



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 27, 2023 – 04:07 AM EDT

PDB ID : 3G6E  
Title : Co-crystal structure of Homoharringtonine bound to the large ribosomal subunit  
Authors : Gurel, G.; Blaha, G.; Moore, P.B.; Steitz, T.A.  
Deposited on : 2009-02-06  
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](mailto: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>.

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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  
buster-report : 1.1.7 (2018)  
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

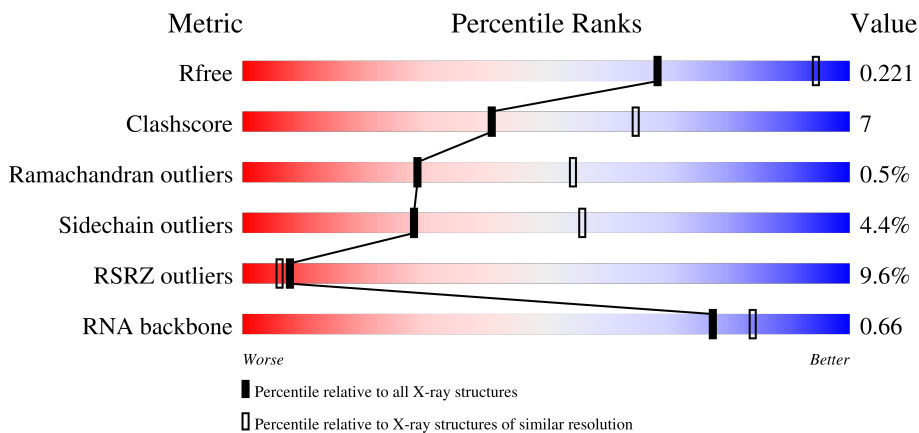
# 1 Overall quality at a glance

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  $\geq 3$ , 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	2923	
2	A	237	
3	B	337	
4	C	246	

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Mol	Chain	Length	Quality of chain
5	D	177	46% 65% 14% 21%
6	E	172	10% 91% 9%
7	F	119	30% 92% 8%
8	G	348	3% 8% 92%
9	H	177	28% 79% 11% 10%
10	I	70	93% 94% 6%
11	J	142	2% 87% 13%
12	K	132	4% 90% 9%
13	L	165	22% 78% 10% 12%
14	M	194	% 86% 13%
15	N	186	30% 85% 15%
16	O	115	5% 96%
17	P	143	5% 90% 10%
18	Q	95	87% 12%
19	R	150	89% 9%
20	S	81	20% 93% 7%
21	T	119	16% 86% 13%
22	U	53	6% 94% 6%
23	V	65	54% 92% 8%
24	W	154	2% 81% 18%
25	X	82	11% 83% 16%
26	Y	142	4% 92% 7%
27	Z	73	49% 90% 10%
28	1	56	84% 16%
29	2	50	16% 74% 18% 8%

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Mol	Chain	Length	Quality of chain
30	3	92	
31	9	122	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	0	8030	-	-	-	X
34	NA	0	8522	-	-	-	X
34	NA	0	8546	-	-	-	X
34	NA	0	8561	-	-	-	X
34	NA	0	8562	-	-	-	X
36	SR	0	8913	-	-	-	X
36	SR	0	8923	-	-	-	X
36	SR	0	8933	-	-	-	X
36	SR	0	8934	-	-	-	X
36	SR	0	8957	-	-	-	X
36	SR	0	8974	-	-	-	X
36	SR	0	8976	-	-	-	X
36	SR	0	8982	-	-	-	X
36	SR	0	8994	-	-	-	X
36	SR	0	9004	-	-	-	X
36	SR	0	9006	-	-	-	X
36	SR	B	8987	-	-	-	X
36	SR	J	8986	-	-	-	X

## 2 Entry composition [i](#)

There are 39 unique types of molecules in this entry. The entry contains 99174 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	26349	10873	19054	2745	0	0	0

- Molecule 2 is a protein called 50S ribosomal protein L2P.

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

- Molecule 3 is a protein called 50S ribosomal protein L3P.

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

- Molecule 4 is a protein called 50S ribosomal protein L4P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	C	246	1860	1130	345	384	1	0	0	0

- Molecule 5 is a protein called 50S ribosomal protein L5P.

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

- Molecule 6 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	E	172	1358	840	224	290	4	0	0	0

- Molecule 7 is a protein called 50S ribosomal protein L7Ae.

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

- Molecule 8 is a protein called 50S ribosomal protein L10E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	G	29	240	149	39	51	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	H	160	1282	798	240	238	6	0	0	0

- Molecule 10 is a protein called 50S ribosomal protein L11P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	I	70	520	323	81	115	1	0	0	0

- 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	994	609	189	192	4	0	0	0

- 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	1559	943	333	282	1	0	0	0

- 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	1137	683	229	225	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	1150	713	209	224	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	642	389	111	139	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
			411	244	75	87	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
			500	304	94	101	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
			655	402	129	123	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
			1131	686	228	217			

- 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
			574	343	113	113	5			

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



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	1	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

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

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

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

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

- Molecule 31 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	9	122	Total	C	N	O	P	0	0	0
			2599	1160	471	847	121			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	0	85	Total	Mg	0	0
			85	85		
32	A	1	Total	Mg	0	0
			1	1		
32	B	1	Total	Mg	0	0
			1	1		
32	K	1	Total	Mg	0	0
			1	1		
32	T	1	Total	Mg	0	0
			1	1		
32	Y	1	Total	Mg	0	0
			1	1		
32	2	1	Total	Mg	0	0
			1	1		
32	9	2	Total	Mg	0	0
			2	2		

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

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

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	0	66	Total Na 66 66	0	0
34	C	1	Total Na 1 1	0	0
34	J	1	Total Na 1 1	0	0
34	M	1	Total Na 1 1	0	0
34	Q	1	Total Na 1 1	0	0
34	R	1	Total Na 1 1	0	0
34	S	1	Total Na 1 1	0	0
34	9	3	Total Na 3 3	0	0

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	10	Total Cl 10 10	0	0
35	A	1	Total Cl 1 1	0	0
35	B	1	Total Cl 1 1	0	0
35	J	3	Total Cl 3 3	0	0
35	L	1	Total Cl 1 1	0	0
35	M	1	Total Cl 1 1	0	0
35	N	1	Total Cl 1 1	0	0
35	O	1	Total Cl 1 1	0	0
35	R	1	Total Cl 1 1	0	0

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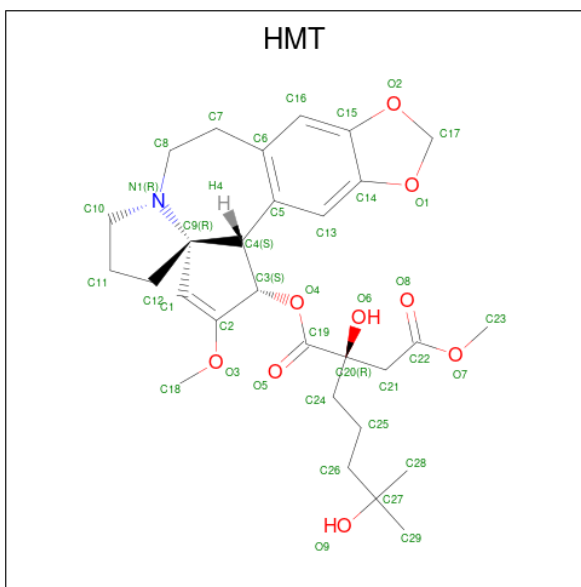
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	Y	1	Total Cl 1 1	0	0
35	3	1	Total Cl 1 1	0	0

- Molecule 36 is STRONTIUM ION (three-letter code: SR) (formula: Sr).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	0	93	Total Sr 93 93	0	0
36	A	3	Total Sr 3 3	0	0
36	B	2	Total Sr 2 2	0	0
36	F	1	Total Sr 1 1	0	0
36	J	1	Total Sr 1 1	0	0
36	R	1	Total Sr 1 1	0	0
36	S	1	Total Sr 1 1	0	0
36	1	1	Total Sr 1 1	0	0
36	3	2	Total Sr 2 2	0	0
36	9	3	Total Sr 3 3	0	0

- Molecule 37 is (3beta)-O 3 -[(2R)-2,6-dihydroxy-2-(2-methoxy-2-oxoethyl)-6-methylheptano yl]cephalotaxine (three-letter code: HMT) (formula: C<sub>29</sub>H<sub>39</sub>NO<sub>9</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
37	0	1	Total	C	N	O	0	0
			39	29	1	9		

- Molecule 38 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	O	1	Total	Cd	0	0
			1	1		
38	U	1	Total	Cd	0	0
			1	1		
38	Z	1	Total	Cd	0	0
			1	1		
38	1	1	Total	Cd	0	0
			1	1		
38	3	1	Total	Cd	0	0
			1	1		

- Molecule 39 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
39	0	5969	Total	O	0	0
			5969	5969		
39	A	111	Total	O	0	0
			111	111		
39	B	138	Total	O	0	0
			138	138		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
39	C	169	Total 169	O 169	0	0
39	D	44	Total 44	O 44	0	0
39	E	45	Total 45	O 45	0	0
39	F	26	Total 26	O 26	0	0
39	G	17	Total 17	O 17	0	0
39	H	65	Total 65	O 65	0	0
39	I	6	Total 6	O 6	0	0
39	J	51	Total 51	O 51	0	0
39	K	59	Total 59	O 59	0	0
39	L	84	Total 84	O 84	0	0
39	M	119	Total 119	O 119	0	0
39	N	60	Total 60	O 60	0	0
39	O	37	Total 37	O 37	0	0
39	P	67	Total 67	O 67	0	0
39	Q	42	Total 42	O 42	0	0
39	R	81	Total 81	O 81	0	0
39	S	30	Total 30	O 30	0	0
39	T	34	Total 34	O 34	0	0
39	U	26	Total 26	O 26	0	0
39	V	10	Total 10	O 10	0	0
39	W	67	Total 67	O 67	0	0

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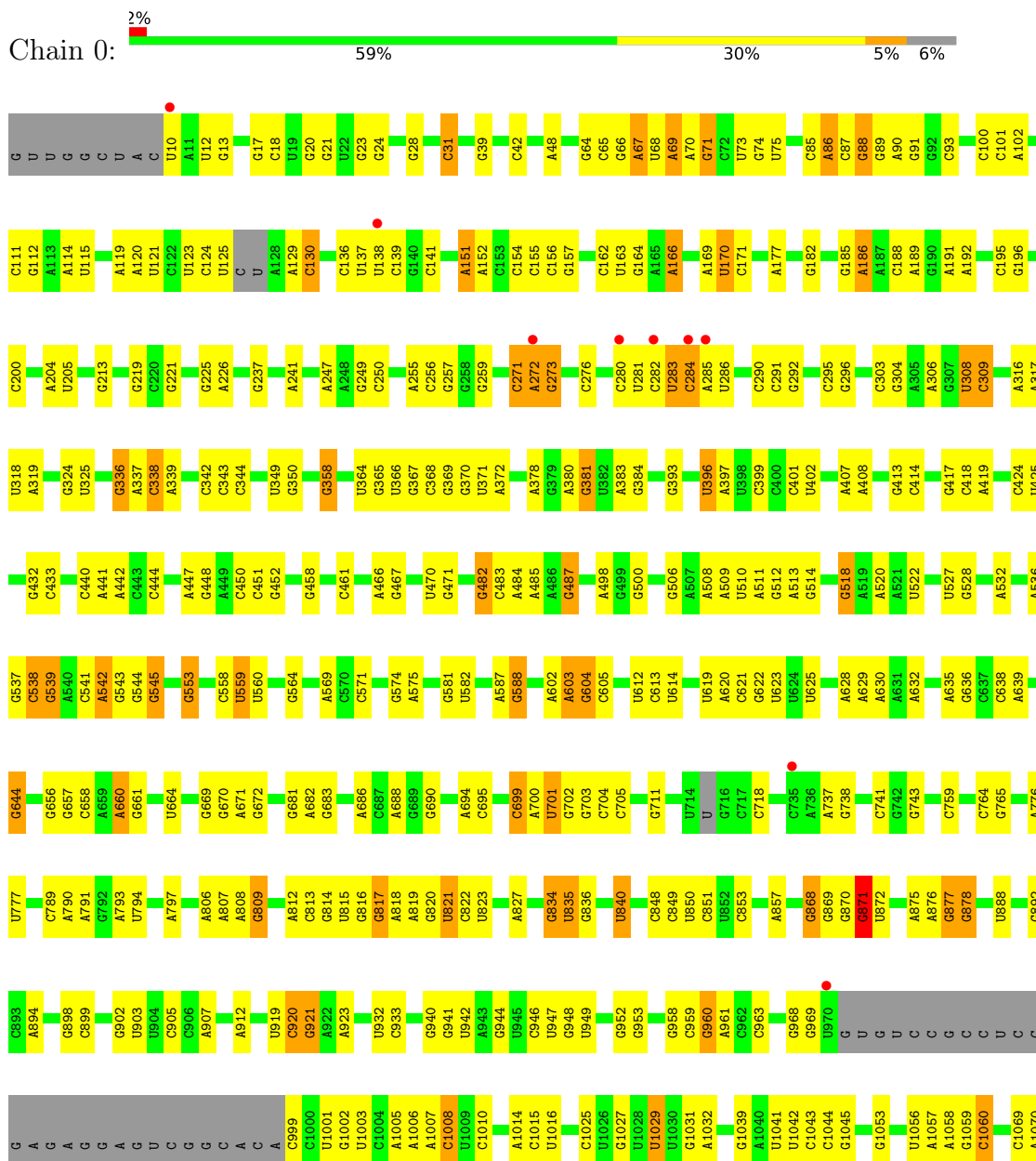
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>	<b>ZeroOcc</b>	<b>AltConf</b>
39	X	25	Total O 25 25	0	0
39	Y	96	Total O 96 96	0	0
39	Z	32	Total O 32 32	0	0
39	1	52	Total O 52 52	0	0
39	2	44	Total O 44 44	0	0
39	3	66	Total O 66 66	0	0
39	9	151	Total O 151 151	0	0

### 3 Residue-property plots

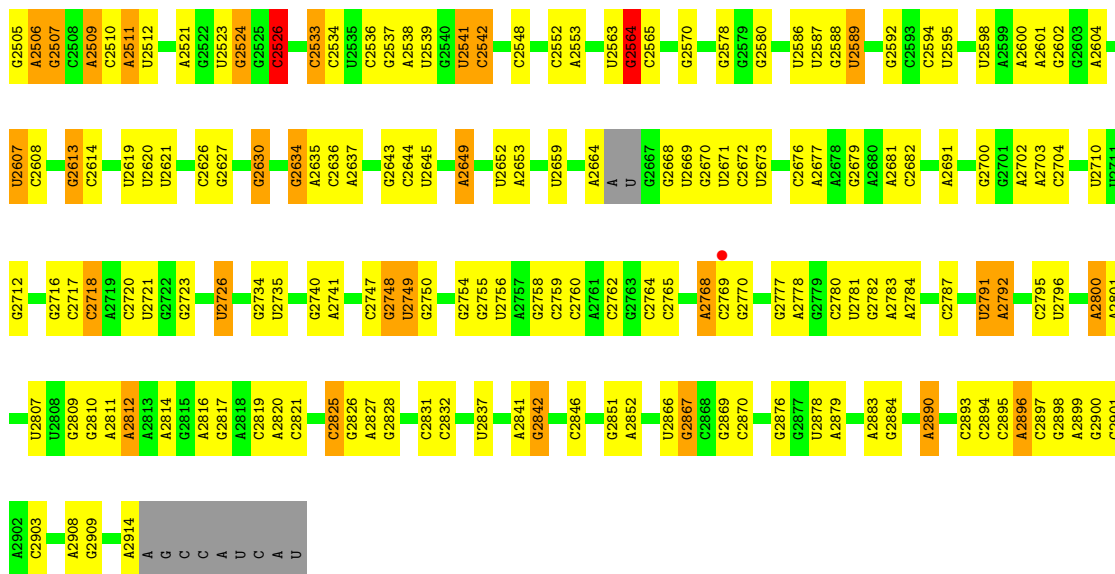
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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

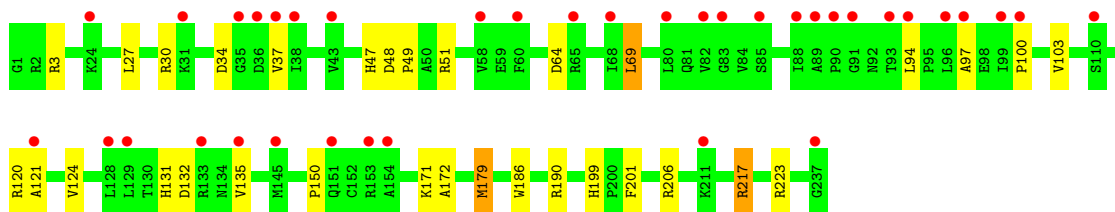
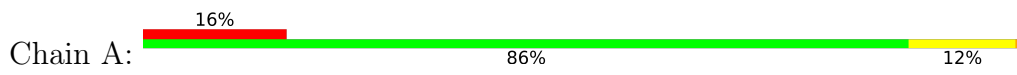


A2402	U2297	G2033	C1940	G1706	G1605	U1500	G1385	A1246	G1175	G1071
A2408	A2300	U2034	A1941	C1714	A1815	U1503	G1386	U1249	C1176	G1072
G2412	A2301	A2039	A1942	C1715	C1816	A1504	G1387	C1250	A1177	A1073
A2414	A2302	C2040	C1946	A1716	G1819	U1505	G1391	C1251	G1178	A1078
A2415	G2050	G2050	G1947	A1717	A1615	U1506	A1392	C1268	U1180	A1081
G2416	A2054	C	G1948	U1722	G1618	U1524	G1398	G1269	A1181	
U2419	U2064	C	G1949	G1723	A1829	G1525	A1399	C1273	C1182	A1088
G2420	C2065	C	G1950	G1724	G1620	A1526	A1406	C1279	C1183	
G2421	C2066	A	A	C1725	G1621	A1527	A1407	U1278	C1184	
G2422	C2066	A	A	G1730	G1622	A1528	A1408	A1279	U1185	U1096
G2426	G2072	C	C	C1731	G1623	A1529	G1409		C1186	U1097
A2433	G2073	C	U	U1741	A1624	G1535	G1410	C1289	U1187	A1098
A2434	A2074	C	A	A1742	A1625	C1536	A1413	G1290	A1190	C1102
U2435	A2081	C	A	C1750	A1630	C1537	G1415	G1295	A1191	C1103
C2443	C2087	C	C	C1751	A1631	U1544	U1419	G1299	A1192	U1109
U2444	C2088	C	C	G1752	A1632	C1545	C1420	G1300	U1198	G1110
U2445	A2089	C	C	G1753	C1633	U1548	C1421	G1306	A1199	U1116
G2446	G2090	C	U	C1754	G1634	G1552	C1422	U1307	A1200	
A2456	G2091	C	C	A1755	G1635	G1553	C1423	A1307	C1201	A1117
U2457	G2092	C	U	G1756	A1637	C1554	A1424	A1308	A1202	A1118
G2462	A2096	C	U	G1757	A1641	G1555	G1425	A1309	G1203	G1119
C2463	A2100	C	U	C1762	A1642	G1556	A1426	U1310	C1204	U1120
A2465	A2101	C	U	U1766	A1643	U1559	A1427	A1328	U1206	U1122
G2466	G2102	C	C	A1767	A1644	U	C1439	G1328	A1207	A1123
A2468	C2103	C	C	G1768	A1653	C1561	U1440	A1330	C1208	C1129
A2470	C2104	C	U	C1769	G1654	U1562	U1441	G1331	C1209	U1130
G2471	G2110	C	U	G1770	G1655	G1568	G1442	C1332	G1210	U1131
C2472	G2111	C	U	U1771	A1656	U1569	G1443	U1333	G1211	G1132
A2474	C2114	C	U	G1772	C1666	A1573	U1444	C1334	G1212	
A2485	U2115	C	U	G1773	A1667	C1574	U1445	G1340	G1214	G1137
A2486	G2121	C	U	U1774	U1668	C1575	U1446	A1341	A1216	G1151
C2487	G2122	C	U	A1778	U1677	G1576	U1454	C1342	G1217	
A2489	C2128	C	U	A1779	C1679	U1577	U1457	C1343	U1218	A1154
C2493	U2133	C	U	A1783	G1680	U1583	U1463	G1351	U1219	G1155
C2495	G2134	C	U	U1784	G1681	C1584	C1464	A1352	U1220	
A2496	A2135	C	U	C1787	A1682	G1588	U1464	C1360	C1229	A1161
A2497	G2136	C	U	G1790	G1683	G1589	C1474	A1230	A1230	G1162
A2498	C	A	U	U1791	A1685	U1592	C1477	G1364	U1234	U1164
C2498	C	C	U	C1795	C1686	C1593	U1478	C1366	G1235	G1166
U2499	C	C	U	G1796	G1688	G1594	U1478	A1372	U1237	A1167
C2502	C	C	U	A1797	C1692	C1595	A1482	A1375	C1238	C1168
A2503	C	C	U	G1799	A1701	U1598	C1483	G1376	G1239	U1169
A2504	C	C	U	G1800	U1702	A1598	A1484	C1377	A1242	U1170
				G1809	C1705	C1602	A1485	G1378	C1243	A1171
						G1603			U1244	G1172
						G1604			C1245	A1174

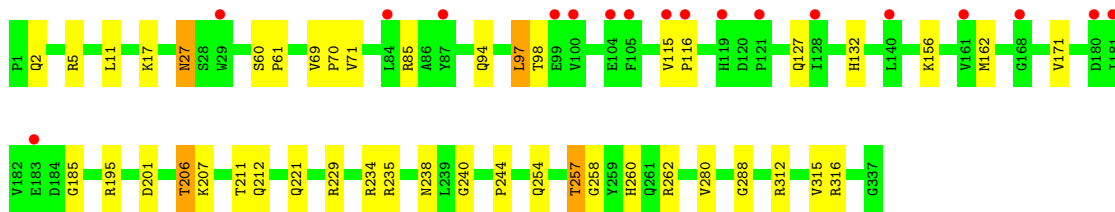
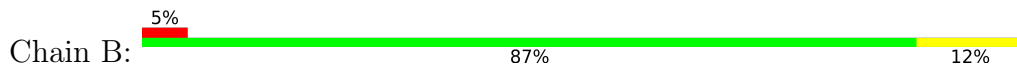




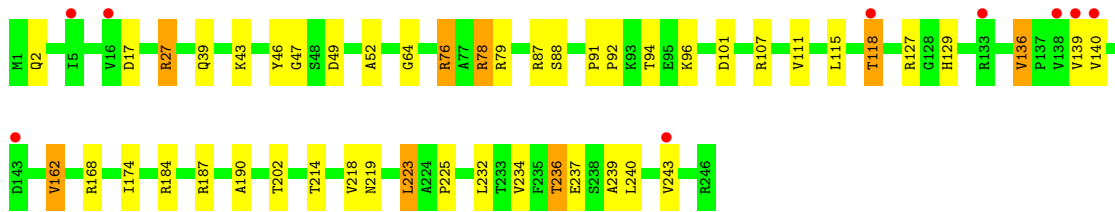
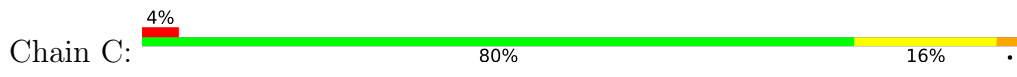
• Molecule 2: 50S ribosomal protein L2P



• Molecule 3: 50S ribosomal protein L3P



• Molecule 4: 50S ribosomal protein L4P

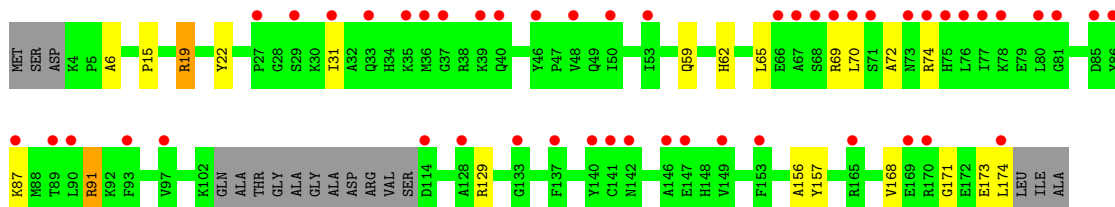
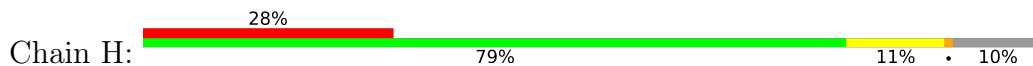




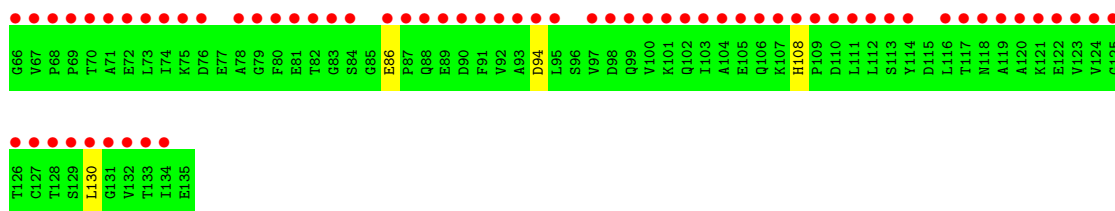
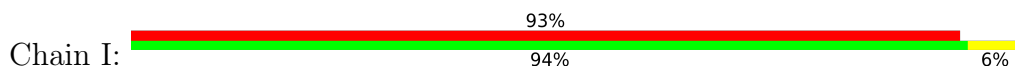
ALA  
ARG  
GLY  
ASN  
ALA  
LYS  
SER  
LEU  
ALA  
LEU  
GLN  
LEU  
ALA  
ALA  
ILE  
GLU  
ASP  
ALA  
ASP  
PRO  
GLU  
VAL  
VAL  
PRO  
GLU  
LEU  
VAL  
ASP  
SER  
LYS  
ASP  
ALA  
GLN  
VAL  
ALA  
GLY  
LEU  
ALA  
SER  
GLN  
ILE  
ASP  
GLU  
ALA  
LEU  
PRO

