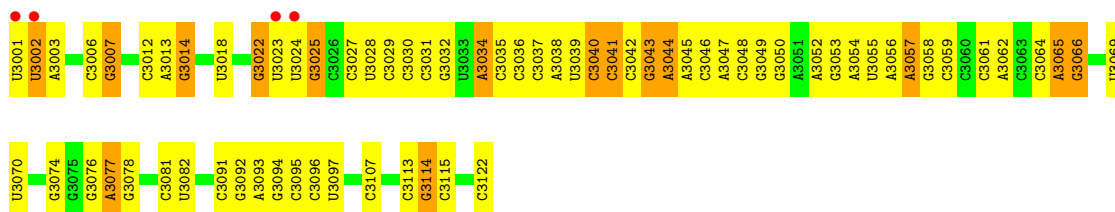
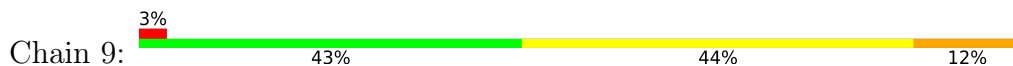
- Molecule 1: 23S ribosomal RNA



G2001	U1835	G1752	A1856	U1569	G1497	G1415	G1325	G1160	G1026	G953	U855
C2002	A1836	C1753	A1657	A1572	U1500	G1416	A1328	A1161	G1027	U954	G856
U2003	A1840	A1759	A1658	A1573	A1501	G1417	A1329	G1162	U1028	A955	A857
G2005	C1841	G1765	G1660	C1574	U1502	U1418	A1330	G1163	U1029	G958	U858
U2008	A1842	U1766	A1661	U1503	U1503	C1420	A1331	U1164	A1032	U960	U860
G2009	A1845	A1767	G1662	A1504	A1504	C1421	C1332	G1165	G1044	G961	A861
A2010	U1846	U1768	G1663	U1505	U1505	U1422	U1333	G1166	C1044	A962	U862
A2011	A1847	C1769	A1664	U1506	C1423	C1423	C1334	G1167	G1045	C961	G868
A2012	G1848	U1770	G1665	C1507	U1507	A1424	G1340	U1169	G1052	G968	G869
G2013	A1849	U1771	C1666	C1508	C1508	C1426	A1341	A1171	G1053	G969	G870
U2016	U1850	C1772	A1667	C1509	C1509	A1427	C1342	G1172	G1054	U970	G871
U2028	G1851	G1773	U1668	G1512	G1512	U1432	A1343	A1173	G1055	U872	U872
C2029	A1852	G1774	A1669	C1513	C1513	G1433	G1344	A1174	U1056	U	A875
G2033	C1853	U1775	G1670	C1514	C1514	G1433	U1244	A1175	A1057	U	A876
U2034	U1854	G1776	U1671	A1515	A1515	U1434	U1350	C1176	A1058	U	G877
A2039	G1855	A1777	G1672	C1516	C1516	U1435	U1351	A1177	G1059	C	G878
G2045	C1856	U1778	C1673	U1517	U1517	C1436	A1352	G1178	C1060	C	G878
G2046	A1857	G1780	G1679	G1520	G1520	U1440	C1353	C1179	U1066	C	U883
A2054	C1862	G1781	G1680	C1521	C1521	G1441	A1358	U1180	A1067	C	C884
U2063	G1863	U1782	U1681	U1522	U1522	G1442	U1359	C1182	A1067	U	C885
U2064	A1864	A1783	A1682	G1523	G1523	G1443	C1360	C1183	A1081	A	C886
C2065	G1865	U1784	A1683	U1524	U1524	G1444	C1361	C1184	G1072	C	A886
C2071	C1866	G1785	G1684	U1525	U1525	G1445	U1362	U1185	A1078	G	U888
G2072	G1867	C1786	C1685	A1603	A1603	G1446	U1363	U1186	A1079	A	U888
G2073	C1868	U1787	G1686	G1604	G1604	U1447	C1366	C1186	A1079	G	A894
A2074	U1869	G1788	U1687	G1605	A1527	U1447	C1366	U1187	A1081	A	A894
A2081	G1877	C1789	C1692	A1606	A1606	U1447	A1372	A1188	A1081	A	G898
G2088	U1878	U1791	A1701	U1607	U1607	C1450	G1373	A1189	A1086	G	G898
A2089	C1879	G1795	U1702	G1613	A1533	G1451	A1374	G1190	A1087	A	G902
G2090	A1881	A1796	U1702	G1614	C1534	G1452	C1374	A1191	A1087	G	G902
G2091	C1882	U1797	A1710	G1619	U1535	G1453	A1375	A1192	A1088	G	C905
G2092	U1883	C1798	A1711	C1620	C1536	U1454	G1376	A1193	A1088	C	A907
A2096	G1884	G1713	G1713	U1625	C1537	U1461	C1377	G1195	A1088	G	A907
A2101	U1885	U1803	A1717	A1626	U1538	U1462	U1380	G1196	U1109	C	A912
G2102	A1886	A1804	U1717	G1627	U1539	C1462	C1383	G1197	G1110	C	A912
A2103	C1889	G1805	U1722	U1627	G1543	A1463	U1388	U1198	U1116	C	C920
C2105	U1890	U1806	G1723	A1630	U1544	A1471	U1388	A1200	A1117	A	G921
C2106	G1894	G1809	U1724	A1633	C1545	C1472	A1389	C1201	A1118	A	A922
G2110	A1895	A1811	C1725	G1634	G1546	U1473	A1390	A1202	G1119	C	A923
A2108	U1896	G1812	G1725	U1635	C1553	C1474	C1391	G1203	U1120	C	G924
A2109	C1897	U1812	G1730	G1636	U1554	C1477	A1392	U1205	U1130	C	U932
C2109	U1902	G1818	A1732	U1637	G1555	U1478	C1395	U1206	G1131	C	C933
A2110	G1903	U1819	G1733	A1641	G1556	A1479	C1396	A1207	A1132	C	G940
A2111	A1904	G1820	C1734	A1642	U1557	G1484	C1397	C1208	A1007	C	G941
A2112	U1905	A1821	U1735	G1643	A1559	A1485	C1397	C1209	U1009	C	U942
A2113	G1906	U1822	U1741	C1644	U	G1489	C1398	G1210	U1136	C	A943
A2114	U1907	G1823	C1644	U1645	U1561	G1489	A1399	G1211	G1137	C	A943
A2115	U1908	C1824	U1742	U1645	C1562	G1490	C1400	C1212	U1138	C	G944
A2116	U1909	U1825	G1743	G1649	G1563	G1491	C1396	C1213	G1139	C	U945
A2117	C1916	C1826	G1744	C1650	G1564	G1492	C1397	G1214	C1140	C	C946
A2118	U1917	A1829	G1745	U1655	U1565	A1493	C1397	A1215	C1156	C	U947
A2119	U1918	U1746	A1747	A1656	C1566	A1494	C1398	G1216	G1157	C	G948
G2000	A1919	C1834	A1747	U1657	A1567	C1495	U1408	G1217	G1158	C	A951
				U1654	G1568	G1496	A1414	U1218	G1159	C	G952
				G1655				U1219			

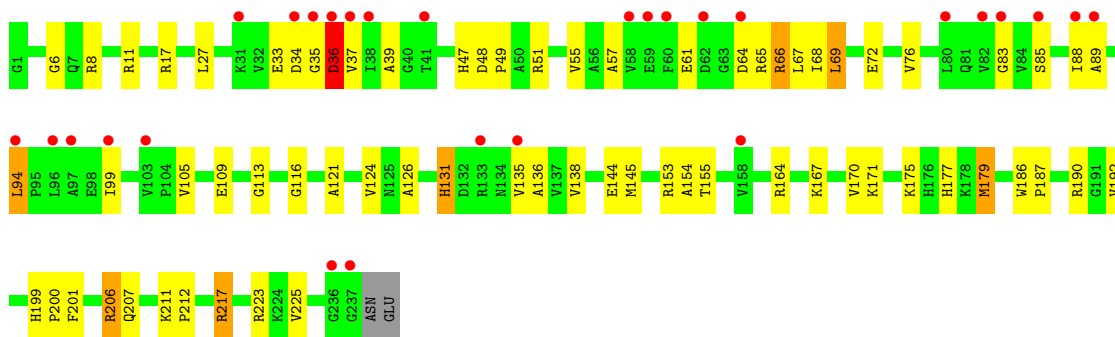


• Molecule 2: 5S ribosomal RNA



• Molecule 3: 50S ribosomal protein L2P

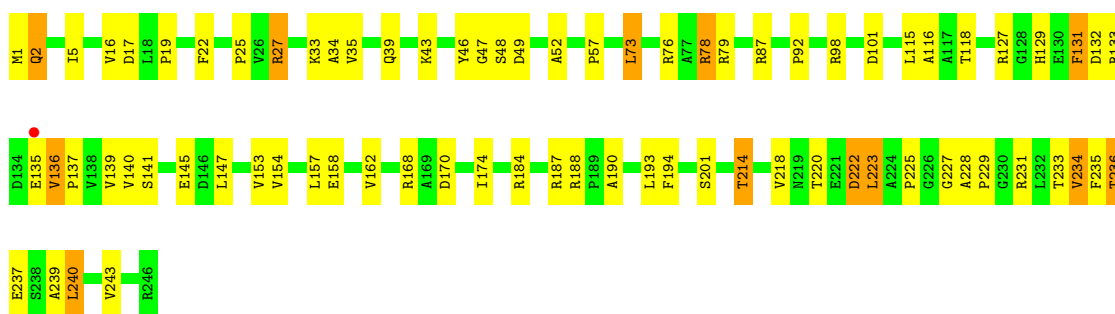




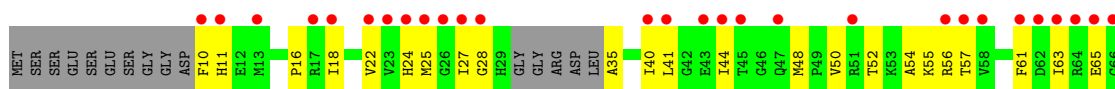
• Molecule 4: 50S ribosomal protein L3P

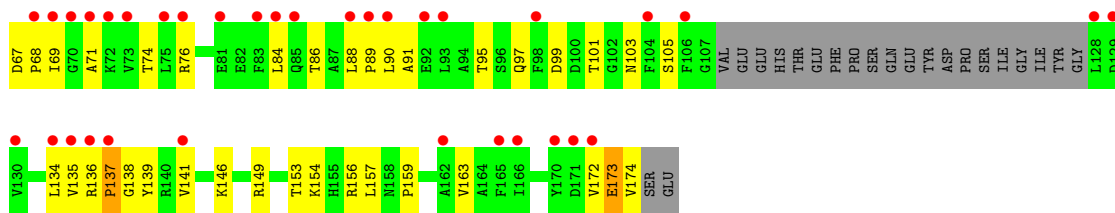


• Molecule 5: 50S ribosomal protein L4P

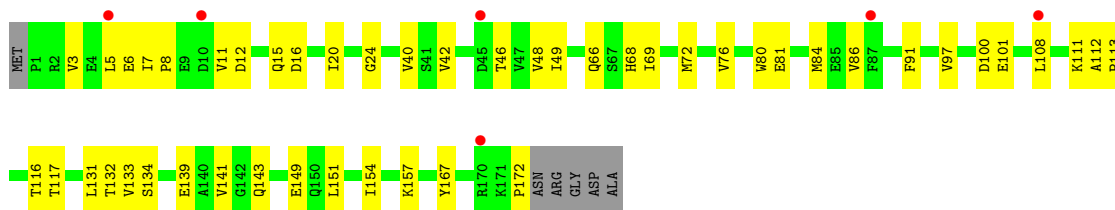


• Molecule 6: 50S ribosomal protein L5P





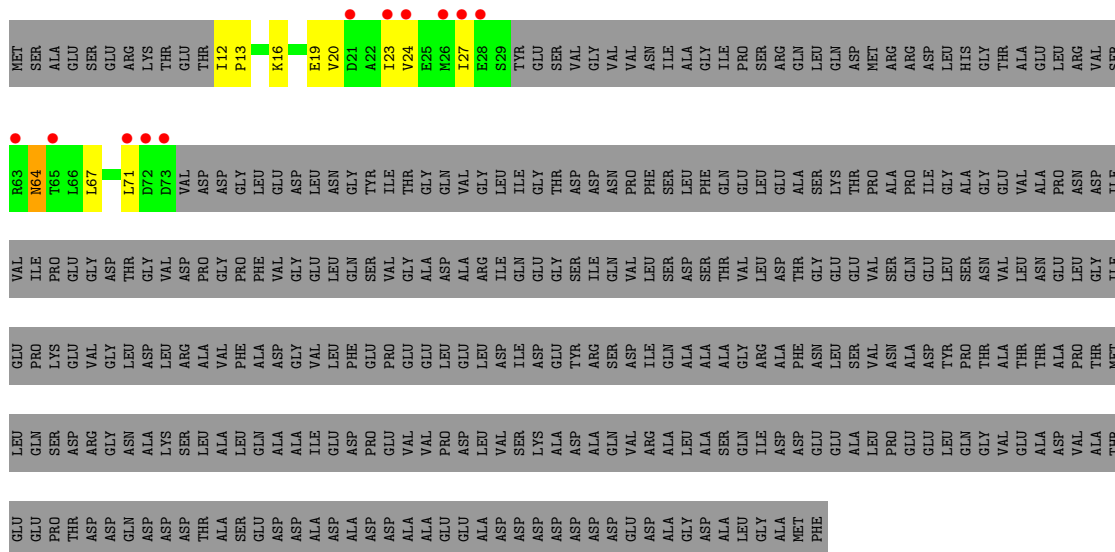
• Molecule 7: 50S ribosomal protein L6P



• Molecule 8: 50S ribosomal protein L7Ae

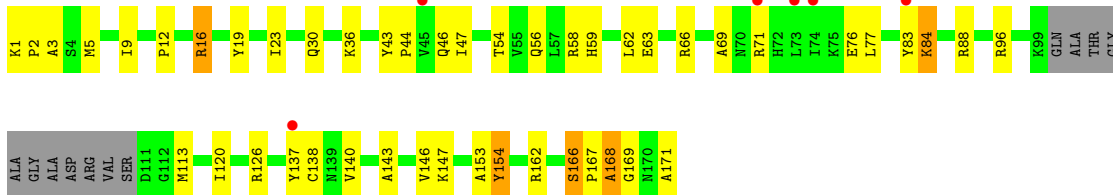


• Molecule 9: 50S ribosomal protein L10E



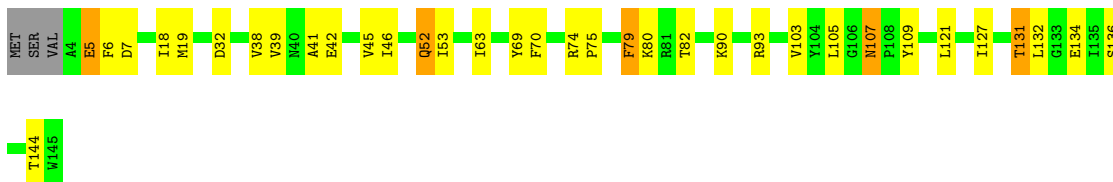
• Molecule 10: 50S ribosomal protein L10e

Chain H: 



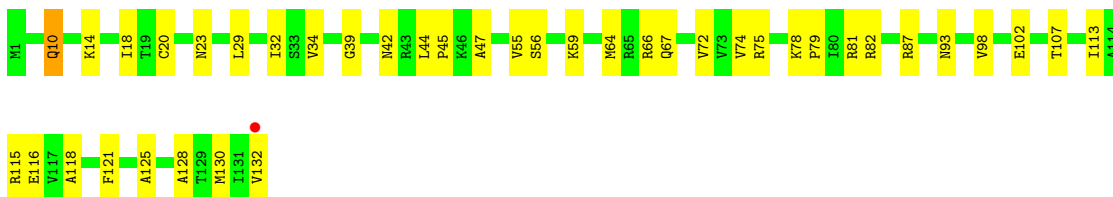
- Molecule 11: 50S ribosomal protein L13P

Chain J: 



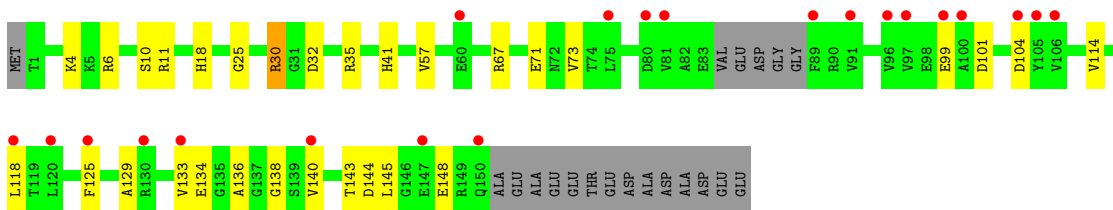
- Molecule 12: 50S ribosomal protein L14P

Chain K: 



- Molecule 13: 50S ribosomal protein L15P

Chain L: 



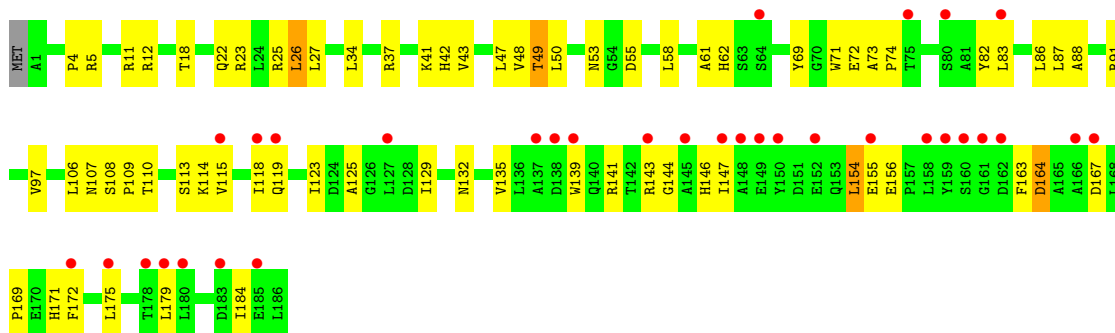
- Molecule 14: 50S ribosomal protein L15e

Chain M: 

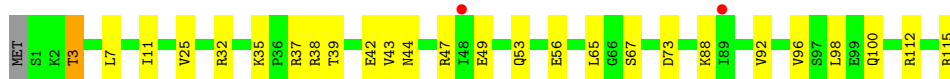
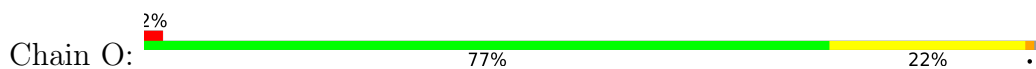




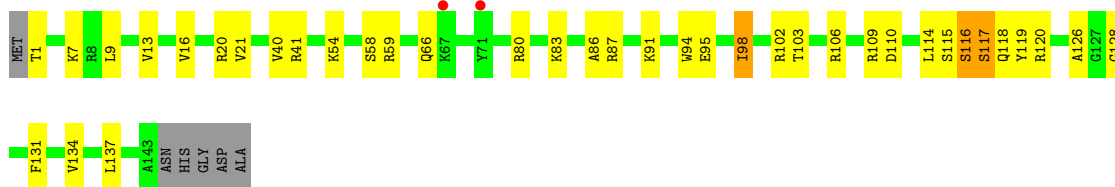
- Molecule 15: 50S ribosomal protein L18P



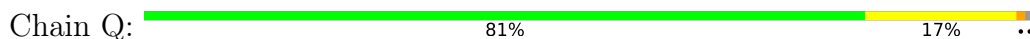
- Molecule 16: 50S ribosomal protein L18e



- Molecule 17: 50S ribosomal protein L19e



- Molecule 18: 50S ribosomal protein L21e

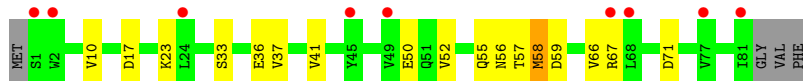
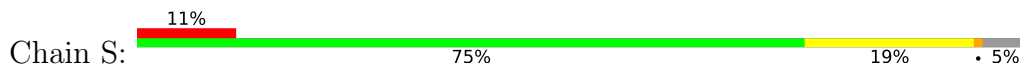


- Molecule 19: 50S ribosomal protein L22P

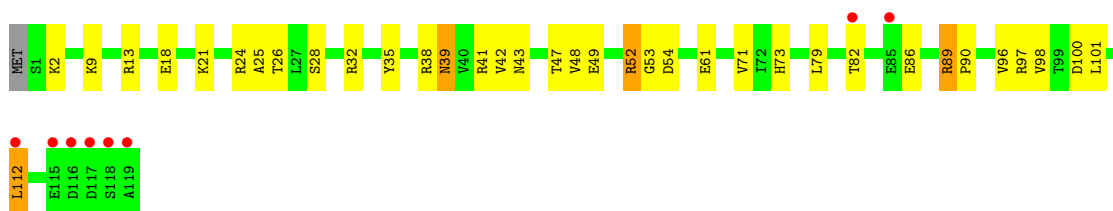




- Molecule 20: 50S ribosomal protein L23P



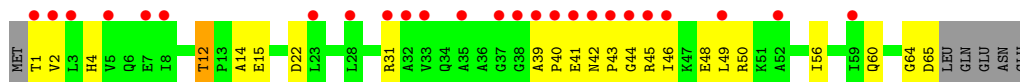
- Molecule 21: 50S ribosomal protein L24P



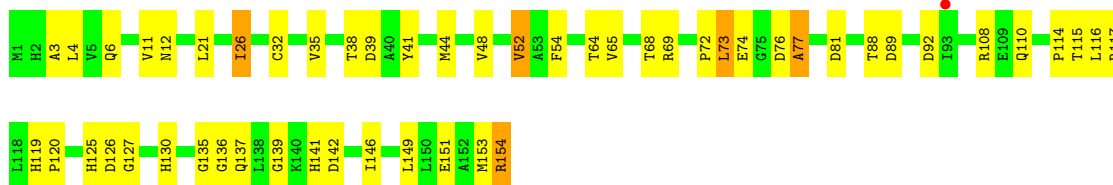
- Molecule 22: 50S ribosomal protein L24e



- Molecule 23: 50S ribosomal protein L29P

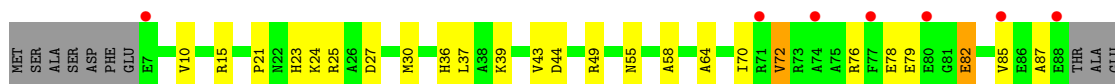


- Molecule 24: 50S ribosomal protein L30P

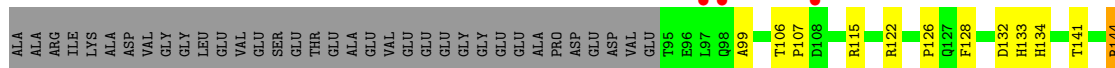
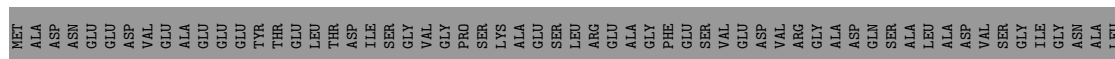


- Molecule 25: 50S ribosomal protein L31e

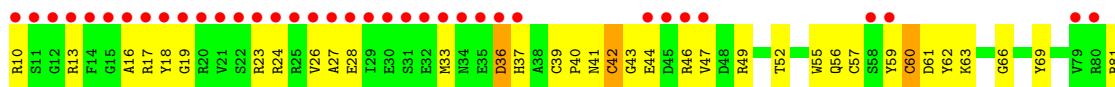




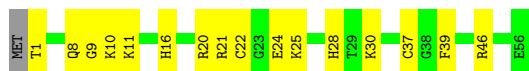
- Molecule 26: 50S ribosomal protein L32e



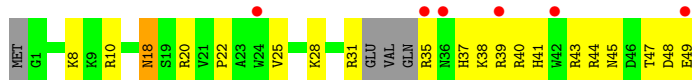
- Molecule 27: 50S ribosomal protein L37Ae



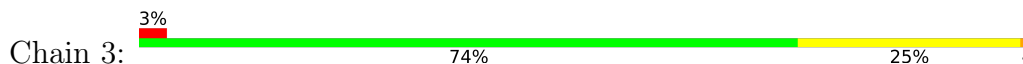
- Molecule 28: 50S ribosomal protein L37e



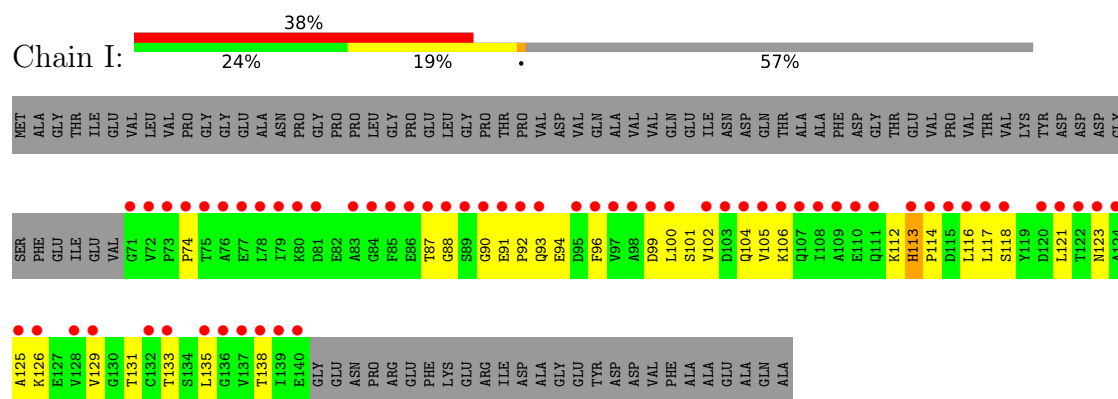
- Molecule 29: 50S ribosomal protein L39e



- Molecule 30: 50S ribosomal protein L44E



- Molecule 31: 50S ribosomal protein L11P



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	213.08Å 300.60Å 575.05Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.36 – 2.70 85.94 – 2.41	Depositor EDS
% Data completeness (in resolution range)	99.4 (49.36-2.70) 90.7 (85.94-2.41)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.00 (at 2.40Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.204 , 0.248 0.195 , 0.239	Depositor DCC
R_{free} test set	6547 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å ²)	47.9	Xtrriage
Anisotropy	0.260	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 55.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	99016	wwPDB-VP
Average B, all atoms (Å ²)	56.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.50% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: OMG, CL, UR3, PSU, OMU, GIR, K, CD, 1MA, NA, MG

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	0.40	0/65959	0.69	14/102870 (0.0%)
2	9	0.34	0/2905	0.68	0/4528
3	A	0.36	0/1786	0.66	0/2408
4	B	0.33	0/2690	0.65	0/3652
5	C	0.39	0/1884	0.69	1/2551 (0.0%)
6	D	0.33	0/1111	0.55	0/1498
7	E	0.33	0/1382	0.57	0/1880
8	F	0.38	0/901	0.58	0/1224
9	G	0.30	0/241	0.47	0/324
10	H	0.35	0/1287	0.66	0/1725
11	J	0.36	0/1136	0.61	0/1530
12	K	0.36	0/1001	0.68	0/1347
13	L	0.38	0/1130	0.67	0/1509
14	M	0.38	0/1584	0.64	0/2119
15	N	0.33	0/1474	0.64	0/1999
16	O	0.35	0/874	0.59	0/1181
17	P	0.36	0/1147	0.55	0/1528
18	Q	0.36	0/749	0.70	0/1005
19	R	0.38	0/1172	0.65	0/1578
20	S	0.34	0/648	0.59	0/875
21	T	0.35	0/958	0.64	1/1289 (0.1%)
22	U	0.37	0/417	0.55	0/562
23	V	0.35	0/502	0.57	0/675
24	W	0.38	0/1219	0.64	0/1655
25	X	0.35	0/664	0.60	0/895
26	Y	0.38	0/1146	0.65	0/1536
27	Z	0.54	0/590	0.66	0/787
28	1	0.39	0/437	0.63	0/578
29	2	0.39	0/401	0.54	0/529
30	3	0.39	0/771	0.59	0/1024
31	I	0.33	0/526	0.55	0/716
All	All	0.39	0/98692	0.67	16/147577 (0.0%)

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	52

There are no bond length outliers.

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1878	G	N9-C1'-C2'	-6.83	104.49	112.00
1	0	1979	G	C2'-C3'-O3'	6.63	124.31	113.70
1	0	1504	A	C1'-O4'-C4'	-6.20	104.94	109.90
1	0	1559	A	C2'-C3'-O3'	5.63	122.71	113.70
1	0	2313	C	C5'-C4'-O4'	5.55	115.76	109.10
1	0	2467	A	C1'-O4'-C4'	-5.54	105.47	109.90
1	0	2291	A	N9-C1'-C2'	5.51	121.16	114.00
1	0	1592	G	N9-C1'-C2'	5.51	121.16	114.00
1	0	871	G	C5'-C4'-O4'	-5.35	102.69	109.10
1	0	1118	A	N9-C1'-C2'	-5.33	106.13	112.00
1	0	1829	A	N9-C1'-C2'	-5.29	106.18	112.00
1	0	1819	G	C5'-C4'-C3'	5.28	124.44	116.00
5	C	73	LEU	CA-CB-CG	-5.16	103.44	115.30
1	0	841	A	C1'-O4'-C4'	-5.15	105.78	109.90
21	T	52	ARG	N-CA-C	5.05	124.63	111.00
1	0	206	G	C5'-C4'-C3'	-5.01	107.98	116.00

There are no chirality outliers.

All (52) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1055	G	Sidechain
1	0	1078	A	Sidechain
1	0	1316	G	Sidechain
1	0	1340	G	Sidechain
1	0	1342	C	Sidechain
1	0	1376	G	Sidechain
1	0	1377	C	Sidechain
1	0	1417	G	Sidechain
1	0	1681	G	Sidechain
1	0	1744	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1777	G	Sidechain
1	0	1809	G	Sidechain
1	0	1829	A	Sidechain
1	0	1835	U	Sidechain
1	0	1845	A	Sidechain
1	0	1848	G	Sidechain
1	0	1863	G	Sidechain
1	0	1877	G	Sidechain
1	0	1878	G	Sidechain
1	0	1970	G	Sidechain
1	0	1972	U	Sidechain
1	0	2101	A	Sidechain
1	0	214	U	Sidechain
1	0	2316	G	Sidechain
1	0	2412	G	Sidechain
1	0	2465	A	Sidechain
1	0	2493	C	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2524	G	Sidechain
1	0	2526	C	Sidechain
1	0	2551	C	Sidechain
1	0	2564	G	Sidechain
1	0	2597	U	Sidechain
1	0	2607	U	Sidechain
1	0	2630	G	Sidechain
1	0	2840	A	Sidechain
1	0	2842	G	Sidechain
1	0	332	G	Sidechain
1	0	396	U	Sidechain
1	0	417	G	Sidechain
1	0	458	G	Sidechain
1	0	470	U	Sidechain
1	0	471	G	Sidechain
1	0	48	A	Sidechain
1	0	482	G	Sidechain
1	0	518	G	Sidechain
1	0	619	U	Sidechain
1	0	686	A	Sidechain
1	0	791	A	Sidechain
1	0	857	A	Sidechain
1	0	888	U	Sidechain

5.2 Too-close contacts [i](#)

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	59021	0	29810	1361	0
2	9	2600	0	1326	97	0
3	A	1753	0	1766	74	0
4	B	2625	0	2533	110	0
5	C	1859	0	1816	70	0
6	D	1094	0	1085	45	0
7	E	1357	0	1266	33	0
8	F	890	0	843	36	0
9	G	240	0	231	10	0
10	H	1266	0	1268	41	0
11	J	1120	0	1098	41	0
12	K	992	0	1031	38	0
13	L	1118	0	1076	24	0
14	M	1560	0	1568	55	0
15	N	1445	0	1401	64	0
16	O	865	0	873	21	0
17	P	1136	0	1123	35	0
18	Q	735	0	729	13	0
19	R	1149	0	1122	40	0
20	S	641	0	605	12	0
21	T	950	0	923	38	0
22	U	410	0	364	17	0
23	V	499	0	511	20	0
24	W	1196	0	1137	54	0
25	X	654	0	653	23	0
26	Y	1130	0	1133	37	0
27	Z	579	0	540	46	0
28	1	430	0	426	20	0
29	2	396	0	413	25	0
30	3	755	0	729	27	0
31	I	519	0	500	27	0
32	0	12	0	10	0	0
33	0	107	0	0	0	0
33	3	1	0	0	0	0
33	9	1	0	0	0	0
33	A	2	0	0	0	0
33	B	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	K	1	0	0	0	0
33	T	1	0	0	0	0
33	Y	1	0	0	0	0
34	0	2	0	0	0	0
35	0	71	0	0	0	0
35	9	2	0	0	0	0
35	A	1	0	0	0	0
35	C	1	0	0	0	0
35	H	2	0	0	0	0
35	J	1	0	0	0	0
35	L	1	0	0	0	0
35	M	1	0	0	0	0
35	Q	1	0	0	0	0
35	R	3	0	0	0	0
35	S	1	0	0	0	0
36	0	9	0	0	4	0
36	3	1	0	0	0	0
36	A	1	0	0	0	0
36	B	1	0	0	0	0
36	J	3	0	0	4	0
36	L	1	0	0	0	0
36	M	1	0	0	2	0
36	N	1	0	0	1	0
36	O	1	0	0	0	0
36	Q	1	0	0	0	0
36	R	1	0	0	0	0
36	Y	1	0	0	0	0
37	1	1	0	0	0	0
37	3	1	0	0	0	0
37	O	1	0	0	0	0
37	U	1	0	0	0	0
37	Z	1	0	0	0	0
38	0	5893	0	0	185	0
38	1	56	0	0	1	0
38	2	40	0	0	3	0
38	3	66	0	0	5	0
38	9	145	0	0	9	0
38	A	118	0	0	10	0
38	B	147	0	0	15	0
38	C	163	0	0	14	0
38	D	48	0	0	8	0
38	E	46	0	0	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	F	23	0	0	3	0
38	G	19	0	0	0	0
38	H	69	0	0	6	0
38	I	4	0	0	1	0
38	J	58	0	0	4	0
38	K	58	0	0	4	0
38	L	81	0	0	8	0
38	M	115	0	0	5	0
38	N	58	0	0	5	0
38	O	44	0	0	6	0
38	P	61	0	0	1	0
38	Q	55	0	0	4	0
38	R	81	0	0	4	0
38	S	37	0	0	0	0
38	T	39	0	0	3	0
38	U	28	0	0	2	0
38	V	11	0	0	3	0
38	W	70	0	0	5	0
38	X	26	0	0	2	0
38	Y	99	0	0	10	0
38	Z	32	0	0	5	0
All	All	99016	0	59909	2306	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 15.

