



wwPDB EM Validation Summary Report ⓘ

Nov 5, 2023 – 01:44 AM EST

PDB ID : 8G5Z
EMDB ID : EMD-29758
Title : mRNA decoding in human is kinetically and structurally distinct from bacteria (GA state)
Authors : Holm, M.; Natchiar, K.S.; Rundlet, E.J.; Myasnikov, A.G.; Altman, R.B.; Blanchard, S.C.
Deposited on : 2023-02-14
Resolution : 2.64 Å(reported)

This is a wwPDB EM Validation Summary 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:

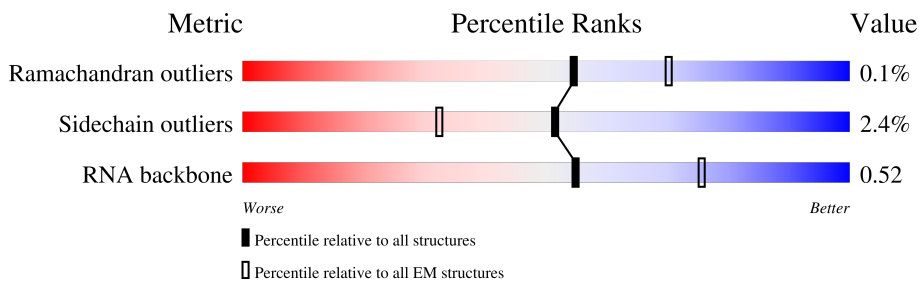
EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

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 2.64 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.



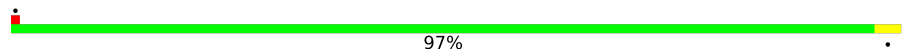
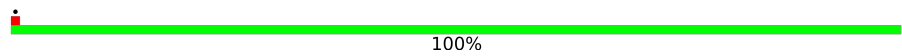
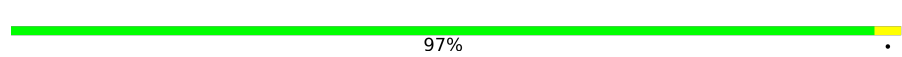
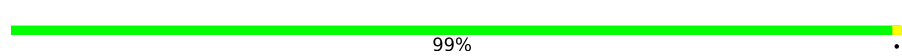
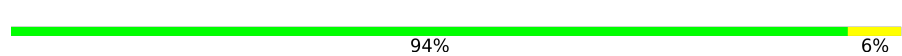
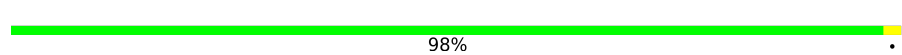
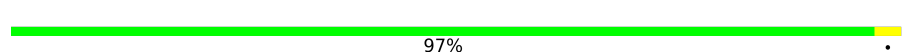
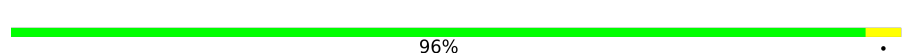
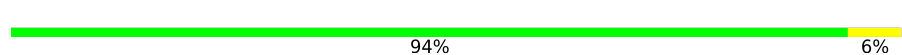
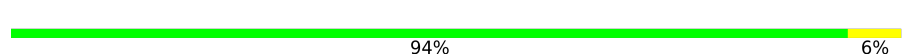
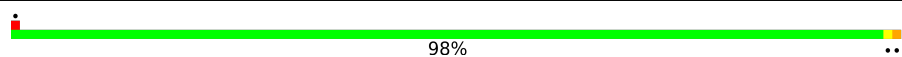
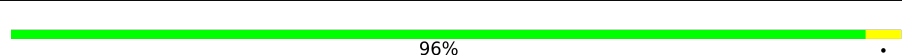
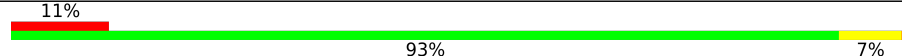
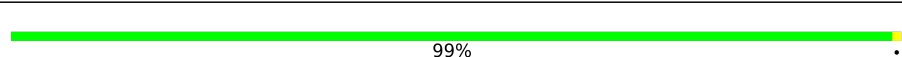

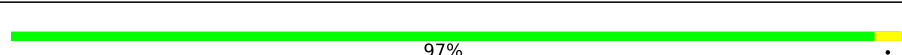
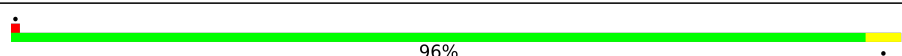
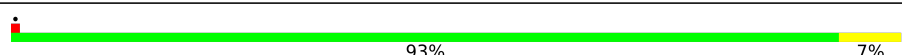
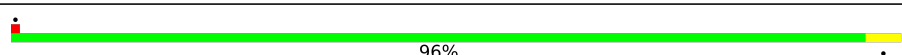
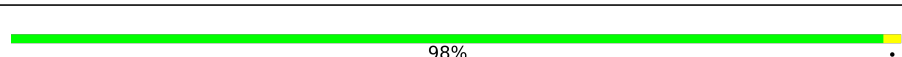
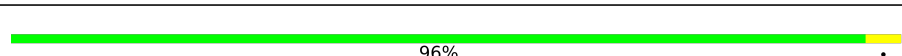
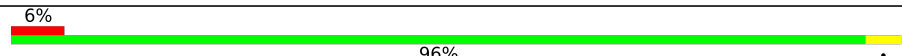
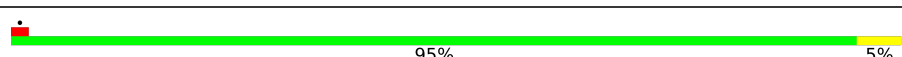
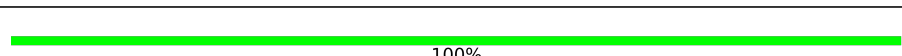
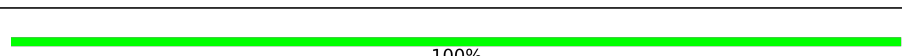
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	S2	1701	
2	L8	156	
3	L5	3687	
4	L7	120	
5	SB	223	
6	SA	222	
7	SD	226	
8	SJ	185	

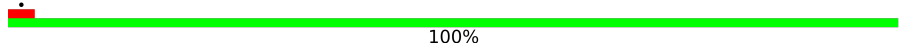
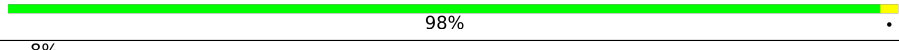
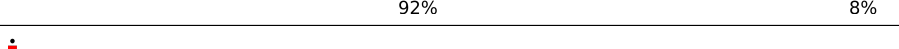
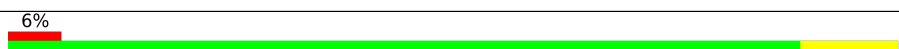
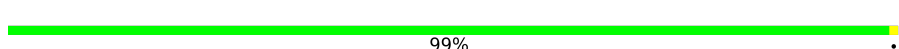
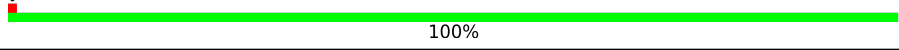
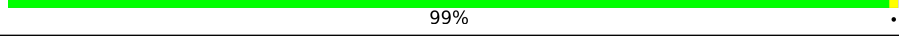
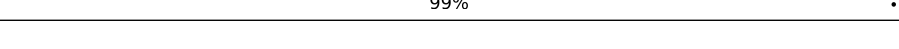

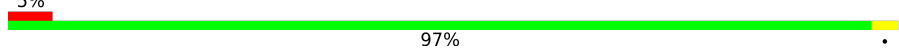
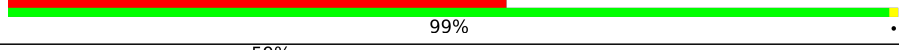
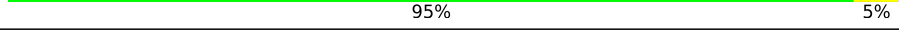
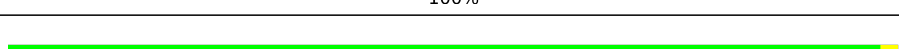
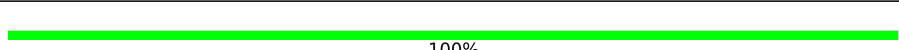
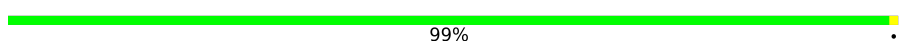
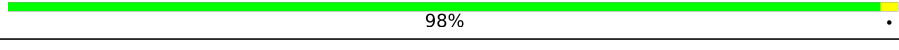
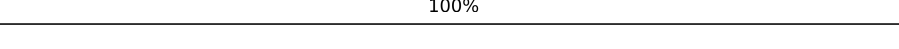

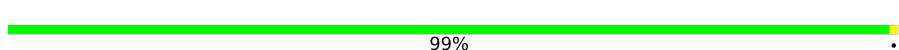
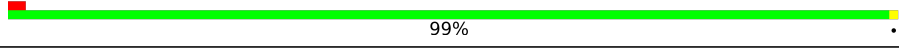
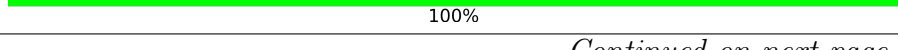



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Mol	Chain	Length	Quality of chain
9	SE	262	 97%
10	SC	222	 100%
11	SG	237	 97%
12	SF	189	 99%
13	SH	189	 94% 6%
14	SW	129	 98%
15	SI	206	 97%
16	SQ	141	 96%
17	SU	101	 94% 6%
18	SK	96	 94% 6%
19	SO	135	 98%
20	SX	142	 96%
21	SM	122	 11% 93% 7%
22	SS	148	 99%
23	Sd	55	 100%
24	SN	150	 97%
25	SL	143	 96%
26	SR	134	 93% 7%
27	SP	133	 96%
28	ST	143	 98%
29	SV	83	 96%
30	SY	131	 6% 96%
31	SZ	84	 95% 5%
32	Sa	99	 100%
33	Sb	83	 100%

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Mol	Chain	Length	Quality of chain
34	Sc	64	 100%
35	Se	59	 98%
36	Sf	75	 92%
37	Sg	313	 95%
38	Lz	211	 89%
39	LA	251	 99%
40	LB	402	 100%
41	LC	368	 99%
42	LJ	169	 99%
43	LH	190	 99%
44	LE	223	 99%
45	LG	239	 97%
46	Lq	196	 99%
47	LK	147	 95%
48	LO	201	 100%
49	LL	206	 98%
50	LV	140	 100%
51	LM	136	 99%
52	La	147	 98%
53	LN	203	 100%
54	LI	205	 97%
55	LD	294	 99%
56	LQ	187	 99%
57	LR	187	 99%
58	LS	176	100%



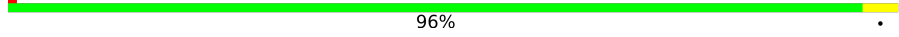
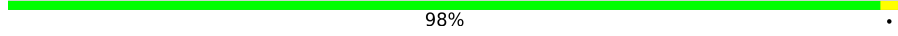
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Mol	Chain	Length	Quality of chain
59	LT	159	99%
60	LP	153	98%
61	LU	99	96%
62	LX	118	98%
63	LY	134	98%
64	LW	118	99%
65	LZ	135	98%
66	Lr	125	98%
67	Lh	122	98%
68	Lb	109	98%
69	LF	225	99%
70	Lc	98	100%
71	Ld	107	99%
72	Le	128	99%
73	Lf	109	100%
74	Lg	114	99%
75	Li	102	98%
76	Lj	86	98%
77	Lk	69	99%
78	Ll	50	100%
79	Lm	52	98%
80	Ln	25	100%
81	Lo	105	98%
82	Lp	91	100%
83	mR	11	82% 18%

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Mol	Chain	Length	Quality of chain
84	At	76	 70% 26% .
85	Pt	77	 74% 21% 5% .
86	5A	143	 96% .
87	EF	444	 98% .

2 Entry composition [i](#)

There are 99 unique types of molecules in this entry. The entry contains 227372 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	S2	1701	36364	16257	6517	11889	1701	0	0

- Molecule 2 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	L8	156	3320	1482	585	1097	156	0	0

- Molecule 3 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	L5	3687	79168	35292	14483	25704	3689	2	0

- Molecule 4 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	L7	120	2562	1141	456	845	120	0	0

- Molecule 5 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	SB	223	1806	1145	325	322	14	0	0

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SB	?	-	LYS	deletion	UNP P61247
SB	?	-	GLY	deletion	UNP P61247
SB	?	-	GLY	deletion	UNP P61247

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Chain	Residue	Modelled	Actual	Comment	Reference
SB	?	-	LYS	deletion	UNP P61247
SB	?	-	LYS	deletion	UNP P61247
SB	?	-	GLY	deletion	UNP P61247
SB	?	-	ALA	deletion	UNP P61247
SB	?	-	LYS	deletion	UNP P61247
SB	?	-	LYS	deletion	UNP P61247
SB	?	-	LYS	deletion	UNP P61247

- Molecule 6 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	SA	222	1750	1111	306	325	8	0	0

- Molecule 7 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	SD	226	1756	1119	315	314	8	0	0

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

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

- Molecule 9 is a protein called eS4.

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

- Molecule 10 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	SC	222	1725	1115	298	302	10	0	0

- Molecule 11 is a protein called 40S ribosomal protein S6.

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

- Molecule 12 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SF	189	Total	C	N	O	S	0	0
			1494	934	284	269	7		

- Molecule 13 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SH	189	Total	C	N	O	S	0	0
			1517	966	279	271	1		

- Molecule 14 is a protein called 40S ribosomal protein S15a.

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

- Molecule 15 is a protein called 40S ribosomal protein S8.

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

- Molecule 16 is a protein called uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	SQ	141	Total	C	N	O	S	0	0
			1123	715	212	193	3		

- Molecule 17 is a protein called uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	SU	101	Total	C	N	O	S	0	0
			803	504	153	142	4		

- Molecule 18 is a protein called eS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	SK	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 19 is a protein called uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SO	135	Total	C	N	O	S	0	0
			1009	618	198	187	6		

- Molecule 20 is a protein called uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	SX	142	Total	C	N	O	S	0	0
			1105	696	220	186	3		

- Molecule 21 is a protein called eS12.

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

- Molecule 22 is a protein called uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SS	148	Total	C	N	O	S	0	0
			1214	761	245	207	1		

- Molecule 23 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Sd	55	Total	C	N	O	S	0	0
			458	286	94	73	5		

- Molecule 24 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SN	150	Total	C	N	O	S	1	0
			1214	778	231	204	1		

- Molecule 25 is a protein called uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	SL	143	1171	746	221	198	6	0	0

- Molecule 26 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	SR	134	1083	680	201	198	4	0	0

- Molecule 27 is a protein called uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	SP	133	1093	695	206	185	7	0	0

- Molecule 28 is a protein called 40S ribosomal protein S19.

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

- Molecule 29 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	SV	83	639	395	117	122	5	0	0

- Molecule 30 is a protein called 40S ribosomal protein S24.

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

- Molecule 31 is a protein called eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	SZ	84	674	433	126	114	1	0	0

- Molecule 32 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Sa	99	Total	C	N	O	S	0	0
			792	492	165	130	5		

- Molecule 33 is a protein called eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Sb	83	Total	C	N	O	S	0	0
			650	408	121	114	7		

- Molecule 34 is a protein called 40S ribosomal protein S28.

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

- Molecule 35 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Se	59	Total	C	N	O	S	0	0
			467	290	102	74	1		

- Molecule 36 is a protein called eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Sf	75	Total	C	N	O	S	0	0
			615	388	118	102	7		

- Molecule 37 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 38 is a protein called uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Lz	211	Total	C	N	O	S	0	0
			1701	1089	307	297	8		

- Molecule 39 is a protein called uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	LA	251	1922	1204	393	319	6	0	0

- Molecule 40 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	LB	402	3239	2061	608	556	14	0	0

- Molecule 41 is a protein called 60S ribosomal protein L4.

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

- Molecule 42 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	LJ	169	1359	859	253	241	6	0	0

- Molecule 43 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	LH	190	1519	956	284	273	6	0	0

- Molecule 44 is a protein called eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	LE	223	1793	1155	340	294	4	1	0

- Molecule 45 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	LG	239	1910	1217	368	321	4	0	0

- Molecule 46 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	Lq	196	1507	958	263	277	9	0	0

- Molecule 47 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	LK	147	1122	700	211	208	3	0	0

- Molecule 48 is a protein called 60S ribosomal protein L13a.

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

- Molecule 49 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	LL	206	1665	1041	345	275	4	0	0

- Molecule 50 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	LV	140	1042	653	200	183	6	0	0

- Molecule 51 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	LM	136	1121	719	215	180	7	0	0

- Molecule 52 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	La	147	1163	736	237	187	3	0	0

- Molecule 53 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	LN	203	1700	1072	359	265	4	0	0

- Molecule 54 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	LI	205	1660	1054	319	274	13	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LI	?	-	CYS	deletion	UNP P27635
LI	?	-	ALA	deletion	UNP P27635
LI	?	-	GLY	deletion	UNP P27635
LI	?	-	ALA	deletion	UNP P27635
LI	?	-	ASP	deletion	UNP P27635
LI	?	-	ARG	deletion	UNP P27635
LI	?	-	LEU	deletion	UNP P27635
LI	?	-	GLN	deletion	UNP P27635

- Molecule 55 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	LD	294	2392	1513	436	429	14	0	0

- Molecule 56 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	LQ	187	1512	944	314	249	5	0	0

- Molecule 57 is a protein called 60S ribosomal protein L19.

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

- Molecule 58 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
58	LS	176	1460	930	284	235	11	0	0

- Molecule 59 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
59	LT	159	1297	823	252	216	6	0	0

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

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

- Molecule 61 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
61	LU	99	809	518	141	148	2	0	0

- Molecule 62 is a protein called uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
62	LX	118	967	618	181	167	1	0	0

- Molecule 63 is a protein called 60S ribosomal protein L26.

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

- Molecule 64 is a protein called eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
64	LW	118	950	595	192	159	4	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
65	LZ	135	1106	714	208	181	3	0	0

- Molecule 66 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
66	Lr	125	1006	624	207	170	5	0	0

- Molecule 67 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
67	Lh	122	1014	641	205	167	1	0	0

- Molecule 68 is a protein called eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
68	Lb	109	885	552	192	137	4	0	0

- Molecule 69 is a protein called 60S ribosomal protein L7.

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

- Molecule 70 is a protein called 60S ribosomal protein L30.

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

- Molecule 71 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
71	Ld	107	889	560	171	156	2	0	0

- Molecule 72 is a protein called 60S ribosomal protein L32.

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

- Molecule 73 is a protein called 60S ribosomal protein L35a.

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

- Molecule 74 is a protein called 60S ribosomal protein L34.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Li	102	Total	C	N	O	S	0	0
			833	521	177	130	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Lj	86	Total	C	N	O	S	1	0
			712	439	157	111	5		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Ll	50	Total	C	N	O	S	0	0
			443	281	98	63	1		

- Molecule 79 is a protein called eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Lm	52	Total	C	N	O	S	0	0
			432	269	90	67	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Ln	25	Total	C	N	O	S	0	0
			239	145	64	27	3		

- Molecule 81 is a protein called Ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Lo	105	Total	C	N	O	S	1	0
			870	548	177	139	6		

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

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

- Molecule 83 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	mR	11	Total	C	N	O	P	1	0
			252	113	41	86	12		

- Molecule 84 is a RNA chain called A-site tRNA Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace	
84	At	76	Total	C	N	O	P	S	0	0
			1630	730	290	532	76	2		

- Molecule 85 is a RNA chain called P-site tRNA fMet.

Mol	Chain	Residues	Atoms					AltConf	Trace	
85	Pt	77	Total	C	N	O	P	S	0	0
			1645	734	298	535	77	1		

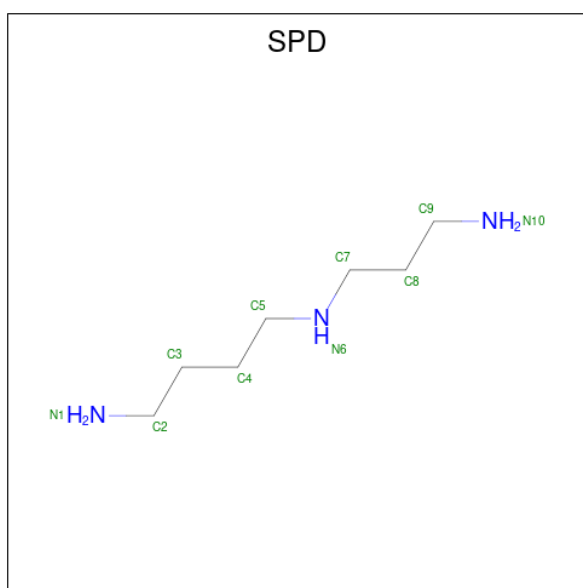
- Molecule 86 is a protein called eIF5A1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
86	5A	143	1089	682	187	211	9	0	0

- Molecule 87 is a protein called Elongation factor 1-alpha 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
87	EF	444	3405	2167	585	636	17	0	0

- Molecule 88 is SPERMIDINE (three-letter code: SPD) (formula: C₇H₁₉N₃).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
88	S2	1	10	7	3	0
88	L5	1	10	7	3	0
88	L5	1	10	7	3	0
88	L5	1	10	7	3	0
88	L5	1	10	7	3	0
88	L5	1	10	7	3	0
88	L5	1	10	7	3	0
88	L5	1	10	7	3	0

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

- Molecule 89 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
89	S2	9	Total	K	0
			9	9	
89	L8	1	Total	K	0
			1	1	
89	L5	30	Total	K	0
			30	30	
89	L7	1	Total	K	0
			1	1	
89	LA	1	Total	K	0
			1	1	
89	LB	1	Total	K	0
			1	1	
89	Lf	1	Total	K	0
			1	1	
89	mR	1	Total	K	0
			1	1	

- Molecule 90 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
90	S2	108	Total	Mg	0
			108	108	
90	L8	6	Total	Mg	0
			6	6	
90	L5	284	Total	Mg	0
			284	284	
90	L7	5	Total	Mg	0
			5	5	
90	SE	1	Total	Mg	0
			1	1	
90	SG	1	Total	Mg	0
			1	1	
90	SO	1	Total	Mg	0
			1	1	

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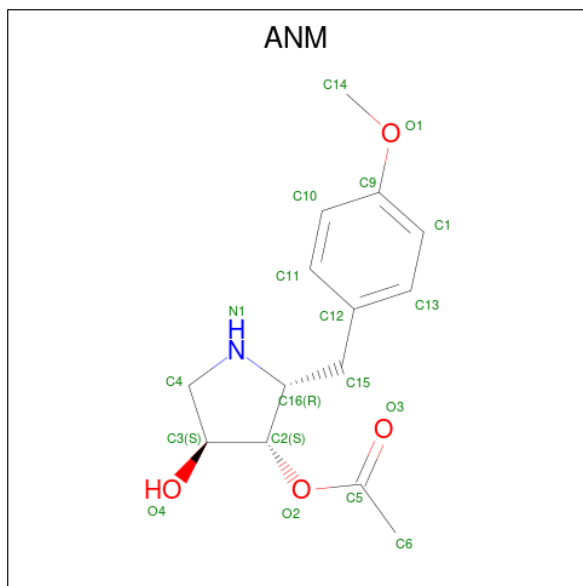
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
90	SX	2	2	2	0
90	Sd	1	1	1	0
90	ST	1	1	1	0
90	Sa	1	1	1	0
90	LA	1	1	1	0
90	LB	1	1	1	0
90	LC	1	1	1	0
90	LJ	1	1	1	0
90	LH	1	1	1	0
90	LV	1	1	1	0
90	LN	1	1	1	0
90	LI	1	1	1	0
90	LS	1	1	1	0
90	LP	1	1	1	0
90	LW	1	1	1	0
90	Lr	1	1	1	0
90	Le	1	1	1	0
90	Lg	2	2	2	0
90	Lj	1	1	1	0
90	mR	1	1	1	0
90	At	1	1	1	0

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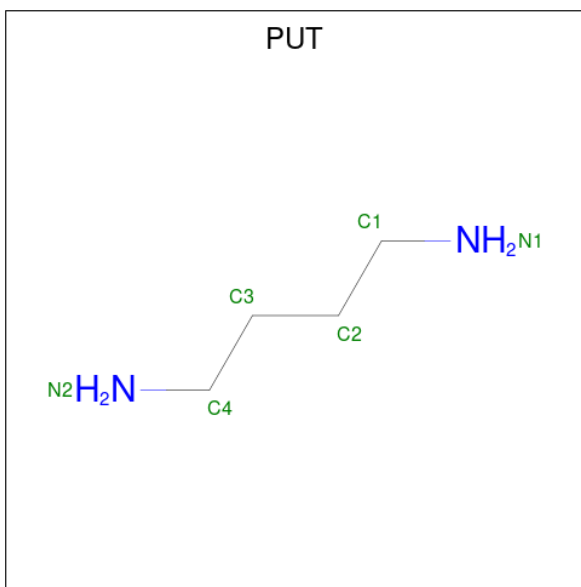
Mol	Chain	Residues	Atoms		AltConf
90	Pt	2	Total	Mg	0
			2	2	
90	EF	2	Total	Mg	0
			2	2	

- Molecule 91 is ANISOMYCIN (three-letter code: ANM) (formula: $C_{14}H_{19}NO_4$) (labeled as "Ligand of Interest" by depositor).



