



Full wwPDB EM Validation Report ⓘ

Jul 21, 2025 – 07:37 PM EDT

PDB ID : 8VUP / pdb_00008vup
EMDB ID : EMD-43535
Title : E. coli 70S ribosome with unmodified tRNA^{Pro}(GGG) in the e^{*}/E conformation on a slippery CCC-C codon
Authors : Kimbrough, E.M.; Dunham, C.M.; Nguyen, H.A.
Deposited on : 2024-01-29
Resolution : 3.40 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:

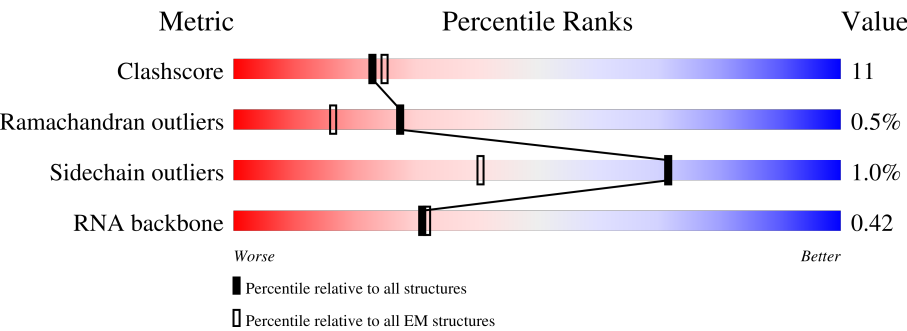
EMDB validation analysis : 0.0.1.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline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

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 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.





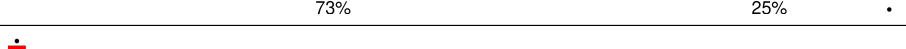
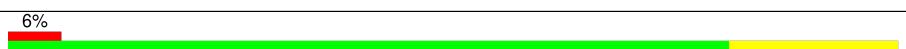



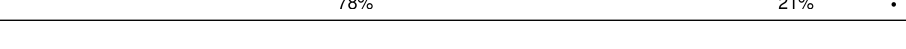



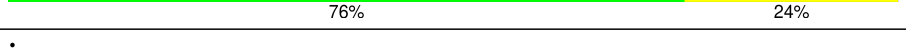

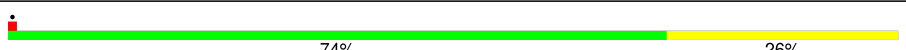


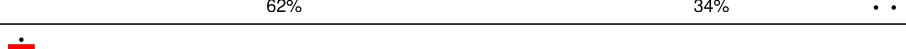







Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	2903	
2	2	1539	
3	3	120	
4	4	18	
5	5	77	
6	A	223	
7	B	271	




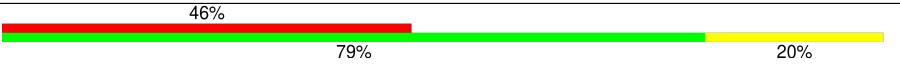
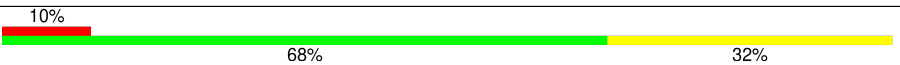

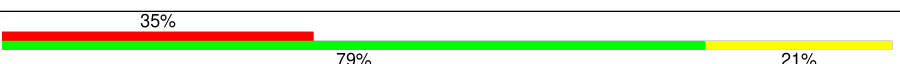
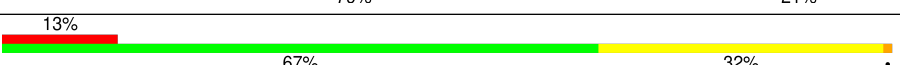

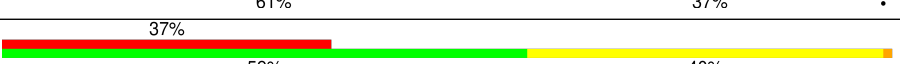
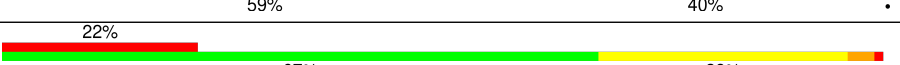
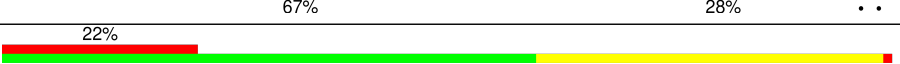
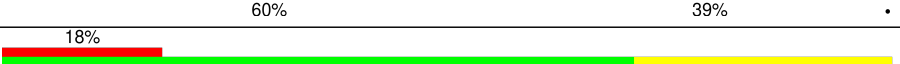
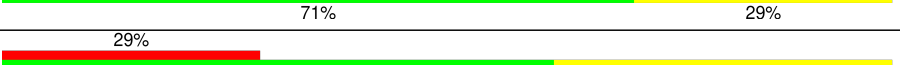



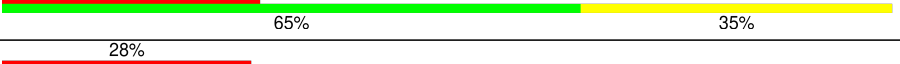


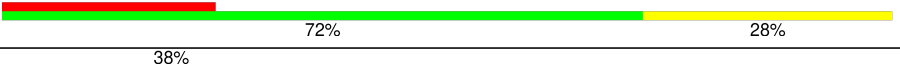
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	C	209	
9	D	201	
10	E	177	
11	F	176	
12	G	149	
13	J	142	
14	K	122	
15	L	143	
16	M	136	
17	N	120	
18	O	116	
19	P	114	
20	Q	117	
21	R	103	
22	S	110	
23	T	93	
24	U	102	
25	V	94	
26	W	75	
27	X	77	
28	Y	63	
29	Z	58	
30	b	56	
31	c	50	
32	d	46	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	e	64	
34	f	38	
35	h	206	
36	i	205	
37	j	157	
38	k	100	
39	l	151	
40	m	129	
41	n	127	
42	o	98	
43	p	116	
44	q	123	
45	r	114	
46	s	100	
47	t	88	
48	u	82	
49	v	80	
50	w	65	
51	x	79	
52	y	85	
53	z	65	

2 Entry composition [i](#)

There are 55 unique types of molecules in this entry. The entry contains 143655 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	variant	GB 1036415628

- 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	77	Total	C	N	O	P	0	0
			1648	733	297	541	77		

- Molecule 6 is a protein called Large ribosomal subunit protein uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A	134	Total	C	N	O	S	0	0
			1027	645	186	194	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
			2083	1288	423	365	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
			1411	899	249	257	6		

- Molecule 11 is a protein called Large ribosomal subunit protein uL6.

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 Large ribosomal subunit protein bL9.

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
			939	587	180	166	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 Large ribosomal subunit protein bL17.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	N	120	Total	C	N	O	S	0	0
			961	593	196	167	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 Large ribosomal subunit protein bL20.

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 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 Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	T	93	Total	C	N	O	S	0	0
			739	466	139	132	2		

- Molecule 24 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	U	102	Total	C	N	O	S	0	0
			780	492	146	142			

- 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
			410	263	75	72		

- 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 Small ribosomal subunit protein uS3.

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

- Molecule 36 is a protein called 30S ribosomal protein S4.

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

- Molecule 37 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	j	157	Total	C	N	O	S	0	0
			1157	719	218	214	6		

- Molecule 38 is a protein called 30S ribosomal protein S6, non-modified isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	k	100	Total	C	N	O	S	0	0
			818	515	148	149	6		

- Molecule 39 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	l	151	Total	C	N	O	S	0	0
			1182	735	227	216	4		

- Molecule 40 is a protein called 30S ribosomal protein S8.

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

- Molecule 41 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 42 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	o	98	Total	C	N	O	S	0	0
			787	493	150	143	1		

- Molecule 43 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	p	116	Total	C	N	O	S	0	0
			870	535	173	159	3		

- Molecule 44 is a protein called Small ribosomal subunit protein uS12.

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

- Molecule 45 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	r	114	Total	C	N	O	S	0	0
			884	546	178	157	3		

- Molecule 46 is a protein called Small ribosomal subunit protein uS14.

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

- Molecule 47 is a protein called 30S ribosomal protein S15.

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

- Molecule 48 is a protein called 30S ribosomal protein S16.

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

- Molecule 49 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	v	80	Total	C	N	O	S	0	0
			649	411	121	114	3		

- Molecule 50 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	w	65	Total	C	N	O	S	0	0
			536	339	100	96	1		

- Molecule 51 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	x	79	Total	C	N	O	S	0	0
			638	408	120	108	2		

- Molecule 52 is a protein called 30S ribosomal protein S20.

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

- Molecule 53 is a protein called Small ribosomal subunit protein bS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	z	65	Total	C	N	O	S	0	0
			545	335	117	92	1		

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

Mol	Chain	Residues	Atoms		AltConf
54	1	202	Total 202	Mg 202	0
54	2	29	Total 29	Mg 29	0
54	3	4	Total 4	Mg 4	0
54	B	1	Total 1	Mg 1	0
54	E	1	Total 1	Mg 1	0
54	Q	1	Total 1	Mg 1	0
54	b	1	Total 1	Mg 1	0

- Molecule 55 is water.

Mol	Chain	Residues	Atoms		AltConf
55	1	103	Total 103	O 103	0
55	2	279	Total 279	O 279	0
55	3	2	Total 2	O 2	0
55	4	1	Total 1	O 1	0
55	5	2	Total 2	O 2	0
55	A	13	Total 13	O 13	0
55	C	1	Total 1	O 1	0
55	D	2	Total 2	O 2	0
55	E	5	Total 5	O 5	0
55	F	2	Total 2	O 2	0
55	G	10	Total 10	O 10	0
55	M	1	Total 1	O 1	0
55	P	1	Total 1	O 1	0

Continued on next page...

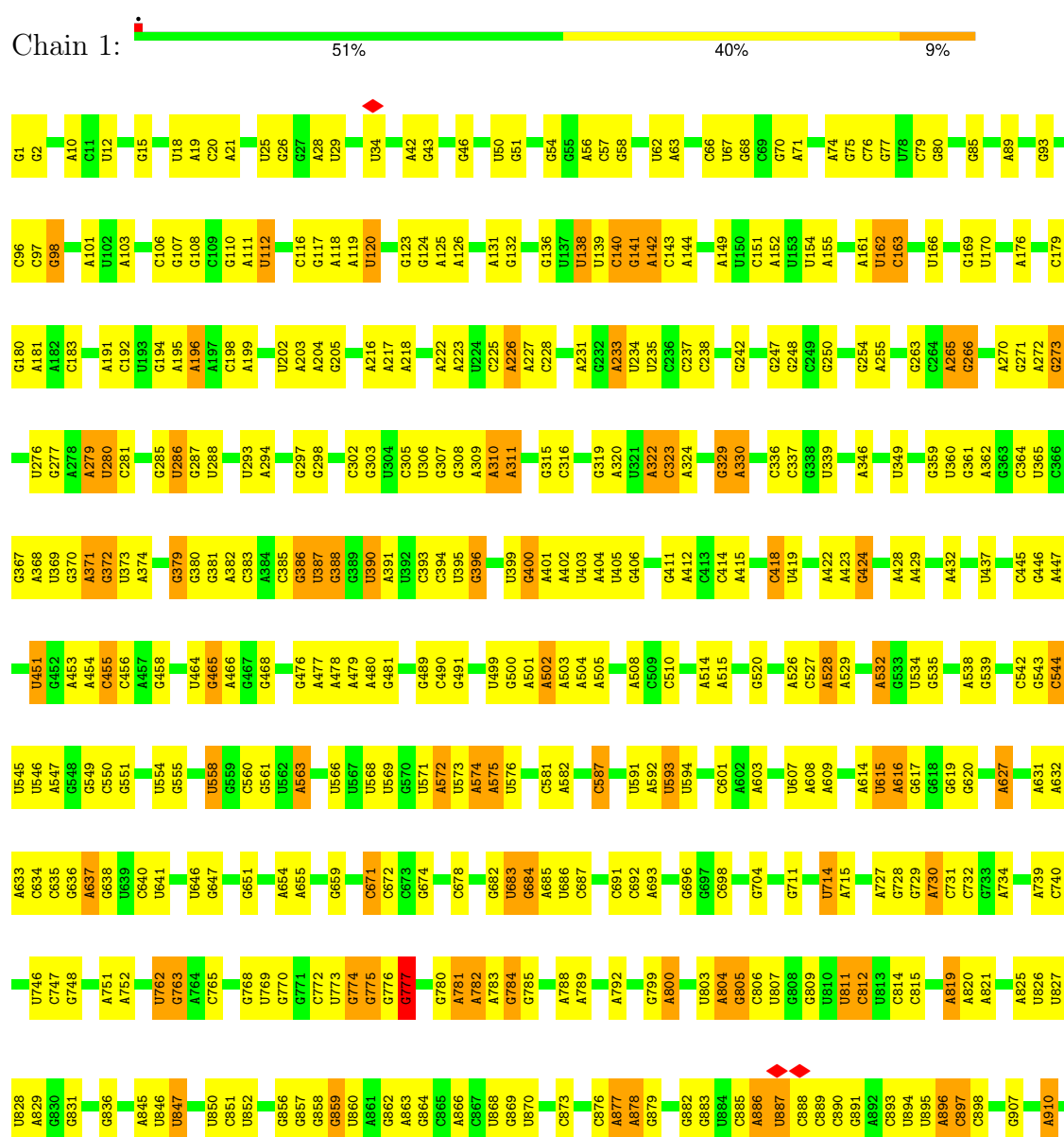
Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
55	c	1	Total 1	O 1	0
55	h	10	Total 10	O 10	0
55	i	11	Total 11	O 11	0
55	j	1	Total 1	O 1	0
55	k	9	Total 9	O 9	0
55	l	21	Total 21	O 21	0
55	m	9	Total 9	O 9	0
55	n	9	Total 9	O 9	0
55	o	11	Total 11	O 11	0
55	p	4	Total 4	O 4	0
55	q	5	Total 5	O 5	0
55	r	8	Total 8	O 8	0
55	s	1	Total 1	O 1	0
55	t	3	Total 3	O 3	0
55	u	8	Total 8	O 8	0
55	v	4	Total 4	O 4	0
55	w	8	Total 8	O 8	0
55	x	4	Total 4	O 4	0
55	z	3	Total 3	O 3	0

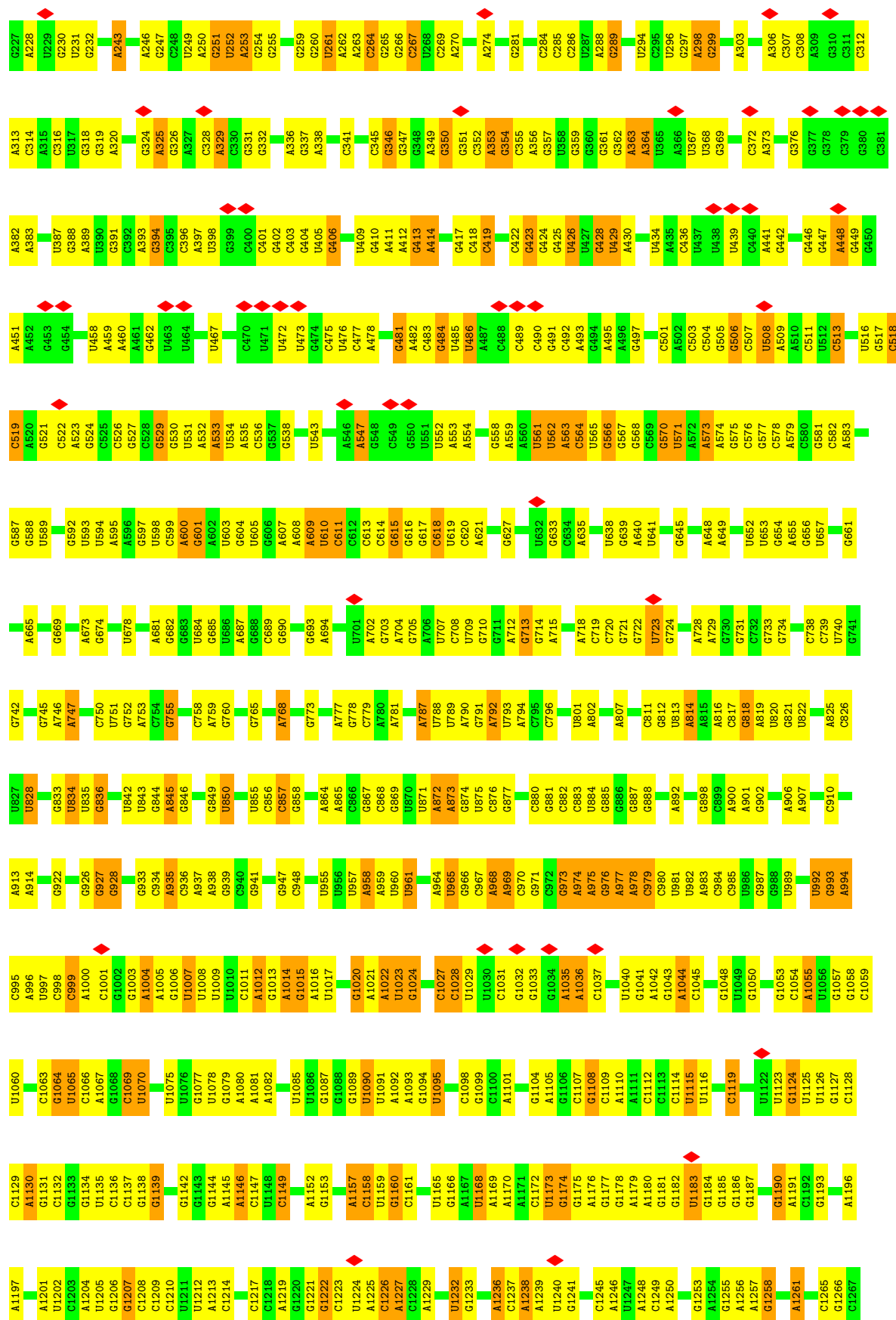
3 Residue-property plots

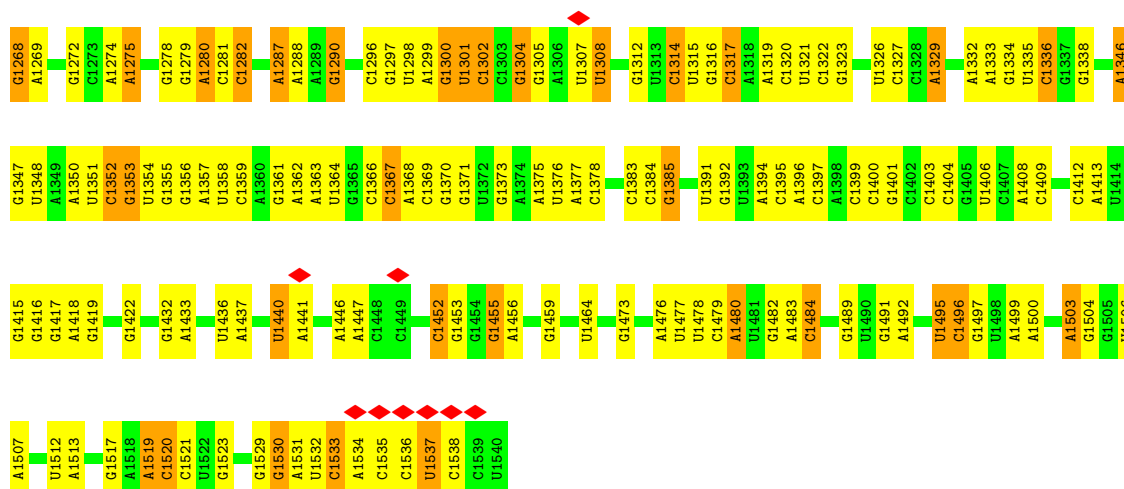
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

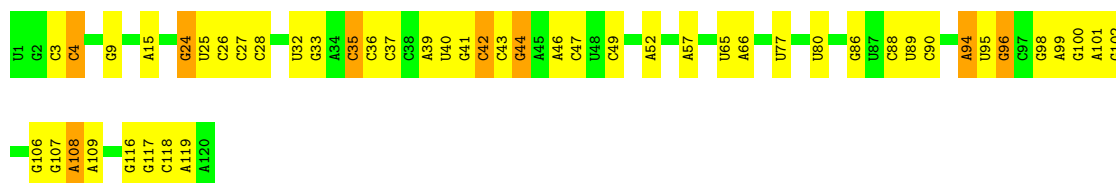


A2033	G1826	A1745	G1661	A1570	A1477	U1396	U1316	A1237	G1154	U1078	C994	G914
U2034	U1827	A1749	U1662	A1571	G1478	U1397	G1317	G1238	A1155	U1079	C995	G915
C2036	U1828	G1750	A1664	C1574	U1481	C1398	C1398	U1240	G1160	U1080	A996	G916
A2037	A1829	U1751	A1665	C1575	U1482	U1400	U1400			U1081		G917
G2038	C1830	G1752	G1666	G1581	G1483	G1401	A1322		G1163	U1082	A1000	U919
U2039		G1753	G1667	G1582		G1402	G1323	A1246	C1164	U1083		G922
C2043	C1837	A1754	A1668	C1582	A1480	A1403	U1325	U1247	G1165	U1084	C1005	G923
G2044	C1838	A1755	A1669	A1583	A1496	G1404	U1326	G1248	A1166	A1085	C1006	
G2045	U1841	G1756	C1670	U1584	U1497	U1405	A1327	U1249	C1167	A1086	C1007	U931
G2046	G1842	A1757	U1671	C1585	U1498	U1406	A1328	C1251	G1168	G1087		U932
C2047	C1843	U1758	A1672	C1585	C1498		U1329	G1252	A1169	G1088	G1011	A933
G2048	G1844	A1759	G1673	A1593	C1499	G1330	G1330	A1263		U1012		U934
G2049	G1845	C1760	G1674	U1594	G1500	G1416	C1331	A1264	U1173	U1013		G935
C2050			C1675	C1595		G1417	G1332	U1265	U1174	G1090	C1013	G936
A2051	G1847	C1764	G1681	A1596	U1506			G1266		G1091		
A2052		G1767	G1682	A1597	C1507	A1420	G1338		U1175	C1092	G1016	
	U1856	G1768	U1683	A1598	A1508				U1176	G1093		G940
C2055	G1857	C1772	C1684	A1603	A1509	G1423	G1341	U1263	G1177	A1021	A941	G941
G2056	A1858	A1773	C1685			G1424	A1342	A1285	C1178	U1094	G1022	G942
			C1686	C1607	U1513	G1425	G1343	G1286	G1179	A1095	U1023	A943
A2060	C1868		C1687	A1608	G1514	A1427	C1344		U1180	U1096		C944
A2062	G1869	A1780	U1688		G1515	G1428	G1345	G1271	G1182	A1098		A945
C2063		U1781	A1689	C1612	G1516	G1429	A1346	G1272	U1181	G1099	A947	G946
G2064	G1878			G1613		G1430	C1347	U1273	U1184	U1100	A1039	
C2065	C1879	A1784	A1688	A1616	U1520	A1431	C1348		G1185	C1102	A1040	G953
G2066	U1880	A1785	G1699		G1521	G1432	C1349		G1186	G1103	G1041	G954
			A1700	C1617	G1522	A1433	C1350		U1187	C1104	G1042	
C2067	G1884	C1788	U1701	A1618	U1523	A1434	U1352	G1281	U1188			
G2068		U1789	G1702		G1524		A1353	U1282	A1189	C1109	C1045	
C2069	G1896	A1789		A1626	A1528	U1437	G1354	U1283	G1193	G1110	A1046	
A2070	G1897	C1790	A1705	G1627		U1438	G1355		G1111	G1047	A1048	A959
C2071	U1898	G1791	C1706	G1628			G1356	A1284	U1113			A960
C2072		C1793		U1629	A1532	G1447	C1357	A1285	C1196	C1049		C961
G2073	A1900	A1794	G1710	A1630	C1533	G1448		A1286	G1197	A1050		
U2074	A1901	G1795	U1712	A1635	U1534	G1449	G1360	U1287	U1198			G964
U2075	G1904	U1796	U1711	U1636	U1535	G1450		G1288				G965
A2077	G1905	G1797	A1713	U1636	C1536	G1452	A1365	C1289	U1199	G1124	C1053	G966
G2078	C1906	U1798	U1714			G1452		C1290	A1204	G1125		C965
U2079	G1907	G1799	G1715	C1639	U1542	A1453	C1370		A1205	G1126	A1054	G967
A2080		C1800	A1801	A1640	G1543	G1454	G1371	U1294	C1208	G1128	G1055	G968
U2081	A1912	A1802	G1724	G1643	U1544	G1455		C1295		A1127	G1056	
A2082	A1913	A1803	U1725	G1644	A1551	G1456	G1374	G1296		A1129	A1057	G969
G2083	G1914	C1804	G1726	G1645	U1552	U1457		C1297	U1212	G1131	U1058	U970
	U1915	A1805	C1727	G1646	A1552	U1458	U1379	G1298	A1213	U1132	G1059	G971
			G1728	U1647			G1380	G1299	A1214	A1133	U1060	A972
A2090					G1555			G1300	G1215	A1134	G1062	G974
C2091	A1918	A1808	U1729	U1648	G1558	G1461	A1383	A1301	G1136	C1135	G1063	A975
U2092	A1919	A1809	C1730	G1649	C1558	G1465		A1302	G1137	U1065		G976
U2016	C1920	G1811	G1731	A1650	U1559	U1466	C1386	G1303	G1138	U1066		A980
			C1732	G1651	G1560	U1467	A1387	A1304	G1139	A1067	A981	
			G1733	A1652	C1561	U1468	G1388	C1305	C1140	G1068	A982	
U2022	G1924	C1816	G1734	G1653	U1562	A1469	G1389		U1141		A983	
C2023	C1925	G1817	U1735	A1654	U1563	A1470	U1390	G1309	U1142	A1069	A984	
		U1818					U1391		A1143	A1070		
U2028	G1929	U1819	U1736	U1657	A1566	G1473	A1392	U1312		G1071		A988
G2100	G1930	A1819	G1737	C1658	G1567	U1474	A1393	U1313	U1234	A1147	C1072	G989
U2105	A2030	U1931	G1738	C1659	G1568	U1475	A1394	C1314	G1235	U1148	A1073	A990
U2106	A1932		A1739	G1659	G1569	U1476	A1395	C1315	G1236		G1074	C991
G2107		G1823		G1660	A1569							





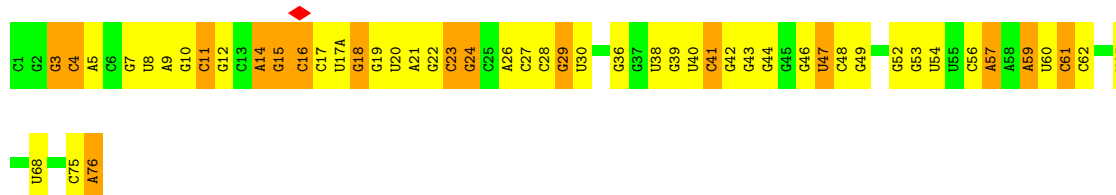
• Molecule 3: 5S ribosomal RNA



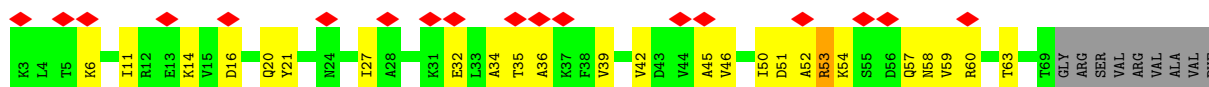
• Molecule 4: mRNA

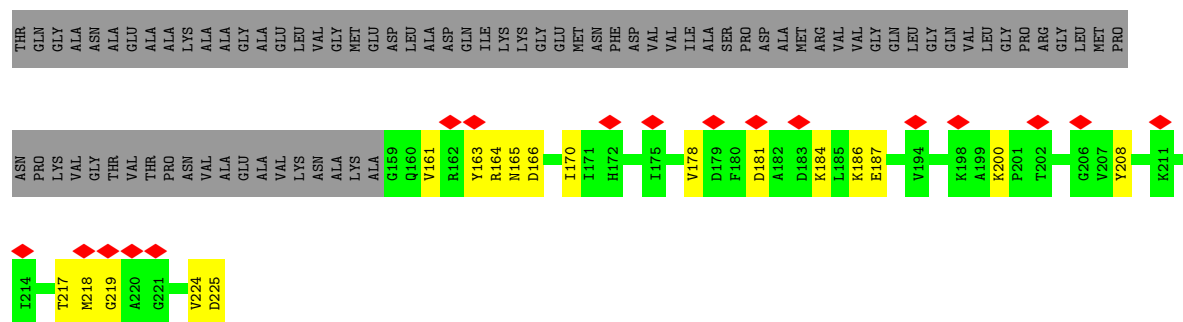


• Molecule 5: tRNA^{ProL} (GGG)

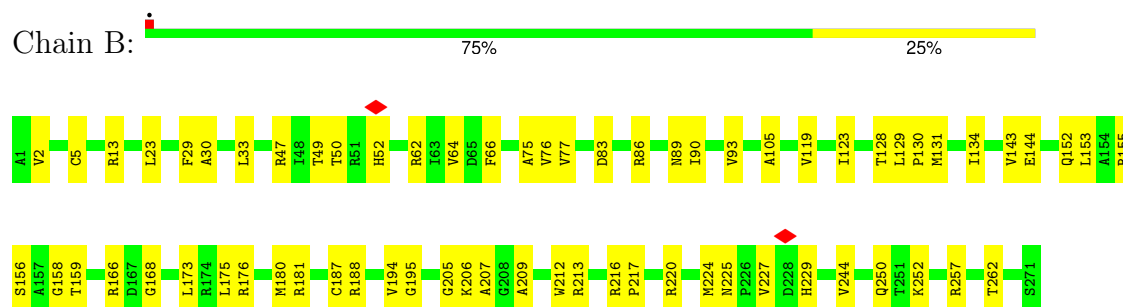


• Molecule 6: Large ribosomal subunit protein uL1

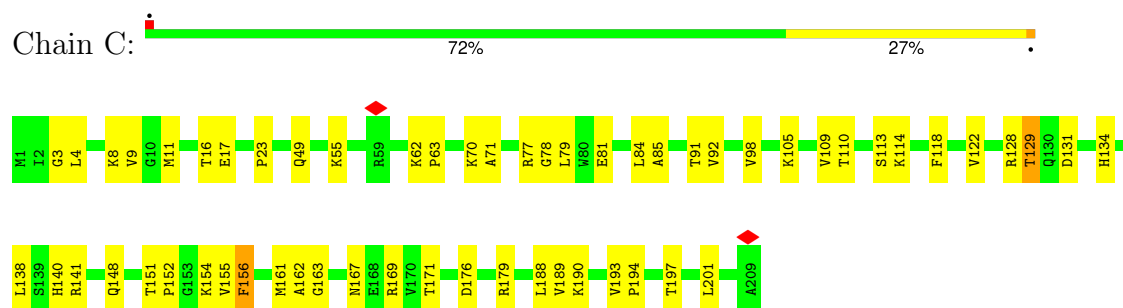




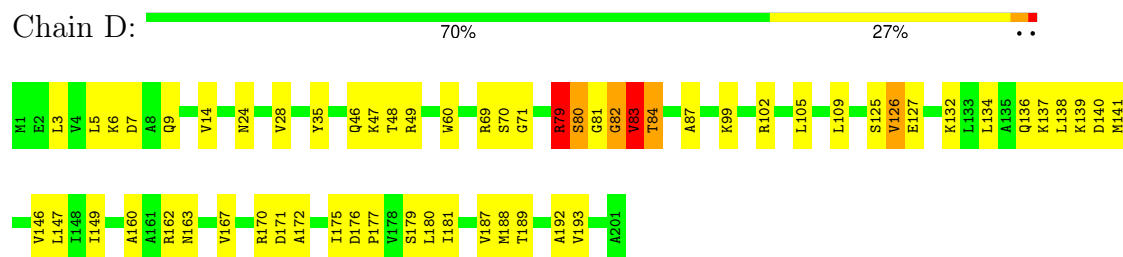
• Molecule 7: 50S ribosomal protein L2



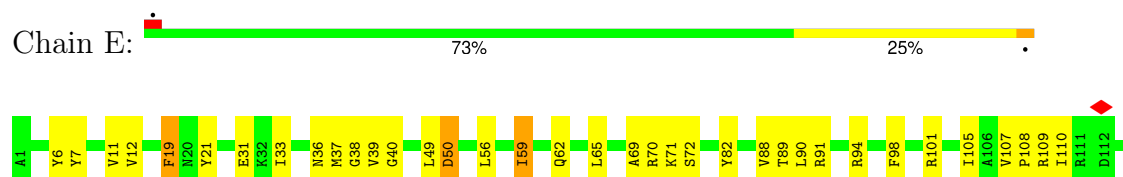
• Molecule 8: 50S ribosomal protein L3

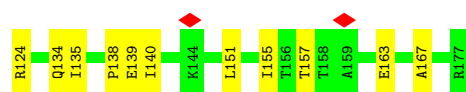


• Molecule 9: 50S ribosomal protein L4



• Molecule 10: 50S ribosomal protein L5





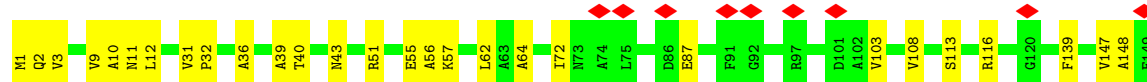
- Molecule 11: Large ribosomal subunit protein uL6

Chain F: 74% 26%



- Molecule 12: Large ribosomal subunit protein bL9

Chain G: 6% 81% 19%



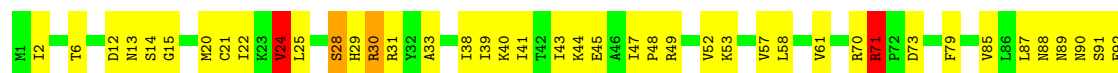
- Molecule 13: 50S ribosomal protein L13

Chain J: 77% 23%



- Molecule 14: 50S ribosomal protein L14

Chain K: 58% 39% 3%




- Molecule 15: 50S ribosomal protein L15

Chain L: 66% 32% 2%



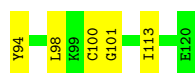
- Molecule 16: 50S ribosomal protein L16

Chain M:  78% 21%



- Molecule 17: Large ribosomal subunit protein bL17

Chain N:  64% 35%




- Molecule 18: 50S ribosomal protein L18

Chain O:  74% 25%



- Molecule 19: 50S ribosomal protein L19

Chain P:  78% 22%




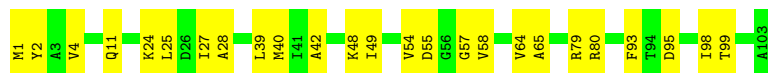
- Molecule 20: Large ribosomal subunit protein bL20

Chain Q:  73% 26%



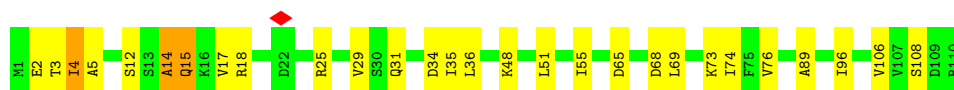
- Molecule 21: Ribosomal protein L21

Chain R:  76% 24%

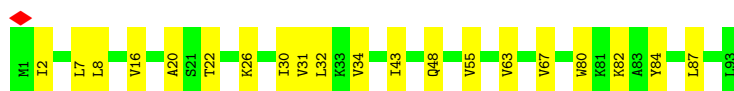
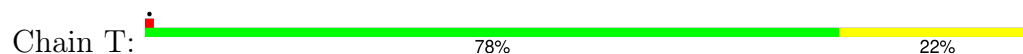


- Molecule 22: 50S ribosomal protein L22

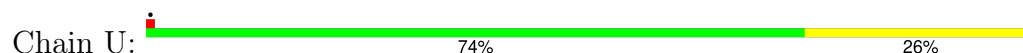
Chain S:  75% 23%



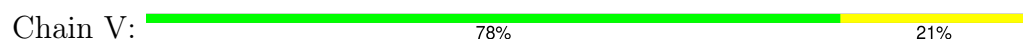
- Molecule 23: Large ribosomal subunit protein uL23



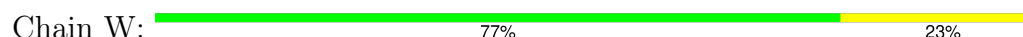
- Molecule 24: Large ribosomal subunit protein uL24



- Molecule 25: 50S ribosomal protein L25



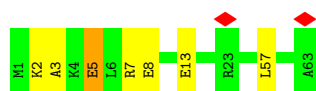
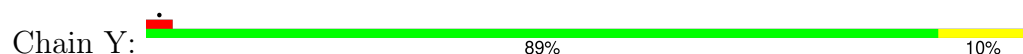
- Molecule 26: 50S ribosomal protein L27




- Molecule 27: 50S ribosomal protein L28

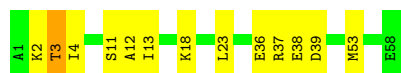


- Molecule 28: 50S ribosomal protein L29



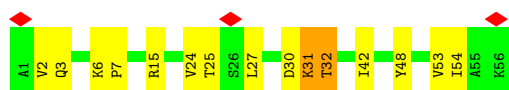
- Molecule 29: 50S ribosomal protein L30

Chain Z:  78% 21% .




- Molecule 30: 50S ribosomal protein L32

Chain b:  5% 73% 23% .




- Molecule 31: 50S ribosomal protein L33

Chain c:  84% 16%



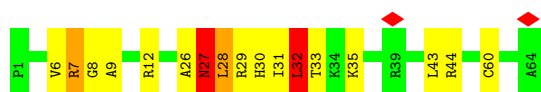
- Molecule 32: 50S ribosomal protein L34

Chain d:  78% 22%



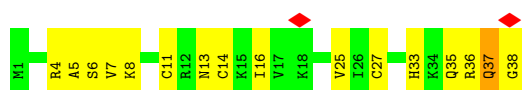
- Molecule 33: 50S ribosomal protein L35

Chain e:  73% 20% . .



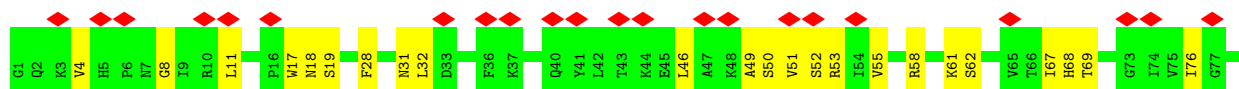
- Molecule 34: 50S ribosomal protein L36

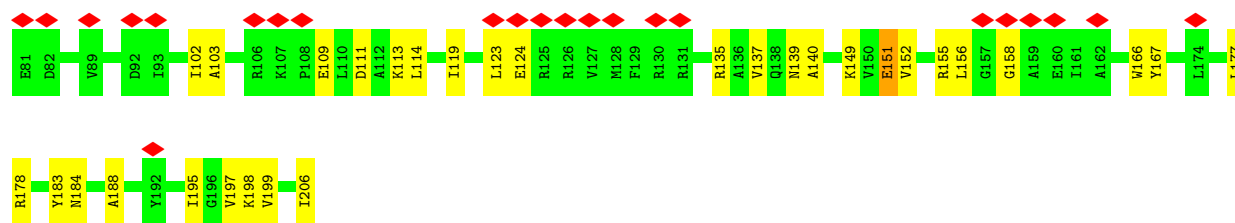
Chain f:  5% 58% 39% .



