wwPDB EM Validation Summary Report ⓘ

Sep 25, 2024 – 02:52 pm BST

PDB ID	:	9GMO
EMDB ID	:	EMD-51452
Title	:	eIF6-bound pre-60S large ribosomal subunit incorporating mutant uL16
Authors	:	Bothe, A.; Ban, N.; Kostova, K.
Deposited on	:	2024-08-29
Resolution	:	2.59 Å(reported)
Based on initial model	:	8a3d

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

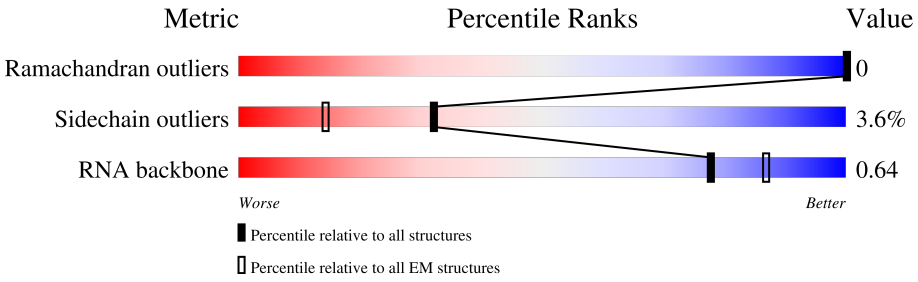
EMDB validation analysis	:	0.0.1.dev112
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.38.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.59 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	A	5064	56% 11% 33%
2	B	119	93% 6%
3	C	157	84% 10% 6%
4	D	257	93%
5	E	403	97%
6	F	427	83% 16%
7	G	297	97%
8	H	288	73% 24%

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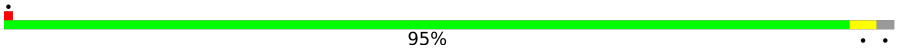
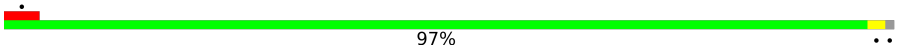
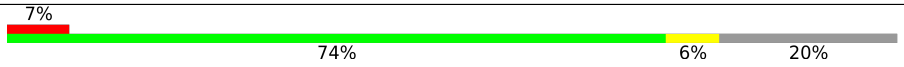
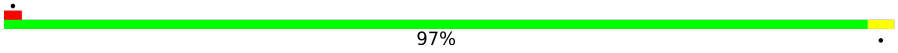
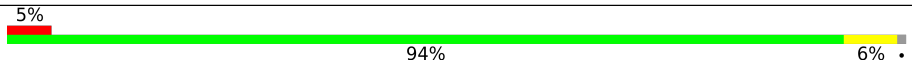
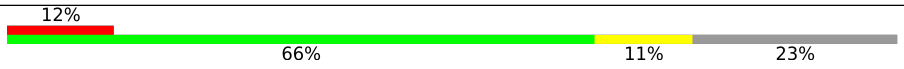
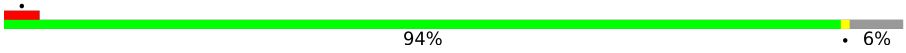
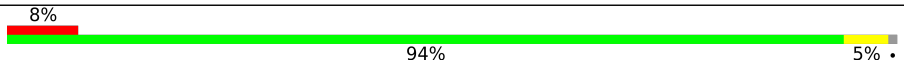
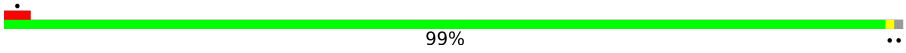
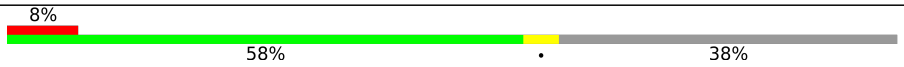
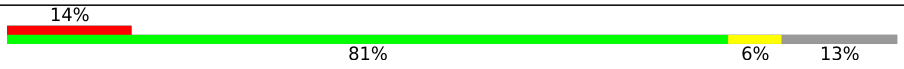
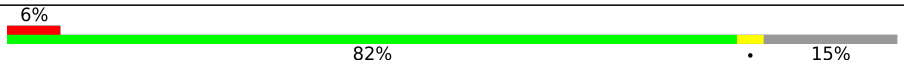
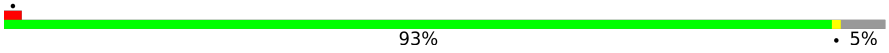
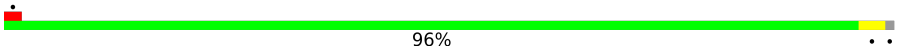
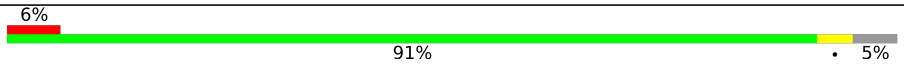
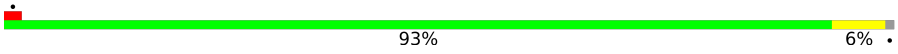
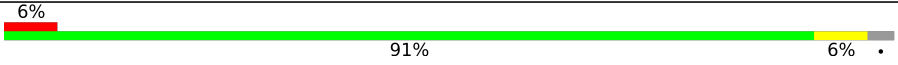
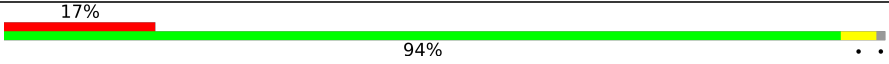
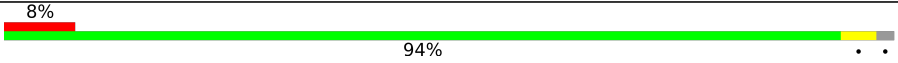
Mol	Chain	Length	Quality of chain
9	I	203	
10	J	184	
11	K	188	
12	L	196	
13	M	176	
14	N	160	
15	O	128	
16	P	140	
17	Q	157	
18	R	156	
19	S	145	
20	T	136	
21	U	148	
22	V	159	
23	W	115	
24	X	125	
25	Y	135	
26	Z	110	
27	a	117	
28	b	123	
29	c	105	
30	d	97	
31	e	70	
32	f	51	
33	g	128	

