wwPDB EM Validation Summary Report

Mar 24, 2026 – 10:24 PM UTC

PDB ID	:	8G5Z / pdb_00008g5z
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 (i) 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 (1)) were used in the production of this report:

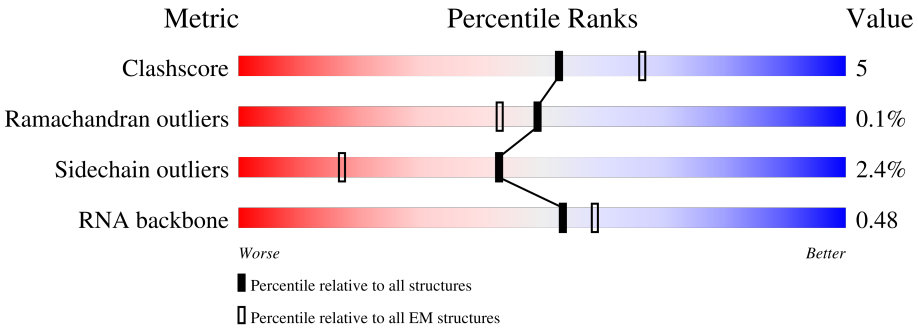
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

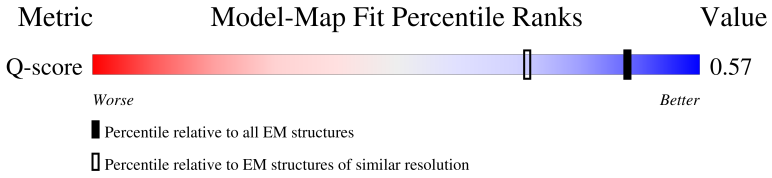
1 Overall quality at a glance

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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8968 (2.14 - 3.14)

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 <=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	57% 35% 8%
2	L8	156	62% 33% 5%
3	L5	3687	62% 32% 6%

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Mol	Chain	Length	Quality of chain
4	L7	120	78% 19%
5	SB	223	86% 14%
6	SA	222	78% 21%
7	SD	226	77% 22%
8	SJ	185	78% 22%
9	SE	262	77% 22%
10	SC	222	86% 14%
11	SG	237	88% 12%
12	SF	189	87% 12%
13	SH	189	78% 20%
14	SW	129	87% 12%
15	SI	206	83% 16%
16	SQ	141	81% 18%
17	SU	101	74% 24%
18	SK	96	72% 26%
19	SO	135	89% 9%
20	SX	142	84% 14%
21	SM	122	11% 68% 29%
22	SS	148	82% 18%
23	Sd	55	89% 11%
24	SN	150	84% 15%
25	SL	143	82% 16%
26	SR	134	76% 21%
27	SP	133	84% 15%
28	ST	143	88% 11%

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Mol	Chain	Length	Quality of chain
29	SV	83	86% 13%
30	SY	131	6% 77% 22%
31	SZ	84	68% 31%
32	Sa	99	83% 17%
33	Sb	83	89% 11%
34	Sc	64	89% 9%
35	Se	59	83% 17%
36	Sf	75	8% 72% 25%
37	Sg	313	72% 27%
38	Lz	211	6% 58% 36% 6%
39	LA	251	87% 13%
40	LB	402	91% 9%
41	LC	368	92% 7%
42	LJ	169	85% 15%
43	LH	190	90% 10%
44	LE	223	90% 10%
45	LG	239	5% 85% 14%
46	Lq	196	56% 84% 16%
47	LK	147	59% 78% 20%
48	LO	201	89% 11%
49	LL	206	90% 10%
50	LV	140	88% 12%
51	LM	136	92% 8%
52	La	147	86% 14%
53	LN	203	89% 11%

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Mol	Chain	Length	Quality of chain
54	LI	205	86% 14%
55	LD	294	90% 10%
56	LQ	187	89% 11%
57	LR	187	90% 10%
58	LS	176	90% 10%
59	LT	159	84% 14%
60	LP	153	90% 10%
61	LU	99	82% 16%
62	LX	118	86% 14%
63	LY	134	89% 10%
64	LW	118	5% 86% 14%
65	LZ	135	87% 13%
66	Lr	125	90% 9%
67	Lh	122	93% 7%
68	Lb	109	6% 86% 14%
69	LF	225	83% 16%
70	Lc	98	84% 16%
71	Ld	107	94% 6%
72	Le	128	91% 8%
73	Lf	109	90% 10%
74	Lg	114	91% 8%
75	Li	102	94% 5%
76	Lj	86	90% 9%
77	Lk	69	96%
78	Ll	50	86% 14%

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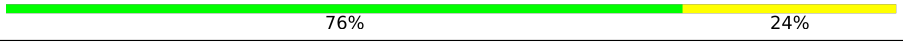
Mol	Chain	Length	Quality of chain
79	Lm	52	
80	Ln	25	
81	Lo	105	
82	Lp	91	
83	mR	11	
84	At	76	
85	Pt	77	
86	5A	143	
87	EF	444	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
66	SAC	Lr	2	-	X	-	-

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
6	SA	222	Total	C	N	O	S	0	0
			1750	1111	306	325	8		

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

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

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

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

- Molecule 9 is a protein called eS4.

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

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

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

- 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
25	SL	143	Total	C	N	O	S	0	0
			1171	746	221	198	6		

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

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

- Molecule 27 is a protein called uS19.

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

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

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

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

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

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

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

- Molecule 31 is a protein called eS25.

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

- 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
39	LA	251	Total	C	N	O	S	0	0
			1922	1204	393	319	6		

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

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

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

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

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

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

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

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

- Molecule 44 is a protein called eL6.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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
55	LD	294	Total	C	N	O	S	0	0
			2392	1513	436	429	14		

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 62 is a protein called uL23.

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

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

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

- Molecule 64 is a protein called eL24.

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

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

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

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

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

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

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

- Molecule 68 is a protein called eL29.

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

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

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

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

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

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

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

- 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		

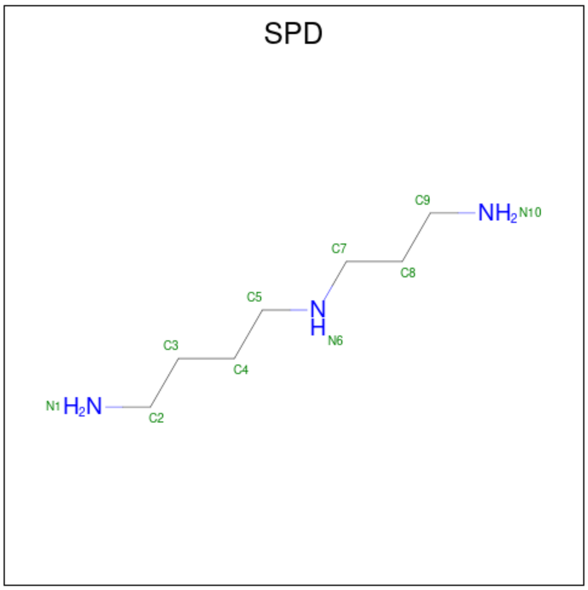
- Molecule 86 is a protein called eIF5A1.

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

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

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

- Molecule 88 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$).



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

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

- Molecule 89 is POTASSIUM ION (CCD ID: K) (formula: K).

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

- Molecule 90 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

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

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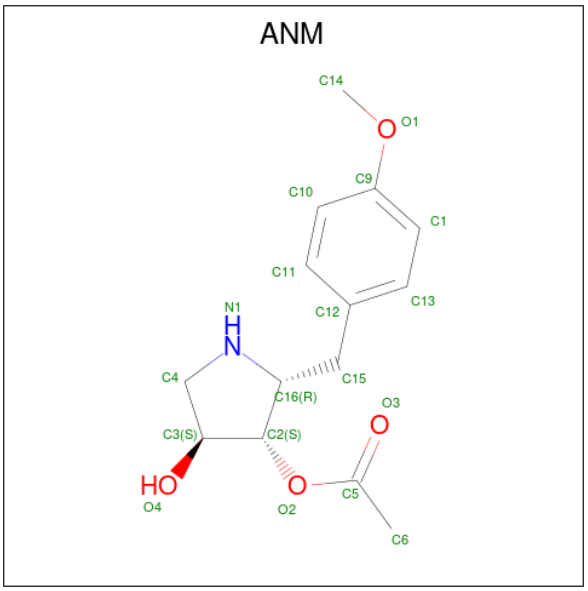
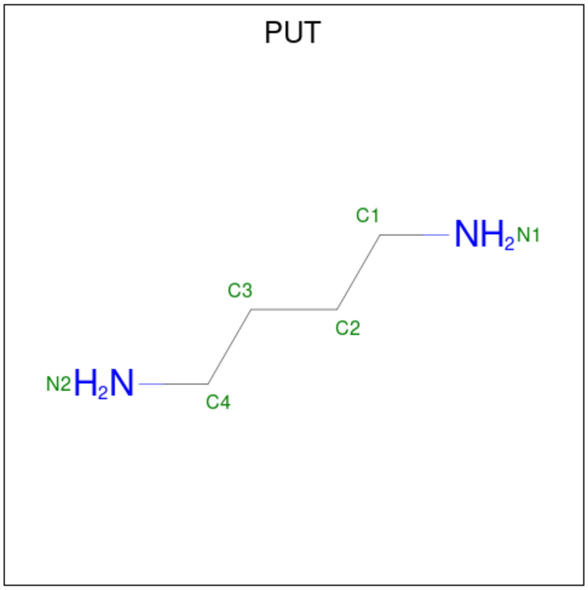
Mol	Chain	Residues	Atoms	AltConf
90	Pt	2	Total Mg 2 2	0
90	EF	2	Total Mg 2 2	0

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



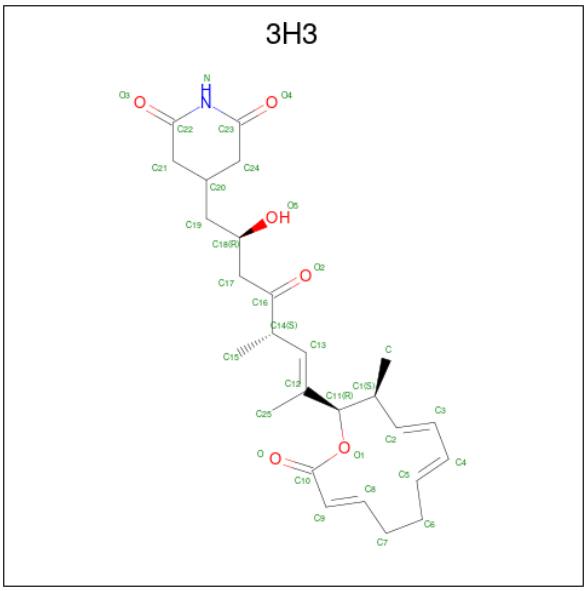
Mol	Chain	Residues	Atoms	AltConf
91	L5	1	Total C N O 19 14 1 4	0

- Molecule 92 is 1,4-DIAMINOBUTANE (CCD ID: PUT) (formula: $C_4H_{12}N_2$).



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

- Molecule 93 is 4-{(2R,5S,6E)-2-hydroxy-5-methyl-7-[(2R,3S,4E,6Z,10E)-3-methyl-12-oxo oxacyclododeca-4,6,10-trien-2-yl]-4-oxooct-6-en-1-yl}piperidine-2,6-dione (CCD ID: 3H3) (formula: $C_{26}H_{35}NO_6$) (labeled as "Ligand of Interest" by depositor).

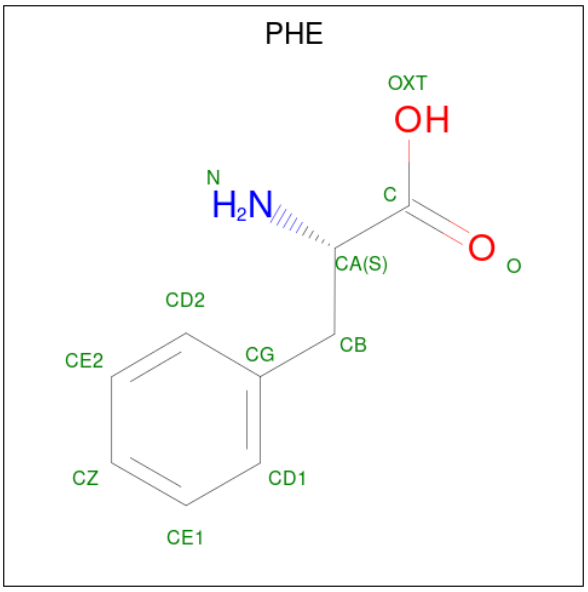


Mol	Chain	Residues	Atoms	AltConf
93	L5	1	Total C N O 33 26 1 6	0

- Molecule 94 is ZINC ION (CCD ID: ZN) (formula: Zn).

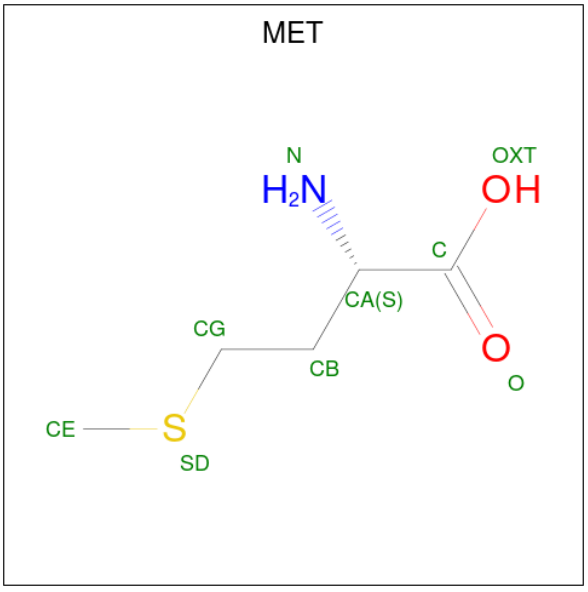
Mol	Chain	Residues	Atoms	AltConf
94	Sd	1	Total Zn 1 1	0
94	Sa	1	Total Zn 1 1	0
94	Sf	1	Total Zn 1 1	0
94	Lg	1	Total Zn 1 1	0
94	Lj	1	Total Zn 1 1	0
94	Lm	1	Total Zn 1 1	0
94	Lo	1	Total Zn 1 1	0
94	Lp	1	Total Zn 1 1	0

- Molecule 95 is PHENYLALANINE (CCD ID: PHE) (formula: $C_9H_{11}NO_2$).



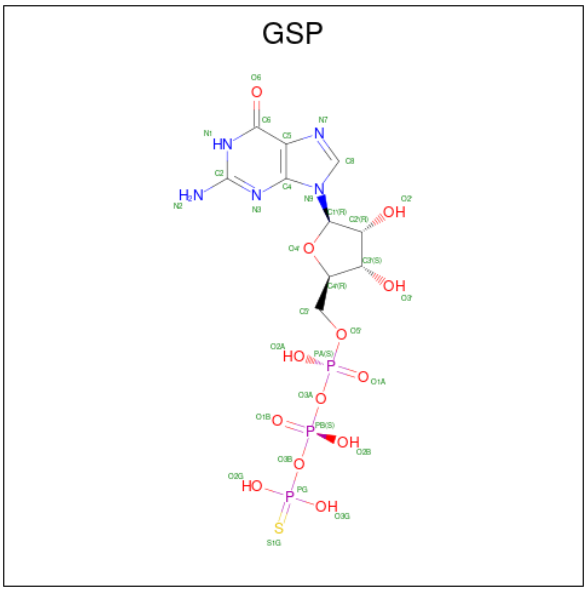
Mol	Chain	Residues	Atoms				AltConf
95	At	1	Total	C	N	O	0
			11	9	1	1	

- Molecule 96 is METHIONINE (CCD ID: MET) (formula: $C_5H_{11}NO_2S$).



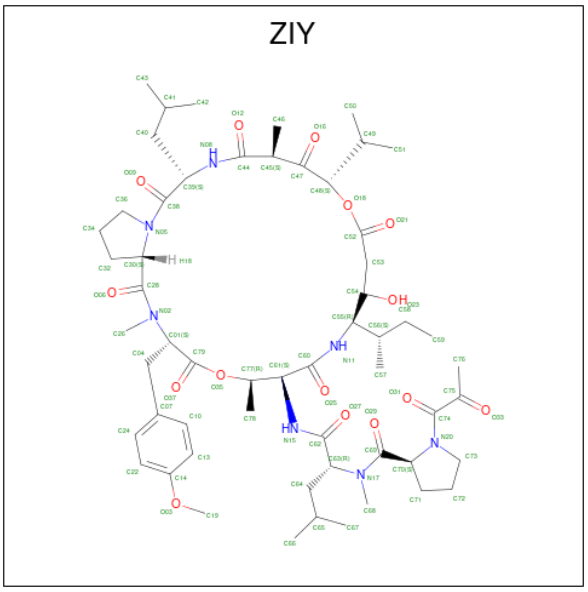
Mol	Chain	Residues	Atoms					AltConf
96	Pt	1	Total	C	N	O	S	0
			8	5	1	1	1	

- Molecule 97 is 5'-GUANOSINE-DIPHOSPHATE-MONOTHIOPHOSPHATE (CCD ID: GSP) (formula: $C_{10}H_{16}N_5O_{13}P_3S$).



Mol	Chain	Residues	Atoms						AltConf
97	EF	1	Total	C	N	O	P	S	0
			32	10	5	13	3	1	

- Molecule 98 is plitidepsin (CCD ID: ZIY) (formula: $C_{57}H_{87}N_7O_{15}$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
98	EF	1	Total	C	N	O	0
			79	57	7	15	

- Molecule 99 is water.

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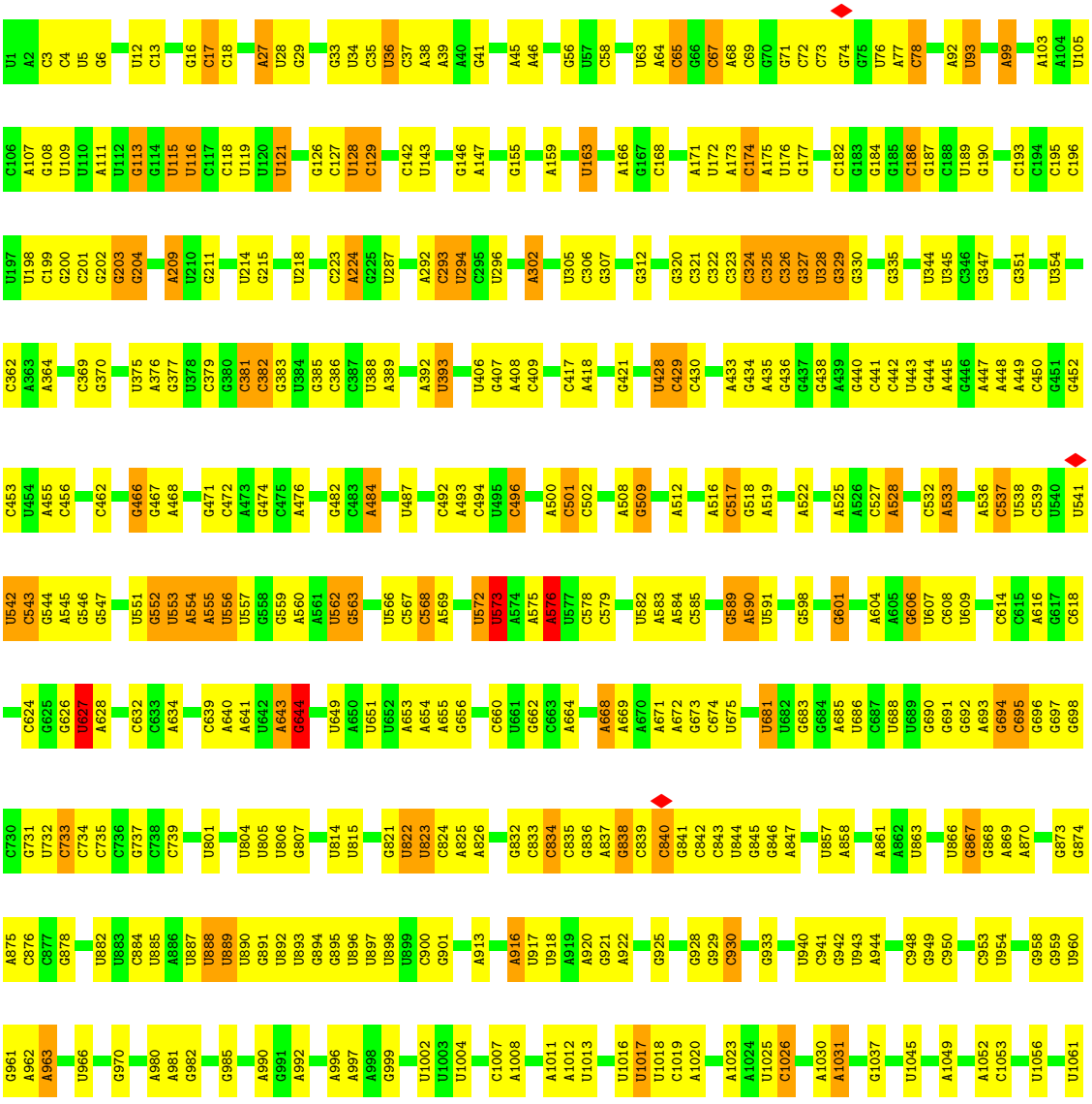
Mol	Chain	Residues	Atoms	AltConf
99	Lj	2	Total O 2 2	0
99	Lo	2	Total O 2 2	0
99	EF	3	Total O 3 3	0

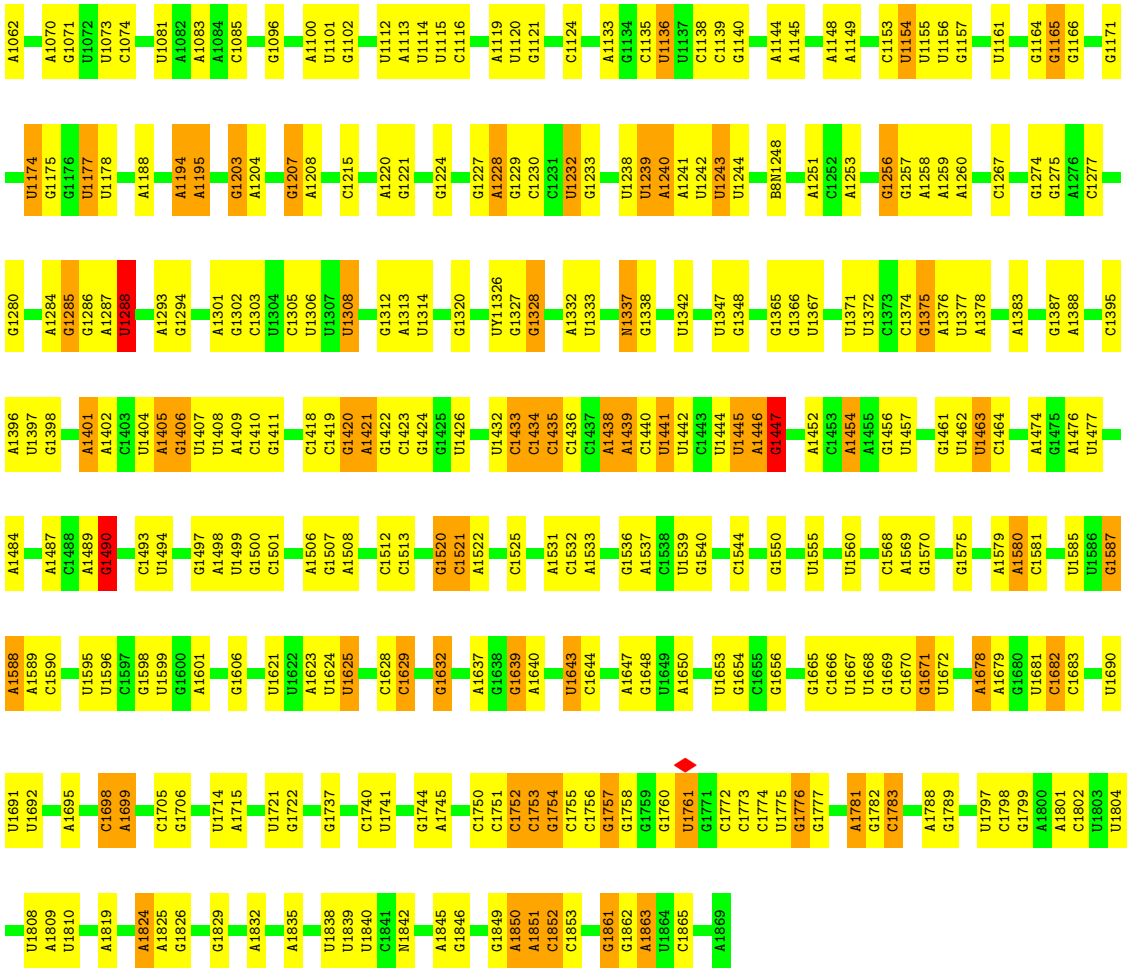
3 Residue-property plots (i)

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

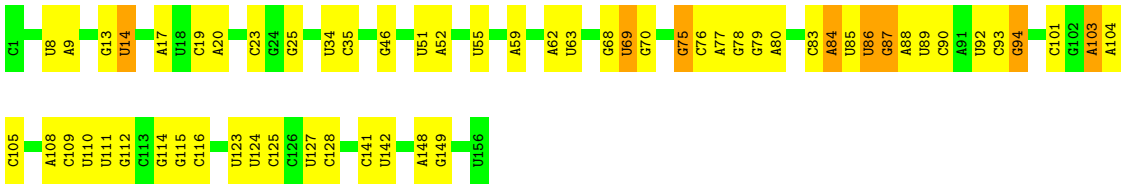
Chain S2:





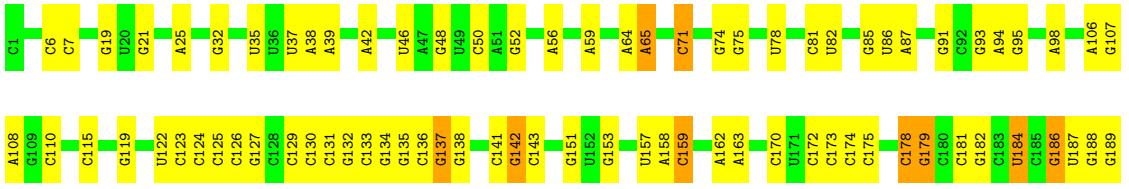
• Molecule 2: 5.8S rRNA

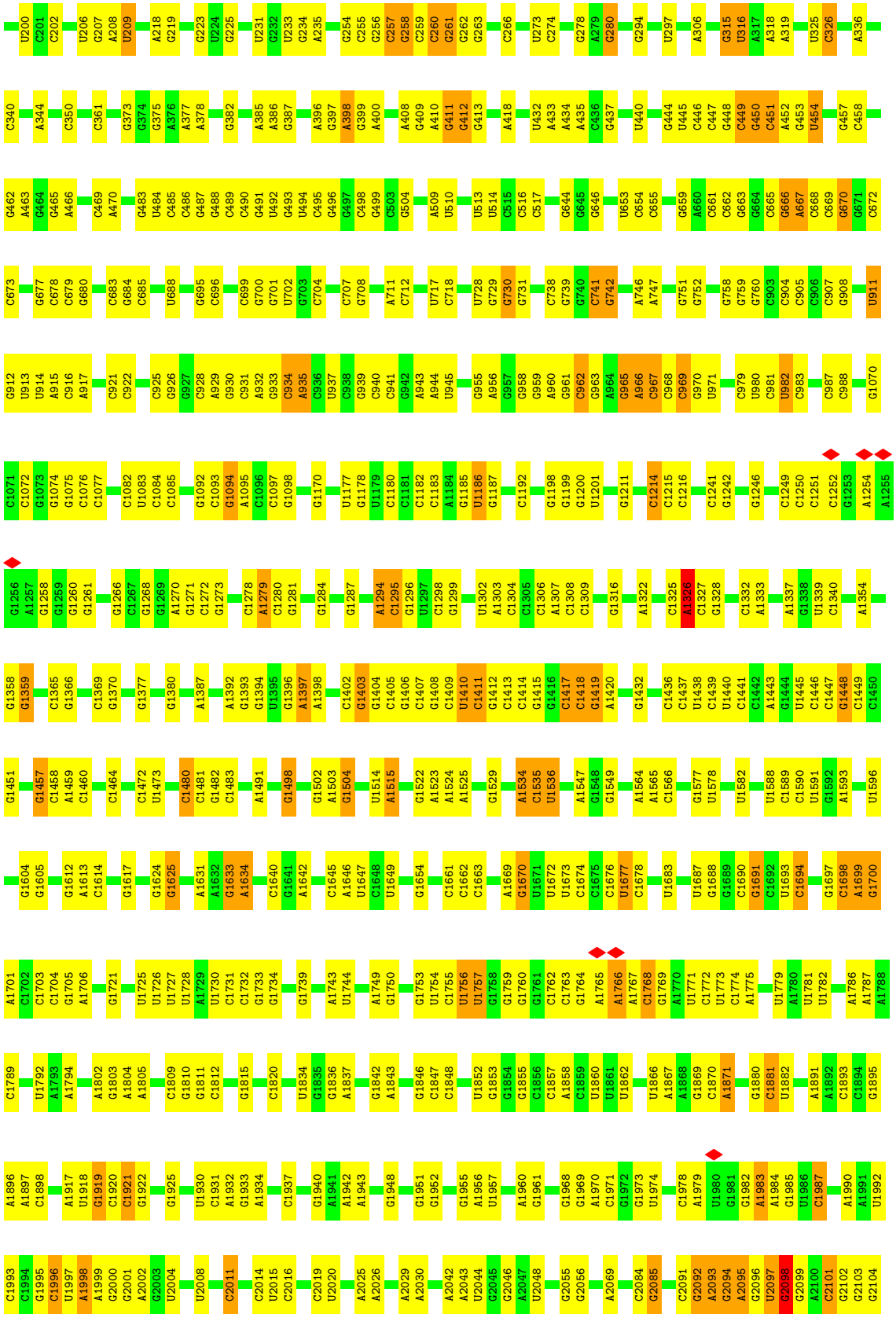
Chain L8:

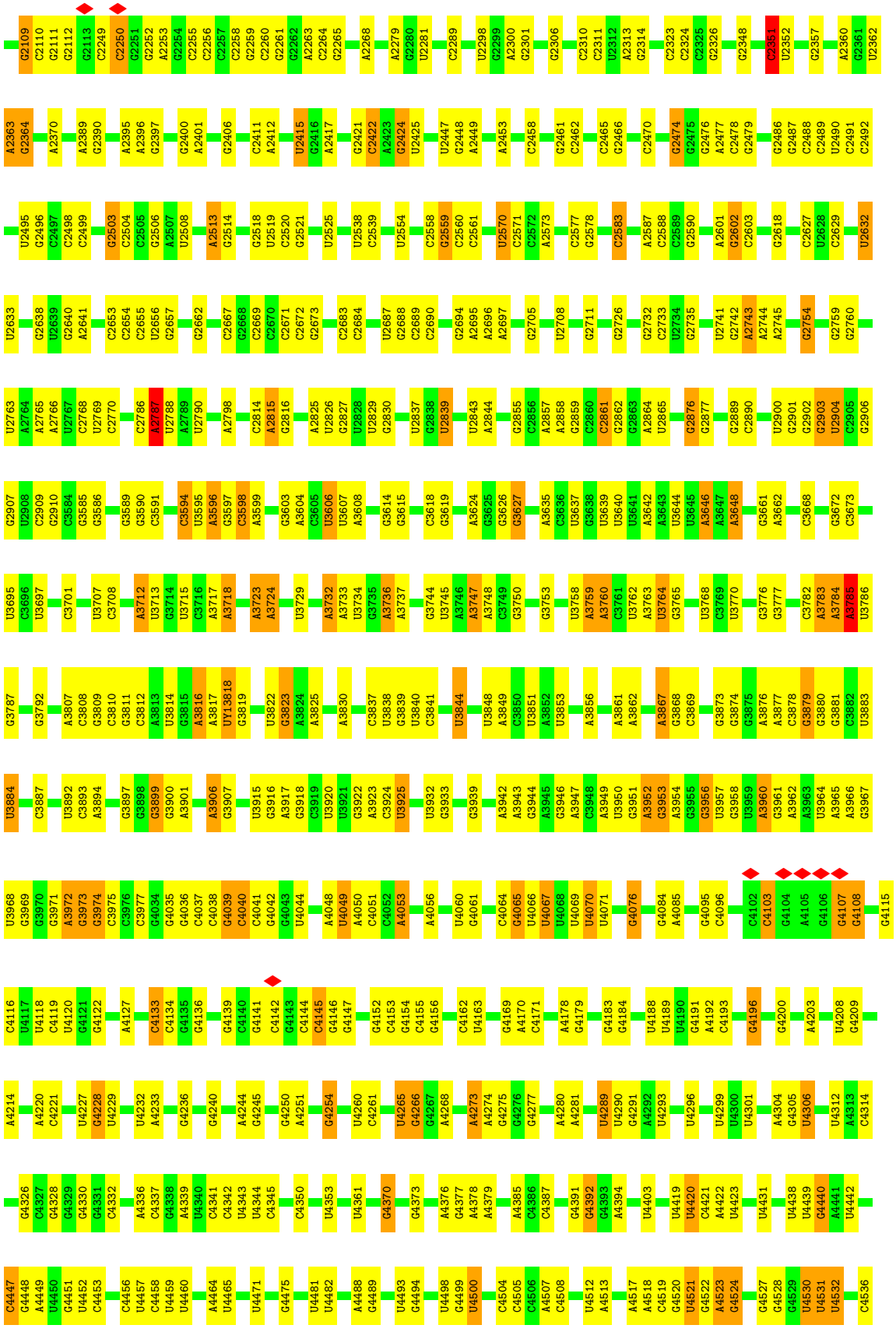


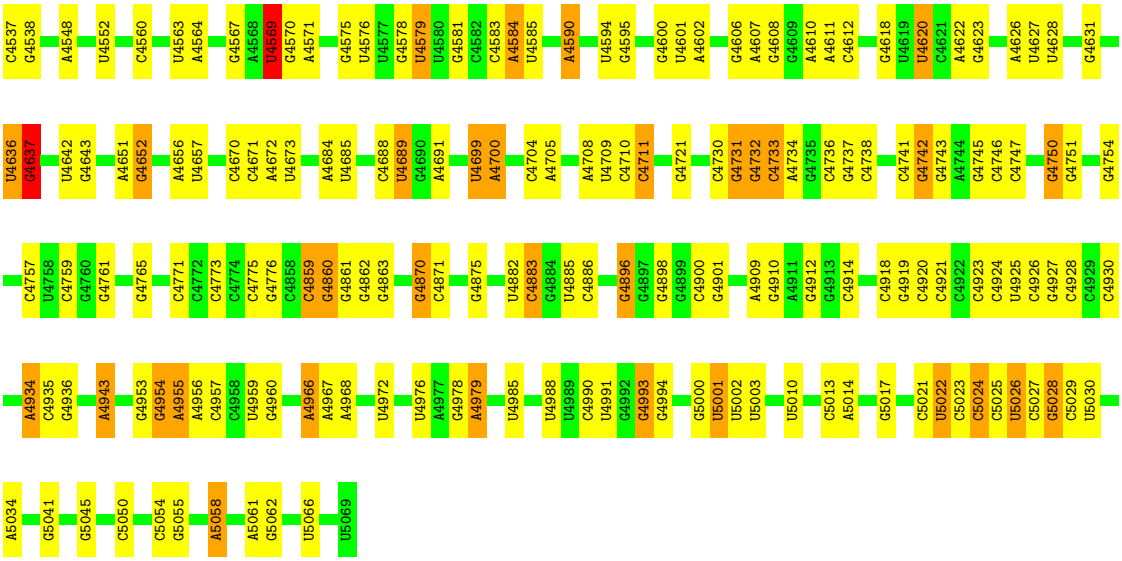
• Molecule 3: 28S rRNA

Chain L5:



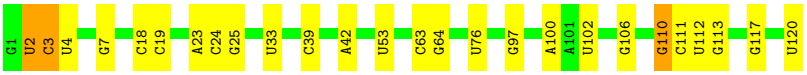

U200 C201 C202 U206 G207 A208 U209 A218 G219 G223 U224 G225 U231 G232 U233 G234 A235 G254 C255 C256 C257 G258 C259 C260 G261 G262 G263 C266 U273 C274 G278 A279 G280 G294 U297 A306 G315 U316 A317 A318 A319 U325 C326 A336
C340 A344 C350 C361 G373 G374 G375 A376 A377 A378 G382 A385 A386 G387 A396 G397 A398 G399 A400 A408 G409 A410 G411 G412 G413 A418 U432 A433 A434 A435 C436 G437 U440 G444 U445 C446 C447 G448 C449 G450 C451 A452 G453 U454 G457 C458
G462 A463 G464 G465 A466 C469 A470 G483 U484 C485 C486 G487 G488 C489 C490 G491 U492 G493 U494 C495 G496 G497 C498 G499 C503 G504 A509 U510 U513 U514 C515 C516 C517 G644 G645 G646 U653 C654 C655 G659 A660 C661 C662 G663 G664 C665 G666 A667 C668 C669 G670 G671 C672
C673 G677 C678 C679 G680 C683 G684 C685 U688 G695 C696 C699 G700 G701 U702 G703 C704 C707 G708 A711 C712 U717 C718 U728 G729 G730 G731 C738 G739 G740 C741 G742 A746 A747 G751 G752 G758 G759 G760 C903 C904 C905 C906 C907 G908 U911
G912 U913 U914 A915 C916 A917 C921 C922 G925 G926 G927 G928 A929 G930 C931 A932 G933 C934 A935 C936 U937 G938 G939 C940 C941 G942 A943 A944 U945 G955 A956 G957 G958 G959 A960 G961 C962 G963 A964 G965 A966 C967 G968 C969 G970 U971 C979 U980 C981 U982 C983 C987 C988 G1070
C1071 C1072 G1073 G1074 G1075 C1076 C1077 C1082 U1083 C1084 C1085 G1092 C1093 G1094 A1095 C1096 C1097 G1098 G1170 U1177 G1178 U1179 C1180 C1181 C1182 C1183 A1184 G1185 U1186 G1187 C1192 G1198 G1199 G1200 U1201 G1211 C1214 C1215 C1216 C1241 G1242 G1246 C1249 C1250 C1251 C1252 G1253 A1254 A1255
G1256 A1257 G1258 G1259 G1260 G1261 G1266 C1267 G1268 G1269 A1270 G1271 C1272 G1273 C1278 A1279 C1280 G1281 G1284 G1287 A1294 C1295 G1296 U1297 C1298 G1299 U1302 A1303 C1304 C1305 C1306 A1307 C1308 C1309 G1316 A1322 C1325 A1326 C1327 G1328 C1332 A1333 A1337 G1338 U1339 C1340 A1354
G1358 G1359 C1365 G1366 C1369 G1370 G1377 G1380 A1387 A1392 G1393 G1394 U1395 G1396 A1397 A1398 C1402 G1403 G1404 C1405 G1406 C1407 G1408 C1409 U1410 C1411 G1412 C1413 C1414 G1415 G1416 C1417 C1418 G1419 A1420 G1432 C1436 C1437 U1438 C1439 U1440 C1441 C1442 A1443 G1444 U1445 C1446 C1447 G1448 C1449 C1450
G1451 G1457 C1458 A1459 C1460 C1464 C1472 U1473 C1480 C1481 G1482 C1483 A1491 G1498 G1502 A1503 G1504 U1514 A1515 G1522 A1523 A1524 A1525 G1529 A1534 C1535 U1536 A1547 G1548 G1549 A1564 A1565 C1566 G1577 U1578 U1582 U1588 C1589 C1590 U1591 G1592 A1593 U1596
G1604 G1605 G1612 A1613 C1614 G1617 G1624 G1625 A1631 A1632 G1633 A1634 C1640 G1641 A1642 C1645 A1646 U1647 C1648 U1649 G1654 C1661 C1662 C1663 A1669 G1670 U1671 U1672 U1673 C1674 C1675 C1676 U1677 C1678 U1683 U1687 G1688 G1689 C1690 G1691 C1692 U1693 C1694 G1697 C1698 A1699 G1700
A1701 C1702 C1703 C1704 G1705 A1706 G1721 U1725 U1726 U1727 U1728 A1729 U1730 C1731 C1732 G1733 G1734 G1739 A1743 U1744 A1749 G1750 G1753 U1754 C1755 U1756 U1757 G1758 G1759 G1760 G1761 C1762 C1763 G1764 A1765 A1766 A1767 C1768 G1769 A1770 U1771 C1772 U1773 C1774 A1775 U1779 A1780 U1781 U1782 A1786 A1787 A1788
C1789 U1792 A1793 A1794 A1802 G1803 A1804 A1805 C1809 G1810 G1811 C1812 G1815 C1820 U1834 G1835 G1836 A1837 G1842 A1843 G1846 C1847 C1848 U1852 G1853 G1854 G1855 C1856 C1857 A1858 C1859 U1860 U1861 U1862 U1866 A1867 A1868 G1869 C1870 A1871 G1880 C1881 U1882 A1891 A1892 C1893 C1894 G1895
A1896 A1897 C1898 A1917 U1918 G1919 C1920 C1921 G1922 G1925 U1930 C1931 A1932 G1933 A1934 C1937 G1940 A1941 A1942 A1943 G1948 G1951 G1952 G1955 A1956 U1957 A1960 G1961 G1968 G1969 A1970 C1971 G1972 G1973 U1974 C1978 A1979 U1980 G1981 G1982 A1983 A1984 G1985 U1986 C1987 A1990 A1991 U1992
C1993 C1994 G1995 C1996 U1997 A1998 A1999 G2000 G2001 A2002 G2003 U2004 U2008 C2011 C2014 U2015 C2016 C2019 U2020 A2025 A2026 A2029 A2030 A2042 A2043 U2044 G2045 G2046 A2047 U2048 G2055 G2056 A2069 C2084 G2085 C2091 G2092 A2093 G2094 A2095 G2096 U2097 G2098 G2099 A2100 C2101 G2102 G2103 G2104





• Molecule 4: 5S rRNA

Chain L7:

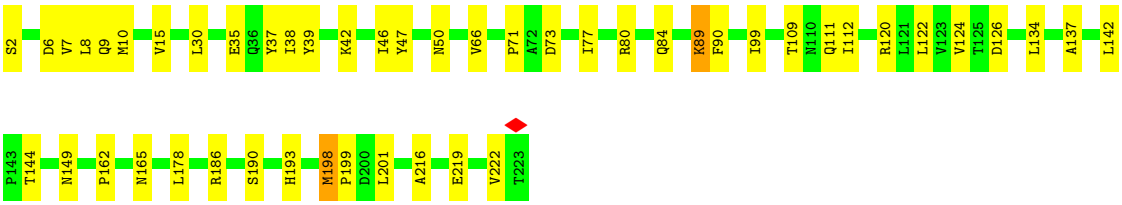


• Molecule 5: 40S ribosomal protein S3a

Chain SB:

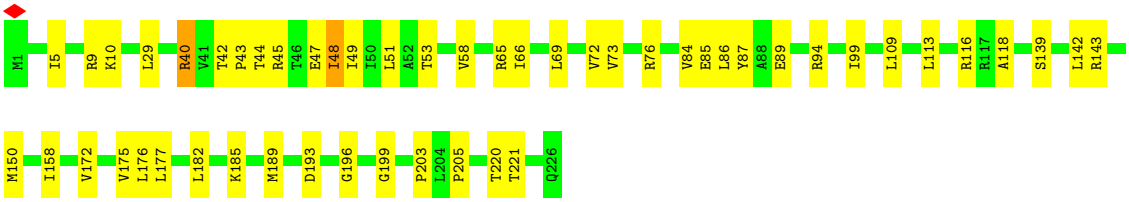
• Molecule 6: 40S ribosomal protein SA

Chain SA:

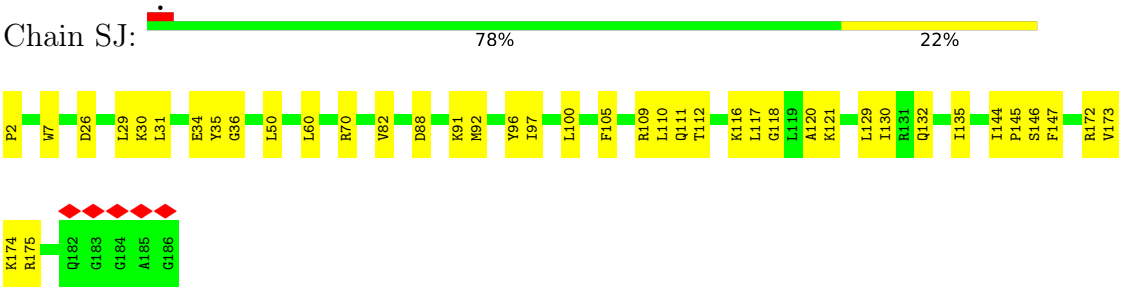


• Molecule 7: 40S ribosomal protein S3

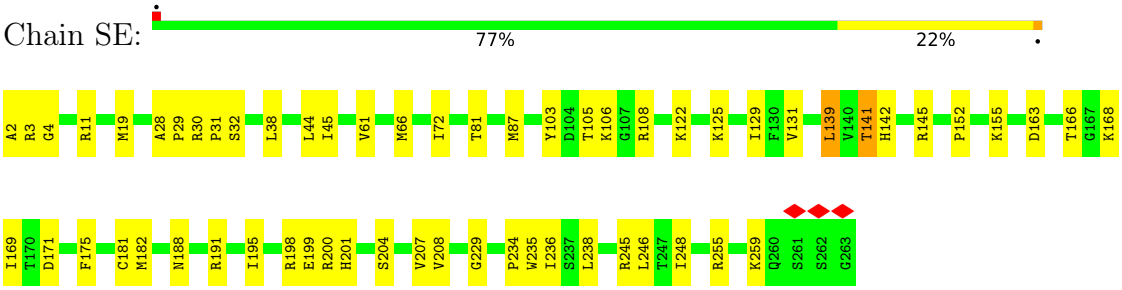
Chain SD:



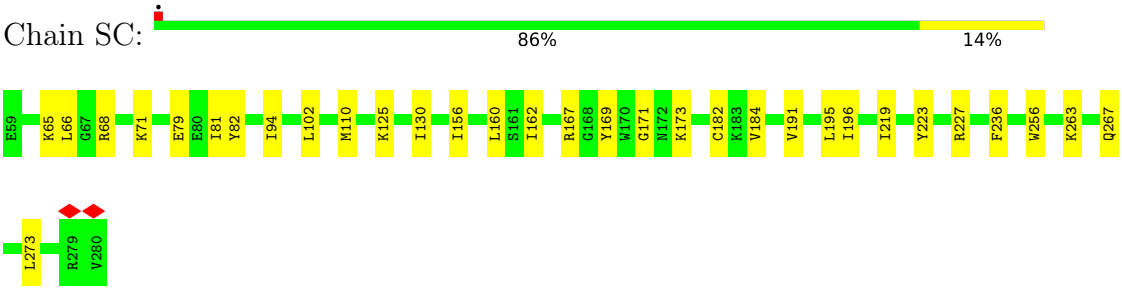
• Molecule 8: 40S ribosomal protein S9



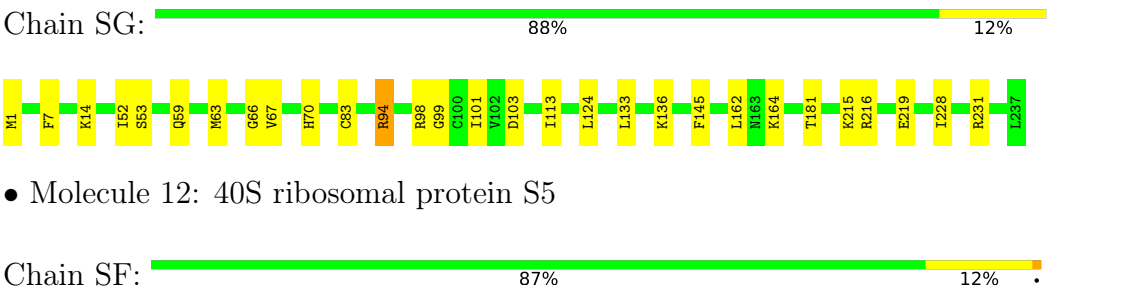
• Molecule 9: eS4



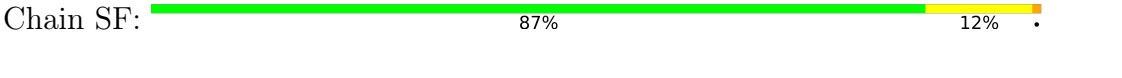
• Molecule 10: 40S ribosomal protein S2

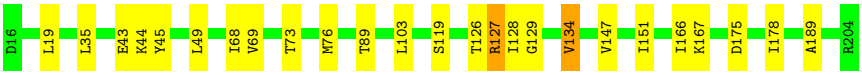


• Molecule 11: 40S ribosomal protein S6



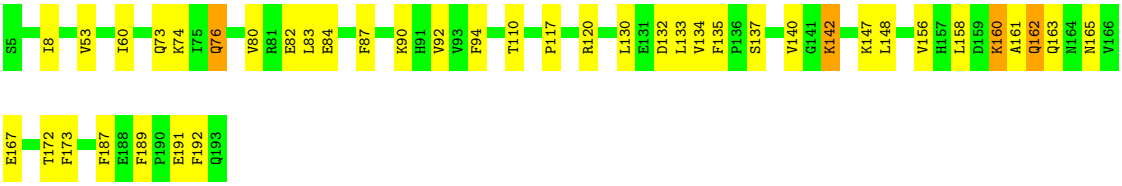
• Molecule 12: 40S ribosomal protein S5





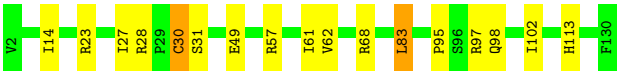
• Molecule 13: 40S ribosomal protein S7

Chain SH:



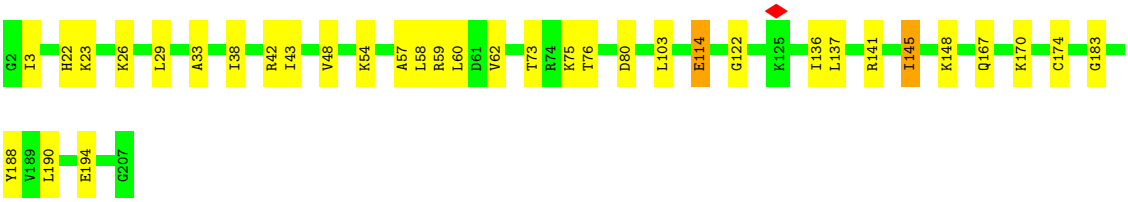
• Molecule 14: 40S ribosomal protein S15a

Chain SW:



• Molecule 15: 40S ribosomal protein S8

Chain SI:

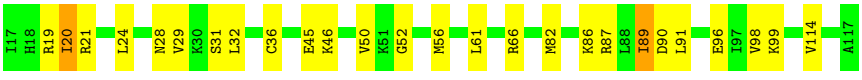


• Molecule 16: uS9

Chain SQ:

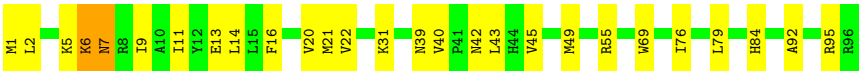
• Molecule 17: uS10

Chain SU:

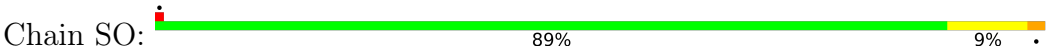


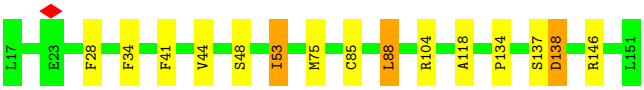
• Molecule 18: eS10

Chain SK:

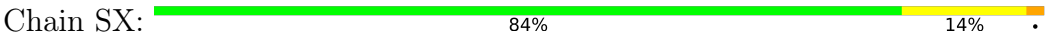


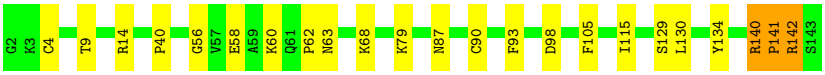
• Molecule 19: uS11



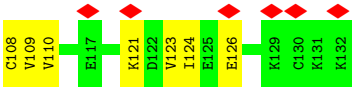


• Molecule 20: uS12

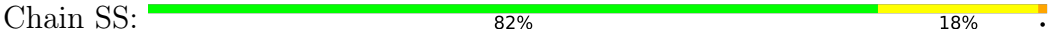


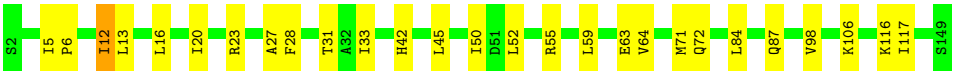


• Molecule 21: eS12

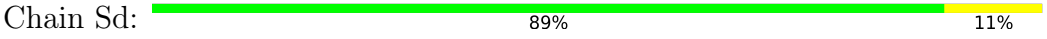


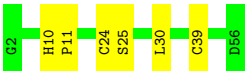
• Molecule 22: uS13



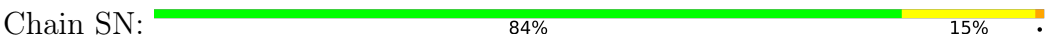


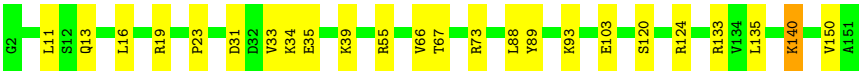
• Molecule 23: 40S ribosomal protein S29





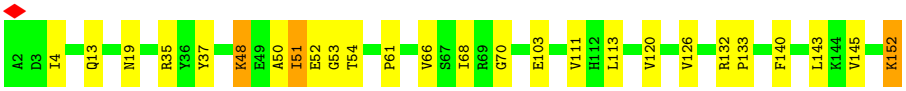
• Molecule 24: 40S ribosomal protein S13





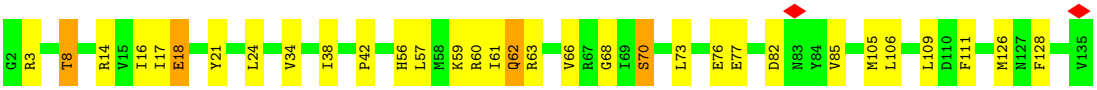
• Molecule 25: uS17

Chain SL:



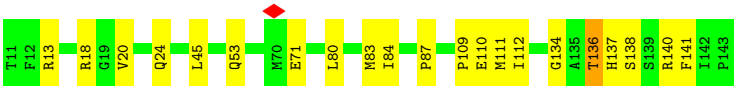
• Molecule 26: 40S ribosomal protein S17

Chain SR:



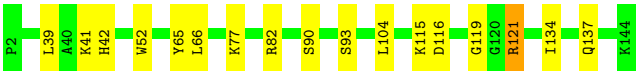
• Molecule 27: uS19

Chain SP:



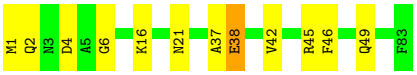
• Molecule 28: 40S ribosomal protein S19

Chain ST:



• Molecule 29: 40S ribosomal protein S21

Chain SV:



• Molecule 30: 40S ribosomal protein S24

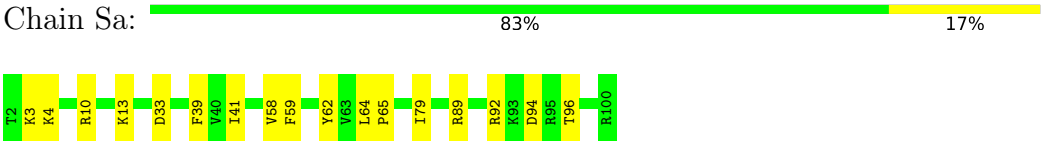
Chain SY:

• Molecule 31: eS25

Chain SZ:

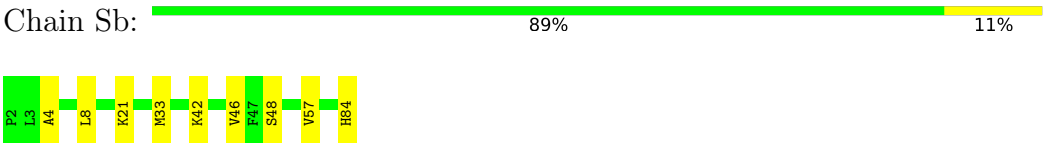
• Molecule 32: 40S ribosomal protein S26

Chain Sa:



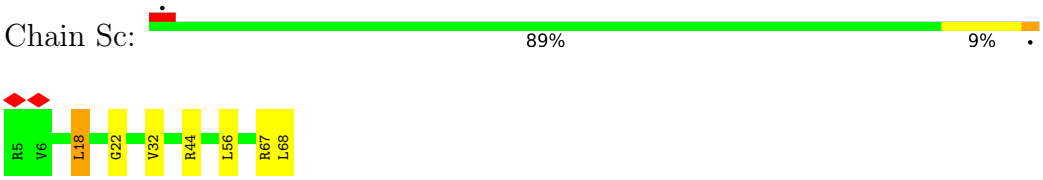
• Molecule 33: eS27

Chain Sb:



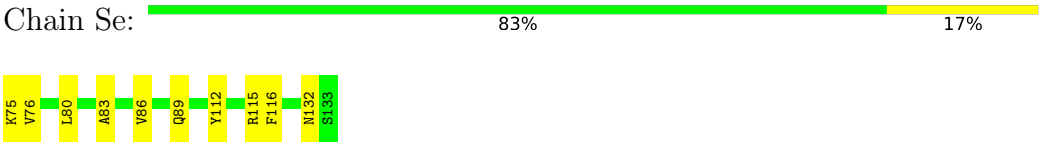
• Molecule 34: 40S ribosomal protein S28

Chain Sc:



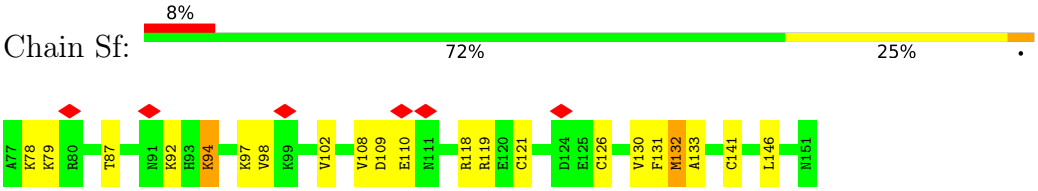
• Molecule 35: 40S ribosomal protein S30

Chain Se:



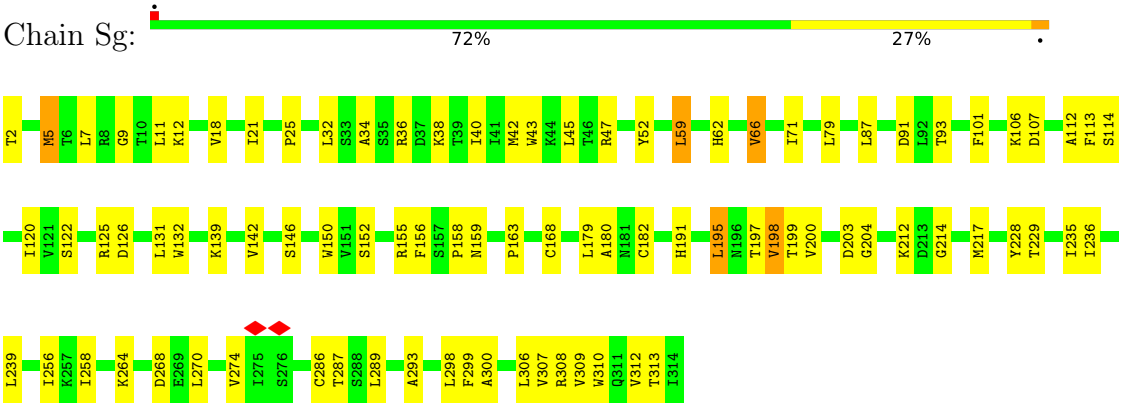
• Molecule 36: eS31

Chain Sf:



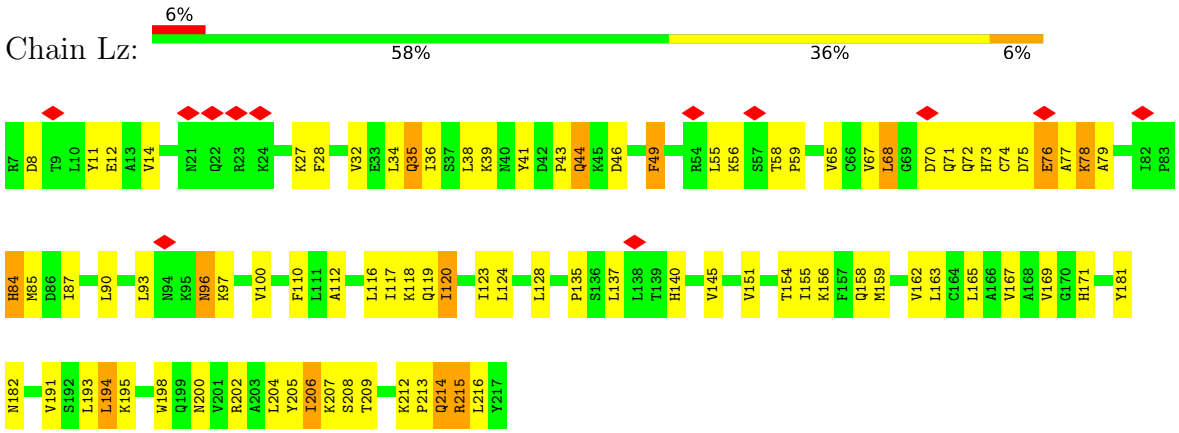
• Molecule 37: Receptor of activated protein C kinase 1

Chain Sg:



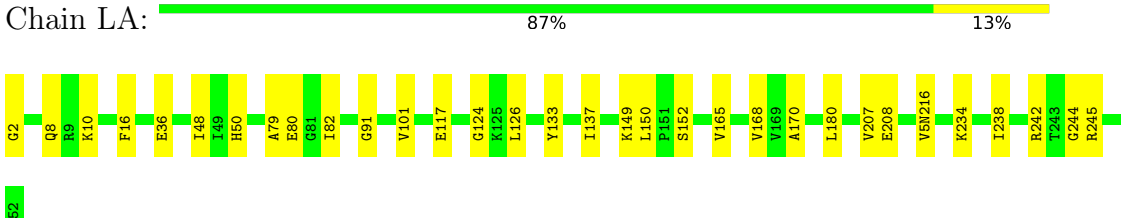
• Molecule 38: uL1

Chain Lz:



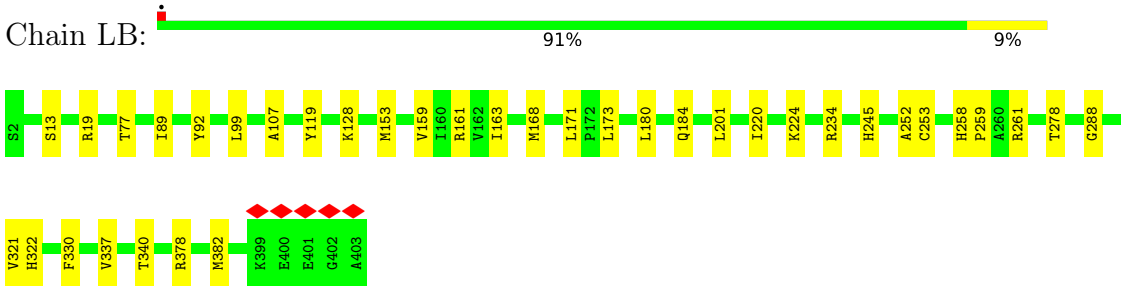
• Molecule 39: uL2

Chain LA:



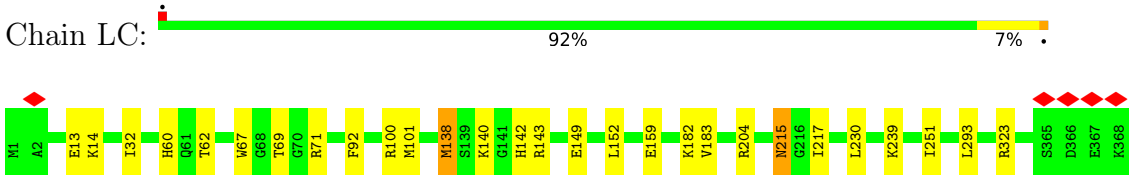
• Molecule 40: 60S ribosomal protein L3

Chain LB:



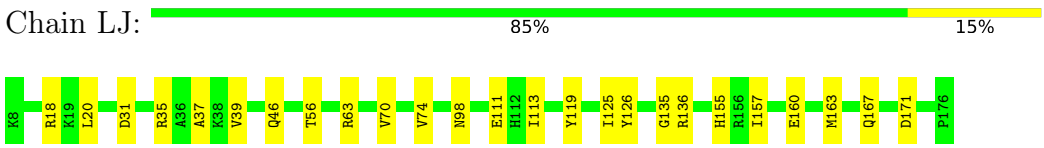
• Molecule 41: 60S ribosomal protein L4

Chain LC:



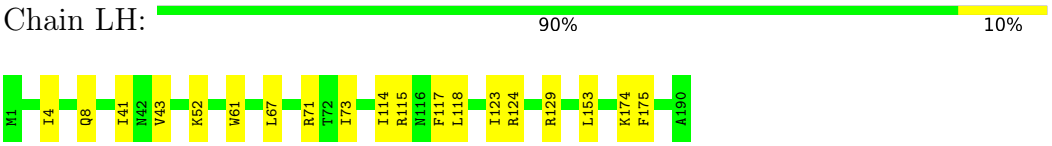
• Molecule 42: 60S ribosomal protein L11

Chain LJ:



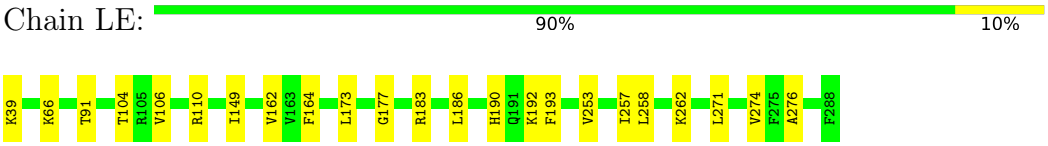
• Molecule 43: 60S ribosomal protein L9

Chain LH:



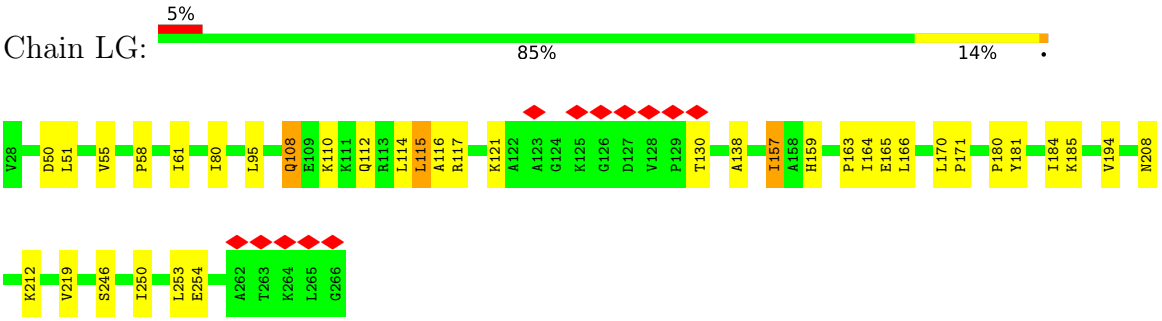
• Molecule 44: eL6

Chain LE:



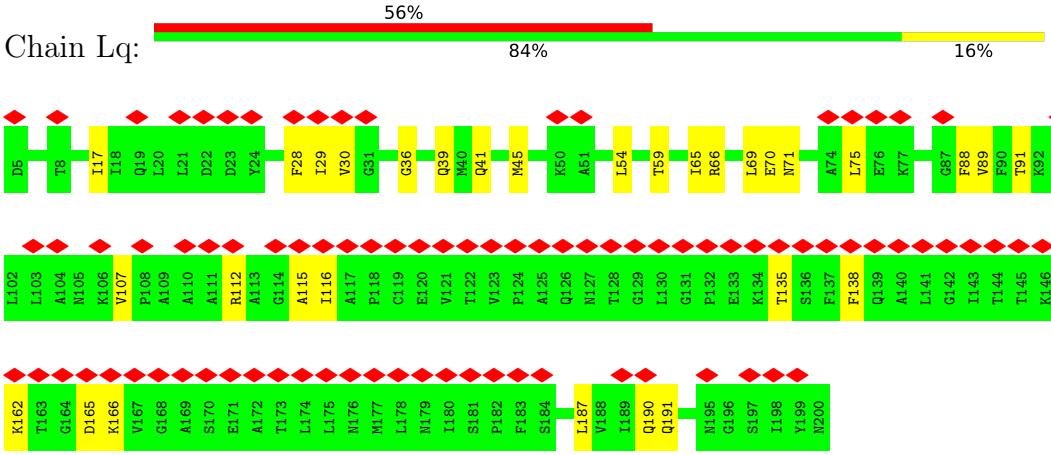
• Molecule 45: 60S ribosomal protein L7a

Chain LG:



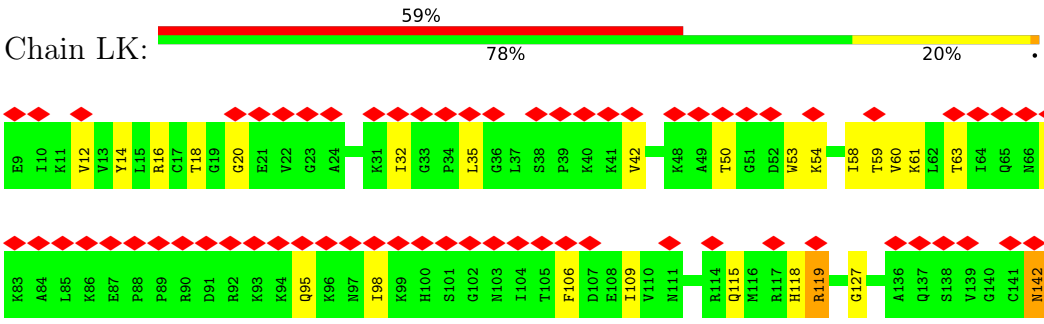
• Molecule 46: 60S acidic ribosomal protein P0

Chain Lq:



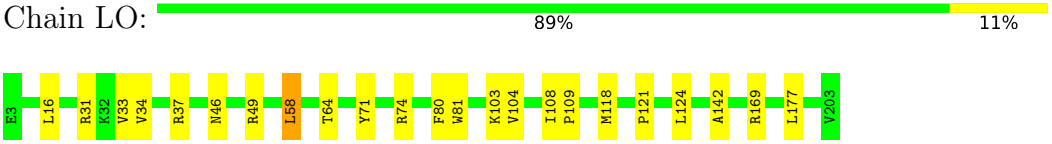
• Molecule 47: 60S ribosomal protein L12

Chain LK:



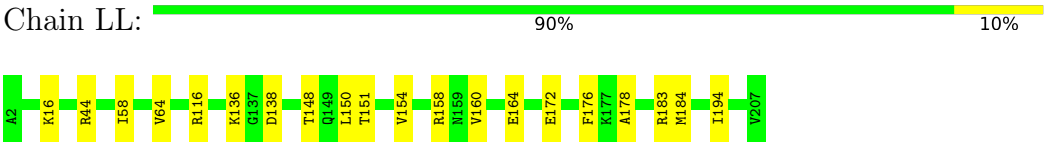
• Molecule 48: 60S ribosomal protein L13a

Chain LO:



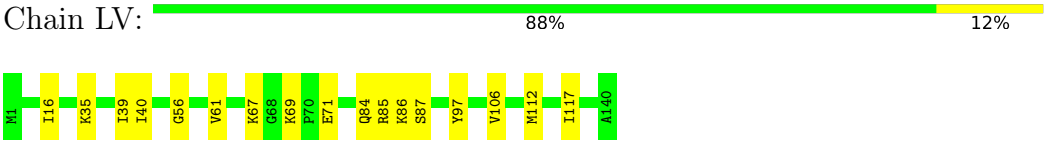
• Molecule 49: 60S ribosomal protein L13

Chain LL:



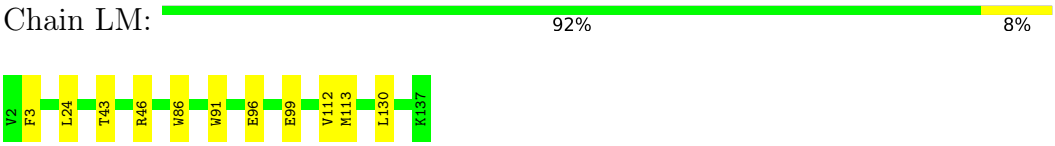
• Molecule 50: 60S ribosomal protein L23

Chain LV:



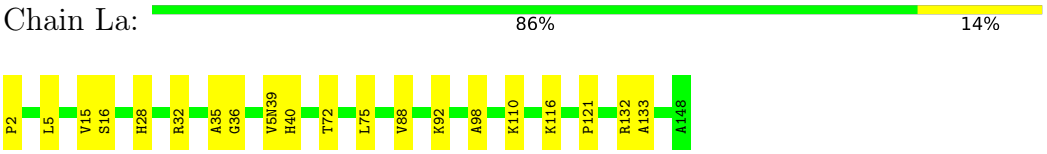
• Molecule 51: 60S ribosomal protein L14

Chain LM:



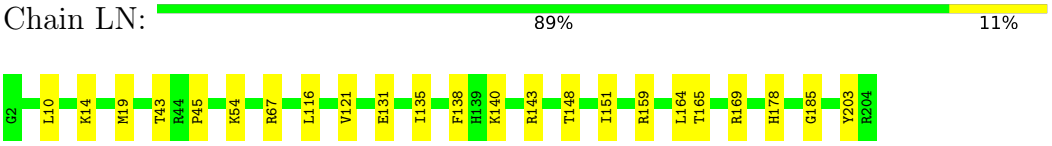
• Molecule 52: 60S ribosomal protein L27a

Chain La:



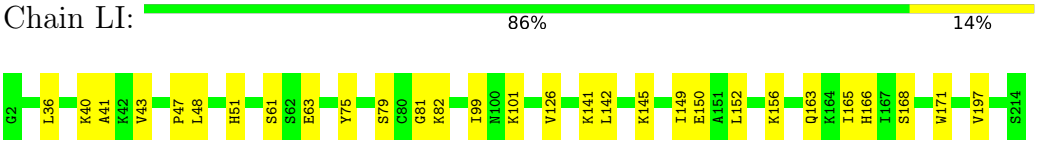
• Molecule 53: 60S ribosomal protein L15

Chain LN:



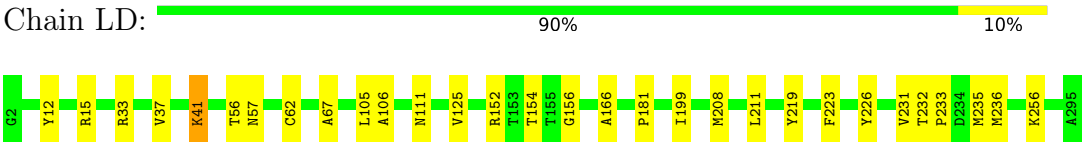
• Molecule 54: 60S ribosomal protein L10

Chain LI:



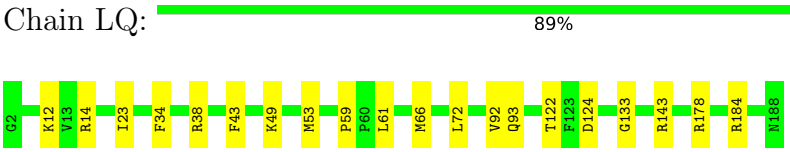
• Molecule 55: 60S ribosomal protein L5

Chain LD:



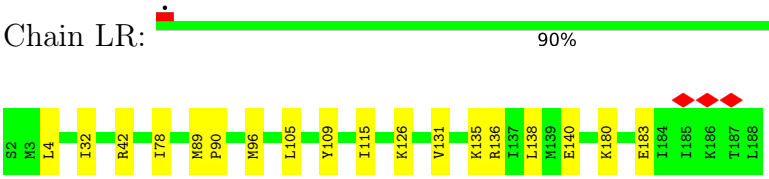
• Molecule 56: 60S ribosomal protein L18

Chain LQ:



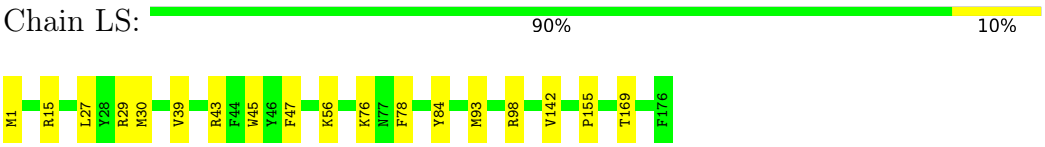
• Molecule 57: 60S ribosomal protein L19

Chain LR:



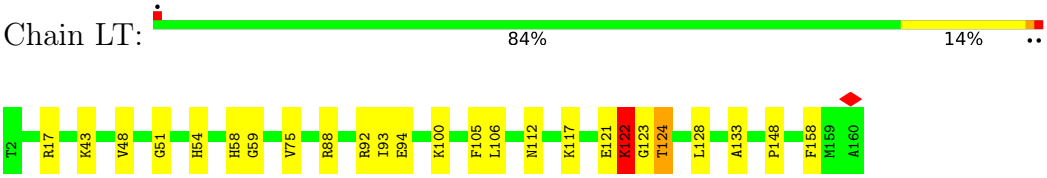
• Molecule 58: 60S ribosomal protein L18a

Chain LS:



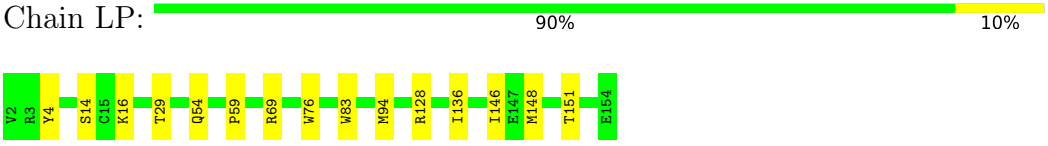
• Molecule 59: 60S ribosomal protein L21

Chain LT:



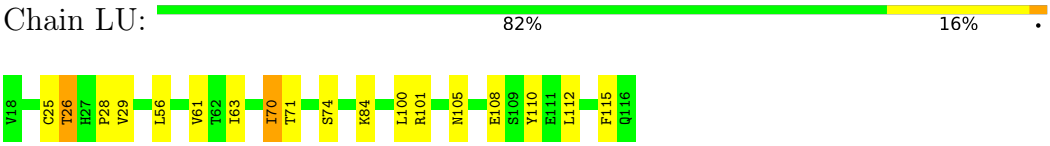
• Molecule 60: 60S ribosomal protein L17

Chain LP:



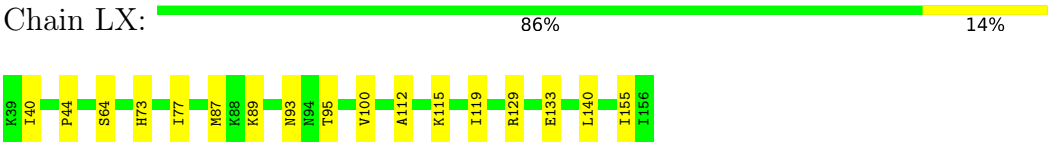
• Molecule 61: 60S ribosomal protein L22

Chain LU:



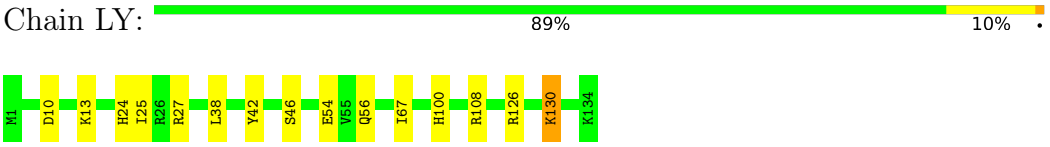
• Molecule 62: uL23

Chain LX:



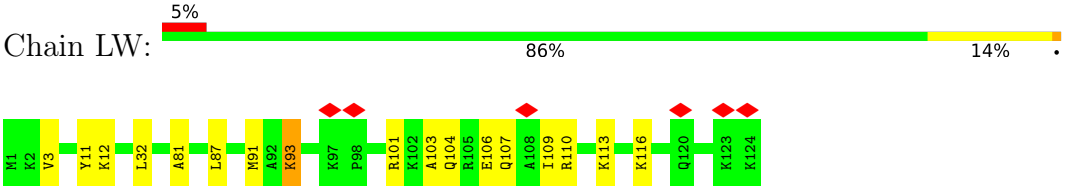
• Molecule 63: 60S ribosomal protein L26

Chain LY:



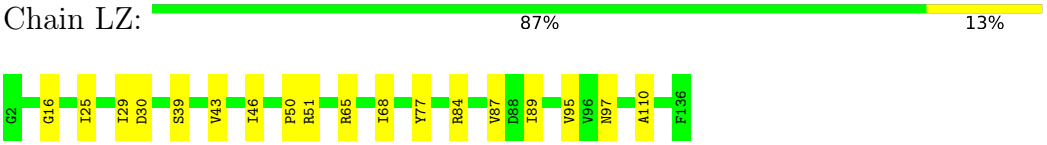
• Molecule 64: eL24

Chain LW:



