



Full wwPDB EM Validation Report ⓘ

Dec 17, 2025 – 04:29 PM EST

PDB ID : 9P7X / pdb_00009p7x
EMDB ID : EMD-71356
Title : In situ human A-P-Z state 80S ribosome
Authors : Zheng, W.; Xiong, Y.
Deposited on : 2025-06-22
Resolution : 2.83 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:

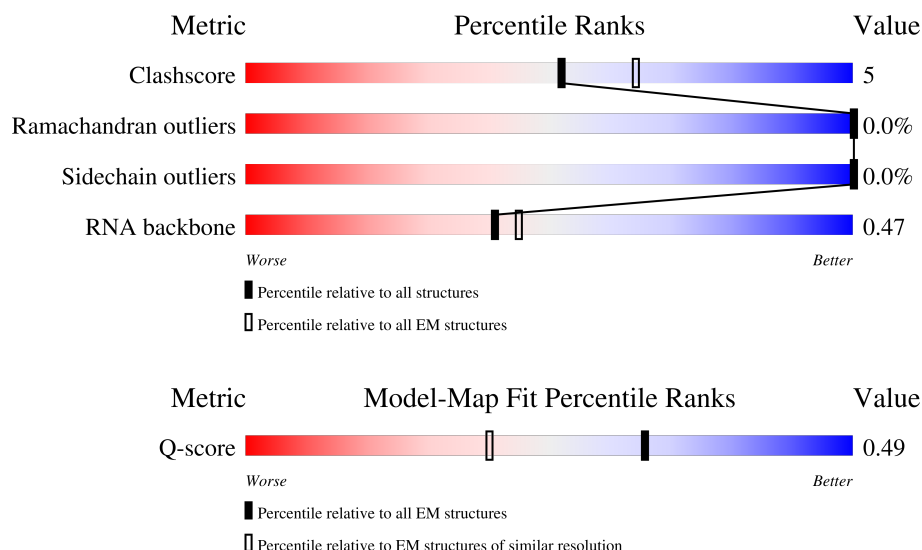
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive 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 2.83 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	11847 (2.33 - 3.33)

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	

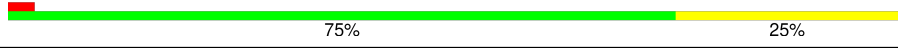
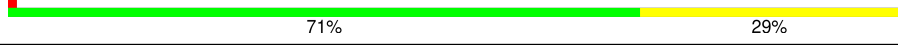
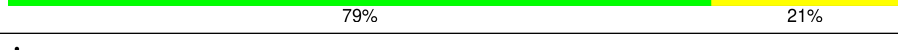
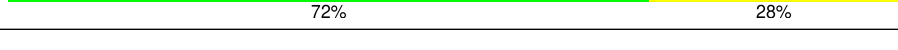
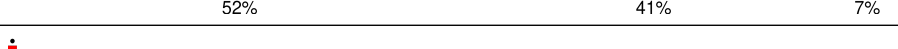
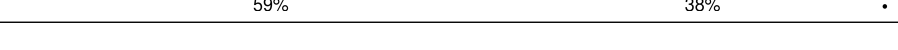
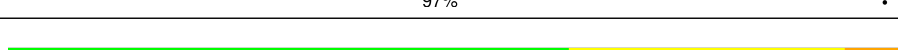
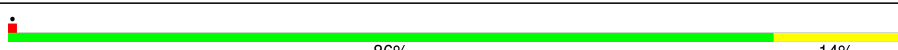
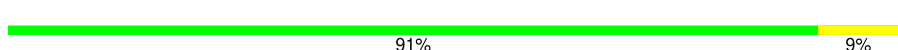
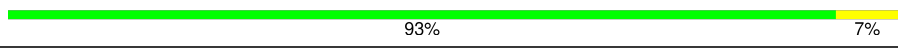
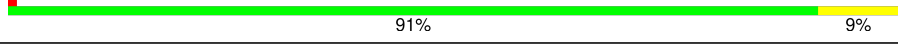
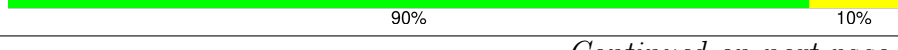
Continued on next page...

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	

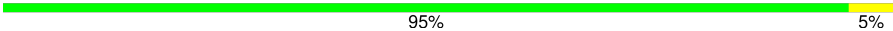
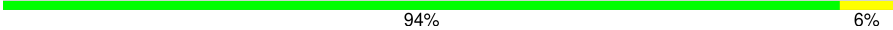
Continued on next page...

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	 88% 12%
80	Lo	105	 86% 14%
81	Lp	91	 95% 5%
82	Lr	125	 94% 6%
83	Ls	196	 39% 88% 12%
84	Lt	141	 37% 79% 16% 5%
85	Zt	75	 17% 33% 56% 11%

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 221484 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 40S ribosomal protein SA.

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

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

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

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

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

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

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

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

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

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

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

There are 3 discrepancies between the modelled and reference sequences:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 21 is a protein called Ribosomal protein L24.

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

There are 6 discrepancies between the modelled and reference sequences:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
At	3	C	U	conflict	GB 2583636049
At	?	-	U	deletion	GB 2583636049
At	?	-	U	deletion	GB 2583636049

- 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

Continued on next page...

Continued from previous page...

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

- Molecule 85 is a RNA chain called Z site tRNA.

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

- 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	
86	Lo	1	Total	Zn	0
			1	1	
86	Lp	1	Total	Zn	0
			1	1	

- Molecule 87 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

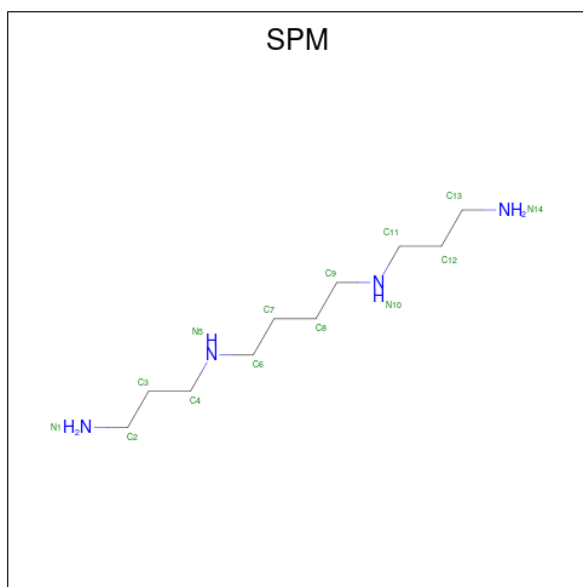
Mol	Chain	Residues	Atoms		AltConf
87	S2	27	Total	Mg	0
			27	27	
87	SS	1	Total	Mg	0
			1	1	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
87	L5	178	Total	Mg	0
			178	178	
87	L7	3	Total	Mg	0
			3	3	
87	L8	5	Total	Mg	0
			5	5	
87	LA	1	Total	Mg	0
			1	1	
87	LP	1	Total	Mg	0
			1	1	
87	LV	1	Total	Mg	0
			1	1	
87	Le	1	Total	Mg	0
			1	1	
87	Lj	1	Total	Mg	0
			1	1	

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



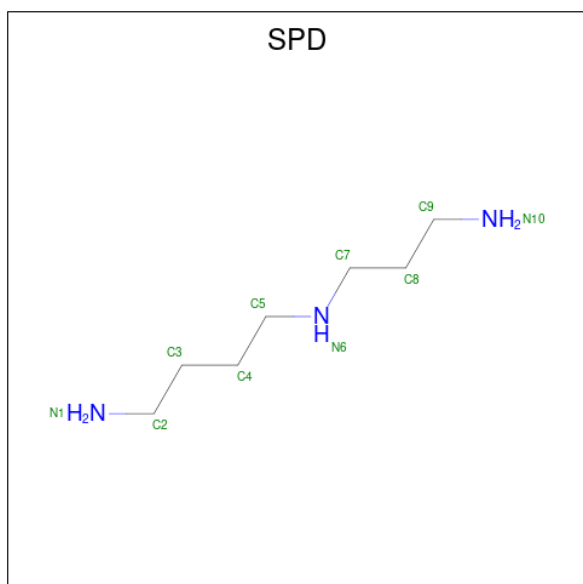
Mol	Chain	Residues	Atoms			AltConf
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	

Continued on next page...

Continued from previous page...

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

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



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

Continued on next page...

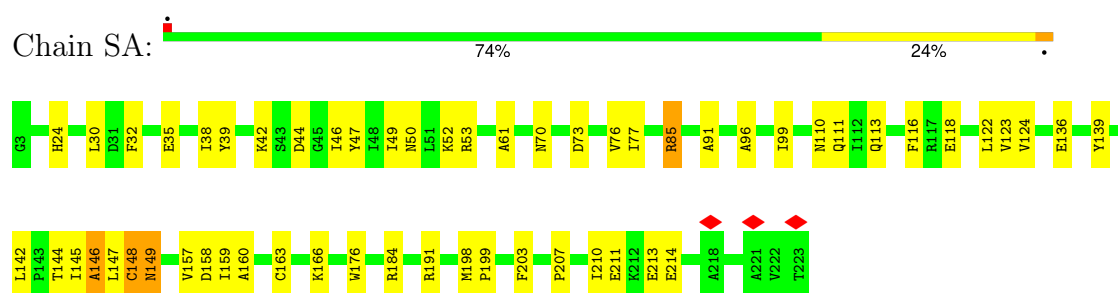
Continued from previous page...

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

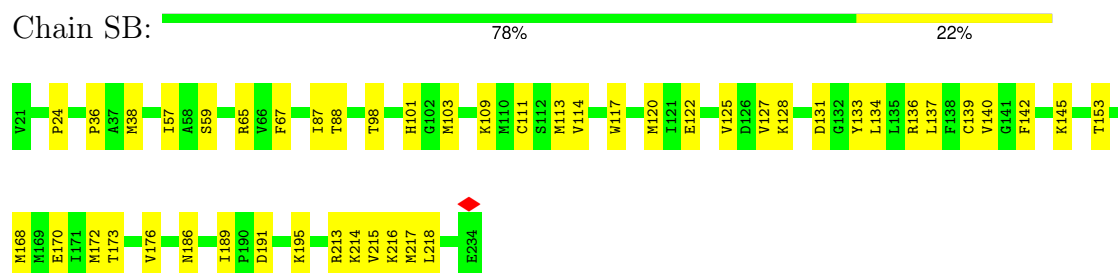
3 Residue-property plots

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.

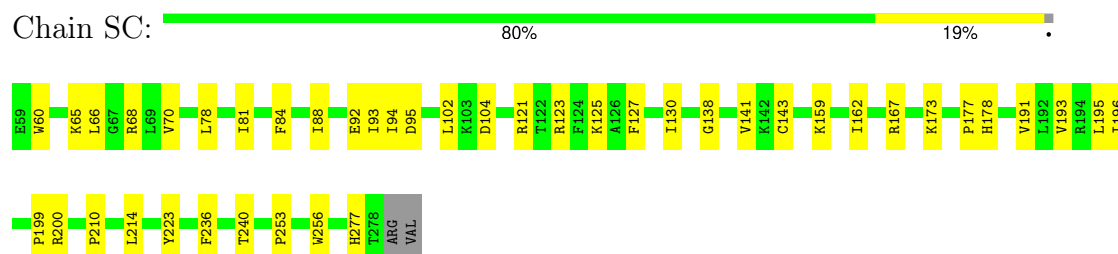
- Molecule 1: 40S ribosomal protein SA



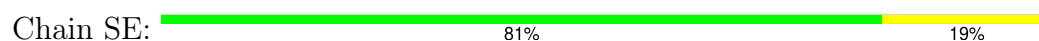
- Molecule 2: 40S ribosomal protein S3a

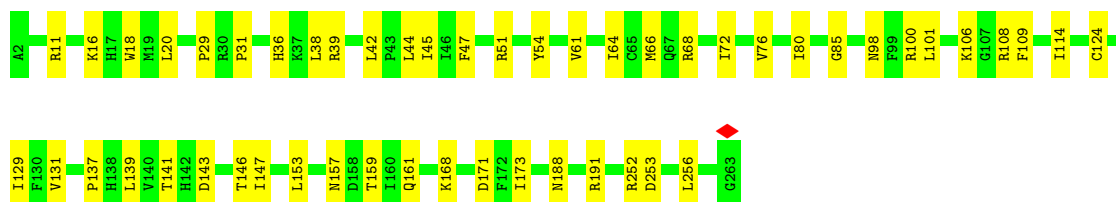


- Molecule 3: 40S ribosomal protein S2



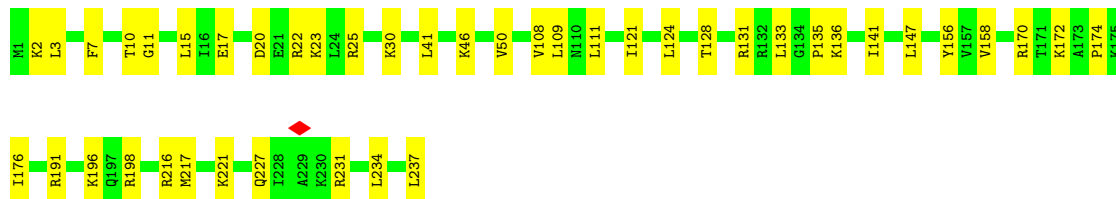
- Molecule 4: Small ribosomal subunit protein eS4, X isoform





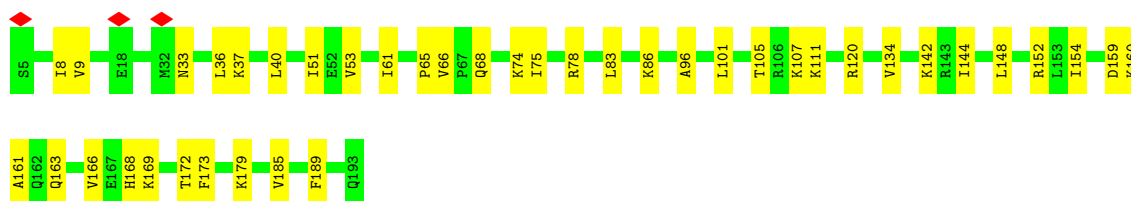
• Molecule 5: 40S ribosomal protein S6

Chain SG: 82% 18%



• Molecule 6: Small ribosomal subunit protein eS7

Chain SH: 78% 22%



• Molecule 7: 40S ribosomal protein S8

Chain SI: 86% 14%



• Molecule 8: 40S ribosomal protein S9

Chain SJ: 84% 16%

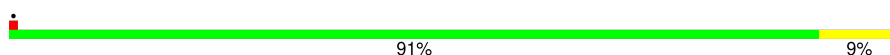


• Molecule 9: 40S ribosomal protein S11

Chain SL: 85% 15%



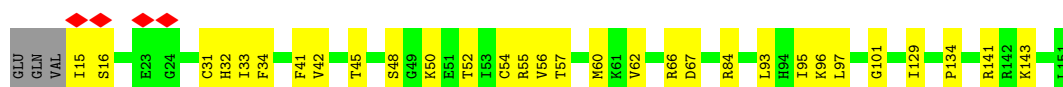
- Molecule 10: 40S ribosomal protein S13

Chain SN:  91% 9%



- Molecule 11: Small ribosomal subunit protein uS11

Chain SO:  76% 21%



- Molecule 12: Small ribosomal subunit protein eS21

Chain SV:  86% 14%



- Molecule 13: 40S ribosomal protein S15a

Chain SW:  81% 19%



- Molecule 14: 40S ribosomal protein S23

Chain SX:  90% 10%



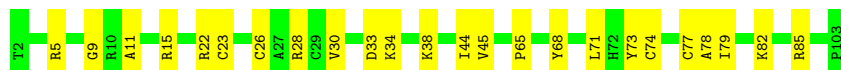
- Molecule 15: 40S ribosomal protein S24

Chain SY:  5% 81% 19%

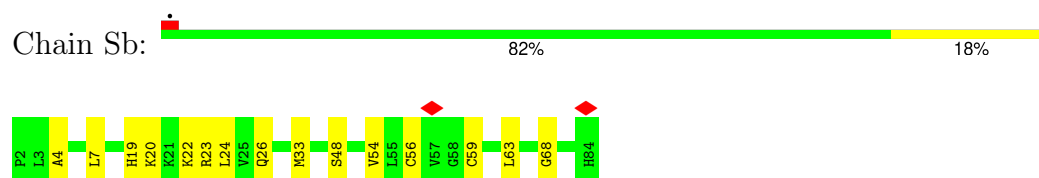


- Molecule 16: 40S ribosomal protein S26

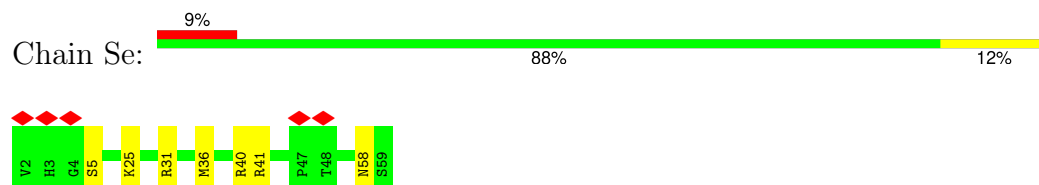
Chain Sa:  76% 24%



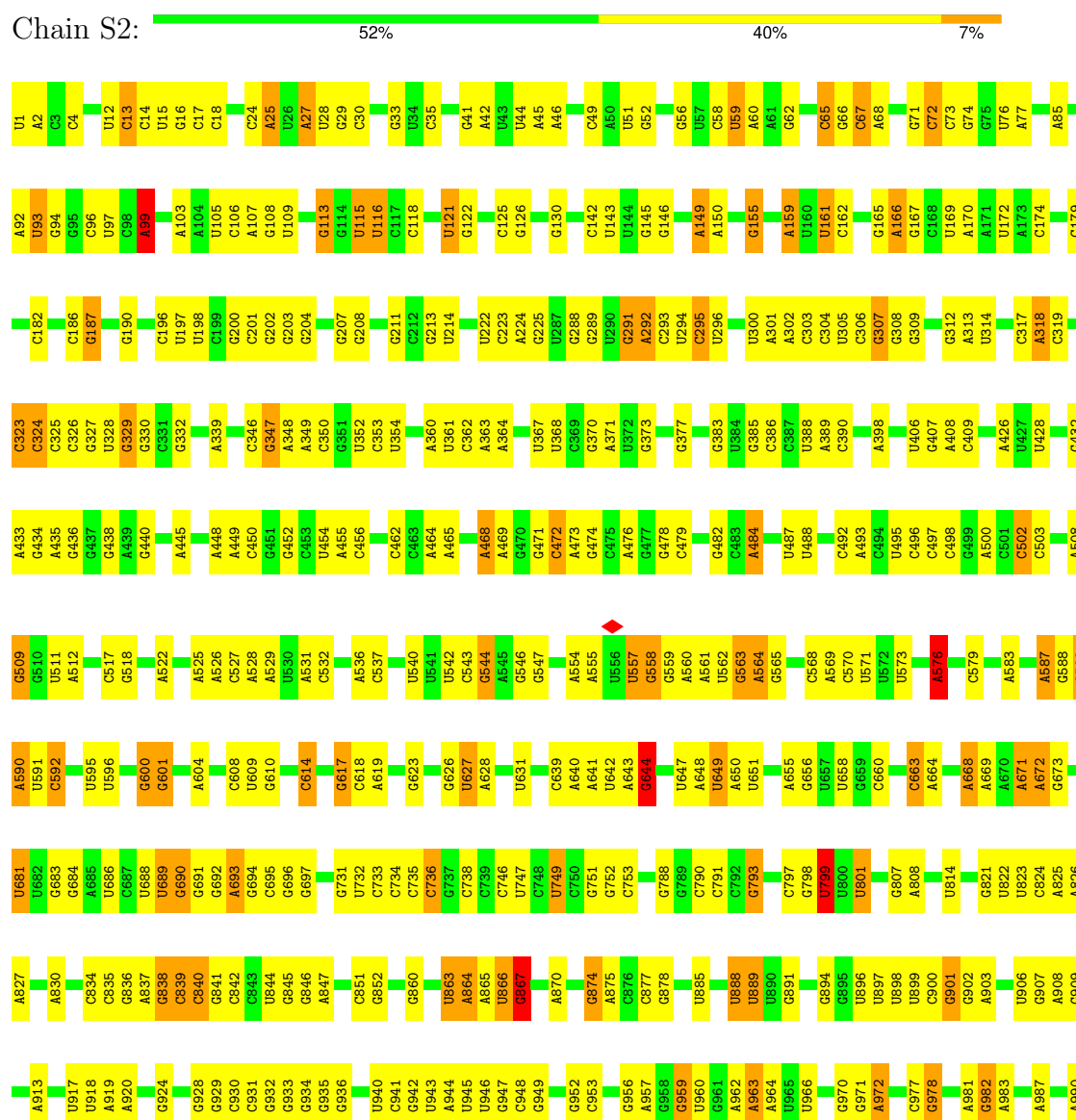
- Molecule 17: Small ribosomal subunit protein eS27

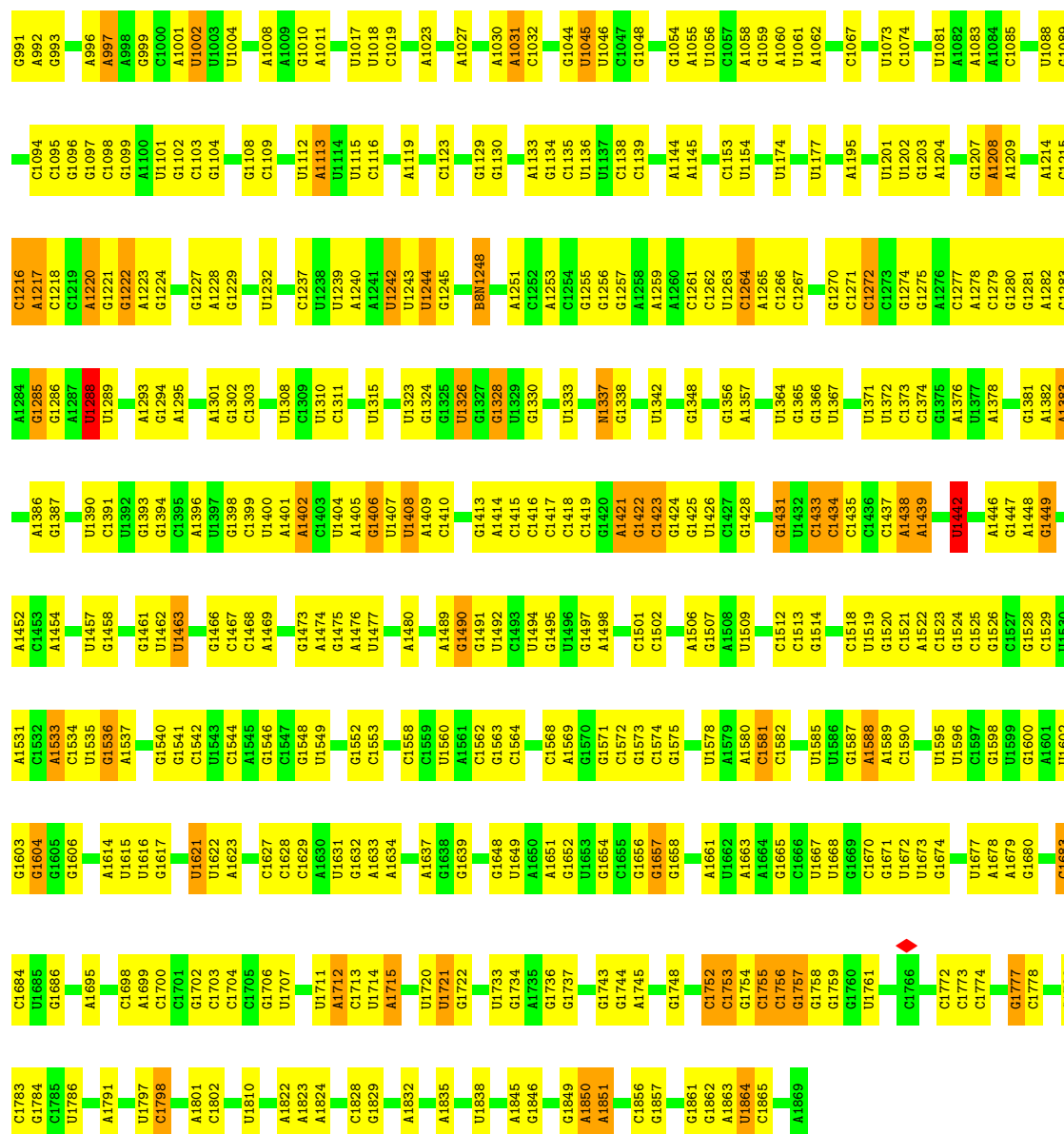


- Molecule 18: Small ribosomal subunit protein eS30

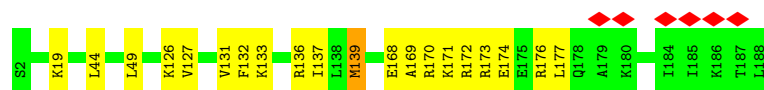
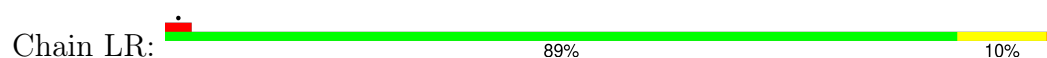


- Molecule 19: 18S rRNA

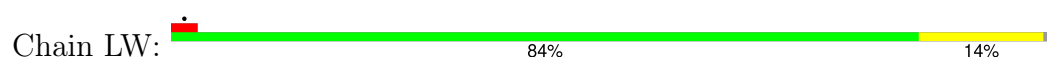




- Molecule 20: 60S ribosomal protein L19



- Molecule 21: Ribosomal protein L24



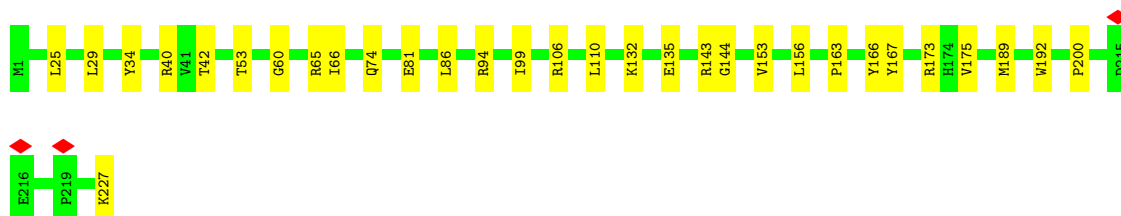
- Molecule 22: Small ribosomal subunit protein eS17

Chain SR:  83% 16%



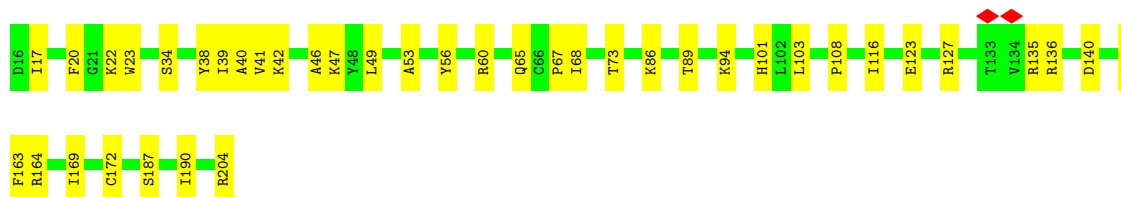
- Molecule 23: Small ribosomal subunit protein uS3

Chain SD:  86% 14%



- Molecule 24: 40S ribosomal protein S5

Chain SF:  79% 21%



- Molecule 25: 40S ribosomal protein S10

Chain SK:  86% 14%



- Molecule 26: Small ribosomal subunit protein eS12

Chain SM:  8% 83% 17%

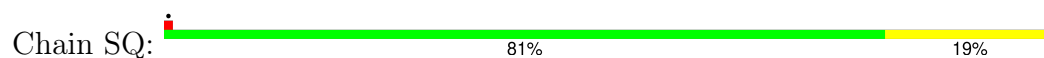


- Molecule 27: Small ribosomal subunit protein uS19

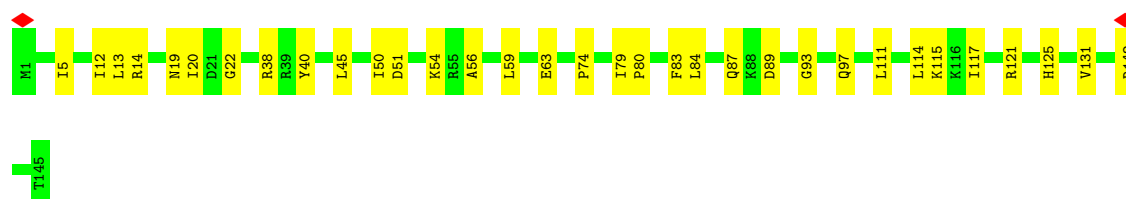
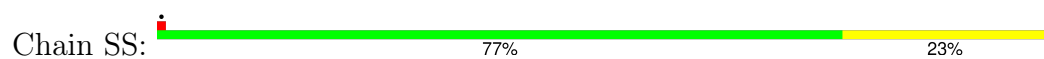
Chain SP:  86% 14%



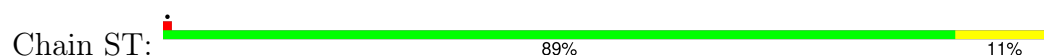
- Molecule 28: Small ribosomal subunit protein uS9



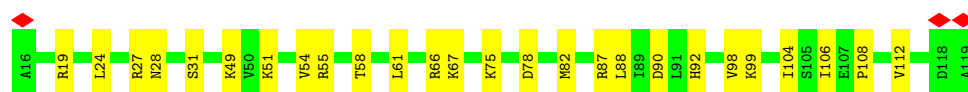
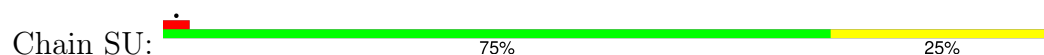
- Molecule 29: 40S ribosomal protein S18



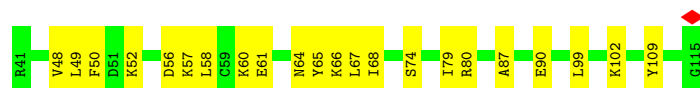
- Molecule 30: 40S ribosomal protein S19



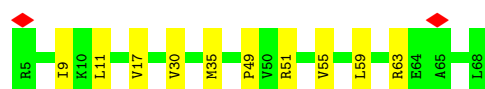
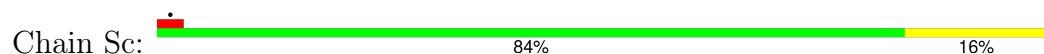
- Molecule 31: 40S ribosomal protein S20



- Molecule 32: Small ribosomal subunit protein eS25



- Molecule 33: 40S ribosomal protein S28



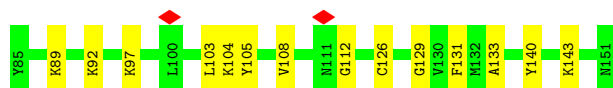
- Molecule 34: 40S ribosomal protein S29

Chain Sd:  89% 11%



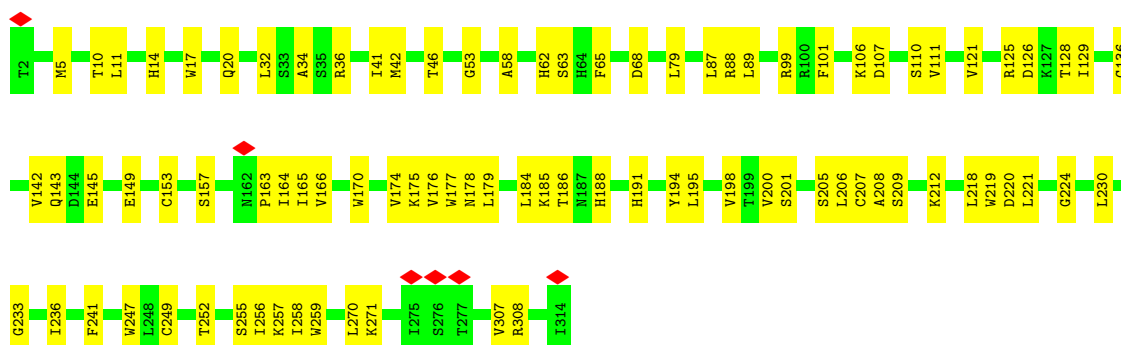
- Molecule 35: Ubiquitin-40S ribosomal protein S27a

Chain Sf:  79% 21%



- Molecule 36: Receptor of activated protein C kinase 1

Chain Sg:  72% 28%



- Molecule 37: A site tRNA

Chain At:  52% 41% 7%

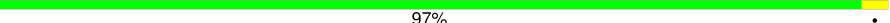


- Molecule 38: P site tRNA

Chain Pt:  59% 38% 3%



- Molecule 39: Transcription factor BTF3

Chain CI:  97% 3%



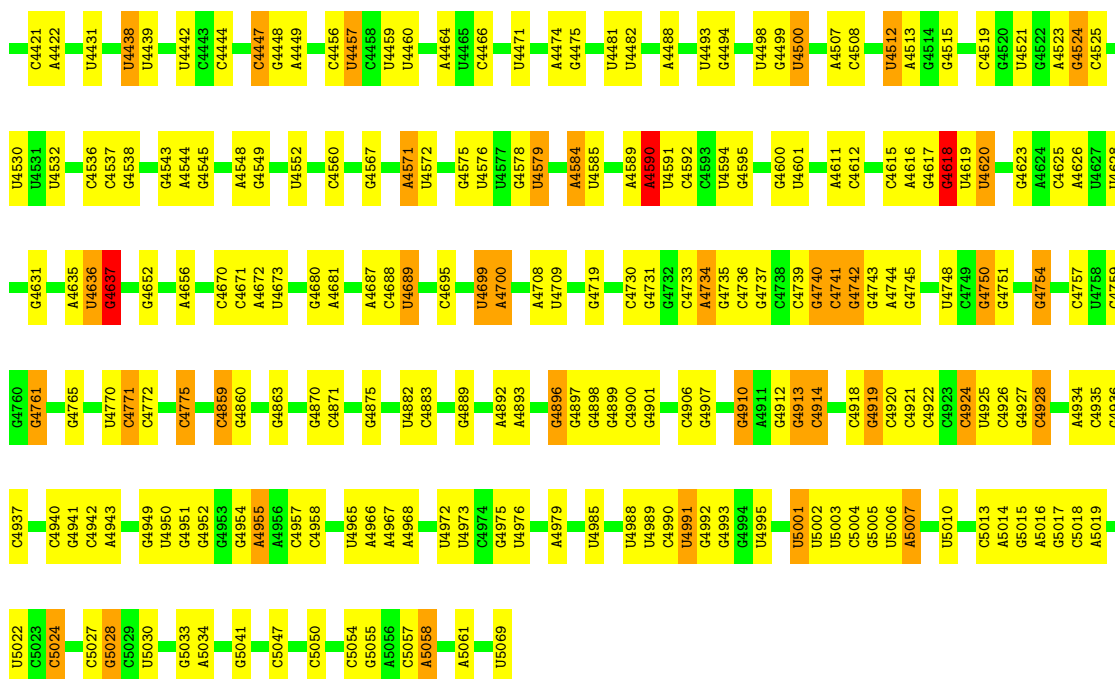
- Molecule 40: 28S rRNA

Chain L5:

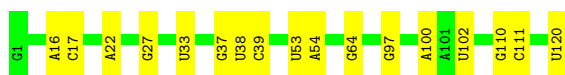


G1	C124	G234	A408	G500	G700	A935	G1176	G1275	C1367	A1497	G1630	G1750	A1858
C7	C125	G254	G409	C501	G701	C936	U1177	C1278	C1379	G1498	A1631	A1751	C1859
U8	G126	G255	A410	C502	U702	U937	G1178	A1279	U1379	C1499	G1632	G1752	C1860
C9	G127	G256	G411	C503	G703	A943	U1179	C1280	A1387	A1500	G1633	U1757	U1861
A10	G132	C257	G412	G504	C704	A944	C1180	G1281	G1392	C1501	A1634	G1758	U1862
G11	C133	C258	G413	A509	G708	U945	C1181	G1282	A1393	A1503	A1637	G1759	A1867
A25	G134	C259	G414	U510	C711	A956	C1182	G1283	G1394	G1504	A1638	G1760	A1868
C30	G135	C260	G415	C511	C712	G957	C1183	U1284	A1397	C1509	G1641	G1761	A1870
U37	C136	G261	A418	U512	G716	G958	C1187	C1286	G1404	U1514	G1642	C1763	U1882
A38	G137	G262	G419	U513	U716	G959	C1188	G1287	C1407	A1515	C1645	A1765	C1893
A39	G138	G263	C422	U514	U717	G960	C1189	G1288	G1408	G1516	A1646	A1766	C1894
A42	G139	G264	U424	U515	C718	G961	G1189	G1289	C1409	G1517	G1647	C1768	G1895
U46	G140	C265	U425	C516	C724	C962	G1190	G1290	U1410	G1522	G1648	G1769	A1896
A47	G141	C266	G431	C517	G728	U965	G1191	C1301	U1411	A1523	C1649	U1771	A1897
G48	G142	C267	U432	U518	G729	C966	C1192	A1302	G1412	A1524	C1650	C1772	A1907
A56	A149	U270	A443	G644	G730	C967	U1201	A1303	C1413	A1534	A1669	U1773	A1908
A59	A158	C275	U440	G646	G731	C968	G1202	A1307	G1414	C1535	C1676	U1774	G1916
G60	G160	G280	G444	C654	C737	C969	G1203	C1308	G1415	U1536	U1677	U1781	A1917
A61	A161	U286	C449	C655	G738	U971	G1211	C1309	G1416	A1537	U1678	U1782	U1918
A65	A162	U287	A452	C656	G739	C978	C1212	C1310	C1417	G1538	G1680	A1787	U1919
C71	A163	U297	A453	C657	G742	C979	C1213	G1311	A1421	C1540	C1681	C1820	C1920
G72	G164	A300	G454	G659	A746	C982	C1214	C1312	G1422	A1541	U1683	U1792	C1921
A73	A165	G301	U455	C662	A747	C983	C1215	C1313	G1423	A1547	U1684	U1802	C1922
G75	C172	C302	C456	G663	U750	C984	G1218	C1314	C1431	G1582	G1685	A1803	G1925
A84	C174	C303	C457	C664	C755	C985	G1219	C1315	G1432	G1583	C1694	G1804	U1930
G85	C181	G315	C458	C666	C756	C988	G1220	C1316	C1437	G1584	C1697	A1805	U1931
U86	G182	U316	A463	C667	G757	G1070	G1221	A1322	U1438	G1585	C1698	G1806	A1932
A87	C183	A317	G464	C668	G758	C1071	G1222	A1323	C1439	U1577	C1699	C1807	G1933
G91	C184	A319	A466	C669	G759	G1072	A1223	A1326	G1442	U1578	C1703	G1810	A1934
C92	G185	G319	G467	C670	G760	C1075	G1238	G1327	A1443	U1582	G1704	G1811	C1937
G93	C186	U325	U468	C671	G761	G1081	G1239	G1328	G1444	G1583	C1705	G1812	A1942
A94	G187	C326	U469	C672	G762	C1082	G1240	A1332	G1445	U1584	C1706	C1821	A1943
G104	U187	G340	C469	C673	G763	U1083	A1254	A1333	C1446	U1585	C1707	G1822	G1948
A105	G188	C340	C470	C674	G764	C1084	A1255	A1334	C1447	U1586	C1708	G1823	A1956
A106	G189	C340	C471	C675	G765	C1085	G1256	A1337	G1457	U1587	C1709	U1834	U1957
G107	G190	C340	C472	C676	G766	C1086	A1257	G1338	C1458	U1588	C1710	G1835	U1958
A108	G191	C340	C473	C677	G767	C1087	G1258	U1339	C1459	U1589	C1711	G1836	A1959
G109	G192	C340	C474	C678	G768	C1088	G1259	C1340	C1460	U1590	C1712	A1837	A1960
C110	G193	C340	C475	C679	G769	C1089	G1260	U1341	C1461	U1591	C1713	G1842	A1962
A121	G194	C340	C476	C680	G770	C1090	G1261	U1342	C1462	U1592	C1714	G1843	G1968
U122	G195	C340	C477	C681	G771	C1091	G1262	U1343	C1463	U1593	C1715	G1844	C1969
C123	G196	C340	C478	C682	G772	C1092	G1263	U1344	C1464	U1594	C1716	G1845	A1970
	G197	C340	C479	C683	G773	C1093	G1264	U1345	C1465	U1595	C1717	G1846	C1971
	G198	C340	C480	C684	G774	C1094	G1265	U1346	C1466	U1596	C1718	G1847	C1972
	G199	C340	C481	C685	G775	C1095	G1266	U1347	C1467	U1597	C1719	G1848	G1973
	G200	C340	C482	C686	G776	C1096	G1267	U1348	C1468	U1598	C1720	G1849	
	U209	C340	C483	C687	G777	C1097	G1268	U1349	C1469	U1599	C1721	G1850	
	U210	C340	C484	C688	G778	C1098	G1269	U1350	C1470	U1600	C1722	G1851	
	C216	C340	C485	C689	G779	C1099	G1270	U1351	C1471	U1601	C1723	G1852	
	G217	C340	C486	C690	G780	C1100	G1271	U1352	C1472	U1602	C1724	G1853	
	A218	C340	C487	C691	G781	C1101	G1272	U1353	C1473	U1603	C1725	G1854	
	G223	C340	C488	C692	G782	C1102	G1273	U1354	C1474	U1604	C1726	G1855	
	U224	C340	C489	C693	G783	C1103	G1274	U1355	C1475	U1605	C1727	G1856	
	G225	C340	C490	C694	G784	C1104	G1275	U1356	C1476	U1606	C1728	G1857	
		C340	C491	C695	G785	C1105	G1276	U1357	C1477	U1607	C1729		
		C340	C492	C696	G786	C1106	G1277	U1358	C1478	U1608	C1730		
		C340	C493	C697	G787	C1107	G1278	U1359	C1479	U1609	C1731		
		C340	C494	C698	G788	C1108	G1279	U1360	C1480	U1610	C1732		
		C340	C495	C699	G789	C1109	G1280	U1361	C1481	U1611	C1733		
		C340	C496	C700	G790	C1110	G1281	U1362	C1482	U1612	C1734		
		C340	C497	C701	G791	C1111	G1282	U1363	C1483	U1613	C1735		
		C340	C498	C702	G792	C1112	G1283	U1364	C1484	U1614	C1736		
		C340	C499	C703	G793	C1113	G1284	U1365	C1485	U1615	C1737		
		C340	C500	C704	G794	C1114	G1285	U1366	C1486	U1616	C1738		
		C340	C501	C705	G795	C1115	G1286	U1367	C1487	U1617	C1739		
		C340	C502	C706	G796	C1116	G1287	U1368	C1488	U1618	C1740		
		C340	C503	C707	G797	C1117	G1288	U1369	C1489	U1619	C1741		
		C340	C504	C708	G798	C1118	G1289	U1370	C1490	U1620	C1742		
		C340	C505	C709	G799	C1119	G1290	U1371	C1491	U1621	C1743		
		C340	C506	C710	G800	C1120	G1291	U1372	C1492	U1622	C1744		
		C340	C507	C711	G801	C1121	G1292	U1373	C1493	U1623	C1745		
		C340	C508	C712	G802	C1122	G1293	U1374	C1494	U1624	C1746		
		C340	C509	C713	G803	C1123	G1294	U1375	C1495	U1625	C1747		
		C340	C510	C714	G804	C1124	G1295	U1376	C1496	U1626	C1748		
		C340	C511	C715	G805	C1125	G1296	U1377	C1497	U1627	C1749		
		C340	C512	C716	G806	C1126	G1297	U1378	C1498	U1628	C1750		
		C340	C513	C717	G807	C1127	G1298	U1379	C1499	U1629	C1751		
		C340	C514	C718	G808	C1128	G1299	U1380	C1500	U1630	C1752		
		C340	C515	C719	G809	C1129	G1300	U1381	C1501	U1631	C1753		
		C340	C516	C720	G810	C1130	G1301	U1382	C1502	U1632	C1754		
		C340	C517	C721	G811	C1131	G1302	U1383	C1503	U1633	C1755		
		C340	C518	C722	G812	C1132	G1303	U1384	C1504	U1634	C1756		
		C340	C519	C723	G813	C1133	G1304	U1385	C1505	U1635	C1757		
		C340	C520	C724	G814	C1134	G1305	U1386	C1506	U1636	C1758		
		C340	C521	C725	G815	C1135	G1306	U1387	C1507	U1637	C1759		
		C340	C522	C726	G816	C1136	G1307	U1388	C1508	U1638	C1760		
		C340	C523	C727	G817	C1137	G1308	U1389	C1509	U1639	C1761		
		C340	C524	C728	G818	C1138	G1309	U1390	C1510	U1640	C1762		
		C340	C525	C729	G819	C1139	G1310	U1391	C1511	U1641	C1763		
		C340	C526	C730	G820	C1140	G1311	U1392	C1512	U1642	C1764		
		C340	C527	C731	G821	C1141	G1312	U1393	C1513	U1643	C1765		
		C340	C528	C732	G822	C1142	G1313	U1394	C1514	U1644	C1766		
		C340	C529	C733	G823	C1143	G1314	U1395	C1515	U1645	C1767		
		C340	C530	C734	G824	C1144	G1315	U1396	C1516	U1646	C1768		
		C340	C531	C735	G825	C1145	G1316	U1397	C1517	U1647	C1769		
		C340	C532	C736	G826	C1146	G1317	U1398	C1518	U1648	C1770		
		C340	C533	C737	G827	C1147	G1318	U1399	C1519	U1649	C1771		
		C340	C534	C738	G828	C1148	G1319	U1400	C1520	U1650	C1772		
		C340	C535	C739	G829	C1149	G1320	U1401	C1521	U1651	C1773		
		C340	C536	C740	G830	C1150	G1321	U1402	C1522	U1652	C1774		
		C340	C537	C741	G831	C1151	G1322	U1403	C1523	U1653	C1775		
		C340	C538	C742	G832	C1152	G1323	U1404	C1524	U1654	C1776		
		C340	C539	C743	G833	C1153	G1324	U1405	C1525	U1655	C17		

U1974	G2060	C2399	C2464	G2555	U2708	U2839	A3610	U3709	U43818	A3901	G4094	U4190	U4299
G1975	G2066	A2300	C2465	G2556	C2709	G2842	A3611	G3710	G3819	A3906	G4095	G4191	A4304
C1977	C2066	G2301	G2466	C2557	G2710	G2843	G3615	A3711	U3822	G3907	G4096	G4196	A4305
C1978	C2067	C2302	G2469	C2558	G2711	A2844	G3619	U3712	G3823	A3908	G4097	A4196	U4306
A1979	C2068	C2303	C2469	C2559	G2717	G2848	G3619	U3713	A3824	C3909	G4099	A4203	
U1980	A2069	G2306	G2471	C2560	U2718		G3619	A3717	A3825	C4100	C4101	A4212	U4312
U1981	G2076	A2313	G2474	A2565	C2719		A3624	A3718	C3826	A4105	G4104	A4213	A4313
G1982	G2084	A2332	G2475	C2568	G2720		G3625	A3719	A3830	A4105	G4106	A4214	C4314
A1983	U2090	G2333	G2478	C2569	G2721		G3626	A3720	C3833	A4106	G4107	A4220	C4319
G1985	C2091	C2334	G2479	U2570	A2724		G3627	U3721	C3834	G4108	G4108	A4221	G4329
U1986	G2092	C2335	G2480	A2573	G2725		A3630	A3722	U3838	A4109	G4109	A4222	G4330
	G2093	G2336	G2481	C2583	C2726		A3635	A3723	U3839	A4110	G4110	C4220	G4331
G1989	A2094	G2348	G2482	C2586	U2730		U3636	G3725	G3840	C4111	G4111	C4221	U4227
A1990	A2095	G2349	G2483	A2587	C2731		G3637	A3726	U3841	U3925	G4112	C4222	C4332
U1991	G2096	C2351	U2485	C2588	U2739		G3638	A3727	C3844	A4113	C4113	U4229	G4338
U1992	U2097	G2360	G2486	C2589	C2742		U3639	A3732	U3844	A3928	G4114	A4233	
C1993	G2098	U2361	G2487	C2591	A2743		U3640	A3733	U3848	G3929	C4115	U4238	U4344
C1994	A2100	G2362	C2488	A2601	A2744		U3641	G3734	A3849	C3937	C4116	G4238	C4345
U1996	C2101	A2363	C2490	G2602	A2745		U3644	G3735	U3850	A4239	U4117	G4239	C4346
U1997	G2102	G2364	C2491	A2611	A2746		U3645	A3736	C3851	G4240	G4121	C4241	C4347
A1998	G2103	C2365	C2492	G2612			A3646	A3737	U3852	A3942	G4122	U4242	C4348
A1999	G2104	G2380	G2493	G2613	G2754		A3647	G3744	U3853	A3943	A4127	C4243	C4349
G2000	A2105	C2383	U2494	G2618	G2760		A3648	A3748	A3856	A3944	A4127	C4244	C4350
G2001	G2106	G2389	U2495	G2618	U2761		A3652	A3748	A3856	A3945	C4133	U4245	U4353
A2002	G2108	A2389	C2497	C2627	G2763		A3653	G3753	A3861	C3948	C4138	A4251	U4361
G2005	G2109	G2395	C2501	U2632	A2764		A3656	A3760	A3862	A3949	C4139	G4254	A4362
U2006	G2110	G2397	G2503	U2633	A2765		U3657	U3764	A3867	G3951	C4140	A4255	A4363
G2007	G2112	C2397	C2504	G2640	A2766		A3662	G3765	C3868	G4141	A4256	A4257	G4364
U2008	C2249	G2397	C2505	A2641			A3663	A3766	C3869	G3952	G4142	C4258	C4365
C2011	G2250	A2401	C2506	G2640	U2769		G3664	A3766	C3870	A3954	G4143	C4258	
A2012	G2251	C2411	G2506	A2641	C2770		G3665	U3770	A3871	A4056	C4144	G4259	G4370
C2016	A2252	A2412	G2506	C2653			C3668	A3774	A3872	C4057	C4145	U4260	
A2017	G2254	U2415	A2513	C2654	A2787		G3669	A3775	G3873	U4058	G4146	C4261	G4373
C2018	C2255	G2416	G2514	C2655	U2788		C3670	G3776	G3874	C4059	C4153	U4265	A4376
C2019	C2256	A2417	G2517	G2662	A2789		C3673	G3777	A3875	U4060	G4154	U4268	G4377
U2020	C2257	G2417	G2518		U2790		G3674	G3777	C3876	A4061	C4155	A4268	A4378
G2021	G2258	C2422	U2519	C2667	U2803		G3674	C3782	C3877	A4062	G4156	G4273	A4379
G2024	G2262	A2423	G2520	C2670	C2804		G3674	C3782	G3878	U4063	A4157	A4274	C4386
A2025	C2264	U2425	G2521	G2675	C2805		C3684	A3785	G3879	C4064	C4162	G4275	C4387
A2026	G2265	U2425	G2521	A2676	A2806		C3685	U3786	G3881	G4065	U4163	U4279	
A2033	G2275	A2431	A2537	U2687	C2814		U3690	G3792	U3884	U4068	C4163	A4279	G4392
G2034	A2276	G2448	U2538	G2688	A2815		G3691	U3793	G3885	U4069	G4168	A4280	G4393
G2045	C2289	A2449	C2539	G2688	C3598		A3692	C3808	A3890	U4070	G4169	A4281	A4394
A2046	G2450	G2544	G2540	G2694	C2824		U3695	C3808	A3891	C4072	A4170	A4282	G4401
U2048	A2453	U2545	G2547	A2695	A2825		U3696	G3800	A3892	G4076	G4183	C4291	U4402
G2052	C2458	G2546	G2547	A2896	U2826		U3697	C3601	U3892		G4184	A4292	U4403
G2055	U2298	G2547	U2554	G2706	G2827		G3698	C3601	G3897	C4088	G4187	U4293	U4404
G2056				U2707	U2837		C3701	U3605	G3898	G4089	U4188	C4294	G4405
					G2838			U3607	G3900	G4090	U4189	U4296	A4415



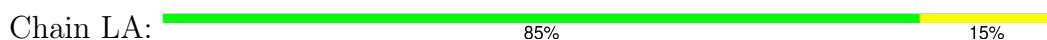
- Molecule 41: 5S rRNA



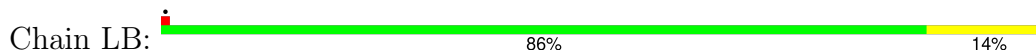
- Molecule 42: 5.8S rRNA

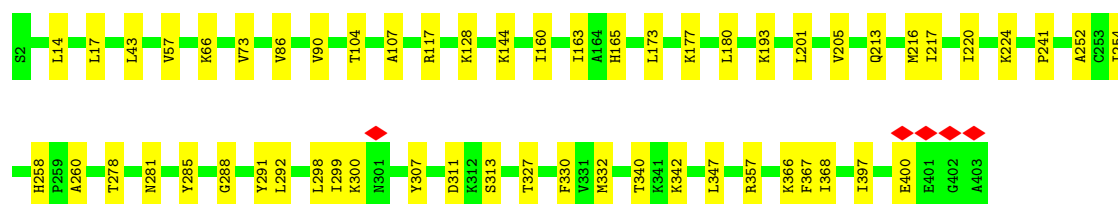


- Molecule 43: 60S ribosomal protein L8

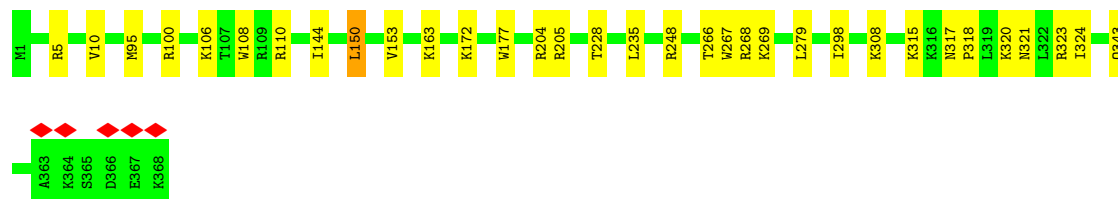


- Molecule 44: Large ribosomal subunit protein uL3





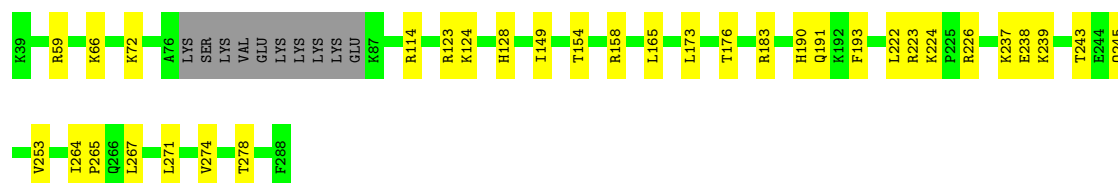
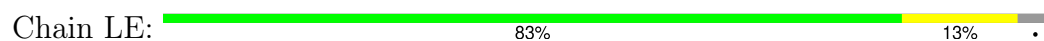
- Molecule 45: 60S ribosomal protein L4



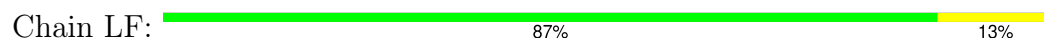
- Molecule 46: Large ribosomal subunit protein uL18



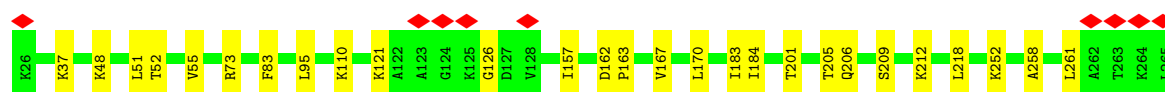
- Molecule 47: Large ribosomal subunit protein eL6



- Molecule 48: 60S ribosomal protein L7



- Molecule 49: 60S ribosomal protein L7a





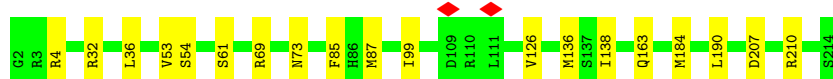
- Molecule 50: 60S ribosomal protein L9

Chain LH: 93% 7%



- Molecule 51: Ribosomal protein uL16-like

Chain LI: 91% 9%



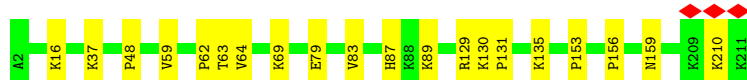
- Molecule 52: 60S ribosomal protein L11

Chain LJ: 86% 10% .



- Molecule 53: Large ribosomal subunit protein eL13

Chain LL: 90% 10%



- Molecule 54: 60S ribosomal protein L14

Chain LM: 84% 16%



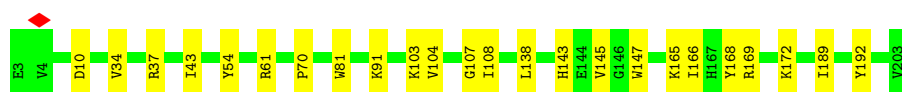
- Molecule 55: 60S ribosomal protein L15

Chain LN: 91% 9%



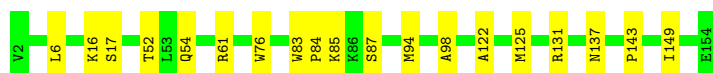
- Molecule 56: 60S ribosomal protein L13a

Chain LO: 88% 12%



- Molecule 57: 60S ribosomal protein L17

Chain LP: 88% 12%



- Molecule 58: 60S ribosomal protein L18

Chain LQ: 96% .



- Molecule 59: 60S ribosomal protein L18a

Chain LS: 93% 7%



- Molecule 60: 60S ribosomal protein L21

Chain LT: 92% 8%



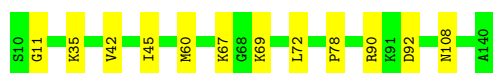
- Molecule 61: Heparin-binding protein HBp15

Chain LU: 88% 12%



- Molecule 62: 60S ribosomal protein L23

Chain LV: 91% 9%



- Molecule 63: 60S ribosomal protein L23a

Chain LX: 89% 11%



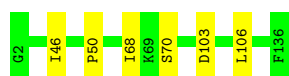
- Molecule 64: 60S ribosomal protein L26

Chain LY: 86% 14%



- Molecule 65: 60S ribosomal protein L27

Chain LZ: 96% .