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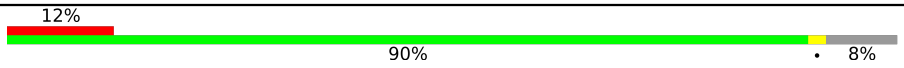
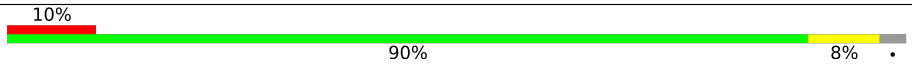
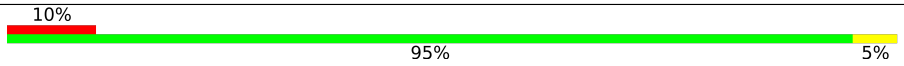
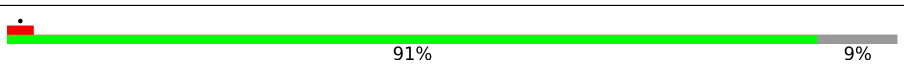
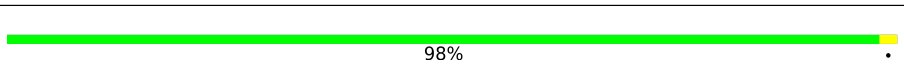
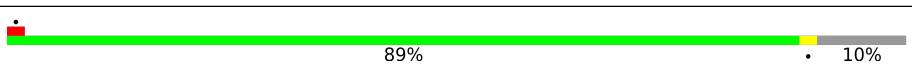
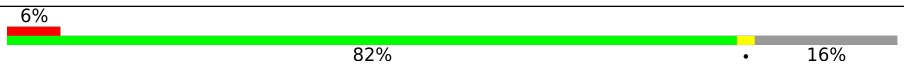
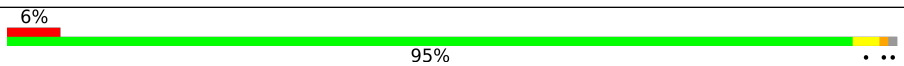
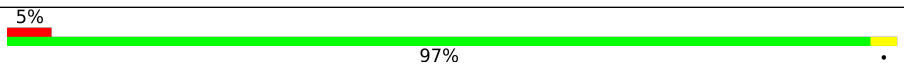
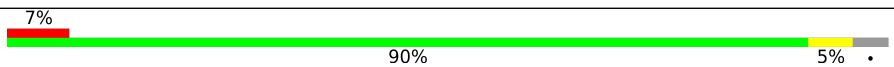
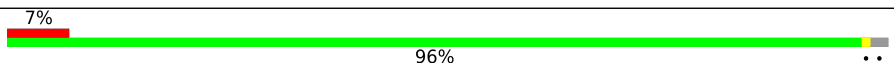
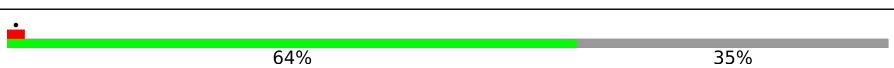
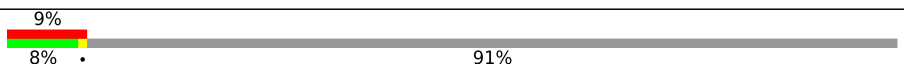
Mol	Chain	Length	Quality of chain
34	h	245	
35	i	106	
36	j	92	
37	k	137	
38	l	204	
39	m	248	
40	n	266	
41	o	192	
42	p	204	
43	q	178	
44	r	211	
45	s	215	
46	0	477	

