



Full wwPDB EM Validation Report ⓘ

Dec 17, 2025 – 04:29 PM EST

PDB ID : 9P7W / pdb_00009p7w
EMDB ID : EMD-71355
Title : In situ human A-P state 80S ribosome
Authors : Zheng, W.; Xiong, Y.
Deposited on : 2025-06-22
Resolution : 2.93 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

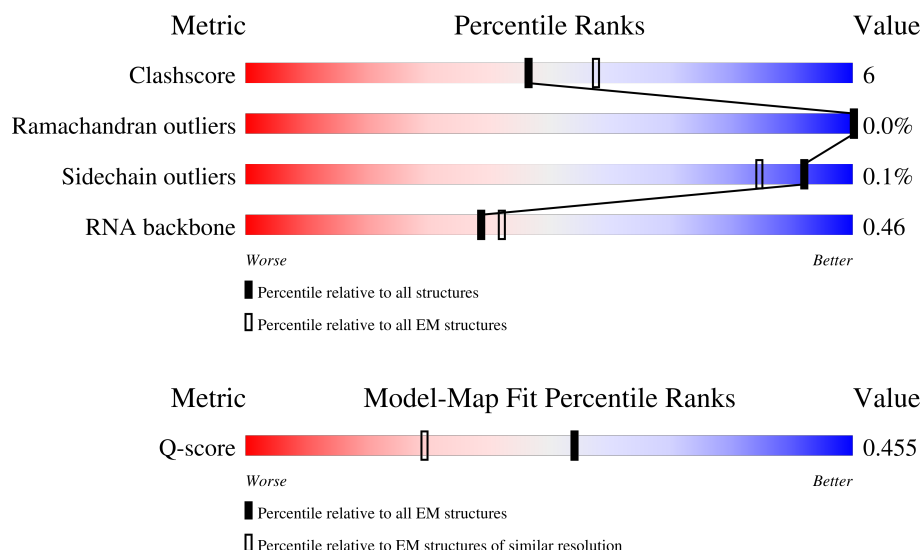
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.93 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.



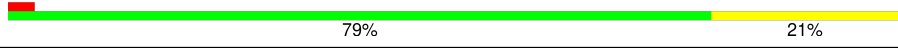
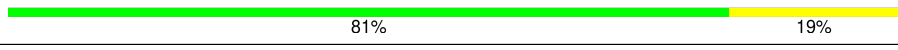
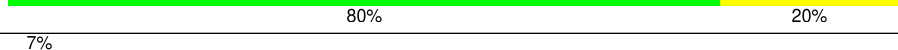
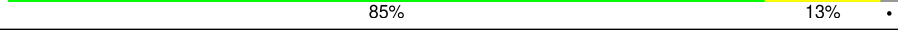
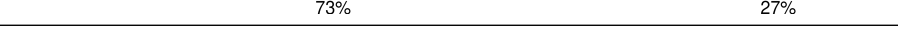
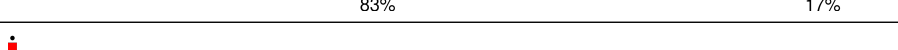
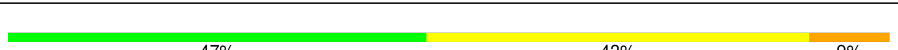
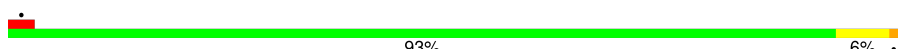
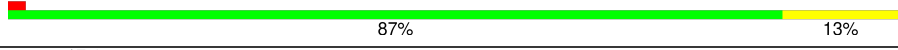
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	13037 (2.43 - 3.43)

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	

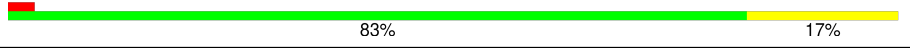
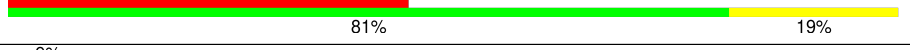
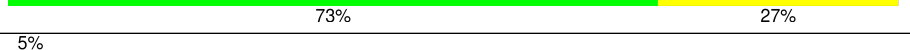
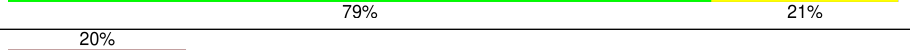
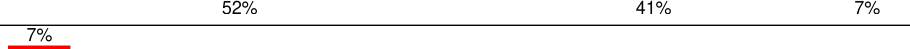
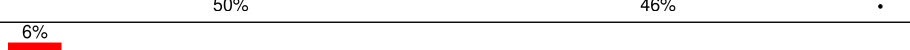
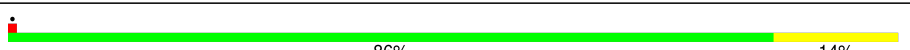
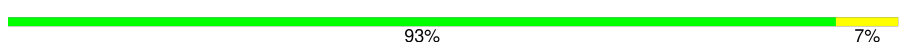
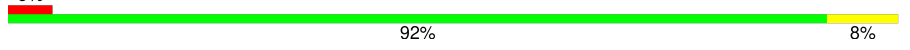
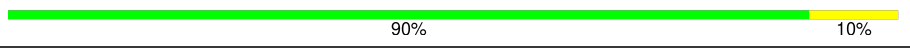
Continued on next page...

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	

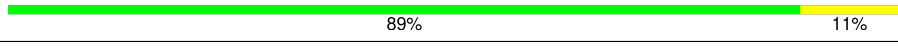
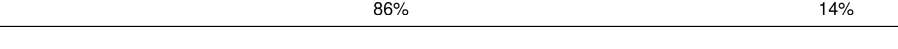
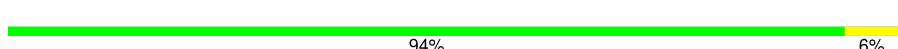
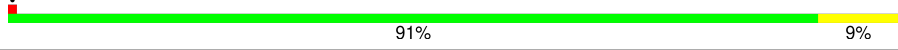
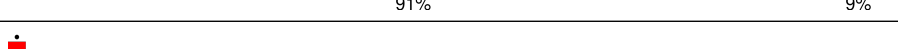
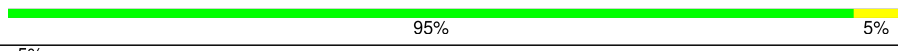
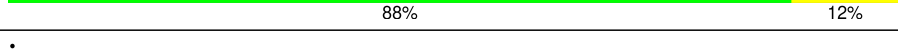
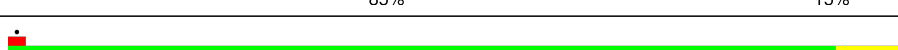
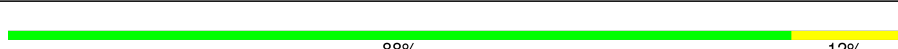
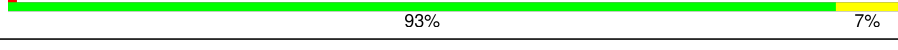
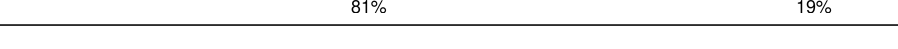
Continued on next page...

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	Pt	74	
39	CI	31	
40	L5	3655	
41	L7	120	
42	L8	156	
43	LA	248	
44	LB	402	
45	LC	368	
46	LD	293	
47	LE	250	
48	LF	225	
49	LG	241	
50	LH	190	
51	LI	213	
52	LJ	176	
53	LL	210	

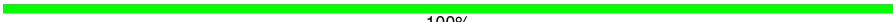
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
54	LM	139	
55	LN	203	
56	LO	201	
57	LP	153	
58	LQ	187	
59	LS	175	
60	LT	159	
61	LU	101	
62	LV	131	
63	LX	120	
64	LY	134	
65	LZ	135	
66	La	147	
67	Lb	109	
68	Lc	98	
69	Ld	107	
70	Le	128	
71	Lf	109	
72	Lg	114	
73	Lh	122	
74	Li	102	
75	Lj	86	
76	Lk	69	
77	Ll	50	
78	Lm	52	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
79	Ln	24	 100%
80	Lo	105	 10% 90% 10%
81	Lp	91	 89% 11%
82	Lr	125	 90% 10%
83	Ls	196	 48% 86% 14%
84	Lt	141	 50% 80% 15% 5%

2 Entry composition

There are 88 unique types of molecules in this entry. The entry contains 219891 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 [Homo sapiens].

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 P site tRNA.

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

- Molecule 39 is a protein called Transcription factor BTF3.

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

- Molecule 40 is a RNA chain called 28S rRNA.

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

- Molecule 41 is a RNA chain called 5S rRNA.

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

- Molecule 42 is a RNA chain called 5.8S rRNA.

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

- Molecule 43 is a protein called 60S ribosomal protein L8.

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

- Molecule 44 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 45 is a protein called 60S ribosomal protein L4.

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

- Molecule 46 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 47 is a protein called Large ribosomal subunit protein eL6.

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

- Molecule 48 is a protein called 60S ribosomal protein L7.

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

- Molecule 49 is a protein called 60S ribosomal protein L7a.

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

- Molecule 50 is a protein called 60S ribosomal protein L9.

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

- Molecule 51 is a protein called Ribosomal protein uL16-like.

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

- Molecule 52 is a protein called 60S ribosomal protein L11.

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

- Molecule 53 is a protein called Large ribosomal subunit protein eL13.

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

- Molecule 54 is a protein called 60S ribosomal protein L14.

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

- Molecule 55 is a protein called 60S ribosomal protein L15.

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

- Molecule 56 is a protein called 60S ribosomal protein L13a.

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

- Molecule 57 is a protein called 60S ribosomal protein L17.

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

- Molecule 58 is a protein called 60S ribosomal protein L18.

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

- Molecule 59 is a protein called 60S ribosomal protein L18a.

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

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

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

- Molecule 61 is a protein called Heparin-binding protein HBp15.

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

- Molecule 62 is a protein called 60S ribosomal protein L23.

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

- Molecule 63 is a protein called 60S ribosomal protein L23a.

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

- Molecule 64 is a protein called 60S ribosomal protein L26.

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

- Molecule 65 is a protein called 60S ribosomal protein L27.

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

- Molecule 66 is a protein called 60S ribosomal protein L27a.

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

- Molecule 67 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	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 68 is a protein called 60S ribosomal protein L30.

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

- Molecule 69 is a protein called 60S ribosomal protein L31.

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

- Molecule 70 is a protein called 60S ribosomal protein L32.

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

- Molecule 71 is a protein called 60S ribosomal protein L35a.

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

- Molecule 72 is a protein called 60S ribosomal protein L34.

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

- Molecule 73 is a protein called 60S ribosomal protein L35.

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

- Molecule 74 is a protein called 60S ribosomal protein L36.

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

- Molecule 75 is a protein called 60S ribosomal protein L37.

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

- Molecule 76 is a protein called 60S ribosomal protein L38.

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

- Molecule 77 is a protein called 60S ribosomal protein L39.

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

- Molecule 78 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 79 is a protein called 60S ribosomal protein L41.

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

- Molecule 80 is a protein called 60S ribosomal protein L36a.

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

- Molecule 81 is a protein called 60S ribosomal protein L37a.

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

- Molecule 82 is a protein called 60S ribosomal protein L28.

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

- Molecule 83 is a protein called 60S acidic ribosomal protein P0.

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

- Molecule 84 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	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

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
Lt	?	-	HIS	deletion	UNP P30050
Lt	?	-	SER	deletion	UNP P30050
Lt	?	-	GLY	deletion	UNP P30050
Lt	?	-	ASN	deletion	UNP P30050

- Molecule 85 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
85	SG	1	Total	Mg	0
			1	1	
85	S2	26	Total	Mg	0
			26	26	
85	SS	1	Total	Mg	0
			1	1	
85	L5	178	Total	Mg	0
			178	178	
85	L7	3	Total	Mg	0
			3	3	
85	L8	6	Total	Mg	0
			6	6	
85	LA	1	Total	Mg	0
			1	1	
85	LP	1	Total	Mg	0
			1	1	
85	LV	1	Total	Mg	0
			1	1	
85	Le	1	Total	Mg	0
			1	1	

- Molecule 86 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

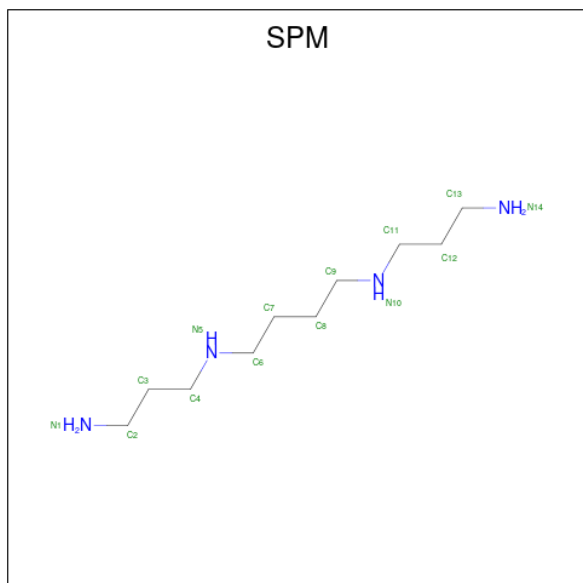
Mol	Chain	Residues	Atoms		AltConf
86	Sa	1	Total	Zn	0
			1	1	
86	Lg	1	Total	Zn	0
			1	1	
86	Lj	1	Total	Zn	0
			1	1	
86	Lm	1	Total	Zn	0
			1	1	

Continued on next page...

Continued from previous page...

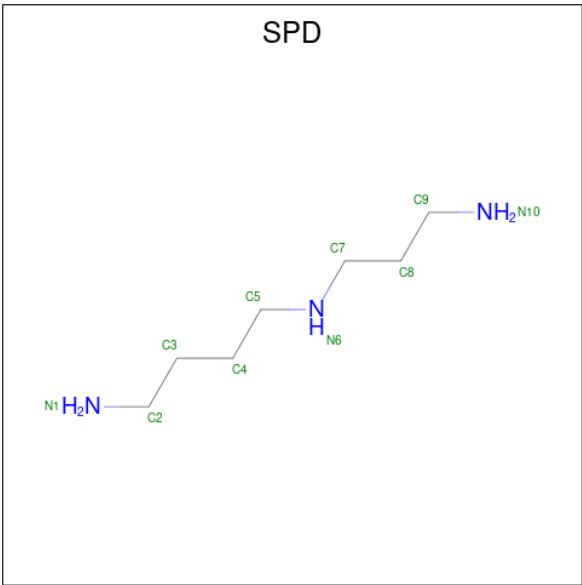
Mol	Chain	Residues	Atoms		AltConf
86	Lo	1	Total	Zn	0
			1	1	
86	Lp	1	Total	Zn	0
			1	1	

- Molecule 87 is SPERMINE (CCD ID: SPM) (formula: $C_{10}H_{26}N_4$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 88 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$) (labeled as "Ligand of Interest" by depositor).

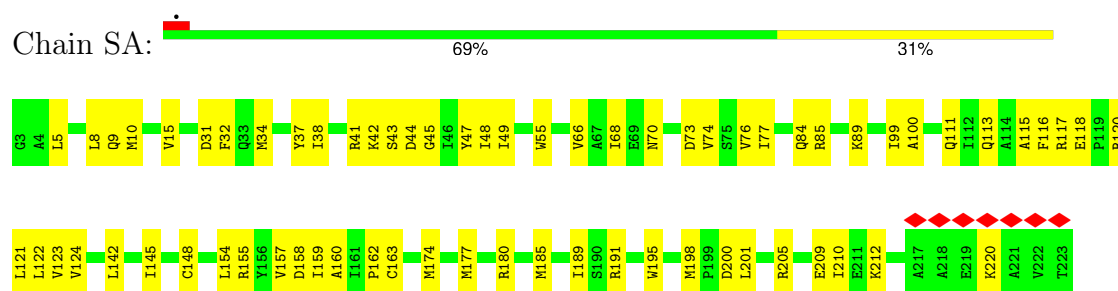


Mol	Chain	Residues	Atoms			AltConf
88	L5	1	Total	C	N	0
			10	7	3	
88	L5	1	Total	C	N	0
			10	7	3	
88	L5	1	Total	C	N	0
			10	7	3	
88	L5	1	Total	C	N	0
			10	7	3	
88	L5	1	Total	C	N	0
			10	7	3	
88	L5	1	Total	C	N	0
			10	7	3	
88	L5	1	Total	C	N	0
			10	7	3	
88	L8	1	Total	C	N	0
			10	7	3	
88	LN	1	Total	C	N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

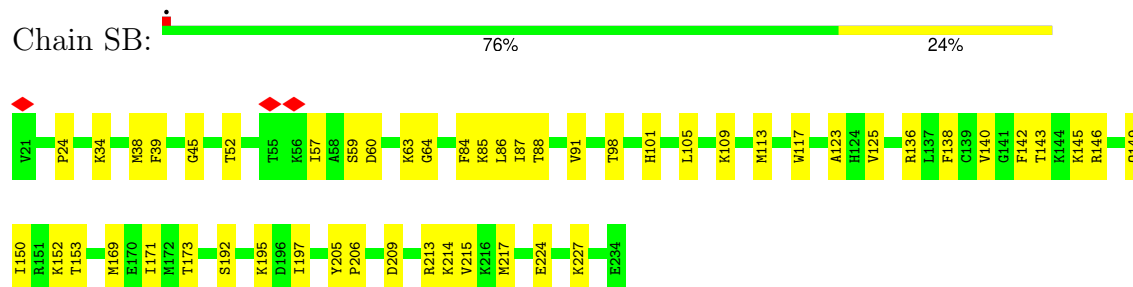
3 Residue-property plots

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.

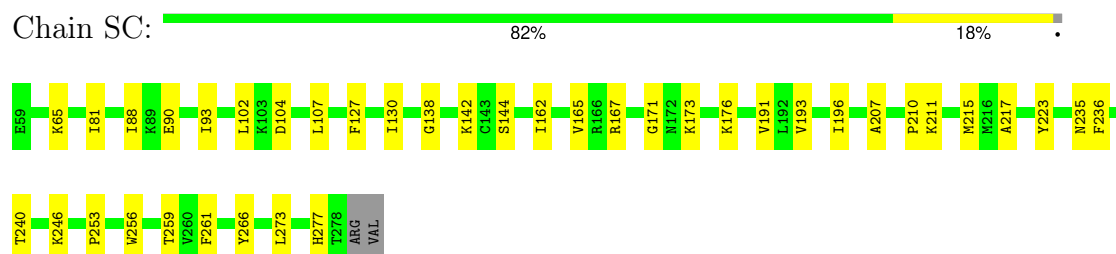
- Molecule 1: 40S ribosomal protein SA



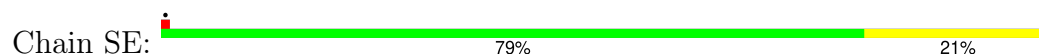
- Molecule 2: 40S ribosomal protein S3a

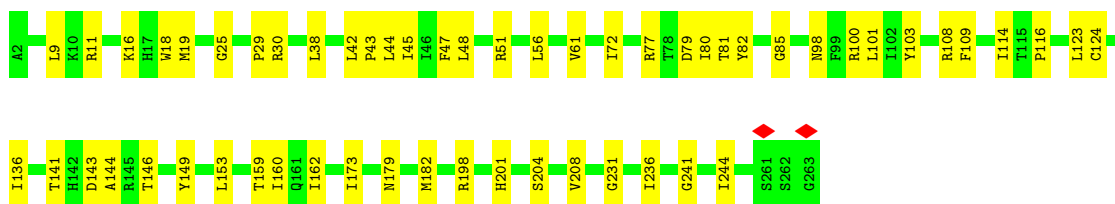


- Molecule 3: 40S ribosomal protein S2

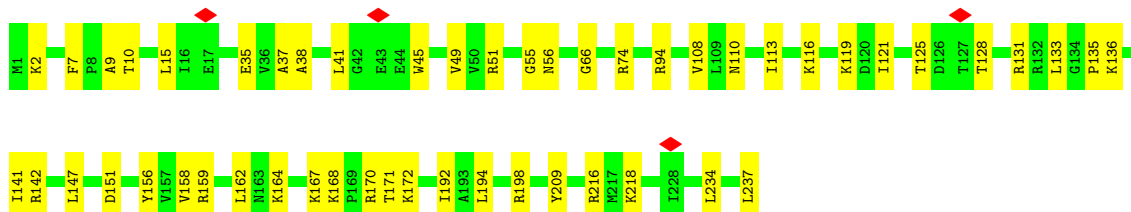
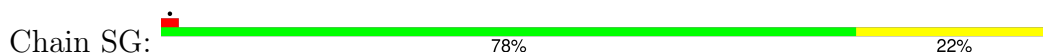


- Molecule 4: Small ribosomal subunit protein eS4, X isoform

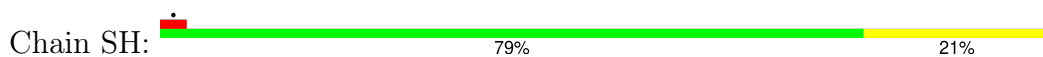




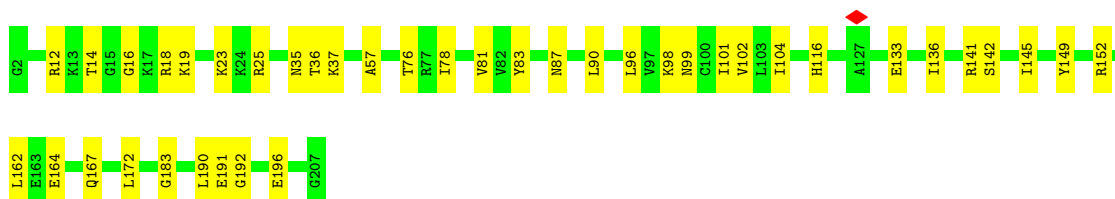
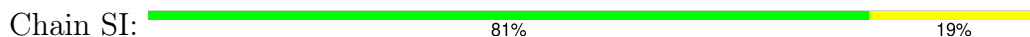
• Molecule 5: 40S ribosomal protein S6



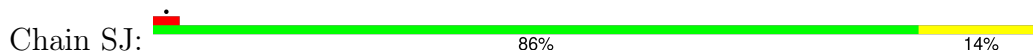
• Molecule 6: Small ribosomal subunit protein eS7



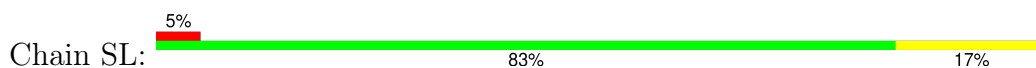
• Molecule 7: 40S ribosomal protein S8



• Molecule 8: 40S ribosomal protein S9

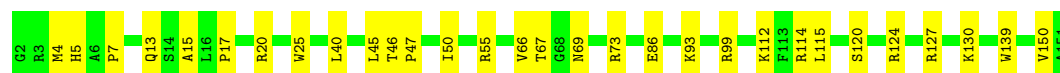
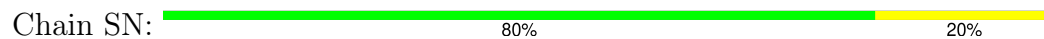


• Molecule 9: 40S ribosomal protein S11

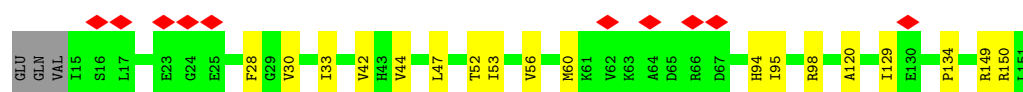
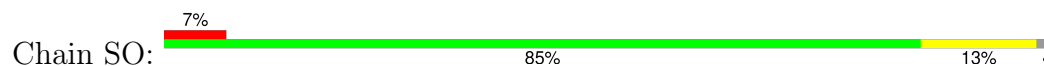




- Molecule 10: 40S ribosomal protein S13



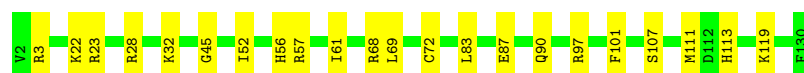
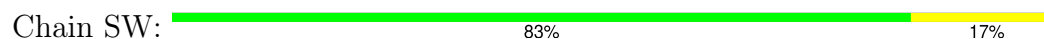
- Molecule 11: Small ribosomal subunit protein uS11



- Molecule 12: Small ribosomal subunit protein eS21



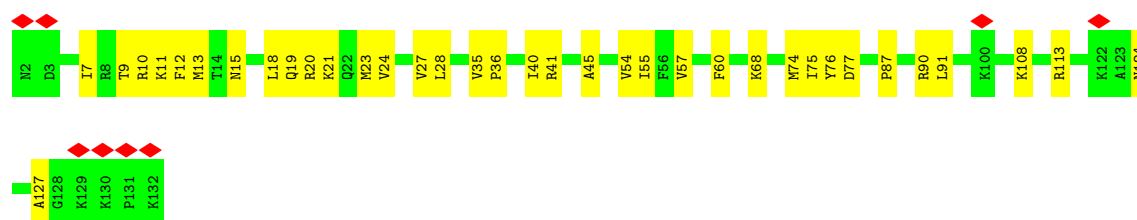
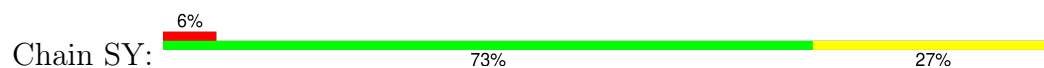
- Molecule 13: 40S ribosomal protein S15a

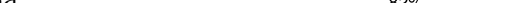


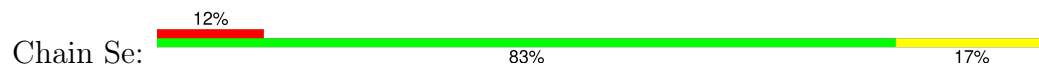
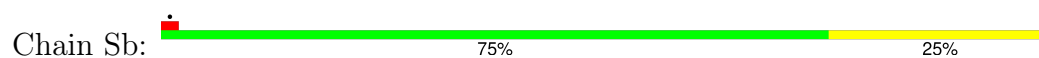
- Molecule 14: 40S ribosomal protein S23



- Molecule 15: 40S ribosomal protein S24



- Chain Sa:  82% 18%

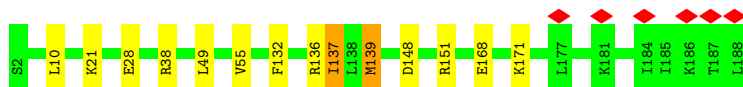


C1687	C1688	C1689	U1692	G1693	U1694	A1695	C1698	A1699	C1700	C1701	G1702	C1703	C1704	G1705	G1706	U1707	C1710	U1711	C1713	U1714	A1715	U1721	G1722	U1727	U1728	U1729	U1733	G1734	A1735	G1736	G1737	C1740	U1741	C1742	G1743	U1744	A1745	G1748	C1752	C1753	G1754	C1755	C1756	G1757	G1758	G1759	U1760	U1761	C1762	C1767	A1768	C1769	G1770	G1771	C1772	C1773	C1774	G1777	C1778	G1779	G1780	A1781	G1782	C1783	G1784	C1785	U1786	A1791	U1797	C1798	A1801	C1802	U1803	U1804	G1805	A1806	U1810	G1820	U1821	A1822	A1823	A1824	G1829	A1832	A1835	U1838	U1839	N1842	A1845	G1846	G1849	A1850	A1851	C1852	C1853	C1687	C1688	C1689	U1692	G1693	U1694	A1695	C1698	A1699	C1700	C1701	G1702	C1703	C1704	G1705	G1706	U1707	C1710	U1711	C1713	U1714	A1715	U1721	G1722	U1727	U1728	U1729	U1733	G1734	A1735	G1736	G1737	C1740	U1741	C1742	G1743	U1744	A1745	G1748	C1752	C1753	G1754	C1755	C1756	G1757	G1758	G1759	U1760	U1761	C1762	C1767	A1768	C1769	G1770	G1771	C1772	C1773	C1774	G1777	C1778	G1779	G1780	A1781	G1782	C1783	G1784	C1785	U1786	A1791	U1797	C1798	A1801	C1802	U1803	U1804	G1805	A1806	U1810	G1820	U1821	A1822	A1823	A1824	G1829	A1832	A1835	U1838	U1839	N1842	A1845	G1846	G1849	A1850	A1851	C1852	C1853																		
G1613	A1614	U1615	U1616	G1617	U1621	U1622	U1623	C1627	C1628	U1631	G1632	A1633	A1634	A1637	G1638	G1639	C1644	C1645	C1646	A1647	G1648	U1649	A1650	A1651	G1652	U1653	G1654	C1655	G1656	G1657	G1658	A1661	U1662	A1663	A1664	C1665	C1666	U1667	U1668	G1671	U1672	U1673	G1674	A1679	G1680	U1681	C1682	C1683	G1684	G1685	C1686	C1687	A1692	G1693	U1694	A1695	C1698	A1699	C1700	C1701	G1702	C1703	C1704	G1705	G1706	U1707	C1710	U1711	C1713	U1714	A1715	U1721	G1722	U1727	U1728	U1729	U1733	G1734	A1735	G1736	G1737	C1740	U1741	C1742	G1743	U1744	A1745	G1748	C1752	C1753	G1754	C1755	C1756	G1757	G1758	G1759	U1760	U1761	C1762	C1767	A1768	C1769	G1770	G1771	C1772	C1773	C1774	G1777	C1778	G1779	G1780	A1781	G1782	C1783	G1784	C1785	U1786	A1791	U1797	C1798	A1801	C1802	U1803	U1804	G1805	A1806	U1810	G1820	U1821	A1822	A1823	A1824	G1829	A1832	A1835	U1838	U1839	N1842	A1845	G1846	G1849	A1850	A1851	C1852	C1853																																																																
C1453	A1454	U1462	U1463	G1466	C1467	A1469	A1487	C1488	A1489	G1490	C1491	U1492	U1493	U1494	U1495	U1496	C1501	C1502	U1503	U1504	U1507	C1513	G1514	G1515	G1516	G1517	C1518	U1519	C1521	A1522	C1523	G1524	C1525	G1526	C1529	U1530	A1531	C1532	A1533	G1534	U1535	G1536	G1537	C1538	U1539	G1540	G1541	C1542	A1543	C1544	C1545	C1546	C1547	G1550	U1551	G1552	C1553	C1554	U1555	C1558	C1559	U1560	A1561	C1562	G1563	C1568	A1569	C1574	G1575	G1576	G1577	U1578	A1579	C1580	C1581	C1582	C1583	G1584	U1585	U1586	G1587	A1588	A1589	C1590	C1591	C1592	C1593	A1594	U1595	U1596	C1597	U1598	U1599	G1600	A1601	U1602	G1603	G1604	G1605	G1606	C1609	G1610	G1611	G1612	C1453	A1454	U1462	U1463	G1466	C1467	A1469	A1487	C1488	A1489	G1490	C1491	U1492	U1493	U1494	U1495	U1496	C1501	C1502	U1503	U1504	U1507	C1513	G1514	G1515	G1516	G1517	C1518	U1519	C1521	A1522	C1523	G1524	C1525	G1526	C1529	U1530	A1531	C1532	A1533	G1534	U1535	G1536	G1537	C1538	U1539	G1540	G1541	C1542	A1543	C1544	C1545	C1546	C1547	G1550	U1551	G1552	C1553	C1554	U1555	C1558	C1559	U1560	A1561	C1562	G1563	C1568	A1569	C1574	G1575	G1576	G1577	U1578	A1579	C1580	C1581	C1582	C1583	G1584	U1585	U1586	G1587	A1588	A1589	C1590	C1591	C1592	C1593	A1594	U1595	U1596	C1597	U1598	U1599	G1600	A1601	U1602	G1603	G1604	G1605	G1606	C1609	G1610	G1611	G1612
A1301	G1302	C1303	U1304	U1308	C1311	G1312	A1313	U1314	C1317	G1318	U1319	U1320	G1321	G1322	U1323	G1324	G1325	A1326	G1327	U1329	G1330	C1331	U1332	U1333	N1337	G1338	U1342	G1348	G1352	U1357	U1358	U1359	U1362	C1363	U1364	U1367	U1371	U1372	C1373	C1374	G1375	A1376	U1377	A1378	A1379	C1380	G1381	A1382	A1383	G1385	G1386	G1387	A1388	C1391	G1392	G1393	G1394	C1395	A1396	U1397	G1398	A1401	A1402	G1403	U1404	A1405	G1406	U1407	U1408	G1413	A1414	C1415	G1416	C1417	C1418	C1419	G1420	G1421	G1422	G1423	G1424	G1425	U1426	G1428	G1431	U1432	C1433	C1434	C1435	G1436	C1437	A1438	A1439	U1442	A1446	G1447	A1448	G1449	C1453	A1454	U1462	U1463	G1466	C1467	A1469	A1487	C1488	A1489	G1490	C1491	U1492	U1493	U1494	U1495	U1496	C1501	C1502	U1503	U1504	U1507	C1513	G1514	G1515	G1516	G1517	C1518	U1519	C1521	A1522	C1523	G1524	C1525	G1526	C1529	U1530	A1531	C1532	A1533	G1534	U1535	G1536	G1537	C1538	U1539	G1540	G1541	C1542	A1543	C1544	C1545	C1546	C1547	G1550	U1551	G1552	C1553	C1554	U1555	C1558	C1559	U1560	A1561	C1562	G1563	C1568	A1569	C1574	G1575	G1576	G1577	U1578	A1579	C1580	C1581	C1582	C1583	G1584	U1585	U1586	G1587	A1588	A1589	C1590	C1591	C1592	C1593	A1594	U1595	U1596	C1597	U1598	U1599	G1600	A1601	U1602	G1603	G1604	G1605	G1606	C1609	G1610	G1611	G1612						
A1223	G1224	G1227	A1228	G1229	C1230	U1231	U1232	G1233	A1240	A1241	U1242	U1243	U1244	B8N1248	A1251	C1252	A1253	C1254	G1255	G1256	G1257	A1259	C1264	A1265	C1266	C1267	G1270	C1271	C1272	C1273	G1274	G1275	A1276	C1277	A1278	C1279	G1280	G1281	A1282	C1283	G1285	G1286	A1287	U1288	A1293	G1294	A1295	G1298	A1223	G1224	G1227	A1228	G1229	C1230	U1231	U1232	G1233	A1240	A1241	U1242	U1243	U1244	B8N1248	A1251	C1252	A1253	C1254	G1255	G1256	G1257	A1259	C1264	A1265	C1266	C1267	G1270	C1271	C1272	C1273	G1274	G1275	A1276	C1277	A1278	C1279	G1280	G1281	A1282	C1283	G1285	G1286	A1287	U1288	A1293	G1294	A1295	G1298																																																																																																																
U1120	G1121	C1124	G1125	G1126	C1127	C1128	G1129	A1133	G1134	C1135	U1136	U1137	C1138	C1139	G1140	A1143	A1144	A1145	C1153	U1154	G1156	G1166	U1174	G1175	G1176	U1177	A1182	A1195	G1198	A1199	A1200	U1201	U1202	G1203	A1204	C1205	G1206	G1207	A1208	A1209	G1212	C1215	C1216	A1217	U1218	C1219	A1220	U1221	G1222	U1120	G1121	C1124	G1125	G1126	C1127	C1128	G1129	A1133	G1134	C1135	U1136	U1137	C1138	C1139	G1140	A1143	A1144	A1145	C1153	U1154	G1156	G1166	U1174	G1175	G1176	U1177	A1182	A1195	G1198	A1199	A1200	U1201	U1202	G1203	A1204	C1205	G1206	G1207	A1208	A1209	G1212	C1215	C1216	A1217	U1218	C1219	A1220	U1221	G1222																																																																																																														
C1032	G1033	U1034	A1035	U1045	U1046	G1051	A1052	U1056	A1060	U1061	U1062	C1063	C1064	U1066	G1067	G1068	U1069	C1079	A1080	U1081	A1082	A1083	C1085	U1088	G1089	A1093	C1094	G1095	G1096	G1097	C1098	G1099	A1100	U1101	G1102	C1103	G1104	G1105	G1106	G1107	G1108	C1109	U1112	A1113	U1114	U1115	C1116	C1117	U1118	A1119	C1032	G1033	U1034	A1035	U1045	U1046	G1051	A1052	U1056	A1060	U1061	U1062	C1063	C1064	U1066	G1067	G1068	U1069	C1079	A1080	U1081	A1082	A1083	C1085	U1088	G1089	A1093	C1094	G1095	G1096	G1097	C1098	G1099	A1100	U1101	G1102	C1103	G1104	G1105	G1106	G1107	G1108	C1109	U1112	A1113	U1114	U1115	C1116	C1117	U1118	A1119																																																																																																												
G942	U943	A944	G952	C953	U954	A955	G956	A957	G958	U960	G961	U962	A963	U966	G970	G971	G978	G985	A990	G991	A992	A996	A997	A998	G999	C1000	U1001	U1002	U1003	U1004	G1005	A1008	A1009	G1010	A1011	U1016	U1017	U1018	C1019	A1023	A1024	A1027	A1028	G1029	A1030	A1031	G942	U943	A944	G952	C953	U954	A955	G956	A957	G958	U960	G961	U962	A963	U966	G970	G971	G978	G985	A990	G991	A992	A996	A997	A998	G999	C1000	U1001	U1002	U1003	U1004	G1005	A1008	A1009	G1010	A1011	U1016	U1017	U1018	C1019	A1023	A1024	A1027	A1028	G1029	A1030	A1031																																																																																																																				
A865	U866	G867	G868	A869	A870	U871	A872	G873	A874	A875	C876	C877	G878	C879	U880	G881	U885	U888	U889	G891	G894	G895	U896	U897	U898	U899	C900	G901	G902	A903	G907	A908	C911	C912	A913	U917	U918	A919	A920	G921	A922	G923	G924	G925	A926	C927	G928	G929	C930	G933	G934	A865	U866	G867	G868	A869	A870	U871	A872	G873	A874	A875	C876	C877	G878	C879	U880	G881	U885	U888	U889	G891	G894	G895	U896	U897	U898	U899	C900	G901	G902	A903	G907	A908	C911	C912	A913	U917	U918	A919	A920	G921	A922	G923	G924	G925	A926	C927	G928	G929	C930	G933	G934																																																																																																										
C753	G755	G756	G757	G758	C759	C760	C761	C762	A763	A764	C765	C766	A767	C768	C769	U770	U771	U772	C773	C774	G777	C778	G779	G780	A781	G782	C783	G784	C785	U786	A791	U797	C798	A801	C802	U803	U804	G805	A806	U810	G820	U821	A822	A823	A824	G829	A832	A835	U838	U839	N842	A845	G846	G849	A850	A851	C852	C853	C753	G755	G756	G757	G758	C759	C760	C761	C762	A763	A764	C765	C766	A767	C768	C769	U770	U771	U772	C773	C774	G777	C778	G779	G780	A781	G782	C783	G784	C785	U786	A791	U797	C798	A801	C802	U803	U804	G8																																																																																																																



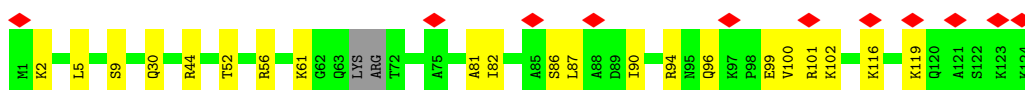
- Molecule 20: 60S ribosomal protein L19

Chain LR: 93% 6%



- Molecule 21: Ribosomal protein L24

Chain LW: 9% 81% 18%



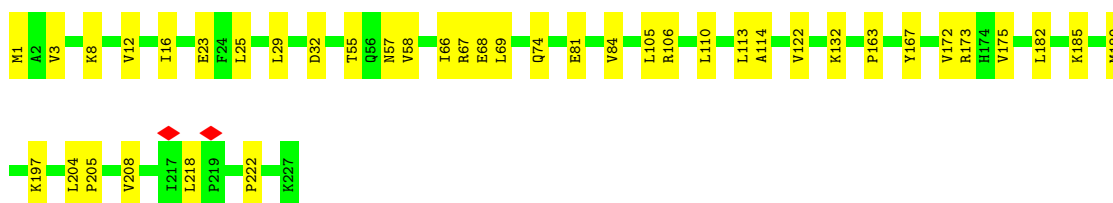
- Molecule 22: Small ribosomal subunit protein eS17

Chain SR: 76% 22%



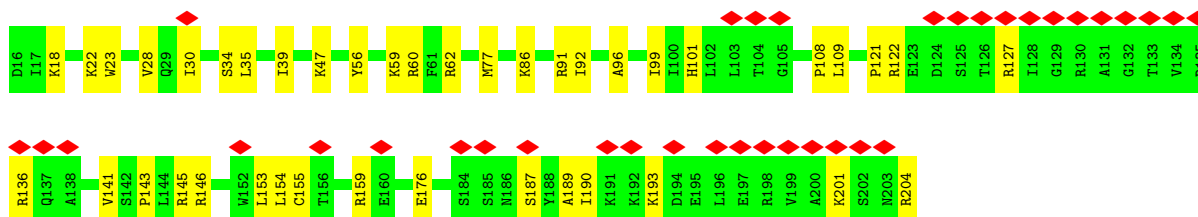
- Molecule 23: Small ribosomal subunit protein uS3

Chain SD: 82% 18%



- Molecule 24: 40S ribosomal protein S5

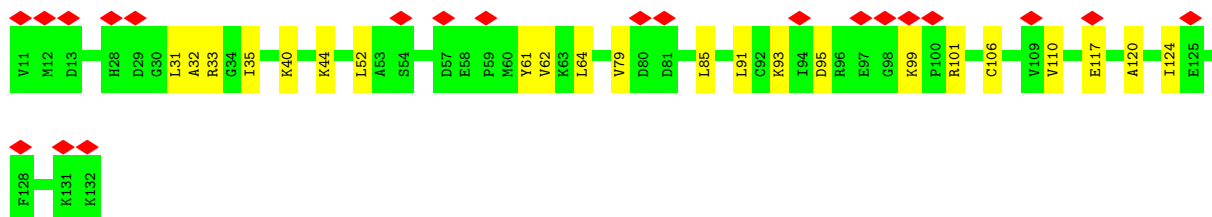
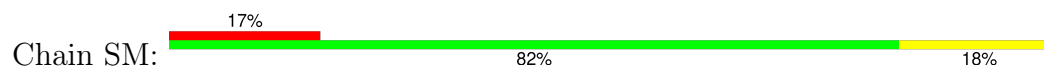
Chain SF: 19% 78% 22%



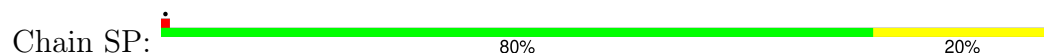
- Molecule 25: 40S ribosomal protein S10



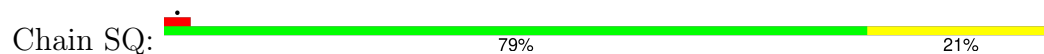
- Molecule 26: Small ribosomal subunit protein eS12



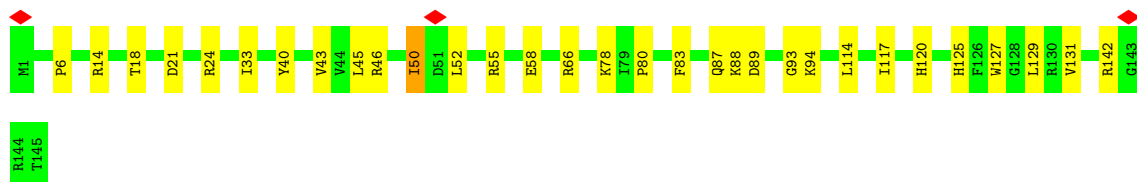
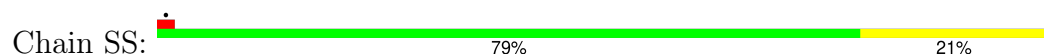
- Molecule 27: Small ribosomal subunit protein uS19



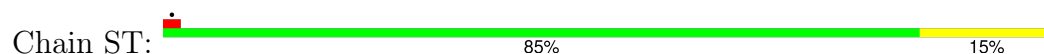
- Molecule 28: Small ribosomal subunit protein uS9



- Molecule 29: 40S ribosomal protein S18

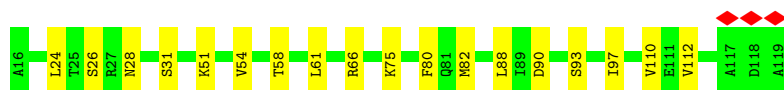


- Molecule 30: 40S ribosomal protein S19



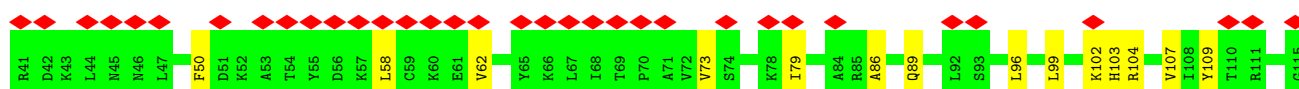
- Molecule 31: 40S ribosomal protein S20

Chain SU:  83% 17%



- Molecule 32: Small ribosomal subunit protein eS25

Chain SZ:  45% 81% 19%



- Molecule 33: 40S ribosomal protein S28

Chain Sc:  9% 72% 28%



- Molecule 34: 40S ribosomal protein S29

Chain Sd:  76% 24%



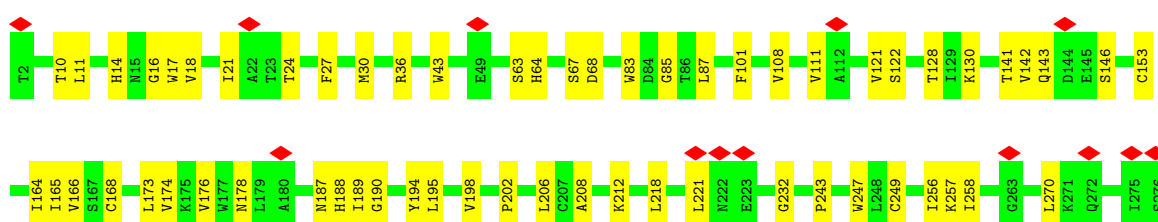
- Molecule 35: Ubiquitin-40S ribosomal protein S27a

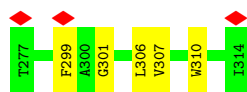
Chain Sf:  10% 73% 27%



- Molecule 36: Receptor of activated protein C kinase 1

Chain Sg:  5% 79% 21%

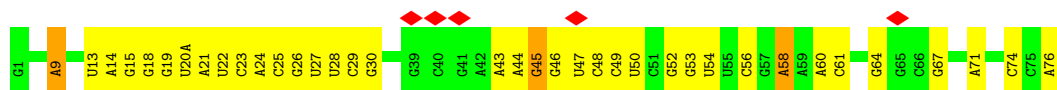




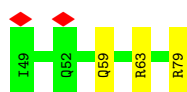
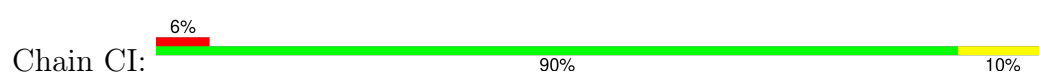
• Molecule 37: A site tRNA



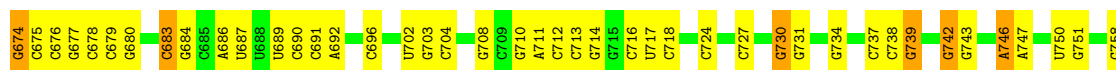
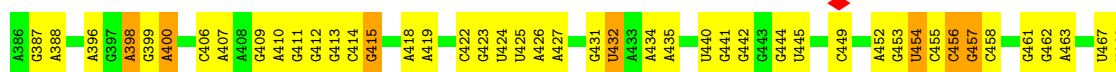
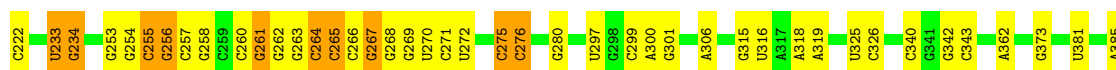
• Molecule 38: P site tRNA



• Molecule 39: Transcription factor BTF3

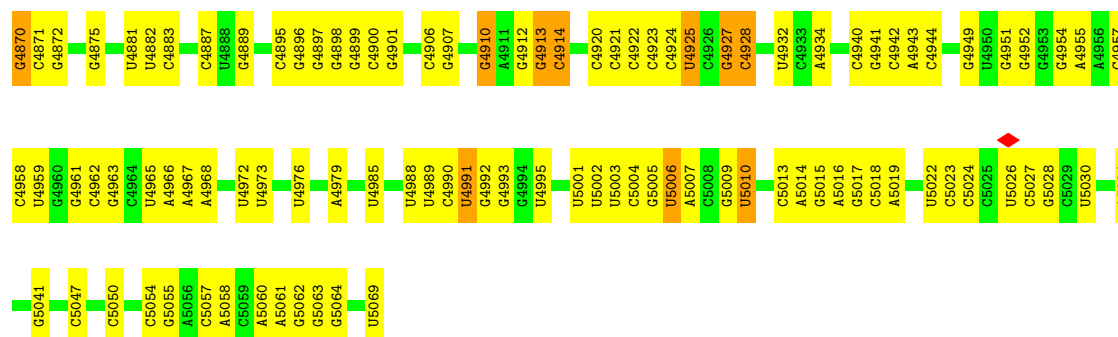


• Molecule 40: 28S rRNA



C2505	U2408	A2276	G2046	C1971	G1741	G1624	A1500	C1379	G1293	G1203	C1072	G759
G2506	C2411	C2289	A2047	G1972	A1742	G1625	C1501	A1387	A1294	C1207	G1075	G760
A2513	A2412	U2293	U2048	U1973	U1974	G1626	A1503	G1627	G1295	C1208	C1076	C903
U2517	U2413	U2294	G2055	G1975	U1744	C1628	C1504	A1392	U1297	U1209	C1077	C904
C2518	U2414	G2294	G2056	G1976	U1745	C1629	C1505	G1393	C1298	C1210	C1081	C906
U2519	U2415	A2300	G2056	C1977	A1749	A1630	U1514	G1394	C1299	G1211	C1082	C907
C2520	G2416	G2301	C2066	G1978	G1750	A1631	A1515	A1397	G1300	C1214	C1083	G908
G2521	A2417	C2302	U1960	U1979	U1754	A1632	G1516	A1398	C1301	C1215	C1084	G909
C2422	C2422	C2303	A2069	U1980	C1755	A1634	G1517		U1302		C1085	G910
A2423	A2423	C2310	G1981	U1981	U1756	A1637	G1522	G1404	C1306	G1218	C1086	U913
G2424	G2424	C2072	U1982	U1982	G1757	A1638	A1523	G1405	A1307	G1219	C1087	U914
U2425	U2425		U1983	U1983	G1758	U1639	A1524	G1406	C1308	G1220	C1088	A915
C2540	A2313	A2313	U1866	U1866	G1759	U1640	A1534	G1408	C1309	G1221	C1089	C916
G2542	C2323	C2323	A1867	A1867	G1760	G1641	A1535	G1409	C1310	A1222		A917
A2543	G2324	C2324	A1868	A1868	G1761	A1642	U1536	U1410	C1311		C1092	G918
G2544	C2324	C2324	C1870	C1870	C1762	G1643	U1537	C1411	G1312	G1240	C1093	C923
U2545	G2448	G2331	A1871	A1871	G1764	C1645	A1538	G1412	C1313	G1241	C1094	C924
G2546	A2449	A2332	U1989	U1989	A1765	A1646	U1539	C1413	C1314	G1242	A1095	C925
G2547	G2450	C2333	U1876	U1876	A1766	G1654	C1540	G1414	C1315	G1243	C1096	G926
U2554	A2453	C2335	U1882	U1882	C1768	G1661	C1541	G1415	C1316	G1244	C1097	G927
G2555	C2336	G2336	U1882	U1882	G1769	C1662		G1416	U1317	G1246	C1099	A929
G2556	G2345	G2345	A1892	A1892	A1770	C1663	G1545	C1417	C1318	U1247	U1100	A932
C2557	G2346	G2346	A1897	A1897	U1771	C1669	C1546	C1418	A1322	C1248	C1167	G933
C2558	G2348	G2348	U1916	U1916	C1772	U1676	A1557	G1419	A1323	C1249	G1168	G936
C2559	G2349	G2349	U1917	U1917	U1773	U1677	A1558	A1420	A1327		G1169	C937
C2560	G2350	G2350	U1918	U1918	U1781	C1683	A1563	U1437	C1327	A1254	G1171	C941
C2561	G2351	G2351	U1919	U1919	U1782	U1684	A1564	U1438	C1332	A1255	C1172	G942
G2562	G2352	G2352	C1920	C1920	U1787	A1685	A1565	C1442	A1333	G1256	G1173	A943
A2565	A2105	A2105	G1922	G1922	U1792	G1685	C1566	A1443	A1334	G1259	C1174	U945
C2568	C2106	C2106	U1925	U1925	U1797	U1693	G1574	G1444	A1337	G1262	G1178	C946
G2569	C2107	C2107	G1925	G1925	G1797	C1694	U1577	U1445	G1338		U1179	A956
U2570	C2110	C2110	U1931	U1931	U1802	U1697	G1578	C1446	C1340	G1266	C1180	G957
C2573	G2112	G2112	A1932	A1932	G1803	C1698	U1582	C1447	A1345	C1267	C1181	G958
G2574	C2249	C2249	C1933	C1933	A1804	G1699	U1586	A1452	G1346	G1268	C1182	G959
C2583	G2251	G2251	A1934	A1934	A1805	G1700	G1587	C1461	C1347	A1270	A1184	A960
U2586	G2252	G2252	C1935	C1935	G1806	A1701	U1588	C1462	U1348	G1271	G1185	C961
C2587	A2253	A2253	C1936	C1936	C1807	C1702	C1589	C1463	C1349	C1272	U1186	C962
C2588	C2256	C2256	A1941	A1941	G1810	C1705	C1590	C1464	A1354	A1273	G1187	A963
C2589	C2257	C2257	A1942	A1942	G1815	G1706	U1591	C1468	G1355	G1275	G1188	A964
U2589	C2258	C2258	A1943	A1943	C1820	U1716	U1596	C1469	U1356	G1276	C1190	A966
C2606	C2259	C2259	G1948	G1948	G1821	C1717	U1597	C1470	C1357	G1277	C1191	C967
G2607	G2260	G2260	A1960	A1960	U1822	C1718	U1598	G1482	G1358	C1278		C968
C2608	C2261	C2261	G1961	G1961	U1823	A1719	U1609	C1483	G1359	G1280	G1194	C969
G2609	U2267	U2267	A1962	A1962	G1824	U1725	G1612	U1494	C1365	G1281	G1195	G970
C2610	C2268	C2268	C1963	C1963	A1825	U1726	A1613	G1495	C1366	U1285	G1196	C982
A2611	G2269	G2269	G1968	G1968	U1833	C1732	G1617	G1497	C1367	G1287	G1197	C985
G2612	G2270	G2270	A1970	A1970	U1834	G1733		C1499	G1370		G1198	C986
C2613	G2275	G2275			G1835						G1199	C987
G2618											G1200	C988
											U1201	G1070
											C1202	C1071

A4687	A4688	A4689	A4690	A4691	A4692	C4389	U4163	G4081	A3906	A3826	A3723	C3618	A2844	G2724	A2621
G4686	G4687	G4688	G4689	G4690	G4691	A4390	A4170	G4082	G3907	C3826	A3726	G3619	A2845	G2725	G2622
G4689	G4690	G4691	G4692	G4693	G4694	G4391	A4171	U4083	A3908	A3830	A3727	G3620	G2848	G2726	A2623
G4692	G4693	G4694	G4695	G4696	G4697	G4392	G4180	G4084	C3909	A3831	A3728	G3621	G2849	G2727	G2624
G4695	G4696	G4697	G4698	G4699	G4700	G4393	G4181	G4085	C3910	A3832	A3729	G3622	G2850	G2728	U2632
G4698	G4699	G4700	G4701	G4702	G4703	G4394	G4182	G4086	C3911	A3833	A3730	G3623	G2851	G2729	U2633
G4700	G4701	G4702	G4703	G4704	G4705	G4395	G4183	G4087	U3912	A3834	A3731	G3624	G2852	G2730	C2634
G4701	G4702	G4703	G4704	G4705	G4706	G4396	G4184	G4088	U3913	A3835	A3732	G3625	G2853	G2731	U2635
G4702	G4703	G4704	G4705	G4706	G4707	G4397	G4185	G4089	U3914	A3836	A3733	G3626	G2854	G2732	C2636
G4703	G4704	G4705	G4706	G4707	G4708	G4398	G4186	G4090	U3915	A3837	A3734	G3627	G2855	G2733	U2637
G4704	G4705	G4706	G4707	G4708	G4709	G4399	A4187	G4091	C3916	A3838	A3735	G3628	G2856	G2734	C2638
G4705	G4706	G4707	G4708	G4709	G4710	G4400	A4188	G4092	C3917	A3839	A3736	G3629	G2857	G2735	U2639
G4706	G4707	G4708	G4709	G4710	G4711	G4401	U4189	G4093	C3918	A3840	A3737	G3630	G2858	G2736	A2641
G4707	G4708	G4709	G4710	G4711	G4712	G4402	U4190	G4094	C3919	A3841	A3738	G3631	G2859	G2737	G2640
G4708	G4709	G4710	G4711	G4712	G4713	G4403	U4191	G4095	C3920	A3842	A3739	G3632	G2860	G2738	A2642
G4709	G4710	G4711	G4712	G4713	G4714	G4404	U4192	G4096	U3921	A3843	A3740	G3633	G2861	G2739	U2643
G4710	G4711	G4712	G4713	G4714	G4715	G4405	U4193	G4097	U3922	A3844	A3741	G3634	G2862	G2740	C2644
G4711	G4712	G4713	G4714	G4715	G4716	G4406	U4194	G4098	U3923	A3845	A3742	G3635	G2863	G2741	U2645
G4712	G4713	G4714	G4715	G4716	G4717	G4407	U4195	G4099	U3924	A3846	A3743	G3636	G2864	G2742	A2646
G4713	G4714	G4715	G4716	G4717	G4718	G4408	U4196	G4100	U3925	A3847	A3744	G3637	G2865	G2743	G2647
G4714	G4715	G4716	G4717	G4718	G4719	G4409	U4197	G4101	A3926	A3848	A3745	G3638	G2866	G2744	U2648
G4715	G4716	G4717	G4718	G4719	G4720	G4410	U4198	G4102	A3927	A3849	A3746	G3639	G2867	G2745	G2649
G4716	G4717	G4718	G4719	G4720	G4721	G4411	U4199	G4103	A3928	A3850	A3747	G3640	G2868	G2746	C2650
G4717	G4718	G4719	G4720	G4721	G4722	G4412	U4200	G4104	A3929	A3851	A3748	G3641	G2869	G2747	C2651
G4718	G4719	G4720	G4721	G4722	G4723	G4413	U4201	G4105	A3930	A3852	A3749	G3642	G2870	G2748	C2652
G4719	G4720	G4721	G4722	G4723	G4724	G4414	U4202	G4106	U3931	A3853	A3750	G3643	G2871	G2749	C2653
G4720	G4721	G4722	G4723	G4724	G4725	G4415	U4203	G4107	U3932	A3854	A3751	G3644	G2872	G2750	C2654
G4721	G4722	G4723	G4724	G4725	G4726	G4416	U4204	G4108	U3933	A3855	A3752	G3645	G2873	G2751	C2655
G4722	G4723	G4724	G4725	G4726	G4727	G4417	U4205	G4109	U3934	A3856	A3753	G3646	G2874	G2752	U2656
G4723	G4724	G4725	G4726	G4727	G4728	G4418	U4206	G4110	G3935	A3857	A3754	G3647	G2875	G2753	G2657
G4724	G4725	G4726	G4727	G4728	G4729	G4419	U4207	G4111	C3936	A3858	A3755	G3648	G2876	G2754	G2658
G4725	G4726	G4727	G4728	G4729	G4730	G4420	U4208	G4112	G3937	A3859	A3756	G3649	G2877	G2755	G2659
G4726	G4727	G4728	G4729	G4730	G4731	G4421	U4209	G4113	U3938	A3860	A3757	G3650	G2878	G2756	C2670
G4727	G4728	G4729	G4730	G4731	G4732	G4422	U4210	G4114	C3939	A3861	A3758	G3651	G2879	G2757	C2671
G4728	G4729	G4730	G4731	G4732	G4733	G4423	U4211	G4115	A3940	A3862	A3759	G3652	G2880	G2758	C2672
G4729	G4730	G4731	G4732	G4733	G4734	G4424	U4212	G4116	A3941	A3863	A3760	G3653	G2881	G2759	C2673
G4730	G4731	G4732	G4733	G4734	G4735	G4425	U4213	G4117	A3942	A3864	A3761	G3654	G2882	G2760	C2674
G4731	G4732	G4733	G4734	G4735	G4736	G4426	U4214	G4118	A3943	A3865	A3762	G3655	G2883	G2761	C2675
G4732	G4733	G4734	G4735	G4736	G4737	G4427	U4215	G4119	A3944	A3866	A3763	G3656	G2884	G2762	A2676
G4733	G4734	G4735	G4736	G4737	G4738	G4428	U4216	G4120	A3945	A3867	A3764	G3657	G2885	G2763	C2677
G4734	G4735	G4736	G4737	G4738	G4739	G4429	U4217	G4121	A3946	A3868	A3765	G3658	G2886	G2764	C2678
G4735	G4736	G4737	G4738	G4739	G4740	G4430	U4218	G4122	A3947	A3869	A3766	G3659	G2887	G2765	C2679
G4736	G4737	G4738	G4739	G4740	G4741	G4431	U4219	G4123	A3948	A3870	A3767	G3660	G2888	G2766	C2680
G4737	G4738	G4739	G4740	G4741	G4742	G4432	U4220	G4124	A3949	A3871	A3768	G3661	G2889	G2767	C2681
G4738	G4739	G4740	G4741	G4742	G4743	G4433	U4221	G4125	A3950	A3872	A3769	G3662	G2890	G2768	C2682
G4739	G4740	G4741	G4742	G4743	G4744	G4434	U4222	G4126	A3951	A3873	A3770	G3663	G2891	G2769	C2683
G4740	G4741	G4742	G4743	G4744	G4745	G4435	U4223	G4127	A3952	A3874	A3771	G3664	G2892	G2770	C2684
G4741	G4742	G4743	G4744	G4745	G4746	G4436	U4224	G4128	A3953	A3875	A3772	G3665	G2893	G2771	C2685
G4742	G4743	G4744	G4745	G4746	G4747	G4437	U4225	G4129	A3954	A3876	A3773	G3666	G2894	G2772	C2686
G4743	G4744	G4745	G4746	G4747	G4748	G4438	U4226	G4130	A3955	A3877	A3774	G3667	G2895	G2773	C2687
G4744	G4745	G4746	G4747	G4748	G4749	G4439	U4227	G4131	A3956	A3878	A3775	G3668	G2896	G2774	C2688
G4745	G4746	G4747	G4748	G4749	G4750	G4440	U4228	G4132	A3957	A3879	A3776	G3669	G2897	G2775	C2689
G4746	G4747	G4748	G4749	G4750	G4751	G4441	U4229	G4133	A3958	A3880	A3777	G3670	G2898	G2776	C2690
G4747	G4748	G4749	G4750	G4751	G4752	G4442	U4230	G4134	A3959	A3881	A3778	G3671	G2899	G2777	C2691
G4748	G4749	G4750	G4751	G4752	G4753	G4443	U4231	G4135	A3960	A3882	A3779	G3672	G2900	G2778	C2692
G4749	G4750	G4751	G4752	G4753	G4754	G4444	U4232	G4136	A3961	A3883	A3780	G3673	G2901	G2779	C2693
G4750	G4751	G4752	G4753	G4754	G4755	G4445	U4233	G4137	A3962	A3884	A3781	G3674	G2902	G2780	C2694
G4751	G4752	G4753	G4754	G4755	G4756	G4446	U4234	G4138	A3963	A3885	A3782	G3675	G2903	G2781	C2695
G4752	G4753	G4754	G4755	G4756	G4757	G4447	U4235	G4139	A3964	A3886	A3783	G3676	G2904	G2782	C2696
G4753	G4754	G4755	G4756	G4757	G4758	G4448	U4236	G4140	A3965	A3887	A3784	G3677	G2905	G2783	C2697
G4754	G4755	G4756	G4757	G4758	G4759	G4449	U4237	G4141	A3966	A3888	A3785	G3678	G2906	G2784	C2698
G4755	G4756	G4757	G4758	G4759	G4760	G4450	U4238	G4142	A3967	A3889	A3786	G3679	G2907	G2785	C2699
G4756	G4757	G4758	G4759	G4760	G4761	G4451	U4239	G4143	A3968	A3890	A3787	G3680	G2908	G2786	C2700
G4757	G4758	G4759	G4760	G4761	G4762	G4452	U4240	G4144	A3969	A3891	A3788	G3681	G2909	G2787	C2701
G4758	G4759	G4760	G4761	G4762	G4763	G4453	U4241	G4145	A3970	A3892	A3789	G3682	G2910	G2788	C2702
G4759	G4760	G4761	G4762	G4763	G4764	G4454	U4242	G4146	A3971	A3893	A3790	G3683	G2911	G2789	C2703
G4760	G4761	G4762	G4763	G4764	G4765	G4455	U4243	G4147	A3972	A3894	A3791	G3684	G2912	G2790	C2704
G4761	G4762	G4763	G4764	G4765	G4766	G4456	U4244	G4148	A3973	A3895	A3792	G3685	G2913	G2791	C2705
G4762	G4763	G4764	G4765	G4766	G4767	G4457	U4245	G4149	A3974	A3896	A3793	G3686	G2914	G2792	C2706
G4763	G4764	G4765	G4766	G4767	G4768	G4458	U4246	G4150	A3975	A3897	A3794	G3687	G2915	G2793	C2707
G4764	G4765	G4766	G4767	G4768	G4769	G4459	U4247	G4151	A3976	A3898	A3795	G3688	G2916	G2794	C2708
G4765	G4766	G4767	G4768	G4769	G4770	G4460	U4248	G4152	A3977	A3899	A3796	G3689	G2917	G2795	C2709
G4766	G4767	G4768	G4769	G4770	G4771	G4461	U4249	G4153	A3978	A3900	A3797	G3690	G2918	G2796	C2710
G4767	G4768	G4769	G4770	G4771	G4772	G4462	U4250	G4154	A3979	A3901	A3798	G3691	G2919	G2797	C2711
G4768	G4769	G4770	G4771	G4772	G4773	G4463	U4251	G4155	A3980	A3902	A3799	G3692	G2920	G2798	C2712
G4769	G4770	G4771	G4772	G4773	G4774	G4464	U4252	G4156	A3981	A3903	A3800	G3693	G2921	G2799	C2713
G4770	G4771	G4772	G4773	G4774	G4775	G4465	U4253	G4157	A3982	A3904	A3801	G3694	G2922	G2800	C2714
G4771	G4772	G4773	G4774	G4775	G4776	G4466	U4254	G4158	A3983	A3905	A3802	G3695	G2923	G2801	C2715
G4772	G4773	G4774	G4775	G4776	G4777	G4467	U4255	G4159	A3984	A3906	A3803	G3696	G2924	G2802	C2716
G4773	G4774	G4775	G4776	G4777	G4778	G4468	U4256	G4160	A3985	A3907	A3804	G3697	G2925	G2803	C2717
G4774	G4775	G4776	G4777	G4778	G4779	G4469	U4257	G4161	A3986	A3908	A3805	G3698	G2926	G2804	C2718
G4775	G4776	G4777	G4778	G4779	G4780	G4470	U4258	G4162	A3987	A3909	A3806	G3699	G2927	G2805	C2719
G4776	G477														



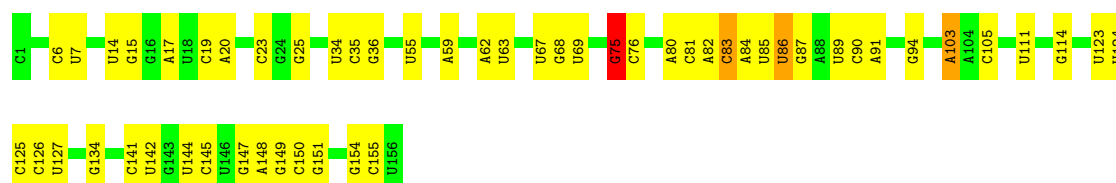
• Molecule 41: 5S rRNA

Chain L7: 76% 22%



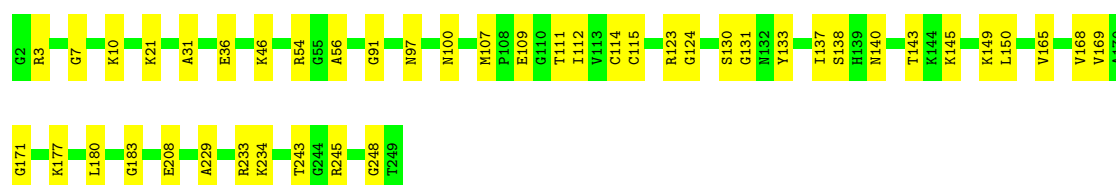
• Molecule 42: 5.8S rRNA

Chain L8: 65% 32%



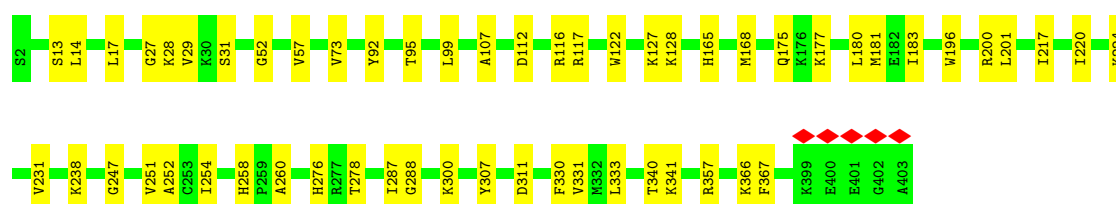
• Molecule 43: 60S ribosomal protein L8

Chain LA: 82% 18%



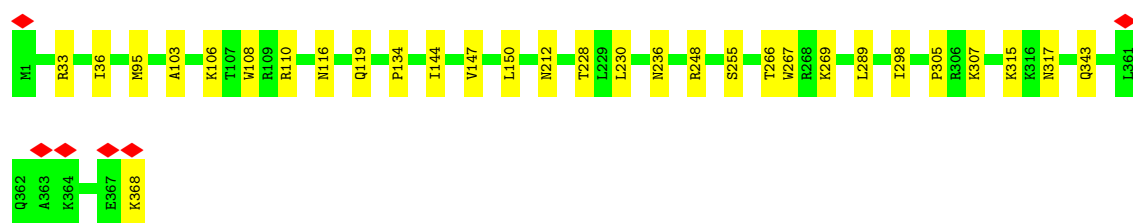
• Molecule 44: Large ribosomal subunit protein uL3

Chain LB: 86% 14%



• Molecule 45: 60S ribosomal protein L4

Chain LC:  92% 8%



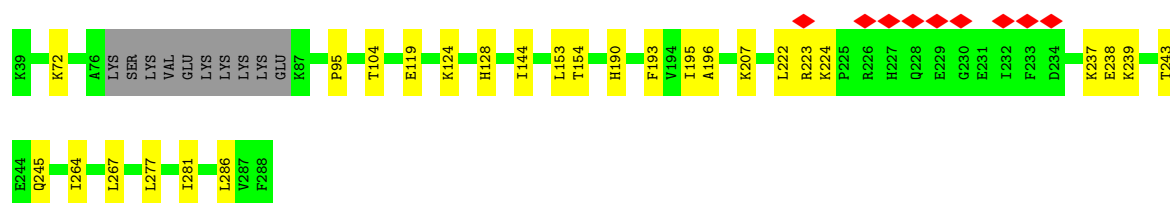
- Molecule 46: Large ribosomal subunit protein uL18

Chain LD:  91% 9%



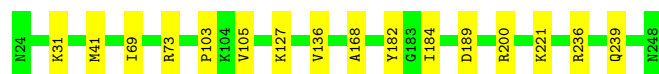
- Molecule 47: Large ribosomal subunit protein eL6

Chain LE:  85% 11%

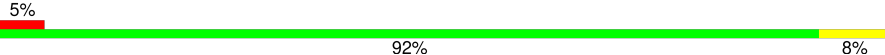


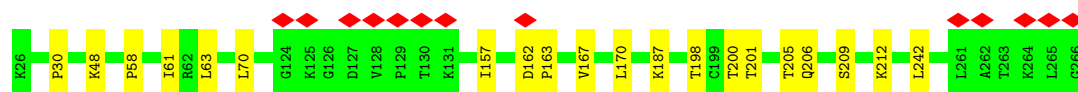
- Molecule 48: 60S ribosomal protein L7

Chain LF:  93% 7%



- Molecule 49: 60S ribosomal protein L7a

Chain LG:  5% 92% 8%



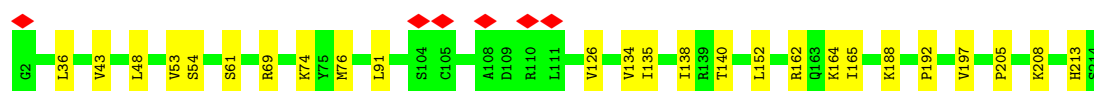
- Molecule 50: 60S ribosomal protein L9

Chain LH:  90% 10%



- Molecule 51: Ribosomal protein uL16-like

Chain LI:  88% 12%



- Molecule 52: 60S ribosomal protein L11

Chain LJ:  89% 7% ..