THR  
ASP  
ASP  
GLN  
ASP  
P5  
A6  
P15  
R19  
Y22  
P27  
G28  
S29  
K30  
I31  
A32  
Q33  
H34  
K35  
M36  
G37  
R38  
K39  
Q40  
Y46  
P47  
V48  
Q49  
I50  
I53  
Q59  
H62  
L65  
E66  
A67  
S68  
R69  
L70  
S71  
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R74  
H75  
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E79  
L80  
G81  
D85  
Y86

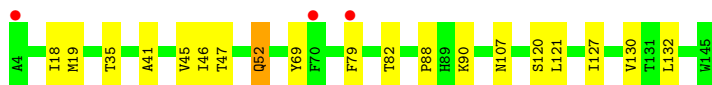
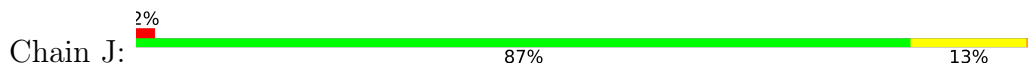
● Molecule 9: 50S ribosomal protein L10e



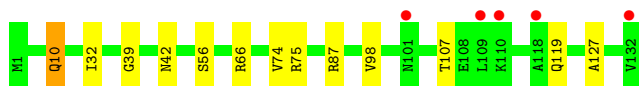
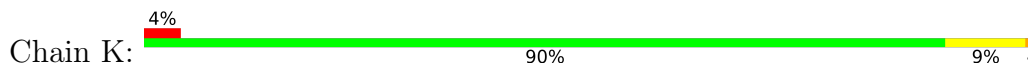
● Molecule 10: 50S ribosomal protein L11P



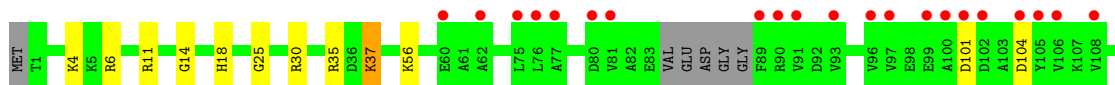
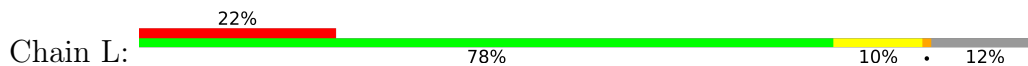
● Molecule 11: 50S ribosomal protein L13P

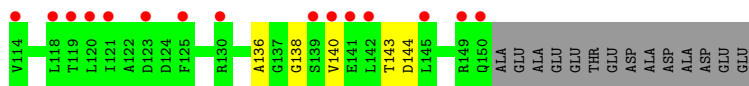


● Molecule 12: 50S ribosomal protein L14P

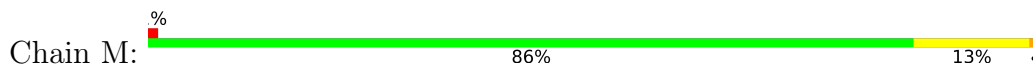


● Molecule 13: 50S ribosomal protein L15P

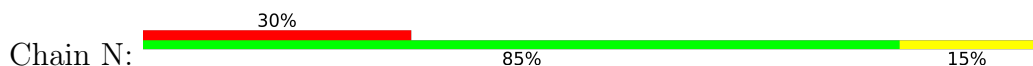




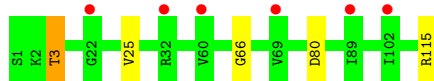
- Molecule 14: 50S ribosomal protein L15e



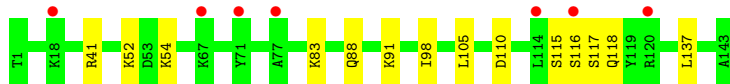
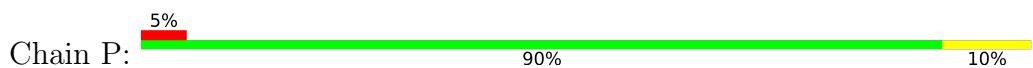
- Molecule 15: 50S ribosomal protein L18P



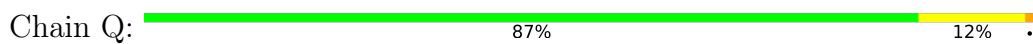
- Molecule 16: 50S ribosomal protein L18e



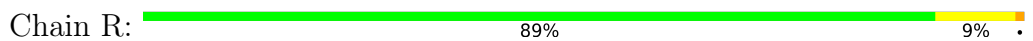
- Molecule 17: 50S ribosomal protein L19e



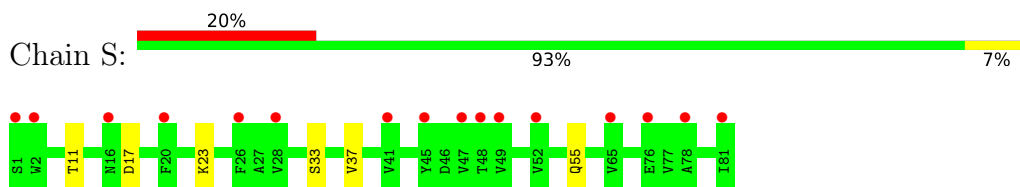
- Molecule 18: 50S ribosomal protein L21e



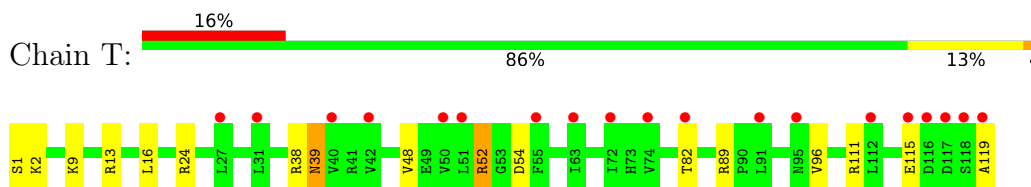
- Molecule 19: 50S ribosomal protein L22P



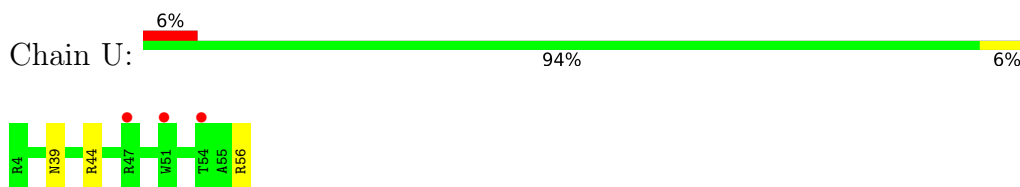
- Molecule 20: 50S ribosomal protein L23P



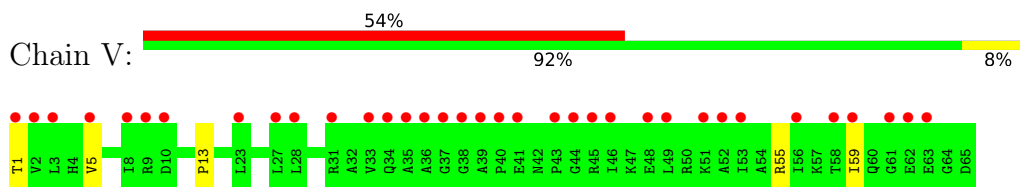
- Molecule 21: 50S ribosomal protein L24P



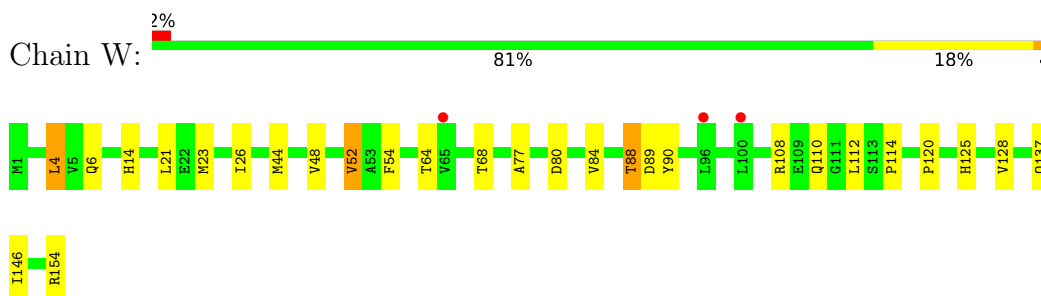
- Molecule 22: 50S ribosomal protein L24e



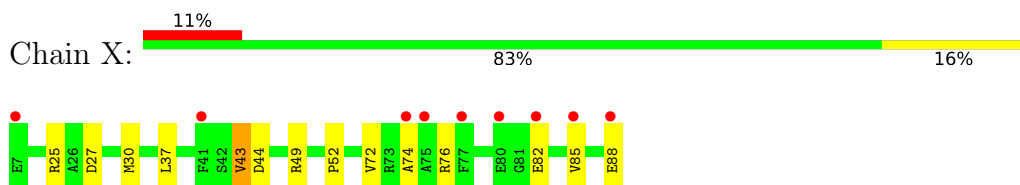
- Molecule 23: 50S ribosomal protein L29P



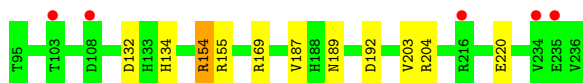
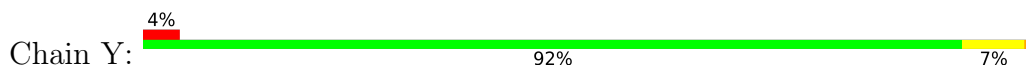
- Molecule 24: 50S ribosomal protein L30P



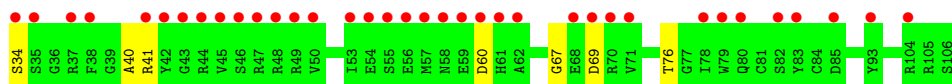
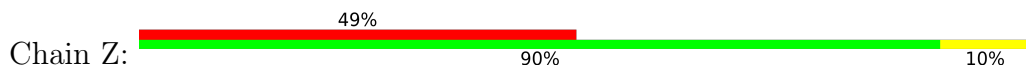
- Molecule 25: 50S ribosomal protein L31e



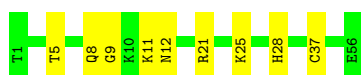
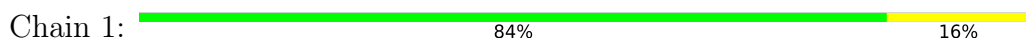
- Molecule 26: 50S ribosomal protein L32e



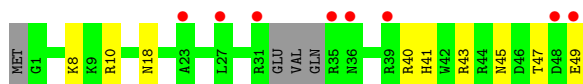
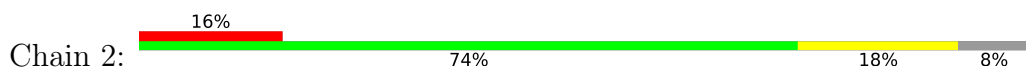
- Molecule 27: 50S ribosomal protein L37Ae



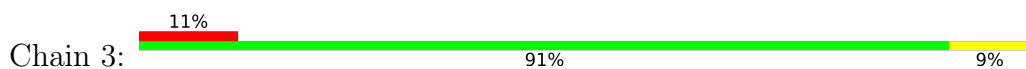
- Molecule 28: 50S ribosomal protein L37e



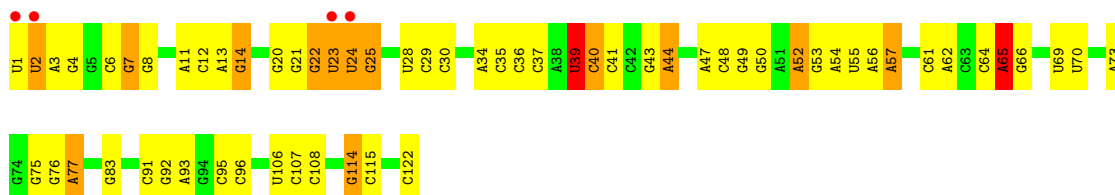
- Molecule 29: 50S ribosomal protein L39e



- Molecule 30: 50S ribosomal protein L44E



- Molecule 31: 5S ribosomal RNA



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.86Å 299.42Å 574.09Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.90 – 2.70 85.51 – 2.40	Depositor EDS
% Data completeness (in resolution range)	94.0 (49.90-2.70) 92.7 (85.51-2.40)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	0.00 (at 2.40Å)	Xtrriage
Refinement program	CNS 1.0	Depositor
R, $R_{free}$	0.190 , 0.229 0.183 , 0.221	Depositor DCC
$R_{free}$ test set	6547 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	52.8	Xtrriage
Anisotropy	0.146	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.31 , 72.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	99174	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	60.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.64% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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

### 5.1 Standard geometry

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

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	0.37	0/65958	0.68	11/102869 (0.0%)
2	A	0.51	0/1787	0.77	1/2408 (0.0%)
3	B	0.54	0/2690	0.78	0/3652
4	C	0.56	0/1885	0.79	0/2552
5	D	0.64	0/1111	0.70	1/1498 (0.1%)
6	E	0.60	0/1383	0.68	0/1880
7	F	0.54	0/901	0.69	0/1224
8	G	0.51	0/241	0.65	0/324
9	H	0.61	0/1302	0.77	0/1743
10	I	0.59	0/527	0.61	0/716
11	J	0.62	0/1136	0.72	0/1530
12	K	0.50	0/1004	0.80	0/1351
13	L	0.52	0/1130	0.75	0/1509
14	M	0.51	0/1583	0.77	0/2116
15	N	0.56	0/1474	0.76	0/1999
16	O	0.49	0/874	0.72	1/1181 (0.1%)
17	P	0.53	0/1148	0.66	0/1528
18	Q	0.51	0/749	0.77	0/1005
19	R	0.55	0/1173	0.75	0/1578
20	S	0.55	0/649	0.67	0/875
21	T	0.48	0/958	0.75	1/1289 (0.1%)
22	U	0.59	0/418	0.70	0/562
23	V	0.44	0/503	0.65	0/675
24	W	0.53	0/1219	0.77	1/1655 (0.1%)
25	X	0.53	0/665	0.73	0/895
26	Y	0.53	0/1147	0.73	0/1536
27	Z	0.67	0/585	0.72	0/781
28	1	0.57	0/438	0.73	0/578
29	2	0.46	0/401	0.69	0/529
30	3	0.57	0/771	0.68	0/1024
31	9	0.33	0/2904	0.68	1/4526 (0.0%)
All	All	0.43	0/98714	0.70	17/147588 (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	42
24	W	0	1
31	9	0	2
All	All	0	45

There are no bond length outliers.

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	871	G	C5'-C4'-O4'	-7.15	100.52	109.10
1	0	1942	A	C5'-C4'-C3'	7.11	127.37	116.00
24	W	4	LEU	CA-CB-CG	5.76	128.54	115.30
1	0	1504	A	C1'-O4'-C4'	-5.73	105.32	109.90
1	0	2726	U	N1-C1'-C2'	5.64	121.34	114.00
1	0	1504	A	N9-C1'-C2'	5.64	121.33	114.00
1	0	2316	G	C5'-C4'-C3'	-5.58	107.08	116.00
1	0	2467	A	C1'-O4'-C4'	-5.53	105.47	109.90
16	O	66	GLY	N-CA-C	5.49	126.83	113.10
31	9	39	U	N1-C1'-C2'	5.32	120.91	114.00
5	D	170	TYR	N-CA-C	5.26	125.20	111.00
21	T	52	ARG	N-CA-C	5.24	125.14	111.00
1	0	1819	G	C5'-C4'-C3'	5.17	124.28	116.00
2	A	69	LEU	CA-CB-CG	5.17	127.20	115.30
1	0	1120	U	C5'-C4'-C3'	-5.13	107.78	116.00
1	0	2607	U	N1-C1'-C2'	5.13	120.67	114.00
1	0	2526	C	N1-C1'-C2'	5.08	120.60	114.00

There are no chirality outliers.

All (45) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1039	G	Sidechain
1	0	1078	A	Sidechain
1	0	1237	U	Sidechain
1	0	1340	G	Sidechain
1	0	1342	C	Sidechain
1	0	1809	G	Sidechain

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
1	0	1829	A	Sidechain
1	0	1848	G	Sidechain
1	0	1863	G	Sidechain
1	0	1867	G	Sidechain
1	0	1877	G	Sidechain
1	0	1878	G	Sidechain
1	0	1972	U	Sidechain
1	0	1979	G	Sidechain
1	0	221	G	Sidechain
1	0	2308	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	2552	C	Sidechain
1	0	2564	G	Sidechain
1	0	2607	U	Sidechain
1	0	2630	G	Sidechain
1	0	2679	G	Sidechain
1	0	2842	G	Sidechain
1	0	396	U	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	817	G	Sidechain
1	0	818	A	Sidechain
1	0	868	G	Sidechain
1	0	888	U	Sidechain
31	9	39	U	Sidechain
31	9	65	A	Sidechain
24	W	90	TYR	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	29812	849	0
2	A	1754	0	1766	20	0
3	B	2625	0	2533	28	0
4	C	1860	0	1813	27	0
5	D	1094	0	1085	11	0
6	E	1358	0	1266	8	0
7	F	890	0	843	4	0
8	G	240	0	231	2	0
9	H	1282	0	1292	14	0
10	I	520	0	500	2	0
11	J	1120	0	1098	15	0
12	K	994	0	1027	9	0
13	L	1118	0	1076	11	0
14	M	1559	0	1573	21	0
15	N	1445	0	1401	21	0
16	O	865	0	873	2	0
17	P	1137	0	1123	10	0
18	Q	735	0	729	8	0
19	R	1150	0	1122	12	0
20	S	642	0	605	4	0
21	T	950	0	924	11	0
22	U	411	0	364	2	0
23	V	500	0	511	3	0
24	W	1196	0	1137	17	0
25	X	655	0	653	6	0
26	Y	1131	0	1133	10	0
27	Z	574	0	532	6	0
28	1	431	0	426	8	0
29	2	396	0	413	8	0
30	3	755	0	729	4	0
31	9	2599	0	1325	69	0
32	0	85	0	0	0	0
32	2	1	0	0	0	0
32	9	2	0	0	0	0
32	A	1	0	0	0	0
32	B	1	0	0	0	0
32	K	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	T	1	0	0	0	0
32	Y	1	0	0	0	0
33	0	2	0	0	0	0
34	0	66	0	0	0	0
34	9	3	0	0	0	0
34	C	1	0	0	0	0
34	J	1	0	0	0	0
34	M	1	0	0	0	0
34	Q	1	0	0	0	0
34	R	1	0	0	0	0
34	S	1	0	0	0	0
35	0	10	0	0	0	0
35	3	1	0	0	0	0
35	A	1	0	0	0	0
35	B	1	0	0	0	0
35	J	3	0	0	1	0
35	L	1	0	0	0	0
35	M	1	0	0	0	0
35	N	1	0	0	0	0
35	O	1	0	0	0	0
35	R	1	0	0	0	0
35	Y	1	0	0	0	0
36	0	93	0	0	0	0
36	1	1	0	0	0	0
36	3	2	0	0	0	0
36	9	3	0	0	0	0
36	A	3	0	0	0	0
36	B	2	0	0	0	0
36	F	1	0	0	0	0
36	J	1	0	0	0	0
36	R	1	0	0	0	0
36	S	1	0	0	0	0
37	0	39	0	39	11	0
38	1	1	0	0	0	0
38	3	1	0	0	0	0
38	O	1	0	0	0	0
38	U	1	0	0	0	0
38	Z	1	0	0	0	0
39	0	5969	0	0	110	0
39	1	52	0	0	0	0
39	2	44	0	0	0	0
39	3	66	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	9	151	0	0	4	0
39	A	111	0	0	2	0
39	B	138	0	0	0	0
39	C	169	0	0	4	0
39	D	44	0	0	0	0
39	E	45	0	0	1	0
39	F	26	0	0	0	0
39	G	17	0	0	0	0
39	H	65	0	0	3	0
39	I	6	0	0	0	0
39	J	51	0	0	1	0
39	K	59	0	0	0	0
39	L	84	0	0	2	0
39	M	119	0	0	0	0
39	N	60	0	0	1	0
39	O	37	0	0	0	0
39	P	67	0	0	0	0
39	Q	42	0	0	0	0
39	R	81	0	0	0	0
39	S	30	0	0	0	0
39	T	34	0	0	0	0
39	U	26	0	0	0	0
39	V	10	0	0	1	0
39	W	67	0	0	1	0
39	X	25	0	0	1	0
39	Y	96	0	0	0	0
39	Z	32	0	0	1	0
All	All	99174	0	59954	1065	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 7.