2 Entry composition (i)

There are 53 unique types of molecules in this entry. The entry contains 132746 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 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	3394	72870	32489	13334	23652	3395	1	0

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	118	2518	1122	449	829	118	0	0

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	C	148	3156	1408	563	1037	148	0	0

- Molecule 4 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	246	1887	1183	387	311	6	0	0

- Molecule 5 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	395	3194	2034	600	545	15	1	0

- Molecule 6 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	360	2860	1800	572	475	13	0	0

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	292	Total	C	N	O	S	0	0
			2372	1503	431	424	14		

- Molecule 8 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	218	Total	C	N	O	S	0	0
			1752	1128	333	287	4		

- Molecule 9 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	199	Total	C	N	O	S	0	0
			1634	1053	319	257	5		

- Molecule 10 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	152	Total	C	N	O	S	0	0
			1233	771	240	213	9		

- Molecule 11 is a protein called 60S ribosomal protein L18.

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

- Molecule 12 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	157	Total	C	N	O	S	0	0
			1304	813	280	202	9		

- Molecule 13 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	176	Total	C	N	O	S	0	0
			1461	930	284	236	11		

- Molecule 14 is a protein called 60S ribosomal protein L21.

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

- Molecule 15 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	99	Total	C	N	O	S	0	0
			804	516	140	146	2		

- Molecule 16 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	132	Total	C	N	O	S	0	0
			985	621	185	174	5		

- Molecule 17 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	62	Total	C	N	O	S	0	0
			519	332	101	83	3		

- Molecule 18 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	119	Total	C	N	O	S	0	0
			976	624	183	168	1		

- Molecule 19 is a protein called Large ribosomal subunit protein uL24.

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

- Molecule 20 is a protein called 60S ribosomal protein L27.

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

- Molecule 21 is a protein called 60S ribosomal protein L27a.

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

- Molecule 22 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	99	Total	C	N	O	S	0	0
			806	500	177	125	4		

- Molecule 23 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	100	Total	C	N	O	S	0	0
			772	490	136	139	7		

- Molecule 24 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	106	Total	C	N	O	S	0	0
			868	551	170	145	2		

- Molecule 25 is a protein called 60S ribosomal protein L32.

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

- Molecule 26 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	109	Total	C	N	O	S	1	0
			879	557	174	144	4		

- Molecule 27 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	111	Total	C	N	O	S	0	0
			882	552	182	142	6		

- Molecule 28 is a protein called 60S ribosomal protein L35.

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

- Molecule 29 is a protein called 60S ribosomal protein L36.

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

- Molecule 30 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	86	Total	C	N	O	S	1	0
			713	442	155	111	5		

- Molecule 31 is a protein called 60S ribosomal protein L38.

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

- Molecule 32 is a protein called 60S ribosomal protein L39.

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

- Molecule 33 is a protein called Ubiquitin-60S ribosomal protein L40.

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

- Molecule 34 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	h	225	Total	C	N	O	S	0	0
			1712	1065	295	340	12		

- Molecule 35 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	i	103	Total	C	N	O	S	0	0
			842	528	172	136	6		

- Molecule 36 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	j	92	Total	C	N	O	S	0	0
			716	450	137	121	8		

- Molecule 37 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	k	124	Total	C	N	O	S	0	0
			992	615	206	167	4		

- Molecule 38 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	203	Total	C	N	O	S	1	0
			1708	1077	360	267	4		

- Molecule 39 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	m	224	Total	C	N	O	S	0	0
			1856	1192	356	299	9		

- Molecule 40 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	n	223	Total	C	N	O	S	0	0
			1809	1153	349	303	4		

- Molecule 41 is a protein called 60S ribosomal protein L9.