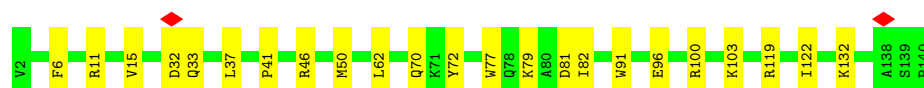
- Molecule 53: Large ribosomal subunit protein eL13

Chain LL:  89% 11%



- Molecule 54: 60S ribosomal protein L14

Chain LM:  83% 17%



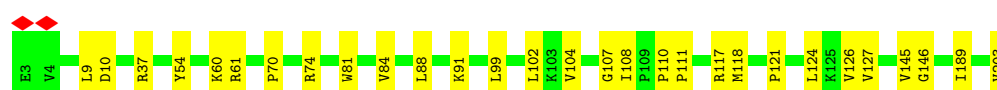
- Molecule 55: 60S ribosomal protein L15

Chain LN:  89% 11%



- Molecule 56: 60S ribosomal protein L13a

Chain LO:  86% 14%



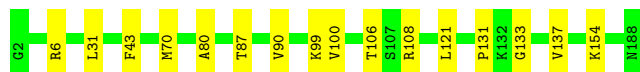
- Molecule 57: 60S ribosomal protein L17

Chain LP:  84% 16%



- Molecule 58: 60S ribosomal protein L18

Chain LQ:  91% 9%



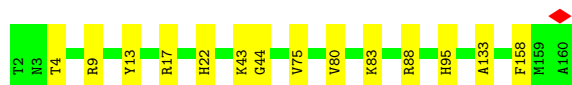
- Molecule 59: 60S ribosomal protein L18a

Chain LS:  94% 6%



- Molecule 60: 60S ribosomal protein L21

Chain LT:  91% 9%



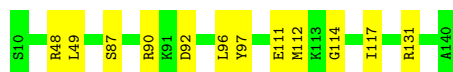
- Molecule 61: Heparin-binding protein HBp15

Chain LU:  77% 23%



- Molecule 62: 60S ribosomal protein L23

Chain LV:  91% 9%



- Molecule 63: 60S ribosomal protein L23a

Chain LX:  91% 9%



- Molecule 64: 60S ribosomal protein L26

Chain LY:  90% 10%



- Molecule 65: 60S ribosomal protein L27

Chain LZ:  91% 9%



- Molecule 66: 60S ribosomal protein L27a

Chain La:  95% 5%



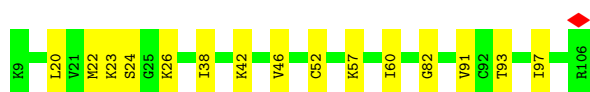
- Molecule 67: Large ribosomal subunit protein eL29

Chain Lb:  5% 88% 12%



- Molecule 68: 60S ribosomal protein L30

Chain Lc:  85% 15%



- Molecule 69: 60S ribosomal protein L31

Chain Ld:  93% 7%



- Molecule 70: 60S ribosomal protein L32

Chain Le:  88% 12%



- Molecule 71: 60S ribosomal protein L35a

Chain Lf:  90% 10%



- Molecule 72: 60S ribosomal protein L34

Chain Lg:  93% 7%

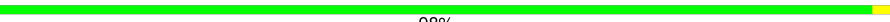


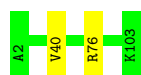
- Molecule 73: 60S ribosomal protein L35

Chain Lh:  81% 19%



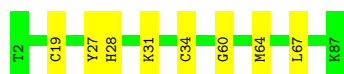
- Molecule 74: 60S ribosomal protein L36

Chain Li:  98%



- Molecule 75: 60S ribosomal protein L37

Chain Lj:  91% 9%



- Molecule 76: 60S ribosomal protein L38

Chain Lk:  84% 16%



- Molecule 77: 60S ribosomal protein L39

Chain Ll:  84% 16%



- Molecule 78: Large ribosomal subunit protein eL40

Chain Lm:  87% 13%



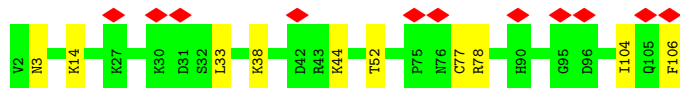
- Molecule 79: 60S ribosomal protein L41

Chain Ln:  100%

There are no outlier residues recorded for this chain.

- Molecule 80: 60S ribosomal protein L36a

Chain Lo:  10% 90% 10%



- Molecule 81: 60S ribosomal protein L37a

Chain Lp:  89% 11%



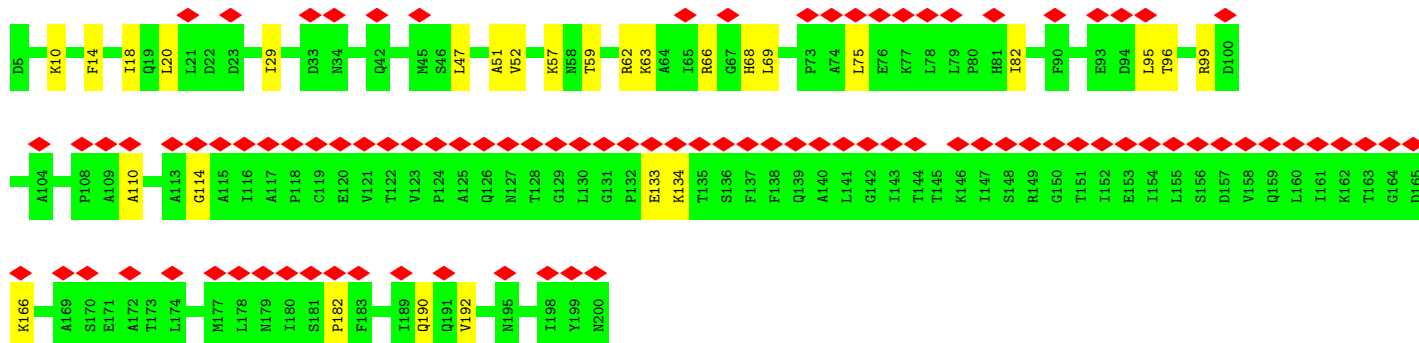
- Molecule 82: 60S ribosomal protein L28

Chain Lr:  90% 10%



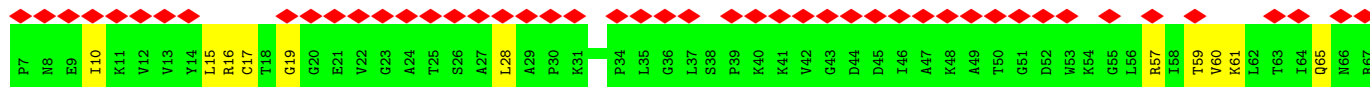
- Molecule 83: 60S acidic ribosomal protein P0

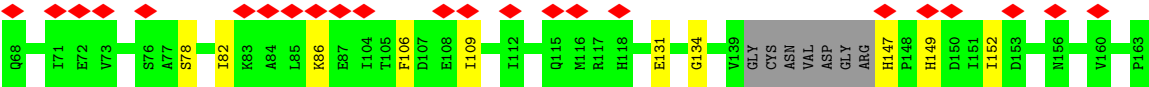
Chain Ls:  48% 86% 14%



- Molecule 84: Large ribosomal subunit protein uL11

Chain Lt:  50% 80% 15% 5%





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	66380	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	0.121	Depositor
Minimum map value	-0.050	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.0119	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: 6MZ, OMC, MG, 1MA, UR3, PSU, A2M, OMU, SPM, ZN, SPD, B8N, 5MC, 4AC, G7M, MA6, OMG, UY1

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	0.20	0/1778	0.38	0/2416
2	SB	0.16	0/1765	0.32	0/2362
3	SC	0.17	0/1744	0.34	0/2357
4	SE	0.16	0/2118	0.34	0/2849
5	SG	0.15	0/1946	0.33	0/2590
6	SH	0.15	0/1519	0.37	0/2033
7	SI	0.17	0/1715	0.35	0/2287
8	SJ	0.15	0/1550	0.32	0/2069
9	SL	0.18	0/1268	0.31	0/1696
10	SN	0.16	0/1232	0.29	0/1656
11	SO	0.16	0/1037	0.35	0/1391
12	SV	0.15	0/643	0.34	0/860
13	SW	0.17	0/1051	0.32	0/1406
14	SX	0.19	0/1116	0.35	0/1490
15	SY	0.16	0/1083	0.36	0/1438
16	Sa	0.17	0/836	0.34	0/1121
17	Sb	0.15	0/665	0.35	0/891
18	Se	0.14	0/465	0.35	0/612
19	S2	0.22	0/39756	0.31	0/61939
20	LR	0.30	0/1582	0.42	0/2091
21	LW	0.23	0/959	0.34	0/1270
22	SR	0.25	0/1105	0.47	0/1484
23	SD	0.15	0/1793	0.30	0/2414
24	SF	0.14	0/1516	0.32	0/2037
25	SK	0.13	0/851	0.32	0/1147
26	SM	0.14	0/950	0.34	0/1275
27	SP	0.15	0/1003	0.32	0/1342
28	SQ	0.16	0/1160	0.38	0/1553
29	SS	0.18	0/1216	0.40	1/1628 (0.1%)
30	ST	0.14	0/1131	0.32	0/1515
31	SU	0.16	0/831	0.30	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	SZ	0.16	0/604	0.42	0/810
33	Sc	0.15	0/508	0.33	0/680
34	Sd	0.19	0/470	0.32	0/623
35	Sf	0.16	0/560	0.51	0/745
36	Sg	0.15	0/2493	0.34	0/3394
37	At	0.14	0/1692	0.25	0/2634
38	Pt	0.15	0/1761	0.28	0/2741
39	CI	0.16	0/247	0.30	0/323
40	L5	0.32	0/85098	0.33	0/132762
41	L7	0.30	0/2861	0.28	0/4459
42	L8	0.32	0/3631	0.31	0/5657
43	LA	0.32	0/1936	0.43	0/2596
44	LB	0.30	0/3306	0.37	0/4424
45	LC	0.31	0/2981	0.38	0/4002
46	LD	0.25	0/2428	0.31	0/3252
47	LE	0.26	0/1973	0.39	0/2645
48	LF	0.31	0/1905	0.31	0/2539
49	LG	0.25	0/1960	0.35	0/2637
50	LH	0.27	0/1537	0.35	0/2066
51	LI	0.26	0/1751	0.31	0/2340
52	LJ	0.21	0/1385	0.35	0/1852
53	LL	0.28	0/1732	0.32	0/2315
54	LM	0.28	0/1161	0.35	0/1554
55	LN	0.32	0/1746	0.33	0/2338
56	LO	0.32	0/1682	0.34	0/2250
57	LP	0.31	0/1268	0.36	0/1701
58	LQ	0.31	0/1537	0.35	0/2052
59	LS	0.31	0/1493	0.34	0/2003
60	LT	0.28	0/1326	0.31	0/1770
61	LU	0.23	0/839	0.39	0/1126
62	LV	0.29	0/993	0.36	0/1332
63	LX	0.27	0/1002	0.33	0/1345
64	LY	0.30	0/1132	0.36	0/1504
65	LZ	0.26	0/1130	0.33	0/1507
66	La	0.31	0/1191	0.33	0/1591
67	Lb	0.24	0/889	0.34	0/1175
68	Lc	0.27	0/774	0.39	0/1038
69	Ld	0.28	0/903	0.35	0/1216
70	Le	0.31	0/1071	0.34	0/1429
71	Lf	0.32	0/895	0.37	0/1198
72	Lg	0.27	0/916	0.31	0/1220
73	Lh	0.26	0/1023	0.34	0/1351
74	Li	0.24	0/843	0.34	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Lj	0.33	0/720	0.40	0/952
76	Lk	0.23	0/575	0.32	0/761
77	Ll	0.30	0/454	0.29	0/599
78	Lm	0.26	0/435	0.35	0/575
79	Ln	0.21	0/231	0.24	0/294
80	Lo	0.27	0/876	0.36	0/1156
81	Lp	0.29	0/718	0.35	0/953
82	Lr	0.29	0/1017	0.34	0/1364
83	Ls	0.15	0/1519	0.37	0/2052
84	Lt	0.18	0/1009	0.49	0/1363
All	All	0.27	0/231571	0.33	1/339714 (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
20	LR	0	1
22	SR	0	2
All	All	0	3

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	SS	43	VAL	N-CA-C	-5.84	108.16	113.71

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
20	LR	136	ARG	Sidechain
22	SR	78	ARG	Sidechain
22	SR	80	ARG	Sidechain

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	SA	1741	0	1744	57	0
2	SB	1738	0	1809	36	0
3	SC	1707	0	1791	31	0
4	SE	2076	0	2177	40	0
5	SG	1923	0	2089	36	0
6	SH	1497	0	1590	24	0
7	SI	1686	0	1772	27	0
8	SJ	1525	0	1640	18	0
9	SL	1247	0	1323	17	0
10	SN	1208	0	1294	22	0
11	SO	1024	0	1050	14	0
12	SV	636	0	637	18	0
13	SW	1034	0	1080	22	0
14	SX	1098	0	1167	12	0
15	SY	1065	0	1142	24	0
16	Sa	821	0	870	15	0
17	Sb	651	0	670	18	0
18	Se	459	0	503	11	0
19	S2	36952	0	18677	520	0
20	LR	1566	0	1729	7	0
21	LW	945	0	1003	13	0
22	SR	1090	0	1149	26	0
23	SD	1765	0	1865	29	0
24	SF	1495	0	1549	28	0
25	SK	827	0	854	10	0
26	SM	940	0	965	15	0
27	SP	985	0	1031	16	0
28	SQ	1142	0	1213	19	0
29	SS	1198	0	1260	22	0
30	ST	1112	0	1146	14	0
31	SU	821	0	883	10	0
32	SZ	598	0	656	11	0
33	Sc	506	0	536	14	0
34	Sd	459	0	449	10	0
35	Sf	548	0	552	16	0
36	Sg	2436	0	2391	43	0
37	At	1514	0	770	20	0
38	Pt	1576	0	803	21	0
39	CI	247	0	283	3	0
40	L5	78444	0	39718	671	0
41	L7	2561	0	1295	13	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	L8	3315	0	1685	24	0
43	LA	1898	0	1993	35	0
44	LB	3238	0	3376	39	0
45	LC	2927	0	3104	23	0
46	LD	2382	0	2410	20	0
47	LE	1935	0	2096	19	0
48	LF	1870	0	1996	14	0
49	LG	1927	0	2074	14	0
50	LH	1518	0	1601	12	0
51	LI	1711	0	1749	16	0
52	LJ	1362	0	1399	11	0
53	LL	1701	0	1818	19	0
54	LM	1138	0	1204	18	0
55	LN	1701	0	1749	16	0
56	LO	1650	0	1794	20	0
57	LP	1242	0	1269	16	0
58	LQ	1513	0	1628	11	0
59	LS	1453	0	1490	9	0
60	LT	1298	0	1366	9	0
61	LU	825	0	850	14	0
62	LV	979	0	1039	7	0
63	LX	985	0	1066	9	0
64	LY	1115	0	1205	9	0
65	LZ	1107	0	1182	7	0
66	La	1162	0	1213	5	0
67	Lb	876	0	948	10	0
68	Lc	764	0	804	8	0
69	Ld	888	0	930	4	0
70	Le	1053	0	1147	10	0
71	Lf	876	0	912	7	0
72	Lg	906	0	998	6	0
73	Lh	1015	0	1148	18	0
74	Li	832	0	917	2	0
75	Lj	705	0	737	5	0
76	Lk	569	0	637	6	0
77	Ll	444	0	483	6	0
78	Lm	429	0	465	5	0
79	Ln	230	0	276	0	0
80	Lo	862	0	929	7	0
81	Lp	708	0	756	9	0
82	Lr	1002	0	1068	7	0
83	Ls	1496	0	1540	17	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
84	Lt	998	0	1032	14	0
85	L5	178	0	0	0	0
85	L7	3	0	0	0	0
85	L8	6	0	0	0	0
85	LA	1	0	0	0	0
85	LP	1	0	0	0	0
85	LV	1	0	0	0	0
85	Le	1	0	0	0	0
85	S2	26	0	0	0	0
85	SG	1	0	0	0	0
85	SS	1	0	0	0	0
86	Lg	1	0	0	0	0
86	Lj	1	0	0	0	0
86	Lm	1	0	0	0	0
86	Lo	1	0	0	0	0
86	Lp	1	0	0	0	0
86	Sa	1	0	0	0	0
87	L5	98	0	182	5	0
88	L5	80	0	152	2	0
88	L8	10	0	19	0	0
88	LN	10	0	19	0	0
All	All	219891	0	163580	2241	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 6.

All (2241) 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)
38:Pt:50:U:H3	38:Pt:64:G:H1	1.03	1.01
19:S2:1417:C:H42	19:S2:1422:G:H22	1.01	0.99
19:S2:834:C:H42	19:S2:839:C:H42	1.12	0.96
19:S2:1748:G:H1	19:S2:1786:U:H3	1.09	0.94
40:L5:1100:U:H3	40:L5:1194:G:H1	1.05	0.94
19:S2:1096:G:H1	19:S2:1136:U:H3	1.02	0.93
19:S2:834:C:N4	19:S2:839:C:H42	1.67	0.92
19:S2:1652:G:H1	19:S2:1672:U:H3	0.96	0.91
19:S2:1729:U:H3	19:S2:1805:G:H1	1.06	0.91
40:L5:1177:U:H3	40:L5:1183:C:H42	0.91	0.89
40:L5:3944:G:H1	40:L5:4069:U:H3	0.90	0.89
40:L5:1095:A:H2	40:L5:1200:G:H1	1.18	0.88