All (1065) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1160:G:H5'	1:0:1161:A:H5'	1.19	1.14
31:9:76:G:H3'	31:9:77:A:H5''	1.38	1.04
1:0:871:G:H5'	1:0:871:G:C8	1.96	0.98
1:0:1242:A:H5'	11:J:82:THR:HG23	1.46	0.98
31:9:56:A:H2'	31:9:57:A:H5''	1.47	0.96
1:0:2717:C:H2'	1:0:2718:C:H5''	1.48	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:156:C:H5''	14:M:171:ARG:HD3	1.45	0.94
1:0:1187:U:HO2'	1:0:1189:A:H2	1.08	0.94
1:0:656:G:H5'	16:O:3:THR:HG22	1.49	0.94
1:0:1701:A:H4'	1:0:1702:U:H5''	1.48	0.93
1:0:871:G:H5'	1:0:871:G:H8	1.30	0.93
15:N:37:ARG:NH1	31:9:6:C:H5''	1.84	0.92
1:0:2717:C:C2'	1:0:2718:C:H5''	2.01	0.90
1:0:542:A:H5'	1:0:542:A:H8	1.36	0.89
1:0:1160:G:H5'	1:0:1161:A:C5'	2.02	0.89
12:K:10:GLN:H	12:K:10:GLN:HE21	1.15	0.89
1:0:1160:G:C5'	1:0:1161:A:H5'	2.02	0.88
1:0:2812:A:H2	1:0:2814:A:H62	1.21	0.88
1:0:1474:C:H5'	1:0:1474:C:H6	1.39	0.88
1:0:506:G:H22	1:0:509:A:H5''	1.38	0.87
24:W:137:GLN:HE21	24:W:141:HIS:HE1	1.23	0.86
1:0:870:G:H2'	1:0:871:G:H5''	1.57	0.85
1:0:2487:C:O4'	37:0:9101:HMT:H17	1.77	0.85
1:0:2506:A:HO2'	1:0:2507:G:H8	0.88	0.85
1:0:381:G:H5''	39:0:2945:HOH:O	1.74	0.85
1:0:1667:A:H5'	1:0:1667:A:H8	1.43	0.84
1:0:545:G:H5'	1:0:545:G:H8	1.41	0.83
1:0:2908:A:H2'	1:0:2909:G:O4'	1.79	0.83
1:0:1603:A:H5'	1:0:1605:G:O4'	1.79	0.83
1:0:1835:U:H5	1:0:1840:A:N7	1.77	0.81
1:0:823:U:H3'	39:0:3123:HOH:O	1.80	0.81
1:0:1116:U:HO2'	1:0:1118:A:H2	0.82	0.81
1:0:1116:U:O2'	1:0:1118:A:H2	1.64	0.81
1:0:2586:U:H3	1:0:2592:G:H22	1.28	0.80
1:0:541:C:H2'	1:0:542:A:H5''	1.63	0.80
1:0:506:G:H22	1:0:509:A:C5'	1.95	0.80
17:P:115:SER:H	17:P:118:GLN:HE21	1.27	0.80
1:0:1209:C:H2'	1:0:1210:G:H8	1.46	0.79
1:0:877:G:H5'	1:0:878:G:OP1	1.83	0.79
1:0:2533:C:H6	1:0:2533:C:H5'	1.48	0.79
1:0:1330:A:H4'	39:0:7277:HOH:O	1.81	0.79
1:0:2506:A:O2'	1:0:2507:G:H8	1.67	0.78
1:0:1372:A:H3'	39:0:6923:HOH:O	1.82	0.78
31:9:73:A:H61	31:9:108:C:H42	1.32	0.78
1:0:2291:A:C8	1:0:2309:C:H5'	2.19	0.78
1:0:871:G:H8	1:0:871:G:C5'	1.97	0.78
1:0:2270:G:H4'	2:A:223:ARG:HH12	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:559:U:H6	1:0:559:U:H5'	1.49	0.77
1:0:657:G:OP1	4:C:27:ARG:NH2	2.19	0.76
31:9:29:C:H2'	31:9:30:C:H5'	1.67	0.76
1:0:541:C:C2'	1:0:542:A:H5''	2.16	0.76
1:0:182:G:H5'	39:0:4102:HOH:O	1.85	0.76
1:0:1300:G:H1'	39:0:3448:HOH:O	1.85	0.76
31:9:56:A:C2'	31:9:57:A:H5''	2.16	0.75
1:0:1189:A:H1'	1:0:1209:C:O4'	1.87	0.75
1:0:1119:G:H2'	11:J:52:GLN:NE2	2.02	0.75
1:0:1206:U:H6	1:0:1206:U:H5'	1.53	0.74
1:0:2486:A:H2'	39:0:7215:HOH:O	1.88	0.74
1:0:500:G:H21	19:R:98:ASN:HD21	1.34	0.74
1:0:1164:U:H3	1:0:1192:A:H2	1.32	0.73
1:0:2637:A:H5'	39:0:3790:HOH:O	1.87	0.73
1:0:1008:C:H5''	9:H:19:ARG:HH12	1.54	0.73
1:0:2468:A:H61	30:3:48:ASN:HD21	1.36	0.72
9:H:59:GLN:HE21	9:H:129:ARG:HE	1.34	0.72
19:R:8:ALA:HB1	19:R:13:THR:HG21	1.70	0.72
1:0:1116:U:H3	1:0:1246:A:H62	1.35	0.72
1:0:1666:C:O2'	1:0:1667:A:H5''	1.89	0.72
1:0:2756:U:H3	1:0:2896:A:H2	1.35	0.72
1:0:1474:C:H5'	1:0:1474:C:C6	2.25	0.71
1:0:2270:G:H4'	2:A:223:ARG:NH1	2.06	0.71
1:0:2769:C:C2'	1:0:2770:G:H5'	2.19	0.71
1:0:1183:C:H2'	39:0:5603:HOH:O	1.91	0.71
1:0:871:G:C8	1:0:871:G:C5'	2.71	0.71
3:B:221:GLN:HE22	12:K:42:ASN:HD22	1.38	0.71
21:T:24:ARG:HH21	21:T:39:ASN:HD22	1.37	0.70
1:0:1118:A:H3'	1:0:1118:A:C8	2.26	0.70
1:0:1701:A:H4'	1:0:1702:U:C5'	2.19	0.70
1:0:1118:A:H3'	1:0:1118:A:H8	1.56	0.70
1:0:2073:G:H5''	39:0:8500:HOH:O	1.91	0.70
1:0:282:C:H1'	1:0:368:C:N4	2.07	0.70
1:0:1119:G:N2	1:0:1246:A:C2	2.58	0.69
31:9:7:G:H5'	39:9:5071:HOH:O	1.93	0.69
1:0:1118:A:H62	1:0:1244:U:H3	1.39	0.69
1:0:282:C:O2'	1:0:283:U:H5'	1.93	0.69
1:0:870:G:C2'	1:0:871:G:H5''	2.23	0.69
1:0:2780:C:H1'	6:E:143:GLN:HE21	1.58	0.69
31:9:14:G:H5'	31:9:14:G:H8	1.56	0.69
31:9:75:G:H1	31:9:106:U:H3	1.38	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:542:A:H5'	1:0:542:A:C8	2.25	0.68
1:0:1973:A:H5'	1:0:1973:A:H8	1.58	0.68
29:2:41:HIS:H	29:2:45:ASN:HD22	1.41	0.68
1:0:1878:G:H1'	39:0:5431:HOH:O	1.94	0.68
1:0:2827:A:H2'	1:0:2828:G:O4'	1.94	0.68
1:0:1377:C:H6	1:0:1377:C:H5'	1.57	0.68
1:0:541:C:H2'	1:0:542:A:C5'	2.24	0.68
1:0:1120:U:H5'	1:0:1121:G:OP2	1.94	0.68
1:0:196:G:H2'	39:0:6170:HOH:O	1.95	0.67
1:0:2716:G:H5''	3:B:206:THR:HG21	1.76	0.67
1:0:2426:G:H1'	39:0:5391:HOH:O	1.94	0.67
1:0:2533:C:H5'	1:0:2533:C:C6	2.28	0.67
1:0:853:C:H3'	39:0:3276:HOH:O	1.94	0.66
1:0:544:G:H2'	1:0:545:G:H5''	1.77	0.66
1:0:1209:C:H2'	1:0:1210:G:C8	2.29	0.66
1:0:545:G:H5'	1:0:545:G:C8	2.27	0.66
1:0:281:U:H2'	1:0:282:C:O4'	1.95	0.66
11:J:45:VAL:HG11	11:J:121:LEU:HD22	1.77	0.66
1:0:603:A:H5''	1:0:604:G:OP1	1.95	0.66
1:0:450:C:OP1	4:C:184:ARG:NH2	2.29	0.66
1:0:1667:A:H2'	1:0:1668:U:C6	2.31	0.66
1:0:1947:G:H2'	1:0:1948:G:H8	1.60	0.66
1:0:2534:C:H1'	39:0:8159:HOH:O	1.95	0.66
1:0:2851:G:O2'	1:0:2852:A:H5'	1.96	0.66
22:U:39:ASN:ND2	22:U:44:ARG:HH11	1.93	0.66
25:X:37:LEU:HD13	25:X:85:VAL:HG21	1.77	0.66
1:0:1641:A:H2'	1:0:1642:A:H5'	1.78	0.66
1:0:188:C:H5''	14:M:163:LEU:HD21	1.78	0.65
9:H:59:GLN:NE2	9:H:129:ARG:HE	1.93	0.65
1:0:1183:C:N4	1:0:1184:C:H41	1.94	0.65
1:0:1819:G:H2'	1:0:1820:G:H4'	1.78	0.65
1:0:1119:G:H8	11:J:52:GLN:HE22	1.43	0.65
14:M:24:GLN:HE21	14:M:27:ARG:HH11	1.45	0.65
1:0:12:U:H2'	1:0:13:G:H5'	1.79	0.65
1:0:553:G:P	26:Y:204:ARG:HH22	2.20	0.64
1:0:1667:A:H5'	1:0:1667:A:C8	2.30	0.64
24:W:6:GLN:HB2	24:W:26:ILE:HD11	1.80	0.64
1:0:2878:U:H2'	1:0:2879:A:O4'	1.97	0.64
14:M:24:GLN:NE2	14:M:27:ARG:HH11	1.96	0.64
1:0:1666:C:H2'	1:0:1667:A:H5'	1.80	0.64
39:0:4183:HOH:O	12:K:39:GLY:HA2	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:4:LEU:HD23	24:W:54:PHE:HB3	1.80	0.63
1:0:123:U:H5'	39:0:6169:HOH:O	1.97	0.63
1:0:1625:U:H4'	39:0:3427:HOH:O	1.98	0.63
1:0:2769:C:H2'	1:0:2770:G:H5'	1.79	0.63
1:0:1189:A:H3'	39:0:7609:HOH:O	1.96	0.63
1:0:2563:U:H2'	1:0:2565:C:O5'	1.98	0.63
1:0:2670:G:O2'	1:0:2671:U:H5'	1.98	0.63
3:B:238:ASN:HD22	3:B:240:GLY:H	1.45	0.63
1:0:558:C:C2'	1:0:559:U:H5''	2.29	0.63
1:0:2005:G:OP2	1:0:2005:G:H3'	1.99	0.63
1:0:119:A:H2'	1:0:120:A:H5''	1.80	0.63
1:0:130:C:H2'	39:0:7268:HOH:O	1.98	0.63
1:0:711:G:H1'	39:0:6793:HOH:O	1.98	0.63
1:0:814:G:H4'	39:0:7163:HOH:O	1.99	0.63
1:0:1733:A:H4'	3:B:212:GLN:HA	1.79	0.63
1:0:1102:C:H4'	39:0:5065:HOH:O	1.99	0.62
1:0:1684:A:H1'	29:2:43:ARG:HH22	1.64	0.62
1:0:2054:A:N3	19:R:128:ARG:NH2	2.47	0.62
1:0:2578:G:H5'	1:0:2578:G:H8	1.64	0.62
1:0:2710:U:H1'	39:0:7520:HOH:O	1.98	0.62
1:0:621:C:H5'	26:Y:132:ASP:OD2	2.00	0.62
1:0:681:G:N3	1:0:681:G:H5'	2.15	0.61
37:0:9101:HMT:H12A	39:0:3785:HOH:O	2.00	0.61
1:0:1441:G:O2'	1:0:1442:A:H5'	1.99	0.61
1:0:2816:A:H5''	1:0:2817:G:H5'	1.82	0.61
31:9:49:G:O2'	31:9:50:G:H5'	2.00	0.61
1:0:1184:C:H1'	39:0:7308:HOH:O	1.98	0.61
1:0:1205:U:H2'	1:0:1206:U:C5'	2.29	0.61
1:0:1741:U:H5'	1:0:1742:A:OP1	2.00	0.61
1:0:1947:G:H2'	1:0:1948:G:C8	2.34	0.61
1:0:2004:U:H4'	39:0:4302:HOH:O	2.01	0.61
1:0:1701:A:H5''	1:0:1702:U:H3'	1.80	0.61
1:0:2507:G:H2'	1:0:2510:C:H42	1.65	0.61
31:9:92:G:H2'	31:9:93:A:C8	2.35	0.61
31:9:24:U:H3'	31:9:25:G:H5'	1.81	0.61
1:0:1328:A:OP1	26:Y:169:ARG:HD2	2.00	0.61
1:0:2505:G:O2'	1:0:2506:A:H5'	2.01	0.61
1:0:2896:A:H5''	39:0:5399:HOH:O	2.00	0.61
1:0:308:U:H5'	1:0:309:C:OP1	1.99	0.60
1:0:2541:U:H3	1:0:2620:U:H3	1.49	0.60
1:0:2541:U:H4'	1:0:2542:C:OP1	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2635:A:O2'	1:0:2636:C:H5'	2.01	0.60
1:0:1528:A:H2'	1:0:1529:G:O4'	2.01	0.60
3:B:212:GLN:HB2	3:B:257:THR:HG21	1.83	0.60
1:0:588:G:O6	24:W:154:ARG:NH1	2.34	0.60
1:0:2502:C:C2'	1:0:2503:A:H5'	2.31	0.60
1:0:272:A:H5'	1:0:273:G:OP2	2.01	0.60
24:W:21:LEU:HD21	24:W:48:VAL:HG11	1.84	0.60
1:0:2320:U:H4'	1:0:2321:A:O4'	2.02	0.60
1:0:1342:C:C2'	1:0:1343:C:H5'	2.31	0.59
11:J:41:ALA:HB3	39:J:5907:HOH:O	2.02	0.59
1:0:1159:G:H21	1:0:1189:A:H8	1.50	0.59
1:0:2717:C:O2'	1:0:2718:C:H5''	2.02	0.59
24:W:137:GLN:HE21	24:W:141:HIS:CE1	2.12	0.59
1:0:271:C:H41	1:0:378:A:H2	1.49	0.59
31:9:29:C:C2'	31:9:30:C:H5'	2.33	0.59
1:0:1790:C:H2'	1:0:1791:U:H6	1.67	0.59
1:0:306:A:P	21:T:38:ARG:HH21	2.26	0.58
4:C:139:VAL:HG13	39:C:6251:HOH:O	2.02	0.58
1:0:544:G:C2'	1:0:545:G:H5''	2.33	0.58
1:0:2064:U:H5'	1:0:2652:U:H4'	1.85	0.58
1:0:2487:C:N3	37:0:9101:HMT:H11	2.18	0.58
31:9:13:A:O2'	31:9:14:G:H5''	2.04	0.58
1:0:249:G:O2'	1:0:250:C:H5'	2.04	0.58
1:0:1132:A:N6	1:0:1229:C:H2'	2.19	0.58
14:M:99:ARG:HD2	14:M:167:GLY:HA2	1.84	0.58
31:9:73:A:N6	31:9:108:C:H42	2.00	0.58
1:0:2769:C:H2'	1:0:2770:G:C5'	2.34	0.58
1:0:2768:A:H2'	1:0:2769:C:O4'	2.03	0.58
15:N:141:ARG:HH21	31:9:48:C:H4'	1.69	0.58
31:9:49:G:H5''	39:9:4707:HOH:O	2.02	0.58
1:0:338:C:H4'	4:C:174:ILE:CD1	2.34	0.58
1:0:482:G:H4'	1:0:508:A:N1	2.19	0.58
1:0:93:C:H5''	23:V:1:THR:HB	1.86	0.58
1:0:558:C:O2'	1:0:559:U:H5''	2.04	0.58
30:3:25:VAL:HG22	30:3:68:LYS:HG3	1.85	0.58
31:9:14:G:H5'	31:9:14:G:C8	2.38	0.57
1:0:794:U:H3	1:0:819:A:H61	1.50	0.57
1:0:2420:G:O2'	1:0:2421:G:H5'	2.05	0.57
39:0:7291:HOH:O	3:B:211:THR:HG21	2.04	0.57
31:9:76:G:C3'	31:9:77:A:H5''	2.25	0.57
1:0:1053:G:OP1	9:H:15:PRO:HG3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2541:U:O2'	1:0:2542:C:H5'	2.04	0.57
1:0:42:C:H1'	39:0:3438:HOH:O	2.05	0.57
1:0:1189:A:H1'	1:0:1209:C:C1'	2.34	0.57
1:0:2613:G:O2'	1:0:2614:C:H5'	2.03	0.57
1:0:2548:C:OP2	3:B:5:ARG:NH2	2.37	0.57
1:0:2783:A:H3'	39:0:4201:HOH:O	2.03	0.57
4:C:127:ARG:NH2	4:C:225:PRO:HG2	2.20	0.57
15:N:144:GLY:O	15:N:147:ILE:HG22	2.03	0.57
1:0:10:U:O4	1:0:532:A:OP2	2.22	0.57
1:0:164:G:H3'	39:0:8309:HOH:O	2.05	0.56
1:0:1299:G:O6	13:L:6:ARG:HD3	2.04	0.56
1:0:1886:A:H4'	39:Z:395:HOH:O	2.05	0.56
1:0:380:A:H2'	39:0:6974:HOH:O	2.05	0.56
1:0:1166:A:H61	1:0:1180:U:H3	1.53	0.56
1:0:1201:C:H5''	39:0:5584:HOH:O	2.04	0.56
1:0:2419:U:H5''	1:0:2420:G:H5'	1.87	0.56
2:A:48:ASP:HB3	39:A:5706:HOH:O	2.05	0.56
1:0:1118:A:H8	1:0:1119:G:H5''	1.69	0.56
1:0:2769:C:H2'	1:0:2770:G:O4'	2.06	0.56
1:0:2414:A:H2'	1:0:2415:A:C8	2.40	0.56
1:0:2443:C:H1'	13:L:56:LYS:HE3	1.88	0.56
1:0:1295:G:H5''	13:L:14:GLY:O	2.05	0.56
1:0:1666:C:H2'	1:0:1667:A:C5'	2.35	0.56
1:0:2894:C:O2'	1:0:2895:C:H5'	2.05	0.56
1:0:1741:U:O2'	1:0:2723:G:H4'	2.06	0.56
1:0:1205:U:H2'	1:0:1206:U:H5'	1.87	0.56
1:0:1800:G:H1'	17:P:88:GLN:NE2	2.21	0.56
1:0:1835:U:C5	1:0:1840:A:N7	2.67	0.56
1:0:2502:C:H2'	1:0:2503:A:H5'	1.88	0.56
1:0:2712:G:H5'	39:0:4183:HOH:O	2.06	0.56
1:0:2721:U:H4'	12:K:87:ARG:HG3	1.88	0.56
12:K:10:GLN:HE21	12:K:10:GLN:N	1.96	0.56
1:0:836:G:H5''	39:0:3978:HOH:O	2.06	0.56
1:0:2700:G:H3'	39:0:8246:HOH:O	2.06	0.56
1:0:1130:U:H2'	1:0:1131:G:O4'	2.06	0.55
1:0:1855:G:H4'	1:0:1856:C:O5'	2.05	0.55
5:D:154:LYS:H	5:D:154:LYS:HD2	1.71	0.55
1:0:2587:OMU:H2'	1:0:2589:U:H5''	1.87	0.55
1:0:20:G:H21	19:R:117:HIS:HD2	1.55	0.55
1:0:90:A:H2'	1:0:91:G:O4'	2.06	0.55
1:0:1527:A:H1'	1:0:1528:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1666:C:C2'	1:0:1667:A:H5''	2.36	0.55
27:Z:60:ASP:HB3	27:Z:69:ASP:HB3	1.87	0.55
1:0:1187:U:O2'	1:0:1189:A:H2	1.82	0.55
1:0:2064:U:H5'	1:0:2652:U:O3'	2.07	0.55
9:H:59:GLN:HE21	9:H:129:ARG:NE	2.03	0.55
1:0:1386:G:O2'	1:0:1387:G:H5'	2.06	0.55
15:N:113:SER:HB2	39:N:6448:HOH:O	2.07	0.55
31:9:73:A:H61	31:9:108:C:N4	2.03	0.55
1:0:226:A:H1'	1:0:393:G:C5	2.42	0.55
1:0:2100:A:H5'	39:C:7192:HOH:O	2.07	0.55
5:D:140:ARG:HB3	31:9:29:C:H5''	1.89	0.55
1:0:2756:U:N3	1:0:2896:A:H2	2.03	0.55
31:9:24:U:H3'	31:9:25:G:C5'	2.37	0.55
1:0:2539:U:H2'	39:0:3785:HOH:O	2.06	0.54
1:0:441:A:H1'	1:0:442:A:N7	2.22	0.54
1:0:602:A:O2'	1:0:605:C:H4'	2.07	0.54
1:0:2507:G:H2'	1:0:2510:C:N4	2.21	0.54
1:0:2748:G:H2'	39:0:7410:HOH:O	2.06	0.54
1:0:2769:C:O2'	1:0:2770:G:H5'	2.06	0.54
31:9:34:A:H2'	31:9:35:C:O4'	2.07	0.54
1:0:538:C:H5''	1:0:539:G:C8	2.42	0.54
2:A:121:ALA:O	2:A:124:VAL:HG22	2.07	0.54
1:0:558:C:H2'	1:0:559:U:C5'	2.37	0.54
1:0:1211:G:O2'	1:0:1212:C:H5'	2.07	0.54
1:0:1333:U:H2'	1:0:1334:C:C6	2.41	0.54
31:9:64:C:C2'	31:9:65:A:H5'	2.37	0.54
1:0:31:C:H2'	39:0:7619:HOH:O	2.08	0.54
1:0:1189:A:O2'	1:0:1208:C:H2'	2.07	0.54
1:0:2524:G:H21	1:0:2526:C:N4	2.05	0.54
1:0:2703:A:H2'	1:0:2704:C:H6	1.73	0.54
1:0:1180:U:H4'	10:I:86:GLU:HG2	1.90	0.54
15:N:37:ARG:NH1	31:9:6:C:OP1	2.36	0.54
1:0:1427:A:H61	1:0:1440:U:H1'	1.73	0.54
28:1:21:ARG:HD2	28:1:37:CYS:SG	2.48	0.54
31:9:49:G:H2'	31:9:50:G:O4'	2.08	0.54
1:0:1342:C:O2'	1:0:1343:C:H5'	2.07	0.54
1:0:2604:A:H5'	39:0:4959:HOH:O	2.07	0.54
12:K:32:ILE:HD11	12:K:56:SER:HB3	1.89	0.54
1:0:136:C:H2'	1:0:137:U:O4'	2.08	0.54
1:0:1701:A:H5'	39:0:5659:HOH:O	2.08	0.54
1:0:2899:A:O2'	1:0:2900:G:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:9:55:U:H4'	31:9:56:A:H8	1.71	0.53
1:0:1058:A:H2'	1:0:1060:C:H5''	1.89	0.53
1:0:1838:U:O2'	1:0:2644:C:H5'	2.09	0.53
1:0:2851:G:C2'	1:0:2852:A:H5'	2.37	0.53
24:W:48:VAL:HG12	24:W:52:VAL:HB	1.90	0.53
1:0:1681:G:H5''	1:0:1682:A:H5'	1.89	0.53
4:C:88:SER:HB3	4:C:91:PRO:HB3	1.91	0.53
1:0:656:G:H5'	16:O:3:THR:CG2	2.32	0.53
1:0:671:A:O2'	1:0:672:G:H2'	2.08	0.53
1:0:920:C:H5''	1:0:921:G:O5'	2.09	0.53
1:0:2748:G:H5'	39:0:7410:HOH:O	2.07	0.53
1:0:2795:C:O2'	1:0:2796:U:H5'	2.08	0.53
14:M:99:ARG:HE	14:M:170:ASN:ND2	2.06	0.53
1:0:316:A:N3	1:0:336:G:O2'	2.38	0.53
1:0:2787:C:H5	39:0:3383:HOH:O	1.92	0.53
31:9:55:U:H4'	31:9:56:A:C8	2.43	0.53
1:0:65:C:O2'	1:0:66:G:H5'	2.08	0.53
31:9:39:U:H1'	31:9:44:A:H61	1.73	0.53
1:0:1596:U:H2'	1:0:1598:A:OP2	2.09	0.53
1:0:1641:A:C2'	1:0:1642:A:H5'	2.39	0.53
31:9:52:A:H2'	31:9:53:G:O4'	2.09	0.53
1:0:1118:A:C8	1:0:1118:A:C3'	2.89	0.53
1:0:1165:G:H21	1:0:1173:A:H5''	1.73	0.53
1:0:280:C:H2'	1:0:281:U:O4'	2.08	0.53
1:0:669:G:O2'	1:0:670:G:H5'	2.09	0.53
1:0:256:C:H2'	1:0:257:G:O4'	2.09	0.52
1:0:1278:A:H4'	1:0:1279:U:C4	2.44	0.52
14:M:24:GLN:HE21	14:M:27:ARG:NH1	2.06	0.52
15:N:11:ARG:HD3	31:9:114:G:O6	2.08	0.52
1:0:88:G:H2'	1:0:89:G:C8	2.43	0.52
1:0:259:G:H21	14:M:58:GLN:NE2	2.08	0.52
1:0:821:U:H2'	1:0:822:C:H6	1.75	0.52
1:0:694:A:H2'	1:0:695:C:H5'	1.91	0.52
1:0:1183:C:H42	1:0:1184:C:H41	1.56	0.52
1:0:2348:C:H1'	5:D:131:THR:HG21	1.90	0.52
1:0:1595:G:O2'	1:0:1596:U:H5'	2.10	0.52
1:0:1632:A:H2'	1:0:1633:C:H5'	1.91	0.52
1:0:1755:A:H2'	1:0:1756:G:O4'	2.08	0.52
24:W:88:THR:HG23	24:W:110:GLN:HB3	1.91	0.52
1:0:1477:C:H5'	1:0:1868:G:C5'	2.39	0.52
1:0:1994:A:P	12:K:66:ARG:HH22	2.32	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:69:A:H5'	1:0:69:A:C8	2.44	0.52
1:0:407:A:H2'	1:0:408:A:C8	2.44	0.52
1:0:1778:A:H2'	1:0:1779:A:H5'	1.92	0.52
1:0:1244:U:OP1	11:J:18:ILE:HD13	2.09	0.52
1:0:157:G:H4'	14:M:95:LYS:HE2	1.92	0.52
1:0:195:C:H2'	1:0:196:G:H5'	1.92	0.52
1:0:1790:C:H2'	1:0:1791:U:C6	2.44	0.52
1:0:2301:A:H5''	1:0:2302:A:H5'	1.92	0.52
23:V:55:ARG:O	23:V:59:ILE:HG12	2.09	0.52
1:0:848:C:H5'	39:0:7034:HOH:O	2.10	0.52
1:0:1972:U:H2'	1:0:1973:A:C5'	2.39	0.52
1:0:2241:C:O2'	1:0:2242:U:H5'	2.10	0.52
4:C:236:THR:HG22	4:C:239:ALA:H	1.74	0.52
14:M:99:ARG:HE	14:M:170:ASN:HD22	1.56	0.52
1:0:371:U:H2'	1:0:372:A:H8	1.75	0.51
1:0:399:C:H5'	14:M:179:GLY:O	2.11	0.51
1:0:1213:C:O2'	1:0:1214:G:H5'	2.10	0.51
1:0:1593:C:OP1	17:P:117:SER:HB3	2.10	0.51
1:0:1856:C:H5'	1:0:1858:A:O4'	2.10	0.51
1:0:522:U:O2'	1:0:1366:C:H5'	2.10	0.51
1:0:2364:A:H5''	18:Q:15:LYS:HD3	1.93	0.51
1:0:2387:U:H2'	1:0:2388:C:C6	2.45	0.51
1:0:485:A:N3	1:0:487:G:H5''	2.25	0.51
1:0:944:G:H21	24:W:44:MET:CE	2.22	0.51
1:0:1666:C:C2'	1:0:1667:A:C5'	2.88	0.51
1:0:2445:U:H2'	1:0:2446:G:C8	2.45	0.51
1:0:338:C:H4'	4:C:174:ILE:HD11	1.93	0.51
1:0:1119:G:H2'	11:J:52:GLN:HE22	1.75	0.51
1:0:1333:U:H2'	1:0:1334:C:H6	1.75	0.51
1:0:292:G:H2'	1:0:358:G:N2	2.25	0.51
1:0:1205:U:H2'	1:0:1206:U:H5''	1.93	0.51
1:0:2890:A:H1'	22:U:56:ARG:NH2	2.26	0.51
7:F:2:VAL:HG22	7:F:57:GLU:OE1	2.10	0.51
31:9:39:U:H3'	31:9:40:C:H5''	1.93	0.51
1:0:960:G:N3	1:0:960:G:H2'	2.25	0.51
19:R:39:THR:HG23	19:R:107:GLU:O	2.11	0.51
29:2:40:ARG:HD2	29:2:47:THR:HG22	1.92	0.51
1:0:1795:G:H2'	1:0:1796:A:O4'	2.10	0.51
1:0:1834:C:H2'	1:0:1840:A:N6	2.25	0.51
1:0:2081:A:H4'	11:J:69:TYR:CE1	2.46	0.51
31:9:91:C:H2'	31:9:92:G:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1218:U:H2'	1:0:1219:U:C6	2.45	0.51
8:G:64:ASN:N	8:G:64:ASN:HD22	2.08	0.51
1:0:1845:A:OP2	2:A:190:ARG:NH1	2.44	0.51
1:0:2353:A:H4'	1:0:2354:A:O5'	2.11	0.51
1:0:1419:U:H2'	1:0:1685:A:C2	2.46	0.50
1:0:2073:G:OP2	1:0:2490:A:H5'	2.11	0.50
1:0:2256:G:O2'	1:0:2257:G:H5'	2.11	0.50
9:H:31:ILE:HG23	39:H:6314:HOH:O	2.10	0.50
24:W:64:THR:O	24:W:68:THR:HG22	2.11	0.50
1:0:2365:G:H4'	18:Q:45:PRO:O	2.11	0.50
1:0:1181:A:N1	1:0:1192:A:O2'	2.44	0.50
3:B:201:ASP:HB2	3:B:312:ARG:HD2	1.93	0.50
18:Q:26:PRO:O	18:Q:30:VAL:HG23	2.10	0.50
1:0:1819:G:H5'	39:0:3491:HOH:O	2.11	0.50
1:0:64:G:H2'	1:0:65:C:O4'	2.12	0.50
1:0:317:A:OP1	21:T:52:ARG:O	2.28	0.50
2:A:199:HIS:HD2	2:A:201:PHE:H	1.59	0.50
14:M:164:THR:HG22	14:M:165:GLY:N	2.27	0.50
19:R:39:THR:HG22	19:R:42:GLU:H	1.77	0.50
28:1:8:GLN:HE22	28:1:11:LYS:NZ	2.09	0.50
1:0:1603:A:H5''	1:0:1605:G:H5'	1.92	0.50
39:0:6217:HOH:O	21:T:38:ARG:NH1	2.45	0.50
30:3:48:ASN:ND2	30:3:50:GLY:H	2.09	0.50
1:0:255:A:H2'	1:0:256:C:C6	2.46	0.50
1:0:1537:C:H1'	39:0:6076:HOH:O	2.11	0.50
1:0:2050:G:H5''	19:R:80:TYR:O	2.12	0.50
4:C:118:THR:O	4:C:136:VAL:HG13	2.12	0.50
1:0:123:U:H2'	1:0:124:C:C6	2.46	0.50
1:0:396:U:O2'	1:0:418:C:H4'	2.11	0.50
1:0:1307:A:H2'	1:0:1308:A:C8	2.47	0.50
31:9:95:C:O2'	31:9:96:C:H5'	2.12	0.50
1:0:185:G:H4'	1:0:186:A:OP1	2.12	0.50
1:0:1201:C:H2'	1:0:1202:A:H5'	1.92	0.50
1:0:1654:U:H2'	2:A:47:HIS:HD2	1.76	0.50
1:0:2039:A:OP2	3:B:234:ARG:NH2	2.45	0.50
1:0:2749:U:H5'	39:0:7896:HOH:O	2.12	0.50
1:0:364:U:H2'	1:0:365:G:O4'	2.12	0.49
1:0:1677:U:OP2	29:2:8:LYS:NZ	2.36	0.49
6:E:137:ASP:O	6:E:141:VAL:HG23	2.11	0.49
31:9:64:C:H2'	31:9:65:A:H5'	1.93	0.49
1:0:660:A:H4'	1:0:661:G:O5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:949:U:H4'	18:Q:95:GLU:HA	1.95	0.49
17:P:105:LEU:HD21	17:P:137:LEU:HD11	1.95	0.49
17:P:115:SER:H	17:P:118:GLN:NE2	2.02	0.49
31:9:54:A:O2'	31:9:55:U:H5'	2.12	0.49
1:0:558:C:H2'	1:0:559:U:H5''	1.93	0.49
1:0:960:G:N3	1:0:960:G:C2'	2.76	0.49
1:0:1289:C:O2'	1:0:1290:G:H5'	2.13	0.49
11:J:19:MET:HE3	11:J:132:LEU:HD21	1.94	0.49
15:N:141:ARG:NH2	31:9:48:C:H4'	2.26	0.49
1:0:625:U:H5''	1:0:1044:C:N4	2.26	0.49
1:0:702:G:O2'	1:0:703:G:H5'	2.13	0.49
1:0:1010:C:H4'	15:N:4:PRO:HB2	1.94	0.49
1:0:1165:G:H4'	1:0:1174:A:O2'	2.12	0.49
1:0:1166:A:H1'	1:0:1192:A:C2	2.47	0.49
1:0:1377:C:H5'	1:0:1377:C:C6	2.42	0.49
1:0:1426:C:H2'	39:0:5198:HOH:O	2.12	0.49
1:0:2251:G:H2'	1:0:2252:A:C8	2.47	0.49
1:0:2372:A:H2'	1:0:2373:U:C6	2.48	0.49
1:0:319:A:H4'	1:0:338:C:C5	2.47	0.49
1:0:1268:C:O2'	1:0:1269:G:H5'	2.11	0.49
1:0:2470:A:H5''	39:0:7539:HOH:O	2.12	0.49
1:0:2812:A:C2	1:0:2814:A:N6	2.73	0.49
9:H:72:ALA:HB2	9:H:156:ALA:HB2	1.94	0.49
31:9:23:U:O2'	31:9:24:U:H4'	2.12	0.49
1:0:1016:U:H1'	39:0:8324:HOH:O	2.12	0.49
1:0:1682:A:H5''	39:0:4688:HOH:O	2.13	0.49
1:0:2781:U:H1'	6:E:139:GLU:OE2	2.11	0.49
1:0:952:G:N3	1:0:2302:A:H2'	2.28	0.49
1:0:1398:G:H2'	1:0:1399:A:C8	2.47	0.49
1:0:2361:A:H5'	1:0:2361:A:H8	1.77	0.49
1:0:2472:C:O2'	1:0:2634:G:H4'	2.13	0.49
1:0:2740:G:H2'	1:0:2741:A:O4'	2.11	0.49
24:W:108:ARG:HH21	24:W:114:PRO:HG2	1.78	0.49
1:0:821:U:H3'	39:0:8439:HOH:O	2.12	0.49
1:0:1641:A:H2'	1:0:1642:A:C5'	2.43	0.49
1:0:1787:C:H4'	1:0:2883:A:O4'	2.13	0.49
1:0:2672:C:H1'	39:0:6210:HOH:O	2.12	0.49
1:0:2768:A:O2'	1:0:2769:C:H5'	2.13	0.49
5:D:159:PRO:O	5:D:163:VAL:HG23	2.13	0.49
1:0:834:G:H3'	1:0:835:U:H4'	1.95	0.49
1:0:1060:C:H6	1:0:1060:C:H5'	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1972:U:H2'	1:0:1973:A:H5''	1.93	0.49
4:C:39:GLN:O	4:C:43:LYS:HD3	2.13	0.49
15:N:40:ASN:ND2	31:9:28:U:H5''	2.28	0.49
20:S:33:SER:O	20:S:37:VAL:HG23	2.13	0.49
31:9:35:C:H5''	39:9:4078:HOH:O	2.13	0.49
1:0:396:U:H1'	39:0:7529:HOH:O	2.11	0.49
1:0:793:A:H5''	17:P:83:LYS:HG2	1.95	0.48
1:0:1131:G:C6	1:0:1230:A:C4	3.02	0.48
1:0:1200:A:H3'	39:0:4912:HOH:O	2.12	0.48
1:0:1206:U:H2'	1:0:1207:A:O4'	2.13	0.48
1:0:316:A:H5'	21:T:54:ASP:OD2	2.12	0.48
1:0:441:A:O5'	1:0:441:A:H8	1.94	0.48
1:0:2344:G:N3	1:0:2344:G:H2'	2.28	0.48
1:0:1220:U:H4'	9:H:174:LEU:HD21	1.95	0.48
1:0:2415:A:H2'	1:0:2416:G:H5'	1.95	0.48
1:0:67:A:H5''	1:0:69:A:C8	2.49	0.48
1:0:919:U:O3'	13:L:37:LYS:NZ	2.46	0.48
1:0:1342:C:H2'	1:0:1343:C:H5'	1.96	0.48
1:0:1415:G:H5'	28:1:12:ASN:O	2.13	0.48
1:0:2104:C:O2	1:0:2485:A:N1	2.46	0.48
1:0:506:G:N2	1:0:509:A:H5''	2.19	0.48
1:0:1118:A:C8	1:0:1119:G:H5''	2.49	0.48
1:0:1175:G:H1'	1:0:1193:A:H2'	1.95	0.48
1:0:1942:A:H3'	39:0:7130:HOH:O	2.14	0.48
15:N:4:PRO:HG3	31:9:69:U:OP1	2.13	0.48
31:9:20:G:O2'	31:9:21:G:H5'	2.13	0.48
1:0:137:U:H2'	1:0:139:C:C5	2.49	0.48
1:0:512:G:O3'	1:0:513:A:H8	1.96	0.48
1:0:564:G:H1'	39:0:5694:HOH:O	2.14	0.48
1:0:969:G:H1	1:0:999:C:H42	1.61	0.48
1:0:1463:U:H2'	1:0:1464:C:C6	2.49	0.48
1:0:2346:C:H6	1:0:2346:C:O5'	1.96	0.48
1:0:2807:U:P	3:B:27:ASN:HD21	2.36	0.48
5:D:76:ARG:NE	31:9:44:A:O4'	2.41	0.48
26:Y:187:VAL:HG23	26:Y:192:ASP:HB2	1.95	0.48
31:9:12:C:H5'	31:9:70:U:O4'	2.12	0.48
1:0:1881:A:OP1	2:A:199:HIS:HE1	1.96	0.48
1:0:920:C:H5'	1:0:921:G:C4	2.49	0.48
1:0:2505:G:C2'	1:0:2506:A:H5'	2.44	0.48
1:0:806:A:H2'	1:0:807:A:O4'	2.14	0.48
1:0:1819:G:H2'	1:0:1820:G:C4'	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2509:A:H2'	1:0:2510:C:O4'	2.14	0.48
6:E:49:ILE:HD11	6:E:69:ILE:HD12	1.96	0.48
1:0:450:C:H4'	4:C:46:TYR:CE1	2.48	0.48
1:0:1279:U:H2'	1:0:1279:U:O2	2.12	0.48
31:9:76:G:H3'	31:9:77:A:C5'	2.27	0.48
1:0:69:A:H5'	1:0:69:A:H8	1.79	0.47
1:0:1384:C:H5'	25:X:30:MET:HG2	1.96	0.47
1:0:2716:G:H5'	3:B:262:ARG:HG3	1.95	0.47
25:X:74:ALA:HB2	25:X:85:VAL:HG13	1.96	0.47
1:0:364:U:H2'	1:0:365:G:C8	2.49	0.47
1:0:776:A:OP1	28:1:28:HIS:HE1	1.97	0.47
1:0:1634:G:H3'	39:0:8633:HOH:O	2.14	0.47
1:0:1973:A:H2'	1:0:1974:G:O4'	2.14	0.47
1:0:125:U:H2'	39:0:8435:HOH:O	2.13	0.47
1:0:622:G:O2'	1:0:623:U:H5'	2.14	0.47
1:0:1007:A:H2'	9:H:22:TYR:CZ	2.49	0.47
1:0:1249:U:H2'	1:0:1250:C:C6	2.49	0.47
1:0:1849:G:H1'	1:0:2011:A:N1	2.30	0.47
1:0:2780:C:C1'	6:E:143:GLN:HE21	2.27	0.47
25:X:25:ARG:HD2	39:X:5356:HOH:O	2.14	0.47
1:0:1406:A:H5'	1:0:1407:A:C8	2.49	0.47
3:B:97:LEU:HD22	3:B:127:GLN:HE21	1.79	0.47
31:9:56:A:C3'	31:9:57:A:H5''	2.43	0.47
1:0:1453:G:H2'	1:0:1454:U:O4'	2.14	0.47
1:0:1482:A:O2'	1:0:1483:C:H5'	2.15	0.47
1:0:1925:G:O2'	1:0:1926:G:H5'	2.14	0.47
37:0:9101:HMT:H7A	37:0:9101:HMT:C1	2.45	0.47
1:0:121:U:OP2	29:2:10:ARG:NH2	2.38	0.47
1:0:317:A:H4'	39:0:8441:HOH:O	2.13	0.47
1:0:559:U:H5'	1:0:559:U:C6	2.40	0.47
1:0:903:U:OP2	13:L:11:ARG:NH1	2.47	0.47
1:0:1041:U:H4'	1:0:1295:G:H5'	1.96	0.47
1:0:1616:A:H5''	1:0:1617:C:OP1	2.15	0.47
1:0:2266:A:H2'	1:0:2267:G:C8	2.50	0.47
1:0:2401:A:H2'	1:0:2402:A:C8	2.50	0.47
4:C:115:LEU:HD13	4:C:223:LEU:HD21	1.97	0.47
7:F:58:GLU:CD	14:M:27:ARG:HH22	2.18	0.47
1:0:247:A:H2'	39:0:8663:HOH:O	2.13	0.47
1:0:1104:C:H4'	11:J:88:PRO:HD3	1.95	0.47
1:0:1119:G:N2	1:0:1246:A:N1	2.63	0.47
1:0:1364:G:H1'	39:0:3619:HOH:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:51:ARG:NH1	2:A:120:ARG:O	2.48	0.47
2:A:51:ARG:HB2	39:A:5706:HOH:O	2.15	0.47
14:M:34:GLU:HB3	14:M:38:GLU:HG3	1.96	0.47
14:M:43:PRO:HG3	14:M:62:VAL:HG21	1.96	0.47
24:W:88:THR:HG22	24:W:89:ASP:H	1.79	0.47
1:0:816:G:H5'	1:0:1598:A:H4'	1.95	0.47
1:0:1181:A:H2'	1:0:1182:C:H5'	1.97	0.47