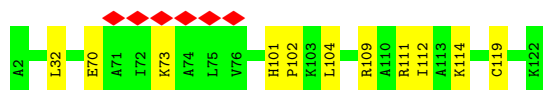
- Molecule 66: 60S ribosomal protein L27a

Chain La: 95% 5%



- Molecule 67: Large ribosomal subunit protein eL29

Chain Lb: 6% 90% 10%



- Molecule 68: 60S ribosomal protein L30

Chain Lc: 90% 10%



- Molecule 69: 60S ribosomal protein L31

Chain Ld: 86% 14%



- Molecule 70: 60S ribosomal protein L32

Chain Le: 94% 6%



- Molecule 71: 60S ribosomal protein L35a

Chain Lf: 89% 11%



- Molecule 72: 60S ribosomal protein L34

Chain Lg: 94% 6%



- Molecule 73: 60S ribosomal protein L35

Chain Lh: 90% 10%



- Molecule 74: 60S ribosomal protein L36

Chain Li: 90% 10%



- Molecule 75: 60S ribosomal protein L37

Chain Lj: 95% 5%



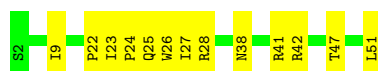
- Molecule 76: 60S ribosomal protein L38

Chain Lk: 78% 22%



- Molecule 77: 60S ribosomal protein L39

Chain Ll: 74% 26%



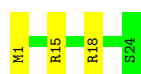
- Molecule 78: Large ribosomal subunit protein eL40

Chain Lm: 90% 10%



- Molecule 79: 60S ribosomal protein L41

Chain Ln: 88% 12%



- Molecule 80: 60S ribosomal protein L36a

Chain Lo: 86% 14%



- Molecule 81: 60S ribosomal protein L37a

Chain Lp: 95% 5%



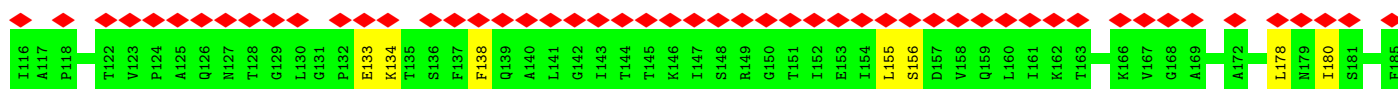
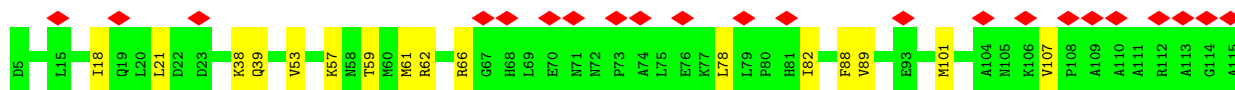
- Molecule 82: 60S ribosomal protein L28

Chain Lr: 94% 6%



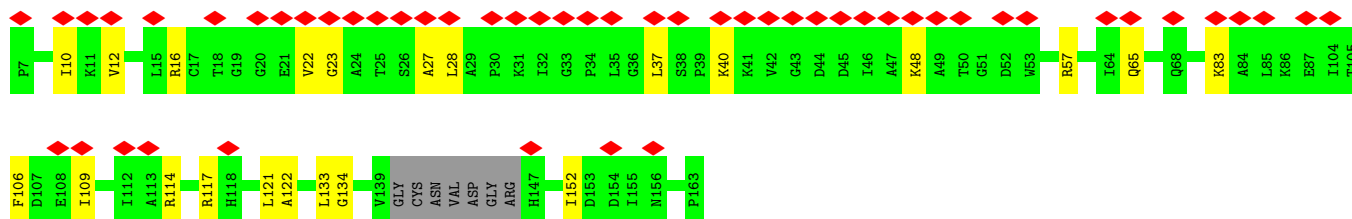
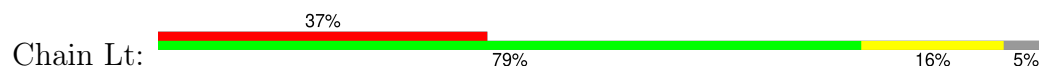
- Molecule 83: 60S acidic ribosomal protein P0

Chain Ls: 39% 88% 12%

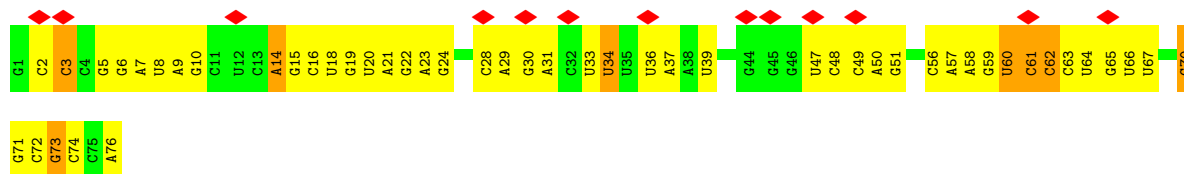




- Molecule 84: Large ribosomal subunit protein uL11



- Molecule 85: Z site tRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	64856	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	0.156	Depositor
Minimum map value	-0.048	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0125	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: 5MC, OMU, OMG, PSU, UR3, SPM, B8N, 4AC, OMC, A2M, 1MA, MG, UY1, SPD, G7M, 6MZ, ZN, MA6

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	0.55	3/1778 (0.2%)	0.63	6/2416 (0.2%)
2	SB	0.17	0/1765	0.33	0/2362
3	SC	0.20	0/1744	0.31	0/2357
4	SE	0.19	0/2118	0.34	0/2849
5	SG	0.17	0/1946	0.32	0/2590
6	SH	0.16	0/1519	0.38	0/2033
7	SI	0.21	0/1715	0.38	0/2287
8	SJ	0.18	0/1550	0.34	0/2069
9	SL	0.22	0/1268	0.31	0/1696
10	SN	0.17	0/1232	0.28	0/1656
11	SO	0.18	0/1037	0.35	0/1391
12	SV	0.16	0/643	0.30	0/860
13	SW	0.22	0/1051	0.33	0/1406
14	SX	0.24	0/1116	0.39	0/1490
15	SY	0.17	0/1083	0.32	0/1438
16	Sa	0.20	0/836	0.35	0/1121
17	Sb	0.17	0/665	0.35	0/891
18	Se	0.16	0/465	0.35	0/612
19	S2	0.25	0/39756	0.30	0/61939
20	LR	0.35	0/1582	0.44	0/2091
21	LW	0.26	0/959	0.33	0/1270
22	SR	0.25	0/1105	0.48	0/1484
23	SD	0.17	0/1793	0.31	0/2414
24	SF	0.16	0/1516	0.32	0/2037
25	SK	0.15	0/851	0.31	0/1147
26	SM	0.12	0/950	0.31	0/1275
27	SP	0.17	0/1003	0.35	0/1342
28	SQ	0.16	0/1160	0.35	0/1553
29	SS	0.16	0/1216	0.35	0/1628
30	ST	0.16	0/1131	0.31	0/1515
31	SU	0.18	0/831	0.34	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	SZ	0.17	0/604	0.42	0/810
33	Sc	0.16	0/508	0.33	0/680
34	Sd	0.21	0/470	0.35	0/623
35	Sf	0.17	0/560	0.43	0/745
36	Sg	0.14	0/2493	0.36	0/3394
37	At	0.17	0/1692	0.27	0/2634
38	Pt	0.18	0/1761	0.27	0/2741
39	CI	0.19	0/247	0.30	0/323
40	L5	0.38	0/85098	0.34	0/132762
41	L7	0.36	0/2861	0.30	0/4459
42	L8	0.38	0/3631	0.32	0/5657
43	LA	0.37	0/1936	0.43	0/2596
44	LB	0.35	0/3306	0.39	0/4424
45	LC	0.37	0/2981	0.42	1/4002 (0.0%)
46	LD	0.28	0/2428	0.32	0/3252
47	LE	0.28	0/1973	0.42	0/2645
48	LF	0.35	0/1905	0.33	0/2539
49	LG	0.30	0/1960	0.37	0/2637
50	LH	0.32	0/1537	0.33	0/2066
51	LI	0.31	0/1751	0.33	0/2340
52	LJ	0.24	0/1385	0.35	0/1852
53	LL	0.32	0/1732	0.33	0/2315
54	LM	0.33	0/1161	0.34	0/1554
55	LN	0.39	0/1746	0.36	0/2338
56	LO	0.36	0/1682	0.36	0/2250
57	LP	0.36	0/1268	0.37	0/1701
58	LQ	0.37	0/1537	0.37	0/2052
59	LS	0.36	0/1493	0.32	0/2003
60	LT	0.33	0/1326	0.34	0/1770
61	LU	0.25	0/839	0.39	0/1126
62	LV	0.35	0/993	0.39	0/1332
63	LX	0.31	0/1002	0.33	0/1345
64	LY	0.33	0/1132	0.35	0/1504
65	LZ	0.29	0/1130	0.31	0/1507
66	La	0.36	0/1191	0.31	0/1591
67	Lb	0.27	0/889	0.35	0/1175
68	Lc	0.29	0/774	0.37	0/1038
69	Ld	0.33	0/903	0.35	0/1216
70	Le	0.37	0/1071	0.33	0/1429
71	Lf	0.46	0/895	0.58	0/1198
72	Lg	0.34	0/916	0.34	0/1220
73	Lh	0.31	0/1023	0.34	0/1351
74	Li	0.28	0/843	0.32	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Lj	0.37	0/720	0.41	0/952
76	Lk	0.31	0/575	0.39	0/761
77	Ll	0.33	0/454	0.27	0/599
78	Lm	0.31	0/435	0.35	0/575
79	Ln	0.27	0/231	0.29	0/294
80	Lo	0.34	0/876	0.34	0/1156
81	Lp	0.33	0/718	0.33	0/953
82	Lr	0.35	0/1017	0.38	0/1364
83	Ls	0.13	0/1519	0.32	0/2052
84	Lt	0.16	0/1009	0.47	0/1363
85	Zt	0.15	0/1779	0.32	0/2771
All	All	0.32	3/233350 (0.0%)	0.34	7/342485 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	SA	0	1
20	LR	0	1
All	All	0	2

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	SA	148	CYS	CA-C	-13.81	1.34	1.52
1	SA	148	CYS	CA-CB	13.09	1.75	1.53
1	SA	147	LEU	N-CA	-9.47	1.34	1.46

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	SA	148	CYS	N-CA-CB	-13.99	86.84	110.49
1	SA	148	CYS	N-CA-C	12.01	136.38	110.80
1	SA	146	ALA	CA-C-N	7.00	132.81	121.74
1	SA	146	ALA	C-N-CA	7.00	132.81	121.74
1	SA	147	LEU	N-CA-C	6.34	119.30	109.60
1	SA	147	LEU	N-CA-CB	6.30	119.90	110.39
45	LC	150	LEU	CA-CB-CG	-5.57	96.81	116.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
20	LR	136	ARG	Sidechain
1	SA	85	ARG	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	SA	1741	0	1744	43	0
2	SB	1738	0	1809	32	0
3	SC	1707	0	1791	29	0
4	SE	2076	0	2177	38	0
5	SG	1923	0	2089	35	0
6	SH	1497	0	1590	27	0
7	SI	1686	0	1772	20	0
8	SJ	1525	0	1640	22	0
9	SL	1247	0	1323	18	0
10	SN	1208	0	1294	9	0
11	SO	1024	0	1050	21	0
12	SV	636	0	637	9	0
13	SW	1034	0	1080	21	0
14	SX	1098	0	1167	10	0
15	SY	1065	0	1142	19	0
16	Sa	821	0	870	15	0
17	Sb	651	0	670	14	0
18	Se	459	0	503	6	0
19	S2	36952	0	18678	427	0
20	LR	1566	0	1729	12	0
21	LW	945	0	1003	13	0
22	SR	1090	0	1149	19	0
23	SD	1765	0	1865	19	0
24	SF	1495	0	1549	31	0
25	SK	827	0	854	12	0
26	SM	940	0	965	14	0
27	SP	985	0	1031	11	0
28	SQ	1142	0	1213	21	0
29	SS	1198	0	1261	22	0
30	ST	1112	0	1146	11	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	SU	821	0	883	18	0
32	SZ	598	0	656	17	0
33	Sc	506	0	536	7	0
34	Sd	459	0	449	8	0
35	Sf	548	0	553	9	0
36	Sg	2436	0	2391	58	0
37	At	1514	0	770	21	0
38	Pt	1576	0	803	18	0
39	CI	247	0	283	1	0
40	L5	78444	0	39718	561	0
41	L7	2561	0	1295	5	0
42	L8	3315	0	1685	14	0
43	LA	1898	0	1993	26	0
44	LB	3238	0	3376	39	0
45	LC	2927	0	3104	28	0
46	LD	2382	0	2410	16	0
47	LE	1935	0	2096	27	0
48	LF	1870	0	1996	22	0
49	LG	1927	0	2074	17	0
50	LH	1518	0	1601	10	0
51	LI	1711	0	1749	17	0
52	LJ	1362	0	1399	11	0
53	LL	1701	0	1818	14	0
54	LM	1138	0	1204	15	0
55	LN	1701	0	1749	14	0
56	LO	1650	0	1794	18	0
57	LP	1242	0	1269	14	0
58	LQ	1513	0	1628	8	0
59	LS	1453	0	1490	9	0
60	LT	1298	0	1366	10	0
61	LU	825	0	850	9	0
62	LV	979	0	1039	8	0
63	LX	985	0	1066	8	0
64	LY	1115	0	1205	13	0
65	LZ	1107	0	1182	4	0
66	La	1162	0	1213	5	0
67	Lb	876	0	948	7	0
68	Lc	764	0	804	6	0
69	Ld	888	0	930	8	0
70	Le	1053	0	1147	5	0
71	Lf	876	0	912	9	0
72	Lg	906	0	998	5	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
73	Lh	1015	0	1148	11	0
74	Li	832	0	917	8	0
75	Lj	705	0	737	3	0
76	Lk	569	0	637	9	0
77	Ll	444	0	483	9	0
78	Lm	429	0	465	5	0
79	Ln	230	0	276	2	0
80	Lo	862	0	929	11	0
81	Lp	708	0	756	4	0
82	Lr	1002	0	1068	4	0
83	Ls	1496	0	1540	15	0
84	Lt	998	0	1032	20	0
85	Zt	1593	0	809	18	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	178	0	0	0	0
87	L7	3	0	0	0	0
87	L8	5	0	0	0	0
87	LA	1	0	0	0	0
87	LP	1	0	0	0	0
87	LV	1	0	0	0	0
87	Le	1	0	0	0	0
87	Lj	1	0	0	0	0
87	S2	27	0	0	0	0
87	SS	1	0	0	0	0
88	L5	98	0	182	2	0
89	L5	80	0	152	1	0
89	L8	10	0	19	0	0
89	LN	10	0	19	0	0
All	All	221484	0	164392	2006	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