All (2306) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:46:GLN:HB3	10:H:167:PRO:HD2	1.29	1.15
1:0:871:G:H5'	1:0:871:G:H8	1.06	1.12
1:0:656:G:H5'	16:O:3:THR:HG22	1.16	1.12
2:9:3056:A:H2'	2:9:3057:A:H5''	1.31	1.10
1:0:1559:A:H1'	38:0:5862:HOH:O	1.50	1.09
5:C:236:THR:HG22	5:C:239:ALA:H	1.16	1.09
1:0:871:G:H5'	1:0:871:G:C8	1.86	1.08
2:9:3006:C:H5''	15:N:37:ARG:NH1	1.69	1.07
1:0:1242:A:H5'	11:J:82:THR:HG23	1.35	1.06
1:0:1160:G:C5'	1:0:1161:A:H5'	1.85	1.06
1:0:282:C:H1'	1:0:368:C:N4	1.72	1.02
1:0:156:C:H5''	14:M:171:ARG:HD3	1.40	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:870:G:H2'	1:0:871:G:H5''	1.41	1.01
1:0:1603:A:H5'	1:0:1605:G:O4'	1.61	1.00
1:0:1160:G:H5'	1:0:1161:A:H5'	1.03	1.00
1:0:214:U:H5'	38:0:6131:HOH:O	1.61	0.99
1:0:2717:C:H2'	1:0:2718:C:H5''	1.44	0.99
1:0:1474:C:H6	1:0:1474:C:H5'	1.25	0.99
1:0:1160:G:H5'	1:0:1161:A:C5'	1.92	0.99
2:9:3076:G:H3'	2:9:3077:A:H5''	1.44	0.98
1:0:236:A:H4'	1:0:237:G:H5'	1.46	0.98
21:T:71:VAL:HG11	21:T:90:PRO:HB3	1.47	0.97
24:W:6:GLN:HB2	24:W:26:ILE:HD12	1.46	0.97
1:0:1118:A:C8	1:0:1118:A:H3'	1.99	0.96
1:0:1118:A:H3'	1:0:1118:A:H8	1.26	0.96
1:0:289:G:H22	1:0:363:A:H2	1.05	0.96
27:Z:41:ASN:HB3	27:Z:60:CYS:SG	2.05	0.95
1:0:1835:U:H5	1:0:1840:A:N7	1.62	0.95
1:0:2812:A:H2	1:0:2814:A:H62	1.14	0.94
1:0:2783:A:H3'	38:0:5224:HOH:O	1.67	0.94
1:0:541:C:H2'	1:0:542:A:H5''	1.48	0.93
1:0:2533:C:H5'	1:0:2533:C:H6	1.32	0.93
1:0:1667:A:H8	1:0:1667:A:H5'	1.30	0.92
25:X:37:LEU:HD13	25:X:85:VAL:HG21	1.50	0.92
1:0:797:A:H4'	27:Z:10:ARG:N	1.85	0.92
17:P:115:SER:H	17:P:118:GLN:HE21	1.03	0.92
1:0:1372:A:H3'	38:0:7168:HOH:O	1.70	0.92
2:9:3006:C:H5''	15:N:37:ARG:HH12	1.30	0.92
1:0:1862:C:H1'	38:0:7198:HOH:O	1.68	0.92
11:J:127:ILE:HG22	36:J:8701:CL:CL	2.07	0.92
12:K:10:GLN:HE21	12:K:10:GLN:H	0.92	0.92
2:9:3054:A:O2'	2:9:3055:U:H5'	1.69	0.91
1:0:1180:U:H4'	31:I:91:GLU:HG2	1.50	0.91
1:0:2506:A:HO2'	1:0:2507:G:H8	0.92	0.91
1:0:381:G:H5''	38:0:4317:HOH:O	1.71	0.90
1:0:1162:G:H1'	31:I:117:LEU:HD11	1.51	0.90
1:0:2717:C:C2'	1:0:2718:C:H5''	2.00	0.90
24:W:137:GLN:HE21	24:W:141:HIS:HE1	1.19	0.90
1:0:1666:C:O2'	1:0:1667:A:H5''	1.72	0.90
1:0:182:G:H5'	38:0:5151:HOH:O	1.71	0.90
1:0:1205:U:H2'	1:0:1206:U:C5'	2.02	0.89
1:0:871:G:H8	1:0:871:G:C5'	1.85	0.89
1:0:1206:U:H5'	1:0:1206:U:H6	1.37	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:127:ARG:NH2	5:C:225:PRO:HG2	1.87	0.89
1:0:545:G:H5'	1:0:545:G:H8	1.35	0.89
1:0:542:A:H5'	1:0:542:A:H8	1.37	0.88
1:0:2506:A:O2'	1:0:2507:G:H8	1.57	0.88
1:0:2672:C:H1'	38:B:8833:HOH:O	1.71	0.88
1:0:2850:C:H6	1:0:2850:C:H5'	1.37	0.88
1:0:56:G:H5''	23:V:50:ARG:HH12	1.39	0.87
4:B:212:GLN:HB2	4:B:257:THR:HG21	1.54	0.87
10:H:56:GLN:HE21	10:H:126:ARG:HE	1.16	0.87
2:9:3056:A:C2'	2:9:3057:A:H5''	2.05	0.87
1:0:541:C:C2'	1:0:542:A:H5''	2.05	0.86
1:0:753:U:H3'	38:0:5520:HOH:O	1.75	0.86
1:0:396:U:H1'	38:0:7600:HOH:O	1.75	0.86
1:0:558:C:O2'	1:0:559:U:H5''	1.75	0.86
1:0:2824:C:H5''	1:0:2825:C:H5'	1.56	0.86
1:0:656:G:H5'	16:O:3:THR:CG2	2.01	0.86
1:0:1116:U:HO2'	1:0:1118:A:H2	0.88	0.86
1:0:1450:C:H4'	1:0:1451:C:OP2	1.75	0.86
1:0:1187:U:HO2'	1:0:1189:A:H2	1.19	0.86
1:0:1684:A:H1'	29:2:43:ARG:HH22	1.41	0.86
1:0:2270:G:H4'	3:A:223:ARG:HH12	1.39	0.86
12:K:10:GLN:HE21	12:K:10:GLN:N	1.75	0.85
1:0:2908:A:H2'	1:0:2909:G:O4'	1.77	0.85
12:K:10:GLN:H	12:K:10:GLN:NE2	1.74	0.85
1:0:1184:C:H1'	38:0:7436:HOH:O	1.76	0.85
1:0:1189:A:H1'	1:0:1209:C:O4'	1.77	0.84
1:0:2421:G:H1'	38:0:7002:HOH:O	1.76	0.84
12:K:29:LEU:HB3	12:K:55:VAL:HG11	1.58	0.84
6:D:54:ALA:HB2	6:D:69:ILE:HD12	1.59	0.84
1:0:1474:C:H5'	1:0:1474:C:C6	2.12	0.84
25:X:76:ARG:HH11	25:X:76:ARG:HG3	1.43	0.84
1:0:2570:G:H5''	38:0:4909:HOH:O	1.78	0.83
19:R:99:ALA:HB1	19:R:109:MET:HE1	1.61	0.83
26:Y:187:VAL:HG23	26:Y:192:ASP:HB2	1.58	0.83
1:0:1120:U:H6	1:0:1120:U:H5'	1.41	0.83
1:0:677:C:O2'	1:0:678:G:H5'	1.78	0.83
4:B:238:ASN:HD22	4:B:240:GLY:H	1.25	0.83
22:U:39:ASN:ND2	22:U:44:ARG:HH11	1.76	0.83
27:Z:42:CYS:SG	27:Z:59:TYR:HD2	2.00	0.83
1:0:877:G:H5'	1:0:878:G:OP1	1.79	0.83
36:0:8713:CL:CL	38:0:4680:HOH:O	2.33	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Z:37:HIS:HB2	27:Z:47:VAL:HB	1.61	0.83
1:0:282:C:O2'	1:0:283:U:H5'	1.79	0.82
29:2:41:HIS:H	29:2:45:ASN:HD22	1.28	0.82
1:0:1118:A:H62	1:0:1244:U:H3	1.24	0.82
1:0:2502:C:C2'	1:0:2503:A:H5'	2.10	0.82
1:0:2533:C:H5'	1:0:2533:C:C6	2.13	0.82
14:M:59:GLY:HA3	14:M:141:ILE:HD11	1.62	0.82
1:0:2769:C:O2'	1:0:2770:G:H5'	1.80	0.82
1:0:1119:G:N2	1:0:1246:A:C2	2.48	0.81
36:M:8718:CL:CL	38:M:8819:HOH:O	2.34	0.81
5:C:236:THR:HG22	5:C:239:ALA:N	1.96	0.81
15:N:83:LEU:HD13	15:N:175:LEU:HD23	1.61	0.81
1:0:1183:C:N4	1:0:1184:C:H41	1.79	0.81
1:0:21:G:C5'	19:R:2:ILE:HA	2.11	0.81
1:0:21:G:H5'	19:R:2:ILE:HA	1.63	0.81
1:0:1205:U:H2'	1:0:1206:U:H5''	1.60	0.81
1:0:2256:G:C2'	1:0:2257:G:H5'	2.11	0.81
27:Z:46:ARG:HD2	27:Z:59:TYR:HB2	1.60	0.81
1:0:870:G:C2'	1:0:871:G:H5''	2.09	0.80
1:0:2291:A:C8	1:0:2309:C:H5'	2.16	0.80
1:0:2251:G:H2'	1:0:2252:A:C8	2.16	0.80
1:0:2502:C:H2'	1:0:2503:A:H5'	1.62	0.80
1:0:1116:U:O2'	1:0:1118:A:H2	1.65	0.80
19:R:39:THR:HG22	19:R:42:GLU:H	1.46	0.80
23:V:2:VAL:HG21	23:V:45:ARG:NH2	1.96	0.80
2:9:3014:G:H5'	2:9:3014:G:H8	1.46	0.80
1:0:1919:A:H4'	38:0:4847:HOH:O	1.83	0.79
2:9:3049:G:O2'	2:9:3050:G:H5'	1.81	0.79
1:0:1771:U:H1'	27:Z:23:ARG:HH21	1.45	0.79
1:0:1603:A:H5''	1:0:1605:G:H5'	1.63	0.79
1:0:188:C:H5''	14:M:163:LEU:HD21	1.63	0.79
1:0:289:G:N2	1:0:363:A:H2	1.81	0.79
1:0:558:C:C2'	1:0:559:U:H5''	2.12	0.79
1:0:558:C:H2'	1:0:559:U:C5'	2.13	0.79
38:0:5215:HOH:O	12:K:39:GLY:HA2	1.82	0.79
1:0:272:A:H5'	1:0:273:G:OP2	1.83	0.79
1:0:2248:C:H3'	38:0:5439:HOH:O	1.82	0.79
36:0:8717:CL:CL	38:Y:8755:HOH:O	2.37	0.79
1:0:1165:G:H4'	1:0:1174:A:O2'	1.83	0.79
1:0:2890:A:H1'	22:U:56:ARG:NH2	1.98	0.78
1:0:199:A:H5''	38:0:3528:HOH:O	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2586:U:H3	1:0:2592:G:H22	1.32	0.78
1:0:2256:G:H2'	1:0:2257:G:H5'	1.65	0.78
3:A:36:ASP:HB2	3:A:83:GLY:HA3	1.65	0.78
24:W:4:LEU:HD23	24:W:54:PHE:HB3	1.64	0.78
24:W:21:LEU:HD21	24:W:48:VAL:HG11	1.64	0.78
1:0:31:C:H4'	38:0:7398:HOH:O	1.84	0.78
1:0:1835:U:C5	1:0:1840:A:N7	2.49	0.78
1:0:1130:U:H5'	38:0:7642:HOH:O	1.84	0.78
1:0:541:C:H2'	1:0:542:A:C5'	2.13	0.78
1:0:2001:G:O2'	1:0:2002:C:H5'	1.84	0.78
1:0:69:A:H5'	1:0:69:A:C8	2.20	0.77
1:0:69:A:H5'	1:0:69:A:H8	1.50	0.77
1:0:2491:G:H1'	38:0:6848:HOH:O	1.84	0.77
2:9:3058:G:H1'	38:D:3839:HOH:O	1.83	0.77
1:0:603:A:H5''	1:0:604:G:OP1	1.84	0.77
1:0:1279:U:O2	1:0:1279:U:H2'	1.85	0.77
26:Y:174:VAL:HG23	26:Y:177:LYS:HD2	1.67	0.77
1:0:2755:G:H1'	38:0:4679:HOH:O	1.84	0.76
1:0:2756:U:H3	1:0:2896:A:H2	1.30	0.76
1:0:2851:G:O2'	1:0:2852:A:H5'	1.85	0.76
5:C:139:VAL:HG13	38:C:8642:HOH:O	1.82	0.76
1:0:383:A:H4'	38:0:5323:HOH:O	1.85	0.76
1:0:2364:A:H5''	18:Q:15:LYS:HD3	1.68	0.76
23:V:2:VAL:HG21	23:V:45:ARG:HH21	1.46	0.76
1:0:1116:U:H3	1:0:1246:A:H62	1.33	0.76
4:B:195:ARG:HG2	4:B:323:LEU:HD22	1.68	0.76
1:0:559:U:H6	1:0:559:U:H5'	1.51	0.76
1:0:1537:C:H1'	38:0:6566:HOH:O	1.85	0.76
19:R:8:ALA:HB1	19:R:13:THR:HG21	1.68	0.76
1:0:338:C:H4'	5:C:174:ILE:CD1	2.16	0.76
1:0:1213:C:O2'	1:0:1214:G:H5'	1.84	0.76
1:0:2489:G:H1'	38:0:7254:HOH:O	1.85	0.76
1:0:1398:G:O2'	1:0:1399:A:H5'	1.86	0.75
1:0:2748:G:H2'	38:0:7511:HOH:O	1.85	0.75
1:0:544:G:H2'	1:0:545:G:H5''	1.68	0.75
1:0:1667:A:H5'	1:0:1667:A:C8	2.19	0.75
12:K:74:VAL:HG11	12:K:113:ILE:HG12	1.68	0.75
1:0:506:G:H22	1:0:509:A:H5'	1.49	0.75
1:0:2679:G:H2'	1:0:2681:A:OP2	1.86	0.75
1:0:2851:G:C2'	1:0:2852:A:H5'	2.17	0.75
30:3:65:THR:HG22	30:3:67:LEU:HG	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1162:G:H1'	31:I:117:LEU:CD1	2.16	0.75
10:H:166:SER:HB2	10:H:167:PRO:HD3	1.69	0.75
24:W:6:GLN:HB2	24:W:26:ILE:CD1	2.17	0.75
1:0:1118:A:C8	1:0:1118:A:C3'	2.65	0.74
1:0:2768:A:H2'	1:0:2769:C:O4'	1.86	0.74
1:0:711:G:H1'	38:0:7076:HOH:O	1.86	0.74
4:B:179:LEU:O	4:B:183:GLU:HG2	1.87	0.74
1:0:506:G:H22	1:0:509:A:C5'	2.01	0.74
1:0:2256:G:O2'	1:0:2257:G:H5'	1.88	0.74
4:B:18:ARG:HG3	4:B:256:GLN:HG3	1.67	0.74
1:0:1080:C:H4'	1:0:1081:A:OP1	1.87	0.74
1:0:292:G:H2'	1:0:358:G:N2	2.03	0.74
1:0:2256:G:H2'	1:0:2257:G:C5'	2.18	0.74
6:D:103:ASN:ND2	6:D:134:LEU:H	1.84	0.74
1:0:1657:A:H2'	1:0:1658:A:C8	2.23	0.74
1:0:1205:U:H2'	1:0:1206:U:H5'	1.68	0.74
23:V:12:THR:HG22	23:V:15:GLU:HG3	1.70	0.74
1:0:1130:U:H2'	1:0:1131:G:O4'	1.87	0.73
1:0:2414:A:H2'	1:0:2415:A:C8	2.23	0.73
19:R:17:MET:SD	38:R:8745:HOH:O	2.46	0.73
1:0:2426:G:H1'	38:0:6084:HOH:O	1.89	0.73
36:J:8701:CL:CL	38:J:8752:HOH:O	2.44	0.73
24:W:21:LEU:HD22	24:W:26:ILE:CD1	2.18	0.73
1:0:558:C:H2'	1:0:559:U:H5'	1.71	0.73
1:0:656:G:C5'	16:O:3:THR:HG22	2.08	0.73
2:9:3055:U:H4'	2:9:3056:A:C8	2.23	0.73
24:W:88:THR:HG22	24:W:89:ASP:H	1.54	0.73
2:9:3039:U:H1'	2:9:3044:A:H61	1.51	0.73
7:E:97:VAL:HG12	38:E:4191:HOH:O	1.89	0.73
1:0:661:G:C5	1:0:686:A:C2	2.76	0.72
1:0:281:U:H3'	38:0:7185:HOH:O	1.88	0.72
2:9:3092:G:H2'	2:9:3093:A:C8	2.25	0.72
1:0:797:A:C4'	27:Z:10:ARG:N	2.52	0.72
3:A:121:ALA:O	3:A:124:VAL:HG22	1.90	0.72
1:0:2252:A:C5	1:0:2253:G:H1'	2.25	0.72
11:J:19:MET:HE1	11:J:132:LEU:HD21	1.70	0.72
24:W:137:GLN:HE21	24:W:141:HIS:CE1	2.07	0.72
14:M:102:GLU:OE1	14:M:164:THR:HG21	1.89	0.72
1:0:1667:A:H2'	1:0:1668:U:C6	2.25	0.72
1:0:2769:C:C2'	1:0:2770:G:H5'	2.19	0.72
1:0:1168:C:H4'	38:0:5905:HOH:O	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:284:C:H4'	1:0:285:A:O5'	1.90	0.71
1:0:2840:A:OP1	4:B:211:THR:HG23	1.90	0.71
5:C:145:GLU:HG3	38:C:8573:HOH:O	1.90	0.71
1:0:2635:A:O2'	1:0:2636:C:H5'	1.89	0.71
4:B:320:GLN:HE21	4:B:321:PRO:HD2	1.54	0.71
1:0:1878:G:H1'	38:0:6112:HOH:O	1.91	0.71
1:0:1441:G:O2'	1:0:1442:A:H5'	1.90	0.71
1:0:1666:C:H2'	1:0:1667:A:H5'	1.72	0.71
8:F:63:ILE:HB	8:F:64:PRO:HD3	1.72	0.71
15:N:144:GLY:O	15:N:147:ILE:HG22	1.91	0.71
1:0:1205:U:C2'	1:0:1206:U:H5''	2.21	0.70
1:0:2488:A:H61	1:0:2534:C:H42	1.36	0.70
1:0:403:C:H3'	38:0:6290:HOH:O	1.90	0.70
2:9:3054:A:HO2'	2:9:3055:U:H5'	1.55	0.70
17:P:115:SER:H	17:P:118:GLN:NE2	1.84	0.70
19:R:25:PHE:CE2	19:R:29:LYS:HE2	2.27	0.70
1:0:1342:C:C2'	1:0:1343:C:H5'	2.21	0.70
24:W:21:LEU:HD22	24:W:26:ILE:HD11	1.73	0.70
1:0:2694:A:H4'	7:E:91:PHE:CE1	2.26	0.70
38:0:7428:HOH:O	5:C:188:ARG:HD2	1.92	0.70
29:2:35:ARG:HB3	38:2:2691:HOH:O	1.92	0.70
1:0:2524:G:H21	1:0:2526:C:N4	1.89	0.70
1:0:2676:C:H4'	11:J:70:PHE:CE1	2.26	0.70
1:0:1164:U:H3	1:0:1192:A:H2	1.37	0.70
12:K:81:ARG:HB2	12:K:87:ARG:HH11	1.56	0.70
1:0:288:A:H61	1:0:364:C:H42	1.40	0.70
1:0:2320:U:H4'	1:0:2321:A:O4'	1.92	0.69
1:0:1701:A:H4'	1:0:1702:U:H5''	1.73	0.69
1:0:2237:G:H1'	38:0:4851:HOH:O	1.91	0.69
2:9:3006:C:C5'	15:N:37:ARG:NH1	2.52	0.69
1:0:338:C:H4'	5:C:174:ILE:HD11	1.74	0.69
1:0:2827:A:H2'	1:0:2828:G:O4'	1.92	0.69
1:0:2054:A:N3	19:R:128:ARG:NH2	2.40	0.69
21:T:48:VAL:HG11	21:T:96:VAL:HG13	1.74	0.69
1:0:280:C:H2'	1:0:281:U:O4'	1.92	0.69
1:0:1701:A:H5'	38:0:6267:HOH:O	1.92	0.69
1:0:1942:A:H3'	38:0:7323:HOH:O	1.91	0.69
1:0:2420:G:O2'	1:0:2421:G:H5'	1.93	0.69
1:0:2578:G:H5'	1:0:2578:G:H8	1.57	0.69
2:9:3048:C:H4'	15:N:141:ARG:HH21	1.58	0.69
17:P:115:SER:N	17:P:118:GLN:HE21	1.86	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:59:ARG:NH2	17:P:66:GLN:HE22	1.90	0.69
1:0:1314:U:H2'	38:0:5871:HOH:O	1.94	0.68
14:M:164:THR:HG22	14:M:167:GLY:H	1.58	0.68
1:0:2716:G:H5''	4:B:206:THR:HG21	1.73	0.68
12:K:14:LYS:HB2	12:K:45:PRO:HG2	1.73	0.68
1:0:447:A:OP1	21:T:2:LYS:HG2	1.93	0.68
2:9:3064:C:H2'	2:9:3065:A:H5'	1.76	0.68
38:0:5455:HOH:O	9:G:12:ILE:HA	1.92	0.68
2:9:3014:G:H5'	2:9:3014:G:C8	2.28	0.68
21:T:9:LYS:HE3	21:T:13:ARG:NH1	2.09	0.68
1:0:703:G:O2'	1:0:704:C:H5'	1.93	0.68
2:9:3054:A:C2'	2:9:3055:U:H5'	2.24	0.68
26:Y:187:VAL:HG23	26:Y:192:ASP:CB	2.23	0.68
1:0:380:A:H2'	38:0:7206:HOH:O	1.92	0.68
1:0:1289:C:H3'	38:0:6391:HOH:O	1.93	0.68
38:0:7198:HOH:O	3:A:11:ARG:HA	1.93	0.68
4:B:221:GLN:HE22	12:K:42:ASN:HD22	1.42	0.68
1:0:1167:G:H4'	31:I:135:LEU:HD22	1.75	0.68
27:Z:10:ARG:HA	38:Z:8615:HOH:O	1.94	0.68
1:0:702:G:O2'	1:0:703:G:H5'	1.95	0.67
1:0:1189:A:H1'	1:0:1209:C:C1'	2.24	0.67
1:0:2363:G:O2'	18:Q:11:ARG:HG3	1.94	0.67
1:0:156:C:H5''	14:M:171:ARG:CD	2.22	0.67
1:0:1771:U:H1'	27:Z:23:ARG:NH2	2.09	0.67
3:A:51:ARG:HB2	38:A:8801:HOH:O	1.92	0.67
1:0:2505:G:O2'	1:0:2506:A:H5'	1.95	0.67
36:0:8712:CL:CL	38:0:5118:HOH:O	2.49	0.67
1:0:1189:A:O2'	1:0:1208:C:H2'	1.95	0.67
1:0:1328:A:OP1	26:Y:169:ARG:HD2	1.94	0.67
1:0:2779:G:H21	7:E:143:GLN:NE2	1.92	0.67
1:0:2896:A:H5''	38:0:6091:HOH:O	1.94	0.67
1:0:544:G:C2'	1:0:545:G:H5''	2.24	0.67
1:0:871:G:C8	1:0:871:G:C5'	2.66	0.67
1:0:272:A:H3'	38:0:7500:HOH:O	1.94	0.67
1:0:558:C:C2'	1:0:559:U:C5'	2.72	0.67
2:9:3055:U:H4'	2:9:3056:A:H8	1.60	0.67
1:0:2533:C:H6	1:0:2533:C:C5'	2.06	0.67
31:I:131:THR:O	31:I:135:LEU:HG	1.94	0.67
5:C:136:VAL:HG22	5:C:137:PRO:HA	1.77	0.66
1:0:1350:U:H4'	38:0:5116:HOH:O	1.93	0.66
4:B:238:ASN:HD22	4:B:240:GLY:N	1.92	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:285:A:H2'	1:0:286:U:O4'	1.94	0.66
1:0:2559:C:H4'	38:0:7235:HOH:O	1.95	0.66
4:B:307:ARG:HH11	4:B:307:ARG:HG3	1.61	0.66
1:0:2269:C:C2'	1:0:2270:G:H5'	2.25	0.66
1:0:1119:G:H2'	11:J:52:GLN:NE2	2.10	0.66
1:0:1524:U:OP1	1:0:1524:U:H4'	1.96	0.66
1:0:1804:A:H2'	1:0:1805:G:C8	2.29	0.66
3:A:153:ARG:HB2	3:A:153:ARG:HH11	1.60	0.66
13:L:148:GLU:HA	38:L:8769:HOH:O	1.96	0.66
1:0:1819:G:H2'	1:0:1820:G:H4'	1.78	0.66
1:0:56:G:H5''	23:V:50:ARG:NH1	2.09	0.66
1:0:1058:A:H2'	1:0:1060:C:H5''	1.77	0.66
10:H:169:GLY:HA3	38:H:8589:HOH:O	1.95	0.66
1:0:1187:U:O2'	1:0:1189:A:H2	1.79	0.66
2:9:3064:C:C2'	2:9:3065:A:H5'	2.26	0.66
6:D:99:ASP:HB3	6:D:103:ASN:H	1.61	0.65
6:D:103:ASN:HD22	6:D:134:LEU:H	1.44	0.65
1:0:1205:U:C2'	1:0:1206:U:C5'	2.74	0.65
15:N:113:SER:HB2	38:N:8754:HOH:O	1.95	0.65
1:0:447:A:O2'	1:0:448:G:H5'	1.97	0.65
1:0:2587:OMU:O3'	1:0:2587:OMU:HM22	1.96	0.65
4:B:297:VAL:HB	38:B:8804:HOH:O	1.95	0.65
5:C:5:ILE:HD11	5:C:16:VAL:HG23	1.78	0.65
11:J:75:PRO:HG2	11:J:105:LEU:HD21	1.79	0.65
1:0:282:C:H1'	1:0:368:C:H41	1.60	0.65
1:0:1187:U:H2'	38:0:6878:HOH:O	1.97	0.65
1:0:1234:U:N3	4:B:244:PRO:HB3	2.11	0.65
1:0:1730:G:H5'	1:0:1731:C:C5	2.32	0.65
1:0:2004:U:H4'	38:0:5302:HOH:O	1.96	0.65
3:A:200:PRO:HG2	3:A:225:VAL:HG21	1.77	0.65
5:C:16:VAL:HG12	5:C:17:ASP:H	1.61	0.65
1:0:2269:C:H2'	1:0:2270:G:H5'	1.77	0.65
4:B:51:VAL:CG1	4:B:53:LEU:HD13	2.26	0.65
15:N:132:ASN:O	15:N:135:VAL:HG12	1.96	0.65
31:I:102:VAL:HG12	31:I:106:LYS:HE3	1.78	0.65
1:0:560:C:H42	1:0:597:A:H61	1.43	0.65
3:A:8:ARG:HG2	38:A:8751:HOH:O	1.97	0.65
6:D:65:GLU:HA	38:D:6752:HOH:O	1.97	0.65
12:K:81:ARG:HB2	12:K:87:ARG:NH1	2.11	0.65
29:2:39:ARG:HG2	38:2:3143:HOH:O	1.95	0.65
29:2:41:HIS:HD2	29:2:44:ARG:H	1.45	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:644:G:H5'	1:0:644:G:N3	2.11	0.65
1:0:1926:G:H2'	1:0:1927:A:H8	1.61	0.65
1:0:2649:A:H5'	1:0:2649:A:H8	1.62	0.65
27:Z:41:ASN:ND2	27:Z:60:CYS:SG	2.69	0.65
27:Z:27:ALA:HA	38:Z:8615:HOH:O	1.98	0.64
1:0:2248:C:H2'	1:0:2249:G:H8	1.62	0.64
20:S:33:SER:O	20:S:37:VAL:HG23	1.96	0.64
1:0:1528:A:H2'	1:0:1529:G:O4'	1.98	0.64
1:0:2509:A:OP2	1:0:2510:C:H5	1.80	0.64
1:0:450:C:OP1	5:C:184:ARG:NH2	2.30	0.64
1:0:1377:C:H5'	1:0:1377:C:H6	1.63	0.64
4:B:201:ASP:HB2	4:B:312:ARG:HD2	1.79	0.64
22:U:47:ARG:HG3	38:U:4381:HOH:O	1.96	0.64
23:V:1:THR:HG23	23:V:2:VAL:H	1.62	0.64
1:0:200:U:H2'	38:0:3441:HOH:O	1.98	0.64
1:0:545:G:H5'	1:0:545:G:C8	2.25	0.64
1:0:960:G:N3	1:0:960:G:H2'	2.12	0.64
1:0:1603:A:C5'	1:0:1605:G:H5'	2.27	0.64
1:0:1625:U:H4'	38:0:4662:HOH:O	1.97	0.64
10:H:166:SER:CB	10:H:167:PRO:HD3	2.27	0.64
13:L:136:ALA:HB3	38:L:8770:HOH:O	1.98	0.64
24:W:88:THR:HB	38:W:6679:HOH:O	1.98	0.64
5:C:132:ASP:HB3	38:C:8561:HOH:O	1.98	0.64
20:S:17:ASP:HB3	20:S:23:LYS:HB2	1.80	0.64
24:W:151:GLU:O	24:W:154:ARG:HB3	1.98	0.64
1:0:1120:U:H5'	1:0:1120:U:C6	2.31	0.64
1:0:1557:G:O2'	1:0:1558:C:H5'	1.97	0.64
1:0:1636:G:O2'	1:0:1637:A:H5'	1.97	0.64
1:0:2897:C:O2'	1:0:2898:G:H5'	1.98	0.64
1:0:281:U:O2'	1:0:282:C:H5'	1.98	0.63
1:0:856:G:C8	38:0:5424:HOH:O	2.50	0.63
1:0:1462:C:H2'	1:0:1463:A:C8	2.33	0.63
5:C:236:THR:H	5:C:239:ALA:HB3	1.61	0.63
12:K:74:VAL:CG1	12:K:113:ILE:HG12	2.27	0.63
1:0:1118:A:H2'	1:0:1120:U:H5''	1.80	0.63
1:0:2717:C:H2'	1:0:2718:C:C5'	2.25	0.63
2:9:3035:C:H5''	38:9:4078:HOH:O	1.98	0.63
2:9:3114:G:O6	15:N:11:ARG:HD3	1.98	0.63
22:U:52:THR:HG22	22:U:55:ALA:H	1.63	0.63
1:0:2244:A:H1'	38:M:8765:HOH:O	1.97	0.63
1:0:2521:A:OP2	10:H:3:ALA:HB3	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:3003:A:N6	2:9:3022:G:H1'	2.13	0.63
14:M:164:THR:CG2	14:M:167:GLY:H	2.12	0.63
1:0:814:G:H4'	38:0:3125:HOH:O	1.97	0.63
1:0:2850:C:H5'	1:0:2850:C:C6	2.25	0.63
5:C:115:LEU:HD13	5:C:223:LEU:HD21	1.79	0.63
1:0:669:G:O2'	1:0:670:G:H5'	1.99	0.63
1:0:1159:G:H21	1:0:1189:A:H8	1.45	0.63
1:0:1175:G:H1'	1:0:1193:A:H2'	1.80	0.63
2:9:3007:G:H5'	38:9:5071:HOH:O	1.98	0.63
1:0:475:G:OP1	5:C:73:LEU:HD22	1.98	0.63
1:0:1654:U:H2'	3:A:47:HIS:HD2	1.64	0.63
2:9:3069:U:OP1	15:N:4:PRO:HG3	1.99	0.63
27:Z:46:ARG:CD	27:Z:59:TYR:HB2	2.29	0.63
1:0:777:U:O2'	28:1:11:LYS:HG2	1.99	0.63
11:J:41:ALA:HB3	38:J:8768:HOH:O	1.99	0.63
24:W:88:THR:HG23	24:W:110:GLN:HE21	1.64	0.63
1:0:39:G:N2	1:0:444:C:C2	2.67	0.63
1:0:308:U:C4	1:0:342:C:H1'	2.34	0.63
1:0:1185:U:H5'	38:0:7436:HOH:O	1.99	0.63
1:0:1474:C:H6	1:0:1474:C:C5'	2.07	0.63
1:0:1593:C:H5'	17:P:116:SER:O	1.98	0.63
5:C:1:MET:HG2	5:C:2:GLN:H	1.63	0.62
1:0:1342:C:O2'	1:0:1343:C:H5'	1.98	0.62
1:0:1166:A:H1'	1:0:1192:A:C2	2.34	0.62
1:0:67:A:H5''	1:0:69:A:C8	2.34	0.62
1:0:657:G:OP1	5:C:27:ARG:NH2	2.30	0.62
1:0:1450:C:C4'	1:0:1451:C:OP2	2.48	0.62
1:0:1804:A:H2'	1:0:1805:G:H8	1.64	0.62
1:0:2629:C:H41	3:A:206:ARG:HH21	1.45	0.62
14:M:66:SER:HB3	14:M:128:TRP:CD1	2.33	0.62
1:0:185:G:H4'	1:0:186:A:H4'	1.79	0.62
1:0:396:U:O2'	1:0:418:C:H4'	1.99	0.62
1:0:1741:U:O2'	1:0:2723:G:H4'	1.99	0.62
4:B:168:GLY:H	4:B:174:ARG:HD3	1.63	0.62
4:B:280:VAL:HG13	4:B:334:SER:HA	1.80	0.62
1:0:363:A:O2'	1:0:364:C:H5'	1.99	0.62
1:0:814:G:H8	38:0:7188:HOH:O	1.82	0.62
1:0:1422:U:H2'	1:0:1423:C:H6	1.65	0.62
1:0:1603:A:H5'	1:0:1605:G:C4'	2.30	0.62
31:I:118:SER:HB2	31:I:123:ASN:HB2	1.82	0.62
1:0:399:C:H5'	14:M:179:GLY:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1422:U:H2'	1:0:1423:C:C6	2.35	0.62
8:F:96:ALA:HA	38:F:3111:HOH:O	2.00	0.62
9:G:16:LYS:O	9:G:20:VAL:HG23	2.00	0.62
24:W:21:LEU:HD21	24:W:48:VAL:CG1	2.30	0.62
24:W:64:THR:O	24:W:68:THR:HG22	2.00	0.62
1:0:542:A:H5'	1:0:542:A:C8	2.27	0.62
14:M:99:ARG:HD2	14:M:167:GLY:HA2	1.82	0.62
10:H:9:ILE:HG23	10:H:126:ARG:CZ	2.29	0.62
14:M:59:GLY:CA	14:M:141:ILE:HD11	2.30	0.62
25:X:25:ARG:HD3	25:X:64:ALA:O	2.00	0.62
1:0:338:C:H5''	38:0:3795:HOH:O	2.00	0.61
1:0:349:U:O2'	1:0:350:C:H5'	2.00	0.61
1:0:2681:A:H4'	1:0:2682:C:H5'	1.80	0.61
2:9:3047:A:C2	2:9:3048:C:C2	2.88	0.61
1:0:303:C:O2'	1:0:304:G:H5'	2.01	0.61
1:0:1507:C:H4'	38:0:3600:HOH:O	2.00	0.61
1:0:1926:G:H2'	1:0:1927:A:C8	2.34	0.61
2:9:3039:U:H1'	2:9:3044:A:N6	2.14	0.61
2:9:3061:C:H2'	2:9:3062:A:H8	1.64	0.61
3:A:211:LYS:HB2	38:A:8812:HOH:O	2.00	0.61
1:0:1787:C:H4'	1:0:2883:A:O4'	2.00	0.61
10:H:166:SER:HB2	10:H:167:PRO:CD	2.30	0.61
1:0:1159:G:H1	1:0:1208:C:H42	1.48	0.61
2:9:3107:C:H5	38:9:3167:HOH:O	1.84	0.61
4:B:36:PRO:HA	4:B:168:GLY:HA2	1.83	0.61
13:L:134:GLU:HG3	38:L:8754:HOH:O	2.00	0.61
1:0:264:G:H1'	1:0:265:U:H5	1.65	0.61
1:0:2563:U:H2'	1:0:2565:C:O5'	2.01	0.61
2:9:3042:C:H5'	2:9:3043:G:OP2	2.00	0.61
1:0:656:G:OP2	16:O:37:ARG:HD2	2.00	0.61
1:0:1641:A:H2'	1:0:1642:A:H5'	1.83	0.61
38:0:6854:HOH:O	14:M:178:LYS:HB2	2.00	0.61
1:0:1160:G:O2'	1:0:1190:G:H1'	2.01	0.61
1:0:1525:G:H5'	1:0:1526:A:OP2	2.01	0.61
1:0:2729:C:H2'	1:0:2730:G:H8	1.65	0.61
1:0:2880:A:H2'	1:0:2881:C:H5'	1.83	0.61
10:H:56:GLN:NE2	10:H:126:ARG:HE	1.96	0.61
1:0:1342:C:H2'	1:0:1343:C:H5'	1.83	0.61
1:0:2812:A:C2	1:0:2814:A:N6	2.66	0.61
2:9:3049:G:C2'	2:9:3050:G:H5'	2.31	0.61
1:0:371:U:H2'	1:0:372:A:H8	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2316:G:H4'	38:0:6084:HOH:O	2.01	0.60
7:E:133:VAL:HG12	7:E:141:VAL:HG13	1.83	0.60
1:0:553:G:P	26:Y:204:ARG:HH22	2.25	0.60
1:0:1278:A:H4'	1:0:1279:U:C4	2.36	0.60
1:0:1768:C:C2'	1:0:1769:C:H5'	2.31	0.60
4:B:168:GLY:N	4:B:174:ARG:HD3	2.17	0.60
27:Z:39:CYS:CB	27:Z:57:CYS:SG	2.88	0.60
1:0:2252:A:H2'	1:0:2253:G:H5'	1.84	0.60
1:0:2769:C:H2'	1:0:2770:G:C5'	2.30	0.60
4:B:264:GLU:HG3	4:B:302:PRO:HD3	1.83	0.60
19:R:14:ALA:HB3	19:R:147:LEU:HB2	1.82	0.60
19:R:99:ALA:HB1	19:R:109:MET:CE	2.30	0.60
25:X:25:ARG:HD2	38:X:5356:HOH:O	2.00	0.60
1:0:21:G:H4'	19:R:2:ILE:HG22	1.83	0.60
1:0:65:C:O2'	1:0:66:G:H5'	2.01	0.60
1:0:1167:G:H2'	1:0:1168:C:O4'	2.02	0.60
1:0:2526:C:O2'	1:0:2527:U:H5'	2.01	0.60
4:B:137:LEU:HG	38:B:8776:HOH:O	2.01	0.60
1:0:125:U:H3'	38:0:3762:HOH:O	2.00	0.60
1:0:407:A:H5'	38:0:6019:HOH:O	2.00	0.60
1:0:2365:G:H4'	18:Q:45:PRO:O	2.01	0.60
4:B:312:ARG:HD3	4:B:315:VAL:HG13	1.84	0.60
12:K:74:VAL:HG12	12:K:75:ARG:HG3	1.84	0.60
16:O:42:GLU:HB2	38:O:2176:HOH:O	2.00	0.60
23:V:44:GLY:O	23:V:48:GLU:HG2	2.01	0.60
26:Y:203:VAL:HG12	26:Y:228:VAL:HG22	1.83	0.60
1:0:638:C:H2'	1:0:639:A:C8	2.37	0.60
1:0:1132:A:N6	1:0:1229:C:H2'	2.17	0.60
4:B:248:ARG:O	4:B:251:VAL:HG13	2.02	0.60
7:E:81:GLU:HG2	7:E:134:SER:HB3	1.84	0.60
1:0:1391:G:H2'	1:0:1392:A:H5'	1.84	0.60
1:0:1945:G:O2'	1:0:1946:C:H5'	2.01	0.60
1:0:354:A:H2'	1:0:355:C:H6	1.66	0.60
38:0:5662:HOH:O	27:Z:17:ARG:HD3	2.02	0.60
23:V:64:GLY:O	23:V:65:ASP:HB2	2.02	0.60
1:0:1299:G:O6	13:L:6:ARG:HD3	2.02	0.59
4:B:329:TYR:CE2	22:U:15:PRO:HG2	2.36	0.59
23:V:39:ALA:N	23:V:40:PRO:HD2	2.17	0.59
30:3:70:ARG:HD3	38:3:8767:HOH:O	2.02	0.59
6:D:95:THR:OG1	6:D:174:VAL:HG22	2.02	0.59
19:R:9:ASP:O	19:R:13:THR:HB	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:111:C:O2'	28:1:20:ARG:HG2	2.03	0.59
1:0:283:U:C5	1:0:284:C:N3	2.71	0.59
1:0:1741:U:H5'	1:0:1742:A:OP1	2.03	0.59
2:9:3029:C:H2'	2:9:3030:C:H5'	1.83	0.59
5:C:22:PHE:HA	5:C:116:ALA:HA	1.83	0.59
1:0:136:C:H2'	1:0:137:U:O4'	2.03	0.59
1:0:212:A:O4'	1:0:214:U:C6	2.56	0.59
1:0:962:C:H1'	15:N:5:ARG:NH1	2.18	0.59
1:0:1634:G:H3'	38:0:3886:HOH:O	2.01	0.59
1:0:2694:A:H4'	7:E:91:PHE:HE1	1.67	0.59
26:Y:126:PRO:HG2	26:Y:128:PHE:CE1	2.37	0.59
1:0:1937:U:O2'	1:0:1938:G:H5'	2.03	0.59
2:9:3028:U:H2'	2:9:3029:C:C6	2.38	0.59
18:Q:25:PRO:HB2	38:Q:4350:HOH:O	2.01	0.59
10:H:58:ARG:HH11	10:H:58:ARG:HG3	1.68	0.59
1:0:283:U:H5	1:0:284:C:H42	1.49	0.59
1:0:2416:G:H2'	1:0:2417:C:C6	2.37	0.59
4:B:74:ILE:HD13	4:B:309:VAL:HG21	1.85	0.59
25:X:43:VAL:HG12	25:X:44:ASP:H	1.66	0.59
27:Z:57:CYS:SG	27:Z:59:TYR:HB3	2.42	0.59
29:2:18:ASN:ND2	29:2:40:ARG:H	2.00	0.59
1:0:812:A:H2'	1:0:813:C:C6	2.38	0.59
1:0:1181:A:H5'	31:I:94:GLU:OE2	2.03	0.59
15:N:164:ASP:OD1	15:N:167:ASP:HA	2.03	0.59
1:0:426:G:H2'	1:0:427:C:O4'	2.02	0.59
1:0:2781:U:C2'	1:0:2782:G:H5'	2.33	0.59
6:D:50:VAL:O	6:D:71:ALA:HA	2.03	0.59
6:D:91:ALA:HB1	38:D:5198:HOH:O	2.03	0.59
15:N:48:VAL:CG1	15:N:55:ASP:HB3	2.33	0.59
24:W:72:PRO:HG2	24:W:77:ALA:HB3	1.84	0.59
1:0:236:A:C4'	1:0:237:G:H5'	2.26	0.59
1:0:559:U:C5	1:0:560:C:C5	2.91	0.59
1:0:1211:G:O2'	1:0:1212:C:H5'	2.03	0.59
1:0:1625:U:H3'	1:0:1625:U:C6	2.38	0.59
1:0:1790:C:H2'	1:0:1791:U:H6	1.68	0.59
1:0:2000:G:O2'	1:0:2001:G:H5'	2.03	0.59
1:0:2010:A:H2'	38:0:5952:HOH:O	2.01	0.59
1:0:2610:U:H4'	38:B:8726:HOH:O	2.03	0.59
1:0:944:G:H21	24:W:44:MET:CE	2.15	0.58
1:0:1625:U:H3'	1:0:1625:U:H6	1.68	0.58
1:0:1834:C:H2'	1:0:1840:A:N6	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:64:ASN:HD22	9:G:64:ASN:N	1.99	0.58
14:M:24:GLN:NE2	14:M:27:ARG:HH11	2.00	0.58
1:0:902:G:N7	13:L:18:HIS:HD2	2.00	0.58
1:0:1773:G:C8	27:Z:16:ALA:HA	2.38	0.58
1:0:1878:G:O2'	1:0:1879:U:C6	2.55	0.58
1:0:2135:A:O2'	1:0:2136:G:H5'	2.03	0.58
6:D:25:MET:HE2	6:D:41:LEU:HG	1.85	0.58
9:G:27:ILE:HD13	9:G:71:LEU:HD23	1.85	0.58
1:0:1008:C:H5''	10:H:16:ARG:HH12	1.67	0.58
1:0:2346:C:O2'	6:D:52:THR:HG21	2.03	0.58
11:J:127:ILE:CG2	36:J:8701:CL:CL	2.85	0.58
1:0:1400:C:C2'	1:0:1401:G:H5'	2.33	0.58
2:9:3001:U:O3'	2:9:3003:A:H5'	2.03	0.58
14:M:59:GLY:HA3	14:M:141:ILE:CD1	2.34	0.58
1:0:449:A:N7	5:C:43:LYS:HG2	2.18	0.58
7:E:116:THR:HG22	7:E:151:LEU:HD22	1.86	0.58
1:0:1174:A:C5	1:0:1201:C:H4'	2.38	0.58
1:0:1477:C:H5'	1:0:1868:G:C5'	2.34	0.58
1:0:1613:C:H2'	1:0:1614:G:O4'	2.03	0.58
7:E:100:ASP:HB2	38:E:2789:HOH:O	2.04	0.58
1:0:524:A:H5''	19:R:29:LYS:HD3	1.86	0.58
1:0:635:A:H2'	1:0:636:G:H5''	1.86	0.58
1:0:1266:U:H4'	26:Y:115:ARG:HH21	1.68	0.58
1:0:1595:G:O2'	1:0:1596:U:H5'	2.04	0.58
8:F:38:LYS:NZ	14:M:3:SER:HA	2.17	0.58
21:T:86:GLU:HG3	38:T:6653:HOH:O	2.02	0.58
31:I:113:HIS:NE2	31:I:121:LEU:HD22	2.18	0.58
1:0:821:U:H2'	1:0:822:C:H6	1.68	0.58
1:0:1120:U:H6	1:0:1120:U:C5'	2.16	0.58
1:0:1244:U:OP1	11:J:18:ILE:HD13	2.03	0.58
1:0:1730:G:C5'	1:0:1731:C:C6	2.87	0.58
1:0:1829:A:N6	27:Z:18:TYR:HA	2.19	0.58
1:0:2300:A:H4'	1:0:2301:A:O5'	2.04	0.58
19:R:111:ILE:HG23	19:R:145:LEU:HD11	1.86	0.58
25:X:78:GLU:HG2	25:X:79:GLU:H	1.68	0.58