1:0:1837:G:H3'	39:0:7745:HOH:O	2.15	0.47
1:0:1940:C:H4'	39:0:7130:HOH:O	2.13	0.47
1:0:2630:G:O6	2:A:206:ARG:NH2	2.48	0.47
1:0:2649:A:H5'	1:0:2649:A:H8	1.80	0.47
1:0:2676:C:H5''	1:0:2676:C:H6	1.78	0.47
1:0:2900:G:H2'	1:0:2901:C:O4'	2.15	0.47
1:0:424:C:H2'	1:0:425:U:C6	2.49	0.47
1:0:447:A:O2'	1:0:448:G:H5'	2.15	0.47
1:0:612:U:H2'	1:0:613:C:C6	2.50	0.47
1:0:1123:A:C2	1:0:1129:C:H4'	2.50	0.47
1:0:1234:U:N3	3:B:244:PRO:HB3	2.30	0.47
1:0:2521:A:OP2	9:H:6:ALA:HB3	2.15	0.47
31:9:114:G:H2'	31:9:115:C:C6	2.50	0.47
1:0:958:G:H2'	1:0:959:C:C6	2.49	0.46
1:0:1309:U:O2'	1:0:1310:U:H5'	2.15	0.46
1:0:2883:A:H2'	1:0:2884:G:O4'	2.16	0.46
1:0:17:G:H2'	1:0:18:C:C6	2.51	0.46
1:0:538:C:OP2	26:Y:134:HIS:HE1	1.98	0.46
1:0:1167:G:H4'	10:I:130:LEU:HD21	1.97	0.46
1:0:1768:C:H2'	1:0:1769:C:O4'	2.16	0.46
4:C:76:ARG:HG2	4:C:78:ARG:NH1	2.29	0.46
9:H:70:LEU:O	9:H:74:ARG:HB2	2.15	0.46
21:T:111:ARG:HB3	21:T:119:ALA:HB2	1.97	0.46
1:0:1445:G:N2	1:0:1678:A:H1'	2.31	0.46
1:0:2538:A:H1'	37:0:9101:HMT:C18	2.45	0.46
31:9:61:C:H2'	31:9:62:A:H8	1.79	0.46
1:0:241:A:C2	1:0:378:A:H4'	2.50	0.46
1:0:559:U:H2'	1:0:560:U:O4'	2.14	0.46
1:0:1299:G:N7	13:L:6:ARG:NH1	2.63	0.46
1:0:2421:G:H3'	1:0:2422:U:C5'	2.45	0.46
1:0:2718:C:H5'	1:0:2718:C:H6	1.80	0.46
1:0:1592:G:H2'	1:0:1593:C:C6	2.51	0.46
1:0:1878:G:O2'	1:0:1879:U:OP2	2.33	0.46
1:0:2297:U:H1'	39:0:4127:HOH:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2649:A:H5'	1:0:2649:A:C8	2.50	0.46
1:0:2720:C:O2	12:K:87:ARG:NH2	2.48	0.46
13:L:136:ALA:HB3	39:L:6166:HOH:O	2.15	0.46
1:0:24:G:N2	1:0:518:G:H1'	2.31	0.46
1:0:638:C:H2'	1:0:639:A:C8	2.51	0.46
1:0:797:A:H4'	27:Z:34:SER:HB3	1.97	0.46
1:0:1116:U:O2'	1:0:1118:A:C2	2.49	0.46
1:0:1562:C:H2'	1:0:1562:C:O2	2.15	0.46
7:F:39:SER:HB3	7:F:45:ALA:HB2	1.98	0.46
1:0:527:U:H2'	1:0:528:G:C8	2.50	0.46
1:0:790:A:H2'	1:0:791:A:O4'	2.15	0.46
1:0:812:A:H2'	1:0:813:C:C6	2.51	0.46
1:0:2691:A:N1	1:0:2702:A:H5''	2.31	0.46
4:C:49:ASP:HB3	4:C:52:ALA:HB2	1.98	0.46
1:0:447:A:OP1	21:T:2:LYS:HG2	2.16	0.46
1:0:613:C:H2'	1:0:614:U:H6	1.81	0.46
1:0:644:G:N3	1:0:644:G:H5'	2.31	0.46
1:0:1218:U:H2'	1:0:1219:U:H6	1.81	0.46
1:0:1688:G:O2'	28:1:5:THR:HG23	2.16	0.46
1:0:1783:A:O2'	1:0:1784:U:H5'	2.15	0.46
1:0:812:A:H1'	39:0:8698:HOH:O	2.16	0.46
1:0:2135:A:O2'	1:0:2136:G:H5'	2.14	0.46
1:0:2252:A:C5	1:0:2253:G:H1'	2.50	0.46
1:0:2314:G:C2'	1:0:2315:C:H5'	2.45	0.46
13:L:138:GLY:HA3	39:L:4360:HOH:O	2.15	0.46
1:0:282:C:H1'	1:0:368:C:H41	1.81	0.46
1:0:440:C:H2'	1:0:441:A:C8	2.52	0.46
1:0:920:C:H4'	1:0:921:G:C2	2.51	0.46
1:0:949:U:O2'	18:Q:40:HIS:HE1	1.99	0.46
1:0:1014:A:H2'	1:0:1015:C:H5'	1.97	0.46
1:0:1613:C:H2'	1:0:1614:G:O4'	2.16	0.46
15:N:34:LEU:HD22	15:N:129:ILE:HD13	1.98	0.46
1:0:162:C:H2'	1:0:163:U:H5'	1.98	0.45
1:0:1003:U:H4'	9:H:91:ARG:O	2.16	0.45
1:0:2072:G:H3'	1:0:2073:G:C5'	2.47	0.45
1:0:2121:G:O2'	1:0:2122:C:H5'	2.16	0.45
31:9:1:U:H4'	31:9:3:A:OP1	2.16	0.45
1:0:285:A:H2'	1:0:286:U:O4'	2.16	0.45
1:0:366:U:H2'	1:0:367:G:O4'	2.15	0.45
1:0:1603:A:H5'	1:0:1605:G:C4'	2.46	0.45
1:0:1845:A:P	2:A:190:ARG:HH11	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2486:A:H2	37:0:9101:HMT:H23B	1.81	0.45
6:E:116:THR:HG22	6:E:151:LEU:HD22	1.99	0.45
12:K:74:VAL:HG12	12:K:75:ARG:HG3	1.97	0.45
1:0:947:U:O2'	1:0:948:G:H5'	2.16	0.45
1:0:1406:A:H4'	1:0:1407:A:H5''	1.97	0.45
1:0:1762:C:H2'	1:0:1763:C:H6	1.82	0.45
1:0:1972:U:C2'	1:0:1973:A:H5''	2.46	0.45
1:0:2256:G:C2'	1:0:2257:G:H5'	2.47	0.45
1:0:2541:U:O4'	37:0:9101:HMT:H16	2.16	0.45
1:0:553:G:H3'	39:0:8829:HOH:O	2.16	0.45
1:0:1497:G:H4'	1:0:1627:G:O2'	2.16	0.45
1:0:2668:G:H2'	1:0:2669:U:C6	2.51	0.45
1:0:204:A:H2'	1:0:205:U:H5'	1.98	0.45
1:0:821:U:H2'	1:0:822:C:C6	2.52	0.45
1:0:1583:U:H2'	1:0:1584:C:O4'	2.17	0.45
1:0:1687:C:O2	28:1:9:GLY:HA2	2.16	0.45
1:0:2385:G:H2'	1:0:2386:U:C6	2.52	0.45
15:N:44:ARG:NH1	31:9:4:G:H21	2.14	0.45
15:N:49:THR:HG22	15:N:56:ASP:HB2	1.99	0.45
1:0:189:A:OP1	14:M:171:ARG:NH2	2.50	0.45
1:0:958:G:O2'	1:0:959:C:H5'	2.16	0.45
1:0:1603:A:C5'	1:0:1605:G:H5'	2.47	0.45
1:0:1636:G:O2'	1:0:1637:A:H5'	2.16	0.45
1:0:1714:C:O2'	1:0:1715:C:H5'	2.17	0.45
1:0:2089:A:O2'	1:0:2090:G:H5'	2.17	0.45
1:0:2456:A:H2'	1:0:2457:U:C6	2.52	0.45
1:0:2781:U:C2'	1:0:2782:G:H5'	2.47	0.45
1:0:368:C:H2'	1:0:369:G:H5'	1.99	0.45
1:0:506:G:H22	1:0:509:A:H5'	1.79	0.45
1:0:1330:A:H2	39:0:3448:HOH:O	2.00	0.45
1:0:1873:G:H3'	39:0:4169:HOH:O	2.17	0.45
4:C:107:ARG:O	4:C:111:VAL:HG23	2.17	0.45
21:T:9:LYS:NZ	21:T:13:ARG:NH1	2.65	0.45
1:0:308:U:C4	1:0:342:C:H1'	2.51	0.45
1:0:941:G:C5	1:0:942:U:C4	3.05	0.45
1:0:2506:A:O2'	1:0:2507:G:O5'	2.35	0.45
1:0:2783:A:H2'	1:0:2784:A:C8	2.52	0.45
1:0:213:G:N2	1:0:225:G:H2'	2.32	0.45
1:0:284:C:H4'	1:0:285:A:H8	1.82	0.45
1:0:569:A:H5''	1:0:587:A:N1	2.32	0.45
1:0:808:A:C5	1:0:809:G:H1'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:816:G:C6	1:0:817:G:N1	2.85	0.45
1:0:1154:A:H2'	1:0:1155:G:C8	2.52	0.45
1:0:1634:G:H2'	1:0:1635:U:C6	2.51	0.45
1:0:1667:A:H2'	1:0:1668:U:H6	1.78	0.45
1:0:2421:G:H3'	1:0:2422:U:H5''	1.99	0.45
1:0:137:U:OP1	1:0:259:G:O2'	2.35	0.45
1:0:2090:G:H2'	1:0:2091:G:C8	2.52	0.45
1:0:2898:G:H4'	3:B:288:GLY:HA2	1.99	0.45
5:D:103:ASN:HD22	5:D:134:LEU:H	1.65	0.45
1:0:255:A:H2'	1:0:256:C:H6	1.82	0.44
1:0:536:A:H3'	39:0:3958:HOH:O	2.16	0.44
1:0:558:C:H2'	1:0:559:U:H5'	1.99	0.44
1:0:1250:C:O2'	1:0:1251:C:H5'	2.17	0.44
1:0:1422:U:H2'	1:0:1423:C:C6	2.52	0.44
1:0:1853:C:O2'	2:A:217:ARG:NH2	2.50	0.44
1:0:2100:A:H4'	4:C:64:GLY:O	2.17	0.44
1:0:2842:G:H5'	19:R:68:HIS:O	2.16	0.44
24:W:80:ASP:O	24:W:84:VAL:HG23	2.17	0.44
1:0:877:G:C5'	1:0:878:G:OP1	2.62	0.44
1:0:932:U:H2'	1:0:933:C:C6	2.52	0.44
1:0:1044:C:H5''	39:0:3013:HOH:O	2.18	0.44
1:0:1167:G:H2'	1:0:1168:C:C6	2.51	0.44
1:0:1185:U:H2'	1:0:1186:C:C6	2.52	0.44
1:0:1446:U:H2'	20:S:55:GLN:NE2	2.32	0.44
1:0:1622:G:H2'	1:0:1623:C:H5'	1.99	0.44
1:0:2241:C:H2'	1:0:2242:U:C6	2.53	0.44
1:0:2256:G:H2'	1:0:2257:G:C5'	2.48	0.44
37:0:9101:HMT:C1	37:0:9101:HMT:C7	2.95	0.44
31:9:28:U:H2'	31:9:29:C:C6	2.52	0.44
1:0:138:U:H5''	1:0:139:C:OP2	2.17	0.44
1:0:542:A:H2'	1:0:543:G:O4'	2.17	0.44
1:0:1029:U:O2'	1:0:1273:C:OP1	2.31	0.44
1:0:1158:G:O2'	1:0:1159:G:H5'	2.17	0.44
1:0:1204:C:H2'	1:0:1205:U:O4'	2.17	0.44
1:0:1398:G:O2'	1:0:1399:A:H5'	2.17	0.44
1:0:1477:C:O2'	1:0:1478:U:H5'	2.17	0.44
1:0:1762:C:H2'	1:0:1763:C:C6	2.52	0.44
1:0:1766:U:O2	1:0:1778:A:H5'	2.17	0.44
1:0:1839:A:H5'	1:0:2643:G:H4'	1.99	0.44
4:C:162:VAL:HG22	4:C:232:LEU:HD21	1.97	0.44
18:Q:19:ARG:HH21	31:9:11:A:P	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:711:G:C2	1:0:718:C:C2	3.06	0.44
1:0:946:C:H2'	1:0:947:U:C6	2.52	0.44
1:0:969:G:H1	1:0:999:C:N4	2.15	0.44
1:0:1427:A:H61	1:0:1440:U:C1'	2.29	0.44
1:0:2382:A:H5'	39:0:3538:HOH:O	2.17	0.44
1:0:2659:U:H5''	39:0:8874:HOH:O	2.16	0.44
1:0:68:U:O2'	1:0:69:A:H5''	2.18	0.44
1:0:661:G:C5	1:0:686:A:C2	3.06	0.44
1:0:703:G:O2'	1:0:704:C:H5'	2.17	0.44
1:0:73:U:O2'	1:0:74:G:H5'	2.18	0.44
1:0:285:A:C2	1:0:368:C:H4'	2.52	0.44
1:0:371:U:H2'	1:0:372:A:C8	2.51	0.44
1:0:407:A:H8	39:0:3145:HOH:O	2.00	0.44
1:0:1119:G:H8	11:J:52:GLN:NE2	2.11	0.44
1:0:1503:U:H2'	1:0:1504:A:O4'	2.17	0.44
1:0:1592:G:H2'	1:0:1593:C:H6	1.83	0.44
1:0:2064:U:H4'	1:0:2653:A:OP1	2.16	0.44
1:0:2538:A:O2'	37:0:9101:HMT:H18	2.17	0.44
24:W:4:LEU:HD22	24:W:52:VAL:HG21	1.98	0.44
31:9:92:G:H2'	31:9:93:A:H8	1.79	0.44
1:0:902:G:N7	13:L:18:HIS:HD2	2.15	0.44
1:0:1245:C:H6	1:0:1245:C:O5'	2.00	0.44
1:0:1484:G:H2'	39:0:3274:HOH:O	2.18	0.44
1:0:1535:G:H2'	1:0:1536:C:C6	2.53	0.44
28:1:25:LYS:HG3	29:2:49:GLU:H	1.82	0.44
1:0:737:A:H2'	1:0:738:G:O4'	2.18	0.44
1:0:1375:A:C2'	1:0:1376:G:H5'	2.48	0.44
1:0:2487:C:C1'	37:0:9101:HMT:H17	2.48	0.44
1:0:2781:U:H2'	1:0:2782:G:H5'	1.99	0.44
5:D:25:MET:SD	5:D:37:ALA:HB1	2.58	0.44
1:0:170:U:H2'	1:0:171:C:H5'	1.99	0.44
1:0:318:U:H5'	1:0:339:A:C2	2.53	0.44
1:0:1165:G:C4'	1:0:1174:A:O2'	2.66	0.44
1:0:1236:A:H2'	1:0:1237:U:O4'	2.18	0.44
1:0:1328:A:C8	26:Y:169:ARG:HD3	2.53	0.44
1:0:1500:U:P	17:P:41:ARG:HH22	2.40	0.44
1:0:1617:C:C4	1:0:1643:C:H4'	2.52	0.44
1:0:2072:G:C6	1:0:2533:C:H1'	2.53	0.44
1:0:2134:G:N2	1:0:2242:U:C2	2.86	0.44
1:0:12:U:C2'	1:0:13:G:H5'	2.47	0.43
1:0:1679:C:H5'	39:0:4151:HOH:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1878:G:O2'	1:0:1879:U:P	2.75	0.43
1:0:2433:A:H2'	1:0:2434:A:C8	2.52	0.43
1:0:2754:G:H2'	1:0:2755:G:O4'	2.18	0.43
3:B:258:GLY:H	3:B:260:HIS:CE1	2.36	0.43
4:C:47:GLY:HA2	4:C:92:PRO:HB2	2.00	0.43
5:D:135:VAL:HG22	5:D:136:ARG:H	1.82	0.43
39:E:2512:HOH:O	11:J:127:ILE:HD11	2.17	0.43
1:0:1119:G:C8	11:J:52:GLN:NE2	2.86	0.43
39:0:6068:HOH:O	31:9:83:G:H4'	2.18	0.43
15:N:12:ARG:HD3	15:N:18:THR:OG1	2.18	0.43
15:N:55:ASP:OD2	31:9:7:G:H4'	2.19	0.43
31:9:107:C:H5	39:9:3167:HOH:O	2.00	0.43
1:0:74:G:H2'	1:0:75:U:C6	2.52	0.43
1:0:1202:A:H2'	1:0:1203:G:O4'	2.19	0.43
1:0:1391:G:H2'	1:0:1392:A:H5'	2.01	0.43
1:0:2758:G:H2'	1:0:2759:C:C6	2.53	0.43
14:M:157:ASP:HB3	14:M:160:PHE:HD1	1.82	0.43
1:0:101:C:H2'	1:0:102:A:C8	2.53	0.43
1:0:1500:U:OP2	17:P:41:ARG:NH2	2.51	0.43
1:0:1504:A:H5'	39:0:3079:HOH:O	2.18	0.43
1:0:2300:A:H4'	1:0:2301:A:O5'	2.19	0.43
1:0:2421:G:H4'	39:0:3592:HOH:O	2.17	0.43
1:0:2570:G:H5''	39:0:3767:HOH:O	2.18	0.43
1:0:2594:C:O2'	1:0:2595:U:H5'	2.18	0.43
1:0:28:G:H1'	39:0:3446:HOH:O	2.19	0.43
1:0:151:A:H2'	1:0:152:A:O4'	2.18	0.43
1:0:1244:U:H4'	1:0:1246:A:O4'	2.18	0.43
1:0:1544:U:H2'	1:0:1545:C:C6	2.54	0.43
1:0:1771:U:O2'	1:0:1773:G:N7	2.51	0.43
1:0:2087:C:O2'	1:0:2088:C:H5'	2.19	0.43
1:0:120:A:N3	1:0:120:A:H2'	2.34	0.43
1:0:281:U:O2'	1:0:282:C:H5'	2.19	0.43
1:0:440:C:O2'	1:0:441:A:H5'	2.18	0.43
1:0:1001:U:O2'	1:0:1002:G:H5'	2.18	0.43
1:0:1130:U:O4	1:0:2523:U:H5''	2.19	0.43
1:0:1588:G:C6	1:0:1589:G:N1	2.87	0.43
1:0:2379:G:H5'	1:0:2381:C:O4'	2.19	0.43
1:0:2712:G:P	39:0:4183:HOH:O	2.76	0.43
1:0:2717:C:H2'	1:0:2718:C:C5'	2.32	0.43
2:A:132:ASP:HB3	2:A:135:VAL:H	1.84	0.43
9:H:168:VAL:HG13	39:H:4963:HOH:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:574:G:O2'	1:0:575:A:H5'	2.18	0.43
1:0:1419:U:H5'	1:0:1420:C:OP2	2.18	0.43
1:0:1750:C:H5''	39:0:8333:HOH:O	2.18	0.43
1:0:1845:A:O2'	1:0:1846:U:H5'	2.18	0.43
1:0:2269:C:C2'	1:0:2270:G:H5'	2.49	0.43
1:0:2821:C:H4'	3:B:116:PRO:HG3	2.01	0.43
1:0:85:C:H5''	1:0:86:A:OP2	2.18	0.43
1:0:290:C:O2'	1:0:291:C:H5'	2.18	0.43
1:0:424:C:H2'	1:0:425:U:H6	1.83	0.43
1:0:571:C:H6	1:0:571:C:O5'	2.02	0.43
1:0:700:A:H5''	1:0:701:U:H5'	2.01	0.43
1:0:840:U:H2'	19:R:128:ARG:HH12	1.84	0.43
1:0:1439:C:O5'	1:0:1439:C:H6	2.02	0.43
1:0:1773:G:C8	27:Z:40:ALA:HA	2.54	0.43
1:0:1946:C:H2'	1:0:1971:G:C8	2.54	0.43
1:0:2717:C:OP1	3:B:207:LYS:HG3	2.19	0.43
31:9:34:A:O5'	31:9:34:A:H8	2.02	0.43
1:0:295:C:H2'	1:0:296:G:O4'	2.18	0.43
1:0:1069:C:H2'	1:0:1070:A:O4'	2.19	0.43
1:0:1423:C:O2'	1:0:1424:A:H5'	2.19	0.43
1:0:1444:G:H5''	20:S:11:THR:HG22	2.01	0.43
1:0:2800:A:H5'	1:0:2801:A:OP2	2.19	0.43
13:L:143:THR:HG22	13:L:144:ASP:H	1.84	0.43
1:0:834:G:H4'	1:0:835:U:OP2	2.18	0.43
1:0:1071:G:H4'	26:Y:154:ARG:NH2	2.33	0.43
1:0:1773:G:N2	1:0:1774:G:C8	2.86	0.43
1:0:2371:G:H5'	39:0:3898:HOH:O	2.18	0.43
1:0:635:A:H2'	1:0:636:G:H5''	2.00	0.42
1:0:1098:A:H2'	1:0:1099:G:O4'	2.19	0.42
1:0:1242:A:H5'	11:J:82:THR:CG2	2.32	0.42
1:0:1413:A:H2'	1:0:1414:A:O4'	2.19	0.42
1:0:2274:A:O2'	1:0:2275:G:H5'	2.18	0.42
1:0:2825:C:H4'	1:0:2826:G:O5'	2.19	0.42
2:A:97:ALA:HB2	2:A:150:PRO:HB2	2.01	0.42
1:0:343:C:O2'	1:0:344:C:H5'	2.18	0.42
1:0:1505:U:H1'	39:0:7476:HOH:O	2.19	0.42
1:0:1909:A:N1	1:0:2128:G:H1'	2.33	0.42
1:0:2866:U:H4'	1:0:2867:G:H5'	2.01	0.42
1:0:39:G:N2	1:0:444:C:C2	2.87	0.42
1:0:255:A:H2'	1:0:256:C:O4'	2.19	0.42
1:0:1234:U:O2	1:0:2066:C:H5''	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1456:C:H2'	1:0:1457:U:C6	2.54	0.42
1:0:1973:A:H5'	1:0:1973:A:C8	2.45	0.42
1:0:2010:A:H2'	39:0:5197:HOH:O	2.18	0.42
1:0:2445:U:H2'	1:0:2446:G:H8	1.82	0.42
4:C:79:ARG:O	4:C:87:ARG:HG2	2.18	0.42
4:C:219:ASN:O	4:C:223:LEU:HB2	2.19	0.42
24:W:125:HIS:HE1	39:W:3071:HOH:O	2.03	0.42
31:9:3:A:OP2	31:9:25:G:N2	2.52	0.42
31:9:29:C:H2'	31:9:30:C:C5'	2.44	0.42
1:0:21:G:H4'	19:R:2:ILE:HG22	2.00	0.42
1:0:451:C:O2'	1:0:452:G:H5'	2.19	0.42
1:0:899:C:H5'	39:0:7400:HOH:O	2.19	0.42
1:0:1166:A:OP1	1:0:1174:A:H4'	2.20	0.42
1:0:2243:C:H5''	39:0:8419:HOH:O	2.20	0.42
1:0:2598:U:O2	1:0:2600:A:H8	2.03	0.42
1:0:2852:A:H5''	39:0:4206:HOH:O	2.19	0.42
1:0:291:C:H2'	1:0:292:G:O4'	2.19	0.42
1:0:324:G:O2'	1:0:325:U:H5'	2.20	0.42
1:0:432:G:O2'	1:0:433:C:H5'	2.19	0.42
1:0:1626:A:H2'	1:0:1627:G:C5'	2.50	0.42
1:0:2031:C:H2'	1:0:2032:U:O4'	2.20	0.42
1:0:2498:C:O2'	1:0:2499:U:H5'	2.19	0.42
4:C:140:VAL:HB	39:C:6502:HOH:O	2.20	0.42
1:0:101:C:H2'	1:0:102:A:H8	1.85	0.42
1:0:657:G:H2'	1:0:658:C:C6	2.55	0.42
1:0:664:U:O4	1:0:681:G:H5''	2.19	0.42
1:0:807:A:O2'	1:0:808:A:H5'	2.20	0.42
1:0:2777:G:O2'	1:0:2778:A:H5'	2.20	0.42
25:X:43:VAL:HG12	25:X:44:ASP:H	1.84	0.42
1:0:399:C:H1'	14:M:194:GLY:OXT	2.20	0.42
1:0:907:A:H4'	1:0:1328:A:C2	2.54	0.42
1:0:1555:G:H4'	1:0:1630:A:H2	1.84	0.42
1:0:1819:G:H2'	1:0:1820:G:C5'	2.50	0.42
1:0:1921:A:O2'	1:0:1922:A:H5'	2.20	0.42
1:0:1996:U:O2'	1:0:1997:A:H5'	2.19	0.42
1:0:2111:G:H1'	39:0:3082:HOH:O	2.19	0.42
1:0:155:C:OP2	14:M:188:ARG:HD3	2.19	0.42
1:0:303:C:H2'	1:0:304:G:O4'	2.20	0.42
1:0:553:G:P	26:Y:204:ARG:NH2	2.90	0.42
1:0:1829:A:H2'	1:0:1830:C:H5'	2.02	0.42
1:0:2091:G:O3'	3:B:235:ARG:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:164:THR:HG22	14:M:166:ALA:H	1.85	0.42
1:0:370:G:O2'	1:0:371:U:H5'	2.20	0.42
1:0:485:A:HO2'	1:0:487:G:H8	1.66	0.42
1:0:947:U:H2'	1:0:948:G:C8	2.55	0.42
1:0:1044:C:H5	39:0:6095:HOH:O	2.01	0.42
1:0:1705:C:H2'	1:0:1706:G:O4'	2.20	0.42
1:0:1878:G:C1'	39:0:5431:HOH:O	2.62	0.42
4:C:127:ARG:HD3	4:C:129:HIS:HE1	1.85	0.42
1:0:23:G:H1'	1:0:520:A:N6	2.35	0.42
1:0:447:A:P	21:T:1:SER:HB2	2.60	0.42
1:0:699:C:C2	1:0:743:G:N2	2.88	0.42
1:0:1025:C:H5'	24:W:23:MET:O	2.19	0.42
1:0:1174:A:C5	1:0:1201:C:H4'	2.54	0.42
1:0:2379:G:N7	1:0:2408:A:N1	2.68	0.42
1:0:2533:C:H6	1:0:2533:C:C5'	2.26	0.42
1:0:2580:G:N3	1:0:2600:A:H2	2.18	0.42
3:B:238:ASN:HD22	3:B:240:GLY:N	2.16	0.42
26:Y:187:VAL:HG23	26:Y:192:ASP:CB	2.50	0.42
1:0:31:C:H4'	39:0:7242:HOH:O	2.20	0.41
1:0:154:C:H2'	1:0:155:C:H6	1.85	0.41
1:0:204:A:C2'	1:0:205:U:H5'	2.49	0.41
1:0:447:A:OP2	21:T:1:SER:HB2	2.20	0.41
1:0:694:A:C2'	1:0:695:C:H5'	2.50	0.41
1:0:705:C:O2	1:0:705:C:H2'	2.20	0.41
1:0:1042:U:O2'	1:0:1043:C:H5'	2.20	0.41
1:0:1421:C:O2'	1:0:1422:U:H5'	2.19	0.41
1:0:1568:G:O2'	1:0:1569:U:H5'	2.19	0.41
1:0:1626:A:H2'	1:0:1627:G:H5'	2.01	0.41
1:0:1878:G:O2'	1:0:1879:U:C6	2.69	0.41
1:0:1980:U:O2	1:0:2008:U:H4'	2.19	0.41
1:0:2389:U:H4'	18:Q:53:HIS:CD2	2.55	0.41
1:0:2896:A:H2'	1:0:2896:A:N3	2.35	0.41
31:9:39:U:H1'	31:9:44:A:N6	2.35	0.41
1:0:349:U:H2'	1:0:350:G:H8	1.85	0.41
1:0:396:U:H5'	30:3:42:ARG:NH1	2.35	0.41
1:0:820:G:C5	2:A:171:LYS:HB2	2.55	0.41
1:0:821:U:H4'	27:Z:41:ARG:HH12	1.86	0.41
1:0:1525:G:H5'	1:0:1526:A:OP2	2.20	0.41
1:0:1573:A:H2'	1:0:1574:C:O4'	2.20	0.41
1:0:1632:A:C2'	1:0:1633:C:H5'	2.50	0.41
1:0:2281:C:C2'	1:0:2282:U:H5'	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2756:U:N3	1:0:2896:A:C2	2.73	0.41
18:Q:25:PRO:HA	18:Q:26:PRO:HD3	1.83	0.41
31:9:47:A:C2	31:9:48:C:C2	3.08	0.41
1:0:629:A:H2'	1:0:630:A:O4'	2.20	0.41
1:0:657:G:H2'	1:0:658:C:H6	1.85	0.41
1:0:815:U:O2'	1:0:1598:A:H4'	2.19	0.41
1:0:963:C:O2	1:0:1005:A:N1	2.53	0.41
1:0:1409:G:C2	1:0:1410:G:C8	3.09	0.41
1:0:1622:G:C2'	1:0:1623:C:H5'	2.50	0.41
1:0:1965:C:H6	1:0:1965:C:O5'	2.02	0.41
1:0:2092:G:H2'	1:0:2613:G:OP1	2.21	0.41
5:D:103:ASN:ND2	5:D:134:LEU:H	2.18	0.41
1:0:466:A:H2'	1:0:467:G:O4'	2.21	0.41
1:0:820:G:H3'	39:0:6830:HOH:O	2.20	0.41
1:0:821:U:H4'	27:Z:41:ARG:NH1	2.35	0.41
1:0:1184:C:O2'	1:0:1185:U:OP2	2.30	0.41
1:0:1548:U:H1'	39:0:6454:HOH:O	2.19	0.41
1:0:1976:G:H1'	1:0:2005:G:N2	2.36	0.41
1:0:2114:C:O2'	1:0:2115:U:H5'	2.20	0.41
1:0:2362:A:H2'	1:0:2363:G:C8	2.56	0.41
1:0:2791:U:H1'	1:0:2792:A:H5''	2.02	0.41
39:0:6210:HOH:O	3:B:85:ARG:NH1	2.53	0.41
2:A:179:MET:HG2	2:A:186:TRP:HB2	2.02	0.41
15:N:37:ARG:NH1	31:9:6:C:C5'	2.69	0.41
1:0:894:A:C2	4:C:87:ARG:NH2	2.89	0.41
1:0:1015:C:H2'	1:0:1016:U:C6	2.55	0.41
1:0:1506:U:H6	1:0:1506:U:H5'	1.84	0.41
1:0:1552:G:H2'	1:0:1553:C:C6	2.56	0.41
1:0:1619:G:H2'	1:0:1620:C:O4'	2.20	0.41
1:0:2102:G:C2	1:0:2104:C:C4	3.08	0.41
1:0:2510:C:H42	1:0:2564:G:H22	1.68	0.41
1:0:2626:C:H2'	1:0:2627:G:C8	2.55	0.41
1:0:2784:A:H1'	6:E:60:SER:OG	2.21	0.41
2:A:100:PRO:HG2	2:A:103:VAL:HG21	2.03	0.41
1:0:401:C:H2'	1:0:402:U:C6	2.55	0.41
1:0:1441:G:H1'	39:0:7717:HOH:O	2.20	0.41
1:0:2121:G:H1'	39:0:3302:HOH:O	2.20	0.41
1:0:2764:C:H2'	1:0:2765:C:C6	2.56	0.41
4:C:218:VAL:HG12	39:C:5065:HOH:O	2.20	0.41
1:0:166:A:N7	13:L:25:GLY:HA2	2.36	0.41
1:0:413:G:H2'	1:0:414:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:764:C:H2'	1:0:765:G:O4'	2.20	0.41
1:0:827:A:H1'	39:0:5560:HOH:O	2.19	0.41
1:0:1031:G:O3'	1:0:1032:A:H8	2.02	0.41
1:0:1096:U:O2'	1:0:1097:A:H5'	2.21	0.41
1:0:1427:A:N6	1:0:1440:U:H1'	2.33	0.41
1:0:2040:C:H5''	1:0:2759:C:O2'	2.20	0.41
1:0:2348:C:H5'	5:D:22:VAL:HG11	2.01	0.41
1:0:2764:C:H2'	1:0:2765:C:H6	1.85	0.41
3:B:17:LYS:O	3:B:260:HIS:HD2	2.04	0.41
31:9:3:A:N6	31:9:22:G:H1'	2.35	0.41
1:0:111:C:H2'	1:0:112:G:O4'	2.21	0.41
1:0:690:G:H4'	1:0:741:C:O2	2.20	0.41
1:0:789:C:H1'	1:0:827:A:C2	2.55	0.41
1:0:849:C:O2'	1:0:850:U:H5'	2.20	0.41
1:0:851:C:O2	1:0:2022:A:H2	2.03	0.41
1:0:870:G:C3'	1:0:871:G:H5''	2.50	0.41
1:0:1056:U:H2'	1:0:1057:A:O4'	2.20	0.41
1:0:1351:G:OP1	4:C:96:LYS:NZ	2.41	0.41
1:0:1593:C:H5'	17:P:116:SER:O	2.20	0.41
1:0:2039:A:H4'	1:0:2760:C:O2'	2.21	0.41
1:0:2392:C:H4'	39:0:9114:HOH:O	2.20	0.41
1:0:2511:A:H2'	1:0:2512:U:O4'	2.20	0.41
1:0:2734:G:O2'	1:0:2735:U:H5'	2.21	0.41
1:0:318:U:H5'	1:0:339:A:C4	2.56	0.41
1:0:319:A:H4'	1:0:338:C:C4	2.56	0.41
1:0:558:C:C2'	1:0:559:U:C5'	2.94	0.41
1:0:1073:A:H4'	26:Y:155:ARG:O	2.21	0.41
1:0:1151:G:OP1	8:G:63:ARG:NH1	2.54	0.41
1:0:1181:A:C2'	1:0:1182:C:H5'	2.51	0.41
1:0:1205:U:C2'	1:0:1206:U:H5''	2.50	0.41
1:0:1226:G:H5'	39:0:3248:HOH:O	2.21	0.41
1:0:1555:G:O2'	1:0:1556:G:H5'	2.21	0.41
1:0:1753:C:O2	3:B:229:ARG:NH2	2.46	0.41
1:0:1815:A:H2'	1:0:1816:C:O4'	2.21	0.41
1:0:1904:A:H2'	1:0:1905:U:O4'	2.21	0.41
1:0:1926:G:H2'	1:0:1927:A:C8	2.55	0.41
1:0:2473:U:O3'	1:0:2474:A:H3'	2.20	0.41
1:0:2526:C:H5'	1:0:2526:C:C6	2.56	0.41
1:0:2673:U:H4'	3:B:94:GLN:O	2.21	0.41
1:0:2768:A:H5''	39:0:3093:HOH:O	2.21	0.41
1:0:2819:C:H2'	1:0:2820:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2897:C:O2'	1:0:2898:G:H5'	2.21	0.41
3:B:69:VAL:HA	3:B:70:PRO:HD3	1.93	0.41
4:C:168:ARG:NH2	4:C:190:ALA:O	2.54	0.41
15:N:35:VAL:HG11	31:9:6:C:H4'	2.02	0.41
19:R:40:ALA:O	19:R:44:VAL:HG23	2.21	0.41
25:X:43:VAL:HG22	25:X:76:ARG:NH1	2.35	0.41
28:1:8:GLN:HE22	28:1:11:LYS:HZ2	1.69	0.41
31:9:2:U:OP2	31:9:3:A:H5'	2.20	0.41
31:9:36:C:C5	31:9:37:C:C5	3.09	0.41
1:0:276:C:H6	1:0:276:C:O5'	2.04	0.41
1:0:318:U:H5'	1:0:339:A:N3	2.36	0.41
1:0:940:G:C5	1:0:1027:G:C2	3.09	0.41
1:0:1098:A:OP1	24:W:128:VAL:HG22	2.20	0.41
1:0:1652:C:H4'	27:Z:76:THR:HG21	2.02	0.41
1:0:1684:A:H1'	29:2:43:ARG:NH2	2.34	0.41
1:0:1717:A:H5''	17:P:54:LYS:HB2	2.03	0.41
1:0:2265:U:H2'	1:0:2266:A:C8	2.56	0.41
1:0:2846:C:H4'	3:B:156:LYS:HB3	2.02	0.41
11:J:90:LYS:HB2	35:J:8802:CL:CL	2.58	0.41
20:S:17:ASP:HB3	20:S:23:LYS:HB2	2.03	0.41
1:0:71:G:H8	39:0:8650:HOH:O	2.04	0.40
1:0:177:A:O2'	1:0:892:G:H4'	2.21	0.40
1:0:968:G:O2'	1:0:969:G:H5'	2.21	0.40
1:0:2088:C:H1'	1:0:2841:A:N1	2.36	0.40
1:0:2676:C:C2'	1:0:2677:A:H5'	2.50	0.40
1:0:2831:C:H2'	1:0:2832:C:H5'	2.02	0.40
15:N:159:TYR:HE1	31:9:50:G:H5''	1.85	0.40
1:0:120:A:H2	29:2:49:GLU:OE1	2.04	0.40
1:0:483:C:C4	1:0:484:A:C6	3.10	0.40
1:0:876:A:N3	1:0:876:A:H2'	2.36	0.40
1:0:1972:U:H2'	1:0:1973:A:H5'	2.02	0.40
1:0:2538:A:C8	37:0:9101:HMT:H28B	2.56	0.40
1:0:2809:G:H2'	1:0:2810:G:O4'	2.21	0.40
1:0:2869:G:H2'	1:0:2870:C:C6	2.56	0.40
1:0:2893:C:O2'	1:0:2894:C:H5'	2.20	0.40
7:F:58:GLU:HB3	14:M:8:ILE:HG23	2.03	0.40
1:0:154:C:H2'	1:0:155:C:C6	2.56	0.40
1:0:527:U:H2'	1:0:528:G:H8	1.86	0.40
1:0:581:G:O2'	1:0:582:U:H5'	2.20	0.40
1:0:629:A:C2	1:0:2074:A:C2	3.09	0.40
1:0:912:A:C4	1:0:1294:A:C2	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1306:U:H5''	4:C:184:ARG:HD2	2.02	0.40
1:0:1592:G:N2	1:0:1602:C:O2	2.52	0.40
1:0:1846:U:O2'	2:A:172:ALA:HB2	2.21	0.40
1:0:2000:G:O2'	1:0:2001:G:H5'	2.22	0.40
1:0:2011:A:H4'	1:0:2012:U:O5'	2.22	0.40
1:0:2039:A:H2'	1:0:2040:C:C6	2.55	0.40
1:0:2271:G:H2'	1:0:2271:G:N3	2.36	0.40
1:0:2755:G:H1'	39:0:3447:HOH:O	2.21	0.40
3:B:60:SER:HA	3:B:61:PRO:HD3	1.98	0.40
3:B:115:VAL:HA	3:B:116:PRO:HD3	1.94	0.40
3:B:315:VAL:HG23	3:B:316:ARG:HG2	2.03	0.40
5:D:15:GLU:HA	5:D:16:PRO:HD3	1.92	0.40
6:E:20:ILE:HD11	6:E:40:VAL:HG11	2.03	0.40
9:H:69:ARG:HD3	39:H:6314:HOH:O	2.21	0.40
15:N:47:LEU:HD13	15:N:47:LEU:HA	1.99	0.40
1:0:419:A:H1'	1:0:1921:A:C2	2.56	0.40
1:0:1120:U:C6	1:0:1120:U:H5''	2.57	0.40
1:0:1130:U:H5'	39:0:7596:HOH:O	2.20	0.40
1:0:1299:G:N2	39:0:3448:HOH:O	2.54	0.40
1:0:1684:A:O2'	1:0:1685:A:H5''	2.21	0.40
1:0:2434:A:H2'	1:0:2435:U:O4'	2.22	0.40
2:A:48:ASP:HA	2:A:49:PRO:HD3	1.94	0.40
15:N:1:ALA:HB2	31:9:14:G:O2'	2.21	0.40
15:N:11:ARG:NH1	31:9:8:G:O6	2.55	0.40
19:R:9:ASP:O	19:R:13:THR:HB	2.22	0.40
1:0:100:C:H4'	21:T:16:LEU:HB2	2.04	0.40
1:0:383:A:H2'	1:0:384:G:O4'	2.21	0.40
1:0:484:A:N1	1:0:506:G:H4'	2.37	0.40
1:0:682:A:H2'	1:0:683:G:O4'	2.21	0.40
1:0:1172:G:H1'	39:0:3847:HOH:O	2.20	0.40
1:0:1576:G:H2'	1:0:1577:U:O4'	2.22	0.40
1:0:2781:U:H2'	1:0:2782:G:C5'	2.51	0.40
1:0:2837:U:H2'	39:0:6433:HOH:O	2.22	0.40
23:V:5:VAL:HG23	39:V:2271:HOH:O	2.20	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	A	235/237 (99%)	219 (93%)	13 (6%)	3 (1%)	12	30
3	B	335/337 (99%)	314 (94%)	18 (5%)	3 (1%)	17	40
4	C	244/246 (99%)	227 (93%)	17 (7%)	0	100	100
5	D	134/177 (76%)	121 (90%)	11 (8%)	2 (2%)	10	26
6	E	170/172 (99%)	161 (95%)	9 (5%)	0	100	100
7	F	117/119 (98%)	112 (96%)	3 (3%)	2 (2%)	9	23
8	G	25/348 (7%)	25 (100%)	0	0	100	100
9	H	156/177 (88%)	149 (96%)	5 (3%)	2 (1%)	12	30
10	I	68/70 (97%)	56 (82%)	11 (16%)	1 (2%)	10	26
11	J	140/142 (99%)	135 (96%)	5 (4%)	0	100	100
12	K	130/132 (98%)	124 (95%)	5 (4%)	1 (1%)	19	43
13	L	141/165 (86%)	132 (94%)	9 (6%)	0	100	100
14	M	192/194 (99%)	188 (98%)	4 (2%)	0	100	100
15	N	184/186 (99%)	173 (94%)	8 (4%)	3 (2%)	9	24
16	O	113/115 (98%)	111 (98%)	2 (2%)	0	100	100
17	P	141/143 (99%)	141 (100%)	0	0	100	100
18	Q	93/95 (98%)	89 (96%)	4 (4%)	0	100	100
19	R	148/150 (99%)	143 (97%)	5 (3%)	0	100	100
20	S	79/81 (98%)	77 (98%)	2 (2%)	0	100	100
21	T	117/119 (98%)	112 (96%)	5 (4%)	0	100	100
22	U	51/53 (96%)	48 (94%)	3 (6%)	0	100	100
23	V	63/65 (97%)	60 (95%)	3 (5%)	0	100	100
24	W	152/154 (99%)	148 (97%)	3 (2%)	1 (1%)	22	46
25	X	80/82 (98%)	77 (96%)	3 (4%)	0	100	100
26	Y	140/142 (99%)	137 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	Z	71/73 (97%)	65 (92%)	5 (7%)	1 (1%)	11	28
28	1	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
29	2	42/50 (84%)	42 (100%)	0	0	100	100
30	3	90/92 (98%)	89 (99%)	1 (1%)	0	100	100
All	All	3705/4172 (89%)	3527 (95%)	159 (4%)	19 (0%)	29	54