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

- Molecule 42 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	203	Total	C	N	O	S	0	0
			1647	1045	318	272	12		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
p	?	-	MET	deletion	UNP P27635
p	?	-	LEU	deletion	UNP P27635
p	?	-	SER	deletion	UNP P27635
p	?	-	CYS	deletion	UNP P27635
p	?	-	ALA	deletion	UNP P27635
p	?	-	GLY	deletion	UNP P27635
p	?	-	ALA	deletion	UNP P27635
p	?	-	ASP	deletion	UNP P27635
p	?	-	ARG	deletion	UNP P27635
p	?	-	LEU	deletion	UNP P27635

- Molecule 43 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	170	Total	C	N	O	S	0	0
			1358	858	253	241	6		

- Molecule 44 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	r	206	Total	C	N	O	S	0	0
			1664	1041	345	274	4		

- Molecule 45 is a protein called 60S ribosomal protein L14.

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

- Molecule 46 is a protein called Cytoplasmic 60S subunit biogenesis factor ZNF622.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	0	43	Total	C	N	O	S	0	0
			363	226	72	59	6		

- Molecule 47 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
47	A	213	Total Mg 213 213	0
47	B	3	Total Mg 3 3	0
47	C	6	Total Mg 6 6	0
47	L	1	Total Mg 1 1	0
47	P	1	Total Mg 1 1	0
47	U	1	Total Mg 1 1	0
47	i	1	Total Mg 1 1	0
47	p	1	Total Mg 1 1	0

- Molecule 48 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	AltConf
48	A	139	Total K 139 139	0
48	B	1	Total K 1 1	0
48	D	3	Total K 3 3	0
48	F	1	Total K 1 1	0
48	J	1	Total K 1 1	0
48	N	1	Total K 1 1	0
48	V	1	Total K 1 1	0
48	Y	1	Total K 1 1	0
48	Z	1	Total K 1 1	0
48	f	1	Total K 1 1	0
48	i	1	Total K 1 1	0
48	l	2	Total K 2 2	0

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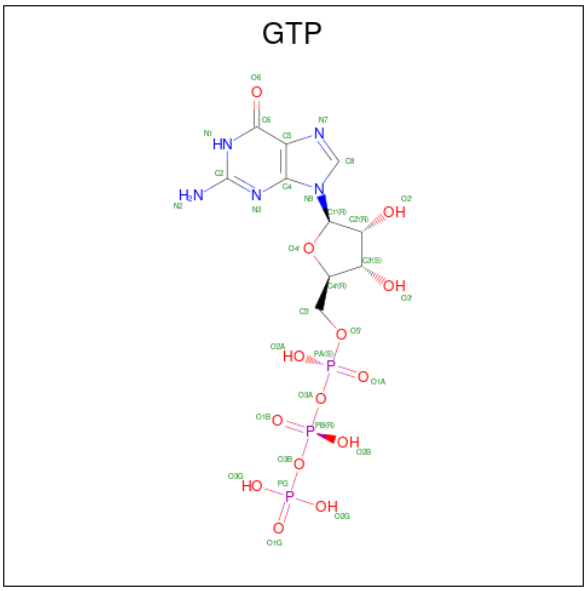
Mol	Chain	Residues	Atoms	AltConf
48	o	1	Total K 1 1	0
48	p	1	Total K 1 1	0

- Molecule 49 is SODIUM ION (three-letter code: NA) (formula: Na).

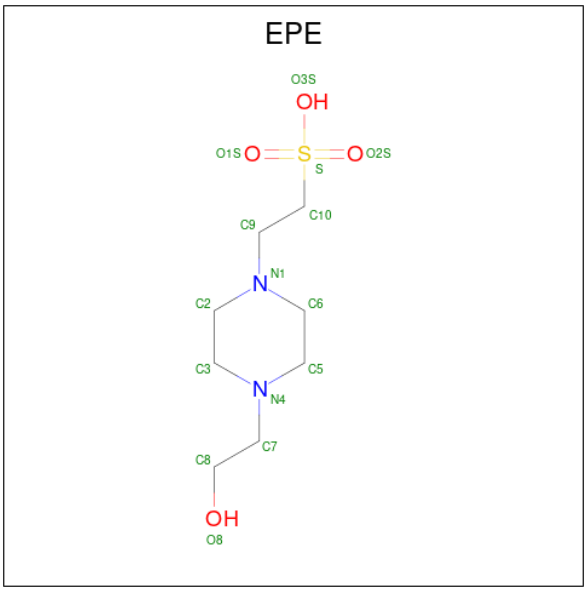
Mol	Chain	Residues	Atoms	AltConf
49	A	2	Total Na 2 2	0

- Molecule 50 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms	AltConf
50	B	1	Total C N O P 32 10 5 14 3	0

- Molecule 51 is 4-(2-HYDROXYETHYL)-1-PIPERAZINE ETHANESULFONIC ACID (three-letter code: EPE) (formula: $C_8H_{18}N_2O_4S$).