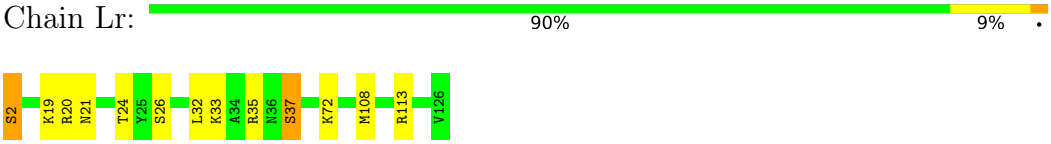
• Molecule 65: 60S ribosomal protein L27

Chain LZ:



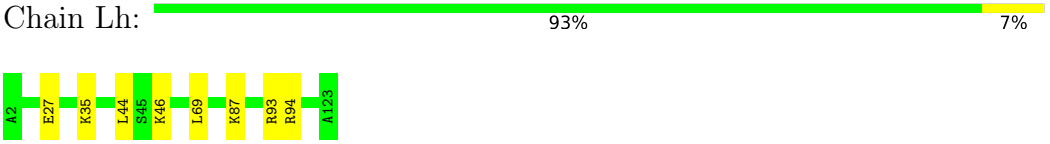
• Molecule 66: 60S ribosomal protein L28

Chain Lr:



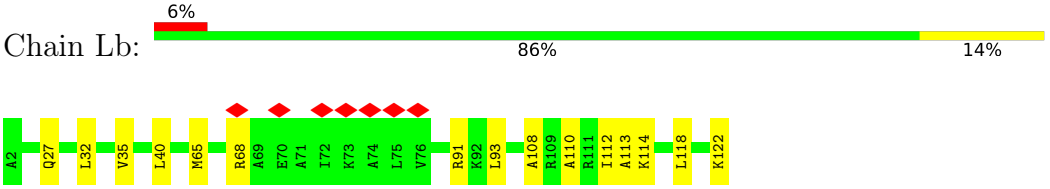
• Molecule 67: 60S ribosomal protein L35

Chain Lh:



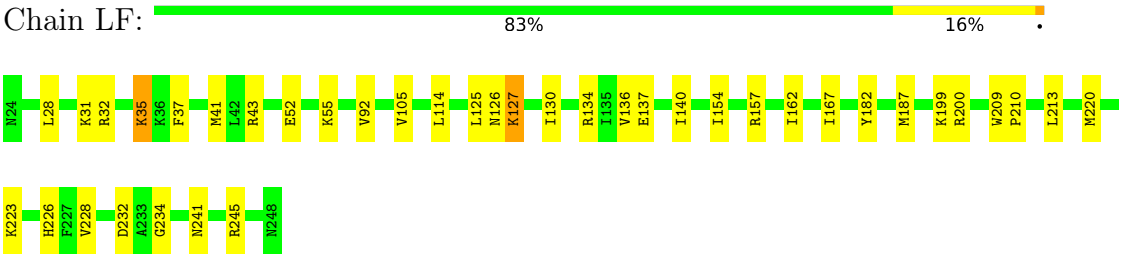
• Molecule 68: eL29

Chain Lb:



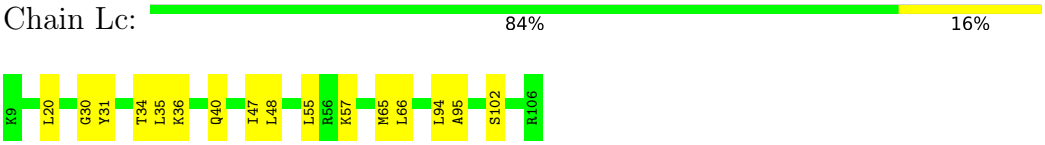
• Molecule 69: 60S ribosomal protein L7

Chain LF:



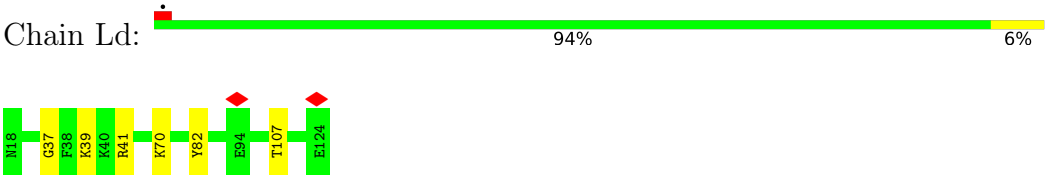
• Molecule 70: 60S ribosomal protein L30

Chain Lc:



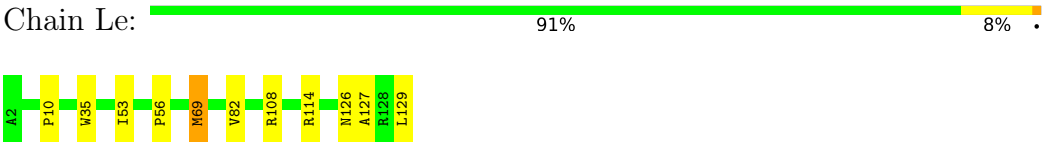
• Molecule 71: 60S ribosomal protein L31

Chain Ld:



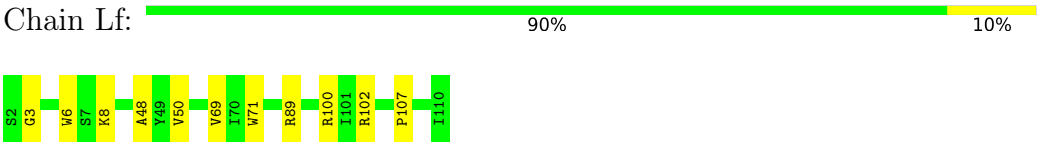
• Molecule 72: 60S ribosomal protein L32

Chain Le:



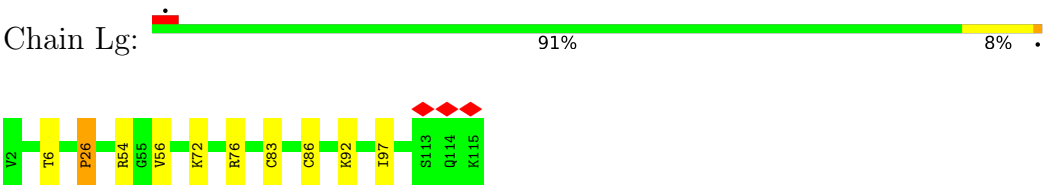
• Molecule 73: 60S ribosomal protein L35a

Chain Lf:



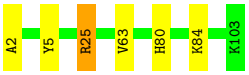
• Molecule 74: 60S ribosomal protein L34

Chain Lg:



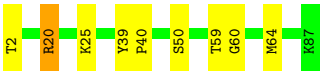
• Molecule 75: 60S ribosomal protein L36

Chain Li:



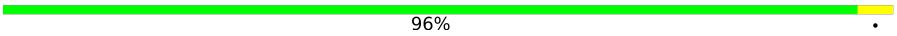
• Molecule 76: 60S ribosomal protein L37

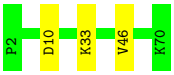
Chain Lj:



• Molecule 77: 60S ribosomal protein L38

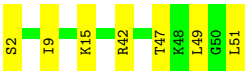
Chain Lk:





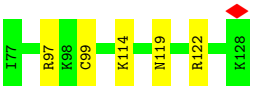
• Molecule 78: 60S ribosomal protein L39

Chain Ll:



• Molecule 79: eL40

Chain Lm:

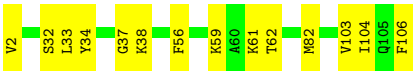


• Molecule 80: 60S ribosomal protein L41

Chain Ln:

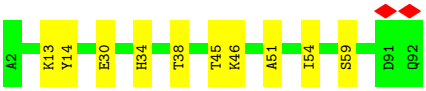
• Molecule 81: Ribosomal protein L36a

Chain Lo:



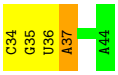
• Molecule 82: 60S ribosomal protein L37a

Chain Lp:



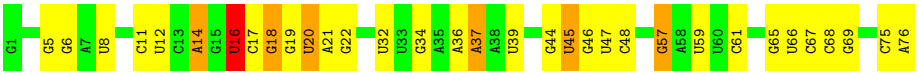
• Molecule 83: mRNA

Chain mR:



• Molecule 84: A-site tRNA Phe

Chain At:

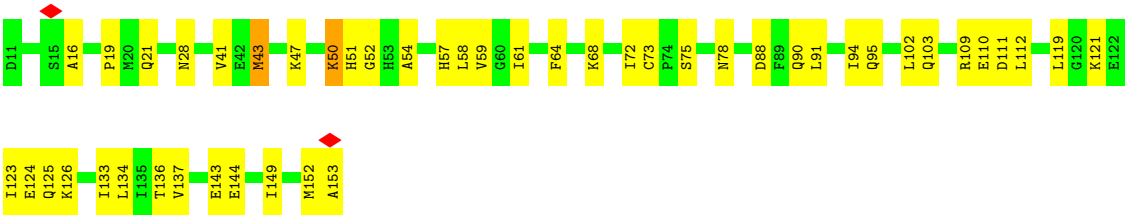


• Molecule 85: P-site tRNA fMet

Chain Pt:

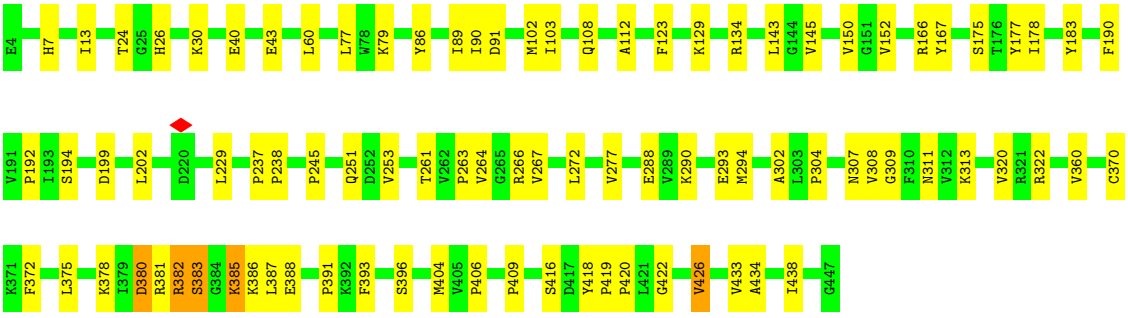
• Molecule 86: eIF5A1

Chain 5A:



• Molecule 87: Elongation factor 1-alpha 1

Chain EF:



4 Experimental information (i)

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 ($e^-/Å^2$)	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 (Å)	528.64, 528.64, 528.64	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.82600003, 0.82600003, 0.82600003	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.38	5/38635 (0.0%)	0.55	0/60214
2	L8	0.36	0/3613	0.51	0/5627
3	L5	0.36	8/85497 (0.0%)	0.51	1/133383 (0.0%)
4	L7	0.33	0/2862	0.46	0/4459
5	SB	0.34	0/1832	0.51	0/2449
6	SA	0.39	0/1778	0.54	0/2416
7	SD	0.54	0/1784	0.72	0/2403
8	SJ	0.55	0/1550	0.90	0/2069
9	SE	0.51	0/2118	0.80	0/2849
10	SC	0.47	0/1762	0.69	0/2381
11	SG	0.47	0/1946	0.74	0/2590
12	SF	0.46	0/1515	0.69	0/2037
13	SH	0.61	0/1540	0.89	0/2064
14	SW	0.50	0/1051	0.72	0/1406
15	SI	0.40	0/1715	0.64	0/2287
16	SQ	0.63	0/1141	0.86	0/1528
17	SU	0.71	0/813	1.01	0/1092
18	SK	0.52	0/834	0.83	0/1125
19	SO	0.57	0/1022	0.92	3/1372 (0.2%)
20	SX	0.54	0/1113	0.79	0/1483
21	SM	0.68	0/950	0.93	0/1275
22	SS	0.54	0/1232	0.84	0/1651
23	Sd	0.50	0/469	0.75	0/623
24	SN	0.52	0/1242	0.76	0/1671
25	SL	0.47	0/1191	0.69	1/1593 (0.1%)
26	SR	0.61	0/1098	0.97	0/1474
27	SP	0.48	0/1116	0.69	0/1493
28	ST	0.55	0/1131	0.83	0/1515
29	SV	0.48	0/635	0.73	0/850
30	SY	0.30	0/1083	0.54	0/1438

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
31	SZ	0.60	0/682	0.95	0/911
32	Sa	0.27	0/805	0.46	0/1079
33	Sb	0.34	0/664	0.53	0/891
34	Sc	0.60	0/508	0.94	0/680
35	Se	0.49	0/473	0.76	0/623
36	Sf	0.77	0/627	1.07	0/829
37	Sg	0.57	0/2493	0.84	0/3394
38	Lz	0.86	0/1729	1.17	0/2320
39	LA	0.48	0/1947	0.69	1/2609 (0.0%)
40	LB	0.38	0/3294	0.55	0/4406
41	LC	0.38	0/2981	0.56	0/4002
42	LJ	0.40	0/1382	0.63	0/1847
43	LH	0.40	0/1538	0.60	0/2066
44	LE	0.40	0/1830	0.57	0/2453
45	LG	0.57	0/1943	0.78	0/2616
46	Lq	0.24	0/1530	0.42	0/2063
47	LK	0.45	0/1136	0.64	0/1529
48	LO	0.49	0/1682	0.71	1/2250 (0.0%)
49	LL	0.57	0/1696	0.79	0/2270
50	LV	0.48	0/1056	0.69	1/1412 (0.1%)
51	LM	0.36	0/1143	0.52	0/1527
52	La	0.42	0/1179	0.61	0/1573
53	LN	0.43	0/1745	0.65	0/2338
54	LI	0.58	0/1698	0.86	1/2266 (0.0%)
55	LD	0.42	0/2438	0.61	0/3263
56	LQ	0.39	0/1536	0.60	0/2052
57	LR	0.35	0/1582	0.55	0/2091
58	LS	0.44	0/1500	0.63	0/2013
59	LT	0.35	0/1325	0.54	0/1770
60	LP	0.42	0/1268	0.66	0/1701
61	LU	0.53	0/823	0.76	0/1103
62	LX	0.29	0/984	0.43	0/1323
63	LY	0.47	0/1132	0.68	0/1504
64	LW	0.54	0/964	0.77	0/1278
65	LZ	0.53	0/1129	0.81	0/1507
66	Lr	0.46	0/1012	0.69	0/1356
67	Lh	0.42	0/1022	0.61	0/1351
68	Lb	0.47	0/887	0.72	0/1171
69	LF	0.36	0/1905	0.54	0/2539
70	Lc	0.25	0/774	0.39	0/1038
71	Ld	0.50	0/904	0.76	0/1216
72	Le	0.52	0/1071	0.66	0/1429
73	Lf	0.34	0/895	0.45	0/1198

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
74	Lg	0.43	0/916	0.63	0/1220
75	Li	0.62	0/844	0.91	0/1115
76	Lj	0.41	0/731	0.63	0/967
77	Lk	0.40	0/575	0.65	0/761
78	Ll	0.65	0/453	0.85	0/599
79	Lm	0.39	0/426	0.76	0/564
80	Ln	0.46	0/240	0.84	0/305
81	Lo	0.39	0/877	0.60	0/1156
82	Lp	0.38	0/718	0.58	0/953
83	mR	0.21	0/280	0.33	0/433
84	At	0.37	1/1650 (0.1%)	0.48	0/2566
85	Pt	0.43	1/1721 (0.1%)	0.55	0/2679
86	5A	0.58	0/1088	0.83	1/1463 (0.1%)
87	EF	0.39	0/3428	0.59	0/4644
All	All	0.42	15/237127 (0.0%)	0.60	10/347099 (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 15 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	Pt	47	G7M	O3'-P	9.64	1.65	1.56
1	S2	166	A2M	O3'-P	7.68	1.64	1.56
3	L5	3785	A2M	O3'-P	6.77	1.63	1.56
1	S2	1288	OMU	O3'-P	6.53	1.62	1.56
3	L5	3825	A2M	O3'-P	6.02	1.62	1.56

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	LI	81	GLY	CA-C-O	-6.63	117.53	122.37
50	LV	40	ILE	N-CA-C	-6.47	107.56	113.71
19	SO	138	ASP	CB-CA-C	6.21	122.78	110.42
86	5A	16	ALA	N-CA-C	-5.70	105.07	111.28
19	SO	137	SER	N-CA-C	-5.67	103.65	111.81

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)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	S2	36364	0	18406	348	0
2	L8	3320	0	1686	26	0
3	L5	79168	0	40078	605	0
4	L7	2562	0	1295	13	0
5	SB	1806	0	1888	17	0
6	SA	1750	0	1755	28	0
7	SD	1756	0	1852	34	0
8	SJ	1525	0	1640	29	0
9	SE	2076	0	2177	39	0
10	SC	1725	0	1813	21	0
11	SG	1923	0	2089	25	0
12	SF	1494	0	1549	20	0
13	SH	1517	0	1605	30	0
14	SW	1034	0	1080	17	0
15	SI	1686	0	1772	21	0
16	SQ	1123	0	1193	17	0
17	SU	803	0	873	16	0
18	SK	810	0	836	22	0
19	SO	1009	0	1034	9	0
20	SX	1105	0	1167	20	0
21	SM	940	0	965	33	0
22	SS	1214	0	1275	23	0
23	Sd	458	0	448	3	0
24	SN	1214	0	1301	16	0
25	SL	1171	0	1241	14	0
26	SR	1083	0	1137	23	0
27	SP	1093	0	1139	13	0
28	ST	1112	0	1146	11	0
29	SV	639	0	638	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	SY	1065	0	1142	20	0
31	SZ	674	0	748	18	0
32	Sa	792	0	841	12	0
33	Sb	650	0	672	8	0
34	Sc	506	0	536	7	0
35	Se	467	0	516	9	0
36	Sf	615	0	639	12	0
37	Sg	2436	0	2393	51	0
38	Lz	1701	0	1810	68	0
39	LA	1922	0	2015	17	0
40	LB	3239	0	3377	27	0
41	LC	2927	0	3104	20	0
42	LJ	1359	0	1396	13	0
43	LH	1519	0	1601	10	0
44	LE	1793	0	1958	18	0
45	LG	1910	0	2052	22	0
46	Lq	1507	0	1562	20	0
47	LK	1122	0	1184	19	0
48	LO	1650	0	1794	14	0
49	LL	1665	0	1773	13	0
50	LV	1042	0	1109	10	0
51	LM	1121	0	1187	7	0
52	La	1163	0	1206	14	0
53	LN	1700	0	1749	16	0
54	LI	1660	0	1710	15	0
55	LD	2392	0	2426	21	0
56	LQ	1512	0	1628	11	0
57	LR	1566	0	1729	12	0
58	LS	1460	0	1502	14	0
59	LT	1297	0	1366	20	0
60	LP	1242	0	1269	10	0
61	LU	809	0	831	10	0
62	LX	967	0	1040	11	0
63	LY	1115	0	1205	8	0
64	LW	950	0	999	16	0
65	LZ	1106	0	1182	9	0
66	Lr	1006	0	1072	8	0
67	Lh	1014	0	1148	5	0
68	Lb	885	0	967	10	0
69	LF	1870	0	1996	27	0
70	Lc	764	0	804	10	0
71	Ld	889	0	930	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
72	Le	1053	0	1147	6	0
73	Lf	876	0	910	9	0
74	Lg	906	0	998	8	0
75	Li	833	0	917	5	0
76	Lj	712	0	744	9	0
77	Lk	569	0	637	1	0
78	Ll	443	0	483	5	0
79	Lm	432	0	470	2	0
80	Ln	239	0	289	4	0
81	Lo	870	0	936	20	0
82	Lp	708	0	756	6	0
83	mR	252	0	127	8	0
84	At	1630	0	839	12	0
85	Pt	1645	0	843	8	0
86	5A	1089	0	1096	33	0
87	EF	3405	0	3465	57	0
88	L5	90	0	171	3	0
88	S2	10	0	19	0	0
89	L5	30	0	0	0	0
89	L7	1	0	0	0	0
89	L8	1	0	0	0	0
89	LA	1	0	0	0	0
89	LB	1	0	0	0	0
89	Lf	1	0	0	0	0
89	S2	9	0	0	0	0
89	mR	1	0	0	0	0
90	At	1	0	0	0	0
90	EF	2	0	0	0	0
90	L5	284	0	0	0	0
90	L7	5	0	0	0	0
90	L8	6	0	0	0	0
90	LA	1	0	0	0	0
90	LB	1	0	0	0	0
90	LC	1	0	0	0	0
90	LH	1	0	0	0	0
90	LI	1	0	0	0	0
90	LJ	1	0	0	0	0
90	LN	1	0	0	0	0
90	LP	1	0	0	0	0
90	LS	1	0	0	0	0
90	LV	1	0	0	0	0
90	LW	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
90	Le	1	0	0	0	0
90	Lg	2	0	0	0	0
90	Lj	1	0	0	0	0
90	Lr	1	0	0	0	0
90	Pt	2	0	0	0	0
90	S2	108	0	0	0	0
90	SE	1	0	0	0	0
90	SG	1	0	0	0	0
90	SO	1	0	0	0	0
90	ST	1	0	0	0	0
90	SX	2	0	0	0	0
90	Sa	1	0	0	0	0
90	Sd	1	0	0	0	0
90	mR	1	0	0	0	0
91	L5	19	0	18	0	0
92	L5	48	0	96	0	0
93	L5	33	0	35	13	0
94	Lg	1	0	0	0	0
94	Lj	1	0	0	0	0
94	Lm	1	0	0	0	0
94	Lo	1	0	0	0	0
94	Lp	1	0	0	0	0
94	Sa	1	0	0	0	0
94	Sd	1	0	0	0	0
94	Sf	1	0	0	0	0
95	At	11	0	8	0	0
96	Pt	8	0	8	0	0
97	EF	32	0	12	0	0
98	EF	79	0	0	0	0
99	EF	3	0	0	0	0
99	L5	304	0	0	4	0
99	L7	3	0	0	0	0
99	L8	4	0	0	0	0
99	LA	1	0	0	0	0
99	LB	3	0	0	0	0
99	LC	2	0	0	0	0
99	LF	1	0	0	0	0
99	LI	1	0	0	0	0
99	LM	1	0	0	0	0
99	LO	1	0	0	0	0
99	LP	3	0	0	0	0
99	LQ	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
99	LV	1	0	0	0	0
99	La	4	0	0	0	0
99	Lb	1	0	0	0	0
99	Li	1	0	0	0	0
99	Lj	2	0	0	0	0
99	Lo	2	0	0	0	0
99	Lr	1	0	0	0	0
99	S2	21	0	0	0	0
99	SE	1	0	0	0	0
99	SN	1	0	0	0	0
99	SS	1	0	0	0	0
99	Sa	1	0	0	0	0
All	All	227372	0	170270	2085	0

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

The worst 5 of 2085 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
93:L5:5119:3H3:H3	81:Lo:59:LYS:NZ	1.63	1.14
1:S2:327:G:H2'	1:S2:329:G:H5"	1.40	1.03
93:L5:5119:3H3:H3	81:Lo:59:LYS:CE	1.90	1.01
9:SE:198:ARG:HG3	9:SE:208:VAL:HG22	1.48	0.94
21:SM:81:ASP:HB2	21:SM:84:LYS:HB2	1.50	0.93

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
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%)	30	42
8	SJ	183/185 (99%)	173 (94%)	8 (4%)	2 (1%)	11	16
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%)	18	27
21	SM	120/122 (98%)	111 (92%)	8 (7%)	1 (1%)	16	24
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	Sg	311/313 (99%)	286 (92%)	25 (8%)	0	100	100
38	Lz	209/211 (99%)	181 (87%)	26 (12%)	2 (1%)	12	18
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
52	La	144/147 (98%)	138 (96%)	5 (4%)	1 (1%)	18	27
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%)	9	14
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
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
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%)	49	64

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%)	199 (98%)	3 (2%)	57	74
6	SA	183/183 (100%)	180 (98%)	3 (2%)	55	73
7	SD	189/189 (100%)	185 (98%)	4 (2%)	47	67
8	SJ	161/161 (100%)	157 (98%)	4 (2%)	42	63
9	SE	224/224 (100%)	217 (97%)	7 (3%)	35	55
10	SC	188/188 (100%)	188 (100%)	0	100	100
11	SG	207/207 (100%)	203 (98%)	4 (2%)	50	70
12	SF	159/159 (100%)	156 (98%)	3 (2%)	50	70
13	SH	168/169 (99%)	157 (94%)	11 (6%)	15	26
14	SW	112/112 (100%)	110 (98%)	2 (2%)	51	71
15	SI	178/178 (100%)	172 (97%)	6 (3%)	32	52
16	SQ	117/117 (100%)	112 (96%)	5 (4%)	26	42
17	SU	93/93 (100%)	87 (94%)	6 (6%)	15	26
18	SK	87/87 (100%)	81 (93%)	6 (7%)	14	23
19	SO	105/105 (100%)	101 (96%)	4 (4%)	29	48
20	SX	113/113 (100%)	108 (96%)	5 (4%)	25	41
21	SM	102/104 (98%)	94 (92%)	8 (8%)	11	18
22	SS	128/128 (100%)	127 (99%)	1 (1%)	73	84
23	Sd	48/48 (100%)	48 (100%)	0	100	100
24	SN	131/130 (101%)	127 (97%)	4 (3%)	35	55
25	SL	129/129 (100%)	124 (96%)	5 (4%)	28	47
26	SR	121/121 (100%)	112 (93%)	9 (7%)	13	20
27	SP	119/119 (100%)	114 (96%)	5 (4%)	26	44
28	ST	113/113 (100%)	111 (98%)	2 (2%)	51	71
29	SV	66/66 (100%)	62 (94%)	4 (6%)	17	29
30	SY	113/113 (100%)	111 (98%)	2 (2%)	51	71
31	SZ	74/74 (100%)	69 (93%)	5 (7%)	14	23
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%)	56 (98%)	1 (2%)	51	71
35	Se	48/48 (100%)	47 (98%)	1 (2%)	47	67
36	Sf	67/67 (100%)	60 (90%)	7 (10%)	7	9