All (2006) 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)
1:SA:148:CYS:CA	1:SA:148:CYS:CB	1.75	1.61
1:SA:148:CYS:CB	1:SA:148:CYS:N	2.22	1.03
40:L5:1095:A:H2	40:L5:1200:G:H1	1.16	0.92
38:Pt:50:U:H3	38:Pt:64:G:H1	1.17	0.92
40:L5:1996:C:N4	40:L5:2000:G:H22	1.69	0.91
40:L5:3944:G:H1	40:L5:4069:U:H3	1.17	0.88
19:S2:1656:G:H1	19:S2:1668:U:H3	0.91	0.87
1:SA:148:CYS:CB	1:SA:148:CYS:C	2.47	0.87
40:L5:1996:C:H42	40:L5:2000:G:H22	1.22	0.87
19:S2:1533:A:H62	19:S2:1602:U:H3	1.22	0.87
40:L5:1974:U:H4'	40:L5:1975:G:H3'	1.59	0.85
19:S2:1652:G:H1	19:S2:1672:U:H3	0.85	0.84
37:At:50:U:H3	37:At:64:G:H1	0.86	0.84
40:L5:1996:C:H42	40:L5:2000:G:N2	1.75	0.84
7:SI:48:VAL:HG11	7:SI:54:LYS:HD3	1.61	0.82
19:S2:1748:G:H1	19:S2:1786:U:H3	1.23	0.82
40:L5:1095:A:C2	40:L5:1200:G:N1	2.47	0.82
40:L5:2557:G:H1	40:L5:2570:U:H3	0.86	0.80
40:L5:5024:C:H41	40:L5:5028:G:H21	1.28	0.80
19:S2:508:A:H3'	19:S2:509:OMG:H8	1.48	0.77
6:SH:53:VAL:HG11	6:SH:172:THR:HA	1.66	0.77
19:S2:1417:C:H42	19:S2:1422:G:H22	1.32	0.76
40:L5:3701:OMC:H5	40:L5:3748:A:H62	1.33	0.76
2:SB:134:LEU:HB3	2:SB:218:LEU:HB2	1.67	0.75
9:SL:133:PRO:HG2	19:S2:383:G:H21	1.54	0.73
40:L5:1414:C:H2'	40:L5:1415:G:H8	1.51	0.73
40:L5:2484:A:H62	40:L5:2494:U:H3	1.35	0.73
84:Lt:16:ARG:HH12	84:Lt:28:LEU:HB3	1.53	0.73
40:L5:2611:A:H5'	40:L5:2688:G:H4'	1.69	0.73
40:L5:3937:C:H1'	55:LN:125:SER:HB3	1.71	0.72
11:SO:52:THR:HG21	19:S2:952:G:H21	1.52	0.72
40:L5:1095:A:H2	40:L5:1200:G:N1	1.85	0.72
6:SH:144:ILE:HD11	6:SH:152:ARG:HB3	1.71	0.72
11:SO:95:ILE:HB	11:SO:129:ILE:HG22	1.72	0.72
1:SA:42:LYS:HG3	1:SA:44:ASP:H	1.55	0.72
40:L5:2458:C:H5''	55:LN:67:ARG:HD2	1.73	0.71
40:L5:1100:U:H3	40:L5:1194:G:H1	1.36	0.70
4:SE:141:THR:HG23	4:SE:143:ASP:H	1.56	0.70
24:SF:103:LEU:HD13	32:SZ:67:LEU:HB2	1.72	0.70
40:L5:1996:C:N3	40:L5:2000:G:N1	2.40	0.70
20:LR:133:LYS:N	20:LR:137:ILE:HD11	2.06	0.70
47:LE:264:ILE:HD11	47:LE:267:LEU:HD22	1.73	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SO:57:THR:H	11:SO:60:MET:HE3	1.57	0.69
40:L5:502:C:H3'	40:L5:503:C:H3'	1.75	0.69
19:S2:1581:C:H5'	19:S2:1582:C:H5	1.55	0.69
83:Ls:133:GLU:HG2	83:Ls:134:LYS:HG2	1.73	0.69
7:SI:87:ASN:HB3	7:SI:90:LEU:HD23	1.75	0.69
19:S2:1536:G:H2'	19:S2:1537:A:H8	1.58	0.69
44:LB:299:ILE:HG22	44:LB:313:SER:HB3	1.73	0.69
38:Pt:50:U:O2	38:Pt:64:G:N2	2.24	0.69
21:LW:87:LEU:HD12	21:LW:90:ILE:HD11	1.73	0.69
19:S2:928:G:H2'	19:S2:929:G:C8	2.28	0.69
1:SA:70:ASN:HB3	1:SA:73:ASP:HB2	1.74	0.68
33:Sc:17:VAL:HA	33:Sc:30:VAL:HG12	1.74	0.68
19:S2:1030:A:H2'	19:S2:1031:A2M:H8	1.75	0.68
47:LE:222:LEU:HB3	47:LE:237:LYS:HE2	1.74	0.68
23:SD:42:THR:HG22	31:SU:106:ILE:HD11	1.75	0.68
3:SC:196:ILE:HB	3:SC:223:TYR:HB2	1.76	0.68
88:L5:5291:SPM:H112	56:LO:91:LYS:HD3	1.76	0.68
26:SM:60:MET:HE3	26:SM:64:LEU:HB2	1.77	0.67
28:SQ:23:ALA:HB2	28:SQ:87:SER:HB3	1.74	0.67
5:SG:11:GLY:HA2	19:S2:166:A2M:HM'1	1.75	0.67
19:S2:1398:G:H1'	36:Sg:63:SER:HB2	1.75	0.67
19:S2:1096:G:H1	19:S2:1136:U:H3	1.43	0.67
40:L5:2303:C:H5''	70:Le:104:SER:HB3	1.77	0.67
19:S2:1228:A:H2'	19:S2:1229:G:H8	1.60	0.67
54:LM:15:VAL:HG22	54:LM:50:MET:HE1	1.76	0.67
40:L5:1095:A:N1	40:L5:1200:G:O6	2.27	0.67
26:SM:26:LEU:HA	26:SM:31:LEU:HD21	1.76	0.67
83:Ls:18:ILE:HD12	83:Ls:21:LEU:HD21	1.77	0.67
85:Zt:3:C:H41	85:Zt:70:G:H21	1.42	0.67
5:SG:170:ARG:HB3	19:S2:72:C:H42	1.61	0.66
19:S2:1513:C:H2'	19:S2:1514:G:H8	1.59	0.66
40:L5:4594:U:H2'	40:L5:4595:G:H8	1.60	0.66
43:LA:107:MET:HB3	43:LA:111:THR:HG21	1.78	0.66
31:SU:51:LYS:HB2	31:SU:90:ASP:HB2	1.78	0.66
36:Sg:157:SER:HB3	36:Sg:164:ILE:HG22	1.78	0.66
23:SD:29:LEU:HB3	23:SD:34:TYR:HB2	1.78	0.66
40:L5:2486:G:O6	40:L5:2493:G:O6	2.13	0.66
40:L5:3717:A:H2'	40:L5:3718:A2M:H8	1.76	0.65
8:SJ:54:ARG:HH12	19:S2:1:U:H5'	1.60	0.65
19:S2:1417:C:O2	19:S2:1422:G:O6	2.14	0.65
20:LR:168:GLU:HA	20:LR:171:LYS:HE3	1.78	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SH:37:LYS:HZ3	6:SH:40:LEU:HD22	1.60	0.65
7:SI:98:LYS:HB3	19:S2:377:G:H5'	1.77	0.65
3:SC:193:VAL:HG11	3:SC:240:THR:HG22	1.78	0.65
24:SF:101:HIS:HB2	24:SF:108:PRO:HG3	1.78	0.65
36:Sg:129:ILE:HB	36:Sg:142:VAL:HB	1.78	0.65
48:LF:157:ARG:HE	48:LF:248:ASN:HB2	1.61	0.65
15:SY:55:ILE:HG23	15:SY:75:ILE:HG22	1.78	0.65
2:SB:109:LYS:HG3	2:SB:113:MET:HE2	1.79	0.65
37:At:18:G:O6	37:At:55:U:O2	2.14	0.65
46:LD:208:MET:HB2	46:LD:233:PRO:HG3	1.79	0.65
76:Lk:14:THR:HA	76:Lk:17:ARG:HD3	1.79	0.65
80:Lo:6:LYS:HE2	80:Lo:94:GLY:HA3	1.77	0.65
15:SY:36:PRO:HG3	19:S2:570:C:H4'	1.79	0.64
40:L5:1942:A:H2'	40:L5:1943:A:C8	2.32	0.64
24:SF:103:LEU:HD12	32:SZ:66:LYS:HE2	1.80	0.64
16:Sa:38:LYS:HB2	16:Sa:71:LEU:HB2	1.79	0.64
40:L5:1258:G:H2'	40:L5:1259:G:C8	2.32	0.64
40:L5:2017:A:HO2'	40:L5:2018:C:H6	1.43	0.64
69:Ld:54:MET:HE3	69:Ld:60:PRO:HA	1.77	0.64
28:SQ:72:VAL:HG11	28:SQ:80:GLN:HG3	1.79	0.64
2:SB:128:LYS:HE3	2:SB:134:LEU:HD13	1.79	0.64
20:LR:169:ALA:HA	20:LR:172:ARG:HE	1.63	0.64
21:LW:9:SER:HA	21:LW:52:THR:HG23	1.80	0.63
76:Lk:13:LEU:HA	76:Lk:16:ARG:HG2	1.79	0.63
5:SG:131:ARG:HB2	21:LW:82:ILE:HG22	1.80	0.63
19:S2:1228:A:H2'	19:S2:1229:G:C8	2.33	0.63
19:S2:1396:A:N7	19:S2:1449:G:O6	2.31	0.63
65:LZ:103:ASP:HB3	65:LZ:106:LEU:HB2	1.80	0.63
4:SE:18:TRP:HH2	4:SE:31:PRO:HD3	1.62	0.63
23:SD:106:ARG:HH11	23:SD:110:LEU:HD12	1.63	0.63
19:S2:1461:G:H3'	19:S2:1463:U:H3	1.64	0.63
49:LG:205:THR:HG22	49:LG:206:GLN:H	1.62	0.63
19:S2:116:OMU:HN3	19:S2:347:G:H1	1.47	0.63
40:L5:2362:U:H2'	40:L5:2363:A2M:H8	1.81	0.63
36:Sg:208:ALA:HB2	36:Sg:218:LEU:HD13	1.80	0.63
40:L5:4111:U:H2'	40:L5:4112:C:H5	1.63	0.63
19:S2:1237:C:H5'	27:SP:131:PRO:HA	1.80	0.62
19:S2:1673:U:H5''	28:SQ:78:VAL:HG12	1.81	0.62
23:SD:143:ARG:HG3	23:SD:144:GLY:H	1.64	0.62
44:LB:165:HIS:HB3	44:LB:180:LEU:HD23	1.81	0.62
19:S2:864:A:H2'	19:S2:865:A:H8	1.64	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LA:36:GLU:HG3	43:LA:91:GLY:HA2	1.80	0.62
19:S2:981:A:H2'	19:S2:982:G:C8	2.34	0.62
40:L5:3611:A:H2	40:L5:5016:A:H8	1.47	0.62
19:S2:1337:4AC:H2'	19:S2:1338:G:H8	1.65	0.62
40:L5:137:G:H2'	40:L5:138:G:H8	1.63	0.62
40:L5:444:G:H22	40:L5:1303:A:H2	1.47	0.62
40:L5:2554:U:O2	40:L5:2764:A:N7	2.33	0.62
17:Sb:68:GLY:HA2	19:S2:928:G:H21	1.65	0.62
40:L5:262:G:H2'	40:L5:263:G:H8	1.64	0.62
19:S2:1018:U:H2'	19:S2:1019:C:H6	1.65	0.62
36:Sg:46:THR:H	36:Sg:53:GLY:HA2	1.65	0.62
40:L5:2486:G:N7	40:L5:2493:G:N1	2.43	0.62
11:SO:15:ILE:HG23	11:SO:16:SER:H	1.62	0.62
19:S2:1452:A:C2	19:S2:1473:G:N2	2.68	0.62
69:Ld:64:ILE:HG23	69:Ld:68:LEU:HD23	1.81	0.61
19:S2:874:G:H2'	19:S2:875:A:H8	1.65	0.61
7:SI:98:LYS:HG3	7:SI:178:ARG:HG2	1.82	0.61
25:SK:80:ARG:HD3	25:SK:85:LEU:HB2	1.81	0.61
36:Sg:247:TRP:HB3	36:Sg:258:ILE:HD11	1.81	0.61
5:SG:217:MET:HG2	5:SG:221:LYS:HE2	1.82	0.61
19:S2:1706:G:H5'	79:Ln:1:MET:HG3	1.81	0.61
4:SE:29:PRO:HA	19:S2:496:C:H5'	1.82	0.61
20:LR:133:LYS:H	20:LR:137:ILE:HD11	1.66	0.61
84:Lt:37:LEU:HA	84:Lt:40:LYS:HE3	1.82	0.61
7:SI:57:ALA:HB2	7:SI:183:GLY:HA2	1.83	0.61
19:S2:1203:G:H2'	19:S2:1204:A:C8	2.36	0.61
36:Sg:17:TRP:HB2	36:Sg:36:ARG:HD2	1.83	0.61
36:Sg:106:LYS:HD3	36:Sg:126:ASP:HA	1.83	0.61
68:Lc:29:LEU:HD22	68:Lc:91:VAL:HG21	1.83	0.61
28:SQ:130:LYS:HA	28:SQ:137:ALA:HA	1.81	0.61
40:L5:691:C:H2'	40:L5:692:A:C8	2.35	0.61
45:LC:317:ASN:HD22	45:LC:320:LYS:HD3	1.64	0.61
43:LA:114:CYS:HB3	43:LA:165:VAL:HB	1.83	0.61
77:Ll:9:ILE:HD12	77:Ll:51:LEU:HD12	1.83	0.61
84:Lt:57:ARG:HD2	84:Lt:83:LYS:HB3	1.83	0.61
3:SC:173:LYS:HD3	12:SV:3:ASN:HA	1.81	0.61
10:SN:66:VAL:HG23	10:SN:67:THR:HG23	1.82	0.61
19:S2:1222:G:H2'	19:S2:1223:A:C8	2.36	0.61
40:L5:4279:A:H5'	40:L5:4281:A:H1'	1.83	0.61
43:LA:20:VAL:HA	43:LA:23:ARG:HG3	1.83	0.61
19:S2:329:G:H2'	19:S2:330:G:C8	2.35	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1829:G:H1'	19:S2:1850:MA6:H2	1.83	0.61
40:L5:181:C:H2'	40:L5:182:G:C8	2.35	0.61
11:SO:33:ILE:HG22	11:SO:42:VAL:HA	1.83	0.60
36:Sg:206:LEU:HD12	36:Sg:218:LEU:HD12	1.83	0.60
83:Ls:59:THR:HA	83:Ls:62:ARG:HE	1.66	0.60
23:SD:106:ARG:HG2	23:SD:175:VAL:HG22	1.83	0.60
36:Sg:163:PRO:HB2	36:Sg:179:LEU:HD12	1.83	0.60
44:LB:220:ILE:HG23	44:LB:278:THR:HG22	1.84	0.60
40:L5:4615:C:H5''	44:LB:357:ARG:HD2	1.84	0.60
5:SG:22:ARG:HA	5:SG:25:ARG:HE	1.66	0.60
19:S2:956:G:H2'	19:S2:957:A:H8	1.67	0.60
40:L5:4098:A:H2'	40:L5:4099:G:H4'	1.84	0.60
19:S2:1277:C:H2'	19:S2:1278:A:H8	1.65	0.60
19:S2:1542:C:H4'	30:ST:11:GLN:HB2	1.84	0.60
50:LH:106:GLN:HB2	50:LH:111:LEU:HB3	1.83	0.60
6:SH:163:GLN:HA	6:SH:166:VAL:HG12	1.84	0.60
19:S2:323:C:H2'	19:S2:327:G:H22	1.66	0.60
40:L5:3697:U:H5''	40:L5:3698:G:H5'	1.83	0.60
49:LG:167:VAL:HG12	49:LG:170:LEU:HD12	1.84	0.60
19:S2:807:G:H2'	19:S2:808:A:H8	1.65	0.60
19:S2:1560:U:O2	19:S2:1575:G:O6	2.19	0.60
36:Sg:89:LEU:HB3	36:Sg:99:ARG:HB3	1.84	0.60
17:Sb:19:HIS:HB3	17:Sb:22:LYS:HG3	1.83	0.60
37:At:21:A:H61	37:At:46:G:H2'	1.67	0.60
37:At:29:C:H2'	37:At:30:G:H8	1.66	0.60
19:S2:71:G:H2'	19:S2:72:C:H4'	1.84	0.59
50:LH:92:MET:HE2	50:LH:179:ILE:HG22	1.84	0.59
5:SG:227:GLN:HB3	5:SG:231:ARG:HH21	1.67	0.59
6:SH:105:THR:HG23	6:SH:107:LYS:H	1.67	0.59
14:SX:107:ARG:HD3	14:SX:112:VAL:HG22	1.84	0.59
40:L5:2763:U:H4'	40:L5:2764:A:H5''	1.84	0.59
19:S2:1711:U:H2'	19:S2:1712:A:H8	1.68	0.59
21:LW:1:MET:HE2	44:LB:307:TYR:HB3	1.85	0.59
24:SF:34:SER:HA	33:Sc:55:VAL:HG13	1.83	0.59
84:Lt:106:PHE:HB2	84:Lt:109:ILE:HG12	1.84	0.59
3:SC:210:PRO:HD3	3:SC:236:PHE:HE2	1.68	0.59
40:L5:3717:A:H2'	40:L5:3718:A2M:C8	2.32	0.59
40:L5:3868:G:H22	40:L5:3900:G:H1'	1.66	0.59
59:LS:27:LEU:HB3	60:LT:148:PRO:HB3	1.85	0.59
57:LP:131:ARG:HG3	57:LP:137:ASN:OD1	2.02	0.59
83:Ls:53:VAL:HG23	83:Ls:89:VAL:HB	1.84	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1634:A:H4'	29:SS:142:ARG:HH21	1.67	0.59
40:L5:5016:A:C2	40:L5:5033:G:N2	2.67	0.59
19:S2:166:A2M:H2'	19:S2:167:G:H8	1.68	0.59
19:S2:525:A:H2'	19:S2:526:A:H8	1.68	0.59
68:Lc:38:ILE:HD11	68:Lc:46:VAL:HG21	1.85	0.59
2:SB:57:ILE:HG22	2:SB:59:SER:H	1.67	0.59
64:LY:33:PRO:HG2	64:LY:105:VAL:HG12	1.84	0.59
2:SB:191:ASP:HB3	2:SB:195:LYS:HZ3	1.67	0.59
3:SC:94:ILE:HD11	3:SC:159:LYS:HG2	1.83	0.59
40:L5:3944:G:O6	40:L5:4069:U:O4	2.21	0.58
19:S2:907:G:H2'	19:S2:908:A:H8	1.68	0.58
19:S2:1536:G:H2'	19:S2:1537:A:C8	2.37	0.58
19:S2:1652:G:O6	19:S2:1672:U:O4	2.21	0.58
40:L5:1503:A:H62	58:LQ:87:THR:HG21	1.68	0.58
40:L5:1339:U:H2'	40:L5:1340:OMC:C6	2.38	0.58
40:L5:4967:A:H2'	40:L5:4968:A:H8	1.69	0.58
40:L5:966:A:H5''	40:L5:2092:G:H22	1.66	0.58
19:S2:145:G:H2'	19:S2:146:G:C8	2.39	0.58
19:S2:1433:C:H42	31:SU:92:HIS:HD2	1.50	0.58
38:Pt:62:C:H2'	38:Pt:63:G:H8	1.68	0.58
40:L5:1732:C:H5''	60:LT:43:LYS:HE2	1.85	0.58
46:LD:238:GLU:HG3	46:LD:242:LYS:HE2	1.86	0.58
19:S2:587:A:H5'	19:S2:592:C:H41	1.68	0.58
19:S2:614:C:H2'	19:S2:626:G:C8	2.39	0.58
40:L5:2517:A:H5'	72:Lg:62:LYS:HD3	1.86	0.58
19:S2:907:G:H2'	19:S2:908:A:C8	2.38	0.58
40:L5:4954:G:H2'	40:L5:4955:A:C8	2.38	0.58
54:LM:104:MET:HE3	54:LM:109:ARG:HG2	1.86	0.58
36:Sg:106:LYS:HE2	36:Sg:125:ARG:HB3	1.85	0.58
50:LH:95:VAL:HG12	78:Lm:82:LEU:HD13	1.86	0.58
11:SO:66:ARG:HG2	19:S2:962:A:H5''	1.86	0.57
27:SP:22:LEU:HA	27:SP:25:LEU:HB2	1.86	0.57
38:Pt:29:C:H2'	38:Pt:30:G:H8	1.69	0.57
48:LF:127:LYS:HB2	60:LT:133:ALA:HB3	1.84	0.57
1:SA:145:ILE:HG12	1:SA:159:ILE:HD13	1.86	0.57
36:Sg:107:ASP:HB2	36:Sg:125:ARG:HD2	1.85	0.57
17:Sb:22:LYS:HE3	19:S2:1129:G:H5''	1.85	0.57
19:S2:1337:4AC:H2'	19:S2:1338:G:C8	2.39	0.57
56:LO:37:ARG:HD2	56:LO:108:ILE:HD11	1.87	0.57
19:S2:640:A:H2'	19:S2:641:A:C8	2.39	0.57
40:L5:1959:U:H5''	40:L5:1961:G:H1'	1.85	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:LH:93:ARG:HD2	50:LH:143:GLU:HG2	1.86	0.57
83:Ls:62:ARG:HB3	83:Ls:66:ARG:HH22	1.68	0.57
40:L5:490:C:H2'	40:L5:491:G:C8	2.40	0.57
40:L5:1994:C:H2'	40:L5:1995:G:C8	2.39	0.57
83:Ls:138:PHE:HZ	83:Ls:178:LEU:HD13	1.70	0.57
37:At:50:U:O4	37:At:64:G:O6	2.22	0.57
26:SM:128:PHE:HA	26:SM:131:LYS:HG2	1.87	0.57
36:Sg:233:GLY:H	36:Sg:257:LYS:HZ1	1.52	0.57
19:S2:1405:A:H2'	19:S2:1406:G:O4'	2.04	0.57
19:S2:1553:C:H41	34:Sd:22:ARG:HH12	1.52	0.57
40:L5:1332:C:H2'	40:L5:1333:A:H8	1.70	0.57
80:Lo:64:LYS:HE2	85:Zt:76:A:H5''	1.87	0.57
19:S2:201:C:H3'	19:S2:202:G:H21	1.70	0.56
40:L5:1961:G:H21	40:L5:2025:A:H62	1.53	0.56
40:L5:4935:C:H2'	40:L5:4936:G:C8	2.40	0.56
12:SV:71:ARG:HH11	17:Sb:4:ALA:HB2	1.70	0.56
27:SP:108:LYS:HD2	29:SS:117:ILE:HG22	1.87	0.56
47:LE:165:LEU:HD11	47:LE:176:THR:HG22	1.86	0.56
6:SH:154:ILE:HB	6:SH:185:VAL:HG22	1.87	0.56
19:S2:573:U:O2	19:S2:576:A2M:H8	2.05	0.56
40:L5:93:G:H2'	40:L5:94:A:C8	2.41	0.56
40:L5:4106:G:H3'	40:L5:4107:G:H8	1.70	0.56
47:LE:149:ILE:HD12	47:LE:271:LEU:HD21	1.86	0.56
56:LO:166:ILE:HG12	56:LO:169:ARG:HH21	1.70	0.56
6:SH:33:ASN:HD21	6:SH:37:LYS:HE3	1.71	0.56
19:S2:690:G:H3'	19:S2:691:G:H21	1.70	0.56
19:S2:1590:C:H42	28:SQ:77:HIS:HE1	1.51	0.56
25:SK:3:MET:HE1	25:SK:48:ALA:HB2	1.86	0.56
8:SJ:54:ARG:HD2	8:SJ:58:ARG:HH12	1.71	0.56
9:SL:61:PRO:HB3	9:SL:68:ILE:HD11	1.88	0.56
13:SW:111:MET:HE1	13:SW:119:LYS:HD2	1.88	0.56
20:LR:170:ARG:HH12	20:LR:174:GLU:HG2	1.70	0.56
22:SR:5:ARG:HB2	22:SR:10:LYS:HE3	1.87	0.56
64:LY:22:PRO:HD2	64:LY:25:ILE:HD11	1.87	0.56
19:S2:671:A:H4'	19:S2:672:A:H5''	1.87	0.56
27:SP:81:ARG:HB2	27:SP:117:GLY:HA3	1.87	0.56
31:SU:61:LEU:HB2	31:SU:82:MET:HB3	1.88	0.56
40:L5:2108:G:H2'	40:L5:2109:G:H8	1.71	0.56
54:LM:119:ARG:HG3	56:LO:189:ILE:HG23	1.88	0.56
19:S2:106:C:H2'	19:S2:107:A:H8	1.71	0.56
19:S2:1711:U:H2'	19:S2:1712:A:C8	2.41	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2483:G:O6	40:L5:2495:U:O2	2.23	0.56
68:Lc:22:MET:O	68:Lc:23:LYS:HG3	2.05	0.56
5:SG:10:THR:HA	5:SG:128:THR:HG23	1.87	0.56
8:SJ:18:ARG:HH21	19:S2:4:C:H1'	1.71	0.56
19:S2:1010:G:H2'	19:S2:1011:A:H8	1.70	0.56
22:SR:79:GLU:HA	22:SR:82:ASP:OD1	2.06	0.56
31:SU:67:LYS:HG2	31:SU:78:ASP:HB2	1.88	0.56
40:L5:280:G:H5''	55:LN:14:LYS:HE2	1.88	0.56
18:Se:36:MET:HE3	18:Se:40:ARG:HH12	1.71	0.56
19:S2:562:U:H2'	19:S2:563:G:C8	2.41	0.56
36:Sg:256:ILE:HB	36:Sg:270:LEU:HB2	1.88	0.56
40:L5:4274:A:H2'	40:L5:4275:G:C8	2.40	0.56
51:LI:207:ASP:HA	51:LI:210:ARG:HG2	1.88	0.56
1:SA:122:LEU:HB3	1:SA:144:THR:HG22	1.87	0.56
6:SH:144:ILE:HD13	6:SH:154:ILE:HG13	1.88	0.56
19:S2:528:A:H2'	19:S2:529:A:C8	2.41	0.56
19:S2:1201:U:H2'	19:S2:1202:U:C6	2.41	0.56
32:SZ:99:LEU:HD21	32:SZ:102:LYS:HB2	1.87	0.56
40:L5:4260:U:H2'	40:L5:4261:C:C6	2.41	0.56
16:Sa:79:ILE:HD11	19:S2:1864:U:H5'	1.87	0.55
26:SM:31:LEU:HB3	26:SM:33:ARG:HG3	1.88	0.55
36:Sg:145:GLU:HB3	36:Sg:177:TRP:HH2	1.70	0.55
40:L5:1996:C:O2	40:L5:2000:G:O6	2.23	0.55
40:L5:3898:G:H5'	44:LB:254:ILE:HG13	1.88	0.55
43:LA:31:ALA:HB2	43:LA:123:ARG:HH21	1.71	0.55
11:SO:129:ILE:HD11	16:Sa:65:PRO:HD2	1.88	0.55
19:S2:639:C:H2'	19:S2:640:A:H8	1.71	0.55
19:S2:885:U:O2	19:S2:901:G:O6	2.24	0.55
19:S2:1203:G:H2'	19:S2:1204:A:H8	1.71	0.55
29:SS:22:GLY:HA2	29:SS:56:ALA:HB3	1.88	0.55
38:Pt:62:C:H2'	38:Pt:63:G:C8	2.40	0.55
40:L5:135:G:H22	73:Lh:94:ARG:HG3	1.70	0.55
8:SJ:176:LYS:HA	8:SJ:179:LYS:HG2	1.89	0.55
11:SO:31:CYS:HB2	11:SO:93:LEU:HD13	1.87	0.55
13:SW:57:ARG:HH21	17:Sb:26:GLN:HB2	1.72	0.55
36:Sg:20:GLN:HB3	36:Sg:34:ALA:HB3	1.88	0.55
40:L5:2108:G:H2'	40:L5:2109:G:C8	2.41	0.55
43:LA:13:GLY:O	43:LA:17:ARG:HG3	2.06	0.55
46:LD:55:VAL:HG11	46:LD:158:LYS:HE3	1.87	0.55
57:LP:52:THR:HG23	57:LP:85:LYS:HG3	1.89	0.55
17:Sb:56:CYS:HB2	17:Sb:59:CYS:H	1.70	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:908:G:H2'	40:L5:909:A:H8	1.71	0.55
5:SG:2:LYS:HB2	5:SG:108:VAL:HG12	1.89	0.55
6:SH:36:LEU:HD21	6:SH:78:ARG:HH21	1.72	0.55
19:S2:1383:A2M:H4'	23:SD:156:LEU:HD22	1.87	0.55
35:Sf:108:VAL:HB	35:Sf:112:GLY:HA2	1.89	0.55
40:L5:1629:G:H1	43:LA:208:GLU:HG2	1.70	0.55
40:L5:4992:G:H2'	40:L5:4993:G:C8	2.41	0.55
3:SC:78:LEU:HD12	3:SC:81:ILE:HD12	1.89	0.55
19:S2:329:G:H2'	19:S2:330:G:H8	1.71	0.55
38:Pt:6:C:H2'	38:Pt:7:G:H8	1.71	0.55
40:L5:268:G:H2'	40:L5:269:G:H8	1.71	0.55
40:L5:4967:A:H2'	40:L5:4968:A:C8	2.42	0.55
61:LU:65:ARG:HG2	61:LU:67:LYS:H	1.72	0.55
3:SC:104:ASP:HA	3:SC:130:ILE:HG22	1.89	0.55
47:LE:72:LYS:HD3	67:Lb:119:CYS:HB3	1.88	0.55
47:LE:223:ARG:HH22	47:LE:238:GLU:HG3	1.71	0.55
40:L5:4363:A:H5''	80:Lo:36:GLN:HG2	1.87	0.55
40:L5:4618:OMG:HM22	40:L5:4619:U:H5'	1.88	0.55
43:LA:112:ILE:HD11	81:Lp:79:VAL:HG22	1.89	0.55
21:LW:78:PHE:HE1	21:LW:80:ARG:HH11	1.54	0.55
28:SQ:19:ALA:HB2	28:SQ:75:GLY:HA3	1.87	0.55
4:SE:252:ARG:HH21	8:SJ:72:PHE:HD1	1.53	0.55
24:SF:103:LEU:HD22	32:SZ:67:LEU:HD22	1.87	0.55
40:L5:2765:A:H2'	40:L5:2766:A:C8	2.41	0.55
19:S2:1512:C:H5''	34:Sd:8:TRP:HZ3	1.72	0.54
40:L5:2557:G:O6	40:L5:2570:U:O4	2.25	0.54
55:LN:124:ASP:HB3	55:LN:127:TYR:H	1.72	0.54
40:L5:1095:A:N1	40:L5:1200:G:C6	2.75	0.54
44:LB:57:VAL:HG22	44:LB:73:VAL:HG12	1.89	0.54
81:Lp:38:THR:HA	81:Lp:45:THR:HA	1.88	0.54
8:SJ:3:VAL:HB	8:SJ:5:ARG:HD3	1.89	0.54
19:S2:557:U:H2'	19:S2:558:G:C8	2.42	0.54
40:L5:171:U:H4'	53:LL:135:LYS:HG2	1.89	0.54
40:L5:4571:A2M:H2'	40:L5:4572:U:H6	1.72	0.54
19:S2:28:U:H2'	19:S2:29:G:H8	1.71	0.54
19:S2:1417:C:N3	19:S2:1422:G:N1	2.51	0.54
40:L5:513:U:H1'	40:L5:516:C:H41	1.72	0.54
40:L5:1942:A:H2'	40:L5:1943:A:H8	1.73	0.54
84:Lt:12:VAL:HG11	84:Lt:65:GLN:H	1.73	0.54
19:S2:527:C:H2'	19:S2:528:A:C8	2.43	0.54
76:Lk:25:ILE:HD13	76:Lk:57:LYS:HD3	1.90	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SG:7:PHE:HB3	5:SG:10:THR:HG22	1.89	0.54
40:L5:2640:G:H2'	40:L5:2641:A:C8	2.43	0.54
40:L5:3720:G:H22	40:L5:3733:A:H2	1.54	0.54
44:LB:217:ILE:HD12	44:LB:347:LEU:HB3	1.87	0.54
4:SE:159:THR:HB	4:SE:173:ILE:HB	1.89	0.54
15:SY:83:LYS:HA	15:SY:91:LEU:HD11	1.89	0.54
29:SS:84:LEU:HB2	29:SS:87:GLN:HG2	1.89	0.54
40:L5:2018:C:H2'	40:L5:2019:C:C6	2.43	0.54
80:Lo:4:VAL:HG23	80:Lo:93:LEU:HD12	1.90	0.54
38:Pt:23:C:H2'	38:Pt:24:A:C8	2.43	0.54
40:L5:3910:C:H2'	40:L5:3911:C:C6	2.43	0.54
8:SJ:88:ASP:HB3	8:SJ:91:LYS:HB2	1.90	0.54
40:L5:261:G:H2'	40:L5:262:G:C8	2.42	0.54
40:L5:2903:G:H1'	40:L5:2904:U:H5	1.73	0.54
64:LY:10:ASP:HB3	64:LY:13:LYS:HB2	1.90	0.54
4:SE:106:LYS:HB3	4:SE:108:ARG:HH12	1.71	0.54
36:Sg:191:HIS:CE1	36:Sg:195:LEU:HD21	2.43	0.54
40:L5:4274:A:H2'	40:L5:4275:G:H8	1.73	0.54
56:LO:81:TRP:HB2	56:LO:104:VAL:HG21	1.89	0.54
84:Lt:114:ARG:HE	84:Lt:117:ARG:HD2	1.73	0.54
5:SG:133:LEU:HD12	19:S2:65:C:C4	2.42	0.53
11:SO:55:ARG:HH12	19:S2:972:A:H61	1.54	0.53
19:S2:149:A:N7	19:S2:169:U:O2	2.40	0.53
40:L5:2870:A:H2'	40:L5:2871:A:C8	2.43	0.53
56:LO:168:TYR:CE2	56:LO:172:LYS:HD2	2.42	0.53
65:LZ:50:PRO:HD3	65:LZ:68:ILE:HG12	1.89	0.53
3:SC:125:LYS:HG3	3:SC:143:CYS:HB2	1.90	0.53
6:SH:51:ILE:HG21	6:SH:179:LYS:HG2	1.89	0.53
40:L5:461:G:H2'	40:L5:462:G:H8	1.73	0.53
40:L5:746:A:H2'	40:L5:747:A:C8	2.43	0.53
40:L5:4260:U:H2'	40:L5:4261:C:H6	1.74	0.53
82:Lr:90:LEU:HD22	82:Lr:111:ILE:HG23	1.90	0.53
19:S2:996:A:H2'	19:S2:997:A:C8	2.43	0.53
19:S2:1348:G:O6	19:S2:1381:G:N2	2.36	0.53
19:S2:1417:C:H42	19:S2:1422:G:N2	2.04	0.53
40:L5:460:C:H2'	40:L5:461:G:H8	1.73	0.53
40:L5:2744:A:H2'	40:L5:2745:A:C8	2.43	0.53
19:S2:851:C:H5''	19:S2:852:G:H5'	1.91	0.53
19:S2:1468:C:H2'	19:S2:1469:A:H8	1.73	0.53
24:SF:20:PHE:HB3	24:SF:94:LYS:HZ3	1.74	0.53
40:L5:518:G:H1	40:L5:643:C:H2'	1.73	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1458:C:H5''	58:LQ:69:LYS:HD2	1.90	0.53
40:L5:1995:G:H21	84:Lt:122:ALA:HB3	1.72	0.53
40:L5:4935:C:H2'	40:L5:4936:G:H8	1.72	0.53
67:Lb:111:ARG:HA	67:Lb:114:LYS:HE2	1.89	0.53
1:SA:76:VAL:HG12	1:SA:123:VAL:HB	1.91	0.53
15:SY:10:ARG:HA	19:S2:839:C:H41	1.74	0.53
19:S2:1850:MA6:H8	19:S2:1850:MA6:O5'	2.09	0.53
40:L5:1437:C:H1'	40:L5:2098:G:H3'	1.90	0.53
40:L5:3910:C:H2'	40:L5:3911:C:H6	1.73	0.53
2:SB:65:ARG:H	2:SB:88:THR:HG22	1.73	0.53
6:SH:160:LYS:HB2	6:SH:189:PHE:HB3	1.90	0.53
19:S2:588:G:H4'	19:S2:589:G:H5'	1.91	0.53
38:Pt:43:A:H2'	38:Pt:44:A:C8	2.44	0.53
40:L5:518:G:N1	40:L5:643:C:H2'	2.24	0.53
40:L5:717:U:H2'	40:L5:718:C:C6	2.43	0.53
40:L5:4748:U:H3	40:L5:4952:G:H1	1.54	0.53
40:L5:4920:C:H2'	40:L5:4921:C:H6	1.73	0.53
57:LP:16:LYS:HG2	57:LP:149:ILE:HG12	1.91	0.53
11:SO:101:GLY:HA3	11:SO:134:PRO:HD2	1.90	0.53
19:S2:49:C:H2'	19:S2:472:C:H41	1.74	0.53
19:S2:1845:A:H2'	19:S2:1846:G:C8	2.43	0.53
22:SR:98:VAL:HG21	22:SR:117:LEU:HB3	1.90	0.53
29:SS:40:TYR:HA	29:SS:83:PHE:HE2	1.74	0.53
31:SU:66:ARG:HH12	31:SU:75:LYS:HD3	1.72	0.53
34:Sd:22:ARG:HG3	34:Sd:23:VAL:HG23	1.90	0.53
40:L5:1972:G:C6	40:L5:1973:G:O6	2.62	0.53
5:SG:23:LYS:HD3	5:SG:41:LEU:HA	1.91	0.53
19:S2:864:A:H2'	19:S2:865:A:C8	2.44	0.53
19:S2:1144:A:H2'	19:S2:1145:A:C8	2.44	0.53
40:L5:1327:C:H2'	40:L5:1328:G:C8	2.44	0.53
40:L5:1617:G:H1'	40:L5:2513:A:N6	2.24	0.53
40:L5:4242:U:H3	40:L5:4281:A:H2	1.55	0.53
3:SC:167:ARG:HB3	3:SC:177:PRO:HB2	1.90	0.53
7:SI:114:GLU:HB3	7:SI:136:ILE:HD12	1.90	0.53
40:L5:4220:6MZ:H2'	40:L5:4222:G:H5''	1.90	0.53
64:LY:56:GLN:HB3	64:LY:67:ILE:HD13	1.90	0.53
14:SX:28:LYS:HD2	14:SX:32:LEU:HD22	1.91	0.53
19:S2:166:A2M:H2'	19:S2:167:G:C8	2.44	0.53
19:S2:1657:G:H1	19:S2:1667:U:H3	1.56	0.53
36:Sg:174:VAL:HB	36:Sg:188:HIS:HB2	1.91	0.53
40:L5:71:C:H1'	53:LL:62:PRO:O	2.09	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1972:G:H2'	40:L5:1973:G:C8	2.44	0.53
2:SB:186:ASN:HA	2:SB:189:ILE:HD12	1.91	0.52
8:SJ:127:ARG:HD3	18:Se:31:ARG:HD3	1.89	0.52
20:LR:127:VAL:HG12	20:LR:132:PHE:HD2	1.74	0.52
40:L5:497:G:H1	40:L5:657:C:H42	1.57	0.52
47:LE:274:VAL:HG21	71:Lf:2:SER:HB2	1.91	0.52
52:LJ:146:ARG:HG2	52:LJ:147:ARG:HG3	1.91	0.52
62:LV:42:VAL:HB	62:LV:45:ILE:HG13	1.89	0.52
1:SA:85:ARG:HD3	1:SA:203:PHE:O	2.08	0.52
2:SB:170:GLU:HA	2:SB:173:THR:HG22	1.92	0.52
19:S2:1310:U:H2'	19:S2:1311:C:H6	1.74	0.52
5:SG:2:LYS:HD3	5:SG:15:LEU:HD21	1.91	0.52
32:SZ:65:TYR:HB3	85:Zt:34:U:H5'	1.89	0.52
36:Sg:175:LYS:HB3	36:Sg:184:LEU:HD11	1.92	0.52
9:SL:93:LEU:HB3	9:SL:102:PHE:HB3	1.91	0.52
14:SX:67:ARG:HG3	14:SX:115:ILE:HG12	1.91	0.52
19:S2:1101:U:H2'	19:S2:1102:G:H8	1.74	0.52
30:ST:64:LEU:HD12	30:ST:122:LYS:HA	1.92	0.52
36:Sg:164:ILE:HD11	36:Sg:185:LYS:HG3	1.91	0.52
40:L5:2696:A:H62	76:Lk:35:LYS:NZ	2.08	0.52
40:L5:4281:A:H2'	40:L5:4282:A:H2'	1.90	0.52
13:SW:107:SER:HB2	19:S2:860:G:H21	1.75	0.52
15:SY:11:LYS:HB2	15:SY:24:VAL:HG12	1.92	0.52
16:Sa:26:CYS:HB3	16:Sa:77:CYS:SG	2.49	0.52
45:LC:110:ARG:HB2	55:LN:204:ARG:HH21	1.73	0.52
48:LF:105:VAL:HG13	48:LF:136:VAL:HG12	1.92	0.52
5:SG:3:LEU:HD23	5:SG:109:LEU:HB3	1.91	0.52
36:Sg:249:CYS:HB3	36:Sg:258:ILE:HD13	1.92	0.52
40:L5:3641:U:H5	40:L5:3646:A:N7	2.08	0.52
5:SG:135:PRO:HG2	5:SG:141:ILE:HG22	1.90	0.52
33:Sc:11:LEU:HB2	33:Sc:35:MET:HE2	1.92	0.52
49:LG:121:LYS:HG2	49:LG:126:GLY:HA2	1.91	0.52
34:Sd:3:HIS:CE1	34:Sd:5:GLN:HB2	2.45	0.52
40:L5:1503:A:H4'	40:L5:1504:G:H5'	1.92	0.52
19:S2:564:A:H2'	19:S2:565:G:O4'	2.09	0.52
19:S2:1394:G:H21	19:S2:1475:G:H1'	1.74	0.52
23:SD:99:ILE:HG23	23:SD:173:ARG:HH21	1.75	0.52
40:L5:1179:U:H3'	40:L5:1180:C:H5''	1.91	0.52
40:L5:1333:A:H2'	40:L5:1334:A:C8	2.45	0.52
40:L5:1933:G:H2'	40:L5:1934:A:C8	2.45	0.52
40:L5:4743:G:H2'	40:L5:4744:A:C8	2.45	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SG:121:ILE:HB	5:SG:124:LEU:HB3	1.91	0.52
9:SL:111:VAL:HG12	9:SL:140:PHE:HB2	1.91	0.52
13:SW:6:VAL:HG12	13:SW:34:ILE:HD11	1.92	0.52
19:S2:149:A:H3'	19:S2:150:A:H8	1.75	0.52
29:SS:114:LEU:HD13	29:SS:117:ILE:HD11	1.92	0.52
40:L5:1100:U:O4	40:L5:1194:G:O6	2.28	0.52
40:L5:2557:G:N2	40:L5:2570:U:O2	2.30	0.52
40:L5:2613:C:H4'	72:Lg:2:VAL:HG23	1.92	0.52
40:L5:4113:U:H4'	40:L5:4115:G:C5	2.45	0.52
6:SH:144:ILE:HG23	13:SW:52:ILE:HB	1.92	0.51
19:S2:656:G:N2	19:S2:663:C:H5''	2.25	0.51
38:Pt:51:C:H2'	38:Pt:52:G:H8	1.76	0.51
40:L5:2745:A:H2'	40:L5:2746:A:C8	2.45	0.51
3:SC:68:ARG:HG2	3:SC:277:HIS:HB2	1.93	0.51
11:SO:62:VAL:HG21	11:SO:67:ASP:HB2	1.92	0.51
40:L5:3732:A:H2'	40:L5:3733:A:H8	1.75	0.51
44:LB:117:ARG:HA	44:LB:177:LYS:HD2	1.92	0.51
66:La:72:THR:HG22	66:La:110:LYS:HB3	1.92	0.51
82:Lr:41:ASN:HB3	82:Lr:44:ILE:HG12	1.92	0.51
84:Lt:134:GLY:HA3	84:Lt:152:ILE:HD11	1.92	0.51
19:S2:349:A:H2'	19:S2:350:C:C6	2.46	0.51
19:S2:484:A2M:H8	19:S2:484:A2M:O5'	2.10	0.51
40:L5:1188:C:H2'	40:L5:1189:G:C8	2.46	0.51
51:LI:85:PHE:HE2	51:LI:87:MET:HE2	1.75	0.51
4:SE:36:HIS:CG	4:SE:85:GLY:HA3	2.46	0.51
6:SH:142:LYS:HB3	13:SW:54:ASP:HB3	1.92	0.51
6:SH:148:LEU:HA	13:SW:42:MET:HE2	1.92	0.51
19:S2:12:U:H2'	19:S2:13:C:C6	2.45	0.51
19:S2:807:G:H2'	19:S2:808:A:C8	2.45	0.51
29:SS:45:LEU:HD13	29:SS:50:ILE:HD11	1.91	0.51
40:L5:418:A:C2	42:L8:17:A:H1'	2.46	0.51
40:L5:683:C:H2'	40:L5:684:G:O4'	2.10	0.51
40:L5:1281:G:N1	47:LE:128:HIS:HB2	2.25	0.51
40:L5:2298:U:H5''	45:LC:204:ARG:HH12	1.75	0.51
48:LF:50:ILE:HD12	48:LF:186:CYS:HB3	1.93	0.51
82:Lr:47:LYS:HB2	82:Lr:102:TYR:CZ	2.45	0.51
5:SG:20:ASP:HB3	5:SG:23:LYS:HG3	1.91	0.51
40:L5:10:A:H2'	40:L5:11:G:C8	2.46	0.51
40:L5:2745:A:H2'	40:L5:2746:A:H8	1.76	0.51
21:LW:96:GLN:HB3	21:LW:100:VAL:HB	1.92	0.51
37:At:3:C:H42	37:At:70:A:H61	1.57	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:158:A:H5''	40:L5:159:C:H2'	1.93	0.51
17:Sb:20:LYS:HA	17:Sb:23:ARG:HE	1.76	0.51
19:S2:496:C:H2'	19:S2:497:C:H6	1.76	0.51
40:L5:2481:G:H2'	40:L5:2482:C:C6	2.46	0.51
19:S2:1468:C:H2'	19:S2:1469:A:C8	2.46	0.51
19:S2:1755:C:H2'	19:S2:1756:C:C6	2.46	0.51
38:Pt:6:C:H2'	38:Pt:7:G:C8	2.46	0.51
40:L5:189:G:H2'	40:L5:190:G:H8	1.76	0.51
40:L5:3712:A:C5	40:L5:3713:U:H1'	2.46	0.51
40:L5:4508:C:N3	40:L5:4512:U:H5	2.08	0.51
40:L5:4537:C:H2'	40:L5:4538:G:H8	1.73	0.51
40:L5:711:A:H2'	40:L5:712:C:C6	2.46	0.51
40:L5:1308:C:H2'	40:L5:1309:C:C6	2.46	0.51
40:L5:4594:U:H2'	40:L5:4595:G:C8	2.42	0.51
62:LV:69:LYS:HB2	62:LV:72:LEU:HD12	1.93	0.51
4:SE:129:ILE:HD13	4:SE:139:LEU:HD12	1.93	0.51
18:Se:58:ASN:HB3	19:S2:608:C:H5'	1.93	0.51
19:S2:107:A:H2'	19:S2:108:G:C8	2.45	0.51
19:S2:304:C:H5''	19:S2:305:U:H5'	1.93	0.51
19:S2:874:G:H2'	19:S2:875:A:C8	2.45	0.51
40:L5:2544:G:H22	42:L8:124:U:H4'	1.76	0.51
69:Ld:22:THR:HG23	69:Ld:122:VAL:HG13	1.93	0.51
2:SB:65:ARG:HE	11:SO:50:LYS:HD3	1.76	0.50
19:S2:1822:A:H2'	19:S2:1823:A:C8	2.47	0.50
85:Zt:28:C:H2'	85:Zt:29:A:H8	1.76	0.50
1:SA:148:CYS:N	1:SA:148:CYS:SG	2.85	0.50
19:S2:1396:A:C5	19:S2:1449:G:O6	2.64	0.50
23:SD:227:LYS:H	36:Sg:186:THR:HA	1.75	0.50
40:L5:1258:G:H2'	40:L5:1259:G:H8	1.76	0.50
40:L5:1348:U:H2'	40:L5:1349:G:H8	1.77	0.50
40:L5:4537:C:H2'	40:L5:4538:G:C8	2.46	0.50
40:L5:4954:G:H2'	40:L5:4955:A:H8	1.76	0.50
42:L8:141:C:H2'	42:L8:142:U:C6	2.46	0.50
55:LN:183:THR:HG22	55:LN:188:ARG:HD2	1.93	0.50
5:SG:158:VAL:HG21	21:LW:82:ILE:HD11	1.93	0.50
19:S2:66:G:H2'	19:S2:67:C:H4'	1.92	0.50
19:S2:1748:G:O6	19:S2:1786:U:O4	2.28	0.50
32:SZ:87:ALA:HA	32:SZ:90:GLU:HG2	1.94	0.50
38:Pt:23:C:H2'	38:Pt:24:A:H8	1.76	0.50
40:L5:2007:G:H21	40:L5:2012:A:H62	1.60	0.50
19:S2:434:G:H2'	19:S2:435:A:C8	2.47	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1417:C:N4	19:S2:1422:G:H22	2.05	0.50
24:SF:60:ARG:HH21	33:Sc:49:PRO:HA	1.77	0.50
40:L5:460:C:H2'	40:L5:461:G:C8	2.47	0.50
46:LD:181:PRO:HD2	46:LD:195:HIS:CD2	2.47	0.50
47:LE:222:LEU:HD21	47:LE:226:ARG:HH22	1.75	0.50
7:SI:146:GLN:HA	7:SI:149:TYR:HD2	1.76	0.50
8:SJ:54:ARG:HH11	8:SJ:58:ARG:HH12	1.58	0.50
16:Sa:15:ARG:HG3	19:S2:993:G:O6	2.12	0.50
19:S2:609:U:H2'	19:S2:610:G:H8	1.76	0.50
19:S2:1447:G:H2'	19:S2:1448:A:C8	2.46	0.50
37:At:29:C:H2'	37:At:30:G:C8	2.45	0.50
57:LP:122:ALA:HB3	57:LP:143:PRO:HG2	1.92	0.50
72:Lg:83:CYS:SG	72:Lg:86:CYS:HB2	2.50	0.50
7:SI:22:HIS:HB3	19:S2:433:A:H5''	1.94	0.50
22:SR:78:ARG:O	22:SR:82:ASP:N	2.45	0.50
37:At:43:A:H2'	37:At:44:A:C8	2.46	0.50
40:L5:1697:G:H22	40:L5:2084:C:P	2.34	0.50
16:Sa:11:ALA:HB3	16:Sa:33:ASP:HB2	1.93	0.50
19:S2:647:U:H2'	19:S2:648:A:H8	1.76	0.50
46:LD:197:LYS:HB3	46:LD:202:GLN:HB2	1.94	0.50
56:LO:54:TYR:CD1	56:LO:145:VAL:HG21	2.47	0.50
1:SA:42:LYS:HZ3	1:SA:46:ILE:HB	1.76	0.50
15:SY:12:PHE:HD1	15:SY:23:MET:HB3	1.75	0.50
19:S2:367:U:H4'	19:S2:371:A:C8	2.46	0.50
36:Sg:149:GLU:HB3	36:Sg:170:TRP:HB2	1.93	0.50
40:L5:2568:C:H2'	40:L5:2569:G:H8	1.77	0.50
40:L5:4405:G:H4'	51:LI:4:ARG:HE	1.75	0.50
53:LL:153:PRO:HG2	53:LL:156:PRO:HB3	1.93	0.50
69:Ld:90:ARG:HD3	69:Ld:102:LEU:HD13	1.92	0.50
73:Lh:99:GLU:HA	73:Lh:102:LEU:HD23	1.93	0.50
16:Sa:23:CYS:HB3	16:Sa:28:ARG:H	1.77	0.50
27:SP:130:ARG:HD3	27:SP:131:PRO:HD2	1.93	0.50
36:Sg:220:ASP:HB3	36:Sg:224:GLY:H	1.77	0.50
40:L5:318:A:H2'	40:L5:319:A:C8	2.47	0.50
40:L5:3911:C:H2'	40:L5:3912:U:H6	1.76	0.50
40:L5:4612:C:C2	50:LH:120:GLU:HB2	2.47	0.50
44:LB:43:LEU:HD12	44:LB:205:VAL:HG11	1.94	0.50
44:LB:258:HIS:HA	44:LB:260:ALA:N	2.26	0.50
80:Lo:22:LYS:HG3	80:Lo:73:VAL:HG12	1.93	0.50
83:Ls:39:GLN:HG3	83:Ls:107:VAL:HG21	1.93	0.50
1:SA:30:LEU:HD21	1:SA:35:GLU:HA	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1670:C:H2'	19:S2:1671:G:H8	1.77	0.49
23:SD:74:GLN:HE22	23:SD:81:GLU:HA	1.77	0.49
61:LU:24:ASP:HB3	61:LU:111:GLU:HG2	1.93	0.49
83:Ls:155:LEU:HD12	83:Ls:156:SER:HB3	1.94	0.49
19:S2:1217:A:H2'	19:S2:1218:C:C6	2.47	0.49
25:SK:63:ALA:HB2	25:SK:68:TYR:HE2	1.77	0.49
28:SQ:78:VAL:HA	28:SQ:81:ILE:HD12	1.94	0.49
40:L5:1973:G:H3'	40:L5:1974:U:H2'	1.94	0.49
42:L8:96:C:H5''	73:Lh:66:LYS:HG2	1.93	0.49
23:SD:60:GLY:HA3	23:SD:65:ARG:H	1.77	0.49
32:SZ:52:LYS:NZ	32:SZ:56:ASP:HB3	2.27	0.49
35:Sf:89:LYS:HZ3	35:Sf:92:LYS:HE3	1.77	0.49
40:L5:183:C:H1'	40:L5:184:U:H5	1.77	0.49
40:L5:1645:C:H2'	40:L5:1646:A:C8	2.46	0.49
40:L5:1733:G:N3	40:L5:4214:A:H2'	2.27	0.49
40:L5:3880:G:H2'	40:L5:3881:G:C8	2.47	0.49
85:Zt:73:G:H2'	85:Zt:74:C:C6	2.47	0.49
2:SB:88:THR:HA	2:SB:98:THR:HA	1.93	0.49
8:SJ:145:PRO:HD2	19:S2:522:A:H5''	1.94	0.49
15:SY:54:VAL:HG22	15:SY:76:TYR:HB2	1.93	0.49
19:S2:1438:A:H2'	19:S2:1439:A:C8	2.46	0.49
23:SD:53:THR:HB	23:SD:94:ARG:HD2	1.93	0.49
23:SD:132:LYS:HB2	23:SD:189:MET:HG2	1.95	0.49
28:SQ:128:GLU:HG2	28:SQ:137:ALA:HB1	1.93	0.49
40:L5:411:G:H5''	40:L5:414:C:H1'	1.94	0.49
40:L5:1332:C:H2'	40:L5:1333:A:C8	2.47	0.49
40:L5:1857:C:H2'	40:L5:1858:A:H8	1.77	0.49
40:L5:4942:C:H4'	47:LE:154:THR:HB	1.93	0.49
46:LD:41:LYS:HD2	60:LT:93:ILE:HG21	1.95	0.49
28:SQ:97:GLN:HE21	36:Sg:58:ALA:HB3	1.78	0.49
40:L5:1500:A:H5''	40:L5:1501:C:H5''	1.95	0.49
40:L5:4699:U:H1'	40:L5:4700:A:H5''	1.93	0.49
19:S2:1402:A:H5'	31:SU:51:LYS:HE3	1.95	0.49
40:L5:5006:U:H4'	40:L5:5007:A:H5'	1.93	0.49
9:SL:85:THR:HG21	19:S2:373:G:H4'	1.93	0.49
19:S2:291:G:H2'	19:S2:292:A:C8	2.47	0.49
19:S2:906:U:H2'	19:S2:907:G:C8	2.47	0.49
19:S2:940:U:H3	19:S2:1002:U:H3	1.58	0.49
19:S2:963:A:H2'	19:S2:964:A:C8	2.47	0.49
19:S2:1277:C:H2'	19:S2:1278:A:C8	2.46	0.49
40:L5:257:C:H2'	40:L5:258:G:C8	2.47	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4524:G:C2	44:LB:252:ALA:HB1	2.48	0.49
40:L5:4924:C:H2'	40:L5:4925:U:C6	2.48	0.49
42:L8:19:C:H2'	42:L8:20:A:C8	2.48	0.49
19:S2:432:G:H2'	19:S2:433:A:C8	2.48	0.49
19:S2:693:A:H2'	19:S2:694:G:C8	2.48	0.49
19:S2:1217:A:H2'	19:S2:1218:C:H6	1.77	0.49
19:S2:1285:G:N2	26:SM:58:GLU:HB2	2.28	0.49
19:S2:1393:G:H2'	19:S2:1394:G:C8	2.47	0.49
19:S2:1588:A:H2'	19:S2:1589:A:C8	2.48	0.49
24:SF:187:SER:HB3	24:SF:190:ILE:HG12	1.95	0.49
40:L5:3732:A:H2'	40:L5:3733:A:C8	2.48	0.49
60:LT:14:MET:HE1	60:LT:55:LYS:HB2	1.95	0.49
68:Lc:38:ILE:HG21	68:Lc:63:TYR:HB3	1.95	0.49
85:Zt:14:A:H3'	85:Zt:15:G:C8	2.47	0.49
1:SA:184:ARG:HE	1:SA:191:ARG:HA	1.77	0.49
24:SF:17:ILE:HG21	24:SF:46:ALA:HB1	1.94	0.49
31:SU:49:LYS:HZ2	31:SU:92:HIS:HB2	1.78	0.49
36:Sg:153:CYS:SG	36:Sg:198:VAL:HG12	2.53	0.49
40:L5:2102:G:H1'	40:L5:2103:G:N7	2.27	0.49
19:S2:1112:U:H2'	19:S2:1113:A:C8	2.47	0.49
53:LL:48:PRO:HG3	73:Lh:118:LYS:HE2	1.94	0.49
56:LO:54:TYR:HD1	56:LO:145:VAL:HG21	1.78	0.49
56:LO:61:ARG:HA	56:LO:70:PRO:HD2	1.95	0.49
84:Lt:10:ILE:HG21	84:Lt:65:GLN:HB3	1.93	0.49
1:SA:148:CYS:CB	1:SA:148:CYS:H	2.18	0.48
8:SJ:174:LYS:HG3	19:S2:560:A:H5'	1.95	0.48
19:S2:300:U:H2'	19:S2:301:A:H8	1.78	0.48
19:S2:929:G:H2'	19:S2:930:C:O4'	2.13	0.48
19:S2:1323:U:H2'	19:S2:1324:G:C8	2.48	0.48
40:L5:2474:G:H2'	40:L5:2502:G:N2	2.28	0.48
51:LI:4:ARG:HH12	51:LI:99:ILE:HG13	1.78	0.48
6:SH:51:ILE:HG12	6:SH:61:ILE:HD11	1.95	0.48
19:S2:115:U:H2'	19:S2:116:OMU:H6	1.94	0.48
19:S2:388:U:H2'	19:S2:389:A:C8	2.48	0.48
22:SR:31:ASN:HD22	22:SR:55:THR:HG22	1.79	0.48
28:SQ:42:ILE:HG23	28:SQ:44:PRO:HD2	1.94	0.48
40:L5:490:C:H2'	40:L5:491:G:H8	1.78	0.48
40:L5:2351:OMC:HM22	45:LC:95:MET:HG3	1.94	0.48
40:L5:3856:A:H5''	57:LP:83:TRP:O	2.13	0.48
40:L5:4965:U:H4'	40:L5:4966:A:H5'	1.95	0.48
77:Ll:25:GLN:HE22	77:Ll:28:ARG:HH11	1.61	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:455:A:H2'	19:S2:456:C:C6	2.48	0.48
19:S2:952:G:H2'	19:S2:953:C:C6	2.47	0.48
19:S2:1452:A:H5''	22:SR:48:ASN:HD22	1.79	0.48
19:S2:1563:G:H5''	30:ST:121:ARG:HH21	1.79	0.48
29:SS:5:ILE:HA	32:SZ:49:LEU:HD13	1.95	0.48
23:SD:132:LYS:HE3	23:SD:192:TRP:H	1.77	0.48
40:L5:1751:A:H2'	40:L5:1752:G:C8	2.48	0.48
40:L5:4578:G:H2'	40:L5:4579:PSU:C6	2.48	0.48
44:LB:292:LEU:HD12	44:LB:298:LEU:HD23	1.96	0.48
51:LI:87:MET:HG2	51:LI:138:ILE:HG12	1.95	0.48
70:Le:35:TRP:CZ2	70:Le:56:PRO:HD2	2.48	0.48
19:S2:888:U:H4'	19:S2:889:U:H5'	1.95	0.48
19:S2:1523:C:H2'	19:S2:1524:G:H8	1.78	0.48
29:SS:13:LEU:HB2	29:SS:20:ILE:HG12	1.95	0.48
40:L5:1509:C:H5''	66:La:2:PRO:HD3	1.94	0.48
40:L5:1577:G:O2'	40:L5:1612:G:H4'	2.14	0.48
45:LC:266:THR:HG22	45:LC:267:TRP:H	1.79	0.48
46:LD:108:ARG:CZ	46:LD:253:TYR:HB2	2.43	0.48
49:LG:83:PHE:HA	49:LG:183:ILE:HD13	1.95	0.48
76:Lk:60:LEU:HD12	76:Lk:66:VAL:HG13	1.95	0.48
19:S2:656:G:H21	19:S2:663:C:H5''	1.78	0.48
29:SS:74:PRO:HA	29:SS:79:ILE:HD12	1.94	0.48
40:L5:4364:G:H2'	40:L5:4365:C:H6	1.78	0.48
1:SA:38:ILE:HD11	1:SA:47:TYR:HB3	1.95	0.48
1:SA:148:CYS:CB	1:SA:149:ASN:N	2.76	0.48
4:SE:161:GLN:HB3	4:SE:171:ASP:H	1.78	0.48
9:SL:21:LYS:HE3	9:SL:23:VAL:HG11	1.95	0.48
32:SZ:61:GLU:O	32:SZ:64:ASN:HB2	2.12	0.48
40:L5:457:G:H2'	40:L5:458:C:C6	2.49	0.48
51:LI:53:VAL:HG11	60:LT:158:PHE:HZ	1.78	0.48
4:SE:42:LEU:HB2	4:SE:101:LEU:HD21	1.95	0.48
19:S2:1845:A:H2'	19:S2:1846:G:H8	1.78	0.48
36:Sg:166:VAL:HG12	36:Sg:176:VAL:HG12	1.95	0.48
46:LD:64:ILE:HG13	46:LD:105:LEU:HD21	1.96	0.48
52:LJ:104:ASN:HD22	52:LJ:133:VAL:HG13	1.79	0.48
57:LP:54:GLN:HA	57:LP:83:TRP:CD1	2.49	0.48
84:Lt:117:ARG:HH11	84:Lt:133:LEU:HD11	1.79	0.48
6:SH:134:VAL:HG23	6:SH:173:PHE:CE2	2.49	0.48
13:SW:26:LEU:HB2	17:Sb:7:LEU:HD23	1.96	0.48
21:LW:44:ARG:HD3	40:L5:3615:G:H1'	1.94	0.48
37:At:50:U:H2'	37:At:51:C:C6	2.48	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:325:U:H2'	40:L5:326:C:C6	2.49	0.48
40:L5:1961:G:N2	40:L5:2025:A:H62	2.11	0.48
40:L5:4474:A:H5''	78:Lm:125:LYS:HG3	1.96	0.48
74:Li:29:ARG:HH22	74:Li:34:THR:HG22	1.78	0.48
77:Ll:23:ILE:HG23	77:Ll:38:ASN:HB2	1.96	0.48
13:SW:52:ILE:HG23	13:SW:61:ILE:HG12	1.96	0.48
19:S2:1221:G:H2'	19:S2:1222:G:C8	2.49	0.48
40:L5:2495:U:H2'	40:L5:2496:G:H8	1.77	0.48
49:LG:162:ASP:HB3	49:LG:163:PRO:HD3	1.96	0.48
58:LQ:43:PHE:CD2	58:LQ:133:GLY:HA3	2.49	0.48
85:Zt:30:G:H2'	85:Zt:31:A:H8	1.78	0.48
85:Zt:64:U:H2'	85:Zt:65:G:H8	1.79	0.48
9:SL:28:THR:HA	9:SL:29:GLY:HA2	1.59	0.47
13:SW:94:LEU:HD21	13:SW:102:ILE:HG13	1.96	0.47
19:S2:186:C:H2'	19:S2:187:G:C8	2.47	0.47
19:S2:1714:U:H2'	19:S2:1715:A:C8	2.49	0.47
21:LW:2:LYS:HZ3	62:LV:92:ASP:HB2	1.79	0.47
29:SS:80:PRO:HG2	30:ST:36:THR:HG21	1.95	0.47
40:L5:4070:U:H2'	40:L5:4071:U:C6	2.49	0.47
44:LB:258:HIS:HA	44:LB:260:ALA:H	1.78	0.47
3:SC:210:PRO:HB3	3:SC:240:THR:HG21	1.95	0.47
40:L5:139:G:H2'	40:L5:140:G:H8	1.79	0.47
40:L5:1307:A:H2'	40:L5:1308:C:C6	2.48	0.47
40:L5:3610:A:H2'	40:L5:3611:A:H8	1.78	0.47
40:L5:4991:U:H2'	40:L5:4992:G:C8	2.49	0.47
84:Lt:10:ILE:HG12	84:Lt:65:GLN:HG2	1.95	0.47
1:SA:77:ILE:HD11	1:SA:124:VAL:HG22	1.96	0.47
15:SY:57:VAL:HB	15:SY:60:PHE:CE1	2.49	0.47
19:S2:1541:G:H2'	19:S2:1542:C:H6	1.79	0.47
19:S2:1571:G:H2'	19:S2:1572:C:C6	2.50	0.47
19:S2:1677:U:H2'	19:S2:1678:A:H8	1.79	0.47
36:Sg:68:ASP:HB3	36:Sg:111:VAL:HG12	1.96	0.47
49:LG:258:ALA:HA	49:LG:261:LEU:HB2	1.96	0.47
54:LM:25:VAL:HB	54:LM:38:VAL:HG22	1.97	0.47
4:SE:45:ILE:HG13	4:SE:61:VAL:HG11	1.95	0.47
19:S2:1279:C:H2'	19:S2:1280:G:H8	1.78	0.47
40:L5:1726:U:H5'	48:LF:135:ILE:HD11	1.95	0.47
40:L5:2485:U:H3	40:L5:2491:C:H42	1.62	0.47
19:S2:543:C:H3'	19:S2:544:G:H8	1.79	0.47
19:S2:600:G:H2'	19:S2:601:OMG:H8	1.79	0.47
19:S2:977:C:H2'	19:S2:978:G:O4'	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1743:G:H21	19:S2:1791:A:H62	1.61	0.47
24:SF:127:ARG:H	24:SF:135:ARG:HD2	1.80	0.47
38:Pt:56:C:N3	80:Lo:104:ILE:HG21	2.30	0.47
40:L5:674:G:H2'	40:L5:675:C:C6	2.49	0.47
40:L5:4280:A:C8	52:LJ:145:LYS:HE3	2.50	0.47
47:LE:158:ARG:HG2	71:Lf:5:LEU:HD22	1.97	0.47
67:Lb:102:PRO:HA	67:Lb:109:ARG:HH22	1.79	0.47
4:SE:139:LEU:HD22	4:SE:147:ILE:HD11	1.96	0.47
11:SO:141:ARG:HG3	16:Sa:22:ARG:HH12	1.79	0.47
19:S2:24:C:HO2'	19:S2:25:A:H8	1.62	0.47
19:S2:838:G:C2	19:S2:840:C:H4'	2.50	0.47
19:S2:991:G:C6	19:S2:1134:G:H4'	2.49	0.47
31:SU:27:ARG:HD3	31:SU:82:MET:HE3	1.96	0.47
40:L5:737:C:C5	40:L5:739:G:H5''	2.49	0.47
40:L5:3848:U:H2'	40:L5:3849:A:C8	2.49	0.47
40:L5:4584:A:H2'	40:L5:4585:U:O4'	2.15	0.47
40:L5:4619:U:H2'	40:L5:4620:OMU:H6	1.97	0.47
40:L5:4775:C:H5	40:L5:4859:C:H42	1.62	0.47
42:L8:67:U:H2'	42:L8:68:G:H8	1.79	0.47
2:SB:24:PRO:HG2	19:S2:953:C:H5''	1.97	0.47
5:SG:174:PRO:HB3	19:S2:65:C:C6	2.49	0.47
8:SJ:86:VAL:HG12	8:SJ:108:ARG:HG3	1.97	0.47
19:S2:1098:C:H2'	19:S2:1099:G:C8	2.50	0.47
19:S2:1407:U:H2'	19:S2:1408:U:C6	2.49	0.47
19:S2:1506:A:H4'	19:S2:1507:G:H3'	1.97	0.47
19:S2:1513:C:H2'	19:S2:1514:G:C8	2.47	0.47
19:S2:1540:G:H2'	19:S2:1541:G:H8	1.79	0.47
19:S2:1733:U:H2'	19:S2:1734:G:O4'	2.15	0.47
38:Pt:29:C:H2'	38:Pt:30:G:C8	2.48	0.47
40:L5:730:G:C5	48:LF:73:ARG:HD3	2.49	0.47
40:L5:4089:G:H2'	40:L5:4090:G:H8	1.80	0.47
40:L5:4392:OMG:HM21	40:L5:4394:A:H2'	1.97	0.47
40:L5:4637:OMG:HM23	40:L5:4637:OMG:H1'	1.68	0.47
45:LC:10:VAL:HG13	45:LC:153:VAL:HG12	1.95	0.47
49:LG:95:LEU:HD23	49:LG:184:ILE:HD12	1.96	0.47
80:Lo:33:LEU:HA	80:Lo:38:LYS:HG2	1.96	0.47
1:SA:77:ILE:HG22	1:SA:99:ILE:HB	1.94	0.47
12:SV:15:ARG:HH21	12:SV:24:ILE:HG21	1.79	0.47
19:S2:113:G:N2	19:S2:292:A:H2'	2.30	0.47
19:S2:348:A:H2'	19:S2:349:A:C8	2.50	0.47
19:S2:1421:A:H3'	19:S2:1422:G:C8	2.50	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1568:C:H2'	19:S2:1569:A:C8	2.49	0.47
19:S2:1828:C:H2'	19:S2:1829:G:C8	2.49	0.47
36:Sg:32:LEU:HA	36:Sg:42:MET:HA	1.96	0.47
40:L5:701:G:H2'	40:L5:702:U:C6	2.50	0.47
40:L5:1278:C:H2'	40:L5:1279:A:O4'	2.14	0.47
40:L5:1534:A2M:N3	75:Lj:11:ARG:HB2	2.30	0.47
47:LE:243:THR:HG22	47:LE:245:GLN:H	1.79	0.47
48:LF:221:LYS:HA	48:LF:221:LYS:HD3	1.72	0.47
49:LG:52:THR:HG22	63:LX:41:ARG:HG3	1.95	0.47
57:LP:125:MET:HE2	57:LP:143:PRO:HG3	1.97	0.47
3:SC:102:LEU:HD23	3:SC:130:ILE:HD12	1.97	0.47
19:S2:649:PSU:H2'	19:S2:650:A:H8	1.79	0.47
36:Sg:236:ILE:HG13	36:Sg:252:THR:HA	1.96	0.47
40:L5:268:G:H2'	40:L5:269:G:C8	2.49	0.47
40:L5:318:A:H2'	40:L5:319:A:H8	1.79	0.47
40:L5:2558:C:H2'	40:L5:2559:G:H8	1.79	0.47
40:L5:3736:A:H2'	40:L5:3737:A:C8	2.49	0.47
40:L5:4162:C:H6	49:LG:73:ARG:HH22	1.63	0.47
51:LI:36:LEU:HD21	51:LI:69:ARG:NH1	2.30	0.47
63:LX:64:SER:HB2	73:Lh:69:LEU:HD13	1.96	0.47
4:SE:42:LEU:HG	4:SE:109:PHE:HD2	1.80	0.47
19:S2:455:A:H2'	19:S2:456:C:H6	1.80	0.47
19:S2:931:C:H2'	19:S2:932:G:C8	2.49	0.47
19:S2:1595:U:H2'	19:S2:1596:U:C6	2.50	0.47
19:S2:1651:A:H2'	19:S2:1652:G:H8	1.80	0.47
25:SK:63:ALA:HB2	25:SK:68:TYR:CE2	2.49	0.47
36:Sg:68:ASP:HB2	36:Sg:110:SER:HA	1.95	0.47
40:L5:400:A2M:HM'3	40:L5:400:A2M:HI'	1.49	0.47
40:L5:455:C:N4	40:L5:456:C:N4	2.63	0.47
40:L5:4742:G:H2'	40:L5:4743:G:H8	1.79	0.47
45:LC:106:LYS:HD3	45:LC:108:TRP:CZ2	2.49	0.47
46:LD:182:GLY:HA2	46:LD:194:VAL:HG23	1.97	0.47
85:Zt:60:U:H5''	85:Zt:61:C:H5	1.79	0.47
9:SL:80:MET:HE3	9:SL:80:MET:HB2	1.81	0.46
19:S2:941:C:H2'	19:S2:942:G:C8	2.50	0.46
22:SR:105:MET:HE2	22:SR:105:MET:HB3	1.78	0.46
29:SS:12:ILE:HD11	52:LJ:121:PRO:HD3	1.96	0.46
40:L5:300:A:H2'	40:L5:301:G:H8	1.80	0.46
40:L5:1857:C:H2'	40:L5:1858:A:C8	2.49	0.46
40:L5:1962:A:H5''	40:L5:2024:G:H22	1.80	0.46
40:L5:4459:U:H2'	40:L5:4460:U:C6	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4591:U:H2'	40:L5:4592:C:C6	2.50	0.46
43:LA:27:ALA:HB3	43:LA:54:ARG:HH12	1.81	0.46
71:Lf:45:LYS:HE3	71:Lf:108:SER:HA	1.96	0.46
85:Zt:6:G:N2	85:Zt:67:U:O2	2.48	0.46
19:S2:106:C:H2'	19:S2:107:A:C8	2.49	0.46
19:S2:1010:G:H2'	19:S2:1011:A:C8	2.49	0.46
19:S2:1103:C:H2'	19:S2:1104:G:C8	2.51	0.46
19:S2:1103:C:H2'	19:S2:1104:G:H8	1.80	0.46
19:S2:1265:A:H5'	19:S2:1266:C:OP2	2.15	0.46
19:S2:1518:C:H5''	19:S2:1519:U:H5''	1.97	0.46
19:S2:1713:C:H2'	19:S2:1714:U:C6	2.51	0.46
29:SS:121:ARG:HG3	29:SS:131:VAL:HB	1.98	0.46
40:L5:1725:U:H2'	40:L5:1726:U:H6	1.80	0.46
40:L5:4139:G:H1'	40:L5:4146:G:N1	2.30	0.46
43:LA:132:ASN:O	43:LA:169:VAL:HG12	2.16	0.46
52:LJ:95:ARG:H	52:LJ:98:ASN:HD22	1.62	0.46
19:S2:1244:PSU:H2'	19:S2:1245:G:H8	1.79	0.46
24:SF:127:ARG:HG3	24:SF:136:ARG:HB3	1.96	0.46
40:L5:180:C:H2'	40:L5:181:C:H6	1.80	0.46
40:L5:3664:G:H2'	40:L5:3665:G:H8	1.81	0.46
40:L5:3723:A:H2'	40:L5:3724:A:C8	2.50	0.46
40:L5:4239:A:H2'	40:L5:4240:G:C8	2.50	0.46
40:L5:4750:G:H2'	40:L5:4751:G:H8	1.80	0.46
47:LE:190:HIS:HB3	47:LE:193:PHE:HD1	1.81	0.46
54:LM:30:VAL:HG11	59:LS:150:ILE:HD13	1.98	0.46
73:Lh:18:LEU:HD23	73:Lh:18:LEU:HA	1.78	0.46
30:ST:85:ASN:HB3	30:ST:88:MET:HB2	1.96	0.46
36:Sg:128:THR:HG22	36:Sg:143:GLN:HA	1.97	0.46
40:L5:702:U:H2'	40:L5:703:G:O4'	2.16	0.46
43:LA:54:ARG:HG2	43:LA:56:ALA:H	1.80	0.46
43:LA:143:THR:HG23	43:LA:145:LYS:HG2	1.97	0.46
67:Lb:70:GLU:HA	67:Lb:73:LYS:HB2	1.97	0.46
4:SE:54:TYR:HE1	15:SY:13:MET:HE1	1.80	0.46
14:SX:105:PHE:CD2	14:SX:112:VAL:HG21	2.50	0.46
19:S2:1031:A2M:H2'	19:S2:1032:C:C6	2.51	0.46
19:S2:1386:A:H2'	19:S2:1387:G:O4'	2.16	0.46
36:Sg:87:LEU:HB2	36:Sg:101:PHE:HB2	1.97	0.46
40:L5:1248:C:H2'	40:L5:1249:C:H6	1.81	0.46
44:LB:332:MET:HE1	44:LB:368:ILE:HD13	1.97	0.46
19:S2:93:PSU:H2'	19:S2:94:G:O4'	2.15	0.46
19:S2:906:U:H2'	19:S2:907:G:H8	1.80	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1239:U:H3	19:S2:1242:U:H5''	1.81	0.46
40:L5:3722:G:H2'	40:L5:3723:A:H8	1.80	0.46
40:L5:3861:A:H2'	40:L5:3862:A:H8	1.80	0.46
41:L7:27:G:H5''	46:LD:57:ASN:OD1	2.16	0.46
46:LD:223:PHE:HB3	46:LD:226:TYR:HB2	1.96	0.46
80:Lo:6:LYS:HG3	80:Lo:94:GLY:HA3	1.97	0.46
2:SB:127:VAL:HG21	2:SB:176:VAL:HB	1.98	0.46
3:SC:256:TRP:CD2	13:SW:68:ARG:HD3	2.50	0.46
10:SN:4:MET:HG2	10:SN:5:HIS:CD2	2.51	0.46
12:SV:27:LYS:HA	12:SV:27:LYS:HD3	1.73	0.46
13:SW:57:ARG:NH2	17:Sb:26:GLN:HB2	2.31	0.46
19:S2:28:U:H2'	19:S2:29:G:C8	2.51	0.46
19:S2:51:U:H2'	19:S2:52:G:H8	1.80	0.46
19:S2:1222:G:H2'	19:S2:1223:A:H8	1.77	0.46
19:S2:1330:G:N7	19:S2:1492:U:H3'	2.31	0.46
19:S2:1337:4AC:O5'	19:S2:1337:4AC:H6	2.15	0.46
19:S2:1431:G:H4'	19:S2:1434:C:H41	1.79	0.46
40:L5:173:C:H5''	53:LL:129:ARG:HH12	1.80	0.46
40:L5:457:G:H2'	40:L5:458:C:H6	1.81	0.46
40:L5:3792:OMG:HM22	40:L5:3793:U:H5'	1.97	0.46
44:LB:288:GLY:HA3	44:LB:330:PHE:CE1	2.50	0.46
44:LB:397:ILE:HA	44:LB:400:GLU:HB2	1.97	0.46
5:SG:172:LYS:HD3	19:S2:65:C:H4'	1.98	0.46
19:S2:941:C:H2'	19:S2:942:G:H8	1.81	0.46
38:Pt:51:C:H2'	38:Pt:52:G:C8	2.50	0.46
40:L5:2099:G:H2'	40:L5:2100:A:O4'	2.16	0.46
40:L5:2380:G:N2	40:L5:2424:OMG:H5''	2.30	0.46
40:L5:2676:A:OP2	40:L5:2676:A:H8	1.98	0.46
40:L5:2870:A:H2'	40:L5:2871:A:H8	1.78	0.46
60:LT:4:THR:OG1	60:LT:9:ARG:HD3	2.15	0.46
1:SA:110:ASN:HB3	1:SA:113:GLN:HE22	1.80	0.46
1:SA:176:TRP:CD1	1:SA:199:PRO:HA	2.51	0.46
3:SC:60:TRP:CE2	3:SC:92:GLU:HB2	2.51	0.46
7:SI:67:TRP:CD2	7:SI:70:GLU:HG3	2.50	0.46
19:S2:27:A2M:H1'	19:S2:27:A2M:HM'3	1.59	0.46
19:S2:51:U:H2'	19:S2:52:G:C8	2.51	0.46
19:S2:1563:G:H2'	19:S2:1564:C:H6	1.81	0.46
35:Sf:103:LEU:HG	35:Sf:104:LYS:H	1.81	0.46
35:Sf:133:ALA:HB3	35:Sf:140:TYR:H	1.80	0.46
36:Sg:10:THR:HG22	36:Sg:308:ARG:HG2	1.98	0.46
40:L5:730:G:C6	48:LF:73:ARG:HD3	2.51	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3610:A:H2'	40:L5:3611:A:C8	2.51	0.46
46:LD:156:GLY:HA2	46:LD:181:PRO:HG3	1.98	0.46
51:LI:36:LEU:HD11	51:LI:69:ARG:HH11	1.79	0.46
56:LO:143:HIS:HA	56:LO:147:TRP:HB3	1.98	0.46
85:Zt:62:C:H2'	85:Zt:63:C:H6	1.81	0.46
1:SA:50:ASN:HD22	1:SA:53:ARG:NH1	2.14	0.46
3:SC:178:HIS:CG	3:SC:200:ARG:HE	2.34	0.46
16:Sa:82:LYS:HD3	16:Sa:85:ARG:HH12	1.80	0.46
17:Sb:54:VAL:HG23	17:Sb:63:LEU:HD12	1.97	0.46
19:S2:96:C:H2'	19:S2:97:U:C6	2.51	0.46
19:S2:1446:A:H5''	31:SU:58:THR:HG23	1.98	0.46
24:SF:68:ILE:HD11	24:SF:116:ILE:HG13	1.98	0.46
26:SM:43:ASP:OD1	35:Sf:129:GLY:HA2	2.16	0.46
27:SP:49:LEU:HD23	27:SP:54:HIS:CE1	2.51	0.46
40:L5:907:C:H2'	40:L5:908:G:H8	1.81	0.46
40:L5:979:C:OP2	47:LE:66:LYS:HD3	2.16	0.46
40:L5:1195:G:H2'	40:L5:1196:G:C8	2.51	0.46
43:LA:7:GLY:HA2	43:LA:10:LYS:HG3	1.98	0.46
84:Lt:114:ARG:HH21	84:Lt:117:ARG:NH1	2.14	0.46
1:SA:111:GLN:HA	1:SA:116:PHE:CG	2.51	0.45
5:SG:136:LYS:HB2	19:S2:65:C:H41	1.81	0.45
8:SJ:136:ARG:HD3	8:SJ:160:SER:HA	1.97	0.45
19:S2:118:C:H1'	19:S2:445:A:C5	2.50	0.45
19:S2:587:A:H1'	19:S2:590:A:C8	2.51	0.45
24:SF:56:TYR:HD1	24:SF:65:GLN:HE22	1.63	0.45
36:Sg:5:MET:HB2	36:Sg:270:LEU:HD21	1.97	0.45
40:L5:1198:G:H2'	40:L5:1199:G:C8	2.51	0.45
40:L5:1961:G:H21	40:L5:2025:A:N6	2.14	0.45
40:L5:4457:PSU:H1'	44:LB:252:ALA:HB3	1.99	0.45
42:L8:90:C:H1'	64:LY:24:HIS:HB3	1.97	0.45
53:LL:63:THR:HG22	53:LL:64:VAL:H	1.81	0.45
64:LY:21:ALA:HB1	64:LY:25:ILE:HG13	1.97	0.45
64:LY:72:GLN:NE2	64:LY:74:TYR:HD1	2.14	0.45
66:La:71:PRO:HG2	66:La:108:TYR:HA	1.98	0.45
4:SE:45:ILE:HA	4:SE:61:VAL:HG21	1.98	0.45
17:Sb:20:LYS:HB3	17:Sb:23:ARG:HH21	1.80	0.45
19:S2:746:C:H2'	19:S2:747:U:C6	2.51	0.45
24:SF:22:LYS:HG3	24:SF:23:TRP:CD2	2.51	0.45
29:SS:89:ASP:HB3	29:SS:93:GLY:N	2.32	0.45
33:Sc:9:ILE:HG12	33:Sc:59:LEU:HD22	1.98	0.45
40:L5:422:C:H2'	40:L5:423:G:H8	1.82	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1097:C:H2'	40:L5:1098:G:C8	2.52	0.45
40:L5:1495:G:H4'	58:LQ:187:LYS:HE3	1.97	0.45
40:L5:2632:PSU:H2'	40:L5:2633:U:C6	2.51	0.45
40:L5:4108:G:H2'	40:L5:4109:G:H8	1.81	0.45
40:L5:4353:PSU:H5'	40:L5:4354:U:H5'	1.97	0.45
40:L5:4920:C:H2'	40:L5:4921:C:C6	2.51	0.45
45:LC:5:ARG:HH12	45:LC:268:ARG:NH2	2.13	0.45
64:LY:2:LYS:HD2	64:LY:7:VAL:HG13	1.98	0.45
2:SB:213:ARG:HD2	2:SB:214:LYS:HB2	1.98	0.45
4:SE:100:ARG:HB2	4:SE:114:ILE:HD13	1.97	0.45
4:SE:131:VAL:HA	4:SE:137:PRO:HA	1.99	0.45
6:SH:36:LEU:HD21	6:SH:78:ARG:HE	1.81	0.45
8:SJ:122:SER:H	8:SJ:125:HIS:HB3	1.80	0.45
19:S2:825:A:H2'	19:S2:826:A:C8	2.51	0.45
19:S2:943:U:C2	19:S2:944:A:C8	3.05	0.45
19:S2:1266:C:H2'	19:S2:1267:C:C6	2.51	0.45
40:L5:2611:A:H2'	40:L5:2612:G:C8	2.51	0.45
40:L5:4730:C:H2'	40:L5:4731:G:C8	2.52	0.45
19:S2:35:C:H5''	19:S2:579:C:H5''	1.99	0.45
19:S2:1261:C:H41	19:S2:1661:A:H62	1.64	0.45
22:SR:70:SER:HB3	22:SR:73:LEU:HB2	1.98	0.45
30:ST:41:LYS:HE3	30:ST:41:LYS:HB3	1.79	0.45
31:SU:28:ASN:HD21	31:SU:31:SER:HB3	1.81	0.45
40:L5:2021:G:OP1	83:Ls:57:LYS:HA	2.17	0.45
40:L5:3861:A:H2'	40:L5:3862:A:C8	2.51	0.45
42:L8:36:G:C5	73:Lh:89:ARG:HD3	2.52	0.45
68:Lc:48:LEU:HD13	68:Lc:71:VAL:HG13	1.98	0.45
84:Lt:22:VAL:HG13	84:Lt:48:LYS:HG2	1.98	0.45
3:SC:66:LEU:HD21	3:SC:88:ILE:HD13	1.98	0.45
10:SN:75:LEU:HB3	10:SN:81:ALA:HB2	1.98	0.45
11:SO:54:CYS:HB3	11:SO:84:ARG:HG2	1.97	0.45
19:S2:174:OMC:H1'	19:S2:174:OMC:HM23	1.74	0.45
19:S2:1572:C:H2'	19:S2:1573:G:C8	2.51	0.45
19:S2:1628:C:H2'	19:S2:1629:C:C6	2.50	0.45
24:SF:204:ARG:HG2	33:Sc:63:ARG:HH21	1.81	0.45
32:SZ:57:LYS:HA	32:SZ:60:LYS:HG2	1.99	0.45
37:At:23:C:H2'	37:At:24:A:C8	2.52	0.45
37:At:43:A:H2'	37:At:44:A:H8	1.82	0.45
40:L5:260:C:H2'	40:L5:261:G:C8	2.52	0.45
40:L5:2539:C:H2'	40:L5:2540:C:C6	2.52	0.45
40:L5:3723:A:H2'	40:L5:3724:A:H8	1.81	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4095:G:H2'	40:L5:4096:C:C6	2.50	0.45
40:L5:4347:G:H2'	40:L5:4348:A:C8	2.52	0.45
70:Le:76:LYS:HD3	70:Le:98:GLU:OE2	2.16	0.45
82:Lr:16:PHE:HB3	82:Lr:27:THR:H	1.82	0.45
4:SE:44:LEU:HD11	4:SE:72:ILE:HD11	1.99	0.45
8:SJ:2:PRO:O	19:S2:509:OMG:H5''	2.17	0.45
10:SN:4:MET:HE3	19:S2:924:G:H5'	1.99	0.45
19:S2:300:U:H2'	19:S2:301:A:C8	2.52	0.45
19:S2:1315:U:H4'	25:SK:2:LEU:HD13	1.98	0.45
19:S2:1398:G:H22	19:S2:1448:A:H2	1.65	0.45
19:S2:1474:A:H2'	19:S2:1475:G:O4'	2.16	0.45
19:S2:1797:U:H2'	19:S2:1798:C:C6	2.51	0.45
21:LW:102:LYS:HA	21:LW:105:ARG:HE	1.81	0.45
24:SF:53:ALA:HB1	28:SQ:125:ARG:HH21	1.81	0.45
27:SP:32:GLN:HA	27:SP:35:GLN:HG2	1.98	0.45
28:SQ:39:LEU:HD11	28:SQ:51:LEU:HB3	1.99	0.45
40:L5:3946:G:H2'	40:L5:3947:A:H5''	1.98	0.45
43:LA:130:SER:HB2	43:LA:171:GLY:HA3	1.98	0.45
67:Lb:109:ARG:HA	67:Lb:112:ILE:HG12	1.99	0.45
71:Lf:41:PHE:HE1	71:Lf:110:ILE:HD13	1.81	0.45
6:SH:66:VAL:HG22	6:SH:96:ALA:HB1	1.97	0.45
19:S2:845:G:H2'	19:S2:846:G:C8	2.52	0.45
19:S2:1031:A2M:HM'3	19:S2:1031:A2M:H1'	1.50	0.45
22:SR:128:PHE:HD1	22:SR:129:LYS:HG3	1.82	0.45
40:L5:462:G:H2'	40:L5:463:A:C8	2.52	0.45
40:L5:3597:G:H2'	40:L5:3598:C:H6	1.81	0.45
47:LE:173:LEU:HD21	47:LE:191:GLN:HB3	1.98	0.45
51:LI:73:ASN:HB2	51:LI:87:MET:HE1	1.97	0.45
66:La:36:GLY:HA3	66:La:40:HIS:CE1	2.52	0.45
3:SC:127:PHE:HD1	3:SC:141:VAL:HG22	1.82	0.45
4:SE:153:LEU:HD12	5:SG:216:ARG:HH11	1.81	0.45
7:SI:141:ARG:HG3	7:SI:149:TYR:CE2	2.52	0.45
19:S2:1214:A:H2'	19:S2:1217:A:N7	2.31	0.45
19:S2:1328:OMG:HM23	19:S2:1328:OMG:H1'	1.78	0.45
