



Full wwPDB EM Validation Report ⓘ

Jul 26, 2026 – 05:18 PM JST

PDB ID : 9W0N / pdb_00009w0n
EMDB ID : EMD-65509
Title : Escherichia coli transcription-translation coupled complex class B (TTC-B) that ribosome walking for 4 codons to a 9 codon mRNA spacer, and fMet-tRNAs in E-site and P-site of the ribosome
Authors : Zhang, J.; Wang, C.
Deposited on : 2025-07-24
Resolution : 3.50 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.dev133
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

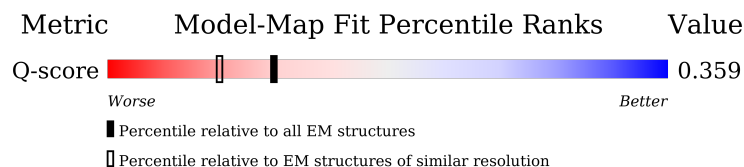
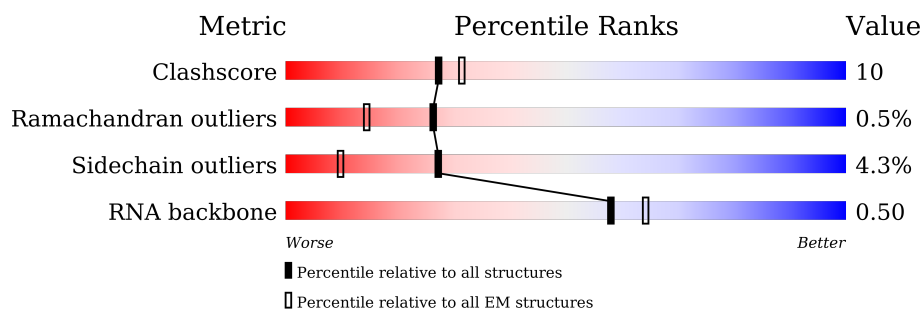
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

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



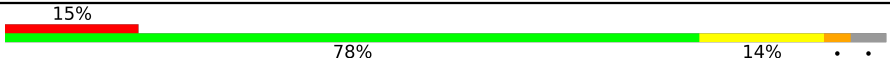
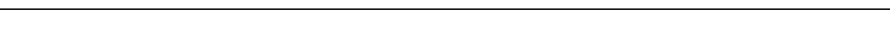
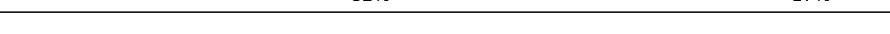
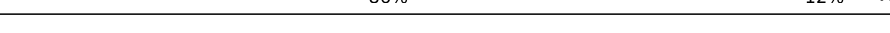
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	13950 (3.00 - 4.00)

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

Mol	Chain	Length	Quality of chain
1	1	2904	
2	2	120	
3	3	1542	

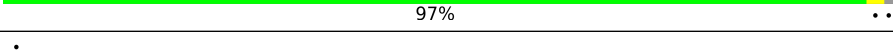
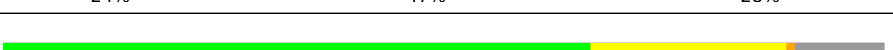
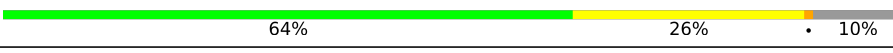
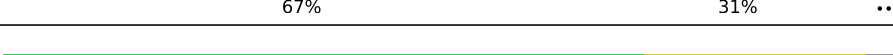
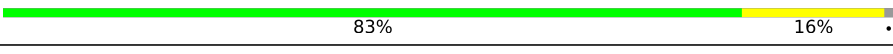
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
4	0	704	
5	6	77	
6	b	273	
7	c	209	
8	d	201	
9	e	179	
10	f	177	
11	g	149	
12	i	142	
13	j	142	
14	k	123	
15	l	144	
16	m	136	
17	n	127	
18	o	117	
19	p	115	
20	q	118	
21	r	103	
22	s	110	
23	t	100	
24	u	104	
25	v	94	
26	w	85	
27	x	78	
28	y	63	

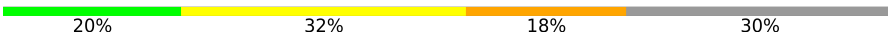
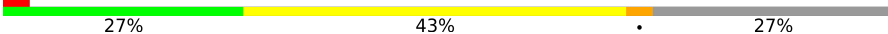
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
29	z	59	
30	A	70	
31	B	57	
32	C	55	
33	D	46	
34	E	65	
35	F	38	
36	NA	495	
37	5	76	
38	G	241	
39	H	233	
40	I	206	
41	J	167	
42	K	135	
43	L	179	
44	M	130	
45	N	130	
46	O	103	
47	P	129	
48	Q	124	
49	R	118	
50	S	101	
51	T	89	
52	U	82	
53	V	84	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
54	W	75	
55	X	92	
56	Y	87	
57	Z	71	
58	4	56	
59	B2	1342	
60	9	37	
61	8	37	
62	a	325	
62	h	325	
63	7	176	
64	AA	82	
65	BA	1358	

2 Entry composition

There are 66 unique types of molecules in this entry. The entry contains 181400 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 rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	2903	Total	C	N	O	P	0	0
			62317	27801	11467	20147	2902		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	120	Total	C	N	O	P	0	0
			2566	1144	468	835	119		

- Molecule 3 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	1539	Total	C	N	O	P	0	0
			33012	14725	6052	10697	1538		

- Molecule 4 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	0	673	Total	C	N	O	S	0	0
			5212	3289	900	1000	23		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	6	77	Total	C	N	O	P	0	0
			1640	732	297	535	76		

- Molecule 6 is a protein called Large ribosomal subunit protein uL2.

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

- Molecule 7 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 8 is a protein called Large ribosomal subunit protein uL4.

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

- Molecule 9 is a protein called Large ribosomal subunit protein uL5.

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

- Molecule 10 is a protein called Large ribosomal subunit protein uL6.

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

- Molecule 11 is a protein called Large ribosomal subunit protein bL9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	g	52	Total	C	N	O	S	0	0
			400	256	73	70	1		

- Molecule 12 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	i	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 13 is a protein called Large ribosomal subunit protein uL13.

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 Large ribosomal subunit protein uL14.

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

- Molecule 15 is a protein called Large ribosomal subunit protein uL15.

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 Large ribosomal subunit protein uL16.

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
			960	593	196	166	5		

- Molecule 18 is a protein called Large ribosomal subunit protein uL18.

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 Large ribosomal subunit protein bL19.

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		0	0
			947	604	192	151			

- Molecule 21 is a protein called Large ribosomal subunit protein bL21.

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 Large ribosomal subunit protein uL22.

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
			738	466	139	131	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
			779	492	146	141			

- Molecule 25 is a protein called Large ribosomal subunit protein bL25.

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 Large ribosomal subunit protein bL27.

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 Large ribosomal subunit protein bL28.

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 Large ribosomal subunit protein uL29.

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 Large ribosomal subunit protein uL30.

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 Large ribosomal subunit protein bL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	A	66	Total	C	N	O	S	0	0
			521	323	98	94	6		

- Molecule 31 is a protein called Large ribosomal subunit protein bL32.

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

- Molecule 32 is a protein called Large ribosomal subunit protein bL33.

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

- Molecule 33 is a protein called Large ribosomal subunit protein bL34.

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

- Molecule 34 is a protein called Large ribosomal subunit protein bL35.

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

- Molecule 35 is a protein called Large ribosomal subunit protein bL36A.

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

- Molecule 36 is a protein called Transcription termination/antitermination protein NusA.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	NA	492	Total	C	N	O		0	0
			2432	1448	492	492			

- Molecule 37 is a RNA chain called tRNA(Phe).

Mol	Chain	Residues	Atoms					AltConf	Trace
37	5	76	Total	C	N	O	P	0	0
			1622	723	290	533	76		

- Molecule 38 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	G	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 39 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	H	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 40 is a protein called Small ribosomal subunit protein uS4.

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

- Molecule 41 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 42 is a protein called Small ribosomal subunit protein bS6, fully modified isoform.

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

- Molecule 43 is a protein called Small ribosomal subunit protein uS7.

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

- Molecule 44 is a protein called Small ribosomal subunit protein uS8.

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

- Molecule 45 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 46 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 47 is a protein called Small ribosomal subunit protein uS11.

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

- Molecule 48 is a protein called Small ribosomal subunit protein uS12.

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

- Molecule 49 is a protein called Small ribosomal subunit protein uS13.

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

- Molecule 50 is a protein called Small ribosomal subunit protein uS14.

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

- Molecule 51 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 52 is a protein called Small ribosomal subunit protein bS16.

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

- Molecule 53 is a protein called Small ribosomal subunit protein uS17.

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

- Molecule 54 is a protein called Small ribosomal subunit protein bS18.

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

- Molecule 55 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 56 is a protein called Small ribosomal subunit protein bS20.

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

- Molecule 57 is a protein called Small ribosomal subunit protein bS21.

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

- Molecule 58 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	4	39	Total	C	N	O	P	0	0
			809	362	113	295	39		

- Molecule 59 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	B2	1340	Total	C	N	O	S	0	0
			10546	6616	1839	2048	43		

- Molecule 60 is a DNA chain called non-templete DNA strand.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	9	20	Total	C	N	O	P	0	0
			417	195	84	118	20		

- Molecule 61 is a DNA chain called templete DNA strand.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	8	27	Total	C	N	O	P	0	0
			539	257	88	167	27		

- Molecule 62 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	a	301	Total	C	N	O	S	0	0
			2088	1293	380	409	6		
62	h	221	Total	C	N	O	S	0	0
			1698	1060	299	333	6		

- Molecule 63 is a protein called Transcription termination/antitermination protein NusG.

Mol	Chain	Residues	Atoms				AltConf	Trace
63	7	154	Total	C	N	O	0	0
			758	450	154	154		

- Molecule 64 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	AA	82	Total	C	N	O	S	0	0
			650	396	122	131	1		

- Molecule 65 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	BA	1335	Total	C	N	O	S	0	0
			10353	6509	1842	1955	47		

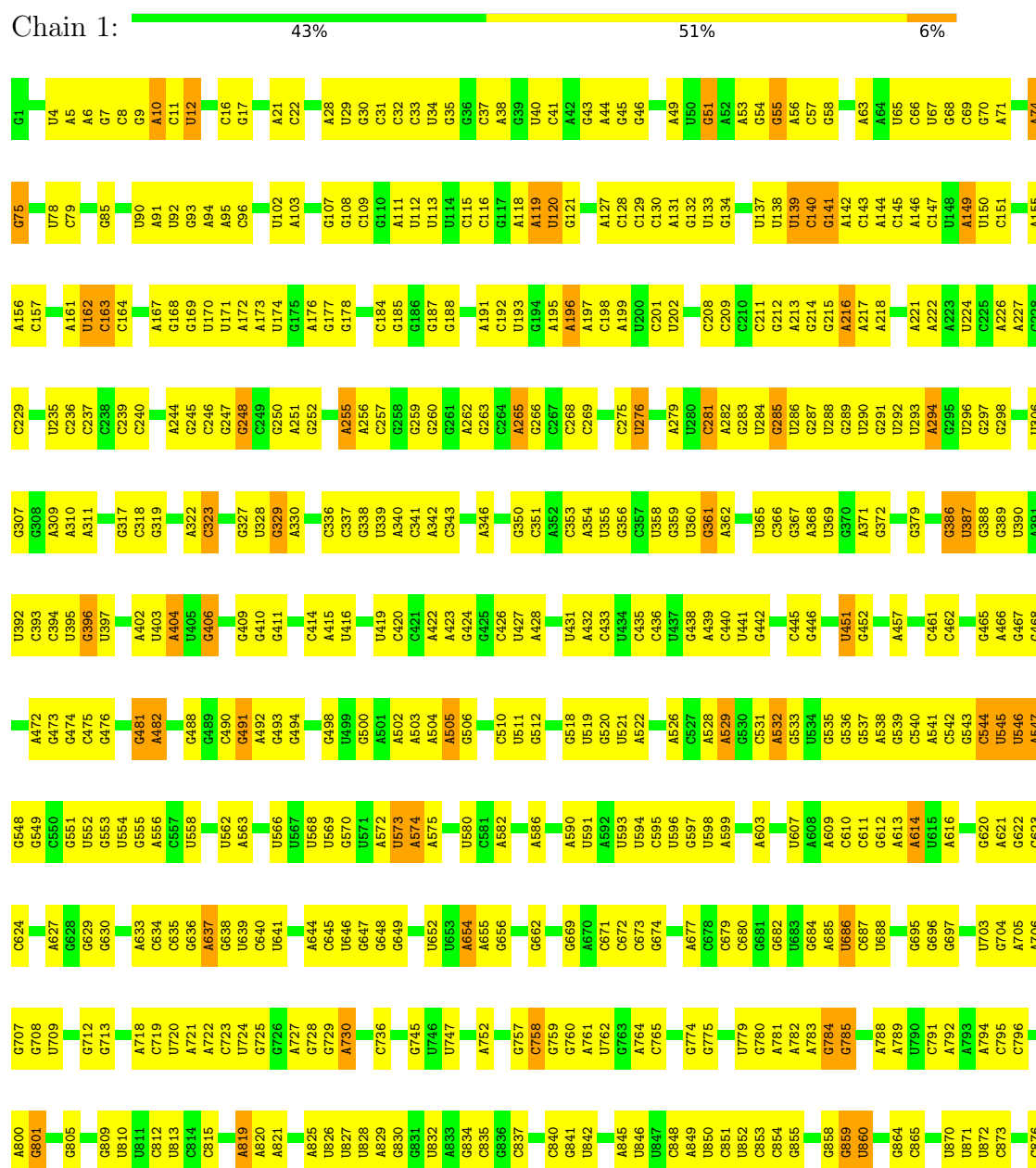
- Molecule 66 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
66	BA	1	Total	Mg	0
			1	1	

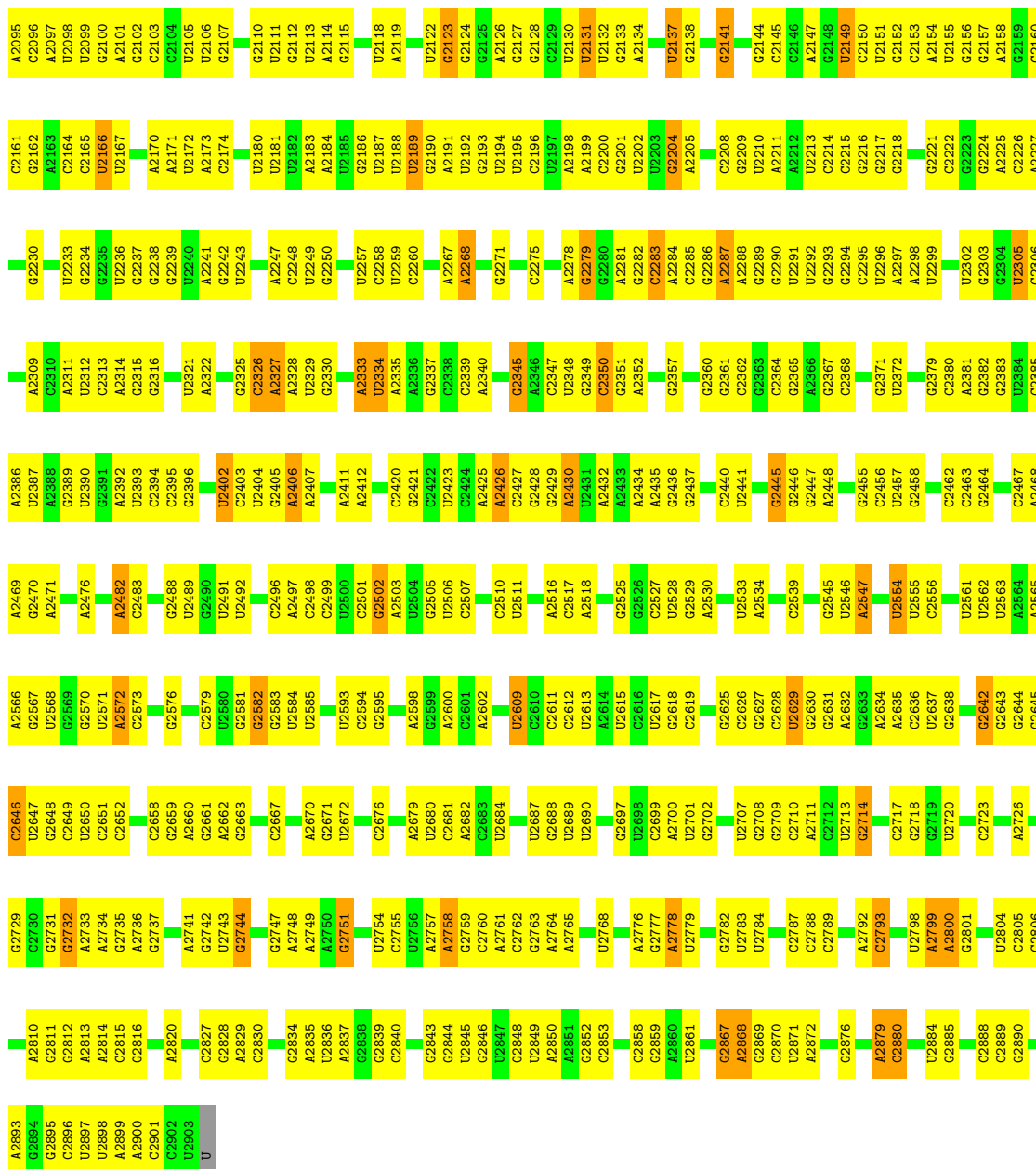
3 Residue-property plots

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 rRNA

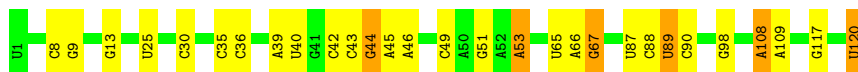


U1993	A1912	A1829	A1754	A1672	G1573	C1507	G1429	A1336	G1266	U1174	A1103	G1043	U955	A877
A1997	A1913	C1832	A1755	G1673	C1574	A1508	G1430	G1337	U1267	A1175	C1104	G1042	G956	A878
C1999	U1915	C1833	U1758	C1675	C1575	A1509	A1431	G1338	C1270	U1176	G1105	C1044	C957	G879
	U1916	U1834		G1676	U1578	G1510	A1432	G1339	C1271	U1177	G1106	C1045	U958	
G2012	A1917	G1845	G1761	A1677	A1579	C1512	A1434	G1343	A1272	C1178	U1107	C1046	A969	C885
A2013	A1918	G1846	A1762	A1678	A1580		G1435	U1344	U1273	U1180	U1108	A1046	A960	A866
A2014	A1919	G1847	G1763	A1679		A1515	G1436	C1345	U1274	U1181	C1109	G1047	C961	U887
A2015	C1920	A1847	G1764	U1680	A1583	G1516	A1437	C1346	A1275	U1182	A1048	C888		C889
U2016	G1921	A1848	U1765	G1681		G1517	U1438	C1348	U1276	U1183	C1049	C890		C891
	G1922	G1766	U1766		A1588	C1518	A1439	C1349	C1278	U1184	A1050		C969	
A2020	U1923	G1767	C1768	G1696	U1589	G1519	U1440		U1279	G1185	G1114	A1054	A972	A892
G2021	C1924			G1697	A1590	U1520	G1441	U1352	G1280	G1186	G1115	A1055	A973	A893
U2022		A1772		A1698	A1591	G1521	U1442		G1281	U1187	G1116	G1056	G974	C993
C2023	A1927	A1773		G1699	C1592	U1522		A1365	U1282	U1188	C1117		A975	U894
G2024	A1928	A1774			A1593	U1523	G1448	A1366	G1283		C1118	A1057	A979	U895
C2025	G1929	C1774		G1702	U1594	G1524	A1449	A1367	A1284	G1193	U1119	U1058	A980	C987
G2026	G1930	G1775		G1703	C1595	A1526	G1450	G1368	A1285	A1194	U1120	U1060	A981	C988
U2027	U1931	G1776			A1596	C1526	C1451	A1286	U1286	G1195	G1121	U1061	C982	A899
				G1710	A1597	G1527	G1452	G1377	A1287	G1196	C1121	G1062	A983	A900
A2030	G1935	G1863	A1780	A1711		A1528	A1453	A1378	G1288	G1197	U1130	G1063	A984	C901
A2031	A1936	U1864	U1781		C1600	G1529	C1454	U1379		U1198	G1131	C1064	C985	C902
G2032	U1937	U1865	U1782	G1715	U1599	G1530		G1380	C1289	U1199	U1132	U1065		C903
A2033	A1938	A1866	A1783	U1716	G1601		G1461	G1381		A1194	A1133	U1066	G989	G904
U2034	U1939	G1867	A1784	A1717	U1602	G1533	C1462	G1382	G1292	A1204	C1134	A1067		A905
		A1785	A1785	G1718	A1603	U1534	C1463	A1383	U1294	A1205	C1135	G1068	G983	U906
G2035	C1942	G1869	A1786		C1604	U1535	G1464		C1295	A1206	G1136	A1069	C994	G907
C2036	U1943	U1870	A1787	G1721	C1605	A1536	G1465	C1386	G1296	U1209	G1137	A1070	C995	
A2037	A1944	C1788	A1788	A1722	G1606	G1537	U1466	G1387	G1297	U1210	G1138	G1071	A996	A909
G2038	G1945	G1723	G1607	G1723	C1607	U1538	U1467	G1388	G1298	G1210	G1139	C1072		A910
U2039		C1724	A1608		A1608	U1539	U1468	G1389	G1299	G1211	C1140	A1073	C1005	A911
	G1948	G1874		U1725		G1540	A1469	U1390	G1300	G1212	U1141	G1074		
		G1875		C1726	A1614	C1541	A1470		A1301	A1213	A1142	C1075	A1009	G914
G2043	A1952		A1794	C1727	C1615	U1542		U1394	A1302		A1143	C1076	A1010	C915
C2047	A1953	G1878	C1795	G1728	A1616	U1543	G1480	U1400		U1219	A1144	C1077	U1011	
G2048	G1954	C1879	U1796	U1729		A1544	G1481	G1401	C1306	G1220	C1145	U1078	U1012	A918
U2049	U1955		G1797		C1625	A1545	G1482	U1402			C1146	C1079	C1013	U919
C2050	U1956	U1882	G1798	G1731	A1626	G1546	G1483	U1403	G1309	G1225	A1147	A1080	A1014	
A2051		U1883	C1800	C1732			U1484	A1403	G1310		U1148	U1081	U1015	G923
U2052	U1963	G1884	A1801	G1733	A1634	C1550	U1485	C1404	G1311	A1230	C1150	U1082	U1019	G924
G2053	G1964	A1885	A1802	G1734		A1551	U1486	U1405		U1231	A1151	U1083	A1020	A925
A2054	C1965	U1886		G1735	G1642	A1552	U1487	U1406	C1314	G1232	C1152	A1084	G926	
C2055	A1966	G1887	G1807	U1736	G1643	U1553	U1488		G1315	C1233	C1153	A1085	A1021	A927
G2056	C1967	G1888	A1808	G1737	C1644	U1554	C1489	U1409	U1316	A1237	G1154	A1086	G1022	A928
	U1968	A1889	A1809	G1738	G1645	G1555	A1490	G1410	G1317	G1238	A1156	G1087	U1023	U929
A2060	A1969	A1890		A1739	C1646		G1491	U1411	U1318	G1239	A1157	A1088	G1024	
G2061	U1970		U1812	G1740	U1647	C1558	U1492	U1412	C1319	U1240	G1157	A1089	G1026	U932
	U1971	C1893	G1813	C1741	U1648	U1559	A1493	A1413	C1320			G1091	A1090	
G2069	G1972	C1894		U1742		G1560	C1494	C1414	A1321	A1246	G1160	C1092	A1027	C935
			C1816	G1743	G1651	C1561	A1495	U1415	A1322	A1247	C1161	G1093	A1027	A936
C2073	A1978	A1901	G1817	A1744	U1662	U1562	A1496	G1416	C1323		G1162	U1094	G1031	C937
U2074		C1902	U1818	A1745	G1663		U1497	C1417	G1324	A1253	G1163	C1095	U1032	G938
U2085	G1983		A1819	A1746		A1566		A1418	U1325	A1254	C1164	A1096	U1033	G939
U2086	U1984	C1905	U1820	U1747	G1666		G1500	G1419	U1326	U1255	G1165	A1097	U1034	G940
	C1985	G1906	A1821	C1748	G1667	G1567	A1501	A1420	A1327	U1256		A1098	U1035	A941
	C1986	C1907	G1822	G1749	G1668	G1568	A1502		A1328	G1257	G1170	G1099	U1036	G942
C2091		C1908	G1823	G1750	A1668	A1569	A1503	G1425		C1257	C1171	C1100	G1037	C946
U2092	C1990	C1909		U1751	A1669	A1570	A1504	G1426	G1333	U1258	G1172	C1101	G1038	
G2093	U1991		U1827	C1752	C1670	A1571	A1505	A1427	G1334	G1259	C1173	C1102	A1039	A947
A2094	G1992	U1911	G1828	G1753	U1671	A1572	U1506	C1428	C1335		U1173		A1040	



• Molecule 2: 5S rRNA

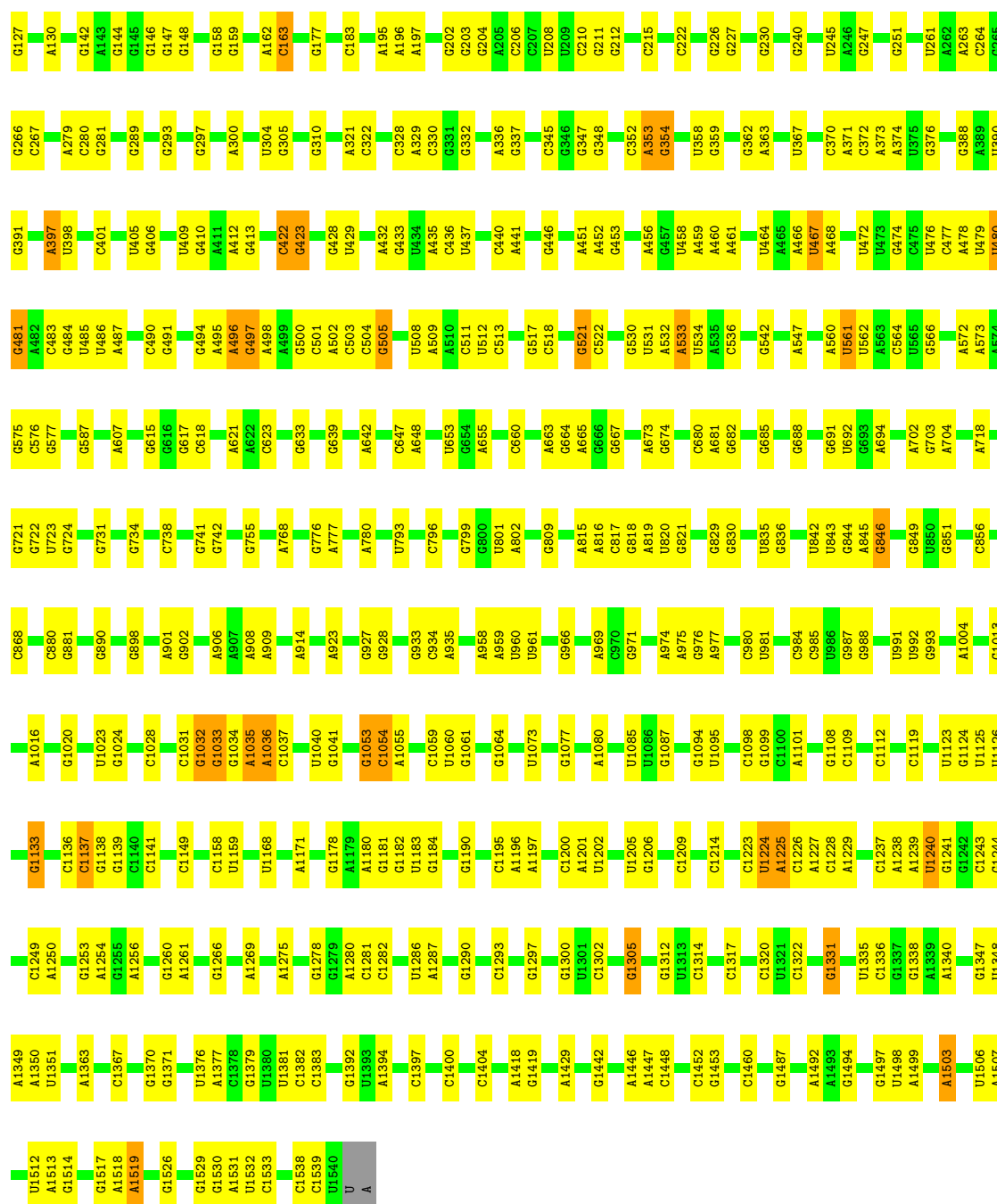
Chain 2: 76% 19% 5%



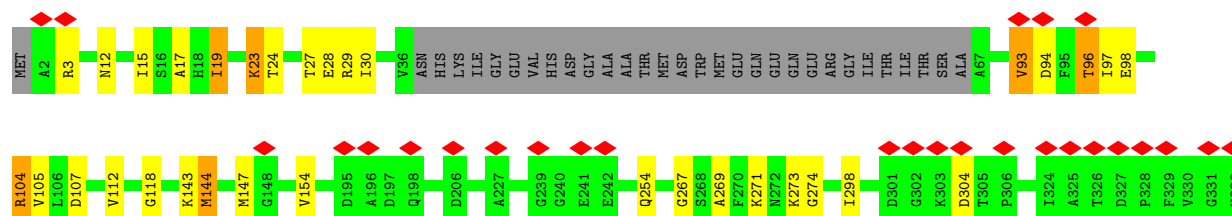
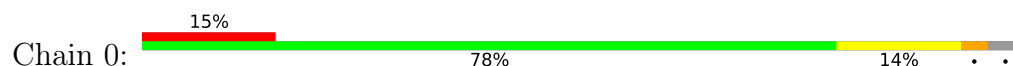
• Molecule 3: 16S rRNA

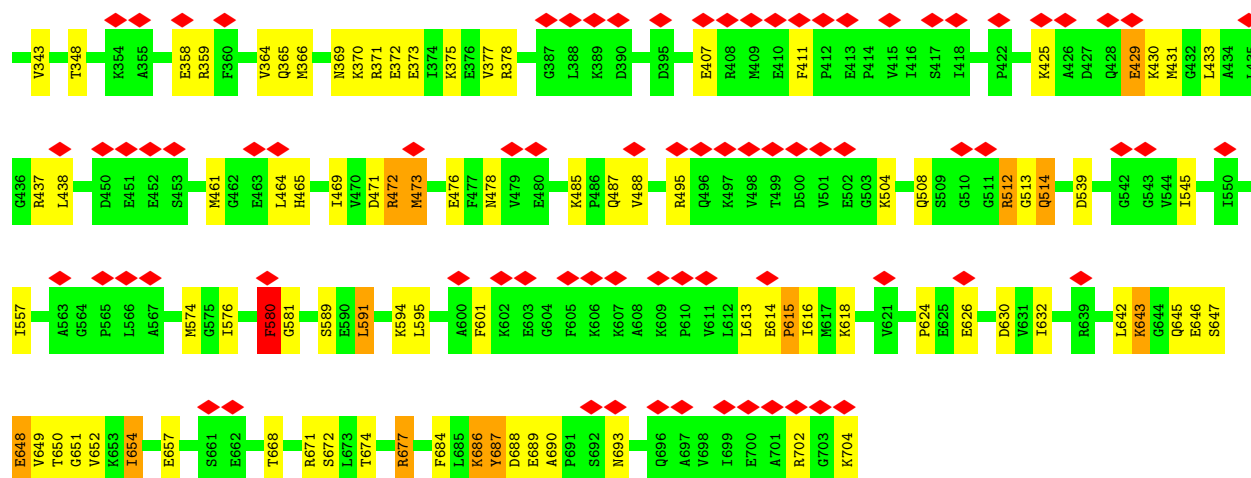
Chain 3: 69% 29% •





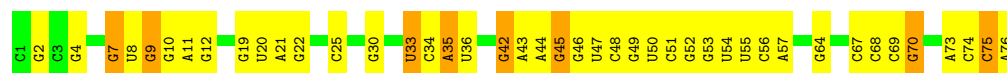
● Molecule 4: Elongation factor G





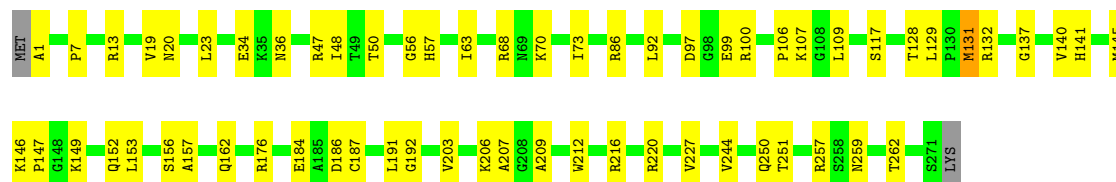
• Molecule 5: tRNA(fMet)

Chain 6: 44% 45% 10%



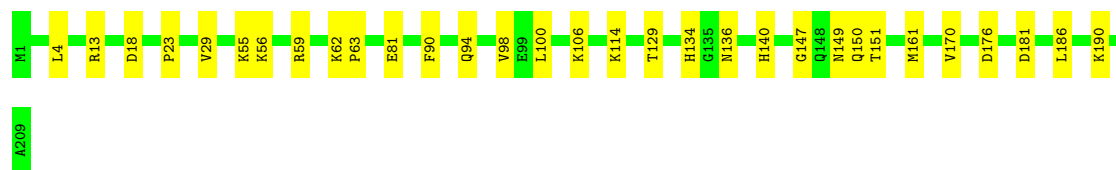
• Molecule 6: Large ribosomal subunit protein uL2

Chain b: 77% 22%



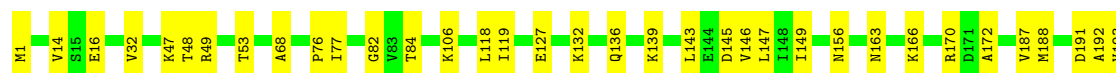
• Molecule 7: Large ribosomal subunit protein uL3

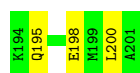
Chain c: 85% 15%



• Molecule 8: Large ribosomal subunit protein uL4

Chain d: 81% 19%





- Molecule 9: Large ribosomal subunit protein uL5

Chain e: 82% 17%



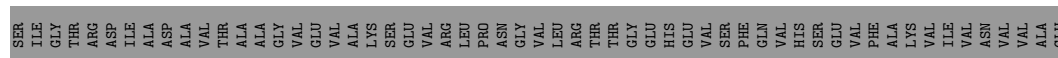
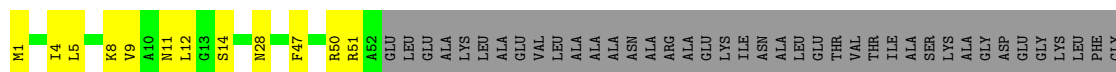
- Molecule 10: Large ribosomal subunit protein uL6

Chain f: 73% 25%



- Molecule 11: Large ribosomal subunit protein bL9

Chain g: 27% 8% 65%



- Molecule 12: Large ribosomal subunit protein uL11

Chain i: 60% 37% ...



- Molecule 13: Large ribosomal subunit protein uL13

Chain j: 85% 15%



- Molecule 14: Large ribosomal subunit protein uL14

Chain k:  79% 20%



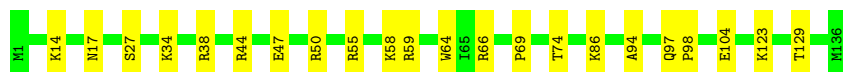
- Molecule 15: Large ribosomal subunit protein uL15

Chain l:  85% 15%



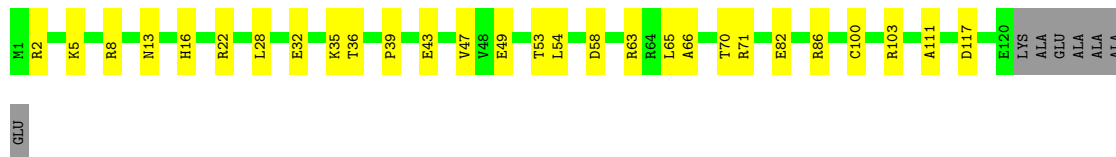
- Molecule 16: Large ribosomal subunit protein uL16

Chain m:  84% 16%



- Molecule 17: Large ribosomal subunit protein bL17

Chain n:  72% 22% 6%



- Molecule 18: Large ribosomal subunit protein uL18

Chain o:  82% 17%



- Molecule 19: Large ribosomal subunit protein bL19

Chain p:  86% 12%



- Molecule 20: Large ribosomal subunit protein bL20

Chain q:  81% 18%



- Molecule 21: Large ribosomal subunit protein bL21

Chain r:  74% 26%



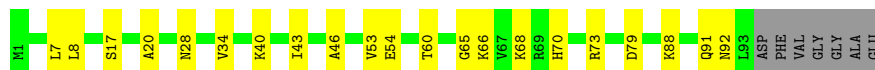
- Molecule 22: Large ribosomal subunit protein uL22

Chain s:  84% 16%



- Molecule 23: Large ribosomal subunit protein uL23

Chain t:  72% 21% 7%



- Molecule 24: Large ribosomal subunit protein uL24

Chain u:  72% 26% 2%



- Molecule 25: Large ribosomal subunit protein bL25

Chain v:  86% 14%



- Molecule 26: Large ribosomal subunit protein bL27

Chain w:  73% 15% 12%



- Molecule 27: Large ribosomal subunit protein bL28

Chain x:  74% 23% 3%



- Molecule 28: Large ribosomal subunit protein uL29

Chain y:  76% 24%



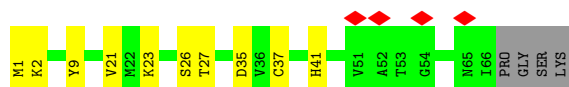
- Molecule 29: Large ribosomal subunit protein uL30

Chain z:  76% 22%



- Molecule 30: Large ribosomal subunit protein bL31

Chain A:  6% 80% 14% 6%



- Molecule 31: Large ribosomal subunit protein bL32

Chain B:  81% 18%



- Molecule 32: Large ribosomal subunit protein bL33

Chain C:  78% 13% 9%



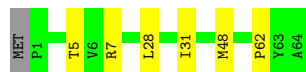
- Molecule 33: Large ribosomal subunit protein bL34

Chain D:  76% 22%



- Molecule 34: Large ribosomal subunit protein bL35

Chain E:  89% 9%

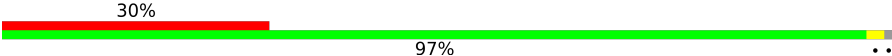


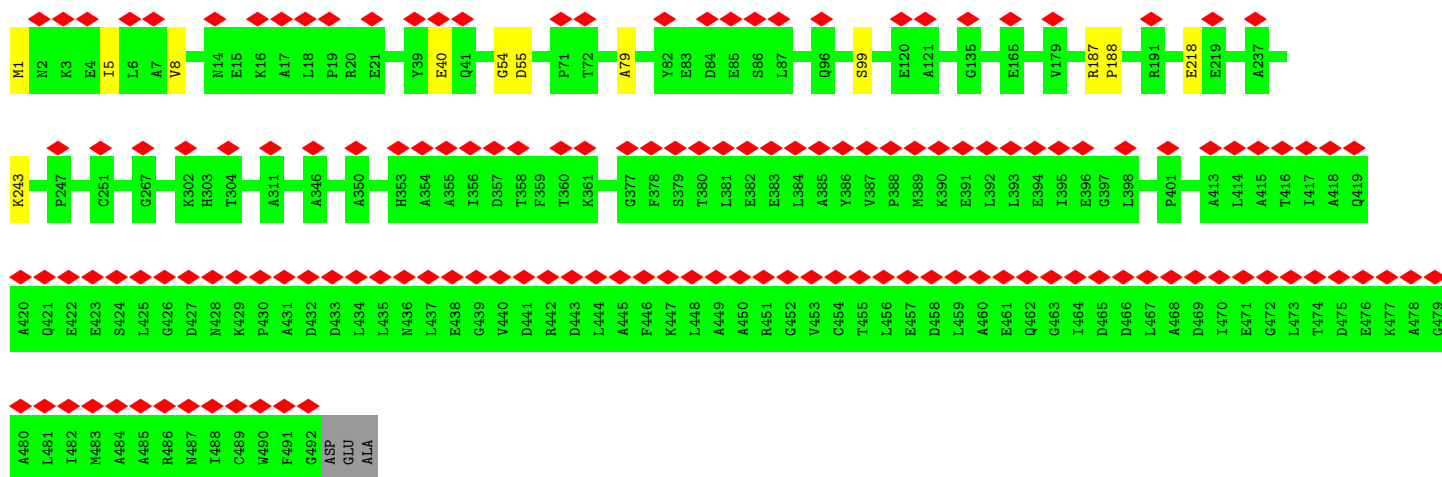
- Molecule 35: Large ribosomal subunit protein bL36A

Chain F:  76% 24%

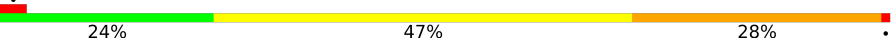


- Molecule 36: Transcription termination/antitermination protein NusA

Chain NA:  30% 97%



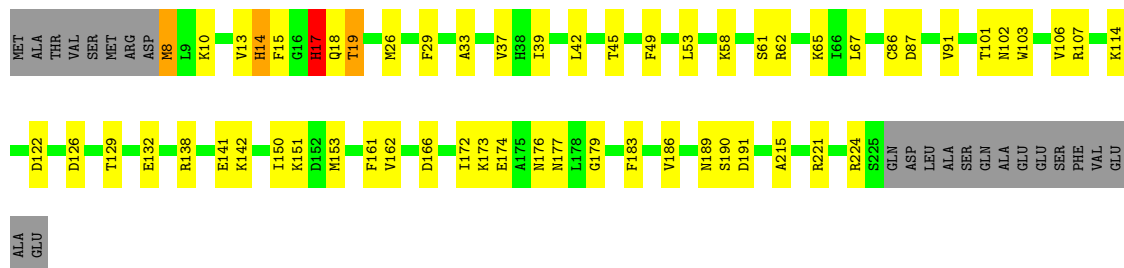
- Molecule 37: tRNA(Phe)

Chain 5:  24% 47% 28%



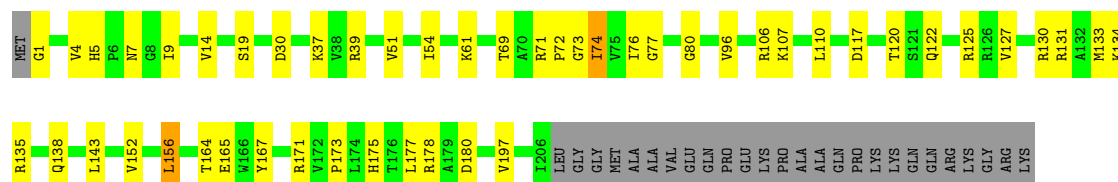
- Molecule 38: Small ribosomal subunit protein uS2

Chain G:  66% 22% 10%



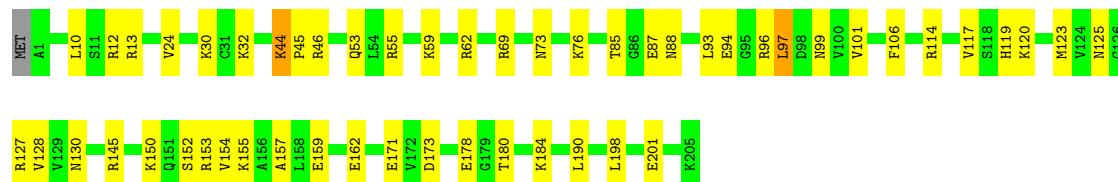
- Molecule 39: Small ribosomal subunit protein uS3

Chain H:  67% 20% 12%



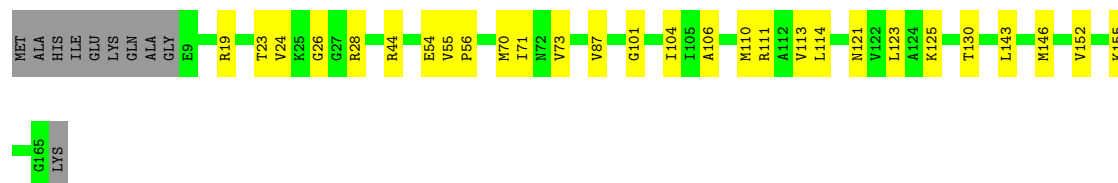
- Molecule 40: Small ribosomal subunit protein uS4

Chain I: 74% 24% .



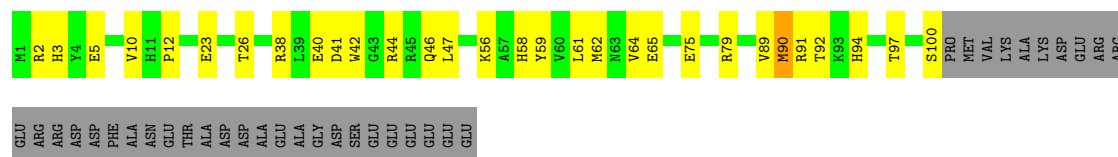
- Molecule 41: Small ribosomal subunit protein uS5

Chain J: 77% 17% 6%



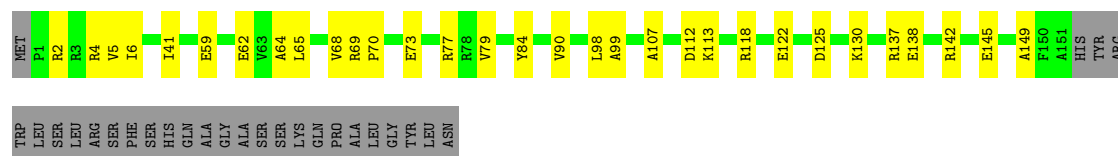
- Molecule 42: Small ribosomal subunit protein bS6, fully modified isoform

Chain K: 52% 21% 26%



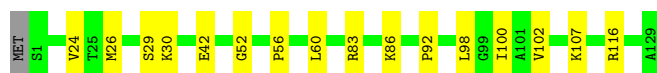
- Molecule 43: Small ribosomal subunit protein uS7

Chain L: 67% 17% 16%



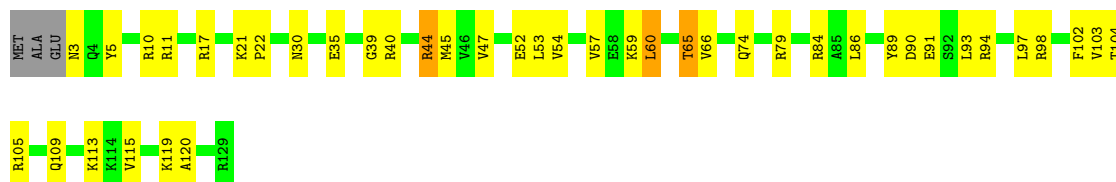
- Molecule 44: Small ribosomal subunit protein uS8

Chain M: 87% 12%



- Molecule 45: Small ribosomal subunit protein uS9

Chain N: 65% 30% ..



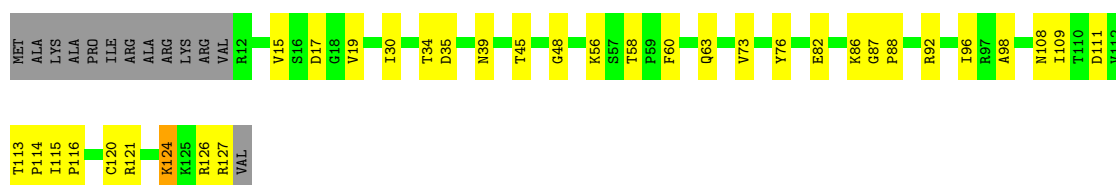
- Molecule 46: Small ribosomal subunit protein uS10

Chain O: 64% 22% 9% 5%



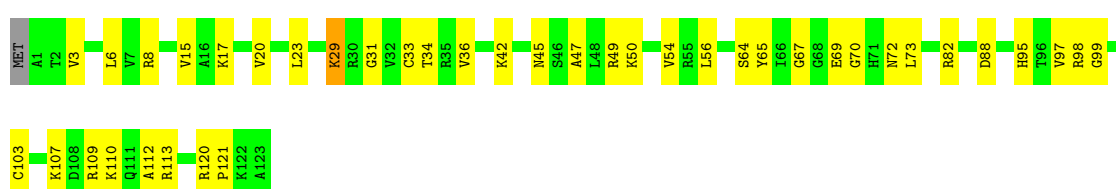
- Molecule 47: Small ribosomal subunit protein uS11

Chain P: 64% 26% 10%



- Molecule 48: Small ribosomal subunit protein uS12

Chain Q: 67% 31% ..



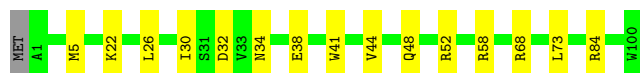
- Molecule 49: Small ribosomal subunit protein uS13

Chain R: 72% 25% .



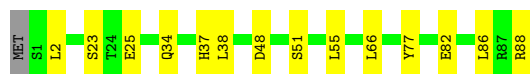
- Molecule 50: Small ribosomal subunit protein uS14

Chain S:  84% 15% .



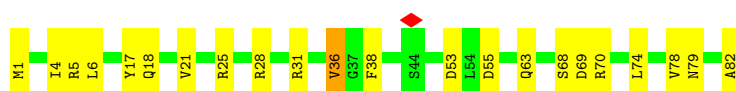
- Molecule 51: Small ribosomal subunit protein uS15

Chain T:  83% 16% .



- Molecule 52: Small ribosomal subunit protein bS16

Chain U:  73% 26% .