1:0:1849:G:H1'	1:0:2011:A:N1	2.19	0.58
3:A:48:ASP:HB3	38:A:8801:HOH:O	2.03	0.58
8:F:91:VAL:HG12	8:F:92:GLY:N	2.19	0.58
1:0:120:A:H2'	1:0:120:A:N3	2.19	0.57
8:F:101:ALA:HA	38:F:5413:HOH:O	2.04	0.57
10:H:66:ARG:HD3	38:H:8579:HOH:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:64:ARG:HD2	38:M:8778:HOH:O	2.04	0.57
21:T:71:VAL:CG1	21:T:90:PRO:HB3	2.29	0.57
30:3:25:VAL:HG22	30:3:68:LYS:HG3	1.85	0.57
1:0:820:G:C6	3:A:171:LYS:HB2	2.39	0.57
1:0:2649:A:H5'	1:0:2649:A:C8	2.39	0.57
1:0:2781:U:H2'	1:0:2782:G:H5'	1.85	0.57
4:B:212:GLN:HB2	4:B:257:THR:CG2	2.31	0.57
5:C:2:GLN:HB3	38:C:8536:HOH:O	2.03	0.57
12:K:23:ASN:HD21	12:K:107:THR:HB	1.68	0.57
19:R:132:ARG:HG2	19:R:133:ALA:N	2.19	0.57
1:0:848:C:H5'	38:0:7251:HOH:O	2.03	0.57
11:J:131:THR:HG22	11:J:134:GLU:H	1.69	0.57
1:0:297:U:H2'	1:0:298:C:H6	1.69	0.57
1:0:2472:C:O2'	1:0:2634:G:H4'	2.04	0.57
4:B:304:PRO:HD2	4:B:307:ARG:NE	2.20	0.57
5:C:57:PRO:HG2	5:C:73:LEU:HD13	1.87	0.57
2:9:3057:A:H8	6:D:141:VAL:HG21	1.70	0.57
6:D:57:THR:HG23	6:D:63:ILE:HA	1.86	0.57
10:H:63:GLU:HA	38:H:8579:HOH:O	2.04	0.57
1:0:1119:G:H2'	11:J:52:GLN:HE22	1.70	0.57
2:9:3001:U:H5''	2:9:3003:A:OP1	2.05	0.57
4:B:162:MET:CE	4:B:308:LEU:HD21	2.35	0.57
11:J:5:GLU:HA	38:J:8729:HOH:O	2.04	0.57
1:0:475:G:H5'	5:C:73:LEU:HD23	1.86	0.57
1:0:1768:C:H2'	1:0:1769:C:H5'	1.87	0.57
1:0:2667:G:H1'	1:0:2914:A:N3	2.20	0.57
21:T:47:THR:HB	21:T:100:ASP:HB3	1.86	0.57
26:Y:99:ALA:HB2	26:Y:233:TYR:CE2	2.40	0.57
1:0:1666:C:C2'	1:0:1667:A:C5'	2.83	0.57
1:0:1681:G:H5''	1:0:1682:A:H5'	1.86	0.57
1:0:2756:U:N3	1:0:2896:A:H2	2.02	0.57
8:F:39:SER:HB3	8:F:45:ALA:HB2	1.86	0.57
1:0:1010:C:H4'	15:N:4:PRO:HB2	1.86	0.57
1:0:1377:C:H5'	1:0:1377:C:C6	2.40	0.57
1:0:1586:G:O2'	1:0:1587:U:H5'	2.04	0.57
1:0:1916:C:O2'	1:0:1917:G:H5'	2.04	0.57
1:0:128:A:C8	1:0:128:A:H3'	2.40	0.57
4:B:258:GLY:H	4:B:260:HIS:CE1	2.23	0.57
1:0:354:A:H2'	1:0:355:C:C6	2.40	0.56
1:0:775:G:OP1	28:1:16:HIS:HE1	1.88	0.56
1:0:820:G:H5'	1:0:821:U:H5'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1080:C:O5'	1:0:1080:C:H6	1.88	0.56
1:0:2676:C:H4'	11:J:70:PHE:HE1	1.69	0.56
1:0:2909:G:O2'	1:0:2910:A:H5'	2.05	0.56
6:D:16:PRO:HG3	6:D:157:LEU:HD11	1.86	0.56
26:Y:187:VAL:HB	38:Y:8769:HOH:O	2.04	0.56
1:0:1116:U:O2'	1:0:1118:A:C2	2.48	0.56
1:0:1201:C:H2'	1:0:1202:A:H5'	1.86	0.56
2:9:3045:A:H2'	2:9:3046:C:H6	1.70	0.56
4:B:41:PHE:CD1	4:B:79:MET:HE2	2.39	0.56
17:P:7:LYS:HD3	17:P:21:VAL:CG2	2.35	0.56
1:0:1135:G:H5'	38:0:5924:HOH:O	2.04	0.56
1:0:2768:A:O2'	1:0:2769:C:H5'	2.05	0.56
1:0:2851:G:H2'	1:0:2852:A:H5'	1.86	0.56
38:0:7009:HOH:O	3:A:211:LYS:HG3	2.05	0.56
4:B:168:GLY:HA3	4:B:174:ARG:HB3	1.87	0.56
5:C:47:GLY:HA2	5:C:92:PRO:HB2	1.86	0.56
6:D:25:MET:CE	6:D:41:LEU:HG	2.35	0.56
14:M:164:THR:HG22	14:M:167:GLY:N	2.20	0.56
15:N:49:THR:HB	15:N:58:LEU:HD11	1.85	0.56
21:T:48:VAL:HG11	21:T:96:VAL:CG1	2.35	0.56
1:0:474:C:O2'	5:C:73:LEU:HD21	2.06	0.56
1:0:1181:A:H2'	1:0:1182:C:H5'	1.88	0.56
1:0:1909:A:H2'	1:0:1910:A:C8	2.39	0.56
1:0:1925:G:O2'	1:0:1926:G:H5'	2.06	0.56
1:0:2435:U:H1'	38:0:5427:HOH:O	2.06	0.56
13:L:133:VAL:HA	38:L:8770:HOH:O	2.06	0.56
1:0:832:U:H2'	1:0:833:G:C8	2.41	0.56
1:0:1496:G:H5'	1:0:1572:A:H1'	1.88	0.56
1:0:1768:C:H2'	1:0:1769:C:O4'	2.06	0.56
1:0:2721:U:H4'	12:K:87:ARG:HG3	1.87	0.56
7:E:132:THR:HB	38:E:2227:HOH:O	2.06	0.56
10:H:3:ALA:HA	10:H:58:ARG:NH1	2.21	0.56
18:Q:28:ARG:HG2	38:Q:4350:HOH:O	2.06	0.56
31:I:87:THR:HG22	31:I:88:GLY:H	1.70	0.56
1:0:92:G:H4'	23:V:44:GLY:HA3	1.87	0.56
1:0:1992:U:OP2	12:K:66:ARG:HD2	2.06	0.56
1:0:2324:G:H4'	1:0:2418:G:O2'	2.04	0.56
2:9:3048:C:H4'	15:N:141:ARG:NH2	2.20	0.56
1:0:583:G:H2'	1:0:584:U:C6	2.40	0.56
1:0:2083:A:H3'	38:0:7551:HOH:O	2.05	0.56
1:0:2089:A:O2'	1:0:2090:G:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2717:C:O2'	1:0:2718:C:H5''	2.04	0.56
4:B:88:GLU:HB3	4:B:97:LEU:HG	1.87	0.56
9:G:20:VAL:O	9:G:24:VAL:HG23	2.06	0.56
20:S:57:THR:HG22	20:S:59:ASP:H	1.70	0.56
21:T:48:VAL:HG22	21:T:98:VAL:HA	1.87	0.56
1:0:538:C:OP2	26:Y:134:HIS:HE1	1.88	0.56
1:0:1701:A:H4'	1:0:1702:U:C5'	2.34	0.56
2:9:3045:A:C5	2:9:3046:C:C5	2.94	0.56
11:J:75:PRO:HB3	11:J:132:LEU:HB3	1.87	0.56
22:U:17:THR:HG22	22:U:18:GLY:N	2.21	0.56
29:2:40:ARG:HD2	29:2:47:THR:HG22	1.88	0.56
1:0:793:A:H5''	17:P:83:LYS:HG2	1.88	0.56
1:0:1730:G:C5'	1:0:1731:C:H6	2.19	0.56
1:0:2909:G:H2'	1:0:2910:A:H8	1.70	0.56
1:0:1206:U:C5'	1:0:1206:U:H6	2.14	0.56
1:0:1506:U:H6	1:0:1506:U:H5'	1.70	0.56
7:E:49:ILE:HD11	7:E:69:ILE:HD12	1.88	0.56
14:M:80:GLY:O	14:M:81:ARG:HD3	2.05	0.56
1:0:816:G:H5'	1:0:1598:A:H4'	1.88	0.55
1:0:2064:U:H4'	1:0:2653:A:OP1	2.06	0.55
1:0:2276:U:H2'	1:0:2277:U:C6	2.41	0.55
5:C:233:THR:HG22	5:C:234:VAL:N	2.21	0.55
1:0:1213:C:C2'	1:0:1214:G:H5'	2.37	0.55
3:A:55:VAL:HG12	3:A:67:LEU:HD22	1.88	0.55
12:K:14:LYS:CB	12:K:45:PRO:HG2	2.36	0.55
1:0:1086:A:C6	24:W:11:VAL:HG11	2.41	0.55
1:0:1555:G:H4'	1:0:1630:A:H2	1.71	0.55
1:0:1766:U:O2	1:0:1778:A:H5'	2.07	0.55
1:0:2769:C:H2'	1:0:2770:G:H5'	1.88	0.55
5:C:39:GLN:O	5:C:43:LYS:HD3	2.07	0.55
19:R:39:THR:HG23	19:R:107:GLU:O	2.07	0.55
26:Y:144:ARG:CZ	38:Y:8815:HOH:O	2.54	0.55
1:0:2269:C:H2'	1:0:2270:G:C5'	2.36	0.55
1:0:2421:G:H3'	1:0:2422:U:H5''	1.88	0.55
1:0:2748:G:H5'	38:0:7511:HOH:O	2.07	0.55
1:0:2900:G:H2'	1:0:2901:C:O4'	2.07	0.55
2:9:3095:C:O2'	2:9:3096:C:H5'	2.06	0.55
3:A:65:ARG:O	3:A:66:ARG:HG3	2.07	0.55
1:0:263:U:C2	8:F:59:ILE:CD1	2.89	0.55
1:0:2545:U:OP2	4:B:2:GLN:HG3	2.07	0.55
19:R:96:VAL:HG13	19:R:106:GLY:HA3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:6:CYS:HB2	22:U:32:CYS:HB3	1.87	0.55
29:2:41:HIS:CD2	29:2:43:ARG:H	2.24	0.55
1:0:2718:C:H6	1:0:2718:C:H5'	1.72	0.55
24:W:125:HIS:HE1	38:W:3071:HOH:O	1.89	0.55
1:0:343:C:O2'	1:0:344:C:H5'	2.06	0.55
1:0:625:U:H5''	1:0:1044:C:N4	2.21	0.55
1:0:1730:G:H5''	1:0:1731:C:H6	1.71	0.55
38:0:4358:HOH:O	4:B:225:GLY:HA3	2.05	0.55
4:B:51:VAL:HG22	4:B:330:VAL:HG22	1.89	0.55
1:0:731:U:H2'	1:0:732:C:C6	2.42	0.55
1:0:1829:A:H61	27:Z:18:TYR:HD2	1.54	0.55
27:Z:42:CYS:SG	27:Z:42:CYS:O	2.65	0.55
1:0:241:A:C2	1:0:378:A:H4'	2.41	0.55
2:9:3044:A:O4'	6:D:76:ARG:NE	2.39	0.55
5:C:79:ARG:O	5:C:87:ARG:HG2	2.07	0.55
1:0:1209:C:C2	1:0:1210:G:C8	2.95	0.55
1:0:1329:A:N1	36:0:8713:CL:CL	2.77	0.55
1:0:2670:G:O2'	1:0:2671:U:H5'	2.06	0.55
8:F:61:MET:HB3	14:M:19:GLN:OE1	2.07	0.55
1:0:1479:A:H5''	38:0:3736:HOH:O	2.06	0.54
12:K:55:VAL:HG12	12:K:56:SER:N	2.22	0.54
38:0:4058:HOH:O	4:B:27:ASN:HB2	2.07	0.54
38:0:4617:HOH:O	3:A:6:GLY:HA3	2.06	0.54
1:0:262:A:OP2	8:F:91:VAL:HG11	2.08	0.54
1:0:2897:C:H2'	1:0:2898:G:H8	1.70	0.54
2:9:3076:G:C3'	2:9:3077:A:H5''	2.30	0.54
6:D:146:LYS:NZ	15:N:107:ASN:HD21	2.06	0.54
15:N:86:LEU:HD12	15:N:125:ALA:HB2	1.89	0.54
1:0:951:A:C2'	1:0:952:G:H5'	2.38	0.54
1:0:960:G:N3	1:0:960:G:C2'	2.70	0.54
1:0:1666:C:H2'	1:0:1667:A:C5'	2.37	0.54
1:0:1783:A:O2'	1:0:1784:U:H5'	2.07	0.54
1:0:2488:A:H2	38:0:7254:HOH:O	1.89	0.54
8:F:2:VAL:HG22	8:F:57:GLU:OE1	2.07	0.54
8:F:14:ASP:O	8:F:18:GLU:HG3	2.07	0.54
10:H:171:ALA:HA	38:H:8568:HOH:O	2.07	0.54
13:L:138:GLY:HA3	38:L:8751:HOH:O	2.07	0.54
20:S:57:THR:HG22	20:S:59:ASP:N	2.23	0.54
26:Y:189:ASN:C	26:Y:189:ASN:HD22	2.09	0.54
30:3:73:GLU:HB3	38:3:8757:HOH:O	2.07	0.54
1:0:1315:G:H1'	26:Y:211:ALA:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1733:A:H4'	4:B:212:GLN:HA	1.89	0.54
2:9:3006:C:OP1	15:N:37:ARG:NH1	2.40	0.54
24:W:4:LEU:O	24:W:32:CYS:HA	2.07	0.54
27:Z:56:GLN:HA	27:Z:62:TYR:O	2.07	0.54
1:0:1400:C:H1'	38:0:4132:HOH:O	2.08	0.54
1:0:1878:G:O2'	1:0:1879:U:H6	1.90	0.54
1:0:2878:U:H2'	1:0:2879:A:O4'	2.07	0.54
1:0:1174:A:C6	1:0:1201:C:H4'	2.42	0.54
1:0:1343:C:H2'	1:0:1344:G:O5'	2.07	0.54
2:9:3057:A:C8	6:D:141:VAL:HG21	2.43	0.54
11:J:42:GLU:O	11:J:131:THR:HG23	2.08	0.54
21:T:38:ARG:HG3	21:T:38:ARG:HH11	1.73	0.54
24:W:68:THR:HG23	24:W:69:ARG:HG2	1.90	0.54
1:0:960:G:H4'	38:0:7405:HOH:O	2.07	0.54
5:C:236:THR:HA	38:C:8645:HOH:O	2.07	0.54
14:M:65:VAL:HG21	14:M:105:ALA:HB2	1.89	0.54
1:0:816:G:C6	1:0:817:G:N1	2.76	0.54
1:0:1236:A:H2'	1:0:1237:U:O4'	2.08	0.54
1:0:2001:G:C2'	1:0:2002:C:H5'	2.38	0.54
1:0:2467:A:O2'	1:0:2468:A:H2'	2.08	0.54
1:0:2468:A:H61	30:3:48:ASN:HD21	1.55	0.54
1:0:2587:OMU:H2'	1:0:2589:U:H5''	1.90	0.54
1:0:90:A:H2'	1:0:91:G:O4'	2.07	0.53
1:0:157:G:H4'	14:M:95:LYS:HE2	1.90	0.53
1:0:559:U:H2'	1:0:560:C:O4'	2.08	0.53
1:0:709:G:O2'	16:O:25:VAL:HG12	2.08	0.53
1:0:1873:G:H3'	38:0:5204:HOH:O	2.09	0.53
1:0:2251:G:H2'	1:0:2252:A:H8	1.68	0.53
1:0:2419:U:H5''	1:0:2420:G:H5'	1.89	0.53
1:0:2548:C:OP2	4:B:5:ARG:NH2	2.40	0.53
4:B:36:PRO:HA	4:B:168:GLY:CA	2.37	0.53
4:B:54:VAL:HB	38:B:8812:HOH:O	2.08	0.53
12:K:98:VAL:CG1	12:K:102:GLU:HA	2.37	0.53
24:W:125:HIS:HD2	24:W:127:GLY:H	1.56	0.53
27:Z:41:ASN:CB	27:Z:60:CYS:SG	2.88	0.53
1:0:1016:U:H1'	38:0:3654:HOH:O	2.08	0.53
1:0:1119:G:H8	11:J:52:GLN:HE22	1.56	0.53
1:0:1168:C:H1'	38:0:7388:HOH:O	2.09	0.53
1:0:1521:C:H2'	1:0:1522:A:H8	1.73	0.53
1:0:1921:A:C6	1:0:1922:A:C2	2.95	0.53
1:0:2768:A:H3'	38:0:4423:HOH:O	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:27:ASN:HD22	4:B:27:ASN:H	1.57	0.53
28:1:25:LYS:HG3	29:2:49:GLU:H	1.72	0.53
1:0:2507:G:H2'	1:0:2510:C:H42	1.73	0.53
2:9:3031:C:H2'	2:9:3032:G:O4'	2.07	0.53
3:A:199:HIS:HD2	3:A:201:PHE:H	1.55	0.53
14:M:34:GLU:HB3	14:M:38:GLU:HG3	1.91	0.53
24:W:65:VAL:HG12	24:W:116:LEU:HD13	1.90	0.53
24:W:139:GLY:O	24:W:141:HIS:HD2	1.91	0.53
27:Z:19:GLY:O	27:Z:23:ARG:HG2	2.09	0.53
1:0:155:C:OP2	14:M:188:ARG:HD3	2.08	0.53
1:0:284:C:OP2	1:0:284:C:C6	2.62	0.53
1:0:544:G:H2'	1:0:545:G:C5'	2.38	0.53
1:0:711:G:C2	1:0:718:C:C2	2.97	0.53
1:0:2502:C:H2'	1:0:2503:A:C5'	2.37	0.53
5:C:153:VAL:O	5:C:157:LEU:HG	2.08	0.53
9:G:19:GLU:O	9:G:23:ILE:HG13	2.08	0.53
16:O:88:LYS:HB3	38:O:7061:HOH:O	2.07	0.53
17:P:9:LEU:O	17:P:13:VAL:HG12	2.08	0.53
21:T:101:LEU:HD13	21:T:112:LEU:HD11	1.90	0.53
1:0:407:A:H2'	1:0:408:A:C8	2.43	0.53
1:0:1471:A:H2'	1:0:1472:C:C6	2.43	0.53
1:0:1782:G:O2'	1:0:1783:A:H5'	2.09	0.53
12:K:32:ILE:HD11	12:K:56:SER:HB2	1.91	0.53
16:O:73:ASP:HA	16:O:92:VAL:O	2.08	0.53
1:0:47:G:N3	1:0:114:A:C2	2.77	0.53
1:0:371:U:H2'	1:0:372:A:C8	2.42	0.53
1:0:1641:A:C2'	1:0:1642:A:H5'	2.39	0.53
1:0:2248:C:H2'	1:0:2249:G:C8	2.42	0.53
17:P:134:VAL:O	17:P:137:LEU:HB3	2.09	0.53
1:0:281:U:H2'	1:0:282:C:O4'	2.08	0.53
1:0:602:A:O2'	1:0:605:C:H4'	2.09	0.53
1:0:1505:U:H6	1:0:1505:U:H5'	1.73	0.53
1:0:1603:A:C5'	1:0:1605:G:O4'	2.48	0.53
19:R:33:ARG:NH2	38:R:8729:HOH:O	2.41	0.53
27:Z:39:CYS:SG	27:Z:40:PRO:N	2.82	0.53
29:2:20:ARG:HD3	38:2:5444:HOH:O	2.08	0.53
1:0:2613:G:O2'	1:0:2614:C:H5'	2.09	0.53
1:0:2712:G:H5'	38:0:5215:HOH:O	2.09	0.53
1:0:810:G:H2'	1:0:811:C:C6	2.44	0.53
1:0:2271:G:H5'	38:0:4749:HOH:O	2.09	0.53
3:A:192:VAL:HG12	3:A:207:GLN:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:57:GLU:O	8:F:61:MET:HG3	2.09	0.53
11:J:107:ASN:C	11:J:107:ASN:HD22	2.12	0.53
12:K:87:ARG:NH1	38:K:4066:HOH:O	2.41	0.53
21:T:48:VAL:CG1	21:T:96:VAL:HG13	2.39	0.53
1:0:353:G:H2'	1:0:354:A:C8	2.44	0.53
1:0:451:C:O2'	1:0:452:G:H5'	2.09	0.53
1:0:512:G:O3'	1:0:513:A:H8	1.92	0.53
1:0:746:A:C6	16:O:65:LEU:HD13	2.44	0.53
1:0:1588:G:C6	1:0:1589:G:N1	2.77	0.53
1:0:1759:A:N3	1:0:1818:C:H2'	2.24	0.53
2:9:3034:A:H2'	2:9:3035:C:O4'	2.09	0.53
3:A:94:LEU:HD23	3:A:94:LEU:N	2.24	0.53
13:L:143:THR:HG22	13:L:144:ASP:N	2.24	0.53
1:0:661:G:C4	1:0:686:A:C2	2.97	0.52
1:0:944:G:H21	24:W:44:MET:HE2	1.73	0.52
1:0:1118:A:N6	1:0:1244:U:H3	2.01	0.52
1:0:1279:U:O2	1:0:1279:U:C2'	2.56	0.52
1:0:2045:G:H2'	1:0:2046:G:O4'	2.09	0.52
4:B:305:ASP:O	4:B:306:LYS:HB2	2.10	0.52
15:N:43:VAL:HG13	15:N:118:ILE:HD11	1.91	0.52
1:0:1903:U:O2'	1:0:1904:A:C8	2.61	0.52
1:0:2690:U:O2'	7:E:111:LYS:HE3	2.08	0.52
1:0:2720:C:O2	12:K:87:ARG:NH2	2.41	0.52
4:B:16:ARG:NH1	38:B:8816:HOH:O	2.41	0.52
1:0:567:U:H5''	38:W:5817:HOH:O	2.09	0.52
1:0:1544:U:H2'	1:0:1545:C:H6	1.74	0.52
5:C:5:ILE:HD11	5:C:16:VAL:CG2	2.39	0.52
6:D:22:VAL:HG22	6:D:74:THR:HG22	1.91	0.52
19:R:18:LEU:HB2	19:R:143:VAL:HG13	1.91	0.52
1:0:138:U:OP2	1:0:139:C:H5	1.93	0.52
1:0:299:U:C2	1:0:300:C:C6	2.98	0.52
1:0:1166:A:H2'	1:0:1166:A:N3	2.25	0.52
1:0:1592:G:O2'	1:0:1593:C:O4'	2.28	0.52
1:0:1702:U:H5'	38:O:3423:HOH:O	2.08	0.52
1:0:1730:G:H5'	1:0:1731:C:H5	1.75	0.52
1:0:1916:C:N4	1:0:1917:G:C6	2.77	0.52
1:0:2254:G:O2'	1:0:2255:A:H5'	2.08	0.52
1:0:2421:G:H3'	1:0:2422:U:C5'	2.39	0.52
1:0:2758:G:H2'	1:0:2759:C:C6	2.45	0.52
38:O:4228:HOH:O	19:R:17:MET:HE1	2.08	0.52
6:D:135:VAL:HG22	6:D:136:ARG:H	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:39:ASN:HD21	22:U:44:ARG:HH11	1.55	0.52
1:0:31:C:H2'	38:0:7659:HOH:O	2.09	0.52
1:0:42:C:H1'	38:0:4672:HOH:O	2.10	0.52
1:0:714:U:H3'	38:0:6924:HOH:O	2.10	0.52
1:0:1007:A:H2'	10:H:19:TYR:CZ	2.44	0.52
1:0:2265:U:H2'	1:0:2266:A:C8	2.45	0.52
2:9:3002:U:OP2	2:9:3003:A:H5'	2.10	0.52
3:A:72:GLU:HG3	27:Z:66:GLY:HA2	1.91	0.52
3:A:211:LYS:HB3	3:A:212:PRO:HD2	1.91	0.52
4:B:17:LYS:O	4:B:260:HIS:HD2	1.91	0.52
15:N:114:LYS:O	15:N:118:ILE:HG13	2.09	0.52
25:X:76:ARG:HG3	25:X:76:ARG:NH1	2.18	0.52
1:0:232:A:H4'	38:0:6075:HOH:O	2.10	0.52
1:0:318:C:H5	38:0:3720:HOH:O	1.92	0.52
1:0:1087:G:H4'	1:0:1088:A:OP1	2.10	0.52
1:0:1200:A:H2'	38:0:5753:HOH:O	2.09	0.52
1:0:1252:A:H2'	1:0:1253:C:O4'	2.10	0.52
1:0:1400:C:H2'	1:0:1401:G:H5'	1.90	0.52
1:0:1625:U:C6	1:0:1625:U:C3'	2.93	0.52
1:0:2360:C:H1'	38:0:3525:HOH:O	2.09	0.52
7:E:11:VAL:HG12	7:E:12:ASP:N	2.25	0.52
1:0:558:C:H2'	1:0:559:U:H5''	1.79	0.52
1:0:694:A:H2'	1:0:695:C:H5'	1.91	0.52
1:0:1180:U:H2'	1:0:1181:A:O4'	2.09	0.52
1:0:1562:C:H3'	1:0:1563:G:C8	2.44	0.52
1:0:2667:G:N3	1:0:2827:A:H2	2.07	0.52
2:9:3039:U:HO2'	2:9:3042:C:H5	1.55	0.52
2:9:3044:A:H1'	6:D:76:ARG:NH2	2.24	0.52
10:H:120:ILE:N	10:H:120:ILE:HD12	2.25	0.52
24:W:81:ASP:OD1	24:W:92:ASP:HB2	2.09	0.52
28:1:8:GLN:HE22	28:1:11:LYS:HZ2	1.58	0.52
1:0:332:G:O2'	1:0:333:G:H5'	2.10	0.52
1:0:958:G:O2'	1:0:959:C:H5'	2.10	0.52
1:0:1644:C:C2	1:0:1645:U:C6	2.98	0.52
21:T:61:GLU:HG2	38:T:3851:HOH:O	2.08	0.52
29:2:18:ASN:HD21	29:2:40:ARG:H	1.58	0.52
1:0:11:A:H5'	1:0:12:U:OP2	2.09	0.52
1:0:282:C:O2'	1:0:283:U:C5'	2.53	0.52
1:0:695:C:O2'	1:0:696:C:H5'	2.10	0.52
1:0:1167:G:O2'	1:0:1168:C:H5'	2.09	0.52
1:0:1568:G:O2'	1:0:1569:U:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2064:U:H5'	1:0:2652:U:H4'	1.92	0.52
1:0:2436:U:H5'	30:3:68:LYS:HE2	1.92	0.52
1:0:2699:A:H2'	1:0:2700:G:O4'	2.10	0.52
4:B:320:GLN:HE21	4:B:321:PRO:CD	2.23	0.52
14:M:123:ASP:OD1	14:M:126:GLN:HG2	2.10	0.52
19:R:33:ARG:NH1	38:R:8741:HOH:O	2.39	0.52
1:0:1497:G:H4'	1:0:1627:G:O2'	2.11	0.52
1:0:1666:C:C2'	1:0:1667:A:H5''	2.39	0.52
1:0:1825:U:O2'	1:0:1826:C:H5'	2.10	0.52
1:0:1890:U:H4'	1:0:2010:A:C6	2.45	0.52
1:0:2702:A:H2	38:E:2401:HOH:O	1.92	0.52
38:0:6265:HOH:O	27:Z:49:ARG:HD3	2.10	0.52
3:A:36:ASP:OD2	3:A:85:SER:HB2	2.10	0.52
7:E:8:PRO:HB2	7:E:11:VAL:HG23	1.92	0.52
8:F:58:GLU:CD	14:M:27:ARG:HH22	2.13	0.52
24:W:88:THR:HG22	24:W:89:ASP:N	2.22	0.52
1:0:87:C:H2'	29:2:28:LYS:O	2.10	0.51
1:0:166:A:N7	13:L:25:GLY:HA2	2.25	0.51
1:0:1242:A:C5'	11:J:82:THR:HG23	2.25	0.51
1:0:1644:C:H2'	1:0:1645:U:H6	1.74	0.51
1:0:1940:C:H1'	38:0:7323:HOH:O	2.11	0.51
1:0:2281:C:C2'	1:0:2282:U:H5'	2.39	0.51
1:0:2588:OMG:H3'	1:0:2589:U:H5''	1.92	0.51
1:0:2781:U:H2'	1:0:2782:G:C5'	2.39	0.51
6:D:101:THR:O	6:D:157:LEU:HB3	2.10	0.51
8:F:56:PRO:HG2	14:M:44:THR:HA	1.92	0.51
20:S:50:GLU:HB3	20:S:67:ARG:HH21	1.74	0.51
1:0:64:G:H2'	1:0:65:C:O4'	2.11	0.51
1:0:681:G:N3	1:0:681:G:H5'	2.25	0.51
1:0:1654:U:H2'	3:A:47:HIS:CD2	2.43	0.51
1:0:1847:A:OP1	3:A:175:LYS:HG3	2.11	0.51
1:0:2134:G:C6	1:0:2258:A:C8	2.97	0.51
25:X:30:MET:HE1	25:X:58:ALA:HB3	1.93	0.51
1:0:1477:C:H5'	1:0:1868:G:H5''	1.92	0.51
1:0:1878:G:O2'	1:0:1879:U:P	2.69	0.51
1:0:2064:U:H5'	1:0:2652:U:O3'	2.11	0.51
1:0:2252:A:C2'	1:0:2253:G:H5'	2.40	0.51
1:0:2730:G:O2'	1:0:2731:G:H5'	2.11	0.51
1:0:2781:U:O2'	1:0:2782:G:H5'	2.09	0.51
38:0:7333:HOH:O	3:A:177:HIS:HE1	1.92	0.51
3:A:35:GLY:O	3:A:36:ASP:HB3	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:177:HIS:O	4:B:181:ILE:HG13	2.11	0.51
6:D:154:LYS:H	6:D:154:LYS:HD2	1.76	0.51
7:E:24:GLY:HA3	7:E:76:VAL:HB	1.91	0.51
13:L:125:PHE:CE1	13:L:140:VAL:HG13	2.45	0.51
18:Q:14:LEU:HB3	38:Q:3971:HOH:O	2.09	0.51
30:3:11:CYS:HB2	30:3:20:HIS:CE1	2.44	0.51
1:0:195:C:H2'	1:0:196:G:H5'	1.93	0.51
1:0:1496:G:H1	1:0:1509:C:H42	1.57	0.51
5:C:78:ARG:HH11	5:C:78:ARG:HG3	1.76	0.51
23:V:42:ASN:HB3	38:V:7247:HOH:O	2.10	0.51
1:0:920:C:H5'	1:0:921:G:C4	2.46	0.51
1:0:1218:U:H2'	1:0:1219:U:C6	2.45	0.51
1:0:1289:C:O2'	1:0:1290:G:H5'	2.11	0.51
1:0:1778:A:H2'	1:0:1779:A:H5'	1.92	0.51
1:0:2249:G:C2	1:0:2253:G:C6	2.98	0.51
1:0:2739:A:C4	1:0:2740:G:C8	2.99	0.51
10:H:36:LYS:HA	10:H:84:LYS:NZ	2.25	0.51
1:0:1165:G:O2'	1:0:1174:A:H1'	2.10	0.51
1:0:1819:G:H5'	38:0:4709:HOH:O	2.10	0.51
2:9:3001:U:H4'	2:9:3003:A:OP1	2.11	0.51
4:B:55:ASN:HB3	4:B:63:GLU:HA	1.92	0.51
11:J:19:MET:CE	11:J:132:LEU:HD11	2.41	0.51
11:J:45:VAL:HG11	11:J:121:LEU:HD22	1.91	0.51
1:0:1711:A:O2'	1:0:1712:A:H5'	2.10	0.51
1:0:1916:C:C5	1:0:1917:G:N7	2.79	0.51
1:0:1973:A:H5'	1:0:1973:A:H8	1.76	0.51
1:0:2256:G:C2'	1:0:2257:G:C5'	2.83	0.51
1:0:2312:G:H2'	1:0:2313:C:H5'	1.93	0.51
1:0:2404:G:OP1	18:Q:68:GLY:HA3	2.11	0.51
1:0:2598:U:O2	1:0:2600:A:H8	1.94	0.51
2:9:3039:U:C2'	2:9:3040:C:OP1	2.59	0.51
2:9:3043:G:H5'	38:9:1987:HOH:O	2.09	0.51
3:A:36:ASP:HB2	3:A:83:GLY:CA	2.38	0.51
15:N:115:VAL:HG23	38:N:8754:HOH:O	2.11	0.51
23:V:1:THR:HG23	23:V:2:VAL:HG23	1.92	0.51
1:0:553:G:H2'	1:0:554:G:H5'	1.92	0.51
1:0:702:G:HO2'	1:0:703:G:H5'	1.76	0.51
1:0:1060:C:H6	1:0:1060:C:H5'	1.76	0.51
1:0:1515:A:O2'	1:0:1516:C:H5'	2.11	0.51
1:0:1523:G:H2'	1:0:1524:U:C6	2.45	0.51
1:0:2435:U:OP1	30:3:28:GLY:HA3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2768:A:H5'	38:0:4423:HOH:O	2.11	0.51
5:C:16:VAL:HG12	5:C:17:ASP:N	2.24	0.51
5:C:49:ASP:HB3	5:C:52:ALA:HB2	1.92	0.51
21:T:28:SER:O	21:T:32:ARG:HG3	2.10	0.51
1:0:319:A:H4'	1:0:338:C:C5	2.46	0.51
1:0:396:U:OP2	30:3:38:ARG:HD2	2.09	0.51
1:0:567:U:C5'	38:W:5817:HOH:O	2.59	0.51
1:0:1517:U:C2	1:0:1670:G:N2	2.79	0.51
1:0:1803:C:H2'	1:0:1804:A:C8	2.46	0.51
1:0:1936:C:H2'	1:0:1937:U:H6	1.75	0.51
1:0:2002:C:H2'	1:0:2003:U:H5'	1.92	0.51
1:0:2010:A:C2'	38:0:5952:HOH:O	2.58	0.51
1:0:2883:A:H2'	1:0:2884:G:O4'	2.11	0.51
2:9:3074:G:H1	2:9:3107:C:H42	1.57	0.51
3:A:57:ALA:HA	3:A:67:LEU:HD23	1.93	0.51
6:D:41:LEU:HA	6:D:44:ILE:HG22	1.93	0.51
11:J:74:ARG:NH1	11:J:144:THR:HG21	2.26	0.51
13:L:145:LEU:O	13:L:148:GLU:HG3	2.11	0.51
14:M:60:VAL:C	14:M:61:ILE:HD12	2.32	0.51
23:V:56:ILE:O	23:V:60:GLN:HG3	2.11	0.51
1:0:417:G:P	38:0:7393:HOH:O	2.68	0.51
1:0:571:C:O5'	1:0:571:C:H6	1.94	0.51
1:0:1306:U:OP1	5:C:184:ARG:HD2	2.11	0.51
1:0:2629:C:N4	3:A:206:ARG:HH21	2.09	0.51
22:U:46:ALA:HA	38:U:3805:HOH:O	2.10	0.51
26:Y:216:ARG:HD2	38:Y:8768:HOH:O	2.10	0.51
31:I:125:ALA:O	31:I:129:VAL:HG23	2.11	0.51
1:0:696:C:O2'	1:0:697:G:H5'	2.11	0.50
1:0:1181:A:H2'	1:0:1182:C:C5'	2.41	0.50
1:0:1972:U:H2'	1:0:1973:A:C5'	2.41	0.50
1:0:2054:A:C2	19:R:128:ARG:NH2	2.79	0.50
1:0:2509:A:H2'	1:0:2510:C:O4'	2.11	0.50
1:0:2769:C:H2'	1:0:2770:G:O4'	2.11	0.50
2:9:3049:G:H2'	2:9:3050:G:O4'	2.11	0.50
6:D:18:ILE:HD13	6:D:84:LEU:HD12	1.93	0.50
6:D:135:VAL:HG21	6:D:139:TYR:CD1	2.47	0.50
14:M:115:LEU:HD13	14:M:116:ASN:HB2	1.92	0.50
17:P:20:ARG:NH1	17:P:54:LYS:HD3	2.25	0.50
25:X:30:MET:HE1	25:X:55:ASN:HA	1.93	0.50
27:Z:60:CYS:SG	27:Z:62:TYR:HB2	2.51	0.50
1:0:2039:A:H4'	1:0:2760:C:O2'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2392:C:H4'	38:Q:2875:HOH:O	2.10	0.50
24:W:130:HIS:O	24:W:136:GLY:HA3	2.11	0.50
1:0:1119:G:H8	11:J:52:GLN:NE2	2.08	0.50
38:0:9690:HOH:O	4:B:254:GLN:HG3	2.10	0.50
2:9:3002:U:OP2	2:9:3002:U:H4'	2.11	0.50
6:D:88:LEU:HB2	6:D:89:PRO:HD3	1.92	0.50
8:F:50:VAL:HG21	8:F:63:ILE:HG21	1.93	0.50
24:W:4:LEU:HD22	24:W:52:VAL:CG2	2.41	0.50
24:W:4:LEU:CD2	24:W:54:PHE:HB3	2.39	0.50
30:3:62:THR:HB	38:3:8747:HOH:O	2.10	0.50
1:0:500:G:H21	19:R:98:ASN:HD21	1.59	0.50
1:0:821:U:H2'	1:0:822:C:C6	2.47	0.50
1:0:1503:U:H2'	1:0:1504:A:O4'	2.11	0.50
1:0:1765:G:H1'	1:0:1780:G:N2	2.27	0.50
1:0:2681:A:H4'	1:0:2682:C:C5'	2.40	0.50
1:0:2786:G:H2'	38:0:7166:HOH:O	2.11	0.50
2:9:3028:U:H3'	2:9:3029:C:C6	2.46	0.50
8:F:38:LYS:HZ1	14:M:3:SER:HA	1.76	0.50
12:K:132:VAL:HG11	22:U:22:VAL:HG22	1.93	0.50
38:K:7438:HOH:O	22:U:20:MET:HE1	2.10	0.50
15:N:71:TRP:CE3	15:N:175:LEU:HD22	2.46	0.50
1:0:290:C:O2'	1:0:291:C:H5'	2.12	0.50
1:0:858:U:H2'	1:0:859:C:H6	1.76	0.50
1:0:1209:C:H2'	1:0:1210:G:H8	1.76	0.50
2:9:3012:C:H5'	2:9:3070:U:O4'	2.11	0.50
4:B:43:GLY:HA3	4:B:76:THR:HG22	1.93	0.50
5:C:46:TYR:CE2	5:C:98:ARG:NH1	2.80	0.50
14:M:30:GLU:O	14:M:34:GLU:HG3	2.11	0.50
15:N:72:GLU:HB3	15:N:163:PHE:CE1	2.47	0.50
1:0:661:G:C6	1:0:686:A:C2	2.99	0.50
1:0:2065:C:O2'	1:0:2066:C:H5'	2.12	0.50
1:0:2505:G:C2'	1:0:2506:A:H5'	2.42	0.50
1:0:2326:U:H4'	1:0:2412:G:H4'	1.93	0.50
2:9:3036:C:C5	2:9:3037:C:C5	3.00	0.50
4:B:132:HIS:HB2	4:B:137:LEU:HD22	1.94	0.50
5:C:5:ILE:HG12	38:C:8627:HOH:O	2.11	0.50
5:C:118:THR:O	5:C:136:VAL:HG13	2.11	0.50
9:G:12:ILE:N	9:G:13:PRO:HD3	2.26	0.50
11:J:107:ASN:HD22	11:J:109:TYR:H	1.59	0.50
23:V:4:HIS:HB3	38:V:6622:HOH:O	2.12	0.50
24:W:139:GLY:O	24:W:141:HIS:CD2	2.65	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:X:43:VAL:HG12	25:X:44:ASP:N	2.26	0.50
1:0:299:U:H2'	1:0:300:C:H6	1.76	0.50
1:0:346:U:H4'	38:0:6822:HOH:O	2.12	0.50
1:0:581:G:O2'	1:0:582:C:H5'	2.12	0.50
1:0:657:G:H2'	1:0:658:C:C6	2.46	0.50
1:0:877:G:C5'	1:0:878:G:OP1	2.56	0.50
1:0:1882:C:O2'	1:0:2012:U:OP2	2.30	0.50
1:0:2452:G:H1'	38:0:5984:HOH:O	2.12	0.50
4:B:71:VAL:HG11	4:B:296:LEU:HD22	1.93	0.50
10:H:167:PRO:O	10:H:168:ALA:HB2	2.12	0.50
1:0:1535:G:H2'	1:0:1536:C:C6	2.47	0.50
1:0:1687:C:O2	28:1:9:GLY:HA2	2.12	0.50
1:0:1811:A:C2	1:0:2752:C:H1'	2.47	0.50
1:0:1972:U:H2'	1:0:1973:A:H5'	1.94	0.50
5:C:168:ARG:NH2	5:C:190:ALA:O	2.45	0.50
1:0:105:G:O2'	1:0:106:A:H5'	2.12	0.49
1:0:1494:A:C4	1:0:1495:C:C5	3.00	0.49
1:0:2264:A:H2'	1:0:2265:U:C6	2.47	0.49
38:0:9072:HOH:O	4:B:214:PRO:HD2	2.11	0.49
11:J:52:GLN:HG3	11:J:53:ILE:N	2.27	0.49
16:O:39:THR:O	16:O:115:ARG:NH2	2.45	0.49
24:W:88:THR:HG23	24:W:110:GLN:HB3	1.93	0.49
28:1:10:LYS:HG3	38:1:2979:HOH:O	2.11	0.49
1:0:35:U:H5'	5:C:47:GLY:O	2.12	0.49
1:0:1185:U:O2'	1:0:1186:C:H5'	2.12	0.49
1:0:1942:A:O2'	1:0:1943:C:H5'	2.12	0.49
1:0:2896:A:N3	1:0:2896:A:H2'	2.28	0.49
4:B:314:ALA:HB3	4:B:317:PRO:HG3	1.93	0.49
7:E:101:GLU:HB3	7:E:117:THR:HA	1.94	0.49
26:Y:212:ARG:HD2	38:Y:8803:HOH:O	2.12	0.49
1:0:255:A:H2'	1:0:256:C:O4'	2.11	0.49
1:0:553:G:O4'	1:0:1325:G:H5'	2.12	0.49
1:0:699:C:C2	1:0:744:G:C2	3.00	0.49
1:0:1181:A:C2'	1:0:1182:C:H5'	2.42	0.49
1:0:1201:C:H5''	38:0:6139:HOH:O	2.12	0.49
1:0:1268:C:O2'	1:0:1269:G:H5'	2.12	0.49
1:0:1396:C:H1'	17:P:1:THR:O	2.12	0.49
1:0:1930:A:H2'	1:0:1931:A:C8	2.47	0.49
1:0:2241:C:O2'	1:0:2242:U:H5'	2.13	0.49
1:0:2533:C:C6	1:0:2533:C:C5'	2.90	0.49
2:9:3003:A:OP2	2:9:3025:G:N2	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:115:ARG:HG3	12:K:116:GLU:N	2.26	0.49
20:S:56:ASN:O	29:2:8:LYS:HE2	2.12	0.49
24:W:4:LEU:HD22	24:W:52:VAL:HG21	1.92	0.49
26:Y:200:THR:HG22	26:Y:201:GLU:HG3	1.95	0.49
1:0:121:U:OP2	29:2:10:ARG:NH2	2.43	0.49
1:0:583:G:H2'	1:0:584:U:H6	1.75	0.49
1:0:1432:U:H5'	38:0:9190:HOH:O	2.12	0.49
1:0:1903:U:O2'	1:0:1904:A:N7	2.45	0.49
1:0:2766:A:O2'	1:0:2767:C:H5'	2.13	0.49
2:9:3045:A:C4	2:9:3046:C:C6	2.99	0.49
5:C:140:VAL:HB	38:C:8645:HOH:O	2.11	0.49
7:E:80:TRP:O	7:E:134:SER:HA	2.12	0.49
1:0:39:G:C2	1:0:444:C:N3	2.80	0.49
1:0:113:A:OP2	1:0:114:A:H2'	2.12	0.49
1:0:876:A:H2'	1:0:876:A:N3	2.27	0.49
1:0:1183:C:N4	1:0:1184:C:N4	2.56	0.49
1:0:1626:A:H2'	1:0:1627:G:H5'	1.94	0.49
1:0:1664:A:H8	1:0:1664:A:OP1	1.95	0.49
1:0:2326:U:H4'	1:0:2412:G:C4'	2.43	0.49
3:A:68:ILE:HG13	38:A:8782:HOH:O	2.12	0.49
3:A:94:LEU:HG	3:A:99:ILE:HD11	1.94	0.49
12:K:29:LEU:HB3	12:K:55:VAL:CG1	2.35	0.49
27:Z:46:ARG:O	27:Z:57:CYS:HA	2.13	0.49
1:0:88:G:H8	1:0:88:G:H5'	1.77	0.49
1:0:1874:U:OP1	3:A:51:ARG:HD2	2.13	0.49
5:C:78:ARG:HG3	5:C:78:ARG:NH1	2.28	0.49
25:X:10:VAL:HG11	25:X:36:HIS:HE1	1.76	0.49
31:I:123:ASN:HA	31:I:126:LYS:HD2	1.94	0.49
1:0:832:U:H2'	1:0:833:G:H8	1.76	0.49
1:0:1400:C:O2'	1:0:1401:G:H5'	2.12	0.49
1:0:1771:U:O2	27:Z:19:GLY:HA2	2.12	0.49
1:0:1845:A:OP2	3:A:190:ARG:NH1	2.45	0.49
1:0:2436:U:C5'	30:3:68:LYS:HE2	2.42	0.49
19:R:18:LEU:HG	19:R:91:LEU:HD13	1.94	0.49
1:0:275:G:N2	1:0:376:C:C2	2.81	0.49
1:0:275:G:C2	1:0:376:C:N3	2.80	0.49
4:B:125:GLU:O	4:B:129:ARG:HG3	2.13	0.49
1:0:431:G:O2'	1:0:432:G:H5'	2.13	0.49
1:0:920:C:H5''	1:0:921:G:O5'	2.13	0.49
1:0:2826:G:C6	1:0:2913:A:N6	2.81	0.49
3:A:192:VAL:HB	38:A:8790:HOH:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:254:GLN:HG2	4:B:255:GLY:N	2.27	0.49
20:S:57:THR:C	20:S:59:ASP:H	2.16	0.49
1:0:222:A:H2'	1:0:223:G:O4'	2.12	0.49
1:0:256:C:H2'	1:0:257:G:O4'	2.13	0.49
1:0:475:G:H5'	5:C:73:LEU:CD2	2.42	0.49