19:S2:1562:C:H2'	19:S2:1563:G:H8	1.82	0.45
19:S2:1801:A:H2'	19:S2:1802:C:C6	2.52	0.45
30:ST:39:LEU:HD13	30:ST:47:PRO:HG3	1.99	0.45
32:SZ:67:LEU:HD12	32:SZ:67:LEU:HA	1.80	0.45
36:Sg:165:ILE:HB	36:Sg:179:LEU:HD21	1.99	0.45
40:L5:121:A:OP1	49:LG:110:LYS:HE2	2.17	0.45
40:L5:190:G:H2'	40:L5:191:G:H8	1.82	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1220:G:H2'	40:L5:1221:G:C8	2.52	0.45
40:L5:2364:OMG:HM23	40:L5:2364:OMG:H1'	1.71	0.45
40:L5:3923:A:H2'	40:L5:3924:C:C6	2.51	0.45
40:L5:4896:G:H2'	40:L5:4897:G:H8	1.81	0.45
44:LB:128:LYS:HA	44:LB:128:LYS:HD2	1.75	0.45
45:LC:315:LYS:HD2	48:LF:168:ALA:HB1	1.99	0.45
55:LN:68:ARG:HE	55:LN:128:LYS:HE3	1.80	0.45
2:SB:191:ASP:HB3	2:SB:195:LYS:NZ	2.31	0.45
16:Sa:5:ARG:HH21	19:S2:1864:U:H3'	1.82	0.45
23:SD:66:ILE:HD11	23:SD:86:LEU:HB3	1.98	0.45
37:At:10:G:C2	37:At:26:G:H1'	2.52	0.45
40:L5:37:U:H2'	40:L5:38:A:O4'	2.17	0.45
40:L5:1751:A:H2'	40:L5:1752:G:H8	1.81	0.45
40:L5:2696:A:H62	76:Lk:35:LYS:HZ2	1.65	0.45
40:L5:2765:A:H2'	40:L5:2766:A:H8	1.82	0.45
41:L7:39:C:O2'	52:LJ:46:GLN:HG2	2.17	0.45
44:LB:213:GLN:HE22	44:LB:285:TYR:C	2.25	0.45
85:Zt:60:U:H5''	85:Zt:61:C:C5	2.52	0.45
1:SA:157:VAL:HG11	1:SA:160:ALA:HB2	1.99	0.45
5:SG:191:ARG:HH12	19:S2:314:U:H5	1.64	0.45
19:S2:508:A:H3'	19:S2:509:OMG:C8	2.40	0.45
19:S2:1208:A:H2'	19:S2:1209:A:H8	1.82	0.45
19:S2:1266:C:H2'	19:S2:1267:C:H6	1.81	0.45
19:S2:1683:C:H2'	19:S2:1684:C:H6	1.82	0.45
37:At:50:U:H2'	37:At:51:C:H6	1.81	0.45
40:L5:1446:C:H2'	40:L5:1447:C:C6	2.51	0.45
42:L8:67:U:H2'	42:L8:68:G:C8	2.52	0.45
45:LC:318:PRO:C	45:LC:320:LYS:H	2.24	0.45
61:LU:112:LEU:HD23	61:LU:112:LEU:H	1.81	0.45
77:Ll:41:ARG:HA	77:Ll:41:ARG:HD2	1.68	0.45
1:SA:39:TYR:CE2	22:SR:105:MET:HB2	2.52	0.44
2:SB:36:PRO:HB2	2:SB:38:MET:HE3	1.99	0.44
9:SL:23:VAL:HG23	9:SL:25:LEU:HG	1.98	0.44
13:SW:46:TYR:HD2	13:SW:69:LEU:HD13	1.82	0.44
19:S2:317:C:H2'	19:S2:318:A:C4	2.52	0.44
19:S2:388:U:H2'	19:S2:389:A:H8	1.82	0.44
19:S2:468:A2M:H1'	19:S2:468:A2M:HM'3	1.78	0.44
19:S2:468:A2M:H2'	19:S2:469:A:O4'	2.16	0.44
19:S2:644:OMG:HM23	19:S2:644:OMG:H1'	1.66	0.44
19:S2:929:G:N2	19:S2:1104:G:H4'	2.32	0.44
19:S2:1399:C:H2'	19:S2:1400:U:H6	1.82	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SQ:145:TYR:C	28:SQ:146:ARG:HD2	2.42	0.44
37:At:34:A:H2'	37:At:35:A:C8	2.52	0.44
37:At:35:A:H2'	37:At:36:C:O4'	2.16	0.44
40:L5:10:A:H2'	40:L5:11:G:H8	1.81	0.44
40:L5:1081:C:O2'	40:L5:1082:C:H5'	2.17	0.44
40:L5:2465:C:H2'	40:L5:2466:G:O4'	2.17	0.44
45:LC:144:ILE:HD12	45:LC:150:LEU:HD11	1.99	0.44
61:LU:63:ILE:HD13	61:LU:72:VAL:HG22	1.99	0.44
74:Li:41:ARG:O	74:Li:45:ARG:HG2	2.18	0.44
1:SA:91:ALA:HA	1:SA:96:ALA:HB3	1.99	0.44
19:S2:29:G:H2'	19:S2:30:C:C6	2.52	0.44
31:SU:19:ARG:HG2	31:SU:92:HIS:HB3	1.98	0.44
40:L5:677:G:H2'	40:L5:678:C:H6	1.82	0.44
40:L5:1238:A:C8	47:LE:59:ARG:HD2	2.53	0.44
40:L5:1340:OMC:HM23	40:L5:1340:OMC:H1'	1.76	0.44
40:L5:1514:U:H2'	40:L5:1515:A:C8	2.53	0.44
40:L5:1662:C:H2'	40:L5:1663:C:C6	2.52	0.44
40:L5:2448:G:H2'	40:L5:2449:A:C8	2.53	0.44
40:L5:4088:C:H2'	40:L5:4089:G:C8	2.52	0.44
40:L5:4742:G:H2'	40:L5:4743:G:C8	2.51	0.44
40:L5:4927:G:H5''	40:L5:4928:C:H5	1.82	0.44
44:LB:57:VAL:HB	44:LB:367:PHE:HB3	1.98	0.44
64:LY:28:LYS:HE3	64:LY:28:LYS:HB3	1.83	0.44
3:SC:199:PRO:HG2	8:SJ:58:ARG:HD2	1.98	0.44
13:SW:53:ILE:HD13	17:Sb:24:LEU:HG	1.98	0.44
13:SW:101:PHE:HA	13:SW:113:HIS:HE1	1.82	0.44
19:S2:1391:OMC:HM23	19:S2:1391:OMC:H1'	1.78	0.44
23:SD:135:GLU:HB2	23:SD:153:VAL:HG23	1.99	0.44
40:L5:491:G:H2'	40:L5:492:U:C6	2.51	0.44
40:L5:2495:U:H2'	40:L5:2496:G:C8	2.53	0.44
40:L5:2824:OMC:H1'	40:L5:2824:OMC:HM23	1.73	0.44
40:L5:4578:G:H2'	40:L5:4579:PSU:H6	1.82	0.44
40:L5:4590:A2M:HM'3	40:L5:4590:A2M:H1'	1.74	0.44
47:LE:223:ARG:HB3	47:LE:224:LYS:HB2	2.00	0.44
61:LU:28:PRO:HB2	61:LU:34:MET:HG3	1.99	0.44
77:Ll:26:TRP:CD1	77:Ll:26:TRP:H	2.35	0.44
3:SC:70:VAL:HG11	3:SC:93:ILE:HG23	2.00	0.44
5:SG:136:LYS:HB2	19:S2:65:C:N4	2.33	0.44
6:SH:168:HIS:CE1	6:SH:169:LYS:HG3	2.52	0.44
11:SO:45:THR:HG22	11:SO:52:THR:HG22	1.98	0.44
19:S2:24:C:O2'	19:S2:25:A:H8	2.00	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1528:G:H2'	19:S2:1529:C:C6	2.53	0.44
19:S2:1679:A:H2'	24:SF:60:ARG:HD2	1.99	0.44
23:SD:163:PRO:HA	23:SD:166:TYR:CZ	2.52	0.44
40:L5:1366:G:N7	53:LL:37:LYS:HD2	2.33	0.44
40:L5:2903:G:H1'	40:L5:2904:U:C5	2.53	0.44
40:L5:4734:A:H1'	40:L5:4735:G:C8	2.52	0.44
49:LG:209:SER:HA	49:LG:212:LYS:HG3	1.99	0.44
84:Lt:48:LYS:HD3	84:Lt:48:LYS:HA	1.80	0.44
1:SA:158:ASP:HB2	1:SA:159:ILE:HD12	1.99	0.44
5:SG:147:LEU:HD21	5:SG:156:TYR:HD2	1.83	0.44
14:SX:66:ILE:HG13	18:Se:5:SER:HB2	2.00	0.44
19:S2:1409:A:H2'	19:S2:1410:C:C6	2.52	0.44
19:S2:1457:U:H2'	19:S2:1458:G:C8	2.53	0.44
19:S2:1553:C:N4	34:Sd:22:ARG:HH12	2.16	0.44
19:S2:1563:G:H2'	19:S2:1564:C:C6	2.52	0.44
26:SM:95:ASP:HB3	26:SM:99:LYS:HB3	1.98	0.44
29:SS:59:LEU:HD12	29:SS:63:GLU:HB3	2.00	0.44
40:L5:966:A:C2	40:L5:2093:A:H2	2.35	0.44
40:L5:1534:A2M:HM'3	40:L5:1637:A:C4	2.52	0.44
40:L5:2292:C:H2'	40:L5:2293:U:C6	2.52	0.44
40:L5:3710:G:H1'	40:L5:3711:A:C8	2.52	0.44
40:L5:3848:U:H2'	40:L5:3849:A:H8	1.82	0.44
42:L8:92:U:H2'	42:L8:93:C:O4'	2.17	0.44
56:LO:34:VAL:HG22	56:LO:103:LYS:HB2	2.00	0.44
63:LX:129:ARG:HE	63:LX:133:GLU:HB2	1.82	0.44
19:S2:1525:C:H2'	19:S2:1526:G:H8	1.83	0.44
20:LR:139:MET:HE3	20:LR:139:MET:HB3	1.70	0.44
24:SF:40:ALA:HB3	24:SF:67:PRO:HA	2.00	0.44
40:L5:978:G:H2'	40:L5:979:C:C6	2.52	0.44
40:L5:1359:G:H4'	55:LN:203:TYR:HB2	2.00	0.44
40:L5:4775:C:H41	40:L5:4859:C:N4	2.15	0.44
44:LB:90:VAL:HG23	44:LB:163:ILE:HD11	2.00	0.44
54:LM:104:MET:HE3	54:LM:109:ARG:CG	2.47	0.44
56:LO:165:LYS:HE2	56:LO:165:LYS:HB2	1.83	0.44
6:SH:111:LYS:HZ1	19:S2:747:U:H1'	1.83	0.44
19:S2:352:U:H2'	19:S2:353:C:C6	2.53	0.44
19:S2:885:U:C2	19:S2:901:G:O6	2.71	0.44
19:S2:1562:C:H2'	19:S2:1563:G:C8	2.53	0.44
19:S2:1736:G:H2'	19:S2:1737:G:H8	1.83	0.44
36:Sg:101:PHE:CE2	36:Sg:136:GLY:HA2	2.52	0.44
36:Sg:121:VAL:HG11	36:Sg:165:ILE:HD11	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2787:A2M:HM'2	40:L5:2787:A2M:H1'	1.75	0.44
40:L5:4089:G:H2'	40:L5:4090:G:C8	2.52	0.44
40:L5:4153:C:H2'	40:L5:4154:G:H8	1.82	0.44
59:LS:4:SER:HB3	59:LS:111:ARG:HH22	1.82	0.44
69:Ld:29:ILE:O	69:Ld:33:ILE:HG12	2.18	0.44
83:Ls:78:LEU:O	83:Ls:82:ILE:HG12	2.17	0.44
84:Lt:117:ARG:NH1	84:Lt:133:LEU:HD11	2.32	0.44
11:SO:56:VAL:HG23	11:SO:60:MET:SD	2.58	0.44
19:S2:561:A:H2'	19:S2:562:U:C6	2.52	0.44
19:S2:1627:C:H2'	19:S2:1628:C:C6	2.53	0.44
36:Sg:176:VAL:HG23	36:Sg:185:LYS:HB2	2.00	0.44
40:L5:163:A:H2'	40:L5:164:G:H8	1.82	0.44
40:L5:2415:U:H2'	40:L5:2416:G:C8	2.53	0.44
40:L5:3744:OMG:HM23	40:L5:3744:OMG:H1'	1.79	0.44
40:L5:4859:C:H2'	40:L5:4860:G:C8	2.53	0.44
43:LA:142:GLU:O	43:LA:143:THR:HG22	2.18	0.44
43:LA:206:PRO:HG3	43:LA:213:GLY:HA3	1.99	0.44
45:LC:5:ARG:HH12	45:LC:268:ARG:HH21	1.66	0.44
71:Lf:45:LYS:HD2	71:Lf:105:LEU:HA	2.00	0.44
80:Lo:83:LEU:HD23	80:Lo:83:LEU:HA	1.85	0.44
2:SB:145:LYS:HB2	2:SB:145:LYS:HE3	1.76	0.44
5:SG:2:LYS:HG2	5:SG:17:GLU:HG3	1.99	0.44
19:S2:115:U:H2'	19:S2:116:OMU:C6	2.47	0.44
19:S2:1457:U:H2'	19:S2:1458:G:H8	1.83	0.44
19:S2:1541:G:H2'	19:S2:1542:C:C6	2.52	0.44
19:S2:1573:G:H2'	19:S2:1574:C:O4'	2.18	0.44
32:SZ:74:SER:HA	32:SZ:79:ILE:HG13	1.98	0.44
35:Sf:103:LEU:HB2	35:Sf:105:TYR:CE2	2.53	0.44
40:L5:162:A:H2'	40:L5:163:A:C8	2.53	0.44
40:L5:2497:C:H2'	40:L5:2498:C:H6	1.83	0.44
40:L5:2717:G:H5'	61:LU:107:LYS:HE3	1.99	0.44
40:L5:3656:A:H2'	40:L5:3657:U:H6	1.83	0.44
40:L5:3867:A2M:HM'3	40:L5:3867:A2M:H1'	1.51	0.44
44:LB:173:LEU:HD22	44:LB:342:LYS:HD2	1.99	0.44
48:LF:162:ILE:HD12	48:LF:167:ILE:HB	2.00	0.44
51:LI:4:ARG:NH1	51:LI:99:ILE:HG13	2.33	0.44
55:LN:140:LYS:HA	55:LN:143:ARG:HB3	1.99	0.44
71:Lf:104:MET:O	71:Lf:105:LEU:HB2	2.18	0.44
2:SB:103:MET:HB3	2:SB:215:VAL:HG12	1.99	0.43
10:SN:47:PRO:HD2	10:SN:86:GLU:HG3	1.99	0.43
17:Sb:20:LYS:HA	17:Sb:23:ARG:NE	2.33	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:618:C:H2'	19:S2:619:A:O4'	2.18	0.43
19:S2:1073:U:H2'	19:S2:1074:C:H6	1.83	0.43
19:S2:1590:C:H42	28:SQ:77:HIS:CE1	2.34	0.43
37:At:27:U:H2'	37:At:28:U:C6	2.52	0.43
39:CI:63:ARG:HD2	39:CI:63:ARG:HA	1.87	0.43
40:L5:106:A:H2'	40:L5:107:G:O4'	2.18	0.43
40:L5:286:U:H2'	40:L5:287:U:C6	2.53	0.43
40:L5:1478:C:H2'	40:L5:1479:G:H8	1.82	0.43
40:L5:1669:A:H4'	40:L5:1685:G:N2	2.33	0.43
40:L5:3709:U:H2'	40:L5:3710:G:O4'	2.18	0.43
40:L5:3722:G:H2'	40:L5:3723:A:C8	2.54	0.43
40:L5:5002:U:H2'	40:L5:5003:U:C6	2.52	0.43
44:LB:14:LEU:HD22	44:LB:17:LEU:HD11	1.99	0.43
45:LC:228:THR:HG23	45:LC:248:ARG:HH22	1.83	0.43
53:LL:210:LYS:HE3	53:LL:210:LYS:HB3	1.81	0.43
4:SE:66:MET:HG3	19:S2:502:C:O4'	2.17	0.43
16:Sa:44:ILE:HG23	16:Sa:45:VAL:HG13	2.00	0.43
19:S2:462:OMC:HM23	19:S2:462:OMC:H1'	1.76	0.43
19:S2:601:OMG:HM23	19:S2:601:OMG:H1'	1.69	0.43
19:S2:996:A:H2'	19:S2:997:A:H8	1.83	0.43
19:S2:1670:C:H2'	19:S2:1671:G:C8	2.54	0.43
22:SR:103:LYS:HE2	22:SR:117:LEU:HD12	1.99	0.43
30:ST:42:HIS:CE1	30:ST:43:LYS:HG3	2.53	0.43
38:Pt:3:C:H42	38:Pt:70:A:H61	1.66	0.43
40:L5:385:A:N3	40:L5:387:G:H5''	2.33	0.43
40:L5:982:U:H2'	40:L5:983:C:C6	2.53	0.43
40:L5:1702:C:H5''	45:LC:308:LYS:HD3	1.99	0.43
40:L5:1867:A:H2'	40:L5:1868:A:C8	2.54	0.43
40:L5:2109:G:H2'	40:L5:2110:C:C6	2.53	0.43
40:L5:4064:C:H2'	40:L5:4065:G:C8	2.53	0.43
40:L5:4188:U:H2'	40:L5:4189:U:C6	2.54	0.43
40:L5:4306:OMU:HM23	40:L5:4306:OMU:H1'	1.85	0.43
40:L5:4611:A:H2	50:LH:120:GLU:HB3	1.81	0.43
40:L5:4957:C:H2'	40:L5:4958:C:C6	2.53	0.43
52:LJ:159:LYS:HG2	52:LJ:163:MET:HE3	1.99	0.43
54:LM:24:LEU:HD11	54:LM:86:TRP:CG	2.53	0.43
78:Lm:93:LYS:HD3	78:Lm:102:ARG:HG2	2.00	0.43
19:S2:159:A2M:HM'3	19:S2:159:A2M:H1'	1.48	0.43
19:S2:389:A:H2'	19:S2:390:C:C6	2.53	0.43
19:S2:496:C:H2'	19:S2:497:C:C6	2.53	0.43
19:S2:948:C:H2'	19:S2:949:G:H8	1.82	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:179:G:H2'	40:L5:180:C:C6	2.53	0.43
40:L5:1978:C:H2'	40:L5:1979:A:H8	1.84	0.43
40:L5:4344:U:H2'	40:L5:4345:C:C6	2.53	0.43
42:L8:40:A:H2'	42:L8:41:A:C8	2.54	0.43
43:LA:108:PRO:HB2	81:Lp:86:LEU:HD22	1.99	0.43
48:LF:182:TYR:HB3	48:LF:200:ARG:HG3	2.00	0.43
52:LJ:94:LEU:HD23	52:LJ:166:PHE:CZ	2.54	0.43
55:LN:5:LYS:HG3	74:Li:40:VAL:HG11	1.99	0.43
57:LP:125:MET:HE3	57:LP:125:MET:HB2	1.92	0.43
67:Lb:101:HIS:CE1	67:Lb:104:LEU:HD23	2.53	0.43
81:Lp:75:SER:O	81:Lp:79:VAL:HG23	2.18	0.43
15:SY:46:LYS:HE3	15:SY:46:LYS:HB3	1.87	0.43
19:S2:1442:OMU:HM23	19:S2:1442:OMU:H1'	1.87	0.43
19:S2:1501:C:H2'	19:S2:1502:C:H6	1.83	0.43
19:S2:1621:U:O2'	19:S2:1622:U:H2'	2.18	0.43
19:S2:1856:C:H2'	19:S2:1857:G:C8	2.54	0.43
32:SZ:65:TYR:HB3	85:Zt:34:U:O4'	2.18	0.43
36:Sg:36:ARG:HG2	36:Sg:65:PHE:CG	2.53	0.43
40:L5:424:U:H2'	40:L5:425:U:C6	2.53	0.43
40:L5:1326:A2M:H1'	40:L5:1326:A2M:HM'3	1.64	0.43
40:L5:1811:G:H2'	40:L5:1812:C:H6	1.83	0.43
40:L5:1846:G:H2'	40:L5:1847:C:C6	2.53	0.43
40:L5:3606:U:H2'	40:L5:3607:U:C6	2.53	0.43
57:LP:94:MET:HE3	57:LP:94:MET:HB2	1.82	0.43
64:LY:117:LYS:HE3	64:LY:117:LYS:HB2	1.84	0.43
4:SE:47:PHE:O	4:SE:51:ARG:HB2	2.19	0.43
6:SH:83:LEU:HA	6:SH:86:LYS:HD2	2.01	0.43
19:S2:323:C:H4'	19:S2:324:C:C5	2.54	0.43
19:S2:1674:G:H5''	24:SF:86:LYS:HD3	2.00	0.43
32:SZ:68:ILE:HG23	32:SZ:109:TYR:HB2	1.99	0.43
36:Sg:17:TRP:H	36:Sg:36:ARG:HB2	1.81	0.43
36:Sg:79:LEU:HD11	36:Sg:89:LEU:HD12	2.00	0.43
36:Sg:145:GLU:HB3	36:Sg:177:TRP:CH2	2.50	0.43
36:Sg:194:TYR:CZ	36:Sg:212:LYS:HB2	2.54	0.43
36:Sg:230:LEU:HD11	36:Sg:259:TRP:CG	2.52	0.43
40:L5:453:G:H4'	40:L5:454:U:H5'	2.00	0.43
40:L5:467:U:N3	40:L5:468:U:H1'	2.34	0.43
40:L5:728:U:H5''	48:LF:76:ARG:NH1	2.33	0.43
40:L5:1538:U:H2'	40:L5:1539:G:H8	1.84	0.43
40:L5:3599:A:H2'	40:L5:3600:G:C8	2.53	0.43
40:L5:4255:A:H2'	40:L5:4256:A:O4'	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4688:C:H2'	40:L5:4689:PSU:C6	2.54	0.43
49:LG:157:ILE:HA	49:LG:201:THR:HG22	2.01	0.43
84:Lt:10:ILE:HD12	84:Lt:10:ILE:HA	1.88	0.43
2:SB:125:VAL:HG12	2:SB:172:MET:HE3	2.01	0.43
3:SC:253:PRO:HA	3:SC:256:TRP:CD2	2.53	0.43
4:SE:42:LEU:HD12	4:SE:101:LEU:HD11	2.00	0.43
6:SH:8:ILE:HG13	6:SH:9:VAL:HG23	2.01	0.43
10:SN:72:LEU:HD22	19:S2:1019:C:H5''	2.01	0.43
11:SO:33:ILE:HG13	11:SO:97:LEU:HA	2.00	0.43
15:SY:57:VAL:HB	15:SY:60:PHE:HE1	1.83	0.43
19:S2:454:U:H2'	19:S2:455:A:C8	2.54	0.43
19:S2:497:C:H2'	19:S2:498:C:C6	2.53	0.43
19:S2:945:U:H2'	19:S2:946:U:C6	2.53	0.43
24:SF:162:ALA:HB2	24:SF:172:CYS:SG	2.58	0.43
25:SK:41:PRO:HG2	25:SK:44:HIS:CG	2.53	0.43
31:SU:104:ILE:HB	31:SU:106:ILE:HG23	1.99	0.43
36:Sg:164:ILE:HD12	36:Sg:178:ASN:HA	2.00	0.43
40:L5:1333:A:H2'	40:L5:1334:A:H8	1.81	0.43
40:L5:4741:C:H2'	40:L5:4950:U:H3	1.82	0.43
51:LI:54:SER:HA	51:LI:163:GLN:HG3	2.00	0.43
56:LO:10:ASP:OD1	56:LO:37:ARG:HD3	2.19	0.43
4:SE:38:LEU:HD22	19:S2:346:C:H5''	1.99	0.43
4:SE:168:LYS:HA	4:SE:168:LYS:HD3	1.86	0.43
12:SV:30:ALA:O	12:SV:60:ARG:HD3	2.18	0.43
15:SY:8:ARG:HD3	15:SY:8:ARG:HA	1.84	0.43
19:S2:59:U:H5'	19:S2:503:C:N4	2.33	0.43
19:S2:1383:A2M:HM'3	19:S2:1383:A2M:H1'	1.53	0.43
26:SM:42:LEU:HD23	26:SM:42:LEU:HA	1.92	0.43
29:SS:111:LEU:HG	29:SS:115:LYS:HE3	2.00	0.43
37:At:3:C:N4	37:At:70:A:H61	2.16	0.43
40:L5:690:C:H2'	40:L5:691:C:H6	1.84	0.43
40:L5:1501:C:H2'	58:LQ:68:ARG:NH1	2.34	0.43
40:L5:2422:OMC:H1'	40:L5:2422:OMC:HM23	1.84	0.43
40:L5:2640:G:H2'	40:L5:2641:A:H8	1.82	0.43
40:L5:2764:A:H2'	40:L5:2765:A:H8	1.83	0.43
40:L5:2864:A:H2'	40:L5:2865:U:C6	2.53	0.43
40:L5:2876:OMG:HM22	40:L5:2877:G:H5'	2.00	0.43
40:L5:3870:C:H2'	40:L5:3871:A:C8	2.53	0.43
40:L5:4345:C:H2'	40:L5:4346:U:C6	2.54	0.43
44:LB:300:LYS:HG3	44:LB:311:ASP:HA	2.00	0.43
48:LF:66:ARG:HA	48:LF:66:ARG:HD2	1.79	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:LG:252:LYS:HE2	49:LG:252:LYS:HB2	1.86	0.43
70:Le:19:LYS:HE3	70:Le:19:LYS:HB3	1.79	0.43
6:SH:74:LYS:HG3	6:SH:75:ILE:HG23	2.00	0.43
19:S2:866:PSU:H2'	19:S2:867:OMG:C8	2.54	0.43
19:S2:1244:PSU:HN3	19:S2:1255:G:H1	1.67	0.43
19:S2:1310:U:H2'	19:S2:1311:C:C6	2.54	0.43
20:LR:44:LEU:HD22	20:LR:49:LEU:HD12	2.00	0.43
32:SZ:48:VAL:HG23	32:SZ:80:ARG:HD2	2.01	0.43
35:Sf:126:CYS:SG	35:Sf:143:LYS:HB2	2.58	0.43
40:L5:126:C:H2'	40:L5:127:G:H8	1.84	0.43
40:L5:1084:C:H2'	40:L5:1085:C:H6	1.83	0.43
40:L5:1956:A:H2'	40:L5:1957:U:C6	2.54	0.43
40:L5:3652:A:H2'	40:L5:3653:A:C5	2.53	0.43
40:L5:4088:C:H2'	40:L5:4089:G:H8	1.83	0.43
40:L5:4364:G:H2'	40:L5:4365:C:C6	2.53	0.43
40:L5:4754:G:N7	47:LE:278:THR:HG23	2.34	0.43
44:LB:86:VAL:HG12	44:LB:201:LEU:HD23	2.00	0.43
80:Lo:70:LEU:HD11	80:Lo:83:LEU:HD12	2.01	0.43
1:SA:198:MET:HE3	22:SR:85:VAL:HG12	2.01	0.43
1:SA:207:PRO:O	1:SA:210:ILE:HG22	2.19	0.43
3:SC:195:LEU:HD13	3:SC:214:LEU:HD11	2.00	0.43
12:SV:37:ALA:HA	12:SV:50:PHE:HB3	2.00	0.43
14:SX:63:ASN:HD22	14:SX:114:ASP:HB3	1.84	0.43
19:S2:1018:U:H2'	19:S2:1019:C:C6	2.49	0.43
19:S2:1262:C:H2'	19:S2:1263:U:O4'	2.19	0.43
19:S2:1415:C:H2'	19:S2:1416:C:H6	1.84	0.43
19:S2:1423:C:H5	28:SQ:4:LYS:HG2	1.84	0.43
36:Sg:205:SER:C	36:Sg:221:LEU:HD23	2.44	0.43
36:Sg:207:CYS:SG	36:Sg:219:TRP:HB2	2.59	0.43
37:At:18:G:H2'	37:At:57:G:N2	2.33	0.43
38:Pt:2:U:H2'	38:Pt:3:C:C6	2.53	0.43
40:L5:123:C:H2'	40:L5:124:C:H6	1.84	0.43
40:L5:737:C:C4	40:L5:739:G:H5''	2.54	0.43
40:L5:959:G:C8	47:LE:123:ARG:HG2	2.54	0.43
40:L5:1972:G:H21	84:Lt:121:LEU:HD11	1.84	0.43
40:L5:4196:OMG:HM23	40:L5:4196:OMG:H1'	1.64	0.43
40:L5:4543:G:H2'	40:L5:4544:A:C8	2.54	0.43
40:L5:4892:A:H2'	40:L5:4893:A:O4'	2.18	0.43
40:L5:4991:U:H2'	40:L5:4992:G:H8	1.83	0.43
43:LA:137:ILE:HD11	43:LA:149:LYS:HB2	2.00	0.43
2:SB:67:PHE:CZ	11:SO:48:SER:HB3	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SE:68:ARG:NH2	4:SE:76:VAL:HG21	2.34	0.43
4:SE:146:THR:HG21	19:S2:122:G:H21	1.83	0.43
6:SH:159:ASP:C	6:SH:161:ALA:H	2.26	0.43
8:SJ:31:LEU:HD11	8:SJ:102:ILE:HD12	2.01	0.43
16:Sa:30:VAL:HG21	16:Sa:74:CYS:HB3	2.01	0.43
19:S2:495:U:H2'	19:S2:496:C:O4'	2.18	0.43
19:S2:1031:A2M:H2'	19:S2:1032:C:H6	1.84	0.43
19:S2:1533:A:C5	19:S2:1604:G:H1'	2.53	0.43
19:S2:1703:OMC:H2'	19:S2:1704:C:O4'	2.19	0.43
25:SK:22:VAL:HG22	25:SK:68:TYR:HD1	1.83	0.43
29:SS:74:PRO:HG3	29:SS:97:GLN:HB3	2.01	0.43
40:L5:500:G:H1'	40:L5:504:G:H2'	1.99	0.43
40:L5:1907:A:H2'	40:L5:1908:A:C8	2.54	0.43
40:L5:2431:A:OP1	77:Ll:22:PRO:HG3	2.19	0.43
40:L5:2568:C:H2'	40:L5:2569:G:C8	2.54	0.43
40:L5:3690:U:H2'	40:L5:3691:G:O4'	2.19	0.43
40:L5:3870:C:H2'	40:L5:3871:A:H8	1.84	0.43
40:L5:4913:G:H4'	40:L5:4914:C:O5'	2.17	0.43
41:L7:16:A:H2'	41:L7:17:C:C6	2.54	0.43
44:LB:14:LEU:HA	44:LB:17:LEU:HG	2.01	0.43
47:LE:239:LYS:HD2	47:LE:239:LYS:HA	1.78	0.43
48:LF:236:ARG:HB2	48:LF:239:GLN:HB2	2.01	0.43
63:LX:88:LYS:O	63:LX:92:ASP:HB2	2.19	0.43
65:LZ:46:ILE:HA	65:LZ:70:SER:HA	2.01	0.43
2:SB:114:VAL:HG11	19:S2:987:A:H2'	2.01	0.42
19:S2:525:A:H2'	19:S2:526:A:C8	2.51	0.42
19:S2:648:A:H2'	19:S2:649:PSU:H6	1.83	0.42
19:S2:1616:U:H2'	19:S2:1617:G:C8	2.54	0.42
36:Sg:198:VAL:HB	36:Sg:209:SER:HB3	2.01	0.42
40:L5:172:C:H4'	40:L5:173:C:H5'	2.01	0.42
40:L5:689:U:H2'	40:L5:690:C:C6	2.54	0.42
40:L5:1270:A:N7	40:L5:2107:C:H1'	2.34	0.42
40:L5:2485:U:H4'	40:L5:2486:G:N2	2.34	0.42
40:L5:3833:C:H2'	40:L5:3834:C:H6	1.84	0.42
40:L5:4507:A:H2'	40:L5:4508:C:C6	2.54	0.42
40:L5:4739:C:H2'	40:L5:4740:G:H5'	2.00	0.42
59:LS:48:VAL:HG12	60:LT:151:LEU:HD12	2.01	0.42
69:Ld:37:GLY:O	69:Ld:41:ARG:HG3	2.19	0.42
1:SA:24:HIS:HA	1:SA:49:ILE:HG12	2.00	0.42
1:SA:52:LYS:HB2	22:SR:109:LEU:HD13	2.00	0.42
9:SL:17:PHE:CG	19:S2:222:U:H5''	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SO:143:LYS:HG3	19:S2:1048:G:P	2.59	0.42
17:Sb:33:MET:HE2	17:Sb:48:SER:HA	2.01	0.42
19:S2:1129:G:H2'	19:S2:1130:G:N3	2.34	0.42
19:S2:1656:G:O6	19:S2:1668:U:O4	2.37	0.42
19:S2:1752:C:H3'	19:S2:1753:C:O4'	2.19	0.42
27:SP:81:ARG:NH1	27:SP:98:ASN:HA	2.34	0.42
29:SS:89:ASP:HB3	29:SS:93:GLY:H	1.84	0.42
40:L5:161:G:H2'	40:L5:162:A:H8	1.84	0.42
40:L5:455:C:O2'	40:L5:456:C:H5'	2.19	0.42
40:L5:492:U:H2'	40:L5:493:G:O4'	2.18	0.42
40:L5:1248:C:H2'	40:L5:1249:C:C6	2.54	0.42
40:L5:1281:G:H5'	45:LC:323:ARG:HB2	2.01	0.42
40:L5:1811:G:H2'	40:L5:1812:C:C6	2.54	0.42
40:L5:2411:C:H2'	40:L5:2412:A:C8	2.54	0.42
40:L5:2538:U:H2'	40:L5:2539:C:C6	2.54	0.42
40:L5:4238:G:H2'	40:L5:4239:A:H8	1.84	0.42
40:L5:4919:G:H2'	40:L5:4920:C:H6	1.83	0.42
42:L8:106:G:H4'	42:L8:137:A:H5'	2.00	0.42
45:LC:172:LYS:HA	45:LC:177:TRP:HB2	2.00	0.42
48:LF:181:LYS:HE3	48:LF:182:TYR:CZ	2.54	0.42
51:LI:87:MET:HB2	51:LI:87:MET:HE3	1.88	0.42
54:LM:94:LYS:HB2	54:LM:94:LYS:HE3	1.87	0.42
63:LX:124:VAL:HG22	63:LX:138:VAL:HG13	2.01	0.42
73:Lh:89:ARG:O	73:Lh:93:ARG:HG2	2.18	0.42
4:SE:98:ASN:HB2	4:SE:114:ILE:HG13	2.01	0.42
7:SI:116:HIS:ND1	7:SI:152:ARG:HD3	2.34	0.42
7:SI:141:ARG:HG3	7:SI:149:TYR:HE2	1.83	0.42
19:S2:352:U:H2'	19:S2:353:C:H6	1.85	0.42
19:S2:440:G:H5'	19:S2:1798:C:O2'	2.19	0.42
19:S2:689:U:H3'	19:S2:690:G:H21	1.84	0.42
19:S2:1476:A:H4'	19:S2:1477:U:H5''	2.02	0.42
19:S2:1614:A:H2'	19:S2:1615:U:C6	2.54	0.42
19:S2:1777:G:H2'	19:S2:1778:C:C6	2.55	0.42
36:Sg:107:ASP:HB2	36:Sg:125:ARG:HH11	1.84	0.42
40:L5:1307:A:H2'	40:L5:1308:C:H6	1.84	0.42
40:L5:1870:C:H2'	40:L5:1871:A2M:H8	2.02	0.42
40:L5:3668:C:H5'	43:LA:8:GLN:O	2.19	0.42
45:LC:163:LYS:HE3	45:LC:163:LYS:HB3	1.83	0.42
51:LI:61:SER:HA	51:LI:126:VAL:HG12	2.00	0.42
63:LX:81:LEU:HG	63:LX:83:THR:HG23	2.01	0.42
70:Le:85:LEU:HD21	70:Le:115:ALA:HB2	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SG:198:ARG:HH11	19:S2:125:C:H3'	1.84	0.42
7:SI:148:LYS:HD3	7:SI:152:ARG:NH2	2.35	0.42
19:S2:15:U:H2'	19:S2:16:G:O4'	2.19	0.42
19:S2:642:U:H4'	19:S2:644:OMG:H4'	2.01	0.42
19:S2:1216:C:H5''	19:S2:1217:A:H5'	2.01	0.42
19:S2:1713:C:H2'	19:S2:1714:U:H6	1.83	0.42
19:S2:1801:A:H2'	19:S2:1802:C:H6	1.84	0.42
23:SD:40:ARG:HG2	31:SU:108:PRO:HG3	2.01	0.42
24:SF:123:GLU:HA	24:SF:140:ASP:HA	2.01	0.42
28:SQ:44:PRO:HG2	28:SQ:81:ILE:HD11	2.00	0.42
30:ST:30:VAL:HG13	30:ST:34:VAL:HG11	2.02	0.42
40:L5:679:C:H2'	40:L5:680:G:H8	1.84	0.42
40:L5:2045:G:O2'	40:L5:2046:G:H5''	2.19	0.42
40:L5:4106:G:H3'	40:L5:4107:G:C8	2.52	0.42
89:L5:5289:SPD:HN6	89:L5:5289:SPD:H31	1.71	0.42
46:LD:60:ILE:HB	46:LD:80:ALA:HB2	2.00	0.42
46:LD:68:ARG:HD3	46:LD:68:ARG:HA	1.80	0.42
49:LG:37:LYS:HE2	49:LG:37:LYS:HB3	1.80	0.42
52:LJ:20:LEU:HD21	52:LJ:130:PHE:CD2	2.55	0.42
57:LP:17:SER:HB2	57:LP:98:ALA:HB2	2.02	0.42
64:LY:24:HIS:CE1	64:LY:25:ILE:HG23	2.54	0.42
83:Ls:59:THR:HA	83:Ls:62:ARG:HB2	2.00	0.42
85:Zt:23:A:H2'	85:Zt:24:G:O4'	2.19	0.42
1:SA:146:ALA:HB3	1:SA:157:VAL:HG13	2.01	0.42
4:SE:16:LYS:HA	4:SE:16:LYS:HD2	1.84	0.42
5:SG:3:LEU:HD22	5:SG:111:LEU:HD11	2.01	0.42
9:SL:22:ARG:HH22	9:SL:26:GLY:HA3	1.83	0.42
13:SW:42:MET:HE3	13:SW:49:GLU:HA	2.01	0.42
15:SY:21:LYS:HD2	15:SY:75:ILE:HD11	2.00	0.42
18:Se:41:ARG:HH22	19:S2:639:C:H5''	1.85	0.42
19:S2:749:U:H3	19:S2:793:G:N2	2.18	0.42
19:S2:1657:G:H2'	19:S2:1658:G:H8	1.84	0.42
24:SF:73:THR:O	24:SF:89:THR:HG21	2.19	0.42
40:L5:135:G:H2'	40:L5:135:G:N3	2.35	0.42
40:L5:139:G:H2'	40:L5:140:G:C8	2.54	0.42
40:L5:162:A:H2'	40:L5:163:A:H8	1.85	0.42
40:L5:750:U:H1'	40:L5:917:A:C8	2.54	0.42
40:L5:755:C:H2'	40:L5:756:G:H8	1.84	0.42
40:L5:1431:C:H2'	40:L5:1432:G:O4'	2.20	0.42
40:L5:1978:C:H2'	40:L5:1979:A:C8	2.55	0.42
40:L5:3690:U:H5'	40:L5:3818:UY1:OP2	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LB:66:LYS:HG2	62:LV:11:GLY:HA3	2.02	0.42
51:LI:136:MET:HE3	51:LI:136:MET:HB2	1.78	0.42
56:LO:43:ILE:HD11	56:LO:138:LEU:HD13	2.01	0.42
62:LV:35:LYS:HB2	62:LV:67:LYS:HG3	2.01	0.42
72:Lg:41:ALA:O	72:Lg:52:ARG:HD3	2.20	0.42
5:SG:15:LEU:HD22	19:S2:155:G:H4'	2.01	0.42
5:SG:30:LYS:HD3	5:SG:30:LYS:HA	1.83	0.42
11:SO:34:PHE:HB3	11:SO:41:PHE:HB2	2.01	0.42
13:SW:69:LEU:HD21	13:SW:72:CYS:HB3	2.01	0.42
16:Sa:9:GLY:O	16:Sa:34:LYS:HG3	2.20	0.42
19:S2:568:C:H2'	19:S2:569:A:O4'	2.19	0.42
19:S2:901:G:H2'	19:S2:902:G:C8	2.55	0.42
19:S2:1289:U:H4'	25:SK:2:LEU:HD21	2.01	0.42
19:S2:1706:G:H2'	19:S2:1707:U:H6	1.84	0.42
38:Pt:2:U:H2'	38:Pt:3:C:H6	1.85	0.42
40:L5:180:C:H2'	40:L5:181:C:C6	2.54	0.42
40:L5:2654:C:H2'	40:L5:2655:C:H6	1.85	0.42
40:L5:3600:G:H2'	40:L5:3601:C:C6	2.55	0.42
40:L5:4108:G:H2'	40:L5:4109:G:C8	2.54	0.42
40:L5:4680:G:H2'	40:L5:4681:A:C8	2.54	0.42
40:L5:4906:C:H2'	40:L5:4907:G:H8	1.85	0.42
88:L5:5259:SPM:H32	60:LT:13:TYR:HD1	1.85	0.42
45:LC:100:ARG:H	45:LC:100:ARG:HD3	1.85	0.42
45:LC:317:ASN:ND2	45:LC:320:LYS:HD3	2.33	0.42
50:LH:95:VAL:HG21	78:Lm:86:ALA:HB2	2.01	0.42
55:LN:135:ILE:HG21	55:LN:151:ILE:HG21	2.02	0.42
62:LV:60:MET:HE2	62:LV:78:PRO:HB3	2.00	0.42
83:Ls:101:MET:HE2	83:Ls:101:MET:HB2	1.98	0.42
4:SE:45:ILE:HD12	4:SE:80:ILE:HD11	2.00	0.42
4:SE:101:LEU:HD12	4:SE:101:LEU:HA	1.89	0.42
8:SJ:25:LEU:HD23	8:SJ:25:LEU:HA	1.90	0.42
8:SJ:131:ARG:HD2	8:SJ:131:ARG:HA	1.80	0.42
13:SW:111:MET:HE3	13:SW:116:ALA:HA	2.01	0.42
19:S2:165:G:H2'	19:S2:166:A2M:H8	2.02	0.42
19:S2:1415:C:H2'	19:S2:1416:C:C6	2.55	0.42
24:SF:47:LYS:HD3	28:SQ:115:TYR:CZ	2.55	0.42
26:SM:18:LEU:HA	26:SM:21:VAL:HB	2.01	0.42
27:SP:33:LEU:HD23	27:SP:33:LEU:HA	1.86	0.42
37:At:15:G:H22	37:At:48:C:H42	1.67	0.42
40:L5:262:G:H2'	40:L5:263:G:C8	2.51	0.42
40:L5:425:U:H4'	57:LP:6:LEU:HD21	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1761:G:H1'	40:L5:1764:G:H22	1.84	0.42
40:L5:3726:A:H2'	40:L5:3727:A:C8	2.53	0.42
40:L5:3928:A:H2'	40:L5:3929:G:O4'	2.19	0.42
44:LB:107:ALA:HB2	44:LB:201:LEU:HD22	2.01	0.42
45:LC:269:LYS:HD2	45:LC:269:LYS:HA	1.90	0.42
47:LE:237:LYS:HE3	47:LE:237:LYS:HB3	1.84	0.42
52:LJ:113:ILE:HG12	52:LJ:119:TYR:CD2	2.54	0.42
59:LS:93:MET:HE1	59:LS:117:HIS:CE1	2.54	0.42
62:LV:60:MET:HE1	62:LV:108:ASN:HA	2.02	0.42
1:SA:122:LEU:HB2	1:SA:142:LEU:HD21	2.02	0.42
1:SA:203:PHE:HZ	22:SR:91:LEU:HD11	1.84	0.42
2:SB:87:ILE:H	2:SB:101:HIS:HB2	1.83	0.42
4:SE:64:ILE:HD12	4:SE:64:ILE:HA	1.81	0.42
4:SE:106:LYS:HB3	4:SE:108:ARG:NH1	2.32	0.42
7:SI:151:GLU:O	7:SI:154:LYS:HG2	2.19	0.42
8:SJ:80:ARG:HA	8:SJ:83:ARG:HB2	2.01	0.42
16:Sa:73:TYR:HB3	16:Sa:78:ALA:HB2	2.02	0.42
19:S2:1094:C:H2'	19:S2:1095:C:C6	2.54	0.42
19:S2:1102:G:H2'	19:S2:1103:C:C6	2.55	0.42
19:S2:1220:A:H2'	19:S2:1221:G:O4'	2.20	0.42
19:S2:1390:U:H2'	19:S2:1391:OMC:C6	2.54	0.42
19:S2:1467:C:H2'	19:S2:1468:C:H6	1.85	0.42
19:S2:1672:U:H2'	19:S2:1673:U:C6	2.55	0.42
26:SM:79:VAL:HG11	26:SM:85:LEU:HB2	2.01	0.42
40:L5:1356:U:H2'	40:L5:1357:C:C6	2.55	0.42
40:L5:1392:A:H2'	40:L5:1393:G:C8	2.55	0.42
40:L5:1968:G:H2'	40:L5:1969:G:C8	2.54	0.42
40:L5:3911:C:H2'	40:L5:3912:U:C6	2.53	0.42
40:L5:4058:U:H4'	40:L5:4059:C:C6	2.55	0.42
40:L5:4238:G:H2'	40:L5:4239:A:C8	2.55	0.42
40:L5:5015:G:H2'	40:L5:5016:A:C2	2.54	0.42
49:LG:48:LYS:HB3	63:LX:42:THR:HB	2.02	0.42
57:LP:76:TRP:CD1	57:LP:76:TRP:H	2.38	0.42
64:LY:4:ASN:HB3	64:LY:7:VAL:HG12	2.01	0.42
74:Li:100:ALA:HA	74:Li:103:LYS:HE2	2.01	0.42
85:Zt:50:A:H2'	85:Zt:51:G:C8	2.54	0.42
1:SA:148:CYS:HB3	1:SA:149:ASN:H	1.85	0.42
2:SB:117:TRP:HB3	2:SB:153:THR:HA	2.02	0.42
3:SC:253:PRO:HA	3:SC:256:TRP:CE2	2.55	0.42
5:SG:196:LYS:HA	5:SG:196:LYS:HD2	1.91	0.42
18:Se:25:LYS:HE2	18:Se:25:LYS:HB3	1.85	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:799:OMU:HM23	19:S2:799:OMU:H1'	1.91	0.42
19:S2:935:G:H2'	19:S2:936:G:H8	1.85	0.42
19:S2:1058:A:H2'	19:S2:1059:G:C8	2.55	0.42
20:LR:126:LYS:HD3	20:LR:131:VAL:HG21	2.02	0.42
20:LR:176:ARG:NH1	20:LR:177:LEU:HG	2.35	0.42
21:LW:96:GLN:HB2	21:LW:101:ARG:HG3	2.01	0.42
25:SK:64:TRP:HB3	34:Sd:23:VAL:HA	2.02	0.42
40:L5:223:G:H4'	40:L5:225:G:C8	2.54	0.42
40:L5:458:C:OP1	47:LE:114:ARG:HG2	2.20	0.42
40:L5:1468:C:H2'	40:L5:1469:C:C6	2.54	0.42
40:L5:2275:G:H2'	40:L5:2276:A:C8	2.55	0.42
40:L5:2730:U:H2'	40:L5:2731:C:C6	2.54	0.42
40:L5:4094:G:H1	40:L5:4114:C:H2'	1.85	0.42
40:L5:4750:G:H2'	40:L5:4751:G:C8	2.55	0.42
40:L5:4910:G:H22	56:LO:107:GLY:HA3	1.84	0.42
44:LB:224:LYS:HG2	44:LB:340:THR:HG22	2.00	0.42
50:LH:51:LYS:HG3	50:LH:52:LYS:HG2	2.01	0.42
51:LI:184:MET:HE2	51:LI:190:LEU:HG	2.01	0.42
55:LN:38:ARG:HG3	55:LN:62:TYR:CE1	2.53	0.42
84:Lt:12:VAL:HG11	84:Lt:65:GLN:N	2.34	0.42
84:Lt:23:GLY:HA3	84:Lt:27:ALA:HB2	2.00	0.42
84:Lt:114:ARG:HA	84:Lt:114:ARG:HD2	1.88	0.42
5:SG:50:VAL:HG21	5:SG:111:LEU:HB3	2.02	0.42
5:SG:176:ILE:HG12	19:S2:77:A:H1'	2.02	0.42
19:S2:527:C:H2'	19:S2:528:A:H8	1.83	0.42
19:S2:1491:G:H2'	19:S2:1492:U:C6	2.55	0.42
20:LR:19:LYS:HB2	20:LR:19:LYS:HE2	1.79	0.42
21:LW:119:LYS:HB2	21:LW:119:LYS:HE2	1.89	0.42
26:SM:48:HIS:HB3	26:SM:114:TYR:CZ	2.55	0.42
36:Sg:14:HIS:CE1	36:Sg:41:ILE:HD12	2.54	0.42
37:At:27:U:H2'	37:At:28:U:H6	1.85	0.42
40:L5:7:C:H2'	40:L5:8:U:C6	2.55	0.42
40:L5:3873:G:H2'	40:L5:3874:G:C8	2.55	0.42
40:L5:4244:A:H2'	40:L5:4245:G:O4'	2.20	0.42
40:L5:4456:OMC:HM21	44:LB:241:PRO:HD3	2.02	0.42
51:LI:32:ARG:HE	51:LI:32:ARG:HB3	1.56	0.42
53:LL:130:LYS:HD2	53:LL:131:PRO:HD2	2.01	0.42
83:Ls:61:MET:HB3	83:Ls:88:PHE:HE2	1.85	0.42
1:SA:85:ARG:HB2	22:SR:81:ARG:NH1	2.34	0.41
1:SA:166:LYS:HD2	1:SA:166:LYS:HA	1.74	0.41
4:SE:11:ARG:HD2	4:SE:20:LEU:HB3	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SJ:130:ILE:HG12	8:SJ:135:ILE:HG21	2.02	0.41
19:S2:517:OMC:HM22	19:S2:518:G:H5'	2.02	0.41
19:S2:573:U:H1'	19:S2:576:A2M:N7	2.35	0.41
19:S2:639:C:H2'	19:S2:640:A:C8	2.52	0.41
19:S2:649:PSU:H2'	19:S2:650:A:C8	2.55	0.41
19:S2:735:C:H5''	19:S2:736:C:C2	2.55	0.41
19:S2:1373:C:H2'	19:S2:1374:C:C6	2.55	0.41
22:SR:79:GLU:HG3	22:SR:80:ARG:N	2.35	0.41
36:Sg:11:LEU:HB2	36:Sg:307:VAL:HG13	2.00	0.41
40:L5:46:U:H5''	53:LL:16:LYS:HG3	2.01	0.41
40:L5:170:C:H42	40:L5:266:C:N4	2.18	0.41
40:L5:1254:A:H5''	40:L5:1255:A:H5''	2.02	0.41
40:L5:2335:C:H2'	40:L5:2336:G:H8	1.84	0.41
40:L5:2389:A:H5'	69:Ld:70:LYS:HD3	2.02	0.41
40:L5:2501:C:H2'	40:L5:2502:G:C8	2.55	0.41
40:L5:4187:G:H2'	40:L5:4188:U:O4'	2.20	0.41
41:L7:120:U:H4'	46:LD:261:VAL:HA	2.01	0.41
43:LA:96:LEU:HD11	43:LA:108:PRO:HG2	2.00	0.41
45:LC:150:LEU:HA	45:LC:150:LEU:HD23	1.71	0.41
57:LP:84:PRO:HB2	57:LP:87:SER:HB2	2.02	0.41
76:Lk:49:ASP:HB3	76:Lk:52:LYS:HB2	2.02	0.41
76:Lk:50:LYS:O	76:Lk:54:GLU:HG2	2.19	0.41
1:SA:61:ALA:HB1	1:SA:145:ILE:HD13	2.03	0.41
2:SB:137:LEU:HB3	2:SB:172:MET:SD	2.60	0.41
3:SC:210:PRO:HD3	3:SC:236:PHE:CE2	2.53	0.41
4:SE:124:CYS:HB3	4:SE:141:THR:OG1	2.19	0.41
4:SE:253:ASP:HA	4:SE:256:LEU:HB2	2.02	0.41
5:SG:234:LEU:HD11	5:SG:237:LEU:HB3	2.03	0.41
6:SH:36:LEU:HD11	6:SH:78:ARG:HG2	2.02	0.41
12:SV:69:ILE:HD13	12:SV:69:ILE:HA	1.96	0.41
14:SX:24:ASP:HB3	19:S2:658:U:C4	2.56	0.41
19:S2:17:C:H2'	19:S2:18:C:C6	2.55	0.41
19:S2:99:A2M:H8	19:S2:99:A2M:O5'	2.19	0.41
19:S2:121:OMU:HM23	19:S2:121:OMU:H1'	1.90	0.41
19:S2:511:U:H2'	19:S2:512:A:C8	2.55	0.41
19:S2:1288:OMU:H3'	35:Sf:97:LYS:HZ2	1.85	0.41
19:S2:1452:A:N1	19:S2:1473:G:C2	2.88	0.41
21:LW:117:LYS:HA	21:LW:117:LYS:HD3	1.80	0.41
23:SD:25:LEU:HD23	23:SD:25:LEU:HA	1.89	0.41
25:SK:64:TRP:CD1	34:Sd:23:VAL:HG13	2.54	0.41
29:SS:111:LEU:HD11	29:SS:125:HIS:CG	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Sg:201:SER:HA	36:Sg:241:PHE:HD2	1.84	0.41
40:L5:1697:G:H2'	40:L5:1698:C:C6	2.55	0.41
40:L5:3925:OMU:HM23	40:L5:3925:OMU:H1'	1.76	0.41
40:L5:4291:G:H5'	40:L5:4293:PSU:C6	2.56	0.41
40:L5:4401:G:H2'	40:L5:4402:C:H6	1.84	0.41
40:L5:4524:G:N3	44:LB:252:ALA:HB1	2.35	0.41
40:L5:4736:C:H2'	40:L5:4737:G:H8	1.86	0.41
40:L5:5018:C:H2'	40:L5:5019:A:H8	1.85	0.41
43:LA:28:ARG:HB3	43:LA:123:ARG:HD3	2.01	0.41
45:LC:298:ILE:HD13	58:LQ:131:PRO:HB3	2.02	0.41
47:LE:183:ARG:HA	47:LE:183:ARG:HD2	1.83	0.41
50:LH:44:GLU:HG3	54:LM:2:VAL:HG23	2.02	0.41
51:LI:36:LEU:HD11	51:LI:69:ARG:HD2	2.01	0.41
61:LU:34:MET:HB3	61:LU:96:LEU:HD11	2.01	0.41
80:Lo:88:CYS:SG	80:Lo:91:PHE:HB2	2.60	0.41
1:SA:211:GLU:HA	1:SA:214:GLU:OE2	2.20	0.41
6:SH:101:LEU:HG	6:SH:120:ARG:HB3	2.02	0.41
9:SL:17:PHE:CD2	19:S2:222:U:H5''	2.55	0.41
9:SL:103:GLU:HG3	14:SX:11:ARG:HB2	2.02	0.41
19:S2:1631:U:H3'	19:S2:1632:G:H8	1.85	0.41
19:S2:1720:U:H5''	19:S2:1721:U:H5''	2.01	0.41
28:SQ:10:VAL:HG11	28:SQ:98:LYS:HD3	2.02	0.41
31:SU:24:LEU:HD22	31:SU:112:VAL:HG12	2.02	0.41
35:Sf:105:TYR:HE1	35:Sf:131:PHE:HD2	1.68	0.41
40:L5:433:A:C2	40:L5:3867:A2M:H4'	2.55	0.41
40:L5:491:G:H2'	40:L5:492:U:H6	1.86	0.41
40:L5:677:G:H2'	40:L5:678:C:C6	2.55	0.41
40:L5:700:G:O6	40:L5:701:G:O6	2.38	0.41
40:L5:1806:G:H2'	40:L5:1807:C:H6	1.84	0.41
40:L5:1994:C:H2'	40:L5:1995:G:H8	1.84	0.41
40:L5:3595:U:H5''	40:L5:3597:G:OP2	2.21	0.41
40:L5:3947:A:H3'	40:L5:3948:C:O4'	2.21	0.41
40:L5:4438:U:H2'	40:L5:4439:U:O4'	2.20	0.41
42:L8:56:G:H21	42:L8:62:A:H5'	1.85	0.41
44:LB:144:LYS:HB3	44:LB:144:LYS:HE2	1.78	0.41
47:LE:223:ARG:HA	47:LE:224:LYS:HA	1.77	0.41
61:LU:67:LYS:HD3	61:LU:67:LYS:HA	1.79	0.41
72:Lg:33:LEU:HD23	72:Lg:33:LEU:HA	1.80	0.41
74:Li:75:LYS:HA	74:Li:75:LYS:HD2	1.93	0.41
2:SB:111:CYS:HB3	16:Sa:68:TYR:HB2	2.03	0.41
2:SB:122:GLU:HG2	2:SB:140:VAL:HG12	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:570:C:H2'	19:S2:571:U:O4'	2.20	0.41
19:S2:917:U:H2'	19:S2:918:U:C6	2.55	0.41
20:LR:173:ARG:HG2	20:LR:176:ARG:NH2	2.34	0.41
36:Sg:200:VAL:HG12	36:Sg:207:CYS:HB3	2.02	0.41
40:L5:123:C:H2'	40:L5:124:C:C6	2.54	0.41
40:L5:497:G:H21	40:L5:498:C:H41	1.69	0.41
40:L5:500:G:O2'	40:L5:504:G:H3'	2.21	0.41
40:L5:956:A:H1'	40:L5:2076:G:H5''	2.03	0.41
40:L5:1541:C:H5''	43:LA:21:LYS:HG2	2.01	0.41
40:L5:1633:G:H5'	40:L5:1634:A:OP1	2.21	0.41
40:L5:2844:A:O2'	40:L5:4631:G:H4'	2.21	0.41
40:L5:3867:A2M:H2'	40:L5:3868:G:O4'	2.20	0.41
45:LC:205:ARG:HA	45:LC:205:ARG:HD3	1.78	0.41
45:LC:235:LEU:HD23	45:LC:235:LEU:HA	1.86	0.41
76:Lk:15:ALA:HA	76:Lk:36:VAL:HG21	2.03	0.41
2:SB:139:CYS:HB2	2:SB:172:MET:SD	2.60	0.41
10:SN:89:TYR:CE1	10:SN:150:VAL:HG23	2.56	0.41
12:SV:11:LEU:HG	12:SV:12:TYR:HD1	1.86	0.41
15:SY:119:GLY:HA2	19:S2:85:A:H5'	2.03	0.41
19:S2:946:U:H2'	19:S2:947:G:C8	2.55	0.41
19:S2:1054:G:C2	19:S2:1055:A:H1'	2.55	0.41
19:S2:1535:U:P	24:SF:169:ILE:HG12	2.60	0.41
19:S2:1617:G:H4'	34:Sd:14:PHE:CE2	2.54	0.41
24:SF:38:TYR:HE1	33:Sc:51:ARG:HH21	1.69	0.41
24:SF:39:ILE:HG22	24:SF:41:VAL:HG22	2.03	0.41
40:L5:729:G:H5''	48:LF:76:ARG:HD2	2.02	0.41
40:L5:1620:U:H5''	75:Lj:30:GLN:HE21	1.86	0.41
40:L5:1725:U:H2'	40:L5:1726:U:C6	2.55	0.41
40:L5:1972:G:C6	40:L5:1973:G:C6	3.08	0.41
40:L5:2411:C:H2'	40:L5:2412:A:H8	1.83	0.41
71:Lf:48:ALA:HB2	71:Lf:71:TRP:CZ3	2.55	0.41
74:Li:45:ARG:HA	74:Li:45:ARG:HD2	1.94	0.41
75:Lj:52:LYS:O	75:Lj:55:ARG:HG2	2.21	0.41
78:Lm:82:LEU:HD23	78:Lm:82:LEU:HA	1.86	0.41
85:Zt:29:A:H2'	85:Zt:30:G:H8	1.86	0.41
3:SC:84:PHE:HA	12:SV:15:ARG:CZ	2.50	0.41
6:SH:65:PRO:HG2	6:SH:68:GLN:HB2	2.02	0.41
10:SN:130:LYS:NZ	10:SN:139:TRP:HB3	2.36	0.41
14:SX:9:THR:HG22	19:S2:681:PSU:H4'	2.01	0.41
19:S2:307:G:P	19:S2:307:G:H8	2.43	0.41
19:S2:1134:G:H2'	19:S2:1135:C:C6	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S2:1281:G:C6	19:S2:1282:A:C6	3.09	0.41
19:S2:1702:G:H2'	19:S2:1703:OMC:O4'	2.21	0.41
22:SR:78:ARG:O	22:SR:79:GLU:C	2.64	0.41
40:L5:86:U:H2'	40:L5:87:A:C8	2.55	0.41
40:L5:662:C:H2'	40:L5:663:G:C8	2.55	0.41
40:L5:716:C:OP1	45:LC:317:ASN:HB2	2.20	0.41
40:L5:908:G:H2'	40:L5:909:A:C8	2.53	0.41
40:L5:1662:C:H2'	40:L5:1663:C:H6	1.86	0.41
59:LS:83:ARG:HG3	59:LS:125:GLN:HB3	2.03	0.41
79:Ln:15:ARG:HG2	79:Ln:18:ARG:NH2	2.36	0.41
5:SG:23:LYS:HB3	5:SG:41:LEU:HG	2.03	0.41
7:SI:10:LYS:HB3	7:SI:10:LYS:HE3	1.85	0.41
9:SL:73:LEU:HD13	9:SL:90:ARG:NE	2.36	0.41
11:SO:32:HIS:CD2	11:SO:96:LYS:HD2	2.56	0.41
13:SW:3:ARG:HD3	13:SW:6:VAL:HG22	2.03	0.41
15:SY:116:LYS:HB3	19:S2:161:U:H5'	2.02	0.41
19:S2:224:A:H2'	19:S2:225:G:C8	2.56	0.41
19:S2:295:C:H2'	19:S2:296:U:H6	1.85	0.41
19:S2:943:U:H2'	19:S2:944:A:H8	1.86	0.41
19:S2:959:G:H2'	19:S2:960:U:C6	2.56	0.41
19:S2:1438:A:H2'	19:S2:1439:A:H8	1.85	0.41
19:S2:1673:U:H2'	19:S2:1674:G:O4'	2.21	0.41
31:SU:55:ARG:HG3	31:SU:87:ARG:CZ	2.51	0.41
40:L5:173:C:H2'	40:L5:174:C:C6	2.55	0.41
40:L5:269:G:H2'	40:L5:270:U:H6	1.86	0.41
40:L5:724:C:H1'	45:LC:343:GLN:HG2	2.02	0.41
40:L5:1771:U:H1'	40:L5:1772:C:C5	2.56	0.41
40:L5:1956:A:H2'	40:L5:1957:U:H6	1.86	0.41
40:L5:2669:C:H2'	40:L5:2670:C:O4'	2.21	0.41
40:L5:4616:A:H2'	40:L5:4617:G:O4'	2.21	0.41
44:LB:160:ILE:HG12	44:LB:193:LYS:HD3	2.03	0.41
44:LB:307:TYR:CE2	44:LB:366:LYS:HE2	2.56	0.41
54:LM:32:ASP:O	54:LM:33:GLN:HG2	2.20	0.41
71:Lf:92:LEU:HD23	71:Lf:92:LEU:HA	1.88	0.41
2:SB:139:CYS:HB3	2:SB:168:MET:HE3	2.03	0.41
7:SI:129:LEU:HD12	7:SI:129:LEU:HA	1.94	0.41
15:SY:79:LEU:HG	15:SY:83:LYS:HE2	2.02	0.41
15:SY:91:LEU:HD22	15:SY:96:LEU:HD22	2.03	0.41
15:SY:111:LYS:HE3	15:SY:111:LYS:HB3	1.90	0.41
24:SF:49:LEU:HD13	28:SQ:49:TYR:HB2	2.02	0.41
26:SM:53:ALA:HA	26:SM:79:VAL:HG12	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:SU:98:VAL:HB	31:SU:99:LYS:HZ2	1.85	0.41
40:L5:958:G:C2	47:LE:124:LYS:HB3	2.55	0.41
40:L5:1348:U:H2'	40:L5:1349:G:C8	2.55	0.41
40:L5:1354:A:OP2	58:LQ:106:THR:HG21	2.21	0.41
40:L5:1503:A:N6	58:LQ:87:THR:HG21	2.33	0.41
40:L5:1700:G:H5'	40:L5:1702:C:OP2	2.20	0.41
40:L5:1834:U:H3	60:LT:128:LEU:HD23	1.86	0.41
40:L5:4153:C:H2'	40:L5:4154:G:C8	2.55	0.41
40:L5:4770:U:H2'	40:L5:4771:C:C6	2.55	0.41
40:L5:5057:C:H2'	40:L5:5058:A:C8	2.55	0.41
48:LF:171:ASP:H	48:LF:174:LEU:HD12	1.85	0.41
53:LL:48:PRO:HB2	73:Lh:120:ALA:HB2	2.01	0.41
55:LN:10:LEU:HD12	74:Li:48:CYS:SG	2.61	0.41
83:Ls:38:LYS:HA	83:Ls:38:LYS:HD3	1.80	0.41
85:Zt:73:G:H2'	85:Zt:74:C:H6	1.83	0.41
1:SA:32:PHE:CG	19:S2:1097:G:H4'	2.55	0.41
1:SA:118:GLU:HG3	3:SC:65:LYS:HE2	2.02	0.41
1:SA:136:GLU:HA	1:SA:139:TYR:HD2	1.86	0.41
1:SA:213:GLU:HB3	22:SR:84:TYR:OH	2.21	0.41
3:SC:121:ARG:CZ	3:SC:123:ARG:HD2	2.51	0.41
9:SL:22:ARG:NH2	9:SL:26:GLY:HA3	2.36	0.41
13:SW:83:LEU:HD23	13:SW:83:LEU:HA	1.86	0.41
13:SW:119:LYS:HG3	13:SW:121:THR:HG22	2.03	0.41
14:SX:88:ASP:HA	19:S2:617:G:H4'	2.02	0.41
19:S2:223:C:H2'	19:S2:224:A:C8	2.56	0.41
19:S2:982:G:H2'	19:S2:983:A:H8	1.86	0.41
19:S2:1406:G:H2'	19:S2:1407:U:C6	2.56	0.41
19:S2:1548:G:H2'	19:S2:1549:U:C6	2.56	0.41
19:S2:1589:A:H2'	19:S2:1590:C:O4'	2.21	0.41
19:S2:1736:G:H2'	19:S2:1737:G:C8	2.56	0.41
23:SD:167:TYR:CD1	23:SD:200:PRO:HG3	2.55	0.41
27:SP:56:LEU:HD22	27:SP:80:LEU:HD11	2.03	0.41
32:SZ:50:PHE:CZ	32:SZ:58:LEU:HD22	2.56	0.41
32:SZ:102:LYS:HA	32:SZ:102:LYS:HD3	1.91	0.41
36:Sg:230:LEU:HD11	36:Sg:259:TRP:CD2	2.55	0.41
40:L5:120:A:H2'	40:L5:149:A:H61	1.86	0.41
40:L5:256:G:H2'	40:L5:257:C:C6	2.56	0.41
40:L5:1464:C:H5''	67:Lb:32:LEU:HD12	2.03	0.41
40:L5:1962:A:H5''	40:L5:2024:G:N2	2.35	0.41
40:L5:2857:A:H2'	40:L5:2858:A:O4'	2.21	0.41
40:L5:2891:U:H2'	40:L5:2892:C:O4'	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3765:G:H21	40:L5:3766:A:N6	2.19	0.41
40:L5:3841:OMC:HM23	40:L5:3841:OMC:H1'	1.86	0.41
40:L5:5001:PSU:H2'	40:L5:5002:U:O4'	2.21	0.41
40:L5:5002:U:H2'	40:L5:5003:U:H6	1.86	0.41
42:L8:19:C:H2'	42:L8:20:A:H8	1.85	0.41
43:LA:112:ILE:HG22	43:LA:135:THR:HG23	2.03	0.41
44:LB:216:MET:HE3	44:LB:281:ASN:HB3	2.03	0.41
44:LB:291:TYR:CD2	44:LB:327:THR:HG23	2.56	0.41
47:LE:264:ILE:HA	47:LE:265:PRO:HD3	1.91	0.41
48:LF:164:LYS:HB2	48:LF:164:LYS:HE2	1.77	0.41
49:LG:51:LEU:O	49:LG:55:VAL:HG23	2.21	0.41
61:LU:100:LEU:HD13	61:LU:112:LEU:HD12	2.02	0.41
73:Lh:17:LEU:HA	73:Lh:17:LEU:HD23	1.84	0.41
83:Ls:178:LEU:HB3	83:Ls:180:ILE:HG12	2.03	0.41
1:SA:49:ILE:HD13	1:SA:163:CYS:HA	2.02	0.41
2:SB:131:ASP:HB3	2:SB:133:TYR:HD1	1.86	0.41
8:SJ:111:GLN:NE2	8:SJ:127:ARG:HB2	2.36	0.41
15:SY:103:SER:HB3	15:SY:106:GLN:OE1	2.21	0.41
19:S2:99:A2M:HM'3	19:S2:99:A2M:H1'	1.63	0.41
19:S2:648:A:H2'	19:S2:649:PSU:C6	2.56	0.41
24:SF:127:ARG:HD2	24:SF:127:ARG:HA	1.86	0.41
27:SP:62:LYS:HA	27:SP:65:LYS:HD3	2.03	0.41
28:SQ:39:LEU:HD11	28:SQ:51:LEU:HD22	2.03	0.41
31:SU:54:VAL:HB	31:SU:88:LEU:HB2	2.03	0.41
40:L5:1176:C:H2'	40:L5:1177:U:C6	2.55	0.41
40:L5:1198:G:H2'	40:L5:1199:G:H8	1.86	0.41
40:L5:1326:A2M:H2'	40:L5:1327:C:C6	2.56	0.41
40:L5:1700:G:H5''	40:L5:1704:C:N4	2.36	0.41
40:L5:2264:C:H2'	40:L5:2265:G:O4'	2.20	0.41
40:L5:2306:G:H1'	40:L5:2332:A:N6	2.36	0.41
40:L5:4625:C:O2'	40:L5:4626:A:H5'	2.21	0.41
40:L5:4965:U:H5''	44:LB:128:LYS:NZ	2.36	0.41
53:LL:69:LYS:HG3	53:LL:159:ASN:HD21	1.85	0.41
54:LM:100:ARG:HA	54:LM:103:LYS:HG2	2.03	0.41
62:LV:90:ARG:O	62:LV:90:ARG:HG2	2.21	0.41
2:SB:136:ARG:HB2	2:SB:216:LYS:HG3	2.03	0.40
3:SC:138:GLY:HA3	3:SC:162:ILE:HD13	2.02	0.40
7:SI:148:LYS:HD3	7:SI:152:ARG:HH22	1.87	0.40
9:SL:22:ARG:HA	9:SL:22:ARG:NH1	2.36	0.40
19:S2:595:U:H2'	19:S2:596:U:C6	2.55	0.40
30:ST:27:LYS:HE2	30:ST:27:LYS:HB2	1.85	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Pt:43:A:H2'	38:Pt:44:A:H8	1.85	0.40
40:L5:1494:U:H2'	40:L5:1495:G:H8	1.85	0.40
40:L5:1629:G:N1	43:LA:208:GLU:HG2	2.34	0.40
40:L5:1806:G:H2'	40:L5:1807:C:C6	2.56	0.40
40:L5:2726:G:H2'	40:L5:2727:C:C6	2.56	0.40
40:L5:4156:G:H5''	40:L5:4157:A:H2'	2.03	0.40
40:L5:4761:G:P	56:LO:37:ARG:HH22	2.43	0.40
40:L5:5003:U:H2'	40:L5:5004:C:C6	2.55	0.40
40:L5:5004:C:H2'	40:L5:5005:G:O4'	2.19	0.40
41:L7:120:U:H5'	46:LD:261:VAL:HG23	2.03	0.40
43:LA:229:ALA:HB3	43:LA:234:LYS:HB3	2.04	0.40
68:Lc:65:MET:HB3	68:Lc:65:MET:HE3	1.89	0.40
2:SB:120:MET:HE2	2:SB:142:PHE:HE1	1.87	0.40
2:SB:136:ARG:O	2:SB:215:VAL:HA	2.21	0.40
3:SC:191:VAL:HG11	3:SC:236:PHE:HA	2.03	0.40
4:SE:188:ASN:HB3	4:SE:191:ARG:HD3	2.02	0.40
9:SL:61:PRO:HG3	9:SL:141:ASN:CG	2.46	0.40
19:S2:116:OMU:H6	19:S2:116:OMU:O5'	2.22	0.40
19:S2:554:A:O2'	19:S2:555:A:H8	2.04	0.40
19:S2:1221:G:H2'	19:S2:1222:G:H8	1.84	0.40
19:S2:1264:C:H4'	19:S2:1326:OMU:HM21	2.03	0.40
19:S2:1756:C:H5	19:S2:1757:G:N3	2.20	0.40
24:SF:163:PHE:HD2	24:SF:164:ARG:HG3	1.86	0.40
26:SM:33:ARG:HD2	26:SM:91:LEU:HG	2.03	0.40
26:SM:40:LYS:HB2	26:SM:40:LYS:HE3	1.82	0.40
28:SQ:58:LEU:HD11	28:SQ:112:LEU:HD11	2.02	0.40
29:SS:51:ASP:O	29:SS:54:LYS:HG2	2.21	0.40
40:L5:254:G:O5'	40:L5:254:G:H8	2.05	0.40
40:L5:469:C:H2'	40:L5:470:A:H8	1.85	0.40
40:L5:2066:C:O2'	71:Lf:79:GLY:HA2	2.21	0.40
40:L5:3825:A2M:H2'	40:L5:3826:C:O4'	2.20	0.40
40:L5:4071:U:H2'	40:L5:4072:C:C6	2.55	0.40
40:L5:4536:OMC:HM22	40:L5:4537:C:O4'	2.21	0.40
40:L5:4918:C:H2'	40:L5:4919:G:H8	1.85	0.40
47:LE:176:THR:HG21	47:LE:253:VAL:HG11	2.03	0.40
48:LF:46:ARG:O	48:LF:50:ILE:HG12	2.22	0.40
53:LL:79:GLU:O	53:LL:83:VAL:HG22	2.21	0.40
54:LM:122:ILE:HB	56:LO:189:ILE:HD11	2.03	0.40
59:LS:149:LYS:HB2	59:LS:149:LYS:HE2	1.85	0.40
63:LX:73:HIS:ND1	63:LX:115:LYS:HE2	2.36	0.40
69:Ld:63:ARG:HD3	69:Ld:103:TYR:CD2	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:SB:217:MET:HE3	2:SB:217:MET:HB2	1.81	0.40
10:SN:149:LEU:HD12	10:SN:149:LEU:HA	1.87	0.40
19:S2:166:A2M:H1'	19:S2:166:A2M:HM'3	1.73	0.40
19:S2:1088:U:H4'	19:S2:1089:G:OP2	2.21	0.40
19:S2:1603:G:H4'	29:SS:38:ARG:HH21	1.86	0.40
37:At:9:A:H5'	37:At:11:U:OP2	2.21	0.40
40:L5:60:G:H2'	40:L5:61:A:C8	2.57	0.40
40:L5:302:C:H2'	40:L5:303:C:H6	1.86	0.40
40:L5:469:C:H2'	40:L5:470:A:C8	2.56	0.40
40:L5:691:C:H2'	40:L5:692:A:H8	1.84	0.40
40:L5:1773:U:H2'	40:L5:1774:C:C6	2.56	0.40
40:L5:1895:G:H2'	40:L5:1896:A:O4'	2.22	0.40
40:L5:2060:G:N2	59:LS:115:ALA:HB2	2.36	0.40
40:L5:2478:C:H2'	40:L5:2479:G:H5'	2.03	0.40
40:L5:3619:G:H22	40:L5:3624:A:H1'	1.86	0.40
40:L5:4069:U:H2'	40:L5:4070:U:C6	2.56	0.40
40:L5:4481:U:H2'	40:L5:4482:U:C6	2.56	0.40
43:LA:145:LYS:HD3	43:LA:145:LYS:HA	1.75	0.40
45:LC:279:LEU:HD23	45:LC:279:LEU:HA	1.82	0.40
49:LG:95:LEU:HA	49:LG:218:LEU:HD11	2.03	0.40
59:LS:30:MET:HE2	59:LS:30:MET:HB3	1.95	0.40
85:Zt:14:A:H3'	85:Zt:15:G:H8	1.85	0.40
4:SE:39:ARG:HE	4:SE:39:ARG:HB3	1.71	0.40
5:SG:46:LYS:HD3	5:SG:46:LYS:HA	1.83	0.40
7:SI:12:ARG:HH21	7:SI:18:ARG:HG3	1.87	0.40
7:SI:89:GLU:HA	7:SI:92:ARG:HD3	2.03	0.40
19:S2:29:G:H2'	19:S2:30:C:H6	1.87	0.40
19:S2:149:A:N7	19:S2:169:U:C2	2.90	0.40
19:S2:293:C:O2'	19:S2:294:U:H3'	2.21	0.40
19:S2:1365:G:H2'	19:S2:1366:G:H8	1.86	0.40
19:S2:1425:G:H2'	19:S2:1426:U:C6	2.56	0.40
19:S2:1667:U:H2'	19:S2:1668:U:C6	2.56	0.40
24:SF:42:LYS:HA	24:SF:42:LYS:HD3	1.85	0.40
36:Sg:255:SER:HB3	36:Sg:271:LYS:NZ	2.37	0.40
40:L5:126:C:H2'	40:L5:127:G:C8	2.57	0.40
40:L5:408:A:H1'	40:L5:411:G:OP2	2.21	0.40
40:L5:690:C:H2'	40:L5:691:C:C6	2.57	0.40
40:L5:1802:A:H5''	40:L5:1803:G:H5'	2.04	0.40
40:L5:3648:A:H1'	40:L5:3785:A2M:N6	2.37	0.40
40:L5:3684:G:H2'	40:L5:3685:C:C6	2.57	0.40
44:LB:90:VAL:HG22	44:LB:104:THR:HG23	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:LC:321:ASN:HB3	45:LC:324:ILE:HB	2.03	0.40
48:LF:242:ARG:O	48:LF:246:ARG:HG3	2.22	0.40
52:LJ:166:PHE:CE2	52:LJ:172:GLY:HA3	2.57	0.40
53:LL:87:HIS:CE1	53:LL:89:LYS:HB2	2.57	0.40
54:LM:27:ILE:HA	54:LM:38:VAL:HG23	2.02	0.40
54:LM:118:MET:HG2	56:LO:192:TYR:CZ	2.56	0.40
64:LY:50:ARG:HG3	64:LY:51:LYS:N	2.36	0.40
74:Li:16:LYS:HA	74:Li:16:LYS:HD3	1.77	0.40
77:Ll:24:PRO:HD2	77:Ll:27:ILE:HG13	2.03	0.40
3:SC:94:ILE:HG13	3:SC:95:ASP:N	2.37	0.40
4:SE:61:VAL:HA	4:SE:64:ILE:HG22	2.04	0.40
7:SI:162:LEU:HD11	7:SI:191:GLU:HG2	2.04	0.40
9:SL:44:PHE:HE1	9:SL:144:LYS:HE2	1.86	0.40
22:SR:75:GLU:HA	22:SR:78:ARG:HB2	2.03	0.40
24:SF:103:LEU:HD12	24:SF:103:LEU:HA	1.92	0.40
25:SK:14:LEU:HD12	25:SK:17:LYS:HE2	2.03	0.40
25:SK:79:LEU:HD23	25:SK:79:LEU:HA	1.90	0.40
29:SS:14:ARG:HH11	29:SS:19:ASN:HB3	1.87	0.40
30:ST:31:PRO:HG2	30:ST:34:VAL:HG13	2.03	0.40
36:Sg:62:HIS:CE1	36:Sg:88:ARG:HB2	2.57	0.40
40:L5:1309:C:H2'	40:L5:1310:C:C6	2.57	0.40
40:L5:1397:A:OP1	66:La:132:ARG:HB2	2.21	0.40
40:L5:1468:C:H2'	40:L5:1469:C:H6	1.86	0.40
40:L5:1893:C:H1'	40:L5:1937:C:O2	2.22	0.40
40:L5:2521:G:H5'	40:L5:2640:G:H1'	2.03	0.40
40:L5:2803:U:H2'	40:L5:2804:OMC:H6	1.87	0.40
40:L5:4919:G:H2'	40:L5:4920:C:C6	2.56	0.40
48:LF:104:LYS:HB2	48:LF:104:LYS:HE2	1.95	0.40
48:LF:213:LEU:HB3	48:LF:247:MET:HG2	2.02	0.40
50:LH:41:ILE:HG21	50:LH:73:ILE:HD11	2.04	0.40
54:LM:77:TRP:O	54:LM:81:ASP:HA	2.20	0.40
55:LN:5:LYS:HA	55:LN:5:LYS:HD3	1.93	0.40
57:LP:61:ARG:NH2	57:LP:76:TRP:HB3	2.37	0.40
65:LZ:106:LEU:HD23	65:LZ:106:LEU:HA	1.91	0.40
73:Lh:3:LYS:HB3	73:Lh:3:LYS:HE2	1.75	0.40
77:Ll:25:GLN:HE22	77:Ll:28:ARG:NH1	2.20	0.40
77:Ll:42:ARG:HG3	77:Ll:47:THR:HG23	2.04	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%)	206 (94%)	12 (6%)	1 (0%)	25	44
2	SB	212/214 (99%)	202 (95%)	10 (5%)	0	100	100
3	SC	218/222 (98%)	207 (95%)	11 (5%)	0	100	100
4	SE	260/262 (99%)	249 (96%)	11 (4%)	0	100	100
5	SG	235/237 (99%)	220 (94%)	15 (6%)	0	100	100
6	SH	182/186 (98%)	163 (90%)	19 (10%)	0	100	100
7	SI	204/206 (99%)	192 (94%)	12 (6%)	0	100	100
8	SJ	183/185 (99%)	171 (93%)	12 (7%)	0	100	100
9	SL	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
10	SN	148/150 (99%)	145 (98%)	3 (2%)	0	100	100
11	SO	135/140 (96%)	127 (94%)	8 (6%)	0	100	100
12	SV	81/83 (98%)	77 (95%)	4 (5%)	0	100	100
13	SW	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
14	SX	139/141 (99%)	130 (94%)	9 (6%)	0	100	100
15	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
16	Sa	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
17	Sb	81/83 (98%)	71 (88%)	10 (12%)	0	100	100
18	Se	56/58 (97%)	47 (84%)	9 (16%)	0	100	100
20	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
21	LW	112/118 (95%)	110 (98%)	2 (2%)	0	100	100
22	SR	133/135 (98%)	126 (95%)	6 (4%)	1 (1%)	16	32
23	SD	225/227 (99%)	219 (97%)	6 (3%)	0	100	100
24	SF	187/189 (99%)	177 (95%)	10 (5%)	0	100	100
25	SK	96/98 (98%)	90 (94%)	6 (6%)	0	100	100
26	SM	120/122 (98%)	113 (94%)	7 (6%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	SP	119/121 (98%)	117 (98%)	2 (2%)	0	100	100
28	SQ	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
29	SS	143/145 (99%)	136 (95%)	7 (5%)	0	100	100
30	ST	141/143 (99%)	136 (96%)	5 (4%)	0	100	100
31	SU	102/104 (98%)	100 (98%)	2 (2%)	0	100	100
32	SZ	73/75 (97%)	66 (90%)	7 (10%)	0	100	100
33	Sc	62/64 (97%)	60 (97%)	2 (3%)	0	100	100
34	Sd	53/55 (96%)	51 (96%)	2 (4%)	0	100	100
35	Sf	65/67 (97%)	56 (86%)	9 (14%)	0	100	100
36	Sg	311/313 (99%)	288 (93%)	23 (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%)	383 (96%)	17 (4%)	0	100	100
45	LC	366/368 (100%)	350 (96%)	16 (4%)	0	100	100
46	LD	291/293 (99%)	281 (97%)	10 (3%)	0	100	100
47	LE	236/250 (94%)	223 (94%)	13 (6%)	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%)	179 (95%)	9 (5%)	0	100	100
51	LI	211/213 (99%)	204 (97%)	7 (3%)	0	100	100
52	LJ	168/176 (96%)	160 (95%)	8 (5%)	0	100	100
53	LL	208/210 (99%)	199 (96%)	9 (4%)	0	100	100
54	LM	137/139 (99%)	131 (96%)	6 (4%)	0	100	100
55	LN	201/203 (99%)	198 (98%)	3 (2%)	0	100	100
56	LO	199/201 (99%)	196 (98%)	3 (2%)	0	100	100
57	LP	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
58	LQ	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
59	LS	173/175 (99%)	167 (96%)	6 (4%)	0	100	100
60	LT	157/159 (99%)	150 (96%)	7 (4%)	0	100	100
61	LU	99/101 (98%)	91 (92%)	8 (8%)	0	100	100
62	LV	129/131 (98%)	125 (97%)	4 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
63	LX	118/120 (98%)	115 (98%)	3 (2%)	0	100	100
64	LY	132/134 (98%)	128 (97%)	4 (3%)	0	100	100
65	LZ	133/135 (98%)	126 (95%)	7 (5%)	0	100	100
66	La	145/147 (99%)	140 (97%)	5 (3%)	0	100	100
67	Lb	105/109 (96%)	101 (96%)	4 (4%)	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%)	124 (98%)	2 (2%)	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%)	117 (98%)	3 (2%)	0	100	100
74	Li	100/102 (98%)	95 (95%)	5 (5%)	0	100	100
75	Lj	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
76	Lk	67/69 (97%)	65 (97%)	2 (3%)	0	100	100
77	Ll	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
78	Lm	50/52 (96%)	50 (100%)	0	0	100	100
79	Ln	22/24 (92%)	22 (100%)	0	0	100	100
80	Lo	103/105 (98%)	99 (96%)	4 (4%)	0	100	100
81	Lp	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
82	Lr	123/125 (98%)	120 (98%)	3 (2%)	0	100	100
83	Ls	194/196 (99%)	177 (91%)	17 (9%)	0	100	100
84	Lt	128/141 (91%)	107 (84%)	21 (16%)	0	100	100
All	All	11672/11870 (98%)	11134 (95%)	536 (5%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	SA	149	ASN
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%)	223 (100%)	1 (0%)	89	95
5	SG	207/207 (100%)	207 (100%)	0	100	100
6	SH	166/166 (100%)	166 (100%)	0	100	100
7	SI	178/178 (100%)	178 (100%)	0	100	100
8	SJ	161/161 (100%)	161 (100%)	0	100	100
9	SL	137/137 (100%)	137 (100%)	0	100	100
10	SN	130/130 (100%)	130 (100%)	0	100	100
11	SO	107/110 (97%)	107 (100%)	0	100	100
12	SV	67/67 (100%)	67 (100%)	0	100	100
13	SW	112/112 (100%)	112 (100%)	0	100	100
14	SX	113/113 (100%)	113 (100%)	0	100	100
15	SY	113/113 (100%)	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%)	165 (99%)	1 (1%)	84	92
21	LW	95/97 (98%)	95 (100%)	0	100	100
22	SR	122/122 (100%)	122 (100%)	0	100	100
23	SD	190/190 (100%)	190 (100%)	0	100	100
24	SF	159/159 (100%)	159 (100%)	0	100	100
25	SK	89/89 (100%)	89 (100%)	0	100	100
26	SM	102/104 (98%)	102 (100%)	0	100	100
27	SP	107/107 (100%)	107 (100%)	0	100	100
28	SQ	119/119 (100%)	119 (100%)	0	100	100
29	SS	126/126 (100%)	126 (100%)	0	100	100
30	ST	113/113 (100%)	113 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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
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%)	143 (100%)	0	100	100
53	LL	176/176 (100%)	175 (99%)	1 (1%)	84	92
54	LM	118/118 (100%)	117 (99%)	1 (1%)	79	90
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

