



Full wwPDB EM Validation Report ⓘ

Dec 17, 2025 – 04:29 PM EST

PDB ID : 9P7Y / pdb_00009p7y
EMDB ID : EMD-71357
Title : In situ human A-P-E state 80S ribosome
Authors : Zheng, W.; Xiong, Y.
Deposited on : 2025-06-22
Resolution : 2.75 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:

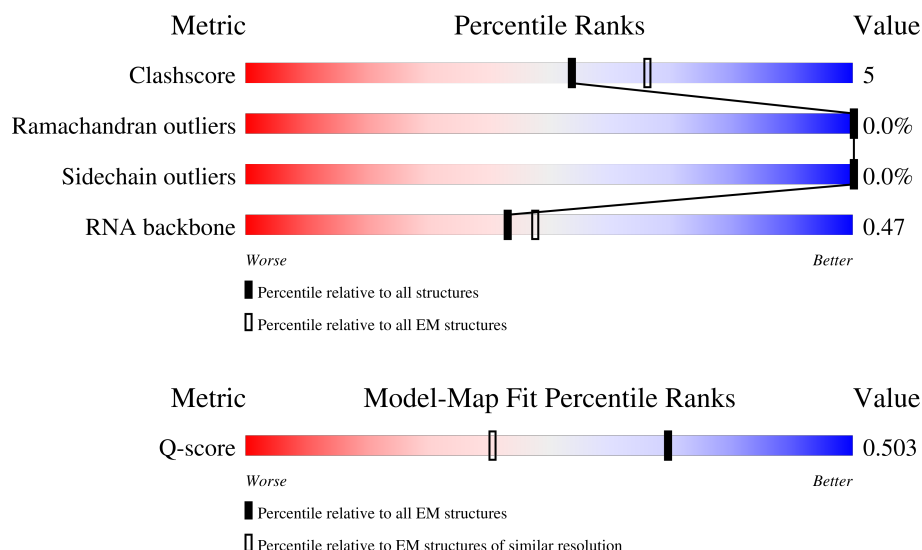
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive 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) : 2.47

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 2.75 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.



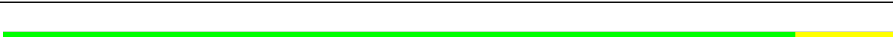
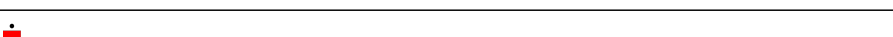
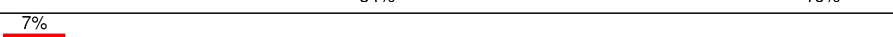
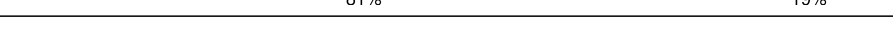
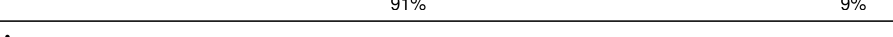
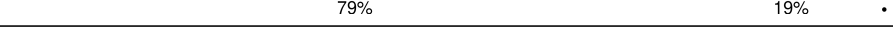
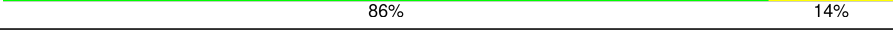
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	10570 (2.25 - 3.25)

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	SA	221	
2	SB	214	
3	SC	222	

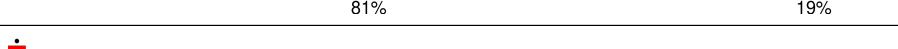
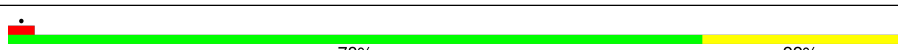
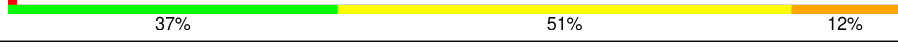
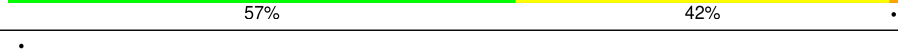
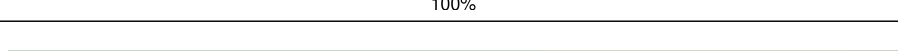
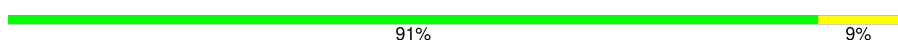
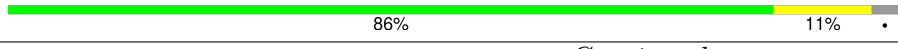
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
4	SE	262	
5	SG	237	
6	SH	186	
7	SI	206	
8	SJ	185	
9	SL	153	
10	SN	150	
11	SO	140	
12	SV	83	
13	SW	129	
14	SX	141	
15	SY	131	
16	Sa	102	
17	Sb	83	
18	Se	58	
19	S2	1740	
20	LR	187	
21	LW	118	
22	SR	135	
23	SD	227	
24	SF	189	
25	SK	98	
26	SM	122	
27	SP	121	
28	SQ	144	

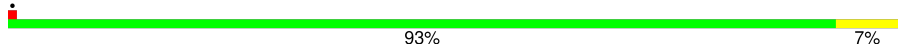
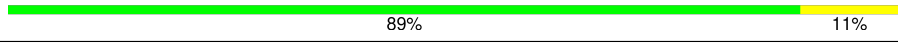
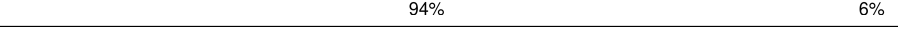
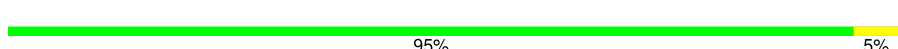
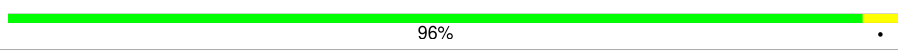
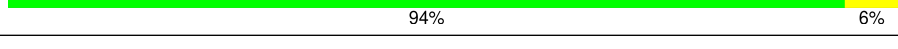
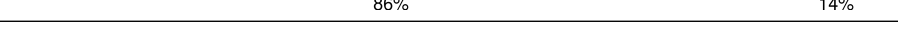
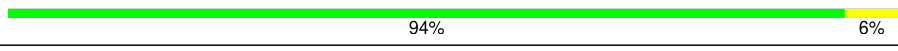
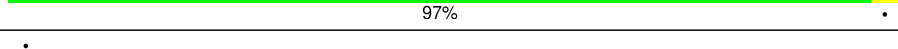
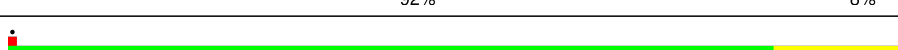
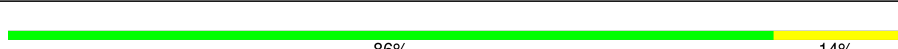
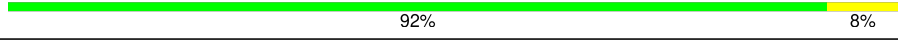
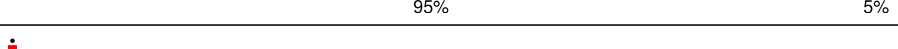
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
29	SS	145	
30	ST	143	
31	SU	104	
32	SZ	75	
33	Sc	64	
34	Sd	55	
35	Sf	67	
36	Sg	313	
37	At	71	
38	Et	75	
39	Pt	74	
40	CI	31	
41	L5	3655	
42	L7	120	
43	L8	156	
44	LA	248	
45	LB	402	
46	LC	368	
47	LD	293	
48	LE	250	
49	LF	225	
50	LG	241	
51	LH	190	
52	LI	213	
53	LJ	176	

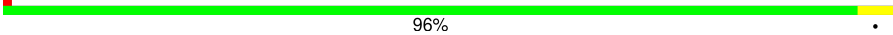
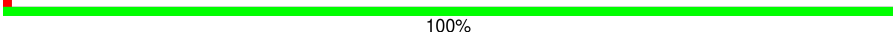
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
54	LL	210	
55	LM	139	
56	LN	203	
57	LO	201	
58	LP	153	
59	LQ	187	
60	LS	175	
61	LT	159	
62	LU	101	
63	LV	131	
64	LX	120	
65	LY	134	
66	LZ	135	
67	La	147	
68	Lb	109	
69	Lc	98	
70	Ld	107	
71	Le	128	
72	Lf	109	
73	Lg	114	
74	Lh	122	
75	Li	102	
76	Lj	86	
77	Lk	69	
78	Ll	50	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
79	Lm	52	 90% 10%
80	Ln	24	 88% 12%
81	Lo	105	 90% 10%
82	Lp	91	 96% .
83	Lr	125	 100%
84	Ls	196	 36% 87% 13%
85	Lt	141	 30% 84% 11% 5%

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 221484 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 protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	SA	221	Total	C	N	O	S	0	0
			1741	1106	305	322	8		

- Molecule 2 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	SB	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 3 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	SC	220	Total	C	N	O	S	0	0
			1707	1104	293	300	10		

- Molecule 4 is a protein called Small ribosomal subunit protein eS4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	SE	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 5 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	SG	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 6 is a protein called Small ribosomal subunit protein eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	SH	186	Total	C	N	O	S	0	0
			1497	956	274	266	1		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SH	?	-	SER	deletion	UNP P62081
SH	?	-	ARG	deletion	UNP P62081
SH	?	-	THR	deletion	UNP P62081

- Molecule 7 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	SI	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 8 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	SJ	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 9 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SL	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 10 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SN	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 11 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SO	137	Total	C	N	O	S	0	0
			1024	627	200	191	6		

- Molecule 12 is a protein called Small ribosomal subunit protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SV	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 13 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 14 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SX	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 15 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	SY	131	Total	C	N	O	S	0	0
			1065	673	209	178	5		

- Molecule 16 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Sa	102	Total	C	N	O	S	0	0
			821	512	171	133	5		

- Molecule 17 is a protein called Small ribosomal subunit protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Sb	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 18 is a protein called Small ribosomal subunit protein eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Se	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 19 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S2	1740	Total	C	N	O	P	0	0
			36952	16508	6600	12105	1739		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	LR	187	Total	C	N	O	S	0	0
			1566	971	336	250	9		

- Molecule 21 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LW	116	Total	C	N	O	S	0	0
			945	592	193	156	4		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LW	?	-	SER	deletion	UNP A0A994J4A5
LW	?	-	GLU	deletion	UNP A0A994J4A5
LW	?	-	GLU	deletion	UNP A0A994J4A5
LW	?	-	ILE	deletion	UNP A0A994J4A5
LW	?	-	GLN	deletion	UNP A0A994J4A5
LW	?	-	LYS	deletion	UNP A0A994J4A5

- Molecule 22 is a protein called Small ribosomal subunit protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SR	135	Total	C	N	O	S	0	0
			1090	685	202	198	5		

- Molecule 23 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SD	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 24 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SF	189	Total	C	N	O	S	0	0
			1495	934	284	270	7		

- Molecule 25 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	SK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 26 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SM	122	Total	C	N	O	S	0	0
			940	590	164	177	9		

- Molecule 27 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	SP	121	Total	C	N	O	S	0	0
			985	623	185	170	7		

- Molecule 28 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	SQ	144	Total	C	N	O	S	0	0
			1142	726	216	197	3		

- Molecule 29 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	SS	145	Total	C	N	O	S	0	0
			1198	751	242	203	2		

- Molecule 30 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	ST	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 31 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	SU	104	Total	C	N	O	S	0	0
			821	514	155	148	4		

- Molecule 32 is a protein called Small ribosomal subunit protein eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	SZ	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 33 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Sc	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 34 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Sd	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 35 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Sf	67	Total	C	N	O	S	0	0
			548	346	102	93	7		

- Molecule 36 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Sg	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 37 is a RNA chain called A site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	At	71	Total	C	N	O	P	0	0
			1514	677	275	492	70		

- Molecule 38 is a RNA chain called E site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Et	75	Total	C	N	O	P	0	0
			1593	712	281	526	74		

- Molecule 39 is a RNA chain called P site tRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Pt	74	Total	C	N	O	P	0	0
			1576	705	286	512	73		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Pt	3	C	U	conflict	GB X64278
Pt	?	-	U	deletion	GB X64278
Pt	?	-	G	deletion	GB X64278
Pt	19	G	U	conflict	GB X64278
Pt	50	U	-	insertion	GB X64278
Pt	74	C	-	insertion	GB X64278

- Molecule 40 is a protein called Transcription factor BTF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	CI	31	Total	C	N	O	S	0	0
			247	153	55	38	1		

- Molecule 41 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	L5	3655	Total	C	N	O	P	1	0
			78444	34968	14346	25475	3655		

- Molecule 42 is a RNA chain called 5S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
42	L7	120	Total	C	N	O	P	0	0
			2561	1141	456	844	120		

- Molecule 43 is a RNA chain called 5.8S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
43	L8	156	Total	C	N	O	P	0	0
			3315	1481	585	1094	155		

- Molecule 44 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	LA	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

- Molecule 45 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	LB	402	Total	C	N	O	S	0	0
			3238	2060	608	556	14		

- Molecule 46 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	LC	368	Total	C	N	O	S	0	0
			2927	1840	583	489	15		

- Molecule 47 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	LD	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

- Molecule 48 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	LE	240	Total	C	N	O	S	0	0
			1935	1242	368	321	4		

- Molecule 49 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	LF	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		

- Molecule 50 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	LG	241	Total	C	N	O	S	0	0
			1927	1228	371	324	4		

- Molecule 51 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	LH	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 52 is a protein called Ribosomal protein uL16-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	LI	213	Total	C	N	O	S	0	0
			1711	1082	329	285	15		

- Molecule 53 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	LJ	170	Total	C	N	O	S	0	0
			1362	861	254	241	6		

- Molecule 54 is a protein called Large ribosomal subunit protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	LL	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 55 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	LM	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 56 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	LN	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 57 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	LO	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 58 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	LP	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 59 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	LQ	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 60 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	LS	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 61 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	LT	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 62 is a protein called Heparin-binding protein HBp15.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	LU	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

- Molecule 63 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	LV	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 64 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	LX	120	Total	C	N	O	S	0	0
			985	630	185	169	1		

- Molecule 65 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	LY	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 66 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	LZ	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 67 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	La	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 68 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Lb	109	Total	C	N	O	S	0	0
			876	546	189	137	4		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	PRO	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	GLU	deletion	UNP P47914
Lb	?	-	VAL	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	PRO	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	ILE	deletion	UNP P47914
Lb	?	-	PRO	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	GLY	deletion	UNP P47914

- Molecule 69 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Lc	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 70 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Ld	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 71 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Le	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 72 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Lf	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 73 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Lg	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 74 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Lh	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 75 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Li	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 76 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Lj	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 77 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Lk	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 78 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Ll	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 79 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Lm	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 80 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Ln	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 81 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Lo	105	Total	C	N	O	S	0	0
			862	542	175	139	6		

- Molecule 82 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Lp	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 83 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Lr	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 84 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Ls	196	Total	C	N	O	S	0	0
			1496	952	259	276	9		

- Molecule 85 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	Lt	134	Total	C	N	O	S	0	0
			998	626	180	189	3		

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lt	?	-	PRO	deletion	UNP P30050
Lt	?	-	PRO	deletion	UNP P30050
Lt	?	-	ARG	deletion	UNP P30050
Lt	?	-	ASP	deletion	UNP P30050
Lt	?	-	ARG	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	GLN	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	ASN	deletion	UNP P30050
Lt	?	-	ILE	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	HIS	deletion	UNP P30050
Lt	?	-	SER	deletion	UNP P30050
Lt	?	-	GLY	deletion	UNP P30050
Lt	?	-	ASN	deletion	UNP P30050

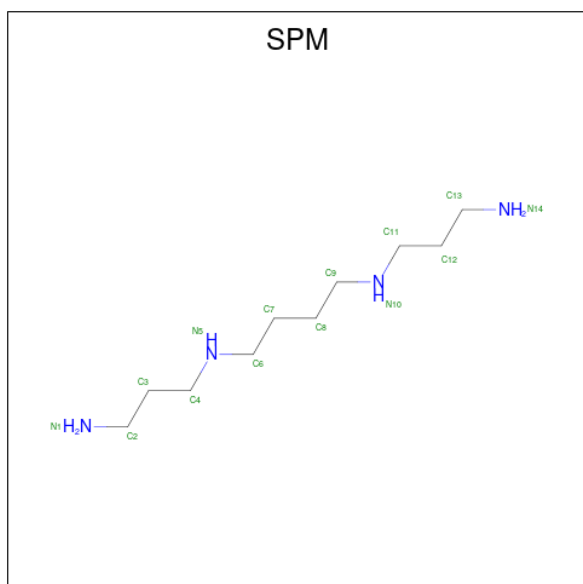
- Molecule 86 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
86	SO	1	Total 1	Mg 1	0
86	S2	26	Total 26	Mg 26	0
86	SS	1	Total 1	Mg 1	0
86	L5	179	Total 179	Mg 179	0
86	L7	3	Total 3	Mg 3	0
86	L8	5	Total 5	Mg 5	0
86	LA	1	Total 1	Mg 1	0
86	LP	1	Total 1	Mg 1	0
86	LV	1	Total 1	Mg 1	0
86	Le	1	Total 1	Mg 1	0

- Molecule 87 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
87	Sa	1	Total	Zn	0
			1	1	
87	Lg	1	Total	Zn	0
			1	1	
87	Lj	1	Total	Zn	0
			1	1	
87	Lm	1	Total	Zn	0
			1	1	
87	Lo	1	Total	Zn	0
			1	1	
87	Lp	1	Total	Zn	0
			1	1	

- Molecule 88 is SPERMINE (CCD ID: SPM) (formula: $C_{10}H_{26}N_4$) (labeled as "Ligand of Interest" by depositor).



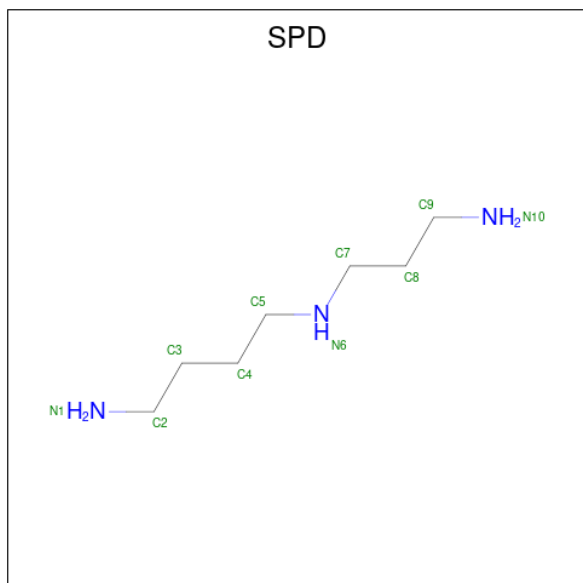
Mol	Chain	Residues	Atoms			AltConf
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			AltConf
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	

- Molecule 89 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
89	L5	1	Total	C	N	0
			10	7	3	
89	L5	1	Total	C	N	0
			10	7	3	
89	L5	1	Total	C	N	0
			10	7	3	
89	L5	1	Total	C	N	0
			10	7	3	
89	L5	1	Total	C	N	0
			10	7	3	
89	L5	1	Total	C	N	0
			10	7	3	
89	L5	1	Total	C	N	0
			10	7	3	
89	L8	1	Total	C	N	0
			10	7	3	

Continued on next page...

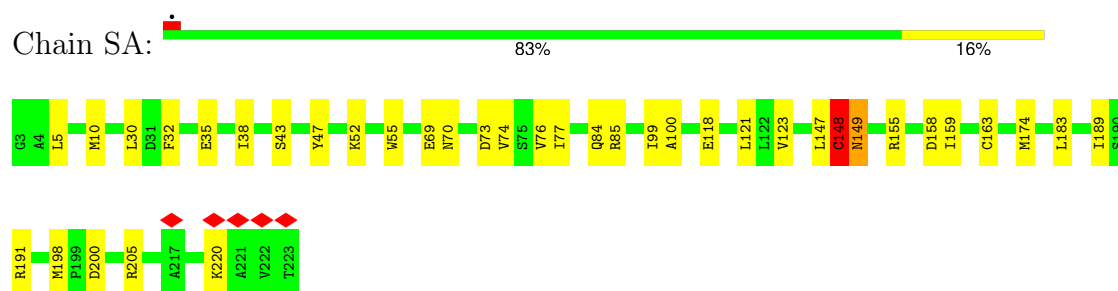
Continued from previous page...

Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
89	LN	1	10	7	3	0

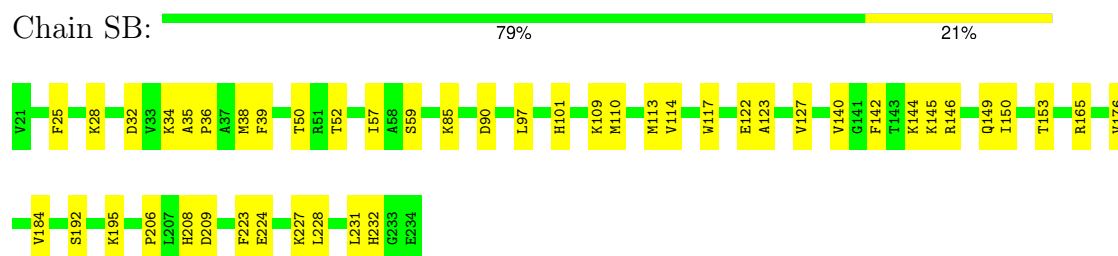
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

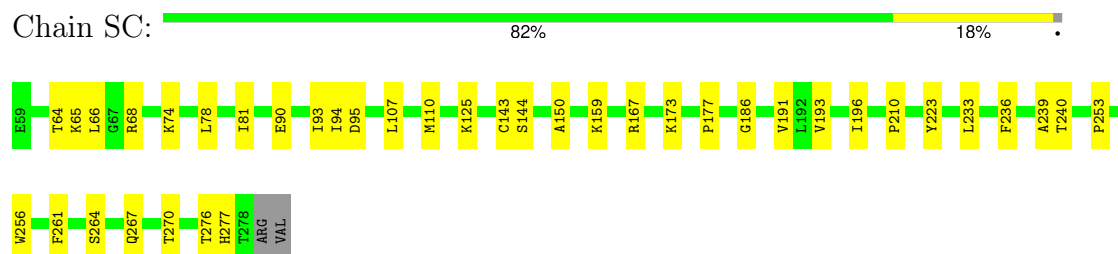
- Molecule 1: 40S ribosomal protein SA



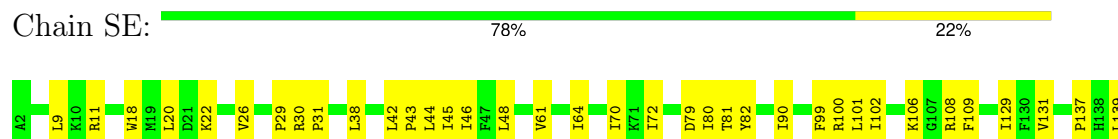
- Molecule 2: 40S ribosomal protein S3a



- Molecule 3: 40S ribosomal protein S2

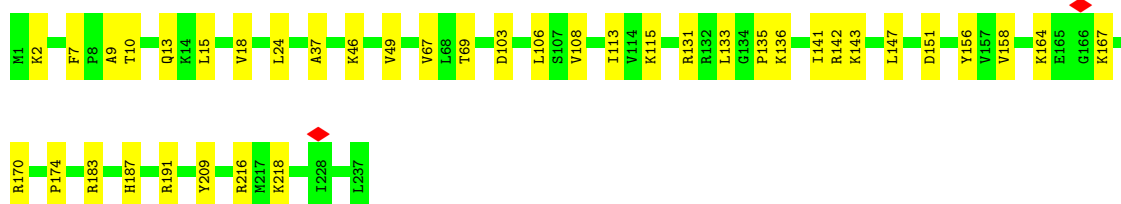
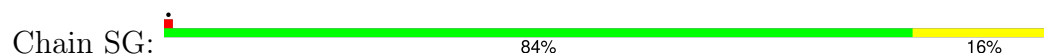


- Molecule 4: Small ribosomal subunit protein eS4, X isoform

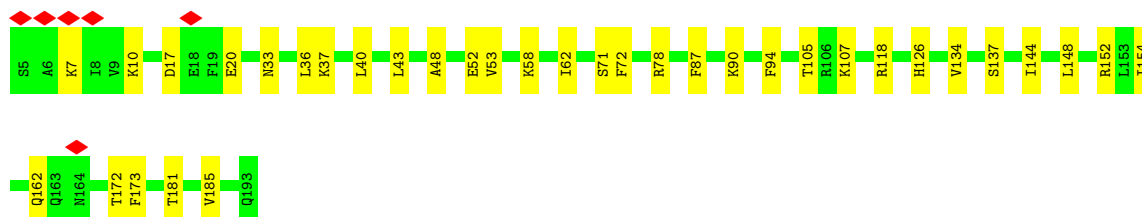
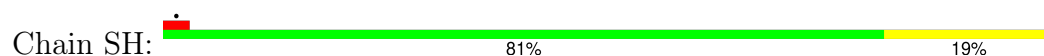




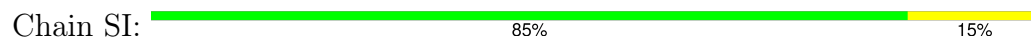
- Molecule 5: 40S ribosomal protein S6



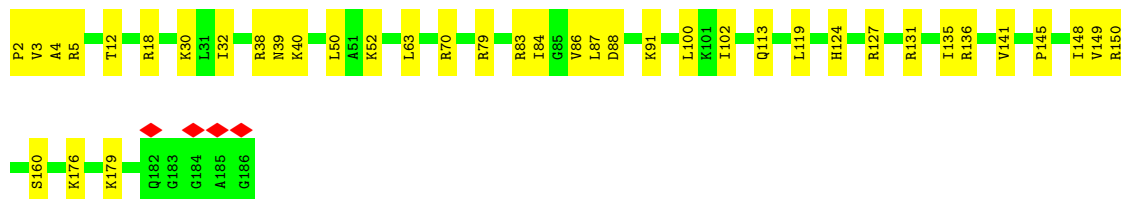
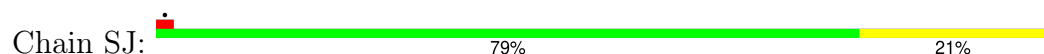
- Molecule 6: Small ribosomal subunit protein eS7



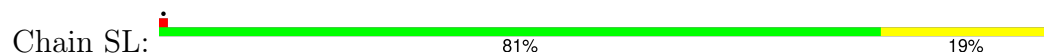
- Molecule 7: 40S ribosomal protein S8

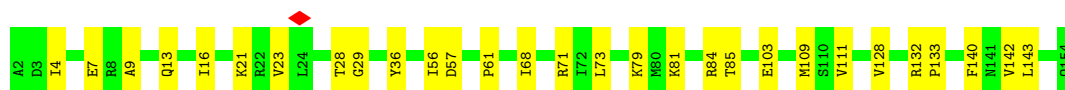


- Molecule 8: 40S ribosomal protein S9



- Molecule 9: 40S ribosomal protein S11

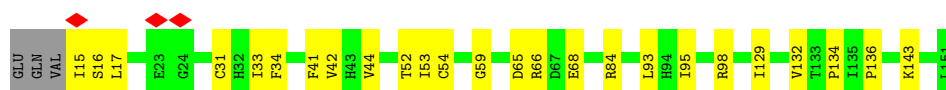
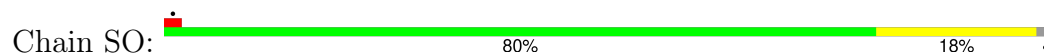




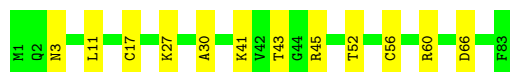
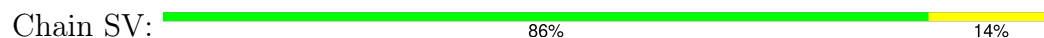
- Molecule 10: 40S ribosomal protein S13



- Molecule 11: Small ribosomal subunit protein uS11



- Molecule 12: Small ribosomal subunit protein eS21



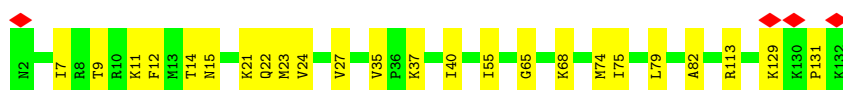
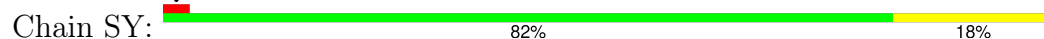
- Molecule 13: 40S ribosomal protein S15a



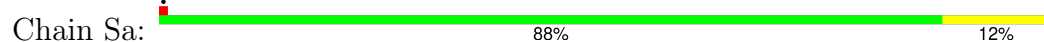
- Molecule 14: 40S ribosomal protein S23

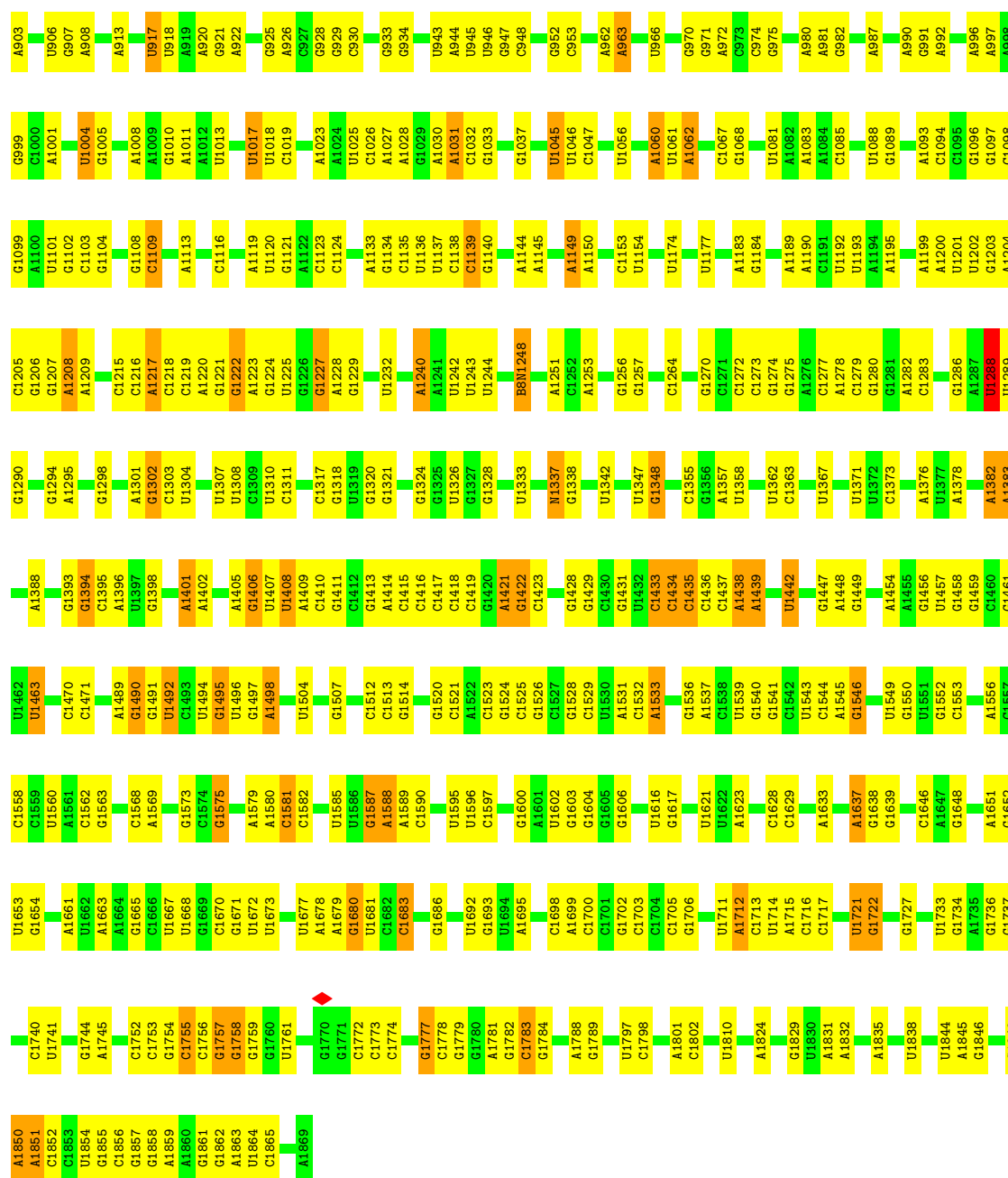


- Molecule 15: 40S ribosomal protein S24

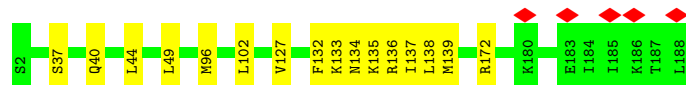


- Molecule 16: 40S ribosomal protein S26



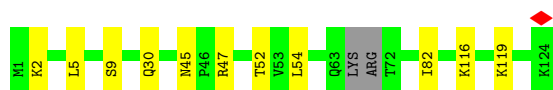


- Molecule 20: 60S ribosomal protein L19

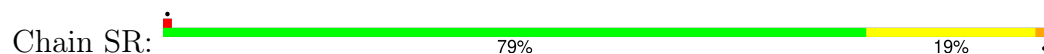


- Molecule 21: Ribosomal protein L24

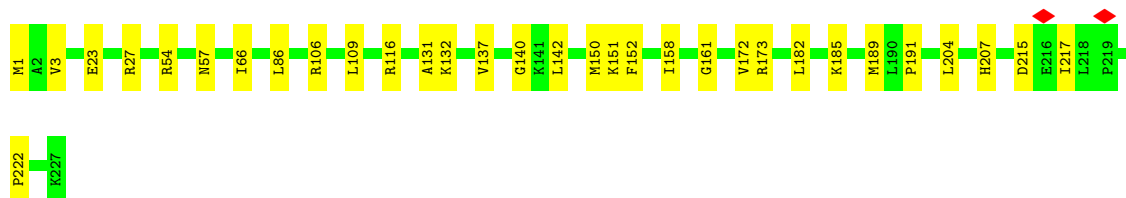




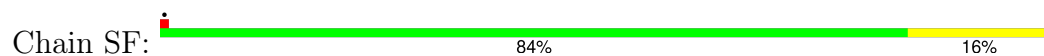
- Molecule 22: Small ribosomal subunit protein eS17



- Molecule 23: Small ribosomal subunit protein uS3



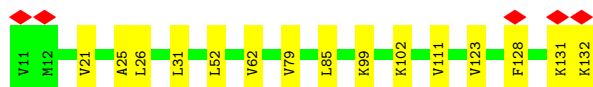
- Molecule 24: 40S ribosomal protein S5



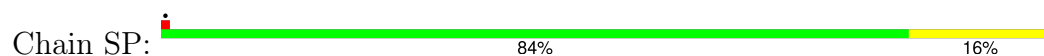
- Molecule 25: 40S ribosomal protein S10

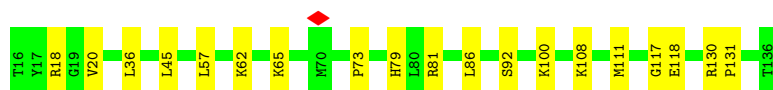


- Molecule 26: Small ribosomal subunit protein eS12

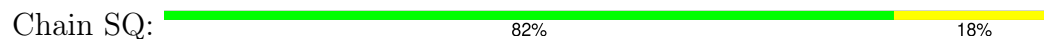


- Molecule 27: Small ribosomal subunit protein uS19

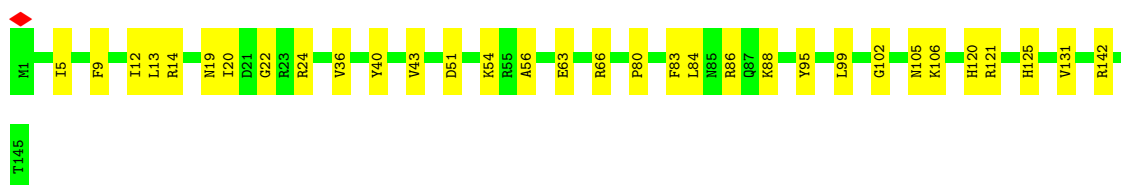
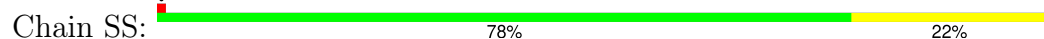




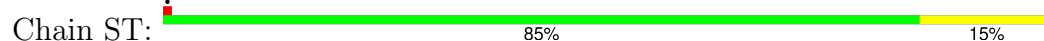
- Molecule 28: Small ribosomal subunit protein uS9



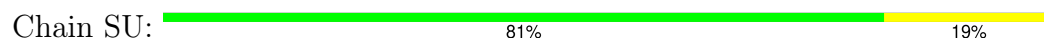
- Molecule 29: 40S ribosomal protein S18



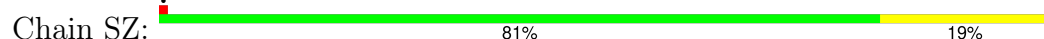
- Molecule 30: 40S ribosomal protein S19



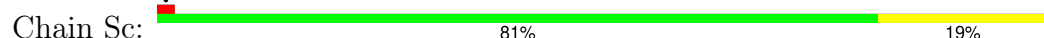
- Molecule 31: 40S ribosomal protein S20



- Molecule 32: Small ribosomal subunit protein eS25



- Molecule 33: 40S ribosomal protein S28



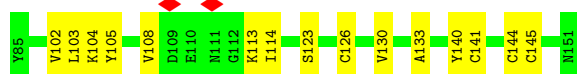
- Molecule 34: 40S ribosomal protein S29

Chain Sd:  82% 18%



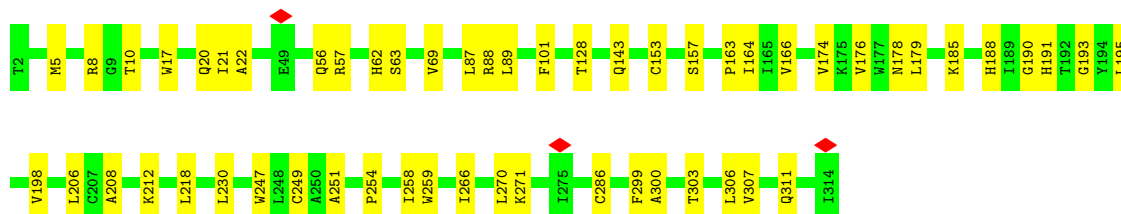
- Molecule 35: Ubiquitin-40S ribosomal protein S27a

Chain Sf:  78% 22%



- Molecule 36: Receptor of activated protein C kinase 1

Chain Sg:  82% 18%

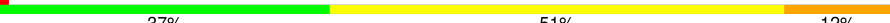


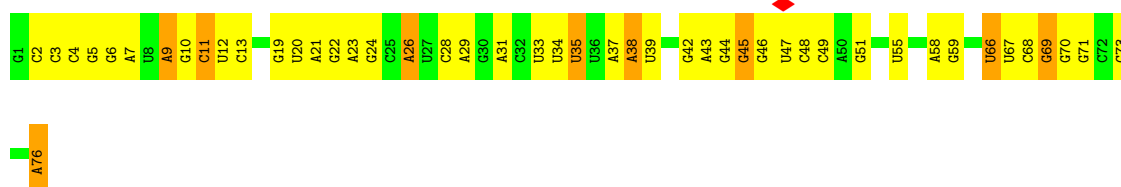
- Molecule 37: A site tRNA

Chain At:  59% 39%



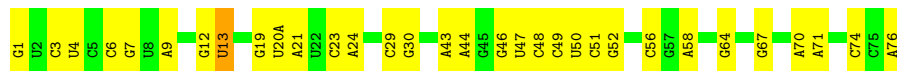
- Molecule 38: E site tRNA

Chain Et:  37% 51% 12%



- Molecule 39: P site tRNA [Homo sapiens]

Chain Pt:  57% 42%



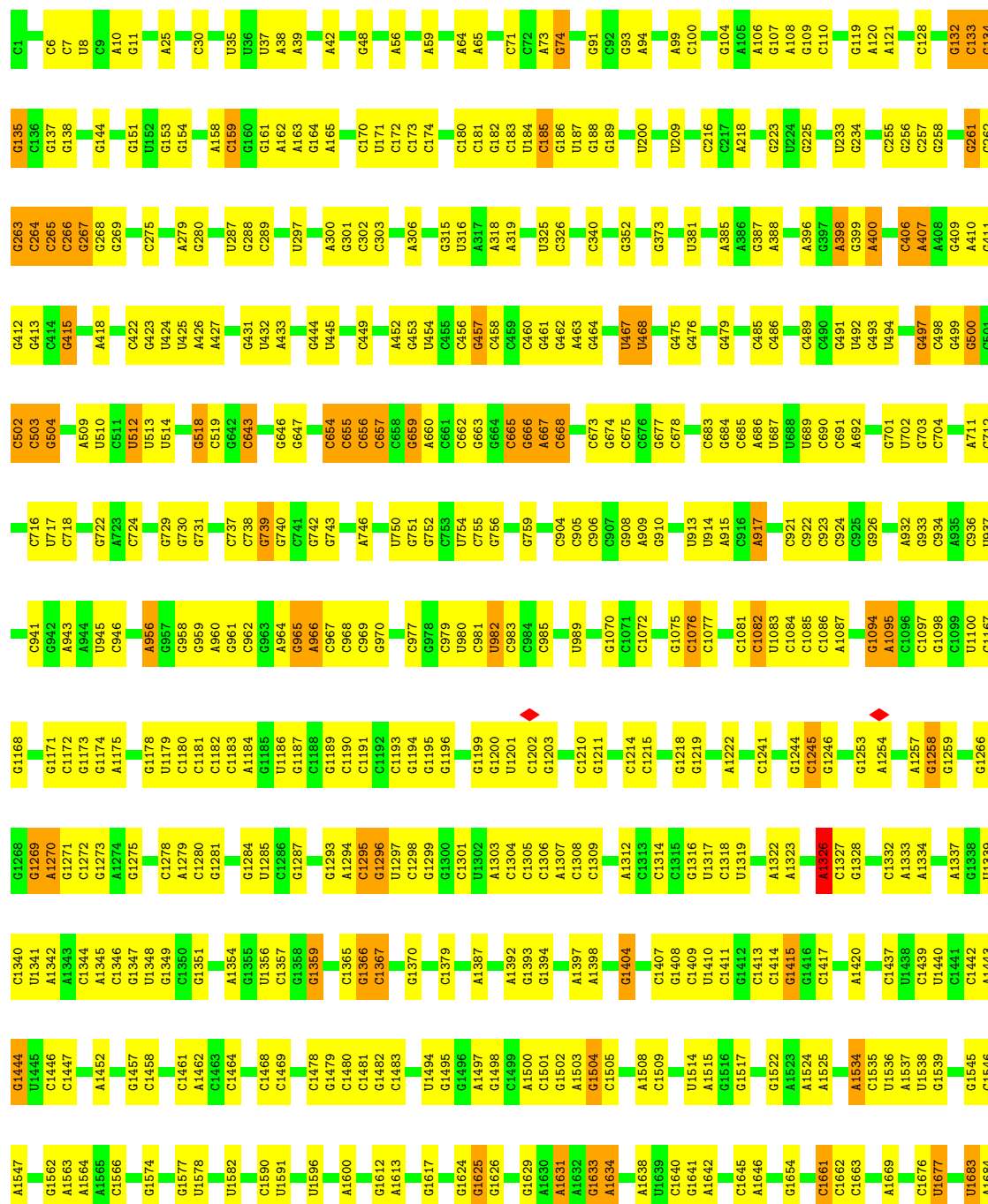
- Molecule 40: Transcription factor BTF3

Chain CI:  100%



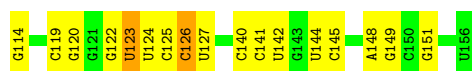
- Molecule 41: 28S rRNA

Chain L5:  60% 34% 6%



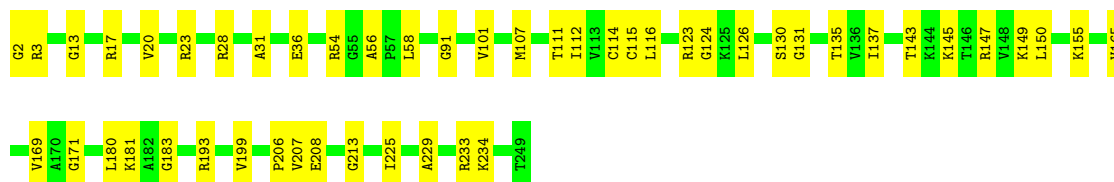
G3877	G3878	G3879	G3880	G3881	U3884	G3885	A3890	A3891	U3892	G3897	G3898	G3899	G3900	A3901	A3906	G3907	A3908	G3909	C3910	C3911	U3912	U3915	G3916	A3917	G3918	C3919	U3920	U3921	G3922	A3923	C3924	U3925	U3932	G3933	G3934	C3937	G3938	A3942	A3943	G3944	A3945	A3947	C3948	A3949	U3950	G3951	A3952	G3953																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
G3770	A3775	G3776	G3777	A3785	U3786	G3792	G3808	G3811	U3814	A3817	U13818	G3819	U3822	A3824	A3825	C3826	A3830	U3838	G3839	U3840	C3841	G3842	U3843	U3844	U3848	A3849	U3851	A3852	U3853	C3854	C3855	A3856	G3857	A3861	A3862	A3867	G3868	A3869	C3870	A3871	A3872	A3873	A3874	A3875	A3876	A3877	A3878																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
G3665	C3670	C3673	G3674	A3682	C3685	U3690	G3691	U3695	C3696	U3697	G3698	C3701	U3707	C3708	G3709	G3710	A3711	U3712	A3717	A3718	A3719	G3722	A3723	A3724	G3725	A3726	A3727	A3728	A3732	A3733	U3734	G3735	A3736	A3737	G3744	A3748	G3753	C3758	A3759	C3760	U3764	G3765																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
C3591	C3592	C3593	C3594	U3595	C3596	C3597	C3598	A3599	C3600	G3603	A3604	C3605	U3607	A3608	C3609	A3610	A3611	U3616	C3617	G3618	G3619	A3624	C3625	C3626	C3627	A3630	C3633	C3634	A3635	C3636	U3637	C3638	U3639	U3641	U3644	U3645	A3646	A3647	A3648	A3652	A3653	A3656	U3657	C3660	C3661	A3662	A3663																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
A2806	G2808	G2809	A2810	G2811	A2812	G2813	A2814	G2815	A2816	G2817	A2818	G2819	A2820	G2821	A2822	G2823	A2824	G2825	A2826	G2827	A2828	G2829	A2830	G2831	A2832	G2833	A2834	G2835	A2836	G2837	A2838	G2839	A2840	G2841	A2842	G2843	A2844	G2845	A2846	G2847	A2848	G2849	A2850	G2851	A2852	G2853	A2854	G2855	A2856	G2857	A2858	G2859	A2860	G2861	A2862	G2863	A2864	G2865	A2866	G2867	A2868	G2869	A2870	G2871	A2872	G2873	A2874	G2875	A2876	G2877	A2878	G2879	A2880	G2881	A2882	G2883	A2884	G2885	A2886	G2887	A2888	G2889	A2890	G2891	A2892	G2893	A2894	G2895	A2896	G2897	A2898	G2899	A2900	G2901	A2902	G2903	A2904	G2905	A2906	G2907	A2908	G2909	A2910	G2911	A2912	G2913	A2914	G2915	A2916	G2917	A2918	G2919	A2920	G2921	A2922	G2923	A2924	G2925	A2926	G2927	A2928	G2929	A2930	G2931	A2932	G2933	A2934	G2935	A2936	G2937	A2938	G2939	A2940	G2941	A2942	G2943	A2944	G2945	A2946	G2947	A2948	G2949	A2950	G2951	A2952	G2953	A2954	G2955	A2956	G2957	A2958	G2959	A2960	G2961	A2962	G2963	A2964	G2965	A2966	G2967	A2968	G2969	A2970	G2971	A2972	G2973	A2974	G2975	A2976	G2977	A2978	G2979	A2980	G2981	A2982	G2983	A2984	G2985	A2986	G2987	A2988	G2989	A2990	G2991	A2992	G2993	A2994	G2995	A2996	G2997	A2998	G2999	A3000	G3001	A3002	G3003	A3004	G3005	A3006	G3007	A3008	G3009	A3010	G3011	A3012	G3013	A3014	G3015	A3016	G3017	A3018	G3019	A3020	G3021	A3022	G3023	A3024	G3025	A3026	G3027	A3028	G3029	A3030	G3031	A3032	G3033	A3034	G3035	A3036	G3037	A3038	G3039	A3040	G3041	A3042	G3043	A3044	G3045	A3046	G3047	A3048	G3049	A3050	G3051	A3052	G3053	A3054	G3055	A3056	G3057	A3058	G3059	A3060	G3061	A3062	G3063	A3064	G3065	A3066	G3067	A3068	G3069	A3070	G3071	A3072	G3073	A3074	G3075	A3076	G3077	A3078	G3079	A3080	G3081	A3082	G3083	A3084	G3085	A3086	G3087	A3088	G3089	A3090	G3091	A3092	G3093	A3094	G3095	A3096	G3097	A3098	G3099	A3100	G3101	A3102	G3103	A3104	G3105	A3106	G3107	A3108	G3109	A3110	G3111	A3112	G3113	A3114	G3115	A3116	G3117	A3118	G3119	A3120	G3121	A3122	G3123	A3124	G3125	A3126	G3127	A3128	G3129	A3130	G3131	A3132	G3133	A3134	G3135	A3136	G3137	A3138	G3139	A3140	G3141	A3142	G3143	A3144	G3145	A3146	G3147	A3148	G3149	A3150	G3151	A3152	G3153	A3154	G3155	A3156	G3157	A3158	G3159	A3160	G3161	A3162	G3163	A3164	G3165	A3166	G3167	A3168	G3169	A3170	G3171	A3172	G3173	A3174	G3175	A3176	G3177	A3178	G3179	A3180	G3181	A3182	G3183	A3184	G3185	A3186	G3187	A3188	G3189	A3190	G3191	A3192	G3193	A3194	G3195	A3196	G3197	A3198	G3199	A3200	G3201	A3202	G3203	A3204	G3205	A3206	G3207	A3208	G3209	A3210	G3211	A3212	G3213	A3214	G3215	A3216	G3217	A3218	G3219	A3220	G3221	A3222	G3223	A3224	G3225	A3226	G3227	A3228	G3229	A3230	G3231	A3232	G3233	A3234	G3235	A3236	G3237	A3238	G3239	A3240	G3241	A3242	G3243	A3244	G3245	A3246	G3247	A3248	G3249	A3250	G3251	A3252	G3253	A3254	G3255	A3256	G3257	A3258	G3259	A3260	G3261	A3262	G3263	A3264	G3265	A3266	G3267	A3268	G3269	A3270	G3271	A3272	G3273	A3274	G3275	A3276	G3277	A3278	G3279	A3280	G3281	A3282	G3283	A3284	G3285	A3286	G3287	A3288	G3289	A3290	G3291	A3292	G3293	A3294	G3295	A3296	G3297	A3298	G3299	A3300	G3301	A3302	G3303	A3304	G3305	A3306	G3307	A3308	G3309	A3310	G3311	A3312	G3313	A3314	G3315	A3316	G3317	A3318	G3319	A3320	G3321	A3322	G3323	A3324	G3325	A3326	G3327	A3328	G3329	A3330	G3331	A3332	G3333	A3334	G3335	A3336	G3337	A3338	G3339	A3340	G3341	A3342	G3343	A3344	G3345	A3346	G3347	A3348	G3349	A3350	G3351	A3352	G3353	A3354	G3355	A3356	G3357	A3358	G3359	A3360	G3361	A3362	G3363	A3364	G3365	A3366	G3367	A3368	G3369	A3370	G3371	A3372	G3373	A3374	G3375	A3376	G3377	A3378	G3379	A3380	G3381	A3382	G3383	A3384	G3385	A3386	G3387	A3388	G3389	A3390	G3391	A3392	G3393	A3394	G3395	A3396	G3397	A3398	G3399	A3400	G3401	A3402	G3403	A3404	G3405	A3406	G3407	A3408	G3409	A3410	G3411	A3412	G3413	A3414	G3415	A3416	G3417	A3418	G3419	A3420	G3421	A3422	G3423	A3424	G3425	A3426	G3427	A3428	G3429	A3430	G3431	A3432	G3433	A3434	G3435	A3436	G3437	A3438	G3439	A3440	G3441	A3442	G3443	A3444	G3445	A3446	G3447	A3448	G3449	A3450	G3451	A3452	G3453	A3454	G3455	A3456	G3457	A3458	G3459	A3460	G3461	A3462	G3463	A3464	G3465	A3466	G3467	A3468	G3469	A3469	G3470	A3471	G3472	A3473	G3474	A3475	G3476	A3477	G3478	A3479	G3480	A3481	G3482	A3483	G3484	A3485	G3486	A3487	G3488	A3489	G3490	A3491	G3492	A3493	G3494	A3495	G3496	A3497	G3498	A3499	G3500	A3501	G3502	A3503	G3504	A3505	G3506	A3507	G3508	A3509	G3510	A3511	G3512	A3513	G3514	A3515	G3516	A3517	G3518	A3519	G3520	A3521	G3522	A3523	G3524	A3525	G3526	A3527	G3528	A3529	G3530	A3531	G3532	A3533	G3534	A3535	G3536	A3537	G3538	A3539	G3540	A3541	G3542	A3543	G3544	A3545	G3546	A3547	G3548	A3549	G3550	A3551	G3552	A3553	G3554	A3555	G3556	A3557	G3558	A3559	G3560	A3561	G3562	A3563	G3564	A3565	G3566	A3567	G3568	A3569	G3570	A3571	G3572	A3573	G3574	A3575	G3576	A3577	G3578	A3579	G3580	A3581	G3582	A3583	G3584	A3585	G3586	A3587	G3588	A3589	G3590	A3591	G3592	A3593	G3594	A3595	G3596	A3597	G3598	A3599	G3600	A3601	G3602	A3603	G3604	A3605	G3606	A3607	G3608	A3609	G3610	A3611	G3612	A3613	G3614	A3615	G3616	A3617	G3618	A3619	G3620	A3621	G3622	A3623	G3624	A3625	G3626	A3627	G3628	A3629	G3630	A3631	G3632	A3633	G3634	A3635	G3636	A3637	G3638	A3639	G3640	A3641	G3642	A3643	G3644	A3645	G3646	A3647	G3648	A3649	G3650	A3651	G3652	A3653	G3654	A3655	G3656	A3657	G3658	A3659	G3660	A3661	G3662	A3663	G3664	A3665	G3666	A3667	G3668	A3669	G3670	A3671	G3672	A3673	G3674	A3675	G3676	A3677	G3678	A3679	G3680	A3681	G3682	A3683	G3684	A3685	G3686	A3687	G3688	A3689	G3690	A3691	G3692	A3693	G3694	A3695	G3696	A3697	G3698	A3699	G3700	A3701	G3702	A3703	G3704	A3705	G3706	A3707	G3708	A3709	G3710	A3711	G3712	A3713	G3714	A3715	G3716	A3717	G3718	A3719	G3720	A3721	G3722	A3723	G3724	A3725	G3726	A3727	G3728	A3729	G3730	A3731	G3732	A3733	G3734	A3735	G3736	A3737	G3738	A3739	G3740	A3741	G3742	A3743	G3744	A3745	G3746	A3747	G3748	A3749	G3750	A3751	G3752	A3753	G3754	A3755	G3756	A3757	G3758	A3759	G3760	A3761	G3762	A3763	G3764	A3765	G3766	A3767	G3768	A3769	G3770	A3771	G3772	A3773	G3774	A3775	G3776	A3777	G3778	A3779	G3780	A3781	G3782	A3783	G3784	A3785	G3786	A3787	G3788	A3789	G3790	A3791	G3792	A3793	G3794	A3795	G3796	A3797	G3798	A3799	G3800	A3801	G3802	A3803	G3804	A3805	G3806	A3807	G3808	A3809	G3810	A3811	G3812	A3813	G3814	A3815	G3816	A3817	G3818	A3819	G3820	A3821	G3822	A3823	G3824	A3825	G3826	A3827	G3828	A3829	G3830	A3831	G3832	A3833	G3834	A3835	G3836	A3837	G3838	A3839	G3840	A3841	G3842	A3843	G3844	A3845	G3846	A3847	G3848	A3849	G3850	A3851	G3852	A3853	G3854	A3855	G3856	A3857	G3858	A3859	G3860	A3861	G3862	A3863	G3864	A3865	G3866	A3867	G3868	A3869	G3870	A3871	G3872	A3873	G3874	A3875	G3876	A3877	G3878	A3879	G3880	A3881	G3882	A3883	G3884	A3885	G3886	A3887	G3888	A3889	G3890	A3891	G3892	A3893	G3894	A3895	G3896	A3897	G3898	A3899	G3900	A3901	G3902	A3903	G3904	A3905	G3906	A3907	G3908	A3909	G3910	A3911	G3912	A3913	G3914	A3915	G3916	A3917	G3918	A3919	G3920	A3921	G3922	A3923	G3924	A3925	G3926	A3927	G3928	A3929	G3930	A3931	G3932	A3933	G3934	A3935	G3936	A3937	G3938	A3939	G3940	A3941	G3942	A3943	G3944	A3945	G3946	A3947	G3948	A3949	G3950	A3951	G3952	A3953	G3954	A3955	G3956	A3957	G3958	A3959	G3960	A3961	G3962	A3963	G3964	A3965	G3966	A3967	G3968	A3969	G3970	A3971	G3972





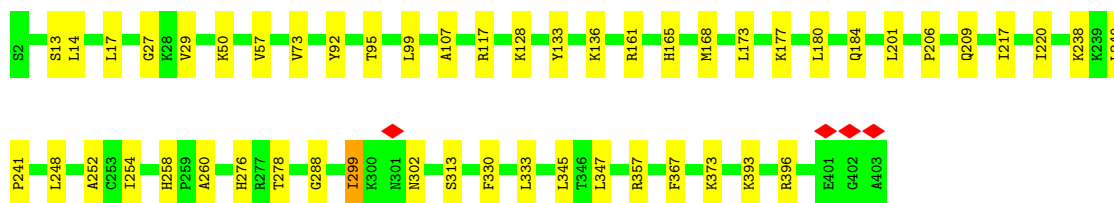
- Molecule 44: 60S ribosomal protein L8

Chain LA: 80% 20%



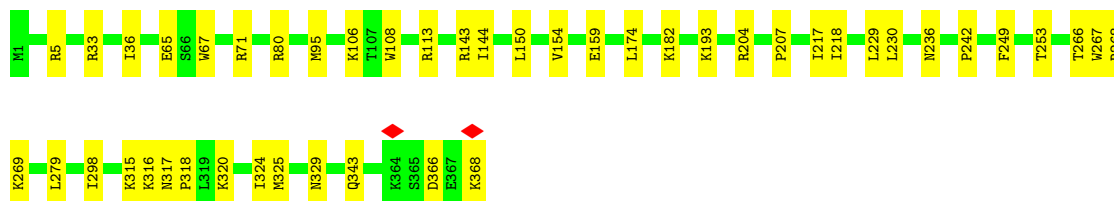
- Molecule 45: Large ribosomal subunit protein uL3

Chain LB: 87% 12%



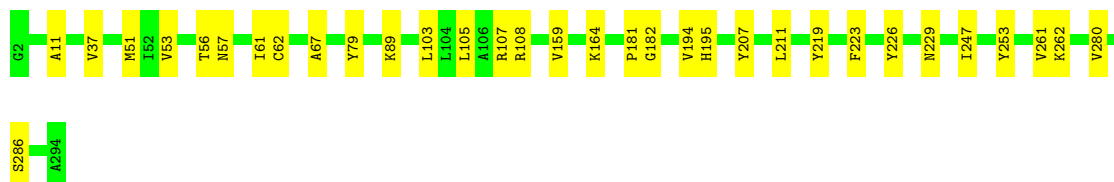
- Molecule 46: 60S ribosomal protein L4

Chain LC: 88% 12%



- Molecule 47: Large ribosomal subunit protein uL18

Chain LD: 89% 11%



- Molecule 48: Large ribosomal subunit protein eL6

Chain LE: 84% 12%







- Molecule 55: 60S ribosomal protein L14

Chain LM: 89% 11%



- Molecule 56: 60S ribosomal protein L15

Chain LN: 94% 6%



- Molecule 57: 60S ribosomal protein L13a

Chain LO: 87% 13%



- Molecule 58: 60S ribosomal protein L17

Chain LP: 86% 14%



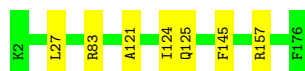
- Molecule 59: 60S ribosomal protein L18

Chain LQ: 95% 5%



- Molecule 60: 60S ribosomal protein L18a

Chain LS: 96% 4%



- Molecule 61: 60S ribosomal protein L21

Chain LT: 94% 6%



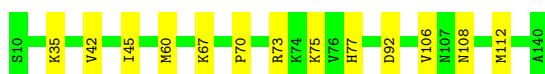
- Molecule 62: Heparin-binding protein HBp15

Chain LU: 86% 14%



- Molecule 63: 60S ribosomal protein L23

Chain LV: 90% 10%



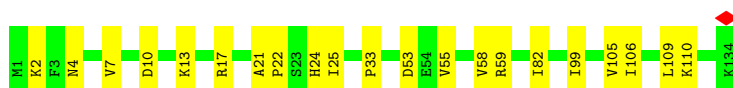
- Molecule 64: 60S ribosomal protein L23a

Chain LX: 95% 5%



- Molecule 65: 60S ribosomal protein L26

Chain LY: 84% 16%



- Molecule 66: 60S ribosomal protein L27

Chain LZ: 94% 6%



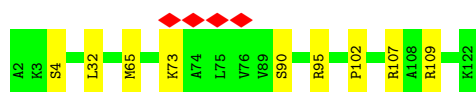
- Molecule 67: 60S ribosomal protein L27a

Chain La: 97% 3%

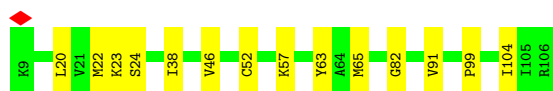
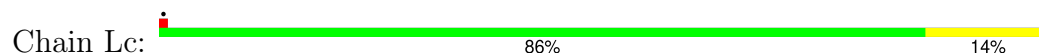


- Molecule 68: Large ribosomal subunit protein eL29

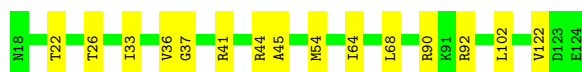
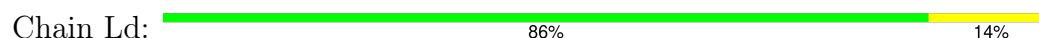
Chain Lb: 92% 8%



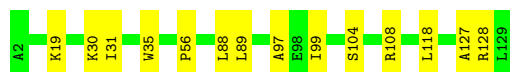
- Molecule 69: 60S ribosomal protein L30



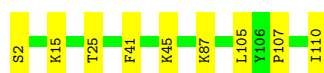
- Molecule 70: 60S ribosomal protein L31



- Molecule 71: 60S ribosomal protein L32



- Molecule 72: 60S ribosomal protein L35a



- Molecule 73: 60S ribosomal protein L34



- Molecule 74: 60S ribosomal protein L35



- Molecule 75: 60S ribosomal protein L36





- Molecule 76: 60S ribosomal protein L37

Chain Lj: 100%

There are no outlier residues recorded for this chain.