1:0:506:G:N2	1:0:509:A:H5'	2.24	0.49
1:0:660:A:H4'	1:0:661:G:O5'	2.13	0.49
1:0:1186:C:N4	1:0:1187:U:C4	2.80	0.49
1:0:1881:A:OP1	3:A:199:HIS:HE1	1.95	0.49
1:0:2314:G:C2'	1:0:2315:C:H5'	2.43	0.49
1:0:119:A:H2'	1:0:120:A:H5''	1.95	0.48
1:0:302:A:O2'	1:0:303:C:H5'	2.12	0.48
1:0:834:G:H4'	1:0:835:U:OP2	2.13	0.48
1:0:2346:C:H6	1:0:2346:C:O5'	1.96	0.48
1:0:462:A:C8	29:2:37:HIS:CE1	3.01	0.48
1:0:1185:U:H2'	1:0:1186:C:C6	2.48	0.48
1:0:1380:U:H5'	38:0:9209:HOH:O	2.13	0.48
1:0:1925:G:H5'	30:3:29:ARG:HH12	1.78	0.48
1:0:2071:C:H5'	38:0:9520:HOH:O	2.13	0.48
1:0:2578:G:H5'	1:0:2578:G:C8	2.45	0.48
38:9:3472:HOH:O	15:N:41:LYS:HD3	2.14	0.48
3:A:109:GLU:HG2	3:A:116:GLY:N	2.28	0.48
3:A:217:ARG:HH11	3:A:217:ARG:CG	2.25	0.48
6:D:25:MET:HE1	6:D:40:ILE:HG13	1.95	0.48
17:P:115:SER:OG	17:P:118:GLN:HG3	2.13	0.48
1:0:152:A:H2'	1:0:153:C:C6	2.48	0.48
1:0:922:A:N7	1:0:2281:C:H5'	2.28	0.48
1:0:1188:A:C6	1:0:1189:A:C6	3.01	0.48
1:0:1829:A:H5''	38:0:3074:HOH:O	2.13	0.48
1:0:2824:C:C5'	1:0:2825:C:H5'	2.37	0.48
4:B:79:MET:CE	4:B:144:THR:HG21	2.43	0.48
7:E:149:GLU:HG3	7:E:167:TYR:HA	1.94	0.48
8:F:107:ASP:O	8:F:111:ILE:HG13	2.13	0.48
11:J:75:PRO:HG2	11:J:105:LEU:CD2	2.42	0.48
14:M:49:ALA:C	14:M:54:TYR:HB3	2.33	0.48
15:N:154:LEU:O	15:N:155:GLU:HB3	2.13	0.48
21:T:25:ALA:CB	21:T:96:VAL:HG12	2.43	0.48
29:2:22:PRO:HG2	29:2:25:VAL:HG23	1.95	0.48
1:0:485:A:N3	1:0:487:G:H5''	2.29	0.48
1:0:491:C:O2'	1:0:492:C:H5'	2.13	0.48
1:0:790:A:H1'	1:0:1710:A:H2'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1184:C:O2'	1:0:1185:U:OP2	2.28	0.48
1:0:1753:C:H4'	38:0:5991:HOH:O	2.13	0.48
1:0:1819:G:H2'	1:0:1820:G:C5'	2.43	0.48
1:0:2493:C:O2	1:0:2493:C:H2'	2.12	0.48
3:A:37:VAL:HG22	38:A:8792:HOH:O	2.14	0.48
4:B:85:ARG:NH1	38:B:8833:HOH:O	2.46	0.48
7:E:154:ILE:HD11	7:E:157:LYS:HB2	1.95	0.48
11:J:38:VAL:HB	11:J:103:VAL:HG22	1.95	0.48
24:W:88:THR:HG23	24:W:110:GLN:NE2	2.29	0.48
1:0:522:U:O2'	1:0:1366:C:H5'	2.14	0.48
1:0:1311:G:C2	1:0:1312:G:C8	3.01	0.48
1:0:1477:C:O2'	1:0:1478:U:H5'	2.14	0.48
1:0:1537:C:O2'	1:0:1538:C:H5'	2.13	0.48
1:0:2791:U:H1'	1:0:2792:A:H5''	1.94	0.48
1:0:2880:A:C2'	1:0:2881:C:H5'	2.43	0.48
2:9:3041:C:H4'	6:D:48:MET:HB2	1.96	0.48
2:9:3058:G:H3'	2:9:3059:C:C6	2.47	0.48
10:H:3:ALA:HA	10:H:58:ARG:HH12	1.78	0.48
10:H:77:LEU:HD12	10:H:83:TYR:CD2	2.49	0.48
26:Y:99:ALA:HB2	26:Y:233:TYR:CZ	2.48	0.48
30:3:17:HIS:O	30:3:18:GLN:HG3	2.13	0.48
1:0:95:A:H5''	1:0:97:G:O4'	2.13	0.48
1:0:316:A:H5'	21:T:54:ASP:OD2	2.13	0.48
1:0:677:C:C2'	1:0:678:G:H5'	2.44	0.48
1:0:858:U:H2'	1:0:859:C:C6	2.48	0.48
1:0:1936:C:H2'	1:0:1937:U:C6	2.48	0.48
1:0:2504:A:H4'	10:H:71:ARG:NH1	2.28	0.48
1:0:2729:C:H2'	1:0:2730:G:C8	2.47	0.48
3:A:99:ILE:O	3:A:131:HIS:HE1	1.97	0.48
4:B:79:MET:HE1	38:B:8825:HOH:O	2.14	0.48
4:B:315:VAL:HG23	4:B:316:ARG:HG2	1.95	0.48
5:C:115:LEU:HD21	5:C:243:VAL:HG13	1.94	0.48
24:W:38:THR:HG22	24:W:39:ASP:N	2.28	0.48
27:Z:42:CYS:SG	27:Z:59:TYR:CD2	2.92	0.48
27:Z:49:ARG:HH21	27:Z:52:THR:HA	1.78	0.48
1:0:69:A:H2'	1:0:70:A:OP2	2.13	0.48
1:0:78:G:C6	1:0:79:G:C6	3.02	0.48
1:0:297:U:H2'	1:0:298:C:C6	2.48	0.48
1:0:710:G:O2'	1:0:711:G:H5'	2.13	0.48
1:0:1545:C:H2'	1:0:1546:G:O4'	2.13	0.48
1:0:1574:C:O5'	1:0:1574:C:H6	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1878:G:H5''	38:0:5160:HOH:O	2.12	0.48
1:0:2780:C:H1'	7:E:143:GLN:HE21	1.79	0.48
1:0:2825:C:H4'	1:0:2826:G:O5'	2.13	0.48
4:B:148:PRO:HD2	38:B:8777:HOH:O	2.14	0.48
15:N:61:ALA:HB3	15:N:88:ALA:HB2	1.96	0.48
25:X:37:LEU:CD1	25:X:85:VAL:HG21	2.34	0.48
1:0:1333:U:H2'	1:0:1334:C:C6	2.49	0.48
1:0:1596:U:H2'	1:0:1598:A:OP2	2.14	0.48
1:0:1682:A:H5''	38:0:9448:HOH:O	2.12	0.48
21:T:41:ARG:HG2	21:T:41:ARG:HH11	1.78	0.48
24:W:38:THR:HG22	24:W:39:ASP:H	1.79	0.48
28:1:28:HIS:HD2	28:1:30:LYS:H	1.61	0.48
1:0:39:G:C2	1:0:444:C:C2	3.02	0.48
1:0:306:A:P	21:T:38:ARG:HH21	2.37	0.48
1:0:319:A:H4'	1:0:338:C:C4	2.49	0.48
1:0:621:C:H5'	26:Y:132:ASP:OD2	2.14	0.48
1:0:1672:G:H8	38:0:3113:HOH:O	1.95	0.48
1:0:2281:C:H2'	1:0:2282:U:H5'	1.96	0.48
11:J:19:MET:HE3	11:J:132:LEU:HD11	1.95	0.48
30:3:69:TYR:CZ	30:3:80:ARG:HD2	2.49	0.48
31:I:100:LEU:HD23	31:I:104:GLN:OE1	2.14	0.48
1:0:152:A:O2'	1:0:153:C:H5'	2.14	0.48
1:0:228:C:H2'	1:0:229:G:H5'	1.96	0.48
1:0:317:A:OP1	21:T:52:ARG:O	2.31	0.48
1:0:407:A:H3'	38:0:4457:HOH:O	2.13	0.48
1:0:1189:A:H1'	1:0:1209:C:H1'	1.96	0.48
1:0:1636:G:C2'	1:0:1637:A:H5'	2.43	0.48
1:0:1789:G:H2'	1:0:1790:C:O5'	2.14	0.48
1:0:1886:A:H61	1:0:2016:U:H3	1.60	0.48
38:0:4610:HOH:O	16:O:35:LYS:HD3	2.14	0.48
38:0:7653:HOH:O	14:M:78:LYS:HD3	2.13	0.48
4:B:162:MET:HE3	4:B:308:LEU:HD21	1.95	0.48
6:D:135:VAL:HG22	6:D:136:ARG:N	2.28	0.48
1:0:128:A:C8	1:0:128:A:C3'	2.96	0.47
1:0:307:G:H3'	1:0:342:C:OP2	2.13	0.47
1:0:441:A:H1'	1:0:442:A:N7	2.29	0.47
1:0:559:U:C2'	1:0:560:C:H5'	2.44	0.47
1:0:853:C:H2'	1:0:854:G:O4'	2.14	0.47
1:0:951:A:O2'	1:0:952:G:H5'	2.14	0.47
1:0:961:A:C6	1:0:1010:C:C5	3.01	0.47
1:0:968:G:O2'	1:0:969:G:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1118:A:C8	1:0:1119:G:H5''	2.48	0.47
1:0:1244:U:H5	38:J:8744:HOH:O	1.96	0.47
1:0:1477:C:C5'	1:0:1868:G:H5''	2.44	0.47
1:0:1669:A:H2	38:0:3699:HOH:O	1.97	0.47
38:0:7398:HOH:O	21:T:9:LYS:HB2	2.14	0.47
8:F:21:GLU:O	8:F:24:ARG:HG2	2.14	0.47
8:F:111:ILE:O	8:F:115:VAL:HG23	2.14	0.47
1:0:283:U:H5	1:0:284:C:N4	2.11	0.47
1:0:392:U:H4'	14:M:193:LYS:HB3	1.95	0.47
1:0:1183:C:H42	1:0:1184:C:H41	1.56	0.47
1:0:1565:C:O4'	1:0:2738:G:H1'	2.14	0.47
1:0:1588:G:C6	1:0:1589:G:C6	3.03	0.47
1:0:1909:A:N1	1:0:2128:G:H1'	2.29	0.47
1:0:2238:A:H3'	38:0:6652:HOH:O	2.14	0.47
1:0:2795:C:O2'	1:0:2796:U:H5'	2.14	0.47
2:9:3028:U:H3'	2:9:3029:C:H6	1.78	0.47
17:P:115:SER:O	17:P:117:SER:N	2.45	0.47
1:0:559:U:H5'	1:0:559:U:C6	2.40	0.47
1:0:569:A:H5''	1:0:587:A:N1	2.29	0.47
1:0:807:A:H2'	1:0:808:A:O4'	2.15	0.47
1:0:1641:A:H2'	1:0:1642:A:C5'	2.45	0.47
1:0:1850:U:H2'	1:0:1851:G:H8	1.78	0.47
2:9:3029:C:C2'	2:9:3030:C:H5'	2.44	0.47
13:L:73:VAL:HG11	13:L:118:LEU:HD21	1.97	0.47
17:P:94:TRP:CZ2	17:P:98:ILE:HG13	2.49	0.47
23:V:39:ALA:N	23:V:40:PRO:CD	2.77	0.47
28:1:22:CYS:SG	28:1:24:GLU:HB2	2.55	0.47
1:0:307:G:C5	1:0:324:G:C2	3.03	0.47
1:0:696:C:HO2'	1:0:697:G:H5'	1.78	0.47
1:0:734:U:O2'	1:0:737:A:N6	2.47	0.47
1:0:1182:C:H1'	1:0:1192:A:H8	1.80	0.47
1:0:1419:U:H2'	1:0:1685:A:C2	2.48	0.47
1:0:1594:C:O2'	1:0:1607:A:H4'	2.15	0.47
2:9:3053:G:O2'	2:9:3054:A:H5'	2.15	0.47
3:A:94:LEU:HG	3:A:99:ILE:CD1	2.44	0.47
3:A:105:VAL:CG1	3:A:154:ALA:HB1	2.44	0.47
4:B:5:ARG:HD2	4:B:8:LYS:NZ	2.29	0.47
4:B:205:VAL:O	4:B:307:ARG:NE	2.46	0.47
8:F:99:THR:HA	38:F:3461:HOH:O	2.15	0.47
24:W:119:HIS:HD2	24:W:120:PRO:O	1.97	0.47
27:Z:42:CYS:C	27:Z:44:GLU:H	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:470:U:O2'	28:1:16:HIS:HD2	1.97	0.47
1:0:475:G:C5'	5:C:73:LEU:HD23	2.44	0.47
1:0:1586:G:C5	1:0:1587:U:C5	3.02	0.47
1:0:1593:C:OP1	17:P:117:SER:HB3	2.14	0.47
1:0:2329:C:O2'	1:0:2330:U:H5'	2.14	0.47
38:0:9546:HOH:O	24:W:119:HIS:HE1	1.97	0.47
13:L:129:ALA:O	13:L:133:VAL:HG23	2.15	0.47
30:3:70:ARG:HA	38:3:8767:HOH:O	2.15	0.47
1:0:236:A:H4'	1:0:237:G:OP1	2.14	0.47
1:0:840:U:H2'	19:R:128:ARG:HH12	1.79	0.47
1:0:1032:A:H2'	1:0:1032:A:N3	2.29	0.47
1:0:1577:U:O2'	1:0:1578:C:H5'	2.14	0.47
1:0:1790:C:H2'	1:0:1791:U:C6	2.48	0.47
4:B:154:VAL:HG12	4:B:156:LYS:HG2	1.96	0.47
23:V:46:ILE:HA	23:V:49:LEU:HD12	1.96	0.47
26:Y:133:HIS:HD2	38:Y:8782:HOH:O	1.97	0.47
1:0:407:A:C2	1:0:408:A:C4	3.03	0.47
1:0:603:A:H1'	1:0:605:C:C2	2.49	0.47
1:0:883:U:O2	1:0:883:U:C2'	2.62	0.47
1:0:894:A:C2	5:C:87:ARG:NH2	2.83	0.47
1:0:1209:C:O2	1:0:1210:G:C8	2.68	0.47
1:0:1512:G:O2'	1:0:1513:C:H5'	2.15	0.47
1:0:1886:A:H4'	38:Z:8606:HOH:O	2.14	0.47
4:B:72:THR:HB	38:B:8804:HOH:O	2.14	0.47
4:B:79:MET:HE3	4:B:144:THR:HG21	1.96	0.47
5:C:25:PRO:HG2	38:C:8524:HOH:O	2.15	0.47
5:C:236:THR:HG21	38:C:8573:HOH:O	2.15	0.47
6:D:138:GLY:N	38:D:7597:HOH:O	2.42	0.47
21:T:24:ARG:HH21	21:T:39:ASN:HD22	1.62	0.47
28:1:21:ARG:HD2	28:1:39:PHE:HB2	1.96	0.47
28:1:25:LYS:HD2	29:2:49:GLU:H	1.80	0.47
31:I:112:LYS:O	31:I:116:LEU:HG	2.15	0.47
1:0:56:G:N3	1:0:70:A:C2	2.82	0.47
1:0:111:C:O2'	1:0:112:G:H5'	2.15	0.47
1:0:282:C:H1'	1:0:368:C:H42	1.70	0.47
1:0:945:U:H2'	1:0:946:C:C6	2.50	0.47
1:0:1053:G:OP1	10:H:12:PRO:HG3	2.15	0.47
1:0:1352:A:N1	5:C:48:SER:HB3	2.30	0.47
1:0:1701:A:H5''	1:0:1702:U:H3'	1.95	0.47
1:0:1925:G:H5''	30:3:29:ARG:HH22	1.80	0.47
3:A:153:ARG:HH11	3:A:153:ARG:CB	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:164:ARG:NE	38:A:8785:HOH:O	2.47	0.47
4:B:41:PHE:HB3	4:B:190:MET:HE3	1.97	0.47
5:C:147:LEU:HA	38:C:8613:HOH:O	2.15	0.47
26:Y:141:THR:HG23	38:Y:8790:HOH:O	2.14	0.47
1:O:146:U:H5	38:O:3305:HOH:O	1.97	0.47
1:O:1217:G:C6	1:O:1218:U:C4	3.03	0.47
1:O:1373:G:H1'	38:O:6128:HOH:O	2.14	0.47
38:O:9208:HOH:O	3:A:11:ARG:HD3	2.15	0.47
15:N:22:GLN:HG2	15:N:26:LEU:HD22	1.97	0.47
28:1:8:GLN:HE22	28:1:11:LYS:NZ	2.12	0.47
13:L:30:ARG:NH2	38:L:8722:HOH:O	2.45	0.47
19:R:111:ILE:HG23	19:R:145:LEU:CD1	2.44	0.47
24:W:137:GLN:NE2	24:W:141:HIS:HE1	2.01	0.47
31:I:87:THR:HG22	31:I:88:GLY:N	2.30	0.47
1:O:263:U:C4	8:F:54:VAL:HG13	2.50	0.46
1:O:330:C:H5	5:C:170:ASP:OD2	1.98	0.46
1:O:886:A:OP2	1:O:2113:G:H5'	2.16	0.46
1:O:1307:A:H2'	1:O:1308:A:C8	2.50	0.46
1:O:1362:U:H5'	38:O:3261:HOH:O	2.14	0.46
1:O:2415:A:H2'	1:O:2416:G:H5'	1.97	0.46
1:O:2885:A:H2'	1:O:2886:C:C6	2.50	0.46
12:K:64:MET:HA	12:K:67:GLN:HE21	1.80	0.46
19:R:132:ARG:CZ	38:R:8780:HOH:O	2.63	0.46
26:Y:189:ASN:HA	26:Y:217:ILE:HD11	1.97	0.46
1:O:46:U:H4'	1:O:47:G:OP2	2.15	0.46
1:O:106:A:H2'	1:O:107:U:O4'	2.16	0.46
1:O:638:C:H2'	1:O:639:A:H8	1.80	0.46
1:O:1014:A:H2'	1:O:1015:C:H5'	1.96	0.46
1:O:1589:G:N2	1:O:1605:G:H1'	2.31	0.46
1:O:1855:G:H4'	1:O:1856:C:O5'	2.15	0.46
1:O:1877:G:C6	1:O:1878:G:C6	3.03	0.46
1:O:2506:A:N6	1:O:2511:A:O2'	2.48	0.46
1:O:2893:C:O2'	1:O:2894:C:H5'	2.14	0.46
2:9:3054:A:H5''	38:D:3359:HOH:O	2.15	0.46
2:9:3114:G:H2'	2:9:3115:C:C6	2.51	0.46
3:A:170:VAL:HG21	27:Z:26:VAL:HG21	1.97	0.46
5:C:233:THR:HG22	5:C:234:VAL:H	1.80	0.46
15:N:34:LEU:HD22	15:N:129:ILE:HD13	1.97	0.46
15:N:141:ARG:HG3	15:N:146:HIS:ND1	2.30	0.46
30:3:69:TYR:CE1	30:3:80:ARG:HD2	2.50	0.46
31:I:99:ASP:OD1	31:I:138:THR:HB	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:69:A:H8	1:0:69:A:C5'	2.22	0.46
1:0:138:U:H5''	1:0:139:C:OP2	2.15	0.46
1:0:278:A:H2'	1:0:279:C:O4'	2.15	0.46
1:0:407:A:H8	38:0:4457:HOH:O	1.99	0.46
1:0:812:A:H2'	1:0:813:C:O4'	2.14	0.46
1:0:819:A:H5''	38:Z:8619:HOH:O	2.16	0.46
1:0:1299:G:N7	13:L:6:ARG:NH1	2.64	0.46
1:0:1527:A:H1'	1:0:1528:A:C8	2.50	0.46
1:0:1753:C:O2	4:B:229:ARG:NH2	2.47	0.46
1:0:1883:U:O2'	1:0:1884:G:H5'	2.15	0.46
1:0:1916:C:H2'	1:0:1917:G:O4'	2.16	0.46
2:9:3013:A:O2'	2:9:3014:G:H5''	2.16	0.46
2:9:3091:C:H2'	2:9:3092:G:O4'	2.16	0.46
3:A:39:ALA:HB3	3:A:61:GLU:OE2	2.16	0.46
3:A:190:ARG:NH2	3:A:207:GLN:OE1	2.48	0.46
4:B:310:ARG:HD2	38:B:8848:HOH:O	2.14	0.46
6:D:54:ALA:HB1	38:D:4069:HOH:O	2.14	0.46
15:N:42:HIS:HB3	15:N:62:HIS:HE1	1.80	0.46
15:N:154:LEU:C	15:N:156:GLU:H	2.18	0.46
17:P:13:VAL:HG11	17:P:40:VAL:CG1	2.46	0.46
18:Q:25:PRO:HA	18:Q:26:PRO:HD3	1.83	0.46
24:W:11:VAL:O	24:W:12:ASN:HB2	2.16	0.46
24:W:125:HIS:CD2	24:W:127:GLY:H	2.34	0.46
1:0:299:U:N3	1:0:300:C:C5	2.83	0.46
1:0:308:U:C4	1:0:342:C:C1'	2.99	0.46
1:0:1218:U:H2'	1:0:1219:U:H6	1.80	0.46
1:0:1850:U:O4'	1:0:1941:A:C2	2.69	0.46
1:0:1916:C:C4	1:0:1917:G:C5	3.03	0.46
3:A:89:ALA:HB3	38:A:8817:HOH:O	2.15	0.46
7:E:68:HIS:O	7:E:72:MET:HG3	2.14	0.46
14:M:159:VAL:HG12	36:M:8718:CL:CL	2.53	0.46
1:0:1130:U:H2'	1:0:1131:G:C4'	2.44	0.46
1:0:1343:C:C2'	1:0:1344:G:O5'	2.63	0.46
1:0:1562:C:N4	38:0:5862:HOH:O	2.48	0.46
1:0:2862:G:H4'	4:B:336:GLN:O	2.16	0.46
11:J:75:PRO:HD3	11:J:136:SER:OG	2.16	0.46
12:K:118:ALA:HA	12:K:125:ALA:HB2	1.98	0.46
13:L:143:THR:HG22	13:L:144:ASP:H	1.81	0.46
14:M:134:ILE:O	14:M:136:PRO:HD3	2.16	0.46
15:N:47:LEU:HD12	15:N:97:VAL:HG11	1.97	0.46
15:N:71:TRP:HE3	15:N:175:LEU:HD22	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:35:VAL:HG23	24:W:41:TYR:CD2	2.51	0.46
1:0:134:U:C2	1:0:145:A:C2	3.04	0.46
1:0:245:C:H2'	1:0:246:G:H5'	1.97	0.46
1:0:396:U:P	30:3:38:ARG:HH11	2.38	0.46
1:0:1119:G:N2	1:0:1246:A:H2	2.08	0.46
1:0:1414:A:H2'	1:0:1415:G:O4'	2.16	0.46
1:0:1902:G:O2'	1:0:1903:U:H5'	2.15	0.46
1:0:2237:G:O2'	1:0:2238:A:C8	2.68	0.46
1:0:2866:U:C5	22:U:50:GLU:HB2	2.50	0.46
10:H:9:ILE:HD12	10:H:54:THR:HG22	1.98	0.46
27:Z:39:CYS:HB2	27:Z:57:CYS:SG	2.53	0.46
1:0:51:G:O2'	1:0:52:A:H5'	2.16	0.46
1:0:1314:U:H5''	1:0:1316:G:O4'	2.16	0.46
1:0:1834:C:H2'	1:0:1840:A:H62	1.81	0.46
1:0:2081:A:H4'	11:J:69:TYR:CE1	2.50	0.46
1:0:2408:A:H2	38:3:8713:HOH:O	1.98	0.46
1:0:2604:A:H5'	38:0:5788:HOH:O	2.15	0.46
2:9:3078:G:H5'	38:9:4932:HOH:O	2.16	0.46
2:9:3081:C:C2'	2:9:3082:U:H5'	2.45	0.46
5:C:19:PRO:HD2	5:C:240:LEU:HD22	1.98	0.46
18:Q:94:GLN:O	18:Q:95:GLU:HB2	2.16	0.46
1:0:372:A:H2'	1:0:373:G:C8	2.51	0.46
1:0:423:A:C4	1:0:424:C:C6	3.04	0.46
1:0:657:G:H2'	1:0:658:C:H6	1.79	0.46
4:B:101:TRP:HB2	4:B:119:HIS:CD2	2.50	0.46
5:C:133:ARG:NH2	38:C:8623:HOH:O	2.49	0.46
7:E:84:MET:HB2	7:E:131:LEU:HB2	1.97	0.46
9:G:67:LEU:O	9:G:71:LEU:HG	2.16	0.46
10:H:2:PRO:HD2	10:H:5:MET:SD	2.56	0.46
17:P:83:LYS:O	17:P:86:ALA:HB3	2.16	0.46
25:X:30:MET:CE	25:X:58:ALA:HB3	2.46	0.46
28:1:25:LYS:HD2	29:2:49:GLU:N	2.30	0.46
1:0:80:A:H3'	21:T:43:ASN:OD1	2.15	0.46
1:0:776:A:OP1	28:1:28:HIS:HE1	1.99	0.46
1:0:1523:G:C6	1:0:1524:U:O4	2.69	0.46
1:0:1634:G:H2'	1:0:1635:U:C6	2.50	0.46
1:0:2246:U:N3	1:0:2256:G:C2	2.84	0.46
1:0:2413:A:N7	15:N:109:PRO:HB3	2.31	0.46
1:0:2478:U:O2'	1:0:2479:A:H5'	2.16	0.46
8:F:13:GLU:OE2	8:F:78:GLU:HG2	2.15	0.46
8:F:46:GLU:O	8:F:73:PRO:HD2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:23:ILE:O	9:G:27:ILE:HG13	2.16	0.46
11:J:107:ASN:ND2	11:J:109:TYR:H	2.14	0.46
15:N:48:VAL:HG12	15:N:49:THR:N	2.30	0.46
17:P:87:ARG:HG2	38:P:181:HOH:O	2.15	0.46
21:T:35:TYR:CG	21:T:112:LEU:HD22	2.51	0.46
21:T:38:ARG:HG3	21:T:38:ARG:NH1	2.31	0.46
21:T:48:VAL:HG13	21:T:97:ARG:O	2.15	0.46
23:V:39:ALA:C	23:V:41:GLU:H	2.19	0.46
1:O:185:G:H4'	1:O:186:A:OP1	2.15	0.46
1:O:303:C:H2'	1:O:304:G:O4'	2.16	0.46
1:O:786:G:OP1	1:O:1489:G:H4'	2.16	0.46
1:O:820:G:C5	3:A:171:LYS:HB2	2.50	0.46
1:O:1004:C:H1'	38:O:4835:HOH:O	2.15	0.46
1:O:1594:C:O2'	1:O:1595:G:H5'	2.16	0.46
1:O:2320:U:OP2	30:3:1:MET:HA	2.15	0.46
1:O:2353:A:H4'	1:O:2354:A:O5'	2.14	0.46
1:O:2361:A:H5''	38:O:9001:HOH:O	2.16	0.46
4:B:119:HIS:O	4:B:121:PRO:HD3	2.15	0.46
8:F:56:PRO:CG	14:M:44:THR:HA	2.46	0.46
8:F:58:GLU:OE1	14:M:27:ARG:NH2	2.46	0.46
1:O:271:C:C2	1:O:273:G:O4'	2.69	0.45
1:O:1197:G:N2	38:O:6222:HOH:O	2.48	0.45
1:O:1484:G:H2'	38:O:9098:HOH:O	2.16	0.45
7:E:15:GLN:HB3	7:E:42:VAL:HG23	1.97	0.45
7:E:20:ILE:HD11	7:E:40:VAL:HG11	1.99	0.45
1:O:861:A:H2'	1:O:862:U:C6	2.51	0.45
1:O:1163:G:N2	38:O:4723:HOH:O	2.50	0.45
1:O:2506:A:O2'	1:O:2507:G:O5'	2.33	0.45
1:O:2716:G:C5'	4:B:206:THR:HG21	2.44	0.45
1:O:2781:U:H1'	7:E:139:GLU:OE2	2.16	0.45
5:C:35:VAL:HG21	5:C:227:GLY:HA2	1.98	0.45
25:X:43:VAL:HG11	25:X:82:GLU:HA	1.98	0.45
28:1:21:ARG:HD2	28:1:37:CYS:SG	2.55	0.45
1:O:737:A:H2'	1:O:738:G:O4'	2.16	0.45
1:O:858:U:C5	38:O:5424:HOH:O	2.56	0.45
1:O:955:A:C2	1:O:1013:A:C4	3.04	0.45
1:O:1160:G:HO2'	1:O:1190:G:H8	1.63	0.45
1:O:1634:G:H2'	1:O:1635:U:H6	1.82	0.45
1:O:1787:C:O2'	1:O:1788:U:H5'	2.16	0.45
10:H:69:ALA:HB2	10:H:153:ALA:HB2	1.99	0.45
16:O:32:ARG:HB2	38:O:4656:HOH:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:98:ILE:HD12	17:P:102:ARG:NE	2.32	0.45
19:R:18:LEU:HD12	19:R:143:VAL:CG1	2.45	0.45
1:0:251:C:O2'	1:0:252:C:H5'	2.15	0.45
1:0:259:G:O2'	1:0:260:C:H5'	2.17	0.45
1:0:284:C:C4'	1:0:285:A:O5'	2.62	0.45
1:0:289:G:O2'	1:0:290:C:H5'	2.16	0.45
1:0:612:U:H2'	1:0:613:C:C6	2.52	0.45
1:0:860:U:H2'	1:0:861:A:C8	2.52	0.45
1:0:1391:G:C2'	1:0:1392:A:H5'	2.46	0.45
1:0:1566:C:O2'	1:0:1567:A:H5'	2.15	0.45
1:0:1568:G:C2'	1:0:1569:U:H5'	2.46	0.45
1:0:1819:G:H2'	1:0:1820:G:C4'	2.43	0.45
1:0:1886:A:N6	1:0:2016:U:H3	2.15	0.45
1:0:1896:G:C6	1:0:1897:U:C4	3.04	0.45
1:0:2002:C:H2'	1:0:2003:U:C5'	2.47	0.45
1:0:2252:A:C6	1:0:2253:G:H1'	2.51	0.45
1:0:2255:A:O2'	1:0:2256:G:H5'	2.17	0.45
1:0:2269:C:O2'	1:0:2270:G:H5'	2.16	0.45
1:0:2506:A:O2'	1:0:2507:G:C8	2.43	0.45
1:0:2638:G:H1'	38:0:4577:HOH:O	2.17	0.45
2:9:3001:U:C4'	2:9:3003:A:OP1	2.64	0.45
10:H:9:ILE:HD12	10:H:54:THR:CG2	2.46	0.45
10:H:9:ILE:HG12	10:H:56:GLN:HG3	1.98	0.45
13:L:10:SER:O	13:L:11:ARG:HB3	2.16	0.45
15:N:110:THR:HB	15:N:113:SER:OG	2.16	0.45
16:O:38:ARG:NH1	38:O:7674:HOH:O	2.46	0.45
24:W:115:THR:HG23	38:W:5420:HOH:O	2.16	0.45
26:Y:144:ARG:NH1	38:Y:8776:HOH:O	2.49	0.45
26:Y:184:GLU:OE2	26:Y:204:ARG:HD2	2.17	0.45
29:2:22:PRO:HG2	29:2:25:VAL:CG2	2.46	0.45
1:0:423:A:C5	1:0:424:C:C5	3.04	0.45
1:0:790:A:H1'	1:0:1710:A:O2'	2.16	0.45
1:0:1168:C:H5''	31:I:88:GLY:H	1.82	0.45
1:0:1202:A:H2'	1:0:1203:G:C5'	2.46	0.45
1:0:1299:G:H5'	38:0:4067:HOH:O	2.15	0.45
1:0:1375:A:C2'	1:0:1376:G:H5'	2.46	0.45
1:0:1730:G:H5'	1:0:1731:C:C6	2.51	0.45
1:0:1842:A:C4	1:0:1979:G:C6	3.04	0.45
1:0:2245:C:H6	1:0:2245:C:O5'	1.99	0.45
1:0:2379:G:H4'	1:0:2380:A:H5''	1.98	0.45
1:0:2656:G:O2'	1:0:2657:G:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2668:G:H2'	1:0:2669:U:C6	2.52	0.45
1:0:2909:G:H2'	1:0:2910:A:C8	2.51	0.45
2:9:3027:C:N3	38:9:3445:HOH:O	2.35	0.45
2:9:3061:C:H2'	2:9:3062:A:C8	2.46	0.45
4:B:16:ARG:HB3	4:B:217:ARG:NH2	2.31	0.45
12:K:113:ILE:HD12	12:K:128:ALA:HB2	1.98	0.45
1:0:187:A:H3'	1:0:188:C:H6	1.82	0.45
1:0:553:G:C2'	1:0:554:G:H5'	2.46	0.45
1:0:1185:U:H2'	1:0:1186:C:H6	1.81	0.45
1:0:1377:C:H6	1:0:1377:C:C5'	2.28	0.45
1:0:1434:A:H2'	1:0:1436:C:C5	2.51	0.45
1:0:1588:G:C5	1:0:1589:G:C6	3.05	0.45
1:0:2630:G:O6	3:A:206:ARG:NH2	2.50	0.45
1:0:2717:C:H5'	4:B:302:PRO:HA	1.98	0.45
1:0:2785:C:H4'	1:0:2786:G:OP2	2.17	0.45
1:0:2872:U:H2'	1:0:2873:C:H6	1.81	0.45
2:9:3034:A:H8	2:9:3034:A:O5'	1.99	0.45
2:9:3081:C:O2'	2:9:3082:U:H5'	2.17	0.45
7:E:5:LEU:HD21	7:E:66:GLN:HG3	1.99	0.45
17:P:131:PHE:CD1	17:P:137:LEU:HD13	2.51	0.45
1:0:539:G:H2'	1:0:540:A:C8	2.51	0.45
1:0:1406:A:H4'	1:0:1407:A:H5''	1.99	0.45
1:0:1450:C:O2'	1:0:1494:A:H5'	2.17	0.45
1:0:1634:G:C6	1:0:1635:U:C4	3.04	0.45
1:0:1667:A:H2'	1:0:1668:U:H6	1.80	0.45
1:0:2382:A:OP1	30:3:80:ARG:HG2	2.16	0.45
1:0:2444:U:C2	1:0:2445:U:C6	3.04	0.45
38:0:9348:HOH:O	28:1:1:THR:HA	2.17	0.45
4:B:55:ASN:HB3	4:B:64:GLY:H	1.81	0.45
7:E:112:ALA:HA	7:E:113:PRO:HD3	1.86	0.45
10:H:76:GLU:C	10:H:77:LEU:HD23	2.37	0.45
21:T:79:LEU:HG	21:T:89:ARG:HB2	1.99	0.45
25:X:72:VAL:HG22	25:X:85:VAL:HG12	1.98	0.45
1:0:204:A:C2'	1:0:205:U:H5'	2.47	0.45
1:0:1058:A:H2'	1:0:1060:C:C5'	2.43	0.45
1:0:1236:A:C8	11:J:63:ILE:HD11	2.52	0.45
1:0:1665:G:H2'	1:0:1666:C:H6	1.82	0.45
1:0:1744:G:C2'	1:0:1745:G:H5'	2.47	0.45
1:0:2248:C:C5	1:0:2249:G:N7	2.84	0.45
1:0:2312:G:C2'	1:0:2313:C:H5'	2.47	0.45
1:0:2498:C:O2'	1:0:2499:U:H5'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2820:A:H2'	1:0:2821:C:C6	2.52	0.45
1:0:2885:A:H2'	1:0:2886:C:H6	1.82	0.45
3:A:199:HIS:CD2	3:A:201:PHE:H	2.33	0.45
11:J:19:MET:HE2	11:J:79:PHE:HA	1.98	0.45
13:L:67:ARG:O	13:L:71:GLU:HG3	2.17	0.45
30:3:18:GLN:OE1	30:3:73:GLU:HB2	2.17	0.45
1:0:229:G:O2'	1:0:230:C:H5'	2.16	0.45
1:0:1490:G:H4'	1:0:1533:A:OP1	2.16	0.45
1:0:1684:A:C1'	29:2:43:ARG:HH22	2.22	0.45
1:0:2362:A:H2'	1:0:2363:G:C8	2.52	0.45
6:D:146:LYS:HG2	15:N:106:LEU:HB2	1.99	0.45
6:D:153:THR:HA	6:D:156:ARG:HG3	1.98	0.45
14:M:46:LEU:HG	38:M:8812:HOH:O	2.17	0.45
1:0:69:A:C2'	1:0:70:A:OP2	2.65	0.45
1:0:185:G:C4'	1:0:186:A:H4'	2.45	0.45
1:0:559:U:C5'	1:0:559:U:H6	2.27	0.45
1:0:2898:G:H4'	4:B:288:GLY:HA2	1.99	0.45
2:9:3001:U:O3'	2:9:3003:A:C5'	2.65	0.45
2:9:3107:C:C5	38:9:3167:HOH:O	2.56	0.45
3:A:105:VAL:HG13	3:A:155:THR:O	2.17	0.45
4:B:145:HIS:HD2	4:B:146:THR:O	2.00	0.45
1:0:249:G:H2'	1:0:250:C:C6	2.53	0.44
1:0:941:G:C5	1:0:942:U:C4	3.05	0.44
1:0:1118:A:H8	1:0:1119:G:H5''	1.81	0.44
1:0:1619:G:H2'	1:0:1620:C:O4'	2.16	0.44
1:0:1679:C:H5'	38:0:9314:HOH:O	2.16	0.44
1:0:1733:A:C6	1:0:1734:C:C2	3.05	0.44
1:0:2002:C:C2'	1:0:2003:U:H5'	2.47	0.44
1:0:2856:A:OP1	25:X:15:ARG:NH2	2.50	0.44
4:B:154:VAL:HA	4:B:155:PRO:HD3	1.84	0.44
7:E:81:GLU:O	7:E:172:PRO:HD3	2.17	0.44
14:M:59:GLY:C	14:M:141:ILE:HD11	2.37	0.44
14:M:139:PRO:HA	14:M:142:GLN:HB2	1.98	0.44
15:N:23:ARG:O	15:N:27:LEU:HG	2.17	0.44
17:P:80:ARG:HG2	17:P:87:ARG:CZ	2.47	0.44
21:T:24:ARG:HH21	21:T:39:ASN:ND2	2.15	0.44
26:Y:189:ASN:ND2	26:Y:192:ASP:H	2.15	0.44
1:0:154:C:H2'	1:0:155:C:H6	1.82	0.44
1:0:697:G:H4'	1:0:730:G:O3'	2.17	0.44
1:0:794:U:H2'	1:0:795:G:H5'	1.99	0.44
1:0:1188:A:C5	1:0:1189:A:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1789:G:C2'	1:0:1790:C:O5'	2.65	0.44
1:0:1882:C:H2'	1:0:1883:U:H6	1.81	0.44
1:0:1902:G:N2	1:0:1936:C:C2	2.85	0.44
1:0:2248:C:C2	1:0:2254:G:C2	3.05	0.44
1:0:2378:U:H3'	30:3:8:ASN:O	2.17	0.44
1:0:2664:A:H8	1:0:2664:A:OP1	2.00	0.44
1:0:2834:G:OP1	25:X:39:LYS:HE2	2.17	0.44
1:0:2890:A:C1'	22:U:56:ARG:NH2	2.76	0.44
4:B:81:ALA:HB1	4:B:142:LEU:HD13	1.98	0.44
5:C:228:ALA:HA	5:C:229:PRO:HD3	1.87	0.44
7:E:6:GLU:HA	7:E:46:THR:HG22	1.99	0.44
8:F:16:ALA:HA	8:F:111:ILE:HD13	1.99	0.44
8:F:52:GLU:HG3	8:F:77:VAL:O	2.18	0.44
15:N:73:ALA:HB1	15:N:74:PRO:CD	2.47	0.44
1:0:306:A:H2'	1:0:341:C:O2'	2.17	0.44
1:0:1202:A:H2'	1:0:1203:G:H5'	1.99	0.44
1:0:1798:C:H1'	17:P:66:GLN:OE1	2.17	0.44
1:0:1851:G:O2'	1:0:1852:A:H5'	2.17	0.44
1:0:2361:A:H2'	1:0:2362:A:C8	2.52	0.44
1:0:2375:G:H2'	1:0:2376:C:C6	2.53	0.44
1:0:2598:U:O2	1:0:2600:A:C8	2.70	0.44
1:0:2724:U:H2'	1:0:2725:G:O4'	2.17	0.44
2:9:3002:U:P	2:9:3003:A:H5'	2.57	0.44
2:9:3018:U:OP2	6:D:154:LYS:HE2	2.17	0.44
5:C:140:VAL:HG12	5:C:141:SER:N	2.31	0.44
8:F:27:GLY:HA3	8:F:101:ALA:O	2.17	0.44
10:H:138:CYS:HB2	38:H:8543:HOH:O	2.17	0.44
16:O:44:ASN:OD1	16:O:65:LEU:HB2	2.16	0.44
24:W:69:ARG:HD2	24:W:117:ARG:O	2.17	0.44
1:0:138:U:C5	1:0:140:G:O6	2.71	0.44
1:0:883:U:O2	1:0:883:U:H2'	2.16	0.44
1:0:1925:G:H5'	30:3:29:ARG:NH1	2.32	0.44
1:0:2255:A:C2'	1:0:2256:G:H5'	2.48	0.44
1:0:2314:G:H2'	1:0:2315:C:H5'	2.00	0.44
1:0:2355:G:H5''	1:0:2356:A:OP2	2.18	0.44
38:O:4225:HOH:O	29:2:38:LYS:HE3	2.17	0.44
3:A:192:VAL:CG1	3:A:207:GLN:HB3	2.47	0.44
26:Y:107:PRO:HB3	26:Y:182:PHE:CE2	2.53	0.44
29:2:35:ARG:HH11	29:2:37:HIS:CD2	2.36	0.44
1:0:255:A:H2'	1:0:256:C:C6	2.52	0.44
1:0:382:U:C5	1:0:406:G:N2	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:818:A:O2'	27:Z:13:ARG:HD3	2.18	0.44
1:0:907:A:H4'	1:0:1328:A:C2	2.53	0.44
1:0:1056:U:H2'	1:0:1057:A:O4'	2.17	0.44
1:0:1165:G:O2'	1:0:1174:A:C1'	2.65	0.44
1:0:1520:G:C6	1:0:1521:C:C4	3.05	0.44
1:0:1537:C:C2	1:0:1649:G:C2	3.06	0.44
1:0:1557:G:C2'	1:0:1558:C:H5'	2.47	0.44
1:0:1768:C:H2'	1:0:1769:C:C5'	2.47	0.44
1:0:2004:U:H2'	1:0:2005:G:OP1	2.18	0.44
1:0:2073:G:C6	1:0:2489:G:H4'	2.52	0.44
1:0:2506:A:H1'	38:0:3742:HOH:O	2.16	0.44
1:0:2853:U:C4	1:0:2906:A:N6	2.86	0.44
38:0:3012:HOH:O	28:1:46:ARG:HA	2.17	0.44
38:0:3230:HOH:O	31:I:92:PRO:HD3	2.17	0.44
38:0:3980:HOH:O	21:T:82:THR:HA	2.17	0.44
7:E:3:VAL:HG22	7:E:49:ILE:HB	1.99	0.44
8:F:34:ASN:HA	14:M:4:ALA:HB2	2.00	0.44
15:N:119:GLN:O	15:N:123:ILE:HG13	2.18	0.44
17:P:59:ARG:HH22	17:P:66:GLN:NE2	2.14	0.44
1:0:216:A:O2'	1:0:217:C:H5'	2.18	0.44
1:0:1894:C:C2	1:0:1939:U:C4	3.05	0.44
1:0:2112:A:H2'	1:0:2113:G:C8	2.52	0.44
1:0:2401:A:H5'	38:0:9485:HOH:O	2.18	0.44
5:C:131:PHE:CD2	5:C:131:PHE:N	2.85	0.44
15:N:179:LEU:HD23	15:N:184:ILE:CD1	2.48	0.44
1:0:21:G:H5''	19:R:2:ILE:HA	1.95	0.44
1:0:151:A:C2	1:0:442:A:C8	3.06	0.44
1:0:731:U:H2'	1:0:732:C:H6	1.82	0.44
1:0:1131:G:C6	1:0:1230:A:C4	3.06	0.44
1:0:1383:U:H5''	38:X:6177:HOH:O	2.18	0.44
1:0:1453:G:H2'	1:0:1454:U:O4'	2.18	0.44
1:0:1805:G:O2'	1:0:1806:G:H5'	2.18	0.44
1:0:2337:G:O3'	6:D:97:GLN:HA	2.17	0.44
4:B:307:ARG:HG3	4:B:307:ARG:NH1	2.29	0.44
6:D:10:PHE:CG	6:D:11:HIS:N	2.86	0.44
10:H:23:ILE:HA	10:H:120:ILE:HG21	1.99	0.44
10:H:162:ARG:HD3	38:H:8582:HOH:O	2.16	0.44
15:N:58:LEU:N	15:N:58:LEU:HD12	2.33	0.44
15:N:163:PHE:HZ	15:N:171:HIS:HD1	1.66	0.44
19:R:18:LEU:HB2	19:R:143:VAL:CG1	2.47	0.44
21:T:9:LYS:HE3	21:T:13:ARG:HH11	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y:144:ARG:HH11	26:Y:144:ARG:CG	2.31	0.44
1:0:241:A:N1	1:0:378:A:H4'	2.33	0.44
1:0:282:C:O2'	1:0:283:U:C4'	2.66	0.44
1:0:678:G:H3'	38:0:4438:HOH:O	2.18	0.44
1:0:1181:A:N1	1:0:1192:A:O2'	2.50	0.44
1:0:1185:U:OP1	31:I:126:LYS:HD3	2.17	0.44
1:0:1446:U:H2'	20:S:55:GLN:NE2	2.33	0.44
1:0:1520:G:N1	1:0:1667:A:C6	2.86	0.44
1:0:1538:C:O2'	1:0:1539:U:H5'	2.18	0.44
1:0:1644:C:N3	1:0:1645:U:C5	2.86	0.44
1:0:1787:C:C4'	1:0:2883:A:O4'	2.65	0.44
1:0:1850:U:H2'	1:0:1851:G:C8	2.52	0.44
1:0:1928:C:C2'	1:0:1929:G:H5'	2.48	0.44
1:0:2092:G:H2'	1:0:2613:G:OP1	2.18	0.44
38:0:5074:HOH:O	4:B:216:LYS:HA	2.17	0.44
4:B:18:ARG:HE	4:B:256:GLN:NE2	2.16	0.44
10:H:46:GLN:NE2	10:H:137:TYR:HE2	2.15	0.44
11:J:45:VAL:HG11	11:J:121:LEU:CD2	2.48	0.44