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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
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%)	10143 (100%)	4 (0%)	100	100

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	SE	157	ASN
20	LR	139	MET
53	LL	59	VAL
54	LM	31	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (82) such sidechains are listed below:

Mol	Chain	Res	Type
1	SA	50	ASN
2	SB	177	GLN
4	SE	138	HIS
4	SE	201	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	SG	65	GLN
5	SG	81	HIS
5	SG	105	ASN
5	SG	197	GLN
6	SH	163	GLN
7	SI	52	ASN
9	SL	11	GLN
10	SN	5	HIS
10	SN	123	HIS
14	SX	31	HIS
15	SY	94	HIS
21	LW	104	GLN
23	SD	226	GLN
24	SF	36	GLN
24	SF	82	ASN
24	SF	137	GLN
26	SM	28	HIS
28	SQ	48	GLN
28	SQ	77	HIS
30	ST	85	ASN
34	Sd	37	ASN
36	Sg	4	GLN
36	Sg	62	HIS
36	Sg	191	HIS
43	LA	97	ASN
43	LA	132	ASN
44	LB	121	ASN
44	LB	184	GLN
44	LB	289	GLN
45	LC	21	ASN
45	LC	187	GLN
45	LC	203	GLN
45	LC	317	ASN
45	LC	329	ASN
46	LD	81	HIS
46	LD	195	HIS
46	LD	202	GLN
46	LD	250	ASN
46	LD	282	GLN
47	LE	43	HIS
47	LE	266	GLN
48	LF	80	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
49	LG	90	GLN
49	LG	94	GLN
50	LH	169	ASN
50	LH	189	GLN
51	LI	73	ASN
51	LI	166	HIS
54	LM	34	ASN
54	LM	44	GLN
54	LM	69	HIS
55	LN	32	GLN
55	LN	109	HIS
55	LN	145	ASN
57	LP	10	ASN
58	LQ	44	ASN
58	LQ	93	GLN
58	LQ	162	HIS
63	LX	93	ASN
63	LX	107	HIS
64	LY	14	ASN
64	LY	56	GLN
65	LZ	132	GLN
66	La	34	ASN
66	La	60	HIS
68	Lc	33	GLN
69	Ld	28	ASN
70	Le	23	HIS
70	Le	52	GLN
70	Le	107	ASN
71	Lf	21	GLN
72	Lg	100	GLN
75	Lj	13	ASN
80	Lo	105	GLN
83	Ls	127	ASN
83	Ls	190	GLN
84	Lt	68	GLN
84	Lt	149	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
19	S2	1715/1740 (98%)	407 (23%)	4 (0%)

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
37	At	69/71 (97%)	12 (17%)	0
38	Pt	72/74 (97%)	14 (19%)	0
40	L5	3644/3655 (99%)	778 (21%)	16 (0%)
41	L7	119/120 (99%)	12 (10%)	0
42	L8	155/156 (99%)	27 (17%)	0
85	Zt	74/75 (98%)	34 (45%)	0
All	All	5848/5891 (99%)	1284 (21%)	20 (0%)

All (1284) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
19	S2	2	A
19	S2	13	C
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	58	C
19	S2	59	U
19	S2	60	A
19	S2	62	G
19	S2	65	C
19	S2	67	C
19	S2	68	A
19	S2	72	C
19	S2	73	C
19	S2	74	G
19	S2	76	U
19	S2	92	A
19	S2	99	A2M
19	S2	103	A
19	S2	113	G
19	S2	115	U
19	S2	126	G
19	S2	130	G
19	S2	142	C
19	S2	143	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	149	A
19	S2	155	G
19	S2	161	U
19	S2	162	C
19	S2	170	A
19	S2	179	C
19	S2	182	C
19	S2	187	G
19	S2	190	G
19	S2	196	C
19	S2	197	U
19	S2	198	U
19	S2	200	G
19	S2	203	G
19	S2	204	G
19	S2	207	G
19	S2	208	G
19	S2	211	G
19	S2	213	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	312	G
19	S2	313	A
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	339	A
19	S2	347	G
19	S2	360	A
19	S2	361	U
19	S2	362	C
19	S2	363	A
19	S2	364	A
19	S2	368	U
19	S2	370	G
19	S2	385	G
19	S2	386	C
19	S2	398	A
19	S2	407	G
19	S2	408	A
19	S2	409	C
19	S2	426	A
19	S2	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	478	G
19	S2	479	C
19	S2	482	G
19	S2	487	U
19	S2	488	U
19	S2	492	C
19	S2	493	A
19	S2	500	A
19	S2	502	C
19	S2	531	A
19	S2	532	C
19	S2	536	A
19	S2	537	C
19	S2	540	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	542	U
19	S2	544	G
19	S2	546	G
19	S2	547	G
19	S2	557	U
19	S2	558	G
19	S2	559	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	614	C
19	S2	617	G
19	S2	623	G
19	S2	627	OMU
19	S2	628	A
19	S2	631	U
19	S2	643	A
19	S2	644	OMG
19	S2	655	A
19	S2	660	C
19	S2	663	C
19	S2	664	A
19	S2	668	A2M
19	S2	669	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	696	G
19	S2	697	G
19	S2	731	G
19	S2	732	U
19	S2	733	C
19	S2	734	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	790	C
19	S2	791	C
19	S2	793	G
19	S2	797	C
19	S2	798	G
19	S2	799	OMU
19	S2	801	PSU
19	S2	821	G
19	S2	822	U
19	S2	823	U
19	S2	824	C
19	S2	827	A
19	S2	830	A
19	S2	834	C
19	S2	835	C
19	S2	836	G
19	S2	837	A
19	S2	838	G
19	S2	839	C
19	S2	840	C
19	S2	841	G
19	S2	842	C
19	S2	844	U
19	S2	847	A
19	S2	863	PSU
19	S2	864	A
19	S2	867	OMG
19	S2	870	A
19	S2	874	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	877	C
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	909	G
19	S2	913	A
19	S2	919	A
19	S2	920	A
19	S2	933	G
19	S2	934	G
19	S2	959	G
19	S2	963	A
19	S2	970	G
19	S2	971	G
19	S2	972	A
19	S2	978	G
19	S2	982	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	1044	G
19	S2	1045	PSU
19	S2	1060	A
19	S2	1061	U
19	S2	1062	A
19	S2	1067	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1083	A
19	S2	1085	C
19	S2	1108	G
19	S2	1109	C
19	S2	1113	A
19	S2	1115	U
19	S2	1116	C
19	S2	1119	A
19	S2	1123	C
19	S2	1133	A
19	S2	1138	C
19	S2	1139	C
19	S2	1153	C
19	S2	1154	U
19	S2	1195	A
19	S2	1207	G
19	S2	1208	A
19	S2	1215	C
19	S2	1216	C
19	S2	1217	A
19	S2	1220	A
19	S2	1222	G
19	S2	1224	G
19	S2	1227	G
19	S2	1240	A
19	S2	1242	U
19	S2	1243	U
19	S2	1248	B8N
19	S2	1251	A
19	S2	1253	A
19	S2	1256	G
19	S2	1257	G
19	S2	1259	A
19	S2	1264	C
19	S2	1270	G
19	S2	1271	C
19	S2	1272	OMC
19	S2	1274	G
19	S2	1275	G
19	S2	1283	C
19	S2	1285	G
19	S2	1286	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	1308	U
19	S2	1333	U
19	S2	1342	U
19	S2	1356	G
19	S2	1357	A
19	S2	1364	U
19	S2	1371	U
19	S2	1372	U
19	S2	1376	A
19	S2	1378	A
19	S2	1382	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	1424	G
19	S2	1428	G
19	S2	1431	G
19	S2	1433	C
19	S2	1435	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S2	1463	U
19	S2	1466	G
19	S2	1480	A
19	S2	1489	A
19	S2	1490	OMG
19	S2	1494	U
19	S2	1495	G
19	S2	1497	G
19	S2	1498	A
19	S2	1509	U
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	1536	G
19	S2	1544	C
19	S2	1546	G
19	S2	1552	G
19	S2	1558	C
19	S2	1578	U
19	S2	1580	A
19	S2	1581	C
19	S2	1585	U
19	S2	1587	G
19	S2	1588	A
19	S2	1598	G
19	S2	1600	G
19	S2	1604	G
19	S2	1606	G
19	S2	1621	U
19	S2	1623	A
19	S2	1633	A
19	S2	1637	A
19	S2	1648	G
19	S2	1649	U
19	S2	1654	G
19	S2	1657	G
19	S2	1663	A
19	S2	1665	G
19	S2	1680	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	1712	A
19	S2	1715	A
19	S2	1721	U
19	S2	1722	G
19	S2	1744	G
19	S2	1745	A
19	S2	1752	C
19	S2	1753	C
19	S2	1754	G
19	S2	1755	C
19	S2	1756	C
19	S2	1757	G
19	S2	1758	G
19	S2	1759	G
19	S2	1761	U
19	S2	1772	C
19	S2	1773	C
19	S2	1774	C
19	S2	1777	G
19	S2	1782	G
19	S2	1783	C
19	S2	1784	G
19	S2	1798	C
19	S2	1810	U
19	S2	1824	A
19	S2	1835	A
19	S2	1838	U
19	S2	1849	G
19	S2	1851	MA6
19	S2	1861	G
19	S2	1862	G
19	S2	1863	A
19	S2	1864	U
19	S2	1865	C
37	At	9	A
37	At	13	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	At	14	A
37	At	21	A
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	67	G
38	Pt	9	A
38	Pt	13	U
38	Pt	19	G
38	Pt	21	A
38	Pt	46	G
38	Pt	47	U
38	Pt	48	C
38	Pt	49	C
38	Pt	58	A
38	Pt	63	G
38	Pt	67	G
38	Pt	70	A
38	Pt	74	C
38	Pt	76	A
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	74	G
40	L5	75	G
40	L5	84	A
40	L5	91	G
40	L5	104	G
40	L5	108	A
40	L5	109	G
40	L5	110	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	119	G
40	L5	120	A
40	L5	132	G
40	L5	133	C
40	L5	134	G
40	L5	135	G
40	L5	144	G
40	L5	159	C
40	L5	165	A
40	L5	171	U
40	L5	172	C
40	L5	182	G
40	L5	183	C
40	L5	184	U
40	L5	185	C
40	L5	186	G
40	L5	188	G
40	L5	189	G
40	L5	200	U
40	L5	209	U
40	L5	216	C
40	L5	218	A
40	L5	234	G
40	L5	255	C
40	L5	256	G
40	L5	261	G
40	L5	262	G
40	L5	265	C
40	L5	266	C
40	L5	267	G
40	L5	275	C
40	L5	280	G
40	L5	297	U
40	L5	306	A
40	L5	315	G
40	L5	316	U
40	L5	326	C
40	L5	340	C
40	L5	373	G
40	L5	385	A
40	L5	387	G
40	L5	388	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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
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	465	G
40	L5	467	U
40	L5	479	G
40	L5	485	C
40	L5	486	C
40	L5	489	C
40	L5	493	G
40	L5	497	G
40	L5	498	C
40	L5	499	G
40	L5	500	G
40	L5	501	C
40	L5	502	C
40	L5	503	C
40	L5	504	G
40	L5	509	A
40	L5	510	U
40	L5	512	U
40	L5	513	U
40	L5	514	U
40	L5	518	G
40	L5	519	C
40	L5	643	C
40	L5	644	G
40	L5	646	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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
40	L5	674	G
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	747	A
40	L5	750	U
40	L5	759	G
40	L5	760	G
40	L5	904	C
40	L5	905	C
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	934	C
40	L5	935	A
40	L5	936	C
40	L5	937	U
40	L5	943	A
40	L5	945	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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
40	L5	966	A
40	L5	967	C
40	L5	968	C
40	L5	969	C
40	L5	970	G
40	L5	971	U
40	L5	982	U
40	L5	985	C
40	L5	988	C
40	L5	1070	G
40	L5	1072	C
40	L5	1075	G
40	L5	1082	C
40	L5	1083	U
40	L5	1095	A
40	L5	1168	G
40	L5	1171	G
40	L5	1172	C
40	L5	1173	G
40	L5	1174	G
40	L5	1178	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	1189	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1218	G
40	L5	1219	G
40	L5	1222	A
40	L5	1253	G
40	L5	1254	A
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	1271	G
40	L5	1272	C
40	L5	1273	G
40	L5	1275	G
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	1312	A
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	1379	C
40	L5	1387	A
40	L5	1394	G
40	L5	1397	A
40	L5	1404	G
40	L5	1407	C
40	L5	1409	C
40	L5	1410	U
40	L5	1411	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1413	C
40	L5	1415	G
40	L5	1416	G
40	L5	1417	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	1457	G
40	L5	1482	G
40	L5	1483	C
40	L5	1497	A
40	L5	1498	G
40	L5	1502	G
40	L5	1516	G
40	L5	1517	G
40	L5	1524	A2M
40	L5	1534	A2M
40	L5	1535	C
40	L5	1547	A
40	L5	1552	G
40	L5	1562	G
40	L5	1566	C
40	L5	1574	G
40	L5	1578	U
40	L5	1591	U
40	L5	1596	U
40	L5	1597	G
40	L5	1612	G
40	L5	1624	G
40	L5	1625	OMG
40	L5	1626	G
40	L5	1631	A
40	L5	1633	G
40	L5	1634	A
40	L5	1638	A
40	L5	1641	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1642	A
40	L5	1654	G
40	L5	1661	C
40	L5	1676	C
40	L5	1677	PSU
40	L5	1680	G
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	1705	G
40	L5	1717	C
40	L5	1718	C
40	L5	1719	A
40	L5	1731	C
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	1759	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
40	L5	1787	A
40	L5	1803	G
40	L5	1804	A
40	L5	1806	G
40	L5	1810	G
40	L5	1820	C
40	L5	1821	G
40	L5	1822	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	1831	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	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	1930	U
40	L5	1931	C
40	L5	1932	A
40	L5	1948	G
40	L5	1961	G
40	L5	1962	A
40	L5	1971	C
40	L5	1974	U
40	L5	1975	G
40	L5	1978	C
40	L5	1980	U
40	L5	1981	G
40	L5	1982	G
40	L5	1984	A
40	L5	1985	G
40	L5	1986	U
40	L5	1989	G
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	2001	G
40	L5	2002	A
40	L5	2005	G
40	L5	2011	C
40	L5	2016	C
40	L5	2017	A
40	L5	2018	C
40	L5	2019	C
40	L5	2024	G
40	L5	2025	A
40	L5	2026	A
40	L5	2033	A
40	L5	2034	G
40	L5	2046	G
40	L5	2048	U
40	L5	2052	G
40	L5	2055	G
40	L5	2056	G
40	L5	2068	C
40	L5	2069	A
40	L5	2084	C
40	L5	2090	U
40	L5	2092	G
40	L5	2093	A
40	L5	2095	A
40	L5	2097	U
40	L5	2098	G
40	L5	2101	C
40	L5	2102	G
40	L5	2103	G
40	L5	2104	G
40	L5	2105	A
40	L5	2107	C
40	L5	2108	G
40	L5	2110	C
40	L5	2112	G
40	L5	2250	C
40	L5	2252	G
40	L5	2253	A
40	L5	2254	G
40	L5	2256	C
40	L5	2258	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	2262	G
40	L5	2289	C
40	L5	2300	A
40	L5	2301	G
40	L5	2306	G
40	L5	2313	A
40	L5	2333	G
40	L5	2348	G
40	L5	2351	OMC
40	L5	2360	A
40	L5	2364	OMG
40	L5	2383	C
40	L5	2395	A
40	L5	2397	G
40	L5	2411	C
40	L5	2412	A
40	L5	2417	A
40	L5	2425	U
40	L5	2450	G
40	L5	2453	A
40	L5	2464	C
40	L5	2465	C
40	L5	2469	C
40	L5	2471	G
40	L5	2474	G
40	L5	2475	G
40	L5	2478	C
40	L5	2479	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	2506	G
40	L5	2513	A
40	L5	2514	G
40	L5	2518	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	2601	A
40	L5	2602	G
40	L5	2618	G
40	L5	2627	C
40	L5	2653	C
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	2706	G
40	L5	2707	U
40	L5	2708	U
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	2754	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	2838	G
40	L5	2842	G
40	L5	2848	G
40	L5	2855	G
40	L5	2867	C
40	L5	2877	G
40	L5	2895	A
40	L5	2900	U
40	L5	2901	G
40	L5	2902	G
40	L5	2903	G
40	L5	2904	U
40	L5	2905	C
40	L5	2906	G
40	L5	2907	G
40	L5	2908	U
40	L5	3585	G
40	L5	3588	C
40	L5	3590	G
40	L5	3591	C
40	L5	3594	C
40	L5	3595	U
40	L5	3596	A
40	L5	3597	G
40	L5	3600	G
40	L5	3605	C
40	L5	3615	G
40	L5	3626	G
40	L5	3630	A
40	L5	3635	A
40	L5	3644	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	3692	A
40	L5	3701	OMC
40	L5	3710	G
40	L5	3711	A
40	L5	3713	U
40	L5	3727	A
40	L5	3735	G
40	L5	3736	A
40	L5	3748	A
40	L5	3753	G
40	L5	3760	A
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	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	3885	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	3942	A
40	L5	3943	A
40	L5	3944	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	4058	U
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	4094	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	4111	U
40	L5	4112	C
40	L5	4114	C
40	L5	4115	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4116	C
40	L5	4117	U
40	L5	4121	G
40	L5	4122	G
40	L5	4127	A
40	L5	4133	C
40	L5	4138	C
40	L5	4141	G
40	L5	4142	C
40	L5	4143	G
40	L5	4144	C
40	L5	4146	G
40	L5	4162	C
40	L5	4163	U
40	L5	4168	G
40	L5	4170	A
40	L5	4183	G
40	L5	4184	G
40	L5	4191	G
40	L5	4203	A
40	L5	4212	A
40	L5	4220	6MZ
40	L5	4222	G
40	L5	4228	OMG
40	L5	4229	U
40	L5	4233	A
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	4291	G
40	L5	4295	U
40	L5	4304	A
40	L5	4305	G
40	L5	4314	C
40	L5	4319	C
40	L5	4329	G
40	L5	4330	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4332	C
40	L5	4338	G
40	L5	4349	C
40	L5	4350	C
40	L5	4354	U
40	L5	4373	G
40	L5	4376	A
40	L5	4377	G
40	L5	4378	A
40	L5	4379	A
40	L5	4386	C
40	L5	4387	C
40	L5	4394	A
40	L5	4405	G
40	L5	4415	A
40	L5	4421	C
40	L5	4422	A
40	L5	4438	U
40	L5	4444	C
40	L5	4447	5MC
40	L5	4448	G
40	L5	4449	A
40	L5	4464	A
40	L5	4466	C
40	L5	4475	G
40	L5	4488	A
40	L5	4500	PSU
40	L5	4512	U
40	L5	4513	A
40	L5	4515	G
40	L5	4519	C
40	L5	4524	G
40	L5	4525	C
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	4600	G
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	4670	C
40	L5	4671	C
40	L5	4672	A
40	L5	4687	A
40	L5	4695	C
40	L5	4700	A
40	L5	4708	A
40	L5	4709	U
40	L5	4719	G
40	L5	4733	C
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	4859	C
40	L5	4863	G
40	L5	4870	G
40	L5	4871	C
40	L5	4875	G
40	L5	4882	U
40	L5	4883	C
40	L5	4889	G
40	L5	4896	G
40	L5	4898	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	4919	G
40	L5	4922	C
40	L5	4924	C
40	L5	4926	C
40	L5	4928	C
40	L5	4934	A
40	L5	4937	C
40	L5	4940	C
40	L5	4941	G
40	L5	4943	A
40	L5	4949	G
40	L5	4951	G
40	L5	4955	A
40	L5	4975	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	5007	A
40	L5	5013	C
40	L5	5014	A
40	L5	5017	G
40	L5	5022	U
40	L5	5024	C
40	L5	5027	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	L5	5055	G
40	L5	5058	A
40	L5	5061	A
40	L5	5069	U
41	L7	22	A
41	L7	33	U
41	L7	37	G
41	L7	38	U
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
41	L7	111	C
42	L8	3	A
42	L8	23	C
42	L8	25	G
42	L8	34	U
42	L8	35	C
42	L8	39	G
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	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
42	L8	150	C
85	Zt	2	C
85	Zt	3	C
85	Zt	5	G
85	Zt	7	A
85	Zt	8	U
85	Zt	9	A
85	Zt	10	G
85	Zt	14	A
85	Zt	16	C
85	Zt	18	U
85	Zt	19	G
85	Zt	20	U
85	Zt	21	A
85	Zt	22	G
85	Zt	33	U
85	Zt	34	U
85	Zt	36	U
85	Zt	37	A
85	Zt	39	U
85	Zt	47	U
85	Zt	48	C
85	Zt	49	C
85	Zt	56	C
85	Zt	57	A
85	Zt	58	A
85	Zt	59	G
85	Zt	60	U
85	Zt	61	C
85	Zt	62	C
85	Zt	66	U
85	Zt	70	G
85	Zt	71	G
85	Zt	72	C
85	Zt	73	G

All (20) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
19	S2	291	G
19	S2	563	G
19	S2	688	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
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	2252	G
40	L5	2416	G
40	L5	2675	G
40	L5	2760	G
40	L5	3673	C
40	L5	4056	A
40	L5	4447	5MC
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	OMU	S2	428	19	19,22,23	3.33	7 (36%)	25,31,34	1.82	5 (20%)
40	OMC	L5	3869	40	19,22,23	0.72	0	25,31,34	0.60	0
40	A2M	L5	4523	87,40	18,25,26	1.57	4 (22%)	20,36,39	2.22	7 (35%)
40	A2M	L5	2363	87,40	18,25,26	1.59	4 (22%)	20,36,39	1.96	7 (35%)
40	PSU	L5	4442	40	18,21,22	1.09	1 (5%)	21,30,33	2.07	6 (28%)
40	A2M	L5	3830	40	18,25,26	1.47	4 (22%)	20,36,39	2.15	5 (25%)
19	PSU	S2	105	19	18,21,22	1.12	1 (5%)	21,30,33	1.95	5 (23%)
19	OMU	S2	799	19	19,22,23	3.38	7 (36%)	25,31,34	1.85	5 (20%)
40	PSU	L5	4689	40	18,21,22	1.14	2 (11%)	21,30,33	1.99	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	1.05	2 (11%)	21,30,33	2.07	5 (23%)
40	OMG	L5	4392	40	19,26,27	1.35	3 (15%)	21,38,41	0.85	1 (4%)
40	OMU	L5	4498	40	19,22,23	3.18	7 (36%)	25,31,34	1.91	5 (20%)
19	PSU	S2	649	19	18,21,22	1.05	2 (11%)	21,30,33	1.73	4 (19%)
19	PSU	S2	109	19	18,21,22	1.13	2 (11%)	21,30,33	1.94	5 (23%)
19	MA6	S2	1851	19	19,26,27	1.54	3 (15%)	18,38,41	3.28	3 (16%)
19	OMU	S2	1288	19	19,22,23	3.42	7 (36%)	25,31,34	1.75	4 (16%)
40	OMC	L5	2824	40	19,22,23	0.68	0	25,31,34	0.58	0
40	PSU	L5	4361	40	18,21,22	1.06	2 (11%)	21,30,33	1.85	4 (19%)
19	6MZ	S2	1832	19,87	17,25,26	3.50	7 (41%)	15,36,39	2.40	4 (26%)
19	OMU	S2	116	19	19,22,23	3.28	7 (36%)	25,31,34	1.69	4 (16%)
40	PSU	L5	2839	40	18,21,22	1.13	2 (11%)	21,30,33	1.98	4 (19%)
40	OMC	L5	2422	87,40	19,22,23	0.70	0	25,31,34	0.69	0
40	OMC	L5	3841	40	19,22,23	0.76	1 (5%)	25,31,34	0.54	0
40	PSU	L5	4521	87,40	18,21,22	1.11	3 (16%)	21,30,33	1.98	5 (23%)
40	A2M	L5	1524	40	18,25,26	1.61	4 (22%)	20,36,39	2.36	5 (25%)
40	OMC	L5	2804	40	19,22,23	0.73	0	25,31,34	0.75	1 (4%)
40	OMG	L5	3899	40	19,26,27	1.35	3 (15%)	21,38,41	0.84	1 (4%)
40	OMG	L5	4623	40	19,26,27	1.38	3 (15%)	21,38,41	0.82	0
40	PSU	L5	1582	40	18,21,22	1.06	2 (11%)	21,30,33	1.96	4 (19%)
40	UY1	L5	3818	40	19,22,23	4.73	9 (47%)	21,31,34	1.96	6 (28%)
40	OMC	L5	3701	40	19,22,23	0.80	1 (5%)	25,31,34	1.73	4 (16%)
40	PSU	L5	4296	40	18,21,22	1.10	2 (11%)	21,30,33	1.92	4 (19%)
19	PSU	S2	1174	19	18,21,22	1.08	2 (11%)	21,30,33	1.97	4 (19%)
40	OMC	L5	2365	40	19,22,23	0.68	0	25,31,34	0.56	0
40	PSU	L5	3884	40	18,21,22	1.10	2 (11%)	21,30,33	2.02	5 (23%)
19	PSU	S2	1045	19	18,21,22	1.12	1 (5%)	21,30,33	1.96	4 (19%)
40	PSU	L5	4579	40	18,21,22	1.09	2 (11%)	21,30,33	1.91	4 (19%)
40	PSU	L5	4471	40	18,21,22	1.10	2 (11%)	21,30,33	1.95	5 (23%)
40	5MC	L5	3782	87,40	19,22,23	0.81	0	26,32,35	0.81	1 (3%)
40	OMG	L5	2364	87,40	19,26,27	1.35	3 (15%)	21,38,41	0.75	0
42	PSU	L8	69	42	18,21,22	1.06	2 (11%)	21,30,33	2.09	6 (28%)
40	PSU	L5	1792	40	18,21,22	1.06	2 (11%)	21,30,33	1.98	5 (23%)
40	OMG	L5	2876	40	19,26,27	1.29	3 (15%)	21,38,41	0.83	1 (4%)
19	OMU	S2	121	19	19,22,23	3.26	7 (36%)	25,31,34	1.77	5 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	OMC	L5	3887	40	19,22,23	0.71	0	25,31,34	0.72	0
40	PSU	L5	1860	40	18,21,22	1.06	2 (11%)	21,30,33	1.81	4 (19%)
40	PSU	L5	4493	40	18,21,22	1.02	1 (5%)	21,30,33	1.91	4 (19%)
19	A2M	S2	1383	19	18,25,26	1.33	2 (11%)	20,36,39	2.20	6 (30%)
40	OMC	L5	4536	40	19,22,23	0.74	0	25,31,34	0.62	0
40	OMG	L5	4618	40	19,26,27	1.32	3 (15%)	21,38,41	0.81	1 (4%)
19	OMC	S2	174	19	19,22,23	0.58	0	25,31,34	0.67	0
19	OMU	S2	1326	19	19,22,23	3.29	7 (36%)	25,31,34	1.83	5 (20%)
19	A2M	S2	668	19,87	18,25,26	1.54	3 (16%)	20,36,39	2.14	6 (30%)
40	OMG	L5	2424	40	19,26,27	1.34	3 (15%)	21,38,41	0.70	0
40	A2M	L5	3825	40	18,25,26	1.50	3 (16%)	20,36,39	2.15	7 (35%)
19	PSU	S2	681	19	18,21,22	1.05	1 (5%)	21,30,33	1.92	4 (19%)
40	PSU	L5	4532	40	18,21,22	1.09	2 (11%)	21,30,33	1.88	4 (19%)
40	OMC	L5	2351	40	19,22,23	0.74	1 (5%)	25,31,34	1.13	2 (8%)
19	PSU	S2	814	19	18,21,22	1.15	1 (5%)	21,30,33	1.88	4 (19%)
19	A2M	S2	468	19	18,25,26	1.38	2 (11%)	20,36,39	2.22	6 (30%)
19	OMG	S2	1328	19	19,26,27	1.19	3 (15%)	21,38,41	0.84	1 (4%)
40	PSU	L5	5010	40	18,21,22	1.12	2 (11%)	21,30,33	1.95	4 (19%)
40	1MA	L5	1322	87,40	17,25,26	1.22	2 (11%)	17,37,40	1.18	3 (17%)
19	B8N	S2	1248	19	25,29,30	3.26	7 (28%)	28,42,45	1.97	8 (28%)
19	OMC	S2	517	19	19,22,23	0.58	0	25,31,34	0.68	0
40	OMC	L5	1340	40	19,22,23	0.67	0	25,31,34	0.84	1 (4%)
40	OMC	L5	2861	40	19,22,23	0.72	1 (5%)	25,31,34	0.81	1 (4%)
40	A2M	L5	2815	40	18,25,26	1.38	3 (16%)	20,36,39	1.91	7 (35%)
40	OMU	L5	4306	40	19,22,23	3.13	7 (36%)	25,31,34	1.79	4 (16%)
19	OMU	S2	1442	19	19,22,23	3.33	7 (36%)	25,31,34	1.84	5 (20%)
19	4AC	S2	1337	19	21,24,25	0.41	0	28,34,37	0.82	2 (7%)
19	PSU	S2	1056	19	18,21,22	1.04	1 (5%)	21,30,33	1.85	4 (19%)
19	MA6	S2	1850	19	19,26,27	3.07	9 (47%)	18,38,41	3.62	5 (27%)
40	A2M	L5	400	40	18,25,26	1.52	4 (22%)	20,36,39	2.06	8 (40%)
19	PSU	S2	651	19	18,21,22	1.04	1 (5%)	21,30,33	2.00	5 (23%)
40	PSU	L5	1683	40	18,21,22	1.08	2 (11%)	21,30,33	2.02	4 (19%)
19	PSU	S2	686	19	18,21,22	1.08	1 (5%)	21,30,33	1.90	5 (23%)
19	OMG	S2	1490	19	19,26,27	1.34	3 (15%)	21,38,41	0.65	0
40	PSU	L5	5001	40	18,21,22	1.14	2 (11%)	21,30,33	1.92	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	OMG	L5	4370	40	19,26,27	1.30	3 (15%)	21,38,41	0.80	1 (4%)
40	A2M	L5	4590	40	18,25,26	1.50	4 (22%)	20,36,39	2.11	5 (25%)
19	PSU	S2	93	19	18,21,22	1.09	1 (5%)	21,30,33	1.90	4 (19%)
19	A2M	S2	99	19,87	18,25,26	1.43	2 (11%)	20,36,39	2.06	6 (30%)
19	PSU	S2	1244	19	18,21,22	1.08	1 (5%)	21,30,33	1.93	4 (19%)
40	A2M	L5	2401	40	18,25,26	1.49	3 (16%)	20,36,39	2.07	6 (30%)
40	PSU	L5	3844	40	18,21,22	1.12	2 (11%)	21,30,33	1.81	4 (19%)
40	OMG	L5	1625	40	19,26,27	1.39	3 (15%)	21,38,41	0.80	0
40	OMG	L5	3744	40	19,26,27	1.32	3 (15%)	21,38,41	0.77	1 (4%)
19	OMG	S2	683	19	19,26,27	1.20	2 (10%)	21,38,41	0.88	1 (4%)
40	OMG	L5	4228	40	19,26,27	1.31	3 (15%)	21,38,41	0.97	1 (4%)
19	PSU	S2	1046	19	18,21,22	1.08	1 (5%)	21,30,33	1.89	4 (19%)
19	OMG	S2	644	19	19,26,27	1.17	2 (10%)	21,38,41	0.80	1 (4%)
40	PSU	L5	1862	40	18,21,22	1.07	2 (11%)	21,30,33	2.03	5 (23%)
19	PSU	S2	1232	19	18,21,22	1.09	1 (5%)	21,30,33	1.88	4 (19%)
19	PSU	S2	1081	19	18,21,22	1.09	2 (11%)	21,30,33	2.10	7 (33%)
19	OMC	S2	1703	19	19,22,23	0.58	0	25,31,34	0.65	0
19	PSU	S2	1004	19	18,21,22	1.08	1 (5%)	21,30,33	1.82	4 (19%)
40	A2M	L5	1326	40	18,25,26	1.50	3 (16%)	20,36,39	1.80	6 (30%)
40	OMG	L5	4494	40	19,26,27	1.33	3 (15%)	21,38,41	0.84	1 (4%)
42	PSU	L8	55	42	18,21,22	1.01	2 (11%)	21,30,33	1.91	4 (19%)
19	PSU	S2	1177	19	18,21,22	1.06	2 (11%)	21,30,33	1.83	4 (19%)
40	PSU	L5	3639	40	18,21,22	1.11	3 (16%)	21,30,33	1.92	5 (23%)
19	OMG	S2	867	19	19,26,27	1.18	2 (10%)	21,38,41	0.80	1 (4%)
42	OMG	L8	75	42	19,26,27	1.31	3 (15%)	21,38,41	0.78	1 (4%)
40	A2M	L5	1534	87,40	18,25,26	1.39	3 (16%)	20,36,39	1.79	7 (35%)
40	PSU	L5	4431	40	18,21,22	1.05	2 (11%)	21,30,33	1.87	4 (19%)
40	PSU	L5	4457	40	18,21,22	1.06	3 (16%)	21,30,33	2.03	4 (19%)
40	PSU	L5	3637	40	18,21,22	1.08	2 (11%)	21,30,33	2.02	5 (23%)
40	OMU	L5	3925	40	19,22,23	3.13	7 (36%)	25,31,34	1.87	5 (20%)
40	OMU	L5	4227	40	19,22,23	3.19	7 (36%)	25,31,34	1.92	5 (20%)
19	OMC	S2	1391	19	19,22,23	0.58	0	25,31,34	0.69	0
40	A2M	L5	3867	40	18,25,26	1.45	3 (16%)	20,36,39	1.84	5 (25%)
40	PSU	L5	4500	40	18,21,22	1.13	3 (16%)	21,30,33	2.10	5 (23%)
19	OMG	S2	601	19	19,26,27	1.25	3 (15%)	21,38,41	0.75	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
19	PSU	S2	406	19	18,21,22	1.10	2 (11%)	21,30,33	1.99	5 (23%)
40	UR3	L5	4530	40	19,22,23	2.57	5 (26%)	26,32,35	1.58	3 (11%)
19	OMU	S2	172	19	19,22,23	3.29	7 (36%)	25,31,34	1.85	5 (20%)
40	PSU	L5	3695	40	18,21,22	1.07	2 (11%)	21,30,33	1.97	6 (28%)
40	OMU	L5	4620	40	19,22,23	3.10	7 (36%)	25,31,34	1.78	5 (20%)
40	PSU	L5	4293	40	18,21,22	1.09	2 (11%)	21,30,33	2.11	5 (23%)
40	PSU	L5	4628	40	18,21,22	1.12	2 (11%)	21,30,33	2.13	5 (23%)
40	A2M	L5	4571	40	18,25,26	1.58	3 (16%)	20,36,39	2.03	8 (40%)
40	PSU	L5	4312	40	18,21,22	1.06	2 (11%)	21,30,33	1.86	4 (19%)
40	PSU	L5	4353	40	18,21,22	1.08	2 (11%)	21,30,33	2.02	5 (23%)
40	PSU	L5	1781	40	18,21,22	1.06	1 (5%)	21,30,33	1.84	4 (19%)
40	PSU	L5	3851	40	18,21,22	1.09	1 (5%)	21,30,33	1.96	5 (23%)
19	A2M	S2	576	19	18,25,26	1.33	2 (11%)	20,36,39	1.95	6 (30%)
19	PSU	S2	801	19	18,21,22	1.12	1 (5%)	21,30,33	1.76	4 (19%)
40	5MC	L5	4447	40	19,22,23	0.98	1 (5%)	26,32,35	0.63	0
40	OMU	L5	2837	40	19,22,23	3.20	7 (36%)	25,31,34	1.94	5 (20%)
40	PSU	L5	3920	87,40	18,21,22	1.10	3 (16%)	21,30,33	2.08	6 (28%)
40	OMG	L5	3627	40	19,26,27	1.34	3 (15%)	21,38,41	0.90	1 (4%)
19	A2M	S2	1031	19	18,25,26	1.34	2 (11%)	20,36,39	1.95	6 (30%)
40	PSU	L5	3822	40	18,21,22	1.08	2 (11%)	21,30,33	1.87	5 (23%)
40	PSU	L5	4299	40	18,21,22	1.05	2 (11%)	21,30,33	1.80	4 (19%)
19	OMG	S2	509	19	19,26,27	1.22	2 (10%)	21,38,41	0.79	1 (4%)
19	A2M	S2	159	19	18,25,26	1.32	2 (11%)	20,36,39	1.95	6 (30%)
40	A2M	L5	398	40	18,25,26	1.40	4 (22%)	20,36,39	2.17	5 (25%)
40	PSU	L5	2632	40	18,21,22	1.08	1 (5%)	21,30,33	1.88	4 (19%)
19	OMU	S2	354	19	19,22,23	3.22	7 (36%)	25,31,34	1.81	5 (20%)
40	OMC	L5	4456	40	19,22,23	0.75	0	25,31,34	0.65	0
40	PSU	L5	1536	40	18,21,22	1.08	2 (11%)	21,30,33	1.89	4 (19%)
40	PSU	L5	4576	40	18,21,22	1.09	2 (11%)	21,30,33	1.92	4 (19%)
19	A2M	S2	166	19	18,25,26	1.31	2 (11%)	20,36,39	2.10	7 (35%)
40	PSU	L5	4673	87,40	18,21,22	1.06	2 (11%)	21,30,33	1.94	5 (23%)
19	PSU	S2	863	19	18,21,22	1.05	1 (5%)	21,30,33	2.02	4 (19%)
40	A2M	L5	1871	87,40	18,25,26	1.60	4 (22%)	20,36,39	2.25	5 (25%)
19	G7M	S2	1639	19	20,26,27	2.48	6 (30%)	16,39,42	1.08	1 (6%)
40	PSU	L5	1744	87,40	18,21,22	1.11	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
19	OMC	S2	462	19	19,22,23	0.59	0	25,31,34	0.53	0
40	6MZ	L5	4220	40	17,25,26	1.51	2 (11%)	15,36,39	2.58	3 (20%)
40	OMG	L5	4499	40	19,26,27	1.25	3 (15%)	21,38,41	0.84	1 (4%)
40	PSU	L5	1782	40	18,21,22	1.10	2 (11%)	21,30,33	1.92	5 (23%)
40	OMG	L5	4196	38,40	19,26,27	1.28	3 (15%)	21,38,41	0.83	1 (4%)
19	A2M	S2	484	19	18,25,26	1.30	2 (11%)	20,36,39	1.71	6 (30%)
40	PSU	L5	3853	87,40	18,21,22	1.04	1 (5%)	21,30,33	1.96	4 (19%)
40	A2M	L5	1323	40	18,25,26	1.57	4 (22%)	20,36,39	2.05	7 (35%)
40	A2M	L5	3718	40	18,25,26	1.36	2 (11%)	20,36,39	2.02	6 (30%)
19	PSU	S2	1367	19	18,21,22	1.09	1 (5%)	21,30,33	1.92	5 (23%)
40	A2M	L5	3785	87,40	18,25,26	1.43	2 (11%)	20,36,39	2.10	7 (35%)
19	PSU	S2	966	19	18,21,22	1.13	1 (5%)	21,30,33	2.04	5 (23%)
40	OMG	L5	1316	40	19,26,27	1.44	3 (15%)	21,38,41	0.85	0
40	PSU	L5	1677	40	18,21,22	1.10	3 (16%)	21,30,33	1.99	5 (23%)
40	PSU	L5	4552	40	18,21,22	1.12	2 (11%)	21,30,33	1.98	4 (19%)
40	PSU	L5	4636	40	18,21,22	1.11	3 (16%)	21,30,33	2.19	7 (33%)
19	OMC	S2	1272	19	19,22,23	0.55	0	25,31,34	0.78	1 (4%)
19	OMG	S2	436	19	19,26,27	1.22	2 (10%)	21,38,41	0.81	1 (4%)
19	4AC	S2	1842	19	21,24,25	0.40	0	28,34,37	0.46	0
40	PSU	L5	4972	40	18,21,22	1.05	2 (11%)	21,30,33	1.92	4 (19%)
40	OMC	L5	3808	87,40	19,22,23	0.73	0	25,31,34	0.81	2 (8%)
40	OMG	L5	1522	40	19,26,27	1.33	3 (15%)	21,38,41	0.95	1 (4%)
40	OMG	L5	3792	40	19,26,27	1.33	3 (15%)	21,38,41	0.75	1 (4%)
40	OMG	L5	4637	40	19,26,27	1.30	3 (15%)	21,38,41	0.88	1 (4%)
19	PSU	S2	866	19	18,21,22	1.09	1 (5%)	21,30,33	1.95	5 (23%)
19	A2M	S2	27	19	18,25,26	1.39	2 (11%)	20,36,39	1.91	6 (30%)
40	A2M	L5	2787	87,40	18,25,26	1.47	2 (11%)	20,36,39	1.84	5 (25%)
40	PSU	L5	4403	40	18,21,22	1.08	2 (11%)	21,30,33	1.98	6 (28%)
19	OMU	S2	627	19	19,22,23	3.30	7 (36%)	25,31,34	1.83	5 (20%)