- Molecule 77: 60S ribosomal protein L38

Chain Lk: 87% 13%



- Molecule 78: 60S ribosomal protein L39

Chain Ll: 80% 20%



- Molecule 79: Large ribosomal subunit protein eL40

Chain Lm: 90% 10%



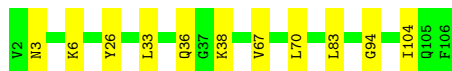
- Molecule 80: 60S ribosomal protein L41

Chain Ln: 88% 12%



- Molecule 81: 60S ribosomal protein L36a

Chain Lo: 90% 10%



- Molecule 82: 60S ribosomal protein L37a

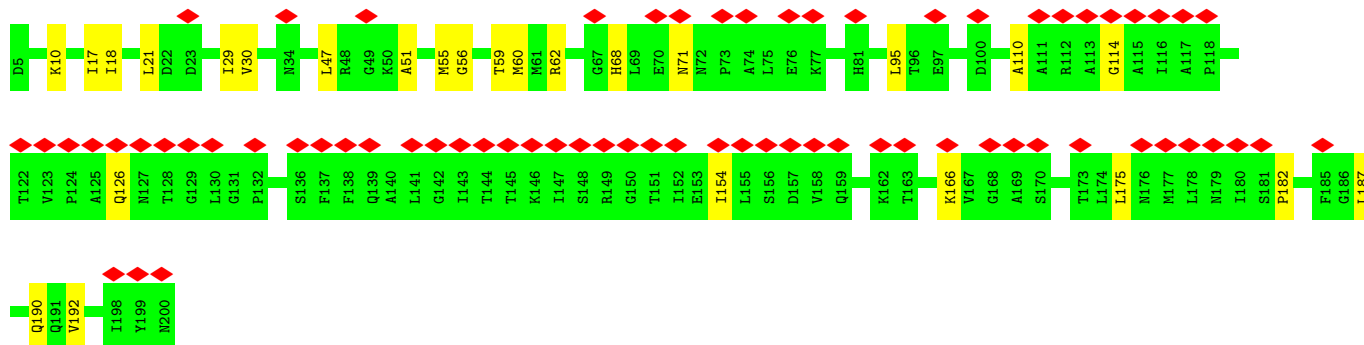
Chain Lp: 96% .



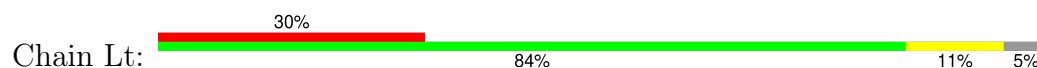
- Molecule 83: 60S ribosomal protein L28



- Molecule 84: 60S acidic ribosomal protein P0



- Molecule 85: Large ribosomal subunit protein uL11



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	86538	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.186	Depositor
Minimum map value	-0.051	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0121	Depositor
Map size ($\text{\AA}$)	546.816, 546.816, 546.816	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.068, 1.068, 1.068	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: SPM, ZN, A2M, PSU, SPD, G7M, UY1, OMG, 4AC, MG, 6MZ, OMU, 1MA, B8N, MA6, 5MC, UR3, OMC

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	SA	0.48	3/1778 (0.2%)	0.55	3/2416 (0.1%)
2	SB	0.12	0/1765	0.31	0/2362
3	SC	0.13	0/1744	0.29	0/2357
4	SE	0.14	0/2118	0.32	0/2849
5	SG	0.12	0/1946	0.30	0/2590
6	SH	0.13	0/1519	0.37	0/2033
7	SI	0.14	0/1715	0.34	0/2287
8	SJ	0.12	0/1550	0.30	0/2069
9	SL	0.14	0/1268	0.27	0/1696
10	SN	0.11	0/1232	0.24	0/1656
11	SO	0.13	0/1037	0.32	0/1391
12	SV	0.12	0/643	0.29	0/860
13	SW	0.13	0/1051	0.28	0/1406
14	SX	0.15	0/1116	0.33	0/1490
15	SY	0.15	0/1083	0.35	0/1438
16	Sa	0.14	0/836	0.32	0/1121
17	Sb	0.13	0/665	0.31	0/891
18	Se	0.11	0/465	0.32	0/612
19	S2	0.18	0/39756	0.28	0/61939
20	LR	0.23	0/1582	0.42	0/2091
21	LW	0.16	0/959	0.30	0/1270
22	SR	0.22	0/1105	0.47	0/1484
23	SD	0.11	0/1793	0.27	0/2414
24	SF	0.11	0/1516	0.30	0/2037
25	SK	0.12	0/851	0.31	0/1147
26	SM	0.10	0/950	0.31	0/1275
27	SP	0.12	0/1003	0.32	0/1342
28	SQ	0.12	0/1160	0.32	0/1553
29	SS	0.11	0/1216	0.30	0/1628
30	ST	0.11	0/1131	0.26	0/1515
31	SU	0.12	0/831	0.33	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	SZ	0.14	0/604	0.37	0/810
33	Sc	0.12	0/508	0.33	0/680
34	Sd	0.16	0/470	0.34	0/623
35	Sf	0.16	0/560	0.46	0/745
36	Sg	0.13	0/2493	0.34	0/3394
37	At	0.12	0/1692	0.25	0/2634
38	Et	0.13	0/1778	0.31	0/2767
39	Pt	0.12	0/1761	0.27	0/2741
40	CI	0.12	0/247	0.25	0/323
41	L5	0.22	0/85098	0.31	0/132762
42	L7	0.19	0/2861	0.27	0/4459
43	L8	0.20	0/3631	0.29	0/5657
44	LA	0.22	0/1936	0.40	0/2596
45	LB	0.20	0/3306	0.36	1/4424 (0.0%)
46	LC	0.21	0/2981	0.35	0/4002
47	LD	0.17	0/2428	0.30	0/3252
48	LE	0.18	0/1973	0.37	0/2645
49	LF	0.19	0/1905	0.29	0/2539
50	LG	0.18	0/1960	0.36	0/2637
51	LH	0.18	0/1537	0.31	0/2066
52	LI	0.17	0/1751	0.28	0/2340
53	LJ	0.14	0/1385	0.31	0/1852
54	LL	0.18	0/1732	0.29	0/2315
55	LM	0.19	0/1161	0.32	0/1554
56	LN	0.21	0/1746	0.31	0/2338
57	LO	0.23	0/1682	0.32	0/2250
58	LP	0.21	0/1268	0.33	0/1701
59	LQ	0.21	0/1537	0.31	0/2052
60	LS	0.19	0/1493	0.28	0/2003
61	LT	0.18	0/1326	0.30	0/1770
62	LU	0.16	0/839	0.36	0/1126
63	LV	0.19	0/993	0.31	0/1332
64	LX	0.17	0/1002	0.29	0/1345
65	LY	0.20	0/1132	0.32	0/1504
66	LZ	0.17	0/1130	0.31	0/1507
67	La	0.19	0/1191	0.29	0/1591
68	Lb	0.16	0/889	0.31	0/1175
69	Lc	0.18	0/774	0.37	0/1038
70	Ld	0.19	0/903	0.33	0/1216
71	Le	0.20	0/1071	0.30	0/1429
72	Lf	0.20	0/895	0.32	0/1198
73	Lg	0.17	0/916	0.29	0/1220
74	Lh	0.16	0/1023	0.29	0/1351

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Li	0.15	0/843	0.28	0/1115
76	Lj	0.21	0/720	0.34	0/952
77	Lk	0.17	0/575	0.31	0/761
78	Ll	0.19	0/454	0.24	0/599
79	Lm	0.17	0/435	0.32	0/575
80	Ln	0.16	0/231	0.23	0/294
81	Lo	0.19	0/876	0.31	0/1156
82	Lp	0.18	0/718	0.30	0/953
83	Lr	0.19	0/1017	0.31	0/1364
84	Ls	0.11	0/1519	0.32	0/2052
85	Lt	0.16	0/1009	0.46	0/1363
All	All	0.19	3/233349 (0.0%)	0.31	4/342481 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	SA	0	2
20	LR	0	1
22	SR	0	3
All	All	0	6

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	SA	149	ASN	CA-CB	-12.65	1.33	1.53
1	SA	148	CYS	CA-CB	9.79	1.70	1.53
1	SA	149	ASN	CA-C	8.75	1.63	1.52

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	149	ASN	N-CA-CB	16.35	137.24	111.24
1	SA	149	ASN	N-CA-C	-7.60	96.96	108.52
1	SA	148	CYS	CB-CA-C	-7.32	95.85	110.42
45	LB	299	ILE	N-CA-C	-5.02	108.40	113.47

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
20	LR	136	ARG	Sidechain
1	SA	205	ARG	Sidechain
1	SA	85	ARG	Sidechain
22	SR	78	ARG	Sidechain
22	SR	80	ARG	Sidechain
22	SR	81	ARG	Sidechain

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	SA	1741	0	1744	24	0
2	SB	1738	0	1809	29	0
3	SC	1707	0	1791	26	0
4	SE	2076	0	2177	39	0
5	SG	1923	0	2089	32	0
6	SH	1497	0	1590	22	0
7	SI	1686	0	1772	20	0
8	SJ	1525	0	1640	27	0
9	SL	1247	0	1323	20	0
10	SN	1208	0	1294	9	0
11	SO	1024	0	1050	18	0
12	SV	636	0	637	9	0
13	SW	1034	0	1080	14	0
14	SX	1098	0	1167	12	0
15	SY	1065	0	1142	15	0
16	Sa	821	0	870	8	0
17	Sb	651	0	670	8	0
18	Se	459	0	503	10	0
19	S2	36952	0	18678	412	0
20	LR	1566	0	1729	11	0
21	LW	945	0	1003	9	0
22	SR	1090	0	1149	18	0
23	SD	1765	0	1865	21	0
24	SF	1495	0	1549	21	0
25	SK	827	0	854	6	0
26	SM	940	0	965	9	0
27	SP	985	0	1031	13	0
28	SQ	1142	0	1213	18	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	SS	1198	0	1261	23	0
30	ST	1112	0	1146	17	0
31	SU	821	0	883	15	0
32	SZ	598	0	656	9	0
33	Sc	506	0	536	9	0
34	Sd	459	0	449	8	0
35	Sf	548	0	551	11	0
36	Sg	2436	0	2391	34	0
37	At	1514	0	770	15	0
38	Et	1593	0	810	22	0
39	Pt	1576	0	803	14	0
40	CI	247	0	283	0	0
41	L5	78444	0	39718	593	0
42	L7	2561	0	1295	14	0
43	L8	3315	0	1685	25	0
44	LA	1898	0	1993	34	0
45	LB	3238	0	3376	34	0
46	LC	2927	0	3104	32	0
47	LD	2382	0	2410	21	0
48	LE	1935	0	2096	19	0
49	LF	1870	0	1996	15	0
50	LG	1927	0	2074	21	0
51	LH	1518	0	1601	12	0
52	LI	1711	0	1749	14	0
53	LJ	1362	0	1399	11	0
54	LL	1701	0	1818	12	0
55	LM	1138	0	1204	11	0
56	LN	1701	0	1749	11	0
57	LO	1650	0	1794	19	0
58	LP	1242	0	1269	14	0
59	LQ	1513	0	1628	6	0
60	LS	1453	0	1490	5	0
61	LT	1298	0	1366	7	0
62	LU	825	0	850	9	0
63	LV	979	0	1039	7	0
64	LX	985	0	1066	4	0
65	LY	1115	0	1205	13	0
66	LZ	1107	0	1182	5	0
67	La	1162	0	1213	3	0
68	Lb	876	0	948	7	0
69	Lc	764	0	804	9	0
70	Ld	888	0	930	10	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
71	Le	1053	0	1147	9	0
72	Lf	876	0	912	6	0
73	Lg	906	0	998	5	0
74	Lh	1015	0	1148	12	0
75	Li	832	0	917	3	0
76	Lj	705	0	737	0	0
77	Lk	569	0	637	6	0
78	Ll	444	0	483	8	0
79	Lm	429	0	465	3	0
80	Ln	230	0	276	4	0
81	Lo	862	0	929	9	0
82	Lp	708	0	756	3	0
83	Lr	1002	0	1068	0	0
84	Ls	1496	0	1540	16	0
85	Lt	998	0	1032	9	0
86	L5	179	0	0	0	0
86	L7	3	0	0	0	0
86	L8	5	0	0	0	0
86	LA	1	0	0	0	0
86	LP	1	0	0	0	0
86	LV	1	0	0	0	0
86	Le	1	0	0	0	0
86	S2	26	0	0	0	0
86	SO	1	0	0	0	0
86	SS	1	0	0	0	0
87	Lg	1	0	0	0	0
87	Lj	1	0	0	0	0
87	Lm	1	0	0	0	0
87	Lo	1	0	0	0	0
87	Lp	1	0	0	0	0
87	Sa	1	0	0	0	0
88	L5	98	0	182	4	0
89	L5	80	0	152	3	0
89	L8	10	0	19	0	0
89	LN	10	0	19	0	0
All	All	221484	0	164391	1911	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 5.