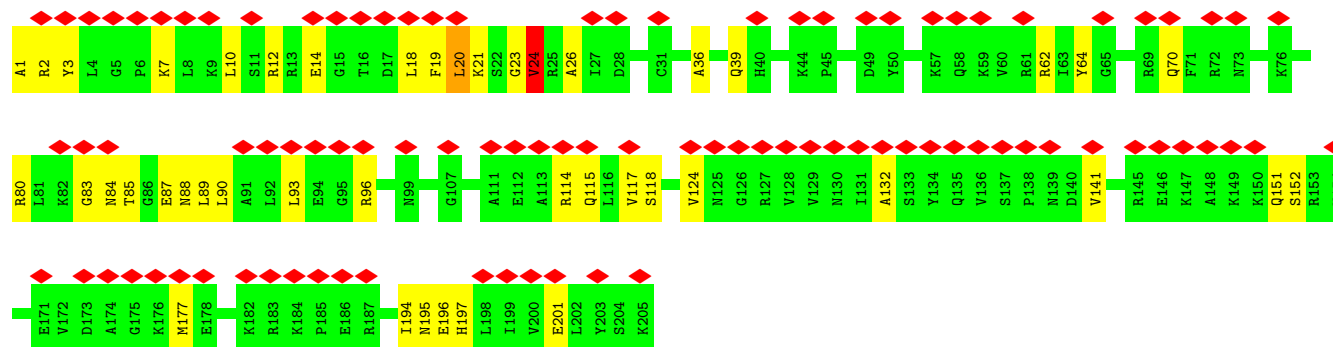
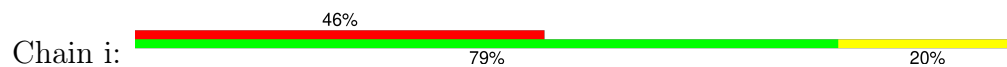
- Molecule 35: Small ribosomal subunit protein uS3

Chain h:  22% 74% 26%

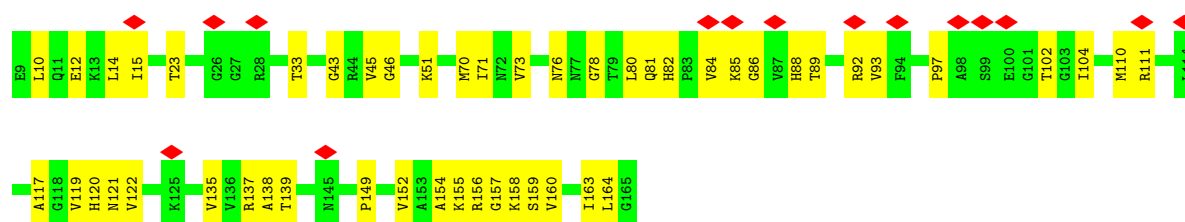




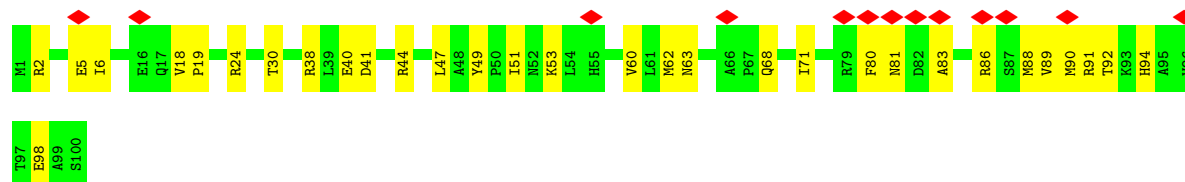
• Molecule 36: 30S ribosomal protein S4



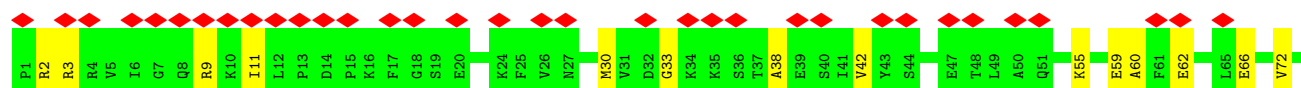
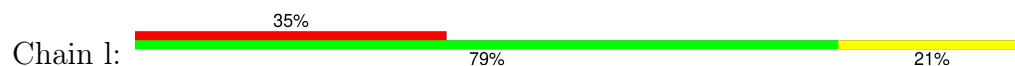
• Molecule 37: 30S ribosomal protein S5

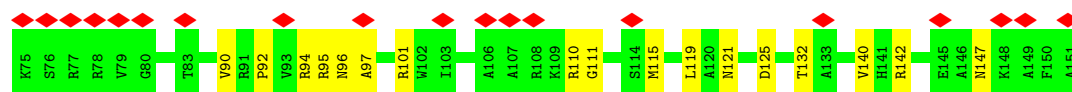


• Molecule 38: 30S ribosomal protein S6, non-modified isoform

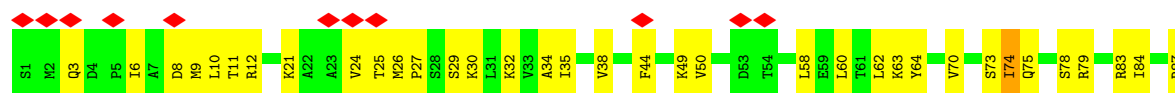


• Molecule 39: 30S ribosomal protein S7

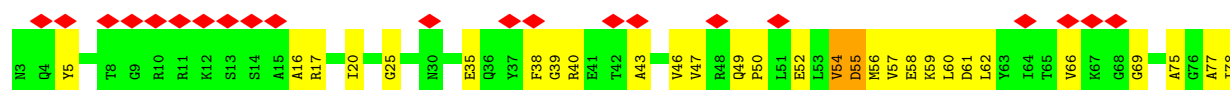




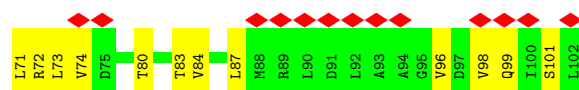
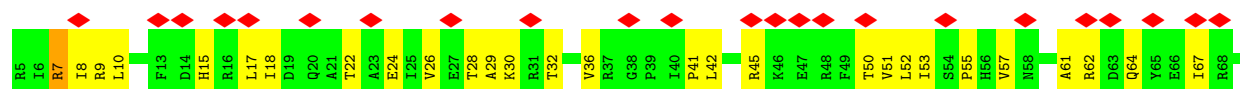
- Molecule 40: 30S ribosomal protein S8



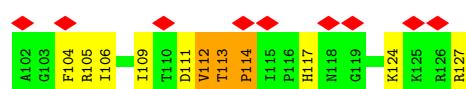
- Molecule 41: Small ribosomal subunit protein uS9



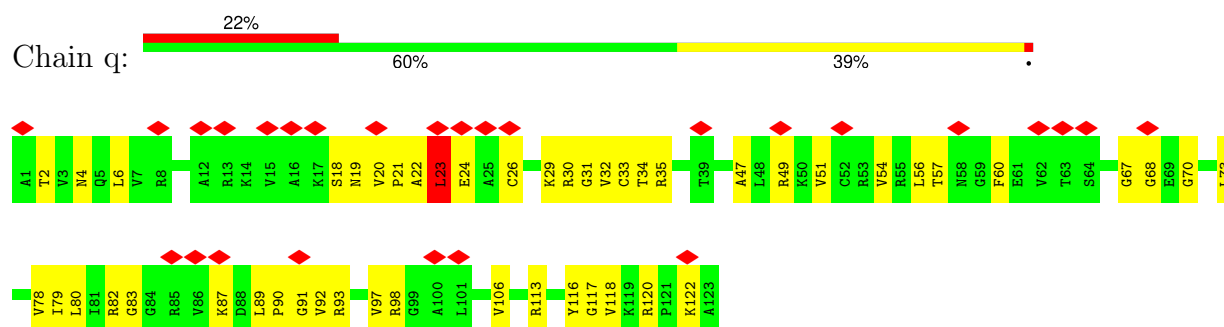
- Molecule 42: 30S ribosomal protein S10



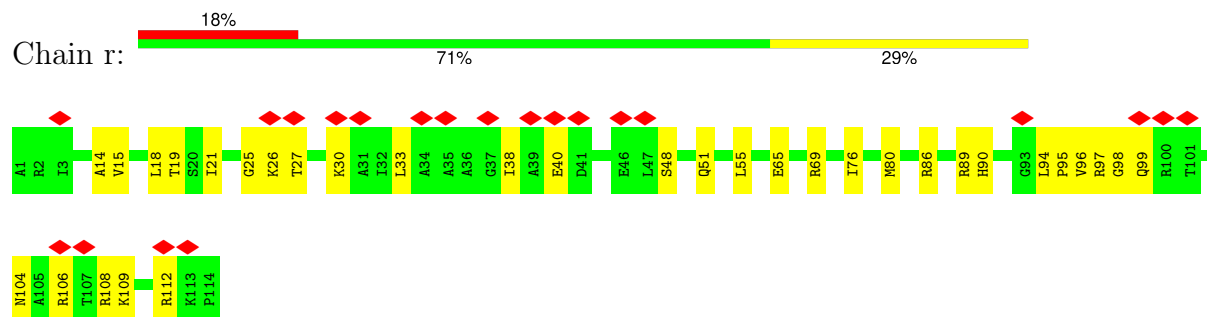
- Molecule 43: Small ribosomal subunit protein uS11



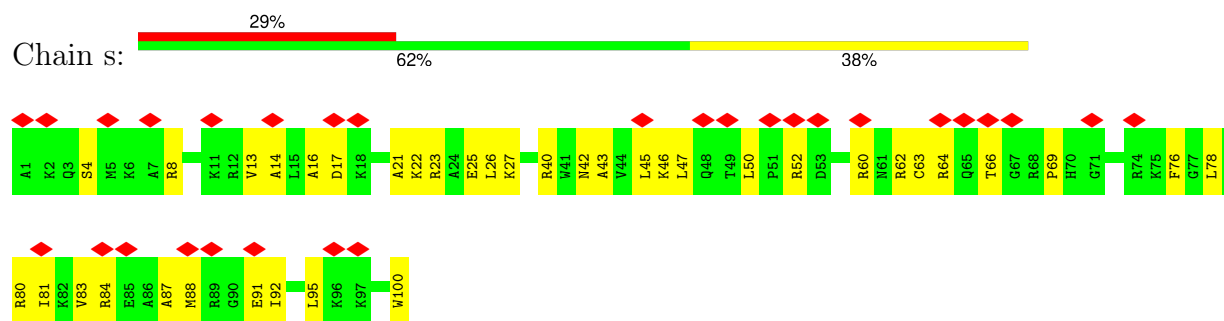
- Molecule 44: Small ribosomal subunit protein uS12



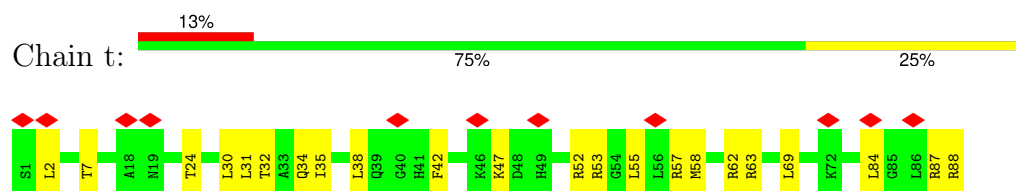
- Molecule 45: 30S ribosomal protein S13



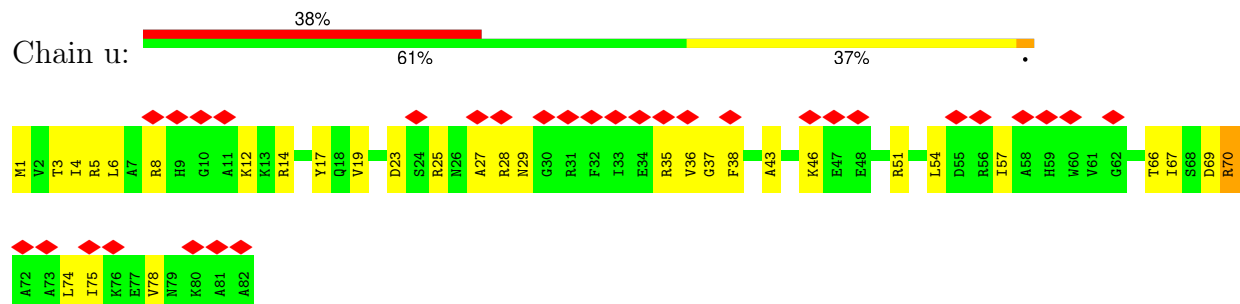
- Molecule 46: Small ribosomal subunit protein uS14



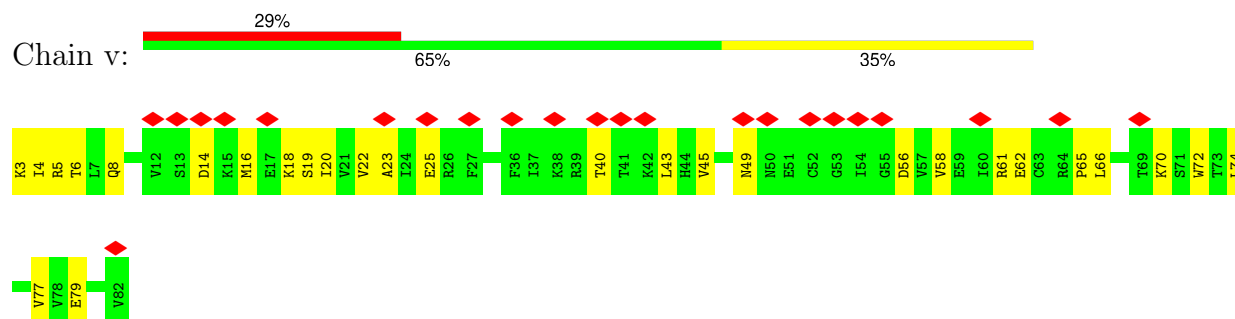
- Molecule 47: 30S ribosomal protein S15



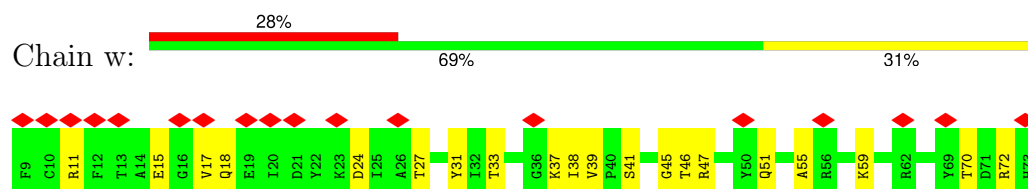
- Molecule 48: 30S ribosomal protein S16



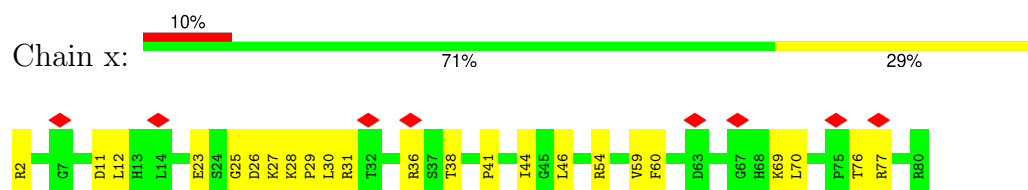
- Molecule 49: 30S ribosomal protein S17



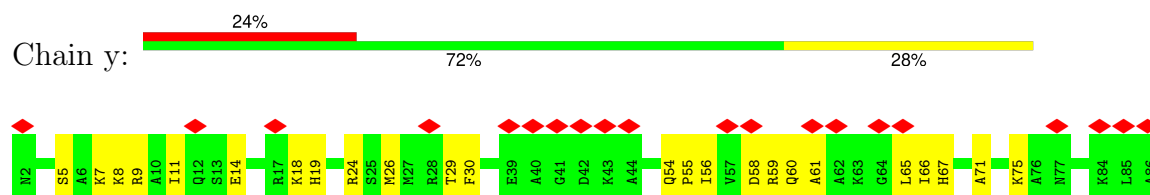
- Molecule 50: 30S ribosomal protein S18



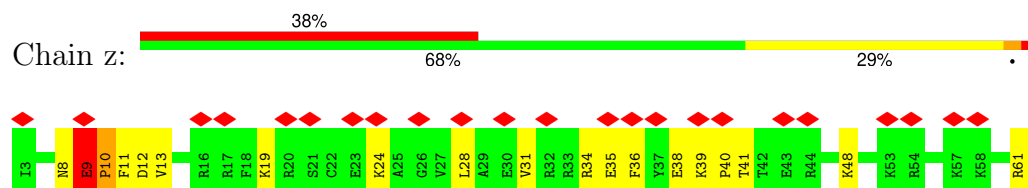
- Molecule 51: 30S ribosomal protein S19



- Molecule 52: 30S ribosomal protein S20



- Molecule 53: Small ribosomal subunit protein bS21



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	44717	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	56.07	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.027	Depositor
Minimum map value	-0.015	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0027	Depositor
Map size (\AA)	547.3792, 547.3792, 547.3792	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	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	0.28	0/69796	0.39	15/108888 (0.0%)
2	2	0.22	0/36963	0.38	2/57662 (0.0%)
3	3	0.21	0/2872	0.28	0/4479
4	4	0.25	0/87	0.51	0/132
5	5	0.39	0/1841	0.69	3/2870 (0.1%)
6	A	0.22	0/1034	0.58	1/1387 (0.1%)
7	B	0.45	0/2122	0.57	0/2852
8	C	0.56	2/1586 (0.1%)	0.59	2/2134 (0.1%)
9	D	0.65	0/1571	0.62	3/2113 (0.1%)
10	E	0.44	0/1435	0.59	2/1926 (0.1%)
11	F	0.41	0/1343	0.52	0/1816
12	G	0.21	0/1122	0.41	0/1515
13	J	0.46	1/1152 (0.1%)	0.50	1/1551 (0.1%)
14	K	0.55	0/948	0.76	4/1268 (0.3%)
15	L	0.82	3/1054 (0.3%)	0.85	4/1403 (0.3%)
16	M	0.46	0/1093	0.57	1/1460 (0.1%)
17	N	0.64	2/974 (0.2%)	0.64	1/1301 (0.1%)
18	O	0.56	0/902	0.76	4/1209 (0.3%)
19	P	0.33	0/929	0.46	0/1242
20	Q	0.79	2/960 (0.2%)	0.62	2/1278 (0.2%)
21	R	0.35	0/829	0.46	0/1107
22	S	0.77	4/864 (0.5%)	0.65	4/1156 (0.3%)
23	T	0.43	0/745	0.55	0/994
24	U	0.52	1/788 (0.1%)	0.55	0/1051
25	V	0.34	0/766	0.44	0/1025
26	W	0.34	0/582	0.42	0/769
27	X	0.71	0/635	0.71	2/848 (0.2%)
28	Y	0.46	0/510	0.61	2/677 (0.3%)
29	Z	0.44	0/453	0.59	0/605
30	b	0.51	0/450	0.69	1/599 (0.2%)
31	c	0.30	0/417	0.40	0/554
32	d	0.43	0/380	0.55	0/498

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	e	0.62	0/513	0.84	4/676 (0.6%)
34	f	0.33	0/303	0.53	0/397
35	h	0.36	0/1652	0.49	1/2225 (0.0%)
36	i	0.31	0/1665	0.57	3/2227 (0.1%)
37	j	0.33	0/1170	0.55	1/1573 (0.1%)
38	k	0.22	0/836	0.46	0/1128
39	l	0.24	0/1196	0.46	0/1602
40	m	0.30	0/989	0.55	0/1326
41	n	0.32	0/1034	0.67	4/1375 (0.3%)
42	o	0.27	0/797	0.53	2/1077 (0.2%)
43	p	0.40	0/886	0.77	4/1195 (0.3%)
44	q	0.39	0/969	0.58	1/1300 (0.1%)
45	r	0.21	0/893	0.46	0/1193
46	s	0.21	0/817	0.43	0/1088
47	t	0.23	0/722	0.40	0/964
48	u	0.42	0/659	0.77	5/884 (0.6%)
49	v	0.20	0/658	0.48	0/881
50	w	0.21	0/545	0.38	0/731
51	x	0.17	0/653	0.42	0/877
52	y	0.45	0/671	0.54	0/888
53	z	0.33	0/551	0.65	1/728 (0.1%)
All	All	0.33	15/155382 (0.0%)	0.44	80/232704 (0.0%)

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	L	38	GLN	CA-C	-6.55	1.44	1.52
20	Q	45	ALA	CA-C	-6.51	1.44	1.52
8	C	128	ARG	CA-C	-6.48	1.45	1.52
17	N	82	GLU	CA-C	-6.30	1.47	1.52
20	Q	47	ARG	CA-C	-6.22	1.44	1.52
17	N	84	GLY	C-O	-6.06	1.18	1.24
13	J	39	LYS	CA-C	-5.74	1.47	1.53
15	L	68	SER	CA-C	-5.67	1.47	1.53
22	S	14	ALA	N-CA	-5.60	1.39	1.46
15	L	50	PHE	CA-C	-5.47	1.46	1.52
22	S	5	ALA	CA-C	-5.35	1.45	1.52
24	U	85	ARG	CA-C	-5.33	1.46	1.52
8	C	129	THR	CA-C	-5.10	1.46	1.53
22	S	12	SER	CA-C	-5.07	1.46	1.52
22	S	14	ALA	CA-C	-5.05	1.46	1.52

All (80) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1780	A	C2'-C3'-O3'	11.41	126.62	109.50
6	A	53	ARG	N-CA-C	-11.27	100.31	112.93
15	L	5	THR	N-CA-C	10.74	124.06	111.71
48	u	69	ASP	N-CA-C	9.68	121.43	111.07
37	j	155	LYS	N-CA-C	9.56	121.30	111.07
33	e	29	ARG	N-CA-C	9.37	121.57	111.36
9	D	82	GLY	N-CA-C	8.76	133.94	113.18
30	b	32	THR	N-CA-C	8.71	120.55	111.14
48	u	27	ALA	N-CA-C	8.65	121.49	110.33
43	p	112	VAL	N-CA-C	8.13	118.19	110.30
14	K	28	SER	N-CA-C	7.81	120.39	109.15
1	1	2821	A	C2'-C3'-O3'	-7.40	102.61	113.70
18	O	33	ARG	N-CA-C	7.29	119.31	111.36
1	1	2822	G	C3'-C2'-O2'	-7.28	99.79	110.70
1	1	1271	G	C2'-C3'-O3'	-7.18	102.93	113.70
33	e	32	LEU	N-CA-C	7.17	121.29	112.54
1	1	1271	G	C3'-C2'-O2'	-7.16	99.97	110.70
27	X	59	ASP	N-CA-C	-7.13	103.44	111.14
41	n	98	ARG	N-CA-C	-7.05	102.80	111.33
27	X	64	ASP	N-CA-C	-7.00	95.89	110.80
41	n	58	GLU	N-CA-C	6.97	124.89	114.09
18	O	65	THR	N-CA-C	-6.82	99.57	109.59
48	u	70	ARG	N-CA-C	-6.80	103.95	111.36
48	u	28	ARG	N-CA-C	6.69	118.36	111.14
8	C	128	ARG	N-CA-C	-6.64	96.21	108.02
48	u	29	ASN	N-CA-C	-6.57	99.76	109.62
8	C	162	ALA	N-CA-C	6.55	119.25	110.35
16	M	27	SER	N-CA-C	6.43	124.49	110.80
10	E	50	ASP	N-CA-C	-6.33	104.30	111.07
22	S	12	SER	N-CA-C	-6.30	99.72	109.24
14	K	71	ARG	CA-C-N	-6.28	113.44	121.91
14	K	71	ARG	C-N-CA	-6.28	113.44	121.91
41	n	52	GLU	N-CA-C	6.21	118.05	111.28
36	i	24	VAL	N-CA-C	6.20	121.57	113.07
9	D	83	VAL	CB-CA-C	6.19	121.44	111.29
10	E	19	PHE	N-CA-C	-6.18	105.50	113.16
20	Q	42	GLY	N-CA-C	-6.15	105.37	112.50
1	1	2820	A	C4'-C3'-O3'	-6.12	103.81	113.00
15	L	4	ASN	N-CA-C	-6.10	104.63	111.28
20	Q	49	ARG	N-CA-C	-6.04	104.69	111.28
41	n	54	VAL	N-CA-C	5.88	121.56	109.34
5	5	59	A	C4'-C3'-O3'	5.83	118.14	109.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	47	U	C2'-C3'-O3'	5.82	118.23	109.50
35	h	149	LYS	N-CA-C	-5.82	98.12	108.13
15	L	67	THR	O-C-N	-5.82	114.85	122.59
43	p	30	ILE	N-CA-C	5.77	115.57	107.37
36	i	26	ALA	N-CA-C	5.75	117.54	111.28
13	J	40	HIS	N-CA-C	-5.73	98.59	110.80
5	5	59	A	C2'-C3'-O3'	5.69	118.03	109.50
22	S	15	GLN	N-CA-C	-5.67	105.10	111.28
14	K	24	VAL	CB-CA-C	-5.67	106.22	112.68
1	1	777	G	C1'-C2'-O2'	-5.67	99.90	108.40
18	O	30	ARG	N-CA-C	5.58	118.90	107.69
2	2	1367	C	C2'-C3'-O3'	-5.57	105.35	113.70
22	S	3	THR	N-CA-C	5.52	119.01	111.39
1	1	1798	U	C3'-C2'-O2'	-5.51	102.43	110.70
1	1	2706	A	C2'-C3'-O3'	-5.50	105.45	113.70
15	L	38	GLN	N-CA-C	-5.45	105.42	111.36
28	Y	3	ALA	N-CA-C	-5.44	106.65	113.28
33	e	27	ASN	N-CA-C	5.42	122.34	110.80
1	1	2335	A	C2'-C3'-O3'	-5.42	105.58	113.70
18	O	34	HIS	N-CA-C	5.40	117.40	109.24
22	S	17	VAL	N-CA-C	5.37	116.14	110.72
53	z	8	ASN	N-CA-C	-5.33	105.37	111.07
17	N	86	ARG	N-CA-C	5.30	117.06	111.28
42	o	7	ARG	CA-C-N	-5.30	116.03	123.13
42	o	7	ARG	C-N-CA	-5.30	116.03	123.13
43	p	85	VAL	N-CA-C	5.25	116.13	108.58
1	1	1329	U	C2'-C3'-O3'	5.24	117.35	109.50
36	i	23	GLY	N-CA-C	5.20	120.69	111.02
1	1	1780	A	C4'-C3'-O3'	-5.18	101.62	109.40
1	1	465	G	C4'-C3'-O3'	-5.18	105.23	113.00
9	D	35	TYR	N-CA-C	-5.17	105.65	111.28
2	2	970	C	C4'-C3'-O3'	-5.16	105.26	113.00
1	1	780	G	C2'-C3'-O3'	-5.14	105.99	113.70
28	Y	5	GLU	N-CA-C	-5.12	107.69	114.04
43	p	114	PRO	N-CA-C	5.12	123.02	112.47
1	1	1451	C	P-O3'-C3'	5.11	127.86	120.20
33	e	32	LEU	CA-CB-CG	5.11	134.17	116.30
44	q	23	LEU	N-CA-C	-5.10	99.93	110.80

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	62317	0	31346	836	0
2	2	33012	0	16618	617	0
3	3	2568	0	1303	29	0
4	4	80	0	45	0	0
5	5	1648	0	834	18	0
6	A	1027	0	1092	39	0
7	B	2083	0	2157	58	0
8	C	1565	0	1616	47	0
9	D	1552	0	1619	44	0
10	E	1411	0	1447	49	0
11	F	1323	0	1374	30	0
12	G	1111	0	1148	21	0
13	J	1129	0	1162	26	0
14	K	939	0	1012	38	0
15	L	1045	0	1117	35	0
16	M	1074	0	1157	25	0
17	N	961	0	1000	29	0
18	O	892	0	923	20	0
19	P	917	0	965	21	0
20	Q	947	0	1022	24	0
21	R	816	0	839	19	0
22	S	857	0	922	21	0
23	T	739	0	807	16	0
24	U	780	0	834	18	0
25	V	753	0	780	19	0
26	W	575	0	592	11	0
27	X	625	0	655	31	0
28	Y	509	0	543	3	0
29	Z	449	0	491	11	0
30	b	444	0	461	15	0
31	c	410	0	440	5	0
32	d	377	0	418	10	0
33	e	504	0	574	16	0
34	f	302	0	343	11	0
35	h	1625	0	1699	41	0
36	i	1643	0	1710	39	0
37	j	1157	0	1199	49	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	k	818	0	808	33	0
39	l	1182	0	1240	35	0
40	m	979	0	1034	45	0
41	n	1022	0	1070	45	0
42	o	787	0	828	37	0
43	p	870	0	878	32	0
44	q	955	0	1019	55	0
45	r	884	0	944	39	0
46	s	805	0	847	40	0
47	t	714	0	737	17	0
48	u	649	0	666	24	0
49	v	649	0	691	26	0
50	w	536	0	552	18	0
51	x	638	0	665	23	0
52	y	665	0	714	17	0
53	z	545	0	579	16	0
54	1	202	0	0	0	0
54	2	29	0	0	0	0
54	3	4	0	0	0	0
54	B	1	0	0	0	0
54	E	1	0	0	0	0
54	Q	1	0	0	0	0
54	b	1	0	0	0	0
55	1	103	0	0	21	0
55	2	279	0	0	86	0
55	3	2	0	0	0	0
55	4	1	0	0	0	0
55	5	2	0	0	0	0
55	A	13	0	0	9	0
55	C	1	0	0	2	0
55	D	2	0	0	1	0
55	E	5	0	0	0	0
55	F	2	0	0	0	0
55	G	10	0	0	2	0
55	M	1	0	0	2	0
55	P	1	0	0	1	0
55	c	1	0	0	0	0
55	h	10	0	0	6	0
55	i	11	0	0	9	0
55	j	1	0	0	1	0
55	k	9	0	0	14	0
55	l	21	0	0	12	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	m	9	0	0	4	0
55	n	9	0	0	3	0
55	o	11	0	0	11	0
55	p	4	0	0	1	0
55	q	5	0	0	1	0
55	r	8	0	0	7	0
55	s	1	0	0	0	0
55	t	3	0	0	1	0
55	u	8	0	0	1	0
55	v	4	0	0	4	0
55	w	8	0	0	3	0
55	x	4	0	0	4	0
55	z	3	0	0	0	0
All	All	143655	0	95536	2536	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 (2536) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:19:PHE:CZ	10:E:167:ALA:HB2	1.60	1.36
2:2:99:C:H4'	55:2:1921:HOH:O	1.33	1.29
2:2:1336:C:H5''	55:2:1859:HOH:O	1.29	1.23
2:2:1336:C:H4'	55:2:1759:HOH:O	1.44	1.17
55:2:1761:HOH:O	50:w:15:GLU:HG2	1.44	1.17
35:h:58:ARG:HD3	55:h:303:HOH:O	1.43	1.16
10:E:19:PHE:CZ	10:E:167:ALA:CB	2.30	1.14
8:C:55:LYS:HG2	55:C:301:HOH:O	1.44	1.13
50:w:11:ARG:HD2	55:w:108:HOH:O	1.52	1.10
2:2:73:C:H5''	55:2:1850:HOH:O	1.50	1.09
45:r:48:SER:HA	55:r:203:HOH:O	1.52	1.08
1:1:2152:G:H4'	55:1:3348:HOH:O	1.53	1.07
2:2:203:G:H5''	55:2:1976:HOH:O	1.56	1.05
2:2:84:U:H5	55:2:1892:HOH:O	1.36	1.05
2:2:460:A:H5''	55:2:1950:HOH:O	1.55	1.05
1:1:2134:A:H4'	55:1:3310:HOH:O	1.55	1.02
42:o:26:VAL:HG22	55:o:205:HOH:O	1.58	1.01
55:2:1710:HOH:O	51:x:76:THR:HA	1.58	1.01
19:P:113:LEU:HD23	55:P:201:HOH:O	1.58	1.00
2:2:978:A:H61	2:2:1316:G:H21	1.12	0.97