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LR:132:PHE:HA	20:LR:137:ILE:HD11	1.56	0.88
40:L5:1177:U:H3	40:L5:1183:C:N4	1.73	0.87
40:L5:512:U:H3	40:L5:647:G:H1	1.18	0.86
40:L5:1996:C:N4	40:L5:2000:G:H22	1.78	0.82
40:L5:1974:U:H4'	40:L5:1975:G:H3'	1.64	0.79
40:L5:4887:C:H42	40:L5:4932:U:H3	1.31	0.79
40:L5:1759:G:H1	40:L5:1773:U:H3	1.30	0.78
40:L5:184:U:O2	40:L5:253:G:N2	2.17	0.78
1:SA:70:ASN:HB3	1:SA:73:ASP:HB2	1.65	0.77
19:S2:1417:C:N4	19:S2:1422:G:H22	1.82	0.77
40:L5:3717:A:H2'	40:L5:3718:A2M:H8	1.65	0.77
6:SH:144:ILE:HD11	6:SH:152:ARG:HB3	1.66	0.77
19:S2:1533:A:H62	19:S2:1602:U:H3	1.33	0.77
24:SF:101:HIS:HB2	24:SF:108:PRO:HG3	1.66	0.76
83:Ls:96:THR:HG22	83:Ls:99:ARG:HH21	1.48	0.76
9:SL:133:PRO:HG2	19:S2:383:G:H21	1.51	0.76
17:Sb:65:GLN:HB2	17:Sb:72:ARG:HB3	1.68	0.75
1:SA:148:CYS:HB3	1:SA:163:CYS:H	1.51	0.75
19:S2:1417:C:H42	19:S2:1422:G:N2	1.82	0.75
28:SQ:44:PRO:HG2	28:SQ:81:ILE:HD11	1.68	0.75
84:Lt:16:ARG:HH12	84:Lt:28:LEU:HB3	1.52	0.75
19:S2:304:C:H5''	19:S2:305:U:H5'	1.68	0.75
40:L5:1996:C:H42	40:L5:2000:G:N2	1.84	0.75
2:SB:24:PRO:HG3	19:S2:953:C:H5''	1.69	0.74
2:SB:84:PHE:HB3	2:SB:86:LEU:HD23	1.69	0.74
17:Sb:56:CYS:HB2	17:Sb:59:CYS:H	1.52	0.74
40:L5:1095:A:C2	40:L5:1200:G:N1	2.55	0.74
19:S2:834:C:N3	19:S2:839:C:N3	2.36	0.74
40:L5:3754:G:H1	40:L5:3770:U:H3	1.34	0.74
84:Lt:16:ARG:HE	84:Lt:17:CYS:H	1.35	0.74
35:Sf:132:MET:HG2	35:Sf:141:CYS:HB3	1.68	0.74
87:L5:5292:SPM:H112	56:LO:91:LYS:HD3	1.69	0.74
19:S2:1314:U:H2'	25:SK:2:LEU:HD12	1.70	0.74
16:Sa:59:PHE:HB2	16:Sa:62:TYR:HB2	1.71	0.73
19:S2:834:C:H42	19:S2:839:C:N4	1.85	0.73
18:Se:58:ASN:HB3	19:S2:608:C:H5'	1.69	0.73
71:Lf:46:ARG:HH21	71:Lf:89:ARG:HH22	1.36	0.73
19:S2:834:C:O2	19:S2:839:C:O2	2.06	0.72
7:SI:87:ASN:HB3	7:SI:90:LEU:HD23	1.71	0.72
31:SU:51:LYS:HB2	31:SU:90:ASP:HB2	1.72	0.72
54:LM:15:VAL:HG22	54:LM:50:MET:HE1	1.71	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1095:A:N1	40:L5:1200:G:O6	2.22	0.72
80:Lo:33:LEU:HA	80:Lo:38:LYS:HG2	1.72	0.72
40:L5:1414:C:H2'	40:L5:1415:G:H8	1.55	0.72
16:Sa:82:LYS:HB3	16:Sa:85:ARG:HH22	1.55	0.71
40:L5:4139:G:H21	40:L5:4140:C:H41	1.38	0.71
19:S2:1513:C:H2'	19:S2:1514:G:H8	1.52	0.71
44:LB:107:ALA:HB2	44:LB:201:LEU:HD22	1.72	0.71
19:S2:1653:U:O2	19:S2:1671:G:N2	2.22	0.71
36:Sg:206:LEU:HD12	36:Sg:218:LEU:HD12	1.71	0.71
3:SC:193:VAL:HG11	3:SC:240:THR:HG22	1.73	0.71
43:LA:54:ARG:HG2	43:LA:56:ALA:H	1.56	0.71
17:Sb:68:GLY:HA2	19:S2:928:G:H21	1.57	0.70
5:SG:170:ARG:HB3	19:S2:72:C:H42	1.56	0.70
19:S2:1352:G:H1	19:S2:1359:U:H3	1.39	0.70
19:S2:1829:G:H1'	19:S2:1850:MA6:H2	1.74	0.70
3:SC:90:GLU:HB2	3:SC:93:ILE:HG13	1.74	0.70
72:Lg:83:CYS:SG	72:Lg:86:CYS:HB2	2.31	0.70
19:S2:1030:A:H2'	19:S2:1031:A2M:H8	1.73	0.69
19:S2:928:G:H2'	19:S2:929:G:C8	2.26	0.69
19:S2:600:G:H2'	19:S2:601:OMG:H8	1.57	0.69
40:L5:3937:C:H1'	55:LN:125:SER:HB3	1.73	0.69
19:S2:1656:G:H1	19:S2:1668:U:H3	1.38	0.69
40:L5:2557:G:H1	40:L5:2570:U:H3	0.77	0.69
40:L5:3701:OMC:H5	40:L5:3748:A:H62	1.40	0.69
66:La:72:THR:HG22	66:La:110:LYS:HB3	1.75	0.69
45:LC:230:LEU:HD21	45:LC:236:ASN:H	1.57	0.69
19:S2:1748:G:O6	19:S2:1786:U:O4	2.10	0.68
87:L5:5288:SPM:H21	88:L5:5289:SPD:H102	1.58	0.68
1:SA:41:ARG:HE	1:SA:45:GLY:HA2	1.57	0.68
43:LA:114:CYS:HB3	43:LA:165:VAL:HB	1.73	0.68
62:LV:111:GLU:HG3	62:LV:131:ARG:HD3	1.76	0.68
8:SJ:164:PRO:HB3	8:SJ:170:PRO:HA	1.76	0.68
19:S2:1362:U:H5''	19:S2:1363:C:H5	1.59	0.68
28:SQ:43:GLU:HG3	28:SQ:44:PRO:HD3	1.75	0.68
19:S2:186:C:H2'	19:S2:187:G:H8	1.58	0.67
40:L5:1095:A:H2	40:L5:1200:G:N1	1.90	0.67
47:LE:72:LYS:HD3	67:Lb:119:CYS:HB3	1.74	0.67
19:S2:1536:G:H2'	19:S2:1537:A:H8	1.59	0.67
15:SY:9:THR:HG22	19:S2:837:A:H61	1.58	0.67
36:Sg:256:ILE:HB	36:Sg:270:LEU:HB2	1.76	0.67
40:L5:4748:U:H3	40:L5:4952:G:H1	1.42	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:ST:42:HIS:HB3	30:ST:93:SER:HB3	1.76	0.67
40:L5:1976:G:O6	40:L5:1990:A:N1	2.27	0.67
51:LI:54:SER:HB3	51:LI:135:ILE:HD11	1.77	0.67
8:SJ:63:LEU:HD23	8:SJ:70:ARG:HB2	1.76	0.67
40:L5:262:G:H2'	40:L5:263:G:H8	1.60	0.67
19:S2:1396:A:N7	19:S2:1449:G:O6	2.28	0.66
19:S2:1581:C:H5'	19:S2:1582:C:H5	1.59	0.66
40:L5:4093:G:H1	40:L5:4114:C:H2'	1.60	0.66
19:S2:874:G:H2'	19:S2:875:A:H8	1.59	0.66
57:LP:118:GLN:HE21	57:LP:120:ASN:HD21	1.43	0.66
51:LI:205:PRO:HD2	51:LI:208:LYS:HE2	1.77	0.66
53:LL:64:VAL:HA	53:LL:67:HIS:CD2	2.30	0.66
1:SA:8:LEU:HD21	1:SA:191:ARG:HH22	1.61	0.66
10:SN:13:GLN:HB2	17:Sb:21:LYS:HE3	1.76	0.66
19:S2:1096:G:N2	19:S2:1136:U:O2	2.27	0.66
4:SE:159:THR:HB	4:SE:173:ILE:HB	1.77	0.66
37:At:15:G:H22	37:At:48:C:H42	1.44	0.66
6:SH:37:LYS:HZ3	6:SH:40:LEU:HD22	1.61	0.65
26:SM:99:LYS:HG2	26:SM:101:ARG:H	1.61	0.65
19:S2:1352:G:N2	19:S2:1359:U:O2	2.28	0.65
40:L5:1942:A:H2'	40:L5:1943:A:C8	2.31	0.65
47:LE:222:LEU:H	47:LE:237:LYS:HE2	1.60	0.65
40:L5:3697:U:H5''	40:L5:3698:G:H5'	1.77	0.65
16:Sa:38:LYS:HB2	16:Sa:71:LEU:HB2	1.78	0.65
55:LN:68:ARG:HE	55:LN:128:LYS:HE3	1.61	0.65
4:SE:160:ILE:HD12	4:SE:162:ILE:HD11	1.79	0.65
19:S2:1421:A:H62	19:S2:1424:G:H1'	1.60	0.65
17:Sb:54:VAL:HG23	17:Sb:63:LEU:HB2	1.79	0.65
28:SQ:24:HIS:HB3	28:SQ:69:ARG:HB2	1.77	0.65
11:SO:134:PRO:HB3	19:S2:944:A:H5''	1.79	0.64
19:S2:1612:G:H1'	29:SS:87:GLN:HE21	1.61	0.64
13:SW:111:MET:HE1	13:SW:119:LYS:HD2	1.80	0.64
15:SY:36:PRO:HG3	19:S2:570:C:H4'	1.79	0.64
19:S2:1417:C:N3	19:S2:1422:G:N1	2.43	0.64
35:Sf:140:TYR:HB2	35:Sf:147:THR:HG22	1.80	0.64
40:L5:1629:G:H1	43:LA:208:GLU:HG2	1.62	0.64
46:LD:223:PHE:HB3	46:LD:226:TYR:HB2	1.80	0.64
57:LP:17:SER:HB2	57:LP:98:ALA:HB2	1.79	0.64
47:LE:223:ARG:HH22	47:LE:238:GLU:HG3	1.62	0.64
19:S2:557:U:H2'	19:S2:558:G:C8	2.33	0.64
40:L5:1332:C:H2'	40:L5:1333:A:H8	1.62	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:166:A2M:H2'	19:S2:167:G:H8	1.61	0.64
40:L5:3868:G:H22	40:L5:3900:G:H1'	1.62	0.64
51:LI:162:ARG:HH21	51:LI:164:LYS:HE3	1.63	0.64
19:S2:388:U:H2'	19:S2:389:A:H8	1.63	0.64
40:L5:2351:OMC:HM22	45:LC:95:MET:HG3	1.80	0.64
84:Lt:134:GLY:HA3	84:Lt:152:ILE:HD11	1.79	0.64
6:SH:154:ILE:HB	6:SH:185:VAL:HG22	1.80	0.63
19:S2:1650:A:H5''	28:SQ:139:ALA:HB2	1.79	0.63
84:Lt:82:ILE:HG13	84:Lt:86:LYS:HE2	1.80	0.63
4:SE:141:THR:HG23	4:SE:143:ASP:H	1.63	0.63
62:LV:112:MET:HE1	62:LV:117:ILE:HD11	1.80	0.63
1:SA:155:ARG:HH22	19:S2:1137:U:H4'	1.63	0.63
36:Sg:87:LEU:HB2	36:Sg:101:PHE:HB2	1.78	0.63
49:LG:167:VAL:HG12	49:LG:170:LEU:HD12	1.80	0.63
8:SJ:67:ASP:HB3	8:SJ:70:ARG:HB3	1.81	0.63
11:SO:52:THR:HG21	19:S2:952:G:H21	1.62	0.63
29:SS:6:PRO:HG2	29:SS:58:GLU:HB3	1.80	0.63
16:Sa:28:ARG:HH12	19:S2:1839:U:H5	1.46	0.63
19:S2:1228:A:H2'	19:S2:1229:G:C8	2.33	0.63
40:L5:2362:U:H2'	40:L5:2363:A2M:H8	1.81	0.63
40:L5:1444:G:H22	40:L5:2104:G:H21	1.45	0.63
15:SY:11:LYS:HB2	15:SY:24:VAL:HG12	1.81	0.63
24:SF:59:LYS:HB3	24:SF:62:ARG:HD3	1.80	0.63
36:Sg:142:VAL:HG12	36:Sg:146:SER:HB3	1.80	0.63
44:LB:220:ILE:HG23	44:LB:278:THR:HG22	1.80	0.63
40:L5:1175:A:H2	40:L5:1185:G:H22	1.47	0.63
57:LP:131:ARG:HG3	57:LP:137:ASN:OD1	1.98	0.63
3:SC:210:PRO:HD3	3:SC:236:PHE:HE2	1.63	0.63
19:S2:1652:G:O6	19:S2:1672:U:O4	2.17	0.63
40:L5:3944:G:O6	40:L5:4069:U:O4	2.16	0.63
2:SB:224:GLU:HB3	2:SB:227:LYS:HE3	1.80	0.62
19:S2:1657:G:H1	19:S2:1667:U:H3	1.47	0.62
1:SA:201:LEU:HD11	22:SR:82:ASP:HA	1.80	0.62
7:SI:57:ALA:HB2	7:SI:183:GLY:HA2	1.80	0.62
44:LB:117:ARG:HA	44:LB:177:LYS:HD2	1.82	0.62
7:SI:141:ARG:HD3	7:SI:145:ILE:HG21	1.80	0.62
32:SZ:58:LEU:HD12	32:SZ:62:VAL:HG21	1.80	0.62
19:S2:1228:A:H2'	19:S2:1229:G:H8	1.64	0.62
40:L5:381:U:H4'	40:L5:415:G:H5'	1.80	0.62
40:L5:1094:G:O6	40:L5:1201:U:O2	2.17	0.62
1:SA:113:GLN:HG2	1:SA:115:ALA:H	1.65	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2017:A:HO2'	40:L5:2018:C:H6	1.45	0.62
5:SG:135:PRO:HG2	5:SG:141:ILE:HG22	1.81	0.62
19:S2:1203:G:H2'	19:S2:1204:A:C8	2.35	0.62
40:L5:4910:G:H4'	44:LB:95:THR:HG22	1.81	0.62
12:SV:74:LYS:HG2	12:SV:79:VAL:HB	1.81	0.61
83:Ls:95:LEU:HD11	83:Ls:192:VAL:HG21	1.81	0.61
4:SE:80:ILE:HG23	4:SE:81:THR:HG23	1.80	0.61
19:S2:639:C:H2'	19:S2:640:A:H8	1.65	0.61
6:SH:144:ILE:HD13	6:SH:154:ILE:HG13	1.81	0.61
17:Sb:72:ARG:HH12	19:S2:1120:U:H5'	1.65	0.61
19:S2:508:A:H3'	19:S2:509:OMG:H8	1.65	0.61
23:SD:106:ARG:HH11	23:SD:110:LEU:HD12	1.65	0.61
24:SF:155:CYS:HB3	24:SF:159:ARG:HH22	1.65	0.61
40:L5:1969:G:H21	40:L5:1999:A:H1'	1.65	0.61
7:SI:98:LYS:HB3	19:S2:377:G:H5'	1.82	0.61
19:S2:1101:U:H2'	19:S2:1102:G:H8	1.64	0.61
49:LG:200:THR:HG22	49:LG:201:THR:HG23	1.81	0.61
6:SH:10:LYS:HZ2	6:SH:17:ASP:HB3	1.65	0.61
56:LO:126:VAL:HG13	56:LO:127:VAL:HG13	1.82	0.61
37:At:18:G:O6	37:At:55:U:O2	2.18	0.61
40:L5:497:G:H21	40:L5:498:C:H41	1.47	0.61
84:Lt:10:ILE:HG12	84:Lt:65:GLN:HB3	1.82	0.61
19:S2:609:U:H2'	19:S2:610:G:H8	1.66	0.61
19:S2:1417:C:O2	19:S2:1422:G:O6	2.18	0.61
5:SG:147:LEU:HD12	5:SG:151:ASP:HB2	1.83	0.61
19:S2:835:C:H5'	19:S2:836:G:H5'	1.81	0.61
83:Ls:59:THR:HA	83:Ls:62:ARG:HB2	1.83	0.61
9:SL:136:LYS:HB2	19:S2:385:G:H3'	1.83	0.60
16:Sa:82:LYS:HD3	16:Sa:85:ARG:HH12	1.65	0.60
19:S2:1536:G:H2'	19:S2:1537:A:C8	2.36	0.60
40:L5:1732:C:H5''	60:LT:43:LYS:HE2	1.81	0.60
40:L5:3754:G:O6	40:L5:3770:U:O4	2.19	0.60
83:Ls:114:GLY:HA2	83:Ls:166:LYS:HD2	1.82	0.60
40:L5:662:C:H2'	40:L5:663:G:H8	1.65	0.60
5:SG:142:ARG:HA	5:SG:147:LEU:HD23	1.82	0.60
15:SY:7:ILE:HG23	15:SY:27:VAL:HG12	1.82	0.60
44:LB:287:ILE:HG12	44:LB:331:VAL:HG22	1.84	0.60
19:S2:1753:C:H5'	19:S2:1780:G:H22	1.67	0.60
24:SF:201:LYS:HA	24:SF:204:ARG:HE	1.66	0.60
32:SZ:102:LYS:HA	32:SZ:107:VAL:HG23	1.82	0.60
7:SI:12:ARG:HH21	7:SI:18:ARG:HG3	1.66	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:145:G:H2'	19:S2:146:G:C8	2.37	0.60
40:L5:2611:A:H5'	40:L5:2688:G:H4'	1.83	0.60
2:SB:192:SER:HA	2:SB:195:LYS:HD2	1.83	0.60
11:SO:30:VAL:HG22	11:SO:94:HIS:HB2	1.82	0.60
40:L5:1870:C:H2'	40:L5:1871:A2M:H8	1.84	0.60
40:L5:4594:U:H2'	40:L5:4595:G:H8	1.67	0.60
42:L8:90:C:H1'	64:LY:24:HIS:HB3	1.84	0.60
2:SB:57:ILE:HG22	2:SB:59:SER:H	1.67	0.60
49:LG:58:PRO:HD2	49:LG:61:ILE:HD12	1.83	0.60
40:L5:37:U:H4'	66:La:32:ARG:HD2	1.84	0.60
40:L5:137:G:H2'	40:L5:138:G:H8	1.67	0.60
40:L5:190:G:H2'	40:L5:191:G:H8	1.67	0.60
40:L5:1100:U:O4	40:L5:1194:G:O6	2.20	0.60
40:L5:4126:C:H5''	40:L5:4127:A:H5''	1.83	0.60
19:S2:49:C:H2'	19:S2:472:C:H41	1.66	0.59
7:SI:19:LYS:HD3	19:S2:101:U:H5''	1.84	0.59
52:LJ:63:ARG:HD3	80:Lo:106:PHE:HB2	1.83	0.59
1:SA:10:MET:HE2	1:SA:15:VAL:HG22	1.84	0.59
22:SR:12:ALA:HB2	23:SD:208:VAL:HG21	1.84	0.59
40:L5:2411:C:H2'	40:L5:2412:A:H8	1.67	0.59
1:SA:42:LYS:HG3	1:SA:44:ASP:H	1.67	0.59
3:SC:191:VAL:HG11	3:SC:236:PHE:HA	1.82	0.59
52:LJ:56:THR:HG23	52:LJ:63:ARG:HA	1.83	0.59
40:L5:2486:G:O6	40:L5:2493:G:O6	2.20	0.59
40:L5:3717:A:H2'	40:L5:3718:A2M:C8	2.32	0.59
4:SE:149:TYR:HB3	5:SG:209:TYR:HB2	1.82	0.59
5:SG:7:PHE:HD1	5:SG:113:ILE:HD13	1.68	0.59
44:LB:165:HIS:HB3	44:LB:180:LEU:HD23	1.84	0.59
47:LE:281:ILE:HD12	47:LE:286:LEU:HD11	1.83	0.59
54:LM:122:ILE:HB	56:LO:189:ILE:HD11	1.85	0.59
32:SZ:99:LEU:HD11	32:SZ:102:LYS:HB2	1.85	0.59
40:L5:1503:A:H62	58:LQ:87:THR:HG21	1.68	0.59
40:L5:3898:G:H5'	44:LB:254:ILE:HG13	1.84	0.59
40:L5:4220:6MZ:H2'	40:L5:4222:G:H5''	1.85	0.59
45:LC:134:PRO:HG3	45:LC:150:LEU:HD12	1.85	0.59
64:LY:10:ASP:HB3	64:LY:13:LYS:HB2	1.85	0.59
5:SG:37:ALA:HA	5:SG:49:VAL:HA	1.84	0.59
19:S2:525:A:H2'	19:S2:526:A:H8	1.68	0.59
69:Ld:22:THR:HG23	69:Ld:122:VAL:HG13	1.84	0.59
3:SC:196:ILE:HB	3:SC:223:TYR:HB2	1.85	0.58
19:S2:468:A2M:H2'	19:S2:469:A:C8	2.38	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:517:OMC:HM22	19:S2:518:G:H5'	1.85	0.58
29:SS:21:ASP:HB3	29:SS:24:ARG:HD2	1.84	0.58
37:At:3:C:H42	37:At:70:A:H61	1.51	0.58
53:LL:80:GLU:HG3	53:LL:110:LEU:HD12	1.85	0.58
40:L5:4274:A:H2'	40:L5:4275:G:C8	2.38	0.58
83:Ls:29:ILE:HG13	83:Ls:190:GLN:HB2	1.85	0.58
24:SF:204:ARG:HG2	33:Sc:63:ARG:HE	1.68	0.58
4:SE:9:LEU:HB2	4:SE:30:ARG:HD3	1.84	0.58
19:S2:1467:C:H5''	22:SR:1:MET:HA	1.85	0.58
40:L5:194:C:H1'	64:LY:121:ARG:HH12	1.68	0.58
58:LQ:80:ALA:HB3	58:LQ:100:VAL:HG22	1.84	0.58
5:SG:133:LEU:HD12	19:S2:65:C:C4	2.38	0.58
15:SY:124:ASN:HD22	19:S2:84:A:H5''	1.68	0.58
19:S2:1031:A2M:H2'	19:S2:1032:C:C6	2.39	0.58
40:L5:4537:C:H2'	40:L5:4538:G:H8	1.67	0.58
56:LO:37:ARG:HD2	56:LO:108:ILE:HD11	1.84	0.58
40:L5:2764:A:H2'	40:L5:2765:A:H8	1.69	0.58
56:LO:81:TRP:HB2	56:LO:104:VAL:HG21	1.86	0.58
2:SB:146:ARG:HB2	2:SB:149:GLN:HB2	1.86	0.58
24:SF:34:SER:HA	33:Sc:55:VAL:HG13	1.84	0.58
33:Sc:17:VAL:HA	33:Sc:30:VAL:HG12	1.84	0.58
58:LQ:106:THR:HG22	58:LQ:108:ARG:H	1.68	0.58
83:Ls:18:ILE:HG12	83:Ls:68:HIS:ND1	2.18	0.58
40:L5:1258:G:H2'	40:L5:1259:G:C8	2.39	0.58
40:L5:3611:A:H2	40:L5:5016:A:H8	1.52	0.58
50:LH:102:ASN:HB2	50:LH:115:ARG:HB2	1.85	0.58
14:SX:124:LYS:HG2	14:SX:129:SER:HA	1.86	0.58
19:S2:1405:A:H2'	19:S2:1406:G:O4'	2.04	0.57
40:L5:190:G:H2'	40:L5:191:G:C8	2.39	0.57
40:L5:4274:A:H2'	40:L5:4275:G:H8	1.69	0.57
76:Lk:14:THR:HA	76:Lk:17:ARG:HD3	1.86	0.57
19:S2:899:U:H3'	19:S2:900:C:H4'	1.85	0.57
40:L5:3732:A:H2'	40:L5:3733:A:H8	1.68	0.57
3:SC:142:LYS:HE3	3:SC:144:SER:HB2	1.87	0.57
23:SD:74:GLN:HE22	23:SD:81:GLU:HA	1.69	0.57
37:At:15:G:N2	37:At:48:C:H42	2.02	0.57
19:S2:642:U:H4'	19:S2:644:OMG:H4'	1.87	0.57
19:S2:1277:C:H2'	19:S2:1278:A:H8	1.68	0.57
28:SQ:58:LEU:HD13	28:SQ:108:ILE:HD11	1.86	0.57
55:LN:143:ARG:HD2	73:Lh:95:LEU:HD23	1.87	0.57
19:S2:388:U:H2'	19:S2:389:A:C8	2.40	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1326:A2M:H2'	40:L5:1327:C:C6	2.39	0.57
53:LL:48:PRO:HG3	73:Lh:118:LYS:HE2	1.87	0.57
11:SO:33:ILE:HG22	11:SO:42:VAL:HA	1.87	0.57
19:S2:943:U:H2'	19:S2:944:A:H8	1.69	0.57
19:S2:1743:G:H21	19:S2:1791:A:H62	1.50	0.57
40:L5:4113:U:H4'	40:L5:4115:G:C4	2.40	0.57
40:L5:4887:C:N4	40:L5:4932:U:H3	2.01	0.57
4:SE:19:MET:HE2	4:SE:108:ARG:HD2	1.86	0.57
40:L5:4571:A2M:H2'	40:L5:4572:U:H6	1.69	0.57
43:LA:112:ILE:HD11	81:Lp:79:VAL:HG22	1.85	0.57
19:S2:329:G:H2'	19:S2:330:G:C8	2.40	0.57
40:L5:1177:U:C4	40:L5:1183:C:N4	2.72	0.57
44:LB:57:VAL:HB	44:LB:367:PHE:HB3	1.87	0.57
1:SA:38:ILE:HD11	1:SA:47:TYR:HB3	1.85	0.57
19:S2:1568:C:H2'	19:S2:1569:A:C8	2.39	0.57
33:Sc:16:LYS:HZ1	33:Sc:18:LEU:HD13	1.69	0.57
40:L5:1996:C:N4	40:L5:2000:G:N2	2.44	0.57
1:SA:154:LEU:HB3	1:SA:157:VAL:HB	1.87	0.57
13:SW:69:LEU:HD21	13:SW:72:CYS:HB3	1.85	0.57
19:S2:1103:C:H2'	19:S2:1104:G:C8	2.40	0.56
61:LU:45:GLU:HA	61:LU:54:GLY:HA2	1.87	0.56
1:SA:89:LYS:NZ	22:SR:82:ASP:HB3	2.21	0.56
2:SB:85:LYS:HB2	2:SB:101:HIS:HB3	1.87	0.56
31:SU:26:SER:HB3	31:SU:110:VAL:HG23	1.87	0.56
40:L5:181:C:H2'	40:L5:182:G:C8	2.40	0.56
40:L5:1768:C:H42	40:L5:1772:C:H41	1.51	0.56
40:L5:2335:C:H2'	40:L5:2336:G:H8	1.69	0.56
19:S2:885:U:O2	19:S2:901:G:O6	2.23	0.56
40:L5:1973:G:H3'	40:L5:1974:U:H2'	1.87	0.56
19:S2:1755:C:H2'	19:S2:1756:C:C6	2.41	0.56
23:SD:66:ILE:HA	23:SD:69:LEU:HD12	1.86	0.56
65:LZ:11:VAL:HG12	65:LZ:82:PRO:HA	1.88	0.56
23:SD:106:ARG:HG2	23:SD:175:VAL:HG22	1.87	0.56
35:Sf:140:TYR:HE1	35:Sf:145:CYS:HA	1.70	0.56
45:LC:110:ARG:HB2	55:LN:204:ARG:HH21	1.69	0.56
13:SW:107:SER:HB2	19:S2:860:G:H21	1.70	0.56
19:S2:1560:U:O2	19:S2:1575:G:O6	2.24	0.56
36:Sg:173:LEU:HD11	36:Sg:187:ASN:HB3	1.88	0.56
87:L5:5292:SPM:H132	56:LO:91:LYS:HB3	1.86	0.56
36:Sg:130:LYS:HG2	36:Sg:141:THR:HG22	1.86	0.56
3:SC:173:LYS:HD3	12:SV:3:ASN:HA	1.87	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SH:157:HIS:HB3	6:SH:190:PRO:HG3	1.88	0.56
19:S2:1283:C:H4'	19:S2:1286:G:H4'	1.86	0.56
19:S2:1391:OMC:H4'	34:Sd:55:LEU:HD13	1.88	0.56
35:Sf:140:TYR:CZ	35:Sf:142:GLY:HA2	2.41	0.56
69:Ld:64:ILE:HG23	69:Ld:68:LEU:HD23	1.88	0.56
19:S2:527:C:H2'	19:S2:528:A:C8	2.41	0.56
19:S2:1858:G:H2'	19:S2:1859:A:H8	1.71	0.56
28:SQ:68:ILE:HD13	28:SQ:88:ILE:HG23	1.88	0.56
40:L5:4238:G:H2'	40:L5:4239:A:H8	1.71	0.56
42:L8:134:G:H5''	63:LX:63:LYS:HD2	1.88	0.56
46:LD:194:VAL:HA	46:LD:197:LYS:HD2	1.88	0.56
19:S2:186:C:H2'	19:S2:187:G:C8	2.40	0.55
28:SQ:117:ARG:HH21	28:SQ:121:VAL:HG21	1.71	0.55
40:L5:1254:A:H5''	40:L5:1255:A:H5''	1.88	0.55
19:S2:1259:A:H62	19:S2:1518:C:H3'	1.72	0.55
4:SE:44:LEU:HD11	4:SE:72:ILE:HD11	1.88	0.55
40:L5:1332:C:H2'	40:L5:1333:A:C8	2.41	0.55
40:L5:1942:A:H2'	40:L5:1943:A:H8	1.71	0.55
19:S2:1144:A:H2'	19:S2:1145:A:C8	2.41	0.55
40:L5:655:C:H2'	40:L5:656:C:C6	2.42	0.55
40:L5:1306:C:H2'	40:L5:1307:A:H8	1.72	0.55
40:L5:4530:UR3:H2'	40:L5:4531:U:H2'	1.87	0.55
2:SB:109:LYS:HG3	2:SB:113:MET:HE2	1.89	0.55
4:SE:179:ASN:HA	4:SE:231:GLY:HA2	1.89	0.55
19:S2:17:C:H2'	19:S2:18:C:H6	1.72	0.55
23:SD:132:LYS:HB2	23:SD:189:MET:HG2	1.88	0.55
84:Lt:131:GLU:HA	84:Lt:152:ILE:HD12	1.88	0.55
19:S2:874:G:H2'	19:S2:875:A:C8	2.39	0.55
40:L5:1464:C:H5''	67:Lb:32:LEU:HD12	1.89	0.55
68:Lc:22:MET:O	68:Lc:23:LYS:HG3	2.06	0.55
4:SE:48:LEU:HD12	4:SE:61:VAL:HG23	1.89	0.55
19:S2:1850:MA6:H8	19:S2:1850:MA6:O5'	2.07	0.55
35:Sf:108:VAL:HB	35:Sf:113:LYS:H	1.71	0.55
40:L5:444:G:H2'	40:L5:445:U:C6	2.42	0.55
9:SL:120:VAL:HG22	9:SL:145:VAL:HG11	1.89	0.55
19:S2:864:A:H2'	19:S2:865:A:C8	2.41	0.55
25:SK:21:MET:HB3	25:SK:69:TRP:HB2	1.88	0.55
40:L5:3732:A:H2'	40:L5:3733:A:C8	2.42	0.55
41:L7:4:U:H2'	41:L7:5:A:H8	1.72	0.55
41:L7:119:U:C2	46:LD:261:VAL:HG21	2.42	0.55
19:S2:1031:A2M:H2'	19:S2:1032:C:H6	1.71	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1205:C:H2'	19:S2:1206:G:H8	1.71	0.55
19:S2:1513:C:H2'	19:S2:1514:G:C8	2.38	0.55
21:LW:116:LYS:HA	21:LW:119:LYS:HE2	1.88	0.55
46:LD:182:GLY:HA2	46:LD:194:VAL:HG23	1.89	0.55
7:SI:35:ASN:HB3	7:SI:37:LYS:HE2	1.89	0.55
19:S2:1018:U:H2'	19:S2:1019:C:H6	1.72	0.55
19:S2:1279:C:H2'	19:S2:1280:G:C8	2.42	0.55
40:L5:662:C:H2'	40:L5:663:G:C8	2.42	0.55
40:L5:2029:A:H2'	40:L5:2030:A:C8	2.42	0.55
40:L5:4279:A:H5'	40:L5:4281:A:H1'	1.88	0.55
49:LG:157:ILE:HA	49:LG:201:THR:HG22	1.89	0.55
50:LH:93:ARG:HD2	50:LH:143:GLU:HG2	1.89	0.55
59:LS:15:ARG:HH12	59:LS:18:PRO:HG3	1.72	0.55
75:Lj:27:TYR:HA	75:Lj:34:CYS:HA	1.87	0.55
9:SL:73:LEU:HD11	9:SL:109:MET:HE1	1.89	0.54
24:SF:187:SER:HB3	24:SF:190:ILE:HG12	1.88	0.54
25:SK:80:ARG:HD3	25:SK:85:LEU:HB2	1.88	0.54
40:L5:153:G:H2'	40:L5:154:G:H8	1.72	0.54
40:L5:964:A:H2'	40:L5:965:G:H4'	1.89	0.54
40:L5:1444:G:H1	40:L5:2104:G:N2	2.04	0.54
40:L5:2744:A:H2'	40:L5:2745:A:C8	2.43	0.54
1:SA:77:ILE:HG22	1:SA:99:ILE:HB	1.89	0.54
2:SB:213:ARG:HD2	2:SB:214:LYS:HB2	1.89	0.54
7:SI:78:ILE:HG13	7:SI:104:ILE:HG22	1.89	0.54
19:S2:1217:A:H2'	19:S2:1218:C:C6	2.41	0.54
19:S2:1605:G:H2'	19:S2:1606:G:C4	2.43	0.54
21:LW:99:GLU:HB3	21:LW:102:LYS:HE3	1.89	0.54
40:L5:1961:G:H21	40:L5:2025:A:H62	1.54	0.54
40:L5:3932:U:H2'	40:L5:3933:G:H8	1.72	0.54
40:L5:184:U:O2	40:L5:253:G:C2	2.60	0.54
40:L5:432:U:H1'	87:L5:5292:SPM:H82	1.90	0.54
40:L5:2019:C:H2'	40:L5:2020:U:C6	2.42	0.54
40:L5:4740:G:O6	40:L5:4959:U:O2	2.26	0.54
42:L8:19:C:H2'	42:L8:20:A:C8	2.43	0.54
51:LI:61:SER:HA	51:LI:126:VAL:HG12	1.89	0.54
53:LL:48:PRO:HB2	73:Lh:120:ALA:HB2	1.89	0.54
2:SB:87:ILE:H	2:SB:101:HIS:HB2	1.73	0.54
2:SB:88:THR:HA	2:SB:98:THR:HA	1.90	0.54
19:S2:379:C:H2'	19:S2:380:G:C8	2.43	0.54
23:SD:67:ARG:HD3	25:SK:96:ARG:HG2	1.89	0.54
40:L5:1994:C:H2'	40:L5:1995:G:C8	2.42	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4474:A:H5''	78:Lm:125:LYS:HG3	1.89	0.54
4:SE:153:LEU:HD12	5:SG:216:ARG:HH11	1.73	0.54
19:S2:1595:U:H2'	19:S2:1596:U:C6	2.42	0.54
36:Sg:208:ALA:HB2	36:Sg:218:LEU:HD13	1.89	0.54
40:L5:1095:A:N1	40:L5:1200:G:C6	2.75	0.54
40:L5:2557:G:O6	40:L5:2570:U:O4	2.26	0.54
76:Lk:13:LEU:HA	76:Lk:16:ARG:HG2	1.89	0.54
16:Sa:102:ARG:HG3	16:Sa:103:PRO:HD3	1.89	0.54
19:S2:1069:U:H5''	43:LA:248:GLY:HA2	1.90	0.54
40:L5:4615:C:H5''	44:LB:357:ARG:HD2	1.90	0.54
1:SA:120:ARG:HD2	3:SC:266:TYR:HB3	1.89	0.54
19:S2:900:C:H5'	19:S2:901:G:N7	2.23	0.54
35:Sf:138:ARG:HG3	35:Sf:147:THR:HB	1.88	0.54
42:L8:75:OMG:H8	42:L8:75:OMG:OP1	1.90	0.54
45:LC:144:ILE:HG22	45:LC:147:VAL:HG21	1.89	0.54
7:SI:142:SER:H	7:SI:145:ILE:HD12	1.73	0.54
9:SL:5:GLN:HE22	9:SL:11:GLN:HB2	1.73	0.54
19:S2:1228:A:H5''	29:SS:142:ARG:HH12	1.73	0.54
19:S2:1597:C:H3'	19:S2:1598:G:H8	1.73	0.54
34:Sd:6:LEU:HA	34:Sd:9:SER:HB3	1.89	0.54
40:L5:2611:A:H2'	40:L5:2612:G:C8	2.43	0.54
48:LF:127:LYS:HB2	60:LT:133:ALA:HB3	1.89	0.54
54:LM:33:GLN:HB3	59:LS:145:PHE:HZ	1.71	0.54
5:SG:194:LEU:HB3	5:SG:198:ARG:HH21	1.72	0.54
19:S2:223:C:H2'	19:S2:224:A:C8	2.43	0.54
40:L5:4068:U:HO2'	40:L5:4069:U:H6	1.56	0.54
40:L5:4184:G:H5'	43:LA:233:ARG:HB2	1.88	0.54
4:SE:103:TYR:HB2	4:SE:182:MET:HE2	1.90	0.53
9:SL:81:LYS:HD3	19:S2:394:G:H5'	1.90	0.53
24:SF:18:LYS:HE2	24:SF:22:LYS:HA	1.89	0.53
40:L5:1972:G:H2'	40:L5:1973:G:C8	2.43	0.53
40:L5:3718:A2M:H2'	40:L5:3719:A:O4'	2.08	0.53
40:L5:4139:G:H1'	40:L5:4146:G:N1	2.23	0.53
40:L5:4745:G:H1	40:L5:4955:A:H61	1.54	0.53
40:L5:4991:U:H2'	40:L5:4992:G:C8	2.43	0.53
1:SA:42:LYS:HZ1	1:SA:48:ILE:HD11	1.72	0.53
9:SL:85:THR:HG21	19:S2:373:G:H4'	1.91	0.53
23:SD:1:MET:HG2	23:SD:3:VAL:H	1.73	0.53
28:SQ:16:LYS:HG3	28:SQ:123:ASP:HB3	1.90	0.53
43:LA:31:ALA:HB2	43:LA:123:ARG:HH21	1.72	0.53
45:LC:116:ASN:HB2	45:LC:119:GLN:HG3	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LF:105:VAL:HG13	48:LF:136:VAL:HG12	1.91	0.53
19:S2:17:C:H2'	19:S2:18:C:C6	2.43	0.53
40:L5:1617:G:H1'	40:L5:2513:A:N6	2.23	0.53
61:LU:61:VAL:HG13	61:LU:74:SER:HB2	1.89	0.53
5:SG:159:ARG:HE	5:SG:171:THR:HG23	1.73	0.53
19:S2:1854:U:H2'	19:S2:1855:G:H8	1.74	0.53
23:SD:8:LYS:HB3	34:Sd:34:TYR:HE1	1.73	0.53
40:L5:2491:C:H2'	40:L5:2492:C:C6	2.44	0.53
40:L5:4992:G:H2'	40:L5:4993:G:C8	2.43	0.53
1:SA:44:ASP:HB2	22:SR:123:THR:HG21	1.91	0.53
1:SA:198:MET:HE2	22:SR:85:VAL:HG13	1.91	0.53
2:SB:140:VAL:HG22	2:SB:213:ARG:HB2	1.90	0.53
19:S2:1562:C:H2'	19:S2:1563:G:C8	2.44	0.53
40:L5:4239:A:H2'	40:L5:4240:G:C8	2.44	0.53
40:L5:4260:U:H2'	40:L5:4261:C:C6	2.44	0.53
68:Lc:52:CYS:HB3	68:Lc:57:LYS:HG3	1.90	0.53
19:S2:106:C:H2'	19:S2:107:A:H8	1.73	0.53
38:Pt:52:G:H2'	38:Pt:53:G:H8	1.73	0.53
46:LD:37:VAL:HB	46:LD:67:ALA:HB2	1.91	0.53
48:LF:182:TYR:HB3	48:LF:200:ARG:HG3	1.90	0.53
53:LL:130:LYS:HB3	53:LL:133:ALA:HB3	1.90	0.53
5:SG:38:ALA:HB1	5:SG:41:LEU:HD13	1.90	0.53
5:SG:168:LYS:HE2	5:SG:170:ARG:HH12	1.74	0.53
6:SH:153:LEU:HD23	6:SH:155:LYS:HZ2	1.73	0.53
19:S2:634:A:H2'	19:S2:635:G:H8	1.73	0.53
19:S2:1010:G:H2'	19:S2:1011:A:H8	1.74	0.53
19:S2:1406:G:H2'	19:S2:1407:U:C6	2.44	0.53
19:S2:1466:G:H4'	22:SR:4:VAL:HG22	1.90	0.53
22:SR:70:SER:HB3	22:SR:73:LEU:HB2	1.90	0.53
26:SM:91:LEU:HD12	26:SM:106:CYS:HB2	1.90	0.53
36:Sg:168:CYS:HB2	36:Sg:195:LEU:HD13	1.91	0.53
57:LP:118:GLN:HE21	57:LP:120:ASN:ND2	2.06	0.53
1:SA:85:ARG:HH22	1:SA:205:ARG:HG3	1.74	0.53
1:SA:185:MET:HA	1:SA:191:ARG:HH21	1.74	0.53
2:SB:142:PHE:HB2	2:SB:209:ASP:HB3	1.91	0.53
7:SI:133:GLU:HA	7:SI:136:ILE:HG12	1.90	0.53
13:SW:87:GLU:HA	13:SW:90:GLN:HB2	1.89	0.53
19:S2:1532:C:H3'	19:S2:1637:A:H62	1.74	0.53
19:S2:1777:G:H2'	19:S2:1778:C:H6	1.74	0.53
40:L5:1969:G:N2	40:L5:1999:A:H1'	2.23	0.53
47:LE:277:LEU:HB2	71:Lf:4:ARG:HB3	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SA:118:GLU:HG3	3:SC:65:LYS:HG3	1.91	0.53
2:SB:171:ILE:HD11	2:SB:197:ILE:HG12	1.91	0.53
5:SG:234:LEU:HD11	5:SG:237:LEU:HB3	1.90	0.53
19:S2:391:C:H2'	19:S2:392:A:H8	1.74	0.53
26:SM:31:LEU:HB3	26:SM:33:ARG:HG3	1.90	0.53
32:SZ:99:LEU:HA	32:SZ:109:TYR:HD1	1.74	0.53
2:SB:117:TRP:HD1	2:SB:153:THR:HG22	1.74	0.53
19:S2:359:U:H3	19:S2:403:G:H1	1.57	0.53
40:L5:1339:U:H2'	40:L5:1340:OMC:C6	2.44	0.53
40:L5:4426:C:H2'	40:L5:4427:G:H5'	1.90	0.53
40:L5:4967:A:H2'	40:L5:4968:A:H8	1.74	0.53
50:LH:95:VAL:HG12	78:Lm:82:LEU:HD13	1.91	0.53
83:Ls:133:GLU:HG2	83:Ls:134:LYS:HG2	1.91	0.53
24:SF:143:PRO:HD3	33:Sc:56:LEU:HB3	1.90	0.52
44:LB:168:MET:HE2	44:LB:175:GLN:HG2	1.90	0.52
53:LL:130:LYS:HD2	53:LL:131:PRO:HD2	1.90	0.52
19:S2:1679:A:H2'	24:SF:60:ARG:HD2	1.90	0.52
19:S2:640:A:H2'	19:S2:641:A:C8	2.43	0.52
19:S2:991:G:C6	19:S2:1134:G:H4'	2.45	0.52
19:S2:1729:U:O2	19:S2:1805:G:N2	2.32	0.52
40:L5:2745:A:H2'	40:L5:2746:A:C8	2.45	0.52
40:L5:4415:A:H4'	51:LI:74:LYS:HD3	1.90	0.52
40:L5:4594:U:H2'	40:L5:4595:G:C8	2.44	0.52
40:L5:4742:G:H2'	40:L5:4743:G:C8	2.44	0.52
47:LE:144:ILE:HG12	47:LE:196:ALA:HB2	1.91	0.52
1:SA:49:ILE:HD13	1:SA:163:CYS:HA	1.90	0.52
1:SA:158:ASP:HB2	1:SA:159:ILE:HD12	1.92	0.52
19:S2:106:C:H2'	19:S2:107:A:C8	2.45	0.52
29:SS:40:TYR:HA	29:SS:83:PHE:HE2	1.73	0.52
41:L7:112:U:H2'	41:L7:113:G:H8	1.72	0.52
46:LD:51:MET:HE3	46:LD:105:LEU:HD23	1.91	0.52
49:LG:205:THR:HG22	49:LG:206:GLN:H	1.73	0.52
15:SY:10:ARG:HD2	19:S2:833:C:H41	1.74	0.52
19:S2:1240:A:C2	27:SP:100:LYS:HB2	2.45	0.52
40:L5:1281:G:N1	47:LE:128:HIS:HB2	2.25	0.52
40:L5:1933:G:H2'	40:L5:1934:A:C8	2.45	0.52
84:Lt:15:LEU:HD13	84:Lt:60:VAL:HG13	1.90	0.52
19:S2:28:U:H2'	19:S2:29:G:H8	1.74	0.52
19:S2:1201:U:H2'	19:S2:1202:U:C6	2.45	0.52
32:SZ:99:LEU:HD12	32:SZ:109:TYR:HE1	1.74	0.52
40:L5:3726:A:H2'	40:L5:3727:A:C8	2.44	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SA:77:ILE:HD11	1:SA:124:VAL:HG22	1.91	0.52
9:SL:78:THR:HG22	9:SL:79:LYS:HG3	1.91	0.52
40:L5:1414:C:H2'	40:L5:1415:G:C8	2.42	0.52
40:L5:2411:C:H2'	40:L5:2412:A:C8	2.44	0.52
40:L5:4238:G:H2'	40:L5:4239:A:C8	2.44	0.52
2:SB:138:PHE:HB3	2:SB:213:ARG:HH21	1.75	0.52
8:SJ:124:HIS:CG	18:Se:35:ARG:HE	2.28	0.52
17:Sb:34:ASP:HB2	17:Sb:80:ARG:HB2	1.91	0.52
19:S2:1679:A:H5''	33:Sc:20:ARG:HH22	1.74	0.52
40:L5:2102:G:H1'	40:L5:2103:G:N7	2.25	0.52
40:L5:4106:G:H3'	40:L5:4107:G:H8	1.75	0.52
40:L5:4991:U:H2'	40:L5:4992:G:H8	1.74	0.52
77:Ll:12:PHE:HE2	77:Ll:51:LEU:HD22	1.75	0.52
83:Ls:14:PHE:HZ	83:Ls:63:LYS:HB3	1.74	0.52
1:SA:210:ILE:HG12	22:SR:80:ARG:HG2	1.91	0.52
15:SY:55:ILE:HG23	15:SY:75:ILE:HG22	1.91	0.52
19:S2:1202:U:H2'	19:S2:1203:G:C8	2.45	0.52
40:L5:418:A:C2	42:L8:17:A:H1'	2.45	0.52
40:L5:3599:A:H2'	40:L5:3600:G:C8	2.45	0.52
40:L5:3736:A:H2'	40:L5:3737:A:C8	2.45	0.52
43:LA:140:ASN:HD21	43:LA:143:THR:HG22	1.74	0.52
46:LD:64:ILE:HD13	46:LD:109:LEU:HD22	1.90	0.52
49:LG:30:PRO:HG2	65:LZ:124:THR:HA	1.91	0.52
61:LU:80:LYS:HZ1	61:LU:109:SER:H	1.58	0.52
5:SG:7:PHE:HB3	5:SG:10:THR:HG22	1.92	0.52
10:SN:66:VAL:HG13	10:SN:67:THR:HG23	1.92	0.52
11:SO:98:ARG:HH21	11:SO:134:PRO:HG2	1.75	0.52
19:S2:352:U:H2'	19:S2:353:C:C6	2.45	0.52
19:S2:848:U:H2'	19:S2:849:A:H8	1.74	0.52
19:S2:1205:C:H2'	19:S2:1206:G:C8	2.44	0.52
19:S2:1529:C:H4'	30:ST:89:PRO:HG3	1.92	0.52
19:S2:1550:G:H3'	19:S2:1579:A:H61	1.75	0.52
19:S2:1562:C:H2'	19:S2:1563:G:H8	1.75	0.52
22:SR:81:ARG:C	22:SR:83:ASN:H	2.18	0.52
35:Sf:106:TYR:HD2	35:Sf:114:ILE:HD11	1.75	0.52
37:At:15:G:H22	37:At:48:C:N4	2.07	0.52
38:Pt:43:A:H2'	38:Pt:44:A:C8	2.46	0.52
40:L5:423:G:H5'	57:LP:26:PHE:HZ	1.74	0.52
40:L5:724:C:H1'	45:LC:343:GLN:HG2	1.91	0.52
40:L5:2777:G:H5''	40:L5:2778:G:H5'	1.91	0.52
40:L5:3932:U:H2'	40:L5:3933:G:C8	2.45	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:SA:189:ILE:HG22	1:SA:191:ARG:H	1.74	0.51
19:S2:149:A:H3'	19:S2:150:A:H8	1.74	0.51
24:SF:154:LEU:HD23	24:SF:176:GLU:HG3	1.92	0.51
26:SM:64:LEU:HD22	35:Sf:104:LYS:HZ3	1.75	0.51
58:LQ:90:VAL:HB	66:La:80:THR:HG21	1.92	0.51
4:SE:42:LEU:HG	4:SE:109:PHE:HD2	1.75	0.51
10:SN:15:ALA:HB2	17:Sb:21:LYS:HE2	1.92	0.51
32:SZ:50:PHE:CZ	32:SZ:58:LEU:HD22	2.45	0.51
40:L5:1188:C:H2'	40:L5:1189:G:C8	2.45	0.51
50:LH:92:MET:HE2	50:LH:179:ILE:HG22	1.93	0.51
3:SC:211:LYS:HG2	3:SC:215:MET:HE2	1.91	0.51
3:SC:256:TRP:CD2	13:SW:68:ARG:HD3	2.45	0.51
19:S2:121:OMU:HM22	19:S2:122:G:H5'	1.93	0.51
19:S2:907:G:H2'	19:S2:908:A:C8	2.46	0.51
19:S2:1202:U:H2'	19:S2:1203:G:H8	1.75	0.51
19:S2:1740:C:H2'	19:S2:1741:U:C6	2.46	0.51
22:SR:17:ILE:HD11	22:SR:54:VAL:HA	1.91	0.51
40:L5:909:A:H2'	40:L5:910:G:H8	1.73	0.51
40:L5:1086:C:H2'	40:L5:1087:A:H8	1.74	0.51
40:L5:4967:A:H2'	40:L5:4968:A:C8	2.46	0.51
55:LN:5:LYS:HD3	55:LN:8:GLN:HE21	1.75	0.51
61:LU:24:ASP:HB3	61:LU:111:GLU:HG2	1.90	0.51
1:SA:85:ARG:HD2	22:SR:81:ARG:HA	1.92	0.51
7:SI:25:ARG:HA	19:S2:448:A:H5''	1.93	0.51
9:SL:75:GLY:HA3	9:SL:88:ILE:HD12	1.92	0.51
19:S2:561:A:H2'	19:S2:562:U:C6	2.45	0.51
40:L5:264:C:H2'	40:L5:265:C:C4	2.46	0.51
40:L5:679:C:H2'	40:L5:680:G:H8	1.74	0.51
40:L5:4688:C:H2'	40:L5:4689:PSU:C6	2.46	0.51
3:SC:261:PHE:HB3	12:SV:33:GLN:NE2	2.25	0.51
18:Se:58:ASN:ND2	19:S2:606:G:H1'	2.26	0.51
19:S2:51:U:H2'	19:S2:52:G:H8	1.75	0.51
19:S2:327:G:H5''	19:S2:328:U:C2	2.45	0.51
19:S2:1218:C:H2'	19:S2:1219:C:C6	2.46	0.51
19:S2:1398:G:H22	19:S2:1448:A:H2	1.58	0.51
36:Sg:249:CYS:HB3	36:Sg:258:ILE:HD13	1.93	0.51
38:Pt:52:G:H2'	38:Pt:53:G:C8	2.46	0.51
40:L5:3910:C:H2'	40:L5:3911:C:C6	2.46	0.51
40:L5:4260:U:H2'	40:L5:4261:C:H6	1.75	0.51
40:L5:4537:C:H2'	40:L5:4538:G:C8	2.45	0.51
14:SX:66:ILE:HG13	18:Se:5:SER:HB2	1.93	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Sb:64:CYS:HB2	17:Sb:71:ALA:HB1	1.93	0.51
19:S2:399:C:H5	19:S2:680:G:H5''	1.76	0.51
19:S2:639:C:H2'	19:S2:640:A:C8	2.45	0.51
19:S2:1203:G:H2'	19:S2:1204:A:H8	1.76	0.51
19:S2:1421:A:H5''	19:S2:1422:G:H2'	1.93	0.51
40:L5:462:G:H2'	40:L5:463:A:C8	2.46	0.51
40:L5:2539:C:H2'	40:L5:2540:C:C6	2.46	0.51
40:L5:3656:A:H5''	43:LA:245:ARG:HH12	1.75	0.51
44:LB:300:LYS:HG3	44:LB:311:ASP:HA	1.92	0.51
55:LN:116:LEU:HD22	55:LN:135:ILE:HD11	1.92	0.51
14:SX:9:THR:HG22	19:S2:681:PSU:H4'	1.92	0.51
15:SY:57:VAL:HB	15:SY:60:PHE:HE2	1.75	0.51
19:S2:201:C:H3'	19:S2:202:G:H21	1.75	0.51
19:S2:1101:U:H2'	19:S2:1102:G:C8	2.46	0.51
21:LW:56:ARG:HE	21:LW:61:LYS:HB2	1.75	0.51
23:SD:8:LYS:HB3	34:Sd:34:TYR:CE1	2.44	0.51
28:SQ:130:LYS:HA	28:SQ:137:ALA:HA	1.92	0.51
40:L5:318:A:H2'	40:L5:319:A:H8	1.75	0.51
40:L5:1500:A:H5''	40:L5:1501:C:H5''	1.92	0.51
40:L5:4121:G:H21	43:LA:46:LYS:HD2	1.74	0.51
40:L5:4591:U:H2'	40:L5:4592:C:C6	2.46	0.51
42:L8:86:U:H5'	73:Lh:7:ARG:NH2	2.25	0.51
61:LU:63:ILE:HD11	61:LU:70:ILE:HG22	1.93	0.51
1:SA:32:PHE:CD1	19:S2:1097:G:H4'	2.46	0.51
11:SO:44:VAL:HG13	11:SO:53:ILE:HB	1.93	0.51
24:SF:56:TYR:HA	24:SF:62:ARG:HH21	1.76	0.51
40:L5:1095:A:H2'	40:L5:1096:C:H6	1.76	0.51
40:L5:1683:PSU:H2'	40:L5:1684:A:C8	2.45	0.51
40:L5:2303:C:H5''	70:Le:104:SER:HB3	1.93	0.51
47:LE:243:THR:HG22	47:LE:245:GLN:H	1.75	0.51
66:La:36:GLY:HA3	66:La:40:HIS:CE1	2.45	0.51
15:SY:21:LYS:HD2	15:SY:75:ILE:HD11	1.92	0.51
19:S2:564:A:H2'	19:S2:565:G:O4'	2.11	0.51
19:S2:929:G:H2'	19:S2:930:C:O4'	2.10	0.51
19:S2:1667:U:H2'	19:S2:1668:U:C6	2.46	0.51
21:LW:5:LEU:HD12	21:LW:30:GLN:NE2	2.26	0.51
40:L5:318:A:H2'	40:L5:319:A:C8	2.46	0.51
40:L5:500:G:H1'	40:L5:504:G:H3'	1.93	0.51
40:L5:2400:G:H21	72:Lg:6:THR:HG22	1.76	0.51
42:L8:141:C:H2'	42:L8:142:U:C6	2.45	0.51
1:SA:157:VAL:HG11	1:SA:160:ALA:HB2	1.93	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SL:111:VAL:HG12	9:SL:140:PHE:HB2	1.93	0.51
19:S2:587:A:H5'	19:S2:592:C:H41	1.76	0.51
19:S2:588:G:H4'	19:S2:589:G:H5'	1.93	0.51
19:S2:689:U:H3'	19:S2:690:G:H21	1.76	0.51
19:S2:1797:U:H2'	19:S2:1798:C:C6	2.46	0.51
22:SR:20:TYR:HD2	22:SR:23:ARG:HD3	1.76	0.51
23:SD:105:LEU:HD13	23:SD:122:VAL:HG21	1.92	0.51
37:At:50:U:H3	37:At:64:G:H1	1.58	0.51
40:L5:1404:G:N7	40:L5:1408:G:N2	2.59	0.51
58:LQ:6:ARG:HH12	67:Lb:18:ARG:HG2	1.74	0.51
1:SA:41:ARG:HD2	1:SA:47:TYR:CZ	2.47	0.50
1:SA:198:MET:HE1	1:SA:200:ASP:HB2	1.91	0.50
7:SI:164:GLU:HA	7:SI:167:GLN:HG2	1.92	0.50
14:SX:60:LYS:HE3	14:SX:116:PRO:HB3	1.92	0.50
19:S2:29:G:H2'	19:S2:30:C:C6	2.46	0.50
19:S2:115:U:H2'	19:S2:116:OMU:C6	2.41	0.50
19:S2:543:C:H3'	19:S2:544:G:C8	2.46	0.50
19:S2:924:G:H1	19:S2:1018:U:H3	1.59	0.50
19:S2:1743:G:N2	19:S2:1791:A:H62	2.09	0.50
21:LW:96:GLN:HB3	21:LW:100:VAL:HB	1.93	0.50
26:SM:52:LEU:HD11	26:SM:62:VAL:HG12	1.91	0.50
29:SS:24:ARG:HA	29:SS:55:ARG:HH11	1.75	0.50
47:LE:95:PRO:HA	47:LE:104:THR:HG22	1.92	0.50
53:LL:140:SER:HA	53:LL:143:GLU:HG2	1.92	0.50
61:LU:56:LEU:HD11	61:LU:63:ILE:HG22	1.94	0.50
73:Lh:12:LYS:HB3	73:Lh:16:GLU:HG3	1.93	0.50
19:S2:543:C:H3'	19:S2:544:G:H8	1.75	0.50
19:S2:927:C:H2'	19:S2:928:G:H8	1.76	0.50
19:S2:1644:C:H4'	28:SQ:140:ARG:HB2	1.92	0.50
36:Sg:232:GLY:HA2	36:Sg:257:LYS:HZ1	1.75	0.50
37:At:21:A:H61	37:At:46:G:H2'	1.76	0.50
40:L5:1095:A:H2'	40:L5:1096:C:C6	2.46	0.50
40:L5:2870:A:H2'	40:L5:2871:A:C8	2.46	0.50
1:SA:84:GLN:HG2	1:SA:100:ALA:HB1	1.93	0.50
2:SB:63:LYS:HZ2	2:SB:91:VAL:H	1.58	0.50
5:SG:7:PHE:HE2	5:SG:9:ALA:HB3	1.76	0.50
10:SN:47:PRO:HA	10:SN:50:ILE:HD12	1.93	0.50
37:At:69:A:H2'	37:At:70:A:C8	2.46	0.50
40:L5:497:G:N2	40:L5:498:C:H41	2.09	0.50
61:LU:65:ARG:HG2	61:LU:67:LYS:H	1.76	0.50
3:SC:81:ILE:HG21	3:SC:88:ILE:HD11	1.92	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SG:158:VAL:HG21	21:LW:82:ILE:HD11	1.93	0.50
15:SY:45:ALA:HB2	15:SY:55:ILE:HG13	1.93	0.50
15:SY:113:ARG:HG3	15:SY:127:ALA:HB1	1.94	0.50
19:S2:329:G:H2'	19:S2:330:G:H8	1.76	0.50
19:S2:484:A2M:H8	19:S2:484:A2M:O5'	2.12	0.50
40:L5:1645:C:H2'	40:L5:1646:A:C8	2.46	0.50
40:L5:2838:G:H5'	44:LB:247:GLY:HA3	1.93	0.50
43:LA:107:MET:HB3	43:LA:111:THR:HG21	1.93	0.50
51:LI:91:LEU:HD12	51:LI:135:ILE:HG23	1.92	0.50
61:LU:60:VAL:HG13	61:LU:61:VAL:HG23	1.94	0.50
19:S2:166:A2M:H2'	19:S2:167:G:C8	2.43	0.50
19:S2:952:G:H2'	19:S2:953:C:C6	2.47	0.50
40:L5:702:U:H2'	40:L5:703:G:O4'	2.12	0.50
40:L5:2484:A:N6	40:L5:2494:U:H3	2.10	0.50
40:L5:2495:U:H2'	40:L5:2496:G:C8	2.46	0.50
40:L5:2789:A:H1'	77:Ll:45:ARG:HH22	1.77	0.50
40:L5:4257:A:H2	52:LJ:27:GLY:HA2	1.76	0.50
40:L5:4619:U:H2'	40:L5:4620:OMU:H6	1.94	0.50
51:LI:76:MET:HE2	51:LI:138:ILE:HG21	1.93	0.50
53:LL:153:PRO:HG2	53:LL:156:PRO:HB3	1.94	0.50
64:LY:34:LEU:HD21	64:LY:47:MET:HB2	1.94	0.50
7:SI:36:THR:HG22	7:SI:96:LEU:HD12	1.92	0.50
19:S2:51:U:H2'	19:S2:52:G:C8	2.47	0.50
19:S2:1010:G:H2'	19:S2:1011:A:C8	2.47	0.50
19:S2:1337:4AC:H2'	19:S2:1338:G:C8	2.47	0.50
19:S2:1692:U:H2'	19:S2:1693:G:C8	2.47	0.50
36:Sg:67:SER:HG	36:Sg:83:TRP:CD1	2.30	0.50
40:L5:121:A:H62	40:L5:152:U:H3	1.59	0.50
55:LN:146:PRO:HB2	73:Lh:104:THR:HG23	1.93	0.50
77:Ll:43:HIS:HB3	77:Ll:46:ARG:HD3	1.93	0.50
11:SO:95:ILE:HB	11:SO:129:ILE:HG22	1.93	0.50
19:S2:5:U:H2'	19:S2:6:G:H8	1.76	0.50
19:S2:349:A:H2'	19:S2:350:C:C6	2.47	0.50
19:S2:1627:C:H2'	19:S2:1628:C:H6	1.76	0.50
29:SS:114:LEU:HD13	29:SS:117:ILE:HD11	1.94	0.50
30:ST:76:THR:HG23	30:ST:94:ARG:HD3	1.93	0.50
30:ST:104:LEU:HD22	30:ST:121:ARG:HD2	1.94	0.50
40:L5:4364:G:H2'	40:L5:4365:C:H6	1.76	0.50
40:L5:4392:OMG:HM21	40:L5:4394:A:H2'	1.94	0.50
40:L5:4459:U:H2'	40:L5:4460:U:C6	2.46	0.50
43:LA:229:ALA:HB3	43:LA:234:LYS:HB3	1.93	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:LO:61:ARG:HA	56:LO:70:PRO:HD2	1.92	0.50
5:SG:116:LYS:HE3	5:SG:125:THR:HG21	1.93	0.50
19:S2:300:U:H2'	19:S2:301:A:C8	2.47	0.50
40:L5:135:G:N7	73:Lh:97:LYS:HG2	2.27	0.50
40:L5:2018:C:H2'	40:L5:2019:C:C6	2.46	0.50
47:LE:264:ILE:HD11	47:LE:267:LEU:HD22	1.94	0.50
83:Ls:18:ILE:HG12	83:Ls:68:HIS:CE1	2.46	0.50
84:Lt:16:ARG:HE	84:Lt:17:CYS:N	2.08	0.50
19:S2:414:A:H2'	19:S2:415:A:H8	1.76	0.50
19:S2:1274:G:H4'	25:SK:47:LYS:HD2	1.93	0.50
36:Sg:166:VAL:HG12	36:Sg:176:VAL:HG12	1.93	0.50
36:Sg:247:TRP:HB3	36:Sg:258:ILE:HD11	1.94	0.50
40:L5:730:G:C5	48:LF:73:ARG:HD3	2.47	0.50
40:L5:4113:U:H3'	40:L5:4114:C:H4'	1.93	0.50
40:L5:4743:G:H2'	40:L5:4744:A:C8	2.46	0.50
53:LL:59:VAL:HG21	53:LL:73:GLY:HA3	1.93	0.50
70:Le:89:LEU:HD13	70:Le:118:LEU:HD22	1.93	0.50
77:Ll:12:PHE:CE2	77:Ll:51:LEU:HD22	2.47	0.50
19:S2:1298:G:H1'	27:SP:79:HIS:HB2	1.94	0.49
19:S2:1680:G:H2'	19:S2:1681:U:C6	2.47	0.49
40:L5:179:G:H2'	40:L5:180:C:C6	2.47	0.49
40:L5:1759:G:O6	40:L5:1773:U:O4	2.30	0.49
54:LM:6:PHE:HB3	59:LS:151:LYS:HG3	1.93	0.49
6:SH:31:GLU:HA	6:SH:37:LYS:HD2	1.93	0.49
19:S2:496:C:H2'	19:S2:497:C:H6	1.77	0.49
19:S2:1468:C:H2'	19:S2:1469:A:H8	1.77	0.49
21:LW:44:ARG:HD3	40:L5:3615:G:H1'	1.94	0.49
23:SD:172:VAL:HG22	23:SD:185:LYS:HG2	1.95	0.49
36:Sg:121:VAL:HG11	36:Sg:165:ILE:HD11	1.94	0.49
38:Pt:22:U:H2'	38:Pt:23:C:H6	1.77	0.49
40:L5:10:A:H2'	40:L5:11:G:C8	2.47	0.49
40:L5:455:C:O2'	40:L5:456:C:H5'	2.11	0.49
40:L5:730:G:C4	48:LF:73:ARG:HD3	2.47	0.49
40:L5:3865:A:H61	40:L5:3881:G:H1	1.58	0.49
43:LA:36:GLU:HG3	43:LA:91:GLY:HA2	1.94	0.49
45:LC:266:THR:HG22	45:LC:267:TRP:H	1.78	0.49
64:LY:4:ASN:HB3	64:LY:7:VAL:HG12	1.94	0.49
13:SW:101:PHE:HA	13:SW:113:HIS:CE1	2.46	0.49
19:S2:71:G:H2'	19:S2:72:C:H4'	1.93	0.49
32:SZ:73:VAL:HG13	32:SZ:79:ILE:HD11	1.93	0.49
40:L5:325:U:H2'	40:L5:326:C:C6	2.47	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2749:C:H2'	40:L5:2750:G:C8	2.48	0.49
40:L5:4347:G:H2'	40:L5:4348:A:C8	2.48	0.49
2:SB:45:GLY:HA3	11:SO:47:LEU:HD11	1.94	0.49
4:SE:123:LEU:HB2	4:SE:236:ILE:HD11	1.93	0.49
5:SG:164:LYS:HB2	5:SG:167:LYS:HG2	1.93	0.49
6:SH:43:LEU:HD11	6:SH:71:SER:HB2	1.94	0.49
18:Se:39:ASN:HB3	19:S2:551:U:H4'	1.93	0.49
27:SP:81:ARG:HB2	27:SP:117:GLY:HA3	1.95	0.49
37:At:51:C:H2'	37:At:52:G:C8	2.47	0.49
40:L5:1241:C:H41	67:Lb:114:LYS:HE3	1.76	0.49
21:LW:2:LYS:HZ3	62:LV:92:ASP:HB2	1.77	0.49
24:SF:127:ARG:HG3	24:SF:136:ARG:HB3	1.94	0.49
19:S2:649:PSU:H2'	19:S2:650:A:C8	2.47	0.49
19:S2:943:U:H2'	19:S2:944:A:C8	2.46	0.49
19:S2:996:A:H2'	19:S2:997:A:C8	2.47	0.49
19:S2:1232:PSU:H2'	19:S2:1233:G:C8	2.47	0.49
34:Sd:21:CYS:HB3	34:Sd:26:ASN:H	1.77	0.49
40:L5:1076:C:H2'	40:L5:1077:C:C6	2.47	0.49
40:L5:1754:U:H2'	40:L5:1755:C:C6	2.48	0.49
40:L5:4723:A:H2'	40:L5:4724:A:C8	2.47	0.49
41:L7:4:U:H2'	41:L7:5:A:C8	2.46	0.49
3:SC:104:ASP:HA	3:SC:130:ILE:HG22	1.94	0.49
9:SL:13:GLN:HB2	9:SL:16:ILE:HD12	1.93	0.49
13:SW:83:LEU:HD12	19:S2:805:U:H5''	1.94	0.49
19:S2:1673:U:H5''	28:SQ:78:VAL:HG12	1.94	0.49
40:L5:1669:A:H4'	40:L5:1685:G:N2	2.27	0.49
40:L5:5062:G:H2'	40:L5:5063:G:H8	1.78	0.49
43:LA:131:GLY:H	43:LA:169:VAL:HG13	1.78	0.49
46:LD:103:LEU:HG	46:LD:247:ILE:HG21	1.93	0.49
53:LL:145:LYS:HG3	53:LL:146:LEU:HD12	1.94	0.49
19:S2:28:U:H2'	19:S2:29:G:C8	2.47	0.49
19:S2:694:G:H2'	19:S2:695:C:O4'	2.13	0.49
19:S2:875:A:H61	19:S2:911:C:H42	1.61	0.49
19:S2:927:C:H2'	19:S2:928:G:C8	2.47	0.49
36:Sg:68:ASP:HB3	36:Sg:111:VAL:HG12	1.95	0.49
40:L5:163:A:H2'	40:L5:164:G:H8	1.77	0.49
40:L5:4457:PSU:H1'	44:LB:252:ALA:HB3	1.95	0.49
60:LT:75:VAL:HG22	60:LT:88:ARG:HG2	1.95	0.49
67:Lb:116:LEU:HG	67:Lb:117:ARG:HH21	1.77	0.49
5:SG:136:LYS:HB2	19:S2:65:C:H41	1.77	0.49
19:S2:1425:G:H2'	19:S2:1426:U:C6	2.47	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LW:9:SER:HA	21:LW:52:THR:HG23	1.94	0.49
40:L5:93:G:H2'	40:L5:94:A:C8	2.48	0.49
40:L5:261:G:H2'	40:L5:262:G:C8	2.47	0.49
40:L5:1333:A:H2'	40:L5:1334:A:H8	1.78	0.49
40:L5:2745:A:H2'	40:L5:2746:A:H8	1.78	0.49
52:LJ:113:ILE:HG12	52:LJ:119:TYR:HD1	1.78	0.49
55:LN:113:LEU:HB2	55:LN:134:LEU:HD12	1.95	0.49
57:LP:109:VAL:HA	57:LP:112:LEU:HD13	1.94	0.49
69:Ld:26:THR:HB	69:Ld:85:ARG:HH11	1.77	0.49
1:SA:111:GLN:HA	1:SA:116:PHE:CG	2.48	0.49
4:SE:201:HIS:HB2	4:SE:204:SER:HB3	1.95	0.49
40:L5:1307:A:H2'	40:L5:1308:C:C6	2.47	0.49
40:L5:1348:U:H2'	40:L5:1349:G:H8	1.78	0.49
53:LL:150:LEU:HD23	53:LL:154:VAL:HG22	1.95	0.49
59:LS:20:PRO:HA	59:LS:23:HIS:HE1	1.78	0.49
2:SB:152:LYS:HD3	22:SR:133:GLY:HA3	1.95	0.48
19:S2:1004:PSU:H2'	19:S2:1005:G:H8	1.78	0.48
19:S2:1432:U:H2'	19:S2:1438:A:C8	2.48	0.48
27:SP:32:GLN:HA	27:SP:35:GLN:HG2	1.95	0.48
40:L5:1308:C:H2'	40:L5:1309:C:C6	2.48	0.48
40:L5:4098:A:H2'	40:L5:4099:G:H4'	1.94	0.48
40:L5:4954:G:H2'	40:L5:4955:A:H8	1.78	0.48
45:LC:106:LYS:HD3	45:LC:108:TRP:CZ2	2.48	0.48
49:LG:63:LEU:HD22	55:LN:33:LEU:HD21	1.94	0.48
11:SO:56:VAL:HG23	11:SO:60:MET:SD	2.53	0.48
19:S2:162:C:H2'	19:S2:163:U:O4'	2.13	0.48
19:S2:644:OMG:HM23	19:S2:644:OMG:H1'	1.63	0.48
31:SU:24:LEU:HD22	31:SU:112:VAL:HG12	1.95	0.48
40:L5:4389:C:H2'	40:L5:4390:A:C8	2.48	0.48
40:L5:4742:G:H2'	40:L5:4743:G:H8	1.77	0.48
42:L8:67:U:H2'	42:L8:68:G:H8	1.78	0.48
50:LH:106:GLN:HB2	50:LH:111:LEU:HB3	1.94	0.48
57:LP:122:ALA:HB3	57:LP:143:PRO:HG2	1.95	0.48
81:Lp:38:THR:HA	81:Lp:45:THR:HA	1.95	0.48
19:S2:1688:C:H2'	19:S2:1689:C:H6	1.77	0.48
40:L5:441:G:H2'	40:L5:442:G:H8	1.79	0.48
40:L5:665:C:H4'	40:L5:666:G:H5'	1.95	0.48
40:L5:2520:C:H2'	40:L5:2521:G:H8	1.78	0.48
40:L5:2608:G:H2'	40:L5:2609:G:H8	1.78	0.48
40:L5:4920:C:H2'	40:L5:4921:C:C6	2.48	0.48
49:LG:48:LYS:HD2	63:LX:42:THR:HB	1.94	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:LX:124:VAL:HG22	63:LX:138:VAL:HG13	1.95	0.48
1:SA:148:CYS:CB	1:SA:163:CYS:H	2.22	0.48
13:SW:101:PHE:HA	13:SW:113:HIS:HE1	1.79	0.48
19:S2:1337:4AC:H2'	19:S2:1338:G:H8	1.78	0.48
36:Sg:153:CYS:SG	36:Sg:198:VAL:HG12	2.53	0.48
38:Pt:22:U:H2'	38:Pt:23:C:C6	2.48	0.48
40:L5:1333:A:H2'	40:L5:1334:A:C8	2.48	0.48
40:L5:2764:A:H2'	40:L5:2765:A:C8	2.47	0.48
40:L5:2765:A:H2'	40:L5:2766:A:C8	2.48	0.48
40:L5:2884:G:H2'	40:L5:2885:A:C8	2.48	0.48
40:L5:4251:A:H5''	52:LJ:108:GLY:HA3	1.94	0.48
49:LG:209:SER:HA	49:LG:212:LYS:HG3	1.95	0.48
59:LS:20:PRO:HA	59:LS:23:HIS:CE1	2.49	0.48
83:Ls:47:LEU:HG	83:Ls:51:ALA:HB3	1.95	0.48
8:SJ:2:PRO:O	19:S2:509:OMG:H5''	2.14	0.48
30:ST:62:ARG:HH12	30:ST:66:LEU:HD11	1.78	0.48
38:Pt:27:U:H2'	38:Pt:28:U:H6	1.79	0.48
40:L5:1084:C:H2'	40:L5:1085:C:C6	2.48	0.48
40:L5:4739:C:H2'	40:L5:4740:G:H5'	1.95	0.48
78:Lm:99:CYS:HB2	78:Lm:114:LYS:HE3	1.94	0.48
2:SB:150:ILE:HG12	19:S2:1124:C:H5''	1.96	0.48
19:S2:495:U:H2'	19:S2:496:C:O4'	2.13	0.48
19:S2:1098:C:H2'	19:S2:1099:G:C8	2.49	0.48
20:LR:28:GLU:HG3	20:LR:49:LEU:HD22	1.96	0.48
23:SD:74:GLN:HB2	23:SD:84:VAL:HG11	1.94	0.48
36:Sg:128:THR:HG22	36:Sg:143:GLN:HA	1.95	0.48
38:Pt:18:G:H21	38:Pt:58:A:H5'	1.77	0.48
40:L5:691:C:H2'	40:L5:692:A:C8	2.48	0.48
40:L5:1248:C:H2'	40:L5:1249:C:C6	2.48	0.48
40:L5:1867:A:H2'	40:L5:1868:A:C8	2.49	0.48
40:L5:2568:C:H2'	40:L5:2569:G:H8	1.78	0.48
40:L5:4523:A2M:H2'	40:L5:4559:A:N7	2.29	0.48
56:LO:10:ASP:HB2	56:LO:117:ARG:HB3	1.94	0.48
83:Ls:20:LEU:HD21	83:Ls:52:VAL:HG11	1.94	0.48
3:SC:102:LEU:HD23	3:SC:130:ILE:HB	1.94	0.48
19:S2:348:A:H2'	19:S2:349:A:C8	2.48	0.48
19:S2:432:G:H2'	19:S2:433:A:C8	2.48	0.48
40:L5:1662:C:H2'	40:L5:1663:C:C6	2.48	0.48
40:L5:1806:G:H2'	40:L5:1807:C:C6	2.49	0.48
40:L5:2884:G:H2'	40:L5:2885:A:H8	1.78	0.48
40:L5:3656:A:H2'	40:L5:3657:U:H6	1.79	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3946:G:N1	40:L5:4067:U:N3	2.61	0.48
54:LM:6:PHE:H	54:LM:11:ARG:NH2	2.11	0.48
60:LT:44:GLY:HA2	60:LT:95:HIS:HB3	1.96	0.48
69:Ld:36:VAL:HG21	69:Ld:44:ARG:HG2	1.96	0.48
1:SA:85:ARG:NH2	1:SA:205:ARG:HG3	2.28	0.48
5:SG:131:ARG:HB2	21:LW:82:ILE:HG22	1.96	0.48
19:S2:634:A:H2'	19:S2:635:G:C8	2.49	0.48
19:S2:1622:U:H3'	19:S2:1623:A:H4'	1.96	0.48
20:LR:148:ASP:HA	20:LR:151:ARG:HB3	1.96	0.48
26:SM:79:VAL:HG11	26:SM:85:LEU:HB2	1.94	0.48
40:L5:1197:C:H2'	40:L5:1198:G:C8	2.48	0.48
40:L5:2448:G:H2'	40:L5:2449:A:C8	2.49	0.48
40:L5:3870:C:H2'	40:L5:3871:A:H8	1.77	0.48
4:SE:85:GLY:O	4:SE:101:LEU:HD23	2.14	0.48
9:SL:126:VAL:HG12	9:SL:145:VAL:HG22	1.96	0.48
19:S2:1128:C:H2'	19:S2:1129:G:C8	2.49	0.48
19:S2:1804:U:H2'	19:S2:1805:G:C8	2.49	0.48
22:SR:79:GLU:HG2	22:SR:80:ARG:HD3	1.95	0.48
39:CI:79:ARG:HH12	40:L5:2708:U:H4'	1.77	0.48
40:L5:426:A:H2'	40:L5:427:A:C8	2.48	0.48
40:L5:1086:C:H2'	40:L5:1087:A:C8	2.48	0.48
40:L5:1332:C:H5''	70:Le:29:VAL:HB	1.96	0.48
40:L5:2019:C:H2'	40:L5:2020:U:H6	1.77	0.48
81:Lp:75:SER:O	81:Lp:79:VAL:HG23	2.14	0.48
19:S2:678:U:H2'	19:S2:679:A:H8	1.78	0.48
19:S2:1108:G:H21	22:SR:126:MET:HE1	1.79	0.48
19:S2:1591:C:H2'	19:S2:1592:C:H6	1.78	0.48
22:SR:128:PHE:HE1	22:SR:129:LYS:HE3	1.78	0.48
24:SF:141:VAL:HA	33:Sc:47:LYS:HG2	1.96	0.48
40:L5:262:G:H2'	40:L5:263:G:C8	2.44	0.48
40:L5:4188:U:H2'	40:L5:4189:U:C6	2.49	0.48
40:L5:4524:G:C2	44:LB:252:ALA:HB1	2.49	0.48
44:LB:224:LYS:HG2	44:LB:340:THR:HG22	1.96	0.48
46:LD:73:MET:HE3	46:LD:73:MET:HB3	1.78	0.48
2:SB:60:ASP:HA	2:SB:63:LYS:HD2	1.96	0.47
5:SG:2:LYS:HB3	5:SG:15:LEU:HD11	1.96	0.47
19:S2:85:A:H2'	19:S2:86:C:H6	1.77	0.47
19:S2:458:A:H2'	19:S2:459:C:C6	2.49	0.47
19:S2:573:U:O2	19:S2:576:A2M:H8	2.14	0.47
19:S2:956:G:H2'	19:S2:957:A:H8	1.78	0.47
19:S2:1330:G:H4'	19:S2:1331:C:H3'	1.96	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:683:C:H2'	40:L5:684:G:O4'	2.14	0.47
40:L5:3718:A2M:HM'3	40:L5:3718:A2M:H1'	1.53	0.47
2:SB:52:THR:HG23	2:SB:57:ILE:HA	1.96	0.47
19:S2:155:G:H2'	19:S2:156:G:H8	1.79	0.47
19:S2:694:G:H5''	19:S2:730:C:H5	1.79	0.47
19:S2:1468:C:H2'	19:S2:1469:A:C8	2.49	0.47
19:S2:1858:G:H2'	19:S2:1859:A:C8	2.48	0.47
40:L5:1365:C:H2'	40:L5:1366:G:H3'	1.94	0.47
40:L5:2543:A:H2	40:L5:2773:G:H22	1.62	0.47
40:L5:3870:C:H2'	40:L5:3871:A:C8	2.49	0.47
40:L5:3947:A:C6	40:L5:4068:U:H1'	2.49	0.47
50:LH:101:ILE:HG23	50:LH:114:ILE:HG23	1.97	0.47
19:S2:24:C:HO2'	19:S2:25:A:H8	1.62	0.47
19:S2:1079:C:H4'	19:S2:1182:A:H61	1.79	0.47
19:S2:1845:A:H2'	19:S2:1846:G:C8	2.49	0.47
32:SZ:103:HIS:CE1	32:SZ:104:ARG:HG2	2.49	0.47
40:L5:299:C:H2'	40:L5:300:A:C8	2.49	0.47
40:L5:1437:C:H1'	40:L5:2098:G:H3'	1.96	0.47
40:L5:1972:G:C6	40:L5:1973:G:O6	2.67	0.47
40:L5:5006:U:H4'	40:L5:5007:A:H5'	1.95	0.47
43:LA:7:GLY:HA2	43:LA:10:LYS:HG3	1.96	0.47
47:LE:119:GLU:HG3	70:Le:7:LEU:HD22	1.96	0.47
47:LE:190:HIS:HB3	47:LE:193:PHE:HD1	1.78	0.47
50:LH:187:VAL:HG12	50:LH:188:GLN:HG3	1.97	0.47
1:SA:74:VAL:HG23	1:SA:121:LEU:HB3	1.96	0.47
2:SB:125:VAL:HG21	2:SB:173:THR:HB	1.96	0.47
7:SI:81:VAL:HG22	7:SI:102:VAL:HG12	1.96	0.47
19:S2:166:A2M:HM'3	19:S2:166:A2M:H1'	1.46	0.47
19:S2:309:G:H21	19:S2:340:C:H1'	1.80	0.47
19:S2:674:C:H2'	19:S2:675:U:C6	2.50	0.47
19:S2:1801:A:H2'	19:S2:1802:C:C6	2.49	0.47
24:SF:28:VAL:HG11	24:SF:109:LEU:HB2	1.95	0.47
33:Sc:10:LYS:HE2	33:Sc:34:PHE:CE2	2.50	0.47
40:L5:717:U:H2'	40:L5:718:C:C6	2.49	0.47
40:L5:1406:G:C6	40:L5:1408:G:H5'	2.50	0.47
40:L5:1577:G:O2'	40:L5:1612:G:H4'	2.14	0.47
40:L5:1749:A:H2'	40:L5:1750:G:C8	2.50	0.47
40:L5:1806:G:H2'	40:L5:1807:C:H6	1.79	0.47
40:L5:4910:G:H22	56:LO:107:GLY:HA3	1.79	0.47
6:SH:126:HIS:CE1	6:SH:181:THR:HG23	2.49	0.47
19:S2:835:C:H4'	19:S2:836:G:H8	1.79	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Pt:50:U:O4	38:Pt:64:G:O6	2.32	0.47
40:L5:158:A:H5''	40:L5:159:C:H2'	1.95	0.47
40:L5:1733:G:N3	40:L5:4214:A:H2'	2.29	0.47
3:SC:165:VAL:HG21	3:SC:217:ALA:HB1	1.96	0.47
3:SC:207:ALA:O	3:SC:210:PRO:HD2	2.14	0.47
19:S2:433:A:H2'	19:S2:434:G:C8	2.49	0.47
28:SQ:42:ILE:HG23	28:SQ:44:PRO:HD2	1.96	0.47
40:L5:71:C:H1'	53:LL:62:PRO:O	2.15	0.47
40:L5:1802:A:H5''	40:L5:1803:G:H5'	1.96	0.47
40:L5:3880:G:H2'	40:L5:3881:G:C8	2.48	0.47
1:SA:37:TYR:CG	1:SA:162:PRO:HG3	2.49	0.47
4:SE:56:LEU:HD11	15:SY:74:MET:HE3	1.96	0.47
4:SE:124:CYS:HB3	4:SE:141:THR:OG1	2.14	0.47
19:S2:5:U:H2'	19:S2:6:G:C8	2.50	0.47
19:S2:925:G:H2'	19:S2:926:A:H8	1.79	0.47
19:S2:1004:PSU:H2'	19:S2:1005:G:C8	2.50	0.47
19:S2:1431:G:H4'	19:S2:1434:C:H41	1.80	0.47
19:S2:1432:U:H2'	19:S2:1438:A:H8	1.79	0.47
19:S2:1609:C:H5''	29:SS:131:VAL:HG22	1.95	0.47
27:SP:26:LEU:HD23	27:SP:87:PRO:HB2	1.96	0.47
31:SU:66:ARG:HH12	31:SU:75:LYS:HA	1.80	0.47
33:Sc:20:ARG:HD3	33:Sc:28:THR:HG22	1.95	0.47
36:Sg:174:VAL:HB	36:Sg:188:HIS:HB2	1.96	0.47
38:Pt:23:C:H2'	38:Pt:24:A:C8	2.50	0.47
40:L5:256:G:H2'	40:L5:257:C:C6	2.50	0.47
40:L5:512:U:O4	40:L5:647:G:O6	2.33	0.47
40:L5:734:G:H22	40:L5:929:A:H2	1.61	0.47
40:L5:1167:C:H42	40:L5:1195:G:H21	1.63	0.47
40:L5:1309:C:H2'	40:L5:1310:C:C6	2.50	0.47
40:L5:1768:C:H2'	40:L5:1770:A:N7	2.30	0.47
40:L5:2017:A:O2'	40:L5:2018:C:H6	1.97	0.47
40:L5:2743:A:H2'	40:L5:2744:A:C8	2.49	0.47
40:L5:3707:U:H2'	40:L5:3708:C:C6	2.50	0.47
40:L5:3861:A:H2'	40:L5:3862:A:H8	1.78	0.47
40:L5:4612:C:C2	50:LH:120:GLU:HB2	2.49	0.47
44:LB:14:LEU:HD22	44:LB:17:LEU:HD21	1.95	0.47
55:LN:104:GLU:HA	55:LN:160:GLU:HG3	1.97	0.47
82:Lr:16:PHE:HB3	82:Lr:27:THR:H	1.78	0.47
12:SV:32:ILE:HG12	12:SV:60:ARG:HD2	1.97	0.47
19:S2:786:G:H2'	19:S2:787:G:C8	2.50	0.47
19:S2:1487:A:H2'	19:S2:1488:C:C6	2.50	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1540:G:H2'	19:S2:1541:G:H8	1.80	0.47
19:S2:1671:G:H2'	19:S2:1672:U:H6	1.80	0.47
40:L5:1563:A:H2'	40:L5:1564:A:C8	2.49	0.47
40:L5:3917:A:H2'	40:L5:3918:G:H8	1.80	0.47
40:L5:4220:6MZ:O1P	40:L5:4220:6MZ:H8	2.15	0.47
40:L5:4743:G:H2'	40:L5:4744:A:H8	1.80	0.47
40:L5:4913:G:H4'	40:L5:4914:C:O5'	2.13	0.47
50:LH:1:MET:HG3	59:LS:141:ALA:HB2	1.97	0.47
61:LU:46:ARG:HH22	61:LU:89:LYS:HE3	1.80	0.47
83:Ls:63:LYS:HA	83:Ls:66:ARG:HB3	1.97	0.47
2:SB:146:ARG:HE	2:SB:206:PRO:HG2	1.79	0.47
5:SG:119:LYS:HZ1	5:SG:121:ILE:HD13	1.80	0.47
9:SL:17:PHE:CG	19:S2:222:U:H5''	2.49	0.47
19:S2:107:A:H2'	19:S2:108:G:C8	2.50	0.47
19:S2:223:C:H2'	19:S2:224:A:H8	1.79	0.47
19:S2:496:C:H2'	19:S2:497:C:C6	2.50	0.47
20:LR:168:GLU:HA	20:LR:171:LYS:HE3	1.97	0.47
26:SM:40:LYS:HG3	35:Sf:129:GLY:HA3	1.96	0.47
40:L5:654:C:C4	40:L5:655:C:N4	2.83	0.47
40:L5:742:G:H2'	40:L5:743:G:H8	1.80	0.47
40:L5:4088:C:H2'	40:L5:4089:G:C8	2.50	0.47
40:L5:4364:G:H2'	40:L5:4365:C:C6	2.49	0.47
42:L8:19:C:H2'	42:L8:20:A:H8	1.77	0.47
44:LB:288:GLY:HA3	44:LB:330:PHE:CE1	2.50	0.47
65:LZ:29:ILE:HG22	65:LZ:31:ASP:H	1.79	0.47
3:SC:167:ARG:HH22	3:SC:176:LYS:HE2	1.79	0.47
3:SC:273:LEU:HB3	3:SC:277:HIS:HB3	1.97	0.47
6:SH:8:ILE:HG13	6:SH:9:VAL:HG23	1.96	0.47
8:SJ:87:LEU:HD13	8:SJ:100:LEU:HD11	1.97	0.47
19:S2:538:U:H2'	19:S2:539:C:C6	2.50	0.47
19:S2:1688:C:H2'	19:S2:1689:C:C6	2.50	0.47
29:SS:127:TRP:HE3	29:SS:129:LEU:HD12	1.80	0.47
37:At:2:U:H2'	37:At:3:C:H6	1.79	0.47
40:L5:2413:U:H2'	40:L5:2414:G:H8	1.80	0.47
40:L5:4584:A:H2'	40:L5:4585:U:O4'	2.14	0.47
45:LC:212:ASN:HD22	45:LC:255:SER:HB3	1.80	0.47
62:LV:112:MET:HG2	62:LV:114:GLY:H	1.78	0.47
63:LX:114:LYS:HE2	63:LX:114:LYS:HB3	1.63	0.47
70:Le:86:GLU:HG3	70:Le:118:LEU:HD11	1.96	0.47
71:Lf:33:VAL:HG13	71:Lf:38:GLU:HB3	1.97	0.47
4:SE:146:THR:HG21	19:S2:122:G:H21	1.80	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SH:30:LEU:HD13	6:SH:86:LYS:HE2	1.97	0.46
10:SN:124:ARG:HG2	10:SN:127:ARG:HH21	1.81	0.46
15:SY:28:LEU:HG	15:SY:68:LYS:HG2	1.96	0.46
19:S2:1003:U:H2'	19:S2:1004:PSU:C6	2.49	0.46
19:S2:1303:C:H4'	35:Sf:94:LYS:HZ1	1.79	0.46
36:Sg:10:THR:HB	36:Sg:306:LEU:HD11	1.97	0.46
40:L5:162:A:H2'	40:L5:163:A:C8	2.50	0.46
40:L5:4401:G:H2'	40:L5:4402:C:H6	1.79	0.46
46:LD:156:GLY:HA2	46:LD:181:PRO:HG3	1.97	0.46
19:S2:1115:U:H3	19:S2:1118:C:H41	1.61	0.46
19:S2:1398:G:H1'	36:Sg:63:SER:HB2	1.96	0.46
25:SK:60:GLU:HB2	25:SK:69:TRP:CD1	2.50	0.46
40:L5:267:G:H2'	40:L5:268:G:H8	1.80	0.46
40:L5:2032:U:H2'	40:L5:2033:A:C8	2.50	0.46
40:L5:4770:U:H2'	40:L5:4771:C:C6	2.50	0.46
43:LA:115:CYS:SG	43:LA:124:GLY:HA3	2.54	0.46
57:LP:13:LYS:HB3	57:LP:152:GLU:HB2	1.97	0.46
1:SA:5:LEU:HD21	12:SV:41:LYS:HD2	1.95	0.46
19:S2:194:C:H2'	19:S2:195:C:H6	1.80	0.46
19:S2:1199:A:H2'	19:S2:1200:A:C8	2.50	0.46
19:S2:1802:C:H2'	19:S2:1803:U:H6	1.81	0.46
23:SD:68:GLU:HB3	25:SK:70:TYR:CE1	2.51	0.46
26:SM:93:LYS:HD3	26:SM:95:ASP:HB2	1.97	0.46
37:At:29:C:H2'	37:At:30:G:H8	1.80	0.46
40:L5:172:C:H4'	40:L5:173:C:H5'	1.96	0.46
40:L5:400:A2M:HM'3	40:L5:400:A2M:H1'	1.60	0.46
40:L5:1307:A:H2'	40:L5:1308:C:H6	1.80	0.46
40:L5:3641:U:H5	40:L5:3646:A:N7	2.14	0.46
40:L5:3684:G:H2'	40:L5:3685:C:C6	2.51	0.46
40:L5:3910:C:H2'	40:L5:3911:C:H6	1.79	0.46
40:L5:4523:A2M:HM'3	40:L5:4523:A2M:H1'	1.53	0.46
40:L5:4563:U:H2'	40:L5:4564:A:H8	1.81	0.46
43:LA:177:LYS:HD2	81:Lp:69:TRP:CH2	2.50	0.46
44:LB:307:TYR:HD2	44:LB:366:LYS:HA	1.80	0.46
47:LE:207:LYS:HA	47:LE:207:LYS:HD3	1.71	0.46
58:LQ:43:PHE:CD2	58:LQ:133:GLY:HA3	2.50	0.46
63:LX:81:LEU:HG	63:LX:83:THR:HG23	1.97	0.46
19:S2:29:G:H2'	19:S2:30:C:H6	1.80	0.46
19:S2:1093:A:H2'	19:S2:1094:C:C6	2.50	0.46
19:S2:1317:C:H2'	19:S2:1318:G:C8	2.51	0.46
23:SD:32:ASP:HA	23:SD:57:ASN:HD21	1.80	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2613:C:H4'	72:Lg:2:VAL:HG23	1.96	0.46
1:SA:99:ILE:HD11	1:SA:117:ARG:HH12	1.80	0.46
8:SJ:101:LYS:HA	8:SJ:101:LYS:HD2	1.71	0.46
19:S2:1222:G:H2'	19:S2:1223:A:C8	2.51	0.46
19:S2:1253:A:H4'	19:S2:1254:C:H5''	1.96	0.46
20:LR:139:MET:HE3	20:LR:139:MET:HB3	1.66	0.46
36:Sg:18:VAL:HB	36:Sg:301:GLY:HA3	1.97	0.46
40:L5:74:G:H1'	53:LL:62:PRO:HG3	1.96	0.46
40:L5:737:C:C5	40:L5:739:G:H5''	2.51	0.46
40:L5:4622:A:H4'	44:LB:13:SER:HB2	1.97	0.46
50:LH:92:MET:HB2	50:LH:144:LEU:HB2	1.97	0.46
51:LI:53:VAL:HG11	60:LT:158:PHE:HZ	1.81	0.46
53:LL:183:ARG:HA	53:LL:183:ARG:HD2	1.78	0.46
2:SB:105:LEU:HG	2:SB:213:ARG:HA	1.98	0.46
3:SC:138:GLY:HA3	3:SC:162:ILE:HD13	1.96	0.46
19:S2:680:G:H2'	19:S2:681:PSU:H6	1.79	0.46
19:S2:835:C:H4'	19:S2:836:G:C8	2.50	0.46
19:S2:1539:U:H2'	19:S2:1540:G:C8	2.50	0.46
19:S2:1713:C:H2'	19:S2:1714:U:H6	1.80	0.46
24:SF:60:ARG:HH21	33:Sc:49:PRO:HA	1.80	0.46
28:SQ:62:ARG:HD3	28:SQ:108:ILE:HD12	1.98	0.46
38:Pt:27:U:H2'	38:Pt:28:U:C6	2.51	0.46
40:L5:254:G:H2'	40:L5:255:C:O4'	2.16	0.46
40:L5:4942:C:H4'	47:LE:154:THR:HB	1.97	0.46
55:LN:47:LYS:HD2	55:LN:50:ARG:HH11	1.81	0.46
19:S2:1384:C:H2'	19:S2:1385:G:H8	1.81	0.46
19:S2:1515:G:H2'	19:S2:1516:G:H8	1.81	0.46
21:LW:94:ARG:HA	21:LW:101:ARG:HH21	1.80	0.46
22:SR:98:VAL:HG21	22:SR:117:LEU:HD22	1.98	0.46
27:SP:41:GLN:HG3	27:SP:84:ILE:HG21	1.97	0.46
29:SS:89:ASP:HB3	29:SS:93:GLY:H	1.80	0.46
40:L5:150:U:H3	49:LG:163:PRO:HD2	1.80	0.46
40:L5:956:A:H1'	40:L5:2076:G:H5''	1.98	0.46
40:L5:1306:C:H2'	40:L5:1307:A:C8	2.49	0.46
40:L5:1461:C:H2'	40:L5:1462:A:C8	2.51	0.46
44:LB:258:HIS:HA	44:LB:260:ALA:N	2.30	0.46
54:LM:77:TRP:O	54:LM:81:ASP:HA	2.15	0.46
76:Lk:15:ALA:HA	76:Lk:36:VAL:HG21	1.97	0.46
7:SI:172:LEU:HD12	7:SI:190:LEU:HD13	1.96	0.46
15:SY:87:PRO:HG2	15:SY:90:ARG:HB2	1.96	0.46
16:Sa:82:LYS:NZ	19:S2:1209:A:H5''	2.31	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1522:A:N7	27:SP:128:HIS:HB3	2.31	0.46
19:S2:1540:G:H2'	19:S2:1541:G:C8	2.51	0.46
19:S2:1589:A:N1	19:S2:1672:U:H1'	2.31	0.46
23:SD:218:LEU:HD11	36:Sg:189:ILE:HB	1.97	0.46
38:Pt:50:U:O2	38:Pt:64:G:N2	2.41	0.46
40:L5:690:C:H2'	40:L5:691:C:C6	2.51	0.46
40:L5:2458:C:H5''	55:LN:67:ARG:HD2	1.97	0.46
40:L5:3768:U:H2'	40:L5:3769:C:H6	1.80	0.46
40:L5:4590:A2M:HM'3	40:L5:4590:A2M:H1'	1.71	0.46
42:L8:144:U:H2'	42:L8:145:C:C6	2.51	0.46
44:LB:196:TRP:O	44:LB:200:ARG:HG2	2.16	0.46
2:SB:87:ILE:HG22	2:SB:101:HIS:HB2	1.98	0.46
16:Sa:87:ARG:HH21	19:S2:1865:C:H5''	1.80	0.46
19:S2:1259:A:H1'	19:S2:1264:C:N4	2.31	0.46
24:SF:77:MET:HE1	24:SF:86:LYS:HG3	1.97	0.46
28:SQ:23:ALA:HA	28:SQ:70:VAL:HA	1.97	0.46
33:Sc:46:VAL:HG21	33:Sc:50:VAL:HG21	1.97	0.46
36:Sg:270:LEU:HD13	36:Sg:310:TRP:CD2	2.51	0.46
40:L5:1613:A:H5''	43:LA:183:GLY:HA2	1.98	0.46
40:L5:1989:G:H2'	40:L5:1990:A:C8	2.51	0.46
40:L5:2517:A:H5'	72:Lg:62:LYS:HD3	1.98	0.46
40:L5:2824:OMC:H1'	40:L5:2824:OMC:HM23	1.70	0.46
40:L5:3785:A2M:H2	40:L5:4551:U:O2	2.16	0.46
40:L5:4139:G:N2	40:L5:4140:C:H41	2.10	0.46
40:L5:4906:C:H2'	40:L5:4907:G:H8	1.80	0.46
40:L5:4966:A:H5''	44:LB:128:LYS:HG3	1.97	0.46
40:L5:5018:C:H2'	40:L5:5019:A:H8	1.80	0.46
40:L5:5057:C:H2'	40:L5:5058:A:C8	2.50	0.46
45:LC:150:LEU:HD23	45:LC:150:LEU:HA	1.58	0.46
84:Lt:106:PHE:HB2	84:Lt:109:ILE:HG12	1.96	0.46
2:SB:224:GLU:O	2:SB:227:LYS:HG2	2.16	0.46
8:SJ:2:PRO:HD2	19:S2:428:OMU:H4'	1.98	0.46
8:SJ:31:LEU:HD22	8:SJ:35:TYR:HE2	1.81	0.46
10:SN:130:LYS:HE3	10:SN:139:TRP:HB3	1.98	0.46
15:SY:124:ASN:ND2	19:S2:84:A:H5''	2.31	0.46
18:Se:24:LYS:HB2	18:Se:24:LYS:HE2	1.80	0.46
19:S2:458:A:H2'	19:S2:459:C:H6	1.81	0.46
19:S2:659:G:H2'	19:S2:663:C:C6	2.51	0.46
19:S2:1609:C:H2'	19:S2:1610:G:H8	1.80	0.46
20:LR:10:LEU:HD22	20:LR:38:ARG:HG2	1.97	0.46
29:SS:80:PRO:HG2	30:ST:36:THR:HG21	1.98	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:457:G:H2'	40:L5:458:C:C6	2.51	0.46
40:L5:518:G:H22	40:L5:643:C:H2'	1.81	0.46
40:L5:3825:A2M:H2'	40:L5:3826:C:O4'	2.17	0.46
40:L5:3873:G:H2'	40:L5:3874:G:C8	2.51	0.46
40:L5:3911:C:H2'	40:L5:3912:U:H6	1.81	0.46
40:L5:4196:OMG:HM23	40:L5:4196:OMG:H1'	1.67	0.46
40:L5:4481:U:H2'	40:L5:4482:U:H6	1.79	0.46
40:L5:4524:G:N3	44:LB:252:ALA:HB1	2.31	0.46
44:LB:29:VAL:HG12	44:LB:31:SER:H	1.81	0.46
47:LE:153:LEU:HD11	47:LE:195:ILE:HG13	1.98	0.46
70:Le:23:HIS:CD2	70:Le:43:ASN:HD21	2.34	0.46
1:SA:76:VAL:HG12	1:SA:123:VAL:HB	1.98	0.45
5:SG:56:ASN:HB2	5:SG:108:VAL:HG22	1.97	0.45
5:SG:66:GLY:HA2	19:S2:1745:A:H1'	1.97	0.45
9:SL:28:THR:HA	9:SL:29:GLY:HA2	1.56	0.45
19:S2:165:G:H2'	19:S2:166:A2M:H8	1.98	0.45
19:S2:172:OMU:H6	19:S2:314:U:H1'	1.98	0.45
19:S2:1414:A:H2'	19:S2:1415:C:C6	2.50	0.45
19:S2:1683:C:H2'	19:S2:1684:C:H6	1.80	0.45
19:S2:1867:U:H4'	19:S2:1868:U:H5'	1.98	0.45
40:L5:138:G:H2'	40:L5:139:G:H8	1.80	0.45
40:L5:1097:C:H2'	40:L5:1098:G:C8	2.51	0.45
40:L5:1278:C:H2'	40:L5:1279:A:O4'	2.17	0.45
49:LG:162:ASP:HB3	49:LG:163:PRO:HD3	1.98	0.45
51:LI:188:LYS:HE2	51:LI:213:HIS:H	1.81	0.45
54:LM:119:ARG:HG3	56:LO:189:ILE:HG23	1.98	0.45
57:LP:39:MET:HG2	57:LP:43:LYS:HD3	1.97	0.45
68:Lc:20:LEU:O	68:Lc:24:SER:HB3	2.15	0.45
73:Lh:87:LYS:HB3	73:Lh:91:MET:HE2	1.98	0.45
82:Lr:47:LYS:HB2	82:Lr:102:TYR:CZ	2.50	0.45
19:S2:568:C:H2'	19:S2:569:A:C8	2.50	0.45
26:SM:44:LYS:HG2	35:Sf:128:ALA:HB3	1.98	0.45
29:SS:18:THR:HG21	29:SS:33:ILE:HA	1.97	0.45
40:L5:162:A:H2'	40:L5:163:A:H8	1.81	0.45
40:L5:270:U:H2'	40:L5:271:C:C6	2.51	0.45
40:L5:711:A:H2'	40:L5:712:C:C6	2.51	0.45
40:L5:1243:C:H2'	40:L5:1244:G:H8	1.81	0.45
40:L5:1982:G:H2'	40:L5:1983:A:O4'	2.15	0.45
40:L5:3867:A2M:H8	40:L5:3867:A2M:H5''	1.97	0.45
40:L5:4965:U:H4'	40:L5:4966:A:H5'	1.98	0.45
58:LQ:154:LYS:HB3	58:LQ:154:LYS:HE2	1.80	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:Lf:45:LYS:HA	71:Lf:107:PRO:HD2	1.98	0.45
73:Lh:89:ARG:O	73:Lh:93:ARG:HG2	2.16	0.45
13:SW:3:ARG:HH22	13:SW:28:ARG:HE	1.63	0.45
14:SX:107:ARG:HG3	14:SX:110:HIS:HB3	1.99	0.45
16:Sa:13:LYS:HD3	16:Sa:13:LYS:HA	1.63	0.45
19:S2:77:A:H2'	19:S2:78:C:C6	2.51	0.45
19:S2:563:G:C2	19:S2:564:A:C8	3.05	0.45
19:S2:1204:A:H2'	19:S2:1205:C:C6	2.51	0.45
19:S2:1438:A:H2'	19:S2:1439:A:C8	2.51	0.45
31:SU:61:LEU:HB2	31:SU:82:MET:HB3	1.99	0.45
36:Sg:202:PRO:HG2	36:Sg:243:PRO:HA	1.98	0.45
40:L5:137:G:H2'	40:L5:138:G:C8	2.49	0.45
40:L5:179:G:H2'	40:L5:180:C:H6	1.81	0.45
40:L5:426:A:H2'	40:L5:427:A:H8	1.81	0.45
40:L5:1317:U:H2'	40:L5:1318:C:C6	2.51	0.45
40:L5:2557:G:N2	40:L5:2570:U:O2	2.25	0.45
40:L5:4600:G:H4'	40:L5:4601:U:O5'	2.16	0.45
42:L8:67:U:H2'	42:L8:68:G:C8	2.52	0.45
44:LB:181:MET:HE3	44:LB:183:ILE:HG12	1.98	0.45
83:Ls:29:ILE:HG21	83:Ls:82:ILE:HD11	1.99	0.45
19:S2:24:C:O2'	19:S2:25:A:H8	2.00	0.45
19:S2:1174:PSU:H2'	19:S2:1175:G:H8	1.80	0.45
19:S2:1671:G:H2'	19:S2:1672:U:C6	2.52	0.45
19:S2:1801:A:H2'	19:S2:1802:C:H6	1.80	0.45
29:SS:46:ARG:HE	29:SS:52:LEU:HD21	1.81	0.45
40:L5:1084:C:H2'	40:L5:1085:C:H6	1.82	0.45
40:L5:4954:G:H2'	40:L5:4955:A:C8	2.51	0.45
51:LI:43:VAL:HG11	51:LI:197:VAL:HG13	1.98	0.45
59:LS:30:MET:HE2	59:LS:30:MET:HB3	1.82	0.45
80:Lo:14:LYS:HB3	80:Lo:77:CYS:SG	2.57	0.45
6:SH:113:LYS:HE3	19:S2:798:G:H4'	1.98	0.45
19:S2:468:A2M:HM'3	19:S2:468:A2M:H1'	1.52	0.45
19:S2:1529:C:H2'	19:S2:1530:U:C6	2.52	0.45
40:L5:184:U:H3	40:L5:253:G:H1	1.63	0.45
40:L5:1190:C:H2'	40:L5:1191:C:C6	2.51	0.45
40:L5:1514:U:H2'	40:L5:1515:A:C8	2.52	0.45
40:L5:1968:G:H2'	40:L5:1969:G:C8	2.52	0.45
40:L5:2267:U:OP1	82:Lr:37:SER:HB2	2.16	0.45
40:L5:2415:U:H2'	40:L5:2416:G:C8	2.50	0.45
40:L5:3664:G:H2'	40:L5:3665:G:H8	1.82	0.45
40:L5:4924:C:H5	40:L5:4925:U:C4	2.35	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:LI:53:VAL:HG22	51:LI:134:VAL:HG22	1.97	0.45
65:LZ:75:TYR:CD2	65:LZ:80:LEU:HD21	2.51	0.45
82:Lr:41:ASN:HD22	82:Lr:44:ILE:HD13	1.81	0.45
1:SA:122:LEU:HD13	1:SA:142:LEU:HD21	1.98	0.45
4:SE:19:MET:HE3	4:SE:51:ARG:HH12	1.81	0.45
14:SX:17:ARG:HH12	19:S2:659:G:N2	2.15	0.45
14:SX:54:LYS:HG2	14:SX:91:LEU:HD11	1.98	0.45
19:S2:1393:G:H2'	19:S2:1394:G:C8	2.52	0.45
19:S2:1713:C:H2'	19:S2:1714:U:C6	2.52	0.45
25:SK:58:VAL:HG21	25:SK:69:TRP:HB3	1.99	0.45
31:SU:80:PHE:HB3	34:Sd:52:PHE:HB3	1.98	0.45
38:Pt:26:G:H22	38:Pt:44:A:H2	1.64	0.45
40:L5:1758:G:H2'	40:L5:1759:G:C8	2.52	0.45
40:L5:2490:U:H3'	40:L5:2491:C:C6	2.52	0.45
56:LO:54:TYR:CD1	56:LO:145:VAL:HG21	2.51	0.45
1:SA:145:ILE:HG13	1:SA:159:ILE:HD13	1.99	0.45
19:S2:27:A2M:H1'	19:S2:27:A2M:HM'3	1.67	0.45
19:S2:291:G:H2'	19:S2:292:A:C8	2.51	0.45
19:S2:562:U:H2'	19:S2:563:G:C8	2.51	0.45
19:S2:669:A:H2'	19:S2:670:A:C4	2.52	0.45
28:SQ:86:GLN:HG2	28:SQ:90:LYS:HD3	1.98	0.45
37:At:2:U:H2'	37:At:3:C:C6	2.51	0.45
40:L5:99:A:H2'	40:L5:100:C:O2	2.17	0.45
40:L5:1199:G:H2'	40:L5:1200:G:C8	2.52	0.45
40:L5:1243:C:H2'	40:L5:1244:G:C8	2.52	0.45
40:L5:1494:U:H2'	40:L5:1495:G:H8	1.81	0.45
40:L5:1494:U:H2'	40:L5:1495:G:C8	2.52	0.45
40:L5:2484:A:H62	40:L5:2494:U:H3	1.65	0.45
40:L5:2749:C:H2'	40:L5:2750:G:H8	1.82	0.45
40:L5:3848:U:H2'	40:L5:3849:A:H8	1.82	0.45
41:L7:112:U:H2'	41:L7:113:G:C8	2.52	0.45
45:LC:298:ILE:HD13	58:LQ:131:PRO:HB3	1.98	0.45
48:LF:221:LYS:HA	48:LF:221:LYS:HD3	1.81	0.45
52:LJ:113:ILE:H	52:LJ:113:ILE:HD12	1.82	0.45
54:LM:41:PRO:HB3	54:LM:70:GLN:HG3	1.98	0.45
75:Lj:19:CYS:SG	75:Lj:34:CYS:HB2	2.56	0.45
1:SA:43:SER:HB2	22:SR:126:MET:HG2	1.97	0.45
2:SB:150:ILE:HG23	22:SR:131:PRO:HA	1.98	0.45
3:SC:259:THR:HG23	12:SV:16:LYS:HE2	1.98	0.45
4:SE:47:PHE:O	4:SE:51:ARG:HB2	2.17	0.45
7:SI:14:THR:HG23	7:SI:16:GLY:H	1.80	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:558:G:H1'	19:S2:559:G:C8	2.52	0.45
19:S2:1674:G:H5''	24:SF:86:LYS:HD3	1.98	0.45
23:SD:175:VAL:HB	23:SD:182:LEU:HB3	1.99	0.45
40:L5:1824:G:H2'	40:L5:1825:A:C8	2.52	0.45
40:L5:1921:C:C4	59:LS:161:ARG:HD2	2.51	0.45
40:L5:2293:U:H2'	40:L5:2294:G:C8	2.52	0.45
40:L5:3787:G:H1'	40:L5:3789:C:N4	2.31	0.45
40:L5:4906:C:H2'	40:L5:4907:G:C8	2.52	0.45
40:L5:4921:C:H2'	40:L5:4922:C:C6	2.52	0.45
48:LF:41:MET:HE2	67:Lb:113:ALA:HB2	1.99	0.45
76:Lk:27:LYS:HA	76:Lk:32:VAL:HG22	1.98	0.45
19:S2:649:PSU:H2'	19:S2:650:A:H8	1.81	0.45
19:S2:1515:G:H2'	19:S2:1516:G:C8	2.51	0.45
20:LR:21:LYS:HE3	20:LR:55:VAL:HA	1.98	0.45
36:Sg:24:THR:HG23	36:Sg:27:PHE:H	1.81	0.45
40:L5:123:C:H2'	40:L5:124:C:H6	1.82	0.45
40:L5:678:C:H2'	40:L5:679:C:H6	1.81	0.45
40:L5:1996:C:N3	40:L5:2000:G:N1	2.65	0.45
40:L5:2787:A2M:HM'2	40:L5:2787:A2M:H1'	1.67	0.45
41:L7:58:A:H2'	41:L7:59:G:H8	1.80	0.45
44:LB:92:TYR:HB3	44:LB:99:LEU:HD22	1.98	0.45
47:LE:223:ARG:HB3	47:LE:224:LYS:HB2	1.99	0.45
3:SC:253:PRO:HA	3:SC:256:TRP:CG	2.52	0.45
4:SE:11:ARG:HH12	4:SE:25:GLY:H	1.63	0.45
8:SJ:52:LYS:HB3	8:SJ:52:LYS:HE2	1.69	0.45
10:SN:17:PRO:HG3	19:S2:1016:U:C4	2.52	0.45
10:SN:40:LEU:HD22	10:SN:45:LEU:HD12	1.99	0.45
12:SV:11:LEU:HD23	12:SV:11:LEU:H	1.82	0.45
19:S2:525:A:H2'	19:S2:526:A:C8	2.49	0.45
19:S2:1387:G:H3'	19:S2:1388:A:H8	1.82	0.45
29:SS:50:ILE:HG23	29:SS:66:ARG:NH2	2.32	0.45
29:SS:125:HIS:CD2	29:SS:131:VAL:HG11	2.52	0.45
40:L5:441:G:H2'	40:L5:442:G:C8	2.52	0.45
40:L5:1461:C:H2'	40:L5:1462:A:H8	1.80	0.45
40:L5:1468:C:H2'	40:L5:1469:C:H6	1.82	0.45
40:L5:1577:G:H5'	40:L5:1578:U:H5''	1.99	0.45
40:L5:1976:G:OP1	40:L5:1984:A:H4'	2.17	0.45
40:L5:4088:C:H2'	40:L5:4089:G:H8	1.81	0.45
40:L5:4507:A:H2'	40:L5:4508:C:C6	2.52	0.45
40:L5:4920:C:H2'	40:L5:4921:C:H6	1.81	0.45
40:L5:5015:G:H2'	40:L5:5016:A:C2	2.51	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LA:180:LEU:HD11	81:Lp:26:VAL:HG11	1.98	0.45
44:LB:29:VAL:HA	44:LB:220:ILE:HD13	1.99	0.45
73:Lh:71:LYS:HB2	73:Lh:71:LYS:HE3	1.73	0.45
19:S2:142:C:H42	19:S2:329:G:H5''	1.82	0.44
19:S2:825:A:H2'	19:S2:826:A:C8	2.51	0.44
19:S2:864:A:H2'	19:S2:865:A:H8	1.79	0.44
19:S2:1103:C:H2'	19:S2:1104:G:H8	1.80	0.44
19:S2:1198:G:H2'	19:S2:1199:A:C8	2.51	0.44
19:S2:1576:G:H2'	19:S2:1577:G:C8	2.52	0.44
19:S2:1842:4AC:O5'	19:S2:1842:4AC:H6	2.17	0.44
23:SD:163:PRO:HG3	23:SD:205:PRO:HG2	1.99	0.44
27:SP:18:ARG:NH1	29:SS:88:LYS:HG2	2.32	0.44
29:SS:45:LEU:HD22	29:SS:50:ILE:HD11	1.98	0.44
35:Sf:103:LEU:HG	35:Sf:104:LYS:H	1.82	0.44
36:Sg:168:CYS:HB2	36:Sg:195:LEU:HB3	1.99	0.44
40:L5:1179:U:H3'	40:L5:1180:C:H5''	1.99	0.44
40:L5:1976:G:C8	40:L5:2002:A:H2'	2.51	0.44
40:L5:2730:U:H2'	40:L5:2731:C:C6	2.52	0.44
40:L5:4861:G:H2'	40:L5:4862:G:H8	1.82	0.44
45:LC:228:THR:HG23	45:LC:248:ARG:HH22	1.82	0.44
54:LM:96:GLU:O	54:LM:100:ARG:HG2	2.16	0.44
83:Ls:110:ALA:HA	83:Ls:182:PRO:HG2	1.99	0.44
4:SE:42:LEU:HG	4:SE:109:PHE:CD2	2.51	0.44
6:SH:118:ARG:HD3	6:SH:118:ARG:HA	1.70	0.44
7:SI:83:TYR:HB3	7:SI:101:ILE:HG12	1.98	0.44
14:SX:32:LEU:HG	14:SX:34:THR:HG23	1.99	0.44
19:S2:1279:C:H2'	19:S2:1280:G:H8	1.80	0.44
19:S2:1651:A:H2'	19:S2:1652:G:H8	1.81	0.44
36:Sg:173:LEU:HD13	36:Sg:189:ILE:HG22	1.98	0.44
37:At:43:A:H2'	37:At:44:A:C8	2.52	0.44
40:L5:233:U:H4'	40:L5:234:G:OP1	2.17	0.44
40:L5:1346:C:H2'	40:L5:1347:G:H8	1.82	0.44
40:L5:2520:C:H2'	40:L5:2521:G:C8	2.52	0.44
40:L5:2671:C:H2'	40:L5:2672:C:C6	2.52	0.44
40:L5:4638:U:H2'	40:L5:4639:G:N3	2.32	0.44
40:L5:4927:G:H5''	40:L5:4928:C:C5	2.51	0.44
40:L5:5002:U:H2'	40:L5:5003:U:C6	2.52	0.44
40:L5:5004:C:H2'	40:L5:5005:G:O4'	2.16	0.44
61:LU:28:PRO:HB2	61:LU:34:MET:HG3	1.98	0.44
63:LX:152:LYS:HE2	63:LX:152:LYS:HB3	1.83	0.44
68:Lc:82:GLY:HA2	68:Lc:91:VAL:HG12	2.00	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Lj:60:GLY:HA2	75:Lj:64:MET:SD	2.56	0.44
1:SA:209:GLU:HA	1:SA:212:LYS:HG2	1.99	0.44
12:SV:17:CYS:HB3	12:SV:22:ARG:H	1.82	0.44
19:S2:497:C:H2'	19:S2:498:C:C6	2.52	0.44
35:Sf:140:TYR:CE1	35:Sf:145:CYS:HA	2.52	0.44
36:Sg:64:HIS:HB3	36:Sg:83:TRP:HB2	1.97	0.44
40:L5:319:A:H1'	40:L5:3726:A:N3	2.32	0.44
40:L5:4281:A:H2'	40:L5:4282:A:H2'	1.99	0.44
43:LA:143:THR:HG23	43:LA:145:LYS:HG2	1.99	0.44
46:LD:33:ARG:NH1	46:LD:37:VAL:HG11	2.32	0.44
6:SH:176:VAL:HG22	6:SH:180:LEU:HD23	1.99	0.44
12:SV:51:LYS:HE2	12:SV:51:LYS:HB3	1.87	0.44
16:Sa:85:ARG:HD3	19:S2:1209:A:O2'	2.17	0.44
19:S2:1706:G:H2'	19:S2:1707:U:H6	1.82	0.44
19:S2:1736:G:H2'	19:S2:1737:G:H8	1.83	0.44
30:ST:18:LEU:HD22	30:ST:58:ALA:HA	1.99	0.44
38:Pt:25:C:H2'	38:Pt:26:G:O4'	2.17	0.44
40:L5:138:G:H2'	40:L5:139:G:C8	2.53	0.44
40:L5:4089:G:H2'	40:L5:4090:G:C8	2.52	0.44
40:L5:4253:A:H5'	40:L5:4254:G:C8	2.51	0.44
45:LC:289:LEU:HD11	58:LQ:31:LEU:HB2	1.99	0.44
82:Lr:20:ARG:HG2	82:Lr:21:ASN:OD1	2.17	0.44
3:SC:210:PRO:HB3	3:SC:240:THR:HG21	1.98	0.44
5:SG:172:LYS:HD3	19:S2:65:C:H4'	2.00	0.44
7:SI:23:LYS:HG2	19:S2:434:G:OP1	2.17	0.44
10:SN:46:THR:HB	10:SN:86:GLU:HG3	1.99	0.44
11:SO:120:ALA:HB2	16:Sa:53:ILE:HD13	1.99	0.44
11:SO:150:ARG:HB3	19:S2:1838:U:H1'	2.00	0.44
19:S2:92:A:H61	19:S2:444:G:H1'	1.82	0.44
19:S2:656:G:H5'	19:S2:662:G:N2	2.33	0.44
19:S2:1051:G:H2'	19:S2:1052:A:C8	2.52	0.44
19:S2:1447:G:H2'	19:S2:1448:A:C8	2.52	0.44
19:S2:1612:G:H1'	29:SS:87:GLN:NE2	2.31	0.44
19:S2:1733:U:H2'	19:S2:1734:G:O4'	2.18	0.44
27:SP:118:GLU:HG2	29:SS:120:HIS:H	1.81	0.44
30:ST:108:GLU:HG3	30:ST:113:VAL:O	2.17	0.44
35:Sf:103:LEU:HB2	35:Sf:105:TYR:CE1	2.53	0.44
40:L5:468:U:C5	40:L5:469:C:H5	2.35	0.44
40:L5:1504:G:H2'	40:L5:1505:C:C6	2.52	0.44
40:L5:2683:C:H2'	40:L5:2684:C:C6	2.53	0.44
40:L5:2765:A:H2'	40:L5:2766:A:H8	1.82	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3867:A2M:H2'	40:L5:3868:G:C8	2.53	0.44
40:L5:4146:G:H2'	40:L5:4147:G:C8	2.53	0.44
50:LH:93:ARG:HG2	50:LH:182:SER:HB3	1.99	0.44
53:LL:47:ALA:HB3	53:LL:48:PRO:HD3	1.98	0.44
54:LM:132:LYS:HE3	54:LM:132:LYS:HB3	1.87	0.44
57:LP:37:LYS:HB3	57:LP:37:LYS:HE2	1.72	0.44
66:La:7:LYS:HE2	66:La:7:LYS:HB3	1.75	0.44
1:SA:5:LEU:HD11	12:SV:41:LYS:HB3	1.99	0.44
4:SE:141:THR:HG23	4:SE:143:ASP:N	2.32	0.44
13:SW:22:LYS:HD2	17:Sb:3:LEU:HA	1.98	0.44
14:SX:138:LYS:HE2	14:SX:138:LYS:HB3	1.80	0.44
19:S2:293:C:O2'	19:S2:294:U:H3'	2.17	0.44
19:S2:943:U:C2	19:S2:944:A:C8	3.06	0.44
25:SK:63:ALA:HB2	25:SK:68:TYR:CE2	2.53	0.44
27:SP:72:LYS:HD2	27:SP:72:LYS:HA	1.76	0.44
40:L5:1503:A:H1'	40:L5:1504:G:C8	2.53	0.44
40:L5:1557:C:H2'	40:L5:1558:A:C8	2.53	0.44
40:L5:1725:U:H2'	40:L5:1726:U:H6	1.83	0.44
40:L5:2029:A:H2'	40:L5:2030:A:H8	1.80	0.44
40:L5:2542:G:H2'	40:L5:2543:A:C8	2.53	0.44
43:LA:131:GLY:N	43:LA:169:VAL:HG13	2.33	0.44
3:SC:171:GLY:HA3	13:SW:97:ARG:NH1	2.33	0.44
19:S2:461:U:H2'	19:S2:462:OMC:C6	2.52	0.44
19:S2:601:OMG:H1'	19:S2:601:OMG:HM23	1.65	0.44
26:SM:35:ILE:HD11	26:SM:61:TYR:CZ	2.53	0.44
40:L5:7:C:H2'	40:L5:8:U:C6	2.53	0.44
40:L5:424:U:H2'	40:L5:425:U:C6	2.53	0.44
40:L5:1693:U:H2'	40:L5:1694:C:O4'	2.17	0.44
40:L5:2633:U:H2'	40:L5:2634:C:H6	1.83	0.44
40:L5:4098:A:N7	40:L5:4099:G:H1'	2.33	0.44
40:L5:4611:A:H2'	40:L5:4612:C:H6	1.83	0.44
42:L8:89:U:H2'	42:L8:90:C:C6	2.52	0.44
52:LJ:52:LYS:HB3	52:LJ:65:ASN:HA	2.00	0.44
8:SJ:134:HIS:HA	8:SJ:163:SER:HB3	2.00	0.44
10:SN:55:ARG:NH1	19:S2:1017:U:H5'	2.33	0.44
19:S2:482:G:N2	19:S2:484:A2M:H3'	2.33	0.44
19:S2:807:G:H2'	19:S2:808:A:H8	1.83	0.44
19:S2:1174:PSU:H2'	19:S2:1175:G:C8	2.53	0.44
19:S2:1714:U:H2'	19:S2:1715:A:C8	2.53	0.44
29:SS:78:LYS:HA	29:SS:78:LYS:HD3	1.87	0.44
31:SU:54:VAL:HB	31:SU:88:LEU:HB2	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1092:G:H2'	40:L5:1093:C:C6	2.53	0.44
40:L5:1772:C:H2'	40:L5:1773:U:H6	1.83	0.44
40:L5:4481:U:H2'	40:L5:4482:U:C6	2.53	0.44
41:L7:63:C:H5'	41:L7:64:G:H5''	2.00	0.44
45:LC:368:LYS:HA	45:LC:368:LYS:HD3	1.76	0.44
47:LE:239:LYS:HD2	47:LE:239:LYS:HA	1.83	0.44
65:LZ:50:PRO:HD3	65:LZ:68:ILE:HG12	2.00	0.44
84:Lt:10:ILE:HG21	84:Lt:65:GLN:HB3	2.00	0.44
5:SG:136:LYS:HB2	19:S2:65:C:N4	2.32	0.44
12:SV:15:ARG:HH21	12:SV:24:ILE:HG21	1.82	0.44
19:S2:1282:A:H2'	19:S2:1283:C:C2	2.53	0.44
19:S2:1323:U:H2'	19:S2:1324:G:C8	2.53	0.44
19:S2:1446:A:H5''	31:SU:58:THR:HG23	2.00	0.44
23:SD:12:VAL:O	23:SD:16:ILE:HG12	2.18	0.44
37:At:51:C:H2'	37:At:52:G:H8	1.82	0.44
37:At:68:G:H2'	37:At:69:A:H8	1.83	0.44
40:L5:37:U:H2'	40:L5:38:A:O4'	2.18	0.44
40:L5:163:A:H2'	40:L5:164:G:C8	2.53	0.44
40:L5:679:C:H2'	40:L5:680:G:C8	2.53	0.44
40:L5:1178:G:H2'	46:LD:286:SER:HB3	1.99	0.44
40:L5:1563:A:H8	40:L5:1563:A:OP1	2.01	0.44
40:L5:2640:G:H2'	40:L5:2641:A:C8	2.52	0.44
40:L5:3599:A:H2'	40:L5:3600:G:H8	1.82	0.44
40:L5:3718:A2M:H2	40:L5:3934:G:O4'	2.17	0.44
40:L5:3848:U:H2'	40:L5:3849:A:C8	2.53	0.44
40:L5:4578:G:H2'	40:L5:4579:PSU:C6	2.52	0.44
40:L5:5018:C:H2'	40:L5:5019:A:C8	2.52	0.44
41:L7:58:A:H2'	41:L7:59:G:C8	2.53	0.44
58:LQ:99:LYS:HE3	58:LQ:121:LEU:HD11	1.99	0.44
5:SG:162:LEU:HD13	19:S2:67:C:C5	2.53	0.43
6:SH:58:LYS:HD3	6:SH:58:LYS:HA	1.89	0.43
17:Sb:64:CYS:HA	17:Sb:73:LEU:HA	1.98	0.43
19:S2:96:C:H2'	19:S2:97:U:C6	2.53	0.43
19:S2:287:U:H2'	19:S2:288:G:C8	2.52	0.43
23:SD:167:TYR:CE2	23:SD:204:LEU:HD23	2.53	0.43
40:L5:1350:C:H5''	45:LC:33:ARG:HH21	1.82	0.43
40:L5:2489:C:H4'	40:L5:2491:C:H42	1.83	0.43
40:L5:2648:G:H2'	40:L5:2649:G:C8	2.53	0.43
40:L5:2844:A:O2'	40:L5:4631:G:H4'	2.18	0.43
40:L5:3690:U:H5'	40:L5:3818:UY1:OP2	2.18	0.43
40:L5:4070:U:H2'	40:L5:4071:U:C6	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4299:PSU:H2'	40:L5:4300:U:H6	1.83	0.43
46:LD:62:CYS:HB3	46:LD:105:LEU:HD22	2.00	0.43
48:LF:236:ARG:HB2	48:LF:239:GLN:HB2	2.00	0.43
4:SE:100:ARG:HB2	4:SE:114:ILE:HD13	1.99	0.43
19:S2:163:U:H2'	19:S2:164:A:C8	2.53	0.43
19:S2:185:G:H2'	19:S2:186:C:C6	2.53	0.43
19:S2:680:G:H2'	19:S2:681:PSU:C6	2.54	0.43
19:S2:1518:C:OP1	19:S2:1519:U:H2'	2.18	0.43
19:S2:1616:U:H2'	19:S2:1617:G:C8	2.53	0.43
19:S2:1657:G:H2'	19:S2:1658:G:C8	2.53	0.43
23:SD:218:LEU:HD11	36:Sg:189:ILE:HD12	2.01	0.43
40:L5:2275:G:H2'	40:L5:2276:A:C8	2.53	0.43
51:LI:91:LEU:HD23	51:LI:91:LEU:HA	1.85	0.43
73:Lh:88:THR:HB	73:Lh:91:MET:HB2	2.01	0.43
83:Ls:69:LEU:HG	83:Ls:75:LEU:HB3	2.00	0.43
2:SB:38:MET:HG3	2:SB:39:PHE:CD2	2.53	0.43
5:SG:55:GLY:N	5:SG:110:ASN:HD22	2.15	0.43
5:SG:218:LYS:HA	5:SG:218:LYS:HD2	1.76	0.43
7:SI:116:HIS:CG	7:SI:152:ARG:HH21	2.36	0.43
19:S2:614:C:H5'	19:S2:626:G:O4'	2.18	0.43
19:S2:1112:U:O2	19:S2:1121:G:O6	2.36	0.43
19:S2:1653:U:H3	19:S2:1671:G:H1	1.66	0.43
36:Sg:21:ILE:HG21	36:Sg:299:PHE:HB2	1.99	0.43
40:L5:300:A:H2'	40:L5:301:G:H8	1.83	0.43
40:L5:689:U:H2'	40:L5:690:C:C6	2.54	0.43
40:L5:713:C:H2'	40:L5:714:G:H8	1.82	0.43
40:L5:918:G:H5'	54:LM:72:TYR:CZ	2.54	0.43
40:L5:1847:C:H2'	40:L5:1848:C:C6	2.53	0.43
40:L5:1876:U:O3'	48:LF:103:PRO:HD3	2.18	0.43
40:L5:3832:U:H2'	40:L5:3833:C:H6	1.84	0.43
40:L5:4571:A2M:HM'3	40:L5:4571:A2M:H1'	1.70	0.43
40:L5:4593:C:H2'	40:L5:4594:U:C6	2.54	0.43
41:L7:16:A:H2'	41:L7:17:C:C6	2.53	0.43
46:LD:181:PRO:HD2	46:LD:195:HIS:CD2	2.54	0.43
51:LI:152:LEU:HB3	51:LI:165:ILE:HD12	2.00	0.43
8:SJ:113:GLN:HG3	8:SJ:149:VAL:HG21	2.00	0.43
10:SN:20:ARG:HH21	13:SW:56:HIS:HB3	1.83	0.43
12:SV:30:ALA:O	12:SV:60:ARG:HD3	2.17	0.43
15:SY:18:LEU:HB2	15:SY:20:ARG:HG2	1.99	0.43
19:S2:1392:U:H2'	19:S2:1393:G:C8	2.54	0.43
19:S2:1748:G:O6	19:S2:1786:U:C4	2.71	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SP:127:LYS:HB3	27:SP:127:LYS:HE3	1.89	0.43
35:Sf:90:LYS:HA	35:Sf:90:LYS:HD2	1.72	0.43
40:L5:710:G:H2'	40:L5:711:A:H8	1.84	0.43
40:L5:1628:C:H42	43:LA:3:ARG:HD3	1.83	0.43
40:L5:2066:C:H5''	71:Lf:36:ARG:CZ	2.48	0.43
40:L5:2376:A:H2'	40:L5:2377:C:C6	2.53	0.43
40:L5:3597:G:H2'	40:L5:3598:C:H6	1.84	0.43
40:L5:3690:U:H2'	40:L5:3691:G:O4'	2.19	0.43
40:L5:4159:C:H2'	40:L5:4160:C:C6	2.53	0.43
40:L5:4572:U:H1'	40:L5:4720:C:C4	2.54	0.43
40:L5:4593:C:H2'	40:L5:4594:U:H6	1.83	0.43
44:LB:112:ASP:O	44:LB:116:ARG:HG3	2.19	0.43
45:LC:33:ARG:HD3	45:LC:36:ILE:HD12	2.00	0.43
55:LN:75:VAL:HG21	55:LN:80:THR:HG23	2.00	0.43
60:LT:4:THR:OG1	60:LT:9:ARG:HD3	2.19	0.43
1:SA:177:MET:HE3	1:SA:177:MET:HB3	1.81	0.43
2:SB:123:ALA:HB1	2:SB:169:MET:HG3	1.99	0.43
19:S2:345:U:H2'	19:S2:346:C:C6	2.54	0.43
19:S2:455:A:H2'	19:S2:456:C:C6	2.54	0.43
19:S2:576:A2M:HM'3	19:S2:576:A2M:H1'	1.57	0.43
19:S2:1220:A:H2'	19:S2:1221:G:O4'	2.18	0.43
19:S2:1771:G:H2'	19:S2:1772:C:H6	1.83	0.43
19:S2:1777:G:H2'	19:S2:1778:C:C6	2.52	0.43
22:SR:29:HIS:O	22:SR:32:LYS:HG2	2.18	0.43
24:SF:35:LEU:O	24:SF:39:ILE:HG12	2.19	0.43
30:ST:39:LEU:HD11	30:ST:52:TRP:CE3	2.53	0.43
39:CI:59:GLN:HB2	61:LU:99:TRP:HE1	1.84	0.43
40:L5:153:G:H2'	40:L5:154:G:C8	2.51	0.43
40:L5:716:C:OP1	45:LC:317:ASN:HB2	2.18	0.43
40:L5:1545:G:H2'	40:L5:1546:C:C6	2.53	0.43
40:L5:1941:A:C2	40:L5:4434:C:H5'	2.53	0.43
40:L5:2264:C:H2'	40:L5:2265:G:O4'	2.18	0.43
77:Ll:9:ILE:HD12	77:Ll:51:LEU:HD12	2.01	0.43
81:Lp:22:LEU:HD23	81:Lp:22:LEU:HA	1.86	0.43
2:SB:143:THR:HB	2:SB:205:TYR:CE2	2.54	0.43
19:S2:880:G:H3'	19:S2:881:G:H8	1.82	0.43
19:S2:1383:A2M:H1'	19:S2:1383:A2M:HM'3	1.58	0.43
19:S2:1657:G:H2'	19:S2:1658:G:H8	1.84	0.43
19:S2:1856:C:H2'	19:S2:1857:G:H8	1.83	0.43
27:SP:77:LYS:HB3	27:SP:102:PHE:CD1	2.54	0.43
32:SZ:96:LEU:H	32:SZ:96:LEU:HD23	1.82	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1503:A:H4'	40:L5:1504:G:H5'	2.01	0.43
40:L5:4299:PSU:H2'	40:L5:4300:U:C6	2.54	0.43
40:L5:4389:C:H2'	40:L5:4390:A:H8	1.84	0.43
40:L5:5002:U:H2'	40:L5:5003:U:H6	1.84	0.43
42:L8:90:C:H2'	42:L8:91:A:C8	2.54	0.43
43:LA:145:LYS:HD3	43:LA:145:LYS:HA	1.72	0.43
44:LB:17:LEU:HA	44:LB:17:LEU:HD23	1.72	0.43
54:LM:62:LEU:HD21	54:LM:82:ILE:HD11	1.99	0.43
67:Lb:65:MET:HG3	67:Lb:68:ARG:HH12	1.84	0.43
72:Lg:41:ALA:O	72:Lg:52:ARG:HD3	2.19	0.43
84:Lt:19:GLY:HA3	84:Lt:57:ARG:O	2.18	0.43
2:SB:217:MET:HE3	2:SB:217:MET:HB2	1.73	0.43
10:SN:4:MET:HE3	19:S2:924:G:H5'	2.01	0.43
19:S2:641:A:H2'	19:S2:642:U:O4'	2.19	0.43
19:S2:872:A:C5	19:S2:874:G:C8	3.06	0.43
19:S2:1112:U:H3	19:S2:1113:A:H62	1.65	0.43
19:S2:1540:G:H5'	30:ST:47:PRO:HB3	1.99	0.43
24:SF:122:ARG:HA	24:SF:146:ARG:HD3	1.99	0.43
40:L5:139:G:H2'	40:L5:140:G:H8	1.84	0.43
40:L5:1541:C:H5''	43:LA:21:LYS:HG2	2.00	0.43
40:L5:2351:OMC:HM23	40:L5:2351:OMC:H1'	1.75	0.43
40:L5:2372:U:H2'	40:L5:2373:C:C6	2.54	0.43
40:L5:3748:A:H5''	43:LA:243:THR:HB	2.01	0.43
42:L8:36:G:C5	73:Lh:89:ARG:HD3	2.53	0.43
44:LB:217:ILE:HD11	44:LB:333:LEU:HD21	1.99	0.43
57:LP:52:THR:HG23	57:LP:85:LYS:HG3	1.99	0.43
71:Lf:18:LEU:HD23	71:Lf:19:ARG:NH1	2.34	0.43
4:SE:123:LEU:HD23	4:SE:123:LEU:HA	1.91	0.43
7:SI:141:ARG:HB3	7:SI:145:ILE:HB	2.00	0.43
11:SO:129:ILE:HG13	16:Sa:65:PRO:HG2	2.01	0.43
16:Sa:26:CYS:HB3	16:Sa:77:CYS:SG	2.58	0.43
19:S2:406:PSU:H2'	19:S2:408:A:H8	1.84	0.43
19:S2:544:G:H2'	19:S2:545:A:C8	2.54	0.43
19:S2:807:G:H2'	19:S2:808:A:C8	2.54	0.43
19:S2:1227:G:C2	19:S2:1228:A:C8	3.07	0.43
19:S2:1241:A:O2'	19:S2:1243:U:H5'	2.19	0.43
19:S2:1320:G:H2'	19:S2:1321:G:O4'	2.18	0.43
19:S2:1802:C:H2'	19:S2:1803:U:C6	2.53	0.43
33:Sc:11:LEU:HB2	33:Sc:35:MET:HE2	2.01	0.43
36:Sg:16:GLY:HA3	36:Sg:36:ARG:HB2	2.01	0.43
40:L5:965:G:N2	40:L5:2092:G:H1'	2.34	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1094:G:O6	40:L5:1201:U:C2	2.71	0.43
40:L5:1195:G:H2'	40:L5:1196:G:C8	2.53	0.43
40:L5:1609:U:O4	88:L5:5285:SPD:H51	2.17	0.43
40:L5:2573:A:H2'	40:L5:2574:G:O4'	2.19	0.43
40:L5:4472:G:H5''	78:Lm:102:ARG:HH21	1.83	0.43
41:L7:110:G:H2'	41:L7:111:C:C6	2.54	0.43
52:LJ:104:ASN:C	52:LJ:104:ASN:HD22	2.25	0.43
54:LM:32:ASP:O	54:LM:33:GLN:HG2	2.18	0.43
54:LM:37:LEU:HD12	54:LM:37:LEU:HA	1.88	0.43
73:Lh:52:LYS:HA	73:Lh:52:LYS:HD3	1.68	0.43
3:SC:273:LEU:HD22	3:SC:277:HIS:HB2	2.01	0.43
7:SI:116:HIS:CE1	7:SI:152:ARG:HH21	2.37	0.43
15:SY:108:LYS:HD3	19:S2:53:C:H4'	2.00	0.43
23:SD:110:LEU:HD23	23:SD:110:LEU:HA	1.87	0.43
26:SM:93:LYS:HD2	26:SM:99:LYS:HD3	2.00	0.43
40:L5:2401:A2M:H5''	40:L5:2401:A2M:H8	2.00	0.43
40:L5:2538:U:H2'	40:L5:2539:C:C6	2.53	0.43
40:L5:2568:C:H2'	40:L5:2569:G:C8	2.53	0.43
40:L5:3661:G:H4'	40:L5:3662:A:H5'	2.00	0.43
40:L5:3841:OMC:HM23	40:L5:3841:OMC:H1'	1.83	0.43
40:L5:3920:PSU:H2'	40:L5:3921:U:C6	2.53	0.43
40:L5:4069:U:H2'	40:L5:4070:U:C6	2.53	0.43
41:L7:23:A:H2'	41:L7:24:C:C6	2.54	0.43
49:LG:187:LYS:HB2	49:LG:198:THR:HG23	2.01	0.43
56:LO:9:LEU:HD23	56:LO:118:MET:HB2	2.00	0.43
67:Lb:48:LYS:HE3	67:Lb:49:HIS:CE1	2.53	0.43
73:Lh:21:LEU:HD11	73:Lh:25:LYS:HE2	2.01	0.43
1:SA:180:ARG:HG3	1:SA:195:TRP:HB2	2.00	0.43
15:SY:35:VAL:HG13	15:SY:40:ILE:HD11	2.01	0.43
19:S2:1232:PSU:H2'	19:S2:1233:G:H8	1.83	0.43
19:S2:1397:U:OP1	19:S2:1398:G:H8	2.02	0.43
19:S2:1414:A:H2'	19:S2:1415:C:H6	1.83	0.43
19:S2:1705:C:H2'	19:S2:1706:G:C8	2.54	0.43
38:Pt:29:C:H2'	38:Pt:30:G:H8	1.84	0.43
40:L5:419:A:H61	42:L8:15:G:H1'	1.84	0.43
40:L5:1662:C:H2'	40:L5:1663:C:H6	1.84	0.43
40:L5:2390:G:H22	40:L5:2825:A:H2	1.67	0.43
40:L5:5009:G:H2'	40:L5:5010:PSU:H6	1.84	0.43
61:LU:18:VAL:HG13	61:LU:73:THR:HG23	2.01	0.43
2:SB:64:GLY:HA2	2:SB:87:ILE:HD11	2.02	0.42
17:Sb:68:GLY:HA3	19:S2:1105:G:H5''	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:614:C:H2'	19:S2:626:G:C8	2.54	0.42
19:S2:795:A:H2'	19:S2:796:G:C8	2.54	0.42
19:S2:811:A:H2'	19:S2:812:A:H8	1.84	0.42
19:S2:1227:G:C6	19:S2:1638:G:C5	3.07	0.42
19:S2:1322:G:H3'	19:S2:1323:U:H6	1.84	0.42
19:S2:1380:C:H2'	19:S2:1381:G:C8	2.53	0.42
19:S2:1391:OMC:HM23	19:S2:1391:OMC:H1'	1.80	0.42
36:Sg:14:HIS:HD2	36:Sg:18:VAL:HG22	1.83	0.42
36:Sg:164:ILE:HD12	36:Sg:178:ASN:HA	2.01	0.42
37:At:3:C:H2'	37:At:4:U:H6	1.84	0.42
40:L5:1405:C:H41	40:L5:1408:G:N2	2.17	0.42
40:L5:4081:G:H2'	40:L5:4082:G:C8	2.54	0.42
40:L5:4227:OMU:HM21	40:L5:4336:A:H1'	2.00	0.42
40:L5:4587:G:O2'	44:LB:17:LEU:HD12	2.19	0.42
45:LC:305:PRO:HB2	45:LC:307:LYS:HG3	2.00	0.42
49:LG:70:LEU:HD23	49:LG:70:LEU:HA	1.81	0.42
52:LJ:115:LEU:HD13	52:LJ:115:LEU:HA	1.87	0.42
52:LJ:146:ARG:HG2	52:LJ:147:ARG:HG3	2.01	0.42
1:SA:68:ILE:HG22	1:SA:70:ASN:H	1.84	0.42
10:SN:93:LYS:HB2	10:SN:150:VAL:HG21	2.01	0.42
10:SN:99:ARG:HE	10:SN:115:LEU:HD21	1.83	0.42
19:S2:1009:A:H2'	19:S2:1010:G:H8	1.84	0.42
19:S2:1233:G:C6	19:S2:1526:G:C6	3.07	0.42
19:S2:1266:C:H2'	19:S2:1267:C:C6	2.54	0.42
19:S2:1277:C:H2'	19:S2:1278:A:C8	2.52	0.42
19:S2:1539:U:H4'	30:ST:47:PRO:HA	2.01	0.42
19:S2:1661:A:H8	34:Sd:14:PHE:HB2	1.85	0.42
22:SR:30:THR:O	22:SR:34:VAL:HG23	2.20	0.42
37:At:27:U:H2'	37:At:28:U:H6	1.84	0.42
40:L5:1444:G:H1	40:L5:2104:G:H22	1.67	0.42
40:L5:2461:G:H2'	40:L5:2462:C:C6	2.53	0.42
40:L5:2676:A:OP2	40:L5:2676:A:H8	2.02	0.42
40:L5:3736:A:H2'	40:L5:3737:A:H8	1.84	0.42
40:L5:4232:U:H5''	80:Lo:3:ASN:O	2.19	0.42
40:L5:4236:G:H2'	40:L5:4237:C:C6	2.54	0.42
40:L5:4618:OMG:HM22	40:L5:4619:U:H5'	2.01	0.42
40:L5:4625:C:O2'	40:L5:4626:A:H5'	2.20	0.42
40:L5:4748:U:OP1	71:Lf:54:LYS:HE2	2.19	0.42
40:L5:4872:G:C2	56:LO:203:VAL:HG23	2.54	0.42
42:L8:75:OMG:H1'	42:L8:75:OMG:HM23	1.71	0.42
43:LA:137:ILE:HD11	43:LA:149:LYS:HB2	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LE:223:ARG:HA	47:LE:224:LYS:HA	1.77	0.42
53:LL:42:LYS:HB3	53:LL:42:LYS:HE2	1.75	0.42
54:LM:79:LYS:HE2	54:LM:79:LYS:HB3	1.93	0.42
84:Lt:147:HIS:CE1	84:Lt:149:HIS:HB3	2.54	0.42
4:SE:98:ASN:HD22	4:SE:116:PRO:HA	1.84	0.42
8:SJ:30:LYS:HG2	18:Se:42:PHE:CE2	2.54	0.42
10:SN:25:TRP:CD2	17:Sb:82:LYS:HD3	2.54	0.42
17:Sb:62:VAL:HG23	17:Sb:74:THR:HG21	2.00	0.42
19:S2:929:G:N2	19:S2:1104:G:H4'	2.35	0.42
36:Sg:17:TRP:HB2	36:Sg:36:ARG:HG3	2.00	0.42
40:L5:1167:C:H42	40:L5:1195:G:N2	2.17	0.42
40:L5:3610:A:H2'	40:L5:3611:A:H8	1.83	0.42
40:L5:4426:C:C2'	40:L5:4427:G:H5'	2.50	0.42
41:L7:57:C:H2'	41:L7:58:A:H8	1.85	0.42
51:LI:192:PRO:HA	51:LI:197:VAL:HG12	1.99	0.42
56:LO:121:PRO:HA	56:LO:124:LEU:HD12	2.00	0.42
64:LY:33:PRO:HG2	64:LY:105:VAL:HG12	2.01	0.42
1:SA:89:LYS:HA	1:SA:89:LYS:HD3	1.85	0.42
2:SB:136:ARG:O	2:SB:215:VAL:HA	2.19	0.42
3:SC:107:LEU:HB2	3:SC:127:PHE:HB2	2.01	0.42
12:SV:15:ARG:NH2	12:SV:24:ILE:HG21	2.35	0.42
19:S2:1804:U:H2'	19:S2:1805:G:H8	1.83	0.42
19:S2:1845:A:H2'	19:S2:1846:G:H8	1.84	0.42
21:LW:87:LEU:HA	21:LW:90:ILE:HG12	2.01	0.42
24:SF:91:ARG:HG3	24:SF:92:ILE:N	2.33	0.42
32:SZ:86:ALA:O	32:SZ:89:GLN:HG2	2.20	0.42
38:Pt:76:A:H2'	40:L5:4397:A:H1'	2.00	0.42
40:L5:106:A:H2'	40:L5:107:G:O4'	2.20	0.42
40:L5:123:C:H2'	40:L5:124:C:C6	2.54	0.42
40:L5:674:G:H2'	40:L5:675:C:C6	2.54	0.42
40:L5:1092:G:H2'	40:L5:1093:C:H6	1.84	0.42
40:L5:1202:C:H3'	40:L5:1203:G:H4'	2.00	0.42
40:L5:1298:C:H2'	40:L5:1299:G:C8	2.53	0.42
40:L5:1345:A:H2'	40:L5:1346:C:C6	2.54	0.42
61:LU:65:ARG:HD3	61:LU:70:ILE:HG12	2.01	0.42
1:SA:113:GLN:HE21	1:SA:115:ALA:HB3	1.84	0.42
4:SE:45:ILE:HA	4:SE:61:VAL:HG21	2.02	0.42
4:SE:72:ILE:HD12	4:SE:77:ARG:HG3	2.01	0.42
4:SE:241:GLY:O	4:SE:244:ILE:HG22	2.18	0.42
6:SH:132:ASP:HA	6:SH:135:PHE:HB2	2.01	0.42
7:SI:99:ASN:HB2	19:S2:377:G:O5'	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SJ:175:ARG:C	8:SJ:179:LYS:HZ2	2.28	0.42
13:SW:28:ARG:HH21	19:S2:1093:A:H5''	1.84	0.42
19:S2:695:C:H42	19:S2:737:G:H1'	1.84	0.42
19:S2:1547:C:N3	19:S2:1656:G:H1'	2.34	0.42
38:Pt:58:A:H1'	38:Pt:60:A:OP2	2.19	0.42
40:L5:270:U:H2'	40:L5:271:C:H6	1.85	0.42
40:L5:271:C:H2'	40:L5:272:U:C6	2.55	0.42
40:L5:1588:U:H2'	40:L5:1589:C:C6	2.55	0.42
40:L5:2654:C:H2'	40:L5:2655:C:H6	1.85	0.42
40:L5:4186:A:H2'	40:L5:4187:G:C8	2.55	0.42
41:L7:11:A:H4'	41:L7:13:A:C8	2.55	0.42
45:LC:110:ARG:HG3	55:LN:204:ARG:HE	1.83	0.42
1:SA:31:ASP:HB3	1:SA:34:MET:HG2	2.02	0.42
1:SA:220:LYS:HA	1:SA:220:LYS:HD3	1.79	0.42
15:SY:41:ARG:HG3	15:SY:55:ILE:HB	2.01	0.42
19:S2:1852:C:H2'	19:S2:1853:C:C6	2.55	0.42
19:S2:1856:C:H2'	19:S2:1857:G:C8	2.53	0.42
40:L5:21:G:H1'	42:L8:103:A:N3	2.34	0.42
40:L5:2634:C:H2'	40:L5:2635:U:H6	1.85	0.42
40:L5:4585:U:H2'	40:L5:4586:G:C8	2.54	0.42
40:L5:4910:G:H1	56:LO:108:ILE:H	1.67	0.42
40:L5:4957:C:H2'	40:L5:4958:C:C6	2.54	0.42
53:LL:105:LYS:HB3	53:LL:105:LYS:HE2	1.81	0.42
4:SE:144:ALA:HB3	19:S2:121:OMU:HM23	2.02	0.42
10:SN:69:ASN:OD1	10:SN:73:ARG:HD2	2.20	0.42
12:SV:43:THR:HG23	12:SV:45:ARG:H	1.84	0.42
14:SX:130:LEU:HD12	14:SX:133:LEU:HD12	2.01	0.42
19:S2:1088:U:H4'	19:S2:1089:G:OP2	2.19	0.42
19:S2:1514:G:H2'	19:S2:1515:G:C8	2.55	0.42
19:S2:1593:C:H2'	19:S2:1594:A:H8	1.84	0.42
19:S2:1597:C:H4'	19:S2:1603:G:C6	2.54	0.42
19:S2:1653:U:H2'	19:S2:1654:G:C8	2.54	0.42
28:SQ:32:ILE:HG21	28:SQ:39:LEU:HD22	2.02	0.42
36:Sg:30:MET:HE3	36:Sg:30:MET:HB3	1.85	0.42
37:At:29:C:H2'	37:At:30:G:C8	2.54	0.42
40:L5:6:C:H2'	40:L5:7:C:H6	1.84	0.42
40:L5:422:C:H2'	40:L5:423:G:H8	1.85	0.42
40:L5:678:C:H2'	40:L5:679:C:C6	2.55	0.42
40:L5:727:C:H5''	48:LF:73:ARG:NH2	2.34	0.42
40:L5:750:U:C2	40:L5:751:G:C8	3.08	0.42
40:L5:1248:C:H2'	40:L5:1249:C:H6	1.85	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1564:A:H8	40:L5:1564:A:OP2	2.03	0.42
40:L5:1764:G:H4'	40:L5:1769:G:C6	2.54	0.42
40:L5:2413:U:H2'	40:L5:2414:G:C8	2.55	0.42
40:L5:2656:U:H5''	65:LZ:38:TYR:HB3	2.02	0.42
68:Lc:26:LYS:HB2	68:Lc:97:ILE:HB	2.00	0.42
68:Lc:38:ILE:HD11	68:Lc:46:VAL:HG21	2.01	0.42
72:Lg:33:LEU:HD23	72:Lg:33:LEU:HA	1.87	0.42
84:Lt:59:THR:HG22	84:Lt:61:LYS:HD3	2.02	0.42
1:SA:148:CYS:HB3	1:SA:163:CYS:N	2.27	0.42
5:SG:147:LEU:HD11	5:SG:156:TYR:CD2	2.55	0.42
7:SI:141:ARG:HG3	7:SI:149:TYR:HE2	1.84	0.42
12:SV:2:GLN:H	12:SV:8:PHE:HA	1.84	0.42
19:S2:454:U:H2'	19:S2:455:A:C8	2.54	0.42
19:S2:1488:C:O2'	19:S2:1490:OMG:H8	2.03	0.42
19:S2:1604:G:C5	19:S2:1605:G:C5	3.07	0.42
19:S2:1693:G:H2'	19:S2:1694:U:C6	2.54	0.42
24:SF:30:ILE:HG12	24:SF:39:ILE:HG13	2.01	0.42
26:SM:120:ALA:O	26:SM:124:ILE:HG12	2.20	0.42
29:SS:14:ARG:HD2	29:SS:14:ARG:HA	1.93	0.42
40:L5:257:C:H2'	40:L5:258:G:C8	2.55	0.42
40:L5:454:U:H1'	70:Le:5:ARG:NH1	2.35	0.42
40:L5:1997:U:O2'	40:L5:1998:A:H8	2.03	0.42
40:L5:2293:U:H2'	40:L5:2294:G:H8	1.84	0.42
40:L5:2538:U:H2'	40:L5:2539:C:H6	1.84	0.42
40:L5:3595:U:H5''	40:L5:3597:G:OP2	2.20	0.42
40:L5:3855:C:H2'	40:L5:3856:A:H8	1.85	0.42
40:L5:3866:C:H2'	40:L5:3867:A2M:O4'	2.20	0.42
40:L5:5026:U:H4'	40:L5:5027:C:O4'	2.20	0.42
44:LB:14:LEU:HD22	44:LB:17:LEU:HD11	2.01	0.42
64:LY:117:LYS:HE2	64:LY:117:LYS:HB2	1.88	0.42
4:SE:136:ILE:HD12	4:SE:149:TYR:CE1	2.54	0.42
5:SG:10:THR:HA	5:SG:128:THR:HG23	2.01	0.42
6:SH:66:VAL:HG21	19:S2:913:A:C4	2.55	0.42
6:SH:160:LYS:HD3	6:SH:189:PHE:HB3	2.02	0.42
7:SI:162:LEU:HD21	7:SI:191:GLU:HG3	2.00	0.42
11:SO:149:ARG:HH11	19:S2:1064:C:H4'	1.84	0.42
14:SX:17:ARG:HH22	19:S2:659:G:H21	1.67	0.42
16:Sa:11:ALA:HB3	16:Sa:33:ASP:HB2	2.01	0.42
19:S2:454:U:H2'	19:S2:455:A:H8	1.84	0.42
19:S2:867:OMG:H3'	19:S2:868:G:H21	1.84	0.42
19:S2:895:G:C6	19:S2:896:U:H1'	2.53	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1051:G:H2'	19:S2:1052:A:H8	1.85	0.42
19:S2:1139:C:H2'	19:S2:1140:G:O4'	2.20	0.42
24:SF:153:LEU:HB3	24:SF:189:ALA:HA	2.01	0.42
37:At:27:U:H2'	37:At:28:U:C6	2.55	0.42
39:CI:63:ARG:HD2	39:CI:63:ARG:HA	1.85	0.42
40:L5:268:G:H2'	40:L5:269:G:H8	1.84	0.42
40:L5:454:U:H2'	40:L5:455:C:O4'	2.20	0.42
40:L5:907:C:H2'	40:L5:908:G:H8	1.85	0.42
40:L5:2323:C:H2'	40:L5:2324:C:C6	2.54	0.42
40:L5:2610:G:H2'	40:L5:2611:A:C8	2.55	0.42
40:L5:2864:A:H2'	40:L5:2865:U:C6	2.55	0.42
40:L5:3762:U:H3'	40:L5:3763:A:H8	1.85	0.42
40:L5:3832:U:H2'	40:L5:3833:C:C6	2.54	0.42
40:L5:3916:G:H2'	40:L5:3917:A:C8	2.55	0.42
40:L5:4680:G:H2'	40:L5:4681:A:C8	2.55	0.42
40:L5:4699:U:H1'	40:L5:4700:A:H5''	2.01	0.42
45:LC:315:LYS:HD2	48:LF:168:ALA:HB1	2.01	0.42
50:LH:27:VAL:HG12	50:LH:84:VAL:HG21	2.02	0.42
59:LS:157:ARG:HA	59:LS:157:ARG:HD2	1.86	0.42
78:Lm:127:VAL:HG23	78:Lm:128:LYS:HD3	2.01	0.42
81:Lp:61:MET:HE3	81:Lp:61:MET:HB3	1.87	0.42
4:SE:16:LYS:HD2	4:SE:16:LYS:HA	1.76	0.42
4:SE:18:TRP:CZ3	4:SE:29:PRO:HG2	2.55	0.42
6:SH:76:GLN:NE2	6:SH:94:PHE:HB2	2.35	0.42
10:SN:114:ARG:HA	10:SN:114:ARG:HD3	1.91	0.42
18:Se:25:LYS:HE2	18:Se:25:LYS:HB3	1.77	0.42
19:S2:323:C:H5'	19:S2:324:C:OP1	2.20	0.42
19:S2:352:U:H2'	19:S2:353:C:H6	1.82	0.42
19:S2:656:G:N2	19:S2:663:C:H5''	2.35	0.42
19:S2:1736:G:H2'	19:S2:1737:G:C8	2.55	0.42
31:SU:28:ASN:HD21	31:SU:31:SER:HB3	1.85	0.42
40:L5:676:C:H2'	40:L5:677:G:H8	1.85	0.42
40:L5:907:C:H2'	40:L5:908:G:C8	2.55	0.42
40:L5:1309:C:H2'	40:L5:1310:C:H6	1.84	0.42
40:L5:1992:U:H4'	40:L5:1993:C:H5''	2.02	0.42
40:L5:4543:G:H2'	40:L5:4544:A:C8	2.54	0.42
40:L5:4578:G:H2'	40:L5:4579:PSU:H6	1.85	0.42
40:L5:4585:U:H2'	40:L5:4586:G:H8	1.84	0.42
54:LM:100:ARG:HA	54:LM:103:LYS:HG2	2.01	0.42
64:LY:73:VAL:HA	64:LY:80:ILE:HG22	2.01	0.42
3:SC:256:TRP:NE1	13:SW:68:ARG:HB2	2.35	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SY:13:MET:HE1	15:SY:15:ASN:HB3	2.02	0.41
15:SY:54:VAL:HG22	15:SY:76:TYR:HB2	2.02	0.41
19:S2:215:G:H2'	19:S2:216:C:H6	1.84	0.41
19:S2:218:U:H2'	19:S2:219:U:C6	2.54	0.41
19:S2:323:C:H4'	19:S2:324:C:H5	1.85	0.41
19:S2:1230:C:H2'	19:S2:1231:C:C6	2.56	0.41
19:S2:1453:C:H2'	19:S2:1454:A:H4'	2.02	0.41
19:S2:1501:C:H2'	19:S2:1502:C:H6	1.85	0.41
21:LW:81:ALA:HB1	21:LW:86:SER:HA	2.01	0.41
22:SR:100:PRO:HG2	22:SR:122:PRO:HD3	2.01	0.41
36:Sg:301:GLY:HA2	36:Sg:307:VAL:HA	2.02	0.41
40:L5:2:G:H2'	40:L5:3:C:C6	2.55	0.41
40:L5:677:G:H2'	40:L5:678:C:H6	1.85	0.41
40:L5:1098:G:H2'	40:L5:1099:C:C6	2.55	0.41
40:L5:2674:A:N6	81:Lp:42:CYS:HA	2.35	0.41
40:L5:3722:G:H2'	40:L5:3723:A:H8	1.85	0.41
40:L5:4563:U:H2'	40:L5:4564:A:C8	2.54	0.41
76:Lk:60:LEU:HD23	76:Lk:60:LEU:HA	1.87	0.41
77:Ll:42:ARG:HG3	77:Ll:47:THR:HG23	2.01	0.41
1:SA:66:VAL:HG23	12:SV:37:ALA:HB3	2.02	0.41
6:SH:53:VAL:HG11	6:SH:172:THR:HA	2.02	0.41
6:SH:63:PHE:HA	6:SH:95:ILE:O	2.20	0.41
13:SW:32:LYS:HE3	13:SW:32:LYS:HB2	1.74	0.41
19:S2:107:A:H2'	19:S2:108:G:H8	1.85	0.41
22:SR:97:GLU:HB3	22:SR:120:THR:HG21	2.02	0.41
24:SF:22:LYS:HG3	24:SF:23:TRP:CD2	2.55	0.41
24:SF:47:LYS:HA	24:SF:47:LYS:HD3	1.89	0.41
27:SP:108:LYS:HG2	27:SP:111:MET:HG3	2.01	0.41
36:Sg:85:GLY:HA2	36:Sg:108:VAL:HG23	2.01	0.41
38:Pt:9:A:N3	38:Pt:45:G:H2'	2.35	0.41
40:L5:3727:A:H2'	40:L5:3728:A:C8	2.55	0.41
40:L5:3752:C:O2'	40:L5:3776:G:H1'	2.20	0.41
87:L5:5258:SPM:H32	60:LT:13:TYR:CD1	2.55	0.41
43:LA:133:TYR:HB3	43:LA:168:VAL:HG12	2.03	0.41
58:LQ:70:MET:HE1	58:LQ:137:VAL:HB	2.02	0.41
1:SA:10:MET:HG3	1:SA:55:TRP:CG	2.55	0.41
5:SG:192:ILE:HD11	19:S2:126:G:N2	2.35	0.41
6:SH:62:ILE:HD12	6:SH:94:PHE:HE1	1.84	0.41
9:SL:16:ILE:HD11	9:SL:36:TYR:H	1.85	0.41
19:S2:428:OMU:H6	19:S2:428:OMU:H2'	1.81	0.41
19:S2:550:C:H2'	19:S2:551:U:C6	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:575:A:H2'	19:S2:576:A2M:O4'	2.20	0.41
19:S2:1702:G:H2'	19:S2:1703:OMC:O4'	2.20	0.41
29:SS:89:ASP:HB2	29:SS:94:LYS:O	2.20	0.41
40:L5:518:G:N2	40:L5:643:C:H2'	2.35	0.41
40:L5:958:G:N2	47:LE:124:LYS:HB3	2.35	0.41
40:L5:1356:U:H2'	40:L5:1357:C:C6	2.55	0.41
40:L5:3867:A2M:HM'3	40:L5:3867:A2M:H1'	1.48	0.41
40:L5:4113:U:H4'	40:L5:4115:G:C5	2.56	0.41
42:L8:154:G:H2'	42:L8:155:C:C6	2.55	0.41
46:LD:61:ILE:HG12	46:LD:79:TYR:CD2	2.55	0.41
57:LP:140:MET:HE3	57:LP:140:MET:HB3	1.87	0.41
67:Lb:73:LYS:HD3	67:Lb:73:LYS:HA	1.74	0.41
70:Le:22:ARG:HB3	70:Le:25:SER:HB3	2.03	0.41
75:Lj:67:LEU:HD23	75:Lj:67:LEU:HA	1.80	0.41
7:SI:14:THR:HG21	19:S2:402:C:OP1	2.20	0.41
13:SW:52:ILE:HG12	13:SW:61:ILE:HG12	2.03	0.41
19:S2:811:A:H2'	19:S2:812:A:C8	2.55	0.41
19:S2:1447:G:H2'	19:S2:1448:A:H8	1.85	0.41
19:S2:1587:G:H21	30:ST:77:LYS:NZ	2.17	0.41
24:SF:121:PRO:HA	24:SF:193:LYS:HG3	2.02	0.41
27:SP:50:ARG:HB2	27:SP:53:GLN:OE1	2.21	0.41
32:SZ:58:LEU:O	32:SZ:62:VAL:HB	2.20	0.41
36:Sg:194:TYR:CZ	36:Sg:212:LYS:HB2	2.56	0.41
40:L5:6:C:H2'	40:L5:7:C:C6	2.56	0.41
40:L5:299:C:H2'	40:L5:300:A:H8	1.85	0.41
40:L5:1207:C:H2'	40:L5:1208:G:H8	1.85	0.41
40:L5:1359:G:H4'	55:LN:203:TYR:HB2	2.01	0.41
40:L5:1517:G:H22	45:LC:103:ALA:HA	1.84	0.41
40:L5:4605:A:H2'	40:L5:4606:G:O4'	2.21	0.41
42:L8:6:C:H2'	42:L8:7:U:C6	2.55	0.41
46:LD:223:PHE:O	46:LD:227:ILE:HG12	2.20	0.41
63:LX:114:LYS:HG2	63:LX:119:ILE:O	2.20	0.41
64:LY:2:LYS:HD2	64:LY:7:VAL:HG13	2.02	0.41
3:SC:246:LYS:HB3	3:SC:246:LYS:HE2	1.78	0.41
4:SE:79:ASP:HB3	4:SE:82:TYR:HB2	2.03	0.41
4:SE:198:ARG:HG3	4:SE:208:VAL:HG12	2.02	0.41
5:SG:38:ALA:O	5:SG:45:TRP:HB3	2.21	0.41
10:SN:20:ARG:NH2	19:S2:918:U:H4'	2.36	0.41
11:SO:28:PHE:HZ	16:Sa:58:VAL:HG21	1.86	0.41
13:SW:57:ARG:NH2	17:Sb:26:GLN:HB2	2.36	0.41
19:S2:484:A2M:HM'2	19:S2:485:A:C4	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1597:C:H3'	19:S2:1598:G:C8	2.53	0.41
23:SD:55:THR:HA	23:SD:58:VAL:HG22	2.02	0.41
28:SQ:90:LYS:HA	28:SQ:93:VAL:HG22	2.03	0.41
28:SQ:110:ASP:HA	28:SQ:113:ILE:HG22	2.01	0.41
34:Sd:11:PRO:HB3	34:Sd:13:LYS:NZ	2.36	0.41
40:L5:180:C:H2'	40:L5:181:C:C6	2.55	0.41
40:L5:480:C:H2'	40:L5:481:G:H8	1.86	0.41
40:L5:737:C:C4	40:L5:739:G:H5''	2.55	0.41
40:L5:908:G:H2'	40:L5:909:A:H8	1.86	0.41
40:L5:1962:A:H5'	40:L5:1963:C:H5	1.85	0.41
40:L5:2715:G:H2'	40:L5:2716:C:C6	2.55	0.41
40:L5:4961:G:H2'	40:L5:4962:C:C6	2.56	0.41
42:L8:148:A:H2'	42:L8:149:G:C8	2.54	0.41
1:SA:163:CYS:SG	1:SA:174:MET:HG3	2.60	0.41
4:SE:38:LEU:HD22	19:S2:346:C:H5''	2.02	0.41
5:SG:35:GLU:HG2	5:SG:51:ARG:HB2	2.03	0.41
7:SI:76:THR:HG21	7:SI:104:ILE:HD12	2.02	0.41
10:SN:55:ARG:HH22	17:Sb:51:GLN:NE2	2.19	0.41
10:SN:112:LYS:HE3	19:S2:1032:C:H5'	2.02	0.41
19:S2:140:C:H2'	19:S2:141:A:C8	2.55	0.41
19:S2:1143:A:H2'	19:S2:1144:A:C8	2.55	0.41
19:S2:1415:C:H2'	19:S2:1416:C:C6	2.55	0.41
23:SD:23:GLU:HG2	25:SK:64:TRP:HE1	1.86	0.41
34:Sd:23:VAL:HG11	34:Sd:46:TYR:HE2	1.85	0.41
36:Sg:11:LEU:HB3	36:Sg:43:TRP:CH2	2.55	0.41
37:At:40:C:H2'	37:At:41:G:H8	1.85	0.41
40:L5:1266:G:O6	67:Lb:91:ARG:HB2	2.21	0.41
40:L5:2422:OMC:H1'	40:L5:2422:OMC:HM23	1.85	0.41
40:L5:2437:C:H5'	63:LX:127:LEU:HB3	2.02	0.41
40:L5:2561:C:H3'	40:L5:2562:G:H8	1.85	0.41
40:L5:3825:A2M:HM'3	40:L5:3825:A2M:H1'	1.79	0.41
43:LA:109:GLU:OE1	43:LA:138:SER:HA	2.20	0.41
53:LL:64:VAL:HA	53:LL:67:HIS:HD2	1.79	0.41
56:LO:84:VAL:HG11	56:LO:102:LEU:HD22	2.03	0.41
57:LP:54:GLN:HA	57:LP:83:TRP:CD1	2.55	0.41
62:LV:48:ARG:HH11	62:LV:49:LEU:HB3	1.85	0.41
63:LX:64:SER:HB2	73:Lh:69:LEU:HD13	2.02	0.41
80:Lo:78:ARG:HA	80:Lo:78:ARG:HD2	1.89	0.41
3:SC:171:GLY:HA3	13:SW:97:ARG:HH12	1.85	0.41
8:SJ:136:ARG:NH1	8:SJ:158:ASP:HB3	2.36	0.41
10:SN:5:HIS:HE1	10:SN:120:SER:HB2	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:661:U:H3'	19:S2:662:G:H2'	2.02	0.41
23:SD:113:LEU:HD12	23:SD:114:ALA:H	1.86	0.41
36:Sg:164:ILE:HG21	36:Sg:221:LEU:HD12	2.02	0.41
40:L5:937:U:C6	54:LM:46:ARG:HD2	2.56	0.41
40:L5:2375:A:H2'	40:L5:2376:A:C8	2.56	0.41
40:L5:3861:A:H2'	40:L5:3862:A:C8	2.54	0.41
40:L5:4258:C:H2'	40:L5:4259:C:C6	2.55	0.41
40:L5:4344:U:H2'	40:L5:4345:C:C6	2.56	0.41
40:L5:4581:G:H5'	44:LB:28:LYS:HE2	2.03	0.41
40:L5:4870:G:H5''	54:LM:91:TRP:CD2	2.56	0.41
40:L5:4921:C:H2'	40:L5:4922:C:H6	1.85	0.41
52:LJ:169:LYS:HE3	52:LJ:170:TYR:CZ	2.55	0.41
68:Lc:60:ILE:HD13	68:Lc:93:THR:HG21	2.03	0.41
1:SA:9:GLN:HA	1:SA:55:TRP:HE1	1.85	0.41
4:SE:47:PHE:HA	4:SE:51:ARG:HG3	2.03	0.41
14:SX:46:HIS:CD2	14:SX:103:ALA:HB2	2.56	0.41
15:SY:19:GLN:HB3	15:SY:77:ASP:OD1	2.21	0.41
15:SY:91:LEU:HD23	15:SY:91:LEU:HA	1.90	0.41
19:S2:115:U:H2'	19:S2:116:OMU:H6	2.03	0.41
19:S2:959:G:H2'	19:S2:960:U:C6	2.56	0.41
22:SR:81:ARG:C	22:SR:83:ASN:N	2.79	0.41
23:SD:25:LEU:O	23:SD:29:LEU:HB2	2.21	0.41
40:L5:46:U:H5''	53:LL:16:LYS:HG3	2.01	0.41
40:L5:342:G:H2'	40:L5:343:C:C6	2.56	0.41
40:L5:444:G:H2'	40:L5:445:U:H6	1.85	0.41
40:L5:1081:C:O2'	40:L5:1082:C:H5'	2.21	0.41
40:L5:1539:G:H2'	40:L5:1540:C:H6	1.86	0.41
40:L5:1613:A:H5''	43:LA:183:GLY:CA	2.51	0.41
40:L5:1633:G:H5'	40:L5:1634:A:OP1	2.21	0.41
40:L5:1743:A:O4'	46:LD:15:ARG:HD2	2.21	0.41
40:L5:2046:G:C5	56:LO:60:LYS:HG2	2.56	0.41
40:L5:2621:A:H2'	40:L5:2622:G:C8	2.56	0.41
40:L5:3661:G:C4	43:LA:150:LEU:HD13	2.56	0.41
40:L5:3930:U:H3	40:L5:4180:G:H1	1.67	0.41
40:L5:4685:U:H2'	40:L5:4686:G:C8	2.56	0.41
42:L8:14:U:C4	42:L8:15:G:C6	3.09	0.41
43:LA:171:GLY:O	81:Lp:68:ALA:HB2	2.21	0.41
46:LD:68:ARG:HD3	46:LD:68:ARG:HA	1.86	0.41
74:Li:76:ARG:HD3	74:Li:76:ARG:HA	1.75	0.41
2:SB:34:LYS:HA	2:SB:34:LYS:HD3	1.80	0.41
3:SC:235:ASN:ND2	19:S2:13:C:H5'	2.36	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SH:79:LEU:HD21	6:SH:94:PHE:HE2	1.85	0.41
8:SJ:116:LYS:HE3	8:SJ:116:LYS:HB3	1.95	0.41
8:SJ:131:ARG:HD2	8:SJ:131:ARG:HA	1.88	0.41
10:SN:7:PRO:HG3	19:S2:996:A:H5''	2.03	0.41
15:SY:12:PHE:HD1	15:SY:23:MET:HE3	1.85	0.41
17:Sb:72:ARG:NH1	19:S2:1120:U:H5'	2.33	0.41
19:S2:645:C:H2'	19:S2:646:G:H8	1.86	0.41
19:S2:956:G:H2'	19:S2:957:A:C8	2.55	0.41
19:S2:1362:U:H5''	19:S2:1363:C:C5	2.47	0.41
19:S2:1415:C:H2'	19:S2:1416:C:H6	1.86	0.41
19:S2:1503:C:H2'	19:S2:1504:U:C6	2.56	0.41
19:S2:1523:C:H2'	19:S2:1524:G:C8	2.56	0.41
19:S2:1595:U:H2'	19:S2:1596:U:H6	1.86	0.41
26:SM:32:ALA:HB3	26:SM:110:VAL:HB	2.02	0.41
27:SP:28:MET:HE2	27:SP:33:LEU:HD23	2.03	0.41
27:SP:72:LYS:HA	27:SP:73:PRO:HD3	1.95	0.41
28:SQ:58:LEU:HD12	28:SQ:63:PHE:HZ	1.85	0.41
33:Sc:58:LEU:HD23	33:Sc:58:LEU:HA	1.88	0.41
35:Sf:103:LEU:HG	35:Sf:104:LYS:N	2.36	0.41
36:Sg:67:SER:HG	36:Sg:83:TRP:HD1	1.68	0.41
40:L5:180:C:H2'	40:L5:181:C:H6	1.86	0.41
40:L5:434:A:H3'	40:L5:435:A:H8	1.85	0.41
40:L5:490:C:H2'	40:L5:491:G:C8	2.56	0.41
40:L5:667:A:H5''	40:L5:668:C:H5''	2.02	0.41
40:L5:750:U:H1'	40:L5:917:A:C8	2.55	0.41
40:L5:1186:U:H2'	40:L5:1187:G:N3	2.35	0.41
40:L5:2021:G:OP1	83:Ls:57:LYS:HA	2.21	0.41
40:L5:2611:A:H2'	40:L5:2612:G:H8	1.85	0.41
40:L5:2624:G:H1	40:L5:2632:PSU:HN3	1.68	0.41
40:L5:3610:A:H2'	40:L5:3611:A:C8	2.56	0.41
40:L5:3656:A:H2'	40:L5:3657:U:C6	2.55	0.41
40:L5:3928:A:H2'	40:L5:3929:G:O4'	2.21	0.41
40:L5:4258:C:H2'	40:L5:4259:C:H6	1.86	0.41
40:L5:4599:A:N1	40:L5:4610:A:H5''	2.36	0.41
42:L8:75:OMG:H2'	42:L8:76:C:C6	2.56	0.41
43:LA:97:ASN:HB2	43:LA:100:ASN:ND2	2.36	0.41
43:LA:245:ARG:HA	43:LA:245:ARG:HD2	1.79	0.41
44:LB:27:GLY:HA2	44:LB:276:HIS:CD2	2.55	0.41
44:LB:238:LYS:HE2	44:LB:238:LYS:HB2	1.82	0.41
56:LO:74:ARG:HG2	56:LO:146:GLY:HA3	2.02	0.41
57:LP:3:ARG:HD2	57:LP:3:ARG:HA	1.84	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:LT:17:ARG:HB2	60:LT:22:HIS:CE1	2.56	0.41
61:LU:48:LYS:HG2	61:LU:53:ALA:HB2	2.02	0.41
73:Lh:105:LYS:HG2	73:Lh:108:GLN:HE21	1.86	0.41
12:SV:27:LYS:HA	12:SV:27:LYS:HD3	1.90	0.41
18:Se:12:VAL:HG21	19:S2:616:A:N3	2.36	0.41
19:S2:414:A:H2'	19:S2:415:A:C8	2.55	0.41
19:S2:569:A:H2'	19:S2:570:C:O4'	2.20	0.41
19:S2:666:U:H2'	19:S2:667:U:C6	2.56	0.41
19:S2:942:G:H2'	19:S2:943:U:C6	2.56	0.41
19:S2:1023:A:H2'	19:S2:1024:A:C8	2.55	0.41
19:S2:1588:A:H2'	19:S2:1589:A:C8	2.56	0.41
19:S2:1710:C:H2'	19:S2:1711:U:H6	1.86	0.41
36:Sg:87:LEU:HD21	36:Sg:122:SER:HB3	2.03	0.41
40:L5:10:A:H2'	40:L5:11:G:H8	1.85	0.41
40:L5:654:C:N3	40:L5:655:C:C4	2.88	0.41
40:L5:1176:C:H2'	40:L5:1177:U:H6	1.86	0.41
44:LB:231:VAL:HG21	44:LB:251:VAL:HG23	2.02	0.41
48:LF:184:ILE:HG23	48:LF:189:ASP:HB3	2.01	0.41
51:LI:48:LEU:HD22	51:LI:140:THR:HG22	2.03	0.41
55:LN:6:TYR:CZ	74:Li:40:VAL:HG22	2.55	0.41
56:LO:110:PRO:N	56:LO:111:PRO:HD2	2.35	0.41
57:LP:40:HIS:HE2	57:LP:111:SER:HA	1.85	0.41
2:SB:145:LYS:HE3	2:SB:145:LYS:HB2	1.86	0.40
9:SL:21:LYS:HE3	9:SL:23:VAL:HG11	2.03	0.40
19:S2:85:A:H2'	19:S2:86:C:C6	2.55	0.40
19:S2:398:A:H4'	19:S2:399:C:H5''	2.02	0.40
19:S2:527:C:H2'	19:S2:528:A:H8	1.83	0.40
19:S2:1311:C:H2'	19:S2:1312:G:C8	2.56	0.40
19:S2:1513:C:P	34:Sd:12:ARG:HH22	2.43	0.40
19:S2:1614:A:H2'	19:S2:1615:U:C6	2.57	0.40
19:S2:1631:U:H3'	19:S2:1632:G:H8	1.86	0.40
19:S2:1822:A:H2'	19:S2:1823:A:C8	2.55	0.40
23:SD:173:ARG:HD3	23:SD:173:ARG:HA	1.79	0.40
23:SD:222:PRO:HB3	36:Sg:190:GLY:HA3	2.03	0.40
24:SF:145:ARG:HH12	33:Sc:47:LYS:HE2	1.85	0.40
26:SM:91:LEU:HD23	26:SM:91:LEU:HA	1.94	0.40
38:Pt:53:G:H2'	38:Pt:54:U:H6	1.86	0.40
38:Pt:56:C:C4	80:Lo:104:ILE:HG21	2.56	0.40
40:L5:1942:A:N6	40:L5:2039:G:H2'	2.36	0.40
40:L5:2323:C:H2'	40:L5:2324:C:H6	1.86	0.40
40:L5:2610:G:H2'	40:L5:2611:A:H8	1.86	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3701:OMC:H5''	40:L5:3746:A:H61	1.86	0.40
40:L5:4130:C:H2'	40:L5:4131:G:H8	1.87	0.40
40:L5:4251:A:H2'	40:L5:4252:C:C6	2.56	0.40
42:L8:81:C:H5'	73:Lh:3:LYS:NZ	2.36	0.40
49:LG:242:LEU:HD23	49:LG:242:LEU:HA	1.89	0.40
70:Le:105:SER:O	70:Le:109:LYS:HG3	2.21	0.40
4:SE:43:PRO:HB2	4:SE:45:ILE:HG22	2.03	0.40
19:S2:35:C:H5''	19:S2:579:C:H5''	2.02	0.40
19:S2:750:C:N4	19:S2:793:G:H1'	2.36	0.40
19:S2:1266:C:H2'	19:S2:1267:C:H6	1.86	0.40
26:SM:117:GLU:HB3	26:SM:120:ALA:HB3	2.03	0.40
40:L5:275:C:H2'	40:L5:276:C:C6	2.56	0.40
40:L5:1088:C:H2'	40:L5:1089:G:C8	2.56	0.40
40:L5:1758:G:H2'	40:L5:1759:G:H8	1.86	0.40
40:L5:1866:U:H2'	40:L5:1867:A:O4'	2.21	0.40
40:L5:2267:U:C6	40:L5:2270:G:H4'	2.56	0.40
40:L5:2439:G:H5'	40:L5:2778:G:OP2	2.20	0.40
40:L5:3718:A2M:H2	40:L5:3934:G:C1'	2.52	0.40
40:L5:4460:U:H2'	40:L5:4461:C:C6	2.56	0.40
40:L5:4508:C:N3	40:L5:4512:U:H5	2.19	0.40
40:L5:4927:G:H5''	40:L5:4928:C:H5	1.85	0.40
44:LB:52:GLY:HA2	44:LB:341:LYS:HE3	2.03	0.40
44:LB:57:VAL:HG22	44:LB:73:VAL:HG12	2.02	0.40
56:LO:88:LEU:HD12	56:LO:99:LEU:HD13	2.02	0.40
68:Lc:42:LYS:HE3	68:Lc:42:LYS:HB3	1.84	0.40
80:Lo:44:LYS:HE3	80:Lo:52:THR:HB	2.03	0.40
1:SA:34:MET:HE3	1:SA:34:MET:HB3	1.97	0.40
3:SC:253:PRO:HA	3:SC:256:TRP:CD2	2.57	0.40
5:SG:74:ARG:HB3	5:SG:94:ARG:HG2	2.03	0.40
8:SJ:127:ARG:HD3	18:Se:31:ARG:HD3	2.03	0.40
12:SV:37:ALA:HB1	12:SV:46:PHE:CE1	2.56	0.40
18:Se:56:ASN:HB3	19:S2:606:G:H5''	2.03	0.40
19:S2:52:G:H2'	19:S2:53:C:H6	1.87	0.40
19:S2:570:C:H2'	19:S2:571:U:O4'	2.22	0.40
19:S2:608:C:H2'	19:S2:609:U:C6	2.56	0.40
19:S2:677:G:H21	19:S2:1028:A:H62	1.67	0.40
19:S2:1514:G:H2'	19:S2:1515:G:H8	1.86	0.40
19:S2:1593:C:H2'	19:S2:1594:A:C8	2.56	0.40
19:S2:1805:G:H2'	19:S2:1806:A:C8	2.56	0.40
23:SD:197:LYS:HA	23:SD:197:LYS:HD3	1.92	0.40
30:ST:45:LEU:HD12	30:ST:45:LEU:HA	1.89	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Pt:14:A:C2	38:Pt:15:G:H1'	2.57	0.40
40:L5:746:A:H2'	40:L5:747:A:C8	2.56	0.40
40:L5:1392:A:H2'	40:L5:1393:G:C8	2.55	0.40
42:L8:81:C:H2'	42:L8:83:C:OP2	2.21	0.40
43:LA:229:ALA:O	43:LA:234:LYS:HE3	2.22	0.40
45:LC:269:LYS:HA	45:LC:269:LYS:HD2	1.77	0.40
46:LD:61:ILE:HG12	46:LD:79:TYR:HD2	1.86	0.40
48:LF:31:LYS:HE2	48:LF:31:LYS:HB3	1.82	0.40
62:LV:90:ARG:NH2	62:LV:96:LEU:HD23	2.37	0.40
65:LZ:92:ASP:HB3	65:LZ:95:VAL:HB	2.02	0.40
73:Lh:70:ARG:HG2	73:Lh:83:LEU:HD22	2.03	0.40
75:Lj:28:HIS:CD2	75:Lj:31:LYS:HD3	2.56	0.40
82:Lr:95:HIS:O	82:Lr:99:LYS:HB2	2.22	0.40
9:SL:147:LYS:HE2	9:SL:147:LYS:HB2	1.96	0.40
13:SW:23:ARG:HD2	13:SW:23:ARG:HA	1.66	0.40
13:SW:107:SER:HA	19:S2:862:A:C8	2.56	0.40
19:S2:876:C:H2'	19:S2:877:C:C6	2.56	0.40
19:S2:1034:A:H3'	19:S2:1035:A:H8	1.86	0.40
19:S2:1199:A:H2'	19:S2:1200:A:H8	1.86	0.40
22:SR:76:GLU:HA	22:SR:79:GLU:HB3	2.03	0.40
24:SF:96:ALA:HA	24:SF:99:ILE:HD12	2.03	0.40
40:L5:221:C:H2'	40:L5:222:C:C6	2.56	0.40
40:L5:399:G:H2'	40:L5:400:A2M:H8	2.03	0.40
40:L5:425:U:H4'	57:LP:6:LEU:HD21	2.03	0.40
40:L5:1973:G:O2'	84:Lt:78:SER:HB2	2.21	0.40
40:L5:4208:U:H2'	40:L5:4209:G:C8	2.56	0.40
43:LA:130:SER:HB2	43:LA:171:GLY:HA3	2.02	0.40
70:Le:97:ALA:O	70:Le:122:VAL:HA	2.21	0.40
76:Lk:61:PRO:HA	76:Lk:62:PRO:HD3	1.95	0.40
82:Lr:82:ILE:HG23	82:Lr:84:LYS:NZ	2.36	0.40
4:SE:42:LEU:HD12	4:SE:101:LEU:HD11	2.04	0.40
7:SI:192:GLY:O	7:SI:196:GLU:HG3	2.21	0.40
13:SW:45:GLY:O	13:SW:68:ARG:HD2	2.21	0.40
13:SW:52:ILE:HG23	13:SW:61:ILE:HG12	2.04	0.40
17:Sb:33:MET:HB2	17:Sb:79:PHE:HB2	2.03	0.40
19:S2:448:A:H4'	19:S2:449:A:H5''	2.04	0.40
19:S2:1067:C:H3'	19:S2:1068:G:H8	1.85	0.40
19:S2:1805:G:H2'	19:S2:1806:A:H8	1.87	0.40
30:ST:38:LYS:HD2	30:ST:43:LYS:O	2.21	0.40
31:SU:93:SER:H	31:SU:97:ILE:HD11	1.86	0.40
40:L5:173:C:H2'	40:L5:174:C:C6	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:461:G:H2'	40:L5:462:G:H8	1.86	0.40
40:L5:677:G:H2'	40:L5:678:C:C6	2.56	0.40
40:L5:1960:A:N3	83:Ls:10:LYS:HB3	2.37	0.40
40:L5:2495:U:H2'	40:L5:2496:G:H8	1.84	0.40
40:L5:2751:G:H2'	40:L5:2752:G:H8	1.86	0.40
40:L5:2845:A:H61	40:L5:3843:C:H42	1.68	0.40
40:L5:3606:U:H2'	40:L5:3607:U:C6	2.56	0.40
40:L5:4406:U:C2	40:L5:4407:G:C8	3.10	0.40
40:L5:4749:C:H2'	40:L5:4750:G:O4'	2.21	0.40
44:LB:122:TRP:CH2	44:LB:127:LYS:HG2	2.57	0.40
46:LD:256:LYS:H	46:LD:256:LYS:HG2	1.71	0.40
48:LF:69:ILE:O	48:LF:73:ARG:HB2	2.21	0.40
51:LI:36:LEU:HD11	51:LI:69:ARG:HH11	1.86	0.40
60:LT:80:VAL:O	60:LT:83:LYS:HG2	2.21	0.40
62:LV:87:SER:HA	62:LV:97:TYR:HB3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	SA	219/221 (99%)	204 (93%)	15 (7%)	0	100	100
2	SB	212/214 (99%)	204 (96%)	8 (4%)	0	100	100
3	SC	218/222 (98%)	207 (95%)	11 (5%)	0	100	100
4	SE	260/262 (99%)	247 (95%)	13 (5%)	0	100	100
5	SG	235/237 (99%)	220 (94%)	15 (6%)	0	100	100
6	SH	182/186 (98%)	169 (93%)	13 (7%)	0	100	100
7	SI	204/206 (99%)	191 (94%)	13 (6%)	0	100	100
8	SJ	183/185 (99%)	174 (95%)	9 (5%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	SL	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
10	SN	148/150 (99%)	146 (99%)	2 (1%)	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%)	128 (92%)	11 (8%)	0	100	100
15	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
16	Sa	100/102 (98%)	93 (93%)	7 (7%)	0	100	100
17	Sb	81/83 (98%)	74 (91%)	7 (9%)	0	100	100
18	Se	56/58 (97%)	52 (93%)	4 (7%)	0	100	100
20	LR	185/187 (99%)	180 (97%)	5 (3%)	0	100	100
21	LW	112/118 (95%)	111 (99%)	1 (1%)	0	100	100
22	SR	133/135 (98%)	125 (94%)	7 (5%)	1 (1%)	16	38
23	SD	225/227 (99%)	220 (98%)	5 (2%)	0	100	100
24	SF	187/189 (99%)	180 (96%)	7 (4%)	0	100	100
25	SK	96/98 (98%)	89 (93%)	7 (7%)	0	100	100
26	SM	120/122 (98%)	109 (91%)	11 (9%)	0	100	100
27	SP	119/121 (98%)	117 (98%)	2 (2%)	0	100	100
28	SQ	142/144 (99%)	135 (95%)	7 (5%)	0	100	100
29	SS	143/145 (99%)	133 (93%)	10 (7%)	0	100	100
30	ST	141/143 (99%)	139 (99%)	2 (1%)	0	100	100
31	SU	102/104 (98%)	99 (97%)	3 (3%)	0	100	100
32	SZ	73/75 (97%)	68 (93%)	5 (7%)	0	100	100
33	Sc	62/64 (97%)	59 (95%)	3 (5%)	0	100	100
34	Sd	53/55 (96%)	52 (98%)	1 (2%)	0	100	100
35	Sf	65/67 (97%)	60 (92%)	5 (8%)	0	100	100
36	Sg	311/313 (99%)	290 (93%)	21 (7%)	0	100	100
39	CI	29/31 (94%)	29 (100%)	0	0	100	100
43	LA	246/248 (99%)	233 (95%)	13 (5%)	0	100	100
44	LB	400/402 (100%)	387 (97%)	13 (3%)	0	100	100
45	LC	366/368 (100%)	350 (96%)	16 (4%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	LD	291/293 (99%)	280 (96%)	11 (4%)	0	100	100
47	LE	236/250 (94%)	217 (92%)	19 (8%)	0	100	100
48	LF	223/225 (99%)	215 (96%)	8 (4%)	0	100	100
49	LG	239/241 (99%)	224 (94%)	15 (6%)	0	100	100
50	LH	188/190 (99%)	181 (96%)	7 (4%)	0	100	100
51	LI	211/213 (99%)	204 (97%)	7 (3%)	0	100	100
52	LJ	168/176 (96%)	161 (96%)	7 (4%)	0	100	100
53	LL	208/210 (99%)	202 (97%)	6 (3%)	0	100	100
54	LM	137/139 (99%)	132 (96%)	5 (4%)	0	100	100
55	LN	201/203 (99%)	198 (98%)	3 (2%)	0	100	100
56	LO	199/201 (99%)	198 (100%)	1 (0%)	0	100	100
57	LP	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
58	LQ	185/187 (99%)	178 (96%)	7 (4%)	0	100	100
59	LS	173/175 (99%)	163 (94%)	10 (6%)	0	100	100
60	LT	157/159 (99%)	151 (96%)	6 (4%)	0	100	100
61	LU	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
62	LV	129/131 (98%)	121 (94%)	8 (6%)	0	100	100
63	LX	118/120 (98%)	114 (97%)	4 (3%)	0	100	100
64	LY	132/134 (98%)	127 (96%)	5 (4%)	0	100	100
65	LZ	133/135 (98%)	126 (95%)	7 (5%)	0	100	100
66	La	145/147 (99%)	138 (95%)	7 (5%)	0	100	100
67	Lb	105/109 (96%)	100 (95%)	5 (5%)	0	100	100
68	Lc	96/98 (98%)	92 (96%)	4 (4%)	0	100	100
69	Ld	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
70	Le	126/128 (98%)	125 (99%)	1 (1%)	0	100	100
71	Lf	107/109 (98%)	107 (100%)	0	0	100	100
72	Lg	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
73	Lh	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
74	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
75	Lj	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
76	Lk	67/69 (97%)	64 (96%)	3 (4%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
77	Ll	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
78	Lm	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
79	Ln	22/24 (92%)	22 (100%)	0	0	100	100
80	Lo	103/105 (98%)	101 (98%)	2 (2%)	0	100	100
81	Lp	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
82	Lr	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
83	Ls	194/196 (99%)	178 (92%)	16 (8%)	0	100	100
84	Lt	128/141 (91%)	109 (85%)	19 (15%)	0	100	100
All	All	11672/11870 (98%)	11145 (96%)	526 (4%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
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
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