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
37	Sg	272/272 (100%)	254 (93%)	18 (7%)	15 25
38	Lz	190/190 (100%)	168 (88%)	22 (12%)	5 7
39	LA	192/192 (100%)	189 (98%)	3 (2%)	55 73
40	LB	347/347 (100%)	347 (100%)	0	100 100
41	LC	306/306 (100%)	304 (99%)	2 (1%)	76 86
42	LJ	143/143 (100%)	142 (99%)	1 (1%)	76 86
43	LH	169/169 (100%)	168 (99%)	1 (1%)	78 87
44	LE	197/196 (100%)	195 (99%)	2 (1%)	68 80
45	LG	201/203 (99%)	194 (96%)	7 (4%)	32 51
46	Lq	164/164 (100%)	164 (100%)	0	100 100
47	LK	122/122 (100%)	119 (98%)	3 (2%)	42 63
48	LO	173/173 (100%)	172 (99%)	1 (1%)	78 87
49	LL	172/172 (100%)	166 (96%)	6 (4%)	32 51
50	LV	107/107 (100%)	107 (100%)	0	100 100
51	LM	116/116 (100%)	113 (97%)	3 (3%)	40 61
52	La	119/119 (100%)	118 (99%)	1 (1%)	73 84
53	LN	171/171 (100%)	170 (99%)	1 (1%)	78 87
54	LI	175/175 (100%)	171 (98%)	4 (2%)	44 65
55	LD	247/247 (100%)	243 (98%)	4 (2%)	55 73
56	LQ	164/164 (100%)	162 (99%)	2 (1%)	63 78
57	LR	166/166 (100%)	166 (100%)	0	100 100
58	LS	157/157 (100%)	157 (100%)	0	100 100
59	LT	139/139 (100%)	138 (99%)	1 (1%)	76 86
60	LP	134/134 (100%)	134 (100%)	0	100 100
61	LU	89/89 (100%)	85 (96%)	4 (4%)	24 40
62	LX	106/106 (100%)	106 (100%)	0	100 100
63	LY	124/124 (100%)	122 (98%)	2 (2%)	55 73
64	LW	95/97 (98%)	93 (98%)	2 (2%)	47 67
65	LZ	117/117 (100%)	114 (97%)	3 (3%)	40 61
66	Lr	108/108 (100%)	106 (98%)	2 (2%)	50 70
67	Lh	109/109 (100%)	108 (99%)	1 (1%)	70 82

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
68	Lb	89/89 (100%)	88 (99%)	1 (1%)	65 79
69	LF	194/194 (100%)	191 (98%)	3 (2%)	57 74
70	Lc	83/83 (100%)	83 (100%)	0	100 100
71	Ld	98/98 (100%)	97 (99%)	1 (1%)	68 80
72	Le	114/114 (100%)	112 (98%)	2 (2%)	51 71
73	Lf	88/88 (100%)	88 (100%)	0	100 100
74	Lg	98/98 (100%)	97 (99%)	1 (1%)	68 80
75	Li	86/86 (100%)	84 (98%)	2 (2%)	44 65
76	Lj	74/73 (101%)	72 (97%)	2 (3%)	39 60
77	Lk	64/64 (100%)	63 (98%)	1 (2%)	55 73
78	Ll	47/47 (100%)	47 (100%)	0	100 100
79	Lm	47/47 (100%)	46 (98%)	1 (2%)	47 67
80	Ln	24/24 (100%)	22 (92%)	2 (8%)	10 16
81	Lo	93/92 (101%)	92 (99%)	1 (1%)	65 79
82	Lp	74/74 (100%)	74 (100%)	0	100 100
86	5A	116/118 (98%)	110 (95%)	6 (5%)	21 34
87	EF	363/363 (100%)	354 (98%)	9 (2%)	42 63
All	All	10806/10811 (100%)	10551 (98%)	255 (2%)	43 64

5 of 255 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
31	SZ	45	ASN
66	Lr	37	SER
37	Sg	287	THR
65	LZ	97	ASN
79	Lm	119	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 126 such sidechains are listed below:

Mol	Chain	Res	Type
41	LC	43	ASN
66	Lr	95	HIS
45	LG	66	GLN
64	LW	120	GLN

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Mol	Chain	Res	Type
76	Lj	57	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	S2	1695/1701 (99%)	363 (21%)	29 (1%)
2	L8	155/156 (99%)	25 (16%)	3 (1%)
3	L5	3672/3687 (99%)	690 (18%)	53 (1%)
4	L7	119/120 (99%)	13 (10%)	0
83	mR	9/11 (81%)	1 (11%)	0
84	At	75/76 (98%)	17 (22%)	0
85	Pt	76/77 (98%)	17 (22%)	0
All	All	5801/5828 (99%)	1126 (19%)	85 (1%)

5 of 1126 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	$\#\|Z\| > 2$
3	A2M	L5	2787	3	22,25,26	1.45	5 (22%)	30,36,39	2.06	9 (30%)
3	PSU	L5	4628	3	18,21,22	1.49	4 (22%)	21,30,33	2.41	5 (23%)
39	V5N	LA	216	39	8,11,12	1.47	1 (12%)	8,14,16	1.81	1 (12%)
3	PSU	L5	3770	3	18,21,22	1.51	4 (22%)	21,30,33	2.24	5 (23%)
1	PSU	S2	34	1	18,21,22	1.38	3 (16%)	21,30,33	2.08	4 (19%)
3	PSU	L5	3884	3	18,21,22	1.63	4 (22%)	21,30,33	2.09	3 (14%)
1	OMG	S2	683	1	23,26,27	1.21	4 (17%)	32,38,41	2.02	7 (21%)
3	PSU	L5	4532	3	18,21,22	1.57	5 (27%)	21,30,33	2.13	4 (19%)
3	PSU	L5	4293	3	18,21,22	1.44	4 (22%)	21,30,33	2.11	3 (14%)
3	PSU	L5	4673	3	18,21,22	1.46	3 (16%)	21,30,33	1.99	5 (23%)
1	A2M	S2	99	1,90	22,25,26	1.44	4 (18%)	30,36,39	2.17	8 (26%)
3	OMG	L5	3744	3	23,26,27	1.26	4 (17%)	32,38,41	2.07	7 (21%)
1	PSU	S2	649	1	18,21,22	1.51	4 (22%)	21,30,33	2.12	3 (14%)
3	PSU	L5	4521	3,90,89	18,21,22	1.36	2 (11%)	21,30,33	2.20	5 (23%)
3	A2M	L5	4523	3,90	22,25,26	1.44	4 (18%)	30,36,39	2.14	8 (26%)
1	PSU	S2	966	1	18,21,22	1.46	2 (11%)	21,30,33	2.09	4 (19%)
1	OMU	S2	354	1	19,22,23	1.44	3 (15%)	25,31,34	2.09	6 (24%)
1	OMU	S2	172	1	19,22,23	1.32	4 (21%)	25,31,34	2.00	6 (24%)
3	5MC	L5	4447	3,89	19,22,23	1.56	3 (15%)	26,32,35	1.27	3 (11%)
84	PSU	At	32	84	18,21,22	1.48	4 (22%)	21,30,33	2.18	4 (19%)
3	A2M	L5	1871	3,90	22,25,26	1.48	5 (22%)	30,36,39	2.13	10 (33%)
1	PSU	S2	1243	1	18,21,22	1.42	2 (11%)	21,30,33	2.13	4 (19%)
87	M3L	EF	318	87	10,11,12	0.42	0	9,14,16	0.13	0
85	H2U	Pt	21	85	18,21,22	1.06	2 (11%)	19,30,33	0.72	0
1	PSU	S2	1232	1	18,21,22	1.58	4 (22%)	21,30,33	2.19	4 (19%)
3	A2M	L5	3724	3	22,25,26	1.44	4 (18%)	30,36,39	2.05	9 (30%)
1	OMU	S2	1442	1,90	19,22,23	1.27	3 (15%)	25,31,34	1.88	4 (16%)
3	OMC	L5	2365	3,90	19,22,23	0.79	0	25,31,34	0.76	0
1	A2M	S2	1678	1	22,25,26	1.48	4 (18%)	30,36,39	2.01	9 (30%)
1	A2M	S2	159	1	22,25,26	1.50	4 (18%)	30,36,39	1.99	9 (30%)
87	MLY	EF	55	87	9,10,11	0.51	0	6,11,13	0.88	0
81	MLZ	Lo	53	81	8,9,10	0.78	0	4,9,11	0.66	0
1	6MZ	S2	1832	1,90	22,25,26	1.48	5 (22%)	29,36,39	2.14	9 (31%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	PSU	L5	1862	3	18,21,22	1.53	4 (22%)	21,30,33	2.24	4 (19%)
3	OMC	L5	3841	3	19,22,23	0.78	0	25,31,34	0.98	2 (8%)
3	OMC	L5	3869	3	19,22,23	0.89	1 (5%)	25,31,34	1.04	0
1	4AC	S2	1337	1	21,24,25	1.17	2 (9%)	28,34,37	1.26	3 (10%)
3	PSU	L5	2632	3	18,21,22	1.40	2 (11%)	21,30,33	2.00	5 (23%)
1	A2M	S2	468	1	22,25,26	1.47	4 (18%)	30,36,39	2.11	9 (30%)
3	A2M	L5	3867	3	22,25,26	1.48	4 (18%)	30,36,39	2.03	8 (26%)
1	PSU	S2	1136	1	18,21,22	1.37	3 (16%)	21,30,33	2.04	4 (19%)
1	PSU	S2	1244	1	18,21,22	1.46	3 (16%)	21,30,33	2.19	4 (19%)
1	PSU	S2	1643	1,90	18,21,22	1.40	4 (22%)	21,30,33	2.21	5 (23%)
3	OMG	L5	2424	3	23,26,27	1.32	3 (13%)	32,38,41	1.91	6 (18%)
3	A2M	L5	3830	3	22,25,26	1.47	5 (22%)	30,36,39	2.16	10 (33%)
1	PSU	S2	681	1	18,21,22	1.41	3 (16%)	21,30,33	2.12	4 (19%)
1	A2M	S2	1031	1	22,25,26	1.49	5 (22%)	30,36,39	2.03	10 (33%)
3	A2M	L5	3718	3	22,25,26	1.47	4 (18%)	30,36,39	1.95	10 (33%)
3	PSU	L5	3768	3	18,21,22	1.49	4 (22%)	21,30,33	2.06	4 (19%)
3	6MZ	L5	4220	3	22,25,26	1.41	4 (18%)	29,36,39	2.18	9 (31%)
3	OMC	L5	2861	3	19,22,23	0.79	0	25,31,34	0.82	1 (4%)
3	PSU	L5	4420	3	18,21,22	1.37	3 (16%)	21,30,33	1.98	4 (19%)
1	OMU	S2	428	1	19,22,23	1.24	3 (15%)	25,31,34	1.93	6 (24%)
79	M3L	Lm	98	79	10,11,12	0.37	0	9,14,16	0.10	0
1	PSU	S2	1004	1	18,21,22	1.39	4 (22%)	21,30,33	2.07	3 (14%)
3	PSU	L5	4493	3,89	18,21,22	1.44	4 (22%)	21,30,33	2.07	4 (19%)
3	OMC	L5	3887	3	19,22,23	0.80	0	25,31,34	0.84	0
1	PSU	S2	1056	1	18,21,22	1.46	3 (16%)	21,30,33	2.25	4 (19%)
20	HY3	SX	62	89,20	7,8,9	1.43	1 (14%)	7,10,12	1.28	1 (14%)
2	PSU	L8	69	2,89	18,21,22	1.60	5 (27%)	21,30,33	2.40	5 (23%)
85	4SU	Pt	8	85	18,21,22	2.07	4 (22%)	25,30,33	2.33	4 (16%)
1	PSU	S2	1174	1	18,21,22	1.51	3 (16%)	21,30,33	2.22	5 (23%)
85	PSU	Pt	56	85	18,21,22	1.37	2 (11%)	21,30,33	2.06	4 (19%)
1	PSU	S2	1445	1	18,21,22	1.38	2 (11%)	21,30,33	2.19	5 (23%)
66	SAC	Lr	2	66	7,8,9	3.75	2 (28%)	7,9,11	4.57	5 (71%)
84	H2U	At	20	84	18,21,22	1.03	2 (11%)	19,30,33	1.02	2 (10%)
87	M3L	EF	79	87	10,11,12	0.55	0	9,14,16	0.51	0
1	OMG	S2	1328	1,89	23,26,27	1.25	3 (13%)	32,38,41	2.13	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	S2	573	1	18,21,22	1.45	3 (16%)	21,30,33	2.11	4 (19%)
3	PSU	L5	1781	3	18,21,22	1.43	4 (22%)	21,30,33	2.04	4 (19%)
3	OMU	L5	3925	3	19,22,23	1.24	3 (15%)	25,31,34	1.82	5 (20%)
1	OMU	S2	627	1	19,22,23	1.31	3 (15%)	25,31,34	1.99	5 (20%)
84	MIA	At	37	84	28,31,32	2.47	7 (25%)	38,44,47	2.78	14 (36%)
3	OMU	L5	4227	3	19,22,23	1.26	3 (15%)	25,31,34	1.81	4 (16%)
3	OMG	L5	1522	3	23,26,27	1.19	4 (17%)	32,38,41	1.97	6 (18%)
3	A2M	L5	3760	3,90	22,25,26	1.48	5 (22%)	30,36,39	2.07	9 (30%)
3	OMG	L5	2364	3	23,26,27	1.18	3 (13%)	32,38,41	1.96	6 (18%)
6	SAC	SA	2	6	7,8,9	3.45	2 (28%)	7,9,11	5.30	5 (71%)
1	OMG	S2	601	1	23,26,27	1.19	3 (13%)	32,38,41	1.97	6 (18%)
3	PSU	L5	3920	3,90	18,21,22	1.38	3 (16%)	21,30,33	2.13	4 (19%)
3	OMU	L5	4498	3,90	19,22,23	1.25	3 (15%)	25,31,34	1.85	5 (20%)
1	OMG	S2	1490	1,90	23,26,27	1.27	4 (17%)	32,38,41	2.00	7 (21%)
3	OMU	L5	4306	3	19,22,23	1.28	3 (15%)	25,31,34	1.76	4 (16%)
3	PSU	L5	2508	3	18,21,22	1.40	3 (16%)	21,30,33	2.10	4 (19%)
1	PSU	S2	814	1	18,21,22	1.39	3 (16%)	21,30,33	2.11	4 (19%)
1	PSU	S2	406	1	18,21,22	1.54	5 (27%)	21,30,33	2.10	4 (19%)
3	A2M	L5	398	3	22,25,26	1.56	4 (18%)	30,36,39	2.02	7 (23%)
3	PSU	L5	4353	3	18,21,22	1.53	4 (22%)	21,30,33	2.18	3 (14%)
3	OMC	L5	4536	3	19,22,23	0.89	0	25,31,34	1.00	0
1	OMU	S2	116	1	19,22,23	1.35	3 (15%)	25,31,34	1.77	5 (20%)
1	A2M	S2	1383	1	22,25,26	1.47	4 (18%)	30,36,39	2.11	10 (33%)
3	PSU	L5	3758	3	18,21,22	1.41	3 (16%)	21,30,33	2.06	4 (19%)
3	PSU	L5	3853	3,90	18,21,22	1.42	4 (22%)	21,30,33	2.00	3 (14%)
3	OMG	L5	3944	3	23,26,27	1.25	3 (13%)	32,38,41	2.09	7 (21%)
87	M3L	EF	36	87	10,11,12	0.53	0	9,14,16	0.46	0
3	PSU	L5	4431	3	18,21,22	1.38	3 (16%)	21,30,33	2.13	4 (19%)
3	PSU	L5	4457	3	18,21,22	1.53	4 (22%)	21,30,33	2.26	6 (28%)
3	OMG	L5	4370	3	23,26,27	1.19	3 (13%)	32,38,41	2.00	6 (18%)
3	OMC	L5	3701	3,89	19,22,23	0.90	0	25,31,34	1.07	0
3	OMG	L5	3792	3	23,26,27	1.19	3 (13%)	32,38,41	2.02	6 (18%)
3	PSU	L5	4576	3	18,21,22	1.39	3 (16%)	21,30,33	2.11	4 (19%)
3	PSU	L5	4531	3	18,21,22	1.43	2 (11%)	21,30,33	2.07	4 (19%)
84	H2U	At	16	84	18,21,22	0.99	2 (11%)	19,30,33	0.82	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
84	G7M	At	46	84	23,26,27	1.90	2 (8%)	34,39,42	1.10	1 (2%)
1	OMU	S2	1288	1	19,22,23	1.32	3 (15%)	25,31,34	1.85	5 (20%)
3	OMC	L5	2824	3	19,22,23	0.79	0	25,31,34	0.81	0
1	OMG	S2	867	1	23,26,27	1.22	3 (13%)	32,38,41	1.98	6 (18%)
3	OMC	L5	1881	3,90	19,22,23	0.91	0	25,31,34	1.12	2 (8%)
3	OMG	L5	3627	3	23,26,27	1.18	4 (17%)	32,38,41	2.04	6 (18%)
3	A2M	L5	3785	3	22,25,26	1.43	5 (22%)	30,36,39	2.33	12 (40%)
3	OMG	L5	3899	3	23,26,27	1.21	4 (17%)	32,38,41	2.02	6 (18%)
3	PSU	L5	1782	3	18,21,22	1.39	3 (16%)	21,30,33	2.08	4 (19%)
84	PSU	At	39	84	18,21,22	1.51	4 (22%)	21,30,33	2.09	4 (19%)
1	OMU	S2	1804	1	19,22,23	1.27	3 (15%)	25,31,34	1.88	5 (20%)
3	OMU	L5	2415	3	19,22,23	1.39	4 (21%)	25,31,34	1.88	5 (20%)
1	A2M	S2	668	1,90	22,25,26	1.47	4 (18%)	30,36,39	2.03	10 (33%)
1	PSU	S2	609	1	18,21,22	1.50	4 (22%)	21,30,33	1.99	3 (14%)
1	PSU	S2	1177	1	18,21,22	1.40	4 (22%)	21,30,33	2.04	3 (14%)
1	A2M	S2	166	1	22,25,26	1.47	4 (18%)	30,36,39	2.29	8 (26%)
3	PSU	L5	1779	3	18,21,22	1.40	3 (16%)	21,30,33	2.14	4 (19%)
3	OMU	L5	2837	3	19,22,23	1.29	3 (15%)	25,31,34	1.91	5 (20%)
1	A2M	S2	576	1	22,25,26	1.53	5 (22%)	30,36,39	1.99	10 (33%)
3	PSU	L5	4361	3	18,21,22	1.60	5 (27%)	21,30,33	2.19	6 (28%)
1	PSU	S2	815	1	18,21,22	1.41	3 (16%)	21,30,33	2.12	4 (19%)
3	OMC	L5	3808	3	19,22,23	0.93	0	25,31,34	1.06	1 (4%)
1	OMC	S2	462	1	19,22,23	0.87	0	25,31,34	0.93	1 (4%)
3	A2M	L5	2815	3,90	22,25,26	1.48	4 (18%)	30,36,39	1.99	7 (23%)
3	PSU	L5	4552	3	18,21,22	1.41	3 (16%)	21,30,33	2.12	4 (19%)
3	OMG	L5	1625	3	23,26,27	1.21	3 (13%)	32,38,41	2.01	6 (18%)
3	PSU	L5	3729	3	18,21,22	1.54	5 (27%)	21,30,33	2.19	4 (19%)
3	UR3	L5	4530	3	19,22,23	0.89	0	26,32,35	1.86	4 (15%)
3	PSU	L5	1683	3,89	18,21,22	1.53	4 (22%)	21,30,33	1.92	3 (14%)
3	PSU	L5	4299	3	18,21,22	1.40	3 (16%)	21,30,33	2.10	4 (19%)
3	PSU	L5	4579	3	18,21,22	1.60	6 (33%)	21,30,33	2.20	3 (14%)
3	A2M	L5	1534	3,90	22,25,26	1.48	5 (22%)	30,36,39	2.08	7 (23%)
3	A2M	L5	400	3	22,25,26	1.46	5 (22%)	30,36,39	2.12	9 (30%)
1	PSU	S2	119	1	18,21,22	1.48	4 (22%)	21,30,33	2.13	4 (19%)
1	4AC	S2	1842	1	21,24,25	0.98	1 (4%)	28,34,37	1.16	4 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	PSU	L5	5010	3	18,21,22	1.40	3 (16%)	21,30,33	2.09	4 (19%)
1	OMG	S2	509	1	23,26,27	1.31	4 (17%)	32,38,41	2.08	6 (18%)
3	PSU	L5	3715	3	18,21,22	1.50	3 (16%)	21,30,33	2.05	4 (19%)
3	OMU	L5	4620	3	19,22,23	1.40	3 (15%)	25,31,34	1.98	8 (32%)
2	OMG	L8	75	2	23,26,27	1.18	3 (13%)	32,38,41	2.14	7 (21%)
1	OMG	S2	436	1	23,26,27	1.26	3 (13%)	32,38,41	2.21	8 (25%)
1	OMG	S2	1447	1	23,26,27	1.24	3 (13%)	32,38,41	2.22	9 (28%)
3	A2M	L5	3825	3	22,25,26	1.46	4 (18%)	30,36,39	2.09	10 (33%)
1	PSU	S2	1367	1	18,21,22	1.39	3 (16%)	21,30,33	2.11	4 (19%)
3	PSU	L5	3844	3	18,21,22	1.37	3 (16%)	21,30,33	2.11	4 (19%)
3	PSU	L5	4471	3	18,21,22	1.50	3 (16%)	21,30,33	1.98	5 (23%)
40	HIC	LB	245	40	10,11,12	1.42	1 (10%)	9,14,16	1.29	2 (22%)
3	OMG	L5	4196	3,85	23,26,27	1.30	4 (17%)	32,38,41	2.00	7 (21%)
3	PSU	L5	3851	3	18,21,22	1.41	4 (22%)	21,30,33	2.09	4 (19%)
84	4SU	At	8	90,84	18,21,22	1.86	4 (22%)	25,30,33	2.32	5 (20%)
1	PSU	S2	36	1	18,21,22	1.39	3 (16%)	21,30,33	2.14	4 (19%)
1	UY1	S2	1326	1,90	19,22,23	1.38	3 (15%)	21,31,34	2.26	4 (19%)
1	OMU	S2	121	1	19,22,23	1.43	3 (15%)	25,31,34	1.90	5 (20%)
3	PSU	L5	1677	3	18,21,22	1.57	4 (22%)	21,30,33	2.09	4 (19%)
1	PSU	S2	218	1	18,21,22	1.46	3 (16%)	21,30,33	2.16	4 (19%)
1	PSU	S2	1347	1	18,21,22	1.50	4 (22%)	21,30,33	2.13	3 (14%)
3	PSU	L5	3734	3	18,21,22	1.49	4 (22%)	21,30,33	2.07	3 (14%)
3	OMG	L5	4623	3	23,26,27	1.22	3 (13%)	32,38,41	2.06	7 (21%)
2	PSU	L8	55	2	18,21,22	1.39	3 (16%)	21,30,33	2.09	4 (19%)
1	OMC	S2	174	1	19,22,23	0.86	0	25,31,34	1.00	2 (8%)
1	A2M	S2	484	1	22,25,26	1.48	5 (22%)	30,36,39	2.04	7 (23%)
3	OMC	L5	2351	3	19,22,23	0.94	1 (5%)	25,31,34	0.83	1 (4%)
3	OMC	L5	2422	3,90	19,22,23	0.88	0	25,31,34	1.07	2 (8%)
1	PSU	S2	572	1	18,21,22	1.44	4 (22%)	21,30,33	1.99	4 (19%)
3	PSU	L5	4312	3	18,21,22	1.41	4 (22%)	21,30,33	2.11	4 (19%)
1	PSU	S2	1081	1	18,21,22	1.46	5 (27%)	21,30,33	2.07	4 (19%)
3	PSU	L5	1860	3	18,21,22	1.56	4 (22%)	21,30,33	2.08	5 (23%)
3	PSU	L5	3639	3	18,21,22	1.44	4 (22%)	21,30,33	2.14	4 (19%)
3	PSU	L5	4423	3	18,21,22	1.39	3 (16%)	21,30,33	2.05	3 (14%)
3	PSU	L5	4689	3	18,21,22	1.46	3 (16%)	21,30,33	2.06	3 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	OMG	L5	4392	3	23,26,27	1.30	4 (17%)	32,38,41	1.99	7 (21%)
3	PSU	L5	4636	3	18,21,22	1.57	4 (22%)	21,30,33	2.45	6 (28%)
1	MA6	S2	1850	1	23,26,27	1.47	4 (17%)	33,38,41	2.02	10 (30%)
1	MA6	S2	1851	1	23,26,27	1.44	5 (21%)	33,38,41	2.04	10 (30%)
1	PSU	S2	93	1	18,21,22	1.54	4 (22%)	21,30,33	2.20	4 (19%)
3	A2M	L5	4571	3	22,25,26	1.46	3 (13%)	30,36,39	2.03	7 (23%)
1	OMC	S2	1391	1	19,22,23	0.81	0	25,31,34	0.82	0
1	PSU	S2	105	1	18,21,22	1.54	4 (22%)	21,30,33	2.23	4 (19%)
3	PSU	L5	1792	3,90	18,21,22	1.55	4 (22%)	21,30,33	2.11	4 (19%)
3	OMG	L5	4499	3	23,26,27	1.18	3 (13%)	32,38,41	1.95	6 (18%)
3	PSU	L5	4500	3,90	18,21,22	1.42	2 (11%)	21,30,33	2.09	3 (14%)
3	A2M	L5	2363	3,90	22,25,26	1.48	5 (22%)	30,36,39	2.03	9 (30%)
3	PSU	L5	3762	3	18,21,22	1.38	2 (11%)	21,30,33	2.07	4 (19%)
3	PSU	L5	4972	3	18,21,22	1.38	3 (16%)	21,30,33	2.12	4 (19%)
1	A2M	S2	512	1	22,25,26	1.47	4 (18%)	30,36,39	2.11	9 (30%)
29	AME	SV	1	29	9,10,11	3.32	2 (22%)	9,11,13	3.86	3 (33%)
3	5MC	L5	3782	3,90	19,22,23	1.57	3 (15%)	26,32,35	1.16	3 (11%)
3	PSU	L5	3764	3	18,21,22	1.57	4 (22%)	21,30,33	2.13	5 (23%)
1	PSU	S2	1239	1	18,21,22	1.39	3 (16%)	21,30,33	2.05	3 (14%)
1	PSU	S2	863	1	18,21,22	1.49	4 (22%)	21,30,33	2.10	4 (19%)
1	PSU	S2	1692	1	18,21,22	1.39	4 (22%)	21,30,33	2.07	4 (19%)
1	G7M	S2	1639	1,85	23,26,27	2.43	5 (21%)	34,39,42	3.13	12 (35%)
3	OMG	L5	2876	3	23,26,27	1.22	3 (13%)	32,38,41	2.04	6 (18%)
1	PSU	S2	651	1	18,21,22	1.40	3 (16%)	21,30,33	2.05	4 (19%)
1	PSU	S2	801	1	18,21,22	1.52	4 (22%)	21,30,33	2.00	4 (19%)
3	OMC	L5	1340	3	19,22,23	0.90	0	25,31,34	0.84	0
68	MLZ	Lb	5	68	8,9,10	0.82	0	4,9,11	0.61	0
1	OMG	S2	644	1	23,26,27	1.28	4 (17%)	32,38,41	2.04	7 (21%)
1	PSU	S2	1238	1	18,21,22	1.38	3 (16%)	21,30,33	2.07	4 (19%)
3	OMG	L5	1316	3	23,26,27	1.22	3 (13%)	32,38,41	2.00	6 (18%)
1	PSU	S2	822	1	18,21,22	1.39	3 (16%)	21,30,33	2.36	5 (23%)
3	PSU	L5	4442	3	18,21,22	1.55	4 (22%)	21,30,33	2.32	5 (23%)
3	PSU	L5	4296	3	18,21,22	1.36	3 (16%)	21,30,33	2.09	4 (19%)
1	PSU	S2	866	1	18,21,22	1.46	3 (16%)	21,30,33	2.18	4 (19%)
1	PSU	S2	686	1	18,21,22	1.51	4 (22%)	21,30,33	2.20	3 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	OMG	L5	4228	3	23,26,27	1.19	4 (17%)	32,38,41	1.95	6 (18%)
1	PSU	S2	109	1	18,21,22	1.52	4 (22%)	21,30,33	2.19	3 (14%)
3	OMC	L5	2804	3	19,22,23	0.81	0	25,31,34	0.79	0
86	5CT	5A	50	86	13,14,15	1.02	1 (7%)	8,15,17	1.14	0
3	PSU	L5	3637	3,90,89	18,21,22	1.51	3 (16%)	21,30,33	2.27	5 (23%)
3	A2M	L5	1524	3	22,25,26	1.46	5 (22%)	30,36,39	2.11	10 (33%)
1	PSU	S2	296	1	18,21,22	1.47	5 (27%)	21,30,33	2.16	3 (14%)
3	PSU	L5	3695	3	18,21,22	1.40	3 (16%)	21,30,33	2.04	3 (14%)
3	OMC	L5	4456	3	19,22,23	0.93	1 (5%)	25,31,34	1.09	2 (8%)
3	A2M	L5	3723	3	22,25,26	1.47	4 (18%)	30,36,39	1.98	10 (33%)
3	UY1	L5	3818	3,90	19,22,23	1.44	4 (21%)	21,31,34	2.00	4 (19%)
3	A2M	L5	4590	3	22,25,26	1.48	5 (22%)	30,36,39	2.12	10 (33%)
3	OMG	L5	4618	3	23,26,27	1.28	4 (17%)	32,38,41	2.03	7 (21%)
3	PSU	L5	1744	3,89	18,21,22	1.50	4 (22%)	21,30,33	2.12	3 (14%)
1	PSU	S2	1625	1	18,21,22	1.42	3 (16%)	21,30,33	2.18	3 (14%)
52	V5N	La	39	52	8,11,12	1.39	1 (12%)	8,14,16	1.69	2 (25%)
1	A2M	S2	590	1	22,25,26	1.45	4 (18%)	30,36,39	2.10	7 (23%)
3	A2M	L5	1326	3	22,25,26	1.47	4 (18%)	30,36,39	2.01	7 (23%)
3	PSU	L5	2843	3	18,21,22	1.38	3 (16%)	21,30,33	2.10	4 (19%)
3	PSU	L5	4569	3	18,21,22	1.50	3 (16%)	21,30,33	2.23	5 (23%)
1	PSU	S2	918	1	18,21,22	1.51	3 (16%)	21,30,33	2.30	5 (23%)
3	PSU	L5	1582	3	18,21,22	1.52	4 (22%)	21,30,33	2.13	6 (28%)
3	OMG	L5	4637	3,89	23,26,27	1.28	4 (17%)	32,38,41	2.03	7 (21%)
1	A2M	S2	27	1	22,25,26	1.46	4 (18%)	30,36,39	2.19	9 (30%)
1	OMC	S2	1703	1,90	19,22,23	0.78	0	25,31,34	0.75	0
3	PSU	L5	5001	3	18,21,22	1.41	3 (16%)	21,30,33	2.06	4 (19%)
3	PSU	L5	2839	3	18,21,22	1.38	4 (22%)	21,30,33	2.12	4 (19%)
1	B8N	S2	1248	1	25,29,30	0.93	1 (4%)	28,42,45	1.82	6 (21%)
3	PSU	L5	1536	3	18,21,22	1.42	4 (22%)	21,30,33	2.07	4 (19%)
85	G7M	Pt	47	85	23,26,27	1.86	2 (8%)	34,39,42	1.11	1 (2%)
3	1MA	L5	1322	3,90	21,25,26	1.38	4 (19%)	30,37,40	1.70	6 (20%)
1	OMC	S2	517	1	19,22,23	0.92	0	25,31,34	1.00	2 (8%)
85	OMC	Pt	33	85	19,22,23	0.92	1 (5%)	25,31,34	1.00	1 (4%)
2	OMU	L8	14	2,3	19,22,23	1.46	4 (21%)	25,31,34	2.04	5 (20%)
3	PSU	L5	4403	3	18,21,22	1.62	5 (27%)	21,30,33	2.32	5 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	OMG	L5	4494	3	23,26,27	1.28	4 (17%)	32,38,41	2.08	7 (21%)
3	A2M	L5	2401	3	22,25,26	1.48	5 (22%)	30,36,39	2.14	9 (30%)