12:K:20:CYS:HB2	12:K:29:LEU:HG	1.99	0.44
14:M:164:THR:HG23	14:M:165:GLY:N	2.32	0.44
15:N:43:VAL:CG1	15:N:118:ILE:HD11	2.48	0.44
1:0:243:A:H61	1:0:269:G:H1'	1.83	0.44
1:0:958:G:H2'	1:0:959:C:C6	2.53	0.44
1:0:1167:G:H4'	31:I:135:LEU:CD2	2.45	0.44
1:0:1209:C:H2'	1:0:1210:G:C8	2.53	0.44
1:0:1659:A:H2'	1:0:1660:G:O4'	2.18	0.44
1:0:2524:G:H21	1:0:2526:C:H41	1.61	0.44
2:9:3045:A:C8	2:9:3046:C:C5	3.06	0.44
3:A:113:GLY:HA2	3:A:153:ARG:NH2	2.33	0.44
4:B:14:GLY:HA2	4:B:15:PRO:C	2.37	0.44
5:C:34:ALA:HB3	5:C:220:THR:HG21	2.00	0.44
6:D:172:VAL:HG12	6:D:173:GLU:N	2.32	0.44
11:J:93:ARG:HB3	11:J:93:ARG:HH11	1.83	0.44
15:N:37:ARG:NH2	38:N:8731:HOH:O	2.51	0.44
15:N:82:TYR:CD2	15:N:82:TYR:C	2.92	0.44
17:P:103:THR:HA	17:P:106:ARG:NH1	2.33	0.44
21:T:48:VAL:CG1	21:T:49:GLU:N	2.81	0.44
1:0:226:A:H1'	1:0:393:G:C5	2.53	0.43
1:0:288:A:H2'	1:0:289:G:C8	2.52	0.43
1:0:419:A:H1'	1:0:1921:A:C2	2.53	0.43
1:0:629:A:C2	1:0:2074:A:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:700:A:C2	13:L:71:GLU:HG2	2.52	0.43
1:0:968:G:C2	1:0:1001:U:O2	2.71	0.43
1:0:1183:C:H42	1:0:1184:C:N4	2.15	0.43
1:0:1215:A:O3'	1:0:1216:G:C4'	2.66	0.43
1:0:1279:U:H5''	1:0:1280:A:OP2	2.17	0.43
1:0:1450:C:O2'	1:0:1493:A:H2'	2.17	0.43
1:0:1780:G:O2'	1:0:1781:G:H5'	2.17	0.43
1:0:2403:C:H2'	1:0:2404:G:O5'	2.18	0.43
1:0:2672:C:O2'	1:0:2673:U:H5'	2.18	0.43
5:C:214:THR:HG23	38:C:8633:HOH:O	2.17	0.43
14:M:37:VAL:HG21	14:M:108:THR:OG1	2.17	0.43
31:I:113:HIS:N	31:I:114:PRO:HD2	2.33	0.43
1:0:145:A:H4'	14:M:137:ASN:ND2	2.33	0.43
1:0:276:C:H6	1:0:276:C:O5'	2.00	0.43
1:0:764:C:H2'	1:0:765:G:O4'	2.18	0.43
1:0:814:G:N2	1:0:815:U:H1'	2.33	0.43
1:0:1321:A:H2'	1:0:1322:G:C8	2.53	0.43
1:0:1662:C:H2'	1:0:1663:G:O4'	2.17	0.43
1:0:1973:A:H2'	1:0:1974:G:O4'	2.18	0.43
1:0:2249:G:N1	1:0:2253:G:C6	2.86	0.43
1:0:2667:G:N3	1:0:2827:A:C2	2.85	0.43
1:0:2729:C:H1'	1:0:2864:U:O2'	2.18	0.43
3:A:88:ILE:O	3:A:88:ILE:HG22	2.18	0.43
4:B:75:GLU:C	4:B:77:PRO:HD3	2.38	0.43
4:B:162:MET:HG3	4:B:310:ARG:CZ	2.47	0.43
5:C:154:VAL:O	5:C:158:GLU:HG3	2.18	0.43
7:E:40:VAL:HA	7:E:48:VAL:O	2.18	0.43
7:E:101:GLU:HB2	7:E:116:THR:O	2.18	0.43
14:M:28:GLN:O	14:M:32:ARG:HG3	2.18	0.43
19:R:119:VAL:HG12	19:R:119:VAL:O	2.18	0.43
24:W:21:LEU:HD22	24:W:26:ILE:HD13	1.98	0.43
1:0:289:G:N2	1:0:363:A:C2	2.66	0.43
1:0:454:U:C2	38:0:9027:HOH:O	2.56	0.43
1:0:947:U:O2'	1:0:948:G:H5'	2.18	0.43
1:0:1167:G:H3'	38:0:7466:HOH:O	2.18	0.43
1:0:1644:C:O2'	1:0:1645:U:H5'	2.18	0.43
1:0:1878:G:O2'	1:0:1879:U:OP2	2.36	0.43
1:0:2115:U:H2'	1:0:2116:U:C6	2.53	0.43
1:0:2444:U:C4	1:0:2445:U:C5	3.06	0.43
38:0:3751:HOH:O	21:T:9:LYS:HD3	2.17	0.43
8:F:49:PHE:HE1	8:F:98:VAL:HG23	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:18:ILE:HG22	12:K:93:ASN:HB2	1.98	0.43
14:M:67:VAL:HB	14:M:97:ILE:HG23	1.99	0.43
20:S:37:VAL:O	20:S:41:VAL:HG23	2.17	0.43
26:Y:107:PRO:HB3	26:Y:182:PHE:CD2	2.54	0.43
1:0:37:A:C2	1:0:446:G:C2	3.07	0.43
1:0:488:U:O2'	21:T:82:THR:HG21	2.19	0.43
1:0:1592:G:C5	1:0:1593:C:C4	3.07	0.43
1:0:1785:G:H1'	1:0:1812:G:N3	2.33	0.43
1:0:2443:C:H5'	13:L:57:VAL:HG21	1.99	0.43
1:0:2511:A:H2'	1:0:2512:U:O4'	2.19	0.43
1:0:2624:A:O2'	1:0:2625:C:H5'	2.18	0.43
3:A:217:ARG:HH11	3:A:217:ARG:HG3	1.82	0.43
16:O:88:LYS:HD3	38:O:7061:HOH:O	2.17	0.43
18:Q:30:VAL:HG12	18:Q:30:VAL:O	2.18	0.43
23:V:1:THR:HG23	23:V:2:VAL:N	2.32	0.43
1:0:34:C:C4	1:0:35:U:C4	3.07	0.43
1:0:160:A:C4	1:0:177:A:C2	3.06	0.43
1:0:559:U:H2'	1:0:560:C:C5'	2.49	0.43
1:0:1055:G:OP2	10:H:96:ARG:NH1	2.52	0.43
1:0:1520:G:C6	1:0:1521:C:N4	2.87	0.43
1:0:1556:G:O2'	1:0:1557:G:H5'	2.19	0.43
1:0:2028:U:H2'	1:0:2029:C:C6	2.53	0.43
1:0:2105:C:H2'	1:0:2106:C:C6	2.54	0.43
1:0:2455:A:H2'	1:0:2456:A:O4'	2.17	0.43
1:0:2607:U:H4'	38:O:9432:HOH:O	2.17	0.43
1:0:2834:G:C4	1:0:2847:G:N2	2.86	0.43
18:Q:43:ILE:HG13	18:Q:52:PHE:CZ	2.54	0.43
24:W:65:VAL:CG1	24:W:116:LEU:HD13	2.47	0.43
1:0:440:C:H2'	1:0:441:A:C8	2.54	0.43
1:0:510:U:H6	38:O:7411:HOH:O	1.99	0.43
1:0:559:U:O2'	1:0:560:C:H5'	2.18	0.43
1:0:1400:C:H2'	1:0:1401:G:C5'	2.48	0.43
1:0:1513:C:O2'	1:0:1514:C:H5'	2.18	0.43
1:0:1581:A:C5	1:0:1582:C:C5	3.07	0.43
1:0:1644:C:C4	1:0:1645:U:C5	3.06	0.43
1:0:1878:G:C1'	38:O:6112:HOH:O	2.56	0.43
1:0:2761:A:C4	1:0:2763:G:C8	3.06	0.43
1:0:2911:C:O2'	1:0:2912:C:H5'	2.19	0.43
3:A:186:TRP:CG	3:A:187:PRO:HA	2.54	0.43
5:C:129:HIS:CE1	5:C:231:ARG:HA	2.54	0.43
6:D:159:PRO:O	6:D:163:VAL:HG23	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:1:25:LYS:HD2	29:2:48:ASP:HA	1.99	0.43
1:0:195:C:H5''	38:M:8796:HOH:O	2.17	0.43
1:0:372:A:H2'	1:0:373:G:H8	1.83	0.43
1:0:1204:C:H1'	38:0:4743:HOH:O	2.18	0.43
1:0:1215:A:O3'	1:0:1216:G:H4'	2.18	0.43
1:0:1649:G:O2'	1:0:1650:C:H5'	2.19	0.43
1:0:1669:A:H2'	1:0:1670:G:C8	2.54	0.43
1:0:1829:A:H61	27:Z:18:TYR:HA	1.82	0.43
1:0:2072:G:N2	38:0:6848:HOH:O	2.41	0.43
1:0:2090:G:H2'	1:0:2091:G:C8	2.53	0.43
1:0:2897:C:H2'	1:0:2898:G:C8	2.53	0.43
1:0:2912:C:H2'	1:0:2913:A:C8	2.53	0.43
2:9:3039:U:O2'	2:9:3042:C:H5	2.00	0.43
2:9:3065:A:C2'	2:9:3066:G:OP2	2.66	0.43
11:J:90:LYS:HB2	36:J:8702:CL:CL	2.55	0.43
16:O:47:ARG:HH11	16:O:47:ARG:HG3	1.84	0.43
24:W:108:ARG:HG3	24:W:114:PRO:HG3	2.00	0.43
30:3:48:ASN:ND2	30:3:50:GLY:H	2.16	0.43
1:0:69:A:C8	1:0:69:A:C5'	2.97	0.43
1:0:162:C:H2'	1:0:163:U:H5'	2.01	0.43
1:0:301:G:O2'	1:0:302:A:H5'	2.19	0.43
1:0:432:G:H2'	1:0:433:C:H6	1.84	0.43
1:0:1052:G:N3	1:0:1052:G:H2'	2.34	0.43
1:0:1462:C:H2'	1:0:1463:A:H8	1.79	0.43
1:0:1592:G:H2'	1:0:1593:C:C6	2.54	0.43
1:0:2252:A:H2'	1:0:2253:G:C5'	2.48	0.43
1:0:2338:G:H1'	6:D:105:SER:OG	2.19	0.43
1:0:2896:A:OP1	25:X:15:ARG:NH1	2.52	0.43
4:B:79:MET:HE3	4:B:79:MET:HB2	1.90	0.43
4:B:307:ARG:HG2	4:B:308:LEU:N	2.33	0.43
10:H:43:TYR:HA	10:H:44:PRO:HD3	1.77	0.43
15:N:22:GLN:HA	15:N:25:ARG:CZ	2.49	0.43
19:R:106:GLY:HA2	19:R:109:MET:HE3	2.00	0.43
24:W:126:ASP:HB3	24:W:135:GLY:O	2.19	0.43
30:3:22:VAL:HG12	30:3:67:LEU:HD22	2.01	0.43
1:0:20:G:H21	19:R:117:HIS:HD2	1.66	0.43
1:0:527:U:H2'	1:0:528:G:C8	2.54	0.43
1:0:1298:U:H2'	1:0:1299:G:C8	2.54	0.43
1:0:1463:A:H8	1:0:1463:A:O5'	2.01	0.43
1:0:1500:U:P	17:P:41:ARG:HH22	2.42	0.43
1:0:1573:A:H2'	1:0:1574:C:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:O:7425:HOH:O	4:B:211:THR:HG21	2.18	0.43
6:D:86:THR:O	6:D:90:LEU:HG	2.19	0.43
1:O:17:G:H2'	1:O:18:C:C6	2.54	0.43
1:O:298:C:N3	1:O:299:U:C5	2.87	0.43
1:O:311:C:H2'	1:O:312:U:C6	2.54	0.43
1:O:321:A:H1'	38:O:7016:HOH:O	2.19	0.43
1:O:595:U:O2'	1:O:596:C:H5'	2.19	0.43
1:O:932:U:H2'	1:O:933:C:C6	2.54	0.43
1:O:1015:C:H2'	1:O:1016:U:C6	2.54	0.43
1:O:1029:U:O2'	1:O:1273:C:OP1	2.31	0.43
1:O:1285:U:H4'	24:W:74:GLU:OE1	2.19	0.43
1:O:1717:A:H5''	17:P:54:LYS:HB2	2.01	0.43
1:O:1730:G:H5''	1:O:1731:C:C6	2.52	0.43
1:O:2088:C:H1'	1:O:2841:A:N1	2.34	0.43
1:O:2119:C:O2'	1:O:2120:U:H5'	2.19	0.43
1:O:2487:C:H5	38:O:4883:HOH:O	2.01	0.43
2:9:3096:C:O2'	2:9:3097:U:H5'	2.19	0.43
3:A:69:LEU:HB3	38:A:8775:HOH:O	2.18	0.43
3:A:167:LYS:CE	27:Z:26:VAL:HG22	2.49	0.43
8:F:48:VAL:HG23	8:F:74:PHE:CB	2.49	0.43
15:N:48:VAL:HG11	15:N:55:ASP:HB3	1.99	0.43
15:N:154:LEU:HD11	38:N:8723:HOH:O	2.19	0.43
21:T:41:ARG:NH1	21:T:42:VAL:O	2.52	0.43
27:Z:24:ARG:HG2	27:Z:28:GLU:OE2	2.19	0.43
1:O:797:A:N6	1:O:816:G:H1'	2.34	0.42
1:O:825:U:H5''	1:O:826:U:OP1	2.19	0.42
1:O:876:A:N3	1:O:876:A:C2'	2.82	0.42
1:O:1175:G:H1'	1:O:1193:A:C2'	2.46	0.42
1:O:1421:C:O2'	1:O:1422:U:H5'	2.19	0.42
1:O:1568:G:C5	1:O:1569:U:C5	3.07	0.42
1:O:1713:G:H1'	38:O:5065:HOH:O	2.19	0.42
1:O:2132:C:H1'	14:M:124:GLY:HA3	2.01	0.42
3:A:153:ARG:HB2	3:A:153:ARG:NH1	2.30	0.42
5:C:33:LYS:HE2	38:C:8558:HOH:O	2.19	0.42
10:H:166:SER:CB	10:H:167:PRO:CD	2.92	0.42
25:X:76:ARG:HH11	25:X:76:ARG:CG	2.21	0.42
1:O:36:C:C2	1:O:447:A:C2	3.07	0.42
1:O:40:C:H4'	38:O:6982:HOH:O	2.18	0.42
1:O:204:A:H2'	1:O:205:U:H5'	2.00	0.42
1:O:432:G:O2'	1:O:433:C:H5'	2.19	0.42
1:O:542:A:H2'	1:O:543:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:666:A:H2'	1:0:667:C:H5'	1.99	0.42
1:0:789:C:H1'	1:0:827:A:C2	2.53	0.42
1:0:827:A:H2'	1:0:828:G:O4'	2.19	0.42
1:0:2531:U:O2'	1:0:2532:A:H5'	2.19	0.42
38:0:6279:HOH:O	6:D:99:ASP:HA	2.19	0.42
38:0:7398:HOH:O	21:T:9:LYS:HD2	2.18	0.42
4:B:82:VAL:O	4:B:82:VAL:HG12	2.18	0.42
10:H:47:ILE:HD12	10:H:146:VAL:HG11	2.00	0.42
15:N:73:ALA:HB1	15:N:74:PRO:HD2	2.00	0.42
27:Z:49:ARG:HB2	27:Z:55:TRP:CZ3	2.54	0.42
27:Z:60:CYS:O	27:Z:61:ASP:HB2	2.19	0.42
1:0:152:A:H1'	1:0:440:C:O2'	2.19	0.42
1:0:364:C:H2'	1:0:365:G:C8	2.54	0.42
1:0:450:C:H4'	5:C:46:TYR:CE1	2.54	0.42
1:0:670:G:H2'	1:0:671:A:O4'	2.19	0.42
1:0:800:G:H2'	1:0:801:U:C6	2.54	0.42
1:0:1159:G:H1	1:0:1208:C:N4	2.15	0.42
1:0:1164:U:OP1	31:I:74:PRO:HA	2.19	0.42
1:0:1202:A:C2'	1:0:1203:G:H5'	2.49	0.42
1:0:1246:A:H5'	1:0:1246:A:H8	1.85	0.42
1:0:1822:A:O2'	1:0:1823:G:H5'	2.19	0.42
1:0:2467:A:H2'	38:0:5453:HOH:O	2.19	0.42
1:0:2577:A:H5'	38:0:7721:HOH:O	2.18	0.42
38:0:5628:HOH:O	17:P:58:SER:HB3	2.19	0.42
38:0:6782:HOH:O	4:B:282:GLY:HA2	2.19	0.42
4:B:154:VAL:CG1	4:B:156:LYS:HG2	2.50	0.42
14:M:42:ARG:HA	14:M:43:PRO:HD3	1.85	0.42
15:N:175:LEU:HA	15:N:175:LEU:HD12	1.79	0.42
25:X:76:ARG:NH1	25:X:76:ARG:CG	2.81	0.42
1:0:285:A:C2	1:0:368:C:H4'	2.54	0.42
1:0:461:C:H6	38:0:5831:HOH:O	2.03	0.42
1:0:645:U:OP2	13:L:4:LYS:HE2	2.19	0.42
1:0:856:G:H2'	38:0:5424:HOH:O	2.19	0.42
1:0:1501:A:C6	1:0:1502:A:C6	3.07	0.42
1:0:2044:G:OP1	25:X:23:HIS:HE1	2.01	0.42
1:0:2504:A:H2'	1:0:2505:G:O4'	2.19	0.42
1:0:2509:A:OP2	1:0:2510:C:C5	2.68	0.42
1:0:2635:A:C2'	1:0:2636:C:H5'	2.48	0.42
2:9:3003:A:O5'	2:9:3003:A:C8	2.72	0.42
11:J:131:THR:HB	11:J:134:GLU:HG3	2.00	0.42
13:L:41:HIS:CD2	13:L:41:HIS:H	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:119:VAL:HG21	19:R:142:ASP:CG	2.39	0.42
1:0:538:C:H5''	1:0:539:G:C8	2.55	0.42
1:0:920:C:H4'	1:0:921:G:C2	2.54	0.42
1:0:1205:U:O2'	1:0:1206:U:H5''	2.19	0.42
1:0:1661:A:O2'	1:0:1662:C:H5'	2.20	0.42
1:0:2377:U:H6	1:0:2377:U:O5'	2.02	0.42
1:0:2863:G:C2	1:0:2894:C:O2	2.72	0.42
2:9:3001:U:C5'	2:9:3003:A:OP1	2.66	0.42
4:B:69:VAL:HA	4:B:70:PRO:HD3	1.86	0.42
5:C:218:VAL:HG12	38:C:8621:HOH:O	2.19	0.42
13:L:114:VAL:HG11	38:L:8770:HOH:O	2.19	0.42
20:S:33:SER:OG	20:S:36:GLU:HG3	2.18	0.42
20:S:58:MET:SD	29:2:8:LYS:HE3	2.59	0.42
21:T:53:GLY:HA3	38:T:6384:HOH:O	2.18	0.42
26:Y:219:GLU:HG3	26:Y:220:GLU:N	2.34	0.42
31:I:93:GLN:HA	31:I:96:PHE:CE2	2.55	0.42
1:0:240:C:O2	1:0:240:C:H2'	2.20	0.42
1:0:750:A:O3'	5:C:101:ASP:HB2	2.20	0.42
1:0:1176:C:H1'	38:0:3922:HOH:O	2.19	0.42
1:0:1189:A:H3'	38:0:7650:HOH:O	2.18	0.42
3:A:217:ARG:CG	3:A:217:ARG:NH1	2.83	0.42
15:N:69:TYR:CD2	15:N:184:ILE:HD11	2.54	0.42
23:V:12:THR:HG23	23:V:14:ALA:H	1.85	0.42
27:Z:39:CYS:SG	27:Z:41:ASN:N	2.93	0.42
27:Z:39:CYS:SG	27:Z:57:CYS:HB2	2.60	0.42
31:I:92:PRO:C	31:I:94:GLU:H	2.23	0.42
1:0:298:C:C2	1:0:299:U:C6	3.07	0.42
1:0:790:A:H2'	1:0:791:A:O4'	2.19	0.42
1:0:794:U:C2'	1:0:795:G:H5'	2.49	0.42
1:0:1407:A:O2'	1:0:1408:U:H3'	2.19	0.42
1:0:1553:C:H2'	1:0:1554:U:H6	1.85	0.42
1:0:1626:A:H2'	1:0:1627:G:C5'	2.49	0.42
1:0:1773:G:H2'	1:0:1774:G:H5'	2.02	0.42
1:0:2064:U:H2'	1:0:2065:C:C6	2.55	0.42
38:0:7388:HOH:O	31:I:90:GLY:HA2	2.19	0.42
38:0:9656:HOH:O	16:O:112:ARG:HD2	2.19	0.42
2:9:3094:G:O2'	2:9:3095:C:H5'	2.20	0.42
14:M:109:PHE:HB3	14:M:112:LEU:HG	2.02	0.42
15:N:143:ARG:HA	15:N:172:PHE:CD2	2.55	0.42
24:W:73:LEU:HD12	24:W:73:LEU:HA	1.75	0.42
1:0:24:G:N2	1:0:518:G:H1'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:275:G:C2	1:0:376:C:C2	3.07	0.42
1:0:506:G:H22	1:0:509:A:H5''	1.82	0.42
1:0:634:G:O2'	1:0:1358:A:OP1	2.34	0.42
1:0:1156:C:O2'	1:0:1157:C:H5'	2.20	0.42
1:0:1947:G:O2'	1:0:1948:G:H5'	2.19	0.42
1:0:1972:U:C2'	1:0:1973:A:H5''	2.49	0.42
1:0:2488:A:N6	1:0:2534:C:H42	2.10	0.42
3:A:35:GLY:O	3:A:36:ASP:CB	2.68	0.42
4:B:149:ASP:HA	38:B:8861:HOH:O	2.19	0.42
8:F:91:VAL:CG1	8:F:92:GLY:N	2.81	0.42
12:K:34:VAL:HG22	12:K:47:ALA:HB2	2.01	0.42
12:K:98:VAL:HG13	12:K:102:GLU:HA	2.00	0.42
26:Y:189:ASN:HD22	26:Y:192:ASP:H	1.67	0.42
1:0:53:C:H2'	1:0:54:G:O4'	2.20	0.42
1:0:283:U:C6	1:0:284:C:N3	2.88	0.42
1:0:807:A:H2'	1:0:808:A:C8	2.54	0.42
1:0:1183:C:N3	1:0:1184:C:C5	2.87	0.42
1:0:1597:A:O4'	17:P:95:GLU:HG2	2.20	0.42
1:0:2291:A:N9	1:0:2309:C:H5'	2.34	0.42
1:0:2871:G:H2'	1:0:2872:U:C6	2.55	0.42
4:B:162:MET:HG3	4:B:310:ARG:HD3	2.02	0.42
5:C:235:PHE:HE2	5:C:243:VAL:HG21	1.84	0.42
12:K:72:VAL:HG11	12:K:121:PHE:CD1	2.54	0.42
15:N:108:SER:HA	15:N:109:PRO:HD3	1.78	0.42
16:O:96:VAL:CG1	16:O:100:GLN:HB2	2.49	0.42
18:Q:40:HIS:CE1	18:Q:94:GLN:HG3	2.55	0.42
1:0:383:A:H2'	1:0:384:G:O4'	2.20	0.42
1:0:2073:G:OP2	1:0:2490:A:H5'	2.20	0.42
1:0:2283:G:C6	10:H:113:MET:HB3	2.55	0.42
1:0:2444:U:N3	1:0:2445:U:C5	2.88	0.42
1:0:2769:C:C2'	1:0:2770:G:C5'	2.87	0.42
1:0:2815:G:N7	11:J:80:LYS:NZ	2.63	0.42
1:0:2836:G:H1'	38:O:6818:HOH:O	2.19	0.42
1:0:2853:U:C5	1:0:2906:A:N6	2.88	0.42
38:O:6235:HOH:O	22:U:56:ARG:HD3	2.20	0.42
5:C:194:PHE:CE2	5:C:234:VAL:HG11	2.55	0.42
10:H:143:ALA:O	10:H:147:LYS:HG3	2.20	0.42
15:N:37:ARG:HD3	36:N:8707:CL:CL	2.57	0.42
15:N:42:HIS:CB	15:N:62:HIS:HE1	2.33	0.42
21:T:48:VAL:HG12	21:T:49:GLU:N	2.35	0.42
30:3:11:CYS:HB2	30:3:20:HIS:HE1	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:61:G:C2	1:0:62:C:C2	3.08	0.41
1:0:484:A:C6	1:0:486:A:C6	3.08	0.41
1:0:635:A:H2	38:0:9207:HOH:O	2.02	0.41
1:0:940:G:C5	1:0:1027:G:C2	3.08	0.41
1:0:1543:G:N1	1:0:1641:A:OP2	2.38	0.41
1:0:1836:A:H1'	28:1:1:THR:O	2.20	0.41
1:0:2272:G:OP1	3:A:223:ARG:HD2	2.20	0.41
1:0:2414:A:H1'	38:0:4703:HOH:O	2.19	0.41
9:G:64:ASN:N	9:G:64:ASN:ND2	2.66	0.41
17:P:109:ARG:NH1	17:P:119:TYR:CE2	2.88	0.41
1:0:138:U:OP2	1:0:139:C:C5	2.73	0.41
1:0:154:C:H2'	1:0:155:C:C6	2.55	0.41
1:0:392:U:C5'	14:M:193:LYS:HB3	2.50	0.41
1:0:843:A:C2	1:0:846:A:C8	3.08	0.41
1:0:1188:A:C5	1:0:1189:A:N1	2.88	0.41
1:0:1352:A:H5''	1:0:1353:C:OP2	2.19	0.41
1:0:1444:G:O2'	1:0:1445:G:H5'	2.19	0.41
1:0:1494:A:H1'	1:0:1495:C:C6	2.55	0.41
8:F:99:THR:HG23	8:F:99:THR:O	2.20	0.41
15:N:87:LEU:HG	15:N:91:ARG:NH1	2.34	0.41
19:R:82:GLU:O	19:R:86:LYS:HG3	2.20	0.41
1:0:216:A:N6	1:0:225:G:C2	2.88	0.41
1:0:353:G:C6	1:0:354:A:C6	3.08	0.41
1:0:581:G:H4'	1:0:1254:C:O2'	2.19	0.41
1:0:622:G:P	26:Y:148:GLY:HA3	2.60	0.41
1:0:812:A:H2'	1:0:813:C:H6	1.85	0.41
1:0:870:G:C3'	1:0:871:G:H5''	2.50	0.41
1:0:1173:A:H4'	1:0:1174:A:C8	2.55	0.41
1:0:1262:C:H1'	24:W:120:PRO:HG3	2.02	0.41
1:0:1388:U:H2'	1:0:1389:G:O4'	2.20	0.41
1:0:1425:G:O2'	1:0:1426:C:H5'	2.19	0.41
1:0:1433:G:O2'	1:0:1434:A:H5'	2.20	0.41
1:0:1915:U:O2'	1:0:1916:C:H5'	2.20	0.41
1:0:1928:C:H2'	1:0:1929:G:H5'	2.02	0.41
1:0:2250:G:C6	1:0:2251:G:C2	3.08	0.41
1:0:2255:A:N1	1:0:2256:G:C4	2.88	0.41
1:0:2374:A:H2'	1:0:2375:G:C8	2.55	0.41
2:9:3039:U:H2'	2:9:3040:C:OP1	2.21	0.41
4:B:57:GLU:HA	4:B:58:PRO:HD2	1.91	0.41
21:T:18:GLU:O	21:T:21:LYS:HE2	2.20	0.41
26:Y:122:ARG:NH2	38:Y:8735:HOH:O	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:89:G:H4'	38:0:4762:HOH:O	2.20	0.41
1:0:99:A:C8	1:0:100:C:C5	3.09	0.41
1:0:331:A:C6	1:0:332:G:C4	3.08	0.41
1:0:813:C:H3'	38:0:7188:HOH:O	2.20	0.41
1:0:821:U:H4'	38:Z:8631:HOH:O	2.20	0.41
1:0:2335:C:C2	1:0:2350:G:C2	3.09	0.41
1:0:2345:A:N6	38:0:9272:HOH:O	2.53	0.41
1:0:2582:G:H4'	38:K:4440:HOH:O	2.20	0.41
4:B:43:GLY:O	4:B:308:LEU:HD12	2.20	0.41
5:C:19:PRO:CD	5:C:240:LEU:HD22	2.50	0.41
6:D:35:ALA:N	38:D:5576:HOH:O	2.53	0.41
12:K:82:ARG:NH2	12:K:115:ARG:HG2	2.34	0.41
17:P:126:ALA:C	17:P:128:GLY:H	2.23	0.41
26:Y:151:SER:HB3	26:Y:154:ARG:HB3	2.03	0.41
1:0:184:G:O2'	1:0:185:G:H5'	2.20	0.41
1:0:254:C:N4	1:0:255:A:C6	2.89	0.41
1:0:451:C:C2'	1:0:452:G:H5'	2.51	0.41
1:0:694:A:C2'	1:0:695:C:H5'	2.51	0.41
1:0:912:A:C4	1:0:1294:A:C2	3.08	0.41
1:0:1102:C:H5	38:0:3488:HOH:O	2.04	0.41
1:0:1117:A:C2	1:0:1244:U:C2	3.09	0.41
1:0:1180:U:H2'	1:0:1181:A:C8	2.56	0.41
1:0:1427:A:H61	1:0:1440:U:C1'	2.33	0.41
1:0:1447:U:H3'	1:0:1506:U:O2	2.20	0.41
1:0:1773:G:C2'	1:0:1774:G:H5'	2.51	0.41
1:0:2368:A:H8	38:N:8730:HOH:O	2.04	0.41
1:0:2407:G:O2'	1:0:2408:A:H5'	2.19	0.41
1:0:2473:U:O3'	1:0:2474:A:H3'	2.20	0.41
1:0:2768:A:C2'	1:0:2769:C:O4'	2.63	0.41
17:P:114:LEU:HA	17:P:118:GLN:NE2	2.35	0.41
26:Y:144:ARG:HH11	26:Y:144:ARG:HG3	1.85	0.41
1:0:128:A:O2'	1:0:129:A:H5'	2.20	0.41
1:0:834:G:H3'	1:0:835:U:H4'	2.02	0.41
1:0:1196:C:H2'	1:0:1197:G:H5'	2.02	0.41
1:0:1882:C:H2'	1:0:1883:U:C6	2.55	0.41
2:9:3054:A:C5'	38:D:3359:HOH:O	2.69	0.41
3:A:179:MET:HG2	3:A:186:TRP:CG	2.55	0.41
4:B:260:HIS:HE1	38:B:8783:HOH:O	2.02	0.41
4:B:329:TYR:HE2	22:U:15:PRO:HG2	1.81	0.41
14:M:48:LYS:HE3	14:M:52:GLN:NE2	2.36	0.41
24:W:149:LEU:HG	24:W:153:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:111:C:H2'	1:0:112:G:C5'	2.51	0.41
1:0:189:A:OP1	14:M:171:ARG:NH2	2.53	0.41
1:0:365:G:C5	1:0:366:U:C5	3.09	0.41
1:0:731:U:C2	1:0:732:C:C5	3.09	0.41
1:0:1191:A:H2'	1:0:1193:A:H5'	2.03	0.41
1:0:1747:A:C8	12:K:44:LEU:HD13	2.56	0.41
1:0:1964:U:O2	1:0:1964:U:H2'	2.20	0.41
3:A:135:VAL:HG22	3:A:136:ALA:N	2.36	0.41
4:B:60:SER:HA	4:B:61:PRO:HD3	1.88	0.41
4:B:80:ARG:HA	4:B:186:GLY:O	2.21	0.41
14:M:75:ARG:HE	14:M:75:ARG:HB3	1.76	0.41
16:O:7:LEU:O	16:O:11:ILE:HG13	2.21	0.41
17:P:20:ARG:HH12	17:P:54:LYS:HD3	1.84	0.41
19:R:149:GLU:HA	19:R:150:PRO:HD3	1.86	0.41
20:S:52:VAL:HG22	20:S:66:VAL:HG13	2.02	0.41
22:U:14:GLU:HA	22:U:15:PRO:HD2	1.94	0.41
23:V:31:ARG:NE	38:V:2682:HOH:O	2.53	0.41
24:W:3:ALA:O	24:W:54:PHE:HA	2.19	0.41
26:Y:115:ARG:NE	38:Y:8755:HOH:O	2.53	0.41
1:0:77:G:O2'	1:0:78:G:H5'	2.21	0.41
1:0:263:U:O4'	8:F:59:ILE:HD13	2.21	0.41
1:0:333:G:O2'	1:0:334:G:H5'	2.21	0.41
1:0:1162:G:C6	1:0:1163:G:C6	3.09	0.41
1:0:1195:G:C2	1:0:1205:U:C2	3.08	0.41
1:0:1821:A:O2'	1:0:1822:A:H5'	2.20	0.41
1:0:2102:G:C2	1:0:2104:C:C4	3.09	0.41
1:0:2110:G:H5''	38:0:6390:HOH:O	2.20	0.41
1:0:2524:G:N2	1:0:2526:C:H41	2.18	0.41
1:0:2599:A:C6	1:0:2600:A:N1	2.89	0.41
1:0:2615:U:C5	1:0:2616:G:C6	3.09	0.41
2:9:3076:G:H3'	2:9:3077:A:C5'	2.33	0.41
4:B:141:ARG:HD2	4:B:163:GLU:OE2	2.20	0.41
4:B:198:GLU:HA	38:B:8858:HOH:O	2.21	0.41
16:O:49:GLU:HG2	38:O:5191:HOH:O	2.21	0.41
16:O:53:GLN:HG2	16:O:56:GLU:OE1	2.20	0.41
1:0:466:A:H2'	1:0:467:G:O4'	2.21	0.41
1:0:665:A:C6	1:0:666:A:C6	3.09	0.41
1:0:731:U:O2'	1:0:732:C:H5'	2.21	0.41
1:0:960:G:C2'	1:0:961:A:OP2	2.69	0.41
1:0:1236:A:C8	11:J:63:ILE:CD1	3.04	0.41
1:0:1746:A:O4'	1:0:1747:A:C2	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1945:G:C2'	1:0:1946:C:H5'	2.51	0.41
1:0:1976:G:O2'	1:0:1977:U:H5'	2.21	0.41
1:0:2241:C:H2'	1:0:2242:U:C6	2.55	0.41
1:0:2247:C:O2'	1:0:2248:C:H5'	2.20	0.41
1:0:2296:C:H2'	1:0:2297:U:C6	2.56	0.41
1:0:2437:A:H2'	1:0:2438:G:C8	2.55	0.41
1:0:2503:A:H2	1:0:2517:A:N7	2.18	0.41
1:0:2504:A:H4'	10:H:71:ARG:HH11	1.85	0.41
1:0:2526:C:H5''	38:0:7578:HOH:O	2.20	0.41
2:9:3041:C:O4'	6:D:50:VAL:HG22	2.21	0.41
2:9:3065:A:O2'	2:9:3066:G:P	2.79	0.41
3:A:48:ASP:HA	3:A:49:PRO:HD3	1.88	0.41
3:A:126:ALA:HB1	3:A:138:VAL:HG12	2.03	0.41
13:L:143:THR:HG21	38:L:8738:HOH:O	2.21	0.41
15:N:12:ARG:HH11	15:N:18:THR:HG1	1.67	0.41
15:N:42:HIS:HB3	15:N:62:HIS:CE1	2.56	0.41
19:R:59:PHE:O	19:R:63:ASN:HB3	2.20	0.41
19:R:84:ALA:O	19:R:88:PHE:HD1	2.04	0.41
24:W:149:LEU:HG	24:W:153:MET:HE1	2.02	0.41
26:Y:106:THR:HG23	26:Y:107:PRO:HD2	2.03	0.41
27:Z:47:VAL:HA	27:Z:56:GLN:O	2.21	0.41
31:I:133:THR:N	38:I:5371:HOH:O	2.54	0.41
1:0:66:G:H4'	1:0:69:A:O4'	2.20	0.41
1:0:154:C:C2	1:0:155:C:C5	3.09	0.41
1:0:803:C:O2'	1:0:804:C:H5'	2.21	0.41
1:0:962:C:C1'	15:N:5:ARG:NH1	2.84	0.41
1:0:1853:C:O2'	3:A:217:ARG:NH2	2.54	0.41
1:0:1996:U:O2'	1:0:1997:A:H5'	2.20	0.41
2:9:3037:C:O2'	2:9:3038:A:H5'	2.21	0.41
4:B:5:ARG:NH1	4:B:8:LYS:HE2	2.36	0.41
6:D:55:LYS:O	6:D:56:ARG:HB2	2.21	0.41
12:K:98:VAL:HG11	12:K:102:GLU:HA	2.03	0.41
17:P:59:ARG:NH2	17:P:66:GLN:NE2	2.62	0.41
25:X:43:VAL:HG22	25:X:76:ARG:NH1	2.36	0.41
30:3:3:MET:O	30:3:90:PHE:HA	2.21	0.41
1:0:307:G:C2	1:0:309:C:C4	3.09	0.40
1:0:696:C:C2'	1:0:697:G:H5'	2.51	0.40
1:0:724:G:O2'	1:0:725:C:H5'	2.21	0.40
1:0:1024:G:C6	1:0:1025:C:N3	2.90	0.40
1:0:1081:A:H5''	38:0:3145:HOH:O	2.20	0.40
1:0:1586:G:H2'	1:0:1587:U:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1857:A:H5''	38:0:6684:HOH:O	2.21	0.40
1:0:2379:G:H5'	1:0:2381:C:O4'	2.21	0.40
1:0:2591:C:H2'	1:0:2592:G:O4'	2.21	0.40
1:0:2686:C:H1'	38:0:7593:HOH:O	2.22	0.40
38:0:6510:HOH:O	18:Q:3:SER:HB3	2.20	0.40
3:A:144:GLU:HG2	3:A:145:MET:N	2.36	0.40
3:A:211:LYS:CB	3:A:212:PRO:HD2	2.50	0.40
6:D:67:ASP:HA	6:D:68:PRO:HD3	1.98	0.40
11:J:132:LEU:HD23	11:J:132:LEU:HA	1.88	0.40
17:P:13:VAL:HG11	17:P:40:VAL:HG11	2.03	0.40
26:Y:126:PRO:HG2	26:Y:128:PHE:CZ	2.57	0.40
1:0:503:G:H2'	1:0:504:G:H8	1.86	0.40
1:0:626:U:C4	1:0:627:G:C6	3.09	0.40
1:0:800:G:H4'	38:0:7041:HOH:O	2.21	0.40
1:0:1587:U:O2'	1:0:1588:G:H5'	2.21	0.40
1:0:1735:C:OP2	4:B:234:ARG:HG3	2.20	0.40
1:0:2582:G:H5''	4:B:3:PRO:HB3	2.02	0.40
1:0:2659:U:H4'	19:R:76:ASP:HB3	2.03	0.40
1:0:2716:G:H5'	4:B:262:ARG:HG3	2.02	0.40
1:0:2780:C:H2'	1:0:2781:U:C6	2.57	0.40
1:0:2842:G:H5'	19:R:68:HIS:O	2.21	0.40
2:9:3042:C:C5'	2:9:3043:G:OP2	2.68	0.40
2:9:3065:A:C5	2:9:3113:C:C5	3.09	0.40
3:A:167:LYS:HE3	27:Z:26:VAL:HA	2.03	0.40
5:C:193:LEU:HD13	5:C:222:ASP:HB2	2.04	0.40
7:E:108:LEU:HD12	7:E:108:LEU:HA	1.94	0.40
11:J:74:ARG:NH1	11:J:105:LEU:HD11	2.35	0.40
31:I:101:SER:O	31:I:105:VAL:HG23	2.21	0.40
1:0:295:C:H2'	1:0:296:G:O4'	2.22	0.40
1:0:461:C:H2'	38:0:5831:HOH:O	2.21	0.40
1:0:682:A:H2'	1:0:683:G:O4'	2.21	0.40
1:0:805:G:N2	1:0:807:A:H3'	2.36	0.40
1:0:1066:U:H2'	1:0:1067:A:C8	2.56	0.40
1:0:1207:A:C8	1:0:1208:C:C5	3.10	0.40
1:0:1393:A:H2'	1:0:1394:C:C6	2.56	0.40
1:0:1416:G:C2'	1:0:1417:G:H5'	2.51	0.40
1:0:2599:A:C6	1:0:2600:A:C6	3.09	0.40
38:0:4065:HOH:O	14:M:97:ILE:HB	2.20	0.40
8:F:53:ASP:OD1	8:F:80:GLN:HB2	2.22	0.40
10:H:154:TYR:CD1	10:H:154:TYR:C	2.94	0.40
12:K:59:LYS:HA	38:K:5358:HOH:O	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:103:THR:HA	17:P:106:ARG:CZ	2.52	0.40
25:X:21:PRO:HG2	25:X:24:LYS:HD3	2.02	0.40
1:0:68:U:O2'	1:0:69:A:H5''	2.21	0.40
1:0:541:C:C2'	1:0:542:A:C5'	2.83	0.40
1:0:588:G:O6	24:W:154:ARG:NH1	2.54	0.40
1:0:599:G:H2'	1:0:600:G:H8	1.87	0.40
1:0:820:G:H5'	1:0:821:U:C5'	2.50	0.40
1:0:1684:A:H1'	29:2:43:ARG:NH2	2.22	0.40
1:0:1976:G:H1'	1:0:2005:G:N2	2.36	0.40
1:0:2372:A:H2'	1:0:2373:U:C6	2.56	0.40
1:0:2589:U:H2'	1:0:2590:U:C6	2.57	0.40
2:9:3057:A:N6	38:9:3535:HOH:O	2.46	0.40
3:A:76:VAL:HG23	27:Z:63:LYS:HB3	2.04	0.40
4:B:26:PHE:HE1	38:B:8848:HOH:O	2.04	0.40
4:B:41:PHE:HB3	4:B:190:MET:CE	2.51	0.40
4:B:243:ASN:HA	4:B:244:PRO:C	2.41	0.40
7:E:69:ILE:HA	7:E:72:MET:CE	2.51	0.40
15:N:163:PHE:O	15:N:164:ASP:O	2.40	0.40
21:T:89:ARG:O	21:T:89:ARG:HG3	2.22	0.40
27:Z:42:CYS:O	27:Z:44:GLU:N	2.53	0.40
1:0:366:U:H2'	1:0:367:G:O4'	2.21	0.40
1:0:484:A:N6	1:0:486:A:C6	2.89	0.40
1:0:921:G:H4'	1:0:924:G:N1	2.36	0.40
1:0:1139:U:H2'	1:0:1140:C:C6	2.57	0.40
1:0:1195:G:N2	1:0:1205:U:C2	2.89	0.40
1:0:1460:G:OP1	3:A:17:ARG:NH1	2.54	0.40
1:0:1592:G:O2'	1:0:1593:C:O5'	2.37	0.40
1:0:1634:G:C5	1:0:1635:U:C5	3.09	0.40
1:0:1795:G:H2'	1:0:1796:A:O4'	2.21	0.40
1:0:1889:C:O2	1:0:2010:A:H2	2.05	0.40
1:0:1972:U:C2'	1:0:1973:A:C5'	3.00	0.40
1:0:2415:A:N3	15:N:26:LEU:HD13	2.37	0.40
2:9:3056:A:C3'	2:9:3057:A:H5''	2.50	0.40
8:F:57:GLU:HB2	14:M:23:LEU:HD11	2.04	0.40
11:J:6:PHE:HB3	11:J:109:TYR:OH	2.21	0.40
12:K:78:LYS:HA	12:K:79:PRO:HD3	1.95	0.40
12:K:130:MET:SD	22:U:25:ASP:O	2.80	0.40
15:N:169:PRO:O	15:N:172:PHE:HB3	2.21	0.40
27:Z:33:MET:HG3	27:Z:69:TYR:O	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	235/239 (98%)	209 (89%)	23 (10%)	3 (1%)	12	30
4	B	335/337 (99%)	305 (91%)	24 (7%)	6 (2%)	8	21
5	C	244/246 (99%)	228 (93%)	15 (6%)	1 (0%)	34	60
6	D	134/177 (76%)	107 (80%)	23 (17%)	4 (3%)	4	10
7	E	170/178 (96%)	163 (96%)	7 (4%)	0	100	100
8	F	117/120 (98%)	106 (91%)	10 (8%)	1 (1%)	17	40
9	G	25/348 (7%)	25 (100%)	0	0	100	100
10	H	156/171 (91%)	143 (92%)	9 (6%)	4 (3%)	5	13
11	J	140/145 (97%)	128 (91%)	11 (8%)	1 (1%)	22	46
12	K	130/132 (98%)	122 (94%)	8 (6%)	0	100	100
13	L	141/165 (86%)	127 (90%)	14 (10%)	0	100	100
14	M	192/194 (99%)	178 (93%)	13 (7%)	1 (0%)	29	54
15	N	184/187 (98%)	168 (91%)	13 (7%)	3 (2%)	9	24
16	O	113/116 (97%)	109 (96%)	4 (4%)	0	100	100
17	P	141/149 (95%)	136 (96%)	3 (2%)	2 (1%)	11	28
18	Q	93/96 (97%)	87 (94%)	5 (5%)	1 (1%)	14	34
19	R	148/155 (96%)	138 (93%)	9 (6%)	1 (1%)	22	46
20	S	79/85 (93%)	76 (96%)	2 (2%)	1 (1%)	12	30
21	T	117/120 (98%)	109 (93%)	8 (7%)	0	100	100
22	U	51/66 (77%)	49 (96%)	2 (4%)	0	100	100
23	V	63/71 (89%)	59 (94%)	3 (5%)	1 (2%)	9	24
24	W	152/154 (99%)	146 (96%)	4 (3%)	2 (1%)	12	30
25	X	80/92 (87%)	74 (92%)	4 (5%)	2 (2%)	5	14
26	Y	140/241 (58%)	140 (100%)	0	0	100	100
27	Z	71/73 (97%)	58 (82%)	9 (13%)	4 (6%)	2	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	1	54/57 (95%)	51 (94%)	3 (6%)	0	100	100
29	2	42/50 (84%)	42 (100%)	0	0	100	100
30	3	90/92 (98%)	87 (97%)	3 (3%)	0	100	100
31	I	68/162 (42%)	65 (96%)	3 (4%)	0	100	100
All	All	3705/4418 (84%)	3435 (93%)	232 (6%)	38 (1%)	15	37