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	113 (100%)	0	100	100
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%)	164 (99%)	2 (1%)	67	81
21	LW	95/97 (98%)	95 (100%)	0	100	100
22	SR	122/122 (100%)	120 (98%)	2 (2%)	58	77
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%)	125 (99%)	1 (1%)	79	87
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
35	Sf	60/60 (100%)	60 (100%)	0	100	100
36	Sg	272/272 (100%)	272 (100%)	0	100	100
39	CI	25/25 (100%)	25 (100%)	0	100	100
43	LA	190/190 (100%)	190 (100%)	0	100	100
44	LB	348/348 (100%)	348 (100%)	0	100	100
45	LC	306/306 (100%)	306 (100%)	0	100	100
46	LD	246/247 (100%)	246 (100%)	0	100	100
47	LE	212/222 (96%)	212 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	LF	194/194 (100%)	194 (100%)	0	100	100
49	LG	203/205 (99%)	203 (100%)	0	100	100
50	LH	169/169 (100%)	169 (100%)	0	100	100
51	LI	180/180 (100%)	180 (100%)	0	100	100
52	LJ	143/148 (97%)	142 (99%)	1 (1%)	81	89
53	LL	176/176 (100%)	176 (100%)	0	100	100
54	LM	118/118 (100%)	118 (100%)	0	100	100
55	LN	171/171 (100%)	171 (100%)	0	100	100
56	LO	173/173 (100%)	173 (100%)	0	100	100
57	LP	134/134 (100%)	134 (100%)	0	100	100
58	LQ	164/164 (100%)	164 (100%)	0	100	100
59	LS	156/156 (100%)	156 (100%)	0	100	100
60	LT	139/139 (100%)	139 (100%)	0	100	100
61	LU	91/91 (100%)	91 (100%)	0	100	100
62	LV	101/101 (100%)	101 (100%)	0	100	100
63	LX	108/108 (100%)	108 (100%)	0	100	100
64	LY	124/124 (100%)	124 (100%)	0	100	100
65	LZ	117/117 (100%)	117 (100%)	0	100	100
66	La	120/120 (100%)	120 (100%)	0	100	100
67	Lb	88/90 (98%)	88 (100%)	0	100	100
68	Lc	83/83 (100%)	83 (100%)	0	100	100
69	Ld	98/98 (100%)	98 (100%)	0	100	100
70	Le	114/114 (100%)	114 (100%)	0	100	100
71	Lf	88/88 (100%)	88 (100%)	0	100	100
72	Lg	98/98 (100%)	98 (100%)	0	100	100
73	Lh	109/109 (100%)	109 (100%)	0	100	100
74	Li	86/86 (100%)	86 (100%)	0	100	100
75	Lj	73/73 (100%)	73 (100%)	0	100	100
76	Lk	64/64 (100%)	64 (100%)	0	100	100
77	Ll	47/47 (100%)	47 (100%)	0	100	100
78	Lm	48/48 (100%)	48 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
79	Ln	23/23 (100%)	23 (100%)	0	100	100
80	Lo	93/93 (100%)	93 (100%)	0	100	100
81	Lp	74/74 (100%)	74 (100%)	0	100	100
82	Lr	109/109 (100%)	109 (100%)	0	100	100
83	Ls	162/164 (99%)	162 (100%)	0	100	100
84	Lt	107/115 (93%)	107 (100%)	0	100	100
All	All	10147/10186 (100%)	10141 (100%)	6 (0%)	92	96