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:485:U:H4'	55:2:1773:HOH:O	1.62	0.97
36:i:194:ILE:HG12	55:i:301:HOH:O	1.64	0.96
41:n:57:VAL:HA	55:n:202:HOH:O	1.65	0.96
2:2:414:A:H4'	55:2:1753:HOH:O	1.66	0.94
38:k:88:MET:SD	55:k:201:HOH:O	2.25	0.94
2:2:740:U:H5	55:2:1783:HOH:O	1.52	0.93
10:E:19:PHE:HZ	10:E:167:ALA:HB2	1.00	0.93
44:q:82:ARG:NH1	44:q:83:GLY:O	2.03	0.92
39:l:140:VAL:HB	55:l:213:HOH:O	1.70	0.92
42:o:32:THR:HG22	55:o:203:HOH:O	1.68	0.92
53:z:9:GLU:H	53:z:10:PRO:HD3	1.33	0.92
2:2:981:U:OP2	2:2:982:U:O2'	1.88	0.91
1:1:1712:U:OP2	1:1:1713:A:O2'	1.89	0.91
45:r:19:THR:HG21	55:r:205:HOH:O	1.71	0.90
45:r:33:LEU:HB2	55:r:201:HOH:O	1.70	0.90
1:1:196:A:H61	1:1:831:G:H21	1.08	0.90
21:R:48:LYS:NZ	21:R:49:ILE:O	2.05	0.90
36:i:177:MET:HE2	55:i:306:HOH:O	1.70	0.90
1:1:2865:U:OP2	1:1:2866:U:O2'	1.91	0.89
35:h:135:ARG:HG3	55:h:308:HOH:O	1.69	0.89
1:1:1225:G:O2'	1:1:1226:A:O4'	1.90	0.88
2:2:491:G:O2'	2:2:492:C:O4'	1.89	0.88
45:r:38:ILE:HD13	45:r:55:LEU:HD21	1.54	0.88
2:2:121:U:H5''	55:2:1821:HOH:O	1.71	0.88
38:k:30:THR:HG23	55:k:208:HOH:O	1.71	0.88
2:2:171:A:O2'	2:2:172:A:O4'	1.92	0.88
2:2:1041:G:H1'	55:2:1869:HOH:O	1.74	0.88
2:2:573:A:O2'	2:2:574:A:O4'	1.92	0.88
15:L:135:ILE:HG22	15:L:140:GLY:HA3	1.57	0.87
2:2:513:C:H5'	55:2:1919:HOH:O	1.74	0.87
1:1:2496:C:O2'	1:1:2497:A:O5'	1.92	0.87
2:2:1031:C:H2'	55:2:1858:HOH:O	1.75	0.87
55:2:1797:HOH:O	40:m:3:GLN:HG2	1.74	0.85
2:2:740:U:C5	55:2:1783:HOH:O	2.28	0.85
45:r:30:LYS:HA	55:r:201:HOH:O	1.75	0.85
49:v:58:VAL:HG12	55:v:101:HOH:O	1.76	0.84
2:2:967:C:OP2	2:2:968:A:O2'	1.96	0.84
1:1:1125:G:OP2	1:1:1126:A:O2'	1.94	0.84
41:n:55:ASP:HB3	41:n:59:LYS:HB2	1.60	0.83
2:2:1183:U:H6	55:2:1954:HOH:O	1.61	0.83
2:2:485:U:C4'	55:2:1773:HOH:O	2.23	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:518:C:H4'	2:2:519:C:H5''	1.59	0.83
6:A:225:ASP:HB2	55:A:309:HOH:O	1.77	0.83
1:1:2153:C:H5''	55:1:3334:HOH:O	1.77	0.83
1:1:1730:C:H5''	55:1:3346:HOH:O	1.79	0.82
22:S:65:ASP:O	22:S:69:LEU:HD11	1.80	0.82
8:C:179:ARG:HB2	8:C:188:LEU:HD21	1.62	0.81
1:1:196:A:N6	1:1:831:G:H21	1.79	0.81
1:1:1343:G:O2'	1:1:1344:U:OP1	1.98	0.81
1:1:196:A:H61	1:1:831:G:N2	1.80	0.80
10:E:19:PHE:CE2	10:E:167:ALA:CB	2.64	0.80
1:1:2483:C:N3	16:M:123:LYS:NZ	2.30	0.80
49:v:61:ARG:NH1	49:v:62:GLU:O	2.14	0.79
2:2:1248:A:O2'	2:2:1249:C:O4'	1.98	0.79
29:Z:23:LEU:HD11	29:Z:53:MET:HE3	1.64	0.79
23:T:30:ILE:HD11	23:T:87:LEU:HD11	1.65	0.79
47:t:24:THR:HG21	47:t:69:LEU:HD13	1.65	0.79
2:2:618:C:H5'	2:2:619:U:H5''	1.65	0.79
1:1:2209:G:OP2	1:1:2210:U:O2'	2.00	0.79
2:2:507:C:OP2	2:2:508:U:O2'	2.01	0.79
1:1:896:A:O2'	1:1:897:C:OP2	2.00	0.78
10:E:19:PHE:HB3	10:E:21:TYR:CE2	2.18	0.78
10:E:19:PHE:CE2	10:E:167:ALA:HB1	2.19	0.78
2:2:396:C:H1'	55:2:1872:HOH:O	1.84	0.78
51:x:31:ARG:HB3	55:x:102:HOH:O	1.84	0.78
22:S:29:VAL:HG21	22:S:55:ILE:HD11	1.65	0.77
35:h:111:ASP:HB3	35:h:114:LEU:HB2	1.66	0.77
1:1:774:G:O2'	1:1:775:G:O5'	2.02	0.77
52:y:24:ARG:HG3	52:y:65:LEU:HD21	1.66	0.77
1:1:2123:G:N2	1:1:2124:G:O6	2.18	0.77
46:s:63:CYS:SG	46:s:66:THR:OG1	2.43	0.77
2:2:396:C:H4'	55:2:1948:HOH:O	1.84	0.76
2:2:210:C:O3'	2:2:211:G:N2	2.17	0.76
2:2:212:G:H5''	55:2:1853:HOH:O	1.86	0.76
13:J:65:THR:HG22	13:J:66:GLY:H	1.50	0.76
42:o:26:VAL:CG2	55:o:205:HOH:O	2.23	0.76
2:2:232:G:H21	2:2:263:A:H2	1.31	0.76
40:m:89:ASP:HB3	55:m:202:HOH:O	1.84	0.76
38:k:88:MET:HE1	55:k:201:HOH:O	1.86	0.76
15:L:10:GLU:OE1	15:L:10:GLU:N	2.19	0.76
36:i:151:GLN:HB2	55:i:304:HOH:O	1.86	0.76
44:q:34:THR:HG22	44:q:35:ARG:H	1.52	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1186:G:N2	46:s:100:TRP:O	2.20	0.75
2:2:221:C:C5	55:2:1854:HOH:O	2.38	0.75
9:D:146:VAL:CG1	9:D:167:VAL:HG22	2.16	0.75
44:q:68:GLY:HA2	55:q:204:HOH:O	1.84	0.75
1:1:617:G:OP1	9:D:102:ARG:NH2	2.20	0.75
37:j:157:GLY:HA3	37:j:163:ILE:HD11	1.69	0.75
2:2:51:A:N6	2:2:314:C:O2	2.20	0.74
2:2:1146:A:C8	55:2:1873:HOH:O	2.40	0.74
26:W:14:ALA:O	26:W:16:ARG:NH1	2.20	0.74
38:k:90:MET:HG3	55:k:201:HOH:O	1.86	0.74
1:1:1535:A:H2	55:1:3347:HOH:O	1.70	0.74
2:2:72:A:C2	55:2:1929:HOH:O	2.40	0.74
45:r:14:ALA:HB1	45:r:33:LEU:HD21	1.68	0.74
2:2:230:G:O4'	48:u:25:ARG:NH2	2.20	0.74
36:i:83:GLY:CA	55:i:309:HOH:O	2.36	0.74
10:E:101:ARG:NH1	10:E:139:GLU:OE2	2.20	0.74
42:o:87:LEU:C	55:o:201:HOH:O	2.30	0.74
2:2:649:A:C2	55:2:1920:HOH:O	2.38	0.74
49:v:3:LYS:O	49:v:5:ARG:NH1	2.20	0.74
1:1:270:A:N1	1:1:369:U:O2'	2.21	0.74
1:1:698:C:O2'	1:1:734:A:N6	2.20	0.74
1:1:1681:G:OP2	1:1:1757:A:N6	2.21	0.74
1:1:2406:A:OP2	1:1:2411:A:N6	2.21	0.74
47:t:42:PHE:O	47:t:52:ARG:NH2	2.20	0.74
2:2:406:G:N7	2:2:495:A:O2'	2.20	0.74
2:2:1040:U:H1'	55:2:1866:HOH:O	1.87	0.74
2:2:1396:A:C2	37:j:23:THR:HG21	2.23	0.74
8:C:91:THR:HG22	8:C:92:VAL:H	1.50	0.74
2:2:113:G:H1'	2:2:354:G:H5''	1.70	0.73
2:2:710:G:OP1	38:k:53:LYS:NZ	2.20	0.73
2:2:1116:U:O3'	41:n:109:GLN:NE2	2.21	0.73
43:p:83:VAL:HG21	43:p:109:ILE:HD12	1.70	0.73
1:1:310:A:O2'	1:1:311:A:O5'	2.06	0.73
27:X:6:VAL:HG13	27:X:7:THR:HG23	1.70	0.73
1:1:2595:G:N2	1:1:2598:A:OP2	2.20	0.73
2:2:1308:U:OP2	45:r:89:ARG:NH1	2.22	0.73
2:2:71:A:N6	2:2:99:C:O2'	2.22	0.73
1:1:714:U:OP2	47:t:88:ARG:NH2	2.21	0.73
14:K:73:ASP:O	19:P:74:GLN:NE2	2.20	0.73
1:1:2328:A:O2'	1:1:2329:U:O5'	2.04	0.73
1:1:1497:U:OP2	1:1:1498:C:N4	2.21	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:85:VAL:HG23	15:L:86:GLU:H	1.53	0.72
2:2:705:G:H21	43:p:30:ILE:HD11	1.51	0.72
17:N:24:MET:SD	17:N:44:LEU:HD22	2.28	0.72
49:v:25:GLU:HB3	49:v:40:THR:HG22	1.71	0.72
1:1:2422:C:O4'	5:5:76:A:N6	2.23	0.72
40:m:73:SER:HB3	40:m:129:ALA:HB2	1.70	0.72
1:1:1818:U:OP2	7:B:155:ARG:NE	2.23	0.72
1:1:683:U:O2'	1:1:684:G:OP1	2.08	0.72
12:G:64:ALA:HA	55:G:207:HOH:O	1.89	0.72
27:X:58:ILE:HD11	27:X:63:ILE:HB	1.71	0.72
38:k:94:HIS:CE1	55:k:204:HOH:O	2.41	0.72
1:1:322:A:OP1	9:D:162:ARG:NH2	2.23	0.72
2:2:1535:C:N4	55:2:1703:HOH:O	2.22	0.72
1:1:476:G:N1	1:1:479:A:OP2	2.22	0.72
1:1:1535:A:C2	55:1:3347:HOH:O	2.42	0.72
1:1:2090:A:N6	1:1:2230:G:O6	2.22	0.72
1:1:1173:U:H6	55:1:3391:HOH:O	1.72	0.72
1:1:1820:U:OP1	7:B:176:ARG:NH1	2.21	0.72
2:2:228:A:C2	55:2:1724:HOH:O	2.41	0.72
38:k:90:MET:CG	55:k:201:HOH:O	2.38	0.72
1:1:1064:C:O2'	1:1:1065:U:O5'	2.07	0.71
6:A:27:ILE:CD1	55:A:308:HOH:O	2.38	0.71
3:3:9:G:OP2	18:O:15:ARG:NH2	2.23	0.71
55:2:1704:HOH:O	36:i:36:ALA:HB1	1.90	0.71
41:n:98:ARG:HD2	41:n:103:VAL:HG21	1.72	0.71
44:q:70:GLY:O	44:q:98:ARG:NH2	2.23	0.71
12:G:103:VAL:HB	12:G:108:VAL:HG23	1.72	0.71
38:k:44:ARG:NH1	55:k:202:HOH:O	2.23	0.71
42:o:17:LEU:HB3	55:o:204:HOH:O	1.90	0.71
1:1:1251:C:OP2	20:Q:5:ARG:NE	2.21	0.71
2:2:1534:A:N6	55:2:1709:HOH:O	2.24	0.70
39:l:132:THR:HG21	55:l:219:HOH:O	1.90	0.70
1:1:2743:U:OP2	1:1:2755:C:N4	2.25	0.70
2:2:1377:A:OP1	39:l:94:ARG:NE	2.24	0.70
1:1:1730:C:O2'	1:1:1731:G:OP2	2.07	0.70
2:2:789:U:O2'	2:2:791:G:N7	2.22	0.70
10:E:71:LYS:NZ	10:E:72:SER:O	2.23	0.70
46:s:25:GLU:N	46:s:25:GLU:OE1	2.24	0.70
26:W:29:ALA:N	26:W:60:ASP:OD1	2.24	0.70
50:w:33:THR:HG22	50:w:37:LYS:O	1.90	0.70
2:2:403:C:N4	2:2:547:A:OP1	2.24	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:62:U:H5''	55:2:1842:HOH:O	1.92	0.70
2:2:601:G:N2	2:2:638:U:O2	2.24	0.70
19:P:46:VAL:HA	19:P:60:VAL:HG12	1.73	0.70
39:l:111:GLY:HA3	55:l:205:HOH:O	1.91	0.70
1:1:500:G:N7	55:1:3305:HOH:O	2.25	0.70
2:2:1180:A:OP1	41:n:104:THR:HG22	1.90	0.70
38:k:88:MET:CE	55:k:201:HOH:O	2.39	0.70
24:U:73:ASN:OD1	24:U:76:THR:HG23	1.91	0.70
1:1:572:A:H61	1:1:2029:G:H21	1.40	0.69
2:2:1119:C:OP1	41:n:84:ARG:NH2	2.25	0.69
3:3:77:U:OP1	25:V:21:ARG:NH2	2.25	0.69
20:Q:89:ILE:HG13	20:Q:93:ILE:HD11	1.74	0.69
37:j:86:GLY:O	37:j:138:ALA:HB1	1.93	0.69
1:1:715:A:OP2	47:t:63:ARG:NH2	2.24	0.69
2:2:363:A:H5''	44:q:80:LEU:HD11	1.74	0.69
1:1:142:A:O2'	1:1:143:C:O5'	2.11	0.69
1:1:619:G:OP2	1:1:620:G:N2	2.25	0.69
2:2:73:C:N3	55:2:1712:HOH:O	2.26	0.69
2:2:768:A:N3	2:2:1512:U:O2'	2.25	0.69
39:l:147:ASN:OD1	43:p:97:ARG:NH1	2.25	0.69
1:1:989:G:C5	29:Z:13:ILE:HD11	2.27	0.69
1:1:322:A:OP2	9:D:163:ASN:ND2	2.26	0.69
2:2:1035:A:N6	55:2:1715:HOH:O	2.26	0.69
5:5:14:A:H3'	5:5:15:G:C8	2.28	0.68
1:1:1353:A:N6	1:1:1379:U:O4	2.22	0.68
2:2:1376:U:O4	39:l:9:ARG:NH1	2.26	0.68
36:i:84:ASN:HD22	36:i:87:GLU:HG2	1.57	0.68
1:1:2315:G:N3	10:E:124:ARG:NH2	2.42	0.68
44:q:89:LEU:HD11	44:q:92:VAL:HB	1.76	0.68
2:2:73:C:H5'	55:2:1738:HOH:O	1.93	0.68
2:2:927:G:O2'	2:2:1503:A:N7	2.27	0.68
2:2:994:A:N6	55:2:1716:HOH:O	2.27	0.68
46:s:88:MET:HE2	46:s:88:MET:HA	1.75	0.68
1:1:2780:G:OP2	13:J:120:ARG:NE	2.27	0.67
2:2:563:A:O2'	2:2:564:C:OP2	2.08	0.67
2:2:1009:U:H3	2:2:1020:G:H1	1.42	0.67
1:1:768:G:N2	1:1:1379:U:O2'	2.27	0.67
2:2:1250:A:N3	2:2:1370:G:O2'	2.25	0.67
21:R:54:VAL:HG23	21:R:55:ASP:H	1.59	0.67
49:v:74:LEU:HD11	55:v:101:HOH:O	1.93	0.67
6:A:181:ASP:O	6:A:184:LYS:N	2.27	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N:12:ARG:NH2	17:N:20:MET:SD	2.67	0.67
45:r:15:VAL:HG12	55:r:201:HOH:O	1.94	0.67
1:1:2012:G:H4'	22:S:96:ILE:HD11	1.76	0.67
1:1:2251:G:OP1	16:M:81:ARG:NH1	2.27	0.67
1:1:2749:A:OP1	11:F:1:SER:N	2.28	0.67
10:E:90:LEU:HD11	10:E:94:ARG:HB2	1.76	0.67
1:1:1142:A:O2'	1:1:1143:A:OP2	2.11	0.67
2:2:1112:C:O2	35:h:177:LEU:N	2.27	0.67
36:i:194:ILE:N	55:i:301:HOH:O	2.28	0.67
39:l:101:ARG:HD2	55:l:204:HOH:O	1.94	0.67
1:1:2774:C:OP2	8:C:169:ARG:NH1	2.28	0.67
2:2:1536:C:N3	55:2:1703:HOH:O	2.28	0.67
41:n:39:GLY:O	41:n:40:ARG:NE	2.28	0.67
16:M:110:GLU:OE1	16:M:110:GLU:N	2.27	0.66
1:1:863:A:O3'	3:3:100:G:N2	2.29	0.66
1:1:2422:C:O5'	5:5:76:A:N6	2.25	0.66
6:A:27:ILE:HD11	55:A:308:HOH:O	1.95	0.66
6:A:45:ALA:HB1	6:A:170:ILE:HD11	1.76	0.66
10:E:107:VAL:O	10:E:110:ILE:HG22	1.95	0.66
36:i:117:VAL:HG11	36:i:132:ALA:HA	1.76	0.66
1:1:1011:G:OP2	20:Q:65:ASN:ND2	2.28	0.66
1:1:2312:U:OP1	10:E:70:ARG:N	2.28	0.66
40:m:9:MET:HG2	40:m:26:MET:HE2	1.78	0.66
2:2:1146:A:H8	55:2:1873:HOH:O	1.76	0.66
29:Z:36:GLU:O	29:Z:37:ARG:NH1	2.27	0.66
31:c:46:VAL:HG22	31:c:47:ILE:H	1.61	0.66
51:x:23:GLU:N	51:x:23:GLU:OE1	2.29	0.66
2:2:1055:A:O2'	35:h:155:ARG:NH1	2.27	0.66
55:D:302:HOH:O	15:L:2:ARG:HB2	1.96	0.66
17:N:29:VAL:HG21	17:N:75:ILE:HG23	1.78	0.66
2:2:426:U:C5'	55:2:1704:HOH:O	2.44	0.66
2:2:678:U:H4'	55:2:1969:HOH:O	1.94	0.66
10:E:139:GLU:OE1	10:E:139:GLU:N	2.29	0.66
29:Z:23:LEU:HD11	29:Z:53:MET:CE	2.26	0.66
37:j:156:ARG:HH11	40:m:100:ILE:HG21	1.59	0.66
46:s:52:ARG:HD2	55:x:101:HOH:O	1.96	0.66
1:1:1858:A:N6	1:1:1884:G:O2'	2.29	0.66
2:2:1304:G:N2	2:2:1334:G:O6	2.29	0.66
1:1:1827:U:H2'	1:1:1828:G:O4'	1.96	0.65
2:2:992:U:O2'	2:2:993:G:OP2	2.14	0.65
15:L:93:ASN:O	15:L:94:THR:OG1	2.09	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:j:76:ASN:OD1	37:j:81:GLN:NE2	2.29	0.65
1:1:1341:G:OP1	1:1:1397:U:N3	2.28	0.65
1:1:2445:G:OP1	9:D:69:ARG:NH2	2.28	0.65
1:1:1294:U:O2	17:N:23:ASN:ND2	2.29	0.65
1:1:2839:G:N2	17:N:91:ALA:O	2.29	0.65
2:2:1114:C:O2	2:2:1115:U:N3	2.30	0.65
2:2:1183:U:C6	55:2:1954:HOH:O	2.40	0.65
9:D:170:ARG:NH1	9:D:179:SER:OG	2.30	0.65
22:S:29:VAL:HG21	22:S:55:ILE:CD1	2.27	0.65
1:1:1155:A:O3'	20:Q:54:ARG:NH2	2.30	0.65
37:j:160:VAL:HG22	37:j:164:LEU:HD23	1.78	0.65
47:t:32:THR:OG1	47:t:62:ARG:NH2	2.30	0.65
1:1:1566:A:O4'	7:B:212:TRP:NE1	2.29	0.65
1:1:2224:G:N7	55:1:3308:HOH:O	2.28	0.65
45:r:26:LYS:HA	55:r:205:HOH:O	1.95	0.65
1:1:2136:G:N7	1:1:2156:G:N2	2.38	0.65
2:2:1317:C:OP2	46:s:27:LYS:NZ	2.27	0.65
12:G:87:GLU:OE2	38:k:24:ARG:NH1	2.29	0.65
41:n:20:ILE:HD12	41:n:61:ASP:O	1.97	0.65
32:d:34:ARG:NH1	32:d:41:ARG:O	2.29	0.65
1:1:2263:C:N4	26:W:11:ASP:OD1	2.29	0.64
20:Q:85:ALA:O	20:Q:86:SER:OG	2.13	0.64
23:T:48:GLN:OE1	23:T:55:VAL:N	2.29	0.64
24:U:27:VAL:HG12	24:U:33:VAL:HG12	1.78	0.64
48:u:5:ARG:NH2	48:u:23:ASP:O	2.30	0.64
10:E:69:ALA:N	10:E:82:TYR:O	2.31	0.64
1:1:918:A:N3	3:3:80:U:O2'	2.31	0.64
1:1:1400:U:H2'	1:1:1401:G:C8	2.32	0.64
1:1:1469:A:H2'	1:1:1470:A:C8	2.32	0.64
10:E:62:GLN:NE2	10:E:89:THR:O	2.31	0.64
2:2:362:G:O3'	44:q:29:LYS:NZ	2.29	0.64
2:2:1298:U:O2	2:2:1299:A:N6	2.30	0.64
21:R:1:MET:N	21:R:42:ALA:O	2.29	0.64
2:2:811:C:O2'	2:2:901:A:N1	2.29	0.64
2:2:1396:A:H2	37:j:23:THR:HG21	1.61	0.64
2:2:1535:C:C4	55:2:1703:HOH:O	2.50	0.64
39:l:142:ARG:HB3	55:l:214:HOH:O	1.96	0.64
1:1:1048:A:OP2	1:1:1110:G:N2	2.28	0.64
2:2:228:A:N3	55:2:1724:HOH:O	2.31	0.64
2:2:1060:U:OP1	46:s:84:ARG:NH2	2.30	0.64
10:E:33:ILE:CD1	10:E:155:ILE:HG22	2.28	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:h:62:SER:N	55:h:301:HOH:O	2.30	0.64
2:2:54:C:OP1	2:2:351:G:N2	2.31	0.64
2:2:68:G:N2	2:2:152:A:O2'	2.31	0.64
1:1:672:C:N3	1:1:809:G:N2	2.45	0.64
1:1:684:G:N2	1:1:788:A:OP2	2.31	0.64
1:1:994:C:OP2	20:Q:53:LYS:NZ	2.30	0.64
1:1:2446:G:N2	1:1:2449:U:O2	2.30	0.64
2:2:828:U:OP1	40:m:21:LYS:NZ	2.22	0.63
2:2:1359:C:O2'	2:2:1361:G:N7	2.31	0.63
22:S:25:ARG:HE	22:S:74:ILE:HG23	1.62	0.63
27:X:53:LYS:O	27:X:57:VAL:HG23	1.98	0.63
38:k:38:ARG:NH2	38:k:40:GLU:OE1	2.30	0.63
1:1:878:A:H3'	1:1:879:G:H8	1.64	0.63
1:1:2079:U:N3	1:1:2080:A:N7	2.46	0.63
2:2:1436:U:O4	2:2:1437:A:N6	2.31	0.63
2:2:517:G:N2	2:2:530:G:OP1	2.29	0.63
3:3:25:U:O4	3:3:26:C:N4	2.31	0.63
2:2:538:G:H1'	55:2:1731:HOH:O	1.98	0.63
20:Q:88:GLU:O	21:R:11:GLN:NE2	2.30	0.63
27:X:31:ASN:OD1	27:X:33:HIS:NE2	2.32	0.63
1:1:2547:A:O2'	1:1:2548:U:O4'	2.16	0.63
1:1:2788:C:H5'	8:C:62:LYS:NZ	2.13	0.63
25:V:35:GLU:OE1	25:V:35:GLU:N	2.32	0.63
1:1:458:G:H5''	32:d:38:GLY:O	1.99	0.63
2:2:1149:C:O2'	2:2:1280:A:N1	2.31	0.63
3:3:94:A:OP1	25:V:19:ARG:NH1	2.32	0.63
9:D:47:LYS:O	9:D:83:VAL:HG12	1.99	0.63
49:v:43:LEU:HD11	49:v:72:TRP:HE1	1.64	0.63
9:D:7:ASP:O	9:D:9:GLN:NE2	2.31	0.62
33:e:6:VAL:O	33:e:9:ALA:N	2.29	0.62
2:2:639:G:H1'	55:2:1927:HOH:O	1.98	0.62
2:2:1440:U:O2'	2:2:1441:A:N7	2.30	0.62
24:U:9:GLU:OE2	24:U:21:ARG:NH2	2.32	0.62
2:2:1226:C:OP1	51:x:77:ARG:NH2	2.30	0.62
9:D:79:ARG:O	9:D:80:SER:C	2.42	0.62
1:1:814:C:H1'	1:1:1225:G:H21	1.63	0.62
2:2:947:G:H3'	2:2:948:C:H6	1.64	0.62
23:T:34:VAL:HG21	23:T:43:ILE:HD11	1.80	0.62
43:p:112:VAL:O	50:w:72:ARG:NH1	2.33	0.62
1:1:307:G:N1	1:1:310:A:OP2	2.30	0.62
2:2:570:G:O2'	2:2:571:U:O5'	2.18	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:83:ASP:OD2	7:B:86:ARG:NH1	2.32	0.62
45:r:18:LEU:O	45:r:21:ILE:HG22	2.00	0.62
18:O:2:ASP:OD1	18:O:3:LYS:N	2.32	0.62
1:1:80:G:H1	1:1:106:C:H42	1.47	0.62
1:1:1582:C:O2'	1:1:1585:C:N3	2.30	0.62
2:2:998:C:H2'	2:2:999:C:C6	2.35	0.62
1:1:572:A:N6	1:1:2029:G:H21	1.97	0.62
1:1:1932:A:N3	1:1:1969:A:N6	2.46	0.62
2:2:289:G:P	55:2:1702:HOH:O	2.58	0.62
32:d:34:ARG:HH11	32:d:42:LEU:HA	1.64	0.62
40:m:89:ASP:N	55:m:202:HOH:O	2.31	0.62
44:q:56:LEU:HD12	44:q:60:PHE:HB2	1.82	0.62
1:1:2657:A:O2'	11:F:159:LYS:NZ	2.31	0.61
1:1:2683:C:OP1	19:P:50:ARG:NH1	2.30	0.61
2:2:538:G:C1'	55:2:1731:HOH:O	2.47	0.61
8:C:3:GLY:C	8:C:4:LEU:HD12	2.25	0.61
1:1:1653:G:N1	17:N:11:ASN:OD1	2.31	0.61
2:2:1503:A:N6	2:2:1532:U:O2'	2.33	0.61
23:T:7:LEU:C	23:T:8:LEU:HD12	2.26	0.61
2:2:113:G:H1'	2:2:354:G:C5'	2.30	0.61
35:h:46:LEU:HD22	35:h:51:VAL:HG22	1.82	0.61
13:J:62:VAL:HG23	13:J:62:VAL:O	1.99	0.61
36:i:83:GLY:HA2	55:i:309:HOH:O	1.97	0.61
37:j:157:GLY:HA3	37:j:163:ILE:CD1	2.31	0.61
1:1:2859:G:O2'	1:1:2860:A:O4'	2.18	0.61
2:2:409:U:H4'	36:i:24:VAL:HG22	1.82	0.61
2:2:649:A:H2	55:2:1920:HOH:O	1.76	0.61
18:O:94:ARG:NH2	18:O:97:PHE:O	2.33	0.61
1:1:399:U:OP2	27:X:56:ARG:NH2	2.30	0.61
1:1:1447:C:O2'	1:1:1544:A:N3	2.29	0.61
36:i:84:ASN:HB3	36:i:87:GLU:HB2	1.82	0.61
1:1:1380:G:O2'	1:1:1569:A:N6	2.33	0.61
1:1:1416:G:O2'	1:1:1417:C:O5'	2.18	0.61
2:2:133:U:H4'	2:2:325:A:H1'	1.83	0.61
2:2:1301:U:O2'	2:2:1302:C:OP1	2.13	0.61
7:B:64:VAL:HG21	7:B:86:ARG:NH2	2.16	0.61
20:Q:78:PHE:O	20:Q:82:LEU:HD23	2.01	0.61
1:1:1386:C:H2'	1:1:1387:A:C8	2.36	0.61
1:1:2496:C:HO2'	1:1:2497:A:P	2.23	0.61
1:1:2514:U:O2	8:C:148:GLN:NE2	2.34	0.61
2:2:43:C:OP2	48:u:12:LYS:NZ	2.28	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1098:C:N4	2:2:1099:G:O6	2.34	0.61
46:s:16:ALA:O	46:s:21:ALA:HB3	1.99	0.61
50:w:41:SER:O	50:w:45:GLY:N	2.34	0.61
15:L:96:LYS:HG3	15:L:101:ILE:HD11	1.83	0.60
12:G:113:SER:O	12:G:116:ARG:NH2	2.34	0.60
1:1:310:A:HO2'	1:1:311:A:P	2.24	0.60
1:1:2114:A:H3'	1:1:2115:G:C8	2.35	0.60
39:l:101:ARG:CD	55:l:204:HOH:O	2.47	0.60
1:1:1791:A:O2'	7:B:205:GLY:N	2.32	0.60
9:D:24:ASN:O	9:D:28:VAL:HG12	2.01	0.60
37:j:152:VAL:CG2	37:j:156:ARG:HB3	2.32	0.60
2:2:973:G:O3'	46:s:80:ARG:NH2	2.35	0.60
46:s:76:PHE:HD2	46:s:83:VAL:HG21	1.66	0.60
1:1:2014:A:O2'	1:1:2015:A:O4'	2.10	0.60
2:2:613:C:OP1	36:i:80:ARG:NH1	2.35	0.60
55:2:1795:HOH:O	47:t:2:LEU:HA	2.00	0.60
27:X:32:LEU:HD21	27:X:49:ARG:HE	1.65	0.60
2:2:501:C:OP1	44:q:113:ARG:NH2	2.35	0.60
2:2:669:G:OP1	47:t:47:LYS:NZ	2.32	0.60
2:2:1077:G:H21	2:2:1080:A:H2	1.50	0.60
55:2:1710:HOH:O	51:x:76:THR:CA	2.32	0.60
9:D:126:VAL:HA	9:D:137:LYS:HZ1	1.66	0.60
43:p:105:ARG:NH1	43:p:106:ILE:O	2.35	0.60
1:1:2857:G:N2	1:1:2860:A:OP2	2.29	0.60
9:D:171:ASP:OD1	9:D:172:ALA:N	2.34	0.60
13:J:129:GLU:OE1	13:J:130:HIS:N	2.35	0.60
1:1:263:G:O2'	1:1:429:A:N3	2.35	0.60
1:1:402:A:H2'	1:1:403:U:O4'	2.02	0.60
1:1:981:A:OP2	1:1:982:C:N4	2.35	0.60
1:1:2112:G:C8	55:1:3331:HOH:O	2.52	0.60
18:O:26:LEU:HD22	18:O:92:PHE:CD1	2.37	0.59
2:2:121:U:H6	55:2:1821:HOH:O	1.85	0.59
37:j:157:GLY:HA3	37:j:163:ILE:CG1	2.33	0.59
1:1:142:A:O2'	1:1:143:C:O4'	2.19	0.59
2:2:742:G:OP1	47:t:57:ARG:NH1	2.36	0.59
36:i:64:TYR:O	36:i:96:ARG:NH1	2.35	0.59
1:1:1666:G:O2'	14:K:6:THR:HG22	2.02	0.59
1:1:2313:C:O4'	10:E:36:ASN:ND2	2.34	0.59
2:2:892:A:O2'	2:2:1415:G:O2'	2.20	0.59
2:2:1233:G:OP1	41:n:118:ARG:NH2	2.35	0.59
2:2:1186:G:H21	46:s:100:TRP:C	2.10	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1536:C:C2	55:2:1703:HOH:O	2.53	0.59
42:o:98:VAL:HG11	55:o:202:HOH:O	2.02	0.59
49:v:62:GLU:HB3	55:v:102:HOH:O	2.01	0.59
1:1:1042:G:H1	1:1:1113:U:H3	1.49	0.59
1:1:1790:C:O2'	7:B:207:ALA:HB2	2.02	0.59
2:2:1253:G:OP2	42:o:45:ARG:NH2	2.35	0.59
1:1:558:U:OP1	13:J:114:LEU:N	2.36	0.59
2:2:221:C:C6	55:2:1854:HOH:O	2.54	0.59
2:2:483:C:OP2	2:2:484:G:O2'	2.14	0.59
36:i:12:ARG:NH2	36:i:36:ALA:O	2.33	0.59
45:r:19:THR:CG2	55:r:205:HOH:O	2.42	0.59
1:1:1437:C:HO2'	1:1:1516:G:HO2'	1.50	0.59
9:D:125:SER:O	9:D:137:LYS:NZ	2.35	0.59
10:E:134:GLN:O	10:E:140:ILE:HD13	2.03	0.59
24:U:96:LYS:O	24:U:97:SER:OG	2.12	0.59
35:h:76:ILE:HD11	35:h:102:ILE:HD13	1.84	0.59
39:l:38:ALA:O	39:l:42:VAL:HG22	2.03	0.59
39:l:55:LYS:HE2	39:l:60:ALA:HA	1.83	0.59
1:1:138:U:OP2	1:1:141:G:N1	2.34	0.59
1:1:2821:A:O3'	8:C:167:ASN:ND2	2.36	0.59
2:2:1312:G:N7	51:x:2:ARG:NH1	2.51	0.59
23:T:82:LYS:NZ	23:T:84:TYR:OH	2.36	0.59
2:2:1184:G:H3'	55:2:1722:HOH:O	2.02	0.58
3:3:43:C:O2	10:E:91:ARG:NE	2.36	0.58
2:2:180:U:H2'	2:2:181:A:C8	2.38	0.58
1:1:79:C:H42	1:1:107:G:H1	1.52	0.58
1:1:2468:A:O2'	1:1:2469:A:O5'	2.16	0.58
2:2:1232:U:OP1	41:n:125:GLN:NE2	2.36	0.58
14:K:2:ILE:O	14:K:33:ALA:N	2.36	0.58
49:v:66:LEU:N	49:v:70:LYS:O	2.36	0.58
53:z:11:PHE:O	53:z:13:VAL:HG23	2.04	0.58
1:1:1844:C:C2	1:1:1897:G:N2	2.71	0.58
2:2:616:G:H2'	2:2:617:G:C8	2.38	0.58
2:2:835:U:OP2	50:w:47:ARG:NH2	2.35	0.58
6:A:46:VAL:O	6:A:170:ILE:HD12	2.02	0.58
7:B:76:VAL:C	7:B:93:VAL:HG23	2.29	0.58
25:V:29:ILE:HD12	25:V:38:LEU:O	2.03	0.58
29:Z:38:GLU:N	29:Z:38:GLU:OE2	2.36	0.58
39:l:72:VAL:HG12	55:l:209:HOH:O	2.03	0.58
40:m:60:LEU:H	40:m:60:LEU:HD23	1.69	0.58
1:1:784:G:O4'	7:B:225:ASN:ND2	2.35	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q:89:ILE:CG1	20:Q:93:ILE:HD11	2.34	0.58
1:1:1400:U:H2'	1:1:1401:G:H8	1.68	0.58
2:2:1408:A:H2'	2:2:1409:C:C6	2.38	0.58
43:p:15:VAL:N	43:p:76:TYR:O	2.37	0.58
2:2:1077:G:N2	2:2:1080:A:H2	2.02	0.58
2:2:1131:G:N2	55:2:1726:HOH:O	2.32	0.58
42:o:80:THR:OG1	42:o:83:THR:HG23	2.03	0.58
2:2:38:G:H22	2:2:397:A:P	2.27	0.58
2:2:978:A:N6	2:2:1316:G:H21	1.93	0.58
38:k:91:ARG:NH1	55:k:203:HOH:O	2.31	0.58
49:v:58:VAL:CG1	55:v:101:HOH:O	2.45	0.58
1:1:2680:U:O2'	8:C:11:MET:HE1	2.03	0.57
2:2:522:C:H41	44:q:49:ARG:HH22	1.50	0.57
2:2:998:C:H2'	2:2:999:C:H6	1.68	0.57
8:C:49:GLN:CD	8:C:79:LEU:HD23	2.29	0.57
33:e:8:GLY:O	33:e:12:ARG:NH2	2.36	0.57
1:1:1227:G:OP1	20:Q:12:ARG:NH2	2.37	0.57
2:2:118:U:H3'	2:2:288:A:H61	1.68	0.57
2:2:705:G:N2	43:p:30:ILE:HD11	2.19	0.57
1:1:388:G:N7	1:1:390:U:H2'	2.18	0.57
14:K:57:VAL:O	14:K:58:LEU:HD23	2.04	0.57
15:L:135:ILE:O	15:L:140:GLY:N	2.37	0.57
37:j:137:ARG:HD2	55:j:201:HOH:O	2.04	0.57
50:w:17:VAL:HG22	50:w:18:GLN:H	1.69	0.57
1:1:574:A:N6	1:1:2034:U:OP1	2.37	0.57
1:1:2357:G:N2	1:1:2360:G:OP2	2.28	0.57
1:1:2850:A:H2'	1:1:2851:A:C8	2.39	0.57
1:1:225:C:H42	1:1:231:A:N6	2.02	0.57
1:1:1482:G:O2'	1:1:1483:G:O5'	2.22	0.57
1:1:1828:G:O2'	1:1:1829:A:O5'	2.23	0.57
1:1:2301:C:H42	1:1:2315:G:H1	1.52	0.57
2:2:297:G:H2'	2:2:298:A:H3'	1.86	0.57
2:2:993:G:O2'	2:2:994:A:N7	2.37	0.57
10:E:36:ASN:OD1	10:E:37:MET:N	2.38	0.57
17:N:56:LYS:NZ	17:N:84:GLY:O	2.38	0.57
44:q:67:GLY:O	44:q:98:ARG:NH1	2.34	0.57
2:2:673:A:H2'	2:2:674:G:C8	2.40	0.57
14:K:22:ILE:HD11	14:K:40:LYS:HG2	1.86	0.57
43:p:124:LYS:O	53:z:34:ARG:NH1	2.37	0.57
10:E:140:ILE:H	10:E:140:ILE:HD12	1.69	0.57
16:M:41:LEU:O	16:M:94:ALA:N	2.34	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:j:135:VAL:O	37:j:139:THR:HG23	2.04	0.57
2:2:158:G:H1	2:2:163:C:H42	1.53	0.57
2:2:594:U:H2'	2:2:595:A:O4'	2.05	0.57
2:2:1268:G:N2	2:2:1327:C:O4'	2.34	0.57
9:D:176:ASP:O	9:D:180:LEU:HD23	2.05	0.57
2:2:522:C:H2'	2:2:523:A:C8	2.39	0.57
6:A:52:ALA:C	6:A:54:LYS:H	2.11	0.57
46:s:63:CYS:SG	46:s:78:LEU:HD23	2.45	0.57
2:2:36:C:H2'	2:2:37:U:O4'	2.05	0.57
2:2:1305:G:N2	2:2:1332:A:OP2	2.37	0.57
23:T:20:ALA:HB2	23:T:31:VAL:HG11	1.87	0.57
32:d:1:MET:SD	32:d:3:ARG:NH1	2.78	0.57
42:o:87:LEU:HB2	55:o:201:HOH:O	2.03	0.57
1:1:805:G:N2	1:1:829:A:OP1	2.38	0.56
1:1:2052:A:O2'	8:C:148:GLN:O	2.20	0.56
2:2:39:G:HO2'	2:2:40:C:P	2.27	0.56
38:k:2:ARG:NH1	38:k:92:THR:OG1	2.37	0.56
1:1:451:U:C2	1:1:453:A:N7	2.73	0.56
1:1:850:U:OP1	29:Z:18:LYS:NZ	2.38	0.56
1:1:2232:C:OP2	27:X:26:ARG:NH2	2.37	0.56
1:1:2547:A:C2	1:1:2566:A:N7	2.73	0.56
11:F:21:GLN:NE2	11:F:37:ASN:O	2.38	0.56
1:1:820:A:N3	1:1:943:A:O2'	2.36	0.56
1:1:1450:G:H21	1:1:1452:G:H1	1.52	0.56
1:1:2033:A:O2'	1:1:2035:G:OP2	2.21	0.56
2:2:112:G:H21	2:2:354:G:H5'	1.69	0.56
2:2:260:G:H2'	2:2:261:U:C6	2.40	0.56
2:2:655:A:H4'	2:2:755:G:H4'	1.87	0.56
2:2:1144:G:H22	2:2:1146:A:H62	1.52	0.56
2:2:1459:G:H5'	55:2:1752:HOH:O	2.06	0.56
14:K:105:ARG:O	14:K:108:ARG:NH2	2.39	0.56
17:N:69:ARG:O	17:N:70:THR:OG1	2.18	0.56
25:V:21:ARG:NH1	25:V:87:GLN:O	2.38	0.56
37:j:45:VAL:HG21	37:j:117:ALA:HB2	1.86	0.56
42:o:80:THR:O	42:o:83:THR:OG1	2.23	0.56
1:1:1798:U:H1'	1:1:1802:A:H2	1.70	0.56
1:1:2107:G:N1	1:1:2182:U:O2	2.37	0.56
2:2:674:G:H21	43:p:117:HIS:HB2	1.69	0.56
2:2:552:U:O4	2:2:553:A:N6	2.39	0.56
8:C:105:LYS:NZ	8:C:176:ASP:OD1	2.30	0.56
34:f:16:ILE:HG12	34:f:25:VAL:HG22	1.88	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:l:92:PRO:HB3	55:l:218:HOH:O	2.05	0.56
46:s:80:ARG:HA	46:s:83:VAL:HG12	1.87	0.56
1:1:286:U:H2'	1:1:287:G:C8	2.41	0.56
1:1:1654:A:OP2	17:N:1:MET:N	2.30	0.56
1:1:1817:G:O5'	7:B:155:ARG:NH2	2.38	0.56
2:2:426:U:C4'	55:2:1704:HOH:O	2.53	0.56
23:T:63:VAL:HG21	23:T:80:TRP:CE2	2.40	0.56
19:P:83:ILE:O	19:P:83:ILE:HG22	2.06	0.56
2:2:1093:A:H2	2:2:1109:C:HO2'	1.52	0.56
2:2:1183:U:H5'	55:2:1954:HOH:O	2.06	0.56
2:2:1261:A:N1	2:2:1274:A:O2'	2.35	0.56
12:G:72:ILE:HG23	12:G:108:VAL:HG12	1.86	0.56
48:u:14:ARG:HB2	55:u:107:HOH:O	2.05	0.56
1:1:1343:G:O2'	1:1:1344:U:P	2.64	0.56
1:1:1773:A:OP1	1:1:1828:G:H3'	2.06	0.56
2:2:426:U:H4'	55:2:1704:HOH:O	2.06	0.56
13:J:36:LEU:C	13:J:118:MET:HE2	2.31	0.56
26:W:41:PHE:O	26:W:55:LEU:HD11	2.06	0.56
1:1:751:A:N6	1:1:789:A:N7	2.54	0.56
1:1:2109:U:N3	1:1:2110:G:O6	2.39	0.56
2:2:298:A:H2'	2:2:299:G:C8	2.41	0.56
2:2:417:G:H2'	2:2:418:C:C6	2.40	0.56
48:u:19:VAL:HG21	48:u:36:VAL:O	2.05	0.56
2:2:1417:G:O2'	2:2:1483:A:N6	2.39	0.55
6:A:6:LYS:HB2	55:A:303:HOH:O	2.07	0.55
38:k:91:ARG:NH2	55:k:203:HOH:O	2.23	0.55
2:2:568:G:OP1	37:j:92:ARG:NH2	2.39	0.55
2:2:1227:A:OP2	45:r:109:LYS:NZ	2.30	0.55
8:C:110:THR:HG22	8:C:171:THR:HG23	1.88	0.55
12:G:1:MET:N	12:G:1:MET:SD	2.70	0.55
38:k:49:TYR:O	38:k:51:ILE:HD12	2.05	0.55
49:v:20:ILE:O	49:v:45:VAL:N	2.40	0.55
1:1:784:G:C6	7:B:227:VAL:HG21	2.42	0.55
1:1:1283:G:N2	1:1:1286:A:OP2	2.39	0.55
2:2:54:C:P	2:2:351:G:H21	2.29	0.55
2:2:1063:C:OP2	2:2:1064:G:O2'	2.25	0.55
2:2:1266:G:N2	2:2:1269:A:OP2	2.34	0.55
2:2:1403:C:H1'	2:2:1500:A:N1	2.21	0.55
10:E:90:LEU:HD11	10:E:94:ARG:CB	2.36	0.55
44:q:73:LEU:HD21	44:q:79:ILE:HG13	1.88	0.55
1:1:1629:U:O4	1:1:1630:A:N6	2.39	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:600:A:OP2	40:m:87:ARG:NE	2.39	0.55
2:2:933:G:N2	2:2:935:A:O4'	2.40	0.55
2:2:1296:C:N4	2:2:1297:G:O6	2.40	0.55
9:D:177:PRO:O	9:D:181:ILE:HG22	2.05	0.55
37:j:93:VAL:CG2	37:j:110:MET:HE1	2.36	0.55
1:1:1809:A:O2'	1:1:1810:A:O4'	2.16	0.55
2:2:583:A:N6	2:2:758:C:O2'	2.40	0.55
28:Y:7:ARG:NH1	28:Y:8:GLU:OE2	2.40	0.55
1:1:183:C:O2'	1:1:432:A:N3	2.39	0.55
1:1:1047:G:H5'	1:1:1048:A:OP1	2.06	0.55
2:2:947:G:H3'	2:2:948:C:C6	2.40	0.55
35:h:119:ILE:HG22	35:h:123:LEU:HD12	1.88	0.55
1:1:1424:G:O2'	1:1:1425:G:O5'	2.24	0.55
1:1:2880:C:H1'	17:N:92:GLY:O	2.07	0.55
2:2:172:A:N7	2:2:174:A:N7	2.55	0.55
2:2:1157:A:O2'	2:2:1158:C:OP2	2.24	0.55
30:b:30:ASP:OD1	30:b:31:LYS:N	2.40	0.55
33:e:6:VAL:O	33:e:8:GLY:N	2.40	0.55
40:m:111:THR:HG23	40:m:114:ALA:H	1.72	0.55
1:1:601:C:H4'	9:D:99:LYS:HE3	1.89	0.55
1:1:910:A:H62	16:M:12:MET:HA	1.71	0.55
1:1:1141:U:H4'	1:1:1142:A:O4'	2.07	0.55
1:1:1728:C:O2'	1:1:1731:G:N2	2.34	0.55
2:2:191:G:O6	2:2:192:A:N6	2.40	0.55
2:2:363:A:C5'	44:q:80:LEU:HD11	2.36	0.55
2:2:958:A:N6	55:2:1710:HOH:O	2.25	0.55
2:2:1127:G:H22	2:2:1147:C:H42	1.55	0.55
37:j:104:ILE:O	37:j:104:ILE:HG22	2.06	0.55
48:u:35:ARG:NH2	48:u:37:GLY:O	2.40	0.55
49:v:56:ASP:OD2	49:v:77:VAL:HG13	2.06	0.55
1:1:500:G:N1	1:1:503:A:OP2	2.34	0.55
1:1:876:C:H2'	1:1:877:A:O4'	2.07	0.55
1:1:2297:A:O3'	10:E:70:ARG:NH1	2.40	0.55
1:1:2683:C:OP1	19:P:50:ARG:NH2	2.40	0.55
11:F:101:VAL:HG21	11:F:113:ASP:HB3	1.88	0.55
48:u:54:LEU:HD13	48:u:57:ILE:HB	1.88	0.55
1:1:1424:G:C2'	1:1:1425:G:O5'	2.55	0.54
1:1:2391:G:H5'	33:e:31:ILE:HD12	1.89	0.54
2:2:1009:U:H3	2:2:1020:G:H22	1.53	0.54
36:i:90:LEU:HA	36:i:93:LEU:HD12	1.89	0.54
1:1:54:G:O6	1:1:117:G:N2	2.40	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1140:C:O3'	13:J:27:ARG:NH1	2.25	0.54
2:2:39:G:O2'	2:2:40:C:OP1	2.19	0.54
30:b:30:ASP:OD1	30:b:32:THR:N	2.40	0.54
2:2:1308:U:OP2	45:r:86:ARG:NH1	2.40	0.54
7:B:257:ARG:NH2	7:B:262:THR:OG1	2.38	0.54
10:E:7:TYR:O	10:E:12:VAL:HG23	2.06	0.54
10:E:105:ILE:HD12	10:E:138:PRO:HD3	1.88	0.54
38:k:92:THR:O	38:k:92:THR:HG22	2.08	0.54
41:n:90:ASP:N	41:n:90:ASP:OD1	2.39	0.54
1:1:980:A:N6	1:1:981:A:N1	2.55	0.54
49:v:43:LEU:HD11	49:v:72:TRP:NE1	2.22	0.54
1:1:873:C:O3'	16:M:62:LYS:NZ	2.40	0.54
2:2:620:C:H2'	2:2:621:A:O4'	2.08	0.54
1:1:67:U:C2	1:1:68:G:C8	2.96	0.54
55:1:3326:HOH:O	2:2:1406:U:H2'	2.07	0.54
2:2:1144:G:N2	2:2:1146:A:H62	2.05	0.54
7:B:131:MET:O	7:B:134:ILE:HG22	2.07	0.54
44:q:23:LEU:HB3	44:q:26:CYS:HB3	1.88	0.54
47:t:32:THR:HG21	47:t:84:LEU:HD11	1.90	0.54
1:1:1212:G:N2	1:1:1236:G:O2'	2.40	0.54
1:1:2124:G:H21	6:A:217:THR:HG22	1.73	0.54
8:C:98:VAL:HG22	8:C:98:VAL:O	2.06	0.54
1:1:1469:A:H2'	1:1:1470:A:H8	1.71	0.54
1:1:1789:A:OP1	7:B:220:ARG:NE	2.41	0.54
2:2:294:U:OP1	2:2:610:U:O2'	2.25	0.54
2:2:1029:U:O2'	2:2:1031:C:O4'	2.26	0.54
2:2:1158:C:N4	2:2:1177:G:H22	2.05	0.54
12:G:147:VAL:HG12	12:G:148:ALA:N	2.23	0.54
38:k:89:VAL:C	55:k:201:HOH:O	2.50	0.54
1:1:108:G:OP1	1:1:293:U:O2'	2.24	0.54
1:1:774:G:HO2'	1:1:775:G:P	2.30	0.54
1:1:1930:G:O2'	1:1:1931:U:O5'	2.25	0.54
1:1:2304:G:H22	1:1:2312:U:H3	1.56	0.54
2:2:296:U:H2'	2:2:297:G:C8	2.43	0.54
2:2:1129:C:O2'	2:2:1139:G:N7	2.35	0.54
5:5:61:C:H2'	5:5:62:C:C6	2.42	0.54
14:K:92:GLU:HG3	14:K:93:GLN:H	1.73	0.54
39:l:96:ASN:OD1	39:l:97:ALA:N	2.41	0.54
42:o:96:VAL:HG11	55:o:204:HOH:O	2.07	0.54
43:p:20:ALA:HB2	43:p:81:LEU:HD12	1.90	0.54
1:1:1999:C:H4'	1:1:2723:C:O2	2.09	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:127:GLU:N	9:D:127:GLU:OE2	2.41	0.54
23:T:20:ALA:HB2	23:T:31:VAL:CG1	2.38	0.54
49:v:8:GLN:OE1	49:v:8:GLN:N	2.40	0.54
1:1:863:A:H2'	1:1:864:G:C8	2.43	0.53
1:1:2467:C:OP1	34:f:8:LYS:NZ	2.41	0.53
44:q:89:LEU:HD11	44:q:92:VAL:CB	2.39	0.53
46:s:76:PHE:CD2	46:s:83:VAL:HG21	2.43	0.53
2:2:522:C:H41	44:q:49:ARG:NH2	2.05	0.53
27:X:29:LEU:HD12	27:X:29:LEU:N	2.22	0.53
39:l:121:ASN:ND2	55:l:202:HOH:O	2.41	0.53
41:n:35:GLU:OE1	41:n:35:GLU:N	2.41	0.53
43:p:41:LEU:HD22	43:p:76:TYR:CE2	2.43	0.53
1:1:386:G:H3'	1:1:387:U:H5''	1.90	0.53
1:1:371:A:H61	1:1:401:A:H3'	1.73	0.53
2:2:312:C:H5	55:2:1951:HOH:O	1.90	0.53
2:2:978:A:OP1	2:2:980:C:N4	2.41	0.53
42:o:30:LYS:HD3	42:o:36:VAL:HG22	1.90	0.53
1:1:1055:G:H1	1:1:1104:C:H42	1.57	0.53
1:1:2682:A:C2	8:C:23:PRO:HB3	2.44	0.53
2:2:997:U:H2'	2:2:998:C:O4'	2.08	0.53
2:2:1336:C:C4'	55:2:1759:HOH:O	2.20	0.53
14:K:71:ARG:HH11	14:K:71:ARG:HB2	1.74	0.53
27:X:58:ILE:HD11	27:X:63:ILE:N	2.23	0.53
35:h:183:TYR:O	35:h:184:ASN:ND2	2.41	0.53
42:o:22:THR:O	42:o:26:VAL:HG12	2.08	0.53
1:1:627:A:N7	15:L:111:ILE:HD12	2.24	0.53
1:1:632:A:H2'	1:1:633:A:C8	2.44	0.53
1:1:1932:A:C4	1:1:1969:A:N6	2.76	0.53
1:1:2172:U:OP1	1:1:2174:C:N4	2.41	0.53
2:2:1366:C:H2'	2:2:1367:C:O4'	2.09	0.53
37:j:33:THR:HG22	37:j:51:LYS:HB3	1.91	0.53
1:1:298:G:N1	1:1:339:U:OP2	2.36	0.53
2:2:603:U:C5	55:2:1918:HOH:O	2.54	0.53
10:E:109:ARG:NH1	10:E:135:ILE:O	2.42	0.53
25:V:26:PHE:CZ	25:V:47:VAL:HG11	2.44	0.53
37:j:45:VAL:HG12	37:j:46:GLY:N	2.24	0.53
40:m:89:ASP:CB	55:m:202:HOH:O	2.46	0.53
43:p:82:GLU:OE1	43:p:82:GLU:N	2.42	0.53
1:1:370:G:O2'	1:1:424:G:OP1	2.23	0.53
1:1:414:C:H2'	1:1:415:A:C8	2.43	0.53
1:1:863:A:H2'	1:1:864:G:H8	1.74	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:129:A:H2	2:2:232:G:H22	1.56	0.53
2:2:413:G:H2'	2:2:428:G:H21	1.74	0.53
2:2:684:U:H2'	2:2:685:G:O4'	2.09	0.53
2:2:872:A:O2'	2:2:873:A:O5'	2.22	0.53
2:2:1452:C:O3'	2:2:1453:G:N2	2.41	0.53
2:2:561:U:O2'	2:2:562:U:OP1	2.20	0.53
9:D:187:VAL:O	9:D:187:VAL:HG13	2.07	0.53
17:N:50:PRO:HA	17:N:53:THR:HG22	1.89	0.53
22:S:74:ILE:HG23	22:S:74:ILE:O	2.09	0.53
36:i:7:LYS:O	36:i:20:LEU:HB3	2.09	0.53
37:j:102:THR:N	37:j:121:ASN:OD1	2.33	0.53
51:x:26:ASP:O	51:x:28:LYS:N	2.42	0.53
44:q:22:ALA:O	44:q:23:LEU:C	2.52	0.53
47:t:87:ARG:NH2	55:t:102:HOH:O	2.42	0.53
2:2:160:A:H2'	2:2:161:A:O4'	2.09	0.52
41:n:97:LEU:HD12	41:n:100:ALA:HB3	1.91	0.52
45:r:86:ARG:NH1	45:r:98:GLY:O	2.41	0.52
46:s:23:ARG:HH22	46:s:26:LEU:HD11	1.74	0.52
1:1:1173:U:C6	55:1:3391:HOH:O	2.54	0.52
1:1:1365:A:OP1	27:X:27:ARG:NH1	2.40	0.52
1:1:1425:G:O2'	1:1:1426:G:O4'	2.26	0.52
1:1:1438:U:OP2	1:1:1552:A:N6	2.40	0.52
1:1:2315:G:H21	10:E:124:ARG:HH22	1.57	0.52
1:1:2690:U:O2'	1:1:2872:A:N3	2.42	0.52
2:2:565:U:OP2	2:2:566:G:O2'	2.27	0.52
2:2:791:G:O6	2:2:792:A:N6	2.42	0.52
2:2:933:G:O6	39:l:2:ARG:NH2	2.40	0.52
2:2:1146:A:N1	41:n:17:ARG:NH2	2.55	0.52
2:2:1523:G:OP1	43:p:127:ARG:NH2	2.42	0.52
55:2:1797:HOH:O	40:m:3:GLN:CG	2.45	0.52
9:D:60:TRP:O	9:D:70:SER:OG	2.24	0.52
27:X:17:ARG:HE	27:X:23:ALA:HB2	1.73	0.52
27:X:17:ARG:NE	27:X:23:ALA:HB2	2.23	0.52
45:r:38:ILE:CD1	45:r:55:LEU:HD21	2.33	0.52
49:v:79:GLU:N	49:v:79:GLU:OE2	2.42	0.52
1:1:715:A:C2	47:t:55:LEU:HD21	2.44	0.52
1:1:2043:C:C2	1:1:2044:C:C5	2.97	0.52
2:2:151:A:H5''	2:2:153:C:H41	1.74	0.52
2:2:401:C:O2'	2:2:621:A:N3	2.32	0.52
2:2:1131:G:O6	2:2:1132:C:N4	2.42	0.52
10:E:19:PHE:HB3	10:E:21:TYR:CZ	2.45	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:110:HIS:O	11:F:110:HIS:ND1	2.38	0.52
1:1:195:A:N6	1:1:198:C:OP2	2.43	0.52
1:1:2813:A:C4	1:1:2814:A:C8	2.98	0.52
2:2:373:A:O2'	2:2:451:A:N7	2.43	0.52
17:N:44:LEU:HD23	17:N:113:ILE:CD1	2.39	0.52
24:U:17:ASP:OD2	24:U:39:ASN:N	2.42	0.52
36:i:195:ASN:OD1	36:i:196:GLU:N	2.42	0.52
37:j:80:LEU:HD12	37:j:81:GLN:N	2.25	0.52
1:1:319:G:OP1	9:D:132:LYS:NZ	2.40	0.52
1:1:575:A:OP2	1:1:2055:C:N4	2.42	0.52
1:1:615:U:H4'	1:1:616:A:OP2	2.09	0.52
1:1:803:U:H2'	1:1:804:A:H5'	1.91	0.52
1:1:2432:A:H61	27:X:20:ALA:HB1	1.75	0.52
2:2:159:G:N2	2:2:162:A:OP2	2.42	0.52
2:2:1158:C:H41	2:2:1177:G:H22	1.57	0.52
2:2:1308:U:O4'	45:r:96:VAL:C	2.53	0.52
5:5:11:C:H2'	5:5:12:G:C8	2.44	0.52
44:q:23:LEU:O	44:q:24:GLU:C	2.51	0.52
44:q:73:LEU:HD21	44:q:79:ILE:CD1	2.39	0.52
1:1:1668:A:N3	1:1:1670:C:N4	2.57	0.52
1:1:1942:C:OP2	1:1:1943:U:O2'	2.27	0.52
2:2:1089:G:C6	2:2:1090:U:H1'	2.44	0.52
2:2:1350:A:H2'	2:2:1351:U:O4'	2.10	0.52
5:5:23:C:H2'	5:5:24:G:C8	2.44	0.52
26:W:43:ALA:HB1	26:W:47:VAL:HG23	1.91	0.52
30:b:24:VAL:HG23	30:b:25:THR:N	2.25	0.52
35:h:28:PHE:O	35:h:32:LEU:HD13	2.10	0.52
1:1:445:C:OP1	20:Q:1:ALA:N	2.42	0.52
25:V:69:GLU:OE1	25:V:69:GLU:N	2.43	0.52
45:r:86:ARG:NH2	45:r:99:GLN:OE1	2.42	0.52
1:1:1828:G:HO2'	1:1:1829:A:C5'	2.23	0.52
1:1:2684:U:C2'	1:1:2685:G:O5'	2.58	0.52
2:2:1317:C:N3	51:x:36:ARG:NH1	2.58	0.52
18:O:64:TYR:HB3	18:O:67:ASN:HD21	1.75	0.52
46:s:63:CYS:SG	46:s:64:ARG:N	2.83	0.52
1:1:2371:G:O3'	31:c:44:GLN:NE2	2.43	0.52
2:2:448:A:H62	2:2:486:U:H3	1.58	0.52
2:2:491:G:HO2'	2:2:492:C:C1'	2.19	0.52
2:2:579:A:O2'	47:t:53:ARG:NH2	2.40	0.52
3:3:98:G:O2'	3:3:99:A:O4'	2.25	0.52
6:A:46:VAL:C	6:A:170:ILE:HD12	2.35	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:225:ASP:CB	55:A:309:HOH:O	2.46	0.52
11:F:66:THR:O	11:F:70:LEU:HD23	2.10	0.52
18:O:30:ARG:HH11	18:O:102:ARG:NH2	2.08	0.52
44:q:87:LYS:O	44:q:87:LYS:HD2	2.09	0.52
2:2:402:G:O5'	36:i:70:GLN:NE2	2.42	0.52
2:2:1146:A:H61	41:n:17:ARG:HH22	1.58	0.52
40:m:24:VAL:HG23	40:m:60:LEU:HD21	1.92	0.52
40:m:74:ILE:HD12	40:m:128:VAL:CG2	2.40	0.52
44:q:32:VAL:HA	44:q:78:VAL:HA	1.92	0.52
2:2:448:A:H2'	2:2:449:G:O4'	2.11	0.51
2:2:529:G:H1	44:q:47:ALA:HB2	1.74	0.51
2:2:1238:A:N7	2:2:1301:U:O4	2.44	0.51
14:K:21:CYS:SG	14:K:39:ILE:HD11	2.50	0.51
1:1:607:U:O2	1:1:608:A:C8	2.64	0.51
1:1:2646:C:OP2	1:1:2732:G:O2'	2.28	0.51
2:2:426:U:O2	36:i:39:GLN:NE2	2.42	0.51
43:p:27:ASN:O	43:p:56:LYS:HG3	2.10	0.51
52:y:60:GLN:OE1	52:y:60:GLN:N	2.44	0.51
1:1:1357:C:H42	1:1:1374:G:H1	1.59	0.51
1:1:2384:U:O2'	1:1:2385:C:OP1	2.25	0.51
1:1:2821:A:H2'	1:1:2822:G:O4'	2.10	0.51
2:2:1007:U:O2	2:2:1023:U:H1'	2.10	0.51
2:2:1204:A:O2'	2:2:1205:U:O4'	2.25	0.51
55:2:1940:HOH:O	45:r:27:THR:HG21	2.09	0.51
9:D:146:VAL:HG13	9:D:167:VAL:HG22	1.92	0.51
41:n:20:ILE:HD13	41:n:62:LEU:HG	1.92	0.51
42:o:8:ILE:O	42:o:73:LEU:HD12	2.10	0.51
44:q:33:CYS:SG	44:q:34:THR:N	2.84	0.51
1:1:395:U:O2'	1:1:396:G:O5'	2.23	0.51
1:1:931:U:O2	1:1:1167:C:O2'	2.21	0.51
1:1:1288:G:OP2	1:1:1288:G:N2	2.43	0.51
1:1:1347:A:C5	1:1:1348:C:C6	2.98	0.51
1:1:2839:G:O2'	17:N:49:GLU:OE2	2.26	0.51
2:2:1031:C:OP2	2:2:1032:G:N2	2.43	0.51
2:2:1239:A:O2'	2:2:1297:G:N2	2.43	0.51
9:D:188:MET:HE3	9:D:192:ALA:C	2.35	0.51
11:F:112:VAL:HG11	11:F:150:TYR:OH	2.10	0.51
22:S:25:ARG:HE	22:S:74:ILE:CG2	2.23	0.51
43:p:87:GLY:N	43:p:113:THR:HG23	2.26	0.51
1:1:162:U:O2'	1:1:163:C:O5'	2.28	0.51
1:1:569:U:O2'	1:1:971:G:N2	2.44	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:882:G:H5'	55:1:3359:HOH:O	2.09	0.51
1:1:1299:G:N1	1:1:1640:A:OP2	2.40	0.51
1:1:1818:U:C4	7:B:152:GLN:HA	2.45	0.51
2:2:481:G:H1'	2:2:483:C:H42	1.75	0.51
19:P:83:ILE:HD12	19:P:83:ILE:N	2.26	0.51
37:j:45:VAL:O	37:j:71:ILE:N	2.28	0.51
1:1:394:C:H2'	1:1:395:U:O4'	2.10	0.51
2:2:558:G:OP2	2:2:559:A:O2'	2.17	0.51
2:2:1237:C:O2'	2:2:1300:G:O6	2.29	0.51
2:2:1346:A:H62	39:l:9:ARG:NH2	2.07	0.51
27:X:6:VAL:CG1	27:X:7:THR:HG23	2.40	0.51
35:h:51:VAL:HA	35:h:69:THR:HG22	1.93	0.51
35:h:111:ASP:OD1	35:h:113:LYS:N	2.43	0.51
1:1:1960:A:O2'	2:2:1484:C:O2'	2.21	0.51
1:1:2306:C:N4	10:E:38:GLY:O	2.42	0.51
1:1:2547:A:N1	1:1:2562:U:N3	2.59	0.51
2:2:363:A:OP1	44:q:30:ARG:N	2.44	0.51
2:2:1173:U:O2'	2:2:1174:G:OP1	2.29	0.51
6:A:11:ILE:HG21	6:A:219:GLY:HA2	1.91	0.51
6:A:39:VAL:O	6:A:39:VAL:HG23	2.10	0.51
17:N:79:LEU:C	17:N:81:ASN:H	2.19	0.51
21:R:93:PHE:HE2	21:R:95:ASP:HB2	1.76	0.51
49:v:19:SER:HB2	49:v:70:LYS:HZ1	1.76	0.51
1:1:2687:U:H2'	1:1:2688:G:O4'	2.11	0.51
2:2:404:G:N7	36:i:1:ALA:N	2.48	0.51
2:2:1368:A:OP2	41:n:113:LYS:HG3	2.10	0.51
3:3:3:C:H42	3:3:117:G:H1	1.59	0.51
10:E:33:ILE:HD12	10:E:155:ILE:HG22	1.93	0.51
15:L:55:MET:HE1	15:L:59:ARG:HE	1.75	0.51
36:i:177:MET:CE	55:i:306:HOH:O	2.44	0.51
2:2:148:G:O2'	2:2:1447:A:O4'	2.20	0.51
2:2:404:G:O2'	2:2:405:U:O4'	2.25	0.51
2:2:1315:U:H3'	2:2:1316:G:C8	2.46	0.51
2:2:1530:G:C2	2:2:1531:A:N6	2.79	0.51
8:C:151:THR:OG1	8:C:152:PRO:HD3	2.11	0.51
13:J:49:ASP:OD2	13:J:121:LYS:NZ	2.39	0.51
21:R:54:VAL:HG23	21:R:55:ASP:N	2.25	0.51
23:T:16:VAL:O	23:T:16:VAL:HG23	2.11	0.51
25:V:61:LEU:HD12	25:V:61:LEU:N	2.26	0.51
1:1:1197:G:C2	1:1:1198:U:C5	2.98	0.51
1:1:1198:U:C2'	1:1:1199:U:H5'	2.41	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:373:A:N1	2:2:391:G:O2'	2.35	0.51
2:2:1067:A:H2'	2:2:1093:A:O2'	2.11	0.51
14:K:15:GLY:HA2	14:K:47:ILE:HD11	1.92	0.51
36:i:124:VAL:HG23	36:i:141:VAL:O	2.11	0.51
46:s:47:LEU:HD23	46:s:50:LEU:HD12	1.93	0.51
1:1:2846:G:OP1	19:P:52:ARG:NH1	2.44	0.50
2:2:96:U:H1'	55:2:1771:HOH:O	2.11	0.50
2:2:228:A:H2	55:2:1724:HOH:O	1.89	0.50
2:2:681:A:H2'	2:2:682:G:O4'	2.11	0.50
16:M:41:LEU:HD23	16:M:96:ILE:HG13	1.93	0.50
16:M:73:ILE:HG21	16:M:91:TYR:CZ	2.45	0.50
18:O:8:ILE:O	18:O:12:THR:HG23	2.11	0.50
44:q:89:LEU:HD12	44:q:91:GLY:H	1.76	0.50
50:w:11:ARG:CD	55:w:108:HOH:O	2.30	0.50
1:1:271:G:C6	1:1:367:G:N1	2.79	0.50
1:1:1426:G:C8	1:1:1427:A:C8	2.99	0.50
1:1:1738:G:HO2'	1:1:1739:A:C5'	2.24	0.50
2:2:694:A:N1	2:2:787:A:O2'	2.44	0.50
2:2:1288:A:N6	2:2:1371:G:O2'	2.44	0.50
8:C:70:LYS:O	8:C:71:ALA:HB3	2.12	0.50
13:J:32:LEU:O	13:J:36:LEU:HD13	2.12	0.50
15:L:19:LEU:HD11	15:L:31:GLY:O	2.11	0.50
15:L:29:LYS:HD2	15:L:30:THR:HG23	1.93	0.50
27:X:35:HIS:CG	27:X:55:MET:HE1	2.46	0.50
2:2:509:A:N3	2:2:543:U:O2'	2.43	0.50
2:2:965:U:O2'	2:2:969:A:N1	2.42	0.50
2:2:1367:C:P	41:n:113:LYS:HZ1	2.35	0.50
8:C:151:THR:OG1	8:C:152:PRO:CD	2.59	0.50
27:X:35:HIS:CB	27:X:55:MET:HE1	2.41	0.50
44:q:33:CYS:HA	44:q:54:VAL:HG22	1.93	0.50
51:x:29:PRO:C	51:x:30:LEU:HD12	2.36	0.50
1:1:860:U:OP2	1:1:916:G:N1	2.34	0.50
1:1:1068:G:N2	1:1:1095:A:O2'	2.43	0.50
1:1:1688:U:H5'	1:1:1689:A:OP1	2.12	0.50
6:A:58:ASN:OD1	6:A:59:VAL:N	2.44	0.50
7:B:52:HIS:CG	7:B:52:HIS:O	2.64	0.50
22:S:4:ILE:HB	22:S:106:VAL:HG12	1.91	0.50
35:h:61:LYS:C	55:h:301:HOH:O	2.54	0.50
38:k:81:ASN:OD1	38:k:83:ALA:N	2.45	0.50
1:1:1841:U:C2	1:1:1842:G:C8	3.00	0.50
2:2:119:A:H4'	2:2:120:A:O4'	2.12	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:140:LEU:HD11	13:J:142:ILE:HG22	1.94	0.50
19:P:59:THR:OG1	19:P:72:VAL:HG12	2.11	0.50
22:S:68:ASP:C	22:S:69:LEU:HD12	2.37	0.50
39:l:59:GLU:HA	39:l:62:GLU:HG2	1.93	0.50
1:1:1309:G:OP1	32:d:9:VAL:HG12	2.12	0.50
1:1:2186:G:H2'	1:1:2187:U:O4'	2.12	0.50
9:D:5:LEU:HD23	9:D:6:LYS:N	2.26	0.50
12:G:147:VAL:HG12	12:G:148:ALA:H	1.77	0.50
13:J:36:LEU:CD1	13:J:54:ILE:HD12	2.41	0.50
13:J:80:HIS:O	13:J:82:GLY:N	2.45	0.50
27:X:32:LEU:HD21	27:X:49:ARG:NE	2.27	0.50
38:k:6:ILE:HG23	38:k:62:MET:HB2	1.93	0.50
1:1:976:G:HO2'	1:1:1155:A:HO2'	1.57	0.50
1:1:1254:A:H3'	1:1:1255:U:H5''	1.94	0.50
1:1:2328:A:H2'	1:1:2329:U:H6	1.77	0.50
2:2:252:U:N3	2:2:253:A:N7	2.60	0.50
8:C:138:LEU:HD12	8:C:138:LEU:N	2.27	0.50
10:E:135:ILE:O	10:E:135:ILE:HG22	2.11	0.50
42:o:53:ILE:HD11	46:s:84:ARG:NH2	2.27	0.50
44:q:30:ARG:O	44:q:57:THR:HG23	2.12	0.50
1:1:1168:G:C2	1:1:1169:A:C8	3.00	0.50
1:1:2581:G:N2	1:1:2581:G:OP2	2.44	0.50
2:2:232:G:N2	2:2:263:A:H2	2.07	0.50
22:S:73:LYS:HB2	22:S:106:VAL:CG2	2.42	0.50
42:o:53:ILE:HD11	46:s:84:ARG:CZ	2.42	0.50
2:2:109:A:H2'	2:2:326:G:C2	2.46	0.50
2:2:1249:C:O2'	41:n:69:GLY:O	2.30	0.50
7:B:29:PHE:O	7:B:33:LEU:HD23	2.12	0.50
13:J:36:LEU:O	13:J:51:GLY:HA3	2.11	0.50
1:1:807:U:O2'	1:1:2060:A:N1	2.39	0.49
1:1:970:U:C2	1:1:971:G:C8	3.00	0.49
1:1:1386:C:H2'	1:1:1387:A:H8	1.77	0.49
1:1:1942:C:O2'	1:1:1943:U:OP1	2.23	0.49
1:1:2082:A:C4	1:1:2239:G:N2	2.80	0.49
2:2:1335:U:H2'	55:2:1886:HOH:O	2.12	0.49
2:2:1373:G:H4'	39:l:30:MET:HE2	1.93	0.49
6:A:224:VAL:HG12	6:A:225:ASP:N	2.27	0.49
8:C:55:LYS:CG	55:C:301:HOH:O	2.26	0.49
11:F:9:VAL:HG22	11:F:48:THR:OG1	2.12	0.49
16:M:84:LYS:HE3	55:M:201:HOH:O	2.12	0.49
34:f:25:VAL:HB	34:f:35:GLN:HB2	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:i:83:GLY:HA3	55:i:309:HOH:O	2.06	0.49
40:m:63:LYS:HG2	40:m:70:VAL:HG11	1.94	0.49
1:1:161:A:H3'	1:1:162:U:H5''	1.93	0.49
1:1:265:A:O2'	1:1:266:G:OP2	2.22	0.49
1:1:1313:U:O2'	1:1:1332:G:O4'	2.30	0.49
1:1:1837:C:H2'	1:1:1838:C:H5'	1.93	0.49
1:1:2809:A:OP2	1:1:2890:G:N1	2.35	0.49
2:2:39:G:C4	2:2:404:G:N2	2.80	0.49
2:2:712:A:H2'	2:2:713:G:CI'	2.42	0.49
5:5:62:C:H4'	6:A:53:ARG:HE	1.77	0.49
15:L:67:THR:HG23	15:L:68:SER:N	2.27	0.49
19:P:52:ARG:N	19:P:56:SER:OG	2.44	0.49
30:b:24:VAL:O	30:b:25:THR:OG1	2.27	0.49
1:1:1283:G:H22	1:1:1286:A:P	2.35	0.49
1:1:1532:A:H2'	1:1:1533:C:O4'	2.12	0.49
1:1:1754:A:N1	1:1:2716:C:O2'	2.44	0.49
1:1:2506:U:O2	1:1:2506:U:H2'	2.10	0.49
2:2:53:A:N6	2:2:359:G:O6	2.44	0.49
2:2:974:A:H5''	2:2:975:A:H3'	1.94	0.49
6:A:161:VAL:HG23	55:A:310:HOH:O	2.13	0.49
9:D:140:ASP:OD1	9:D:141:MET:N	2.45	0.49
40:m:8:ASP:O	40:m:12:ARG:HG3	2.11	0.49
40:m:24:VAL:HG22	40:m:62:LEU:HD21	1.95	0.49
1:1:297:G:OP1	24:U:91:LYS:NZ	2.46	0.49
1:1:1394:U:O4	1:1:1395:A:N6	2.45	0.49
1:1:1772:A:N6	1:1:1980:G:O6	2.45	0.49
2:2:708:C:H2'	2:2:709:U:C6	2.47	0.49
2:2:928:G:O2'	2:2:1533:C:OP2	2.23	0.49
3:3:40:U:N3	3:3:44:G:OP2	2.40	0.49
6:A:52:ALA:C	6:A:54:LYS:N	2.70	0.49
9:D:175:ILE:HG23	9:D:180:LEU:HD21	1.93	0.49
24:U:38:ILE:HG23	24:U:39:ASN:N	2.28	0.49
37:j:152:VAL:C	37:j:154:ALA:N	2.71	0.49
53:z:9:GLU:H	53:z:10:PRO:CD	2.15	0.49
1:1:568:U:N3	1:1:571:U:OP2	2.40	0.49
1:1:2684:U:O2'	1:1:2685:G:O5'	2.30	0.49
2:2:73:C:C2	55:2:1712:HOH:O	2.62	0.49
2:2:611:C:H5''	55:2:1884:HOH:O	2.13	0.49
2:2:1308:U:OP1	45:r:95:PRO:O	2.31	0.49
46:s:45:LEU:HA	51:x:12:LEU:HD21	1.93	0.49
1:1:878:A:H3'	1:1:879:G:C8	2.45	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1264:A:OP1	30:b:15:ARG:NH1	2.45	0.49
1:1:1475:G:O2'	1:1:1476:U:O5'	2.27	0.49
1:1:1780:A:H3'	1:1:1781:U:H2'	1.94	0.49
1:1:1789:A:H2'	1:1:1790:C:O4'	2.12	0.49
1:1:2481:G:HO2'	1:1:2482:A:P	2.35	0.49
1:1:2704:C:H2'	1:1:2705:A:O4'	2.13	0.49
1:1:2788:C:H5'	8:C:62:LYS:HZ1	1.77	0.49
1:1:2849:U:H4'	1:1:2868:A:C2	2.47	0.49
5:5:3:G:H1'	5:5:4:C:H5'	1.95	0.49
17:N:100:CYS:SG	17:N:101:GLY:N	2.82	0.49
42:o:87:LEU:CB	55:o:201:HOH:O	2.59	0.49
48:u:54:LEU:HD11	48:u:75:ILE:CD1	2.42	0.49
1:1:374:A:C4	1:1:401:A:N6	2.80	0.49
1:1:956:G:H4'	16:M:82:MET:HE1	1.94	0.49
1:1:2125:G:H21	1:1:2174:C:N4	2.10	0.49
1:1:2140:G:N1	1:1:2152:G:N7	2.60	0.49
2:2:570:G:C2'	2:2:571:U:O5'	2.60	0.49
1:1:554:U:H2'	1:1:555:G:O4'	2.13	0.49
1:1:1519:G:H2'	1:1:1520:U:O4'	2.12	0.49
2:2:131:A:H2'	2:2:132:C:C6	2.47	0.49
2:2:868:C:H2'	2:2:869:G:O4'	2.11	0.49
2:2:1144:G:H2'	2:2:1145:A:O4'	2.12	0.49
2:2:1261:A:H1'	2:2:1275:A:N1	2.28	0.49
25:V:6:ALA:HB2	25:V:42:LEU:HD13	1.93	0.49
25:V:81:PRO:O	25:V:83:LYS:N	2.46	0.49
35:h:67:ILE:HG22	35:h:69:THR:HG23	1.94	0.49
35:h:151:GLU:HG2	35:h:166:TRP:HB3	1.95	0.49
37:j:157:GLY:CA	37:j:163:ILE:HD11	2.41	0.49
45:r:51:GLN:OE1	45:r:51:GLN:N	2.43	0.49
1:1:499:U:H2'	1:1:500:G:O4'	2.12	0.49
1:1:636:G:N2	15:L:76:GLU:OE1	2.44	0.49
1:1:1140:C:OP2	13:J:68:LYS:NZ	2.43	0.49
1:1:2249:U:N3	1:1:2253:G:OP2	2.45	0.49
1:1:2293:G:O6	1:1:2340:A:N6	2.46	0.49
2:2:40:C:H2'	2:2:41:G:C8	2.48	0.49
15:L:26:GLY:O	15:L:27:LEU:HD23	2.13	0.49
16:M:57:VAL:HG23	16:M:58:LYS:N	2.28	0.49
19:P:29:VAL:O	19:P:39:LEU:HD12	2.12	0.49
46:s:87:ALA:HB1	46:s:95:LEU:HD22	1.94	0.49
2:2:1245:C:H2'	2:2:1246:A:O4'	2.13	0.49
17:N:98:LEU:CD1	30:b:53:VAL:HG21	2.42	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:98:ILE:HG22	21:R:99:THR:N	2.28	0.49
23:T:8:LEU:HD12	23:T:8:LEU:N	2.27	0.49
35:h:17:TRP:CD1	35:h:19:SER:H	2.31	0.49
37:j:152:VAL:O	37:j:154:ALA:N	2.46	0.49
40:m:34:ALA:HB1	40:m:109:VAL:HG22	1.94	0.49
44:q:93:ARG:O	44:q:93:ARG:HG2	2.12	0.49
1:1:307:G:C4	1:1:309:A:OP2	2.66	0.48
1:1:572:A:H61	1:1:2029:G:N2	2.08	0.48
1:1:784:G:N7	1:1:792:A:C5	2.81	0.48
2:2:745:G:O2'	2:2:836:G:N2	2.38	0.48
33:e:31:ILE:O	33:e:35:LYS:NZ	2.46	0.48
40:m:73:SER:HB3	40:m:129:ALA:CB	2.40	0.48
41:n:83:THR:HG22	41:n:97:LEU:HD21	1.94	0.48
44:q:18:SER:OG	44:q:19:ASN:N	2.46	0.48
48:u:1:MET:SD	48:u:66:THR:HG22	2.53	0.48
1:1:727:A:H2'	1:1:728:G:O4'	2.13	0.48
1:1:1830:C:H42	1:1:1975:G:H1	1.60	0.48
2:2:38:G:N2	2:2:397:A:O5'	2.45	0.48
2:2:363:A:O2'	2:2:364:A:O4'	2.28	0.48
2:2:1210:C:O4'	2:2:1214:C:N4	2.46	0.48
8:C:3:GLY:O	8:C:4:LEU:HD12	2.12	0.48
13:J:80:HIS:C	13:J:82:GLY:H	2.21	0.48
14:K:28:SER:O	14:K:29:HIS:HB2	2.13	0.48
14:K:29:HIS:O	14:K:30:ARG:C	2.56	0.48
15:L:143:GLU:OE1	15:L:143:GLU:N	2.46	0.48
46:s:87:ALA:HB1	46:s:95:LEU:CD2	2.43	0.48
47:t:34:GLN:HG2	47:t:58:MET:HE1	1.95	0.48
52:y:26:MET:O	52:y:29:THR:OG1	2.26	0.48
1:1:18:U:O4	1:1:19:A:N6	2.47	0.48
1:1:273:G:H1	1:1:364:C:H42	1.59	0.48
1:1:1437:C:O2'	1:1:1516:G:O2'	2.20	0.48
1:1:1754:A:O2'	19:P:102:ARG:NH2	2.46	0.48
2:2:745:G:O3'	2:2:836:G:N2	2.45	0.48
2:2:849:G:O2'	2:2:850:U:O5'	2.25	0.48
2:2:1124:G:H1	2:2:1149:C:H42	1.61	0.48
2:2:1375:A:N7	39:l:9:ARG:NH2	2.60	0.48
6:A:11:ILE:HD11	6:A:35:THR:HG21	1.95	0.48
6:A:187:GLU:HB3	55:A:305:HOH:O	2.13	0.48
9:D:83:VAL:O	9:D:84:THR:C	2.54	0.48
11:F:43:LYS:O	11:F:50:THR:HG22	2.14	0.48
11:F:95:ALA:N	11:F:127:GLN:O	2.45	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:X:35:HIS:HB2	27:X:55:MET:HE1	1.95	0.48
45:r:76:ILE:HG22	45:r:80:MET:HE2	1.94	0.48
1:1:233:A:H61	1:1:429:A:H61	1.61	0.48
1:1:1432:G:O2'	1:1:1433:A:H5'	2.13	0.48
1:1:2626:C:C2	1:1:2627:G:C8	3.02	0.48
2:2:21:G:H2'	2:2:22:G:H8	1.78	0.48
2:2:491:G:H2'	2:2:492:C:C6	2.49	0.48
2:2:673:A:O3'	38:k:86:ARG:NH1	2.46	0.48
2:2:1208:C:C2	2:2:1209:C:C5	3.02	0.48
2:2:1459:G:O3'	52:y:18:LYS:NZ	2.46	0.48
52:y:58:ASP:OD2	52:y:75:LYS:NZ	2.31	0.48
1:1:451:U:C4	1:1:453:A:C8	3.01	0.48
1:1:886:A:N7	1:1:891:G:N1	2.62	0.48
1:1:2328:A:H2'	1:1:2329:U:C6	2.48	0.48
2:2:856:C:H2'	2:2:857:C:H5''	1.94	0.48
22:S:36:LEU:HD12	22:S:48:LYS:HB2	1.95	0.48
35:h:155:ARG:O	35:h:158:GLY:N	2.41	0.48
1:1:1173:U:H3'	55:1:3391:HOH:O	2.12	0.48
1:1:1499:C:C2	1:1:1500:G:C8	3.01	0.48
1:1:1710:G:H2'	1:1:1711:A:H8	1.78	0.48
2:2:592:G:O6	2:2:648:A:N6	2.46	0.48
2:2:941:G:O2'	2:2:1350:A:H5''	2.13	0.48
2:2:1095:U:OP2	2:2:1108:G:N2	2.45	0.48
11:F:105:SER:C	11:F:106:LEU:HD23	2.38	0.48
16:M:25:ASP:O	16:M:66:ARG:NH1	2.46	0.48
37:j:156:ARG:NH1	40:m:100:ILE:HG21	2.26	0.48
40:m:35:ILE:HA	40:m:38:VAL:HG12	1.94	0.48
41:n:59:LYS:HB3	41:n:60:LEU:HD12	1.96	0.48
1:1:572:A:N1	1:1:2033:A:C2	2.82	0.48
1:1:896:A:O2'	1:1:897:C:P	2.71	0.48
1:1:1790:C:H2'	1:1:1791:A:N7	2.29	0.48
1:1:1956:U:H2'	1:1:1957:C:H5'	1.95	0.48
2:2:529:G:H1	44:q:47:ALA:CB	2.26	0.48
2:2:1329:A:OP1	45:r:25:GLY:N	2.43	0.48
3:3:49:C:OP1	18:O:101:GLY:HA3	2.13	0.48
6:A:53:ARG:HB3	6:A:54:LYS:NZ	2.29	0.48
11:F:83:THR:HG22	11:F:133:LYS:HG3	1.94	0.48
27:X:32:LEU:HD21	27:X:49:ARG:CG	2.44	0.48
27:X:58:ILE:CD1	27:X:62:GLY:C	2.87	0.48
1:1:195:A:H3'	1:1:196:A:H4'	1.95	0.48
2:2:597:G:H2'	2:2:598:U:O4'	2.13	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:719:C:H42	50:w:59:LYS:CE	2.26	0.48
2:2:1048:G:H2'	2:2:1050:G:C8	2.49	0.48
8:C:113:SER:OG	8:C:114:LYS:N	2.47	0.48
14:K:79:PHE:CD1	19:P:69:VAL:HG22	2.48	0.48
17:N:8:ARG:O	17:N:10:LEU:HD13	2.13	0.48
40:m:10:LEU:HD22	40:m:74:ILE:HD13	1.95	0.48
42:o:7:ARG:HB3	42:o:101:SER:OG	2.13	0.48
42:o:87:LEU:CA	55:o:201:HOH:O	2.58	0.48
43:p:86:LYS:HB3	43:p:112:VAL:HG23	1.96	0.48
1:1:2291:U:O2'	1:1:2374:C:O2	2.32	0.48
1:1:2576:G:H8	1:1:2581:G:O6	1.97	0.48
1:1:2766:A:C2	1:1:2767:C:C6	3.02	0.48
2:2:1093:A:OP2	39:l:3:ARG:NH2	2.47	0.48
9:D:134:LEU:HD12	9:D:160:ALA:O	2.14	0.48
15:L:85:VAL:HG23	15:L:86:GLU:N	2.26	0.48
16:M:63:ILE:HB	16:M:105:MET:HE1	1.95	0.48
33:e:31:ILE:HB	33:e:35:LYS:HZ1	1.78	0.48
40:m:79:ARG:O	40:m:83:ARG:N	2.39	0.48
1:1:1234:U:C2'	1:1:1235:G:O5'	2.62	0.48
2:2:406:G:O2'	36:i:115:GLN:NE2	2.47	0.48
2:2:581:G:N1	2:2:759:A:OP2	2.34	0.48
2:2:1004:A:H1'	2:2:1036:A:N6	2.29	0.48
2:2:1069:C:O2'	2:2:1070:U:OP1	2.31	0.48
2:2:1173:U:HO2'	2:2:1174:G:P	2.36	0.48
6:A:32:GLU:OE1	6:A:32:GLU:N	2.46	0.48
15:L:29:LYS:O	15:L:30:THR:OG1	2.25	0.48
26:W:33:ILE:HG22	26:W:34:VAL:HG23	1.96	0.48
34:f:11:CYS:N	34:f:14:CYS:SG	2.83	0.48
34:f:36:ARG:HG2	34:f:37:GLN:H	1.79	0.48
44:q:51:VAL:HG11	44:q:89:LEU:HD22	1.96	0.48
1:1:2074:U:C2	1:1:2436:G:N2	2.82	0.47
2:2:965:U:H1'	2:2:969:A:C2	2.48	0.47
7:B:158:GLY:H	7:B:194:VAL:HG23	1.79	0.47
14:K:93:GLN:O	14:K:95:ILE:HD13	2.14	0.47
20:Q:34:ALA:O	20:Q:38:VAL:HG23	2.14	0.47
37:j:78:GLY:O	37:j:120:HIS:N	2.34	0.47
48:u:67:ILE:CG2	48:u:71:VAL:HB	2.44	0.47
1:1:2016:U:H1'	30:b:2:VAL:HG11	1.96	0.47
1:1:2468:A:HO2'	1:1:2469:A:C5'	2.23	0.47
1:1:2872:A:C2'	1:1:2873:A:H5'	2.44	0.47
2:2:1027:C:N4	2:2:1028:C:O2	2.47	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:88:VAL:HG12	10:E:89:THR:N	2.29	0.47
11:F:136:ASP:HB3	11:F:139:VAL:HG12	1.95	0.47
18:O:18:LEU:HD23	18:O:25:ARG:HG2	1.95	0.47
22:S:34:ASP:HB3	30:b:27:LEU:HD11	1.96	0.47
24:U:3:LYS:O	24:U:93:ARG:NH2	2.44	0.47
30:b:42:ILE:HG22	30:b:48:TYR:HB2	1.96	0.47
35:h:53:ARG:NH2	35:h:111:ASP:OD1	2.45	0.47
1:1:2431:U:N3	1:1:2434:A:OP2	2.42	0.47
2:2:175:C:H2'	2:2:176:C:C6	2.48	0.47
2:2:1255:G:H2'	2:2:1258:G:H21	1.79	0.47
14:K:90:ASN:OD1	14:K:90:ASN:N	2.47	0.47
35:h:68:HIS:ND1	35:h:103:ALA:HB3	2.29	0.47
36:i:151:GLN:CB	55:i:304:HOH:O	2.55	0.47
38:k:89:VAL:O	55:k:201:HOH:O	2.20	0.47
39:l:59:GLU:HA	39:l:62:GLU:CG	2.43	0.47
40:m:12:ARG:NH1	40:m:25:THR:O	2.47	0.47
1:1:238:C:H1'	1:1:608:A:H2	1.79	0.47
1:1:306:U:H2'	1:1:307:G:O4'	2.14	0.47
1:1:730:A:C2	1:1:731:C:C5	3.03	0.47
1:1:889:C:OP1	55:1:3301:HOH:O	2.20	0.47
1:1:1432:G:N2	1:1:1562:U:O2	2.47	0.47
1:1:1528:A:N6	1:1:1543:G:O2'	2.47	0.47
1:1:2474:U:OP2	1:1:2475:C:N4	2.43	0.47
2:2:833:G:C2'	2:2:834:U:O5'	2.63	0.47
2:2:1187:G:OP1	41:n:114:LYS:NZ	2.47	0.47
3:3:86:G:N1	3:3:88:C:O4'	2.48	0.47
7:B:173:LEU:O	7:B:180:MET:HA	2.15	0.47
9:D:79:ARG:O	9:D:81:GLY:N	2.46	0.47
10:E:134:GLN:N	10:E:134:GLN:OE1	2.48	0.47
11:F:112:VAL:HG21	11:F:150:TYR:CZ	2.49	0.47
16:M:57:VAL:CG2	16:M:58:LYS:N	2.77	0.47
17:N:5:LYS:O	17:N:6:SER:OG	2.31	0.47
1:1:297:G:H2'	1:1:298:G:O4'	2.15	0.47
1:1:1405:U:H2'	1:1:1406:U:C6	2.49	0.47
1:1:2111:U:H1'	1:1:2147:A:C2	2.49	0.47
1:1:2249:U:H3'	1:1:2250:G:H5'	1.96	0.47
2:2:567:G:O3'	37:j:92:ARG:NH1	2.42	0.47
2:2:1183:U:H2'	55:2:1954:HOH:O	2.14	0.47
7:B:166:ARG:NE	7:B:168:GLY:O	2.47	0.47
41:n:16:ALA:HB2	41:n:77:ALA:HB1	1.96	0.47
1:1:974:G:C6	1:1:1186:G:C6	3.03	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1726:C:H2'	1:1:1727:C:C6	2.49	0.47
1:1:2038:G:H2'	1:1:2039:U:O4'	2.14	0.47
1:1:2286:G:H4'	1:1:2287:A:O4'	2.14	0.47
2:2:595:A:H2'	2:2:641:U:O4	2.13	0.47
2:2:993:G:H2'	2:2:993:G:N3	2.29	0.47
2:2:1308:U:O3'	45:r:90:HIS:NE2	2.47	0.47
9:D:48:THR:OG1	9:D:49:ARG:N	2.44	0.47
40:m:6:ILE:O	40:m:10:LEU:HG	2.14	0.47
41:n:43:ALA:HB3	41:n:75:ALA:CB	2.44	0.47
1:1:566:U:H5	21:R:80:ARG:HG3	1.80	0.47
1:1:2244:U:N3	1:1:2245:U:O2	2.46	0.47
1:1:2262:U:OP2	26:W:12:SER:HB2	2.14	0.47
1:1:2495:G:C2'	1:1:2496:C:O5'	2.63	0.47
1:1:2516:A:O2'	1:1:2517:C:H5'	2.15	0.47
2:2:124:C:H2'	2:2:125:U:O4'	2.14	0.47
2:2:132:C:H1'	2:2:262:A:N3	2.30	0.47
2:2:324:G:H2'	2:2:326:G:OP2	2.15	0.47
2:2:592:G:H2'	2:2:593:U:O4'	2.14	0.47
2:2:720:C:O2	50:w:55:ALA:HB1	2.15	0.47
2:2:765:G:H1	2:2:812:G:HO2'	1.57	0.47
2:2:877:G:H5''	40:m:79:ARG:HD3	1.97	0.47
2:2:1160:G:C2	2:2:1161:C:C5	3.03	0.47
2:2:1204:A:H2'	2:2:1205:U:C6	2.50	0.47
2:2:1531:A:H2'	2:2:1532:U:O4'	2.13	0.47
7:B:62:ARG:O	7:B:64:VAL:HG23	2.15	0.47
7:B:153:LEU:HD11	7:B:175:LEU:HD11	1.97	0.47
15:L:96:LYS:CG	15:L:101:ILE:HD11	2.44	0.47
25:V:6:ALA:HB1	25:V:40:ILE:CG2	2.45	0.47
30:b:2:VAL:HG12	30:b:3:GLN:N	2.30	0.47
36:i:10:LEU:O	36:i:62:ARG:NH2	2.46	0.47
43:p:83:VAL:CG2	43:p:109:ILE:HD12	2.42	0.47
48:u:19:VAL:HG22	48:u:37:GLY:C	2.40	0.47
48:u:70:ARG:HG3	48:u:74:LEU:HG	1.95	0.47
1:1:399:U:C2'	1:1:400:G:O5'	2.62	0.47
1:1:964:C:O2'	1:1:2273:A:N3	2.43	0.47
1:1:1124:G:H2'	1:1:1125:G:O4'	2.15	0.47
1:1:1941:C:C4	1:1:1942:C:C4	3.03	0.47
2:2:96:U:C1'	55:2:1771:HOH:O	2.63	0.47
2:2:306:A:H2'	2:2:307:C:O4'	2.14	0.47
2:2:1023:U:H2'	2:2:1024:G:C8	2.50	0.47
2:2:1183:U:C5'	55:2:1954:HOH:O	2.62	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:27:ILE:HD13	6:A:186:LYS:HB2	1.96	0.47
12:G:139:PHE:HB2	55:G:203:HOH:O	2.15	0.47
13:J:64:VAL:HG23	13:J:65:THR:H	1.79	0.47
21:R:24:LYS:C	21:R:25:LEU:HD23	2.39	0.47
23:T:67:VAL:O	23:T:67:VAL:HG12	2.14	0.47
39:l:101:ARG:NE	55:l:204:HOH:O	2.46	0.47
50:w:17:VAL:HG22	50:w:18:GLN:N	2.29	0.47
1:1:271:G:H1'	1:1:272:A:C8	2.49	0.47
1:1:672:C:C2	1:1:809:G:N2	2.83	0.47
1:1:1392:A:N6	1:1:1393:A:N1	2.63	0.47
1:1:1643:G:H2'	1:1:1644:C:O5'	2.14	0.47
5:5:29:G:H1	5:5:41:C:H42	1.63	0.47
6:A:170:ILE:HG23	6:A:170:ILE:O	2.15	0.47
7:B:156:SER:O	7:B:194:VAL:HG21	2.15	0.47
43:p:26:PHE:CE2	43:p:88:PRO:HG2	2.49	0.47
44:q:29:LYS:O	44:q:80:LEU:HD12	2.15	0.47
2:2:883:C:O2'	2:2:884:U:H5'	2.14	0.47
2:2:974:A:H8	2:2:974:A:OP1	1.98	0.47
2:2:1356:G:C2	2:2:1357:A:C5	3.03	0.47
6:A:59:VAL:HG12	6:A:60:ARG:N	2.30	0.47
8:C:9:VAL:O	8:C:197:THR:HG23	2.15	0.47
10:E:59:ILE:HG23	10:E:98:PHE:HE1	1.80	0.47
35:h:62:SER:CB	55:h:301:HOH:O	2.63	0.47
37:j:88:HIS:CG	37:j:89:THR:H	2.33	0.47
44:q:32:VAL:O	44:q:33:CYS:HB2	2.15	0.47
1:1:591:U:N3	1:1:592:A:N7	2.62	0.46