All (1911) 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)
41:L5:1100:U:H3	41:L5:1194:G:H1	1.09	0.98
41:L5:2557:G:H1	41:L5:2570:U:H3	1.04	0.96
19:S2:1652:G:H1	19:S2:1672:U:H3	1.00	0.95
19:S2:1533:A:N6	19:S2:1602:U:H3	1.64	0.94
19:S2:1417:C:N4	19:S2:1422:G:H22	1.66	0.94
39:Pt:50:U:H3	39:Pt:64:G:H1	0.97	0.94
19:S2:1417:C:H42	19:S2:1422:G:H22	0.94	0.91
19:S2:1417:C:H42	19:S2:1422:G:N2	1.70	0.89
41:L5:1095:A:H2	41:L5:1200:G:H1	1.21	0.89
38:Et:26:A:H61	38:Et:44:G:H1	1.15	0.88
38:Et:26:A:N6	38:Et:44:G:H1	1.73	0.85
37:At:50:U:H3	37:At:64:G:H1	1.19	0.84
41:L5:1095:A:C2	41:L5:1200:G:N1	2.48	0.82
37:At:3:C:H42	37:At:70:A:H61	1.25	0.81
19:S2:1324:G:H1	19:S2:1504:U:H3	1.29	0.79
6:SH:144:ILE:HD13	6:SH:154:ILE:HG13	1.66	0.77
19:S2:1533:A:H62	19:S2:1602:U:H3	0.82	0.77
88:L5:5292:SPM:H112	57:LO:91:LYS:HD3	1.67	0.74
6:SH:17:ASP:HB2	6:SH:20:GLU:HB2	1.69	0.74
41:L5:3717:A:H2'	41:L5:3718:A2M:H8	1.70	0.74
41:L5:2484:A:H62	41:L5:2494:U:H3	1.33	0.73
3:SC:193:VAL:HG11	3:SC:240:THR:HG22	1.71	0.72
19:S2:1398:G:H1'	36:Sg:63:SER:HB2	1.70	0.72
41:L5:2611:A:H5'	41:L5:2688:G:H4'	1.71	0.72
41:L5:3944:G:H1	41:L5:4069:U:H3	1.36	0.72
32:SZ:99:LEU:HD21	32:SZ:102:LYS:HB2	1.71	0.72
3:SC:210:PRO:HB3	3:SC:240:THR:HG21	1.71	0.72
20:LR:132:PHE:HA	20:LR:137:ILE:HD11	1.71	0.71
41:L5:665:C:H4'	41:L5:666:G:H5'	1.72	0.71
3:SC:264:SER:H	3:SC:267:GLN:HE21	1.36	0.71
51:LH:106:GLN:HB2	51:LH:111:LEU:HB3	1.72	0.71
7:SI:87:ASN:HB3	7:SI:90:LEU:HD23	1.72	0.71
36:Sg:247:TRP:HB3	36:Sg:258:ILE:HD11	1.73	0.70
11:SO:95:ILE:HB	11:SO:129:ILE:HG22	1.72	0.70
46:LC:230:LEU:HD21	46:LC:236:ASN:H	1.56	0.70
19:S2:533:A:H61	19:S2:550:C:H42	1.37	0.69
37:At:18:G:O6	37:At:55:U:O2	2.10	0.69
19:S2:1581:C:H5'	19:S2:1582:C:H5	1.58	0.69
41:L5:3937:C:H1'	56:LN:125:SER:HB3	1.73	0.69
41:L5:2486:G:O6	41:L5:2493:G:O6	2.11	0.69
6:SH:105:THR:HG23	6:SH:107:LYS:H	1.59	0.68
16:Sa:38:LYS:HB2	16:Sa:71:LEU:HB2	1.74	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1976:G:O6	41:L5:1990:A:N1	2.26	0.68
19:S2:1435:C:H42	31:SU:92:HIS:HB3	1.58	0.68
22:SR:17:ILE:HD11	22:SR:54:VAL:HA	1.74	0.68
19:S2:1228:A:H2'	19:S2:1229:G:H8	1.57	0.68
55:LM:15:VAL:HG22	55:LM:50:MET:HE1	1.74	0.68
6:SH:144:ILE:HD11	6:SH:152:ARG:HB3	1.76	0.67
7:SI:148:LYS:HD3	7:SI:152:ARG:HH11	1.59	0.67
41:L5:2351:OMC:HM22	46:LC:95:MET:HG3	1.75	0.67
3:SC:196:ILE:HB	3:SC:223:TYR:HB2	1.76	0.67
9:SL:133:PRO:HG2	19:S2:383:G:H21	1.59	0.67
41:L5:1974:U:H4'	41:L5:1975:G:H3'	1.76	0.67
41:L5:1095:A:H2	41:L5:1200:G:N1	1.88	0.67
7:SI:125:LYS:HB2	7:SI:128:LYS:HZ1	1.59	0.67
41:L5:1404:G:N7	41:L5:1408:G:N2	2.43	0.67
85:Lt:117:ARG:HE	85:Lt:119:ARG:H	1.42	0.67
15:SY:55:ILE:HG23	15:SY:75:ILE:HG22	1.77	0.66
19:S2:928:G:H1	19:S2:1013:U:H3	1.43	0.66
41:L5:3868:G:H22	41:L5:3900:G:H1'	1.60	0.66
8:SJ:148:ILE:HG13	19:S2:821:G:H22	1.61	0.66
1:SA:77:ILE:HG22	1:SA:99:ILE:HB	1.77	0.66
11:SO:33:ILE:HG22	11:SO:42:VAL:HA	1.78	0.66
35:Sf:141:CYS:HB3	35:Sf:144:CYS:HB2	1.76	0.66
41:L5:3697:U:H5''	41:L5:3698:G:H5'	1.78	0.66
28:SQ:43:GLU:HG3	28:SQ:44:PRO:HD3	1.77	0.66
19:S2:1228:A:H2'	19:S2:1229:G:C8	2.31	0.66
19:S2:508:A:H3'	19:S2:509:OMG:H8	1.61	0.66
19:S2:1433:C:H42	31:SU:92:HIS:HD2	1.41	0.66
1:SA:70:ASN:HB3	1:SA:73:ASP:HB2	1.77	0.66
19:S2:106:C:H2'	19:S2:107:A:H8	1.60	0.66
19:S2:874:G:H2'	19:S2:875:A:H8	1.62	0.65
19:S2:928:G:H2'	19:S2:929:G:C8	2.31	0.65
48:LE:264:ILE:HD11	48:LE:267:LEU:HD22	1.78	0.65
4:SE:44:LEU:HD21	4:SE:72:ILE:HD11	1.78	0.65
5:SG:170:ARG:HB3	19:S2:72:C:H42	1.62	0.65
13:SW:3:ARG:HH22	13:SW:28:ARG:HH21	1.43	0.65
41:L5:1095:A:N1	41:L5:1200:G:O6	2.29	0.65
44:LA:31:ALA:HB2	44:LA:123:ARG:HH21	1.62	0.65
19:S2:587:A:H5'	19:S2:592:C:H41	1.61	0.65
44:LA:114:CYS:HB3	44:LA:165:VAL:HB	1.79	0.65
45:LB:220:ILE:HG23	45:LB:278:THR:HG22	1.79	0.65
41:L5:4594:U:H2'	41:L5:4595:G:H8	1.62	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:LL:145:LYS:HG3	54:LL:146:LEU:HD12	1.79	0.64
38:Et:37:A:H3'	38:Et:38:A:H8	1.62	0.64
19:S2:1030:A:H2'	19:S2:1031:A2M:H8	1.79	0.64
65:LY:10:ASP:HB3	65:LY:13:LYS:HB2	1.80	0.64
19:S2:1417:C:O2	19:S2:1422:G:O6	2.15	0.64
36:Sg:208:ALA:HB2	36:Sg:218:LEU:HD13	1.80	0.64
81:Lo:6:LYS:HE2	81:Lo:94:GLY:HA3	1.79	0.64
41:L5:2458:C:H5''	56:LN:67:ARG:HD2	1.79	0.64
47:LD:223:PHE:HB3	47:LD:226:TYR:HB2	1.79	0.64
49:LF:105:VAL:HG13	49:LF:136:VAL:HG12	1.80	0.63
9:SL:61:PRO:HB3	9:SL:68:ILE:HD11	1.80	0.63
19:S2:1673:U:H5''	28:SQ:78:VAL:HG12	1.80	0.63
77:Lk:24:LYS:HB3	77:Lk:69:LEU:HD11	1.80	0.63
36:Sg:20:GLN:HG2	36:Sg:69:VAL:H	1.64	0.63
5:SG:133:LEU:HD12	19:S2:65:C:C4	2.34	0.63
19:S2:1545:A:H4'	28:SQ:75:GLY:H	1.63	0.63
35:Sf:126:CYS:HB3	35:Sf:130:VAL:HG21	1.81	0.63
41:L5:2554:U:O2	41:L5:2764:A:N7	2.32	0.63
41:L5:4363:A:H5''	81:Lo:36:GLN:HG2	1.80	0.63
18:Se:36:MET:HG2	18:Se:40:ARG:HH12	1.64	0.62
19:S2:116:OMU:HN3	19:S2:347:G:H1	1.46	0.62
41:L5:1759:G:H1	41:L5:1773:U:H3	1.47	0.62
19:S2:1533:A:N7	19:S2:1602:U:O4	2.32	0.62
36:Sg:174:VAL:HB	36:Sg:188:HIS:HB2	1.80	0.62
41:L5:1973:G:H3'	41:L5:1974:U:H2'	1.80	0.62
44:LA:107:MET:HB3	44:LA:111:THR:HG21	1.82	0.62
22:SR:98:VAL:HG21	22:SR:117:LEU:HB3	1.81	0.62
39:Pt:1:G:H21	52:LI:111:LEU:HD22	1.65	0.62
51:LH:93:ARG:HD2	51:LH:143:GLU:HG2	1.81	0.62
41:L5:2613:C:H4'	73:Lg:2:VAL:HG23	1.81	0.61
28:SQ:39:LEU:HD11	28:SQ:51:LEU:HB3	1.82	0.61
41:L5:261:G:H2'	41:L5:262:G:C8	2.35	0.61
41:L5:1332:C:H2'	41:L5:1333:A:H8	1.63	0.61
41:L5:4537:C:H2'	41:L5:4538:G:H8	1.64	0.61
41:L5:4098:A:H2'	41:L5:4099:G:H4'	1.83	0.61
19:S2:639:C:H2'	19:S2:640:A:H8	1.66	0.61
36:Sg:22:ALA:HB2	36:Sg:69:VAL:HG13	1.82	0.61
6:SH:37:LYS:HZ3	6:SH:40:LEU:HD22	1.66	0.61
72:Lf:15:LYS:HB3	72:Lf:25:THR:HG23	1.81	0.61
19:S2:1298:G:C4	27:SP:79:HIS:HD2	2.18	0.61
7:SI:22:HIS:HB3	19:S2:433:A:H5''	1.82	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Et:26:A:N1	38:Et:44:G:N2	2.48	0.61
41:L5:654:C:H4'	46:LC:269:LYS:HD3	1.82	0.61
41:L5:4966:A:H5''	45:LB:128:LYS:HG3	1.82	0.61
3:SC:68:ARG:HG2	3:SC:277:HIS:HB2	1.83	0.60
13:SW:107:SER:HB2	19:S2:860:G:H21	1.65	0.60
31:SU:51:LYS:HB2	31:SU:90:ASP:HB2	1.81	0.60
50:LG:167:VAL:HG12	50:LG:170:LEU:HD12	1.82	0.60
3:SC:167:ARG:HB3	3:SC:177:PRO:HB2	1.82	0.60
29:SS:86:ARG:HH21	29:SS:106:LYS:HB3	1.66	0.60
33:Sc:44:ARG:HH22	33:Sc:63:ARG:HH11	1.49	0.60
4:SE:159:THR:HB	4:SE:173:ILE:HB	1.82	0.60
26:SM:26:LEU:HA	26:SM:31:LEU:HD21	1.81	0.60
41:L5:1942:A:H2'	41:L5:1943:A:C8	2.35	0.60
52:LI:3:ARG:HG3	52:LI:123:GLN:HE22	1.66	0.60
9:SL:85:THR:HG21	19:S2:373:G:H4'	1.83	0.60
41:L5:2745:A:H2'	41:L5:2746:A:H8	1.67	0.60
2:SB:57:ILE:HG22	2:SB:59:SER:H	1.66	0.60
19:S2:689:U:H3'	19:S2:690:G:H21	1.66	0.60
19:S2:1277:C:H2'	19:S2:1278:A:H8	1.66	0.60
27:SP:81:ARG:HB2	27:SP:117:GLY:HA3	1.83	0.60
65:LY:4:ASN:HB3	65:LY:7:VAL:HG12	1.83	0.60
4:SE:141:THR:HG23	4:SE:143:ASP:H	1.67	0.60
7:SI:57:ALA:HB2	7:SI:183:GLY:HA2	1.83	0.60
41:L5:1629:G:H1	44:LA:208:GLU:HG2	1.66	0.60
19:S2:323:C:H2'	19:S2:327:G:H22	1.65	0.60
41:L5:3701:OMC:H5	41:L5:3748:A:H62	1.47	0.60
11:SO:52:THR:HG21	19:S2:952:G:H21	1.67	0.60
28:SQ:130:LYS:HA	28:SQ:137:ALA:HA	1.84	0.60
52:LI:54:SER:HB3	52:LI:135:ILE:HD11	1.84	0.60
41:L5:137:G:H2'	41:L5:138:G:H8	1.67	0.59
41:L5:300:A:H2'	41:L5:301:G:H8	1.67	0.59
10:SN:99:ARG:HE	10:SN:115:LEU:HD21	1.67	0.59
23:SD:137:VAL:HG22	23:SD:151:LYS:HG3	1.83	0.59
41:L5:4992:G:H2'	41:L5:4993:G:C8	2.36	0.59
19:S2:1562:C:H2'	19:S2:1563:G:H8	1.65	0.59
41:L5:1414:C:H2'	41:L5:1415:G:H8	1.65	0.59
6:SH:144:ILE:HG23	13:SW:52:ILE:HB	1.83	0.59
19:S2:1203:G:H2'	19:S2:1204:A:C8	2.37	0.59
19:S2:1362:U:H5''	19:S2:1363:C:H5	1.66	0.59
41:L5:4274:A:H2'	41:L5:4275:G:C8	2.37	0.59
5:SG:147:LEU:HD21	5:SG:156:TYR:HD2	1.68	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Se:32:ALA:HB2	19:S2:525:A:H5''	1.84	0.59
19:S2:1431:G:H4'	19:S2:1434:C:H41	1.68	0.59
21:LW:5:LEU:HB3	21:LW:30:GLN:HG3	1.84	0.59
41:L5:1326:A2M:H2'	41:L5:1327:C:C6	2.37	0.59
2:SB:192:SER:HA	2:SB:195:LYS:HD2	1.83	0.59
31:SU:27:ARG:HD3	31:SU:82:MET:HE3	1.85	0.59
19:S2:1677:U:H2'	19:S2:1678:A:H8	1.68	0.59
10:SN:40:LEU:HB3	10:SN:45:LEU:HD12	1.84	0.59
41:L5:4242:U:H3	41:L5:4281:A:H2	1.50	0.58
19:S2:857:U:H2'	19:S2:858:A:H8	1.68	0.58
23:SD:158:ILE:HG23	23:SD:189:MET:HE1	1.85	0.58
41:L5:4279:A:H5'	41:L5:4281:A:H1'	1.85	0.58
45:LB:107:ALA:HB2	45:LB:201:LEU:HD22	1.85	0.58
58:LP:39:MET:HG2	58:LP:43:LYS:HD3	1.84	0.58
5:SG:135:PRO:HA	19:S2:169:U:H5''	1.86	0.58
11:SO:34:PHE:HB3	11:SO:41:PHE:HB2	1.85	0.58
19:S2:1603:G:H21	29:SS:24:ARG:HH21	1.51	0.58
19:S2:121:OMU:HM22	19:S2:122:G:H5'	1.85	0.58
19:S2:1532:C:H3'	19:S2:1637:A:H62	1.67	0.58
84:Ls:114:GLY:HA2	84:Ls:166:LYS:HD2	1.83	0.58
88:L5:5288:SPM:H21	89:L5:5289:SPD:H102	1.68	0.58
2:SB:122:GLU:HG2	2:SB:140:VAL:HG12	1.84	0.58
9:SL:73:LEU:HD11	9:SL:109:MET:HE1	1.86	0.58
36:Sg:5:MET:HB2	36:Sg:270:LEU:HD21	1.84	0.58
41:L5:1870:C:H2'	41:L5:1871:A2M:H8	1.84	0.58
57:LO:126:VAL:HG13	57:LO:127:VAL:HG13	1.85	0.58
19:S2:1513:C:H2'	19:S2:1514:G:H8	1.68	0.58
31:SU:54:VAL:HB	31:SU:88:LEU:HB2	1.84	0.58
36:Sg:89:LEU:HB2	36:Sg:101:PHE:HE1	1.68	0.58
4:SE:153:LEU:HD12	5:SG:216:ARG:HH11	1.69	0.58
38:Et:28:C:H2'	38:Et:29:A:H8	1.69	0.58
5:SG:7:PHE:HB3	5:SG:10:THR:HG22	1.85	0.57
39:Pt:50:U:O2	39:Pt:64:G:N2	2.27	0.57
44:LA:20:VAL:HA	44:LA:23:ARG:HG3	1.84	0.57
77:Lk:13:LEU:HA	77:Lk:16:ARG:HG2	1.86	0.57
8:SJ:119:LEU:HD13	8:SJ:135:ILE:HD11	1.85	0.57
41:L5:1344:C:H1'	54:LL:10:LEU:HD11	1.86	0.57
41:L5:4991:U:H2'	41:L5:4992:G:H8	1.70	0.57
43:L8:67:U:H2'	43:L8:68:G:H8	1.69	0.57
44:LA:101:VAL:HG22	44:LA:165:VAL:HG22	1.86	0.57
19:S2:1829:G:H1'	19:S2:1850:MA6:H2	1.86	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:2486:G:N7	41:L5:2493:G:N1	2.46	0.57
58:LP:131:ARG:HG3	58:LP:137:ASN:OD1	2.05	0.57
19:S2:696:G:H21	19:S2:737:G:H22	1.52	0.57
9:SL:132:ARG:HD3	19:S2:114:G:H5'	1.86	0.57
13:SW:3:ARG:HD3	13:SW:6:VAL:HG22	1.86	0.57
19:S2:525:A:H2'	19:S2:526:A:H8	1.69	0.57
19:S2:1705:C:H2'	19:S2:1706:G:C8	2.40	0.57
43:L8:52:A:H4'	78:L1:19:GLN:HA	1.86	0.57
85:Lt:64:ILE:HB	85:Lt:71:ILE:HG13	1.86	0.57
19:S2:556:U:H3'	19:S2:557:U:H4'	1.85	0.57
41:L5:4274:A:H2'	41:L5:4275:G:H8	1.70	0.57
19:S2:943:U:H2'	19:S2:944:A:H8	1.70	0.57
22:SR:75:GLU:HA	22:SR:78:ARG:HB2	1.87	0.57
29:SS:121:ARG:HG3	29:SS:131:VAL:HB	1.87	0.57
41:L5:1503:A:H62	59:LQ:87:THR:HG21	1.70	0.57
41:L5:4967:A:H2'	41:L5:4968:A:H8	1.69	0.57
10:SN:66:VAL:HG13	10:SN:67:THR:HG23	1.86	0.57
11:SO:143:LYS:HB2	19:S2:1047:C:H5''	1.85	0.57
27:SP:118:GLU:HG2	29:SS:120:HIS:H	1.70	0.57
41:L5:262:G:H2'	41:L5:263:G:H8	1.69	0.57
41:L5:4530:UR3:H2'	41:L5:4531:U:H2'	1.86	0.57
2:SB:109:LYS:HG3	2:SB:113:MET:HE2	1.86	0.57
20:LR:133:LYS:H	20:LR:137:ILE:HD11	1.70	0.57
53:LJ:146:ARG:HG2	53:LJ:147:ARG:HG3	1.86	0.57
62:LU:65:ARG:HG2	62:LU:67:LYS:H	1.70	0.57
33:Sc:17:VAL:HA	33:Sc:30:VAL:HG12	1.87	0.56
41:L5:2362:U:H2'	41:L5:2363:A2M:H8	1.86	0.56
63:LV:60:MET:HE1	63:LV:108:ASN:HA	1.85	0.56
41:L5:1100:U:O4	41:L5:1194:G:O6	2.23	0.56
41:L5:1509:C:H5''	67:La:2:PRO:HD3	1.87	0.56
41:L5:2903:G:H1'	41:L5:2904:U:H5	1.70	0.56
41:L5:1095:A:N1	41:L5:1200:G:C6	2.73	0.56
41:L5:2745:A:H2'	41:L5:2746:A:C8	2.41	0.56
65:LY:33:PRO:HG2	65:LY:105:VAL:HG12	1.87	0.56
70:Ld:90:ARG:HD3	70:Ld:102:LEU:HD13	1.86	0.56
81:Lo:33:LEU:HA	81:Lo:38:LYS:HG2	1.87	0.56
41:L5:4694:G:H4'	51:LH:71:ARG:HH12	1.70	0.56
6:SH:20:GLU:HG2	6:SH:48:ALA:HB3	1.87	0.56
41:L5:2520:C:H2'	41:L5:2521:G:H8	1.68	0.56
2:SB:150:ILE:HG12	19:S2:1124:C:H5''	1.88	0.56
36:Sg:87:LEU:HB2	36:Sg:101:PHE:HB2	1.86	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:318:A:H2'	41:L5:319:A:H8	1.69	0.56
45:LB:57:VAL:HG22	45:LB:73:VAL:HG12	1.87	0.56
45:LB:299:ILE:HG22	45:LB:313:SER:HB3	1.88	0.56
62:LU:18:VAL:HG13	62:LU:73:THR:HG23	1.87	0.56
23:SD:132:LYS:HB2	23:SD:189:MET:HG2	1.88	0.56
56:LN:5:LYS:HG3	75:Li:40:VAL:HG11	1.88	0.56
7:SI:83:TYR:HB3	7:SI:101:ILE:HG12	1.88	0.56
19:S2:1536:G:H2'	19:S2:1537:A:H8	1.70	0.56
19:S2:1653:U:H3	19:S2:1671:G:H1	1.53	0.56
41:L5:2764:A:H2'	41:L5:2765:A:H8	1.71	0.56
41:L5:3664:G:H2'	41:L5:3665:G:H8	1.71	0.56
11:SO:44:VAL:HG13	11:SO:53:ILE:HB	1.88	0.56
31:SU:66:ARG:HH12	31:SU:75:LYS:HD3	1.71	0.56
41:L5:1969:G:H21	41:L5:1999:A:H1'	1.70	0.56
41:L5:1996:C:N4	41:L5:2000:G:H22	2.04	0.56
41:L5:4594:U:H2'	41:L5:4595:G:C8	2.41	0.56
45:LB:165:HIS:HB3	45:LB:180:LEU:HD23	1.88	0.56
79:Lm:99:CYS:HB2	79:Lm:114:LYS:HE2	1.86	0.56
1:SA:198:MET:HE1	1:SA:200:ASP:HB2	1.87	0.56
6:SH:87:PHE:HB3	6:SH:90:LYS:HG3	1.88	0.56
7:SI:72:CYS:HG	7:SI:112:TRP:CG	2.24	0.56
50:LG:157:ILE:HA	50:LG:201:THR:HG22	1.88	0.56
51:LH:104:VAL:HB	51:LH:113:GLU:HB2	1.88	0.56
19:S2:517:OMC:HM22	19:S2:518:G:H5'	1.87	0.55
19:S2:1536:G:H2'	19:S2:1537:A:C8	2.41	0.55
28:SQ:42:ILE:HG23	28:SQ:44:PRO:HD2	1.88	0.55
41:L5:2744:A:H2'	41:L5:2745:A:C8	2.40	0.55
41:L5:4238:G:H2'	41:L5:4239:A:H8	1.71	0.55
41:L5:4967:A:H2'	41:L5:4968:A:C8	2.41	0.55
2:SB:25:PHE:HB2	11:SO:17:LEU:HD23	1.88	0.55
14:SX:91:LEU:HD21	18:Se:6:LEU:HD23	1.88	0.55
19:S2:600:G:H2'	19:S2:601:OMG:H8	1.70	0.55
51:LH:106:GLN:HG3	51:LH:111:LEU:HD23	1.88	0.55
57:LO:61:ARG:HA	57:LO:70:PRO:HD2	1.87	0.55
41:L5:3732:A:H2'	41:L5:3733:A:H8	1.71	0.55
45:LB:50:LYS:HB2	45:LB:345:LEU:HD11	1.87	0.55
19:S2:857:U:H2'	19:S2:858:A:C8	2.41	0.55
19:S2:952:G:H2'	19:S2:953:C:C6	2.42	0.55
27:SP:130:ARG:HD3	27:SP:131:PRO:HD2	1.89	0.55
48:LE:149:ILE:HD12	48:LE:271:LEU:HD21	1.87	0.55
19:S2:28:U:H2'	19:S2:29:G:H8	1.72	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:2492:C:H2'	41:L5:2493:G:H8	1.71	0.55
19:S2:201:C:H3'	19:S2:202:G:H21	1.72	0.55
19:S2:557:U:H2'	19:S2:558:G:C8	2.42	0.55
19:S2:929:G:H2'	19:S2:930:C:O4'	2.07	0.55
23:SD:204:LEU:HB2	23:SD:207:HIS:HB3	1.89	0.55
41:L5:4220:6MZ:O1P	41:L5:4220:6MZ:H8	2.07	0.55
41:L5:4991:U:H2'	41:L5:4992:G:C8	2.42	0.55
15:SY:37:LYS:HA	15:SY:40:ILE:HD12	1.89	0.55
41:L5:497:G:H1	41:L5:657:C:H42	1.54	0.55
41:L5:1094:G:O6	41:L5:1201:U:O2	2.24	0.55
41:L5:1732:C:H5''	61:LT:43:LYS:HE2	1.88	0.55
19:S2:1683:C:H1'	24:SF:128:ILE:HG21	1.89	0.55
41:L5:1994:C:H2'	41:L5:1995:G:C8	2.41	0.55
41:L5:2521:G:H4'	73:Lg:26:PRO:HD2	1.89	0.55
44:LA:54:ARG:HH11	44:LA:58:LEU:HD21	1.71	0.55
55:LM:101:LYS:HD2	57:LO:201:LEU:HG	1.89	0.55
17:Sb:56:CYS:HB2	17:Sb:59:CYS:H	1.72	0.55
19:S2:640:A:H2'	19:S2:641:A:C8	2.42	0.55
31:SU:48:LEU:HG	31:SU:93:SER:HB3	1.87	0.55
41:L5:4642:U:H2'	41:L5:4643:G:H8	1.72	0.55
14:SX:68:LYS:HG2	14:SX:91:LEU:HD22	1.89	0.54
19:S2:1388:A:H61	23:SD:161:GLY:HA3	1.71	0.54
38:Et:9:A:H2'	38:Et:11:C:H41	1.72	0.54
3:SC:191:VAL:HG11	3:SC:236:PHE:HA	1.89	0.54
28:SQ:58:LEU:HD13	28:SQ:108:ILE:HD11	1.89	0.54
41:L5:3736:A:H2'	41:L5:3737:A:C8	2.43	0.54
41:L5:3932:U:H2'	41:L5:3933:G:H8	1.72	0.54
31:SU:80:PHE:HB3	34:Sd:52:PHE:HB3	1.88	0.54
41:L5:1726:U:H5'	49:LF:135:ILE:HD11	1.89	0.54
41:L5:3950:U:H3'	41:L5:3951:G:C8	2.42	0.54
63:LV:42:VAL:HB	63:LV:45:ILE:HG13	1.89	0.54
19:S2:382:C:H2'	19:S2:383:G:C8	2.43	0.54
16:Sa:11:ALA:HB3	16:Sa:33:ASP:HB2	1.89	0.54
23:SD:131:ALA:HA	23:SD:191:PRO:HD3	1.89	0.54
41:L5:2517:A:H5'	73:Lg:62:LYS:HD3	1.89	0.54
41:L5:4563:U:H2'	41:L5:4564:A:H8	1.72	0.54
1:SA:76:VAL:HG12	1:SA:123:VAL:HB	1.87	0.54
14:SX:66:ILE:HG13	18:Se:5:SER:HB2	1.90	0.54
19:S2:1382:A:H2'	19:S2:1383:A2M:H8	1.89	0.54
41:L5:3717:A:H2'	41:L5:3718:A2M:C8	2.37	0.54
84:Ls:10:LYS:HA	84:Ls:60:MET:HE1	1.90	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SX:107:ARG:HG3	14:SX:110:HIS:HB3	1.90	0.54
19:S2:1337:4AC:H2'	19:S2:1338:G:H8	1.72	0.54
41:L5:1440:U:H3	41:L5:2105:A:H2	1.56	0.54
60:LS:27:LEU:HB3	61:LT:148:PRO:HB3	1.89	0.54
5:SG:37:ALA:HA	5:SG:49:VAL:HA	1.90	0.54
19:S2:106:C:H2'	19:S2:107:A:C8	2.42	0.54
19:S2:1203:G:H2'	19:S2:1204:A:H8	1.70	0.54
37:At:50:U:O4	37:At:64:G:O6	2.25	0.54
41:L5:4260:U:H2'	41:L5:4261:C:C6	2.43	0.54
19:S2:391:C:H2'	19:S2:392:A:H8	1.73	0.54
19:S2:1628:C:H2'	19:S2:1629:C:C6	2.43	0.54
29:SS:40:TYR:HA	29:SS:83:PHE:HE2	1.73	0.54
41:L5:3599:A:H2'	41:L5:3600:G:C8	2.43	0.54
41:L5:4474:A:H5''	79:Lm:125:LYS:HG3	1.90	0.54
41:L5:444:G:H22	41:L5:1303:A:H2	1.56	0.54
41:L5:1538:U:H2'	41:L5:1539:G:H8	1.73	0.54
44:LA:137:ILE:HD11	44:LA:149:LYS:HB2	1.90	0.54
46:LC:315:LYS:HD2	49:LF:168:ALA:HB1	1.90	0.54
14:SX:88:ASP:HA	19:S2:617:G:H4'	1.90	0.53
41:L5:1481:C:H41	75:Li:4:ARG:HG3	1.73	0.53
41:L5:4457:PSU:H1'	45:LB:252:ALA:HB3	1.90	0.53
52:LI:103:LEU:HB2	52:LI:112:GLN:HE22	1.73	0.53
55:LM:122:ILE:HB	57:LO:189:ILE:HD11	1.90	0.53
2:SB:224:GLU:HB3	2:SB:227:LYS:HD2	1.89	0.53
5:SG:135:PRO:HG2	5:SG:141:ILE:HG22	1.89	0.53
13:SW:93:LEU:HB2	13:SW:102:ILE:HD11	1.90	0.53
41:L5:171:U:H4'	54:LL:135:LYS:HG2	1.90	0.53
41:L5:318:A:H2'	41:L5:319:A:C8	2.43	0.53
29:SS:36:VAL:HG22	29:SS:99:LEU:HD22	1.91	0.53
38:Et:6:G:H1	38:Et:67:U:H3	1.56	0.53
41:L5:3861:A:H2'	41:L5:3862:A:H8	1.72	0.53
41:L5:4347:G:H2'	41:L5:4348:A:C8	2.43	0.53
43:L8:96:C:H5''	74:Lh:66:LYS:HG2	1.90	0.53
58:LP:109:VAL:HA	58:LP:112:LEU:HD13	1.90	0.53
19:S2:841:G:HO2'	19:S2:842:C:H6	1.57	0.53
19:S2:1098:C:H2'	19:S2:1099:G:C8	2.44	0.53
19:S2:1289:U:H4'	25:SK:2:LEU:HD21	1.90	0.53
41:L5:502:C:H3'	41:L5:503:C:H3'	1.91	0.53
41:L5:966:A:H5''	41:L5:2092:G:H22	1.73	0.53
41:L5:1577:G:O2'	41:L5:1612:G:H4'	2.08	0.53
41:L5:2017:A:O2'	41:L5:2018:C:H6	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:907:G:H2'	19:S2:908:A:C8	2.43	0.53
19:S2:1096:G:H1	19:S2:1136:U:H3	1.57	0.53
27:SP:73:PRO:HG2	27:SP:92:SER:HA	1.90	0.53
41:L5:4088:C:H2'	41:L5:4089:G:H8	1.74	0.53
41:L5:4188:U:H2'	41:L5:4189:U:C6	2.44	0.53
41:L5:4537:C:H2'	41:L5:4538:G:C8	2.43	0.53
44:LA:36:GLU:HG3	44:LA:91:GLY:HA2	1.90	0.53
77:Lk:12:LEU:HB3	77:Lk:16:ARG:HH21	1.72	0.53
38:Et:33:U:H2'	38:Et:35:U:H5''	1.89	0.53
41:L5:93:G:H2'	41:L5:94:A:C8	2.44	0.53
3:SC:78:LEU:HD12	3:SC:81:ILE:HD12	1.91	0.53
41:L5:10:A:H2'	41:L5:11:G:C8	2.44	0.53
41:L5:1933:G:H2'	41:L5:1934:A:C8	2.44	0.53
41:L5:2411:C:H2'	41:L5:2412:A:H8	1.72	0.53
1:SA:155:ARG:HH22	19:S2:1137:U:H4'	1.73	0.53
19:S2:118:C:H1'	19:S2:445:A:C5	2.44	0.53
19:S2:1144:A:H2'	19:S2:1145:A:C8	2.44	0.53
19:S2:1525:C:H2'	19:S2:1526:G:H8	1.74	0.53
19:S2:70:G:H21	19:S2:79:A:H62	1.57	0.53
41:L5:262:G:H2'	41:L5:263:G:C8	2.44	0.53
4:SE:129:ILE:HD13	4:SE:139:LEU:HD12	1.91	0.53
6:SH:137:SER:HB3	6:SH:162:GLN:HE21	1.73	0.53
17:Sb:54:VAL:HG23	17:Sb:63:LEU:HB2	1.91	0.53
21:LW:9:SER:HA	21:LW:52:THR:HG23	1.91	0.53
33:Sc:11:LEU:HB2	33:Sc:35:MET:HE2	1.91	0.53
5:SG:136:LYS:HB2	19:S2:65:C:H41	1.74	0.52
9:SL:111:VAL:HG12	9:SL:140:PHE:HB2	1.90	0.52
19:S2:1288:OMU:HN3	19:S2:1311:C:H42	1.57	0.52
19:S2:1540:G:H2'	19:S2:1541:G:H8	1.74	0.52
32:SZ:68:ILE:HG23	32:SZ:109:TYR:HB2	1.90	0.52
5:SG:142:ARG:HA	5:SG:147:LEU:HB2	1.92	0.52
6:SH:154:ILE:HB	6:SH:185:VAL:HG22	1.91	0.52
19:S2:981:A:H2'	19:S2:982:G:C8	2.45	0.52
41:L5:4220:6MZ:H2'	41:L5:4222:G:H5''	1.91	0.52
43:L8:90:C:H1'	65:LY:24:HIS:HB3	1.91	0.52
46:LC:317:ASN:HD22	46:LC:320:LYS:HD3	1.74	0.52
4:SE:181:CYS:HA	4:SE:227:VAL:HA	1.92	0.52
23:SD:142:LEU:HD13	23:SD:150:MET:HE2	1.90	0.52
24:SF:101:HIS:HB2	24:SF:108:PRO:HG3	1.90	0.52
41:L5:3848:U:H2'	41:L5:3849:A:C8	2.45	0.52
45:LB:258:HIS:HA	45:LB:260:ALA:H	1.74	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:SD:1:MET:HG2	23:SD:3:VAL:H	1.74	0.52
41:L5:4163:U:H5'	41:L5:4164:C:H5''	1.92	0.52
6:SH:53:VAL:HG11	6:SH:172:THR:HA	1.91	0.52
19:S2:795:A:H2'	19:S2:796:G:C8	2.44	0.52
19:S2:907:G:H2'	19:S2:908:A:H8	1.75	0.52
41:L5:755:C:H2'	41:L5:756:G:H8	1.75	0.52
41:L5:158:A:H5''	41:L5:159:C:H2'	1.92	0.52
41:L5:268:G:H2'	41:L5:269:G:H8	1.74	0.52
41:L5:3952:A:H2'	41:L5:3953:G:C4	2.44	0.52
19:S2:26:U:H2'	19:S2:27:A2M:H8	1.92	0.52
19:S2:527:C:H2'	19:S2:528:A:C8	2.45	0.52
19:S2:1560:U:O2	19:S2:1575:G:O6	2.27	0.52
19:S2:1569:A:H5'	30:ST:41:LYS:HD3	1.92	0.52
1:SA:84:GLN:HG2	1:SA:100:ALA:HB1	1.91	0.52
15:SY:9:THR:HG22	19:S2:837:A:H61	1.74	0.52
41:L5:2303:C:H5''	71:Le:104:SER:HB3	1.92	0.52
19:S2:367:U:H4'	19:S2:371:A:C8	2.45	0.52
19:S2:588:G:H4'	19:S2:589:G:H5'	1.91	0.52
19:S2:1337:4AC:H2'	19:S2:1338:G:C8	2.44	0.52
70:Ld:64:ILE:HG23	70:Ld:68:LEU:HD23	1.92	0.52
14:SX:56:GLY:H	18:Se:2:VAL:HG21	1.75	0.52
19:S2:1217:A:H2'	19:S2:1218:C:C6	2.45	0.52
38:Et:28:C:H2'	38:Et:29:A:C8	2.45	0.52
41:L5:2520:C:H2'	41:L5:2521:G:C8	2.44	0.52
16:Sa:59:PHE:HB2	16:Sa:62:TYR:HB2	1.91	0.51
41:L5:662:C:H2'	41:L5:663:G:C8	2.45	0.51
41:L5:1464:C:H5''	68:Lb:32:LEU:HD12	1.92	0.51
41:L5:2539:C:H2'	41:L5:2540:C:C6	2.45	0.51
41:L5:4238:G:H2'	41:L5:4239:A:C8	2.44	0.51
69:Lc:22:MET:O	69:Lc:23:LYS:HG3	2.10	0.51
5:SG:164:LYS:HB2	5:SG:167:LYS:HG2	1.93	0.51
19:S2:329:G:H2'	19:S2:330:G:C8	2.44	0.51
19:S2:656:G:N2	19:S2:663:C:H5''	2.25	0.51
26:SM:79:VAL:HG11	26:SM:85:LEU:HB2	1.91	0.51
41:L5:4239:A:H2'	41:L5:4240:G:C8	2.45	0.51
45:LB:258:HIS:HA	45:LB:260:ALA:N	2.24	0.51
19:S2:433:A:H2'	19:S2:434:G:C8	2.45	0.51
19:S2:751:G:H1'	19:S2:793:G:H21	1.76	0.51
19:S2:1679:A:H2'	24:SF:60:ARG:HD2	1.92	0.51
41:L5:325:U:H2'	41:L5:326:C:C6	2.45	0.51
41:L5:662:C:H2'	41:L5:663:G:H8	1.75	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1332:C:H2'	41:L5:1333:A:C8	2.44	0.51
41:L5:2102:G:H1'	41:L5:2103:G:N7	2.25	0.51
7:SI:81:VAL:HG22	7:SI:102:VAL:HG12	1.93	0.51
17:Sb:72:ARG:HH12	19:S2:1120:U:H5'	1.75	0.51
19:S2:1533:A:N6	19:S2:1602:U:N3	2.39	0.51
19:S2:1587:G:N7	30:ST:67:ARG:HD3	2.24	0.51
36:Sg:8:ARG:HB2	36:Sg:311:GLN:HG2	1.93	0.51
41:L5:3732:A:H2'	41:L5:3733:A:C8	2.45	0.51
41:L5:4260:U:H2'	41:L5:4261:C:H6	1.75	0.51
4:SE:140:VAL:HG12	4:SE:146:THR:HB	1.92	0.51
11:SO:129:ILE:HG13	16:Sa:65:PRO:HG2	1.92	0.51
19:S2:12:U:H2'	19:S2:13:C:C6	2.46	0.51
19:S2:51:U:H2'	19:S2:52:G:H8	1.76	0.51
19:S2:349:A:H2'	19:S2:350:C:C6	2.46	0.51
29:SS:63:GLU:HG2	29:SS:66:ARG:HH21	1.76	0.51
41:L5:1333:A:H2'	41:L5:1334:A:C8	2.46	0.51
41:L5:2495:U:H2'	41:L5:2496:G:H8	1.75	0.51
45:LB:117:ARG:HA	45:LB:177:LYS:HD2	1.91	0.51
67:La:36:GLY:HA3	67:La:40:HIS:CE1	2.45	0.51
1:SA:52:LYS:HB2	22:SR:109:LEU:HD13	1.92	0.51
2:SB:228:LEU:HD12	2:SB:231:LEU:HD11	1.93	0.51
35:Sf:123:SER:HB3	35:Sf:144:CYS:SG	2.51	0.51
41:L5:2884:G:H2'	41:L5:2885:A:H8	1.76	0.51
41:L5:3898:G:H5'	45:LB:254:ILE:HG13	1.92	0.51
41:L5:4246:G:H2'	41:L5:4247:G:H8	1.76	0.51
41:L5:4699:U:H1'	41:L5:4700:A:H5''	1.91	0.51
44:LA:130:SER:HB2	44:LA:171:GLY:HA3	1.93	0.51
1:SA:189:ILE:HG22	1:SA:191:ARG:H	1.76	0.51
19:S2:543:C:H3'	19:S2:544:G:H8	1.75	0.51
19:S2:974:C:H2'	19:S2:975:G:H8	1.75	0.51
19:S2:1562:C:H2'	19:S2:1563:G:C8	2.44	0.51
19:S2:1845:A:H2'	19:S2:1846:G:C8	2.45	0.51
22:SR:6:THR:HG22	22:SR:7:LYS:H	1.75	0.51
66:LZ:50:PRO:HD3	66:LZ:68:ILE:HG12	1.92	0.51
19:S2:1144:A:H5'	19:S2:1355:C:H41	1.75	0.51
41:L5:518:G:H1	41:L5:643:C:H2'	1.75	0.51
41:L5:3641:U:H5	41:L5:3646:A:N7	2.09	0.51
41:L5:4162:C:H6	50:LG:73:ARG:HH22	1.59	0.51
43:L8:141:C:H2'	43:L8:142:U:C6	2.46	0.51
6:SH:36:LEU:HD11	6:SH:78:ARG:HG2	1.93	0.51
19:S2:614:C:H2'	19:S2:626:G:C8	2.46	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1503:A:H4'	41:L5:1504:G:H5'	1.93	0.51
8:SJ:12:THR:HG23	19:S2:520:A:H5''	1.92	0.51
9:SL:71:ARG:HH12	19:S2:855:G:H4'	1.76	0.51
15:SY:7:ILE:HD12	15:SY:27:VAL:HG12	1.92	0.51
19:S2:1845:A:H2'	19:S2:1846:G:H8	1.76	0.51
46:LC:218:ILE:HA	46:LC:229:LEU:HD22	1.92	0.51
55:LM:104:MET:HG3	55:LM:108:ASP:HB2	1.93	0.51
5:SG:13:GLN:HE21	19:S2:153:G:H21	1.59	0.50
19:S2:690:G:H3'	19:S2:691:G:H21	1.74	0.50
19:S2:991:G:C6	19:S2:1134:G:H4'	2.45	0.50
19:S2:1777:G:H2'	19:S2:1778:C:H6	1.76	0.50
85:Lt:29:ALA:HA	85:Lt:32:ILE:HG22	1.92	0.50
19:S2:996:A:H2'	19:S2:997:A:C8	2.45	0.50
19:S2:1438:A:H2'	19:S2:1439:A:C8	2.47	0.50
19:S2:1692:U:H2'	19:S2:1693:G:C8	2.47	0.50
21:LW:2:LYS:HZ3	63:LV:92:ASP:HB2	1.76	0.50
36:Sg:153:CYS:SG	36:Sg:198:VAL:HG12	2.50	0.50
41:L5:4591:U:H2'	41:L5:4592:C:C6	2.47	0.50
44:LA:3:ARG:HB3	44:LA:207:VAL:HG22	1.92	0.50
50:LG:180:PRO:HG3	50:LG:219:VAL:HG13	1.93	0.50
51:LH:92:MET:HE2	51:LH:179:ILE:HG22	1.92	0.50
19:S2:348:A:H2'	19:S2:349:A:C8	2.47	0.50
36:Sg:206:LEU:HD12	36:Sg:218:LEU:HD12	1.93	0.50
41:L5:132:G:H2'	41:L5:133:C:H4'	1.94	0.50
56:LN:75:VAL:HG11	56:LN:80:THR:HG22	1.93	0.50
80:Ln:2:ARG:HB3	80:Ln:5:TRP:CD1	2.47	0.50
7:SI:114:GLU:HB3	7:SI:136:ILE:HD12	1.93	0.50
19:S2:1401:A:H4'	31:SU:52:GLY:HA3	1.93	0.50
20:LR:133:LYS:N	20:LR:137:ILE:HD11	2.26	0.50
41:L5:956:A:H1'	41:L5:2076:G:H5''	1.94	0.50
41:L5:2491:C:H2'	41:L5:2492:C:C6	2.46	0.50
41:L5:5006:U:H4'	41:L5:5007:A:H5'	1.92	0.50
41:L5:5057:C:H2'	41:L5:5058:A:C8	2.46	0.50
46:LC:266:THR:HG22	46:LC:267:TRP:H	1.76	0.50
2:SB:146:ARG:HE	2:SB:206:PRO:HG2	1.75	0.50
3:SC:264:SER:HB3	3:SC:267:GLN:HG2	1.93	0.50
19:S2:1240:A:C4	27:SP:100:LYS:HD3	2.47	0.50
23:SD:172:VAL:HG22	23:SD:185:LYS:HG2	1.93	0.50
24:SF:34:SER:HA	33:Sc:55:VAL:HG13	1.92	0.50
41:L5:433:A:C2	41:L5:3867:A2M:H4'	2.47	0.50
41:L5:3911:C:H2'	41:L5:3912:U:H6	1.75	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1757:G:C8	19:S2:1758:G:H1'	2.47	0.50
41:L5:717:U:H2'	41:L5:718:C:C6	2.46	0.50
41:L5:1308:C:H2'	41:L5:1309:C:C6	2.46	0.50
41:L5:3910:C:H2'	41:L5:3911:C:C6	2.47	0.50
19:S2:694:G:H2'	19:S2:695:C:O4'	2.12	0.50
26:SM:99:LYS:HE3	26:SM:102:LYS:H	1.77	0.50
38:Et:68:C:H2'	38:Et:69:G:C8	2.47	0.50
41:L5:4601:U:H2'	41:L5:4602:A:H8	1.76	0.50
43:L8:67:U:H2'	43:L8:68:G:C8	2.47	0.50
70:Ld:33:ILE:HD11	70:Ld:45:ALA:HA	1.94	0.50
6:SH:62:ILE:HD12	6:SH:94:PHE:HE1	1.77	0.50
11:SO:134:PRO:HB3	19:S2:944:A:H5''	1.94	0.50
28:SQ:10:VAL:HG23	28:SQ:25:CYS:HB3	1.94	0.50
37:At:40:C:H2'	37:At:41:G:H8	1.77	0.50
41:L5:1662:C:H2'	41:L5:1663:C:C6	2.47	0.50
19:S2:848:U:H2'	19:S2:849:A:H8	1.76	0.50
41:L5:1824:G:H2'	41:L5:1825:A:C8	2.47	0.50
41:L5:4093:G:H1	41:L5:4114:C:H2'	1.77	0.50
41:L5:4622:A:H4'	45:LB:13:SER:HB2	1.93	0.50
66:LZ:99:ASP:HB2	66:LZ:102:ARG:HH21	1.76	0.50
81:Lo:70:LEU:HD11	81:Lo:83:LEU:HD12	1.92	0.50
1:SA:43:SER:HB2	22:SR:126:MET:HG2	1.93	0.49
4:SE:18:TRP:HH2	4:SE:31:PRO:HD3	1.76	0.49
8:SJ:87:LEU:HD13	8:SJ:100:LEU:HD21	1.94	0.49
24:SF:30:ILE:HG23	24:SF:117:ILE:HD11	1.94	0.49
39:Pt:51:C:H2'	39:Pt:52:G:C8	2.46	0.49
41:L5:1703:C:H2'	41:L5:1704:C:O4'	2.12	0.49
41:L5:1972:G:C6	41:L5:1973:G:O6	2.65	0.49
41:L5:3932:U:H2'	41:L5:3933:G:C8	2.46	0.49
41:L5:5016:A:C2	41:L5:5033:G:N2	2.71	0.49
43:L8:75:OMG:H8	43:L8:75:OMG:OP1	1.95	0.49
45:LB:14:LEU:HD22	45:LB:17:LEU:HD11	1.94	0.49
78:Ll:12:PHE:CE2	78:Ll:51:LEU:HD22	2.47	0.49
5:SG:158:VAL:HG21	21:LW:82:ILE:HD11	1.94	0.49
19:S2:24:C:HO2'	19:S2:25:A:H8	1.59	0.49
19:S2:115:U:H2'	19:S2:116:OMU:C6	2.41	0.49
19:S2:1405:A:H2'	19:S2:1406:G:O4'	2.11	0.49
41:L5:724:C:H1'	46:LC:343:GLN:HG2	1.93	0.49
41:L5:2611:A:H2'	41:L5:2612:G:C8	2.47	0.49
41:L5:4415:A:H4'	52:LI:74:LYS:HD3	1.92	0.49
8:SJ:136:ARG:HD3	8:SJ:160:SER:HA	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SL:103:GLU:HG3	14:SX:11:ARG:HB2	1.94	0.49
19:S2:115:U:H2'	19:S2:116:OMU:H6	1.93	0.49
19:S2:223:C:H2'	19:S2:224:A:C8	2.48	0.49
19:S2:864:A:H2'	19:S2:865:A:C8	2.47	0.49
19:S2:1018:U:H2'	19:S2:1019:C:H6	1.78	0.49
19:S2:1661:A:H8	34:Sd:14:PHE:HB2	1.76	0.49
37:At:23:C:H2'	37:At:24:A:C8	2.48	0.49
38:Et:76:A:H62	41:L5:4371:G:H5'	1.76	0.49
41:L5:964:A:H2'	41:L5:965:G:H4'	1.95	0.49
41:L5:982:U:H2'	41:L5:983:C:C6	2.47	0.49
41:L5:1306:C:H2'	41:L5:1307:A:H8	1.77	0.49
84:Ls:47:LEU:HG	84:Ls:51:ALA:HB3	1.94	0.49
1:SA:38:ILE:HD11	1:SA:47:TYR:HB3	1.94	0.49
8:SJ:84:ILE:HG13	8:SJ:86:VAL:HG13	1.95	0.49
11:SO:15:ILE:HG23	11:SO:16:SER:H	1.77	0.49
19:S2:1109:C:C4	22:SR:126:MET:HE2	2.48	0.49
19:S2:1540:G:H2'	19:S2:1541:G:C8	2.47	0.49
41:L5:6:C:H5''	50:LG:197:LYS:HB3	1.94	0.49
41:L5:1327:C:H2'	41:L5:1328:G:C8	2.47	0.49
41:L5:1683:PSU:H2'	41:L5:1684:A:C8	2.47	0.49
41:L5:2020:U:H2'	41:L5:2021:G:H8	1.77	0.49
41:L5:4504:C:H2'	41:L5:4505:C:C6	2.47	0.49
41:L5:4612:C:C2	51:LH:120:GLU:HB2	2.48	0.49
42:L7:119:U:C2	47:LD:261:VAL:HG21	2.48	0.49
2:SB:97:LEU:HD23	2:SB:232:HIS:CG	2.47	0.49
3:SC:94:ILE:HD11	3:SC:159:LYS:HG2	1.93	0.49
19:S2:528:A:H2'	19:S2:529:A:C8	2.48	0.49
19:S2:1004:PSU:H2'	19:S2:1005:G:H8	1.78	0.49
19:S2:1337:4AC:O5'	19:S2:1337:4AC:H6	2.13	0.49
20:LR:127:VAL:HG12	20:LR:132:PHE:HD2	1.77	0.49
41:L5:1751:A:H2'	41:L5:1752:G:C8	2.47	0.49
41:L5:4088:C:H2'	41:L5:4089:G:C8	2.48	0.49
43:L8:19:C:H2'	43:L8:20:A:C8	2.47	0.49
47:LD:211:LEU:HB3	47:LD:219:TYR:HB2	1.93	0.49
50:LG:150:LYS:HE3	50:LG:177:MET:HE3	1.93	0.49
52:LI:12:CYS:HB3	52:LI:128:ARG:NH1	2.26	0.49
55:LM:104:MET:HG2	55:LM:109:ARG:HG3	1.94	0.49
67:La:71:PRO:HG2	67:La:108:TYR:HA	1.95	0.49
2:SB:176:VAL:HG13	2:SB:184:VAL:HG21	1.95	0.49
5:SG:183:ARG:HH22	19:S2:316:G:H5''	1.78	0.49
19:S2:484:A2M:H8	19:S2:484:A2M:O5'	2.11	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1097:C:H2'	41:L5:1098:G:C8	2.48	0.49
41:L5:1195:G:H2'	41:L5:1196:G:C8	2.48	0.49
41:L5:2648:G:H2'	41:L5:2649:G:C8	2.48	0.49
41:L5:3861:A:H2'	41:L5:3862:A:C8	2.47	0.49
24:SF:201:LYS:HA	24:SF:204:ARG:HE	1.77	0.49
41:L5:264:C:H2'	41:L5:265:C:C4	2.48	0.49
41:L5:1307:A:H2'	41:L5:1308:C:C6	2.48	0.49
41:L5:2895:A:H2'	41:L5:2896:G:C8	2.48	0.49
41:L5:3611:A:H2	41:L5:5016:A:H8	1.61	0.49
41:L5:3880:G:H2'	41:L5:3881:G:C8	2.47	0.49
41:L5:4611:A:H2'	41:L5:4612:C:H6	1.78	0.49
44:LA:116:LEU:HB3	44:LA:126:LEU:HB2	1.95	0.49
59:LQ:80:ALA:HB3	59:LQ:100:VAL:HG22	1.95	0.49
8:SJ:88:ASP:HB3	8:SJ:91:LYS:HB2	1.95	0.49
10:SN:55:ARG:HD3	19:S2:1017:U:H5'	1.95	0.49
34:Sd:39:CYS:HB2	34:Sd:42:CYS:HB2	1.95	0.49
41:L5:3910:C:H2'	41:L5:3911:C:H6	1.78	0.49
41:L5:4251:A:H5''	53:LJ:108:GLY:HA3	1.95	0.49
42:L7:120:U:H5''	47:LD:262:LYS:HG2	1.95	0.49
71:Le:89:LEU:HD13	71:Le:118:LEU:HD22	1.95	0.49
2:SB:85:LYS:HB2	2:SB:101:HIS:HB3	1.94	0.49
9:SL:7:GLU:HG2	9:SL:9:ALA:H	1.77	0.49
17:Sb:23:ARG:HH11	17:Sb:27:SER:HB3	1.76	0.49
36:Sg:254:PRO:HA	36:Sg:286:CYS:H	1.78	0.49
41:L5:1258:G:H2'	41:L5:1259:G:C8	2.48	0.49
41:L5:1270:A:H8	41:L5:2106:G:H21	1.60	0.49
41:L5:1298:C:H2'	41:L5:1299:G:C8	2.48	0.49
41:L5:2326:G:H5''	71:Le:127:ALA:HB1	1.95	0.49
41:L5:2610:G:H2'	41:L5:2611:A:H8	1.78	0.49
41:L5:2777:G:H5''	41:L5:2778:G:H5'	1.95	0.49
42:L7:15:C:H2'	42:L7:16:A:H8	1.78	0.49
53:LJ:15:LEU:HD12	53:LJ:165:TRP:HB2	1.95	0.49
58:LP:17:SER:HB2	58:LP:98:ALA:HB2	1.94	0.49
2:SB:123:ALA:HB2	2:SB:165:ARG:HG2	1.94	0.49
19:S2:388:U:H2'	19:S2:389:A:C8	2.47	0.49
19:S2:1736:G:H2'	19:S2:1737:G:H8	1.77	0.49
41:L5:2763:U:H4'	41:L5:2764:A:H5''	1.95	0.49
41:L5:4954:G:H2'	41:L5:4955:A:C8	2.48	0.49
57:LO:81:TRP:HB2	57:LO:104:VAL:HG21	1.95	0.49
64:LX:82:THR:HG21	74:Lh:37:THR:HG22	1.95	0.49
25:SK:14:LEU:HD22	25:SK:35:LEU:HD13	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:267:G:H2'	41:L5:268:G:H8	1.77	0.48
41:L5:1500:A:H5''	41:L5:1501:C:H5''	1.95	0.48
44:LA:115:CYS:SG	44:LA:124:GLY:HA3	2.52	0.48
47:LD:182:GLY:HA2	47:LD:194:VAL:HG23	1.94	0.48
51:LH:115:ARG:HD3	51:LH:123:ILE:HD12	1.94	0.48
55:LM:119:ARG:HG3	57:LO:189:ILE:HG23	1.94	0.48
72:Lf:41:PHE:HE1	72:Lf:110:ILE:HD13	1.77	0.48
15:SY:11:LYS:HB2	15:SY:24:VAL:HG12	1.94	0.48
19:S2:1854:U:H2'	19:S2:1855:G:H8	1.77	0.48
41:L5:1468:C:H2'	41:L5:1469:C:H6	1.78	0.48
41:L5:1959:U:H5''	41:L5:1961:G:H1'	1.95	0.48
41:L5:1989:G:H2'	41:L5:1990:A:C8	2.47	0.48
41:L5:2029:A:H2'	41:L5:2030:A:C8	2.47	0.48
41:L5:2448:G:H2'	41:L5:2449:A:C8	2.48	0.48
65:LY:22:PRO:HD2	65:LY:25:ILE:HD11	1.95	0.48
78:Ll:12:PHE:HE2	78:Ll:51:LEU:HD22	1.78	0.48
4:SE:160:ILE:HD12	4:SE:162:ILE:HD11	1.95	0.48
19:S2:28:U:H2'	19:S2:29:G:C8	2.48	0.48
19:S2:51:U:H2'	19:S2:52:G:C8	2.47	0.48
19:S2:186:C:H2'	19:S2:187:G:H8	1.77	0.48
19:S2:639:C:H2'	19:S2:640:A:C8	2.47	0.48
19:S2:1801:A:H2'	19:S2:1802:C:C6	2.48	0.48
41:L5:497:G:H22	41:L5:657:C:H42	1.61	0.48
41:L5:755:C:H2'	41:L5:756:G:C8	2.47	0.48
41:L5:1278:C:H2'	41:L5:1279:A:O4'	2.13	0.48
65:LY:53:ASP:HB3	65:LY:110:LYS:H	1.77	0.48
70:Ld:92:ARG:HA	70:Ld:102:LEU:HD23	1.94	0.48
85:Lt:114:ARG:HH21	85:Lt:117:ARG:HH11	1.60	0.48
3:SC:64:THR:HG22	3:SC:66:LEU:H	1.78	0.48
9:SL:28:THR:HA	9:SL:29:GLY:HA2	1.54	0.48
17:Sb:33:MET:HE2	17:Sb:48:SER:HA	1.95	0.48
41:L5:424:U:H2'	41:L5:425:U:C6	2.47	0.48
41:L5:2495:U:H2'	41:L5:2496:G:C8	2.48	0.48
41:L5:2743:A:H2'	41:L5:2744:A:C8	2.48	0.48
41:L5:3946:G:H2'	41:L5:3947:A:H5''	1.95	0.48
66:LZ:41:ALA:HB2	66:LZ:77:TYR:HE1	1.77	0.48
71:Le:30:LYS:HG3	71:Le:31:ILE:HG13	1.96	0.48
7:SI:116:HIS:CG	7:SI:152:ARG:HH21	2.31	0.48
19:S2:85:A:H2'	19:S2:86:C:H6	1.77	0.48
19:S2:1568:C:H2'	19:S2:1569:A:C8	2.49	0.48
22:SR:77:GLU:HA	22:SR:80:ARG:HB2	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1084:C:H2'	41:L5:1085:C:H6	1.78	0.48
41:L5:1281:G:N1	48:LE:128:HIS:HB2	2.28	0.48
41:L5:1733:G:N3	41:L5:4214:A:H2'	2.28	0.48
41:L5:3867:A2M:HM'3	41:L5:3867:A2M:H1'	1.54	0.48
74:Lh:73:TYR:HB3	74:Lh:79:LYS:HG2	1.96	0.48
4:SE:61:VAL:HA	4:SE:64:ILE:HG22	1.96	0.48
6:SH:33:ASN:HD21	6:SH:37:LYS:HE3	1.77	0.48
19:S2:600:G:H2'	19:S2:601:OMG:C8	2.48	0.48
19:S2:1470:C:H2'	19:S2:1471:C:H6	1.78	0.48
41:L5:1359:G:H4'	56:LN:203:TYR:HB2	1.95	0.48
41:L5:4174:U:H2'	41:L5:4175:G:H8	1.78	0.48
1:SA:30:LEU:HD21	1:SA:35:GLU:HG2	1.96	0.48
6:SH:43:LEU:HD11	6:SH:71:SER:HB2	1.95	0.48
7:SI:25:ARG:HA	19:S2:448:A:H5''	1.95	0.48
19:S2:917:U:H2'	19:S2:918:U:C6	2.49	0.48
34:Sd:3:HIS:CE1	34:Sd:5:GLN:HB2	2.48	0.48
52:LI:73:ASN:HB2	52:LI:87:MET:HE1	1.96	0.48
56:LN:143:ARG:HD2	74:Lh:95:LEU:HD23	1.96	0.48
24:Sf:143:PRO:HD3	33:Sc:56:LEU:HB3	1.95	0.48
36:Sg:21:ILE:HG21	36:Sg:299:PHE:HB2	1.94	0.48
41:L5:1751:A:H2'	41:L5:1752:G:H8	1.78	0.48
48:LE:223:ARG:HH22	48:LE:238:GLU:HG3	1.79	0.48
4:SE:9:LEU:HB2	4:SE:30:ARG:HD3	1.96	0.48
19:S2:1457:U:H2'	19:S2:1458:G:H8	1.78	0.48
19:S2:1652:G:O6	19:S2:1672:U:O4	2.32	0.48
35:Sf:108:VAL:HG12	35:Sf:114:ILE:HA	1.96	0.48
41:L5:74:G:H1'	54:LL:62:PRO:HG3	1.96	0.48
41:L5:1779:U:H2'	41:L5:1780:A:C8	2.49	0.48
41:L5:1972:G:H2'	41:L5:1973:G:C8	2.48	0.48
41:L5:3722:G:H2'	41:L5:3723:A:H8	1.78	0.48
41:L5:3870:C:H2'	41:L5:3871:A:H8	1.78	0.48
41:L5:4184:G:H5'	44:LA:233:ARG:HB2	1.94	0.48
54:LL:59:VAL:HG21	54:LL:73:GLY:HA3	1.96	0.48
68:Lb:102:PRO:HA	68:Lb:109:ARG:HH22	1.79	0.48
2:SB:35:ALA:HB1	2:SB:39:PHE:HD2	1.79	0.48
2:SB:146:ARG:HB2	2:SB:149:GLN:HB2	1.96	0.48
4:SE:180:LEU:HD21	4:SE:192:ILE:HG23	1.96	0.48
5:SG:167:LYS:HE3	19:S2:67:C:H41	1.79	0.48
19:S2:1201:U:H2'	19:S2:1202:U:C6	2.49	0.48
41:L5:267:G:H2'	41:L5:268:G:C8	2.49	0.48
41:L5:2870:A:H2'	41:L5:2871:A:C8	2.49	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:3726:A:H2'	41:L5:3727:A:C8	2.49	0.48
41:L5:4761:G:H2'	41:L5:4762:A:H8	1.77	0.48
44:LA:28:ARG:HB3	44:LA:123:ARG:HD3	1.95	0.48
72:Lf:45:LYS:HD2	72:Lf:105:LEU:HA	1.96	0.48
19:S2:1406:G:H2'	19:S2:1407:U:C6	2.48	0.47
22:SR:75:GLU:O	22:SR:79:GLU:HG2	2.14	0.47
30:ST:42:HIS:HB3	30:ST:93:SER:HB3	1.96	0.47
41:L5:655:C:H2'	41:L5:656:C:C6	2.49	0.47
41:L5:2648:G:H2'	41:L5:2649:G:H8	1.79	0.47
74:Lh:95:LEU:HD22	74:Lh:99:GLU:HG3	1.96	0.47
14:SX:107:ARG:HD3	14:SX:112:VAL:HG22	1.96	0.47
20:LR:102:LEU:HD21	20:LR:135:LYS:HA	1.96	0.47
41:L5:4536:OMC:HM22	41:L5:4537:C:O4'	2.14	0.47
48:LE:222:LEU:H	48:LE:237:LYS:HE2	1.77	0.47
50:LG:99:ALA:HB1	50:LG:193:LEU:HD21	1.95	0.47
74:Lh:88:THR:HB	74:Lh:91:MET:HB2	1.96	0.47
81:Lo:26:TYR:HB3	81:Lo:67:VAL:HB	1.96	0.47
84:Ls:110:ALA:HA	84:Ls:182:PRO:HG2	1.95	0.47
4:SE:129:ILE:HG22	4:SE:156:VAL:HG13	1.96	0.47
19:S2:1491:G:H2'	19:S2:1492:U:C6	2.50	0.47
19:S2:1523:C:H2'	19:S2:1524:G:H8	1.79	0.47
19:S2:1777:G:H2'	19:S2:1778:C:C6	2.49	0.47
19:S2:1856:C:H2'	19:S2:1857:G:C8	2.49	0.47
41:L5:457:G:H2'	41:L5:458:C:C6	2.49	0.47
41:L5:491:G:H2'	41:L5:492:U:C6	2.50	0.47
41:L5:1339:U:H2'	41:L5:1340:OMC:C6	2.50	0.47
41:L5:1669:A:H4'	41:L5:1685:G:N2	2.29	0.47
41:L5:1961:G:H21	41:L5:2025:A:H62	1.62	0.47
41:L5:2375:A:H2'	41:L5:2376:A:H8	1.79	0.47
41:L5:4523:A2M:H5''	41:L5:4524:G:H5'	1.97	0.47
41:L5:4688:C:H2'	41:L5:4689:PSU:C6	2.48	0.47
45:LB:133:TYR:O	45:LB:136:LYS:HG2	2.14	0.47
5:SG:67:VAL:HG12	5:SG:69:THR:HG22	1.95	0.47
10:SN:46:THR:HB	10:SN:86:GLU:HG3	1.96	0.47
19:S2:1101:U:H2'	19:S2:1102:G:H8	1.79	0.47
19:S2:1512:C:H5''	34:Sd:8:TRP:HZ3	1.78	0.47
26:SM:25:ALA:HB2	26:SM:111:VAL:HG13	1.96	0.47
41:L5:2249:C:H2'	41:L5:2250:C:H5	1.79	0.47
41:L5:3873:G:H2'	41:L5:3874:G:C8	2.50	0.47
49:LF:162:ILE:HD12	49:LF:167:ILE:HB	1.96	0.47
59:LQ:70:MET:HE1	59:LQ:137:VAL:HB	1.95	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:Lt:16:ARG:HH22	85:Lt:28:LEU:HD22	1.79	0.47
2:SB:36:PRO:HB2	2:SB:38:MET:HG2	1.96	0.47
17:Sb:19:HIS:O	17:Sb:23:ARG:HG3	2.14	0.47
23:SD:215:ASP:HB2	23:SD:217:ILE:HG12	1.95	0.47
41:L5:71:C:H1'	54:LL:62:PRO:O	2.14	0.47
41:L5:1084:C:H2'	41:L5:1085:C:C6	2.49	0.47
41:L5:1175:A:H2	41:L5:1186:U:H3	1.63	0.47
41:L5:1317:U:H2'	41:L5:1318:C:C6	2.49	0.47
41:L5:3919:C:OP1	44:LA:2:GLY:HA3	2.14	0.47
41:L5:4642:U:H2'	41:L5:4643:G:C8	2.48	0.47
4:SE:80:ILE:HG23	4:SE:81:THR:HG23	1.95	0.47
15:SY:14:THR:HA	15:SY:21:LYS:HA	1.96	0.47
19:S2:1671:G:H2'	19:S2:1672:U:H6	1.80	0.47
19:S2:1736:G:H2'	19:S2:1737:G:C8	2.49	0.47
41:L5:223:G:H4'	41:L5:225:G:N7	2.29	0.47
41:L5:3950:U:H3	41:L5:4063:U:H3	1.62	0.47
41:L5:4615:C:H5''	45:LB:357:ARG:HD2	1.96	0.47
46:LC:33:ARG:HD3	46:LC:36:ILE:HD12	1.95	0.47
48:LE:274:VAL:HG21	72:Lf:2:SER:HB2	1.95	0.47
50:LG:38:ASN:HD21	50:LG:43:GLN:NE2	2.12	0.47
73:Lg:83:CYS:SG	73:Lg:86:CYS:HB2	2.54	0.47
4:SE:79:ASP:HB3	4:SE:82:TYR:HB2	1.97	0.47
7:SI:98:LYS:HB3	19:S2:377:G:H5'	1.97	0.47
19:S2:145:G:H2'	19:S2:146:G:C8	2.49	0.47
19:S2:554:A:O2'	19:S2:555:A:H8	1.98	0.47
19:S2:1740:C:H2'	19:S2:1741:U:C6	2.50	0.47
22:SR:81:ARG:C	22:SR:83:ASN:H	2.23	0.47
26:SM:21:VAL:HG21	26:SM:123:VAL:HG21	1.96	0.47
34:Sd:22:ARG:HG3	34:Sd:23:VAL:HG23	1.97	0.47
35:Sf:103:LEU:HB2	35:Sf:105:TYR:CE2	2.49	0.47
38:Et:2:C:H2'	38:Et:3:C:C6	2.49	0.47
41:L5:2765:A:H2'	41:L5:2766:A:C8	2.49	0.47
41:L5:3855:C:H2'	41:L5:3856:A:H8	1.80	0.47
41:L5:3923:A:H2'	41:L5:3924:C:C6	2.50	0.47
41:L5:4459:U:H2'	41:L5:4460:U:C6	2.49	0.47
41:L5:4489:G:H4'	89:L5:5289:SPD:H91	1.97	0.47
88:L5:5292:SPM:H132	57:LO:91:LYS:HB3	1.97	0.47
53:LJ:104:ASN:HD22	53:LJ:133:VAL:HG13	1.80	0.47
63:LV:70:PRO:HA	63:LV:73:ARG:HG3	1.97	0.47
65:LY:82:ILE:HD11	65:LY:99:ILE:HD11	1.97	0.47
8:SJ:2:PRO:O	19:S2:509:OMG:H5''	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:482:G:N2	19:S2:484:A2M:H3'	2.29	0.47
41:L5:1875:C:H2'	41:L5:1876:U:C6	2.50	0.47
41:L5:3607:U:H2'	41:L5:3608:A:C8	2.50	0.47
41:L5:3848:U:H2'	41:L5:3849:A:H8	1.80	0.47
5:SG:2:LYS:HD3	5:SG:15:LEU:HD21	1.97	0.47
19:S2:1093:A:H2'	19:S2:1094:C:H6	1.80	0.47
19:S2:1539:U:H4'	30:ST:47:PRO:HA	1.96	0.47
22:SR:103:LYS:HA	22:SR:106:LEU:HD12	1.97	0.47
24:SF:67:PRO:HG2	24:SF:70:GLU:HB3	1.97	0.47
39:Pt:51:C:H2'	39:Pt:52:G:H8	1.80	0.47
41:L5:163:A:H2'	41:L5:164:G:H8	1.80	0.47
41:L5:2079:G:H2'	41:L5:2080:U:C6	2.50	0.47
60:LS:121:ALA:HA	60:LS:124:ILE:HD12	1.97	0.47
8:SJ:113:GLN:HG3	8:SJ:149:VAL:HG21	1.97	0.47
19:S2:352:U:H2'	19:S2:353:C:C6	2.50	0.47
19:S2:795:A:H2'	19:S2:796:G:H8	1.80	0.47
19:S2:874:G:H2'	19:S2:875:A:C8	2.47	0.47
41:L5:161:G:H2'	41:L5:162:A:H8	1.80	0.47
41:L5:1298:C:H2'	41:L5:1299:G:H8	1.80	0.47
41:L5:3661:G:H4'	41:L5:3662:A:H5'	1.96	0.47
44:LA:147:ARG:HH21	44:LA:155:LYS:HG2	1.79	0.47
56:LN:116:LEU:HD22	56:LN:135:ILE:HD11	1.97	0.47
58:LP:54:GLN:HA	58:LP:83:TRP:CD1	2.50	0.47
5:SG:2:LYS:HB2	5:SG:108:VAL:HG12	1.96	0.46
8:SJ:5:ARG:HB3	19:S2:38:A:H5''	1.97	0.46
19:S2:107:A:H2'	19:S2:108:G:C8	2.50	0.46
19:S2:388:U:H2'	19:S2:389:A:H8	1.80	0.46
19:S2:906:U:H2'	19:S2:907:G:C8	2.50	0.46
41:L5:287:U:H2'	41:L5:288:G:C8	2.50	0.46
41:L5:1590:C:H4'	41:L5:2857:A:H5'	1.97	0.46
41:L5:2845:A:H61	41:L5:3843:C:H42	1.61	0.46
64:LX:81:LEU:HG	64:LX:83:THR:HG23	1.97	0.46
19:S2:1347:U:H2'	19:S2:1348:G:N3	2.31	0.46
19:S2:1545:A:H2'	19:S2:1546:G:C8	2.51	0.46
21:LW:52:THR:HG22	21:LW:54:LEU:H	1.79	0.46
26:SM:52:LEU:HD11	26:SM:62:VAL:HG12	1.96	0.46
37:At:6:C:H2'	37:At:7:G:H8	1.80	0.46
38:Et:23:A:H2'	38:Et:24:G:H8	1.81	0.46
41:L5:1867:A:H2'	41:L5:1868:A:C8	2.51	0.46
41:L5:2610:G:H2'	41:L5:2611:A:C8	2.49	0.46
41:L5:3825:A2M:H2'	41:L5:3826:C:O4'	2.15	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:4507:A:H2'	41:L5:4508:C:C6	2.50	0.46
45:LB:57:VAL:HB	45:LB:367:PHE:HB3	1.95	0.46
49:LF:127:LYS:HB2	61:LT:133:ALA:HB3	1.97	0.46
57:LO:12:ARG:HD3	57:LO:37:ARG:NH2	2.30	0.46
69:Lc:82:GLY:HA2	69:Lc:91:VAL:HG12	1.96	0.46
84:Ls:68:HIS:HD2	84:Ls:71:ASN:HD21	1.62	0.46
8:SJ:127:ARG:HD3	18:Se:31:ARG:HD3	1.96	0.46
30:ST:18:LEU:HD22	30:ST:58:ALA:HA	1.96	0.46
37:At:43:A:H2'	37:At:44:A:C8	2.50	0.46
41:L5:1348:U:H2'	41:L5:1349:G:H8	1.80	0.46
41:L5:1705:G:H2'	41:L5:1706:A:O4'	2.15	0.46
41:L5:2749:C:H2'	41:L5:2750:G:C8	2.51	0.46
41:L5:3599:A:H2'	41:L5:3600:G:H8	1.79	0.46
41:L5:4139:G:H21	41:L5:4140:C:H41	1.63	0.46
41:L5:4196:OMG:HM23	41:L5:4196:OMG:H1'	1.69	0.46
49:LF:213:LEU:HD22	49:LF:248:ASN:HB3	1.97	0.46
14:SX:9:THR:HG22	19:S2:681:PSU:H4'	1.96	0.46
19:S2:1528:G:H2'	19:S2:1529:C:C6	2.51	0.46
19:S2:1850:MA6:H8	19:S2:1850:MA6:O5'	2.16	0.46
39:Pt:43:A:H2'	39:Pt:44:A:C8	2.50	0.46
41:L5:137:G:H2'	41:L5:138:G:C8	2.48	0.46
41:L5:1617:G:H1'	41:L5:2513:A:N6	2.30	0.46
41:L5:1962:A:H5''	41:L5:2024:G:H22	1.80	0.46
41:L5:4730:C:H2'	41:L5:4731:G:C8	2.50	0.46
41:L5:4750:G:H2'	41:L5:4751:G:C8	2.51	0.46
82:Lp:38:THR:HA	82:Lp:45:THR:HA	1.97	0.46
2:SB:127:VAL:HG21	2:SB:176:VAL:HB	1.97	0.46
19:S2:348:A:H2'	19:S2:349:A:H8	1.80	0.46
23:SD:140:GLY:HA3	23:SD:182:LEU:HD12	1.97	0.46
24:SF:121:PRO:HA	24:SF:193:LYS:HG3	1.98	0.46
41:L5:737:C:C5	41:L5:739:G:H5''	2.51	0.46
41:L5:1461:C:H2'	41:L5:1462:A:C8	2.50	0.46
41:L5:2018:C:H2'	41:L5:2019:C:C6	2.51	0.46
41:L5:2411:C:H2'	41:L5:2412:A:C8	2.50	0.46
2:SB:223:PHE:HE1	2:SB:228:LEU:HD22	1.81	0.46
4:SE:90:ILE:HB	4:SE:99:PHE:HB2	1.98	0.46
4:SE:146:THR:HG21	19:S2:122:G:H21	1.79	0.46
11:SO:129:ILE:HD11	16:Sa:65:PRO:HD2	1.97	0.46
19:S2:291:G:H2'	19:S2:292:A:C8	2.50	0.46
19:S2:1093:A:H2'	19:S2:1094:C:C6	2.51	0.46
19:S2:1457:U:H2'	19:S2:1458:G:C8	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1653:U:O2	19:S2:1671:G:N2	2.38	0.46
37:At:40:C:H2'	37:At:41:G:C8	2.51	0.46
38:Et:12:U:H2'	38:Et:13:C:C6	2.51	0.46
41:L5:2696:A:H62	77:Lk:35:LYS:NZ	2.14	0.46
41:L5:2730:U:H2'	41:L5:2731:C:C6	2.51	0.46
41:L5:3633:C:H2'	41:L5:3634:G:C8	2.50	0.46
46:LC:106:LYS:HD3	46:LC:108:TRP:CZ2	2.50	0.46
46:LC:144:ILE:HD12	46:LC:150:LEU:HD11	1.97	0.46
49:LF:157:ARG:HD2	49:LF:213:LEU:HD23	1.98	0.46
50:LG:48:LYS:HD3	50:LG:48:LYS:HA	1.74	0.46
50:LG:209:SER:HA	50:LG:212:LYS:HG3	1.97	0.46
52:LI:91:LEU:HD12	52:LI:135:ILE:HG23	1.98	0.46
1:SA:69:GLU:HB2	3:SC:270:THR:HG21	1.98	0.46
7:SI:19:LYS:HD3	19:S2:101:U:H5''	1.97	0.46
19:S2:980:A:H2'	19:S2:981:A:C8	2.51	0.46
19:S2:1189:A:H2'	19:S2:1190:A:C8	2.51	0.46
22:SR:26:ASN:HB2	22:SR:59:LYS:HZ2	1.80	0.46
23:SD:116:ARG:HD3	23:SD:152:PHE:HZ	1.80	0.46
31:SU:21:ARG:HD2	31:SU:88:LEU:HG	1.97	0.46
41:L5:162:A:H2'	41:L5:163:A:C8	2.50	0.46
41:L5:691:C:H2'	41:L5:692:A:C8	2.49	0.46
41:L5:1494:U:H2'	41:L5:1495:G:H8	1.80	0.46
41:L5:2375:A:H2'	41:L5:2376:A:C8	2.50	0.46
45:LB:217:ILE:HD12	45:LB:347:LEU:HB3	1.98	0.46
50:LG:205:THR:HG22	50:LG:206:GLN:H	1.81	0.46
53:LJ:22:LEU:HD22	53:LJ:128:LEU:HD12	1.98	0.46
63:LV:35:LYS:HB2	63:LV:67:LYS:HG3	1.96	0.46
19:S2:1101:U:H2'	19:S2:1102:G:C8	2.50	0.46
19:S2:1103:C:H2'	19:S2:1104:G:C8	2.50	0.46
19:S2:1199:A:H2'	19:S2:1200:A:C8	2.51	0.46
19:S2:1393:G:H2'	19:S2:1394:G:C8	2.51	0.46
19:S2:1407:U:H2'	19:S2:1408:U:C6	2.51	0.46
19:S2:1415:C:H2'	19:S2:1416:C:C6	2.51	0.46
29:SS:13:LEU:HB2	29:SS:20:ILE:HG13	1.97	0.46
35:Sf:133:ALA:H	35:Sf:140:TYR:H	1.63	0.46
41:L5:180:C:H2'	41:L5:181:C:C6	2.50	0.46
41:L5:2656:U:H5''	66:LZ:38:TYR:HB3	1.98	0.46
60:LS:83:ARG:HG3	60:LS:125:GLN:HB3	1.97	0.46
85:Lt:104:ILE:HG13	85:Lt:106:PHE:HD1	1.80	0.46
7:SI:89:GLU:HA	7:SI:92:ARG:HD3	1.98	0.46
14:SX:60:LYS:H	14:SX:114:ASP:HB2	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:864:A:H2'	19:S2:865:A:H8	1.80	0.46
20:LR:44:LEU:HD22	20:LR:49:LEU:HD12	1.98	0.46
30:ST:30:VAL:HG13	30:ST:34:VAL:HG11	1.98	0.46
37:At:51:C:H2'	37:At:52:G:H8	1.81	0.46
41:L5:1996:C:H42	41:L5:2000:G:N2	2.14	0.46
41:L5:3610:A:H2'	41:L5:3611:A:H8	1.80	0.46
41:L5:3870:C:H2'	41:L5:3871:A:C8	2.50	0.46
41:L5:4563:U:H2'	41:L5:4564:A:C8	2.51	0.46
41:L5:4584:A:H2'	41:L5:4585:U:O4'	2.16	0.46
41:L5:4921:C:H2'	41:L5:4922:C:C6	2.51	0.46
62:LU:48:LYS:HG2	62:LU:53:ALA:HB2	1.97	0.46
19:S2:1461:G:H3'	19:S2:1463:U:H3	1.81	0.46
24:SF:28:VAL:HG11	24:SF:109:LEU:HB2	1.98	0.46
24:SF:30:ILE:HB	24:SF:36:GLN:HG2	1.98	0.46
38:Et:23:A:H2'	38:Et:24:G:C8	2.50	0.46
41:L5:1972:G:C6	41:L5:1973:G:C6	3.04	0.46
41:L5:2676:A:OP2	41:L5:2676:A:H8	1.98	0.46
41:L5:2884:G:H2'	41:L5:2885:A:C8	2.51	0.46
41:L5:3830:A2M:HM'3	41:L5:3830:A2M:H1'	1.71	0.46
41:L5:4750:G:H2'	41:L5:4751:G:H8	1.81	0.46
84:Ls:68:HIS:HD2	84:Ls:71:ASN:ND2	2.14	0.46
13:SW:52:ILE:HG12	13:SW:61:ILE:HG12	1.98	0.45
13:SW:111:MET:HE3	13:SW:116:ALA:HA	1.98	0.45
19:S2:342:C:H2'	19:S2:343:A:H8	1.81	0.45
19:S2:375:U:H2'	19:S2:376:A:C8	2.51	0.45
19:S2:634:A:H2'	19:S2:635:G:H8	1.81	0.45
19:S2:1680:G:H2'	19:S2:1681:U:C6	2.51	0.45
41:L5:10:A:H2'	41:L5:11:G:H8	1.78	0.45
41:L5:135:G:H22	74:Lh:94:ARG:HG3	1.81	0.45
41:L5:659:G:H2'	41:L5:660:A:H8	1.80	0.45
41:L5:1167:C:H42	41:L5:1195:G:N2	2.14	0.45
41:L5:2640:G:H2'	41:L5:2641:A:C8	2.50	0.45
44:LA:229:ALA:HB3	44:LA:234:LYS:HB3	1.97	0.45
64:LX:124:VAL:HG22	64:LX:138:VAL:HG13	1.99	0.45
84:Ls:95:LEU:HD11	84:Ls:192:VAL:HG11	1.98	0.45
12:SV:11:LEU:HD23	12:SV:11:LEU:H	1.80	0.45
19:S2:1533:A:H2	19:S2:1536:G:N3	2.15	0.45
36:Sg:56:GLN:HG3	36:Sg:57:ARG:HG3	1.96	0.45
36:Sg:163:PRO:HB2	36:Sg:179:LEU:HD12	1.97	0.45
38:Et:4:C:H2'	38:Et:5:G:C8	2.51	0.45
41:L5:2297:G:H4'	46:LC:242:PRO:HB2	1.97	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:3916:G:H2'	41:L5:3917:A:C8	2.51	0.45
41:L5:4070:U:H2'	41:L5:4071:U:C6	2.51	0.45
41:L5:4578:G:H2'	41:L5:4579:PSU:H6	1.81	0.45
89:L5:5284:SPD:H82	89:L5:5284:SPD:H51	1.74	0.45
50:LG:162:ASP:HB3	50:LG:163:PRO:HD3	1.98	0.45
78:Ll:24:PRO:HD2	78:Ll:27:ILE:HG13	1.98	0.45
3:SC:144:SER:HB3	3:SC:150:ALA:HB2	1.99	0.45
15:SY:113:ARG:NH1	15:SY:131:PRO:HG3	2.31	0.45
19:S2:888:U:H4'	19:S2:889:U:H5'	1.97	0.45
19:S2:1208:A:H2'	19:S2:1209:A:H8	1.81	0.45
30:ST:33:TRP:HZ2	30:ST:102:ARG:HE	1.63	0.45
36:Sg:300:ALA:C	36:Sg:307:VAL:HG23	2.42	0.45
37:At:3:C:H2'	37:At:4:U:H6	1.81	0.45
41:L5:457:G:H2'	41:L5:458:C:H6	1.81	0.45
41:L5:4685:U:H2'	41:L5:4686:G:C8	2.51	0.45
41:L5:4860:G:H5'	57:LO:169:ARG:HD2	1.99	0.45
79:Lm:93:LYS:HD3	79:Lm:102:ARG:HG2	1.98	0.45
2:SB:117:TRP:HB3	2:SB:153:THR:HA	1.98	0.45
8:SJ:32:ILE:HD11	8:SJ:40:LYS:HG2	1.99	0.45
19:S2:576:A2M:HM'3	19:S2:576:A2M:H1'	1.63	0.45
22:SR:27:ASP:HB3	22:SR:30:THR:HB	1.97	0.45
41:L5:1199:G:H2'	41:L5:1200:G:C8	2.52	0.45
41:L5:1333:A:H2'	41:L5:1334:A:H8	1.80	0.45
41:L5:1356:U:H2'	41:L5:1357:C:C6	2.51	0.45
41:L5:2108:G:H2'	41:L5:2109:G:C8	2.51	0.45
41:L5:3917:A:H2'	41:L5:3918:G:H8	1.81	0.45
41:L5:4281:A:H2'	41:L5:4282:A:H2'	1.97	0.45
41:L5:4896:G:H2'	41:L5:4897:G:H8	1.81	0.45
42:L7:22:A:H2'	42:L7:23:A:C8	2.51	0.45
46:LC:143:ARG:HG2	46:LC:182:LYS:HD2	1.98	0.45
46:LC:154:VAL:HG11	46:LC:174:LEU:HD11	1.98	0.45
4:SE:43:PRO:HG2	4:SE:46:ILE:HG12	1.99	0.45
5:SG:49:VAL:HG12	5:SG:115:LYS:HG2	1.99	0.45
5:SG:131:ARG:HB2	21:LW:82:ILE:HG22	1.98	0.45
41:L5:400:A2M:HM'3	41:L5:400:A2M:H1'	1.52	0.45
41:L5:1295:C:H4'	41:L5:1296:G:C8	2.51	0.45
41:L5:1514:U:H2'	41:L5:1515:A:C8	2.51	0.45
41:L5:2557:G:O6	41:L5:2570:U:O4	2.34	0.45
41:L5:3607:U:H2'	41:L5:3608:A:H8	1.81	0.45
41:L5:3627:OMG:HM23	41:L5:3627:OMG:H1'	1.80	0.45
42:L7:4:U:H2'	42:L7:5:A:H8	1.81	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LC:366:ASP:HA	46:LC:368:LYS:HE2	1.99	0.45
48:LE:223:ARG:HA	48:LE:224:LYS:HA	1.71	0.45
57:LO:88:LEU:HD12	57:LO:99:LEU:HD13	1.99	0.45
69:Lc:52:CYS:HB3	69:Lc:57:LYS:HG3	1.99	0.45
84:Ls:175:LEU:HD21	84:Ls:182:PRO:HB3	1.97	0.45
5:SG:18:VAL:HG21	5:SG:24:LEU:HD21	1.98	0.45
19:S2:1670:C:H2'	19:S2:1671:G:H8	1.81	0.45
41:L5:162:A:H2'	41:L5:163:A:H8	1.82	0.45
41:L5:257:C:H2'	41:L5:258:G:C8	2.51	0.45
41:L5:1468:C:H2'	41:L5:1469:C:C6	2.51	0.45
41:L5:1976:G:C6	41:L5:1990:A:N1	2.85	0.45
61:LT:27:LEU:HB3	61:LT:31:MET:HE3	1.98	0.45
62:LU:34:MET:HB3	62:LU:96:LEU:HD11	1.99	0.45
70:Ld:22:THR:HG23	70:Ld:122:VAL:HG13	1.97	0.45
19:S2:468:A2M:H2'	19:S2:469:A:O4'	2.17	0.45
36:Sg:251:ALA:HB1	36:Sg:286:CYS:HB3	1.98	0.45
41:L5:2543:A:H2	41:L5:2773:G:H22	1.65	0.45
41:L5:3758:U:H2'	41:L5:3765:G:N2	2.32	0.45
41:L5:4775:C:H41	41:L5:4859:C:N4	2.15	0.45
43:L8:122:G:C6	43:L8:123:U:H1'	2.52	0.45
45:LB:393:LYS:HG3	45:LB:396:ARG:HH21	1.82	0.45
46:LC:298:ILE:HD13	59:LQ:131:PRO:HB3	1.97	0.45
63:LV:106:VAL:HG12	63:LV:112:MET:HA	1.98	0.45
72:Lf:25:THR:HB	72:Lf:87:LYS:HD3	1.99	0.45
78:Ll:41:ARG:HD2	78:Ll:41:ARG:HA	1.77	0.45
3:SC:107:LEU:HB3	3:SC:233:LEU:HD21	1.97	0.45
4:SE:42:LEU:HG	4:SE:109:PHE:HD2	1.82	0.45
19:S2:1415:C:H2'	19:S2:1416:C:H6	1.82	0.45
19:S2:1458:G:H2'	19:S2:1459:G:H8	1.82	0.45
41:L5:406:C:H2'	41:L5:407:A:C8	2.52	0.45
41:L5:1996:C:N4	41:L5:2000:G:N2	2.64	0.45
48:LE:186:LEU:HD11	48:LE:253:VAL:HG21	1.98	0.45
77:Lk:26:LYS:HD3	77:Lk:69:LEU:HD22	1.99	0.45
84:Ls:55:MET:HE3	84:Ls:56:GLY:H	1.82	0.45
1:SA:158:ASP:O	12:SV:66:ASP:HA	2.17	0.45
5:SG:7:PHE:HE2	5:SG:9:ALA:HB3	1.82	0.45
11:SO:31:CYS:HB2	11:SO:93:LEU:HD13	1.97	0.45
19:S2:1458:G:H2'	19:S2:1459:G:C8	2.52	0.45
20:LR:138:LEU:O	20:LR:139:MET:C	2.59	0.45
23:SD:109:LEU:HD13	23:SD:182:LEU:HD23	1.98	0.45
35:Sf:140:TYR:HE1	35:Sf:145:CYS:HA	1.82	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:418:A:C2	43:L8:17:A:H1'	2.52	0.45
41:L5:711:A:H2'	41:L5:712:C:C6	2.52	0.45
41:L5:2638:G:N1	41:L5:2718:U:H2'	2.32	0.45
41:L5:4578:G:H2'	41:L5:4579:PSU:C6	2.52	0.45
41:L5:4704:C:H2'	41:L5:4705:A:C8	2.51	0.45
41:L5:4913:G:H4'	41:L5:4914:C:O5'	2.15	0.45
42:L7:58:A:H2'	42:L7:59:G:C8	2.52	0.45
43:L8:90:C:H2'	43:L8:91:A:C8	2.52	0.45
49:LF:182:TYR:CZ	49:LF:203:GLU:HG2	2.52	0.45
58:LP:94:MET:HE3	58:LP:94:MET:HB2	1.83	0.45
2:SB:110:MET:HA	2:SB:113:MET:HE3	1.99	0.45
10:SN:5:HIS:HB3	10:SN:117:LEU:HD13	1.99	0.45
15:SY:129:LYS:HD3	15:SY:129:LYS:HA	1.81	0.45
19:S2:674:C:H2'	19:S2:675:U:C6	2.51	0.45
24:SF:144:LEU:HD23	33:Sc:49:PRO:HB2	1.99	0.45
31:SU:28:ASN:HD21	31:SU:31:SER:HB3	1.82	0.45
41:L5:381:U:H4'	41:L5:415:G:H5'	1.98	0.45
41:L5:701:G:H2'	41:L5:702:U:C6	2.51	0.45
43:L8:148:A:H2'	43:L8:149:G:C8	2.52	0.45
45:LB:27:GLY:HA2	45:LB:276:HIS:CD2	2.52	0.45
57:LO:47:PHE:HA	57:LO:136:ALA:HB2	1.98	0.45
65:LY:21:ALA:HB1	65:LY:25:ILE:HG13	1.98	0.45
70:Ld:36:VAL:HG21	70:Ld:44:ARG:HG2	1.97	0.45
19:S2:1539:U:H2'	19:S2:1540:G:C8	2.52	0.44
19:S2:1616:U:H2'	19:S2:1617:G:C8	2.51	0.44
29:SS:12:ILE:HD11	53:LJ:121:PRO:HD3	1.99	0.44
35:Sf:103:LEU:HG	35:Sf:104:LYS:H	1.81	0.44
41:L5:133:C:H2'	41:L5:134:G:H4'	1.99	0.44
42:L7:4:U:H2'	42:L7:5:A:C8	2.52	0.44
65:LY:2:LYS:HD2	65:LY:7:VAL:HG13	1.98	0.44
15:SY:35:VAL:HG13	15:SY:40:ILE:HD11	1.97	0.44
19:S2:1221:G:H2'	19:S2:1222:G:C8	2.52	0.44
41:L5:1645:C:H2'	41:L5:1646:A:C8	2.52	0.44
41:L5:4627:U:H5''	45:LB:373:LYS:HG2	1.99	0.44
41:L5:4927:G:H5''	41:L5:4928:C:H5	1.81	0.44
84:Ls:126:GLN:H	84:Ls:154:ILE:HB	1.82	0.44
3:SC:261:PHE:HB2	12:SV:52:THR:HG21	1.99	0.44
19:S2:432:G:H2'	19:S2:433:A:C8	2.53	0.44
19:S2:677:G:H21	19:S2:1028:A:H62	1.66	0.44
37:At:5:C:H2'	37:At:6:C:C6	2.52	0.44
41:L5:4524:G:C2	45:LB:252:ALA:HB1	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:4637:OMG:HM23	41:L5:4637:OMG:H1'	1.73	0.44
46:LC:159:GLU:HA	46:LC:217:ILE:HB	1.99	0.44
58:LP:122:ALA:HB3	58:LP:143:PRO:HG2	1.99	0.44
3:SC:90:GLU:HB2	3:SC:93:ILE:HG13	1.99	0.44
4:SE:29:PRO:HA	19:S2:496:C:H5'	1.99	0.44
17:Sb:36:LYS:HD3	17:Sb:43:ILE:HD13	1.99	0.44
19:S2:399:C:H5	19:S2:680:G:H5''	1.82	0.44
19:S2:455:A:H2'	19:S2:456:C:C6	2.53	0.44
19:S2:1139:C:H5	19:S2:1149:A:H62	1.64	0.44
19:S2:1225:U:H1'	28:SQ:142:GLN:HE22	1.81	0.44
22:SR:32:LYS:HG3	22:SR:47:ARG:HH12	1.82	0.44
26:SM:128:PHE:HD1	26:SM:131:LYS:HZ3	1.64	0.44
37:At:2:U:H2'	37:At:3:C:C6	2.52	0.44
41:L5:153:G:H2'	41:L5:154:G:H8	1.83	0.44
41:L5:475:G:H2'	41:L5:476:G:C8	2.52	0.44
41:L5:2765:A:H2'	41:L5:2766:A:H8	1.83	0.44
41:L5:3841:OMC:HM23	41:L5:3841:OMC:H1'	1.82	0.44
41:L5:5002:U:H2'	41:L5:5003:U:H6	1.82	0.44
45:LB:302:ASN:HB2	45:LB:313:SER:HA	1.99	0.44
47:LD:181:PRO:HD2	47:LD:195:HIS:CD2	2.52	0.44
81:Lo:6:LYS:HG3	81:Lo:94:GLY:HA3	1.99	0.44
1:SA:163:CYS:HB2	1:SA:174:MET:SD	2.57	0.44
4:SE:149:TYR:HB3	5:SG:209:TYR:HB2	1.98	0.44
15:SY:22:GLN:HG2	15:SY:74:MET:SD	2.58	0.44
19:S2:29:G:H2'	19:S2:30:C:C6	2.52	0.44
19:S2:468:A2M:HM'3	19:S2:468:A2M:H1'	1.62	0.44
19:S2:1298:G:C4	27:SP:79:HIS:CD2	3.03	0.44
19:S2:1755:C:H2'	19:S2:1756:C:C6	2.53	0.44
19:S2:1858:G:H2'	19:S2:1859:A:H8	1.83	0.44
24:SF:102:LEU:HD21	32:SZ:110:THR:HB	2.00	0.44
31:SU:61:LEU:HB2	31:SU:82:MET:HB3	2.00	0.44
36:Sg:191:HIS:CD2	36:Sg:195:LEU:HD11	2.53	0.44
41:L5:979:C:OP2	48:LE:66:LYS:HD3	2.18	0.44
41:L5:4935:C:H2'	41:L5:4936:G:C8	2.52	0.44
41:L5:5004:C:H2'	41:L5:5005:G:O4'	2.18	0.44
46:LC:368:LYS:HA	46:LC:368:LYS:HD3	1.86	0.44
62:LU:112:LEU:HD23	62:LU:112:LEU:H	1.83	0.44
68:Lb:73:LYS:HD3	68:Lb:73:LYS:HA	1.77	0.44
71:Le:99:ILE:HD13	71:Le:108:ARG:HB2	1.99	0.44
2:SB:114:VAL:HG11	19:S2:987:A:H2'	1.99	0.44
5:SG:143:LYS:HA	5:SG:143:LYS:HD3	1.76	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:27:A2M:HM'3	19:S2:27:A2M:H1'	1.69	0.44
19:S2:649:PSU:H2'	19:S2:650:A:C8	2.53	0.44
19:S2:659:G:H2'	19:S2:663:C:C6	2.53	0.44
19:S2:1010:G:H2'	19:S2:1011:A:H8	1.81	0.44
19:S2:1595:U:H2'	19:S2:1596:U:C6	2.52	0.44
28:SQ:51:LEU:HG	28:SQ:81:ILE:HG23	2.00	0.44
29:SS:22:GLY:HA2	29:SS:56:ALA:HB3	1.98	0.44
30:ST:104:LEU:HD22	30:ST:121:ARG:HD2	1.99	0.44
41:L5:121:A:OP1	50:LG:110:LYS:HE2	2.17	0.44
41:L5:512:U:H3	41:L5:647:G:H1	1.65	0.44
41:L5:1969:G:N2	41:L5:1999:A:H1'	2.30	0.44
41:L5:4232:U:H5''	81:Lo:3:ASN:O	2.18	0.44
49:LF:182:TYR:HB3	49:LF:200:ARG:HG3	1.99	0.44
4:SE:38:LEU:HD22	19:S2:346:C:H5''	1.99	0.44
4:SE:42:LEU:HD12	4:SE:101:LEU:HD21	2.00	0.44
10:SN:75:LEU:HB3	10:SN:81:ALA:HB2	2.00	0.44
19:S2:5:U:H2'	19:S2:6:G:H8	1.83	0.44
19:S2:84:A:H2'	19:S2:85:A:C8	2.53	0.44
19:S2:573:U:O2	19:S2:576:A2M:H8	2.18	0.44
19:S2:1550:G:H3'	19:S2:1579:A:H61	1.83	0.44
19:S2:1711:U:H2'	19:S2:1712:A:H8	1.83	0.44
28:SQ:143:LYS:HB2	28:SQ:143:LYS:HE3	1.83	0.44
29:SS:84:LEU:HD12	29:SS:95:TYR:HB3	2.00	0.44
39:Pt:12:G:H2'	39:Pt:13:U:O4'	2.18	0.44
41:L5:99:A:H5''	56:LN:184:ILE:HD12	2.00	0.44
41:L5:3856:A:H5''	58:LP:83:TRP:O	2.17	0.44
41:L5:4246:G:H2'	41:L5:4247:G:C8	2.52	0.44
43:L8:82:A:N7	43:L8:84:A:H3'	2.32	0.44
44:LA:225:ILE:HG12	44:LA:234:LYS:HA	2.00	0.44
45:LB:217:ILE:HD11	45:LB:333:LEU:HD21	2.00	0.44
47:LD:62:CYS:HB3	47:LD:105:LEU:HD22	2.00	0.44
49:LF:157:ARG:HE	49:LF:248:ASN:HB2	1.83	0.44
58:LP:114:ILE:HG12	58:LP:150:LEU:HD22	1.98	0.44
1:SA:148:CYS:SG	1:SA:149:ASN:N	2.90	0.44
3:SC:125:LYS:HG3	3:SC:143:CYS:HB2	1.99	0.44
3:SC:173:LYS:HD3	12:SV:3:ASN:HA	1.99	0.44
9:SL:13:GLN:HB2	9:SL:16:ILE:HD12	2.00	0.44
19:S2:293:C:O2'	19:S2:294:U:H3'	2.18	0.44
19:S2:634:A:H2'	19:S2:635:G:C8	2.52	0.44
19:S2:1217:A:H2'	19:S2:1218:C:H6	1.81	0.44
19:S2:1222:G:H2'	19:S2:1223:A:C8	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1533:A:N6	19:S2:1602:U:C2	2.86	0.44
29:SS:80:PRO:HG2	30:ST:36:THR:HG21	1.99	0.44
30:ST:41:LYS:HE3	30:ST:41:LYS:HB3	1.81	0.44
37:At:51:C:H2'	37:At:52:G:C8	2.52	0.44
41:L5:1296:G:H2'	41:L5:1297:U:C6	2.53	0.44
41:L5:1538:U:H2'	41:L5:1539:G:C8	2.53	0.44
41:L5:2608:G:H2'	41:L5:2609:G:H8	1.83	0.44
41:L5:2634:C:H2'	41:L5:2635:U:H6	1.83	0.44
41:L5:2815:A2M:H2'	41:L5:2816:G:C8	2.52	0.44
41:L5:4080:C:H2'	41:L5:4081:G:H8	1.82	0.44
41:L5:5015:G:H2'	41:L5:5016:A:C2	2.53	0.44
45:LB:161:ARG:HG2	45:LB:184:GLN:HA	2.00	0.44
57:LO:34:VAL:HG22	57:LO:103:LYS:HB2	1.99	0.44
64:LX:82:THR:HA	64:LX:87:MET:HE3	1.99	0.44
65:LY:55:VAL:HG12	65:LY:106:ILE:HA	1.98	0.44
19:S2:1279:C:H2'	19:S2:1280:G:H8	1.83	0.44
32:SZ:72:VAL:HG13	32:SZ:76:ARG:HH21	1.82	0.44
32:SZ:88:LEU:HD23	32:SZ:88:LEU:HA	1.87	0.44
37:At:50:U:H2'	37:At:51:C:C6	2.52	0.44
41:L5:288:G:H2'	41:L5:289:C:C6	2.53	0.44
41:L5:1662:C:H2'	41:L5:1663:C:H6	1.83	0.44
41:L5:2109:G:H2'	41:L5:2110:C:C6	2.53	0.44
41:L5:2498:C:H2'	41:L5:2499:C:H6	1.82	0.44
41:L5:4456:OMC:HM21	45:LB:241:PRO:HD3	2.00	0.44
47:LD:53:VAL:HG11	47:LD:159:VAL:HA	2.00	0.44
48:LE:132:PRO:HG2	48:LE:135:GLN:HG3	1.99	0.44
51:LH:102:ASN:HB2	51:LH:115:ARG:HB2	2.00	0.44
71:Le:108:ARG:HD2	71:Le:128:ARG:HB2	2.00	0.44
84:Ls:29:ILE:HG13	84:Ls:190:GLN:HB2	1.99	0.44
1:SA:158:ASP:HB2	1:SA:159:ILE:HD12	1.99	0.43
3:SC:74:LYS:HD3	3:SC:74:LYS:HA	1.69	0.43
19:S2:441:C:H2'	19:S2:442:C:C6	2.53	0.43
19:S2:595:U:H2'	19:S2:596:U:C6	2.53	0.43
19:S2:1218:C:H2'	19:S2:1219:C:C6	2.52	0.43
19:S2:1421:A:H3'	19:S2:1422:G:C8	2.53	0.43
19:S2:1651:A:H2'	19:S2:1652:G:H8	1.82	0.43
25:SK:3:MET:HE1	25:SK:48:ALA:HB2	2.00	0.43
29:SS:125:HIS:CD2	29:SS:131:VAL:HG11	2.52	0.43
30:ST:62:ARG:HH12	30:ST:66:LEU:HD11	1.82	0.43
38:Et:43:A:H2'	38:Et:44:G:C8	2.53	0.43
41:L5:3785:A2M:H2	41:L5:4551:U:O2	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:4280:A:C8	53:LJ:145:LYS:HE3	2.53	0.43
54:LL:18:TRP:CD1	54:LL:18:TRP:H	2.35	0.43
55:LM:32:ASP:O	55:LM:33:GLN:HG2	2.18	0.43
72:Lf:45:LYS:HA	72:Lf:107:PRO:HD2	1.99	0.43
16:Sa:13:LYS:HD3	16:Sa:13:LYS:HA	1.77	0.43
19:S2:194:C:H2'	19:S2:195:C:C6	2.54	0.43
19:S2:307:G:P	19:S2:307:G:H8	2.41	0.43
19:S2:562:U:H2'	19:S2:563:G:C8	2.53	0.43
19:S2:866:PSU:H2'	19:S2:867:OMG:C8	2.53	0.43
19:S2:1513:C:OP1	34:Sd:10:HIS:HB3	2.17	0.43
27:SP:62:LYS:HD3	27:SP:65:LYS:HD3	2.01	0.43
36:Sg:185:LYS:HA	36:Sg:185:LYS:HD2	1.83	0.43
43:L8:5:U:H2'	43:L8:6:C:H6	1.83	0.43
45:LB:240:LEU:HB2	45:LB:248:LEU:HA	2.00	0.43
47:LD:56:THR:HG22	47:LD:57:ASN:H	1.83	0.43
2:SB:52:THR:HG23	2:SB:57:ILE:HA	1.99	0.43
4:SE:131:VAL:HA	4:SE:137:PRO:HA	2.00	0.43
4:SE:201:HIS:CD2	19:S2:857:U:H4'	2.54	0.43
19:S2:615:C:H2'	19:S2:616:A:O4'	2.19	0.43
19:S2:1302:G:H1	19:S2:1307:U:H3	1.66	0.43
24:SF:28:VAL:HG13	24:SF:107:ASN:HD22	1.83	0.43
24:SF:133:THR:HA	38:Et:39:U:O2	2.19	0.43
38:Et:9:A:H1'	38:Et:45:G:H2'	1.99	0.43
41:L5:422:C:H2'	41:L5:423:G:H8	1.84	0.43
41:L5:1190:C:H2'	41:L5:1191:C:C6	2.53	0.43
41:L5:1341:U:H2'	41:L5:1342:A:C8	2.53	0.43
41:L5:1345:A:H2'	41:L5:1346:C:C6	2.53	0.43
41:L5:1855:G:OP1	68:Lb:4:SER:HB2	2.19	0.43
41:L5:1906:U:H2'	41:L5:1907:A:H8	1.82	0.43
41:L5:2632:PSU:H2'	41:L5:2633:U:C6	2.53	0.43
5:SG:136:LYS:HB2	19:S2:65:C:N4	2.33	0.43
5:SG:174:PRO:HB3	19:S2:65:C:C6	2.54	0.43
13:SW:28:ARG:HD3	19:S2:921:G:C5	2.53	0.43
19:S2:1670:C:H2'	19:S2:1671:G:C8	2.52	0.43
19:S2:1852:C:H5	80:Ln:5:TRP:HB3	1.83	0.43
28:SQ:89:SER:HB2	28:SQ:112:LEU:HD13	1.99	0.43
35:Sf:102:VAL:HG22	35:Sf:104:LYS:HG2	2.00	0.43
41:L5:399:G:H4'	58:LP:18:ARG:HB3	2.00	0.43
41:L5:423:G:H5'	58:LP:26:PHE:HZ	1.83	0.43
41:L5:475:G:H2'	41:L5:476:G:H8	1.84	0.43
41:L5:1725:U:H2'	41:L5:1726:U:H6	1.83	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1997:U:H2'	41:L5:1998:A:H3'	2.00	0.43
41:L5:2480:G:H2'	41:L5:2481:G:H8	1.83	0.43
41:L5:4620:OMU:HM23	41:L5:4620:OMU:H1'	1.82	0.43
41:L5:4910:G:H4'	45:LB:95:THR:HG22	2.00	0.43
43:L8:5:U:H2'	43:L8:6:C:C6	2.53	0.43
44:LA:180:LEU:HD11	82:Lp:26:VAL:HG11	1.99	0.43
45:LB:92:TYR:HB3	45:LB:99:LEU:HD22	2.00	0.43
46:LC:325:MET:HE3	46:LC:329:ASN:HB3	2.00	0.43
47:LD:89:LYS:HE2	47:LD:229:ASN:HB2	2.00	0.43
50:LG:189:ARG:HG2	50:LG:192:ARG:HH12	1.83	0.43
59:LQ:43:PHE:CD2	59:LQ:133:GLY:HA3	2.53	0.43
8:SJ:124:HIS:CG	18:Se:35:ARG:HE	2.37	0.43
11:SO:66:ARG:HG2	19:S2:962:A:H5''	1.99	0.43
14:SX:67:ARG:HG3	14:SX:115:ILE:HG12	2.00	0.43
19:S2:71:G:H2'	19:S2:72:C:H4'	2.00	0.43
19:S2:342:C:H2'	19:S2:343:A:C8	2.54	0.43
19:S2:644:OMG:HM23	19:S2:644:OMG:H1'	1.70	0.43
26:SM:128:PHE:O	26:SM:132:LYS:HG2	2.18	0.43
35:Sf:108:VAL:HB	35:Sf:113:LYS:H	1.82	0.43
39:Pt:50:U:H2'	39:Pt:51:C:C6	2.53	0.43
41:L5:3867:A2M:H2'	41:L5:3868:G:O4'	2.18	0.43
41:L5:3911:C:H2'	41:L5:3912:U:C6	2.51	0.43
41:L5:3944:G:O6	41:L5:4069:U:O4	2.36	0.43
41:L5:3948:C:H2'	41:L5:3949:A:C8	2.53	0.43
41:L5:5002:U:H2'	41:L5:5003:U:C6	2.53	0.43
42:L7:33:U:H2'	42:L7:34:C:C6	2.53	0.43
50:LG:103:ARG:HH21	50:LG:195:HIS:CD2	2.36	0.43
57:LO:54:TYR:CD1	57:LO:145:VAL:HG21	2.52	0.43
60:LS:157:ARG:HA	60:LS:157:ARG:HD2	1.81	0.43
61:LT:44:GLY:HA2	61:LT:95:HIS:HB3	2.00	0.43
71:Le:19:LYS:HE3	71:Le:19:LYS:HB3	1.81	0.43
84:Ls:59:THR:HA	84:Ls:62:ARG:HE	1.82	0.43
1:SA:32:PHE:CG	19:S2:1097:G:H4'	2.53	0.43
5:SG:103:ASP:H	5:SG:106:LEU:HD13	1.82	0.43
8:SJ:141:VAL:HG11	15:SY:65:GLY:HA3	2.01	0.43
10:SN:7:PRO:HG3	19:S2:996:A:H5''	2.01	0.43
19:S2:15:U:H2'	19:S2:16:G:O4'	2.18	0.43
19:S2:162:C:H2'	19:S2:163:U:O4'	2.19	0.43
19:S2:1702:G:H2'	19:S2:1703:OMC:O4'	2.19	0.43
24:SF:103:LEU:HD23	24:SF:178:ILE:HD13	2.00	0.43
41:L5:426:A:H2'	41:L5:427:A:C8	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:980:U:H2'	41:L5:981:C:C6	2.54	0.43
41:L5:1577:G:C8	44:LA:181:LYS:HE3	2.53	0.43
41:L5:2249:C:H2'	41:L5:2250:C:C5	2.54	0.43
41:L5:2351:OMC:HM23	41:L5:2351:OMC:H1'	1.69	0.43
44:LA:126:LEU:HD13	44:LA:150:LEU:HD21	2.00	0.43
48:LE:207:LYS:HA	48:LE:207:LYS:HD3	1.68	0.43
62:LU:28:PRO:HB2	62:LU:34:MET:HG3	1.99	0.43
84:Ls:59:THR:HA	84:Ls:62:ARG:HB2	2.00	0.43
1:SA:155:ARG:NH2	19:S2:1137:U:H4'	2.33	0.43
3:SC:256:TRP:CD2	13:SW:68:ARG:HD3	2.53	0.43
19:S2:96:C:H2'	19:S2:97:U:C6	2.53	0.43
19:S2:564:A:H2'	19:S2:565:G:O4'	2.19	0.43
19:S2:1134:G:H2'	19:S2:1135:C:H6	1.84	0.43
41:L5:982:U:C4	48:LE:71:ARG:HD2	2.54	0.43
41:L5:2385:U:H2'	41:L5:2386:U:C6	2.54	0.43
41:L5:3707:U:H2'	41:L5:3708:C:C6	2.53	0.43
41:L5:4064:C:H2'	41:L5:4065:G:C8	2.53	0.43
41:L5:4174:U:H2'	41:L5:4175:G:C8	2.54	0.43
41:L5:4523:A2M:H2'	41:L5:4559:A:N7	2.34	0.43
1:SA:118:GLU:HG3	3:SC:65:LYS:HG3	2.01	0.43
5:SG:218:LYS:HA	5:SG:218:LYS:HD2	1.87	0.43
19:S2:458:A:H2'	19:S2:459:C:C6	2.54	0.43
19:S2:1037:G:H4'	19:S2:1845:A:H4'	2.01	0.43
19:S2:1134:G:H2'	19:S2:1135:C:C6	2.54	0.43
39:Pt:23:C:H2'	39:Pt:24:A:C8	2.53	0.43
42:L7:63:C:H5'	42:L7:64:G:H5''	1.99	0.43
45:LB:288:GLY:HA3	45:LB:330:PHE:CE1	2.54	0.43
68:Lb:90:SER:HB2	68:Lb:95:ARG:HH12	1.83	0.43
10:SN:47:PRO:HA	10:SN:50:ILE:HD12	2.01	0.43
12:SV:17:CYS:HB2	12:SV:56:CYS:HB3	2.01	0.43
16:Sa:3:LYS:HE2	16:Sa:6:ARG:HA	2.01	0.43
19:S2:544:G:H2'	19:S2:545:A:C8	2.54	0.43
19:S2:1603:G:N2	29:SS:24:ARG:HH21	2.13	0.43
29:SS:51:ASP:HB3	29:SS:54:LYS:HE3	2.00	0.43
36:Sg:193:GLY:HA3	36:Sg:212:LYS:HB3	2.01	0.43
41:L5:1895:G:H2'	41:L5:1896:A:O4'	2.19	0.43
41:L5:2844:A:O2'	41:L5:4631:G:H4'	2.19	0.43
41:L5:4928:C:H2'	41:L5:4929:C:C6	2.54	0.43
43:L8:88:A:H2'	43:L8:89:U:O4'	2.19	0.43
53:LJ:48:PRO:HB2	53:LJ:70:VAL:HG22	2.00	0.43
71:Le:35:TRP:CZ2	71:Le:56:PRO:HD2	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:SB:142:PHE:HB2	2:SB:209:ASP:HB3	2.01	0.43
4:SE:100:ARG:HG3	4:SE:102:ILE:HG13	2.00	0.43
25:SK:80:ARG:HD3	25:SK:85:LEU:HB2	2.01	0.43
29:SS:106:LYS:HD2	29:SS:106:LYS:HA	1.70	0.43
36:Sg:62:HIS:CE1	36:Sg:88:ARG:HB2	2.54	0.43
41:L5:170:C:H42	41:L5:266:C:H42	1.67	0.43
41:L5:173:C:H2'	41:L5:174:C:C6	2.53	0.43
41:L5:1629:G:N1	44:LA:208:GLU:HG2	2.33	0.43
41:L5:1631:A:C8	44:LA:199:VAL:HG21	2.53	0.43
41:L5:2073:C:OP1	49:LF:212:LYS:HE2	2.19	0.43
41:L5:3652:A:H2'	41:L5:3653:A:C5	2.54	0.43
41:L5:3727:A:H2'	41:L5:3728:A:C8	2.53	0.43
41:L5:4169:G:H4'	41:L5:4171:C:C2	2.54	0.43
41:L5:4239:A:H2'	41:L5:4240:G:H8	1.84	0.43
45:LB:238:LYS:HE2	45:LB:238:LYS:HB2	1.81	0.43
46:LC:159:GLU:HG3	46:LC:253:THR:HG21	2.01	0.43
51:LH:51:LYS:HG3	51:LH:52:LYS:N	2.33	0.43
56:LN:148:THR:O	56:LN:151:ILE:HG22	2.19	0.43
62:LU:65:ARG:HH11	62:LU:67:LYS:HA	1.83	0.43
74:Lh:14:LYS:HE3	74:Lh:14:LYS:HB3	1.83	0.43
4:SE:26:VAL:HG22	8:SJ:4:ALA:HB2	1.99	0.42
5:SG:7:PHE:HD1	5:SG:113:ILE:HD13	1.83	0.42
8:SJ:52:LYS:HB3	8:SJ:52:LYS:HE2	1.80	0.42
19:S2:300:U:H2'	19:S2:301:A:C8	2.54	0.42
19:S2:550:C:H2'	19:S2:551:U:C6	2.53	0.42
19:S2:656:G:H21	19:S2:663:C:H5''	1.83	0.42
19:S2:1362:U:H5''	19:S2:1363:C:C5	2.50	0.42
19:S2:1395:C:H2'	19:S2:1396:A:O4'	2.19	0.42
19:S2:1588:A:H2'	19:S2:1589:A:C8	2.53	0.42
19:S2:1797:U:H2'	19:S2:1798:C:C6	2.53	0.42
21:LW:116:LYS:HA	21:LW:119:LYS:HE2	2.01	0.42
27:SP:20:VAL:HG11	27:SP:36:LEU:HD21	2.01	0.42
33:Sc:5:ARG:HA	33:Sc:5:ARG:HD2	1.92	0.42
36:Sg:191:HIS:CE1	36:Sg:195:LEU:HD21	2.54	0.42
41:L5:7:C:H2'	41:L5:8:U:C6	2.54	0.42
41:L5:37:U:H2'	41:L5:38:A:O4'	2.19	0.42
41:L5:1327:C:H2'	41:L5:1328:G:H8	1.83	0.42
41:L5:1404:G:N7	41:L5:1408:G:C2	2.86	0.42
41:L5:1545:G:H2'	41:L5:1546:C:C6	2.53	0.42
41:L5:3619:G:H22	41:L5:3624:A:H1'	1.83	0.42
43:L8:144:U:H2'	43:L8:145:C:C6	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LA:114:CYS:SG	44:LA:169:VAL:HB	2.59	0.42
54:LL:69:LYS:HG3	54:LL:159:ASN:HD21	1.84	0.42
69:Lc:99:PRO:HG3	69:Lc:104:ILE:HG12	2.02	0.42
71:Le:88:LEU:HD12	71:Le:97:ALA:HB2	2.01	0.42
81:Lo:83:LEU:HD23	81:Lo:83:LEU:HA	1.90	0.42
84:Ls:18:ILE:HG12	84:Ls:68:HIS:ND1	2.34	0.42
19:S2:166:A2M:H1'	19:S2:166:A2M:HM'3	1.53	0.42
19:S2:1320:G:H2'	19:S2:1321:G:O4'	2.19	0.42
19:S2:1589:A:H2'	19:S2:1590:C:O4'	2.18	0.42
24:SF:22:LYS:HG3	24:SF:23:TRP:CD2	2.54	0.42
28:SQ:16:LYS:HE2	28:SQ:17:LYS:HG3	2.00	0.42
41:L5:1461:C:H2'	41:L5:1462:A:H8	1.83	0.42
41:L5:1846:G:H2'	41:L5:1847:C:C6	2.53	0.42
41:L5:2864:A:H2'	41:L5:2865:U:C6	2.54	0.42
41:L5:4723:A:H2'	41:L5:4724:A:C8	2.54	0.42
48:LE:258:LEU:O	48:LE:262:LYS:HG2	2.19	0.42
50:LG:70:LEU:HD23	50:LG:70:LEU:HA	1.85	0.42
56:LN:5:LYS:HA	56:LN:5:LYS:HD3	1.89	0.42
7:SI:84:ASN:HD22	7:SI:100:CYS:HB3	1.85	0.42
19:S2:376:A:H2'	19:S2:377:G:O4'	2.19	0.42
19:S2:925:G:H2'	19:S2:926:A:H8	1.83	0.42
19:S2:1229:G:OP1	29:SS:142:ARG:HB2	2.20	0.42
39:Pt:29:C:H2'	39:Pt:30:G:H8	1.84	0.42
41:L5:1478:C:H2'	41:L5:1479:G:H8	1.83	0.42
41:L5:1973:G:O2'	85:Lt:78:SER:HB2	2.19	0.42
41:L5:2386:U:H2'	41:L5:2387:G:H8	1.83	0.42
41:L5:3610:A:H2'	41:L5:3611:A:C8	2.54	0.42
44:LA:54:ARG:NH1	44:LA:58:LEU:HD21	2.33	0.42
53:LJ:56:THR:HG23	53:LJ:63:ARG:HA	2.01	0.42
57:LO:143:HIS:HA	57:LO:147:TRP:HB3	2.01	0.42
11:SO:65:ASP:HB3	19:S2:963:A:OP1	2.19	0.42
19:S2:85:A:H2'	19:S2:86:C:C6	2.54	0.42
19:S2:1733:U:H2'	19:S2:1734:G:O4'	2.19	0.42
21:LW:45:ASN:ND2	21:LW:47:ARG:HB2	2.34	0.42
23:SD:66:ILE:HD11	23:SD:86:LEU:HB3	2.00	0.42
23:SD:106:ARG:HE	23:SD:106:ARG:HB3	1.70	0.42
27:SP:57:LEU:HD21	27:SP:86:LEU:HD22	2.00	0.42
28:SQ:78:VAL:HG23	28:SQ:81:ILE:HD12	2.00	0.42
38:Et:66:U:H2'	38:Et:67:U:C6	2.54	0.42
41:L5:6:C:H2'	41:L5:7:C:H6	1.84	0.42
41:L5:426:A:H2'	41:L5:427:A:H8	1.84	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:729:G:H5''	49:LF:76:ARG:HD2	2.01	0.42
41:L5:1346:C:H2'	41:L5:1347:G:H8	1.84	0.42
41:L5:1508:A:H5''	46:LC:113:ARG:HD2	2.01	0.42
41:L5:2570:U:H2'	41:L5:2571:C:C6	2.55	0.42
41:L5:4127:A:C2	50:LG:37:LYS:HG2	2.54	0.42
43:L8:36:G:C5	74:Lh:89:ARG:HD3	2.54	0.42
44:LA:143:THR:HG23	44:LA:145:LYS:HG2	2.02	0.42
45:LB:168:MET:HE1	45:LB:173:LEU:HD12	2.01	0.42
50:LG:123:ALA:HA	50:LG:124:GLY:HA2	1.76	0.42
51:LH:4:ILE:HG12	51:LH:61:TRP:CH2	2.54	0.42
52:LI:43:VAL:HG11	52:LI:197:VAL:HG13	2.01	0.42
14:SX:28:LYS:HD2	14:SX:32:LEU:HD22	2.00	0.42
19:S2:908:A:H5''	20:LR:172:ARG:NH2	2.34	0.42
19:S2:1031:A2M:HM'3	19:S2:1031:A2M:H1'	1.59	0.42
19:S2:1139:C:H2'	19:S2:1140:G:O4'	2.19	0.42
19:S2:1513:C:H2'	19:S2:1514:G:C8	2.52	0.42
24:SF:18:LYS:HE2	24:SF:22:LYS:HA	2.02	0.42
31:SU:19:ARG:HE	31:SU:92:HIS:CD2	2.38	0.42
41:L5:6:C:H2'	41:L5:7:C:C6	2.55	0.42
41:L5:268:G:H2'	41:L5:269:G:C8	2.53	0.42
41:L5:1269:G:H2'	41:L5:1270:A:C4	2.54	0.42
41:L5:1392:A:H2'	41:L5:1393:G:C8	2.53	0.42
41:L5:2276:A:H2'	41:L5:2277:C:O4'	2.19	0.42
41:L5:2492:C:H2'	41:L5:2493:G:C8	2.52	0.42
41:L5:4353:PSU:H5'	41:L5:4354:U:H5'	2.01	0.42
47:LD:108:ARG:CZ	47:LD:253:TYR:HB2	2.50	0.42
69:Lc:65:MET:HE3	69:Lc:65:MET:HB3	1.96	0.42
3:SC:253:PRO:HA	3:SC:256:TRP:CD2	2.55	0.42
6:SH:7:LYS:HE2	6:SH:10:LYS:HB3	2.00	0.42
8:SJ:18:ARG:HH21	19:S2:4:C:H1'	1.84	0.42
9:SL:68:ILE:HG12	9:SL:143:LEU:HD11	2.01	0.42
19:S2:653:A:H2'	19:S2:654:A:O4'	2.20	0.42
19:S2:1103:C:H2'	19:S2:1104:G:H8	1.84	0.42
19:S2:1279:C:H2'	19:S2:1280:G:C8	2.55	0.42
19:S2:1801:A:H2'	19:S2:1802:C:H6	1.82	0.42
24:SF:28:VAL:HG12	24:SF:110:GLN:HB2	2.01	0.42
41:L5:1296:G:H2'	41:L5:1297:U:H6	1.85	0.42
41:L5:2407:G:H2'	78:Ll:13:LEU:HD22	2.02	0.42
41:L5:3608:A:H2'	41:L5:3609:G:H8	1.84	0.42
41:L5:4389:C:H2'	41:L5:4390:A:C8	2.54	0.42
41:L5:4736:C:H2'	41:L5:4737:G:H8	1.84	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:4761:G:H2'	41:L5:4762:A:C8	2.54	0.42
41:L5:4957:C:H2'	41:L5:4958:C:C6	2.54	0.42
42:L7:33:U:O2	47:LD:207:TYR:HB2	2.20	0.42
43:L8:123:U:H2'	43:L8:126:C:N4	2.35	0.42
51:LH:12:ILE:HB	51:LH:53:LYS:HB2	2.02	0.42
52:LI:136:MET:HE3	52:LI:136:MET:HB2	1.88	0.42
70:Ld:54:MET:HE2	70:Ld:54:MET:HB3	1.93	0.42
4:SE:101:LEU:HD12	4:SE:101:LEU:HA	1.85	0.42
13:SW:45:GLY:O	13:SW:68:ARG:HD2	2.19	0.42
19:S2:1661:A:C8	34:Sd:14:PHE:HB2	2.54	0.42
41:L5:99:A:H2'	41:L5:100:C:O2	2.20	0.42
41:L5:683:C:H2'	41:L5:684:G:O4'	2.20	0.42
41:L5:1244:G:H2'	41:L5:1245:C:H6	1.85	0.42
41:L5:1341:U:H2'	41:L5:1342:A:H8	1.85	0.42
41:L5:1444:G:H21	41:L5:2103:G:H1	1.66	0.42
41:L5:1743:A:H5'	47:LD:11:ALA:HB1	2.01	0.42
41:L5:2838:G:H2'	41:L5:2839:PSU:C6	2.55	0.42
41:L5:4139:G:H1'	41:L5:4146:G:N1	2.34	0.42
44:LA:54:ARG:HG2	44:LA:56:ALA:H	1.84	0.42
44:LA:131:GLY:H	44:LA:169:VAL:HG13	1.84	0.42
47:LD:37:VAL:HB	47:LD:67:ALA:HB2	2.02	0.42
48:LE:183:ARG:HA	48:LE:183:ARG:HD2	1.82	0.42
57:LO:74:ARG:O	57:LO:142:ALA:HB1	2.19	0.42
74:Lh:52:LYS:HD3	74:Lh:52:LYS:HA	1.72	0.42
9:SL:128:VAL:HG12	9:SL:142:VAL:HA	2.01	0.42
19:S2:149:A:H3'	19:S2:150:A:H8	1.85	0.42
19:S2:680:G:H2'	19:S2:681:PSU:H6	1.85	0.42
19:S2:945:U:H2'	19:S2:946:U:C6	2.55	0.42
19:S2:1060:A:H1'	19:S2:1062:A:N7	2.35	0.42
19:S2:1277:C:H4'	25:SK:55:ARG:HG3	2.01	0.42
19:S2:1756:C:H5	19:S2:1757:G:N3	2.18	0.42
36:Sg:230:LEU:HD11	36:Sg:259:TRP:CG	2.55	0.42
39:Pt:56:C:C4	81:Lo:104:ILE:HG21	2.54	0.42
41:L5:106:A:H2'	41:L5:107:G:O4'	2.20	0.42
41:L5:398:A2M:O5'	41:L5:398:A2M:H8	2.20	0.42
41:L5:2671:C:H2'	41:L5:2672:C:C6	2.54	0.42
42:L7:15:C:H2'	42:L7:16:A:C8	2.55	0.42
52:LI:39:LYS:HE3	52:LI:39:LYS:HB2	1.85	0.42
53:LJ:74:VAL:HG11	53:LJ:82:ILE:HD12	2.01	0.42
1:SA:5:LEU:HD11	12:SV:41:LYS:HD2	2.02	0.42
2:SB:28:LYS:HD3	2:SB:50:THR:HA	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SI:27:TYR:HB2	19:S2:381:C:N4	2.34	0.42
8:SJ:83:ARG:HH11	8:SJ:150:ARG:HD3	1.84	0.42
15:SY:79:LEU:HD12	15:SY:82:ALA:HB3	2.02	0.42
19:S2:746:C:H2'	19:S2:747:U:C6	2.55	0.42
19:S2:1597:C:H4'	19:S2:1603:G:C6	2.55	0.42
22:SR:100:PRO:HG2	22:SR:122:PRO:HD3	2.02	0.42
27:SP:108:LYS:HG2	27:SP:111:MET:SD	2.60	0.42
36:Sg:128:THR:HG22	36:Sg:143:GLN:HA	2.01	0.42
36:Sg:178:ASN:HB2	36:Sg:185:LYS:HD3	2.01	0.42
39:Pt:3:C:H2'	39:Pt:4:U:C6	2.55	0.42
41:L5:497:G:H22	41:L5:657:C:N4	2.17	0.42
41:L5:2293:U:H2'	41:L5:2294:G:C8	2.55	0.42
41:L5:2422:OMC:HM23	41:L5:2422:OMC:H1'	1.90	0.42
41:L5:4741:C:H4'	41:L5:4742:G:H5'	2.01	0.42
43:L8:19:C:H2'	43:L8:20:A:H8	1.84	0.42
55:LM:25:VAL:HB	55:LM:38:VAL:HG13	2.01	0.42
65:LY:58:VAL:HG23	65:LY:59:ARG:HG2	2.02	0.42
73:Lg:60:ARG:HD2	73:Lg:60:ARG:HA	1.79	0.42
84:Ls:17:ILE:HG13	84:Ls:21:LEU:HD23	2.00	0.42
85:Lt:76:SER:HB2	85:Lt:117:ARG:HB3	2.01	0.42
4:SE:45:ILE:HB	4:SE:80:ILE:HG12	2.02	0.42
7:SI:74:ARG:HA	7:SI:74:ARG:HD3	1.83	0.42
8:SJ:176:LYS:HA	8:SJ:179:LYS:HG2	2.01	0.42
9:SL:16:ILE:HD11	9:SL:36:TYR:H	1.85	0.42
19:S2:1221:G:H2'	19:S2:1222:G:H8	1.83	0.42
19:S2:1549:U:H2'	19:S2:1550:G:H8	1.85	0.42
19:S2:1716:C:H2'	19:S2:1717:C:H6	1.84	0.42
20:LR:134:ASN:OD1	20:LR:137:ILE:HG23	2.20	0.42
23:SD:54:ARG:HB3	23:SD:57:ASN:HD21	1.83	0.42
24:SF:44:LYS:HA	24:SF:44:LYS:HD2	1.95	0.42
26:SM:132:LYS:HD3	26:SM:132:LYS:HA	1.84	0.42
28:SQ:110:ASP:HA	28:SQ:113:ILE:HG22	2.02	0.42
41:L5:702:U:H2'	41:L5:703:G:O4'	2.20	0.42
41:L5:2634:C:H2'	41:L5:2635:U:C6	2.55	0.42
41:L5:3723:A:H2'	41:L5:3724:A:H8	1.85	0.42
47:LD:103:LEU:HG	47:LD:247:ILE:HG21	2.00	0.42
50:LG:161:VAL:HG21	50:LG:200:THR:HG23	2.02	0.42
63:LV:75:LYS:HE3	63:LV:77:HIS:CE1	2.55	0.42
1:SA:183:LEU:HD23	1:SA:183:LEU:HA	1.92	0.41
2:SB:145:LYS:HE3	2:SB:145:LYS:HB2	1.83	0.41
3:SC:68:ARG:HD3	3:SC:276:THR:HG22	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SE:11:ARG:HD2	4:SE:20:LEU:HB3	2.02	0.41
9:SL:21:LYS:HE3	9:SL:23:VAL:HG11	2.02	0.41
13:SW:71:LYS:HB3	13:SW:130:PHE:CZ	2.55	0.41
19:S2:1421:A:H5''	19:S2:1422:G:H2'	2.02	0.41
19:S2:1563:G:H5''	30:ST:121:ARG:HH21	1.85	0.41
22:SR:77:GLU:O	22:SR:78:ARG:C	2.63	0.41
36:Sg:249:CYS:HB3	36:Sg:258:ILE:HD13	2.02	0.41
41:L5:659:G:H2'	41:L5:660:A:C8	2.54	0.41
41:L5:965:G:N2	41:L5:2092:G:H1'	2.34	0.41
41:L5:1366:G:H4'	41:L5:1367:C:OP1	2.18	0.41
41:L5:1806:G:H2'	41:L5:1807:C:H6	1.83	0.41
41:L5:1847:C:H2'	41:L5:1848:C:C6	2.54	0.41
41:L5:2298:U:H5''	46:LC:204:ARG:HH12	1.85	0.41
41:L5:4277:G:H5''	61:LT:17:ARG:HG2	2.02	0.41
41:L5:5027:C:O2'	41:L5:5028:G:H5''	2.20	0.41
45:LB:206:PRO:HG2	45:LB:209:GLN:HG3	2.01	0.41
46:LC:207:PRO:HB3	46:LC:249:PHE:CD2	2.55	0.41
48:LE:164:PHE:HA	48:LE:175:VAL:HG12	2.02	0.41
54:LL:200:LYS:HE2	54:LL:200:LYS:HB2	1.91	0.41
55:LM:33:GLN:HB3	60:LS:145:PHE:HZ	1.85	0.41
2:SB:144:LYS:HB2	2:SB:208:HIS:CG	2.55	0.41
4:SE:106:LYS:HD2	4:SE:108:ARG:HH22	1.84	0.41
6:SH:52:GLU:HA	6:SH:58:LYS:HD3	2.02	0.41
7:SI:184:ARG:HD2	19:S2:219:U:H1'	2.03	0.41
12:SV:27:LYS:HA	12:SV:27:LYS:HD3	1.82	0.41
15:SY:68:LYS:HE2	15:SY:68:LYS:HB3	1.92	0.41
19:S2:92:A:H61	19:S2:444:G:H1'	1.86	0.41
19:S2:223:C:H2'	19:S2:224:A:H8	1.85	0.41
19:S2:946:U:H2'	19:S2:947:G:C8	2.55	0.41
19:S2:1495:G:H2'	19:S2:1496:U:C6	2.55	0.41
19:S2:1713:C:H2'	19:S2:1714:U:C6	2.56	0.41
33:Sc:44:ARG:HA	33:Sc:44:ARG:HD2	1.85	0.41
36:Sg:17:TRP:CE2	36:Sg:303:THR:HB	2.54	0.41
41:L5:1081:C:O2'	41:L5:1082:C:H5'	2.20	0.41
41:L5:1351:G:H5'	46:LC:36:ILE:HD11	2.01	0.41
41:L5:2018:C:H2'	41:L5:2019:C:H6	1.85	0.41
41:L5:2306:G:H1'	41:L5:2332:A:N6	2.36	0.41
41:L5:2521:G:H5'	41:L5:2640:G:H1'	2.02	0.41
41:L5:3722:G:H2'	41:L5:3723:A:C8	2.54	0.41
41:L5:4460:U:H2'	41:L5:4461:C:C6	2.55	0.41
45:LB:29:VAL:HA	45:LB:220:ILE:HD13	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LE:210:LYS:HE2	48:LE:210:LYS:HB2	1.94	0.41
54:LL:123:LYS:HA	74:Lh:122:LYS:HE2	2.01	0.41
54:LL:150:LEU:HD23	54:LL:154:VAL:HG22	2.02	0.41
57:LO:46:ASN:HB3	57:LO:134:LYS:HD3	2.02	0.41
69:Lc:38:ILE:HG21	69:Lc:63:TYR:HB3	2.02	0.41
4:SE:233:LYS:HA	4:SE:233:LYS:HD2	1.84	0.41
6:SH:148:LEU:HA	13:SW:42:MET:HE2	2.03	0.41
8:SJ:131:ARG:HA	8:SJ:131:ARG:HD2	1.81	0.41
8:SJ:145:PRO:HD2	19:S2:522:A:H5''	2.00	0.41
15:SY:12:PHE:HD1	15:SY:23:MET:HB3	1.85	0.41
19:S2:194:C:H2'	19:S2:195:C:H6	1.84	0.41
19:S2:1667:U:H2'	19:S2:1668:U:C6	2.55	0.41
21:LW:5:LEU:HD12	21:LW:30:GLN:NE2	2.35	0.41
28:SQ:145:TYR:C	28:SQ:146:ARG:HD2	2.46	0.41
30:ST:76:THR:HG23	30:ST:94:ARG:HD3	2.02	0.41
32:SZ:47:LEU:HB2	32:SZ:79:ILE:HA	2.02	0.41
32:SZ:69:THR:HG22	32:SZ:108:ILE:HA	2.02	0.41
36:Sg:10:THR:HB	36:Sg:306:LEU:HD21	2.02	0.41
36:Sg:157:SER:HB3	36:Sg:164:ILE:HG22	2.02	0.41
36:Sg:259:TRP:HE1	36:Sg:266:ILE:HG12	1.85	0.41
41:L5:279:A:C4	56:LN:12:ARG:HG2	2.56	0.41
41:L5:462:G:H2'	41:L5:463:A:C8	2.56	0.41
41:L5:689:U:H2'	41:L5:690:C:C6	2.56	0.41
41:L5:2475:G:H5''	41:L5:2476:G:C8	2.55	0.41
41:L5:4680:G:H2'	41:L5:4681:A:C8	2.55	0.41
47:LD:51:MET:HE3	47:LD:105:LEU:HD23	2.02	0.41
57:LO:174:LEU:HD23	57:LO:174:LEU:HA	1.84	0.41
65:LY:106:ILE:HG21	65:LY:109:LEU:HD23	2.01	0.41
68:Lb:65:MET:HE3	68:Lb:65:MET:HB2	1.82	0.41
4:SE:195:ILE:HD13	4:SE:210:VAL:HG22	2.02	0.41
6:SH:118:ARG:HA	6:SH:118:ARG:HD3	1.89	0.41
16:Sa:23:CYS:HB3	16:Sa:28:ARG:H	1.85	0.41
19:S2:24:C:O2'	19:S2:25:A:H8	2.03	0.41
19:S2:291:G:H8	19:S2:291:G:OP1	2.03	0.41
19:S2:1067:C:H2'	19:S2:1068:G:O4'	2.21	0.41
19:S2:1456:G:H2'	19:S2:1457:U:C6	2.56	0.41
20:LR:96:MET:HG2	41:L5:2667:C:O4'	2.20	0.41
23:SD:116:ARG:HD3	23:SD:152:PHE:CZ	2.55	0.41
23:SD:173:ARG:HA	23:SD:173:ARG:HD3	1.89	0.41
27:SP:18:ARG:HH11	29:SS:88:LYS:HG2	1.84	0.41
36:Sg:166:VAL:HG12	36:Sg:176:VAL:HG12	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:271:LYS:HD2	36:Sg:271:LYS:HA	1.83	0.41
41:L5:677:G:H2'	41:L5:678:C:C6	2.56	0.41
41:L5:1562:G:H5'	41:L5:1563:A:OP2	2.21	0.41
41:L5:2364:OMG:HM23	41:L5:2364:OMG:H1'	1.86	0.41
41:L5:2638:G:H22	41:L5:2719:C:P	2.43	0.41
41:L5:3718:A2M:H2'	41:L5:3719:A:O4'	2.19	0.41
41:L5:3857:G:H5''	58:LP:86:LYS:HB2	2.02	0.41
41:L5:3948:C:H2'	41:L5:3949:A:N7	2.35	0.41
41:L5:4401:G:H2'	41:L5:4402:C:H6	1.85	0.41
41:L5:4993:G:H22	41:L5:5058:A:H2	1.67	0.41
42:L7:92:C:H2'	42:L7:93:G:H8	1.85	0.41
47:LD:107:ARG:HA	47:LD:107:ARG:HD2	1.81	0.41
49:LF:226:HIS:NE2	49:LF:234:GLY:HA3	2.36	0.41
58:LP:107:LEU:HB2	58:LP:152:GLU:OE2	2.20	0.41
65:LY:13:LYS:O	65:LY:17:ARG:HD3	2.20	0.41
3:SC:94:ILE:HG13	3:SC:95:ASP:N	2.34	0.41
19:S2:1383:A2M:HM'3	19:S2:1383:A2M:H1'	1.60	0.41
30:ST:5:THR:HG22	30:ST:7:LYS:H	1.86	0.41
41:L5:754:U:H2'	41:L5:755:C:C6	2.56	0.41
41:L5:1788:A:H2'	52:LI:22:PHE:CZ	2.55	0.41
41:L5:4392:OMG:N3	41:L5:4447:5MC:HM52	2.35	0.41
44:LA:206:PRO:HG3	44:LA:213:GLY:HA3	2.02	0.41
46:LC:5:ARG:HH12	46:LC:268:ARG:HH21	1.69	0.41
46:LC:67:TRP:HB3	46:LC:71:ARG:HD3	2.01	0.41
46:LC:279:LEU:HD23	46:LC:279:LEU:HA	1.88	0.41
62:LU:84:LYS:HB2	62:LU:110:TYR:CZ	2.55	0.41
85:Lt:81:ILE:HG12	85:Lt:85:LEU:HD23	2.02	0.41
1:SA:10:MET:HG3	1:SA:55:TRP:CG	2.55	0.41
5:SG:187:HIS:HB3	5:SG:191:ARG:HH21	1.85	0.41
8:SJ:63:LEU:HD23	8:SJ:70:ARG:HB2	2.03	0.41
9:SL:7:GLU:HG3	19:S2:375:U:O2'	2.21	0.41
11:SO:59:GLY:HA2	11:SO:68:GLU:HG2	2.03	0.41
19:S2:116:OMU:HM23	19:S2:116:OMU:H1'	1.86	0.41
19:S2:808:A:H2	19:S2:855:G:H22	1.67	0.41
19:S2:1539:U:H2'	19:S2:1540:G:H8	1.85	0.41
19:S2:1721:U:OP1	19:S2:1722:G:H4'	2.21	0.41
24:SF:20:PHE:CE1	24:SF:94:LYS:HB2	2.56	0.41
29:SS:43:VAL:HG21	30:ST:36:THR:HG23	2.01	0.41
32:SZ:102:LYS:HD3	32:SZ:102:LYS:HA	1.87	0.41
38:Et:9:A:H5'	38:Et:11:C:OP2	2.20	0.41
41:L5:716:C:OP1	46:LC:317:ASN:HB2	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:1414:C:H2'	41:L5:1415:G:C8	2.52	0.41
41:L5:1661:C:H2'	41:L5:1662:C:H6	1.86	0.41
41:L5:2079:G:H2'	41:L5:2080:U:H6	1.85	0.41
41:L5:3718:A2M:H2	41:L5:3934:G:O4'	2.20	0.41
44:LA:112:ILE:HG22	44:LA:135:THR:HG23	2.01	0.41
49:LF:71:MET:HA	49:LF:74:MET:HE3	2.01	0.41
62:LU:101:ARG:HG2	62:LU:103:VAL:HG23	2.02	0.41
69:Lc:20:LEU:HD12	69:Lc:20:LEU:HA	1.86	0.41
80:Ln:2:ARG:HD3	80:Ln:5:TRP:NE1	2.36	0.41
6:SH:126:HIS:CE1	6:SH:181:THR:HG23	2.56	0.41
15:SY:9:THR:HG22	19:S2:837:A:N6	2.33	0.41
19:S2:680:G:H2'	19:S2:681:PSU:C6	2.55	0.41
19:S2:900:C:H5'	19:S2:901:G:N7	2.36	0.41
19:S2:1498:A:P	23:SD:27:ARG:HH22	2.43	0.41
19:S2:1778:C:H2'	19:S2:1779:G:O4'	2.20	0.41
29:SS:102:GLY:HA2	29:SS:105:ASN:HD21	1.85	0.41
39:Pt:6:C:H2'	39:Pt:7:G:H8	1.86	0.41
41:L5:666:G:H2'	41:L5:668:C:OP1	2.20	0.41
41:L5:1693:U:H2'	41:L5:1694:C:O4'	2.20	0.41
41:L5:1942:A:H2'	41:L5:1943:A:H8	1.80	0.41
41:L5:2017:A:OP2	41:L5:2017:A:H2'	2.21	0.41
41:L5:4291:G:H4'	41:L5:4292:A:H5''	2.02	0.41
41:L5:4577:U:H2'	41:L5:4578:G:C8	2.55	0.41
46:LC:65:GLU:HG2	46:LC:80:ARG:HH11	1.85	0.41
61:LT:4:THR:OG1	61:LT:9:ARG:HD3	2.20	0.41
68:Lb:107:ARG:HE	68:Lb:107:ARG:HB3	1.73	0.41
74:Lh:3:LYS:HE2	74:Lh:3:LYS:HB3	1.79	0.41
8:SJ:50:LEU:HD22	8:SJ:102:ILE:HG23	2.03	0.41
8:SJ:79:ARG:HH22	19:S2:820:U:P	2.44	0.41
9:SL:57:ASP:HB2	9:SL:84:ARG:HH12	1.86	0.41
12:SV:43:THR:HG23	12:SV:45:ARG:HB2	2.03	0.41
19:S2:375:U:H2'	19:S2:376:A:H8	1.85	0.41
19:S2:1183:A:H2'	19:S2:1184:G:H8	1.86	0.41
19:S2:1227:G:C2	19:S2:1228:A:C8	3.09	0.41
19:S2:1523:C:H2'	19:S2:1524:G:C8	2.56	0.41
19:S2:1540:G:H5'	30:ST:47:PRO:HB3	2.03	0.41
19:S2:1788:A:H2'	19:S2:1789:G:O4'	2.21	0.41
19:S2:1844:U:H2'	19:S2:1845:A:C8	2.55	0.41
19:S2:1856:C:H2'	19:S2:1857:G:H8	1.86	0.41
28:SQ:19:ALA:HB2	28:SQ:75:GLY:HA3	2.02	0.41
38:Et:4:C:H2'	38:Et:5:G:H8	1.85	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:352:G:C8	46:LC:193:LYS:HE2	2.55	0.41
41:L5:1304:C:H2'	41:L5:1305:C:C6	2.55	0.41
41:L5:1772:C:H2'	41:L5:1773:U:H6	1.85	0.41
55:LM:9:VAL:HG21	55:LM:66:HIS:HB3	2.03	0.41
2:SB:90:ASP:HB2	2:SB:223:PHE:HZ	1.86	0.41
4:SE:42:LEU:HD12	4:SE:101:LEU:HD11	2.03	0.41
4:SE:139:LEU:HD22	4:SE:147:ILE:HD11	2.03	0.41
6:SH:134:VAL:HG23	6:SH:173:PHE:CE2	2.56	0.41
8:SJ:38:ARG:HH21	8:SJ:39:ASN:HD21	1.68	0.41
9:SL:79:LYS:HB3	9:SL:81:LYS:HG2	2.02	0.41
11:SO:54:CYS:HB3	11:SO:84:ARG:HG2	2.03	0.41
13:SW:53:ILE:HD13	17:Sb:24:LEU:HG	2.03	0.41
19:S2:165:G:H2'	19:S2:166:A2M:H8	2.03	0.41
19:S2:495:U:H2'	19:S2:496:C:O4'	2.21	0.41
19:S2:525:A:H2'	19:S2:526:A:C8	2.52	0.41
19:S2:568:C:H2'	19:S2:569:A:O4'	2.21	0.41
19:S2:1031:A2M:H2'	19:S2:1032:C:O4'	2.20	0.41
19:S2:1192:U:H2'	19:S2:1193:U:C6	2.55	0.41
19:S2:1671:G:H2'	19:S2:1672:U:C6	2.56	0.41
22:SR:7:LYS:HE2	22:SR:7:LYS:HB2	1.84	0.41
29:SS:14:ARG:HH11	29:SS:19:ASN:HB3	1.86	0.41
29:SS:102:GLY:HA2	29:SS:105:ASN:ND2	2.36	0.41
30:ST:39:LEU:HD11	30:ST:52:TRP:CD2	2.56	0.41
31:SU:116:ILE:HG13	31:SU:119:ALA:H	1.86	0.41
32:SZ:103:HIS:CE1	32:SZ:104:ARG:HG2	2.56	0.41
33:Sc:20:ARG:HD3	33:Sc:28:THR:HG22	2.03	0.41
35:Sf:133:ALA:HB3	35:Sf:140:TYR:H	1.86	0.41
41:L5:170:C:H42	41:L5:266:C:N4	2.18	0.41
41:L5:424:U:H2'	41:L5:425:U:H6	1.86	0.41
41:L5:908:G:H2'	41:L5:909:A:H8	1.85	0.41
41:L5:1086:C:H2'	41:L5:1087:A:H8	1.85	0.41
41:L5:1811:G:H2'	41:L5:1812:C:C6	2.56	0.41
41:L5:1878:G:H2'	41:L5:1879:C:C6	2.56	0.41
41:L5:1976:G:OP1	41:L5:1984:A:H4'	2.21	0.41
41:L5:2108:G:H2'	41:L5:2109:G:H8	1.86	0.41
41:L5:2380:G:N2	41:L5:2424:OMG:H5''	2.35	0.41
41:L5:2421:G:OP2	41:L5:2828:U:H1'	2.21	0.41
41:L5:2465:C:H2'	41:L5:2466:G:O4'	2.21	0.41
41:L5:2664:G:H4'	41:L5:2677:G:H4'	2.02	0.41
41:L5:3598:C:H2'	41:L5:3599:A:C8	2.56	0.41
41:L5:3633:C:H2'	41:L5:3634:G:H8	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:L5:3920:PSU:H2'	41:L5:3921:U:C6	2.56	0.41
41:L5:4415:A:H2'	41:L5:4416:G:O4'	2.21	0.41
41:L5:4892:A:H2'	41:L5:4893:A:O4'	2.21	0.41
41:L5:5018:C:H2'	41:L5:5019:A:C8	2.56	0.41
42:L7:63:C:H1'	47:LD:280:VAL:HG11	2.03	0.41
42:L7:110:G:H2'	42:L7:111:C:C6	2.55	0.41
43:L8:140:C:H2'	43:L8:141:C:C6	2.56	0.41
47:LD:61:ILE:HG12	47:LD:79:TYR:CD2	2.55	0.41
49:LF:36:LYS:HA	49:LF:36:LYS:HD3	1.71	0.41
78:Ll:43:HIS:HB3	78:Ll:46:ARG:HD3	2.02	0.41
2:SB:32:ASP:HB3	2:SB:34:LYS:HE2	2.03	0.41
3:SC:186:GLY:HA3	3:SC:239:ALA:O	2.21	0.41
4:SE:22:LYS:HD3	19:S2:813:A:H4'	2.03	0.41
4:SE:48:LEU:HD11	4:SE:70:ILE:HG12	2.03	0.41
5:SG:147:LEU:HD13	5:SG:151:ASP:HB2	2.03	0.41
8:SJ:3:VAL:HB	8:SJ:5:ARG:HD3	2.03	0.41
12:SV:30:ALA:O	12:SV:60:ARG:HD3	2.21	0.41
19:S2:49:C:H2'	19:S2:472:C:H41	1.86	0.41
19:S2:533:A:H61	19:S2:550:C:N4	2.14	0.41
19:S2:929:G:N2	19:S2:1104:G:H4'	2.36	0.41
19:S2:947:G:H2'	19:S2:948:C:C6	2.56	0.41
19:S2:1088:U:H4'	19:S2:1089:G:OP2	2.21	0.41
19:S2:1310:U:H2'	19:S2:1311:C:H6	1.84	0.41
19:S2:1781:A:H5''	19:S2:1783:C:N4	2.36	0.41
23:SD:222:PRO:HB3	36:Sg:190:GLY:HA3	2.03	0.41
41:L5:185:C:O2'	41:L5:187:U:H5'	2.21	0.41
41:L5:1244:G:H2'	41:L5:1245:C:C6	2.56	0.41
41:L5:1458:C:H5''	59:LQ:69:LYS:HD2	2.03	0.41
41:L5:2374:A:H5'	70:Ld:64:ILE:O	2.21	0.41
88:L5:5292:SPM:H31	88:L5:5292:SPM:H62	1.91	0.41
50:LG:136:LEU:HD12	50:LG:136:LEU:HA	1.96	0.41
54:LL:183:ARG:HA	54:LL:183:ARG:HD2	1.89	0.41
78:Ll:48:LYS:HD2	78:Ll:48:LYS:HA	1.87	0.41
80:Ln:10:MET:HE2	80:Ln:10:MET:HB2	1.91	0.41
82:Lp:61:MET:HE3	82:Lp:61:MET:HB3	1.87	0.41
3:SC:110:MET:HE3	3:SC:110:MET:HB2	1.94	0.40
4:SE:188:ASN:HB3	4:SE:191:ARG:HD3	2.03	0.40
6:SH:43:LEU:HD12	6:SH:72:PHE:CE1	2.56	0.40
7:SI:12:ARG:HH21	7:SI:18:ARG:HG3	1.87	0.40
18:Se:34:ARG:HD3	18:Se:37:GLN:HE21	1.86	0.40
19:S2:186:C:H2'	19:S2:187:G:C8	2.54	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1025:U:H2'	19:S2:1026:C:O4'	2.20	0.40
19:S2:1317:C:H2'	19:S2:1318:G:H8	1.86	0.40
19:S2:1447:G:H2'	19:S2:1448:A:C8	2.56	0.40
20:LR:37:SER:OG	20:LR:40:GLN:HG3	2.22	0.40
41:L5:751:G:H2'	41:L5:752:G:O4'	2.21	0.40
41:L5:1613:A:H5''	44:LA:183:GLY:HA3	2.02	0.40
41:L5:2386:U:H2'	41:L5:2387:G:C8	2.56	0.40
41:L5:3660:C:H2'	41:L5:3682:A:H61	1.86	0.40
41:L5:3723:A:H2'	41:L5:3724:A:C8	2.56	0.40
41:L5:4089:G:H2'	41:L5:4090:G:C8	2.56	0.40
41:L5:4440:G:H5'	52:LI:108:ALA:HB2	2.03	0.40
41:L5:4523:A2M:H1'	41:L5:4523:A2M:HM'3	1.69	0.40
41:L5:4600:G:H4'	41:L5:4601:U:O5'	2.21	0.40
43:L8:75:OMG:HM23	43:L8:75:OMG:H1'	1.77	0.40
44:LA:13:GLY:O	44:LA:17:ARG:HB2	2.22	0.40
46:LC:316:LYS:HB2	46:LC:324:ILE:HG13	2.03	0.40
48:LE:243:THR:HG22	48:LE:245:GLN:H	1.86	0.40
66:LZ:135:ARG:HA	66:LZ:135:ARG:HD2	1.74	0.40
69:Lc:38:ILE:HD11	69:Lc:46:VAL:HG21	2.03	0.40
75:Li:94:LEU:HD23	75:Li:94:LEU:HA	1.94	0.40
77:Lk:5:ILE:HG21	77:Lk:11:PHE:HB2	2.03	0.40
84:Ls:30:VAL:HG21	84:Ls:187:LEU:HG	2.03	0.40
2:SB:38:MET:HG2	2:SB:38:MET:H	1.72	0.40
9:SL:4:ILE:HD12	9:SL:56:ILE:HG12	2.03	0.40
11:SO:98:ARG:HB2	11:SO:132:VAL:HG23	2.02	0.40
19:S2:218:U:H2'	19:S2:219:U:C6	2.57	0.40
19:S2:946:U:H2'	19:S2:947:G:H8	1.86	0.40
19:S2:1189:A:H2'	19:S2:1190:A:H8	1.86	0.40
19:S2:1205:C:H2'	19:S2:1206:G:H8	1.86	0.40
41:L5:460:C:H2'	41:L5:461:G:H8	1.85	0.40
41:L5:460:C:H2'	41:L5:461:G:C8	2.56	0.40
41:L5:467:U:C4	41:L5:468:U:H1'	2.56	0.40
41:L5:750:U:H1'	41:L5:917:A:C8	2.56	0.40
41:L5:1076:C:H2'	41:L5:1077:C:C6	2.56	0.40
41:L5:1178:G:H2'	47:LD:286:SER:HB3	2.02	0.40
41:L5:1504:G:H2'	41:L5:1505:C:C6	2.57	0.40
41:L5:2461:G:H2'	41:L5:2462:C:C6	2.56	0.40
41:L5:2558:C:H2'	41:L5:2559:G:H8	1.86	0.40
41:L5:2891:U:H2'	41:L5:2892:C:O4'	2.21	0.40
41:L5:3851:PSU:H2'	41:L5:3852:A:O4'	2.21	0.40
41:L5:4208:U:H2'	41:L5:4209:G:C8	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LE:239:LYS:HD2	48:LE:239:LYS:HA	1.89	0.40
57:LO:54:TYR:HD1	57:LO:145:VAL:HG21	1.85	0.40
1:SA:74:VAL:HG23	1:SA:121:LEU:HB3	2.04	0.40
4:SE:153:LEU:HD23	4:SE:153:LEU:HA	1.90	0.40
7:SI:70:GLU:HB3	7:SI:112:TRP:CH2	2.56	0.40
8:SJ:30:LYS:HG2	18:Se:42:PHE:CE2	2.57	0.40
9:SL:81:LYS:HD3	19:S2:394:G:H5'	2.02	0.40
19:S2:1398:G:H22	19:S2:1448:A:H2	1.68	0.40
19:S2:1409:A:H2'	19:S2:1410:C:C6	2.57	0.40
19:S2:1410:C:H2'	19:S2:1411:G:H8	1.86	0.40
22:SR:79:GLU:HA	22:SR:82:ASP:OD1	2.21	0.40
23:SD:23:GLU:HG2	25:SK:64:TRP:HE1	1.86	0.40
28:SQ:51:LEU:O	28:SQ:54:PRO:HD2	2.22	0.40
29:SS:5:ILE:HD11	29:SS:9:PHE:CD1	2.56	0.40
39:Pt:3:C:H42	39:Pt:70:A:H61	1.69	0.40
41:L5:1318:C:H2'	41:L5:1319:U:O4'	2.22	0.40
41:L5:1794:A:H5''	41:L5:4214:A:H61	1.86	0.40
41:L5:3685:C:H5'	44:LA:193:ARG:CZ	2.51	0.40
41:L5:4571:A2M:H2'	41:L5:4572:U:H6	1.87	0.40
41:L5:4896:G:H2'	41:L5:4897:G:C8	2.56	0.40
46:LC:318:PRO:C	46:LC:320:LYS:H	2.29	0.40
50:LG:37:LYS:HE2	50:LG:37:LYS:HB3	1.86	0.40
53:LJ:57:VAL:HG12	53:LJ:60:PHE:H	1.86	0.40
11:SO:136:PRO:HB3	19:S2:944:A:H1'	2.02	0.40
13:SW:119:LYS:HE3	13:SW:119:LYS:HB3	1.85	0.40
18:Se:34:ARG:HH21	19:S2:642:U:H5	1.69	0.40
19:S2:509:OMG:H1'	19:S2:509:OMG:HM23	1.85	0.40
19:S2:614:C:H5'	19:S2:626:G:O4'	2.22	0.40
19:S2:793:G:H2'	19:S2:794:A:H8	1.87	0.40
19:S2:867:OMG:H3'	19:S2:868:G:H21	1.86	0.40
41:L5:444:G:H2'	41:L5:445:U:C6	2.57	0.40
41:L5:667:A:H5''	41:L5:668:C:H5''	2.03	0.40
41:L5:750:U:C2	41:L5:751:G:C8	3.10	0.40
41:L5:921:C:H2'	41:L5:922:C:C6	2.56	0.40
41:L5:1633:G:H5'	41:L5:1634:A:OP1	2.22	0.40
41:L5:1687:U:H2'	41:L5:1688:G:C8	2.56	0.40
41:L5:2749:C:H2'	41:L5:2750:G:H8	1.86	0.40
41:L5:3656:A:H2'	41:L5:3657:U:H6	1.86	0.40
41:L5:4996:C:H4'	70:Ld:26:THR:HG23	2.04	0.40
43:L8:119:C:H2'	43:L8:120:G:H8	1.84	0.40
48:LE:165:LEU:HD11	48:LE:176:THR:HG22	2.02	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:LI:87:MET:HG2	52:LI:138:ILE:HG12	2.04	0.40
55:LM:93:LYS:HE2	55:LM:93:LYS:HB3	1.89	0.40
69:Lc:20:LEU:O	69:Lc:24:SER:HB3	2.22	0.40
70:Ld:37:GLY:O	70:Ld:41:ARG:HG3	2.22	0.40
1:SA:220:LYS:HA	1:SA:220:LYS:HD3	1.89	0.40
5:SG:46:LYS:HA	5:SG:46:LYS:HD3	1.87	0.40
19:S2:59:U:H5''	19:S2:503:C:N4	2.37	0.40
19:S2:1435:C:N4	31:SU:92:HIS:HB3	2.30	0.40
27:SP:45:LEU:HD23	27:SP:45:LEU:HA	1.89	0.40
41:L5:35:U:H4'	41:L5:1525:A:C2	2.56	0.40
41:L5:302:C:H2'	41:L5:303:C:C6	2.56	0.40
41:L5:500:G:O2'	41:L5:504:G:H3'	2.20	0.40
41:L5:674:G:H2'	41:L5:675:C:C6	2.57	0.40
41:L5:1340:OMC:H1'	41:L5:1340:OMC:HM23	1.85	0.40
41:L5:1600:A:H5'	58:LP:133:HIS:HA	2.04	0.40
41:L5:1739:G:H2'	41:L5:1740:C:C6	2.56	0.40
41:L5:1999:A:H2'	41:L5:2000:G:C8	2.57	0.40
41:L5:2372:U:H2'	41:L5:2373:C:C6	2.57	0.40
41:L5:3690:U:H2'	41:L5:3691:G:O4'	2.21	0.40
41:L5:4508:C:N3	41:L5:4512:U:H5	2.19	0.40
41:L5:4678:G:N2	41:L5:4713:G:H1'	2.36	0.40
43:L8:40:A:H2'	43:L8:41:A:C8	2.57	0.40
43:L8:66:A:H2'	43:L8:67:U:C6	2.56	0.40
47:LD:164:LYS:HA	47:LD:164:LYS:HD2	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	SA	219/221 (99%)	209 (95%)	8 (4%)	2 (1%)	14 26