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
3	A2M	L5	2787	3	-	2/9/27/28	0/3/3/3
3	PSU	L5	4628	3	-	0/7/25/26	0/2/2/2
39	V5N	LA	216	39	-	1/9/10/12	0/1/1/1
3	PSU	L5	3770	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	34	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3884	3	-	0/7/25/26	0/2/2/2
1	OMG	S2	683	1	-	0/9/27/28	0/3/3/3
3	PSU	L5	4532	3	-	2/7/25/26	0/2/2/2
3	PSU	L5	4293	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4673	3	-	0/7/25/26	0/2/2/2
1	A2M	S2	99	1,90	-	1/9/27/28	0/3/3/3
3	OMG	L5	3744	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	649	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4521	3,90,89	-	0/7/25/26	0/2/2/2
3	A2M	L5	4523	3,90	-	1/9/27/28	0/3/3/3
1	PSU	S2	966	1	-	0/7/25/26	0/2/2/2
1	OMU	S2	354	1	-	0/9/27/28	0/2/2/2
1	OMU	S2	172	1	-	0/9/27/28	0/2/2/2
3	5MC	L5	4447	3,89	-	4/7/25/26	0/2/2/2
84	PSU	At	32	84	-	0/7/25/26	0/2/2/2
3	A2M	L5	1871	3,90	-	0/9/27/28	0/3/3/3
1	PSU	S2	1243	1	-	2/7/25/26	0/2/2/2
87	M3L	EF	318	87	-	0/9/10/12	-
85	H2U	Pt	21	85	-	5/7/38/39	0/2/2/2
1	PSU	S2	1232	1	-	0/7/25/26	0/2/2/2
3	A2M	L5	3724	3	-	1/9/27/28	0/3/3/3
1	OMU	S2	1442	1,90	-	0/9/27/28	0/2/2/2
3	OMC	L5	2365	3,90	-	0/9/27/28	0/2/2/2
1	A2M	S2	1678	1	-	1/9/27/28	0/3/3/3
1	A2M	S2	159	1	-	0/9/27/28	0/3/3/3
87	MLY	EF	55	87	-	1/8/9/11	-
81	MLZ	Lo	53	81	-	4/7/8/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	6MZ	S2	1832	1,90	-	2/9/27/28	0/3/3/3
3	PSU	L5	1862	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	3841	3	-	1/9/27/28	0/2/2/2
3	OMC	L5	3869	3	-	0/9/27/28	0/2/2/2
1	4AC	S2	1337	1	-	2/11/29/30	0/2/2/2
3	PSU	L5	2632	3	-	0/7/25/26	0/2/2/2
1	A2M	S2	468	1	-	1/9/27/28	0/3/3/3
3	A2M	L5	3867	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	1136	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1244	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1643	1,90	-	0/7/25/26	0/2/2/2
3	OMG	L5	2424	3	-	1/9/27/28	0/3/3/3
3	A2M	L5	3830	3	-	1/9/27/28	0/3/3/3
1	PSU	S2	681	1	-	0/7/25/26	0/2/2/2
1	A2M	S2	1031	1	-	0/9/27/28	0/3/3/3
3	A2M	L5	3718	3	-	1/9/27/28	0/3/3/3
3	PSU	L5	3768	3	-	0/7/25/26	0/2/2/2
3	6MZ	L5	4220	3	-	0/9/27/28	0/3/3/3
3	OMC	L5	2861	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	4420	3	-	4/7/25/26	0/2/2/2
1	OMU	S2	428	1	-	4/9/27/28	0/2/2/2
79	M3L	Lm	98	79	-	0/9/10/12	-
1	PSU	S2	1004	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4493	3,89	-	0/7/25/26	0/2/2/2
3	OMC	L5	3887	3	-	1/9/27/28	0/2/2/2
1	PSU	S2	1056	1	-	0/7/25/26	0/2/2/2
20	HY3	SX	62	89,20	-	1/1/12/14	0/1/1/1
2	PSU	L8	69	2,89	-	0/7/25/26	0/2/2/2
85	4SU	Pt	8	85	-	0/7/25/26	0/2/2/2
1	PSU	S2	1174	1	-	0/7/25/26	0/2/2/2
85	PSU	Pt	56	85	-	0/7/25/26	0/2/2/2
1	PSU	S2	1445	1	-	0/7/25/26	0/2/2/2
66	SAC	Lr	2	66	-	3/7/8/10	-
84	H2U	At	20	84	-	1/7/38/39	0/2/2/2
87	M3L	EF	79	87	-	3/9/10/12	-
1	OMG	S2	1328	1,89	-	1/9/27/28	0/3/3/3
1	PSU	S2	573	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	1781	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	3925	3	-	1/9/27/28	0/2/2/2
1	OMU	S2	627	1	-	4/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
84	MIA	At	37	84	-	2/15/33/34	0/3/3/3
3	OMU	L5	4227	3	-	0/9/27/28	0/2/2/2
3	OMG	L5	1522	3	-	0/9/27/28	0/3/3/3
3	A2M	L5	3760	3,90	-	0/9/27/28	0/3/3/3
3	OMG	L5	2364	3	-	1/9/27/28	0/3/3/3
6	SAC	SA	2	6	-	2/7/8/10	-
1	OMG	S2	601	1	-	0/9/27/28	0/3/3/3
3	PSU	L5	3920	3,90	-	0/7/25/26	0/2/2/2
3	OMU	L5	4498	3,90	-	0/9/27/28	0/2/2/2
1	OMG	S2	1490	1,90	-	2/9/27/28	0/3/3/3
3	OMU	L5	4306	3	-	2/9/27/28	0/2/2/2
3	PSU	L5	2508	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	814	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	406	1	-	0/7/25/26	0/2/2/2
3	A2M	L5	398	3	-	3/9/27/28	0/3/3/3
3	PSU	L5	4353	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	4536	3	-	0/9/27/28	0/2/2/2
1	OMU	S2	116	1	-	0/9/27/28	0/2/2/2
1	A2M	S2	1383	1	-	1/9/27/28	0/3/3/3
3	PSU	L5	3758	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3853	3,90	-	0/7/25/26	0/2/2/2
3	OMG	L5	3944	3	-	2/9/27/28	0/3/3/3
87	M3L	EF	36	87	-	0/9/10/12	-
3	PSU	L5	4431	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4457	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4370	3	-	0/9/27/28	0/3/3/3
3	OMC	L5	3701	3,89	-	4/9/27/28	0/2/2/2
3	OMG	L5	3792	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	4576	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4531	3	-	0/7/25/26	0/2/2/2
84	H2U	At	16	84	-	7/7/38/39	0/2/2/2
84	G7M	At	46	84	-	0/7/25/26	0/3/3/3
1	OMU	S2	1288	1	-	3/9/27/28	0/2/2/2
3	OMC	L5	2824	3	-	0/9/27/28	0/2/2/2
1	OMG	S2	867	1	-	1/9/27/28	0/3/3/3
3	OMC	L5	1881	3,90	-	0/9/27/28	0/2/2/2
3	OMG	L5	3627	3	-	0/9/27/28	0/3/3/3
3	A2M	L5	3785	3	-	2/9/27/28	0/3/3/3
3	OMG	L5	3899	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	1782	3	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
84	PSU	At	39	84	-	0/7/25/26	0/2/2/2
1	OMU	S2	1804	1	-	0/9/27/28	0/2/2/2
3	OMU	L5	2415	3	-	1/9/27/28	0/2/2/2
1	A2M	S2	668	1,90	-	3/9/27/28	0/3/3/3
1	PSU	S2	609	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1177	1	-	0/7/25/26	0/2/2/2
1	A2M	S2	166	1	-	0/9/27/28	0/3/3/3
3	PSU	L5	1779	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	2837	3	-	0/9/27/28	0/2/2/2
1	A2M	S2	576	1	-	2/9/27/28	0/3/3/3
3	PSU	L5	4361	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	815	1	-	0/7/25/26	0/2/2/2
3	OMC	L5	3808	3	-	0/9/27/28	0/2/2/2
1	OMC	S2	462	1	-	1/9/27/28	0/2/2/2
3	A2M	L5	2815	3,90	-	1/9/27/28	0/3/3/3
3	PSU	L5	4552	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	1625	3	-	3/9/27/28	0/3/3/3
3	PSU	L5	3729	3	-	1/7/25/26	0/2/2/2
3	UR3	L5	4530	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	1683	3,89	-	0/7/25/26	0/2/2/2
3	PSU	L5	4299	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4579	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	1534	3,90	-	1/9/27/28	0/3/3/3
3	A2M	L5	400	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	119	1	-	0/7/25/26	0/2/2/2
1	4AC	S2	1842	1	-	0/11/29/30	0/2/2/2
3	PSU	L5	5010	3	-	0/7/25/26	0/2/2/2
1	OMG	S2	509	1	-	1/9/27/28	0/3/3/3
3	PSU	L5	3715	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	4620	3	-	1/9/27/28	0/2/2/2
2	OMG	L8	75	2	-	1/9/27/28	0/3/3/3
1	OMG	S2	436	1	-	0/9/27/28	0/3/3/3
1	OMG	S2	1447	1	-	1/9/27/28	0/3/3/3
3	A2M	L5	3825	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	1367	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3844	3	-	3/7/25/26	0/2/2/2
3	PSU	L5	4471	3	-	0/7/25/26	0/2/2/2
40	HIC	LB	245	40	-	0/5/6/8	0/1/1/1
3	OMG	L5	4196	3,85	-	1/9/27/28	0/3/3/3
3	PSU	L5	3851	3	-	1/7/25/26	0/2/2/2
84	4SU	At	8	90,84	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	S2	36	1	-	0/7/25/26	0/2/2/2
1	UY1	S2	1326	1,90	-	1/9/27/28	0/2/2/2
1	OMU	S2	121	1	-	1/9/27/28	0/2/2/2
3	PSU	L5	1677	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	1347	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3734	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4623	3	-	0/9/27/28	0/3/3/3
2	PSU	L8	55	2	-	0/7/25/26	0/2/2/2
1	OMC	S2	174	1	-	1/9/27/28	0/2/2/2
1	A2M	S2	484	1	-	1/9/27/28	0/3/3/3
3	OMC	L5	2351	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	2422	3,90	-	3/9/27/28	0/2/2/2
1	PSU	S2	572	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4312	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1081	1	-	1/7/25/26	0/2/2/2
3	PSU	L5	1860	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3639	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4423	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4689	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4392	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	4636	3	-	0/7/25/26	0/2/2/2
1	MA6	S2	1850	1	-	0/11/29/30	0/3/3/3
1	MA6	S2	1851	1	-	1/11/29/30	0/3/3/3
1	PSU	S2	93	1	-	0/7/25/26	0/2/2/2
3	A2M	L5	4571	3	-	0/9/27/28	0/3/3/3
1	OMC	S2	1391	1	-	0/9/27/28	0/2/2/2
1	PSU	S2	105	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	1792	3,90	-	0/7/25/26	0/2/2/2
3	OMG	L5	4499	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	4500	3,90	-	2/7/25/26	0/2/2/2
3	A2M	L5	2363	3,90	-	0/9/27/28	0/3/3/3
3	PSU	L5	3762	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4972	3	-	0/7/25/26	0/2/2/2
1	A2M	S2	512	1	-	2/9/27/28	0/3/3/3
29	AME	SV	1	29	-	2/9/10/12	-
3	5MC	L5	3782	3,90	-	0/7/25/26	0/2/2/2
3	PSU	L5	3764	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	1239	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	863	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	1692	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	G7M	S2	1639	1,85	-	0/7/25/26	0/3/3/3
3	OMG	L5	2876	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	651	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	801	1	-	0/7/25/26	0/2/2/2
3	OMC	L5	1340	3	-	1/9/27/28	0/2/2/2
68	MLZ	Lb	5	68	-	3/7/8/10	-
1	OMG	S2	644	1	-	4/9/27/28	0/3/3/3
1	PSU	S2	1238	1	-	0/7/25/26	0/2/2/2
3	OMG	L5	1316	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	822	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	4442	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4296	3	-	0/7/25/26	0/2/2/2
1	PSU	S2	866	1	-	0/7/25/26	0/2/2/2
1	PSU	S2	686	1	-	0/7/25/26	0/2/2/2
3	OMG	L5	4228	3	-	2/9/27/28	0/3/3/3
1	PSU	S2	109	1	-	0/7/25/26	0/2/2/2
3	OMC	L5	2804	3	-	0/9/27/28	0/2/2/2
86	5CT	5A	50	86	-	8/13/14/16	-
3	PSU	L5	3637	3,90,89	-	0/7/25/26	0/2/2/2
3	A2M	L5	1524	3	-	0/9/27/28	0/3/3/3
1	PSU	S2	296	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	3695	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	4456	3	-	1/9/27/28	0/2/2/2
3	A2M	L5	3723	3	-	1/9/27/28	0/3/3/3
3	UY1	L5	3818	3,90	-	3/9/27/28	0/2/2/2
3	A2M	L5	4590	3	-	1/9/27/28	0/3/3/3
3	OMG	L5	4618	3	-	1/9/27/28	0/3/3/3
3	PSU	L5	1744	3,89	-	0/7/25/26	0/2/2/2
1	PSU	S2	1625	1	-	0/7/25/26	0/2/2/2
52	V5N	La	39	52	-	0/9/10/12	0/1/1/1
1	A2M	S2	590	1	-	2/9/27/28	0/3/3/3
3	A2M	L5	1326	3	-	2/9/27/28	0/3/3/3
3	PSU	L5	2843	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4569	3	-	2/7/25/26	0/2/2/2
1	PSU	S2	918	1	-	0/7/25/26	0/2/2/2
3	PSU	L5	1582	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4637	3,89	-	2/9/27/28	0/3/3/3
1	A2M	S2	27	1	-	1/9/27/28	0/3/3/3
1	OMC	S2	1703	1,90	-	0/9/27/28	0/2/2/2
3	PSU	L5	5001	3	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	L5	2839	3	-	0/7/25/26	0/2/2/2
1	B8N	S2	1248	1	-	6/16/34/35	0/2/2/2
3	PSU	L5	1536	3	-	0/7/25/26	0/2/2/2
85	G7M	Pt	47	85	-	0/7/25/26	0/3/3/3
3	1MA	L5	1322	3,90	-	2/7/25/26	0/3/3/3
1	OMC	S2	517	1	-	0/9/27/28	0/2/2/2
85	OMC	Pt	33	85	-	0/9/27/28	0/2/2/2
2	OMU	L8	14	2,3	-	1/9/27/28	0/2/2/2
3	PSU	L5	4403	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4494	3	-	0/9/27/28	0/3/3/3
3	A2M	L5	2401	3	-	0/9/27/28	0/3/3/3

The worst 5 of 763 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	SV	1	AME	OT-CT1	8.98	1.43	1.23
66	Lr	2	SAC	OAC-C1A	8.91	1.43	1.23
84	At	37	MIA	C2-S10	-8.67	1.68	1.75
6	SA	2	SAC	OAC-C1A	8.23	1.41	1.23
84	At	46	G7M	C8-N7	7.54	1.45	1.33

The worst 5 of 1167 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	SA	2	SAC	OAC-C1A-N	-10.15	104.04	121.98
84	At	37	MIA	C12-C13-C14	-8.54	111.69	127.01
1	S2	1639	G7M	CN7-N7-C8	-7.96	112.73	124.79
66	Lr	2	SAC	OAC-C1A-N	-7.85	108.10	121.98
3	L5	4628	PSU	N1-C2-N3	7.70	123.29	115.17

There are no chirality outliers.

5 of 169 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
6	SA	2	SAC	C-CA-CB-OG
66	Lr	2	SAC	C2A-C1A-N-CA

There are no ring outliers.

90 monomers are involved in 114 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L5	2787	A2M	1	0
3	L5	3884	PSU	1	0
1	S2	99	A2M	1	0
3	L5	4521	PSU	1	0
3	L5	4523	A2M	1	0
3	L5	4447	5MC	1	0
3	L5	1871	A2M	1	0
85	Pt	21	H2U	1	0
1	S2	1232	PSU	2	0
3	L5	3724	A2M	1	0
1	S2	1678	A2M	1	0
1	S2	1337	4AC	2	0
3	L5	2632	PSU	1	0
3	L5	3867	A2M	2	0
1	S2	1136	PSU	1	0
1	S2	1643	PSU	1	0
3	L5	2424	OMG	1	0
1	S2	681	PSU	1	0
1	S2	1031	A2M	1	0
3	L5	3718	A2M	3	0
3	L5	2861	OMC	1	0
1	S2	428	OMU	1	0
3	L5	3887	OMC	1	0
2	L8	69	PSU	1	0
1	S2	1174	PSU	1	0
1	S2	1445	PSU	3	0
66	Lr	2	SAC	1	0
87	EF	79	M3L	2	0
1	S2	1328	OMG	2	0
1	S2	573	PSU	1	0
3	L5	3925	OMU	1	0
1	S2	627	OMU	1	0
84	At	37	MIA	1	0
3	L5	2364	OMG	2	0
1	S2	601	OMG	1	0
1	S2	1490	OMG	1	0
3	L5	398	A2M	1	0
3	L5	4536	OMC	1	0
1	S2	116	OMU	3	0
3	L5	4370	OMG	2	0
3	L5	3701	OMC	1	0
3	L5	4531	PSU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
84	At	16	H2U	1	0
1	S2	1288	OMU	1	0
1	S2	867	OMG	1	0
3	L5	1881	OMC	3	0
3	L5	3627	OMG	1	0
3	L5	3785	A2M	1	0
3	L5	3899	OMG	1	0
3	L5	2415	OMU	1	0
1	S2	1177	PSU	1	0
1	S2	576	A2M	2	0
3	L5	2815	A2M	2	0
3	L5	4530	UR3	1	0
3	L5	4579	PSU	2	0
1	S2	509	OMG	3	0
3	L5	4620	OMU	1	0
2	L8	75	OMG	1	0
1	S2	1447	OMG	2	0
3	L5	4196	OMG	1	0
1	S2	36	PSU	1	0
1	S2	121	OMU	1	0
1	S2	174	OMC	1	0
1	S2	484	A2M	1	0
3	L5	2351	OMC	1	0
3	L5	2422	OMC	1	0
1	S2	572	PSU	1	0
3	L5	4689	PSU	1	0
3	L5	4392	OMG	1	0
1	S2	1850	MA6	1	0
1	S2	93	PSU	2	0
3	L5	2363	A2M	2	0
3	L5	3764	PSU	1	0
1	S2	1239	PSU	1	0
1	S2	1639	G7M	1	0
3	L5	2876	OMG	1	0
3	L5	1340	OMC	2	0
1	S2	644	OMG	1	0
86	5A	50	5CT	5	0
3	L5	3723	A2M	1	0
3	L5	3818	UY1	1	0
1	S2	1625	PSU	1	0
3	L5	1326	A2M	1	0
3	L5	4569	PSU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L5	4637	OMG	1	0
1	S2	27	A2M	1	0
3	L5	5001	PSU	1	0
3	L5	2839	PSU	1	0
3	L5	1536	PSU	1	0
2	L8	14	OMU	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides 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	$\#\|Z\| > 2$
95	PHE	At	77	84	10,11,12	0.33	0	8,13,15	0.71	0
92	PUT	L5	5112	-	5,5,5	0.15	0	4,4,4	0.26	0
92	PUT	L5	5118	-	5,5,5	0.16	0	4,4,4	0.25	0
88	SPD	L5	5109	-	9,9,9	0.32	0	8,8,8	0.90	0
96	MET	Pt	78	85	6,7,8	0.54	0	2,7,9	1.23	0
92	PUT	L5	5117	-	5,5,5	0.14	0	4,4,4	0.21	0
93	3H3	L5	5119	-	34,34,34	3.30	13 (38%)	36,45,45	3.67	18 (50%)
92	PUT	L5	5113	-	5,5,5	0.10	0	4,4,4	0.12	0
88	SPD	L5	5103	-	9,9,9	0.33	0	8,8,8	0.93	0
88	SPD	L5	5107	-	9,9,9	0.18	0	8,8,8	0.40	0
91	ANM	L5	5101	89	20,20,20	1.19	1 (5%)	24,27,27	1.42	3 (12%)
92	PUT	L5	5115	-	5,5,5	0.14	0	4,4,4	0.23	0
97	GSP	EF	501	90	33,34,34	1.90	3 (9%)	47,54,54	1.71	9 (19%)
88	SPD	S2	1901	-	9,9,9	0.16	0	8,8,8	0.26	0
88	SPD	L5	5104	-	9,9,9	0.33	0	8,8,8	0.91	0
88	SPD	L5	5102	-	9,9,9	0.31	0	8,8,8	0.89	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
88	SPD	L5	5105	-	9,9,9	0.31	0	8,8,8	0.92	0
88	SPD	L5	5110	-	9,9,9	0.33	0	8,8,8	0.89	0
92	PUT	L5	5111	-	5,5,5	0.08	0	4,4,4	0.16	0
92	PUT	L5	5114	-	5,5,5	0.13	0	4,4,4	0.20	0
88	SPD	L5	5108	-	9,9,9	0.15	0	8,8,8	0.24	0
98	ZIY	EF	502	-	81,82,82	1.02	4 (4%)	111,117,117	1.42	14 (12%)
88	SPD	L5	5106	-	9,9,9	0.31	0	8,8,8	0.89	0
92	PUT	L5	5116	-	5,5,5	0.09	0	4,4,4	0.13	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
95	PHE	At	77	84	-	2/5/6/8	0/1/1/1
92	PUT	L5	5112	-	-	0/3/3/3	-
92	PUT	L5	5118	-	-	1/3/3/3	-
88	SPD	L5	5109	-	-	1/7/7/7	-
96	MET	Pt	78	85	-	0/5/6/8	-
92	PUT	L5	5117	-	-	3/3/3/3	-
93	3H3	L5	5119	-	-	15/39/51/51	0/1/2/2
92	PUT	L5	5113	-	-	0/3/3/3	-
88	SPD	L5	5103	-	-	3/7/7/7	-
88	SPD	L5	5107	-	-	2/7/7/7	-
91	ANM	L5	5101	89	-	0/10/23/23	0/2/2/2
92	PUT	L5	5115	-	-	0/3/3/3	-
97	GSP	EF	501	90	-	0/21/38/38	0/3/3/3
88	SPD	S2	1901	-	-	3/7/7/7	-
88	SPD	L5	5104	-	-	3/7/7/7	-
88	SPD	L5	5102	-	-	0/7/7/7	-
88	SPD	L5	5105	-	-	2/7/7/7	-
88	SPD	L5	5110	-	-	2/7/7/7	-
92	PUT	L5	5111	-	-	1/3/3/3	-
92	PUT	L5	5114	-	-	1/3/3/3	-
88	SPD	L5	5108	-	-	2/7/7/7	-
98	ZIY	EF	502	-	-	11/120/140/140	0/3/4/4
88	SPD	L5	5106	-	-	0/7/7/7	-
92	PUT	L5	5116	-	-	0/3/3/3	-

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	-9.47	1.70	1.90
93	L5	5119	3H3	C13-C12	8.92	1.53	1.33
93	L5	5119	3H3	O3-C22	7.71	1.38	1.23
93	L5	5119	3H3	O4-C23	7.27	1.37	1.23
93	L5	5119	3H3	C23-N	6.66	1.48	1.37

The worst 5 of 44 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
93	L5	5119	3H3	O3-C22-N	-10.23	104.53	120.30
93	L5	5119	3H3	C22-N-C23	-9.59	114.32	125.87
93	L5	5119	3H3	O4-C23-N	-8.79	106.74	120.30
98	EF	502	ZIY	O33-C75-C74	6.82	126.71	118.96
93	L5	5119	3H3	O3-C22-C21	-6.57	110.09	122.62

There are no chirality outliers.