All (38) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	D	137	PRO
6	D	173	GLU
8	F	101	ALA
10	H	166	SER
10	H	168	ALA
15	N	154	LEU
15	N	164	ASP
24	W	77	ALA
25	X	87	ALA
27	Z	81	ARG
3	A	34	ASP
3	A	36	ASP
6	D	27	ILE
10	H	16	ARG
10	H	140	VAL
11	J	5	GLU
15	N	139	TRP
17	P	117	SER
4	B	185	GLY
17	P	116	SER
3	A	27	LEU
4	B	138	GLY
4	B	169	GLY
4	B	206	THR
5	C	201	SER
24	W	76	ASP
27	Z	42	CYS
4	B	2	GLN
4	B	34	GLY
20	S	58	MET
27	Z	36	ASP
27	Z	43	GLY

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Mol	Chain	Res	Type
14	M	88	VAL
18	Q	18	PRO
6	D	28	GLY
19	R	81	PRO
23	V	43	PRO
25	X	70	ILE

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	A	179/181 (99%)	169 (94%)	10 (6%)	21 45
4	B	282/282 (100%)	264 (94%)	18 (6%)	17 39
5	C	193/193 (100%)	177 (92%)	16 (8%)	11 25
6	D	117/148 (79%)	113 (97%)	4 (3%)	37 66
7	E	152/156 (97%)	149 (98%)	3 (2%)	55 81
8	F	93/94 (99%)	92 (99%)	1 (1%)	73 90
9	G	27/283 (10%)	26 (96%)	1 (4%)	34 63
10	H	132/138 (96%)	125 (95%)	7 (5%)	22 48
11	J	118/121 (98%)	110 (93%)	8 (7%)	16 36
12	K	106/106 (100%)	105 (99%)	1 (1%)	78 92
13	L	113/127 (89%)	107 (95%)	6 (5%)	22 48
14	M	158/158 (100%)	150 (95%)	8 (5%)	24 50
15	N	149/150 (99%)	145 (97%)	4 (3%)	44 74
16	O	93/94 (99%)	89 (96%)	4 (4%)	29 57
17	P	113/117 (97%)	108 (96%)	5 (4%)	28 56
18	Q	79/80 (99%)	77 (98%)	2 (2%)	47 76
19	R	117/122 (96%)	112 (96%)	5 (4%)	29 57
20	S	71/74 (96%)	69 (97%)	2 (3%)	43 73
21	T	105/106 (99%)	100 (95%)	5 (5%)	25 53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	U	44/52 (85%)	43 (98%)	1 (2%)	50	78
23	V	51/57 (90%)	49 (96%)	2 (4%)	32	61
24	W	130/130 (100%)	124 (95%)	6 (5%)	27	54
25	X	66/74 (89%)	62 (94%)	4 (6%)	18	41
26	Y	120/196 (61%)	114 (95%)	6 (5%)	24	51
27	Z	60/60 (100%)	58 (97%)	2 (3%)	38	67
28	1	46/47 (98%)	46 (100%)	0	100	100
29	2	42/46 (91%)	40 (95%)	2 (5%)	25	53
30	3	79/79 (100%)	77 (98%)	2 (2%)	47	76
31	I	58/130 (45%)	57 (98%)	1 (2%)	60	84
All	All	3093/3601 (86%)	2957 (96%)	136 (4%)	28	56

