



Full wwPDB EM Validation Report ⓘ

Jul 3, 2025 – 11:12 AM EDT

PDB ID : 8UZG / pdb_00008uzg
EMDB ID : EMD-42840
Title : E. coli 70S ribosome with unmodified e*/E-tRNAPro(GGG) bound to slippery
P-site CCC-C codon
Authors : Kimbrough, E.M.; Dunham, C.M.; Nguyen, H.A.
Deposited on : 2023-11-15
Resolution : 3.70 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

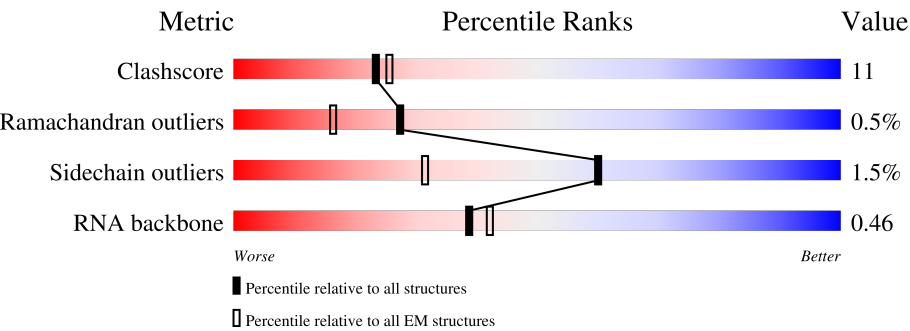
EMDB validation analysis : 0.0.1.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	2904	<div><div>53%38%10%</div></div>
2	2	1540	<div><div>49%40%11%</div></div>
3	3	120	<div><div>58%35%8%</div></div>
4	4	18	<div><div>22%78%</div></div>
5	5	77	<div><div>55%29%16%</div></div>
6	A	229	<div><div>36%23%41%</div></div>
7	B	273	<div><div>74%25%</div></div>







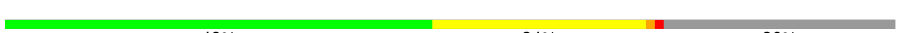







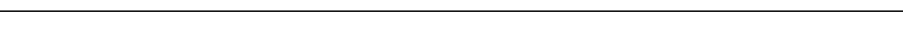
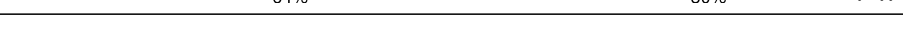





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Mol	Chain	Length	Quality of chain
8	C	209	
9	D	201	
10	E	179	
11	F	177	
12	G	149	
13	J	142	
14	K	123	
15	L	144	
16	M	136	
17	N	127	
18	O	117	
19	P	115	
20	Q	118	
21	R	103	
22	S	110	
23	T	100	
24	U	104	
25	V	94	
26	W	84	
27	X	78	
28	Y	63	
29	Z	59	
30	b	57	
31	c	55	
32	d	46	

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Mol	Chain	Length	Quality of chain
33	e	65	
34	f	38	
35	g	71	
36	h	206	
37	i	206	
38	j	167	
39	k	135	
40	l	179	
41	m	130	
42	n	130	
43	o	103	
44	p	129	
45	q	124	
46	r	118	
47	s	101	
48	t	89	
49	u	82	
50	v	84	
51	w	75	
52	x	92	
53	y	87	

2 Entry composition [i](#)

There are 55 unique types of molecules in this entry. The entry contains 144183 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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					AltConf	Trace
1	1	2903	Total	C	N	O	P	0	0
			62317	27801	11468	20146	2902		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	747	C	U	conflict	GB 1109114233

- Molecule 2 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	1539	Total	C	N	O	P	0	0
			33012	14725	6052	10697	1538		

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	120	Total	C	N	O	P	0	0
			2568	1145	471	833	119		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
3	120	A	U	conflict	GB 1370526515

- Molecule 4 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	4	4	Total	C	N	O	P	0	0
			80	36	12	28	4		

- Molecule 5 is a RNA chain called tRNA ProL(GGG).

Mol	Chain	Residues	Atoms					AltConf	Trace
5	5	76	Total	C	N	O	P	0	0
			1628	724	294	534	76		

- Molecule 6 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A	134	Total	C	N	O	S	0	0
			1026	645	186	193	2		

- Molecule 7 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	B	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 8 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	C	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 9 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	D	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 10 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	E	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 11 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	F	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 12 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	G	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 13 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 14 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 15 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	L	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 16 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	M	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 17 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	N	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 18 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	O	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 19 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	P	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 20 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Q	117	Total	C	N	O	S	0	0
			947	604	192	151			

- Molecule 21 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	R	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 22 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 23 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	T	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 24 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	U	102	Total	C	N	O	S	0	0
			779	492	146	141			

- Molecule 25 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	V	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 26 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	W	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 27 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	X	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 28 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Y	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 29 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Z	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 30 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	b	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 31 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	c	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 32 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 33 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 34 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 35 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	65	Total	C	N	O	S	0	0
			544	335	117	91	1		

- Molecule 36 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	206	Total	C	N	O	S	0	0
			1625	1028	305	289	3		

- Molecule 37 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 38 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	j	157	Total	C	N	O	S	0	0
			1156	719	218	213	6		

- Molecule 39 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	k	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 40 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 41 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 42 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	n	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 43 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 44 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	p	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 45 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	q	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 46 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	r	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 47 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	s	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 48 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	t	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 49 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	u	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 50 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	v	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 51 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	w	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 52 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	x	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 53 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	y	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 54 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
54	1	306	Total 306	Mg 306	0
54	2	72	Total 72	Mg 72	0
54	3	8	Total 8	Mg 8	0
54	4	1	Total 1	Mg 1	0
54	B	2	Total 2	Mg 2	0
54	E	1	Total 1	Mg 1	0
54	J	1	Total 1	Mg 1	0
54	N	1	Total 1	Mg 1	0
54	Q	1	Total 1	Mg 1	0
54	S	2	Total 2	Mg 2	0
54	b	1	Total 1	Mg 1	0
54	m	1	Total 1	Mg 1	0
54	r	1	Total 1	Mg 1	0

- Molecule 55 is water.

Mol	Chain	Residues	Atoms		AltConf
55	1	478	Total 478	O 478	0
55	2	309	Total 309	O 309	0
55	3	7	Total 7	O 7	0
55	5	3	Total 3	O 3	0
55	A	16	Total 16	O 16	0
55	B	4	Total 4	O 4	0
55	C	2	Total 2	O 2	0

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Mol	Chain	Residues	Atoms		AltConf
55	D	2	Total 2	O 2	0
55	E	16	Total 16	O 16	0
55	F	4	Total 4	O 4	0
55	G	5	Total 5	O 5	0
55	J	2	Total 2	O 2	0
55	K	2	Total 2	O 2	0
55	L	2	Total 2	O 2	0
55	M	2	Total 2	O 2	0
55	N	1	Total 1	O 1	0
55	O	2	Total 2	O 2	0
55	Q	2	Total 2	O 2	0
55	T	2	Total 2	O 2	0
55	U	3	Total 3	O 3	0
55	V	2	Total 2	O 2	0
55	W	3	Total 3	O 3	0
55	X	3	Total 3	O 3	0
55	Y	1	Total 1	O 1	0
55	c	1	Total 1	O 1	0
55	f	1	Total 1	O 1	0
55	g	4	Total 4	O 4	0
55	h	5	Total 5	O 5	0

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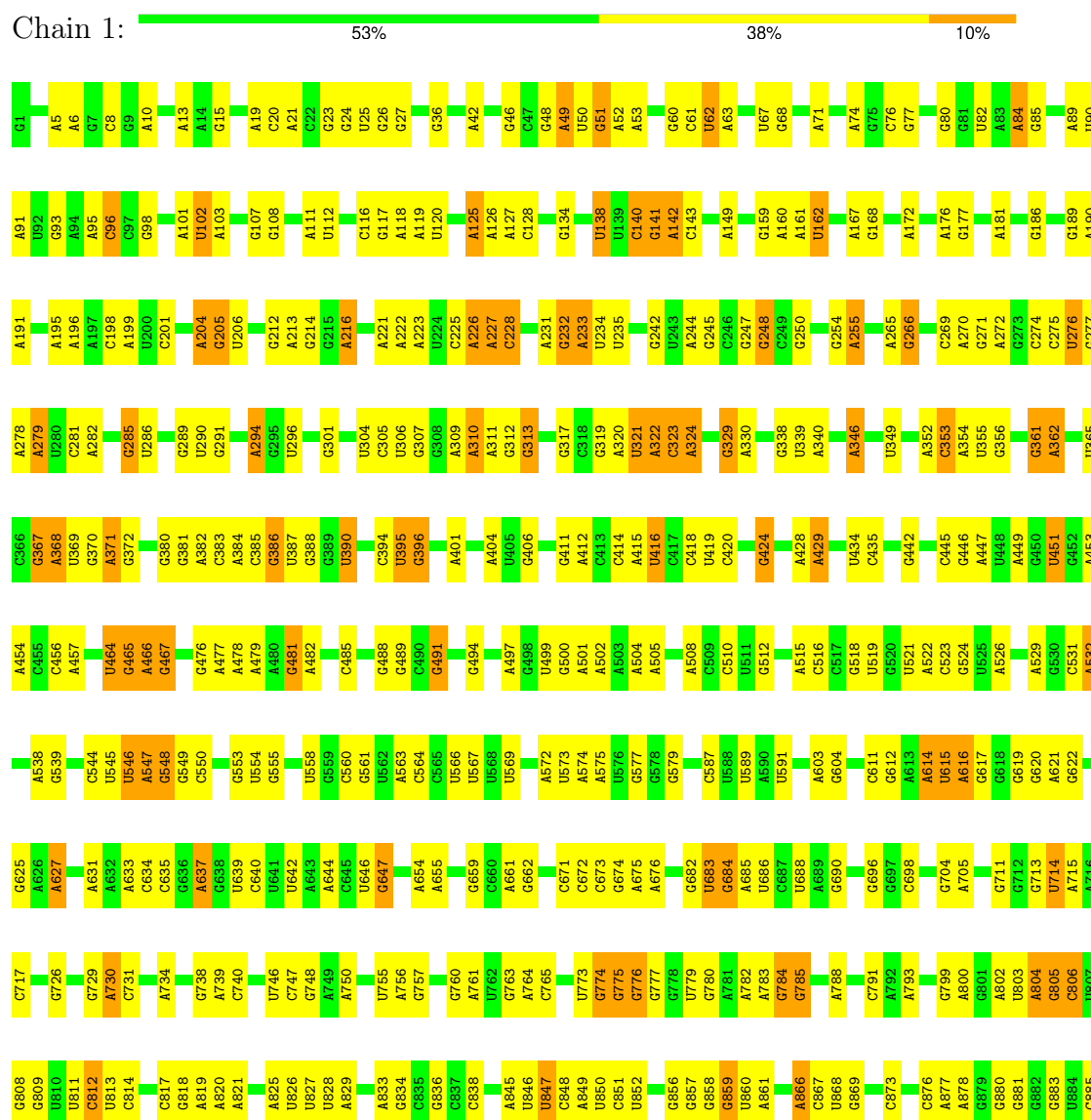
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Mol	Chain	Residues	Atoms		AltConf
55	i	10	Total 10	O 10	0
55	j	3	Total 3	O 3	0
55	k	7	Total 7	O 7	0
55	l	11	Total 11	O 11	0
55	m	3	Total 3	O 3	0
55	n	3	Total 3	O 3	0
55	o	4	Total 4	O 4	0
55	p	4	Total 4	O 4	0
55	q	2	Total 2	O 2	0
55	r	6	Total 6	O 6	0
55	s	2	Total 2	O 2	0
55	t	2	Total 2	O 2	0
55	v	4	Total 4	O 4	0
55	w	4	Total 4	O 4	0
55	x	7	Total 7	O 7	0
55	y	3	Total 3	O 3	0

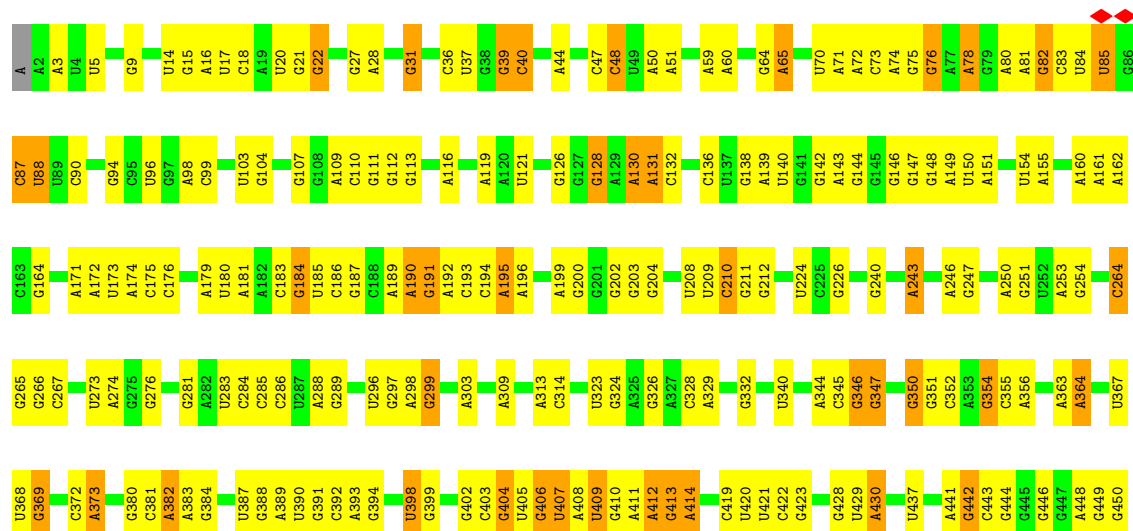
3 Residue-property plots [i](#)

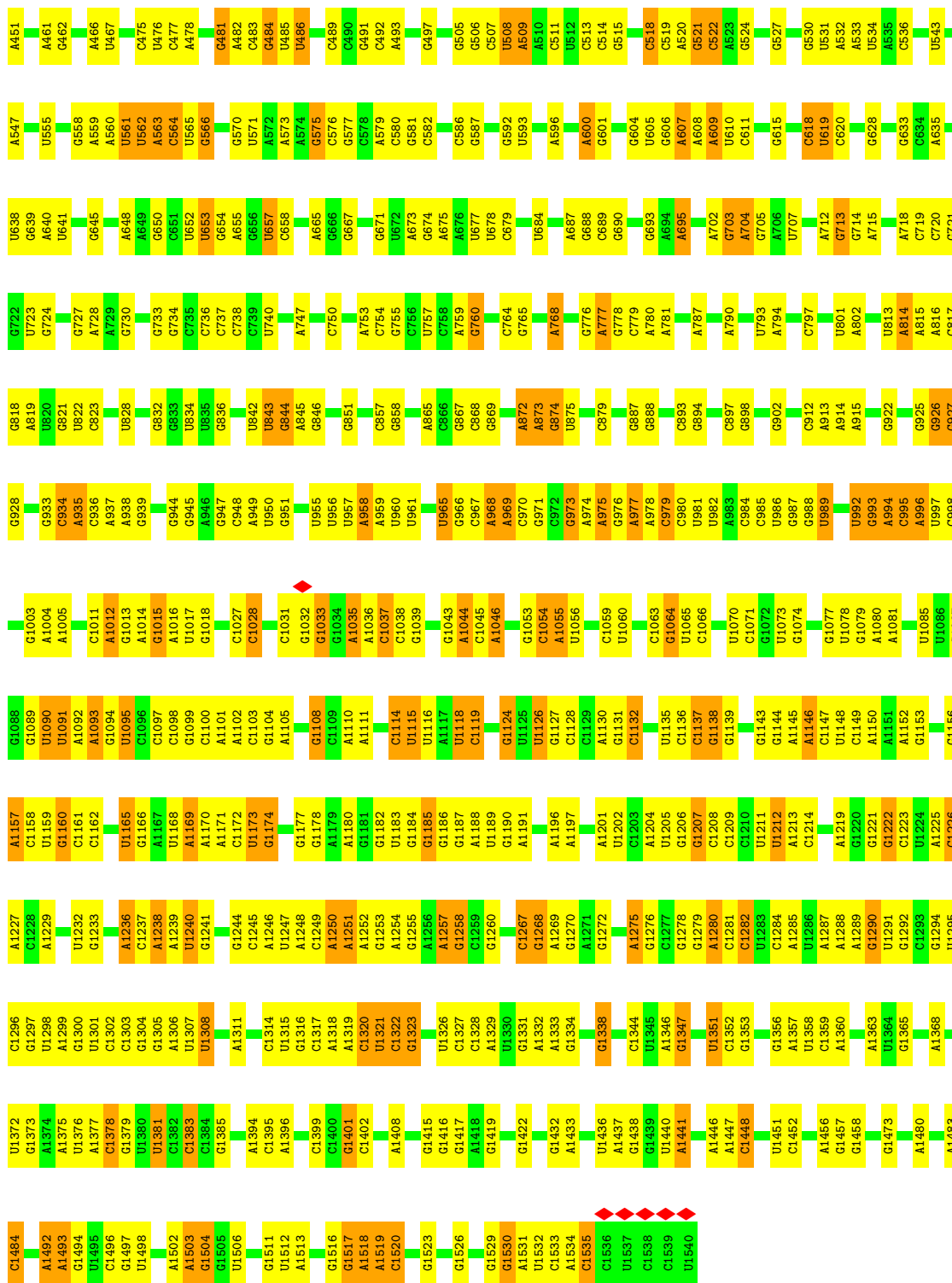
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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



C2104	U2026	A1937	U1827	G1733	C1644	C1531	C1428	G1333	G1235	A1134	U1060	A972	A886
U2105	G2027	A1938	G1828	G1734	G1645	C1532	G1432	G1341	G1236	C1135	U1061	A973	U887
U2106	A2030	A1939	A1829	A1735	C1646	C1533	A1433	A1342	A1247	G1136	G1062	G974	C388
G2107	A2031	U1940	C1830	U1736	U1647	U1533	A1434	A1343	G1248	G1137	C1063	A975	C389
A2108	G2032	C1941	G1835	G1738	G1649	U1534	G1435	U1344	U1249	C1140	C1064	G976	C390
U2109	A2033	C1942	G1836	A1739	G1650	C1535	G1436	C1345	G1250	U1141	U1065	A891	G891
G2110	U2034	U1943	C1837	A1739	A1651	G1537	G1437	G1346	C1251	A1142	U1066	A892	A892
U2111	G2035	U1944	G1838	G1743	A1652	U1538	U1438	A1347	G1252	A1147	A1067	C982	C989
G2112	C2036	C1839	G1839	U1753	A1653	C1541	G1441	C1348	A1253	G1153	A1068	A983	U895
U2113	U2037	U1955	G1840	G1753	A1654	U1542	U1442	A1353	A1254	C1154	A1070	A896	A896
A2114	G2038	A1956	G1841	A1755	A1655	G1543	G1443	A1354	U1255	G1154	G1071	C987	C987
G2115	U2039	C1958	G1842	G1756	A1656	A1544	C1447	A1354	G1256	A1155	C1072	A990	C988
U2117	C2043	U1963	C1843	U1757	U1662	G1555	C1451	C1357	A1265	G1162	C1075	G993	A900
A2118	G2044	G1964	U1758	A1759	G1666	G1556	G1452	G1360	G1266	G1167	U1078	C994	G907
A2119	C2045	C1965	A1844	A1759	G1667	C1558	A1453	A1367	A1267	G1168	C1079	C995	A910
U2122	G2048	A1966	A1847	A1762	A1668	U1559	A1454	A1367	A1268	C1169	A1080	G997	A911
G2123	G2049	G1968	A1848	G1763	A1669	G1560	G1455	G1368	A1269	C1170	U1081	C998	C912
C2124	A2050	A1969	A1854	C1764	C1670	U1561	G1456	G1374	G1270	G1171	U1082	U999	U913
G2125	A2051	A1970	G1857	U1769	A1671	U1562	C1461	A1378	A1272	U1172	U1083	A1000	G914
A2126	U2126	U1971	G1857	U1769	A1672	U1563	C1461	A1378	U1273	U1174	A1084	C1005	G915
G2127	G2055	G1972	A1858	A1773	G1673	C1564	U1466	U1379	A1276	U1175	A1085	C1006	G916
G2128	G2056	G1975	U1864	U1773	G1674	A1566	U1467	U1379	A1276	U1176	A1086	C1007	A917
U2131	A2059	G1975	G1867	U1777	A1677	G1567	U1468	A1383	G1281	G1177	G1087	A1008	U919
U2132	A2060	U1982	A1678	U1778	A1678	G1568	U1469	A1384	U1282	G1178	A1088	A1009	U919
G2133	G2061	C1997	G1888	U1779	A1679	A1569	A1470	A1385	G1283	G1179	A1089	A1010	U919
A2134	A2062	U1991	G1873	A1780	G1681	A1569	A1470	C1386	G1284	U1180	A1090	C922	C922
U2137	C2065	G1992	G1878	U1781	G1687	C1577	G1475	U1394	A1285	U1181	U1094	U1012	U931
G2138	G2066	U1995	G1878	U1782	U1687	U1578	A1482	A1395	A1286	G1182	A1095	C1013	U932
U2139	G2067	A1996	A1888	A1783	G1696	A1579	G1483	A1396	A1287	G1186	A1096	G1016	A933
G2140	U2068	C1997	A1889	A1785	G1697	U1580	A1490	U1397	C1289	G1195	U1099	G1022	U934
G2141	G2069	A1998	A1890	A1785	A1698	C1582	A1490	C1398	U1294	U1198	C1100	U1023	A941
A2142	C2072	C2001	G1897	A1769	G1699	U1583	A1496	C1399	C1295	U1199	U1101	G1024	G942
C2143	G2073	G2002	U1898	C1790	A1700	U1584	A1497	U1400	G1296	U1199	C1102	G1025	A945
G2144	U2074	A2003	A1898	A1791	A1701	C1585	C1498	G1401	C1297	C1200	A1103	G1026	C946
C2145	U2075	G2004	A1901	U1798	G1702	U1586	C1499	U1402	G1300	U1203	U1105	A1027	A947
G2146	U2076	A2005	G1906	G1799	G1707	G1587	C1500	A1403	A1301	A1204	G1106	A1028	C948
A2147	A2077	C2006	G1907	U1800	G1707	A1588	G1501	C1404	A1302	A1205	U1107	U1033	G949
C2150	C2078	G2006	U1907	A1801	U1712	U1598	A1504	U1406	G1303	C1211	U1108	A1039	G953
U2151	U2079	A2009	A1912	A1802	A1713	U1602	A1504	G1407	A1304	A1212	G1109	A1040	G954
G2152	A2080	G2010	A1913	G1808	U1714	C1606	A1506	C1414	G1309	A1213	A1111	A1041	U955
C2153	U2081	U2011	A1914	A1809	U1715	C1607	C1507	U1415	G1309	A1213	A1111	A1041	U955
A2154	A2082	G2012	C1914	A1810	U1720	A1608	A1508	U1416	A1322	U1217	U1119	C1044	G956
G2155	G2083	A2013	U1915	G1811	G1721	A1608	A1508	C1417	A1323	U1218	G1125	A1045	C961
U2156	A2014	A2014	A1916	G1811	G1721	A1614	A1515	G1418	C1323	U1219	G1125	A1046	G962
G2157	A2015	A2015	C1920	G1814	G1724	C1615	A1516	A1419	G1324	G1223	A1127	A1054	C965
A2158	U2091	U2016	U1920	A1815	U1725	A1616	G1517	A1420	U1325	U1224	G1128	A1055	G966
G2159	U2092	U2017	C1924	C1816	G1726	C1617	G1518	G1421	U1326	U1224	G1129	G1056	U967
C2160	G2093	G2018	G1924	G1817	C1727	A1618	G1519	G1422	A1327	U1225	A1129	G1057	C968
G2161	A2094	A2019	U1918	U1818	G1728	A1618	G1520	G1423	A1328	A1226	U1130	A1057	G969
G2162	A2095	A2019	A1927	U1819	U1729	A1626	G1521	G1424	U1329	G1227	G1131	U1058	U970
A2163	U2022	U2022	A1928	U1820	C1730	G1627	A1522	G1425	C1330	U1234	U1132	G1059	G971
G2164	C2023	C2023	G1929	U1821	G1731	G1627	U1523	G1426	G1331	U1234	U1133	G1059	G971
C2165	U2099	G2100	G1930	A1821	C1732	G1643	G1524	A1427	G1332	U1234	U1133	G1059	G971
U2166	G2100	C2025	U1931	U1821	C1732	G1643	G1524	A1427	G1332	U1234	U1133	G1059	G971







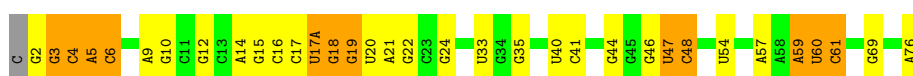
- Molecule 4: mRNA

Chain 4: 22% 78%



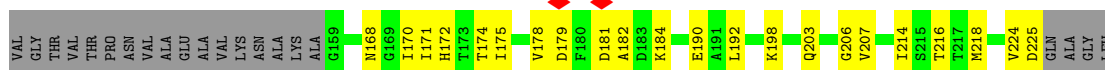
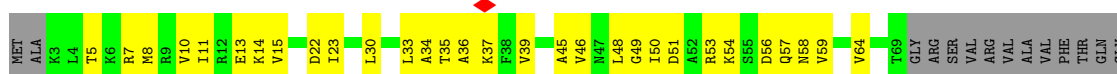
- Molecule 5: tRNA ProL(GGG)

Chain 5: 55% 29% 16%



- Molecule 6: 50S ribosomal protein L1

Chain A: 36% 23% 41%



- Molecule 7: 50S ribosomal protein L2

Chain B: 74% 25%

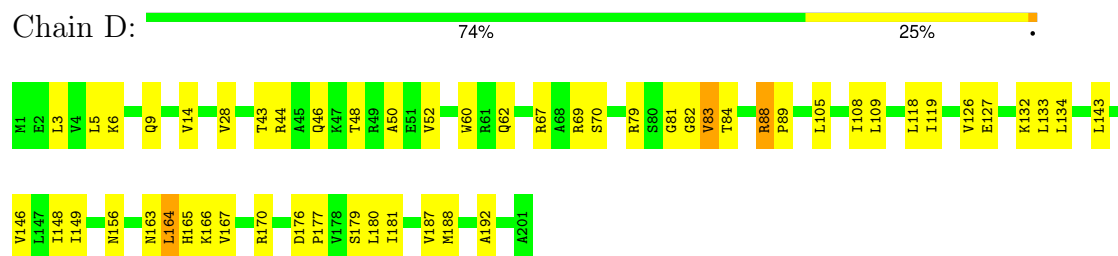


- Molecule 8: 50S ribosomal protein L3

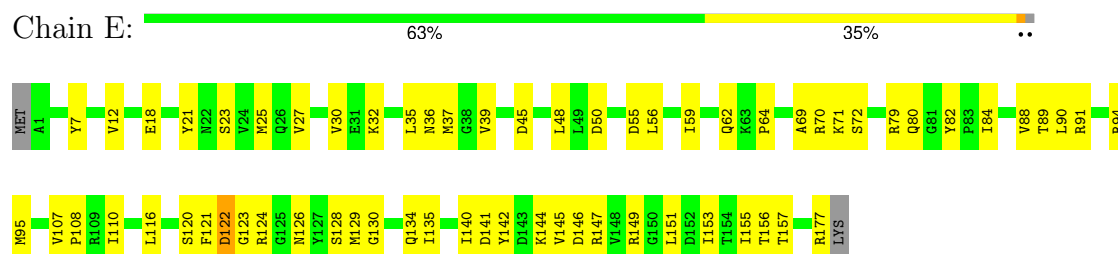
Chain C: 73% 26%



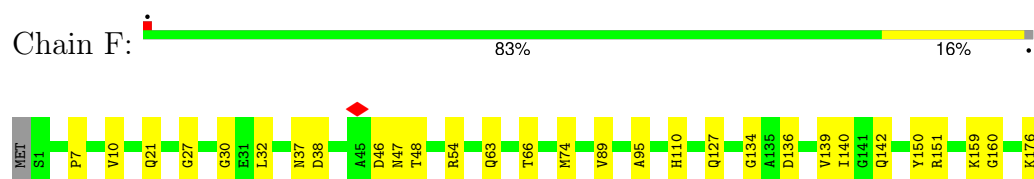
- Molecule 9: 50S ribosomal protein L4



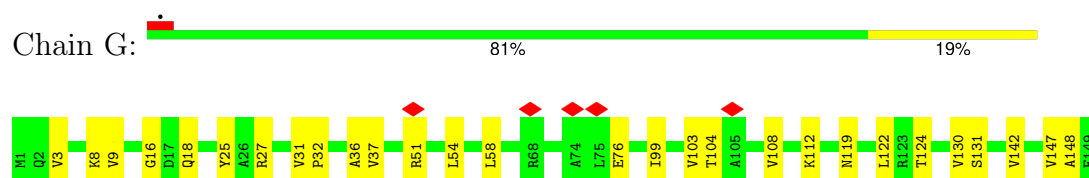
- Molecule 10: 50S ribosomal protein L5



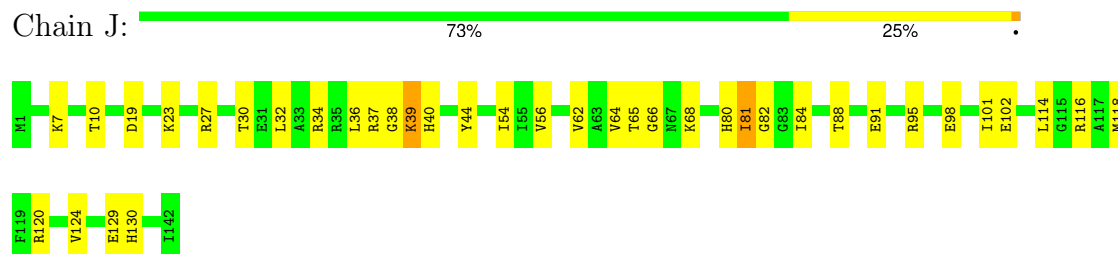
- Molecule 11: 50S ribosomal protein L6



- Molecule 12: 50S ribosomal protein L9

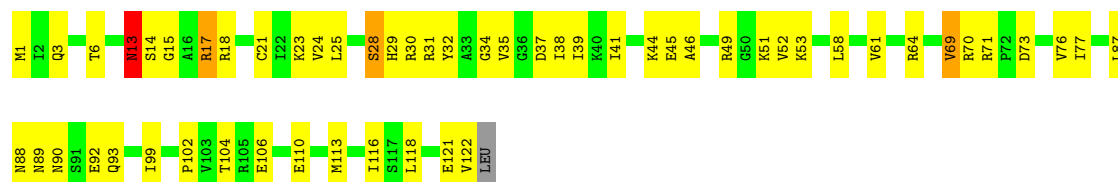


- Molecule 13: 50S ribosomal protein L13

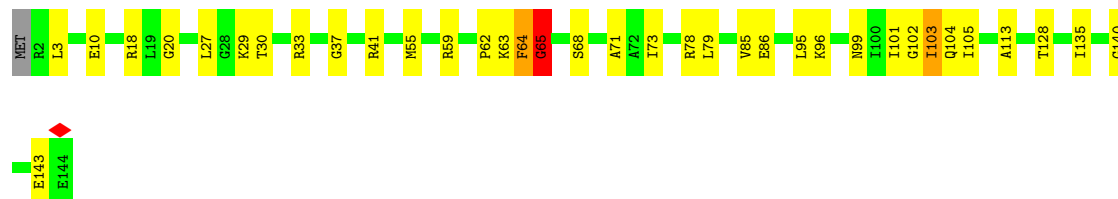


- Molecule 14: 50S ribosomal protein L14

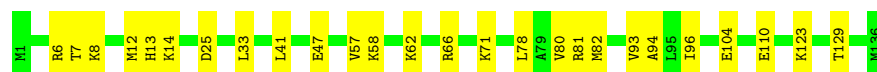
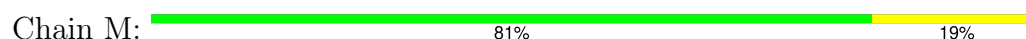




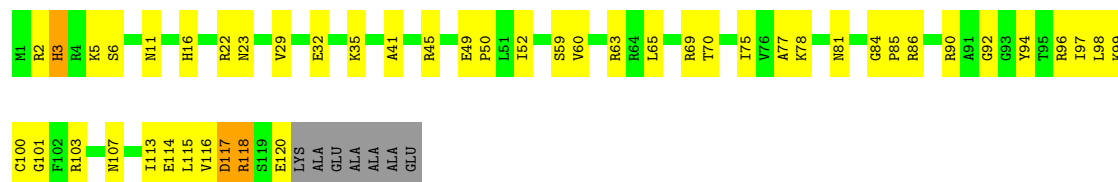
- Molecule 15: 50S ribosomal protein L15



- Molecule 16: 50S ribosomal protein L16



- Molecule 17: 50S ribosomal protein L17



- Molecule 18: 50S ribosomal protein L18

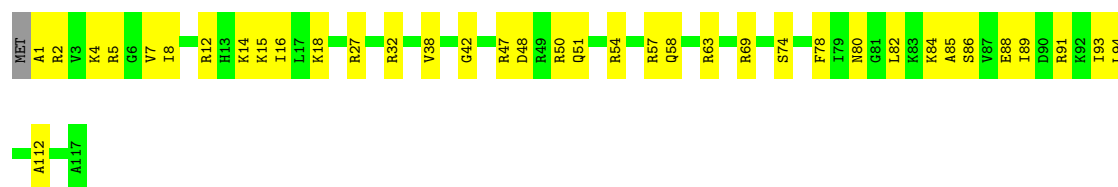


- Molecule 19: 50S ribosomal protein L19



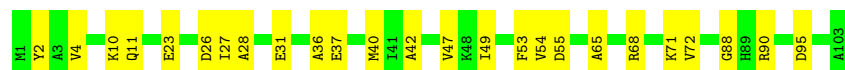
- Molecule 20: 50S ribosomal protein L20

Chain Q:  68% 31%



- Molecule 21: 50S ribosomal protein L21

Chain R:  76% 24%



- Molecule 22: 50S ribosomal protein L22

Chain S:  74% 25%



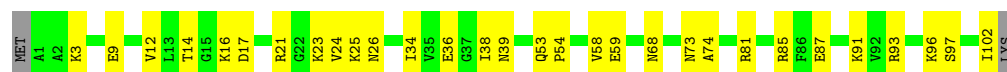
- Molecule 23: 50S ribosomal protein L23

Chain T:  61% 29% 7%



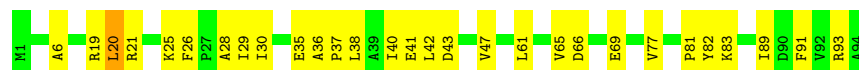
- Molecule 24: 50S ribosomal protein L24

Chain U:  69% 29%



- Molecule 25: 50S ribosomal protein L25

Chain V:  69% 30%



- Molecule 26: 50S ribosomal protein L27

Chain W:  74% 15% 11%




- Molecule 27: 50S ribosomal protein L28

Chain X:  77% 22%



- Molecule 28: 50S ribosomal protein L29

Chain Y:  87% 13%



- Molecule 29: 50S ribosomal protein L30

Chain Z:  61% 34%



- Molecule 30: 50S ribosomal protein L32

Chain b:  65% 33%



- Molecule 31: 50S ribosomal protein L33

Chain c:  76% 15% 9%



- Molecule 32: 50S ribosomal protein L34

Chain d:  67% 33%



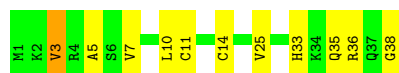
- Molecule 33: 50S ribosomal protein L35

Chain e:  63% 34%



- Molecule 34: 50S ribosomal protein L36

Chain f:  71% 26% .




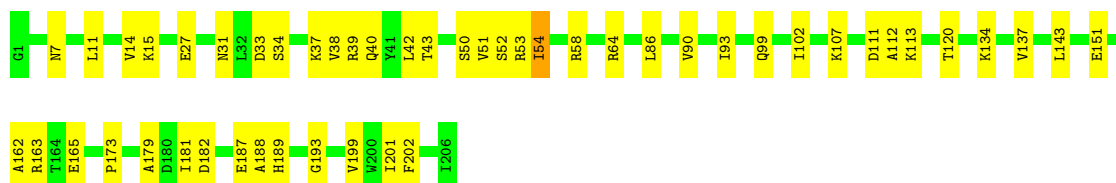
- Molecule 35: 30S ribosomal protein S2

Chain g:  62% 27% . 8%



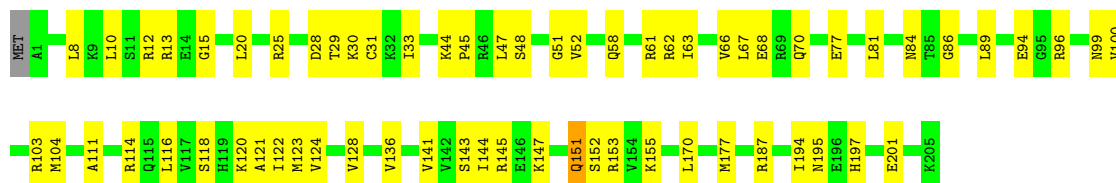
- Molecule 36: 30S ribosomal protein S3

Chain h:  76% 23%



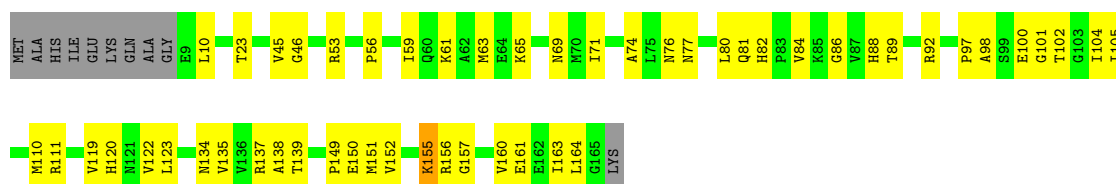
- Molecule 37: 30S ribosomal protein S4

Chain i:  68% 31%



- Molecule 38: 30S ribosomal protein S5

Chain j:  63% 31% . 6%



- Molecule 39: 30S ribosomal protein S6

Chain k:  48% 24% . 26%



MET VAL LYS LYS LYS ASP GLU ARG ARG ARG ARG ASP ASP PHE ALA ALA ASN THR ALA ASP ASP ASP ALA ALA GLU ALA GLY ASP SER GLU GLU GLU GLU

• Molecule 40: 30S ribosomal protein S7

Chain l: 55% 29% 16%

MET P1 R2 R3 R4 V5 I6 L12 L13 G18 K24 M30 K34 K35 S36 T37 A38 E39 V42 A45 L49 G54 K55 S56 E57 L58 E59 A60 F61 A64 V68 S76 R77 R78 V79 G80 G81 S82 T83 Y84 E89 V90 R91 R94 R95

L98 A99 M100 R101 R110 M115 A116 L117 R118 L119 L123 S124 D125 K130 R137 E138 D139 R142 N147 A151 HIS TYR ARG TRP LEU LEU ARG SER PHE SER HIS GLN ALA ALA SER SER LYS GLN PRO ALA LEU GLY TYR LEU ASN

• Molecule 41: 30S ribosomal protein S8

Chain m: 67% 32%

MET S1 D4 P5 I6 A7 D8 M9 L10 T11 R12 T13 R14 A22 A23 V24 T25 N26 P27 S28 S29 K30 I31 K32 E46 K49 K55 L58 E59 L60 T61 L62 I74 Q75 R76 V77 S78 T84 Y85 K86 L91 V94 I100 V103 D112 A115

R116 G119 L120 I124 I125 C126 Y127 V128 A129

• Molecule 42: 30S ribosomal protein S9

Chain n: 60% 37% ..