5 of 52 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.

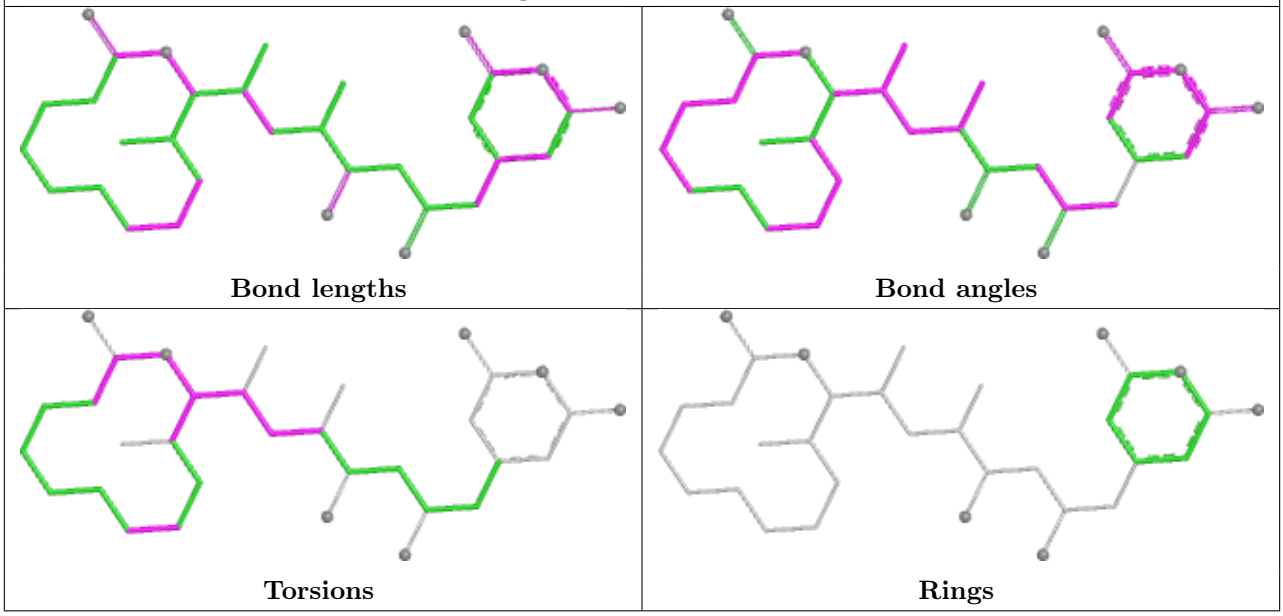
3 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
93	L5	5119	3H3	13	0
88	L5	5110	SPD	2	0
88	L5	5108	SPD	1	0

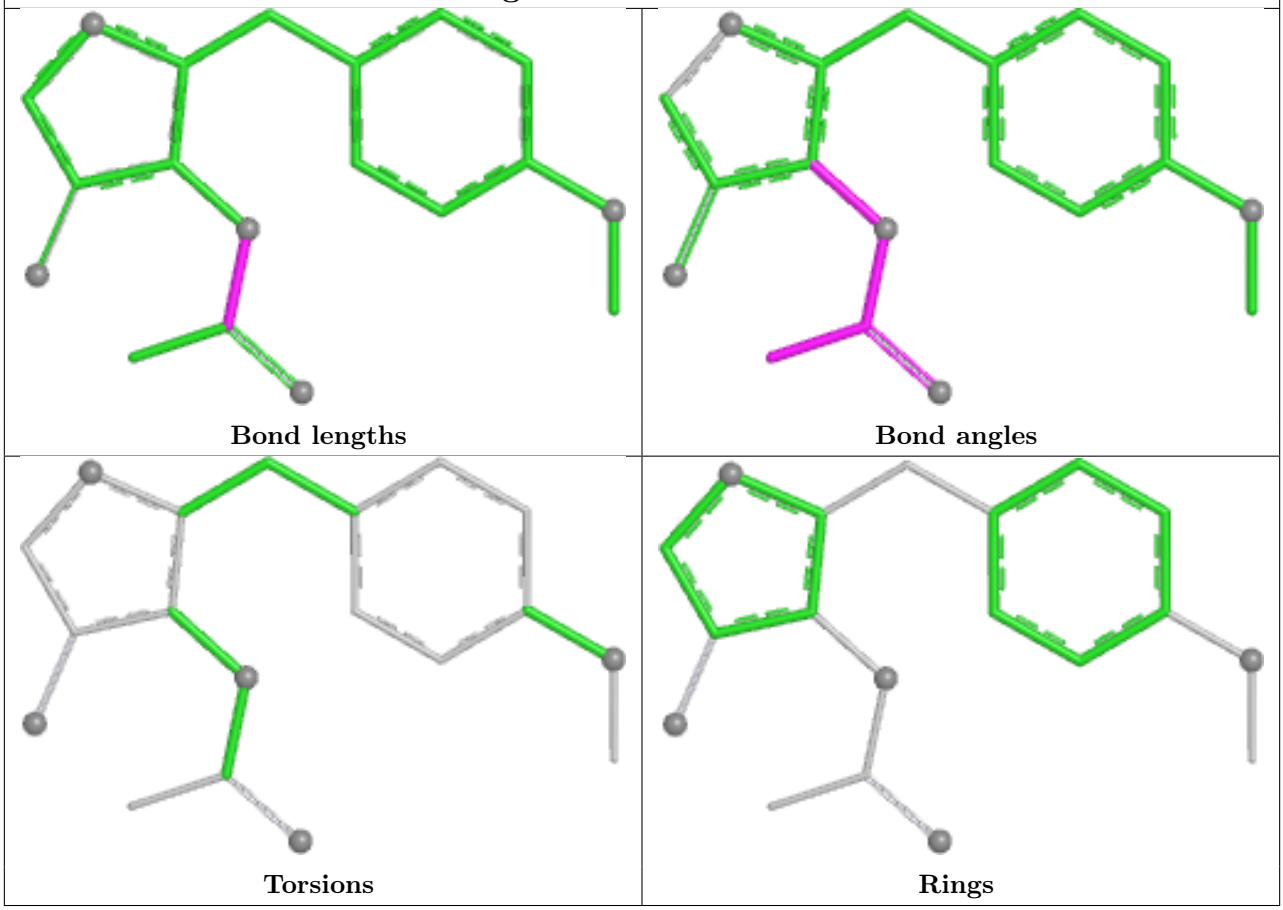
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

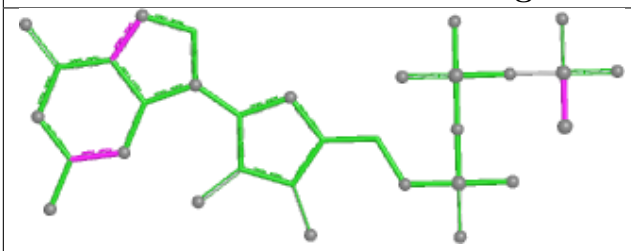
Ligand 3H3 L5 5119



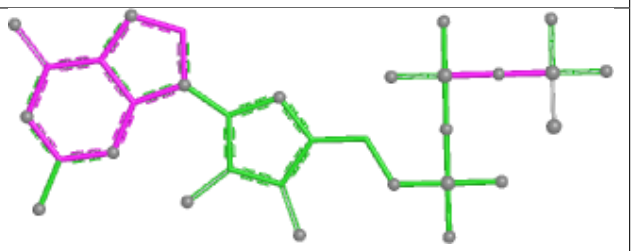
Ligand ANM L5 5101



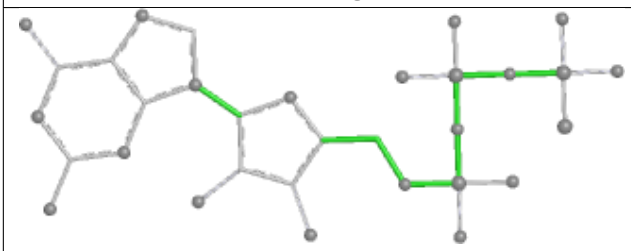
Ligand GSP EF 501



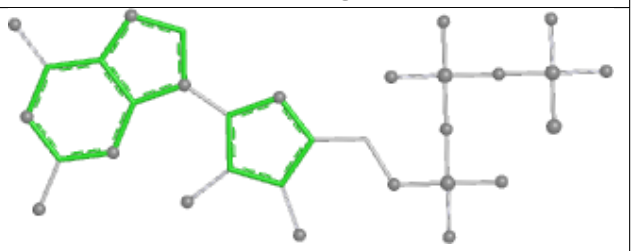
Bond lengths



Bond angles

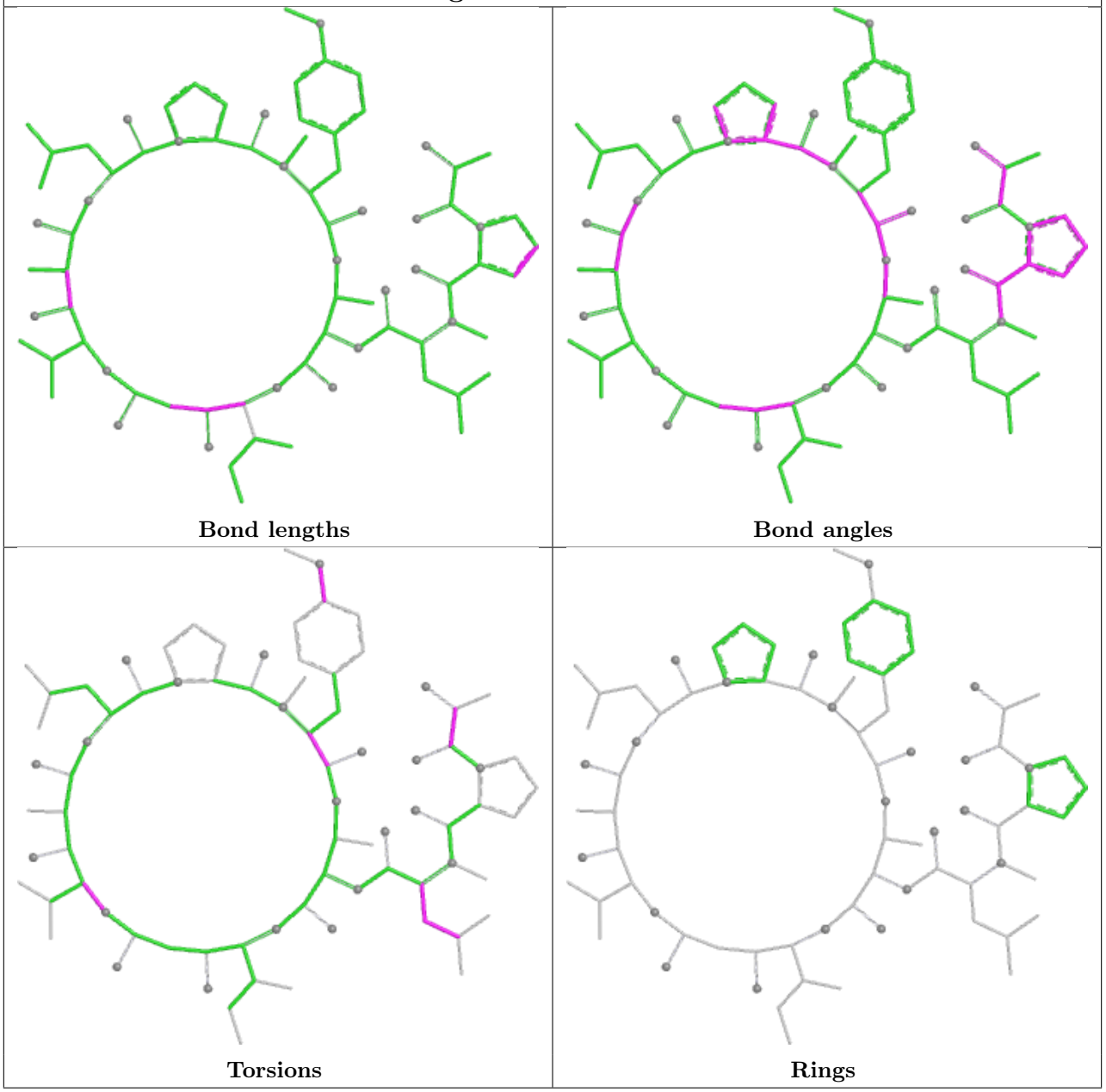


Torsions



Rings

Ligand ZIY EF 502



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

Continued on next page...

Continued from previous page...

Mol	Chain	Number of breaks
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

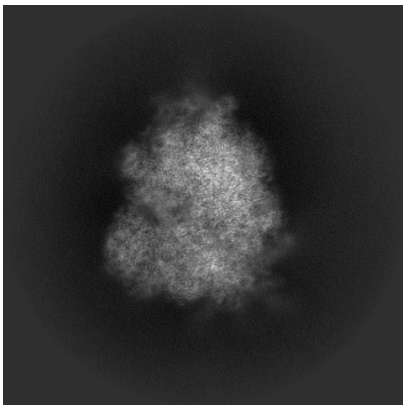
6 Map visualisation

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.

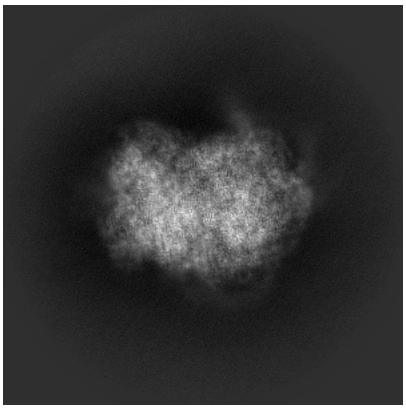
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

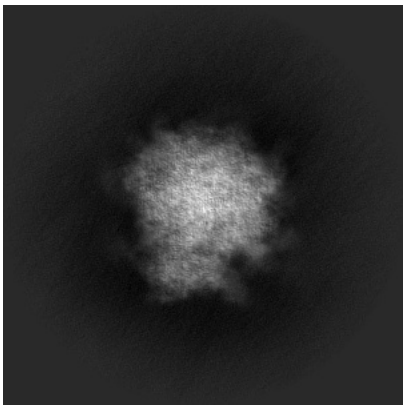
6.1.1 Primary map



X

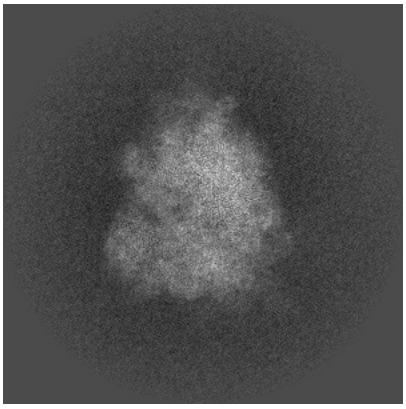


Y

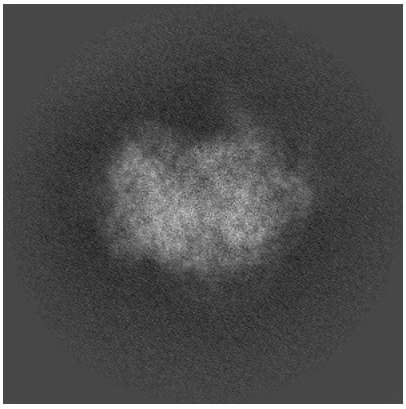


Z

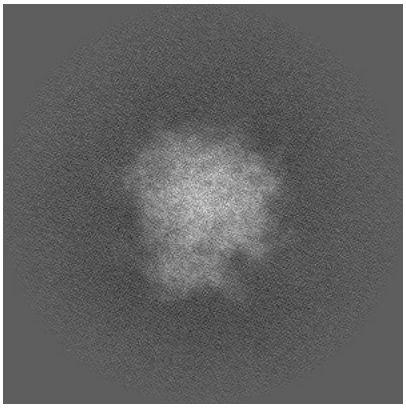
6.1.2 Raw map



X



Y

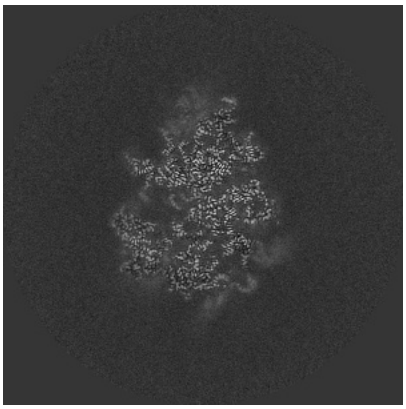


Z

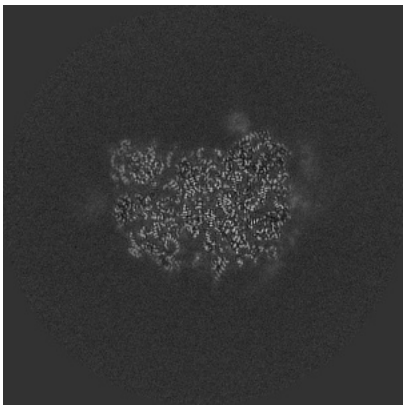
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

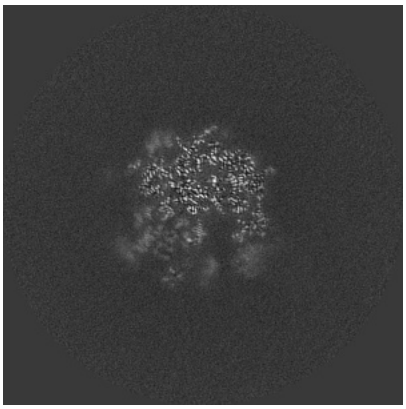
6.2.1 Primary map



X Index: 320

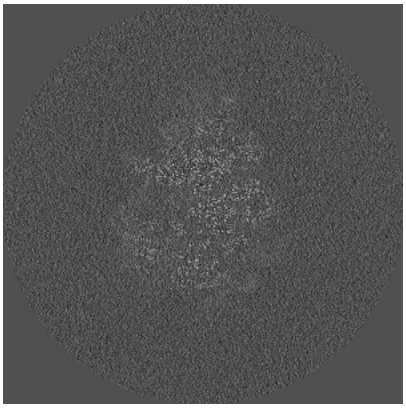


Y Index: 320

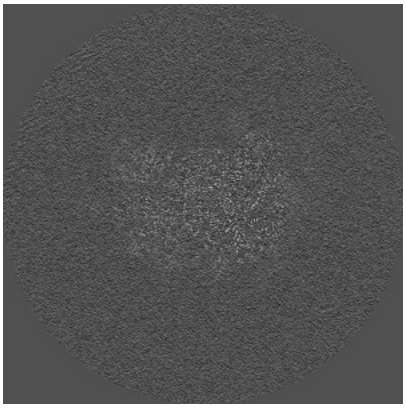


Z Index: 320

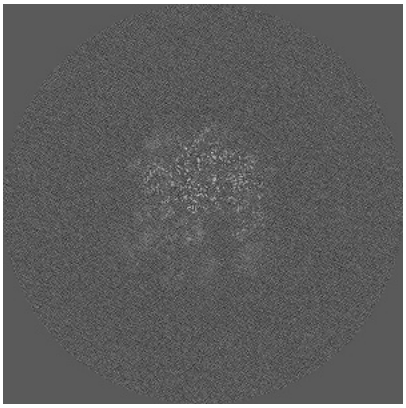
6.2.2 Raw map



X Index: 320



Y Index: 320

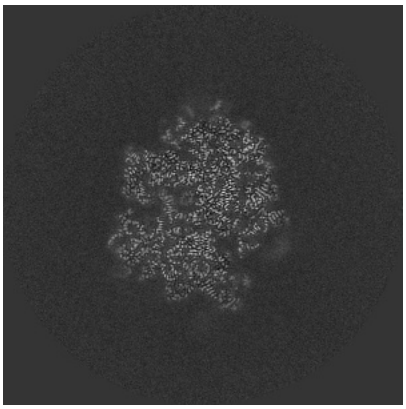


Z Index: 320

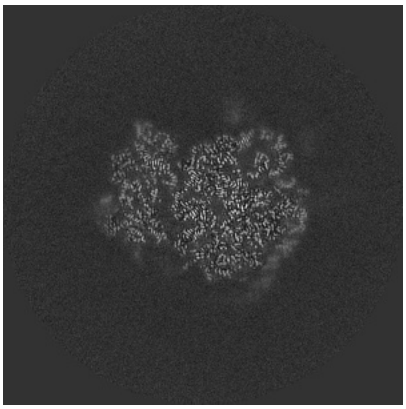
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

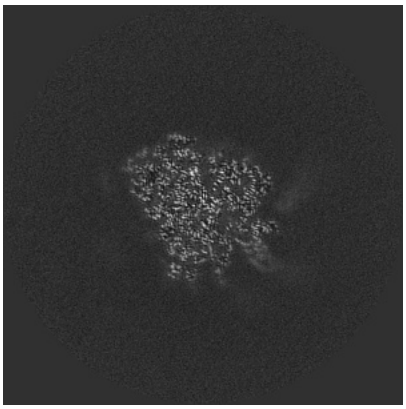
6.3.1 Primary map



X Index: 297

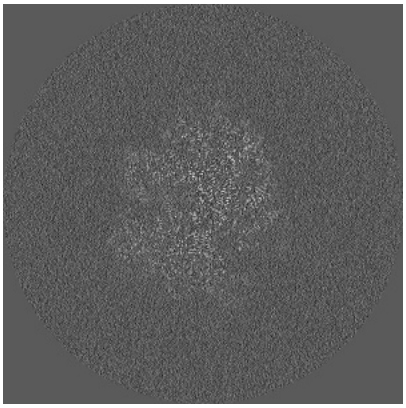


Y Index: 342

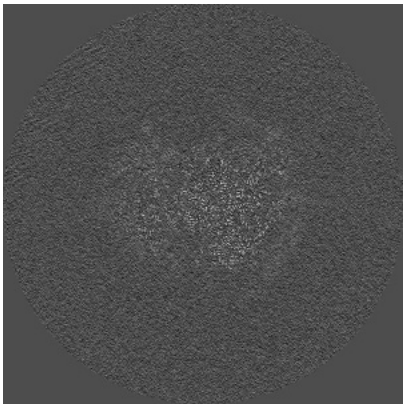


Z Index: 362

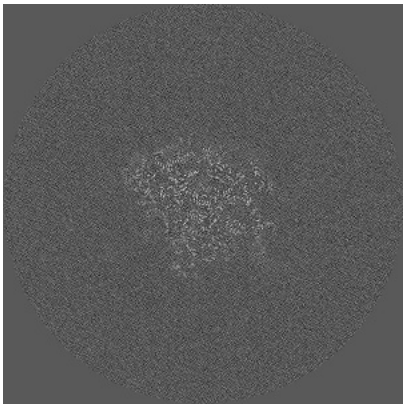
6.3.2 Raw map



X Index: 297



Y Index: 332

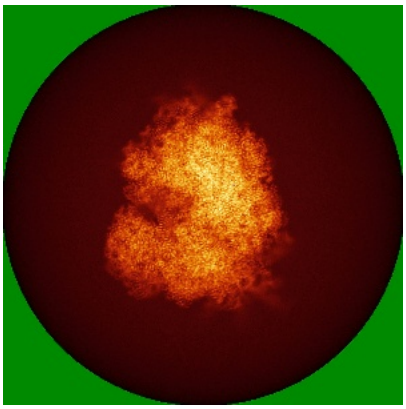


Z Index: 353

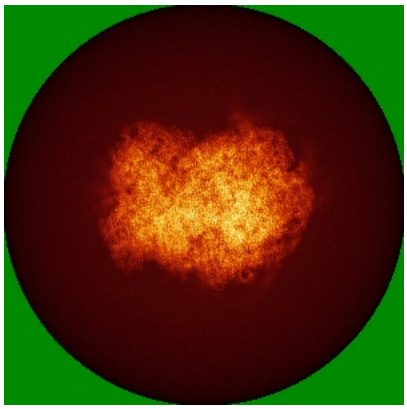
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

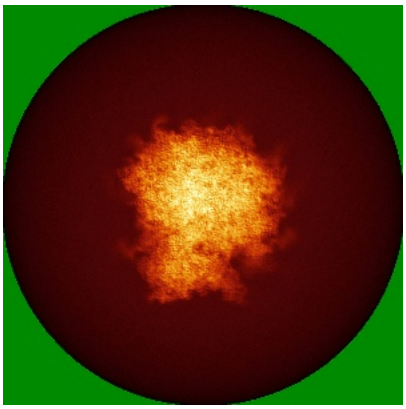
6.4.1 Primary map



X

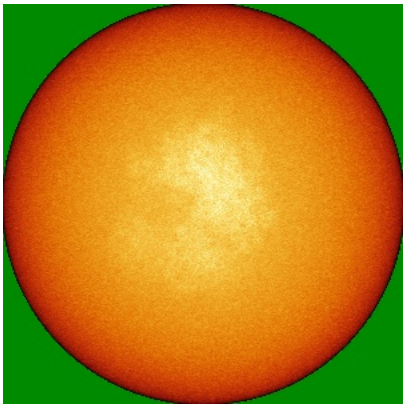


Y

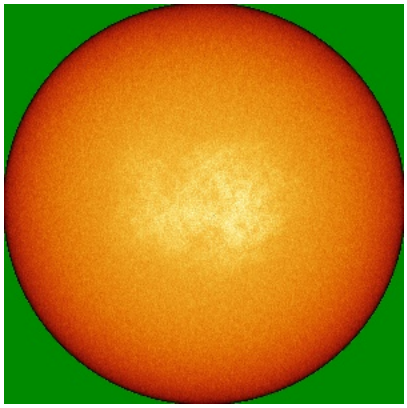


Z

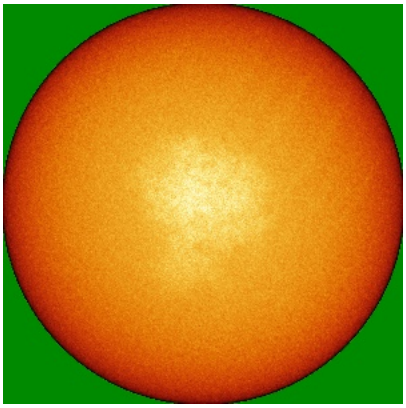
6.4.2 Raw map



X



Y

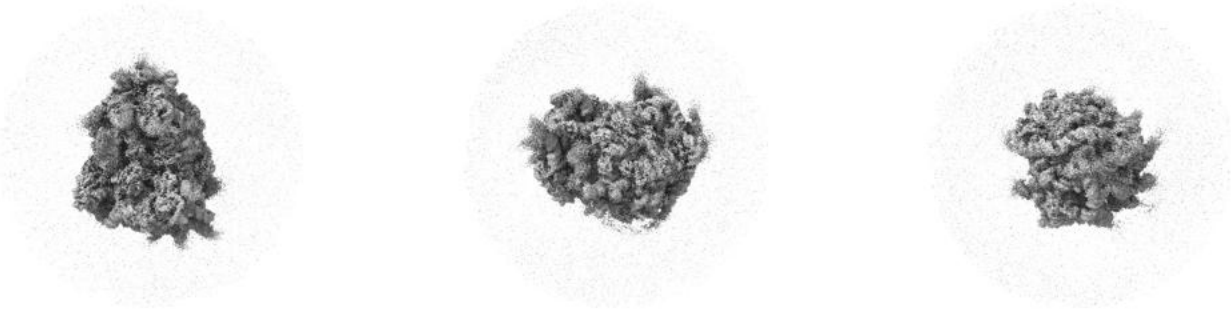


Z

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)