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	OMU	S2	428	19	-	6/9/27/28	0/2/2/2
40	OMC	L5	3869	40	-	1/9/27/28	0/2/2/2
40	A2M	L5	4523	87,40	-	0/5/27/28	0/3/3/3
40	A2M	L5	2363	87,40	-	0/5/27/28	0/3/3/3
40	PSU	L5	4442	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	3830	40	-	0/5/27/28	0/3/3/3
19	PSU	S2	105	19	-	0/7/25/26	0/2/2/2
19	OMU	S2	799	19	-	2/9/27/28	0/2/2/2
40	PSU	L5	4689	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4973	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4392	40	-	0/5/27/28	0/3/3/3
40	OMU	L5	4498	40	-	0/9/27/28	0/2/2/2
19	PSU	S2	649	19	-	0/7/25/26	0/2/2/2
19	PSU	S2	109	19	-	0/7/25/26	0/2/2/2
19	MA6	S2	1851	19	-	2/7/29/30	0/3/3/3
19	OMU	S2	1288	19	-	2/9/27/28	0/2/2/2
40	OMC	L5	2824	40	-	1/9/27/28	0/2/2/2
40	PSU	L5	4361	40	-	0/7/25/26	0/2/2/2
19	6MZ	S2	1832	19,87	-	2/5/27/28	0/3/3/3
19	OMU	S2	116	19	-	1/9/27/28	0/2/2/2
40	PSU	L5	2839	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	2422	87,40	-	2/9/27/28	0/2/2/2
40	OMC	L5	3841	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	4521	87,40	-	0/7/25/26	0/2/2/2
40	A2M	L5	1524	40	-	2/5/27/28	0/3/3/3
40	OMC	L5	2804	40	-	0/9/27/28	0/2/2/2
40	OMG	L5	3899	40	-	2/5/27/28	0/3/3/3
40	OMG	L5	4623	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	1582	40	-	0/7/25/26	0/2/2/2
40	UY1	L5	3818	40	-	2/9/27/28	0/2/2/2
40	OMC	L5	3701	40	-	6/9/27/28	0/2/2/2
40	PSU	L5	4296	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	1174	19	-	0/7/25/26	0/2/2/2
40	OMC	L5	2365	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	3884	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	1045	19	-	2/7/25/26	0/2/2/2
40	PSU	L5	4579	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4471	40	-	0/7/25/26	0/2/2/2
40	5MC	L5	3782	87,40	-	1/7/25/26	0/2/2/2
40	OMG	L5	2364	87,40	-	3/5/27/28	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
42	PSU	L8	69	42	-	0/7/25/26	0/2/2/2
40	PSU	L5	1792	40	-	1/7/25/26	0/2/2/2
40	OMG	L5	2876	40	-	0/5/27/28	0/3/3/3
19	OMU	S2	121	19	-	0/9/27/28	0/2/2/2
40	OMC	L5	3887	40	-	1/9/27/28	0/2/2/2
40	PSU	L5	1860	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4493	40	-	0/7/25/26	0/2/2/2
19	A2M	S2	1383	19	-	3/5/27/28	0/3/3/3
40	OMC	L5	4536	40	-	0/9/27/28	0/2/2/2
40	OMG	L5	4618	40	-	2/5/27/28	0/3/3/3
19	OMC	S2	174	19	-	1/9/27/28	0/2/2/2
19	OMU	S2	1326	19	-	0/9/27/28	0/2/2/2
19	A2M	S2	668	19,87	-	2/5/27/28	0/3/3/3
40	OMG	L5	2424	40	-	1/5/27/28	0/3/3/3
40	A2M	L5	3825	40	-	0/5/27/28	0/3/3/3
19	PSU	S2	681	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	4532	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	2351	40	-	1/9/27/28	0/2/2/2
19	PSU	S2	814	19	-	0/7/25/26	0/2/2/2
19	A2M	S2	468	19	-	0/5/27/28	0/3/3/3
19	OMG	S2	1328	19	-	1/5/27/28	0/3/3/3
40	PSU	L5	5010	40	-	0/7/25/26	0/2/2/2
40	1MA	L5	1322	87,40	-	0/3/25/26	0/3/3/3
19	B8N	S2	1248	19	-	4/16/34/35	0/2/2/2
19	OMC	S2	517	19	-	0/9/27/28	0/2/2/2
40	OMC	L5	1340	40	-	1/9/27/28	0/2/2/2
40	OMC	L5	2861	40	-	0/9/27/28	0/2/2/2
40	A2M	L5	2815	40	-	2/5/27/28	0/3/3/3
40	OMU	L5	4306	40	-	0/9/27/28	0/2/2/2
19	OMU	S2	1442	19	-	2/9/27/28	0/2/2/2
19	4AC	S2	1337	19	-	1/11/29/30	0/2/2/2
19	PSU	S2	1056	19	-	0/7/25/26	0/2/2/2
19	MA6	S2	1850	19	-	0/7/29/30	0/3/3/3
40	A2M	L5	400	40	-	1/5/27/28	0/3/3/3
19	PSU	S2	651	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	1683	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	686	19	-	0/7/25/26	0/2/2/2
19	OMG	S2	1490	19	-	1/5/27/28	0/3/3/3
40	PSU	L5	5001	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4370	40	-	0/5/27/28	0/3/3/3
40	A2M	L5	4590	40	-	3/5/27/28	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	PSU	S2	93	19	-	0/7/25/26	0/2/2/2
19	A2M	S2	99	19,87	-	3/5/27/28	0/3/3/3
19	PSU	S2	1244	19	-	1/7/25/26	0/2/2/2
40	A2M	L5	2401	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	3844	40	-	1/7/25/26	0/2/2/2
40	OMG	L5	1625	40	-	2/5/27/28	0/3/3/3
40	OMG	L5	3744	40	-	1/5/27/28	0/3/3/3
19	OMG	S2	683	19	-	0/5/27/28	0/3/3/3
40	OMG	L5	4228	40	-	2/5/27/28	0/3/3/3
19	PSU	S2	1046	19	-	0/7/25/26	0/2/2/2
19	OMG	S2	644	19	-	4/5/27/28	0/3/3/3
40	PSU	L5	1862	40	-	0/7/25/26	0/2/2/2
19	PSU	S2	1232	19	-	0/7/25/26	0/2/2/2
19	PSU	S2	1081	19	-	1/7/25/26	0/2/2/2
19	OMC	S2	1703	19	-	1/9/27/28	0/2/2/2
19	PSU	S2	1004	19	-	0/7/25/26	0/2/2/2
40	A2M	L5	1326	40	-	4/5/27/28	0/3/3/3
40	OMG	L5	4494	40	-	1/5/27/28	0/3/3/3
42	PSU	L8	55	42	-	0/7/25/26	0/2/2/2
19	PSU	S2	1177	19	-	0/7/25/26	0/2/2/2
40	PSU	L5	3639	40	-	0/7/25/26	0/2/2/2
19	OMG	S2	867	19	-	1/5/27/28	0/3/3/3
42	OMG	L8	75	42	-	2/5/27/28	0/3/3/3
40	A2M	L5	1534	87,40	-	1/5/27/28	0/3/3/3
40	PSU	L5	4431	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4457	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	3637	40	-	0/7/25/26	0/2/2/2
40	OMU	L5	3925	40	-	0/9/27/28	0/2/2/2
40	OMU	L5	4227	40	-	0/9/27/28	0/2/2/2
19	OMC	S2	1391	19	-	0/9/27/28	0/2/2/2
40	A2M	L5	3867	40	-	3/5/27/28	0/3/3/3
40	PSU	L5	4500	40	-	3/7/25/26	0/2/2/2
19	OMG	S2	601	19	-	1/5/27/28	0/3/3/3
19	PSU	S2	406	19	-	0/7/25/26	0/2/2/2
40	UR3	L5	4530	40	-	0/7/25/26	0/2/2/2
19	OMU	S2	172	19	-	0/9/27/28	0/2/2/2
40	PSU	L5	3695	40	-	0/7/25/26	0/2/2/2
40	OMU	L5	4620	40	-	1/9/27/28	0/2/2/2
40	PSU	L5	4293	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4628	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	4571	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	4312	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4353	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	1781	40	-	1/7/25/26	0/2/2/2
40	PSU	L5	3851	40	-	1/7/25/26	0/2/2/2
19	A2M	S2	576	19	-	3/5/27/28	0/3/3/3
19	PSU	S2	801	19	-	2/7/25/26	0/2/2/2
40	5MC	L5	4447	40	-	4/7/25/26	0/2/2/2
40	OMU	L5	2837	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	3920	87,40	-	0/7/25/26	0/2/2/2
40	OMG	L5	3627	40	-	0/5/27/28	0/3/3/3
19	A2M	S2	1031	19	-	1/5/27/28	0/3/3/3
40	PSU	L5	3822	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4299	40	-	0/7/25/26	0/2/2/2
19	OMG	S2	509	19	-	0/5/27/28	0/3/3/3
19	A2M	S2	159	19	-	1/5/27/28	0/3/3/3
40	A2M	L5	398	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	2632	40	-	2/7/25/26	0/2/2/2
19	OMU	S2	354	19	-	0/9/27/28	0/2/2/2
40	OMC	L5	4456	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	1536	40	-	2/7/25/26	0/2/2/2
40	PSU	L5	4576	40	-	0/7/25/26	0/2/2/2
19	A2M	S2	166	19	-	2/5/27/28	0/3/3/3
40	PSU	L5	4673	87,40	-	0/7/25/26	0/2/2/2
19	PSU	S2	863	19	-	2/7/25/26	0/2/2/2
40	A2M	L5	1871	87,40	-	0/5/27/28	0/3/3/3
19	G7M	S2	1639	19	-	0/3/25/26	0/3/3/3
40	PSU	L5	1744	87,40	-	0/7/25/26	0/2/2/2
19	OMC	S2	462	19	-	1/9/27/28	0/2/2/2
40	6MZ	L5	4220	40	-	2/5/27/28	0/3/3/3
40	OMG	L5	4499	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	1782	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4196	38,40	-	1/5/27/28	0/3/3/3
19	A2M	S2	484	19	-	0/5/27/28	0/3/3/3
40	PSU	L5	3853	87,40	-	0/7/25/26	0/2/2/2
40	A2M	L5	1323	40	-	2/5/27/28	0/3/3/3
40	A2M	L5	3718	40	-	0/5/27/28	0/3/3/3
19	PSU	S2	1367	19	-	0/7/25/26	0/2/2/2
40	A2M	L5	3785	87,40	-	2/5/27/28	0/3/3/3
19	PSU	S2	966	19	-	1/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	OMG	L5	1316	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	1677	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4552	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4636	40	-	1/7/25/26	0/2/2/2
19	OMC	S2	1272	19	-	2/9/27/28	0/2/2/2
19	OMG	S2	436	19	-	0/5/27/28	0/3/3/3
19	4AC	S2	1842	19	-	0/11/29/30	0/2/2/2
40	PSU	L5	4972	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	3808	87,40	-	0/9/27/28	0/2/2/2
40	OMG	L5	1522	40	-	0/5/27/28	0/3/3/3
40	OMG	L5	3792	40	-	2/5/27/28	0/3/3/3
40	OMG	L5	4637	40	-	3/5/27/28	0/3/3/3
19	PSU	S2	866	19	-	0/7/25/26	0/2/2/2
19	A2M	S2	27	19	-	1/5/27/28	0/3/3/3
40	A2M	L5	2787	87,40	-	2/5/27/28	0/3/3/3
40	PSU	L5	4403	40	-	0/7/25/26	0/2/2/2
19	OMU	S2	627	19	-	2/9/27/28	0/2/2/2

All (458) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3818	UY1	C6-C5	12.29	1.48	1.35
40	L5	3818	UY1	C2-N1	11.48	1.51	1.36
19	S2	1288	OMU	C2-N1	8.66	1.52	1.38
19	S2	1832	6MZ	C3'-C2'	-8.54	1.30	1.53
19	S2	799	OMU	C2-N1	8.39	1.51	1.38
19	S2	428	OMU	C2-N1	8.19	1.51	1.38
19	S2	1248	B8N	C4-N3	-8.17	1.26	1.40
19	S2	1850	MA6	C3'-C2'	-8.13	1.31	1.53
19	S2	116	OMU	C2-N1	8.06	1.51	1.38
19	S2	1442	OMU	C2-N1	8.03	1.51	1.38
19	S2	172	OMU	C2-N1	8.02	1.51	1.38
19	S2	1326	OMU	C2-N1	8.02	1.51	1.38
19	S2	121	OMU	C2-N1	7.91	1.50	1.38
19	S2	627	OMU	C2-N1	7.90	1.50	1.38
40	L5	4227	OMU	C2-N1	7.79	1.50	1.38
19	S2	1248	B8N	C6-N1	7.76	1.55	1.36
40	L5	2837	OMU	C2-N1	7.64	1.50	1.38
19	S2	354	OMU	C2-N1	7.63	1.50	1.38
40	L5	4498	OMU	C2-N1	7.61	1.50	1.38
40	L5	4306	OMU	C2-N1	7.51	1.50	1.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3925	OMU	C2-N1	7.43	1.50	1.38
40	L5	3818	UY1	C2-N3	7.37	1.49	1.37
40	L5	4620	OMU	C2-N1	7.36	1.50	1.38
19	S2	1832	6MZ	O4'-C1'	-7.28	1.31	1.40
19	S2	1288	OMU	C2-N3	6.91	1.50	1.38
19	S2	627	OMU	C2-N3	6.87	1.49	1.38
19	S2	1248	B8N	C4-C5	6.85	1.63	1.47
19	S2	799	OMU	C2-N3	6.84	1.49	1.38
19	S2	1442	OMU	C2-N3	6.84	1.49	1.38
19	S2	428	OMU	C2-N3	6.84	1.49	1.38
19	S2	172	OMU	C2-N3	6.74	1.49	1.38
19	S2	116	OMU	C2-N3	6.73	1.49	1.38
19	S2	1326	OMU	C2-N3	6.71	1.49	1.38
19	S2	354	OMU	C2-N3	6.63	1.49	1.38
19	S2	121	OMU	C2-N3	6.57	1.49	1.38
40	L5	2837	OMU	C2-N3	6.56	1.49	1.38
40	L5	4227	OMU	C2-N3	6.41	1.49	1.38
40	L5	4498	OMU	C2-N3	6.37	1.49	1.38
40	L5	3925	OMU	C2-N3	6.30	1.48	1.38
40	L5	4620	OMU	C2-N3	6.22	1.48	1.38
40	L5	4306	OMU	C2-N3	6.19	1.48	1.38
40	L5	4530	UR3	C6-C5	5.99	1.49	1.35
19	S2	627	OMU	C6-C5	5.84	1.48	1.35
19	S2	1288	OMU	C6-C5	5.84	1.48	1.35
40	L5	4530	UR3	C2-N1	5.84	1.46	1.38
19	S2	1248	B8N	C2-N1	5.81	1.56	1.39
19	S2	1442	OMU	C6-C5	5.79	1.48	1.35
19	S2	799	OMU	C6-C5	5.78	1.48	1.35
19	S2	1326	OMU	C6-C5	5.77	1.48	1.35
19	S2	121	OMU	C6-C5	5.76	1.48	1.35
40	L5	4306	OMU	O4-C4	-5.75	1.13	1.24
19	S2	428	OMU	C6-C5	5.73	1.48	1.35
19	S2	172	OMU	C6-C5	5.72	1.48	1.35
40	L5	4620	OMU	O4-C4	-5.69	1.13	1.24
19	S2	354	OMU	C6-C5	5.68	1.48	1.35
40	L5	4498	OMU	O4-C4	-5.66	1.13	1.24
40	L5	4227	OMU	C6-C5	5.66	1.48	1.35
19	S2	116	OMU	C6-C5	5.66	1.48	1.35
40	L5	2837	OMU	O4-C4	-5.66	1.13	1.24
40	L5	4530	UR3	C2-N3	5.66	1.50	1.39
40	L5	3925	OMU	O4-C4	-5.61	1.13	1.24
40	L5	2837	OMU	C6-C5	5.59	1.48	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3925	OMU	C6-C5	5.59	1.48	1.35
19	S2	799	OMU	O4-C4	-5.58	1.13	1.24
40	L5	4498	OMU	C6-C5	5.54	1.47	1.35
40	L5	4620	OMU	C6-C5	5.52	1.47	1.35
19	S2	116	OMU	O4-C4	-5.51	1.13	1.24
19	S2	354	OMU	O4-C4	-5.49	1.13	1.24
40	L5	4227	OMU	O4-C4	-5.49	1.13	1.24
40	L5	4306	OMU	C6-C5	5.49	1.47	1.35
19	S2	172	OMU	O4-C4	-5.48	1.13	1.24
19	S2	627	OMU	O4-C4	-5.45	1.13	1.24
19	S2	428	OMU	O4-C4	-5.43	1.13	1.24
19	S2	1326	OMU	O4-C4	-5.43	1.13	1.24
19	S2	1639	G7M	C2-N3	5.43	1.46	1.33
19	S2	121	OMU	O4-C4	-5.42	1.13	1.24
19	S2	1288	OMU	O4-C4	-5.35	1.14	1.24
19	S2	1442	OMU	O4-C4	-5.34	1.14	1.24
19	S2	1850	MA6	O4'-C1'	-5.26	1.34	1.40
19	S2	1248	B8N	C6-C5	5.22	1.42	1.35
40	L5	3818	UY1	C6-N1	5.06	1.44	1.36
19	S2	1639	G7M	C4-N3	5.05	1.49	1.37
19	S2	1639	G7M	C2-N2	4.95	1.45	1.34
40	L5	4220	6MZ	C6-C5	-4.72	1.37	1.44
19	S2	1832	6MZ	O4'-C4'	4.67	1.55	1.45
19	S2	1832	6MZ	C5'-C4'	-4.52	1.38	1.51
19	S2	1442	OMU	C4-N3	4.51	1.46	1.38
19	S2	428	OMU	C4-N3	4.38	1.46	1.38
19	S2	799	OMU	C4-N3	4.37	1.46	1.38
19	S2	1288	OMU	C4-N3	4.36	1.46	1.38
19	S2	1851	MA6	C6-C5	-4.31	1.38	1.44
19	S2	1326	OMU	C4-N3	4.27	1.45	1.38
19	S2	172	OMU	C4-N3	4.23	1.45	1.38
19	S2	627	OMU	C4-N3	4.23	1.45	1.38
19	S2	1850	MA6	C5'-C4'	-4.21	1.38	1.51
19	S2	116	OMU	C4-N3	4.20	1.45	1.38
19	S2	121	OMU	C4-N3	4.18	1.45	1.38
40	L5	3818	UY1	C4-N3	4.13	1.46	1.38
19	S2	354	OMU	C4-N3	4.11	1.45	1.38
19	S2	1832	6MZ	C6-C5	-4.05	1.38	1.44
40	L5	2837	OMU	C4-N3	3.95	1.45	1.38
19	S2	1850	MA6	O4'-C4'	3.93	1.53	1.45
40	L5	4498	OMU	C4-N3	3.90	1.45	1.38
40	L5	4227	OMU	C4-N3	3.88	1.45	1.38

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1639	G7M	C6-N1	3.82	1.43	1.37
19	S2	1850	MA6	C6-C5	-3.82	1.39	1.44
40	L5	3925	OMU	C4-N3	3.81	1.45	1.38
40	L5	3818	UY1	O4-C4	-3.76	1.16	1.23
40	L5	400	A2M	O5'-C5'	-3.76	1.33	1.44
40	L5	2401	A2M	O5'-C5'	-3.73	1.33	1.44
19	S2	814	PSU	C6-C5	3.73	1.39	1.35
40	L5	4620	OMU	C4-N3	3.69	1.44	1.38
40	L5	3830	A2M	O5'-C5'	-3.69	1.33	1.44
40	L5	1871	A2M	O5'-C5'	-3.68	1.33	1.44
19	S2	801	PSU	C6-C5	3.68	1.39	1.35
40	L5	4306	OMU	C4-N3	3.68	1.44	1.38
40	L5	2787	A2M	O5'-C5'	-3.66	1.33	1.44
40	L5	1323	A2M	O5'-C5'	-3.65	1.33	1.44
19	S2	99	A2M	O5'-C5'	-3.62	1.33	1.44
40	L5	4590	A2M	O5'-C5'	-3.61	1.33	1.44
40	L5	3825	A2M	O5'-C5'	-3.59	1.33	1.44
19	S2	966	PSU	C6-C5	3.54	1.39	1.35
19	S2	1045	PSU	C6-C5	3.51	1.39	1.35
40	L5	4571	A2M	O5'-C5'	-3.50	1.34	1.44
40	L5	2363	A2M	O5'-C5'	-3.50	1.34	1.44
19	S2	468	A2M	O5'-C5'	-3.49	1.34	1.44
40	L5	1524	A2M	O5'-C5'	-3.49	1.34	1.44
19	S2	1244	PSU	C6-C5	3.48	1.39	1.35
40	L5	1625	OMG	C8-N7	-3.48	1.29	1.34
19	S2	93	PSU	C6-C5	3.48	1.39	1.35
40	L5	4523	A2M	O5'-C5'	-3.48	1.34	1.44
19	S2	1232	PSU	C6-C5	3.48	1.39	1.35
19	S2	866	PSU	C6-C5	3.47	1.39	1.35
19	S2	668	A2M	O5'-C5'	-3.47	1.34	1.44
19	S2	105	PSU	C6-C5	3.47	1.39	1.35
40	L5	5010	PSU	C6-C5	3.47	1.39	1.35
40	L5	3867	A2M	O5'-C5'	-3.47	1.34	1.44
19	S2	576	A2M	O5'-C5'	-3.46	1.34	1.44
40	L5	3785	A2M	O5'-C5'	-3.46	1.34	1.44
19	S2	1004	PSU	C6-C5	3.46	1.39	1.35
40	L5	3792	OMG	C8-N7	-3.45	1.29	1.34
19	S2	159	A2M	O5'-C5'	-3.44	1.34	1.44
19	S2	1367	PSU	C6-C5	3.44	1.39	1.35
40	L5	2815	A2M	O5'-C5'	-3.44	1.34	1.44
19	S2	109	PSU	C6-C5	3.44	1.39	1.35
40	L5	3718	A2M	O5'-C5'	-3.43	1.34	1.44

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	27	A2M	O5'-C5'	-3.43	1.34	1.44
40	L5	1316	OMG	C8-N7	-3.41	1.29	1.34
40	L5	4392	OMG	C8-N7	-3.39	1.29	1.34
19	S2	1850	MA6	C6-N6	3.39	1.45	1.37
19	S2	1031	A2M	O5'-C5'	-3.39	1.34	1.44
19	S2	686	PSU	C6-C5	3.37	1.39	1.35
40	L5	4494	OMG	C8-N7	-3.37	1.29	1.34
40	L5	1326	A2M	O5'-C5'	-3.36	1.34	1.44
19	S2	1046	PSU	C6-C5	3.35	1.39	1.35
42	L8	75	OMG	C8-N7	-3.35	1.29	1.34
19	S2	1383	A2M	O5'-C5'	-3.33	1.34	1.44
40	L5	2364	OMG	C8-N7	-3.33	1.29	1.34
19	S2	484	A2M	O5'-C5'	-3.31	1.34	1.44
19	S2	406	PSU	C6-C5	3.31	1.39	1.35
40	L5	398	A2M	O5'-C5'	-3.30	1.34	1.44
19	S2	1490	OMG	C8-N7	-3.30	1.29	1.34
40	L5	4618	OMG	C8-N7	-3.28	1.29	1.34
40	L5	5001	PSU	C6-C5	3.28	1.38	1.35
40	L5	4623	OMG	C8-N7	-3.28	1.29	1.34
40	L5	2787	A2M	C1'-N9	-3.28	1.41	1.49
40	L5	4637	OMG	C8-N7	-3.28	1.29	1.34
40	L5	4196	OMG	C8-N7	-3.27	1.29	1.34
19	S2	1639	G7M	C5-C6	3.27	1.53	1.45
40	L5	2839	PSU	C6-C5	3.27	1.38	1.35
19	S2	1248	B8N	C1'-C5	3.27	1.57	1.50
19	S2	1081	PSU	C6-C5	3.26	1.38	1.35
19	S2	1490	OMG	C5-C6	-3.25	1.41	1.47
40	L5	2876	OMG	C8-N7	-3.24	1.29	1.34
40	L5	2632	PSU	C6-C5	3.23	1.38	1.35
40	L5	4296	PSU	C6-C5	3.22	1.38	1.35
40	L5	4523	A2M	C1'-N9	-3.22	1.42	1.49
40	L5	1323	A2M	O4'-C4'	-3.21	1.37	1.45
40	L5	4370	OMG	C8-N7	-3.20	1.29	1.34
40	L5	2424	OMG	C5-C6	-3.20	1.41	1.47
40	L5	1744	PSU	C6-C5	3.19	1.38	1.35
19	S2	651	PSU	C6-C5	3.19	1.38	1.35
40	L5	1862	PSU	C6-C5	3.19	1.38	1.35
40	L5	1534	A2M	O5'-C5'	-3.19	1.34	1.44
40	L5	1322	1MA	C8-N7	-3.18	1.29	1.34
19	S2	509	OMG	C8-N7	-3.18	1.29	1.34
40	L5	1522	OMG	C8-N7	-3.17	1.29	1.34
40	L5	1782	PSU	C6-C5	3.16	1.38	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3844	PSU	C6-C5	3.16	1.38	1.35
40	L5	4628	PSU	C6-C5	3.16	1.38	1.35
19	S2	1851	MA6	C6-N6	3.16	1.44	1.37
40	L5	3818	UY1	C1'-C5	3.16	1.57	1.50
40	L5	1326	A2M	C1'-N9	-3.16	1.42	1.49
40	L5	1316	OMG	C5-C6	-3.16	1.41	1.47
19	S2	166	A2M	O5'-C5'	-3.15	1.35	1.44
40	L5	4500	PSU	C6-C5	3.15	1.38	1.35
40	L5	1781	PSU	C6-C5	3.15	1.38	1.35
40	L5	4312	PSU	C6-C5	3.14	1.38	1.35
19	S2	863	PSU	C6-C5	3.14	1.38	1.35
40	L5	4442	PSU	C6-C5	3.13	1.38	1.35
40	L5	2424	OMG	C8-N7	-3.13	1.29	1.34
19	S2	1174	PSU	C6-C5	3.13	1.38	1.35
40	L5	1625	OMG	C5-C6	-3.13	1.41	1.47
40	L5	4623	OMG	C5-C6	-3.13	1.41	1.47
40	L5	3744	OMG	C8-N7	-3.13	1.29	1.34
40	L5	4499	OMG	C8-N7	-3.12	1.30	1.34
40	L5	4576	PSU	C6-C5	3.12	1.38	1.35
19	S2	601	OMG	C8-N7	-3.12	1.30	1.34
40	L5	3899	OMG	C8-N7	-3.12	1.30	1.34
40	L5	3851	PSU	C6-C5	3.09	1.38	1.35
19	S2	649	PSU	C6-C5	3.08	1.38	1.35
40	L5	3627	OMG	C8-N7	-3.08	1.30	1.34
40	L5	1524	A2M	O4'-C4'	-3.08	1.38	1.45
40	L5	2363	A2M	O4'-C4'	-3.08	1.38	1.45
19	S2	867	OMG	C8-N7	-3.07	1.30	1.34
40	L5	3818	UY1	O2-C2	-3.07	1.16	1.23
40	L5	4571	A2M	O4'-C4'	-3.07	1.38	1.45
19	S2	683	OMG	C8-N7	-3.06	1.30	1.34
40	L5	4636	PSU	C6-C5	3.05	1.38	1.35
40	L5	3822	PSU	C6-C5	3.05	1.38	1.35
19	S2	668	A2M	O4'-C4'	-3.05	1.38	1.45
19	S2	1056	PSU	C6-C5	3.04	1.38	1.35
40	L5	4579	PSU	C6-C5	3.04	1.38	1.35
19	S2	1177	PSU	C6-C5	3.04	1.38	1.35
40	L5	4689	PSU	C6-C5	3.04	1.38	1.35
40	L5	4493	PSU	C6-C5	3.03	1.38	1.35
40	L5	3744	OMG	C5-C6	-3.02	1.41	1.47
40	L5	4228	OMG	C8-N7	-3.01	1.30	1.34
40	L5	4392	OMG	C5-C6	-3.01	1.41	1.47
40	L5	4293	PSU	C6-C5	3.00	1.38	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	4494	OMG	C5-C6	-3.00	1.41	1.47
40	L5	1860	PSU	C6-C5	2.98	1.38	1.35
40	L5	4972	PSU	C6-C5	2.98	1.38	1.35
40	L5	4521	PSU	C6-C5	2.97	1.38	1.35
40	L5	1536	PSU	C6-C5	2.96	1.38	1.35
19	S2	681	PSU	C6-C5	2.96	1.38	1.35
40	L5	4361	PSU	C6-C5	2.96	1.38	1.35
40	L5	4471	PSU	C6-C5	2.96	1.38	1.35
19	S2	668	A2M	C1'-N9	-2.96	1.42	1.49
40	L5	1792	PSU	C6-C5	2.95	1.38	1.35
40	L5	3627	OMG	C5-C6	-2.95	1.41	1.47
40	L5	4552	PSU	C6-C5	2.95	1.38	1.35
19	S2	644	OMG	C8-N7	-2.95	1.30	1.34
42	L8	75	OMG	C5-C6	-2.95	1.41	1.47
40	L5	3792	OMG	C5-C6	-2.93	1.41	1.47
40	L5	4431	PSU	C6-C5	2.93	1.38	1.35
40	L5	2401	A2M	C1'-N9	-2.93	1.42	1.49
40	L5	4299	PSU	C6-C5	2.93	1.38	1.35
40	L5	1683	PSU	C6-C5	2.92	1.38	1.35
40	L5	2364	OMG	C5-C6	-2.92	1.41	1.47
19	S2	601	OMG	C5-C6	-2.91	1.41	1.47
40	L5	4532	PSU	C6-C5	2.91	1.38	1.35
40	L5	3899	OMG	C5-C6	-2.91	1.41	1.47
40	L5	4618	OMG	C5-C6	-2.91	1.41	1.47
19	S2	436	OMG	C8-N7	-2.91	1.30	1.34
40	L5	4353	PSU	C6-C5	2.90	1.38	1.35
42	L8	69	PSU	C6-C5	2.89	1.38	1.35
40	L5	1871	A2M	C1'-N9	-2.89	1.42	1.49
40	L5	3825	A2M	C1'-N9	-2.89	1.42	1.49
19	S2	1288	OMU	C5-C4	2.88	1.50	1.43
40	L5	4973	PSU	C6-C5	2.87	1.38	1.35
40	L5	4571	A2M	C1'-N9	-2.87	1.42	1.49
40	L5	3637	PSU	C6-C5	2.87	1.38	1.35
19	S2	1442	OMU	C5-C4	2.85	1.49	1.43
19	S2	1639	G7M	C2-N1	2.84	1.44	1.37
19	S2	1328	OMG	C8-N7	-2.83	1.30	1.34
40	L5	3785	A2M	C1'-N9	-2.83	1.42	1.49
19	S2	1383	A2M	C1'-N9	-2.82	1.42	1.49
40	L5	1322	1MA	C5-C4	-2.82	1.36	1.43
40	L5	1522	OMG	C5-C6	-2.82	1.41	1.47
40	L5	4370	OMG	C5-C6	-2.82	1.41	1.47
40	L5	4403	PSU	C6-C5	2.81	1.38	1.35

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
42	L8	55	PSU	C6-C5	2.81	1.38	1.35
19	S2	121	OMU	C5-C4	2.80	1.49	1.43
40	L5	4637	OMG	C5-C6	-2.80	1.41	1.47
19	S2	172	OMU	C5-C4	2.79	1.49	1.43
40	L5	3884	PSU	C6-C5	2.79	1.38	1.35
40	L5	1524	A2M	C1'-N9	-2.78	1.43	1.49
19	S2	509	OMG	C5-C6	-2.78	1.41	1.47
19	S2	1326	OMU	C5-C4	2.78	1.49	1.43
19	S2	99	A2M	C1'-N9	-2.77	1.43	1.49
40	L5	2876	OMG	C5-C6	-2.77	1.42	1.47
19	S2	436	OMG	C5-C6	-2.76	1.42	1.47
40	L5	4228	OMG	C5-C6	-2.75	1.42	1.47
40	L5	3695	PSU	C6-C5	2.74	1.38	1.35
40	L5	3830	A2M	C1'-N9	-2.74	1.43	1.49
40	L5	3853	PSU	C6-C5	2.74	1.38	1.35
40	L5	4196	OMG	C5-C6	-2.72	1.42	1.47
19	S2	627	OMU	C5-C4	2.69	1.49	1.43
19	S2	1288	OMU	C6-N1	2.69	1.44	1.38
19	S2	867	OMG	C5-C6	-2.69	1.42	1.47
19	S2	799	OMU	C5-C4	2.69	1.49	1.43
40	L5	1677	PSU	O4'-C1'	-2.69	1.40	1.43
19	S2	428	OMU	C5-C4	2.68	1.49	1.43
19	S2	468	A2M	C1'-N9	-2.68	1.43	1.49
40	L5	1582	PSU	C6-C5	2.67	1.38	1.35
40	L5	4499	OMG	C5-C6	-2.66	1.42	1.47
40	L5	1871	A2M	O4'-C4'	-2.66	1.39	1.45
19	S2	1442	OMU	C6-N1	2.66	1.44	1.38
40	L5	3639	PSU	C6-C5	2.65	1.38	1.35
19	S2	576	A2M	C1'-N9	-2.65	1.43	1.49
19	S2	644	OMG	C5-C6	-2.65	1.42	1.47
19	S2	799	OMU	C6-N1	2.64	1.44	1.38
40	L5	4530	UR3	O2-C2	-2.64	1.17	1.22
40	L5	4457	PSU	C6-C5	2.63	1.38	1.35
19	S2	683	OMG	C5-C6	-2.62	1.42	1.47
19	S2	166	A2M	C1'-N9	-2.62	1.43	1.49
19	S2	354	OMU	C5-C4	2.62	1.49	1.43
40	L5	4673	PSU	C6-C5	2.62	1.38	1.35
19	S2	1328	OMG	C5-C6	-2.61	1.42	1.47
40	L5	4227	OMU	C5-C4	2.61	1.49	1.43
40	L5	1316	OMG	C5-C4	-2.60	1.36	1.43
40	L5	2363	A2M	C1'-N9	-2.59	1.43	1.49
40	L5	4498	OMU	C5-C4	2.59	1.49	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	1031	A2M	C1'-N9	-2.59	1.43	1.49
40	L5	4590	A2M	C1'-N9	-2.58	1.43	1.49
40	L5	1326	A2M	O4'-C4'	-2.57	1.39	1.45
19	S2	1248	B8N	O4'-C1'	-2.57	1.40	1.43
19	S2	428	OMU	C6-N1	2.56	1.44	1.38
40	L5	4447	5MC	C5-C4	-2.56	1.42	1.44
40	L5	400	A2M	C1'-N9	-2.56	1.43	1.49
19	S2	27	A2M	C1'-N9	-2.56	1.43	1.49
19	S2	1326	OMU	C6-N1	2.55	1.44	1.38
40	L5	3920	PSU	C6-C5	2.55	1.38	1.35
19	S2	159	A2M	C1'-N9	-2.55	1.43	1.49
19	S2	354	OMU	C6-N1	2.54	1.44	1.38
40	L5	1534	A2M	O4'-C4'	-2.53	1.39	1.45
40	L5	4523	A2M	O4'-C4'	-2.52	1.39	1.45
40	L5	4306	OMU	C6-N1	2.52	1.44	1.38
19	S2	1850	MA6	C1'-N9	-2.52	1.43	1.49
19	S2	116	OMU	C6-N1	2.52	1.44	1.38
19	S2	1832	6MZ	O3'-C3'	2.51	1.49	1.43
19	S2	627	OMU	C6-N1	2.50	1.44	1.38
40	L5	3925	OMU	C5-C4	2.49	1.49	1.43
19	S2	121	OMU	C6-N1	2.49	1.44	1.38
19	S2	116	OMU	C5-C4	2.48	1.49	1.43
40	L5	1534	A2M	C1'-N9	-2.48	1.43	1.49
40	L5	400	A2M	O4'-C4'	-2.48	1.39	1.45
19	S2	172	OMU	C6-N1	2.48	1.44	1.38
40	L5	2837	OMU	C5-C4	2.47	1.49	1.43
40	L5	2837	OMU	C6-N1	2.45	1.43	1.38
19	S2	1850	MA6	O3'-C3'	2.43	1.49	1.43
40	L5	1522	OMG	C5-C4	-2.42	1.37	1.43
40	L5	4498	OMU	C6-N1	2.42	1.43	1.38
40	L5	4552	PSU	C4-C5	-2.41	1.37	1.44
40	L5	4623	OMG	C5-C4	-2.41	1.37	1.43
40	L5	4228	OMG	C5-C4	-2.41	1.37	1.43
40	L5	2815	A2M	O4'-C4'	-2.41	1.39	1.45
40	L5	2364	OMG	C5-C4	-2.40	1.37	1.43
40	L5	3627	OMG	C5-C4	-2.40	1.37	1.43
40	L5	398	A2M	C1'-N9	-2.39	1.44	1.49
40	L5	3884	PSU	C4-C5	-2.39	1.37	1.44
40	L5	3825	A2M	O4'-C4'	-2.38	1.39	1.45
40	L5	4306	OMU	C5-C4	2.38	1.48	1.43
40	L5	4590	A2M	O4'-C4'	-2.37	1.39	1.45
40	L5	1871	A2M	O3'-C3'	-2.37	1.37	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3639	PSU	C4-C5	-2.36	1.37	1.44
40	L5	4689	PSU	C4-C5	-2.36	1.37	1.44
40	L5	4620	OMU	C5-C4	2.35	1.48	1.43
19	S2	1851	MA6	C2-N3	2.35	1.35	1.32
40	L5	2424	OMG	C5-C4	-2.34	1.37	1.43
40	L5	3925	OMU	C6-N1	2.34	1.43	1.38
40	L5	1677	PSU	C6-C5	2.33	1.37	1.35
40	L5	1625	OMG	C5-C4	-2.33	1.37	1.43
19	S2	484	A2M	C1'-N9	-2.32	1.44	1.49
40	L5	3695	PSU	C4-C5	-2.32	1.37	1.44
40	L5	4392	OMG	C5-C4	-2.31	1.37	1.43
40	L5	1323	A2M	C1'-N9	-2.30	1.44	1.49
40	L5	4673	PSU	C4-C5	-2.30	1.38	1.44
40	L5	4370	OMG	C5-C4	-2.30	1.37	1.43
40	L5	4227	OMU	C6-N1	2.30	1.43	1.38
40	L5	2363	A2M	O3'-C3'	-2.29	1.37	1.43
40	L5	3867	A2M	C1'-N9	-2.29	1.44	1.49
40	L5	1323	A2M	O3'-C3'	-2.29	1.37	1.43
19	S2	1850	MA6	C2-N3	2.29	1.35	1.32
40	L5	4620	OMU	C6-N1	2.29	1.43	1.38
40	L5	4530	UR3	C6-N1	2.29	1.43	1.38
40	L5	2815	A2M	C1'-N9	-2.28	1.44	1.49
40	L5	3920	PSU	C4-C5	-2.27	1.38	1.44
40	L5	400	A2M	O3'-C3'	-2.27	1.37	1.43
40	L5	2839	PSU	C4-C5	-2.27	1.38	1.44
40	L5	3818	UY1	O4'-C1'	-2.27	1.40	1.43
40	L5	4494	OMG	C5-C4	-2.27	1.37	1.43
40	L5	1524	A2M	O3'-C3'	-2.27	1.37	1.43
40	L5	2876	OMG	C5-C4	-2.26	1.37	1.43
40	L5	4637	OMG	C5-C4	-2.26	1.37	1.43
40	L5	3701	OMC	C4-N3	-2.26	1.30	1.34
40	L5	3744	OMG	C5-C4	-2.25	1.37	1.43
40	L5	1582	PSU	C4-C5	-2.25	1.38	1.44
40	L5	3867	A2M	O4'-C4'	-2.25	1.40	1.45
40	L5	4403	PSU	C4-C5	-2.24	1.38	1.44
40	L5	3844	PSU	C4-C5	-2.23	1.38	1.44
40	L5	1744	PSU	C4-C5	-2.22	1.38	1.44
40	L5	4353	PSU	C4-C5	-2.21	1.38	1.44
40	L5	4457	PSU	C4-C5	-2.21	1.38	1.44
40	L5	4973	PSU	C4-C5	-2.21	1.38	1.44
19	S2	1490	OMG	C5-C4	-2.20	1.37	1.43
40	L5	4196	OMG	C5-C4	-2.20	1.37	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3899	OMG	C5-C4	-2.20	1.37	1.43
40	L5	4220	6MZ	C6-N1	-2.20	1.31	1.34
40	L5	4532	PSU	C4-C5	-2.20	1.38	1.44
40	L5	1677	PSU	C4-C5	-2.20	1.38	1.44
40	L5	4500	PSU	C4-C5	-2.19	1.38	1.44
42	L8	75	OMG	C5-C4	-2.19	1.37	1.43
40	L5	4521	PSU	C4-C5	-2.17	1.38	1.44
19	S2	1081	PSU	C4-C5	-2.17	1.38	1.44
40	L5	1683	PSU	C4-C5	-2.17	1.38	1.44
40	L5	4471	PSU	C4-C5	-2.16	1.38	1.44
40	L5	398	A2M	O3'-C3'	-2.16	1.37	1.43
40	L5	1860	PSU	C4-C5	-2.16	1.38	1.44
40	L5	4579	PSU	C4-C5	-2.15	1.38	1.44
40	L5	4293	PSU	C4-C5	-2.15	1.38	1.44
19	S2	406	PSU	C4-C5	-2.15	1.38	1.44
40	L5	3718	A2M	C1'-N9	-2.15	1.44	1.49
40	L5	4521	PSU	O4'-C1'	-2.14	1.40	1.43
40	L5	4618	OMG	C5-C4	-2.14	1.37	1.43
19	S2	1177	PSU	C4-C5	-2.14	1.38	1.44
40	L5	1782	PSU	C4-C5	-2.14	1.38	1.44
40	L5	4636	PSU	C4-C5	-2.13	1.38	1.44
40	L5	3830	A2M	O4'-C4'	-2.13	1.40	1.45
40	L5	4523	A2M	O3'-C3'	-2.13	1.37	1.43
40	L5	4499	OMG	C5-C4	-2.11	1.37	1.43
40	L5	4576	PSU	C4-C5	-2.11	1.38	1.44
40	L5	3792	OMG	C5-C4	-2.10	1.37	1.43
19	S2	1174	PSU	C4-C5	-2.10	1.38	1.44
19	S2	109	PSU	C4-C5	-2.09	1.38	1.44
40	L5	1536	PSU	C4-C5	-2.09	1.38	1.44
19	S2	601	OMG	C5-C4	-2.09	1.38	1.43
40	L5	4590	A2M	O3'-C3'	-2.09	1.37	1.43
40	L5	4628	PSU	C4-C5	-2.09	1.38	1.44
40	L5	4312	PSU	C4-C5	-2.08	1.38	1.44
40	L5	4296	PSU	C4-C5	-2.08	1.38	1.44
40	L5	2401	A2M	O4'-C4'	-2.07	1.40	1.45
40	L5	3822	PSU	C4-C5	-2.07	1.38	1.44
19	S2	1328	OMG	C5-C4	-2.07	1.38	1.43
42	L8	55	PSU	C4-C5	-2.07	1.38	1.44
40	L5	5001	PSU	C4-C5	-2.07	1.38	1.44
40	L5	4972	PSU	C4-C5	-2.06	1.38	1.44
40	L5	5010	PSU	C4-C5	-2.06	1.38	1.44
40	L5	2861	OMC	C4-N3	-2.06	1.30	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	S2	649	PSU	C4-C5	-2.06	1.38	1.44
40	L5	4299	PSU	C4-C5	-2.06	1.38	1.44
42	L8	69	PSU	C4-C5	-2.05	1.38	1.44
40	L5	3637	PSU	C4-C5	-2.05	1.38	1.44
40	L5	4431	PSU	C4-C5	-2.05	1.38	1.44
40	L5	3920	PSU	O4'-C1'	-2.05	1.41	1.43
40	L5	1792	PSU	C4-C5	-2.05	1.38	1.44
40	L5	4636	PSU	O4'-C1'	-2.04	1.41	1.43
40	L5	4500	PSU	O4'-C1'	-2.04	1.41	1.43
40	L5	3830	A2M	O3'-C3'	-2.03	1.37	1.43
40	L5	1862	PSU	C4-C5	-2.02	1.38	1.44
19	S2	1832	6MZ	C6-N1	-2.02	1.31	1.34
40	L5	3639	PSU	O4'-C1'	-2.02	1.41	1.43
40	L5	4361	PSU	C4-C5	-2.02	1.38	1.44
40	L5	398	A2M	O4'-C4'	-2.02	1.40	1.45
40	L5	3841	OMC	C4-N3	-2.01	1.30	1.34
40	L5	2351	OMC	C4-N3	-2.01	1.30	1.34
40	L5	4457	PSU	O4'-C1'	-2.00	1.41	1.43

All (658) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1850	MA6	N1-C6-N6	-12.86	101.97	116.83
19	S2	1851	MA6	N1-C6-N6	-11.80	103.19	116.83
40	L5	1524	A2M	C4'-O4'-C1'	-7.56	103.00	109.92
40	L5	4220	6MZ	N3-C2-N1	-6.61	119.70	128.67
19	S2	1832	6MZ	N3-C2-N1	-6.29	120.13	128.67
19	S2	1851	MA6	N3-C2-N1	-6.27	120.16	128.67
40	L5	4220	6MZ	C9-N6-C6	-6.21	117.09	122.85
40	L5	4227	OMU	C4-N3-C2	-6.01	119.15	126.61
40	L5	4498	OMU	C4-N3-C2	-6.00	119.16	126.61
19	S2	1850	MA6	N3-C2-N1	-5.88	120.69	128.67
40	L5	2837	OMU	C4-N3-C2	-5.83	119.38	126.61
19	S2	172	OMU	C4-N3-C2	-5.81	119.39	126.61
40	L5	3925	OMU	C4-N3-C2	-5.80	119.41	126.61
19	S2	1326	OMU	C4-N3-C2	-5.75	119.47	126.61
19	S2	1442	OMU	C4-N3-C2	-5.74	119.49	126.61
19	S2	799	OMU	C4-N3-C2	-5.66	119.59	126.61
40	L5	1871	A2M	C4'-O4'-C1'	-5.63	104.77	109.92
40	L5	4523	A2M	C4'-O4'-C1'	-5.58	104.81	109.92
40	L5	4628	PSU	N1-C2-N3	5.56	121.04	115.17
19	S2	627	OMU	C4-N3-C2	-5.56	119.71	126.61

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4636	PSU	C4-N3-C2	-5.56	118.72	126.37
19	S2	428	OMU	C4-N3-C2	-5.54	119.74	126.61
19	S2	468	A2M	C4'-O4'-C1'	-5.50	104.89	109.92
19	S2	354	OMU	C4-N3-C2	-5.50	119.79	126.61
40	L5	4530	UR3	C4-N3-C2	-5.48	120.17	124.58
40	L5	4306	OMU	C4-N3-C2	-5.40	119.90	126.61
40	L5	3785	A2M	C4'-O4'-C1'	-5.40	104.98	109.92
19	S2	121	OMU	C4-N3-C2	-5.40	119.91	126.61
40	L5	4636	PSU	N1-C2-N3	5.38	120.85	115.17
40	L5	3830	A2M	C4'-O4'-C1'	-5.35	105.02	109.92
40	L5	3637	PSU	N1-C2-N3	5.34	120.80	115.17
19	S2	1288	OMU	C4-N3-C2	-5.32	120.01	126.61
40	L5	3920	PSU	N1-C2-N3	5.31	120.77	115.17
40	L5	4293	PSU	C4-N3-C2	-5.29	119.08	126.37
40	L5	4442	PSU	N1-C2-N3	5.27	120.72	115.17
40	L5	4293	PSU	N1-C2-N3	5.26	120.72	115.17
19	S2	668	A2M	C4'-O4'-C1'	-5.25	105.11	109.92
42	L8	69	PSU	N1-C2-N3	5.25	120.70	115.17
40	L5	1582	PSU	C4-N3-C2	-5.24	119.15	126.37
40	L5	4500	PSU	N1-C2-N3	5.23	120.68	115.17
40	L5	3701	OMC	C1'-N1-C2	5.21	129.95	118.44
40	L5	4620	OMU	C4-N3-C2	-5.21	120.14	126.61
40	L5	1683	PSU	N1-C2-N3	5.21	120.66	115.17
40	L5	4457	PSU	C4-N3-C2	-5.20	119.21	126.37
40	L5	1862	PSU	N1-C2-N3	5.20	120.65	115.17
40	L5	4973	PSU	N1-C2-N3	5.19	120.64	115.17
19	S2	1081	PSU	C4-N3-C2	-5.17	119.25	126.37
40	L5	4689	PSU	N1-C2-N3	5.17	120.62	115.17
40	L5	1677	PSU	C4-N3-C2	-5.16	119.26	126.37
40	L5	4973	PSU	C4-N3-C2	-5.15	119.27	126.37
19	S2	1248	B8N	C5-C4-N3	5.13	125.48	116.15
19	S2	651	PSU	C4-N3-C2	-5.12	119.32	126.37
19	S2	966	PSU	N1-C2-N3	5.11	120.56	115.17
40	L5	4457	PSU	N1-C2-N3	5.10	120.55	115.17
40	L5	1792	PSU	N1-C2-N3	5.09	120.54	115.17
40	L5	3920	PSU	C4-N3-C2	-5.08	119.38	126.37
40	L5	4353	PSU	C4-N3-C2	-5.08	119.38	126.37
40	L5	3884	PSU	N1-C2-N3	5.07	120.52	115.17
19	S2	966	PSU	C4-N3-C2	-5.07	119.39	126.37
40	L5	4552	PSU	C4-N3-C2	-5.07	119.39	126.37
40	L5	3851	PSU	N1-C2-N3	5.06	120.50	115.17
40	L5	3884	PSU	C4-N3-C2	-5.05	119.41	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	863	PSU	N1-C2-N3	5.04	120.48	115.17
19	S2	1081	PSU	N1-C2-N3	5.03	120.48	115.17
42	L8	69	PSU	C4-N3-C2	-5.03	119.44	126.37
40	L5	1862	PSU	C4-N3-C2	-5.02	119.45	126.37
40	L5	3637	PSU	C4-N3-C2	-5.02	119.46	126.37
19	S2	863	PSU	C4-N3-C2	-5.02	119.46	126.37
40	L5	2839	PSU	N1-C2-N3	5.02	120.46	115.17
19	S2	651	PSU	N1-C2-N3	5.01	120.46	115.17
40	L5	3853	PSU	N1-C2-N3	5.01	120.45	115.17
40	L5	4353	PSU	N1-C2-N3	5.01	120.45	115.17
40	L5	4471	PSU	N1-C2-N3	5.00	120.44	115.17
40	L5	3853	PSU	C4-N3-C2	-5.00	119.49	126.37
19	S2	1383	A2M	C4'-O4'-C1'	-4.99	105.35	109.92
19	S2	1244	PSU	C4-N3-C2	-4.99	119.50	126.37
19	S2	1045	PSU	C4-N3-C2	-4.98	119.51	126.37
40	L5	4521	PSU	C4-N3-C2	-4.98	119.52	126.37
19	S2	686	PSU	C4-N3-C2	-4.97	119.52	126.37
19	S2	109	PSU	C4-N3-C2	-4.97	119.52	126.37
19	S2	105	PSU	N1-C2-N3	4.97	120.41	115.17
19	S2	1174	PSU	C4-N3-C2	-4.96	119.54	126.37
40	L5	4628	PSU	C4-N3-C2	-4.96	119.54	126.37
40	L5	5010	PSU	N1-C2-N3	4.95	120.39	115.17
40	L5	4442	PSU	C4-N3-C2	-4.94	119.56	126.37
19	S2	866	PSU	C4-N3-C2	-4.94	119.57	126.37
40	L5	4972	PSU	N1-C2-N3	4.93	120.37	115.17
19	S2	406	PSU	C4-N3-C2	-4.93	119.58	126.37
40	L5	1792	PSU	C4-N3-C2	-4.93	119.58	126.37
40	L5	4521	PSU	N1-C2-N3	4.92	120.36	115.17
19	S2	116	OMU	C4-N3-C2	-4.91	120.51	126.61
40	L5	4403	PSU	C4-N3-C2	-4.91	119.61	126.37
40	L5	4493	PSU	C4-N3-C2	-4.91	119.61	126.37
40	L5	4500	PSU	C4-N3-C2	-4.90	119.61	126.37
40	L5	4590	A2M	C4'-O4'-C1'	-4.90	105.44	109.92
19	S2	1045	PSU	N1-C2-N3	4.90	120.34	115.17
19	S2	681	PSU	N1-C2-N3	4.90	120.33	115.17
19	S2	1174	PSU	N1-C2-N3	4.88	120.32	115.17
40	L5	1744	PSU	N1-C2-N3	4.88	120.31	115.17
40	L5	4552	PSU	N1-C2-N3	4.88	120.31	115.17
19	S2	406	PSU	N1-C2-N3	4.88	120.31	115.17
40	L5	3695	PSU	C4-N3-C2	-4.87	119.67	126.37
19	S2	681	PSU	C4-N3-C2	-4.86	119.67	126.37
19	S2	866	PSU	N1-C2-N3	4.86	120.30	115.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4493	PSU	N1-C2-N3	4.86	120.30	115.17
40	L5	3695	PSU	N1-C2-N3	4.86	120.29	115.17
42	L8	55	PSU	C4-N3-C2	-4.86	119.68	126.37
40	L5	4296	PSU	C4-N3-C2	-4.86	119.68	126.37
40	L5	4403	PSU	N1-C2-N3	4.85	120.28	115.17
19	S2	1244	PSU	N1-C2-N3	4.85	120.28	115.17
40	L5	3825	A2M	C4'-O4'-C1'	-4.84	105.49	109.92
40	L5	1536	PSU	N1-C2-N3	4.84	120.27	115.17
40	L5	4471	PSU	C4-N3-C2	-4.84	119.70	126.37
40	L5	3818	UY1	C4-N3-C2	-4.84	119.70	126.37
19	S2	1177	PSU	C4-N3-C2	-4.84	119.70	126.37
19	S2	93	PSU	N1-C2-N3	4.84	120.27	115.17
19	S2	1056	PSU	C4-N3-C2	-4.84	119.71	126.37
40	L5	5001	PSU	N1-C2-N3	4.84	120.27	115.17
40	L5	1683	PSU	C4-N3-C2	-4.83	119.71	126.37
40	L5	4576	PSU	N1-C2-N3	4.83	120.26	115.17
40	L5	1782	PSU	N1-C2-N3	4.83	120.26	115.17
19	S2	93	PSU	C4-N3-C2	-4.83	119.72	126.37
40	L5	5001	PSU	C4-N3-C2	-4.82	119.73	126.37
40	L5	2632	PSU	N1-C2-N3	4.82	120.25	115.17
40	L5	4296	PSU	N1-C2-N3	4.81	120.24	115.17
19	S2	1367	PSU	N1-C2-N3	4.81	120.24	115.17
19	S2	1046	PSU	N1-C2-N3	4.80	120.23	115.17
40	L5	4673	PSU	C4-N3-C2	-4.80	119.76	126.37
42	L8	55	PSU	N1-C2-N3	4.79	120.22	115.17
40	L5	398	A2M	C4'-O4'-C1'	-4.79	105.54	109.92
40	L5	4673	PSU	N1-C2-N3	4.79	120.22	115.17
40	L5	4431	PSU	C4-N3-C2	-4.78	119.78	126.37
40	L5	1582	PSU	N1-C2-N3	4.78	120.21	115.17
40	L5	4579	PSU	N1-C2-N3	4.76	120.19	115.17
40	L5	3851	PSU	C4-N3-C2	-4.76	119.82	126.37
19	S2	1367	PSU	C4-N3-C2	-4.75	119.82	126.37
40	L5	4532	PSU	C4-N3-C2	-4.75	119.83	126.37
40	L5	1781	PSU	N1-C2-N3	4.75	120.18	115.17
40	L5	4972	PSU	C4-N3-C2	-4.75	119.83	126.37
40	L5	3639	PSU	C4-N3-C2	-4.74	119.83	126.37
40	L5	2632	PSU	C4-N3-C2	-4.73	119.86	126.37
40	L5	1536	PSU	C4-N3-C2	-4.73	119.86	126.37
19	S2	814	PSU	C4-N3-C2	-4.73	119.86	126.37
40	L5	4361	PSU	N1-C2-N3	4.72	120.15	115.17
40	L5	3822	PSU	N1-C2-N3	4.71	120.14	115.17
40	L5	4532	PSU	N1-C2-N3	4.71	120.14	115.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4576	PSU	C4-N3-C2	-4.70	119.90	126.37
19	S2	814	PSU	N1-C2-N3	4.70	120.12	115.17
19	S2	109	PSU	N1-C2-N3	4.69	120.12	115.17
40	L5	5010	PSU	C4-N3-C2	-4.69	119.91	126.37
19	S2	686	PSU	N1-C2-N3	4.69	120.11	115.17
40	L5	2839	PSU	C4-N3-C2	-4.69	119.91	126.37
19	S2	1232	PSU	N1-C2-N3	4.69	120.11	115.17
19	S2	105	PSU	C4-N3-C2	-4.67	119.94	126.37
40	L5	3639	PSU	N1-C2-N3	4.67	120.09	115.17
19	S2	1046	PSU	C4-N3-C2	-4.67	119.94	126.37
40	L5	1782	PSU	C4-N3-C2	-4.66	119.95	126.37
19	S2	1248	B8N	C4-N3-C2	-4.66	119.89	125.62
40	L5	1744	PSU	C4-N3-C2	-4.65	119.96	126.37
40	L5	4312	PSU	N1-C2-N3	4.64	120.06	115.17
40	L5	4361	PSU	C4-N3-C2	-4.63	120.00	126.37
40	L5	4312	PSU	C4-N3-C2	-4.63	120.00	126.37
19	S2	1004	PSU	N1-C2-N3	4.62	120.04	115.17
40	L5	4431	PSU	N1-C2-N3	4.62	120.04	115.17
40	L5	4579	PSU	C4-N3-C2	-4.61	120.01	126.37
40	L5	1677	PSU	N1-C2-N3	4.61	120.03	115.17
19	S2	1232	PSU	C4-N3-C2	-4.60	120.03	126.37
40	L5	1781	PSU	C4-N3-C2	-4.58	120.07	126.37
40	L5	1860	PSU	N1-C2-N3	4.57	119.98	115.17
40	L5	3822	PSU	C4-N3-C2	-4.56	120.08	126.37
40	L5	3844	PSU	N1-C2-N3	4.55	119.97	115.17
40	L5	4299	PSU	C4-N3-C2	-4.55	120.10	126.37
19	S2	166	A2M	C4'-O4'-C1'	-4.52	105.78	109.92
19	S2	1056	PSU	N1-C2-N3	4.52	119.94	115.17
40	L5	4299	PSU	N1-C2-N3	4.51	119.93	115.17
19	S2	801	PSU	N1-C2-N3	4.50	119.92	115.17
40	L5	3718	A2M	C4'-O4'-C1'	-4.49	105.81	109.92
19	S2	1177	PSU	N1-C2-N3	4.48	119.89	115.17
40	L5	1860	PSU	C4-N3-C2	-4.44	120.25	126.37
19	S2	1004	PSU	C4-N3-C2	-4.44	120.26	126.37
40	L5	4689	PSU	C4-N3-C2	-4.36	120.36	126.37
40	L5	1871	A2M	C3'-C2'-C1'	-4.36	94.47	102.81
19	S2	99	A2M	C4'-O4'-C1'	-4.35	105.94	109.92
40	L5	3844	PSU	C4-N3-C2	-4.35	120.38	126.37
40	L5	3701	OMC	C1'-N1-C6	-4.28	111.63	120.78
40	L5	3830	A2M	C3'-C2'-C1'	-4.27	94.63	102.81
19	S2	649	PSU	N1-C2-N3	4.26	119.66	115.17
19	S2	649	PSU	C4-N3-C2	-4.24	120.53	126.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	801	PSU	C4-N3-C2	-4.23	120.55	126.37
40	L5	4227	OMU	N3-C2-N1	4.23	120.39	114.89
40	L5	2401	A2M	C4'-O4'-C1'	-4.22	106.06	109.92
40	L5	3818	UY1	N1-C2-N3	4.20	119.60	115.17
19	S2	1031	A2M	C4'-O4'-C1'	-4.19	106.08	109.92
19	S2	468	A2M	C1'-N9-C4	-4.17	119.31	126.64
19	S2	1832	6MZ	C2-N1-C6	4.17	119.84	116.60
19	S2	166	A2M	C1'-N9-C4	-4.16	119.33	126.64
40	L5	2401	A2M	C1'-N9-C4	-4.15	119.35	126.64
40	L5	3925	OMU	N3-C2-N1	4.13	120.27	114.89
40	L5	2837	OMU	N3-C2-N1	4.13	120.27	114.89
19	S2	1383	A2M	C1'-N9-C4	-4.11	119.41	126.64
40	L5	4523	A2M	C1'-N9-C4	-4.11	119.41	126.64
19	S2	1383	A2M	C3'-C2'-C1'	-4.09	94.97	102.81
19	S2	1832	6MZ	C4'-O4'-C1'	-4.05	106.22	109.92
19	S2	576	A2M	C4'-O4'-C1'	-4.04	106.22	109.92
40	L5	4523	A2M	C3'-C2'-C1'	-4.02	95.11	102.81
19	S2	27	A2M	C4'-O4'-C1'	-4.02	106.25	109.92
40	L5	4498	OMU	N3-C2-N1	4.02	120.12	114.89
40	L5	4498	OMU	C5-C4-N3	4.01	120.42	114.80
40	L5	400	A2M	C4'-O4'-C1'	-4.00	106.26	109.92
40	L5	3825	A2M	C3'-C2'-C1'	-3.97	95.20	102.81
19	S2	354	OMU	N3-C2-N1	3.93	120.00	114.89
40	L5	1323	A2M	C4'-O4'-C1'	-3.91	106.34	109.92
40	L5	2363	A2M	C4'-O4'-C1'	-3.91	106.34	109.92
19	S2	627	OMU	N3-C2-N1	3.91	119.98	114.89
19	S2	668	A2M	C1'-N9-C4	-3.90	119.78	126.64
40	L5	3825	A2M	C1'-N9-C4	-3.90	119.78	126.64
19	S2	27	A2M	C1'-N9-C4	-3.89	119.81	126.64
40	L5	4620	OMU	N3-C2-N1	3.88	119.94	114.89
40	L5	398	A2M	C3'-C2'-C1'	-3.88	95.38	102.81
19	S2	99	A2M	C1'-N9-C4	-3.87	119.84	126.64
40	L5	4571	A2M	C4'-O4'-C1'	-3.86	106.39	109.92
40	L5	4689	PSU	C6-N1-C2	-3.85	119.12	122.69
40	L5	4220	6MZ	C2-N1-C6	3.84	119.58	116.60
19	S2	121	OMU	N3-C2-N1	3.82	119.87	114.89
19	S2	159	A2M	C4'-O4'-C1'	-3.81	106.43	109.92
19	S2	799	OMU	C5-C4-N3	3.81	120.14	114.80
40	L5	398	A2M	C1'-N9-C4	-3.81	119.95	126.64
19	S2	1326	OMU	N3-C2-N1	3.81	119.85	114.89
19	S2	1442	OMU	N3-C2-N1	3.81	119.85	114.89
40	L5	1871	A2M	C1'-N9-C4	-3.80	119.96	126.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4306	OMU	N3-C2-N1	3.79	119.82	114.89
40	L5	4227	OMU	C5-C4-N3	3.77	120.08	114.80
19	S2	172	OMU	C5-C4-N3	3.76	120.07	114.80
40	L5	4530	UR3	C5-C4-N3	3.75	119.98	115.04
40	L5	3867	A2M	C1'-N9-C4	-3.75	120.06	126.64
40	L5	4306	OMU	C5-C4-N3	3.73	120.03	114.80
19	S2	799	OMU	N3-C2-N1	3.73	119.74	114.89
19	S2	172	OMU	N3-C2-N1	3.72	119.73	114.89
19	S2	1326	OMU	C5-C4-N3	3.71	119.99	114.80
19	S2	1442	OMU	C5-C4-N3	3.70	119.98	114.80
19	S2	99	A2M	C3'-C2'-C1'	-3.69	95.74	102.81
19	S2	1288	OMU	N3-C2-N1	3.69	119.69	114.89
19	S2	468	A2M	C3'-C2'-C1'	-3.68	95.77	102.81
19	S2	428	OMU	C5-C4-N3	3.67	119.94	114.80
40	L5	3925	OMU	C5-C4-N3	3.67	119.94	114.80
40	L5	2837	OMU	C5-C4-N3	3.67	119.94	114.80
19	S2	428	OMU	N3-C2-N1	3.67	119.67	114.89
40	L5	4590	A2M	C1'-N9-C4	-3.66	120.22	126.64
40	L5	2787	A2M	C1'-N9-C4	-3.65	120.23	126.64
40	L5	4571	A2M	C1'-N9-C4	-3.64	120.24	126.64
40	L5	1326	A2M	C1'-N9-C4	-3.61	120.29	126.64
40	L5	398	A2M	O3'-C3'-C2'	3.60	121.27	111.19
19	S2	1383	A2M	O3'-C3'-C2'	3.60	121.26	111.19
40	L5	3718	A2M	C3'-C2'-C1'	-3.60	95.92	102.81
19	S2	1248	B8N	N3-C2-N1	3.58	121.10	116.72
40	L5	2351	OMC	C1'-N1-C2	3.58	126.35	118.44
40	L5	3830	A2M	C1'-N9-C4	-3.57	120.37	126.64
19	S2	1031	A2M	C1'-N9-C4	-3.56	120.38	126.64
19	S2	159	A2M	C1'-N9-C4	-3.56	120.39	126.64
19	S2	354	OMU	C5-C4-N3	3.51	119.72	114.80
40	L5	4590	A2M	C3'-C2'-C1'	-3.51	96.09	102.81
19	S2	1248	B8N	C1'-C5-C4	3.49	122.90	117.61
40	L5	4620	OMU	C5-C4-N3	3.48	119.68	114.80
19	S2	121	OMU	C5-C4-N3	3.48	119.67	114.80
40	L5	2401	A2M	O3'-C3'-C2'	3.46	120.88	111.19
19	S2	116	OMU	C5-C4-N3	3.46	119.64	114.80
19	S2	99	A2M	O3'-C3'-C2'	3.45	120.85	111.19
19	S2	1850	MA6	C2-N1-C6	3.45	120.22	116.84
19	S2	627	OMU	C5-C4-N3	3.44	119.62	114.80
19	S2	116	OMU	N3-C2-N1	3.44	119.37	114.89
19	S2	1288	OMU	C5-C4-N3	3.43	119.61	114.80
19	S2	576	A2M	C1'-N9-C4	-3.43	120.61	126.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	468	A2M	O3'-C3'-C2'	3.42	120.77	111.19
19	S2	484	A2M	C1'-N9-C4	-3.40	120.66	126.64
40	L5	2815	A2M	C4'-O4'-C1'	-3.40	106.81	109.92
40	L5	4628	PSU	C6-N1-C2	-3.39	119.55	122.69
40	L5	400	A2M	C1'-N9-C4	-3.37	120.72	126.64
40	L5	4500	PSU	O2-C2-N1	-3.35	119.34	122.79
40	L5	4579	PSU	O2-C2-N1	-3.35	119.34	122.79
19	S2	159	A2M	O3'-C3'-C2'	3.34	120.54	111.19
42	L8	69	PSU	O2-C2-N1	-3.34	119.35	122.79
40	L5	4293	PSU	O2-C2-N1	-3.33	119.35	122.79
19	S2	576	A2M	O3'-C3'-C2'	3.33	120.51	111.19
19	S2	166	A2M	C3'-C2'-C1'	-3.33	96.43	102.81
40	L5	4628	PSU	O2-C2-N1	-3.33	119.36	122.79
19	S2	166	A2M	O3'-C3'-C2'	3.32	120.49	111.19
40	L5	2815	A2M	C1'-N9-C4	-3.32	120.82	126.64
40	L5	2787	A2M	O3'-C3'-C2'	3.31	120.45	111.19
40	L5	4571	A2M	C3'-C2'-C1'	-3.28	96.53	102.81
19	S2	863	PSU	O2-C2-N1	-3.28	119.41	122.79
40	L5	2363	A2M	C1'-N9-C4	-3.26	120.91	126.64
40	L5	1683	PSU	O2-C2-N1	-3.23	119.45	122.79
40	L5	3818	UY1	C6-C5-C4	3.23	120.35	118.17
40	L5	1871	A2M	O3'-C3'-C2'	3.22	120.20	111.19
19	S2	1851	MA6	C2-N1-C6	3.21	119.98	116.84
40	L5	1534	A2M	C4'-O4'-C1'	-3.18	107.01	109.92
40	L5	1323	A2M	C2'-C1'-N9	3.18	119.61	112.56
19	S2	668	A2M	O3'-C3'-C2'	3.18	120.08	111.19
40	L5	2839	PSU	C6-N1-C2	-3.17	119.75	122.69
40	L5	2401	A2M	C3'-C2'-C1'	-3.17	96.73	102.81
19	S2	799	OMU	O4-C4-C5	-3.16	119.71	125.16
40	L5	5010	PSU	O2-C2-N1	-3.16	119.53	122.79
19	S2	428	OMU	O4-C4-C5	-3.15	119.72	125.16
40	L5	3718	A2M	C1'-N9-C4	-3.14	121.12	126.64
19	S2	1232	PSU	O2-C2-N1	-3.14	119.55	122.79
40	L5	2837	OMU	O4-C4-C5	-3.13	119.76	125.16
40	L5	1323	A2M	C3'-C2'-C1'	-3.13	96.81	102.81
40	L5	3718	A2M	O3'-C3'-C2'	3.12	119.93	111.19
19	S2	1081	PSU	O2-C2-N1	-3.12	119.58	122.79
40	L5	3701	OMC	O2-C2-N3	-3.11	117.42	122.33
40	L5	4498	OMU	O4-C4-C5	-3.11	119.80	125.16
40	L5	1323	A2M	O3'-C3'-C2'	3.10	119.86	111.19
40	L5	3830	A2M	O3'-C3'-C2'	3.09	119.84	111.19
40	L5	400	A2M	O3'-C3'-C2'	3.09	119.83	111.19