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
20	LR	137	ILE
20	LR	139	MET
22	SR	79	GLU
22	SR	80	ARG
29	SS	50	ILE
52	LJ	104	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (98) such sidechains are listed below:

Mol	Chain	Res	Type
1	SA	141	ASN
2	SB	149	GLN
3	SC	136	HIS
3	SC	235	ASN
4	SE	67	GLN
4	SE	138	HIS
5	SG	4	ASN
5	SG	110	ASN
6	SH	44	ASN
6	SH	126	HIS
7	SI	7	ASN
7	SI	52	ASN
7	SI	146	GLN
9	SL	100	ASN
10	SN	36	GLN
13	SW	90	GLN
13	SW	91	ASN
14	SX	26	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
15	SY	2	ASN
15	SY	19	GLN
16	Sa	7	ASN
16	Sa	43	ASN
17	Sb	9	HIS
18	Se	58	ASN
20	LR	118	HIS
21	LW	17	HIS
21	LW	48	GLN
22	SR	74	GLN
22	SR	83	ASN
22	SR	116	ASN
24	SF	79	HIS
24	SF	114	ASN
24	SF	137	GLN
24	SF	179	ASN
26	SM	19	GLN
26	SM	119	GLN
28	SQ	24	HIS
29	SS	72	GLN
29	SS	135	HIS
30	ST	42	HIS
34	Sd	26	ASN
36	Sg	4	GLN
36	Sg	56	GLN
36	Sg	76	GLN
36	Sg	222	ASN
44	LB	68	ASN
44	LB	301	ASN
45	LC	38	ASN
45	LC	112	HIS
45	LC	198	ASN
45	LC	215	ASN
45	LC	362	GLN
46	LD	122	GLN
46	LD	131	ASN
46	LD	195	HIS
46	LD	250	ASN
47	LE	266	GLN
49	LG	90	GLN
49	LG	94	GLN
49	LG	112	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
50	LH	39	ASN
50	LH	98	HIS
50	LH	138	GLN
50	LH	156	ASN
52	LJ	104	ASN
53	LL	19	GLN
54	LM	34	ASN
55	LN	32	GLN
55	LN	145	ASN
57	LP	25	HIS
57	LP	34	GLN
57	LP	116	HIS
57	LP	118	GLN
57	LP	133	HIS
59	LS	23	HIS
60	LT	22	HIS
60	LT	90	ASN
60	LT	144	ASN
63	LX	111	GLN
64	LY	14	ASN
64	LY	40	GLN
64	LY	72	GLN
66	La	17	HIS
66	La	34	ASN
66	La	67	GLN
67	Lb	6	ASN
70	Le	23	HIS
70	Le	52	GLN
70	Le	107	ASN
71	Lf	20	ASN
71	Lf	21	GLN
72	Lg	100	GLN
74	Li	15	HIS
75	Lj	66	HIS
80	Lo	105	GLN
83	Ls	127	ASN
83	Ls	190	GLN
84	Lt	66	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
19	S2	1715/1740 (98%)	428 (24%)	5 (0%)
37	At	69/71 (97%)	15 (21%)	0
38	Pt	72/74 (97%)	15 (20%)	0
40	L5	3643/3655 (99%)	829 (22%)	14 (0%)
41	L7	119/120 (99%)	13 (10%)	0
42	L8	155/156 (99%)	28 (18%)	0
All	All	5773/5816 (99%)	1328 (23%)	19 (0%)

All (1328) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
19	S2	14	C
19	S2	25	A
19	S2	33	G
19	S2	41	G
19	S2	42	A
19	S2	44	U
19	S2	45	A
19	S2	46	A
19	S2	56	G
19	S2	59	U
19	S2	62	G
19	S2	65	C
19	S2	67	C
19	S2	68	A
19	S2	71	G
19	S2	72	C
19	S2	73	C
19	S2	74	G
19	S2	76	U
19	S2	82	G
19	S2	92	A
19	S2	103	A
19	S2	113	G
19	S2	114	G
19	S2	115	U
19	S2	130	G
19	S2	140	C
19	S2	142	C
19	S2	143	U
19	S2	149	A
19	S2	155	G
19	S2	158	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	160	U
19	S2	162	C
19	S2	164	A
19	S2	170	A
19	S2	175	A
19	S2	179	C
19	S2	182	C
19	S2	184	G
19	S2	190	G
19	S2	196	C
19	S2	198	U
19	S2	199	C
19	S2	200	G
19	S2	203	G
19	S2	204	G
19	S2	208	G
19	S2	214	U
19	S2	288	G
19	S2	289	G
19	S2	291	G
19	S2	292	A
19	S2	295	C
19	S2	302	A
19	S2	303	C
19	S2	306	C
19	S2	307	G
19	S2	308	G
19	S2	309	G
19	S2	311	C
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	328	U
19	S2	329	G
19	S2	332	G
19	S2	333	G
19	S2	340	C
19	S2	347	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	351	G
19	S2	360	A
19	S2	361	U
19	S2	362	C
19	S2	364	A
19	S2	368	U
19	S2	370	G
19	S2	383	G
19	S2	385	G
19	S2	386	C
19	S2	407	G
19	S2	408	A
19	S2	409	C
19	S2	436	OMG
19	S2	438	G
19	S2	448	A
19	S2	449	A
19	S2	450	C
19	S2	452	G
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
19	S2	487	U
19	S2	488	U
19	S2	492	C
19	S2	493	A
19	S2	496	C
19	S2	500	A
19	S2	502	C
19	S2	516	A
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	546	G
19	S2	547	G
19	S2	554	A
19	S2	557	U
19	S2	558	G
19	S2	563	G
19	S2	564	A
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	600	G
19	S2	604	A
19	S2	607	U
19	S2	614	C
19	S2	617	G
19	S2	623	G
19	S2	631	U
19	S2	643	A
19	S2	644	OMG
19	S2	655	A
19	S2	660	C
19	S2	663	C
19	S2	664	A
19	S2	668	A2M
19	S2	669	A
19	S2	670	A
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	690	G
19	S2	692	G
19	S2	693	A
19	S2	695	C
19	S2	696	G
19	S2	697	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	698	G
19	S2	732	U
19	S2	733	C
19	S2	734	C
19	S2	735	C
19	S2	736	C
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	791	C
19	S2	792	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	841	G
19	S2	842	C
19	S2	844	U
19	S2	847	A
19	S2	860	G
19	S2	862	A
19	S2	863	PSU
19	S2	864	A
19	S2	867	OMG
19	S2	870	A
19	S2	871	U
19	S2	874	G
19	S2	877	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	878	G
19	S2	888	U
19	S2	889	U
19	S2	891	G
19	S2	894	G
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	918	U
19	S2	919	A
19	S2	920	A
19	S2	922	A
19	S2	930	C
19	S2	933	G
19	S2	934	G
19	S2	954	U
19	S2	955	A
19	S2	956	G
19	S2	963	A
19	S2	970	G
19	S2	971	G
19	S2	978	G
19	S2	985	G
19	S2	990	A
19	S2	992	A
19	S2	997	A
19	S2	999	G
19	S2	1001	A
19	S2	1002	U
19	S2	1008	A
19	S2	1017	U
19	S2	1023	A
19	S2	1027	A
19	S2	1029	G
19	S2	1030	A
19	S2	1033	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1045	PSU
19	S2	1060	A
19	S2	1061	U
19	S2	1062	A
19	S2	1067	C
19	S2	1083	A
19	S2	1085	C
19	S2	1107	G
19	S2	1108	G
19	S2	1109	C
19	S2	1113	A
19	S2	1116	C
19	S2	1118	C
19	S2	1119	A
19	S2	1121	G
19	S2	1126	G
19	S2	1133	A
19	S2	1138	C
19	S2	1139	C
19	S2	1153	C
19	S2	1154	U
19	S2	1166	G
19	S2	1195	A
19	S2	1207	G
19	S2	1208	A
19	S2	1212	G
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	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1272	OMC
19	S2	1274	G
19	S2	1275	G
19	S2	1281	G
19	S2	1282	A
19	S2	1283	C
19	S2	1284	A
19	S2	1285	G
19	S2	1286	G
19	S2	1288	OMU
19	S2	1293	A
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	1364	U
19	S2	1371	U
19	S2	1372	U
19	S2	1373	C
19	S2	1375	G
19	S2	1376	A
19	S2	1378	A
19	S2	1401	A
19	S2	1402	A
19	S2	1404	U
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	1462	U
19	S2	1463	U
19	S2	1466	G
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	1522	A
19	S2	1531	A
19	S2	1533	A
19	S2	1534	C
19	S2	1544	C
19	S2	1546	G
19	S2	1547	C
19	S2	1552	G
19	S2	1553	C
19	S2	1555	U
19	S2	1558	C
19	S2	1574	C
19	S2	1580	A
19	S2	1581	C
19	S2	1584	G
19	S2	1585	U
19	S2	1587	G
19	S2	1588	A
19	S2	1598	G
19	S2	1600	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1604	G
19	S2	1606	G
19	S2	1614	A
19	S2	1621	U
19	S2	1623	A
19	S2	1631	U
19	S2	1633	A
19	S2	1634	A
19	S2	1637	A
19	S2	1646	C
19	S2	1648	G
19	S2	1654	G
19	S2	1662	U
19	S2	1663	A
19	S2	1665	G
19	S2	1680	G
19	S2	1683	C
19	S2	1686	G
19	S2	1695	A
19	S2	1698	C
19	S2	1699	A
19	S2	1700	C
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	1748	G
19	S2	1752	C
19	S2	1753	C
19	S2	1754	G
19	S2	1755	C
19	S2	1756	C
19	S2	1757	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	1780	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1782	G
19	S2	1783	C
19	S2	1784	G
19	S2	1786	U
19	S2	1798	C
19	S2	1810	U
19	S2	1820	G
19	S2	1824	A
19	S2	1829	G
19	S2	1835	A
19	S2	1838	U
19	S2	1849	G
19	S2	1851	MA6
19	S2	1852	C
19	S2	1861	G
19	S2	1862	G
19	S2	1863	A
19	S2	1865	C
37	At	9	A
37	At	13	U
37	At	14	A
37	At	21	A
37	At	26	G
37	At	36	C
37	At	46	G
37	At	47	U
37	At	48	C
37	At	49	C
37	At	58	A
37	At	63	G
37	At	64	G
37	At	67	G
37	At	70	A
38	Pt	9	A
38	Pt	13	U
38	Pt	19	G
38	Pt	20(A)	U
38	Pt	21	A
38	Pt	45	G
38	Pt	46	G
38	Pt	47	U
38	Pt	48	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
38	Pt	49	C
38	Pt	58	A
38	Pt	61	C
38	Pt	67	G
38	Pt	71	A
38	Pt	74	C
40	L5	25	A
40	L5	30	C
40	L5	39	A
40	L5	42	A
40	L5	48	G
40	L5	56	A
40	L5	59	A
40	L5	64	A
40	L5	65	A
40	L5	73	A
40	L5	91	G
40	L5	108	A
40	L5	109	G
40	L5	110	C
40	L5	115	C
40	L5	119	G
40	L5	120	A
40	L5	122	U
40	L5	128	C
40	L5	132	G
40	L5	133	C
40	L5	134	G
40	L5	135	G
40	L5	151	G
40	L5	159	C
40	L5	164	G
40	L5	165	A
40	L5	173	C
40	L5	175	C
40	L5	176	G
40	L5	182	G
40	L5	183	C
40	L5	184	U
40	L5	185	C
40	L5	186	G
40	L5	188	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	189	G
40	L5	200	U
40	L5	209	U
40	L5	216	C
40	L5	218	A
40	L5	220	C
40	L5	233	U
40	L5	234	G
40	L5	255	C
40	L5	256	G
40	L5	260	C
40	L5	261	G
40	L5	264	C
40	L5	265	C
40	L5	266	C
40	L5	267	G
40	L5	275	C
40	L5	276	C
40	L5	280	G
40	L5	297	U
40	L5	306	A
40	L5	315	G
40	L5	316	U
40	L5	340	C
40	L5	362	A
40	L5	373	G
40	L5	385	A
40	L5	387	G
40	L5	388	A
40	L5	396	A
40	L5	398	A2M
40	L5	407	A
40	L5	409	G
40	L5	410	A
40	L5	411	G
40	L5	412	G
40	L5	413	G
40	L5	414	C
40	L5	415	G
40	L5	431	G
40	L5	432	U
40	L5	440	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	449	C
40	L5	452	A
40	L5	453	G
40	L5	454	U
40	L5	456	C
40	L5	457	G
40	L5	467	U
40	L5	485	C
40	L5	486	C
40	L5	489	C
40	L5	493	G
40	L5	494	U
40	L5	497	G
40	L5	498	C
40	L5	500	G
40	L5	501	C
40	L5	502	C
40	L5	503	C
40	L5	504	G
40	L5	505	G
40	L5	509	A
40	L5	510	U
40	L5	512	U
40	L5	513	U
40	L5	514	U
40	L5	516	C
40	L5	517	C
40	L5	518	G
40	L5	519	C
40	L5	643	C
40	L5	645	G
40	L5	646	G
40	L5	654	C
40	L5	655	C
40	L5	656	C
40	L5	657	C
40	L5	659	G
40	L5	666	G
40	L5	667	A
40	L5	668	C
40	L5	669	C
40	L5	673	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	674	G
40	L5	683	C
40	L5	686	A
40	L5	687	U
40	L5	696	C
40	L5	704	C
40	L5	708	G
40	L5	730	G
40	L5	731	G
40	L5	738	C
40	L5	739	G
40	L5	742	G
40	L5	746	A
40	L5	758	G
40	L5	759	G
40	L5	760	G
40	L5	904	C
40	L5	905	C
40	L5	910	G
40	L5	913	U
40	L5	914	U
40	L5	915	A
40	L5	917	A
40	L5	923	C
40	L5	924	C
40	L5	926	G
40	L5	932	A
40	L5	933	G
40	L5	936	C
40	L5	937	U
40	L5	941	C
40	L5	943	A
40	L5	945	U
40	L5	946	C
40	L5	956	A
40	L5	957	G
40	L5	958	G
40	L5	959	G
40	L5	960	A
40	L5	961	G
40	L5	962	C
40	L5	965	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	966	A
40	L5	967	C
40	L5	969	C
40	L5	970	G
40	L5	982	U
40	L5	985	C
40	L5	1070	G
40	L5	1071	C
40	L5	1072	C
40	L5	1075	G
40	L5	1076	C
40	L5	1082	C
40	L5	1083	U
40	L5	1095	A
40	L5	1168	G
40	L5	1169	G
40	L5	1171	G
40	L5	1172	C
40	L5	1173	G
40	L5	1179	U
40	L5	1180	C
40	L5	1181	C
40	L5	1182	C
40	L5	1183	C
40	L5	1187	G
40	L5	1200	G
40	L5	1202	C
40	L5	1203	G
40	L5	1210	C
40	L5	1211	G
40	L5	1214	C
40	L5	1215	C
40	L5	1218	G
40	L5	1219	G
40	L5	1221	G
40	L5	1222	A
40	L5	1240	G
40	L5	1246	G
40	L5	1247	U
40	L5	1253	G
40	L5	1254	A
40	L5	1256	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1257	A
40	L5	1258	G
40	L5	1262	G
40	L5	1266	G
40	L5	1267	C
40	L5	1269	G
40	L5	1270	A
40	L5	1271	G
40	L5	1272	C
40	L5	1273	G
40	L5	1275	G
40	L5	1277	G
40	L5	1278	C
40	L5	1280	C
40	L5	1284	G
40	L5	1285	U
40	L5	1287	G
40	L5	1293	G
40	L5	1294	A
40	L5	1295	C
40	L5	1296	G
40	L5	1301	C
40	L5	1302	U
40	L5	1312	A
40	L5	1313	C
40	L5	1314	C
40	L5	1326	A2M
40	L5	1337	A
40	L5	1354	A
40	L5	1359	G
40	L5	1365	C
40	L5	1366	G
40	L5	1367	C
40	L5	1370	G
40	L5	1379	C
40	L5	1387	A
40	L5	1394	G
40	L5	1397	A
40	L5	1398	A
40	L5	1404	G
40	L5	1405	C
40	L5	1407	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1408	G
40	L5	1409	C
40	L5	1410	U
40	L5	1411	C
40	L5	1413	C
40	L5	1415	G
40	L5	1416	G
40	L5	1417	C
40	L5	1418	C
40	L5	1420	A
40	L5	1421	G
40	L5	1437	C
40	L5	1439	C
40	L5	1442	C
40	L5	1443	A
40	L5	1444	G
40	L5	1446	C
40	L5	1447	C
40	L5	1452	A
40	L5	1482	G
40	L5	1483	C
40	L5	1497	A
40	L5	1498	G
40	L5	1502	G
40	L5	1504	G
40	L5	1516	G
40	L5	1517	G
40	L5	1534	A2M
40	L5	1535	C
40	L5	1536	PSU
40	L5	1537	A
40	L5	1547	A
40	L5	1563	A
40	L5	1566	C
40	L5	1574	G
40	L5	1578	U
40	L5	1586	G
40	L5	1591	U
40	L5	1596	U
40	L5	1612	G
40	L5	1624	G
40	L5	1625	OMG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1626	G
40	L5	1631	A
40	L5	1633	G
40	L5	1634	A
40	L5	1637	A
40	L5	1638	A
40	L5	1640	C
40	L5	1641	G
40	L5	1642	A
40	L5	1654	G
40	L5	1661	C
40	L5	1676	C
40	L5	1677	PSU
40	L5	1694	C
40	L5	1697	G
40	L5	1699	A
40	L5	1700	G
40	L5	1701	A
40	L5	1702	C
40	L5	1703	C
40	L5	1704	C
40	L5	1705	G
40	L5	1706	A
40	L5	1717	C
40	L5	1718	C
40	L5	1719	A
40	L5	1733	G
40	L5	1741	G
40	L5	1742	A
40	L5	1750	G
40	L5	1757	U
40	L5	1758	G
40	L5	1760	G
40	L5	1761	G
40	L5	1762	C
40	L5	1763	C
40	L5	1764	G
40	L5	1765	A
40	L5	1766	A
40	L5	1767	A
40	L5	1768	C
40	L5	1770	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1772	C
40	L5	1787	A
40	L5	1797	G
40	L5	1803	G
40	L5	1804	A
40	L5	1806	G
40	L5	1810	G
40	L5	1815	G
40	L5	1820	C
40	L5	1821	G
40	L5	1822	U
40	L5	1833	G
40	L5	1834	U
40	L5	1836	G
40	L5	1837	A
40	L5	1842	G
40	L5	1855	G
40	L5	1869	G
40	L5	1882	U
40	L5	1892	A
40	L5	1897	A
40	L5	1916	G
40	L5	1917	A
40	L5	1918	U
40	L5	1919	G
40	L5	1920	C
40	L5	1921	C
40	L5	1922	G
40	L5	1925	G
40	L5	1931	C
40	L5	1932	A
40	L5	1936	C
40	L5	1948	G
40	L5	1961	G
40	L5	1962	A
40	L5	1971	C
40	L5	1972	G
40	L5	1974	U
40	L5	1975	G
40	L5	1976	G
40	L5	1978	C
40	L5	1980	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1981	G
40	L5	1982	G
40	L5	1984	A
40	L5	1985	G
40	L5	1986	U
40	L5	1990	A
40	L5	1991	A
40	L5	1992	U
40	L5	1993	C
40	L5	1995	G
40	L5	1997	U
40	L5	1998	A
40	L5	1999	A
40	L5	2000	G
40	L5	2001	G
40	L5	2002	A
40	L5	2003	G
40	L5	2004	U
40	L5	2005	G
40	L5	2011	C
40	L5	2016	C
40	L5	2017	A
40	L5	2018	C
40	L5	2024	G
40	L5	2025	A
40	L5	2026	A
40	L5	2034	G
40	L5	2046	G
40	L5	2048	U
40	L5	2055	G
40	L5	2056	G
40	L5	2069	A
40	L5	2072	C
40	L5	2084	C
40	L5	2090	U
40	L5	2092	G
40	L5	2093	A
40	L5	2095	A
40	L5	2096	G
40	L5	2097	U
40	L5	2098	G
40	L5	2101	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	2102	G
40	L5	2103	G
40	L5	2104	G
40	L5	2106	G
40	L5	2107	C
40	L5	2110	C
40	L5	2112	G
40	L5	2250	C
40	L5	2252	G
40	L5	2253	A
40	L5	2256	C
40	L5	2258	C
40	L5	2259	G
40	L5	2260	C
40	L5	2269	C
40	L5	2289	C
40	L5	2300	A
40	L5	2301	G
40	L5	2310	C
40	L5	2313	A
40	L5	2331	G
40	L5	2332	A
40	L5	2333	G
40	L5	2345	G
40	L5	2348	G
40	L5	2351	OMC
40	L5	2360	A
40	L5	2364	OMG
40	L5	2382	A
40	L5	2383	C
40	L5	2389	A
40	L5	2395	A
40	L5	2397	G
40	L5	2398	U
40	L5	2401	A2M
40	L5	2402	G
40	L5	2408	U
40	L5	2411	C
40	L5	2412	A
40	L5	2417	A
40	L5	2425	U
40	L5	2450	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	2453	A
40	L5	2464	C
40	L5	2465	C
40	L5	2469	C
40	L5	2470	C
40	L5	2471	G
40	L5	2474	G
40	L5	2475	G
40	L5	2478	C
40	L5	2479	G
40	L5	2480	G
40	L5	2483	G
40	L5	2484	A
40	L5	2485	U
40	L5	2487	G
40	L5	2488	C
40	L5	2489	C
40	L5	2490	U
40	L5	2491	C
40	L5	2494	U
40	L5	2504	C
40	L5	2505	C
40	L5	2506	G
40	L5	2513	A
40	L5	2519	U
40	L5	2537	A
40	L5	2544	G
40	L5	2546	G
40	L5	2547	G
40	L5	2554	U
40	L5	2555	G
40	L5	2559	G
40	L5	2560	C
40	L5	2565	A
40	L5	2573	A
40	L5	2583	C
40	L5	2586	G
40	L5	2587	A
40	L5	2589	C
40	L5	2606	G
40	L5	2618	G
40	L5	2653	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	2658	G
40	L5	2662	G
40	L5	2669	C
40	L5	2675	G
40	L5	2676	A
40	L5	2687	U
40	L5	2694	G
40	L5	2695	A
40	L5	2696	A
40	L5	2702	C
40	L5	2703	G
40	L5	2706	G
40	L5	2708	U
40	L5	2709	C
40	L5	2710	C
40	L5	2711	G
40	L5	2719	C
40	L5	2721	G
40	L5	2724	G
40	L5	2726	G
40	L5	2739	C
40	L5	2742	G
40	L5	2743	A
40	L5	2746	A
40	L5	2761	U
40	L5	2763	U
40	L5	2769	U
40	L5	2770	C
40	L5	2788	U
40	L5	2790	U
40	L5	2806	A
40	L5	2814	C
40	L5	2815	A2M
40	L5	2826	U
40	L5	2827	G
40	L5	2828	U
40	L5	2829	U
40	L5	2838	G
40	L5	2842	G
40	L5	2848	G
40	L5	2855	G
40	L5	2867	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	2876	OMG
40	L5	2877	G
40	L5	2892	C
40	L5	2894	A
40	L5	2899	C
40	L5	2900	U
40	L5	2902	G
40	L5	2903	G
40	L5	2904	U
40	L5	2905	C
40	L5	2907	G
40	L5	2908	U
40	L5	3590	G
40	L5	3591	C
40	L5	3592	G
40	L5	3594	C
40	L5	3595	U
40	L5	3596	A
40	L5	3597	G
40	L5	3599	A
40	L5	3605	C
40	L5	3615	G
40	L5	3616	U
40	L5	3617	G
40	L5	3619	G
40	L5	3626	G
40	L5	3635	A
40	L5	3644	U
40	L5	3646	A
40	L5	3648	A
40	L5	3662	A
40	L5	3664	G
40	L5	3670	C
40	L5	3673	C
40	L5	3674	G
40	L5	3696	C
40	L5	3701	OMC
40	L5	3710	G
40	L5	3711	A
40	L5	3713	U
40	L5	3726	A
40	L5	3727	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	3729	U
40	L5	3748	A
40	L5	3753	G
40	L5	3760	A
40	L5	3761	C
40	L5	3764	U
40	L5	3770	U
40	L5	3774	A
40	L5	3775	A
40	L5	3776	G
40	L5	3777	G
40	L5	3785	A2M
40	L5	3786	U
40	L5	3791	C
40	L5	3792	OMG
40	L5	3811	G
40	L5	3814	U
40	L5	3817	A
40	L5	3819	G
40	L5	3824	A
40	L5	3838	U
40	L5	3839	G
40	L5	3840	U
40	L5	3867	A2M
40	L5	3876	A
40	L5	3877	A
40	L5	3878	C
40	L5	3879	G
40	L5	3880	G
40	L5	3881	G
40	L5	3885	G
40	L5	3890	A
40	L5	3892	U
40	L5	3897	G
40	L5	3901	A
40	L5	3906	A
40	L5	3907	G
40	L5	3908	A
40	L5	3915	U
40	L5	3938	G
40	L5	3939	G
40	L5	3942	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	3943	A
40	L5	3944	G
40	L5	3946	G
40	L5	3947	A
40	L5	3948	C
40	L5	3949	A
40	L5	3950	U
40	L5	3952	A
40	L5	3953	G
40	L5	4057	C
40	L5	4059	C
40	L5	4060	U
40	L5	4061	G
40	L5	4062	A
40	L5	4064	C
40	L5	4068	U
40	L5	4069	U
40	L5	4076	G
40	L5	4084	G
40	L5	4095	G
40	L5	4097	G
40	L5	4099	G
40	L5	4101	C
40	L5	4104	G
40	L5	4105	A
40	L5	4106	G
40	L5	4107	G
40	L5	4108	G
40	L5	4109	G
40	L5	4111	U
40	L5	4114	C
40	L5	4115	G
40	L5	4116	C
40	L5	4119	C
40	L5	4122	G
40	L5	4127	A
40	L5	4138	C
40	L5	4140	C
40	L5	4141	G
40	L5	4142	C
40	L5	4143	G
40	L5	4144	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4146	G
40	L5	4162	C
40	L5	4163	U
40	L5	4170	A
40	L5	4183	G
40	L5	4184	G
40	L5	4191	G
40	L5	4201	G
40	L5	4203	A
40	L5	4220	6MZ
40	L5	4222	G
40	L5	4225	G
40	L5	4228	OMG
40	L5	4229	U
40	L5	4233	A
40	L5	4238	G
40	L5	4242	U
40	L5	4251	A
40	L5	4254	G
40	L5	4257	A
40	L5	4258	C
40	L5	4265	U
40	L5	4268	A
40	L5	4273	A
40	L5	4281	A
40	L5	4282	A
40	L5	4283	G
40	L5	4291	G
40	L5	4305	G
40	L5	4306	OMU
40	L5	4329	G
40	L5	4330	G
40	L5	4332	C
40	L5	4338	G
40	L5	4349	C
40	L5	4350	C
40	L5	4373	G
40	L5	4377	G
40	L5	4378	A
40	L5	4387	C
40	L5	4391	G
40	L5	4394	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4405	G
40	L5	4422	A
40	L5	4427	G
40	L5	4438	U
40	L5	4444	C
40	L5	4449	A
40	L5	4464	A
40	L5	4466	C
40	L5	4475	G
40	L5	4488	A
40	L5	4491	G
40	L5	4500	PSU
40	L5	4512	U
40	L5	4513	A
40	L5	4519	C
40	L5	4524	G
40	L5	4525	C
40	L5	4529	G
40	L5	4545	G
40	L5	4548	A
40	L5	4549	G
40	L5	4560	C
40	L5	4567	G
40	L5	4575	G
40	L5	4584	A
40	L5	4589	A
40	L5	4590	A2M
40	L5	4599	A
40	L5	4601	U
40	L5	4618	OMG
40	L5	4635	A
40	L5	4636	PSU
40	L5	4637	OMG
40	L5	4652	G
40	L5	4656	A
40	L5	4657	U
40	L5	4670	C
40	L5	4671	C
40	L5	4672	A
40	L5	4687	A
40	L5	4694	G
40	L5	4695	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4700	A
40	L5	4707	A
40	L5	4708	A
40	L5	4709	U
40	L5	4719	G
40	L5	4734	A
40	L5	4740	G
40	L5	4741	C
40	L5	4742	G
40	L5	4745	G
40	L5	4750	G
40	L5	4754	G
40	L5	4757	C
40	L5	4759	C
40	L5	4761	G
40	L5	4765	G
40	L5	4771	C
40	L5	4772	C
40	L5	4775	C
40	L5	4776	G
40	L5	4859	C
40	L5	4865	C
40	L5	4867	G
40	L5	4870	G
40	L5	4871	C
40	L5	4875	G
40	L5	4881	U
40	L5	4882	U
40	L5	4883	C
40	L5	4889	G
40	L5	4895	C
40	L5	4896	G
40	L5	4897	G
40	L5	4898	G
40	L5	4899	G
40	L5	4900	C
40	L5	4901	G
40	L5	4910	G
40	L5	4912	G
40	L5	4914	C
40	L5	4923	C
40	L5	4925	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4927	G
40	L5	4928	C
40	L5	4934	A
40	L5	4940	C
40	L5	4941	G
40	L5	4943	A
40	L5	4944	C
40	L5	4949	G
40	L5	4951	G
40	L5	4963	G
40	L5	4976	U
40	L5	4979	A
40	L5	4985	U
40	L5	4988	U
40	L5	4989	U
40	L5	4990	C
40	L5	4991	U
40	L5	4995	U
40	L5	5006	U
40	L5	5013	C
40	L5	5014	A
40	L5	5017	G
40	L5	5022	U
40	L5	5023	C
40	L5	5024	C
40	L5	5028	G
40	L5	5030	U
40	L5	5034	A
40	L5	5041	G
40	L5	5047	C
40	L5	5050	C
40	L5	5054	C
40	L5	5055	G
40	L5	5060	A
40	L5	5061	A
40	L5	5064	G
40	L5	5069	U
41	L7	22	A
41	L7	33	U
41	L7	37	G
41	L7	38	U
41	L7	39	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
41	L7	49	A
41	L7	53	U
41	L7	54	A
41	L7	64	G
41	L7	97	G
41	L7	100	A
41	L7	102	U
41	L7	110	G
42	L8	23	C
42	L8	25	G
42	L8	34	U
42	L8	35	C
42	L8	59	A
42	L8	62	A
42	L8	63	U
42	L8	75	OMG
42	L8	80	A
42	L8	82	A
42	L8	83	C
42	L8	84	A
42	L8	85	U
42	L8	86	U
42	L8	87	G
42	L8	94	G
42	L8	103	A
42	L8	105	C
42	L8	111	U
42	L8	114	G
42	L8	123	U
42	L8	124	U
42	L8	125	C
42	L8	126	C
42	L8	127	U
42	L8	147	G
42	L8	150	C
42	L8	151	G