Mol	Chain	Residues	Atoms	AltConf
51	M	1	Total C N O S 15 8 2 4 1	0

- Molecule 52 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
52	a	1	Total Zn 1 1	0
52	d	1	Total Zn 1 1	0
52	g	1	Total Zn 1 1	0
52	i	1	Total Zn 1 1	0
52	j	1	Total Zn 1 1	0

- Molecule 53 is water.

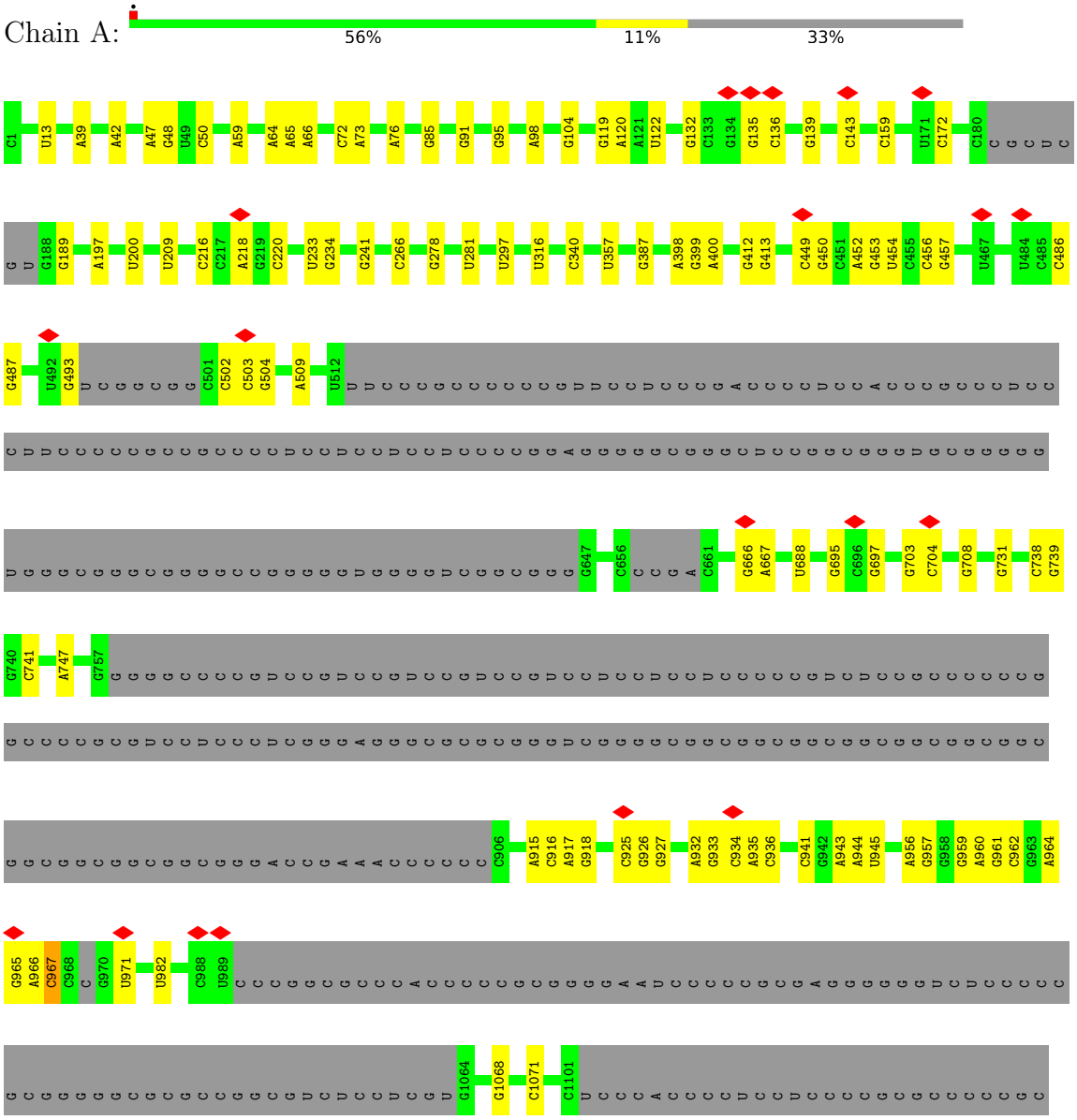
Mol	Chain	Residues	Atoms	AltConf
53	A	4	Total O 4 4	0
53	G	1	Total O 1 1	0