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	SB	212/214 (99%)	204 (96%)	8 (4%)	0	100	100
3	SC	218/222 (98%)	209 (96%)	9 (4%)	0	100	100
4	SE	260/262 (99%)	251 (96%)	9 (4%)	0	100	100
5	SG	235/237 (99%)	225 (96%)	10 (4%)	0	100	100
6	SH	182/186 (98%)	171 (94%)	11 (6%)	0	100	100
7	SI	204/206 (99%)	193 (95%)	11 (5%)	0	100	100
8	SJ	183/185 (99%)	174 (95%)	9 (5%)	0	100	100
9	SL	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
10	SN	148/150 (99%)	144 (97%)	4 (3%)	0	100	100
11	SO	135/140 (96%)	126 (93%)	9 (7%)	0	100	100
12	SV	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
13	SW	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
14	SX	139/141 (99%)	133 (96%)	6 (4%)	0	100	100
15	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
16	Sa	100/102 (98%)	96 (96%)	4 (4%)	0	100	100
17	Sb	81/83 (98%)	73 (90%)	8 (10%)	0	100	100
18	Se	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
20	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
21	LW	112/118 (95%)	109 (97%)	3 (3%)	0	100	100
22	SR	133/135 (98%)	126 (95%)	6 (4%)	1 (1%)	16	29
23	SD	225/227 (99%)	219 (97%)	6 (3%)	0	100	100
24	SF	187/189 (99%)	179 (96%)	8 (4%)	0	100	100
25	SK	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
26	SM	120/122 (98%)	111 (92%)	9 (8%)	0	100	100
27	SP	119/121 (98%)	118 (99%)	1 (1%)	0	100	100
28	SQ	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
29	SS	143/145 (99%)	134 (94%)	9 (6%)	0	100	100
30	ST	141/143 (99%)	138 (98%)	3 (2%)	0	100	100
31	SU	102/104 (98%)	99 (97%)	3 (3%)	0	100	100
32	SZ	73/75 (97%)	70 (96%)	3 (4%)	0	100	100
33	Sc	62/64 (97%)	60 (97%)	2 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	Sd	53/55 (96%)	52 (98%)	1 (2%)	0	100	100
35	Sf	65/67 (97%)	57 (88%)	8 (12%)	0	100	100
36	Sg	311/313 (99%)	299 (96%)	12 (4%)	0	100	100
40	CI	29/31 (94%)	29 (100%)	0	0	100	100
44	LA	246/248 (99%)	232 (94%)	14 (6%)	0	100	100
45	LB	400/402 (100%)	384 (96%)	16 (4%)	0	100	100
46	LC	366/368 (100%)	354 (97%)	12 (3%)	0	100	100
47	LD	291/293 (99%)	282 (97%)	9 (3%)	0	100	100
48	LE	236/250 (94%)	220 (93%)	16 (7%)	0	100	100
49	LF	223/225 (99%)	216 (97%)	7 (3%)	0	100	100
50	LG	239/241 (99%)	225 (94%)	14 (6%)	0	100	100
51	LH	188/190 (99%)	180 (96%)	8 (4%)	0	100	100
52	LI	211/213 (99%)	208 (99%)	3 (1%)	0	100	100
53	LJ	168/176 (96%)	161 (96%)	7 (4%)	0	100	100
54	LL	208/210 (99%)	202 (97%)	6 (3%)	0	100	100
55	LM	137/139 (99%)	133 (97%)	4 (3%)	0	100	100
56	LN	201/203 (99%)	197 (98%)	4 (2%)	0	100	100
57	LO	199/201 (99%)	194 (98%)	5 (2%)	0	100	100
58	LP	151/153 (99%)	144 (95%)	7 (5%)	0	100	100
59	LQ	185/187 (99%)	182 (98%)	3 (2%)	0	100	100
60	LS	173/175 (99%)	166 (96%)	7 (4%)	0	100	100
61	LT	157/159 (99%)	152 (97%)	5 (3%)	0	100	100
62	LU	99/101 (98%)	93 (94%)	6 (6%)	0	100	100
63	LV	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
64	LX	118/120 (98%)	116 (98%)	2 (2%)	0	100	100
65	LY	132/134 (98%)	128 (97%)	4 (3%)	0	100	100
66	LZ	133/135 (98%)	124 (93%)	9 (7%)	0	100	100
67	La	145/147 (99%)	139 (96%)	6 (4%)	0	100	100
68	Lb	105/109 (96%)	101 (96%)	4 (4%)	0	100	100
69	Lc	96/98 (98%)	92 (96%)	4 (4%)	0	100	100
70	Ld	105/107 (98%)	101 (96%)	4 (4%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
71	Le	126/128 (98%)	124 (98%)	2 (2%)	0	100	100
72	Lf	107/109 (98%)	107 (100%)	0	0	100	100
73	Lg	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
74	Lh	120/122 (98%)	117 (98%)	3 (2%)	0	100	100
75	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
76	Lj	84/86 (98%)	83 (99%)	1 (1%)	0	100	100
77	Lk	67/69 (97%)	66 (98%)	1 (2%)	0	100	100
78	Ll	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
79	Lm	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
80	Ln	22/24 (92%)	22 (100%)	0	0	100	100
81	Lo	103/105 (98%)	100 (97%)	3 (3%)	0	100	100
82	Lp	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
83	Lr	123/125 (98%)	120 (98%)	3 (2%)	0	100	100
84	Ls	194/196 (99%)	187 (96%)	7 (4%)	0	100	100
85	Lt	128/141 (91%)	108 (84%)	20 (16%)	0	100	100
All	All	11672/11870 (98%)	11211 (96%)	458 (4%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	SA	148	CYS
1	SA	147	LEU
22	SR	129	LYS