All (136) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	33	GLU
3	A	36	ASP
3	A	64	ASP
3	A	66	ARG
3	A	69	LEU
3	A	94	LEU
3	A	131	HIS
3	A	179	MET
3	A	206	ARG
3	A	217	ARG
4	B	7	ARG
4	B	11	LEU
4	B	27	ASN
4	B	33	ASP
4	B	49	THR
4	B	51	VAL
4	B	53	LEU
4	B	56	ASP
4	B	97	LEU
4	B	98	THR
4	B	162	MET
4	B	171	VAL
4	B	175	LEU

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Mol	Chain	Res	Type
4	B	190	MET
4	B	251	VAL
4	B	254	GLN
4	B	256	GLN
4	B	257	THR
5	C	2	GLN
5	C	27	ARG
5	C	76	ARG
5	C	78	ARG
5	C	131	PHE
5	C	135	GLU
5	C	136	VAL
5	C	162	VAL
5	C	187	ARG
5	C	214	THR
5	C	222	ASP
5	C	223	LEU
5	C	234	VAL
5	C	236	THR
5	C	237	GLU
5	C	240	LEU
6	D	24	HIS
6	D	61	PHE
6	D	137	PRO
6	D	149	ARG
7	E	7	ILE
7	E	16	ASP
7	E	86	VAL
8	F	12	LEU
9	G	64	ASN
10	H	1	LYS
10	H	30	GLN
10	H	59	HIS
10	H	62	LEU
10	H	84	LYS
10	H	88	ARG
10	H	154	TYR
11	J	7	ASP
11	J	32	ASP
11	J	39	VAL
11	J	46	ILE
11	J	52	GLN

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Mol	Chain	Res	Type
11	J	79	PHE
11	J	107	ASN
11	J	131	THR
12	K	10	GLN
13	L	30	ARG
13	L	32	ASP
13	L	35	ARG
13	L	99	GLU
13	L	101	ASP
13	L	104	ASP
14	M	23	LEU
14	M	46	LEU
14	M	68	ARG
14	M	81	ARG
14	M	93	ARG
14	M	99	ARG
14	M	120	VAL
14	M	164	THR
15	N	26	LEU
15	N	49	THR
15	N	50	LEU
15	N	53	ASN
16	O	3	THR
16	O	43	VAL
16	O	67	SER
16	O	98	LEU
17	P	16	VAL
17	P	91	LYS
17	P	98	ILE
17	P	110	ASP
17	P	120	ARG
18	Q	16	ASN
18	Q	95	GLU
19	R	39	THR
19	R	55	GLN
19	R	82	GLU
19	R	132	ARG
19	R	143	VAL
20	S	10	VAL
20	S	71	ASP
21	T	26	THR
21	T	39	ASN

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Mol	Chain	Res	Type
21	T	73	HIS
21	T	89	ARG
21	T	112	LEU
22	U	52	THR
23	V	12	THR
23	V	22	ASP
24	W	26	ILE
24	W	52	VAL
24	W	73	LEU
24	W	142	ASP
24	W	146	ILE
24	W	154	ARG
25	X	27	ASP
25	X	49	ARG
25	X	72	VAL
25	X	82	GLU
26	Y	144	ARG
26	Y	154	ARG
26	Y	163	THR
26	Y	189	ASN
26	Y	203	VAL
26	Y	204	ARG
27	Z	36	ASP
27	Z	60	CYS
29	2	18	ASN
29	2	31	ARG
30	3	3	MET
30	3	14	CYS
31	I	113	HIS

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

Mol	Chain	Res	Type
3	A	47	HIS
3	A	125	ASN
3	A	127	GLN
3	A	199	HIS
4	B	27	ASN
4	B	145	HIS
4	B	221	GLN
4	B	238	ASN
4	B	256	GLN

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Mol	Chain	Res	Type
4	B	260	HIS
4	B	320	GLN
4	B	332	ASN
5	C	2	GLN
5	C	39	GLN
5	C	129	HIS
6	D	85	GLN
6	D	103	ASN
6	D	133	ASN
7	E	143	GLN
9	G	64	ASN
10	H	31	HIS
10	H	46	GLN
10	H	56	GLN
10	H	59	HIS
10	H	170	ASN
11	J	52	GLN
11	J	107	ASN
11	J	126	ASN
12	K	10	GLN
12	K	67	GLN
13	L	18	HIS
13	L	41	HIS
14	M	24	GLN
14	M	58	GLN
14	M	137	ASN
14	M	170	ASN
15	N	53	ASN
15	N	93	GLN
15	N	107	ASN
15	N	119	GLN
17	P	50	GLN
17	P	66	GLN
17	P	88	GLN
17	P	118	GLN
18	Q	16	ASN
18	Q	40	HIS
19	R	94	ASN
19	R	98	ASN
19	R	113	HIS
19	R	117	HIS
19	R	123	GLN

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Mol	Chain	Res	Type
20	S	53	ASN
21	T	39	ASN
22	U	39	ASN
23	V	4	HIS
23	V	60	GLN
24	W	12	ASN
24	W	28	HIS
24	W	110	GLN
24	W	119	HIS
24	W	125	HIS
24	W	141	HIS
25	X	23	HIS
25	X	36	HIS
26	Y	133	HIS
26	Y	134	HIS
26	Y	189	ASN
28	1	8	GLN
28	1	16	HIS
28	1	28	HIS
29	2	18	ASN
29	2	37	HIS
29	2	41	HIS
29	2	45	ASN
30	3	2	GLN
30	3	15	ASN
30	3	30	GLN
30	3	48	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2746/2922 (93%)	235 (8%)	35 (1%)
2	9	121/122 (99%)	18 (14%)	1 (0%)
All	All	2867/3044 (94%)	253 (8%)	36 (1%)

All (253) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	11	A
1	0	31	C
1	0	60	A

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Mol	Chain	Res	Type
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G
1	0	87	C
1	0	88	G
1	0	114	A
1	0	115	U
1	0	120	A
1	0	130	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	U
1	0	219	G
1	0	237	G
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	308	U
1	0	309	C
1	0	336	G
1	0	337	A
1	0	358	G
1	0	381	G
1	0	397	A
1	0	417	G
1	0	461	C
1	0	487	G
1	0	498	A
1	0	510	U
1	0	511	A
1	0	514	G
1	0	537	G
1	0	538	C
1	0	539	G

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Mol	Chain	Res	Type
1	0	542	A
1	0	545	G
1	0	553	G
1	0	559	U
1	0	588	G
1	0	604	G
1	0	620	A
1	0	630	A
1	0	632	A
1	0	644	G
1	0	660	A
1	0	688	A
1	0	699	C
1	0	701	U
1	0	705	C
1	0	759	C
1	0	777	U
1	0	809	G
1	0	821	U
1	0	835	U
1	0	840	U
1	0	868	G
1	0	869	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	877	G
1	0	878	G
1	0	884	C
1	0	885	G
1	0	898	G
1	0	905	C
1	0	920	C
1	0	921	G
1	0	923	A
1	0	953	G
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C
1	0	1029	U
1	0	1045	G

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Mol	Chain	Res	Type
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1120	U
1	0	1130	U
1	0	1131	G
1	0	1137	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1174	A
1	0	1175	G
1	0	1185	U
1	0	1193	A
1	0	1206	U
1	0	1208	C
1	0	1216	G
1	0	1237	U
1	0	1238	C
1	0	1239	G
1	0	1279	U
1	0	1289	C
1	0	1331	A
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1407	A
1	0	1419	U
1	0	1451	C
1	0	1474	C
1	0	1485	A
1	0	1492	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	1562	C
1	0	1592	G
1	0	1605	G
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1656	A
1	0	1667	A
1	0	1682	A
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1701	A
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1731	C
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1820	G
1	0	1829	A
1	0	1856	C
1	0	1879	U
1	0	1919	A
1	0	1942	A
1	0	1971	G
1	0	1973	A
1	0	1978	A
1	0	1979	G
1	0	1980	U
1	0	1996	U
1	0	2004	U
1	0	2005	G
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	G

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Mol	Chain	Res	Type
1	0	2034	U
1	0	2063	U
1	0	2064	U
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2096	A
1	0	2101	A
1	0	2102	G
1	0	2110	G
1	0	2243	C
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2291	A
1	0	2317	C
1	0	2321	A
1	0	2346	C
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2422	U
1	0	2462	G
1	0	2467	A
1	0	2469	A
1	0	2476	C
1	0	2483	A
1	0	2507	G
1	0	2509	A
1	0	2511	A
1	0	2533	C
1	0	2537	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2608	C
1	0	2613	G
1	0	2634	G
1	0	2638	G

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Mol	Chain	Res	Type
1	0	2649	A
1	0	2664	A
1	0	2681	A
1	0	2682	C
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A
1	0	2800	A
1	0	2811	A
1	0	2825	C
1	0	2850	C
1	0	2876	G
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
2	9	3002	U
2	9	3007	G
2	9	3014	G
2	9	3022	G
2	9	3023	U
2	9	3024	U
2	9	3025	G
2	9	3034	A
2	9	3040	C
2	9	3041	C
2	9	3043	G
2	9	3044	A
2	9	3052	A
2	9	3057	A
2	9	3066	G
2	9	3077	A
2	9	3114	G
2	9	3122	C

All (36) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	10	U
1	0	69	A
1	0	129	A
1	0	169	A
1	0	284	C
1	0	603	A
1	0	834	G
1	0	857	A
1	0	869	G
1	0	871	G
1	0	877	G
1	0	1080	C
1	0	1120	U
1	0	1232	A
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C
1	0	1450	C
1	0	1506	U
1	0	1667	A
1	0	1685	A
1	0	1730	G
1	0	1856	C
1	0	1878	G
1	0	1979	G
1	0	2011	A
1	0	2313	C
1	0	2467	A
1	0	2536	C
1	0	2649	A
1	0	2718	C
1	0	2761	A
1	0	2791	U
1	0	2850	C
2	9	3065	A

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

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

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMU	0	2587	1	19,22,23	0.32	0	26,31,34	0.43	0
1	OMG	0	2588	1	18,26,27	1.04	2 (11%)	19,38,41	0.72	1 (5%)
1	UR3	0	2619	1	19,22,23	0.44	0	26,32,35	0.64	1 (3%)
1	PSU	0	2621	1	18,21,22	1.49	2 (11%)	22,30,33	1.29	3 (13%)
1	1MA	0	628	1,35	16,25,26	1.35	2 (12%)	18,37,40	1.06	2 (11%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMU	0	2587	1	-	0/9/27/28	0/2/2/2
1	OMG	0	2588	1	-	0/5/27/28	0/3/3/3
1	UR3	0	2619	1	-	0/7/25/26	0/2/2/2
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2
1	1MA	0	628	1,35	-	0/3/25/26	0/3/3/3

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C2-N1	5.08	1.43	1.36
1	0	628	1MA	C2-N3	3.42	1.33	1.29
1	0	2588	OMG	C5-C6	-2.73	1.41	1.47
1	0	628	1MA	C6-N6	2.52	1.33	1.27
1	0	2588	OMG	C8-N7	-2.43	1.30	1.35
1	0	2621	PSU	C6-C5	2.12	1.37	1.35

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2621	PSU	C6-C5-C4	3.61	120.72	118.20
1	0	628	1MA	N1-C2-N3	2.85	129.34	126.02
1	0	2621	PSU	O2-C2-N1	2.80	125.88	122.79
1	0	2621	PSU	C6-N1-C2	-2.74	119.88	122.68
1	0	628	1MA	C5-C6-N1	2.48	117.60	113.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2619	UR3	C4-N3-C2	2.40	126.82	124.56
1	0	2588	OMG	O6-C6-C5	2.10	128.47	124.37