MET ALA GLU R3 V6 R10 R11 R12 S13 S14 A15 A16 R17 V18 F19 I20 N24 G25 V28 I29 R32 S33 L34 E35 G39 R40 Q49 V54 D55 H56 V57 E58 K59 L60 D61 L62 T63 T64 V65 V66 G69 Q74 A77 I78 T82 T83 R84

Y89 D90 L97 R98 K99 F102 V103 T104 R108 E111 K114 L117 A120 R121 R122 R129

• Molecule 43: 30S ribosomal protein S10

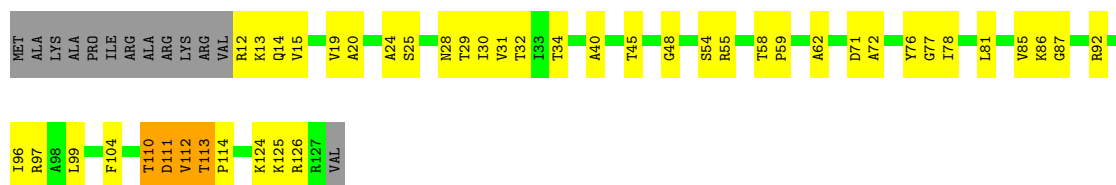
Chain o: 60% 32% 5%

MET GLN ASN GLN R5 I6 R7 I8 R9 L10 D14 H15 R16 V26 E27 T28 A29 K30 V36 R37 G38 P39 I40 P41 L42 P43 T44 R45 R48 I53 S54 P55 H56 E66 H70 L71 R72 L73 V74 D75 I76 T80 T83 A86 L87 M88 R89 L90 V98

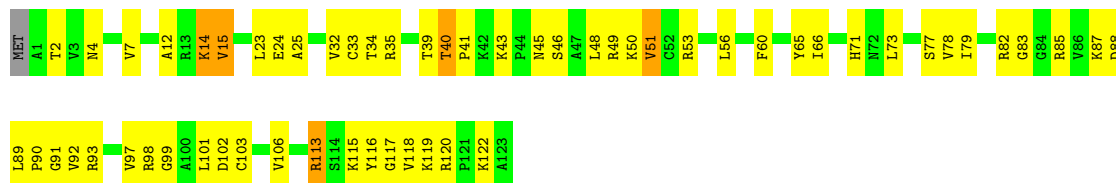
S101 L102 GLY

• Molecule 44: 30S ribosomal protein S11

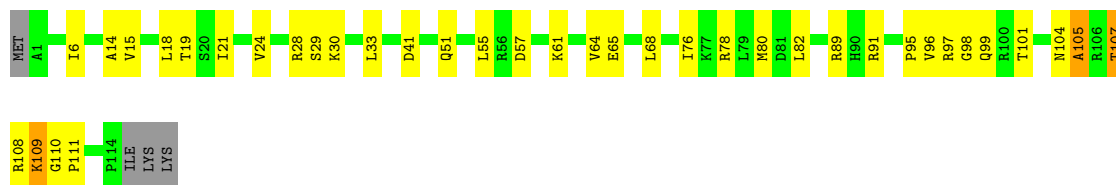
Chain p: 56% 31% 10%



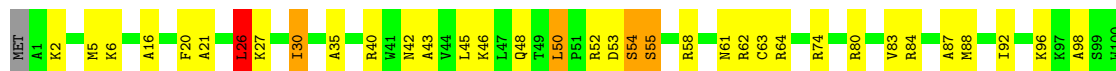
- Molecule 45: 30S ribosomal protein S12



- Molecule 46: 30S ribosomal protein S13



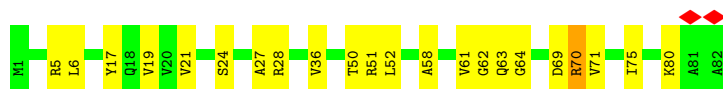
- Molecule 47: 30S ribosomal protein S14



- Molecule 48: 30S ribosomal protein S15



- Molecule 49: 30S ribosomal protein S16



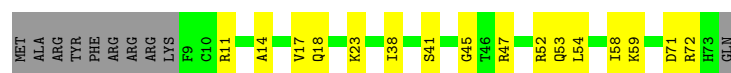
- Molecule 50: 30S ribosomal protein S17

Chain v: 



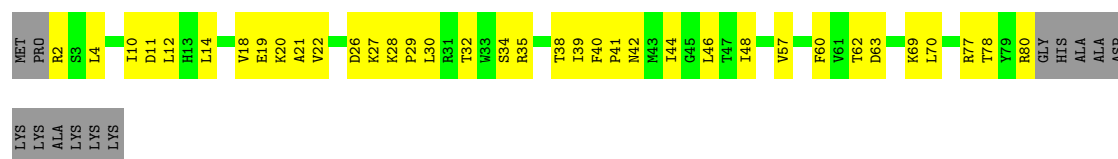
- Molecule 51: 30S ribosomal protein S18

Chain w: 



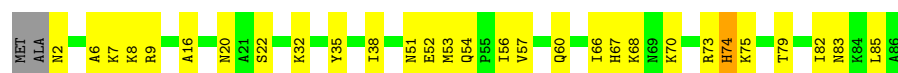
- Molecule 52: 30S ribosomal protein S19

Chain x: 



- Molecule 53: 30S ribosomal protein S20

Chain y: 



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	71502	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	56.07	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2700	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.109	Depositor
Minimum map value	-0.021	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.0198	Depositor
Map size (Å)	547.3792, 547.3792, 547.3792	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0691, 1.0691, 1.0691	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	1	0.18	0/69796	0.33	11/108888 (0.0%)
2	2	0.20	0/36963	0.36	4/57662 (0.0%)
3	3	0.16	0/2872	0.26	0/4479
4	4	0.09	0/87	0.16	0/132
5	5	0.11	0/1819	0.24	0/2836
6	A	0.15	0/1033	0.39	0/1387
7	B	0.43	1/2121 (0.0%)	0.56	2/2852 (0.1%)
8	C	0.45	0/1586	0.61	1/2134 (0.0%)
9	D	0.65	1/1571 (0.1%)	0.82	9/2113 (0.4%)
10	E	0.23	0/1434	0.50	1/1926 (0.1%)
11	F	0.18	0/1343	0.39	0/1816
12	G	0.14	0/1122	0.35	0/1515
13	J	0.36	0/1152	0.43	0/1551
14	K	0.57	1/947 (0.1%)	0.71	2/1268 (0.2%)
15	L	0.51	0/1054	0.70	2/1403 (0.1%)
16	M	0.18	0/1093	0.38	0/1460
17	N	0.50	0/973	0.71	5/1301 (0.4%)
18	O	0.54	0/902	0.73	2/1209 (0.2%)
19	P	0.18	0/929	0.39	0/1242
20	Q	0.42	0/960	0.48	1/1278 (0.1%)
21	R	0.35	0/829	0.46	0/1107
22	S	0.62	0/864	0.75	5/1156 (0.4%)
23	T	0.61	0/744	0.77	5/994 (0.5%)
24	U	0.18	0/787	0.39	0/1051
25	V	0.47	0/766	0.52	0/1025
26	W	0.26	0/582	0.48	0/769
27	X	0.36	0/635	0.51	0/848
28	Y	0.19	0/510	0.43	0/677
29	Z	0.52	1/453 (0.2%)	0.81	3/605 (0.5%)
30	b	0.33	0/450	0.54	0/599
31	c	0.45	1/416 (0.2%)	0.62	1/554 (0.2%)
32	d	0.20	0/380	0.47	0/498

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	e	0.28	0/513	0.61	1/676 (0.1%)
34	f	0.54	0/303	0.65	1/397 (0.3%)
35	g	0.55	1/550 (0.2%)	0.89	3/728 (0.4%)
36	h	0.29	0/1652	0.57	4/2225 (0.2%)
37	i	0.39	0/1665	0.55	1/2227 (0.0%)
38	j	0.38	0/1169	0.58	4/1573 (0.3%)
39	k	0.43	0/835	0.84	4/1128 (0.4%)
40	l	0.21	0/1195	0.48	0/1602
41	m	0.25	0/989	0.44	0/1326
42	n	0.24	0/1034	0.53	2/1375 (0.1%)
43	o	0.35	0/796	0.68	2/1077 (0.2%)
44	p	0.30	0/885	0.53	0/1195
45	q	0.59	0/969	0.98	9/1300 (0.7%)
46	r	0.37	1/892 (0.1%)	0.68	5/1193 (0.4%)
47	s	0.57	0/817	0.95	7/1088 (0.6%)
48	t	0.18	0/722	0.36	0/964
49	u	0.49	0/659	0.67	3/884 (0.3%)
50	v	0.19	0/657	0.50	0/881
51	w	0.17	0/544	0.35	0/731
52	x	0.16	0/652	0.45	0/877
53	y	0.49	0/671	0.64	3/888 (0.3%)
All	All	0.26	7/155342 (0.0%)	0.42	103/232670 (0.0%)

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	r	105	ALA	CA-C	-6.76	1.45	1.53
9	D	133	LEU	CA-C	-6.49	1.44	1.52
7	B	259	ASN	CA-C	-5.46	1.45	1.52
35	g	11	PHE	CA-C	-5.44	1.47	1.52
31	c	25	ASN	CA-C	-5.38	1.46	1.53
14	K	25	LEU	CA-C	-5.18	1.48	1.53
29	Z	11	SER	CA-C	-5.11	1.46	1.53

All (103) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	D	82	GLY	N-CA-C	14.01	146.38	113.18
39	k	92	THR	N-CA-C	13.81	130.32	111.54
22	S	2	GLU	N-CA-C	11.46	123.85	111.36
47	s	30	ILE	N-CA-C	11.12	120.98	110.53
39	k	91	ARG	N-CA-C	9.56	125.32	109.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	D	163	ASN	N-CA-C	9.44	121.57	111.28
46	r	105	ALA	N-CA-C	-9.00	98.50	112.99
29	Z	13	ILE	N-CA-C	8.70	119.49	110.62
45	q	88	ASP	N-CA-C	-8.40	104.16	114.75
2	2	926	G	C2'-C3'-O3'	-8.34	101.20	113.70
47	s	55	SER	N-CA-C	-8.29	100.67	108.13
37	i	151	GLN	N-CA-C	-8.29	102.72	112.92
2	2	970	C	C4'-C3'-O3'	-8.28	100.58	113.00
9	D	81	GLY	N-CA-C	-8.25	102.50	112.48
47	s	54	SER	N-CA-C	8.10	123.97	107.69
9	D	133	LEU	N-CA-C	-7.91	102.61	111.07
49	u	62	GLY	N-CA-C	-7.77	105.03	114.66
45	q	40	THR	N-CA-C	-7.66	98.24	109.50
36	h	50	SER	N-CA-C	7.58	121.85	111.39
15	L	64	PHE	N-CA-C	7.54	120.01	109.31
47	s	50	LEU	CA-C-N	-7.52	111.70	119.83
47	s	50	LEU	C-N-CA	-7.52	111.70	119.83
29	Z	15	ARG	N-CA-C	7.46	120.15	110.53
53	y	74	HIS	N-CA-C	-7.40	103.15	111.07
1	1	572	A	C2'-C3'-O3'	-7.31	102.73	113.70
35	g	8	ASN	N-CA-C	7.19	118.76	111.07
36	h	51	VAL	CB-CA-C	-7.18	103.47	111.23
42	n	10	ARG	N-CA-C	7.14	124.48	112.99
49	u	69	ASP	N-CA-C	7.14	118.71	111.07
1	1	1177	G	C2'-C3'-O3'	-7.11	103.04	113.70
45	q	115	LYS	N-CA-C	-7.10	100.49	110.50
35	g	9	GLU	CA-C-N	-6.98	111.12	119.84
35	g	9	GLU	C-N-CA	-6.98	111.12	119.84
38	j	157	GLY	N-CA-C	-6.87	106.90	115.08
31	c	26	LYS	N-CA-C	6.78	118.67	111.28
45	q	113	ARG	N-CA-C	6.78	118.67	111.28
45	q	12	ALA	N-CA-C	6.71	119.95	110.50
38	j	150	GLU	N-CA-C	-6.70	103.90	111.07
47	s	26	LEU	N-CA-C	6.67	118.34	111.14
29	Z	11	SER	N-CA-C	6.64	118.42	110.19
53	y	51	ASN	N-CA-C	6.59	120.54	112.23
9	D	88	ARG	CA-C-N	-6.57	112.73	119.83
9	D	88	ARG	C-N-CA	-6.57	112.73	119.83
2	2	406	G	C2'-C3'-O3'	-6.57	103.85	113.70
9	D	164	LEU	N-CA-C	6.50	118.87	108.41
23	T	18	GLU	N-CA-C	-6.43	104.27	111.28
1	1	2094	A	C4'-C3'-O3'	-6.40	103.40	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	2	1157	A	C2'-C3'-O3'	6.38	119.07	109.50
46	r	109	LYS	N-CA-C	-6.38	105.14	113.17
23	T	26	LYS	N-CA-C	6.36	118.30	111.36
22	S	48	LYS	N-CA-C	-6.36	104.43	111.36
15	L	65	GLY	N-CA-C	6.32	128.16	113.18
45	q	40	THR	CA-C-N	-6.17	112.13	119.84
45	q	40	THR	C-N-CA	-6.17	112.13	119.84
10	E	120	SER	N-CA-C	6.14	119.15	109.39
47	s	52	ARG	N-CA-C	-6.14	104.59	111.28
22	S	3	THR	N-CA-C	6.11	119.68	111.24
46	r	110	GLY	CA-C-N	-6.11	114.44	120.98
46	r	110	GLY	C-N-CA	-6.11	114.44	120.98
53	y	70	LYS	N-CA-C	-6.05	104.80	111.82
34	f	3	VAL	CB-CA-C	-6.00	105.44	111.80
46	r	107	THR	CB-CA-C	-5.95	101.54	110.88
49	u	70	ARG	N-CA-C	-5.92	104.90	111.36
38	j	161	GLU	N-CA-C	5.85	117.33	111.07
45	q	39	THR	N-CA-C	5.83	118.71	109.50
14	K	28	SER	N-CA-C	5.82	123.19	110.80
38	j	155	LYS	N-CA-C	5.80	117.68	111.36
17	N	86	ARG	N-CA-C	5.76	117.56	111.28
1	1	577	G	C1'-C2'-O2'	-5.76	99.76	108.40
7	B	258	SER	N-CA-C	-5.70	100.04	108.99
39	k	94	HIS	N-CA-C	5.66	122.85	110.80
17	N	3	HIS	N-CA-C	5.63	122.80	110.80
22	S	51	LEU	N-CA-C	-5.63	105.22	111.36
39	k	51	ILE	CB-CA-C	-5.61	102.77	110.96
43	o	56	HIS	N-CA-C	5.56	122.64	110.80
33	e	30	HIS	N-CA-C	5.52	117.23	108.79
43	o	53	ILE	N-CA-C	5.51	120.79	109.34
20	Q	42	GLY	N-CA-C	-5.47	105.76	112.77
1	1	2520	C	C2'-C3'-O3'	-5.42	105.57	113.70
23	T	81	LYS	N-CA-C	5.42	117.35	108.52
45	q	43	LYS	N-CA-C	5.41	120.84	113.16
14	K	69	VAL	CB-CA-C	-5.39	102.45	110.33
18	O	102	ARG	N-CA-C	-5.31	105.49	111.28
7	B	254	LYS	N-CA-C	5.30	122.10	110.80
1	1	812	C	C3'-C2'-O2'	-5.27	102.80	110.70
22	S	4	ILE	N-CA-C	5.24	116.77	109.80
23	T	17	SER	N-CA-C	-5.19	101.37	108.38
23	T	9	LYS	N-CA-C	5.17	117.00	111.36
42	n	11	ARG	N-CA-C	5.16	117.78	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	h	53	ARG	N-CA-C	-5.14	100.93	108.79
17	N	118	ARG	N-CA-C	-5.13	104.56	111.54
18	O	67	ASN	N-CA-C	-5.13	101.50	109.24
9	D	81	GLY	CA-C-N	-5.08	111.45	121.41
9	D	81	GLY	C-N-CA	-5.08	111.45	121.41
17	N	84	GLY	CA-C-N	-5.08	113.53	119.32
17	N	84	GLY	C-N-CA	-5.08	113.53	119.32
1	1	2822	G	C3'-C2'-O2'	-5.08	103.08	110.70
1	1	2115	G	C2'-C3'-O3'	-5.07	106.10	113.70
1	1	321	U	C2'-C3'-O3'	5.07	117.10	109.50
36	h	193	GLY	N-CA-C	-5.06	103.87	110.45
1	1	2832	U	C2'-C3'-O3'	-5.04	106.14	113.70
8	C	81	GLU	N-CA-C	5.04	117.51	109.81
1	1	2094	A	C2'-C3'-O3'	-5.01	106.19	113.70

There are no chirality outliers.

There are no planarity outliers.

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	1	62317	0	31343	865	0
2	2	33012	0	16617	498	0
3	3	2568	0	1303	33	0
4	4	80	0	45	0	0
5	5	1628	0	823	16	0
6	A	1026	0	1092	50	0
7	B	2082	0	2157	58	0
8	C	1565	0	1616	39	0
9	D	1552	0	1619	37	0
10	E	1410	0	1447	56	0
11	F	1323	0	1374	23	0
12	G	1111	0	1148	20	0
13	J	1129	0	1162	33	0
14	K	938	0	1012	39	0
15	L	1045	0	1117	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	M	1074	0	1157	22	0
17	N	960	0	1000	34	0
18	O	892	0	923	25	0
19	P	917	0	965	21	0
20	Q	947	0	1022	36	0
21	R	816	0	839	18	0
22	S	857	0	922	24	0
23	T	738	0	807	20	0
24	U	779	0	834	19	0
25	V	753	0	780	26	0
26	W	575	0	592	10	0
27	X	625	0	655	20	0
28	Y	509	0	543	8	0
29	Z	449	0	491	13	0
30	b	444	0	461	14	0
31	c	409	0	440	6	0
32	d	377	0	418	12	0
33	e	504	0	574	26	0
34	f	302	0	343	11	0
35	g	544	0	579	19	0
36	h	1625	0	1699	27	0
37	i	1643	0	1710	53	0
38	j	1156	0	1199	43	0
39	k	817	0	808	27	0
40	l	1181	0	1240	47	0
41	m	979	0	1034	34	0
42	n	1022	0	1070	52	0
43	o	786	0	828	28	0
44	p	869	0	878	44	0
45	q	955	0	1019	46	0
46	r	883	0	944	50	0
47	s	805	0	847	36	0
48	t	714	0	737	22	0
49	u	649	0	666	13	0
50	v	648	0	691	28	0
51	w	535	0	552	19	0
52	x	637	0	665	34	0
53	y	665	0	714	20	0
54	1	306	0	0	0	0
54	2	72	0	0	0	0
54	3	8	0	0	0	0
54	4	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
54	B	2	0	0	0	0
54	E	1	0	0	0	0
54	J	1	0	0	0	0
54	N	1	0	0	0	0
54	Q	1	0	0	0	0
54	S	2	0	0	0	0
54	b	1	0	0	0	0
54	m	1	0	0	0	0
54	r	1	0	0	0	0
55	1	478	0	0	59	0
55	2	309	0	0	39	0
55	3	7	0	0	0	0
55	5	3	0	0	0	0
55	A	16	0	0	11	0
55	B	4	0	0	1	0
55	C	2	0	0	2	0
55	D	2	0	0	0	0
55	E	16	0	0	13	0
55	F	4	0	0	1	0
55	G	5	0	0	1	0
55	J	2	0	0	1	0
55	K	2	0	0	0	0
55	L	2	0	0	0	0
55	M	2	0	0	3	0
55	N	1	0	0	1	0
55	O	2	0	0	5	0
55	Q	2	0	0	2	0
55	T	2	0	0	1	0
55	U	3	0	0	0	0
55	V	2	0	0	0	0
55	W	3	0	0	0	0
55	X	3	0	0	3	0
55	Y	1	0	0	0	0
55	c	1	0	0	0	0
55	f	1	0	0	0	0
55	g	4	0	0	1	0
55	h	5	0	0	3	0
55	i	10	0	0	4	0
55	j	3	0	0	4	0
55	k	7	0	0	5	0
55	l	11	0	0	11	0
55	m	3	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	n	3	0	0	4	0
55	o	4	0	0	3	0
55	p	4	0	0	4	0
55	q	2	0	0	2	0
55	r	6	0	0	7	0
55	s	2	0	0	2	0
55	t	2	0	0	1	0
55	v	4	0	0	3	0
55	w	4	0	0	8	0
55	x	7	0	0	4	0
55	y	3	0	0	2	0
All	All	144183	0	95521	2467	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 11.