2:2:18:C:HO2'	2:2:1078:U:H5	1.63	0.46
2:2:39:G:H2'	2:2:40:C:O4'	2.15	0.46
2:2:1279:G:O2'	2:2:1282:C:N4	2.48	0.46
2:2:1412:C:C2	2:2:1489:G:N2	2.83	0.46
2:2:1422:G:O2'	14:K:49:ARG:NH1	2.48	0.46
14:K:122:VAL:OXT	14:K:122:VAL:HG12	2.15	0.46
36:i:2:ARG:HG2	36:i:3:TYR:N	2.30	0.46
42:o:8:ILE:HB	42:o:74:VAL:HB	1.96	0.46
1:1:302:C:H2'	1:1:303:G:C8	2.50	0.46
1:1:330:A:H2'	1:1:330:A:N3	2.30	0.46
1:1:1287:A:N1	1:1:1649:G:H4'	2.30	0.46
1:1:1287:A:O2'	1:1:1288:G:H5'	2.15	0.46
1:1:1423:G:C2	1:1:1424:G:C5	3.04	0.46
2:2:579:A:HO2'	47:t:53:ARG:HH21	1.62	0.46
2:2:1250:A:N6	2:2:1287:A:N3	2.62	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1412:C:H2'	2:2:1413:A:C8	2.50	0.46
7:B:224:MET:SD	7:B:229:HIS:HB2	2.56	0.46
8:C:78:GLY:C	8:C:79:LEU:HD12	2.40	0.46
10:E:155:ILE:HD12	10:E:157:THR:CG2	2.45	0.46
11:F:23:ILE:HG22	11:F:34:ARG:O	2.16	0.46
23:T:22:THR:O	23:T:26:LYS:HG2	2.15	0.46
28:Y:5:GLU:C	28:Y:7:ARG:H	2.24	0.46
37:j:45:VAL:CG2	37:j:117:ALA:HB2	2.44	0.46
38:k:68:GLN:HA	38:k:71:ILE:HG22	1.97	0.46
45:r:96:VAL:O	45:r:97:ARG:HG3	2.16	0.46
1:1:381:G:N2	1:1:394:C:C2	2.84	0.46
1:1:1095:A:H2'	1:1:1096:A:C8	2.50	0.46
1:1:1282:U:H2'	1:1:1283:G:O4'	2.15	0.46
1:1:1551:A:H2'	1:1:1552:A:O4'	2.16	0.46
1:1:2788:C:H5'	8:C:62:LYS:HZ2	1.78	0.46
2:2:1495:U:H2'	2:2:1496:C:C6	2.50	0.46
6:A:52:ALA:HA	6:A:57:GLN:HE21	1.81	0.46
21:R:4:VAL:HG12	21:R:40:MET:HB3	1.97	0.46
53:z:11:PHE:CG	53:z:12:ASP:N	2.84	0.46
1:1:372:G:O2'	1:1:400:G:O6	2.32	0.46
1:1:674:G:H5''	9:D:71:GLY:HA2	1.97	0.46
1:1:945:A:C5	1:1:2448:A:C2	3.04	0.46
1:1:1028:A:OP2	1:1:1126:A:N6	2.23	0.46
1:1:1196:C:C2	1:1:1197:G:C8	3.03	0.46
1:1:1879:C:H2'	1:1:1880:U:O4'	2.15	0.46
2:2:821:G:H2'	2:2:822:U:C6	2.50	0.46
6:A:161:VAL:CG2	55:A:310:HOH:O	2.63	0.46
9:D:189:THR:O	9:D:193:VAL:HG23	2.16	0.46
10:E:19:PHE:CE1	10:E:163:GLU:O	2.68	0.46
38:k:88:MET:SD	38:k:89:VAL:N	2.89	0.46
39:l:140:VAL:CA	55:l:213:HOH:O	2.63	0.46
40:m:50:VAL:O	40:m:50:VAL:HG13	2.15	0.46
41:n:20:ILE:HD11	41:n:60:LEU:HB3	1.97	0.46
43:p:12:ARG:N	55:p:202:HOH:O	2.48	0.46
1:1:859:G:H22	1:1:917:A:P	2.39	0.46
1:1:1660:G:C2	1:1:1661:G:C8	3.03	0.46
1:1:2073:C:O2'	1:1:2074:U:H5'	2.15	0.46
2:2:417:G:H2'	2:2:418:C:H6	1.78	0.46
2:2:1367:C:H2'	2:2:1368:A:C8	2.50	0.46
27:X:39:VAL:HG12	27:X:42:GLU:H	1.80	0.46
35:h:151:GLU:N	35:h:198:LYS:O	2.49	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:r:14:ALA:HB3	45:r:40:GLU:HA	1.97	0.46
46:s:91:GLU:O	46:s:92:ILE:HD13	2.15	0.46
1:1:1084:A:H2'	1:1:1085:A:C8	2.51	0.46
1:1:1234:U:H2'	1:1:1235:G:O5'	2.16	0.46
1:1:2051:A:O2'	1:1:2614:A:N6	2.49	0.46
1:1:2167:U:C4	1:1:2169:A:C8	3.03	0.46
1:1:2481:G:O2'	1:1:2482:A:O5'	2.27	0.46
1:1:2849:U:H4'	1:1:2868:A:N1	2.31	0.46
2:2:826:C:H4'	40:m:12:ARG:HD3	1.97	0.46
2:2:880:C:H2'	2:2:881:G:H8	1.81	0.46
2:2:888:G:N2	2:2:910:C:N4	2.63	0.46
2:2:1075:U:H3	2:2:1082:A:H61	1.64	0.46
2:2:1255:G:C2'	2:2:1258:G:H21	2.27	0.46
51:x:46:LEU:O	51:x:60:PHE:HA	2.15	0.46
1:1:1064:C:O2'	1:1:1065:U:O4'	2.33	0.46
1:1:1246:A:H2'	1:1:1247:A:O5'	2.15	0.46
1:1:1736:U:O2'	1:1:1737:G:H5'	2.15	0.46
1:1:2515:C:H2'	1:1:2516:A:H8	1.81	0.46
2:2:778:G:H2'	2:2:779:C:C6	2.51	0.46
35:h:183:TYR:HA	35:h:199:VAL:O	2.15	0.46
38:k:47:LEU:HD13	38:k:49:TYR:O	2.16	0.46
41:n:46:VAL:HA	41:n:49:GLN:HG2	1.97	0.46
41:n:97:LEU:O	41:n:98:ARG:C	2.58	0.46
43:p:81:LEU:HD21	43:p:99:LEU:HD21	1.98	0.46
51:x:41:PRO:HA	51:x:44:ILE:CD1	2.46	0.46
1:1:372:G:N7	27:X:56:ARG:HG2	2.31	0.46
1:1:748:G:OP2	22:S:89:ALA:N	2.38	0.46
1:1:919:U:OP1	3:3:96:G:N2	2.42	0.46
1:1:968:C:C2	1:1:969:G:C8	3.04	0.46
1:1:1451:C:H4'	1:1:1452:G:O5'	2.15	0.46
1:1:1796:U:C2	1:1:1797:G:C8	3.04	0.46
2:2:1361:G:H2'	2:2:1362:A:O4'	2.15	0.46
11:F:101:VAL:CG2	11:F:113:ASP:HB3	2.46	0.46
19:P:13:LYS:NZ	19:P:77:SER:O	2.48	0.46
35:h:114:LEU:HA	35:h:114:LEU:HD12	1.55	0.46
37:j:158:LYS:HE3	40:m:63:LYS:HE3	1.97	0.46
1:1:1424:G:N1	1:1:1425:G:N2	2.63	0.46
1:1:2294:G:N1	1:1:2339:C:N3	2.64	0.46
2:2:231:U:C2	2:2:232:G:C8	3.04	0.46
2:2:475:C:C2	2:2:476:U:C5	3.03	0.46
2:2:533:A:C2	2:2:536:C:C5	3.04	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1059:C:O3'	46:s:84:ARG:NH1	2.38	0.46
6:A:42:VAL:HG22	6:A:178:VAL:HG13	1.97	0.46
7:B:128:THR:HG22	7:B:188:ARG:HG2	1.97	0.46
11:F:10:VAL:O	11:F:10:VAL:HG13	2.16	0.46
12:G:31:VAL:N	12:G:32:PRO:CD	2.79	0.46
14:K:13:ASN:OD1	14:K:14:SER:N	2.43	0.46
17:N:52:ILE:HG21	17:N:94:TYR:CD1	2.50	0.46
24:U:35:VAL:HG11	24:U:38:ILE:HD13	1.98	0.46
34:f:5:ALA:HA	34:f:38:GLY:HA2	1.98	0.46
37:j:14:LEU:HD12	37:j:15:ILE:N	2.31	0.46
52:y:58:ASP:HA	52:y:61:ALA:HB3	1.98	0.46
1:1:887:U:OP1	1:1:888:C:N4	2.38	0.46
1:1:1818:U:C5	7:B:155:ARG:CZ	2.99	0.46
2:2:265:G:C8	2:2:267:C:C5	3.04	0.46
2:2:492:C:H2'	2:2:493:A:C8	2.51	0.46
2:2:750:C:H2'	2:2:751:U:C6	2.50	0.46
2:2:939:G:O2'	2:2:1375:A:O2'	2.20	0.46
17:N:38:LEU:HB3	17:N:39:PRO:HD3	1.98	0.46
51:x:11:ASP:OD2	51:x:12:LEU:N	2.48	0.46
1:1:238:C:H1'	1:1:608:A:C2	2.50	0.45
1:1:308:G:C2	1:1:501:A:N7	2.84	0.45
1:1:1071:G:H1'	1:1:1089:A:C5	2.51	0.45
1:1:1939:U:H3'	1:1:1940:U:H5'	1.97	0.45
1:1:2098:U:H2'	1:1:2099:U:O4'	2.15	0.45
1:1:2606:C:O2'	1:1:2607:G:H5'	2.16	0.45
2:2:640:A:N6	2:2:641:U:O4	2.49	0.45
2:2:661:G:N1	2:2:745:G:C6	2.84	0.45
2:2:898:G:O2'	2:2:900:A:N6	2.35	0.45
2:2:1202:U:C2	46:s:81:ILE:HG21	2.51	0.45
12:G:11:ASN:OD1	12:G:12:LEU:HD23	2.16	0.45
15:L:102:GLY:O	15:L:104:GLN:N	2.50	0.45
21:R:39:LEU:N	21:R:39:LEU:HD23	2.31	0.45
49:v:22:VAL:HG22	49:v:23:ALA:H	1.82	0.45
1:1:788:A:N3	32:d:4:THR:CG2	2.79	0.45
1:1:825:A:H2'	1:1:826:U:O4'	2.16	0.45
1:1:1109:C:O3'	1:1:1110:G:O4'	2.34	0.45
1:1:1153:C:H2'	1:1:1154:G:O4'	2.16	0.45
1:1:1355:G:O2'	1:1:1356:G:H5'	2.16	0.45
1:1:1737:G:O3'	1:1:1738:G:O4'	2.35	0.45
1:1:1914:C:H41	2:2:1409:C:H4'	1.81	0.45
2:2:151:A:N1	2:2:171:A:N1	2.63	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:978:A:H61	2:2:1316:G:N2	1.95	0.45
2:2:1146:A:H61	41:n:17:ARG:NH2	2.14	0.45
3:3:95:U:H2'	3:3:96:G:O4'	2.15	0.45
9:D:49:ARG:HG2	9:D:49:ARG:O	2.16	0.45
29:Z:2:LYS:HD3	29:Z:3:THR:H	1.81	0.45
43:p:87:GLY:O	43:p:92:ARG:NH1	2.49	0.45
45:r:95:PRO:HG3	45:r:109:LYS:N	2.31	0.45
1:1:1005:C:C2	1:1:1006:C:C5	3.04	0.45
1:1:2417:C:O3'	33:e:44:ARG:NH1	2.49	0.45
1:1:2478:A:C8	1:1:2529:G:C5	3.05	0.45
2:2:114:U:H2'	2:2:115:G:C8	2.52	0.45
2:2:147:G:H2'	2:2:148:G:H8	1.82	0.45
2:2:230:G:H5'	48:u:23:ASP:OD2	2.16	0.45
2:2:492:C:O2'	2:2:493:A:O4'	2.29	0.45
2:2:801:U:H2'	2:2:802:A:O4'	2.16	0.45
2:2:1495:U:H2'	2:2:1496:C:H6	1.81	0.45
7:B:119:VAL:O	7:B:119:VAL:HG12	2.16	0.45
7:B:143:VAL:HG12	7:B:144:GLU:O	2.17	0.45
7:B:209:ALA:O	7:B:213:ARG:HG2	2.16	0.45
9:D:136:GLN:HA	9:D:139:LYS:HG2	1.97	0.45
10:E:107:VAL:N	10:E:108:PRO:CD	2.79	0.45
14:K:92:GLU:O	14:K:93:GLN:C	2.60	0.45
18:O:26:LEU:HD23	18:O:26:LEU:C	2.42	0.45
18:O:69:ASP:OD1	18:O:70:ALA:N	2.48	0.45
41:n:83:THR:O	41:n:94:ARG:NH2	2.49	0.45
45:r:65:GLU:O	45:r:69:ARG:NH1	2.50	0.45
1:1:242:G:O2'	1:1:254:G:O6	2.34	0.45
1:1:781:A:OP1	7:B:216:ARG:NH2	2.50	0.45
1:1:1844:C:C2	1:1:1845:G:C8	3.03	0.45
2:2:1077:G:N2	2:2:1080:A:OP2	2.46	0.45
2:2:1348:U:O3'	41:n:121:ARG:HB3	2.17	0.45
9:D:126:VAL:HA	9:D:137:LYS:NZ	2.31	0.45
10:E:31:GLU:OE1	10:E:31:GLU:N	2.49	0.45
24:U:53:GLN:N	24:U:54:PRO:CD	2.80	0.45
25:V:39:ALA:C	25:V:40:ILE:HD12	2.42	0.45
30:b:53:VAL:HG23	30:b:54:ILE:HD13	1.98	0.45
37:j:93:VAL:HG21	37:j:110:MET:HE1	1.98	0.45
41:n:66:VAL:HG11	41:n:78:ILE:HG13	1.97	0.45
42:o:29:ALA:HB1	42:o:36:VAL:HG11	1.98	0.45
46:s:13:VAL:HG13	46:s:14:ALA:N	2.31	0.45
1:1:123:G:C4	1:1:124:G:C8	3.04	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:191:A:H2'	1:1:192:C:O4'	2.16	0.45
1:1:1454:C:H1'	17:N:60:VAL:HG23	1.98	0.45
1:1:1753:G:N1	1:1:1756:G:OP2	2.49	0.45
2:2:34:C:O2'	44:q:97:VAL:HG11	2.16	0.45
19:P:112:ARG:O	19:P:113:LEU:C	2.60	0.45
39:l:30:MET:HE3	39:l:33:GLY:H	1.82	0.45
42:o:67:ILE:HG23	42:o:67:ILE:O	2.16	0.45
52:y:66:ILE:HG22	52:y:67:HIS:N	2.31	0.45
53:z:31:VAL:O	53:z:31:VAL:HG22	2.17	0.45
1:1:1314:C:H42	1:1:1338:G:H1	1.64	0.45
1:1:1425:G:H22	1:1:1574:C:H42	1.65	0.45
1:1:1508:A:O2'	1:1:1509:A:O4'	2.33	0.45
1:1:1685:C:C2	1:1:1686:C:C5	3.05	0.45
1:1:2583:G:H2'	1:1:2584:U:O4'	2.16	0.45
2:2:1535:C:O2	2:2:1535:C:O4'	2.34	0.45
10:E:39:VAL:HG13	10:E:40:GLY:N	2.31	0.45
36:i:14:GLU:OE2	36:i:62:ARG:NH2	2.49	0.45
40:m:10:LEU:HD22	40:m:74:ILE:CD1	2.47	0.45
44:q:34:THR:HG22	44:q:35:ARG:N	2.24	0.45
53:z:35:GLU:O	53:z:40:PRO:HD3	2.16	0.45
1:1:1173:U:H5''	55:1:3391:HOH:O	2.17	0.45
1:1:1897:G:H2'	1:1:1898:U:O4'	2.17	0.45
1:1:2079:U:C2	1:1:2080:A:C8	3.05	0.45
1:1:2330:G:C2	1:1:2386:A:N1	2.85	0.45
2:2:148:G:HO2'	2:2:1447:A:C1'	2.25	0.45
2:2:714:G:H2'	2:2:715:A:C8	2.52	0.45
9:D:149:ILE:HG23	9:D:188:MET:HA	1.98	0.45
25:V:81:PRO:O	25:V:82:TYR:C	2.59	0.45
34:f:7:VAL:HG11	34:f:36:ARG:O	2.16	0.45
35:h:31:ASN:O	35:h:58:ARG:NH2	2.49	0.45
37:j:84:VAL:HG22	37:j:85:LYS:N	2.32	0.45
42:o:10:LEU:C	42:o:10:LEU:HD12	2.41	0.45
51:x:31:ARG:CB	55:x:102:HOH:O	2.55	0.45
1:1:58:G:N2	1:1:70:G:C4	2.85	0.45
1:1:859:G:H21	1:1:2268:A:H2	1.64	0.45
1:1:1007:C:OP1	13:J:37:ARG:NH2	2.49	0.45
1:1:1057:A:N7	1:1:1086:A:H2'	2.31	0.45
1:1:1432:G:N2	1:1:1562:U:C2	2.85	0.45
2:2:253:A:N6	2:2:274:A:N1	2.65	0.45
2:2:285:C:C2	2:2:286:C:C5	3.04	0.45
2:2:346:G:H2'	2:2:346:G:N3	2.31	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1206:G:H2'	2:2:1206:G:N3	2.32	0.45
6:A:36:ALA:HB2	6:A:218:MET:SD	2.57	0.45
14:K:61:VAL:HG12	14:K:87:LEU:HD11	1.98	0.45
16:M:13:HIS:O	16:M:14:LYS:HB3	2.15	0.45
36:i:141:VAL:O	36:i:141:VAL:HG13	2.17	0.45
40:m:9:MET:CG	40:m:26:MET:HE2	2.45	0.45
42:o:18:ILE:HD13	42:o:72:ARG:HG2	1.98	0.45
44:q:73:LEU:HD21	44:q:79:ILE:HD11	1.97	0.45
1:1:693:A:O2'	1:1:1353:A:N3	2.41	0.45
1:1:1212:G:O2'	1:1:1213:A:OP2	2.34	0.45
1:1:1263:U:O2	30:b:3:GLN:NE2	2.47	0.45
1:1:1432:G:H2'	1:1:1433:A:C8	2.51	0.45
1:1:1907:G:O6	1:1:1924:C:N4	2.50	0.45
1:1:2287:A:N7	1:1:2289:G:C8	2.85	0.45
1:1:2450:A:OP1	1:1:2497:A:O2'	2.35	0.45
1:1:2495:G:H2'	1:1:2496:C:O5'	2.16	0.45
1:1:2800:A:H3'	1:1:2801:G:H5'	1.97	0.45
2:2:1209:C:O2'	2:2:1214:C:N4	2.50	0.45
2:2:1307:U:OP2	45:r:97:ARG:HB3	2.17	0.45
8:C:8:LYS:HB2	8:C:201:LEU:HD11	1.99	0.45
12:G:9:VAL:HG22	12:G:10:ALA:N	2.32	0.45
14:K:88:ASN:OD1	14:K:89:ASN:N	2.50	0.45
40:m:74:ILE:HD12	40:m:128:VAL:HG22	1.99	0.45
48:u:54:LEU:HD13	48:u:57:ILE:CB	2.47	0.45
1:1:1132:U:H3'	1:1:1133:A:H5''	1.99	0.45
1:1:1481:U:H2'	1:1:1482:G:H4'	1.99	0.45
1:1:2134:A:C5'	55:1:3310:HOH:O	2.60	0.45
1:1:2249:U:C3'	1:1:2250:G:H5'	2.47	0.45
2:2:91:U:H4'	55:2:1966:HOH:O	2.16	0.45
2:2:1000:A:H2'	2:2:1001:C:C6	2.52	0.45
2:2:1416:G:H1	2:2:1484:C:H42	1.65	0.45
5:5:41:C:H2'	5:5:42:G:O4'	2.17	0.45
9:D:105:LEU:O	9:D:109:LEU:HD23	2.17	0.45
15:L:79:LEU:HD23	15:L:82:LEU:HD22	1.98	0.45
21:R:40:MET:HE3	21:R:48:LYS:HE2	1.99	0.45
37:j:23:THR:HG23	37:j:23:THR:O	2.17	0.45
49:v:49:ASN:C	49:v:49:ASN:OD1	2.59	0.45
1:1:560:C:H2'	1:1:561:G:O4'	2.17	0.44
1:1:752:A:H3'	32:d:1:MET:CE	2.47	0.44
1:1:782:A:C6	7:B:224:MET:HE2	2.52	0.44
1:1:1278:C:H2'	1:1:1279:G:H8	1.82	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1687:G:N2	1:1:1702:G:C6	2.85	0.44
1:1:1826:G:O2'	1:1:1827:U:H5'	2.16	0.44
1:1:2050:C:H2'	1:1:2051:A:O4'	2.17	0.44
2:2:1333:A:H2'	2:2:1334:G:O4'	2.17	0.44
3:3:101:A:H2'	3:3:102:G:O4'	2.16	0.44
17:N:55:ALA:HB2	17:N:79:LEU:HD22	1.99	0.44
36:i:21:LYS:HE2	36:i:21:LYS:HB3	1.74	0.44
48:u:8:ARG:HB2	48:u:17:TYR:CE1	2.52	0.44
48:u:38:PHE:N	48:u:51:ARG:O	2.43	0.44
50:w:24:ASP:OD1	50:w:27:THR:OG1	2.32	0.44
51:x:36:ARG:NH1	55:x:101:HOH:O	2.41	0.44
52:y:54:GLN:N	52:y:55:PRO:HD2	2.32	0.44
1:1:116:C:O2'	1:1:126:A:N3	2.42	0.44
1:1:1705:A:C2'	1:1:1706:C:O5'	2.66	0.44
1:1:1738:G:O2'	1:1:1739:A:O5'	2.29	0.44
2:2:49:U:O2'	2:2:361:G:N2	2.50	0.44
2:2:880:C:H2'	2:2:881:G:C8	2.52	0.44
2:2:1014:A:H3'	2:2:1015:G:C8	2.53	0.44
2:2:1314:C:N4	51:x:2:ARG:O	2.49	0.44
2:2:1455:G:C2	2:2:1456:A:C8	3.06	0.44
8:C:84:LEU:HG	8:C:85:ALA:O	2.18	0.44
13:J:84:ILE:O	13:J:84:ILE:HG23	2.17	0.44
35:h:52:SER:OG	35:h:68:HIS:O	2.25	0.44
47:t:7:THR:HG22	47:t:30:LEU:HD11	1.99	0.44
1:1:202:U:H2'	1:1:203:A:O4'	2.16	0.44
1:1:223:A:N6	1:1:422:A:N1	2.65	0.44
1:1:772:C:O2'	1:1:773:U:H5'	2.17	0.44
2:2:353:A:H2'	2:2:353:A:N3	2.33	0.44
2:2:434:U:O4	55:2:1701:HOH:O	2.21	0.44
2:2:814:A:N7	2:2:816:A:C4	2.86	0.44
2:2:1104:G:H2'	2:2:1105:A:O4'	2.17	0.44
14:K:12:ASP:OD2	14:K:14:SER:OG	2.35	0.44
23:T:32:LEU:N	23:T:32:LEU:HD23	2.32	0.44
35:h:17:TRP:HZ2	46:s:92:ILE:O	2.00	0.44
35:h:76:ILE:HD11	35:h:102:ILE:CD1	2.47	0.44
1:1:395:U:HO2'	1:1:396:G:C5'	2.29	0.44
1:1:601:C:H4'	9:D:99:LYS:CE	2.46	0.44
1:1:784:G:C8	7:B:225:ASN:ND2	2.85	0.44
1:1:1792:G:O6	1:1:1828:G:N3	2.51	0.44
1:1:2107:G:N2	1:1:2182:U:O2'	2.50	0.44
1:1:2251:G:OP1	16:M:81:ARG:HD2	2.17	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:148:G:H1'	2:2:1447:A:C1'	2.47	0.44
2:2:553:A:H2'	2:2:554:A:O4'	2.18	0.44
2:2:570:G:O6	2:2:873:A:C2	2.70	0.44
2:2:1087:G:O2'	53:z:65:ARG:NH2	2.51	0.44
2:2:1146:A:C5	2:2:1147:C:C6	3.05	0.44
2:2:1157:A:N6	2:2:1178:G:O2'	2.51	0.44
7:B:75:ALA:HB1	7:B:93:VAL:HG22	1.99	0.44
22:S:18:ARG:NH1	22:S:76:VAL:O	2.50	0.44
24:U:94:PHE:CD2	24:U:94:PHE:C	2.95	0.44
26:W:39:THR:HG22	26:W:42:HIS:CD2	2.53	0.44
27:X:26:ARG:NH1	27:X:27:ARG:O	2.49	0.44
33:e:28:LEU:HD22	33:e:28:LEU:HA	1.83	0.44
35:h:137:VAL:HG21	35:h:167:TYR:CD2	2.53	0.44
37:j:43:GLY:O	37:j:73:VAL:HG22	2.17	0.44
39:l:59:GLU:O	39:l:62:GLU:HG3	2.17	0.44
44:q:73:LEU:HD21	44:q:79:ILE:CG1	2.47	0.44
1:1:154:U:N3	1:1:155:A:N7	2.66	0.44
1:1:672:C:H4'	9:D:84:THR:CG2	2.48	0.44
1:1:1342:A:O2'	1:1:1344:U:OP2	2.35	0.44
1:1:1635:A:H2'	1:1:1636:U:C5'	2.48	0.44
1:1:1713:A:N6	1:1:1745:A:H61	2.16	0.44
1:1:2143:C:H3'	1:1:2144:G:C8	2.53	0.44
1:1:2184:A:H2'	1:1:2185:U:O4'	2.17	0.44
7:B:158:GLY:N	7:B:194:VAL:HG23	2.32	0.44
24:U:80:ASP:OD1	24:U:97:SER:OG	2.35	0.44
25:V:60:VAL:C	25:V:61:LEU:HD12	2.42	0.44
27:X:58:ILE:HD11	27:X:63:ILE:CB	2.42	0.44
35:h:58:ARG:HB3	55:h:303:HOH:O	2.18	0.44
37:j:149:PRO:HA	37:j:152:VAL:HG12	1.99	0.44
39:l:140:VAL:CB	55:l:213:HOH:O	2.44	0.44
41:n:57:VAL:CA	55:n:202:HOH:O	2.44	0.44
49:v:14:ASP:O	49:v:16:MET:HG2	2.16	0.44
1:1:359:G:H2'	1:1:360:U:O4'	2.18	0.44
1:1:2126:A:H4'	1:1:2127:G:O4'	2.17	0.44
1:1:2638:G:HO2'	1:1:2639:A:C5'	2.29	0.44
2:2:77:A:N6	2:2:78:A:H62	2.16	0.44
2:2:341:C:N4	2:2:349:A:H61	2.16	0.44
2:2:719:C:H42	50:w:59:LYS:HE2	1.82	0.44
2:2:746:A:H2'	2:2:747:A:N9	2.33	0.44
2:2:825:A:C2	40:m:11:THR:HG21	2.52	0.44
7:B:23:LEU:C	7:B:23:LEU:HD12	2.43	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:M:135:VAL:HG12	16:M:136:MET:HG3	2.00	0.44
18:O:84:GLU:OE1	18:O:85:LYS:NZ	2.49	0.44
20:Q:93:ILE:CD1	21:R:4:VAL:HG21	2.47	0.44
29:Z:4:ILE:HB	29:Z:39:ASP:OD1	2.17	0.44
37:j:10:LEU:HD23	37:j:10:LEU:H	1.83	0.44
41:n:46:VAL:O	41:n:50:PRO:HD2	2.17	0.44
44:q:89:LEU:HB2	44:q:90:PRO:CD	2.47	0.44
53:z:39:LYS:N	53:z:40:PRO:CD	2.80	0.44
1:1:382:A:H2	1:1:393:C:C2	2.36	0.44
1:1:638:G:C4	1:1:651:G:N2	2.85	0.44
1:1:803:U:H2'	1:1:804:A:C5'	2.47	0.44
1:1:889:C:P	55:1:3301:HOH:O	2.75	0.44
1:1:896:A:H4'	1:1:897:C:O5'	2.18	0.44
1:1:2507:C:C2	1:1:2583:G:C2	3.06	0.44
1:1:2854:G:O2'	1:1:2855:C:H5'	2.18	0.44
2:2:447:G:HO2'	2:2:448:A:H8	1.64	0.44
2:2:608:A:C2	2:2:609:A:C5	3.06	0.44
2:2:1166:G:C2'	2:2:1170:A:H61	2.29	0.44
2:2:1217:C:H5''	46:s:8:ARG:CZ	2.48	0.44
8:C:49:GLN:NE2	8:C:79:LEU:HD23	2.33	0.44
12:G:103:VAL:CB	12:G:108:VAL:HG23	2.44	0.44
14:K:24:VAL:HG12	14:K:33:ALA:HB2	2.00	0.44
18:O:64:TYR:HB3	18:O:67:ASN:ND2	2.32	0.44
24:U:12:VAL:HG21	24:U:17:ASP:O	2.18	0.44
40:m:44:PHE:HE2	40:m:100:ILE:HD11	1.82	0.44
44:q:89:LEU:HB2	44:q:90:PRO:HD2	1.99	0.44
45:r:96:VAL:O	45:r:96:VAL:HG23	2.17	0.44
52:y:5:SER:O	52:y:8:LYS:HD3	2.18	0.44
1:1:76:C:C2	1:1:111:A:C2	3.05	0.44
1:1:97:C:C2'	1:1:98:G:O5'	2.66	0.44
1:1:287:G:H2'	1:1:288:U:H6	1.82	0.44
1:1:581:C:H2'	1:1:582:A:H8	1.83	0.44
1:1:1016:G:C6	1:1:1147:A:N1	2.86	0.44
1:1:1365:A:OP1	27:X:27:ARG:NH2	2.46	0.44
1:1:1897:G:O2'	1:1:1898:U:H5'	2.18	0.44
1:1:2120:G:H2'	1:1:2121:G:C8	2.52	0.44
1:1:2236:U:H2'	1:1:2237:G:O4'	2.18	0.44
1:1:2328:A:C2'	1:1:2329:U:O5'	2.65	0.44
1:1:2674:G:H2'	1:1:2675:A:C8	2.53	0.44
2:2:197:A:N1	2:2:220:G:O2'	2.50	0.44
2:2:617:G:H2'	2:2:618:C:O4'	2.18	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1007:U:H3	2:2:1022:A:H2	1.65	0.44
2:2:1176:A:H2'	2:2:1177:G:C8	2.53	0.44
5:5:18:G:C2	5:5:57:A:H8	2.35	0.44
11:F:88:LEU:HD22	11:F:161:VAL:HG12	1.99	0.44
18:O:30:ARG:HG3	18:O:102:ARG:HD2	1.99	0.44
19:P:3:ILE:O	19:P:7:LEU:HD23	2.18	0.44
19:P:61:ARG:HH12	19:P:100:ARG:HG2	1.83	0.44
21:R:24:LYS:O	21:R:25:LEU:HD23	2.18	0.44
27:X:21:LEU:HD22	27:X:21:LEU:N	2.33	0.44
28:Y:13:GLU:HG3	28:Y:57:LEU:HD13	2.00	0.44
38:k:38:ARG:O	38:k:62:MET:O	2.36	0.44
1:1:151:C:H2'	1:1:152:A:H8	1.83	0.44
1:1:309:A:N3	1:1:329:G:O2'	2.47	0.44
1:1:636:G:OP2	15:L:109:LYS:NZ	2.44	0.44
1:1:683:U:O2'	1:1:684:G:P	2.76	0.44
1:1:769:U:O2	1:1:1379:U:H1'	2.18	0.44
1:1:959:A:O2'	1:1:960:A:H5'	2.17	0.44
1:1:1298:C:H2'	1:1:1299:G:O4'	2.18	0.44
1:1:2349:G:OP1	33:e:44:ARG:NH2	2.50	0.44
2:2:147:G:H2'	2:2:148:G:C8	2.53	0.44
2:2:356:A:H2'	2:2:357:G:O4'	2.18	0.44
2:2:723:U:H3'	53:z:48:LYS:HD3	1.99	0.44
2:2:1042:A:H2'	2:2:1043:G:O4'	2.17	0.44
2:2:1107:C:C4	2:2:1108:G:C8	3.05	0.44
18:O:40:ILE:HD13	18:O:47:VAL:HG23	1.99	0.44
37:j:80:LEU:HD11	37:j:97:PRO:HG3	2.00	0.44
37:j:156:ARG:O	37:j:163:ILE:HG13	2.17	0.44
38:k:18:VAL:N	38:k:19:PRO:CD	2.81	0.44
1:1:198:C:C2'	1:1:199:A:H5'	2.48	0.43
1:1:587:C:OP1	15:L:21:ARG:NH2	2.48	0.43
1:1:1091:G:H3'	55:1:3321:HOH:O	2.18	0.43
1:1:1163:G:C2	1:1:1164:C:C5	3.06	0.43
1:1:1175:A:H5'	55:1:3341:HOH:O	2.18	0.43
1:1:1315:C:C2	1:1:1338:G:N2	2.86	0.43
2:2:738:C:C2	2:2:739:C:C5	3.06	0.43
2:2:922:G:H1'	37:j:23:THR:HG23	1.98	0.43
12:G:51:ARG:HD2	12:G:55:GLU:HB2	1.99	0.43
20:Q:78:PHE:CE1	20:Q:109:VAL:HG22	2.53	0.43
37:j:45:VAL:O	37:j:71:ILE:HG22	2.18	0.43
41:n:89:TYR:O	41:n:90:ASP:C	2.61	0.43
41:n:97:LEU:C	41:n:99:LYS:N	2.72	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:y:58:ASP:OD1	52:y:71:ALA:HB1	2.18	0.43
1:1:227:A:O2'	1:1:228:C:O5'	2.26	0.43
1:1:265:A:N7	1:1:428:A:C5	2.86	0.43
1:1:1837:C:N4	1:1:1899:A:N7	2.66	0.43
1:1:2047:C:H2'	1:1:2048:G:H8	1.83	0.43
1:1:2162:G:H2'	1:1:2163:A:O4'	2.18	0.43
1:1:2496:C:C2'	1:1:2497:A:O5'	2.66	0.43
2:2:114:U:H2'	2:2:115:G:H8	1.83	0.43
2:2:284:C:C2	2:2:285:C:C5	3.06	0.43
2:2:965:U:O2'	2:2:969:A:C2	2.64	0.43
2:2:999:C:H2'	2:2:1000:A:O4'	2.17	0.43
2:2:1507:A:C5	2:2:1530:G:N2	2.87	0.43
5:5:27:C:H2'	5:5:28:C:C6	2.53	0.43
7:B:105:ALA:O	7:B:195:GLY:N	2.47	0.43
15:L:37:GLY:H	15:L:41:ARG:HH22	1.65	0.43
27:X:32:LEU:HD21	27:X:49:ARG:HG2	2.00	0.43
42:o:26:VAL:HG22	42:o:26:VAL:O	2.18	0.43
1:1:120:U:C2	1:1:149:A:C6	3.07	0.43
1:1:217:A:H2'	1:1:218:A:O4'	2.18	0.43
1:1:286:U:H2'	1:1:287:G:H8	1.84	0.43
1:1:607:U:O2	1:1:607:U:H2'	2.17	0.43
1:1:1649:G:C6	1:1:2009:A:N6	2.86	0.43
1:1:1915:U:O2	1:1:1915:U:O4'	2.36	0.43
1:1:2127:G:H21	1:1:2173:A:H1'	1.83	0.43
1:1:2821:A:H4'	8:C:167:ASN:HD21	1.84	0.43
2:2:72:A:H2	55:2:1929:HOH:O	1.93	0.43
2:2:109:A:H2'	2:2:326:G:N2	2.32	0.43
2:2:120:A:H1'	2:2:122:G:N7	2.33	0.43
2:2:593:U:H2'	2:2:594:U:C5	2.53	0.43
2:2:855:U:OP2	2:2:871:U:C4	2.71	0.43
2:2:906:A:C2'	2:2:907:A:O5'	2.65	0.43
2:2:1134:G:H2'	2:2:1135:U:O4'	2.18	0.43
2:2:1238:A:H2'	2:2:1238:A:N3	2.33	0.43
6:A:63:THR:HG1	6:A:163:TYR:HE2	1.64	0.43
12:G:31:VAL:HG22	12:G:32:PRO:HD3	2.00	0.43
13:J:36:LEU:HD11	13:J:54:ILE:HD12	1.99	0.43
14:K:92:GLU:HG3	14:K:93:GLN:N	2.32	0.43
33:e:6:VAL:O	33:e:7:ARG:C	2.62	0.43
43:p:27:ASN:HB3	43:p:56:LYS:HE3	2.00	0.43
44:q:23:LEU:HB3	44:q:26:CYS:CB	2.47	0.43
45:r:19:THR:HG22	45:r:25:GLY:O	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:r:89:ARG:HE	45:r:94:LEU:HD12	1.83	0.43
1:1:308:G:N2	1:1:477:A:N7	2.66	0.43
1:1:528:A:H8	1:1:528:A:H3'	1.84	0.43
1:1:1182:G:H2'	1:1:1183:U:O4'	2.17	0.43
1:1:1423:G:N1	1:1:1424:G:C6	2.87	0.43
1:1:2075:U:H2'	1:1:2077:A:OP2	2.18	0.43
1:1:2125:G:H21	1:1:2174:C:H42	1.64	0.43
1:1:2353:G:N2	26:W:30:GLY:O	2.46	0.43
1:1:2468:A:OP2	1:1:2476:A:N6	2.47	0.43
2:2:264:C:H1'	49:v:65:PRO:HG2	2.00	0.43
2:2:402:G:H2'	2:2:403:C:O4'	2.18	0.43
14:K:113:MET:HA	14:K:116:ILE:HG12	2.01	0.43
16:M:59:ARG:H	16:M:59:ARG:HD3	1.84	0.43
44:q:6:LEU:N	44:q:6:LEU:HD12	2.33	0.43
1:1:821:A:C2	1:1:946:C:C4	3.06	0.43
1:1:851:C:H2'	1:1:852:U:C6	2.52	0.43
1:1:1005:C:C4	1:1:1143:A:N3	2.87	0.43
1:1:1208:C:C2	1:1:1239:G:N2	2.87	0.43
1:1:1303:G:O6	1:1:1304:A:N6	2.51	0.43
1:1:2447:G:C4	1:1:2501:C:C5	3.06	0.43
1:1:2647:U:O2	1:1:2674:G:C6	2.71	0.43
1:1:2751:G:P	11:F:2:ARG:HH12	2.39	0.43
2:2:253:A:H2'	2:2:254:G:O4'	2.18	0.43
12:G:56:ALA:HB3	12:G:57:LYS:NZ	2.33	0.43
13:J:64:VAL:HG23	13:J:65:THR:N	2.34	0.43
21:R:27:ILE:HG22	21:R:28:ALA:N	2.33	0.43
24:U:73:ASN:O	24:U:74:ALA:HB3	2.18	0.43
37:j:119:VAL:HG11	37:j:122:VAL:HG22	2.00	0.43
39:l:66:GLU:OE2	39:l:66:GLU:N	2.40	0.43
40:m:89:ASP:CA	55:m:202:HOH:O	2.66	0.43
42:o:30:LYS:CD	42:o:36:VAL:HG22	2.48	0.43
44:q:21:PRO:HD3	44:q:93:ARG:HH21	1.83	0.43
52:y:19:HIS:ND1	52:y:19:HIS:O	2.52	0.43
1:1:379:G:N1	1:1:396:G:C6	2.87	0.43
1:1:575:A:O2'	1:1:576:U:H5'	2.19	0.43
1:1:859:G:N2	1:1:917:A:OP2	2.42	0.43
1:1:1059:G:C8	1:1:1060:U:H2'	2.53	0.43
1:1:1389:G:N2	1:1:1399:C:C2	2.87	0.43
1:1:1738:G:HO2'	1:1:1739:A:H8	1.67	0.43
1:1:2402:U:O2	1:1:2402:U:H2'	2.18	0.43
2:2:425:G:H2'	2:2:426:U:C6	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:993:G:H4'	55:2:1813:HOH:O	2.18	0.43
2:2:1184:G:C3'	55:2:1722:HOH:O	2.62	0.43
6:A:20:GLN:N	6:A:20:GLN:OE1	2.51	0.43
11:F:44:HIS:HA	11:F:48:THR:O	2.18	0.43
14:K:121:GLU:HG3	14:K:122:VAL:HG23	1.99	0.43
16:M:136:MET:HE2	25:V:57:TYR:CD1	2.54	0.43
17:N:49:GLU:N	17:N:50:PRO:HD2	2.34	0.43
33:e:6:VAL:HG21	33:e:60:CYS:CB	2.49	0.43
36:i:2:ARG:NH2	36:i:114:ARG:HH21	2.17	0.43
42:o:55:PRO:O	42:o:57:VAL:N	2.52	0.43
52:y:11:ILE:O	52:y:14:GLU:HG2	2.18	0.43
52:y:26:MET:O	52:y:30:PHE:CD2	2.71	0.43
1:1:401:A:C6	1:1:402:A:N6	2.87	0.43
1:1:751:A:N7	1:1:789:A:C6	2.87	0.43
1:1:996:A:N6	1:1:1160:G:C6	2.87	0.43
1:1:1130:U:N3	8:C:152:PRO:HA	2.34	0.43
1:1:1370:C:H2'	1:1:1371:G:O4'	2.18	0.43
1:1:1478:G:H22	1:1:1513:U:H3	1.67	0.43
1:1:1790:C:H2'	1:1:1791:A:C8	2.54	0.43
1:1:1803:A:H2	1:1:1823:G:H1'	1.83	0.43
1:1:2340:A:C2	1:1:2341:G:C5	3.07	0.43
2:2:477:C:O5'	2:2:477:C:H6	2.02	0.43
2:2:721:G:H4'	2:2:722:G:O4'	2.18	0.43
2:2:834:U:H2'	2:2:835:U:C6	2.54	0.43
2:2:1256:A:H5'	2:2:1258:G:H1'	2.00	0.43
2:2:1479:C:H2'	2:2:1480:A:C4	2.53	0.43
55:2:1781:HOH:O	49:v:18:LYS:HD3	2.18	0.43
3:3:94:A:H2'	3:3:95:U:O4'	2.19	0.43
6:A:164:ARG:HD3	6:A:165:ASN:O	2.19	0.43
8:C:152:PRO:C	8:C:154:LYS:H	2.26	0.43
11:F:27:GLY:N	11:F:30:GLY:O	2.50	0.43
11:F:121:THR:CG2	11:F:133:LYS:HB2	2.48	0.43
44:q:116:TYR:O	44:q:117:GLY:C	2.62	0.43
1:1:56:A:O2'	1:1:57:C:H5'	2.19	0.43
1:1:140:C:H3'	1:1:141:G:H4'	2.00	0.43
1:1:514:A:H2'	1:1:515:A:O4'	2.18	0.43
1:1:1092:C:H2'	1:1:1093:G:O4'	2.18	0.43
1:1:1710:G:C6	1:1:1749:A:N1	2.87	0.43
1:1:2015:A:C2	30:b:2:VAL:HG22	2.53	0.43
1:1:2033:A:N1	1:1:2036:C:C6	2.86	0.43
1:1:2530:A:OP2	1:1:2535:G:N2	2.51	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:100:G:P	55:2:1720:HOH:O	2.75	0.43
2:2:417:G:H2'	2:2:418:C:O4'	2.19	0.43
2:2:1064:G:H22	2:2:1191:A:P	2.42	0.43
7:B:227:VAL:O	7:B:227:VAL:HG12	2.18	0.43
15:L:77:ILE:HG22	15:L:78:ARG:N	2.34	0.43
16:M:43:ALA:O	16:M:46:ILE:HG22	2.18	0.43
17:N:27:SER:O	17:N:31:HIS:ND1	2.51	0.43
35:h:124:GLU:HG2	35:h:188:ALA:HB1	2.01	0.43
37:j:157:GLY:HA3	37:j:163:ILE:HG13	1.98	0.43
40:m:26:MET:SD	40:m:26:MET:N	2.92	0.43
43:p:45:THR:HG23	43:p:48:GLY:H	1.83	0.43
49:v:19:SER:HB2	49:v:70:LYS:NZ	2.34	0.43
1:1:534:U:N3	1:1:535:G:N7	2.66	0.43
1:1:1304:A:O2'	1:1:1305:C:H5'	2.19	0.43
1:1:1995:U:H3'	1:1:1996:C:H2'	2.00	0.43
1:1:2028:U:H2'	1:1:2029:G:O4'	2.18	0.43
1:1:2287:A:C8	1:1:2289:G:C8	3.07	0.43
1:1:2547:A:O2'	1:1:2548:U:C5'	2.67	0.43
2:2:134:G:C8	2:2:325:A:C6	3.07	0.43
2:2:329:A:O2'	2:2:331:G:OP2	2.37	0.43
2:2:1176:A:H2'	2:2:1177:G:O4'	2.19	0.43
2:2:1354:U:H2'	2:2:1355:G:C8	2.54	0.43
3:3:46:A:C5	3:3:47:C:C5	3.06	0.43
5:5:43:G:H2'	5:5:44:G:C8	2.54	0.43
7:B:119:VAL:HG22	7:B:130:PRO:HG2	2.01	0.43
8:C:16:THR:HG22	8:C:17:GLU:N	2.34	0.43
13:J:65:THR:HG22	13:J:66:GLY:N	2.27	0.43
15:L:125:LEU:HD12	15:L:125:LEU:N	2.33	0.43
17:N:24:MET:HE1	17:N:40:LYS:HG2	2.00	0.43
24:U:35:VAL:HG12	24:U:36:GLU:O	2.19	0.43
25:V:37:PRO:C	25:V:38:LEU:HD12	2.44	0.43
41:n:114:LYS:HD2	41:n:120:ALA:O	2.18	0.43
44:q:73:LEU:CG	44:q:79:ILE:HD11	2.48	0.43
45:r:15:VAL:O	45:r:19:THR:HG23	2.19	0.43
48:u:66:THR:O	48:u:66:THR:HG23	2.18	0.43
48:u:78:VAL:O	48:u:78:VAL:HG22	2.18	0.43
51:x:26:ASP:HB3	51:x:30:LEU:HD11	2.01	0.43
1:1:20:C:H2'	1:1:21:A:H8	1.83	0.43
1:1:131:A:C2	1:1:132:G:C5	3.06	0.43
1:1:811:U:O4	15:L:21:ARG:NH1	2.51	0.43
1:1:1254:A:O2'	1:1:1255:U:OP1	2.35	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1593:A:H2'	1:1:1594:U:O4'	2.19	0.43
1:1:1649:G:O2'	1:1:1650:A:H5'	2.19	0.43
1:1:2342:C:H2'	1:1:2343:U:O4'	2.19	0.43
2:2:976:G:OP2	2:2:1358:U:O2'	2.30	0.43
2:2:1095:U:OP2	2:2:1108:G:N1	2.50	0.43
2:2:1206:G:C5	2:2:1207:G:C8	3.06	0.43
35:h:18:ASN:HA	35:h:55:VAL:HG13	2.01	0.43
42:o:15:HIS:HA	42:o:18:ILE:HG22	2.01	0.43
1:1:66:C:C4	1:1:67:U:C5	3.07	0.42
1:1:769:U:H2'	1:1:770:G:O4'	2.19	0.42
1:1:1176:U:H2'	1:1:1177:G:C4	2.54	0.42
1:1:1684:G:H2'	1:1:1685:C:H6	1.84	0.42
1:1:1750:G:O2'	1:1:1751:U:H5'	2.19	0.42
1:1:2305:U:C4	10:E:151:LEU:HA	2.54	0.42
1:1:2323:G:H2'	1:1:2324:U:O4'	2.18	0.42
1:1:2545:G:H2'	1:1:2546:U:O4'	2.18	0.42
2:2:620:C:N4	2:2:621:A:C6	2.87	0.42
2:2:887:G:H2'	2:2:888:G:O4'	2.19	0.42
2:2:1308:U:O4'	45:r:97:ARG:N	2.52	0.42
5:5:15:G:H3'	5:5:16:C:H5''	2.00	0.42
6:A:34:ALA:CB	6:A:178:VAL:HG21	2.49	0.42
14:K:91:SER:O	14:K:92:GLU:C	2.62	0.42
19:P:96:LEU:HD12	19:P:96:LEU:N	2.34	0.42
24:U:5:ARG:O	24:U:24:VAL:HG11	2.19	0.42
24:U:38:ILE:HD12	24:U:38:ILE:HA	1.95	0.42
1:1:43:G:C2	1:1:437:U:C2	3.07	0.42
1:1:85:G:C4	1:1:98:G:N2	2.87	0.42
1:1:382:A:H2'	1:1:383:C:C5'	2.49	0.42
1:1:476:G:C4	1:1:478:A:OP2	2.72	0.42
1:1:671:C:H2'	1:1:672:C:C6	2.54	0.42
1:1:762:U:H5''	1:1:763:G:OP1	2.19	0.42
1:1:1147:A:H2'	1:1:1148:U:O4'	2.19	0.42
1:1:1280:G:O2'	1:1:1281:G:H5'	2.18	0.42
1:1:2105:U:H2'	1:1:2106:U:O4'	2.19	0.42
2:2:91:U:H5''	55:2:1966:HOH:O	2.18	0.42
2:2:136:C:H2'	2:2:137:U:O4'	2.19	0.42
2:2:1012:A:H2'	2:2:1013:G:O4'	2.20	0.42
2:2:1123:U:O2'	42:o:41:PRO:HD3	2.19	0.42
8:C:188:LEU:HD23	8:C:188:LEU:H	1.84	0.42
11:F:136:ASP:OD1	11:F:139:VAL:N	2.33	0.42
12:G:40:THR:HG22	12:G:43:ASN:OD1	2.18	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:29:HIS:O	14:K:31:ARG:N	2.52	0.42
14:K:43:ILE:CD1	14:K:52:VAL:HG11	2.49	0.42
16:M:14:LYS:O	16:M:15:GLY:C	2.62	0.42
16:M:93:VAL:HG22	16:M:94:ALA:N	2.33	0.42
21:R:65:ALA:HB3	21:R:95:ASP:HB3	2.01	0.42
35:h:178:ARG:HE	35:h:206:ILE:CD1	2.32	0.42
36:i:195:ASN:OD1	36:i:197:HIS:ND1	2.51	0.42
42:o:42:LEU:HD21	42:o:71:LEU:HG	2.01	0.42
49:v:16:MET:HG3	49:v:19:SER:OG	2.18	0.42
50:w:70:THR:HG21	55:w:105:HOH:O	2.18	0.42
51:x:25:GLY:O	51:x:26:ASP:HB2	2.18	0.42
1:1:382:A:C2'	1:1:383:C:O5'	2.67	0.42
1:1:543:G:H2'	1:1:544:C:C1'	2.50	0.42
1:1:1103:A:H2'	1:1:1103:A:N3	2.35	0.42
1:1:1135:C:C6	1:1:1137:G:OP2	2.72	0.42
1:1:1174:U:O2'	1:1:1176:U:O2	2.20	0.42
1:1:1251:C:OP2	20:Q:5:ARG:NH1	2.52	0.42
1:1:1682:G:OP2	1:1:1699:G:N2	2.46	0.42
1:1:2121:G:H2'	1:1:2122:U:C6	2.55	0.42
1:1:2194:U:H2'	1:1:2195:U:H6	1.84	0.42
1:1:2421:G:OP1	31:c:7:LYS:NZ	2.49	0.42
1:1:2521:C:C2	1:1:2545:G:N2	2.87	0.42
2:2:1044:A:C5	2:2:1045:C:H1'	2.54	0.42
2:2:1350:A:H2	39:l:33:GLY:HA3	1.84	0.42
2:2:1356:G:H2'	2:2:1357:A:C8	2.54	0.42
2:2:1356:G:H2'	2:2:1357:A:H8	1.84	0.42
9:D:134:LEU:O	9:D:138:LEU:HD12	2.19	0.42
10:E:49:LEU:HD12	10:E:50:ASP:N	2.35	0.42
13:J:61:LYS:N	13:J:61:LYS:HD2	2.34	0.42
25:V:26:PHE:CE1	25:V:47:VAL:HG11	2.53	0.42
36:i:85:THR:O	36:i:89:LEU:HG	2.19	0.42
40:m:63:LYS:CG	40:m:70:VAL:HG11	2.48	0.42
45:r:40:GLU:OE1	45:r:40:GLU:N	2.52	0.42
46:s:63:CYS:CB	46:s:66:THR:HG1	2.29	0.42
1:1:19:A:H2'	1:1:20:C:H6	1.84	0.42
1:1:683:U:O5'	1:1:683:U:H6	2.03	0.42
1:1:691:C:O2'	1:1:692:C:H5'	2.19	0.42
1:1:1380:G:OP2	1:1:1380:G:H8	2.01	0.42
1:1:1542:U:H2'	1:1:1543:G:O4'	2.19	0.42
1:1:2114:A:N6	1:1:2119:A:N1	2.67	0.42
1:1:2333:A:H1'	18:O:9:ARG:HH12	1.84	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2392:A:P	33:e:30:HIS:NE2	2.93	0.42
1:1:2418:A:OP1	33:e:44:ARG:NH1	2.52	0.42
1:1:2455:G:C4	1:1:2456:C:C5	3.08	0.42
1:1:2680:U:O2'	1:1:2681:C:H5'	2.19	0.42
2:2:298:A:H2'	2:2:299:G:H8	1.84	0.42
2:2:1240:U:C5	39:l:115:MET:HE1	2.54	0.42
3:3:118:C:H2'	3:3:119:A:O4'	2.19	0.42
7:B:77:VAL:HA	7:B:93:VAL:HG23	2.02	0.42
12:G:3:VAL:CG1	12:G:36:ALA:HB1	2.49	0.42
13:J:71:ASP:O	13:J:73:VAL:N	2.52	0.42
14:K:38:ILE:H	14:K:38:ILE:HD12	1.84	0.42
15:L:95:LEU:N	15:L:95:LEU:HD12	2.35	0.42
15:L:102:GLY:O	15:L:105:ILE:N	2.45	0.42
22:S:69:LEU:HD12	22:S:69:LEU:N	2.33	0.42
49:v:4:ILE:HG23	49:v:61:ARG:HE	1.84	0.42
1:1:305:C:O5'	1:1:305:C:H6	2.02	0.42
1:1:372:G:H5''	27:X:60:LYS:NZ	2.34	0.42
1:1:454:A:H4'	1:1:455:C:OP2	2.20	0.42
1:1:1964:G:C2	1:1:1967:C:C5	3.08	0.42
1:1:2090:A:C6	1:1:2091:C:N4	2.87	0.42
1:1:2316:G:C2	1:1:2317:A:C8	3.07	0.42
1:1:2391:G:O2'	1:1:2429:G:N2	2.52	0.42
2:2:219:U:C2	2:2:220:G:C8	3.07	0.42
2:2:1265:C:N4	2:2:1266:G:O6	2.52	0.42
2:2:1312:G:C2	2:2:1326:U:C4	3.07	0.42
2:2:1367:C:P	41:n:113:LYS:NZ	2.93	0.42
2:2:1391:U:H2'	2:2:1392:G:C8	2.55	0.42
2:2:1519:A:H5''	2:2:1520:C:O4'	2.20	0.42
2:2:1537:U:H2'	2:2:1538:C:O4'	2.20	0.42
15:L:98:ALA:O	15:L:99:ASN:C	2.62	0.42
25:V:65:VAL:O	25:V:65:VAL:HG13	2.19	0.42
37:j:12:GLU:OE1	37:j:12:GLU:N	2.47	0.42
38:k:98:GLU:OE1	38:k:98:GLU:N	2.52	0.42
48:u:54:LEU:HD11	48:u:75:ILE:HD13	2.01	0.42
1:1:194:G:C2	1:1:202:U:O2	2.72	0.42
1:1:305:C:H2'	1:1:306:U:C6	2.55	0.42
1:1:336:C:O2'	1:1:337:C:H5'	2.20	0.42
1:1:1254:A:H3'	1:1:1255:U:C5'	2.49	0.42
1:1:1448:G:C4	1:1:1449:G:C8	3.08	0.42
1:1:1818:U:H5	7:B:155:ARG:CZ	2.32	0.42
1:1:1942:C:OP2	1:1:1943:U:C2'	2.67	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2757:A:H61	11:F:66:THR:HG21	1.85	0.42
1:1:2812:G:H2'	1:1:2813:A:O4'	2.19	0.42
2:2:588:G:H2'	2:2:589:U:O4'	2.19	0.42
2:2:1190:G:P	35:h:4:VAL:HG12	2.59	0.42
2:2:1206:G:C3'	2:2:1207:G:H5'	2.49	0.42
55:2:1781:HOH:O	49:v:18:LYS:CD	2.68	0.42
12:G:62:LEU:C	12:G:62:LEU:HD12	2.43	0.42
18:O:117:PHE:CD2	18:O:117:PHE:C	2.98	0.42
35:h:109:GLU:OE1	35:h:140:ALA:N	2.53	0.42
36:i:18:LEU:C	36:i:20:LEU:H	2.28	0.42
38:k:5:GLU:HG2	38:k:63:ASN:OD1	2.19	0.42
40:m:29:SER:OG	40:m:30:LYS:N	2.53	0.42
42:o:51:VAL:HG12	42:o:52:LEU:N	2.34	0.42
44:q:98:ARG:O	44:q:117:GLY:HA3	2.19	0.42
50:w:31:TYR:O	50:w:39:VAL:HG22	2.20	0.42
1:1:914:G:H3'	1:1:915:C:C5'	2.49	0.42
1:1:1130:U:O4	8:C:151:THR:O	2.37	0.42
1:1:1312:U:C5	1:1:1603:A:N6	2.87	0.42
1:1:1389:G:H2'	1:1:1390:U:O4'	2.19	0.42
1:1:1496:A:H2'	1:1:1498:C:C5	2.55	0.42
1:1:1595:C:N4	1:1:1596:A:H62	2.18	0.42
1:1:1817:G:C6	1:1:1818:U:C2	3.07	0.42
1:1:1924:C:H2'	1:1:1925:C:O4'	2.20	0.42
1:1:2073:C:C2	1:1:2437:G:C2	3.07	0.42
1:1:2456:C:C4	1:1:2457:U:C5	3.08	0.42
1:1:2748:A:N3	1:1:2757:A:N6	2.68	0.42
2:2:108:G:O6	52:y:9:ARG:NH1	2.52	0.42
2:2:206:C:H42	2:2:213:G:H22	1.68	0.42
9:D:48:THR:HA	9:D:82:GLY:O	2.20	0.42
10:E:6:TYR:CD1	10:E:11:VAL:HG23	2.55	0.42
20:Q:64:ILE:O	20:Q:65:ASN:C	2.63	0.42
27:X:58:ILE:CD1	27:X:63:ILE:N	2.83	0.42
30:b:6:LYS:O	30:b:7:PRO:C	2.62	0.42
38:k:91:ARG:CZ	55:k:203:HOH:O	2.62	0.42
40:m:78:SER:HA	40:m:84:ILE:HG12	2.02	0.42
43:p:18:GLY:O	43:p:81:LEU:HA	2.20	0.42
46:s:40:ARG:NE	46:s:40:ARG:HA	2.35	0.42
51:x:38:THR:HA	51:x:69:LYS:HA	2.01	0.42
1:1:169:G:O2'	1:1:170:U:H5'	2.20	0.42
1:1:395:U:H2'	1:1:396:G:C8	2.55	0.42
1:1:799:G:C6	1:1:800:A:C6	3.07	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:868:U:C4	1:1:869:G:N7	2.88	0.42
1:1:1049:C:C2	1:1:1050:A:C8	3.07	0.42
1:1:1270:C:H5''	1:1:1271:G:H5'	2.00	0.42
1:1:1429:G:H2'	1:1:1430:G:H8	1.85	0.42
1:1:1767:G:H2'	1:1:1768:C:H5''	2.01	0.42
1:1:1837:C:C2	1:1:1904:G:N2	2.88	0.42
1:1:2046:G:C4	1:1:2623:G:N2	2.87	0.42
1:1:2353:G:H4'	26:W:28:LEU:HD23	2.02	0.42
2:2:269:C:N4	2:2:270:A:H62	2.17	0.42
2:2:552:U:C4	2:2:553:A:N6	2.88	0.42
2:2:614:C:N3	2:2:615:G:C8	2.88	0.42
2:2:987:G:O6	2:2:1219:A:N6	2.53	0.42
2:2:1304:G:N2	2:2:1334:G:C6	2.88	0.42
6:A:51:ASP:O	6:A:57:GLN:NE2	2.53	0.42
8:C:109:VAL:HG11	8:C:193:VAL:HG22	2.01	0.42
10:E:56:LEU:HD13	10:E:88:VAL:HG23	2.00	0.42
27:X:70:LEU:HD11	27:X:75:GLU:OE1	2.20	0.42
35:h:46:LEU:HD23	35:h:49:ALA:HB3	2.01	0.42
46:s:42:ASN:HA	46:s:45:LEU:HG	2.02	0.42
1:1:532:A:H2'	1:1:532:A:N3	2.35	0.42
1:1:1198:U:C2	1:1:1199:U:C5	3.07	0.42
1:1:2362:C:OP2	33:e:43:LEU:HD21	2.19	0.42
1:1:2688:G:N1	1:1:2720:U:OP2	2.51	0.42
1:1:2689:U:H4'	1:1:2690:U:OP2	2.20	0.42
2:2:312:C:N4	2:2:313:A:H62	2.17	0.42
2:2:337:G:H2'	2:2:338:A:H8	1.85	0.42
2:2:529:G:H4'	2:2:533:A:C2	2.55	0.42
2:2:713:G:C6	2:2:714:G:C6	3.08	0.42
6:A:200:LYS:HD3	6:A:208:TYR:CD2	2.55	0.42
9:D:46:GLN:OE1	9:D:87:ALA:N	2.42	0.42
10:E:56:LEU:HA	10:E:56:LEU:HD23	1.83	0.42
11:F:59:ASP:OD2	11:F:63:GLN:NE2	2.53	0.42
14:K:106:GLU:OE1	14:K:106:GLU:N	2.52	0.42
20:Q:90:ASP:O	20:Q:94:LEU:HD13	2.20	0.42
36:i:87:GLU:O	36:i:88:ASN:C	2.62	0.42
40:m:34:ALA:HB1	40:m:109:VAL:CG2	2.50	0.42
44:q:73:LEU:HD11	44:q:79:ILE:HD11	2.02	0.42
48:u:6:LEU:HB3	48:u:17:TYR:HD1	1.84	0.42
1:1:28:A:H2'	1:1:29:U:O4'	2.19	0.42
1:1:319:G:H2'	1:1:320:A:O4'	2.19	0.42
1:1:940:G:H3'	1:1:941:A:H5''	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1214:A:H2'	1:1:1215:G:O4'	2.20	0.42
1:1:1239:G:H2'	1:1:1240:U:O4'	2.19	0.42
1:1:1424:G:N1	1:1:1575:C:N3	2.68	0.42
1:1:1612:C:C4	1:1:1613:G:C8	3.07	0.42
1:1:1793:C:H2'	1:1:1794:A:O4'	2.20	0.42
1:1:1972:G:C2	1:1:1973:G:N7	2.88	0.42
1:1:2140:G:H2'	1:1:2141:G:O4'	2.19	0.42
2:2:289:G:OP1	55:2:1702:HOH:O	2.22	0.42
2:2:505:G:H2'	2:2:506:G:H8	1.85	0.42
2:2:620:C:C4	2:2:621:A:C5	3.07	0.42
2:2:788:U:H2'	2:2:789:U:O4'	2.19	0.42
2:2:1370:G:H2'	2:2:1371:G:H8	1.84	0.42
3:3:32:U:H2'	3:3:33:G:C8	2.55	0.42
10:E:110:ILE:O	10:E:110:ILE:HG23	2.19	0.42
15:L:89:VAL:HG22	15:L:90:VAL:N	2.34	0.42
40:m:49:LYS:O	40:m:58:LEU:HD12	2.19	0.42
42:o:9:ARG:HB3	42:o:99:GLN:HE21	1.84	0.42
43:p:111:ASP:HB3	53:z:24:LYS:NZ	2.34	0.42
1:1:143:C:O2'	23:T:2:ILE:HD12	2.20	0.41
1:1:587:C:N1	15:L:19:LEU:HD23	2.35	0.41
1:1:627:A:C2	1:1:637:A:C4	3.08	0.41
1:1:774:G:O2'	1:1:775:G:C5'	2.68	0.41
1:1:777:G:O2'	7:B:47:ARG:NH2	2.53	0.41
1:1:819:A:C2	1:1:1189:A:C2	3.08	0.41
1:1:1948:G:H21	2:2:1418:A:H2	1.66	0.41
1:1:2644:G:C2'	1:1:2645:G:O5'	2.68	0.41
2:2:52:C:N4	2:2:53:A:H62	2.17	0.41
2:2:184:G:H2'	2:2:184:G:N3	2.35	0.41
2:2:979:C:OP2	2:2:981:U:O4	2.37	0.41
2:2:992:U:HO2'	2:2:993:G:P	2.37	0.41
2:2:1152:A:N6	2:2:1153:G:O6	2.53	0.41
2:2:1225:A:C6	2:2:1226:C:N4	2.88	0.41
2:2:1422:G:C5'	14:K:48:PRO:HB3	2.50	0.41
2:2:1422:G:O3'	14:K:49:ARG:NH1	2.52	0.41
7:B:123:ILE:HB	38:k:80:PHE:CZ	2.55	0.41
16:M:136:MET:HE2	25:V:57:TYR:HD1	1.85	0.41
18:O:30:ARG:HD2	18:O:102:ARG:HH21	1.85	0.41
31:c:22:THR:HG23	31:c:23:THR:N	2.34	0.41
34:f:14:CYS:HG	34:f:33:HIS:CE1	2.38	0.41
40:m:21:LYS:N	40:m:64:TYR:OH	2.53	0.41
42:o:24:GLU:O	42:o:28:THR:HG22	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:z:34:ARG:HG3	53:z:36:PHE:CZ	2.55	0.41
1:1:234:U:C4	1:1:235:U:C5	3.08	0.41
1:1:414:C:H2'	1:1:415:A:H8	1.86	0.41
1:1:422:A:H2'	1:1:423:A:O4'	2.20	0.41
1:1:502:A:H2'	1:1:503:A:H5'	2.02	0.41
1:1:893:C:H2'	1:1:894:U:O4'	2.18	0.41
1:1:1198:U:H2'	1:1:1199:U:H5'	2.02	0.41
1:1:1639:C:O2'	1:1:1640:A:H5'	2.20	0.41
1:1:1819:A:H5'	7:B:159:THR:HG21	2.02	0.41
1:1:2063:C:H2'	1:1:2064:C:H5'	2.02	0.41
1:1:2080:A:O2'	1:1:2081:U:H5'	2.21	0.41
1:1:2246:G:H2'	1:1:2247:A:H8	1.84	0.41
2:2:121:U:C5'	55:2:1821:HOH:O	2.48	0.41
2:2:319:G:H2'	2:2:320:A:C8	2.55	0.41
2:2:325:A:N6	2:2:326:G:C2	2.88	0.41
2:2:1478:U:H2'	2:2:1479:C:C6	2.55	0.41
8:C:193:VAL:HG13	8:C:194:PRO:HD2	2.02	0.41
22:S:14:ALA:O	22:S:15:GLN:C	2.58	0.41
26:W:32:ILE:HG22	26:W:33:ILE:N	2.35	0.41
29:Z:3:THR:HB	29:Z:36:GLU:OE2	2.20	0.41
30:b:53:VAL:HG23	30:b:54:ILE:CD1	2.50	0.41
36:i:201:GLU:OE2	37:j:111:ARG:NH1	2.53	0.41
39:l:11:ILE:HD12	39:l:11:ILE:N	2.35	0.41
43:p:22:ILE:HG21	43:p:95:THR:HG21	2.01	0.41
44:q:2:THR:HG22	44:q:4:ASN:H	1.85	0.41
44:q:120:ARG:O	44:q:122:LYS:N	2.54	0.41
52:y:56:ILE:HD12	52:y:59:ARG:HD3	2.02	0.41
1:1:302:C:H2'	1:1:303:G:H8	1.85	0.41
1:1:310:A:H5''	24:U:14:THR:OG1	2.20	0.41
1:1:608:A:C4	1:1:609:A:C8	3.09	0.41
1:1:819:A:O2'	1:1:820:A:H5'	2.20	0.41
1:1:941:A:H2'	1:1:942:G:O4'	2.21	0.41
1:1:1843:C:O2'	1:1:1844:C:H5'	2.20	0.41
1:1:2065:C:C2	1:1:2066:C:C5	3.08	0.41
1:1:2547:A:H2	1:1:2562:U:C2	2.38	0.41
2:2:481:G:O3'	2:2:483:C:N4	2.52	0.41
2:2:639:G:H2'	2:2:640:A:C8	2.55	0.41
3:3:35:C:H2'	3:3:36:C:C6	2.56	0.41
6:A:53:ARG:C	6:A:54:LYS:HD3	2.44	0.41
8:C:118:PHE:HE1	8:C:163:GLY:HA2	1.84	0.41
10:E:19:PHE:HE1	10:E:163:GLU:O	2.04	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:31:GLN:HE22	22:S:35:ILE:HD11	1.86	0.41
31:c:10:LEU:HD23	31:c:50:GLU:HA	2.03	0.41
41:n:57:VAL:HG23	55:n:202:HOH:O	2.19	0.41
42:o:84:VAL:O	55:o:201:HOH:O	2.21	0.41
1:1:989:G:C4	29:Z:13:ILE:HD11	2.56	0.41
1:1:1723:G:H2'	1:1:1724:G:O4'	2.21	0.41
1:1:1845:G:C6	1:1:1896:G:C6	3.08	0.41
1:1:1901:A:H4'	7:B:252:LYS:HD3	2.03	0.41
1:1:2591:C:C2	1:1:2592:G:N7	2.88	0.41
2:2:39:G:H2'	2:2:40:C:O5'	2.20	0.41
2:2:55:A:H62	2:2:357:G:H21	1.67	0.41
2:2:243:A:C2	2:2:246:A:C8	3.08	0.41
2:2:318:G:O6	2:2:336:A:N6	2.53	0.41
2:2:689:C:H2'	2:2:690:G:C8	2.54	0.41
2:2:959:A:H4'	2:2:984:C:O2'	2.21	0.41
2:2:1301:U:C2'	2:2:1302:C:OP1	2.69	0.41
2:2:1347:G:H3'	41:n:110:VAL:HA	2.01	0.41
2:2:1352:C:H42	2:2:1370:G:H1	1.69	0.41
3:3:24:G:N2	3:3:28:C:C2	2.89	0.41
3:3:66:A:H61	3:3:107:G:H2'	1.85	0.41
3:3:116:G:H4'	18:O:54:VAL:HG23	2.02	0.41
8:C:155:VAL:O	8:C:156:PHE:C	2.62	0.41
11:F:3:VAL:HG23	11:F:4:ALA:N	2.35	0.41
20:Q:30:VAL:HG12	20:Q:31:TYR:N	2.35	0.41
20:Q:61:ILE:HG23	20:Q:75:TYR:CE1	2.55	0.41
44:q:106:VAL:HG22	44:q:118:VAL:HG22	2.01	0.41
46:s:43:ALA:O	46:s:47:LEU:HG	2.20	0.41
1:1:812:C:H5''	1:1:1250:G:O2'	2.20	0.41
1:1:1317:G:H2'	1:1:1318:U:O4'	2.20	0.41
1:1:1636:U:O2'	1:1:1760:C:O2	2.32	0.41
1:1:1664:A:H2'	1:1:1664:A:N3	2.35	0.41
1:1:1868:C:C2'	1:1:1869:G:H5'	2.51	0.41
1:1:2060:A:O2'	1:1:2061:G:OP2	2.37	0.41
1:1:2334:U:O2'	18:O:13:ARG:NH2	2.54	0.41
1:1:2767:C:C2	1:1:2768:U:C5	3.09	0.41
2:2:148:G:C2	2:2:149:A:H1'	2.55	0.41
2:2:418:C:H2'	2:2:419:C:O4'	2.20	0.41
2:2:458:U:O4	2:2:459:A:N6	2.53	0.41
2:2:581:G:C8	2:2:758:C:N4	2.88	0.41
2:2:818:G:N7	2:2:820:U:H2'	2.36	0.41
2:2:867:G:C6	2:2:868:C:N4	2.89	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:980:C:C5	2:2:981:U:C4	3.08	0.41
2:2:1057:G:C4	2:2:1058:G:C8	3.08	0.41
2:2:1202:U:N3	46:s:81:ILE:HG21	2.35	0.41
2:2:1307:U:H6	45:r:97:ARG:N	2.18	0.41
2:2:1347:G:O2'	2:2:1373:G:O6	2.37	0.41
2:2:1355:G:H2'	2:2:1356:G:H8	1.86	0.41
2:2:1422:G:C2	2:2:1479:C:C2	3.09	0.41
7:B:30:ALA:O	7:B:33:LEU:HB2	2.20	0.41
8:C:189:VAL:HG22	8:C:190:LYS:N	2.36	0.41
14:K:70:ARG:HE	14:K:70:ARG:HB3	1.74	0.41
19:P:61:ARG:HH12	19:P:100:ARG:CG	2.33	0.41
23:T:30:ILE:HG22	23:T:31:VAL:N	2.35	0.41
34:f:37:GLN:O	34:f:38:GLY:C	2.63	0.41
37:j:46:GLY:HA3	37:j:70:MET:HA	2.01	0.41
42:o:61:ALA:C	42:o:62:ARG:HD2	2.45	0.41
1:1:563:A:OP1	20:Q:40:LYS:NZ	2.52	0.41
1:1:752:A:C5'	32:d:1:MET:HE1	2.51	0.41
1:1:1005:C:O2'	13:J:30:THR:HG21	2.20	0.41
1:1:1433:A:O2'	1:1:1434:A:H5'	2.21	0.41
1:1:1799:G:O2'	7:B:181:ARG:NH2	2.53	0.41
1:1:1901:A:OP2	7:B:252:LYS:NZ	2.53	0.41
1:1:1918:A:O2'	1:1:1920:C:N4	2.54	0.41
1:1:2214:C:H2'	1:1:2215:C:H5'	2.03	0.41
2:2:57:G:O6	2:2:356:A:C6	2.74	0.41
2:2:254:G:H2'	2:2:255:G:H8	1.84	0.41
2:2:582:C:N4	2:2:760:G:N7	2.68	0.41
2:2:604:G:C6	2:2:635:A:N6	2.89	0.41
2:2:1172:C:H2'	2:2:1173:U:H5'	2.02	0.41
2:2:1223:C:OP1	2:2:1224:U:H2'	2.20	0.41
2:2:1369:C:H2'	2:2:1370:G:C8	2.55	0.41
7:B:23:LEU:HD12	7:B:23:LEU:O	2.20	0.41
13:J:4:PHE:O	20:Q:63:ARG:NH2	2.43	0.41
14:K:61:VAL:O	14:K:85:VAL:N	2.53	0.41
22:S:2:GLU:HA	22:S:108:SER:OG	2.20	0.41
53:z:38:GLU:O	53:z:41:THR:N	2.54	0.41
1:1:136:G:C6	1:1:144:A:N1	2.88	0.41
1:1:543:G:C4	1:1:551:G:N2	2.89	0.41
1:1:1039:A:H2'	1:1:1040:A:O4'	2.21	0.41
1:1:1817:G:N1	1:1:1818:U:O2	2.54	0.41
1:1:1856:U:H2'	1:1:1857:G:O4'	2.20	0.41
1:1:2307:G:N1	10:E:38:GLY:O	2.54	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2547:A:C2'	1:1:2548:U:O4'	2.68	0.41
1:1:2872:A:H2'	1:1:2873:A:H5'	2.02	0.41
2:2:845:A:H1'	50:w:11:ARG:HG3	2.03	0.41
9:D:187:VAL:O	9:D:187:VAL:CG1	2.69	0.41
14:K:44:LYS:O	14:K:45:GLU:C	2.63	0.41
15:L:95:LEU:O	15:L:98:ALA:C	2.63	0.41
34:f:4:ARG:NH1	34:f:6:SER:O	2.53	0.41
35:h:8:GLY:HA2	35:h:11:LEU:HG	2.01	0.41
37:j:80:LEU:HD12	37:j:82:HIS:N	2.35	0.41
41:n:111:GLU:HG2	41:n:120:ALA:HB1	2.03	0.41
47:t:38:LEU:HD23	47:t:38:LEU:C	2.45	0.41
50:w:46:THR:OG1	50:w:51:GLN:OE1	2.39	0.41
1:1:111:A:H2'	1:1:112:U:O5'	2.20	0.41
1:1:126:A:OP1	32:d:13:ASN:OD1	2.39	0.41
1:1:279:A:H2'	1:1:280:U:C5'	2.51	0.41
1:1:315:G:H2'	1:1:316:C:O4'	2.21	0.41
1:1:1218:G:O2'	1:1:1219:U:H5'	2.21	0.41
1:1:1323:C:C2'	1:1:1324:G:H5'	2.51	0.41
1:1:1651:G:OP1	17:N:37:THR:HG21	2.21	0.41
1:1:1657:U:O2'	1:1:1658:C:H5'	2.21	0.41
1:1:1977:A:H2	7:B:13:ARG:HH22	1.69	0.41
1:1:2114:A:H3'	1:1:2115:G:H8	1.84	0.41
1:1:2245:U:H5''	1:1:2246:G:H5'	2.02	0.41
1:1:2682:A:C2'	1:1:2683:C:H5'	2.50	0.41
1:1:2785:C:H2'	1:1:2786:U:C6	2.56	0.41
2:2:149:A:C2	2:2:150:U:C6	3.09	0.41
2:2:436:C:H4'	36:i:152:SER:OG	2.21	0.41
2:2:719:C:H2'	50:w:38:ILE:CG2	2.50	0.41
2:2:948:C:C5	45:r:104:ASN:ND2	2.89	0.41
2:2:1127:G:C2	2:2:1128:C:C5	3.09	0.41
2:2:1168:U:O2	2:2:1168:U:H2'	2.21	0.41
55:2:1710:HOH:O	51:x:76:THR:CB	2.67	0.41
3:3:39:A:C2	3:3:44:G:N3	2.88	0.41
7:B:66:PHE:CZ	7:B:155:ARG:NH1	2.89	0.41
8:C:77:ARG:HG3	8:C:77:ARG:O	2.20	0.41
11:F:148:ARG:HA	11:F:161:VAL:CG2	2.51	0.41
15:L:78:ARG:HE	15:L:113:ALA:HB1	1.86	0.41
20:Q:48:ASP:O	20:Q:49:ARG:C	2.64	0.41
21:R:64:VAL:HG22	21:R:95:ASP:O	2.21	0.41
33:e:32:LEU:HD23	33:e:32:LEU:H	1.85	0.41
37:j:152:VAL:C	37:j:154:ALA:H	2.27	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:k:47:LEU:C	38:k:47:LEU:HD12	2.45	0.41
38:k:90:MET:HG2	55:k:201:HOH:O	2.15	0.41
39:l:110:ARG:NH1	39:l:125:ASP:OD2	2.53	0.41
41:n:25:GLY:HA3	41:n:57:VAL:C	2.46	0.41
41:n:38:PHE:CZ	41:n:47:VAL:HG11	2.56	0.41
1:1:21:A:N6	1:1:520:G:O6	2.54	0.41
1:1:76:C:C2	1:1:111:A:H2	2.39	0.41
1:1:77:G:C6	1:1:110:G:N1	2.88	0.41
1:1:117:G:C6	1:1:119:A:C6	3.09	0.41
1:1:138:U:H5'	1:1:141:G:O6	2.21	0.41
1:1:401:A:C6	1:1:402:A:C6	3.08	0.41
1:1:418:C:H2'	1:1:419:U:O4'	2.20	0.41
1:1:593:U:C2	1:1:594:U:C5	3.09	0.41
1:1:815:C:C2	1:1:1193:G:N2	2.89	0.41
1:1:856:G:N2	1:1:922:C:C2	2.88	0.41
1:1:955:U:H2'	1:1:956:G:O4'	2.21	0.41
1:1:970:U:N3	1:1:971:G:N7	2.69	0.41
1:1:1238:G:O2'	1:1:1239:G:H5'	2.20	0.41
1:1:1415:U:O2'	1:1:1416:G:H4'	2.20	0.41
1:1:1684:G:C4	1:1:1685:C:C5	3.08	0.41
1:1:2099:U:H2'	1:1:2100:G:H8	1.86	0.41
1:1:2206:C:C2	1:1:2207:C:C5	3.08	0.41
1:1:2373:G:C6	1:1:2374:C:N4	2.89	0.41
1:1:2488:G:H2'	1:1:2489:U:C6	2.56	0.41
1:1:2580:U:C5	1:1:2581:G:C6	3.09	0.41
1:1:2899:A:O2'	1:1:2900:A:H5'	2.21	0.41
2:2:412:A:H5''	2:2:413:G:OP2	2.21	0.41
2:2:429:U:O2	2:2:430:A:C8	2.74	0.41
2:2:472:U:H2'	2:2:473:U:O4'	2.21	0.41
2:2:933:G:N7	39:l:2:ARG:NH2	2.69	0.41
2:2:1248:A:N1	2:2:1290:G:C4	2.89	0.41
2:2:1308:U:OP2	45:r:98:GLY:O	2.39	0.41
2:2:1353:G:C2	2:2:1354:U:C6	3.09	0.41
3:3:24:G:N3	3:3:27:C:N4	2.69	0.41
5:5:14:A:H3'	5:5:15:G:H8	1.84	0.41
5:5:52:G:H2'	5:5:53:G:H8	1.86	0.41
7:B:89:ASN:C	7:B:90:ILE:HD13	2.45	0.41
7:B:244:VAL:HG12	7:B:250:GLN:HA	2.03	0.41
8:C:129:THR:H	8:C:129:THR:HG23	1.63	0.41
9:D:3:LEU:HD23	9:D:14:VAL:CG2	2.51	0.41
9:D:146:VAL:HG22	9:D:147:LEU:N	2.36	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:75:VAL:HG13	11:F:76:ILE:N	2.35	0.41
11:F:93:TYR:OH	11:F:151:ARG:NE	2.53	0.41
13:J:88:THR:OG1	13:J:89:PHE:N	2.54	0.41
14:K:52:VAL:HG12	14:K:53:LYS:N	2.36	0.41
16:M:84:LYS:CE	55:M:201:HOH:O	2.69	0.41
17:N:70:THR:O	17:N:71:ARG:C	2.64	0.41
20:Q:13:HIS:O	20:Q:16:ILE:HG22	2.21	0.41
22:S:29:VAL:HG23	22:S:51:LEU:HD21	2.03	0.41
35:h:135:ARG:O	35:h:139:ASN:ND2	2.34	0.41
35:h:156:LEU:N	35:h:195:ILE:HD12	2.36	0.41
41:n:97:LEU:HD11	41:n:102:PHE:CD2	2.56	0.41
42:o:26:VAL:O	42:o:30:LYS:HG2	2.21	0.41
42:o:50:THR:OG1	42:o:64:GLN:OE1	2.37	0.41
43:p:88:PRO:HG3	53:z:28:LEU:HD21	2.03	0.41
44:q:20:VAL:HG22	44:q:93:ARG:HG3	2.02	0.41
45:r:95:PRO:HG3	45:r:108:ARG:HB2	2.02	0.41
45:r:106:ARG:CZ	45:r:112:ARG:NH1	2.83	0.41
46:s:17:ASP:O	46:s:22:LYS:HG2	2.21	0.41
46:s:92:ILE:HG21	46:s:95:LEU:HD13	2.03	0.41
48:u:3:THR:OG1	48:u:66:THR:O	2.25	0.41
48:u:4:ILE:O	48:u:71:VAL:HG21	2.21	0.41
49:v:25:GLU:CB	49:v:40:THR:HG22	2.44	0.41
51:x:59:VAL:HG22	51:x:60:PHE:O	2.21	0.41
51:x:70:LEU:HD12	51:x:70:LEU:N	2.36	0.41
52:y:7:LYS:C	52:y:7:LYS:HD3	2.46	0.41
1:1:1:G:C2	1:1:2:G:N7	2.89	0.41
1:1:179:C:H2'	1:1:180:G:O4'	2.20	0.41
1:1:368:A:H2'	1:1:369:U:O4'	2.20	0.41
1:1:383:C:H5''	1:1:385:C:OP2	2.21	0.41
1:1:587:C:C2	15:L:19:LEU:HD23	2.55	0.41
1:1:729:G:C5	7:B:206:LYS:HG3	2.55	0.41
1:1:1465:G:C2'	1:1:1466:U:O5'	2.69	0.41
1:1:1473:G:C2	1:1:1519:G:N1	2.89	0.41
1:1:2099:U:H2'	1:1:2100:G:C8	2.56	0.41
1:1:2177:C:H2'	1:1:2178:C:O4'	2.20	0.41
1:1:2293:G:H2'	1:1:2294:G:O4'	2.21	0.41
1:1:2748:A:C2	1:1:2757:A:C5	3.09	0.41
2:2:37:U:H5'	44:q:120:ARG:HD3	2.03	0.41
2:2:130:A:C6	2:2:264:C:O2	2.74	0.41
2:2:739:C:H2'	2:2:740:U:C6	2.56	0.41
2:2:961:U:C2	2:2:983:A:C5	3.09	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1384:C:N4	2:2:1385:G:O6	2.54	0.41
7:B:49:THR:OG1	7:B:50:THR:N	2.54	0.41
8:C:122:VAL:HG21	8:C:141:ARG:HH21	1.86	0.41
11:F:42:VAL:HG22	11:F:43:LYS:N	2.35	0.41
17:N:56:LYS:HA	17:N:56:LYS:HE2	2.03	0.41
22:S:106:VAL:O	22:S:106:VAL:HG23	2.21	0.41
35:h:49:ALA:O	35:h:50:SER:OG	2.36	0.41
39:l:115:MET:O	39:l:119:LEU:HD22	2.20	0.41
41:n:5:TYR:HD2	41:n:20:ILE:HG23	1.85	0.41
43:p:81:LEU:HD22	43:p:104:PHE:CD1	2.55	0.41
44:q:97:VAL:O	44:q:97:VAL:HG13	2.21	0.41
46:s:4:SER:O	46:s:8:ARG:HG2	2.21	0.41
49:v:4:ILE:HG22	49:v:6:THR:H	1.86	0.41
1:1:323:C:H2'	1:1:1205:A:N1	2.36	0.40
1:1:739:A:N3	1:1:740:C:N4	2.61	0.40
1:1:847:U:O2	1:1:847:U:H2'	2.20	0.40
1:1:1100:C:H2'	1:1:1101:U:H1'	2.03	0.40
1:1:1166:G:C2	1:1:1184:U:O2	2.74	0.40
1:1:1186:G:H2'	1:1:1187:G:O4'	2.21	0.40
1:1:1283:G:C4	1:1:1285:A:OP2	2.74	0.40
1:1:1431:A:O2'	1:1:1432:G:H5'	2.21	0.40
1:1:1562:U:H2'	1:1:1563:U:O4'	2.22	0.40
1:1:1643:G:C2'	1:1:1644:C:O5'	2.70	0.40
1:1:1711:A:C5	1:1:1712:U:C4	3.10	0.40
1:1:2281:A:O2'	1:1:2282:G:H5'	2.21	0.40
1:1:2346:A:O4'	1:1:2383:G:H1'	2.21	0.40
1:1:2394:C:H42	5:5:76:A:H8	1.69	0.40
1:1:2766:A:H2'	1:1:2766:A:N3	2.36	0.40
1:1:2814:A:C5	1:1:2815:C:C5	3.08	0.40
2:2:138:G:N1	2:2:139:A:N6	2.69	0.40
2:2:382:A:C4	2:2:383:A:C8	3.09	0.40
2:2:439:U:O4'	36:i:118:SER:O	2.39	0.40
2:2:604:G:H2'	2:2:605:U:O4'	2.21	0.40
2:2:648:A:C2	2:2:649:A:C5	3.10	0.40
2:2:655:A:H2'	2:2:656:G:C8	2.56	0.40
2:2:825:A:O2'	40:m:8:ASP:OD1	2.39	0.40
2:2:958:A:OP1	51:x:54:ARG:NH1	2.54	0.40
2:2:1207:G:H2'	2:2:1208:C:H6	1.86	0.40
2:2:1221:G:H2'	2:2:1222:G:H5'	2.02	0.40
2:2:1248:A:C2	2:2:1290:G:N3	2.89	0.40
3:3:106:G:H2'	3:3:107:G:O4'	2.20	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:130:PRO:HA	7:B:187:CYS:O	2.21	0.40
16:M:2:LEU:N	16:M:2:LEU:HD12	2.36	0.40
29:Z:11:SER:OG	29:Z:12:ALA:N	2.54	0.40
33:e:26:ALA:O	33:e:28:LEU:N	2.51	0.40
37:j:119:VAL:HG11	37:j:122:VAL:CG2	2.50	0.40
39:l:90:VAL:HG21	39:l:95:ARG:HG3	2.03	0.40
40:m:27:PRO:O	40:m:32:LYS:HE3	2.21	0.40
44:q:33:CYS:CA	44:q:54:VAL:HG22	2.50	0.40
46:s:62:ARG:HB2	46:s:69:PRO:HA	2.03	0.40
1:1:25:U:C5	1:1:26:G:C6	3.09	0.40
1:1:538:A:H2'	1:1:539:G:O4'	2.21	0.40
1:1:682:G:H5'	32:d:26:ASN:ND2	2.36	0.40
1:1:792:A:C8	1:1:2440:C:C2	3.09	0.40
1:1:960:A:H5''	1:1:961:C:P	2.61	0.40
1:1:976:G:O2'	1:1:1155:A:O2'	2.31	0.40
1:1:1091:G:N2	1:1:1101:U:O2	2.54	0.40
1:1:1425:G:C2'	1:1:1426:G:O4'	2.69	0.40
1:1:1675:C:N4	8:C:134:HIS:CE1	2.90	0.40
1:1:2070:A:C4	1:1:2071:A:C8	3.09	0.40
1:1:2306:C:H42	10:E:38:GLY:C	2.27	0.40
1:1:2376:A:H2'	1:1:2377:A:O4'	2.20	0.40
1:1:2388:A:N7	1:1:2389:G:C6	2.90	0.40
2:2:28:A:H2'	2:2:29:U:O4'	2.20	0.40
2:2:37:U:OP1	44:q:120:ARG:NE	2.50	0.40
2:2:318:G:H2'	2:2:319:G:C8	2.56	0.40
2:2:376:G:H5''	48:u:5:ARG:HB2	2.04	0.40
2:2:482:A:H2'	2:2:483:C:O4'	2.21	0.40
2:2:489:C:H2'	2:2:490:C:C6	2.56	0.40
2:2:535:A:OP1	2:2:535:A:H2'	2.21	0.40
2:2:673:A:H2'	2:2:674:G:H8	1.83	0.40
2:2:864:A:N7	2:2:865:A:N6	2.69	0.40
2:2:1055:A:N1	2:2:1206:G:C8	2.89	0.40
2:2:1206:G:C4	2:2:1207:G:C8	3.09	0.40
2:2:1207:G:H2'	2:2:1208:C:O4'	2.21	0.40
3:3:65:U:H3'	3:3:108:A:H61	1.86	0.40
6:A:14:LYS:O	55:A:301:HOH:O	2.22	0.40
12:G:113:SER:O	12:G:116:ARG:NH1	2.54	0.40
21:R:2:TYR:CZ	21:R:42:ALA:HB3	2.55	0.40
1:1:139:U:H3'	1:1:141:G:H1'	2.03	0.40
1:1:528:A:H3'	1:1:528:A:C8	2.55	0.40
1:1:615:U:C4'	1:1:616:A:OP2	2.69	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:634:C:H2'	1:1:635:C:C6	2.56	0.40
1:1:640:C:O2'	1:1:641:U:H5'	2.21	0.40
1:1:869:G:C5	1:1:870:U:C5	3.10	0.40
1:1:1060:U:H4'	1:1:1061:U:H5'	2.03	0.40
1:1:1343:G:HO2'	1:1:1344:U:P	2.34	0.40
1:1:1427:A:H1'	1:1:1428:C:C5	2.57	0.40
1:1:2244:U:H2'	1:1:2245:U:O4'	2.21	0.40
1:1:2293:G:C6	1:1:2340:A:C6	3.09	0.40
1:1:2362:C:H2'	1:1:2363:G:O4'	2.21	0.40
1:1:2465:C:O2'	1:1:2466:C:H5'	2.22	0.40
1:1:2635:A:O2'	8:C:81:GLU:OE2	2.25	0.40
2:2:179:A:C2	2:2:180:U:C5	3.09	0.40
2:2:251:G:C4	2:2:252:U:H5	2.39	0.40
2:2:393:A:C2	2:2:394:G:C8	3.09	0.40
2:2:394:G:H2'	2:2:394:G:N3	2.36	0.40
2:2:409:U:H3'	2:2:410:G:H8	1.86	0.40
2:2:984:C:H2'	2:2:985:C:O4'	2.21	0.40
2:2:1065:U:C5	2:2:1190:G:C4	3.09	0.40
2:2:1158:C:C4	2:2:1160:G:C8	3.10	0.40
2:2:1236:A:C2	2:2:1237:C:C5	3.09	0.40
2:2:1520:C:O2'	2:2:1521:C:H5'	2.22	0.40
3:3:3:C:C2'	3:3:4:C:OP1	2.68	0.40
6:A:16:ASP:N	6:A:21:TYR:OH	2.54	0.40
7:B:156:SER:O	7:B:159:THR:OG1	2.36	0.40
14:K:20:MET:O	14:K:41:ILE:HB	2.22	0.40
15:L:124:GLY:C	15:L:125:LEU:HD12	2.46	0.40
17:N:57:THR:HG22	17:N:58:ASP:N	2.36	0.40
19:P:22:GLY:C	19:P:89:GLY:HA3	2.46	0.40
20:Q:61:ILE:HG23	20:Q:75:TYR:CZ	2.55	0.40
35:h:151:GLU:O	35:h:197:VAL:HA	2.21	0.40
46:s:46:LYS:O	46:s:50:LEU:HG	2.21	0.40
48:u:43:ALA:HB1	48:u:46:LYS:HG2	2.03	0.40
1:1:862:G:H2'	1:1:863:A:O4'	2.22	0.40
1:1:935:C:O2'	1:1:936:A:H5'	2.21	0.40
1:1:948:C:O2	1:1:984:A:O2'	2.30	0.40
1:1:1000:A:OP2	1:1:1154:G:N1	2.39	0.40
1:1:1322:A:C5	1:1:1323:C:C5	3.09	0.40
1:1:1658:C:OP1	8:C:140:HIS:NE2	2.54	0.40
1:1:1788:C:OP1	7:B:220:ARG:NH2	2.53	0.40
1:1:2197:U:O2'	1:1:2198:A:H2'	2.21	0.40
1:1:2366:A:H2'	1:1:2367:G:O4'	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:350:G:H2'	2:2:351:G:C8	2.56	0.40
2:2:503:C:H2'	2:2:504:C:C6	2.56	0.40
2:2:570:G:H2'	2:2:571:U:C6	2.57	0.40
2:2:773:G:C6	2:2:807:A:N6	2.90	0.40
2:2:936:C:N3	2:2:937:A:C8	2.89	0.40
2:2:977:A:OP1	46:s:60:ARG:NH1	2.53	0.40
2:2:1000:A:C2	2:2:1041:G:C6	3.10	0.40
2:2:1130:A:H2'	2:2:1131:G:O4'	2.21	0.40
2:2:1333:A:H3'	2:2:1334:G:C8	2.57	0.40
2:2:1464:U:OP1	19:P:108:ARG:NH1	2.45	0.40
2:2:1476:A:C6	2:2:1477:U:C4	3.09	0.40
3:3:42:C:C5	10:E:65:LEU:HD22	2.57	0.40
5:5:23:C:H2'	5:5:24:G:H8	1.87	0.40
6:A:166:ASP:HB2	6:A:170:ILE:O	2.21	0.40
7:B:216:ARG:CG	7:B:217:PRO:HD2	2.52	0.40
8:C:62:LYS:N	8:C:63:PRO:CD	2.84	0.40
27:X:54:GLY:O	27:X:58:ILE:HG22	2.21	0.40
41:n:43:ALA:HB3	41:n:75:ALA:HB3	2.04	0.40
43:p:19:VAL:HG12	43:p:20:ALA:N	2.36	0.40
43:p:71:ASP:O	43:p:72:ALA:HB3	2.21	0.40
43:p:111:ASP:HB2	53:z:19:LYS:HE2	2.03	0.40
44:q:31:GLY:HA3	44:q:54:VAL:HG11	2.03	0.40
52:y:11:ILE:HA	52:y:14:GLU:HG2	2.04	0.40
53:z:61:ARG:O	53:z:62:GLU:C	2.63	0.40
1:1:226:A:H5''	1:1:227:A:OP2	2.22	0.40
1:1:501:A:C2'	1:1:502:A:O5'	2.70	0.40
1:1:973:A:O4'	1:1:1188:U:C6	2.75	0.40
1:1:1058:U:H1'	55:1:3373:HOH:O	2.21	0.40
1:1:1074:G:C2	1:1:1075:C:C5	3.10	0.40
1:1:1266:G:C8	22:S:15:GLN:HG2	2.56	0.40
1:1:1349:C:C2	1:1:1350:C:C5	3.09	0.40
1:1:1661:G:H2'	1:1:1662:U:O4'	2.21	0.40
1:1:1795:C:H2'	1:1:1796:U:O4'	2.21	0.40
1:1:1948:G:C6	1:1:1959:G:C6	3.09	0.40
1:1:2013:A:O2'	1:1:2014:A:H5'	2.22	0.40
1:1:2081:U:H2'	1:1:2082:A:H8	1.87	0.40
1:1:2435:A:H2'	1:1:2436:G:O5'	2.22	0.40
1:1:2543:G:C6	1:1:2765:A:C5	3.09	0.40
1:1:2686:G:H2'	1:1:2687:U:O4'	2.22	0.40
2:2:112:G:H2'	2:2:112:G:N3	2.37	0.40
2:2:404:G:OP2	36:i:114:ARG:NH1	2.54	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:423:G:N2	2:2:424:G:N7	2.69	0.40
2:2:447:G:H22	2:2:486:U:H3'	1.87	0.40
2:2:610:U:H5''	2:2:611:C:P	2.62	0.40
2:2:640:A:N7	2:2:641:U:H5	2.20	0.40
2:2:1175:G:H2'	2:2:1176:A:C8	2.56	0.40
2:2:1359:C:O4'	2:2:1362:A:N6	2.53	0.40
12:G:2:GLN:O	12:G:39:ALA:HB2	2.22	0.40
21:R:57:GLY:O	21:R:58:VAL:C	2.64	0.40
23:T:31:VAL:O	23:T:31:VAL:HG13	2.21	0.40
34:f:13:ASN:O	34:f:27:CYS:HA	2.22	0.40
38:k:41:ASP:OD1	38:k:60:VAL:HG22	2.22	0.40
40:m:89:ASP:N	40:m:89:ASP:OD1	2.53	0.40
43:p:87:GLY:H	43:p:113:THR:HA	1.86	0.40
46:s:91:GLU:CD	46:s:91:GLU:N	2.80	0.40
47:t:31:LEU:O	47:t:35:ILE:HG12	2.20	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	130/223 (58%)	122 (94%)	8 (6%)	0	100	100
7	B	269/271 (99%)	223 (83%)	45 (17%)	1 (0%)	30	60
8	C	207/209 (99%)	177 (86%)	28 (14%)	2 (1%)	13	39
9	D	199/201 (99%)	167 (84%)	29 (15%)	3 (2%)	8	30
10	E	175/177 (99%)	150 (86%)	25 (14%)	0	100	100
11	F	174/176 (99%)	162 (93%)	11 (6%)	1 (1%)	22	50
12	G	147/149 (99%)	138 (94%)	9 (6%)	0	100	100
13	J	140/142 (99%)	121 (86%)	18 (13%)	1 (1%)	19	47