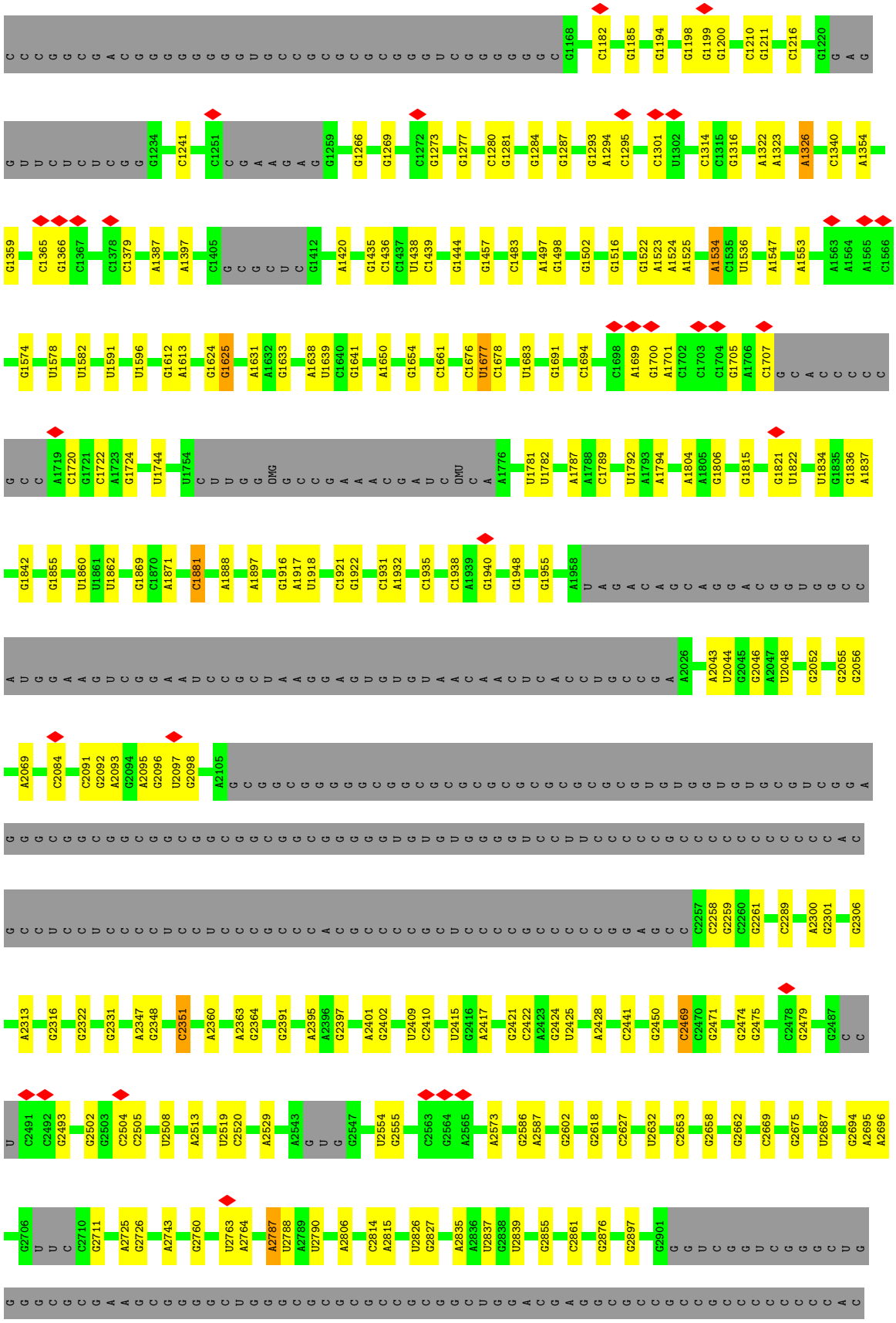
3 Residue-property plots (i)