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4571	A2M	O3'-C3'-C2'	3.08	119.81	111.19
19	S2	1442	OMU	O4-C4-C5	-3.08	119.86	125.16
40	L5	3825	A2M	O3'-C3'-C2'	3.06	119.76	111.19
19	S2	116	OMU	O4-C4-C5	-3.06	119.88	125.16
40	L5	4500	PSU	C6-N1-C2	-3.06	119.85	122.69
19	S2	1174	PSU	O2-C2-N1	-3.06	119.64	122.79
40	L5	1524	A2M	C1'-N9-C4	-3.05	121.28	126.64
40	L5	1534	A2M	C1'-N9-C4	-3.03	121.32	126.64
40	L5	400	A2M	C3'-C2'-C1'	-3.03	97.01	102.81
40	L5	4973	PSU	O2-C2-N1	-3.03	119.67	122.79
40	L5	4227	OMU	O4-C4-C5	-3.01	119.96	125.16
40	L5	1683	PSU	C6-N1-C2	-3.01	119.90	122.69
19	S2	1337	4AC	N4-C4-N3	3.01	118.75	113.87
40	L5	1323	A2M	C1'-N9-C4	-3.01	121.35	126.64
40	L5	4523	A2M	O3'-C3'-C2'	3.01	119.61	111.19
19	S2	27	A2M	C3'-C2'-C1'	-3.00	97.07	102.81
40	L5	5010	PSU	C6-N1-C2	-2.98	119.92	122.69
42	L8	55	PSU	O2-C2-N1	-2.98	119.72	122.79
19	S2	966	PSU	O2-C2-N1	-2.97	119.72	122.79
40	L5	4579	PSU	C6-N1-C2	-2.97	119.93	122.69
40	L5	2815	A2M	O3'-C3'-C2'	2.96	119.47	111.19
19	S2	1031	A2M	O3'-C3'-C2'	2.96	119.46	111.19
40	L5	3867	A2M	C4'-O4'-C1'	-2.95	107.22	109.92
19	S2	814	PSU	O2-C2-N1	-2.95	119.75	122.79
19	S2	121	OMU	O4-C4-C5	-2.94	120.09	125.16
40	L5	2363	A2M	C2'-C1'-N9	2.94	119.09	112.56
40	L5	1326	A2M	C4'-O4'-C1'	-2.94	107.23	109.92
19	S2	1046	PSU	C6-N1-C2	-2.93	119.97	122.69
40	L5	3701	OMC	O2-C2-N1	2.93	124.64	118.90
40	L5	4636	PSU	C6-C5-C4	2.92	120.15	118.17
40	L5	1744	PSU	O2-C2-N1	-2.92	119.78	122.79
19	S2	1326	OMU	O4-C4-C5	-2.92	120.13	125.16
40	L5	3785	A2M	C1'-N9-C4	-2.92	121.52	126.64
19	S2	627	OMU	O4-C4-C5	-2.91	120.15	125.16
40	L5	3785	A2M	O3'-C3'-C2'	2.91	119.32	111.19
40	L5	1536	PSU	O2-C2-N1	-2.91	119.79	122.79
40	L5	4306	OMU	O4-C4-C5	-2.90	120.16	125.16
40	L5	4442	PSU	O2-C2-N1	-2.90	119.80	122.79
19	S2	1046	PSU	O2-C2-N1	-2.90	119.80	122.79
40	L5	3785	A2M	C4-C5-N7	2.89	112.39	109.34
19	S2	105	PSU	C6-N1-C2	-2.89	120.01	122.69
40	L5	1862	PSU	O2-C2-N1	-2.89	119.81	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	1524	A2M	O3'-C3'-C2'	2.89	119.27	111.19
40	L5	4689	PSU	O2-C2-N1	-2.88	119.81	122.79
40	L5	3925	OMU	O4-C4-C5	-2.88	120.20	125.16
40	L5	1744	PSU	C6-N1-C2	-2.88	120.02	122.69
40	L5	2839	PSU	O2-C2-N1	-2.88	119.82	122.79
19	S2	354	OMU	O4-C4-C5	-2.87	120.21	125.16
40	L5	2351	OMC	C1'-N1-C6	-2.87	114.65	120.78
19	S2	159	A2M	C3'-C2'-C1'	-2.87	97.32	102.81
19	S2	801	PSU	C6-N1-C2	-2.86	120.04	122.69
19	S2	172	OMU	O4-C4-C5	-2.86	120.23	125.16
42	L8	69	PSU	C6-N1-C2	-2.85	120.04	122.69
40	L5	3851	PSU	O2-C2-N1	-2.85	119.85	122.79
40	L5	3844	PSU	C6-N1-C2	-2.85	120.05	122.69
19	S2	109	PSU	O2-C2-N1	-2.85	119.85	122.79
19	S2	1045	PSU	O2-C2-N1	-2.84	119.86	122.79
19	S2	1288	OMU	O4-C4-C5	-2.83	120.28	125.16
40	L5	3853	PSU	O2-C2-N1	-2.83	119.87	122.79
40	L5	1860	PSU	C6-N1-C2	-2.82	120.07	122.69
19	S2	105	PSU	O2-C2-N1	-2.82	119.88	122.79
40	L5	4576	PSU	O2-C2-N1	-2.82	119.88	122.79
19	S2	1004	PSU	O2-C2-N1	-2.81	119.89	122.79
40	L5	4403	PSU	O2-C2-N1	-2.81	119.89	122.79
40	L5	4590	A2M	O3'-C3'-C2'	2.81	119.06	111.19
40	L5	4493	PSU	O2-C2-N1	-2.81	119.89	122.79
19	S2	1850	MA6	C4'-O4'-C1'	-2.81	107.35	109.92
40	L5	4636	PSU	O2-C2-N1	-2.80	119.90	122.79
40	L5	2363	A2M	C3'-C2'-C1'	-2.80	97.44	102.81
40	L5	4972	PSU	C6-N1-C2	-2.80	120.09	122.69
40	L5	3818	UY1	C6-N1-C2	-2.80	120.09	122.69
19	S2	406	PSU	O2-C2-N1	-2.80	119.90	122.79
19	S2	1244	PSU	O2-C2-N1	-2.79	119.91	122.79
40	L5	4673	PSU	O2-C2-N1	-2.79	119.91	122.79
40	L5	4620	OMU	O4-C4-C5	-2.79	120.35	125.16
19	S2	1639	G7M	C2-N1-C6	-2.79	120.01	125.11
40	L5	3884	PSU	O2-C2-N1	-2.78	119.92	122.79
40	L5	1871	A2M	C4-C5-N7	2.78	112.27	109.34
40	L5	4431	PSU	O2-C2-N1	-2.78	119.93	122.79
19	S2	863	PSU	C6-N1-C2	-2.77	120.12	122.69
19	S2	484	A2M	O3'-C3'-C2'	2.77	118.94	111.19
40	L5	4457	PSU	O2-C2-N1	-2.76	119.94	122.79
40	L5	3920	PSU	C6-N1-C2	-2.76	120.13	122.69
40	L5	3844	PSU	O2-C2-N1	-2.76	119.94	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	3639	PSU	O2-C2-N1	-2.75	119.96	122.79
40	L5	2787	A2M	C4-C5-N7	2.74	112.24	109.34
19	S2	27	A2M	O3'-C3'-C2'	2.74	118.86	111.19
40	L5	2787	A2M	O4'-C1'-C2'	2.74	111.27	106.61
40	L5	5001	PSU	O2-C2-N1	-2.73	119.97	122.79
19	S2	649	PSU	C6-N1-C2	-2.73	120.16	122.69
40	L5	400	A2M	C2'-C1'-N9	2.72	118.60	112.56
19	S2	93	PSU	O2-C2-N1	-2.72	119.98	122.79
40	L5	1536	PSU	C6-N1-C2	-2.72	120.17	122.69
40	L5	4973	PSU	C6-N1-C2	-2.71	120.17	122.69
40	L5	3920	PSU	O2-C2-N1	-2.71	119.99	122.79
40	L5	4442	PSU	C6-C5-C4	2.71	120.00	118.17
40	L5	4500	PSU	C6-C5-C4	2.70	120.00	118.17
40	L5	3822	PSU	C6-N1-C2	-2.70	120.19	122.69
19	S2	1004	PSU	C6-N1-C2	-2.70	120.19	122.69
19	S2	681	PSU	C6-N1-C2	-2.69	120.19	122.69
40	L5	1781	PSU	C6-N1-C2	-2.69	120.19	122.69
40	L5	4552	PSU	O2-C2-N1	-2.69	120.02	122.79
19	S2	1232	PSU	C6-N1-C2	-2.69	120.20	122.69
19	S2	576	A2M	C3'-C2'-C1'	-2.69	97.66	102.81
40	L5	1782	PSU	C6-N1-C2	-2.69	120.20	122.69
40	L5	1534	A2M	C3'-C2'-C1'	-2.69	97.66	102.81
19	S2	1031	A2M	C4-C5-N7	2.68	112.17	109.34
40	L5	5001	PSU	C6-N1-C2	-2.68	120.20	122.69
40	L5	4361	PSU	O2-C2-N1	-2.68	120.03	122.79
40	L5	1677	PSU	O2-C2-N1	-2.68	120.03	122.79
40	L5	2815	A2M	C2'-C1'-N9	2.67	118.50	112.56
40	L5	1781	PSU	O2-C2-N1	-2.67	120.04	122.79
40	L5	1782	PSU	O2-C2-N1	-2.66	120.04	122.79
40	L5	4442	PSU	C6-N1-C2	-2.66	120.22	122.69
40	L5	3884	PSU	C6-N1-C2	-2.66	120.23	122.69
40	L5	1323	A2M	C4-C5-N7	2.65	112.14	109.34
19	S2	1031	A2M	C3'-C2'-C1'	-2.65	97.74	102.81
19	S2	686	PSU	O2-C2-N1	-2.64	120.06	122.79
40	L5	1862	PSU	C6-N1-C2	-2.64	120.24	122.69
19	S2	801	PSU	O2-C2-N1	-2.64	120.07	122.79
19	S2	651	PSU	O2-C2-N1	-2.64	120.07	122.79
19	S2	866	PSU	O2-C2-N1	-2.64	120.07	122.79
40	L5	2632	PSU	O2-C2-N1	-2.64	120.07	122.79
40	L5	4296	PSU	O2-C2-N1	-2.63	120.07	122.79
40	L5	4521	PSU	O2-C2-N1	-2.63	120.07	122.79
40	L5	4361	PSU	C6-N1-C2	-2.63	120.25	122.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	1534	A2M	C4-C5-N7	2.63	112.11	109.34
19	S2	1248	B8N	O4-C4-N3	-2.62	115.73	119.99
40	L5	3867	A2M	C4-C5-N7	2.62	112.11	109.34
40	L5	3822	PSU	O2-C2-N1	-2.62	120.09	122.79
40	L5	1792	PSU	C6-N1-C2	-2.61	120.27	122.69
19	S2	1367	PSU	O2-C2-N1	-2.61	120.10	122.79
40	L5	4576	PSU	C6-N1-C2	-2.61	120.27	122.69
40	L5	3851	PSU	C6-N1-C2	-2.60	120.28	122.69
40	L5	3637	PSU	C6-N1-C2	-2.60	120.28	122.69
40	L5	4972	PSU	O2-C2-N1	-2.60	120.11	122.79
19	S2	814	PSU	C6-N1-C2	-2.59	120.29	122.69
40	L5	3639	PSU	C6-N1-C2	-2.59	120.29	122.69
40	L5	3695	PSU	O2-C2-N1	-2.59	120.12	122.79
40	L5	4673	PSU	C6-N1-C2	-2.59	120.29	122.69
40	L5	1524	A2M	O4'-C1'-C2'	2.58	111.00	106.61
40	L5	4353	PSU	C6-C5-C4	2.57	119.91	118.17
40	L5	3695	PSU	C6-N1-C2	-2.57	120.31	122.69
40	L5	1792	PSU	O2-C2-N1	-2.57	120.14	122.79
40	L5	4471	PSU	C6-N1-C2	-2.57	120.31	122.69
40	L5	3808	OMC	C1'-N1-C2	2.57	124.11	118.44
19	S2	99	A2M	C4-C5-N7	2.57	112.05	109.34
40	L5	4312	PSU	O2-C2-N1	-2.57	120.14	122.79
40	L5	3785	A2M	O4'-C1'-N9	2.56	112.14	108.75
19	S2	966	PSU	C6-N1-C2	-2.56	120.31	122.69
40	L5	1860	PSU	O2-C2-N1	-2.56	120.15	122.79
40	L5	3925	OMU	O2-C2-N1	-2.55	119.47	122.80
40	L5	398	A2M	C4-C5-N7	2.55	112.03	109.34
40	L5	2815	A2M	C3'-C2'-C1'	-2.55	97.92	102.81
40	L5	3830	A2M	C4-C5-N7	2.55	112.03	109.34
40	L5	2363	A2M	C4-C5-N7	2.55	112.03	109.34
40	L5	2632	PSU	C6-N1-C2	-2.55	120.33	122.69
40	L5	4590	A2M	C4-C5-N7	2.54	112.02	109.34
40	L5	4532	PSU	O2-C2-N1	-2.54	120.17	122.79
40	L5	1522	OMG	O6-C6-C5	2.54	129.35	124.32
40	L5	4532	PSU	C6-N1-C2	-2.53	120.34	122.69
19	S2	668	A2M	O4'-C1'-C2'	2.53	110.92	106.61
40	L5	2363	A2M	O3'-C3'-C2'	2.53	118.26	111.19
40	L5	1524	A2M	C4-C5-N7	2.52	112.00	109.34
40	L5	2401	A2M	C4-C5-N7	2.51	111.98	109.34
19	S2	1850	MA6	O4'-C4'-C3'	-2.50	100.18	105.15
40	L5	1323	A2M	O4'-C1'-C2'	2.50	110.87	106.61
40	L5	4571	A2M	C4-C5-N7	2.50	111.98	109.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	400	A2M	C4-C5-N7	2.50	111.98	109.34
40	L5	4523	A2M	C4-C5-N7	2.50	111.98	109.34
19	S2	406	PSU	C6-N1-C2	-2.50	120.37	122.69
40	L5	4299	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	3718	A2M	C4-C5-N7	2.49	111.97	109.34
40	L5	4431	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	4403	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	3867	A2M	C2'-C1'-N9	2.49	118.08	112.56
40	L5	2861	OMC	C1'-N1-C2	2.48	123.93	118.44
19	S2	1174	PSU	C6-N1-C2	-2.48	120.39	122.69
40	L5	3920	PSU	C6-C5-C4	2.48	119.85	118.17
19	S2	1081	PSU	C6-C5-C4	2.48	119.85	118.17
40	L5	3825	A2M	C4-C5-N7	2.48	111.95	109.34
40	L5	4312	PSU	C6-N1-C2	-2.47	120.40	122.69
40	L5	4457	PSU	C6-N1-C2	-2.47	120.40	122.69
40	L5	4552	PSU	C6-N1-C2	-2.46	120.41	122.69
40	L5	1326	A2M	O3'-C3'-C2'	2.46	118.07	111.19
40	L5	3818	UY1	O2-C2-N1	-2.45	120.26	122.79
40	L5	4228	OMG	O6-C6-C5	2.45	129.18	124.32
19	S2	1056	PSU	O2-C2-N1	-2.45	120.26	122.79
42	L8	55	PSU	C6-N1-C2	-2.45	120.42	122.69
19	S2	683	OMG	O6-C6-C5	2.44	129.15	124.32
40	L5	4521	PSU	C6-N1-C2	-2.44	120.43	122.69
19	S2	1328	OMG	O6-C6-C5	2.43	129.14	124.32
19	S2	93	PSU	C6-N1-C2	-2.43	120.44	122.69
19	S2	1244	PSU	C6-N1-C2	-2.42	120.44	122.69
19	S2	1367	PSU	C6-N1-C2	-2.42	120.44	122.69
40	L5	4637	OMG	O6-C6-C5	2.42	129.11	124.32
40	L5	4196	OMG	O6-C6-C5	2.41	129.11	124.32
19	S2	354	OMU	O2-C2-N1	-2.41	119.66	122.80
42	L8	69	PSU	C6-C5-C4	2.41	119.80	118.17
40	L5	3867	A2M	O3'-C3'-C2'	2.41	117.93	111.19
40	L5	1326	A2M	C4-C5-N7	2.41	111.88	109.34
19	S2	468	A2M	C4-C5-N7	2.41	111.88	109.34
40	L5	2815	A2M	C4-C5-N7	2.41	111.88	109.34
40	L5	1326	A2M	O4'-C1'-C2'	2.40	110.70	106.61
40	L5	4296	PSU	C6-N1-C2	-2.40	120.47	122.69
19	S2	406	PSU	C6-C5-C4	2.39	119.79	118.17
40	L5	3637	PSU	C6-C5-C4	2.39	119.79	118.17
19	S2	1056	PSU	C6-N1-C2	-2.38	120.48	122.69
40	L5	2363	A2M	O4'-C1'-C2'	2.38	110.67	106.61
19	S2	1045	PSU	C6-N1-C2	-2.38	120.49	122.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	3853	PSU	C6-N1-C2	-2.37	120.49	122.69
19	S2	681	PSU	O2-C2-N1	-2.37	120.34	122.79
19	S2	1383	A2M	C4-C5-N7	2.36	111.83	109.34
40	L5	4499	OMG	O6-C6-C5	2.36	129.00	124.32
19	S2	576	A2M	C4-C5-N7	2.36	111.83	109.34
40	L5	4494	OMG	O6-C6-C5	2.35	128.99	124.32
40	L5	3718	A2M	C2'-C1'-N9	2.35	117.78	112.56
40	L5	4471	PSU	O2-C2-N1	-2.35	120.37	122.79
40	L5	4293	PSU	C6-N1-C2	-2.35	120.51	122.69
19	S2	649	PSU	O2-C2-N1	-2.35	120.37	122.79
19	S2	1081	PSU	C6-N1-C2	-2.34	120.52	122.69
19	S2	1442	OMU	O2-C2-N1	-2.34	119.75	122.80
19	S2	484	A2M	O4'-C1'-C2'	2.34	110.60	106.61
40	L5	4392	OMG	O6-C6-C5	2.34	128.96	124.32
40	L5	2876	OMG	O6-C6-C5	2.34	128.96	124.32
19	S2	166	A2M	O4'-C1'-C2'	2.33	110.57	106.61
19	S2	627	OMU	O2-C2-N1	-2.33	119.77	122.80
40	L5	4530	UR3	C6-N1-C2	-2.32	119.90	121.80
19	S2	966	PSU	C6-C5-C4	2.32	119.74	118.17
40	L5	1322	1MA	C5-C6-N1	-2.32	110.62	113.95
40	L5	1322	1MA	N1-C6-N6	2.31	125.52	119.71
40	L5	4353	PSU	C6-N1-C2	-2.31	120.55	122.69
40	L5	4293	PSU	C6-C5-C4	2.31	119.73	118.17
19	S2	866	PSU	C6-N1-C2	-2.31	120.55	122.69
40	L5	2837	OMU	O2-C2-N1	-2.31	119.80	122.80
19	S2	1337	4AC	C5-C4-N4	-2.30	119.06	122.94
40	L5	4493	PSU	C6-N1-C2	-2.30	120.55	122.69
19	S2	109	PSU	C6-N1-C2	-2.30	120.56	122.69
19	S2	166	A2M	C4-C5-N7	2.30	111.76	109.34
19	S2	1248	B8N	O4'-C1'-C2'	2.28	108.31	105.15
40	L5	1582	PSU	O2-C2-N1	-2.28	120.44	122.79
19	S2	1177	PSU	O2-C2-N1	-2.28	120.44	122.79
40	L5	4353	PSU	O2-C2-N1	-2.27	120.44	122.79
19	S2	651	PSU	C6-C5-C4	2.27	119.71	118.17
19	S2	686	PSU	C6-N1-C2	-2.26	120.59	122.69
19	S2	1367	PSU	C6-C5-C4	2.26	119.70	118.17
19	S2	644	OMG	O6-C6-C5	2.26	128.80	124.32
19	S2	1177	PSU	C6-N1-C2	-2.26	120.59	122.69
40	L5	1534	A2M	O4'-C1'-C2'	2.26	110.46	106.61
19	S2	668	A2M	C4-C5-N7	2.26	111.72	109.34
40	L5	1322	1MA	CM1-N1-C6	-2.25	116.66	120.15
40	L5	3785	A2M	C3'-C2'-C1'	-2.25	98.50	102.81

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	1248	B8N	C31-N3-C2	2.25	120.96	117.64
40	L5	4370	OMG	O6-C6-C5	2.25	128.78	124.32
40	L5	1534	A2M	C2'-C1'-N9	2.24	117.54	112.56
19	S2	867	OMG	O6-C6-C5	2.24	128.76	124.32
40	L5	2804	OMC	C1'-N1-C2	2.24	123.38	118.44
19	S2	651	PSU	C6-N1-C2	-2.23	120.62	122.69
40	L5	1677	PSU	C6-C5-C4	2.23	119.68	118.17
19	S2	1081	PSU	O4'-C1'-C2'	2.23	108.23	105.15
19	S2	159	A2M	O4'-C1'-C2'	2.23	110.40	106.61
19	S2	866	PSU	C6-C5-C4	2.22	119.67	118.17
40	L5	3627	OMG	O6-C6-C5	2.22	128.73	124.32
40	L5	2815	A2M	O4'-C1'-C2'	2.22	110.39	106.61
40	L5	1677	PSU	O4'-C1'-C2'	2.22	108.22	105.15
40	L5	3695	PSU	C6-C5-C4	2.21	119.67	118.17
19	S2	484	A2M	C4-C5-N7	2.21	111.67	109.34
40	L5	1326	A2M	C3'-C2'-C1'	-2.21	98.58	102.81
40	L5	4403	PSU	O4'-C1'-C2'	2.21	108.20	105.15
40	L5	1534	A2M	O3'-C3'-C2'	2.20	117.34	111.19
19	S2	1031	A2M	O4'-C1'-C2'	2.19	110.34	106.61
40	L5	4299	PSU	O2-C2-N1	-2.19	120.53	122.79
19	S2	668	A2M	C2'-C1'-N9	2.19	117.42	112.56
40	L5	400	A2M	O4'-C1'-C2'	2.19	110.34	106.61
19	S2	1248	B8N	O4-C4-C5	-2.19	118.79	122.58
19	S2	27	A2M	C4-C5-N7	2.18	111.64	109.34
19	S2	172	OMU	O2-C2-N1	-2.18	119.96	122.80
19	S2	484	A2M	O4'-C4'-C3'	2.18	109.48	105.15
40	L5	4227	OMU	O2-C2-N1	-2.18	119.96	122.80
19	S2	27	A2M	O4'-C1'-C2'	2.18	110.32	106.61
40	L5	4636	PSU	O4'-C1'-C2'	2.18	108.16	105.15
19	S2	509	OMG	O6-C6-C5	2.16	128.60	124.32
40	L5	3782	5MC	C1'-N1-C6	-2.15	117.61	121.15
19	S2	159	A2M	C4-C5-N7	2.14	111.60	109.34
40	L5	2401	A2M	O4'-C1'-C2'	2.14	110.26	106.61
40	L5	3785	A2M	O4'-C4'-C3'	2.14	109.40	105.15
40	L5	4620	OMU	O2-C2-N1	-2.14	120.01	122.80
40	L5	4636	PSU	C6-N1-C2	-2.14	120.71	122.69
40	L5	4403	PSU	C6-C5-C4	2.13	119.61	118.17
40	L5	2787	A2M	C4'-O4'-C1'	-2.13	107.97	109.92
42	L8	75	OMG	O6-C6-C5	2.13	128.54	124.32
40	L5	4498	OMU	O2-C2-N1	-2.13	120.03	122.80
40	L5	3822	PSU	O4'-C1'-C2'	2.12	108.09	105.15
19	S2	105	PSU	C6-C5-C4	2.12	119.60	118.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4571	A2M	C2'-C1'-N9	2.12	117.26	112.56
19	S2	799	OMU	C1'-N1-C2	2.12	121.39	117.59
19	S2	1272	OMC	C1'-N1-C2	2.11	123.11	118.44
40	L5	1792	PSU	C6-C5-C4	2.11	119.60	118.17
19	S2	1832	6MZ	C5'-C4'-C3'	-2.10	107.66	115.21
40	L5	4471	PSU	C6-C5-C4	2.10	119.59	118.17
19	S2	1326	OMU	O2-C2-N1	-2.10	120.07	122.80
42	L8	69	PSU	O4'-C1'-C2'	2.10	108.05	105.15
40	L5	3899	OMG	O6-C6-C5	2.10	128.48	124.32
40	L5	4973	PSU	C6-C5-C4	2.09	119.59	118.17
40	L5	4442	PSU	O4'-C1'-C2'	2.09	108.05	105.15
19	S2	1383	A2M	O4'-C1'-C2'	2.09	110.17	106.61
40	L5	4673	PSU	C6-C5-C4	2.09	119.58	118.17
19	S2	121	OMU	O2-C2-N1	-2.09	120.08	122.80
19	S2	428	OMU	C1'-N1-C2	2.09	121.34	117.59
40	L5	3884	PSU	C6-C5-C4	2.08	119.58	118.17
40	L5	4521	PSU	C6-C5-C4	2.08	119.58	118.17
40	L5	1582	PSU	C6-C5-C4	2.08	119.58	118.17
40	L5	3695	PSU	O4'-C1'-C2'	2.08	108.03	105.15
40	L5	400	A2M	O3'-C3'-C4'	-2.08	105.11	111.08
40	L5	3744	OMG	O6-C6-C5	2.08	128.44	124.32
40	L5	3920	PSU	O4'-C1'-C2'	2.07	108.02	105.15
40	L5	3808	OMC	C1'-N1-C6	-2.07	116.36	120.78
40	L5	4618	OMG	O6-C6-C5	2.07	128.42	124.32
40	L5	1862	PSU	C6-C5-C4	2.07	119.57	118.17
40	L5	4628	PSU	C6-C5-C4	2.07	119.57	118.17
19	S2	576	A2M	O4'-C4'-C3'	2.07	109.25	105.15
19	S2	601	OMG	O6-C6-C5	2.07	128.42	124.32
40	L5	3851	PSU	C6-C5-C4	2.06	119.57	118.17
19	S2	484	A2M	C4'-O4'-C1'	-2.06	108.04	109.92
40	L5	3825	A2M	C2'-C1'-N9	2.05	117.11	112.56
40	L5	3792	OMG	O6-C6-C5	2.05	128.38	124.32
40	L5	4523	A2M	O4'-C1'-C2'	2.05	110.10	106.61
19	S2	436	OMG	O6-C6-C5	2.05	128.38	124.32
40	L5	3637	PSU	O2-C2-N3	-2.04	118.23	121.86
40	L5	4636	PSU	C5-C6-N1	-2.03	119.32	122.14
19	S2	468	A2M	C6-C5-C4	-2.03	113.94	117.90
19	S2	1081	PSU	O4-C4-C5	-2.03	118.95	124.01
40	L5	3818	UY1	O4'-C1'-C2'	2.03	108.12	104.56
40	L5	4523	A2M	C6-C5-C4	-2.03	113.95	117.90
40	L5	1782	PSU	C6-C5-C4	2.03	119.54	118.17
19	S2	99	A2M	O4'-C1'-C2'	2.03	110.06	106.61

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	S2	166	A2M	C6-C5-C4	-2.03	113.96	117.90
40	L5	4571	A2M	O3'-C3'-C4'	-2.02	105.27	111.08
40	L5	1340	OMC	C1'-N1-C2	2.02	122.90	118.44
19	S2	686	PSU	O4'-C1'-C2'	2.01	107.94	105.15
40	L5	3825	A2M	C6-C5-C4	-2.01	113.99	117.90
19	S2	109	PSU	O4'-C1'-C2'	2.01	107.93	105.15
40	L5	4571	A2M	O4'-C1'-C2'	2.01	110.03	106.61
40	L5	3639	PSU	C6-C5-C4	2.00	119.53	118.17

There are no chirality outliers.

All (143) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
42	L8	75	OMG	C1'-C2'-O2'-CM2
19	S2	27	A2M	C1'-C2'-O2'-CM'
19	S2	159	A2M	C1'-C2'-O2'-CM'
19	S2	174	OMC	C1'-C2'-O2'-CM2
19	S2	462	OMC	C1'-C2'-O2'-CM2
19	S2	601	OMG	C1'-C2'-O2'-CM2
19	S2	644	OMG	O4'-C4'-C5'-O5'
19	S2	644	OMG	C1'-C2'-O2'-CM2
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	1045	PSU	O4'-C4'-C5'-O5'
19	S2	1248	B8N	O4'-C4'-C5'-O5'
19	S2	1248	B8N	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	1625	OMG	O4'-C4'-C5'-O5'
40	L5	2364	OMG	C1'-C2'-O2'-CM2
40	L5	2787	A2M	C1'-C2'-O2'-CM'
40	L5	2815	A2M	O4'-C4'-C5'-O5'
40	L5	2824	OMC	C1'-C2'-O2'-CM2
40	L5	3792	OMG	O4'-C4'-C5'-O5'
40	L5	3867	A2M	C1'-C2'-O2'-CM'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
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	4620	OMU	C1'-C2'-O2'-CM2
40	L5	4637	OMG	O4'-C4'-C5'-O5'
40	L5	4637	OMG	C1'-C2'-O2'-CM2
40	L5	3701	OMC	C2'-C1'-N1-C2
19	S2	99	A2M	O4'-C4'-C5'-O5'
19	S2	801	PSU	C3'-C4'-C5'-O5'
19	S2	1272	OMC	C3'-C4'-C5'-O5'
19	S2	1288	OMU	C3'-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	3785	A2M	O4'-C4'-C5'-O5'
40	L5	3792	OMG	C3'-C4'-C5'-O5'
40	L5	3867	A2M	C3'-C4'-C5'-O5'
40	L5	4500	PSU	C3'-C4'-C5'-O5'
40	L5	4500	PSU	O4'-C4'-C5'-O5'
40	L5	4590	A2M	O4'-C4'-C5'-O5'
40	L5	4590	A2M	C3'-C4'-C5'-O5'
40	L5	4618	OMG	C3'-C4'-C5'-O5'
19	S2	801	PSU	O4'-C4'-C5'-O5'
19	S2	1045	PSU	C3'-C4'-C5'-O5'
40	L5	1323	A2M	O4'-C4'-C5'-O5'
40	L5	1625	OMG	C3'-C4'-C5'-O5'
40	L5	3701	OMC	C3'-C4'-C5'-O5'
40	L5	3701	OMC	O4'-C4'-C5'-O5'
40	L5	3785	A2M	C3'-C4'-C5'-O5'
40	L5	3867	A2M	O4'-C4'-C5'-O5'
40	L5	3899	OMG	O4'-C4'-C5'-O5'
40	L5	3899	OMG	C3'-C4'-C5'-O5'
40	L5	3701	OMC	C2'-C1'-N1-C6
40	L5	2815	A2M	C3'-C4'-C5'-O5'
40	L5	4637	OMG	C3'-C4'-C5'-O5'
19	S2	428	OMU	C2'-C1'-N1-C6
19	S2	644	OMG	C3'-C4'-C5'-O5'
19	S2	1442	OMU	O4'-C4'-C5'-O5'
40	L5	4228	OMG	C3'-C4'-C5'-O5'
19	S2	428	OMU	O4'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
40	L5	1524	A2M	O4'-C4'-C5'-O5'
40	L5	4220	6MZ	C3'-C4'-C5'-O5'
40	L5	4228	OMG	O4'-C4'-C5'-O5'
40	L5	4618	OMG	O4'-C4'-C5'-O5'
19	S2	99	A2M	C3'-C4'-C5'-O5'
19	S2	428	OMU	C3'-C4'-C5'-O5'
19	S2	627	OMU	O4'-C4'-C5'-O5'
40	L5	1524	A2M	C3'-C4'-C5'-O5'
40	L5	2364	OMG	C3'-C4'-C5'-O5'
19	S2	668	A2M	O4'-C4'-C5'-O5'
19	S2	799	OMU	C3'-C4'-C5'-O5'
40	L5	3818	UY1	C4'-C5'-O5'-P
19	S2	668	A2M	C3'-C4'-C5'-O5'
40	L5	1323	A2M	C3'-C4'-C5'-O5'
19	S2	1248	B8N	N34-C33-C34-O36
19	S2	99	A2M	C1'-C2'-O2'-CM'
40	L5	1340	OMC	C1'-C2'-O2'-CM2
40	L5	2424	OMG	C1'-C2'-O2'-CM2
40	L5	3744	OMG	C1'-C2'-O2'-CM2
19	S2	627	OMU	C3'-C4'-C5'-O5'
40	L5	1781	PSU	C3'-C4'-C5'-O5'
19	S2	1248	B8N	C31-C32-C33-C34
19	S2	1703	OMC	O4'-C4'-C5'-O5'
40	L5	2422	OMC	C3'-C4'-C5'-O5'
40	L5	3818	UY1	C1'-C2'-O2'-CM2
19	S2	428	OMU	O4'-C1'-N1-C6
19	S2	576	A2M	O4'-C4'-C5'-O5'
19	S2	1851	MA6	C5-C6-N6-C9
40	L5	3701	OMC	O4'-C1'-N1-C6
19	S2	428	OMU	C2'-C1'-N1-C2
19	S2	576	A2M	C3'-C4'-C5'-O5'
40	L5	2422	OMC	O4'-C4'-C5'-O5'
40	L5	3782	5MC	O4'-C4'-C5'-O5'
40	L5	4499	OMG	C3'-C2'-O2'-CM2
19	S2	576	A2M	C4'-C5'-O5'-P
19	S2	867	OMG	C4'-C5'-O5'-P
40	L5	4500	PSU	C4'-C5'-O5'-P
40	L5	4590	A2M	C4'-C5'-O5'-P
19	S2	166	A2M	O4'-C4'-C5'-O5'
19	S2	166	A2M	C3'-C4'-C5'-O5'
19	S2	1383	A2M	C3'-C4'-C5'-O5'
40	L5	2632	PSU	C3'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
19	S2	1081	PSU	C4'-C5'-O5'-P
19	S2	799	OMU	O4'-C4'-C5'-O5'
19	S2	1383	A2M	O4'-C4'-C5'-O5'
40	L5	4447	5MC	O4'-C1'-N1-C6
42	L8	75	OMG	C4'-C5'-O5'-P
40	L5	1792	PSU	O4'-C4'-C5'-O5'
40	L5	2632	PSU	O4'-C4'-C5'-O5'
40	L5	4494	OMG	C3'-C2'-O2'-CM2
19	S2	1851	MA6	C4'-C5'-O5'-P
40	L5	1534	A2M	C4'-C5'-O5'-P
19	S2	428	OMU	O4'-C1'-N1-C2
19	S2	644	OMG	C4'-C5'-O5'-P
40	L5	3844	PSU	C4'-C5'-O5'-P
40	L5	3887	OMC	C4'-C5'-O5'-P
19	S2	1244	PSU	O4'-C4'-C5'-O5'
40	L5	2351	OMC	C2'-C1'-N1-C6
19	S2	116	OMU	C1'-C2'-O2'-CM2
19	S2	1328	OMG	C1'-C2'-O2'-CM2
40	L5	1326	A2M	C1'-C2'-O2'-CM'
19	S2	1490	OMG	C4'-C5'-O5'-P
40	L5	1326	A2M	C4'-C5'-O5'-P
19	S2	1442	OMU	C3'-C4'-C5'-O5'
40	L5	4636	PSU	O4'-C1'-C5-C6
40	L5	3869	OMC	C3'-C2'-O2'-CM2
40	L5	3701	OMC	O4'-C1'-N1-C2
40	L5	398	A2M	O4'-C4'-C5'-O5'
40	L5	2787	A2M	C3'-C4'-C5'-O5'
40	L5	3851	PSU	C3'-C4'-C5'-O5'
40	L5	4447	5MC	O4'-C1'-N1-C2
19	S2	966	PSU	O4'-C4'-C5'-O5'

There are no ring outliers.

74 monomers are involved in 107 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	L5	2363	A2M	1	0
19	S2	799	OMU	1	0
40	L5	4689	PSU	1	0
40	L5	4392	OMG	1	0
19	S2	649	PSU	4	0
19	S2	1288	OMU	1	0
40	L5	2824	OMC	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	S2	116	OMU	4	0
40	L5	2422	OMC	1	0
40	L5	3841	OMC	1	0
40	L5	2804	OMC	1	0
40	L5	3818	UY1	1	0
40	L5	3701	OMC	1	0
40	L5	4579	PSU	2	0
40	L5	2364	OMG	1	0
40	L5	2876	OMG	1	0
19	S2	121	OMU	1	0
19	S2	1383	A2M	2	0
40	L5	4536	OMC	1	0
40	L5	4618	OMG	1	0
19	S2	174	OMC	1	0
19	S2	1326	OMU	1	0
40	L5	2424	OMG	1	0
40	L5	3825	A2M	1	0
19	S2	681	PSU	1	0
40	L5	2351	OMC	1	0
19	S2	468	A2M	2	0
19	S2	1328	OMG	1	0
19	S2	517	OMC	1	0
40	L5	1340	OMC	2	0
40	L5	4306	OMU	1	0
19	S2	1442	OMU	1	0
19	S2	1337	4AC	3	0
19	S2	1850	MA6	2	0
40	L5	400	A2M	1	0
40	L5	5001	PSU	1	0
40	L5	4590	A2M	1	0
19	S2	93	PSU	1	0
19	S2	99	A2M	2	0
19	S2	1244	PSU	2	0
40	L5	3744	OMG	1	0
19	S2	644	OMG	2	0
19	S2	1703	OMC	2	0
40	L5	1326	A2M	2	0
19	S2	867	OMG	1	0
40	L5	1534	A2M	2	0
40	L5	4457	PSU	1	0
40	L5	3925	OMU	1	0
19	S2	1391	OMC	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	L5	3867	A2M	3	0
19	S2	601	OMG	2	0
40	L5	4620	OMU	1	0
40	L5	4293	PSU	1	0
40	L5	4571	A2M	1	0
40	L5	4353	PSU	1	0
19	S2	576	A2M	2	0
19	S2	1031	A2M	4	0
19	S2	509	OMG	3	0
19	S2	159	A2M	1	0
40	L5	2632	PSU	1	0
40	L5	4456	OMC	1	0
19	S2	166	A2M	5	0
40	L5	1871	A2M	1	0
19	S2	462	OMC	1	0
40	L5	4220	6MZ	1	0
40	L5	4196	OMG	1	0
19	S2	484	A2M	1	0
40	L5	3718	A2M	2	0
40	L5	3785	A2M	1	0
40	L5	3792	OMG	1	0
40	L5	4637	OMG	1	0
19	S2	866	PSU	1	0
19	S2	27	A2M	1	0
40	L5	2787	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	SPM	L5	5267	-	13,13,13	0.38	0	12,12,12	1.11	0
88	SPM	L5	5291	-	13,13,13	0.38	0	12,12,12	0.83	0
88	SPM	L5	5287	-	13,13,13	0.36	0	12,12,12	0.96	0
89	SPD	L5	5284	-	9,9,9	0.33	0	8,8,8	0.81	0
89	SPD	L5	5282	-	9,9,9	0.32	0	8,8,8	0.91	0
89	SPD	LN	301	-	9,9,9	0.35	0	8,8,8	0.71	0
88	SPM	L5	5263	-	13,13,13	0.35	0	12,12,12	0.96	0
89	SPD	L8	202	-	9,9,9	0.33	0	8,8,8	0.78	0
89	SPD	L5	5289	-	9,9,9	0.32	0	8,8,8	0.90	0
89	SPD	L5	5286	-	9,9,9	0.32	0	8,8,8	0.84	0
88	SPM	L5	5290	-	13,13,13	0.34	0	12,12,12	0.84	0
89	SPD	L5	5283	-	9,9,9	0.33	0	8,8,8	0.91	0
89	SPD	L5	5285	-	9,9,9	0.32	0	8,8,8	0.81	0
88	SPM	L5	5264	-	13,13,13	0.36	0	12,12,12	0.97	0
89	SPD	L5	5288	-	9,9,9	0.32	0	8,8,8	0.98	0
88	SPM	L5	5259	-	13,13,13	0.35	0	12,12,12	0.98	0
89	SPD	L5	5261	-	9,9,9	0.32	0	8,8,8	0.94	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	SPM	L5	5267	-	-	4/11/11/11	-
88	SPM	L5	5291	-	-	2/11/11/11	-
88	SPM	L5	5287	-	-	4/11/11/11	-
89	SPD	L5	5284	-	-	2/7/7/7	-
89	SPD	L5	5282	-	-	1/7/7/7	-
89	SPD	LN	301	-	-	1/7/7/7	-
88	SPM	L5	5263	-	-	3/11/11/11	-
89	SPD	L8	202	-	-	1/7/7/7	-
89	SPD	L5	5289	-	-	3/7/7/7	-
89	SPD	L5	5286	-	-	3/7/7/7	-
88	SPM	L5	5290	-	-	6/11/11/11	-
89	SPD	L5	5283	-	-	2/7/7/7	-
89	SPD	L5	5285	-	-	2/7/7/7	-
88	SPM	L5	5264	-	-	4/11/11/11	-
89	SPD	L5	5288	-	-	0/7/7/7	-
88	SPM	L5	5259	-	-	2/11/11/11	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
89	SPD	L5	5261	-	-	1/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (41) torsion outliers are listed below:

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

Continued on next page...

Continued from previous page...

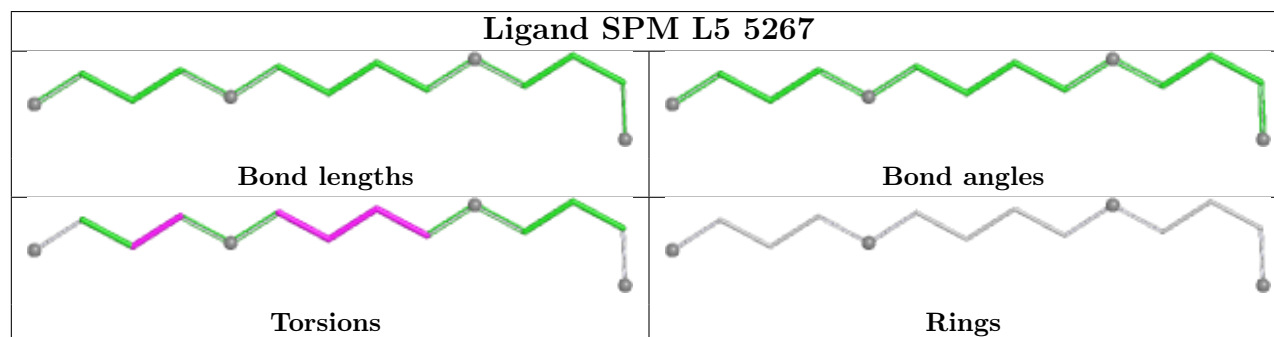
Mol	Chain	Res	Type	Atoms
89	L5	5282	SPD	C2-C3-C4-C5
88	L5	5259	SPM	C3-C4-N5-C6
89	LN	301	SPD	C2-C3-C4-C5
89	L5	5289	SPD	C8-C7-N6-C5
89	L5	5284	SPD	N6-C7-C8-C9
89	L5	5261	SPD	C2-C3-C4-C5
88	L5	5290	SPM	C3-C4-N5-C6
89	L8	202	SPD	N6-C7-C8-C9

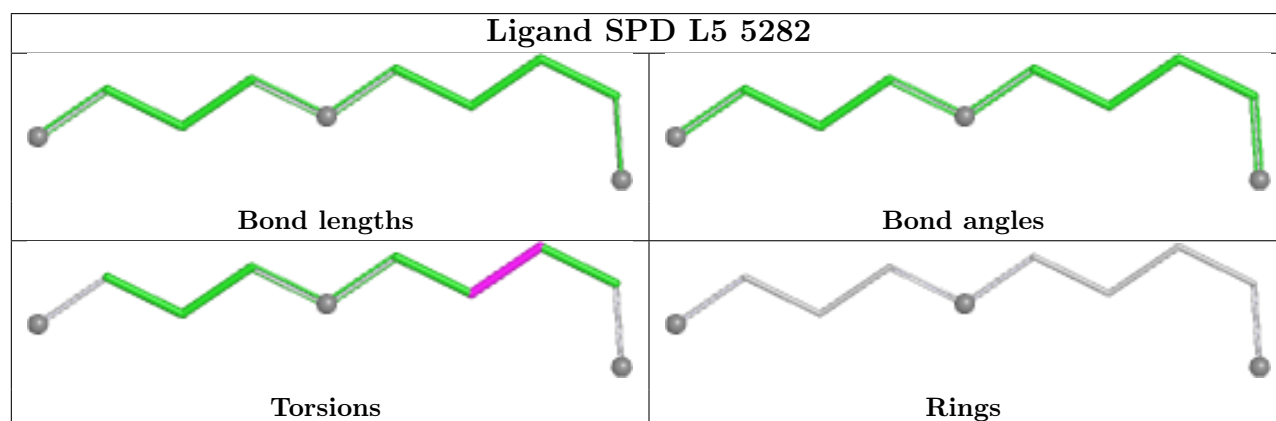
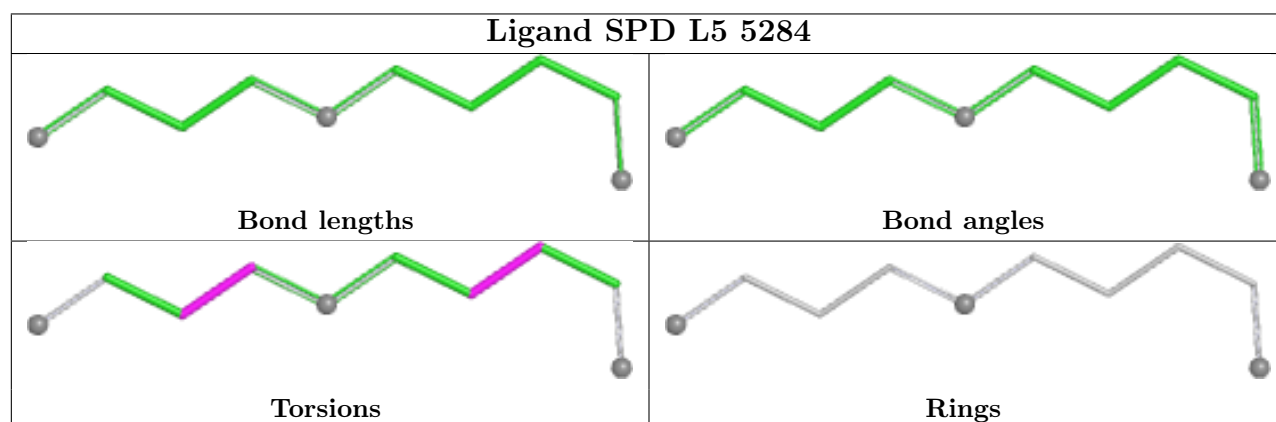
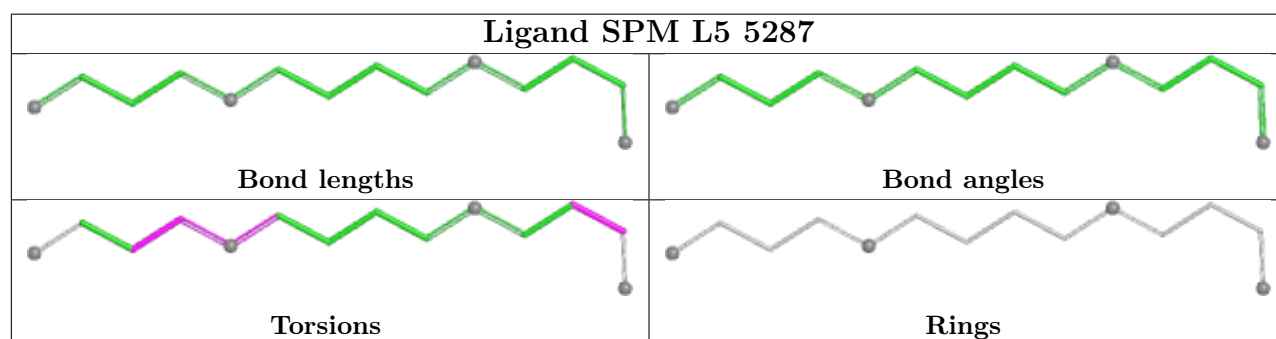
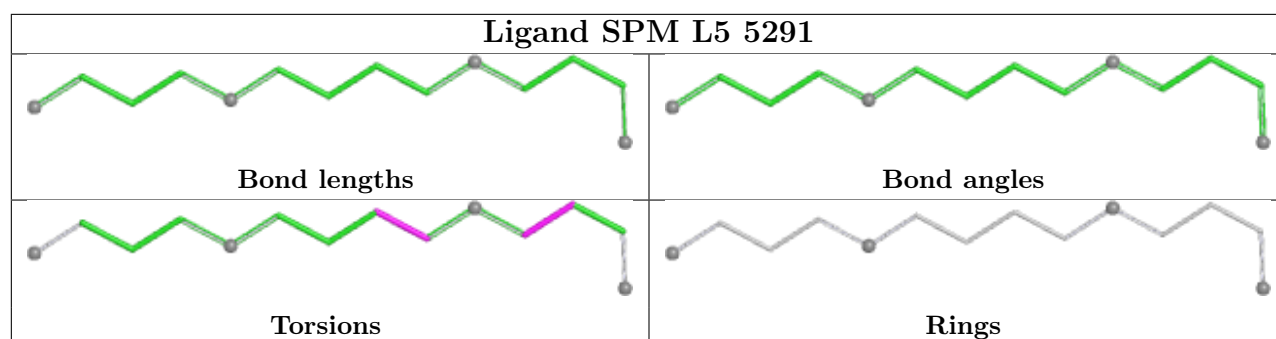
There are no ring outliers.