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A	37	VAL
15	N	154	LEU
2	A	27	LEU
9	H	19	ARG
24	W	77	ALA
2	A	34	ASP
5	D	56	ARG
7	F	61	MET
15	N	139	TRP
15	N	167	ASP
3	B	2	GLN
5	D	137	PRO
7	F	100	ASP
12	K	127	ALA
3	B	185	GLY
3	B	206	THR
10	I	108	HIS
27	Z	67	GLY
9	H	171	GLY

### 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	
2	A	179/179 (100%)	171 (96%)	8 (4%)	27	55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	B	282/282 (100%)	270 (96%)	12 (4%)	29	57
4	C	193/193 (100%)	174 (90%)	19 (10%)	8	18
5	D	117/148 (79%)	110 (94%)	7 (6%)	19	42
6	E	152/152 (100%)	148 (97%)	4 (3%)	46	75
7	F	93/93 (100%)	91 (98%)	2 (2%)	52	79
8	G	27/282 (10%)	27 (100%)	0	100	100
9	H	134/145 (92%)	128 (96%)	6 (4%)	27	55
10	I	58/58 (100%)	57 (98%)	1 (2%)	60	84
11	J	118/118 (100%)	110 (93%)	8 (7%)	16	36
12	K	106/106 (100%)	102 (96%)	4 (4%)	33	62
13	L	113/127 (89%)	106 (94%)	7 (6%)	18	40
14	M	158/158 (100%)	152 (96%)	6 (4%)	33	62
15	N	149/149 (100%)	143 (96%)	6 (4%)	31	60
16	O	93/93 (100%)	89 (96%)	4 (4%)	29	57
17	P	113/113 (100%)	109 (96%)	4 (4%)	36	65
18	Q	79/79 (100%)	75 (95%)	4 (5%)	24	50
19	R	117/117 (100%)	113 (97%)	4 (3%)	37	66
20	S	71/71 (100%)	71 (100%)	0	100	100
21	T	105/105 (100%)	99 (94%)	6 (6%)	20	44
22	U	44/44 (100%)	44 (100%)	0	100	100
23	V	51/51 (100%)	50 (98%)	1 (2%)	55	81
24	W	130/130 (100%)	123 (95%)	7 (5%)	22	47
25	X	66/66 (100%)	59 (89%)	7 (11%)	6	15
26	Y	120/120 (100%)	116 (97%)	4 (3%)	38	67
27	Z	60/60 (100%)	60 (100%)	0	100	100
28	1	46/46 (100%)	46 (100%)	0	100	100
29	2	42/46 (91%)	41 (98%)	1 (2%)	49	77
30	3	79/79 (100%)	76 (96%)	3 (4%)	33	62
All	All	3095/3410 (91%)	2960 (96%)	135 (4%)	28	56