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	K	120/122 (98%)	101 (84%)	17 (14%)	2 (2%)	7	28
15	L	141/143 (99%)	111 (79%)	26 (18%)	4 (3%)	4	20
16	M	134/136 (98%)	115 (86%)	17 (13%)	2 (2%)	8	30
17	N	118/120 (98%)	96 (81%)	22 (19%)	0	100	100
18	O	114/116 (98%)	103 (90%)	11 (10%)	0	100	100
19	P	112/114 (98%)	102 (91%)	10 (9%)	0	100	100
20	Q	115/117 (98%)	107 (93%)	8 (7%)	0	100	100
21	R	101/103 (98%)	89 (88%)	12 (12%)	0	100	100
22	S	108/110 (98%)	95 (88%)	13 (12%)	0	100	100
23	T	91/93 (98%)	80 (88%)	11 (12%)	0	100	100
24	U	100/102 (98%)	87 (87%)	13 (13%)	0	100	100
25	V	92/94 (98%)	83 (90%)	8 (9%)	1 (1%)	12	37
26	W	73/75 (97%)	63 (86%)	10 (14%)	0	100	100
27	X	75/77 (97%)	64 (85%)	10 (13%)	1 (1%)	10	33
28	Y	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
29	Z	56/58 (97%)	54 (96%)	2 (4%)	0	100	100
30	b	54/56 (96%)	47 (87%)	7 (13%)	0	100	100
31	c	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
32	d	44/46 (96%)	38 (86%)	6 (14%)	0	100	100
33	e	62/64 (97%)	52 (84%)	8 (13%)	2 (3%)	3	18
34	f	36/38 (95%)	28 (78%)	7 (19%)	1 (3%)	4	20
35	h	204/206 (99%)	187 (92%)	17 (8%)	0	100	100
36	i	203/205 (99%)	182 (90%)	21 (10%)	0	100	100
37	j	155/157 (99%)	134 (86%)	20 (13%)	1 (1%)	22	50
38	k	98/100 (98%)	86 (88%)	12 (12%)	0	100	100
39	l	149/151 (99%)	144 (97%)	5 (3%)	0	100	100
40	m	127/129 (98%)	111 (87%)	16 (13%)	0	100	100
41	n	125/127 (98%)	112 (90%)	13 (10%)	0	100	100
42	o	96/98 (98%)	77 (80%)	19 (20%)	0	100	100
43	p	114/116 (98%)	99 (87%)	13 (11%)	2 (2%)	7	27
44	q	121/123 (98%)	93 (77%)	27 (22%)	1 (1%)	16	44