- Molecule 53: Small ribosomal subunit protein uS17

Chain V:  74% 21% 5%



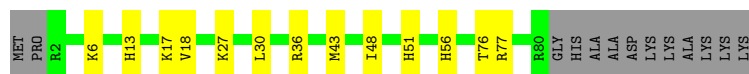
- Molecule 54: Small ribosomal subunit protein bS18

Chain W:  65% 20% 13%



- Molecule 55: Small ribosomal subunit protein uS19

Chain X:  72% 14% 14%



- Molecule 56: Small ribosomal subunit protein bS20

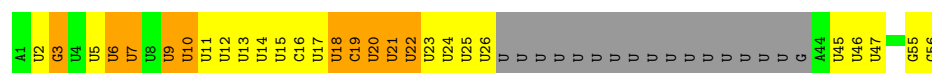
Chain Y:  76% 22% .



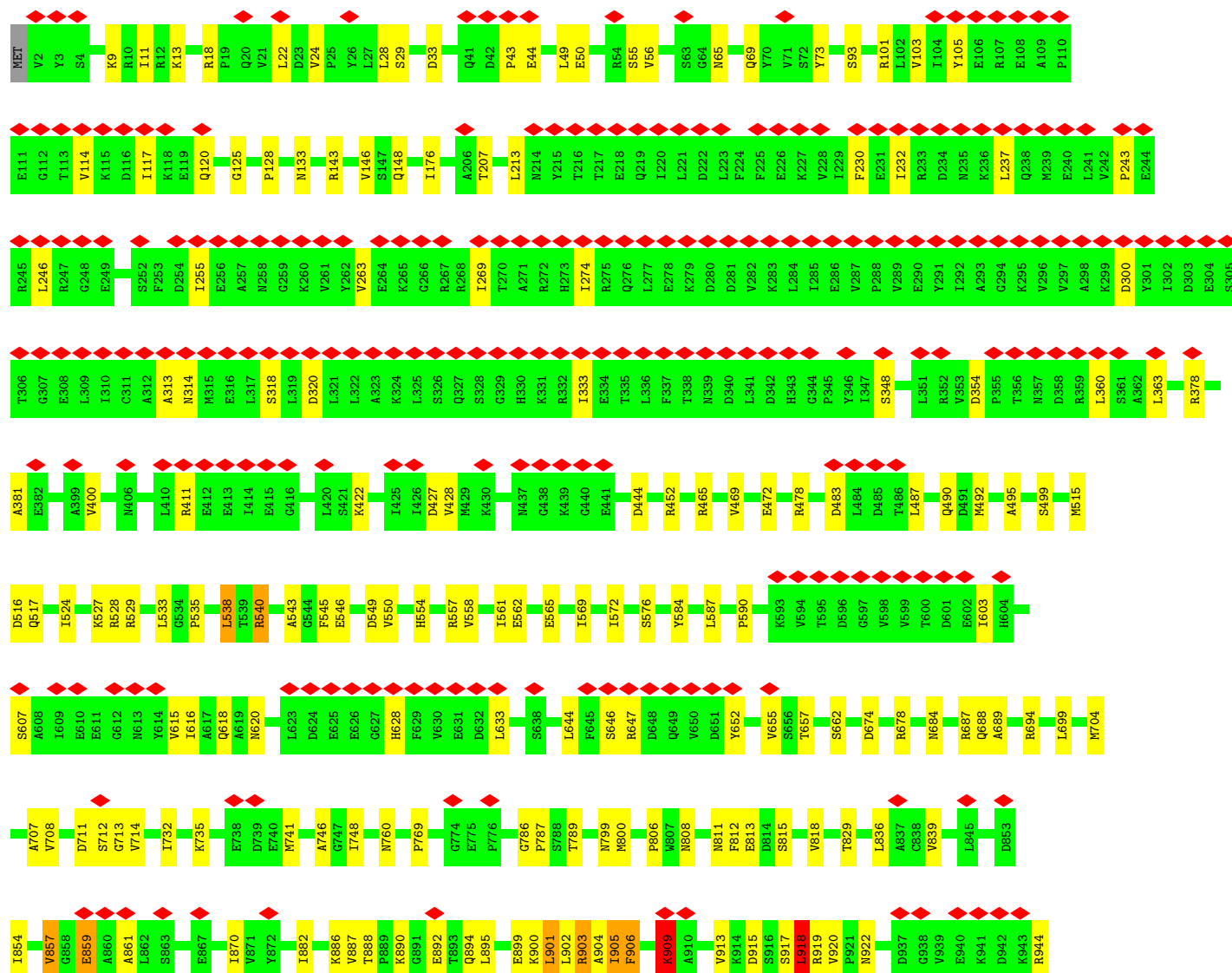
- Molecule 57: Small ribosomal subunit protein bS21

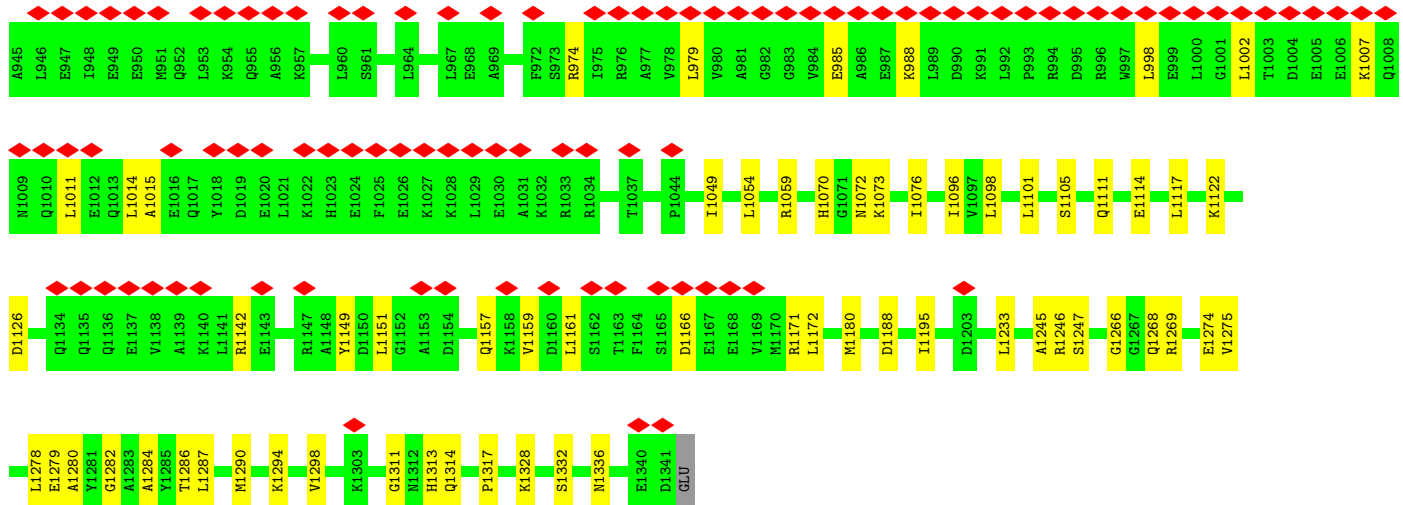
MT	PR	VAL	I3	K4	V5	R6	E7	N8	E9	P10	F11	D12	L15	R16	K19	R20	V27	L28	A29	E30	V31	R32	R33	R34	E35	K39	T42	E43	R44	H55	K58	R66	T67	LFU	TV8
----	----	-----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Chain 4:

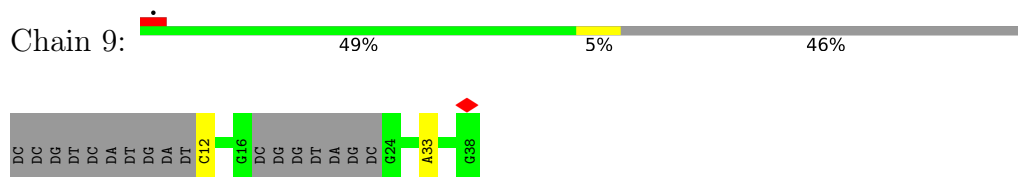


Chain B2:

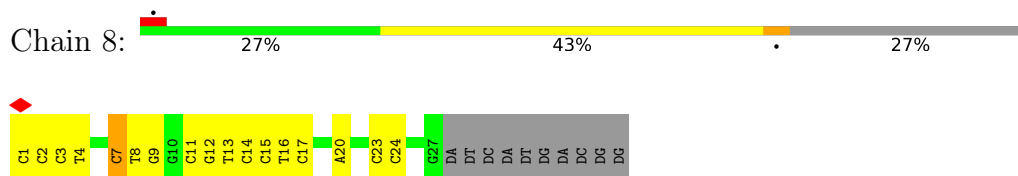




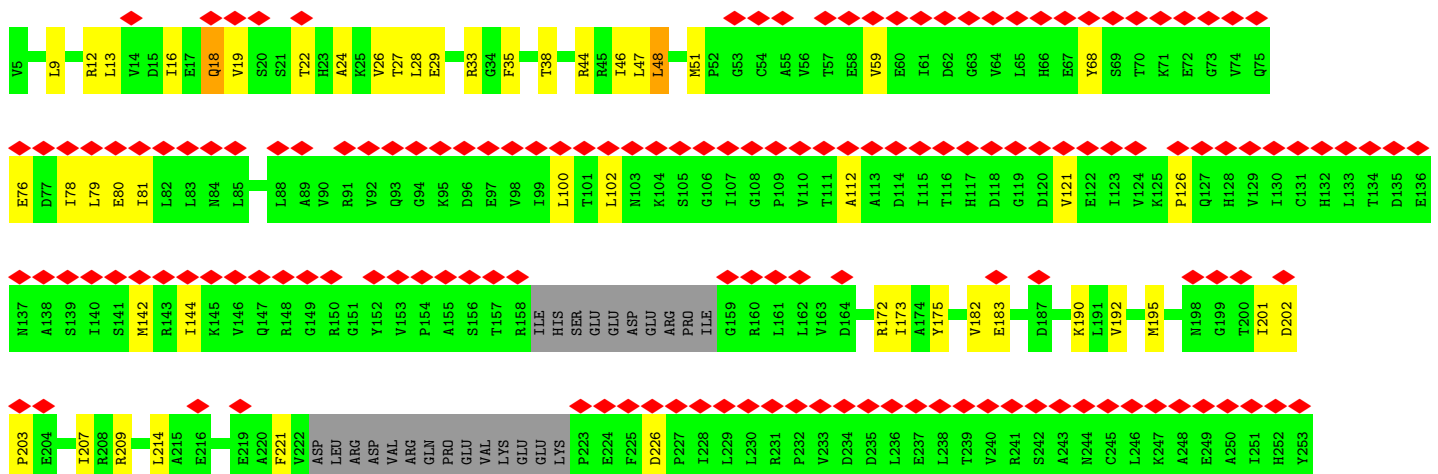
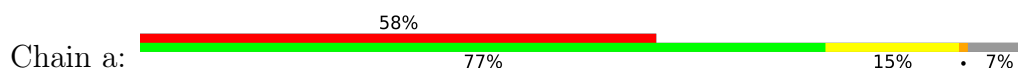
- Molecule 60: non-templated DNA strand

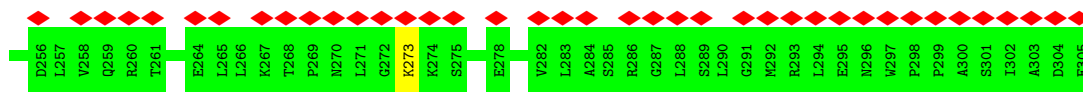


- Molecule 61: templated DNA strand

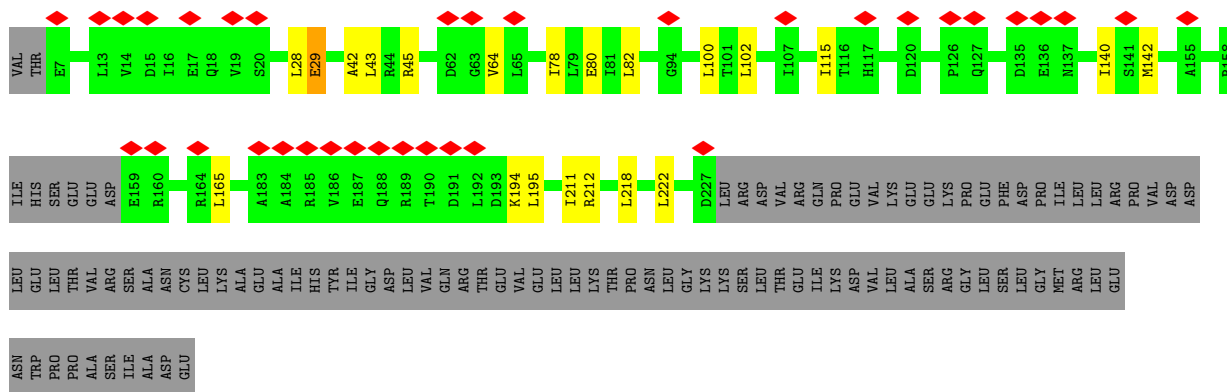


- Molecule 62: DNA-directed RNA polymerase subunit alpha

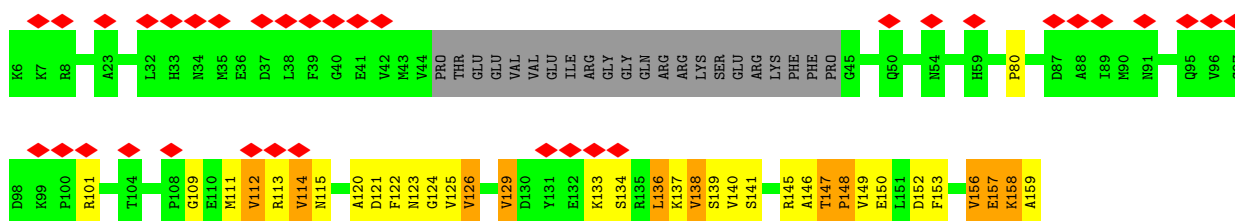




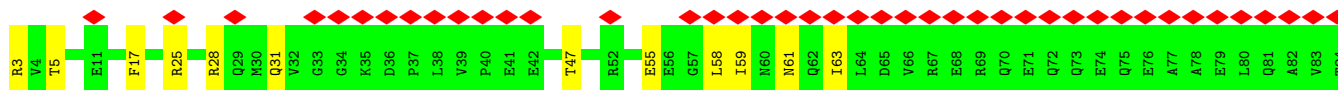
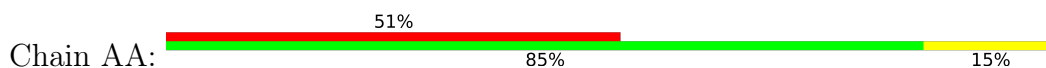
• Molecule 62: DNA-directed RNA polymerase subunit alpha



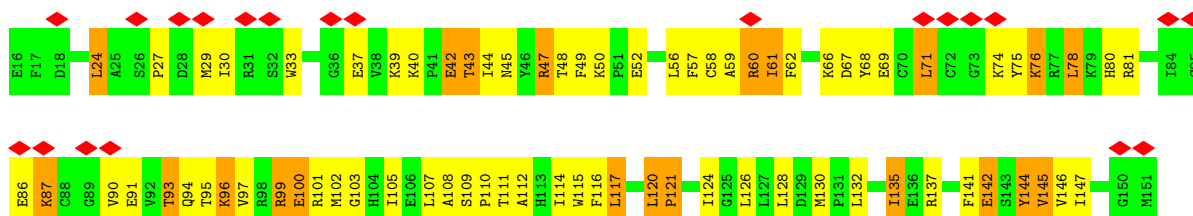
• Molecule 63: Transcription termination/antitermination protein NusG



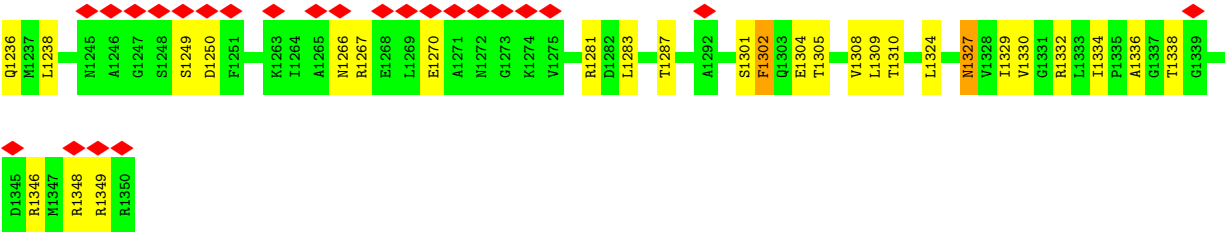
• Molecule 64: DNA-directed RNA polymerase subunit omega



• Molecule 65: DNA-directed RNA polymerase subunit beta'







4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	1717500	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.034	Depositor
Minimum map value	-0.009	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.002	Depositor
Map size ($\text{\AA}$)	502.64, 502.64, 502.64	wwPDB
Map dimensions	610, 610, 610	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.824, 0.824, 0.824	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	0.51	0/69796	0.62	21/108888 (0.0%)
2	2	0.45	1/2869 (0.0%)	0.47	0/4474
3	3	0.42	0/36963	0.43	0/57662
4	0	0.84	0/5309	1.17	6/7181 (0.1%)
5	6	0.40	0/1832	0.57	1/2855 (0.0%)
6	b	0.49	0/2121	0.64	0/2852
7	c	0.42	0/1586	0.59	2/2134 (0.1%)
8	d	0.44	0/1571	0.62	0/2113
9	e	0.43	0/1434	0.65	2/1926 (0.1%)
10	f	0.35	0/1343	0.56	0/1816
11	g	0.32	0/405	0.75	0/544
12	i	0.51	0/1046	0.87	3/1410 (0.2%)
13	j	0.42	0/1152	0.55	1/1551 (0.1%)
14	k	0.45	0/947	0.66	0/1268
15	l	0.40	0/1054	0.63	0/1403
16	m	0.56	0/1093	0.74	0/1460
17	n	0.46	0/973	0.72	1/1301 (0.1%)
18	o	0.32	0/902	0.51	0/1209
19	p	0.42	0/929	0.63	0/1242
20	q	0.52	0/960	0.62	1/1278 (0.1%)
21	r	0.46	0/829	0.70	0/1107
22	s	0.44	0/864	0.58	0/1156
23	t	0.34	0/744	0.53	0/994
24	u	0.46	0/787	0.75	0/1051
25	v	0.34	0/766	0.51	0/1025
26	w	0.41	0/582	0.52	0/769
27	x	0.43	0/635	0.63	1/848 (0.1%)
28	y	0.29	0/510	0.63	0/677
29	z	0.41	0/453	0.53	0/605
30	A	0.27	0/530	0.54	0/707
31	B	0.41	0/450	0.60	0/599
32	C	0.28	0/416	0.52	0/554

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	D	0.47	0/380	0.76	2/498 (0.4%)
34	E	0.53	0/513	0.60	0/676
35	F	0.58	0/303	0.66	0/397
36	NA	0.79	0/2431	1.22	0/3385
37	5	0.57	0/1812	0.85	1/2823 (0.0%)
38	G	0.38	0/1735	0.64	0/2338
39	H	0.34	0/1651	0.55	0/2225
40	I	0.35	0/1665	0.71	0/2227
41	J	0.38	0/1169	0.68	2/1573 (0.1%)
42	K	0.46	0/835	0.77	0/1128
43	L	0.31	0/1195	0.66	3/1602 (0.2%)
44	M	0.35	0/989	0.53	0/1326
45	N	0.47	0/1034	0.77	0/1375
46	O	0.46	0/796	0.76	2/1077 (0.2%)
47	P	0.45	0/885	0.64	1/1195 (0.1%)
48	Q	0.50	0/969	0.86	2/1300 (0.2%)
49	R	0.33	0/892	0.73	4/1193 (0.3%)
50	S	0.33	0/817	0.61	0/1088
51	T	0.49	0/722	0.64	0/964
52	U	0.30	0/659	0.71	2/884 (0.2%)
53	V	0.44	0/657	0.71	0/881
54	W	0.55	0/544	0.74	1/731 (0.1%)
55	X	0.29	0/652	0.55	0/877
56	Y	0.29	0/671	0.52	0/888
57	Z	0.66	0/550	1.01	2/728 (0.3%)
58	4	0.53	0/896	0.69	0/1387
59	B2	0.46	0/10714	0.67	0/14459
60	9	0.49	0/468	0.53	0/719
61	8	0.56	0/599	0.71	1/919 (0.1%)
62	a	0.56	0/2106	0.82	0/2868
62	h	0.43	0/1718	0.63	0/2328
63	7	0.62	0/756	0.92	1/1048 (0.1%)
64	AA	0.31	0/652	0.60	0/879
65	BA	0.57	4/10510 (0.0%)	0.75	8/14196 (0.1%)
All	All	0.49	5/194796 (0.0%)	0.64	71/286841 (0.0%)

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	2	120	U	C1'-N1	6.12	1.57	1.48
65	BA	1327	ASN	CG-ND2	-5.25	1.22	1.33
65	BA	1094	GLN	CD-OE1	5.19	1.33	1.23

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
65	BA	424	ASN	CG-ND2	-5.18	1.22	1.33
65	BA	665	GLN	CD-OE1	5.09	1.33	1.23

All (71) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	0	580	PHE	CA-CB-CG	9.56	123.36	113.80
47	P	73	VAL	N-CA-C	-9.02	104.54	113.20
20	q	33	VAL	N-CA-C	-8.78	104.75	112.12
43	L	64	ALA	N-CA-C	-7.68	105.07	114.75
1	1	1130	U	C2'-C3'-O3'	7.57	120.86	109.50
5	6	33	U	C2'-C3'-O3'	7.29	120.44	109.50
1	1	2326	C	C2'-C3'-O3'	7.15	120.22	109.50
65	BA	450	HIS	CB-CG-CD2	-6.51	122.73	131.20
65	BA	777	HIS	CB-CG-CD2	-6.49	122.77	131.20
1	1	761	A	C4'-C3'-O3'	-6.46	103.31	113.00
4	0	615	PRO	CB-CA-C	-6.44	102.55	110.98
65	BA	61	ILE	CA-C-N	-6.37	113.99	121.64
65	BA	61	ILE	C-N-CA	-6.37	113.99	121.64
7	c	147	GLY	CA-C-N	-6.10	115.18	122.44
7	c	147	GLY	C-N-CA	-6.10	115.18	122.44
63	7	109	GLY	N-CA-C	-6.00	107.94	115.08
65	BA	450	HIS	CB-CG-ND1	5.71	131.27	122.70
1	1	2060	A	C2'-C3'-O3'	5.71	118.06	109.50
4	0	657	GLU	CA-C-N	-5.64	118.42	123.33
4	0	657	GLU	C-N-CA	-5.64	118.42	123.33
1	1	1790	C	N1-C1'-C2'	5.62	120.43	112.00
17	n	47	VAL	N-CA-C	-5.61	107.41	112.12
57	Z	35	GLU	CA-C-N	5.60	132.24	121.54
57	Z	35	GLU	C-N-CA	5.60	132.24	121.54
46	O	57	VAL	CA-C-N	5.56	132.16	121.54
46	O	57	VAL	C-N-CA	5.56	132.16	121.54
1	1	960	A	N9-C1'-C2'	5.52	120.28	112.00
1	1	1020	A	C2'-C3'-O3'	5.49	117.73	109.50
65	BA	777	HIS	CB-CG-ND1	5.48	130.92	122.70
1	1	1905	C	C4'-C3'-O3'	-5.46	104.81	113.00
41	J	155	LYS	N-CA-C	-5.45	107.89	114.75
1	1	1696	G	N9-C1'-C2'	5.44	120.17	112.00
1	1	1451	C	N1-C1'-C2'	5.39	120.08	112.00
61	8	7	DC	C2'-C3'-O3'	-5.35	103.47	111.50
33	D	3	ARG	CA-C-N	5.35	127.71	120.38
33	D	3	ARG	C-N-CA	5.35	127.71	120.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2428	G	N9-C1'-C2'	5.31	119.97	112.00
1	1	2055	C	N1-C1'-C2'	5.30	119.94	112.00
43	L	5	VAL	CA-C-N	5.29	127.79	120.49
43	L	5	VAL	C-N-CA	5.29	127.79	120.49
4	0	271	LYS	N-CA-C	-5.28	106.34	112.89
9	e	141	ASP	CA-C-N	5.28	131.62	121.54
9	e	141	ASP	C-N-CA	5.28	131.62	121.54
1	1	1782	U	N1-C1'-C2'	5.27	119.91	112.00
13	j	110	PRO	N-CA-C	5.26	120.77	113.98
1	1	980	A	N9-C1'-C2'	5.24	119.86	112.00
1	1	2576	G	N9-C1'-C2'	5.22	119.83	112.00
65	BA	27	PRO	N-CA-C	-5.20	106.26	113.81
1	1	2430	A	N9-C1'-C2'	5.18	119.78	112.00
54	W	14	ALA	N-CA-C	-5.18	106.04	112.93
52	U	78	VAL	CA-C-N	5.17	129.62	121.56
52	U	78	VAL	C-N-CA	5.17	129.62	121.56
1	1	1565	C	N1-C1'-C2'	5.16	119.75	112.00
1	1	1328	A	N9-C1'-C2'	5.14	119.70	112.00
49	R	3	ILE	CA-C-N	5.12	131.32	121.54
49	R	3	ILE	C-N-CA	5.12	131.32	121.54
41	J	87	VAL	N-CA-C	5.10	115.98	109.30
48	Q	42	LYS	CA-C-N	5.10	129.62	121.62
48	Q	42	LYS	C-N-CA	5.10	129.62	121.62
12	i	22	PRO	N-CA-CB	-5.09	97.90	103.25
4	0	375	LYS	N-CA-C	-5.09	106.92	112.72
12	i	71	LYS	CA-C-N	5.08	134.18	121.80
12	i	71	LYS	C-N-CA	5.08	134.18	121.80
37	5	57	G	C4'-C3'-O3'	5.08	117.02	109.40
27	x	25	LYS	N-CA-C	5.06	121.58	110.80
1	1	2777	G	N9-C1'-C2'	5.05	119.58	112.00
65	BA	61	ILE	CA-C-O	-5.04	115.71	120.95
1	1	1087	G	N9-C1'-C2'	5.04	119.56	112.00
1	1	972	A	N9-C1'-C2'	5.02	119.53	112.00
49	R	6	ILE	CA-C-N	5.00	129.21	121.26
49	R	6	ILE	C-N-CA	5.00	129.21	121.26

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	31345	1457	0
2	2	2566	0	1302	15	0
3	3	33012	0	16618	187	0
4	0	5212	0	5200	64	0
5	6	1640	0	837	23	0
6	b	2082	0	2157	50	0
7	c	1565	0	1616	28	0
8	d	1552	0	1619	28	0
9	e	1410	0	1447	17	0
10	f	1323	0	1374	26	0
11	g	400	0	423	6	0
12	i	1032	0	1088	37	0
13	j	1129	0	1162	21	0
14	k	938	0	1012	19	0
15	l	1045	0	1117	17	0
16	m	1074	0	1157	11	0
17	n	960	0	1000	20	0
18	o	892	0	923	14	0
19	p	917	0	965	13	0
20	q	947	0	1022	13	0
21	r	816	0	839	17	0
22	s	857	0	922	12	0
23	t	738	0	807	12	0
24	u	779	0	834	14	0
25	v	753	0	780	8	0
26	w	575	0	592	9	0
27	x	625	0	655	11	0
28	y	509	0	543	12	0
29	z	449	0	491	8	0
30	A	521	0	520	8	0
31	B	444	0	461	8	0
32	C	409	0	440	5	0
33	D	377	0	418	9	0
34	E	504	0	574	3	0
35	F	302	0	343	4	0
36	NA	2432	0	1171	26	0
37	5	1622	0	821	39	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	G	1704	0	1732	39	0
39	H	1624	0	1699	67	0
40	I	1643	0	1710	31	0
41	J	1156	0	1199	19	0
42	K	817	0	808	16	0
43	L	1181	0	1240	19	0
44	M	979	0	1034	10	0
45	N	1022	0	1070	23	0
46	O	786	0	828	51	0
47	P	869	0	878	22	0
48	Q	955	0	1019	25	0
49	R	883	0	944	15	0
50	S	805	0	847	11	0
51	T	714	0	737	8	0
52	U	649	0	666	18	0
53	V	648	0	691	9	0
54	W	535	0	552	8	0
55	X	637	0	665	9	0
56	Y	665	0	714	12	0
57	Z	544	0	579	13	0
58	4	809	0	405	83	0
59	B2	10546	0	10550	181	0
60	9	417	0	224	2	0
61	8	539	0	305	28	0
62	a	2088	0	1895	28	0
62	h	1698	0	1718	14	0
63	7	758	0	334	48	0
64	AA	650	0	658	10	0
65	BA	10353	0	10548	348	0
66	BA	1	0	0	0	0
All	All	181400	0	130844	2994	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 10.

All (2994) 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)
36:NA:1:MET:CB	59:B2:903:ARG:HH11	0.96	1.60
4:0:512:ARG:CZ	58:4:7:U:H5''	1.44	1.46
39:H:73:GLY:HA3	58:4:22:U:C4'	1.52	1.39

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:NA:1:MET:CB	59:B2:903:ARG:NH1	1.81	1.37
36:NA:1:MET:CA	59:B2:903:ARG:HB3	1.59	1.32
39:H:122:GLN:HG2	58:4:19:C:OP2	1.31	1.28
46:O:89:ARG:HD3	65:BA:86:GLU:CD	1.57	1.28
39:H:73:GLY:CA	58:4:22:U:H4'	1.64	1.26
36:NA:1:MET:HA	59:B2:903:ARG:CB	1.64	1.26
39:H:72:PRO:HG2	58:4:22:U:O2	1.34	1.22
46:O:89:ARG:CD	65:BA:86:GLU:CD	2.11	1.22
46:O:89:ARG:HD2	65:BA:86:GLU:OE1	1.41	1.21
46:O:89:ARG:CD	65:BA:86:GLU:CG	2.22	1.17
36:NA:54:GLY:O	59:B2:905:ILE:HA	1.44	1.14
39:H:122:GLN:CG	58:4:19:C:OP2	1.96	1.14
36:NA:1:MET:CB	59:B2:903:ARG:HD3	1.77	1.12
4:0:512:ARG:NE	58:4:7:U:H5''	1.67	1.10
63:7:113:ARG:HA	63:7:123:ASN:HA	1.16	1.09
46:O:89:ARG:HD3	65:BA:86:GLU:CG	1.82	1.07
46:O:89:ARG:CD	65:BA:86:GLU:OE1	2.00	1.06
63:7:112:VAL:HA	63:7:158:LYS:HA	1.10	1.06
39:H:135:ARG:HH22	58:4:18:U:H1'	0.97	1.06
63:7:129:VAL:CA	63:7:136:LEU:HA	1.89	1.03
63:7:129:VAL:HA	63:7:136:LEU:CA	1.87	1.02
1:1:2713:U:H3'	1:1:2714:G:H5'	1.41	1.02
1:1:1082:U:H3'	1:1:1083:U:H5''	1.41	1.02
1:1:1672:A:C2	1:1:2582:G:H5'	1.95	1.02
1:1:275:C:H2'	1:1:276:U:H4'	1.37	1.02
1:1:1666:G:H2'	1:1:1667:G:H5'	1.41	1.01
65:BA:111:THR:HG23	65:BA:300:GLN:CD	1.86	1.01
59:B2:549:ASP:OD2	65:BA:750:PRO:HB3	1.60	1.01
4:0:512:ARG:CZ	58:4:7:U:C5'	2.40	1.00
46:O:85:ASP:OD2	65:BA:87:LYS:CE	2.10	1.00
1:1:1807:G:H2'	1:1:1808:A:H5'	1.44	0.98
39:H:131:ARG:NH1	58:4:17:U:O2	1.97	0.97
46:O:89:ARG:HD2	65:BA:86:GLU:HB2	1.47	0.97
46:O:85:ASP:OD2	65:BA:87:LYS:HE3	1.62	0.96
59:B2:1268:GLN:NE2	65:BA:352:ARG:HD2	1.79	0.96
65:BA:68:TYR:O	65:BA:75:TYR:CE2	2.20	0.95
39:H:135:ARG:NH2	58:4:18:U:H1'	1.82	0.94
1:1:655:A:H4'	1:1:656:G:H5'	1.50	0.94
39:H:72:PRO:CG	58:4:22:U:O2	2.15	0.94
1:1:1847:A:HO2'	1:1:1848:A:H8	1.07	0.93
1:1:2156:G:H2'	1:1:2157:G:H5'	1.47	0.93

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:644:A:H2'	1:1:645:C:H5''	1.50	0.93
1:1:2305:U:H5''	9:e:130:GLY:HA3	1.51	0.93
65:BA:202:ARG:HG2	65:BA:202:ARG:HH11	1.34	0.93
1:1:1102:C:H2'	1:1:1103:A:H8	1.35	0.92
1:1:1019:U:H3	1:1:1142:A:H62	1.17	0.92
1:1:1702:G:H2'	1:1:1703:G:H5''	1.51	0.92
1:1:2713:U:H3'	1:1:2714:G:C5'	1.98	0.92
58:4:56:G:H21	65:BA:427:PRO:HD3	1.34	0.92
63:7:113:ARG:CA	63:7:123:ASN:HA	2.01	0.91
63:7:129:VAL:HA	63:7:136:LEU:HA	0.95	0.91
1:1:890:C:H2'	1:1:891:G:H5'	1.53	0.91
39:H:71:ARG:NH1	58:4:20:U:H4'	1.85	0.91
4:0:512:ARG:NH1	58:4:7:U:H6	1.70	0.90
1:1:2312:U:H5'	9:e:84:ILE:HD13	1.51	0.90
39:H:135:ARG:HH22	58:4:18:U:C1'	1.85	0.90
46:O:89:ARG:HD2	65:BA:86:GLU:CD	1.88	0.90
65:BA:68:TYR:C	65:BA:75:TYR:HE2	1.80	0.90
1:1:1668:A:H4'	1:1:1669:A:H5'	1.54	0.89
1:1:11:C:H2'	1:1:12:U:H5''	1.54	0.89
1:1:2097:A:H2'	1:1:2098:U:C6	2.08	0.89
4:0:512:ARG:NH1	58:4:7:U:O4'	2.06	0.89
65:BA:317:THR:HA	65:BA:323:PRO:HA	1.55	0.88
4:0:348:THR:HA	4:0:359:ARG:HA	1.55	0.88
39:H:131:ARG:NH2	58:4:17:U:O2	2.05	0.88
1:1:1060:U:H4'	1:1:1061:U:H5''	1.55	0.87
63:7:113:ARG:HA	63:7:123:ASN:CA	2.04	0.87
37:5:9:A:H2'	37:5:11:C:H41	1.38	0.87
45:N:3:ASN:N	45:N:5:TYR:HH	1.71	0.87
59:B2:854:ILE:HG21	59:B2:917:SER:HB3	1.54	0.87
1:1:2020:A:H5'	31:B:8:THR:HB	1.56	0.87
63:7:112:VAL:HA	63:7:158:LYS:CA	2.03	0.87
46:O:89:ARG:CD	65:BA:86:GLU:CB	2.52	0.87
1:1:1869:G:H3'	1:1:1870:C:H5'	1.58	0.86
39:H:122:GLN:CD	58:4:19:C:OP2	2.18	0.86
46:O:89:ARG:CD	65:BA:86:GLU:HG2	2.06	0.86
1:1:2584:U:H2'	1:1:2585:U:H5'	1.58	0.85
46:O:89:ARG:HD3	65:BA:86:GLU:HG2	1.56	0.85
63:7:112:VAL:CA	63:7:158:LYS:HA	2.02	0.85
36:NA:55:ASP:HA	59:B2:905:ILE:O	1.77	0.85
46:O:89:ARG:HD2	65:BA:86:GLU:CB	2.07	0.85
1:1:1387:A:H5'	1:1:1469:A:H1'	1.58	0.85

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2333:A:H5'	1:1:2334:U:H2'	1.57	0.84
4:0:512:ARG:HD2	58:4:7:U:C4'	2.07	0.84
36:NA:8:VAL:CB	59:B2:901:LEU:HD11	2.07	0.84
63:7:112:VAL:H	63:7:126:VAL:H	1.25	0.84
1:1:475:C:H4'	1:1:510:C:H5'	1.59	0.84
39:H:76:ILE:HD11	58:4:23:U:O5'	1.77	0.84
1:1:2792:A:H2'	1:1:2793:C:H5''	1.59	0.83
59:B2:808:ASN:H	65:BA:633:ALA:HB2	1.41	0.83
1:1:1666:G:C2'	1:1:1667:G:H5'	2.07	0.83
1:1:849:A:H2'	1:1:850:U:C6	2.14	0.83
1:1:1082:U:H5'	12:i:119:ALA:HB2	1.60	0.83
1:1:1175:A:H3'	1:1:1176:U:H5'	1.59	0.83
65:BA:68:TYR:HB3	65:BA:75:TYR:OH	1.76	0.82
1:1:757:G:H2'	1:1:758:C:H5'	1.61	0.82
65:BA:141:PHE:HE2	65:BA:296:LYS:HB2	1.45	0.82
3:3:521:G:H4'	48:Q:69:GLU:HG3	1.59	0.82
1:1:1278:C:OP1	17:n:36:THR:HG22	1.80	0.82
46:O:89:ARG:NE	65:BA:86:GLU:CB	2.43	0.82
61:8:1:DC:H5''	65:BA:210:SER:OG	1.80	0.82
65:BA:141:PHE:CE2	65:BA:296:LYS:HB2	2.15	0.81
1:1:279:A:H61	1:1:361:G:H1'	1.46	0.81
59:B2:618:GLN:HG3	65:BA:770:LEU:HD13	1.61	0.81
1:1:1141:U:H4'	1:1:1142:A:O4'	1.80	0.81
46:O:89:ARG:HD2	65:BA:86:GLU:CG	2.10	0.81
65:BA:68:TYR:O	65:BA:75:TYR:HE2	1.58	0.81
1:1:2348:U:H4'	32:C:40:PRO:HG3	1.63	0.81
36:NA:1:MET:CA	59:B2:903:ARG:HD3	2.09	0.81
1:1:1197:G:O2'	1:1:1198:U:H5'	1.81	0.81
1:1:2224:G:H4'	1:1:2226:C:C2	2.16	0.81
65:BA:111:THR:HG23	65:BA:300:GLN:OE1	1.81	0.81
65:BA:144:TYR:HE1	65:BA:162:GLU:OE2	1.64	0.81
39:H:131:ARG:CZ	58:4:17:U:O2	2.28	0.80
1:1:545:U:C2	1:1:546:U:H1'	2.16	0.80
1:1:2112:G:H2'	1:1:2113:U:H5'	1.64	0.80
1:1:2360:G:H2'	1:1:2361:G:H5'	1.62	0.80
1:1:1775:U:H2'	1:1:1776:G:H5'	1.64	0.80
39:H:122:GLN:OE1	58:4:19:C:OP1	1.99	0.80
65:BA:37:GLU:O	65:BA:61:ILE:HD11	1.82	0.80
4:0:508:GLN:HA	4:0:513:GLY:CA	2.12	0.80
1:1:1087:G:N2	1:1:1103:A:H1'	1.97	0.79
1:1:2286:G:H4'	1:1:2287:A:O4'	1.82	0.79