All (135) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	3	ARG
2	A	30	ARG
2	A	64	ASP
2	A	69	LEU
2	A	94	LEU
2	A	131	HIS
2	A	179	MET
2	A	217	ARG
3	B	11	LEU
3	B	27	ASN
3	B	71	VAL
3	B	97	LEU
3	B	98	THR
3	B	132	HIS
3	B	162	MET
3	B	171	VAL
3	B	195	ARG
3	B	254	GLN
3	B	257	THR
3	B	280	VAL
4	C	2	GLN
4	C	17	ASP
4	C	27	ARG
4	C	76	ARG
4	C	78	ARG
4	C	94	THR
4	C	101	ASP
4	C	118	THR
4	C	136	VAL
4	C	162	VAL
4	C	187	ARG
4	C	202	THR
4	C	214	THR
4	C	223	LEU
4	C	234	VAL
4	C	236	THR
4	C	237	GLU
4	C	240	LEU
4	C	243	VAL
5	D	19	GLU
5	D	50	VAL
5	D	52	THR
5	D	58	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	D	101	THR
5	D	149	ARG
5	D	161	ASP
6	E	36	PRO
6	E	102	VAL
6	E	156	ASP
6	E	164	ASP
7	F	12	LEU
7	F	91	VAL
9	H	62	HIS
9	H	65	LEU
9	H	87	LYS
9	H	91	ARG
9	H	157	TYR
9	H	173	GLU
10	I	94	ASP
11	J	35	THR
11	J	46	ILE
11	J	47	THR
11	J	52	GLN
11	J	79	PHE
11	J	107	ASN
11	J	120	SER
11	J	130	VAL
12	K	10	GLN
12	K	98	VAL
12	K	107	THR
12	K	119	GLN
13	L	4	LYS
13	L	30	ARG
13	L	35	ARG
13	L	37	LYS
13	L	101	ASP
13	L	104	ASP
13	L	140	VAL
14	M	10	ASP
14	M	46	LEU
14	M	68	ARG
14	M	74	LYS
14	M	99	ARG
14	M	116	ASN
15	N	26	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
15	N	49	THR
15	N	135	VAL
15	N	142	THR
15	N	175	LEU
15	N	180	LEU
16	O	3	THR
16	O	25	VAL
16	O	80	ASP
16	O	115	ARG
17	P	52	LYS
17	P	91	LYS
17	P	98	ILE
17	P	110	ASP
18	Q	16	ASN
18	Q	20	ASP
18	Q	30	VAL
18	Q	57	ASP
19	R	13	THR
19	R	39	THR
19	R	132	ARG
19	R	143	VAL
21	T	39	ASN
21	T	48	VAL
21	T	82	THR
21	T	89	ARG
21	T	96	VAL
21	T	115	GLU
23	V	13	PRO
24	W	14	HIS
24	W	52	VAL
24	W	88	THR
24	W	112	LEU
24	W	120	PRO
24	W	142	ASP
24	W	146	ILE
25	X	27	ASP
25	X	43	VAL
25	X	49	ARG
25	X	52	PRO
25	X	72	VAL
25	X	82	GLU
25	X	88	GLU

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Mol	Chain	Res	Type
26	Y	154	ARG
26	Y	189	ASN
26	Y	203	VAL
26	Y	220	GLU
29	2	18	ASN
30	3	14	CYS
30	3	56	PRO
30	3	87	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (70) such sidechains are listed below:

Mol	Chain	Res	Type
2	A	47	HIS
2	A	176	HIS
2	A	199	HIS
3	B	27	ASN
3	B	127	GLN
3	B	145	HIS
3	B	191	ASN
3	B	221	GLN
3	B	238	ASN
3	B	260	HIS
3	B	320	GLN
3	B	332	ASN
4	C	73	GLN
4	C	129	HIS
5	D	103	ASN
6	E	143	GLN
8	G	64	ASN
9	H	34	HIS
9	H	59	GLN
9	H	62	HIS
10	I	102	GLN
10	I	106	GLN
11	J	52	GLN
11	J	107	ASN
11	J	142	ASN
12	K	10	GLN
12	K	44	HIS
13	L	18	HIS
13	L	41	HIS
14	M	24	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
14	M	58	GLN
14	M	137	ASN
14	M	170	ASN
15	N	40	ASN
15	N	107	ASN
17	P	66	GLN
17	P	73	HIS
17	P	88	GLN
17	P	89	ASN
17	P	118	GLN
18	Q	40	HIS
19	R	22	GLN
19	R	94	ASN
19	R	98	ASN
19	R	117	HIS
19	R	122	GLN
19	R	123	GLN
20	S	44	GLN
20	S	51	GLN
21	T	39	ASN
22	U	39	ASN
22	U	48	ASN
23	V	60	GLN
24	W	12	ASN
24	W	110	GLN
24	W	119	HIS
24	W	125	HIS
24	W	141	HIS
25	X	23	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	41	HIS
29	2	45	ASN
30	3	2	GLN
30	3	48	ASN

### 5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2745/2923 (93%)	224 (8%)	30 (1%)
31	9	121/122 (99%)	18 (14%)	1 (0%)
All	All	2866/3045 (94%)	242 (8%)	31 (1%)

All (242) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	31	C
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G
1	0	86	A
1	0	87	C
1	0	88	G
1	0	114	A
1	0	115	U
1	0	130	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	170	U
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	C
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	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

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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
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	632	A
1	0	644	G
1	0	660	A
1	0	688	A
1	0	701	U
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	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

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1029	U
1	0	1045	G
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	1130	U
1	0	1137	G
1	0	1151	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	1192	A
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	1242	A
1	0	1279	U
1	0	1289	C
1	0	1331	G
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1378	G
1	0	1407	A
1	0	1409	G
1	0	1474	C
1	0	1485	A
1	0	1505	U
1	0	1506	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1524	U
1	0	1525	G
1	0	1526	A
1	0	1592	G
1	0	1625	U
1	0	1626	A
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	1730	G
1	0	1731	C
1	0	1732	A
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1819	G
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	1996	U
1	0	2004	U
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	G
1	0	2034	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	2103	A
1	0	2110	G
1	0	2133	U
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	2354	A
1	0	2361	A
1	0	2369	A
1	0	2379	G
1	0	2422	U
1	0	2462	G
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	2542	C
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	2645	U
1	0	2649	A
1	0	2664	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	2792	A
1	0	2800	A
1	0	2811	A
1	0	2812	A
1	0	2825	C
1	0	2867	G
1	0	2876	G
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
31	9	2	U
31	9	7	G
31	9	14	G
31	9	22	G
31	9	23	U
31	9	24	U
31	9	25	G
31	9	39	U
31	9	40	C
31	9	41	C
31	9	43	G
31	9	44	A
31	9	52	A
31	9	57	A
31	9	66	G
31	9	77	A
31	9	114	G
31	9	122	C

All (31) RNA pucker outliers are listed below:

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Mol	Chain	Res	Type
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Mol	Chain	Res	Type
1	0	69	A
1	0	129	A
1	0	169	A
1	0	338	C
1	0	603	A
1	0	644	G
1	0	699	C
1	0	834	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	898	G
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1942	A
1	0	2313	C
1	0	2467	A
1	0	2526	C
1	0	2536	C
1	0	2541	U
1	0	2649	A
1	0	2681	A
1	0	2718	C
1	0	2726	U
1	0	2791	U
31	9	65	A

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

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	1MA	0	628	1,34	16,25,26	1.34	3 (18%)	18,37,40	1.07	2 (11%)
1	PSU	0	2621	1	18,21,22	1.35	2 (11%)	22,30,33	1.17	3 (13%)
1	OMG	0	2588	1	18,26,27	1.02	2 (11%)	19,38,41	0.72	1 (5%)
1	OMU	0	2587	1,34	19,22,23	0.31	0	26,31,34	0.43	0
1	UR3	0	2619	1	19,22,23	0.53	0	26,32,35	0.61	1 (3%)

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	1MA	0	628	1,34	-	0/3/25/26	0/3/3/3
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2
1	OMG	0	2588	1	-	0/5/27/28	0/3/3/3
1	OMU	0	2587	1,34	-	0/9/27/28	0/2/2/2
1	UR3	0	2619	1	-	0/7/25/26	0/2/2/2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C2-N1	4.44	1.42	1.36
1	0	628	1MA	C2-N3	3.52	1.33	1.29
1	0	2588	OMG	C5-C6	-2.58	1.42	1.47
1	0	2621	PSU	C6-C5	2.57	1.38	1.35
1	0	2588	OMG	C8-N7	-2.48	1.30	1.35
1	0	628	1MA	C6-N6	2.48	1.33	1.27
1	0	628	1MA	C8-N7	-2.11	1.31	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	2.99	120.29	118.20
1	0	628	1MA	N1-C2-N3	2.82	129.31	126.02
1	0	2621	PSU	C6-N1-C2	-2.60	120.03	122.68
1	0	628	1MA	C5-C6-N1	2.52	117.66	113.90
1	0	2621	PSU	O2-C2-N1	2.45	125.49	122.79
1	0	2619	UR3	C4-N3-C2	2.25	126.68	124.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2588	OMG	O6-C6-C5	2.13	128.54	124.37

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2587	OMU	1	0

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 306 ligands modelled in this entry, 305 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
37	HMT	0	9101	-	40,43,43	0.66	0	41,66,66	2.05	13 (31%)

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
37	HMT	0	9101	-	-	5/27/74/74	0/5/5/5

There are no bond length outliers.



All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	0	9101	HMT	O7-C22-C21	4.55	119.71	111.19
37	0	9101	HMT	O4-C19-C20	4.22	119.11	111.27
37	0	9101	HMT	O1-C17-O2	-4.12	101.49	108.08
37	0	9101	HMT	C18-O3-C2	-3.54	110.58	116.52
37	0	9101	HMT	O1-C14-C13	3.18	132.10	127.85
37	0	9101	HMT	C3-O4-C19	-3.01	112.51	117.24
37	0	9101	HMT	O2-C15-C16	2.99	131.85	127.85
37	0	9101	HMT	C11-C10-N1	-2.98	99.63	103.95
37	0	9101	HMT	C25-C24-C20	-2.97	111.10	115.65
37	0	9101	HMT	C12-C11-C10	-2.59	99.30	104.26
37	0	9101	HMT	C7-C6-C16	-2.59	113.71	119.42
37	0	9101	HMT	O4-C19-O5	-2.14	120.11	123.97
37	0	9101	HMT	C17-O1-C14	-2.08	102.64	105.34

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
37	0	9101	HMT	C1-C2-O3-C18
37	0	9101	HMT	C3-C2-O3-C18
37	0	9101	HMT	O5-C19-C20-C24
37	0	9101	HMT	O4-C19-C20-C24
37	0	9101	HMT	C2-C3-O4-C19

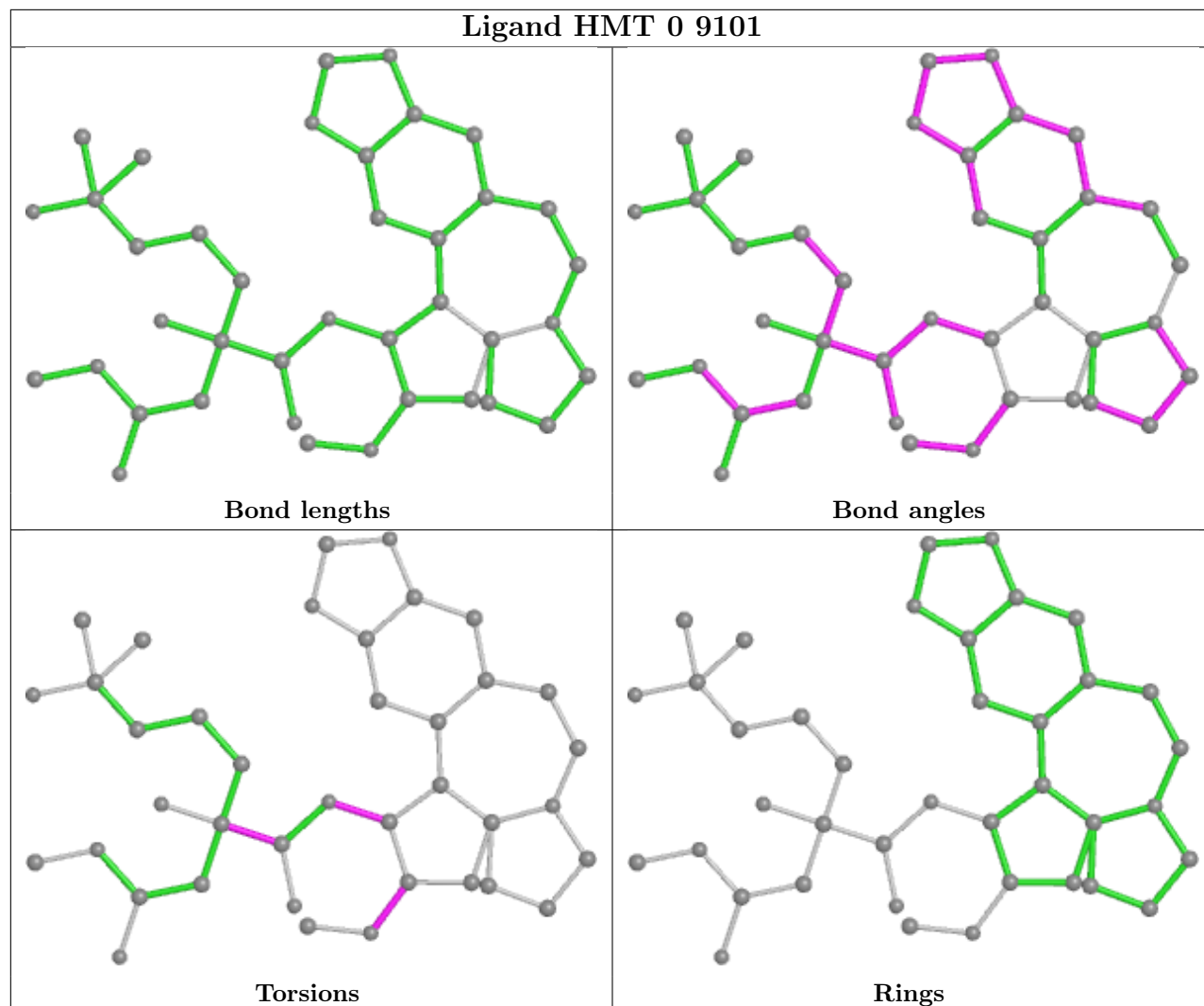
There are no ring outliers.

1 monomer is involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
37	0	9101	HMT	11	0

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

equivalents in the CSD to analyse the geometry.