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	r	112/114 (98%)	97 (87%)	15 (13%)	0	100	100
46	s	98/100 (98%)	90 (92%)	8 (8%)	0	100	100
47	t	86/88 (98%)	77 (90%)	9 (10%)	0	100	100
48	u	80/82 (98%)	71 (89%)	9 (11%)	0	100	100
49	v	78/80 (98%)	60 (77%)	18 (23%)	0	100	100
50	w	63/65 (97%)	59 (94%)	4 (6%)	0	100	100
51	x	77/79 (98%)	64 (83%)	12 (16%)	1 (1%)	10	33
52	y	83/85 (98%)	78 (94%)	5 (6%)	0	100	100
53	z	63/65 (97%)	47 (75%)	14 (22%)	2 (3%)	3	18
All	All	5428/5615 (97%)	4745 (87%)	655 (12%)	28 (0%)	27	54

All (28) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	K	25	LEU
16	M	27	SER
33	e	27	ASN
53	z	9	GLU
7	B	5	CYS
13	J	81	ILE
43	p	88	PRO
43	p	114	PRO
53	z	10	PRO
8	C	131	ASP
9	D	80	SER
15	L	35	HIS
15	L	128	THR
25	V	82	TYR
33	e	7	ARG
44	q	23	LEU
8	C	156	PHE
14	K	30	ARG
16	M	15	GLY
27	X	64	ASP
9	D	79	ARG
11	F	174	LYS
15	L	99	ASN
15	L	103	ILE
37	j	159	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	f	37	GLN
51	x	27	LYS
9	D	83	VAL