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:784:G:H5'	1:1:785:G:OP1	1.81	0.79
1:1:1064:C:H41	1:1:1069:A:H5''	1.47	0.79
4:0:512:ARG:NH1	58:4:7:U:H5''	1.96	0.79
1:1:2799:A:H2'	1:1:2800:A:H5'	1.63	0.79
1:1:1536:C:H4'	1:1:1537:G:C2	2.18	0.79
5:6:46:G:H2'	5:6:47:U:H5'	1.64	0.79
1:1:1071:G:O2'	1:1:1089:A:H2'	1.82	0.79
4:0:512:ARG:HH12	58:4:7:U:H6	1.28	0.79
38:G:18:GLN:HG3	38:G:189:ASN:HB3	1.65	0.78
65:BA:186:GLN:HG3	65:BA:238:ILE:HG13	1.65	0.78
1:1:1310:G:C2'	1:1:1311:G:H5'	2.14	0.78
1:1:2215:C:H2'	1:1:2216:G:C8	2.18	0.78
39:H:131:ARG:NH1	58:4:16:C:O2	2.16	0.78
1:1:1297:C:OP1	1:1:2710:C:H4'	1.83	0.78
1:1:275:C:H2'	1:1:276:U:C4'	2.14	0.78
1:1:368:A:H2'	1:1:369:U:H5'	1.66	0.78
1:1:1060:U:OP2	12:i:55:PRO:HG3	1.83	0.78
1:1:548:G:H2'	1:1:549:G:O4'	1.84	0.77
1:1:1666:G:O2'	14:k:6:THR:HG22	1.83	0.77
1:1:2097:A:H2'	1:1:2098:U:H6	1.50	0.77
1:1:2130:U:H2'	1:1:2131:U:H5''	1.65	0.77
1:1:2156:G:C2'	1:1:2157:G:H5'	2.14	0.77
1:1:2680:U:OP1	7:c:114:LYS:HB2	1.84	0.77
1:1:1702:G:C2'	1:1:1703:G:H5''	2.13	0.77
1:1:1736:U:H2'	1:1:1737:G:O4'	1.85	0.77
61:8:13:DT:H72	65:BA:791:ALA:HB2	1.66	0.77
1:1:543:G:H2'	1:1:544:C:H5''	1.68	0.76
1:1:1063:G:H1	1:1:1075:C:N4	1.84	0.76
1:1:2792:A:C3'	1:1:2793:C:H5''	2.14	0.76
1:1:1275:A:N6	1:1:1296:G:H4'	1.99	0.76
3:3:1397:C:N4	58:4:10:U:N3	2.33	0.76
61:8:15:DC:H1'	65:BA:426:ALA:HB1	1.67	0.76
4:0:624:PRO:HG2	4:0:677:ARG:HD2	1.66	0.76
1:1:310:A:O2'	1:1:311:A:H2'	1.85	0.76
1:1:2611:C:O2	1:1:2611:C:H2'	1.86	0.76
63:7:115:ASN:H	63:7:156:VAL:HA	1.50	0.76
1:1:1310:G:H2'	1:1:1311:G:H5'	1.69	0.75
1:1:2432:A:H1'	5:6:75:C:O4'	1.87	0.75
1:1:2792:A:C2'	1:1:2793:C:H5''	2.16	0.75
4:0:512:ARG:NE	58:4:7:U:C5'	2.48	0.75
1:1:275:C:H3'	1:1:276:U:H5''	1.66	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1083:U:H2'	1:1:1085:A:OP2	1.86	0.75
1:1:1394:U:H4'	1:1:1603:A:H4'	1.66	0.75
1:1:958:U:H2'	2:2:89:U:O2	1.87	0.75
65:BA:110:PRO:HG2	65:BA:183:GLU:HG3	1.69	0.75
65:BA:202:ARG:HG2	65:BA:202:ARG:NH1	1.99	0.74
39:H:122:GLN:CD	58:4:19:C:P	2.70	0.74
1:1:1555:G:H5'	1:1:1555:G:H8	1.51	0.74
61:8:3:DC:H2'	61:8:4:DT:H72	1.69	0.74
1:1:1425:G:H2'	1:1:1426:G:C8	2.23	0.74
1:1:1020:A:H5'	1:1:1021:A:C8	2.22	0.74
46:O:89:ARG:CD	65:BA:86:GLU:HB2	2.16	0.74
46:O:102:LEU:HD13	63:7:149:VAL:HA	1.69	0.74
1:1:404:A:H1'	1:1:406:G:C4	2.23	0.74
48:Q:33:CYS:HA	48:Q:54:VAL:HG12	1.70	0.74
1:1:545:U:H2'	1:1:546:U:O4'	1.88	0.74
4:0:512:ARG:HD2	58:4:7:U:O4'	1.87	0.73
3:3:456:A:H61	3:3:476:U:H3	1.36	0.73
1:1:1061:U:H3'	1:1:1062:G:C5'	2.18	0.73
1:1:1773:A:H2'	1:1:1774:C:H5'	1.68	0.73
1:1:1433:A:H2'	1:1:1434:A:O4'	1.89	0.73
1:1:1102:C:H2'	1:1:1103:A:C8	2.22	0.73
4:0:508:GLN:HA	4:0:513:GLY:HA2	1.69	0.73
61:8:3:DC:C2'	61:8:4:DT:H72	2.19	0.73
46:O:5:ARG:HG2	46:O:79:PRO:HG3	1.68	0.73
65:BA:210:SER:HB3	65:BA:213:LYS:HB2	1.71	0.73
65:BA:282:LEU:HA	65:BA:286:ALA:HA	1.70	0.73
1:1:481:G:H1'	1:1:506:G:N2	2.04	0.72
1:1:864:G:O2'	1:1:865:C:H5'	1.89	0.72
1:1:2713:U:C3'	1:1:2714:G:C5'	2.67	0.72
10:f:15:ASP:HB3	10:f:26:LYS:H	1.54	0.72
37:5:30:G:H2'	37:5:31:A:C8	2.24	0.72
1:1:1670:C:H2'	1:1:1671:U:H5'	1.70	0.72
1:1:1942:C:H3'	1:1:1943:U:H2'	1.70	0.72
1:1:2036:C:H2'	1:1:2037:A:C8	2.23	0.72
1:1:322:A:H5'	1:1:340:A:C1'	2.19	0.72
1:1:1872:A:H2'	1:1:1873:G:O4'	1.89	0.72
1:1:250:G:H4'	15:l:59:ARG:HD2	1.71	0.72
1:1:1795:C:H2'	1:1:1796:U:O4'	1.90	0.72
5:6:50:U:H2'	5:6:51:C:C4	2.24	0.72
65:BA:107:LEU:HD11	65:BA:242:LEU:HB2	1.70	0.72
1:1:2671:G:H2'	1:1:2672:U:C6	2.25	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2834:G:H2'	1:1:2879:A:H61	1.54	0.72
63:7:111:MET:HA	63:7:125:VAL:HA	1.72	0.72
3:3:530:G:O6	58:4:9:U:O2'	2.05	0.72
65:BA:105:ILE:HD12	65:BA:242:LEU:HD22	1.71	0.71
65:BA:157:GLN:OE1	65:BA:157:GLN:HA	1.89	0.71
65:BA:220:ARG:HG2	65:BA:220:ARG:HH11	1.55	0.71
1:1:1858:A:H1'	1:1:1885:A:C2	2.25	0.71
4:0:512:ARG:HB3	58:4:7:U:H4'	1.72	0.71
65:BA:142:GLU:HG3	65:BA:142:GLU:O	1.89	0.71
1:1:368:A:C2'	1:1:369:U:H5'	2.20	0.71
65:BA:211:GLU:HG2	65:BA:215:LYS:HE3	1.71	0.71
1:1:538:A:H4'	13:j:7:LYS:HG2	1.73	0.71
1:1:633:A:H2'	1:1:634:C:H5'	1.72	0.71
1:1:1441:G:H2'	1:1:1442:U:C6	2.25	0.71
46:O:89:ARG:CZ	65:BA:86:GLU:HG2	2.20	0.71
1:1:394:C:H2'	1:1:395:U:O4'	1.90	0.71
65:BA:93:THR:HB	65:BA:97:VAL:HG21	1.73	0.71
1:1:1670:C:C2'	1:1:1671:U:H5'	2.21	0.71
1:1:1983:G:O2'	1:1:1984:G:H5'	1.91	0.70
1:1:2297:A:N1	1:1:2321:U:H5	1.89	0.70
59:B2:1268:GLN:HE22	65:BA:352:ARG:HD2	1.56	0.70
3:3:663:A:H61	3:3:742:G:H1	1.39	0.70
1:1:612:G:H2'	1:1:614:A:C8	2.26	0.70
1:1:572:A:OP2	21:r:79:ARG:NH1	2.25	0.70
1:1:956:G:N7	16:m:14:LYS:NZ	2.35	0.70
1:1:1386:C:H2'	1:1:1387:A:H8	1.56	0.70
1:1:2151:U:H2'	1:1:2152:G:H8	1.56	0.70
1:1:2267:A:H5''	1:1:2268:A:H5''	1.74	0.70
1:1:1067:A:H4'	12:i:22:PRO:HB3	1.72	0.70
65:BA:128:LEU:HD11	65:BA:189:LEU:HG	1.73	0.70
1:1:890:C:C2'	1:1:891:G:H5'	2.20	0.70
1:1:1137:G:O2'	1:1:1138:G:H5'	1.92	0.70
4:0:104:ARG:HH22	4:0:407:GLU:HB3	1.57	0.70
1:1:940:G:H2'	1:1:941:A:H5''	1.72	0.70
1:1:322:A:H5'	1:1:340:A:H1'	1.73	0.70
1:1:723:C:H2'	1:1:724:U:C6	2.27	0.70
1:1:774:G:H5''	6:b:47:ARG:NH2	2.07	0.69
1:1:1555:G:H5'	1:1:1555:G:C8	2.27	0.69
1:1:2151:U:H2'	1:1:2152:G:C8	2.27	0.69
3:3:452:A:H61	3:3:480:U:H3	1.38	0.69
39:H:127:VAL:HG23	58:4:17:U:O3'	1.92	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:1120:ASP:OD1	65:BA:1125:ARG:NH1	2.21	0.69
1:1:2626:C:O2'	1:1:2627:G:H5'	1.91	0.69
1:1:419:U:H2'	1:1:420:C:C6	2.27	0.69
1:1:644:A:H2'	1:1:645:C:C5'	2.22	0.69
1:1:2114:A:H2	1:1:2167:U:H1'	1.58	0.69
1:1:2403:C:O2'	1:1:2404:U:H5'	1.92	0.69
1:1:1292:G:H2'	1:1:1293:C:C6	2.27	0.69
1:1:1337:G:H2'	1:1:1338:G:H8	1.57	0.69
59:B2:1332:SER:O	65:BA:243:PRO:HG2	1.93	0.69
65:BA:68:TYR:C	65:BA:75:TYR:CE2	2.65	0.69
1:1:644:A:C2'	1:1:645:C:H5''	2.22	0.69
1:1:402:A:H2'	1:1:403:U:H5'	1.74	0.69
1:1:894:U:H2'	1:1:895:U:O4'	1.93	0.69
1:1:282:A:H2'	1:1:283:G:H8	1.57	0.68
1:1:319:G:H1	1:1:323:C:H5	1.41	0.68
1:1:810:U:O4	15:l:30:THR:HG22	1.93	0.68
1:1:2595:G:N2	1:1:2598:A:OP2	2.23	0.68
65:BA:39:LYS:O	65:BA:273:ILE:CG2	2.41	0.68
1:1:1889:A:H2'	1:1:1890:A:H8	1.58	0.68
1:1:2157:G:H2'	1:1:2158:A:H2	1.59	0.68
3:3:437:U:H3	3:3:495:A:H62	1.42	0.68
61:8:3:DC:C6	61:8:4:DT:H72	2.29	0.68
1:1:112:U:H2'	1:1:113:U:H5'	1.76	0.68
59:B2:65:ASN:HB3	59:B2:105:TYR:HB2	1.74	0.68
65:BA:832:LYS:C	65:BA:1219:ARG:HH12	2.01	0.68
1:1:226:A:H2'	1:1:227:A:O4'	1.93	0.68
1:1:905:A:C2'	1:1:906:U:H5'	2.23	0.68
1:1:928:A:H5'	29:z:38:GLU:OE2	1.94	0.68
1:1:2747:G:O6	1:1:2755:C:H5''	1.93	0.68
1:1:2092:U:H4'	1:1:2093:G:H5''	1.74	0.68
1:1:528:A:C8	1:1:528:A:H3'	2.28	0.68
1:1:1999:C:H5''	1:1:2723:C:O2'	1.94	0.68
1:1:2898:U:H2'	1:1:2899:A:C8	2.29	0.68
39:H:73:GLY:HA3	58:4:22:U:H4'	0.73	0.68
65:BA:161:THR:HG22	65:BA:164:GLN:HB2	1.75	0.68
1:1:1176:U:H2'	1:1:1177:G:C8	2.29	0.68
1:1:1438:U:O2'	1:1:1439:A:H5'	1.94	0.68
27:x:16:ASN:ND2	27:x:26:ARG:HB3	2.09	0.68
46:O:89:ARG:NE	65:BA:86:GLU:CG	2.57	0.68
65:BA:117:LEU:HD12	65:BA:117:LEU:O	1.94	0.68
1:1:246:C:H2'	1:1:247:G:H5'	1.76	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1432:G:O2'	1:1:1433:A:H5'	1.94	0.68
1:1:2510:C:N4	1:1:2511:U:O4	2.27	0.68
1:1:2869:G:H2'	1:1:2870:C:C6	2.28	0.68
3:3:1338:G:H22	37:5:29:G:H22	1.42	0.68
65:BA:141:PHE:CD2	65:BA:293:ARG:O	2.47	0.68
1:1:1019:U:H3	1:1:1142:A:N6	1.89	0.67
1:1:1063:G:H1	1:1:1075:C:H41	1.42	0.67
39:H:71:ARG:NH1	58:4:20:U:C4'	2.57	0.67
39:H:71:ARG:HH11	58:4:20:U:H4'	1.59	0.67
1:1:466:A:H2'	1:1:467:G:H5'	1.76	0.67
1:1:1020:A:H1'	1:1:1021:A:OP2	1.95	0.67
1:1:1078:U:H2'	1:1:1088:A:OP1	1.94	0.67
37:5:47:U:H4'	37:5:48:C:H5'	1.75	0.67
65:BA:1332:ARG:NH1	65:BA:1346:ARG:HH12	1.93	0.67
1:1:1889:A:H2'	1:1:1890:A:C8	2.29	0.67
1:1:2233:U:H2'	1:1:2234:G:C8	2.30	0.67
1:1:1454:C:H5'	17:n:63:ARG:NE	2.10	0.67
4:0:512:ARG:NH1	58:4:7:U:C6	2.60	0.67
1:1:65:U:H2'	1:1:66:C:H6	1.59	0.67
1:1:1717:A:H2'	1:1:1718:G:H5'	1.77	0.67
39:H:117:ASP:HA	39:H:120:THR:HG22	1.75	0.67
61:8:23:DC:H2''	61:8:24:DC:C5	2.30	0.67
1:1:703:U:H2'	1:1:704:G:H5'	1.77	0.67
1:1:703:U:C2'	1:1:704:G:H5'	2.25	0.67
1:1:2233:U:H2'	1:1:2234:G:H8	1.59	0.67
1:1:2516:A:O2'	1:1:2517:C:H5'	1.95	0.67
36:NA:1:MET:CB	59:B2:903:ARG:CD	2.65	0.67
39:H:125:ARG:NH2	58:4:19:C:OP2	2.28	0.67
1:1:942:G:OP2	15:l:39:LYS:NZ	2.28	0.67
1:1:1702:G:C3'	1:1:1703:G:H5''	2.24	0.67
36:NA:54:GLY:O	59:B2:905:ILE:CA	2.33	0.67
36:NA:79:ALA:HA	62:a:273:LYS:CB	2.24	0.67
1:1:392:U:H2'	1:1:393:C:H6	1.58	0.67
1:1:1064:C:N4	1:1:1069:A:H5''	2.10	0.67
1:1:1270:C:H5''	1:1:1271:G:C5'	2.25	0.67
1:1:2221:G:O2'	1:1:2222:C:H5'	1.95	0.67
1:1:2758:A:H2'	1:1:2759:G:H5'	1.75	0.67
2:2:65:U:H3'	2:2:108:A:H61	1.58	0.67
38:G:67:LEU:HD12	38:G:153:MET:HE1	1.77	0.66
48:Q:47:ALA:HB3	48:Q:49:ARG:HE	1.60	0.66
65:BA:108:ALA:CB	65:BA:279:LEU:HD22	2.25	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1270:C:H5''	1:1:1271:G:H5'	1.77	0.66
1:1:1484:U:H2'	1:1:1485:U:C6	2.30	0.66
24:u:25:LYS:HD3	24:u:36:GLU:HB3	1.75	0.66
1:1:707:G:O2'	1:1:708:G:H5'	1.94	0.66
1:1:1796:U:H2'	1:1:1797:G:H8	1.61	0.66
1:1:2625:G:H2'	1:1:2626:C:C6	2.30	0.66
65:BA:111:THR:CG2	65:BA:300:GLN:CD	2.67	0.66
1:1:419:U:H2'	1:1:420:C:H6	1.58	0.66
39:H:71:ARG:HG2	58:4:21:U:OP1	1.95	0.66
1:1:2733:A:O2'	1:1:2734:A:H5'	1.96	0.66
1:1:1161:C:H2'	1:1:1162:G:H8	1.61	0.66
1:1:2052:A:O2'	1:1:2053:G:H5'	1.96	0.66
10:f:154:GLU:HG3	10:f:156:TYR:H	1.61	0.66
33:D:37:LYS:HD3	33:D:39:ARG:HD3	1.77	0.66
48:Q:109:ARG:HH21	48:Q:112:ALA:HB3	1.60	0.66
1:1:414:C:H2'	1:1:415:A:C8	2.30	0.66
1:1:1061:U:H3'	1:1:1062:G:H5'	1.76	0.66
7:c:4:LEU:HD23	7:c:29:VAL:HG11	1.77	0.66
3:3:85:U:H5''	3:3:86:G:H5'	1.78	0.66
4:0:508:GLN:HA	4:0:513:GLY:HA3	1.77	0.66
46:O:89:ARG:NE	65:BA:86:GLU:HG2	2.11	0.66
61:8:13:DT:OP2	65:BA:791:ALA:HB1	1.95	0.66
1:1:1746:A:H2'	1:1:1747:U:C6	2.31	0.66
1:1:1788:C:O2'	1:1:1789:A:H5'	1.96	0.66
40:I:73:ASN:HA	40:I:76:LYS:HB2	1.77	0.66
1:1:2193:G:H2'	1:1:2194:U:C6	2.31	0.66
33:D:24:THR:HG23	33:D:27:GLY:H	1.61	0.66
36:NA:99:SER:CB	59:B2:906:PHE:CZ	2.78	0.66
1:1:543:G:H2'	1:1:544:C:C5'	2.26	0.65
1:1:1733:G:O2'	1:1:1734:G:H5'	1.95	0.65
1:1:2844:G:H2'	1:1:2845:U:C6	2.31	0.65
1:1:635:C:H2'	1:1:636:G:C8	2.31	0.65
1:1:905:A:H2'	1:1:906:U:H5'	1.78	0.65
65:BA:1023:PHE:HB3	65:BA:1026:MET:HB2	1.78	0.65
1:1:1098:A:H2'	1:1:1099:G:H5'	1.77	0.65
1:1:2290:G:H2'	1:1:2291:U:C6	2.32	0.65
4:0:364:VAL:HA	4:0:373:GLU:HA	1.77	0.65
39:H:122:GLN:OE1	58:4:19:C:P	2.55	0.65
63:7:141:SER:HA	63:7:146:ALA:HA	1.79	0.65
1:1:488:G:N2	1:1:491:G:H5''	2.11	0.65
1:1:521:U:H2'	1:1:522:A:C8	2.31	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:673:C:H2'	1:1:674:G:H5'	1.77	0.65
1:1:2278:A:C3'	1:1:2279:G:H5''	2.25	0.65
1:1:784:G:C2	6:b:227:VAL:HG11	2.31	0.65
1:1:2013:A:H5''	1:1:2013:A:H8	1.59	0.65
1:1:2760:C:O2'	1:1:2761:A:H5'	1.96	0.65
65:BA:970:LEU:HB3	65:BA:979:GLU:HB2	1.77	0.65
1:1:528:A:H3'	1:1:528:A:H8	1.60	0.65
1:1:2834:G:O2'	1:1:2835:A:H5'	1.97	0.65
65:BA:108:ALA:HB3	65:BA:279:LEU:HD22	1.77	0.65
65:BA:964:ARG:HG2	65:BA:1174:ASN:HD21	1.61	0.65
1:1:2278:A:H3'	1:1:2279:G:H5''	1.78	0.65
4:0:618:LYS:HG3	4:0:643:LYS:HZ3	1.61	0.65
37:5:35:A:C2	58:4:6:U:O2	2.50	0.65
47:P:87:GLY:H	47:P:113:THR:HG22	1.62	0.65
1:1:849:A:H2'	1:1:850:U:H6	1.58	0.65
1:1:1857:G:H22	1:1:1884:G:H2'	1.62	0.65
1:1:2555:U:H2'	1:1:2556:C:H5'	1.77	0.65
1:1:2811:G:O2'	1:1:2812:G:H5'	1.97	0.65
59:B2:813:GLU:HB2	65:BA:461:PHE:HD2	1.61	0.65
1:1:1572:A:O2'	1:1:1573:G:H5'	1.97	0.65
47:P:19:VAL:HG22	47:P:82:GLU:HB2	1.79	0.65
61:8:3:DC:C2'	61:8:4:DT:C7	2.75	0.65
1:1:1098:A:C2'	1:1:1099:G:H5'	2.27	0.64
65:BA:68:TYR:HB3	65:BA:75:TYR:CE2	2.32	0.64
1:1:161:A:N7	1:1:162:U:H5	1.96	0.64
1:1:494:G:H4'	22:s:6:LYS:HB2	1.78	0.64
1:1:870:U:C2'	1:1:871:U:H5'	2.26	0.64
1:1:1038:G:H2'	1:1:1039:A:C8	2.33	0.64
1:1:2114:A:N7	1:1:2115:G:H1'	2.12	0.64
1:1:2799:A:C2'	1:1:2800:A:H5'	2.27	0.64
1:1:2170:A:H2'	1:1:2171:A:O4'	1.97	0.64
65:BA:141:PHE:HD2	65:BA:293:ARG:O	1.79	0.64
1:1:414:C:H2'	1:1:415:A:H8	1.63	0.64
1:1:1082:U:H3'	1:1:1083:U:C5'	2.22	0.64
1:1:1921:G:O2'	1:1:1922:G:H5'	1.98	0.64
1:1:2112:G:C2'	1:1:2113:U:H5'	2.27	0.64
1:1:2404:U:O2'	1:1:2405:G:H5'	1.98	0.64
1:1:2572:A:OP2	7:c:149:ASN:HB3	1.97	0.64
6:b:106:PRO:HD2	6:b:109:LEU:HD22	1.79	0.64
36:NA:99:SER:CB	59:B2:906:PHE:CE1	2.81	0.64
63:7:139:SER:HA	63:7:148:PRO:N	2.13	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:256:A:O2'	1:1:257:C:H5'	1.98	0.64
50:S:38:GLU:HA	50:S:41:TRP:HB3	1.79	0.64
65:BA:193:ASP:HB3	65:BA:196:GLN:HB2	1.78	0.64
65:BA:245:LEU:HG	65:BA:246:PRO:HD2	1.80	0.64
1:1:622:G:O2'	1:1:623:C:H5'	1.98	0.64
1:1:1853:A:H2'	1:1:1854:A:C8	2.32	0.64
65:BA:285:LEU:H	65:BA:285:LEU:HD13	1.62	0.64
1:1:306:U:H2'	1:1:307:G:O4'	1.98	0.64
1:1:359:G:O2'	1:1:360:U:H5'	1.97	0.64
42:K:38:ARG:HE	42:K:97:THR:HA	1.62	0.64
43:L:59:GLU:HA	43:L:62:GLU:HB3	1.80	0.64
1:1:1181:U:H2'	1:1:1182:G:C8	2.33	0.64
59:B2:314:ASN:HD21	59:B2:348:SER:HA	1.62	0.64
1:1:536:G:H2'	1:1:537:G:H5'	1.79	0.63
1:1:613:A:H5''	1:1:614:A:C8	2.32	0.63
65:BA:201:LEU:HB2	65:BA:221:ILE:HD13	1.80	0.63
1:1:201:C:O2'	1:1:202:U:H5'	1.97	0.63
1:1:905:A:O2'	1:1:906:U:H5'	1.97	0.63
65:BA:162:GLU:OE1	65:BA:162:GLU:HA	1.97	0.63
65:BA:961:ILE:HG22	65:BA:963:SER:H	1.62	0.63
1:1:1149:G:H2'	1:1:1150:C:C6	2.34	0.63
1:1:1766:G:O2'	1:1:1767:G:H5'	1.98	0.63
40:I:152:SER:H	40:I:155:LYS:HD3	1.63	0.63
46:O:89:ARG:NE	65:BA:86:GLU:HB3	2.12	0.63
59:B2:1282:GLY:HA3	64:AA:17:PHE:HE1	1.63	0.63
4:0:614:GLU:HB3	4:0:690:ALA:HB2	1.79	0.63
1:1:723:C:H2'	1:1:724:U:H6	1.64	0.63
1:1:815:C:C2	1:1:1193:G:N2	2.66	0.63
1:1:1164:C:O2'	1:1:1165:A:H5'	1.98	0.63
1:1:2792:A:H3'	1:1:2793:C:H5''	1.80	0.63
59:B2:1280:ALA:HB1	65:BA:918:ILE:HG22	1.79	0.63
1:1:1448:G:H2'	1:1:1449:G:H8	1.64	0.63
1:1:2298:A:H2'	1:1:2299:U:O4'	1.99	0.63
1:1:2314:A:H2'	1:1:2315:G:C8	2.33	0.63
59:B2:1287:LEU:HD13	65:BA:1334:ILE:HD11	1.80	0.63
65:BA:128:LEU:HA	65:BA:192:MET:HE1	1.81	0.63
1:1:317:G:H2'	1:1:318:C:H6	1.64	0.63
1:1:2636:C:H2'	1:1:2637:U:H6	1.64	0.63
1:1:554:U:H2'	1:1:555:G:O4'	1.99	0.63
1:1:872:U:O2'	1:1:873:C:H5'	1.99	0.63
5:6:46:G:C2'	5:6:47:U:H5'	2.29	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:j:45:THR:HB	13:j:48:VAL:HG22	1.81	0.62
1:1:1524:G:H2'	1:1:1525:A:H8	1.63	0.62
1:1:65:U:H2'	1:1:66:C:C6	2.33	0.62
1:1:1935:G:H1'	1:1:1964:G:N2	2.15	0.62
1:1:2073:C:O2'	1:1:2074:U:H5'	1.98	0.62
1:1:2898:U:H2'	1:1:2899:A:H8	1.64	0.62
59:B2:120:GLN:NE2	59:B2:490:GLN:OE1	2.32	0.62
61:8:13:DT:C7	65:BA:791:ALA:HB2	2.29	0.62
1:1:212:G:O2'	1:1:213:A:H5'	1.99	0.62
1:1:445:C:H2'	1:1:446:G:O4'	1.98	0.62
1:1:940:G:C3'	1:1:941:A:H5''	2.28	0.62
1:1:1775:U:H2'	1:1:1776:G:C5'	2.29	0.62
1:1:2637:U:H2'	1:1:2638:G:H5'	1.82	0.62
65:BA:1332:ARG:NH1	65:BA:1346:ARG:NH1	2.47	0.62
1:1:1503:A:H3'	1:1:1504:A:H5''	1.82	0.62
57:Z:32:ARG:HG2	57:Z:33:ARG:HG3	1.79	0.62
1:1:37:C:O2'	1:1:38:A:H5'	1.99	0.62
1:1:590:A:O2'	1:1:591:U:H5'	2.00	0.62
1:1:889:C:H2'	1:1:890:C:O4'	1.99	0.62
2:2:43:C:H5''	30:A:1:MET:HG2	1.82	0.62
24:u:87:GLU:HG2	24:u:92:VAL:HG21	1.82	0.62
36:NA:1:MET:O	59:B2:904:ALA:HA	1.99	0.62
37:5:35:A:N6	58:4:5:U:H3	1.96	0.62
1:1:870:U:H2'	1:1:871:U:H5'	1.79	0.62
1:1:941:A:H2'	1:1:942:G:O4'	2.00	0.62
1:1:1280:G:O2'	1:1:1281:G:H5'	1.99	0.62
47:P:45:THR:HG23	47:P:48:GLY:H	1.65	0.62
65:BA:68:TYR:HB3	65:BA:75:TYR:CZ	2.35	0.62
61:8:3:DC:H2'	61:8:4:DT:C7	2.30	0.62
65:BA:223:LEU:HG	65:BA:223:LEU:O	2.00	0.62
1:1:2327:A:H2'	1:1:2328:A:C8	2.35	0.62
1:1:2469:A:H2'	1:1:2470:G:O4'	1.98	0.62
59:B2:55:SER:OG	59:B2:465:ARG:NH1	2.33	0.62
3:3:1087:G:N3	57:Z:65:ARG:NH2	2.47	0.61
23:t:53:VAL:HG12	23:t:92:ASN:HD22	1.65	0.61
38:G:15:PHE:HB2	38:G:39:ILE:HG23	1.82	0.61
62:a:201:ILE:HG12	62:a:209:ARG:HH12	1.65	0.61
1:1:940:G:C2'	1:1:941:A:H5''	2.30	0.61
1:1:995:C:N3	13:j:3:THR:N	2.48	0.61
38:G:173:LYS:O	38:G:177:ASN:ND2	2.32	0.61
65:BA:111:THR:CG2	65:BA:300:GLN:NE2	2.63	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:435:C:H2'	1:1:436:C:H5'	1.82	0.61
1:1:1508:A:H2'	1:1:1509:A:O4'	2.01	0.61
1:1:2330:G:H21	26:w:38:GLY:HA2	1.66	0.61
1:1:2345:G:N3	1:1:2381:A:H2'	2.15	0.61
3:3:1351:U:H3	3:3:1371:G:H1	1.49	0.61
1:1:161:A:H3'	1:1:162:U:H5''	1.81	0.61
1:1:2093:G:O2'	1:1:2094:A:H5'	2.01	0.61
3:3:1032:G:H21	3:3:1033:G:H4'	1.65	0.61
11:g:50:ARG:HH22	11:g:51:ARG:HH21	1.49	0.61
59:B2:806:PRO:O	65:BA:633:ALA:HA	2.01	0.61
63:7:126:VAL:HA	63:7:138:VAL:HA	1.83	0.61
65:BA:1138:GLY:HA3	65:BA:1156:PRO:HA	1.82	0.61
1:1:322:A:H5'	1:1:340:A:O4'	2.00	0.61
1:1:1680:U:H2'	1:1:1681:G:O4'	2.00	0.61
1:1:2404:U:H2'	1:1:2405:G:O4'	2.01	0.61
36:NA:5:ILE:CB	59:B2:904:ALA:HB1	2.30	0.61
59:B2:528:ARG:NH2	59:B2:576:SER:O	2.30	0.61
1:1:2092:U:H5	1:1:2199:A:H2	1.48	0.61
65:BA:342:LEU:HD23	65:BA:1329:ILE:HG23	1.83	0.61
1:1:1954:G:H1'	1:1:1956:U:O4	2.01	0.61
49:R:102:LYS:HG2	49:R:103:THR:HG23	1.83	0.61
61:8:1:DC:H2''	61:8:2:DC:C5	2.35	0.61
65:BA:154:LEU:HD21	65:BA:160:LEU:HD21	1.83	0.61
1:1:1062:G:H21	12:i:135:MET:HE2	1.65	0.61
1:1:1086:A:H5'	1:1:1103:A:H2	1.65	0.61
1:1:1909:C:H2'	1:1:1910:G:H8	1.64	0.61
1:1:2852:G:O2'	1:1:2853:C:H5'	2.01	0.61
3:3:1133:G:H1	3:3:1141:C:H42	1.48	0.61
65:BA:395:LYS:NZ	65:BA:399:LYS:HD3	2.15	0.61
1:1:283:G:H2'	1:1:284:U:H5'	1.83	0.61
1:1:558:U:H6	1:1:558:U:O5'	1.84	0.61
1:1:851:C:H2'	1:1:852:U:C6	2.36	0.61
1:1:2097:A:H2'	1:1:2098:U:O4'	2.00	0.61
1:1:2386:A:O2'	1:1:2387:U:H5'	2.01	0.61
3:3:373:A:H61	3:3:391:G:H1'	1.64	0.61
16:m:17:ASN:O	16:m:38:ARG:NH1	2.34	0.61
39:H:73:GLY:CA	58:4:22:U:C4'	2.48	0.61
39:H:127:VAL:HG23	58:4:17:U:O2'	2.01	0.61
59:B2:1328:LYS:HE2	65:BA:100:GLU:HA	1.82	0.61
1:1:198:C:H42	1:1:248:G:H1	1.49	0.60
1:1:1437:C:H2'	1:1:1438:U:C6	2.36	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1666:G:H2'	1:1:1667:G:C5'	2.24	0.60
1:1:1773:A:C2'	1:1:1774:C:H5'	2.31	0.60
53:V:30:HIS:HD2	53:V:33:TYR:H	1.48	0.60
1:1:854:C:O2'	1:1:855:G:H5'	2.02	0.60
1:1:1287:A:C5	1:1:1288:G:C6	2.89	0.60
37:5:34:G:N1	58:4:6:U:N3	2.47	0.60
62:a:112:ALA:HB3	62:a:126:PRO:HA	1.83	0.60
1:1:236:C:H2'	1:1:237:C:H6	1.65	0.60
7:c:181:ASP:HB3	7:c:186:LEU:HB2	1.82	0.60
65:BA:926:PRO:HG2	65:BA:1225:ILE:HD11	1.84	0.60
1:1:893:C:H2'	1:1:894:U:C6	2.37	0.60
1:1:1009:A:OP1	13:j:39:LYS:HE3	2.01	0.60
33:D:3:ARG:O	33:D:6:GLN:NE2	2.34	0.60
65:BA:937:GLN:NE2	65:BA:1000:GLY:O	2.35	0.60
1:1:1198:U:H2'	1:1:1199:U:C6	2.37	0.60
1:1:1717:A:C2'	1:1:1718:G:H5'	2.31	0.60
1:1:2734:A:H2'	1:1:2735:G:H5'	1.82	0.60
18:o:4:LYS:HD3	18:o:7:ARG:HH21	1.65	0.60
65:BA:201:LEU:HD11	65:BA:220:ARG:HH11	1.67	0.60
1:1:7:G:H5'	13:j:132:HIS:CD2	2.35	0.60
1:1:1040:A:H2	1:1:1115:G:H22	1.48	0.60
1:1:2187:U:O2'	1:1:2188:U:H5'	2.02	0.60
37:5:35:A:C6	58:4:6:U:N3	2.69	0.60
38:G:86:CYS:SG	38:G:87:ASP:N	2.74	0.60
1:1:49:A:H5''	1:1:51:G:O4'	2.02	0.60
3:3:1040:U:H2'	3:3:1041:G:H8	1.67	0.60
24:u:40:LEU:HD12	24:u:59:GLU:HG2	1.84	0.60
1:1:547:A:H3'	1:1:547:A:N3	2.16	0.60
1:1:1026:G:H2'	1:1:1027:A:H8	1.67	0.60
1:1:1256:G:H21	8:d:77:ILE:CG2	2.15	0.60
1:1:2137:U:H2'	1:1:2138:G:H8	1.67	0.60
1:1:2804:U:H2'	1:1:2805:C:C6	2.36	0.60
59:B2:1072:ASN:ND2	59:B2:1111:GLN:OE1	2.34	0.60
61:8:9:DG:H4'	65:BA:120:LEU:HG	1.84	0.60
1:1:1077:A:C8	1:1:1078:U:H1'	2.37	0.60
1:1:1171:G:H2'	1:1:1172:C:O4'	2.02	0.60
1:1:1670:C:H2'	1:1:1671:U:C5'	2.31	0.60
1:1:2834:G:H2'	1:1:2879:A:N6	2.17	0.60
47:P:58:THR:HG22	47:P:60:PHE:H	1.65	0.60
62:a:38:THR:HB	62:h:45:ARG:HD3	1.82	0.60
1:1:841:G:O2'	1:1:842:U:H5'	2.02	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1799:G:C2	6:b:153:LEU:HD23	2.37	0.59
1:1:2183:A:H2'	1:1:2184:A:C4	2.37	0.59
45:N:17:ARG:HB2	45:N:65:THR:HG23	1.83	0.59
1:1:1775:U:C2'	1:1:1776:G:H5'	2.30	0.59
1:1:2188:U:H2'	1:1:2189:U:O4'	2.01	0.59
1:1:2743:U:H3'	1:1:2744:G:H5''	1.84	0.59
6:b:141:HIS:ND1	6:b:192:GLY:O	2.36	0.59
59:B2:549:ASP:OD2	65:BA:750:PRO:CB	2.45	0.59
1:1:794:A:H2'	1:1:795:C:O4'	2.02	0.59
1:1:2153:C:H2'	1:1:2154:A:H5'	1.84	0.59
1:1:2749:A:OP2	1:1:2751:G:H5''	2.02	0.59
12:i:19:PRO:HA	12:i:24:GLY:HA3	1.85	0.59
1:1:172:A:H2'	1:1:173:A:H8	1.66	0.59
1:1:2812:G:H2'	1:1:2813:A:C8	2.36	0.59
39:H:71:ARG:HH12	58:4:20:U:C4'	2.16	0.59
65:BA:438:GLU:HG3	65:BA:485:MET:HE1	1.85	0.59
1:1:11:C:C2'	1:1:12:U:H5''	2.29	0.59
45:N:79:ARG:HH21	45:N:102:PHE:HA	1.67	0.59
65:BA:395:LYS:HZ2	65:BA:399:LYS:CD	2.15	0.59
65:BA:514:THR:HG21	65:BA:596:LEU:HD12	1.84	0.59
1:1:1130:U:O2'	1:1:1131:G:OP1	2.19	0.59
1:1:1183:U:H2'	1:1:1184:U:C6	2.37	0.59
1:1:1255:U:C5	8:d:68:ALA:HA	2.37	0.59
1:1:1845:G:O2'	1:1:1846:G:H5'	2.02	0.59
1:1:2717:C:C4	1:1:2718:G:N7	2.70	0.59
55:X:30:LEU:HB2	55:X:48:ILE:HG22	1.85	0.59
59:B2:1101:LEU:HD23	65:BA:725:MET:SD	2.42	0.59
59:B2:1142:ARG:NH1	59:B2:1161:LEU:O	2.36	0.59
61:8:11:DC:H2'	61:8:12:DG:C8	2.37	0.59
65:BA:275:ARG:NH1	65:BA:278:ARG:NH1	2.51	0.59
1:1:246:C:C2'	1:1:247:G:H5'	2.33	0.59
1:1:1725:U:H2'	1:1:1726:C:C6	2.38	0.59
3:3:148:G:H1'	3:3:1447:A:H1'	1.84	0.59
63:7:112:VAL:C	63:7:159:ALA:H	2.10	0.59
1:1:1256:G:H21	8:d:77:ILE:HG23	1.68	0.59
1:1:2330:G:O2'	26:w:40:LYS:HE3	2.03	0.59
1:1:2533:U:H2'	1:1:2534:A:H5'	1.85	0.59
39:H:127:VAL:CG2	58:4:17:U:O2'	2.51	0.59
46:O:46:LYS:HG2	46:O:68:ARG:HG2	1.84	0.59
1:1:1071:G:H1'	1:1:1089:A:C8	2.37	0.59
1:1:2643:G:H2'	1:1:2644:G:H5'	1.84	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2812:G:H2'	1:1:2813:A:H8	1.68	0.59
46:O:89:ARG:NH1	65:BA:86:GLU:HG2	2.17	0.59
53:V:11:VAL:HA	53:V:22:VAL:HA	1.83	0.59
1:1:1042:G:H2'	1:1:1043:C:C6	2.37	0.59
1:1:1579:A:H2'	1:1:1580:A:C8	2.38	0.59
1:1:2661:G:H5'	4:0:19:ILE:HD13	1.85	0.59
1:1:2789:C:H2'	1:1:2893:A:N7	2.18	0.59
7:c:55:LYS:NZ	7:c:59:ARG:O	2.36	0.59
21:r:4:VAL:HG22	21:r:40:MET:HG2	1.84	0.59
59:B2:69:GLN:HE21	59:B2:101:ARG:HD2	1.67	0.59
65:BA:99:ARG:HG3	65:BA:99:ARG:NH1	2.17	0.59
1:1:1526:C:H2'	1:1:1527:G:O4'	2.04	0.58
3:3:401:C:OP2	40:I:69:ARG:NH1	2.36	0.58
3:3:422:C:O2'	3:3:423:G:N2	2.36	0.58
39:H:73:GLY:HA3	58:4:22:U:C3'	2.31	0.58
59:B2:918:LEU:O	59:B2:918:LEU:HD23	2.02	0.58
1:1:1857:G:N2	1:1:1884:G:H2'	2.17	0.58
3:3:261:U:OP2	56:Y:73:ARG:NH2	2.36	0.58
9:e:9:ASP:N	9:e:9:ASP:OD1	2.33	0.58
18:o:69:ASP:N	18:o:69:ASP:OD1	2.36	0.58
59:B2:1284:ALA:HB3	65:BA:1338:THR:HB	1.85	0.58
4:0:557:ILE:HG21	4:0:576:ILE:HD12	1.85	0.58
1:1:655:A:H4'	1:1:656:G:C5'	2.30	0.58
1:1:2165:C:H2'	1:1:2166:U:C6	2.38	0.58
3:3:451:A:H5'	52:U:70:ARG:HH22	1.66	0.58
4:0:94:ASP:HB3	4:0:465:HIS:HB2	1.85	0.58
1:1:215:G:H4'	1:1:216:A:H4'	1.84	0.58
1:1:1337:G:H2'	1:1:1338:G:C8	2.38	0.58
1:1:1538:G:H2'	1:1:1539:U:C6	2.37	0.58
1:1:2360:G:C2'	1:1:2361:G:H5'	2.31	0.58
8:d:149:ILE:HG23	8:d:188:MET:HB3	1.83	0.58
16:m:66:ARG:NH1	16:m:104:GLU:OE2	2.36	0.58
1:1:529:A:OP2	13:j:116:ARG:NH2	2.32	0.58
1:1:1110:G:HO2'	1:1:1111:A:H8	1.52	0.58
1:1:1565:C:HO2'	1:1:1566:A:H8	1.50	0.58
1:1:2215:C:H2'	1:1:2216:G:H8	1.65	0.58
3:3:409:U:H3	3:3:433:G:H1	1.51	0.58
7:c:129:THR:OG1	7:c:140:HIS:O	2.22	0.58
9:e:51:ASN:OD1	9:e:149:ARG:NH1	2.34	0.58
59:B2:618:GLN:CG	65:BA:770:LEU:HD13	2.30	0.58
59:B2:707:ALA:O	59:B2:711:ASP:HB2	2.03	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:370:LYS:HG2	65:BA:441:LEU:HD23	1.84	0.58
1:1:1820:U:C2	6:b:157:ALA:O	2.56	0.58
6:b:34:GLU:HG3	6:b:63:ILE:HD11	1.84	0.58
1:1:327:G:O2'	1:1:328:U:H5'	2.04	0.58
1:1:1333:G:O2'	1:1:1334:G:H5'	2.03	0.58
38:G:45:THR:O	38:G:49:PHE:N	2.35	0.58
1:1:146:A:H2'	1:1:147:C:C6	2.39	0.58
1:1:528:A:C8	1:1:528:A:C3'	2.86	0.58
1:1:1678:A:H2'	1:1:1679:A:H5'	1.86	0.58
1:1:2636:C:H2'	1:1:2637:U:C6	2.39	0.58
24:u:36:GLU:HA	24:u:61:GLU:HG2	1.86	0.58
29:z:4:ILE:HD11	29:z:58:GLU:HG2	1.86	0.58
65:BA:97:VAL:HG11	65:BA:101:ARG:NH2	2.18	0.58
65:BA:161:THR:HG23	65:BA:164:GLN:H	1.68	0.58
65:BA:412:LEU:HD22	65:BA:441:LEU:HD21	1.84	0.58
1:1:640:C:O2'	1:1:641:U:H5'	2.04	0.58
1:1:673:C:C2'	1:1:674:G:H5'	2.34	0.58
1:1:1469:A:H2'	1:1:1470:A:C8	2.38	0.58
1:1:1511:G:H2'	1:1:1512:C:C6	2.38	0.58
1:1:2570:G:H2'	1:1:2571:U:H5'	1.85	0.58
8:d:1:MET:HG2	8:d:16:GLU:HG2	1.86	0.58
61:8:7:DC:H2''	61:8:8:DT:H71	1.84	0.58
1:1:1098:A:H2'	1:1:1099:G:C5'	2.33	0.57
1:1:1565:C:O2'	1:1:1566:A:H8	1.87	0.57
1:1:2762:C:H2'	1:1:2763:G:H5'	1.86	0.57
1:1:32:C:H2'	1:1:33:C:C6	2.39	0.57
1:1:69:C:H2'	1:1:70:G:H8	1.69	0.57
1:1:834:G:H2'	1:1:835:C:O4'	2.04	0.57
1:1:2899:A:O2'	1:1:2900:A:H5'	2.04	0.57
62:h:28:LEU:HB2	62:h:195:LEU:HB3	1.85	0.57
65:BA:198:CYS:HA	65:BA:221:ILE:HD11	1.86	0.57
1:1:235:U:H2'	1:1:236:C:C6	2.39	0.57
1:1:621:A:H2'	1:1:622:G:H5'	1.86	0.57
1:1:1400:U:O2'	1:1:1401:G:H5'	2.04	0.57
1:1:1463:C:H2'	1:1:1464:G:H8	1.68	0.57
1:1:1597:A:H5''	1:1:1598:A:H5'	1.87	0.57
2:2:8:C:O3'	18:o:25:ARG:NH1	2.37	0.57
3:3:8:A:N6	40:I:201:GLU:O	2.36	0.57
30:A:26:SER:OG	30:A:27:THR:N	2.37	0.57
41:J:54:GLU:HG2	41:J:56:PRO:HD2	1.86	0.57
59:B2:13:LYS:HB2	59:B2:1180:MET:HE2	1.86	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:638:SER:OG	65:BA:639:VAL:N	2.36	0.57
65:BA:1032:ILE:HD12	65:BA:1045:LEU:HB3	1.86	0.57
1:1:163:C:H2'	1:1:164:C:O4'	2.05	0.57
1:1:2092:U:H4'	1:1:2093:G:C5'	2.34	0.57
3:3:159:G:N2	3:3:162:A:OP2	2.34	0.57
5:6:52:G:H2'	5:6:53:G:H8	1.69	0.57
54:W:49:LYS:HA	54:W:52:ARG:HH21	1.68	0.57
1:1:1528:A:H2'	1:1:1529:G:H5'	1.87	0.57
1:1:1789:A:OP2	6:b:220:ARG:NH1	2.38	0.57
17:n:22:ARG:HG3	17:n:70:THR:HA	1.86	0.57
45:N:35:GLU:HA	45:N:39:GLY:HA3	1.86	0.57
65:BA:247:PRO:HA	65:BA:250:ARG:HG3	1.87	0.57
1:1:1120:G:O2'	1:1:1121:C:H5'	2.05	0.57
1:1:1275:A:C6	1:1:1296:G:H4'	2.40	0.57
1:1:1561:C:H2'	1:1:1562:U:C6	2.39	0.57
1:1:2662:A:H2'	1:1:2663:G:O4'	2.05	0.57
47:P:111:ASP:HB2	57:Z:16:ARG:HH22	1.68	0.57
64:AA:5:THR:HG21	65:BA:615:LYS:HG2	1.85	0.57
65:BA:395:LYS:HZ2	65:BA:399:LYS:HD3	1.69	0.57
65:BA:741:ALA:O	65:BA:762:ASN:ND2	2.38	0.57
1:1:172:A:H2'	1:1:173:A:C8	2.40	0.57
1:1:366:C:O2'	1:1:367:G:H5'	2.04	0.57
1:1:1108:U:H2'	1:1:1109:C:C2	2.40	0.57
1:1:2897:U:H2'	1:1:2898:U:C6	2.39	0.57
10:f:151:ARG:HB3	10:f:161:VAL:HG23	1.86	0.57
20:q:90:ASP:OD1	20:q:90:ASP:N	2.37	0.57
59:B2:818:VAL:HG22	59:B2:1096:ILE:HG12	1.87	0.57
65:BA:510:LEU:HD22	65:BA:601:ILE:HD12	1.86	0.57
1:1:543:G:H2'	1:1:544:C:O4'	2.05	0.57
1:1:1319:C:O2'	1:1:1320:C:H5'	2.05	0.57
17:n:54:LEU:HD23	17:n:66:ALA:HB2	1.86	0.57
40:I:10:LEU:HD23	40:I:62:ARG:HB3	1.86	0.57
47:P:92:ARG:NH2	47:P:111:ASP:OD1	2.38	0.57
65:BA:144:TYR:CE1	65:BA:162:GLU:OE2	2.51	0.57
1:1:781:A:OP1	6:b:216:ARG:NH2	2.38	0.57
1:1:1454:C:H5'	17:n:63:ARG:CZ	2.34	0.57
1:1:1893:C:H2'	1:1:1894:C:H5'	1.86	0.57
1:1:2845:U:H2'	1:1:2846:G:H8	1.69	0.57
6:b:259:ASN:ND2	6:b:262:THR:OG1	2.38	0.57
19:p:1:SER:OG	19:p:2:ASN:N	2.37	0.57
65:BA:42:GLU:HB3	65:BA:52:GLU:HG3	1.86	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:99:ARG:HH11	65:BA:99:ARG:CG	2.17	0.57
1:1:184:C:H2'	1:1:185:G:H8	1.70	0.57
1:1:1524:G:H2'	1:1:1525:A:C8	2.38	0.57
9:e:47:LYS:O	9:e:51:ASN:ND2	2.37	0.57
38:G:114:LYS:HE3	38:G:151:LYS:HB2	1.86	0.57
59:B2:1122:LYS:NZ	59:B2:1126:ASP:OD1	2.38	0.57
65:BA:130:MET:HE2	65:BA:135:ILE:HG12	1.87	0.57
1:1:287:G:H2'	1:1:288:U:C6	2.40	0.56
1:1:503:A:H4'	1:1:505:A:H5''	1.87	0.56
1:1:580:U:O3'	20:q:30:VAL:HG13	2.04	0.56
6:b:257:ARG:HH22	6:b:262:THR:HG1	1.53	0.56
1:1:78:U:H2'	1:1:79:C:C6	2.40	0.56
1:1:1173:U:C5	1:1:1174:U:H1'	2.40	0.56
1:1:2457:U:O2'	1:1:2458:G:H5'	2.05	0.56
2:2:117:G:OP1	18:o:56:LYS:NZ	2.36	0.56
7:c:18:ASP:N	7:c:18:ASP:OD1	2.36	0.56
18:o:52:SER:OG	18:o:53:THR:N	2.39	0.56
1:1:877:A:N1	1:1:899:A:H2'	2.20	0.56
1:1:885:C:N4	1:1:886:A:H62	2.03	0.56
1:1:1410:G:H2'	1:1:1411:U:C6	2.41	0.56
1:1:1917:U:O2'	1:1:1918:A:H5'	2.05	0.56
1:1:2787:C:H1'	7:c:63:PRO:HG3	1.85	0.56
4:0:618:LYS:HG3	4:0:643:LYS:NZ	2.19	0.56
6:b:250:GLN:NE2	6:b:251:THR:O	2.38	0.56
25:v:57:TYR:OH	25:v:79:ARG:NH2	2.38	0.56
39:H:71:ARG:NH1	58:4:20:U:O3'	2.39	0.56
52:U:55:ASP:OD1	52:U:55:ASP:N	2.38	0.56
59:B2:1101:LEU:HD21	65:BA:508:LEU:HD22	1.87	0.56
65:BA:102:MET:HG2	65:BA:246:PRO:HG3	1.87	0.56
65:BA:160:LEU:HD22	65:BA:164:GLN:HB3	1.87	0.56
65:BA:241:VAL:O	65:BA:241:VAL:HG12	2.04	0.56
1:1:1675:C:C4	7:c:134:HIS:CE1	2.94	0.56
1:1:2091:C:H5	1:1:2092:U:HO2'	1.53	0.56
1:1:2186:G:O2'	1:1:2187:U:H5'	2.04	0.56
3:3:202:G:H21	3:3:466:A:H61	1.53	0.56
3:3:830:G:H1	3:3:856:C:H42	1.53	0.56
17:n:2:ARG:HA	17:n:5:LYS:HD3	1.88	0.56
39:H:39:ARG:NH1	39:H:54:ILE:O	2.39	0.56
59:B2:839:VAL:HG12	59:B2:1049:ILE:HG12	1.87	0.56
62:h:82:LEU:HD11	62:h:165:LEU:HD23	1.86	0.56
1:1:780:G:H21	1:1:783:A:H62	1.54	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:177:G:OP1	56:Y:59:ARG:NH1	2.37	0.56
3:3:1125:U:H2'	3:3:1126:U:H2'	1.86	0.56
3:3:1397:C:N4	58:4:10:U:C2	2.73	0.56
10:f:40:VAL:O	10:f:54:ARG:NH2	2.38	0.56
1:1:359:G:C2'	1:1:360:U:H5'	2.36	0.56
1:1:593:U:H2'	1:1:594:U:C6	2.40	0.56
1:1:1590:A:O2'	1:1:1591:A:H5'	2.06	0.56
1:1:2114:A:C2	1:1:2167:U:H1'	2.41	0.56
1:1:2395:C:H42	1:1:2421:G:H1	1.54	0.56
1:1:2510:C:C4	1:1:2511:U:C4	2.93	0.56
62:h:29:GLU:HG3	62:h:194:LYS:HG3	1.88	0.56
1:1:323:C:H3'	1:1:323:C:OP2	2.05	0.56
1:1:1772:A:H5'	1:1:1773:A:OP2	2.06	0.56
65:BA:144:TYR:HE1	65:BA:162:GLU:CD	2.14	0.56
1:1:128:C:H2'	1:1:129:C:H6	1.70	0.56
1:1:288:U:H2'	1:1:289:G:H8	1.71	0.56
1:1:296:U:H2'	1:1:297:G:C8	2.41	0.56
1:1:1485:U:H2'	1:1:1486:U:H6	1.70	0.56
1:1:1520:U:O2'	1:1:1521:G:H5'	2.05	0.56
1:1:2236:U:H2'	1:1:2237:G:H5'	1.88	0.56
4:0:29:ARG:HE	4:0:269:ALA:HB1	1.70	0.56
38:G:58:LYS:O	38:G:62:ARG:NH1	2.38	0.56
42:K:12:PRO:HB2	42:K:44:ARG:HH21	1.70	0.56
65:BA:1143:GLY:HA3	65:BA:1151:ARG:HB2	1.88	0.56
1:1:133:U:O2'	1:1:134:G:H5'	2.06	0.56
1:1:1441:G:H2'	1:1:1442:U:H6	1.71	0.56
3:3:49:U:H3	3:3:362:G:H1'	1.71	0.56
3:3:503:C:H2'	3:3:504:C:C6	2.41	0.56
3:3:722:G:OP2	57:Z:44:ARG:NH1	2.39	0.56
3:3:738:C:OP1	42:K:2:ARG:NH1	2.39	0.56
29:z:15:ARG:HE	29:z:52:PHE:HE2	1.53	0.56
50:S:52:ARG:O	50:S:58:ARG:NH1	2.39	0.56
63:7:157:GLU:O	63:7:158:LYS:C	2.49	0.56
65:BA:37:GLU:O	65:BA:61:ILE:CD1	2.52	0.56
1:1:96:C:OP1	28:y:39:GLN:HG2	2.05	0.56
1:1:613:A:H2'	1:1:613:A:N3	2.21	0.56
1:1:1097:U:H2'	1:1:1098:A:O4'	2.06	0.56
1:1:2626:C:H2'	1:1:2627:G:O4'	2.06	0.56
3:3:981:U:H5''	50:S:5:MET:HE1	1.86	0.56
15:l:89:VAL:HG23	15:l:121:THR:HG23	1.88	0.56
28:y:19:LEU:O	28:y:23:ARG:N	2.35	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:y:49:ASP:OD1	28:y:52:ARG:NH2	2.39	0.56
39:H:135:ARG:NH2	58:4:18:U:O2	2.39	0.56
41:J:44:ARG:NH2	41:J:70:MET:SD	2.78	0.56
1:1:118:A:OP2	1:1:119:A:H5''	2.06	0.55
1:1:340:A:H2'	1:1:341:C:O4'	2.06	0.55
1:1:1182:G:H2'	1:1:1183:U:O4'	2.06	0.55
1:1:2012:G:OP1	22:s:98:LYS:HD3	2.06	0.55
28:y:28:LEU:HA	28:y:31:GLN:HB2	1.88	0.55
37:5:35:A:H61	58:4:5:U:H3	1.46	0.55
49:R:100:ARG:NH1	49:R:103:THR:OG1	2.38	0.55
1:1:727:A:H2'	1:1:728:G:C8	2.40	0.55
1:1:317:G:H2'	1:1:318:C:C6	2.42	0.55
1:1:586:A:H5'	8:d:84:THR:HG21	1.87	0.55
1:1:1697:G:H4'	1:1:1978:A:H5''	1.89	0.55
1:1:2637:U:C2'	1:1:2638:G:H5'	2.36	0.55
1:1:2850:A:N1	1:1:2869:G:H4'	2.21	0.55
3:3:1036:A:H2'	3:3:1037:C:H5'	1.88	0.55
3:3:1059:C:O3'	50:S:84:ARG:NH2	2.40	0.55
65:BA:39:LYS:O	65:BA:273:ILE:HG21	2.06	0.55
65:BA:1152:LEU:HD22	65:BA:1167:ILE:HD11	1.88	0.55
1:1:155:A:H2'	1:1:156:A:C8	2.41	0.55
1:1:1485:U:H2'	1:1:1486:U:C6	2.41	0.55
1:1:1913:A:N7	3:3:1494:G:H4'	2.22	0.55
1:1:2533:U:C2'	1:1:2534:A:H5'	2.36	0.55
9:e:23:SER:HB3	9:e:26:GLN:HB2	1.88	0.55
59:B2:103:VAL:HB	59:B2:114:VAL:HG11	1.89	0.55
1:1:74:A:H4'	1:1:75:G:O5'	2.05	0.55
1:1:1670:C:O5'	1:1:1670:C:H6	1.90	0.55
43:L:4:ARG:HB3	43:L:6:ILE:HG23	1.88	0.55
50:S:26:LEU:HA	50:S:30:ILE:HD12	1.87	0.55
1:1:481:G:H1'	1:1:506:G:H21	1.71	0.55
1:1:825:A:O2'	1:1:826:U:H5'	2.07	0.55
1:1:1061:U:C2	12:i:10:LEU:HA	2.42	0.55
1:1:1309:G:OP1	33:D:9:VAL:HG22	2.06	0.55
1:1:1541:C:O2'	1:1:1542:U:H5'	2.06	0.55
1:1:2092:U:C4'	1:1:2093:G:H5''	2.37	0.55
1:1:2488:G:O2'	1:1:2489:U:H5'	2.07	0.55
3:3:1266:G:N2	3:3:1269:A:OP2	2.29	0.55
3:3:1397:C:N4	58:4:10:U:C4	2.74	0.55
14:k:65:THR:HG23	14:k:68:GLY:H	1.70	0.55
39:H:71:ARG:HB3	39:H:74:ILE:HD13	1.89	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:P:63:GLN:HG3	47:P:98:ALA:HB2	1.88	0.55
65:BA:804:ALA:HA	65:BA:1236:GLN:HG3	1.88	0.55
1:1:184:C:H2'	1:1:185:G:C8	2.41	0.55
1:1:358:U:H2'	1:1:359:G:C8	2.41	0.55
1:1:461:C:H2'	1:1:462:C:C6	2.42	0.55
1:1:543:G:H2'	1:1:544:C:C4'	2.37	0.55
1:1:757:G:H2'	1:1:758:C:C5'	2.35	0.55
1:1:1086:A:H5'	1:1:1103:A:C2	2.41	0.55
1:1:2845:U:H2'	1:1:2846:G:C8	2.42	0.55
3:3:1073:U:O2	38:G:102:ASN:ND2	2.39	0.55
4:0:514:GLN:HE22	4:0:591:LEU:HD23	1.72	0.55
65:BA:833:GLU:HB2	65:BA:1219:ARG:NH1	2.22	0.55
1:1:359:G:H2'	1:1:360:U:O4'	2.07	0.55
1:1:635:C:H2'	1:1:636:G:H8	1.70	0.55
1:1:1048:A:H2'	1:1:1049:C:H5'	1.88	0.55
1:1:1553:A:HO2'	1:1:1554:U:H5	1.54	0.55
1:1:2545:G:O2'	1:1:2546:U:H5'	2.07	0.55
4:0:512:ARG:NH1	58:4:7:U:C5'	2.65	0.55
14:k:70:ARG:HG2	14:k:76:VAL:HG12	1.88	0.55
14:k:76:VAL:H	19:p:72:VAL:HG22	1.71	0.55
16:m:27:SER:H	16:m:66:ARG:HH12	1.54	0.55
37:5:37:A:H3'	37:5:38:A:H8	1.71	0.55
38:G:53:LEU:HD21	38:G:215:ALA:HB1	1.88	0.55
1:1:1909:C:H2'	1:1:1910:G:C8	2.41	0.55
1:1:2328:A:H8	1:1:2328:A:O5'	1.90	0.55
1:1:2345:G:H5'	1:1:2347:C:H5'	1.89	0.55
3:3:505:G:H5''	3:3:534:U:H2'	1.89	0.55
59:B2:1070:HIS:NE2	59:B2:1114:GLU:OE1	2.36	0.55
59:B2:1142:ARG:NH2	59:B2:1166:ASP:OD1	2.38	0.55
1:1:1005:C:H6	1:1:1005:C:O5'	1.90	0.55
1:1:1601:G:C2'	1:1:1602:U:H5'	2.37	0.55
5:6:11:A:H2'	5:6:12:G:H8	1.72	0.55
52:U:69:ASP:OD1	52:U:69:ASP:N	2.38	0.55
65:BA:800:LEU:HB3	65:BA:920:ALA:HB1	1.89	0.55
65:BA:1132:ILE:HG13	65:BA:1187:ILE:HB	1.89	0.55
1:1:1288:G:C6	1:1:1327:A:C2	2.96	0.54
1:1:1506:U:H2'	1:1:1507:C:C6	2.41	0.54
1:1:1545:A:H2'	1:1:1546:G:O4'	2.06	0.54
1:1:1856:U:H2'	1:1:1857:G:O4'	2.08	0.54
3:3:923:A:N6	3:3:1392:G:O6	2.40	0.54
39:H:135:ARG:NH2	58:4:18:U:C2	2.75	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:I:55:ARG:O	40:I:59:LYS:N	2.41	0.54
47:P:86:LYS:HG3	47:P:114:PRO:HD3	1.89	0.54
48:Q:64:SER:OG	48:Q:65:TYR:N	2.41	0.54
59:B2:29:SER:O	59:B2:33:ASP:HB2	2.07	0.54
59:B2:360:LEU:HD13	59:B2:378:ARG:HH11	1.72	0.54
59:B2:985:GLU:HB3	59:B2:988:LYS:HB2	1.88	0.54
65:BA:799:ARG:HG2	65:BA:1302:PHE:HZ	1.72	0.54
1:1:53:A:H2'	1:1:54:G:H5'	1.89	0.54
1:1:296:U:H2'	1:1:297:G:H8	1.71	0.54
1:1:439:A:H2'	1:1:440:C:C6	2.42	0.54
1:1:759:G:H2'	1:1:760:G:C8	2.41	0.54
1:1:1068:G:N2	1:1:1096:A:H1'	2.22	0.54
1:1:1310:G:O2'	1:1:1311:G:H5'	2.06	0.54
17:n:35:LYS:NZ	17:n:100:CYS:SG	2.81	0.54
59:B2:633:LEU:HD13	59:B2:644:LEU:HD23	1.89	0.54
59:B2:917:SER:O	59:B2:919:ARG:HG3	2.07	0.54
1:1:21:A:O2'	1:1:22:C:H5'	2.08	0.54
1:1:720:U:H2'	1:1:721:A:C8	2.41	0.54
1:1:1091:G:H2'	1:1:1092:C:C6	2.42	0.54
1:1:2217:G:O2'	1:1:2218:G:H5'	2.07	0.54
4:O:589:SER:HB2	58:4:7:U:C2	2.42	0.54
10:f:44:HIS:HA	10:f:49:LEU:HG	1.87	0.54
38:G:91:VAL:HG22	38:G:150:ILE:HD11	1.88	0.54
38:G:138:ARG:NH1	38:G:141:GLU:OE2	2.40	0.54
1:1:112:U:C2'	1:1:113:U:H5'	2.37	0.54
1:1:1083:U:H2'	1:1:1084:A:H3'	1.89	0.54
1:1:1748:C:H2'	1:1:1749:A:H8	1.73	0.54
1:1:2467:C:OP1	35:F:8:LYS:NZ	2.37	0.54
46:O:33:GLY:HA2	46:O:82:LYS:HZ1	1.73	0.54
62:a:29:GLU:HB3	62:a:190:LYS:HG3	1.88	0.54
65:BA:814:CYS:SG	65:BA:883:ARG:NH2	2.81	0.54
1:1:176:A:O2'	1:1:177:G:H5'	2.08	0.54
1:1:358:U:H2'	1:1:359:G:H8	1.72	0.54
1:1:441:U:O2'	1:1:442:G:H5'	2.07	0.54
1:1:877:A:C2'	1:1:878:A:H5''	2.36	0.54
1:1:1528:A:C2'	1:1:1529:G:H5'	2.38	0.54
1:1:2092:U:C5	1:1:2199:A:H2	2.26	0.54
1:1:2195:U:O2'	1:1:2196:C:H5'	2.06	0.54
5:6:9:G:C2	5:6:45:G:O6	2.60	0.54
15:l:80:SER:HB3	15:l:114:GLY:HA3	1.90	0.54
46:O:100:ILE:CG1	63:7:147:THR:HA	2.37	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1745:A:O2'	1:1:1746:A:H5'	2.07	0.54
1:1:2734:A:C2'	1:1:2735:G:H5'	2.38	0.54
1:1:2743:U:C3'	1:1:2744:G:H5''	2.37	0.54
3:3:1023:U:H2'	3:3:1024:G:C8	2.43	0.54
10:f:103:ASN:ND2	10:f:113:ASP:OD1	2.41	0.54
13:j:38:GLY:HA3	13:j:50:THR:HG23	1.90	0.54
16:m:64:TRP:HB2	16:m:104:GLU:HB2	1.89	0.54
59:B2:684:ASN:OD1	59:B2:687:ARG:NH2	2.41	0.54
59:B2:811:ASN:HA	59:B2:815:SER:HB2	1.90	0.54
62:h:100:LEU:HD23	62:h:115:ILE:HG21	1.90	0.54
1:1:40:U:H2'	1:1:41:C:C6	2.43	0.54
1:1:613:A:H5''	1:1:614:A:N7	2.22	0.54
1:1:633:A:C2'	1:1:634:C:H5'	2.35	0.54
1:1:1389:G:O2'	1:1:1390:U:H5'	2.07	0.54
1:1:1448:G:H2'	1:1:1449:G:C8	2.42	0.54
1:1:1807:G:H2'	1:1:1808:A:C5'	2.30	0.54
57:Z:28:LEU:HA	57:Z:31:VAL:HG12	1.90	0.54
63:7:115:ASN:HA	63:7:121:ASP:H	1.72	0.54
1:1:141:G:H3'	1:1:142:A:O4'	2.07	0.54
1:1:1014:A:H2'	1:1:1015:U:C6	2.43	0.54
1:1:1297:C:H2'	1:1:1298:C:C6	2.43	0.54
1:1:2114:A:C8	1:1:2115:G:H1'	2.42	0.54
9:e:21:TYR:OH	9:e:164:GLU:OE1	2.26	0.54
28:y:15:ASN:O	28:y:19:LEU:N	2.41	0.54
36:NA:218:GLU:CB	38:G:107:ARG:NH2	2.71	0.54
38:G:19:THR:HA	38:G:37:VAL:HA	1.88	0.54
56:Y:60:GLN:HA	56:Y:63:LYS:HB3	1.89	0.54
59:B2:243:PRO:HB2	59:B2:274:ILE:HG23	1.90	0.54
63:7:147:THR:O	63:7:148:PRO:C	2.51	0.54
65:BA:30:ILE:HG21	65:BA:241:VAL:O	2.08	0.54
1:1:876:C:H2'	1:1:877:A:O4'	2.08	0.54
1:1:1310:G:H2'	1:1:1311:G:C5'	2.38	0.54
1:1:2123:G:H2'	1:1:2124:G:H8	1.73	0.54
23:t:54:GLU:HB3	23:t:88:LYS:HE3	1.90	0.54
41:J:23:THR:HA	41:J:28:ARG:HA	1.88	0.54
47:P:15:VAL:HG12	47:P:76:TYR:HB3	1.90	0.54
62:a:47:LEU:HD23	62:a:51:MET:HG3	1.90	0.54
65:BA:58:CYS:SG	65:BA:59:ALA:N	2.80	0.54
65:BA:78:LEU:O	65:BA:78:LEU:HD13	2.08	0.54
1:1:2827:C:O2'	1:1:2828:G:H5'	2.07	0.54
3:3:959:A:HO2'	3:3:984:C:HO2'	1.49	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:5:35:A:N1	58:4:6:U:C2	2.76	0.54
41:J:104:ILE:O	41:J:111:ARG:NH1	2.41	0.54
1:1:44:A:O2'	1:1:45:G:H5'	2.08	0.53
1:1:143:C:H2'	1:1:144:A:H8	1.72	0.53
1:1:611:C:H2'	1:1:612:G:O4'	2.08	0.53
1:1:673:C:H5''	8:d:76:PRO:HD2	1.89	0.53
1:1:1599:U:H2'	1:1:1600:C:C6	2.43	0.53
1:1:1678:A:H2'	1:1:1679:A:C5'	2.38	0.53
1:1:2190:G:O2'	1:1:2191:A:H5'	2.08	0.53
3:3:835:U:OP1	54:W:52:ARG:NH2	2.41	0.53
3:3:880:C:OP1	48:Q:8:ARG:NH2	2.36	0.53
9:e:162:ASP:OD1	9:e:162:ASP:N	2.37	0.53
59:B2:1117:LEU:HD12	59:B2:1195:ILE:HG12	1.89	0.53
59:B2:1268:GLN:HE21	65:BA:352:ARG:HD2	1.68	0.53
65:BA:785:ASP:O	65:BA:789:LYS:HB2	2.08	0.53
1:1:752:A:H62	1:1:2609:U:H3	1.56	0.53
1:1:784:G:N1	6:b:227:VAL:HG11	2.23	0.53
1:1:2297:A:N1	1:1:2321:U:C5	2.75	0.53
1:1:2644:G:O2'	1:1:2645:G:H5'	2.09	0.53
56:Y:47:GLN:NE2	56:Y:51:ASN:OD1	2.40	0.53
65:BA:759:ILE:HG23	65:BA:771:GLN:HB3	1.89	0.53
3:3:1040:U:H2'	3:3:1041:G:C8	2.42	0.53
18:o:31:THR:HG23	18:o:34:HIS:H	1.73	0.53
21:r:75:VAL:HG23	21:r:86:GLN:HG2	1.90	0.53
30:A:35:ASP:OD1	49:R:2:ARG:NH1	2.42	0.53
1:1:682:G:N2	1:1:796:C:O2	2.41	0.53
1:1:784:G:C5'	1:1:785:G:OP1	2.54	0.53
1:1:820:A:O2'	1:1:821:A:H5'	2.08	0.53
1:1:1662:U:H2'	1:1:1663:G:O4'	2.08	0.53
1:1:1782:U:H2'	1:1:1783:A:H5''	1.90	0.53
1:1:2631:G:O2'	1:1:2632:A:H5'	2.08	0.53
3:3:1239:A:O2'	43:L:113:LYS:O	2.23	0.53
3:3:1381:U:O2	43:L:77:ARG:NH2	2.41	0.53
26:w:55:LEU:HD12	26:w:76:ILE:HD12	1.89	0.53
38:G:14:HIS:HB3	38:G:42:LEU:HD21	1.91	0.53
62:a:16:ILE:HG23	62:a:26:VAL:HG22	1.91	0.53
65:BA:111:THR:HG22	65:BA:300:GLN:NE2	2.23	0.53
65:BA:145:VAL:HG23	65:BA:159:ILE:HG22	1.89	0.53
1:1:8:C:H2'	1:1:9:G:H8	1.73	0.53
1:1:392:U:H2'	1:1:393:C:C6	2.42	0.53
1:1:1171:G:H2'	1:1:1172:C:C4'	2.38	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:B:43:THR:HG1	31:B:46:GLY:H	1.56	0.53
43:L:73:GLU:HG2	43:L:90:VAL:HG22	1.89	0.53
1:1:2758:A:H2'	1:1:2759:G:C5'	2.39	0.53
6:b:92:LEU:HD11	6:b:100:ARG:HB3	1.91	0.53
9:e:27:VAL:O	9:e:29:ARG:NH1	2.41	0.53
19:p:28:LYS:HB3	19:p:39:LEU:HD21	1.91	0.53
30:A:35:ASP:OD1	30:A:35:ASP:N	2.42	0.53
38:G:61:SER:OG	38:G:62:ARG:NH1	2.42	0.53
1:1:53:A:C2'	1:1:54:G:H5'	2.39	0.53
1:1:282:A:H2'	1:1:283:G:C8	2.42	0.53
1:1:1789:A:H2'	1:1:1790:C:O4'	2.09	0.53
63:7:124:GLY:HA2	63:7:140:VAL:HA	1.90	0.53
1:1:472:A:H2'	1:1:473:G:H5'	1.89	0.53
1:1:878:A:H2'	1:1:879:G:O4'	2.09	0.53
1:1:923:G:O2'	1:1:924:G:H5'	2.07	0.53
1:1:1409:U:H2'	1:1:1410:G:C8	2.44	0.53
1:1:1558:C:O4'	1:1:1560:G:C8	2.62	0.53
1:1:1827:U:H2'	1:1:1828:G:H5'	1.90	0.53
1:1:2742:G:O2'	1:1:2743:U:H5'	2.08	0.53
1:1:2747:G:O6	1:1:2754:U:H2'	2.09	0.53
1:1:2762:C:C2'	1:1:2763:G:H5'	2.39	0.53
3:3:1077:G:N2	3:3:1080:A:OP2	2.40	0.53
12:i:53:PRO:HD2	12:i:77:VAL:HG11	1.91	0.53
18:o:40:ILE:HG22	18:o:47:VAL:HG12	1.91	0.53
1:1:57:C:H2'	1:1:58:G:O4'	2.08	0.53
1:1:140:C:H2'	1:1:141:G:H5'	1.90	0.53
1:1:268:C:H2'	1:1:269:C:C6	2.44	0.53
1:1:268:C:H2'	1:1:269:C:H6	1.73	0.53
1:1:1542:U:O2'	1:1:1543:G:H5'	2.09	0.53
1:1:1878:G:O2'	1:1:1879:C:H5'	2.09	0.53
4:0:17:ALA:HB2	4:0:112:VAL:HB	1.89	0.53
14:k:42:THR:HG22	14:k:57:VAL:HG12	1.91	0.53
22:s:109:ASP:OD1	22:s:109:ASP:N	2.42	0.53
65:BA:39:LYS:O	65:BA:273:ILE:HG23	2.08	0.53
65:BA:746:LEU:HG	65:BA:758:PRO:HG3	1.90	0.53
1:1:995:C:N3	13:j:2:LYS:HA	2.23	0.53
1:1:1111:A:H2'	1:1:1112:G:H4'	1.91	0.53
1:1:1530:G:N2	1:1:1542:U:H1'	2.23	0.53
1:1:1530:G:H22	1:1:1542:U:H1'	1.73	0.53
1:1:1574:C:H2'	1:1:1575:C:H6	1.74	0.53
1:1:1601:G:O2'	1:1:1602:U:H5'	2.08	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1807:G:C2'	1:1:1808:A:H5'	2.29	0.53
1:1:2204:G:H2'	1:1:2205:A:C8	2.44	0.53
39:H:133:MET:HE3	39:H:167:TYR:HB2	1.91	0.53
41:J:23:THR:HG22	41:J:28:ARG:HB3	1.91	0.53
62:h:140:ILE:HD12	62:h:142:MET:HE3	1.91	0.53
1:1:925:A:O2'	1:1:926:G:H5'	2.08	0.52
1:1:1511:G:H2'	1:1:1512:C:H6	1.73	0.52
1:1:2194:U:H2'	1:1:2195:U:C6	2.44	0.52
1:1:2625:G:O2'	1:1:2626:C:H5'	2.09	0.52
3:3:458:U:H3	3:3:474:G:H1	1.56	0.52
15:l:20:GLY:HA2	15:l:28:GLY:HA2	1.90	0.52
25:v:83:LYS:HD3	25:v:85:LYS:HZ1	1.73	0.52
63:7:141:SER:HA	63:7:145:ARG:C	2.34	0.52
1:1:521:U:H2'	1:1:522:A:H8	1.74	0.52
1:1:2850:A:C2	1:1:2869:G:H4'	2.44	0.52
3:3:927:G:O2'	3:3:1503:A:N7	2.38	0.52
3:3:1023:U:H2'	3:3:1024:G:H8	1.74	0.52
5:6:9:G:O4'	5:6:46:G:N3	2.42	0.52
8:d:76:PRO:HA	8:d:82:GLY:HA3	1.90	0.52
9:e:101:ARG:NH2	30:A:9:TYR:OH	2.41	0.52
65:BA:850:LYS:HB2	65:BA:857:LEU:HB2	1.91	0.52
1:1:215:G:C4'	1:1:216:A:H4'	2.39	0.52
1:1:341:C:O2'	1:1:342:A:H5'	2.08	0.52
1:1:519:U:H2'	1:1:520:G:H8	1.75	0.52
1:1:723:C:O2'	1:1:724:U:H5'	2.09	0.52
1:1:2236:U:C2'	1:1:2237:G:H5'	2.39	0.52
6:b:257:ARG:NH2	6:b:262:THR:OG1	2.42	0.52
48:Q:36:VAL:HG21	48:Q:73:LEU:HB3	1.92	0.52
65:BA:205:LEU:HG	65:BA:217:LEU:HB3	1.90	0.52
1:1:49:A:O5'	1:1:51:G:H5'	2.10	0.52
1:1:138:U:C5	1:1:139:U:H5	2.28	0.52
1:1:213:A:O2'	1:1:214:G:H5'	2.09	0.52
1:1:251:A:H2'	1:1:252:G:O4'	2.09	0.52
1:1:870:U:O2'	1:1:871:U:H5'	2.10	0.52
1:1:1278:C:O2'	1:1:1279:G:H5'	2.09	0.52
1:1:2013:A:H5''	1:1:2013:A:C8	2.43	0.52
1:1:2425:A:H4'	1:1:2426:A:H5''	1.91	0.52