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	0	2749/2923 (94%)	-0.36	47 (1%) 70 72	22, 50, 99, 170	0
2	A	237/237 (100%)	0.86	37 (15%) 2 1	30, 62, 104, 124	0
3	B	337/337 (100%)	0.39	18 (5%) 26 25	30, 59, 88, 105	0
4	C	246/246 (100%)	0.46	9 (3%) 41 41	25, 51, 78, 88	0
5	D	140/177 (79%)	2.76	82 (58%) 0 0	70, 112, 138, 148	0
6	E	172/172 (100%)	0.74	18 (10%) 6 4	51, 76, 98, 104	0
7	F	119/119 (100%)	1.47	36 (30%) 0 0	58, 83, 116, 132	0
8	G	29/348 (8%)	2.03	12 (41%) 0 0	78, 102, 109, 111	0
9	H	160/177 (90%)	1.40	49 (30%) 0 0	49, 73, 112, 120	0
10	I	70/70 (100%)	5.45	65 (92%) 0 0	140, 157, 176, 177	0
11	J	142/142 (100%)	0.27	3 (2%) 63 65	39, 56, 79, 98	0
12	K	132/132 (100%)	0.28	5 (3%) 40 39	39, 56, 81, 85	0
13	L	145/165 (87%)	1.24	36 (24%) 0 0	30, 76, 128, 140	0
14	M	194/194 (100%)	0.22	2 (1%) 82 83	35, 49, 67, 73	0
15	N	186/186 (100%)	1.43	56 (30%) 0 0	48, 75, 130, 137	0
16	O	115/115 (100%)	0.58	6 (5%) 27 25	42, 61, 79, 88	0
17	P	143/143 (100%)	0.52	7 (4%) 29 28	43, 63, 80, 87	0
18	Q	95/95 (100%)	0.17	0 100 100	40, 53, 67, 79	0
19	R	150/150 (100%)	0.10	0 100 100	33, 51, 71, 82	0
20	S	81/81 (100%)	1.08	16 (19%) 1 0	49, 68, 90, 99	0
21	T	119/119 (100%)	1.06	19 (15%) 1 1	42, 66, 92, 119	0
22	U	53/53 (100%)	0.60	3 (5%) 23 22	46, 63, 84, 89	0
23	V	65/65 (100%)	2.96	35 (53%) 0 0	62, 87, 128, 136	0
24	W	154/154 (100%)	0.41	3 (1%) 66 69	38, 56, 73, 83	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	X	82/82 (100%)	0.65	9 (10%) 5 4	50, 68, 93, 107	0
26	Y	142/142 (100%)	0.31	5 (3%) 44 44	26, 50, 75, 96	0
27	Z	73/73 (100%)	2.31	36 (49%) 0 0	69, 94, 110, 115	0
28	1	56/56 (100%)	0.12	0 100 100	30, 36, 44, 54	0
29	2	46/50 (92%)	0.74	8 (17%) 1 1	41, 70, 100, 111	0
30	3	92/92 (100%)	0.86	10 (10%) 5 4	42, 70, 83, 95	0
31	9	122/122 (100%)	-0.42	4 (3%) 46 46	42, 72, 98, 150	0
All	All	6646/7217 (92%)	0.36	636 (9%) 8 6	22, 58, 112, 177	0

All (636) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
23	V	1	THR	18.1
23	V	39	ALA	16.9
10	I	74	ILE	13.1
5	D	63	ILE	12.3
10	I	128	THR	11.3
10	I	97	VAL	11.1
10	I	70	THR	10.2
31	9	1	U	9.2
23	V	40	PRO	8.9
10	I	104	ALA	8.9
10	I	112	LEU	8.6
10	I	71	ALA	8.5
10	I	106	GLN	8.4
10	I	132	VAL	8.3
10	I	72	GLU	8.2
15	N	166	ALA	8.2
27	Z	46	SER	8.2
10	I	83	GLY	8.1
10	I	108	HIS	8.0
10	I	79	GLY	7.7
23	V	43	PRO	7.7
10	I	127	CYS	7.7
10	I	92	VAL	7.6
27	Z	35	SER	7.6
5	D	88	LEU	7.6
10	I	80	PHE	7.5
27	Z	58	ASN	7.4
10	I	67	VAL	7.3

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Mol	Chain	Res	Type	RSRZ
10	I	91	PHE	7.3
5	D	69	ILE	7.1
10	I	73	LEU	7.1
10	I	66	GLY	7.0
23	V	38	GLY	7.0
5	D	18	ILE	6.9
5	D	90	LEU	6.9
27	Z	43	GLY	6.8
5	D	40	ILE	6.8
10	I	69	PRO	6.6
21	T	119	ALA	6.6
5	D	89	PRO	6.6
10	I	94	ASP	6.6
5	D	10	PHE	6.6
10	I	93	ALA	6.5
10	I	105	GLU	6.3
10	I	88	GLN	6.3
5	D	128	LEU	6.2
10	I	82	THR	6.2
20	S	81	ILE	6.1
10	I	76	ASP	6.1
10	I	113	SER	6.1
10	I	99	GLN	6.0
5	D	44	ILE	6.0
10	I	111	LEU	5.9
1	0	1198	U	5.9
10	I	100	VAL	5.9
7	F	17	LEU	5.9
2	A	82	VAL	5.8
5	D	130	VAL	5.8
5	D	64	ARG	5.7
13	L	106	VAL	5.7
5	D	26	GLY	5.7
7	F	106	ALA	5.7
27	Z	68	GLU	5.6
5	D	106	PHE	5.6
5	D	57	THR	5.6
27	Z	69	ASP	5.5
7	F	101	ALA	5.5
10	I	109	PRO	5.5
10	I	102	GLN	5.4
7	F	119	ARG	5.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
23	V	41	GLU	5.4
13	L	80	ASP	5.4
5	D	134	LEU	5.4
23	V	3	LEU	5.3
5	D	75	LEU	5.3
15	N	147	ILE	5.3
5	D	66	GLY	5.3
27	Z	45	VAL	5.2
27	Z	49	ARG	5.2
10	I	81	GLU	5.2
8	G	23	ILE	5.2
15	N	145	ALA	5.2
7	F	75	ILE	5.2
10	I	78	ALA	5.2
5	D	27	ILE	5.1
10	I	103	ILE	5.1
5	D	85	GLN	5.1
13	L	105	TYR	5.1
13	L	99	GLU	5.1
10	I	130	LEU	5.1
23	V	36	ALA	5.1
5	D	68	PRO	5.1
1	0	1169	U	5.0
10	I	98	ASP	5.0
15	N	83	LEU	5.0
2	A	99	ILE	5.0
5	D	73	VAL	5.0
8	G	71	LEU	4.9
15	N	159	TYR	4.9
2	A	237	GLY	4.9
13	L	96	VAL	4.9
27	Z	44	ARG	4.9
5	D	70	GLY	4.8
10	I	86	GLU	4.8
31	9	24	U	4.8
1	0	282	C	4.8
1	0	1172	G	4.7
8	G	27	ILE	4.7
2	A	37	VAL	4.7
21	T	116	ASP	4.7
27	Z	83	TYR	4.7
10	I	75	LYS	4.7

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Mol	Chain	Res	Type	RSRZ
9	H	86	TYR	4.6
27	Z	50	VAL	4.6
10	I	121	LYS	4.6
7	F	49	PHE	4.6
2	A	80	LEU	4.6
5	D	93	LEU	4.6
1	0	970	U	4.6
9	H	35	LYS	4.6
13	L	60	GLU	4.5
10	I	84	SER	4.5
5	D	104	PHE	4.5
14	M	1	ALA	4.5
5	D	24	HIS	4.4
11	J	70	PHE	4.4
1	0	1163	G	4.4
10	I	119	ALA	4.4
23	V	46	ILE	4.3
13	L	91	VAL	4.3
27	Z	42	TYR	4.3
23	V	59	ILE	4.3
21	T	118	SER	4.3
6	E	45	ASP	4.3
5	D	25	MET	4.3
5	D	154	LYS	4.3
7	F	44	SER	4.3
10	I	117	THR	4.3
10	I	110	ASP	4.2
27	Z	60	ASP	4.2
1	0	1177	A	4.2
15	N	172	PHE	4.2
23	V	2	VAL	4.2
23	V	37	GLY	4.2
23	V	52	ALA	4.2
9	H	48	VAL	4.1
10	I	120	ALA	4.1
10	I	123	VAL	4.1
10	I	129	SER	4.1
5	D	74	THR	4.1
9	H	76	LEU	4.1
2	A	97	ALA	4.1
15	N	67	ALA	4.1
1	0	1173	A	4.1

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Mol	Chain	Res	Type	RSRZ
10	I	116	LEU	4.1
27	Z	78	ILE	4.1
5	D	11	HIS	4.0
1	0	1199	A	4.0
9	H	140	TYR	4.0
15	N	158	LEU	4.0
21	T	40	VAL	4.0
5	D	157	LEU	4.0
13	L	118	LEU	4.0
4	C	139	VAL	4.0
5	D	56	ARG	4.0
5	D	166	ILE	4.0
5	D	61	PHE	4.0
23	V	45	ARG	4.0
1	0	1168	C	4.0
5	D	17	ARG	3.9
7	F	22	VAL	3.9
7	F	99	THR	3.9
26	Y	235	GLU	3.9
2	A	94	LEU	3.9
5	D	65	GLU	3.9
15	N	115	VAL	3.9
15	N	155	GLU	3.9
10	I	68	PRO	3.9
5	D	165	PHE	3.9
21	T	55	PHE	3.9
10	I	126	THR	3.8
15	N	138	ASP	3.8
27	Z	53	ILE	3.8
27	Z	54	GLU	3.8
8	G	21	ASP	3.8
10	I	133	THR	3.8
23	V	34	GLN	3.8
17	P	71	TYR	3.8
10	I	124	VAL	3.8
15	N	179	LEU	3.8
1	0	1951	G	3.8
25	X	41	PHE	3.8
5	D	23	VAL	3.7
2	A	83	GLY	3.7
3	B	181	ILE	3.7
13	L	62	ALA	3.7

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Mol	Chain	Res	Type	RSRZ
13	L	140	VAL	3.7
2	A	91	GLY	3.7
13	L	102	ASP	3.7
15	N	164	ASP	3.6
5	D	141	VAL	3.6
9	H	36	MET	3.6
13	L	97	VAL	3.6
5	D	84	LEU	3.6
23	V	44	GLY	3.6
13	L	100	ALA	3.6
15	N	143	ARG	3.6
2	A	88	ILE	3.6
5	D	50	VAL	3.6
21	T	115	GLU	3.6
1	0	1202	A	3.6
5	D	16	PRO	3.5
23	V	8	ILE	3.5
5	D	170	TYR	3.5
9	H	73	ASN	3.5
2	A	85	SER	3.5
5	D	22	VAL	3.5
8	G	69	ARG	3.5
23	V	51	LYS	3.5
13	L	76	LEU	3.5
13	L	81	VAL	3.5
2	A	58	VAL	3.5
9	H	141	CYS	3.4
29	2	49	GLU	3.4
15	N	87	LEU	3.4
10	I	131	GLY	3.4
1	0	1180	U	3.4
5	D	43	GLU	3.4
9	H	50	ILE	3.4
15	N	97	VAL	3.4
21	T	112	LEU	3.4
2	A	128	LEU	3.4
23	V	49	LEU	3.4
1	0	1164	U	3.4
9	H	174	LEU	3.4
16	O	22	GLY	3.4
27	Z	47	ARG	3.4
27	Z	38	PHE	3.4

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Mol	Chain	Res	Type	RSRZ
30	3	83	TRP	3.4
15	N	38	LYS	3.4
1	0	1171	A	3.4
12	K	132	VAL	3.4
15	N	139	TRP	3.3
5	D	135	VAL	3.3
20	S	2	TRP	3.3
2	A	96	LEU	3.3
9	H	90	LEU	3.3
13	L	75	LEU	3.3
21	T	42	VAL	3.3
21	T	50	VAL	3.3
23	V	5	VAL	3.3
5	D	92	GLU	3.3
1	0	1181	A	3.3
15	N	62	HIS	3.3
5	D	91	ALA	3.3
15	N	137	ALA	3.3
5	D	172	VAL	3.3
5	D	98	PHE	3.3
16	O	89	ILE	3.2
9	H	169	GLU	3.2
5	D	142	ALA	3.2
5	D	171	ASP	3.2
15	N	69	TYR	3.2
5	D	83	PHE	3.2
15	N	84	THR	3.2
13	L	150	GLN	3.2
5	D	81	GLU	3.2
10	I	95	LEU	3.2
5	D	47	GLN	3.2
24	W	65	VAL	3.2
10	I	90	ASP	3.2
2	A	90	PRO	3.2
27	Z	34	SER	3.2
9	H	40	GLN	3.2
5	D	19	GLU	3.2
7	F	91	VAL	3.2
22	U	54	THR	3.2
23	V	31	ARG	3.2
20	S	20	PHE	3.1
3	B	128	ILE	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
9	H	77	ILE	3.1
9	H	81	GLY	3.1
13	L	120	LEU	3.1
27	Z	104	ARG	3.1
25	X	85	VAL	3.1
1	0	1279	U	3.1
10	I	125	GLY	3.1
9	H	68	SER	3.1
15	N	165	ALA	3.1
5	D	53	LYS	3.1
9	H	37	GLY	3.1
5	D	71	ALA	3.1
1	0	1162	G	3.1
30	3	13	HIS	3.1
15	N	162	ASP	3.1
10	I	122	GLU	3.1
2	A	31	LYS	3.1
1	0	735	C	3.1
7	F	15	ASP	3.1
10	I	134	ILE	3.1
7	F	114	LYS	3.1
1	0	1166	A	3.0
9	H	74	ARG	3.0
15	N	160	SER	3.0
12	K	118	ALA	3.0
1	0	1203	G	3.0
15	N	163	PHE	3.0
9	H	149	VAL	3.0
5	D	129	ASP	3.0
15	N	180	LEU	3.0
7	F	6	PHE	3.0
3	B	180	ASP	3.0
25	X	7	GLU	3.0
22	U	47	ARG	3.0
21	T	117	ASP	3.0
6	E	7	ILE	3.0
13	L	149	ARG	3.0
27	Z	48	ARG	3.0
1	0	1948	G	3.0
9	H	31	ILE	3.0
5	D	72	LYS	3.0
7	F	20	LEU	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
15	N	71	TRP	3.0
27	Z	55	SER	2.9
15	N	95	ALA	2.9
8	G	12	ILE	2.9
1	0	2004	U	2.9
7	F	26	THR	2.9
15	N	75	THR	2.9
3	B	100	VAL	2.9
1	0	10	U	2.9
3	B	168	GLY	2.9
5	D	52	THR	2.9
13	L	130	ARG	2.9
6	E	5	LEU	2.9
21	T	27	LEU	2.9
29	2	27	LEU	2.9
3	B	121	PRO	2.9
16	O	102	ILE	2.9
9	H	66	GLU	2.9
1	0	1170	U	2.9
5	D	54	ALA	2.9
9	H	53	ILE	2.9
21	T	91	LEU	2.9
23	V	10	ASP	2.9
2	A	65	ARG	2.9
9	H	114	ASP	2.9
23	V	61	GLY	2.8
6	E	118	ILE	2.8
23	V	53	ILE	2.8
2	A	153	ARG	2.8
1	0	284	C	2.8
6	E	6	GLU	2.8
13	L	93	VAL	2.8
27	Z	56	GLU	2.8
7	F	118	LEU	2.8
6	E	10	ASP	2.8
20	S	47	VAL	2.8
9	H	147	GLU	2.8
7	F	19	ALA	2.8
15	N	175	LEU	2.8
15	N	183	ASP	2.8
10	I	118	ASN	2.8
4	C	138	VAL	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
8	G	24	VAL	2.8
13	L	89	PHE	2.8
25	X	77	PHE	2.8
9	H	85	ASP	2.8
5	D	156	ARG	2.8
20	S	41	VAL	2.7
7	F	100	ASP	2.7
13	L	123	ASP	2.7
20	S	45	TYR	2.7
20	S	76	GLU	2.7
1	0	1947	G	2.7
15	N	140	GLN	2.7
16	O	60	VAL	2.7
8	G	72	ASP	2.7
17	P	67	LYS	2.7
23	V	9	ARG	2.7
4	C	243	VAL	2.7
7	F	29	VAL	2.7
1	0	1178	G	2.7
3	B	99	GLU	2.7
27	Z	70	ARG	2.7
30	3	92	GLU	2.7
27	Z	62	ALA	2.7
27	Z	82	SER	2.7
13	L	101	ASP	2.7
3	B	119	HIS	2.7
8	G	63	ARG	2.7
1	0	1200	A	2.7
31	9	2	U	2.7
23	V	58	THR	2.7
15	N	81	ALA	2.7
6	E	76	VAL	2.7
5	D	41	LEU	2.7
23	V	27	LEU	2.7
2	A	38	ILE	2.7
2	A	135	VAL	2.7
2	A	129	LEU	2.7
27	Z	79	TRP	2.7
9	H	146	ALA	2.7
5	D	58	VAL	2.7
9	H	133	GLY	2.7
20	S	16	ASN	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
5	D	67	ASP	2.6
9	H	97	VAL	2.6
26	Y	234	VAL	2.6
9	H	78	LYS	2.6
27	Z	80	GLN	2.6
1	0	2237	G	2.6
22	U	51	TRP	2.6
5	D	158	ASN	2.6
27	Z	59	GLU	2.6
27	Z	57	MET	2.6
9	H	69	ARG	2.6
1	0	1179	C	2.6
15	N	129	ILE	2.6
7	F	28	ALA	2.6
1	0	1174	A	2.6
24	W	96	LEU	2.6
15	N	80	SER	2.6
1	0	280	C	2.6
30	3	8	ASN	2.6
2	A	60	PHE	2.6
15	N	152	GLU	2.6
14	M	8	ILE	2.6
15	N	118	ILE	2.6
7	F	16	ALA	2.6
15	N	66	LEU	2.6
23	V	28	LEU	2.6
9	H	137	PHE	2.6
1	0	272	A	2.6
3	B	116	PRO	2.5
2	A	89	ALA	2.5
20	S	78	ALA	2.5
30	3	1	MET	2.5
20	S	1	SER	2.5
21	T	95	ASN	2.5
15	N	68	GLU	2.5
4	C	140	VAL	2.5
1	0	1950	G	2.5
9	H	71	SER	2.5
2	A	151	GLN	2.5
5	D	101	THR	2.5
7	F	97	ALA	2.5
15	N	134	ASP	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
21	T	72	ILE	2.5
6	E	170	ARG	2.5
20	S	26	PHE	2.5
1	0	1165	G	2.5
7	F	45	ALA	2.5
9	H	128	ALA	2.5
26	Y	103	THR	2.5
9	H	70	LEU	2.5
20	S	49	VAL	2.5
9	H	39	LYS	2.5
5	D	86	THR	2.5
5	D	87	ALA	2.5
15	N	176	ARG	2.5
27	Z	93	TYR	2.5
29	2	39	ARG	2.5
15	N	74	PRO	2.5
7	F	117	GLU	2.5
12	K	109	LEU	2.5
23	V	63	GLU	2.5
2	A	36	ASP	2.5
10	I	101	LYS	2.4
15	N	123	ILE	2.4
20	S	52	VAL	2.4
27	Z	37	ARG	2.4
7	F	18	GLU	2.4
1	0	2769	C	2.4
1	0	2344	G	2.4
30	3	67	LEU	2.4
3	B	105	PHE	2.4
7	F	76	PHE	2.4
9	H	87	LYS	2.4
23	V	35	ALA	2.4
29	2	31	ARG	2.4
7	F	98	VAL	2.4
7	F	107	ASP	2.4
8	G	15	TRP	2.4
25	X	74	ALA	2.4
3	B	183	GLU	2.4
2	A	35	GLY	2.4
9	H	80	LEU	2.4
2	A	68	ILE	2.4
13	L	125	PHE	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
15	N	114	LYS	2.4
15	N	169	PRO	2.4
13	L	77	ALA	2.4
9	H	142	ASN	2.4
13	L	142	LEU	2.4
29	2	48	ASP	2.4
13	L	114	VAL	2.4
2	A	145	MET	2.3
27	Z	85	ASP	2.3
4	C	16	VAL	2.3
21	T	74	VAL	2.3
17	P	18	LYS	2.3
13	L	90	ARG	2.3
23	V	62	GLU	2.3
23	V	56	ILE	2.3
3	B	115	VAL	2.3
9	H	33	GLN	2.3
27	Z	61	HIS	2.3
15	N	177	GLU	2.3
25	X	80	GLU	2.3
5	D	51	ARG	2.3
5	D	95	THR	2.3
26	Y	216	ARG	2.3
29	2	35	ARG	2.3
1	0	285	A	2.3
1	0	1192	A	2.3
3	B	104	GLU	2.3
13	L	139	SER	2.3
5	D	162	ALA	2.3
30	3	22	VAL	2.3
23	V	48	GLU	2.3
5	D	48	MET	2.3
2	A	133	ARG	2.3
17	P	116	SER	2.3
23	V	23	LEU	2.3
5	D	164	ALA	2.3
9	H	89	THR	2.3
13	L	121	ILE	2.3
7	F	115	VAL	2.3
31	9	23	U	2.3
10	I	107	LYS	2.3
15	N	41	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
17	P	77	ALA	2.3
2	A	93	THR	2.3
20	S	48	THR	2.3
7	F	74	PHE	2.3
11	J	79	PHE	2.3
27	Z	41	ARG	2.3
30	3	80	ARG	2.3
16	O	69	VAL	2.3
20	S	65	VAL	2.3
30	3	23	GLU	2.2
5	D	139	TYR	2.2
6	E	154	ILE	2.2
23	V	33	VAL	2.2
7	F	90	GLU	2.2
9	H	29	SER	2.2
25	X	82	GLU	2.2
6	E	108	LEU	2.2
17	P	114	LEU	2.2
2	A	154	ALA	2.2
13	L	119	THR	2.2
6	E	87	PHE	2.2
8	G	73	ASP	2.2
6	E	48	VAL	2.2
21	T	63	ILE	2.2
1	0	1161	A	2.2
3	B	84	LEU	2.2
13	L	145	LEU	2.2
24	W	100	LEU	2.2
15	N	148	ALA	2.2
4	C	143	ASP	2.2
3	B	161	VAL	2.2
7	F	39	SER	2.2
3	B	140	LEU	2.2
17	P	120	ARG	2.2
15	N	181	ASP	2.2
6	E	3	VAL	2.2
6	E	11	VAL	2.2
7	F	63	ILE	2.2
5	D	160	ALA	2.2
13	L	141	GLU	2.2
1	0	138	U	2.2
1	0	1625	U	2.2