All (2467) 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)
27:X:75:GLU:HG3	55:X:101:HOH:O	1.39	1.19
55:2:1752:HOH:O	41:m:27:PRO:HB3	1.42	1.18
2:2:84:U:H4'	55:2:1882:HOH:O	1.47	1.12
1:1:2104:C:H1'	55:1:3577:HOH:O	1.51	1.11
42:n:49:GLN:HG3	55:n:202:HOH:O	1.47	1.10
1:1:2122:U:H5''	55:1:3457:HOH:O	1.51	1.10
42:n:114:LYS:HE3	55:n:201:HOH:O	1.48	1.10
8:C:96:ILE:HA	55:C:302:HOH:O	1.49	1.09
6:A:203:GLN:HA	55:A:308:HOH:O	1.54	1.07
18:O:25:ARG:HD2	55:O:201:HOH:O	1.53	1.06
6:A:190:GLU:HG2	55:A:314:HOH:O	1.57	1.04
1:1:1063:G:H8	55:1:3804:HOH:O	1.39	1.04
6:A:198:LYS:HG3	55:A:313:HOH:O	1.57	1.03
1:1:1104:C:H5'	55:1:3454:HOH:O	1.56	1.02
46:r:111:PRO:HG3	55:r:306:HOH:O	1.57	1.01
1:1:2903:U:H2'	55:1:3427:HOH:O	1.57	1.01
52:x:20:LYS:HB2	55:x:104:HOH:O	1.59	0.99
39:k:62:MET:HE3	55:k:207:HOH:O	1.63	0.97
6:A:45:ALA:HB1	6:A:170:ILE:HD11	1.46	0.97
2:2:844:G:H1'	55:2:1744:HOH:O	1.63	0.97
1:1:172:A:H4'	55:1:3841:HOH:O	1.65	0.96
2:2:80:A:H2	55:2:1754:HOH:O	1.48	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:P:59:THR:HG22	19:P:72:VAL:HG12	1.49	0.95
1:1:1225:G:O2'	1:1:1226:A:O4'	1.85	0.95
2:2:204:G:H1'	55:2:1751:HOH:O	1.67	0.93
47:s:30:ILE:HG21	47:s:43:ALA:HB2	1.51	0.93
1:1:1328:A:O2'	1:1:1329:U:O5'	1.86	0.93
39:k:62:MET:HG2	55:k:207:HOH:O	1.68	0.92
35:g:22:CYS:SG	55:w:104:HOH:O	2.27	0.92
10:E:32:LYS:HE3	55:E:305:HOH:O	1.69	0.91
2:2:195:A:O2'	2:2:196:A:O4'	1.87	0.91
50:v:3:LYS:HB2	55:v:102:HOH:O	1.70	0.90
2:2:148:G:H1	2:2:174:A:H61	1.15	0.90
45:q:113:ARG:HD2	45:q:120:ARG:HA	1.53	0.90
2:2:967:C:OP2	2:2:968:A:O2'	1.90	0.89
14:K:71:ARG:HH12	14:K:77:ILE:HD11	1.37	0.89
2:2:80:A:C2	55:2:1754:HOH:O	2.23	0.89
7:B:131:MET:HE1	7:B:173:LEU:HD21	1.52	0.88
1:1:1942:C:OP2	1:1:1943:U:O2'	1.92	0.88
1:1:1424:G:O2'	1:1:1425:G:O5'	1.91	0.88
1:1:2865:U:OP2	1:1:2866:U:O2'	1.91	0.87
12:G:8:LYS:NZ	12:G:9:VAL:O	2.07	0.87
1:1:1829:A:O2'	1:1:1830:C:OP1	1.91	0.87
2:2:146:G:H1	2:2:176:C:H42	1.19	0.87
50:v:3:LYS:HB3	55:v:101:HOH:O	1.74	0.86
2:2:204:G:Cl'	55:2:1751:HOH:O	2.23	0.86
36:h:187:GLU:HB3	55:h:302:HOH:O	1.76	0.86
1:1:1057:A:C2	55:1:3496:HOH:O	2.27	0.86
18:O:100:HIS:CE1	55:O:202:HOH:O	2.28	0.86
1:1:464:U:O2'	1:1:465:G:O4'	1.93	0.86
1:1:1809:A:O2'	1:1:1810:A:O4'	1.94	0.86
38:j:137:ARG:HD2	55:j:201:HOH:O	1.75	0.85
1:1:2014:A:O2'	1:1:2015:A:O4'	1.95	0.85
1:1:2496:C:O2'	1:1:2497:A:O5'	1.94	0.85
1:1:2123:G:H4'	6:A:172:HIS:HB2	1.59	0.84
1:1:2156:G:H4'	55:1:3708:HOH:O	1.78	0.84
45:q:34:THR:HB	45:q:53:ARG:HB2	1.57	0.84
1:1:1712:U:OP2	1:1:1713:A:O2'	1.95	0.83
1:1:1814:G:OP2	1:1:1815:A:O2'	1.96	0.83
10:E:142:TYR:CE1	55:E:308:HOH:O	2.31	0.83
1:1:2597:G:O2'	1:1:2598:A:O4'	1.94	0.83
46:r:29:SER:OG	46:r:30:LYS:NZ	2.11	0.83
36:h:187:GLU:CB	55:h:302:HOH:O	2.25	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:123:MET:HB3	55:i:302:HOH:O	1.77	0.83
1:1:1288:G:OP2	1:1:1288:G:N2	2.11	0.82
1:1:1343:G:O2'	1:1:1344:U:OP1	1.98	0.82
2:2:507:C:OP2	2:2:508:U:O2'	1.96	0.82
51:w:11:ARG:HB2	55:w:102:HOH:O	1.77	0.82
45:q:71:HIS:CD2	55:q:202:HOH:O	2.30	0.82
1:1:1328:A:HO2'	1:1:1329:U:P	2.01	0.82
2:2:720:C:OP2	2:2:721:G:O2'	1.98	0.82
1:1:1912:A:C5'	55:1:3613:HOH:O	2.28	0.82
2:2:558:G:OP2	2:2:559:A:O2'	1.95	0.82
2:2:1146:A:N1	42:n:17:ARG:NH2	2.28	0.82
1:1:367:G:O2'	1:1:368:A:O5'	1.96	0.81
47:s:26:LEU:HD13	47:s:46:LYS:HG2	1.62	0.81
44:p:13:LYS:O	44:p:13:LYS:NZ	2.11	0.81
1:1:1383:A:O2'	1:1:1384:A:O4'	1.98	0.81
8:C:91:THR:HG22	8:C:92:VAL:H	1.46	0.81
48:t:81:ILE:HG22	48:t:86:LEU:HD11	1.61	0.81
1:1:799:G:OP2	1:1:800:A:O2'	1.98	0.81
1:1:1005:C:O2'	13:J:30:THR:HG21	1.81	0.81
1:1:896:A:O2'	1:1:897:C:OP2	1.99	0.80
2:2:563:A:O2'	2:2:564:C:OP2	2.00	0.80
2:2:78:A:C5'	55:2:1713:HOH:O	2.29	0.80
35:g:19:LYS:HE2	44:p:111:ASP:HB2	1.62	0.80
2:2:403:C:C5	55:2:1719:HOH:O	2.34	0.79
1:1:1829:A:HO2'	1:1:1830:C:P	2.05	0.79
1:1:2147:A:H4'	55:1:3419:HOH:O	1.81	0.79
19:P:46:VAL:HA	19:P:60:VAL:HG12	1.65	0.79
1:1:227:A:O2'	1:1:228:C:O5'	2.01	0.79
2:2:403:C:H5	55:2:1719:HOH:O	1.64	0.79
18:O:25:ARG:CD	55:O:201:HOH:O	2.21	0.79
10:E:156:THR:HG21	55:E:305:HOH:O	1.82	0.78
1:1:1057:A:H2	55:1:3496:HOH:O	1.64	0.78
15:L:135:ILE:HG22	15:L:140:GLY:HA3	1.66	0.78
44:p:87:GLY:H	44:p:113:THR:HG23	1.49	0.78
2:2:1054:C:O2'	2:2:1055:A:OP2	2.03	0.77
1:1:2581:G:N2	1:1:2581:G:OP2	2.15	0.77
22:S:109:ASP:OD1	22:S:110:ARG:NH2	2.18	0.77
1:1:1069:A:H5'	55:1:3796:HOH:O	1.83	0.77
50:v:47:ASP:OD1	50:v:48:GLU:N	2.17	0.77
37:i:66:VAL:HG13	37:i:70:GLN:HB2	1.67	0.77
1:1:2106:U:C5	55:1:3431:HOH:O	2.38	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1424:G:HO2'	1:1:1425:G:C5'	1.98	0.76
40:l:82:SER:HB2	55:l:210:HOH:O	1.83	0.76
42:n:20:ILE:HD12	42:n:61:ASP:O	1.85	0.76
14:K:21:CYS:HA	14:K:41:ILE:HG22	1.66	0.76
1:1:2138:G:H5''	55:1:3664:HOH:O	1.83	0.76
24:U:12:VAL:HG21	24:U:17:ASP:O	1.85	0.75
1:1:277:G:N2	1:1:277:G:OP2	2.19	0.75
55:1:3652:HOH:O	6:A:8:MET:SD	2.44	0.75
1:1:2645:G:OP2	1:1:2645:G:N2	2.18	0.75
2:2:1160:G:H5''	55:2:1777:HOH:O	1.86	0.75
1:1:2263:C:N4	26:W:11:ASP:OD1	2.20	0.75
27:X:49:ARG:HD2	55:X:103:HOH:O	1.86	0.75
2:2:1035:A:H4'	55:2:1758:HOH:O	1.87	0.75
2:2:1417:G:O2'	2:2:1483:A:N6	2.20	0.74
39:k:63:ASN:ND2	39:k:96:VAL:O	2.20	0.74
2:2:834:U:OP1	51:w:47:ARG:NH1	2.21	0.74
1:1:309:A:N3	1:1:329:G:O2'	2.20	0.74
2:2:1060:U:H4'	43:o:54:SER:HB3	1.70	0.74
1:1:250:G:O5'	15:L:59:ARG:NH1	2.21	0.74
1:1:2848:G:O2'	1:1:2867:G:N2	2.21	0.74
42:n:20:ILE:HD11	42:n:60:LEU:HB3	1.69	0.74
53:y:56:ILE:O	53:y:60:GLN:NE2	2.20	0.74
1:1:877:A:O2'	1:1:900:A:N6	2.21	0.73
2:2:981:U:OP2	2:2:982:U:O2'	2.05	0.73
2:2:1248:A:O2'	2:2:1249:C:O4'	2.03	0.73
6:A:51:ASP:O	6:A:57:GLN:NE2	2.20	0.73
45:q:99:GLY:N	45:q:103:CYS:O	2.21	0.73
1:1:622:G:OP2	15:L:99:ASN:ND2	2.21	0.73
1:1:2133:G:O2'	1:1:2158:A:N1	2.21	0.73
2:2:1236:A:H4'	2:2:1304:G:H4'	1.69	0.73
1:1:2496:C:HO2'	1:1:2497:A:P	2.10	0.73
1:1:683:U:O2'	1:1:684:G:OP1	2.05	0.73
1:1:774:G:O2'	1:1:775:G:O5'	2.07	0.73
1:1:1955:U:O4	1:1:2556:C:N4	2.22	0.73
37:i:44:LYS:NZ	37:i:45:PRO:O	2.21	0.73
1:1:2845:U:O3'	19:P:52:ARG:NH1	2.21	0.73
36:h:42:LEU:CD2	36:h:86:LEU:HD21	2.19	0.73
36:h:64:ARG:NH1	36:h:99:GLN:OE1	2.22	0.73
1:1:2171:A:H2'	1:1:2172:U:H3'	1.71	0.72
38:j:160:VAL:HG22	38:j:164:LEU:HD23	1.69	0.72
1:1:574:A:N6	1:1:2034:U:OP1	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:18:ARG:NH1	22:S:76:VAL:O	2.22	0.72
45:q:41:PRO:HG3	45:q:49:ARG:HG2	1.71	0.72
2:2:579:A:O2'	48:t:53:ARG:NH2	2.22	0.72
2:2:768:A:N3	2:2:1512:U:O2'	2.23	0.72
1:1:2230:G:H5''	27:X:29:LEU:HD23	1.70	0.72
1:1:2595:G:N2	1:1:2598:A:OP2	2.21	0.72
2:2:1308:U:OP2	46:r:89:ARG:NH1	2.21	0.72
2:2:1321:U:OP1	46:r:99:GLN:NE2	2.23	0.72
8:C:96:ILE:HG13	55:C:302:HOH:O	1.88	0.72
38:j:76:ASN:OD1	38:j:77:ASN:ND2	2.23	0.72
49:u:6:LEU:HD12	49:u:17:TYR:HB3	1.71	0.72
1:1:1104:C:C5'	55:1:3454:HOH:O	2.21	0.72
45:q:89:LEU:HD11	45:q:92:VAL:HB	1.72	0.72
1:1:2688:G:N1	1:1:2720:U:OP2	2.22	0.72
1:1:1801:A:OP1	7:B:149:LYS:NZ	2.21	0.72
15:L:10:GLU:OE1	15:L:10:GLU:N	2.23	0.72
1:1:368:A:O2'	1:1:369:U:O4'	2.06	0.72
1:1:776:G:N7	1:1:793:A:O2'	2.22	0.72
37:i:25:ARG:NH1	37:i:28:ASP:O	2.23	0.72
1:1:102:U:O2	28:Y:2:LYS:NZ	2.22	0.72
1:1:1724:G:O6	1:1:1737:G:N2	2.23	0.72
2:2:844:G:C1'	55:2:1744:HOH:O	2.25	0.72
5:5:33:U:O2'	5:5:35:G:N7	2.22	0.72
7:B:83:ASP:OD2	7:B:86:ARG:NH1	2.23	0.72
1:1:442:G:N2	9:D:43:THR:O	2.23	0.71
40:l:80:GLY:CA	55:l:201:HOH:O	2.38	0.71
1:1:2903:U:C2'	55:1:3427:HOH:O	2.26	0.71
2:2:1377:A:OP1	40:l:91:ARG:NH2	2.23	0.71
1:1:1425:G:O2'	1:1:1426:G:O4'	2.08	0.71
2:2:1152:A:O3'	43:o:16:ARG:NH2	2.23	0.71
2:2:1077:G:H21	2:2:1080:A:H2	1.38	0.71
1:1:547:A:N9	55:1:3404:HOH:O	2.22	0.71
9:D:146:VAL:HG22	9:D:167:VAL:HG22	1.72	0.71
10:E:69:ALA:N	10:E:82:TYR:O	2.23	0.71
1:1:777:G:O2'	7:B:47:ARG:NH2	2.24	0.71
23:T:11:LEU:O	28:Y:29:ARG:NH1	2.23	0.71
1:1:1728:C:O2'	1:1:1731:G:N2	2.23	0.71
11:F:21:GLN:NE2	11:F:37:ASN:O	2.24	0.71
19:P:43:GLU:N	19:P:43:GLU:OE2	2.24	0.71
1:1:1582:C:O2'	1:1:1585:C:N3	2.21	0.70
1:1:1173:U:H2'	1:1:1174:U:C6	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:413:G:O2'	2:2:428:G:N2	2.23	0.70
2:2:1321:U:O2	52:x:35:ARG:NH2	2.24	0.70
5:5:3:G:O2'	5:5:4:C:OP2	2.09	0.70
6:A:15:VAL:CG2	55:A:309:HOH:O	2.38	0.70
10:E:124:ARG:NH1	55:E:301:HOH:O	2.22	0.70
47:s:63:CYS:SG	47:s:64:ARG:N	2.64	0.70
7:B:158:GLY:H	7:B:194:VAL:HG23	1.56	0.70
46:r:111:PRO:CG	55:r:306:HOH:O	2.26	0.70
2:2:1251:A:H2'	2:2:1252:A:C8	2.27	0.70
10:E:90:LEU:HD11	10:E:94:ARG:HB2	1.73	0.70
37:i:96:ARG:NH2	55:i:301:HOH:O	2.23	0.70
47:s:35:ALA:O	47:s:40:ARG:NH1	2.24	0.70
2:2:982:U:O2	2:2:1222:G:N1	2.25	0.70
44:p:12:ARG:HD2	55:p:201:HOH:O	1.91	0.70
2:2:1056:U:OP1	36:h:162:ALA:N	2.25	0.70
24:U:9:GLU:OE2	24:U:21:ARG:NH2	2.24	0.70
26:W:14:ALA:O	26:W:16:ARG:NH1	2.23	0.70
48:t:30:LEU:O	48:t:34:GLN:NE2	2.24	0.70
1:1:1818:U:OP2	7:B:155:ARG:NE	2.24	0.70
1:1:2859:G:O2'	1:1:2860:A:O4'	2.10	0.70
39:k:99:ALA:O	51:w:23:LYS:NZ	2.25	0.70
43:o:10:LEU:HB2	43:o:98:VAL:HG12	1.73	0.70
47:s:45:LEU:HD23	52:x:12:LEU:HD21	1.74	0.70
1:1:1212:G:N2	1:1:1236:G:O2'	2.24	0.69
1:1:1447:C:O2'	1:1:1544:A:N3	2.22	0.69
1:1:467:G:OP1	32:d:33:ARG:NE	2.25	0.69
2:2:74:A:H1'	55:2:1792:HOH:O	1.90	0.69
2:2:936:C:N3	2:2:1379:G:N2	2.40	0.69
14:K:121:GLU:HG3	14:K:122:VAL:HG23	1.72	0.69
22:S:4:ILE:HA	22:S:106:VAL:HG12	1.73	0.69
1:1:1227:G:OP1	20:Q:12:ARG:NH2	2.25	0.69
1:1:2011:U:O3'	22:S:98:LYS:NZ	2.23	0.69
2:2:1447:A:P	2:2:1448:C:H41	2.15	0.69
1:1:245:G:O2'	1:1:384:A:N1	2.24	0.69
1:1:714:U:OP2	48:t:88:ARG:NH2	2.24	0.69
1:1:2006:C:O2'	1:1:2823:A:N3	2.25	0.69
2:2:224:U:OP1	53:y:68:LYS:NZ	2.21	0.69
2:2:673:A:O3'	39:k:86:ARG:NH1	2.25	0.69
2:2:727:G:N2	2:2:730:G:OP2	2.21	0.69
1:1:1828:G:O2'	1:1:1829:A:O5'	2.10	0.69
6:A:181:ASP:O	6:A:184:LYS:N	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:301:G:OP2	24:U:81:ARG:NH1	2.25	0.69
2:2:1137:C:O2'	2:2:1138:G:N2	2.25	0.69
40:l:18:GLY:HA3	55:l:204:HOH:O	1.92	0.69
1:1:189:G:OP2	27:X:25:LYS:NZ	2.26	0.69
1:1:1294:U:O2	17:N:23:ASN:ND2	2.24	0.69
1:1:2138:G:N7	55:1:3408:HOH:O	2.26	0.69
26:W:29:ALA:N	26:W:60:ASP:OD1	2.25	0.69
34:f:11:CYS:N	34:f:14:CYS:SG	2.65	0.69
35:g:34:ARG:NH2	44:p:126:ARG:O	2.26	0.69
50:v:45:VAL:HG11	50:v:60:ILE:HD12	1.73	0.69
1:1:1006:C:O4'	13:J:30:THR:HG23	1.93	0.69
1:1:1614:A:N6	22:S:88:ARG:O	2.26	0.69
1:1:912:C:OP1	16:M:8:LYS:NZ	2.25	0.69
14:K:88:ASN:OD1	14:K:89:ASN:N	2.26	0.69
39:k:23:GLU:OE1	39:k:23:GLU:N	2.25	0.69
2:2:1149:C:O2'	2:2:1280:A:N1	2.25	0.68
1:1:931:U:OP1	29:Z:29:ARG:NH1	2.26	0.68
1:1:2483:C:N3	16:M:123:LYS:NZ	2.37	0.68
2:2:1045:C:H5'	55:2:1800:HOH:O	1.93	0.68
2:2:136:C:H5''	55:2:1895:HOH:O	1.93	0.68
1:1:910:A:N3	1:1:2264:C:O2'	2.26	0.68
27:X:6:VAL:HG13	27:X:7:THR:HG23	1.74	0.68
1:1:1125:G:OP2	1:1:1126:A:O2'	2.09	0.68
2:2:936:C:H42	2:2:1379:G:H1	1.41	0.68
13:J:27:ARG:NE	55:J:301:HOH:O	2.25	0.68
15:L:37:GLY:O	15:L:41:ARG:NH2	2.26	0.68
39:k:51:ILE:HG23	39:k:86:ARG:HE	1.58	0.68
37:i:86:GLY:HA2	37:i:89:LEU:HD12	1.75	0.68
52:x:19:GLU:OE2	52:x:42:ASN:ND2	2.27	0.68
2:2:184:G:O6	2:2:193:C:N4	2.27	0.68
29:Z:23:LEU:HD11	29:Z:53:MET:HE3	1.76	0.68
48:t:32:THR:OG1	48:t:62:ARG:NH2	2.26	0.68
2:2:1174:G:H5''	55:2:1817:HOH:O	1.92	0.68
3:3:30:C:H1'	3:3:57:A:H61	1.59	0.68
15:L:85:VAL:HG23	15:L:86:GLU:H	1.57	0.68
39:k:47:LEU:HD13	39:k:49:TYR:C	2.19	0.68
1:1:2177:C:O2	6:A:170:ILE:HG21	1.93	0.68
1:1:279:A:N6	1:1:361:G:O2'	2.27	0.67
1:1:1140:C:O3'	13:J:27:ARG:NH1	2.27	0.67
3:3:40:U:N3	3:3:44:G:OP2	2.27	0.67
1:1:1056:G:N1	1:1:1102:C:OP2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:81:GLY:C	55:l:202:HOH:O	2.36	0.67
1:1:447:A:OP1	20:Q:4:LYS:NZ	2.28	0.67
1:1:494:G:N2	22:S:57:ASN:OD1	2.27	0.67
2:2:780:A:N6	2:2:801:U:OP2	2.27	0.67
31:c:46:VAL:HG22	31:c:47:ILE:H	1.59	0.67
1:1:1063:G:H4'	55:1:3515:HOH:O	1.95	0.67
1:1:1341:G:OP1	1:1:1397:U:N3	2.27	0.67
1:1:2743:U:OP2	1:1:2755:C:N4	2.27	0.67
2:2:430:A:OP1	37:i:8:LEU:HB3	1.93	0.67
2:2:561:U:O2'	2:2:562:U:OP1	2.09	0.67
45:q:78:VAL:O	45:q:79:ILE:HD13	1.93	0.67
2:2:483:C:H2'	2:2:484:G:C8	2.30	0.67
2:2:1503:A:O2'	2:2:1504:G:OP1	2.11	0.67
5:5:47:U:O2'	5:5:48:C:O5'	2.12	0.67
16:M:110:GLU:OE1	16:M:110:GLU:N	2.28	0.67
20:Q:89:ILE:HG13	20:Q:93:ILE:HD11	1.77	0.67
9:D:146:VAL:CG2	9:D:167:VAL:HG22	2.25	0.67
1:1:477:A:N1	24:U:16:LYS:NZ	2.43	0.67
1:1:1064:C:O2'	1:1:1065:U:O5'	2.12	0.67
2:2:373:A:O2'	2:2:451:A:N7	2.28	0.67
40:l:57:GLU:OE1	40:l:57:GLU:N	2.27	0.67
2:2:350:G:O2'	2:2:351:G:O4'	2.10	0.67
43:o:7:ARG:NE	43:o:75:ASP:OD1	2.28	0.67
1:1:1912:A:H5'	55:1:3613:HOH:O	1.92	0.66
2:2:491:G:OP2	37:i:147:LYS:NZ	2.27	0.66
1:1:1155:A:O3'	20:Q:54:ARG:NH2	2.28	0.66
1:1:1913:A:H1'	2:2:1492:A:H61	1.59	0.66
1:1:2137:U:C4	55:1:3408:HOH:O	2.48	0.66
14:K:21:CYS:SG	14:K:39:ILE:HD11	2.35	0.66
37:i:153:ARG:NE	55:i:303:HOH:O	2.28	0.66
1:1:1248:G:OP1	9:D:44:ARG:NH2	2.29	0.66
17:N:69:ARG:O	17:N:70:THR:OG1	2.11	0.66
1:1:445:C:OP1	20:Q:1:ALA:N	2.27	0.66
38:j:135:VAL:O	38:j:139:THR:HG23	1.96	0.66
37:i:187:ARG:NH2	37:i:194:ILE:O	2.28	0.66
1:1:247:G:O2'	1:1:386:G:N1	2.29	0.66
45:q:34:THR:HG22	45:q:35:ARG:H	1.60	0.66
2:2:1178:G:O2'	2:2:1180:A:N7	2.26	0.66
1:1:2849:U:O4	19:P:20:ARG:NH2	2.28	0.66
20:Q:78:PHE:O	20:Q:82:LEU:HD23	1.96	0.66
37:i:96:ARG:O	37:i:100:VAL:HG23	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2564:A:O2'	1:1:2565:A:O4'	2.14	0.66
47:s:30:ILE:HG23	47:s:40:ARG:HH21	1.61	0.66
18:O:50:ALA:O	18:O:81:ARG:NH1	2.28	0.66
23:T:23:ALA:HB1	23:T:29:THR:HB	1.77	0.66
41:m:49:LYS:O	41:m:58:LEU:HD12	1.96	0.66
15:L:79:LEU:H	15:L:113:ALA:HB3	1.61	0.65
15:L:135:ILE:O	15:L:140:GLY:N	2.29	0.65
18:O:25:ARG:NE	55:O:201:HOH:O	2.28	0.65
46:r:111:PRO:CB	55:r:306:HOH:O	2.42	0.65
49:u:51:ARG:C	49:u:52:LEU:HD12	2.21	0.65
1:1:1226:A:OP1	20:Q:15:LYS:NZ	2.26	0.65
3:3:45:A:O4'	10:E:91:ARG:NH2	2.29	0.65
7:B:158:GLY:N	7:B:194:VAL:HG23	2.11	0.65
9:D:170:ARG:NH1	9:D:179:SER:OG	2.29	0.65
1:1:464:U:O2'	1:1:465:G:O5'	2.15	0.65
1:1:1475:G:N2	55:1:3415:HOH:O	2.29	0.65
2:2:1177:G:OP1	42:n:99:LYS:NZ	2.22	0.65
12:G:51:ARG:NH2	55:G:201:HOH:O	2.29	0.65
1:1:313:G:N2	55:1:3418:HOH:O	2.30	0.65
1:1:465:G:OP1	32:d:12:ARG:NH1	2.30	0.65
2:2:653:U:O4'	41:m:55:LYS:NZ	2.26	0.65
2:2:1492:A:C8	2:2:1493:A:N7	2.65	0.65
1:1:1433:A:H61	1:1:1560:G:H1	1.45	0.65
32:d:1:MET:SD	32:d:3:ARG:NH1	2.69	0.65
1:1:1839:G:N2	55:1:3420:HOH:O	2.30	0.65
1:1:2472:G:O2'	1:1:2478:A:N6	2.29	0.65
47:s:26:LEU:HB3	47:s:46:LYS:HE3	1.77	0.65
1:1:367:G:HO2'	1:1:368:A:C5'	2.08	0.65
6:A:51:ASP:OD2	6:A:53:ARG:NH1	2.30	0.65
1:1:1799:G:O2'	7:B:181:ARG:NH2	2.29	0.64
1:1:2334:U:O2'	18:O:13:ARG:NH2	2.30	0.64
2:2:1152:A:O2'	43:o:16:ARG:NH2	2.30	0.64
6:A:15:VAL:HG21	55:A:309:HOH:O	1.97	0.64
37:i:12:ARG:HA	37:i:33:ILE:CD1	2.27	0.64
48:t:16:ARG:NH1	48:t:25:GLU:OE2	2.30	0.64
1:1:242:G:N2	1:1:255:A:OP2	2.25	0.64
2:2:1396:A:H2	38:j:23:THR:HG21	1.63	0.64
9:D:46:GLN:N	9:D:46:GLN:OE1	2.31	0.64
52:x:18:VAL:O	52:x:22:VAL:HG23	1.98	0.64
1:1:382:A:H5''	55:1:3791:HOH:O	1.97	0.64
17:N:96:ARG:HH11	17:N:116:VAL:HG13	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1721:G:O2'	1:1:1739:A:N6	2.30	0.64
13:J:65:THR:HG22	13:J:66:GLY:H	1.62	0.64
1:1:704:G:O2'	1:1:705:A:OP2	2.13	0.64
1:1:1729:U:H1'	55:1:3402:HOH:O	1.98	0.64
2:2:309:A:O2'	2:2:608:A:N6	2.28	0.64
2:2:1368:A:O3'	43:o:48:ARG:NH2	2.31	0.64
2:2:210:C:O3'	2:2:211:G:N2	2.31	0.64
25:V:37:PRO:C	25:V:38:LEU:HD12	2.22	0.64
1:1:998:C:OP2	20:Q:57:ARG:NH2	2.31	0.64
9:D:6:LYS:O	9:D:9:GLN:NE2	2.31	0.64
35:g:4:LYS:HB2	44:p:110:THR:HG23	1.78	0.64
38:j:65:LYS:O	38:j:69:ASN:ND2	2.31	0.64
1:1:191:A:OP2	1:1:204:A:N6	2.29	0.64
1:1:633:A:OP1	15:L:71:ALA:HB2	1.97	0.64
1:1:848:C:H2'	1:1:849:A:C8	2.33	0.64
1:1:1916:A:N6	2:2:1408:A:O2'	2.31	0.64
40:l:30:MET:HE1	40:l:34:LYS:C	2.23	0.64
8:C:9:VAL:HB	8:C:26:VAL:HG23	1.80	0.63
11:F:110:HIS:ND1	11:F:110:HIS:O	2.31	0.63
46:r:64:VAL:O	46:r:68:LEU:N	2.31	0.63
2:2:202:G:H21	2:2:466:A:H61	1.46	0.63
41:m:119:GLY:C	41:m:120:LEU:HD12	2.24	0.63
1:1:1250:G:OP2	15:L:18:ARG:NH2	2.31	0.63
1:1:2019:A:O2'	20:Q:27:ARG:NH1	2.31	0.63
1:1:2741:A:O3'	34:f:36:ARG:NH2	2.31	0.63
11:F:136:ASP:HB3	11:F:139:VAL:HG12	1.81	0.63
1:1:2123:G:H2'	1:1:2124:G:C8	2.33	0.63
1:1:2114:A:H3'	1:1:2115:G:C8	2.33	0.63
2:2:78:A:H5'	55:2:1713:HOH:O	1.90	0.63
1:1:698:C:H4'	1:1:734:A:H61	1.64	0.63
1:1:972:A:OP2	1:1:973:A:O2'	2.08	0.63
6:A:5:THR:HG23	6:A:7:ARG:H	1.62	0.63
36:h:42:LEU:HD22	36:h:86:LEU:HD21	1.79	0.63
1:1:1729:U:C1'	55:1:3402:HOH:O	2.46	0.63
40:l:81:GLY:HA3	55:l:202:HOH:O	1.99	0.63
1:1:704:G:N2	1:1:726:G:O2'	2.32	0.62
2:2:192:A:N3	53:y:54:GLN:NE2	2.47	0.62
14:K:34:GLY:N	14:K:37:ASP:OD2	2.32	0.62
49:u:19:VAL:HG21	49:u:36:VAL:O	1.98	0.62
1:1:1800:C:O2'	1:1:1801:A:OP2	2.15	0.62
1:1:2112:G:OP1	1:1:2119:A:N6	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:259:ASN:ND2	55:B:401:HOH:O	2.30	0.62
1:1:993:G:OP2	20:Q:50:ARG:NH2	2.32	0.62
1:1:2780:G:OP2	13:J:120:ARG:NE	2.32	0.62
20:Q:88:GLU:O	21:R:11:GLN:NE2	2.31	0.62
39:k:55:HIS:CE1	55:k:205:HOH:O	2.52	0.62
1:1:13:A:O2'	1:1:15:G:N7	2.32	0.62
17:N:100:CYS:SG	17:N:101:GLY:N	2.72	0.62
1:1:126:A:O2'	1:1:127:A:O4'	2.17	0.62
2:2:380:G:N2	2:2:383:A:OP2	2.29	0.62
7:B:41:GLY:O	7:B:49:THR:N	2.27	0.62
7:B:259:ASN:C	7:B:261:ARG:H	2.06	0.62
43:o:14:ASP:OD2	43:o:16:ARG:N	2.33	0.62
1:1:1357:C:H42	1:1:1374:G:H1	1.48	0.62
1:1:1668:A:N3	1:1:1670:C:N4	2.47	0.62
2:2:171:A:O2'	2:2:172:A:O4'	2.15	0.62
8:C:49:GLN:NE2	8:C:79:LEU:HB3	2.15	0.62
2:2:126:G:OP1	2:2:633:G:N2	2.33	0.62
18:O:94:ARG:NH2	18:O:97:PHE:O	2.32	0.62
41:m:74:ILE:HD12	41:m:128:VAL:HG22	1.81	0.62
1:1:1203:U:OP2	1:1:1204:A:O2'	2.16	0.62
1:1:1653:G:O6	17:N:11:ASN:N	2.32	0.62
1:1:2200:C:OP1	27:X:36:ARG:N	2.33	0.62
1:1:1837:C:O2'	1:1:1927:A:N3	2.30	0.62
10:E:128:SER:O	10:E:129:MET:HE2	2.00	0.62
40:l:89:GLU:OE1	40:l:90:VAL:N	2.33	0.62
1:1:2496:C:O2'	1:1:2497:A:O4'	2.18	0.61
2:2:85:U:OP2	2:2:87:C:N4	2.32	0.61
9:D:48:THR:HG23	9:D:50:ALA:H	1.65	0.61
42:n:16:ALA:HB2	42:n:77:ALA:HB1	1.82	0.61
1:1:2178:C:O2'	6:A:168:ASN:ND2	2.33	0.61
1:1:627:A:H5''	15:L:78:ARG:HH12	1.64	0.61
1:1:1583:A:O2'	1:1:1585:C:N4	2.33	0.61
2:2:1377:A:OP1	40:l:94:ARG:NH1	2.33	0.61
1:1:788:A:H1'	32:d:4:THR:HG21	1.82	0.61
44:p:12:ARG:NH1	55:p:201:HOH:O	2.23	0.61
44:p:92:ARG:HB3	55:p:202:HOH:O	2.00	0.61
1:1:61:C:OP2	28:Y:47:ARG:NH1	2.34	0.61
1:1:244:A:OP2	33:e:7:ARG:NH1	2.34	0.61
1:1:2160:C:C5'	55:l:3506:HOH:O	2.48	0.61
2:2:1097:C:O2'	2:2:1169:A:N3	2.30	0.61
24:U:96:LYS:O	24:U:97:SER:OG	2.17	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:t:42:PHE:O	48:t:52:ARG:NH2	2.32	0.61
8:C:113:SER:N	8:C:168:GLU:O	2.34	0.61
9:D:46:GLN:HB3	9:D:83:VAL:HG11	1.82	0.61
10:E:18:GLU:HB3	55:E:310:HOH:O	1.99	0.61
1:1:2583:G:O2'	1:1:2584:U:O4'	2.18	0.61
2:2:303:A:HO2'	2:2:555:U:HO2'	1.46	0.61
18:O:25:ARG:NH1	18:O:41:ALA:O	2.33	0.61
45:q:89:LEU:HD12	45:q:91:GLY:H	1.65	0.61
1:1:674:G:O2'	9:D:62:GLN:NE2	2.34	0.61
2:2:1237:C:O4'	2:2:1334:G:N2	2.34	0.61
8:C:8:LYS:NZ	8:C:193:VAL:O	2.23	0.61
10:E:64:PRO:HB3	10:E:88:VAL:HG22	1.82	0.61
22:S:68:ASP:C	22:S:69:LEU:HD12	2.26	0.61
39:k:47:LEU:HD13	39:k:49:TYR:O	2.01	0.61
1:1:1217:U:OP1	20:Q:14:LYS:NZ	2.26	0.60
6:A:13:GLU:HA	55:A:303:HOH:O	2.01	0.60
1:1:1753:G:N2	1:1:1756:G:O5'	2.33	0.60
13:J:129:GLU:OE1	13:J:130:HIS:N	2.34	0.60
1:1:848:C:H2'	1:1:849:A:H8	1.66	0.60
1:1:873:C:O3'	16:M:62:LYS:NZ	2.34	0.60
1:1:1470:A:N6	1:1:1521:G:O2'	2.33	0.60
1:1:2847:U:OP1	19:P:95:LYS:NZ	2.28	0.60
1:1:2315:G:N3	10:E:124:ARG:NH2	2.50	0.60
1:1:518:G:O2'	22:S:18:ARG:NH1	2.35	0.60
1:1:2114:A:H3'	1:1:2115:G:H8	1.65	0.60
6:A:184:LYS:NZ	55:A:302:HOH:O	2.34	0.60
42:n:34:LEU:O	42:n:39:GLY:N	2.33	0.60
42:n:49:GLN:CG	55:n:202:HOH:O	2.22	0.60
48:t:14:PHE:O	48:t:26:VAL:HG22	2.02	0.60
1:1:27:G:O2'	1:1:512:G:N2	2.34	0.60
2:2:1073:U:OP1	38:j:61:LYS:NZ	2.35	0.60
2:2:1422:G:O3'	14:K:49:ARG:NH1	2.32	0.60
3:3:7:G:O2'	18:O:38:GLN:NE2	2.34	0.60
19:P:59:THR:CG2	19:P:72:VAL:HG12	2.26	0.60
21:R:54:VAL:HG23	21:R:55:ASP:H	1.65	0.60
2:2:1359:C:H3'	47:s:74:ARG:HH22	1.66	0.60
10:E:62:GLN:NE2	10:E:89:THR:O	2.35	0.60
15:L:29:LYS:HD2	15:L:30:THR:HG23	1.84	0.60
38:j:156:ARG:HH11	41:m:100:ILE:HG21	1.67	0.60
41:m:60:LEU:H	41:m:60:LEU:HD23	1.65	0.60
1:1:918:A:N3	3:3:80:U:O2'	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1912:A:H5''	55:1:3613:HOH:O	1.94	0.60
14:K:110:GLU:O	14:K:113:MET:HE2	2.02	0.60
2:2:1144:G:N2	2:2:1146:A:H62	1.99	0.60
1:1:881:G:N2	1:1:895:U:O2'	2.34	0.59
1:1:2051:A:O2'	1:1:2614:A:N6	2.34	0.59
2:2:1376:U:OP2	40:l:24:LYS:NZ	2.29	0.59
16:M:41:LEU:O	16:M:94:ALA:N	2.33	0.59
23:T:91:GLN:OE1	23:T:91:GLN:N	2.32	0.59
32:d:34:ARG:NH1	32:d:41:ARG:O	2.34	0.59
37:i:155:LYS:NZ	37:i:177:MET:SD	2.75	0.59
41:m:77:VAL:HG12	41:m:84:ILE:HD13	1.82	0.59
1:1:142:A:O2'	1:1:143:C:O5'	2.16	0.59
1:1:866:A:O4'	1:1:914:G:N2	2.34	0.59
1:1:1268:A:C4	1:1:2013:A:N6	2.70	0.59
1:1:116:C:H1'	1:1:127:A:H1'	1.84	0.59
2:2:109:A:H62	2:2:324:G:H1'	1.66	0.59
2:2:1204:A:O2'	2:2:1205:U:O4'	2.20	0.59
2:2:1238:A:N7	2:2:1303:C:H1'	2.16	0.59
13:J:101:ILE:HG21	13:J:124:VAL:HG21	1.84	0.59
42:n:29:ILE:N	42:n:32:ARG:O	2.30	0.59
1:1:1343:G:HO2'	1:1:1344:U:P	2.23	0.59
47:s:16:ALA:O	47:s:21:ALA:HB3	2.02	0.59
1:1:558:U:OP1	13:J:114:LEU:N	2.34	0.59
1:1:1534:U:O2'	1:1:1537:G:O6	2.20	0.59
1:1:2831:G:OP2	8:C:59:ARG:NH1	2.36	0.59
2:2:658:C:H1'	48:t:21:THR:HG21	1.84	0.59
46:r:95:PRO:HG3	46:r:108:ARG:CA	2.31	0.59
1:1:254:G:N7	33:e:4:LYS:NZ	2.49	0.59
1:1:1469:A:OP2	1:1:1522:A:N6	2.36	0.59
35:g:34:ARG:NH1	44:p:124:LYS:O	2.35	0.59
37:i:20:LEU:HD21	37:i:63:ILE:HA	1.83	0.59
1:1:621:A:OP2	15:L:99:ASN:ND2	2.35	0.59
2:2:181:A:N6	2:2:195:A:OP2	2.36	0.59
6:A:51:ASP:OD2	6:A:54:LYS:NZ	2.34	0.59
8:C:178:VAL:HG12	8:C:179:ARG:HD3	1.85	0.59
1:1:2024:G:O3'	8:C:154:LYS:NZ	2.22	0.59
19:P:83:ILE:O	19:P:83:ILE:HG22	2.03	0.59
1:1:307:G:N1	1:1:310:A:OP2	2.35	0.59
2:2:185:U:O2	53:y:75:LYS:NZ	2.35	0.59
2:2:1305:G:H22	2:2:1331:G:H2'	1.67	0.59
29:Z:36:GLU:O	29:Z:37:ARG:NH1	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:124:SER:CB	55:l:206:HOH:O	2.51	0.59
1:1:851:C:H2'	1:1:852:U:C6	2.37	0.59
2:2:1093:A:OP1	40:l:3:ARG:NH2	2.33	0.59
6:A:56:ASP:O	6:A:203:GLN:NE2	2.35	0.59
10:E:32:LYS:CE	55:E:305:HOH:O	2.39	0.59
40:l:125:ASP:O	40:l:130:LYS:N	2.35	0.59
42:n:62:LEU:HD23	42:n:64:ILE:HD11	1.85	0.59
46:r:96:VAL:O	46:r:96:VAL:HG23	2.03	0.59
53:y:52:GLU:OE1	53:y:52:GLU:N	2.32	0.59
1:1:1643:G:O2'	1:1:1644:C:OP1	2.21	0.58
1:1:1666:G:O2'	14:K:6:THR:HG22	2.03	0.58
1:1:2249:U:N3	1:1:2253:G:OP2	2.36	0.58
34:f:5:ALA:C	34:f:38:GLY:HA2	2.28	0.58
37:i:104:MET:SD	37:i:170:LEU:HD13	2.43	0.58
1:1:784:G:O4'	7:B:225:ASN:ND2	2.32	0.58
1:1:1519:G:O2'	1:1:1520:U:O5'	2.14	0.58
40:l:142:ARG:HD2	55:l:205:HOH:O	2.02	0.58
1:1:2777:G:H5'	1:1:2781:A:H1'	1.85	0.58
2:2:90:C:N4	55:2:1724:HOH:O	2.36	0.58
43:o:10:LEU:CB	43:o:98:VAL:HG12	2.33	0.58
42:n:20:ILE:HD13	42:n:62:LEU:HD13	1.85	0.58
1:1:96:C:OP1	28:Y:39:GLN:NE2	2.37	0.58
40:l:4:ARG:HG3	40:l:6:ILE:HG23	1.85	0.58
47:s:20:PHE:HZ	47:s:27:LYS:HB3	1.68	0.58
2:2:346:G:OP1	19:P:38:ARG:NH2	2.35	0.58
2:2:407:U:H2'	2:2:408:A:C8	2.38	0.58
34:f:7:VAL:HG11	34:f:36:ARG:O	2.04	0.58
1:1:2249:U:O2'	1:1:2252:G:OP2	2.22	0.58
1:1:2657:A:O3'	11:F:159:LYS:NZ	2.36	0.58
3:3:49:C:OP1	18:O:102:ARG:HG2	2.03	0.58
15:L:78:ARG:HB3	15:L:113:ALA:CB	2.34	0.58
23:T:83:ALA:O	23:T:85:VAL:HG23	2.02	0.58
52:x:80:ARG:NH2	55:x:103:HOH:O	2.31	0.58
2:2:1054:C:N4	55:2:1727:HOH:O	2.37	0.58
17:N:90:ARG:HH12	17:N:116:VAL:HG11	1.69	0.58
41:m:22:ALA:O	41:m:62:LEU:N	2.37	0.58
42:n:66:VAL:HG11	42:n:78:ILE:HG13	1.86	0.58
42:n:66:VAL:HG11	42:n:78:ILE:CG1	2.34	0.58
45:q:120:ARG:O	45:q:122:LYS:N	2.37	0.58
1:1:547:A:C4	55:1:3404:HOH:O	2.57	0.58
1:1:980:A:N6	1:1:981:A:N1	2.52	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1309:G:OP1	32:d:9:VAL:HG12	2.04	0.58
1:1:1568:G:OP1	7:B:62:ARG:NH1	2.35	0.58
1:1:2160:C:H5''	55:1:3506:HOH:O	2.03	0.57
6:A:39:VAL:O	6:A:39:VAL:HG23	2.02	0.57
7:B:131:MET:O	7:B:134:ILE:HG22	2.03	0.57
7:B:167:ASP:N	7:B:170:TYR:O	2.36	0.57
10:E:134:GLN:N	10:E:134:GLN:OE1	2.36	0.57
22:S:4:ILE:HB	22:S:106:VAL:HG12	1.85	0.57
2:2:407:U:H2'	2:2:408:A:H8	1.68	0.57
12:G:103:VAL:HB	12:G:108:VAL:HG23	1.86	0.57
33:e:31:ILE:HG13	33:e:35:LYS:NZ	2.19	0.57
36:h:163:ARG:NH2	36:h:165:GLU:OE2	2.37	0.57
39:k:3:HIS:NE2	39:k:65:GLU:OE1	2.37	0.57
40:l:139:ASP:OD1	40:l:142:ARG:NH2	2.37	0.57
47:s:87:ALA:HB2	47:s:92:ILE:HD12	1.85	0.57
48:t:86:LEU:HD12	48:t:87:ARG:HB2	1.87	0.57
1:1:1817:G:N1	1:1:1818:U:O2	2.37	0.57
1:1:2291:U:H2'	1:1:2292:U:C6	2.39	0.57
2:2:14:U:N3	2:2:17:U:OP2	2.35	0.57
2:2:522:C:H41	45:q:49:ARG:NH2	2.01	0.57
10:E:32:LYS:HA	10:E:95:MET:HE2	1.86	0.57
15:L:29:LYS:O	15:L:30:THR:OG1	2.19	0.57
20:Q:85:ALA:O	20:Q:86:SER:OG	2.17	0.57
25:V:29:ILE:HD12	25:V:38:LEU:O	2.04	0.57
40:l:81:GLY:CA	55:l:202:HOH:O	2.51	0.57
50:v:77:VAL:HG23	50:v:77:VAL:O	2.05	0.57
2:2:380:G:N1	2:2:384:G:O6	2.37	0.57
2:2:587:G:N2	2:2:754:C:OP2	2.34	0.57
6:A:175:ILE:HG22	6:A:192:LEU:HD11	1.86	0.57
6:A:178:VAL:HG23	6:A:179:ASP:OD1	2.04	0.57
44:p:12:ARG:CD	55:p:201:HOH:O	2.51	0.57
1:1:1801:A:N6	1:1:2201:G:O2'	2.37	0.57
14:K:106:GLU:OE1	14:K:106:GLU:N	2.37	0.57
43:o:70:HIS:C	43:o:71:LEU:HD22	2.29	0.57
1:1:2849:U:N3	1:1:2867:G:O4'	2.37	0.57
2:2:254:G:OP1	50:v:69:THR:HG22	2.04	0.57
6:A:175:ILE:HG22	6:A:192:LEU:CD1	2.34	0.57
24:U:3:LYS:O	24:U:93:ARG:NH2	2.36	0.57
27:X:32:LEU:HD21	27:X:49:ARG:HG3	1.86	0.57
1:1:282:A:H1'	55:1:3710:HOH:O	2.04	0.57
35:g:11:PHE:CD2	35:g:15:LEU:HG	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:121:ALA:O	37:i:145:ARG:N	2.38	0.57
37:i:201:GLU:OE2	38:j:105:ILE:N	2.37	0.57
1:1:381:G:OP1	27:X:17:ARG:NH2	2.37	0.57
2:2:509:A:H4'	37:i:47:LEU:HD11	1.87	0.57
8:C:102:ALA:HA	8:C:180:VAL:HG21	1.86	0.57
15:L:62:PRO:HG3	33:e:25:HIS:O	2.03	0.57
20:Q:16:ILE:HD11	20:Q:38:VAL:HG11	1.87	0.57
23:T:3:ARG:O	23:T:7:LEU:HG	2.05	0.57
1:1:1730:C:O2'	1:1:1731:G:OP2	2.14	0.57
1:1:1966:A:N3	1:1:2592:G:O2'	2.31	0.57
2:2:671:G:O3'	39:k:79:ARG:NH2	2.38	0.57
2:2:719:C:O2	51:w:38:ILE:HG22	2.04	0.57
2:2:1240:U:OP1	40:l:118:ARG:NH2	2.36	0.57
11:F:95:ALA:N	11:F:127:GLN:O	2.38	0.57
1:1:1798:U:H5''	7:B:257:ARG:HB2	1.85	0.56
2:2:413:G:N1	37:i:30:LYS:O	2.38	0.56
2:2:867:G:H21	2:2:873:A:H2	1.51	0.56
36:h:39:ARG:HG3	36:h:54:ILE:HD13	1.86	0.56
42:n:62:LEU:HD21	42:n:82:ILE:HD11	1.87	0.56
1:1:817:C:H2'	1:1:818:G:C8	2.41	0.56
37:i:94:GLU:OE2	37:i:99:ASN:ND2	2.38	0.56
1:1:395:U:O2'	1:1:396:G:O5'	2.09	0.56
1:1:2073:C:H5''	7:B:227:VAL:HG12	1.86	0.56
1:1:2230:G:H2'	1:1:2231:U:C6	2.39	0.56
2:2:673:A:H2'	2:2:674:G:C8	2.40	0.56
2:2:933:G:N2	2:2:935:A:O4'	2.38	0.56
2:2:1347:G:H8	42:n:108:ARG:HB3	1.71	0.56
2:2:1436:U:O4	2:2:1437:A:N6	2.38	0.56
14:K:14:SER:HA	14:K:51:LYS:HE2	1.85	0.56
47:s:30:ILE:CG2	47:s:43:ALA:HB2	2.31	0.56
2:2:1440:U:O2'	2:2:1441:A:N7	2.37	0.56
2:2:1332:A:H1'	46:r:108:ARG:HH21	1.70	0.56
53:y:53:MET:O	53:y:57:VAL:HG22	2.05	0.56
1:1:2009:A:O2'	17:N:107:ASN:ND2	2.38	0.56
23:T:48:GLN:OE1	23:T:55:VAL:N	2.38	0.56
35:g:3:ILE:HD12	51:w:71:ASP:OD1	2.05	0.56
1:1:361:G:H4'	55:1:3513:HOH:O	2.04	0.56
1:1:966:G:H1'	1:1:2267:A:H62	1.71	0.56
45:q:106:VAL:HG22	45:q:118:VAL:HG22	1.87	0.56
2:2:996:A:H2'	2:2:997:U:C6	2.41	0.56
1:1:805:G:OP2	1:1:806:C:N4	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2519:U:O4'	1:1:2542:A:N6	2.39	0.56
2:2:1095:U:OP2	2:2:1108:G:N2	2.33	0.56
39:k:55:HIS:HE1	55:k:205:HOH:O	1.89	0.56
41:m:86:LYS:HG3	55:m:302:HOH:O	2.05	0.56
1:1:319:G:OP1	9:D:132:LYS:NZ	2.39	0.56
1:1:2390:U:O5'	33:e:34:LYS:NZ	2.27	0.56
2:2:1329:A:H5''	46:r:24:VAL:HA	1.88	0.56
2:2:1379:G:O6	40:l:1:PRO:N	2.35	0.56
48:t:45:HIS:O	48:t:52:ARG:NH2	2.36	0.56
1:1:1055:G:H1	1:1:1104:C:H42	1.52	0.55
1:1:1169:A:H61	1:1:1180:U:H3	1.52	0.55
2:2:449:G:H2'	2:2:450:G:C8	2.41	0.55
10:E:135:ILE:HG22	10:E:135:ILE:O	2.05	0.55
13:J:44:TYR:O	20:Q:63:ARG:NE	2.29	0.55
38:j:10:LEU:HD23	38:j:10:LEU:H	1.71	0.55
1:1:1854:A:N6	1:1:1888:G:O2'	2.38	0.55
2:2:128:G:OP1	50:v:5:ARG:NH2	2.39	0.55
2:2:719:C:H42	51:w:59:LYS:HE2	1.70	0.55
2:2:1059:C:O2'	43:o:55:PRO:HD3	2.05	0.55
8:C:34:VAL:HG23	8:C:93:GLY:H	1.70	0.55
11:F:46:ASP:OD2	11:F:46:ASP:N	2.38	0.55
37:i:143:SER:OG	37:i:144:ILE:N	2.40	0.55
42:n:49:GLN:CD	55:n:202:HOH:O	2.47	0.55
1:1:2332:C:OP1	26:W:73:ARG:NH2	2.38	0.55
2:2:373:A:H61	2:2:391:G:H1'	1.71	0.55
2:2:1028:C:H5'	55:2:1808:HOH:O	2.06	0.55
51:w:17:VAL:HG22	51:w:18:GLN:H	1.72	0.55
1:1:227:A:HO2'	1:1:228:C:P	2.29	0.55
1:1:579:G:O2'	1:1:2019:A:OP1	2.24	0.55
1:1:739:A:N3	1:1:740:C:N4	2.51	0.55
7:B:166:ARG:NE	7:B:168:GLY:O	2.39	0.55
46:r:15:VAL:HG13	46:r:33:LEU:HD22	1.88	0.55
1:1:704:G:O2'	1:1:726:G:N2	2.38	0.55
2:2:714:G:O2'	2:2:777:A:N7	2.36	0.55
14:K:104:THR:HG22	14:K:106:GLU:H	1.71	0.55
30:b:29:VAL:HG22	30:b:36:LYS:HD3	1.88	0.55
1:1:1424:G:C2'	1:1:1425:G:O5'	2.54	0.55
2:2:984:C:H2'	2:2:985:C:C6	2.41	0.55
10:E:146:ASP:HB3	55:E:306:HOH:O	2.06	0.55
37:i:58:GLN:OE1	37:i:62:ARG:NE	2.31	0.55
38:j:104:ILE:HD13	38:j:111:ARG:HH22	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:x:26:ASP:O	52:x:28:LYS:N	2.39	0.55
1:1:2126:A:H2'	1:1:2162:G:N2	2.22	0.55
1:1:2564:A:N1	1:1:2647:U:H4'	2.21	0.55
6:A:34:ALA:HB1	6:A:178:VAL:HG21	1.88	0.55
40:l:4:ARG:CG	40:l:6:ILE:HG23	2.36	0.55
1:1:48:G:N2	1:1:177:G:OP2	2.36	0.55
1:1:414:C:O3'	1:1:1878:G:N2	2.37	0.55
1:1:1007:C:OP2	1:1:1008:A:O2'	2.21	0.55
1:1:1343:G:O2'	1:1:1344:U:P	2.64	0.55
1:1:1790:C:O2'	7:B:207:ALA:HB2	2.06	0.55
2:2:973:G:O3'	47:s:80:ARG:NH2	2.39	0.55
10:E:36:ASN:OD1	10:E:37:MET:N	2.40	0.55
1:1:647:G:N2	1:1:2350:C:O2'	2.39	0.55
1:1:1816:C:N4	55:1:3432:HOH:O	2.38	0.55
25:V:28:ALA:N	25:V:40:ILE:O	2.39	0.55
46:r:91:ARG:HB2	55:r:302:HOH:O	2.06	0.55
46:r:95:PRO:HA	46:r:108:ARG:HB2	1.89	0.55
1:1:1940:U:O2'	1:1:1941:C:OP2	2.24	0.55
2:2:1017:U:H2'	2:2:1018:G:C8	2.42	0.55
9:D:143:LEU:HB3	9:D:146:VAL:HG12	1.88	0.55
12:G:3:VAL:HG12	12:G:36:ALA:HB1	1.89	0.55
26:W:39:THR:HG22	26:W:42:HIS:HD2	1.72	0.55
39:k:17:GLN:O	39:k:21:MET:HG3	2.07	0.55
40:l:12:LEU:HD12	40:l:13:PRO:HD2	1.88	0.55
45:q:82:ARG:NH1	45:q:83:GLY:O	2.40	0.55
1:1:547:A:C8	55:1:3404:HOH:O	2.58	0.54
2:2:81:A:H1'	55:2:1754:HOH:O	2.07	0.54
2:2:939:G:O3'	40:l:101:ARG:NH1	2.40	0.54
13:J:38:GLY:C	13:J:40:HIS:H	2.15	0.54
16:M:25:ASP:O	16:M:66:ARG:NH1	2.40	0.54
16:M:57:VAL:HG23	16:M:58:LYS:N	2.23	0.54
32:d:24:THR:O	32:d:28:ARG:NE	2.39	0.54
40:l:80:GLY:HA2	55:l:201:HOH:O	2.04	0.54
1:1:2140:G:N1	1:1:2152:G:N7	2.56	0.54
1:1:2312:U:H5'	10:E:84:ILE:HD11	1.90	0.54
40:l:18:GLY:CA	55:l:204:HOH:O	2.53	0.54
44:p:54:SER:O	44:p:58:THR:HG23	2.07	0.54
1:1:434:U:O2	1:1:435:C:N4	2.37	0.54
1:1:2747:G:O2'	11:F:66:THR:HG22	2.06	0.54
2:2:203:G:N2	2:2:204:G:O6	2.41	0.54
19:P:59:THR:HG22	19:P:72:VAL:CG1	2.31	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:v:10:ARG:O	50:v:23:ALA:N	2.40	0.54
1:1:529:A:OP2	13:J:116:ARG:NH2	2.41	0.54
15:L:62:PRO:HG2	33:e:24:LYS:HB3	1.88	0.54
17:N:2:ARG:O	17:N:5:LYS:HB2	2.07	0.54
42:n:57:VAL:HG13	42:n:58:GLU:N	2.23	0.54
45:q:50:LYS:HB2	45:q:66:ILE:HD11	1.89	0.54
45:q:71:HIS:HD2	55:q:202:HOH:O	1.78	0.54
46:r:14:ALA:HB1	46:r:33:LEU:HD21	1.88	0.54
47:s:20:PHE:CZ	47:s:27:LYS:HB3	2.42	0.54
50:v:14:ASP:O	50:v:16:MET:SD	2.66	0.54
1:1:784:G:C6	7:B:227:VAL:HG11	2.42	0.54
1:1:1583:A:HO2'	1:1:1585:C:N4	2.06	0.54
2:2:138:G:N7	55:2:1733:HOH:O	2.40	0.54
19:P:52:ARG:N	19:P:56:SER:OG	2.41	0.54
41:m:91:LEU:HD21	41:m:115:ALA:HB3	1.90	0.54
45:q:34:THR:HB	45:q:53:ARG:CB	2.35	0.54
1:1:195:A:H61	1:1:198:C:H3'	1.72	0.54
1:1:2305:U:H5''	10:E:130:GLY:HA3	1.90	0.54
2:2:85:U:H5	55:2:1882:HOH:O	1.90	0.54
14:K:99:ILE:HD13	14:K:118:LEU:HB2	1.89	0.54
49:u:75:ILE:O	49:u:80:LYS:NZ	2.40	0.54
52:x:29:PRO:C	52:x:30:LEU:HD12	2.33	0.54
1:1:488:G:N1	1:1:491:G:OP2	2.41	0.54
1:1:674:G:N3	9:D:69:ARG:NH2	2.54	0.54
1:1:2843:G:H1	1:1:2874:C:H42	1.56	0.54
6:A:182:ALA:N	55:A:301:HOH:O	2.40	0.54
25:V:69:GLU:OE1	25:V:69:GLU:N	2.41	0.54
47:s:20:PHE:HZ	47:s:27:LYS:H	1.54	0.54
1:1:2143:C:H2'	1:1:2144:G:O4'	2.07	0.54
17:N:41:ALA:HB1	17:N:113:ILE:HG21	1.89	0.54
20:Q:91:ARG:HD2	55:Q:301:HOH:O	2.06	0.54
42:n:16:ALA:CB	42:n:66:VAL:HG12	2.36	0.54
1:1:642:U:O2'	1:1:644:A:N7	2.38	0.54
1:1:1798:U:O2'	1:1:1802:A:N3	2.40	0.54
2:2:714:G:H2'	2:2:715:A:C8	2.43	0.54
9:D:5:LEU:HD23	9:D:6:LYS:N	2.23	0.54
23:T:30:ILE:HD11	23:T:87:LEU:HD11	1.90	0.54
38:j:45:VAL:O	38:j:71:ILE:N	2.37	0.54
45:q:32:VAL:HG22	45:q:78:VAL:HG22	1.89	0.54
49:u:51:ARG:O	49:u:52:LEU:HD12	2.08	0.54
50:v:36:PHE:HB2	55:v:103:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:28:VAL:HG21	9:D:108:ILE:CG2	2.38	0.54
10:E:50:ASP:CB	55:E:314:HOH:O	2.56	0.54
24:U:26:ASN:OD1	24:U:34:ILE:HD12	2.08	0.54
1:1:371:A:H61	1:1:401:A:H3'	1.72	0.53
2:2:873:A:O2'	2:2:874:G:OP1	2.23	0.53
2:2:1038:C:H2'	2:2:1039:G:C8	2.43	0.53
13:J:84:ILE:HG23	13:J:84:ILE:O	2.07	0.53
40:l:61:PHE:CZ	40:l:100:MET:HE1	2.43	0.53
45:q:56:LEU:HD12	45:q:60:PHE:HB2	1.90	0.53
1:1:683:U:HO2'	1:1:684:G:P	2.29	0.53
1:1:1681:G:O2'	1:1:1762:A:N3	2.36	0.53
2:2:148:G:H1	2:2:174:A:N6	1.96	0.53
1:1:1219:U:OP2	20:Q:18:LYS:NZ	2.34	0.53
1:1:2128:G:O3'	6:A:7:ARG:NH1	2.37	0.53
2:2:15:G:O4'	2:2:1396:A:O2'	2.26	0.53
39:k:62:MET:CE	55:k:207:HOH:O	2.36	0.53
2:2:1279:G:O2'	2:2:1282:C:N4	2.42	0.53
11:F:142:GLN:O	11:F:142:GLN:NE2	2.40	0.53
15:L:96:LYS:CG	15:L:101:ILE:HD11	2.39	0.53
25:V:26:PHE:CZ	25:V:47:VAL:HG11	2.43	0.53
34:f:7:VAL:HG22	34:f:38:GLY:HA3	1.91	0.53
46:r:14:ALA:CB	46:r:33:LEU:HD21	2.38	0.53
46:r:18:LEU:O	46:r:21:ILE:HG22	2.08	0.53
46:r:95:PRO:HG3	46:r:108:ARG:C	2.33	0.53
1:1:60:G:N7	1:1:62:U:N3	2.57	0.53
1:1:1251:C:OP2	20:Q:5:ARG:NE	2.36	0.53
1:1:1864:U:O2	1:1:1878:G:O6	2.26	0.53
1:1:2176:A:O2'	6:A:45:ALA:HB2	2.09	0.53
2:2:1144:G:H22	2:2:1146:A:H62	1.54	0.53
9:D:28:VAL:HG21	9:D:108:ILE:HG21	1.90	0.53
14:K:64:ARG:NH1	14:K:102:PRO:O	2.40	0.53
22:S:4:ILE:CA	22:S:106:VAL:HG12	2.37	0.53
1:1:482:A:O2'	1:1:497:A:N1	2.40	0.53
1:1:1827:U:H2'	1:1:1828:G:O4'	2.09	0.53
1:1:2474:U:OP2	1:1:2475:C:N4	2.40	0.53
25:V:30:ILE:HG22	25:V:91:PHE:CB	2.38	0.53
35:g:11:PHE:CG	35:g:12:ASP:N	2.76	0.53
1:1:322:A:O4'	1:1:340:A:H1'	2.09	0.53
1:1:587:C:O2	15:L:33:ARG:NH1	2.37	0.53
2:2:950:U:H2'	2:2:951:G:C8	2.44	0.53
2:2:1503:A:N6	2:2:1532:U:O2'	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:5:3:G:O2'	5:5:4:C:P	2.67	0.53
14:K:88:ASN:ND2	14:K:90:ASN:OD1	2.42	0.53
43:o:5:ARG:N	43:o:76:ILE:O	2.41	0.53
1:1:464:U:HO2'	1:1:465:G:C1'	2.22	0.53
1:1:1453:A:O2'	1:1:1454:C:P	2.65	0.53
1:1:1844:C:C2	1:1:1897:G:N2	2.76	0.53
2:2:130:A:O2'	2:2:131:A:O5'	2.18	0.53
17:N:114:GLU:HB2	17:N:118:ARG:HD2	1.90	0.53
30:b:42:ILE:HG22	30:b:48:TYR:HB2	1.90	0.53
45:q:85:ARG:HG2	45:q:93:ARG:HB2	1.90	0.53
48:t:38:LEU:HD22	48:t:55:LEU:HD22	1.91	0.53
1:1:2251:G:OP1	16:M:81:ARG:NH1	2.42	0.53
2:2:592:G:O6	2:2:648:A:N6	2.42	0.53
2:2:1296:C:N4	2:2:1297:G:O6	2.42	0.53
38:j:45:VAL:HG12	38:j:46:GLY:N	2.24	0.53
40:l:61:PHE:CE2	40:l:100:MET:HE1	2.43	0.53
42:n:54:VAL:HG23	42:n:55:ASP:H	1.73	0.53
1:1:1276:A:O2'	17:N:16:HIS:NE2	2.40	0.53
1:1:1799:G:C6	7:B:175:LEU:HD12	2.43	0.53
40:l:95:ARG:HA	40:l:98:LEU:HD12	1.90	0.53
1:1:1779:U:H1'	1:1:1783:A:H62	1.74	0.52
27:X:53:LYS:O	27:X:57:VAL:HG23	2.09	0.52
38:j:137:ARG:NH1	55:j:201:HOH:O	2.27	0.52
40:l:147:ASN:OD1	44:p:97:ARG:NH1	2.42	0.52
1:1:989:G:C5	29:Z:13:ILE:HD11	2.43	0.52
2:2:264:C:O2'	50:v:65:PRO:O	2.27	0.52
10:E:39:VAL:HG21	10:E:48:LEU:CD2	2.40	0.52
17:N:115:LEU:C	17:N:117:ASP:N	2.67	0.52
40:l:124:SER:HB3	55:l:206:HOH:O	2.10	0.52
41:m:91:LEU:HD23	41:m:116:ARG:HG3	1.90	0.52
1:1:1907:G:O6	1:1:1924:C:N4	2.42	0.52
2:2:844:G:N3	2:2:844:G:H2'	2.24	0.52
25:V:6:ALA:HB1	25:V:40:ILE:CG2	2.39	0.52