2:2:40:U:N3	2:2:44:G:OP2	2.40	0.52
39:H:107:LYS:HB3	39:H:110:LEU:HD23	1.92	0.52
59:B2:628:HIS:HB3	59:B2:647:ARG:HH21	1.74	0.52
63:7:141:SER:CA	63:7:146:ALA:HA	2.38	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:68:TYR:CA	65:BA:75:TYR:HE2	2.22	0.52
1:1:1722:A:O2'	1:1:1723:G:H5'	2.10	0.52
1:1:1948:G:H21	3:3:1418:A:H2	1.49	0.52
1:1:2348:U:H5'	32:C:20:TYR:OH	2.08	0.52
3:3:202:G:H1	3:3:215:C:H42	1.57	0.52
3:3:1367:C:H5''	45:N:115:VAL:HG23	1.92	0.52
14:k:75:SER:OG	19:p:72:VAL:O	2.27	0.52
22:s:67:ASP:OD1	22:s:67:ASP:N	2.39	0.52
40:I:154:VAL:HA	40:I:157:ALA:HB3	1.91	0.52
43:L:65:LEU:O	43:L:69:ARG:N	2.43	0.52
65:BA:209:ASN:HA	65:BA:214:ARG:HH21	1.74	0.52
65:BA:215:LYS:HA	65:BA:218:THR:HG22	1.92	0.52
1:1:1560:G:H2'	1:1:1560:G:N3	2.24	0.52
1:1:1717:A:H2'	1:1:1718:G:C5'	2.40	0.52
1:1:2092:U:C5	1:1:2199:A:C2	2.97	0.52
1:1:2102:G:H2'	1:1:2103:C:O4'	2.09	0.52
1:1:2584:U:C2'	1:1:2585:U:H5'	2.34	0.52
3:3:1244:G:H1	3:3:1293:C:H42	1.57	0.52
5:6:43:A:H2'	5:6:44:A:C8	2.44	0.52
18:o:40:ILE:HD12	18:o:44:GLY:HA2	1.91	0.52
40:I:150:LYS:O	40:I:155:LYS:NZ	2.43	0.52
42:K:23:GLU:HA	42:K:26:THR:HG22	1.90	0.52
62:h:43:LEU:HD13	62:h:211:ILE:HD11	1.90	0.52
65:BA:201:LEU:HD12	65:BA:224:LEU:HD12	1.92	0.52
1:1:279:A:N6	1:1:361:G:H1'	2.21	0.52
1:1:1338:G:H2'	1:1:1339:G:H8	1.74	0.52
1:1:1386:C:H2'	1:1:1387:A:C8	2.41	0.52
1:1:1534:U:H2'	1:1:1536:C:O4'	2.10	0.52
1:1:1930:G:HO2'	1:1:1931:U:P	2.32	0.52
1:1:2529:G:H5''	1:1:2530:A:H5''	1.92	0.52
1:1:2611:C:O2	1:1:2611:C:C2'	2.58	0.52
9:e:122:ASP:OD2	9:e:126:ASN:ND2	2.42	0.52
62:a:195:MET:HE3	62:a:203:PRO:HB3	1.90	0.52
65:BA:144:TYR:CE1	65:BA:162:GLU:CD	2.88	0.52
1:1:928:A:O2'	1:1:929:U:H5'	2.10	0.52
1:1:973:A:H5'	1:1:1188:U:H1'	1.90	0.52
1:1:1403:A:H2'	1:1:1404:C:C6	2.45	0.52
1:1:1917:U:C2'	1:1:1918:A:H5'	2.39	0.52
1:1:2105:U:N3	1:1:2184:A:C2	2.78	0.52
1:1:2682:A:N3	7:c:23:PRO:HB3	2.24	0.52
3:3:203:G:N2	3:3:204:G:O6	2.43	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:v:77:VAL:HG23	25:v:89:ILE:HG12	1.92	0.52
46:O:5:ARG:N	46:O:76:ILE:O	2.43	0.52
62:a:100:LEU:HD21	62:a:121:VAL:HG11	1.90	0.52
1:1:995:C:H6	1:1:995:C:H5'	1.74	0.52
1:1:2707:U:H2'	1:1:2708:G:C8	2.44	0.52
4:0:512:ARG:CD	58:4:7:U:C5'	2.88	0.52
44:M:92:PRO:O	44:M:116:ARG:NH2	2.42	0.52
62:h:28:LEU:HD22	62:h:195:LEU:HD23	1.90	0.52
1:1:208:C:O5'	1:1:208:C:H6	1.93	0.52
1:1:402:A:C2'	1:1:403:U:H5'	2.39	0.52
1:1:492:A:H2'	1:1:493:G:O4'	2.09	0.52
1:1:1503:A:C3'	1:1:1504:A:H5''	2.40	0.52
1:1:1794:A:O2'	1:1:1795:C:H5'	2.10	0.52
1:1:2570:G:C2'	1:1:2571:U:H5'	2.40	0.52
21:r:4:VAL:HG12	21:r:13:ARG:HA	1.91	0.52
21:r:51:VAL:HG22	21:r:52:PRO:HD2	1.92	0.52
63:7:126:VAL:CA	63:7:138:VAL:HA	2.40	0.52
65:BA:683:ILE:HD12	65:BA:754:ILE:HG21	1.93	0.52
65:BA:832:LYS:HB3	65:BA:1219:ARG:NH1	2.24	0.52
1:1:894:U:O2'	1:1:895:U:H5'	2.09	0.51
1:1:1923:U:H2'	1:1:1924:C:C6	2.46	0.51
1:1:2670:A:H2'	1:1:2671:G:H8	1.75	0.51
1:1:2731:G:H2'	1:1:2732:G:C8	2.45	0.51
3:3:110:C:O2'	52:U:25:ARG:O	2.28	0.51
6:b:147:PRO:HG3	6:b:184:GLU:HG2	1.92	0.51
24:u:73:ASN:ND2	24:u:80:ASP:OD2	2.43	0.51
29:z:36:GLU:O	29:z:37:ARG:NH1	2.42	0.51
46:O:29:ALA:O	46:O:33:GLY:N	2.42	0.51
56:Y:66:ILE:HG21	56:Y:70:LYS:HB3	1.91	0.51
59:B2:125:GLY:HA2	59:B2:499:SER:HB2	1.92	0.51
65:BA:390:LEU:N	65:BA:390:LEU:CD1	2.73	0.51
1:1:1507:C:H2'	1:1:1508:A:C4'	2.40	0.51
1:1:1910:G:H1	1:1:1920:C:H42	1.58	0.51
3:3:1123:U:H4'	46:O:39:PRO:HD2	1.92	0.51
4:0:647:SER:HA	4:0:652:VAL:HA	1.92	0.51
39:H:76:ILE:CD1	58:4:23:U:H4'	2.40	0.51
52:U:6:LEU:HD22	52:U:17:TYR:HB3	1.92	0.51
59:B2:255:ILE:HB	59:B2:263:VAL:HB	1.92	0.51
65:BA:99:ARG:HA	65:BA:248:ASP:HB2	1.92	0.51
65:BA:112:ALA:HA	65:BA:238:ILE:HA	1.91	0.51
1:1:724:U:O2'	1:1:725:G:H5'	2.11	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1754:A:C6	1:1:1755:A:C6	2.98	0.51
1:1:2015:A:C6	31:B:2:VAL:HG23	2.46	0.51
1:1:2216:G:H2'	1:1:2217:G:H8	1.74	0.51
1:1:2230:G:H5''	27:x:29:LEU:HD12	1.91	0.51
4:0:632:ILE:HD11	4:0:654:ILE:HD12	1.91	0.51
5:6:25:C:H42	5:6:45:G:H22	1.56	0.51
46:O:78:GLU:C	46:O:80:THR:H	2.18	0.51
59:B2:714:VAL:HB	59:B2:787:PRO:HD2	1.92	0.51
65:BA:961:ILE:HD11	65:BA:989:LEU:HD11	1.91	0.51
1:1:2050:C:O2	7:c:161:MET:HE1	2.11	0.51
1:1:2463:C:O2'	1:1:2464:G:H5'	2.10	0.51
1:1:2670:A:H2'	1:1:2671:G:C8	2.45	0.51
16:m:38:ARG:HB3	16:m:98:PRO:HD3	1.92	0.51
25:v:51:GLN:OE1	25:v:79:ARG:NH2	2.40	0.51
1:1:543:G:C2'	1:1:544:C:H5''	2.37	0.51
1:1:1047:G:N2	1:1:1110:G:H2'	2.25	0.51
1:1:2776:A:C6	1:1:2782:G:H1'	2.45	0.51
48:Q:49:ARG:NH1	48:Q:88:ASP:OD2	2.42	0.51
1:1:291:G:O2'	1:1:292:U:H5'	2.11	0.51
1:1:2470:G:O2'	1:1:2471:A:H5'	2.10	0.51
1:1:2617:U:H2'	1:1:2618:G:H5'	1.91	0.51
1:1:2651:C:O2'	1:1:2652:C:H5'	2.10	0.51
3:3:517:G:N2	3:3:533:A:OP2	2.33	0.51
4:0:267:GLY:HA3	4:0:274:GLY:HA3	1.91	0.51
9:e:135:ILE:HG23	9:e:140:ILE:HD11	1.93	0.51
53:V:60:ILE:HA	53:V:74:LEU:HA	1.93	0.51
65:BA:99:ARG:HG3	65:BA:99:ARG:HH11	1.73	0.51
65:BA:395:LYS:NZ	65:BA:399:LYS:CD	2.74	0.51
1:1:1112:G:H2'	1:1:1113:U:O4'	2.10	0.51
1:1:1161:C:H2'	1:1:1162:G:C8	2.44	0.51
1:1:1722:A:H62	1:1:1738:G:H1'	1.74	0.51
1:1:2420:C:H5''	32:C:7:LYS:HD3	1.93	0.51
1:1:2555:U:O2	1:1:2555:U:O4'	2.29	0.51
36:NA:79:ALA:O	62:a:273:LYS:CB	2.59	0.51
38:G:126:ASP:OD1	38:G:126:ASP:N	2.41	0.51
39:H:4:VAL:HG21	39:H:9:ILE:HD13	1.92	0.51
39:H:30:ASP:N	39:H:30:ASP:OD1	2.41	0.51
1:1:729:G:H5''	1:1:730:A:H5''	1.91	0.51
1:1:757:G:C2'	1:1:758:C:H5'	2.38	0.51
1:1:800:A:H4'	1:1:801:G:H3'	1.91	0.51
1:1:1087:G:H22	1:1:1103:A:H1'	1.76	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2676:C:OP2	14:k:31:ARG:NH2	2.43	0.51
12:i:56:VAL:HB	12:i:68:PHE:HB2	1.92	0.51
41:J:152:VAL:HG21	44:M:98:LEU:HD13	1.91	0.51
59:B2:524:ILE:HG21	59:B2:708:VAL:HG13	1.92	0.51
59:B2:974:ARG:HD2	59:B2:1014:LEU:HD21	1.92	0.51
59:B2:1245:ALA:O	65:BA:375:GLU:HG2	2.10	0.51
1:1:8:C:H2'	1:1:9:G:C8	2.45	0.51
1:1:580:U:O5'	1:1:580:U:H6	1.94	0.51
1:1:752:A:OP1	33:D:3:ARG:NH1	2.43	0.51
1:1:891:G:H2'	1:1:892:A:C8	2.46	0.51
1:1:1528:A:H2'	1:1:1529:G:O4'	2.11	0.51
3:3:494:G:H2'	3:3:496:A:H8	1.76	0.51
4:0:512:ARG:HD2	58:4:7:U:H4'	1.92	0.51
4:0:674:THR:O	4:0:677:ARG:HG3	2.11	0.51
41:J:106:ALA:O	41:J:111:ARG:NH2	2.43	0.51
45:N:89:TYR:HB3	45:N:93:LEU:HD21	1.92	0.51
59:B2:246:LEU:HB3	59:B2:269:ILE:HD13	1.91	0.51
65:BA:412:LEU:HD23	65:BA:416:ILE:HG13	1.92	0.51
1:1:69:C:H2'	1:1:70:G:C8	2.45	0.51
1:1:438:G:H2'	1:1:439:A:H8	1.76	0.51
1:1:597:G:H2'	1:1:598:U:C6	2.45	0.51
1:1:1468:U:H2'	1:1:1522:A:N6	2.26	0.51
1:1:1668:A:C4'	1:1:1669:A:H5'	2.36	0.51
1:1:2525:G:N2	1:1:2539:C:C2	2.79	0.51
1:1:2593:U:O2'	1:1:2594:C:H5'	2.11	0.51
3:3:1538:C:O2'	3:3:1539:C:H5'	2.11	0.51
8:d:191:ASP:O	8:d:195:GLN:NE2	2.44	0.51
23:t:65:GLY:N	23:t:79:ASP:OD1	2.43	0.51
46:O:24:GLU:HA	46:O:27:GLU:HB2	1.93	0.51
61:8:13:DT:OP2	65:BA:791:ALA:CB	2.59	0.51
1:1:355:U:H2'	1:1:356:G:C8	2.46	0.50
1:1:439:A:H2'	1:1:440:C:H6	1.75	0.50
1:1:1416:G:H2'	1:1:1417:C:C6	2.45	0.50
1:1:1678:A:C2'	1:1:1679:A:H5'	2.41	0.50
10:f:136:ASP:HB3	10:f:139:VAL:HG12	1.92	0.50
39:H:130:ARG:NH2	39:H:165:GLU:OE1	2.43	0.50
59:B2:400:VAL:HG11	59:B2:452:ARG:HD2	1.93	0.50
59:B2:400:VAL:HG21	59:B2:452:ARG:HE	1.76	0.50
65:BA:275:ARG:HH12	65:BA:278:ARG:NH1	2.09	0.50
65:BA:958:LYS:HD2	65:BA:990:ALA:HA	1.93	0.50
65:BA:1156:PRO:HD2	65:BA:1161:ASP:HA	1.93	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:386:G:H3'	1:1:387:U:C5'	2.41	0.50
1:1:386:G:H3'	1:1:387:U:H5''	1.92	0.50
1:1:1270:C:H5''	1:1:1271:G:H5''	1.93	0.50
1:1:1930:G:C2'	1:1:1931:U:OP2	2.58	0.50
1:1:2052:A:C2'	1:1:2053:G:H5'	2.41	0.50
3:3:816:A:OP1	3:3:1526:G:O2'	2.28	0.50
6:b:146:LYS:HB2	6:b:149:LYS:HB2	1.93	0.50
37:5:34:G:O6	58:4:6:U:O2	2.28	0.50
37:5:34:G:H3'	37:5:35:A:H8	1.76	0.50
40:I:12:ARG:NH1	40:I:32:LYS:O	2.42	0.50
51:T:2:LEU:HD22	51:T:34:GLN:HB2	1.93	0.50
59:B2:786:GLY:N	59:B2:789:THR:OG1	2.41	0.50
1:1:187:G:C6	1:1:188:G:N7	2.80	0.50
1:1:286:U:H2'	1:1:287:G:H8	1.76	0.50
1:1:673:C:H2'	1:1:674:G:C5'	2.41	0.50
1:1:707:G:H2'	1:1:708:G:O4'	2.11	0.50
1:1:1377:G:O3'	33:D:14:ARG:NH1	2.44	0.50
1:1:2285:C:O2'	1:1:2286:G:H5'	2.11	0.50
3:3:7:A:H2'	41:J:123:LEU:HD12	1.92	0.50
3:3:113:G:N3	3:3:353:A:O2'	2.42	0.50
3:3:1109:C:OP2	39:H:175:HIS:ND1	2.44	0.50
5:6:9:G:O4'	5:6:46:G:C2	2.65	0.50
24:u:88:ASP:OD1	24:u:88:ASP:N	2.43	0.50
37:5:29:G:H3'	37:5:30:G:H8	1.77	0.50
63:7:141:SER:HA	63:7:146:ALA:CA	2.40	0.50
1:1:246:C:H2'	1:1:247:G:C5'	2.40	0.50
1:1:539:G:O2'	1:1:540:C:H5'	2.12	0.50
1:1:609:A:H2'	1:1:610:C:O4'	2.11	0.50
1:1:1409:U:H2'	1:1:1410:G:H8	1.76	0.50
1:1:2250:G:H8	1:1:2250:G:O5'	1.95	0.50
1:1:2283:C:H2'	1:1:2284:A:O4'	2.11	0.50
38:G:103:TRP:HA	38:G:106:VAL:HG12	1.93	0.50
65:BA:421:VAL:O	65:BA:436:ALA:HA	2.12	0.50
1:1:145:C:H2'	1:1:146:A:C8	2.46	0.50
1:1:736:C:H42	1:1:760:G:H1	1.58	0.50
1:1:1293:C:H2'	1:1:1294:U:C6	2.46	0.50
1:1:1345:C:H6	1:1:1345:C:H5'	1.77	0.50
1:1:1668:A:N3	1:1:1670:C:N4	2.60	0.50
1:1:1748:C:H2'	1:1:1749:A:C8	2.46	0.50
1:1:2625:G:H2'	1:1:2626:C:H6	1.76	0.50
3:3:376:G:H5''	52:U:5:ARG:HB3	1.93	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1178:G:N2	3:3:1181:G:OP2	2.43	0.50
27:x:64:ASP:N	27:x:64:ASP:OD1	2.43	0.50
35:F:19:ARG:HB2	35:F:24:ARG:HD2	1.93	0.50
59:B2:93:SER:HA	59:B2:128:PRO:HA	1.92	0.50
63:7:111:MET:CA	63:7:125:VAL:HA	2.41	0.50
1:1:275:C:C3'	1:1:276:U:H5''	2.40	0.50
1:1:672:C:H5	15:l:42:SER:HB2	1.76	0.50
46:O:100:ILE:HD11	63:7:147:THR:HA	1.92	0.50
51:T:23:SER:OG	51:T:25:GLU:OE1	2.29	0.50
63:7:113:ARG:O	63:7:114:VAL:C	2.53	0.50
1:1:54:G:H2'	1:1:55:G:O4'	2.12	0.50
1:1:288:U:H2'	1:1:289:G:C8	2.47	0.50
1:1:1062:G:N2	12:i:134:SER:OG	2.45	0.50
1:1:1266:G:O2'	1:1:2012:G:O6	2.25	0.50
1:1:1388:G:O2'	1:1:1389:G:H5'	2.12	0.50
1:1:2311:A:H1'	9:e:84:ILE:HD11	1.94	0.50
5:6:9:G:C2	5:6:45:G:C6	3.00	0.50
6:b:1:ALA:N	6:b:19:VAL:O	2.41	0.50
6:b:56:GLY:HA2	6:b:212:TRP:HA	1.94	0.50
39:H:71:ARG:NH1	58:4:20:U:C3'	2.75	0.50
42:K:42:TRP:HB2	42:K:59:TYR:HB2	1.93	0.50
59:B2:808:ASN:N	65:BA:633:ALA:HB2	2.19	0.50
64:AA:3:ARG:NH1	64:AA:55:GLU:OE2	2.40	0.50
1:1:67:U:H2'	1:1:68:G:H8	1.77	0.50
1:1:355:U:H2'	1:1:356:G:H8	1.77	0.50
1:1:630:G:H4'	1:1:640:C:H4'	1.93	0.50
1:1:644:A:H2'	1:1:645:C:C4'	2.42	0.50
1:1:905:A:H2'	1:1:906:U:C5'	2.41	0.50
1:1:1813:G:H21	6:b:50:THR:HG23	1.76	0.50
6:b:70:LYS:O	6:b:117:SER:OG	2.30	0.50
17:n:49:GLU:O	17:n:53:THR:OG1	2.29	0.50
19:p:105:LYS:O	19:p:108:ARG:NH2	2.42	0.50
38:G:221:ARG:HG2	38:G:224:ARG:HH11	1.77	0.50
59:B2:1282:GLY:O	65:BA:1338:THR:OG1	2.28	0.50
65:BA:749:LYS:HB3	65:BA:755:ILE:HD11	1.94	0.50
1:1:482:A:H1'	1:1:498:G:N2	2.27	0.50
1:1:488:G:H22	1:1:491:G:H5''	1.77	0.50
1:1:2758:A:C2'	1:1:2759:G:H5'	2.40	0.50
1:1:2815:C:O2'	1:1:2816:G:H5'	2.12	0.50
6:b:92:LEU:HD21	6:b:100:ARG:HD3	1.93	0.50
6:b:137:GLY:O	6:b:162:GLN:NE2	2.45	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:f:87:GLN:NE2	10:f:129:GLU:OE2	2.45	0.50
42:K:46:GLN:HA	42:K:56:LYS:HB3	1.94	0.50
44:M:29:SER:OG	44:M:30:LYS:N	2.43	0.50
49:R:16:ILE:O	49:R:19:THR:OG1	2.26	0.50
54:W:71:ASP:N	54:W:71:ASP:OD1	2.44	0.50
1:1:131:A:H2'	1:1:132:G:H8	1.77	0.49
1:1:729:G:C8	6:b:206:LYS:HD2	2.46	0.49
1:1:1077:A:H8	1:1:1078:U:H1'	1.77	0.49
1:1:1175:A:H3'	1:1:1176:U:C5'	2.36	0.49
1:1:1614:A:H2'	1:1:1615:C:H5'	1.94	0.49
1:1:2286:G:H21	1:1:2287:A:N6	2.09	0.49
1:1:2687:U:H2'	1:1:2688:G:O4'	2.11	0.49
3:3:460:A:H2'	3:3:461:A:H8	1.75	0.49
3:3:500:G:H5'	48:Q:120:ARG:HH12	1.77	0.49
3:3:1061:G:O2'	46:O:58:ASN:ND2	2.45	0.49
6:b:156:SER:OG	6:b:157:ALA:N	2.44	0.49
46:O:100:ILE:HG13	63:7:147:THR:HA	1.94	0.49
59:B2:812:PHE:HA	65:BA:505:ASP:OD2	2.11	0.49
63:7:124:GLY:HA2	63:7:140:VAL:CA	2.42	0.49
65:BA:437:PHE:HZ	65:BA:453:VAL:HG11	1.76	0.49
65:BA:902:ASP:HB3	65:BA:905:ARG:HB2	1.93	0.49
1:1:155:A:H2'	1:1:156:A:H8	1.76	0.49
1:1:1080:A:H4'	12:i:126:ARG:HD2	1.93	0.49
1:1:1869:G:H3'	1:1:1870:C:C5'	2.38	0.49
1:1:2636:C:O5'	7:c:81:GLU:HG3	2.13	0.49
1:1:2670:A:O2'	1:1:2671:G:H5'	2.12	0.49
1:1:2888:C:H2'	1:1:2889:C:H6	1.77	0.49
3:3:933:G:O6	43:L:2:ARG:NH2	2.45	0.49
59:B2:533:LEU:HD13	59:B2:540:ARG:HH21	1.77	0.49
1:1:262:A:H2'	1:1:263:G:O4'	2.12	0.49
1:1:995:C:N4	13:j:2:LYS:HG2	2.27	0.49
1:1:1415:U:H1'	1:1:1588:G:N2	2.26	0.49
1:1:1534:U:H4'	1:1:1535:A:N1	2.27	0.49
1:1:1676:A:H8	1:1:1676:A:O5'	1.95	0.49
5:6:35:A:N6	58:4:3:G:C6	2.80	0.49
7:c:176:ASP:OD1	7:c:176:ASP:N	2.44	0.49
10:f:7:PRO:O	10:f:68:ARG:NH2	2.38	0.49
1:1:197:A:H2	1:1:2434:A:N6	2.10	0.49
1:1:1256:G:N2	8:d:77:ILE:HG23	2.26	0.49
1:1:1785:A:O2'	1:1:1786:A:H8	1.96	0.49
1:1:2257:U:O2'	1:1:2258:C:H5'	2.13	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2348:U:O2'	1:1:2349:G:H5'	2.12	0.49
1:1:2393:U:H2'	1:1:2394:C:H5'	1.94	0.49
1:1:2734:A:H2'	1:1:2735:G:C5'	2.42	0.49
1:1:2836:U:H2'	1:1:2837:A:C8	2.47	0.49
3:3:481:G:O2'	3:3:483:C:N4	2.46	0.49
17:n:8:ARG:HH21	17:n:43:GLU:HG3	1.77	0.49
25:v:79:ARG:HA	25:v:86:LEU:HA	1.95	0.49
59:B2:9:LYS:HG2	59:B2:1171:ARG:HH12	1.77	0.49
1:1:173:A:H2'	1:1:174:U:C6	2.47	0.49
1:1:1061:U:H4'	1:1:1070:A:H1'	1.93	0.49
1:1:1539:U:H2'	1:1:1540:G:H8	1.76	0.49
1:1:1645:G:H5''	1:1:1646:C:H5'	1.94	0.49
1:1:1790:C:O2'	6:b:207:ALA:HB2	2.12	0.49
1:1:2241:A:O2'	1:1:2242:G:H5'	2.12	0.49
3:3:974:A:OP1	50:S:68:ARG:NH2	2.45	0.49
4:0:512:ARG:CB	58:4:7:U:H4'	2.42	0.49
20:q:103:VAL:HA	20:q:106:THR:HG22	1.94	0.49
38:G:18:GLN:HG3	38:G:189:ASN:CB	2.41	0.49
39:H:127:VAL:HA	58:4:17:U:O3'	2.11	0.49
56:Y:53:MET:HE2	56:Y:57:VAL:HG21	1.94	0.49
59:B2:411:ARG:NH2	59:B2:427:ASP:OD2	2.44	0.49
59:B2:554:HIS:HD2	59:B2:558:VAL:HB	1.77	0.49
65:BA:1348:ARG:HE	65:BA:1349:ARG:NH1	2.10	0.49
1:1:121:G:H4'	1:1:149:A:H5'	1.95	0.49
1:1:898:C:H2'	1:1:899:A:O4'	2.12	0.49
1:1:1119:U:O2'	1:1:1120:G:H5'	2.13	0.49
1:1:2634:A:O2'	1:1:2635:A:H5'	2.12	0.49
12:i:79:LEU:HD13	12:i:132:ALA:HB2	1.94	0.49
47:P:96:ILE:HD13	47:P:109:ILE:HD13	1.94	0.49
59:B2:732:ILE:HD11	59:B2:769:PRO:HB3	1.95	0.49
59:B2:895:LEU:HD12	59:B2:899:GLU:HB3	1.95	0.49
62:a:100:LEU:HB2	62:a:144:ILE:HG23	1.94	0.49
63:7:140:VAL:C	63:7:147:THR:H	2.19	0.49
65:BA:201:LEU:HD11	65:BA:220:ARG:HG2	1.95	0.49
1:1:69:C:O2'	1:1:70:G:H5'	2.13	0.49
1:1:286:U:H2'	1:1:287:G:C8	2.47	0.49
1:1:519:U:H2'	1:1:520:G:C8	2.48	0.49
1:1:553:G:H2'	1:1:554:U:O4'	2.13	0.49
1:1:841:G:C2	1:1:938:G:C2	3.01	0.49
1:1:898:C:C2'	1:1:899:A:H5'	2.43	0.49
1:1:1348:C:C5	1:1:1349:C:C5	3.00	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1437:C:H2'	1:1:1438:U:H6	1.78	0.49
1:1:1536:C:H5''	1:1:1537:G:C4	2.48	0.49
1:1:2830:C:H5''	7:c:56:LYS:NZ	2.28	0.49
3:3:898:G:N2	3:3:901:A:OP2	2.46	0.49
3:3:1240:U:H5'	43:L:41:ILE:HD11	1.94	0.49
38:G:101:THR:HG23	38:G:174:GLU:HG3	1.95	0.49
45:N:94:ARG:HG2	45:N:97:LEU:HD12	1.95	0.49
46:O:79:PRO:O	46:O:80:THR:C	2.55	0.49
48:Q:97:VAL:HG12	48:Q:99:GLY:H	1.78	0.49
59:B2:18:ARG:HE	59:B2:620:ASN:HA	1.77	0.49
1:1:481:G:C2'	1:1:482:A:OP2	2.61	0.49
1:1:718:A:H2'	1:1:719:C:O4'	2.13	0.49
1:1:1400:U:H2'	1:1:1401:G:H8	1.78	0.49
1:1:1464:G:H2'	1:1:1465:G:H8	1.78	0.49
1:1:1465:G:H2'	1:1:1466:U:O4'	2.13	0.49
1:1:2329:U:H2'	1:1:2330:G:H8	1.78	0.49
1:1:2510:C:N4	1:1:2511:U:C4	2.81	0.49
1:1:2618:G:H2'	1:1:2619:C:O4'	2.11	0.49
7:c:13:ARG:NH2	19:p:74:GLN:OE1	2.43	0.49
23:t:7:LEU:HD13	23:t:46:ALA:HA	1.94	0.49
37:5:36:A:C2	58:4:5:U:O2	2.65	0.49
46:O:85:ASP:OD2	65:BA:87:LYS:HE2	2.08	0.49
61:8:3:DC:H2''	61:8:4:DT:C7	2.42	0.49
1:1:900:A:H2'	1:1:901:C:H5'	1.94	0.49
1:1:1084:A:O2'	1:1:1105:U:H4'	2.12	0.49
1:1:1537:G:H3'	1:1:1537:G:N3	2.28	0.49
1:1:2298:A:O2'	1:1:2299:U:H5'	2.12	0.49
10:f:122:ALA:HB2	10:f:132:LEU:HD23	1.94	0.49
37:5:51:U:H2'	37:5:52:G:C8	2.48	0.49
45:N:91:GLU:HA	45:N:94:ARG:HB2	1.94	0.49
62:a:18:GLN:HA	62:a:24:ALA:HA	1.94	0.49
65:BA:115:TRP:O	65:BA:1310:THR:HG21	2.13	0.49
1:1:214:G:H2'	1:1:215:G:C8	2.48	0.49
1:1:1020:A:C1'	1:1:1021:A:OP2	2.61	0.49
1:1:1087:G:H2'	1:1:1089:A:H5'	1.94	0.49
1:1:1144:A:H2'	1:1:1145:C:C6	2.47	0.49
1:1:1668:A:H5''	14:k:5:GLN:HE21	1.78	0.49
1:1:2248:C:H2'	1:1:2249:U:H5'	1.93	0.49
3:3:358:U:H2'	3:3:359:G:H8	1.78	0.49
10:f:41:GLU:HG2	10:f:54:ARG:HH21	1.77	0.49
59:B2:529:ARG:HH11	59:B2:572:ILE:HG22	1.77	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:118:A:H2'	1:1:120:U:O4	2.13	0.48
1:1:476:G:H4'	1:1:502:A:N1	2.28	0.48
1:1:1702:G:H2'	1:1:1703:G:C5'	2.35	0.48
1:1:1871:A:H2'	1:1:1872:A:O4'	2.13	0.48
3:3:664:G:H22	3:3:741:G:H1	1.60	0.48
3:3:1064:G:O2'	3:3:1190:G:N2	2.46	0.48
3:3:1137:C:H4'	3:3:1138:G:H5'	1.94	0.48
12:i:20:SER:H	12:i:21:PRO:HD2	1.78	0.48
12:i:110:GLN:HG2	12:i:121:ILE:HD13	1.94	0.48
19:p:59:THR:HG22	19:p:72:VAL:HG12	1.95	0.48
21:r:68:ARG:O	21:r:90:ARG:NH2	2.46	0.48
21:r:71:LYS:HA	21:r:90:ARG:HG2	1.95	0.48
24:u:39:ASN:HB3	24:u:62:ALA:HB3	1.95	0.48
46:O:42:LEU:HB3	46:O:71:LEU:HB2	1.94	0.48
48:Q:110:LYS:HG3	48:Q:121:PRO:HG3	1.94	0.48
56:Y:59:ARG:O	56:Y:63:LYS:N	2.46	0.48
59:B2:318:SER:OG	59:B2:320:ASP:OD1	2.31	0.48
1:1:16:C:H2'	1:1:17:G:H8	1.78	0.48
1:1:1813:G:N2	6:b:50:THR:HG23	2.28	0.48
1:1:1910:G:N2	1:1:1911:U:C2	2.81	0.48
1:1:2180:U:O2'	1:1:2181:U:H5'	2.13	0.48
1:1:2527:C:O2'	1:1:2528:U:H5'	2.13	0.48
1:1:2828:G:O2'	1:1:2829:A:H5'	2.13	0.48
3:3:401:C:O2'	3:3:621:A:N3	2.45	0.48
3:3:1397:C:OP2	41:J:28:ARG:NH2	2.38	0.48
4:0:615:PRO:HG3	4:0:687:TYR:HE1	1.77	0.48
59:B2:232:ILE:HG12	59:B2:237:LEU:HG	1.94	0.48
59:B2:565:GLU:HA	59:B2:569:ILE:HG12	1.95	0.48
63:7:114:VAL:H	63:7:124:GLY:H	1.60	0.48
65:BA:145:VAL:HG12	65:BA:184:ALA:HB1	1.94	0.48
1:1:368:A:H2'	1:1:369:U:C5'	2.39	0.48
1:1:1026:G:OP2	1:1:1134:A:H1'	2.13	0.48
1:1:1593:A:H2'	1:1:1594:U:C6	2.47	0.48
1:1:1680:U:O2'	1:1:1681:G:H5'	2.13	0.48
1:1:1729:U:H5	1:1:1731:G:N2	2.11	0.48
1:1:2214:C:H2'	1:1:2215:C:O4'	2.14	0.48
1:1:2281:A:O2'	1:1:2282:G:H5'	2.12	0.48
1:1:2290:G:H2'	1:1:2291:U:H6	1.74	0.48
8:d:143:LEU:HD13	8:d:146:VAL:HG11	1.94	0.48
40:I:94:GLU:HG3	40:I:190:LEU:HD21	1.95	0.48
59:B2:836:LEU:HD13	59:B2:1054:LEU:HD13	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:102:MET:HG2	65:BA:246:PRO:HD3	1.94	0.48
65:BA:1238:LEU:HD12	65:BA:1281:ARG:HH21	1.78	0.48
1:1:555:G:O2'	1:1:556:A:H8	1.96	0.48
1:1:898:C:O2'	1:1:899:A:H5'	2.13	0.48
1:1:1742:U:O2'	1:1:1743:G:H5'	2.14	0.48
1:1:2050:C:N4	1:1:2051:A:C6	2.81	0.48
1:1:2547:A:H61	1:1:2561:U:H3	1.62	0.48
1:1:2649:C:O2'	1:1:2650:U:H5'	2.13	0.48
2:2:8:C:OP1	18:o:15:ARG:NH2	2.47	0.48
3:3:435:A:N3	40:I:153:ARG:NH2	2.61	0.48
3:3:587:G:OP1	44:M:83:ARG:NH2	2.44	0.48
23:t:70:HIS:N	23:t:73:ARG:O	2.44	0.48
30:A:37:CYS:O	30:A:41:HIS:N	2.45	0.48
57:Z:55:HIS:HA	57:Z:58:LYS:HD2	1.95	0.48
65:BA:103:GLY:H	65:BA:244:VAL:HG22	1.79	0.48
1:1:554:U:O2'	1:1:555:G:H5'	2.13	0.48
1:1:1063:G:N1	1:1:1075:C:N4	2.52	0.48
1:1:1465:G:HO2'	1:1:1466:U:H5'	1.79	0.48
1:1:2302:U:O2'	1:1:2303:G:H5'	2.12	0.48
2:2:51:G:H22	2:2:53:A:H62	1.61	0.48
3:3:890:G:O2'	3:3:906:A:N6	2.46	0.48
11:g:47:PHE:HA	11:g:51:ARG:HB2	1.96	0.48
12:i:54:ILE:HD12	12:i:73:PRO:HD3	1.95	0.48
16:m:74:THR:HG21	16:m:86:LYS:HG2	1.94	0.48
59:B2:363:LEU:HB3	59:B2:381:ALA:HB1	1.96	0.48
1:1:30:G:H2'	1:1:31:C:C6	2.47	0.48
1:1:129:C:H2'	1:1:130:C:H6	1.78	0.48
1:1:149:A:H2'	1:1:150:U:C6	2.49	0.48
1:1:473:G:O2'	1:1:474:G:H5'	2.14	0.48
1:1:636:G:OP1	15:l:129:LYS:HG2	2.14	0.48
1:1:686:U:H6	1:1:788:A:H61	1.61	0.48
1:1:706:A:H2'	1:1:707:G:H5'	1.95	0.48
1:1:840:C:O2'	1:1:841:G:H5'	2.12	0.48
1:1:1117:C:H2'	1:1:1118:C:H6	1.79	0.48
1:1:1916:A:H2'	1:1:1917:U:O4'	2.12	0.48
1:1:2208:C:H2'	1:1:2209:G:C8	2.48	0.48
1:1:2367:G:O2'	1:1:2368:C:H5'	2.13	0.48
1:1:2533:U:H2'	1:1:2534:A:C5'	2.43	0.48
1:1:2843:G:O2'	1:1:2844:G:H5'	2.13	0.48
8:d:119:ILE:HB	8:d:187:VAL:HG12	1.95	0.48
8:d:149:ILE:HD11	8:d:172:ALA:HA	1.96	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:g:8:LYS:HD3	11:g:14:SER:HA	1.96	0.48
33:D:29:GLN:O	33:D:29:GLN:NE2	2.47	0.48
45:N:86:LEU:HD12	45:N:97:LEU:HD11	1.95	0.48
46:O:88:MET:HE3	46:O:88:MET:HB3	1.70	0.48
52:U:36:VAL:HG12	52:U:53:ASP:HB3	1.95	0.48
65:BA:124:ILE:HG23	65:BA:128:LEU:HD12	1.94	0.48
65:BA:255:LEU:HD23	65:BA:261:ALA:HB2	1.95	0.48
65:BA:1144:LYS:HZ2	65:BA:1147:LYS:HB2	1.78	0.48
1:1:360:U:H2'	1:1:361:G:C1'	2.44	0.48
1:1:1464:G:H2'	1:1:1465:G:C8	2.49	0.48
3:3:38:G:H22	3:3:397:A:H5'	1.78	0.48
8:d:48:THR:OG1	8:d:49:ARG:N	2.47	0.48
27:x:1:SER:O	27:x:49:ARG:NH1	2.46	0.48
42:K:75:GLU:O	42:K:79:ARG:N	2.47	0.48
45:N:44:ARG:O	45:N:47:VAL:HG22	2.13	0.48
65:BA:395:LYS:HE3	65:BA:395:LYS:HB3	1.45	0.48
65:BA:1324:LEU:HG	65:BA:1334:ILE:HG23	1.96	0.48
1:1:217:A:H2'	1:1:218:A:O4'	2.13	0.48
1:1:367:G:H2'	1:1:368:A:O4'	2.13	0.48
1:1:1257:C:O5'	1:1:1257:C:H6	1.97	0.48
1:1:1509:A:H2'	1:1:1510:G:C8	2.49	0.48
3:3:1531:A:O2'	3:3:1532:U:H5'	2.14	0.48
10:f:163:TYR:HB2	10:f:166:GLU:HB2	1.95	0.48
28:y:16:THR:O	28:y:20:ASN:ND2	2.46	0.48
37:5:50:U:H2'	37:5:51:U:C6	2.49	0.48
51:T:38:LEU:HD22	51:T:55:LEU:HD13	1.96	0.48
59:B2:1314:GLN:HB2	64:AA:28:ARG:HH12	1.79	0.48
62:a:172:ARG:O	62:a:195:MET:HA	2.14	0.48
65:BA:550:VAL:O	65:BA:569:LEU:HA	2.13	0.48
1:1:236:C:H2'	1:1:237:C:C6	2.46	0.48
1:1:886:A:C5	1:1:887:U:H1'	2.47	0.48
1:1:1087:G:O6	1:1:1089:A:C2	2.67	0.48
9:e:57:ALA:HB2	9:e:64:PRO:HD3	1.95	0.48
61:8:14:DC:H2'	61:8:15:DC:C6	2.48	0.48
65:BA:809:VAL:HG21	65:BA:909:ILE:HG12	1.95	0.48
1:1:40:U:H2'	1:1:41:C:H6	1.78	0.48
1:1:92:U:H2'	1:1:93:G:H5'	1.95	0.48
1:1:107:G:O2'	1:1:108:G:H5'	2.14	0.48
1:1:466:A:H2'	1:1:467:G:C5'	2.44	0.48
1:1:536:G:H2'	1:1:537:G:C5'	2.43	0.48
1:1:555:G:HO2'	1:1:556:A:H8	1.62	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1067:A:H2'	1:1:1068:G:C8	2.49	0.48
1:1:1297:C:H2'	1:1:1298:C:H6	1.79	0.48
1:1:2876:G:H4'	19:p:2:ASN:HD21	1.78	0.48
3:3:768:A:N3	3:3:1512:U:O2'	2.46	0.48
3:3:1119:C:OP2	45:N:10:ARG:NH2	2.47	0.48
10:f:133:LYS:NZ	10:f:134:GLY:O	2.43	0.48
48:Q:70:GLY:O	48:Q:98:ARG:NH2	2.47	0.48
59:B2:517:GLN:HB3	59:B2:760:ASN:H	1.79	0.48
59:B2:562:GLU:OE1	59:B2:662:SER:OG	2.28	0.48
65:BA:220:ARG:HG2	65:BA:220:ARG:NH1	2.25	0.48
65:BA:526:VAL:HG12	65:BA:549:LYS:HB2	1.96	0.48
65:BA:891:ASP:OD2	65:BA:1267:ARG:NH2	2.47	0.48
1:1:415:A:H2'	1:1:416:U:C6	2.49	0.47
1:1:712:G:H2'	1:1:713:G:H5'	1.96	0.47
1:1:940:G:H2'	1:1:941:A:C5'	2.41	0.47
1:1:1068:G:H2'	1:1:1069:A:H4'	1.96	0.47
1:1:1285:A:H2'	1:1:1286:A:H5'	1.96	0.47
1:1:2126:A:H5'	1:1:2127:G:O5'	2.13	0.47
2:2:42:C:OP2	30:A:2:LYS:NZ	2.39	0.47
3:3:390:U:O2'	52:U:28:ARG:NH1	2.46	0.47
61:8:14:DC:H2'	61:8:15:DC:H6	1.79	0.47
1:1:1111:A:H2'	1:1:1111:A:N3	2.28	0.47
1:1:1768:C:H42	1:1:1984:G:H1	1.62	0.47
1:1:1922:G:H2'	1:1:1923:U:C6	2.50	0.47
1:1:2149:U:H2'	1:1:2150:C:C6	2.49	0.47
1:1:2830:C:H5''	7:c:56:LYS:HZ2	1.79	0.47
3:3:9:G:OP2	41:J:125:LYS:NZ	2.38	0.47
4:0:27:THR:HA	4:0:30:ILE:HD12	1.96	0.47
4:0:616:ILE:HB	4:0:686:LYS:HE3	1.95	0.47
12:i:85:ILE:HD12	12:i:97:VAL:HG12	1.95	0.47
39:H:77:GLY:O	58:4:23:U:OP1	2.30	0.47
39:H:171:ARG:HG2	39:H:173:PRO:HD3	1.96	0.47
43:L:107:ALA:HA	43:L:122:GLU:HG3	1.95	0.47
52:U:18:GLN:HA	52:U:38:PHE:HA	1.95	0.47
59:B2:857:VAL:HG13	59:B2:919:ARG:HH21	1.78	0.47
1:1:78:U:H2'	1:1:79:C:H6	1.77	0.47
1:1:1059:G:H4'	12:i:115:ASP:OD2	2.14	0.47
1:1:1090:A:H61	1:1:1101:U:H3	1.63	0.47
1:1:1324:G:O2'	1:1:1326:U:OP2	2.29	0.47
1:1:2098:U:H2'	1:1:2099:U:O4'	2.14	0.47
1:1:2155:U:H2'	1:1:2156:G:O4'	2.15	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2298:A:C2'	1:1:2299:U:H5'	2.45	0.47
1:1:2899:A:H2'	1:1:2900:A:O4'	2.15	0.47
3:3:1305:G:N2	3:3:1331:G:H2'	2.30	0.47
37:5:34:G:O6	58:4:6:U:C2	2.67	0.47
40:I:171:GLU:HB3	40:I:180:THR:HG22	1.97	0.47
48:Q:70:GLY:O	48:Q:107:LYS:NZ	2.44	0.47
62:h:102:LEU:HD12	62:h:115:ILE:HG12	1.96	0.47
65:BA:128:LEU:HD21	65:BA:188:LEU:HB3	1.97	0.47
65:BA:954:ASN:HA	65:BA:1103:SER:HB2	1.96	0.47
65:BA:1198:LEU:HD22	65:BA:1283:LEU:HB2	1.96	0.47
1:1:5:A:H2'	1:1:6:A:C8	2.49	0.47
1:1:143:C:H2'	1:1:144:A:C8	2.49	0.47
1:1:859:G:C2'	1:1:860:U:OP2	2.62	0.47
1:1:1071:G:HO2'	1:1:1089:A:H2'	1.77	0.47
1:1:1486:U:O2'	1:1:1487:U:H5'	2.14	0.47
1:1:1796:U:H2'	1:1:1797:G:C8	2.45	0.47
1:1:2729:G:H4'	7:c:190:LYS:HE2	1.95	0.47
4:0:12:ASN:HB2	4:0:107:ASP:OD2	2.14	0.47
10:f:106:LEU:O	10:f:151:ARG:NH2	2.37	0.47
65:BA:395:LYS:NZ	65:BA:399:LYS:CE	2.77	0.47
65:BA:833:GLU:N	65:BA:1219:ARG:HH12	2.12	0.47
1:1:85:G:P	24:u:6:ARG:HB2	2.55	0.47
1:1:214:G:O2'	1:1:215:G:H5'	2.14	0.47
1:1:402:A:H2'	1:1:403:U:C5'	2.44	0.47
1:1:852:U:H2'	1:1:853:C:C6	2.49	0.47
1:1:2047:C:O5'	1:1:2047:C:H6	1.98	0.47
1:1:2180:U:H2'	1:1:2181:U:O4'	2.14	0.47
1:1:2362:C:O5'	1:1:2362:C:H6	1.96	0.47
3:3:512:U:H2'	3:3:513:C:C6	2.50	0.47
3:3:880:C:H2'	3:3:881:G:H8	1.78	0.47
4:0:648:GLU:H	4:0:648:GLU:HG3	1.57	0.47
6:b:131:MET:HE2	6:b:187:CYS:HB2	1.96	0.47
10:f:100:ASN:OD1	10:f:100:ASN:N	2.47	0.47
26:w:19:VAL:HA	26:w:34:VAL:HG22	1.96	0.47
28:y:15:ASN:OD1	28:y:16:THR:N	2.48	0.47
65:BA:108:ALA:HB1	65:BA:279:LEU:HD22	1.96	0.47
65:BA:1013:VAL:HB	65:BA:1107:LEU:HB2	1.95	0.47
65:BA:1046:VAL:HG13	65:BA:1092:ILE:HG12	1.96	0.47
1:1:283:G:C2'	1:1:284:U:H5'	2.45	0.47
1:1:338:G:O2'	1:1:339:U:H5'	2.14	0.47
1:1:762:U:N3	1:1:1431:A:OP1	2.47	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:820:A:H2'	1:1:821:A:O4'	2.14	0.47
1:1:1105:U:H2'	1:1:1106:G:H8	1.80	0.47
1:1:1267:U:H2'	1:1:1267:U:O2	2.14	0.47
1:1:1463:C:H2'	1:1:1464:G:C8	2.49	0.47
1:1:2660:A:N6	4:0:672:SER:HB2	2.29	0.47
3:3:673:A:H2'	3:3:674:G:C8	2.49	0.47
3:3:1225:A:H2'	3:3:1225:A:N3	2.29	0.47
48:Q:82:ARG:O	48:Q:95:HIS:N	2.47	0.47
59:B2:618:GLN:HG3	65:BA:770:LEU:CD1	2.36	0.47
59:B2:1268:GLN:NE2	65:BA:352:ARG:CD	2.67	0.47
59:B2:1268:GLN:NE2	65:BA:352:ARG:HB2	2.30	0.47
1:1:551:G:O2'	1:1:552:U:H5'	2.15	0.47
1:1:854:C:H2'	1:1:855:G:H8	1.79	0.47
1:1:1141:U:H4'	1:1:1142:A:C1'	2.45	0.47
1:1:1367:A:H3'	1:1:1368:G:O4'	2.15	0.47
1:1:1400:U:H2'	1:1:1401:G:C8	2.50	0.47
1:1:1435:G:O2'	1:1:1436:G:H5'	2.15	0.47
1:1:1480:C:H2'	1:1:1481:U:C6	2.49	0.47
1:1:1491:G:H2'	1:1:1492:G:H8	1.80	0.47
1:1:1516:G:O2'	1:1:1517:G:H5'	2.15	0.47
1:1:2286:G:H21	1:1:2287:A:H61	1.62	0.47
3:3:617:G:H1	3:3:623:C:H42	1.63	0.47
3:3:776:G:N2	3:3:802:A:OP2	2.39	0.47
5:6:50:U:H2'	5:6:51:C:C5	2.49	0.47
10:f:87:GLN:HB3	10:f:162:ARG:HG3	1.96	0.47
12:i:79:LEU:HD21	12:i:105:LEU:HD21	1.96	0.47
17:n:100:CYS:H	17:n:111:ALA:HA	1.79	0.47
19:p:74:GLN:O	19:p:77:SER:OG	2.30	0.47
22:s:70:LYS:N	22:s:108:SER:O	2.45	0.47
23:t:66:LYS:HB3	23:t:66:LYS:HE2	1.70	0.47
26:w:29:ALA:N	26:w:60:ASP:OD1	2.48	0.47
27:x:38:TRP:NE1	27:x:40:GLU:OE1	2.41	0.47
34:E:5:THR:HG22	34:E:62:PRO:HD2	1.97	0.47
38:G:129:THR:HB	38:G:132:GLU:HB2	1.96	0.47
43:L:79:VAL:HB	43:L:84:TYR:HD2	1.80	0.47
46:O:81:GLU:O	46:O:82:LYS:C	2.58	0.47
49:R:15:VAL:HG11	49:R:30:LYS:HG2	1.97	0.47
50:S:32:ASP:O	50:S:34:ASN:ND2	2.48	0.47
59:B2:103:VAL:HG12	59:B2:117:ILE:HG22	1.97	0.47
59:B2:207:THR:OG1	59:B2:354:ASP:OD2	2.32	0.47
59:B2:1279:GLU:HG2	65:BA:1334:ILE:HD13	1.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:B2:1311:GLY:O	64:AA:31:GLN:NE2	2.48	0.47
62:a:59:VAL:HG22	62:a:144:ILE:HA	1.97	0.47
65:BA:43:THR:HG22	65:BA:57:PHE:HE1	1.80	0.47
1:1:708:G:H2'	1:1:709:U:C6	2.50	0.47
1:1:1818:U:N3	6:b:152:GLN:HB3	2.29	0.47
1:1:2156:G:C3'	1:1:2157:G:H5'	2.44	0.47
1:1:2445:G:C6	1:1:2446:G:C6	3.02	0.47
1:1:2563:U:H2'	1:1:2565:A:OP2	2.15	0.47
1:1:2679:A:O2'	1:1:2680:U:H5'	2.15	0.47
1:1:2813:A:O2'	1:1:2814:A:H5'	2.15	0.47
2:2:43:C:O2	9:e:91:ARG:NH2	2.35	0.47
3:3:1200:C:H5''	3:3:1201:A:H3'	1.97	0.47
5:6:48:C:H5''	5:6:50:U:OP1	2.15	0.47
10:f:16:VAL:HA	10:f:25:ILE:HG12	1.96	0.47
10:f:174:LYS:HD2	10:f:176:LYS:HB2	1.96	0.47
59:B2:1336:ASN:ND2	65:BA:29:MET:HG2	2.29	0.47
65:BA:420:PRO:HA	65:BA:437:PHE:O	2.15	0.47
65:BA:1022:ARG:HE	65:BA:1067:VAL:HG11	1.79	0.47
65:BA:1123:GLU:OE2	65:BA:1287:THR:HG22	2.14	0.47
1:1:435:C:C2'	1:1:436:C:H5'	2.44	0.47
1:1:572:A:H8	1:1:572:A:O5'	1.96	0.47
1:1:1219:U:O2'	1:1:1220:G:H5'	2.15	0.47
1:1:1517:G:O2'	1:1:1518:C:H5'	2.15	0.47
1:1:1913:A:C8	3:3:1494:G:H4'	2.50	0.47
1:1:2016:U:O5'	1:1:2016:U:H6	1.97	0.47
1:1:2241:A:H2'	1:1:2242:G:C8	2.50	0.47
1:1:2294:G:O2'	1:1:2295:C:H5'	2.15	0.47
1:1:2455:G:C6	1:1:2456:C:N4	2.83	0.47
1:1:2579:C:O2'	7:c:136:ASN:OD1	2.32	0.47
1:1:2858:C:H2'	1:1:2859:G:O4'	2.15	0.47
17:n:58:ASP:OD1	17:n:63:ARG:NH2	2.44	0.47
35:F:6:SER:O	35:F:6:SER:OG	2.31	0.47
40:I:93:LEU:O	40:I:99:ASN:ND2	2.39	0.47
43:L:112:ASP:HB2	43:L:118:ARG:HG2	1.96	0.47
49:R:7:ASN:HD22	49:R:20:SER:HB2	1.80	0.47
59:B2:400:VAL:HG22	59:B2:584:TYR:HB3	1.96	0.47
59:B2:1245:ALA:HB3	65:BA:375:GLU:HB3	1.97	0.47
65:BA:198:CYS:HA	65:BA:221:ILE:CD1	2.45	0.47
1:1:538:A:O2'	1:1:539:G:H5'	2.14	0.47
1:1:596:U:C2	1:1:662:G:N2	2.82	0.47
1:1:813:U:C2	1:1:1195:G:N2	2.83	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1287:A:O2'	1:1:1288:G:H5'	2.15	0.47
1:1:1873:G:O2'	1:1:1874:C:H5'	2.15	0.47
1:1:2679:A:H5'	7:c:170:VAL:HG21	1.97	0.47
1:1:2895:G:H2'	1:1:2896:C:C6	2.49	0.47
3:3:1223:C:H5'	3:3:1224:U:H5''	1.96	0.47
63:7:139:SER:HA	63:7:148:PRO:CA	2.44	0.47
1:1:389:G:O2'	1:1:390:U:H5'	2.15	0.46
1:1:554:U:C2'	1:1:555:G:H5'	2.46	0.46
1:1:1117:C:H2'	1:1:1118:C:C6	2.50	0.46
1:1:1210:G:P	1:1:1212:G:H5'	2.56	0.46
1:1:1389:G:C2	1:1:1390:U:C2	3.02	0.46
1:1:2554:U:H2'	1:1:2555:U:O2	2.15	0.46
1:1:2749:A:OP1	10:f:1:SER:HA	2.15	0.46
3:3:780:A:N6	3:3:801:U:OP2	2.42	0.46
10:f:29:ASN:ND2	10:f:80:GLU:O	2.48	0.46
12:i:116:MET:HE2	12:i:116:MET:HB3	1.80	0.46
37:5:34:G:H3'	37:5:35:A:C8	2.51	0.46
43:L:142:ARG:HA	43:L:145:GLU:HG3	1.97	0.46
43:L:149:ALA:HB1	47:P:58:THR:HG21	1.97	0.46
45:N:90:ASP:OD1	45:N:90:ASP:N	2.43	0.46
46:O:83:THR:O	46:O:84:VAL:C	2.57	0.46
47:P:34:THR:OG1	47:P:35:ASP:N	2.47	0.46
47:P:124:LYS:HB3	57:Z:34:ARG:HB3	1.98	0.46
51:T:2:LEU:HD12	51:T:2:LEU:HA	1.83	0.46
59:B2:230:PHE:HB2	59:B2:333:ILE:HB	1.97	0.46
59:B2:561:ILE:HG21	65:BA:772:TYR:HE2	1.80	0.46
62:a:202:ASP:OD1	62:a:202:ASP:N	2.48	0.46
65:BA:1127:PRO:HG3	65:BA:1191:PRO:HB2	1.97	0.46
65:BA:1196:ASP:O	65:BA:1200:LEU:HB2	2.15	0.46
1:1:156:A:H2'	1:1:157:C:C6	2.50	0.46
1:1:519:U:C2	1:1:520:G:C8	3.03	0.46
1:1:637:A:C6	1:1:652:U:H4'	2.50	0.46
1:1:877:A:O2'	1:1:878:A:H5''	2.14	0.46
1:1:979:A:H2'	1:1:982:C:H42	1.80	0.46
1:1:1034:G:C5	1:1:1035:U:C4	3.04	0.46
1:1:1528:A:H2'	1:1:1529:G:C5'	2.44	0.46
1:1:1766:G:C2'	1:1:1767:G:H5'	2.45	0.46
1:1:2259:U:H2'	1:1:2260:C:O4'	2.15	0.46
1:1:2295:C:O2'	1:1:2296:U:H5'	2.15	0.46
1:1:2350:C:H2'	1:1:2351:G:O4'	2.16	0.46
1:1:2496:C:H2'	1:1:2497:A:O4'	2.16	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:410:G:H21	3:3:432:A:H62	1.62	0.46
4:0:93:VAL:HA	4:0:96:THR:HG23	1.97	0.46
12:i:112:LYS:HD2	12:i:128:ILE:HD12	1.97	0.46
65:BA:141:PHE:HE2	65:BA:296:LYS:CB	2.22	0.46
1:1:93:G:O2'	1:1:94:A:H5'	2.16	0.46
1:1:297:G:H2'	1:1:298:G:O4'	2.14	0.46
1:1:859:G:HO2'	1:1:860:U:P	2.38	0.46
1:1:995:C:C4	13:j:2:LYS:HA	2.50	0.46
1:1:1090:A:C2	1:1:1102:C:H1'	2.50	0.46
1:1:1173:U:H5	1:1:1174:U:H1'	1.81	0.46
1:1:1726:C:H2'	1:1:1727:C:C6	2.50	0.46
1:1:1851:U:OP1	5:6:4:G:H4'	2.15	0.46
1:1:1874:C:H2'	1:1:1875:G:O4'	2.15	0.46
1:1:2247:A:H2'	1:1:2248:C:H6	1.81	0.46
1:1:2528:U:O2'	1:1:2529:G:H3'	2.16	0.46
1:1:2720:U:H5''	19:p:52:ARG:HH21	1.80	0.46
3:3:1035:A:H1'	3:3:1036:A:O5'	2.16	0.46
14:k:47:ILE:HG22	14:k:49:ARG:H	1.80	0.46
28:y:30:MET:HE3	28:y:30:MET:HB3	1.83	0.46
41:J:110:MET:HE3	41:J:110:MET:HB2	1.79	0.46
52:U:70:ARG:O	52:U:74:LEU:N	2.47	0.46
1:1:44:A:H2'	1:1:45:G:O4'	2.15	0.46
1:1:1098:A:O2'	1:1:1099:G:H5'	2.15	0.46
1:1:1209:U:O3'	1:1:1212:G:H5'	2.15	0.46
1:1:1344:U:H3'	1:1:1345:C:H5'	1.97	0.46
1:1:1605:C:H2'	1:1:1606:C:H5'	1.98	0.46
3:3:230:G:O2'	52:U:25:ARG:NH1	2.48	0.46
12:i:109:ALA:HA	12:i:112:LYS:HB2	1.97	0.46
18:o:29:HIS:HB3	18:o:36:TYR:HB2	1.98	0.46
27:x:14:GLY:HA3	27:x:28:PHE:HE1	1.81	0.46
1:1:30:G:C5	1:1:31:C:C4	3.03	0.46
1:1:289:G:H2'	1:1:290:U:C6	2.50	0.46
1:1:595:C:C2	1:1:596:U:C5	3.04	0.46
1:1:1488:C:H2'	1:1:1489:C:C6	2.51	0.46
1:1:1927:A:H2'	1:1:1928:A:C8	2.50	0.46
1:1:2194:U:O2'	1:1:2195:U:H5'	2.14	0.46
1:1:2406:A:C2	15:l:69:ARG:NH1	2.84	0.46
1:1:2642:G:O5'	1:1:2642:G:H8	1.97	0.46
3:3:464:U:N3	3:3:467:U:OP2	2.42	0.46
37:5:8:U:H2'	37:5:13:C:H41	1.81	0.46
43:L:70:PRO:HG3	43:L:98:LEU:HD23	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:B2:1286:THR:O	59:B2:1290:MET:HB2	2.15	0.46
59:B2:1314:GLN:HA	64:AA:28:ARG:HH22	1.80	0.46
62:a:35:PHE:HA	62:a:38:THR:HG22	1.98	0.46
65:BA:109:SER:HB2	65:BA:296:LYS:HG2	1.98	0.46
1:1:570:G:H5'	1:1:983:A:C2	2.50	0.46
1:1:900:A:C2'	1:1:901:C:H5'	2.45	0.46
1:1:1863:G:H2'	1:1:1864:U:C6	2.51	0.46
1:1:2743:U:H2'	1:1:2744:G:O4'	2.16	0.46
3:3:112:G:N2	3:3:354:G:O5'	2.49	0.46
3:3:158:G:N2	3:3:163:C:O2	2.36	0.46
4:0:574:MET:HE1	4:0:601:PHE:CE2	2.50	0.46
10:f:88:LEU:HD21	10:f:104:LEU:HD23	1.97	0.46
26:w:37:ARG:HA	26:w:37:ARG:HD3	1.69	0.46
28:y:6:LEU:HD13	28:y:56:LEU:HD22	1.98	0.46
38:G:107:ARG:HE	38:G:107:ARG:HB3	1.63	0.46
41:J:73:VAL:HG11	41:J:143:LEU:HB3	1.98	0.46
59:B2:143:ARG:NH1	61:8:20:DA:H4'	2.31	0.46
65:BA:385:LEU:HD23	65:BA:390:LEU:HB2	1.98	0.46
1:1:290:U:O2'	1:1:291:G:H5'	2.16	0.46
1:1:688:U:H5'	1:1:1780:A:C2	2.51	0.46
1:1:832:U:OP1	15:l:39:LYS:HG2	2.15	0.46
1:1:1036:G:O2'	1:1:1037:G:H5'	2.15	0.46
1:1:1387:A:C5'	1:1:1469:A:H1'	2.38	0.46
1:1:2395:C:H2'	1:1:2396:G:O4'	2.15	0.46
1:1:2661:G:O2'	1:1:2662:A:H5'	2.16	0.46
6:b:184:GLU:HG3	6:b:186:ASP:H	1.80	0.46
8:d:132:LYS:HG2	8:d:136:GLN:HE22	1.81	0.46
21:r:7:SER:OG	21:r:8:GLY:N	2.47	0.46
38:G:65:LYS:HG2	38:G:153:MET:HG3	1.98	0.46
39:H:5:HIS:CE1	39:H:7:ASN:HB3	2.51	0.46
43:L:137:ARG:NH1	43:L:138:GLU:OE2	2.48	0.46
47:P:17:ASP:OD1	47:P:17:ASP:N	2.44	0.46
59:B2:689:ALA:HB2	59:B2:1233:LEU:HD23	1.97	0.46
65:BA:343:LEU:HD11	65:BA:1301:SER:HB3	1.98	0.46
1:1:167:A:H2'	1:1:168:G:O4'	2.16	0.46
1:1:239:C:H2'	1:1:240:C:O4'	2.16	0.46
1:1:1288:G:C5	1:1:1327:A:C2	3.04	0.46
1:1:1536:C:H5''	1:1:1537:G:C5	2.50	0.46
1:1:2141:G:H1	1:1:2151:U:H3	1.63	0.46
1:1:2581:G:H2'	1:1:2581:G:N3	2.30	0.46
3:3:647:C:H2'	3:3:648:A:H8	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:980:C:H4'	50:S:58:ARG:HH21	1.81	0.46
4:0:589:SER:HB2	58:4:7:U:N3	2.30	0.46
22:s:72:THR:OG1	22:s:73:LYS:N	2.48	0.46
27:x:30:PRO:HG2	27:x:32:LEU:HD11	1.98	0.46
36:NA:99:SER:CB	59:B2:906:PHE:HZ	2.27	0.46
53:V:11:VAL:HG13	53:V:58:VAL:HG21	1.98	0.46
59:B2:735:LYS:HA	59:B2:748:ILE:HG22	1.97	0.46
65:BA:842:ARG:HH22	65:BA:1227:ASP:HB2	1.80	0.46
1:1:409:G:H2'	1:1:410:G:C8	2.51	0.46
1:1:1140:C:H2'	1:1:1141:U:H5'	1.98	0.46
1:1:1146:C:O2'	1:1:1147:A:H5'	2.16	0.46
1:1:1170:C:H2'	1:1:1171:G:C8	2.51	0.46
1:1:1572:A:H2'	1:1:1573:G:O4'	2.16	0.46
1:1:1574:C:H2'	1:1:1575:C:C6	2.50	0.46
1:1:1672:A:N3	1:1:2582:G:H5'	2.27	0.46
1:1:1800:C:H2'	6:b:145:MET:HE1	1.98	0.46
1:1:2849:U:H4'	1:1:2868:A:C2	2.51	0.46
3:3:1347:G:O6	45:N:11:ARG:NH2	2.49	0.46
36:NA:1:MET:CB	59:B2:903:ARG:CZ	2.80	0.46
38:G:162:VAL:N	38:G:183:PHE:O	2.38	0.46
42:K:10:VAL:HG23	42:K:58:HIS:HB3	1.97	0.46
49:R:97:ARG:HB2	49:R:99:GLN:HE22	1.81	0.46
57:Z:29:ALA:O	57:Z:32:ARG:NH1	2.49	0.46
59:B2:28:LEU:HD21	59:B2:524:ILE:HG13	1.97	0.46
61:8:1:DC:H2''	61:8:2:DC:C6	2.51	0.46
64:AA:25:ARG:NH1	64:AA:61:ASN:OD1	2.49	0.46
65:BA:1144:LYS:NZ	65:BA:1147:LYS:HB2	2.30	0.46
1:1:465:G:OP1	33:D:12:ARG:NH1	2.49	0.46
1:1:569:U:H1'	1:1:947:A:O4'	2.16	0.46
1:1:848:C:H2'	1:1:849:A:C8	2.51	0.46
1:1:1141:U:OP2	13:j:65:THR:HG22	2.15	0.46
1:1:1280:G:C2'	1:1:1281:G:H5'	2.46	0.46
1:1:1668:A:H5''	14:k:5:GLN:NE2	2.31	0.46
1:1:2047:C:O2'	1:1:2048:G:H5'	2.16	0.46
1:1:2092:U:OP2	11:g:28:ASN:ND2	2.36	0.46
1:1:2122:U:H2'	1:1:2123:G:O4'	2.17	0.46
1:1:2626:C:H2'	1:1:2627:G:H8	1.80	0.46
1:1:2783:U:H2'	1:1:2784:U:C6	2.51	0.46
3:3:459:A:H2'	3:3:460:A:C8	2.50	0.46
37:5:26:A:H61	37:5:44:G:H22	1.64	0.46
1:1:654:A:N3	1:1:654:A:H5''	2.31	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1338:G:H2'	1:1:1339:G:C8	2.50	0.45
1:1:1922:G:O2'	1:1:1923:U:H5'	2.15	0.45
1:1:1923:U:O2'	1:1:1924:C:H5'	2.16	0.45
1:1:2137:U:H2'	1:1:2138:G:C8	2.50	0.45
1:1:2836:U:H2'	1:1:2837:A:H8	1.81	0.45
1:1:2844:G:H2'	1:1:2845:U:O4'	2.16	0.45
5:6:42:G:H4'	43:L:142:ARG:HH21	1.81	0.45
42:K:5:GLU:HB2	42:K:90:MET:HB2	1.98	0.45
47:P:127:ARG:HB2	57:Z:34:ARG:HH22	1.81	0.45
56:Y:4:LYS:HA	56:Y:4:LYS:HD3	1.86	0.45
59:B2:1278:LEU:HD21	65:BA:484:MET:CE	2.46	0.45
65:BA:115:TRP:HB3	65:BA:1310:THR:CG2	2.46	0.45
65:BA:515:ARG:NH2	65:BA:718:SER:O	2.48	0.45
65:BA:1204:HIS:HA	65:BA:1207:THR:HG22	1.98	0.45
1:1:30:G:H2'	1:1:31:C:O4'	2.16	0.45
1:1:342:A:H2'	1:1:343:C:O4'	2.16	0.45
1:1:1255:U:C6	8:d:68:ALA:HA	2.52	0.45
1:1:1670:C:O2'	1:1:1671:U:H5'	2.16	0.45
1:1:1915:U:O2	1:1:1915:U:O4'	2.34	0.45
1:1:2648:G:C2	1:1:2649:C:C2	3.04	0.45
1:1:2844:G:H2'	1:1:2845:U:H6	1.80	0.45
40:I:159:GLU:HA	40:I:162:GLU:HB2	1.97	0.45
59:B2:24:VAL:HG11	59:B2:704:MET:HE1	1.98	0.45
59:B2:557:ARG:NH2	59:B2:607:SER:O	2.49	0.45
62:h:64:VAL:HG11	62:h:78:ILE:HG21	1.97	0.45
63:7:152:ASP:O	63:7:153:PHE:C	2.58	0.45
1:1:940:G:H3'	1:1:941:A:H5''	1.97	0.45
1:1:1049:C:C2'	1:1:1050:A:H5'	2.47	0.45
1:1:1173:U:C6	1:1:1174:U:H1'	2.51	0.45
1:1:1952:A:H2'	1:1:1953:A:C8	2.52	0.45
1:1:2030:A:N3	1:1:2499:C:H5''	2.31	0.45
3:3:691:G:O6	47:P:56:LYS:NZ	2.38	0.45
7:c:59:ARG:HD3	7:c:59:ARG:HA	1.83	0.45
12:i:106:GLN:OE1	12:i:125:THR:OG1	2.31	0.45
20:q:82:LEU:HD22	20:q:87:VAL:HB	1.98	0.45
21:r:19:THR:OG1	21:r:95:ASP:OD1	2.35	0.45
31:B:8:THR:OG1	31:B:9:ARG:N	2.49	0.45
37:5:55:U:O2	37:5:57:G:H1'	2.16	0.45
48:Q:23:LEU:HD12	48:Q:29:LYS:HD2	1.97	0.45
48:Q:72:ASN:HD21	48:Q:103:CYS:HA	1.81	0.45
61:8:13:DT:C6	65:BA:791:ALA:HA	2.51	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:7:126:VAL:HA	63:7:137:LYS:C	2.40	0.45
1:1:540:C:O2'	1:1:541:A:H5'	2.16	0.45
1:1:854:C:H2'	1:1:855:G:C8	2.52	0.45
1:1:1322:A:H5''	22:s:82:MET:HE1	1.98	0.45
1:1:1520:U:H2'	1:1:1521:G:O4'	2.16	0.45
1:1:1550:C:O2'	1:1:1551:A:H5'	2.16	0.45
1:1:1868:C:H2'	1:1:1869:G:C8	2.52	0.45
1:1:1882:U:O2'	1:1:1883:U:H5'	2.17	0.45
1:1:2684:U:O4'	14:k:70:ARG:NH1	2.49	0.45
2:2:49:C:H5''	18:o:68:LYS:HE3	1.97	0.45
3:3:618:C:N4	3:3:621:A:OP2	2.49	0.45
3:3:1200:C:O2'	3:3:1205:U:O4	2.34	0.45
40:I:114:ARG:HA	40:I:117:VAL:HG22	1.98	0.45
40:I:173:ASP:HB3	40:I:178:GLU:HB3	1.98	0.45
42:K:3:HIS:HA	42:K:65:GLU:HA	1.97	0.45
59:B2:694:ARG:HH22	62:h:80:GLU:HG3	1.82	0.45
65:BA:213:LYS:HA	65:BA:213:LYS:HE3	1.99	0.45
1:1:355:U:H6	1:1:355:U:O5'	1.99	0.45
1:1:367:G:O2'	1:1:368:A:H5'	2.17	0.45
1:1:2032:G:H1'	7:c:150:GLN:HE22	1.82	0.45
1:1:2626:C:H2'	1:1:2627:G:C8	2.52	0.45
3:3:1498:U:H4'	3:3:1519:A:H2	1.82	0.45
8:d:147:LEU:HD11	8:d:170:ARG:HG2	1.98	0.45
36:NA:1:MET:N	59:B2:903:ARG:HD3	2.32	0.45
37:5:8:U:H2'	37:5:13:C:N4	2.30	0.45
62:a:175:TYR:HA	62:a:192:VAL:O	2.17	0.45
65:BA:388:ARG:HG2	65:BA:388:ARG:NH1	2.32	0.45
1:1:28:A:O2'	1:1:29:U:H5'	2.16	0.45
1:1:111:A:O2'	1:1:112:U:H5'	2.17	0.45
1:1:360:U:H2'	1:1:361:G:H1'	1.99	0.45
1:1:438:G:H2'	1:1:439:A:C8	2.51	0.45
1:1:1183:U:H2'	1:1:1184:U:H6	1.80	0.45
1:1:1416:G:H2'	1:1:1417:C:H6	1.82	0.45
1:1:2204:G:H2'	1:1:2205:A:H8	1.81	0.45
1:1:2885:G:N2	31:B:31:LYS:HG2	2.31	0.45
3:3:667:G:O2'	51:T:48:ASP:OD1	2.25	0.45
5:6:7:G:H3'	5:6:49:G:OP2	2.16	0.45
12:i:8:VAL:HG11	12:i:26:ALA:HB2	1.97	0.45
37:5:6:G:H2'	37:5:7:A:C8	2.51	0.45
42:K:41:ASP:OD1	42:K:58:HIS:NE2	2.39	0.45
51:T:37:HIS:HD2	51:T:38:LEU:HD12	1.80	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:7:147:THR:O	63:7:149:VAL:N	2.50	0.45
65:BA:56:LEU:HD12	65:BA:56:LEU:HA	1.84	0.45
65:BA:926:PRO:HB2	65:BA:1218:TYR:HE1	1.82	0.45
1:1:163:C:O2'	1:1:164:C:H5'	2.17	0.45
1:1:848:C:H2'	1:1:849:A:H8	1.81	0.45
1:1:1138:G:H21	13:j:108:MET:CE	2.29	0.45
1:1:1199:U:H2'	1:1:1200:C:C6	2.52	0.45
1:1:1381:G:H2'	1:1:1382:G:H5'	1.98	0.45
1:1:1500:G:O2'	1:1:1501:G:H5'	2.17	0.45
1:1:1746:A:H2'	1:1:1747:U:H6	1.82	0.45
1:1:1800:C:O2	1:1:1802:A:C8	2.69	0.45
1:1:2101:A:H2'	1:1:2102:G:H8	1.81	0.45
1:1:2236:U:H2'	1:1:2237:G:C5'	2.46	0.45
1:1:2315:G:H2'	1:1:2316:G:H8	1.80	0.45
1:1:2329:U:H2'	1:1:2330:G:C8	2.51	0.45
1:1:2741:A:H2'	1:1:2742:G:H5'	1.98	0.45
3:3:928:G:O2'	3:3:1533:C:OP1	2.22	0.45
20:q:111:LYS:HA	20:q:111:LYS:HD2	1.81	0.45
24:u:12:VAL:HA	24:u:69:VAL:HG12	1.99	0.45
31:B:8:THR:HG23	31:B:11:LYS:H	1.82	0.45
48:Q:72:ASN:OD1	48:Q:72:ASN:N	2.50	0.45
59:B2:1002:LEU:HD21	59:B2:1007:LYS:HB2	1.98	0.45
62:a:221:PHE:O	62:h:212:ARG:NH1	2.49	0.45
1:1:607:U:O4	1:1:620:G:H5'	2.17	0.45
1:1:853:C:O2'	1:1:854:C:H5'	2.16	0.45
1:1:1130:U:C4	7:c:151:THR:O	2.70	0.45
1:1:1710:G:O2'	1:1:1711:A:H5'	2.17	0.45
1:1:2054:A:C2	31:B:4:GLN:HG3	2.52	0.45
1:1:2290:G:O2'	1:1:2291:U:H5'	2.16	0.45
1:1:2869:G:H2'	1:1:2870:C:O4'	2.17	0.45
3:3:477:C:H2'	3:3:478:A:C8	2.52	0.45
3:3:1253:G:H2'	3:3:1254:A:C8	2.52	0.45
3:3:1297:G:H21	43:L:113:LYS:HB3	1.82	0.45
7:c:4:LEU:HD11	7:c:100:LEU:HD21	1.97	0.45
8:d:32:VAL:HG21	15:l:6:LEU:HD13	1.99	0.45
14:k:121:GLU:HG2	14:k:122:VAL:HG23	1.98	0.45
41:J:101:GLY:H	41:J:121:ASN:HB3	1.82	0.45
54:W:33:THR:OG1	54:W:34:GLU:N	2.49	0.45
55:X:27:LYS:HB3	55:X:27:LYS:HE2	1.77	0.45
59:B2:618:GLN:CD	65:BA:770:LEU:HD13	2.42	0.45
59:B2:712:SER:OG	59:B2:713:GLY:N	2.49	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:395:LYS:NZ	65:BA:399:LYS:HE2	2.32	0.45
1:1:107:G:H2'	1:1:108:G:H8	1.82	0.45
1:1:293:U:H2'	1:1:294:A:H5''	1.99	0.45
1:1:438:G:O2'	1:1:439:A:H5'	2.16	0.45
1:1:1710:G:H2'	1:1:1711:A:C8	2.51	0.45
1:1:1866:A:H2'	1:1:1867:G:O4'	2.16	0.45
1:1:2402:U:O2'	1:1:2403:C:H3'	2.17	0.45
1:1:2658:C:H2'	1:1:2659:G:O4'	2.17	0.45
8:d:136:GLN:HA	8:d:139:LYS:HE2	1.99	0.45
47:P:115:ILE:HD12	47:P:116:PRO:HD2	1.99	0.45
59:B2:1294:LYS:HG2	65:BA:472:LEU:CD1	2.47	0.45
63:7:141:SER:HA	63:7:146:ALA:N	2.32	0.45
65:BA:128:LEU:CD2	65:BA:188:LEU:HB3	2.47	0.45
1:1:192:C:H2'	1:1:193:U:H5'	1.99	0.45
1:1:1287:A:H5'	17:n:103:ARG:HH11	1.82	0.45
1:1:2085:U:O2'	1:1:2086:U:H5'	2.16	0.45
1:1:2201:G:H2'	1:1:2202:U:O4'	2.17	0.45
1:1:2312:U:O2'	1:1:2313:C:H5'	2.17	0.45
1:1:2700:A:O2'	1:1:2701:U:H5'	2.16	0.45
3:3:1098:C:OP1	38:G:142:LYS:NZ	2.49	0.45
21:r:1:MET:HE3	21:r:101:ILE:HB	1.99	0.45
37:5:22:G:H2'	37:5:23:A:C8	2.52	0.45
38:G:166:ASP:HB3	38:G:190:SER:HB2	1.98	0.45
38:G:173:LYS:HE3	38:G:173:LYS:HB2	1.76	0.45
52:U:79:ASN:HB2	52:U:82:ALA:HB3	1.99	0.45
59:B2:148:GLN:NE2	59:B2:535:PRO:O	2.40	0.45
65:BA:111:THR:HG21	65:BA:303:VAL:HB	1.99	0.45
65:BA:209:ASN:HA	65:BA:214:ARG:NH2	2.31	0.45
65:BA:506:VAL:HG23	65:BA:628:GLY:HA3	1.98	0.45
65:BA:1334:ILE:HG22	65:BA:1336:ALA:H	1.82	0.45