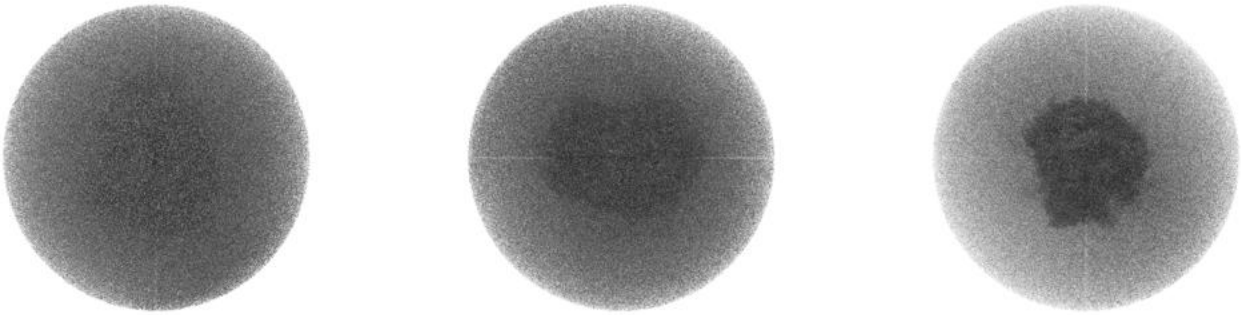
6.5.1 Primary map



X Y Z

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



X Y Z

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

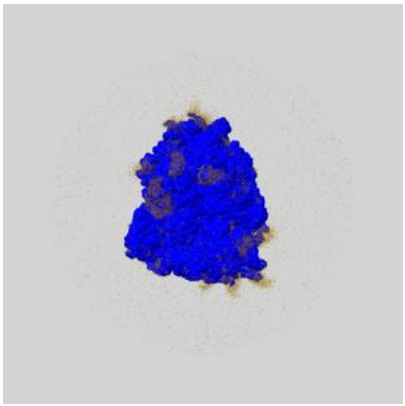
6.6 Mask visualisation

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

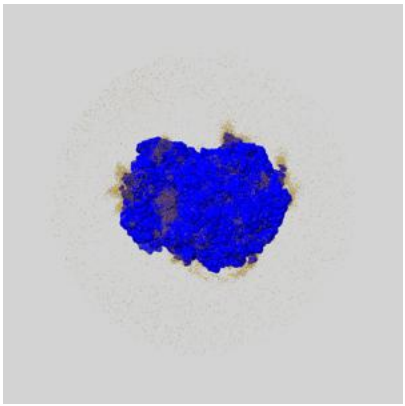
A mask typically either:

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

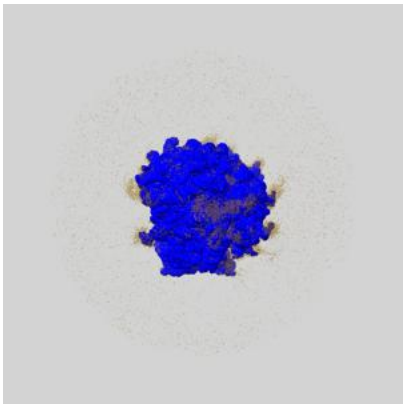
6.6.1 emd_29758_msk_1.map



X



Y

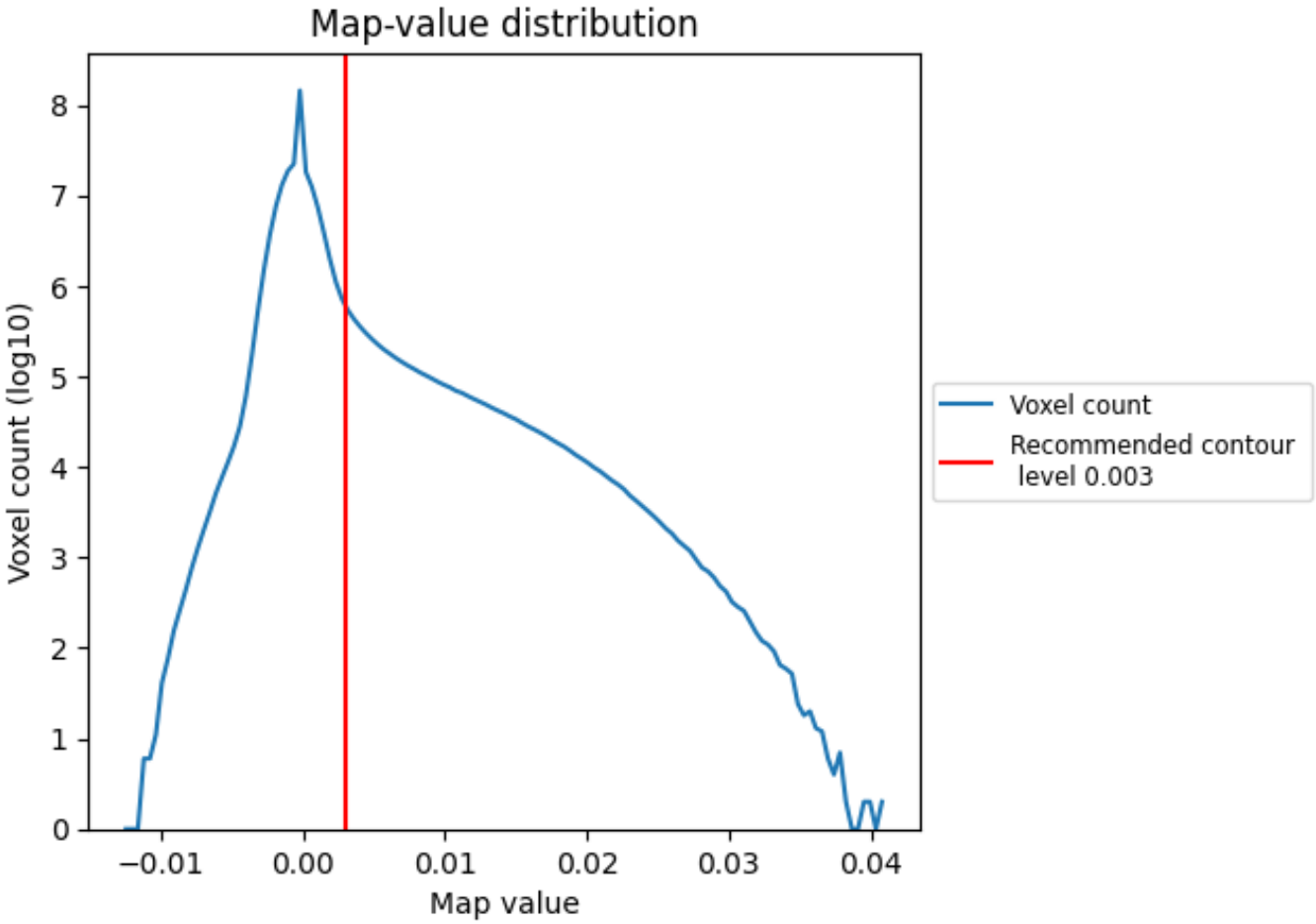


Z

7 Map analysis

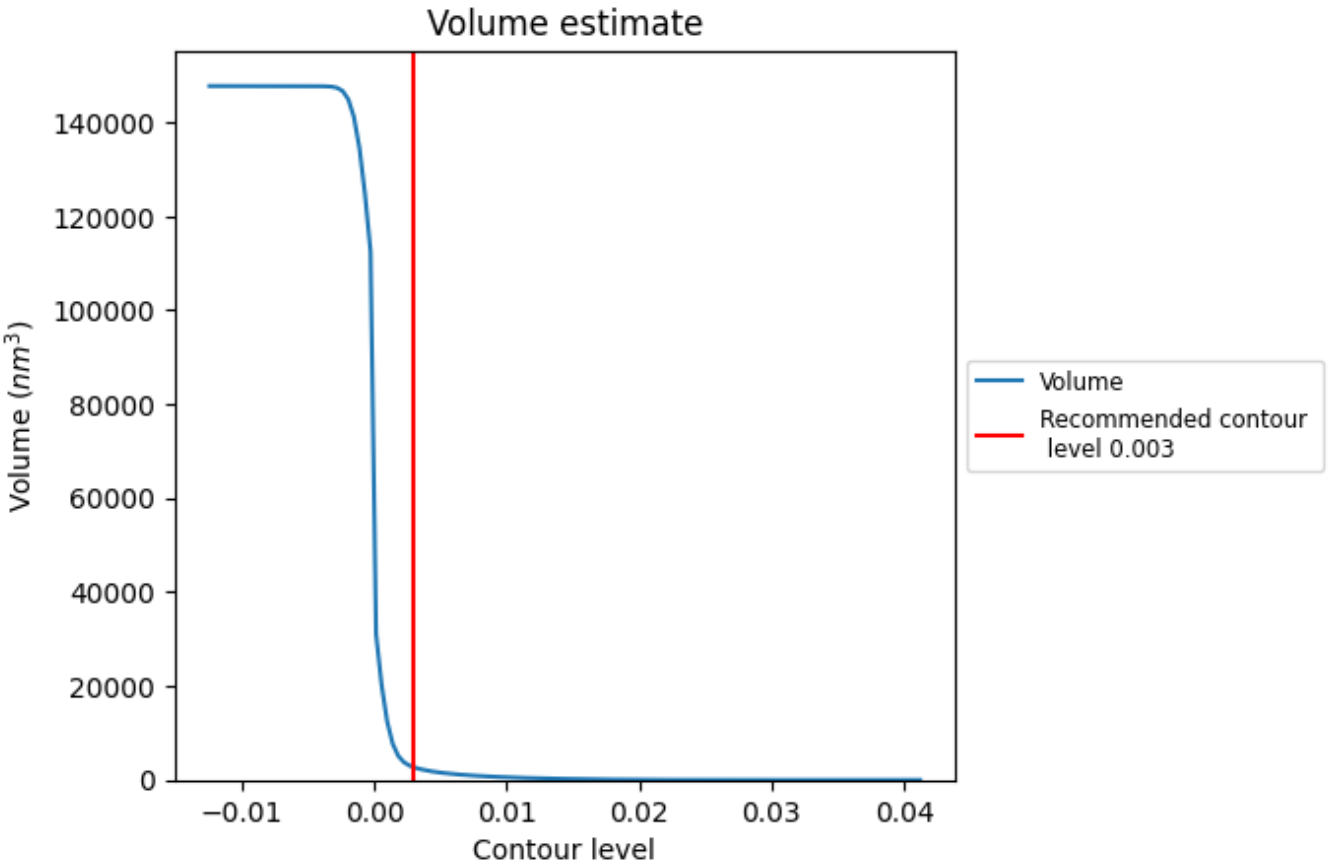
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

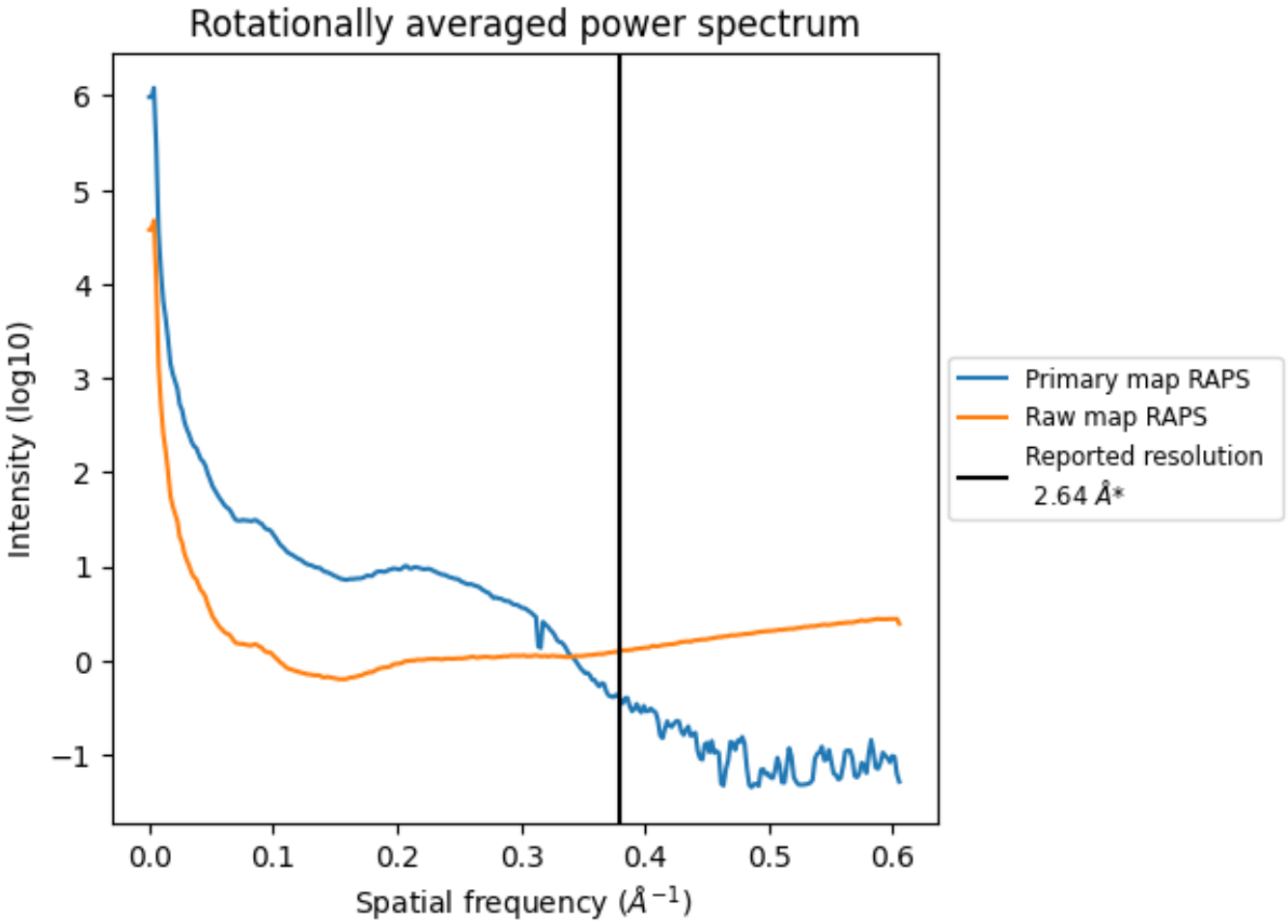
7.2 Volume estimate (i)



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)

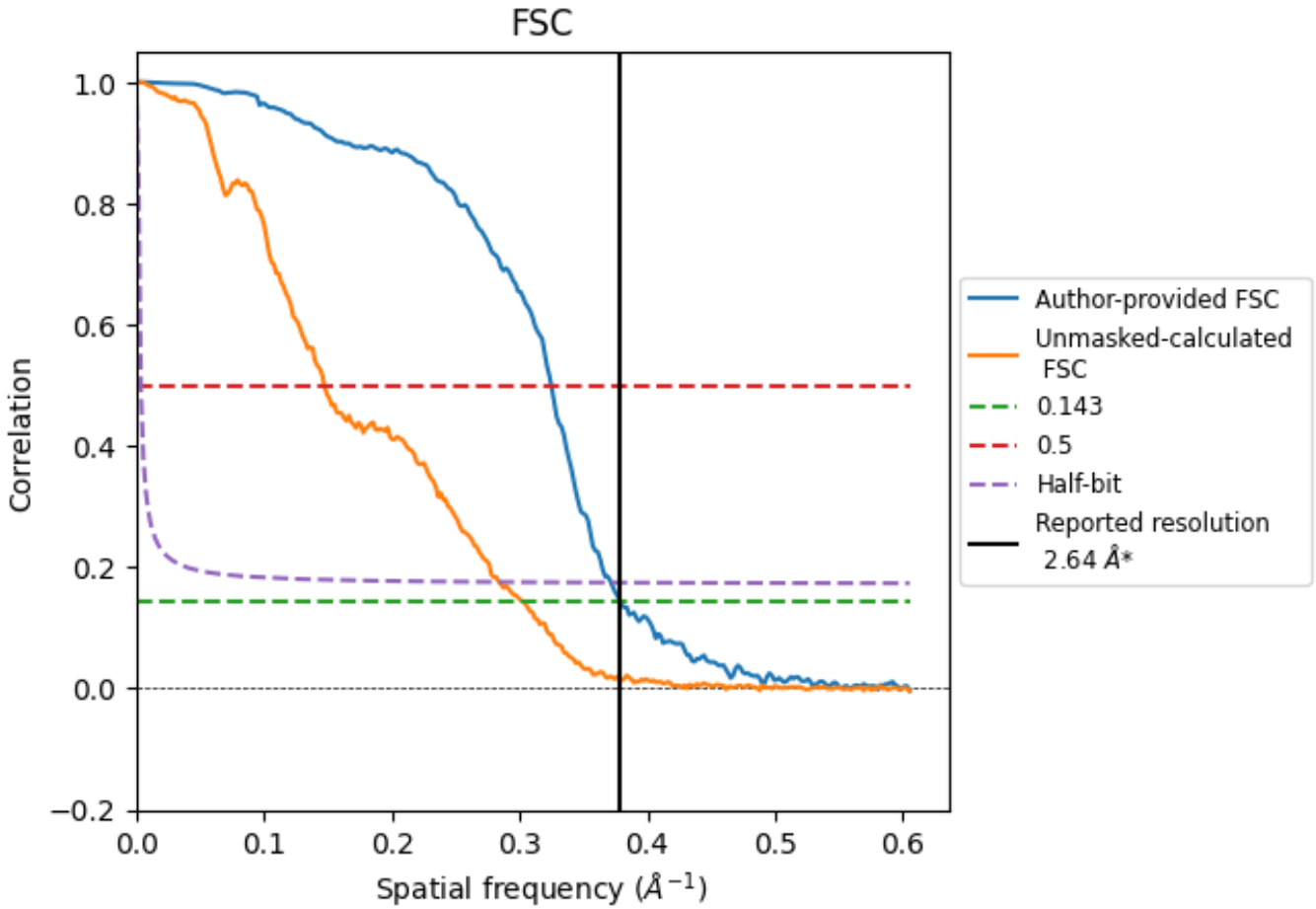


*Reported resolution corresponds to spatial frequency of 0.379 Å^{-1}

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.379 Å^{-1}

8.2 Resolution estimates (i)

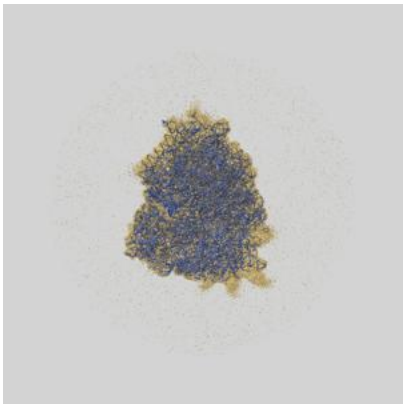
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.64	-	-
Author-provided FSC curve	2.64	3.08	2.69
Unmasked-calculated*	3.30	6.79	3.52

*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 %

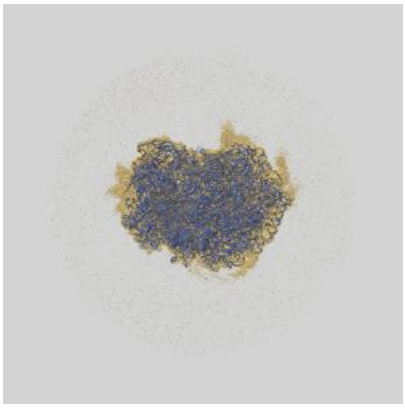
9 Map-model fit

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.

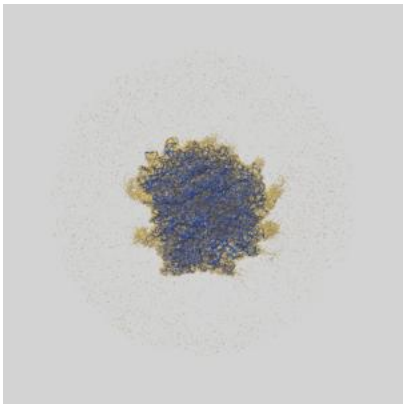
9.1 Map-model overlay



X



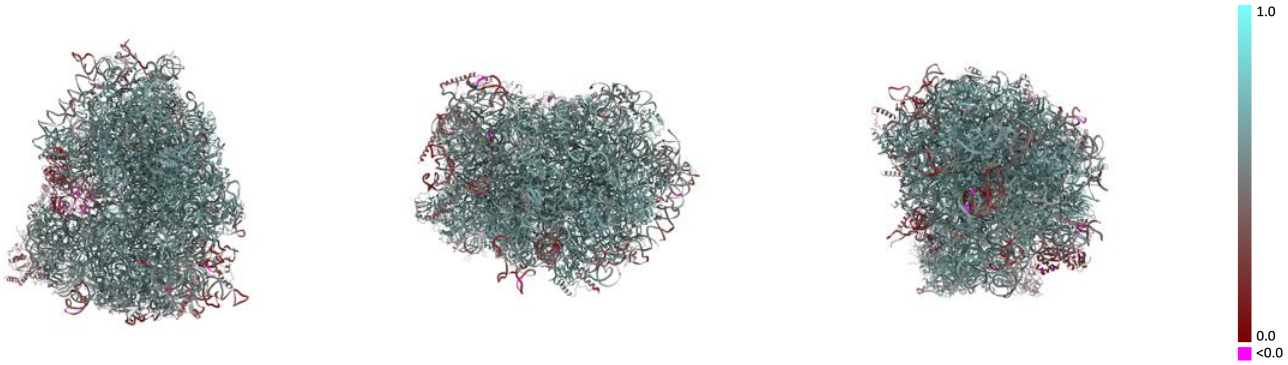
Y



Z

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.

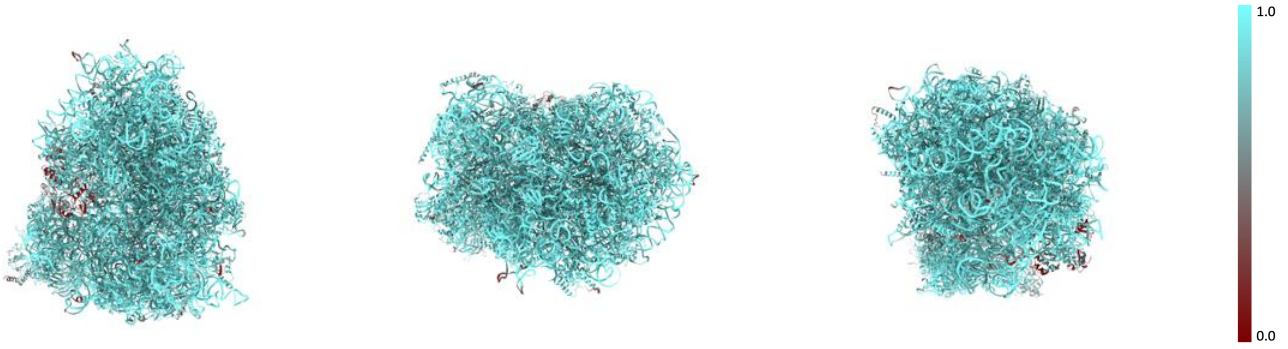
9.2 Q-score mapped to coordinate model



X Y Z

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

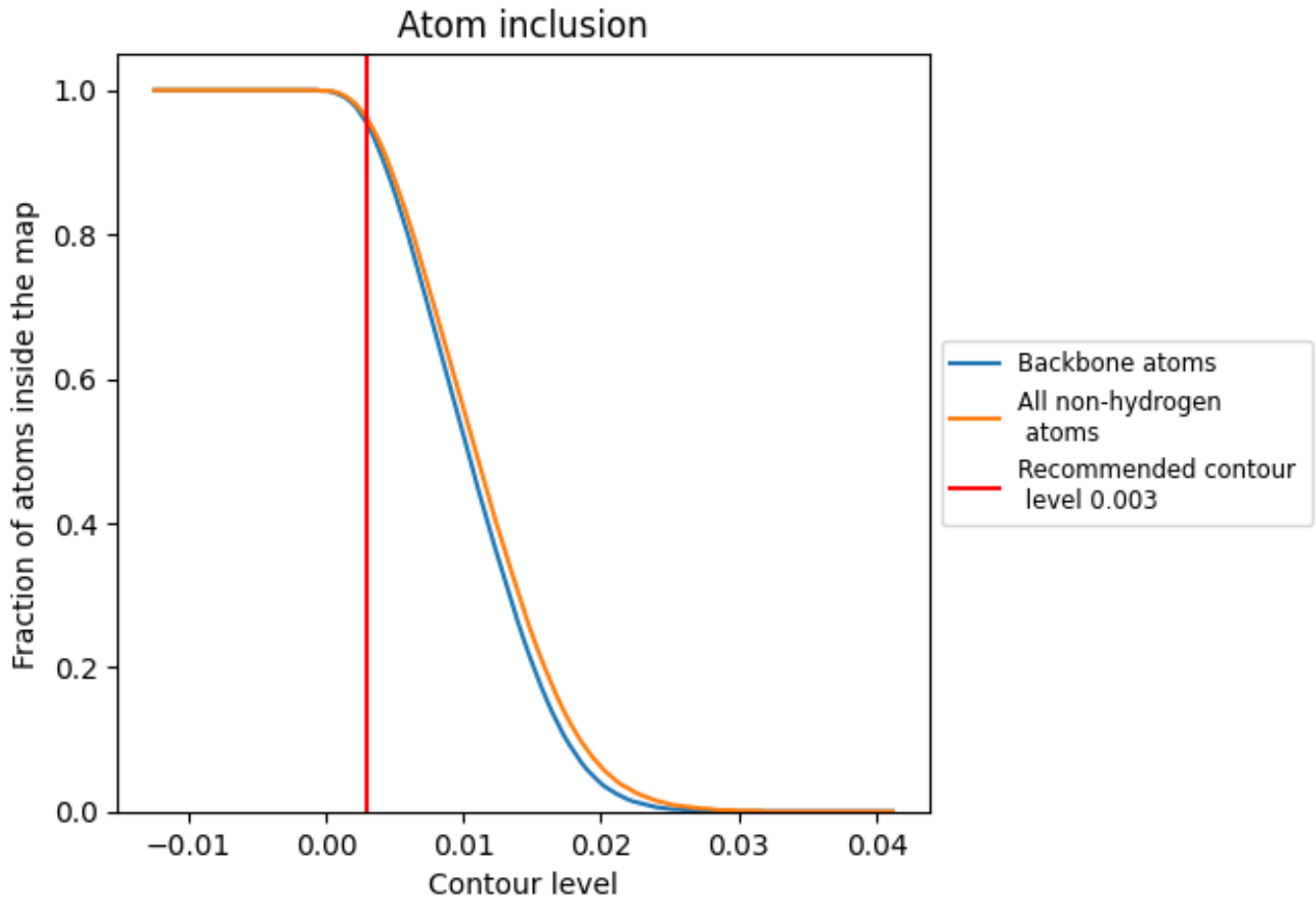
9.3 Atom inclusion mapped to coordinate model



X Y Z

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