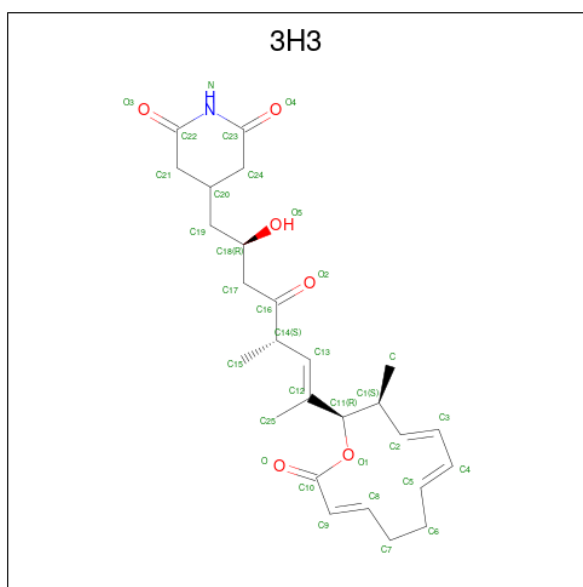
Mol	Chain	Residues	Atoms				AltConf
91	L5	1	Total	C	N	O	0
			19	14	1	4	

- Molecule 92 is 1,4-DIAMINOBTUTANE (three-letter code: PUT) (formula: $C_4H_{12}N_2$).



Mol	Chain	Residues	Atoms			AltConf
92	L5	1	Total	C	N	0
			6	4	2	
92	L5	1	Total	C	N	0
			6	4	2	
92	L5	1	Total	C	N	0
			6	4	2	
92	L5	1	Total	C	N	0
			6	4	2	
92	L5	1	Total	C	N	0
			6	4	2	
92	L5	1	Total	C	N	0
			6	4	2	
92	L5	1	Total	C	N	0
			6	4	2	

- Molecule 93 is 4-[(2R,5S,6E)-2-hydroxy-5-methyl-7-[(2R,3S,4E,6Z,10E)-3-methyl-12-oxooxacyclododeca-4,6,10-trien-2-yl]-4-oxooct-6-en-1-yl]piperidine-2,6-dione (three-letter code: 3H3) (formula: C₂₆H₃₅NO₆) (labeled as "Ligand of Interest" by depositor).

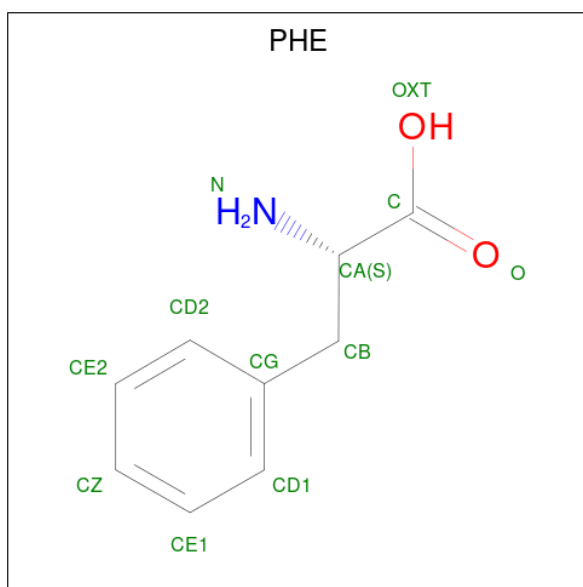


Mol	Chain	Residues	Atoms				AltConf
93	L5	1	Total	C	N	O	0
			33	26	1	6	

- Molecule 94 is ZINC ION (three-letter code: ZN) (formula: Zn).

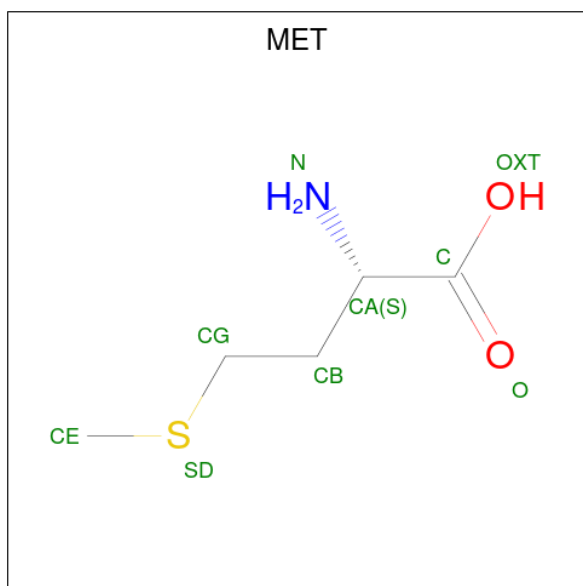
Mol	Chain	Residues	Atoms		AltConf
94	Sd	1	Total	Zn	0
			1	1	
94	Sa	1	Total	Zn	0
			1	1	
94	Sf	1	Total	Zn	0
			1	1	
94	Lg	1	Total	Zn	0
			1	1	
94	Lj	1	Total	Zn	0
			1	1	
94	Lm	1	Total	Zn	0
			1	1	
94	Lo	1	Total	Zn	0
			1	1	
94	Lp	1	Total	Zn	0
			1	1	

- Molecule 95 is PHENYLALANINE (three-letter code: PHE) (formula: C₉H₁₁NO₂).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
95	At	1	11	9	1	1	0

- Molecule 96 is METHIONINE (three-letter code: MET) (formula: C₅H₁₁NO₂S).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	S	
96	Pt	1	8	5	1	1	1	0

- Molecule 97 is 5'-GUANOSINE-DIPHOSPHATE-MONOTHIOPHOSPHATE (three-letter code: GSP) (formula: C₁₀H₁₆N₅O₁₃P₃S).

Mol	Chain	Residues	Atoms	AltConf
99	S2	21	Total O 21 21	0
99	L8	4	Total O 4 4	0
99	L5	304	Total O 304 304	0
99	L7	3	Total O 3 3	0
99	SE	1	Total O 1 1	0
99	SS	1	Total O 1 1	0
99	SN	1	Total O 1 1	0
99	Sa	1	Total O 1 1	0
99	LA	1	Total O 1 1	0
99	LB	3	Total O 3 3	0
99	LC	2	Total O 2 2	0
99	LO	1	Total O 1 1	0
99	LV	1	Total O 1 1	0
99	LM	1	Total O 1 1	0
99	La	4	Total O 4 4	0
99	LI	1	Total O 1 1	0
99	LQ	1	Total O 1 1	0
99	LP	3	Total O 3 3	0
99	Lr	1	Total O 1 1	0
99	Lb	1	Total O 1 1	0
99	LF	1	Total O 1 1	0
99	Li	1	Total O 1 1	0

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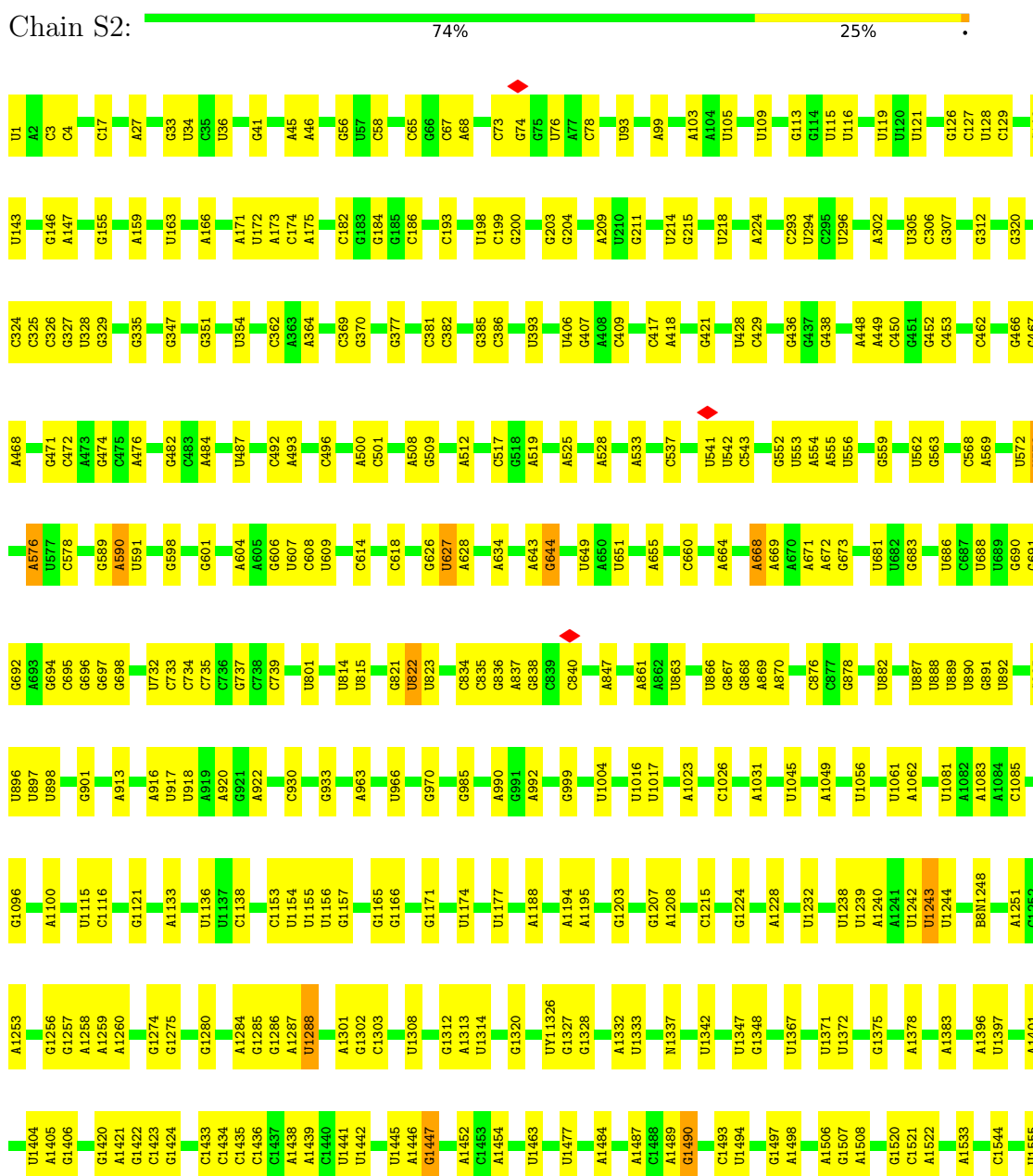
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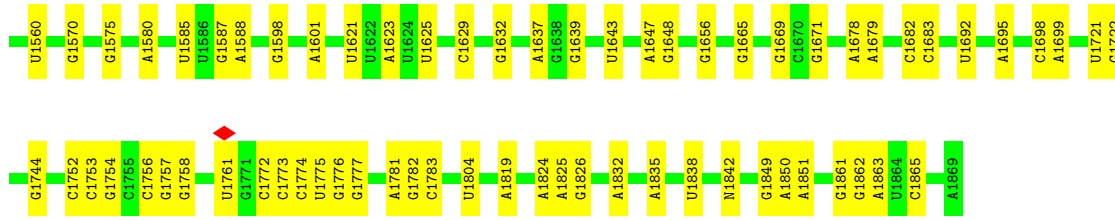
Mol	Chain	Residues	Atoms		AltConf
99	Lj	2	Total 2	O 2	0
99	Lo	2	Total 2	O 2	0
99	EF	3	Total 3	O 3	0

3 Residue-property plots

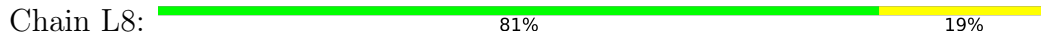
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: 18S rRNA

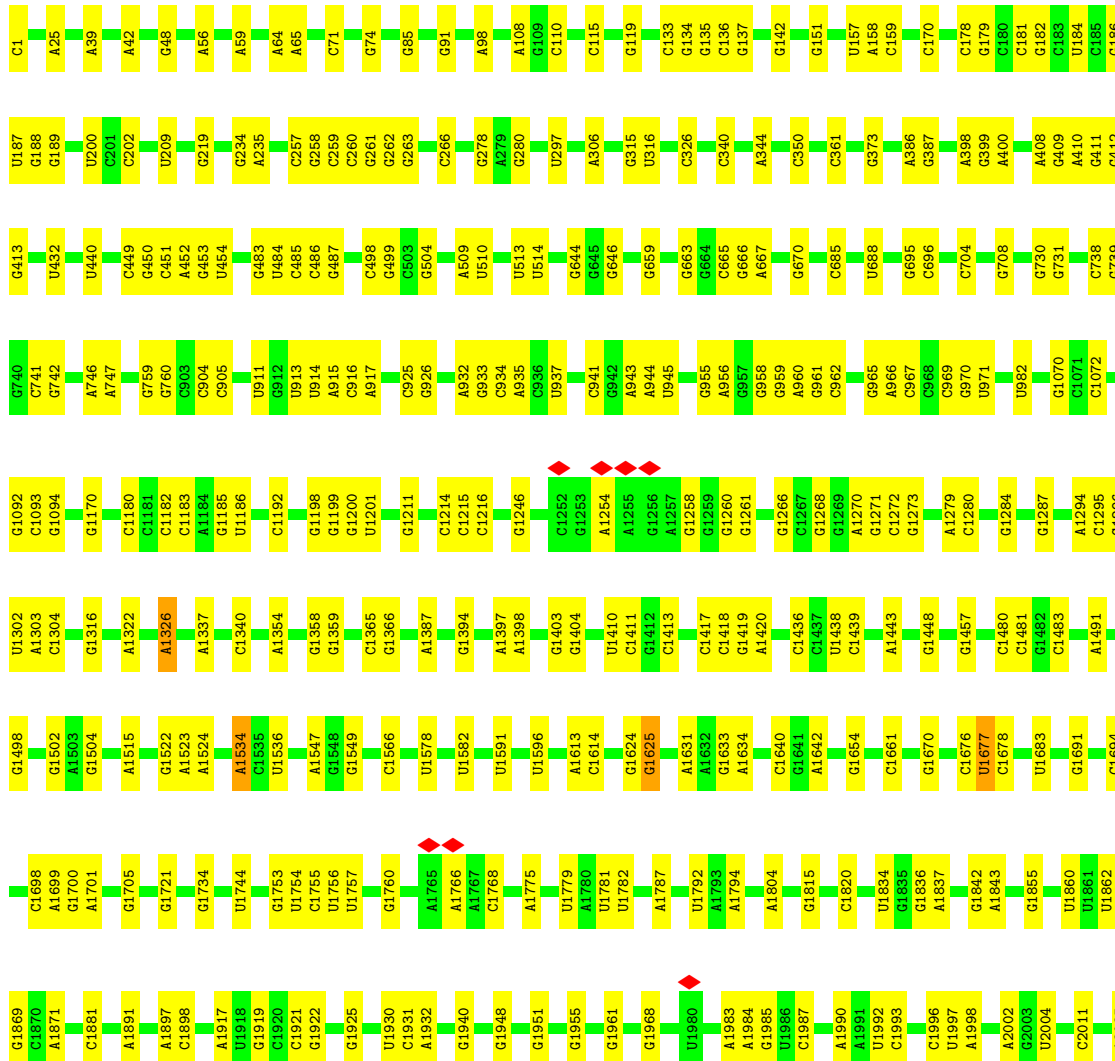
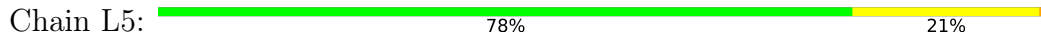


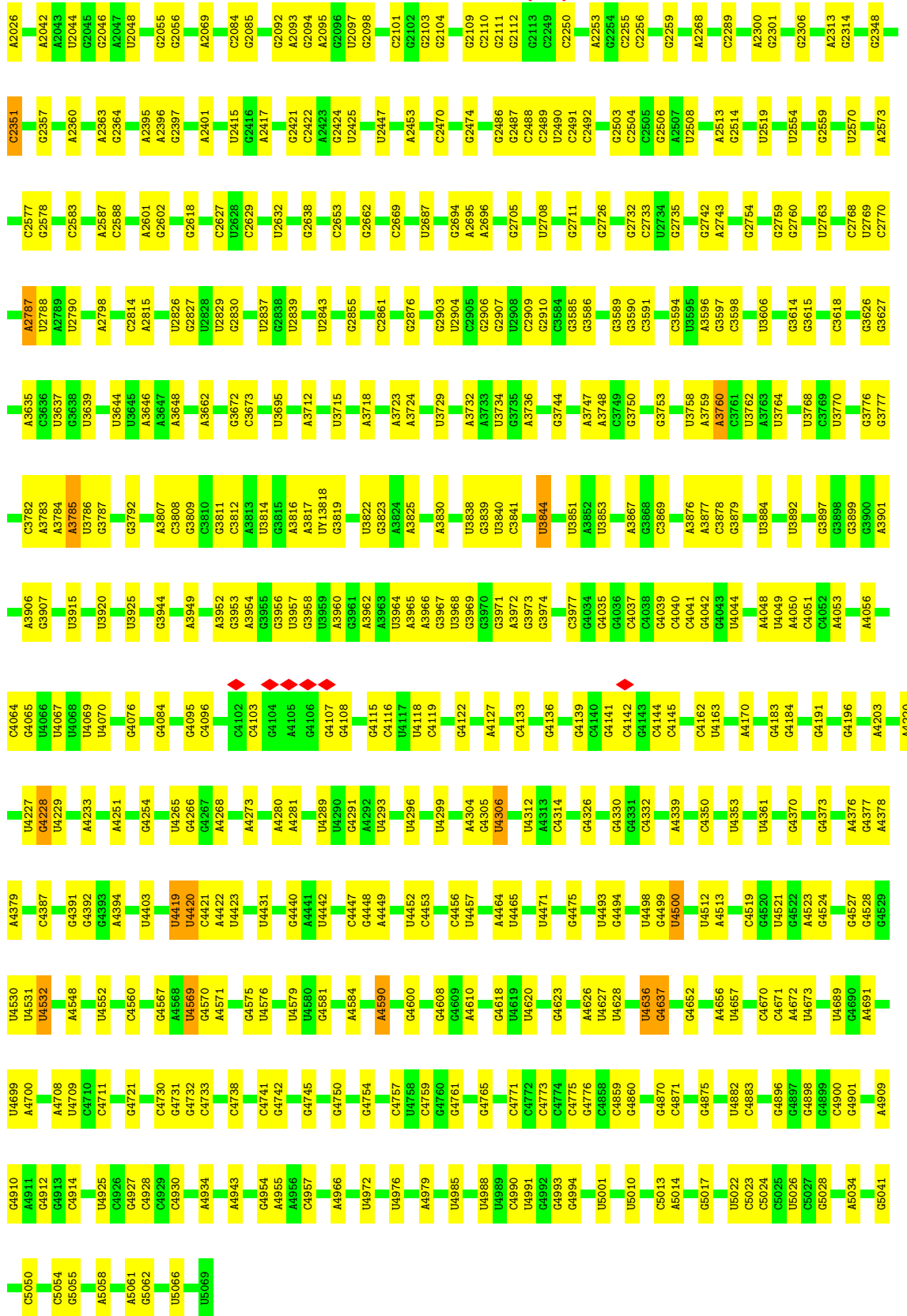


• Molecule 2: 5.8S rRNA




• Molecule 3: 28S rRNA





● Molecule 4: 5S rRNA

Chain L7:  88% 12%



- Molecule 5: 40S ribosomal protein S3a

Chain SB:  100%



- Molecule 6: 40S ribosomal protein SA

Chain SA:  98%



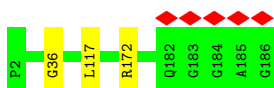
- Molecule 7: 40S ribosomal protein S3

Chain SD:  97%



- Molecule 8: 40S ribosomal protein S9

Chain SJ:  98%



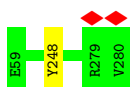
- Molecule 9: eS4

Chain SE:  97%



- Molecule 10: 40S ribosomal protein S2

Chain SC:  100%



- Molecule 11: 40S ribosomal protein S6

Chain SG:  97%



- Molecule 12: 40S ribosomal protein S5

Chain SF:  99%



- Molecule 13: 40S ribosomal protein S7

Chain SH:  94% 6%



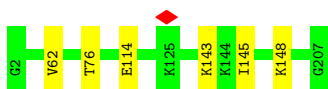
- Molecule 14: 40S ribosomal protein S15a

Chain SW:  98%



- Molecule 15: 40S ribosomal protein S8

Chain SI:  97%



- Molecule 16: uS9

Chain SQ:  96%



- Molecule 17: uS10

Chain SU:  94% 6%



- Molecule 18: eS10

Chain SK:  94% 6%



- Molecule 19: uS11

Chain SO:  98% ..



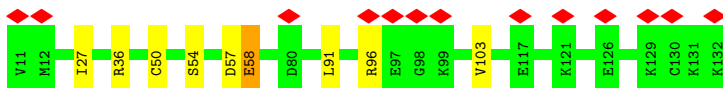
- Molecule 20: uS12

Chain SX:  96% .