1:1:29:U:O5'	1:1:29:U:H6	2.00	0.44
1:1:30:G:O2'	1:1:31:C:H5'	2.17	0.44
1:1:395:U:H2'	1:1:396:G:C8	2.52	0.44
1:1:466:A:C2'	1:1:467:G:H5'	2.46	0.44
1:1:500:G:N2	1:1:502:A:H3'	2.32	0.44
1:1:639:U:H2'	1:1:640:C:C6	2.52	0.44
1:1:1491:G:O2'	6:b:99:GLU:OE2	2.33	0.44
1:1:1536:C:H4'	1:1:1537:G:N1	2.32	0.44
1:1:2102:G:H1	1:1:2187:U:H3	1.66	0.44
1:1:2636:C:O2'	1:1:2637:U:H5'	2.16	0.44
3:3:297:G:N2	3:3:300:A:OP2	2.39	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1383:C:H4'	5:6:35:A:H2	1.81	0.44
6:b:7:PRO:HB3	6:b:13:ARG:HG3	2.00	0.44
23:t:34:VAL:HG21	23:t:43:ILE:HD11	1.99	0.44
46:O:80:THR:HB	46:O:82:LYS:HG3	1.98	0.44
59:B2:746:ALA:O	59:B2:974:ARG:NH2	2.45	0.44
59:B2:998:LEU:HG	59:B2:1011:LEU:HB3	1.99	0.44
65:BA:75:TYR:CD2	65:BA:75:TYR:O	2.70	0.44
65:BA:847:ASP:N	65:BA:847:ASP:OD1	2.49	0.44
65:BA:1092:ILE:O	65:BA:1109:ARG:N	2.45	0.44
1:1:327:G:H2'	1:1:328:U:O4'	2.17	0.44
1:1:721:A:H2'	1:1:722:A:C8	2.53	0.44
1:1:1062:G:H21	12:i:135:MET:CE	2.30	0.44
25:v:26:PHE:HE2	25:v:89:ILE:HG13	1.81	0.44
37:5:49:C:H2'	37:5:50:U:C6	2.52	0.44
39:H:71:ARG:HH12	58:4:20:U:C3'	2.30	0.44
40:I:120:LYS:HG2	40:I:130:ASN:HB3	1.99	0.44
45:N:105:ARG:NH1	45:N:109:GLN:OE1	2.49	0.44
49:R:1:ALA:HB3	49:R:56:ARG:HH22	1.82	0.44
59:B2:1247:SER:HB3	65:BA:375:GLU:O	2.16	0.44
59:B2:1336:ASN:OD1	65:BA:33:TRP:HZ2	2.00	0.44
63:7:111:MET:HA	63:7:125:VAL:CA	2.45	0.44
1:1:150:U:H2'	1:1:151:C:C6	2.52	0.44
1:1:566:U:O4	21:r:80:ARG:HD3	2.17	0.44
1:1:974:G:H1'	1:1:975:A:C8	2.53	0.44
1:1:2651:C:H2'	1:1:2652:C:H6	1.81	0.44
4:0:580:PHE:HD1	4:0:581:GLY:N	2.16	0.44
10:f:90:GLY:HA2	10:f:159:LYS:HG2	1.98	0.44
18:o:40:ILE:HA	18:o:47:VAL:HA	2.00	0.44
26:w:12:SER:OG	26:w:13:GLU:N	2.51	0.44
28:y:20:ASN:HA	28:y:23:ARG:HB2	1.99	0.44
38:G:33:ALA:HB3	38:G:37:VAL:HG12	1.99	0.44
50:S:44:VAL:O	50:S:48:GLN:NE2	2.50	0.44
59:B2:176:ILE:HD11	59:B2:428:VAL:HG21	1.98	0.44
65:BA:45:ASN:HD22	65:BA:48:THR:H	1.65	0.44
65:BA:76:LYS:NZ	65:BA:76:LYS:HB3	2.32	0.44
1:1:432:A:O2'	1:1:433:C:H5'	2.17	0.44
1:1:1010:A:H1'	1:1:1153:C:H1'	2.00	0.44
1:1:1140:C:C2'	1:1:1141:U:H5'	2.47	0.44
1:1:1539:U:H2'	1:1:1540:G:C8	2.53	0.44
1:1:1747:U:H2'	1:1:1748:C:C6	2.53	0.44
1:1:2106:U:H2'	1:1:2107:G:O4'	2.18	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2339:C:H2'	1:1:2340:A:H8	1.81	0.44
1:1:2364:C:O2'	1:1:2365:G:H5'	2.17	0.44
2:2:65:U:H3'	2:2:108:A:N6	2.30	0.44
2:2:66:A:H4'	2:2:67:G:C8	2.53	0.44
3:3:75:G:H2'	3:3:76:G:C8	2.53	0.44
3:3:1376:U:H2'	3:3:1377:A:C8	2.52	0.44
11:g:1:MET:HE3	11:g:1:MET:HB3	1.77	0.44
19:p:88:ARG:HH11	19:p:114:ASN:HD21	1.65	0.44
28:y:19:LEU:HD23	28:y:19:LEU:HA	1.87	0.44
32:C:13:SER:OG	32:C:47:ILE:O	2.27	0.44
38:G:26:MET:HE1	38:G:186:VAL:HB	1.99	0.44
38:G:172:ILE:O	38:G:176:ASN:ND2	2.50	0.44
42:K:62:MET:HB3	42:K:64:VAL:HG13	1.98	0.44
59:B2:674:ASP:OD2	59:B2:1070:HIS:ND1	2.50	0.44
65:BA:201:LEU:CD1	65:BA:224:LEU:HD12	2.47	0.44
1:1:779:U:OP2	6:b:48:ILE:HG12	2.18	0.44
1:1:893:C:H2'	1:1:894:U:O4'	2.17	0.44
1:1:1893:C:C2'	1:1:1894:C:H5'	2.47	0.44
1:1:2152:G:N3	1:1:2152:G:H2'	2.33	0.44
1:1:2226:C:C5	1:1:2227:A:N7	2.86	0.44
1:1:2411:A:H2'	1:1:2412:A:C8	2.53	0.44
3:3:542:G:O3'	40:I:13:ARG:NH1	2.50	0.44
3:3:1180:A:H5'	45:N:104:THR:HG23	1.99	0.44
4:0:97:ILE:HD11	4:0:411:PHE:HD1	1.81	0.44
8:d:188:MET:HB2	8:d:192:ALA:HB3	1.99	0.44
39:H:152:VAL:HG12	39:H:197:VAL:HG22	1.98	0.44
41:J:24:VAL:HG23	41:J:26:GLY:H	1.82	0.44
42:K:38:ARG:HH11	42:K:61:LEU:HD21	1.83	0.44
53:V:10:ARG:NE	53:V:55:GLY:O	2.48	0.44
53:V:44:HIS:HB3	53:V:70:LYS:HG2	1.99	0.44
55:X:76:THR:OG1	55:X:77:ARG:N	2.51	0.44
1:1:6:A:H2'	1:1:7:G:C8	2.52	0.44
1:1:208:C:O2'	1:1:209:C:H5'	2.18	0.44
1:1:350:G:H2'	1:1:351:C:O4'	2.17	0.44
1:1:704:G:H1'	1:1:727:A:H62	1.83	0.44
1:1:707:G:C2'	1:1:708:G:H5'	2.47	0.44
1:1:1239:G:O2'	1:1:1240:U:H5'	2.17	0.44
1:1:1625:C:H2'	1:1:1626:A:O4'	2.18	0.44
1:1:1680:U:C2'	1:1:1681:G:H5'	2.47	0.44
1:1:1832:C:O5'	1:1:1832:C:H6	2.00	0.44
1:1:2314:A:H2'	1:1:2315:G:H8	1.78	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:9:12:DC:H3'	65:BA:47:ARG:HH12	1.82	0.44
65:BA:175:GLU:H	65:BA:175:GLU:HG3	1.66	0.44
65:BA:213:LYS:HE3	65:BA:213:LYS:CA	2.47	0.44
65:BA:1019:GLY:HA3	65:BA:1067:VAL:O	2.18	0.44
1:1:156:A:O2'	1:1:157:C:H5'	2.18	0.44
1:1:354:A:H2'	1:1:355:U:O4'	2.17	0.44
1:1:518:G:O2'	1:1:519:U:H5'	2.18	0.44
1:1:648:G:H5''	1:1:2352:A:H5''	2.00	0.44
1:1:1061:U:OP1	12:i:9:LYS:HD2	2.17	0.44
1:1:1232:G:H2'	1:1:1233:C:C6	2.53	0.44
1:1:1717:A:C2	1:1:1718:G:H1'	2.53	0.44
13:j:51:GLY:HA3	13:j:121:LYS:HE2	2.00	0.44
27:x:71:ARG:NH2	27:x:77:TYR:OH	2.42	0.44
29:z:30:ARG:HG2	29:z:33:HIS:HB2	1.99	0.44
36:NA:1:MET:HA	59:B2:903:ARG:HB3	0.68	0.44
44:M:107:LYS:HD2	44:M:107:LYS:HA	1.85	0.44
65:BA:1135:GLU:HA	65:BA:1200:LEU:HD21	1.99	0.44
1:1:195:A:H3'	1:1:196:A:H4'	1.99	0.44
1:1:336:C:O2'	1:1:337:C:H5'	2.18	0.44
1:1:473:G:C2'	1:1:474:G:H5'	2.48	0.44
3:3:1119:C:OP1	45:N:84:ARG:NH2	2.48	0.44
7:c:90:PHE:HD1	7:c:94:GLN:HG2	1.83	0.44
20:q:47:ARG:NH2	20:q:51:GLN:OE1	2.51	0.44
39:H:134:LYS:HG2	39:H:138:GLN:HE21	1.82	0.44
41:J:104:ILE:HD11	41:J:114:LEU:HD13	1.99	0.44
56:Y:49:ALA:HA	56:Y:52:GLU:HG3	2.00	0.44
59:B2:646:SER:OG	59:B2:647:ARG:N	2.51	0.44
65:BA:1094:GLN:HG3	65:BA:1095:LEU:HD12	1.99	0.44
1:1:68:G:H2'	1:1:69:C:O4'	2.18	0.44
1:1:388:G:N7	1:1:390:U:H2'	2.33	0.44
1:1:1060:U:O4	12:i:131:THR:HB	2.18	0.44
1:1:1761:C:H2'	1:1:1762:A:O4'	2.18	0.44
1:1:2717:C:N3	1:1:2718:G:N7	2.65	0.44
1:1:2805:C:O2'	1:1:2806:C:H5'	2.18	0.44
3:3:560:A:H5''	3:3:561:U:H5'	2.00	0.44
3:3:1053:G:H4'	3:3:1054:C:H3'	2.00	0.44
7:c:106:LYS:HA	7:c:176:ASP:HA	1.99	0.44
20:q:73:ILE:HD12	20:q:73:ILE:HA	1.92	0.44
22:s:74:ILE:HB	22:s:105:VAL:HG23	1.99	0.44
28:y:11:VAL:HA	28:y:14:LEU:HB2	2.00	0.44
38:G:122:ASP:OD1	38:G:122:ASP:N	2.51	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:P:35:ASP:OD1	47:P:39:ASN:N	2.50	0.44
56:Y:67:HIS:O	56:Y:69:ASN:ND2	2.51	0.44
59:B2:909:LYS:HD3	59:B2:909:LYS:HA	1.43	0.44
59:B2:1245:ALA:CB	65:BA:375:GLU:HB3	2.48	0.44
61:8:16:DT:H2'	61:8:17:DC:C6	2.52	0.44
1:1:1020:A:C2	1:1:1141:U:C2	3.05	0.43
1:1:1287:A:H3'	1:1:1288:G:N2	2.33	0.43
1:1:1741:C:O2'	1:1:1742:U:H5'	2.18	0.43
1:1:2462:C:H2'	1:1:2463:C:C6	2.53	0.43
1:1:2870:C:H5''	17:n:65:LEU:HD11	1.99	0.43
1:1:2889:C:O2'	1:1:2890:G:H5'	2.17	0.43
4:0:473:MET:HE3	4:0:473:MET:HB3	1.87	0.43
37:5:69:G:H2'	37:5:70:G:C8	2.52	0.43
40:I:44:LYS:HD2	40:I:44:LYS:HA	1.55	0.43
48:Q:3:VAL:HA	48:Q:6:LEU:HD12	2.00	0.43
52:U:4:ILE:HG12	52:U:21:VAL:HG22	2.00	0.43
56:Y:14:GLU:OE1	56:Y:17:ARG:NH2	2.51	0.43
59:B2:557:ARG:HB3	59:B2:587:LEU:HD13	2.00	0.43
59:B2:829:THR:HG23	59:B2:1059:ARG:HG2	2.00	0.43
65:BA:67:ASP:OD1	65:BA:67:ASP:O	2.35	0.43
1:1:255:A:H2'	1:1:256:A:O4'	2.18	0.43
1:1:365:U:H2'	1:1:366:C:C6	2.53	0.43
1:1:623:C:O2'	1:1:624:C:H5'	2.18	0.43
1:1:1092:C:H2'	1:1:1093:G:O4'	2.18	0.43
1:1:1452:G:H2'	1:1:1453:A:OP2	2.17	0.43
1:1:2285:C:C2'	1:1:2286:G:H5'	2.48	0.43
1:1:2768:U:OP1	13:j:85:LYS:NZ	2.49	0.43
3:3:162:A:C5	3:3:163:C:H1'	2.53	0.43
3:3:1249:C:O2'	45:N:74:GLN:OE1	2.35	0.43
4:0:512:ARG:CD	58:4:7:U:C4'	2.89	0.43
27:x:51:SER:OG	27:x:54:GLY:N	2.48	0.43
46:O:100:ILE:CD1	63:7:147:THR:HA	2.48	0.43
59:B2:11:ILE:HG22	59:B2:1172:LEU:HD11	2.00	0.43
59:B2:1105:SER:HB2	65:BA:731:ARG:HB3	2.00	0.43
59:B2:1274:GLU:HG3	65:BA:434:ILE:HD11	2.00	0.43
59:B2:1275:VAL:HG13	59:B2:1287:LEU:HD11	2.00	0.43
65:BA:107:LEU:HA	65:BA:276:ASN:ND2	2.33	0.43
65:BA:287:ALA:HB1	65:BA:288:PRO:HD2	1.99	0.43
65:BA:824:PRO:HD3	65:BA:835:LEU:HD12	2.00	0.43
1:1:28:A:H2'	1:1:29:U:C6	2.53	0.43
1:1:705:A:C2	1:1:727:A:H1'	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1426:G:C6	1:1:1427:A:C6	3.06	0.43
1:1:1601:G:H2'	1:1:1602:U:H5'	2.01	0.43
1:1:2660:A:H2'	1:1:2661:G:O4'	2.18	0.43
1:1:2671:G:C2	1:1:2672:U:C2	3.06	0.43
3:3:436:C:H4'	40:I:152:SER:HB3	2.01	0.43
3:3:908:A:H2'	3:3:909:A:H8	1.83	0.43
4:0:557:ILE:CG2	4:0:576:ILE:HD12	2.48	0.43
13:j:34:ARG:NH2	13:j:39:LYS:O	2.50	0.43
24:u:32:LYS:HG2	24:u:65:GLN:HA	1.99	0.43
24:u:76:THR:HB	24:u:78:LYS:HE3	1.99	0.43
59:B2:811:ASN:ND2	59:B2:1098:LEU:O	2.51	0.43
59:B2:1269:ARG:HD3	61:8:15:DC:H5'	2.00	0.43
62:a:182:VAL:HG12	62:a:183:GLU:H	1.83	0.43
64:AA:58:LEU:HD12	64:AA:59:ILE:HG12	2.00	0.43
65:BA:161:THR:H	65:BA:164:GLN:HB2	1.83	0.43
65:BA:201:LEU:HD11	65:BA:220:ARG:NH1	2.31	0.43
65:BA:1010:THR:HG23	65:BA:1109:ARG:HA	2.00	0.43
1:1:43:G:H2'	1:1:44:A:C8	2.53	0.43
1:1:684:G:C2	1:1:794:A:C2	3.06	0.43
1:1:1081:U:H4'	12:i:123:ALA:HB1	2.00	0.43
1:1:1087:G:H5''	1:1:1088:A:OP2	2.18	0.43
1:1:1306:C:N4	1:1:1606:C:H2'	2.34	0.43
1:1:1998:A:O2'	1:1:1999:C:H5'	2.18	0.43
1:1:2200:C:OP2	27:x:36:ARG:NH2	2.52	0.43
1:1:2810:A:H5''	7:c:62:LYS:NZ	2.34	0.43
16:m:17:ASN:OD1	16:m:97:GLN:NE2	2.51	0.43
39:H:5:HIS:HE1	39:H:7:ASN:HB3	1.82	0.43
59:B2:300:ASP:OD1	59:B2:313:ALA:N	2.52	0.43
61:8:12:DG:OP1	65:BA:795:TYR:CE1	2.71	0.43
62:a:68:TYR:HE1	62:a:79:LEU:HD13	1.83	0.43
64:AA:47:THR:HG23	65:BA:478:LEU:HD21	1.99	0.43
65:BA:800:LEU:HD12	65:BA:800:LEU:HA	1.79	0.43
65:BA:804:ALA:HB2	65:BA:1233:ILE:CD1	2.48	0.43
1:1:465:G:P	33:D:12:ARG:HH12	2.41	0.43
1:1:481:G:H2'	1:1:482:A:OP2	2.18	0.43
1:1:629:G:H2'	1:1:630:G:O4'	2.19	0.43
1:1:644:A:C3'	1:1:645:C:H5''	2.49	0.43
1:1:648:G:H2'	1:1:649:G:H8	1.83	0.43
1:1:696:G:H2'	1:1:697:G:O4'	2.18	0.43
1:1:819:A:H5'	1:1:973:A:N1	2.33	0.43
1:1:1335:C:H2'	1:1:1336:A:H8	1.84	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1412:U:H2'	1:1:1413:A:H8	1.81	0.43
1:1:1465:G:O2'	1:1:1466:U:H5'	2.17	0.43
1:1:1993:U:O2	1:1:1993:U:H2'	2.18	0.43
1:1:2584:U:O5'	1:1:2584:U:H6	2.02	0.43
1:1:2880:C:O2	1:1:2880:C:H2'	2.17	0.43
3:3:501:C:H2'	3:3:502:A:C8	2.53	0.43
10:f:84:LYS:HD2	10:f:84:LYS:HA	1.87	0.43
41:J:110:MET:HA	41:J:113:VAL:HG12	2.01	0.43
45:N:30:ASN:HD21	45:N:66:VAL:H	1.66	0.43
46:O:89:ARG:NE	65:BA:86:GLU:HB2	2.30	0.43
65:BA:62:PHE:CD1	65:BA:62:PHE:N	2.86	0.43
65:BA:68:TYR:O	65:BA:75:TYR:CD2	2.70	0.43
1:1:169:G:O2'	1:1:170:U:H5'	2.18	0.43
1:1:545:U:O2	1:1:546:U:H1'	2.17	0.43
1:1:759:G:H2'	1:1:760:G:H8	1.83	0.43
1:1:1049:C:H2'	1:1:1050:A:H5'	2.00	0.43
1:1:1054:A:H2'	1:1:1055:G:C8	2.54	0.43
1:1:1181:U:H2'	1:1:1182:G:H8	1.81	0.43
1:1:2406:A:N3	15:l:69:ARG:CZ	2.82	0.43
1:1:2562:U:C2'	1:1:2563:U:H5'	2.49	0.43
1:1:2736:A:O2'	1:1:2737:G:H5'	2.19	0.43
3:3:146:G:N2	3:3:177:G:N7	2.66	0.43
3:3:1442:G:H1	3:3:1460:C:H42	1.66	0.43
6:b:97:ASP:N	6:b:97:ASP:OD1	2.45	0.43
15:l:95:LEU:HD22	15:l:100:ILE:HD11	1.99	0.43
17:n:28:LEU:O	17:n:32:GLU:N	2.39	0.43
37:5:13:C:H42	37:5:46:G:N2	2.16	0.43
40:I:85:THR:HA	40:I:88:ASN:HB2	2.00	0.43
40:I:101:VAL:HG22	40:I:106:PHE:HB2	2.01	0.43
46:O:89:ARG:CG	65:BA:86:GLU:OE1	2.65	0.43
47:P:19:VAL:O	47:P:34:THR:N	2.45	0.43
59:B2:1246:ARG:HH11	59:B2:1266:GLY:HA2	1.82	0.43
59:B2:1298:VAL:HG11	65:BA:96:LYS:NZ	2.34	0.43
65:BA:105:ILE:HD12	65:BA:242:LEU:CD2	2.44	0.43
65:BA:850:LYS:HB3	65:BA:855:ASP:HB2	2.00	0.43
65:BA:1012:PRO:HB2	65:BA:1014:ILE:HG23	2.00	0.43
1:1:864:G:C2'	1:1:865:C:H5'	2.48	0.43
1:1:1433:A:H2'	1:1:1434:A:C1'	2.49	0.43
1:1:1751:U:H2'	1:1:1752:C:C6	2.54	0.43
3:3:490:C:H2'	3:3:491:G:H8	1.84	0.43
3:3:490:C:H2'	3:3:491:G:C8	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:680:C:H2'	3:3:681:A:H8	1.84	0.43
3:3:1209:C:O2'	3:3:1214:C:N4	2.52	0.43
4:0:438:LEU:HD13	4:0:469:ILE:HG23	2.01	0.43
4:0:545:ILE:HD11	4:0:581:GLY:HA3	2.00	0.43
8:d:127:GLU:O	8:d:156:ASN:ND2	2.51	0.43
37:5:63:G:H2'	37:5:64:A:C8	2.53	0.43
39:H:51:VAL:HA	39:H:69:THR:HG22	2.00	0.43
45:N:98:ARG:HG2	45:N:103:VAL:HG21	2.01	0.43
51:T:48:ASP:OD2	51:T:51:SER:OG	2.29	0.43
59:B2:538:LEU:HD13	59:B2:543:ALA:HB2	2.00	0.43
63:7:126:VAL:N	63:7:138:VAL:HA	2.33	0.43
65:BA:111:THR:CG2	65:BA:300:GLN:HA	2.48	0.43
65:BA:894:VAL:HG22	65:BA:1235:ARG:HH11	1.83	0.43
1:1:8:C:C2	1:1:9:G:C8	3.07	0.43
1:1:12:U:O2	1:1:12:U:H2'	2.18	0.43
1:1:161:A:C5	1:1:162:U:H5	2.36	0.43
1:1:841:G:C2'	1:1:842:U:H5'	2.49	0.43
1:1:888:C:OP1	49:R:91:ARG:HD2	2.18	0.43
1:1:1230:A:H2'	1:1:1231:U:O4'	2.19	0.43
1:1:1383:A:H2	1:1:1406:U:H1'	1.83	0.43
1:1:1487:U:H2'	1:1:1488:C:C6	2.54	0.43
1:1:1565:C:C5	1:1:1567:G:C6	3.06	0.43
1:1:1749:A:H2'	1:1:1750:G:H8	1.82	0.43
1:1:1907:G:C5	1:1:1908:C:C4	3.07	0.43
1:1:1922:G:H4'	37:5:25:C:H4'	2.01	0.43
1:1:2241:A:H2'	1:1:2242:G:H8	1.82	0.43
1:1:2305:U:O2'	1:1:2306:C:H5'	2.19	0.43
3:3:1060:U:C5	39:H:1:GLY:HA2	2.54	0.43
3:3:1314:C:OP1	55:X:6:LYS:NZ	2.52	0.43
4:0:615:PRO:HB3	4:0:684:PHE:HE1	1.83	0.43
6:b:140:VAL:HG12	6:b:191:LEU:HD23	2.01	0.43
10:f:132:LEU:HB3	10:f:140:ILE:HD11	1.99	0.43
12:i:129:GLU:HG3	12:i:139:VAL:HG21	2.00	0.43
19:p:63:ILE:HA	19:p:68:GLY:HA2	2.01	0.43
37:5:17:C:H6	37:5:17:C:H2'	1.69	0.43
40:I:184:LYS:HE2	40:I:184:LYS:HB2	1.86	0.43
46:O:29:ALA:HB2	46:O:87:LEU:HD11	1.99	0.43
48:Q:67:GLY:O	48:Q:98:ARG:NH1	2.52	0.43
49:R:28:ARG:HH21	49:R:62:PHE:HB2	1.84	0.43
49:R:43:LYS:HB2	49:R:46:GLU:HG2	1.99	0.43
63:7:136:LEU:H	63:7:150:GLU:HA	1.83	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:24:LEU:HD21	65:BA:116:PHE:CE2	2.54	0.43
65:BA:568:SER:HB3	65:BA:570:LYS:NZ	2.34	0.43
65:BA:964:ARG:HD3	65:BA:985:TYR:H	1.83	0.43
1:1:536:G:N2	13:j:47:HIS:CG	2.87	0.43
1:1:928:A:H5'	29:z:38:GLU:CD	2.43	0.43
1:1:993:G:O2'	1:1:994:C:H5'	2.19	0.43
1:1:1306:C:H41	1:1:1606:C:H2'	1.84	0.43
1:1:1488:C:H2'	1:1:1489:C:H6	1.84	0.43
1:1:1507:C:H2'	1:1:1508:A:H4'	1.99	0.43
1:1:1922:G:H2'	1:1:1923:U:O4'	2.18	0.43
1:1:2024:G:H2'	1:1:2025:C:C6	2.54	0.43
1:1:2628:C:H3'	1:1:2629:U:H5'	2.01	0.43
3:3:1350:A:N7	45:N:119:LYS:NZ	2.64	0.43
24:u:17:ASP:HA	24:u:20:LYS:HE2	2.00	0.43
36:NA:243:LYS:CB	38:G:179:GLY:HA3	2.48	0.43
44:M:86:LYS:HD3	44:M:86:LYS:HA	1.81	0.43
46:O:32:THR:O	46:O:82:LYS:HE2	2.18	0.43
48:Q:31:GLY:HA2	48:Q:56:LEU:HA	2.01	0.43
48:Q:45:ASN:ND2	48:Q:88:ASP:OD2	2.39	0.43
65:BA:141:PHE:CD2	65:BA:297:ARG:HB2	2.54	0.43
65:BA:388:ARG:HG2	65:BA:388:ARG:HH11	1.83	0.43
65:BA:515:ARG:HH12	65:BA:724:MET:HG2	1.83	0.43
65:BA:1032:ILE:HG22	65:BA:1047:VAL:HA	2.00	0.43
1:1:541:A:H2'	1:1:542:C:O4'	2.19	0.43
1:1:622:G:HO2'	1:1:623:C:H5'	1.83	0.43
1:1:673:C:O2'	1:1:674:G:H5'	2.19	0.43
1:1:1020:A:H5'	1:1:1021:A:N7	2.34	0.43
1:1:1070:A:H61	12:i:26:ALA:H	1.66	0.43
1:1:1507:C:H2'	1:1:1508:A:O4'	2.18	0.43
1:1:1799:G:N2	6:b:153:LEU:HD23	2.33	0.43
1:1:1864:U:O5'	1:1:1864:U:H6	2.02	0.43
1:1:1936:A:N6	1:1:1963:U:H3	2.17	0.43
1:1:2098:U:C2'	1:1:2099:U:H5'	2.49	0.43
3:3:692:U:O2'	3:3:694:A:N7	2.39	0.43
4:0:512:ARG:CD	58:4:7:U:H5''	2.43	0.43
14:k:38:ILE:HG22	14:k:61:VAL:HB	2.01	0.43
21:r:62:GLU:HG3	21:r:97:LYS:HB3	2.01	0.43
23:t:8:LEU:H	23:t:8:LEU:HG	1.67	0.43
39:H:106:ARG:HG2	39:H:107:LYS:HG3	2.01	0.43
44:M:52:GLY:HA3	44:M:56:PRO:HA	2.01	0.43
62:a:78:ILE:HA	62:a:81:ILE:HG22	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BA:86:GLU:H	65:BA:86:GLU:HG3	1.64	0.43
65:BA:201:LEU:CB	65:BA:221:ILE:HD13	2.47	0.43
1:1:198:C:N4	1:1:248:G:H1	2.14	0.42
1:1:636:G:N7	15:l:109:LYS:HE2	2.34	0.42
1:1:729:G:C5	6:b:206:LYS:HB2	2.54	0.42
1:1:783:A:C8	1:1:783:A:H3'	2.54	0.42
1:1:837:C:O5'	1:1:837:C:H6	2.02	0.42
1:1:1059:G:N2	12:i:127:SER:OG	2.51	0.42
1:1:1258:U:H2'	1:1:1259:G:C8	2.54	0.42
1:1:1520:U:C2'	1:1:1521:G:H5'	2.49	0.42
1:1:2292:U:H2'	1:1:2293:G:C8	2.54	0.42
1:1:2371:G:O2'	1:1:2372:U:H5'	2.19	0.42
1:1:2812:G:O2'	1:1:2813:A:H5'	2.19	0.42
1:1:2870:C:H2'	1:1:2871:U:H5'	2.01	0.42
3:3:75:G:H1	3:3:95:C:H42	1.67	0.42
3:3:310:G:H5''	52:U:31:ARG:HB2	2.01	0.42
3:3:1243:C:H2'	3:3:1244:G:H8	1.84	0.42
3:3:1253:G:H2'	3:3:1254:A:H8	1.83	0.42
13:j:138:GLN:H	13:j:138:GLN:HG2	1.63	0.42
16:m:69:PRO:HA	16:m:94:ALA:HB2	2.01	0.42
44:M:24:VAL:HG23	44:M:60:LEU:HB2	2.00	0.42
59:B2:515:MET:HE2	59:B2:515:MET:HB3	1.82	0.42
59:B2:1274:GLU:CG	65:BA:434:ILE:HD11	2.49	0.42
65:BA:202:ARG:NH1	65:BA:202:ARG:CG	2.73	0.42
65:BA:1065:LYS:HD3	65:BA:1084:GLN:HB3	2.00	0.42
1:1:150:U:O2'	1:1:151:C:H5'	2.18	0.42
1:1:431:U:O5'	1:1:431:U:H6	2.03	0.42
1:1:758:C:H2'	1:1:759:G:H8	1.84	0.42
1:1:1095:A:H3'	1:1:1096:A:H8	1.83	0.42
1:1:1901:A:C2	1:1:1902:C:C5	3.08	0.42
1:1:1964:G:H4'	1:1:1965:C:OP2	2.19	0.42
1:1:2482:A:H2'	1:1:2483:C:C6	2.54	0.42
1:1:2643:G:C2'	1:1:2644:G:H5'	2.48	0.42
3:3:1013:G:N2	3:3:1016:A:OP2	2.35	0.42
6:b:244:VAL:HG12	6:b:250:GLN:HA	2.01	0.42
12:i:8:VAL:HG11	12:i:26:ALA:CB	2.49	0.42
15:l:108:ALA:HB3	15:l:125:LEU:HG	2.01	0.42
23:t:40:LYS:HE3	23:t:60:THR:HG22	2.01	0.42
39:H:76:ILE:HB	39:H:80:GLY:HA2	2.00	0.42
42:K:100:SER:O	42:K:100:SER:OG	2.34	0.42
45:N:21:LYS:HE2	45:N:21:LYS:HB3	1.93	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:R:11:HIS:HA	49:R:43:LYS:HD2	2.01	0.42
65:BA:58:CYS:SG	65:BA:60:ARG:HG2	2.59	0.42
65:BA:450:HIS:HA	65:BA:451:PRO:HD3	1.91	0.42
1:1:598:U:H2'	1:1:599:A:C8	2.54	0.42
1:1:1500:G:H2'	1:1:1501:G:H8	1.84	0.42
1:1:1505:A:O2'	1:1:1506:U:H5'	2.19	0.42
1:1:1615:C:C6	22:s:87:PRO:HG3	2.54	0.42
1:1:1651:G:H4'	17:n:39:PRO:HG2	2.00	0.42
3:3:796:C:H5''	47:P:126:ARG:O	2.19	0.42
3:3:1513:A:H2'	3:3:1514:G:H8	1.83	0.42
17:n:86:ARG:NH2	17:n:117:ASP:OD2	2.47	0.42
59:B2:616:ILE:HG13	59:B2:652:TYR:HB2	2.01	0.42
63:7:120:ALA:C	63:7:122:PHE:H	2.27	0.42
65:BA:245:LEU:CG	65:BA:246:PRO:HD2	2.47	0.42
1:1:452:G:H8	8:d:53:THR:HB	1.85	0.42
1:1:528:A:C2	1:1:2043:C:H4'	2.53	0.42
1:1:536:G:H21	13:j:47:HIS:CG	2.37	0.42
1:1:918:A:H2'	1:1:919:U:O4'	2.19	0.42
1:1:1155:A:H5''	20:q:54:ARG:HD3	2.01	0.42
1:1:2095:A:OP1	11:g:11:ASN:ND2	2.53	0.42
1:1:2248:C:C2'	1:1:2249:U:H5'	2.49	0.42
2:2:39:A:O2'	2:2:46:A:N1	2.47	0.42
3:3:322:C:O2	3:3:332:G:N2	2.52	0.42
3:3:1382:C:H2'	3:3:1383:C:H6	1.84	0.42
3:3:1531:A:C2'	3:3:1532:U:H5'	2.49	0.42
20:q:83:LYS:HE2	20:q:83:LYS:HB3	1.72	0.42
40:I:53:GLN:HA	40:I:198:LEU:HD12	2.01	0.42
41:J:19:ARG:NH1	58:4:13:U:O2'	2.52	0.42
46:O:78:GLU:C	46:O:80:THR:N	2.77	0.42
52:U:68:SER:OG	52:U:69:ASP:N	2.53	0.42
61:8:3:DC:N1	61:8:4:DT:H72	2.34	0.42
65:BA:137:ARG:HA	65:BA:142:GLU:HG2	2.02	0.42
65:BA:244:VAL:HA	65:BA:269:TYR:OH	2.19	0.42
65:BA:390:LEU:N	65:BA:390:LEU:HD13	2.35	0.42
65:BA:586:GLY:HA3	65:BA:612:LEU:HD11	2.01	0.42
1:1:467:G:O2'	1:1:468:G:H5'	2.19	0.42
1:1:623:C:H2'	1:1:624:C:H6	1.85	0.42
1:1:673:C:OP1	8:d:49:ARG:NH2	2.49	0.42
1:1:712:G:C2'	1:1:713:G:H5'	2.50	0.42
1:1:908:C:O2'	1:1:909:A:H5'	2.19	0.42
1:1:1077:A:H3'	1:1:1078:U:H4'	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1275:A:C2	17:n:16:HIS:CD2	3.07	0.42
1:1:1571:A:H2'	1:1:1572:A:C8	2.54	0.42
1:1:2839:G:O2'	1:1:2840:C:H5'	2.18	0.42
8:d:106:LYS:HG3	8:d:200:LEU:HD13	2.01	0.42
13:j:131:ASN:OD1	13:j:131:ASN:N	2.48	0.42
21:r:48:LYS:HA	21:r:48:LYS:HD2	1.78	0.42
25:v:58:SER:OG	25:v:59:GLU:OE1	2.36	0.42
35:F:23:ILE:HD13	35:F:23:ILE:HA	1.93	0.42
37:5:29:G:H2'	37:5:29:G:N3	2.34	0.42
38:G:67:LEU:HD21	38:G:91:VAL:HG23	2.00	0.42
39:H:61:LYS:HE2	39:H:96:VAL:HG12	2.01	0.42
59:B2:444:ASP:OD1	59:B2:444:ASP:N	2.51	0.42
59:B2:1313:HIS:CD2	64:AA:31:GLN:HE22	2.37	0.42
65:BA:59:ALA:HB1	65:BA:90:VAL:HG23	2.01	0.42
65:BA:102:MET:HG2	65:BA:246:PRO:CG	2.49	0.42
65:BA:144:TYR:CE1	65:BA:162:GLU:OE1	2.73	0.42
65:BA:616:PRO:HA	65:BA:619:ILE:HG22	2.02	0.42
1:1:108:G:O2'	1:1:109:C:H5'	2.18	0.42
1:1:131:A:H2'	1:1:132:G:C8	2.53	0.42
1:1:451:U:H4'	8:d:47:LYS:HE2	2.00	0.42
1:1:892:A:O2'	1:1:893:C:H5'	2.19	0.42
1:1:1176:U:H2'	1:1:1177:G:N9	2.35	0.42
1:1:1187:G:OP1	21:r:85:LYS:NZ	2.50	0.42
1:1:1599:U:H2'	1:1:1600:C:H6	1.84	0.42
1:1:1614:A:C8	1:1:1614:A:O5'	2.73	0.42
1:1:1642:G:H2'	1:1:1643:G:O4'	2.20	0.42
1:1:1739:A:H2'	1:1:1740:G:O4'	2.18	0.42
1:1:2287:A:C4	1:1:2289:G:N7	2.88	0.42
1:1:2701:U:H3'	1:1:2702:G:H5''	2.01	0.42
3:3:373:A:N1	3:3:391:G:O2'	2.49	0.42
39:H:76:ILE:HD11	58:4:23:U:H4'	2.02	0.42
44:M:42:GLU:HG2	44:M:100:ILE:HG21	2.02	0.42
65:BA:222:LYS:HD2	65:BA:222:LYS:HA	1.32	0.42
65:BA:362:ARG:HB2	65:BA:364:HIS:HD2	1.83	0.42
1:1:281:C:H2'	1:1:282:A:C8	2.54	0.42
1:1:439:A:H2'	1:1:440:C:O4'	2.20	0.42
1:1:535:G:O2'	1:1:536:G:H5'	2.20	0.42
1:1:595:C:H2'	1:1:596:U:C6	2.54	0.42
1:1:1095:A:H1'	4:0:632:ILE:HD13	2.02	0.42
1:1:1343:G:N3	1:1:1343:G:H2'	2.35	0.42
1:1:1930:G:O2'	1:1:1931:U:OP2	2.33	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2144:G:H1'	1:1:2147:A:N6	2.34	0.42
1:1:2411:A:O2'	1:1:2412:A:H5'	2.20	0.42
3:3:227:G:N2	52:U:63:GLN:O	2.48	0.42
3:3:685:G:N1	3:3:704:A:OP2	2.52	0.42
3:3:1348:U:H2'	3:3:1349:A:H8	1.84	0.42
6:b:131:MET:H	6:b:131:MET:HG2	1.57	0.42
23:t:17:SER:OG	23:t:20:ALA:N	2.48	0.42
39:H:19:SER:HB2	39:H:39:ARG:HH21	1.85	0.42
39:H:73:GLY:C	58:4:22:U:H4'	2.37	0.42
50:S:22:LYS:HE2	50:S:22:LYS:HB2	1.87	0.42
51:T:66:LEU:HB3	51:T:77:TYR:HE1	1.84	0.42
54:W:33:THR:HG22	54:W:37:LYS:H	1.83	0.42
55:X:51:HIS:HB2	55:X:56:HIS:CE1	2.55	0.42
57:Z:33:ARG:HB3	57:Z:34:ARG:H	1.71	0.42
58:4:56:G:OP1	59:B2:1073:LYS:NZ	2.35	0.42
59:B2:998:LEU:HD21	59:B2:1015:ALA:HB2	2.02	0.42
65:BA:279:LEU:HD13	65:BA:299:LEU:HD13	2.02	0.42
65:BA:797:THR:HG22	65:BA:924:GLY:HA3	2.01	0.42
65:BA:848:VAL:HB	65:BA:858:VAL:HG22	2.02	0.42
65:BA:936:ILE:HB	65:BA:1004:ALA:HB3	2.01	0.42
1:1:115:C:O2'	1:1:116:C:H5'	2.20	0.42
1:1:582:A:OP1	20:q:13:HIS:ND1	2.45	0.42
1:1:1107:G:H2'	1:1:1108:U:O4'	2.20	0.42
1:1:2271:G:OP1	26:w:14:ALA:HB1	2.20	0.42
1:1:2389:G:H5''	1:1:2390:U:H5'	2.01	0.42
1:1:2741:A:H2'	1:1:2742:G:C5'	2.50	0.42
1:1:2743:U:H2'	1:1:2744:G:C4'	2.50	0.42
6:b:20:ASN:HB3	6:b:23:LEU:HD13	2.01	0.42
6:b:176:ARG:HA	6:b:176:ARG:HD2	1.94	0.42
9:e:171:ALA:C	9:e:173:ASP:H	2.27	0.42
15:l:133:ALA:O	15:l:137:ALA:N	2.46	0.42
32:C:52:LYS:HE2	32:C:52:LYS:HB2	1.89	0.42
36:NA:99:SER:CB	59:B2:906:PHE:HE1	2.32	0.42
42:K:47:LEU:HG	42:K:56:LYS:HA	2.01	0.42
48:Q:50:LYS:HE2	48:Q:70:GLY:HA2	2.01	0.42
48:Q:98:ARG:HA	48:Q:103:CYS:HB2	2.02	0.42
55:X:13:HIS:O	55:X:17:LYS:N	2.49	0.42
59:B2:133:ASN:O	59:B2:527:LYS:NZ	2.42	0.42
59:B2:478:ARG:HD2	59:B2:492:MET:HA	2.02	0.42
65:BA:559:ALA:HB3	65:BA:562:GLU:HB3	2.01	0.42
65:BA:1266:ASN:O	65:BA:1270:GLU:HB2	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:90:U:H2'	1:1:91:A:C8	2.55	0.42
1:1:510:C:OP1	1:1:510:C:H3'	2.20	0.42
1:1:1020:A:O5'	1:1:1020:A:H8	2.02	0.42
1:1:1931:U:C5	1:1:1968:G:N2	2.88	0.42
1:1:2056:G:O2'	31:B:4:GLN:NE2	2.52	0.42
1:1:2091:C:H5	1:1:2092:U:O2'	2.02	0.42
1:1:2467:C:O2	16:m:123:LYS:HE2	2.20	0.42
1:1:2667:C:H6	1:1:2667:C:O5'	2.03	0.42
1:1:2697:G:C2	1:1:2711:A:C2	3.08	0.42
2:2:98:G:H1	25:v:14:LYS:HB2	1.84	0.42
3:3:1513:A:H2'	3:3:1514:G:C8	2.55	0.42
29:z:57:GLU:OE1	29:z:57:GLU:N	2.53	0.42
37:5:9:A:H1'	37:5:45:U:H2'	2.01	0.42
40:I:119:HIS:O	40:I:145:ARG:NH2	2.52	0.42
40:I:125:ASN:HB2	40:I:127:ARG:HD3	2.01	0.42
43:L:68:VAL:HG23	43:L:99:ALA:HB1	2.02	0.42
48:Q:29:LYS:HD3	48:Q:29:LYS:HA	1.65	0.42
52:U:1:MET:HE2	52:U:1:MET:HB3	1.87	0.42
54:W:47:ARG:HA	54:W:47:ARG:HD3	1.81	0.42
59:B2:11:ILE:O	59:B2:1149:TYR:OH	2.27	0.42
59:B2:678:ARG:HD3	59:B2:678:ARG:HA	1.84	0.42
63:7:115:ASN:HA	63:7:121:ASP:N	2.34	0.42
1:1:94:A:H2'	1:1:95:A:C8	2.54	0.42
1:1:191:A:C6	1:1:192:C:N4	2.88	0.42
1:1:688:U:O5'	1:1:688:U:H6	2.03	0.42
1:1:1172:C:H2'	1:1:1173:U:O4'	2.19	0.42
1:1:1336:A:H2'	1:1:1337:G:H8	1.84	0.42
1:1:1567:G:H5'	6:b:57:HIS:ND1	2.35	0.42
1:1:1721:G:H1'	1:1:1739:A:N6	2.35	0.42
1:1:1917:U:H2'	1:1:1918:A:H5'	2.01	0.42
1:1:2834:G:C2'	1:1:2835:A:H5'	2.49	0.42
1:1:2852:G:H2'	1:1:2853:C:O4'	2.20	0.42
1:1:2895:G:H2'	1:1:2896:C:H6	1.85	0.42
3:3:142:G:O2'	3:3:196:A:N1	2.45	0.42
36:NA:79:ALA:CA	62:a:273:LYS:CB	2.94	0.42
40:I:97:LEU:C	40:I:99:ASN:N	2.78	0.42
59:B2:22:LEU:HD22	59:B2:603:ILE:HG21	2.02	0.42
59:B2:125:GLY:H	59:B2:495:ALA:HB1	1.84	0.42
65:BA:242:LEU:HD23	65:BA:242:LEU:C	2.44	0.42
65:BA:930:LEU:HA	65:BA:1221:GLN:HG3	2.02	0.42
1:1:309:A:N3	1:1:329:G:O2'	2.53	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:422:A:H2'	1:1:423:A:O4'	2.20	0.41
1:1:518:G:H2'	1:1:519:U:C6	2.55	0.41
1:1:630:G:N2	1:1:634:C:C4	2.88	0.41
1:1:1034:G:C6	1:1:1035:U:N3	2.88	0.41
1:1:1048:A:C2'	1:1:1049:C:H5'	2.49	0.41
1:1:1812:U:H6	1:1:1812:U:H5''	1.85	0.41
1:1:2193:G:H2'	1:1:2194:U:H6	1.83	0.41
3:3:409:U:H4'	40:I:24:VAL:HG22	2.02	0.41
3:3:1124:G:H1	3:3:1149:C:H42	1.68	0.41
6:b:107:LYS:HE2	6:b:107:LYS:HB2	1.87	0.41
12:i:109:ALA:O	12:i:113:ALA:N	2.53	0.41
14:k:17:ARG:HD3	14:k:47:ILE:HD11	2.01	0.41
22:s:9:HIS:H	22:s:102:HIS:CE1	2.38	0.41
26:w:7:ARG:HD3	26:w:7:ARG:HA	1.77	0.41
37:5:4:C:H2'	37:5:5:G:C8	2.55	0.41
37:5:35:A:N6	58:4:5:U:N3	2.53	0.41
39:H:110:LEU:HD21	39:H:143:LEU:HB3	2.02	0.41
49:R:7:ASN:CG	49:R:9:PRO:HD2	2.45	0.41
49:R:32:ILE:HG23	49:R:58:GLU:HB3	2.02	0.41
59:B2:590:PRO:HB2	59:B2:655:VAL:HG21	2.01	0.41
63:7:138:VAL:C	63:7:149:VAL:H	2.28	0.41
65:BA:647:PRO:HG3	65:BA:697:MET:HB3	2.01	0.41
65:BA:820:ILE:HG12	65:BA:884:SER:HB2	2.01	0.41
1:1:518:G:C2	1:1:519:U:C2	3.08	0.41
1:1:572:A:O5'	1:1:572:A:C8	2.72	0.41
1:1:724:U:C4	1:1:725:G:C6	3.08	0.41
1:1:1246:A:H2'	1:1:1247:A:O4'	2.19	0.41
1:1:1381:G:C2'	1:1:1382:G:H5'	2.49	0.41
1:1:1767:G:N2	1:1:1986:C:C2	2.89	0.41
1:1:1914:C:O2	1:1:1914:C:O4'	2.37	0.41
3:3:422:C:H4'	3:3:423:G:C2	2.54	0.41
3:3:987:G:H2'	3:3:988:G:H8	1.84	0.41
5:6:11:A:H2'	5:6:12:G:C8	2.52	0.41
16:m:34:LYS:N	16:m:129:THR:O	2.47	0.41
18:o:24:THR:HB	18:o:42:PRO:HG3	2.02	0.41
34:E:48:MET:HE3	34:E:48:MET:HB3	1.86	0.41
38:G:161:PHE:HA	38:G:183:PHE:HB2	2.02	0.41
42:K:40:GLU:HB3	42:K:61:LEU:HB3	2.02	0.41
45:N:113:LYS:HA	45:N:120:ALA:HB2	2.01	0.41
59:B2:524:ILE:HD12	59:B2:712:SER:HB2	2.02	0.41
59:B2:1157:GLN:HG3	59:B2:1159:VAL:HG13	2.01	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:a:76:GLU:HB3	62:a:80:GLU:HB3	2.01	0.41
65:BA:385:LEU:CD2	65:BA:390:LEU:HB2	2.50	0.41
1:1:244:A:H2'	1:1:245:G:O4'	2.20	0.41
1:1:552:U:O2'	1:1:553:G:H5'	2.20	0.41
1:1:597:G:H2'	1:1:598:U:H6	1.85	0.41
1:1:1152:C:H2'	1:1:1153:C:C6	2.55	0.41
1:1:1283:G:N2	1:1:1285:A:H3'	2.35	0.41
1:1:1553:A:O2'	1:1:1554:U:H5	2.02	0.41
1:1:1675:C:C4	7:c:134:HIS:HE1	2.38	0.41
1:1:2360:G:H2'	1:1:2361:G:C5'	2.40	0.41
1:1:2848:G:C2	1:1:2867:G:C4	3.08	0.41
3:3:202:G:H2'	3:3:203:G:C8	2.55	0.41
3:3:497:G:H2'	3:3:498:A:C8	2.55	0.41
3:3:1320:C:N4	55:X:36:ARG:HB3	2.34	0.41
4:0:438:LEU:HD21	4:0:472:ARG:HD2	2.02	0.41
7:c:4:LEU:HD21	7:c:98:VAL:HA	2.02	0.41
12:i:78:LEU:HA	12:i:81:LYS:HB3	2.02	0.41
14:k:13:ASN:ND2	14:k:97:THR:OG1	2.44	0.41
40:I:87:GLU:N	40:I:87:GLU:OE2	2.53	0.41
43:L:125:ASP:HB2	43:L:130:LYS:HG3	2.03	0.41
46:O:33:GLY:CA	46:O:82:LYS:HZ1	2.34	0.41
54:W:25:ILE:HA	54:W:28:LEU:HB2	2.03	0.41
59:B2:979:LEU:HD11	59:B2:1011:LEU:HD11	2.03	0.41
65:BA:144:TYR:OH	65:BA:162:GLU:OE1	2.34	0.41
65:BA:202:ARG:HH11	65:BA:202:ARG:CG	2.14	0.41
65:BA:1154:ILE:HD12	65:BA:1163:TYR:HE2	1.85	0.41
1:1:4:U:O2'	1:1:5:A:H5'	2.20	0.41
1:1:170:U:H2'	1:1:171:U:C6	2.55	0.41
1:1:568:U:O4	21:r:81:LYS:NZ	2.54	0.41
1:1:722:A:H2'	1:1:723:C:C6	2.56	0.41
1:1:809:G:C6	1:1:810:U:C4	3.08	0.41
1:1:890:C:H2'	1:1:891:G:C5'	2.39	0.41
1:1:903:C:H2'	1:1:904:G:H8	1.86	0.41
1:1:1045:C:H1'	1:1:1047:G:C2	2.56	0.41
1:1:1600:C:H2'	1:1:1601:G:C8	2.55	0.41
1:1:2073:C:C2'	1:1:2074:U:H5'	2.49	0.41
1:1:2437:G:O4'	1:1:2598:A:C2	2.73	0.41
1:1:2583:G:H8	1:1:2583:G:O5'	2.03	0.41
12:i:91:LYS:HE3	12:i:91:LYS:HB2	1.72	0.41
20:q:52:ARG:HH11	20:q:52:ARG:HD2	1.73	0.41
37:5:20:U:H6	37:5:20:U:H2'	1.73	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:P:30:ILE:HG23	47:P:45:THR:HB	2.02	0.41
59:B2:741:MET:HE3	59:B2:974:ARG:HH12	1.84	0.41
65:BA:513:MET:HG3	65:BA:544:LEU:HD11	2.01	0.41
1:1:49:A:P	1:1:51:G:H5'	2.60	0.41
1:1:191:A:C2	1:1:192:C:C4	3.08	0.41
1:1:543:G:C3'	1:1:544:C:H5''	2.51	0.41
1:1:871:U:H2'	1:1:872:U:C6	2.54	0.41
1:1:877:A:H2'	1:1:878:A:H5''	2.02	0.41
1:1:989:G:P	29:z:31:ILE:HD11	2.61	0.41
1:1:1024:G:H21	1:1:1144:A:C4'	2.33	0.41
1:1:1042:G:H2'	1:1:1043:C:H6	1.85	0.41
1:1:1213:A:C1'	1:1:1237:A:C2	3.03	0.41
1:1:1467:U:C4	1:1:1468:U:C4	3.08	0.41
1:1:1589:U:H2'	1:1:1590:A:C8	2.55	0.41
1:1:1750:G:H2'	1:1:1751:U:C6	2.56	0.41
1:1:1822:C:H2'	1:1:1823:G:H8	1.85	0.41
1:1:2216:G:H2'	1:1:2217:G:C8	2.54	0.41
1:1:2757:A:H2'	1:1:2758:A:H5''	2.02	0.41
3:3:36:C:O2'	48:Q:113:ARG:NH1	2.51	0.41
3:3:227:G:O2'	52:U:63:GLN:OE1	2.36	0.41
4:0:298:ILE:CG2	4:0:304:ASP:HA	2.50	0.41
17:n:71:ARG:HE	17:n:71:ARG:HB3	1.68	0.41
30:A:23:LYS:H	30:A:23:LYS:HG2	1.70	0.41
39:H:177:LEU:H	39:H:177:LEU:HG	1.70	0.41
46:O:12:ALA:HB2	46:O:96:VAL:HG13	2.02	0.41
54:W:24:ASP:OD1	54:W:24:ASP:N	2.53	0.41
59:B2:22:LEU:HB3	59:B2:655:VAL:HG11	2.01	0.41
63:7:133:LYS:O	63:7:134:SER:C	2.61	0.41
65:BA:144:TYR:N	65:BA:144:TYR:CD1	2.89	0.41
1:1:211:C:O2'	1:1:212:G:H5'	2.21	0.41
1:1:265:A:C8	1:1:428:A:C2	3.09	0.41
1:1:359:G:H2'	1:1:360:U:C5'	2.51	0.41
1:1:397:U:O5'	1:1:397:U:H6	2.03	0.41
1:1:1063:G:O2'	12:i:89:SER:HB3	2.20	0.41
1:1:1154:G:OP2	20:q:57:ARG:NH1	2.53	0.41
1:1:1316:U:O2'	1:1:1317:G:H5'	2.20	0.41
1:1:1827:U:C2'	1:1:1828:G:H5'	2.51	0.41
1:1:2098:U:H2'	1:1:2099:U:H5'	2.03	0.41
3:3:370:C:H2'	3:3:371:A:H8	1.86	0.41
3:3:958:A:N3	3:3:985:C:O2'	2.48	0.41
6:b:70:LYS:HD2	6:b:73:ILE:HD12	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:k:7:MET:HE2	14:k:18:ARG:HD3	2.01	0.41
40:I:30:LYS:HD3	40:I:30:LYS:HA	1.80	0.41
45:N:22:PRO:HA	45:N:60:LEU:HA	2.03	0.41
59:B2:1332:SER:C	65:BA:243:PRO:HG2	2.44	0.41
61:8:14:DC:C2	61:8:15:DC:C5	3.09	0.41
62:a:48:LEU:HD12	62:a:48:LEU:HA	1.79	0.41
65:BA:211:GLU:CG	65:BA:215:LYS:HE3	2.44	0.41
65:BA:394:ILE:O	65:BA:394:ILE:HG13	2.19	0.41
1:1:197:A:H2	1:1:2434:A:H62	1.69	0.41
1:1:256:A:C2'	1:1:257:C:H5'	2.50	0.41
1:1:426:C:O2'	1:1:427:U:H5'	2.21	0.41
1:1:573:U:O2'	1:1:574:A:H3'	2.21	0.41
1:1:724:U:H2'	1:1:725:G:C8	2.56	0.41
1:1:1317:G:H2'	1:1:1318:U:C6	2.56	0.41
1:1:1327:A:H2'	1:1:1328:A:H5'	2.02	0.41
1:1:1991:U:H2'	1:1:1992:G:H5'	2.02	0.41
1:1:2467:C:N4	1:1:2468:A:C6	2.89	0.41
1:1:2680:U:O2'	1:1:2681:C:H5'	2.21	0.41
1:1:2741:A:N6	1:1:2742:G:C2	2.88	0.41
3:3:107:G:O6	56:Y:9:ARG:NH1	2.53	0.41
3:3:146:G:H2'	3:3:147:G:C8	2.56	0.41
3:3:304:U:H2'	3:3:305:G:C8	2.56	0.41
3:3:460:A:H2'	3:3:461:A:C8	2.54	0.41
15:l:39:LYS:HE3	15:l:39:LYS:HB2	1.84	0.41
17:n:82:GLU:O	17:n:86:ARG:N	2.48	0.41
37:5:27:G:H1	37:5:43:C:H42	1.69	0.41
53:V:24:ILE:HG23	53:V:41:THR:HB	2.03	0.41
59:B2:213:LEU:HD13	59:B2:422:LYS:HG2	2.03	0.41
59:B2:699:LEU:HG	59:B2:799:ASN:HD22	1.85	0.41
59:B2:870:ILE:HB	59:B2:944:ARG:HD3	2.03	0.41
63:7:139:SER:HA	63:7:148:PRO:HA	2.03	0.41
65:BA:109:SER:CB	65:BA:296:LYS:HG2	2.51	0.41
65:BA:246:PRO:HA	65:BA:247:PRO:HD3	1.96	0.41
65:BA:609:TYR:HD2	65:BA:610:ARG:NH1	2.18	0.41
65:BA:1050:SER:OG	65:BA:1145:GLU:OE1	2.31	0.41
65:BA:1249:SER:OG	65:BA:1250:ASP:N	2.53	0.41
1:1:259:G:O2'	1:1:260:G:H5'	2.20	0.41
1:1:284:U:H2'	1:1:285:G:C8	2.56	0.41
1:1:674:G:C8	1:1:674:G:H3'	2.56	0.41
1:1:1070:A:H5'	1:1:1072:C:OP1	2.20	0.41
1:1:1239:G:H2'	1:1:1240:U:O4'	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1279:G:H2'	1:1:1280:G:C8	2.56	0.41
1:1:1302:A:H5'	1:1:1608:A:OP1	2.21	0.41
1:1:1886:U:O2'	1:1:1887:C:H5'	2.20	0.41
1:1:2092:U:H5	1:1:2199:A:C2	2.30	0.41
1:1:2160:C:H2'	1:1:2161:C:O4'	2.20	0.41
1:1:2660:A:H2'	1:1:2661:G:C8	2.56	0.41
3:3:440:C:H2'	3:3:441:A:H8	1.85	0.41
3:3:842:U:H5'	3:3:846:G:C6	2.55	0.41
4:0:512:ARG:NH1	58:4:7:U:C4'	2.83	0.41
6:b:209:ALA:HA	6:b:212:TRP:CE2	2.55	0.41
21:r:21:ARG:HE	21:r:21:ARG:HB2	1.60	0.41
41:J:71:ILE:HD12	41:J:71:ILE:HA	1.98	0.41
49:R:89:ARG:HB2	49:R:96:VAL:HG22	2.01	0.41
59:B2:50:GLU:HG2	59:B2:73:TYR:HE1	1.85	0.41
59:B2:469:VAL:HA	59:B2:472:GLU:HG2	2.02	0.41
59:B2:550:VAL:HG13	65:BA:777:HIS:CD2	2.56	0.41
59:B2:800:MET:HE3	59:B2:800:MET:HB2	1.69	0.41
59:B2:886:LYS:HE2	59:B2:918:LEU:HD13	2.03	0.41
65:BA:71:LEU:HB2	65:BA:90:VAL:HG11	2.03	0.41
65:BA:141:PHE:CE2	65:BA:296:LYS:CB	2.94	0.41
65:BA:820:ILE:HD11	65:BA:822:MET:HE2	2.02	0.41
1:1:56:A:H1'	1:1:127:A:C2	2.55	0.41
1:1:79:C:O2	1:1:346:A:H2	2.03	0.41
1:1:191:A:H2'	1:1:192:C:C6	2.56	0.41
1:1:511:U:H2'	1:1:512:G:H5'	2.03	0.41
1:1:633:A:H2'	1:1:634:C:C5'	2.47	0.41
1:1:638:G:H2'	1:1:639:U:C6	2.55	0.41
1:1:706:A:H2'	1:1:707:G:C5'	2.51	0.41
1:1:924:G:O2'	1:1:925:A:H5'	2.21	0.41
1:1:1063:G:N2	1:1:1075:C:H41	2.18	0.41
1:1:1333:G:C2'	1:1:1334:G:H5'	2.51	0.41
1:1:1722:A:N6	1:1:1738:G:H1'	2.36	0.41
1:1:1944:U:H3'	1:1:1945:G:H5'	2.03	0.41
1:1:2061:G:H2'	1:1:2501:C:O2'	2.21	0.41
1:1:2105:U:C2	1:1:2184:A:H2	2.39	0.41
1:1:2293:G:O2'	1:1:2294:G:H5'	2.21	0.41
1:1:2315:G:N3	9:e:124:ARG:NH2	2.69	0.41
1:1:2612:C:O5'	1:1:2612:C:H6	2.04	0.41
1:1:2788:C:H2'	1:1:2789:C:C6	2.56	0.41
3:3:1112:C:O2'	39:H:178:ARG:NH1	2.54	0.41
4:0:144:MET:HE2	4:0:144:MET:HB3	1.96	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:0:429:GLU:H	4:0:429:GLU:HG3	1.64	0.41
5:6:35:A:N6	58:4:3:G:N1	2.69	0.41
6:b:86:ARG:HA	6:b:86:ARG:HD3	1.84	0.41
8:d:145:ASP:HA	8:d:166:LYS:HB3	2.02	0.41
8:d:188:MET:HG3	8:d:193:VAL:HG13	2.03	0.41
12:i:41:PHE:O	12:i:45:THR:N	2.54	0.41
12:i:77:VAL:HA	12:i:80:LYS:HE2	2.02	0.41
13:j:109:LEU:HD23	13:j:109:LEU:HA	1.85	0.41
23:t:28:ASN:HD21	23:t:91:GLN:HB3	1.85	0.41
37:5:23:A:H2'	37:5:24:G:C8	2.56	0.41
38:G:190:SER:OG	38:G:191:ASP:N	2.54	0.41
55:X:77:ARG:H	55:X:77:ARG:HG2	1.66	0.41
58:4:55:G:H5'	59:B2:688:GLN:HE22	1.85	0.41
58:4:56:G:N2	65:BA:427:PRO:HD3	2.18	0.41
59:B2:657:THR:HG21	59:B2:1188:ASP:HB2	2.03	0.41
59:B2:741:MET:SD	59:B2:974:ARG:NH2	2.93	0.41
62:a:214:LEU:HD23	62:h:222:LEU:HD21	2.03	0.41
62:h:42:ALA:HB1	62:h:218:LEU:HD11	2.03	0.41
63:7:112:VAL:N	63:7:126:VAL:H	2.06	0.41
65:BA:282:LEU:CA	65:BA:286:ALA:HA	2.45	0.41
65:BA:988:VAL:N	65:BA:1005:ASN:O	2.45	0.41
1:1:137:U:H3	1:1:142:A:H61	1.68	0.41
1:1:724:U:H2'	1:1:725:G:O4'	2.21	0.41
1:1:955:U:H2'	1:1:956:G:H5'	2.01	0.41
1:1:1019:U:N3	1:1:1142:A:N6	2.57	0.41
1:1:1197:G:C2'	1:1:1198:U:H5'	2.50	0.41
1:1:1314:C:H42	1:1:1338:G:H1	1.68	0.41
1:1:1494:A:C6	1:1:1495:A:C6	3.09	0.41
1:1:1594:U:O2'	1:1:1595:C:H5'	2.20	0.41
1:1:1727:C:O2'	1:1:1728:C:H5'	2.20	0.41
1:1:2038:G:H2'	1:1:2039:U:O4'	2.21	0.41
1:1:2049:G:O2'	1:1:2050:C:H5'	2.21	0.41
1:1:2568:U:H6	1:1:2568:U:O5'	2.04	0.41
1:1:2646:C:H2'	1:1:2647:U:O4'	2.21	0.41
3:3:73:C:H2'	3:3:74:A:C8	2.55	0.41
3:3:84:U:O2	3:3:87:C:O2'	2.34	0.41
3:3:1228:C:H2'	3:3:1229:A:C8	2.56	0.41
6:b:109:LEU:HD12	6:b:109:LEU:HA	1.93	0.41
20:q:23:TYR:HB3	20:q:27:ARG:HB2	2.02	0.41
36:NA:40:GLU:CA	59:B2:859:GLU:HG3	2.50	0.41
39:H:14:VAL:HG11	39:H:180:ASP:HB3	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:V:7:LEU:N	53:V:59:GLU:OE2	2.53	0.41
53:V:11:VAL:HG23	53:V:55:GLY:H	1.85	0.41
59:B2:861:ALA:HB1	59:B2:882:ILE:HD13	2.02	0.41
65:BA:71:LEU:HD23	65:BA:71:LEU:HA	1.76	0.41
65:BA:324:LEU:H	65:BA:324:LEU:HG	1.76	0.41
1:1:914:G:H5'	1:1:915:C:OP2	2.22	0.40
1:1:935:C:H2'	1:1:936:A:C8	2.56	0.40
1:1:940:G:H2'	1:1:941:A:C4'	2.51	0.40
1:1:1095:A:C1'	4:0:632:ILE:HD13	2.51	0.40
1:1:1107:G:H2'	1:1:1108:U:C6	2.56	0.40
1:1:1594:U:H6	1:1:1594:U:O5'	2.04	0.40
1:1:1868:C:H2'	1:1:1869:G:H8	1.86	0.40
1:1:2208:C:O2'	1:1:2209:G:H5'	2.21	0.40
1:1:2357:G:C2	1:1:2361:G:C6	3.09	0.40
1:1:2751:G:H4'	10:f:3:VAL:HG13	2.02	0.40
3:3:195:A:H2'	3:3:196:A:C8	2.57	0.40
4:0:15:ILE:HG22	4:0:23:LYS:HB2	2.03	0.40
5:6:10:G:OP1	5:6:46:G:H4'	2.21	0.40
39:H:73:GLY:HA3	58:4:22:U:O3'	2.20	0.40
57:Z:39:LYS:HA	57:Z:42:THR:HB	2.02	0.40
59:B2:1294:LYS:HG2	65:BA:472:LEU:HD11	2.02	0.40
61:8:2:DC:C6	61:8:2:DC:H5'	2.56	0.40
62:a:195:MET:HE1	62:a:207:ILE:HG13	2.02	0.40
65:BA:220:ARG:NH1	65:BA:220:ARG:CG	2.82	0.40
65:BA:839:VAL:HG12	65:BA:864:LEU:HD12	2.01	0.40
1:1:127:A:H5''	1:1:128:C:O4'	2.21	0.40
1:1:379:G:N1	1:1:396:G:C6	2.89	0.40
1:1:510:C:H2'	1:1:511:U:H6	1.85	0.40
1:1:679:C:H2'	1:1:680:C:C6	2.56	0.40
1:1:703:U:H2'	1:1:704:G:C5'	2.49	0.40
1:1:1204:A:H4'	1:1:1205:A:H5''	2.02	0.40
1:1:1283:G:H22	1:1:1286:A:P	2.44	0.40
1:1:1482:G:H2'	1:1:1483:G:H8	1.85	0.40
1:1:2106:U:H3'	1:1:2107:G:H8	1.86	0.40
1:1:2210:U:OP1	1:1:2210:U:H6	2.04	0.40
1:1:2335:A:N7	1:1:2337:G:C5	2.88	0.40
1:1:2585:U:O2	1:1:2585:U:O4'	2.40	0.40
1:1:2776:A:C6	1:1:2778:A:C6	3.09	0.40
3:3:336:A:H2'	3:3:337:G:H8	1.86	0.40
4:0:118:GLY:HA2	4:0:154:VAL:HG22	2.03	0.40
6:b:36:ASN:OD1	6:b:36:ASN:N	2.54	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:b:68:ARG:HG3	6:b:128:THR:HG21	2.04	0.40
23:t:68:LYS:HD3	23:t:68:LYS:HA	1.83	0.40
39:H:156:LEU:H	39:H:156:LEU:HG	1.65	0.40
44:M:26:MET:HE2	44:M:26:MET:HB3	1.96	0.40
46:O:57:VAL:HG22	46:O:58:ASN:H	1.85	0.40
65:BA:515:ARG:HG2	65:BA:516:ASP:H	1.85	0.40
65:BA:1327:ASN:HA	65:BA:1330:VAL:HG12	2.02	0.40
1:1:128:C:H2'	1:1:129:C:C6	2.53	0.40
1:1:224:U:O4	1:1:420:C:H5'	2.21	0.40
1:1:245:G:N7	34:E:7:ARG:NH2	2.59	0.40
1:1:322:A:P	8:d:163:ASN:HD21	2.45	0.40
1:1:367:G:H2'	1:1:368:A:C8	2.57	0.40
1:1:467:G:H8	1:1:467:G:O5'	2.04	0.40
1:1:1048:A:N6	1:1:1111:A:C8	2.89	0.40
1:1:1430:G:O2'	1:1:1431:A:H5'	2.21	0.40
1:1:2529:G:H8	1:1:2529:G:O5'	2.05	0.40
1:1:2600:A:H8	1:1:2600:A:O5'	2.03	0.40
1:1:2615:U:O2	1:1:2615:U:H2'	2.20	0.40
1:1:2647:U:O2'	1:1:2648:G:H5'	2.21	0.40
1:1:2699:C:O2'	1:1:2700:A:H5'	2.21	0.40
5:6:69:C:H2'	5:6:70:G:C8	2.57	0.40
14:k:13:ASN:HB3	14:k:100:PHE:CZ	2.57	0.40
14:k:110:GLU:H	14:k:113:MET:HE3	1.86	0.40
19:p:88:ARG:H	19:p:88:ARG:HG2	1.62	0.40
24:u:4:ILE:HD13	24:u:69:VAL:HG23	2.03	0.40
27:x:55:MET:HE2	27:x:55:MET:HB3	1.91	0.40
38:G:8:MET:HB3	38:G:8:MET:HE3	1.84	0.40
41:J:146:MET:HE2	41:J:146:MET:HB3	1.76	0.40
50:S:73:LEU:HD23	50:S:73:LEU:HA	1.96	0.40
55:X:18:VAL:HG21	55:X:43:MET:HE1	2.03	0.40
57:Z:9:GLU:HB3	57:Z:10:PRO:HD3	2.03	0.40
62:a:102:LEU:HB3	62:a:142:MET:HG2	2.04	0.40
1:1:10:A:C6	1:1:2800:A:C2	3.09	0.40
1:1:85:G:OP1	24:u:6:ARG:N	2.52	0.40
1:1:196:A:N3	1:1:196:A:H2'	2.35	0.40
1:1:532:A:H2'	1:1:532:A:N3	2.35	0.40
1:1:723:C:H2'	1:1:724:U:O4'	2.21	0.40
1:1:1334:G:C6	1:1:1335:C:C4	3.09	0.40
1:1:1412:U:H2'	1:1:1413:A:C8	2.56	0.40
1:1:1430:G:H2'	1:1:1431:A:O4'	2.21	0.40
1:1:1452:G:C2'	1:1:1453:A:OP2	2.68	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1749:A:H2'	1:1:1750:G:C8	2.57	0.40
1:1:2098:U:H2'	1:1:2099:U:C5'	2.51	0.40
1:1:2312:U:C5	1:1:2313:C:C5	3.10	0.40
1:1:2502:G:H5''	1:1:2503:A:H5''	2.03	0.40
3:3:146:G:H2'	3:3:147:G:H8	1.86	0.40
3:3:202:G:H2'	3:3:203:G:H8	1.85	0.40
10:f:26:LYS:HA	10:f:31:GLU:HA	2.04	0.40
12:i:2:LYS:HD3	12:i:2:LYS:HA	1.89	0.40
13:j:112:GLY:O	13:j:116:ARG:N	2.46	0.40
37:5:17:C:H2'	37:5:18:G:C8	2.56	0.40
38:G:17:HIS:C	38:G:19:THR:H	2.28	0.40
38:G:65:LYS:HB2	38:G:65:LYS:HE2	1.78	0.40
39:H:37:LYS:HD3	39:H:37:LYS:HA	1.81	0.40
40:I:123:MET:HG2	40:I:128:VAL:HA	2.04	0.40
47:P:108:ASN:HA	57:Z:7:GLU:HG2	2.03	0.40
59:B2:1246:ARG:O	65:BA:349:TYR:HA	2.22	0.40
59:B2:1282:GLY:O	65:BA:1338:THR:N	2.53	0.40
62:a:44:ARG:HA	62:a:173:ILE:HD12	2.03	0.40
65:BA:515:ARG:HH21	65:BA:717:VAL:HG23	1.87	0.40
1:1:1116:G:O2'	1:1:1117:C:H5'	2.22	0.40
1:1:1160:G:C6	1:1:1161:C:C4	3.09	0.40
1:1:1715:G:O2'	1:1:1716:U:C6	2.75	0.40
1:1:1783:A:C8	1:1:1783:A:H5'	2.57	0.40
1:1:2014:A:H4'	22:s:94:ASP:CG	2.47	0.40
1:1:2224:G:H4'	1:1:2226:C:N3	2.35	0.40
1:1:2321:U:H5''	1:1:2322:A:OP2	2.22	0.40
1:1:2379:G:H2'	1:1:2380:C:C6	2.56	0.40
1:1:2516:A:C2'	1:1:2517:C:H5'	2.51	0.40
1:1:2649:C:N3	1:1:2650:U:C4	2.89	0.40
1:1:2709:G:H5'	17:n:22:ARG:HH22	1.86	0.40
1:1:2713:U:C3'	1:1:2714:G:H5'	2.27	0.40
14:k:53:LYS:HA	14:k:53:LYS:HD3	1.96	0.40
18:o:8:ILE:O	18:o:12:THR:OG1	2.33	0.40
21:r:24:LYS:HE2	21:r:24:LYS:HB3	1.89	0.40
22:s:29:VAL:HG21	22:s:55:ILE:HG21	2.03	0.40
60:9:33:DA:H5''	65:BA:121:PRO:HG3	2.04	0.40
65:BA:108:ALA:HB2	65:BA:276:ASN:OD1	2.21	0.40
65:BA:390:LEU:HD13	65:BA:390:LEU:H	1.85	0.40
65:BA:1036:THR:HG23	65:BA:1043:SER:HB3	2.03	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	
4	0	669/704 (95%)	625 (93%)	43 (6%)	1 (0%)	48	79
6	b	269/273 (98%)	244 (91%)	25 (9%)	0	100	100
7	c	207/209 (99%)	190 (92%)	17 (8%)	0	100	100
8	d	199/201 (99%)	186 (94%)	13 (6%)	0	100	100
9	e	175/179 (98%)	157 (90%)	18 (10%)	0	100	100
10	f	174/177 (98%)	160 (92%)	14 (8%)	0	100	100
11	g	50/149 (34%)	44 (88%)	5 (10%)	1 (2%)	6	32
12	i	139/142 (98%)	110 (79%)	26 (19%)	3 (2%)	5	30
13	j	140/142 (99%)	128 (91%)	12 (9%)	0	100	100
14	k	120/123 (98%)	106 (88%)	14 (12%)	0	100	100
15	l	141/144 (98%)	129 (92%)	12 (8%)	0	100	100
16	m	134/136 (98%)	128 (96%)	6 (4%)	0	100	100
17	n	118/127 (93%)	103 (87%)	15 (13%)	0	100	100
18	o	114/117 (97%)	109 (96%)	5 (4%)	0	100	100
19	p	112/115 (97%)	101 (90%)	11 (10%)	0	100	100
20	q	115/118 (98%)	110 (96%)	3 (3%)	2 (2%)	7	35
21	r	101/103 (98%)	88 (87%)	13 (13%)	0	100	100
22	s	108/110 (98%)	101 (94%)	7 (6%)	0	100	100
23	t	91/100 (91%)	82 (90%)	9 (10%)	0	100	100
24	u	100/104 (96%)	84 (84%)	15 (15%)	1 (1%)	12	44
25	v	92/94 (98%)	87 (95%)	5 (5%)	0	100	100
26	w	73/85 (86%)	67 (92%)	6 (8%)	0	100	100
27	x	75/78 (96%)	72 (96%)	2 (3%)	1 (1%)	9	39
28	y	61/63 (97%)	55 (90%)	6 (10%)	0	100	100
29	z	56/59 (95%)	52 (93%)	4 (7%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	A	64/70 (91%)	59 (92%)	5 (8%)	0	100	100
31	B	54/57 (95%)	48 (89%)	4 (7%)	2 (4%)	2	21
32	C	48/55 (87%)	41 (85%)	7 (15%)	0	100	100
33	D	44/46 (96%)	42 (96%)	2 (4%)	0	100	100
34	E	62/65 (95%)	57 (92%)	5 (8%)	0	100	100
35	F	36/38 (95%)	33 (92%)	3 (8%)	0	100	100
36	NA	490/495 (99%)	471 (96%)	17 (4%)	2 (0%)	30	62
38	G	216/241 (90%)	187 (87%)	27 (12%)	2 (1%)	14	47
39	H	204/233 (88%)	195 (96%)	9 (4%)	0	100	100
40	I	203/206 (98%)	172 (85%)	30 (15%)	1 (0%)	24	57
41	J	155/167 (93%)	138 (89%)	17 (11%)	0	100	100
42	K	98/135 (73%)	84 (86%)	14 (14%)	0	100	100
43	L	149/179 (83%)	130 (87%)	19 (13%)	0	100	100
44	M	127/130 (98%)	118 (93%)	9 (7%)	0	100	100
45	N	125/130 (96%)	104 (83%)	21 (17%)	0	100	100
46	O	96/103 (93%)	85 (88%)	10 (10%)	1 (1%)	12	44
47	P	114/129 (88%)	100 (88%)	13 (11%)	1 (1%)	14	47
48	Q	121/124 (98%)	94 (78%)	27 (22%)	0	100	100
49	R	112/118 (95%)	98 (88%)	13 (12%)	1 (1%)	14	47
50	S	98/101 (97%)	83 (85%)	15 (15%)	0	100	100
51	T	86/89 (97%)	75 (87%)	11 (13%)	0	100	100
52	U	80/82 (98%)	69 (86%)	11 (14%)	0	100	100
53	V	78/84 (93%)	69 (88%)	8 (10%)	1 (1%)	9	39
54	W	63/75 (84%)	56 (89%)	5 (8%)	2 (3%)	3	24
55	X	77/92 (84%)	71 (92%)	6 (8%)	0	100	100
56	Y	83/87 (95%)	78 (94%)	5 (6%)	0	100	100
57	Z	63/71 (89%)	44 (70%)	18 (29%)	1 (2%)	7	36
59	B2	1338/1342 (100%)	1206 (90%)	127 (10%)	5 (0%)	30	62
62	a	295/325 (91%)	273 (92%)	21 (7%)	1 (0%)	36	67
62	h	217/325 (67%)	207 (95%)	10 (5%)	0	100	100
63	7	150/176 (85%)	108 (72%)	29 (19%)	13 (9%)	0	7