40:l:49:LEU:HD22	40:l:123:LEU:HD23	1.91	0.52
42:n:39:GLY:O	42:n:40:ARG:NE	2.42	0.52
1:1:1028:A:OP2	1:1:1126:A:N6	2.28	0.52
1:1:1789:A:H2'	1:1:1790:C:O4'	2.09	0.52
2:2:689:C:OP1	44:p:45:THR:HG21	2.10	0.52
2:2:1249:C:O2'	42:n:69:GLY:O	2.23	0.52
2:2:1308:U:O4'	46:r:96:VAL:C	2.52	0.52
2:2:1492:A:H2'	2:2:1493:A:C5	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:q:73:LEU:HD23	45:q:73:LEU:H	1.75	0.52
1:1:248:G:O2'	1:1:2432:A:OP1	2.21	0.52
2:2:695:A:H2	2:2:787:A:HO2'	1.55	0.52
2:2:985:C:H2'	2:2:986:U:C6	2.43	0.52
2:2:1135:U:HO2'	2:2:1138:G:H1	1.56	0.52
7:B:106:PRO:CD	7:B:109:LEU:HD12	2.40	0.52
1:1:981:A:OP2	1:1:982:C:N4	2.42	0.52
2:2:1017:U:H2'	2:2:1018:G:H8	1.73	0.52
7:B:259:ASN:O	7:B:261:ARG:N	2.43	0.52
20:Q:88:GLU:OE1	20:Q:88:GLU:N	2.43	0.52
1:1:370:G:O2'	1:1:424:G:OP1	2.28	0.52
1:1:569:U:O2'	1:1:971:G:N2	2.39	0.52
1:1:1084:A:N3	1:1:1105:U:O2'	2.33	0.52
1:1:1087:G:H1	1:1:1102:C:H42	1.58	0.52
1:1:1920:C:H5'	2:2:1517:G:C2	2.45	0.52
1:1:2011:U:O2'	22:S:98:LYS:NZ	2.38	0.52
2:2:369:G:H4'	55:2:1787:HOH:O	2.09	0.52
2:2:442:G:H1'	55:2:1825:HOH:O	2.08	0.52
2:2:872:A:O2'	2:2:873:A:O5'	2.23	0.52
13:J:39:LYS:HG2	13:J:44:TYR:CE1	2.44	0.52
33:e:7:ARG:O	33:e:11:LYS:NZ	2.41	0.52
10:E:156:THR:CG2	55:E:305:HOH:O	2.48	0.52
21:R:10:LYS:NZ	21:R:23:GLU:OE2	2.27	0.52
37:i:61:ARG:HH21	37:i:68:GLU:N	2.08	0.52
42:n:24:ASN:OD1	42:n:25:GLY:N	2.40	0.52
45:q:116:TYR:O	45:q:117:GLY:C	2.51	0.52
1:1:1063:G:C8	55:1:3804:HOH:O	2.27	0.52
2:2:738:C:OP1	39:k:4:TYR:OH	2.27	0.52
2:2:1523:G:OP1	44:p:124:LYS:NZ	2.28	0.52
7:B:78:GLU:CG	7:B:94:LEU:HD23	2.39	0.52
28:Y:25:GLN:O	28:Y:29:ARG:NH2	2.43	0.52
29:Z:19:HIS:HD2	29:Z:50:VAL:HG12	1.74	0.52
23:T:72:GLN:OE1	23:T:73:ARG:NH2	2.43	0.52
27:X:70:LEU:HD21	27:X:75:GLU:OE1	2.08	0.52
44:p:112:VAL:O	51:w:72:ARG:NH1	2.42	0.52
1:1:859:G:H22	1:1:916:G:H3'	1.75	0.51
2:2:3:A:N6	2:2:628:G:O2'	2.40	0.51
2:2:373:A:N1	2:2:391:G:O2'	2.33	0.51
2:2:403:C:H2'	2:2:404:G:C8	2.45	0.51
2:2:1268:G:H2'	2:2:1269:A:C8	2.45	0.51
10:E:21:TYR:OH	10:E:27:VAL:N	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:M:6:ARG:NH2	55:M:202:HOH:O	2.37	0.51
42:n:83:THR:HG21	42:n:102:PHE:O	2.10	0.51
1:1:367:G:C2'	1:1:368:A:O5'	2.57	0.51
1:1:1000:A:OP2	1:1:1154:G:N1	2.33	0.51
1:1:1437:C:H2'	1:1:1438:U:C6	2.45	0.51
1:1:2821:A:O3'	8:C:167:ASN:ND2	2.43	0.51
10:E:90:LEU:HD21	10:E:94:ARG:C	2.35	0.51
17:N:96:ARG:NH1	17:N:116:VAL:HG13	2.25	0.51
22:S:70:LYS:O	22:S:72:THR:HG23	2.10	0.51
44:p:25:SER:N	44:p:28:ASN:O	2.43	0.51
1:1:704:G:HO2'	1:1:705:A:P	2.30	0.51
1:1:1255:U:OP2	1:1:2502:G:N2	2.43	0.51
2:2:816:A:OP1	2:2:1526:G:O2'	2.23	0.51
10:E:80:GLN:NE2	55:E:302:HOH:O	2.42	0.51
17:N:29:VAL:O	17:N:78:LYS:NZ	2.32	0.51
45:q:48:LEU:HD23	45:q:50:LYS:NZ	2.26	0.51
1:1:1063:G:C5'	55:1:3515:HOH:O	2.59	0.51
2:2:1098:C:N4	2:2:1099:G:O6	2.44	0.51
12:G:16:GLY:O	12:G:18:GLN:NE2	2.43	0.51
38:j:59:ILE:HG22	38:j:63:MET:HE2	1.93	0.51
43:o:10:LEU:HD23	43:o:10:LEU:H	1.75	0.51
1:1:2073:C:C5'	7:B:227:VAL:HG12	2.41	0.51
2:2:481:G:H1'	2:2:483:C:N4	2.26	0.51
2:2:757:U:O2'	2:2:879:C:O2	2.27	0.51
2:2:1014:A:H8	2:2:1219:A:H1'	1.73	0.51
23:T:11:LEU:HD22	28:Y:26:PHE:HE1	1.75	0.51
27:X:3:VAL:HG12	27:X:10:ARG:CB	2.41	0.51
29:Z:38:GLU:N	29:Z:38:GLU:OE2	2.43	0.51
55:o:204:HOH:O	47:s:98:ALA:CB	2.58	0.51
1:1:84:A:H4'	1:1:85:G:O5'	2.11	0.51
1:1:910:A:H62	16:M:12:MET:HA	1.76	0.51
1:1:967:U:C2	1:1:968:C:C5	2.99	0.51
1:1:1402:U:H3'	1:1:1403:A:H5''	1.92	0.51
1:1:1501:G:OP1	7:B:100:ARG:NH2	2.43	0.51
2:2:813:U:O2'	2:2:814:A:O5'	2.28	0.51
12:G:147:VAL:HG12	12:G:148:ALA:N	2.26	0.51
13:J:62:VAL:HG23	13:J:62:VAL:O	2.10	0.51
24:U:14:THR:N	24:U:68:ASN:OD1	2.38	0.51
25:V:6:ALA:HB2	25:V:42:LEU:HD13	1.92	0.51
41:m:29:SER:OG	41:m:30:LYS:N	2.43	0.51
50:v:24:ILE:O	50:v:41:THR:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1399:C:O2	2:2:1502:A:N6	2.43	0.51
15:L:96:LYS:HG3	15:L:101:ILE:HD11	1.92	0.51
19:P:23:ASP:OD1	19:P:89:GLY:N	2.34	0.51
20:Q:69:ARG:NH2	20:Q:74:SER:OG	2.44	0.51
36:h:14:VAL:HG11	36:h:179:ALA:O	2.10	0.51
46:r:76:ILE:HG22	46:r:80:MET:HE2	1.92	0.51
1:1:685:A:O2'	1:1:773:U:O4	2.21	0.51
1:1:1401:G:O2'	1:1:1402:U:O4'	2.29	0.51
1:1:1454:C:O2'	17:N:60:VAL:HG22	2.11	0.51
2:2:476:U:C2	2:2:477:C:C5	2.99	0.51
13:J:19:ASP:O	13:J:23:LYS:NZ	2.41	0.51
41:m:91:LEU:HD23	41:m:116:ARG:CG	2.40	0.51
42:n:35:GLU:OE1	42:n:35:GLU:N	2.42	0.51
1:1:547:A:C2'	55:1:3404:HOH:O	2.58	0.51
1:1:1168:G:C2	1:1:1169:A:C8	2.99	0.51
1:1:2830:C:H3'	8:C:59:ARG:HH11	1.75	0.51
2:2:296:U:H2'	2:2:297:G:C8	2.46	0.51
2:2:1017:U:H4'	55:2:1954:HOH:O	2.09	0.51
2:2:1396:A:C2	38:j:23:THR:HG21	2.44	0.51
43:o:66:GLU:N	43:o:66:GLU:OE1	2.44	0.51
45:q:93:ARG:O	45:q:93:ARG:HG2	2.10	0.51
1:1:968:C:C2	1:1:969:G:C8	2.99	0.51
1:1:2690:U:N3	17:N:6:SER:O	2.44	0.51
2:2:1298:U:O2	2:2:1299:A:N6	2.44	0.51
36:h:27:GLU:O	36:h:31:ASN:ND2	2.44	0.51
37:i:124:VAL:HG23	37:i:141:VAL:O	2.11	0.51
1:1:189:G:H1	1:1:205:G:HO2'	1.59	0.50
1:1:1535:A:N6	1:1:1538:G:O2'	2.44	0.50
2:2:78:A:N6	55:2:1714:HOH:O	2.32	0.50
2:2:949:A:H2'	2:2:950:U:C6	2.45	0.50
2:2:1078:U:O3'	38:j:137:ARG:NH1	2.44	0.50
44:p:71:ASP:O	44:p:72:ALA:HB3	2.11	0.50
47:s:30:ILE:HG23	47:s:40:ARG:NH2	2.25	0.50
2:2:299:G:N2	55:2:1740:HOH:O	2.44	0.50
6:A:11:ILE:CD1	6:A:35:THR:HG21	2.41	0.50
7:B:76:VAL:C	7:B:93:VAL:HG13	2.36	0.50
46:r:6:ILE:HD11	46:r:65:GLU:OE1	2.11	0.50
1:1:84:A:H62	1:1:101:A:H2	1.59	0.50
1:1:1205:A:HO2'	9:D:165:HIS:HE2	1.57	0.50
1:1:2098:U:H2'	1:1:2099:U:O4'	2.11	0.50
1:1:2142:A:H1'	55:1:3629:HOH:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2553:G:O4'	1:1:2582:G:O2'	2.25	0.50
15:L:68:SER:HB3	15:L:71:ALA:HB3	1.93	0.50
16:M:66:ARG:NH1	16:M:104:GLU:OE2	2.37	0.50
40:l:45:ALA:CB	40:l:119:LEU:HD21	2.42	0.50
1:1:323:C:H2'	1:1:1205:A:N1	2.26	0.50
1:1:2418:A:OP1	33:e:44:ARG:NH1	2.45	0.50
1:1:2643:G:C2'	1:1:2644:G:O5'	2.60	0.50
2:2:1308:U:OP1	46:r:89:ARG:NH2	2.43	0.50
2:2:1314:C:N4	52:x:2:ARG:O	2.44	0.50
8:C:91:THR:HG22	8:C:92:VAL:N	2.23	0.50
9:D:126:VAL:O	9:D:156:ASN:ND2	2.45	0.50
18:O:82:ALA:HB1	18:O:87:ILE:HG23	1.93	0.50
37:i:12:ARG:HA	37:i:33:ILE:HD12	1.93	0.50
1:1:466:A:O3'	32:d:30:VAL:HG13	2.12	0.50
1:1:634:C:H2'	1:1:635:C:O4'	2.11	0.50
1:1:729:G:N7	7:B:207:ALA:HB3	2.27	0.50
2:2:103:U:OP2	53:y:8:LYS:NZ	2.41	0.50
2:2:1146:A:H61	42:n:17:ARG:HH22	1.57	0.50
3:3:43:C:O2	10:E:91:ARG:NE	2.42	0.50
15:L:20:GLY:N	15:L:27:LEU:O	2.44	0.50
29:Z:22:THR:O	29:Z:26:LEU:HD23	2.12	0.50
33:e:6:VAL:O	33:e:6:VAL:HG12	2.11	0.50
1:1:2265:U:OP2	1:1:2266:A:O2'	2.14	0.50
2:2:1251:A:H2'	2:2:1252:A:H8	1.76	0.50
15:L:135:ILE:HG22	15:L:140:GLY:CA	2.39	0.50
51:w:18:GLN:CG	55:w:103:HOH:O	2.59	0.50
1:1:250:G:OP2	33:e:12:ARG:NH2	2.43	0.50
1:1:449:A:O2'	20:Q:2:ARG:NE	2.39	0.50
1:1:1519:G:C2'	1:1:1520:U:O5'	2.59	0.50
20:Q:48:ASP:C	20:Q:50:ARG:N	2.67	0.50
47:s:16:ALA:HA	47:s:54:SER:HB3	1.92	0.50
47:s:48:GLN:N	55:s:201:HOH:O	2.45	0.50
50:v:28:VAL:HG22	50:v:29:LYS:H	1.77	0.50
1:1:820:A:H4'	1:1:836:G:H22	1.75	0.50
1:1:1753:G:N1	1:1:1756:G:OP2	2.44	0.50
2:2:138:G:C5	55:2:1733:HOH:O	2.64	0.50
5:5:48:C:N3	5:5:59:A:N6	2.59	0.50
6:A:35:THR:HG23	6:A:218:MET:HE2	1.94	0.50
21:R:47:VAL:HG12	21:R:47:VAL:O	2.11	0.50
37:i:84:ASN:OD1	38:j:100:GLU:HB2	2.12	0.50
38:j:149:PRO:HA	38:j:152:VAL:HG12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:y:7:LYS:HB2	55:y:102:HOH:O	2.12	0.50
1:1:973:A:O3'	1:1:1186:G:N2	2.45	0.50
1:1:2283:C:OP1	31:c:3:GLY:N	2.45	0.50
1:1:2618:G:N3	8:C:155:VAL:HG21	2.26	0.50
2:2:18:C:O2'	2:2:1078:U:H5	1.95	0.50
2:2:1320:C:OP1	52:x:69:LYS:NZ	2.45	0.50
2:2:1326:U:H2'	2:2:1327:C:C6	2.47	0.50
35:g:11:PHE:CD1	35:g:15:LEU:HD12	2.47	0.50
46:r:57:ASP:O	46:r:61:LYS:NZ	2.41	0.50
46:r:91:ARG:NE	55:r:302:HOH:O	2.45	0.50
1:1:966:G:C1'	1:1:2267:A:H62	2.24	0.49
1:1:1099:G:H2'	1:1:1100:C:C6	2.47	0.49
2:2:31:G:O2'	2:2:48:C:N4	2.44	0.49
2:2:94:G:N2	2:2:96:U:O4	2.45	0.49
2:2:147:G:H2'	2:2:148:G:C8	2.47	0.49
7:B:259:ASN:C	7:B:261:ARG:N	2.66	0.49
10:E:146:ASP:O	10:E:147:ARG:NH1	2.45	0.49
16:M:33:LEU:HD12	16:M:129:THR:O	2.12	0.49
37:i:48:SER:O	37:i:52:VAL:HG23	2.12	0.49
1:1:125:A:OP2	32:d:19:ARG:NE	2.40	0.49
1:1:274:C:H2'	1:1:275:C:O4'	2.12	0.49
1:1:635:C:O2'	1:1:639:U:H5''	2.12	0.49
1:1:1252:G:N2	20:Q:32:ARG:O	2.45	0.49
1:1:2106:U:H5	55:1:3431:HOH:O	1.88	0.49
2:2:873:A:O2'	2:2:874:G:P	2.70	0.49
2:2:875:U:O2'	41:m:14:ARG:NH1	2.45	0.49
2:2:1099:G:H2'	2:2:1100:C:O4'	2.12	0.49
15:L:102:GLY:O	15:L:104:GLN:N	2.45	0.49
38:j:151:MET:O	38:j:155:LYS:HG2	2.12	0.49
44:p:15:VAL:N	44:p:76:TYR:O	2.45	0.49
45:q:15:VAL:HG23	45:q:15:VAL:O	2.12	0.49
47:s:2:LYS:HB3	47:s:5:MET:HB2	1.94	0.49
1:1:779:U:H2'	1:1:780:G:O4'	2.12	0.49
7:B:141:HIS:ND1	7:B:192:GLY:O	2.43	0.49
48:t:27:GLN:O	48:t:31:LEU:HD13	2.12	0.49
51:w:53:GLN:NE2	51:w:53:GLN:O	2.45	0.49
1:1:485:C:HO2'	22:S:60:HIS:CE1	2.27	0.49
1:1:1153:C:H2'	1:1:1154:G:O4'	2.13	0.49
2:2:313:A:H2'	2:2:314:C:C6	2.48	0.49
2:2:759:A:H3'	2:2:760:G:H5''	1.93	0.49
2:2:967:C:P	2:2:968:A:HO2'	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:27:C:OP1	18:O:34:HIS:NE2	2.45	0.49
8:C:119:ALA:N	8:C:163:GLY:O	2.43	0.49
9:D:149:ILE:HG23	9:D:188:MET:HA	1.93	0.49
18:O:8:ILE:O	18:O:12:THR:HG23	2.12	0.49
20:Q:91:ARG:NH1	55:Q:301:HOH:O	2.39	0.49
21:R:71:LYS:HA	21:R:90:ARG:HG2	1.95	0.49
37:i:123:MET:C	55:i:302:HOH:O	2.56	0.49
39:k:4:TYR:CD1	39:k:91:ARG:HA	2.47	0.49
48:t:64:LYS:NZ	55:t:101:HOH:O	2.45	0.49
52:x:62:THR:HG23	55:x:105:HOH:O	2.13	0.49
53:y:16:ALA:O	53:y:20:ASN:ND2	2.46	0.49
1:1:296:U:O3'	24:U:91:LYS:NZ	2.42	0.49
1:1:395:U:HO2'	1:1:396:G:P	2.34	0.49
1:1:1869:G:N1	1:1:1873:G:O6	2.45	0.49
1:1:2342:C:H2'	1:1:2343:U:O4'	2.11	0.49
10:E:55:ASP:OD1	10:E:149:ARG:NH2	2.45	0.49
43:o:8:ILE:O	43:o:73:LEU:HD12	2.11	0.49
1:1:51:G:O2'	1:1:119:A:N1	2.44	0.49
1:1:2107:G:N2	1:1:2182:U:O2'	2.46	0.49
2:2:323:U:H2'	2:2:324:G:O4'	2.13	0.49
2:2:475:C:C2	2:2:476:U:C5	3.00	0.49
9:D:60:TRP:CE2	9:D:70:SER:HB3	2.47	0.49
1:1:428:A:C2'	1:1:429:A:O5'	2.60	0.49
1:1:538:A:N6	1:1:555:G:O2'	2.40	0.49
1:1:2402:U:O2	1:1:2402:U:H2'	2.13	0.49
38:j:74:ALA:O	38:j:81:GLN:NE2	2.42	0.49
38:j:86:GLY:O	38:j:138:ALA:HB1	2.13	0.49
45:q:51:VAL:HG12	45:q:65:TYR:HA	1.95	0.49
45:q:89:LEU:HB2	45:q:90:PRO:CD	2.43	0.49
1:1:225:C:H42	1:1:231:A:N6	2.11	0.49
1:1:833:A:N6	1:1:834:G:O6	2.46	0.49
2:2:407:U:H5''	37:i:111:ALA:HB1	1.95	0.49
2:2:875:U:O2	41:m:11:THR:OG1	2.31	0.49
2:2:1003:G:O2'	2:2:1005:A:OP1	2.25	0.49
2:2:1071:C:O3'	38:j:53:ARG:NH2	2.45	0.49
2:2:1511:G:H2'	2:2:1512:U:O4'	2.13	0.49
2:2:1516:G:N2	2:2:1520:C:O2	2.46	0.49
7:B:94:LEU:C	7:B:94:LEU:HD12	2.38	0.49
9:D:118:LEU:HD12	9:D:119:ILE:N	2.28	0.49
15:L:85:VAL:HG23	15:L:86:GLU:N	2.25	0.49
25:V:30:ILE:HG22	25:V:91:PHE:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Y:24:GLU:OE2	28:Y:24:GLU:N	2.46	0.49
37:i:47:LEU:HD11	37:i:51:GLY:HA3	1.95	0.49
40:l:79:VAL:C	40:l:81:GLY:N	2.67	0.49
1:1:914:G:H3'	1:1:915:C:C5'	2.43	0.49
1:1:1940:U:O2	1:1:1942:C:N4	2.46	0.49
2:2:944:G:N1	2:2:1338:G:OP2	2.46	0.49
3:3:106:G:H2'	3:3:107:G:O4'	2.12	0.49
25:V:36:ALA:O	25:V:93:ARG:NH2	2.38	0.49
41:m:4:ASP:OD2	41:m:76:ARG:NE	2.46	0.49
51:w:17:VAL:HG13	55:w:103:HOH:O	2.11	0.49
1:1:285:G:H2'	1:1:286:U:O4'	2.13	0.49
1:1:476:G:N1	1:1:479:A:OP2	2.45	0.49
1:1:948:C:H2'	1:1:949:G:C8	2.47	0.49
1:1:1643:G:HO2'	1:1:1644:C:P	2.36	0.49
1:1:2197:U:O2'	1:1:2198:A:H2'	2.13	0.49
1:1:2392:A:OP1	33:e:31:ILE:HG12	2.12	0.49
1:1:2467:C:N4	1:1:2484:G:O6	2.45	0.49
1:1:2636:C:O2'	8:C:45:TYR:CZ	2.66	0.49
2:2:677:U:O2	2:2:777:A:O2'	2.27	0.49
2:2:948:C:O5'	46:r:104:ASN:HB3	2.13	0.49
14:K:18:ARG:O	14:K:44:LYS:HB2	2.13	0.49
44:p:28:ASN:OD1	44:p:29:THR:N	2.45	0.49
45:q:24:GLU:O	45:q:25:ALA:HB3	2.12	0.49
1:1:464:U:H2'	1:1:465:G:C8	2.48	0.48
1:1:896:A:HO2'	1:1:897:C:P	2.31	0.48
1:1:2452:C:H2'	1:1:2453:A:O4'	2.13	0.48
1:1:2820:A:H2'	8:C:196:ALA:HB1	1.94	0.48
2:2:344:A:O2'	2:2:346:G:O6	2.27	0.48
2:2:1114:C:H2'	55:2:1959:HOH:O	2.13	0.48
3:3:81:G:O6	3:3:95:U:O2	2.31	0.48
9:D:88:ARG:O	9:D:89:PRO:C	2.55	0.48
9:D:105:LEU:O	9:D:109:LEU:HD23	2.13	0.48
14:K:15:GLY:O	14:K:46:ALA:HB1	2.13	0.48
30:b:24:VAL:HG13	30:b:25:THR:N	2.28	0.48
37:i:28:ASP:OD1	37:i:31:CYS:N	2.46	0.48
50:v:59:GLU:O	50:v:60:ILE:HD13	2.13	0.48
1:1:138:U:OP2	1:1:141:G:N1	2.46	0.48
1:1:1728:C:C2'	1:1:1731:G:H22	2.26	0.48
1:1:2344:U:OP1	31:c:36:LYS:NZ	2.31	0.48
1:1:2572:A:OP1	1:1:2574:G:O2'	2.26	0.48
2:2:172:A:N7	2:2:174:A:N7	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:54:VAL:HG23	21:R:55:ASP:N	2.29	0.48
25:V:77:VAL:HG12	25:V:89:ILE:HG12	1.95	0.48
36:h:182:ASP:HB3	36:h:201:ILE:CG1	2.43	0.48
41:m:24:VAL:HG23	41:m:60:LEU:HD21	1.95	0.48
1:1:774:G:HO2'	1:1:775:G:P	2.34	0.48
1:1:941:A:H2'	1:1:942:G:O4'	2.14	0.48
1:1:2168:G:O2'	1:1:2169:A:OP1	2.23	0.48
1:1:2521:C:C2	1:1:2545:G:N2	2.81	0.48
1:1:2661:G:O2'	1:1:2662:A:O4'	2.31	0.48
2:2:59:A:H1'	2:2:354:G:N2	2.29	0.48
13:J:7:LYS:HB2	13:J:10:THR:HG22	1.94	0.48
14:K:113:MET:HA	14:K:116:ILE:HG12	1.95	0.48
18:O:34:HIS:CD2	18:O:54:VAL:HG12	2.48	0.48
36:h:187:GLU:HB2	55:h:302:HOH:O	2.02	0.48
43:o:28:THR:HG21	55:o:202:HOH:O	2.12	0.48
48:t:84:LEU:HD23	48:t:86:LEU:CD2	2.43	0.48
1:1:554:U:H2'	1:1:555:G:O4'	2.13	0.48
1:1:2494:G:C2	1:1:2495:G:N7	2.81	0.48
1:1:2757:A:N1	11:F:66:THR:HG21	2.28	0.48
2:2:443:C:H2'	2:2:444:G:C8	2.48	0.48
13:J:36:LEU:HD11	13:J:54:ILE:HD12	1.95	0.48
16:M:57:VAL:HG23	16:M:58:LYS:H	1.78	0.48
16:M:78:LEU:O	16:M:80:VAL:HG13	2.14	0.48
35:g:11:PHE:HD2	35:g:13:VAL:H	1.61	0.48
1:1:2122:U:C5'	55:1:3457:HOH:O	2.31	0.48
1:1:2800:A:H3'	1:1:2801:G:H5'	1.94	0.48
2:2:618:C:H5'	2:2:619:U:H5''	1.96	0.48
2:2:1077:G:N2	2:2:1080:A:OP2	2.45	0.48
15:L:143:GLU:OE1	15:L:143:GLU:N	2.46	0.48
38:j:152:VAL:HG13	38:j:163:ILE:HG21	1.96	0.48
39:k:47:LEU:HD21	39:k:55:HIS:HA	1.94	0.48
51:w:41:SER:O	51:w:45:GLY:N	2.45	0.48
1:1:1995:U:O2	14:K:3:GLN:NE2	2.43	0.48
1:1:2230:G:C5'	27:X:29:LEU:HD23	2.42	0.48
1:1:2507:C:C2	1:1:2583:G:N2	2.81	0.48
2:2:419:C:H2'	2:2:420:U:C6	2.48	0.48
8:C:122:VAL:HG21	8:C:141:ARG:HH21	1.78	0.48
37:i:77:GLU:O	37:i:81:LEU:HD13	2.13	0.48
37:i:99:ASN:O	37:i:103:ARG:HG2	2.14	0.48
1:1:67:U:C2	1:1:68:G:C8	3.01	0.48
1:1:676:A:H62	1:1:802:A:H61	1.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1394:U:O4	1:1:1395:A:N6	2.46	0.48
1:1:1397:U:OP2	1:1:1398:C:N4	2.37	0.48
2:2:993:G:H2'	2:2:995:C:H41	1.79	0.48
2:2:1180:A:OP1	42:n:104:THR:HG22	2.14	0.48
6:A:34:ALA:CB	6:A:178:VAL:HG21	2.44	0.48
8:C:34:VAL:HG12	8:C:50:VAL:HG22	1.94	0.48
12:G:99:ILE:O	12:G:103:VAL:HG13	2.12	0.48
41:m:4:ASP:OD2	41:m:7:ALA:N	2.40	0.48
46:r:41:ASP:OD2	46:r:41:ASP:N	2.45	0.48
1:1:2167:U:O4	1:1:2169:A:H3'	2.14	0.48
2:2:404:G:H2'	2:2:405:U:C6	2.49	0.48
2:2:1064:G:H22	2:2:1191:A:P	2.36	0.48
2:2:1114:C:H4'	2:2:1115:U:OP1	2.14	0.48
2:2:1306:A:C2	2:2:1332:A:C4	3.02	0.48
6:A:182:ALA:CA	55:A:301:HOH:O	2.61	0.48
10:E:121:PHE:HA	10:E:126:ASN:O	2.13	0.48
11:F:63:GLN:O	11:F:66:THR:OG1	2.25	0.48
14:K:29:HIS:O	14:K:30:ARG:C	2.56	0.48
25:V:21:ARG:HA	25:V:25:LYS:O	2.14	0.48
35:g:16:ARG:HH22	44:p:96:ILE:HD13	1.78	0.48
49:u:58:ALA:HA	49:u:61:VAL:HG12	1.94	0.48
1:1:784:G:O6	1:1:2072:C:O2'	2.31	0.48
1:1:1169:A:C2	1:1:1170:C:C5	3.02	0.48
1:1:2445:G:OP1	9:D:69:ARG:NH1	2.42	0.48
2:2:974:A:H5''	2:2:975:A:H3'	1.96	0.48
11:F:74:MET:HE2	11:F:74:MET:N	2.29	0.48
14:K:71:ARG:O	14:K:73:ASP:N	2.44	0.48
40:l:56:SER:N	40:l:59:GLU:OE2	2.44	0.48
1:1:445:C:H2'	1:1:446:G:O4'	2.14	0.48
1:1:805:G:N2	1:1:829:A:OP1	2.47	0.48
1:1:1737:G:O3'	1:1:1738:G:O4'	2.31	0.48
1:1:2031:A:N3	1:1:2455:G:O2'	2.47	0.48
1:1:2392:A:O2'	33:e:26:ALA:HB1	2.14	0.48
1:1:2577:A:O4'	1:1:2612:C:N4	2.46	0.48
1:1:2680:U:O2'	8:C:11:MET:SD	2.72	0.48
2:2:1064:G:N2	2:2:1191:A:OP2	2.40	0.48
7:B:153:LEU:HD11	7:B:175:LEU:CD1	2.44	0.48
51:w:14:ALA:HB3	55:w:102:HOH:O	2.14	0.48
1:1:685:A:H5''	1:1:788:A:H62	1.79	0.47
1:1:895:U:OP2	1:1:896:A:N6	2.47	0.47
1:1:974:G:O4'	1:1:990:A:N6	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1283:G:N2	1:1:1286:A:O5'	2.41	0.47
1:1:1559:U:H1'	55:1:3601:HOH:O	2.14	0.47
1:1:2774:C:OP2	8:C:169:ARG:NH1	2.42	0.47
2:2:39:G:H2'	2:2:40:C:O4'	2.14	0.47
2:2:369:G:C5'	55:2:1787:HOH:O	2.62	0.47
2:2:412:A:H62	2:2:430:A:H61	1.61	0.47
17:N:29:VAL:HG21	17:N:75:ILE:HG23	1.95	0.47
45:q:48:LEU:HD23	45:q:50:LYS:HZ1	1.79	0.47
1:1:1929:G:O2'	1:1:1930:G:O5'	2.31	0.47
2:2:1131:G:O6	2:2:1132:C:N4	2.47	0.47
2:2:1249:C:O2'	42:n:74:GLN:NE2	2.44	0.47
2:2:1275:A:H3'	2:2:1276:G:H8	1.79	0.47
11:F:27:GLY:N	11:F:30:GLY:O	2.46	0.47
25:V:29:ILE:HD12	25:V:38:LEU:C	2.39	0.47
25:V:43:ASP:O	25:V:47:VAL:HG12	2.14	0.47
36:h:38:VAL:HG21	36:h:90:VAL:HG23	1.95	0.47
1:1:159:G:C2'	1:1:167:A:H61	2.27	0.47
1:1:1048:A:OP2	1:1:1110:G:N2	2.46	0.47
1:1:1401:G:H2'	1:1:1402:U:C6	2.48	0.47
1:1:1726:C:N4	1:1:1727:C:N4	2.63	0.47
1:1:2079:U:N3	1:1:2080:A:N7	2.63	0.47
2:2:737:C:OP1	39:k:91:ARG:HB3	2.14	0.47
2:2:993:G:O2'	2:2:994:A:N7	2.48	0.47
39:k:51:ILE:O	39:k:54:LEU:HB2	2.14	0.47
41:m:26:MET:SD	41:m:26:MET:N	2.87	0.47
1:1:803:U:H2'	1:1:804:A:H5'	1.96	0.47
2:2:119:A:OP2	2:2:288:A:N6	2.41	0.47
2:2:273:U:O4	2:2:274:A:N6	2.47	0.47
2:2:606:G:H3'	2:2:607:A:H5'	1.96	0.47
2:2:1173:U:O2'	2:2:1174:G:P	2.71	0.47
2:2:1209:C:O2'	2:2:1214:C:N4	2.46	0.47
23:T:28:ASN:HD21	23:T:87:LEU:HB2	1.79	0.47
46:r:91:ARG:CB	55:r:302:HOH:O	2.60	0.47
46:r:111:PRO:HB3	55:r:306:HOH:O	2.13	0.47
1:1:107:G:N2	1:1:346:A:N1	2.63	0.47
1:1:532:A:H2'	1:1:532:A:N3	2.30	0.47
1:1:887:U:OP1	1:1:888:C:N4	2.47	0.47
1:1:2249:U:H3'	1:1:2250:G:H5'	1.95	0.47
1:1:2320:U:O2	1:1:2333:A:N6	2.47	0.47
2:2:933:G:O6	40:l:2:ARG:NH1	2.47	0.47
6:A:46:VAL:HB	6:A:171:ILE:CG2	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:141:ASP:OD1	10:E:144:LYS:NZ	2.36	0.47
29:Z:8:GLN:NE2	29:Z:10:ARG:O	2.47	0.47
34:f:3:VAL:HG22	34:f:36:ARG:HD2	1.96	0.47
36:h:34:SER:OG	36:h:58:ARG:NH2	2.48	0.47
41:m:28:SER:OG	41:m:58:LEU:N	2.47	0.47
41:m:78:SER:O	41:m:78:SER:OG	2.28	0.47
42:n:20:ILE:HD13	42:n:62:LEU:CD1	2.43	0.47
43:o:42:LEU:HD23	43:o:71:LEU:HB3	1.95	0.47
1:1:395:U:H2'	1:1:396:G:C8	2.49	0.47
1:1:1418:G:N1	1:1:1579:A:OP2	2.46	0.47
1:1:1937:A:O2'	1:1:1938:A:O5'	2.29	0.47
2:2:1311:A:N7	52:x:2:ARG:NH2	2.59	0.47
6:A:11:ILE:HD11	6:A:35:THR:HG21	1.97	0.47
10:E:56:LEU:HA	10:E:59:ILE:HG22	1.97	0.47
15:L:102:GLY:O	15:L:105:ILE:N	2.43	0.47
25:V:61:LEU:HD12	25:V:61:LEU:N	2.30	0.47
35:g:16:ARG:NH1	44:p:92:ARG:O	2.45	0.47
41:m:94:VAL:HG21	41:m:100:ILE:O	2.14	0.47
1:1:319:G:H2'	1:1:320:A:O4'	2.13	0.47
1:1:1735:A:C6	1:1:1736:U:C4	3.02	0.47
1:1:1753:G:OP1	19:P:92:ARG:NH2	2.47	0.47
2:2:171:A:H2'	2:2:172:A:C8	2.50	0.47
2:2:560:A:OP2	2:2:566:G:N2	2.46	0.47
2:2:678:U:O2'	2:2:778:G:OP1	2.31	0.47
2:2:740:U:OP1	48:t:37:HIS:NE2	2.42	0.47
2:2:980:C:O4'	47:s:58:ARG:NH1	2.48	0.47
2:2:1015:G:H2'	2:2:1016:A:O4'	2.14	0.47
2:2:1118:U:O2'	2:2:1119:C:OP2	2.27	0.47
2:2:1119:C:OP1	42:n:84:ARG:NH2	2.47	0.47
2:2:1268:G:N2	2:2:1327:C:H1'	2.29	0.47
2:2:1372:U:H2'	2:2:1373:G:O4'	2.14	0.47
3:3:15:A:H1'	3:3:109:A:N7	2.29	0.47
5:5:5:A:C4	5:5:6:C:C5	3.02	0.47
10:E:45:ASP:OD2	10:E:45:ASP:N	2.45	0.47
14:K:70:ARG:HG2	14:K:76:VAL:HB	1.96	0.47
16:M:6:ARG:NH1	55:M:202:HOH:O	2.29	0.47
17:N:59:SER:O	17:N:63:ARG:HG2	2.15	0.47
22:S:17:VAL:HB	22:S:76:VAL:HG11	1.95	0.47
25:V:6:ALA:HB2	25:V:42:LEU:CD1	2.45	0.47
38:j:110:MET:HG2	38:j:139:THR:HG21	1.97	0.47
45:q:32:VAL:HA	45:q:78:VAL:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:u:27:ALA:O	49:u:28:ARG:C	2.57	0.47
51:w:14:ALA:HB1	51:w:47:ARG:HG2	1.97	0.47
51:w:52:ARG:NH1	55:w:101:HOH:O	2.47	0.47
53:y:66:ILE:HG22	53:y:67:HIS:N	2.29	0.47
1:1:306:U:H2'	1:1:307:G:O4'	2.15	0.47
1:1:1696:G:H2'	1:1:1697:G:O4'	2.15	0.47
1:1:2013:A:H2'	1:1:2014:A:O5'	2.15	0.47
1:1:2045:C:O2	30:b:18:HIS:NE2	2.48	0.47
1:1:2571:U:O2'	8:C:151:THR:OG1	2.25	0.47
2:2:113:G:H1'	2:2:354:G:H5'	1.96	0.47
2:2:1124:G:P	43:o:38:GLY:HA3	2.55	0.47
2:2:1226:C:OP1	52:x:77:ARG:NH2	2.43	0.47
2:2:1307:U:C6	46:r:97:ARG:HB2	2.50	0.47
2:2:1531:A:H2'	2:2:1532:U:O4'	2.15	0.47
10:E:107:VAL:O	10:E:110:ILE:HG22	2.15	0.47
24:U:25:LYS:NZ	24:U:36:GLU:OE2	2.38	0.47
27:X:6:VAL:HG13	27:X:7:THR:CG2	2.42	0.47
50:v:22:VAL:HG12	50:v:43:LEU:HB3	1.96	0.47
1:1:876:C:H2'	1:1:877:A:O4'	2.15	0.47
1:1:2013:A:O2'	1:1:2014:A:H5'	2.15	0.47
37:i:152:SER:O	37:i:153:ARG:C	2.58	0.47
41:m:74:ILE:HD11	41:m:126:CYS:SG	2.55	0.47
1:1:1225:G:HO2'	1:1:1226:A:C4'	2.18	0.47
1:1:1789:A:OP2	7:B:220:ARG:NH2	2.43	0.47
1:1:1930:G:O2'	1:1:1931:U:O5'	2.32	0.47
9:D:177:PRO:O	9:D:181:ILE:HG22	2.15	0.47
12:G:31:VAL:N	12:G:32:PRO:CD	2.78	0.47
13:J:37:ARG:HA	13:J:118:MET:HE2	1.96	0.47
20:Q:16:ILE:CD1	20:Q:38:VAL:HG11	2.45	0.47
24:U:23:LYS:NZ	24:U:24:VAL:O	2.48	0.47
25:V:35:GLU:OE1	25:V:35:GLU:N	2.48	0.47
52:x:39:ILE:HD11	52:x:70:LEU:HD11	1.95	0.47
1:1:974:G:N3	1:1:974:G:H2'	2.29	0.46
1:1:1829:A:N3	7:B:14:HIS:NE2	2.60	0.46
1:1:2691:C:H2'	1:1:2692:G:C8	2.50	0.46
1:1:2826:A:H2	55:1:3646:HOH:O	1.96	0.46
2:2:346:G:H2'	2:2:346:G:N3	2.29	0.46
6:A:49:GLY:HA3	6:A:207:VAL:HG13	1.97	0.46
10:E:79:ARG:NH1	55:E:304:HOH:O	2.47	0.46
11:F:7:PRO:HB2	11:F:48:THR:HG22	1.97	0.46
13:J:64:VAL:HG23	13:J:65:THR:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:10:LEU:HD13	37:i:62:ARG:HB3	1.97	0.46
1:1:451:U:C4	1:1:453:A:C8	3.03	0.46
1:1:1453:A:C2	55:1:3578:HOH:O	2.56	0.46
1:1:1654:A:N1	1:1:2048:G:O2'	2.47	0.46
1:1:1769:U:O2'	1:1:1958:C:OP1	2.32	0.46
1:1:1798:U:OP2	7:B:270:ARG:NH2	2.43	0.46
2:2:150:U:H3	2:2:171:A:H62	1.62	0.46
2:2:180:U:H2'	2:2:181:A:O4'	2.15	0.46
2:2:974:A:H8	2:2:974:A:OP1	1.98	0.46
3:3:27:C:H5''	18:O:34:HIS:HD2	1.80	0.46
11:F:10:VAL:HG12	11:F:47:ASN:O	2.14	0.46
11:F:134:GLY:HA3	11:F:140:ILE:HD11	1.97	0.46
25:V:26:PHE:CE1	25:V:47:VAL:HG11	2.50	0.46
45:q:33:CYS:SG	45:q:34:THR:N	2.89	0.46
1:1:160:A:N3	1:1:2208:C:O2'	2.33	0.46
1:1:616:A:H2'	1:1:617:G:O4'	2.15	0.46
1:1:1789:A:P	7:B:220:ARG:HE	2.39	0.46
2:2:17:U:O4'	2:2:1080:A:O2'	2.25	0.46
2:2:346:G:O2'	2:2:347:G:O4'	2.33	0.46
2:2:522:C:H41	45:q:49:ARG:HH22	1.63	0.46
2:2:600:A:H61	2:2:638:U:H3	1.63	0.46
2:2:1356:G:C2	2:2:1357:A:C5	3.03	0.46
8:C:108:ASP:OD2	8:C:207:VAL:HG22	2.15	0.46
36:h:15:LYS:NZ	36:h:181:ILE:O	2.40	0.46
40:l:56:SER:OG	40:l:57:GLU:N	2.48	0.46
45:q:41:PRO:HG3	45:q:49:ARG:CG	2.43	0.46
46:r:95:PRO:CA	46:r:108:ARG:HB2	2.45	0.46
52:x:4:LEU:H	52:x:4:LEU:HD12	1.80	0.46
2:2:521:G:N7	45:q:49:ARG:NH1	2.64	0.46
5:5:5:A:N6	5:5:69:G:O6	2.48	0.46
10:E:122:ASP:C	10:E:124:ARG:N	2.73	0.46
18:O:2:ASP:OD1	18:O:3:LYS:N	2.48	0.46
21:R:37:GLU:OE1	21:R:37:GLU:N	2.48	0.46
34:f:3:VAL:HG13	34:f:36:ARG:HD3	1.97	0.46
48:t:31:LEU:O	48:t:35:ILE:HG12	2.16	0.46
1:1:140:C:H3'	1:1:141:G:H4'	1.98	0.46
1:1:477:A:H2'	1:1:478:A:O4'	2.15	0.46
1:1:1700:A:H3'	1:1:1701:A:H8	1.81	0.46
1:1:2035:G:OP1	1:1:2036:C:N4	2.46	0.46
1:1:2545:G:H2'	1:1:2546:U:O4'	2.15	0.46
2:2:303:A:O2'	2:2:555:U:O2'	2.20	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:958:A:O2'	2:2:959:A:O4'	2.24	0.46
8:C:151:THR:OG1	8:C:152:PRO:HD3	2.16	0.46
10:E:64:PRO:CB	10:E:88:VAL:HG22	2.45	0.46
34:f:10:LEU:HD23	34:f:33:HIS:NE2	2.30	0.46
45:q:89:LEU:O	45:q:91:GLY:N	2.49	0.46
1:1:499:U:H2'	1:1:500:G:O4'	2.16	0.46
1:1:2019:A:H61	1:1:2035:G:H1	1.64	0.46
2:2:997:U:H2'	2:2:998:C:C6	2.51	0.46
2:2:1043:G:H2'	2:2:1044:A:C8	2.51	0.46
2:2:1246:A:H2'	2:2:1247:U:O4'	2.15	0.46
2:2:1415:G:N2	55:2:1753:HOH:O	2.48	0.46
2:2:1530:G:C2	2:2:1531:A:N6	2.84	0.46
3:3:27:C:H5''	18:O:34:HIS:CD2	2.50	0.46
3:3:54:G:N2	10:E:25:MET:SD	2.86	0.46
18:O:26:LEU:HD11	18:O:92:PHE:CD1	2.51	0.46
20:Q:89:ILE:CG1	20:Q:93:ILE:HD11	2.45	0.46
23:T:10:VAL:HG11	23:T:42:GLU:OE2	2.16	0.46
33:e:31:ILE:HG13	33:e:35:LYS:HZ1	1.80	0.46
53:y:7:LYS:CB	55:y:102:HOH:O	2.64	0.46
1:1:886:A:N6	1:1:891:G:O6	2.48	0.46
1:1:897:C:O2'	55:1:3403:HOH:O	2.21	0.46
1:1:1119:U:OP1	55:1:3401:HOH:O	2.21	0.46
1:1:1565:C:O2'	1:1:1567:G:N7	2.39	0.46
1:1:1687:G:N2	1:1:1702:G:C6	2.84	0.46
1:1:2292:U:H2'	1:1:2293:G:H8	1.80	0.46
1:1:2315:G:H21	10:E:124:ARG:HH22	1.64	0.46
2:2:563:A:HO2'	2:2:564:C:P	2.30	0.46
2:2:575:G:H2'	2:2:821:G:OP2	2.16	0.46
2:2:1070:U:HO2'	2:2:1071:C:H5	1.62	0.46
2:2:1305:G:N2	2:2:1331:G:H2'	2.31	0.46
19:P:93:LYS:NZ	19:P:95:LYS:O	2.47	0.46
23:T:16:VAL:O	23:T:16:VAL:HG23	2.15	0.46
45:q:113:ARG:HD2	45:q:120:ARG:CA	2.37	0.46
1:1:90:U:OP2	1:1:91:A:O2'	2.30	0.46
1:1:304:U:H2'	1:1:305:C:C6	2.51	0.46
1:1:779:U:OP1	7:B:48:ILE:HG22	2.16	0.46
1:1:1729:U:O4'	55:1:3402:HOH:O	2.21	0.46
1:1:1897:G:H2'	1:1:1898:U:O4'	2.16	0.46
1:1:2162:G:H2'	1:1:2163:A:O4'	2.16	0.46
2:2:1144:G:O2'	2:2:1145:A:O4'	2.33	0.46
2:2:1246:A:C2	2:2:1292:G:N1	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1307:U:H3'	46:r:97:ARG:H	1.81	0.46
38:j:56:PRO:HD3	55:j:203:HOH:O	2.16	0.46
39:k:68:GLN:HA	39:k:71:ILE:HG22	1.97	0.46
44:p:31:VAL:HG22	44:p:32:THR:N	2.30	0.46
46:r:6:ILE:HD11	46:r:65:GLU:CD	2.41	0.46
1:1:896:A:H4'	1:1:897:C:O5'	2.16	0.46
1:1:1422:G:O6	1:1:1577:C:N4	2.48	0.46
1:1:1997:C:H2'	1:1:1998:A:C8	2.51	0.46
2:2:20:U:H2'	2:2:21:G:O4'	2.16	0.46
2:2:298:A:C2'	2:2:299:G:O5'	2.63	0.46
2:2:703:G:O2'	2:2:704:A:O4'	2.32	0.46
2:2:1290:G:N3	2:2:1290:G:H2'	2.30	0.46
2:2:1357:A:H61	2:2:1365:G:H1	1.64	0.46
3:3:29:A:H2'	3:3:30:C:O4'	2.15	0.46
5:5:17(A):U:H4'	5:5:61:C:P	2.56	0.46
13:J:36:LEU:CD1	13:J:54:ILE:HD12	2.46	0.46
19:P:4:ILE:HG22	19:P:8:GLU:OE1	2.16	0.46
39:k:62:MET:HE2	39:k:64:VAL:HG11	1.97	0.46
40:l:39:GLU:HA	40:l:42:VAL:HG22	1.98	0.46
1:1:307:G:N2	1:1:310:A:OP2	2.49	0.46
1:1:684:G:OP1	32:d:16:HIS:NE2	2.48	0.46
1:1:2094:A:H4'	12:G:25:TYR:CE1	2.51	0.46
1:1:2446:G:N2	1:1:2449:U:O2	2.42	0.46
6:A:58:ASN:OD1	6:A:59:VAL:N	2.49	0.46
6:A:206:GLY:HA3	55:A:307:HOH:O	2.15	0.46
8:C:58:ASN:OD1	8:C:59:ARG:N	2.49	0.46
9:D:187:VAL:O	9:D:187:VAL:HG13	2.15	0.46
14:K:92:GLU:HG3	14:K:93:GLN:H	1.81	0.46
21:R:4:VAL:HG12	21:R:40:MET:HB3	1.98	0.46
43:o:66:GLU:CD	47:s:98:ALA:HB3	2.40	0.46
1:1:242:G:OP2	33:e:2:LYS:NZ	2.49	0.45
1:1:1064:C:O2'	1:1:1065:U:O4'	2.33	0.45
2:2:276:G:H5''	50:v:16:MET:HE2	1.99	0.45
2:2:298:A:O2'	2:2:299:G:O5'	2.33	0.45
6:A:170:ILE:HG23	6:A:170:ILE:O	2.16	0.45
10:E:116:LEU:O	10:E:177:ARG:N	2.38	0.45
13:J:80:HIS:C	13:J:82:GLY:H	2.24	0.45
15:L:95:LEU:N	15:L:95:LEU:HD12	2.31	0.45
18:O:30:ARG:HG2	18:O:97:PHE:CE1	2.51	0.45
35:g:31:VAL:O	35:g:31:VAL:HG22	2.16	0.45
38:j:45:VAL:O	38:j:71:ILE:HG22	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:45:ALA:HB2	40:l:116:ALA:HA	1.98	0.45
43:o:80:THR:OG1	43:o:83:THR:HG23	2.16	0.45
1:1:247:G:O2'	1:1:250:G:O6	2.35	0.45
1:1:285:G:C6	1:1:356:G:C5	3.04	0.45
1:1:368:A:C2'	1:1:369:U:O4'	2.64	0.45
1:1:1800:C:O2	1:1:1818:U:O2	2.34	0.45
1:1:2644:G:O2'	1:1:2645:G:O5'	2.27	0.45
2:2:750:C:O2	48:t:22:GLY:HA3	2.17	0.45
2:2:843:U:H5'	2:2:844:G:N7	2.31	0.45
3:3:86:G:N1	3:3:88:C:O4'	2.49	0.45
6:A:214:ILE:HG23	6:A:214:ILE:O	2.15	0.45
14:K:35:VAL:HG21	14:K:69:VAL:HG13	1.98	0.45
24:U:85:ARG:NE	24:U:87:GLU:OE2	2.49	0.45
1:1:1346:G:H2'	1:1:1347:A:O4'	2.17	0.45
1:1:1434:A:H2'	1:1:1435:G:C8	2.51	0.45
2:2:543:U:OP1	37:i:13:ARG:HD2	2.17	0.45
2:2:936:C:C2	2:2:937:A:C8	3.04	0.45
7:B:114:GLN:NE2	7:B:115:ILE:O	2.49	0.45
38:j:98:ALA:O	38:j:101:GLY:N	2.45	0.45
47:s:42:ASN:C	47:s:46:LYS:HZ3	2.24	0.45
1:1:674:G:H1'	9:D:69:ARG:HE	1.81	0.45
1:1:970:U:C2	1:1:971:G:C8	3.04	0.45
1:1:1353:A:H2'	1:1:1354:A:H8	1.81	0.45
1:1:1819:A:H1'	1:1:1821:A:C6	2.51	0.45
1:1:2660:A:H2'	1:1:2661:G:C4	2.51	0.45
1:1:2720:U:C2	1:1:2721:A:C8	3.04	0.45
2:2:657:U:O4'	48:t:27:GLN:NE2	2.48	0.45
2:2:897:C:N4	2:2:898:G:O6	2.50	0.45
2:2:984:C:C2	2:2:1222:G:N2	2.85	0.45
2:2:1248:A:H2'	2:2:1249:C:C6	2.52	0.45
5:5:59:A:C4'	5:5:60:U:OP1	2.64	0.45
17:N:52:ILE:HG21	17:N:94:TYR:CD1	2.52	0.45
22:S:29:VAL:HG13	22:S:30:SER:N	2.30	0.45
36:h:120:THR:HG23	36:h:188:ALA:HB2	1.98	0.45
1:1:301:G:C6	1:1:317:G:C6	3.04	0.45
1:1:1141:U:H4'	1:1:1142:A:O4'	2.17	0.45
2:2:518:C:O2'	2:2:530:G:N2	2.49	0.45
2:2:947:G:H4'	46:r:107:THR:OG1	2.17	0.45
30:b:30:ASP:OD1	30:b:31:LYS:N	2.49	0.45
41:m:60:LEU:HD23	41:m:60:LEU:N	2.30	0.45
1:1:1432:G:H2'	1:1:1433:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2511:U:O2	8:C:145:SER:OG	2.35	0.45
2:2:1090:U:O3'	2:2:1091:U:H4'	2.17	0.45
2:2:1173:U:C2'	2:2:1174:G:O5'	2.65	0.45
2:2:1359:C:H6	47:s:74:ARG:NH2	2.14	0.45
22:S:66:ILE:C	22:S:69:LEU:HD13	2.42	0.45
24:U:73:ASN:O	24:U:74:ALA:HB3	2.16	0.45
29:Z:2:LYS:HA	29:Z:2:LYS:HD3	1.53	0.45
37:i:86:GLY:H	38:j:102:THR:HG21	1.81	0.45
1:1:323:C:H5'	1:1:324:A:OP1	2.17	0.45
9:D:60:TRP:CZ2	9:D:67:ARG:HG2	2.52	0.45
10:E:134:GLN:O	10:E:140:ILE:HD13	2.16	0.45
42:n:111:GLU:HB3	42:n:120:ALA:HB1	1.99	0.45
44:p:24:ALA:HA	44:p:29:THR:HA	1.98	0.45
49:u:5:ARG:HH21	49:u:24:SER:HA	1.81	0.45
1:1:523:C:H2'	1:1:524:G:C8	2.51	0.45
1:1:896:A:O2'	1:1:897:C:P	2.74	0.45
1:1:2450:A:OP1	1:1:2497:A:H2'	2.17	0.45
2:2:276:G:H5''	50:v:16:MET:CE	2.47	0.45
2:2:389:A:H2'	2:2:390:U:O4'	2.17	0.45
3:3:8:C:O3'	18:O:15:ARG:NH2	2.48	0.45
38:j:123:LEU:HD12	38:j:123:LEU:C	2.41	0.45
39:k:15:SER:O	39:k:18:VAL:HG23	2.16	0.45
1:1:142:A:O2'	1:1:143:C:O4'	2.34	0.45
1:1:354:A:H2'	1:1:355:U:O4'	2.17	0.45
1:1:825:A:H2'	1:1:826:U:O4'	2.17	0.45
1:1:1671:U:O2'	1:1:1673:G:N7	2.34	0.45
1:1:2145:C:H3'	1:1:2146:C:C5'	2.46	0.45
2:2:21:G:H2'	2:2:22:G:C8	2.52	0.45
2:2:684:U:O2	44:p:40:ALA:HB3	2.17	0.45
2:2:1206:G:H2'	2:2:1206:G:N3	2.32	0.45
6:A:48:LEU:HD23	6:A:50:ILE:HG12	1.99	0.45
9:D:126:VAL:HG12	9:D:127:GLU:N	2.32	0.45
13:J:114:LEU:O	13:J:118:MET:HG2	2.17	0.45
19:P:112:ARG:O	19:P:113:LEU:C	2.60	0.45
27:X:49:ARG:CD	55:X:103:HOH:O	2.55	0.45
49:u:50:THR:HG22	49:u:51:ARG:H	1.81	0.45
1:1:785:G:O2'	1:1:1779:U:H5''	2.17	0.45
1:1:1016:G:O6	1:1:1147:A:N6	2.50	0.45
1:1:1059:G:N1	1:1:1080:A:C6	2.86	0.45
1:1:1225:G:HO2'	1:1:1226:A:C1'	2.15	0.45
1:1:1915:U:O2	1:1:1915:U:O4'	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2340:A:C2	1:1:2341:G:N7	2.85	0.45
1:1:2839:G:O2'	17:N:49:GLU:OE2	2.34	0.45
2:2:103:U:H2'	2:2:104:G:O4'	2.17	0.45
2:2:1378:C:N4	2:2:1379:G:N3	2.65	0.45
21:R:68:ARG:HB2	21:R:90:ARG:HH21	1.83	0.45
30:b:38:LEU:HD12	30:b:38:LEU:N	2.32	0.45
40:l:76:SER:HB3	40:l:84:TYR:O	2.17	0.45
46:r:95:PRO:HG3	46:r:108:ARG:HB2	1.99	0.45
47:s:48:GLN:CA	55:s:201:HOH:O	2.65	0.45
1:1:190:A:H2'	1:1:191:A:O4'	2.16	0.44
1:1:271:G:C2	1:1:272:A:C5	3.05	0.44
1:1:671:C:H2'	1:1:672:C:C6	2.51	0.44
1:1:730:A:C2	1:1:731:C:C5	3.05	0.44
1:1:1532:A:H2'	1:1:1533:C:O4'	2.17	0.44
1:1:2050:C:H2'	1:1:2051:A:O4'	2.17	0.44
1:1:2116:G:H8	1:1:2116:G:O5'	2.00	0.44
1:1:2156:G:C5'	55:1:3708:HOH:O	2.65	0.44
1:1:2884:U:O4'	30:b:49:ARG:NH2	2.50	0.44
2:2:160:A:H2'	2:2:161:A:C8	2.52	0.44
2:2:161:A:H2'	2:2:162:A:O4'	2.17	0.44
2:2:1244:G:C6	2:2:1245:C:N4	2.85	0.44
15:L:73:ILE:O	15:L:73:ILE:HG22	2.16	0.44
20:Q:16:ILE:HD11	20:Q:38:VAL:CG1	2.45	0.44
37:i:47:LEU:HD21	37:i:51:GLY:C	2.42	0.44
39:k:11:HIS:N	39:k:83:ALA:O	2.44	0.44
52:x:39:ILE:HG22	52:x:40:PHE:N	2.33	0.44
1:1:161:A:H3'	1:1:162:U:H5''	1.99	0.44
1:1:1022:G:O6	13:J:68:LYS:NZ	2.47	0.44
1:1:1541:C:H2'	1:1:1542:U:O4'	2.18	0.44
1:1:2640:G:OP1	13:J:95:ARG:NH2	2.51	0.44
38:j:92:ARG:NH1	55:j:202:HOH:O	2.49	0.44
42:n:18:VAL:CG1	42:n:62:LEU:HD11	2.48	0.44
50:v:12:VAL:O	50:v:13:SER:OG	2.27	0.44
1:1:808:G:H2'	1:1:809:G:C8	2.52	0.44
1:1:1341:G:OP1	1:1:1602:U:O2'	2.27	0.44
1:1:2014:A:H2'	1:1:2015:A:C4	2.52	0.44
1:1:2065:C:C2	1:1:2066:C:C5	3.05	0.44
2:2:1012:A:C5'	55:2:1807:HOH:O	2.66	0.44
2:2:1233:G:OP1	42:n:122:ARG:NH2	2.50	0.44
2:2:1308:U:H5''	46:r:98:GLY:O	2.17	0.44
7:B:138:SER:OG	7:B:139:THR:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:56:VAL:HB	13:J:124:VAL:HG23	1.99	0.44
1:1:271:G:O2'	1:1:272:A:H5''	2.17	0.44
1:1:464:U:C4	1:1:788:A:C4	3.05	0.44
1:1:1282:U:H2'	1:1:1283:G:O4'	2.17	0.44
1:1:2184:A:H2'	1:1:2185:U:C6	2.52	0.44
1:1:2856:A:H2'	1:1:2857:G:O4'	2.17	0.44
2:2:1338:G:N3	5:5:41:C:O2'	2.51	0.44
3:3:66:A:N6	3:3:108:A:OP2	2.50	0.44
6:A:37:LYS:HD2	6:A:37:LYS:O	2.18	0.44
7:B:83:ASP:OD1	7:B:85:ASN:ND2	2.50	0.44
10:E:107:VAL:N	10:E:108:PRO:CD	2.80	0.44
10:E:155:ILE:HD12	10:E:157:THR:CG2	2.48	0.44
29:Z:16:LEU:H	29:Z:16:LEU:HD12	1.82	0.44
36:h:134:LYS:HA	36:h:137:VAL:HG22	1.99	0.44
40:l:79:VAL:C	40:l:81:GLY:H	2.24	0.44
43:o:7:ARG:N	43:o:101:SER:O	2.51	0.44
45:q:89:LEU:HB2	45:q:90:PRO:HD2	2.00	0.44
45:q:97:VAL:HG22	45:q:98:ARG:N	2.32	0.44
47:s:84:ARG:O	47:s:88:MET:HG2	2.17	0.44
52:x:14:LEU:HD13	52:x:32:THR:HG23	1.99	0.44
53:y:79:THR:HG22	53:y:83:ASN:OD1	2.18	0.44
1:1:560:C:H2'	1:1:561:G:O4'	2.17	0.44
1:1:788:A:OP1	1:1:791:C:N4	2.41	0.44
1:1:1668:A:O2'	1:1:1674:G:N7	2.29	0.44
1:1:2553:G:C4'	1:1:2582:G:HO2'	2.30	0.44
1:1:2798:U:O2'	1:1:2799:A:N7	2.49	0.44
1:1:2838:G:O2'	17:N:45:ARG:NE	2.50	0.44
2:2:82:G:O6	2:2:88:U:H4'	2.17	0.44
2:2:394:G:H2'	2:2:394:G:N3	2.33	0.44
2:2:604:G:O6	2:2:635:A:N6	2.51	0.44
3:3:2:G:H2'	3:3:3:C:C6	2.52	0.44
6:A:64:VAL:HG13	6:A:64:VAL:O	2.16	0.44
12:G:27:ARG:NH1	27:X:55:MET:SD	2.91	0.44
13:J:81:ILE:O	13:J:81:ILE:HG22	2.17	0.44
14:K:58:LEU:HD23	14:K:89:ASN:HD21	1.83	0.44
36:h:33:ASP:OD2	47:s:64:ARG:NE	2.51	0.44
41:m:5:PRO:O	41:m:32:LYS:NZ	2.51	0.44
42:n:59:LYS:C	42:n:60:LEU:HD12	2.43	0.44
43:o:86:ALA:HB1	55:o:202:HOH:O	2.17	0.44
51:w:18:GLN:HG2	55:w:103:HOH:O	2.18	0.44
1:1:639:U:H2'	1:1:640:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:860:U:OP2	1:1:916:G:N1	2.40	0.44
1:1:1026:G:H2'	1:1:1027:A:C8	2.53	0.44
1:1:1303:G:O6	1:1:1304:A:N6	2.50	0.44
1:1:2075:U:H2'	1:1:2077:A:OP2	2.17	0.44
1:1:2354:C:O3'	26:W:21:ARG:NH2	2.50	0.44
1:1:2889:C:H2'	1:1:2890:G:O4'	2.17	0.44
2:2:284:C:C2	2:2:285:C:C5	3.05	0.44
5:5:5:A:O2'	5:5:6:C:OP2	2.33	0.44
7:B:201:LEU:H	7:B:201:LEU:HD23	1.83	0.44
20:Q:82:LEU:HD22	20:Q:112:ALA:HB2	1.99	0.44
50:v:54:ILE:HG23	50:v:54:ILE:O	2.18	0.44
1:1:84:A:N3	1:1:85:G:H1'	2.32	0.44
1:1:214:G:N2	1:1:216:A:N3	2.60	0.44
1:1:715:A:C2	48:t:55:LEU:HD21	2.53	0.44
1:1:1109:C:O3'	1:1:1110:G:O4'	2.36	0.44
1:1:1423:G:C2	1:1:1424:G:C5	3.06	0.44
1:1:1791:A:H61	1:1:1828:G:H2'	1.82	0.44
2:2:81:A:N3	55:2:1754:HOH:O	2.49	0.44
2:2:283:U:C2	2:2:284:C:C6	3.06	0.44
2:2:779:C:H2'	2:2:780:A:O4'	2.17	0.44
3:3:17:C:C2	3:3:18:G:C8	3.06	0.44
5:5:47:U:O2'	5:5:48:C:P	2.74	0.44
6:A:30:LEU:HA	6:A:33:LEU:HD12	2.00	0.44
16:M:25:ASP:OD1	16:M:66:ARG:NH2	2.45	0.44
17:N:103:ARG:O	17:N:107:ASN:N	2.47	0.44
47:s:45:LEU:HD23	52:x:12:LEU:CD2	2.44	0.44
1:1:888:C:C4	55:1:3436:HOH:O	2.69	0.44
1:1:948:C:H2'	1:1:949:G:H8	1.82	0.44
1:1:1172:C:H42	1:1:1176:U:H3	1.65	0.44
1:1:1271:G:O2'	1:1:1618:A:OP1	2.20	0.44
1:1:1677:A:H2'	1:1:1678:A:O4'	2.18	0.44
1:1:1831:G:C6	1:1:1975:G:N1	2.86	0.44
2:2:712:A:H2'	2:2:713:G:C1'	2.47	0.44
2:2:1170:A:H2'	2:2:1171:A:O4'	2.17	0.44
2:2:1319:A:C4	2:2:1323:G:C8	3.06	0.44
7:B:211:ARG:NH1	7:B:216:ARG:HG3	2.33	0.44
8:C:188:LEU:HD23	8:C:188:LEU:H	1.82	0.44
9:D:166:LYS:HG3	9:D:167:VAL:HG23	2.00	0.44
14:K:99:ILE:HD12	14:K:99:ILE:N	2.33	0.44
44:p:15:VAL:HG23	44:p:78:ILE:CG1	2.48	0.44
47:s:42:ASN:O	47:s:46:LYS:NZ	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:324:A:N6	1:1:339:U:O4'	2.51	0.44
1:1:479:A:H1'	1:1:481:G:H5'	1.99	0.44
1:1:521:U:H2'	1:1:522:A:C8	2.53	0.44
1:1:1401:G:H2'	1:1:1402:U:O4'	2.18	0.44
1:1:2093:G:H1'	1:1:2198:A:C2	2.53	0.44
1:1:2156:G:H5''	55:1:3708:HOH:O	2.18	0.44
1:1:2392:A:H2'	1:1:2393:U:C6	2.53	0.44
1:1:2497:A:C8	1:1:2497:A:OP2	2.71	0.44
1:1:2749:A:OP2	1:1:2750:A:O2'	2.26	0.44
2:2:65:A:N7	2:2:200:G:O2'	2.51	0.44
2:2:1173:U:HO2'	2:2:1174:G:P	2.40	0.44
2:2:1308:U:OP1	46:r:95:PRO:O	2.35	0.44
20:Q:80:ASN:O	20:Q:84:LYS:HG2	2.18	0.44
23:T:28:ASN:ND2	23:T:87:LEU:HB2	2.33	0.44
37:i:15:GLY:C	37:i:33:ILE:HD11	2.42	0.44
44:p:96:ILE:H	44:p:96:ILE:HD12	1.83	0.44