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	
1	SA	183/183 (100%)	183 (100%)	0	100	100
2	SB	195/195 (100%)	195 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	SC	186/188 (99%)	186 (100%)	0	100	100
4	SE	224/224 (100%)	224 (100%)	0	100	100
5	SG	207/207 (100%)	207 (100%)	0	100	100
6	SH	166/166 (100%)	166 (100%)	0	100	100
7	SI	178/178 (100%)	178 (100%)	0	100	100
8	SJ	161/161 (100%)	161 (100%)	0	100	100
9	SL	137/137 (100%)	137 (100%)	0	100	100
10	SN	130/130 (100%)	130 (100%)	0	100	100
11	SO	107/110 (97%)	107 (100%)	0	100	100
12	SV	67/67 (100%)	67 (100%)	0	100	100
13	SW	112/112 (100%)	112 (100%)	0	100	100
14	SX	113/113 (100%)	113 (100%)	0	100	100
15	SY	113/113 (100%)	112 (99%)	1 (1%)	75	86
16	Sa	89/89 (100%)	89 (100%)	0	100	100
17	Sb	75/75 (100%)	75 (100%)	0	100	100
18	Se	47/47 (100%)	47 (100%)	0	100	100
20	LR	166/166 (100%)	166 (100%)	0	100	100
21	LW	95/97 (98%)	95 (100%)	0	100	100
22	SR	122/122 (100%)	121 (99%)	1 (1%)	79	88
23	SD	190/190 (100%)	190 (100%)	0	100	100
24	SF	159/159 (100%)	159 (100%)	0	100	100
25	SK	89/89 (100%)	89 (100%)	0	100	100
26	SM	102/104 (98%)	102 (100%)	0	100	100
27	SP	107/107 (100%)	107 (100%)	0	100	100
28	SQ	119/119 (100%)	119 (100%)	0	100	100
29	SS	126/126 (100%)	126 (100%)	0	100	100
30	ST	113/113 (100%)	113 (100%)	0	100	100
31	SU	94/94 (100%)	94 (100%)	0	100	100
32	SZ	66/66 (100%)	66 (100%)	0	100	100
33	Sc	57/57 (100%)	57 (100%)	0	100	100
34	Sd	48/48 (100%)	48 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	Sf	60/60 (100%)	60 (100%)	0	100	100
36	Sg	272/272 (100%)	272 (100%)	0	100	100
40	CI	25/25 (100%)	25 (100%)	0	100	100
44	LA	190/190 (100%)	190 (100%)	0	100	100
45	LB	348/348 (100%)	348 (100%)	0	100	100
46	LC	306/306 (100%)	306 (100%)	0	100	100
47	LD	246/247 (100%)	246 (100%)	0	100	100
48	LE	212/222 (96%)	212 (100%)	0	100	100
49	LF	194/194 (100%)	194 (100%)	0	100	100
50	LG	203/205 (99%)	203 (100%)	0	100	100
51	LH	169/169 (100%)	169 (100%)	0	100	100
52	LI	180/180 (100%)	180 (100%)	0	100	100
53	LJ	143/148 (97%)	143 (100%)	0	100	100
54	LL	176/176 (100%)	176 (100%)	0	100	100
55	LM	118/118 (100%)	118 (100%)	0	100	100
56	LN	171/171 (100%)	171 (100%)	0	100	100
57	LO	173/173 (100%)	173 (100%)	0	100	100
58	LP	134/134 (100%)	134 (100%)	0	100	100
59	LQ	164/164 (100%)	164 (100%)	0	100	100
60	LS	156/156 (100%)	156 (100%)	0	100	100
61	LT	139/139 (100%)	139 (100%)	0	100	100
62	LU	91/91 (100%)	91 (100%)	0	100	100
63	LV	101/101 (100%)	101 (100%)	0	100	100
64	LX	108/108 (100%)	108 (100%)	0	100	100
65	LY	124/124 (100%)	124 (100%)	0	100	100
66	LZ	117/117 (100%)	117 (100%)	0	100	100
67	La	120/120 (100%)	120 (100%)	0	100	100
68	Lb	88/90 (98%)	88 (100%)	0	100	100
69	Lc	83/83 (100%)	83 (100%)	0	100	100
70	Ld	98/98 (100%)	98 (100%)	0	100	100
71	Le	114/114 (100%)	114 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
72	Lf	88/88 (100%)	88 (100%)	0	100	100
73	Lg	98/98 (100%)	98 (100%)	0	100	100
74	Lh	109/109 (100%)	109 (100%)	0	100	100
75	Li	86/86 (100%)	86 (100%)	0	100	100
76	Lj	73/73 (100%)	73 (100%)	0	100	100
77	Lk	64/64 (100%)	64 (100%)	0	100	100
78	Ll	47/47 (100%)	47 (100%)	0	100	100
79	Lm	48/48 (100%)	48 (100%)	0	100	100
80	Ln	23/23 (100%)	23 (100%)	0	100	100
81	Lo	93/93 (100%)	93 (100%)	0	100	100
82	Lp	74/74 (100%)	74 (100%)	0	100	100
83	Lr	109/109 (100%)	109 (100%)	0	100	100
84	Ls	162/164 (99%)	162 (100%)	0	100	100
85	Lt	107/115 (93%)	107 (100%)	0	100	100
All	All	10147/10186 (100%)	10145 (100%)	2 (0%)	100	100

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
15	SY	15	ASN
22	SR	76	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (104) such sidechains are listed below:

Mol	Chain	Res	Type
1	SA	50	ASN
2	SB	158	HIS
2	SB	179	ASN
2	SB	202	GLN
3	SC	115	GLN
3	SC	267	GLN
5	SG	186	GLN
9	SL	13	GLN
9	SL	65	ASN
9	SL	100	ASN
12	SV	35	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
12	SV	82	ASN
14	SX	23	HIS
14	SX	26	GLN
15	SY	15	ASN
15	SY	19	GLN
16	Sa	86	ASN
17	Sb	9	HIS
18	Se	3	HIS
20	LR	143	HIS
22	SR	26	ASN
23	SD	4	GLN
23	SD	226	GLN
24	SF	79	HIS
24	SF	82	ASN
26	SM	46	GLN
26	SM	119	GLN
27	SP	79	HIS
27	SP	104	GLN
30	ST	63	HIS
30	ST	105	GLN
30	ST	137	GLN
31	SU	18	HIS
31	SU	92	HIS
32	SZ	89	GLN
34	Sd	16	GLN
34	Sd	37	ASN
36	Sg	4	GLN
36	Sg	56	GLN
36	Sg	311	GLN
44	LA	132	ASN
45	LB	68	ASN
45	LB	184	GLN
45	LB	289	GLN
46	LC	310	HIS
46	LC	329	ASN
46	LC	347	HIS
46	LC	362	GLN
47	LD	138	GLN
47	LD	250	ASN
47	LD	275	GLN
48	LE	227	HIS
49	LF	24	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
49	LF	63	GLN
49	LF	235	ASN
50	LG	38	ASN
50	LG	90	GLN
50	LG	94	GLN
51	LH	78	GLN
51	LH	102	ASN
51	LH	138	GLN
51	LH	156	ASN
52	LI	123	GLN
53	LJ	98	ASN
55	LM	34	ASN
55	LM	48	GLN
55	LM	69	HIS
56	LN	109	HIS
56	LN	117	ASN
56	LN	145	ASN
57	LO	42	ASN
57	LO	199	HIS
58	LP	21	ASN
58	LP	25	HIS
58	LP	118	GLN
59	LQ	21	GLN
59	LQ	45	GLN
61	LT	90	ASN
63	LV	77	HIS
64	LX	111	GLN
65	LY	14	ASN
65	LY	56	GLN
65	LY	61	HIS
65	LY	72	GLN
67	La	34	ASN
68	Lb	11	ASN
69	Lc	15	ASN
70	Ld	121	ASN
71	Le	23	HIS
71	Le	52	GLN
72	Lf	21	GLN
72	Lf	80	ASN
76	Lj	66	HIS
81	Lo	105	GLN
83	Lr	21	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
83	Lr	30	ASN
84	Ls	68	HIS
84	Ls	71	ASN
84	Ls	127	ASN
84	Ls	190	GLN
85	Lt	65	GLN
85	Lt	68	GLN
85	Lt	70	GLN
85	Lt	115	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
19	S2	1715/1740 (98%)	390 (22%)	5 (0%)
37	At	69/71 (97%)	11 (15%)	0
38	Et	73/75 (97%)	29 (39%)	0
39	Pt	72/74 (97%)	14 (19%)	0
41	L5	3643/3655 (99%)	786 (21%)	15 (0%)
42	L7	119/120 (99%)	10 (8%)	0
43	L8	155/156 (99%)	25 (16%)	0
All	All	5846/5891 (99%)	1265 (21%)	20 (0%)

All (1265) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
19	S2	13	C
19	S2	14	C
19	S2	17	C
19	S2	25	A
19	S2	33	G
19	S2	44	U
19	S2	45	A
19	S2	46	A
19	S2	56	G
19	S2	58	C
19	S2	59	U
19	S2	62	G
19	S2	65	C
19	S2	67	C
19	S2	68	A
19	S2	72	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	73	C
19	S2	74	G
19	S2	76	U
19	S2	92	A
19	S2	99	A2M
19	S2	103	A
19	S2	113	G
19	S2	114	G
19	S2	115	U
19	S2	130	G
19	S2	143	U
19	S2	149	A
19	S2	155	G
19	S2	158	A
19	S2	160	U
19	S2	162	C
19	S2	170	A
19	S2	171	A
19	S2	175	A
19	S2	179	C
19	S2	182	C
19	S2	190	G
19	S2	196	C
19	S2	197	U
19	S2	198	U
19	S2	200	G
19	S2	203	G
19	S2	204	G
19	S2	207	G
19	S2	208	G
19	S2	214	U
19	S2	289	G
19	S2	291	G
19	S2	292	A
19	S2	294	U
19	S2	295	C
19	S2	302	A
19	S2	306	C
19	S2	307	G
19	S2	308	G
19	S2	309	G
19	S2	311	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	312	G
19	S2	318	A
19	S2	319	C
19	S2	323	C
19	S2	324	C
19	S2	325	C
19	S2	326	C
19	S2	327	G
19	S2	328	U
19	S2	329	G
19	S2	332	G
19	S2	339	A
19	S2	347	G
19	S2	360	A
19	S2	361	U
19	S2	362	C
19	S2	363	A
19	S2	364	A
19	S2	368	U
19	S2	370	G
19	S2	377	G
19	S2	385	G
19	S2	386	C
19	S2	398	A
19	S2	407	G
19	S2	408	A
19	S2	409	C
19	S2	426	A
19	S2	435	A
19	S2	448	A
19	S2	449	A
19	S2	450	C
19	S2	452	G
19	S2	459	C
19	S2	464	A
19	S2	465	A
19	S2	471	G
19	S2	472	C
19	S2	473	A
19	S2	474	G
19	S2	476	A
19	S2	482	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	487	U
19	S2	488	U
19	S2	492	C
19	S2	493	A
19	S2	502	C
19	S2	531	A
19	S2	532	C
19	S2	536	A
19	S2	537	C
19	S2	540	U
19	S2	542	U
19	S2	544	G
19	S2	546	G
19	S2	547	G
19	S2	555	A
19	S2	557	U
19	S2	558	G
19	S2	559	G
19	S2	563	G
19	S2	564	A
19	S2	566	U
19	S2	576	A2M
19	S2	583	A
19	S2	587	A
19	S2	589	G
19	S2	590	A
19	S2	591	U
19	S2	592	C
19	S2	604	A
19	S2	614	C
19	S2	617	G
19	S2	623	G
19	S2	628	A
19	S2	631	U
19	S2	643	A
19	S2	644	OMG
19	S2	655	A
19	S2	660	C
19	S2	664	A
19	S2	668	A2M
19	S2	669	A
19	S2	670	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	671	A
19	S2	672	A
19	S2	673	G
19	S2	684	G
19	S2	688	U
19	S2	689	U
19	S2	692	G
19	S2	693	A
19	S2	695	C
19	S2	696	G
19	S2	697	G
19	S2	732	U
19	S2	733	C
19	S2	736	C
19	S2	737	G
19	S2	738	C
19	S2	749	U
19	S2	751	G
19	S2	752	G
19	S2	753	C
19	S2	788	G
19	S2	789	G
19	S2	791	C
19	S2	797	C
19	S2	798	G
19	S2	799	OMU
19	S2	801	PSU
19	S2	821	G
19	S2	822	U
19	S2	823	U
19	S2	824	C
19	S2	827	A
19	S2	830	A
19	S2	834	C
19	S2	835	C
19	S2	836	G
19	S2	837	A
19	S2	838	G
19	S2	839	C
19	S2	842	C
19	S2	847	A
19	S2	863	PSU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	867	OMG
19	S2	870	A
19	S2	874	G
19	S2	877	C
19	S2	878	G
19	S2	880	G
19	S2	888	U
19	S2	889	U
19	S2	891	G
19	S2	893	U
19	S2	896	U
19	S2	897	U
19	S2	898	U
19	S2	899	U
19	S2	900	C
19	S2	901	G
19	S2	903	A
19	S2	913	A
19	S2	917	U
19	S2	920	A
19	S2	922	A
19	S2	933	G
19	S2	934	G
19	S2	963	A
19	S2	970	G
19	S2	971	G
19	S2	972	A
19	S2	990	A
19	S2	992	A
19	S2	999	G
19	S2	1001	A
19	S2	1008	A
19	S2	1017	U
19	S2	1023	A
19	S2	1027	A
19	S2	1033	G
19	S2	1045	PSU
19	S2	1060	A
19	S2	1061	U
19	S2	1062	A
19	S2	1083	A
19	S2	1085	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1108	G
19	S2	1109	C
19	S2	1113	A
19	S2	1116	C
19	S2	1119	A
19	S2	1121	G
19	S2	1123	C
19	S2	1133	A
19	S2	1138	C
19	S2	1139	C
19	S2	1149	A
19	S2	1150	A
19	S2	1153	C
19	S2	1154	U
19	S2	1195	A
19	S2	1207	G
19	S2	1208	A
19	S2	1215	C
19	S2	1216	C
19	S2	1217	A
19	S2	1220	A
19	S2	1222	G
19	S2	1224	G
19	S2	1227	G
19	S2	1240	A
19	S2	1242	U
19	S2	1243	U
19	S2	1248	B8N
19	S2	1251	A
19	S2	1253	A
19	S2	1256	G
19	S2	1257	G
19	S2	1264	C
19	S2	1270	G
19	S2	1272	OMC
19	S2	1273	C
19	S2	1274	G
19	S2	1275	G
19	S2	1282	A
19	S2	1283	C
19	S2	1286	G
19	S2	1288	OMU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1290	G
19	S2	1294	G
19	S2	1295	A
19	S2	1301	A
19	S2	1302	G
19	S2	1303	C
19	S2	1304	U
19	S2	1308	U
19	S2	1333	U
19	S2	1342	U
19	S2	1348	G
19	S2	1357	A
19	S2	1358	U
19	S2	1371	U
19	S2	1373	C
19	S2	1376	A
19	S2	1378	A
19	S2	1382	A
19	S2	1394	G
19	S2	1401	A
19	S2	1402	A
19	S2	1406	G
19	S2	1408	U
19	S2	1413	G
19	S2	1414	A
19	S2	1418	C
19	S2	1419	C
19	S2	1421	A
19	S2	1422	G
19	S2	1423	C
19	S2	1428	G
19	S2	1429	G
19	S2	1433	C
19	S2	1435	C
19	S2	1436	C
19	S2	1437	C
19	S2	1438	A
19	S2	1439	A
19	S2	1442	OMU
19	S2	1449	G
19	S2	1454	A
19	S2	1463	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1489	A
19	S2	1490	OMG
19	S2	1492	U
19	S2	1494	U
19	S2	1495	G
19	S2	1497	G
19	S2	1498	A
19	S2	1507	G
19	S2	1520	G
19	S2	1521	C
19	S2	1531	A
19	S2	1533	A
19	S2	1543	U
19	S2	1544	C
19	S2	1546	G
19	S2	1552	G
19	S2	1553	C
19	S2	1556	A
19	S2	1558	C
19	S2	1573	G
19	S2	1575	G
19	S2	1580	A
19	S2	1581	C
19	S2	1585	U
19	S2	1587	G
19	S2	1588	A
19	S2	1600	G
19	S2	1604	G
19	S2	1606	G
19	S2	1621	U
19	S2	1623	A
19	S2	1633	A
19	S2	1637	A
19	S2	1638	G
19	S2	1646	C
19	S2	1648	G
19	S2	1654	G
19	S2	1663	A
19	S2	1665	G
19	S2	1680	G
19	S2	1683	C
19	S2	1686	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1695	A
19	S2	1698	C
19	S2	1699	A
19	S2	1700	C
19	S2	1712	A
19	S2	1715	A
19	S2	1721	U
19	S2	1722	G
19	S2	1727	G
19	S2	1744	G
19	S2	1745	A
19	S2	1752	C
19	S2	1753	C
19	S2	1754	G
19	S2	1755	C
19	S2	1757	G
19	S2	1758	G
19	S2	1759	G
19	S2	1761	U
19	S2	1772	C
19	S2	1773	C
19	S2	1774	C
19	S2	1777	G
19	S2	1782	G
19	S2	1783	C
19	S2	1784	G
19	S2	1810	U
19	S2	1824	A
19	S2	1831	A
19	S2	1835	A
19	S2	1838	U
19	S2	1849	G
19	S2	1851	MA6
19	S2	1861	G
19	S2	1862	G
19	S2	1863	A
19	S2	1864	U
19	S2	1865	C
37	At	9	A
37	At	13	U
37	At	21	A
37	At	26	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	At	36	C
37	At	47	U
37	At	48	C
37	At	49	C
37	At	58	A
37	At	64	G
37	At	67	G
38	Et	7	A
38	Et	9	A
38	Et	10	G
38	Et	11	C
38	Et	19	G
38	Et	20	U
38	Et	21	A
38	Et	22	G
38	Et	26	A
38	Et	31	A
38	Et	34	U
38	Et	35	U
38	Et	38	A
38	Et	42	G
38	Et	45	G
38	Et	46	G
38	Et	47	U
38	Et	48	C
38	Et	49	C
38	Et	51	G
38	Et	55	U
38	Et	58	A
38	Et	59	G
38	Et	66	U
38	Et	69	G
38	Et	70	G
38	Et	71	G
38	Et	73	G
38	Et	76	A
39	Pt	9	A
39	Pt	13	U
39	Pt	19	G
39	Pt	20(A)	U
39	Pt	21	A
39	Pt	46	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
39	Pt	47	U
39	Pt	48	C
39	Pt	49	C
39	Pt	58	A
39	Pt	67	G
39	Pt	71	A
39	Pt	74	C
39	Pt	76	A
41	L5	25	A
41	L5	30	C
41	L5	39	A
41	L5	42	A
41	L5	48	G
41	L5	56	A
41	L5	59	A
41	L5	64	A
41	L5	65	A
41	L5	73	A
41	L5	74	G
41	L5	91	G
41	L5	104	G
41	L5	108	A
41	L5	109	G
41	L5	110	C
41	L5	119	G
41	L5	120	A
41	L5	128	C
41	L5	132	G
41	L5	133	C
41	L5	134	G
41	L5	135	G
41	L5	144	G
41	L5	151	G
41	L5	159	C
41	L5	165	A
41	L5	172	C
41	L5	182	G
41	L5	183	C
41	L5	184	U
41	L5	185	C
41	L5	186	G
41	L5	188	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	189	G
41	L5	200	U
41	L5	209	U
41	L5	216	C
41	L5	218	A
41	L5	233	U
41	L5	234	G
41	L5	255	C
41	L5	256	G
41	L5	261	G
41	L5	263	G
41	L5	264	C
41	L5	265	C
41	L5	266	C
41	L5	267	G
41	L5	275	C
41	L5	280	G
41	L5	297	U
41	L5	306	A
41	L5	315	G
41	L5	316	U
41	L5	340	C
41	L5	373	G
41	L5	385	A
41	L5	387	G
41	L5	388	A
41	L5	396	A
41	L5	407	A
41	L5	409	G
41	L5	410	A
41	L5	411	G
41	L5	412	G
41	L5	413	G
41	L5	415	G
41	L5	431	G
41	L5	432	U
41	L5	449	C
41	L5	452	A
41	L5	453	G
41	L5	454	U
41	L5	456	C
41	L5	457	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	464	G
41	L5	467	U
41	L5	468	U
41	L5	479	G
41	L5	485	C
41	L5	486	C
41	L5	489	C
41	L5	493	G
41	L5	494	U
41	L5	497	G
41	L5	498	C
41	L5	499	G
41	L5	500	G
41	L5	502	C
41	L5	503	C
41	L5	504	G
41	L5	509	A
41	L5	510	U
41	L5	512	U
41	L5	513	U
41	L5	514	U
41	L5	518	G
41	L5	519	C
41	L5	643	C
41	L5	646	G
41	L5	654	C
41	L5	655	C
41	L5	656	C
41	L5	657	C
41	L5	659	G
41	L5	665	C
41	L5	666	G
41	L5	667	A
41	L5	668	C
41	L5	673	C
41	L5	685	C
41	L5	686	A
41	L5	687	U
41	L5	704	C
41	L5	722	G
41	L5	730	G
41	L5	731	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	738	C
41	L5	739	G
41	L5	740	G
41	L5	742	G
41	L5	743	G
41	L5	746	A
41	L5	759	G
41	L5	904	C
41	L5	905	C
41	L5	906	C
41	L5	910	G
41	L5	913	U
41	L5	914	U
41	L5	915	A
41	L5	917	A
41	L5	923	C
41	L5	924	C
41	L5	926	G
41	L5	932	A
41	L5	933	G
41	L5	934	C
41	L5	936	C
41	L5	937	U
41	L5	941	C
41	L5	943	A
41	L5	945	U
41	L5	946	C
41	L5	956	A
41	L5	958	G
41	L5	959	G
41	L5	960	A
41	L5	961	G
41	L5	962	C
41	L5	965	G
41	L5	966	A
41	L5	967	C
41	L5	968	C
41	L5	969	C
41	L5	970	G
41	L5	977	C
41	L5	982	U
41	L5	985	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	989	U
41	L5	1070	G
41	L5	1072	C
41	L5	1075	G
41	L5	1076	C
41	L5	1082	C
41	L5	1083	U
41	L5	1094	G
41	L5	1095	A
41	L5	1168	G
41	L5	1171	G
41	L5	1172	C
41	L5	1173	G
41	L5	1174	G
41	L5	1179	U
41	L5	1180	C
41	L5	1181	C
41	L5	1182	C
41	L5	1183	C
41	L5	1184	A
41	L5	1187	G
41	L5	1189	G
41	L5	1193	C
41	L5	1202	C
41	L5	1203	G
41	L5	1210	C
41	L5	1211	G
41	L5	1214	C
41	L5	1215	C
41	L5	1218	G
41	L5	1219	G
41	L5	1222	A
41	L5	1241	C
41	L5	1245	C
41	L5	1246	G
41	L5	1253	G
41	L5	1254	A
41	L5	1257	A
41	L5	1258	G
41	L5	1266	G
41	L5	1267	C
41	L5	1269	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	1270	A
41	L5	1271	G
41	L5	1272	C
41	L5	1273	G
41	L5	1275	G
41	L5	1280	C
41	L5	1284	G
41	L5	1285	U
41	L5	1287	G
41	L5	1293	G
41	L5	1294	A
41	L5	1295	C
41	L5	1296	G
41	L5	1301	C
41	L5	1312	A
41	L5	1314	C
41	L5	1326	A2M
41	L5	1337	A
41	L5	1354	A
41	L5	1359	G
41	L5	1365	C
41	L5	1366	G
41	L5	1367	C
41	L5	1370	G
41	L5	1379	C
41	L5	1387	A
41	L5	1394	G
41	L5	1397	A
41	L5	1398	A
41	L5	1404	G
41	L5	1407	C
41	L5	1409	C
41	L5	1410	U
41	L5	1411	C
41	L5	1413	C
41	L5	1415	G
41	L5	1417	C
41	L5	1420	A
41	L5	1437	C
41	L5	1439	C
41	L5	1442	C
41	L5	1443	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	1444	G
41	L5	1446	C
41	L5	1447	C
41	L5	1452	A
41	L5	1457	G
41	L5	1480	C
41	L5	1482	G
41	L5	1483	C
41	L5	1497	A
41	L5	1498	G
41	L5	1502	G
41	L5	1504	G
41	L5	1517	G
41	L5	1534	A2M
41	L5	1535	C
41	L5	1537	A
41	L5	1547	A
41	L5	1564	A
41	L5	1566	C
41	L5	1574	G
41	L5	1578	U
41	L5	1591	U
41	L5	1596	U
41	L5	1624	G
41	L5	1625	OMG
41	L5	1626	G
41	L5	1631	A
41	L5	1633	G
41	L5	1634	A
41	L5	1638	A
41	L5	1640	C
41	L5	1641	G
41	L5	1642	A
41	L5	1654	G
41	L5	1661	C
41	L5	1676	C
41	L5	1677	PSU
41	L5	1694	C
41	L5	1697	G
41	L5	1699	A
41	L5	1700	G
41	L5	1701	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	1702	C
41	L5	1704	C
41	L5	1705	G
41	L5	1717	C
41	L5	1718	C
41	L5	1719	A
41	L5	1721	G
41	L5	1731	C
41	L5	1734	G
41	L5	1740	C
41	L5	1741	G
41	L5	1742	A
41	L5	1750	G
41	L5	1757	U
41	L5	1758	G
41	L5	1760	G
41	L5	1761	G
41	L5	1762	C
41	L5	1763	C
41	L5	1764	G
41	L5	1765	A
41	L5	1766	A
41	L5	1767	A
41	L5	1768	C
41	L5	1770	A
41	L5	1787	A
41	L5	1803	G
41	L5	1804	A
41	L5	1806	G
41	L5	1810	G
41	L5	1815	G
41	L5	1820	C
41	L5	1821	G
41	L5	1822	U
41	L5	1834	U
41	L5	1836	G
41	L5	1837	A
41	L5	1842	G
41	L5	1855	G
41	L5	1869	G
41	L5	1882	U
41	L5	1897	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	1916	G
41	L5	1917	A
41	L5	1918	U
41	L5	1919	G
41	L5	1920	C
41	L5	1921	C
41	L5	1922	G
41	L5	1925	G
41	L5	1930	U
41	L5	1931	C
41	L5	1932	A
41	L5	1936	C
41	L5	1948	G
41	L5	1961	G
41	L5	1962	A
41	L5	1971	C
41	L5	1972	G
41	L5	1974	U
41	L5	1975	G
41	L5	1978	C
41	L5	1980	U
41	L5	1981	G
41	L5	1982	G
41	L5	1983	A
41	L5	1984	A
41	L5	1985	G
41	L5	1986	U
41	L5	1989	G
41	L5	1990	A
41	L5	1991	A
41	L5	1992	U
41	L5	1993	C
41	L5	1995	G
41	L5	1997	U
41	L5	1998	A
41	L5	1999	A
41	L5	2001	G
41	L5	2002	A
41	L5	2004	U
41	L5	2005	G
41	L5	2011	C
41	L5	2017	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	2018	C
41	L5	2024	G
41	L5	2025	A
41	L5	2026	A
41	L5	2046	G
41	L5	2048	U
41	L5	2055	G
41	L5	2056	G
41	L5	2069	A
41	L5	2072	C
41	L5	2084	C
41	L5	2092	G
41	L5	2093	A
41	L5	2095	A
41	L5	2097	U
41	L5	2098	G
41	L5	2099	G
41	L5	2101	C
41	L5	2102	G
41	L5	2103	G
41	L5	2105	A
41	L5	2107	C
41	L5	2110	C
41	L5	2112	G
41	L5	2250	C
41	L5	2252	G
41	L5	2253	A
41	L5	2254	G
41	L5	2256	C
41	L5	2258	C
41	L5	2269	C
41	L5	2289	C
41	L5	2300	A
41	L5	2301	G
41	L5	2306	G
41	L5	2313	A
41	L5	2331	G
41	L5	2333	G
41	L5	2345	G
41	L5	2348	G
41	L5	2351	OMC
41	L5	2360	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	2364	OMG
41	L5	2382	A
41	L5	2383	C
41	L5	2389	A
41	L5	2395	A
41	L5	2397	G
41	L5	2411	C
41	L5	2412	A
41	L5	2417	A
41	L5	2425	U
41	L5	2450	G
41	L5	2453	A
41	L5	2464	C
41	L5	2465	C
41	L5	2469	C
41	L5	2471	G
41	L5	2474	G
41	L5	2475	G
41	L5	2478	C
41	L5	2479	G
41	L5	2480	G
41	L5	2483	G
41	L5	2484	A
41	L5	2485	U
41	L5	2487	G
41	L5	2488	C
41	L5	2489	C
41	L5	2490	U
41	L5	2491	C
41	L5	2494	U
41	L5	2504	C
41	L5	2505	C
41	L5	2506	G
41	L5	2513	A
41	L5	2518	G
41	L5	2519	U
41	L5	2520	C
41	L5	2537	A
41	L5	2544	G
41	L5	2546	G
41	L5	2547	G
41	L5	2554	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	2555	G
41	L5	2557	G
41	L5	2559	G
41	L5	2560	C
41	L5	2565	A
41	L5	2573	A
41	L5	2583	C
41	L5	2586	G
41	L5	2587	A
41	L5	2589	C
41	L5	2602	G
41	L5	2606	G
41	L5	2627	C
41	L5	2638	G
41	L5	2653	C
41	L5	2662	G
41	L5	2669	C
41	L5	2675	G
41	L5	2676	A
41	L5	2687	U
41	L5	2694	G
41	L5	2695	A
41	L5	2696	A
41	L5	2702	C
41	L5	2703	G
41	L5	2706	G
41	L5	2707	U
41	L5	2708	U
41	L5	2710	C
41	L5	2711	G
41	L5	2721	G
41	L5	2724	G
41	L5	2726	G
41	L5	2739	C
41	L5	2742	G
41	L5	2743	A
41	L5	2746	A
41	L5	2761	U
41	L5	2763	U
41	L5	2769	U
41	L5	2770	C
41	L5	2788	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	2790	U
41	L5	2806	A
41	L5	2826	U
41	L5	2827	G
41	L5	2829	U
41	L5	2842	G
41	L5	2848	G
41	L5	2855	G
41	L5	2867	C
41	L5	2877	G
41	L5	2895	A
41	L5	2900	U
41	L5	2902	G
41	L5	2903	G
41	L5	2904	U
41	L5	2905	C
41	L5	2906	G
41	L5	2907	G
41	L5	2908	U
41	L5	3590	G
41	L5	3591	C
41	L5	3593	C
41	L5	3594	C
41	L5	3595	U
41	L5	3596	A
41	L5	3597	G
41	L5	3599	A
41	L5	3603	G
41	L5	3605	C
41	L5	3616	U
41	L5	3617	G
41	L5	3626	G
41	L5	3630	A
41	L5	3635	A
41	L5	3644	U
41	L5	3646	A
41	L5	3648	A
41	L5	3662	A
41	L5	3670	C
41	L5	3673	C
41	L5	3674	G
41	L5	3701	OMC

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	3710	G
41	L5	3711	A
41	L5	3713	U
41	L5	3727	A
41	L5	3735	G
41	L5	3748	A
41	L5	3753	G
41	L5	3760	A
41	L5	3764	U
41	L5	3770	U
41	L5	3775	A
41	L5	3776	G
41	L5	3777	G
41	L5	3785	A2M
41	L5	3786	U
41	L5	3792	OMG
41	L5	3811	G
41	L5	3814	U
41	L5	3817	A
41	L5	3819	G
41	L5	3824	A
41	L5	3838	U
41	L5	3839	G
41	L5	3840	U
41	L5	3867	A2M
41	L5	3877	A
41	L5	3878	C
41	L5	3879	G
41	L5	3880	G
41	L5	3885	G
41	L5	3890	A
41	L5	3892	U
41	L5	3897	G
41	L5	3901	A
41	L5	3906	A
41	L5	3907	G
41	L5	3908	A
41	L5	3915	U
41	L5	3938	G
41	L5	3942	A
41	L5	3947	A
41	L5	3948	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	3949	A
41	L5	3950	U
41	L5	3951	G
41	L5	3952	A
41	L5	3953	G
41	L5	4057	C
41	L5	4058	U
41	L5	4059	C
41	L5	4060	U
41	L5	4061	G
41	L5	4062	A
41	L5	4064	C
41	L5	4068	U
41	L5	4069	U
41	L5	4076	G
41	L5	4084	G
41	L5	4095	G
41	L5	4097	G
41	L5	4099	G
41	L5	4101	C
41	L5	4104	G
41	L5	4105	A
41	L5	4106	G
41	L5	4107	G
41	L5	4108	G
41	L5	4111	U
41	L5	4112	C
41	L5	4114	C
41	L5	4115	G
41	L5	4116	C
41	L5	4119	C
41	L5	4121	G
41	L5	4122	G
41	L5	4127	A
41	L5	4140	C
41	L5	4141	G
41	L5	4142	C
41	L5	4143	G
41	L5	4144	C
41	L5	4146	G
41	L5	4162	C
41	L5	4163	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	4168	G
41	L5	4170	A
41	L5	4183	G
41	L5	4184	G
41	L5	4191	G
41	L5	4203	A
41	L5	4219	A
41	L5	4220	6MZ
41	L5	4222	G
41	L5	4225	G
41	L5	4228	OMG
41	L5	4229	U
41	L5	4232	U
41	L5	4233	A
41	L5	4243	C
41	L5	4250	G
41	L5	4251	A
41	L5	4254	G
41	L5	4256	A
41	L5	4257	A
41	L5	4258	C
41	L5	4265	U
41	L5	4268	A
41	L5	4273	A
41	L5	4281	A
41	L5	4290	U
41	L5	4291	G
41	L5	4295	U
41	L5	4305	G
41	L5	4306	OMU
41	L5	4314	C
41	L5	4319	C
41	L5	4326	G
41	L5	4329	G
41	L5	4330	G
41	L5	4332	C
41	L5	4338	G
41	L5	4349	C
41	L5	4350	C
41	L5	4354	U
41	L5	4373	G
41	L5	4376	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	4377	G
41	L5	4378	A
41	L5	4379	A
41	L5	4386	C
41	L5	4387	C
41	L5	4391	G
41	L5	4394	A
41	L5	4405	G
41	L5	4422	A
41	L5	4427	G
41	L5	4433	G
41	L5	4438	U
41	L5	4442	PSU
41	L5	4447	5MC
41	L5	4448	G
41	L5	4449	A
41	L5	4452	U
41	L5	4464	A
41	L5	4466	C
41	L5	4475	G
41	L5	4488	A
41	L5	4500	PSU
41	L5	4512	U
41	L5	4513	A
41	L5	4519	C
41	L5	4524	G
41	L5	4525	C
41	L5	4545	G
41	L5	4548	A
41	L5	4549	G
41	L5	4560	C
41	L5	4567	G
41	L5	4569	U
41	L5	4575	G
41	L5	4584	A
41	L5	4589	A
41	L5	4590	A2M
41	L5	4601	U
41	L5	4618	OMG
41	L5	4636	PSU
41	L5	4637	OMG
41	L5	4652	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	4656	A
41	L5	4657	U
41	L5	4670	C
41	L5	4672	A
41	L5	4687	A
41	L5	4694	G
41	L5	4695	C
41	L5	4700	A
41	L5	4708	A
41	L5	4709	U
41	L5	4719	G
41	L5	4733	C
41	L5	4734	A
41	L5	4740	G
41	L5	4741	C
41	L5	4742	G
41	L5	4745	G
41	L5	4754	G
41	L5	4757	C
41	L5	4759	C
41	L5	4761	G
41	L5	4765	G
41	L5	4771	C
41	L5	4772	C
41	L5	4775	C
41	L5	4776	G
41	L5	4859	C
41	L5	4867	G
41	L5	4870	G
41	L5	4871	C
41	L5	4875	G
41	L5	4881	U
41	L5	4882	U
41	L5	4883	C
41	L5	4889	G
41	L5	4895	C
41	L5	4896	G
41	L5	4897	G
41	L5	4898	G
41	L5	4899	G
41	L5	4900	C
41	L5	4901	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	4910	G
41	L5	4912	G
41	L5	4914	C
41	L5	4922	C
41	L5	4925	U
41	L5	4926	C
41	L5	4927	G
41	L5	4928	C
41	L5	4934	A
41	L5	4937	C
41	L5	4940	C
41	L5	4941	G
41	L5	4943	A
41	L5	4951	G
41	L5	4960	G
41	L5	4963	G
41	L5	4975	G
41	L5	4976	U
41	L5	4985	U
41	L5	4988	U
41	L5	4989	U
41	L5	4990	C
41	L5	4991	U
41	L5	5007	A
41	L5	5013	C
41	L5	5014	A
41	L5	5017	G
41	L5	5023	C
41	L5	5024	C
41	L5	5028	G
41	L5	5029	C
41	L5	5030	U
41	L5	5034	A
41	L5	5041	G
41	L5	5050	C
41	L5	5054	C
41	L5	5061	A
41	L5	5069	U
42	L7	33	U
42	L7	38	U
42	L7	53	U
42	L7	54	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
42	L7	64	G
42	L7	97	G
42	L7	100	A
42	L7	102	U
42	L7	110	G
42	L7	111	C
43	L8	23	C
43	L8	25	G
43	L8	34	U
43	L8	35	C
43	L8	59	A
43	L8	62	A
43	L8	63	U
43	L8	80	A
43	L8	82	A
43	L8	83	C
43	L8	84	A
43	L8	85	U
43	L8	86	U
43	L8	87	G
43	L8	94	G
43	L8	103	A
43	L8	105	C
43	L8	111	U
43	L8	114	G
43	L8	123	U
43	L8	124	U
43	L8	125	C
43	L8	126	C
43	L8	127	U
43	L8	151	G

All (20) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
19	S2	291	G
19	S2	531	A
19	S2	563	G
19	S2	688	U
19	S2	1434	C
41	L5	406	C
41	L5	914	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L5	1082	C
41	L5	1366	G
41	L5	1633	G
41	L5	1703	C
41	L5	1977	C
41	L5	2416	G
41	L5	2675	G
41	L5	2760	G
41	L5	3673	C
41	L5	4447	5MC
41	L5	4600	G
41	L5	4699	U
41	L5	4913	G