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
64	AA	80/82 (98%)	77 (96%)	3 (4%)	0	100	100
65	BA	1329/1358 (98%)	1203 (90%)	122 (9%)	4 (0%)	36	67
All	All	10188/10862 (94%)	9193 (90%)	949 (9%)	46 (0%)	26	57

All (46) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
27	x	25	LYS
36	NA	187	ARG
36	NA	188	PRO
63	7	80	PRO
63	7	101	ARG
63	7	147	THR
63	7	156	VAL
65	BA	121	PRO
59	B2	43	PRO
59	B2	918	LEU
62	a	226	ASP
63	7	114	VAL
63	7	129	VAL
63	7	138	VAL
63	7	157	GLU
59	B2	888	THR
59	B2	909	LYS
63	7	148	PRO
63	7	158	LYS
11	g	12	LEU
12	i	22	PRO
20	q	23	TYR
31	B	23	ALA
38	G	19	THR
49	R	5	GLY
65	BA	43	THR
65	BA	193	ASP
24	u	97	SER
38	G	17	HIS
46	O	58	ASN
53	V	50	ASN
54	W	13	THR
63	7	136	LEU
65	BA	1302	PHE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	I	45	PRO
12	i	20	SER
54	W	17	VAL
63	7	112	VAL
4	0	651	GLY
20	q	6	GLY
57	Z	10	PRO
12	i	23	VAL
59	B2	1317	PRO
63	7	126	VAL
31	B	24	VAL
47	P	88	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
4	0	553/578 (96%)	482 (87%)	71 (13%)	4	21
6	b	216/218 (99%)	212 (98%)	4 (2%)	50	68
7	c	164/164 (100%)	164 (100%)	0	100	100
8	d	165/165 (100%)	162 (98%)	3 (2%)	51	69
9	e	148/150 (99%)	142 (96%)	6 (4%)	27	53
10	f	137/138 (99%)	132 (96%)	5 (4%)	31	57
11	g	41/114 (36%)	38 (93%)	3 (7%)	13	38
12	i	109/110 (99%)	100 (92%)	9 (8%)	10	34
13	j	116/116 (100%)	116 (100%)	0	100	100
14	k	103/104 (99%)	103 (100%)	0	100	100
15	l	102/103 (99%)	101 (99%)	1 (1%)	68	75
16	m	109/109 (100%)	103 (94%)	6 (6%)	19	46
17	n	100/103 (97%)	99 (99%)	1 (1%)	68	75
18	o	86/87 (99%)	86 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	p	99/100 (99%)	98 (99%)	1 (1%)	68	75
20	q	89/90 (99%)	86 (97%)	3 (3%)	32	57
21	r	84/84 (100%)	82 (98%)	2 (2%)	43	64
22	s	93/93 (100%)	92 (99%)	1 (1%)	65	74
23	t	80/84 (95%)	80 (100%)	0	100	100
24	u	83/85 (98%)	79 (95%)	4 (5%)	23	49
25	v	78/78 (100%)	77 (99%)	1 (1%)	61	72
26	w	57/63 (90%)	57 (100%)	0	100	100
27	x	67/68 (98%)	67 (100%)	0	100	100
28	y	55/55 (100%)	55 (100%)	0	100	100
29	z	48/49 (98%)	46 (96%)	2 (4%)	26	52
30	A	58/62 (94%)	57 (98%)	1 (2%)	53	70
31	B	47/48 (98%)	47 (100%)	0	100	100
32	C	45/49 (92%)	44 (98%)	1 (2%)	45	65
33	D	38/38 (100%)	37 (97%)	1 (3%)	40	62
34	E	51/52 (98%)	49 (96%)	2 (4%)	28	54
35	F	34/34 (100%)	30 (88%)	4 (12%)	5	23
38	G	180/199 (90%)	174 (97%)	6 (3%)	33	58
39	H	170/190 (90%)	167 (98%)	3 (2%)	51	69
40	I	172/173 (99%)	168 (98%)	4 (2%)	44	64
41	J	119/126 (94%)	117 (98%)	2 (2%)	53	70
42	K	87/116 (75%)	82 (94%)	5 (6%)	18	45
43	L	124/147 (84%)	124 (100%)	0	100	100
44	M	104/105 (99%)	103 (99%)	1 (1%)	68	75
45	N	105/107 (98%)	95 (90%)	10 (10%)	8	31
46	O	86/90 (96%)	76 (88%)	10 (12%)	5	24
47	P	89/99 (90%)	86 (97%)	3 (3%)	32	57
48	Q	103/104 (99%)	98 (95%)	5 (5%)	22	48
49	R	92/96 (96%)	91 (99%)	1 (1%)	65	74
50	S	83/84 (99%)	83 (100%)	0	100	100
51	T	76/77 (99%)	73 (96%)	3 (4%)	28	54