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2587	OMU	2	0
1	0	2588	OMG	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 231 ligands modelled in this entry, 230 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	GIR	0	9000	-	7,12,12	0.75	0	4,16,16	0.76	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	GIR	0	9000	-	-	0/4/10/10	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	0	2749/2922 (94%)	-0.34	39 (1%) 75 77	24, 49, 93, 153	0
2	9	122/122 (100%)	-0.33	4 (3%) 46 46	38, 64, 91, 149	0
3	A	237/239 (99%)	0.62	28 (11%) 4 3	30, 58, 99, 119	0
4	B	337/337 (100%)	0.15	3 (0%) 84 85	28, 56, 84, 95	0
5	C	246/246 (100%)	0.22	1 (0%) 92 93	25, 49, 74, 80	0
6	D	140/177 (79%)	2.12	62 (44%) 0 0	61, 105, 127, 136	0
7	E	172/178 (96%)	0.45	6 (3%) 44 44	46, 68, 87, 93	0
8	F	119/120 (99%)	0.95	20 (16%) 1 1	53, 78, 99, 117	0
9	G	29/348 (8%)	1.99	11 (37%) 0 0	77, 94, 105, 107	0
10	H	160/171 (93%)	0.41	6 (3%) 40 39	40, 58, 92, 100	0
11	J	142/145 (97%)	-0.02	0 100 100	35, 50, 74, 90	0
12	K	132/132 (100%)	0.09	1 (0%) 86 87	36, 54, 77, 87	0
13	L	145/165 (87%)	0.87	21 (14%) 2 1	29, 71, 118, 130	0
14	M	194/194 (100%)	0.01	1 (0%) 91 92	35, 47, 63, 73	0
15	N	186/187 (99%)	0.97	33 (17%) 1 1	41, 68, 115, 120	0
16	O	115/116 (99%)	0.26	2 (1%) 70 72	41, 57, 75, 80	0
17	P	143/149 (95%)	0.26	2 (1%) 75 77	43, 59, 78, 83	0
18	Q	95/96 (98%)	0.00	0 100 100	37, 48, 62, 78	0
19	R	150/155 (96%)	-0.03	0 100 100	33, 47, 66, 74	0
20	S	81/85 (95%)	0.84	9 (11%) 5 4	47, 67, 87, 94	0
21	T	119/120 (99%)	0.54	8 (6%) 17 16	41, 61, 88, 108	0
22	U	53/66 (80%)	0.41	1 (1%) 66 69	44, 61, 77, 83	0
23	V	65/71 (91%)	1.96	25 (38%) 0 0	60, 84, 118, 121	0
24	W	154/154 (100%)	0.05	1 (0%) 89 91	34, 49, 66, 76	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	X	82/92 (89%)	0.42	7 (8%) 10 9	45, 61, 87, 102	0
26	Y	142/241 (58%)	0.17	6 (4%) 36 35	28, 47, 71, 92	0
27	Z	73/73 (100%)	2.91	36 (49%) 0 0	61, 98, 111, 115	0
28	1	56/57 (98%)	-0.00	0 100 100	29, 37, 43, 50	0
29	2	46/50 (92%)	0.61	6 (13%) 3 2	39, 68, 101, 114	0
30	3	92/92 (100%)	0.48	3 (3%) 46 46	40, 62, 75, 83	0
31	I	70/162 (43%)	3.94	61 (87%) 0 0	105, 124, 141, 141	0
All	All	6646/7462 (89%)	0.18	403 (6%) 21 20	24, 55, 105, 153	0

All (403) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
27	Z	26	VAL	12.9
23	V	1	THR	12.9
27	Z	20	ARG	11.0
27	Z	11	SER	9.9
27	Z	34	ASN	9.3
27	Z	21	VAL	9.0
31	I	137	VAL	8.5
6	D	63	ILE	8.0
31	I	133	THR	8.0
6	D	10	PHE	7.8
6	D	69	ILE	7.8
31	I	102	VAL	7.6
31	I	79	ILE	7.4
31	I	93	GLN	7.3
31	I	96	PHE	7.3
9	G	27	ILE	7.1
3	A	37	VAL	7.0
27	Z	14	PHE	7.0
27	Z	22	SER	7.0
27	Z	31	SER	7.0
27	Z	25	ARG	6.9
31	I	88	GLY	6.8
15	N	147	ILE	6.7
27	Z	18	TYR	6.7
27	Z	37	HIS	6.3
31	I	84	GLY	6.3
31	I	117	LEU	6.2
2	9	3001	U	6.1

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Mol	Chain	Res	Type	RSRZ
31	I	85	PHE	6.1
23	V	40	PRO	6.1
31	I	97	VAL	6.0
23	V	39	ALA	6.0
13	L	80	ASP	5.9
23	V	43	PRO	5.9
31	I	109	ALA	5.9
31	I	139	ILE	5.9
27	Z	30	GLU	5.9
6	D	66	GLY	5.9
31	I	71	GLY	5.8
27	Z	33	MET	5.7
31	I	111	GLN	5.6
27	Z	28	GLU	5.5
27	Z	16	ALA	5.5
31	I	105	VAL	5.5
6	D	26	GLY	5.5
27	Z	29	ILE	5.5
27	Z	35	GLU	5.4
1	0	1173	A	5.4
6	D	18	ILE	5.3
6	D	27	ILE	5.3
31	I	98	ALA	5.3
6	D	64	ARG	5.3
27	Z	32	GLU	5.2
1	0	1198	U	5.2
31	I	113	HIS	5.2
6	D	128	LEU	5.1
1	0	1177	A	5.0
15	N	166	ALA	5.0
31	I	81	ASP	4.9
27	Z	12	GLY	4.9
31	I	121	LEU	4.9
6	D	75	LEU	4.9
27	Z	23	ARG	4.9
27	Z	24	ARG	4.9
1	0	1172	G	4.8
6	D	171	ASP	4.8
3	A	237	GLY	4.8
31	I	91	GLU	4.7
15	N	183	ASP	4.7
27	Z	44	GLU	4.7

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Mol	Chain	Res	Type	RSRZ
3	A	38	ILE	4.6
31	I	83	ALA	4.6
1	0	1199	A	4.5
6	D	85	GLN	4.5
1	0	735	C	4.5
27	Z	45	ASP	4.5
31	I	135	LEU	4.5
31	I	107	GLN	4.4
6	D	11	HIS	4.4
31	I	77	GLU	4.4
8	F	119	ARG	4.4
15	N	145	ALA	4.4
27	Z	59	TYR	4.3
6	D	25	MET	4.3
31	I	116	LEU	4.3
27	Z	19	GLY	4.3
27	Z	36	ASP	4.2
6	D	61	PHE	4.2
6	D	170	TYR	4.2
6	D	62	ASP	4.2
31	I	103	ASP	4.1
26	Y	235	GLU	4.1
20	S	81	ILE	4.1
1	0	1951	G	4.1
6	D	88	LEU	4.1
13	L	89	PHE	4.1
6	D	57	THR	4.0
31	I	104	GLN	4.0
25	X	88	GLU	4.0
6	D	166	ILE	4.0
6	D	58	VAL	4.0
6	D	90	LEU	4.0
1	0	1175	G	4.0
6	D	17	ARG	3.9
1	0	1171	A	3.9
31	I	87	THR	3.9
3	A	82	VAL	3.9
6	D	93	LEU	3.9
6	D	89	PRO	3.9
13	L	60	GLU	3.9
27	Z	10	ARG	3.8
27	Z	15	GLY	3.8

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Mol	Chain	Res	Type	RSRZ
1	0	1169	U	3.8
23	V	8	ILE	3.8
31	I	76	ALA	3.8
1	0	2237	G	3.8
31	I	114	PRO	3.8
10	H	45	VAL	3.7
31	I	75	THR	3.7
3	A	60	PHE	3.7
31	I	73	PRO	3.7
27	Z	46	ARG	3.6
9	G	23	ILE	3.6
15	N	115	VAL	3.6
2	9	3002	U	3.6
15	N	179	LEU	3.6
31	I	106	LYS	3.6
31	I	136	GLY	3.6
15	N	172	PHE	3.5
15	N	161	GLY	3.5
6	D	23	VAL	3.5
13	L	81	VAL	3.5
31	I	128	VAL	3.5
15	N	162	ASP	3.5
23	V	31	ARG	3.5
6	D	141	VAL	3.4
6	D	84	LEU	3.4
31	I	110	GLU	3.4
9	G	24	VAL	3.4
6	D	172	VAL	3.4
23	V	3	LEU	3.4
26	Y	234	VAL	3.4
15	N	150	TYR	3.4
31	I	126	LYS	3.4
20	S	2	TRP	3.4
6	D	68	PRO	3.4
8	F	47	LEU	3.4
1	0	1170	U	3.4
2	9	3024	U	3.4
31	I	124	ALA	3.4
6	D	134	LEU	3.3
21	T	119	ALA	3.3
31	I	78	LEU	3.3
31	I	118	SER	3.3

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Mol	Chain	Res	Type	RSRZ
27	Z	17	ARG	3.3
23	V	52	ALA	3.3
15	N	148	ALA	3.2
13	L	106	VAL	3.2
1	0	970	U	3.2
1	0	1200	A	3.2
3	A	31	LYS	3.2
13	L	91	VAL	3.2
31	I	132	CYS	3.2
13	L	105	TYR	3.2
23	V	37	GLY	3.2
23	V	41	GLU	3.1
14	M	194	ALA	3.1
31	I	115	ASP	3.1
29	2	35	ARG	3.1
4	B	128	ILE	3.1
1	0	1202	A	3.1
1	0	282	C	3.1
6	D	106	PHE	3.1
23	V	38	GLY	3.1
15	N	75	THR	3.1
21	T	112	LEU	3.1
26	Y	98	GLN	3.1
6	D	44	ILE	3.1
13	L	150	GLN	3.0
21	T	116	ASP	3.0
31	I	100	LEU	3.0
31	I	92	PRO	3.0
6	D	13	MET	3.0
1	0	1168	C	3.0
23	V	49	LEU	3.0
9	G	21	ASP	3.0
21	T	115	GLU	3.0
13	L	99	GLU	3.0
27	Z	13	ARG	3.0
8	F	20	LEU	3.0
6	D	47	GLN	2.9
13	L	120	LEU	2.9
15	N	159	TYR	2.9
6	D	130	VAL	2.9
6	D	24	HIS	2.9
6	D	43	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
9	G	63	ARG	2.9
6	D	22	VAL	2.9
7	E	10	ASP	2.9
8	F	29	VAL	2.9
4	B	181	ILE	2.9
31	I	72	VAL	2.9
8	F	75	ILE	2.9
27	Z	47	VAL	2.9
3	A	133	ARG	2.9
6	D	73	VAL	2.8
8	F	91	VAL	2.8
23	V	32	ALA	2.8
30	3	1	MET	2.8
15	N	185	GLU	2.8
6	D	51	ARG	2.8
3	A	36	ASP	2.8
8	F	49	PHE	2.8
10	H	74	ILE	2.8
15	N	80	SER	2.8
3	A	88	ILE	2.8
31	I	80	LYS	2.8
31	I	86	GLU	2.8
13	L	75	LEU	2.8
23	V	59	ILE	2.8
30	3	76	LYS	2.8
6	D	72	LYS	2.7
9	G	71	LEU	2.7
29	2	39	ARG	2.7
1	0	1192	A	2.7
31	I	99	ASP	2.7
13	L	140	VAL	2.7
8	F	99	THR	2.7
3	A	85	SER	2.7
1	0	960	G	2.7
1	0	1178	G	2.7
1	0	2344	G	2.7
27	Z	27	ALA	2.7
23	V	5	VAL	2.7
3	A	35	GLY	2.7
8	F	17	LEU	2.7
23	V	44	GLY	2.7
23	V	7	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
31	I	129	VAL	2.7
13	L	104	ASP	2.7
1	0	1181	A	2.6
21	T	117	ASP	2.6
21	T	82	THR	2.6
3	A	96	LEU	2.6
29	2	49	GLU	2.6
1	0	285	A	2.6
6	D	71	ALA	2.6
3	A	103	VAL	2.6
6	D	56	ARG	2.6
10	H	137	TYR	2.6
6	D	45	THR	2.6
3	A	135	VAL	2.6
26	Y	97	LEU	2.6
6	D	98	PHE	2.6
25	X	80	GLU	2.6
9	G	73	ASP	2.6
1	0	1174	A	2.6
15	N	160	SER	2.6
1	0	1163	G	2.5
1	0	1167	G	2.5
13	L	133	VAL	2.5
3	A	97	ALA	2.5
15	N	152	GLU	2.5
23	V	35	ALA	2.5
31	I	122	THR	2.5
1	0	1180	U	2.5
4	B	119	HIS	2.5
15	N	119	GLN	2.5
9	G	65	THR	2.5
13	L	118	LEU	2.5
25	X	77	PHE	2.5
31	I	89	SER	2.5
31	I	108	ILE	2.5
16	O	48	ILE	2.5
1	0	1950	G	2.5
17	P	67	LYS	2.5
8	F	44	SER	2.5
8	F	98	VAL	2.5
29	2	36	ASN	2.5
31	I	123	ASN	2.5

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Mol	Chain	Res	Type	RSRZ
20	S	68	LEU	2.4
13	L	147	GLU	2.4
15	N	127	LEU	2.4
15	N	158	LEU	2.4
7	E	170	ARG	2.4
25	X	74	ALA	2.4
2	9	3023	U	2.4
25	X	7	GLU	2.4
17	P	71	TYR	2.4
23	V	23	LEU	2.4
23	V	42	ASN	2.4
3	A	94	LEU	2.4
1	0	1279	U	2.4
20	S	67	ARG	2.4
15	N	149	GLU	2.4
1	0	1195	G	2.4
3	A	89	ALA	2.4
13	L	100	ALA	2.4
8	F	39	SER	2.4
21	T	118	SER	2.4
27	Z	58	SER	2.4
6	D	41	LEU	2.4
15	N	83	LEU	2.4
20	S	1	SER	2.4
3	A	236	GLY	2.4
6	D	92	GLU	2.4
31	I	125	ALA	2.3
15	N	143	ARG	2.3
23	V	33	VAL	2.3
6	D	136	ARG	2.3
13	L	97	VAL	2.3
27	Z	79	VAL	2.3
1	0	2884	G	2.3
9	G	72	ASP	2.3
9	G	26	MET	2.3
10	H	83	TYR	2.3
13	L	96	VAL	2.3
6	D	65	GLU	2.3
3	A	34	ASP	2.3
7	E	45	ASP	2.3
15	N	167	ASP	2.3
31	I	90	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
23	V	2	VAL	2.3
15	N	138	ASP	2.3
15	N	64	SER	2.3
1	0	1204	C	2.3
6	D	81	GLU	2.3
1	0	1193	A	2.3
6	D	104	PHE	2.3
8	F	28	ALA	2.2
6	D	83	PHE	2.2
7	E	87	PHE	2.2
29	2	42	TRP	2.2
10	H	71	ARG	2.2
31	I	95	ASP	2.2
31	I	120	ASP	2.2
20	S	49	VAL	2.2
15	N	180	LEU	2.2
31	I	74	PRO	2.2
1	0	2004	U	2.2
8	F	106	ALA	2.2
20	S	45	TYR	2.2
23	V	46	ILE	2.2
6	D	70	GLY	2.2
6	D	165	PHE	2.2
3	A	58	VAL	2.2
20	S	77	VAL	2.2
27	Z	80	ARG	2.2
1	0	284	C	2.2
6	D	162	ALA	2.2
3	A	99	ILE	2.2
6	D	40	ILE	2.2
15	N	139	TRP	2.2
26	Y	108	ASP	2.2
3	A	41	THR	2.2
31	I	138	THR	2.2
22	U	47	ARG	2.2
25	X	71	ARG	2.2
6	D	135	VAL	2.1
8	F	90	GLU	2.1
31	I	140	GLU	2.1
6	D	129	ASP	2.1
1	0	2238	A	2.1
15	N	178	THR	2.1

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Mol	Chain	Res	Type	RSRZ
7	E	108	LEU	2.1
15	N	175	LEU	2.1
3	A	83	GLY	2.1
6	D	28	GLY	2.1
15	N	137	ALA	2.1
1	0	370	G	2.1
9	G	28	GLU	2.1
15	N	118	ILE	2.1
6	D	137	PRO	2.1
13	L	130	ARG	2.1
26	Y	216	ARG	2.1
3	A	59	GLU	2.1
15	N	155	GLU	2.1
13	L	125	PHE	2.1
1	0	2345	A	2.1
3	A	64	ASP	2.1
8	F	16	ALA	2.1
6	D	76	ARG	2.1
16	O	89	ILE	2.1
25	X	85	VAL	2.1
10	H	73	LEU	2.1
1	0	138	U	2.1
3	A	80	LEU	2.1
3	A	158	VAL	2.1
7	E	5	LEU	2.1
20	S	24	LEU	2.1
23	V	28	LEU	2.1
21	T	85	GLU	2.1
8	F	11	ASP	2.0
8	F	15	ASP	2.0
29	2	24	TRP	2.0
12	K	132	VAL	2.0
23	V	45	ARG	2.0
5	C	135	GLU	2.0
8	F	117	GLU	2.0
3	A	62	ASP	2.0
8	F	14	ASP	2.0
24	W	93	ILE	2.0
30	3	6	ARG	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
1	OMU	0	2587	21/22	0.98	0.13	34,36,37,39	0
1	OMG	0	2588	24/25	0.98	0.15	33,36,38,39	0
1	UR3	0	2619	21/22	0.98	0.16	36,39,42,48	0
1	1MA	0	628	23/24	0.99	0.18	28,32,33,35	0
1	PSU	0	2621	20/21	0.99	0.14	28,30,33,34	0

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
35	NA	R	8586	1/1	0.48	0.80	95,95,95,95	0
35	NA	0	8529	1/1	0.55	0.45	77,77,77,77	0
33	MG	0	8090	1/1	0.68	0.75	69,69,69,69	0
35	NA	0	8568	1/1	0.69	0.18	71,71,71,71	0
35	NA	9	8551	1/1	0.71	0.19	50,50,50,50	0
33	MG	0	8049	1/1	0.75	0.19	92,92,92,92	0
35	NA	0	8571	1/1	0.78	0.42	65,65,65,65	0
35	NA	0	8582	1/1	0.78	0.21	79,79,79,79	0
35	NA	0	8552	1/1	0.78	0.21	62,62,62,62	0
35	NA	0	8540	1/1	0.78	0.21	58,58,58,58	0
35	NA	0	8577	1/1	0.80	0.38	71,71,71,71	0
33	MG	0	8092	1/1	0.80	0.13	89,89,89,89	0
35	NA	0	8574	1/1	0.82	0.54	66,66,66,66	0
35	NA	H	8522	1/1	0.83	0.34	67,67,67,67	0
35	NA	C	8504	1/1	0.84	0.27	49,49,49,49	0
33	MG	T	8073	1/1	0.85	0.12	71,71,71,71	0
33	MG	0	8114	1/1	0.85	0.66	67,67,67,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8563	1/1	0.85	0.46	57,57,57,57	0
35	NA	R	8538	1/1	0.85	0.08	60,60,60,60	0
35	NA	0	8533	1/1	0.85	0.14	39,39,39,39	0
35	NA	0	8585	1/1	0.86	0.26	51,51,51,51	0
35	NA	9	8583	1/1	0.86	0.43	65,65,65,65	0
33	MG	0	8096	1/1	0.87	0.11	52,52,52,52	0
35	NA	0	8566	1/1	0.87	0.30	66,66,66,66	0
35	NA	S	8512	1/1	0.87	0.09	43,43,43,43	0
36	CL	0	8722	1/1	0.87	0.36	81,81,81,81	0
33	MG	0	8087	1/1	0.88	0.12	66,66,66,66	0
33	MG	0	8116	1/1	0.88	0.07	58,58,58,58	0
35	NA	0	8584	1/1	0.88	0.14	62,62,62,62	0
33	MG	0	8082	1/1	0.88	0.14	63,63,63,63	0
35	NA	0	8526	1/1	0.89	0.64	58,58,58,58	0
35	NA	R	8537	1/1	0.89	0.25	48,48,48,48	0
36	CL	0	8705	1/1	0.89	0.20	67,67,67,67	0
35	NA	0	8567	1/1	0.89	0.29	59,59,59,59	0
35	NA	0	8513	1/1	0.90	0.09	62,62,62,62	0
33	MG	9	8095	1/1	0.90	0.12	76,76,76,76	0
33	MG	A	8066	1/1	0.90	0.04	72,72,72,72	0
35	NA	0	8569	1/1	0.90	0.37	74,74,74,74	0
35	NA	0	8532	1/1	0.90	0.30	49,49,49,49	0
33	MG	0	8050	1/1	0.90	0.08	59,59,59,59	0
35	NA	0	8503	1/1	0.90	0.36	47,47,47,47	0
35	NA	0	8542	1/1	0.90	0.39	47,47,47,47	0
35	NA	0	8506	1/1	0.90	0.37	48,48,48,48	0
35	NA	0	8511	1/1	0.90	0.15	50,50,50,50	0
32	GIR	0	9000	12/12	0.91	0.21	23,40,50,53	0
33	MG	0	8100	1/1	0.91	0.18	66,66,66,66	0
33	MG	0	8102	1/1	0.91	0.29	73,73,73,73	0
33	MG	0	8104	1/1	0.91	0.23	65,65,65,65	0
33	MG	0	8113	1/1	0.91	0.12	53,53,53,53	0
33	MG	0	8041	1/1	0.91	0.20	56,56,56,56	0
36	CL	0	8717	1/1	0.91	0.11	65,65,65,65	0
33	MG	0	8044	1/1	0.91	0.10	46,46,46,46	0
36	CL	O	8708	1/1	0.91	0.21	73,73,73,73	0
35	NA	0	8556	1/1	0.92	0.20	49,49,49,49	0
35	NA	0	8557	1/1	0.92	0.12	61,61,61,61	0
35	NA	0	8561	1/1	0.92	0.24	56,56,56,56	0
35	NA	0	8562	1/1	0.92	0.20	60,60,60,60	0
35	NA	0	8508	1/1	0.92	0.15	56,56,56,56	0
35	NA	0	8516	1/1	0.92	0.25	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8510	1/1	0.92	0.12	36,36,36,36	0
35	NA	0	8527	1/1	0.92	0.17	44,44,44,44	0
33	MG	0	8046	1/1	0.92	0.09	53,53,53,53	0
35	NA	J	8546	1/1	0.93	0.13	53,53,53,53	0
35	NA	0	8565	1/1	0.93	0.38	40,40,40,40	0
33	MG	0	8103	1/1	0.93	0.18	82,82,82,82	0
33	MG	0	8101	1/1	0.93	0.19	69,69,69,69	0
33	MG	0	8047	1/1	0.93	0.13	74,74,74,74	0
35	NA	0	8550	1/1	0.93	0.26	45,45,45,45	0
36	CL	0	8713	1/1	0.93	0.08	65,65,65,65	0
36	CL	0	8715	1/1	0.93	0.25	86,86,86,86	0
35	NA	0	8517	1/1	0.93	0.06	51,51,51,51	0
35	NA	0	8573	1/1	0.93	0.29	69,69,69,69	0
36	CL	A	8709	1/1	0.93	0.24	77,77,77,77	0
35	NA	0	8564	1/1	0.93	0.29	53,53,53,53	0
36	CL	3	8704	1/1	0.93	0.16	71,71,71,71	0
33	MG	0	8039	1/1	0.94	0.11	52,52,52,52	0
33	MG	B	8055	1/1	0.94	0.05	48,48,48,48	0
33	MG	0	8053	1/1	0.94	0.16	45,45,45,45	0
33	MG	0	8097	1/1	0.94	0.10	34,34,34,34	0
35	NA	0	8559	1/1	0.94	0.24	49,49,49,49	0
33	MG	0	8081	1/1	0.94	0.10	49,49,49,49	0
35	NA	0	8507	1/1	0.94	0.32	59,59,59,59	0
35	NA	0	8541	1/1	0.94	0.10	50,50,50,50	0
36	CL	J	8701	1/1	0.94	0.22	66,66,66,66	0
35	NA	0	8521	1/1	0.94	0.28	61,61,61,61	0
35	NA	0	8581	1/1	0.94	0.07	48,48,48,48	0
35	NA	H	8509	1/1	0.95	0.10	39,39,39,39	0
33	MG	0	8084	1/1	0.95	0.05	47,47,47,47	0
35	NA	0	8505	1/1	0.95	0.18	33,33,33,33	0
35	NA	M	8547	1/1	0.95	0.18	34,34,34,34	0
35	NA	Q	8548	1/1	0.95	0.06	42,42,42,42	0
35	NA	0	8570	1/1	0.95	0.35	69,69,69,69	0
33	MG	0	8085	1/1	0.95	0.12	54,54,54,54	0
35	NA	0	8572	1/1	0.95	0.28	54,54,54,54	0
35	NA	0	8558	1/1	0.95	0.35	82,82,82,82	0
33	MG	0	8086	1/1	0.95	0.07	52,52,52,52	0
35	NA	0	8560	1/1	0.95	0.30	51,51,51,51	0
35	NA	0	8534	1/1	0.95	0.07	45,45,45,45	0
35	NA	0	8535	1/1	0.95	0.22	56,56,56,56	0
35	NA	0	8536	1/1	0.95	0.10	55,55,55,55	0
33	MG	0	8075	1/1	0.95	0.06	44,44,44,44	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8523	1/1	0.95	0.17	43,43,43,43	0
36	CL	L	8710	1/1	0.95	0.19	60,60,60,60	0
36	CL	N	8707	1/1	0.95	0.11	66,66,66,66	0
35	NA	0	8524	1/1	0.95	0.19	62,62,62,62	0
35	NA	0	8501	1/1	0.95	0.21	32,32,32,32	0
33	MG	0	8043	1/1	0.96	0.08	48,48,48,48	0
33	MG	0	8091	1/1	0.96	0.07	51,51,51,51	0
34	K	0	8401	1/1	0.96	0.18	85,85,85,85	0
35	NA	0	8514	1/1	0.96	0.27	38,38,38,38	0
35	NA	0	8575	1/1	0.96	0.27	61,61,61,61	0
35	NA	0	8515	1/1	0.96	0.20	42,42,42,42	0
33	MG	0	8014	1/1	0.96	0.16	32,32,32,32	0
33	MG	0	8031	1/1	0.96	0.12	34,34,34,34	0
36	CL	0	8714	1/1	0.96	0.14	54,54,54,54	0
35	NA	0	8539	1/1	0.96	0.15	30,30,30,30	0
36	CL	0	8716	1/1	0.96	0.09	56,56,56,56	0
33	MG	0	8068	1/1	0.96	0.04	61,61,61,61	0
33	MG	0	8099	1/1	0.96	0.16	45,45,45,45	0
33	MG	0	8071	1/1	0.96	0.04	69,69,69,69	0
35	NA	A	8545	1/1	0.96	0.16	62,62,62,62	0
35	NA	0	8543	1/1	0.96	0.19	39,39,39,39	0
35	NA	0	8549	1/1	0.96	0.18	51,51,51,51	0
35	NA	0	8525	1/1	0.96	0.15	56,56,56,56	0
36	CL	R	8706	1/1	0.96	0.15	46,46,46,46	0
33	MG	0	8042	1/1	0.96	0.10	38,38,38,38	0
37	CD	O	8605	1/1	0.96	0.08	93,93,93,93	0
33	MG	0	8064	1/1	0.97	0.07	30,30,30,30	0
33	MG	0	8067	1/1	0.97	0.12	52,52,52,52	0
33	MG	0	8110	1/1	0.97	0.11	27,27,27,27	0
35	NA	0	8530	1/1	0.97	0.15	50,50,50,50	0
35	NA	0	8531	1/1	0.97	0.15	50,50,50,50	0
35	NA	0	8578	1/1	0.97	0.28	51,51,51,51	0
35	NA	0	8579	1/1	0.97	0.19	64,64,64,64	0
33	MG	0	8035	1/1	0.97	0.05	46,46,46,46	0
33	MG	0	8070	1/1	0.97	0.16	50,50,50,50	0
33	MG	0	8013	1/1	0.97	0.12	38,38,38,38	0
33	MG	0	8072	1/1	0.97	0.07	63,63,63,63	0
33	MG	0	8040	1/1	0.97	0.13	60,60,60,60	0
33	MG	0	8080	1/1	0.97	0.19	45,45,45,45	0
33	MG	K	8069	1/1	0.97	0.05	58,58,58,58	0
33	MG	0	8008	1/1	0.97	0.14	37,37,37,37	0
33	MG	0	8015	1/1	0.97	0.14	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	8023	1/1	0.97	0.26	41,41,41,41	0
35	NA	0	8544	1/1	0.97	0.10	28,28,28,28	0
35	NA	L	8580	1/1	0.97	0.28	57,57,57,57	0
35	NA	0	8502	1/1	0.97	0.21	51,51,51,51	0
33	MG	0	8025	1/1	0.97	0.09	37,37,37,37	0
33	MG	0	8027	1/1	0.97	0.04	44,44,44,44	0
35	NA	0	8553	1/1	0.97	0.11	30,30,30,30	0
35	NA	0	8555	1/1	0.97	0.34	57,57,57,57	0
33	MG	0	8028	1/1	0.97	0.05	38,38,38,38	0
36	CL	0	8703	1/1	0.97	0.08	58,58,58,58	0
33	MG	0	8088	1/1	0.97	0.14	38,38,38,38	0
33	MG	0	8089	1/1	0.97	0.14	74,74,74,74	0
33	MG	0	8012	1/1	0.97	0.10	39,39,39,39	0
33	MG	0	8032	1/1	0.97	0.06	28,28,28,28	0
33	MG	0	8051	1/1	0.97	0.05	59,59,59,59	0
33	MG	0	8093	1/1	0.97	0.09	56,56,56,56	0
33	MG	0	8094	1/1	0.97	0.07	77,77,77,77	0
33	MG	0	8033	1/1	0.97	0.09	31,31,31,31	0
33	MG	0	8054	1/1	0.97	0.17	37,37,37,37	0
36	CL	J	8702	1/1	0.97	0.10	57,57,57,57	0
35	NA	0	8518	1/1	0.97	0.19	42,42,42,42	0
35	NA	0	8520	1/1	0.97	0.14	34,34,34,34	0
33	MG	0	8057	1/1	0.97	0.18	45,45,45,45	0
33	MG	0	8058	1/1	0.97	0.06	39,39,39,39	0
33	MG	0	8061	1/1	0.97	0.17	41,41,41,41	0
33	MG	0	8063	1/1	0.97	0.21	60,60,60,60	0
37	CD	Z	8603	1/1	0.97	0.09	98,98,98,98	0
33	MG	0	8019	1/1	0.98	0.06	35,35,35,35	0
33	MG	0	8036	1/1	0.98	0.06	33,33,33,33	0
33	MG	0	8037	1/1	0.98	0.09	43,43,43,43	0
33	MG	0	8062	1/1	0.98	0.09	54,54,54,54	0
33	MG	0	8020	1/1	0.98	0.09	33,33,33,33	0
33	MG	0	8021	1/1	0.98	0.12	30,30,30,30	0
33	MG	0	8022	1/1	0.98	0.10	38,38,38,38	0
33	MG	0	8004	1/1	0.98	0.09	29,29,29,29	0
35	NA	0	8554	1/1	0.98	0.16	40,40,40,40	0
33	MG	0	8098	1/1	0.98	0.08	40,40,40,40	0
33	MG	0	8024	1/1	0.98	0.13	21,21,21,21	0
33	MG	0	8007	1/1	0.98	0.13	22,22,22,22	0
33	MG	0	8045	1/1	0.98	0.07	53,53,53,53	0
33	MG	0	8074	1/1	0.98	0.05	36,36,36,36	0
33	MG	0	8026	1/1	0.98	0.17	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
33	MG	0	8076	1/1	0.98	0.12	55,55,55,55	0
33	MG	0	8106	1/1	0.98	0.09	65,65,65,65	0
33	MG	0	8107	1/1	0.98	0.08	36,36,36,36	0
33	MG	0	8077	1/1	0.98	0.14	33,33,33,33	0
36	CL	0	8712	1/1	0.98	0.08	49,49,49,49	0
33	MG	0	8111	1/1	0.98	0.09	42,42,42,42	0
33	MG	0	8079	1/1	0.98	0.17	37,37,37,37	0
33	MG	0	8002	1/1	0.98	0.09	34,34,34,34	0
33	MG	0	8115	1/1	0.98	0.08	52,52,52,52	0
35	NA	0	8528	1/1	0.98	0.32	42,42,42,42	0
33	MG	0	8048	1/1	0.98	0.12	54,54,54,54	0
33	MG	0	8117	1/1	0.98	0.06	32,32,32,32	0
36	CL	B	8719	1/1	0.98	0.12	51,51,51,51	0
33	MG	0	8011	1/1	0.98	0.18	27,27,27,27	0
33	MG	0	8029	1/1	0.98	0.07	35,35,35,35	0
36	CL	J	8721	1/1	0.98	0.10	58,58,58,58	0
33	MG	0	8016	1/1	0.98	0.09	40,40,40,40	0
33	MG	B	8056	1/1	0.98	0.05	55,55,55,55	0
35	NA	0	8576	1/1	0.98	0.24	46,46,46,46	0
36	CL	Q	8711	1/1	0.98	0.09	55,55,55,55	0
33	MG	0	8052	1/1	0.98	0.07	54,54,54,54	0
36	CL	Y	8720	1/1	0.98	0.13	46,46,46,46	0
33	MG	0	8017	1/1	0.98	0.13	26,26,26,26	0
33	MG	3	8078	1/1	0.98	0.06	43,43,43,43	0
33	MG	0	8018	1/1	0.98	0.14	50,50,50,50	0
33	MG	Y	8109	1/1	0.99	0.09	37,37,37,37	0
33	MG	0	8059	1/1	0.99	0.06	43,43,43,43	0
33	MG	0	8112	1/1	0.99	0.12	42,42,42,42	0
34	K	0	8402	1/1	0.99	0.14	57,57,57,57	0
33	MG	0	8060	1/1	0.99	0.27	40,40,40,40	0
33	MG	0	8006	1/1	0.99	0.06	33,33,33,33	0
33	MG	0	8034	1/1	0.99	0.09	33,33,33,33	0
33	MG	0	8003	1/1	0.99	0.09	35,35,35,35	0
36	CL	M	8718	1/1	0.99	0.13	47,47,47,47	0
33	MG	0	8001	1/1	0.99	0.14	36,36,36,36	0
33	MG	0	8030	1/1	0.99	0.10	25,25,25,25	0
33	MG	A	8065	1/1	0.99	0.06	41,41,41,41	0
33	MG	0	8038	1/1	0.99	0.13	34,34,34,34	0
33	MG	0	8009	1/1	0.99	0.17	35,35,35,35	0
33	MG	0	8083	1/1	0.99	0.12	43,43,43,43	0
33	MG	0	8108	1/1	0.99	0.09	70,70,70,70	0
33	MG	0	8005	1/1	0.99	0.16	33,33,33,33	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
37	CD	1	8602	1/1	0.99	0.10	63,63,63,63	0
37	CD	3	8604	1/1	0.99	0.08	68,68,68,68	0
37	CD	U	8601	1/1	1.00	0.09	62,62,62,62	0
33	MG	0	8010	1/1	1.00	0.17	33,33,33,33	0

6.5 Other polymers [i](#)

There are no such residues in this entry.