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
19	OMG	S2	436	19	19,26,27	1.16	2 (10%)	21,38,41	0.87	1 (4%)
19	PSU	S2	1174	19	18,21,22	1.12	1 (5%)	21,30,33	1.87	4 (19%)
41	PSU	L5	4312	41	18,21,22	1.08	1 (5%)	21,30,33	1.89	4 (19%)
41	PSU	L5	4552	41	18,21,22	1.12	2 (11%)	21,30,33	1.95	4 (19%)
19	OMU	S2	121	19	19,22,23	3.34	7 (36%)	25,31,34	1.75	4 (16%)
41	PSU	L5	4972	41	18,21,22	1.08	1 (5%)	21,30,33	1.86	4 (19%)
41	OMG	L5	4637	41	19,26,27	1.19	2 (10%)	21,38,41	0.88	1 (4%)
41	PSU	L5	1792	41	18,21,22	1.04	1 (5%)	21,30,33	1.82	4 (19%)
41	PSU	L5	4296	41	18,21,22	1.08	1 (5%)	21,30,33	1.92	4 (19%)
19	PSU	S2	801	19	18,21,22	1.14	1 (5%)	21,30,33	1.81	4 (19%)
41	OMC	L5	2861	41	19,22,23	0.57	0	25,31,34	0.82	1 (4%)
19	OMC	S2	1272	19	19,22,23	0.54	0	25,31,34	0.69	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
41	PSU	L5	1782	41	18,21,22	1.10	1 (5%)	21,30,33	1.82	4 (19%)
41	OMC	L5	2351	41,86	19,22,23	0.59	0	25,31,34	0.76	1 (4%)
19	PSU	S2	105	19	18,21,22	1.08	1 (5%)	21,30,33	1.90	4 (19%)
41	OMG	L5	2364	41,86	19,26,27	1.21	3 (15%)	21,38,41	0.79	1 (4%)
41	PSU	L5	3822	41	18,21,22	1.10	1 (5%)	21,30,33	1.90	5 (23%)
41	PSU	L5	4689	41	18,21,22	1.11	2 (11%)	21,30,33	1.80	4 (19%)
19	A2M	S2	27	19	18,25,26	1.29	2 (11%)	20,36,39	1.95	6 (30%)
19	A2M	S2	484	19	18,25,26	1.21	1 (5%)	20,36,39	1.76	6 (30%)
41	OMU	L5	4227	41	19,22,23	3.31	7 (36%)	25,31,34	1.77	4 (16%)
19	OMC	S2	517	19	19,22,23	0.54	0	25,31,34	0.73	0
19	A2M	S2	159	19	18,25,26	1.23	2 (11%)	20,36,39	1.88	6 (30%)
41	OMG	L5	3744	41	19,26,27	1.18	2 (10%)	21,38,41	0.86	1 (4%)
41	OMG	L5	4494	41	19,26,27	1.22	2 (10%)	21,38,41	0.84	1 (4%)
41	A2M	L5	398	41	18,25,26	1.29	2 (11%)	20,36,39	2.11	5 (25%)
41	UR3	L5	4530	41	19,22,23	2.73	7 (36%)	26,32,35	1.59	3 (11%)
19	OMC	S2	174	19	19,22,23	0.52	0	25,31,34	0.61	0
19	A2M	S2	1031	19	18,25,26	1.31	2 (11%)	20,36,39	1.97	6 (30%)
41	OMU	L5	3925	41	19,22,23	3.28	7 (36%)	25,31,34	1.80	5 (20%)
41	OMG	L5	4618	41	19,26,27	1.21	2 (10%)	21,38,41	0.81	1 (4%)
41	OMU	L5	2837	41	19,22,23	3.31	7 (36%)	25,31,34	1.89	5 (20%)
19	MA6	S2	1851	19	19,26,27	1.49	3 (15%)	18,38,41	3.55	3 (16%)
19	PSU	S2	93	19	18,21,22	1.11	1 (5%)	21,30,33	1.79	4 (19%)
19	PSU	S2	686	19	18,21,22	1.10	1 (5%)	21,30,33	1.89	4 (19%)
41	OMC	L5	2824	41	19,22,23	0.56	0	25,31,34	0.71	1 (4%)
41	A2M	L5	3785	41,86	18,25,26	1.28	2 (11%)	20,36,39	2.21	6 (30%)
19	PSU	S2	406	19	18,21,22	1.13	1 (5%)	21,30,33	1.87	4 (19%)
41	PSU	L5	4673	41,86	18,21,22	1.12	1 (5%)	21,30,33	1.86	4 (19%)
19	OMG	S2	1490	19	19,26,27	1.20	2 (10%)	21,38,41	0.75	1 (4%)
41	PSU	L5	3884	41	18,21,22	1.11	2 (11%)	21,30,33	1.90	4 (19%)
41	PSU	L5	5001	41	18,21,22	1.10	1 (5%)	21,30,33	1.82	4 (19%)
41	OMC	L5	1340	41	19,22,23	0.55	0	25,31,34	0.74	0
19	A2M	S2	668	19,86	18,25,26	1.30	3 (16%)	20,36,39	2.00	6 (30%)
41	PSU	L5	1536	41	18,21,22	1.09	1 (5%)	21,30,33	1.88	4 (19%)
19	B8N	S2	1248	19	25,29,30	3.27	6 (24%)	28,42,45	2.04	7 (25%)
19	6MZ	S2	1832	19,86	17,25,26	3.48	7 (41%)	15,36,39	2.43	3 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
41	PSU	L5	3844	41	18,21,22	1.11	1 (5%)	21,30,33	1.77	4 (19%)
41	OMG	L5	4392	41	19,26,27	1.21	3 (15%)	21,38,41	0.89	1 (4%)
19	PSU	S2	866	19	18,21,22	1.11	1 (5%)	21,30,33	1.91	4 (19%)
41	OMG	L5	3899	41	19,26,27	1.23	2 (10%)	21,38,41	0.85	1 (4%)
41	OMU	L5	4498	41	19,22,23	3.31	7 (36%)	25,31,34	1.84	5 (20%)
19	A2M	S2	576	19	18,25,26	1.26	2 (11%)	20,36,39	1.97	5 (25%)
19	PSU	S2	1232	19	18,21,22	1.15	1 (5%)	21,30,33	1.91	4 (19%)
41	PSU	L5	1781	41	18,21,22	1.06	1 (5%)	21,30,33	1.85	4 (19%)
41	OMG	L5	4196	41,39	19,26,27	1.19	2 (10%)	21,38,41	0.81	1 (4%)
41	PSU	L5	1862	41	18,21,22	1.08	1 (5%)	21,30,33	1.92	4 (19%)
41	PSU	L5	4353	41	18,21,22	1.08	1 (5%)	21,30,33	1.91	4 (19%)
41	OMU	L5	4306	41	19,22,23	3.27	7 (36%)	25,31,34	1.74	4 (16%)
41	OMC	L5	4456	41	19,22,23	0.64	0	25,31,34	0.79	1 (4%)
41	A2M	L5	2401	41	18,25,26	1.32	2 (11%)	20,36,39	2.01	6 (30%)
41	OMC	L5	3701	41	19,22,23	0.64	0	25,31,34	1.71	4 (16%)
41	PSU	L5	4361	41	18,21,22	1.06	1 (5%)	21,30,33	1.83	4 (19%)
19	OMC	S2	1391	19	19,22,23	0.51	0	25,31,34	0.70	0
19	PSU	S2	1045	19	18,21,22	1.08	1 (5%)	21,30,33	1.87	4 (19%)
41	OMG	L5	4623	41	19,26,27	1.18	2 (10%)	21,38,41	0.89	1 (4%)
41	PSU	L5	3920	41,86	18,21,22	1.06	1 (5%)	21,30,33	1.92	5 (23%)
41	PSU	L5	1860	41	18,21,22	1.14	1 (5%)	21,30,33	1.86	4 (19%)
41	OMC	L5	3808	41	19,22,23	0.62	0	25,31,34	0.84	1 (4%)
19	OMC	S2	1703	19	19,22,23	0.53	0	25,31,34	0.66	0
19	PSU	S2	1056	19	18,21,22	1.07	1 (5%)	21,30,33	1.90	4 (19%)
41	OMC	L5	3869	41	19,22,23	0.58	0	25,31,34	0.60	0
41	OMC	L5	2365	41	19,22,23	0.55	0	25,31,34	0.56	0
41	A2M	L5	4523	41,86	18,25,26	1.38	2 (11%)	20,36,39	1.99	6 (30%)
41	PSU	L5	3639	41	18,21,22	1.10	1 (5%)	21,30,33	1.90	4 (19%)
41	OMU	L5	4620	41	19,22,23	3.28	7 (36%)	25,31,34	1.71	4 (16%)
19	OMC	S2	462	19	19,22,23	0.54	0	25,31,34	0.73	1 (4%)
41	OMC	L5	2804	41	19,22,23	0.55	0	25,31,34	0.64	0
19	PSU	S2	649	19	18,21,22	1.10	1 (5%)	21,30,33	1.83	4 (19%)
41	A2M	L5	3718	41	18,25,26	1.27	2 (11%)	20,36,39	1.99	5 (25%)
41	PSU	L5	4471	41	18,21,22	1.10	1 (5%)	21,30,33	1.89	4 (19%)
41	PSU	L5	5010	41	18,21,22	1.13	1 (5%)	21,30,33	1.88	4 (19%)
41	OMG	L5	4499	41	19,26,27	1.18	2 (10%)	21,38,41	0.82	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
19	OMG	S2	867	19	19,26,27	1.16	2 (10%)	21,38,41	0.86	1 (4%)
41	OMG	L5	1522	41	19,26,27	1.23	3 (15%)	21,38,41	0.93	1 (4%)
41	5MC	L5	3782	41,86	19,22,23	0.59	0	26,32,35	0.76	0
41	PSU	L5	2632	41	18,21,22	1.05	1 (5%)	21,30,33	1.94	5 (23%)
41	PSU	L5	3637	41	18,21,22	1.10	1 (5%)	21,30,33	2.01	5 (23%)
41	PSU	L5	3851	41	18,21,22	1.08	1 (5%)	21,30,33	1.84	4 (19%)
19	PSU	S2	1046	19	18,21,22	1.11	1 (5%)	21,30,33	1.84	4 (19%)
41	PSU	L5	4532	41	18,21,22	1.10	1 (5%)	21,30,33	1.92	4 (19%)
41	PSU	L5	4500	41	18,21,22	1.14	1 (5%)	21,30,33	2.00	5 (23%)
41	PSU	L5	1677	41	18,21,22	1.09	2 (11%)	21,30,33	2.01	6 (28%)
41	PSU	L5	1683	41	18,21,22	1.10	1 (5%)	21,30,33	1.91	4 (19%)
41	PSU	L5	3853	41,86	18,21,22	1.05	1 (5%)	21,30,33	1.84	4 (19%)
19	4AC	S2	1337	19	21,24,25	0.38	0	28,34,37	0.72	1 (3%)
41	A2M	L5	1871	41,86	18,25,26	1.37	2 (11%)	20,36,39	2.13	5 (25%)
41	OMG	L5	2876	41	19,26,27	1.19	2 (10%)	21,38,41	0.78	1 (4%)
19	PSU	S2	109	19	18,21,22	1.09	1 (5%)	21,30,33	1.90	4 (19%)
41	PSU	L5	4299	41	18,21,22	1.10	1 (5%)	21,30,33	1.81	4 (19%)
19	OMU	S2	1442	19	19,22,23	3.40	7 (36%)	25,31,34	1.81	4 (16%)
41	PSU	L5	4457	41	18,21,22	1.08	1 (5%)	21,30,33	1.97	6 (28%)
19	PSU	S2	1177	19	18,21,22	1.13	1 (5%)	21,30,33	1.89	4 (19%)
41	PSU	L5	3695	41	18,21,22	1.09	1 (5%)	21,30,33	1.92	4 (19%)
41	A2M	L5	3825	41	18,25,26	1.32	2 (11%)	20,36,39	2.03	6 (30%)
19	OMU	S2	627	19	19,22,23	3.36	7 (36%)	25,31,34	1.82	5 (20%)
19	OMG	S2	683	19	19,26,27	1.15	2 (10%)	21,38,41	0.84	1 (4%)
19	OMG	S2	509	19	19,26,27	1.15	2 (10%)	21,38,41	0.84	1 (4%)
41	OMG	L5	2424	41	19,26,27	1.20	3 (15%)	21,38,41	0.78	1 (4%)
41	OMG	L5	3792	41	19,26,27	1.21	2 (10%)	21,38,41	0.79	1 (4%)
41	A2M	L5	4571	41	18,25,26	1.35	3 (16%)	20,36,39	1.93	7 (35%)
41	OMG	L5	4370	41	19,26,27	1.21	3 (15%)	21,38,41	0.80	1 (4%)
41	OMG	L5	3627	41	19,26,27	1.21	3 (15%)	21,38,41	0.86	1 (4%)
41	OMG	L5	1316	41	19,26,27	1.25	3 (15%)	21,38,41	0.86	1 (4%)
19	PSU	S2	1244	19	18,21,22	1.10	1 (5%)	21,30,33	1.92	5 (23%)
41	PSU	L5	4431	41	18,21,22	1.12	1 (5%)	21,30,33	1.90	4 (19%)
41	A2M	L5	4590	41	18,25,26	1.27	2 (11%)	20,36,39	2.08	6 (30%)
41	PSU	L5	4636	41	18,21,22	1.11	2 (11%)	21,30,33	2.09	6 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
41	A2M	L5	2787	41	18,25,26	1.31	2 (11%)	20,36,39	1.81	6 (30%)
41	PSU	L5	4493	41	18,21,22	1.07	1 (5%)	21,30,33	1.87	4 (19%)
41	OMC	L5	4536	41	19,22,23	0.58	0	25,31,34	0.65	0
19	PSU	S2	814	19	18,21,22	1.10	1 (5%)	21,30,33	1.83	4 (19%)
41	A2M	L5	1323	41	18,25,26	1.41	4 (22%)	20,36,39	1.97	7 (35%)
41	1MA	L5	1322	41,86	17,25,26	1.01	2 (11%)	17,37,40	1.14	3 (17%)
19	PSU	S2	1081	19	18,21,22	1.11	1 (5%)	21,30,33	1.93	6 (28%)
41	A2M	L5	1524	41	18,25,26	1.35	3 (16%)	20,36,39	2.35	6 (30%)
19	PSU	S2	966	19	18,21,22	1.13	1 (5%)	21,30,33	1.93	4 (19%)
19	OMU	S2	172	19	19,22,23	3.35	7 (36%)	25,31,34	1.86	5 (20%)
19	OMG	S2	644	19	19,26,27	1.16	2 (10%)	21,38,41	0.84	1 (4%)
19	PSU	S2	1367	19	18,21,22	1.13	1 (5%)	21,30,33	1.90	5 (23%)
41	PSU	L5	4293	41	18,21,22	1.09	1 (5%)	21,30,33	1.92	4 (19%)
19	PSU	S2	681	19	18,21,22	1.04	1 (5%)	21,30,33	1.83	4 (19%)
19	A2M	S2	1383	19	18,25,26	1.30	2 (11%)	20,36,39	2.25	5 (25%)
43	PSU	L8	69	43	18,21,22	1.09	1 (5%)	21,30,33	1.92	5 (23%)
19	OMG	S2	1328	19	19,26,27	1.15	2 (10%)	21,38,41	0.80	1 (4%)
19	A2M	S2	468	19	18,25,26	1.29	2 (11%)	20,36,39	2.07	6 (30%)
19	MA6	S2	1850	19	19,26,27	3.12	9 (47%)	18,38,41	3.45	4 (22%)
19	OMU	S2	354	19	19,22,23	3.32	7 (36%)	25,31,34	1.77	5 (20%)
41	A2M	L5	2363	41,86	18,25,26	1.33	3 (16%)	20,36,39	1.91	7 (35%)
41	A2M	L5	2815	41	18,25,26	1.22	1 (5%)	20,36,39	1.83	7 (35%)
41	UY1	L5	3818	41	19,22,23	4.90	9 (47%)	21,31,34	2.02	5 (23%)
41	PSU	L5	4521	41,86	18,21,22	1.10	1 (5%)	21,30,33	1.95	5 (23%)
41	A2M	L5	1534	41,86	18,25,26	1.28	2 (11%)	20,36,39	1.83	7 (35%)
41	PSU	L5	4579	41	18,21,22	1.07	1 (5%)	21,30,33	1.85	4 (19%)
19	PSU	S2	1004	19	18,21,22	1.10	1 (5%)	21,30,33	1.82	4 (19%)
19	OMU	S2	799	19	19,22,23	3.40	7 (36%)	25,31,34	1.81	5 (20%)
41	OMC	L5	2422	41,86	19,22,23	0.57	0	25,31,34	0.73	1 (4%)
41	PSU	L5	1744	41,86	18,21,22	1.10	1 (5%)	21,30,33	1.87	4 (19%)
19	OMU	S2	428	19	19,22,23	3.36	7 (36%)	25,31,34	1.83	5 (20%)
41	A2M	L5	3867	41	18,25,26	1.29	2 (11%)	20,36,39	1.82	7 (35%)
43	OMG	L8	75	43	19,26,27	1.26	2 (10%)	21,38,41	0.80	1 (4%)
41	PSU	L5	4442	41	18,21,22	1.06	1 (5%)	21,30,33	1.95	6 (28%)
19	OMU	S2	1326	19	19,22,23	3.36	7 (36%)	25,31,34	1.81	5 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
41	PSU	L5	4628	41	18,21,22	1.05	1 (5%)	21,30,33	1.82	4 (19%)
19	A2M	S2	99	19,86	18,25,26	1.31	2 (11%)	20,36,39	2.07	6 (30%)
41	OMG	L5	1625	41	19,26,27	1.24	2 (10%)	21,38,41	0.84	1 (4%)
19	4AC	S2	1842	19	21,24,25	0.38	0	28,34,37	0.47	0
19	A2M	S2	166	19	18,25,26	1.29	2 (11%)	20,36,39	2.05	6 (30%)
41	PSU	L5	4403	41	18,21,22	1.08	1 (5%)	21,30,33	1.90	6 (28%)
43	PSU	L8	55	43	18,21,22	1.09	1 (5%)	21,30,33	1.81	4 (19%)
19	OMG	S2	601	19	19,26,27	1.18	2 (10%)	21,38,41	0.84	1 (4%)
41	6MZ	L5	4220	41	17,25,26	1.44	1 (5%)	15,36,39	2.37	3 (20%)
41	PSU	L5	4576	41	18,21,22	1.11	1 (5%)	21,30,33	1.89	6 (28%)
41	PSU	L5	1582	41	18,21,22	1.07	1 (5%)	21,30,33	1.73	4 (19%)
41	A2M	L5	400	41	18,25,26	1.33	3 (16%)	20,36,39	1.95	7 (35%)
41	A2M	L5	1326	41	18,25,26	1.31	2 (11%)	20,36,39	1.81	7 (35%)
41	5MC	L5	4447	41	19,22,23	0.74	0	26,32,35	0.69	1 (3%)
41	PSU	L5	4973	41	18,21,22	1.10	1 (5%)	21,30,33	1.94	4 (19%)
19	OMU	S2	1288	19	19,22,23	3.41	7 (36%)	25,31,34	1.78	4 (16%)
41	PSU	L5	2839	41	18,21,22	1.09	2 (11%)	21,30,33	1.86	4 (19%)
41	OMG	L5	4228	41	19,26,27	1.23	3 (15%)	21,38,41	0.97	1 (4%)
41	A2M	L5	3830	41	18,25,26	1.33	2 (11%)	20,36,39	2.08	5 (25%)
19	G7M	S2	1639	19,39	20,26,27	2.48	6 (30%)	16,39,42	1.11	1 (6%)
41	OMC	L5	3841	41	19,22,23	0.56	0	25,31,34	0.60	0
41	OMC	L5	3887	41	19,22,23	0.56	0	25,31,34	0.65	0
19	PSU	S2	651	19	18,21,22	1.11	1 (5%)	21,30,33	1.95	5 (23%)
19	OMU	S2	116	19	19,22,23	3.32	7 (36%)	25,31,34	1.67	4 (16%)
19	PSU	S2	863	19	18,21,22	1.12	1 (5%)	21,30,33	1.89	4 (19%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	OMG	S2	436	19	-	0/5/27/28	0/3/3/3
19	PSU	S2	1174	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	4312	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	4552	41	-	0/7/25/26	0/2/2/2
19	OMU	S2	121	19	-	0/9/27/28	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	PSU	L5	4972	41	-	0/7/25/26	0/2/2/2
41	OMG	L5	4637	41	-	3/5/27/28	0/3/3/3
41	PSU	L5	1792	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	4296	41	-	0/7/25/26	0/2/2/2
19	PSU	S2	801	19	-	2/7/25/26	0/2/2/2
41	OMC	L5	2861	41	-	1/9/27/28	0/2/2/2
19	OMC	S2	1272	19	-	3/9/27/28	0/2/2/2
41	PSU	L5	1782	41	-	0/7/25/26	0/2/2/2
41	OMC	L5	2351	41,86	-	1/9/27/28	0/2/2/2
19	PSU	S2	105	19	-	0/7/25/26	0/2/2/2
41	OMG	L5	2364	41,86	-	2/5/27/28	0/3/3/3
41	PSU	L5	3822	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	4689	41	-	0/7/25/26	0/2/2/2
19	A2M	S2	27	19	-	0/5/27/28	0/3/3/3
19	A2M	S2	484	19	-	0/5/27/28	0/3/3/3
41	OMU	L5	4227	41	-	0/9/27/28	0/2/2/2
19	OMC	S2	517	19	-	0/9/27/28	0/2/2/2
19	A2M	S2	159	19	-	0/5/27/28	0/3/3/3
41	OMG	L5	3744	41	-	0/5/27/28	0/3/3/3
41	OMG	L5	4494	41	-	0/5/27/28	0/3/3/3
41	A2M	L5	398	41	-	1/5/27/28	0/3/3/3
41	UR3	L5	4530	41	-	0/7/25/26	0/2/2/2
19	OMC	S2	174	19	-	0/9/27/28	0/2/2/2
19	A2M	S2	1031	19	-	1/5/27/28	0/3/3/3
41	OMU	L5	3925	41	-	0/9/27/28	0/2/2/2
41	OMG	L5	4618	41	-	2/5/27/28	0/3/3/3
41	OMU	L5	2837	41	-	0/9/27/28	0/2/2/2
19	MA6	S2	1851	19	-	1/7/29/30	0/3/3/3
19	PSU	S2	93	19	-	0/7/25/26	0/2/2/2
19	PSU	S2	686	19	-	0/7/25/26	0/2/2/2
41	OMC	L5	2824	41	-	1/9/27/28	0/2/2/2
41	A2M	L5	3785	41,86	-	2/5/27/28	0/3/3/3
19	PSU	S2	406	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	4673	41,86	-	0/7/25/26	0/2/2/2
19	OMG	S2	1490	19	-	1/5/27/28	0/3/3/3
41	PSU	L5	3884	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	5001	41	-	0/7/25/26	0/2/2/2
41	OMC	L5	1340	41	-	0/9/27/28	0/2/2/2
19	A2M	S2	668	19,86	-	2/5/27/28	0/3/3/3
41	PSU	L5	1536	41	-	2/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	B8N	S2	1248	19	-	4/16/34/35	0/2/2/2
19	6MZ	S2	1832	19,86	-	2/5/27/28	0/3/3/3
41	PSU	L5	3844	41	-	1/7/25/26	0/2/2/2
41	OMG	L5	4392	41	-	0/5/27/28	0/3/3/3
19	PSU	S2	866	19	-	0/7/25/26	0/2/2/2
41	OMG	L5	3899	41	-	2/5/27/28	0/3/3/3
41	OMU	L5	4498	41	-	0/9/27/28	0/2/2/2
19	A2M	S2	576	19	-	4/5/27/28	0/3/3/3
19	PSU	S2	1232	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	1781	41	-	0/7/25/26	0/2/2/2
41	OMG	L5	4196	41,39	-	1/5/27/28	0/3/3/3
41	PSU	L5	1862	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	4353	41	-	0/7/25/26	0/2/2/2
41	OMU	L5	4306	41	-	0/9/27/28	0/2/2/2
41	OMC	L5	4456	41	-	0/9/27/28	0/2/2/2
41	A2M	L5	2401	41	-	0/5/27/28	0/3/3/3
41	OMC	L5	3701	41	-	6/9/27/28	0/2/2/2
41	PSU	L5	4361	41	-	0/7/25/26	0/2/2/2
19	OMC	S2	1391	19	-	0/9/27/28	0/2/2/2
19	PSU	S2	1045	19	-	2/7/25/26	0/2/2/2
41	OMG	L5	4623	41	-	0/5/27/28	0/3/3/3
41	PSU	L5	3920	41,86	-	0/7/25/26	0/2/2/2
41	PSU	L5	1860	41	-	0/7/25/26	0/2/2/2
41	OMC	L5	3808	41	-	0/9/27/28	0/2/2/2
19	OMC	S2	1703	19	-	1/9/27/28	0/2/2/2
19	PSU	S2	1056	19	-	1/7/25/26	0/2/2/2
41	OMC	L5	3869	41	-	0/9/27/28	0/2/2/2
41	OMC	L5	2365	41	-	0/9/27/28	0/2/2/2
41	A2M	L5	4523	41,86	-	1/5/27/28	0/3/3/3
41	PSU	L5	3639	41	-	0/7/25/26	0/2/2/2
41	OMU	L5	4620	41	-	0/9/27/28	0/2/2/2
19	OMC	S2	462	19	-	1/9/27/28	0/2/2/2
41	OMC	L5	2804	41	-	0/9/27/28	0/2/2/2
19	PSU	S2	649	19	-	0/7/25/26	0/2/2/2
41	A2M	L5	3718	41	-	0/5/27/28	0/3/3/3
41	PSU	L5	4471	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	5010	41	-	0/7/25/26	0/2/2/2
41	OMG	L5	4499	41	-	0/5/27/28	0/3/3/3
19	OMG	S2	867	19	-	2/5/27/28	0/3/3/3
41	OMG	L5	1522	41	-	0/5/27/28	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	5MC	L5	3782	41,86	-	2/7/25/26	0/2/2/2
41	PSU	L5	2632	41	-	2/7/25/26	0/2/2/2
41	PSU	L5	3637	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	3851	41	-	0/7/25/26	0/2/2/2
19	PSU	S2	1046	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	4532	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	4500	41	-	3/7/25/26	0/2/2/2
41	PSU	L5	1677	41	-	2/7/25/26	0/2/2/2
41	PSU	L5	1683	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	3853	41,86	-	0/7/25/26	0/2/2/2
19	4AC	S2	1337	19	-	1/11/29/30	0/2/2/2
41	A2M	L5	1871	41,86	-	0/5/27/28	0/3/3/3
41	OMG	L5	2876	41	-	0/5/27/28	0/3/3/3
19	PSU	S2	109	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	4299	41	-	0/7/25/26	0/2/2/2
19	OMU	S2	1442	19	-	2/9/27/28	0/2/2/2
41	PSU	L5	4457	41	-	0/7/25/26	0/2/2/2
19	PSU	S2	1177	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	3695	41	-	0/7/25/26	0/2/2/2
41	A2M	L5	3825	41	-	0/5/27/28	0/3/3/3
19	OMU	S2	627	19	-	0/9/27/28	0/2/2/2
19	OMG	S2	683	19	-	0/5/27/28	0/3/3/3
19	OMG	S2	509	19	-	0/5/27/28	0/3/3/3
41	OMG	L5	2424	41	-	0/5/27/28	0/3/3/3
41	OMG	L5	3792	41	-	2/5/27/28	0/3/3/3
41	A2M	L5	4571	41	-	0/5/27/28	0/3/3/3
41	OMG	L5	4370	41	-	0/5/27/28	0/3/3/3
41	OMG	L5	3627	41	-	0/5/27/28	0/3/3/3
41	OMG	L5	1316	41	-	0/5/27/28	0/3/3/3
19	PSU	S2	1244	19	-	2/7/25/26	0/2/2/2
41	PSU	L5	4431	41	-	0/7/25/26	0/2/2/2
41	A2M	L5	4590	41	-	3/5/27/28	0/3/3/3
41	PSU	L5	4636	41	-	0/7/25/26	0/2/2/2
41	A2M	L5	2787	41	-	2/5/27/28	0/3/3/3
41	PSU	L5	4493	41	-	0/7/25/26	0/2/2/2
41	OMC	L5	4536	41	-	0/9/27/28	0/2/2/2
19	PSU	S2	814	19	-	0/7/25/26	0/2/2/2
41	A2M	L5	1323	41	-	2/5/27/28	0/3/3/3
41	1MA	L5	1322	41,86	-	0/3/25/26	0/3/3/3
19	PSU	S2	1081	19	-	1/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	A2M	L5	1524	41	-	3/5/27/28	0/3/3/3
19	PSU	S2	966	19	-	1/7/25/26	0/2/2/2
19	OMU	S2	172	19	-	0/9/27/28	0/2/2/2
19	OMG	S2	644	19	-	4/5/27/28	0/3/3/3
19	PSU	S2	1367	19	-	0/7/25/26	0/2/2/2
41	PSU	L5	4293	41	-	0/7/25/26	0/2/2/2
19	PSU	S2	681	19	-	0/7/25/26	0/2/2/2
19	A2M	S2	1383	19	-	3/5/27/28	0/3/3/3
43	PSU	L8	69	43	-	0/7/25/26	0/2/2/2
19	OMG	S2	1328	19	-	0/5/27/28	0/3/3/3
19	A2M	S2	468	19	-	1/5/27/28	0/3/3/3
19	MA6	S2	1850	19	-	0/7/29/30	0/3/3/3
19	OMU	S2	354	19	-	0/9/27/28	0/2/2/2
41	A2M	L5	2363	41,86	-	0/5/27/28	0/3/3/3
41	A2M	L5	2815	41	-	2/5/27/28	0/3/3/3
41	UY1	L5	3818	41	-	2/9/27/28	0/2/2/2
41	PSU	L5	4521	41,86	-	0/7/25/26	0/2/2/2
41	A2M	L5	1534	41,86	-	1/5/27/28	0/3/3/3
41	PSU	L5	4579	41	-	0/7/25/26	0/2/2/2
19	PSU	S2	1004	19	-	0/7/25/26	0/2/2/2
19	OMU	S2	799	19	-	2/9/27/28	0/2/2/2
41	OMC	L5	2422	41,86	-	2/9/27/28	0/2/2/2
41	PSU	L5	1744	41,86	-	0/7/25/26	0/2/2/2
19	OMU	S2	428	19	-	6/9/27/28	0/2/2/2
41	A2M	L5	3867	41	-	3/5/27/28	0/3/3/3
43	OMG	L8	75	43	-	2/5/27/28	0/3/3/3
41	PSU	L5	4442	41	-	0/7/25/26	0/2/2/2
19	OMU	S2	1326	19	-	0/9/27/28	0/2/2/2
41	PSU	L5	4628	41	-	0/7/25/26	0/2/2/2
19	A2M	S2	99	19,86	-	2/5/27/28	0/3/3/3
41	OMG	L5	1625	41	-	2/5/27/28	0/3/3/3
19	4AC	S2	1842	19	-	0/11/29/30	0/2/2/2
19	A2M	S2	166	19	-	1/5/27/28	0/3/3/3
41	PSU	L5	4403	41	-	0/7/25/26	0/2/2/2
43	PSU	L8	55	43	-	0/7/25/26	0/2/2/2
19	OMG	S2	601	19	-	0/5/27/28	0/3/3/3
41	6MZ	L5	4220	41	-	2/5/27/28	0/3/3/3
41	PSU	L5	4576	41	-	0/7/25/26	0/2/2/2
41	PSU	L5	1582	41	-	0/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	A2M	L5	400	41	-	1/5/27/28	0/3/3/3
41	A2M	L5	1326	41	-	3/5/27/28	0/3/3/3
41	5MC	L5	4447	41	-	4/7/25/26	0/2/2/2
41	PSU	L5	4973	41	-	0/7/25/26	0/2/2/2
19	OMU	S2	1288	19	-	2/9/27/28	0/2/2/2
41	PSU	L5	2839	41	-	0/7/25/26	0/2/2/2
41	OMG	L5	4228	41	-	0/5/27/28	0/3/3/3
41	A2M	L5	3830	41	-	0/5/27/28	0/3/3/3
19	G7M	S2	1639	19,39	-	0/3/25/26	0/3/3/3
41	OMC	L5	3841	41	-	0/9/27/28	0/2/2/2
41	OMC	L5	3887	41	-	1/9/27/28	0/2/2/2
19	PSU	S2	651	19	-	0/7/25/26	0/2/2/2
19	OMU	S2	116	19	-	0/9/27/28	0/2/2/2
19	PSU	S2	863	19	-	2/7/25/26	0/2/2/2

All (367) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	L5	3818	UY1	C6-C5	12.82	1.49	1.35
41	L5	3818	UY1	C2-N1	11.77	1.52	1.36
19	S2	799	OMU	C2-N1	8.58	1.51	1.38
19	S2	1288	OMU	C2-N1	8.50	1.51	1.38
19	S2	1442	OMU	C2-N1	8.45	1.51	1.38
19	S2	1832	6MZ	C3'-C2'	-8.41	1.30	1.53
19	S2	121	OMU	C2-N1	8.23	1.51	1.38
19	S2	172	OMU	C2-N1	8.21	1.51	1.38
19	S2	1326	OMU	C2-N1	8.17	1.51	1.38
19	S2	428	OMU	C2-N1	8.17	1.51	1.38
19	S2	627	OMU	C2-N1	8.15	1.51	1.38
41	L5	4227	OMU	C2-N1	8.13	1.51	1.38
19	S2	354	OMU	C2-N1	8.10	1.51	1.38
19	S2	116	OMU	C2-N1	8.10	1.51	1.38
41	L5	2837	OMU	C2-N1	8.05	1.51	1.38
41	L5	4306	OMU	C2-N1	8.05	1.51	1.38
41	L5	3925	OMU	C2-N1	8.03	1.51	1.38
41	L5	4498	OMU	C2-N1	8.03	1.51	1.38
41	L5	4620	OMU	C2-N1	7.93	1.50	1.38
19	S2	1850	MA6	C3'-C2'	-7.87	1.32	1.53
19	S2	1248	B8N	C6-N1	7.84	1.55	1.36
41	L5	3818	UY1	C2-N3	7.75	1.50	1.37
19	S2	1248	B8N	C4-N3	-7.67	1.26	1.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1832	6MZ	O4'-C1'	-7.28	1.31	1.40
19	S2	1248	B8N	C4-C5	7.15	1.63	1.47
19	S2	627	OMU	C2-N3	6.93	1.50	1.38
19	S2	1442	OMU	C2-N3	6.93	1.50	1.38
19	S2	799	OMU	C2-N3	6.92	1.50	1.38
19	S2	1288	OMU	C2-N3	6.92	1.50	1.38
19	S2	1326	OMU	C2-N3	6.90	1.50	1.38
19	S2	172	OMU	C2-N3	6.90	1.50	1.38
19	S2	116	OMU	C2-N3	6.88	1.50	1.38
19	S2	428	OMU	C2-N3	6.86	1.49	1.38
19	S2	354	OMU	C2-N3	6.85	1.49	1.38
19	S2	121	OMU	C2-N3	6.84	1.49	1.38
41	L5	4498	OMU	C2-N3	6.76	1.49	1.38
41	L5	4227	OMU	C2-N3	6.74	1.49	1.38
41	L5	4620	OMU	C2-N3	6.73	1.49	1.38
41	L5	2837	OMU	C2-N3	6.72	1.49	1.38
41	L5	3925	OMU	C2-N3	6.69	1.49	1.38
41	L5	4306	OMU	C2-N3	6.64	1.49	1.38
41	L5	4530	UR3	C2-N1	6.43	1.47	1.38
41	L5	4530	UR3	C6-C5	6.25	1.49	1.35
19	S2	1248	B8N	C2-N1	5.96	1.56	1.39
19	S2	1288	OMU	C6-C5	5.94	1.48	1.35
19	S2	627	OMU	C6-C5	5.88	1.48	1.35
19	S2	428	OMU	C6-C5	5.88	1.48	1.35
19	S2	1442	OMU	C6-C5	5.86	1.48	1.35
19	S2	799	OMU	C6-C5	5.84	1.48	1.35
19	S2	172	OMU	C6-C5	5.81	1.48	1.35
19	S2	121	OMU	C6-C5	5.80	1.48	1.35
19	S2	1326	OMU	C6-C5	5.80	1.48	1.35
41	L5	4498	OMU	C6-C5	5.78	1.48	1.35
41	L5	2837	OMU	C6-C5	5.78	1.48	1.35
41	L5	4227	OMU	C6-C5	5.78	1.48	1.35
41	L5	4530	UR3	C2-N3	5.78	1.50	1.39
41	L5	3925	OMU	C6-C5	5.75	1.48	1.35
19	S2	116	OMU	C6-C5	5.75	1.48	1.35
19	S2	354	OMU	C6-C5	5.74	1.48	1.35
41	L5	4306	OMU	C6-C5	5.72	1.48	1.35
41	L5	4620	OMU	C6-C5	5.72	1.48	1.35
19	S2	1850	MA6	O4'-C1'	-5.72	1.33	1.40
41	L5	4620	OMU	O4-C4	-5.60	1.13	1.24
41	L5	4306	OMU	O4-C4	-5.55	1.13	1.24
41	L5	3925	OMU	O4-C4	-5.54	1.13	1.24

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1326	OMU	O4-C4	-5.54	1.13	1.24
41	L5	2837	OMU	O4-C4	-5.53	1.13	1.24
41	L5	4498	OMU	O4-C4	-5.52	1.13	1.24
19	S2	1639	G7M	C2-N3	5.51	1.46	1.33
41	L5	4227	OMU	O4-C4	-5.51	1.13	1.24
19	S2	799	OMU	O4-C4	-5.47	1.13	1.24
19	S2	1442	OMU	O4-C4	-5.46	1.13	1.24
19	S2	354	OMU	O4-C4	-5.44	1.13	1.24
19	S2	1288	OMU	O4-C4	-5.43	1.13	1.24
19	S2	172	OMU	O4-C4	-5.43	1.13	1.24
19	S2	428	OMU	O4-C4	-5.43	1.13	1.24
19	S2	121	OMU	O4-C4	-5.42	1.13	1.24
19	S2	627	OMU	O4-C4	-5.41	1.13	1.24
19	S2	1248	B8N	C6-C5	5.40	1.42	1.35
19	S2	116	OMU	O4-C4	-5.40	1.14	1.24
41	L5	3818	UY1	C6-N1	5.39	1.45	1.36
19	S2	1639	G7M	C4-N3	5.13	1.49	1.37
19	S2	1639	G7M	C2-N2	4.91	1.45	1.34
19	S2	1832	6MZ	O4'-C4'	4.82	1.55	1.45
41	L5	3818	UY1	C4-N3	4.50	1.47	1.38
19	S2	1832	6MZ	C5'-C4'	-4.47	1.38	1.51
19	S2	627	OMU	C4-N3	4.45	1.46	1.38
41	L5	4220	6MZ	C6-C5	-4.44	1.38	1.44
19	S2	1326	OMU	C4-N3	4.42	1.46	1.38
19	S2	428	OMU	C4-N3	4.40	1.46	1.38
19	S2	1288	OMU	C4-N3	4.38	1.46	1.38
19	S2	1442	OMU	C4-N3	4.37	1.46	1.38
19	S2	172	OMU	C4-N3	4.35	1.46	1.38
19	S2	116	OMU	C4-N3	4.33	1.46	1.38
19	S2	799	OMU	C4-N3	4.27	1.45	1.38
41	L5	4227	OMU	C4-N3	4.22	1.45	1.38
19	S2	354	OMU	C4-N3	4.21	1.45	1.38
19	S2	121	OMU	C4-N3	4.19	1.45	1.38
41	L5	4498	OMU	C4-N3	4.17	1.45	1.38
41	L5	2837	OMU	C4-N3	4.15	1.45	1.38
19	S2	1850	MA6	C5'-C4'	-4.14	1.39	1.51
41	L5	4620	OMU	C4-N3	4.09	1.45	1.38
19	S2	1850	MA6	O4'-C4'	4.04	1.54	1.45
41	L5	3925	OMU	C4-N3	4.02	1.45	1.38
41	L5	4306	OMU	C4-N3	3.99	1.45	1.38
19	S2	1832	6MZ	C6-C5	-3.90	1.38	1.44
19	S2	801	PSU	C6-C5	3.85	1.39	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1850	MA6	C6-C5	-3.81	1.39	1.44
19	S2	1232	PSU	C6-C5	3.80	1.39	1.35
19	S2	1367	PSU	C6-C5	3.76	1.39	1.35
19	S2	93	PSU	C6-C5	3.74	1.39	1.35
19	S2	1248	B8N	C1'-C5	3.70	1.58	1.50
19	S2	1046	PSU	C6-C5	3.70	1.39	1.35
41	L5	1860	PSU	C6-C5	3.70	1.39	1.35
19	S2	1639	G7M	C6-N1	3.68	1.43	1.37
19	S2	406	PSU	C6-C5	3.68	1.39	1.35
19	S2	1177	PSU	C6-C5	3.68	1.39	1.35
19	S2	966	PSU	C6-C5	3.66	1.39	1.35
41	L5	5010	PSU	C6-C5	3.66	1.39	1.35
19	S2	1851	MA6	C6-C5	-3.65	1.39	1.44
19	S2	1174	PSU	C6-C5	3.64	1.39	1.35
19	S2	863	PSU	C6-C5	3.63	1.39	1.35
41	L5	4431	PSU	C6-C5	3.62	1.39	1.35
41	L5	3844	PSU	C6-C5	3.62	1.39	1.35
19	S2	1004	PSU	C6-C5	3.61	1.39	1.35
19	S2	866	PSU	C6-C5	3.61	1.39	1.35
19	S2	1081	PSU	C6-C5	3.61	1.39	1.35
19	S2	814	PSU	C6-C5	3.61	1.39	1.35
41	L5	4500	PSU	C6-C5	3.61	1.39	1.35
19	S2	1244	PSU	C6-C5	3.60	1.39	1.35
19	S2	651	PSU	C6-C5	3.60	1.39	1.35
41	L5	3818	UY1	O4-C4	-3.60	1.16	1.23
41	L5	1782	PSU	C6-C5	3.59	1.39	1.35
41	L5	5001	PSU	C6-C5	3.57	1.39	1.35
41	L5	4532	PSU	C6-C5	3.56	1.39	1.35
41	L5	4552	PSU	C6-C5	3.55	1.39	1.35
41	L5	4973	PSU	C6-C5	3.55	1.39	1.35
19	S2	649	PSU	C6-C5	3.55	1.39	1.35
19	S2	109	PSU	C6-C5	3.54	1.39	1.35
19	S2	686	PSU	C6-C5	3.54	1.39	1.35
19	S2	105	PSU	C6-C5	3.53	1.39	1.35
41	L5	1744	PSU	C6-C5	3.52	1.39	1.35
41	L5	4471	PSU	C6-C5	3.52	1.39	1.35
41	L5	4576	PSU	C6-C5	3.52	1.39	1.35
41	L5	4673	PSU	C6-C5	3.51	1.39	1.35
43	L8	55	PSU	C6-C5	3.50	1.39	1.35
41	L5	1862	PSU	C6-C5	3.50	1.39	1.35
41	L5	4299	PSU	C6-C5	3.50	1.39	1.35
41	L5	1683	PSU	C6-C5	3.50	1.39	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1851	MA6	C6-N6	3.50	1.45	1.37
41	L5	3851	PSU	C6-C5	3.49	1.39	1.35
41	L5	3637	PSU	C6-C5	3.48	1.39	1.35
41	L5	4972	PSU	C6-C5	3.47	1.39	1.35
19	S2	1850	MA6	C6-N6	3.47	1.45	1.37
41	L5	3825	A2M	O5'-C5'	-3.47	1.34	1.44
41	L5	1781	PSU	C6-C5	3.47	1.39	1.35
19	S2	1045	PSU	C6-C5	3.46	1.39	1.35
41	L5	4293	PSU	C6-C5	3.46	1.39	1.35
41	L5	4493	PSU	C6-C5	3.45	1.39	1.35
41	L5	3822	PSU	C6-C5	3.44	1.39	1.35
41	L5	4312	PSU	C6-C5	3.44	1.39	1.35
41	L5	3785	A2M	O5'-C5'	-3.43	1.34	1.44
41	L5	4353	PSU	C6-C5	3.43	1.39	1.35
41	L5	3695	PSU	C6-C5	3.43	1.39	1.35
43	L8	69	PSU	C6-C5	3.42	1.39	1.35
41	L5	4579	PSU	C6-C5	3.42	1.39	1.35
41	L5	4296	PSU	C6-C5	3.41	1.39	1.35
41	L5	1582	PSU	C6-C5	3.41	1.39	1.35
41	L5	3884	PSU	C6-C5	3.41	1.39	1.35
41	L5	1536	PSU	C6-C5	3.40	1.39	1.35
41	L5	3830	A2M	O5'-C5'	-3.40	1.34	1.44
41	L5	2401	A2M	O5'-C5'	-3.40	1.34	1.44
41	L5	4689	PSU	C6-C5	3.40	1.39	1.35
19	S2	1056	PSU	C6-C5	3.40	1.39	1.35
41	L5	2839	PSU	C6-C5	3.39	1.39	1.35
41	L5	4361	PSU	C6-C5	3.39	1.39	1.35
41	L5	1326	A2M	O5'-C5'	-3.38	1.34	1.44
41	L5	1792	PSU	C6-C5	3.38	1.39	1.35
41	L5	1524	A2M	O5'-C5'	-3.37	1.34	1.44
41	L5	4521	PSU	C6-C5	3.37	1.39	1.35
41	L5	1323	A2M	O5'-C5'	-3.37	1.34	1.44
41	L5	1871	A2M	O5'-C5'	-3.37	1.34	1.44
19	S2	99	A2M	O5'-C5'	-3.37	1.34	1.44
41	L5	400	A2M	O5'-C5'	-3.36	1.34	1.44
19	S2	1639	G7M	C5-C6	3.36	1.54	1.45
19	S2	668	A2M	O5'-C5'	-3.36	1.34	1.44
41	L5	4571	A2M	O5'-C5'	-3.34	1.34	1.44
41	L5	2815	A2M	O5'-C5'	-3.34	1.34	1.44
41	L5	2363	A2M	O5'-C5'	-3.33	1.34	1.44
41	L5	2632	PSU	C6-C5	3.33	1.39	1.35
41	L5	4636	PSU	C6-C5	3.33	1.39	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	L5	4403	PSU	C6-C5	3.33	1.39	1.35
41	L5	3867	A2M	O5'-C5'	-3.32	1.34	1.44
41	L5	2787	A2M	O5'-C5'	-3.32	1.34	1.44
19	S2	1031	A2M	O5'-C5'	-3.32	1.34	1.44
41	L5	3853	PSU	C6-C5	3.31	1.39	1.35
41	L5	3639	PSU	C6-C5	3.31	1.39	1.35
19	S2	576	A2M	O5'-C5'	-3.31	1.34	1.44
19	S2	1383	A2M	O5'-C5'	-3.29	1.34	1.44
41	L5	3718	A2M	O5'-C5'	-3.29	1.34	1.44
41	L5	3818	UY1	O2-C2	-3.29	1.16	1.23
41	L5	4590	A2M	O5'-C5'	-3.28	1.34	1.44
19	S2	681	PSU	C6-C5	3.28	1.38	1.35
41	L5	4628	PSU	C6-C5	3.28	1.38	1.35
19	S2	27	A2M	O5'-C5'	-3.27	1.34	1.44
19	S2	468	A2M	O5'-C5'	-3.26	1.34	1.44
19	S2	166	A2M	O5'-C5'	-3.26	1.34	1.44
41	L5	4442	PSU	C6-C5	3.25	1.38	1.35
41	L5	4457	PSU	C6-C5	3.25	1.38	1.35
41	L5	3920	PSU	C6-C5	3.24	1.38	1.35
43	L8	75	OMG	C8-N7	-3.23	1.29	1.34
41	L5	3792	OMG	C8-N7	-3.22	1.29	1.34
41	L5	3818	UY1	C1'-C5	3.21	1.57	1.50
19	S2	484	A2M	O5'-C5'	-3.21	1.34	1.44
41	L5	4523	A2M	O5'-C5'	-3.20	1.34	1.44
41	L5	398	A2M	O5'-C5'	-3.18	1.34	1.44
41	L5	4494	OMG	C8-N7	-3.15	1.29	1.34
41	L5	1625	OMG	C8-N7	-3.13	1.29	1.34
41	L5	2876	OMG	C8-N7	-3.13	1.29	1.34
41	L5	4392	OMG	C8-N7	-3.12	1.30	1.34
41	L5	1677	PSU	C6-C5	3.12	1.38	1.35
19	S2	159	A2M	O5'-C5'	-3.11	1.35	1.44
41	L5	1316	OMG	C8-N7	-3.09	1.30	1.34
41	L5	4196	OMG	C8-N7	-3.07	1.30	1.34
41	L5	1534	A2M	O5'-C5'	-3.06	1.35	1.44
19	S2	1490	OMG	C8-N7	-3.06	1.30	1.34
41	L5	2364	OMG	C8-N7	-3.05	1.30	1.34
41	L5	3899	OMG	C8-N7	-3.04	1.30	1.34
41	L5	4499	OMG	C8-N7	-3.04	1.30	1.34
41	L5	4370	OMG	C8-N7	-3.04	1.30	1.34
41	L5	4618	OMG	C8-N7	-3.03	1.30	1.34
19	S2	601	OMG	C8-N7	-3.02	1.30	1.34
41	L5	2424	OMG	C8-N7	-3.01	1.30	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	L5	4637	OMG	C8-N7	-3.00	1.30	1.34
41	L5	1522	OMG	C8-N7	-2.96	1.30	1.34
19	S2	867	OMG	C8-N7	-2.95	1.30	1.34
19	S2	683	OMG	C8-N7	-2.93	1.30	1.34
41	L5	3744	OMG	C8-N7	-2.92	1.30	1.34
41	L5	4623	OMG	C8-N7	-2.90	1.30	1.34
19	S2	644	OMG	C8-N7	-2.90	1.30	1.34
19	S2	1850	MA6	O3'-C3'	2.90	1.50	1.43
19	S2	436	OMG	C8-N7	-2.89	1.30	1.34
19	S2	428	OMU	C5-C4	2.88	1.50	1.43
41	L5	3627	OMG	C8-N7	-2.88	1.30	1.34
19	S2	1288	OMU	C5-C4	2.87	1.49	1.43
19	S2	172	OMU	C5-C4	2.84	1.49	1.43
19	S2	1326	OMU	C5-C4	2.84	1.49	1.43
19	S2	1442	OMU	C5-C4	2.84	1.49	1.43
19	S2	509	OMG	C8-N7	-2.84	1.30	1.34
19	S2	1328	OMG	C8-N7	-2.84	1.30	1.34
19	S2	627	OMU	C5-C4	2.82	1.49	1.43
19	S2	1639	G7M	C2-N1	2.79	1.44	1.37
43	L8	75	OMG	C5-C6	-2.78	1.41	1.47
19	S2	799	OMU	C5-C4	2.76	1.49	1.43
19	S2	121	OMU	C6-N1	2.75	1.44	1.38
19	S2	121	OMU	C5-C4	2.74	1.49	1.43
41	L5	4227	OMU	C5-C4	2.73	1.49	1.43
19	S2	1288	OMU	C6-N1	2.73	1.44	1.38
41	L5	1316	OMG	C5-C6	-2.72	1.42	1.47
41	L5	4498	OMU	C5-C4	2.72	1.49	1.43
19	S2	354	OMU	C6-N1	2.72	1.44	1.38
41	L5	4228	OMG	C8-N7	-2.71	1.30	1.34
41	L5	2837	OMU	C5-C4	2.71	1.49	1.43
19	S2	1490	OMG	C5-C6	-2.71	1.42	1.47
41	L5	2837	OMU	C6-N1	2.70	1.44	1.38
41	L5	3792	OMG	C5-C6	-2.70	1.42	1.47
41	L5	4494	OMG	C5-C6	-2.70	1.42	1.47
19	S2	354	OMU	C5-C4	2.70	1.49	1.43
41	L5	1625	OMG	C5-C6	-2.69	1.42	1.47
41	L5	4370	OMG	C5-C6	-2.69	1.42	1.47
19	S2	601	OMG	C5-C6	-2.69	1.42	1.47
19	S2	799	OMU	C6-N1	2.69	1.44	1.38
19	S2	116	OMU	C5-C4	2.68	1.49	1.43
19	S2	1832	6MZ	O3'-C3'	2.68	1.49	1.43
19	S2	1442	OMU	C6-N1	2.68	1.44	1.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	L5	2424	OMG	C5-C6	-2.67	1.42	1.47
19	S2	1326	OMU	C6-N1	2.66	1.44	1.38
41	L5	4530	UR3	O2-C2	-2.66	1.17	1.22
41	L5	3925	OMU	C5-C4	2.65	1.49	1.43
41	L5	4523	A2M	C1'-N9	-2.65	1.43	1.49
19	S2	428	OMU	C6-N1	2.64	1.44	1.38
41	L5	3899	OMG	C5-C6	-2.64	1.42	1.47
41	L5	1522	OMG	C5-C6	-2.63	1.42	1.47
41	L5	1871	A2M	C1'-N9	-2.62	1.43	1.49
41	L5	4498	OMU	C6-N1	2.62	1.44	1.38
41	L5	3627	OMG	C5-C6	-2.62	1.42	1.47
41	L5	4196	OMG	C5-C6	-2.62	1.42	1.47
41	L5	4620	OMU	C6-N1	2.61	1.44	1.38
19	S2	116	OMU	C6-N1	2.61	1.44	1.38
41	L5	4618	OMG	C5-C6	-2.61	1.42	1.47
19	S2	627	OMU	C6-N1	2.60	1.44	1.38
41	L5	4306	OMU	C6-N1	2.60	1.44	1.38
19	S2	867	OMG	C5-C6	-2.60	1.42	1.47
41	L5	1322	1MA	C8-N7	-2.59	1.30	1.34
41	L5	2364	OMG	C5-C6	-2.59	1.42	1.47
41	L5	4499	OMG	C5-C6	-2.58	1.42	1.47
41	L5	4227	OMU	C6-N1	2.58	1.44	1.38
41	L5	2401	A2M	C1'-N9	-2.58	1.43	1.49
41	L5	4228	OMG	C5-C6	-2.57	1.42	1.47
41	L5	4620	OMU	C5-C4	2.56	1.49	1.43
41	L5	2876	OMG	C5-C6	-2.56	1.42	1.47
41	L5	4306	OMU	C5-C4	2.56	1.49	1.43
41	L5	4637	OMG	C5-C6	-2.56	1.42	1.47
41	L5	4392	OMG	C5-C6	-2.55	1.42	1.47
41	L5	2787	A2M	C1'-N9	-2.55	1.43	1.49
19	S2	172	OMU	C6-N1	2.54	1.44	1.38
41	L5	3830	A2M	C1'-N9	-2.54	1.43	1.49
41	L5	4530	UR3	C6-N1	2.54	1.44	1.38
19	S2	1850	MA6	C1'-N9	-2.54	1.43	1.49
41	L5	3744	OMG	C5-C6	-2.53	1.42	1.47
41	L5	3925	OMU	C6-N1	2.53	1.44	1.38
41	L5	4623	OMG	C5-C6	-2.51	1.42	1.47
19	S2	1328	OMG	C5-C6	-2.50	1.42	1.47
41	L5	1322	1MA	C5-C4	-2.49	1.36	1.43
19	S2	644	OMG	C5-C6	-2.49	1.42	1.47
19	S2	1850	MA6	C2-N3	2.48	1.35	1.32
19	S2	1031	A2M	C1'-N9	-2.46	1.43	1.49

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	683	OMG	C5-C6	-2.46	1.42	1.47
19	S2	1383	A2M	C1'-N9	-2.45	1.43	1.49
19	S2	1851	MA6	C2-N3	2.44	1.35	1.32
19	S2	509	OMG	C5-C6	-2.44	1.42	1.47
19	S2	436	OMG	C5-C6	-2.41	1.42	1.47
41	L5	1323	A2M	O4'-C4'	-2.41	1.39	1.45
41	L5	3785	A2M	C1'-N9	-2.39	1.44	1.49
19	S2	99	A2M	C1'-N9	-2.36	1.44	1.49
41	L5	3825	A2M	C1'-N9	-2.34	1.44	1.49
41	L5	1524	A2M	O4'-C4'	-2.32	1.39	1.45
19	S2	668	A2M	O4'-C4'	-2.31	1.39	1.45
41	L5	1534	A2M	C1'-N9	-2.29	1.44	1.49
19	S2	576	A2M	C1'-N9	-2.27	1.44	1.49
41	L5	4571	A2M	C1'-N9	-2.27	1.44	1.49
41	L5	398	A2M	C1'-N9	-2.26	1.44	1.49
19	S2	27	A2M	C1'-N9	-2.26	1.44	1.49
41	L5	1524	A2M	C1'-N9	-2.25	1.44	1.49
19	S2	468	A2M	C1'-N9	-2.24	1.44	1.49
41	L5	4590	A2M	C1'-N9	-2.23	1.44	1.49
41	L5	400	A2M	C1'-N9	-2.23	1.44	1.49
41	L5	2363	A2M	O4'-C4'	-2.23	1.40	1.45
41	L5	1326	A2M	C1'-N9	-2.22	1.44	1.49
41	L5	4530	UR3	C5-C4	2.22	1.49	1.43
19	S2	166	A2M	C1'-N9	-2.22	1.44	1.49
41	L5	1323	A2M	C1'-N9	-2.21	1.44	1.49
41	L5	4228	OMG	C5-C4	-2.17	1.37	1.43
41	L5	1323	A2M	O3'-C3'	-2.17	1.37	1.43
41	L5	2363	A2M	C1'-N9	-2.17	1.44	1.49
41	L5	3718	A2M	C1'-N9	-2.15	1.44	1.49
41	L5	4530	UR3	C3U-N3	2.14	1.50	1.47
41	L5	4571	A2M	O4'-C4'	-2.13	1.40	1.45
41	L5	1316	OMG	C5-C4	-2.12	1.37	1.43
19	S2	668	A2M	C1'-N9	-2.11	1.44	1.49
19	S2	1832	6MZ	C2-N3	2.11	1.35	1.32
41	L5	1677	PSU	O4'-C1'	-2.10	1.40	1.43
41	L5	1522	OMG	C5-C4	-2.10	1.37	1.43
41	L5	3884	PSU	C4-C5	-2.09	1.38	1.44
41	L5	3627	OMG	C5-C4	-2.09	1.38	1.43
41	L5	3818	UY1	C4-C5	2.09	1.50	1.44
41	L5	3867	A2M	C1'-N9	-2.09	1.44	1.49
41	L5	2839	PSU	C4-C5	-2.09	1.38	1.44
41	L5	4689	PSU	C4-C5	-2.07	1.38	1.44

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	L5	4370	OMG	C5-C4	-2.07	1.38	1.43
41	L5	4392	OMG	C5-C4	-2.07	1.38	1.43
41	L5	2364	OMG	C5-C4	-2.05	1.38	1.43
19	S2	159	A2M	C1'-N9	-2.03	1.44	1.49
41	L5	4552	PSU	C4-C5	-2.02	1.38	1.44
41	L5	2424	OMG	C5-C4	-2.01	1.38	1.43
41	L5	400	A2M	O4'-C4'	-2.01	1.40	1.45
41	L5	4636	PSU	C4-C5	-2.00	1.38	1.44

All (634) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1851	MA6	N1-C6-N6	-12.85	101.98	116.83
19	S2	1850	MA6	N1-C6-N6	-11.99	102.97	116.83
41	L5	1524	A2M	C4'-O4'-C1'	-7.39	103.16	109.92
19	S2	1832	6MZ	N3-C2-N1	-6.50	119.86	128.67
41	L5	4220	6MZ	N3-C2-N1	-6.49	119.86	128.67
19	S2	1851	MA6	N3-C2-N1	-6.45	119.91	128.67
19	S2	1850	MA6	N3-C2-N1	-6.20	120.25	128.67
41	L5	3785	A2M	C4'-O4'-C1'	-6.13	104.31	109.92
19	S2	172	OMU	C4-N3-C2	-5.76	119.47	126.61
19	S2	428	OMU	C4-N3-C2	-5.75	119.47	126.61
41	L5	4498	OMU	C4-N3-C2	-5.74	119.49	126.61
41	L5	2837	OMU	C4-N3-C2	-5.71	119.52	126.61
19	S2	627	OMU	C4-N3-C2	-5.67	119.58	126.61
19	S2	1442	OMU	C4-N3-C2	-5.63	119.62	126.61
19	S2	1326	OMU	C4-N3-C2	-5.63	119.63	126.61
41	L5	3925	OMU	C4-N3-C2	-5.58	119.69	126.61
19	S2	799	OMU	C4-N3-C2	-5.56	119.70	126.61
19	S2	1383	A2M	C4'-O4'-C1'	-5.55	104.84	109.92
41	L5	4227	OMU	C4-N3-C2	-5.49	119.80	126.61
41	L5	4530	UR3	C4-N3-C2	-5.47	120.18	124.58
19	S2	1288	OMU	C4-N3-C2	-5.47	119.83	126.61
19	S2	1248	B8N	C5-C4-N3	5.31	125.80	116.15
41	L5	3637	PSU	N1-C2-N3	5.31	120.77	115.17
19	S2	354	OMU	C4-N3-C2	-5.27	120.07	126.61
41	L5	1871	A2M	C4'-O4'-C1'	-5.24	105.13	109.92
41	L5	3701	OMC	C1'-N1-C2	5.23	129.99	118.44
41	L5	4636	PSU	C4-N3-C2	-5.19	119.22	126.37
41	L5	4306	OMU	C4-N3-C2	-5.14	120.23	126.61
41	L5	1677	PSU	C4-N3-C2	-5.13	119.30	126.37
19	S2	121	OMU	C4-N3-C2	-5.10	120.28	126.61

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	4636	PSU	N1-C2-N3	5.09	120.54	115.17
41	L5	3830	A2M	C4'-O4'-C1'	-5.01	105.34	109.92
41	L5	4620	OMU	C4-N3-C2	-5.00	120.41	126.61
41	L5	4500	PSU	N1-C2-N3	4.99	120.44	115.17
19	S2	468	A2M	C4'-O4'-C1'	-4.98	105.37	109.92
41	L5	4293	PSU	C4-N3-C2	-4.97	119.52	126.37
41	L5	4457	PSU	C4-N3-C2	-4.95	119.55	126.37
19	S2	1081	PSU	C4-N3-C2	-4.93	119.58	126.37
41	L5	3637	PSU	C4-N3-C2	-4.92	119.59	126.37
41	L5	3818	UY1	C4-N3-C2	-4.91	119.60	126.37
41	L5	4457	PSU	N1-C2-N3	4.91	120.35	115.17
19	S2	105	PSU	N1-C2-N3	4.91	120.34	115.17
41	L5	4552	PSU	N1-C2-N3	4.91	120.34	115.17
41	L5	4532	PSU	N1-C2-N3	4.90	120.34	115.17
41	L5	4973	PSU	N1-C2-N3	4.90	120.33	115.17
41	L5	4296	PSU	C4-N3-C2	-4.89	119.64	126.37
41	L5	1862	PSU	N1-C2-N3	4.89	120.32	115.17
19	S2	651	PSU	C4-N3-C2	-4.89	119.64	126.37
41	L5	4521	PSU	N1-C2-N3	4.88	120.31	115.17
19	S2	116	OMU	C4-N3-C2	-4.88	120.56	126.61
19	S2	1244	PSU	C4-N3-C2	-4.87	119.66	126.37
19	S2	651	PSU	N1-C2-N3	4.87	120.30	115.17
41	L5	1862	PSU	C4-N3-C2	-4.87	119.67	126.37
41	L5	3920	PSU	N1-C2-N3	4.86	120.30	115.17
41	L5	2632	PSU	N1-C2-N3	4.86	120.29	115.17
19	S2	866	PSU	C4-N3-C2	-4.86	119.68	126.37
41	L5	4521	PSU	C4-N3-C2	-4.86	119.68	126.37
41	L5	4442	PSU	N1-C2-N3	4.86	120.29	115.17
41	L5	1683	PSU	N1-C2-N3	4.86	120.29	115.17
19	S2	966	PSU	C4-N3-C2	-4.84	119.70	126.37
41	L5	4353	PSU	C4-N3-C2	-4.84	119.70	126.37
41	L5	4431	PSU	N1-C2-N3	4.84	120.27	115.17
41	L5	398	A2M	C4'-O4'-C1'	-4.83	105.50	109.92
19	S2	686	PSU	C4-N3-C2	-4.83	119.71	126.37
41	L5	4442	PSU	C4-N3-C2	-4.83	119.72	126.37
19	S2	1248	B8N	C4-N3-C2	-4.83	119.67	125.62
41	L5	3695	PSU	N1-C2-N3	4.83	120.26	115.17
19	S2	109	PSU	C4-N3-C2	-4.82	119.73	126.37
41	L5	4552	PSU	C4-N3-C2	-4.82	119.73	126.37
19	S2	166	A2M	C4'-O4'-C1'	-4.82	105.52	109.92
41	L5	4500	PSU	C4-N3-C2	-4.82	119.74	126.37
41	L5	1677	PSU	N1-C2-N3	4.82	120.25	115.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	4471	PSU	N1-C2-N3	4.81	120.25	115.17
43	L8	69	PSU	N1-C2-N3	4.81	120.25	115.17
19	S2	1045	PSU	C4-N3-C2	-4.81	119.74	126.37
41	L5	4973	PSU	C4-N3-C2	-4.81	119.74	126.37
19	S2	1232	PSU	C4-N3-C2	-4.81	119.75	126.37
19	S2	1244	PSU	N1-C2-N3	4.81	120.24	115.17
41	L5	4523	A2M	C4'-O4'-C1'	-4.80	105.53	109.92
41	L5	2632	PSU	C4-N3-C2	-4.80	119.76	126.37
19	S2	1232	PSU	N1-C2-N3	4.80	120.23	115.17
41	L5	3695	PSU	C4-N3-C2	-4.80	119.76	126.37
41	L5	4576	PSU	N1-C2-N3	4.79	120.22	115.17
41	L5	4353	PSU	N1-C2-N3	4.79	120.22	115.17
19	S2	1367	PSU	N1-C2-N3	4.79	120.22	115.17
41	L5	3639	PSU	N1-C2-N3	4.78	120.21	115.17
19	S2	1177	PSU	C4-N3-C2	-4.78	119.78	126.37
19	S2	1081	PSU	N1-C2-N3	4.77	120.20	115.17
41	L5	1536	PSU	N1-C2-N3	4.77	120.20	115.17
41	L5	3822	PSU	N1-C2-N3	4.77	120.20	115.17
41	L5	4312	PSU	N1-C2-N3	4.77	120.20	115.17
41	L5	4431	PSU	C4-N3-C2	-4.76	119.81	126.37
41	L5	4293	PSU	N1-C2-N3	4.76	120.19	115.17
41	L5	4493	PSU	N1-C2-N3	4.76	120.19	115.17
41	L5	4296	PSU	N1-C2-N3	4.76	120.19	115.17
19	S2	1056	PSU	N1-C2-N3	4.76	120.19	115.17
19	S2	866	PSU	N1-C2-N3	4.76	120.19	115.17
19	S2	863	PSU	N1-C2-N3	4.76	120.18	115.17
41	L5	1683	PSU	C4-N3-C2	-4.76	119.82	126.37
41	L5	3884	PSU	N1-C2-N3	4.75	120.18	115.17
41	L5	4972	PSU	N1-C2-N3	4.75	120.18	115.17
41	L5	1781	PSU	N1-C2-N3	4.75	120.18	115.17
19	S2	966	PSU	N1-C2-N3	4.75	120.18	115.17
41	L5	3920	PSU	C4-N3-C2	-4.74	119.84	126.37
41	L5	4590	A2M	C4'-O4'-C1'	-4.74	105.58	109.92
41	L5	4493	PSU	C4-N3-C2	-4.74	119.84	126.37
41	L5	1744	PSU	N1-C2-N3	4.74	120.16	115.17
41	L5	4403	PSU	N1-C2-N3	4.73	120.15	115.17
19	S2	1177	PSU	N1-C2-N3	4.73	120.15	115.17
19	S2	863	PSU	C4-N3-C2	-4.72	119.87	126.37
41	L5	4361	PSU	C4-N3-C2	-4.72	119.88	126.37
41	L5	5010	PSU	N1-C2-N3	4.71	120.14	115.17
19	S2	1174	PSU	C4-N3-C2	-4.71	119.88	126.37
41	L5	4532	PSU	C4-N3-C2	-4.71	119.89	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1367	PSU	C4-N3-C2	-4.70	119.89	126.37
19	S2	1046	PSU	N1-C2-N3	4.70	120.13	115.17
19	S2	109	PSU	N1-C2-N3	4.70	120.12	115.17
41	L5	4312	PSU	C4-N3-C2	-4.70	119.90	126.37
41	L5	1860	PSU	N1-C2-N3	4.70	120.12	115.17
41	L5	3851	PSU	N1-C2-N3	4.69	120.12	115.17
41	L5	4579	PSU	N1-C2-N3	4.69	120.11	115.17
19	S2	686	PSU	N1-C2-N3	4.69	120.11	115.17
43	L8	69	PSU	C4-N3-C2	-4.69	119.92	126.37
41	L5	4972	PSU	C4-N3-C2	-4.68	119.92	126.37
41	L5	4673	PSU	N1-C2-N3	4.68	120.11	115.17
41	L5	3853	PSU	N1-C2-N3	4.68	120.11	115.17
19	S2	406	PSU	N1-C2-N3	4.68	120.10	115.17
19	S2	105	PSU	C4-N3-C2	-4.68	119.93	126.37
19	S2	1056	PSU	C4-N3-C2	-4.67	119.93	126.37
41	L5	3822	PSU	C4-N3-C2	-4.67	119.94	126.37
19	S2	814	PSU	C4-N3-C2	-4.67	119.94	126.37
19	S2	1174	PSU	N1-C2-N3	4.67	120.09	115.17
41	L5	4471	PSU	C4-N3-C2	-4.66	119.95	126.37
41	L5	3825	A2M	C4'-O4'-C1'	-4.66	105.66	109.92
41	L5	4403	PSU	C4-N3-C2	-4.65	119.96	126.37
41	L5	5010	PSU	C4-N3-C2	-4.65	119.96	126.37
41	L5	2839	PSU	N1-C2-N3	4.65	120.08	115.17
19	S2	681	PSU	N1-C2-N3	4.65	120.07	115.17
19	S2	99	A2M	C4'-O4'-C1'	-4.65	105.67	109.92
19	S2	1004	PSU	N1-C2-N3	4.65	120.07	115.17
19	S2	649	PSU	N1-C2-N3	4.64	120.06	115.17
19	S2	801	PSU	N1-C2-N3	4.64	120.06	115.17
41	L5	5001	PSU	N1-C2-N3	4.64	120.06	115.17
41	L5	3884	PSU	C4-N3-C2	-4.64	119.98	126.37
41	L5	1744	PSU	C4-N3-C2	-4.64	119.99	126.37
41	L5	3639	PSU	C4-N3-C2	-4.63	119.99	126.37
41	L5	4576	PSU	C4-N3-C2	-4.63	119.99	126.37
41	L5	4673	PSU	C4-N3-C2	-4.63	119.99	126.37
41	L5	1782	PSU	N1-C2-N3	4.63	120.06	115.17
41	L5	1792	PSU	C4-N3-C2	-4.63	119.99	126.37
19	S2	1045	PSU	N1-C2-N3	4.63	120.05	115.17
41	L5	1792	PSU	N1-C2-N3	4.62	120.05	115.17
41	L5	3851	PSU	C4-N3-C2	-4.62	120.00	126.37
41	L5	1536	PSU	C4-N3-C2	-4.60	120.03	126.37
19	S2	1046	PSU	C4-N3-C2	-4.60	120.03	126.37
41	L5	1781	PSU	C4-N3-C2	-4.60	120.03	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	4579	PSU	C4-N3-C2	-4.59	120.05	126.37
41	L5	4628	PSU	N1-C2-N3	4.59	120.01	115.17
41	L5	4299	PSU	C4-N3-C2	-4.58	120.06	126.37
19	S2	93	PSU	N1-C2-N3	4.58	120.00	115.17
41	L5	4689	PSU	N1-C2-N3	4.58	120.00	115.17
41	L5	1782	PSU	C4-N3-C2	-4.58	120.06	126.37
19	S2	93	PSU	C4-N3-C2	-4.57	120.07	126.37
43	L8	55	PSU	N1-C2-N3	4.57	119.99	115.17
19	S2	814	PSU	N1-C2-N3	4.57	119.99	115.17
41	L5	4361	PSU	N1-C2-N3	4.57	119.99	115.17
19	S2	1832	6MZ	C2-N1-C6	4.56	120.14	116.60
41	L5	5001	PSU	C4-N3-C2	-4.56	120.09	126.37
41	L5	3853	PSU	C4-N3-C2	-4.55	120.10	126.37
41	L5	1860	PSU	C4-N3-C2	-4.55	120.11	126.37
41	L5	3844	PSU	N1-C2-N3	4.54	119.96	115.17
19	S2	801	PSU	C4-N3-C2	-4.54	120.11	126.37
19	S2	406	PSU	C4-N3-C2	-4.54	120.12	126.37
41	L5	4299	PSU	N1-C2-N3	4.53	119.95	115.17
41	L5	1582	PSU	C4-N3-C2	-4.50	120.17	126.37
43	L8	55	PSU	C4-N3-C2	-4.49	120.18	126.37
41	L5	4628	PSU	C4-N3-C2	-4.48	120.20	126.37
19	S2	681	PSU	C4-N3-C2	-4.48	120.20	126.37
41	L5	4220	6MZ	C9-N6-C6	-4.46	118.71	122.85
19	S2	649	PSU	C4-N3-C2	-4.45	120.24	126.37
19	S2	1004	PSU	C4-N3-C2	-4.44	120.25	126.37
19	S2	1383	A2M	C3'-C2'-C1'	-4.43	94.32	102.81
19	S2	576	A2M	C4'-O4'-C1'	-4.41	105.89	109.92
41	L5	2401	A2M	C4'-O4'-C1'	-4.41	105.89	109.92
41	L5	3818	UY1	N1-C2-N3	4.40	119.81	115.17
41	L5	3718	A2M	C4'-O4'-C1'	-4.37	105.92	109.92
41	L5	1582	PSU	N1-C2-N3	4.37	119.77	115.17
41	L5	3844	PSU	C4-N3-C2	-4.31	120.44	126.37
19	S2	1031	A2M	C4'-O4'-C1'	-4.30	105.99	109.92
41	L5	2839	PSU	C4-N3-C2	-4.28	120.47	126.37
41	L5	3701	OMC	C1'-N1-C6	-4.18	111.84	120.78
19	S2	27	A2M	C4'-O4'-C1'	-4.18	106.10	109.92
41	L5	4220	6MZ	C2-N1-C6	4.17	119.84	116.60
41	L5	1871	A2M	C3'-C2'-C1'	-4.10	94.96	102.81
41	L5	2837	OMU	N3-C2-N1	4.07	120.19	114.89
41	L5	4498	OMU	N3-C2-N1	4.03	120.13	114.89
41	L5	4689	PSU	C4-N3-C2	-4.00	120.86	126.37
19	S2	668	A2M	C1'-N9-C4	-3.99	119.64	126.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	398	A2M	C3'-C2'-C1'	-3.98	95.19	102.81
41	L5	3830	A2M	C3'-C2'-C1'	-3.98	95.19	102.81
19	S2	668	A2M	C4'-O4'-C1'	-3.96	106.30	109.92
41	L5	2401	A2M	C1'-N9-C4	-3.94	119.72	126.64
19	S2	1248	B8N	C1'-C5-C4	3.93	123.56	117.61
19	S2	468	A2M	C1'-N9-C4	-3.91	119.77	126.64
41	L5	4590	A2M	C1'-N9-C4	-3.87	119.83	126.64
19	S2	99	A2M	C1'-N9-C4	-3.86	119.86	126.64
19	S2	172	OMU	N3-C2-N1	3.85	119.90	114.89
41	L5	3925	OMU	N3-C2-N1	3.84	119.88	114.89
19	S2	121	OMU	N3-C2-N1	3.83	119.88	114.89
19	S2	428	OMU	N3-C2-N1	3.83	119.88	114.89
19	S2	354	OMU	N3-C2-N1	3.83	119.87	114.89
19	S2	1851	MA6	C2-N1-C6	3.82	120.59	116.84
41	L5	1323	A2M	C4'-O4'-C1'	-3.82	106.42	109.92
19	S2	1442	OMU	N3-C2-N1	3.81	119.85	114.89
19	S2	159	A2M	C1'-N9-C4	-3.80	119.96	126.64
41	L5	4227	OMU	N3-C2-N1	3.79	119.82	114.89
19	S2	1383	A2M	O3'-C3'-C2'	3.79	121.78	111.19
41	L5	1534	A2M	C4'-O4'-C1'	-3.77	106.47	109.92
19	S2	799	OMU	C5-C4-N3	3.75	120.06	114.80
19	S2	627	OMU	N3-C2-N1	3.75	119.78	114.89
41	L5	4306	OMU	N3-C2-N1	3.75	119.78	114.89
19	S2	1383	A2M	C1'-N9-C4	-3.74	120.06	126.64
41	L5	2363	A2M	C4'-O4'-C1'	-3.74	106.50	109.92
19	S2	1326	OMU	N3-C2-N1	3.73	119.74	114.89
19	S2	428	OMU	C5-C4-N3	3.72	120.01	114.80
19	S2	799	OMU	N3-C2-N1	3.72	119.73	114.89
19	S2	1326	OMU	C5-C4-N3	3.70	119.99	114.80
19	S2	1031	A2M	C1'-N9-C4	-3.70	120.14	126.64
19	S2	1288	OMU	N3-C2-N1	3.70	119.70	114.89
19	S2	1442	OMU	C5-C4-N3	3.69	119.97	114.80
41	L5	4523	A2M	C1'-N9-C4	-3.69	120.16	126.64
19	S2	1832	6MZ	C4'-O4'-C1'	-3.68	106.55	109.92
41	L5	4620	OMU	N3-C2-N1	3.67	119.67	114.89
41	L5	4590	A2M	C3'-C2'-C1'	-3.67	95.77	102.81
41	L5	4498	OMU	C5-C4-N3	3.67	119.94	114.80
19	S2	166	A2M	C1'-N9-C4	-3.66	120.20	126.64
19	S2	1288	OMU	C5-C4-N3	3.66	119.92	114.80
41	L5	400	A2M	C4'-O4'-C1'	-3.66	106.58	109.92
41	L5	398	A2M	C1'-N9-C4	-3.64	120.24	126.64
19	S2	627	OMU	C5-C4-N3	3.64	119.90	114.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	3925	OMU	C5-C4-N3	3.63	119.89	114.80
41	L5	4530	UR3	C5-C4-N3	3.61	119.80	115.04
41	L5	2837	OMU	C5-C4-N3	3.61	119.86	114.80
19	S2	99	A2M	C3'-C2'-C1'	-3.61	95.90	102.81
19	S2	27	A2M	C1'-N9-C4	-3.60	120.31	126.64
41	L5	3830	A2M	C1'-N9-C4	-3.59	120.34	126.64
19	S2	172	OMU	C5-C4-N3	3.57	119.81	114.80
19	S2	116	OMU	N3-C2-N1	3.57	119.54	114.89
41	L5	3825	A2M	C3'-C2'-C1'	-3.57	95.98	102.81
19	S2	1850	MA6	C2-N1-C6	3.57	120.34	116.84
41	L5	4571	A2M	C1'-N9-C4	-3.56	120.39	126.64
41	L5	4227	OMU	C5-C4-N3	3.55	119.78	114.80
41	L5	4689	PSU	C6-N1-C2	-3.55	119.39	122.69
41	L5	398	A2M	O3'-C3'-C2'	3.54	121.09	111.19
41	L5	1871	A2M	C1'-N9-C4	-3.53	120.44	126.64
41	L5	3785	A2M	C1'-N9-C4	-3.52	120.46	126.64
19	S2	576	A2M	C3'-C2'-C1'	-3.52	96.07	102.81
19	S2	1248	B8N	N3-C2-N1	3.50	121.00	116.72
19	S2	354	OMU	C5-C4-N3	3.48	119.67	114.80
41	L5	4571	A2M	C4'-O4'-C1'	-3.46	106.76	109.92
41	L5	4306	OMU	C5-C4-N3	3.44	119.62	114.80
41	L5	400	A2M	C1'-N9-C4	-3.44	120.60	126.64
41	L5	3718	A2M	C3'-C2'-C1'	-3.44	96.23	102.81
41	L5	3825	A2M	C1'-N9-C4	-3.43	120.62	126.64
19	S2	484	A2M	C1'-N9-C4	-3.41	120.65	126.64
19	S2	468	A2M	C3'-C2'-C1'	-3.40	96.30	102.81
41	L5	4523	A2M	C3'-C2'-C1'	-3.39	96.32	102.81
19	S2	166	A2M	C3'-C2'-C1'	-3.38	96.33	102.81
41	L5	3818	UY1	C6-C5-C4	3.38	120.45	118.17
41	L5	4620	OMU	C5-C4-N3	3.38	119.53	114.80
19	S2	1850	MA6	C4'-O4'-C1'	-3.37	106.84	109.92
41	L5	3718	A2M	C1'-N9-C4	-3.37	120.72	126.64
41	L5	2787	A2M	O3'-C3'-C2'	3.37	120.61	111.19
19	S2	99	A2M	O3'-C3'-C2'	3.37	120.61	111.19
41	L5	2401	A2M	C3'-C2'-C1'	-3.33	96.42	102.81
19	S2	121	OMU	C5-C4-N3	3.33	119.46	114.80
41	L5	1326	A2M	C4'-O4'-C1'	-3.32	106.88	109.92
41	L5	3867	A2M	C1'-N9-C4	-3.30	120.84	126.64
19	S2	576	A2M	O3'-C3'-C2'	3.30	120.43	111.19
41	L5	2787	A2M	C1'-N9-C4	-3.30	120.84	126.64
41	L5	2363	A2M	C1'-N9-C4	-3.29	120.85	126.64
19	S2	116	OMU	C5-C4-N3	3.27	119.38	114.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	3867	A2M	C4'-O4'-C1'	-3.26	106.94	109.92
19	S2	166	A2M	O3'-C3'-C2'	3.25	120.27	111.19
41	L5	2815	A2M	C4'-O4'-C1'	-3.23	106.96	109.92
41	L5	1871	A2M	O3'-C3'-C2'	3.22	120.21	111.19
41	L5	3718	A2M	O3'-C3'-C2'	3.21	120.17	111.19
19	S2	159	A2M	C4'-O4'-C1'	-3.17	107.02	109.92
19	S2	468	A2M	O3'-C3'-C2'	3.17	120.06	111.19
41	L5	4571	A2M	O3'-C3'-C2'	3.17	120.06	111.19
41	L5	3830	A2M	O3'-C3'-C2'	3.17	120.05	111.19
19	S2	159	A2M	O3'-C3'-C2'	3.16	120.04	111.19
41	L5	2839	PSU	C6-N1-C2	-3.16	119.76	122.69
41	L5	2401	A2M	O3'-C3'-C2'	3.16	120.02	111.19
19	S2	576	A2M	C1'-N9-C4	-3.15	121.10	126.64
19	S2	1031	A2M	O3'-C3'-C2'	3.14	119.98	111.19
41	L5	1524	A2M	O3'-C3'-C2'	3.14	119.97	111.19
41	L5	4500	PSU	O2-C2-N1	-3.12	119.57	122.79
19	S2	484	A2M	O3'-C3'-C2'	3.11	119.89	111.19
41	L5	400	A2M	O3'-C3'-C2'	3.09	119.83	111.19
41	L5	3825	A2M	O3'-C3'-C2'	3.09	119.83	111.19
41	L5	1534	A2M	C1'-N9-C4	-3.08	121.23	126.64
19	S2	1031	A2M	C3'-C2'-C1'	-3.08	96.92	102.81
41	L5	1323	A2M	C1'-N9-C4	-3.07	121.25	126.64
41	L5	3785	A2M	O3'-C3'-C2'	3.06	119.75	111.19
41	L5	2815	A2M	C1'-N9-C4	-3.05	121.28	126.64
41	L5	4532	PSU	O2-C2-N1	-3.05	119.65	122.79
41	L5	1524	A2M	C1'-N9-C4	-3.03	121.31	126.64
19	S2	27	A2M	C3'-C2'-C1'	-3.03	97.01	102.81
41	L5	4636	PSU	C6-C5-C4	3.02	120.21	118.17
43	L8	69	PSU	O2-C2-N1	-3.01	119.68	122.79
19	S2	627	OMU	O4-C4-C5	-3.00	119.99	125.16
41	L5	1323	A2M	C2'-C1'-N9	3.00	119.21	112.56
41	L5	1326	A2M	O3'-C3'-C2'	2.99	119.56	111.19
19	S2	27	A2M	O3'-C3'-C2'	2.98	119.54	111.19
19	S2	428	OMU	O4-C4-C5	-2.98	120.03	125.16
19	S2	1442	OMU	O4-C4-C5	-2.97	120.03	125.16
19	S2	1288	OMU	O4-C4-C5	-2.97	120.04	125.16
19	S2	668	A2M	O3'-C3'-C2'	2.97	119.50	111.19
41	L5	1536	PSU	O2-C2-N1	-2.97	119.73	122.79
19	S2	1326	OMU	O4-C4-C5	-2.96	120.05	125.16
19	S2	1639	G7M	C2-N1-C6	-2.96	119.69	125.11
19	S2	172	OMU	O4-C4-C5	-2.95	120.07	125.16
41	L5	4571	A2M	C3'-C2'-C1'	-2.95	97.17	102.81