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	U	65/65 (100%)	64 (98%)	1 (2%)	57	71
53	V	74/78 (95%)	72 (97%)	2 (3%)	39	62
54	W	56/65 (86%)	52 (93%)	4 (7%)	13	38
55	X	70/79 (89%)	70 (100%)	0	100	100
56	Y	65/66 (98%)	64 (98%)	1 (2%)	57	71
57	Z	55/61 (90%)	47 (86%)	8 (14%)	3	17
59	B2	1150/1157 (99%)	1118 (97%)	32 (3%)	38	61
62	a	185/283 (65%)	174 (94%)	11 (6%)	18	44
62	h	186/283 (66%)	185 (100%)	1 (0%)	81	80
64	AA	70/70 (100%)	69 (99%)	1 (1%)	59	71
65	BA	1110/1134 (98%)	1017 (92%)	93 (8%)	10	34
All	All	7931/8445 (94%)	7592 (96%)	339 (4%)	27	51

All (339) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	0	3	ARG
4	0	19	ILE
4	0	23	LYS
4	0	24	THR
4	0	28	GLU
4	0	93	VAL
4	0	96	THR
4	0	98	GLU
4	0	104	ARG
4	0	105	VAL
4	0	143	LYS
4	0	144	MET
4	0	147	MET
4	0	254	GLN
4	0	273	LYS
4	0	343	VAL
4	0	358	GLU
4	0	365	GLN
4	0	366	MET
4	0	369	ASN
4	0	370	LYS
4	0	371	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	0	372	GLU
4	0	377	VAL
4	0	378	ARG
4	0	425	LYS
4	0	429	GLU
4	0	430	LYS
4	0	431	MET
4	0	433	LEU
4	0	437	ARG
4	0	461	MET
4	0	464	LEU
4	0	471	ASP
4	0	472	ARG
4	0	473	MET
4	0	476	GLU
4	0	478	ASN
4	0	485	LYS
4	0	487	GLN
4	0	488	VAL
4	0	495	ARG
4	0	504	LYS
4	0	512	ARG
4	0	514	GLN
4	0	539	ASP
4	0	580	PHE
4	0	591	LEU
4	0	594	LYS
4	0	595	LEU
4	0	613	LEU
4	0	626	GLU
4	0	630	ASP
4	0	642	LEU
4	0	643	LYS
4	0	645	GLN
4	0	646	GLU
4	0	648	GLU
4	0	649	VAL
4	0	650	THR
4	0	654	ILE
4	0	668	THR
4	0	671	ARG
4	0	677	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	0	686	LYS
4	0	687	TYR
4	0	688	ASP
4	0	689	GLU
4	0	693	ASN
4	0	702	ARG
4	0	704	LYS
6	b	129	LEU
6	b	131	MET
6	b	132	ARG
6	b	203	VAL
8	d	14	VAL
8	d	118	LEU
8	d	198	GLU
9	e	39	VAL
9	e	77	LYS
9	e	78	ILE
9	e	79	ARG
9	e	174	PHE
9	e	177	ARG
10	f	9	VAL
10	f	131	VAL
10	f	172	GLU
10	f	174	LYS
10	f	176	LYS
11	g	4	ILE
11	g	5	LEU
11	g	9	VAL
12	i	18	ASN
12	i	20	SER
12	i	22	PRO
12	i	23	VAL
12	i	27	LEU
12	i	29	GLN
12	i	34	ILE
12	i	35	MET
12	i	36	GLU
15	l	85	VAL
16	m	44	ARG
16	m	47	GLU
16	m	50	ARG
16	m	55	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
16	m	58	LYS
16	m	59	ARG
17	n	13	ASN
19	p	52	ARG
20	q	4	LYS
20	q	5	ARG
20	q	28	SER
21	r	53	PHE
21	r	54	VAL
22	s	3	THR
24	u	35	VAL
24	u	93	ARG
24	u	100	GLU
24	u	101	THR
25	v	72	VAL
29	z	16	LEU
29	z	40	THR
30	A	21	VAL
32	C	22	THR
33	D	44	VAL
34	E	28	LEU
34	E	31	ILE
35	F	34	LYS
35	F	35	GLN
35	F	36	ARG
35	F	37	GLN
38	G	8	MET
38	G	10	LYS
38	G	13	VAL
38	G	14	HIS
38	G	17	HIS
38	G	29	PHE
39	H	74	ILE
39	H	156	LEU
39	H	164	THR
40	I	44	LYS
40	I	46	ARG
40	I	96	ARG
40	I	97	LEU
41	J	55	VAL
41	J	130	THR
42	K	89	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
42	K	90	MET
42	K	91	ARG
42	K	92	THR
42	K	94	HIS
44	M	102	VAL
45	N	40	ARG
45	N	44	ARG
45	N	45	MET
45	N	52	GLU
45	N	53	LEU
45	N	54	VAL
45	N	57	VAL
45	N	59	LYS
45	N	60	LEU
45	N	65	THR
46	O	16	ARG
46	O	80	THR
46	O	81	GLU
46	O	82	LYS
46	O	83	THR
46	O	87	LEU
46	O	88	MET
46	O	89	ARG
46	O	91	ASP
46	O	92	LEU
47	P	120	CYS
47	P	121	ARG
47	P	124	LYS
48	Q	15	VAL
48	Q	17	LYS
48	Q	20	VAL
48	Q	29	LYS
48	Q	34	THR
49	R	64	VAL
51	T	82	GLU
51	T	86	LEU
51	T	88	ARG
52	U	36	VAL
53	V	47	ASP
53	V	52	CYS
54	W	15	GLU
54	W	17	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
54	W	18	GLN
54	W	70	THR
56	Y	85	LEU
57	Z	3	ILE
57	Z	4	LYS
57	Z	5	VAL
57	Z	12	ASP
57	Z	15	LEU
57	Z	19	LYS
57	Z	20	ARG
57	Z	27	VAL
59	B2	44	GLU
59	B2	49	LEU
59	B2	56	VAL
59	B2	146	VAL
59	B2	483	ASP
59	B2	487	LEU
59	B2	516	ASP
59	B2	538	LEU
59	B2	540	ARG
59	B2	545	PHE
59	B2	546	GLU
59	B2	615	VAL
59	B2	857	VAL
59	B2	859	GLU
59	B2	887	VAL
59	B2	890	LYS
59	B2	892	GLU
59	B2	894	GLN
59	B2	900	LYS
59	B2	901	LEU
59	B2	902	LEU
59	B2	903	ARG
59	B2	905	ILE
59	B2	906	PHE
59	B2	909	LYS
59	B2	913	VAL
59	B2	915	ASP
59	B2	918	LEU
59	B2	920	VAL
59	B2	922	ASN
59	B2	1076	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
59	B2	1151	LEU
62	a	9	LEU
62	a	12	ARG
62	a	13	LEU
62	a	18	GLN
62	a	19	VAL
62	a	22	THR
62	a	27	THR
62	a	28	LEU
62	a	33	ARG
62	a	46	ILE
62	a	48	LEU
62	h	29	GLU
64	AA	63	ILE
65	BA	24	LEU
65	BA	40	LYS
65	BA	42	GLU
65	BA	44	ILE
65	BA	47	ARG
65	BA	49	PHE
65	BA	50	LYS
65	BA	60	ARG
65	BA	66	LYS
65	BA	69	GLU
65	BA	71	LEU
65	BA	74	LYS
65	BA	76	LYS
65	BA	78	LEU
65	BA	80	HIS
65	BA	81	ARG
65	BA	87	LYS
65	BA	91	GLU
65	BA	93	THR
65	BA	94	GLN
65	BA	95	THR
65	BA	96	LYS
65	BA	99	ARG
65	BA	100	GLU
65	BA	114	ILE
65	BA	117	LEU
65	BA	120	LEU
65	BA	126	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
65	BA	132	LEU
65	BA	135	ILE
65	BA	142	GLU
65	BA	144	TYR
65	BA	145	VAL
65	BA	146	VAL
65	BA	147	ILE
65	BA	152	THR
65	BA	154	LEU
65	BA	157	GLN
65	BA	159	ILE
65	BA	172	PHE
65	BA	174	ASP
65	BA	175	GLU
65	BA	180	MET
65	BA	190	LYS
65	BA	193	ASP
65	BA	196	GLN
65	BA	210	SER
65	BA	212	THR
65	BA	216	LYS
65	BA	222	LYS
65	BA	223	LEU
65	BA	227	PHE
65	BA	233	LYS
65	BA	237	MET
65	BA	238	ILE
65	BA	239	LEU
65	BA	240	THR
65	BA	244	VAL
65	BA	255	LEU
65	BA	256	ASP
65	BA	259	ARG
65	BA	281	ARG
65	BA	282	LEU
65	BA	285	LEU
65	BA	290	ILE
65	BA	317	THR
65	BA	322	ARG
65	BA	324	LEU
65	BA	363	LEU
65	BA	385	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
65	BA	386	GLU
65	BA	387	LEU
65	BA	390	LEU
65	BA	393	THR
65	BA	394	ILE
65	BA	395	LYS
65	BA	416	ILE
65	BA	417	ARG
65	BA	425	ARG
65	BA	506	VAL
65	BA	514	THR
65	BA	800	LEU
65	BA	807	LEU
65	BA	839	VAL
65	BA	901	ARG
65	BA	903	LEU
65	BA	1149	LYS
65	BA	1158	ASP
65	BA	1210	ILE
65	BA	1304	GLU
65	BA	1305	THR
65	BA	1308	VAL
65	BA	1309	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (139) such sidechains are listed below:

Mol	Chain	Res	Type
4	0	198	GLN
4	0	344	ASN
4	0	367	HIS
4	0	465	HIS
4	0	496	GLN
4	0	514	GLN
4	0	579	HIS
6	b	24	HIS
6	b	69	ASN
6	b	89	ASN
6	b	142	ASN
6	b	259	ASN
7	c	49	GLN
7	c	134	HIS
7	c	150	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	c	164	GLN
7	c	173	GLN
8	d	41	GLN
8	d	94	GLN
8	d	165	HIS
9	e	4	HIS
10	f	47	ASN
10	f	87	GLN
11	g	2	GLN
12	i	30	GLN
13	j	58	ASN
13	j	135	GLN
14	k	3	GLN
14	k	5	GLN
15	l	4	ASN
15	l	99	ASN
15	l	104	GLN
16	m	13	HIS
17	n	13	ASN
19	p	2	ASN
19	p	114	ASN
20	q	55	GLN
20	q	58	GLN
21	r	82	HIS
22	s	7	HIS
23	t	28	ASN
23	t	59	ASN
23	t	92	ASN
24	u	52	ASN
24	u	68	ASN
25	v	75	GLN
25	v	87	GLN
26	w	53	HIS
27	x	16	ASN
27	x	33	HIS
28	y	31	GLN
29	z	8	GLN
30	A	20	ASN
30	A	33	ASN
30	A	61	ASN
31	B	4	GLN
32	C	25	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	C	44	GLN
33	D	16	HIS
35	F	35	GLN
35	F	37	GLN
38	G	14	HIS
38	G	108	GLN
38	G	119	GLN
38	G	121	GLN
38	G	167	HIS
39	H	7	ASN
39	H	68	HIS
39	H	99	GLN
39	H	138	GLN
39	H	139	ASN
40	I	151	GLN
40	I	197	HIS
41	J	88	HIS
41	J	121	ASN
43	L	85	GLN
43	L	96	ASN
43	L	121	ASN
43	L	147	ASN
44	M	3	GLN
44	M	37	ASN
44	M	66	GLN
45	N	4	GLN
45	N	30	ASN
46	O	20	GLN
46	O	35	GLN
46	O	58	ASN
47	P	80	ASN
48	Q	4	ASN
48	Q	71	HIS
49	R	7	ASN
49	R	99	GLN
50	S	59	GLN
51	T	19	ASN
51	T	39	GLN
53	V	30	HIS
55	X	56	HIS
55	X	68	HIS
56	Y	2	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
56	Y	77	ASN
56	Y	83	ASN
57	Z	8	ASN
59	B2	69	GLN
59	B2	314	ASN
59	B2	330	HIS
59	B2	343	HIS
59	B2	518	ASN
59	B2	554	HIS
59	B2	688	GLN
59	B2	762	ASN
59	B2	808	ASN
59	B2	1008	GLN
59	B2	1013	GLN
59	B2	1237	HIS
59	B2	1268	GLN
59	B2	1313	HIS
62	a	37	HIS
62	a	66	HIS
62	a	84	ASN
62	a	117	HIS
62	a	128	HIS
62	a	217	GLN
62	h	221	GLN
64	AA	7	GLN
64	AA	31	GLN
64	AA	62	GLN
65	BA	45	ASN
65	BA	196	GLN
65	BA	364	HIS
65	BA	424	ASN
65	BA	450	HIS
65	BA	469	HIS
65	BA	771	GLN
65	BA	805	GLN
65	BA	817	HIS
65	BA	865	HIS
65	BA	1172	GLN
65	BA	1215	GLN
65	BA	1236	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2902/2904 (99%)	398 (13%)	15 (0%)
2	2	119/120 (99%)	17 (14%)	1 (0%)
3	3	1538/1542 (99%)	253 (16%)	4 (0%)
37	5	75/76 (98%)	39 (52%)	6 (8%)
5	6	76/77 (98%)	27 (35%)	2 (2%)
58	4	37/56 (66%)	21 (56%)	2 (5%)
All	All	4747/4775 (99%)	755 (15%)	30 (0%)