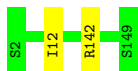
- Molecule 21: eS12

Chain SM:  11% 93% 7% .



- Molecule 22: uS13

Chain SS:  99% .



- Molecule 23: 40S ribosomal protein S29

Chain Sd:  100%

There are no outlier residues recorded for this chain.

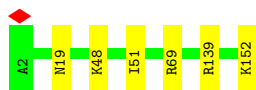
- Molecule 24: 40S ribosomal protein S13

Chain SN:  97% .



- Molecule 25: uS17

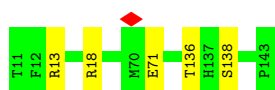
Chain SL:  96% .



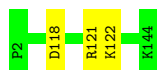
- Molecule 26: 40S ribosomal protein S17



- Molecule 27: uS19



- Molecule 28: 40S ribosomal protein S19



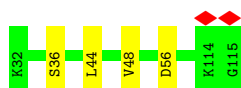
- Molecule 29: 40S ribosomal protein S21



- Molecule 30: 40S ribosomal protein S24



- Molecule 31: eS25



- Molecule 32: 40S ribosomal protein S26

Chain Sa:  100%

There are no outlier residues recorded for this chain.

- Molecule 33: eS27

Chain Sb:  100%

There are no outlier residues recorded for this chain.

- Molecule 34: 40S ribosomal protein S28

Chain Sc:  100%



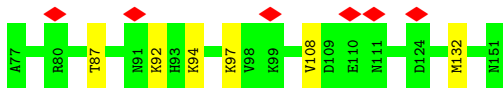
- Molecule 35: 40S ribosomal protein S30

Chain Se:  98%



- Molecule 36: eS31

Chain Sf:  8% 92% 8%




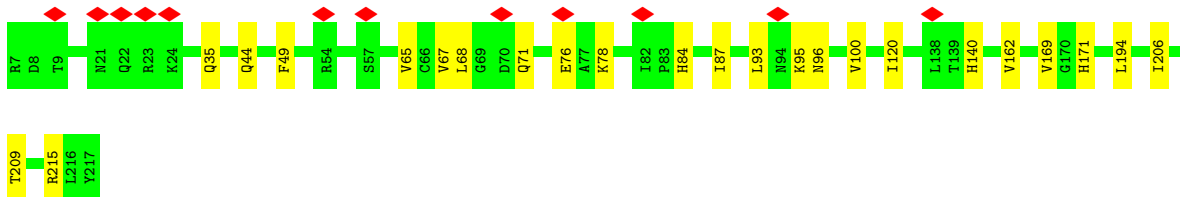
- Molecule 37: Receptor of activated protein C kinase 1

Chain Sg:  95% 5%



- Molecule 38: uL1

Chain Lz:  6% 89% 11%



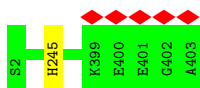
- Molecule 39: uL2

Chain LA:  99%



- Molecule 40: 60S ribosomal protein L3

Chain LB:  100%



- Molecule 41: 60S ribosomal protein L4

Chain LC:  99%



- Molecule 42: 60S ribosomal protein L11

Chain LJ:  99%



- Molecule 43: 60S ribosomal protein L9

Chain LH:  99%



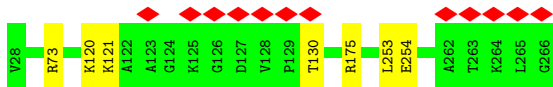
- Molecule 44: eL6

Chain LE:  99%

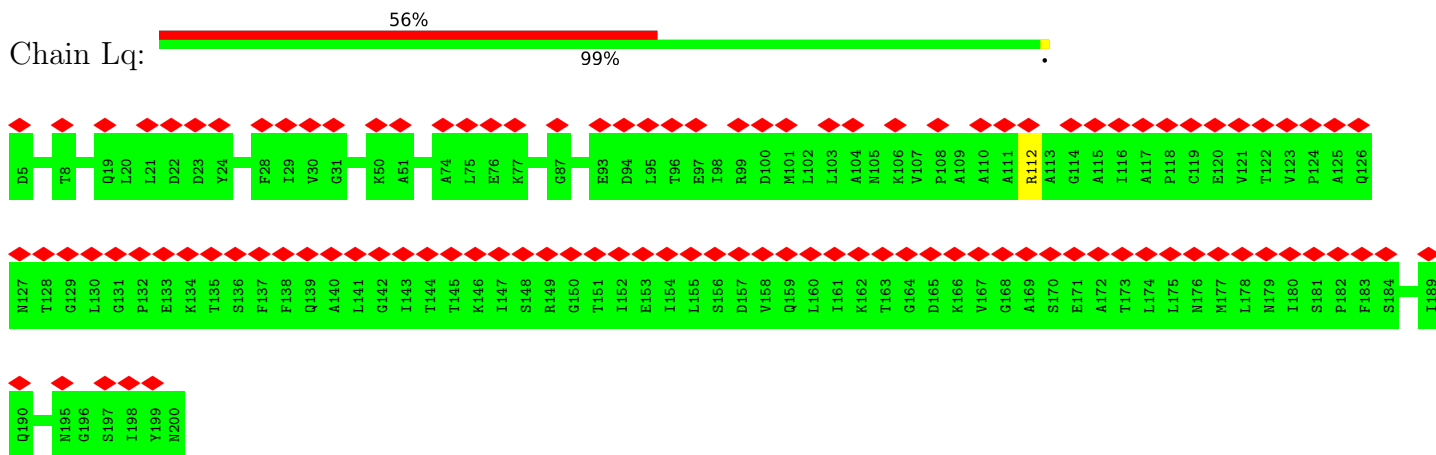


- Molecule 45: 60S ribosomal protein L7a

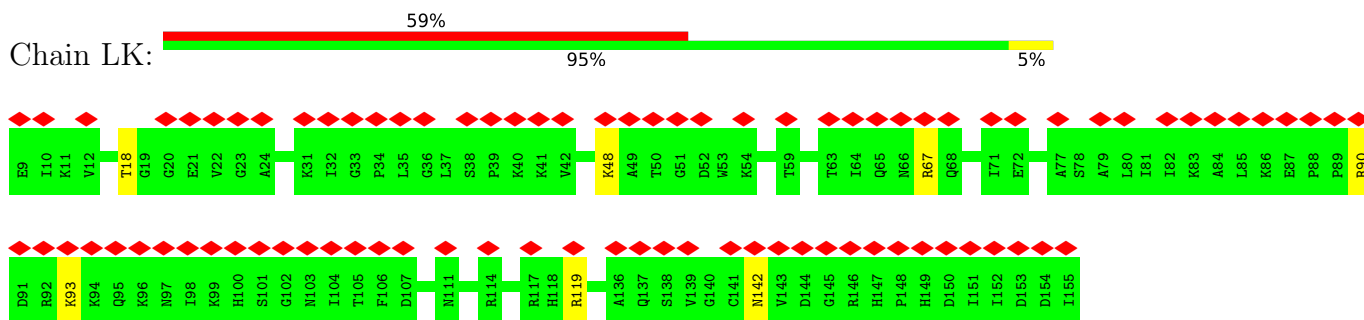
Chain LG:  5% 97%



- Molecule 46: 60S acidic ribosomal protein P0



- Molecule 47: 60S ribosomal protein L12



- Molecule 48: 60S ribosomal protein L13a



There are no outlier residues recorded for this chain.

- Molecule 49: 60S ribosomal protein L13

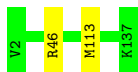


- Molecule 50: 60S ribosomal protein L23



There are no outlier residues recorded for this chain.

- Molecule 51: 60S ribosomal protein L14



- Molecule 52: 60S ribosomal protein L27a

Chain La:  98%



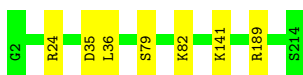
- Molecule 53: 60S ribosomal protein L15

Chain LN:  100%

There are no outlier residues recorded for this chain.

- Molecule 54: 60S ribosomal protein L10

Chain LI:  97%



- Molecule 55: 60S ribosomal protein L5

Chain LD:  99%



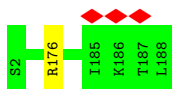
- Molecule 56: 60S ribosomal protein L18

Chain LQ:  99%



- Molecule 57: 60S ribosomal protein L19

Chain LR:  99%



- Molecule 58: 60S ribosomal protein L18a

Chain LS:  100%

There are no outlier residues recorded for this chain.

- Molecule 59: 60S ribosomal protein L21

Chain LT:  99%



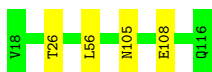
- Molecule 60: 60S ribosomal protein L17

Chain LP: 98%



- Molecule 61: 60S ribosomal protein L22

Chain LU: 96%



- Molecule 62: uL23

Chain LX: 98%



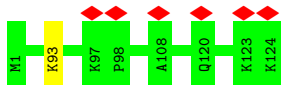
- Molecule 63: 60S ribosomal protein L26

Chain LY: 98%



- Molecule 64: eL24

Chain LW: 5% 99%



- Molecule 65: 60S ribosomal protein L27

Chain LZ: 98%



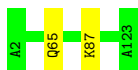
- Molecule 66: 60S ribosomal protein L28

Chain Lr: 98%



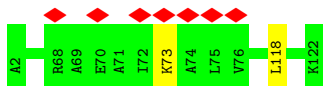
- Molecule 67: 60S ribosomal protein L35

Chain Lh: 98%



- Molecule 68: eL29

Chain Lb: 98%



- Molecule 69: 60S ribosomal protein L7

Chain LF: 99%



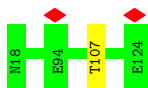
- Molecule 70: 60S ribosomal protein L30

Chain Lc: 100%

There are no outlier residues recorded for this chain.

- Molecule 71: 60S ribosomal protein L31

Chain Ld: 99%



- Molecule 72: 60S ribosomal protein L32

Chain Le: 99%



- Molecule 73: 60S ribosomal protein L35a

Chain Lf: 100%

There are no outlier residues recorded for this chain.

- Molecule 74: 60S ribosomal protein L34

Chain Lg:  99%



- Molecule 75: 60S ribosomal protein L36

Chain Li:  98%



- Molecule 76: 60S ribosomal protein L37

Chain Lj:  98%



- Molecule 77: 60S ribosomal protein L38

Chain Lk:  99%



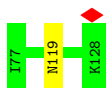
- Molecule 78: 60S ribosomal protein L39

Chain Ll:  100%

There are no outlier residues recorded for this chain.

- Molecule 79: eL40

Chain Lm:  98%



- Molecule 80: 60S ribosomal protein L41

Chain Ln:  100%

There are no outlier residues recorded for this chain.

- Molecule 81: Ribosomal protein L36a

Chain Lo:  98%




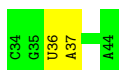
- Molecule 82: 60S ribosomal protein L37a

Chain Lp:  100%



- Molecule 83: mRNA

Chain mR:  82% 18%




- Molecule 84: A-site tRNA Phe

Chain At:  70% 26%



- Molecule 85: P-site tRNA fMet

Chain Pt:  74% 21% 5%



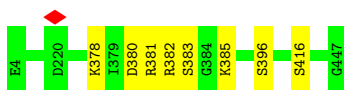
- Molecule 86: eIF5A1

Chain 5A:  96%



- Molecule 87: Elongation factor 1-alpha 1

Chain EF:  98%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	20290	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	79	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.041	Depositor
Minimum map value	-0.012	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.003	Depositor
Map size (\AA)	528.64, 528.64, 528.64	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.82600003, 0.82600003, 0.82600003	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ANM, MG, B8N, GSP, V5N, H2U, A2M, M3L, HY3, OMU, SAC, HIC, MA6, 3H3, PUT, AME, 5MC, 6MZ, OMG, 5CT, PSU, 4AC, MLZ, 1MA, SPD, MIA, ZIY, ZN, K, UY1, G7M, MLY, 4SU, OMC, UR3

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	S2	0.39	1/38635 (0.0%)	0.70	1/60214 (0.0%)
2	L8	0.48	1/3613 (0.0%)	0.70	0/5627
3	L5	0.45	1/85497 (0.0%)	0.72	1/133383 (0.0%)
4	L7	0.51	1/2862 (0.0%)	0.71	0/4459
5	SB	0.33	0/1832	0.51	0/2449
6	SA	0.35	0/1778	0.52	0/2416
7	SD	0.41	0/1784	0.60	0/2403
8	SJ	0.42	0/1550	0.66	0/2069
9	SE	0.40	0/2118	0.64	0/2849
10	SC	0.38	0/1762	0.57	0/2381
11	SG	0.37	0/1946	0.61	0/2590
12	SF	0.37	0/1515	0.56	0/2037
13	SH	0.44	0/1540	0.62	0/2064
14	SW	0.39	0/1051	0.60	0/1406
15	SI	0.34	0/1715	0.60	0/2287
16	SQ	0.47	0/1141	0.62	0/1528
17	SU	0.48	0/813	0.70	0/1092
18	SK	0.40	0/834	0.58	0/1125
19	SO	0.43	0/1022	0.69	1/1372 (0.1%)
20	SX	0.41	0/1113	0.62	0/1483
21	SM	0.48	0/950	0.60	0/1275
22	SS	0.40	0/1232	0.63	0/1651
23	Sd	0.43	0/469	0.61	0/623
24	SN	0.41	0/1242	0.60	0/1671
25	SL	0.39	0/1191	0.60	0/1593
26	SR	0.44	0/1098	0.69	0/1474
27	SP	0.39	0/1116	0.60	0/1493
28	ST	0.42	0/1131	0.61	0/1515
29	SV	0.40	0/635	0.63	0/850
30	SY	0.31	0/1083	0.57	0/1438

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
31	SZ	0.44	0/682	0.68	0/911
32	Sa	0.32	0/805	0.57	0/1079
33	Sb	0.32	0/664	0.54	0/891
34	Sc	0.43	0/508	0.72	0/680
35	Se	0.38	0/473	0.63	0/623
36	Sf	0.52	0/627	0.70	0/829
37	Sg	0.41	0/2493	0.62	0/3394
38	Lz	0.56	0/1729	0.71	0/2320
39	LA	0.40	0/1947	0.63	0/2609
40	LB	0.36	0/3294	0.55	0/4406
41	LC	0.35	0/2981	0.55	0/4002
42	LJ	0.35	0/1382	0.58	0/1847
43	LH	0.36	0/1538	0.58	0/2066
44	LE	0.35	0/1830	0.56	0/2453
45	LG	0.43	0/1943	0.60	0/2616
46	Lq	0.28	0/1530	0.50	0/2063
47	LK	0.35	0/1136	0.58	0/1529
48	LO	0.39	0/1682	0.62	0/2250
49	LL	0.42	0/1696	0.65	0/2270
50	LV	0.41	0/1056	0.58	0/1412
51	LM	0.35	0/1143	0.52	0/1527
52	La	0.37	0/1179	0.59	0/1573
53	LN	0.39	0/1745	0.61	0/2338
54	LI	0.44	0/1698	0.63	0/2266
55	LD	0.38	0/2438	0.56	0/3263
56	LQ	0.37	0/1536	0.62	0/2052
57	LR	0.32	0/1582	0.57	0/2091
58	LS	0.40	0/1500	0.59	0/2013
59	LT	0.36	0/1325	0.55	0/1770
60	LP	0.36	0/1268	0.59	0/1701
61	LU	0.40	0/823	0.60	1/1103 (0.1%)
62	LX	0.32	0/984	0.54	0/1323
63	LY	0.39	0/1132	0.61	0/1504
64	LW	0.43	0/964	0.59	0/1278
65	LZ	0.42	0/1129	0.62	0/1507
66	Lr	0.39	0/1012	0.62	0/1356
67	Lh	0.34	0/1022	0.56	0/1351
68	Lb	0.37	0/887	0.60	0/1171
69	LF	0.36	0/1905	0.56	0/2539
70	Lc	0.33	0/774	0.50	0/1038
71	Ld	0.38	0/904	0.62	0/1216
72	Le	0.42	0/1071	0.61	0/1429
73	Lf	0.36	0/895	0.59	0/1198

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
74	Lg	0.37	0/916	0.61	0/1220
75	Li	0.43	0/844	0.62	0/1115
76	Lj	0.38	0/731	0.65	0/967
77	Lk	0.37	0/575	0.57	0/761
78	Ll	0.48	0/453	0.65	0/599
79	Lm	0.35	0/426	0.67	0/564
80	Ln	0.36	0/240	0.70	0/305
81	Lo	0.36	0/877	0.60	0/1156
82	Lp	0.36	0/718	0.56	0/953
83	mR	0.41	0/280	0.87	2/433 (0.5%)
84	At	0.62	6/1650 (0.4%)	0.98	11/2566 (0.4%)
85	Pt	0.64	6/1721 (0.3%)	0.96	10/2679 (0.4%)
86	5A	0.42	0/1088	0.61	0/1463
87	EF	0.35	0/3428	0.53	0/4644
All	All	0.42	16/237127 (0.0%)	0.68	27/347099 (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
87	EF	0	1

The worst 5 of 16 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
84	At	76	A	C5-C4	11.67	1.47	1.38
85	Pt	77	A	C5-C4	11.02	1.46	1.38
84	At	1	G	OP3-P	-10.91	1.48	1.61
2	L8	1	C	OP3-P	-10.73	1.48	1.61
4	L7	1	G	OP3-P	-10.70	1.48	1.61

The worst 5 of 27 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
84	At	76	A	C2-N3-C4	20.82	121.01	110.60
85	Pt	77	A	C2-N3-C4	19.73	120.47	110.60
84	At	76	A	N1-C2-N3	-11.72	123.44	129.30
85	Pt	77	A	N1-C2-N3	-11.51	123.55	129.30
84	At	76	A	N3-C4-C5	-11.10	119.03	126.80

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
87	EF	381	ARG	Sidechain

5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	SB	219/223 (98%)	213 (97%)	6 (3%)	0	100	100
6	SA	220/222 (99%)	211 (96%)	9 (4%)	0	100	100
7	SD	224/226 (99%)	217 (97%)	6 (3%)	1 (0%)	34	48
8	SJ	183/185 (99%)	173 (94%)	8 (4%)	2 (1%)	14	20
9	SE	260/262 (99%)	247 (95%)	13 (5%)	0	100	100
10	SC	220/222 (99%)	212 (96%)	8 (4%)	0	100	100
11	SG	235/237 (99%)	230 (98%)	5 (2%)	0	100	100
12	SF	187/189 (99%)	180 (96%)	7 (4%)	0	100	100
13	SH	187/189 (99%)	182 (97%)	5 (3%)	0	100	100
14	SW	127/129 (98%)	125 (98%)	2 (2%)	0	100	100
15	SI	204/206 (99%)	195 (96%)	9 (4%)	0	100	100
16	SQ	139/141 (99%)	137 (99%)	2 (1%)	0	100	100
17	SU	99/101 (98%)	96 (97%)	3 (3%)	0	100	100
18	SK	94/96 (98%)	89 (95%)	5 (5%)	0	100	100
19	SO	133/135 (98%)	128 (96%)	5 (4%)	0	100	100
20	SX	139/142 (98%)	136 (98%)	2 (1%)	1 (1%)	22	32

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	SM	120/122 (98%)	111 (92%)	8 (7%)	1 (1%)	19	28
22	SS	146/148 (99%)	140 (96%)	6 (4%)	0	100	100
23	Sd	53/55 (96%)	52 (98%)	1 (2%)	0	100	100
24	SN	149/150 (99%)	145 (97%)	4 (3%)	0	100	100
25	SL	139/143 (97%)	131 (94%)	8 (6%)	0	100	100
26	SR	132/134 (98%)	124 (94%)	8 (6%)	0	100	100
27	SP	131/133 (98%)	126 (96%)	5 (4%)	0	100	100
28	ST	141/143 (99%)	135 (96%)	6 (4%)	0	100	100
29	SV	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
30	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
31	SZ	82/84 (98%)	79 (96%)	3 (4%)	0	100	100
32	Sa	97/99 (98%)	96 (99%)	1 (1%)	0	100	100
33	Sb	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
34	Sc	62/64 (97%)	59 (95%)	3 (5%)	0	100	100
35	Se	57/59 (97%)	56 (98%)	1 (2%)	0	100	100
36	Sf	73/75 (97%)	59 (81%)	14 (19%)	0	100	100
37	Sg	311/313 (99%)	286 (92%)	25 (8%)	0	100	100
38	Lz	209/211 (99%)	181 (87%)	26 (12%)	2 (1%)	15	22
39	LA	248/251 (99%)	241 (97%)	7 (3%)	0	100	100
40	LB	399/402 (99%)	391 (98%)	8 (2%)	0	100	100
41	LC	366/368 (100%)	358 (98%)	8 (2%)	0	100	100
42	LJ	167/169 (99%)	164 (98%)	3 (2%)	0	100	100
43	LH	188/190 (99%)	186 (99%)	2 (1%)	0	100	100
44	LE	218/223 (98%)	207 (95%)	11 (5%)	0	100	100
45	LG	237/239 (99%)	231 (98%)	6 (2%)	0	100	100
46	Lq	194/196 (99%)	184 (95%)	10 (5%)	0	100	100
47	LK	145/147 (99%)	132 (91%)	13 (9%)	0	100	100
48	LO	199/201 (99%)	194 (98%)	5 (2%)	0	100	100
49	LL	204/206 (99%)	200 (98%)	4 (2%)	0	100	100
50	LV	138/140 (99%)	134 (97%)	4 (3%)	0	100	100
51	LM	134/136 (98%)	128 (96%)	6 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
52	La	144/147 (98%)	138 (96%)	5 (4%)	1 (1%)	22	32
53	LN	201/203 (99%)	194 (96%)	7 (4%)	0	100	100
54	LI	201/205 (98%)	193 (96%)	8 (4%)	0	100	100
55	LD	292/294 (99%)	287 (98%)	5 (2%)	0	100	100
56	LQ	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
57	LR	185/187 (99%)	183 (99%)	2 (1%)	0	100	100
58	LS	174/176 (99%)	172 (99%)	2 (1%)	0	100	100
59	LT	157/159 (99%)	152 (97%)	3 (2%)	2 (1%)	12	17
60	LP	151/153 (99%)	143 (95%)	8 (5%)	0	100	100
61	LU	97/99 (98%)	92 (95%)	5 (5%)	0	100	100
62	LX	116/118 (98%)	116 (100%)	0	0	100	100
63	LY	132/134 (98%)	132 (100%)	0	0	100	100
64	LW	114/118 (97%)	109 (96%)	5 (4%)	0	100	100
65	LZ	133/135 (98%)	129 (97%)	4 (3%)	0	100	100
66	Lr	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
67	Lh	120/122 (98%)	117 (98%)	3 (2%)	0	100	100
68	Lb	104/109 (95%)	98 (94%)	6 (6%)	0	100	100
69	LF	223/225 (99%)	216 (97%)	7 (3%)	0	100	100
70	Lc	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
71	Ld	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
72	Le	126/128 (98%)	126 (100%)	0	0	100	100
73	Lf	107/109 (98%)	103 (96%)	4 (4%)	0	100	100
74	Lg	112/114 (98%)	110 (98%)	2 (2%)	0	100	100
75	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
76	Lj	85/86 (99%)	84 (99%)	1 (1%)	0	100	100
77	Lk	67/69 (97%)	67 (100%)	0	0	100	100
78	Ll	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
79	Lm	49/52 (94%)	49 (100%)	0	0	100	100
80	Ln	23/25 (92%)	23 (100%)	0	0	100	100
81	Lo	103/105 (98%)	99 (96%)	4 (4%)	0	100	100
82	Lp	89/91 (98%)	84 (94%)	5 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
86	5A	140/143 (98%)	125 (89%)	15 (11%)	0	100	100
87	EF	438/444 (99%)	422 (96%)	16 (4%)	0	100	100
All	All	12440/12622 (99%)	11983 (96%)	447 (4%)	10 (0%)	54	69