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
19	S2	291	G
19	S2	531	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	563	G
19	S2	688	U
19	S2	1434	C
40	L5	406	C
40	L5	914	U
40	L5	1082	C
40	L5	1366	G
40	L5	1633	G
40	L5	1977	C
40	L5	2416	G
40	L5	2675	G
40	L5	2760	G
40	L5	3673	C
40	L5	3951	G
40	L5	4600	G
40	L5	4699	U
40	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	PSU	S2	1177	19	18,21,22	1.07	1 (5%)	21,30,33	1.79	4 (19%)
40	PSU	L5	1536	40	18,21,22	1.10	2 (11%)	21,30,33	1.95	4 (19%)
40	OMC	L5	1340	40	19,22,23	0.68	0	25,31,34	0.67	0
19	PSU	S2	1232	19	18,21,22	1.17	1 (5%)	21,30,33	1.88	4 (19%)
40	OMC	L5	4536	40	19,22,23	0.63	0	25,31,34	0.64	0
19	PSU	S2	681	19	18,21,22	1.08	1 (5%)	21,30,33	1.82	4 (19%)
19	PSU	S2	1244	19	18,21,22	1.13	1 (5%)	21,30,33	1.85	4 (19%)
40	PSU	L5	3851	40	18,21,22	1.07	1 (5%)	21,30,33	1.93	4 (19%)
40	PSU	L5	3639	40	18,21,22	1.10	2 (11%)	21,30,33	1.89	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	A2M	L5	2815	40	18,25,26	1.37	3 (16%)	20,36,39	1.93	7 (35%)
40	OMU	L5	4227	40	19,22,23	3.26	7 (36%)	25,31,34	1.76	5 (20%)
42	OMG	L8	75	42	19,26,27	1.30	3 (15%)	21,38,41	0.77	1 (4%)
40	A2M	L5	1871	85,40	18,25,26	1.55	4 (22%)	20,36,39	2.22	5 (25%)
40	OMU	L5	2837	40	19,22,23	3.30	7 (36%)	25,31,34	1.89	4 (16%)
40	A2M	L5	3785	40	18,25,26	1.36	2 (11%)	20,36,39	2.56	6 (30%)
19	PSU	S2	866	19	18,21,22	1.08	1 (5%)	21,30,33	1.94	5 (23%)
19	OMU	S2	799	19	19,22,23	3.41	7 (36%)	25,31,34	1.80	4 (16%)
40	OMG	L5	1316	40	19,26,27	1.35	3 (15%)	21,38,41	0.92	1 (4%)
19	PSU	S2	801	19	18,21,22	1.12	1 (5%)	21,30,33	1.73	4 (19%)
40	OMG	L5	4196	40,38	19,26,27	1.22	2 (10%)	21,38,41	0.82	1 (4%)
40	PSU	L5	4532	40	18,21,22	1.05	1 (5%)	21,30,33	1.98	4 (19%)
19	OMG	S2	867	19	19,26,27	1.15	2 (10%)	21,38,41	0.83	1 (4%)
40	OMG	L5	1522	40	19,26,27	1.28	3 (15%)	21,38,41	0.88	1 (4%)
40	PSU	L5	4442	40	18,21,22	1.07	1 (5%)	21,30,33	2.04	6 (28%)
40	PSU	L5	3853	85,40	18,21,22	1.04	1 (5%)	21,30,33	1.88	4 (19%)
19	OMU	S2	116	19	19,22,23	3.26	7 (36%)	25,31,34	1.69	4 (16%)
40	PSU	L5	4403	40	18,21,22	1.10	3 (16%)	21,30,33	1.93	6 (28%)
40	PSU	L5	4689	40	18,21,22	1.08	2 (11%)	21,30,33	1.89	4 (19%)
40	PSU	L5	5001	40	18,21,22	1.05	2 (11%)	21,30,33	2.02	4 (19%)
19	MA6	S2	1850	19	19,26,27	3.14	9 (47%)	18,38,41	3.41	4 (22%)
19	A2M	S2	166	19	18,25,26	1.28	2 (11%)	20,36,39	1.96	8 (40%)
40	OMC	L5	2861	40	19,22,23	0.64	0	25,31,34	0.79	1 (4%)
40	OMC	L5	3887	40	19,22,23	0.62	0	25,31,34	0.79	0
40	OMC	L5	4456	40	19,22,23	0.69	0	25,31,34	0.61	0
40	PSU	L5	4521	85,40	18,21,22	1.11	2 (11%)	21,30,33	2.05	6 (28%)
19	4AC	S2	1842	19	21,24,25	0.41	0	28,34,37	0.48	0
40	UY1	L5	3818	40	19,22,23	4.82	9 (47%)	21,31,34	2.04	5 (23%)
40	OMC	L5	2365	85,40	19,22,23	0.60	0	25,31,34	0.56	0
40	OMG	L5	4494	40	19,26,27	1.29	3 (15%)	21,38,41	0.85	1 (4%)
40	PSU	L5	3920	85,40	18,21,22	1.08	2 (11%)	21,30,33	1.94	5 (23%)
40	OMG	L5	4370	40	19,26,27	1.21	3 (15%)	21,38,41	0.79	1 (4%)
40	PSU	L5	4579	40	18,21,22	1.04	2 (11%)	21,30,33	1.88	4 (19%)
19	OMC	S2	174	19	19,22,23	0.55	0	25,31,34	0.69	0
19	A2M	S2	1383	19	18,25,26	1.31	2 (11%)	20,36,39	2.22	5 (25%)
40	PSU	L5	4457	40	18,21,22	1.06	2 (11%)	21,30,33	1.94	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	PSU	L5	4973	40	18,21,22	1.08	2 (11%)	21,30,33	1.97	5 (23%)
19	OMU	S2	627	19	19,22,23	3.29	7 (36%)	25,31,34	1.83	5 (20%)
40	PSU	L5	4471	40	18,21,22	1.06	2 (11%)	21,30,33	1.94	4 (19%)
40	1MA	L5	1322	85,40	17,25,26	1.14	2 (11%)	17,37,40	1.14	3 (17%)
40	PSU	L5	4576	40	18,21,22	1.09	1 (5%)	21,30,33	2.04	5 (23%)
40	PSU	L5	1683	40	18,21,22	1.09	1 (5%)	21,30,33	1.99	4 (19%)
40	PSU	L5	1792	40	18,21,22	1.08	1 (5%)	21,30,33	1.90	4 (19%)
40	A2M	L5	3825	40	18,25,26	1.42	3 (16%)	20,36,39	2.01	5 (25%)
40	OMG	L5	4499	40	19,26,27	1.26	3 (15%)	21,38,41	0.79	1 (4%)
40	A2M	L5	1524	40	18,25,26	1.50	3 (16%)	20,36,39	2.31	6 (30%)
40	PSU	L5	4972	40	18,21,22	1.08	1 (5%)	21,30,33	1.81	4 (19%)
19	PSU	S2	651	19	18,21,22	1.10	1 (5%)	21,30,33	1.87	4 (19%)
19	PSU	S2	105	19	18,21,22	1.14	1 (5%)	21,30,33	1.95	5 (23%)
40	PSU	L5	4673	85,40	18,21,22	1.06	2 (11%)	21,30,33	1.88	4 (19%)
40	OMG	L5	4637	40	19,26,27	1.30	3 (15%)	21,38,41	0.79	1 (4%)
19	OMG	S2	683	19	19,26,27	1.16	2 (10%)	21,38,41	0.83	1 (4%)
40	A2M	L5	3718	40	18,25,26	1.32	2 (11%)	20,36,39	1.97	5 (25%)
40	OMG	L5	2424	40	19,26,27	1.25	3 (15%)	21,38,41	0.80	1 (4%)
40	PSU	L5	1677	40	18,21,22	1.07	2 (11%)	21,30,33	2.03	5 (23%)
40	OMU	L5	4306	40	19,22,23	3.16	7 (36%)	25,31,34	1.74	4 (16%)
19	PSU	S2	966	19	18,21,22	1.11	1 (5%)	21,30,33	1.94	5 (23%)
40	PSU	L5	3884	40	18,21,22	1.10	2 (11%)	21,30,33	1.91	5 (23%)
19	OMC	S2	1703	19	19,22,23	0.58	0	25,31,34	0.74	0
40	OMG	L5	3627	40	19,26,27	1.27	3 (15%)	21,38,41	0.95	1 (4%)
40	PSU	L5	4299	40	18,21,22	1.08	2 (11%)	21,30,33	1.83	4 (19%)
19	G7M	S2	1639	19	20,26,27	2.47	6 (30%)	16,39,42	1.15	1 (6%)
19	OMU	S2	121	19	19,22,23	3.33	7 (36%)	25,31,34	1.87	4 (16%)
19	A2M	S2	484	19	18,25,26	1.23	2 (11%)	20,36,39	1.77	6 (30%)
40	OMU	L5	4498	40	19,22,23	3.22	7 (36%)	25,31,34	1.91	5 (20%)
19	B8N	S2	1248	19	25,29,30	3.24	7 (28%)	28,42,45	2.00	7 (25%)
40	OMG	L5	3792	40	19,26,27	1.27	3 (15%)	21,38,41	0.85	1 (4%)
40	OMG	L5	2876	40	19,26,27	1.22	3 (15%)	21,38,41	0.84	1 (4%)
40	PSU	L5	3822	40	18,21,22	1.08	2 (11%)	21,30,33	1.97	6 (28%)
40	5MC	L5	3782	85,40	19,22,23	0.81	0	26,32,35	0.74	0
40	A2M	L5	1323	40	18,25,26	1.51	4 (22%)	20,36,39	1.97	7 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	PSU	L5	2632	40	18,21,22	1.05	1 (5%)	21,30,33	1.89	4 (19%)
19	PSU	S2	1174	19	18,21,22	1.12	2 (11%)	21,30,33	1.99	4 (19%)
19	A2M	S2	468	19	18,25,26	1.34	3 (16%)	20,36,39	2.11	6 (30%)
40	A2M	L5	1326	40	18,25,26	1.41	3 (16%)	20,36,39	1.85	7 (35%)
19	OMU	S2	354	19	19,22,23	3.29	7 (36%)	25,31,34	1.80	5 (20%)
40	OMG	L5	4618	40	19,26,27	1.24	3 (15%)	21,38,41	0.86	1 (4%)
19	PSU	S2	649	19	18,21,22	1.09	2 (11%)	21,30,33	1.77	4 (19%)
40	PSU	L5	4552	40	18,21,22	1.13	2 (11%)	21,30,33	2.05	4 (19%)
40	PSU	L5	4312	40	18,21,22	1.06	1 (5%)	21,30,33	1.93	4 (19%)
40	PSU	L5	1782	40	18,21,22	1.08	2 (11%)	21,30,33	1.92	4 (19%)
40	OMC	L5	2351	85,40	19,22,23	0.76	1 (5%)	25,31,34	1.07	2 (8%)
40	OMC	L5	3701	40	19,22,23	0.70	0	25,31,34	1.75	4 (16%)
40	OMC	L5	2824	40	19,22,23	0.64	0	25,31,34	0.68	0
40	PSU	L5	5010	40	18,21,22	1.03	1 (5%)	21,30,33	1.87	4 (19%)
40	PSU	L5	3637	40	18,21,22	1.06	1 (5%)	21,30,33	2.01	5 (23%)
19	OMU	S2	1326	19	19,22,23	3.34	7 (36%)	25,31,34	1.81	5 (20%)
19	A2M	S2	159	19	18,25,26	1.28	1 (5%)	20,36,39	1.99	5 (25%)
40	PSU	L5	4500	40	18,21,22	1.15	2 (11%)	21,30,33	2.05	5 (23%)
40	OMG	L5	1625	40	19,26,27	1.28	3 (15%)	21,38,41	0.82	1 (4%)
19	OMG	S2	644	19	19,26,27	1.16	3 (15%)	21,38,41	0.89	1 (4%)
40	UR3	L5	4530	40	19,22,23	2.60	7 (36%)	26,32,35	1.58	2 (7%)
19	PSU	S2	814	19	18,21,22	1.12	1 (5%)	21,30,33	1.90	4 (19%)
40	OMG	L5	3899	40	19,26,27	1.33	3 (15%)	21,38,41	0.82	1 (4%)
19	OMU	S2	172	19	19,22,23	3.35	7 (36%)	25,31,34	1.82	5 (20%)
40	A2M	L5	4590	40	18,25,26	1.32	2 (11%)	20,36,39	2.03	5 (25%)
40	PSU	L5	4431	40	18,21,22	1.09	2 (11%)	21,30,33	1.81	4 (19%)
40	PSU	L5	4296	40	18,21,22	1.11	2 (11%)	21,30,33	1.89	4 (19%)
19	A2M	S2	576	19	18,25,26	1.26	2 (11%)	20,36,39	1.93	5 (25%)
19	PSU	S2	1004	19	18,21,22	1.24	1 (5%)	21,30,33	1.77	4 (19%)
19	PSU	S2	109	19	18,21,22	1.11	1 (5%)	21,30,33	1.91	4 (19%)
40	A2M	L5	2787	40	18,25,26	1.36	2 (11%)	20,36,39	1.76	6 (30%)
19	PSU	S2	1045	19	18,21,22	1.10	1 (5%)	21,30,33	2.00	5 (23%)
19	PSU	S2	93	19	18,21,22	1.13	1 (5%)	21,30,33	1.74	4 (19%)
40	OMC	L5	3869	40	19,22,23	0.65	0	25,31,34	0.58	0
40	OMC	L5	2422	85,40	19,22,23	0.68	0	25,31,34	0.78	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
19	PSU	S2	863	19	18,21,22	1.07	1 (5%)	21,30,33	1.89	4 (19%)
40	A2M	L5	2363	85,40	18,25,26	1.41	3 (16%)	20,36,39	1.92	7 (35%)
19	6MZ	S2	1832	85,19	17,25,26	3.51	6 (35%)	15,36,39	2.33	4 (26%)
40	OMG	L5	3744	40	19,26,27	1.27	3 (15%)	21,38,41	0.81	1 (4%)
40	OMC	L5	3841	40	19,22,23	0.67	0	25,31,34	0.50	0
40	PSU	L5	4493	40	18,21,22	1.09	1 (5%)	21,30,33	1.86	4 (19%)
40	PSU	L5	4361	40	18,21,22	1.01	2 (11%)	21,30,33	1.84	4 (19%)
40	A2M	L5	4523	85,40	18,25,26	1.55	4 (22%)	20,36,39	1.95	6 (30%)
40	OMU	L5	3925	40	19,22,23	3.15	7 (36%)	25,31,34	1.82	5 (20%)
19	PSU	S2	1367	19	18,21,22	1.10	1 (5%)	21,30,33	1.98	5 (23%)
40	PSU	L5	1862	40	18,21,22	1.08	1 (5%)	21,30,33	1.97	4 (19%)
19	PSU	S2	406	19	18,21,22	1.15	2 (11%)	21,30,33	1.93	4 (19%)
19	OMC	S2	1272	19	19,22,23	0.57	0	25,31,34	1.05	2 (8%)
19	OMU	S2	1288	19	19,22,23	3.38	7 (36%)	25,31,34	1.86	5 (20%)
19	A2M	S2	27	19	18,25,26	1.25	2 (11%)	20,36,39	2.01	6 (30%)
40	PSU	L5	4353	40	18,21,22	1.06	2 (11%)	21,30,33	1.90	4 (19%)
19	A2M	S2	668	85,19	18,25,26	1.33	3 (16%)	20,36,39	2.00	5 (25%)
19	OMG	S2	436	19	19,26,27	1.18	3 (15%)	21,38,41	0.89	1 (4%)
40	A2M	L5	400	40	18,25,26	1.39	4 (22%)	20,36,39	1.97	6 (30%)
40	PSU	L5	1860	40	18,21,22	1.03	1 (5%)	21,30,33	1.76	4 (19%)
40	OMG	L5	2364	85,40	19,26,27	1.26	3 (15%)	21,38,41	0.80	1 (4%)
40	OMC	L5	2804	40	19,22,23	0.63	0	25,31,34	0.60	0
19	A2M	S2	1031	19	18,25,26	1.25	2 (11%)	20,36,39	1.90	6 (30%)
40	PSU	L5	4628	40	18,21,22	1.04	1 (5%)	21,30,33	1.88	5 (23%)
40	PSU	L5	2839	40	18,21,22	1.16	2 (11%)	21,30,33	1.85	4 (19%)
19	OMG	S2	1328	19	19,26,27	1.14	2 (10%)	21,38,41	0.79	1 (4%)
40	A2M	L5	398	40	18,25,26	1.39	2 (11%)	20,36,39	1.96	5 (25%)
19	A2M	S2	99	85,19	18,25,26	1.32	2 (11%)	20,36,39	2.01	5 (25%)
40	A2M	L5	1534	85,40	18,25,26	1.37	3 (16%)	20,36,39	1.85	7 (35%)
40	6MZ	L5	4220	40	17,25,26	1.51	1 (5%)	15,36,39	2.48	3 (20%)
40	OMG	L5	4623	40	19,26,27	1.26	3 (15%)	21,38,41	0.89	1 (4%)
19	OMU	S2	428	19	19,22,23	3.38	7 (36%)	25,31,34	1.78	5 (20%)
40	PSU	L5	4293	40	18,21,22	1.12	2 (11%)	21,30,33	2.13	5 (23%)
19	MA6	S2	1851	19	19,26,27	1.49	3 (15%)	18,38,41	3.49	3 (16%)
19	PSU	S2	1046	19	18,21,22	1.08	1 (5%)	21,30,33	1.94	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	PSU	L5	3695	40	18,21,22	1.09	2 (11%)	21,30,33	2.02	4 (19%)
40	OMG	L5	4228	40	19,26,27	1.30	3 (15%)	21,38,41	0.92	2 (9%)
40	5MC	L5	4447	40	19,22,23	0.99	1 (5%)	26,32,35	0.76	1 (3%)
19	OMG	S2	509	19	19,26,27	1.17	2 (10%)	21,38,41	0.84	1 (4%)
40	OMC	L5	3808	40	19,22,23	0.69	0	25,31,34	0.78	1 (4%)
40	PSU	L5	4636	40	18,21,22	1.06	1 (5%)	21,30,33	2.25	7 (33%)
19	PSU	S2	686	19	18,21,22	1.10	1 (5%)	21,30,33	1.87	3 (14%)
40	OMG	L5	4392	40	19,26,27	1.31	3 (15%)	21,38,41	0.88	1 (4%)
19	PSU	S2	1056	19	18,21,22	1.11	1 (5%)	21,30,33	1.85	4 (19%)
40	PSU	L5	1744	40	18,21,22	1.12	2 (11%)	21,30,33	2.04	6 (28%)
42	PSU	L8	69	42	18,21,22	1.11	3 (16%)	21,30,33	2.03	5 (23%)
40	A2M	L5	4571	40	18,25,26	1.46	3 (16%)	20,36,39	2.10	6 (30%)
19	4AC	S2	1337	19	21,24,25	0.40	0	28,34,37	0.81	2 (7%)
19	OMC	S2	517	19	19,22,23	0.55	0	25,31,34	0.67	0
40	PSU	L5	1582	40	18,21,22	1.09	2 (11%)	21,30,33	1.96	4 (19%)
40	A2M	L5	3867	40	18,25,26	1.39	3 (16%)	20,36,39	1.79	6 (30%)
40	PSU	L5	3844	40	18,21,22	1.12	2 (11%)	21,30,33	1.83	4 (19%)
19	PSU	S2	1081	19	18,21,22	1.04	1 (5%)	21,30,33	2.06	5 (23%)
40	OMU	L5	4620	40	19,22,23	3.20	7 (36%)	25,31,34	1.84	5 (20%)
19	OMC	S2	462	19	19,22,23	0.52	0	25,31,34	0.74	0
19	OMU	S2	1442	19	19,22,23	3.42	7 (36%)	25,31,34	1.86	5 (20%)
19	OMG	S2	601	19	19,26,27	1.17	2 (10%)	21,38,41	0.80	1 (4%)
40	PSU	L5	1781	40	18,21,22	1.10	1 (5%)	21,30,33	1.87	4 (19%)
40	A2M	L5	3830	40	18,25,26	1.43	2 (11%)	20,36,39	2.06	5 (25%)
42	PSU	L8	55	42	18,21,22	1.05	1 (5%)	21,30,33	1.84	4 (19%)
19	OMC	S2	1391	19	19,22,23	0.56	0	25,31,34	0.72	0
19	OMG	S2	1490	19	19,26,27	1.26	3 (15%)	21,38,41	0.71	0
40	A2M	L5	2401	40	18,25,26	1.35	2 (11%)	20,36,39	2.01	5 (25%)

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	PSU	S2	1177	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	1536	40	-	2/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	OMC	L5	1340	40	-	1/9/27/28	0/2/2/2
19	PSU	S2	1232	19	-	0/7/25/26	0/2/2/2
40	OMC	L5	4536	40	-	0/9/27/28	0/2/2/2
19	PSU	S2	681	19	-	0/7/25/26	0/2/2/2
19	PSU	S2	1244	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	3851	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	3639	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	2815	40	-	2/5/27/28	0/3/3/3
40	OMU	L5	4227	40	-	0/9/27/28	0/2/2/2
42	OMG	L8	75	42	-	2/5/27/28	0/3/3/3
40	A2M	L5	1871	85,40	-	0/5/27/28	0/3/3/3
40	OMU	L5	2837	40	-	0/9/27/28	0/2/2/2
40	A2M	L5	3785	40	-	1/5/27/28	0/3/3/3
19	PSU	S2	866	19	-	0/7/25/26	0/2/2/2
19	OMU	S2	799	19	-	2/9/27/28	0/2/2/2
40	OMG	L5	1316	40	-	0/5/27/28	0/3/3/3
19	PSU	S2	801	19	-	3/7/25/26	0/2/2/2
40	OMG	L5	4196	40,38	-	1/5/27/28	0/3/3/3
40	PSU	L5	4532	40	-	0/7/25/26	0/2/2/2
19	OMG	S2	867	19	-	2/5/27/28	0/3/3/3
40	OMG	L5	1522	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	4442	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	3853	85,40	-	0/7/25/26	0/2/2/2
19	OMU	S2	116	19	-	0/9/27/28	0/2/2/2
40	PSU	L5	4403	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4689	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	5001	40	-	0/7/25/26	0/2/2/2
19	MA6	S2	1850	19	-	0/7/29/30	0/3/3/3
19	A2M	S2	166	19	-	1/5/27/28	0/3/3/3
40	OMC	L5	2861	40	-	1/9/27/28	0/2/2/2
40	OMC	L5	3887	40	-	1/9/27/28	0/2/2/2
40	OMC	L5	4456	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	4521	85,40	-	0/7/25/26	0/2/2/2
19	4AC	S2	1842	19	-	0/11/29/30	0/2/2/2
40	UY1	L5	3818	40	-	3/9/27/28	0/2/2/2
40	OMC	L5	2365	85,40	-	0/9/27/28	0/2/2/2
40	OMG	L5	4494	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	3920	85,40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4370	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	4579	40	-	0/7/25/26	0/2/2/2
19	OMC	S2	174	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
19	A2M	S2	1383	19	-	3/5/27/28	0/3/3/3
40	PSU	L5	4457	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4973	40	-	0/7/25/26	0/2/2/2
19	OMU	S2	627	19	-	0/9/27/28	0/2/2/2
40	PSU	L5	4471	40	-	0/7/25/26	0/2/2/2
40	1MA	L5	1322	85,40	-	0/3/25/26	0/3/3/3
40	PSU	L5	4576	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	1683	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	1792	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	3825	40	-	0/5/27/28	0/3/3/3
40	OMG	L5	4499	40	-	1/5/27/28	0/3/3/3
40	A2M	L5	1524	40	-	2/5/27/28	0/3/3/3
40	PSU	L5	4972	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	651	19	-	0/7/25/26	0/2/2/2
19	PSU	S2	105	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	4673	85,40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4637	40	-	3/5/27/28	0/3/3/3
19	OMG	S2	683	19	-	0/5/27/28	0/3/3/3
40	A2M	L5	3718	40	-	1/5/27/28	0/3/3/3
40	OMG	L5	2424	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	1677	40	-	1/7/25/26	0/2/2/2
40	OMU	L5	4306	40	-	0/9/27/28	0/2/2/2
19	PSU	S2	966	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	3884	40	-	0/7/25/26	0/2/2/2
19	OMC	S2	1703	19	-	2/9/27/28	0/2/2/2
40	OMG	L5	3627	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	4299	40	-	0/7/25/26	0/2/2/2
19	G7M	S2	1639	19	-	0/3/25/26	0/3/3/3
19	OMU	S2	121	19	-	0/9/27/28	0/2/2/2
19	A2M	S2	484	19	-	0/5/27/28	0/3/3/3
40	OMU	L5	4498	40	-	0/9/27/28	0/2/2/2
19	B8N	S2	1248	19	-	5/16/34/35	0/2/2/2
40	OMG	L5	3792	40	-	2/5/27/28	0/3/3/3
40	OMG	L5	2876	40	-	2/5/27/28	0/3/3/3
40	PSU	L5	3822	40	-	0/7/25/26	0/2/2/2
40	5MC	L5	3782	85,40	-	1/7/25/26	0/2/2/2
40	A2M	L5	1323	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	2632	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	1174	19	-	0/7/25/26	0/2/2/2
19	A2M	S2	468	19	-	1/5/27/28	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	A2M	L5	1326	40	-	4/5/27/28	0/3/3/3
19	OMU	S2	354	19	-	0/9/27/28	0/2/2/2
40	OMG	L5	4618	40	-	2/5/27/28	0/3/3/3
19	PSU	S2	649	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	4552	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4312	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	1782	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	2351	85,40	-	3/9/27/28	0/2/2/2
40	OMC	L5	3701	40	-	6/9/27/28	0/2/2/2
40	OMC	L5	2824	40	-	1/9/27/28	0/2/2/2
40	PSU	L5	5010	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	3637	40	-	0/7/25/26	0/2/2/2
19	OMU	S2	1326	19	-	0/9/27/28	0/2/2/2
19	A2M	S2	159	19	-	0/5/27/28	0/3/3/3
40	PSU	L5	4500	40	-	3/7/25/26	0/2/2/2
40	OMG	L5	1625	40	-	2/5/27/28	0/3/3/3
19	OMG	S2	644	19	-	4/5/27/28	0/3/3/3
40	UR3	L5	4530	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	814	19	-	0/7/25/26	0/2/2/2
40	OMG	L5	3899	40	-	2/5/27/28	0/3/3/3
19	OMU	S2	172	19	-	0/9/27/28	0/2/2/2
40	A2M	L5	4590	40	-	3/5/27/28	0/3/3/3
40	PSU	L5	4431	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4296	40	-	0/7/25/26	0/2/2/2
19	A2M	S2	576	19	-	4/5/27/28	0/3/3/3
19	PSU	S2	1004	19	-	1/7/25/26	0/2/2/2
19	PSU	S2	109	19	-	0/7/25/26	0/2/2/2
40	A2M	L5	2787	40	-	2/5/27/28	0/3/3/3
19	PSU	S2	1045	19	-	2/7/25/26	0/2/2/2
19	PSU	S2	93	19	-	0/7/25/26	0/2/2/2
40	OMC	L5	3869	40	-	0/9/27/28	0/2/2/2
40	OMC	L5	2422	85,40	-	2/9/27/28	0/2/2/2
19	PSU	S2	863	19	-	2/7/25/26	0/2/2/2
40	A2M	L5	2363	85,40	-	0/5/27/28	0/3/3/3
19	6MZ	S2	1832	85,19	-	2/5/27/28	0/3/3/3
40	OMG	L5	3744	40	-	0/5/27/28	0/3/3/3
40	OMC	L5	3841	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	4493	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4361	40	-	0/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	A2M	L5	4523	85,40	-	1/5/27/28	0/3/3/3
40	OMU	L5	3925	40	-	0/9/27/28	0/2/2/2
19	PSU	S2	1367	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	1862	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	406	19	-	2/7/25/26	0/2/2/2
19	OMC	S2	1272	19	-	2/9/27/28	0/2/2/2
19	OMU	S2	1288	19	-	2/9/27/28	0/2/2/2
19	A2M	S2	27	19	-	1/5/27/28	0/3/3/3
40	PSU	L5	4353	40	-	0/7/25/26	0/2/2/2
19	A2M	S2	668	85,19	-	2/5/27/28	0/3/3/3
19	OMG	S2	436	19	-	1/5/27/28	0/3/3/3
40	A2M	L5	400	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	1860	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	2364	85,40	-	2/5/27/28	0/3/3/3
40	OMC	L5	2804	40	-	0/9/27/28	0/2/2/2
19	A2M	S2	1031	19	-	1/5/27/28	0/3/3/3
40	PSU	L5	4628	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	2839	40	-	0/7/25/26	0/2/2/2
19	OMG	S2	1328	19	-	0/5/27/28	0/3/3/3
40	A2M	L5	398	40	-	2/5/27/28	0/3/3/3
19	A2M	S2	99	85,19	-	1/5/27/28	0/3/3/3
40	A2M	L5	1534	85,40	-	1/5/27/28	0/3/3/3
40	6MZ	L5	4220	40	-	2/5/27/28	0/3/3/3
40	OMG	L5	4623	40	-	0/5/27/28	0/3/3/3
19	OMU	S2	428	19	-	5/9/27/28	0/2/2/2
40	PSU	L5	4293	40	-	0/7/25/26	0/2/2/2
19	MA6	S2	1851	19	-	1/7/29/30	0/3/3/3
19	PSU	S2	1046	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	3695	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4228	40	-	2/5/27/28	0/3/3/3
40	5MC	L5	4447	40	-	6/7/25/26	0/2/2/2
19	OMG	S2	509	19	-	0/5/27/28	0/3/3/3
40	OMC	L5	3808	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	4636	40	-	2/7/25/26	0/2/2/2
19	PSU	S2	686	19	-	0/7/25/26	0/2/2/2
40	OMG	L5	4392	40	-	0/5/27/28	0/3/3/3
19	PSU	S2	1056	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	1744	40	-	0/7/25/26	0/2/2/2
42	PSU	L8	69	42	-	0/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	A2M	L5	4571	40	-	2/5/27/28	0/3/3/3
19	4AC	S2	1337	19	-	1/11/29/30	0/2/2/2
19	OMC	S2	517	19	-	1/9/27/28	0/2/2/2
40	PSU	L5	1582	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	3867	40	-	3/5/27/28	0/3/3/3
40	PSU	L5	3844	40	-	1/7/25/26	0/2/2/2
19	PSU	S2	1081	19	-	1/7/25/26	0/2/2/2
40	OMU	L5	4620	40	-	0/9/27/28	0/2/2/2
19	OMC	S2	462	19	-	0/9/27/28	0/2/2/2
19	OMU	S2	1442	19	-	2/9/27/28	0/2/2/2
19	OMG	S2	601	19	-	1/5/27/28	0/3/3/3
40	PSU	L5	1781	40	-	1/7/25/26	0/2/2/2
40	A2M	L5	3830	40	-	2/5/27/28	0/3/3/3
42	PSU	L8	55	42	-	0/7/25/26	0/2/2/2
19	OMC	S2	1391	19	-	0/9/27/28	0/2/2/2
19	OMG	S2	1490	19	-	1/5/27/28	0/3/3/3
40	A2M	L5	2401	40	-	2/5/27/28	0/3/3/3

All (424) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3818	UY1	C6-C5	12.54	1.49	1.35
40	L5	3818	UY1	C2-N1	11.64	1.51	1.36
19	S2	1442	OMU	C2-N1	8.73	1.52	1.38
19	S2	799	OMU	C2-N1	8.51	1.51	1.38
19	S2	1288	OMU	C2-N1	8.35	1.51	1.38
19	S2	1832	6MZ	C3'-C2'	-8.28	1.30	1.53
40	L5	2837	OMU	C2-N1	8.24	1.51	1.38
19	S2	121	OMU	C2-N1	8.21	1.51	1.38
19	S2	428	OMU	C2-N1	8.20	1.51	1.38
19	S2	172	OMU	C2-N1	8.19	1.51	1.38
19	S2	1326	OMU	C2-N1	8.13	1.51	1.38
19	S2	1850	MA6	C3'-C2'	-7.94	1.31	1.53
19	S2	1248	B8N	C4-N3	-7.93	1.26	1.40
19	S2	627	OMU	C2-N1	7.92	1.50	1.38
19	S2	354	OMU	C2-N1	7.90	1.50	1.38
19	S2	116	OMU	C2-N1	7.89	1.50	1.38
40	L5	4227	OMU	C2-N1	7.85	1.50	1.38
19	S2	1248	B8N	C6-N1	7.78	1.55	1.36
40	L5	4498	OMU	C2-N1	7.72	1.50	1.38
40	L5	3818	UY1	C2-N3	7.64	1.50	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	4620	OMU	C2-N1	7.61	1.50	1.38
40	L5	4306	OMU	C2-N1	7.60	1.50	1.38
19	S2	1832	6MZ	O4'-C1'	-7.46	1.31	1.40
40	L5	3925	OMU	C2-N1	7.36	1.50	1.38
19	S2	428	OMU	C2-N3	6.99	1.50	1.38
19	S2	172	OMU	C2-N3	6.96	1.50	1.38
19	S2	799	OMU	C2-N3	6.90	1.50	1.38
19	S2	1288	OMU	C2-N3	6.86	1.49	1.38
19	S2	1248	B8N	C4-C5	6.85	1.63	1.47
19	S2	1442	OMU	C2-N3	6.85	1.49	1.38
19	S2	1326	OMU	C2-N3	6.84	1.49	1.38
19	S2	354	OMU	C2-N3	6.79	1.49	1.38
19	S2	627	OMU	C2-N3	6.75	1.49	1.38
19	S2	121	OMU	C2-N3	6.74	1.49	1.38
19	S2	116	OMU	C2-N3	6.65	1.49	1.38
40	L5	4227	OMU	C2-N3	6.63	1.49	1.38
40	L5	2837	OMU	C2-N3	6.58	1.49	1.38
40	L5	4620	OMU	C2-N3	6.58	1.49	1.38
40	L5	4498	OMU	C2-N3	6.57	1.49	1.38
40	L5	3925	OMU	C2-N3	6.44	1.49	1.38
40	L5	4306	OMU	C2-N3	6.31	1.49	1.38
40	L5	4530	UR3	C6-C5	6.10	1.49	1.35
40	L5	4530	UR3	C2-N1	5.95	1.46	1.38
19	S2	799	OMU	C6-C5	5.88	1.48	1.35
19	S2	1288	OMU	C6-C5	5.87	1.48	1.35
19	S2	1248	B8N	C2-N1	5.87	1.56	1.39
19	S2	428	OMU	C6-C5	5.86	1.48	1.35
19	S2	1326	OMU	C6-C5	5.86	1.48	1.35
19	S2	1850	MA6	O4'-C1'	-5.85	1.33	1.40
19	S2	354	OMU	C6-C5	5.83	1.48	1.35
19	S2	172	OMU	C6-C5	5.83	1.48	1.35
19	S2	121	OMU	C6-C5	5.80	1.48	1.35
40	L5	4227	OMU	C6-C5	5.77	1.48	1.35
19	S2	627	OMU	C6-C5	5.76	1.48	1.35
19	S2	116	OMU	C6-C5	5.74	1.48	1.35
40	L5	2837	OMU	C6-C5	5.72	1.48	1.35
19	S2	1442	OMU	C6-C5	5.72	1.48	1.35
40	L5	4620	OMU	O4-C4	-5.70	1.13	1.24
40	L5	3925	OMU	C6-C5	5.68	1.48	1.35
40	L5	4498	OMU	C6-C5	5.67	1.48	1.35
40	L5	4227	OMU	O4-C4	-5.65	1.13	1.24
40	L5	3925	OMU	O4-C4	-5.63	1.13	1.24

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1639	G7M	C2-N3	5.61	1.46	1.33
40	L5	4620	OMU	C6-C5	5.59	1.48	1.35
40	L5	4306	OMU	C6-C5	5.59	1.48	1.35
19	S2	1442	OMU	O4-C4	-5.58	1.13	1.24
40	L5	2837	OMU	O4-C4	-5.58	1.13	1.24
40	L5	4306	OMU	O4-C4	-5.57	1.13	1.24
40	L5	4498	OMU	O4-C4	-5.54	1.13	1.24
19	S2	627	OMU	O4-C4	-5.53	1.13	1.24
19	S2	799	OMU	O4-C4	-5.48	1.13	1.24
19	S2	428	OMU	O4-C4	-5.46	1.13	1.24
40	L5	4530	UR3	C2-N3	5.46	1.49	1.39
19	S2	1326	OMU	O4-C4	-5.46	1.13	1.24
19	S2	354	OMU	O4-C4	-5.46	1.13	1.24
19	S2	116	OMU	O4-C4	-5.44	1.13	1.24
19	S2	172	OMU	O4-C4	-5.42	1.13	1.24
19	S2	1288	OMU	O4-C4	-5.41	1.13	1.24
19	S2	121	OMU	O4-C4	-5.39	1.14	1.24
40	L5	3818	UY1	C6-N1	5.31	1.45	1.36
19	S2	1248	B8N	C6-C5	5.23	1.42	1.35
19	S2	1639	G7M	C4-N3	5.10	1.49	1.37
19	S2	1639	G7M	C2-N2	4.90	1.45	1.34
40	L5	4220	6MZ	C6-C5	-4.75	1.37	1.44
19	S2	1832	6MZ	O4'-C4'	4.67	1.55	1.45
19	S2	428	OMU	C4-N3	4.51	1.46	1.38
19	S2	1832	6MZ	C5'-C4'	-4.49	1.38	1.51
19	S2	172	OMU	C4-N3	4.43	1.46	1.38
19	S2	799	OMU	C4-N3	4.43	1.46	1.38
19	S2	1326	OMU	C4-N3	4.40	1.46	1.38
40	L5	3818	UY1	C4-N3	4.38	1.47	1.38
19	S2	1832	6MZ	C6-C5	-4.38	1.38	1.44
19	S2	1442	OMU	C4-N3	4.35	1.46	1.38
19	S2	1288	OMU	C4-N3	4.33	1.46	1.38
19	S2	627	OMU	C4-N3	4.31	1.46	1.38
19	S2	1004	PSU	C6-C5	4.21	1.39	1.35
19	S2	116	OMU	C4-N3	4.19	1.45	1.38
19	S2	354	OMU	C4-N3	4.19	1.45	1.38
19	S2	121	OMU	C4-N3	4.18	1.45	1.38
19	S2	1850	MA6	C5'-C4'	-4.17	1.39	1.51
19	S2	1850	MA6	C6-C5	-4.17	1.38	1.44
40	L5	4498	OMU	C4-N3	4.04	1.45	1.38
40	L5	4227	OMU	C4-N3	4.02	1.45	1.38
19	S2	1850	MA6	O4'-C4'	4.00	1.53	1.45

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	2837	OMU	C4-N3	4.00	1.45	1.38
19	S2	1851	MA6	C6-C5	-3.94	1.38	1.44
19	S2	1232	PSU	C6-C5	3.93	1.39	1.35
40	L5	4306	OMU	C4-N3	3.91	1.45	1.38
40	L5	3925	OMU	C4-N3	3.89	1.45	1.38
40	L5	4620	OMU	C4-N3	3.85	1.45	1.38
19	S2	801	PSU	C6-C5	3.84	1.39	1.35
19	S2	93	PSU	C6-C5	3.80	1.39	1.35
40	L5	3818	UY1	O4-C4	-3.79	1.16	1.23
19	S2	105	PSU	C6-C5	3.77	1.39	1.35
40	L5	2815	A2M	O5'-C5'	-3.69	1.33	1.44
19	S2	1244	PSU	C6-C5	3.66	1.39	1.35
19	S2	814	PSU	C6-C5	3.64	1.39	1.35
19	S2	1367	PSU	C6-C5	3.64	1.39	1.35
40	L5	3830	A2M	O5'-C5'	-3.59	1.33	1.44
19	S2	406	PSU	C6-C5	3.58	1.39	1.35
19	S2	1056	PSU	C6-C5	3.57	1.39	1.35
19	S2	651	PSU	C6-C5	3.57	1.39	1.35
40	L5	1323	A2M	O5'-C5'	-3.57	1.33	1.44
19	S2	1639	G7M	C6-N1	3.57	1.43	1.37
40	L5	1871	A2M	O5'-C5'	-3.57	1.33	1.44
19	S2	966	PSU	C6-C5	3.56	1.39	1.35
19	S2	109	PSU	C6-C5	3.55	1.39	1.35
40	L5	1524	A2M	O5'-C5'	-3.53	1.33	1.44
19	S2	686	PSU	C6-C5	3.52	1.39	1.35
19	S2	1045	PSU	C6-C5	3.52	1.39	1.35
42	L8	75	OMG	C8-N7	-3.52	1.29	1.34
19	S2	1046	PSU	C6-C5	3.50	1.39	1.35
40	L5	4500	PSU	C6-C5	3.50	1.39	1.35
19	S2	1174	PSU	C6-C5	3.46	1.39	1.35
40	L5	3825	A2M	O5'-C5'	-3.46	1.34	1.44
40	L5	400	A2M	O5'-C5'	-3.45	1.34	1.44
40	L5	2839	PSU	C6-C5	3.45	1.39	1.35
19	S2	1248	B8N	C1'-C5	3.44	1.58	1.50
19	S2	649	PSU	C6-C5	3.43	1.39	1.35
40	L5	4571	A2M	O5'-C5'	-3.43	1.34	1.44
40	L5	398	A2M	O5'-C5'	-3.42	1.34	1.44
40	L5	2787	A2M	O5'-C5'	-3.42	1.34	1.44
40	L5	4523	A2M	C1'-N9	-3.42	1.41	1.49
40	L5	4493	PSU	C6-C5	3.41	1.39	1.35
19	S2	1177	PSU	C6-C5	3.41	1.39	1.35
40	L5	1744	PSU	C6-C5	3.41	1.39	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	4296	PSU	C6-C5	3.39	1.39	1.35
40	L5	2363	A2M	O5'-C5'	-3.39	1.34	1.44
40	L5	1862	PSU	C6-C5	3.38	1.39	1.35
19	S2	668	A2M	O5'-C5'	-3.37	1.34	1.44
40	L5	1781	PSU	C6-C5	3.36	1.39	1.35
19	S2	99	A2M	O5'-C5'	-3.36	1.34	1.44
19	S2	1851	MA6	C6-N6	3.35	1.45	1.37
19	S2	468	A2M	O5'-C5'	-3.35	1.34	1.44
19	S2	1639	G7M	C5-C6	3.34	1.54	1.45
40	L5	1792	PSU	C6-C5	3.34	1.39	1.35
40	L5	2401	A2M	O5'-C5'	-3.34	1.34	1.44
19	S2	1850	MA6	C6-N6	3.33	1.45	1.37
19	S2	866	PSU	C6-C5	3.32	1.39	1.35
40	L5	1326	A2M	O5'-C5'	-3.32	1.34	1.44
40	L5	4392	OMG	C8-N7	-3.32	1.29	1.34
40	L5	4523	A2M	O5'-C5'	-3.32	1.34	1.44
40	L5	3792	OMG	C8-N7	-3.31	1.29	1.34
19	S2	27	A2M	O5'-C5'	-3.31	1.34	1.44
40	L5	4552	PSU	C6-C5	3.31	1.39	1.35
40	L5	3718	A2M	O5'-C5'	-3.31	1.34	1.44
19	S2	166	A2M	O5'-C5'	-3.31	1.34	1.44
40	L5	3785	A2M	O5'-C5'	-3.30	1.34	1.44
19	S2	1081	PSU	C6-C5	3.30	1.38	1.35
19	S2	1383	A2M	O5'-C5'	-3.29	1.34	1.44
40	L5	3844	PSU	C6-C5	3.29	1.38	1.35
40	L5	3867	A2M	O5'-C5'	-3.28	1.34	1.44
19	S2	1031	A2M	O5'-C5'	-3.27	1.34	1.44
19	S2	863	PSU	C6-C5	3.27	1.38	1.35
40	L5	2876	OMG	C8-N7	-3.25	1.29	1.34
40	L5	4972	PSU	C6-C5	3.24	1.38	1.35
40	L5	2632	PSU	C6-C5	3.24	1.38	1.35
40	L5	4590	A2M	O5'-C5'	-3.23	1.34	1.44
19	S2	576	A2M	O5'-C5'	-3.23	1.34	1.44
40	L5	3818	UY1	O2-C2	-3.22	1.16	1.23
19	S2	681	PSU	C6-C5	3.22	1.38	1.35
42	L8	55	PSU	C6-C5	3.22	1.38	1.35
40	L5	4431	PSU	C6-C5	3.21	1.38	1.35
40	L5	1683	PSU	C6-C5	3.21	1.38	1.35
40	L5	1625	OMG	C8-N7	-3.20	1.29	1.34
40	L5	4299	PSU	C6-C5	3.20	1.38	1.35
40	L5	1534	A2M	O5'-C5'	-3.19	1.34	1.44
40	L5	1316	OMG	C8-N7	-3.19	1.29	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1490	OMG	C8-N7	-3.19	1.29	1.34
40	L5	1536	PSU	C6-C5	3.19	1.38	1.35
40	L5	4293	PSU	C6-C5	3.17	1.38	1.35
19	S2	484	A2M	O5'-C5'	-3.17	1.34	1.44
40	L5	4576	PSU	C6-C5	3.16	1.38	1.35
42	L8	69	PSU	C6-C5	3.15	1.38	1.35
40	L5	4494	OMG	C8-N7	-3.15	1.29	1.34
40	L5	3822	PSU	C6-C5	3.14	1.38	1.35
40	L5	4637	OMG	C8-N7	-3.14	1.29	1.34
40	L5	1522	OMG	C8-N7	-3.14	1.29	1.34
40	L5	4353	PSU	C6-C5	3.13	1.38	1.35
40	L5	3744	OMG	C8-N7	-3.13	1.29	1.34
19	S2	159	A2M	O5'-C5'	-3.12	1.35	1.44
40	L5	4312	PSU	C6-C5	3.12	1.38	1.35
40	L5	1782	PSU	C6-C5	3.12	1.38	1.35
40	L5	4442	PSU	C6-C5	3.12	1.38	1.35
40	L5	4196	OMG	C8-N7	-3.11	1.30	1.34
19	S2	601	OMG	C8-N7	-3.11	1.30	1.34
40	L5	4618	OMG	C8-N7	-3.11	1.30	1.34
40	L5	4579	PSU	C6-C5	3.10	1.38	1.35
40	L5	2364	OMG	C8-N7	-3.10	1.30	1.34
40	L5	3899	OMG	C8-N7	-3.10	1.30	1.34
40	L5	4499	OMG	C8-N7	-3.10	1.30	1.34
40	L5	3695	PSU	C6-C5	3.10	1.38	1.35
40	L5	5010	PSU	C6-C5	3.10	1.38	1.35
40	L5	4521	PSU	C6-C5	3.09	1.38	1.35
40	L5	1582	PSU	C6-C5	3.09	1.38	1.35
40	L5	3639	PSU	C6-C5	3.08	1.38	1.35
40	L5	4370	OMG	C8-N7	-3.08	1.30	1.34
40	L5	1860	PSU	C6-C5	3.08	1.38	1.35
40	L5	4532	PSU	C6-C5	3.08	1.38	1.35
40	L5	3830	A2M	C1'-N9	-3.05	1.42	1.49
40	L5	3851	PSU	C6-C5	3.05	1.38	1.35
40	L5	4623	OMG	C8-N7	-3.04	1.30	1.34
40	L5	3637	PSU	C6-C5	3.03	1.38	1.35
40	L5	2424	OMG	C8-N7	-3.02	1.30	1.34
40	L5	3884	PSU	C6-C5	3.01	1.38	1.35
40	L5	4973	PSU	C6-C5	3.00	1.38	1.35
19	S2	1490	OMG	C5-C6	-3.00	1.41	1.47
40	L5	4403	PSU	C6-C5	3.00	1.38	1.35
40	L5	3853	PSU	C6-C5	2.99	1.38	1.35
40	L5	5001	PSU	C6-C5	2.99	1.38	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	4228	OMG	C8-N7	-2.98	1.30	1.34
40	L5	4628	PSU	C6-C5	2.98	1.38	1.35
40	L5	3627	OMG	C8-N7	-2.98	1.30	1.34
40	L5	4637	OMG	C5-C6	-2.97	1.41	1.47
40	L5	4471	PSU	C6-C5	2.97	1.38	1.35
40	L5	4673	PSU	C6-C5	2.96	1.38	1.35
19	S2	683	OMG	C8-N7	-2.96	1.30	1.34
40	L5	3818	UY1	C1'-C5	2.96	1.56	1.50
40	L5	4689	PSU	C6-C5	2.95	1.38	1.35
19	S2	1288	OMU	C5-C4	2.93	1.50	1.43
40	L5	1316	OMG	C5-C6	-2.93	1.41	1.47
19	S2	1328	OMG	C8-N7	-2.93	1.30	1.34
40	L5	1871	A2M	C1'-N9	-2.92	1.42	1.49
40	L5	3920	PSU	C6-C5	2.92	1.38	1.35
40	L5	4457	PSU	C6-C5	2.92	1.38	1.35
40	L5	3899	OMG	C5-C6	-2.91	1.41	1.47
42	L8	75	OMG	C5-C6	-2.90	1.41	1.47
40	L5	4447	5MC	C5-C4	-2.90	1.41	1.44
40	L5	4392	OMG	C5-C6	-2.88	1.41	1.47
40	L5	4571	A2M	C1'-N9	-2.88	1.42	1.49
40	L5	4636	PSU	C6-C5	2.88	1.38	1.35
40	L5	1322	1MA	C8-N7	-2.85	1.30	1.34
40	L5	4499	OMG	C5-C6	-2.85	1.41	1.47
40	L5	4494	OMG	C5-C6	-2.85	1.41	1.47
19	S2	799	OMU	C5-C4	2.83	1.49	1.43
19	S2	867	OMG	C8-N7	-2.83	1.30	1.34
40	L5	3792	OMG	C5-C6	-2.81	1.41	1.47
19	S2	436	OMG	C8-N7	-2.80	1.30	1.34
19	S2	172	OMU	C5-C4	2.80	1.49	1.43
40	L5	4361	PSU	C6-C5	2.79	1.38	1.35
40	L5	2424	OMG	C5-C6	-2.78	1.41	1.47
40	L5	4228	OMG	C5-C6	-2.78	1.41	1.47
19	S2	354	OMU	C5-C4	2.77	1.49	1.43
19	S2	1326	OMU	C5-C4	2.77	1.49	1.43
19	S2	509	OMG	C8-N7	-2.77	1.30	1.34
40	L5	1625	OMG	C5-C6	-2.77	1.42	1.47
40	L5	4623	OMG	C5-C6	-2.77	1.42	1.47
19	S2	428	OMU	C6-N1	2.77	1.44	1.38
19	S2	121	OMU	C5-C4	2.77	1.49	1.43
40	L5	3785	A2M	C1'-N9	-2.77	1.43	1.49
40	L5	1522	OMG	C5-C6	-2.76	1.42	1.47
40	L5	1677	PSU	C6-C5	2.76	1.38	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1442	OMU	C5-C4	2.76	1.49	1.43
40	L5	1323	A2M	O4'-C4'	-2.75	1.38	1.45
40	L5	2787	A2M	C1'-N9	-2.75	1.43	1.49
40	L5	3744	OMG	C5-C6	-2.75	1.42	1.47
40	L5	3627	OMG	C5-C6	-2.74	1.42	1.47
19	S2	121	OMU	C6-N1	2.73	1.44	1.38
40	L5	4530	UR3	O2-C2	-2.73	1.17	1.22
19	S2	1639	G7M	C2-N1	2.73	1.44	1.37
40	L5	1322	1MA	C5-C4	-2.72	1.36	1.43
19	S2	428	OMU	C5-C4	2.72	1.49	1.43
40	L5	4196	OMG	C5-C6	-2.71	1.42	1.47
40	L5	2364	OMG	C5-C6	-2.71	1.42	1.47
40	L5	1524	A2M	O4'-C4'	-2.68	1.39	1.45
19	S2	1850	MA6	O3'-C3'	2.68	1.49	1.43
19	S2	644	OMG	C8-N7	-2.68	1.30	1.34
19	S2	1288	OMU	C6-N1	2.67	1.44	1.38
40	L5	4227	OMU	C5-C4	2.67	1.49	1.43
19	S2	1832	6MZ	O3'-C3'	2.66	1.49	1.43
40	L5	1524	A2M	C1'-N9	-2.66	1.43	1.49
19	S2	1326	OMU	C6-N1	2.65	1.44	1.38
40	L5	4370	OMG	C5-C6	-2.65	1.42	1.47
19	S2	99	A2M	C1'-N9	-2.65	1.43	1.49
40	L5	4618	OMG	C5-C6	-2.65	1.42	1.47
19	S2	799	OMU	C6-N1	2.63	1.44	1.38
19	S2	116	OMU	C5-C4	2.63	1.49	1.43
19	S2	1442	OMU	C6-N1	2.63	1.44	1.38
19	S2	627	OMU	C5-C4	2.63	1.49	1.43
40	L5	3825	A2M	C1'-N9	-2.62	1.43	1.49
19	S2	601	OMG	C5-C6	-2.62	1.42	1.47
40	L5	4498	OMU	C5-C4	2.62	1.49	1.43
19	S2	644	OMG	C5-C6	-2.59	1.42	1.47
40	L5	3925	OMU	C5-C4	2.59	1.49	1.43
40	L5	4590	A2M	C1'-N9	-2.58	1.43	1.49
19	S2	1850	MA6	C1'-N9	-2.57	1.43	1.49
40	L5	1326	A2M	C1'-N9	-2.57	1.43	1.49
40	L5	2837	OMU	C6-N1	2.57	1.44	1.38
19	S2	627	OMU	C6-N1	2.56	1.44	1.38
40	L5	2876	OMG	C5-C6	-2.55	1.42	1.47
40	L5	2363	A2M	O4'-C4'	-2.55	1.39	1.45
40	L5	4306	OMU	C5-C4	2.54	1.49	1.43
40	L5	2837	OMU	C5-C4	2.54	1.49	1.43
19	S2	509	OMG	C5-C6	-2.53	1.42	1.47

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1328	OMG	C5-C6	-2.53	1.42	1.47
19	S2	468	A2M	C1'-N9	-2.52	1.43	1.49
19	S2	683	OMG	C5-C6	-2.51	1.42	1.47
40	L5	4227	OMU	C6-N1	2.51	1.44	1.38
19	S2	354	OMU	C6-N1	2.51	1.44	1.38
19	S2	116	OMU	C6-N1	2.51	1.44	1.38
40	L5	1871	A2M	O4'-C4'	-2.50	1.39	1.45
40	L5	1323	A2M	C1'-N9	-2.50	1.43	1.49
40	L5	4523	A2M	O4'-C4'	-2.48	1.39	1.45
40	L5	2363	A2M	C1'-N9	-2.48	1.43	1.49
40	L5	1534	A2M	O4'-C4'	-2.47	1.39	1.45
40	L5	2401	A2M	C1'-N9	-2.47	1.43	1.49
19	S2	172	OMU	C6-N1	2.47	1.44	1.38
19	S2	436	OMG	C5-C6	-2.46	1.42	1.47
40	L5	1326	A2M	O4'-C4'	-2.45	1.39	1.45
40	L5	1871	A2M	O3'-C3'	-2.45	1.36	1.43
40	L5	4620	OMU	C5-C4	2.44	1.49	1.43
40	L5	4620	OMU	C6-N1	2.42	1.43	1.38
19	S2	867	OMG	C5-C6	-2.41	1.42	1.47
19	S2	576	A2M	C1'-N9	-2.40	1.44	1.49
40	L5	4306	OMU	C6-N1	2.40	1.43	1.38
40	L5	4498	OMU	C6-N1	2.40	1.43	1.38
40	L5	1316	OMG	C5-C4	-2.40	1.37	1.43
40	L5	3925	OMU	C6-N1	2.37	1.43	1.38
40	L5	1534	A2M	C1'-N9	-2.37	1.44	1.49
19	S2	1383	A2M	C1'-N9	-2.35	1.44	1.49
40	L5	398	A2M	C1'-N9	-2.34	1.44	1.49
40	L5	4530	UR3	C6-N1	2.34	1.43	1.38
19	S2	1851	MA6	C2-N3	2.34	1.35	1.32
40	L5	400	A2M	C1'-N9	-2.33	1.44	1.49
40	L5	3867	A2M	C1'-N9	-2.32	1.44	1.49
40	L5	1677	PSU	O4'-C1'	-2.30	1.40	1.43
19	S2	1031	A2M	C1'-N9	-2.30	1.44	1.49
40	L5	3718	A2M	C1'-N9	-2.30	1.44	1.49
40	L5	4571	A2M	O4'-C4'	-2.28	1.39	1.45
40	L5	1522	OMG	C5-C4	-2.27	1.37	1.43
19	S2	668	A2M	O4'-C4'	-2.27	1.39	1.45
19	S2	166	A2M	C1'-N9	-2.25	1.44	1.49
40	L5	3744	OMG	C5-C4	-2.25	1.37	1.43
40	L5	4973	PSU	C4-C5	-2.24	1.38	1.44
19	S2	1850	MA6	C2-N3	2.23	1.35	1.32
40	L5	3920	PSU	C4-C5	-2.23	1.38	1.44

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	2839	PSU	C4-C5	-2.23	1.38	1.44
40	L5	4637	OMG	C5-C4	-2.22	1.37	1.43
40	L5	3627	OMG	C5-C4	-2.22	1.37	1.43
40	L5	4392	OMG	C5-C4	-2.21	1.37	1.43
40	L5	4494	OMG	C5-C4	-2.21	1.37	1.43
40	L5	2364	OMG	C5-C4	-2.21	1.37	1.43
40	L5	3695	PSU	C4-C5	-2.21	1.38	1.44
40	L5	3867	A2M	O4'-C4'	-2.20	1.40	1.45
40	L5	2424	OMG	C5-C4	-2.20	1.37	1.43
40	L5	4228	OMG	C5-C4	-2.19	1.37	1.43
19	S2	27	A2M	C1'-N9	-2.19	1.44	1.49
40	L5	4523	A2M	O3'-C3'	-2.18	1.37	1.43
40	L5	4623	OMG	C5-C4	-2.18	1.37	1.43
40	L5	1625	OMG	C5-C4	-2.17	1.37	1.43
40	L5	3899	OMG	C5-C4	-2.17	1.37	1.43
40	L5	4521	PSU	C4-C5	-2.17	1.38	1.44
40	L5	4689	PSU	C4-C5	-2.16	1.38	1.44
40	L5	2815	A2M	O4'-C4'	-2.15	1.40	1.45
40	L5	2351	OMC	C4-N3	-2.15	1.30	1.34
40	L5	3884	PSU	C4-C5	-2.15	1.38	1.44
42	L8	69	PSU	O4'-C1'	-2.15	1.40	1.43
40	L5	4499	OMG	C5-C4	-2.14	1.37	1.43
40	L5	1744	PSU	C4-C5	-2.14	1.38	1.44
40	L5	1323	A2M	O3'-C3'	-2.13	1.37	1.43
40	L5	4293	PSU	C4-C5	-2.13	1.38	1.44
40	L5	1782	PSU	C4-C5	-2.12	1.38	1.44
40	L5	400	A2M	O3'-C3'	-2.12	1.37	1.43
40	L5	3792	OMG	C5-C4	-2.11	1.37	1.43
40	L5	1536	PSU	C4-C5	-2.11	1.38	1.44
40	L5	4457	PSU	C4-C5	-2.11	1.38	1.44
40	L5	3639	PSU	C4-C5	-2.11	1.38	1.44
40	L5	2815	A2M	C1'-N9	-2.10	1.44	1.49
40	L5	4530	UR3	C5-C4	2.09	1.49	1.43
19	S2	484	A2M	C1'-N9	-2.09	1.44	1.49
40	L5	4618	OMG	C5-C4	-2.09	1.38	1.43
19	S2	1248	B8N	O4'-C1'	-2.09	1.41	1.43
19	S2	406	PSU	C4-C5	-2.09	1.38	1.44
40	L5	4361	PSU	C4-C5	-2.09	1.38	1.44
40	L5	4530	UR3	C3U-N3	2.09	1.50	1.47
40	L5	4370	OMG	C5-C4	-2.08	1.38	1.43
40	L5	4552	PSU	C4-C5	-2.08	1.38	1.44
19	S2	468	A2M	O4'-C4'	-2.08	1.40	1.45

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	1582	PSU	C4-C5	-2.08	1.38	1.44
40	L5	4353	PSU	C4-C5	-2.08	1.38	1.44
40	L5	4471	PSU	C4-C5	-2.08	1.38	1.44
40	L5	4431	PSU	C4-C5	-2.08	1.38	1.44
40	L5	3825	A2M	O4'-C4'	-2.08	1.40	1.45
40	L5	4673	PSU	C4-C5	-2.07	1.38	1.44
40	L5	4500	PSU	C4-C5	-2.06	1.38	1.44
19	S2	436	OMG	C5-C4	-2.06	1.38	1.43
42	L8	75	OMG	C5-C4	-2.06	1.38	1.43
19	S2	668	A2M	C1'-N9	-2.06	1.44	1.49
40	L5	4296	PSU	C4-C5	-2.06	1.38	1.44
40	L5	4403	PSU	C4-C5	-2.05	1.38	1.44
19	S2	644	OMG	C5-C4	-2.05	1.38	1.43
19	S2	649	PSU	C4-C5	-2.04	1.38	1.44
40	L5	2876	OMG	C5-C4	-2.04	1.38	1.43
42	L8	69	PSU	C4-C5	-2.04	1.38	1.44
40	L5	3818	UY1	O4'-C1'	-2.03	1.41	1.43
40	L5	4299	PSU	C4-C5	-2.03	1.38	1.44
40	L5	3844	PSU	C4-C5	-2.03	1.38	1.44
40	L5	4403	PSU	O4'-C1'	-2.03	1.41	1.43
19	S2	1174	PSU	C4-C5	-2.02	1.38	1.44
40	L5	3822	PSU	O4'-C1'	-2.02	1.41	1.43
40	L5	5001	PSU	C4-C5	-2.02	1.38	1.44
19	S2	1490	OMG	C5-C4	-2.02	1.38	1.43
40	L5	400	A2M	O4'-C4'	-2.01	1.40	1.45
40	L5	4579	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	-12.65	102.21	116.83
19	S2	1850	MA6	N1-C6-N6	-11.72	103.29	116.83
40	L5	3785	A2M	C4'-O4'-C1'	-8.26	102.36	109.92
40	L5	1524	A2M	C4'-O4'-C1'	-7.21	103.32	109.92
40	L5	4220	6MZ	N3-C2-N1	-6.57	119.76	128.67
19	S2	1851	MA6	N3-C2-N1	-6.45	119.91	128.67
19	S2	1850	MA6	N3-C2-N1	-6.22	120.23	128.67
19	S2	1832	6MZ	N3-C2-N1	-6.15	120.32	128.67
40	L5	4498	OMU	C4-N3-C2	-5.97	119.20	126.61
19	S2	1288	OMU	C4-N3-C2	-5.86	119.34	126.61
19	S2	627	OMU	C4-N3-C2	-5.73	119.50	126.61
40	L5	2837	OMU	C4-N3-C2	-5.66	119.59	126.61