All (755) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	10	A
1	1	12	U
1	1	34	U
1	1	35	G
1	1	46	G
1	1	51	G
1	1	55	G
1	1	63	A
1	1	71	A
1	1	74	A
1	1	75	G
1	1	102	U
1	1	103	A
1	1	119	A
1	1	120	U
1	1	139	U
1	1	140	C
1	1	141	G
1	1	149	A
1	1	162	U
1	1	163	C
1	1	178	G
1	1	196	A
1	1	199	A
1	1	216	A
1	1	221	A
1	1	222	A
1	1	229	C
1	1	248	G
1	1	255	A
1	1	265	A
1	1	266	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	276	U
1	1	281	C
1	1	285	G
1	1	294	A
1	1	323	C
1	1	329	G
1	1	330	A
1	1	353	C
1	1	361	G
1	1	362	A
1	1	371	A
1	1	372	G
1	1	386	G
1	1	387	U
1	1	396	G
1	1	404	A
1	1	406	G
1	1	411	G
1	1	424	G
1	1	451	U
1	1	457	A
1	1	481	G
1	1	482	A
1	1	491	G
1	1	504	A
1	1	505	A
1	1	526	A
1	1	529	A
1	1	531	C
1	1	532	A
1	1	533	G
1	1	544	C
1	1	545	U
1	1	546	U
1	1	547	A
1	1	562	U
1	1	563	A
1	1	573	U
1	1	574	A
1	1	575	A
1	1	603	A
1	1	614	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	616	A
1	1	627	A
1	1	637	A
1	1	646	U
1	1	647	G
1	1	654	A
1	1	669	G
1	1	671	C
1	1	677	A
1	1	686	U
1	1	687	C
1	1	695	G
1	1	730	A
1	1	745	G
1	1	747	U
1	1	758	C
1	1	764	A
1	1	765	C
1	1	775	G
1	1	782	A
1	1	784	G
1	1	785	G
1	1	789	A
1	1	791	C
1	1	792	A
1	1	801	G
1	1	805	G
1	1	812	C
1	1	819	A
1	1	827	U
1	1	828	U
1	1	829	A
1	1	830	G
1	1	845	A
1	1	846	U
1	1	858	G
1	1	860	U
1	1	878	A
1	1	887	U
1	1	896	A
1	1	910	A
1	1	911	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	932	U
1	1	941	A
1	1	946	C
1	1	961	C
1	1	968	C
1	1	974	G
1	1	981	A
1	1	983	A
1	1	985	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	1031	G
1	1	1033	U
1	1	1045	C
1	1	1046	A
1	1	1047	G
1	1	1057	A
1	1	1058	U
1	1	1060	U
1	1	1061	U
1	1	1063	G
1	1	1065	U
1	1	1066	U
1	1	1068	G
1	1	1069	A
1	1	1070	A
1	1	1071	G
1	1	1073	A
1	1	1075	C
1	1	1078	U
1	1	1083	U
1	1	1084	A
1	1	1086	A
1	1	1088	A
1	1	1104	C
1	1	1111	A
1	1	1131	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1132	U
1	1	1133	A
1	1	1135	C
1	1	1139	G
1	1	1142	A
1	1	1143	A
1	1	1157	G
1	1	1175	A
1	1	1177	G
1	1	1178	C
1	1	1180	U
1	1	1186	G
1	1	1212	G
1	1	1225	G
1	1	1253	A
1	1	1256	G
1	1	1271	G
1	1	1272	A
1	1	1273	U
1	1	1289	C
1	1	1294	U
1	1	1300	G
1	1	1301	A
1	1	1345	C
1	1	1352	U
1	1	1365	A
1	1	1378	A
1	1	1379	U
1	1	1383	A
1	1	1406	U
1	1	1416	G
1	1	1419	A
1	1	1420	A
1	1	1427	A
1	1	1429	G
1	1	1452	G
1	1	1453	A
1	1	1461	C
1	1	1482	G
1	1	1490	A
1	1	1491	G
1	1	1497	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1504	A
1	1	1515	A
1	1	1524	G
1	1	1533	C
1	1	1535	A
1	1	1536	C
1	1	1537	G
1	1	1555	G
1	1	1560	G
1	1	1565	C
1	1	1569	A
1	1	1578	U
1	1	1583	A
1	1	1608	A
1	1	1616	A
1	1	1634	A
1	1	1647	U
1	1	1648	U
1	1	1674	G
1	1	1698	A
1	1	1699	G
1	1	1703	G
1	1	1715	G
1	1	1716	U
1	1	1729	U
1	1	1730	C
1	1	1732	C
1	1	1738	G
1	1	1758	U
1	1	1764	C
1	1	1773	A
1	1	1783	A
1	1	1784	A
1	1	1786	A
1	1	1800	C
1	1	1801	A
1	1	1802	A
1	1	1808	A
1	1	1809	A
1	1	1816	C
1	1	1829	A
1	1	1833	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	1834	U
1	1	1870	C
1	1	1871	A
1	1	1901	A
1	1	1906	G
1	1	1913	A
1	1	1914	C
1	1	1929	G
1	1	1931	U
1	1	1936	A
1	1	1937	A
1	1	1938	A
1	1	1939	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	1990	C
1	1	1993	U
1	1	1997	C
1	1	2020	A
1	1	2022	U
1	1	2023	C
1	1	2024	G
1	1	2027	G
1	1	2030	A
1	1	2031	A
1	1	2033	A
1	1	2034	U
1	1	2043	C
1	1	2052	A
1	1	2055	C
1	1	2056	G
1	1	2060	A
1	1	2061	G
1	1	2069	G
1	1	2093	G
1	1	2096	C
1	1	2100	G
1	1	2110	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2111	U
1	1	2118	U
1	1	2119	A
1	1	2123	G
1	1	2128	G
1	1	2131	U
1	1	2132	U
1	1	2133	G
1	1	2134	A
1	1	2137	U
1	1	2141	G
1	1	2145	C
1	1	2149	U
1	1	2162	G
1	1	2164	C
1	1	2166	U
1	1	2172	U
1	1	2173	A
1	1	2174	C
1	1	2189	U
1	1	2192	U
1	1	2198	A
1	1	2204	G
1	1	2211	A
1	1	2213	U
1	1	2225	A
1	1	2238	G
1	1	2239	G
1	1	2243	U
1	1	2268	A
1	1	2275	C
1	1	2279	G
1	1	2283	C
1	1	2287	A
1	1	2288	A
1	1	2305	U
1	1	2309	A
1	1	2325	G
1	1	2326	C
1	1	2327	A
1	1	2333	A
1	1	2334	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2345	G
1	1	2350	C
1	1	2382	G
1	1	2383	G
1	1	2385	C
1	1	2392	A
1	1	2402	U
1	1	2406	A
1	1	2407	A
1	1	2423	U
1	1	2426	A
1	1	2427	C
1	1	2429	G
1	1	2430	A
1	1	2435	A
1	1	2436	G
1	1	2440	C
1	1	2441	U
1	1	2445	G
1	1	2447	G
1	1	2448	A
1	1	2476	A
1	1	2482	A
1	1	2491	U
1	1	2492	U
1	1	2498	C
1	1	2502	G
1	1	2505	G
1	1	2506	U
1	1	2507	C
1	1	2518	A
1	1	2547	A
1	1	2554	U
1	1	2566	A
1	1	2567	G
1	1	2572	A
1	1	2573	C
1	1	2582	G
1	1	2602	A
1	1	2609	U
1	1	2613	U
1	1	2629	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	1	2630	G
1	1	2642	G
1	1	2646	C
1	1	2689	U
1	1	2690	U
1	1	2714	G
1	1	2726	A
1	1	2732	G
1	1	2744	G
1	1	2748	A
1	1	2751	G
1	1	2758	A
1	1	2764	A
1	1	2765	A
1	1	2778	A
1	1	2779	U
1	1	2793	C
1	1	2798	U
1	1	2799	A
1	1	2800	A
1	1	2801	G
1	1	2820	A
1	1	2861	U
1	1	2867	G
1	1	2868	A
1	1	2872	A
1	1	2879	A
1	1	2880	C
1	1	2884	U
1	1	2901	C
2	2	9	G
2	2	13	G
2	2	25	U
2	2	30	C
2	2	35	C
2	2	36	C
2	2	44	G
2	2	45	A
2	2	53	A
2	2	67	G
2	2	87	U
2	2	88	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	2	89	U
2	2	90	C
2	2	108	A
2	2	109	A
2	2	120	U
3	3	4	U
3	3	5	U
3	3	6	G
3	3	7	A
3	3	9	G
3	3	22	G
3	3	32	A
3	3	39	G
3	3	47	C
3	3	48	C
3	3	51	A
3	3	71	A
3	3	75	G
3	3	77	A
3	3	78	A
3	3	80	A
3	3	83	C
3	3	84	U
3	3	87	C
3	3	88	U
3	3	94	G
3	3	95	C
3	3	100	G
3	3	108	G
3	3	116	A
3	3	121	U
3	3	127	G
3	3	130	A
3	3	144	G
3	3	163	C
3	3	183	C
3	3	197	A
3	3	206	C
3	3	208	U
3	3	210	C
3	3	211	G
3	3	212	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	3	222	C
3	3	226	G
3	3	240	G
3	3	245	U
3	3	247	G
3	3	251	G
3	3	263	A
3	3	264	C
3	3	266	G
3	3	267	C
3	3	279	A
3	3	280	C
3	3	281	G
3	3	289	G
3	3	293	G
3	3	321	A
3	3	328	C
3	3	329	A
3	3	330	C
3	3	345	C
3	3	347	G
3	3	348	G
3	3	352	C
3	3	353	A
3	3	354	G
3	3	363	A
3	3	367	U
3	3	372	C
3	3	374	A
3	3	388	G
3	3	397	A
3	3	398	U
3	3	405	U
3	3	406	G
3	3	412	A
3	3	413	G
3	3	422	C
3	3	423	G
3	3	428	G
3	3	429	U
3	3	446	G
3	3	453	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	3	467	U
3	3	468	A
3	3	472	U
3	3	479	U
3	3	480	U
3	3	481	G
3	3	484	G
3	3	485	U
3	3	486	U
3	3	487	A
3	3	496	A
3	3	497	G
3	3	505	G
3	3	508	U
3	3	509	A
3	3	511	C
3	3	518	C
3	3	521	G
3	3	522	C
3	3	531	U
3	3	532	A
3	3	533	A
3	3	536	C
3	3	547	A
3	3	561	U
3	3	562	U
3	3	564	C
3	3	566	G
3	3	572	A
3	3	573	A
3	3	575	G
3	3	576	C
3	3	577	G
3	3	607	A
3	3	615	G
3	3	633	G
3	3	639	G
3	3	642	A
3	3	653	U
3	3	655	A
3	3	660	C
3	3	665	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	3	682	G
3	3	688	G
3	3	702	A
3	3	703	G
3	3	718	A
3	3	721	G
3	3	723	U
3	3	724	G
3	3	731	G
3	3	734	G
3	3	755	G
3	3	777	A
3	3	793	U
3	3	799	G
3	3	809	G
3	3	815	A
3	3	817	C
3	3	818	G
3	3	819	A
3	3	820	U
3	3	821	G
3	3	829	G
3	3	836	G
3	3	843	U
3	3	844	G
3	3	845	A
3	3	846	G
3	3	849	G
3	3	851	G
3	3	868	C
3	3	902	G
3	3	914	A
3	3	934	C
3	3	935	A
3	3	960	U
3	3	961	U
3	3	966	G
3	3	969	A
3	3	971	G
3	3	975	A
3	3	976	G
3	3	977	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	3	991	U
3	3	992	U
3	3	993	G
3	3	1004	A
3	3	1020	G
3	3	1028	C
3	3	1031	C
3	3	1032	G
3	3	1033	G
3	3	1034	G
3	3	1036	A
3	3	1053	G
3	3	1054	C
3	3	1055	A
3	3	1085	U
3	3	1094	G
3	3	1095	U
3	3	1099	G
3	3	1101	A
3	3	1108	G
3	3	1133	G
3	3	1136	C
3	3	1137	C
3	3	1139	G
3	3	1158	C
3	3	1159	U
3	3	1168	U
3	3	1171	A
3	3	1182	G
3	3	1183	U
3	3	1184	G
3	3	1195	C
3	3	1196	A
3	3	1197	A
3	3	1202	U
3	3	1206	G
3	3	1224	U
3	3	1225	A
3	3	1226	C
3	3	1227	A
3	3	1237	C
3	3	1238	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	3	1240	U
3	3	1241	G
3	3	1250	A
3	3	1256	A
3	3	1260	G
3	3	1261	A
3	3	1275	A
3	3	1278	G
3	3	1280	A
3	3	1281	C
3	3	1282	C
3	3	1286	U
3	3	1287	A
3	3	1290	G
3	3	1300	G
3	3	1302	C
3	3	1305	G
3	3	1312	G
3	3	1317	C
3	3	1322	C
3	3	1331	G
3	3	1335	U
3	3	1336	C
3	3	1340	A
3	3	1363	A
3	3	1370	G
3	3	1379	G
3	3	1394	A
3	3	1400	C
3	3	1404	C
3	3	1419	G
3	3	1429	A
3	3	1446	A
3	3	1448	C
3	3	1452	C
3	3	1453	G
3	3	1487	G
3	3	1492	A
3	3	1497	G
3	3	1499	A
3	3	1503	A
3	3	1506	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	3	1507	A
3	3	1517	G
3	3	1518	A
3	3	1519	A
3	3	1529	G
3	3	1530	G
5	6	2	G
5	6	7	G
5	6	8	U
5	6	9	G
5	6	19	G
5	6	20	U
5	6	21	A
5	6	22	G
5	6	30	G
5	6	33	U
5	6	34	C
5	6	35	A
5	6	36	U
5	6	42	G
5	6	45	G
5	6	54	U
5	6	55	U
5	6	56	C
5	6	57	A
5	6	64	G
5	6	67	C
5	6	68	C
5	6	70	G
5	6	73	A
5	6	74	C
5	6	75	C
5	6	76	A
37	5	2	C
37	5	7	A
37	5	8	U
37	5	9	A
37	5	11	C
37	5	13	C
37	5	15	G
37	5	17	C
37	5	18	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	5	19	G
37	5	20	U
37	5	21	A
37	5	26	A
37	5	28	G
37	5	29	G
37	5	30	G
37	5	32	U
37	5	33	U
37	5	34	G
37	5	36	A
37	5	37	A
37	5	39	U
37	5	40	C
37	5	43	C
37	5	44	G
37	5	46	G
37	5	47	U
37	5	48	C
37	5	49	C
37	5	52	G
37	5	57	G
37	5	58	A
37	5	59	U
37	5	60	U
37	5	61	C
37	5	66	U
37	5	73	A
37	5	74	C
37	5	75	C
58	4	2	U
58	4	3	G
58	4	6	U
58	4	7	U
58	4	9	U
58	4	10	U
58	4	11	U
58	4	12	U
58	4	14	U
58	4	15	U
58	4	18	U
58	4	19	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
58	4	20	U
58	4	21	U
58	4	22	U
58	4	24	U
58	4	25	U
58	4	26	U
58	4	45	U
58	4	46	U
58	4	47	U

All (30) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	481	G
1	1	490	C
1	1	685	A
1	1	764	A
1	1	784	G
1	1	827	U
1	1	859	G
1	1	1020	A
1	1	1130	U
1	1	1715	G
1	1	1783	A
1	1	1801	A
1	1	1930	G
1	1	2275	C
1	1	2326	C
2	2	88	C
3	3	4	U
3	3	1035	A
3	3	1139	G
3	3	1224	U
5	6	33	U
5	6	56	C
37	5	7	A
37	5	32	U
37	5	39	U
37	5	48	C
37	5	57	G
37	5	60	U
58	4	14	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
58	4	19	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1 ligands modelled in this entry, 1 is 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.

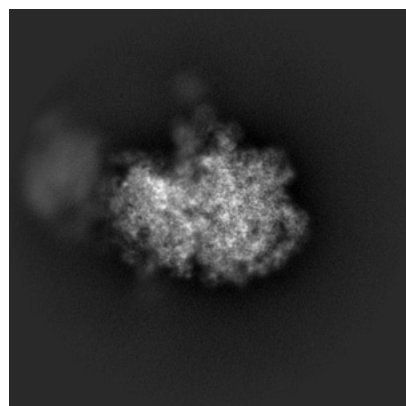
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-65509. These allow visual inspection of the internal detail of the map and identification of artifacts.

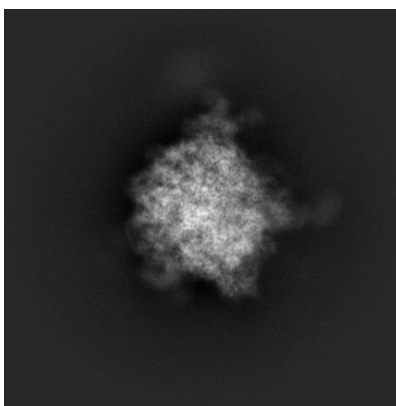
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

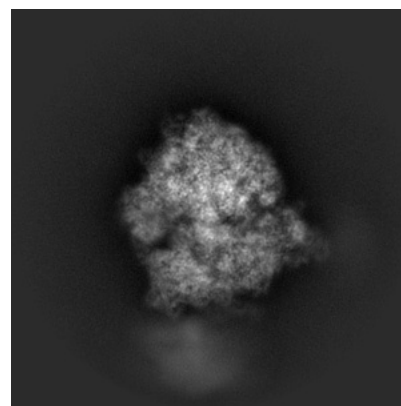
6.1.1 Primary map



X

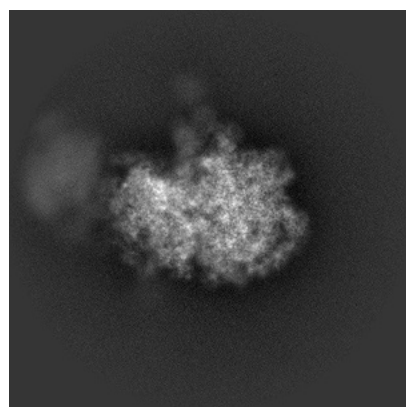


Y

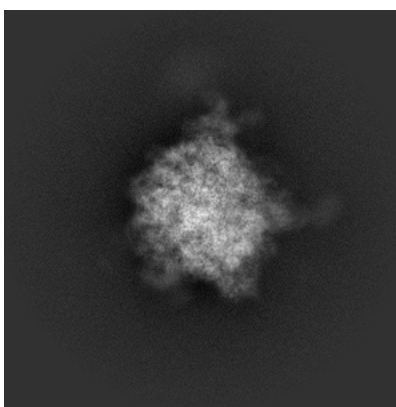


Z

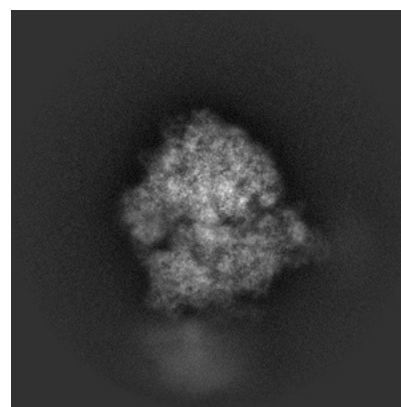
6.1.2 Raw map



X



Y

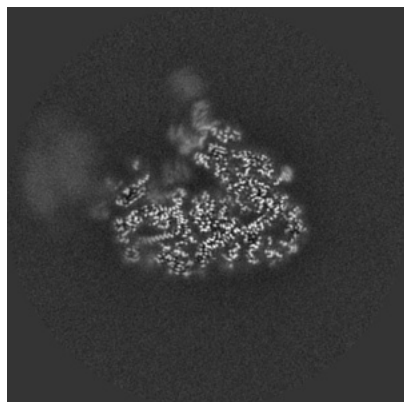


Z

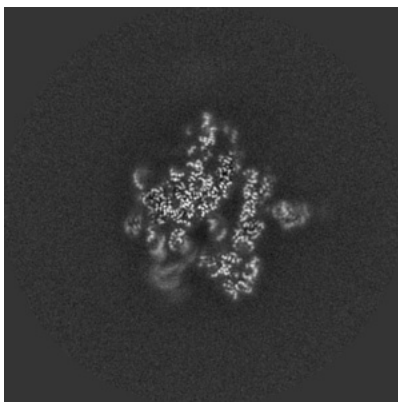
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

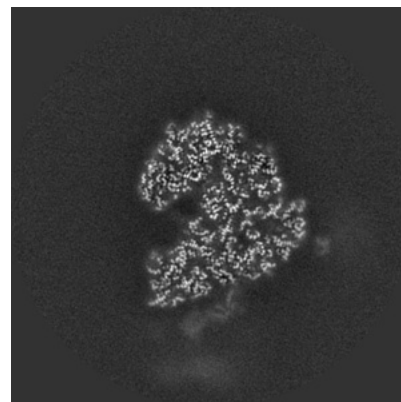
6.2.1 Primary map



X Index: 305

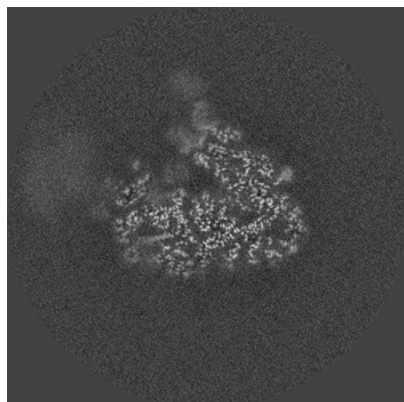


Y Index: 305

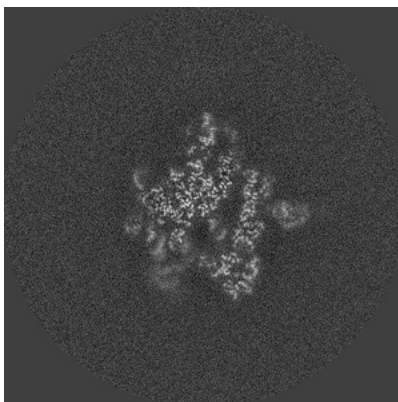


Z Index: 305

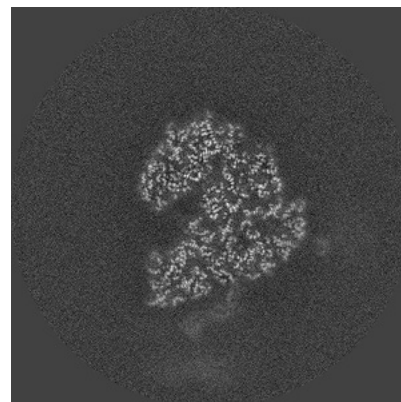
6.2.2 Raw map



X Index: 305



Y Index: 305

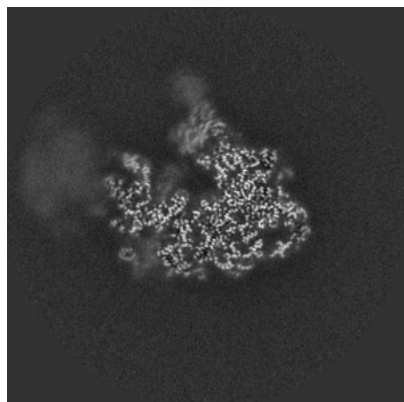


Z Index: 305

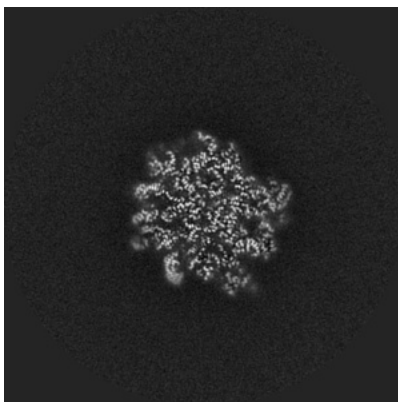
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

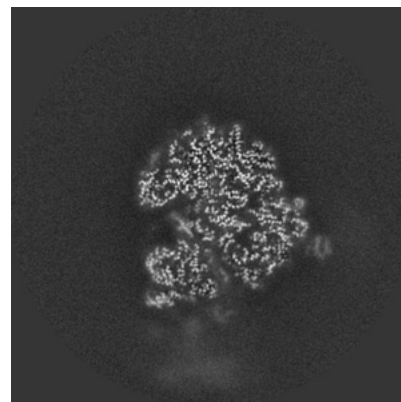
6.3.1 Primary map



X Index: 297

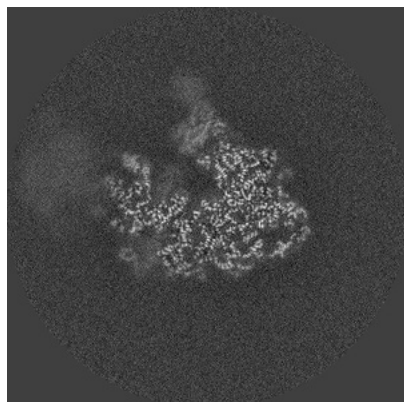


Y Index: 335

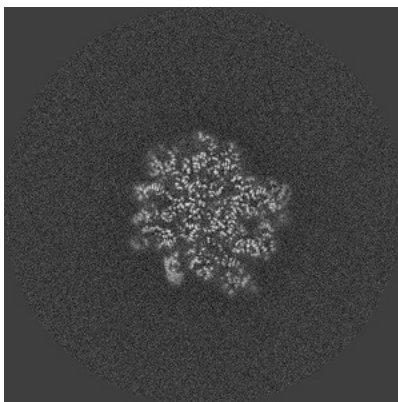


Z Index: 313

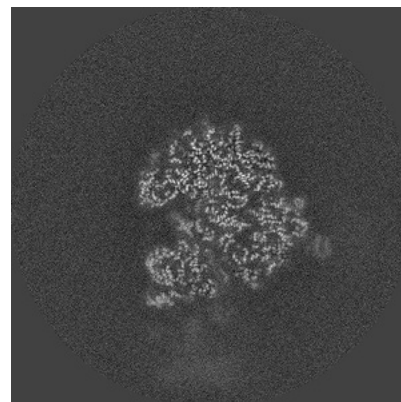
6.3.2 Raw map



X Index: 297



Y Index: 334



Z Index: 313

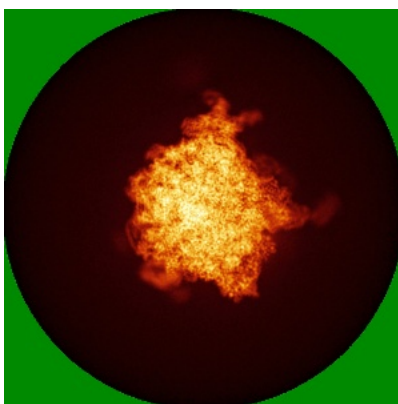
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



X

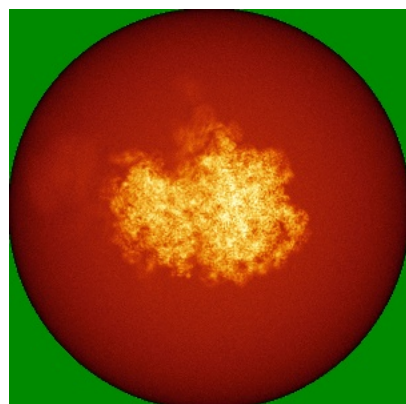


Y

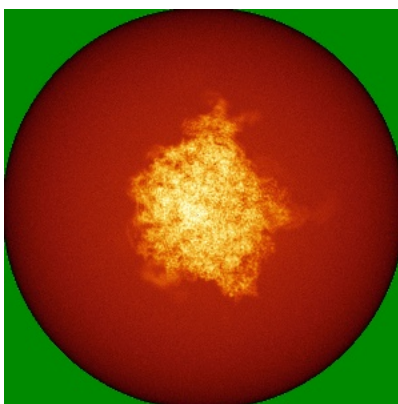


Z

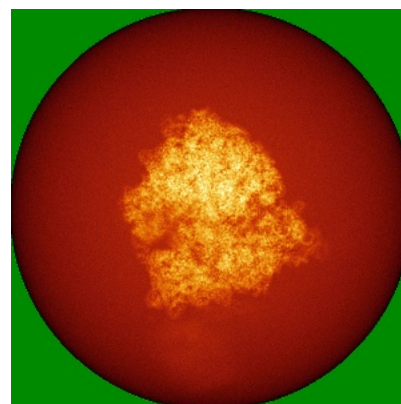
6.4.2 Raw map



X



Y

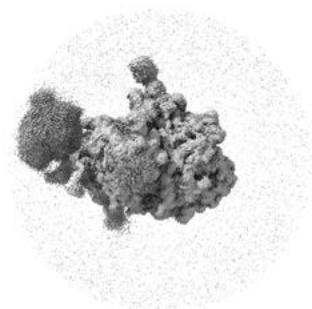


Z

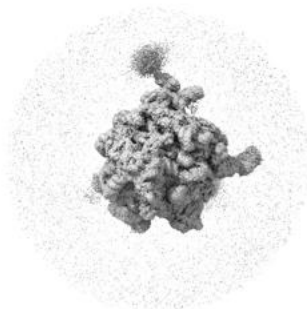
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



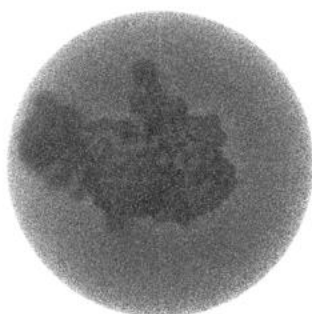
Y



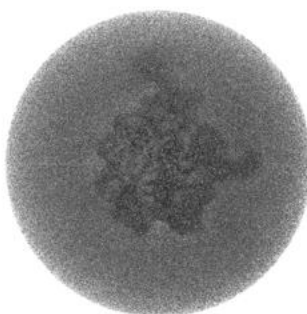
Z

The images above show the 3D surface view of the map at the recommended contour level 0.002. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

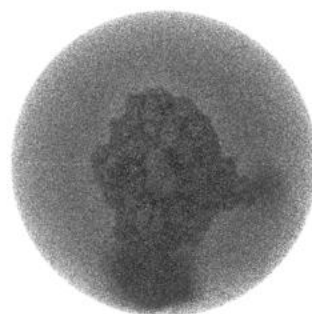
6.5.2 Raw map



X



Y



Z

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.

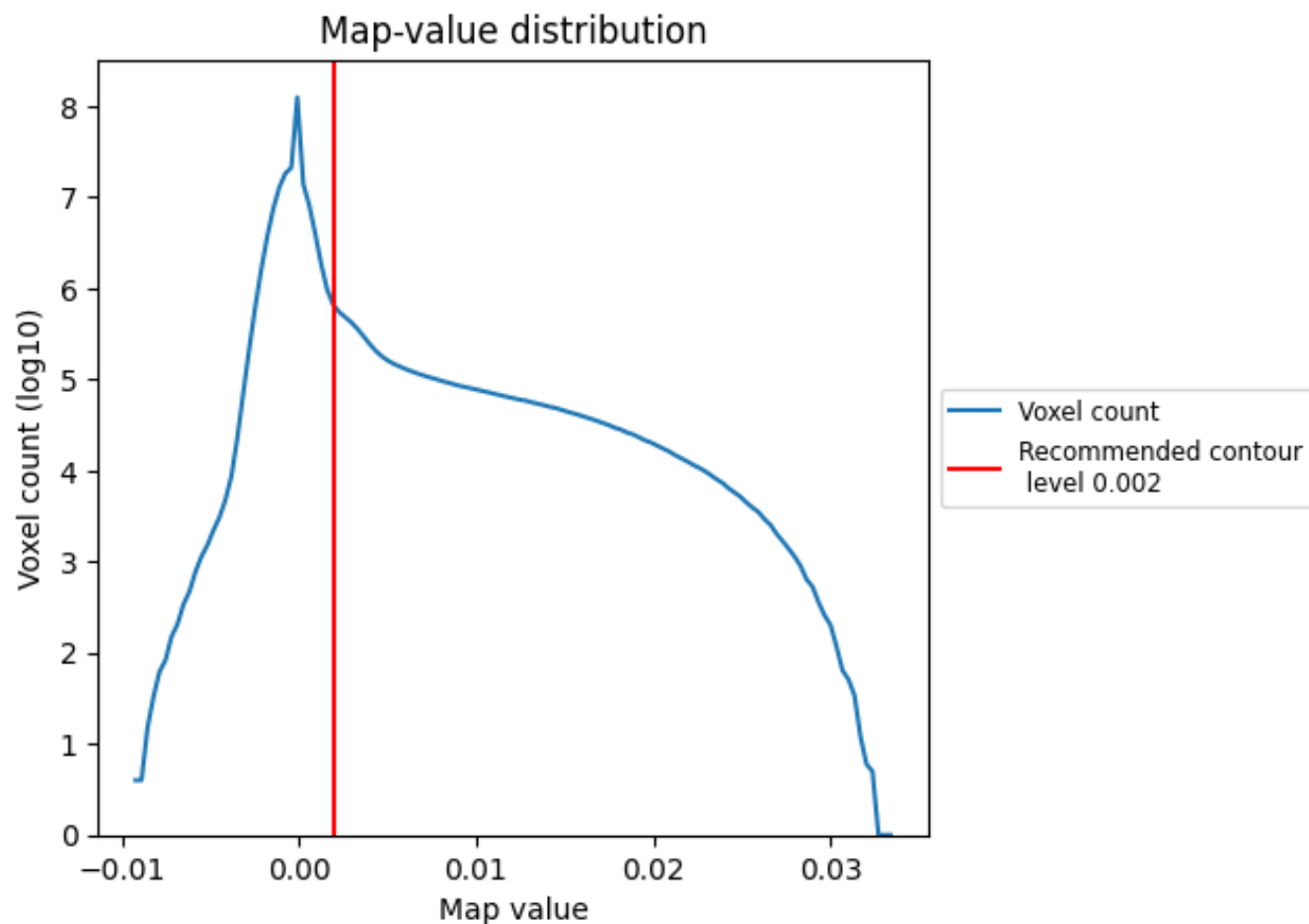
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

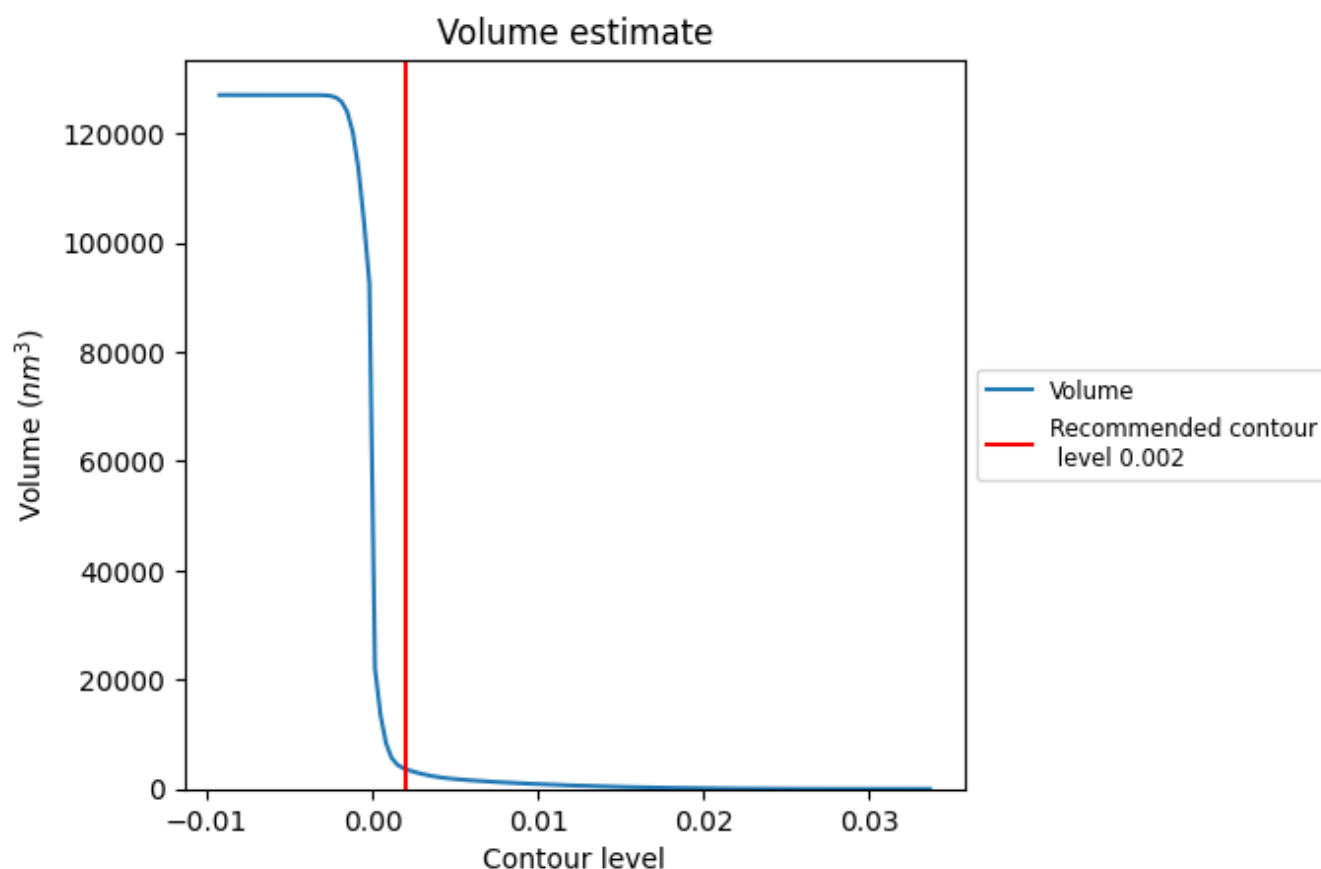
This section contains the results of statistical analysis of the map.

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.

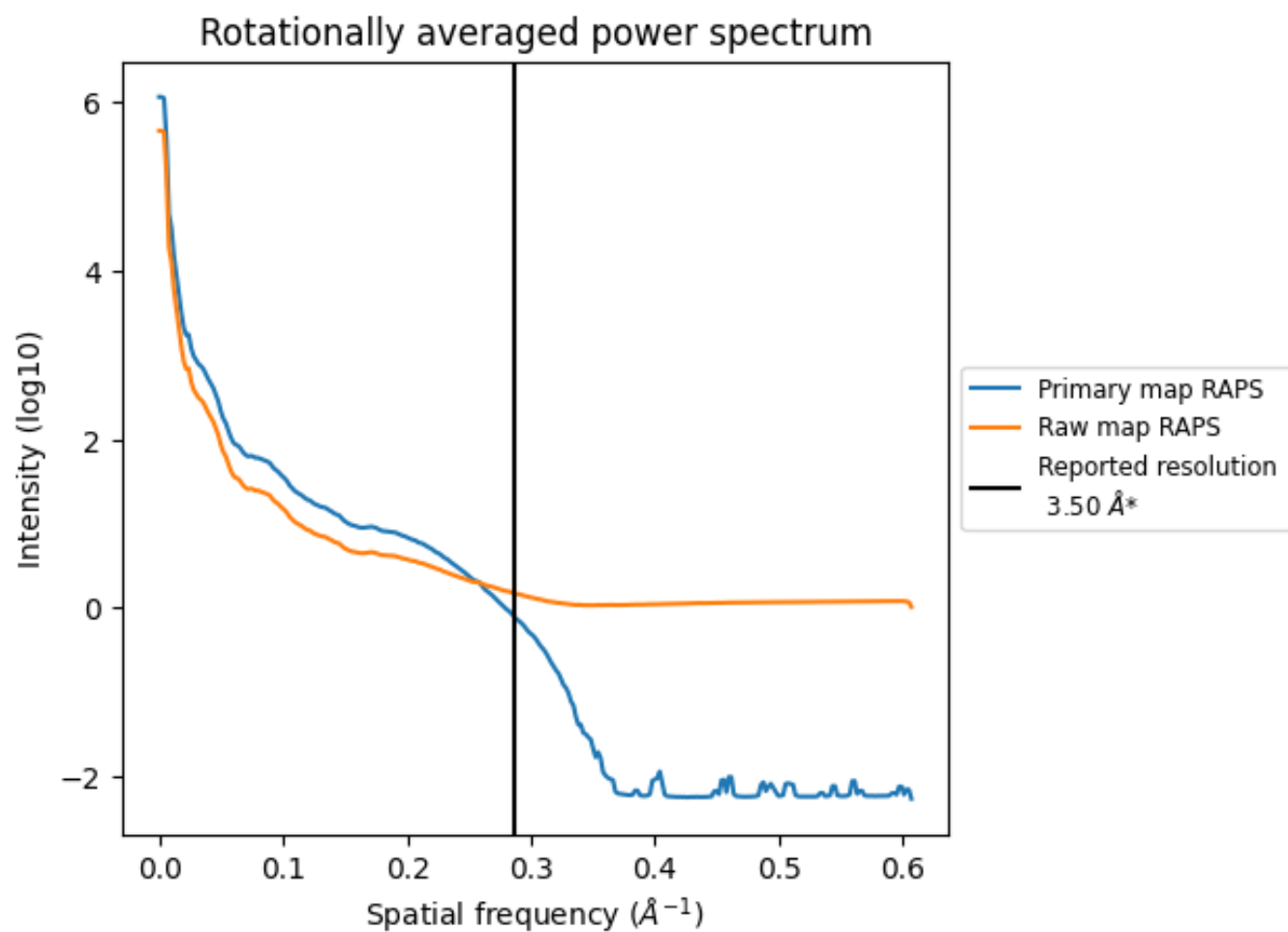
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3664 nm^3 ; this corresponds to an approximate mass of 3309 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 ⓘ

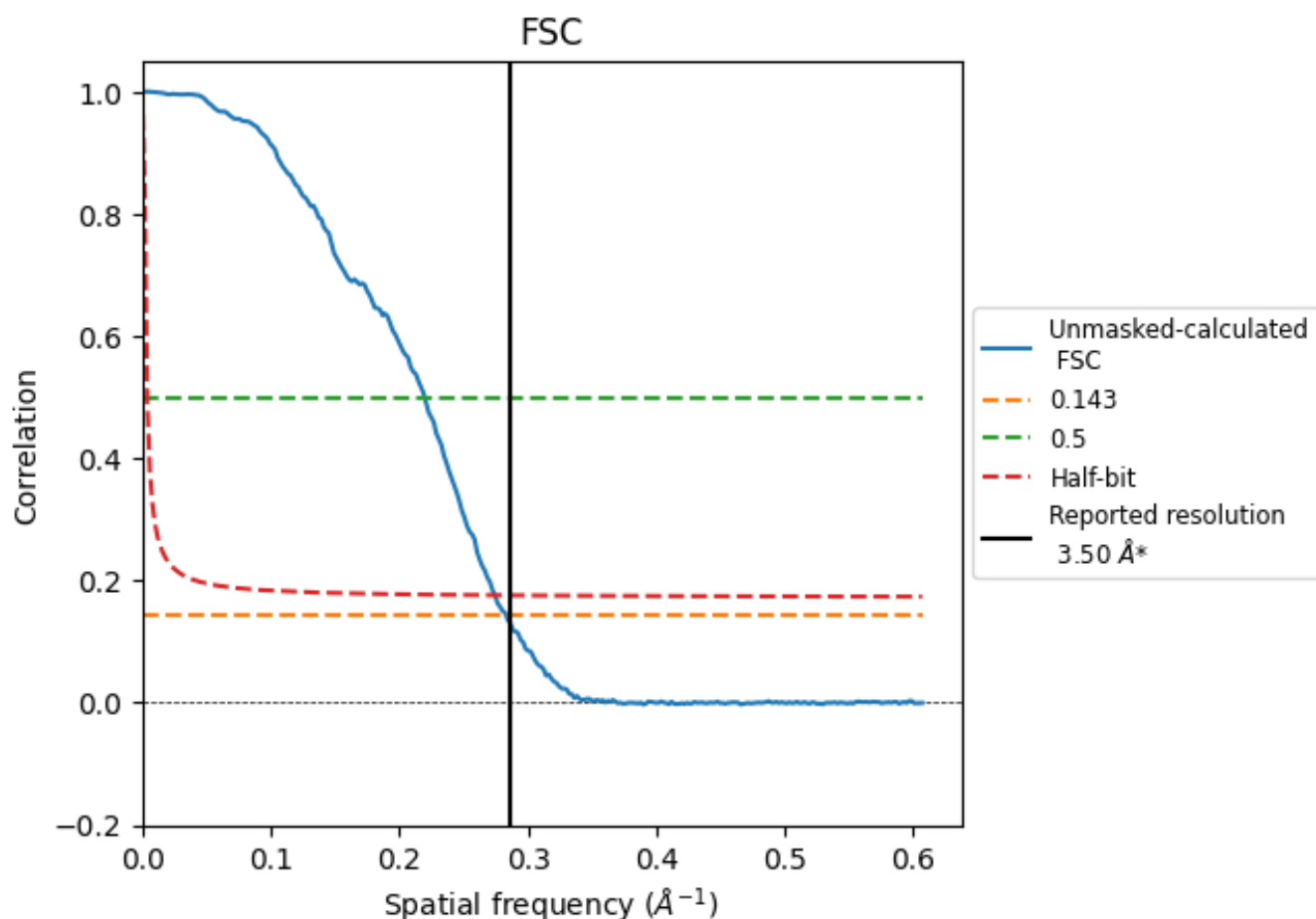


*Reported resolution corresponds to spatial frequency of 0.286 Å⁻¹

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 0.286 Å⁻¹

8.2 Resolution estimates [i](#)

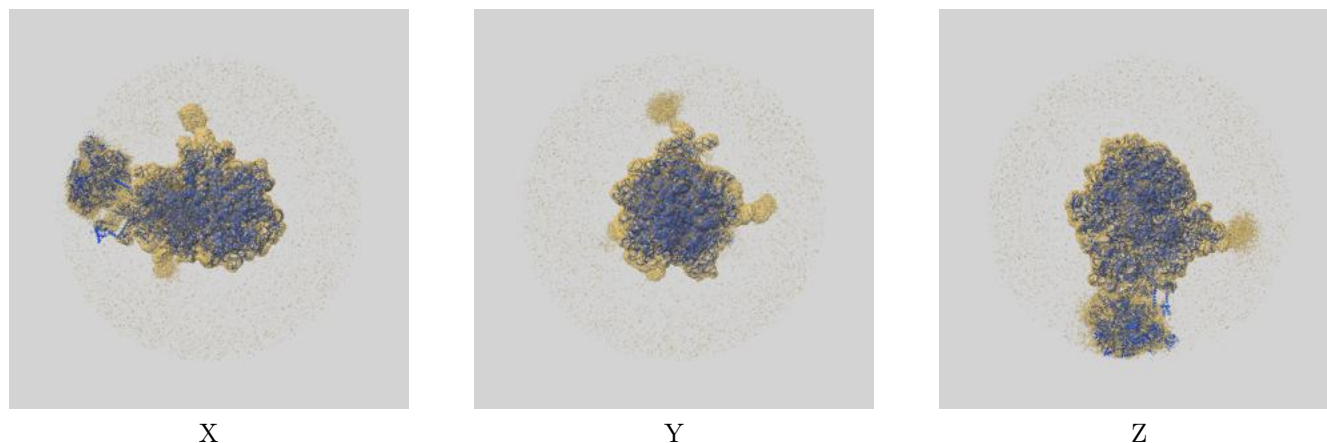
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.53	4.55	3.64

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

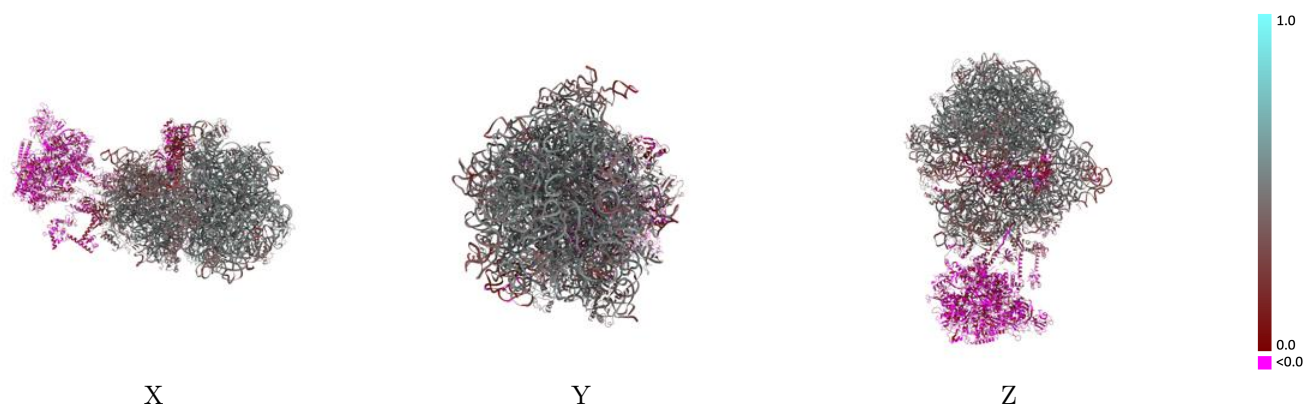
This section contains information regarding the fit between EMDB map EMD-65509 and PDB model 9W0N. Per-residue inclusion information can be found in section [3](#) on page [16](#).

9.1 Map-model overlay [i](#)



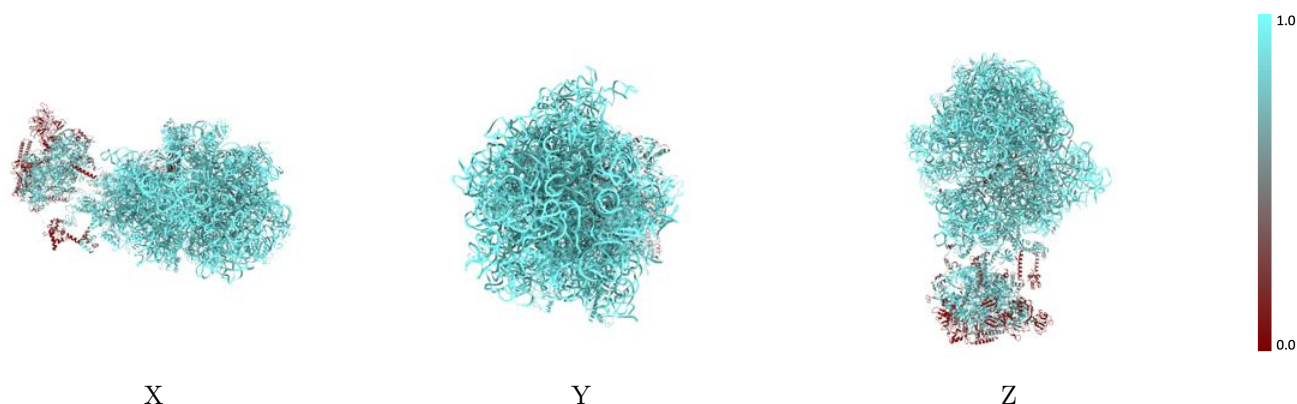
The images above show the 3D surface view of the map at the recommended contour level 0.002 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



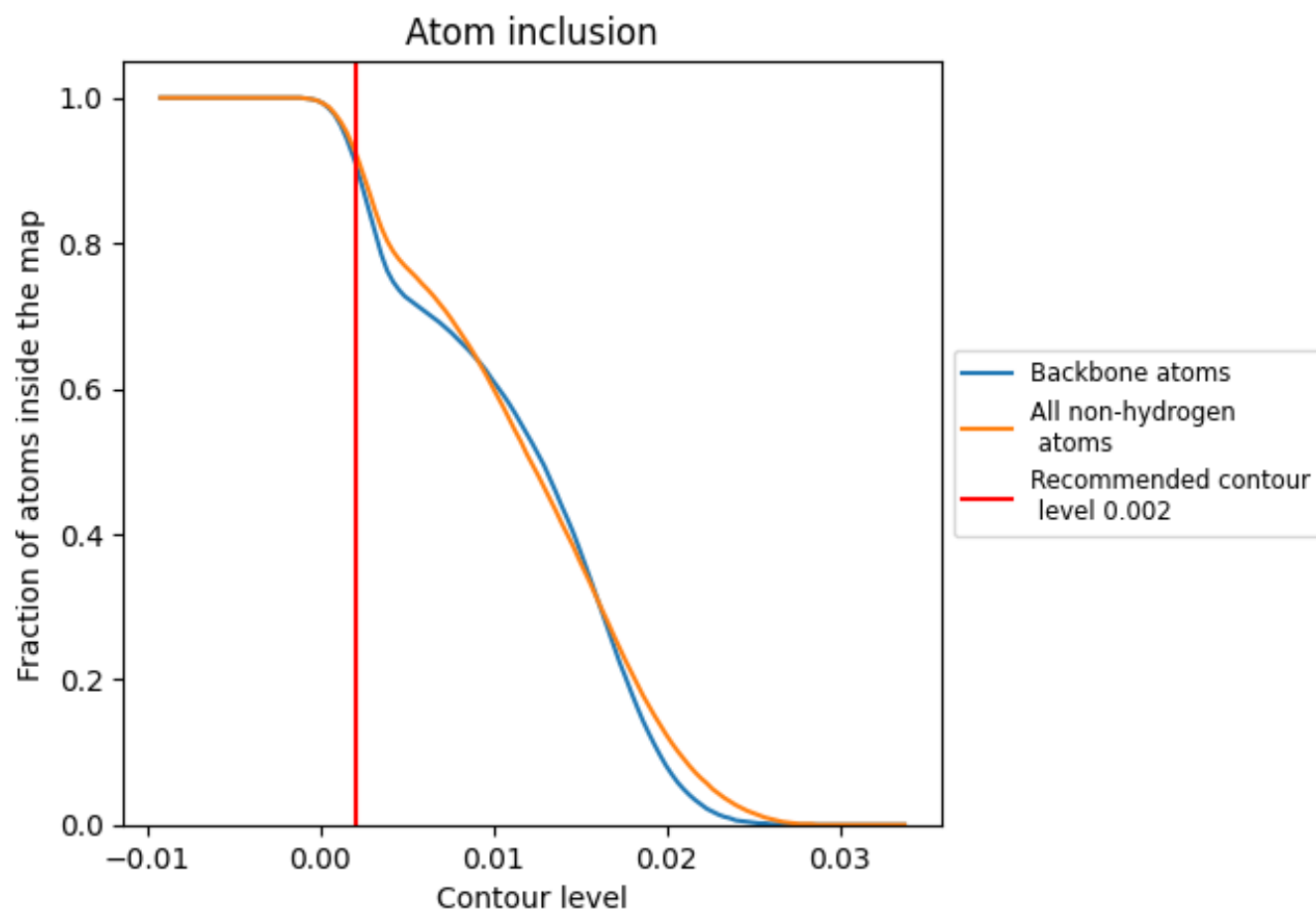
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.002).

9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 93% 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 (0.002) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9260	 0.3590
0	 0.7290	 0.1150
1	 0.9990	 0.4630
2	 0.9990	 0.4360
3	 0.9990	 0.4440
4	 0.9100	 0.0710
5	 0.9250	 0.1350
6	 0.9460	 0.2030
7	 0.7410	 0.0440
8	 0.8870	 0.0450
9	 0.9160	 -0.0060
A	 0.8690	 0.2560
AA	 0.4040	 -0.0150
B	 0.9860	 0.4880
B2	 0.6850	 0.0090
BA	 0.6300	 0.0170
C	 0.9730	 0.4350
D	 0.9750	 0.5000
E	 0.9820	 0.5060
F	 0.9760	 0.4440
G	 0.9680	 0.3890
H	 0.9580	 0.3990
I	 0.9740	 0.3480
J	 0.9780	 0.4580
K	 0.9650	 0.3950
L	 0.9700	 0.3910
M	 0.9660	 0.4590
N	 0.9860	 0.4040
NA	 0.6740	 0.0900
O	 0.9490	 0.3430
P	 0.9720	 0.4230
Q	 0.9300	 0.3130
R	 0.9850	 0.3920
S	 0.9720	 0.3810
T	 0.9750	 0.4240



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
U	 0.9570	 0.3940
V	 0.9670	 0.4050
W	 0.9770	 0.4150
X	 0.9790	 0.3360
Y	 0.9630	 0.3850
Z	 0.8960	 0.2530
a	 0.3710	 0.0130
b	 0.9850	 0.5110
c	 0.9820	 0.4930
d	 0.9690	 0.4440
e	 0.9710	 0.3520
f	 0.9670	 0.3910
g	 0.9850	 0.3820
h	 0.7510	 0.0140
i	 0.9370	 0.0390
j	 0.9800	 0.4850
k	 0.9750	 0.4850
l	 0.9810	 0.4780
m	 0.9800	 0.4730
n	 0.9960	 0.4870
o	 0.9870	 0.4150
p	 0.9740	 0.4810
q	 0.9810	 0.4910
r	 0.9670	 0.4650
s	 0.9700	 0.4710
t	 0.9610	 0.4350
u	 0.9800	 0.4400
v	 0.9770	 0.4450
w	 0.9930	 0.4860
x	 0.9770	 0.4850
y	 0.9740	 0.3870
z	 0.9840	 0.4760