5 of 10 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
21	SM	58	GLU
59	LT	122	LYS
59	LT	124	THR
8	SJ	117	LEU
20	SX	141	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	SB	202/202 (100%)	201 (100%)	1 (0%)	88	94
6	SA	183/183 (100%)	180 (98%)	3 (2%)	62	78
7	SD	189/189 (100%)	184 (97%)	5 (3%)	46	65
8	SJ	161/161 (100%)	160 (99%)	1 (1%)	86	93
9	SE	224/224 (100%)	216 (96%)	8 (4%)	35	52
10	SC	188/188 (100%)	187 (100%)	1 (0%)	88	94
11	SG	207/207 (100%)	201 (97%)	6 (3%)	42	60
12	SF	159/159 (100%)	157 (99%)	2 (1%)	69	82
13	SH	168/169 (99%)	157 (94%)	11 (6%)	17	26
14	SW	112/112 (100%)	110 (98%)	2 (2%)	59	75
15	SI	178/178 (100%)	172 (97%)	6 (3%)	37	53
16	SQ	117/117 (100%)	112 (96%)	5 (4%)	29	45
17	SU	93/93 (100%)	87 (94%)	6 (6%)	17	26
18	SK	87/87 (100%)	81 (93%)	6 (7%)	15	23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	SO	105/105 (100%)	102 (97%)	3 (3%)	42	60
20	SX	113/113 (100%)	110 (97%)	3 (3%)	44	63
21	SM	102/104 (98%)	93 (91%)	9 (9%)	10	14
22	SS	128/128 (100%)	126 (98%)	2 (2%)	62	78
23	Sd	48/48 (100%)	48 (100%)	0	100	100
24	SN	131/130 (101%)	127 (97%)	4 (3%)	40	58
25	SL	129/129 (100%)	123 (95%)	6 (5%)	26	40
26	SR	121/121 (100%)	112 (93%)	9 (7%)	13	21
27	SP	119/119 (100%)	114 (96%)	5 (4%)	30	45
28	ST	113/113 (100%)	110 (97%)	3 (3%)	44	63
29	SV	66/66 (100%)	64 (97%)	2 (3%)	41	59
30	SY	113/113 (100%)	108 (96%)	5 (4%)	28	44
31	SZ	74/74 (100%)	70 (95%)	4 (5%)	22	35
32	Sa	86/86 (100%)	86 (100%)	0	100	100
33	Sb	75/75 (100%)	75 (100%)	0	100	100
34	Sc	57/57 (100%)	57 (100%)	0	100	100
35	Se	48/48 (100%)	47 (98%)	1 (2%)	53	71
36	Sf	67/67 (100%)	61 (91%)	6 (9%)	9	14
37	Sg	272/272 (100%)	257 (94%)	15 (6%)	21	33
38	Lz	190/190 (100%)	168 (88%)	22 (12%)	5	7
39	LA	192/192 (100%)	190 (99%)	2 (1%)	76	86
40	LB	347/347 (100%)	347 (100%)	0	100	100
41	LC	306/306 (100%)	304 (99%)	2 (1%)	84	91
42	LJ	143/143 (100%)	142 (99%)	1 (1%)	84	91
43	LH	169/169 (100%)	167 (99%)	2 (1%)	71	83
44	LE	197/196 (100%)	194 (98%)	3 (2%)	65	79
45	LG	201/203 (99%)	194 (96%)	7 (4%)	36	53
46	Lq	164/164 (100%)	163 (99%)	1 (1%)	86	93
47	LK	122/122 (100%)	115 (94%)	7 (6%)	20	31
48	LO	173/173 (100%)	173 (100%)	0	100	100
49	LL	172/172 (100%)	167 (97%)	5 (3%)	42	60

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
50	LV	107/107 (100%)	107 (100%)	0	100	100
51	LM	116/116 (100%)	114 (98%)	2 (2%)	60	76
52	La	119/119 (100%)	118 (99%)	1 (1%)	81	89
53	LN	171/171 (100%)	171 (100%)	0	100	100
54	LI	175/175 (100%)	168 (96%)	7 (4%)	31	47
55	LD	247/247 (100%)	244 (99%)	3 (1%)	71	83
56	LQ	164/164 (100%)	162 (99%)	2 (1%)	71	83
57	LR	166/166 (100%)	165 (99%)	1 (1%)	86	93
58	LS	157/157 (100%)	157 (100%)	0	100	100
59	LT	139/139 (100%)	138 (99%)	1 (1%)	84	91
60	LP	134/134 (100%)	131 (98%)	3 (2%)	52	70
61	LU	89/89 (100%)	86 (97%)	3 (3%)	37	53
62	LX	106/106 (100%)	104 (98%)	2 (2%)	57	74
63	LY	124/124 (100%)	121 (98%)	3 (2%)	49	67
64	LW	95/97 (98%)	94 (99%)	1 (1%)	73	85
65	LZ	117/117 (100%)	114 (97%)	3 (3%)	46	65
66	Lr	108/108 (100%)	106 (98%)	2 (2%)	57	74
67	Lh	109/109 (100%)	107 (98%)	2 (2%)	59	75
68	Lb	89/89 (100%)	87 (98%)	2 (2%)	52	70
69	LF	194/194 (100%)	191 (98%)	3 (2%)	65	79
70	Lc	83/83 (100%)	83 (100%)	0	100	100
71	Ld	98/98 (100%)	97 (99%)	1 (1%)	76	86
72	Le	114/114 (100%)	113 (99%)	1 (1%)	78	88
73	Lf	88/88 (100%)	88 (100%)	0	100	100
74	Lg	98/98 (100%)	97 (99%)	1 (1%)	76	86
75	Li	86/86 (100%)	84 (98%)	2 (2%)	50	68
76	Lj	74/73 (101%)	72 (97%)	2 (3%)	44	63
77	Lk	64/64 (100%)	63 (98%)	1 (2%)	62	78
78	Ll	47/47 (100%)	47 (100%)	0	100	100
79	Lm	47/47 (100%)	46 (98%)	1 (2%)	53	71
80	Ln	24/24 (100%)	24 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
81	Lo	93/92 (101%)	91 (98%)	2 (2%)	52 70
82	Lp	74/74 (100%)	74 (100%)	0	100 100
86	5A	116/118 (98%)	111 (96%)	5 (4%)	29 45
87	EF	363/363 (100%)	356 (98%)	7 (2%)	57 74
All	All	10806/10811 (100%)	10550 (98%)	256 (2%)	51 67

5 of 256 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
69	LF	127	LYS
76	Lj	20	ARG
26	SR	82	ASP
26	SR	70	SER
81	Lo	103	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 46 such sidechains are listed below:

Mol	Chain	Res	Type
41	LC	119	GLN
61	LU	27	HIS
41	LC	215	ASN
58	LS	125	GLN
62	LX	93	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	S2	1688/1701 (99%)	355 (21%)	29 (1%)
2	L8	155/156 (99%)	25 (16%)	3 (1%)
3	L5	3670/3687 (99%)	679 (18%)	53 (1%)
4	L7	119/120 (99%)	13 (10%)	0
83	mR	9/11 (81%)	1 (11%)	0
84	At	74/76 (97%)	17 (22%)	0
85	Pt	76/77 (98%)	17 (22%)	0
All	All	5791/5828 (99%)	1107 (19%)	85 (1%)

5 of 1107 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	S2	3	C
1	S2	4	C
1	S2	17	C
1	S2	33	G
1	S2	41	G

5 of 85 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	L5	2259	G
3	L5	4049	U
3	L5	2470	C
3	L5	2903	G
3	L5	4527	G

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

245 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	$\# Z > 2$
81	MLZ	Lo	53	81	8,9,10	0.76	0	4,9,11	0.65	0
3	OMC	L5	2365	3,90	19,22,23	0.82	0	26,31,34	0.75	0
3	1MA	L5	1322	3,90	16,25,26	1.44	3 (18%)	18,37,40	1.21	3 (16%)
1	PSU	S2	966	1	18,21,22	1.43	2 (11%)	22,30,33	1.93	4 (18%)
3	PSU	L5	4312	3	18,21,22	1.39	4 (22%)	22,30,33	1.94	4 (18%)
3	PSU	L5	1792	3,90	18,21,22	1.54	4 (22%)	22,30,33	1.96	4 (18%)
52	V5N	La	39	52	4,11,12	0.51	0	5,14,16	1.69	1 (20%)
3	OMC	L5	3869	3	19,22,23	0.91	1 (5%)	26,31,34	1.02	0
3	OMG	L5	4623	3	18,26,27	1.02	1 (5%)	19,38,41	1.10	2 (10%)
3	5MC	L5	3782	3,90	18,22,23	0.97	2 (11%)	26,32,35	1.16	3 (11%)
3	PSU	L5	2839	3	18,21,22	1.37	4 (22%)	22,30,33	1.96	3 (13%)
3	OMC	L5	4536	3	19,22,23	0.91	0	26,31,34	0.96	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	OMC	L5	3808	3	19,22,23	0.94	0	26,31,34	1.04	1 (3%)
3	PSU	L5	4636	3	18,21,22	1.56	4 (22%)	22,30,33	2.27	6 (27%)
3	A2M	L5	398	3	18,25,26	1.10	2 (11%)	18,36,39	1.36	3 (16%)
1	PSU	S2	863	1	18,21,22	1.47	4 (22%)	22,30,33	1.94	4 (18%)
1	OMG	S2	867	1	18,26,27	1.02	1 (5%)	19,38,41	1.06	2 (10%)
1	PSU	S2	1692	1	18,21,22	1.38	4 (22%)	22,30,33	1.91	3 (13%)
3	A2M	L5	1326	3	18,25,26	0.97	0	18,36,39	1.30	2 (11%)
3	PSU	L5	1744	3,89	18,21,22	1.49	5 (27%)	22,30,33	1.95	3 (13%)
1	OMC	S2	517	1	19,22,23	0.93	0	26,31,34	0.98	2 (7%)
3	PSU	L5	3637	3,89,90	18,21,22	1.49	3 (16%)	22,30,33	2.10	5 (22%)
3	PSU	L5	1582	3	18,21,22	1.51	4 (22%)	22,30,33	1.97	5 (22%)
3	PSU	L5	1677	3	18,21,22	1.57	4 (22%)	22,30,33	1.93	4 (18%)
39	V5N	LA	216	39	4,11,12	0.52	0	5,14,16	1.68	2 (40%)
1	PSU	S2	109	1	18,21,22	1.51	4 (22%)	22,30,33	2.03	3 (13%)
1	OMU	S2	1442	1,90	19,22,23	1.25	3 (15%)	26,31,34	1.77	4 (15%)
3	OMC	L5	2824	3	19,22,23	0.82	0	26,31,34	0.80	0
3	PSU	L5	3844	3	18,21,22	1.36	3 (16%)	22,30,33	1.96	4 (18%)
3	A2M	L5	3718	3	18,25,26	0.88	1 (5%)	18,36,39	1.37	3 (16%)
85	OMC	Pt	33	85	19,22,23	0.94	1 (5%)	26,31,34	0.96	1 (3%)
3	PSU	L5	4296	3	18,21,22	1.35	3 (16%)	22,30,33	1.93	4 (18%)
85	G7M	Pt	47	85	20,26,27	2.41	3 (15%)	17,39,42	0.69	0
3	PSU	L5	4403	3	18,21,22	1.62	5 (27%)	22,30,33	2.17	5 (22%)
3	UR3	L5	4530	3	19,22,23	0.88	0	26,32,35	1.56	3 (11%)
3	PSU	L5	4628	3	18,21,22	1.46	4 (22%)	22,30,33	2.22	4 (18%)
1	OMG	S2	436	1	18,26,27	1.07	1 (5%)	19,38,41	1.22	2 (10%)
1	PSU	S2	1174	1	18,21,22	1.50	3 (16%)	22,30,33	2.04	5 (22%)
3	PSU	L5	3758	3	18,21,22	1.39	3 (16%)	22,30,33	1.91	4 (18%)
3	A2M	L5	3830	3	18,25,26	0.96	1 (5%)	18,36,39	1.22	2 (11%)
1	G7M	S2	1639	1,85	20,26,27	2.68	4 (20%)	17,39,42	1.14	2 (11%)
1	PSU	S2	649	1	18,21,22	1.50	4 (22%)	22,30,33	1.96	3 (13%)
3	PSU	L5	3729	3	18,21,22	1.53	5 (27%)	22,30,33	2.03	4 (18%)
3	PSU	L5	4293	3	18,21,22	1.42	4 (22%)	22,30,33	1.95	3 (13%)
3	A2M	L5	2401	3	18,25,26	0.95	1 (5%)	18,36,39	1.32	2 (11%)
1	MA6	S2	1851	1	19,26,27	0.86	1 (5%)	18,38,41	1.27	2 (11%)
3	PSU	L5	1536	3	18,21,22	1.41	4 (22%)	22,30,33	1.91	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMU	S2	116	1	19,22,23	1.32	3 (15%)	26,31,34	1.68	5 (19%)
3	PSU	L5	1781	3	18,21,22	1.41	4 (22%)	22,30,33	1.89	3 (13%)
3	PSU	L5	3920	3,90	18,21,22	1.37	3 (16%)	22,30,33	1.97	4 (18%)
3	UY1	L5	3818	3,90	19,22,23	1.42	4 (21%)	22,31,34	1.84	4 (18%)
1	A2M	S2	668	1,90	18,25,26	0.91	1 (5%)	18,36,39	1.39	3 (16%)
1	PSU	S2	814	1	18,21,22	1.37	3 (16%)	22,30,33	1.95	4 (18%)
1	A2M	S2	27	1	18,25,26	0.95	1 (5%)	18,36,39	1.31	2 (11%)
1	OMU	S2	428	1	19,22,23	1.22	3 (15%)	26,31,34	1.82	5 (19%)
1	OMC	S2	1391	1	19,22,23	0.84	0	26,31,34	0.80	0
3	A2M	L5	2787	3	18,25,26	0.96	1 (5%)	18,36,39	1.31	2 (11%)
3	OMU	L5	4227	3	19,22,23	1.23	3 (15%)	26,31,34	1.71	4 (15%)
1	OMG	S2	509	1	18,26,27	1.10	1 (5%)	19,38,41	1.09	2 (10%)
3	OMG	L5	3627	3	18,26,27	0.92	1 (5%)	19,38,41	1.20	2 (10%)
1	A2M	S2	576	1	18,25,26	0.91	1 (5%)	18,36,39	1.33	3 (16%)
84	PSU	At	39	84	18,21,22	1.49	4 (22%)	22,30,33	1.93	3 (13%)
3	PSU	L5	4493	3,89	18,21,22	1.42	4 (22%)	22,30,33	1.91	4 (18%)
3	PSU	L5	1862	3	18,21,22	1.52	4 (22%)	22,30,33	2.06	3 (13%)
3	OMC	L5	2804	3	19,22,23	0.84	0	26,31,34	0.78	0
1	PSU	S2	815	1	18,21,22	1.39	2 (11%)	22,30,33	1.95	3 (13%)
1	PSU	S2	686	1	18,21,22	1.49	4 (22%)	22,30,33	2.02	3 (13%)
1	PSU	S2	1244	1	18,21,22	1.45	3 (16%)	22,30,33	2.01	4 (18%)
87	M3L	EF	36	87	10,11,12	0.51	0	9,14,16	0.46	0
1	A2M	S2	468	1	18,25,26	0.94	1 (5%)	18,36,39	1.38	3 (16%)
3	PSU	L5	3764	3	18,21,22	1.56	4 (22%)	22,30,33	1.99	4 (18%)
3	OMG	L5	4392	3	18,26,27	1.11	1 (5%)	19,38,41	1.09	2 (10%)
1	PSU	S2	119	1	18,21,22	1.47	4 (22%)	22,30,33	1.99	4 (18%)
3	OMG	L5	3899	3	18,26,27	0.96	1 (5%)	19,38,41	1.14	2 (10%)
3	A2M	L5	1871	3,90	18,25,26	0.91	0	18,36,39	1.41	3 (16%)
3	PSU	L5	4442	3	18,21,22	1.54	5 (27%)	22,30,33	2.15	5 (22%)
3	OMG	L5	4228	3	18,26,27	0.89	1 (5%)	19,38,41	1.20	2 (10%)
1	OMG	S2	683	1	18,26,27	0.97	1 (5%)	19,38,41	1.05	2 (10%)
3	PSU	L5	4500	3,90	18,21,22	1.40	2 (11%)	22,30,33	1.93	3 (13%)
84	H2U	At	16	84	18,21,22	0.99	2 (11%)	21,30,33	1.45	2 (9%)
3	OMG	L5	3744	3	18,26,27	1.06	1 (5%)	19,38,41	1.10	2 (10%)
1	A2M	S2	512	1	18,25,26	0.94	1 (5%)	18,36,39	1.28	3 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	OMC	L5	2422	3,90	19,22,23	0.90	0	26,31,34	1.02	2 (7%)
85	4SU	Pt	8	85	18,21,22	1.96	4 (22%)	26,30,33	2.25	4 (15%)
3	PSU	L5	1779	3	18,21,22	1.38	3 (16%)	22,30,33	1.97	4 (18%)
3	OMG	L5	4499	3	18,26,27	0.90	1 (5%)	19,38,41	1.06	2 (10%)
1	OMC	S2	174	1	19,22,23	0.87	0	26,31,34	0.95	2 (7%)
1	A2M	S2	1678	1	18,25,26	0.95	1 (5%)	18,36,39	1.24	2 (11%)
3	OMG	L5	3792	3	18,26,27	0.92	1 (5%)	19,38,41	1.13	3 (15%)
3	PSU	L5	3851	3	18,21,22	1.40	4 (22%)	22,30,33	1.93	4 (18%)
1	A2M	S2	484	1	18,25,26	0.95	1 (5%)	18,36,39	1.21	2 (11%)
3	PSU	L5	4532	3	18,21,22	1.57	5 (27%)	22,30,33	1.96	4 (18%)
6	SAC	SA	2	6	7,8,9	3.41	2 (28%)	8,9,11	5.11	5 (62%)
3	OMU	L5	3925	3	19,22,23	1.22	3 (15%)	26,31,34	1.72	5 (19%)
3	OMC	L5	2351	3	19,22,23	0.96	1 (5%)	26,31,34	0.81	0
3	PSU	L5	3770	3	18,21,22	1.49	4 (22%)	22,30,33	2.08	5 (22%)
3	OMU	L5	4306	3	19,22,23	1.25	3 (15%)	26,31,34	1.67	4 (15%)
68	MLZ	Lb	5	68	8,9,10	0.80	0	4,9,11	0.61	0
1	4AC	S2	1337	1	21,24,25	1.20	2 (9%)	29,34,37	1.21	3 (10%)
87	MLY	EF	55	87	9,10,11	0.51	0	6,11,13	0.88	0
3	OMG	L5	4494	3	18,26,27	1.08	1 (5%)	19,38,41	1.16	2 (10%)
1	OMU	S2	1804	1	19,22,23	1.24	3 (15%)	26,31,34	1.77	5 (19%)
1	OMG	S2	1490	1,90	18,26,27	1.05	1 (5%)	19,38,41	1.03	2 (10%)
3	OMG	L5	4370	3	18,26,27	0.93	1 (5%)	19,38,41	1.10	2 (10%)
1	PSU	S2	609	1	18,21,22	1.48	4 (22%)	22,30,33	1.83	3 (13%)
1	PSU	S2	1239	1	18,21,22	1.37	3 (16%)	22,30,33	1.89	3 (13%)
1	A2M	S2	166	1	18,25,26	1.04	1 (5%)	18,36,39	1.38	2 (11%)
1	PSU	S2	1367	1	18,21,22	1.37	3 (16%)	22,30,33	1.95	3 (13%)
1	PSU	S2	105	1	18,21,22	1.54	5 (27%)	22,30,33	2.06	3 (13%)
1	OMU	S2	354	1	19,22,23	1.41	3 (15%)	26,31,34	1.97	6 (23%)
3	PSU	L5	3762	3	18,21,22	1.36	2 (11%)	22,30,33	1.91	3 (13%)
3	PSU	L5	3695	3	18,21,22	1.39	3 (16%)	22,30,33	1.88	3 (13%)
1	PSU	S2	1177	1	18,21,22	1.38	3 (16%)	22,30,33	1.89	3 (13%)
3	PSU	L5	2632	3	18,21,22	1.38	2 (11%)	22,30,33	1.85	5 (22%)
3	A2M	L5	3760	3,90	18,25,26	0.96	1 (5%)	18,36,39	1.37	2 (11%)
3	OMC	L5	2861	3	19,22,23	0.82	0	26,31,34	0.80	1 (3%)
3	OMC	L5	3887	3	19,22,23	0.83	0	26,31,34	0.82	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	S2	1232	1	18,21,22	1.56	4 (22%)	22,30,33	2.02	4 (18%)
1	PSU	S2	36	1	18,21,22	1.37	3 (16%)	22,30,33	1.98	4 (18%)
3	PSU	L5	4569	3	18,21,22	1.49	3 (16%)	22,30,33	2.08	5 (22%)
3	PSU	L5	4579	3	18,21,22	1.59	6 (33%)	22,30,33	2.04	4 (18%)
3	OMC	L5	1340	3	19,22,23	0.91	1 (5%)	26,31,34	0.81	0
1	PSU	S2	406	1	18,21,22	1.53	5 (27%)	22,30,33	1.95	4 (18%)
1	PSU	S2	572	1	18,21,22	1.42	4 (22%)	22,30,33	1.85	4 (18%)
3	PSU	L5	3639	3	18,21,22	1.42	4 (22%)	22,30,33	1.98	4 (18%)
2	OMU	L8	14	3,2	19,22,23	1.43	3 (15%)	26,31,34	1.92	5 (19%)
1	PSU	S2	1625	1	18,21,22	1.41	3 (16%)	22,30,33	2.01	3 (13%)
3	PSU	L5	4299	3	18,21,22	1.38	3 (16%)	22,30,33	1.94	3 (13%)
3	OMC	L5	4456	3	19,22,23	0.94	0	26,31,34	1.06	2 (7%)
79	M3L	Lm	98	79	10,11,12	0.36	0	9,14,16	0.10	0
1	PSU	S2	1136	1	18,21,22	1.35	3 (16%)	22,30,33	1.88	3 (13%)
2	OMG	L8	75	2	18,26,27	0.98	1 (5%)	19,38,41	1.19	3 (15%)
40	HIC	LB	245	40	8,11,12	1.59	2 (25%)	6,14,16	1.03	0
3	OMG	L5	4618	3	18,26,27	1.06	1 (5%)	19,38,41	1.05	2 (10%)
3	OMU	L5	2415	3	19,22,23	1.35	3 (15%)	26,31,34	1.77	5 (19%)
3	OMG	L5	2424	3	18,26,27	1.13	1 (5%)	19,38,41	0.93	1 (5%)
3	OMC	L5	3841	3	19,22,23	0.80	0	26,31,34	0.93	2 (7%)
3	PSU	L5	1860	3	18,21,22	1.55	4 (22%)	22,30,33	1.93	3 (13%)
1	PSU	S2	1004	1	18,21,22	1.38	3 (16%)	22,30,33	1.91	3 (13%)
3	A2M	L5	3724	3	18,25,26	0.93	1 (5%)	18,36,39	1.27	2 (11%)
1	PSU	S2	1081	1	18,21,22	1.45	5 (27%)	22,30,33	1.92	3 (13%)
3	PSU	L5	5010	3	18,21,22	1.39	2 (11%)	22,30,33	1.93	3 (13%)
1	PSU	S2	801	1	18,21,22	1.50	4 (22%)	22,30,33	1.85	4 (18%)
3	PSU	L5	4673	3	18,21,22	1.44	3 (16%)	22,30,33	1.84	4 (18%)
3	PSU	L5	1782	3	18,21,22	1.37	3 (16%)	22,30,33	1.92	3 (13%)
3	OMG	L5	1522	3	18,26,27	0.93	1 (5%)	19,38,41	1.11	2 (10%)
3	PSU	L5	4576	3	18,21,22	1.37	3 (16%)	22,30,33	1.95	3 (13%)
85	PSU	Pt	56	85	18,21,22	1.35	2 (11%)	22,30,33	1.90	3 (13%)
3	OMU	L5	2837	3	19,22,23	1.26	3 (15%)	26,31,34	1.80	5 (19%)
3	A2M	L5	1524	3	18,25,26	0.94	1 (5%)	18,36,39	1.19	2 (11%)
3	OMG	L5	4637	3,89	18,26,27	1.08	1 (5%)	19,38,41	1.07	2 (10%)
1	B8N	S2	1248	1	24,29,30	0.98	1 (4%)	29,42,45	1.64	5 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	6MZ	L5	4220	3	18,25,26	0.81	1 (5%)	16,36,39	2.01	4 (25%)
3	OMU	L5	4620	3	19,22,23	1.36	3 (15%)	26,31,34	1.88	8 (30%)
3	A2M	L5	2363	3,90	18,25,26	0.96	1 (5%)	18,36,39	1.18	2 (11%)
1	OMU	S2	1288	1	19,22,23	1.29	3 (15%)	26,31,34	1.74	5 (19%)
1	PSU	S2	296	1	18,21,22	1.46	5 (27%)	22,30,33	2.00	3 (13%)
3	OMG	L5	4196	3,85	18,26,27	1.11	1 (5%)	19,38,41	1.12	2 (10%)
1	PSU	S2	918	1	18,21,22	1.49	3 (16%)	22,30,33	2.14	5 (22%)
1	PSU	S2	1056	1	18,21,22	1.44	3 (16%)	22,30,33	2.07	4 (18%)
1	A2M	S2	1383	1	18,25,26	0.93	1 (5%)	18,36,39	1.41	2 (11%)
3	OMC	L5	1881	3,90	19,22,23	0.93	0	26,31,34	1.08	2 (7%)
3	OMG	L5	3944	3	18,26,27	1.04	1 (5%)	19,38,41	1.04	2 (10%)
86	5CT	5A	50	86	13,14,15	1.11	1 (7%)	9,15,17	1.22	1 (11%)
1	A2M	S2	590	1	18,25,26	0.93	1 (5%)	18,36,39	1.23	2 (11%)
3	A2M	L5	400	3	18,25,26	0.95	1 (5%)	18,36,39	1.22	2 (11%)
3	A2M	L5	4571	3	18,25,26	1.00	1 (5%)	18,36,39	1.17	2 (11%)
84	H2U	At	20	84	18,21,22	1.03	2 (11%)	21,30,33	1.41	2 (9%)
3	PSU	L5	2508	3	18,21,22	1.38	3 (16%)	22,30,33	1.94	4 (18%)
1	PSU	S2	1238	1	18,21,22	1.36	2 (11%)	22,30,33	1.91	3 (13%)
1	OMG	S2	601	1	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
3	PSU	L5	4552	3	18,21,22	1.40	3 (16%)	22,30,33	1.96	3 (13%)
1	PSU	S2	218	1	18,21,22	1.44	3 (16%)	22,30,33	2.00	4 (18%)
1	PSU	S2	681	1	18,21,22	1.39	3 (16%)	22,30,33	1.96	4 (18%)
1	OMG	S2	1328	1,89	18,26,27	1.07	1 (5%)	19,38,41	1.09	2 (10%)
3	A2M	L5	2815	3,90	18,25,26	0.92	1 (5%)	18,36,39	1.14	2 (11%)
3	A2M	L5	4590	3	18,25,26	0.92	1 (5%)	18,36,39	1.36	3 (16%)
1	A2M	S2	99	1,90	18,25,26	0.93	1 (5%)	18,36,39	1.22	1 (5%)
3	PSU	L5	2843	3	18,21,22	1.37	3 (16%)	22,30,33	1.94	4 (18%)
1	PSU	S2	34	1	18,21,22	1.36	3 (16%)	22,30,33	1.92	4 (18%)
87	M3L	EF	318	87	10,11,12	0.41	0	9,14,16	0.13	0
3	PSU	L5	4431	3	18,21,22	1.36	3 (16%)	22,30,33	1.98	4 (18%)
1	PSU	S2	1347	1	18,21,22	1.48	4 (22%)	22,30,33	1.97	3 (13%)
1	PSU	S2	866	1	18,21,22	1.44	3 (16%)	22,30,33	2.01	3 (13%)
3	PSU	L5	4972	3	18,21,22	1.36	3 (16%)	22,30,33	1.96	4 (18%)
1	OMU	S2	121	1	19,22,23	1.40	3 (15%)	26,31,34	1.79	5 (19%)
1	PSU	S2	1643	1,90	18,21,22	1.38	4 (22%)	22,30,33	2.07	5 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMG	S2	1447	1	18,26,27	1.06	1 (5%)	19,38,41	1.35	3 (15%)
3	PSU	L5	4531	3	18,21,22	1.42	2 (11%)	22,30,33	1.91	4 (18%)
1	OMC	S2	462	1	19,22,23	0.88	0	26,31,34	0.91	1 (3%)
3	PSU	L5	4521	3,89,90	18,21,22	1.34	2 (11%)	22,30,33	2.04	5 (22%)
87	M3L	EF	79	87	10,11,12	0.53	0	9,14,16	0.51	0
3	PSU	L5	3734	3	18,21,22	1.47	4 (22%)	22,30,33	1.91	3 (13%)
3	PSU	L5	3884	3	18,21,22	1.62	5 (27%)	22,30,33	1.94	3 (13%)
3	PSU	L5	3715	3	18,21,22	1.50	3 (16%)	22,30,33	1.89	4 (18%)
84	G7M	At	46	84	20,26,27	2.43	3 (15%)	17,39,42	0.67	0
1	OMU	S2	627	1	19,22,23	1.29	3 (15%)	26,31,34	1.87	5 (19%)
1	OMC	S2	1703	1,90	19,22,23	0.80	0	26,31,34	0.73	0
3	A2M	L5	3785	3	18,25,26	0.85	1 (5%)	18,36,39	1.44	3 (16%)
3	PSU	L5	3768	3	18,21,22	1.47	4 (22%)	22,30,33	1.90	3 (13%)
3	OMU	L5	4498	3,90	19,22,23	1.23	3 (15%)	26,31,34	1.74	5 (19%)
1	UY1	S2	1326	1,90	19,22,23	1.36	3 (15%)	22,31,34	2.08	4 (18%)
2	PSU	L8	69	89,2	18,21,22	1.60	5 (27%)	22,30,33	2.22	5 (22%)
3	OMC	L5	3701	3,89	19,22,23	0.92	0	26,31,34	1.05	0
29	AME	SV	1	29	9,10,11	3.27	2 (22%)	9,11,13	4.54	5 (55%)
3	A2M	L5	1534	3,90	18,25,26	0.98	1 (5%)	18,36,39	1.36	2 (11%)
3	A2M	L5	3825	3	18,25,26	0.92	1 (5%)	18,36,39	1.40	3 (16%)
84	MIA	At	37	84	24,31,32	2.43	4 (16%)	26,44,47	2.68	10 (38%)
1	PSU	S2	1445	1	18,21,22	1.36	2 (11%)	22,30,33	2.03	4 (18%)
3	A2M	L5	3723	3	18,25,26	0.94	1 (5%)	18,36,39	1.28	3 (16%)
3	A2M	L5	3867	3	18,25,26	0.93	1 (5%)	18,36,39	1.31	2 (11%)
1	OMG	S2	644	1	18,26,27	1.09	1 (5%)	19,38,41	1.14	2 (10%)
1	PSU	S2	93	1	18,21,22	1.53	4 (22%)	22,30,33	2.05	4 (18%)
3	PSU	L5	4423	3	18,21,22	1.37	2 (11%)	22,30,33	1.89	3 (13%)
1	A2M	S2	1031	1	18,25,26	0.95	1 (5%)	18,36,39	1.22	2 (11%)
1	PSU	S2	651	1	18,21,22	1.38	3 (16%)	22,30,33	1.89	4 (18%)
1	A2M	S2	159	1	18,25,26	0.92	1 (5%)	18,36,39	1.28	2 (11%)
20	HY3	SX	62	89,20	6,8,9	1.52	1 (16%)	5,10,12	1.27	0
3	OMG	L5	1625	3	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
3	PSU	L5	4420	3	18,21,22	1.35	3 (16%)	22,30,33	1.84	4 (18%)
3	A2M	L5	4523	3,90	18,25,26	0.94	1 (5%)	18,36,39	1.25	2 (11%)
3	PSU	L5	1683	3,89	18,21,22	1.51	4 (22%)	22,30,33	1.77	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PSU	L5	3853	3,90	18,21,22	1.41	4 (22%)	22,30,33	1.85	3 (13%)
3	5MC	L5	4447	3,89	18,22,23	1.03	2 (11%)	26,32,35	1.27	2 (7%)
3	OMG	L5	2876	3	18,26,27	0.99	1 (5%)	19,38,41	1.04	2 (10%)
1	MA6	S2	1850	1	19,26,27	0.90	1 (5%)	18,38,41	1.28	3 (16%)
84	PSU	At	32	84	18,21,22	1.47	4 (22%)	22,30,33	2.00	4 (18%)
84	4SU	At	8	84,90	18,21,22	1.77	4 (22%)	26,30,33	2.24	5 (19%)
2	PSU	L8	55	2	18,21,22	1.38	3 (16%)	22,30,33	1.93	4 (18%)
1	PSU	S2	822	1	18,21,22	1.38	3 (16%)	22,30,33	2.21	4 (18%)
85	H2U	Pt	21	85	18,21,22	1.06	2 (11%)	21,30,33	1.83	1 (4%)
3	PSU	L5	4457	3	18,21,22	1.52	4 (22%)	22,30,33	2.12	5 (22%)
66	SAC	Lr	2	66	7,8,9	3.69	2 (28%)	8,9,11	4.45	5 (62%)
1	4AC	S2	1842	1	21,24,25	1.00	1 (4%)	29,34,37	1.13	4 (13%)
3	PSU	L5	4361	3	18,21,22	1.58	5 (27%)	22,30,33	2.04	4 (18%)
3	PSU	L5	5001	3	18,21,22	1.40	3 (16%)	22,30,33	1.90	4 (18%)
1	PSU	S2	1243	1	18,21,22	1.40	2 (11%)	22,30,33	1.97	4 (18%)
3	PSU	L5	4353	3	18,21,22	1.52	4 (22%)	22,30,33	2.01	3 (13%)
3	PSU	L5	4471	3	18,21,22	1.48	3 (16%)	22,30,33	1.82	3 (13%)
1	6MZ	S2	1832	1,90	18,25,26	0.85	1 (5%)	16,36,39	2.04	3 (18%)
1	PSU	S2	573	1	18,21,22	1.43	3 (16%)	22,30,33	1.96	3 (13%)
1	OMU	S2	172	1	19,22,23	1.29	3 (15%)	26,31,34	1.91	6 (23%)
3	OMG	L5	2364	3	18,26,27	0.91	1 (5%)	19,38,41	1.12	3 (15%)
3	OMG	L5	1316	3	18,26,27	0.98	1 (5%)	19,38,41	1.17	2 (10%)
3	PSU	L5	4689	3	18,21,22	1.45	3 (16%)	22,30,33	1.91	3 (13%)