46:r:15:VAL:CG1	46:r:33:LEU:HD22	2.48	0.44
53:y:6:ALA:O	53:y:9:ARG:N	2.47	0.44
1:1:221:A:O2'	1:1:266:G:N7	2.44	0.43
1:1:615:U:H4'	1:1:616:A:OP2	2.17	0.43
1:1:1224:U:H4'	21:R:88:GLY:O	2.18	0.43
1:1:1396:U:O2	1:1:1396:U:O4'	2.36	0.43
1:1:1423:G:N1	1:1:1424:G:C6	2.86	0.43
1:1:1542:U:H2'	1:1:1543:G:O4'	2.18	0.43
1:1:2038:G:H2'	1:1:2039:U:O4'	2.18	0.43
1:1:2880:C:H1'	17:N:92:GLY:O	2.18	0.43
2:2:131:A:H2'	2:2:132:C:C6	2.52	0.43
2:2:381:C:H2'	2:2:382:A:O4'	2.17	0.43
2:2:514:C:C2	2:2:515:G:C8	3.05	0.43
2:2:689:C:C2	2:2:690:G:C8	3.06	0.43
2:2:1012:A:C6	2:2:1018:G:N1	2.85	0.43
2:2:1152:A:N6	2:2:1153:G:O6	2.50	0.43
2:2:1290:G:O3'	40:l:36:SER:OG	2.23	0.43
11:F:110:HIS:CE1	55:F:204:HOH:O	2.70	0.43
17:N:115:LEU:C	17:N:117:ASP:H	2.25	0.43
34:f:25:VAL:HB	34:f:35:GLN:HB2	1.99	0.43
41:m:124:ILE:HG21	41:m:127:TYR:CE1	2.53	0.43
42:n:78:ILE:O	42:n:82:ILE:HG12	2.18	0.43
44:p:55:ARG:NH1	44:p:58:THR:HG21	2.32	0.43
44:p:86:LYS:HB2	44:p:113:THR:HA	1.99	0.43
52:x:10:ILE:HG22	52:x:11:ASP:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:53:A:N1	32:d:35:ARG:NH1	2.66	0.43
1:1:213:A:H2'	1:1:214:G:C8	2.53	0.43
1:1:221:A:C4	1:1:233:A:H1'	2.52	0.43
1:1:688:U:H4'	1:1:1780:A:C2	2.53	0.43
1:1:847:U:O2	1:1:847:U:H2'	2.18	0.43
1:1:1385:A:H1'	1:1:1386:C:C6	2.52	0.43
1:1:1830:C:H42	1:1:1975:G:H1	1.66	0.43
1:1:2312:U:OP1	10:E:70:ARG:N	2.51	0.43
1:1:2625:G:H2'	1:1:2626:C:C6	2.53	0.43
2:2:443:C:H2'	2:2:444:G:H8	1.82	0.43
2:2:491:G:H2'	2:2:492:C:C6	2.53	0.43
2:2:1301:U:C2'	2:2:1302:C:OP1	2.66	0.43
2:2:1304:G:H21	2:2:1333:A:H62	1.65	0.43
2:2:1399:C:C2	2:2:1401:G:C6	3.07	0.43
2:2:1401:G:H2'	2:2:1402:C:C6	2.53	0.43
36:h:40:GLN:HA	36:h:43:THR:HG22	1.99	0.43
40:l:78:ARG:HA	40:l:82:SER:OG	2.18	0.43
40:l:110:ARG:NH1	40:l:125:ASP:OD2	2.49	0.43
41:m:103:VAL:HG12	41:m:124:ILE:HG13	2.01	0.43
44:p:81:LEU:HD11	44:p:99:LEU:HD21	1.99	0.43
47:s:45:LEU:HA	52:x:12:LEU:HD11	1.99	0.43
1:1:515:A:H2'	1:1:516:C:H5'	2.00	0.43
1:1:1009:A:C1'	20:Q:58:GLN:HE21	2.31	0.43
1:1:1324:G:O2'	1:1:1326:U:OP2	2.29	0.43
1:1:1385:A:H4'	1:1:1386:C:OP1	2.18	0.43
1:1:1707:G:C5	1:1:1756:G:C6	3.06	0.43
1:1:2107:G:C4	1:1:2183:A:N1	2.86	0.43
2:2:992:U:O2'	2:2:993:G:OP2	2.30	0.43
2:2:1250:A:O2'	42:n:69:GLY:HA2	2.18	0.43
5:5:4:C:O2'	5:5:5:A:OP2	2.30	0.43
17:N:77:ALA:O	17:N:81:ASN:ND2	2.52	0.43
30:b:51:ARG:HH21	30:b:53:VAL:HG12	1.82	0.43
34:f:7:VAL:HG13	34:f:38:GLY:HA3	2.00	0.43
50:v:48:GLU:O	50:v:49:ASN:CG	2.61	0.43
52:x:46:LEU:HB3	52:x:48:ILE:HG23	2.01	0.43
1:1:539:G:OP1	13:J:7:LYS:NZ	2.45	0.43
1:1:1670:C:H2'	1:1:1671:U:O4'	2.19	0.43
1:1:2082:A:C2	1:1:2083:G:H1'	2.54	0.43
1:1:2292:U:H2'	1:1:2293:G:C8	2.53	0.43
2:2:36:C:H5''	45:q:119:LYS:HA	1.99	0.43
2:2:403:C:N4	55:2:1719:HOH:O	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:979:C:N4	2:2:1318:A:H61	2.15	0.43
2:2:1248:A:N1	2:2:1290:G:C4	2.86	0.43
2:2:1422:G:O2'	14:K:49:ARG:NH1	2.51	0.43
2:2:1498:U:O2	2:2:1498:U:O4'	2.36	0.43
7:B:263:ASP:OD1	7:B:263:ASP:N	2.51	0.43
10:E:35:LEU:HD21	10:E:153:ILE:HD12	1.98	0.43
17:N:49:GLU:N	17:N:50:PRO:HD2	2.33	0.43
17:N:97:ILE:HG13	17:N:113:ILE:HG22	2.00	0.43
22:S:25:ARG:NE	22:S:74:ILE:HG23	2.33	0.43
1:1:1168:G:C6	1:1:1182:G:C6	3.07	0.43
1:1:1234:U:C4	1:1:1235:G:C6	3.07	0.43
1:1:1297:C:O2'	1:1:1302:A:N6	2.52	0.43
1:1:2011:U:H2'	1:1:2012:G:O4'	2.18	0.43
1:1:2821:A:H2'	1:1:2822:G:C8	2.54	0.43
2:2:181:A:H62	2:2:194:C:H3'	1.84	0.43
12:G:108:VAL:HG23	12:G:108:VAL:O	2.19	0.43
30:b:6:LYS:O	30:b:7:PRO:C	2.62	0.43
40:l:64:ALA:O	40:l:68:VAL:HG23	2.19	0.43
45:q:23:LEU:O	45:q:24:GLU:C	2.60	0.43
45:q:32:VAL:O	45:q:33:CYS:HB2	2.19	0.43
1:1:494:G:H4'	22:S:6:LYS:HG3	2.01	0.43
1:1:521:U:H2'	1:1:522:A:H8	1.84	0.43
1:1:1198:U:O2'	1:1:1199:U:H5'	2.18	0.43
1:1:2138:G:C5'	55:1:3664:HOH:O	2.55	0.43
1:1:2642:G:C2	1:1:2643:G:C8	3.07	0.43
2:2:640:A:N6	2:2:641:U:O4	2.52	0.43
2:2:705:G:H21	44:p:30:ILE:HD11	1.84	0.43
2:2:718:A:OP2	2:2:719:C:N4	2.49	0.43
2:2:1518:A:O3'	2:2:1519:A:O4'	2.36	0.43
17:N:32:GLU:HB3	17:N:118:ARG:HG2	2.00	0.43
25:V:41:GLU:C	25:V:42:LEU:HD22	2.44	0.43
25:V:65:VAL:HG22	25:V:66:ASP:OD2	2.19	0.43
33:e:31:ILE:O	33:e:35:LYS:NZ	2.52	0.43
38:j:45:VAL:HG12	38:j:46:GLY:H	1.83	0.43
39:k:22:ILE:HG21	39:k:39:LEU:HD21	2.00	0.43
46:r:78:ARG:O	46:r:82:LEU:HD13	2.19	0.43
1:1:77:G:OP1	28:Y:52:ARG:NE	2.49	0.43
1:1:126:A:C2	32:d:18:PHE:CZ	3.07	0.43
1:1:159:G:C1'	1:1:167:A:H61	2.32	0.43
1:1:1006:C:OP1	13:J:34:ARG:NH2	2.48	0.43
2:2:713:G:H2'	2:2:714:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:764:C:H2'	2:2:765:G:O4'	2.19	0.43
2:2:956:U:H2'	2:2:957:U:O4'	2.19	0.43
2:2:1184:G:H2'	2:2:1185:G:H5''	2.01	0.43
2:2:1284:C:OP2	2:2:1285:A:O2'	2.25	0.43
6:A:36:ALA:HB2	6:A:218:MET:SD	2.58	0.43
8:C:110:THR:HG22	8:C:171:THR:HG23	1.99	0.43
14:K:71:ARG:C	14:K:73:ASP:H	2.26	0.43
15:L:64:PHE:HB2	15:L:65:GLY:H	1.62	0.43
21:R:49:ILE:HB	21:R:54:VAL:HG13	1.99	0.43
33:e:28:LEU:HD21	33:e:44:ARG:HA	2.00	0.43
35:g:23:GLU:O	35:g:27:VAL:HG22	2.18	0.43
39:k:38:ARG:HB3	39:k:63:ASN:CB	2.48	0.43
42:n:97:LEU:HD11	42:n:102:PHE:HB2	2.01	0.43
44:p:24:ALA:HB3	44:p:92:ARG:HH11	1.83	0.43
46:r:101:THR:HA	46:r:105:ALA:HB2	2.01	0.43
1:1:1287:A:O2'	1:1:1288:G:H5'	2.19	0.43
1:1:1343:G:H2'	1:1:1344:U:C6	2.54	0.43
1:1:1417:C:H2'	1:1:1418:G:O4'	2.18	0.43
1:1:2082:A:C4	1:1:2239:G:N2	2.87	0.43
1:1:2137:U:N3	55:1:3408:HOH:O	2.49	0.43
1:1:2419:U:OP2	33:e:32:LEU:HG	2.18	0.43
1:1:2496:C:P	1:1:2496:C:H3'	2.59	0.43
1:1:2704:C:H2'	1:1:2705:A:O4'	2.19	0.43
2:2:36:C:H2'	2:2:37:U:O4'	2.19	0.43
2:2:186:C:H2'	2:2:187:G:O4'	2.19	0.43
2:2:398:U:H2'	2:2:399:G:C8	2.54	0.43
2:2:609:A:H3'	2:2:609:A:OP2	2.19	0.43
2:2:707:U:OP1	44:p:86:LYS:NZ	2.40	0.43
2:2:865:A:H5'	2:2:1078:U:O4	2.19	0.43
6:A:174:THR:HG22	6:A:175:ILE:N	2.33	0.43
8:C:151:THR:CB	8:C:152:PRO:HD3	2.48	0.43
10:E:140:ILE:N	10:E:140:ILE:HD12	2.33	0.43
12:G:119:ASN:OD1	12:G:119:ASN:N	2.51	0.43
25:V:81:PRO:O	25:V:82:TYR:C	2.62	0.43
38:j:89:THR:O	38:j:134:ASN:ND2	2.52	0.43
42:n:57:VAL:HG13	42:n:58:GLU:H	1.83	0.43
44:p:14:GLN:OE1	44:p:77:GLY:N	2.52	0.43
49:u:70:ARG:HD3	49:u:70:ARG:HA	1.72	0.43
51:w:18:GLN:CD	55:w:103:HOH:O	2.61	0.43
1:1:25:U:C5	1:1:26:G:C6	3.07	0.43
1:1:234:U:C2	1:1:235:U:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:289:G:N2	1:1:352:A:C4	2.87	0.43
1:1:1727:C:H2'	1:1:1728:C:O4'	2.18	0.43
1:1:2283:C:H5'	31:c:3:GLY:HA2	2.00	0.43
1:1:2531:A:H61	1:1:2662:A:H61	1.67	0.43
2:2:191:G:C6	2:2:192:A:N6	2.87	0.43
2:2:1095:U:P	2:2:1108:G:H22	2.41	0.43
3:3:25:U:O4	3:3:26:C:N4	2.51	0.43
9:D:176:ASP:O	9:D:180:LEU:HD23	2.18	0.43
9:D:188:MET:HE3	9:D:192:ALA:C	2.43	0.43
13:J:88:THR:HG23	13:J:91:GLU:H	1.83	0.43
14:K:1:MET:HE3	14:K:32:TYR:CE2	2.53	0.43
18:O:52:SER:OG	18:O:54:VAL:HG22	2.18	0.43
36:h:102:ILE:O	36:h:102:ILE:HG23	2.19	0.43
36:h:151:GLU:OE2	36:h:165:GLU:N	2.51	0.43
37:i:195:ASN:CG	37:i:197:HIS:HD1	2.26	0.43
50:v:45:VAL:HG12	50:v:46:HIS:N	2.33	0.43
1:1:1100:C:H2'	1:1:1101:U:H1'	2.01	0.43
1:1:1401:G:C2'	1:1:1402:U:O4'	2.67	0.43
1:1:2707:U:H2'	1:1:2708:G:H8	1.84	0.43
2:2:139:A:H2'	2:2:140:U:O4'	2.19	0.43
2:2:179:A:C4	2:2:180:U:C5	3.07	0.43
2:2:404:G:H5''	37:i:118:SER:OG	2.19	0.43
2:2:934:C:O2'	2:2:1344:C:OP2	2.37	0.43
2:2:935:A:H2	2:2:1383:C:H41	1.66	0.43
2:2:939:G:HO2'	2:2:1375:A:HO2'	1.66	0.43
2:2:1222:G:O2'	2:2:1223:C:O4'	2.31	0.43
3:3:29:A:P	18:O:32:PRO:HD2	2.59	0.43
6:A:224:VAL:HG12	6:A:225:ASP:N	2.34	0.43
7:B:156:SER:O	7:B:194:VAL:HG21	2.18	0.43
10:E:145:VAL:C	55:E:306:HOH:O	2.62	0.43
16:M:7:THR:HG22	16:M:8:LYS:N	2.34	0.43
23:T:31:VAL:HG12	23:T:84:TYR:CD1	2.54	0.43
26:W:41:PHE:O	26:W:55:LEU:HD11	2.19	0.43
30:b:2:VAL:HG12	30:b:3:GLN:N	2.34	0.43
37:i:170:LEU:C	37:i:170:LEU:HD12	2.44	0.43
46:r:95:PRO:HG2	46:r:105:ALA:O	2.19	0.43
1:1:611:C:H2'	1:1:612:G:O4'	2.19	0.42
1:1:634:C:O5'	1:1:634:C:H6	2.01	0.42
1:1:838:C:C2	1:1:941:A:C6	3.07	0.42
1:1:1054:A:H61	1:1:1105:U:H3	1.65	0.42
1:1:1342:A:O2'	1:1:1344:U:OP2	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2370:G:C2'	1:1:2371:G:O5'	2.67	0.42
1:1:2402:U:H3'	55:1:3464:HOH:O	2.18	0.42
1:1:2816:G:H5''	17:N:99:LYS:NZ	2.34	0.42
2:2:505:G:H2'	2:2:506:G:H8	1.84	0.42
2:2:736:C:H2'	2:2:737:C:C6	2.54	0.42
2:2:1165:U:H2'	2:2:1166:G:O4'	2.19	0.42
10:E:122:ASP:C	10:E:124:ARG:H	2.27	0.42
13:J:80:HIS:O	13:J:82:GLY:N	2.52	0.42
17:N:97:ILE:CG1	17:N:113:ILE:HG22	2.50	0.42
23:T:77:ARG:NH2	55:T:201:HOH:O	2.46	0.42
41:m:10:LEU:HD22	41:m:74:ILE:HD13	1.99	0.42
42:n:83:THR:HG22	42:n:97:LEU:HD21	2.01	0.42
49:u:50:THR:HG22	49:u:51:ARG:N	2.34	0.42
50:v:49:ASN:C	50:v:49:ASN:OD1	2.61	0.42
52:x:46:LEU:O	52:x:60:PHE:HA	2.19	0.42
1:1:161:A:O2'	1:1:2207:C:O2	2.36	0.42
1:1:223:A:O2'	1:1:420:C:H1'	2.19	0.42
1:1:289:G:N2	1:1:352:A:N3	2.67	0.42
1:1:381:G:N2	1:1:394:C:C2	2.87	0.42
1:1:969:G:C4	1:1:970:U:C5	3.07	0.42
1:1:1044:C:O2'	1:1:1111:A:N1	2.52	0.42
1:1:2351:G:N2	1:1:2365:G:N3	2.66	0.42
1:1:2691:C:H2'	1:1:2692:G:H8	1.83	0.42
1:1:2818:U:H2'	1:1:2819:G:C8	2.54	0.42
2:2:797:C:OP1	44:p:126:ARG:NH2	2.52	0.42
3:3:119:A:H2'	3:3:120:A:O4'	2.19	0.42
7:B:131:MET:HE1	7:B:173:LEU:CD2	2.37	0.42
7:B:244:VAL:HG12	7:B:250:GLN:HA	2.00	0.42
16:M:71:LYS:HB3	16:M:93:VAL:O	2.18	0.42
18:O:18:LEU:HD23	18:O:25:ARG:HG2	2.00	0.42
23:T:11:LEU:HD23	23:T:11:LEU:C	2.43	0.42
36:h:7:ASN:O	36:h:11:LEU:HG	2.19	0.42
37:i:141:VAL:O	37:i:141:VAL:HG23	2.19	0.42
1:1:415:A:H2'	1:1:416:U:C6	2.53	0.42
1:1:418:C:H2'	1:1:419:U:C6	2.54	0.42
1:1:813:U:C2	1:1:1195:G:C2	3.07	0.42
1:1:966:G:C6	1:1:967:U:C4	3.07	0.42
1:1:1009:A:O4'	20:Q:58:GLN:NE2	2.52	0.42
1:1:1281:G:H2'	1:1:1282:U:C6	2.54	0.42
1:1:1499:C:C2	1:1:1500:G:C8	3.08	0.42
1:1:1606:C:H5''	1:1:1607:C:H5'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1839:G:H2'	1:1:1839:G:N3	2.35	0.42
1:1:2291:U:H5''	1:1:2380:C:H1'	1.99	0.42
1:1:2392:A:N6	1:1:2429:G:C4	2.88	0.42
1:1:2648:G:C4	1:1:2673:G:C2	3.06	0.42
2:2:264:C:H2'	2:2:265:G:O4'	2.19	0.42
2:2:448:A:H62	2:2:486:U:H3	1.66	0.42
2:2:985:C:H2'	2:2:986:U:H6	1.84	0.42
8:C:3:GLY:C	8:C:4:LEU:HD12	2.44	0.42
10:E:71:LYS:HA	10:E:71:LYS:HD2	1.74	0.42
25:V:6:ALA:HB1	25:V:40:ILE:HG22	2.01	0.42
25:V:20:LEU:HD12	25:V:20:LEU:HA	1.85	0.42
29:Z:7:THR:HG23	29:Z:33:HIS:O	2.19	0.42
33:e:24:LYS:HG2	33:e:25:HIS:N	2.33	0.42
33:e:32:LEU:HD23	33:e:32:LEU:H	1.84	0.42
45:q:50:LYS:CB	45:q:66:ILE:HD11	2.49	0.42
52:x:57:VAL:HG13	52:x:57:VAL:O	2.19	0.42
1:1:447:A:N1	1:1:454:A:O2'	2.45	0.42
1:1:619:G:O5'	1:1:620:G:N2	2.52	0.42
1:1:860:U:C2	1:1:861:A:C8	3.08	0.42
1:1:1889:A:H2'	1:1:1890:A:O4'	2.19	0.42
1:1:1965:C:OP1	1:1:1966:A:O2'	2.30	0.42
2:2:27:G:H2'	2:2:28:A:O4'	2.20	0.42
2:2:109:A:O2'	2:2:326:G:N3	2.50	0.42
2:2:935:A:C6	2:2:936:C:C5	3.07	0.42
2:2:1087:G:C6	2:2:1099:G:N1	2.87	0.42
2:2:1161:C:C2	2:2:1162:C:C5	3.07	0.42
19:P:63:ILE:HD12	19:P:63:ILE:N	2.33	0.42
22:S:4:ILE:CB	22:S:106:VAL:HG12	2.49	0.42
35:g:36:PHE:HZ	55:g:103:HOH:O	2.01	0.42
44:p:28:ASN:OD1	44:p:45:THR:OG1	2.38	0.42
1:1:52:A:OP2	1:1:117:G:N1	2.53	0.42
1:1:310:A:OP1	24:U:14:THR:OG1	2.37	0.42
1:1:760:G:H2'	1:1:761:A:O4'	2.18	0.42
1:1:1135:C:C6	1:1:1137:G:OP2	2.73	0.42
1:1:1174:U:P	1:1:1177:G:H22	2.42	0.42
1:1:1738:G:HO2'	1:1:1739:A:C5'	2.32	0.42
1:1:1799:G:O3'	7:B:181:ARG:NH2	2.52	0.42
1:1:1942:C:OP2	1:1:1943:U:C2'	2.67	0.42
1:1:1997:C:H2'	1:1:1998:A:H8	1.83	0.42
1:1:2220:U:P	12:G:112:LYS:HZ1	2.42	0.42
1:1:2495:G:C2'	1:1:2496:C:O5'	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:393:A:C2	2:2:394:G:C8	3.08	0.42
2:2:409:U:H2'	2:2:410:G:O4'	2.19	0.42
2:2:1089:G:O6	2:2:1097:C:N4	2.53	0.42
2:2:1187:G:C6	2:2:1188:A:N6	2.88	0.42
2:2:1307:U:H2'	46:r:95:PRO:HB2	2.01	0.42
2:2:1438:G:H5''	53:y:32:LYS:HZ1	1.84	0.42
6:A:22:ASP:OD1	6:A:23:ILE:N	2.43	0.42
6:A:206:GLY:CA	55:A:307:HOH:O	2.67	0.42
8:C:12:THR:HG22	8:C:13:ARG:N	2.34	0.42
11:F:21:GLN:OE1	11:F:54:ARG:NH2	2.53	0.42
14:K:13:ASN:OD1	14:K:13:ASN:N	2.50	0.42
14:K:92:GLU:O	14:K:93:GLN:C	2.61	0.42
20:Q:7:VAL:HG23	20:Q:8:ILE:HG23	2.01	0.42
25:V:65:VAL:O	25:V:65:VAL:HG13	2.19	0.42
37:i:120:LYS:HB3	37:i:128:VAL:HG21	2.01	0.42
38:j:82:HIS:O	38:j:84:VAL:HG13	2.20	0.42
41:m:46:GLU:O	41:m:61:THR:OG1	2.34	0.42
1:1:275:C:H2'	1:1:276:U:H4'	2.02	0.42
1:1:627:A:N6	1:1:637:A:O5'	2.43	0.42
1:1:713:G:C6	1:1:714:U:C5	3.08	0.42
1:1:966:G:C4	1:1:967:U:C5	3.08	0.42
1:1:1996:C:OP1	14:K:31:ARG:NH1	2.53	0.42
1:1:2004:G:H2'	1:1:2005:A:O4'	2.19	0.42
2:2:39:G:O2'	2:2:40:C:OP1	2.34	0.42
2:2:73:C:H2'	2:2:74:A:C8	2.55	0.42
2:2:437:U:O2'	37:i:153:ARG:NH1	2.52	0.42
2:2:582:C:H42	2:2:759:A:H62	1.66	0.42
2:2:1005:A:H4'	2:2:1037:C:O2	2.20	0.42
2:2:1519:A:H5''	2:2:1520:C:O4'	2.19	0.42
23:T:4:GLU:O	23:T:7:LEU:N	2.52	0.42
26:W:14:ALA:O	26:W:16:ARG:N	2.53	0.42
35:g:16:ARG:HA	35:g:18:PHE:CE1	2.54	0.42
42:n:35:GLU:HA	42:n:39:GLY:HA3	2.01	0.42
52:x:32:THR:HG21	52:x:70:LEU:HD23	2.02	0.42
1:1:19:A:O2'	1:1:553:G:H4'	2.19	0.42
1:1:159:G:H1'	1:1:167:A:H61	1.85	0.42
1:1:682:G:C2'	1:1:683:U:O5'	2.67	0.42
1:1:836:G:H2'	1:1:836:G:N3	2.35	0.42
1:1:999:U:H3	1:1:1155:A:H62	1.66	0.42
1:1:1039:A:H2'	1:1:1040:A:O4'	2.19	0.42
1:1:1054:A:N6	1:1:1106:G:O6	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1063:G:H5'	55:1:3515:HOH:O	2.17	0.42
1:1:1720:U:H2'	1:1:1721:G:O4'	2.19	0.42
1:1:2285:C:H5'	1:1:2288:A:H62	1.85	0.42
1:1:2671:G:H2'	1:1:2672:U:O4'	2.20	0.42
1:1:2748:A:H1'	11:F:66:THR:HG23	2.02	0.42
2:2:1143:G:N1	2:2:1144:G:C6	2.88	0.42
3:3:15:A:H1'	3:3:109:A:C5	2.54	0.42
6:A:10:VAL:HG22	6:A:14:LYS:HE2	2.01	0.42
7:B:93:VAL:HG21	7:B:103:ILE:HD11	2.02	0.42
12:G:54:LEU:O	12:G:58:LEU:HD13	2.19	0.42
12:G:122:LEU:HD11	12:G:124:THR:HG22	2.01	0.42
12:G:147:VAL:HG12	12:G:148:ALA:H	1.84	0.42
21:R:72:VAL:O	21:R:88:GLY:HA2	2.19	0.42
24:U:38:ILE:HG13	24:U:39:ASN:H	1.84	0.42
24:U:53:GLN:N	24:U:54:PRO:CD	2.83	0.42
37:i:100:VAL:HG21	37:i:136:VAL:HG11	2.00	0.42
38:j:88:HIS:CG	38:j:89:THR:H	2.38	0.42
44:p:99:LEU:HD11	44:p:104:PHE:CD2	2.54	0.42
47:s:26:LEU:HD13	47:s:46:LYS:CG	2.43	0.42
1:1:1790:C:H2'	1:1:1791:A:C8	2.55	0.42
1:1:2128:G:N2	1:1:2161:C:O2'	2.53	0.42
1:1:2376:A:H2'	1:1:2377:A:O4'	2.19	0.42
1:1:2449:U:O2'	1:1:2501:C:N4	2.53	0.42
2:2:39:G:H2'	2:2:40:C:O5'	2.20	0.42
2:2:1254:A:OP2	43:o:45:ARG:NE	2.53	0.42
2:2:1288:A:H2'	2:2:1289:A:C8	2.54	0.42
5:5:12:G:C6	5:5:24:G:C6	3.08	0.42
10:E:21:TYR:CZ	10:E:23:SER:O	2.72	0.42
23:T:22:THR:O	23:T:26:LYS:HG2	2.20	0.42
27:X:6:VAL:CG1	27:X:7:THR:HG23	2.48	0.42
42:n:28:VAL:HG13	42:n:28:VAL:O	2.20	0.42
42:n:83:THR:HG22	42:n:97:LEU:CD2	2.50	0.42
44:p:85:VAL:HG12	44:p:92:ARG:NH1	2.34	0.42
45:q:4:ASN:O	45:q:7:VAL:HG22	2.20	0.42
52:x:39:ILE:HD11	52:x:70:LEU:CD1	2.50	0.42
53:y:35:TYR:HA	53:y:38:ILE:HD12	2.02	0.42
1:1:1235:G:H2'	1:1:1236:G:C4	2.55	0.42
1:1:1441:G:H2'	1:1:1442:U:C6	2.55	0.42
1:1:1482:G:O2'	1:1:1483:G:O5'	2.23	0.42
1:1:1800:C:N4	1:1:1818:U:O2'	2.52	0.42
1:1:2099:U:H2'	1:1:2100:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2291:U:O2'	1:1:2374:C:H1'	2.19	0.42
1:1:2349:G:OP2	33:e:41:ARG:NE	2.50	0.42
1:1:2548:U:H1'	14:K:23:LYS:NZ	2.34	0.42
1:1:2583:G:C2'	1:1:2584:U:O4'	2.67	0.42
2:2:285:C:C2	2:2:286:C:C5	3.07	0.42
2:2:356:A:O2'	2:2:368:U:O2'	2.25	0.42
2:2:520:A:N1	2:2:536:C:H1'	2.35	0.42
2:2:654:G:H2'	2:2:655:A:O4'	2.20	0.42
2:2:996:A:H61	2:2:1045:C:H2'	1.85	0.42
2:2:1257:A:N6	55:2:1750:HOH:O	2.47	0.42
2:2:1315:U:H3'	2:2:1316:G:C8	2.54	0.42
7:B:49:THR:OG1	7:B:50:THR:N	2.53	0.42
9:D:46:GLN:CB	9:D:83:VAL:HG11	2.49	0.42
16:M:41:LEU:HD23	16:M:96:ILE:HG13	2.02	0.42
26:W:37:ARG:HD3	26:W:37:ARG:HA	1.87	0.42
31:c:46:VAL:HG22	31:c:47:ILE:N	2.32	0.42
37:i:151:GLN:HB2	37:i:153:ARG:HG2	2.00	0.42
41:m:119:GLY:O	41:m:120:LEU:HD12	2.20	0.42
42:n:62:LEU:HD21	42:n:82:ILE:CD1	2.50	0.42
53:y:82:ILE:HA	53:y:85:LEU:HD11	2.02	0.42
1:1:690:G:O2'	1:1:780:G:OP1	2.34	0.42
1:1:892:A:H2'	1:1:893:C:O4'	2.20	0.42
1:1:1283:G:H22	1:1:1286:A:P	2.42	0.42
1:1:1331:G:C5	1:1:1333:G:N7	2.88	0.42
1:1:2013:A:C2'	1:1:2014:A:O5'	2.68	0.42
1:1:2392:A:N1	15:L:55:MET:HG3	2.35	0.42
1:1:2399:G:C6	1:1:2418:A:N1	2.87	0.42
1:1:2627:G:C2	1:1:2777:G:C2	3.07	0.42
2:2:350:G:OP1	53:y:2:ASN:ND2	2.53	0.42
2:2:402:G:H2'	2:2:403:C:O4'	2.20	0.42
2:2:777:A:C4	2:2:778:G:C8	3.08	0.42
2:2:958:A:H1'	2:2:985:C:O2'	2.20	0.42
3:3:39:A:H2'	3:3:40:U:C6	2.55	0.42
7:B:254:LYS:HB2	7:B:254:LYS:HE3	1.70	0.42
8:C:86:GLU:O	8:C:87:GLY:C	2.63	0.42
10:E:30:VAL:HG23	10:E:95:MET:HE1	2.02	0.42
12:G:76:GLU:OE1	12:G:142:VAL:HG22	2.20	0.42
14:K:52:VAL:HG12	14:K:53:LYS:N	2.34	0.42
23:T:57:VAL:HG12	23:T:86:THR:OG1	2.20	0.42
30:b:5:ASN:O	30:b:6:LYS:C	2.63	0.42
37:i:28:ASP:O	37:i:29:THR:OG1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:p:45:THR:HG23	44:p:48:GLY:H	1.85	0.42
50:v:65:PRO:HA	50:v:70:LYS:O	2.20	0.42
52:x:32:THR:HG22	52:x:34:SER:H	1.85	0.42
52:x:41:PRO:HA	52:x:44:ILE:HD13	2.02	0.42
1:1:212:G:H2'	1:1:213:A:C8	2.55	0.41
1:1:604:G:C6	1:1:625:G:N1	2.88	0.41
1:1:893:C:H2'	1:1:894:U:O4'	2.19	0.41
1:1:1005:C:HO2'	13:J:30:THR:HG21	1.79	0.41
1:1:1108:U:C4	1:1:1109:C:C4	3.08	0.41
1:1:1840:G:C6	1:1:1841:U:C4	3.07	0.41
1:1:2045:C:O2'	30:b:14:MET:O	2.33	0.41
1:1:2134:A:C4	1:1:2158:A:H5'	2.55	0.41
2:2:75:G:O6	2:2:76:G:N1	2.53	0.41
2:2:187:G:H21	2:2:190:A:H8	1.67	0.41
2:2:414:A:H8	2:2:428:G:H22	1.67	0.41
2:2:977:A:H1'	2:2:1223:C:N4	2.35	0.41
2:2:1012:A:H2'	2:2:1013:G:O4'	2.19	0.41
10:E:7:TYR:O	10:E:12:VAL:HG23	2.20	0.41
27:X:32:LEU:C	27:X:32:LEU:HD23	2.45	0.41
42:n:10:ARG:HA	42:n:14:SER:O	2.20	0.41
42:n:20:ILE:HD12	42:n:61:ASP:C	2.45	0.41
45:q:14:LYS:H	45:q:14:LYS:HG3	1.52	0.41
53:y:73:ARG:O	53:y:74:HIS:C	2.60	0.41
1:1:1172:C:H3'	1:1:1173:U:O4'	2.20	0.41
1:1:1353:A:H5''	7:B:35:LYS:HZ1	1.85	0.41
1:1:1426:G:OP2	1:1:1427:A:O2'	2.26	0.41
1:1:1966:A:N6	55:1:3462:HOH:O	2.48	0.41
1:1:2142:A:N6	1:1:2150:C:O2	2.52	0.41
2:2:363:A:H2'	2:2:364:A:N9	2.35	0.41
2:2:887:G:H2'	2:2:888:G:O4'	2.20	0.41
2:2:1078:U:H5''	38:j:137:ARG:NH2	2.36	0.41
2:2:1148:U:H5'	42:n:6:TYR:OH	2.20	0.41
5:5:5:A:C6	5:5:69:G:C6	3.08	0.41
6:A:45:ALA:HB1	6:A:170:ILE:CD1	2.33	0.41
7:B:164:VAL:HG23	7:B:165:ALA:N	2.35	0.41
16:M:13:HIS:O	16:M:14:LYS:HB3	2.19	0.41
19:P:4:ILE:O	19:P:8:GLU:OE1	2.38	0.41
21:R:28:ALA:HB3	21:R:31:GLU:HB2	2.01	0.41
22:S:14:ALA:O	22:S:15:GLN:C	2.62	0.41
24:U:38:ILE:HG23	24:U:39:ASN:N	2.34	0.41
37:i:145:ARG:HG3	37:i:147:LYS:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:n:117:LEU:HD23	42:n:121:ARG:C	2.45	0.41
48:t:7:THR:HG22	48:t:30:LEU:HD11	2.02	0.41
52:x:77:ARG:O	52:x:78:THR:C	2.63	0.41
1:1:221:A:C4	1:1:266:G:N7	2.88	0.41
1:1:591:U:O2'	33:e:1:PRO:N	2.52	0.41
1:1:880:G:C4	1:1:881:G:C8	3.08	0.41
1:1:953:G:C2	1:1:954:G:C8	3.07	0.41
1:1:1453:A:O2'	1:1:1454:C:OP2	2.36	0.41
1:1:1738:G:HO2'	1:1:1739:A:H8	1.68	0.41
1:1:2313:C:O4'	10:E:36:ASN:ND2	2.54	0.41
1:1:2638:G:H22	1:1:2775:G:H2'	1.85	0.41
1:1:2689:U:OP1	1:1:2719:G:N1	2.46	0.41
1:1:2847:U:H2'	1:1:2848:G:O4'	2.20	0.41
2:2:592:G:H2'	2:2:593:U:O4'	2.20	0.41
2:2:619:U:H6	2:2:619:U:H2'	1.74	0.41
2:2:965:U:H1'	2:2:969:A:C2	2.55	0.41
2:2:1208:C:C2	2:2:1209:C:C5	3.08	0.41
2:2:1238:A:N3	2:2:1238:A:H2'	2.34	0.41
3:3:71:C:C2	3:3:106:G:N2	2.88	0.41
11:F:150:TYR:O	11:F:151:ARG:NH1	2.40	0.41
15:L:3:LEU:HD12	15:L:3:LEU:HA	1.87	0.41
20:Q:48:ASP:HA	20:Q:51:GLN:HB2	2.01	0.41
36:h:112:ALA:HB1	36:h:199:VAL:HG23	2.02	0.41
46:r:95:PRO:HG3	46:r:108:ARG:N	2.34	0.41
49:u:21:VAL:O	49:u:21:VAL:HG13	2.20	0.41
1:1:428:A:H2'	1:1:429:A:O5'	2.21	0.41
1:1:519:U:H5''	22:S:25:ARG:HH12	1.85	0.41
1:1:714:U:N3	1:1:717:C:OP2	2.47	0.41
1:1:993:G:C6	1:1:1162:G:C6	3.08	0.41
1:1:1103:A:H2'	1:1:1103:A:N3	2.36	0.41
1:1:1177:G:H8	1:1:1178:C:H1'	1.86	0.41
1:1:1406:U:C2	1:1:1407:G:C8	3.08	0.41
1:1:2246:G:N2	1:1:2426:A:O4'	2.53	0.41
1:1:2305:U:C5	10:E:151:LEU:HA	2.55	0.41
2:2:822:U:O4	2:2:823:C:N4	2.53	0.41
2:2:868:C:H2'	2:2:869:G:O4'	2.20	0.41
2:2:993:G:H2'	2:2:993:G:N3	2.35	0.41
2:2:1238:A:N7	2:2:1301:U:O4	2.53	0.41
2:2:1351:U:H2'	2:2:1352:C:C6	2.56	0.41
2:2:1533:C:H4'	2:2:1533:C:OP1	2.21	0.41
7:B:47:ARG:O	7:B:48:ILE:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:32:LEU:O	13:J:36:LEU:HD13	2.21	0.41
17:N:35:LYS:HE3	55:N:301:HOH:O	2.20	0.41
25:V:30:ILE:HG22	25:V:91:PHE:HB2	2.02	0.41
33:e:31:ILE:HG13	33:e:31:ILE:O	2.21	0.41
44:p:125:LYS:O	44:p:126:ARG:HG2	2.20	0.41
46:r:15:VAL:O	46:r:19:THR:HG23	2.20	0.41
50:v:22:VAL:HG22	50:v:23:ALA:N	2.35	0.41
52:x:41:PRO:HA	52:x:44:ILE:CD1	2.50	0.41
1:1:226:A:H2'	1:1:227:A:N9	2.34	0.41
1:1:1288:G:OP1	1:1:1289:C:C5	2.74	0.41
1:1:1347:A:C5	1:1:1348:C:C6	3.09	0.41
1:1:1425:G:C2'	1:1:1426:G:O4'	2.68	0.41
1:1:1516:G:C6	1:1:1517:G:C5	3.09	0.41
1:1:1626:A:O2'	1:1:1627:G:O5'	2.39	0.41
1:1:2074:U:H2'	1:1:2075:U:C6	2.55	0.41
1:1:2514:U:H2'	1:1:2515:C:C6	2.56	0.41
1:1:2723:C:OP1	8:C:114:LYS:HD3	2.21	0.41
2:2:1135:U:H5'	55:2:1769:HOH:O	2.21	0.41
2:2:1185:G:H2'	2:2:1186:G:C8	2.55	0.41
2:2:1211:U:C2'	2:2:1212:U:OP2	2.68	0.41
5:5:18:G:O2'	5:5:19:G:O4'	2.38	0.41
7:B:99:GLU:OE1	7:B:101:ARG:NH1	2.49	0.41
8:C:49:GLN:HA	8:C:81:GLU:HG2	2.02	0.41
8:C:94:GLN:OE1	8:C:95:SER:N	2.54	0.41
9:D:3:LEU:HD23	9:D:14:VAL:HG22	2.03	0.41
29:Z:10:ARG:C	29:Z:31:ILE:HD12	2.45	0.41
31:c:10:LEU:HD23	31:c:50:GLU:HA	2.02	0.41
37:i:47:LEU:HD21	37:i:51:GLY:HA3	2.01	0.41
38:j:104:ILE:O	38:j:104:ILE:HG22	2.20	0.41
40:l:115:MET:O	40:l:119:LEU:HD23	2.20	0.41
44:p:34:THR:HG22	44:p:40:ALA:HA	2.02	0.41
45:q:32:VAL:O	45:q:77:SER:O	2.39	0.41
1:1:49:A:H2'	1:1:49:A:N3	2.35	0.41
1:1:225:C:C2'	1:1:226:A:O5'	2.69	0.41
1:1:381:G:OP1	27:X:17:ARG:NE	2.53	0.41
1:1:750:A:OP1	1:1:1615:C:N4	2.47	0.41
1:1:1107:G:C2	1:1:1108:U:C5	3.09	0.41
1:1:1273:U:O2	1:1:2002:G:O2'	2.23	0.41
1:1:1353:A:H2'	1:1:1354:A:C8	2.55	0.41
1:1:1415:U:O2'	1:1:1416:G:H4'	2.20	0.41
1:1:1564:C:H2'	1:1:1565:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1715:G:H22	1:1:1743:G:H3'	1.84	0.41
1:1:1754:A:O2'	19:P:102:ARG:NH2	2.53	0.41
1:1:2017:U:O2'	1:1:2019:A:OP2	2.23	0.41
1:1:2390:U:H3'	1:1:2391:G:H5''	2.02	0.41
2:2:111:G:OP2	55:2:1701:HOH:O	2.22	0.41
2:2:142:G:H2'	2:2:143:A:O4'	2.21	0.41
2:2:146:G:H1	2:2:176:C:N4	2.01	0.41
2:2:674:G:H2'	2:2:675:A:H8	1.86	0.41
2:2:922:G:H1'	38:j:23:THR:HG23	2.03	0.41
2:2:1102:A:H2'	2:2:1103:C:C6	2.55	0.41
2:2:1239:A:N3	2:2:1241:G:N1	2.69	0.41
14:K:64:ARG:NE	19:P:67:GLU:OE1	2.53	0.41
21:R:2:TYR:CE1	21:R:42:ALA:HB3	2.56	0.41
27:X:41:SER:O	27:X:43:LYS:NZ	2.54	0.41
35:g:23:GLU:OE1	35:g:23:GLU:N	2.53	0.41
42:n:16:ALA:HB2	42:n:77:ALA:CB	2.49	0.41
44:p:85:VAL:HG12	44:p:92:ARG:NH2	2.36	0.41
1:1:23:G:H2'	1:1:24:G:C8	2.56	0.41
1:1:127:A:H5''	1:1:128:C:O4'	2.20	0.41
1:1:485:C:O2'	22:S:60:HIS:NE2	2.47	0.41
1:1:569:U:H5''	1:1:821:A:H62	1.86	0.41
1:1:813:U:H2'	1:1:814:C:C6	2.56	0.41
1:1:1125:G:P	1:1:1126:A:HO2'	2.42	0.41
1:1:2293:G:C6	1:1:2340:A:C6	3.08	0.41
1:1:2458:G:C2	1:1:2490:G:N2	2.88	0.41
1:1:2459:A:C6	1:1:2494:G:C2	3.09	0.41
1:1:2674:G:H2'	1:1:2675:A:C8	2.56	0.41
2:2:174:A:C5	2:2:175:C:C5	3.09	0.41
2:2:580:C:H2'	2:2:581:G:O4'	2.21	0.41
2:2:1173:U:O2'	2:2:1174:G:OP1	2.35	0.41
2:2:1204:A:C2'	2:2:1205:U:O4'	2.69	0.41
2:2:1204:A:H2'	2:2:1205:U:C6	2.55	0.41
2:2:1306:A:H2	46:r:107:THR:HG21	1.86	0.41
19:P:29:VAL:C	19:P:39:LEU:HD12	2.45	0.41
25:V:81:PRO:O	25:V:83:LYS:N	2.53	0.41
46:r:51:GLN:O	46:r:55:LEU:HG	2.21	0.41
46:r:109:LYS:HE2	46:r:109:LYS:HB2	1.79	0.41
53:y:53:MET:HE2	53:y:57:VAL:HG11	2.01	0.41
1:1:382:A:C2'	1:1:383:C:O5'	2.69	0.41
1:1:566:U:H2'	1:1:567:U:C6	2.55	0.41
1:1:856:G:N2	1:1:922:C:C2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:971:G:C5	1:1:972:A:C5	3.08	0.41
1:1:975:A:H3'	1:1:976:G:H8	1.86	0.41
1:1:2507:C:C1'	1:1:2583:G:H22	2.33	0.41
2:2:60:A:OP1	2:2:111:G:N2	2.46	0.41
2:2:243:A:N6	2:2:283:U:O4	2.54	0.41
2:2:1359:C:P	47:s:61:ASN:HD22	2.44	0.41
3:3:2:G:N1	3:3:119:A:C2	2.89	0.41
3:3:15:A:H1'	3:3:109:A:C8	2.56	0.41
9:D:88:ARG:HE	9:D:88:ARG:HB2	1.72	0.41
11:F:32:LEU:HD21	11:F:74:MET:SD	2.60	0.41
17:N:22:ARG:HD2	17:N:70:THR:H	1.85	0.41
21:R:65:ALA:HB3	21:R:95:ASP:HB3	2.02	0.41
22:S:68:ASP:O	22:S:69:LEU:HD12	2.21	0.41
33:e:6:VAL:O	33:e:7:ARG:C	2.63	0.41
33:e:6:VAL:O	33:e:9:ALA:N	2.31	0.41
36:h:173:PRO:HD2	36:h:202:PHE:CD1	2.56	0.41
40:l:49:LEU:CD2	40:l:123:LEU:HD23	2.50	0.41
41:m:112:ASP:OD1	41:m:112:ASP:N	2.52	0.41
50:v:10:ARG:HG3	50:v:57:VAL:HG22	2.03	0.41
51:w:54:LEU:HD23	51:w:54:LEU:C	2.46	0.41
52:x:62:THR:HG22	52:x:63:ASP:N	2.36	0.41
1:1:19:A:H2'	1:1:20:C:H6	1.85	0.41
1:1:353:C:N4	1:1:354:A:H62	2.19	0.41
1:1:361:G:O2'	1:1:362:A:H5'	2.21	0.41
1:1:388:G:N7	1:1:390:U:H2'	2.35	0.41
1:1:631:A:OP2	33:e:46:LYS:HE3	2.21	0.41
1:1:661:A:H2'	1:1:662:G:O4'	2.21	0.41
1:1:803:U:H2'	1:1:804:A:C5'	2.51	0.41
1:1:1081:U:H2'	1:1:1082:U:C6	2.56	0.41
1:1:1295:C:C2	1:1:1296:G:C8	3.09	0.41
1:1:1403:A:H2'	1:1:1404:C:O4'	2.21	0.41
1:1:1841:U:C2	1:1:1842:G:C8	3.08	0.41
1:1:1857:G:O2'	1:1:1858:A:O4'	2.39	0.41
1:1:2184:A:O2'	1:1:2185:U:O4'	2.31	0.41
1:1:2186:G:H2'	1:1:2187:U:O4'	2.21	0.41
1:1:2507:C:C2	1:1:2508:G:C8	3.08	0.41
1:1:2531:A:H62	11:F:176:LYS:CD	2.33	0.41
1:1:2804:U:H2'	1:1:2805:C:C6	2.56	0.41
1:1:2865:U:P	1:1:2866:U:HO2'	2.32	0.41
1:1:2895:G:H2'	1:1:2896:C:C6	2.56	0.41
2:2:98:A:H2'	2:2:99:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:112:G:H4'	2:2:389:A:H4'	2.03	0.41
2:2:565:U:OP2	2:2:566:G:O2'	2.17	0.41
2:2:945:G:N2	2:2:1334:G:O2'	2.54	0.41
2:2:1073:U:H2'	2:2:1074:G:O4'	2.21	0.41
2:2:1126:U:O4	43:o:9:ARG:NE	2.53	0.41
2:2:1307:U:C2'	46:r:95:PRO:HB2	2.51	0.41
2:2:1535:C:O2	2:2:1535:C:O4'	2.39	0.41
3:3:3:C:H3'	3:3:4:C:H5''	2.03	0.41
3:3:46:A:C5	3:3:47:C:C5	3.08	0.41
3:3:65:U:H3'	3:3:108:A:H61	1.85	0.41
7:B:68:ARG:NH1	7:B:126:GLY:O	2.52	0.41
8:C:62:LYS:O	8:C:63:PRO:C	2.62	0.41
9:D:148:ILE:HD13	9:D:187:VAL:HG12	2.03	0.41
10:E:71:LYS:NZ	10:E:72:SER:H	2.19	0.41
12:G:3:VAL:HG13	12:G:37:VAL:C	2.46	0.41
14:K:38:ILE:H	14:K:38:ILE:HD12	1.86	0.41
17:N:98:LEU:HD12	30:b:42:ILE:HG21	2.03	0.41
27:X:3:VAL:HG12	27:X:10:ARG:HB2	2.03	0.41
33:e:16:THR:HG21	33:e:48:MET:HE1	2.01	0.41
35:g:24:LYS:NZ	44:p:111:ASP:OD2	2.53	0.41
36:h:107:LYS:HG2	36:h:143:LEU:HD22	2.03	0.41
38:j:119:VAL:HG11	38:j:122:VAL:HG22	2.02	0.41
42:n:54:VAL:HG23	42:n:55:ASP:N	2.35	0.41
43:o:87:LEU:HA	43:o:90:LEU:HD22	2.03	0.41
46:r:96:VAL:O	46:r:97:ARG:HG3	2.21	0.41
47:s:6:LYS:HA	47:s:62:ARG:HH21	1.86	0.41
47:s:42:ASN:HA	47:s:45:LEU:HD12	2.03	0.41
48:t:84:LEU:HD23	48:t:86:LEU:HD23	2.01	0.41
1:1:5:A:H2'	1:1:6:A:H8	1.86	0.41
1:1:974:G:P	1:1:1186:G:H21	2.44	0.41
1:1:1087:G:O2'	1:1:1089:A:O4'	2.32	0.41
1:1:1992:G:N2	1:1:1996:C:O2'	2.54	0.41
1:1:2026:U:C2	1:1:2027:G:C8	3.09	0.41
1:1:2353:G:O3'	26:W:28:LEU:HD23	2.21	0.41
1:1:2396:G:C2	1:1:2421:G:C2	3.09	0.41
1:1:2507:C:H2'	1:1:2508:G:O4'	2.21	0.41
1:1:2515:C:H2'	1:1:2516:A:H8	1.86	0.41
1:1:2527:C:H2'	1:1:2528:U:O4'	2.20	0.41
1:1:2575:C:H6	1:1:2575:C:O5'	2.04	0.41
1:1:2652:C:H2'	1:1:2653:U:O4'	2.21	0.41
2:2:688:G:C2	2:2:689:C:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:776:G:N2	2:2:802:A:OP2	2.46	0.41
2:2:936:C:N3	2:2:937:A:C8	2.90	0.41
2:2:988:G:O2'	2:2:989:U:O4'	2.37	0.41
2:2:1028:C:N3	2:2:1033:G:N2	2.69	0.41
2:2:1149:C:H2'	2:2:1150:A:O4'	2.21	0.41
2:2:1381:U:O2	2:2:1381:U:H2'	2.19	0.41
3:3:28:C:H2'	3:3:29:A:O4'	2.21	0.41
3:3:85:G:C2	3:3:92:C:C2	3.09	0.41
6:A:33:LEU:HB3	6:A:216:THR:HG21	2.02	0.41
8:C:49:GLN:NE2	8:C:50:VAL:O	2.53	0.41
11:F:37:ASN:OD1	11:F:38:ASP:N	2.54	0.41
11:F:89:VAL:N	11:F:160:GLY:O	2.50	0.41
14:K:17:ARG:HD2	14:K:17:ARG:HA	1.96	0.41
20:Q:4:LYS:O	20:Q:5:ARG:C	2.64	0.41
21:R:26:ASP:C	21:R:27:ILE:HD13	2.46	0.41
24:U:58:VAL:HG12	24:U:59:GLU:N	2.35	0.41
38:j:80:LEU:HD12	38:j:81:GLN:N	2.36	0.41
38:j:104:ILE:HD11	38:j:120:HIS:HA	2.03	0.41
43:o:29:ALA:HB1	43:o:36:VAL:HG11	2.03	0.41
45:q:101:LEU:HG	45:q:102:ASP:N	2.36	0.41
46:r:28:ARG:HD2	46:r:28:ARG:O	2.21	0.41
1:1:190:A:O5'	1:1:205:G:N2	2.54	0.40
1:1:289:G:O2'	1:1:290:U:O5'	2.37	0.40
1:1:494:G:H4'	22:S:6:LYS:CG	2.52	0.40
1:1:546:U:O2'	1:1:548:G:O6	2.39	0.40
1:1:955:U:H2'	1:1:956:G:O4'	2.21	0.40
1:1:1026:G:H2'	1:1:1027:A:H8	1.86	0.40
1:1:1402:U:C3'	1:1:1403:A:H5''	2.51	0.40
1:1:1649:G:C6	1:1:2009:A:N6	2.89	0.40
1:1:1839:G:C2	1:1:1840:G:C8	3.09	0.40
1:1:2073:C:C2	1:1:2437:G:C2	3.10	0.40
1:1:2489:U:H2'	1:1:2490:G:O4'	2.21	0.40
1:1:2586:U:H2'	1:1:2587:A:O4'	2.21	0.40
1:1:2748:A:N7	1:1:2753:A:N6	2.69	0.40
1:1:2809:A:N7	1:1:2890:G:N2	2.69	0.40
2:2:104:G:H4'	2:2:174:A:O4'	2.21	0.40
2:2:605:U:H2'	2:2:606:G:O4'	2.21	0.40
2:2:893:C:H2'	2:2:894:G:O4'	2.21	0.40
2:2:936:C:C4	2:2:937:A:N7	2.89	0.40
2:2:1044:A:C5	2:2:1045:C:H1'	2.56	0.40
2:2:1147:C:O2	42:n:17:ARG:NH1	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1148:U:H2'	2:2:1149:C:O4'	2.21	0.40
2:2:1206:G:C4	2:2:1207:G:C8	3.09	0.40
2:2:1294:G:C6	2:2:1295:U:C4	3.09	0.40
2:2:1306:A:C2	46:r:107:THR:HG21	2.56	0.40
2:2:1318:A:H5''	52:x:4:LEU:HD11	2.03	0.40
2:2:1333:A:H2'	2:2:1334:G:O4'	2.22	0.40
12:G:103:VAL:HG23	12:G:104:THR:N	2.36	0.40
15:L:102:GLY:O	15:L:103:ILE:C	2.64	0.40
36:h:111:ASP:OD1	36:h:113:LYS:N	2.54	0.40
41:m:8:ASP:OD1	41:m:12:ARG:NE	2.53	0.40
50:v:76:ARG:CZ	50:v:78:VAL:HG22	2.50	0.40
51:w:58:ILE:O	51:w:59:LYS:C	2.64	0.40
52:x:21:ALA:N	55:x:104:HOH:O	2.53	0.40
1:1:76:C:C2	1:1:111:A:C2	3.08	0.40
1:1:231:A:C2'	1:1:232:G:O5'	2.70	0.40
1:1:672:C:O2'	1:1:673:C:H5'	2.21	0.40
1:1:956:G:H4'	16:M:82:MET:HE1	2.01	0.40
1:1:966:G:N2	55:1:3482:HOH:O	2.54	0.40
1:1:989:G:C4	29:Z:13:ILE:HD11	2.56	0.40
1:1:1253:A:OP1	20:Q:32:ARG:NH1	2.54	0.40
1:1:1322:A:C5	1:1:1323:C:C5	3.09	0.40
1:1:2185:U:C4	1:1:2186:G:O6	2.74	0.40
2:2:925:G:C2	2:2:927:G:C8	3.10	0.40
2:2:1038:C:H2'	2:2:1039:G:H8	1.86	0.40
2:2:1377:A:O2'	2:2:1379:G:O6	2.40	0.40
2:2:1458:G:O2'	53:y:22:SER:OG	2.25	0.40
6:A:23:ILE:H	6:A:23:ILE:HD12	1.84	0.40
9:D:48:THR:O	9:D:52:VAL:HG23	2.22	0.40
14:K:61:VAL:HG12	14:K:87:LEU:HD11	2.03	0.40
30:b:24:VAL:HG13	30:b:25:THR:H	1.86	0.40
34:f:33:HIS:O	34:f:35:GLN:N	2.55	0.40
38:j:80:LEU:HD11	38:j:97:PRO:HG3	2.03	0.40
44:p:19:VAL:HG12	44:p:20:ALA:N	2.36	0.40
50:v:25:GLU:OE1	50:v:25:GLU:N	2.54	0.40
52:x:38:THR:OG1	52:x:39:ILE:N	2.54	0.40
1:1:269:C:H2'	1:1:270:A:C8	2.57	0.40
1:1:614:A:H5'	1:1:616:A:C5	2.57	0.40
1:1:866:A:H2'	1:1:867:C:O4'	2.21	0.40
1:1:1199:U:H2'	1:1:1200:C:O4'	2.21	0.40
1:1:1650:A:C4	1:1:1651:G:C8	3.09	0.40
1:1:2643:G:C6	1:1:2644:G:C6	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2812:G:H2'	1:1:2813:A:O4'	2.21	0.40
2:2:1127:G:C2	2:2:1128:C:C6	3.09	0.40
2:2:1221:G:H2'	2:2:1222:G:H5'	2.03	0.40
7:B:159:THR:O	7:B:194:VAL:HG22	2.21	0.40
7:B:245:THR:N	7:B:249:VAL:O	2.51	0.40
17:N:65:LEU:HD23	17:N:65:LEU:C	2.47	0.40
18:O:100:HIS:HE1	55:O:202:HOH:O	1.86	0.40
24:U:93:ARG:HB2	24:U:102:ILE:HD12	2.03	0.40
35:g:35:GLU:O	35:g:36:PHE:HB2	2.21	0.40
41:m:91:LEU:O	41:m:116:ARG:NH2	2.54	0.40
43:o:42:LEU:O	43:o:43:PRO:C	2.64	0.40
44:p:59:PRO:O	44:p:62:ALA:N	2.54	0.40
49:u:61:VAL:HA	49:u:64:GLY:O	2.21	0.40
1:1:80:G:O2'	1:1:294:A:N1	2.51	0.40
1:1:523:C:H2'	1:1:524:G:H8	1.87	0.40
1:1:683:U:O2'	1:1:684:G:P	2.79	0.40
1:1:738:G:H2'	1:1:739:A:O4'	2.21	0.40
1:1:755:U:C2	1:1:756:A:C8	3.10	0.40
1:1:1212:G:O2'	1:1:1213:A:OP2	2.36	0.40
1:1:1399:C:C2	1:1:1400:U:C5	3.09	0.40
1:1:1817:G:C6	1:1:1818:U:O2	2.74	0.40
1:1:2184:A:N6	55:1:3483:HOH:O	2.55	0.40
1:1:2293:G:O6	1:1:2340:A:N6	2.55	0.40
1:1:2384:U:H3'	1:1:2385:C:C5'	2.51	0.40
1:1:2604:U:C2	1:1:2605:U:C5	3.10	0.40
2:2:404:G:O5'	37:i:114:ARG:NH2	2.54	0.40
2:2:993:G:N2	2:2:1046:A:H1'	2.36	0.40
2:2:1104:G:H2'	2:2:1105:A:O4'	2.21	0.40
2:2:1171:A:H2'	2:2:1172:C:O4'	2.22	0.40
2:2:1267:C:H2'	2:2:1268:G:O4'	2.21	0.40
2:2:1321:U:H3'	2:2:1322:C:H5''	2.03	0.40
16:M:47:GLU:CD	55:M:201:HOH:O	2.64	0.40
20:Q:89:ILE:HG23	20:Q:94:LEU:HD11	2.04	0.40
21:R:53:PHE:N	21:R:53:PHE:CD1	2.88	0.40
36:h:37:LYS:HB3	36:h:93:ILE:HD11	2.03	0.40
38:j:104:ILE:HD12	38:j:104:ILE:N	2.36	0.40
39:k:7:VAL:HG23	39:k:60:VAL:O	2.22	0.40
42:n:12:LYS:HE3	42:n:12:LYS:HB2	1.79	0.40
43:o:26:VAL:O	43:o:30:LYS:HG2	2.20	0.40
43:o:80:THR:O	43:o:83:THR:OG1	2.28	0.40
45:q:97:VAL:HG22	45:q:98:ARG:H	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:s:80:ARG:HA	47:s:83:VAL:HG12	2.04	0.40
47:s:96:LYS:NZ	47:s:98:ALA:HB2	2.36	0.40
1:1:20:C:C2	1:1:21:A:N7	2.90	0.40
1:1:95:A:C6	1:1:96:C:C5	3.10	0.40
1:1:142:A:HO2'	1:1:143:C:P	2.41	0.40
1:1:1045:C:H4'	1:1:1046:A:H5''	2.03	0.40
1:1:2147:A:C4'	55:1:3419:HOH:O	2.56	0.40
1:1:2183:A:C6	1:1:2184:A:N6	2.90	0.40
1:1:2687:U:H2'	1:1:2688:G:O4'	2.22	0.40
2:2:477:C:H2'	2:2:478:A:C8	2.56	0.40
2:2:1255:G:O2'	2:2:1258:G:N3	2.50	0.40
2:2:1416:G:H1	2:2:1484:C:H42	1.68	0.40
2:2:1456:A:H2'	2:2:1457:G:O4'	2.21	0.40
7:B:94:LEU:HD12	7:B:94:LEU:O	2.21	0.40
10:E:50:ASP:CG	55:E:314:HOH:O	2.64	0.40
12:G:130:VAL:HG22	12:G:131:SER:N	2.36	0.40
14:K:44:LYS:O	14:K:45:GLU:C	2.64	0.40
18:O:27:VAL:HG22	18:O:93:ASP:HB2	2.03	0.40
21:R:36:ALA:N	21:R:37:GLU:OE1	2.55	0.40
23:T:57:VAL:HG22	23:T:58:VAL:N	2.36	0.40
37:i:61:ARG:HH21	37:i:67:LEU:C	2.29	0.40
37:i:116:LEU:CD2	37:i:122:ILE:HD11	2.51	0.40
40:l:38:ALA:O	40:l:42:VAL:HG13	2.22	0.40
42:n:89:TYR:O	42:n:90:ASP:C	2.65	0.40
50:v:20:ILE:HD13	50:v:52:CYS:SG	2.61	0.40
52:x:40:PHE:HB3	52:x:41:PRO:HD2	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
6	A	130/229 (57%)	121 (93%)	9 (7%)	0	100	100
7	B	269/273 (98%)	232 (86%)	34 (13%)	3 (1%)	12	43
8	C	207/209 (99%)	179 (86%)	26 (13%)	2 (1%)	13	44
9	D	199/201 (99%)	178 (89%)	20 (10%)	1 (0%)	25	57
10	E	175/179 (98%)	154 (88%)	20 (11%)	1 (1%)	22	54
11	F	174/177 (98%)	161 (92%)	13 (8%)	0	100	100
12	G	147/149 (99%)	142 (97%)	5 (3%)	0	100	100
13	J	140/142 (99%)	130 (93%)	8 (6%)	2 (1%)	9	39
14	K	120/123 (98%)	101 (84%)	17 (14%)	2 (2%)	7	36
15	L	141/144 (98%)	111 (79%)	27 (19%)	3 (2%)	5	33
16	M	134/136 (98%)	118 (88%)	16 (12%)	0	100	100
17	N	118/127 (93%)	97 (82%)	19 (16%)	2 (2%)	7	36
18	O	114/117 (97%)	101 (89%)	13 (11%)	0	100	100
19	P	112/115 (97%)	105 (94%)	7 (6%)	0	100	100
20	Q	115/118 (98%)	109 (95%)	6 (5%)	0	100	100
21	R	101/103 (98%)	88 (87%)	13 (13%)	0	100	100
22	S	108/110 (98%)	99 (92%)	9 (8%)	0	100	100
23	T	91/100 (91%)	81 (89%)	9 (10%)	1 (1%)	12	43
24	U	100/104 (96%)	91 (91%)	9 (9%)	0	100	100
25	V	92/94 (98%)	85 (92%)	7 (8%)	0	100	100
26	W	73/84 (87%)	66 (90%)	7 (10%)	0	100	100
27	X	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
28	Y	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
29	Z	56/59 (95%)	54 (96%)	2 (4%)	0	100	100
30	b	54/57 (95%)	50 (93%)	4 (7%)	0	100	100
31	c	48/55 (87%)	45 (94%)	3 (6%)	0	100	100
32	d	44/46 (96%)	42 (96%)	2 (4%)	0	100	100
33	e	62/65 (95%)	55 (89%)	6 (10%)	1 (2%)	8	37
34	f	36/38 (95%)	29 (81%)	7 (19%)	0	100	100
35	g	63/71 (89%)	48 (76%)	14 (22%)	1 (2%)	8	37
36	h	204/206 (99%)	192 (94%)	12 (6%)	0	100	100
37	i	203/206 (98%)	182 (90%)	21 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
38	j	155/167 (93%)	141 (91%)	14 (9%)	0	100	100
39	k	98/135 (73%)	89 (91%)	9 (9%)	0	100	100
40	l	149/179 (83%)	140 (94%)	9 (6%)	0	100	100
41	m	127/130 (98%)	115 (91%)	12 (9%)	0	100	100
42	n	125/130 (96%)	114 (91%)	11 (9%)	0	100	100
43	o	96/103 (93%)	80 (83%)	13 (14%)	3 (3%)	3	27
44	p	114/129 (88%)	101 (89%)	12 (10%)	1 (1%)	14	47
45	q	121/124 (98%)	92 (76%)	28 (23%)	1 (1%)	16	49
46	r	112/118 (95%)	99 (88%)	13 (12%)	0	100	100
47	s	98/101 (97%)	85 (87%)	12 (12%)	1 (1%)	13	44
48	t	86/89 (97%)	79 (92%)	7 (8%)	0	100	100
49	u	80/82 (98%)	72 (90%)	8 (10%)	0	100	100
50	v	78/84 (93%)	61 (78%)	17 (22%)	0	100	100
51	w	63/75 (84%)	59 (94%)	4 (6%)	0	100	100
52	x	77/92 (84%)	65 (84%)	11 (14%)	1 (1%)	10	40
53	y	83/87 (95%)	83 (100%)	0	0	100	100
All	All	5428/5803 (94%)	4852 (89%)	550 (10%)	26 (0%)	27	57