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	2815	A2M	O3'-C3'-C2'	2.94	119.42	111.19
41	L5	4590	A2M	O3'-C3'-C2'	2.94	119.41	111.19
41	L5	1323	A2M	C3'-C2'-C1'	-2.93	97.20	102.81
41	L5	400	A2M	C3'-C2'-C1'	-2.92	97.21	102.81
19	S2	799	OMU	O4-C4-C5	-2.92	120.12	125.16
41	L5	1326	A2M	C1'-N9-C4	-2.92	121.51	126.64
19	S2	863	PSU	O2-C2-N1	-2.91	119.78	122.79
41	L5	2839	PSU	O2-C2-N1	-2.91	119.79	122.79
41	L5	4498	OMU	O4-C4-C5	-2.91	120.14	125.16
41	L5	2363	A2M	C2'-C1'-N9	2.91	119.01	112.56
41	L5	2632	PSU	O2-C2-N1	-2.90	119.79	122.79
41	L5	1323	A2M	O3'-C3'-C2'	2.89	119.27	111.19
41	L5	1534	A2M	C3'-C2'-C1'	-2.88	97.29	102.81
41	L5	4306	OMU	O4-C4-C5	-2.88	120.19	125.16
41	L5	3818	UY1	C6-N1-C2	-2.88	120.02	122.69
41	L5	1683	PSU	O2-C2-N1	-2.87	119.83	122.79
41	L5	5010	PSU	O2-C2-N1	-2.87	119.83	122.79
19	S2	116	OMU	O4-C4-C5	-2.87	120.21	125.16
19	S2	681	PSU	C6-N1-C2	-2.86	120.04	122.69
19	S2	354	OMU	O4-C4-C5	-2.85	120.24	125.16
19	S2	668	A2M	O4'-C1'-C2'	2.85	111.46	106.61
41	L5	2837	OMU	O4-C4-C5	-2.84	120.26	125.16
41	L5	4227	OMU	O4-C4-C5	-2.84	120.26	125.16
41	L5	4523	A2M	O3'-C3'-C2'	2.83	119.11	111.19
19	S2	966	PSU	O2-C2-N1	-2.83	119.87	122.79
41	L5	3925	OMU	O4-C4-C5	-2.83	120.28	125.16
41	L5	4620	OMU	O4-C4-C5	-2.82	120.30	125.16
19	S2	1248	B8N	O4-C4-N3	-2.81	115.42	119.99
41	L5	4579	PSU	O2-C2-N1	-2.81	119.89	122.79
41	L5	4296	PSU	O2-C2-N1	-2.80	119.90	122.79
41	L5	3853	PSU	O2-C2-N1	-2.79	119.91	122.79
19	S2	1232	PSU	O2-C2-N1	-2.79	119.91	122.79
19	S2	1367	PSU	O2-C2-N1	-2.78	119.92	122.79
41	L5	3701	OMC	O2-C2-N3	-2.78	117.94	122.33
41	L5	4552	PSU	O2-C2-N1	-2.78	119.92	122.79
19	S2	1004	PSU	C6-N1-C2	-2.78	120.11	122.69
41	L5	4973	PSU	O2-C2-N1	-2.78	119.92	122.79
41	L5	1536	PSU	C6-N1-C2	-2.78	120.11	122.69
19	S2	1056	PSU	O2-C2-N1	-2.78	119.93	122.79
19	S2	121	OMU	O4-C4-C5	-2.77	120.38	125.16
19	S2	649	PSU	C6-N1-C2	-2.77	120.12	122.69
41	L5	3822	PSU	O2-C2-N1	-2.77	119.93	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	4628	PSU	O2-C2-N1	-2.77	119.94	122.79
41	L5	4312	PSU	O2-C2-N1	-2.76	119.94	122.79
41	L5	2363	A2M	C3'-C2'-C1'	-2.75	97.53	102.81
41	L5	3701	OMC	O2-C2-N1	2.75	124.29	118.90
41	L5	3884	PSU	C6-N1-C2	-2.74	120.14	122.69
19	S2	1174	PSU	O2-C2-N1	-2.74	119.96	122.79
41	L5	4457	PSU	O2-C2-N1	-2.74	119.96	122.79
41	L5	4471	PSU	O2-C2-N1	-2.74	119.97	122.79
19	S2	1046	PSU	O2-C2-N1	-2.73	119.97	122.79
41	L5	4500	PSU	C6-N1-C2	-2.73	120.15	122.69
41	L5	3639	PSU	C6-N1-C2	-2.73	120.16	122.69
41	L5	4628	PSU	C6-N1-C2	-2.73	120.16	122.69
41	L5	2363	A2M	O3'-C3'-C2'	2.72	118.80	111.19
19	S2	681	PSU	O2-C2-N1	-2.71	119.99	122.79
41	L5	4431	PSU	O2-C2-N1	-2.71	119.99	122.79
41	L5	3695	PSU	O2-C2-N1	-2.71	119.99	122.79
41	L5	4579	PSU	C6-N1-C2	-2.70	120.18	122.69
41	L5	3867	A2M	C2'-C1'-N9	2.70	118.56	112.56
19	S2	1004	PSU	O2-C2-N1	-2.69	120.01	122.79
41	L5	1781	PSU	O2-C2-N1	-2.69	120.01	122.79
41	L5	4521	PSU	O2-C2-N1	-2.69	120.01	122.79
41	L5	4576	PSU	O2-C2-N1	-2.69	120.02	122.79
19	S2	406	PSU	C6-N1-C2	-2.68	120.20	122.69
19	S2	651	PSU	O2-C2-N1	-2.68	120.02	122.79
41	L5	1862	PSU	O2-C2-N1	-2.68	120.03	122.79
19	S2	1045	PSU	O2-C2-N1	-2.68	120.03	122.79
41	L5	1860	PSU	C6-N1-C2	-2.67	120.21	122.69
41	L5	3844	PSU	C6-N1-C2	-2.67	120.21	122.69
19	S2	686	PSU	O2-C2-N1	-2.67	120.03	122.79
19	S2	863	PSU	C6-N1-C2	-2.67	120.22	122.69
41	L5	4293	PSU	O2-C2-N1	-2.66	120.04	122.79
19	S2	1244	PSU	O2-C2-N1	-2.66	120.04	122.79
41	L5	2787	A2M	C4'-O4'-C1'	-2.66	107.49	109.92
41	L5	4442	PSU	O2-C2-N1	-2.66	120.05	122.79
41	L5	5010	PSU	C6-N1-C2	-2.65	120.23	122.69
19	S2	866	PSU	O2-C2-N1	-2.65	120.05	122.79
41	L5	5001	PSU	O2-C2-N1	-2.65	120.05	122.79
41	L5	1683	PSU	C6-N1-C2	-2.65	120.23	122.69
41	L5	4552	PSU	C6-N1-C2	-2.65	120.23	122.69
41	L5	1524	A2M	O4'-C1'-C2'	2.64	111.11	106.61
41	L5	1860	PSU	O2-C2-N1	-2.64	120.06	122.79
41	L5	3920	PSU	O2-C2-N1	-2.64	120.06	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
43	L8	55	PSU	C6-N1-C2	-2.64	120.24	122.69
19	S2	1177	PSU	O2-C2-N1	-2.64	120.07	122.79
41	L5	4353	PSU	O2-C2-N1	-2.63	120.07	122.79
41	L5	4392	OMG	O6-C6-C5	2.63	129.54	124.32
41	L5	3639	PSU	O2-C2-N1	-2.63	120.08	122.79
19	S2	105	PSU	C6-N1-C2	-2.62	120.26	122.69
41	L5	1744	PSU	O2-C2-N1	-2.61	120.09	122.79
41	L5	1792	PSU	O2-C2-N1	-2.61	120.09	122.79
41	L5	3637	PSU	C6-N1-C2	-2.61	120.27	122.69
41	L5	4972	PSU	O2-C2-N1	-2.61	120.10	122.79
19	S2	406	PSU	O2-C2-N1	-2.60	120.10	122.79
41	L5	3851	PSU	O2-C2-N1	-2.60	120.11	122.79
41	L5	3884	PSU	O2-C2-N1	-2.60	120.11	122.79
19	S2	1056	PSU	C6-N1-C2	-2.60	120.28	122.69
19	S2	93	PSU	O2-C2-N1	-2.60	120.11	122.79
19	S2	1174	PSU	C6-N1-C2	-2.59	120.28	122.69
41	L5	4532	PSU	C6-N1-C2	-2.59	120.28	122.69
41	L5	5001	PSU	C6-N1-C2	-2.59	120.28	122.69
19	S2	1046	PSU	C6-N1-C2	-2.59	120.28	122.69
43	L8	69	PSU	C6-N1-C2	-2.58	120.29	122.69
41	L5	4973	PSU	C6-N1-C2	-2.58	120.30	122.69
19	S2	801	PSU	O2-C2-N1	-2.58	120.13	122.79
19	S2	814	PSU	O2-C2-N1	-2.57	120.14	122.79
41	L5	3822	PSU	C6-N1-C2	-2.57	120.30	122.69
41	L5	3808	OMC	C1'-N1-C2	2.57	124.11	118.44
19	S2	109	PSU	O2-C2-N1	-2.57	120.14	122.79
19	S2	484	A2M	C4'-O4'-C1'	-2.57	107.57	109.92
41	L5	2787	A2M	C4-C5-N7	2.57	112.05	109.34
41	L5	4636	PSU	O2-C2-N1	-2.56	120.15	122.79
41	L5	3818	UY1	O2-C2-N1	-2.56	120.15	122.79
41	L5	1744	PSU	C6-N1-C2	-2.56	120.32	122.69
41	L5	2787	A2M	O4'-C1'-C2'	2.56	110.96	106.61
41	L5	4972	PSU	C6-N1-C2	-2.56	120.32	122.69
19	S2	801	PSU	C6-N1-C2	-2.55	120.33	122.69
41	L5	3785	A2M	C4-C5-N7	2.54	112.03	109.34
19	S2	159	A2M	C3'-C2'-C1'	-2.54	97.94	102.81
19	S2	1337	4AC	N4-C4-N3	2.54	118.00	113.87
41	L5	4312	PSU	C6-N1-C2	-2.54	120.33	122.69
43	L8	55	PSU	O2-C2-N1	-2.54	120.17	122.79
41	L5	3844	PSU	O2-C2-N1	-2.54	120.17	122.79
41	L5	4673	PSU	C6-N1-C2	-2.54	120.34	122.69
41	L5	4471	PSU	C6-N1-C2	-2.53	120.34	122.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	3920	PSU	C6-N1-C2	-2.53	120.34	122.69
41	L5	1871	A2M	C4-C5-N7	2.53	112.01	109.34
41	L5	4431	PSU	C6-N1-C2	-2.53	120.35	122.69
41	L5	2815	A2M	C2'-C1'-N9	2.52	118.16	112.56
41	L5	4493	PSU	O2-C2-N1	-2.52	120.19	122.79
41	L5	1782	PSU	C6-N1-C2	-2.52	120.35	122.69
41	L5	4530	UR3	C6-N1-C2	-2.52	119.74	121.80
41	L5	1323	A2M	O4'-C1'-C2'	2.52	110.90	106.61
19	S2	649	PSU	O2-C2-N1	-2.51	120.20	122.79
41	L5	1781	PSU	C6-N1-C2	-2.51	120.36	122.69
41	L5	3867	A2M	O3'-C3'-C2'	2.51	118.20	111.19
41	L5	4361	PSU	O2-C2-N1	-2.50	120.21	122.79
41	L5	4623	OMG	O6-C6-C5	2.50	129.28	124.32
19	S2	1367	PSU	C6-N1-C2	-2.50	120.37	122.69
41	L5	3718	A2M	C4-C5-N7	2.50	111.97	109.34
41	L5	2632	PSU	C6-N1-C2	-2.50	120.38	122.69
19	S2	1232	PSU	C6-N1-C2	-2.49	120.38	122.69
19	S2	1081	PSU	O2-C2-N1	-2.49	120.22	122.79
41	L5	1862	PSU	C6-N1-C2	-2.49	120.38	122.69
41	L5	4576	PSU	C6-N1-C2	-2.49	120.38	122.69
41	L5	4637	OMG	O6-C6-C5	2.49	129.26	124.32
41	L5	1323	A2M	C4-C5-N7	2.49	111.97	109.34
41	L5	2861	OMC	C1'-N1-C2	2.48	123.92	118.44
41	L5	4299	PSU	C6-N1-C2	-2.48	120.39	122.69
41	L5	4523	A2M	C4-C5-N7	2.48	111.96	109.34
41	L5	3695	PSU	C6-N1-C2	-2.48	120.39	122.69
19	S2	1177	PSU	C6-N1-C2	-2.47	120.40	122.69
19	S2	105	PSU	O2-C2-N1	-2.47	120.24	122.79
19	S2	651	PSU	C6-N1-C2	-2.47	120.40	122.69
41	L5	4403	PSU	C6-N1-C2	-2.47	120.40	122.69
41	L5	4442	PSU	C6-N1-C2	-2.47	120.40	122.69
41	L5	3744	OMG	O6-C6-C5	2.46	129.21	124.32
41	L5	4457	PSU	C6-N1-C2	-2.46	120.41	122.69
41	L5	1677	PSU	C6-C5-C4	2.46	119.83	118.17
41	L5	1677	PSU	O2-C2-N1	-2.46	120.26	122.79
41	L5	4299	PSU	O2-C2-N1	-2.46	120.26	122.79
19	S2	509	OMG	O6-C6-C5	2.45	129.19	124.32
41	L5	4353	PSU	C6-N1-C2	-2.45	120.42	122.69
19	S2	1031	A2M	C4-C5-N7	2.45	111.92	109.34
41	L5	4689	PSU	O2-C2-N1	-2.45	120.26	122.79
41	L5	4673	PSU	O2-C2-N1	-2.44	120.27	122.79
41	L5	1522	OMG	O6-C6-C5	2.44	129.17	124.32

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	400	A2M	C4-C5-N7	2.44	111.91	109.34
41	L5	4521	PSU	C6-N1-C2	-2.44	120.43	122.69
41	L5	2363	A2M	O4'-C1'-C2'	2.43	110.75	106.61
41	L5	3853	PSU	C6-N1-C2	-2.43	120.44	122.69
41	L5	3830	A2M	C4-C5-N7	2.43	111.90	109.34
41	L5	1782	PSU	O2-C2-N1	-2.42	120.29	122.79
19	S2	576	A2M	C4-C5-N7	2.42	111.90	109.34
41	L5	4403	PSU	O2-C2-N1	-2.42	120.29	122.79
41	L5	4493	PSU	C6-N1-C2	-2.42	120.45	122.69
41	L5	1534	A2M	C4-C5-N7	2.41	111.89	109.34
19	S2	27	A2M	C4-C5-N7	2.41	111.88	109.34
19	S2	93	PSU	C6-N1-C2	-2.40	120.46	122.69
19	S2	436	OMG	O6-C6-C5	2.40	129.07	124.32
19	S2	99	A2M	C4-C5-N7	2.40	111.87	109.34
19	S2	683	OMG	O6-C6-C5	2.40	129.07	124.32
41	L5	3899	OMG	O6-C6-C5	2.39	129.07	124.32
41	L5	398	A2M	C4-C5-N7	2.39	111.86	109.34
19	S2	966	PSU	C6-N1-C2	-2.39	120.47	122.69
19	S2	644	OMG	O6-C6-C5	2.39	129.06	124.32
19	S2	484	A2M	C4-C5-N7	2.39	111.86	109.34
41	L5	4500	PSU	C6-C5-C4	2.39	119.78	118.17
41	L5	1326	A2M	C3'-C2'-C1'	-2.38	98.25	102.81
41	L5	1792	PSU	C6-N1-C2	-2.38	120.48	122.69
41	L5	4196	OMG	O6-C6-C5	2.38	129.03	124.32
41	L5	1326	A2M	C4-C5-N7	2.37	111.84	109.34
19	S2	159	A2M	C4-C5-N7	2.37	111.84	109.34
41	L5	3867	A2M	C4-C5-N7	2.36	111.83	109.34
41	L5	1582	PSU	O2-C2-N1	-2.36	120.36	122.79
19	S2	166	A2M	C4-C5-N7	2.36	111.83	109.34
19	S2	686	PSU	C6-N1-C2	-2.35	120.51	122.69
41	L5	1524	A2M	C4-C5-N7	2.35	111.82	109.34
41	L5	2815	A2M	C4-C5-N7	2.35	111.82	109.34
41	L5	2363	A2M	C4-C5-N7	2.35	111.81	109.34
19	S2	668	A2M	C4-C5-N7	2.34	111.81	109.34
41	L5	3851	PSU	C6-N1-C2	-2.34	120.52	122.69
41	L5	4494	OMG	O6-C6-C5	2.34	128.95	124.32
41	L5	2401	A2M	C4-C5-N7	2.33	111.80	109.34
41	L5	4228	OMG	O6-C6-C5	2.33	128.94	124.32
41	L5	4499	OMG	O6-C6-C5	2.33	128.94	124.32
41	L5	4590	A2M	C4-C5-N7	2.32	111.79	109.34
41	L5	3627	OMG	O6-C6-C5	2.32	128.91	124.32
19	S2	1248	B8N	O4'-C1'-C2'	2.32	108.36	105.15

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	L5	4571	A2M	C4-C5-N7	2.32	111.78	109.34
19	S2	814	PSU	C6-N1-C2	-2.31	120.55	122.69
19	S2	1244	PSU	C6-N1-C2	-2.31	120.55	122.69
41	L5	4296	PSU	C6-N1-C2	-2.31	120.55	122.69
41	L5	3785	A2M	O4'-C4'-C3'	2.30	109.73	105.15
19	S2	866	PSU	C6-N1-C2	-2.30	120.56	122.69
41	L5	3825	A2M	C4-C5-N7	2.30	111.77	109.34
41	L5	2364	OMG	O6-C6-C5	2.29	128.86	124.32
19	S2	867	OMG	O6-C6-C5	2.29	128.86	124.32
41	L5	1534	A2M	O3'-C3'-C2'	2.29	117.58	111.19
19	S2	468	A2M	C4-C5-N7	2.29	111.75	109.34
41	L5	3637	PSU	C6-C5-C4	2.29	119.72	118.17
19	S2	428	OMU	O2-C2-N1	-2.28	119.83	122.80
41	L5	1322	1MA	N1-C6-N6	2.28	125.43	119.71
41	L5	4370	OMG	O6-C6-C5	2.27	128.82	124.32
41	L5	400	A2M	O4'-C1'-C2'	2.27	110.47	106.61
41	L5	2837	OMU	O2-C2-N1	-2.27	119.84	122.80
41	L5	3785	A2M	C3'-C2'-C1'	-2.27	98.47	102.81
19	S2	627	OMU	O2-C2-N1	-2.27	119.85	122.80
19	S2	109	PSU	C6-N1-C2	-2.26	120.59	122.69
19	S2	1383	A2M	C4-C5-N7	2.26	111.73	109.34
41	L5	3822	PSU	O4'-C1'-C2'	2.26	108.28	105.15
43	L8	75	OMG	O6-C6-C5	2.26	128.81	124.32
41	L5	2632	PSU	C6-C5-C4	2.26	119.70	118.17
41	L5	4403	PSU	O4'-C1'-C2'	2.25	108.27	105.15
41	L5	1322	1MA	C5-C6-N1	-2.24	110.73	113.95
19	S2	1328	OMG	O6-C6-C5	2.24	128.77	124.32
41	L5	2424	OMG	O6-C6-C5	2.24	128.77	124.32
41	L5	1326	A2M	C2'-C1'-N9	2.24	117.53	112.56
19	S2	484	A2M	O4'-C1'-C2'	2.23	110.41	106.61
41	L5	400	A2M	C2'-C1'-N9	2.23	117.52	112.56
41	L5	1582	PSU	C6-N1-C2	-2.23	120.62	122.69
41	L5	1625	OMG	O6-C6-C5	2.23	128.75	124.32
41	L5	4636	PSU	O4'-C1'-C2'	2.23	108.23	105.15
41	L5	4618	OMG	O6-C6-C5	2.23	128.73	124.32
19	S2	468	A2M	O4'-C1'-C2'	2.22	110.39	106.61
41	L5	1316	OMG	O6-C6-C5	2.22	128.72	124.32
19	S2	172	OMU	O2-C2-N1	-2.22	119.91	122.80
41	L5	3792	OMG	O6-C6-C5	2.21	128.71	124.32
41	L5	4442	PSU	O4'-C1'-C2'	2.20	108.20	105.15
41	L5	4403	PSU	C6-C5-C4	2.20	119.66	118.17
19	S2	601	OMG	O6-C6-C5	2.20	128.68	124.32

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1248	B8N	O4-C4-C5	-2.20	118.78	122.58
19	S2	27	A2M	O4'-C1'-C2'	2.20	110.35	106.61
41	L5	4456	OMC	C1'-N1-C2	2.19	123.28	118.44
19	S2	1045	PSU	C6-N1-C2	-2.18	120.66	122.69
41	L5	1677	PSU	O4'-C1'-C2'	2.18	108.17	105.15
41	L5	4361	PSU	C6-N1-C2	-2.18	120.67	122.69
41	L5	3637	PSU	O2-C2-N1	-2.18	120.54	122.79
19	S2	159	A2M	O4'-C1'-C2'	2.18	110.32	106.61
41	L5	4636	PSU	C6-N1-C2	-2.17	120.67	122.69
41	L5	1326	A2M	O4'-C1'-C2'	2.17	110.31	106.61
19	S2	1081	PSU	C6-N1-C2	-2.17	120.68	122.69
41	L5	2876	OMG	O6-C6-C5	2.17	128.62	124.32
41	L5	3867	A2M	C3'-C2'-C1'	-2.15	98.68	102.81
19	S2	1031	A2M	O4'-C1'-C2'	2.15	110.27	106.61
43	L8	69	PSU	O4'-C1'-C2'	2.15	108.12	105.15
41	L5	3825	A2M	C2'-C1'-N9	2.15	117.32	112.56
41	L5	1534	A2M	O4'-C1'-C2'	2.14	110.26	106.61
19	S2	354	OMU	O2-C2-N1	-2.14	120.01	122.80
19	S2	668	A2M	C2'-C1'-N9	2.14	117.31	112.56
19	S2	166	A2M	O4'-C1'-C2'	2.14	110.25	106.61
41	L5	4523	A2M	O4'-C1'-C2'	2.13	110.24	106.61
41	L5	2815	A2M	C3'-C2'-C1'	-2.12	98.74	102.81
41	L5	4447	5MC	C5-C4-N4	-2.12	118.40	121.39
41	L5	2401	A2M	O4'-C1'-C2'	2.12	110.22	106.61
41	L5	4571	A2M	O4'-C1'-C2'	2.12	110.22	106.61
41	L5	2815	A2M	O4'-C1'-C2'	2.12	110.22	106.61
41	L5	2422	OMC	C1'-N1-C2	2.12	123.11	118.44
41	L5	2351	OMC	C1'-N1-C2	2.11	123.10	118.44
41	L5	2787	A2M	O4'-C4'-C3'	2.11	109.34	105.15
41	L5	1534	A2M	C2'-C1'-N9	2.11	117.25	112.56
19	S2	99	A2M	O4'-C1'-C2'	2.10	110.19	106.61
41	L5	4457	PSU	O4'-C1'-C2'	2.10	108.06	105.15
41	L5	4521	PSU	C6-C5-C4	2.10	119.59	118.17
41	L5	4498	OMU	O2-C2-N1	-2.09	120.07	122.80
19	S2	799	OMU	C1'-N1-C2	2.09	121.35	117.59
41	L5	4442	PSU	C6-C5-C4	2.09	119.58	118.17
41	L5	4571	A2M	C2'-C1'-N9	2.08	117.18	112.56
41	L5	4293	PSU	C6-N1-C2	-2.08	120.76	122.69
19	S2	1244	PSU	C6-C5-C4	2.08	119.58	118.17
41	L5	1677	PSU	C6-N1-C2	-2.07	120.77	122.69
41	L5	4457	PSU	C6-C5-C4	2.07	119.57	118.17
41	L5	3925	OMU	O2-C2-N1	-2.07	120.11	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	651	PSU	C6-C5-C4	2.06	119.56	118.17
41	L5	3867	A2M	O4'-C1'-C2'	2.06	110.11	106.61
41	L5	4590	A2M	O4'-C1'-C2'	2.06	110.11	106.61
19	S2	484	A2M	O4'-C4'-C3'	2.06	109.24	105.15
41	L5	3920	PSU	O4'-C1'-C2'	2.05	107.99	105.15
19	S2	1081	PSU	O4'-C1'-C2'	2.04	107.97	105.15
19	S2	1490	OMG	O6-C6-C5	2.03	128.34	124.32
19	S2	1326	OMU	O2-C2-N1	-2.03	120.16	122.80
41	L5	2824	OMC	C1'-N1-C2	2.02	122.90	118.44
19	S2	1081	PSU	C6-C5-C4	2.02	119.53	118.17
41	L5	4576	PSU	C6-C5-C4	2.01	119.53	118.17
19	S2	1367	PSU	C6-C5-C4	2.01	119.53	118.17
41	L5	1524	A2M	O4'-C1'-N9	2.01	111.41	108.75
41	L5	1322	1MA	CM1-N1-C6	-2.01	117.04	120.15
19	S2	462	OMC	C1'-N1-C2	2.01	122.87	118.44
41	L5	4576	PSU	O4'-C1'-C2'	2.00	107.92	105.15

There are no chirality outliers.

All (129) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
43	L8	75	OMG	C1'-C2'-O2'-CM2
19	S2	166	A2M	C1'-C2'-O2'-CM'
19	S2	462	OMC	C1'-C2'-O2'-CM2
19	S2	468	A2M	C1'-C2'-O2'-CM'
19	S2	576	A2M	C1'-C2'-O2'-CM'
19	S2	644	OMG	C1'-C2'-O2'-CM2
19	S2	1031	A2M	C1'-C2'-O2'-CM'
19	S2	1248	B8N	O4'-C4'-C5'-O5'
19	S2	1272	OMC	O4'-C4'-C5'-O5'
19	S2	1288	OMU	C3'-C4'-C5'-O5'
19	S2	1288	OMU	O4'-C4'-C5'-O5'
19	S2	1337	4AC	N3-C4-N4-C7
19	S2	1383	A2M	C1'-C2'-O2'-CM'
19	S2	1832	6MZ	C5-C6-N6-C9
19	S2	1832	6MZ	N1-C6-N6-C9
41	L5	400	A2M	C1'-C2'-O2'-CM'
41	L5	1326	A2M	O4'-C4'-C5'-O5'
41	L5	1625	OMG	O4'-C4'-C5'-O5'
41	L5	2351	OMC	C1'-C2'-O2'-CM2
41	L5	2364	OMG	O4'-C4'-C5'-O5'
41	L5	2787	A2M	C1'-C2'-O2'-CM'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
41	L5	2824	OMC	C1'-C2'-O2'-CM2
41	L5	3701	OMC	O4'-C4'-C5'-O5'
41	L5	3792	OMG	O4'-C4'-C5'-O5'
41	L5	3867	A2M	C1'-C2'-O2'-CM'
41	L5	4196	OMG	C1'-C2'-O2'-CM2
41	L5	4220	6MZ	O4'-C4'-C5'-O5'
41	L5	4447	5MC	C2'-C1'-N1-C2
41	L5	4447	5MC	C2'-C1'-N1-C6
41	L5	4500	PSU	O4'-C4'-C5'-O5'
41	L5	4637	OMG	O4'-C4'-C5'-O5'
41	L5	4637	OMG	C1'-C2'-O2'-CM2
41	L5	3701	OMC	C2'-C1'-N1-C2
19	S2	99	A2M	O4'-C4'-C5'-O5'
19	S2	576	A2M	O4'-C4'-C5'-O5'
19	S2	644	OMG	O4'-C4'-C5'-O5'
19	S2	799	OMU	C3'-C4'-C5'-O5'
19	S2	799	OMU	O4'-C4'-C5'-O5'
19	S2	801	PSU	C3'-C4'-C5'-O5'
19	S2	863	PSU	O4'-C4'-C5'-O5'
19	S2	867	OMG	C3'-C4'-C5'-O5'
19	S2	1045	PSU	C3'-C4'-C5'-O5'
19	S2	1272	OMC	C3'-C4'-C5'-O5'
19	S2	1442	OMU	O4'-C4'-C5'-O5'
41	L5	1326	A2M	C3'-C4'-C5'-O5'
41	L5	3701	OMC	C3'-C4'-C5'-O5'
41	L5	3867	A2M	C3'-C4'-C5'-O5'
41	L5	4500	PSU	C3'-C4'-C5'-O5'
41	L5	4590	A2M	O4'-C4'-C5'-O5'
41	L5	4590	A2M	C3'-C4'-C5'-O5'
19	S2	576	A2M	C3'-C4'-C5'-O5'
19	S2	1045	PSU	O4'-C4'-C5'-O5'
19	S2	1248	B8N	C3'-C4'-C5'-O5'
19	S2	1442	OMU	C3'-C4'-C5'-O5'
41	L5	1536	PSU	C3'-C4'-C5'-O5'
41	L5	1536	PSU	O4'-C4'-C5'-O5'
41	L5	1625	OMG	C3'-C4'-C5'-O5'
19	S2	428	OMU	C2'-C1'-N1-C6
41	L5	3701	OMC	C2'-C1'-N1-C6
41	L5	3792	OMG	C3'-C4'-C5'-O5'
41	L5	3867	A2M	O4'-C4'-C5'-O5'
41	L5	4220	6MZ	C3'-C4'-C5'-O5'
41	L5	4637	OMG	C3'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
19	S2	644	OMG	C3'-C4'-C5'-O5'
41	L5	2364	OMG	C3'-C4'-C5'-O5'
41	L5	3785	A2M	O4'-C4'-C5'-O5'
41	L5	3785	A2M	C3'-C4'-C5'-O5'
41	L5	4618	OMG	C3'-C4'-C5'-O5'
19	S2	428	OMU	C2'-C1'-N1-C2
19	S2	99	A2M	C3'-C4'-C5'-O5'
19	S2	801	PSU	O4'-C4'-C5'-O5'
19	S2	863	PSU	C3'-C4'-C5'-O5'
19	S2	867	OMG	O4'-C4'-C5'-O5'
19	S2	1244	PSU	O4'-C4'-C5'-O5'
41	L5	1323	A2M	O4'-C4'-C5'-O5'
41	L5	2815	A2M	O4'-C4'-C5'-O5'
41	L5	3782	5MC	O4'-C4'-C5'-O5'
19	S2	428	OMU	O4'-C4'-C5'-O5'
41	L5	3899	OMG	C3'-C4'-C5'-O5'
19	S2	1248	B8N	N34-C33-C34-O36
41	L5	2787	A2M	C3'-C4'-C5'-O5'
41	L5	3818	UY1	C4'-C5'-O5'-P
19	S2	1703	OMC	O4'-C4'-C5'-O5'
41	L5	4590	A2M	C4'-C5'-O5'-P
41	L5	2815	A2M	C3'-C4'-C5'-O5'
19	S2	428	OMU	C3'-C4'-C5'-O5'
19	S2	668	A2M	O4'-C4'-C5'-O5'
19	S2	1383	A2M	O4'-C4'-C5'-O5'
19	S2	1383	A2M	C3'-C4'-C5'-O5'
19	S2	428	OMU	O4'-C1'-N1-C2
41	L5	3899	OMG	O4'-C4'-C5'-O5'
41	L5	4618	OMG	O4'-C4'-C5'-O5'
19	S2	428	OMU	O4'-C1'-N1-C6
41	L5	3701	OMC	O4'-C1'-N1-C6
41	L5	1326	A2M	C4'-C5'-O5'-P
41	L5	4500	PSU	C4'-C5'-O5'-P
19	S2	1248	B8N	O4'-C1'-C5-C4
41	L5	1677	PSU	O4'-C1'-C5-C4
41	L5	3818	UY1	O4'-C1'-C5-C4
41	L5	1323	A2M	C3'-C4'-C5'-O5'
41	L5	2422	OMC	C3'-C4'-C5'-O5'
19	S2	576	A2M	C4'-C5'-O5'-P
19	S2	1490	OMG	C4'-C5'-O5'-P
19	S2	1851	MA6	C4'-C5'-O5'-P
41	L5	1534	A2M	C4'-C5'-O5'-P

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
43	L8	75	OMG	C4'-C5'-O5'-P
19	S2	644	OMG	C4'-C5'-O5'-P
41	L5	4447	5MC	O4'-C1'-N1-C6
41	L5	1524	A2M	C3'-C2'-O2'-CM'
19	S2	1081	PSU	C4'-C5'-O5'-P
41	L5	3887	OMC	C4'-C5'-O5'-P
19	S2	966	PSU	O4'-C4'-C5'-O5'
41	L5	1524	A2M	C3'-C4'-C5'-O5'
41	L5	3844	PSU	C4'-C5'-O5'-P
41	L5	3701	OMC	O4'-C1'-N1-C2
41	L5	2861	OMC	C1'-C2'-O2'-CM2
41	L5	4523	A2M	C1'-C2'-O2'-CM'
19	S2	668	A2M	C3'-C4'-C5'-O5'
19	S2	1056	PSU	C3'-C4'-C5'-O5'
41	L5	1524	A2M	O4'-C4'-C5'-O5'
41	L5	2632	PSU	C3'-C4'-C5'-O5'
41	L5	1677	PSU	O4'-C1'-C5-C6
19	S2	1244	PSU	C3'-C4'-C5'-O5'
41	L5	2422	OMC	O4'-C4'-C5'-O5'
41	L5	2632	PSU	O4'-C4'-C5'-O5'
41	L5	3782	5MC	C3'-C4'-C5'-O5'
41	L5	398	A2M	O4'-C4'-C5'-O5'
41	L5	4447	5MC	O4'-C1'-N1-C2
19	S2	1272	OMC	C4'-C5'-O5'-P

There are no ring outliers.

62 monomers are involved in 92 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	S2	121	OMU	1	0
41	L5	4637	OMG	1	0
41	L5	2351	OMC	2	0
41	L5	2364	OMG	1	0
41	L5	4689	PSU	1	0
19	S2	27	A2M	2	0
19	S2	484	A2M	2	0
19	S2	517	OMC	1	0
41	L5	398	A2M	1	0
41	L5	4530	UR3	1	0
19	S2	1031	A2M	3	0
41	L5	3785	A2M	1	0
41	L5	1340	OMC	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
41	L5	4392	OMG	1	0
19	S2	866	PSU	1	0
19	S2	576	A2M	2	0
41	L5	4196	OMG	1	0
41	L5	4353	PSU	1	0
41	L5	4456	OMC	1	0
41	L5	3701	OMC	1	0
41	L5	3920	PSU	1	0
19	S2	1703	OMC	1	0
41	L5	4523	A2M	3	0
41	L5	4620	OMU	1	0
19	S2	649	PSU	1	0
41	L5	3718	A2M	4	0
19	S2	867	OMG	2	0
41	L5	2632	PSU	1	0
41	L5	3851	PSU	1	0
41	L5	1683	PSU	1	0
19	S2	1337	4AC	3	0
41	L5	1871	A2M	1	0
41	L5	4457	PSU	1	0
41	L5	3825	A2M	1	0
19	S2	509	OMG	3	0
41	L5	2424	OMG	1	0
41	L5	4571	A2M	1	0
41	L5	3627	OMG	1	0
41	L5	4536	OMC	1	0
19	S2	644	OMG	1	0
19	S2	681	PSU	3	0
19	S2	1383	A2M	2	0
19	S2	468	A2M	2	0
19	S2	1850	MA6	2	0
41	L5	2363	A2M	1	0
41	L5	2815	A2M	1	0
41	L5	4579	PSU	2	0
19	S2	1004	PSU	1	0
41	L5	2422	OMC	1	0
41	L5	3867	A2M	3	0
43	L8	75	OMG	2	0
19	S2	166	A2M	2	0
19	S2	601	OMG	2	0
41	L5	4220	6MZ	2	0
41	L5	400	A2M	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
41	L5	1326	A2M	1	0
41	L5	4447	5MC	1	0
19	S2	1288	OMU	1	0
41	L5	2839	PSU	1	0
41	L5	3830	A2M	1	0
41	L5	3841	OMC	1	0
19	S2	116	OMU	4	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 242 ligands modelled in this entry, 225 are monoatomic - leaving 17 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
88	SPM	L5	5264	-	13,13,13	0.35	0	12,12,12	1.02	0
89	SPD	L5	5284	-	9,9,9	0.31	0	8,8,8	0.85	0
88	SPM	L5	5288	-	13,13,13	0.36	0	12,12,12	0.97	0
89	SPD	L5	5289	-	9,9,9	0.32	0	8,8,8	0.93	0
88	SPM	L5	5267	-	13,13,13	0.34	0	12,12,12	0.97	0
89	SPD	L8	202	-	9,9,9	0.32	0	8,8,8	0.87	0
89	SPD	L5	5283	-	9,9,9	0.34	0	8,8,8	0.82	0
89	SPD	L5	5285	-	9,9,9	0.33	0	8,8,8	0.90	0
89	SPD	L5	5286	-	9,9,9	0.34	0	8,8,8	0.87	0
88	SPM	L5	5263	-	13,13,13	0.35	0	12,12,12	0.99	0
89	SPD	LN	301	-	9,9,9	0.33	0	8,8,8	0.90	0
89	SPD	L5	5261	-	9,9,9	0.31	0	8,8,8	1.02	0
89	SPD	L5	5287	-	9,9,9	0.31	0	8,8,8	0.87	0
88	SPM	L5	5259	-	13,13,13	0.35	0	12,12,12	0.99	0
88	SPM	L5	5291	-	13,13,13	0.35	0	12,12,12	0.80	0
88	SPM	L5	5292	-	13,13,13	0.35	0	12,12,12	0.85	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
89	SPD	L5	5290	-	9,9,9	0.33	0	8,8,8	0.80	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	SPM	L5	5264	-	-	5/11/11/11	-
89	SPD	L5	5284	-	-	1/7/7/7	-
88	SPM	L5	5288	-	-	4/11/11/11	-
89	SPD	L5	5289	-	-	3/7/7/7	-
88	SPM	L5	5267	-	-	3/11/11/11	-
89	SPD	L8	202	-	-	2/7/7/7	-
89	SPD	L5	5283	-	-	1/7/7/7	-
89	SPD	L5	5285	-	-	2/7/7/7	-
89	SPD	L5	5286	-	-	3/7/7/7	-
88	SPM	L5	5263	-	-	3/11/11/11	-
89	SPD	LN	301	-	-	2/7/7/7	-
89	SPD	L5	5261	-	-	2/7/7/7	-
89	SPD	L5	5287	-	-	4/7/7/7	-
88	SPM	L5	5259	-	-	4/11/11/11	-
88	SPM	L5	5291	-	-	7/11/11/11	-
88	SPM	L5	5292	-	-	2/11/11/11	-
89	SPD	L5	5290	-	-	2/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (50) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
89	L5	5287	SPD	N6-C7-C8-C9
88	L5	5264	SPM	N5-C6-C7-C8
89	L5	5286	SPD	C3-C4-C5-N6
89	L5	5289	SPD	C3-C4-C5-N6
89	L8	202	SPD	N6-C7-C8-C9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
88	L5	5263	SPM	C7-C6-N5-C4
89	LN	301	SPD	C4-C5-N6-C7
88	L5	5291	SPM	C2-C3-C4-N5
88	L5	5264	SPM	C2-C3-C4-N5
88	L5	5263	SPM	C3-C4-N5-C6
88	L5	5288	SPM	C8-C9-N10-C11
88	L5	5292	SPM	C8-C9-N10-C11
89	L8	202	SPD	C3-C4-C5-N6
88	L5	5264	SPM	C3-C4-N5-C6
88	L5	5267	SPM	C8-C9-N10-C11
88	L5	5267	SPM	N5-C6-C7-C8
88	L5	5263	SPM	C11-C12-C13-N14
88	L5	5288	SPM	C12-C11-N10-C9
88	L5	5291	SPM	C3-C4-N5-C6
89	L5	5287	SPD	C8-C7-N6-C5
89	L5	5285	SPD	C2-C3-C4-C5
89	L5	5286	SPD	N6-C7-C8-C9
89	L5	5289	SPD	N6-C7-C8-C9
89	L5	5261	SPD	N6-C7-C8-C9
88	L5	5259	SPM	C6-C7-C8-C9
88	L5	5291	SPM	N5-C6-C7-C8
88	L5	5267	SPM	C6-C7-C8-C9
89	L5	5286	SPD	C2-C3-C4-C5
88	L5	5291	SPM	C6-C7-C8-C9
89	L5	5290	SPD	N6-C7-C8-C9
88	L5	5264	SPM	C6-C7-C8-C9
88	L5	5288	SPM	N1-C2-C3-C4
89	L5	5284	SPD	N6-C7-C8-C9
89	L5	5283	SPD	C2-C3-C4-C5
88	L5	5292	SPM	C6-C7-C8-C9
89	L5	5287	SPD	N1-C2-C3-C4
88	L5	5264	SPM	N1-C2-C3-C4
88	L5	5288	SPM	C3-C4-N5-C6
88	L5	5291	SPM	C8-C9-N10-C11
88	L5	5259	SPM	C3-C4-N5-C6
89	L5	5261	SPD	C4-C5-N6-C7
89	L5	5285	SPD	C3-C4-C5-N6
89	L5	5290	SPD	C8-C7-N6-C5
88	L5	5259	SPM	C2-C3-C4-N5
89	L5	5289	SPD	C2-C3-C4-C5
89	LN	301	SPD	N6-C7-C8-C9
88	L5	5291	SPM	C11-C12-C13-N14

Continued on next page...

Continued from previous page...

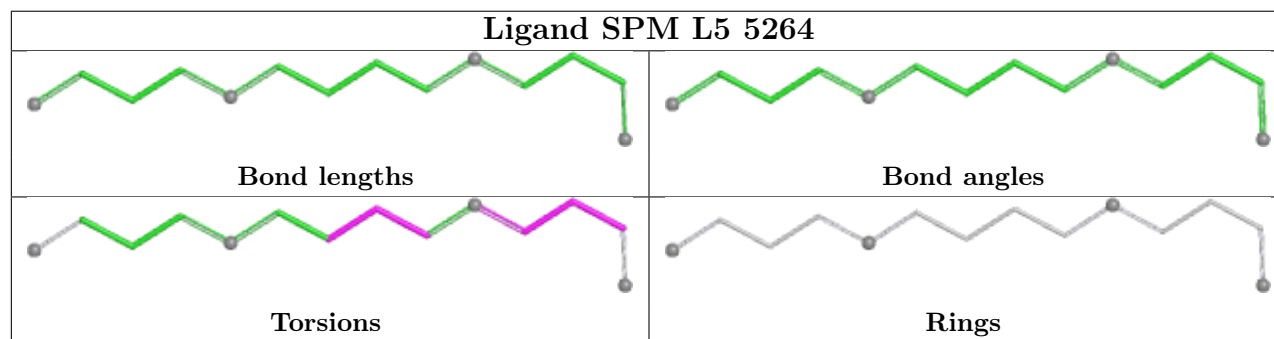
Mol	Chain	Res	Type	Atoms
89	L5	5287	SPD	C7-C8-C9-N10
88	L5	5291	SPM	C7-C6-N5-C4
88	L5	5259	SPM	N5-C6-C7-C8

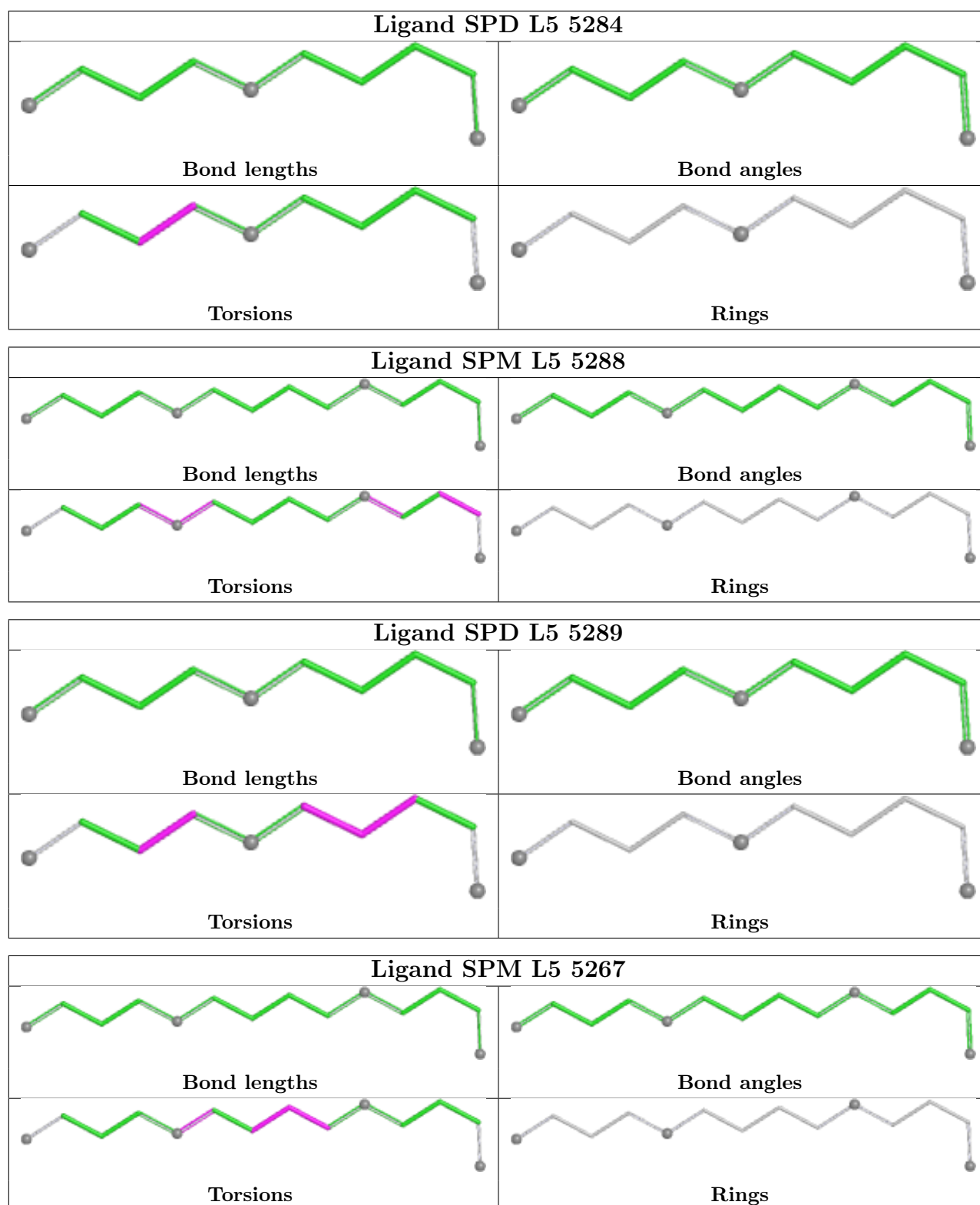
There are no ring outliers.