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
81	MLZ	Lo	53	81	-	5/7/8/10	-
3	OMC	L5	2365	3,90	-	0/9/27/28	0/2/2/2
3	1MA	L5	1322	3,90	-	0/3/25/26	0/3/3/3
1	PSU	S2	966	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4312	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	1792	3,90	-	0/7/25/26	0/2/2/2
52	V5N	La	39	52	-	0/5/10/12	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OMC	L5	3869	3	-	0/9/27/28	0/2/2/2
3	OMG	L5	4623	3	-	0/5/27/28	0/3/3/3
3	5MC	L5	3782	3,90	-	0/7/25/26	0/2/2/2
3	PSU	L5	2839	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	4536	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	3808	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	4636	3	-	3/7/25/26	0/2/2/2
3	A2M	L5	398	3	-	3/5/27/28	0/3/3/3
1	PSU	S2	863	1	-	0/7/25/26	0/2/2/2
1	OMG	S2	867	1	-	1/5/27/28	0/3/3/3
1	PSU	S2	1692	1	-	0/7/25/26	0/2/2/2
3	A2M	L5	1326	3	-	2/5/27/28	0/3/3/3
3	PSU	L5	1744	3,89	-	0/7/25/26	0/2/2/2
1	OMC	S2	517	1	-	0/9/27/28	0/2/2/2
3	PSU	L5	3637	3,89,90	-	0/7/25/26	0/2/2/2
3	PSU	L5	1582	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	1677	3	-	0/7/25/26	0/2/2/2
39	V5N	LA	216	39	-	1/5/10/12	0/1/1/1
1	PSU	S2	109	1	-	0/7/25/26	0/2/2/2
1	OMU	S2	1442	1,90	-	0/9/27/28	0/2/2/2
3	OMC	L5	2824	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	3844	3	-	3/7/25/26	0/2/2/2
3	A2M	L5	3718	3	-	1/5/27/28	0/3/3/3
85	OMC	Pt	33	85	-	0/9/27/28	0/2/2/2
3	PSU	L5	4296	3	-	0/7/25/26	0/2/2/2
85	G7M	Pt	47	85	-	0/3/25/26	0/3/3/3
3	PSU	L5	4403	3	-	0/7/25/26	0/2/2/2
3	UR3	L5	4530	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4628	3	-	0/7/25/26	0/2/2/2
1	OMG	S2	436	1	-	0/5/27/28	0/3/3/3
1	PSU	S2	1174	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3758	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	3830	3	-	1/5/27/28	0/3/3/3
1	G7M	S2	1639	1,85	-	0/3/25/26	0/3/3/3
1	PSU	S2	649	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3729	3	-	2/7/25/26	0/2/2/2
3	PSU	L5	4293	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	2401	3	-	0/5/27/28	0/3/3/3
1	MA6	S2	1851	1	-	1/7/29/30	0/3/3/3
3	PSU	L5	1536	3	-	0/7/25/26	0/2/2/2
1	OMU	S2	116	1	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	L5	1781	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3920	3,90	-	0/7/25/26	0/2/2/2
3	UY1	L5	3818	3,90	-	3/9/27/28	0/2/2/2
1	A2M	S2	668	1,90	-	2/5/27/28	0/3/3/3
1	PSU	S2	814	1	-	0/7/25/26	0/2/2/2
1	A2M	S2	27	1	-	1/5/27/28	0/3/3/3
1	OMU	S2	428	1	-	4/9/27/28	0/2/2/2
1	OMC	S2	1391	1	-	0/9/27/28	0/2/2/2
3	A2M	L5	2787	3	-	0/5/27/28	0/3/3/3
3	OMU	L5	4227	3	-	0/9/27/28	0/2/2/2
1	OMG	S2	509	1	-	1/5/27/28	0/3/3/3
3	OMG	L5	3627	3	-	0/5/27/28	0/3/3/3
1	A2M	S2	576	1	-	2/5/27/28	0/3/3/3
84	PSU	At	39	84	-	0/7/25/26	0/2/2/2
3	PSU	L5	4493	3,89	-	0/7/25/26	0/2/2/2
3	PSU	L5	1862	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	2804	3	-	0/9/27/28	0/2/2/2
1	PSU	S2	815	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	686	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1244	1	-	0/7/25/26	0/2/2/2
87	M3L	EF	36	87	-	0/9/10/12	-
1	A2M	S2	468	1	-	1/5/27/28	0/3/3/3
3	PSU	L5	3764	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4392	3	-	0/5/27/28	0/3/3/3
1	PSU	S2	119	1	-	0/7/25/26	0/2/2/2
3	OMG	L5	3899	3	-	0/5/27/28	0/3/3/3
3	A2M	L5	1871	3,90	-	0/5/27/28	0/3/3/3
3	PSU	L5	4442	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4228	3	-	2/5/27/28	0/3/3/3
1	OMG	S2	683	1	-	0/5/27/28	0/3/3/3
3	PSU	L5	4500	3,90	-	2/7/25/26	0/2/2/2
84	H2U	At	16	84	-	7/7/38/39	0/2/2/2
3	OMG	L5	3744	3	-	0/5/27/28	0/3/3/3
1	A2M	S2	512	1	-	2/5/27/28	0/3/3/3
3	OMC	L5	2422	3,90	-	3/9/27/28	0/2/2/2
85	4SU	Pt	8	85	-	0/7/25/26	0/2/2/2
3	PSU	L5	1779	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4499	3	-	0/5/27/28	0/3/3/3
1	OMC	S2	174	1	-	1/9/27/28	0/2/2/2
1	A2M	S2	1678	1	-	1/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OMG	L5	3792	3	-	0/5/27/28	0/3/3/3
3	PSU	L5	3851	3	-	1/7/25/26	0/2/2/2
1	A2M	S2	484	1	-	1/5/27/28	0/3/3/3
3	PSU	L5	4532	3	-	2/7/25/26	0/2/2/2
6	SAC	SA	2	6	-	1/7/8/10	-
3	OMU	L5	3925	3	-	1/9/27/28	0/2/2/2
3	OMC	L5	2351	3	-	1/9/27/28	0/2/2/2
3	PSU	L5	3770	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	4306	3	-	2/9/27/28	0/2/2/2
68	MLZ	Lb	5	68	-	3/7/8/10	-
1	4AC	S2	1337	1	-	2/11/29/30	0/2/2/2
87	MLY	EF	55	87	-	1/8/9/11	-
3	OMG	L5	4494	3	-	0/5/27/28	0/3/3/3
1	OMU	S2	1804	1	-	0/9/27/28	0/2/2/2
1	OMG	S2	1490	1,90	-	2/5/27/28	0/3/3/3
3	OMG	L5	4370	3	-	0/5/27/28	0/3/3/3
1	PSU	S2	609	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1239	1	-	0/7/25/26	0/2/2/2
1	A2M	S2	166	1	-	0/5/27/28	0/3/3/3
1	PSU	S2	1367	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	105	1	-	0/7/25/26	0/2/2/2
1	OMU	S2	354	1	-	0/9/27/28	0/2/2/2
3	PSU	L5	3762	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3695	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1177	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	2632	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	3760	3,90	-	0/5/27/28	0/3/3/3
3	OMC	L5	2861	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	3887	3	-	1/9/27/28	0/2/2/2
1	PSU	S2	1232	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	36	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4569	3	-	2/7/25/26	0/2/2/2
3	PSU	L5	4579	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	1340	3	-	1/9/27/28	0/2/2/2
1	PSU	S2	406	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	572	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3639	3	-	0/7/25/26	0/2/2/2
2	OMU	L8	14	3,2	-	1/9/27/28	0/2/2/2
1	PSU	S2	1625	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4299	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	4456	3	-	1/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
79	M3L	Lm	98	79	-	0/9/10/12	-
1	PSU	S2	1136	1	-	0/7/25/26	0/2/2/2
2	OMG	L8	75	2	-	1/5/27/28	0/3/3/3
40	HIC	LB	245	40	-	0/5/6/8	0/1/1/1
3	OMG	L5	4618	3	-	1/5/27/28	0/3/3/3
3	OMU	L5	2415	3	-	1/9/27/28	0/2/2/2
3	OMG	L5	2424	3	-	1/5/27/28	0/3/3/3
3	OMC	L5	3841	3	-	1/9/27/28	0/2/2/2
3	PSU	L5	1860	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1004	1	-	0/7/25/26	0/2/2/2
3	A2M	L5	3724	3	-	1/5/27/28	0/3/3/3
1	PSU	S2	1081	1	-	1/7/25/26	0/2/2/2
3	PSU	L5	5010	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	801	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4673	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	1782	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	1522	3	-	0/5/27/28	0/3/3/3
3	PSU	L5	4576	3	-	0/7/25/26	0/2/2/2
85	PSU	Pt	56	85	-	0/7/25/26	0/2/2/2
3	OMU	L5	2837	3	-	0/9/27/28	0/2/2/2
3	A2M	L5	1524	3	-	0/5/27/28	0/3/3/3
3	OMG	L5	4637	3,89	-	2/5/27/28	0/3/3/3
1	B8N	S2	1248	1	-	6/16/34/35	0/2/2/2
3	6MZ	L5	4220	3	-	0/5/27/28	0/3/3/3
3	OMU	L5	4620	3	-	1/9/27/28	0/2/2/2
3	A2M	L5	2363	3,90	-	0/5/27/28	0/3/3/3
1	OMU	S2	1288	1	-	3/9/27/28	0/2/2/2
1	PSU	S2	296	1	-	0/7/25/26	0/2/2/2
3	OMG	L5	4196	3,85	-	1/5/27/28	0/3/3/3
1	PSU	S2	918	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1056	1	-	0/7/25/26	0/2/2/2
1	A2M	S2	1383	1	-	1/5/27/28	0/3/3/3
3	OMC	L5	1881	3,90	-	0/9/27/28	0/2/2/2
3	OMG	L5	3944	3	-	2/5/27/28	0/3/3/3
86	5CT	5A	50	86	-	8/13/14/16	-
1	A2M	S2	590	1	-	2/5/27/28	0/3/3/3
3	A2M	L5	400	3	-	0/5/27/28	0/3/3/3
3	A2M	L5	4571	3	-	0/5/27/28	0/3/3/3
84	H2U	At	20	84	-	1/7/38/39	0/2/2/2
3	PSU	L5	2508	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1238	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMG	S2	601	1	-	0/5/27/28	0/3/3/3
3	PSU	L5	4552	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	218	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	681	1	-	0/7/25/26	0/2/2/2
1	OMG	S2	1328	1,89	-	1/5/27/28	0/3/3/3
3	A2M	L5	2815	3,90	-	1/5/27/28	0/3/3/3
3	A2M	L5	4590	3	-	1/5/27/28	0/3/3/3
1	A2M	S2	99	1,90	-	1/5/27/28	0/3/3/3
3	PSU	L5	2843	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	34	1	-	0/7/25/26	0/2/2/2
87	M3L	EF	318	87	-	0/9/10/12	-
3	PSU	L5	4431	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1347	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	866	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4972	3	-	0/7/25/26	0/2/2/2
1	OMU	S2	121	1	-	1/9/27/28	0/2/2/2
1	PSU	S2	1643	1,90	-	0/7/25/26	0/2/2/2
1	OMG	S2	1447	1	-	1/5/27/28	0/3/3/3
3	PSU	L5	4531	3	-	0/7/25/26	0/2/2/2
1	OMC	S2	462	1	-	1/9/27/28	0/2/2/2
3	PSU	L5	4521	3,89,90	-	0/7/25/26	0/2/2/2
87	M3L	EF	79	87	-	3/9/10/12	-
3	PSU	L5	3734	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3884	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3715	3	-	0/7/25/26	0/2/2/2
84	G7M	At	46	84	-	0/3/25/26	0/3/3/3
1	OMU	S2	627	1	-	5/9/27/28	0/2/2/2
1	OMC	S2	1703	1,90	-	0/9/27/28	0/2/2/2
3	A2M	L5	3785	3	-	2/5/27/28	0/3/3/3
3	PSU	L5	3768	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	4498	3,90	-	0/9/27/28	0/2/2/2
1	UY1	S2	1326	1,90	-	2/9/27/28	0/2/2/2
2	PSU	L8	69	89,2	-	0/7/25/26	0/2/2/2
3	OMC	L5	3701	3,89	-	4/9/27/28	0/2/2/2
29	AME	SV	1	29	-	2/9/10/12	-
3	A2M	L5	1534	3,90	-	2/5/27/28	0/3/3/3
3	A2M	L5	3825	3	-	0/5/27/28	0/3/3/3
84	MIA	At	37	84	-	2/11/33/34	0/3/3/3
1	PSU	S2	1445	1	-	0/7/25/26	0/2/2/2
3	A2M	L5	3723	3	-	1/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	A2M	L5	3867	3	-	0/5/27/28	0/3/3/3
1	OMG	S2	644	1	-	4/5/27/28	0/3/3/3
1	PSU	S2	93	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4423	3	-	0/7/25/26	0/2/2/2
1	A2M	S2	1031	1	-	0/5/27/28	0/3/3/3
1	PSU	S2	651	1	-	0/7/25/26	0/2/2/2
1	A2M	S2	159	1	-	0/5/27/28	0/3/3/3
20	HY3	SX	62	89,20	-	1/1/12/14	0/1/1/1
3	OMG	L5	1625	3	-	3/5/27/28	0/3/3/3
3	PSU	L5	4420	3	-	4/7/25/26	0/2/2/2
3	A2M	L5	4523	3,90	-	1/5/27/28	0/3/3/3
3	PSU	L5	1683	3,89	-	0/7/25/26	0/2/2/2
3	PSU	L5	3853	3,90	-	0/7/25/26	0/2/2/2
3	5MC	L5	4447	3,89	-	4/7/25/26	0/2/2/2
3	OMG	L5	2876	3	-	0/5/27/28	0/3/3/3
1	MA6	S2	1850	1	-	0/7/29/30	0/3/3/3
84	PSU	At	32	84	-	0/7/25/26	0/2/2/2
84	4SU	At	8	84,90	-	0/7/25/26	0/2/2/2
2	PSU	L8	55	2	-	0/7/25/26	0/2/2/2
1	PSU	S2	822	1	-	0/7/25/26	0/2/2/2
85	H2U	Pt	21	85	-	5/7/38/39	0/2/2/2
3	PSU	L5	4457	3	-	0/7/25/26	0/2/2/2
66	SAC	Lr	2	66	-	2/7/8/10	-
1	4AC	S2	1842	1	-	0/11/29/30	0/2/2/2
3	PSU	L5	4361	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	5001	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1243	1	-	2/7/25/26	0/2/2/2
3	PSU	L5	4353	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4471	3	-	0/7/25/26	0/2/2/2
1	6MZ	S2	1832	1,90	-	2/5/27/28	0/3/3/3
1	PSU	S2	573	1	-	0/7/25/26	0/2/2/2
1	OMU	S2	172	1	-	0/9/27/28	0/2/2/2
3	OMG	L5	2364	3	-	2/5/27/28	0/3/3/3
3	OMG	L5	1316	3	-	0/5/27/28	0/3/3/3
3	PSU	L5	4689	3	-	0/7/25/26	0/2/2/2