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Mol	Chain	Res	Type	RSRZ
1	0	1967	U	2.2
4	C	5	ILE	2.2
10	I	87	PRO	2.2
10	I	89	GLU	2.2
25	X	88	GLU	2.2
1	0	2346	C	2.2
10	I	114	TYR	2.2
15	N	170	GLU	2.2
9	H	67	ALA	2.2
25	X	75	ALA	2.2
4	C	118	THR	2.2
7	F	12	LEU	2.1
1	0	1190	G	2.1
2	A	100	PRO	2.1
7	F	95	ALA	2.1
5	D	45	THR	2.1
9	H	165	ARG	2.1
2	A	211	LYS	2.1
7	F	47	LEU	2.1
6	E	39	ASP	2.1
2	A	110	SER	2.1
8	G	66	LEU	2.1
15	N	150	TYR	2.1
20	S	28	VAL	2.1
21	T	31	LEU	2.1
26	Y	108	ASP	2.1
2	A	121	ALA	2.1
15	N	178	THR	2.1
2	A	24	LYS	2.1
12	K	110	LYS	2.1
6	E	47	VAL	2.1
30	3	14	CYS	2.1
6	E	88	TYR	2.1
6	E	127	ASP	2.1
15	N	157	PRO	2.1
1	0	1167	G	2.1
3	B	29	TRP	2.1
2	A	43	VAL	2.1
9	H	75	HIS	2.1
21	T	51	LEU	2.1
27	Z	71	VAL	2.1
9	H	170	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
12	K	101	ASN	2.1
5	D	167	GLU	2.1
15	N	185	GLU	2.1
21	T	82	THR	2.1
5	D	62	ASP	2.1
9	H	93	PHE	2.1
13	L	108	VAL	2.0
3	B	87	TYR	2.0
9	H	46	TYR	2.0
11	J	4	ALA	2.0
16	O	32	ARG	2.0
15	N	142	THR	2.0
9	H	153	PHE	2.0
5	D	29	HIS	2.0
9	H	27	PRO	2.0
29	2	23	ALA	2.0
29	2	36	ASN	2.0
13	L	104	ASP	2.0
4	C	133	ARG	2.0
5	D	38	GLU	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	1MA	0	628	23/24	0.98	0.18	31,34,35,38	0
1	OMG	0	2588	24/25	0.98	0.15	35,38,39,41	0
1	UR3	0	2619	21/22	0.98	0.16	40,43,45,50	0
1	PSU	0	2621	20/21	0.98	0.15	26,30,42,42	0
1	OMU	0	2587	21/22	0.99	0.14	35,38,41,42	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
36	SR	0	8924	1/1	-0.05	0.23	166,166,166,166	0
36	SR	0	9006	1/1	-0.02	0.84	200,200,200,200	0
36	SR	0	8976	1/1	0.06	0.55	199,199,199,199	0
36	SR	J	8986	1/1	0.15	2.11	200,200,200,200	0
36	SR	0	8923	1/1	0.25	0.50	192,192,192,192	0
36	SR	0	8953	1/1	0.31	0.26	179,179,179,179	0
36	SR	0	8956	1/1	0.35	0.21	183,183,183,183	0
34	NA	0	8571	1/1	0.36	0.39	96,96,96,96	0
36	SR	A	8977	1/1	0.40	0.12	182,182,182,182	0
36	SR	B	8987	1/1	0.42	0.79	200,200,200,200	0
36	SR	0	8959	1/1	0.44	0.26	189,189,189,189	0
36	SR	0	8982	1/1	0.45	0.99	200,200,200,200	0
32	MG	A	8051	1/1	0.47	0.31	92,92,92,92	0
36	SR	9	9003	1/1	0.49	0.13	194,194,194,194	0
34	NA	0	8522	1/1	0.52	0.47	96,96,96,96	0
34	NA	0	8561	1/1	0.55	0.68	99,99,99,99	0
36	SR	0	8983	1/1	0.57	0.26	191,191,191,191	0
36	SR	0	8938	1/1	0.57	0.15	198,198,198,198	0
36	SR	0	8913	1/1	0.58	1.02	169,169,169,169	0
36	SR	0	8984	1/1	0.60	0.13	157,157,157,157	0
36	SR	0	8922	1/1	0.60	0.37	158,158,158,158	0
36	SR	0	8934	1/1	0.61	0.91	172,172,172,172	0
36	SR	0	8955	1/1	0.63	0.28	200,200,200,200	0
36	SR	0	8957	1/1	0.63	0.68	200,200,200,200	0
36	SR	9	8978	1/1	0.64	0.22	165,165,165,165	0
36	SR	0	8998	1/1	0.66	0.23	155,155,155,155	0
36	SR	B	8950	1/1	0.66	0.24	123,123,123,123	0
36	SR	0	8979	1/1	0.66	0.20	196,196,196,196	0
36	SR	0	8949	1/1	0.67	0.20	134,134,134,134	0
36	SR	0	8995	1/1	0.67	0.18	148,148,148,148	0
36	SR	0	8919	1/1	0.67	0.17	168,168,168,168	0
34	NA	0	8525	1/1	0.67	0.23	70,70,70,70	0
36	SR	0	8971	1/1	0.67	0.13	181,181,181,181	0
34	NA	0	8546	1/1	0.69	0.66	107,107,107,107	0
36	SR	0	9004	1/1	0.69	0.56	200,200,200,200	0
36	SR	9	8980	1/1	0.69	0.10	188,188,188,188	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
34	NA	9	8572	1/1	0.69	0.29	82,82,82,82	0
36	SR	0	8994	1/1	0.70	0.76	200,200,200,200	0
34	NA	0	8523	1/1	0.70	0.27	54,54,54,54	0
36	SR	0	8933	1/1	0.70	0.47	159,159,159,159	0
36	SR	0	8916	1/1	0.73	0.15	118,118,118,118	0
36	SR	0	8974	1/1	0.74	0.42	183,183,183,183	0
34	NA	0	8533	1/1	0.74	0.23	73,73,73,73	0
36	SR	0	8988	1/1	0.74	0.12	182,182,182,182	0
36	SR	0	8993	1/1	0.74	0.12	186,186,186,186	0
36	SR	0	8990	1/1	0.75	0.30	161,161,161,161	0
34	NA	0	8573	1/1	0.75	0.30	92,92,92,92	0
36	SR	0	8968	1/1	0.76	0.13	168,168,168,168	0
36	SR	0	8992	1/1	0.76	0.17	132,132,132,132	0
36	SR	0	8981	1/1	0.76	0.21	159,159,159,159	0
32	MG	0	8010	1/1	0.77	0.29	52,52,52,52	0
34	NA	0	8562	1/1	0.77	0.56	63,63,63,63	0
32	MG	0	8030	1/1	0.77	0.53	91,91,91,91	0
36	SR	0	8948	1/1	0.78	0.16	107,107,107,107	0
32	MG	0	8083	1/1	0.78	0.15	68,68,68,68	0
36	SR	0	8965	1/1	0.79	0.19	145,145,145,145	0
36	SR	0	8917	1/1	0.79	0.15	117,117,117,117	0
36	SR	0	8989	1/1	0.80	0.34	191,191,191,191	0
34	NA	0	8511	1/1	0.80	0.56	91,91,91,91	0
36	SR	0	8942	1/1	0.80	0.18	138,138,138,138	0
36	SR	0	8944	1/1	0.80	0.18	187,187,187,187	0
32	MG	0	8063	1/1	0.80	0.29	79,79,79,79	0
32	MG	0	8075	1/1	0.80	0.13	58,58,58,58	0
32	MG	9	8074	1/1	0.80	0.18	71,71,71,71	0
34	NA	0	8506	1/1	0.80	0.17	65,65,65,65	0
34	NA	0	8549	1/1	0.81	0.45	64,64,64,64	0
34	NA	0	8509	1/1	0.81	0.33	71,71,71,71	0
32	MG	0	8071	1/1	0.82	0.27	72,72,72,72	0
32	MG	0	8069	1/1	0.82	0.62	82,82,82,82	0
36	SR	0	8969	1/1	0.82	0.14	149,149,149,149	0
34	NA	0	8554	1/1	0.82	0.78	72,72,72,72	0
36	SR	0	8958	1/1	0.83	0.14	105,105,105,105	0
36	SR	0	9001	1/1	0.83	0.17	187,187,187,187	0
36	SR	0	8920	1/1	0.83	0.56	200,200,200,200	0
34	NA	0	8559	1/1	0.83	0.42	98,98,98,98	0
36	SR	A	8930	1/1	0.83	0.15	147,147,147,147	0
32	MG	0	8049	1/1	0.83	0.92	95,95,95,95	0
34	NA	0	8570	1/1	0.84	0.18	59,59,59,59	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
36	SR	0	8947	1/1	0.84	0.49	199,199,199,199	0
34	NA	0	8530	1/1	0.84	0.43	56,56,56,56	0
32	MG	T	8057	1/1	0.84	0.09	70,70,70,70	0
34	NA	0	8564	1/1	0.84	0.36	74,74,74,74	0
37	HMT	0	9101	39/39	0.84	0.30	69,75,86,87	0
36	SR	0	8991	1/1	0.85	0.20	199,199,199,199	0
34	NA	0	8560	1/1	0.85	0.60	73,73,73,73	0
36	SR	0	8945	1/1	0.85	0.11	117,117,117,117	0
34	NA	0	8518	1/1	0.85	0.46	96,96,96,96	0
34	NA	0	8531	1/1	0.85	0.24	56,56,56,56	0
34	NA	0	8548	1/1	0.85	0.34	61,61,61,61	0
36	SR	0	8928	1/1	0.86	0.12	140,140,140,140	0
36	SR	0	8985	1/1	0.86	0.08	122,122,122,122	0
32	MG	0	8039	1/1	0.86	0.31	56,56,56,56	0
32	MG	0	8031	1/1	0.86	0.47	83,83,83,83	0
36	SR	0	9000	1/1	0.86	0.29	180,180,180,180	0
36	SR	S	8961	1/1	0.86	0.09	141,141,141,141	0
32	MG	0	8050	1/1	0.86	0.20	48,48,48,48	0
36	SR	0	9002	1/1	0.86	0.12	176,176,176,176	0
36	SR	0	8970	1/1	0.86	0.06	131,131,131,131	0
34	NA	0	8529	1/1	0.86	0.09	46,46,46,46	0
32	MG	0	8092	1/1	0.87	0.10	80,80,80,80	0
32	MG	0	8066	1/1	0.87	0.22	62,62,62,62	0
36	SR	0	8996	1/1	0.87	0.72	200,200,200,200	0
36	SR	0	8997	1/1	0.87	1.14	200,200,200,200	0
34	NA	0	8575	1/1	0.87	0.38	100,100,100,100	0
34	NA	R	8532	1/1	0.87	0.17	59,59,59,59	0
34	NA	0	8519	1/1	0.87	0.27	42,42,42,42	0
34	NA	0	8556	1/1	0.87	0.32	47,47,47,47	0
34	NA	0	8569	1/1	0.87	0.37	70,70,70,70	0
34	NA	0	8521	1/1	0.87	0.28	67,67,67,67	0
36	SR	0	8960	1/1	0.88	0.08	162,162,162,162	0
32	MG	K	8054	1/1	0.88	0.22	44,44,44,44	0
34	NA	J	8538	1/1	0.88	0.18	62,62,62,62	0
32	MG	9	8040	1/1	0.88	0.45	103,103,103,103	0
34	NA	0	8516	1/1	0.88	0.30	39,39,39,39	0
34	NA	0	8501	1/1	0.89	0.23	43,43,43,43	0
36	SR	0	8926	1/1	0.89	0.12	132,132,132,132	0
32	MG	0	8037	1/1	0.89	0.23	83,83,83,83	0
36	SR	F	9005	1/1	0.89	0.08	138,138,138,138	0
34	NA	Q	8540	1/1	0.89	0.18	67,67,67,67	0
34	NA	0	8507	1/1	0.89	0.26	49,49,49,49	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
32	MG	0	8047	1/1	0.89	0.49	61,61,61,61	0
36	SR	0	9007	1/1	0.89	0.44	200,200,200,200	0
36	SR	A	8929	1/1	0.89	0.22	134,134,134,134	0
33	K	0	8401	1/1	0.89	0.45	130,130,130,130	0
34	NA	0	8553	1/1	0.90	0.40	75,75,75,75	0
32	MG	0	8056	1/1	0.90	0.17	67,67,67,67	0
32	MG	0	8034	1/1	0.90	0.15	48,48,48,48	0
32	MG	0	8081	1/1	0.90	0.19	63,63,63,63	0
36	SR	0	8918	1/1	0.90	0.17	87,87,87,87	0
34	NA	0	8567	1/1	0.91	0.48	81,81,81,81	0
34	NA	0	8542	1/1	0.91	0.47	52,52,52,52	0
32	MG	0	8065	1/1	0.91	0.18	45,45,45,45	0
35	CL	0	8822	1/1	0.91	0.36	74,74,74,74	0
32	MG	0	8087	1/1	0.91	0.17	38,38,38,38	0
32	MG	0	8001	1/1	0.91	0.22	32,32,32,32	0
34	NA	0	8574	1/1	0.91	0.64	75,75,75,75	0
36	SR	0	8975	1/1	0.91	0.17	150,150,150,150	0
32	MG	0	8020	1/1	0.91	0.12	66,66,66,66	0
34	NA	C	8503	1/1	0.91	0.27	40,40,40,40	0
34	NA	0	8524	1/1	0.91	0.37	57,57,57,57	0
34	NA	0	8552	1/1	0.92	0.35	73,73,73,73	0
34	NA	0	8514	1/1	0.92	0.27	47,47,47,47	0
36	SR	0	8963	1/1	0.92	0.15	132,132,132,132	0
34	NA	0	8528	1/1	0.92	0.21	50,50,50,50	0
34	NA	0	8515	1/1	0.92	0.23	43,43,43,43	0
34	NA	0	8557	1/1	0.92	0.15	77,77,77,77	0
34	NA	M	8539	1/1	0.92	0.16	42,42,42,42	0
32	MG	0	8073	1/1	0.92	0.28	96,96,96,96	0
36	SR	0	8936	1/1	0.92	0.15	106,106,106,106	0
32	MG	0	8045	1/1	0.92	0.13	36,36,36,36	0
34	NA	0	8504	1/1	0.92	0.26	34,34,34,34	0
36	SR	0	8943	1/1	0.92	0.11	97,97,97,97	0
34	NA	0	8534	1/1	0.92	0.35	44,44,44,44	0
36	SR	0	8901	1/1	0.92	0.14	93,93,93,93	0
36	SR	0	8911	1/1	0.92	0.09	92,92,92,92	0
34	NA	0	8536	1/1	0.92	0.09	56,56,56,56	0
36	SR	0	8914	1/1	0.92	0.29	113,113,113,113	0
36	SR	0	8951	1/1	0.92	0.05	144,144,144,144	0
34	NA	0	8565	1/1	0.92	0.67	73,73,73,73	0
32	MG	0	8067	1/1	0.92	0.31	35,35,35,35	0
32	MG	0	8032	1/1	0.92	0.08	41,41,41,41	0
32	MG	0	8085	1/1	0.92	0.14	89,89,89,89	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
32	MG	0	8055	1/1	0.92	0.27	44,44,44,44	0
35	CL	J	8802	1/1	0.93	0.12	72,72,72,72	0
35	CL	3	8804	1/1	0.93	0.07	65,65,65,65	0
32	MG	0	8041	1/1	0.93	0.34	26,26,26,26	0
32	MG	0	8088	1/1	0.93	0.17	42,42,42,42	0
32	MG	0	8090	1/1	0.93	0.25	96,96,96,96	0
32	MG	0	8070	1/1	0.93	0.21	58,58,58,58	0
36	SR	0	8915	1/1	0.93	0.09	128,128,128,128	0
32	MG	0	8044	1/1	0.93	0.13	55,55,55,55	0
32	MG	B	8042	1/1	0.93	0.16	60,60,60,60	0
34	NA	0	8568	1/1	0.93	0.32	60,60,60,60	0
34	NA	0	8541	1/1	0.93	0.31	59,59,59,59	0
32	MG	0	8072	1/1	0.93	0.24	62,62,62,62	0
32	MG	0	8059	1/1	0.93	0.11	50,50,50,50	0
34	NA	0	8547	1/1	0.93	0.55	49,49,49,49	0
32	MG	2	8060	1/1	0.93	0.12	56,56,56,56	0
34	NA	0	8520	1/1	0.93	0.24	60,60,60,60	0
36	SR	0	9008	1/1	0.93	0.15	96,96,96,96	0
36	SR	0	8927	1/1	0.93	0.19	172,172,172,172	0
36	SR	0	8972	1/1	0.93	0.15	135,135,135,135	0
32	MG	0	8018	1/1	0.93	0.27	39,39,39,39	0
32	MG	0	8079	1/1	0.93	0.32	60,60,60,60	0
32	MG	0	8036	1/1	0.93	0.10	50,50,50,50	0
32	MG	0	8016	1/1	0.93	0.32	50,50,50,50	0
34	NA	0	8502	1/1	0.93	0.27	69,69,69,69	0
36	SR	0	8941	1/1	0.93	0.17	113,113,113,113	0
36	SR	3	8999	1/1	0.93	0.11	110,110,110,110	0
34	NA	9	8544	1/1	0.93	0.23	68,68,68,68	0
34	NA	0	8558	1/1	0.93	0.48	50,50,50,50	0
35	CL	0	8805	1/1	0.93	0.10	70,70,70,70	0
32	MG	0	8025	1/1	0.93	0.14	28,28,28,28	0
32	MG	0	8089	1/1	0.94	0.11	45,45,45,45	0
35	CL	Y	8820	1/1	0.94	0.09	45,45,45,45	0
34	NA	0	8563	1/1	0.94	0.34	70,70,70,70	0
34	NA	0	8537	1/1	0.94	0.19	45,45,45,45	0
36	SR	0	8908	1/1	0.94	0.12	100,100,100,100	0
36	SR	0	8910	1/1	0.94	0.20	108,108,108,108	0
32	MG	0	8064	1/1	0.94	0.26	46,46,46,46	0
34	NA	0	8566	1/1	0.94	0.34	47,47,47,47	0
36	SR	0	8962	1/1	0.94	0.20	168,168,168,168	0
32	MG	0	8029	1/1	0.94	0.18	49,49,49,49	0
36	SR	0	8964	1/1	0.94	0.10	130,130,130,130	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
32	MG	0	8023	1/1	0.94	0.22	28,28,28,28	0
34	NA	S	8510	1/1	0.94	0.22	51,51,51,51	0
32	MG	0	8062	1/1	0.94	0.32	55,55,55,55	0
32	MG	0	8021	1/1	0.94	0.18	40,40,40,40	0
32	MG	0	8078	1/1	0.94	0.30	49,49,49,49	0
34	NA	0	8550	1/1	0.94	0.30	59,59,59,59	0
36	SR	0	8921	1/1	0.94	0.14	94,94,94,94	0
35	CL	J	8801	1/1	0.94	0.20	70,70,70,70	0
35	CL	0	8816	1/1	0.95	0.14	63,63,63,63	0
34	NA	0	8508	1/1	0.95	0.34	46,46,46,46	0
32	MG	0	8077	1/1	0.95	0.17	38,38,38,38	0
34	NA	9	8543	1/1	0.95	0.20	50,50,50,50	0
36	SR	0	8935	1/1	0.95	0.13	89,89,89,89	0
35	CL	L	8810	1/1	0.95	0.14	54,54,54,54	0
32	MG	0	8024	1/1	0.95	0.22	47,47,47,47	0
32	MG	0	8027	1/1	0.95	0.12	41,41,41,41	0
32	MG	0	8053	1/1	0.95	0.09	79,79,79,79	0
36	SR	0	8966	1/1	0.96	0.08	113,113,113,113	0
36	SR	0	8967	1/1	0.96	0.06	132,132,132,132	0
36	SR	0	8939	1/1	0.96	0.14	147,147,147,147	0
32	MG	0	8013	1/1	0.96	0.08	35,35,35,35	0
33	K	0	8402	1/1	0.96	0.11	65,65,65,65	0
32	MG	0	8068	1/1	0.96	0.09	57,57,57,57	0
32	MG	0	8061	1/1	0.96	0.30	30,30,30,30	0
36	SR	0	8973	1/1	0.96	0.16	139,139,139,139	0
32	MG	0	8093	1/1	0.96	0.10	42,42,42,42	0
34	NA	0	8505	1/1	0.96	0.48	42,42,42,42	0
32	MG	0	8080	1/1	0.96	0.35	75,75,75,75	0
35	CL	0	8811	1/1	0.96	0.14	65,65,65,65	0
35	CL	0	8815	1/1	0.96	0.16	66,66,66,66	0
32	MG	0	8009	1/1	0.96	0.29	31,31,31,31	0
32	MG	0	8082	1/1	0.96	0.31	70,70,70,70	0
34	NA	0	8551	1/1	0.96	0.30	49,49,49,49	0
32	MG	0	8008	1/1	0.96	0.20	29,29,29,29	0
32	MG	0	8043	1/1	0.96	0.13	45,45,45,45	0
36	SR	R	8912	1/1	0.96	0.21	90,90,90,90	0
34	NA	0	8512	1/1	0.96	0.35	48,48,48,48	0
36	SR	1	8952	1/1	0.96	0.16	85,85,85,85	0
34	NA	0	8555	1/1	0.96	0.52	59,59,59,59	0
34	NA	0	8513	1/1	0.96	0.20	53,53,53,53	0
32	MG	0	8035	1/1	0.96	0.22	63,63,63,63	0
32	MG	0	8019	1/1	0.96	0.35	28,28,28,28	0

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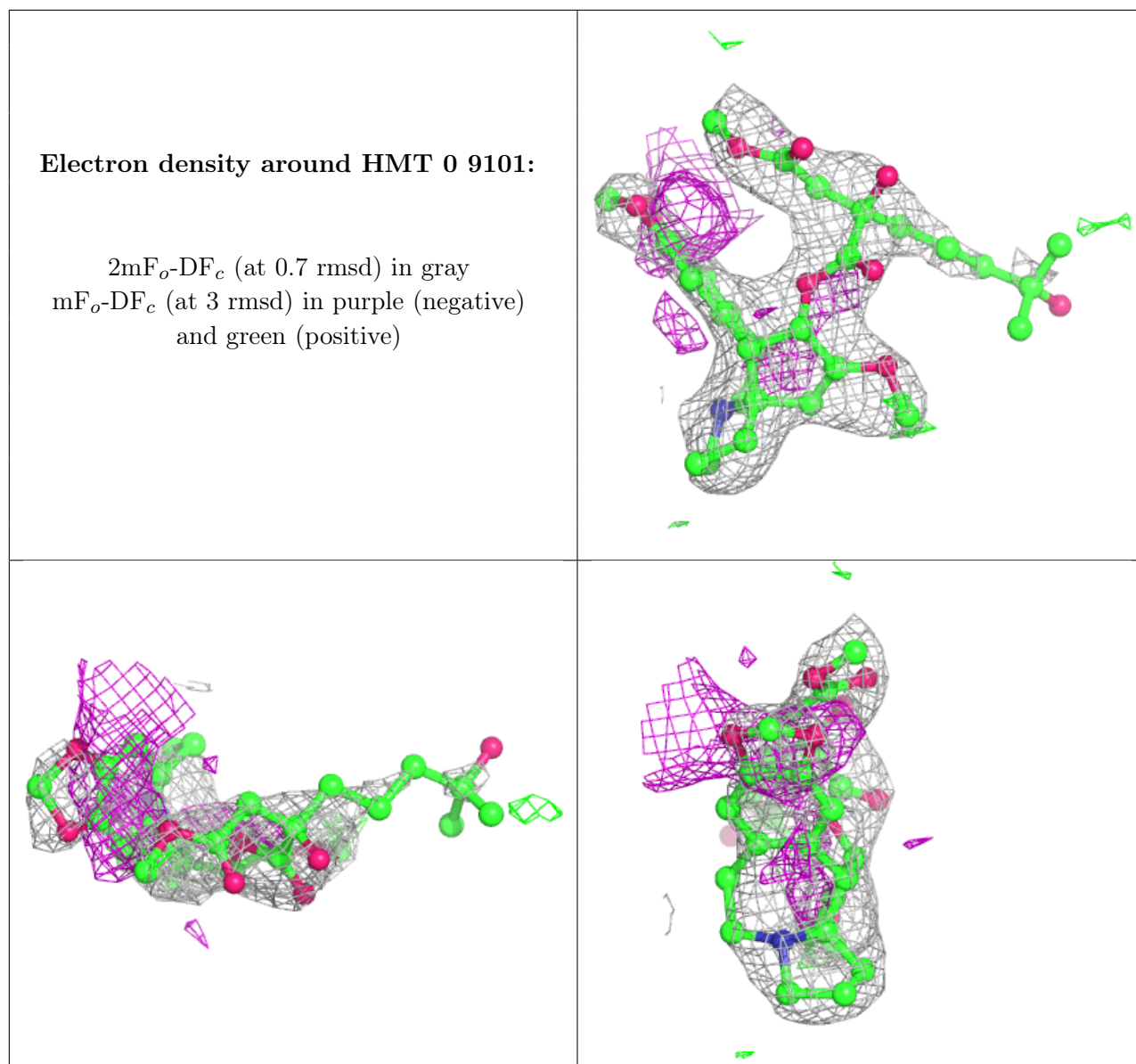
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
34	NA	0	8535	1/1	0.96	0.21	52,52,52,52	0
32	MG	0	8022	1/1	0.97	0.21	38,38,38,38	0
32	MG	0	8011	1/1	0.97	0.35	31,31,31,31	0
32	MG	0	8046	1/1	0.97	0.17	39,39,39,39	0
36	SR	0	8940	1/1	0.97	0.11	84,84,84,84	0
32	MG	0	8004	1/1	0.97	0.23	29,29,29,29	0
32	MG	0	8038	1/1	0.97	0.07	63,63,63,63	0
32	MG	0	8084	1/1	0.97	0.18	40,40,40,40	0
32	MG	0	8002	1/1	0.97	0.19	25,25,25,25	0
36	SR	0	8902	1/1	0.97	0.18	59,59,59,59	0
36	SR	0	8946	1/1	0.97	0.19	117,117,117,117	0
32	MG	Y	8086	1/1	0.97	0.14	46,46,46,46	0
36	SR	0	8909	1/1	0.97	0.16	100,100,100,100	0
32	MG	0	8052	1/1	0.97	0.10	54,54,54,54	0
35	CL	0	8813	1/1	0.97	0.08	53,53,53,53	0
36	SR	0	8931	1/1	0.97	0.10	114,114,114,114	0
36	SR	0	8954	1/1	0.97	0.12	109,109,109,109	0
32	MG	0	8033	1/1	0.97	0.16	54,54,54,54	0
32	MG	0	8017	1/1	0.97	0.23	39,39,39,39	0
35	CL	0	8817	1/1	0.97	0.11	64,64,64,64	0
35	CL	0	8814	1/1	0.98	0.11	49,49,49,49	0
34	NA	0	8526	1/1	0.98	0.07	47,47,47,47	0
34	NA	0	8527	1/1	0.98	0.22	55,55,55,55	0
32	MG	0	8048	1/1	0.98	0.29	28,28,28,28	0
34	NA	0	8517	1/1	0.98	0.20	38,38,38,38	0
35	CL	A	8809	1/1	0.98	0.35	72,72,72,72	0
35	CL	B	8819	1/1	0.98	0.16	52,52,52,52	0
32	MG	0	8028	1/1	0.98	0.28	33,33,33,33	0
35	CL	0	8803	1/1	0.98	0.08	53,53,53,53	0
36	SR	0	8937	1/1	0.98	0.27	104,104,104,104	0
35	CL	J	8821	1/1	0.98	0.12	57,57,57,57	0
32	MG	0	8006	1/1	0.98	0.19	30,30,30,30	0
36	SR	3	8932	1/1	0.98	0.15	84,84,84,84	0
35	CL	N	8807	1/1	0.98	0.17	68,68,68,68	0
35	CL	O	8808	1/1	0.98	0.27	69,69,69,69	0
34	NA	0	8545	1/1	0.98	0.14	35,35,35,35	0
35	CL	0	8812	1/1	0.98	0.09	46,46,46,46	0
32	MG	0	8012	1/1	0.98	0.24	22,22,22,22	0
38	CD	Z	8703	1/1	0.98	0.07	98,98,98,98	0
32	MG	0	8076	1/1	0.99	0.13	41,41,41,41	0
32	MG	0	8014	1/1	0.99	0.22	30,30,30,30	0
35	CL	M	8818	1/1	0.99	0.11	46,46,46,46	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
32	MG	0	8015	1/1	0.99	0.22	36,36,36,36	0
32	MG	0	8026	1/1	0.99	0.12	36,36,36,36	0
35	CL	R	8806	1/1	0.99	0.16	47,47,47,47	0
32	MG	0	8005	1/1	0.99	0.30	34,34,34,34	0
32	MG	0	8003	1/1	0.99	0.21	34,34,34,34	0
32	MG	0	8091	1/1	0.99	0.06	60,60,60,60	0
32	MG	0	8058	1/1	0.99	0.12	30,30,30,30	0
36	SR	0	8903	1/1	0.99	0.21	58,58,58,58	0
36	SR	0	8904	1/1	0.99	0.20	56,56,56,56	0
36	SR	0	8905	1/1	0.99	0.30	68,68,68,68	0
36	SR	0	8906	1/1	0.99	0.24	59,59,59,59	0
36	SR	0	8907	1/1	0.99	0.17	57,57,57,57	0
36	SR	0	8925	1/1	0.99	0.13	97,97,97,97	0
38	CD	O	8705	1/1	0.99	0.06	99,99,99,99	0
38	CD	U	8701	1/1	0.99	0.18	72,72,72,72	0
32	MG	0	8007	1/1	0.99	0.26	31,31,31,31	0
38	CD	3	8704	1/1	0.99	0.08	76,76,76,76	0
38	CD	1	8702	1/1	1.00	0.09	57,57,57,57	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



## 6.5 Other polymers [i](#)

There are no such residues in this entry.