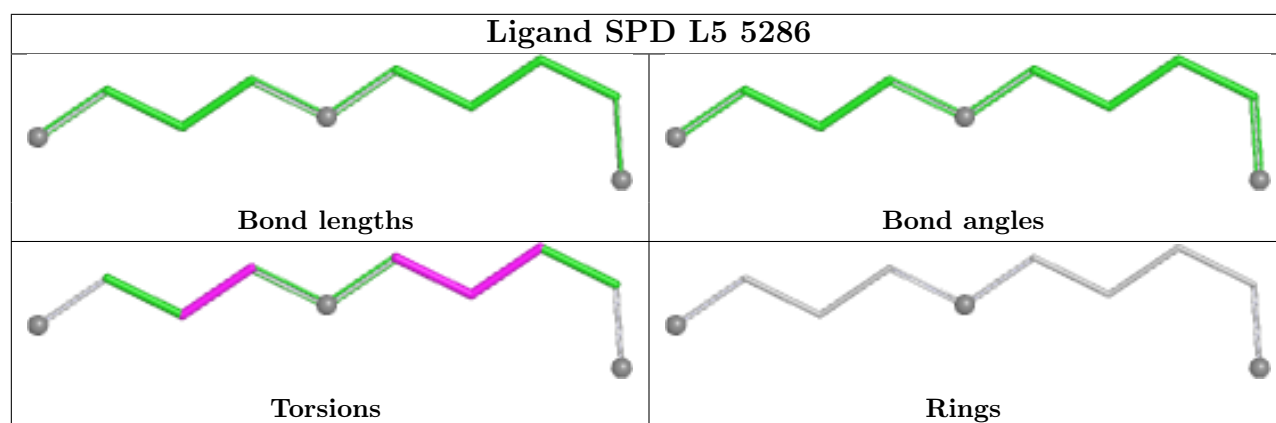
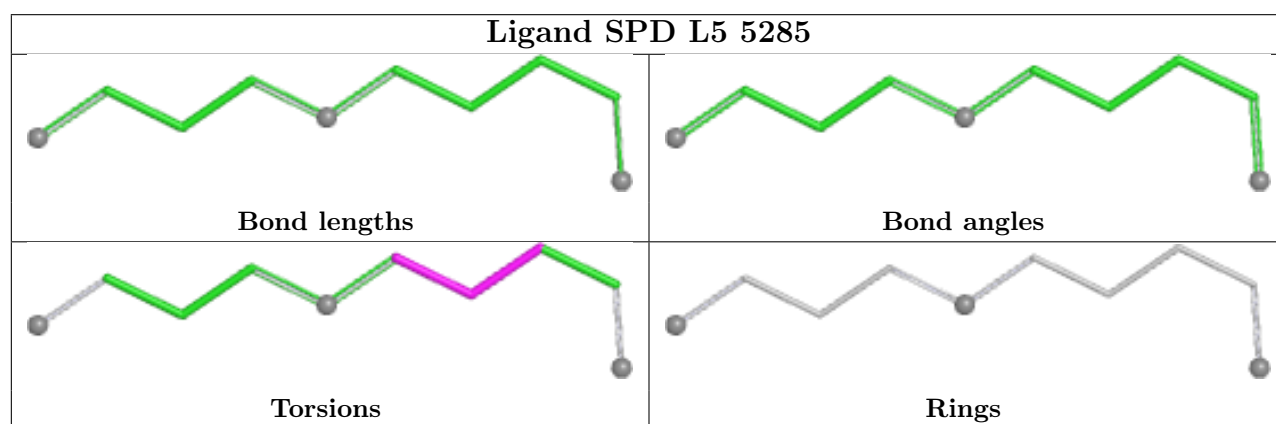
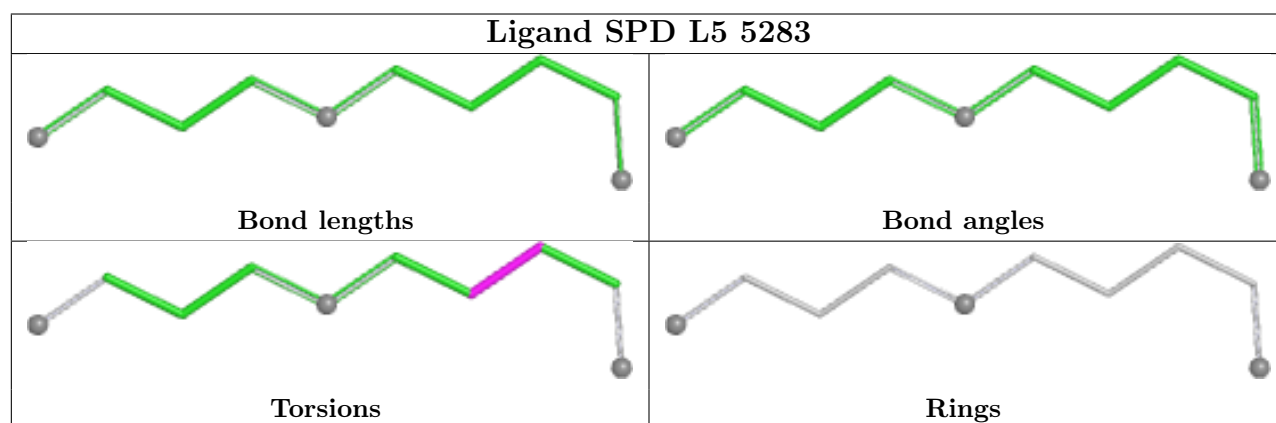
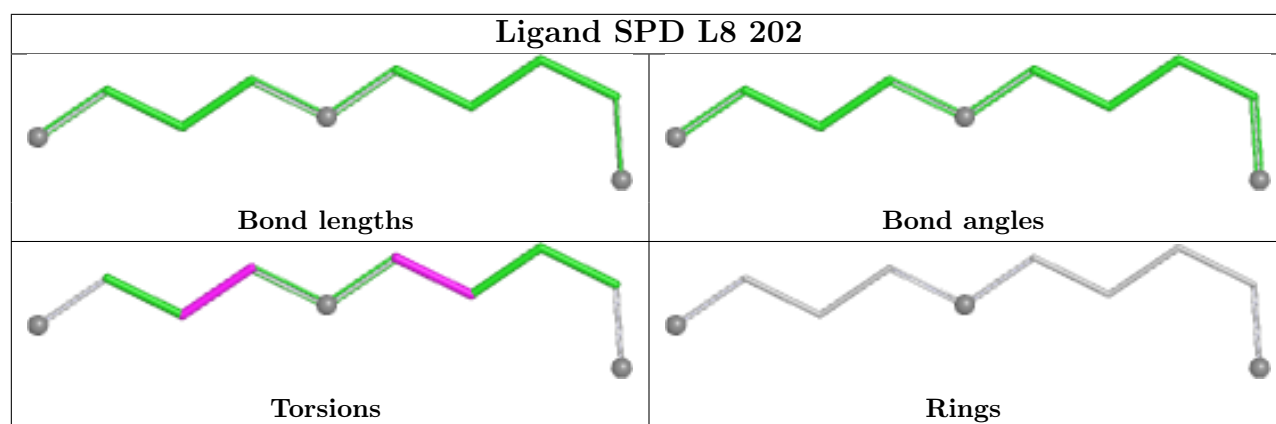
4 monomers are involved in 6 short contacts:

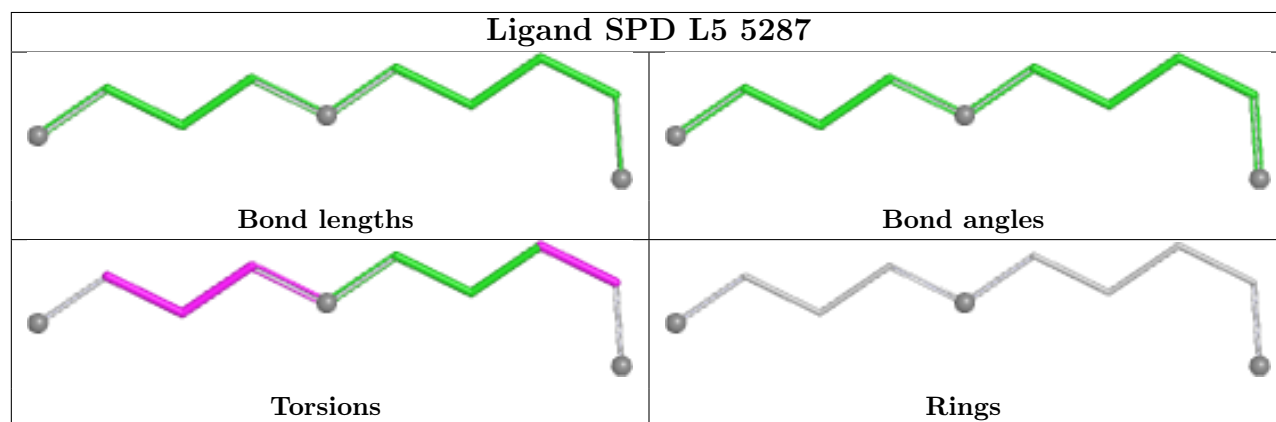
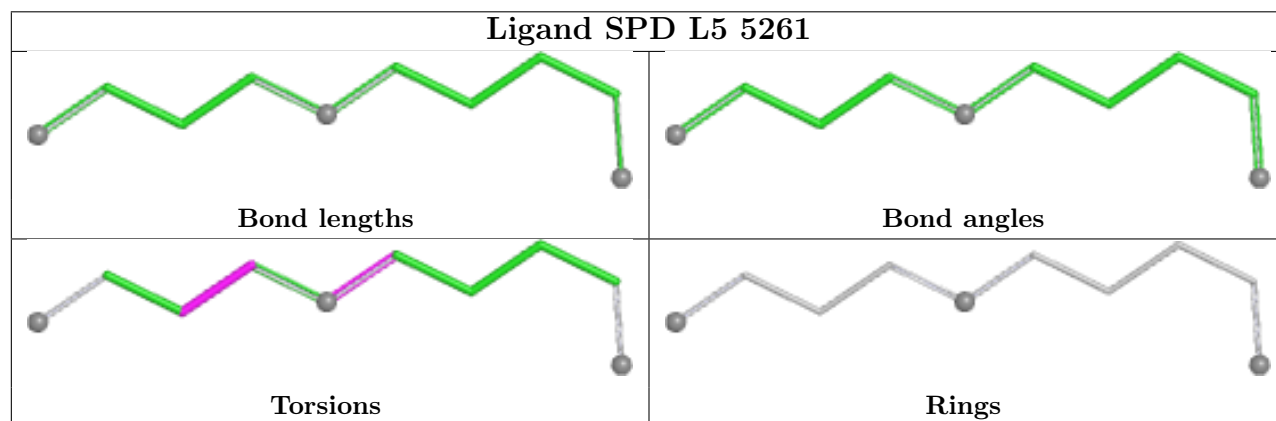
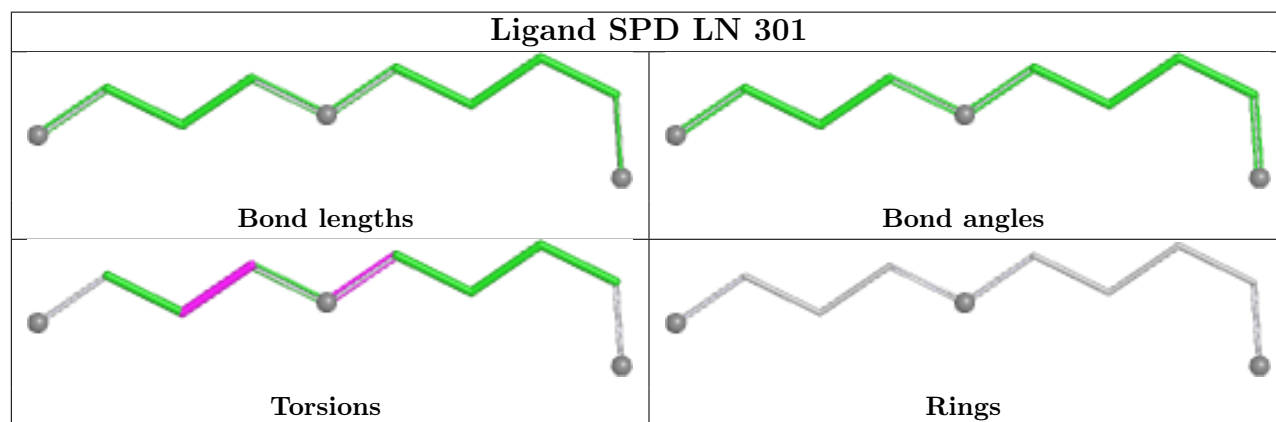
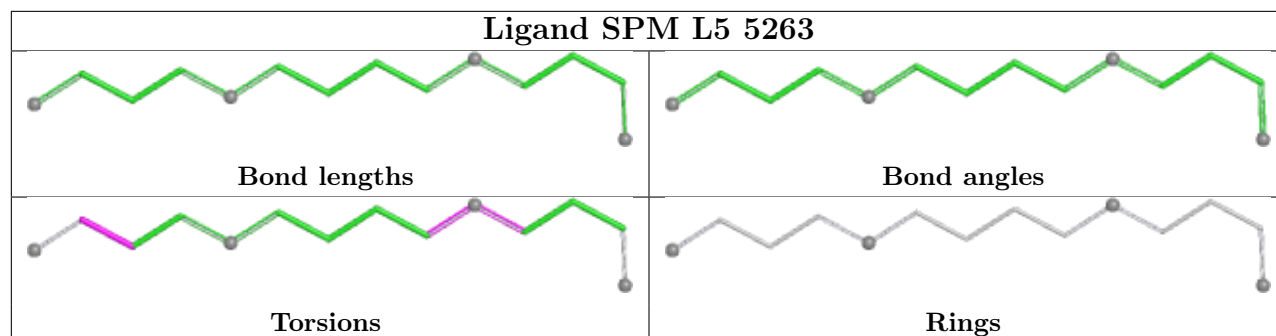
Mol	Chain	Res	Type	Clashes	Symm-Clashes
89	L5	5284	SPD	1	0
88	L5	5288	SPM	1	0
89	L5	5289	SPD	2	0
88	L5	5292	SPM	3	0

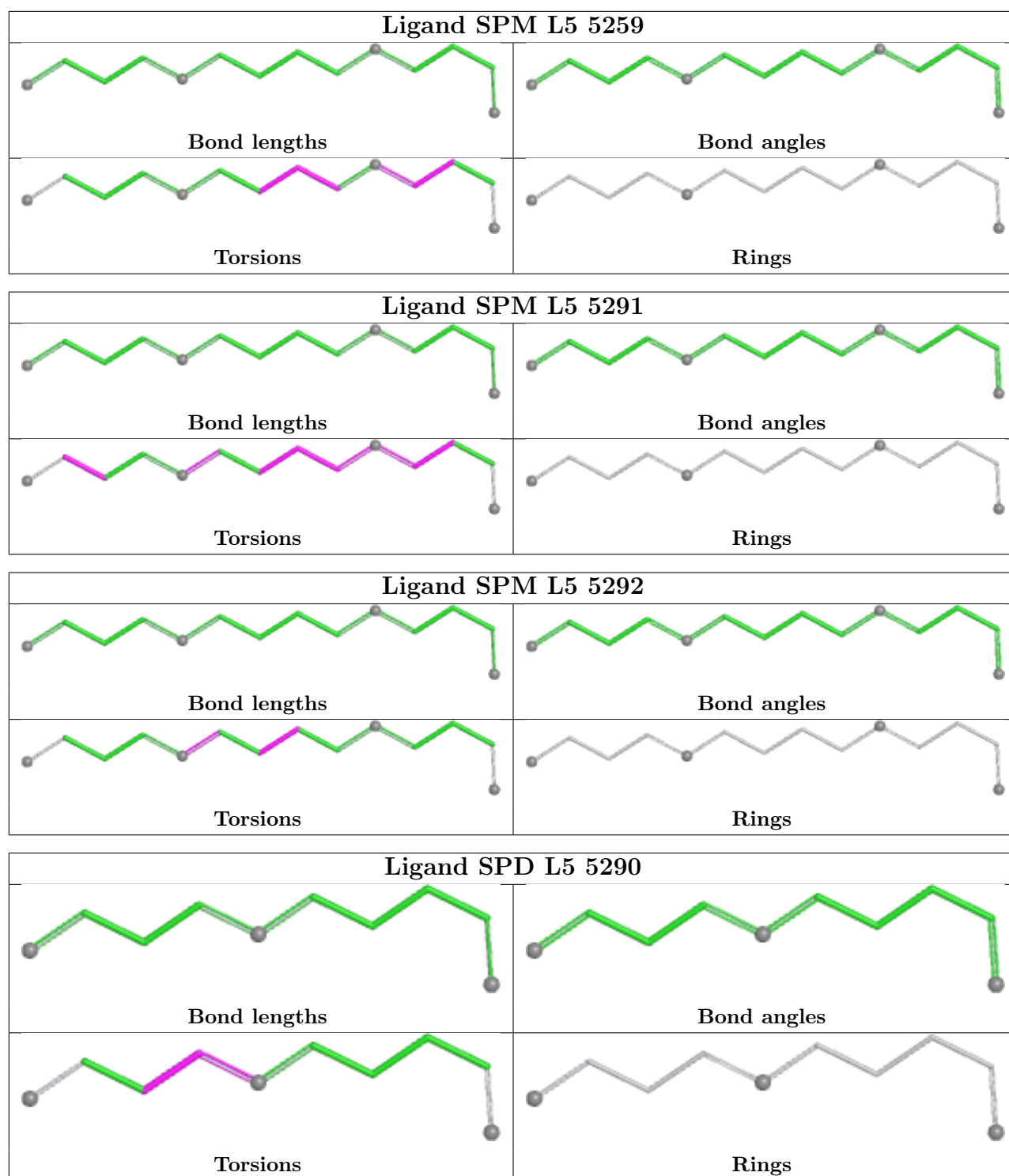
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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











5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
41	L5	10
19	S2	4
68	Lb	1
85	Lt	1
37	At	1
6	SH	1
39	Pt	1
38	Et	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Lb	76:VAL	C	89:VAL	N	34.91
1	S2	753:C	O3'	785:C	P	28.49
1	L5	2910:G	O3'	3584:C	P	21.09
1	L5	1706:A	O3'	1716:G	P	20.80
1	L5	760:G	O3'	903:C	P	16.70
1	L5	3954:A	O3'	4056:A	P	16.32
1	Lt	87:GLU	C	104:ILE	N	15.75
1	L5	519:C	O3'	642:G	P	14.67
1	L5	2112:G	O3'	2249:C	P	14.24
1	S2	739:C	O3'	746:C	P	13.78
1	S2	698:G	O3'	730:C	P	13.75
1	L5	4776:G	O3'	4858:C	P	13.53
1	L5	1222:A	O3'	1234:G	P	12.90
1	At	15:G	O3'	18:G	P	12.04
1	L5	990:C	O3'	1064:G	P	12.03
1	SH	107:LYS	C	111:LYS	N	11.05
1	Pt	15:G	O3'	18:G	P	9.37
1	S2	225:G	O3'	287:U	P	6.87
1	L5	1100:U	O3'	1167:C	P	6.61
1	Et	16:C	O3'	18:U	P	5.89

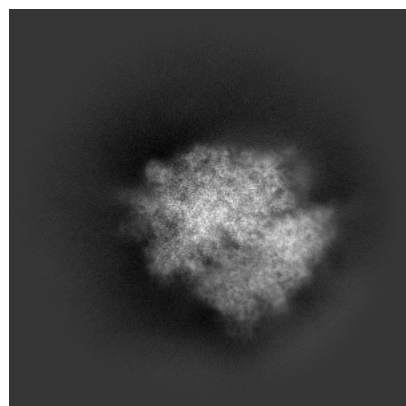
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71357. These allow visual inspection of the internal detail of the map and identification of artifacts.

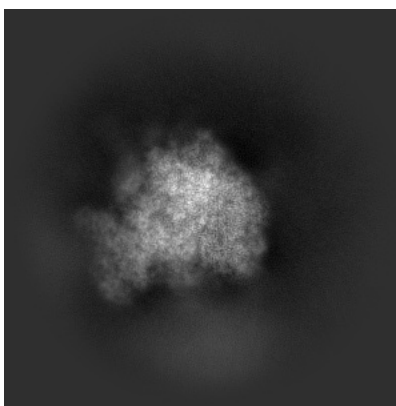
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

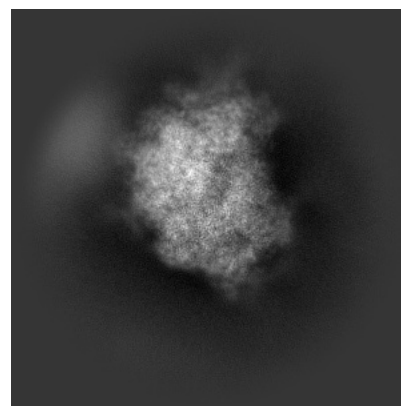
6.1.1 Primary map



X

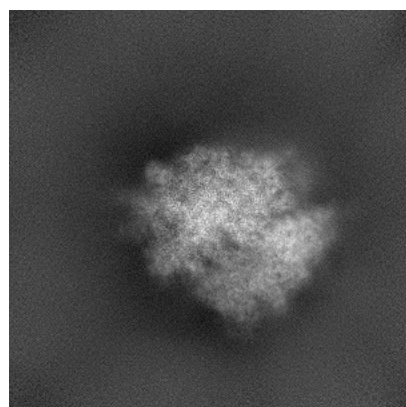


Y

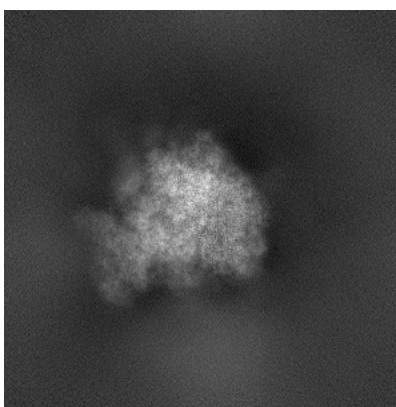


Z

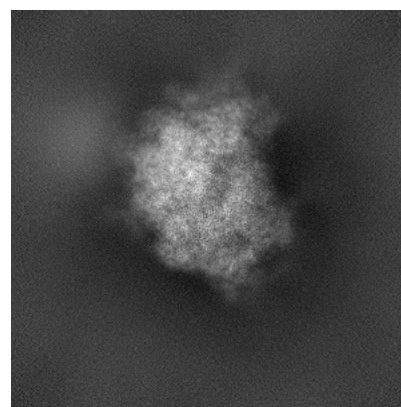
6.1.2 Raw map



X



Y

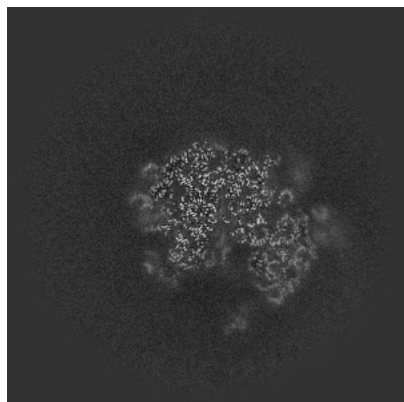


Z

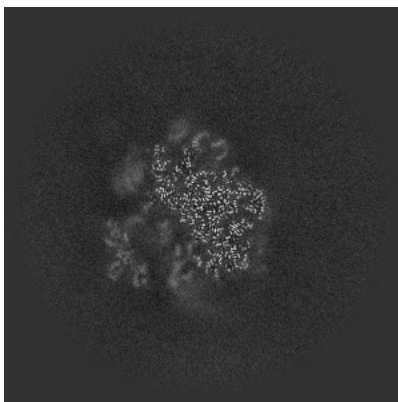
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

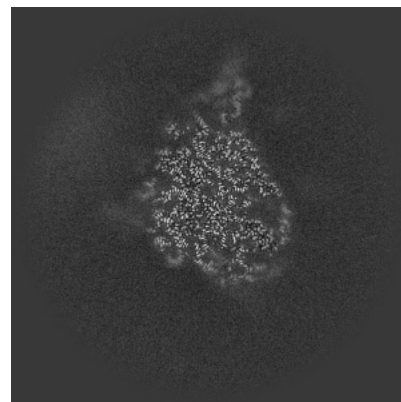
6.2.1 Primary map



X Index: 256

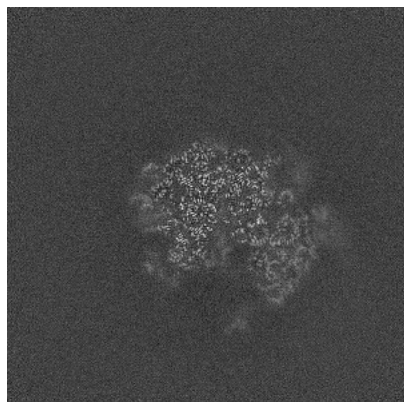


Y Index: 256

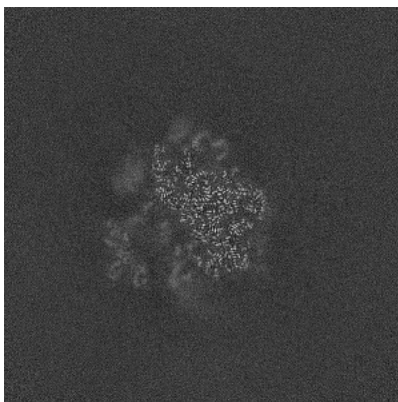


Z Index: 256

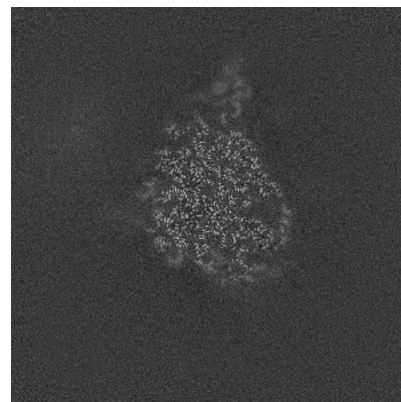
6.2.2 Raw map



X Index: 256



Y Index: 256

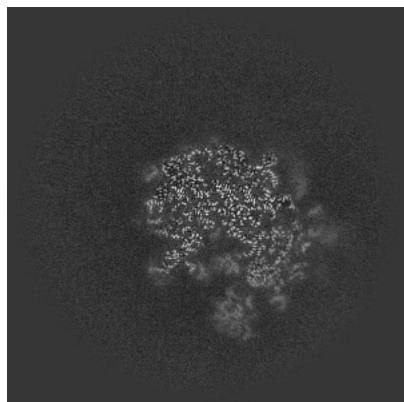


Z Index: 256

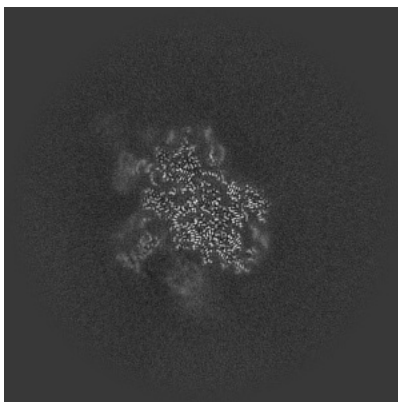
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

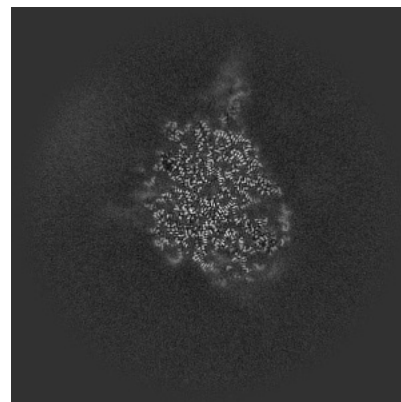
6.3.1 Primary map



X Index: 243

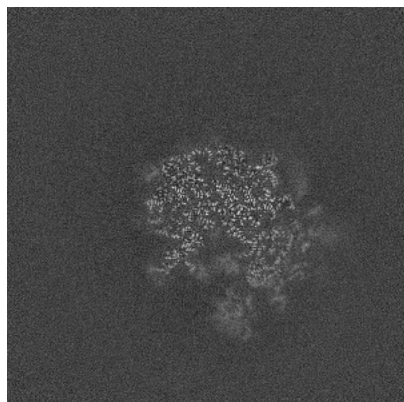


Y Index: 243

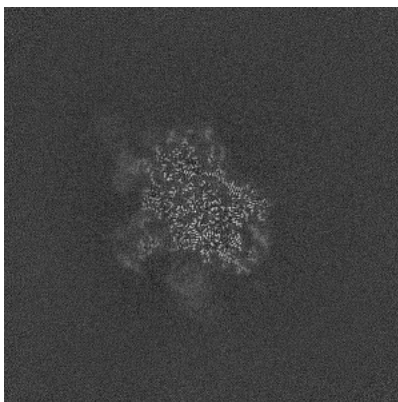


Z Index: 258

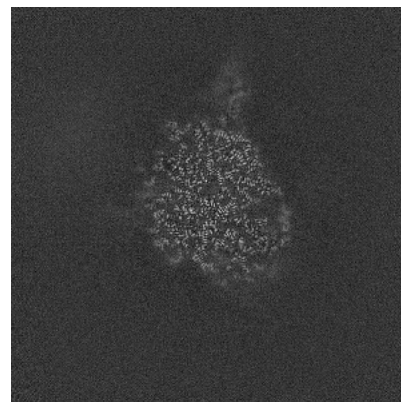
6.3.2 Raw map



X Index: 243



Y Index: 242

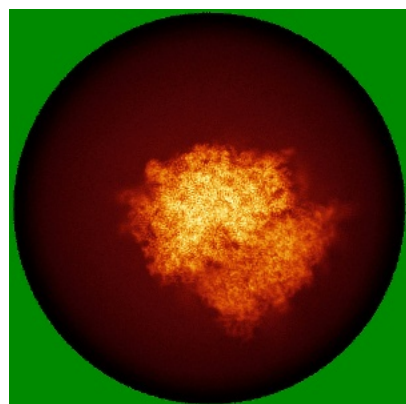


Z Index: 258

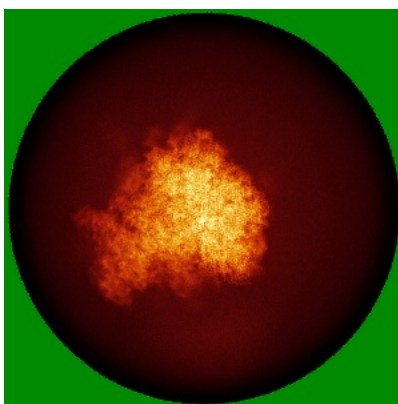
The images above show the largest variance slices of the map in three orthogonal directions.

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

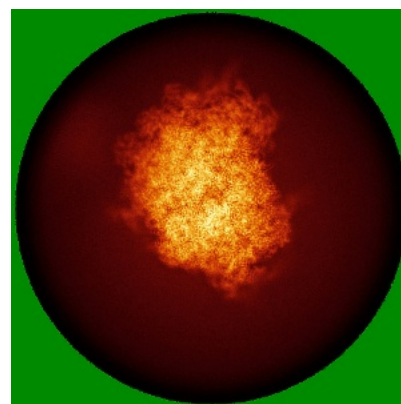
6.4.1 Primary map



X

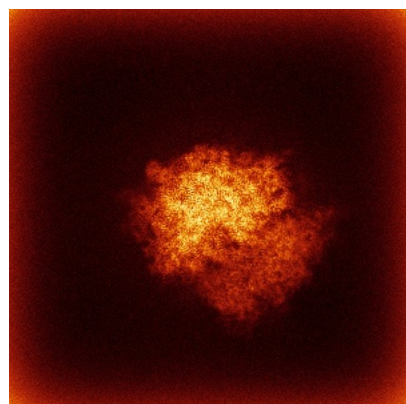


Y

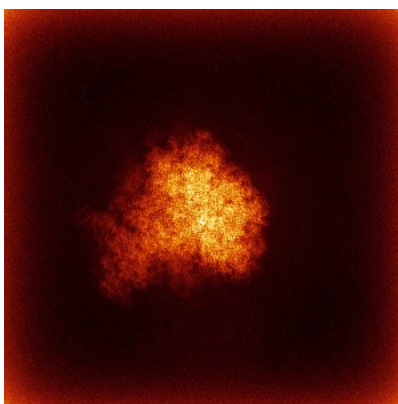


Z

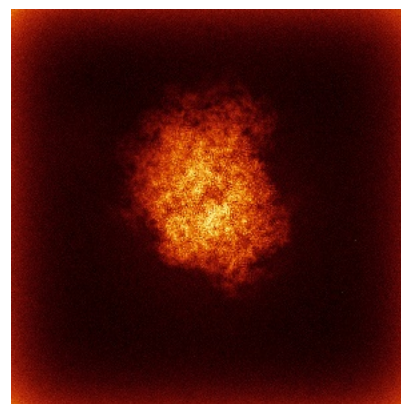
6.4.2 Raw map



X



Y

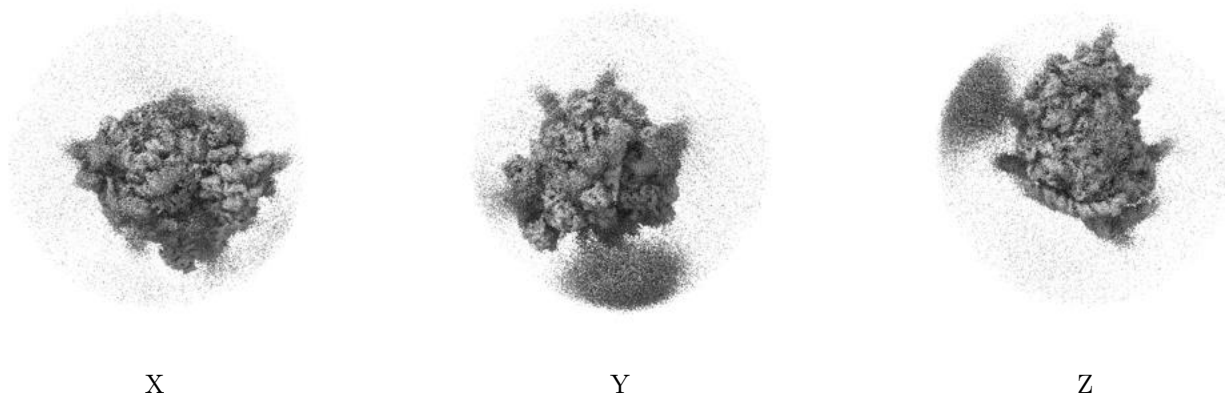


Z

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

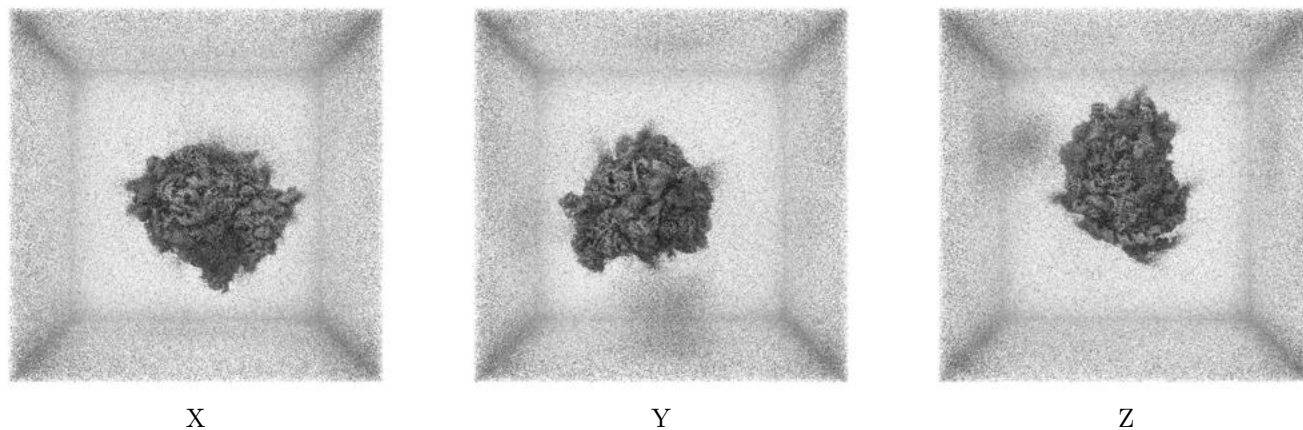
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0121. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

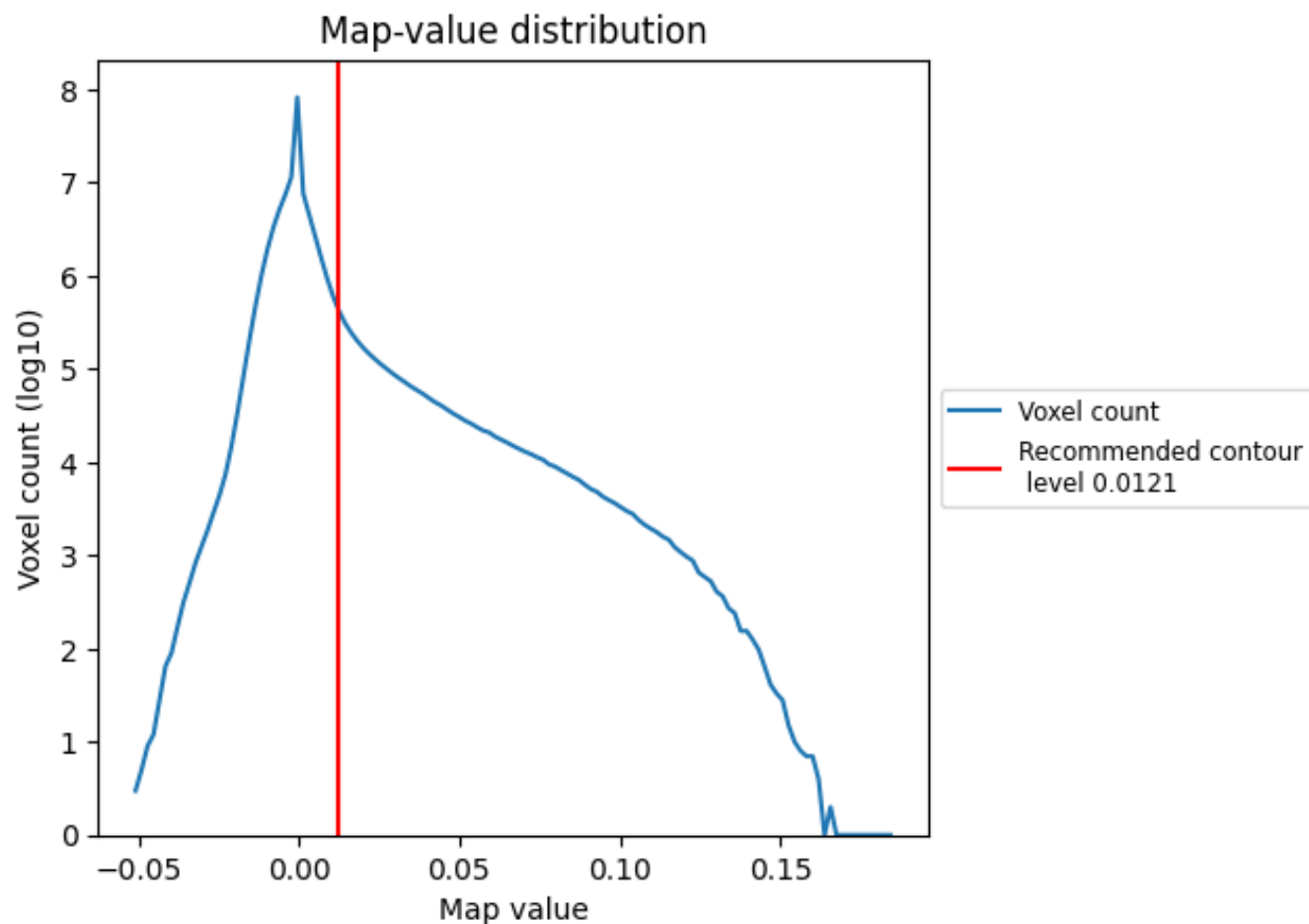
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

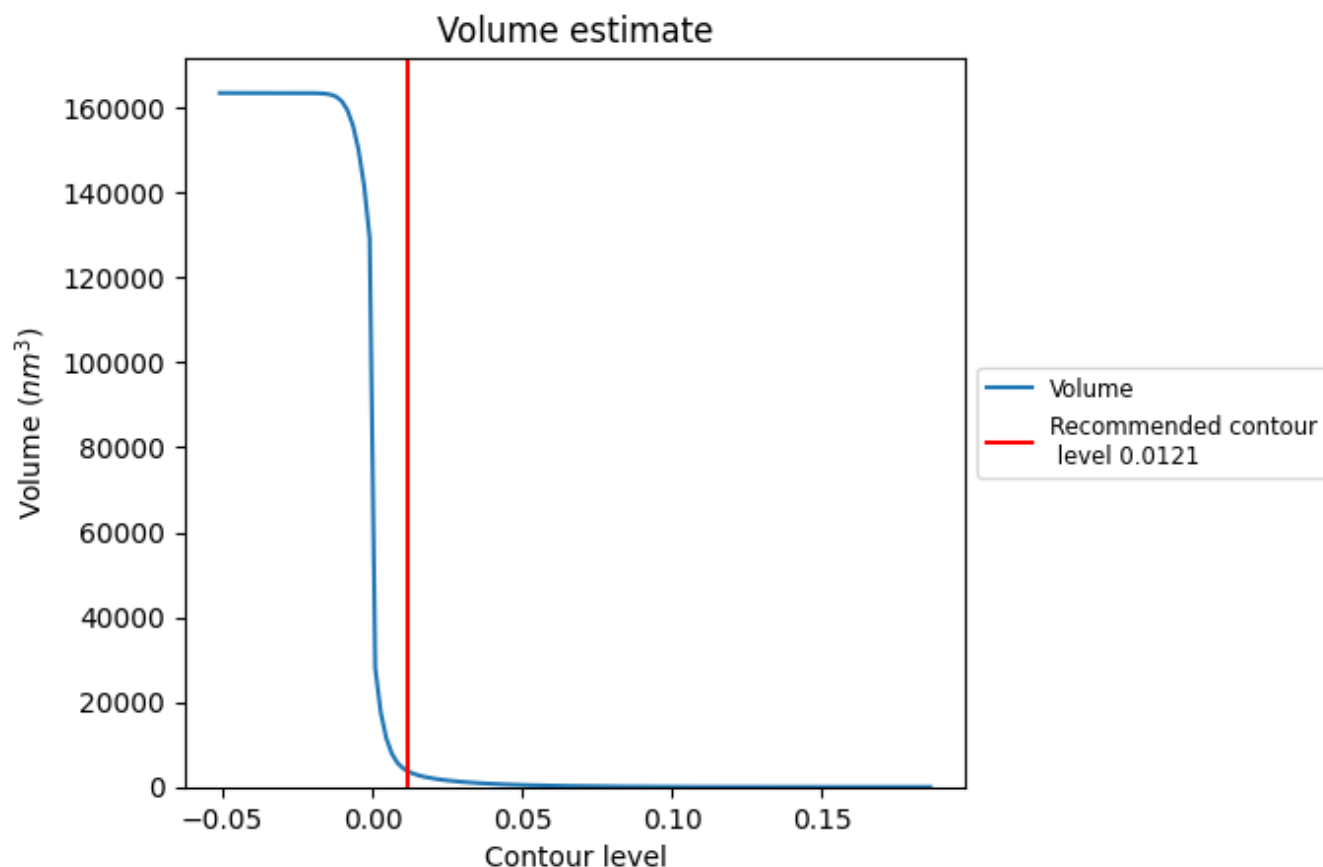
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

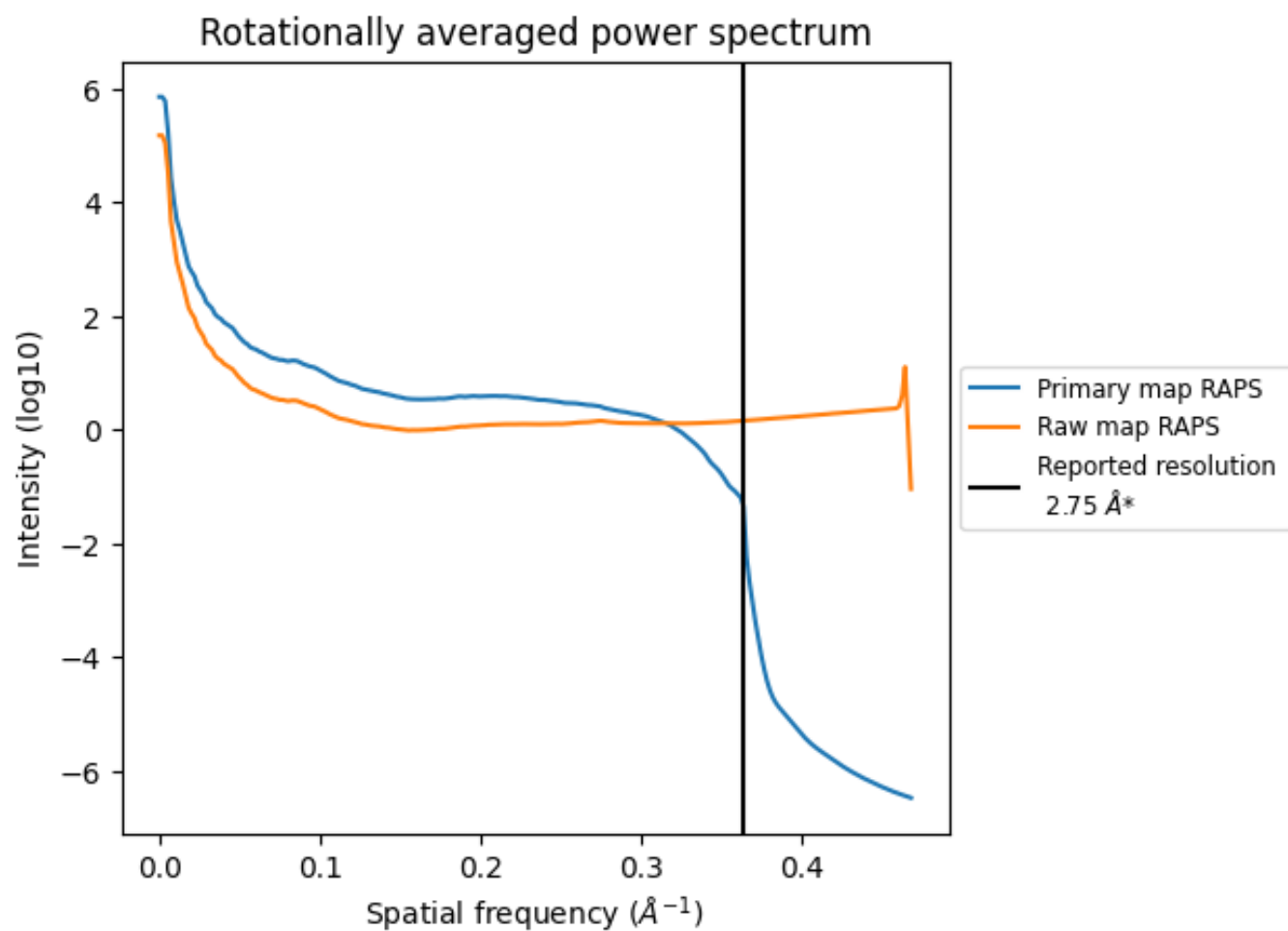
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3611 nm³; this corresponds to an approximate mass of 3262 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 ⓘ

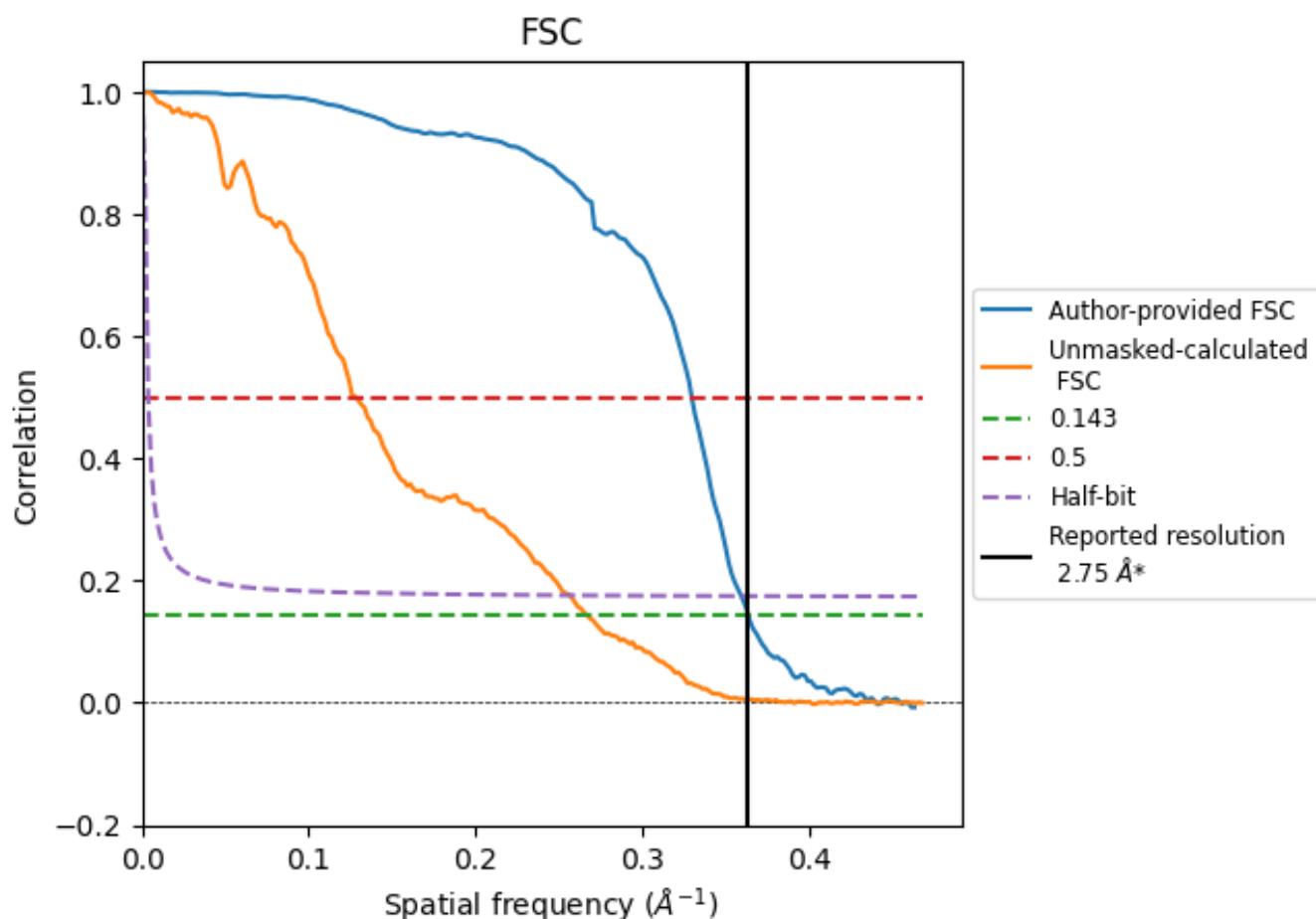


*Reported resolution corresponds to spatial frequency of 0.364 Å⁻¹

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 0.364 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

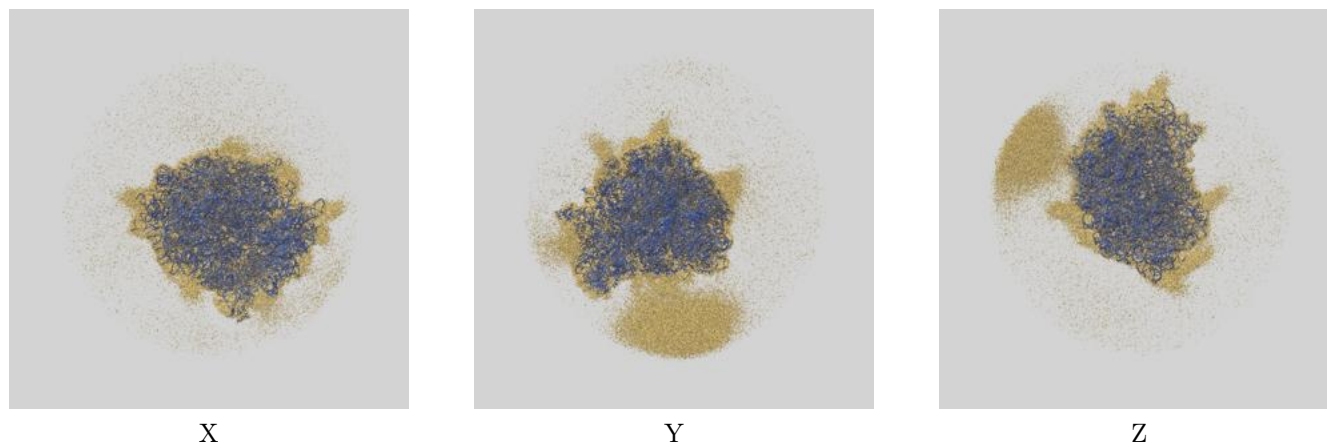
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.75	-	-
Author-provided FSC curve	2.75	3.03	2.78
Unmasked-calculated*	3.74	7.93	3.90

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.74 differs from the reported value 2.75 by more than 10 %

9 Map-model fit [i](#)

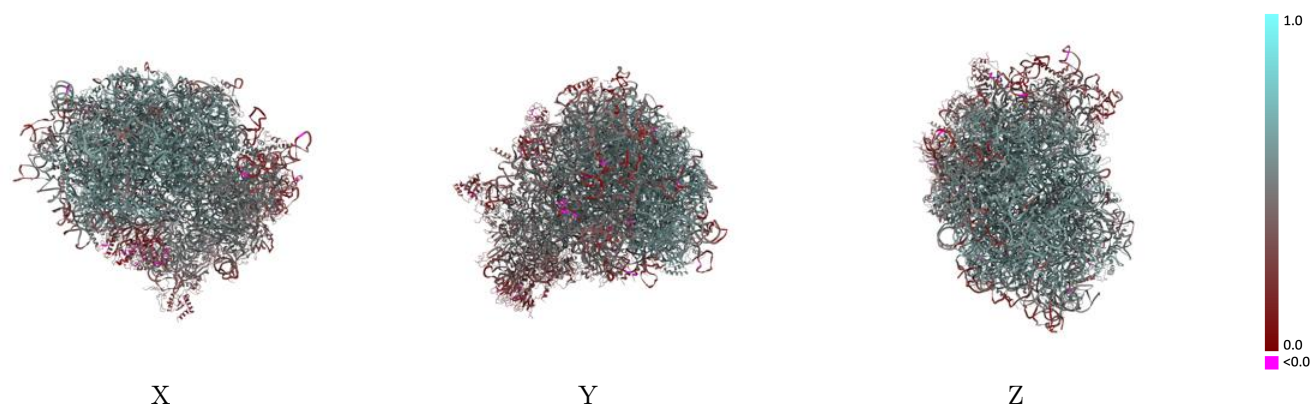
This section contains information regarding the fit between EMDB map EMD-71357 and PDB model 9P7Y. Per-residue inclusion information can be found in section [3](#) on page [24](#).

9.1 Map-model overlay [i](#)



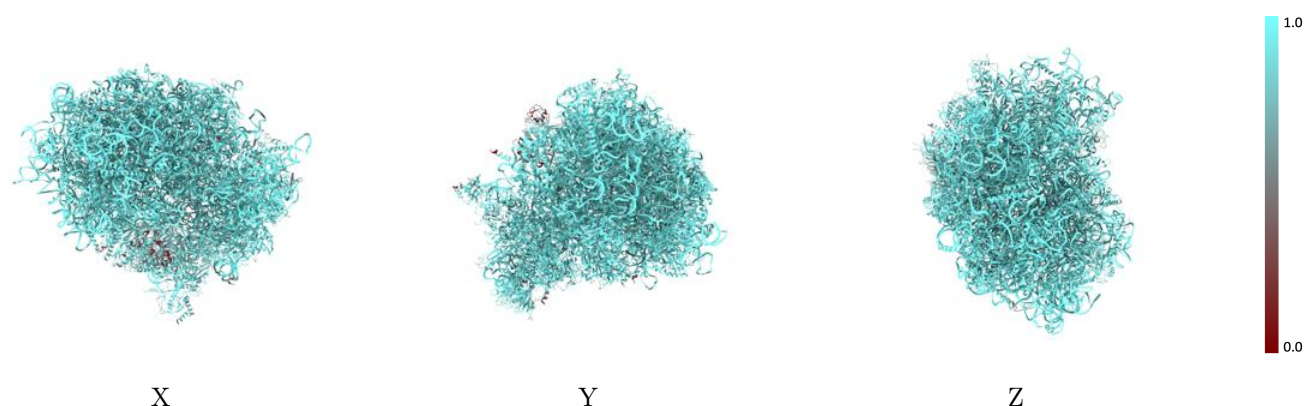
The images above show the 3D surface view of the map at the recommended contour level 0.0121 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



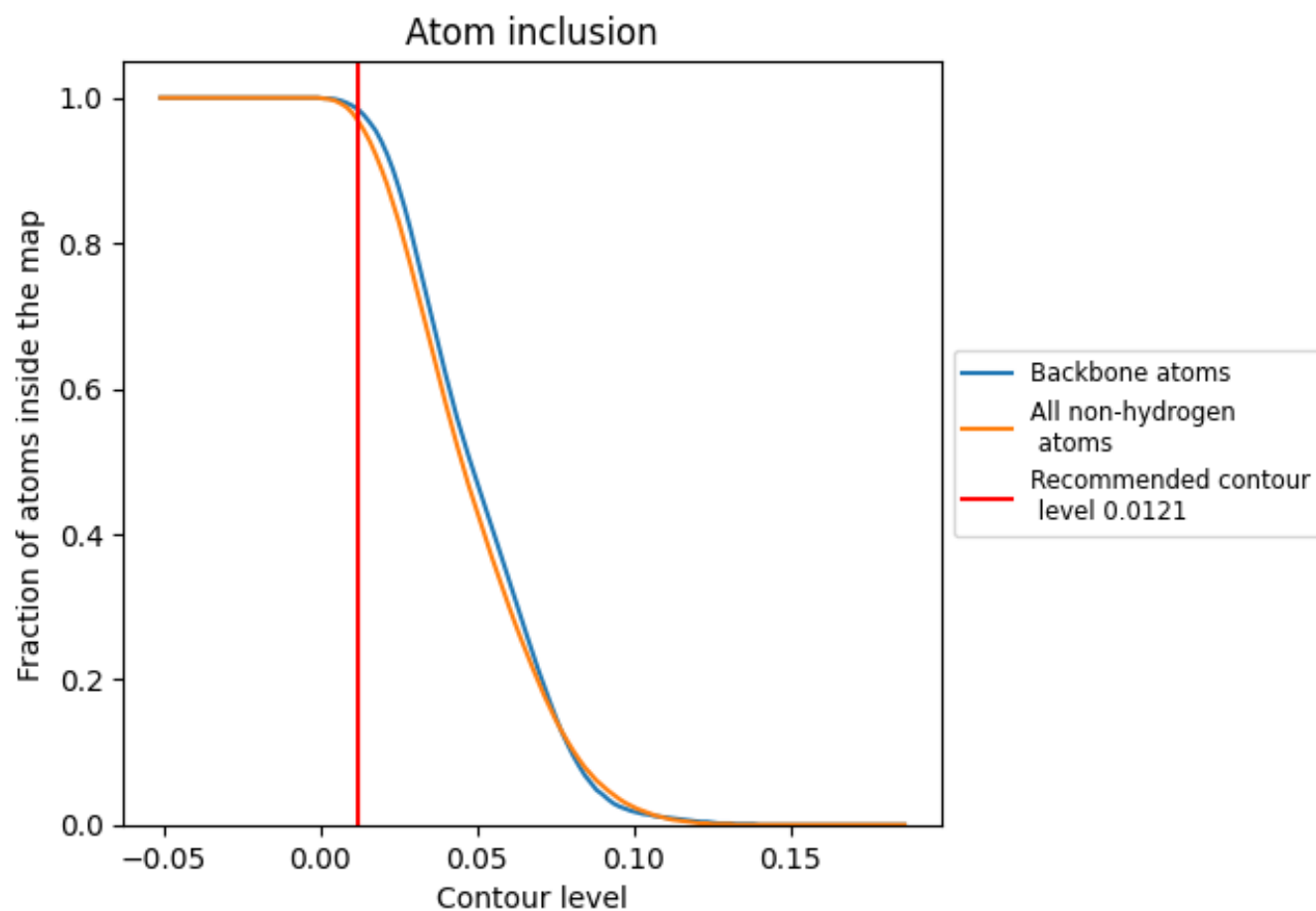
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0121).

9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 97% 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 (0.0121) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9680	 0.5030
At	 0.9640	 0.4070
CI	 0.8830	 0.4810
Et	 0.9320	 0.2110
L5	 0.9870	 0.5420
L7	 0.9980	 0.5830
L8	 0.9930	 0.5670
LA	 0.9910	 0.6000
LB	 0.9700	 0.5890
LC	 0.9720	 0.5830
LD	 0.9690	 0.5450
LE	 0.9510	 0.5250
LF	 0.9900	 0.5920
LG	 0.9390	 0.5320
LH	 0.9780	 0.5740
LI	 0.9740	 0.5800
LJ	 0.9450	 0.5010
LL	 0.9520	 0.5700
LM	 0.9770	 0.5700
LN	 0.9990	 0.6190
LO	 0.9840	 0.5940
LP	 0.9810	 0.5990
LQ	 0.9900	 0.6080
LR	 0.9520	 0.5370
LS	 0.9960	 0.6060
LT	 0.9720	 0.5740
LU	 0.9420	 0.5060
LV	 0.9830	 0.5900
LW	 0.9140	 0.4340
LX	 0.9790	 0.5790
LY	 0.9750	 0.5740
LZ	 0.9850	 0.5650
La	 0.9920	 0.6150
Lb	 0.9400	 0.5310
Lc	 0.9570	 0.5450



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Ld	 0.9760	 0.5750
Le	 0.9910	 0.6060
Lf	 0.9930	 0.6160
Lg	 0.9780	 0.5820
Lh	 0.9720	 0.5730
Li	 0.9750	 0.5690
Lj	 0.9900	 0.6050
Lk	 0.9350	 0.5200
Ll	 0.9860	 0.5880
Lm	 0.9780	 0.5930
Ln	 0.9900	 0.5840
Lo	 0.9810	 0.5800
Lp	 0.9720	 0.5820
Lr	 0.9860	 0.5920
Ls	 0.6000	 0.1910
Lt	 0.5670	 0.1720
Pt	 0.9730	 0.4320
S2	 0.9920	 0.4610
SA	 0.9210	 0.3970
SB	 0.9190	 0.3960
SC	 0.9600	 0.4650
SD	 0.9240	 0.4040
SE	 0.9610	 0.4600
SF	 0.9080	 0.3520
SG	 0.9270	 0.4090
SH	 0.8910	 0.3420
SI	 0.9400	 0.4630
SJ	 0.9360	 0.4220
SK	 0.9230	 0.3850
SL	 0.9430	 0.4880
SM	 0.8090	 0.2460
SN	 0.9620	 0.4590
SO	 0.9240	 0.4330
SP	 0.9140	 0.4100
SQ	 0.9130	 0.3600
SR	 0.9040	 0.3500
SS	 0.9040	 0.3730
ST	 0.9320	 0.3650
SU	 0.9270	 0.3870
SV	 0.9410	 0.4190
SW	 0.9730	 0.4860
SX	 0.9640	 0.5240

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
SY	 0.8990	 0.3910
SZ	 0.8700	 0.3240
Sa	 0.9470	 0.4530
Sb	 0.9360	 0.4050
Sc	 0.8830	 0.3570
Sd	 0.9710	 0.4660
Se	 0.8720	 0.3980
Sf	 0.8670	 0.3040
Sg	 0.9030	 0.2570