The worst 5 of 548 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	SV	1	AME	OT-CT1	8.89	1.43	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
66	Lr	2	SAC	OAC-C1A	8.82	1.43	1.23
84	At	37	MIA	C2-S10	-8.42	1.68	1.75
6	SA	2	SAC	OAC-C1A	8.14	1.41	1.23
1	S2	1639	G7M	C8-N9	7.41	1.46	1.33

The worst 5 of 726 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	SA	2	SAC	OAC-C1A-N	-9.74	104.04	121.95
84	At	37	MIA	C12-C13-C14	-7.94	111.69	127.14
85	Pt	21	H2U	C4-N3-C2	-7.79	119.33	125.79
29	SV	1	AME	CA-N-CT1	-7.66	109.02	123.15
66	Lr	2	SAC	OAC-C1A-N	-7.53	108.10	121.95

There are no chirality outliers.

5 of 172 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	L8	14	OMU	C1'-C2'-O2'-CM2
2	L8	75	OMG	C1'-C2'-O2'-CM2
6	SA	2	SAC	OAC-C1A-N-CA
66	Lr	2	SAC	C2A-C1A-N-CA
81	Lo	53	MLZ	C-CA-CB-CG

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 510 ligands modelled in this entry, 486 are monoatomic - leaving 24 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$
92	PUT	L5	5118	-	5,5,5	0.17	0	4,4,4	0.23	0
96	MET	Pt	78	85	6,7,8	0.55	0	2,7,9	1.79	1 (50%)
95	PHE	At	77	84	10,11,12	0.32	0	10,13,15	0.72	0
88	SPD	L5	5102	-	9,9,9	0.31	0	8,8,8	0.89	0
98	ZIY	EF	502	-	81,82,82	0.99	4 (4%)	111,117,117	1.40	13 (11%)
88	SPD	L5	5103	-	9,9,9	0.33	0	8,8,8	0.94	0
88	SPD	S2	1901	-	9,9,9	0.16	0	8,8,8	0.27	0
88	SPD	L5	5110	-	9,9,9	0.33	0	8,8,8	0.90	0
88	SPD	L5	5104	-	9,9,9	0.33	0	8,8,8	0.92	0
88	SPD	L5	5109	-	9,9,9	0.33	0	8,8,8	0.91	0
97	GSP	EF	501	90	26,34,34	2.23	3 (11%)	27,54,54	1.55	6 (22%)
88	SPD	L5	5106	-	9,9,9	0.31	0	8,8,8	0.90	0
92	PUT	L5	5112	-	5,5,5	0.17	0	4,4,4	0.24	0
93	3H3	L5	5119	-	33,34,34	3.34	13 (39%)	34,45,45	3.99	19 (55%)
91	ANM	L5	5101	89	20,20,20	1.16	1 (5%)	22,27,27	1.43	3 (13%)
92	PUT	L5	5111	-	5,5,5	0.08	0	4,4,4	0.19	0
92	PUT	L5	5115	-	5,5,5	0.16	0	4,4,4	0.21	0
92	PUT	L5	5117	-	5,5,5	0.16	0	4,4,4	0.20	0
88	SPD	L5	5105	-	9,9,9	0.31	0	8,8,8	0.93	0
92	PUT	L5	5113	-	5,5,5	0.12	0	4,4,4	0.15	0
88	SPD	L5	5108	-	9,9,9	0.15	0	8,8,8	0.24	0
88	SPD	L5	5107	-	9,9,9	0.18	0	8,8,8	0.40	0
92	PUT	L5	5116	-	5,5,5	0.11	0	4,4,4	0.16	0
92	PUT	L5	5114	-	5,5,5	0.14	0	4,4,4	0.19	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
92	PUT	L5	5118	-	-	1/3/3/3	-
96	MET	Pt	78	85	-	0/5/6/8	-
95	PHE	At	77	84	-	2/5/6/8	0/1/1/1
88	SPD	L5	5102	-	-	0/7/7/7	-
98	ZIY	EF	502	-	-	12/120/140/140	0/3/4/4
88	SPD	L5	5103	-	-	4/7/7/7	-
88	SPD	S2	1901	-	-	3/7/7/7	-

Continued on next page...

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	SPD	L5	5110	-	-	2/7/7/7	-
88	SPD	L5	5104	-	-	3/7/7/7	-
88	SPD	L5	5109	-	-	1/7/7/7	-
97	GSP	EF	501	90	-	2/17/38/38	0/3/3/3
88	SPD	L5	5106	-	-	0/7/7/7	-
92	PUT	L5	5112	-	-	0/3/3/3	-
93	3H3	L5	5119	-	-	16/39/51/51	0/1/2/2
91	ANM	L5	5101	89	-	0/10/23/23	0/2/2/2
92	PUT	L5	5111	-	-	1/3/3/3	-
92	PUT	L5	5115	-	-	0/3/3/3	-
92	PUT	L5	5117	-	-	3/3/3/3	-
88	SPD	L5	5105	-	-	2/7/7/7	-
92	PUT	L5	5113	-	-	0/3/3/3	-
88	SPD	L5	5108	-	-	2/7/7/7	-
88	SPD	L5	5107	-	-	2/7/7/7	-
92	PUT	L5	5116	-	-	0/3/3/3	-
92	PUT	L5	5114	-	-	1/3/3/3	-

The worst 5 of 21 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
97	EF	501	GSP	PG-S1G	-9.45	1.70	1.90
93	L5	5119	3H3	C13-C12	9.37	1.53	1.33
93	L5	5119	3H3	O3-C22	7.51	1.38	1.23
93	L5	5119	3H3	O4-C23	7.08	1.37	1.23
93	L5	5119	3H3	C23-N	6.52	1.48	1.37

The worst 5 of 42 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
93	L5	5119	3H3	O3-C22-N	-9.94	104.53	120.28
93	L5	5119	3H3	C22-N-C23	-9.45	114.32	125.78
93	L5	5119	3H3	O4-C23-N	-8.54	106.74	120.28
93	L5	5119	3H3	O1-C11-C1	8.05	116.82	106.31
98	EF	502	ZIY	O33-C75-C74	6.68	126.71	118.96

There are no chirality outliers.

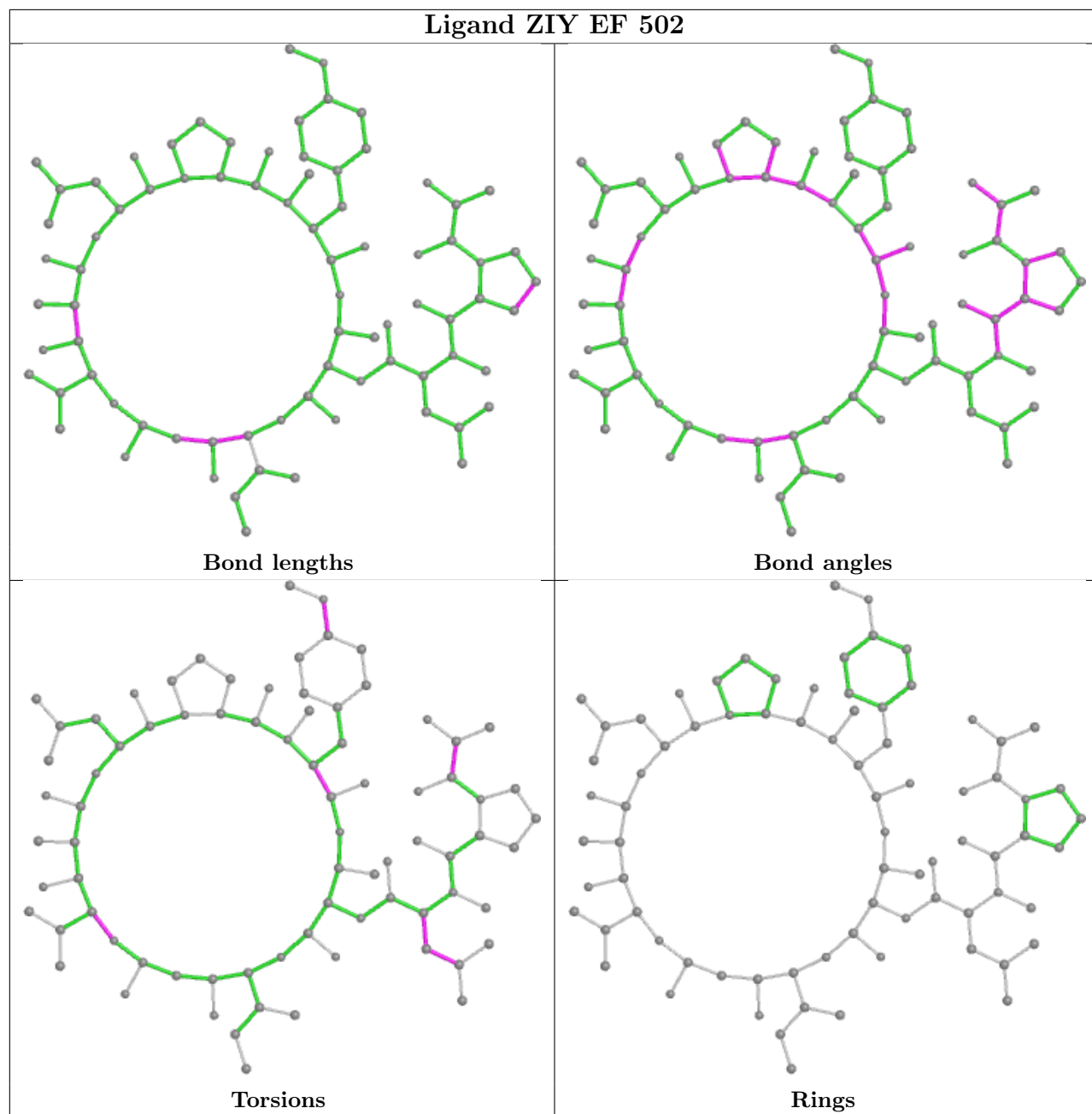
5 of 57 torsion outliers are listed below:

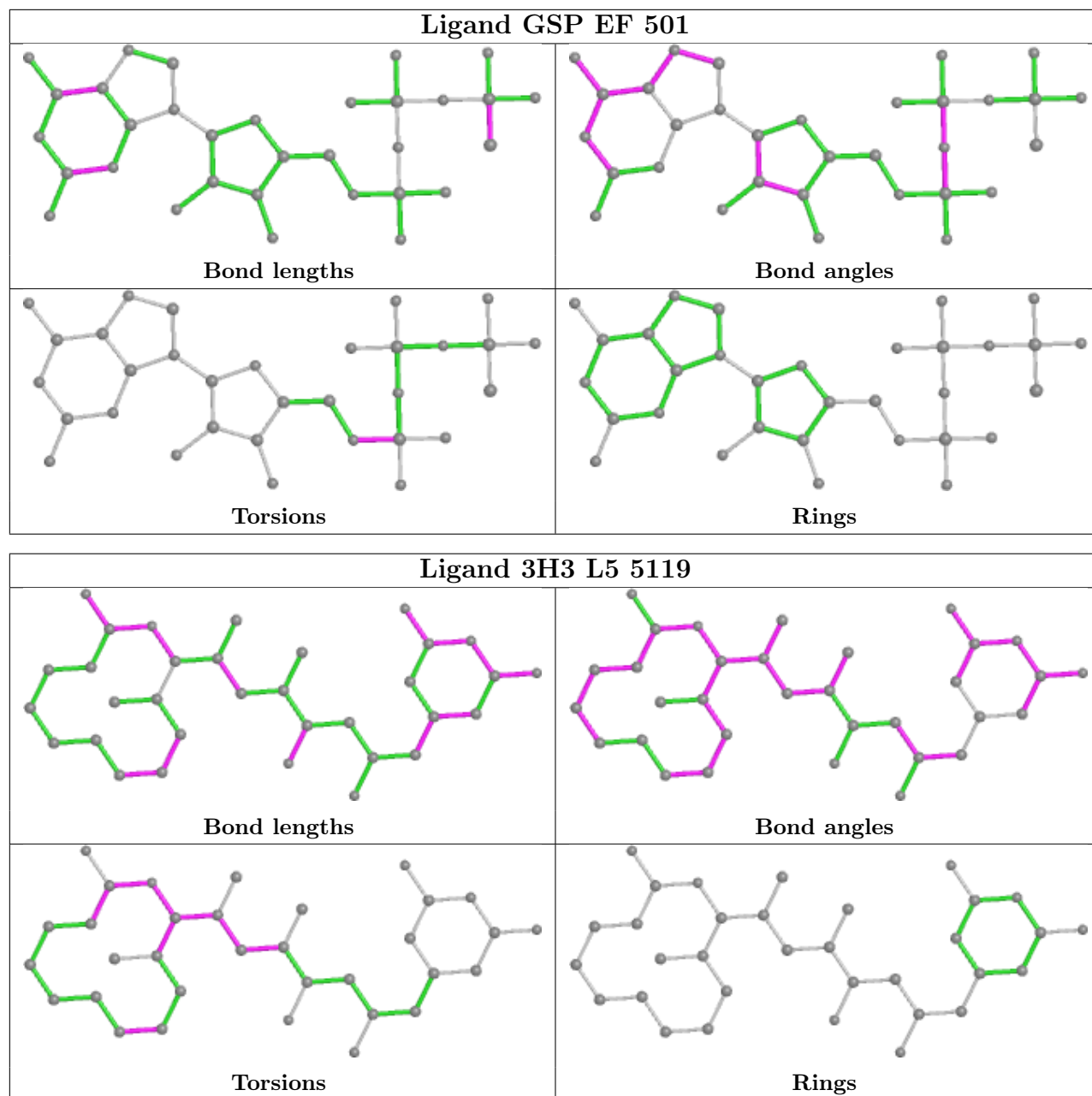
Mol	Chain	Res	Type	Atoms
88	S2	1901	SPD	C4-C5-N6-C7
93	L5	5119	3H3	C2-C1-C11-O1
93	L5	5119	3H3	C2-C1-C11-C12
93	L5	5119	3H3	C-C1-C11-O1
93	L5	5119	3H3	C-C1-C11-C12

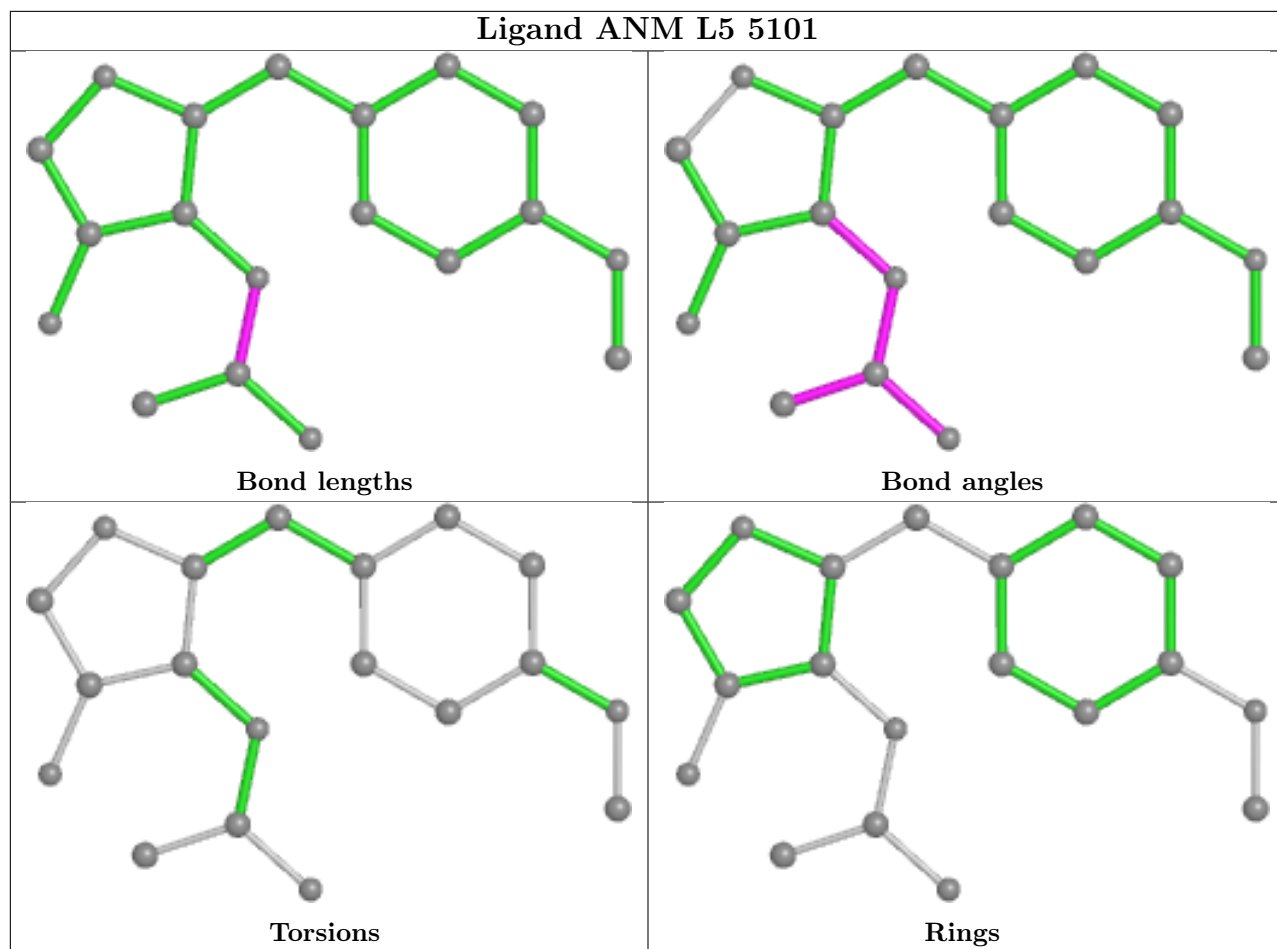
There are no ring outliers.

No monomer is involved in short contacts.

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







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	L5	12
1	S2	5
44	LE	2
68	Lb	1
64	LW	1
25	SL	1
5	SB	1
54	LI	1

The worst 5 of 24 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Lb	76:VAL	C	89:VAL	N	34.19
1	LE	76:ALA	C	88:VAL	N	25.47
1	S2	739:C	O3'	799:U	P	22.94
1	L5	1706:A	O3'	1719:A	P	19.41
1	LW	64:SER	C	71:ARG	N	19.29

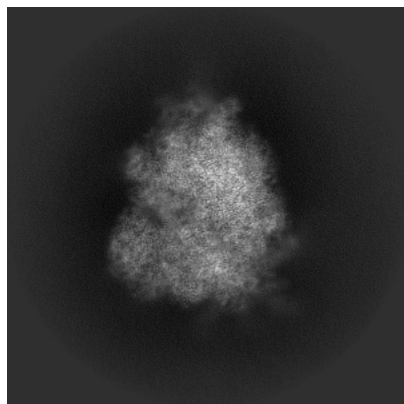
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-29758. These allow visual inspection of the internal detail of the map and identification of artifacts.