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	B	260	LYS
14	K	28	SER
17	N	3	HIS
35	g	10	PRO
7	B	259	ASN
10	E	123	GLY
14	K	13	ASN
15	L	65	GLY
17	N	117	ASP
45	q	15	VAL
47	s	53	ASP
9	D	79	ARG
13	J	39	LYS
43	o	37	ARG
7	B	254	LYS

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Mol	Chain	Res	Type
8	C	156	PHE
13	J	81	ILE
52	x	27	LYS
15	L	103	ILE
23	T	10	VAL
43	o	56	HIS
15	L	128	THR
43	o	42	LEU
8	C	78	GLY
44	p	114	PRO
33	e	31	ILE

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
6	A	110/177 (62%)	110 (100%)	0	100	100
7	B	216/218 (99%)	212 (98%)	4 (2%)	52	70
8	C	164/164 (100%)	160 (98%)	4 (2%)	44	63
9	D	165/165 (100%)	161 (98%)	4 (2%)	44	63
10	E	148/150 (99%)	147 (99%)	1 (1%)	81	88
11	F	137/138 (99%)	137 (100%)	0	100	100
12	G	114/114 (100%)	114 (100%)	0	100	100
13	J	116/116 (100%)	114 (98%)	2 (2%)	56	73
14	K	103/104 (99%)	100 (97%)	3 (3%)	37	59
15	L	102/103 (99%)	101 (99%)	1 (1%)	73	82
16	M	109/109 (100%)	109 (100%)	0	100	100
17	N	100/103 (97%)	98 (98%)	2 (2%)	50	68
18	O	86/87 (99%)	82 (95%)	4 (5%)	22	48
19	P	99/100 (99%)	99 (100%)	0	100	100
20	Q	89/90 (99%)	88 (99%)	1 (1%)	70	80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	R	84/84 (100%)	84 (100%)	0	100	100
22	S	93/93 (100%)	89 (96%)	4 (4%)	25	50
23	T	80/84 (95%)	78 (98%)	2 (2%)	42	62
24	U	83/85 (98%)	83 (100%)	0	100	100
25	V	78/78 (100%)	76 (97%)	2 (3%)	41	61
26	W	57/62 (92%)	57 (100%)	0	100	100
27	X	67/68 (98%)	67 (100%)	0	100	100
28	Y	55/55 (100%)	55 (100%)	0	100	100
29	Z	48/49 (98%)	45 (94%)	3 (6%)	15	42
30	b	47/48 (98%)	47 (100%)	0	100	100
31	c	45/49 (92%)	45 (100%)	0	100	100
32	d	38/38 (100%)	38 (100%)	0	100	100
33	e	51/52 (98%)	49 (96%)	2 (4%)	27	53
34	f	34/34 (100%)	34 (100%)	0	100	100
35	g	55/61 (90%)	53 (96%)	2 (4%)	30	55
36	h	170/170 (100%)	167 (98%)	3 (2%)	54	71
37	i	172/173 (99%)	172 (100%)	0	100	100
38	j	119/126 (94%)	119 (100%)	0	100	100
39	k	87/116 (75%)	82 (94%)	5 (6%)	17	45
40	l	124/147 (84%)	122 (98%)	2 (2%)	58	74
41	m	104/105 (99%)	104 (100%)	0	100	100
42	n	105/107 (98%)	105 (100%)	0	100	100
43	o	86/90 (96%)	84 (98%)	2 (2%)	45	64
44	p	89/99 (90%)	85 (96%)	4 (4%)	23	50
45	q	103/104 (99%)	96 (93%)	7 (7%)	13	40
46	r	92/96 (96%)	92 (100%)	0	100	100
47	s	83/84 (99%)	80 (96%)	3 (4%)	30	55
48	t	76/77 (99%)	76 (100%)	0	100	100
49	u	65/65 (100%)	63 (97%)	2 (3%)	35	57
50	v	74/78 (95%)	74 (100%)	0	100	100
51	w	56/65 (86%)	56 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	x	70/79 (89%)	70 (100%)	0	100	100
53	y	65/66 (98%)	65 (100%)	0	100	100
All	All	4513/4725 (96%)	4444 (98%)	69 (2%)	60	75