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1326	OMU	C4-N3-C2	-5.65	119.60	126.61
19	S2	172	OMU	C4-N3-C2	-5.61	119.65	126.61
40	L5	4530	UR3	C4-N3-C2	-5.60	120.07	124.58
40	L5	4636	PSU	N1-C2-N3	5.58	121.06	115.17
40	L5	4636	PSU	C4-N3-C2	-5.58	118.69	126.37
40	L5	4220	6MZ	C9-N6-C6	-5.55	117.70	122.85
19	S2	1442	OMU	C4-N3-C2	-5.54	119.73	126.61
40	L5	3925	OMU	C4-N3-C2	-5.53	119.75	126.61
19	S2	121	OMU	C4-N3-C2	-5.50	119.78	126.61
40	L5	4227	OMU	C4-N3-C2	-5.48	119.81	126.61
19	S2	799	OMU	C4-N3-C2	-5.47	119.82	126.61
19	S2	354	OMU	C4-N3-C2	-5.46	119.84	126.61
40	L5	4293	PSU	N1-C2-N3	5.45	120.92	115.17
40	L5	1871	A2M	C4'-O4'-C1'	-5.43	104.95	109.92
40	L5	4620	OMU	C4-N3-C2	-5.43	119.87	126.61
19	S2	1383	A2M	C4'-O4'-C1'	-5.41	104.97	109.92
19	S2	428	OMU	C4-N3-C2	-5.39	119.92	126.61
40	L5	1677	PSU	C4-N3-C2	-5.37	118.97	126.37
40	L5	4552	PSU	N1-C2-N3	5.35	120.81	115.17
40	L5	4306	OMU	C4-N3-C2	-5.33	120.00	126.61
40	L5	4293	PSU	C4-N3-C2	-5.30	119.06	126.37
40	L5	3637	PSU	N1-C2-N3	5.28	120.74	115.17
40	L5	3701	OMC	C1'-N1-C2	5.28	130.10	118.44
19	S2	1081	PSU	C4-N3-C2	-5.25	119.14	126.37
19	S2	1248	B8N	C5-C4-N3	5.25	125.68	116.15
40	L5	3818	UY1	C4-N3-C2	-5.18	119.24	126.37
40	L5	4576	PSU	N1-C2-N3	5.17	120.62	115.17
40	L5	4521	PSU	C4-N3-C2	-5.16	119.27	126.37
19	S2	1081	PSU	N1-C2-N3	5.15	120.60	115.17
40	L5	1744	PSU	N1-C2-N3	5.14	120.59	115.17
40	L5	4500	PSU	N1-C2-N3	5.13	120.58	115.17
42	L8	69	PSU	N1-C2-N3	5.12	120.56	115.17
40	L5	5001	PSU	C4-N3-C2	-5.10	119.35	126.37
40	L5	1683	PSU	N1-C2-N3	5.10	120.54	115.17
19	S2	116	OMU	C4-N3-C2	-5.09	120.29	126.61
40	L5	4532	PSU	N1-C2-N3	5.09	120.54	115.17
40	L5	1862	PSU	N1-C2-N3	5.09	120.54	115.17
40	L5	4442	PSU	N1-C2-N3	5.09	120.53	115.17
40	L5	3695	PSU	N1-C2-N3	5.08	120.53	115.17
40	L5	1582	PSU	C4-N3-C2	-5.06	119.41	126.37
40	L5	5001	PSU	N1-C2-N3	5.05	120.50	115.17
40	L5	4552	PSU	C4-N3-C2	-5.04	119.42	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	105	PSU	N1-C2-N3	5.04	120.49	115.17
19	S2	1367	PSU	N1-C2-N3	5.04	120.48	115.17
40	L5	1862	PSU	C4-N3-C2	-5.03	119.45	126.37
19	S2	1046	PSU	N1-C2-N3	5.02	120.46	115.17
40	L5	4471	PSU	N1-C2-N3	5.01	120.46	115.17
19	S2	1045	PSU	N1-C2-N3	5.01	120.45	115.17
40	L5	4442	PSU	C4-N3-C2	-5.00	119.49	126.37
19	S2	686	PSU	C4-N3-C2	-5.00	119.49	126.37
19	S2	468	A2M	C4'-O4'-C1'	-4.99	105.35	109.92
40	L5	4521	PSU	N1-C2-N3	4.99	120.44	115.17
19	S2	1045	PSU	C4-N3-C2	-4.99	119.49	126.37
40	L5	1744	PSU	C4-N3-C2	-4.99	119.50	126.37
19	S2	1174	PSU	N1-C2-N3	4.98	120.42	115.17
40	L5	3637	PSU	C4-N3-C2	-4.98	119.52	126.37
40	L5	4973	PSU	C4-N3-C2	-4.97	119.52	126.37
40	L5	1536	PSU	N1-C2-N3	4.96	120.39	115.17
40	L5	4312	PSU	N1-C2-N3	4.95	120.39	115.17
40	L5	3920	PSU	C4-N3-C2	-4.94	119.56	126.37
40	L5	3695	PSU	C4-N3-C2	-4.94	119.57	126.37
40	L5	3822	PSU	N1-C2-N3	4.93	120.37	115.17
40	L5	3851	PSU	C4-N3-C2	-4.93	119.58	126.37
40	L5	4457	PSU	C4-N3-C2	-4.93	119.59	126.37
19	S2	866	PSU	C4-N3-C2	-4.92	119.59	126.37
19	S2	966	PSU	C4-N3-C2	-4.92	119.60	126.37
40	L5	1536	PSU	C4-N3-C2	-4.90	119.62	126.37
40	L5	4590	A2M	C4'-O4'-C1'	-4.90	105.44	109.92
40	L5	4296	PSU	C4-N3-C2	-4.90	119.62	126.37
19	S2	1174	PSU	C4-N3-C2	-4.90	119.62	126.37
40	L5	4457	PSU	N1-C2-N3	4.89	120.33	115.17
19	S2	1367	PSU	C4-N3-C2	-4.89	119.63	126.37
40	L5	4576	PSU	C4-N3-C2	-4.89	119.63	126.37
40	L5	1792	PSU	N1-C2-N3	4.89	120.33	115.17
40	L5	3830	A2M	C4'-O4'-C1'	-4.89	105.45	109.92
40	L5	4353	PSU	C4-N3-C2	-4.89	119.64	126.37
40	L5	1683	PSU	C4-N3-C2	-4.88	119.65	126.37
40	L5	1582	PSU	N1-C2-N3	4.87	120.31	115.17
19	S2	814	PSU	N1-C2-N3	4.87	120.31	115.17
19	S2	109	PSU	C4-N3-C2	-4.86	119.67	126.37
19	S2	105	PSU	C4-N3-C2	-4.86	119.68	126.37
40	L5	3884	PSU	C4-N3-C2	-4.86	119.68	126.37
40	L5	3853	PSU	N1-C2-N3	4.85	120.29	115.17
40	L5	4532	PSU	C4-N3-C2	-4.85	119.69	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4689	PSU	N1-C2-N3	4.85	120.28	115.17
40	L5	4973	PSU	N1-C2-N3	4.85	120.28	115.17
19	S2	109	PSU	N1-C2-N3	4.84	120.28	115.17
40	L5	3920	PSU	N1-C2-N3	4.84	120.27	115.17
40	L5	1782	PSU	C4-N3-C2	-4.83	119.72	126.37
40	L5	4403	PSU	N1-C2-N3	4.82	120.25	115.17
40	L5	1792	PSU	C4-N3-C2	-4.82	119.73	126.37
40	L5	4361	PSU	C4-N3-C2	-4.82	119.74	126.37
40	L5	3851	PSU	N1-C2-N3	4.82	120.25	115.17
42	L8	69	PSU	C4-N3-C2	-4.80	119.75	126.37
40	L5	3822	PSU	C4-N3-C2	-4.80	119.76	126.37
40	L5	1677	PSU	N1-C2-N3	4.80	120.23	115.17
40	L5	4403	PSU	C4-N3-C2	-4.80	119.76	126.37
19	S2	651	PSU	C4-N3-C2	-4.80	119.77	126.37
19	S2	866	PSU	N1-C2-N3	4.79	120.22	115.17
40	L5	4673	PSU	N1-C2-N3	4.79	120.22	115.17
19	S2	1248	B8N	C4-N3-C2	-4.77	119.75	125.62
40	L5	4673	PSU	C4-N3-C2	-4.77	119.81	126.37
19	S2	863	PSU	C4-N3-C2	-4.76	119.81	126.37
40	L5	5010	PSU	N1-C2-N3	4.76	120.19	115.17
40	L5	1781	PSU	N1-C2-N3	4.76	120.19	115.17
19	S2	966	PSU	N1-C2-N3	4.75	120.18	115.17
40	L5	3853	PSU	C4-N3-C2	-4.75	119.82	126.37
40	L5	2632	PSU	C4-N3-C2	-4.75	119.82	126.37
19	S2	406	PSU	C4-N3-C2	-4.75	119.83	126.37
19	S2	406	PSU	N1-C2-N3	4.75	120.18	115.17
40	L5	4500	PSU	C4-N3-C2	-4.74	119.84	126.37
40	L5	4471	PSU	C4-N3-C2	-4.74	119.84	126.37
40	L5	3639	PSU	N1-C2-N3	4.74	120.17	115.17
40	L5	1782	PSU	N1-C2-N3	4.74	120.17	115.17
19	S2	814	PSU	C4-N3-C2	-4.74	119.84	126.37
40	L5	4579	PSU	N1-C2-N3	4.74	120.16	115.17
40	L5	4493	PSU	N1-C2-N3	4.73	120.16	115.17
40	L5	4353	PSU	N1-C2-N3	4.73	120.16	115.17
40	L5	3884	PSU	N1-C2-N3	4.73	120.16	115.17
19	S2	1046	PSU	C4-N3-C2	-4.73	119.86	126.37
19	S2	1232	PSU	N1-C2-N3	4.72	120.15	115.17
40	L5	4628	PSU	C4-N3-C2	-4.72	119.87	126.37
40	L5	4312	PSU	C4-N3-C2	-4.70	119.89	126.37
40	L5	4579	PSU	C4-N3-C2	-4.70	119.89	126.37
40	L5	4431	PSU	C4-N3-C2	-4.70	119.90	126.37
40	L5	4972	PSU	C4-N3-C2	-4.69	119.91	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	2632	PSU	N1-C2-N3	4.69	120.11	115.17
19	S2	686	PSU	N1-C2-N3	4.68	120.11	115.17
19	S2	863	PSU	N1-C2-N3	4.68	120.11	115.17
40	L5	4299	PSU	C4-N3-C2	-4.68	119.92	126.37
40	L5	4628	PSU	N1-C2-N3	4.68	120.10	115.17
40	L5	4296	PSU	N1-C2-N3	4.67	120.10	115.17
19	S2	1056	PSU	C4-N3-C2	-4.67	119.94	126.37
40	L5	3844	PSU	N1-C2-N3	4.67	120.09	115.17
42	L8	55	PSU	C4-N3-C2	-4.66	119.95	126.37
19	S2	681	PSU	N1-C2-N3	4.66	120.08	115.17
19	S2	1244	PSU	C4-N3-C2	-4.65	119.96	126.37
19	S2	1244	PSU	N1-C2-N3	4.65	120.07	115.17
40	L5	2839	PSU	N1-C2-N3	4.64	120.06	115.17
19	S2	1232	PSU	C4-N3-C2	-4.64	119.98	126.37
19	S2	668	A2M	C4'-O4'-C1'	-4.64	105.67	109.92
40	L5	5010	PSU	C4-N3-C2	-4.62	120.00	126.37
42	L8	55	PSU	N1-C2-N3	4.62	120.04	115.17
40	L5	3639	PSU	C4-N3-C2	-4.60	120.03	126.37
19	S2	99	A2M	C4'-O4'-C1'	-4.59	105.72	109.92
40	L5	4493	PSU	C4-N3-C2	-4.59	120.05	126.37
19	S2	651	PSU	N1-C2-N3	4.59	120.01	115.17
40	L5	1781	PSU	C4-N3-C2	-4.58	120.06	126.37
19	S2	1056	PSU	N1-C2-N3	4.58	120.00	115.17
40	L5	4299	PSU	N1-C2-N3	4.58	120.00	115.17
40	L5	4523	A2M	C4'-O4'-C1'	-4.57	105.74	109.92
40	L5	4361	PSU	N1-C2-N3	4.55	119.97	115.17
40	L5	1860	PSU	C4-N3-C2	-4.54	120.11	126.37
40	L5	4972	PSU	N1-C2-N3	4.52	119.93	115.17
19	S2	93	PSU	C4-N3-C2	-4.52	120.15	126.37
19	S2	801	PSU	N1-C2-N3	4.52	119.93	115.17
19	S2	1177	PSU	C4-N3-C2	-4.51	120.16	126.37
19	S2	681	PSU	C4-N3-C2	-4.50	120.17	126.37
19	S2	1177	PSU	N1-C2-N3	4.50	119.91	115.17
19	S2	1004	PSU	N1-C2-N3	4.48	119.89	115.17
19	S2	27	A2M	C4'-O4'-C1'	-4.47	105.83	109.92
40	L5	3825	A2M	C4'-O4'-C1'	-4.47	105.83	109.92
40	L5	4431	PSU	N1-C2-N3	4.45	119.86	115.17
19	S2	649	PSU	N1-C2-N3	4.44	119.86	115.17
40	L5	3718	A2M	C4'-O4'-C1'	-4.40	105.90	109.92
40	L5	2839	PSU	C4-N3-C2	-4.40	120.32	126.37
40	L5	3701	OMC	C1'-N1-C6	-4.39	111.39	120.78
19	S2	93	PSU	N1-C2-N3	4.39	119.80	115.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	1860	PSU	N1-C2-N3	4.38	119.79	115.17
40	L5	4571	A2M	C4'-O4'-C1'	-4.38	105.91	109.92
40	L5	3818	UY1	N1-C2-N3	4.38	119.79	115.17
19	S2	159	A2M	C4'-O4'-C1'	-4.37	105.92	109.92
19	S2	649	PSU	C4-N3-C2	-4.36	120.37	126.37
40	L5	1871	A2M	C3'-C2'-C1'	-4.35	94.48	102.81
40	L5	3844	PSU	C4-N3-C2	-4.34	120.39	126.37
19	S2	121	OMU	N3-C2-N1	4.29	120.47	114.89
40	L5	2401	A2M	C4'-O4'-C1'	-4.29	106.00	109.92
19	S2	1004	PSU	C4-N3-C2	-4.24	120.52	126.37
19	S2	166	A2M	C4'-O4'-C1'	-4.18	106.09	109.92
40	L5	400	A2M	C4'-O4'-C1'	-4.17	106.10	109.92
19	S2	1383	A2M	C3'-C2'-C1'	-4.17	94.82	102.81
40	L5	4498	OMU	N3-C2-N1	4.14	120.28	114.89
40	L5	4689	PSU	C4-N3-C2	-4.11	120.70	126.37
40	L5	3830	A2M	C3'-C2'-C1'	-4.09	94.98	102.81
40	L5	4620	OMU	N3-C2-N1	4.07	120.19	114.89
40	L5	2837	OMU	N3-C2-N1	4.07	120.19	114.89
40	L5	1323	A2M	C4'-O4'-C1'	-4.07	106.20	109.92
19	S2	1031	A2M	C4'-O4'-C1'	-3.99	106.27	109.92
19	S2	1288	OMU	N3-C2-N1	3.98	120.08	114.89
19	S2	99	A2M	C1'-N9-C4	-3.96	119.69	126.64
19	S2	1832	6MZ	C2-N1-C6	3.96	119.67	116.60
19	S2	576	A2M	C4'-O4'-C1'	-3.95	106.31	109.92
19	S2	801	PSU	C4-N3-C2	-3.95	120.93	126.37
19	S2	1383	A2M	C1'-N9-C4	-3.93	119.73	126.64
40	L5	3925	OMU	N3-C2-N1	3.93	120.00	114.89
19	S2	468	A2M	C1'-N9-C4	-3.92	119.76	126.64
40	L5	398	A2M	C4'-O4'-C1'	-3.89	106.36	109.92
40	L5	4689	PSU	C6-N1-C2	-3.88	119.09	122.69
19	S2	354	OMU	N3-C2-N1	3.87	119.92	114.89
40	L5	1871	A2M	C1'-N9-C4	-3.84	119.89	126.64
19	S2	172	OMU	N3-C2-N1	3.84	119.89	114.89
19	S2	1850	MA6	C2-N1-C6	3.83	120.59	116.84
19	S2	1442	OMU	C5-C4-N3	3.80	120.13	114.80
19	S2	1326	OMU	C5-C4-N3	3.80	120.12	114.80
19	S2	627	OMU	C5-C4-N3	3.80	120.12	114.80
19	S2	159	A2M	C1'-N9-C4	-3.79	119.98	126.64
40	L5	2401	A2M	C1'-N9-C4	-3.79	119.98	126.64
19	S2	799	OMU	N3-C2-N1	3.79	119.82	114.89
40	L5	2363	A2M	C4'-O4'-C1'	-3.77	106.47	109.92
40	L5	1534	A2M	C4'-O4'-C1'	-3.76	106.48	109.92

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4523	A2M	C1'-N9-C4	-3.76	120.03	126.64
19	S2	27	A2M	C1'-N9-C4	-3.76	120.03	126.64
40	L5	4227	OMU	C5-C4-N3	3.74	120.04	114.80
40	L5	4498	OMU	C5-C4-N3	3.73	120.03	114.80
40	L5	2837	OMU	C5-C4-N3	3.72	120.02	114.80
40	L5	4220	6MZ	C2-N1-C6	3.72	119.48	116.60
19	S2	668	A2M	C1'-N9-C4	-3.72	120.11	126.64
40	L5	4530	UR3	C5-C4-N3	3.70	119.91	115.04
40	L5	4590	A2M	C1'-N9-C4	-3.69	120.15	126.64
19	S2	1288	OMU	C5-C4-N3	3.68	119.96	114.80
40	L5	4571	A2M	C3'-C2'-C1'	-3.68	95.77	102.81
40	L5	2815	A2M	C4'-O4'-C1'	-3.66	106.57	109.92
19	S2	627	OMU	N3-C2-N1	3.66	119.66	114.89
19	S2	428	OMU	N3-C2-N1	3.65	119.65	114.89
40	L5	4306	OMU	N3-C2-N1	3.65	119.64	114.89
19	S2	1326	OMU	N3-C2-N1	3.64	119.63	114.89
40	L5	4227	OMU	N3-C2-N1	3.63	119.62	114.89
19	S2	428	OMU	C5-C4-N3	3.62	119.87	114.80
19	S2	1851	MA6	C2-N1-C6	3.62	120.39	116.84
19	S2	1442	OMU	N3-C2-N1	3.61	119.59	114.89
40	L5	3785	A2M	C1'-N9-C4	-3.61	120.30	126.64
40	L5	4306	OMU	C5-C4-N3	3.61	119.86	114.80
19	S2	116	OMU	N3-C2-N1	3.60	119.58	114.89
40	L5	3825	A2M	C1'-N9-C4	-3.60	120.32	126.64
40	L5	3925	OMU	C5-C4-N3	3.58	119.81	114.80
40	L5	4590	A2M	C3'-C2'-C1'	-3.57	95.97	102.81
19	S2	1031	A2M	C1'-N9-C4	-3.57	120.38	126.64
19	S2	799	OMU	C5-C4-N3	3.56	119.79	114.80
19	S2	1248	B8N	C1'-C5-C4	3.56	123.00	117.61
19	S2	484	A2M	C1'-N9-C4	-3.56	120.39	126.64
40	L5	4571	A2M	C1'-N9-C4	-3.53	120.44	126.64
19	S2	1248	B8N	N3-C2-N1	3.51	121.00	116.72
40	L5	3825	A2M	C3'-C2'-C1'	-3.50	96.11	102.81
19	S2	116	OMU	C5-C4-N3	3.47	119.67	114.80
19	S2	172	OMU	C5-C4-N3	3.47	119.66	114.80
19	S2	1832	6MZ	C4'-O4'-C1'	-3.47	106.75	109.92
19	S2	121	OMU	C5-C4-N3	3.46	119.64	114.80
40	L5	3818	UY1	C6-C5-C4	3.42	120.48	118.17
40	L5	3830	A2M	C1'-N9-C4	-3.42	120.63	126.64
19	S2	166	A2M	C1'-N9-C4	-3.42	120.63	126.64
40	L5	398	A2M	C1'-N9-C4	-3.41	120.65	126.64
40	L5	4620	OMU	C5-C4-N3	3.40	119.57	114.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4636	PSU	C6-C5-C4	3.40	120.47	118.17
19	S2	354	OMU	C5-C4-N3	3.39	119.54	114.80
40	L5	1326	A2M	C1'-N9-C4	-3.38	120.71	126.64
40	L5	2401	A2M	C3'-C2'-C1'	-3.37	96.36	102.81
40	L5	3785	A2M	O3'-C3'-C2'	3.36	120.60	111.19
40	L5	1326	A2M	C4'-O4'-C1'	-3.36	106.85	109.92
40	L5	4571	A2M	O3'-C3'-C2'	3.36	120.58	111.19
40	L5	400	A2M	C3'-C2'-C1'	-3.33	96.42	102.81
40	L5	2351	OMC	C1'-N1-C2	3.31	125.75	118.44
40	L5	4500	PSU	O2-C2-N1	-3.29	119.39	122.79
40	L5	3718	A2M	C3'-C2'-C1'	-3.29	96.50	102.81
40	L5	2787	A2M	C1'-N9-C4	-3.28	120.88	126.64
19	S2	576	A2M	C3'-C2'-C1'	-3.28	96.53	102.81
19	S2	159	A2M	C3'-C2'-C1'	-3.27	96.55	102.81
40	L5	2787	A2M	O3'-C3'-C2'	3.27	120.34	111.19
42	L8	69	PSU	O2-C2-N1	-3.27	119.42	122.79
40	L5	400	A2M	C1'-N9-C4	-3.27	120.90	126.64
40	L5	1524	A2M	O3'-C3'-C2'	3.26	120.32	111.19
40	L5	4532	PSU	O2-C2-N1	-3.26	119.42	122.79
19	S2	99	A2M	C3'-C2'-C1'	-3.25	96.59	102.81
40	L5	2363	A2M	C1'-N9-C4	-3.25	120.94	126.64
19	S2	576	A2M	C1'-N9-C4	-3.24	120.94	126.64
19	S2	468	A2M	C3'-C2'-C1'	-3.24	96.60	102.81
40	L5	4523	A2M	C3'-C2'-C1'	-3.24	96.60	102.81
40	L5	398	A2M	O3'-C3'-C2'	3.24	120.25	111.19
40	L5	3867	A2M	C1'-N9-C4	-3.22	120.98	126.64
19	S2	1850	MA6	C4'-O4'-C1'	-3.21	106.98	109.92
40	L5	3718	A2M	O3'-C3'-C2'	3.21	120.16	111.19
40	L5	3830	A2M	O3'-C3'-C2'	3.18	120.09	111.19
40	L5	398	A2M	C3'-C2'-C1'	-3.18	96.72	102.81
40	L5	3718	A2M	C1'-N9-C4	-3.17	121.07	126.64
19	S2	801	PSU	C6-N1-C2	-3.16	119.76	122.69
40	L5	1534	A2M	C1'-N9-C4	-3.15	121.10	126.64
40	L5	2815	A2M	C1'-N9-C4	-3.15	121.11	126.64
40	L5	5001	PSU	O2-C2-N1	-3.14	119.55	122.79
40	L5	3695	PSU	O2-C2-N1	-3.14	119.56	122.79
19	S2	27	A2M	O3'-C3'-C2'	3.13	119.95	111.19
19	S2	1174	PSU	O2-C2-N1	-3.13	119.56	122.79
40	L5	1683	PSU	O2-C2-N1	-3.13	119.56	122.79
40	L5	1871	A2M	O3'-C3'-C2'	3.12	119.92	111.19
19	S2	27	A2M	C3'-C2'-C1'	-3.11	96.85	102.81
19	S2	468	A2M	O3'-C3'-C2'	3.10	119.87	111.19

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	576	A2M	O3'-C3'-C2'	3.10	119.87	111.19
19	S2	627	OMU	O4-C4-C5	-3.10	119.82	125.16
40	L5	3867	A2M	C2'-C1'-N9	3.09	119.43	112.56
40	L5	4579	PSU	O2-C2-N1	-3.09	119.60	122.79
19	S2	1442	OMU	O4-C4-C5	-3.09	119.84	125.16
19	S2	428	OMU	O4-C4-C5	-3.08	119.86	125.16
19	S2	99	A2M	O3'-C3'-C2'	3.07	119.79	111.19
19	S2	1272	OMC	C1'-N1-C2	3.07	125.22	118.44
19	S2	1046	PSU	O2-C2-N1	-3.07	119.63	122.79
40	L5	1323	A2M	C3'-C2'-C1'	-3.07	96.94	102.81
40	L5	1536	PSU	O2-C2-N1	-3.06	119.63	122.79
19	S2	1326	OMU	O4-C4-C5	-3.06	119.88	125.16
19	S2	1004	PSU	C6-N1-C2	-3.06	119.85	122.69
40	L5	4498	OMU	O4-C4-C5	-3.05	119.90	125.16
19	S2	1639	G7M	C2-N1-C6	-3.04	119.54	125.11
19	S2	1383	A2M	O3'-C3'-C2'	3.03	119.68	111.19
19	S2	484	A2M	O3'-C3'-C2'	3.02	119.65	111.19
40	L5	2837	OMU	O4-C4-C5	-3.02	119.95	125.16
40	L5	3844	PSU	C6-N1-C2	-3.02	119.89	122.69
19	S2	668	A2M	O3'-C3'-C2'	3.02	119.63	111.19
40	L5	2401	A2M	O3'-C3'-C2'	3.01	119.61	111.19
42	L8	69	PSU	C6-N1-C2	-3.00	119.90	122.69
19	S2	1232	PSU	O2-C2-N1	-3.00	119.69	122.79
40	L5	2839	PSU	C6-N1-C2	-2.98	119.92	122.69
40	L5	1323	A2M	O3'-C3'-C2'	2.98	119.53	111.19
19	S2	166	A2M	O3'-C3'-C2'	2.97	119.49	111.19
40	L5	4293	PSU	O2-C2-N1	-2.95	119.75	122.79
40	L5	2363	A2M	C3'-C2'-C1'	-2.94	97.17	102.81
19	S2	681	PSU	C6-N1-C2	-2.94	119.96	122.69
19	S2	1367	PSU	O2-C2-N1	-2.94	119.76	122.79
19	S2	1337	4AC	N4-C4-N3	2.94	118.63	113.87
19	S2	651	PSU	O2-C2-N1	-2.93	119.76	122.79
19	S2	799	OMU	O4-C4-C5	-2.93	120.11	125.16
19	S2	116	OMU	O4-C4-C5	-2.93	120.11	125.16
40	L5	1781	PSU	O2-C2-N1	-2.92	119.78	122.79
40	L5	4500	PSU	C6-N1-C2	-2.92	119.98	122.69
40	L5	4442	PSU	O2-C2-N1	-2.92	119.78	122.79
19	S2	172	OMU	O4-C4-C5	-2.91	120.14	125.16
40	L5	3825	A2M	O3'-C3'-C2'	2.91	119.32	111.19
19	S2	1288	OMU	O4-C4-C5	-2.91	120.15	125.16
40	L5	1323	A2M	C1'-N9-C4	-2.91	121.53	126.64
40	L5	2815	A2M	O3'-C3'-C2'	2.91	119.32	111.19

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4552	PSU	C6-N1-C2	-2.90	120.00	122.69
40	L5	1323	A2M	C2'-C1'-N9	2.90	119.00	112.56
19	S2	1046	PSU	C6-N1-C2	-2.89	120.01	122.69
40	L5	1582	PSU	O2-C2-N1	-2.89	119.81	122.79
40	L5	4457	PSU	O2-C2-N1	-2.88	119.81	122.79
40	L5	3925	OMU	O4-C4-C5	-2.88	120.19	125.16
40	L5	3701	OMC	O2-C2-N3	-2.87	117.81	122.33
19	S2	159	A2M	O3'-C3'-C2'	2.86	119.20	111.19
40	L5	3701	OMC	O2-C2-N1	2.86	124.51	118.90
40	L5	4620	OMU	O4-C4-C5	-2.85	120.24	125.16
40	L5	3695	PSU	C6-N1-C2	-2.85	120.04	122.69
40	L5	4471	PSU	O2-C2-N1	-2.85	119.85	122.79
19	S2	1045	PSU	O2-C2-N1	-2.84	119.86	122.79
40	L5	1683	PSU	C6-N1-C2	-2.84	120.05	122.69
40	L5	4636	PSU	O2-C2-N1	-2.84	119.86	122.79
40	L5	1744	PSU	O2-C2-N1	-2.84	119.86	122.79
19	S2	1442	OMU	C1'-N1-C2	2.83	122.68	117.59
40	L5	5010	PSU	O2-C2-N1	-2.83	119.87	122.79
40	L5	4471	PSU	C6-N1-C2	-2.83	120.07	122.69
40	L5	4628	PSU	O2-C2-N1	-2.82	119.88	122.79
40	L5	4552	PSU	O2-C2-N1	-2.82	119.88	122.79
40	L5	1534	A2M	C3'-C2'-C1'	-2.82	97.41	102.81
40	L5	2787	A2M	O4'-C1'-C2'	2.82	111.41	106.61
19	S2	1031	A2M	O3'-C3'-C2'	2.81	119.05	111.19
40	L5	400	A2M	O3'-C3'-C2'	2.81	119.04	111.19
40	L5	1792	PSU	O2-C2-N1	-2.80	119.90	122.79
40	L5	2632	PSU	O2-C2-N1	-2.80	119.90	122.79
40	L5	4306	OMU	O4-C4-C5	-2.80	120.34	125.16
40	L5	4973	PSU	O2-C2-N1	-2.80	119.90	122.79
40	L5	1536	PSU	C6-N1-C2	-2.80	120.09	122.69
19	S2	121	OMU	O4-C4-C5	-2.79	120.35	125.16
40	L5	4312	PSU	C6-N1-C2	-2.79	120.10	122.69
19	S2	863	PSU	O2-C2-N1	-2.79	119.92	122.79
19	S2	406	PSU	O2-C2-N1	-2.78	119.92	122.79
40	L5	3822	PSU	O2-C2-N1	-2.78	119.92	122.79
40	L5	4312	PSU	O2-C2-N1	-2.78	119.93	122.79
40	L5	4576	PSU	C6-N1-C2	-2.77	120.12	122.69
19	S2	1244	PSU	O2-C2-N1	-2.77	119.93	122.79
40	L5	3637	PSU	C6-N1-C2	-2.77	120.12	122.69
40	L5	2363	A2M	O3'-C3'-C2'	2.76	118.90	111.19
40	L5	1524	A2M	C1'-N9-C4	-2.75	121.80	126.64
19	S2	1244	PSU	C6-N1-C2	-2.75	120.14	122.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	2363	A2M	C2'-C1'-N9	2.75	118.67	112.56
40	L5	3785	A2M	C3'-C2'-C1'	-2.75	97.54	102.81
19	S2	1081	PSU	O2-C2-N1	-2.75	119.95	122.79
40	L5	3639	PSU	C6-N1-C2	-2.75	120.14	122.69
40	L5	1677	PSU	O2-C2-N1	-2.75	119.95	122.79
40	L5	4532	PSU	C6-N1-C2	-2.74	120.14	122.69
40	L5	3639	PSU	O2-C2-N1	-2.74	119.97	122.79
19	S2	801	PSU	O2-C2-N1	-2.73	119.97	122.79
40	L5	3851	PSU	O2-C2-N1	-2.72	119.98	122.79
40	L5	4227	OMU	O4-C4-C5	-2.72	120.47	125.16
40	L5	1781	PSU	C6-N1-C2	-2.72	120.17	122.69
40	L5	1862	PSU	O2-C2-N1	-2.72	119.99	122.79
40	L5	4493	PSU	C6-N1-C2	-2.71	120.17	122.69
19	S2	1177	PSU	O2-C2-N1	-2.71	119.99	122.79
40	L5	4579	PSU	C6-N1-C2	-2.71	120.18	122.69
40	L5	4521	PSU	C6-C5-C4	2.70	120.00	118.17
40	L5	1524	A2M	O4'-C1'-C2'	2.70	111.20	106.61
19	S2	966	PSU	O2-C2-N1	-2.69	120.01	122.79
19	S2	649	PSU	C6-N1-C2	-2.69	120.19	122.69
40	L5	3867	A2M	C4'-O4'-C1'	-2.69	107.46	109.92
40	L5	4500	PSU	C6-C5-C4	2.69	119.99	118.17
19	S2	354	OMU	O4-C4-C5	-2.68	120.54	125.16
40	L5	4576	PSU	O2-C2-N1	-2.68	120.02	122.79
40	L5	2787	A2M	C4-C5-N7	2.68	112.17	109.34
19	S2	814	PSU	O2-C2-N1	-2.68	120.03	122.79
40	L5	4689	PSU	O2-C2-N1	-2.67	120.03	122.79
40	L5	4523	A2M	C4-C5-N7	2.66	112.15	109.34
19	S2	468	A2M	O4'-C1'-C2'	2.66	111.14	106.61
40	L5	4576	PSU	C6-C5-C4	2.66	119.97	118.17
40	L5	4457	PSU	C6-N1-C2	-2.66	120.23	122.69
19	S2	1174	PSU	C6-N1-C2	-2.65	120.23	122.69
40	L5	4293	PSU	C6-N1-C2	-2.65	120.23	122.69
40	L5	1534	A2M	C4-C5-N7	2.65	112.14	109.34
19	S2	1232	PSU	C6-N1-C2	-2.64	120.24	122.69
40	L5	2815	A2M	C4-C5-N7	2.64	112.12	109.34
19	S2	1177	PSU	C6-N1-C2	-2.64	120.25	122.69
19	S2	406	PSU	C6-N1-C2	-2.63	120.25	122.69
40	L5	1744	PSU	C6-N1-C2	-2.63	120.25	122.69
40	L5	4296	PSU	O2-C2-N1	-2.63	120.07	122.79
40	L5	4590	A2M	O3'-C3'-C2'	2.63	118.56	111.19
40	L5	1871	A2M	C4-C5-N7	2.63	112.12	109.34
40	L5	3844	PSU	O2-C2-N1	-2.63	120.08	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	5010	PSU	C6-N1-C2	-2.63	120.25	122.69
40	L5	3853	PSU	O2-C2-N1	-2.63	120.08	122.79
40	L5	4442	PSU	C6-N1-C2	-2.63	120.25	122.69
40	L5	4973	PSU	C6-N1-C2	-2.63	120.25	122.69
19	S2	1031	A2M	C3'-C2'-C1'	-2.62	97.79	102.81
40	L5	2815	A2M	C2'-C1'-N9	2.62	118.38	112.56
40	L5	4523	A2M	O3'-C3'-C2'	2.61	118.49	111.19
40	L5	3925	OMU	O2-C2-N1	-2.61	119.40	122.80
19	S2	1081	PSU	C6-C5-C4	2.61	119.93	118.17
40	L5	3920	PSU	O2-C2-N1	-2.60	120.11	122.79
19	S2	668	A2M	O4'-C1'-C2'	2.59	111.03	106.61
40	L5	1782	PSU	O2-C2-N1	-2.59	120.11	122.79
40	L5	4521	PSU	O2-C2-N1	-2.59	120.11	122.79
40	L5	3818	UY1	C6-N1-C2	-2.59	120.29	122.69
19	S2	863	PSU	C6-N1-C2	-2.59	120.29	122.69
19	S2	644	OMG	O6-C6-C5	2.58	129.44	124.32
40	L5	4493	PSU	O2-C2-N1	-2.58	120.13	122.79
40	L5	3818	UY1	O2-C2-N1	-2.57	120.13	122.79
40	L5	4673	PSU	C6-N1-C2	-2.57	120.31	122.69
40	L5	4673	PSU	O2-C2-N1	-2.57	120.14	122.79
40	L5	1326	A2M	O3'-C3'-C2'	2.56	118.36	111.19
40	L5	1862	PSU	C6-N1-C2	-2.56	120.31	122.69
40	L5	3822	PSU	C6-N1-C2	-2.56	120.32	122.69
40	L5	398	A2M	C4-C5-N7	2.55	112.04	109.34
19	S2	814	PSU	C6-N1-C2	-2.55	120.32	122.69
40	L5	4403	PSU	C6-N1-C2	-2.55	120.33	122.69
40	L5	4447	5MC	C5-C4-N4	-2.54	117.81	121.39
40	L5	4361	PSU	O2-C2-N1	-2.54	120.17	122.79
40	L5	4618	OMG	O6-C6-C5	2.53	129.34	124.32
19	S2	1248	B8N	O4-C4-N3	-2.53	115.88	119.99
40	L5	400	A2M	C4-C5-N7	2.52	112.00	109.34
40	L5	3867	A2M	C4-C5-N7	2.52	112.00	109.34
40	L5	3920	PSU	C6-N1-C2	-2.52	120.35	122.69
19	S2	576	A2M	C4-C5-N7	2.51	111.99	109.34
19	S2	1383	A2M	C4-C5-N7	2.51	111.98	109.34
19	S2	1031	A2M	C4-C5-N7	2.50	111.98	109.34
40	L5	4628	PSU	C6-N1-C2	-2.50	120.37	122.69
19	S2	484	A2M	C4-C5-N7	2.49	111.97	109.34
40	L5	3718	A2M	C4-C5-N7	2.49	111.97	109.34
19	S2	468	A2M	C4-C5-N7	2.49	111.97	109.34
40	L5	2363	A2M	C4-C5-N7	2.49	111.97	109.34
19	S2	1367	PSU	C6-N1-C2	-2.49	120.38	122.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	1782	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	3627	OMG	O6-C6-C5	2.49	129.26	124.32
19	S2	1004	PSU	O2-C2-N1	-2.49	120.22	122.79
19	S2	484	A2M	C4'-O4'-C1'	-2.48	107.65	109.92
19	S2	1045	PSU	C6-C5-C4	2.48	119.85	118.17
40	L5	4623	OMG	O6-C6-C5	2.48	129.24	124.32
19	S2	109	PSU	O2-C2-N1	-2.48	120.23	122.79
19	S2	93	PSU	O2-C2-N1	-2.47	120.24	122.79
40	L5	4571	A2M	C4-C5-N7	2.47	111.95	109.34
19	S2	1272	OMC	C1'-N1-C6	-2.47	115.50	120.78
19	S2	1056	PSU	O2-C2-N1	-2.47	120.24	122.79
40	L5	1792	PSU	C6-N1-C2	-2.47	120.40	122.69
40	L5	4196	OMG	O6-C6-C5	2.47	129.21	124.32
40	L5	5001	PSU	C6-N1-C2	-2.46	120.41	122.69
19	S2	966	PSU	C6-C5-C4	2.46	119.83	118.17
19	S2	866	PSU	C6-C5-C4	2.46	119.83	118.17
40	L5	1582	PSU	C6-N1-C2	-2.45	120.41	122.69
40	L5	4353	PSU	O2-C2-N1	-2.45	120.26	122.79
19	S2	105	PSU	C6-N1-C2	-2.45	120.41	122.69
40	L5	4299	PSU	C6-N1-C2	-2.45	120.42	122.69
19	S2	105	PSU	O2-C2-N1	-2.45	120.26	122.79
40	L5	2815	A2M	C3'-C2'-C1'	-2.45	98.12	102.81
19	S2	1832	6MZ	C9-N6-C6	-2.45	120.58	122.85
40	L5	2401	A2M	C4-C5-N7	2.44	111.92	109.34
40	L5	4392	OMG	O6-C6-C5	2.44	129.16	124.32
19	S2	109	PSU	C6-N1-C2	-2.44	120.43	122.69
40	L5	1860	PSU	O2-C2-N1	-2.43	120.28	122.79
42	L8	55	PSU	C6-N1-C2	-2.43	120.44	122.69
19	S2	354	OMU	O2-C2-N1	-2.42	119.64	122.80
40	L5	3808	OMC	C1'-N1-C2	2.42	123.78	118.44
40	L5	1323	A2M	C4-C5-N7	2.41	111.89	109.34
40	L5	4494	OMG	O6-C6-C5	2.41	129.10	124.32
40	L5	1326	A2M	C3'-C2'-C1'	-2.41	98.19	102.81
40	L5	4299	PSU	O2-C2-N1	-2.41	120.30	122.79
40	L5	3785	A2M	C4-C5-N7	2.41	111.88	109.34
40	L5	3867	A2M	O3'-C3'-C2'	2.40	117.92	111.19
40	L5	3822	PSU	C6-C5-C4	2.40	119.80	118.17
42	L8	55	PSU	O2-C2-N1	-2.40	120.31	122.79
19	S2	1248	B8N	O4-C4-C5	-2.39	118.44	122.58
19	S2	436	OMG	O6-C6-C5	2.39	129.06	124.32
40	L5	3884	PSU	O2-C2-N1	-2.39	120.32	122.79
40	L5	2839	PSU	O2-C2-N1	-2.39	120.33	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1056	PSU	C6-N1-C2	-2.38	120.48	122.69
19	S2	668	A2M	C4-C5-N7	2.38	111.85	109.34
40	L5	1524	A2M	C4-C5-N7	2.38	111.85	109.34
19	S2	166	A2M	O4'-C1'-C2'	2.37	110.65	106.61
40	L5	2363	A2M	O4'-C1'-C2'	2.37	110.65	106.61
40	L5	3830	A2M	C4-C5-N7	2.37	111.84	109.34
19	S2	93	PSU	C6-N1-C2	-2.37	120.49	122.69
40	L5	3792	OMG	O6-C6-C5	2.37	129.02	124.32
40	L5	3637	PSU	O2-C2-N1	-2.36	120.35	122.79
40	L5	4293	PSU	C6-C5-C4	2.36	119.77	118.17
40	L5	3785	A2M	O4'-C1'-N9	2.36	111.88	108.75
19	S2	99	A2M	C4-C5-N7	2.36	111.83	109.34
40	L5	3884	PSU	C6-N1-C2	-2.36	120.50	122.69
40	L5	2351	OMC	C1'-N1-C6	-2.35	115.75	120.78
19	S2	866	PSU	O2-C2-N1	-2.35	120.36	122.79
19	S2	484	A2M	O4'-C1'-C2'	2.35	110.61	106.61
40	L5	1522	OMG	O6-C6-C5	2.35	128.98	124.32
40	L5	4972	PSU	O2-C2-N1	-2.35	120.36	122.79
40	L5	4523	A2M	O4'-C1'-C2'	2.34	110.60	106.61
40	L5	3825	A2M	C4-C5-N7	2.34	111.81	109.34
19	S2	166	A2M	C4-C5-N7	2.33	111.80	109.34
19	S2	1248	B8N	O4'-C1'-C2'	2.33	108.38	105.15
40	L5	4431	PSU	C6-N1-C2	-2.33	120.53	122.69
40	L5	4972	PSU	C6-N1-C2	-2.32	120.54	122.69
19	S2	683	OMG	O6-C6-C5	2.32	128.92	124.32
40	L5	2364	OMG	O6-C6-C5	2.32	128.92	124.32
19	S2	509	OMG	O6-C6-C5	2.32	128.91	124.32
19	S2	651	PSU	C6-N1-C2	-2.31	120.54	122.69
40	L5	1316	OMG	O6-C6-C5	2.31	128.91	124.32
40	L5	3853	PSU	C6-N1-C2	-2.31	120.55	122.69
40	L5	1860	PSU	C6-N1-C2	-2.31	120.55	122.69
40	L5	2876	OMG	O6-C6-C5	2.30	128.89	124.32
40	L5	4370	OMG	O6-C6-C5	2.30	128.88	124.32
40	L5	1744	PSU	C6-C5-C4	2.30	119.73	118.17
40	L5	4498	OMU	O2-C2-N1	-2.30	119.81	122.80
19	S2	1045	PSU	C6-N1-C2	-2.30	120.56	122.69
19	S2	867	OMG	O6-C6-C5	2.29	128.87	124.32
40	L5	1326	A2M	O4'-C1'-C2'	2.29	110.52	106.61
40	L5	4590	A2M	C4-C5-N7	2.29	111.76	109.34
40	L5	2422	OMC	C1'-N1-C2	2.29	123.49	118.44
40	L5	1534	A2M	O4'-C1'-C2'	2.28	110.50	106.61
40	L5	2632	PSU	C6-N1-C2	-2.28	120.57	122.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	3744	OMG	O6-C6-C5	2.28	128.84	124.32
40	L5	4442	PSU	O4'-C1'-C2'	2.28	108.30	105.15
19	S2	1367	PSU	C6-C5-C4	2.27	119.71	118.17
40	L5	4228	OMG	O6-C6-C5	2.27	128.82	124.32
40	L5	4296	PSU	C6-N1-C2	-2.27	120.58	122.69
40	L5	4431	PSU	O2-C2-N1	-2.27	120.45	122.79
40	L5	4361	PSU	C6-N1-C2	-2.27	120.59	122.69
19	S2	649	PSU	O2-C2-N1	-2.27	120.45	122.79
40	L5	4620	OMU	O2-C2-N1	-2.27	119.85	122.80
40	L5	4403	PSU	O4'-C1'-C2'	2.25	108.27	105.15
40	L5	4442	PSU	C6-C5-C4	2.25	119.69	118.17
40	L5	4353	PSU	C6-N1-C2	-2.25	120.61	122.69
40	L5	1625	OMG	O6-C6-C5	2.24	128.77	124.32
40	L5	2424	OMG	O6-C6-C5	2.24	128.77	124.32
19	S2	601	OMG	O6-C6-C5	2.24	128.76	124.32
40	L5	1322	1MA	C5-C6-N1	-2.24	110.74	113.95
19	S2	627	OMU	O2-C2-N1	-2.24	119.89	122.80
19	S2	1326	OMU	O2-C2-N1	-2.23	119.89	122.80
40	L5	3851	PSU	C6-N1-C2	-2.23	120.62	122.69
40	L5	2815	A2M	O4'-C1'-C2'	2.23	110.40	106.61
19	S2	1328	OMG	O6-C6-C5	2.23	128.73	124.32
19	S2	27	A2M	C4-C5-N7	2.22	111.68	109.34
40	L5	1326	A2M	C4-C5-N7	2.22	111.68	109.34
40	L5	4403	PSU	O2-C2-N1	-2.22	120.50	122.79
19	S2	1337	4AC	C5-C4-N4	-2.22	119.20	122.94
40	L5	2787	A2M	O4'-C4'-C3'	2.22	109.55	105.15
42	L8	69	PSU	O4'-C1'-C2'	2.21	108.21	105.15
19	S2	159	A2M	C4-C5-N7	2.21	111.67	109.34
40	L5	4636	PSU	O4'-C1'-C2'	2.20	108.20	105.15
40	L5	4636	PSU	C6-N1-C2	-2.20	120.65	122.69
40	L5	1326	A2M	C2'-C1'-N9	2.20	117.45	112.56
19	S2	166	A2M	C3'-C2'-C1'	-2.20	98.60	102.81
40	L5	400	A2M	C2'-C1'-N9	2.20	117.44	112.56
40	L5	4521	PSU	C6-N1-C2	-2.20	120.65	122.69
40	L5	2861	OMC	C1'-N1-C2	2.20	123.29	118.44
19	S2	866	PSU	C6-N1-C2	-2.19	120.66	122.69
42	L8	75	OMG	O6-C6-C5	2.19	128.66	124.32
40	L5	1322	1MA	CM1-N1-C6	-2.19	116.76	120.15
19	S2	428	OMU	O2-C2-N1	-2.19	119.95	122.80
40	L5	1534	A2M	O3'-C3'-C2'	2.19	117.30	111.19
40	L5	1323	A2M	O4'-C1'-C2'	2.18	110.33	106.61
40	L5	3822	PSU	O4'-C1'-C2'	2.17	108.16	105.15

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	966	PSU	C6-N1-C2	-2.17	120.68	122.69
19	S2	1031	A2M	O4'-C1'-C2'	2.16	110.29	106.61
40	L5	3899	OMG	O6-C6-C5	2.16	128.60	124.32
19	S2	681	PSU	O2-C2-N1	-2.16	120.56	122.79
40	L5	4636	PSU	C5-C6-N1	-2.16	119.15	122.14
19	S2	686	PSU	O2-C2-N1	-2.13	120.59	122.79
19	S2	166	A2M	C2'-C1'-N9	2.12	117.28	112.56
19	S2	1081	PSU	C6-N1-C2	-2.12	120.72	122.69
40	L5	4637	OMG	O6-C6-C5	2.12	128.53	124.32
40	L5	4499	OMG	O6-C6-C5	2.12	128.52	124.32
40	L5	1322	1MA	N1-C6-N6	2.12	125.02	119.71
40	L5	1677	PSU	O4'-C1'-C2'	2.10	108.06	105.15
40	L5	1534	A2M	C2'-C1'-N9	2.10	117.22	112.56
40	L5	4403	PSU	C6-C5-C4	2.09	119.59	118.17
19	S2	484	A2M	O4'-C4'-C3'	2.09	109.29	105.15
19	S2	1288	OMU	O2-C2-N1	-2.08	120.09	122.80
19	S2	27	A2M	O4'-C1'-C2'	2.06	110.12	106.61
40	L5	4571	A2M	O3'-C3'-C4'	-2.06	105.16	111.08
19	S2	166	A2M	O3'-C3'-C4'	-2.05	105.19	111.08
19	S2	172	OMU	O2-C2-N1	-2.05	120.13	122.80
40	L5	4227	OMU	O2-C2-N1	-2.05	120.13	122.80
40	L5	4973	PSU	C6-C5-C4	2.04	119.55	118.17
40	L5	3884	PSU	C6-C5-C4	2.03	119.55	118.17
40	L5	4628	PSU	O4'-C1'-C2'	2.03	107.96	105.15
19	S2	105	PSU	C6-C5-C4	2.03	119.54	118.17
40	L5	1677	PSU	C6-C5-C4	2.02	119.54	118.17
40	L5	3637	PSU	C6-C5-C4	2.02	119.54	118.17
40	L5	1524	A2M	O4'-C1'-N9	2.02	111.42	108.75
40	L5	3867	A2M	O4'-C4'-C3'	2.01	109.14	105.15
40	L5	1744	PSU	O4'-C1'-C2'	2.01	107.93	105.15
40	L5	2787	A2M	C4'-O4'-C1'	-2.01	108.09	109.92
40	L5	4228	OMG	C5-C6-N1	-2.00	110.24	114.07
40	L5	3920	PSU	O4'-C1'-C2'	2.00	107.92	105.15
40	L5	4521	PSU	O4'-C1'-C2'	2.00	107.92	105.15

There are no chirality outliers.

All (149) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	S2	27	A2M	C1'-C2'-O2'-CM'
19	S2	166	A2M	C1'-C2'-O2'-CM'
19	S2	468	A2M	C1'-C2'-O2'-CM'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
19	S2	576	A2M	C1'-C2'-O2'-CM'
19	S2	601	OMG	C1'-C2'-O2'-CM2
19	S2	644	OMG	C1'-C2'-O2'-CM2
19	S2	799	OMU	C3'-C4'-C5'-O5'
19	S2	799	OMU	O4'-C4'-C5'-O5'
19	S2	863	PSU	C3'-C4'-C5'-O5'
19	S2	863	PSU	O4'-C4'-C5'-O5'
19	S2	1031	A2M	C1'-C2'-O2'-CM'
19	S2	1248	B8N	O4'-C4'-C5'-O5'
19	S2	1272	OMC	C3'-C4'-C5'-O5'
19	S2	1272	OMC	O4'-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
40	L5	400	A2M	C1'-C2'-O2'-CM'
40	L5	1326	A2M	O4'-C4'-C5'-O5'
40	L5	1326	A2M	C1'-C2'-O2'-CM'
40	L5	1340	OMC	C1'-C2'-O2'-CM2
40	L5	1625	OMG	O4'-C4'-C5'-O5'
40	L5	2351	OMC	C1'-C2'-O2'-CM2
40	L5	2787	A2M	C1'-C2'-O2'-CM'
40	L5	2824	OMC	C1'-C2'-O2'-CM2
40	L5	2861	OMC	C1'-C2'-O2'-CM2
40	L5	2876	OMG	O4'-C4'-C5'-O5'
40	L5	2876	OMG	C3'-C4'-C5'-O5'
40	L5	3701	OMC	O4'-C4'-C5'-O5'
40	L5	3718	A2M	C1'-C2'-O2'-CM'
40	L5	3792	OMG	O4'-C4'-C5'-O5'
40	L5	3867	A2M	C3'-C4'-C5'-O5'
40	L5	3867	A2M	C1'-C2'-O2'-CM'
40	L5	4196	OMG	C1'-C2'-O2'-CM2
40	L5	4220	6MZ	O4'-C4'-C5'-O5'
40	L5	4447	5MC	C2'-C1'-N1-C2
40	L5	4447	5MC	C2'-C1'-N1-C6
40	L5	4523	A2M	C1'-C2'-O2'-CM'
40	L5	4590	A2M	O4'-C4'-C5'-O5'
40	L5	4636	PSU	C2'-C1'-C5-C4
40	L5	4637	OMG	O4'-C4'-C5'-O5'
40	L5	4637	OMG	C1'-C2'-O2'-CM2
42	L8	75	OMG	C1'-C2'-O2'-CM2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
19	S2	428	OMU	C2'-C1'-N1-C6
40	L5	3701	OMC	C2'-C1'-N1-C2
19	S2	576	A2M	O4'-C4'-C5'-O5'
19	S2	644	OMG	O4'-C4'-C5'-O5'
40	L5	1326	A2M	C3'-C4'-C5'-O5'
40	L5	1536	PSU	C3'-C4'-C5'-O5'
40	L5	1536	PSU	O4'-C4'-C5'-O5'
40	L5	2364	OMG	O4'-C4'-C5'-O5'
40	L5	2401	A2M	C3'-C4'-C5'-O5'
40	L5	2815	A2M	O4'-C4'-C5'-O5'
40	L5	4590	A2M	C3'-C4'-C5'-O5'
40	L5	4618	OMG	C3'-C4'-C5'-O5'
40	L5	3701	OMC	C2'-C1'-N1-C6
19	S2	576	A2M	C3'-C4'-C5'-O5'
19	S2	801	PSU	C3'-C4'-C5'-O5'
19	S2	1288	OMU	C3'-C4'-C5'-O5'
19	S2	1442	OMU	O4'-C4'-C5'-O5'
19	S2	1703	OMC	O4'-C4'-C5'-O5'
40	L5	398	A2M	O4'-C4'-C5'-O5'
40	L5	1625	OMG	C3'-C4'-C5'-O5'
40	L5	3701	OMC	C3'-C4'-C5'-O5'
40	L5	3867	A2M	O4'-C4'-C5'-O5'
40	L5	4500	PSU	O4'-C4'-C5'-O5'
19	S2	428	OMU	C2'-C1'-N1-C2
40	L5	3818	UY1	C1'-C2'-O2'-CM2
40	L5	3792	OMG	C3'-C4'-C5'-O5'
40	L5	4500	PSU	C3'-C4'-C5'-O5'
19	S2	644	OMG	C3'-C4'-C5'-O5'
19	S2	1045	PSU	C3'-C4'-C5'-O5'
19	S2	1248	B8N	C3'-C4'-C5'-O5'
40	L5	3899	OMG	C3'-C4'-C5'-O5'
40	L5	4220	6MZ	C3'-C4'-C5'-O5'
40	L5	4637	OMG	C3'-C4'-C5'-O5'
19	S2	801	PSU	O4'-C4'-C5'-O5'
19	S2	1045	PSU	O4'-C4'-C5'-O5'
40	L5	2401	A2M	O4'-C4'-C5'-O5'
40	L5	2815	A2M	C3'-C4'-C5'-O5'
40	L5	3830	A2M	O4'-C4'-C5'-O5'
40	L5	4228	OMG	O4'-C4'-C5'-O5'
40	L5	4571	A2M	O4'-C4'-C5'-O5'
40	L5	4618	OMG	O4'-C4'-C5'-O5'
19	S2	436	OMG	O4'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
19	S2	1248	B8N	N34-C33-C34-O36
40	L5	2364	OMG	C3'-C4'-C5'-O5'
40	L5	3830	A2M	C3'-C4'-C5'-O5'
40	L5	3899	OMG	O4'-C4'-C5'-O5'
40	L5	4228	OMG	C3'-C4'-C5'-O5'
40	L5	4571	A2M	C3'-C4'-C5'-O5'
40	L5	3818	UY1	C4'-C5'-O5'-P
40	L5	4590	A2M	C4'-C5'-O5'-P
40	L5	398	A2M	C3'-C4'-C5'-O5'
40	L5	3782	5MC	O4'-C4'-C5'-O5'
40	L5	4447	5MC	O4'-C4'-C5'-O5'
19	S2	1383	A2M	O4'-C4'-C5'-O5'
19	S2	1442	OMU	C3'-C4'-C5'-O5'
40	L5	1524	A2M	O4'-C4'-C5'-O5'
40	L5	1524	A2M	C3'-C4'-C5'-O5'
19	S2	668	A2M	O4'-C4'-C5'-O5'
40	L5	1781	PSU	C3'-C4'-C5'-O5'
40	L5	2787	A2M	C3'-C4'-C5'-O5'
19	S2	867	OMG	C3'-C4'-C5'-O5'
19	S2	1383	A2M	C3'-C4'-C5'-O5'
40	L5	2422	OMC	C3'-C4'-C5'-O5'
19	S2	428	OMU	O4'-C1'-N1-C6
19	S2	867	OMG	C4'-C5'-O5'-P
19	S2	428	OMU	O4'-C1'-N1-C2
40	L5	4370	OMG	C3'-C2'-O2'-CM2
19	S2	1490	OMG	C4'-C5'-O5'-P
42	L8	75	OMG	C4'-C5'-O5'-P
19	S2	406	PSU	O4'-C1'-C5-C4
19	S2	1004	PSU	O4'-C1'-C5-C4
19	S2	1248	B8N	O4'-C1'-C5-C4
40	L5	1677	PSU	O4'-C1'-C5-C4
19	S2	668	A2M	C3'-C4'-C5'-O5'
40	L5	2422	OMC	O4'-C4'-C5'-O5'
40	L5	4447	5MC	C3'-C4'-C5'-O5'
19	S2	644	OMG	C4'-C5'-O5'-P
19	S2	801	PSU	C4'-C5'-O5'-P
40	L5	1534	A2M	C4'-C5'-O5'-P
40	L5	4447	5MC	O4'-C1'-N1-C6
19	S2	1703	OMC	C3'-C4'-C5'-O5'
40	L5	4494	OMG	C3'-C2'-O2'-CM2
19	S2	576	A2M	C4'-C5'-O5'-P
19	S2	1081	PSU	C4'-C5'-O5'-P

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
40	L5	3701	OMC	O4'-C1'-N1-C6
19	S2	1851	MA6	C4'-C5'-O5'-P
40	L5	4500	PSU	C4'-C5'-O5'-P
40	L5	1326	A2M	C4'-C5'-O5'-P
40	L5	3844	PSU	C4'-C5'-O5'-P
19	S2	406	PSU	O4'-C1'-C5-C6
19	S2	1248	B8N	O4'-C1'-C5-C6
40	L5	3818	UY1	O4'-C1'-C5-C6
19	S2	517	OMC	C3'-C2'-O2'-CM2
40	L5	4499	OMG	C3'-C2'-O2'-CM2
19	S2	99	A2M	O4'-C4'-C5'-O5'
40	L5	1323	A2M	O4'-C4'-C5'-O5'
40	L5	2351	OMC	C2'-C1'-N1-C6
40	L5	4447	5MC	O4'-C1'-N1-C2
40	L5	3785	A2M	C3'-C2'-O2'-CM'
40	L5	3887	OMC	C4'-C5'-O5'-P
40	L5	3701	OMC	O4'-C1'-N1-C2
40	L5	4636	PSU	O4'-C4'-C5'-O5'
40	L5	2351	OMC	C2'-C1'-N1-C2
19	S2	428	OMU	O4'-C4'-C5'-O5'

There are no ring outliers.

65 monomers are involved in 110 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	L5	1340	OMC	1	0
19	S2	1232	PSU	2	0
19	S2	681	PSU	3	0
40	L5	4227	OMU	1	0
42	L8	75	OMG	3	0
40	L5	1871	A2M	1	0
40	L5	3785	A2M	1	0
40	L5	4196	OMG	1	0
19	S2	867	OMG	1	0
19	S2	116	OMU	2	0
40	L5	4689	PSU	1	0
19	S2	1850	MA6	2	0
19	S2	166	A2M	4	0
19	S2	1842	4AC	1	0
40	L5	3818	UY1	1	0
40	L5	3920	PSU	1	0
40	L5	4579	PSU	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	S2	1383	A2M	1	0
40	L5	4457	PSU	1	0
40	L5	1683	PSU	1	0
40	L5	3825	A2M	2	0
40	L5	3718	A2M	6	0
19	S2	1703	OMC	1	0
40	L5	4299	PSU	2	0
19	S2	121	OMU	2	0
19	S2	484	A2M	3	0
40	L5	2632	PSU	1	0
19	S2	1174	PSU	2	0
19	S2	468	A2M	2	0
40	L5	1326	A2M	1	0
40	L5	4618	OMG	1	0
19	S2	649	PSU	2	0
40	L5	2351	OMC	2	0
40	L5	3701	OMC	2	0
40	L5	2824	OMC	1	0
40	L5	5010	PSU	1	0
19	S2	644	OMG	2	0
40	L5	4530	UR3	1	0
19	S2	172	OMU	1	0
40	L5	4590	A2M	1	0
19	S2	576	A2M	3	0
19	S2	1004	PSU	3	0
40	L5	2787	A2M	1	0
40	L5	2422	OMC	1	0
40	L5	2363	A2M	1	0
40	L5	3841	OMC	1	0
40	L5	4523	A2M	2	0
19	S2	406	PSU	1	0
19	S2	27	A2M	1	0
40	L5	400	A2M	2	0
19	S2	1031	A2M	3	0
40	L5	4220	6MZ	2	0
19	S2	428	OMU	2	0
19	S2	509	OMG	2	0
40	L5	4392	OMG	1	0
40	L5	4571	A2M	2	0
19	S2	1337	4AC	2	0
19	S2	517	OMC	1	0
40	L5	3867	A2M	4	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	L5	4620	OMU	1	0
19	S2	462	OMC	1	0
19	S2	601	OMG	2	0
19	S2	1391	OMC	2	0
19	S2	1490	OMG	1	0
40	L5	2401	A2M	1	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	SPD	L5	5283	-	9,9,9	0.33	0	8,8,8	0.87	0
88	SPD	L5	5286	-	9,9,9	0.33	0	8,8,8	0.90	0
88	SPD	L5	5285	-	9,9,9	0.34	0	8,8,8	0.87	0
88	SPD	L5	5290	-	9,9,9	0.33	0	8,8,8	0.91	0
88	SPD	L5	5284	-	9,9,9	0.31	0	8,8,8	0.87	0
88	SPD	L8	202	-	9,9,9	0.32	0	8,8,8	0.92	0
87	SPM	L5	5291	-	13,13,13	0.34	0	12,12,12	0.98	0
88	SPD	LN	301	-	9,9,9	0.33	0	8,8,8	0.88	0
87	SPM	L5	5258	-	13,13,13	0.35	0	12,12,12	0.95	0
88	SPD	L5	5261	-	9,9,9	0.31	0	8,8,8	1.15	0
87	SPM	L5	5292	-	13,13,13	0.37	0	12,12,12	0.82	0
87	SPM	L5	5263	-	13,13,13	0.36	0	12,12,12	0.93	0
88	SPD	L5	5289	-	9,9,9	0.32	0	8,8,8	0.94	0
88	SPD	L5	5287	-	9,9,9	0.32	0	8,8,8	0.90	0
87	SPM	L5	5267	-	13,13,13	0.37	0	12,12,12	0.99	0
87	SPM	L5	5288	-	13,13,13	0.37	0	12,12,12	0.93	0
87	SPM	L5	5264	-	13,13,13	0.37	0	12,12,12	1.06	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	SPD	L5	5283	-	-	0/7/7/7	-
88	SPD	L5	5286	-	-	1/7/7/7	-
88	SPD	L5	5285	-	-	2/7/7/7	-
88	SPD	L5	5290	-	-	2/7/7/7	-
88	SPD	L5	5284	-	-	1/7/7/7	-
88	SPD	L8	202	-	-	3/7/7/7	-
87	SPM	L5	5291	-	-	7/11/11/11	-
88	SPD	LN	301	-	-	3/7/7/7	-
87	SPM	L5	5258	-	-	4/11/11/11	-
88	SPD	L5	5261	-	-	3/7/7/7	-
87	SPM	L5	5292	-	-	1/11/11/11	-
87	SPM	L5	5263	-	-	5/11/11/11	-
88	SPD	L5	5289	-	-	1/7/7/7	-
88	SPD	L5	5287	-	-	2/7/7/7	-
87	SPM	L5	5267	-	-	5/11/11/11	-
87	SPM	L5	5288	-	-	4/11/11/11	-
87	SPM	L5	5264	-	-	4/11/11/11	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (48) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
87	L5	5263	SPM	C7-C8-C9-N10
88	L5	5287	SPD	N6-C7-C8-C9
87	L5	5263	SPM	N10-C11-C12-C13
88	L8	202	SPD	C8-C7-N6-C5
88	L5	5285	SPD	C3-C4-C5-N6
87	L5	5291	SPM	C8-C9-N10-C11
87	L5	5292	SPM	C8-C9-N10-C11
87	L5	5288	SPM	C12-C11-N10-C9
88	LN	301	SPD	C4-C5-N6-C7
88	L5	5284	SPD	C3-C4-C5-N6

Continued on next page...

Continued from previous page...