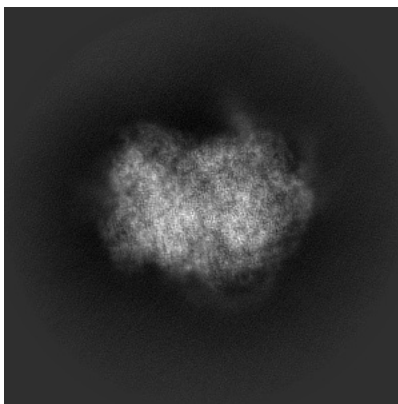
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

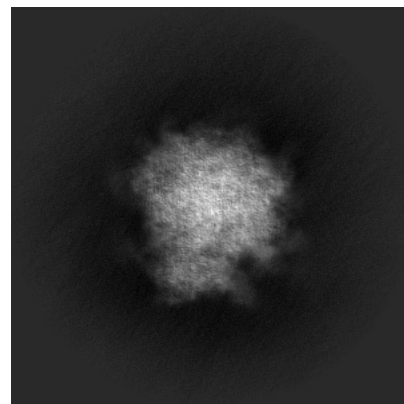
6.1.1 Primary map



X

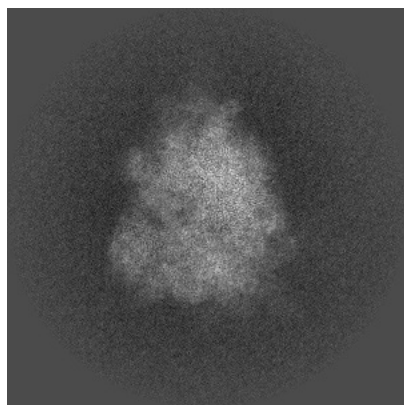


Y

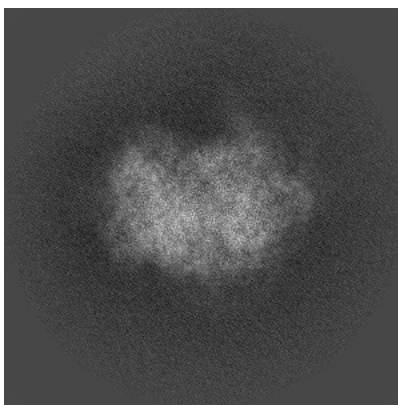


Z

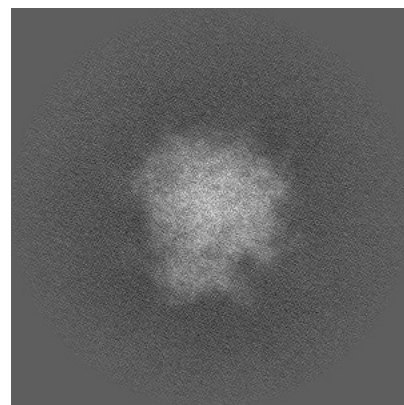
6.1.2 Raw map



X



Y

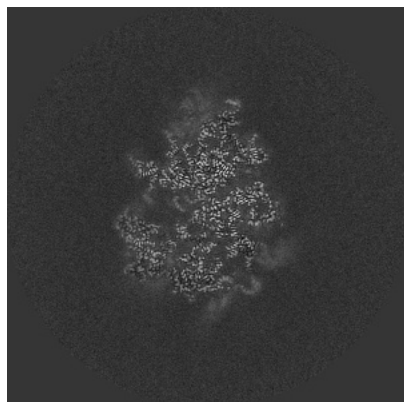


Z

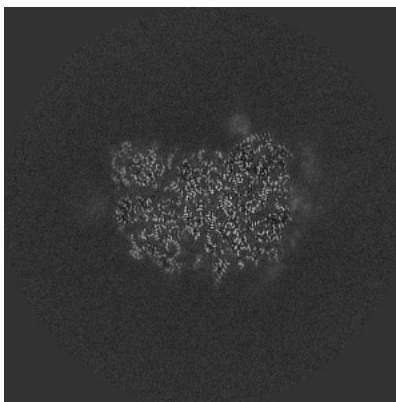
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

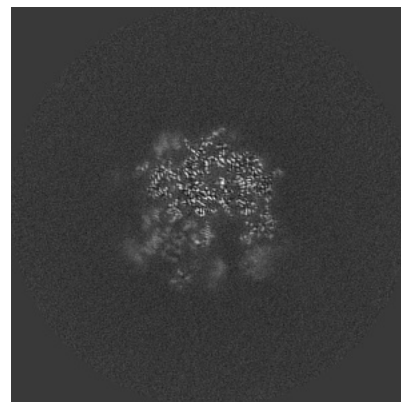
6.2.1 Primary map



X Index: 320

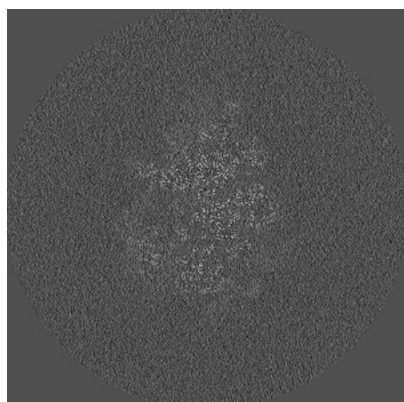


Y Index: 320

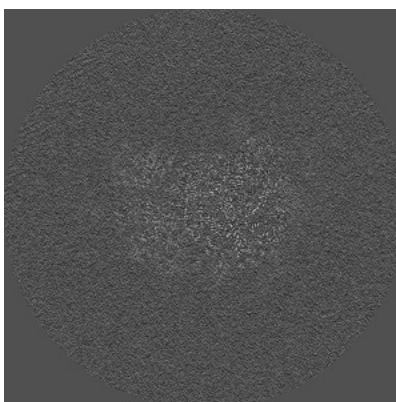


Z Index: 320

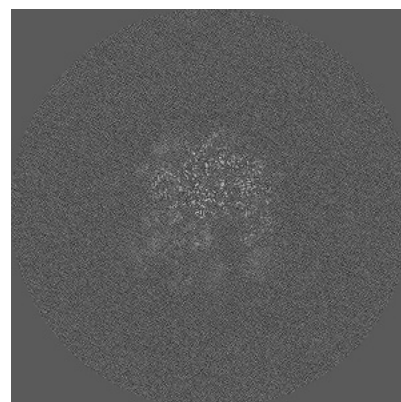
6.2.2 Raw map



X Index: 320



Y Index: 320

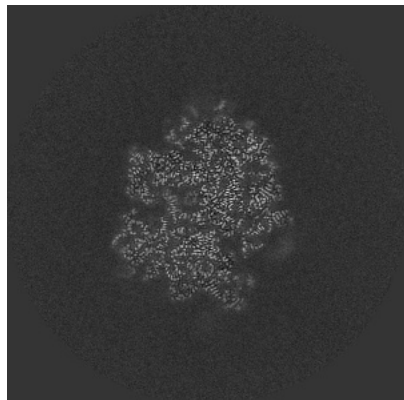


Z Index: 320

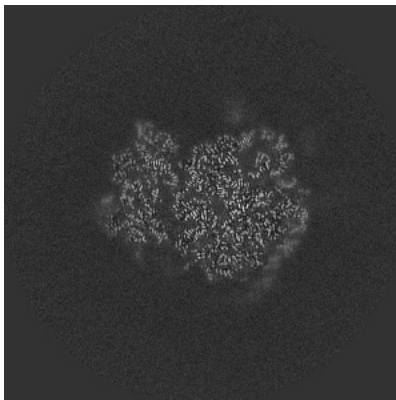
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

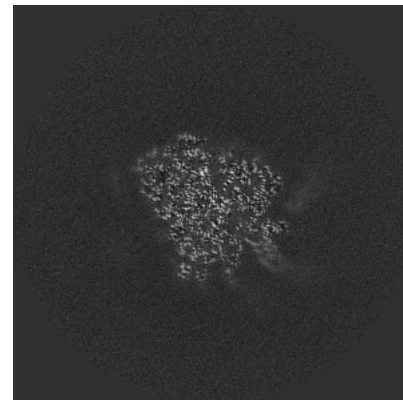
6.3.1 Primary map



X Index: 297

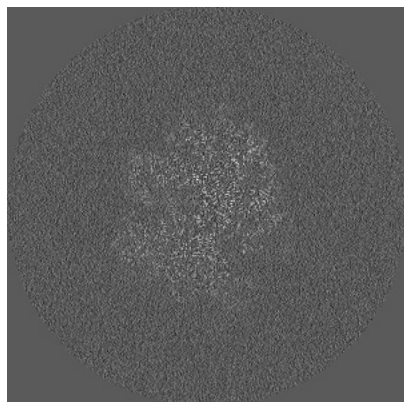


Y Index: 342

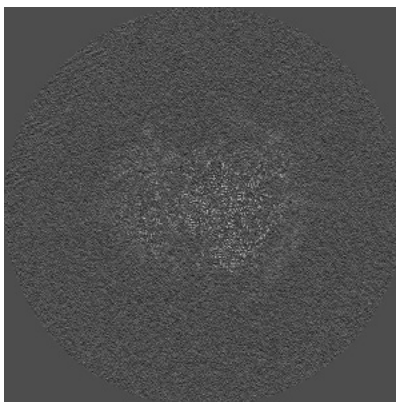


Z Index: 362

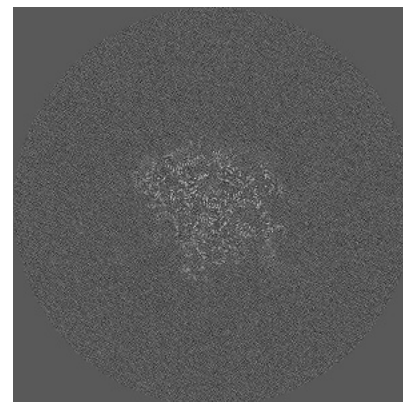
6.3.2 Raw map



X Index: 297



Y Index: 332

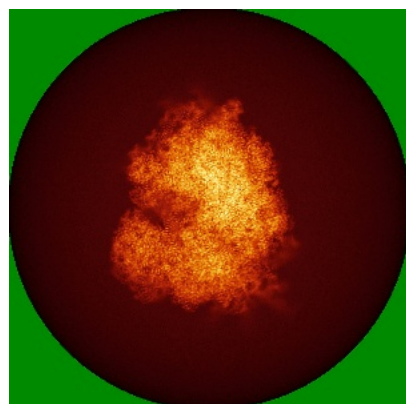


Z Index: 353

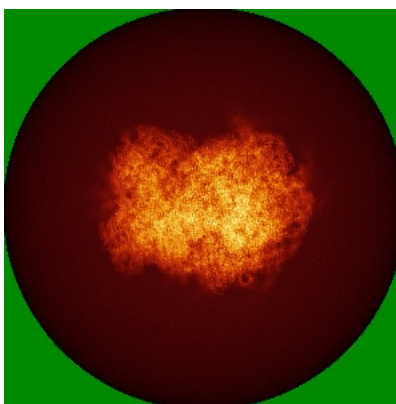
The images above show the largest variance slices of the map in three orthogonal directions.

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

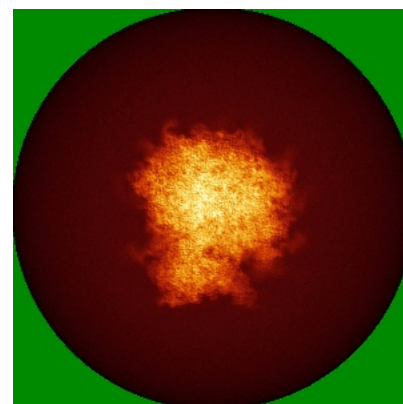
6.4.1 Primary map



X

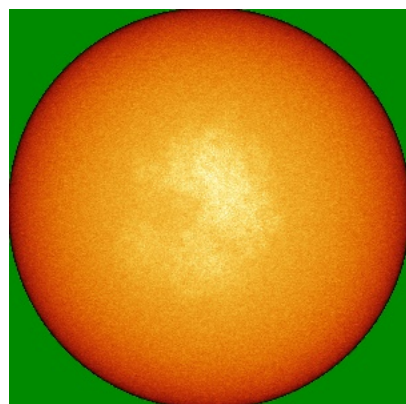


Y

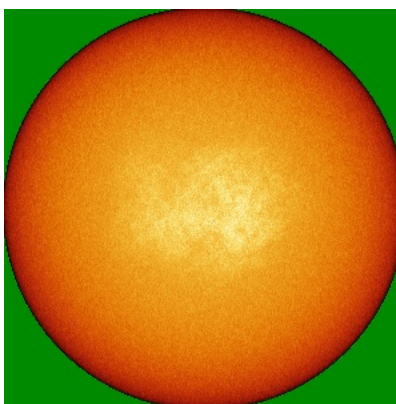


Z

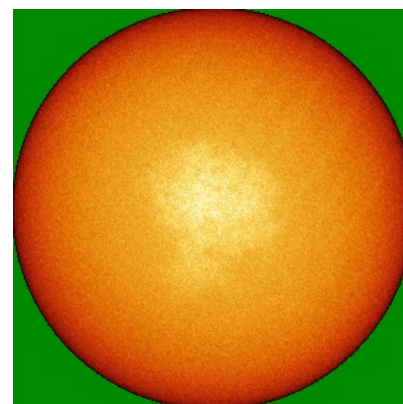
6.4.2 Raw map



X



Y

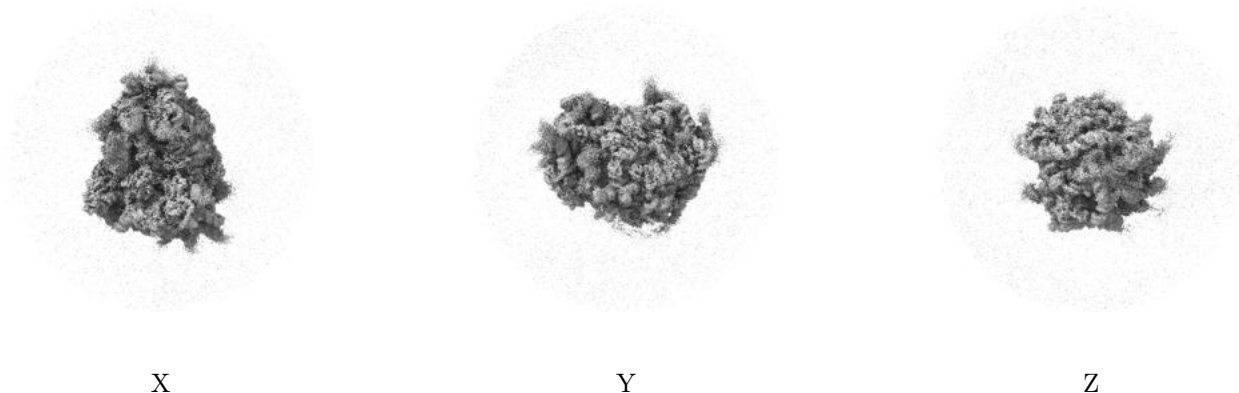


Z

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.

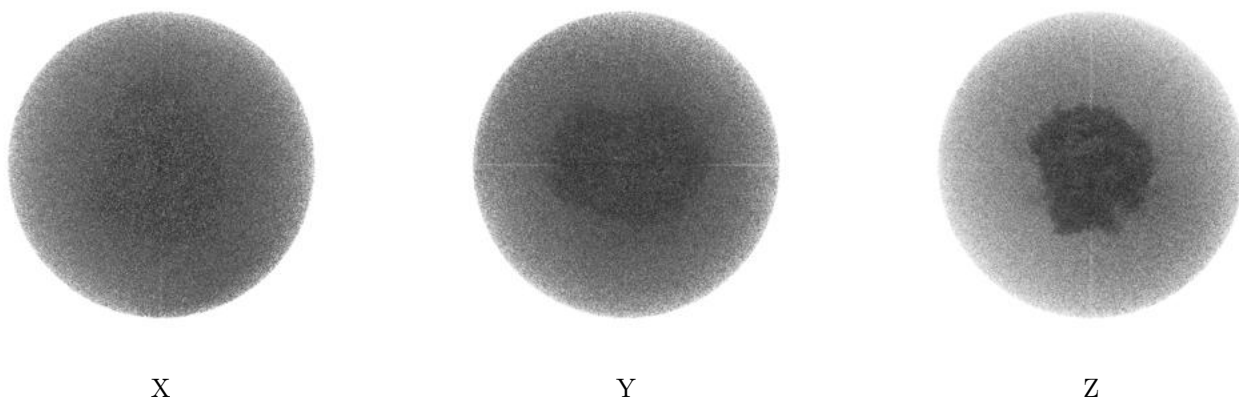
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.003. 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.

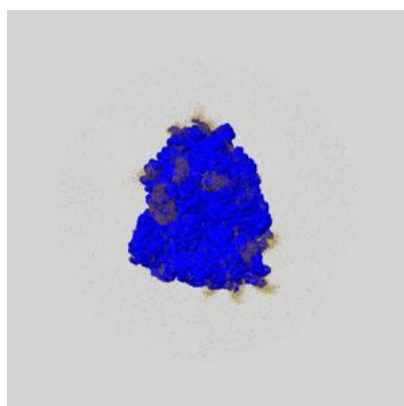
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

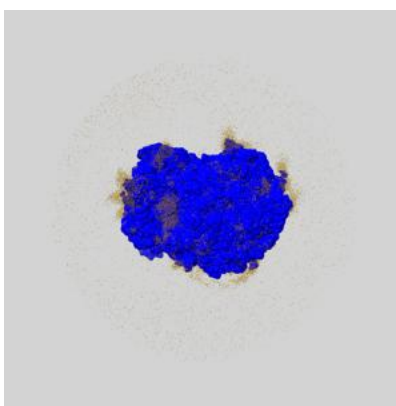
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

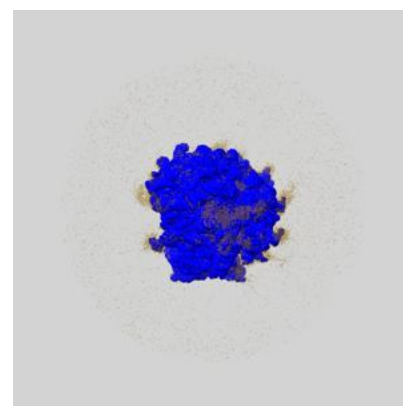
6.6.1 emd_29758_msk_1.map [i](#)



X



Y

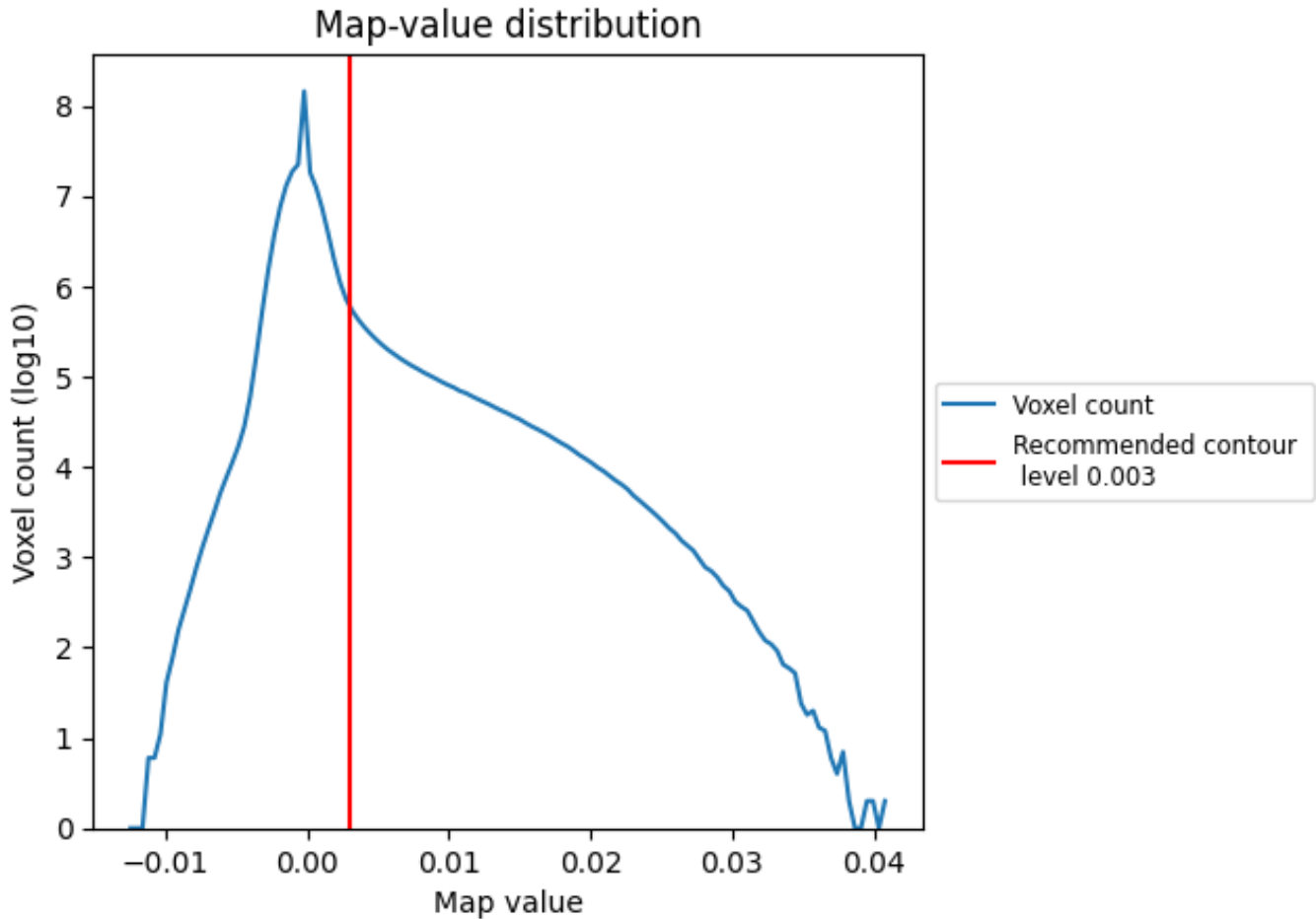


Z

7 Map analysis [i](#)

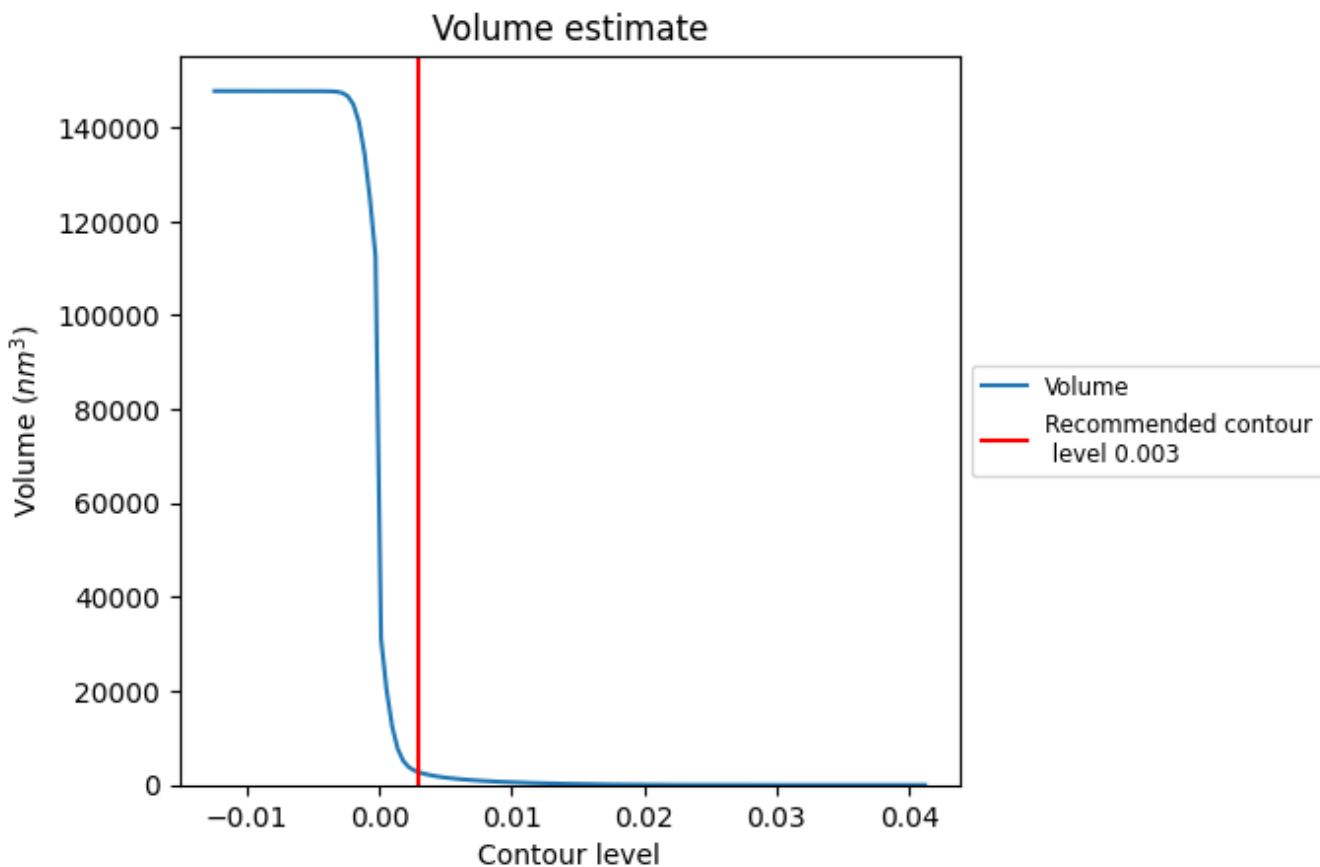
This section contains the results of statistical analysis of the map.