All (69) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	B	2	VAL
7	B	3	VAL
7	B	129	LEU
7	B	215	VAL
8	C	35	THR
8	C	37	VAL
8	C	129	THR
8	C	151	THR
9	D	83	VAL
9	D	84	THR
9	D	134	LEU
9	D	164	LEU
10	E	122	ASP
13	J	98	GLU
13	J	102	GLU
14	K	13	ASN
14	K	17	ARG
14	K	24	VAL
15	L	63	LYS
17	N	85	PRO
17	N	120	GLU
18	O	30	ARG
18	O	67	ASN
18	O	69	ASP
18	O	102	ARG
20	Q	47	ARG
22	S	4	ILE
22	S	50	VAL
22	S	55	ILE
22	S	74	ILE
23	T	6	ARG
23	T	30	ILE
25	V	19	ARG
25	V	20	LEU

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Mol	Chain	Res	Type
29	Z	2	LYS
29	Z	3	THR
29	Z	47	ILE
33	e	29	ARG
33	e	31	ILE
35	g	5	VAL
35	g	9	GLU
36	h	52	SER
36	h	54	ILE
36	h	189	HIS
39	k	10	VAL
39	k	16	GLU
39	k	89	VAL
39	k	91	ARG
39	k	92	THR
40	l	77	ARG
40	l	137	ARG
43	o	40	ILE
43	o	53	ILE
44	p	110	THR
44	p	111	ASP
44	p	112	VAL
44	p	113	THR
45	q	2	THR
45	q	14	LYS
45	q	40	THR
45	q	45	ASN
45	q	46	SER
45	q	51	VAL
45	q	87	LYS
47	s	26	LEU
47	s	50	LEU
47	s	55	SER
49	u	63	GLN
49	u	71	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (60) such sidechains are listed below:

Mol	Chain	Res	Type
6	A	20	GLN
6	A	24	ASN
6	A	67	HIS

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Mol	Chain	Res	Type
6	A	168	ASN
7	B	85	ASN
7	B	89	ASN
8	C	36	GLN
8	C	67	HIS
9	D	195	GLN
11	F	19	ASN
11	F	63	GLN
12	G	66	ASN
12	G	135	HIS
14	K	29	HIS
16	M	22	GLN
17	N	9	GLN
17	N	107	ASN
18	O	38	GLN
18	O	67	ASN
19	P	6	GLN
19	P	74	GLN
20	Q	19	GLN
20	Q	58	GLN
21	R	43	ASN
21	R	89	HIS
22	S	9	HIS
22	S	61	ASN
26	W	8	ASN
26	W	42	HIS
27	X	5	GLN
28	Y	25	GLN
28	Y	36	GLN
29	Z	8	GLN
33	e	30	HIS
33	e	42	HIS
36	h	18	ASN
36	h	31	ASN
37	i	39	GLN
37	i	70	GLN
38	j	69	ASN
38	j	77	ASN
41	m	3	GLN
44	p	37	GLN
44	p	63	GLN
45	q	111	GLN

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Mol	Chain	Res	Type
46	r	104	ASN
47	s	61	ASN
48	t	27	GLN
48	t	39	GLN
48	t	41	HIS
48	t	49	HIS
49	u	9	HIS
49	u	63	GLN
50	v	46	HIS
51	w	53	GLN
52	x	13	HIS
53	y	19	HIS
53	y	20	ASN
53	y	60	GLN
53	y	74	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2902/2904 (99%)	637 (21%)	39 (1%)
2	2	1538/1540 (99%)	379 (24%)	10 (0%)
3	3	119/120 (99%)	20 (16%)	1 (0%)
4	4	3/18 (16%)	0	0
5	5	76/77 (98%)	25 (32%)	3 (3%)
All	All	4638/4659 (99%)	1061 (22%)	53 (1%)

All (1061) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	8	C
1	1	10	A
1	1	36	G
1	1	42	A
1	1	46	G
1	1	49	A
1	1	50	U
1	1	51	G
1	1	62	U
1	1	63	A
1	1	71	A
1	1	74	A

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Mol	Chain	Res	Type
1	1	82	U
1	1	84	A
1	1	89	A
1	1	93	G
1	1	96	C
1	1	98	G
1	1	102	U
1	1	103	A
1	1	108	G
1	1	112	U
1	1	118	A
1	1	120	U
1	1	125	A
1	1	134	G
1	1	138	U
1	1	140	C
1	1	141	G
1	1	142	A
1	1	149	A
1	1	162	U
1	1	168	G
1	1	176	A
1	1	181	A
1	1	186	G
1	1	196	A
1	1	199	A
1	1	201	C
1	1	204	A
1	1	205	G
1	1	206	U
1	1	216	A
1	1	222	A
1	1	226	A
1	1	228	C
1	1	232	G
1	1	233	A
1	1	248	G
1	1	255	A
1	1	265	A
1	1	266	G
1	1	276	U
1	1	278	A

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Mol	Chain	Res	Type
1	1	279	A
1	1	281	C
1	1	285	G
1	1	291	G
1	1	294	A
1	1	310	A
1	1	311	A
1	1	312	G
1	1	313	G
1	1	321	U
1	1	322	A
1	1	323	C
1	1	324	A
1	1	329	G
1	1	330	A
1	1	338	G
1	1	346	A
1	1	349	U
1	1	353	C
1	1	361	G
1	1	362	A
1	1	365	U
1	1	367	G
1	1	368	A
1	1	371	A
1	1	372	G
1	1	380	G
1	1	385	C
1	1	386	G
1	1	387	U
1	1	396	G
1	1	404	A
1	1	406	G
1	1	411	G
1	1	412	A
1	1	416	U
1	1	424	G
1	1	429	A
1	1	451	U
1	1	456	C
1	1	457	A
1	1	464	U

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Mol	Chain	Res	Type
1	1	465	G
1	1	466	A
1	1	467	G
1	1	481	G
1	1	489	G
1	1	491	G
1	1	501	A
1	1	502	A
1	1	504	A
1	1	505	A
1	1	508	A
1	1	510	C
1	1	526	A
1	1	531	C
1	1	532	A
1	1	544	C
1	1	545	U
1	1	546	U
1	1	547	A
1	1	548	G
1	1	549	G
1	1	550	C
1	1	563	A
1	1	564	C
1	1	573	U
1	1	575	A
1	1	589	U
1	1	603	A
1	1	614	A
1	1	616	A
1	1	627	A
1	1	637	A
1	1	646	U
1	1	647	G
1	1	654	A
1	1	655	A
1	1	659	G
1	1	675	A
1	1	683	U
1	1	684	G
1	1	686	U
1	1	696	G

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Mol	Chain	Res	Type
1	1	711	G
1	1	714	U
1	1	730	A
1	1	746	U
1	1	747	C
1	1	748	G
1	1	757	G
1	1	763	G
1	1	764	A
1	1	765	C
1	1	775	G
1	1	776	G
1	1	782	A
1	1	783	A
1	1	784	G
1	1	785	G
1	1	804	A
1	1	805	G
1	1	806	C
1	1	811	U
1	1	812	C
1	1	819	A
1	1	827	U
1	1	828	U
1	1	845	A
1	1	846	U
1	1	847	U
1	1	850	U
1	1	857	G
1	1	858	G
1	1	859	G
1	1	866	A
1	1	868	U
1	1	869	G
1	1	878	A
1	1	883	G
1	1	885	C
1	1	886	A
1	1	887	U
1	1	889	C
1	1	891	G
1	1	896	A

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Mol	Chain	Res	Type
1	1	897	C
1	1	898	C
1	1	907	G
1	1	910	A
1	1	914	G
1	1	915	C
1	1	919	U
1	1	932	U
1	1	934	U
1	1	941	A
1	1	945	A
1	1	946	C
1	1	948	C
1	1	953	G
1	1	961	C
1	1	962	G
1	1	965	C
1	1	966	G
1	1	974	G
1	1	982	C
1	1	983	A
1	1	990	A
1	1	995	C
1	1	996	A
1	1	1006	C
1	1	1009	A
1	1	1010	A
1	1	1012	U
1	1	1013	C
1	1	1022	G
1	1	1023	U
1	1	1025	G
1	1	1026	G
1	1	1033	U
1	1	1044	C
1	1	1045	C
1	1	1046	A
1	1	1056	G
1	1	1058	U
1	1	1060	U
1	1	1062	G
1	1	1064	C

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Mol	Chain	Res	Type
1	1	1065	U
1	1	1066	U
1	1	1067	A
1	1	1068	G
1	1	1070	A
1	1	1071	G
1	1	1072	C
1	1	1075	C
1	1	1079	C
1	1	1081	U
1	1	1083	U
1	1	1084	A
1	1	1085	A
1	1	1086	A
1	1	1087	G
1	1	1088	A
1	1	1089	A
1	1	1090	A
1	1	1094	U
1	1	1096	A
1	1	1101	U
1	1	1102	C
1	1	1104	C
1	1	1111	A
1	1	1112	G
1	1	1128	G
1	1	1130	U
1	1	1132	U
1	1	1133	A
1	1	1135	C
1	1	1136	G
1	1	1142	A
1	1	1155	A
1	1	1169	A
1	1	1173	U
1	1	1176	U
1	1	1178	C
1	1	1180	U
1	1	1199	U
1	1	1204	A
1	1	1211	C
1	1	1212	G

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Mol	Chain	Res	Type
1	1	1218	G
1	1	1223	G
1	1	1236	G
1	1	1247	A
1	1	1248	G
1	1	1253	A
1	1	1255	U
1	1	1256	G
1	1	1265	A
1	1	1266	G
1	1	1267	U
1	1	1269	A
1	1	1271	G
1	1	1272	A
1	1	1273	U
1	1	1284	A
1	1	1289	C
1	1	1296	G
1	1	1300	G
1	1	1301	A
1	1	1302	A
1	1	1325	U
1	1	1329	U
1	1	1330	C
1	1	1344	U
1	1	1345	C
1	1	1360	G
1	1	1367	A
1	1	1368	G
1	1	1374	G
1	1	1378	A
1	1	1379	U
1	1	1383	A
1	1	1386	C
1	1	1394	U
1	1	1395	A
1	1	1396	U
1	1	1403	A
1	1	1414	C
1	1	1416	G
1	1	1419	A
1	1	1420	A

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Mol	Chain	Res	Type
1	1	1425	G
1	1	1427	A
1	1	1428	C
1	1	1433	A
1	1	1437	C
1	1	1451	C
1	1	1452	G
1	1	1453	A
1	1	1454	C
1	1	1456	G
1	1	1461	C
1	1	1466	U
1	1	1467	U
1	1	1482	G
1	1	1490	A
1	1	1496	A
1	1	1497	U
1	1	1498	C
1	1	1504	A
1	1	1506	U
1	1	1507	C
1	1	1508	A
1	1	1515	A
1	1	1519	G
1	1	1522	A
1	1	1524	G
1	1	1531	C
1	1	1532	A
1	1	1534	U
1	1	1536	C
1	1	1538	G
1	1	1555	G
1	1	1558	C
1	1	1560	G
1	1	1561	C
1	1	1562	U
1	1	1566	A
1	1	1567	G
1	1	1569	A
1	1	1581	G
1	1	1583	A
1	1	1587	G

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Mol	Chain	Res	Type
1	1	1598	A
1	1	1607	C
1	1	1608	A
1	1	1616	A
1	1	1618	A
1	1	1627	G
1	1	1644	C
1	1	1646	C
1	1	1647	U
1	1	1648	U
1	1	1656	C
1	1	1662	U
1	1	1673	G
1	1	1674	G
1	1	1698	A
1	1	1699	G
1	1	1700	A
1	1	1713	A
1	1	1715	G
1	1	1729	U
1	1	1730	C
1	1	1731	G
1	1	1732	C
1	1	1733	G
1	1	1735	A
1	1	1737	G
1	1	1738	G
1	1	1758	U
1	1	1759	A
1	1	1764	C
1	1	1773	A
1	1	1777	U
1	1	1779	U
1	1	1780	A
1	1	1782	U
1	1	1785	A
1	1	1791	A
1	1	1800	C
1	1	1801	A
1	1	1808	A
1	1	1811	G
1	1	1816	C

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Mol	Chain	Res	Type
1	1	1819	A
1	1	1820	U
1	1	1829	A
1	1	1830	C
1	1	1835	G
1	1	1843	C
1	1	1847	A
1	1	1848	A
1	1	1858	A
1	1	1869	G
1	1	1901	A
1	1	1906	G
1	1	1912	A
1	1	1913	A
1	1	1914	C
1	1	1927	A
1	1	1929	G
1	1	1930	G
1	1	1931	U
1	1	1937	A
1	1	1938	A
1	1	1939	U
1	1	1940	U
1	1	1943	U
1	1	1944	U
1	1	1955	U
1	1	1963	U
1	1	1964	G
1	1	1967	C
1	1	1969	A
1	1	1971	U
1	1	1972	G
1	1	1982	U
1	1	1991	U
1	1	1992	G
1	1	1997	C
1	1	2001	C
1	1	2013	A
1	1	2022	U
1	1	2023	C
1	1	2030	A
1	1	2031	A

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Mol	Chain	Res	Type
1	1	2032	G
1	1	2033	A
1	1	2034	U
1	1	2043	C
1	1	2055	C
1	1	2056	G
1	1	2059	A
1	1	2060	A
1	1	2061	G
1	1	2062	A
1	1	2069	G
1	1	2072	C
1	1	2077	A
1	1	2090	A
1	1	2091	C
1	1	2092	U
1	1	2093	G
1	1	2095	A
1	1	2100	G
1	1	2109	U
1	1	2110	G
1	1	2111	U
1	1	2112	G
1	1	2113	U
1	1	2115	G
1	1	2117	A
1	1	2118	U
1	1	2119	A
1	1	2122	U
1	1	2124	G
1	1	2126	A
1	1	2127	G
1	1	2131	U
1	1	2132	U
1	1	2133	G
1	1	2134	A
1	1	2139	U
1	1	2145	C
1	1	2146	C
1	1	2147	A
1	1	2154	A
1	1	2157	G

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Mol	Chain	Res	Type
1	1	2158	A
1	1	2162	G
1	1	2165	C
1	1	2166	U
1	1	2167	U
1	1	2168	G
1	1	2169	A
1	1	2170	A
1	1	2171	A
1	1	2173	A
1	1	2177	C
1	1	2189	U
1	1	2198	A
1	1	2204	G
1	1	2211	A
1	1	2213	U
1	1	2226	C
1	1	2228	G
1	1	2229	U
1	1	2238	G
1	1	2239	G
1	1	2246	G
1	1	2250	G
1	1	2259	U
1	1	2260	C
1	1	2267	A
1	1	2271	G
1	1	2279	G
1	1	2283	C
1	1	2287	A
1	1	2297	A
1	1	2305	U
1	1	2308	G
1	1	2309	A
1	1	2311	A
1	1	2321	U
1	1	2322	A
1	1	2325	G
1	1	2327	A
1	1	2331	G
1	1	2336	A
1	1	2344	U

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Mol	Chain	Res	Type
1	1	2345	G
1	1	2347	C
1	1	2350	C
1	1	2359	C
1	1	2361	G
1	1	2371	G
1	1	2382	G
1	1	2383	G
1	1	2385	C
1	1	2388	A
1	1	2390	U
1	1	2391	G
1	1	2393	U
1	1	2395	C
1	1	2396	G
1	1	2402	U
1	1	2403	C
1	1	2406	A
1	1	2420	C
1	1	2422	C
1	1	2423	U
1	1	2425	A
1	1	2428	G
1	1	2429	G
1	1	2430	A
1	1	2440	C
1	1	2441	U
1	1	2447	G
1	1	2448	A
1	1	2452	C
1	1	2475	C
1	1	2476	A
1	1	2484	G
1	1	2490	G
1	1	2491	U
1	1	2496	C
1	1	2497	A
1	1	2498	C
1	1	2499	C
1	1	2501	C
1	1	2502	G
1	1	2503	A

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Mol	Chain	Res	Type
1	1	2505	G
1	1	2513	A
1	1	2518	A
1	1	2520	C
1	1	2529	G
1	1	2530	A
1	1	2533	U
1	1	2535	G
1	1	2543	G
1	1	2547	A
1	1	2549	G
1	1	2554	U
1	1	2555	U
1	1	2556	C
1	1	2564	A
1	1	2566	A
1	1	2567	G
1	1	2572	A
1	1	2576	G
1	1	2578	G
1	1	2602	A
1	1	2609	U
1	1	2610	C
1	1	2613	U
1	1	2615	U
1	1	2619	C
1	1	2629	U
1	1	2630	G
1	1	2644	G
1	1	2646	C
1	1	2656	U
1	1	2660	A
1	1	2672	U
1	1	2682	A
1	1	2685	G
1	1	2689	U
1	1	2690	U
1	1	2691	C
1	1	2715	C
1	1	2716	C
1	1	2718	G
1	1	2725	A

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Mol	Chain	Res	Type
1	1	2726	A
1	1	2729	G
1	1	2733	A
1	1	2739	U
1	1	2744	G
1	1	2748	A
1	1	2755	C
1	1	2756	U
1	1	2759	G
1	1	2765	A
1	1	2776	A
1	1	2777	G
1	1	2778	A
1	1	2779	U
1	1	2791	G
1	1	2794	C
1	1	2798	U
1	1	2799	A
1	1	2800	A
1	1	2807	U
1	1	2818	U
1	1	2820	A
1	1	2823	A
1	1	2833	U
1	1	2834	G
1	1	2842	G
1	1	2849	U
1	1	2850	A
1	1	2866	U
1	1	2867	G
1	1	2868	A
1	1	2880	C
1	1	2884	U
1	1	2893	A
1	1	2894	G
1	1	2895	G
1	1	2902	C
2	2	5	U
2	2	9	G
2	2	16	A
2	2	22	G
2	2	31	G

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Mol	Chain	Res	Type
2	2	39	G
2	2	40	C
2	2	44	A
2	2	47	C
2	2	48	C
2	2	50	A
2	2	51	A
2	2	64	G
2	2	65	A
2	2	71	A
2	2	72	A
2	2	76	G
2	2	78	A
2	2	82	G
2	2	83	C
2	2	85	U
2	2	87	C
2	2	88	U
2	2	107	G
2	2	110	C
2	2	116	A
2	2	121	U
2	2	128	G
2	2	130	A
2	2	131	A
2	2	144	G
2	2	149	A
2	2	151	A
2	2	154	U
2	2	155	A
2	2	164	G
2	2	173	U
2	2	183	C
2	2	184	G
2	2	189	A
2	2	190	A
2	2	191	G
2	2	195	A
2	2	199	A
2	2	208	U
2	2	209	U
2	2	210	C

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Mol	Chain	Res	Type
2	2	212	G
2	2	226	G
2	2	240	G
2	2	243	A
2	2	246	A
2	2	247	G
2	2	250	A
2	2	251	G
2	2	253	A
2	2	264	C
2	2	266	G
2	2	267	C
2	2	281	G
2	2	289	G
2	2	299	G
2	2	328	C
2	2	329	A
2	2	332	G
2	2	340	U
2	2	345	C
2	2	346	G
2	2	347	G
2	2	350	G
2	2	352	C
2	2	354	G
2	2	355	C
2	2	364	A
2	2	367	U
2	2	369	G
2	2	372	C
2	2	373	A
2	2	382	A
2	2	387	U
2	2	388	G
2	2	392	C
2	2	398	U
2	2	404	G
2	2	406	G
2	2	407	U
2	2	409	U
2	2	411	A
2	2	412	A

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Mol	Chain	Res	Type
2	2	413	G
2	2	414	A
2	2	421	U
2	2	422	C
2	2	423	G
2	2	429	U
2	2	430	A
2	2	441	A
2	2	442	G
2	2	446	G
2	2	461	A
2	2	462	G
2	2	467	U
2	2	481	G
2	2	482	A
2	2	484	G
2	2	485	U
2	2	486	U
2	2	489	C
2	2	493	A
2	2	497	G
2	2	508	U
2	2	509	A
2	2	511	C
2	2	513	C
2	2	518	C
2	2	519	C
2	2	521	G
2	2	522	C
2	2	524	G
2	2	527	G
2	2	531	U
2	2	532	A
2	2	533	A
2	2	534	U
2	2	547	A
2	2	561	U
2	2	562	U
2	2	563	A
2	2	564	C
2	2	566	G
2	2	570	G

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Mol	Chain	Res	Type
2	2	571	U
2	2	573	A
2	2	575	G
2	2	576	C
2	2	577	G
2	2	586	C
2	2	596	A
2	2	600	A
2	2	601	G
2	2	607	A
2	2	609	A
2	2	610	U
2	2	611	C
2	2	615	G
2	2	618	C
2	2	619	U
2	2	620	C
2	2	639	G
2	2	645	G
2	2	650	G
2	2	652	U
2	2	653	U
2	2	657	U
2	2	665	A
2	2	667	G
2	2	679	C
2	2	687	A
2	2	693	G
2	2	695	A
2	2	702	A
2	2	703	G
2	2	704	A
2	2	713	G
2	2	723	U
2	2	724	G
2	2	728	A
2	2	733	G
2	2	734	G
2	2	747	A
2	2	753	A
2	2	755	G
2	2	760	G

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Mol	Chain	Res	Type
2	2	768	A
2	2	777	A
2	2	781	A
2	2	790	A
2	2	793	U
2	2	794	A
2	2	814	A
2	2	815	A
2	2	817	C
2	2	818	G
2	2	819	A
2	2	828	U
2	2	832	G
2	2	836	G
2	2	842	U
2	2	843	U
2	2	844	G
2	2	845	A
2	2	846	G
2	2	851	G
2	2	857	C
2	2	858	G
2	2	872	A
2	2	873	A
2	2	874	G
2	2	902	G
2	2	912	C
2	2	913	A
2	2	914	A
2	2	915	A
2	2	926	G
2	2	927	G
2	2	928	G
2	2	934	C
2	2	935	A
2	2	938	A
2	2	955	U
2	2	958	A
2	2	960	U
2	2	961	U
2	2	965	U
2	2	966	G

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Mol	Chain	Res	Type
2	2	968	A
2	2	969	A
2	2	971	G
2	2	973	G
2	2	975	A
2	2	976	G
2	2	977	A
2	2	978	A
2	2	979	C
2	2	987	G
2	2	989	U
2	2	992	U
2	2	993	G
2	2	994	A
2	2	995	C
2	2	996	A
2	2	1004	A
2	2	1011	C
2	2	1012	A
2	2	1015	G
2	2	1027	C
2	2	1028	C
2	2	1031	C
2	2	1032	G
2	2	1033	G
2	2	1035	A
2	2	1036	A
2	2	1037	C
2	2	1044	A
2	2	1046	A
2	2	1053	G
2	2	1054	C
2	2	1055	A
2	2	1063	C
2	2	1064	G
2	2	1065	U
2	2	1066	C
2	2	1079	G
2	2	1081	A
2	2	1085	U
2	2	1090	U
2	2	1091	U

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Mol	Chain	Res	Type
2	2	1092	A
2	2	1093	A
2	2	1094	G
2	2	1095	U
2	2	1101	A
2	2	1108	G
2	2	1110	A
2	2	1111	A
2	2	1114	C
2	2	1115	U
2	2	1116	U
2	2	1118	U
2	2	1119	C
2	2	1124	G
2	2	1126	U
2	2	1130	A
2	2	1132	C
2	2	1136	C
2	2	1137	C
2	2	1138	G
2	2	1139	G
2	2	1146	A
2	2	1156	G
2	2	1157	A
2	2	1158	C
2	2	1159	U
2	2	1160	G
2	2	1165	U
2	2	1168	U
2	2	1169	A
2	2	1173	U
2	2	1174	G
2	2	1182	G
2	2	1183	U
2	2	1185	G
2	2	1189	U
2	2	1190	G
2	2	1196	A
2	2	1197	A
2	2	1201	A
2	2	1202	U
2	2	1207	G

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Mol	Chain	Res	Type
2	2	1212	U
2	2	1213	A
2	2	1222	G
2	2	1225	A
2	2	1226	C
2	2	1227	A
2	2	1229	A
2	2	1232	U
2	2	1236	A
2	2	1238	A
2	2	1240	U
2	2	1250	A
2	2	1251	A
2	2	1253	G
2	2	1257	A
2	2	1258	G
2	2	1260	G
2	2	1267	C
2	2	1268	G
2	2	1270	G
2	2	1272	G
2	2	1275	A
2	2	1278	G
2	2	1280	A
2	2	1281	C
2	2	1282	C
2	2	1287	A
2	2	1290	G
2	2	1291	U
2	2	1300	G
2	2	1308	U
2	2	1317	C
2	2	1320	C
2	2	1321	U
2	2	1322	C
2	2	1323	G
2	2	1328	C
2	2	1338	G
2	2	1346	A
2	2	1347	G
2	2	1351	U
2	2	1353	G

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Mol	Chain	Res	Type
2	2	1358	U
2	2	1360	A
2	2	1363	A
2	2	1378	C
2	2	1381	U
2	2	1383	C
2	2	1385	G
2	2	1394	A
2	2	1395	C
2	2	1401	G
2	2	1419	G
2	2	1432	G
2	2	1433	A
2	2	1441	A
2	2	1446	A
2	2	1448	C
2	2	1451	U
2	2	1452	C
2	2	1473	G
2	2	1480	A
2	2	1484	C
2	2	1492	A
2	2	1493	A
2	2	1494	G
2	2	1496	C
2	2	1497	G
2	2	1503	A
2	2	1504	G
2	2	1506	U
2	2	1513	A
2	2	1517	G
2	2	1518	A
2	2	1519	A
2	2	1520	C
2	2	1529	G
2	2	1530	G
2	2	1534	A
2	2	1535	C
3	3	4	C
3	3	12	C
3	3	13	G
3	3	14	U

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Mol	Chain	Res	Type
3	3	15	A
3	3	24	G
3	3	28	C
3	3	35	C
3	3	42	C
3	3	44	G
3	3	52	A
3	3	57	A
3	3	71	C
3	3	73	A
3	3	88	C
3	3	89	U
3	3	90	C
3	3	96	G
3	3	108	A
3	3	109	A
5	5	3	G
5	5	4	C
5	5	5	A
5	5	6	C
5	5	9	A
5	5	10	G
5	5	14	A
5	5	15	G
5	5	16	C
5	5	17	C
5	5	17(A)	U
5	5	18	G
5	5	19	G
5	5	20	U
5	5	21	A
5	5	22	G
5	5	40	U
5	5	44	G
5	5	46	G
5	5	48	C
5	5	54	U
5	5	57	A
5	5	60	U
5	5	61	C
5	5	76	A

All (53) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	227	A
1	1	321	U
1	1	367	G
1	1	387	U
1	1	390	U
1	1	395	U
1	1	615	U
1	1	683	U
1	1	747	C
1	1	774	G
1	1	811	U
1	1	895	U
1	1	896	A
1	1	1070	A
1	1	1085	A
1	1	1265	A
1	1	1328	A
1	1	1343	G
1	1	1424	G
1	1	1451	C
1	1	1453	A
1	1	1497	U
1	1	1607	C
1	1	1626	A
1	1	1643	G
1	1	1730	C
1	1	1808	A
1	1	1828	G
1	1	1829	A
1	1	1857	G
1	1	1930	G
1	1	2068	U
1	1	2109	U
1	1	2126	A
1	1	2165	C
1	1	2168	G
1	1	2286	G
1	1	2496	C
1	1	2725	A
2	2	39	G
2	2	70	U
2	2	250	A
2	2	563	A

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Mol	Chain	Res	Type
2	2	793	U
2	2	978	A
2	2	1114	C
2	2	1157	A
2	2	1173	U
2	2	1432	G
3	3	14	U
5	5	2	G
5	5	47	U
5	5	59	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 398 ligands modelled in this entry, 398 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

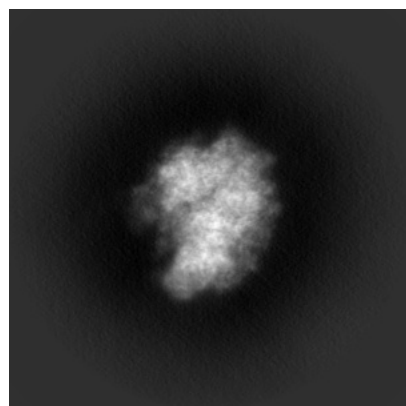
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42840. These allow visual inspection of the internal detail of the map and identification of artifacts.