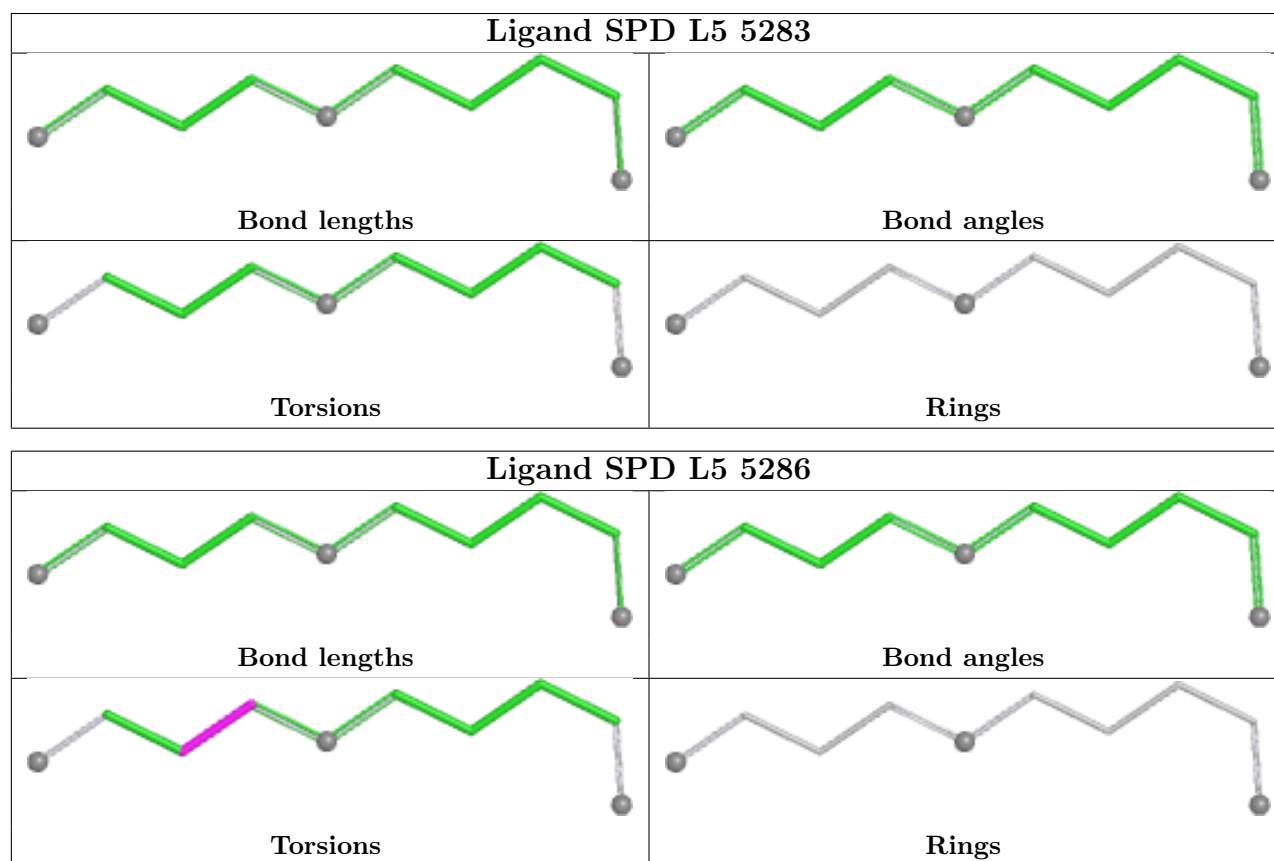
Mol	Chain	Res	Type	Atoms
87	L5	5264	SPM	N5-C6-C7-C8
87	L5	5264	SPM	N1-C2-C3-C4
87	L5	5267	SPM	N5-C6-C7-C8
87	L5	5291	SPM	C6-C7-C8-C9
88	L8	202	SPD	N6-C7-C8-C9
88	L5	5285	SPD	C2-C3-C4-C5
88	L8	202	SPD	C2-C3-C4-C5
87	L5	5291	SPM	C3-C4-N5-C6
87	L5	5267	SPM	C6-C7-C8-C9
87	L5	5258	SPM	N5-C6-C7-C8
87	L5	5288	SPM	N1-C2-C3-C4
87	L5	5288	SPM	C3-C4-N5-C6
88	LN	301	SPD	C2-C3-C4-C5
87	L5	5291	SPM	N10-C11-C12-C13
87	L5	5264	SPM	C6-C7-C8-C9
87	L5	5267	SPM	C8-C9-N10-C11
87	L5	5288	SPM	C8-C9-N10-C11
87	L5	5291	SPM	C7-C6-N5-C4
88	L5	5289	SPD	C3-C4-C5-N6
87	L5	5258	SPM	C7-C6-N5-C4
87	L5	5263	SPM	C6-C7-C8-C9
88	L5	5286	SPD	N6-C7-C8-C9
87	L5	5263	SPM	C11-C12-C13-N14
88	L5	5261	SPD	C7-C8-C9-N10
88	L5	5287	SPD	C8-C7-N6-C5
88	L5	5290	SPD	C7-C8-C9-N10
88	LN	301	SPD	C7-C8-C9-N10
88	L5	5261	SPD	N6-C7-C8-C9
87	L5	5258	SPM	C6-C7-C8-C9
87	L5	5267	SPM	C3-C4-N5-C6
87	L5	5291	SPM	C2-C3-C4-N5
87	L5	5258	SPM	C3-C4-N5-C6
88	L5	5290	SPD	C8-C7-N6-C5
88	L5	5261	SPD	C8-C7-N6-C5
87	L5	5263	SPM	C3-C4-N5-C6
87	L5	5264	SPM	C3-C4-N5-C6
87	L5	5267	SPM	N1-C2-C3-C4
87	L5	5291	SPM	N1-C2-C3-C4

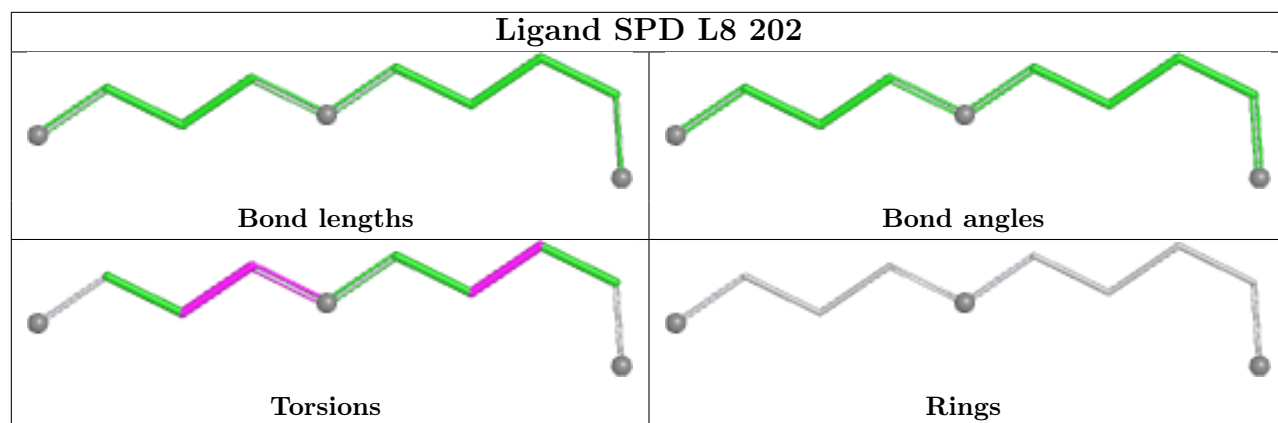
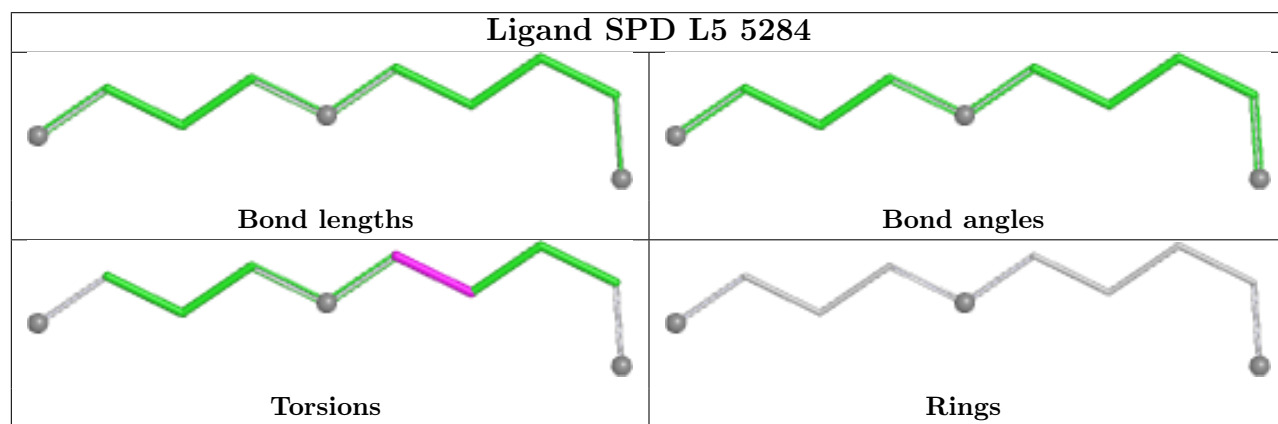
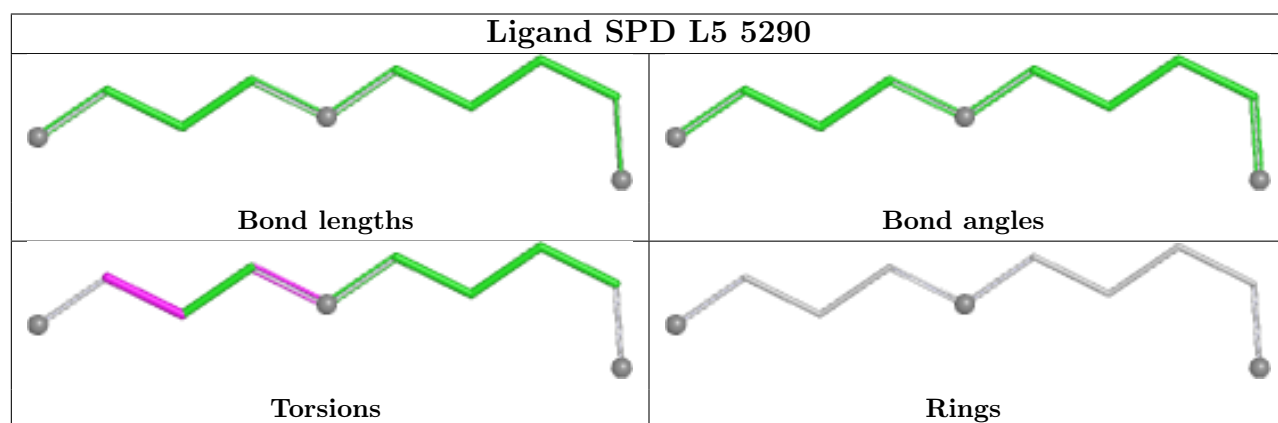
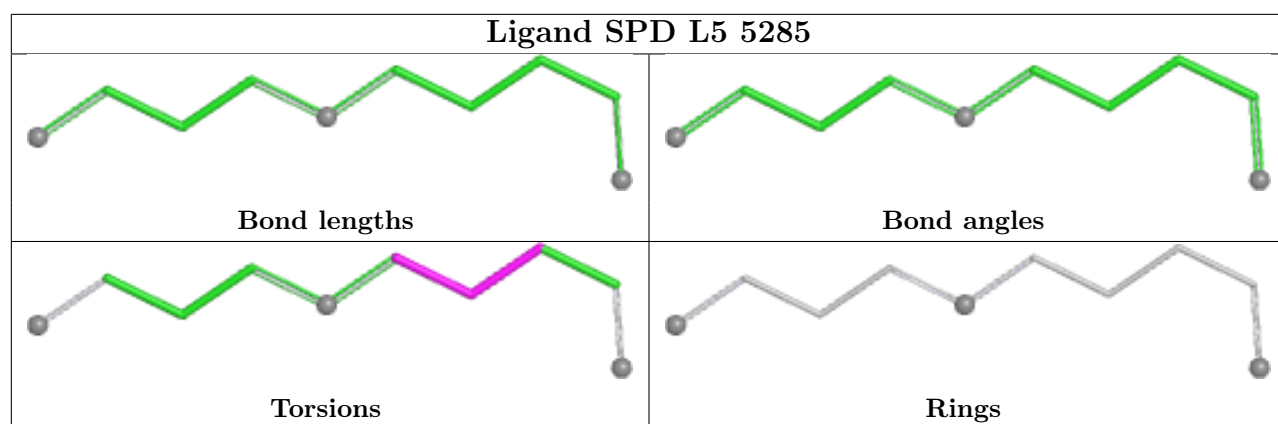
There are no ring outliers.

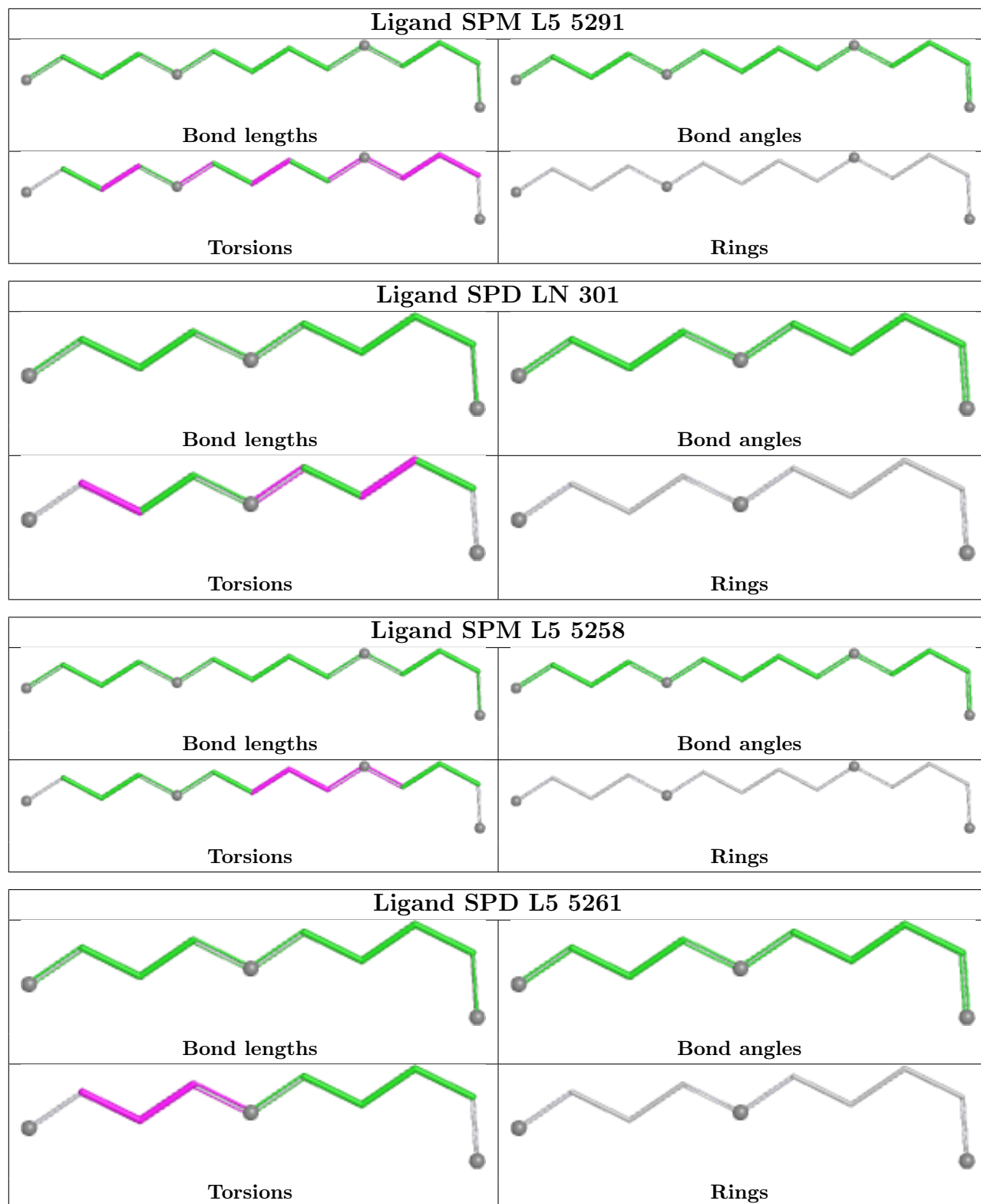
5 monomers are involved in 6 short contacts:

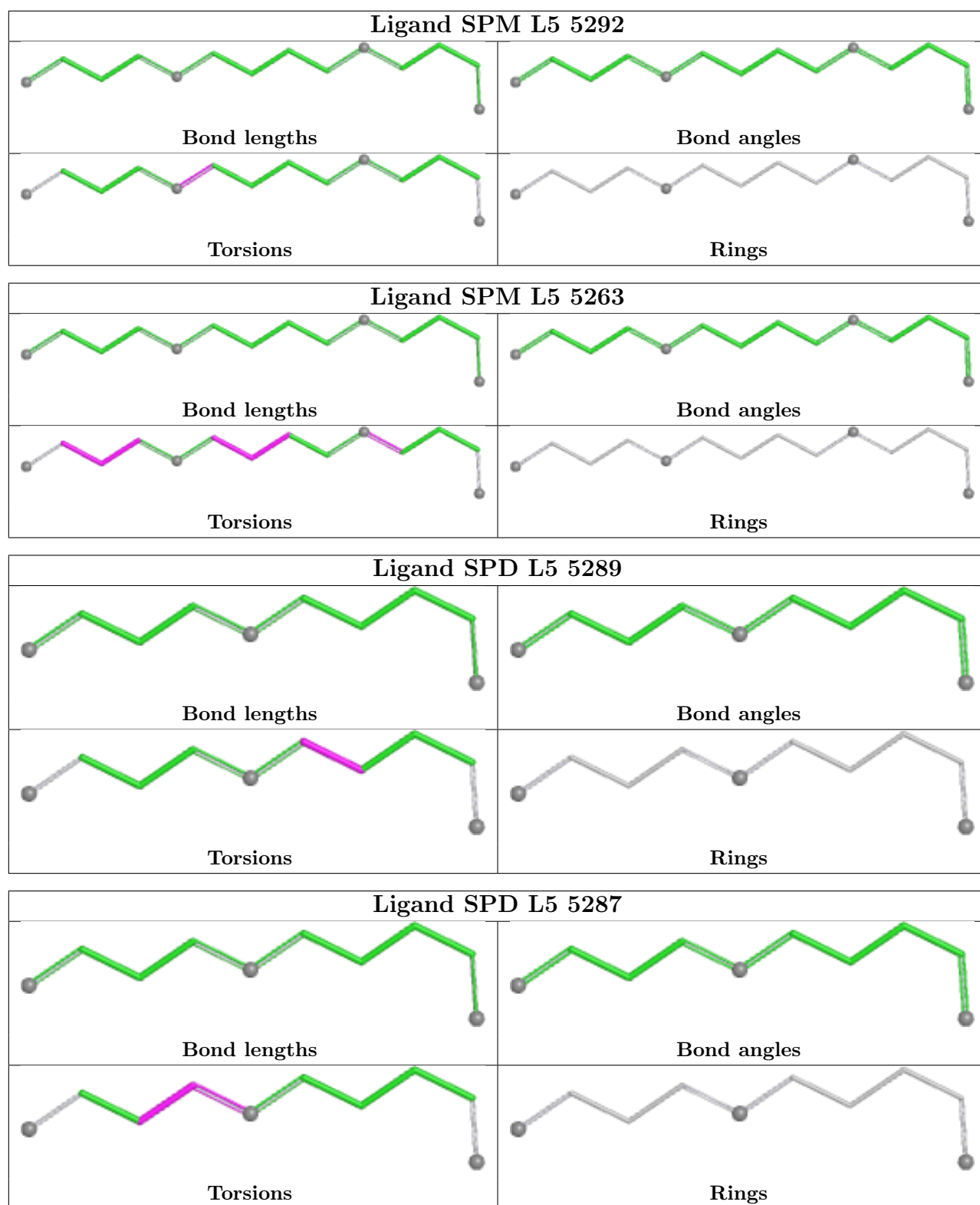
Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	L5	5285	SPD	1	0
87	L5	5258	SPM	1	0
87	L5	5292	SPM	3	0
88	L5	5289	SPD	1	0
87	L5	5288	SPM	1	0

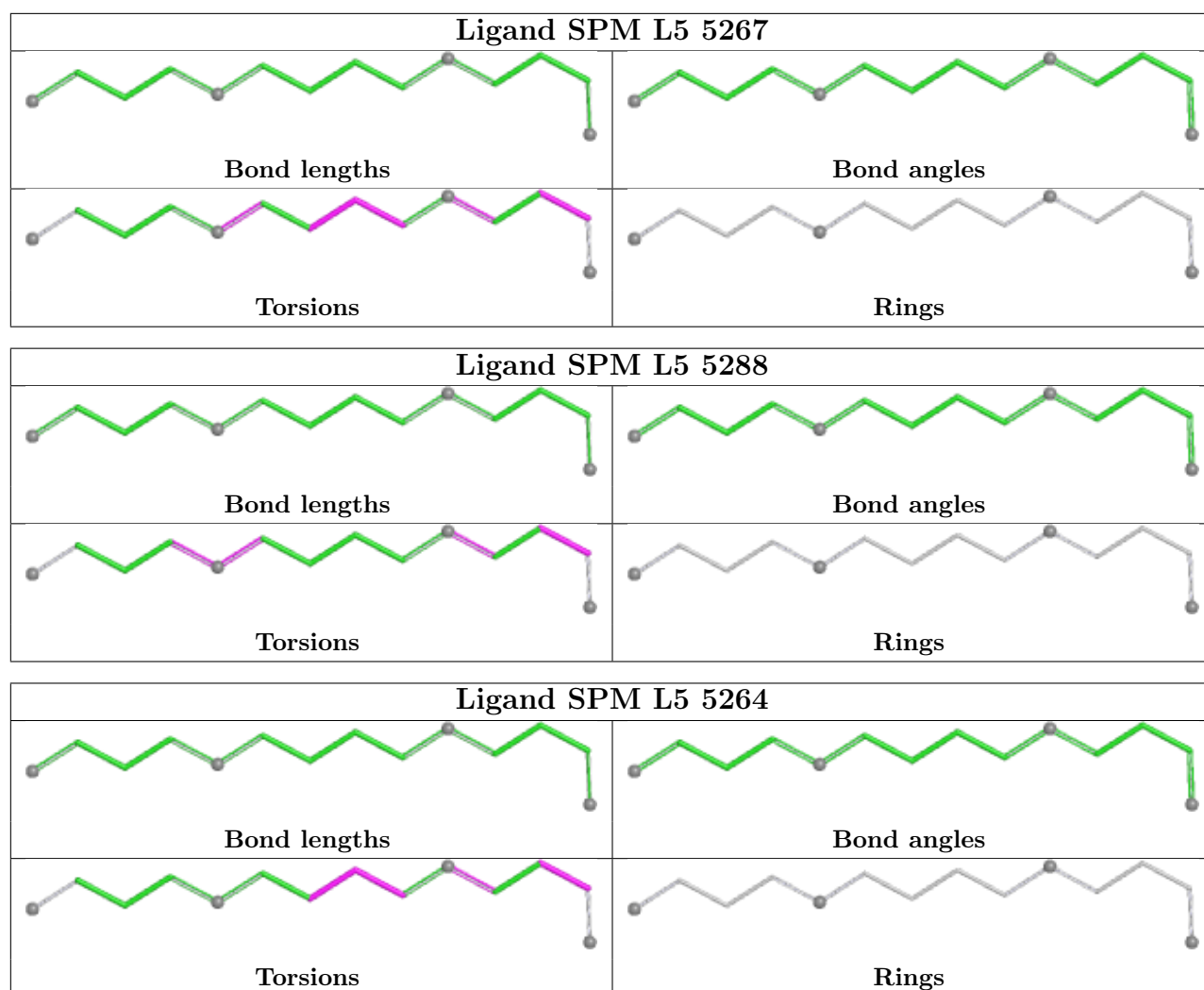
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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











5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
40	L5	10
19	S2	4
67	Lb	1
84	Lt	1
6	SH	1
37	At	1
38	Pt	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	35.48
1	S2	753:C	O3'	785:C	P	26.99
1	L5	1706:A	O3'	1716:G	P	20.59
1	L5	2910:G	O3'	3584:C	P	20.30
1	L5	760:G	O3'	903:C	P	16.91
1	L5	3954:A	O3'	4056:A	P	16.30
1	Lt	87:GLU	C	104:ILE	N	15.73
1	S2	698:G	O3'	730:C	P	14.13
1	L5	2112:G	O3'	2249:C	P	13.90
1	S2	739:C	O3'	746:C	P	13.77
1	L5	4776:G	O3'	4858:C	P	13.39
1	L5	519:C	O3'	642:G	P	13.30
1	L5	990:C	O3'	1064:G	P	12.83
1	L5	1222:A	O3'	1234:G	P	12.83
1	SH	107:LYS	C	111:LYS	N	11.97
1	At	15:G	O3'	18:G	P	11.80
1	Pt	15:G	O3'	18:G	P	9.36
1	S2	225:G	O3'	287:U	P	7.30
1	L5	1100:U	O3'	1167:C	P	7.07

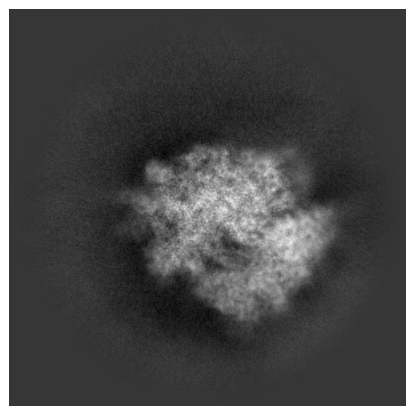
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71355. These allow visual inspection of the internal detail of the map and identification of artifacts.

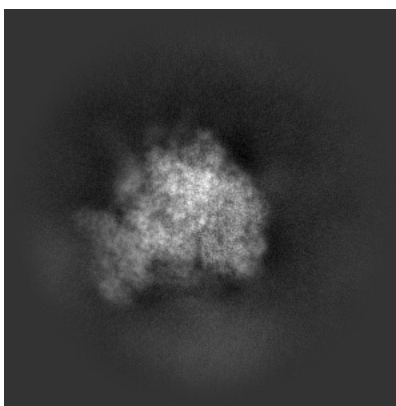
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

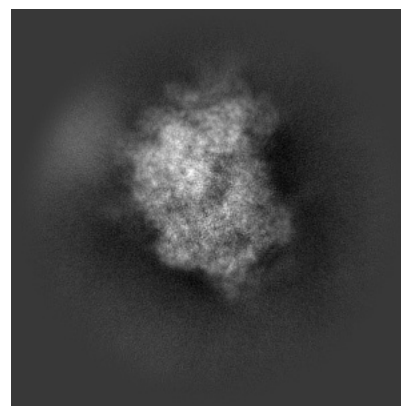
6.1.1 Primary map



X

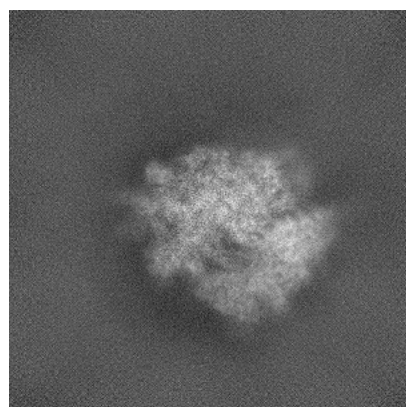


Y

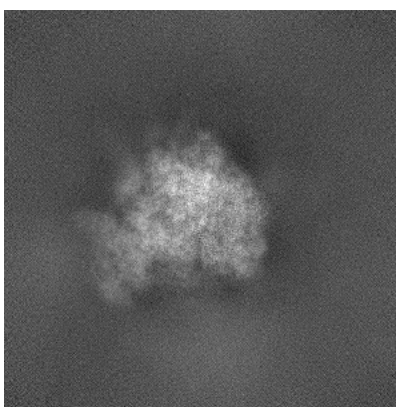


Z

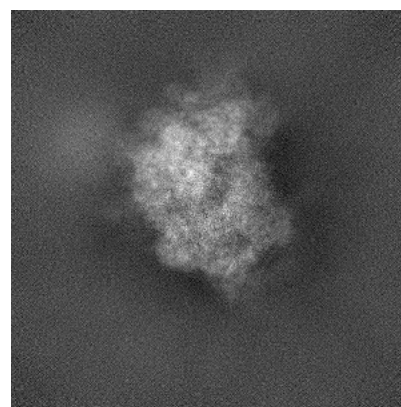
6.1.2 Raw map



X



Y

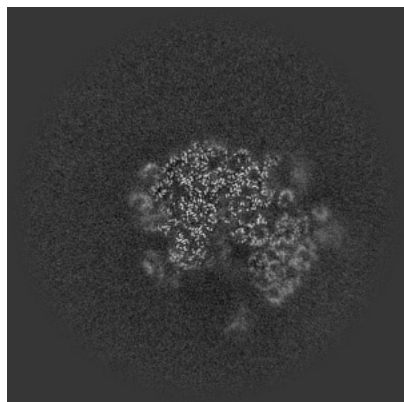


Z

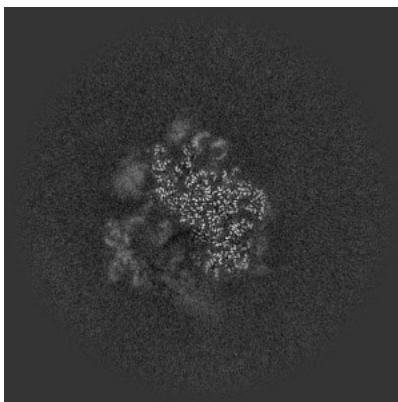
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

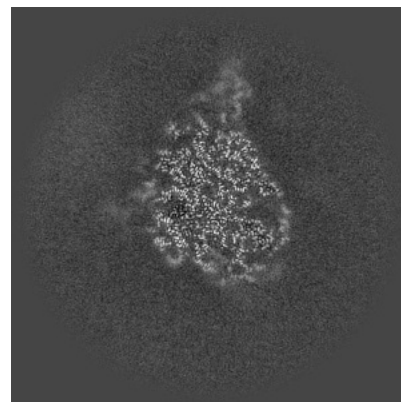
6.2.1 Primary map



X Index: 256

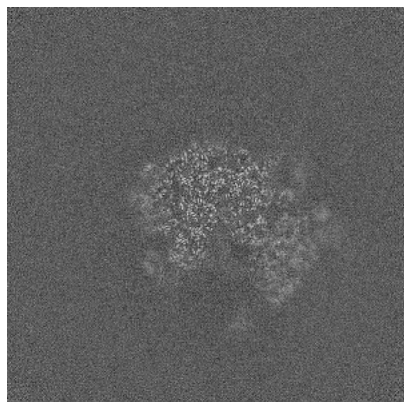


Y Index: 256

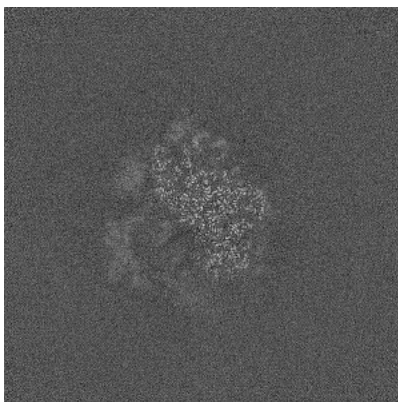


Z Index: 256

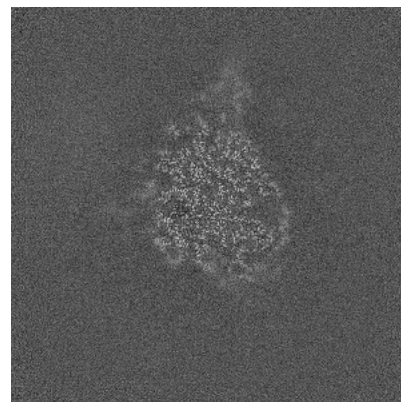
6.2.2 Raw map



X Index: 256



Y Index: 256

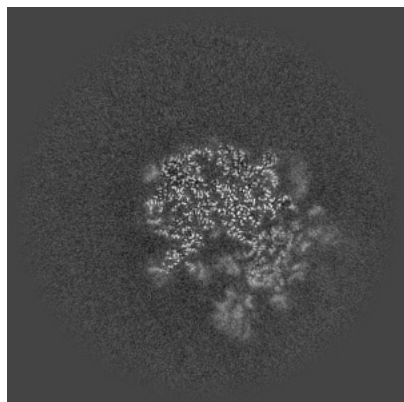


Z Index: 256

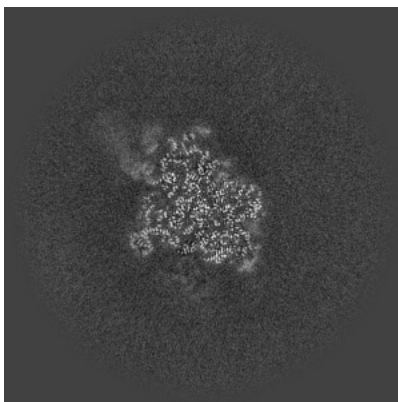
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

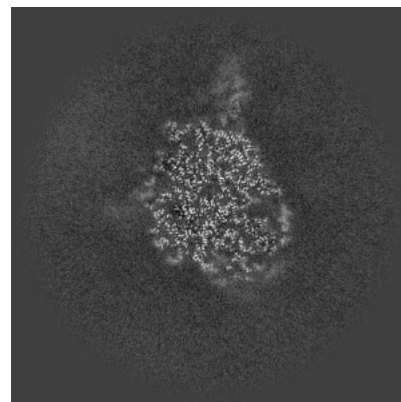
6.3.1 Primary map



X Index: 243

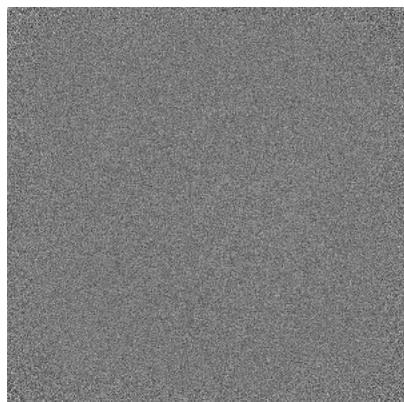


Y Index: 233

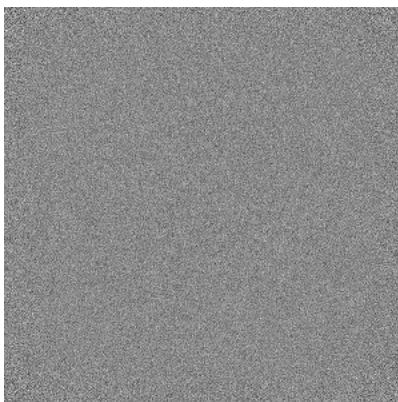


Z Index: 258

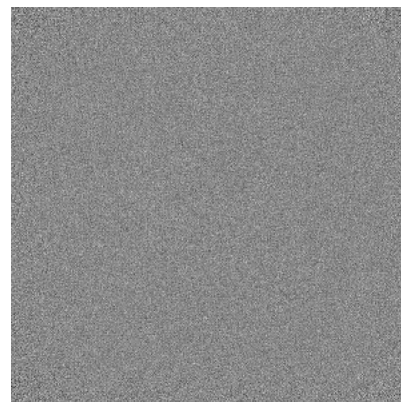
6.3.2 Raw map



X Index: 0



Y Index: 0

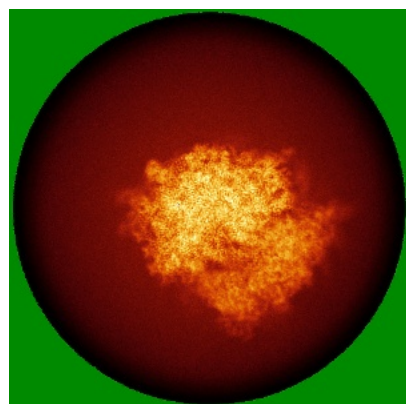


Z Index: 0

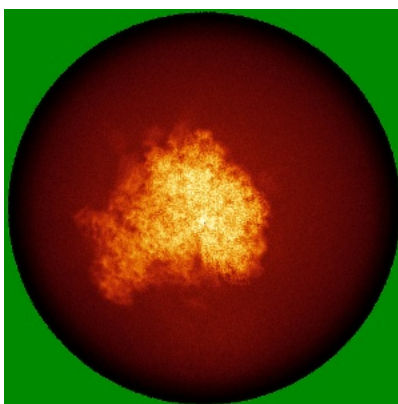
The images above show the largest variance slices of the map in three orthogonal directions.

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

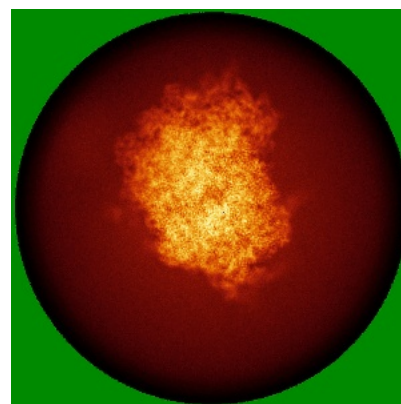
6.4.1 Primary map



X

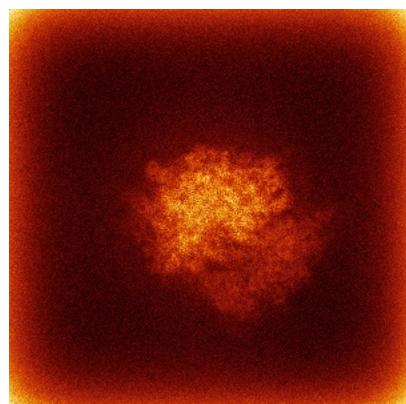


Y

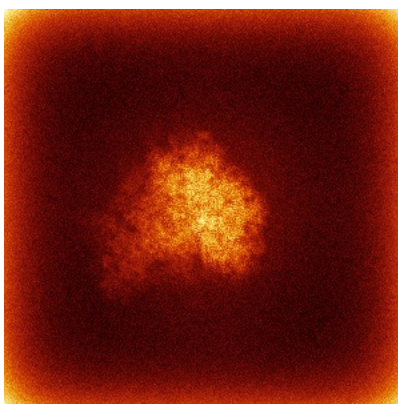


Z

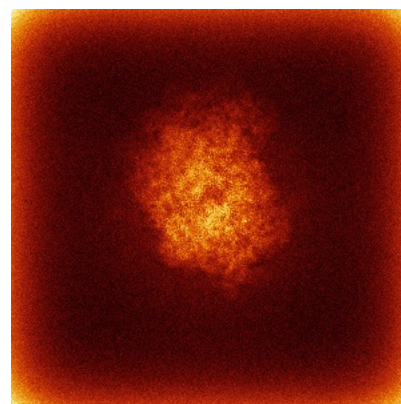
6.4.2 Raw map



X



Y

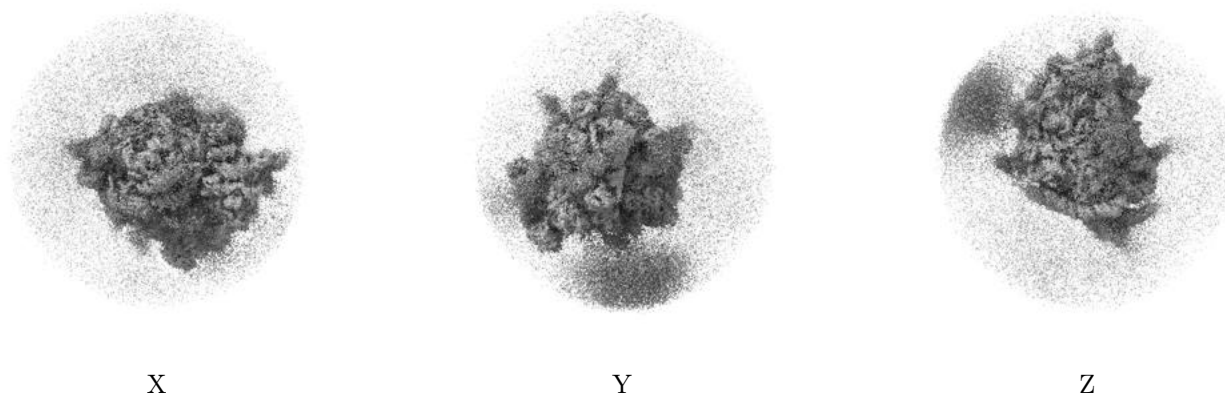


Z

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.

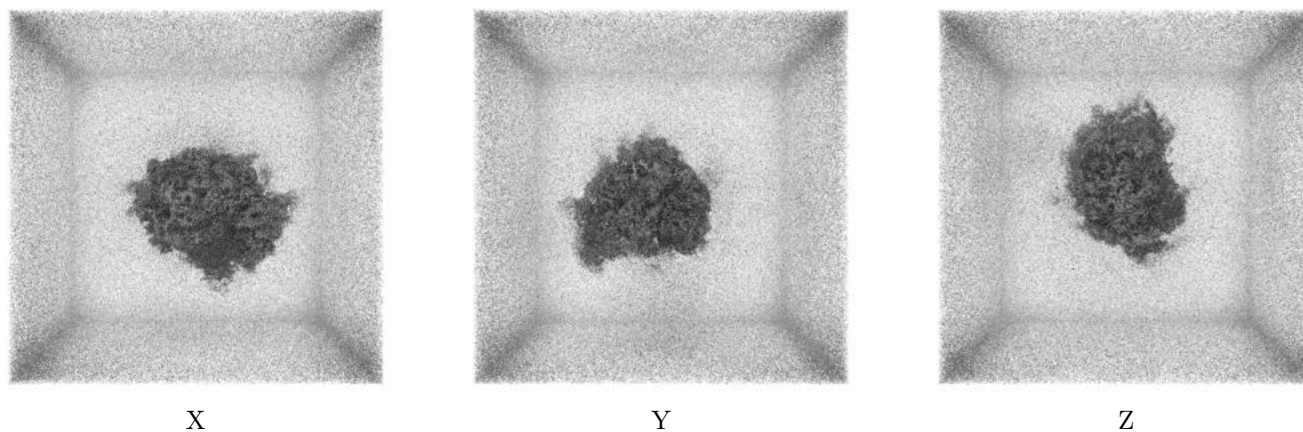
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0119. 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.

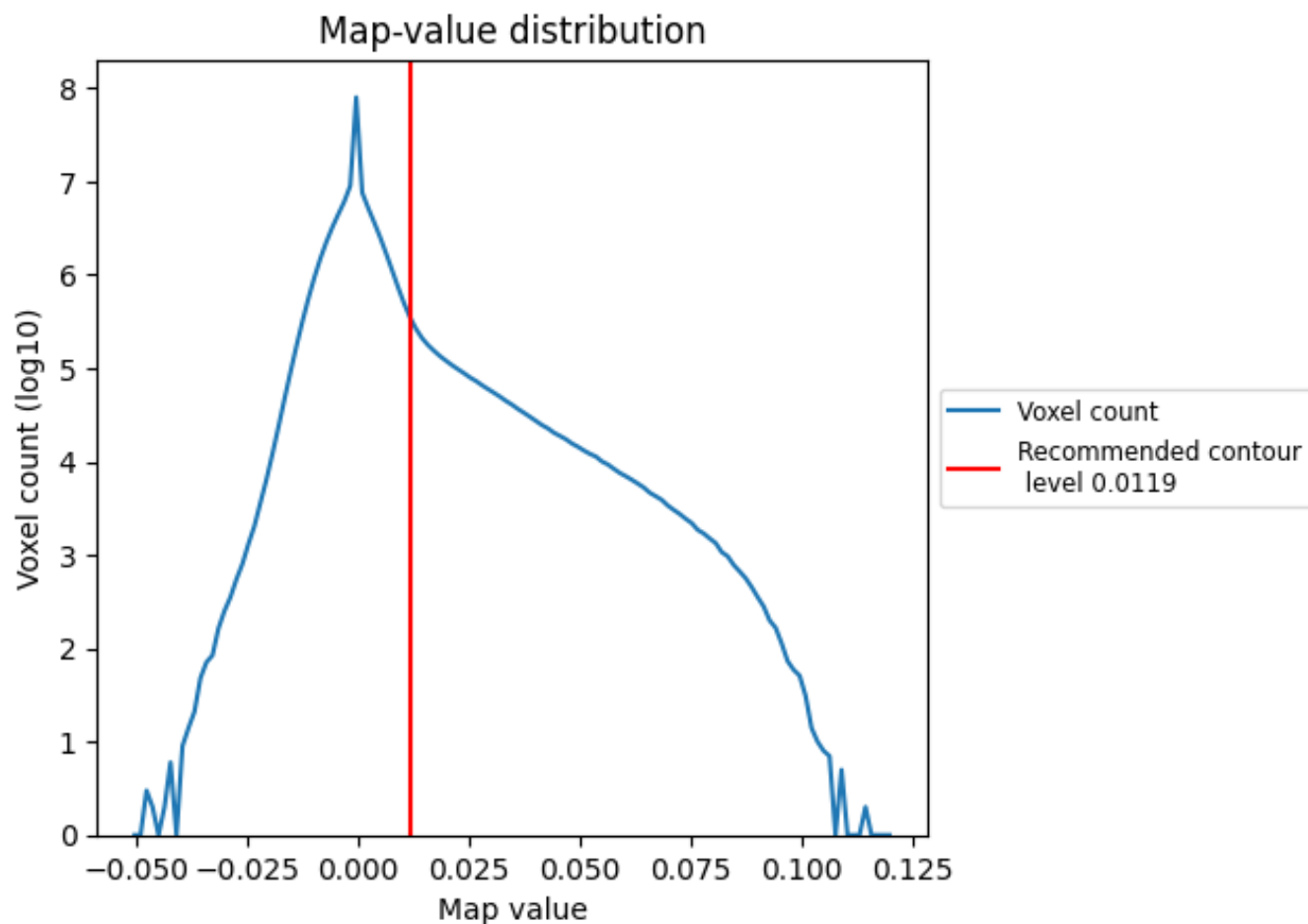
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

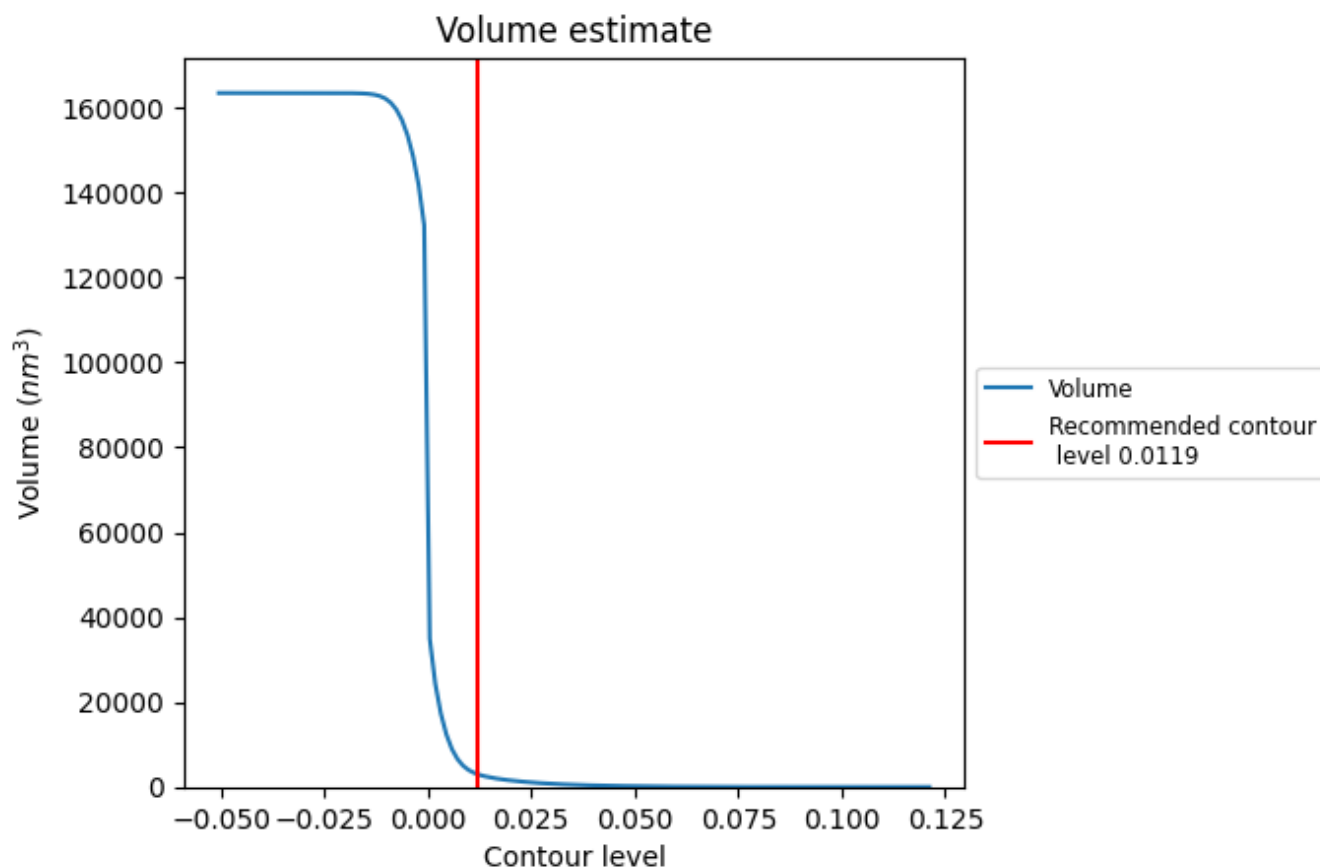
This section contains the results of statistical analysis of the map.

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.

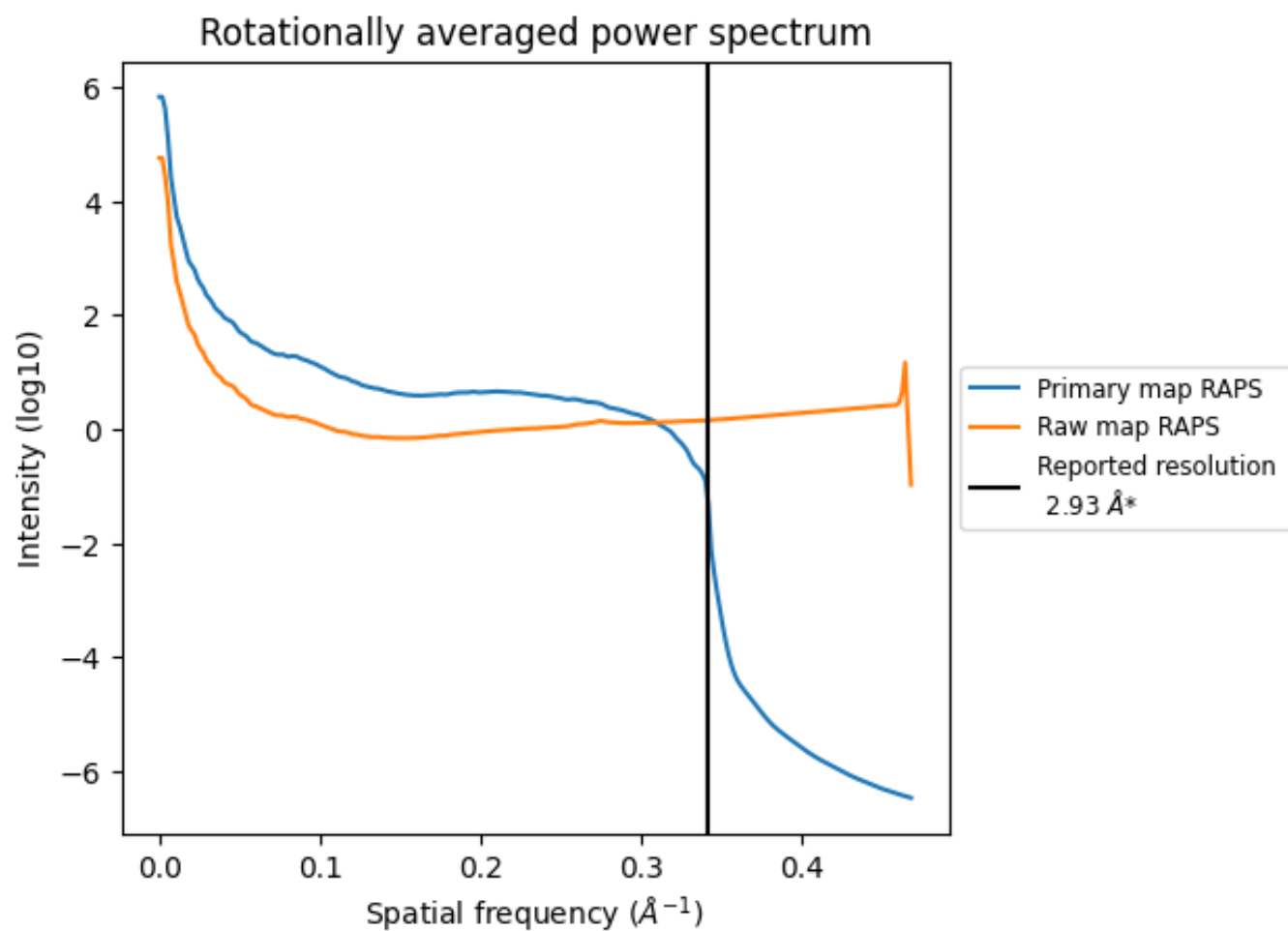
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3076 nm^3 ; this corresponds to an approximate mass of 2778 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 ⓘ

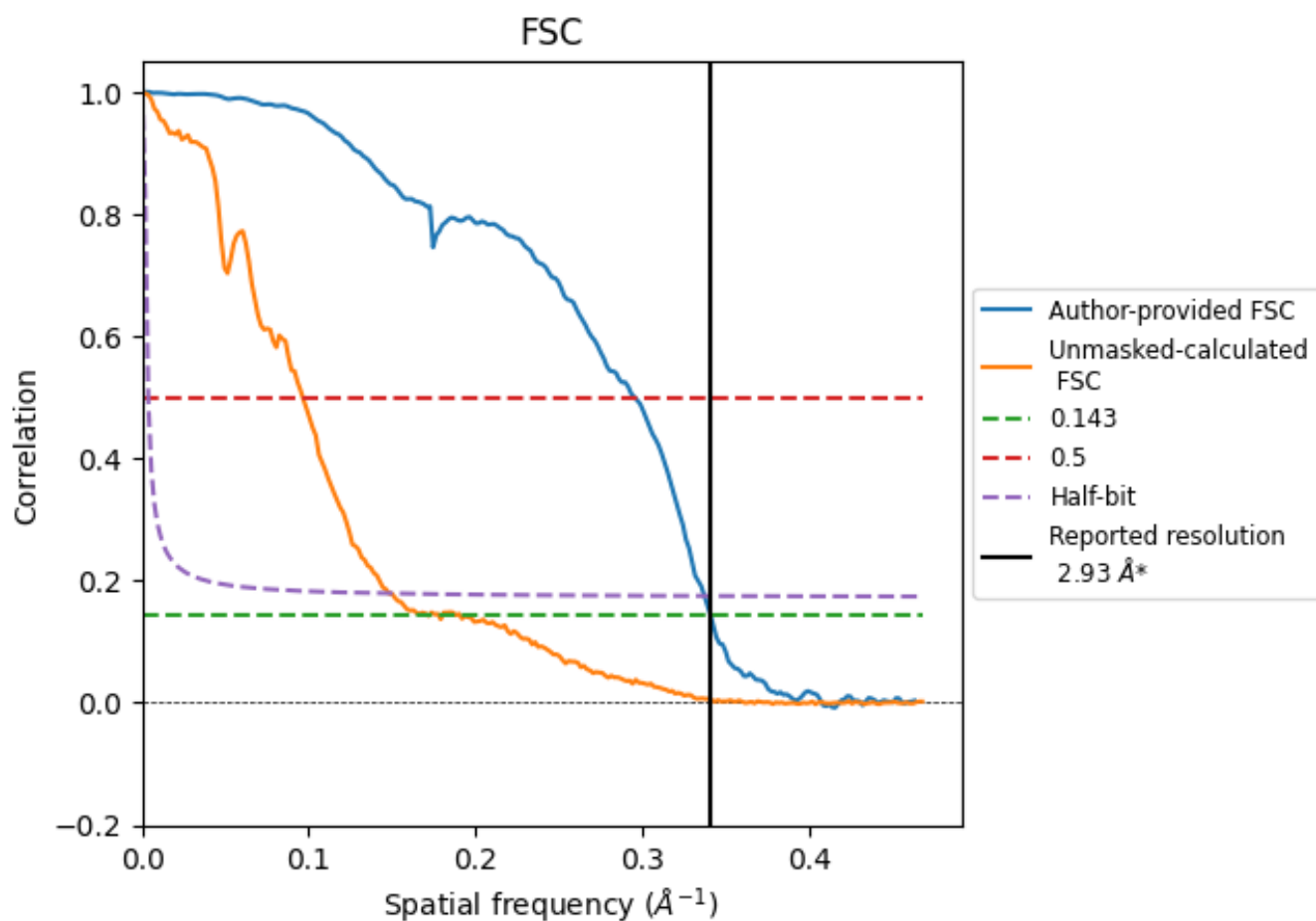


*Reported resolution corresponds to spatial frequency of 0.341 $\text{\AA}^{-1}$

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 0.341 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

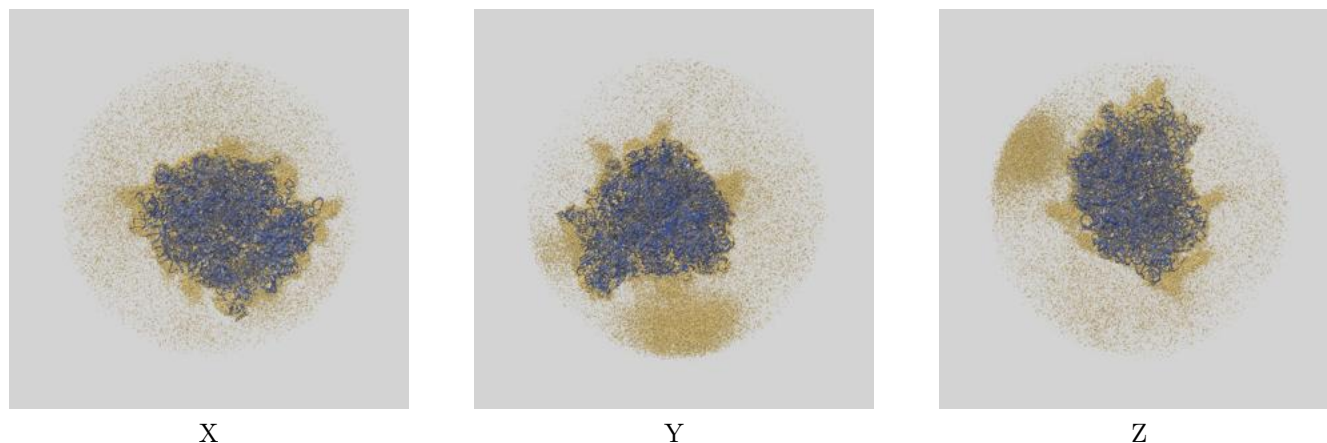
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.93	-	-
Author-provided FSC curve	2.93	3.38	2.96
Unmasked-calculated*	5.83	10.37	6.75

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 5.83 differs from the reported value 2.93 by more than 10 %

9 Map-model fit [i](#)

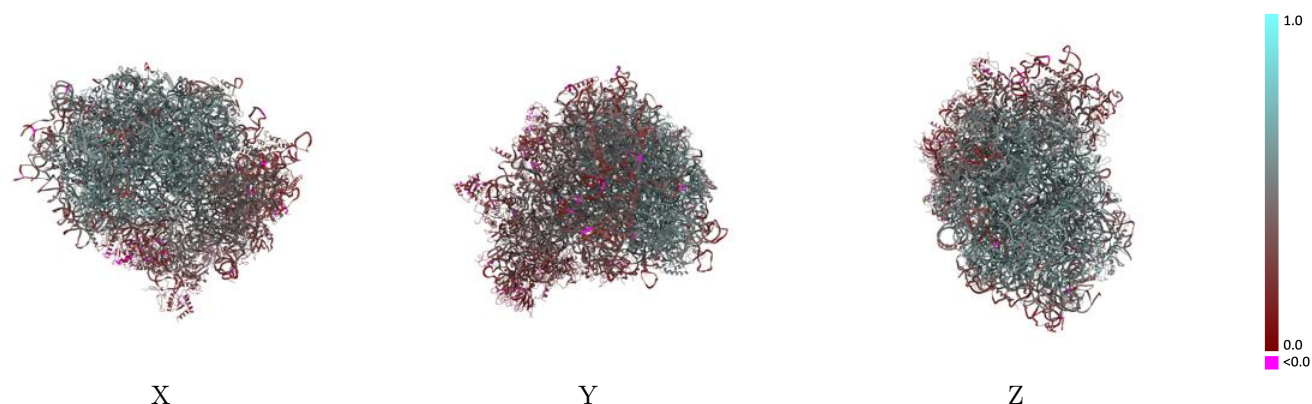
This section contains information regarding the fit between EMDB map EMD-71355 and PDB model 9P7W. Per-residue inclusion information can be found in [section 3](#) on [page 23](#).

9.1 Map-model overlay [i](#)



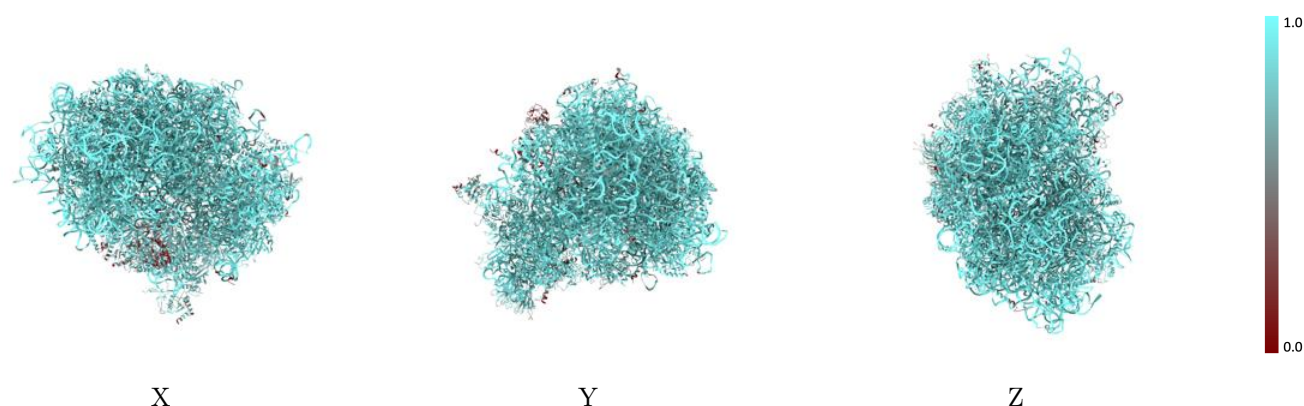
The images above show the 3D surface view of the map at the recommended contour level 0.0119 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



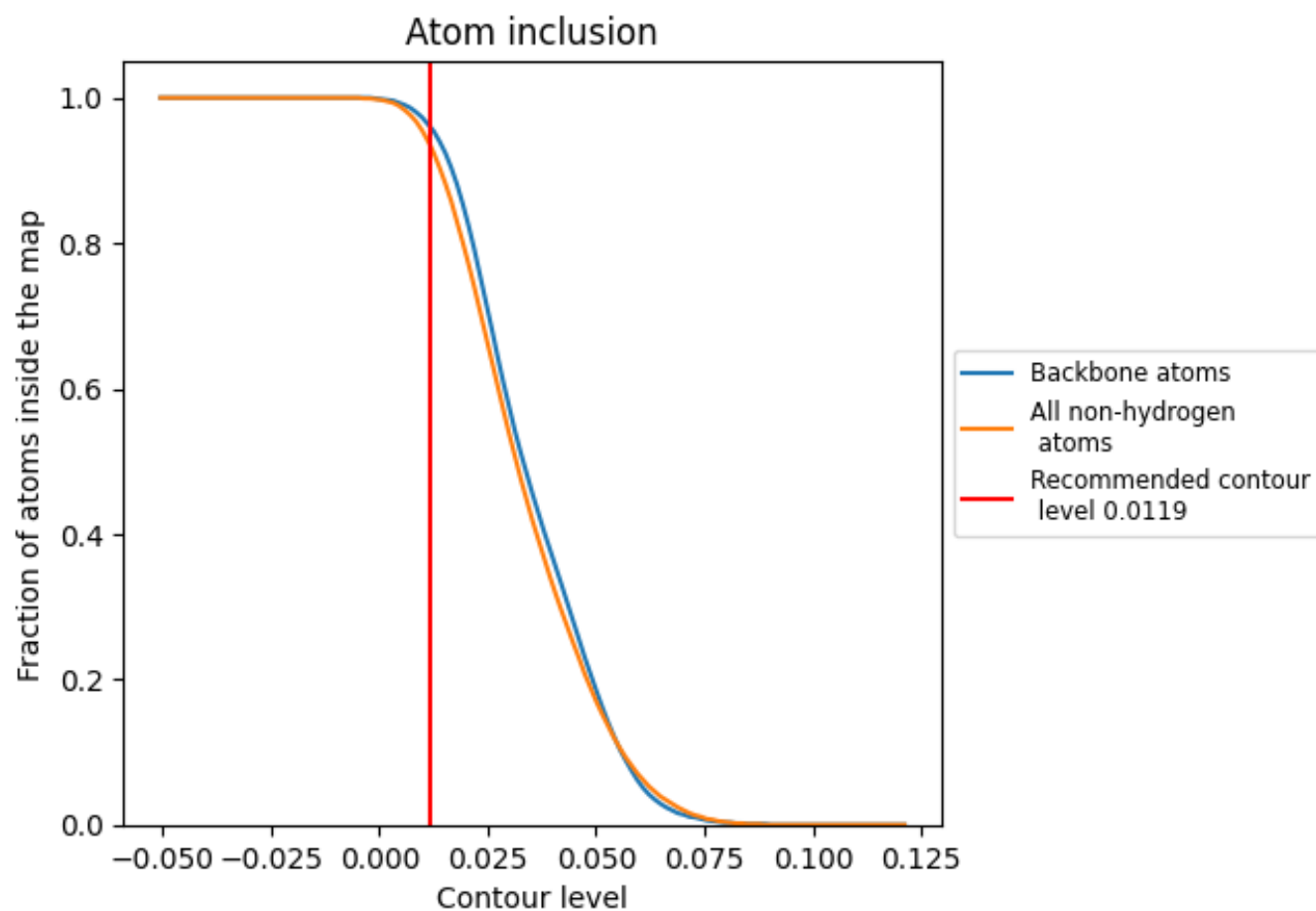
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0119).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.0119) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9330	 0.4550
At	 0.6910	 0.3050
CI	 0.7610	 0.4460
L5	 0.9750	 0.5090
L7	 0.9970	 0.5450
L8	 0.9840	 0.5340
LA	 0.9600	 0.5690
LB	 0.9420	 0.5600
LC	 0.9440	 0.5570
LD	 0.9570	 0.5100
LE	 0.9120	 0.4880
LF	 0.9510	 0.5590
LG	 0.8890	 0.4960
LH	 0.9330	 0.5390
LI	 0.9210	 0.5460
LJ	 0.9090	 0.4640
LL	 0.9060	 0.5260
LM	 0.9470	 0.5380
LN	 0.9770	 0.5870
LO	 0.9590	 0.5620
LP	 0.9630	 0.5680
LQ	 0.9640	 0.5820
LR	 0.9100	 0.4910
LS	 0.9710	 0.5730
LT	 0.9400	 0.5420
LU	 0.9220	 0.4630
LV	 0.9480	 0.5600
LW	 0.8190	 0.3940
LX	 0.9320	 0.5380
LY	 0.9560	 0.5460
LZ	 0.9550	 0.5260
La	 0.9680	 0.5820
Lb	 0.9030	 0.4910
Lc	 0.9370	 0.5190
Ld	 0.9230	 0.5380



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Le	 0.9670	 0.5800
Lf	 0.9750	 0.5840
Lg	 0.9370	 0.5500
Lh	 0.9360	 0.5410
Li	 0.9250	 0.5280
Lj	 0.9720	 0.5800
Lk	 0.8990	 0.4790
Ll	 0.9480	 0.5600
Lm	 0.9400	 0.5490
Ln	 0.9140	 0.5170
Lo	 0.7610	 0.5440
Lp	 0.9270	 0.5530
Lr	 0.9660	 0.5610
Ls	 0.4580	 0.1590
Lt	 0.4780	 0.1560
Pt	 0.7750	 0.3420
S2	 0.9760	 0.3810
SA	 0.8620	 0.3050
SB	 0.8250	 0.3110
SC	 0.9070	 0.3730
SD	 0.8510	 0.3110
SE	 0.9170	 0.3670
SF	 0.6830	 0.2780
SG	 0.8420	 0.3300
SH	 0.8290	 0.2830
SI	 0.8890	 0.3960
SJ	 0.8950	 0.3300
SK	 0.8480	 0.2780
SL	 0.8500	 0.4100
SM	 0.6420	 0.1570
SN	 0.8920	 0.3780
SO	 0.8200	 0.3430
SP	 0.8400	 0.3060
SQ	 0.8480	 0.2750
SR	 0.8290	 0.2720
SS	 0.8530	 0.3150
ST	 0.8600	 0.2660
SU	 0.8870	 0.3130
SV	 0.8910	 0.3380
SW	 0.9100	 0.3970
SX	 0.8680	 0.4520
SY	 0.8260	 0.3020

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
SZ	 0.4750	 0.2460
Sa	 0.8810	 0.3550
Sb	 0.8890	 0.3240
Sc	 0.7630	 0.2990
Sd	 0.9210	 0.3600
Se	 0.7630	 0.3270
Sf	 0.7560	 0.2380
Sg	 0.8180	 0.1980