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.

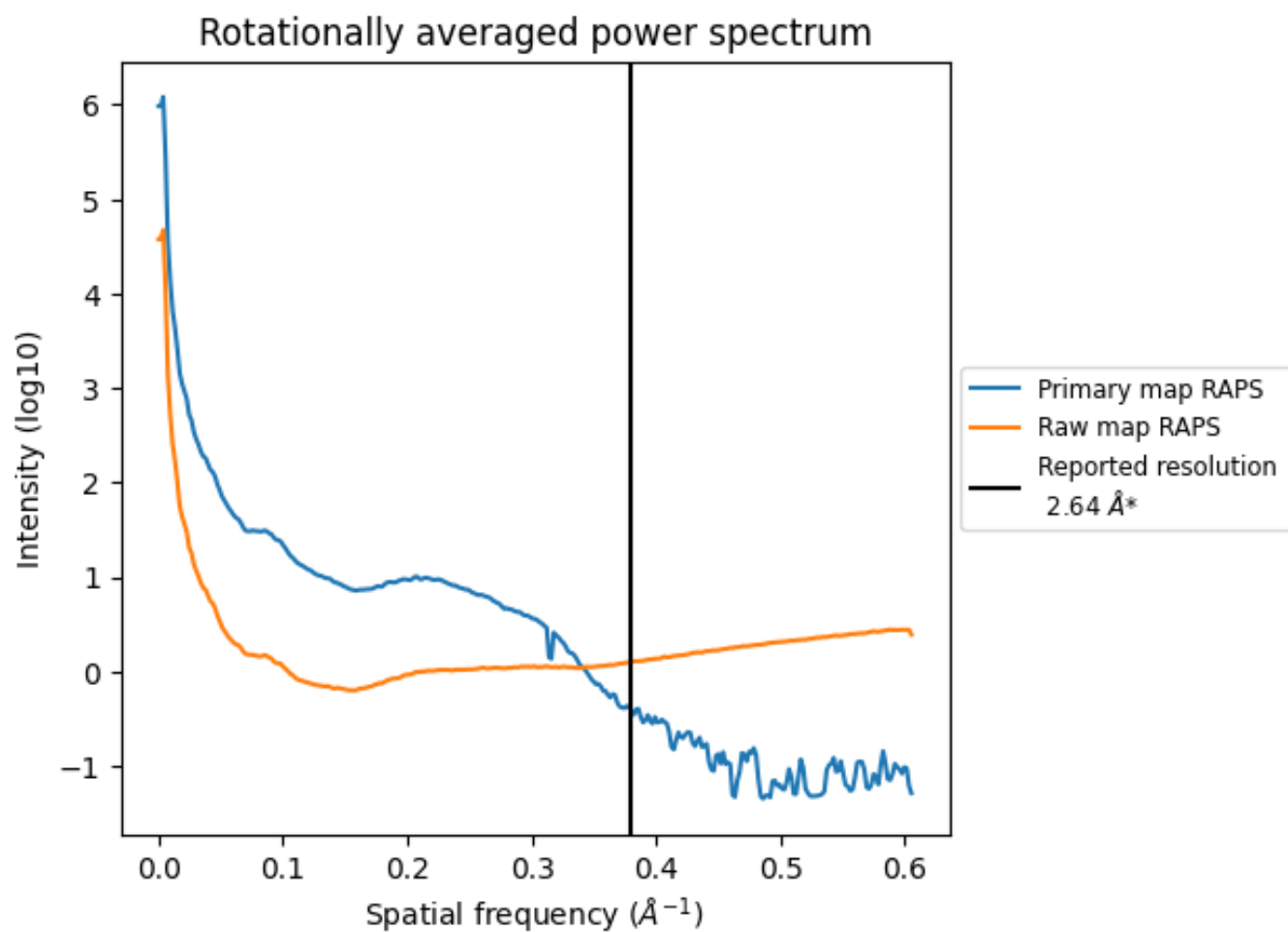
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 2694 nm^3 ; this corresponds to an approximate mass of 2433 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 i

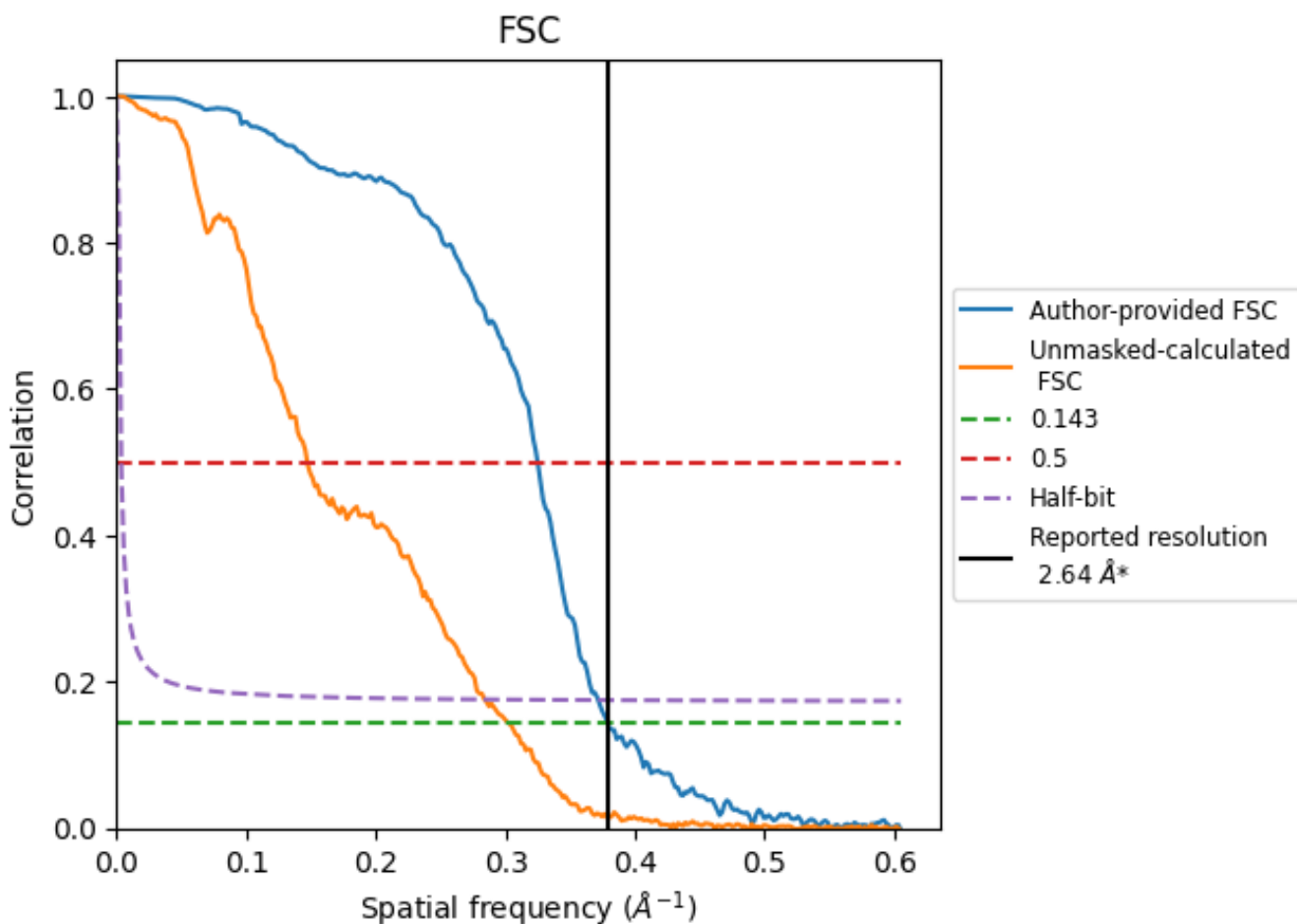


*Reported resolution corresponds to spatial frequency of 0.379 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.379 Å⁻¹

8.2 Resolution estimates [i](#)

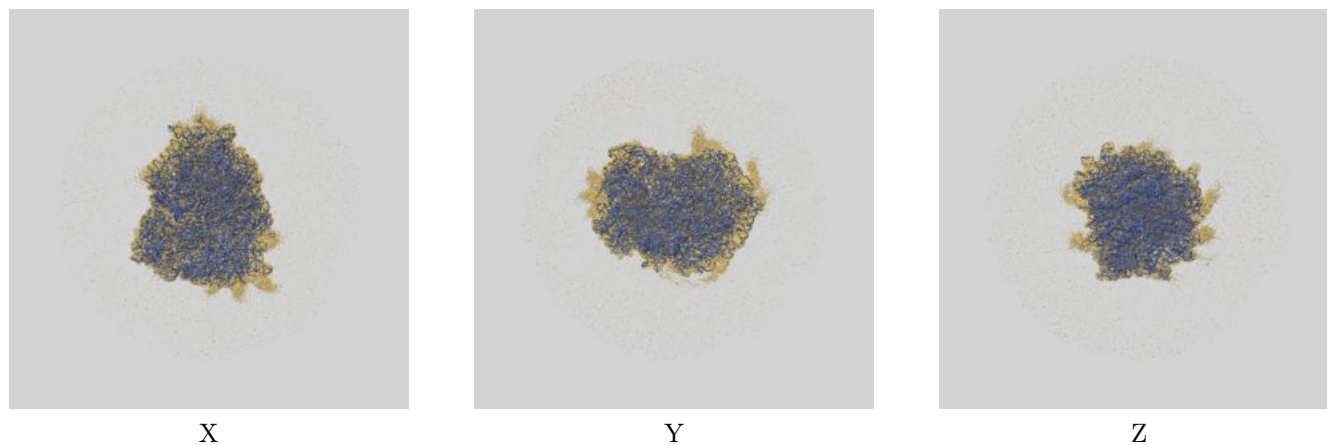
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.64	-	-
Author-provided FSC curve	2.64	3.08	2.69
Unmasked-calculated*	3.30	6.79	3.52

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.30 differs from the reported value 2.64 by more than 10 %

9 Map-model fit [i](#)

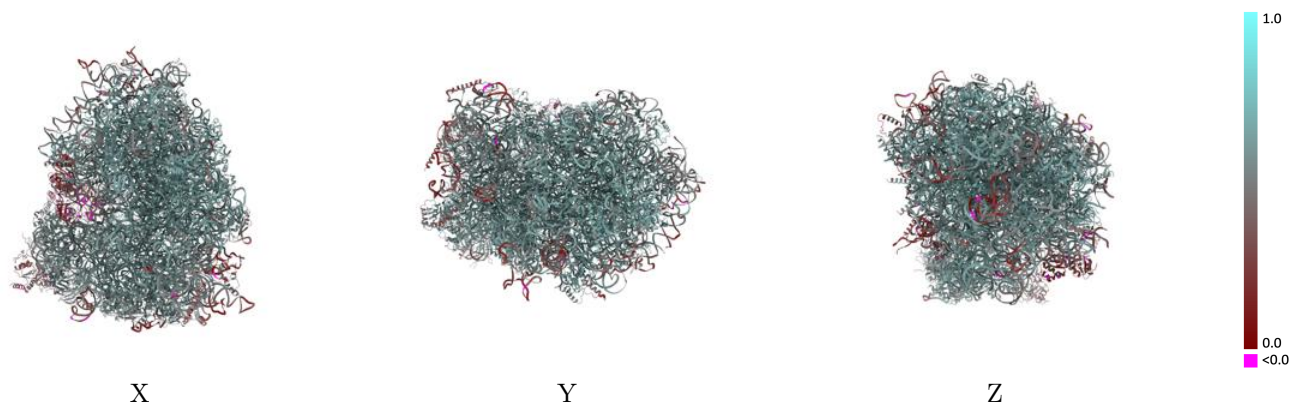
This section contains information regarding the fit between EMDB map EMD-29758 and PDB model 8G5Z. Per-residue inclusion information can be found in section 3 on page 30.

9.1 Map-model overlay [i](#)



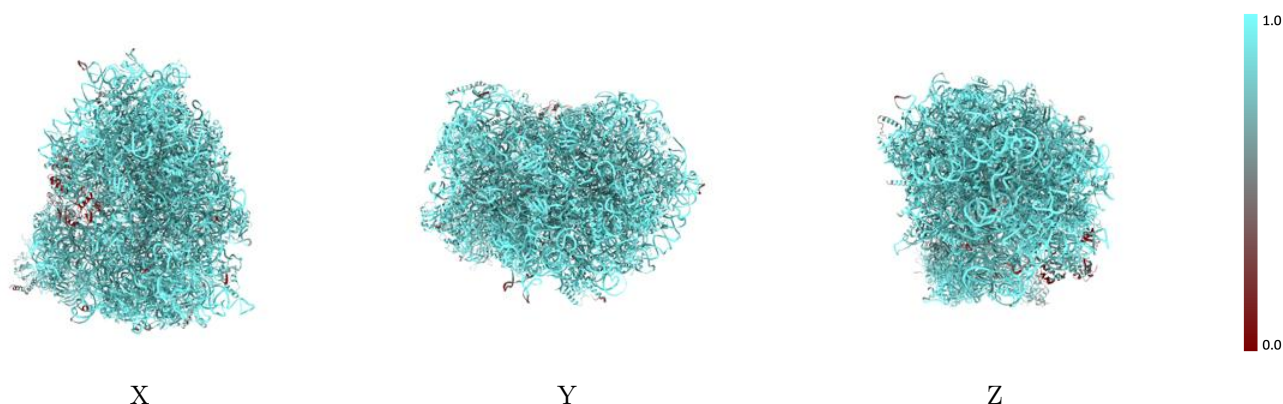
The images above show the 3D surface view of the map at the recommended contour level 0.003 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



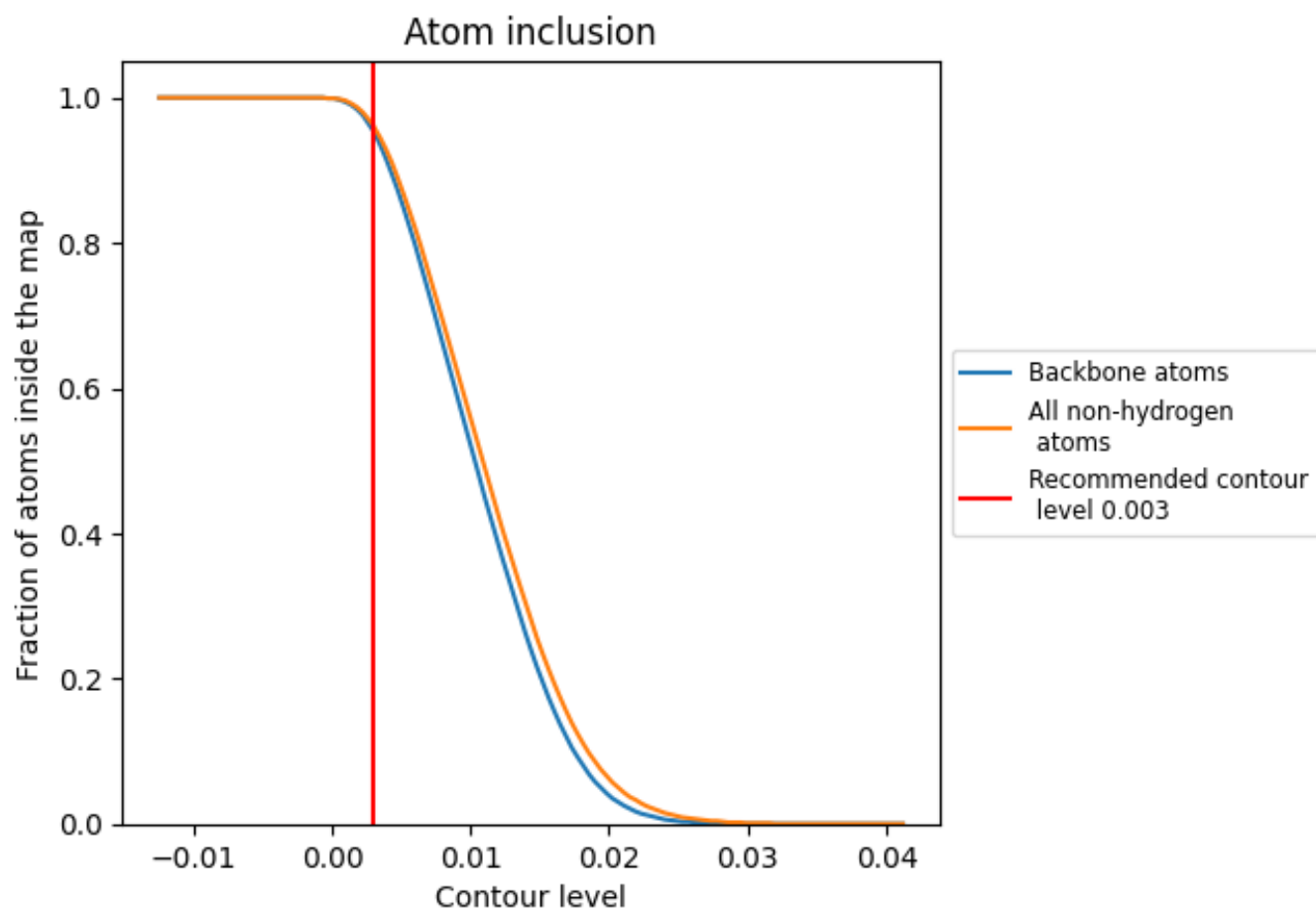
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.003).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 95% 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 (0.003) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9620	 0.5700
5A	 0.8440	 0.4390
At	 0.9700	 0.5310
EF	 0.9250	 0.5690
L5	 0.9830	 0.5750
L7	 0.9970	 0.6250
L8	 0.9960	 0.6030
LA	 0.9900	 0.6470
LB	 0.9700	 0.6270
LC	 0.9780	 0.6290
LD	 0.9680	 0.5930
LE	 0.9790	 0.5990
LF	 0.9870	 0.6290
LG	 0.9160	 0.5540
LH	 0.9680	 0.6000
LI	 0.9740	 0.6120
LJ	 0.9610	 0.5820
LK	 0.3550	 0.1790
LL	 0.9610	 0.6000
LM	 0.9780	 0.6140
LN	 0.9980	 0.6530
LO	 0.9720	 0.6230
LP	 0.9840	 0.6410
LQ	 0.9880	 0.6460
LR	 0.9440	 0.5810
LS	 0.9910	 0.6310
LT	 0.9710	 0.6210
LU	 0.9320	 0.5290
LV	 0.9780	 0.6320
LW	 0.8580	 0.4970
LX	 0.9770	 0.6140
LY	 0.9720	 0.6090
LZ	 0.9740	 0.6040
La	 0.9870	 0.6480
Lb	 0.9110	 0.5510

























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Chain	Atom inclusion	Q-score
Lc	 0.9610	 0.6060
Ld	 0.9580	 0.5980
Le	 0.9900	 0.6490
Lf	 0.9890	 0.6450
Lg	 0.9590	 0.6160
Lh	 0.9800	 0.6120
Li	 0.9500	 0.5750
Lj	 1.0000	 0.6550
Lk	 0.9320	 0.5500
Ll	 0.9830	 0.6180
Lm	 0.9670	 0.6120
Ln	 0.9770	 0.6260
Lo	 0.9810	 0.6190
Lp	 0.9710	 0.6260
Lq	 0.4000	 0.2120
Lr	 0.9880	 0.6340
Lz	 0.7110	 0.2890
Pt	 0.9900	 0.5610
S2	 0.9880	 0.5600
SA	 0.9580	 0.5850
SB	 0.9530	 0.5880
SC	 0.9650	 0.5940
SD	 0.9420	 0.5460
SE	 0.9580	 0.5560
SF	 0.9620	 0.5730
SG	 0.9310	 0.5150
SH	 0.9020	 0.5190
SI	 0.9500	 0.5490
SJ	 0.9300	 0.5170
SK	 0.9490	 0.5330
SL	 0.9640	 0.5850
SM	 0.6490	 0.3020
SN	 0.9750	 0.6070
SO	 0.9610	 0.5990
SP	 0.9250	 0.5330
SQ	 0.9620	 0.5770
SR	 0.9100	 0.5300
SS	 0.9480	 0.5560
ST	 0.9620	 0.5680
SU	 0.9040	 0.5130
SV	 0.9700	 0.5880
SW	 0.9830	 0.6160

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Chain	Atom inclusion	Q-score
SX	 0.9770	 0.6120
SY	 0.9030	 0.5040
SZ	 0.8810	 0.5360
Sa	 0.9820	 0.6060
Sb	 0.9530	 0.5750
Sc	 0.9090	 0.5370
Sd	 0.9840	 0.5970
Se	 0.9340	 0.5140
Sf	 0.7830	 0.3820
Sg	 0.9050	 0.5040
mR	 0.9570	 0.5310