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	110/174 (63%)	109 (99%)	1 (1%)	75	86
7	B	216/216 (100%)	214 (99%)	2 (1%)	75	86
8	C	164/164 (100%)	163 (99%)	1 (1%)	84	90
9	D	165/165 (100%)	161 (98%)	4 (2%)	44	66
10	E	148/148 (100%)	147 (99%)	1 (1%)	81	88
11	F	137/137 (100%)	134 (98%)	3 (2%)	47	68
12	G	114/114 (100%)	114 (100%)	0	100	100
13	J	116/116 (100%)	116 (100%)	0	100	100
14	K	103/103 (100%)	101 (98%)	2 (2%)	52	71
15	L	102/102 (100%)	101 (99%)	1 (1%)	73	83
16	M	109/109 (100%)	108 (99%)	1 (1%)	75	86
17	N	100/100 (100%)	100 (100%)	0	100	100
18	O	86/86 (100%)	85 (99%)	1 (1%)	67	80
19	P	99/99 (100%)	99 (100%)	0	100	100
20	Q	89/89 (100%)	89 (100%)	0	100	100
21	R	84/84 (100%)	83 (99%)	1 (1%)	67	80
22	S	93/93 (100%)	92 (99%)	1 (1%)	70	81
23	T	80/80 (100%)	80 (100%)	0	100	100
24	U	83/83 (100%)	82 (99%)	1 (1%)	67	80
25	V	78/78 (100%)	78 (100%)	0	100	100
26	W	57/57 (100%)	57 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	X	67/67 (100%)	64 (96%)	3 (4%)	23	50
28	Y	55/55 (100%)	54 (98%)	1 (2%)	54	73
29	Z	48/48 (100%)	47 (98%)	1 (2%)	48	69
30	b	47/47 (100%)	46 (98%)	1 (2%)	48	69
31	c	45/45 (100%)	45 (100%)	0	100	100
32	d	38/38 (100%)	38 (100%)	0	100	100
33	e	51/51 (100%)	47 (92%)	4 (8%)	10	33
34	f	34/34 (100%)	34 (100%)	0	100	100
35	h	170/170 (100%)	168 (99%)	2 (1%)	67	80
36	i	172/172 (100%)	169 (98%)	3 (2%)	56	74
37	j	119/119 (100%)	119 (100%)	0	100	100
38	k	87/87 (100%)	87 (100%)	0	100	100
39	l	124/124 (100%)	124 (100%)	0	100	100
40	m	104/104 (100%)	102 (98%)	2 (2%)	52	71
41	n	105/105 (100%)	102 (97%)	3 (3%)	37	61
42	o	86/86 (100%)	86 (100%)	0	100	100
43	p	89/89 (100%)	87 (98%)	2 (2%)	47	68
44	q	103/103 (100%)	103 (100%)	0	100	100
45	r	92/92 (100%)	92 (100%)	0	100	100
46	s	83/83 (100%)	83 (100%)	0	100	100
47	t	76/76 (100%)	76 (100%)	0	100	100
48	u	65/65 (100%)	64 (98%)	1 (2%)	60	76
49	v	74/74 (100%)	74 (100%)	0	100	100
50	w	56/56 (100%)	56 (100%)	0	100	100
51	x	70/70 (100%)	70 (100%)	0	100	100
52	y	65/65 (100%)	65 (100%)	0	100	100
53	z	55/55 (100%)	54 (98%)	1 (2%)	54	73
All	All	4513/4577 (99%)	4469 (99%)	44 (1%)	71	83

All (44) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	A	50	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	B	2	VAL
7	B	129	LEU
8	C	161	MET
9	D	79	ARG
9	D	83	VAL
9	D	84	THR
9	D	126	VAL
10	E	59	ILE
11	F	88	LEU
11	F	103	ASN
11	F	104	LEU
14	K	24	VAL
14	K	71	ARG
15	L	68	SER
16	M	26	VAL
18	O	63	LYS
21	R	79	ARG
22	S	4	ILE
24	U	88	ASP
27	X	60	LYS
27	X	63	ILE
27	X	64	ASP
28	Y	2	LYS
29	Z	3	THR
30	b	31	LYS
33	e	27	ASN
33	e	28	LEU
33	e	32	LEU
33	e	33	THR
35	h	151	GLU
35	h	152	VAL
36	i	19	PHE
36	i	20	LEU
36	i	24	VAL
40	m	74	ILE
40	m	75	GLN
41	n	54	VAL
41	n	55	ASP
41	n	56	MET
43	p	30	ILE
43	p	113	THR
48	u	71	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	z	9	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (56) such sidechains are listed below:

Mol	Chain	Res	Type
6	A	57	GLN
6	A	67	HIS
6	A	160	GLN
6	A	203	GLN
7	B	116	GLN
7	B	199	HIS
7	B	242	HIS
8	C	49	GLN
8	C	164	GLN
8	C	167	ASN
10	E	22	ASN
12	G	145	ASN
13	J	80	HIS
14	K	29	HIS
16	M	97	GLN
18	O	38	GLN
18	O	104	GLN
19	P	14	GLN
19	P	74	GLN
19	P	76	HIS
19	P	114	ASN
20	Q	43	GLN
20	Q	58	GLN
20	Q	71	ASN
21	R	43	ASN
21	R	82	HIS
22	S	60	HIS
24	U	52	ASN
26	W	8	ASN
26	W	42	HIS
26	W	53	HIS
28	Y	45	GLN
29	Z	8	GLN
29	Z	48	ASN
30	b	41	HIS
32	d	26	ASN
35	h	184	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	i	84	ASN
36	i	99	ASN
36	i	115	GLN
37	j	131	ASN
38	k	68	GLN
40	m	37	ASN
40	m	75	GLN
41	n	30	ASN
42	o	99	GLN
43	p	21	HIS
43	p	27	ASN
43	p	37	GLN
44	q	45	ASN
44	q	71	HIS
48	u	9	HIS
48	u	26	ASN
48	u	29	ASN
50	w	73	HIS
51	x	13	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2902/2903 (99%)	621 (21%)	32 (1%)
2	2	1538/1539 (99%)	401 (26%)	16 (1%)
3	3	119/120 (99%)	16 (13%)	0
4	4	3/18 (16%)	1 (33%)	0
5	5	76/77 (98%)	41 (53%)	5 (6%)
All	All	4638/4657 (99%)	1080 (23%)	53 (1%)

All (1080) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	10	A
1	1	12	U
1	1	15	G
1	1	34	U
1	1	42	A
1	1	46	G
1	1	50	U
1	1	51	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	62	U
1	1	63	A
1	1	71	A
1	1	74	A
1	1	75	G
1	1	89	A
1	1	93	G
1	1	96	C
1	1	98	G
1	1	101	A
1	1	103	A
1	1	112	U
1	1	118	A
1	1	120	U
1	1	125	A
1	1	138	U
1	1	140	C
1	1	141	G
1	1	142	A
1	1	162	U
1	1	163	C
1	1	166	U
1	1	176	A
1	1	181	A
1	1	196	A
1	1	204	A
1	1	205	G
1	1	216	A
1	1	222	A
1	1	226	A
1	1	233	A
1	1	237	C
1	1	247	G
1	1	248	G
1	1	250	G
1	1	255	A
1	1	265	A
1	1	266	G
1	1	273	G
1	1	276	U
1	1	277	G
1	1	279	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	280	U
1	1	281	C
1	1	285	G
1	1	286	U
1	1	294	A
1	1	311	A
1	1	322	A
1	1	323	C
1	1	324	A
1	1	329	G
1	1	330	A
1	1	346	A
1	1	349	U
1	1	361	G
1	1	362	A
1	1	365	U
1	1	371	A
1	1	372	G
1	1	373	U
1	1	379	G
1	1	380	G
1	1	386	G
1	1	387	U
1	1	388	G
1	1	390	U
1	1	391	A
1	1	396	G
1	1	400	G
1	1	404	A
1	1	405	U
1	1	406	G
1	1	411	G
1	1	412	A
1	1	418	C
1	1	424	G
1	1	446	G
1	1	447	A
1	1	451	U
1	1	456	C
1	1	464	U
1	1	465	G
1	1	466	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	468	G
1	1	480	A
1	1	481	G
1	1	489	G
1	1	490	C
1	1	491	G
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	527	C
1	1	528	A
1	1	529	A
1	1	532	A
1	1	542	C
1	1	544	C
1	1	545	U
1	1	546	U
1	1	547	A
1	1	549	G
1	1	550	C
1	1	558	U
1	1	563	A
1	1	572	A
1	1	573	U
1	1	574	A
1	1	575	A
1	1	587	C
1	1	593	U
1	1	603	A
1	1	614	A
1	1	616	A
1	1	627	A
1	1	631	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	671	C
1	1	678	C
1	1	684	G
1	1	685	A
1	1	686	U
1	1	687	C
1	1	696	G
1	1	704	G
1	1	711	G
1	1	714	U
1	1	730	A
1	1	732	C
1	1	746	U
1	1	747	C
1	1	763	G
1	1	765	C
1	1	774	G
1	1	775	G
1	1	776	G
1	1	777	G
1	1	781	A
1	1	782	A
1	1	783	A
1	1	784	G
1	1	785	G
1	1	800	A
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	836	G
1	1	845	A
1	1	846	U
1	1	847	U
1	1	857	G
1	1	858	G
1	1	859	G
1	1	866	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	877	A
1	1	878	A
1	1	883	G
1	1	885	C
1	1	886	A
1	1	887	U
1	1	890	C
1	1	896	A
1	1	897	C
1	1	898	C
1	1	907	G
1	1	910	A
1	1	915	C
1	1	932	U
1	1	934	U
1	1	941	A
1	1	945	A
1	1	946	C
1	1	953	G
1	1	957	C
1	1	961	C
1	1	965	C
1	1	967	U
1	1	973	A
1	1	974	G
1	1	982	C
1	1	983	A
1	1	988	A
1	1	989	G
1	1	990	A
1	1	991	C
1	1	995	C
1	1	996	A
1	1	1005	C
1	1	1012	U
1	1	1013	C
1	1	1021	A
1	1	1022	G
1	1	1023	U
1	1	1033	U
1	1	1040	A
1	1	1045	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1047	G
1	1	1053	C
1	1	1056	G
1	1	1060	U
1	1	1062	G
1	1	1064	C
1	1	1065	U
1	1	1066	U
1	1	1067	A
1	1	1068	G
1	1	1070	A
1	1	1072	C
1	1	1073	A
1	1	1079	C
1	1	1080	A
1	1	1081	U
1	1	1082	U
1	1	1083	U
1	1	1084	A
1	1	1085	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	1097	U
1	1	1098	A
1	1	1101	U
1	1	1102	C
1	1	1104	C
1	1	1111	A
1	1	1128	G
1	1	1129	A
1	1	1133	A
1	1	1134	A
1	1	1135	C
1	1	1139	G
1	1	1142	A
1	1	1143	A
1	1	1169	A
1	1	1174	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1175	A
1	1	1176	U
1	1	1177	G
1	1	1178	C
1	1	1180	U
1	1	1199	U
1	1	1204	A
1	1	1212	G
1	1	1218	G
1	1	1223	G
1	1	1235	G
1	1	1247	A
1	1	1248	G
1	1	1252	G
1	1	1253	A
1	1	1255	U
1	1	1256	G
1	1	1271	G
1	1	1272	A
1	1	1273	U
1	1	1289	C
1	1	1290	C
1	1	1296	G
1	1	1300	G
1	1	1301	A
1	1	1302	A
1	1	1325	U
1	1	1326	U
1	1	1328	A
1	1	1329	U
1	1	1330	C
1	1	1343	G
1	1	1344	U
1	1	1345	C
1	1	1352	U
1	1	1357	C
1	1	1360	G
1	1	1365	A
1	1	1379	U
1	1	1380	G
1	1	1383	A
1	1	1394	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1395	A
1	1	1396	U
1	1	1403	A
1	1	1416	G
1	1	1420	A
1	1	1425	G
1	1	1427	A
1	1	1428	C
1	1	1437	C
1	1	1451	C
1	1	1452	G
1	1	1453	A
1	1	1454	C
1	1	1455	G
1	1	1456	G
1	1	1458	U
1	1	1461	C
1	1	1466	U
1	1	1467	U
1	1	1469	A
1	1	1476	U
1	1	1482	G
1	1	1490	A
1	1	1497	U
1	1	1506	U
1	1	1508	A
1	1	1515	A
1	1	1522	A
1	1	1524	G
1	1	1534	U
1	1	1536	C
1	1	1555	G
1	1	1558	C
1	1	1560	G
1	1	1566	A
1	1	1567	G
1	1	1569	A
1	1	1571	A
1	1	1581	G
1	1	1583	A
1	1	1584	U
1	1	1598	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	1662	U
1	1	1663	G
1	1	1665	A
1	1	1672	A
1	1	1674	G
1	1	1681	G
1	1	1689	A
1	1	1698	A
1	1	1700	A
1	1	1713	A
1	1	1715	G
1	1	1727	C
1	1	1729	U
1	1	1730	C
1	1	1731	G
1	1	1733	G
1	1	1735	A
1	1	1738	G
1	1	1758	U
1	1	1764	C
1	1	1768	C
1	1	1772	A
1	1	1773	A
1	1	1780	A
1	1	1781	U
1	1	1784	A
1	1	1785	A
1	1	1800	C
1	1	1801	A
1	1	1802	A
1	1	1805	A
1	1	1808	A
1	1	1811	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1816	C
1	1	1819	A
1	1	1820	U
1	1	1829	A
1	1	1830	C
1	1	1847	A
1	1	1858	A
1	1	1869	G
1	1	1878	G
1	1	1901	A
1	1	1906	G
1	1	1907	G
1	1	1912	A
1	1	1913	A
1	1	1914	C
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	1955	U
1	1	1967	C
1	1	1970	A
1	1	1971	U
1	1	1972	G
1	1	1982	U
1	1	1991	U
1	1	1997	C
1	1	2000	C
1	1	2022	U
1	1	2023	C
1	1	2031	A
1	1	2032	G
1	1	2033	A
1	1	2034	U
1	1	2043	C
1	1	2049	G
1	1	2055	C
1	1	2056	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2060	A
1	1	2061	G
1	1	2062	A
1	1	2068	U
1	1	2069	G
1	1	2072	C
1	1	2083	G
1	1	2092	U
1	1	2095	A
1	1	2100	G
1	1	2108	A
1	1	2109	U
1	1	2110	G
1	1	2111	U
1	1	2112	G
1	1	2115	G
1	1	2117	A
1	1	2118	U
1	1	2119	A
1	1	2122	U
1	1	2126	A
1	1	2131	U
1	1	2132	U
1	1	2133	G
1	1	2134	A
1	1	2136	G
1	1	2139	U
1	1	2145	C
1	1	2146	C
1	1	2147	A
1	1	2154	A
1	1	2157	G
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	2171	A
1	1	2172	U
1	1	2173	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2183	A
1	1	2204	G
1	1	2207	C
1	1	2211	A
1	1	2213	U
1	1	2214	C
1	1	2227	A
1	1	2228	G
1	1	2229	U
1	1	2238	G
1	1	2239	G
1	1	2245	U
1	1	2246	G
1	1	2250	G
1	1	2258	C
1	1	2266	A
1	1	2269	G
1	1	2271	G
1	1	2279	G
1	1	2283	C
1	1	2286	G
1	1	2287	A
1	1	2297	A
1	1	2305	U
1	1	2307	G
1	1	2309	A
1	1	2311	A
1	1	2322	A
1	1	2325	G
1	1	2327	A
1	1	2328	A
1	1	2329	U
1	1	2333	A
1	1	2335	A
1	1	2336	A
1	1	2344	U
1	1	2347	C
1	1	2350	C
1	1	2359	C
1	1	2361	G
1	1	2371	G
1	1	2379	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2382	G
1	1	2383	G
1	1	2385	C
1	1	2388	A
1	1	2391	G
1	1	2395	C
1	1	2402	U
1	1	2403	C
1	1	2406	A
1	1	2407	A
1	1	2420	C
1	1	2423	U
1	1	2425	A
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	2469	A
1	1	2475	C
1	1	2476	A
1	1	2482	A
1	1	2484	G
1	1	2490	G
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
1	1	2504	U
1	1	2505	G
1	1	2518	A
1	1	2520	C
1	1	2531	A
1	1	2535	G
1	1	2543	G
1	1	2547	A
1	1	2549	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	2573	C
1	1	2574	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	2629	U
1	1	2630	G
1	1	2646	C
1	1	2656	U
1	1	2662	A
1	1	2663	G
1	1	2671	G
1	1	2672	U
1	1	2677	G
1	1	2682	A
1	1	2689	U
1	1	2690	U
1	1	2691	C
1	1	2714	G
1	1	2718	G
1	1	2720	U
1	1	2722	G
1	1	2723	C
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	2751	G
1	1	2755	C
1	1	2759	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	2800	A
1	1	2807	U
1	1	2818	U
1	1	2820	A
1	1	2821	A
1	1	2833	U
1	1	2834	G
1	1	2848	G
1	1	2849	U
1	1	2850	A
1	1	2866	U
1	1	2867	G
1	1	2868	A
1	1	2879	A
1	1	2883	A
1	1	2893	A
1	1	2894	G
2	2	5	U
2	2	8	A
2	2	9	G
2	2	27	G
2	2	30	U
2	2	31	G
2	2	32	A
2	2	39	G
2	2	40	C
2	2	44	A
2	2	45	G
2	2	47	C
2	2	48	C
2	2	50	A
2	2	51	A
2	2	56	U
2	2	64	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	71	A
2	2	72	A
2	2	76	G
2	2	82	G
2	2	83	C
2	2	84	U
2	2	88	U
2	2	107	G
2	2	109	A
2	2	110	C
2	2	111	G
2	2	112	G
2	2	120	A
2	2	121	U
2	2	122	G
2	2	123	U
2	2	126	G
2	2	127	G
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	155	A
2	2	160	A
2	2	175	C
2	2	182	A
2	2	183	C
2	2	184	G
2	2	185	U
2	2	189	A
2	2	191	G
2	2	195	A
2	2	209	U
2	2	210	C
2	2	212	G
2	2	226	G
2	2	243	A
2	2	247	G
2	2	249	U
2	2	250	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	251	G
2	2	252	U
2	2	253	A
2	2	259	G
2	2	261	U
2	2	264	C
2	2	266	G
2	2	267	C
2	2	281	G
2	2	289	G
2	2	298	A
2	2	299	G
2	2	303	A
2	2	308	C
2	2	316	C
2	2	325	A
2	2	328	C
2	2	329	A
2	2	332	G
2	2	345	C
2	2	346	G
2	2	347	G
2	2	350	G
2	2	352	C
2	2	353	A
2	2	354	G
2	2	355	C
2	2	363	A
2	2	364	A
2	2	367	U
2	2	368	U
2	2	369	G
2	2	372	C
2	2	387	U
2	2	388	G
2	2	389	A
2	2	394	G
2	2	398	U
2	2	406	G
2	2	411	A
2	2	413	G
2	2	414	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	419	C
2	2	422	C
2	2	423	G
2	2	426	U
2	2	428	G
2	2	429	U
2	2	441	A
2	2	442	G
2	2	446	G
2	2	448	A
2	2	462	G
2	2	467	U
2	2	478	A
2	2	481	G
2	2	484	G
2	2	486	U
2	2	497	G
2	2	506	G
2	2	508	U
2	2	511	C
2	2	513	C
2	2	516	U
2	2	518	C
2	2	519	C
2	2	521	G
2	2	524	G
2	2	526	C
2	2	527	G
2	2	529	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	564	C
2	2	566	G
2	2	570	G
2	2	571	U
2	2	573	A
2	2	575	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	576	C
2	2	577	G
2	2	578	C
2	2	587	G
2	2	599	C
2	2	600	A
2	2	601	G
2	2	607	A
2	2	609	A
2	2	611	C
2	2	615	G
2	2	618	C
2	2	627	G
2	2	633	G
2	2	645	G
2	2	652	U
2	2	653	U
2	2	654	G
2	2	657	U
2	2	665	A
2	2	687	A
2	2	693	G
2	2	702	A
2	2	703	G
2	2	704	A
2	2	707	U
2	2	713	G
2	2	718	A
2	2	723	U
2	2	724	G
2	2	728	A
2	2	729	A
2	2	731	G
2	2	733	G
2	2	734	G
2	2	747	A
2	2	752	G
2	2	753	A
2	2	755	G
2	2	768	A
2	2	777	A
2	2	781	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	787	A
2	2	790	A
2	2	792	A
2	2	793	U
2	2	794	A
2	2	796	C
2	2	813	U
2	2	814	A
2	2	817	C
2	2	818	G
2	2	819	A
2	2	828	U
2	2	834	U
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	850	U
2	2	857	C
2	2	858	G
2	2	872	A
2	2	873	A
2	2	874	G
2	2	875	U
2	2	876	C
2	2	882	C
2	2	885	G
2	2	902	G
2	2	913	A
2	2	914	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	957	U
2	2	958	A
2	2	960	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	961	U
2	2	964	A
2	2	965	U
2	2	966	G
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	989	U
2	2	992	U
2	2	993	G
2	2	994	A
2	2	995	C
2	2	996	A
2	2	999	C
2	2	1003	G
2	2	1004	A
2	2	1005	A
2	2	1006	G
2	2	1007	U
2	2	1008	U
2	2	1011	C
2	2	1012	A
2	2	1014	A
2	2	1015	G
2	2	1016	A
2	2	1017	U
2	2	1020	G
2	2	1021	A
2	2	1022	A
2	2	1023	U
2	2	1024	G
2	2	1027	C
2	2	1028	C
2	2	1033	G
2	2	1035	A
2	2	1036	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1037	C
2	2	1044	A
2	2	1053	G
2	2	1054	C
2	2	1055	A
2	2	1064	G
2	2	1065	U
2	2	1066	C
2	2	1070	U
2	2	1079	G
2	2	1081	A
2	2	1085	U
2	2	1090	U
2	2	1091	U
2	2	1092	A
2	2	1094	G
2	2	1095	U
2	2	1101	A
2	2	1108	G
2	2	1110	A
2	2	1115	U
2	2	1119	C
2	2	1124	G
2	2	1125	U
2	2	1126	U
2	2	1130	A
2	2	1136	C
2	2	1137	C
2	2	1138	G
2	2	1139	G
2	2	1142	G
2	2	1146	A
2	2	1149	C
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1179	A
2	2	1181	G
2	2	1182	G
2	2	1183	U
2	2	1185	G
2	2	1190	G
2	2	1193	G
2	2	1196	A
2	2	1197	A
2	2	1201	A
2	2	1207	G
2	2	1212	U
2	2	1213	A
2	2	1222	G
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	1241	G
2	2	1257	A
2	2	1258	G
2	2	1261	A
2	2	1268	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	1300	G
2	2	1302	C
2	2	1304	G
2	2	1308	U
2	2	1314	C
2	2	1317	C
2	2	1319	A
2	2	1320	C
2	2	1321	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1322	C
2	2	1323	G
2	2	1329	A
2	2	1336	C
2	2	1338	G
2	2	1346	A
2	2	1352	C
2	2	1353	G
2	2	1363	A
2	2	1364	U
2	2	1378	C
2	2	1383	C
2	2	1385	G
2	2	1394	A
2	2	1395	C
2	2	1397	C
2	2	1399	C
2	2	1400	C
2	2	1401	G
2	2	1404	C
2	2	1419	G
2	2	1432	G
2	2	1433	A
2	2	1440	U
2	2	1446	A
2	2	1452	C
2	2	1455	G
2	2	1473	G
2	2	1480	A
2	2	1482	G
2	2	1484	C
2	2	1491	G
2	2	1492	A
2	2	1495	U
2	2	1496	C
2	2	1497	G
2	2	1499	A
2	2	1503	A
2	2	1504	G
2	2	1506	U
2	2	1513	A
2	2	1517	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	1519	A
2	2	1520	C
2	2	1529	G
2	2	1530	G
2	2	1533	C
2	2	1537	U
3	3	4	C
3	3	15	A
3	3	24	G
3	3	35	C
3	3	37	C
3	3	41	G
3	3	42	C
3	3	44	G
3	3	52	A
3	3	57	A
3	3	89	U
3	3	90	C
3	3	94	A
3	3	96	G
3	3	108	A
3	3	109	A
4	4	16	C
5	5	3	G
5	5	4	C
5	5	5	A
5	5	7	G
5	5	8	U
5	5	9	A
5	5	10	G
5	5	11	C
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	23	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	5	24	G
5	5	26	A
5	5	29	G
5	5	30	U
5	5	36	G
5	5	38	U
5	5	39	G
5	5	40	U
5	5	41	C
5	5	46	G
5	5	47	U
5	5	48	C
5	5	49	G
5	5	54	U
5	5	56	C
5	5	57	A
5	5	60	U
5	5	61	C
5	5	65	U
5	5	68	U
5	5	75	C
5	5	76	A

All (53) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	310	A
1	1	387	U
1	1	390	U
1	1	446	G
1	1	455	C
1	1	527	C
1	1	615	U
1	1	683	U
1	1	762	U
1	1	774	G
1	1	776	G
1	1	895	U
1	1	896	A
1	1	1045	C
1	1	1072	C
1	1	1081	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1329	U
1	1	1343	G
1	1	1451	C
1	1	1475	G
1	1	1626	A
1	1	1730	C
1	1	1780	A
1	1	1857	G
1	1	1930	G
1	1	2068	U
1	1	2092	U
1	1	2165	C
1	1	2468	A
1	1	2481	G
1	1	2496	C
1	1	2849	U
2	2	30	U
2	2	31	G
2	2	39	G
2	2	55	A
2	2	70	U
2	2	251	G
2	2	563	A
2	2	610	U
2	2	653	U
2	2	974	A
2	2	1069	C
2	2	1157	A
2	2	1173	U
2	2	1301	U
2	2	1432	G
2	2	1491	G
5	5	7	G
5	5	47	U
5	5	56	C
5	5	59	A
5	5	60	U

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 239 ligands modelled in this entry, 239 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.