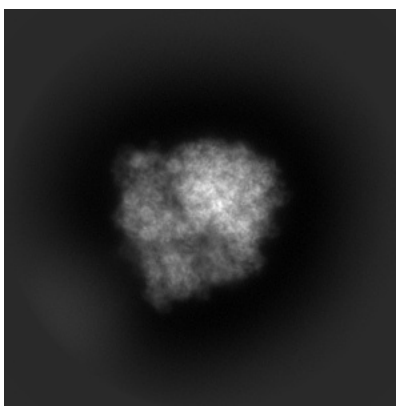
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

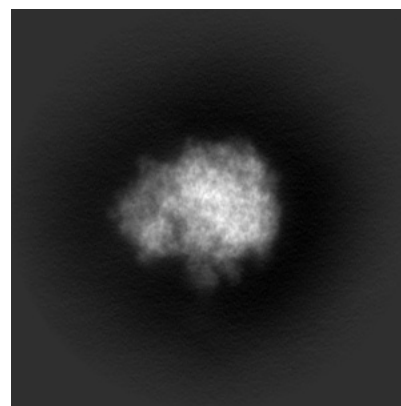
6.1.1 Primary map



X

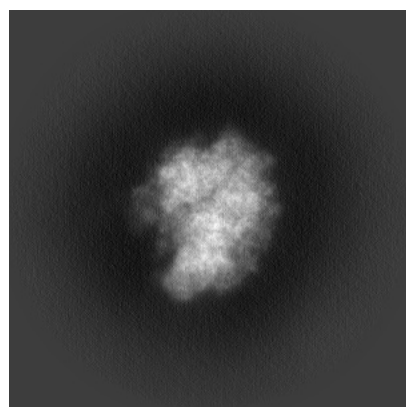


Y

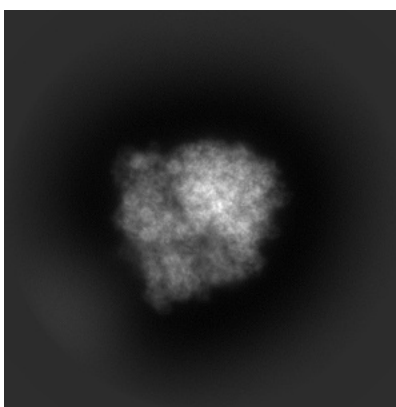


Z

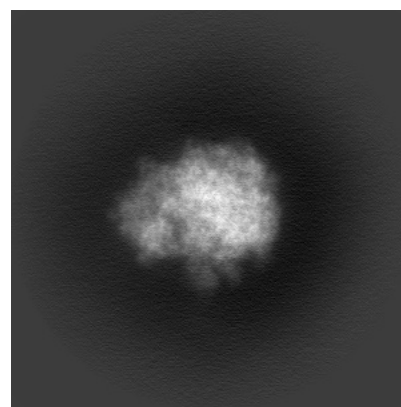
6.1.2 Raw map



X



Y

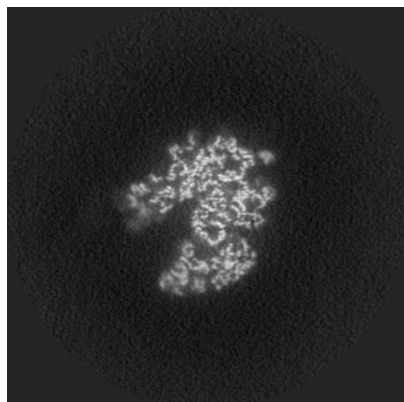


Z

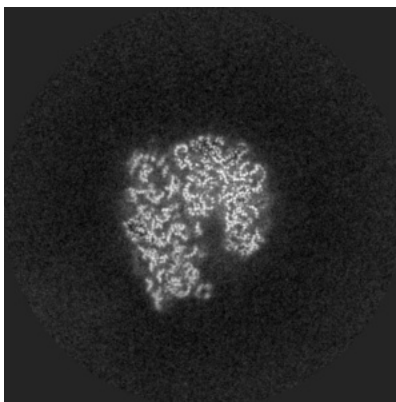
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

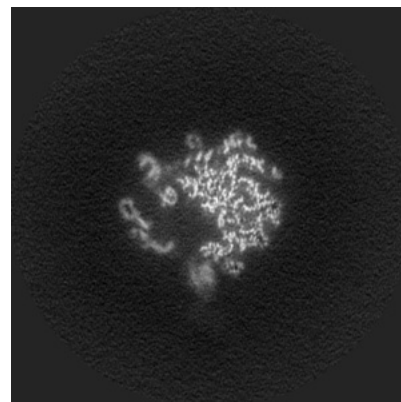
6.2.1 Primary map



X Index: 256

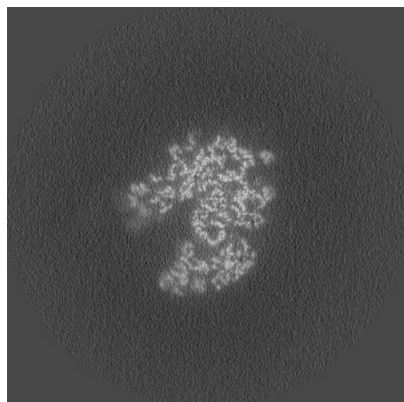


Y Index: 256

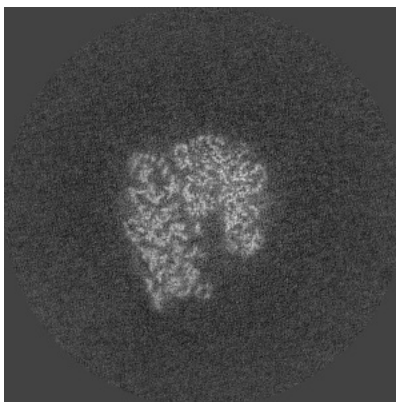


Z Index: 256

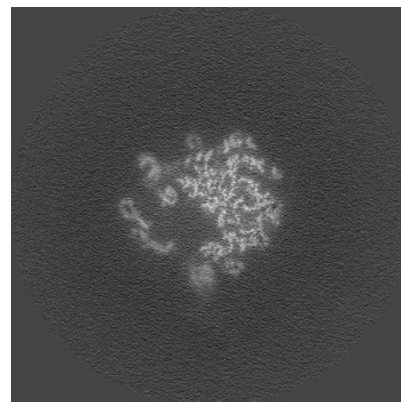
6.2.2 Raw map



X Index: 256



Y Index: 256

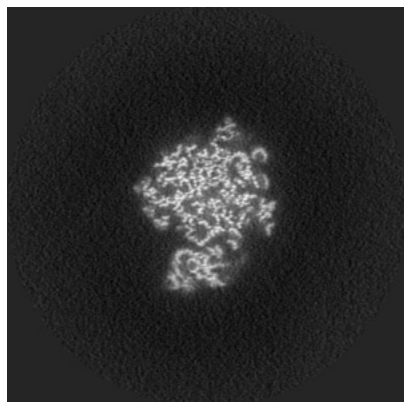


Z Index: 256

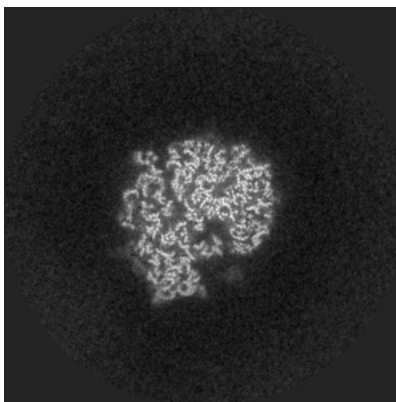
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

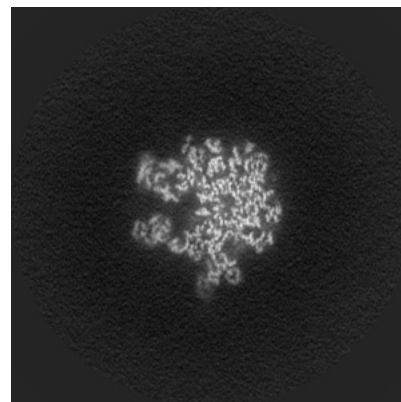
6.3.1 Primary map



X Index: 275

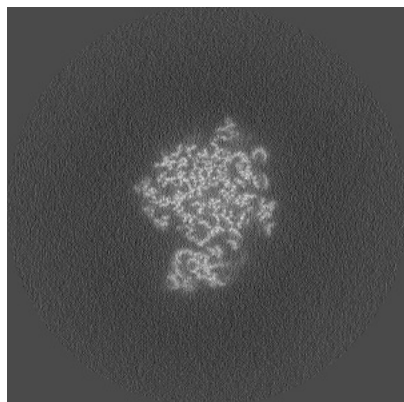


Y Index: 265

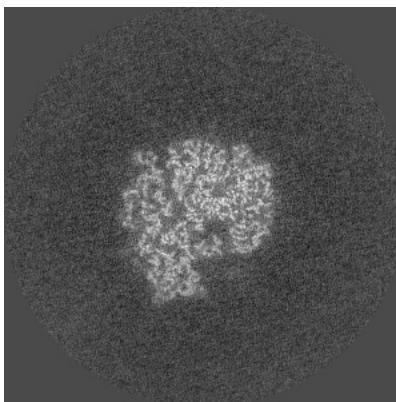


Z Index: 275

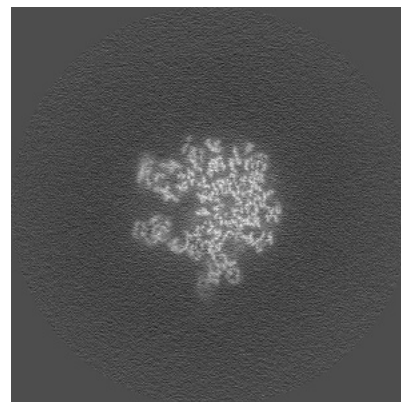
6.3.2 Raw map



X Index: 275



Y Index: 265

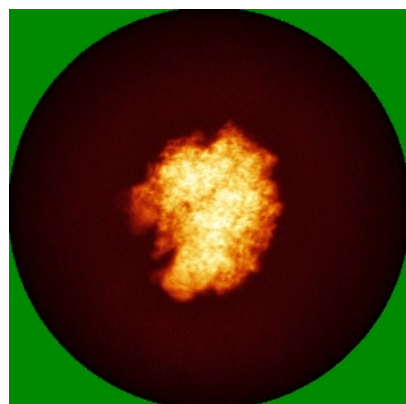


Z Index: 275

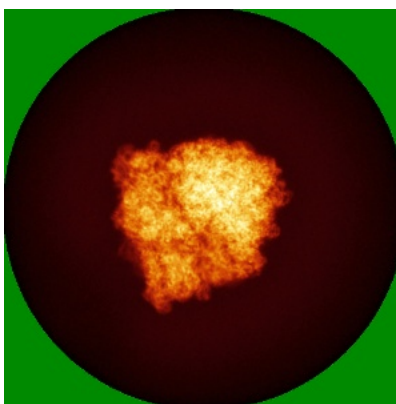
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

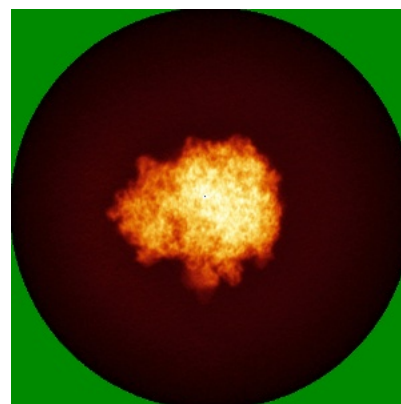
6.4.1 Primary map



X

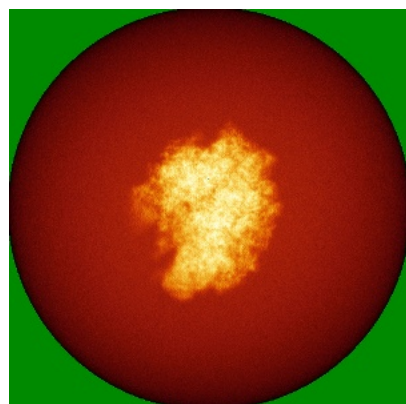


Y

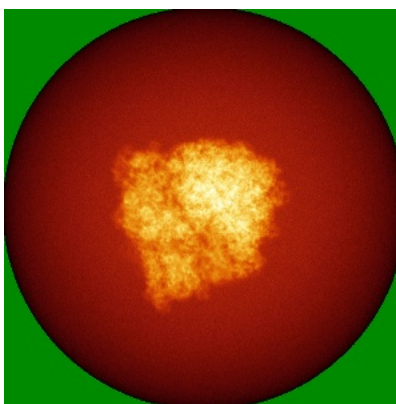


Z

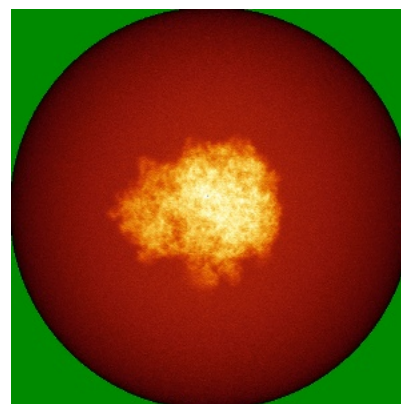
6.4.2 Raw map



X



Y

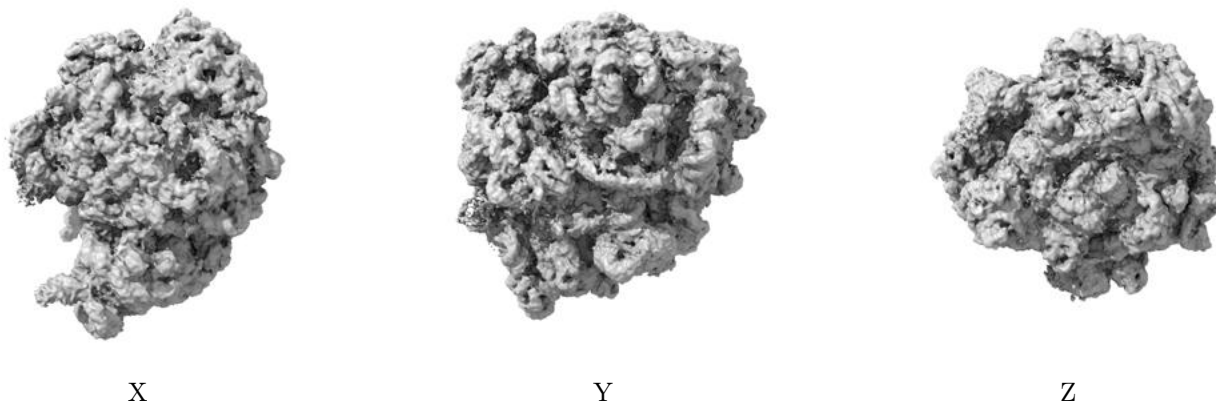


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

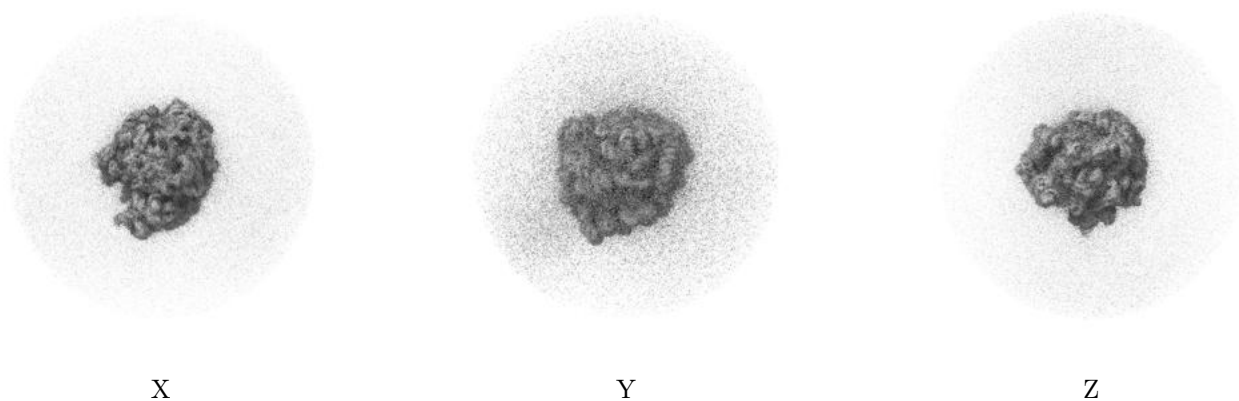
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0198. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

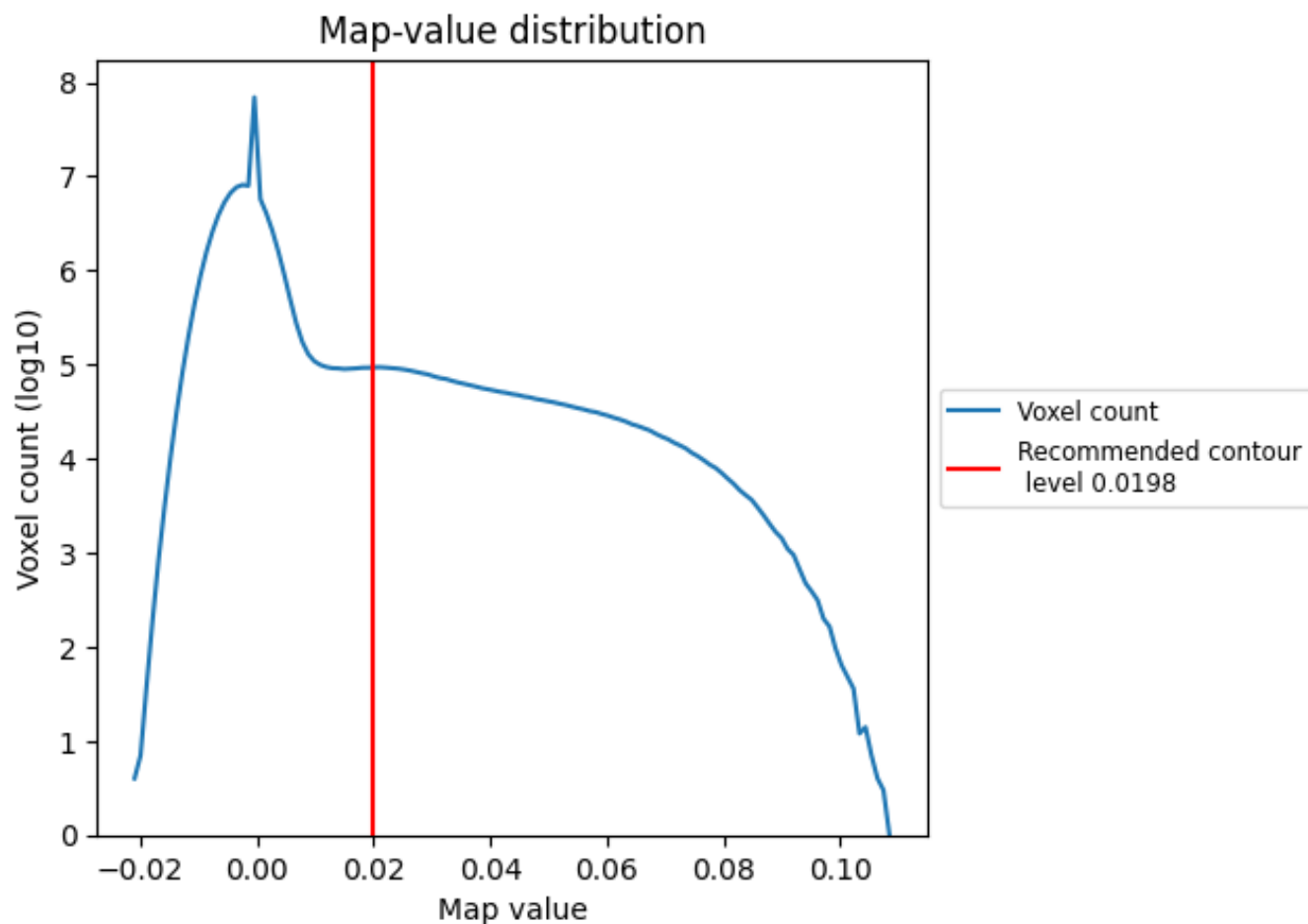
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

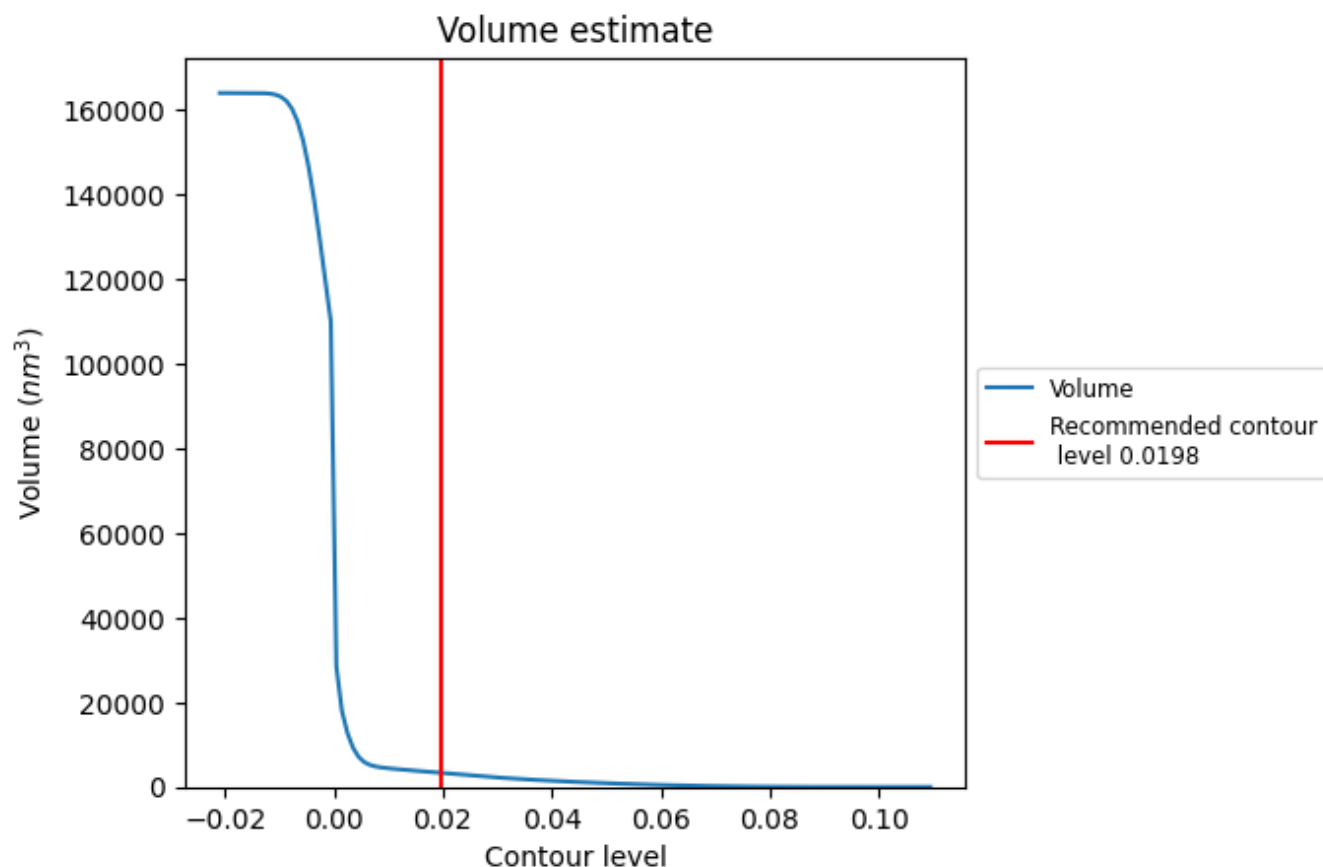
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

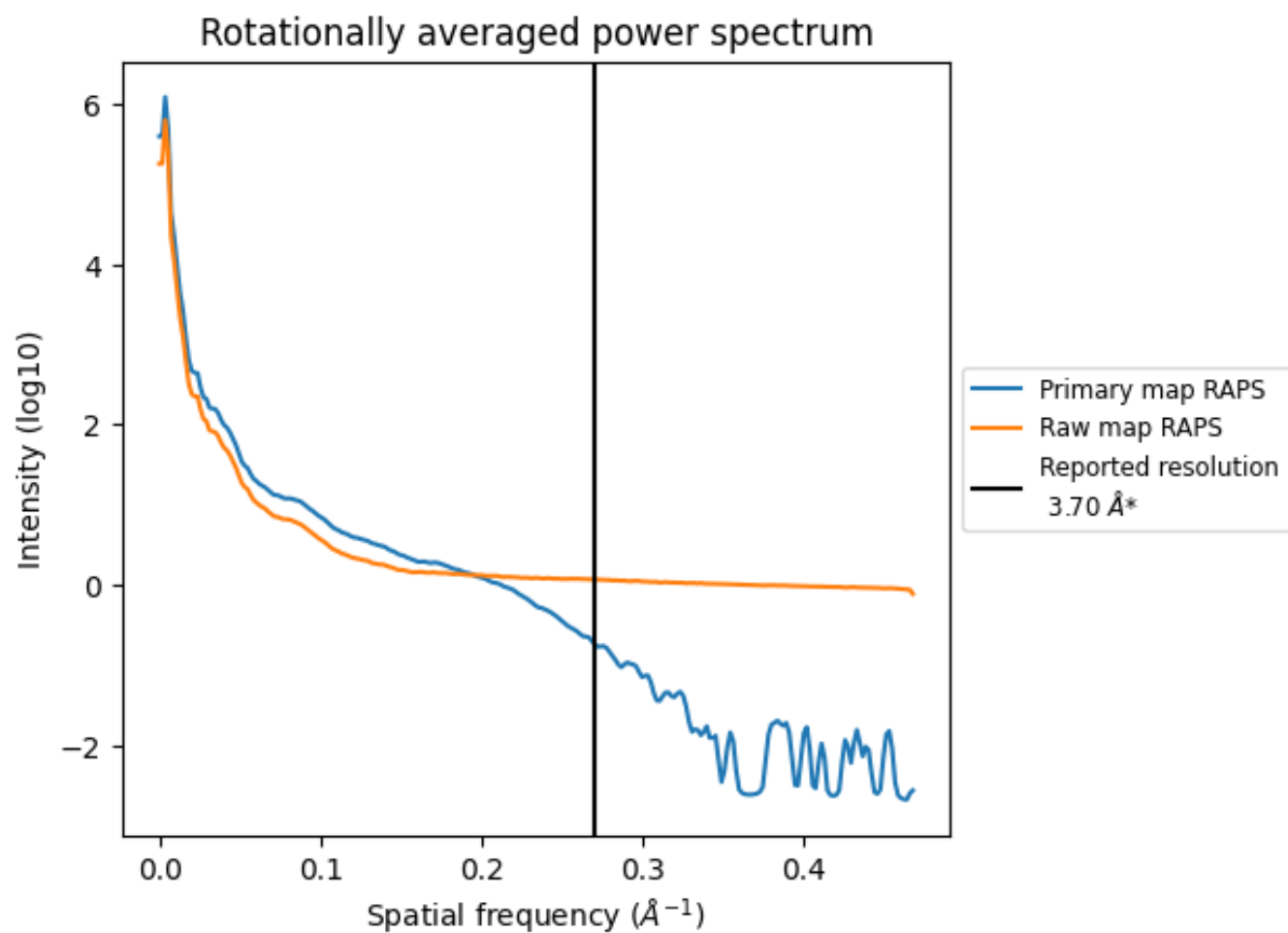
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3313 nm^3 ; this corresponds to an approximate mass of 2992 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

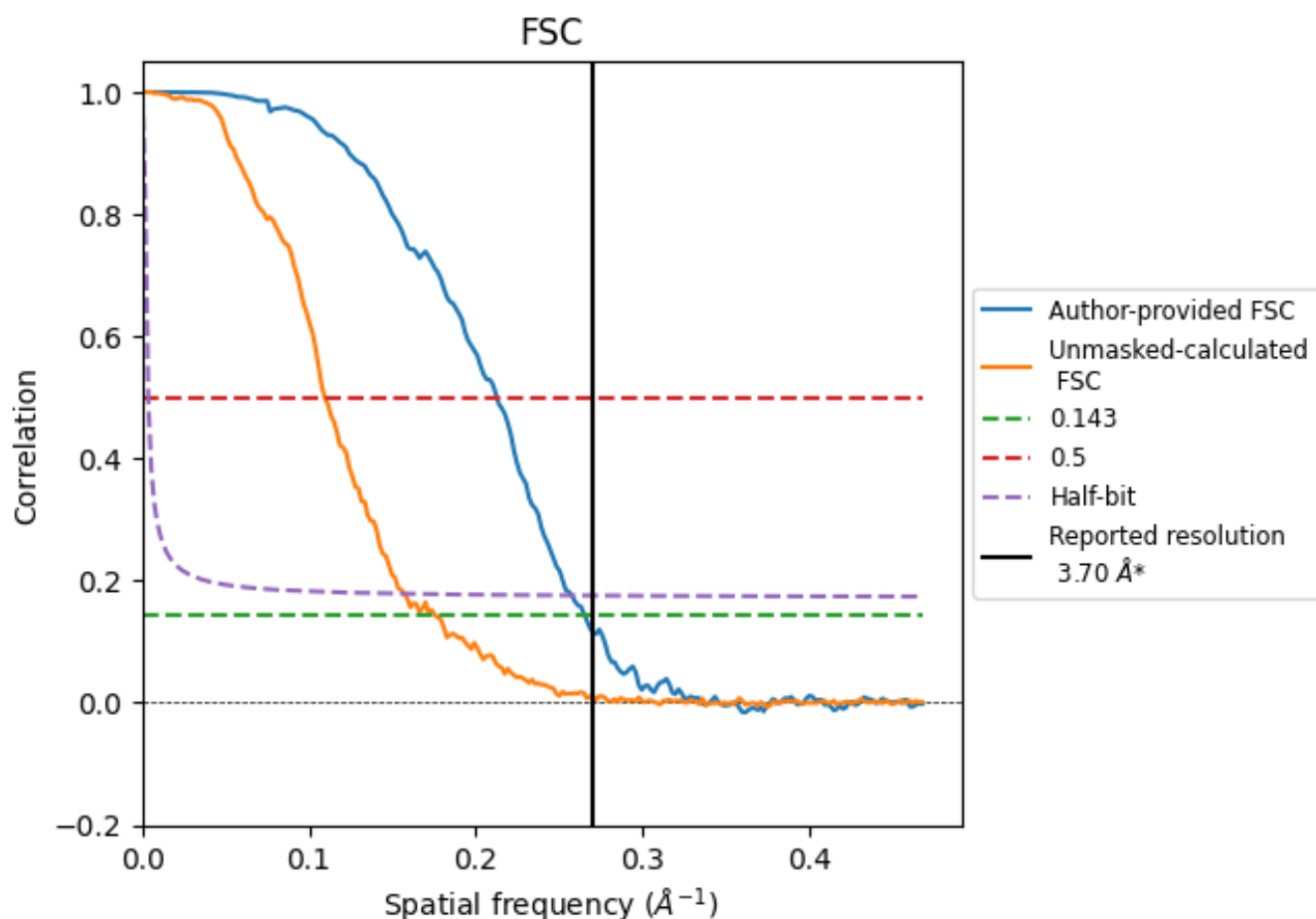


*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.270 \AA^{-1}

8.2 Resolution estimates [i](#)

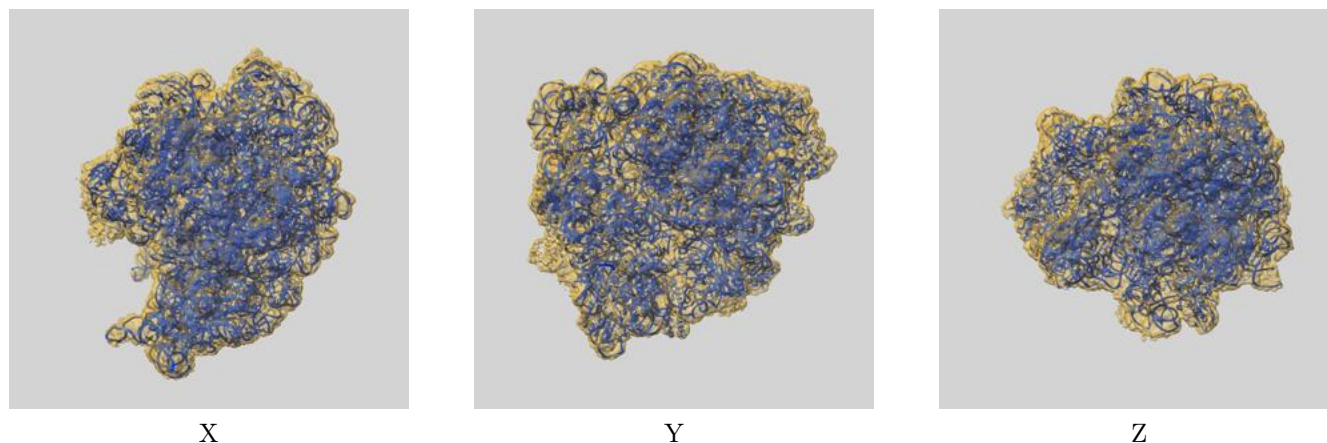
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.77	4.70	3.88
Unmasked-calculated*	5.69	9.13	6.37

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 5.69 differs from the reported value 3.7 by more than 10 %

9 Map-model fit [i](#)

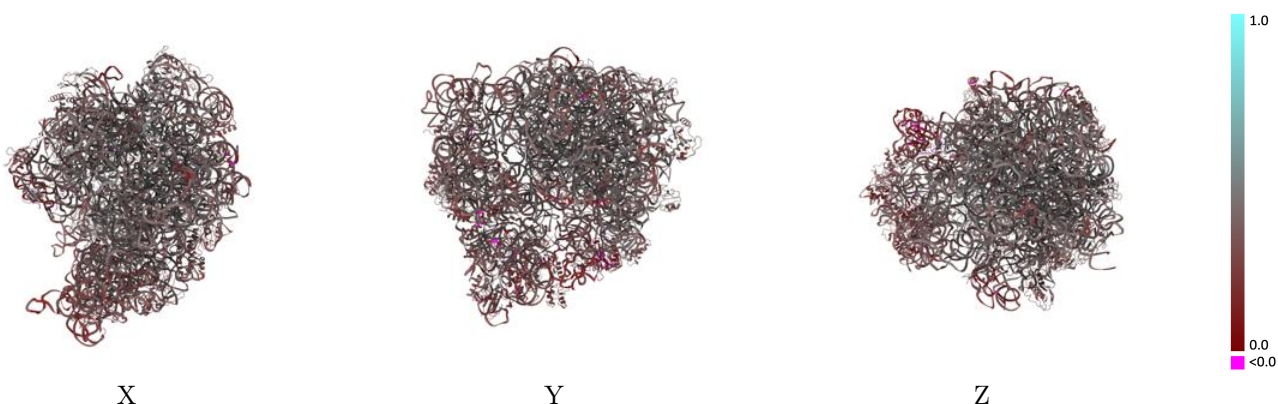
This section contains information regarding the fit between EMDB map EMD-42840 and PDB model 8UZG. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay [i](#)



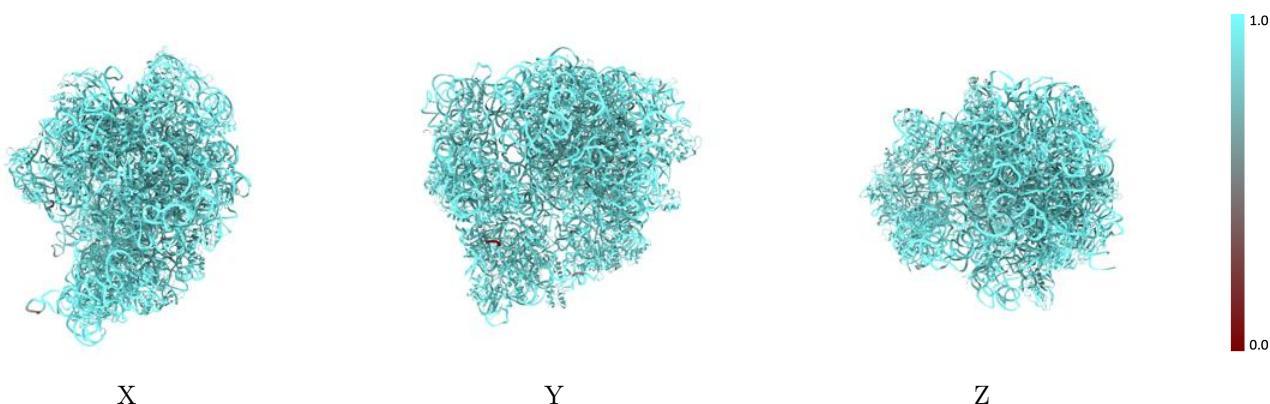
The images above show the 3D surface view of the map at the recommended contour level 0.0198 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



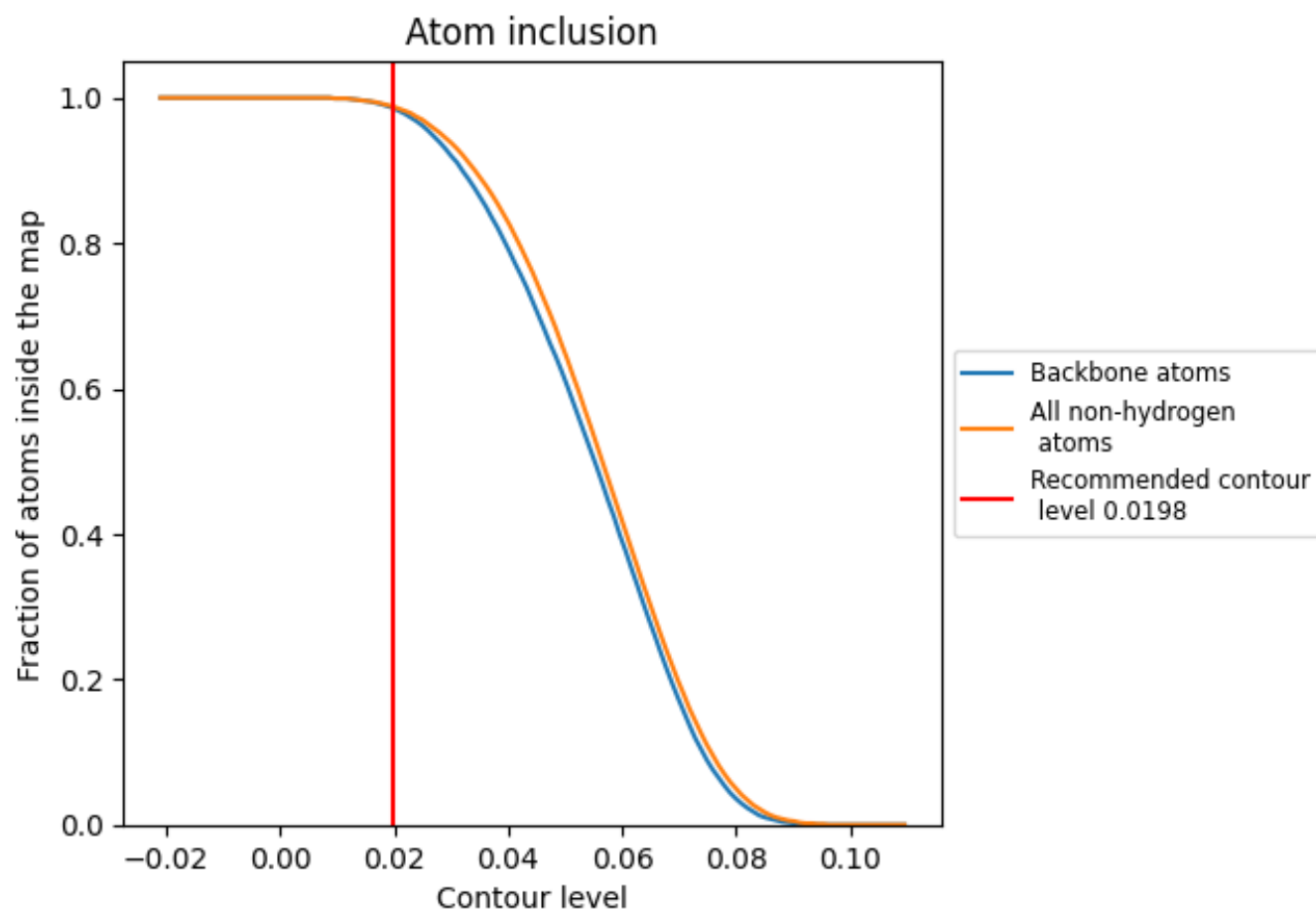
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0198).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 99% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ







































The table lists the average atom inclusion at the recommended contour level (0.0198) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9880	 0.3730
1	 0.9970	 0.4010
2	 0.9920	 0.3610
3	 0.9990	 0.3930
4	 1.0000	 0.3290
5	 1.0000	 0.3650
A	 0.9300	 0.1680
B	 0.9990	 0.4270
C	 0.9820	 0.4070
D	 0.9670	 0.3850
E	 0.9590	 0.2750
F	 0.9570	 0.3450
G	 0.8340	 0.2760
J	 0.9950	 0.3980
K	 0.9960	 0.4020
L	 0.9750	 0.4120
M	 0.9930	 0.3930
N	 0.9990	 0.4000
O	 0.9680	 0.3540
P	 0.9910	 0.3970
Q	 0.9900	 0.3830
R	 0.9700	 0.4100
S	 0.9880	 0.3890
T	 0.9820	 0.3850
U	 0.9830	 0.3660
V	 0.9660	 0.3690
W	 0.9950	 0.4140
X	 0.9950	 0.3780
Y	 0.9620	 0.3120
Z	 0.9730	 0.3980
b	 0.9950	 0.4130
c	 0.9930	 0.3960
d	 1.0000	 0.3970
e	 1.0000	 0.4100
f	 1.0000	 0.3710



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Chain	Atom inclusion	Q-score
g	 0.9560	 0.2560
h	 0.9640	 0.2970
i	 0.9550	 0.2650
j	 0.9890	 0.3570
k	 0.9700	 0.3160
l	 0.9520	 0.2210
m	 0.9770	 0.3630
n	 0.9650	 0.2880
o	 0.9590	 0.2850
p	 0.9850	 0.3350
q	 0.9900	 0.2940
r	 0.9390	 0.2290
s	 0.9850	 0.2710
t	 0.9870	 0.3260
u	 0.9710	 0.3240
v	 0.9840	 0.3100
w	 0.9860	 0.3010
x	 0.9780	 0.2700
y	 0.9820	 0.2840