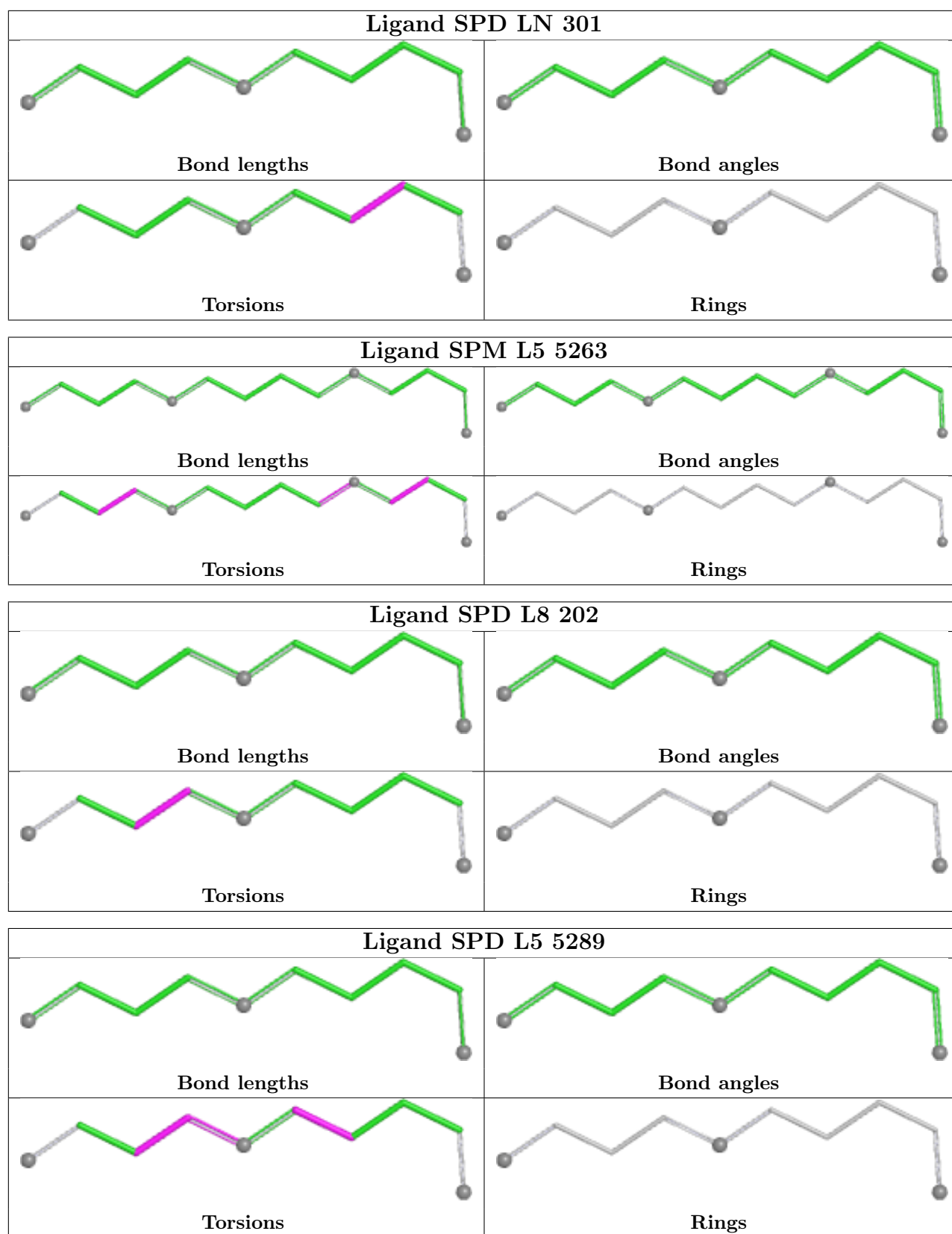
3 monomers are involved in 3 short contacts:

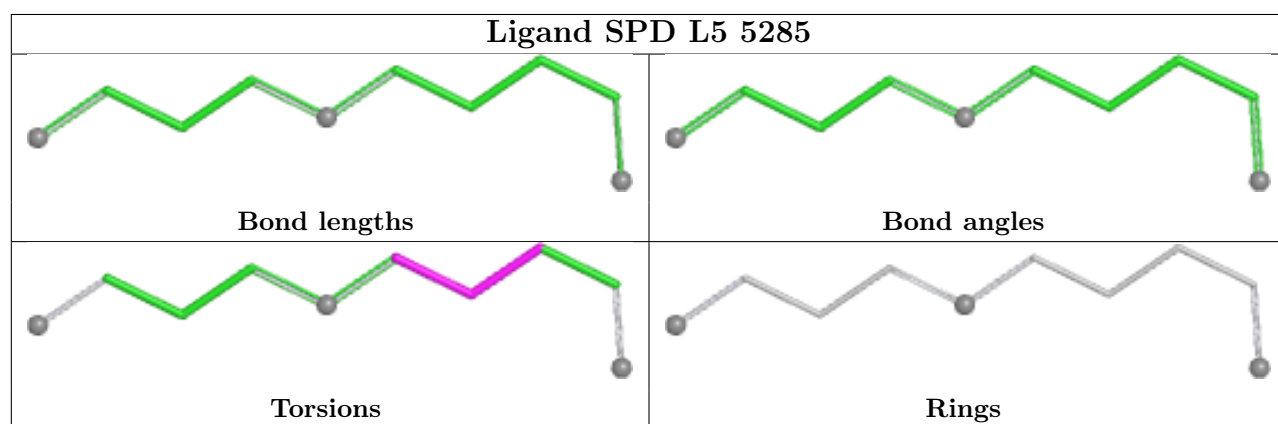
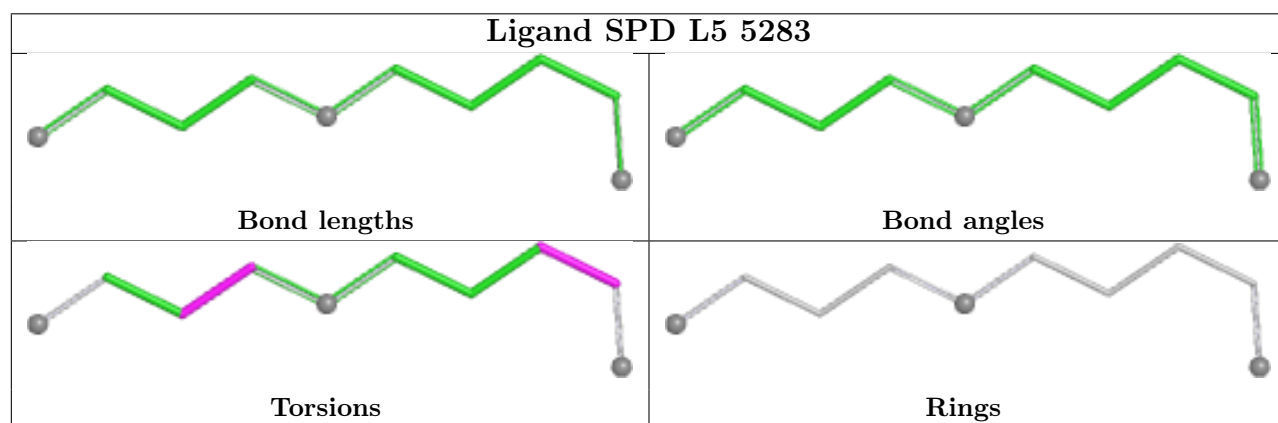
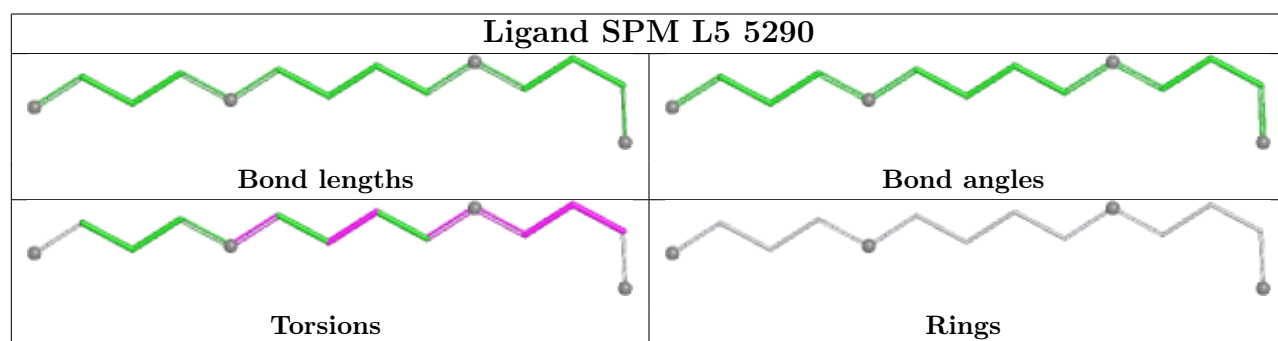
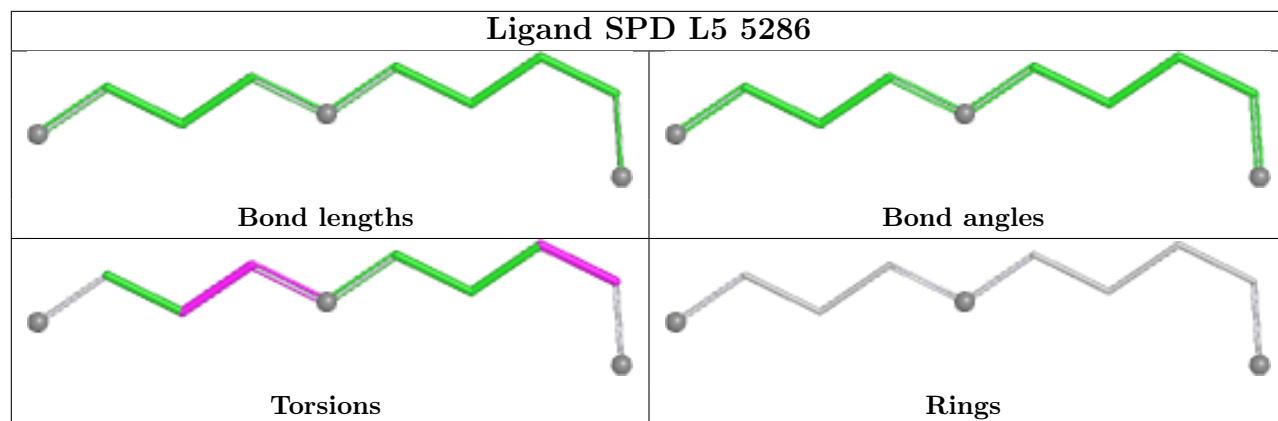
Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	L5	5291	SPM	1	0
89	L5	5289	SPD	1	0
88	L5	5259	SPM	1	0

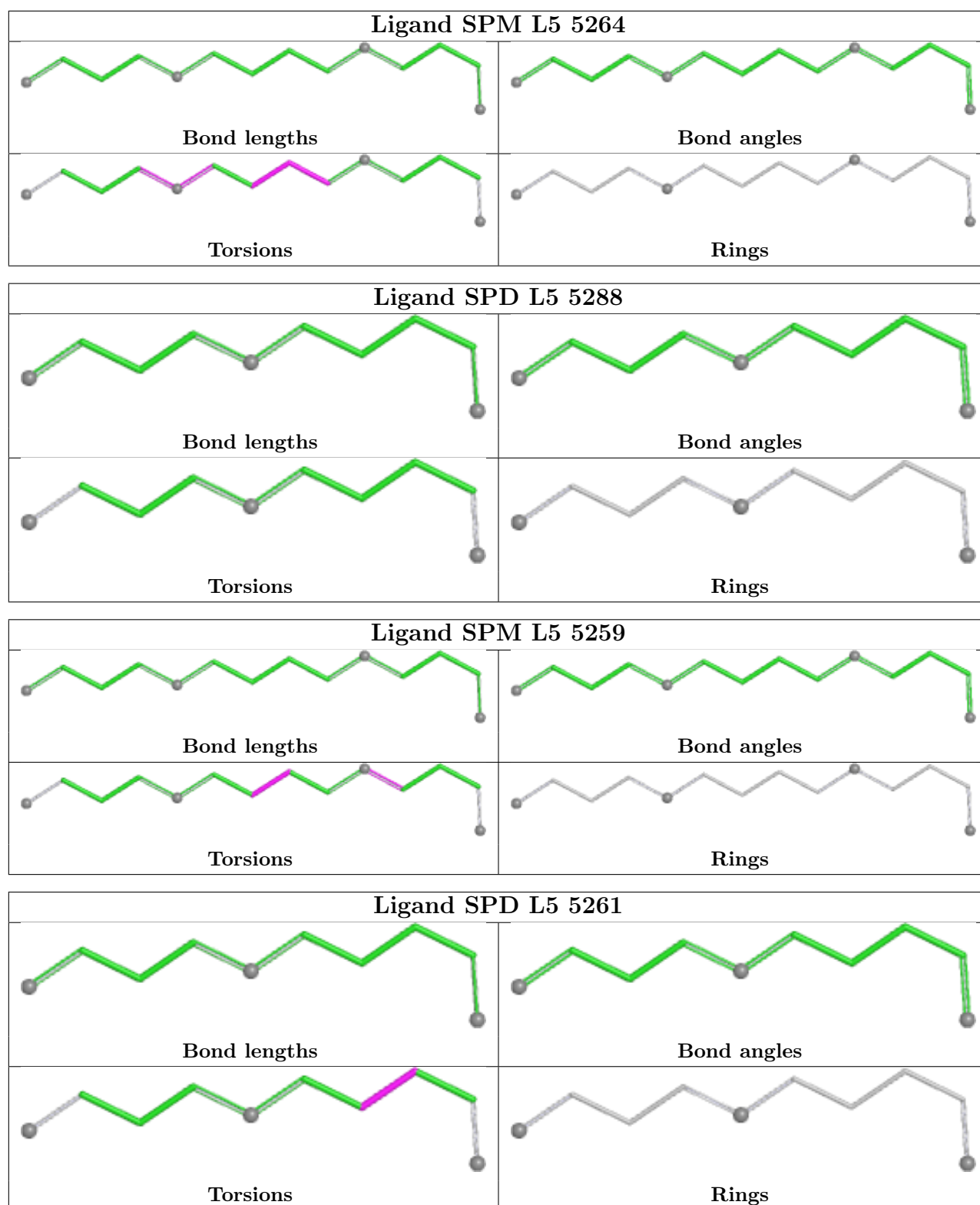
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
40	L5	10
19	S2	4
67	Lb	1
84	Lt	1
37	At	1
6	SH	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	33.76
1	S2	753:C	O3'	785:C	P	28.75
1	L5	1706:A	O3'	1716:G	P	21.42
1	L5	2910:G	O3'	3584:C	P	20.77
1	L5	760:G	O3'	903:C	P	16.71
1	Lt	87:GLU	C	104:ILE	N	15.64
1	L5	519:C	O3'	642:G	P	14.53
1	L5	2112:G	O3'	2249:C	P	13.88
1	S2	698:G	O3'	730:C	P	13.80
1	S2	739:C	O3'	746:C	P	13.79
1	L5	1222:A	O3'	1234:G	P	12.89
1	L5	3954:A	O3'	4056:A	P	12.32
1	L5	4776:G	O3'	4858:C	P	12.22
1	L5	990:C	O3'	1064:G	P	11.82
1	At	15:G	O3'	18:G	P	11.80
1	SH	107:LYS	C	111:LYS	N	10.67
1	Pt	15:G	O3'	18:G	P	9.70
1	S2	225:G	O3'	287:U	P	7.94
1	L5	1100:U	O3'	1167:C	P	6.10

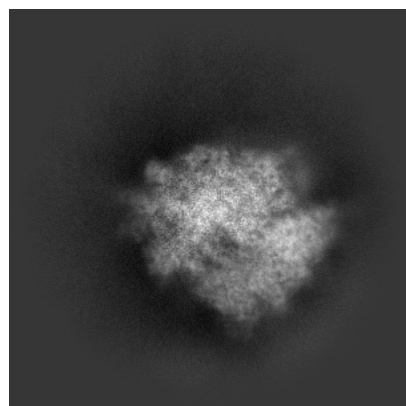
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71356. These allow visual inspection of the internal detail of the map and identification of artifacts.

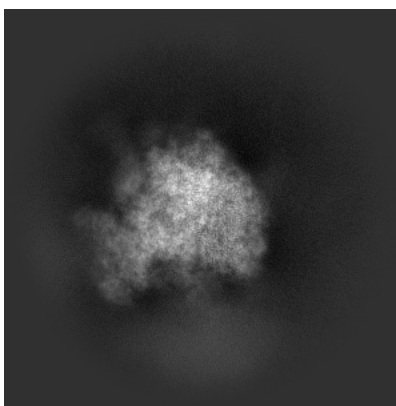
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

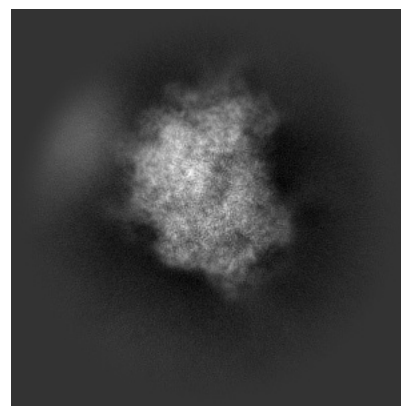
6.1.1 Primary map



X

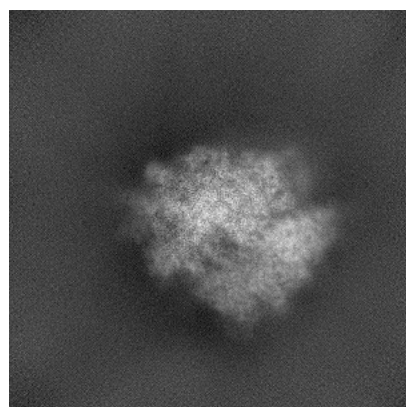


Y

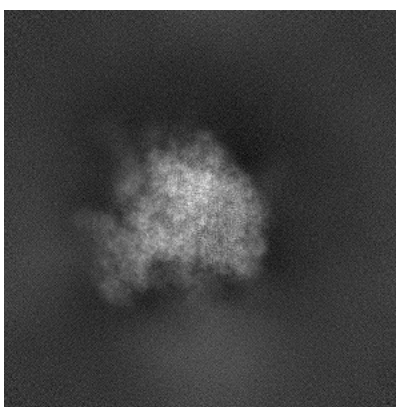


Z

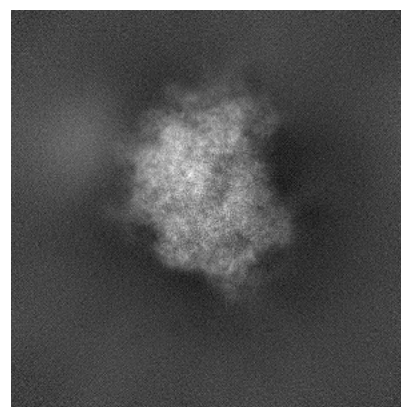
6.1.2 Raw map



X



Y

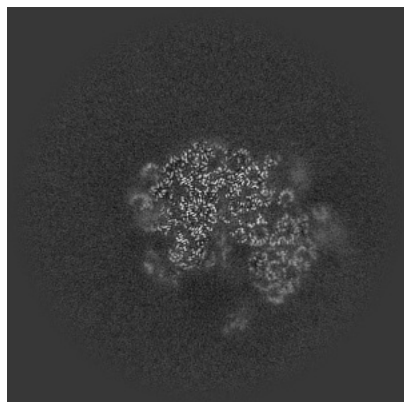


Z

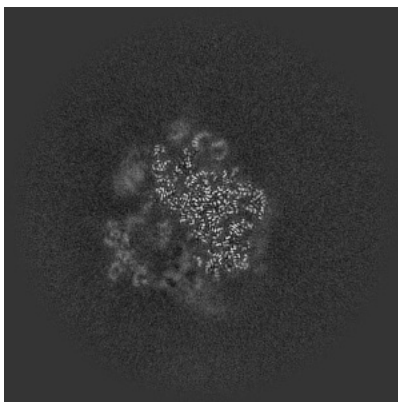
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

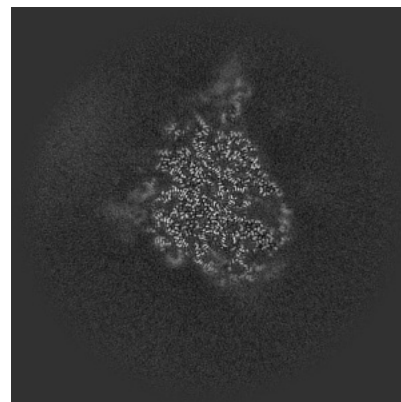
6.2.1 Primary map



X Index: 256

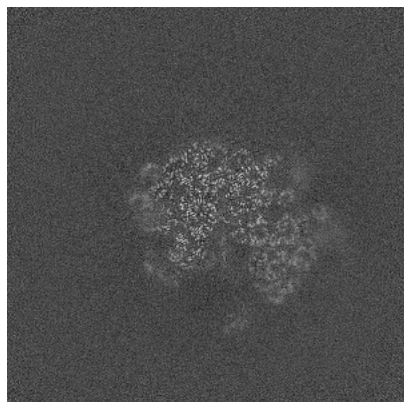


Y Index: 256

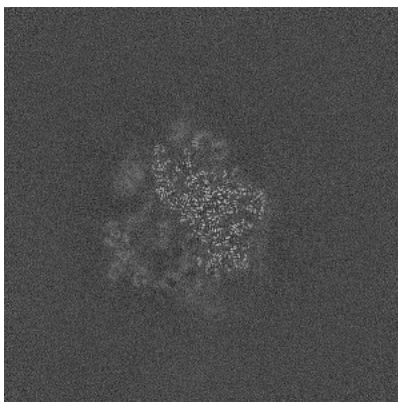


Z Index: 256

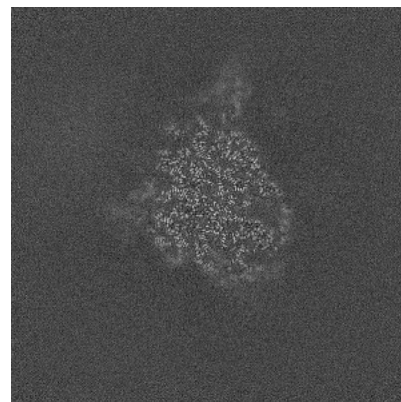
6.2.2 Raw map



X Index: 256



Y Index: 256

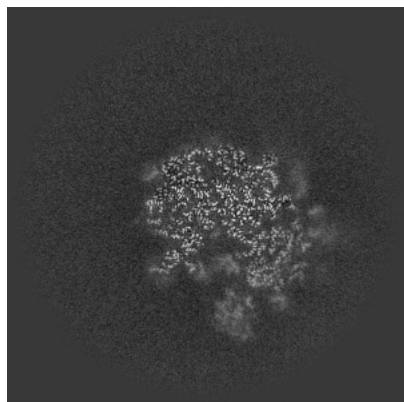


Z Index: 256

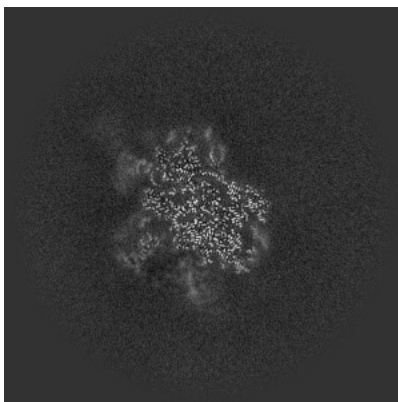
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

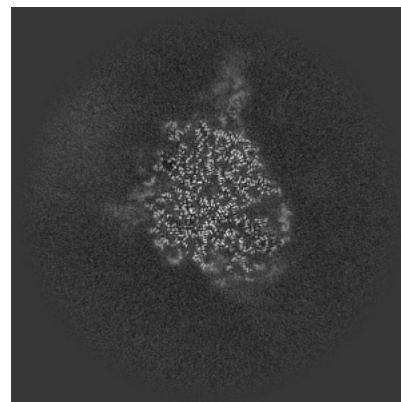
6.3.1 Primary map



X Index: 243

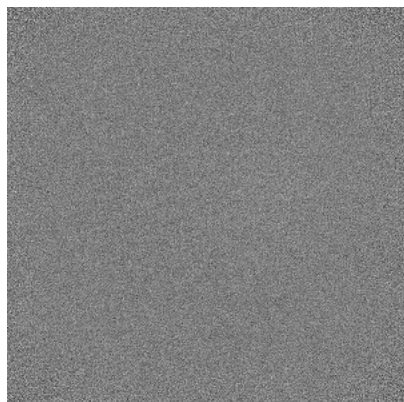


Y Index: 243

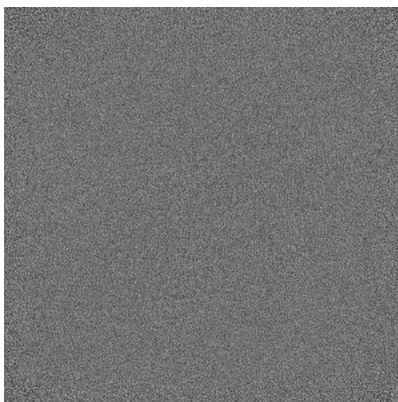


Z Index: 258

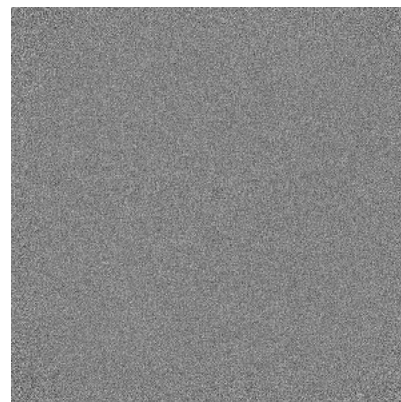
6.3.2 Raw map



X Index: 0



Y Index: 0

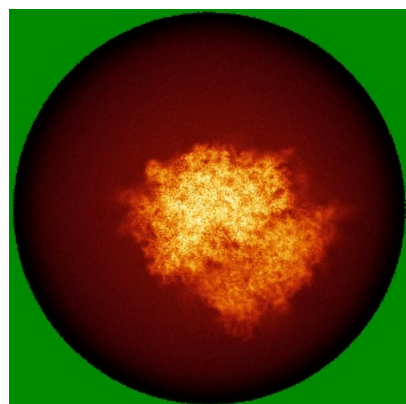


Z Index: 0

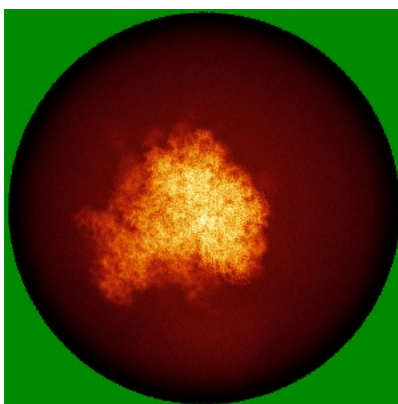
The images above show the largest variance slices of the map in three orthogonal directions.

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

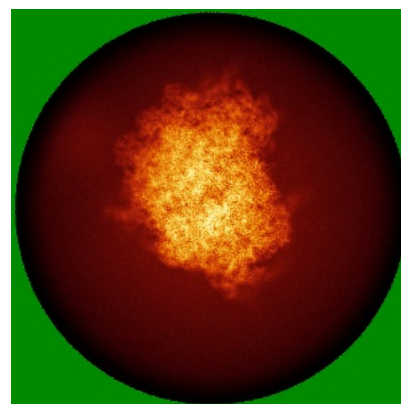
6.4.1 Primary map



X

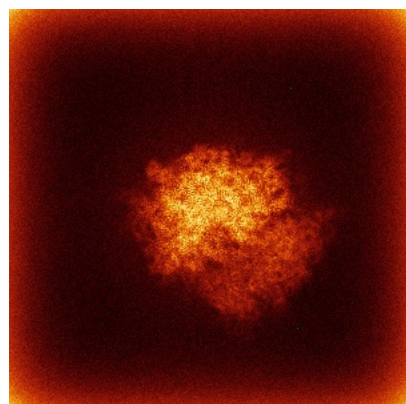


Y

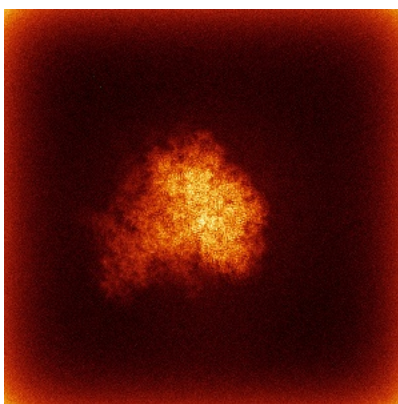


Z

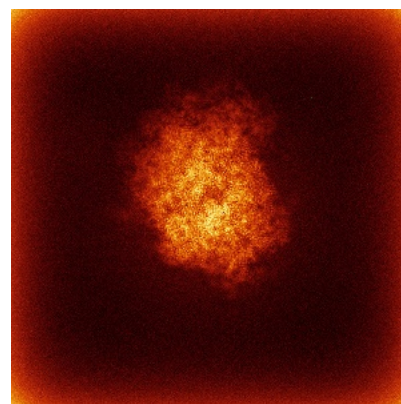
6.4.2 Raw map



X



Y

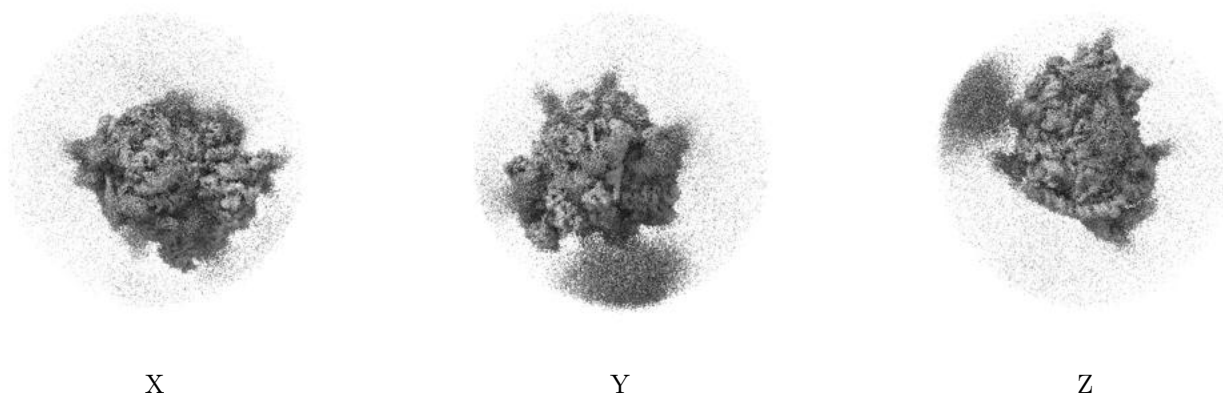


Z

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.

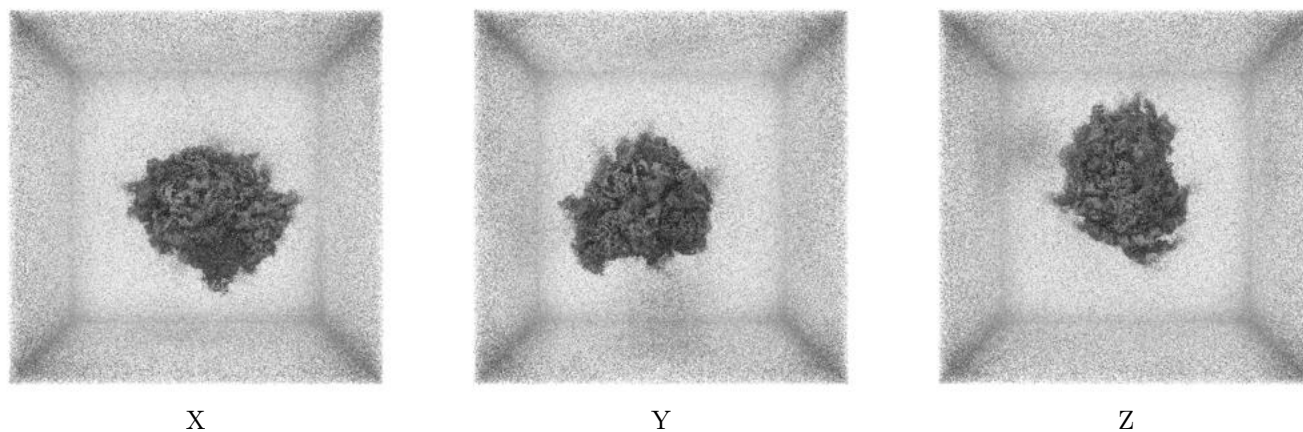
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0125. 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.

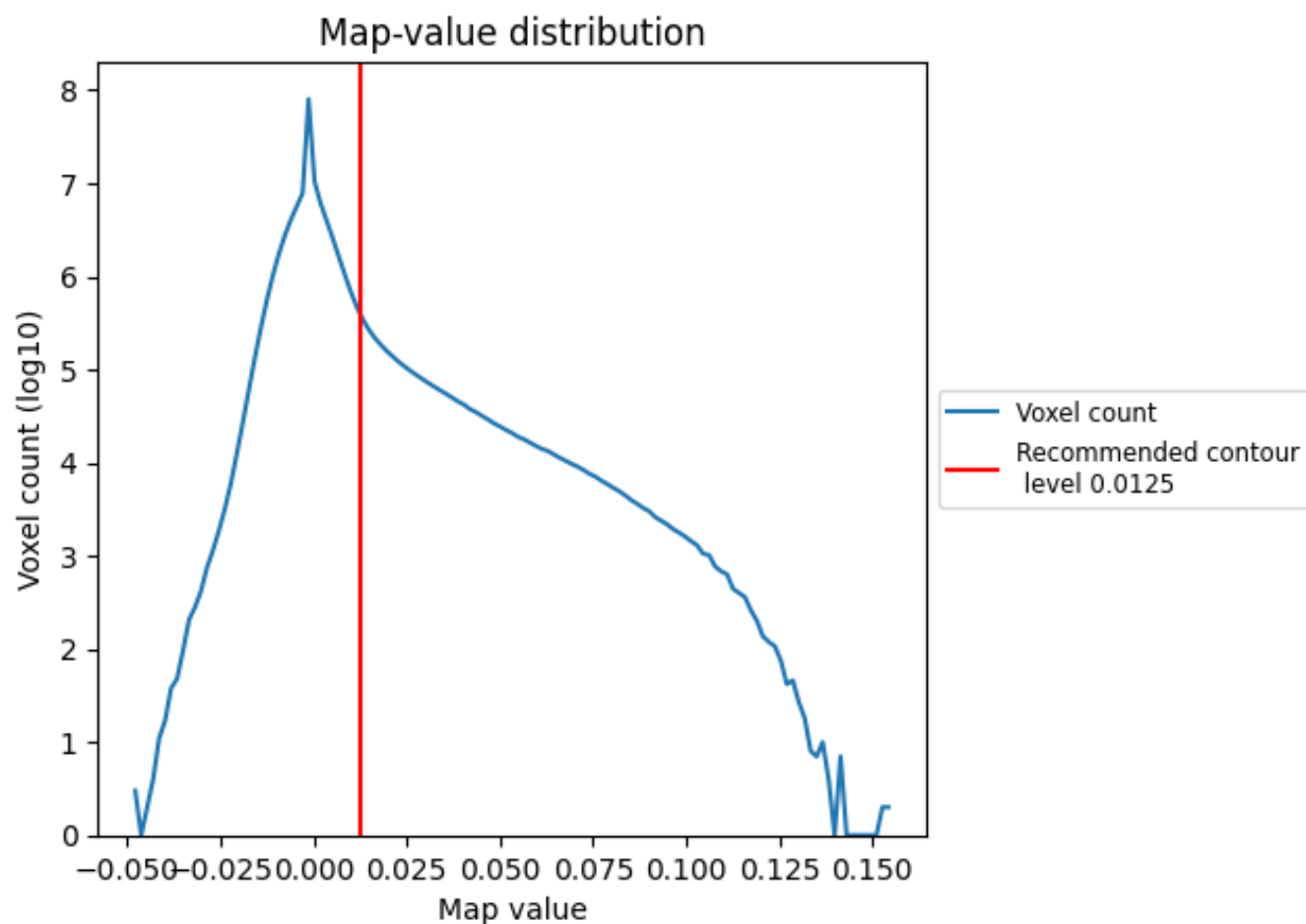
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

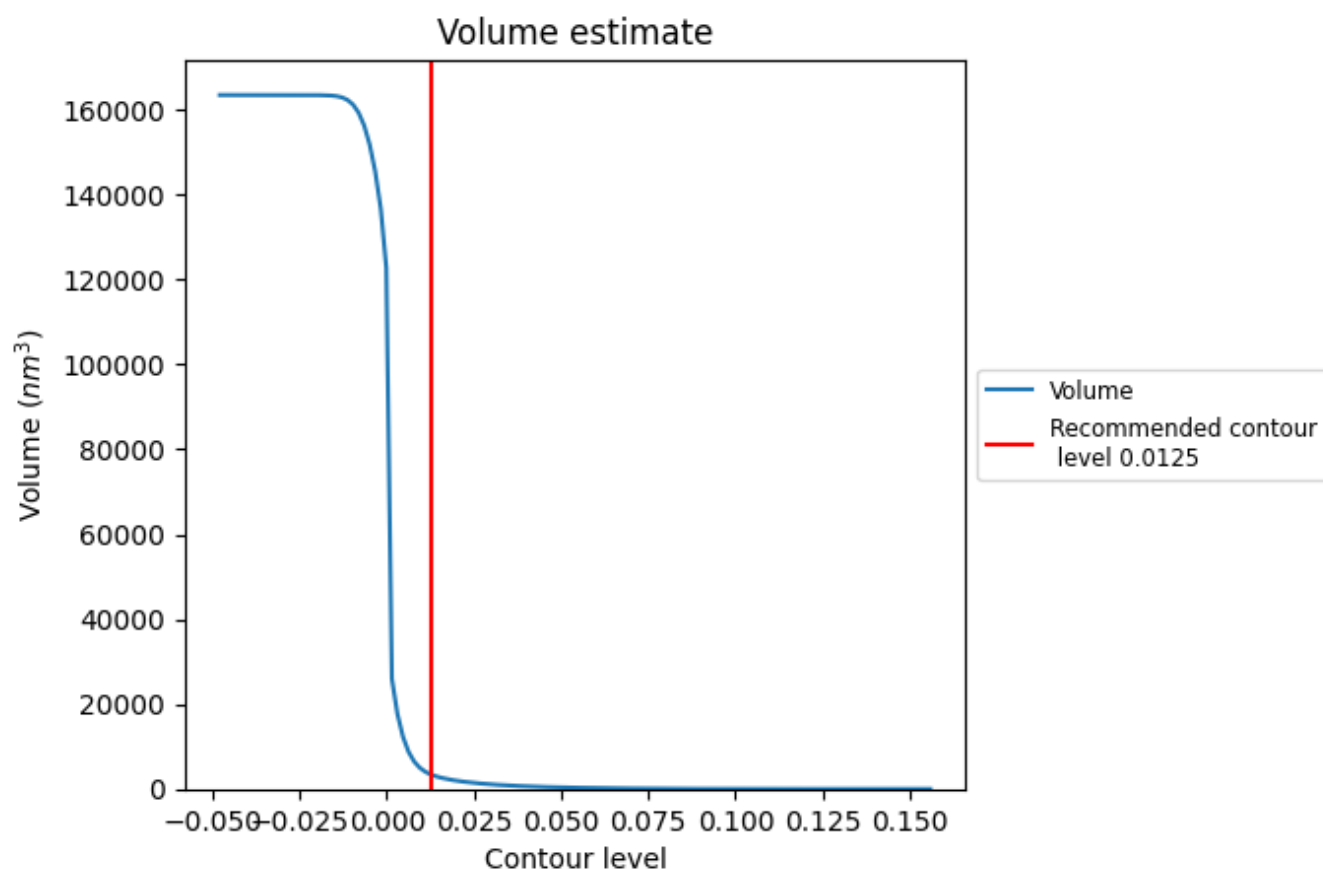
This section contains the results of statistical analysis of the map.

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.

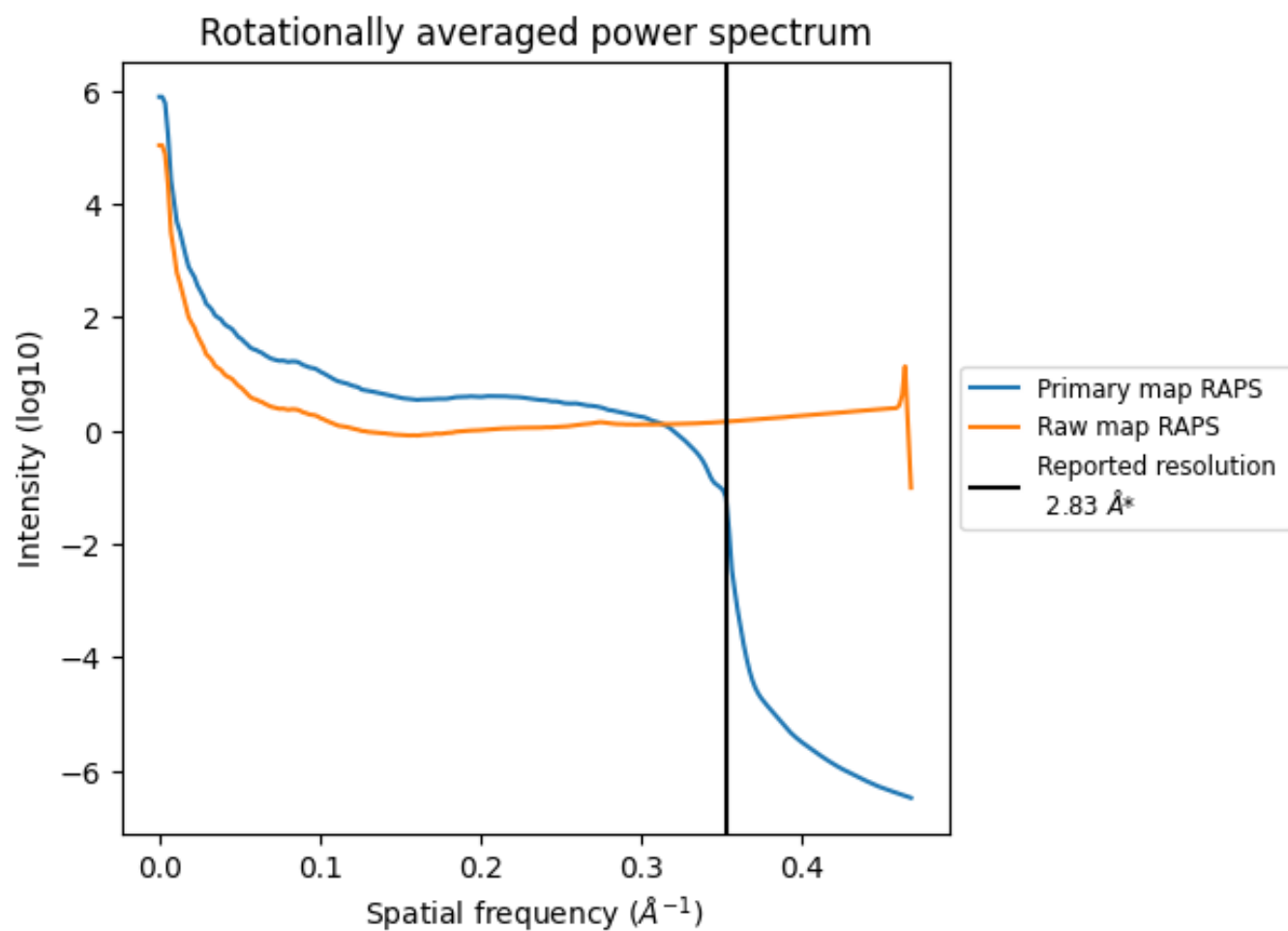
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3462 nm^3 ; this corresponds to an approximate mass of 3127 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 ⓘ

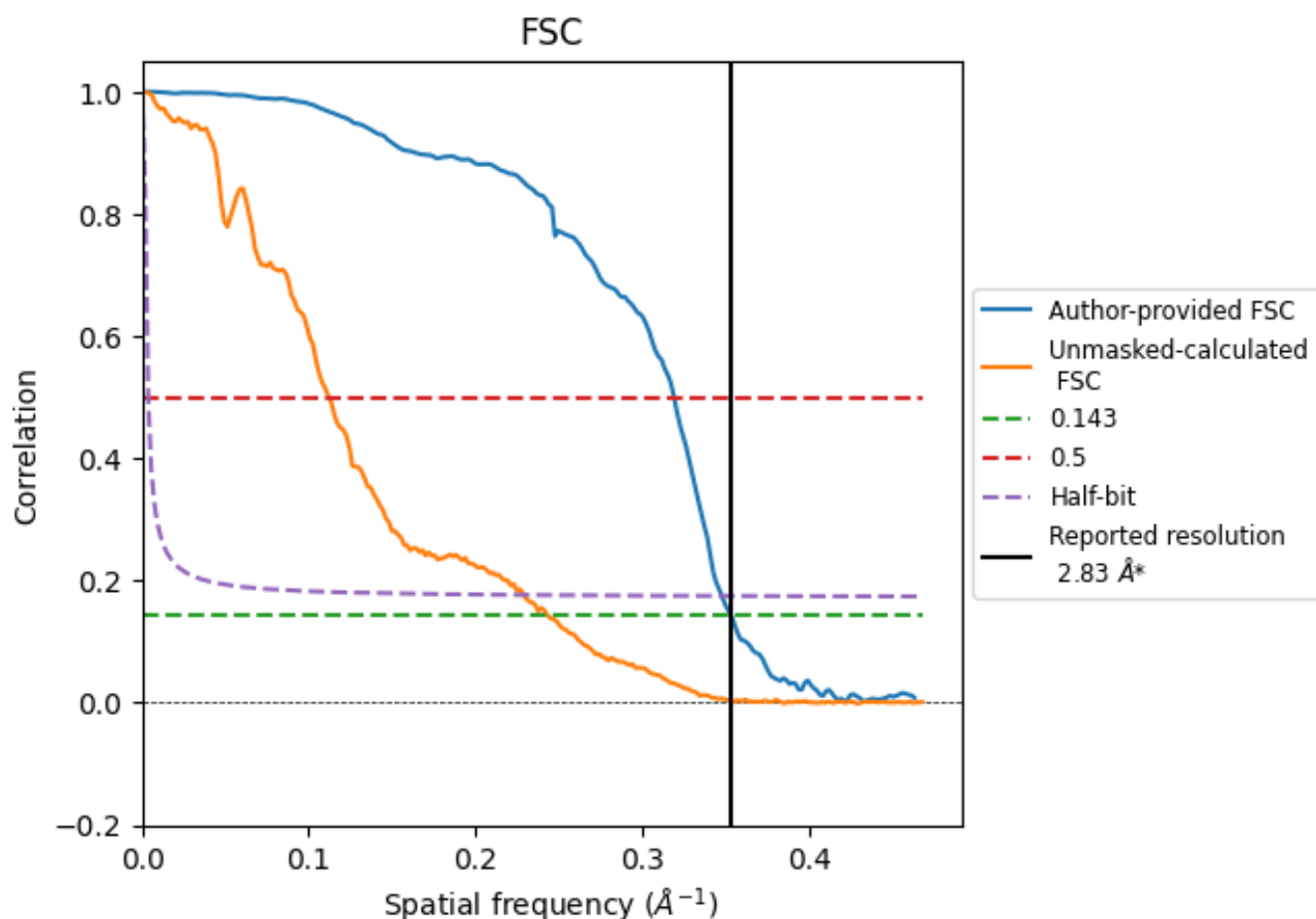


*Reported resolution corresponds to spatial frequency of 0.353 $\text{\AA}^{-1}$

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 0.353 Å⁻¹

8.2 Resolution estimates [i](#)

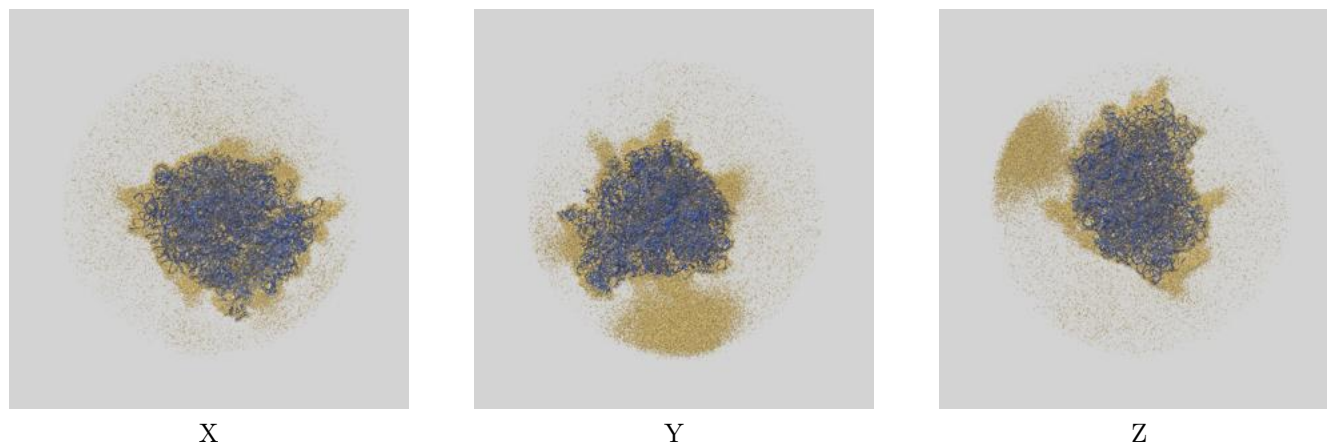
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.83	-	-
Author-provided FSC curve	2.83	3.13	2.87
Unmasked-calculated*	4.11	8.93	4.36

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.11 differs from the reported value 2.83 by more than 10 %

9 Map-model fit [i](#)

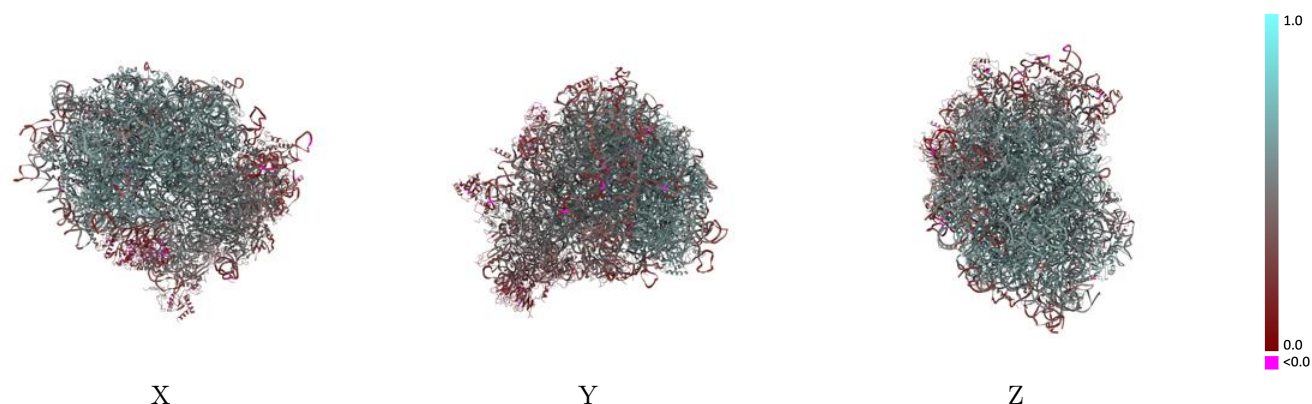
This section contains information regarding the fit between EMDB map EMD-71356 and PDB model 9P7X. Per-residue inclusion information can be found in section [3](#) on page [24](#).

9.1 Map-model overlay [i](#)



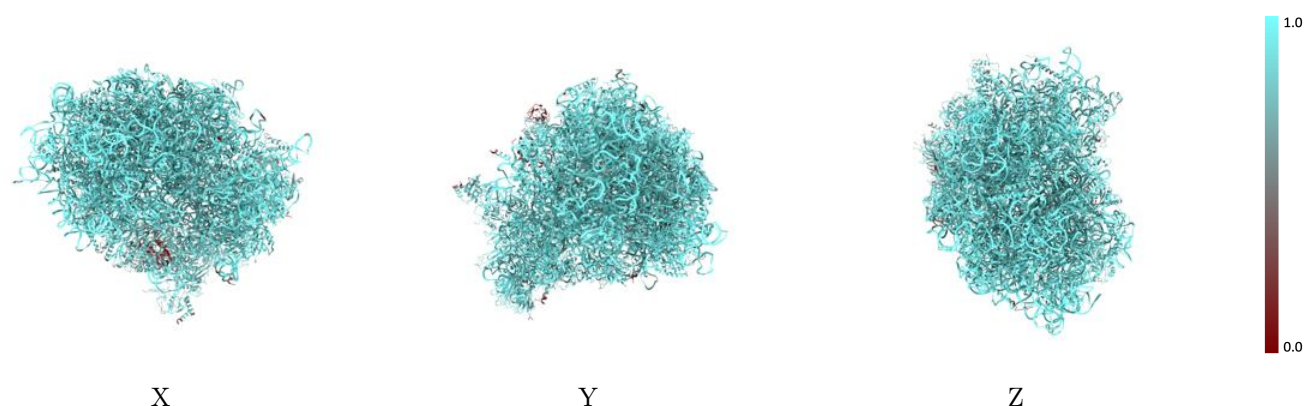
The images above show the 3D surface view of the map at the recommended contour level 0.0125 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



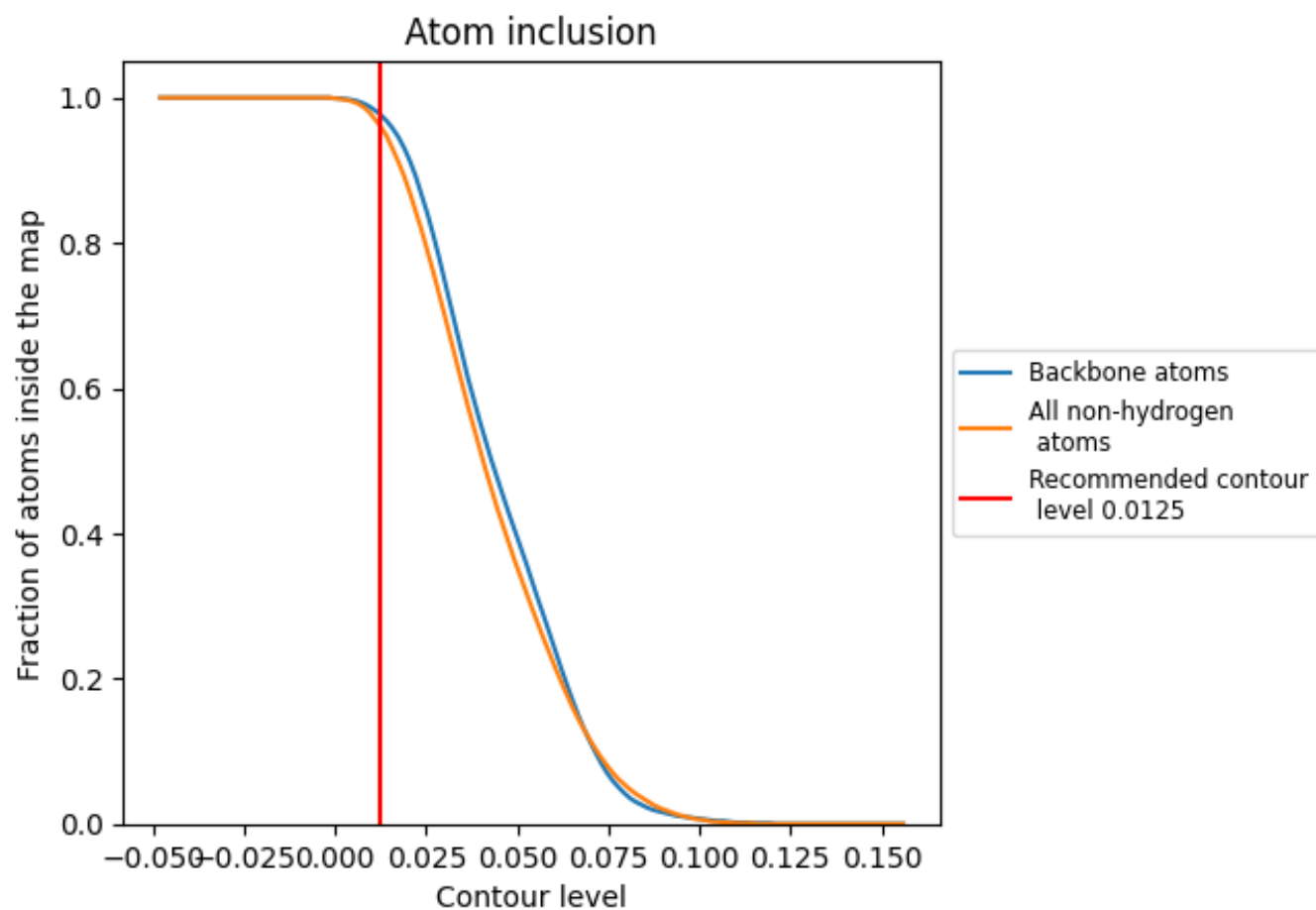
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0125).

9.4 Atom inclusion ⓘ



At the recommended contour level, 98% of all backbone atoms, 96% 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 (0.0125) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9610	 0.4900
At	 0.9370	 0.3690
CI	 0.9000	 0.4630
L5	 0.9860	 0.5330
L7	 0.9990	 0.5740
L8	 0.9890	 0.5590
LA	 0.9880	 0.5950
LB	 0.9660	 0.5800
LC	 0.9670	 0.5780
LD	 0.9660	 0.5340
LE	 0.9540	 0.5270
LF	 0.9850	 0.5830
LG	 0.9250	 0.5230
LH	 0.9720	 0.5660
LI	 0.9600	 0.5690
LJ	 0.9370	 0.4870
LL	 0.9460	 0.5580
LM	 0.9740	 0.5620
LN	 0.9960	 0.6090
LO	 0.9790	 0.5860
LP	 0.9790	 0.5900
LQ	 0.9890	 0.6060
LR	 0.9350	 0.5210
LS	 0.9890	 0.5960
LT	 0.9730	 0.5630
LU	 0.9650	 0.5040
LV	 0.9820	 0.5860
LW	 0.8890	 0.4320
LX	 0.9590	 0.5680
LY	 0.9760	 0.5680
LZ	 0.9790	 0.5570
La	 0.9840	 0.6050
Lb	 0.9220	 0.5100
Lc	 0.9560	 0.5350
Ld	 0.9580	 0.5640



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Le	 0.9870	 0.5950
Lf	 0.9880	 0.6030
Lg	 0.9770	 0.5720
Lh	 0.9700	 0.5620
Li	 0.9650	 0.5570
Lj	 0.9930	 0.5970
Lk	 0.9230	 0.4980
Ll	 0.9790	 0.5830
Lm	 0.9760	 0.5820
Ln	 0.9810	 0.5640
Lo	 0.9830	 0.5660
Lp	 0.9720	 0.5770
Lr	 0.9780	 0.5760
Ls	 0.5640	 0.1930
Lt	 0.5350	 0.1470
Pt	 0.9580	 0.4180
S2	 0.9890	 0.4410
SA	 0.8990	 0.3660
SB	 0.8920	 0.3760
SC	 0.9520	 0.4410
SD	 0.9190	 0.3820
SE	 0.9520	 0.4360
SF	 0.8840	 0.3380
SG	 0.9060	 0.3960
SH	 0.8980	 0.3470
SI	 0.9320	 0.4540
SJ	 0.9270	 0.4100
SK	 0.9180	 0.3550
SL	 0.9300	 0.4670
SM	 0.7660	 0.2290
SN	 0.9480	 0.4480
SO	 0.9140	 0.4190
SP	 0.8810	 0.3740
SQ	 0.9100	 0.3360
SR	 0.8840	 0.3360
SS	 0.8840	 0.3610
ST	 0.9230	 0.3270
SU	 0.9060	 0.3580
SV	 0.9410	 0.3950
SW	 0.9630	 0.4690
SX	 0.9480	 0.5080
SY	 0.8880	 0.3750

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
SZ	 0.8490	 0.3260
Sa	 0.9540	 0.4330
Sb	 0.9140	 0.3850
Sc	 0.8850	 0.3560
Sd	 0.9570	 0.4290
Se	 0.8490	 0.3910
Sf	 0.8440	 0.2590
Sg	 0.8750	 0.2400
Zt	 0.6530	 0.1560