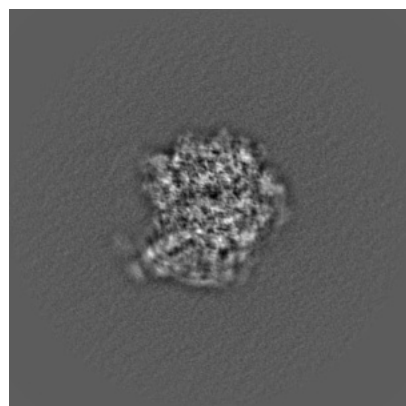
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-43535. These allow visual inspection of the internal detail of the map and identification of artifacts.

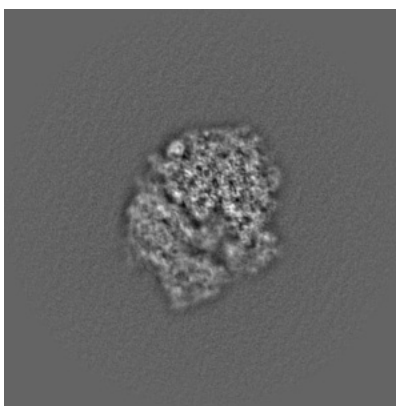
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

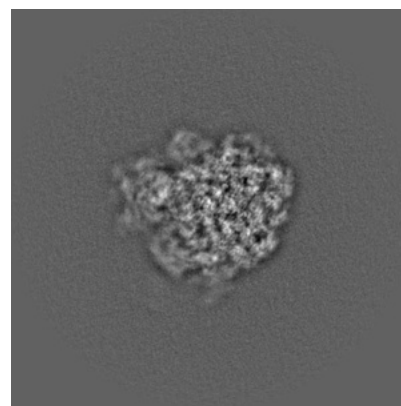
6.1.1 Primary map



X

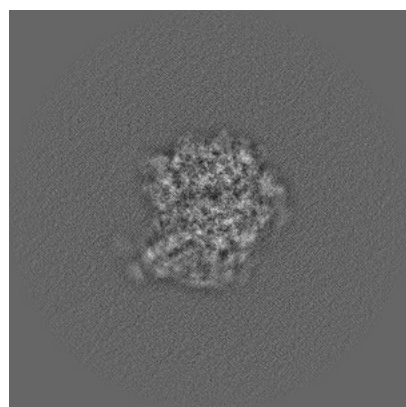


Y

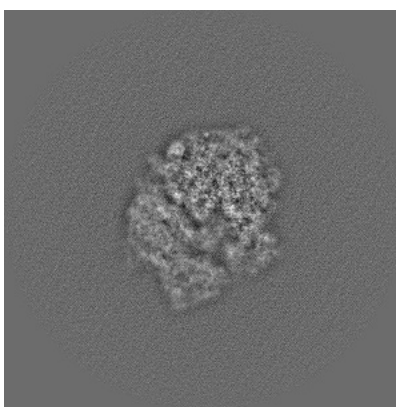


Z

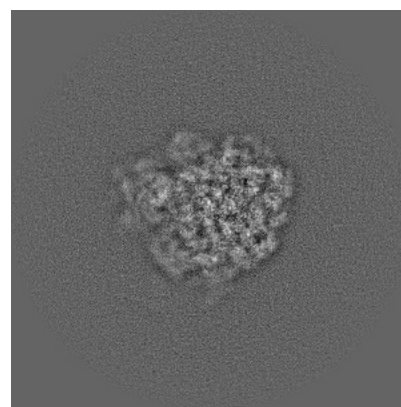
6.1.2 Raw map



X



Y

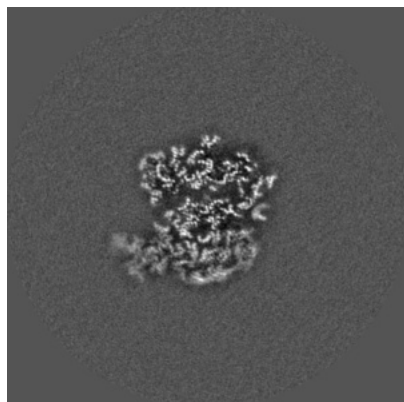


Z

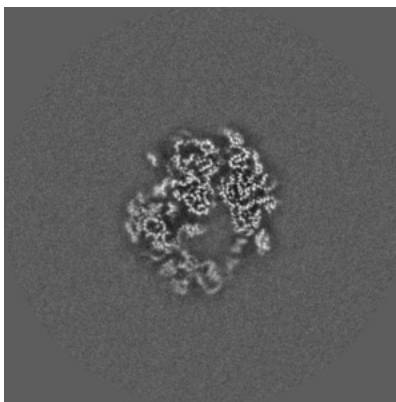
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

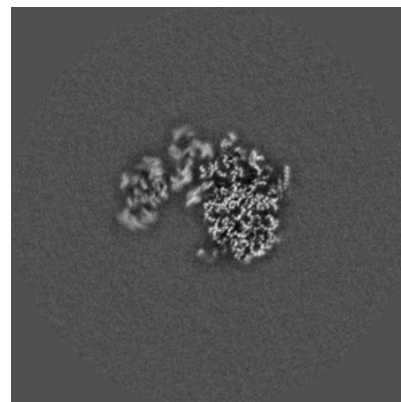
6.2.1 Primary map



X Index: 256

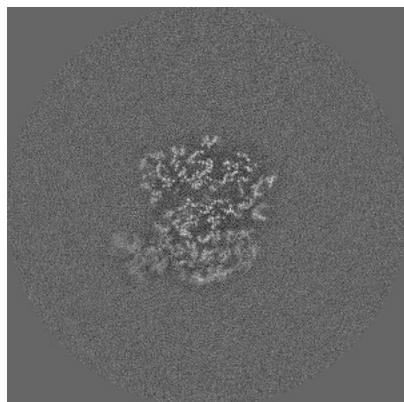


Y Index: 256

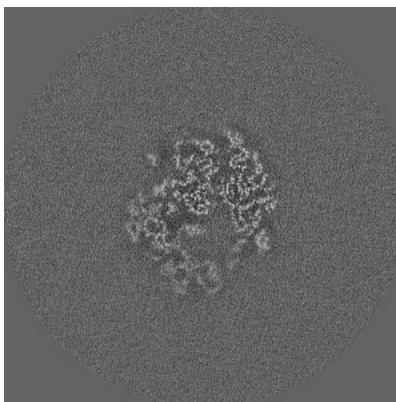


Z Index: 256

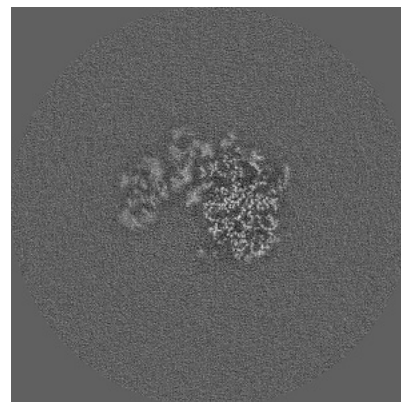
6.2.2 Raw map



X Index: 256



Y Index: 256

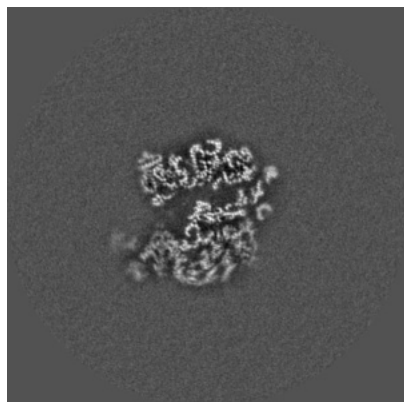


Z Index: 256

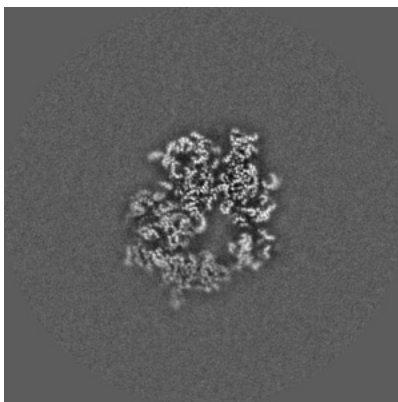
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

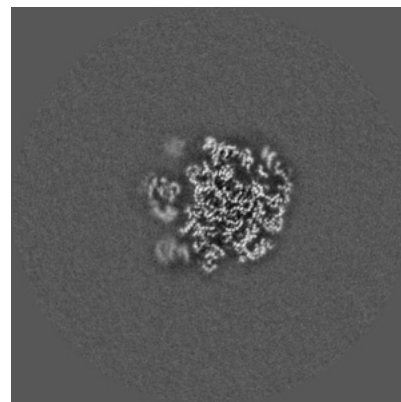
6.3.1 Primary map



X Index: 250

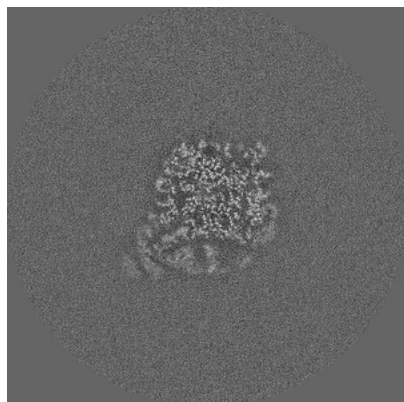


Y Index: 267

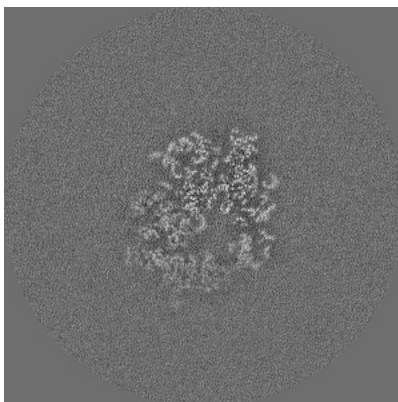


Z Index: 294

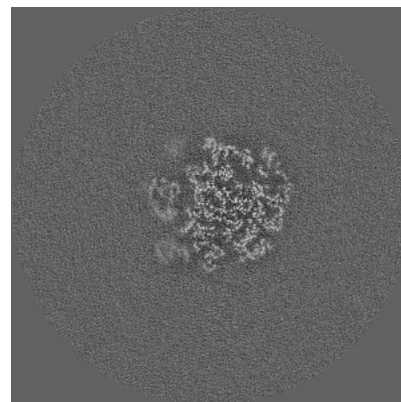
6.3.2 Raw map



X Index: 273



Y Index: 267

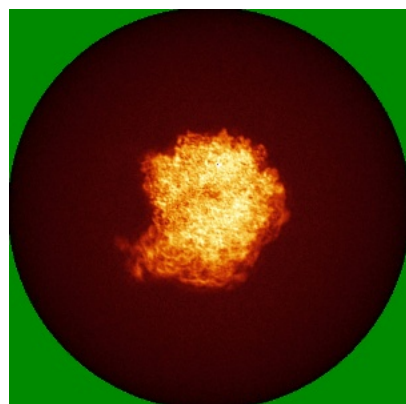


Z Index: 294

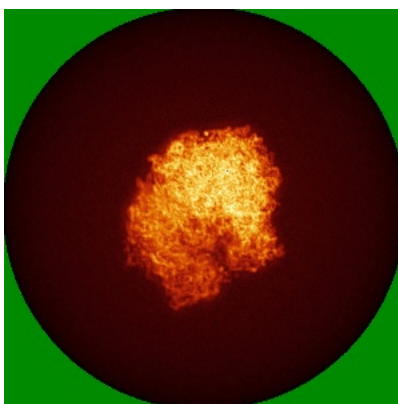
The images above show the largest variance slices of the map in three orthogonal directions.

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

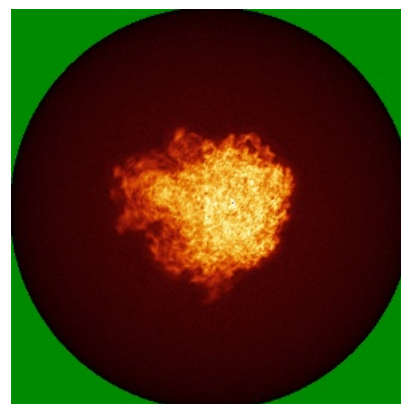
6.4.1 Primary map



X

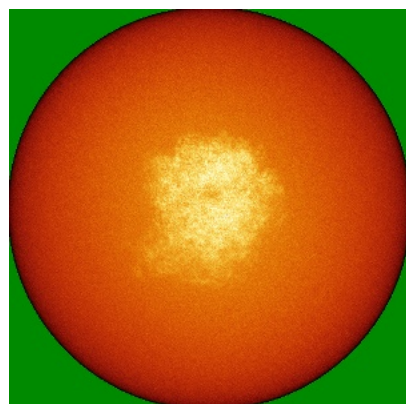


Y

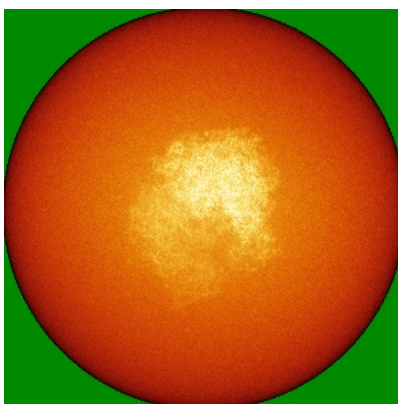


Z

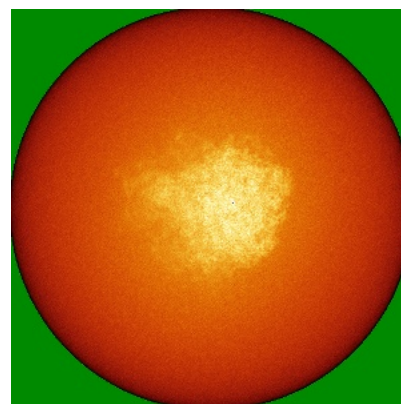
6.4.2 Raw map



X



Y

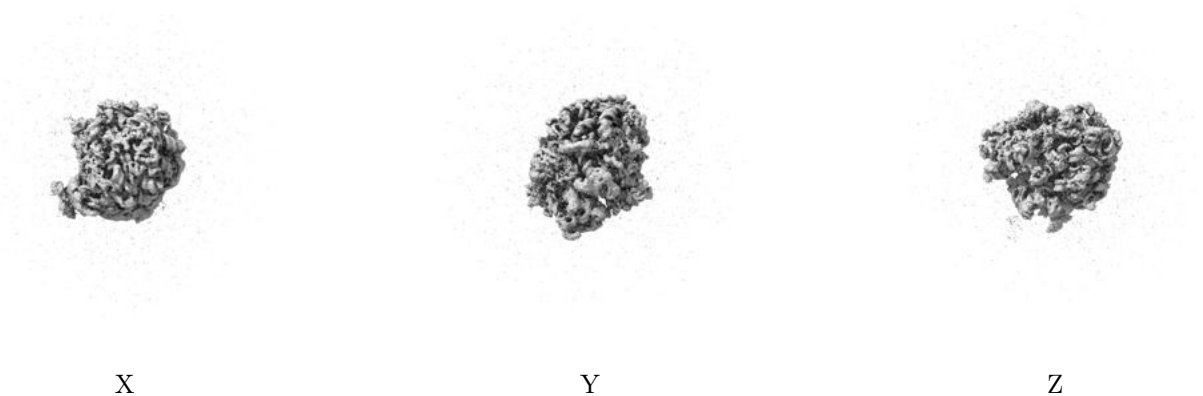


Z

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.

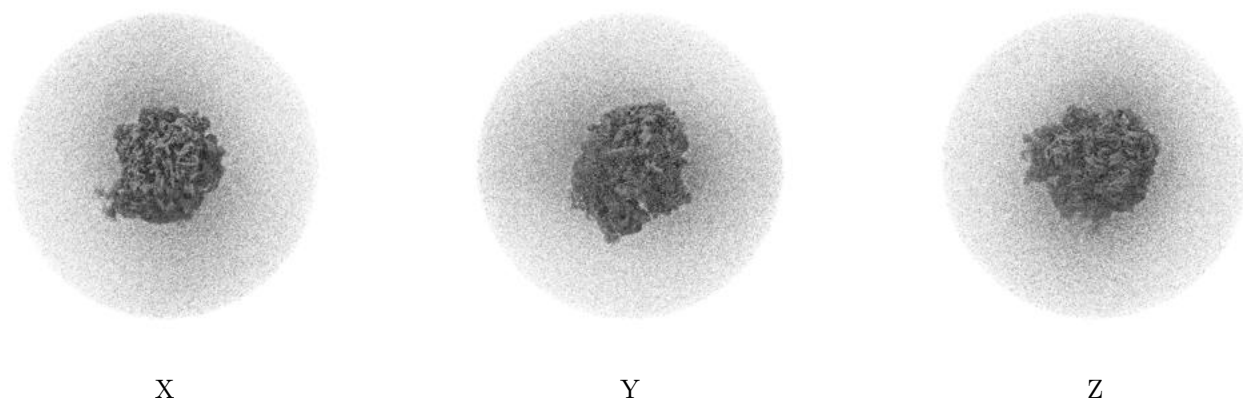
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0027. 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.

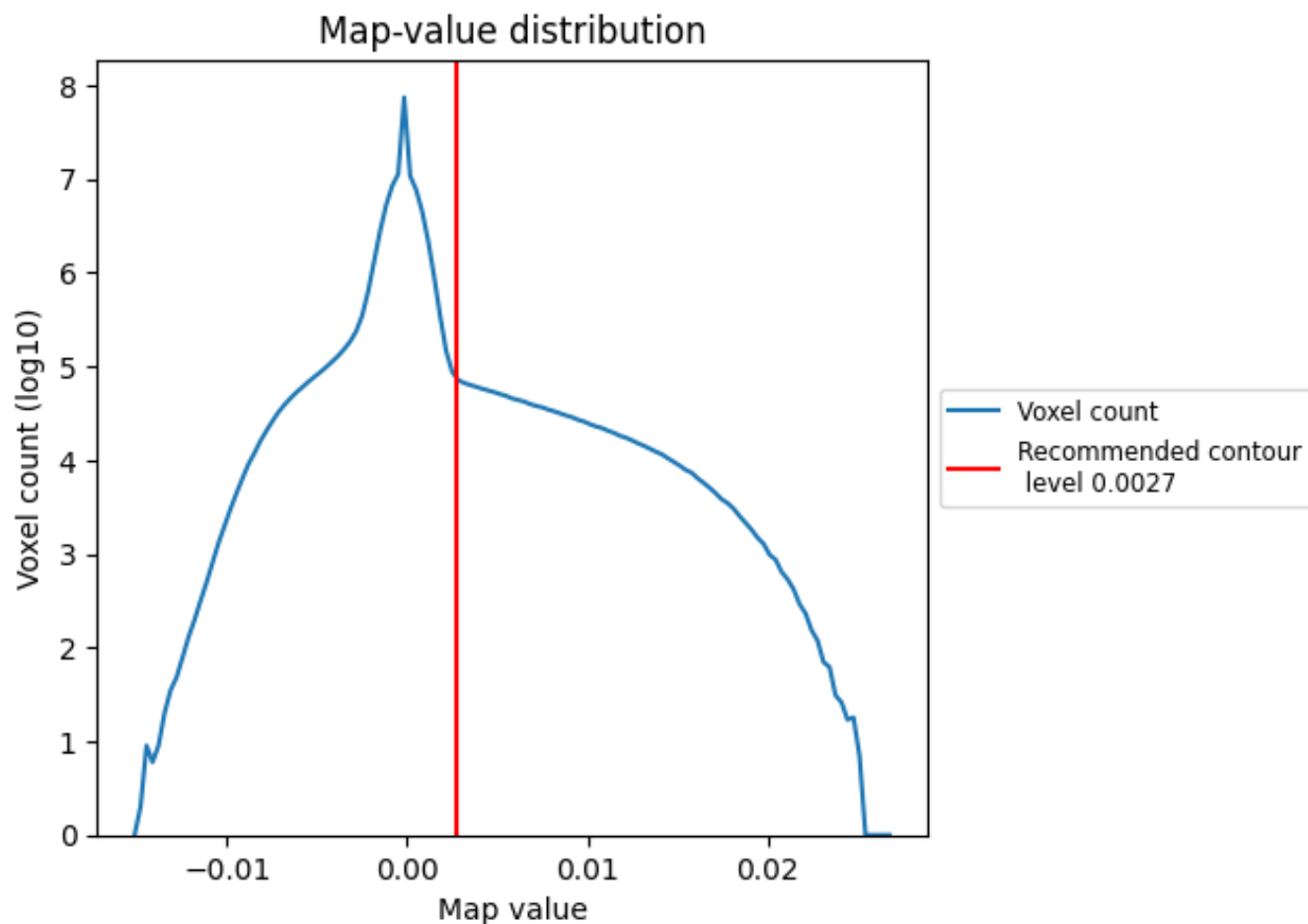
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

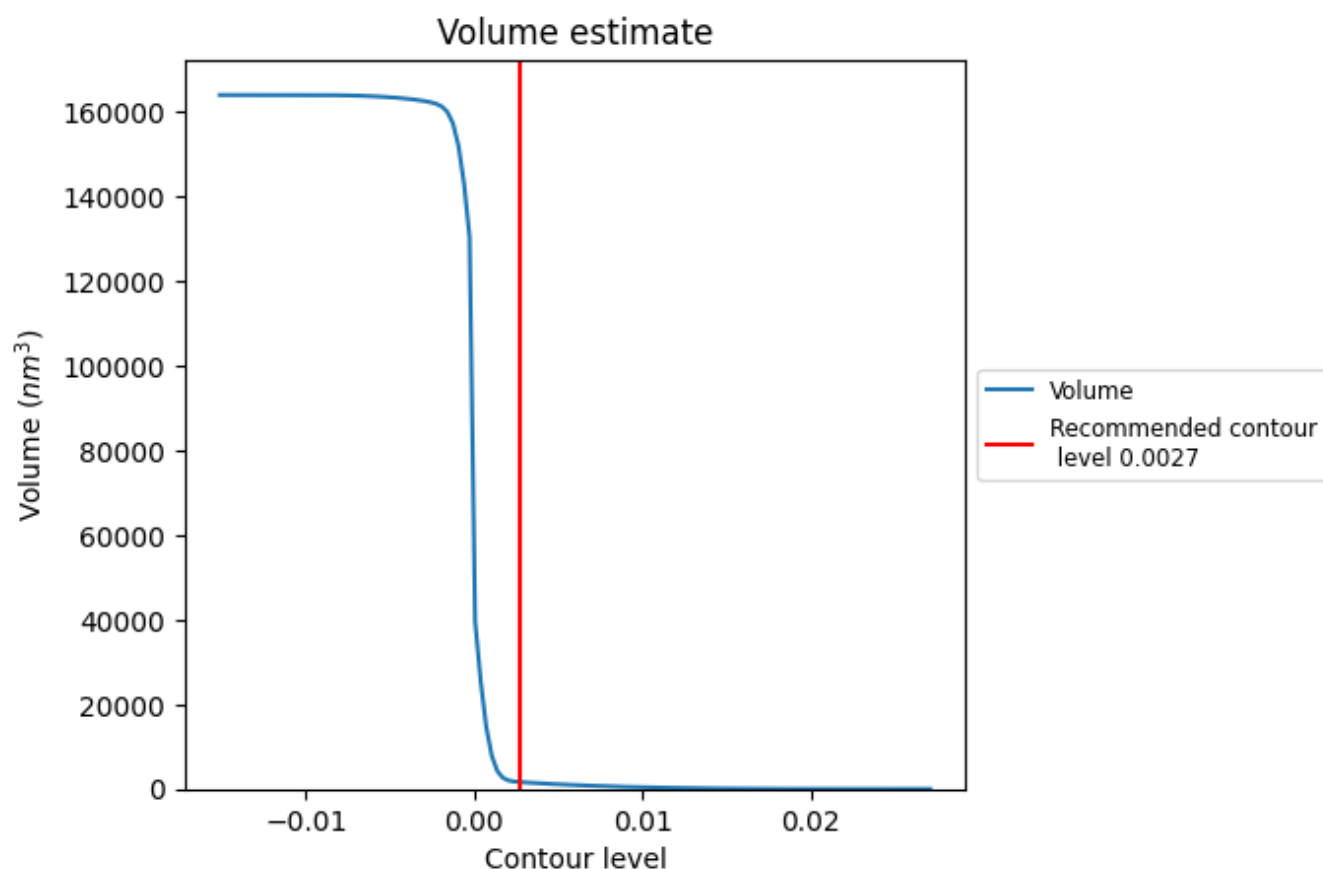
This section contains the results of statistical analysis of the map.

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.

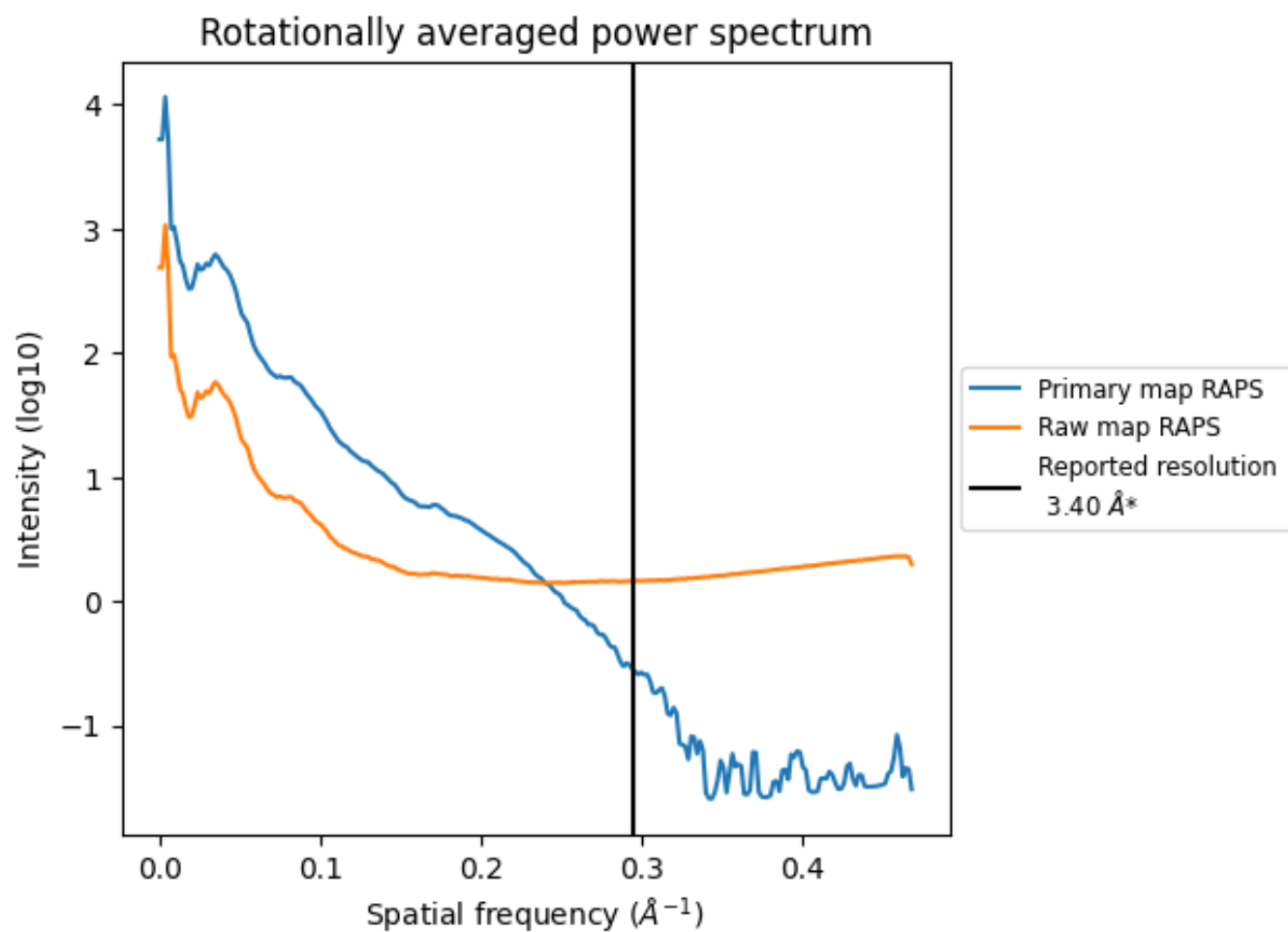
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1633 nm³; this corresponds to an approximate mass of 1475 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 ⓘ

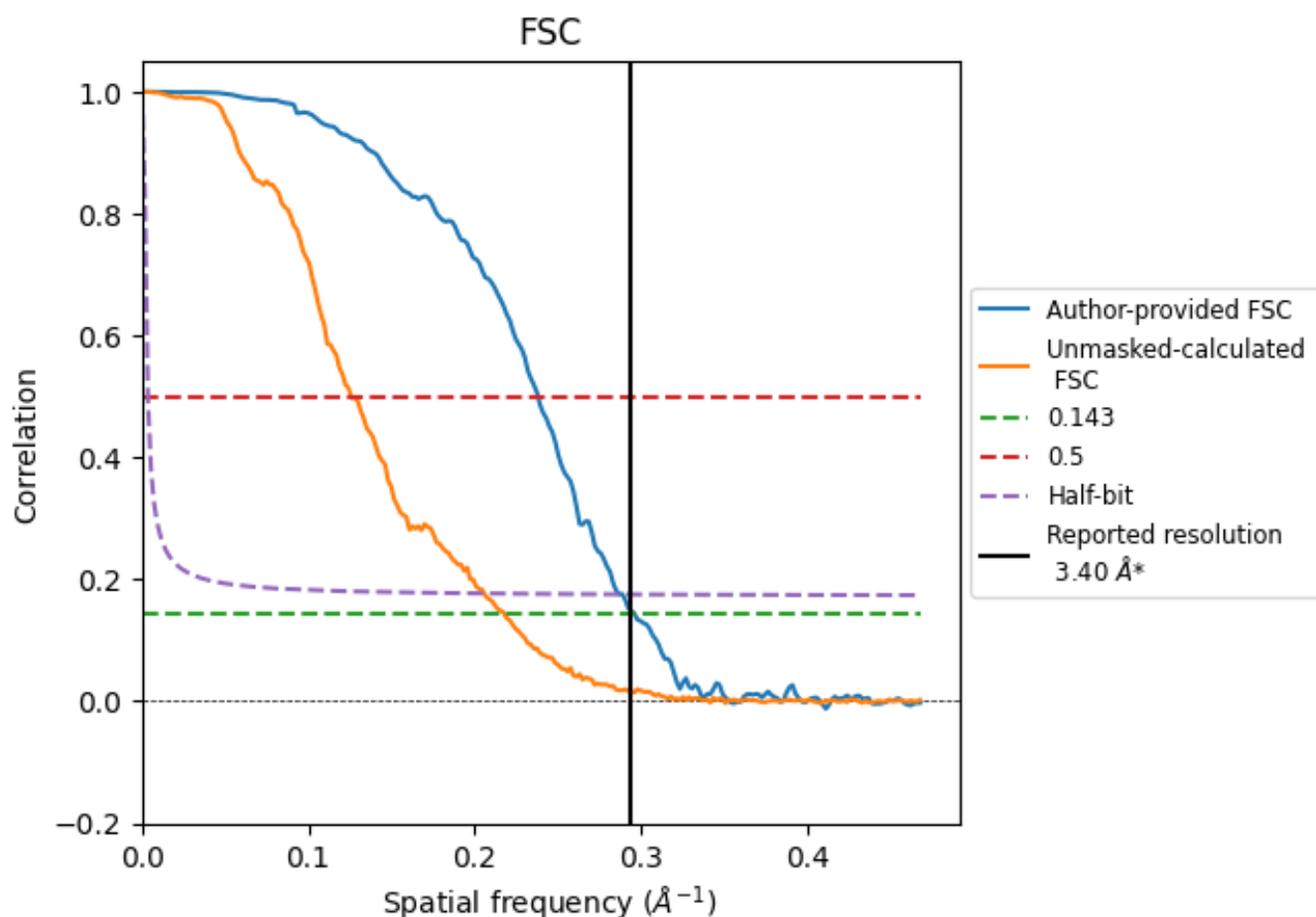


*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

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 0.294 \AA^{-1}

8.2 Resolution estimates [i](#)

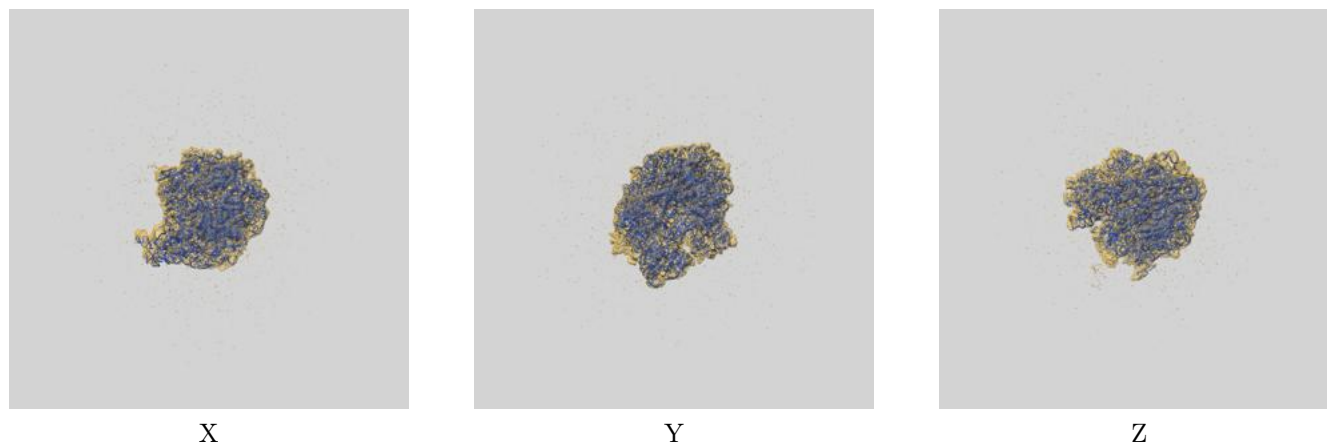
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.38	4.20	3.46
Unmasked-calculated*	4.59	7.95	4.86

*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 4.59 differs from the reported value 3.4 by more than 10 %

9 Map-model fit [i](#)

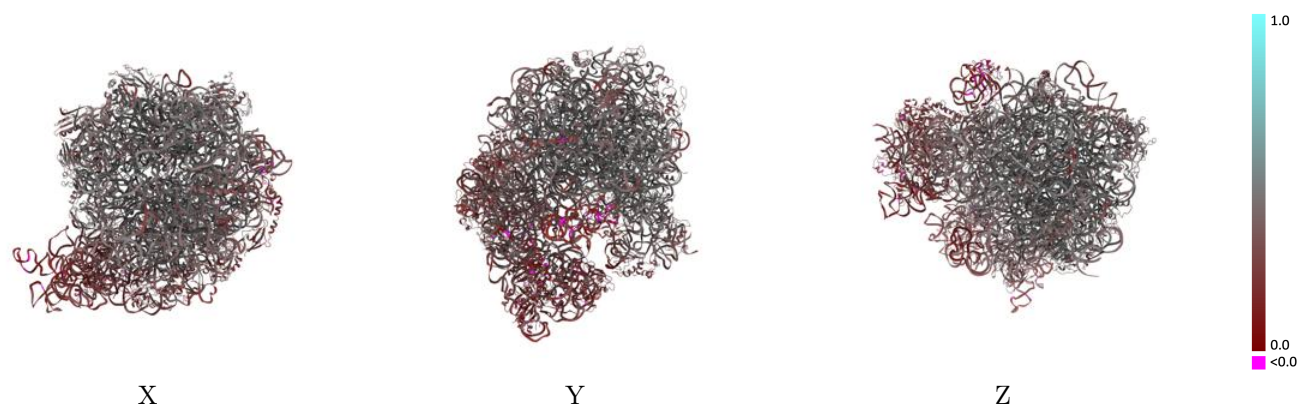
This section contains information regarding the fit between EMDB map EMD-43535 and PDB model 8VUP. Per-residue inclusion information can be found in section 3 on page 15.

9.1 Map-model overlay [i](#)



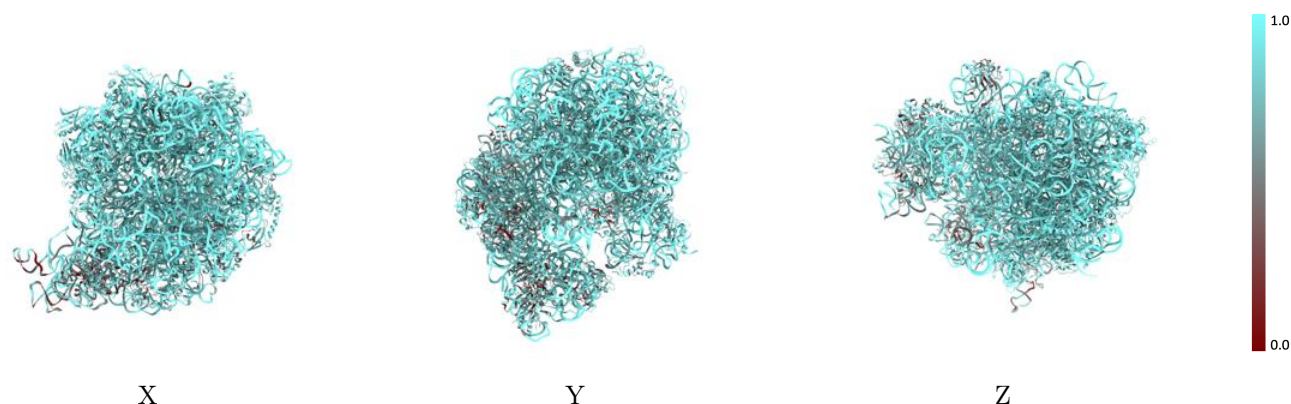
The images above show the 3D surface view of the map at the recommended contour level 0.0027 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



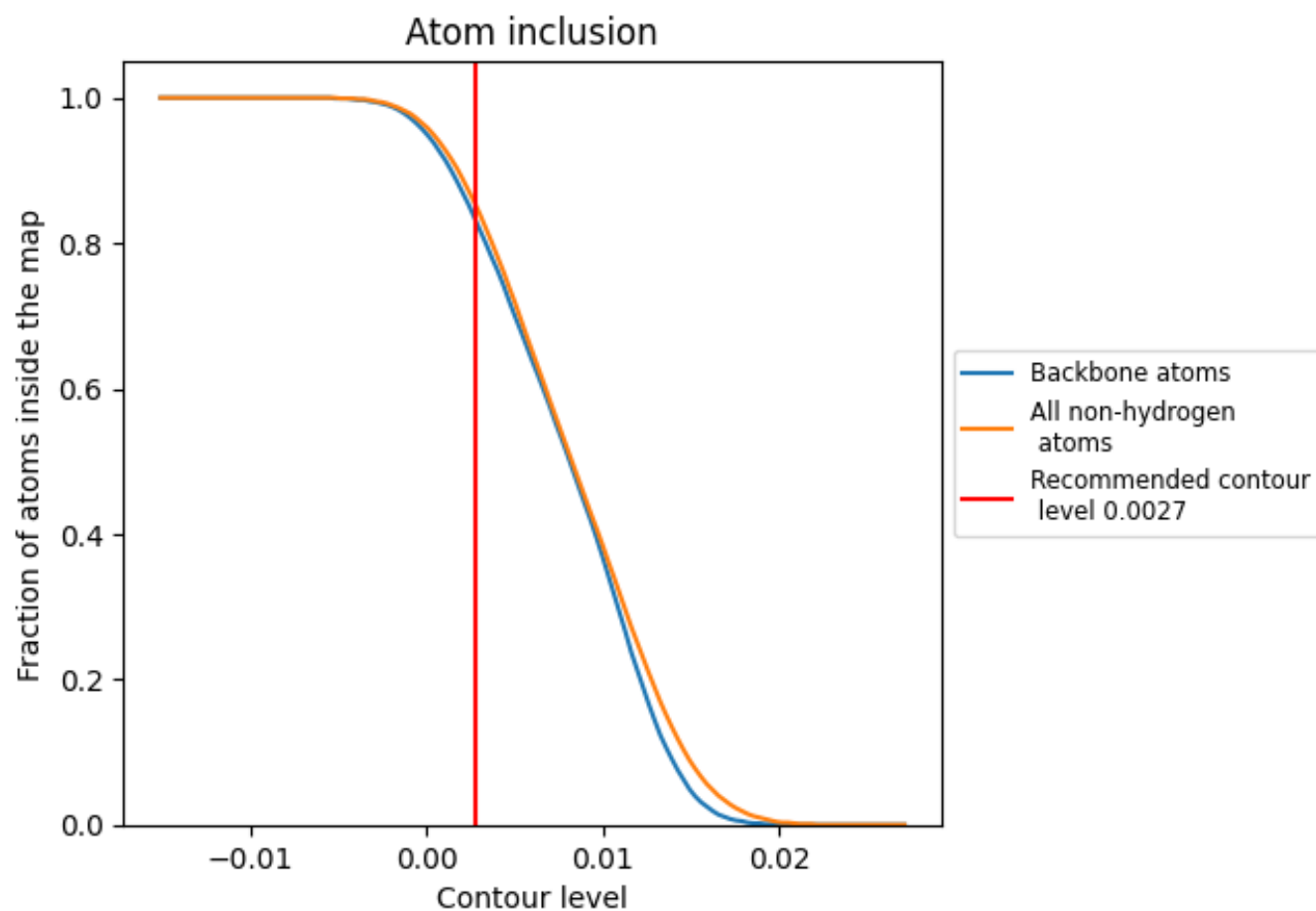
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0027).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 86% 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 (0.0027) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8560	 0.3700
1	 0.9530	 0.4270
2	 0.8250	 0.2980
3	 0.9740	 0.4140
4	 0.8250	 0.2840
5	 0.9650	 0.3630
A	 0.6110	 0.1640
B	 0.8020	 0.4540
C	 0.8130	 0.4370
D	 0.8350	 0.4190
E	 0.7950	 0.3120
F	 0.8650	 0.3670
G	 0.8100	 0.2910
J	 0.8210	 0.4280
K	 0.8100	 0.4360
L	 0.8050	 0.4430
M	 0.8250	 0.4250
N	 0.8020	 0.4270
O	 0.8270	 0.3760
P	 0.8290	 0.4170
Q	 0.8010	 0.4180
R	 0.8580	 0.4270
S	 0.8110	 0.4350
T	 0.7790	 0.4010
U	 0.8490	 0.4040
V	 0.8700	 0.3990
W	 0.8190	 0.4530
X	 0.8090	 0.4180
Y	 0.8050	 0.3420
Z	 0.8700	 0.4150
b	 0.8230	 0.4320
c	 0.8560	 0.4200
d	 0.7580	 0.4460
e	 0.7330	 0.4520
f	 0.6950	 0.4090



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
h	 0.6410	 0.2290
i	 0.4560	 0.2190
j	 0.7530	 0.3080
k	 0.7240	 0.2870
l	 0.5580	 0.1880
m	 0.7380	 0.2960
n	 0.6190	 0.2400
o	 0.5420	 0.2200
p	 0.6500	 0.3190
q	 0.6290	 0.2120
r	 0.6830	 0.2070
s	 0.5970	 0.2380
t	 0.7260	 0.2910
u	 0.5330	 0.2600
v	 0.6540	 0.2470
w	 0.6270	 0.2990
x	 0.7090	 0.2740
y	 0.6150	 0.2180
z	 0.5190	 0.2730