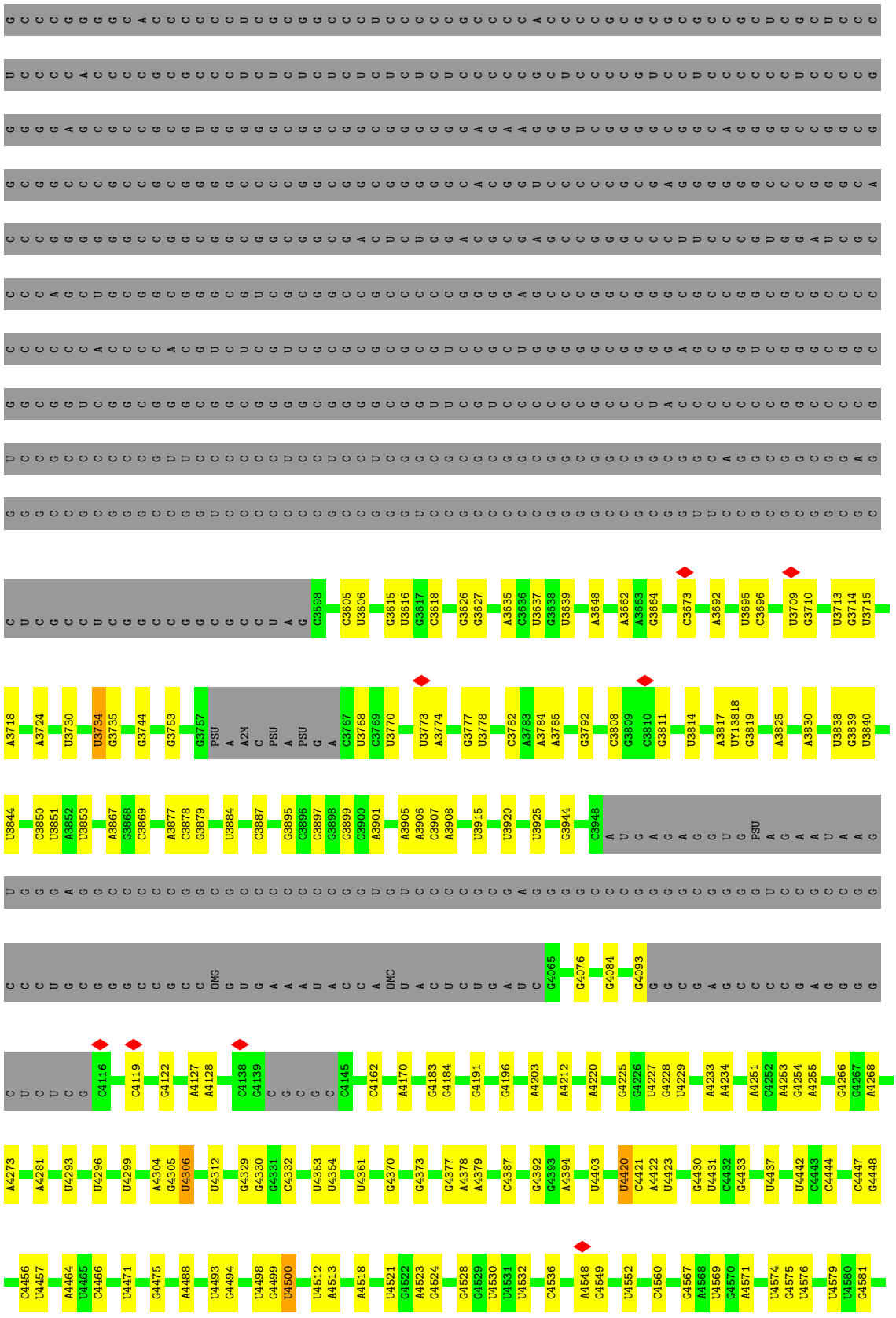
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

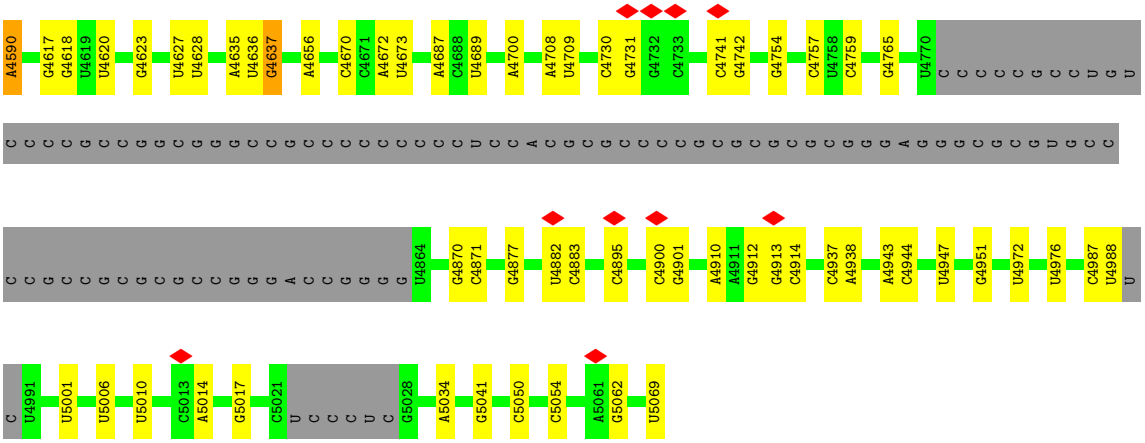
- Molecule 1: 28S rRNA

Chain A:



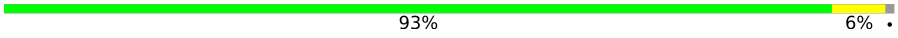


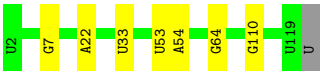




• Molecule 2: 5S rRNA

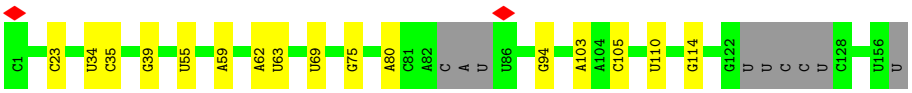
Chain B:





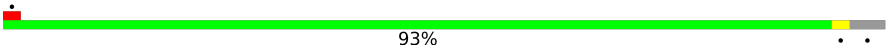
• Molecule 3: 5.8S rRNA

Chain C:



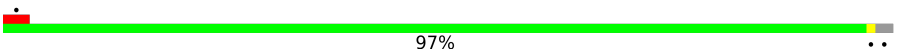
• Molecule 4: 60S ribosomal protein L8

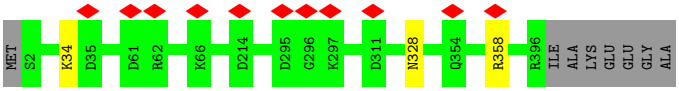
Chain D:



• Molecule 5: 60S ribosomal protein L3

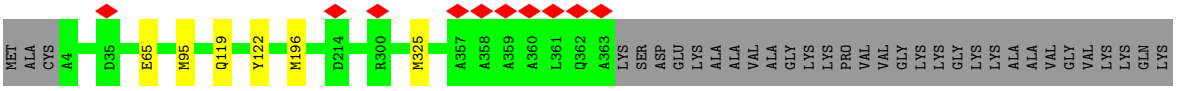
Chain E:





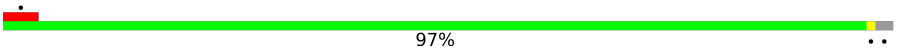
• Molecule 6: 60S ribosomal protein L4

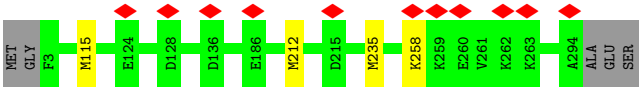
Chain F:



• Molecule 7: 60S ribosomal protein L5

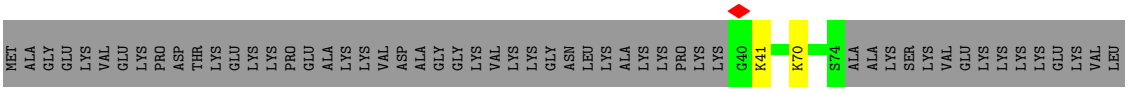
Chain G:

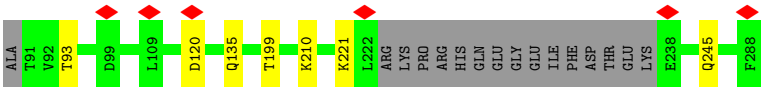




• Molecule 8: Large ribosomal subunit protein eL6

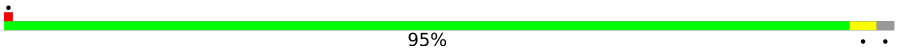
Chain H:





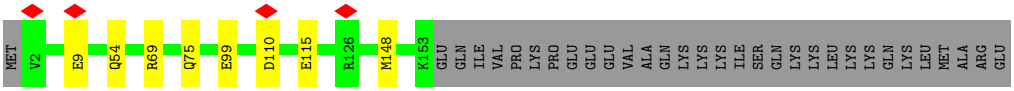
• Molecule 9: 60S ribosomal protein L13a

Chain I:



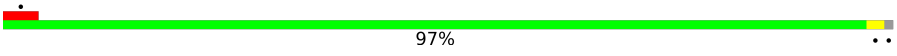
• Molecule 10: 60S ribosomal protein L17

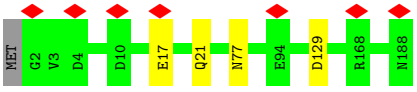
Chain J:



• Molecule 11: 60S ribosomal protein L18

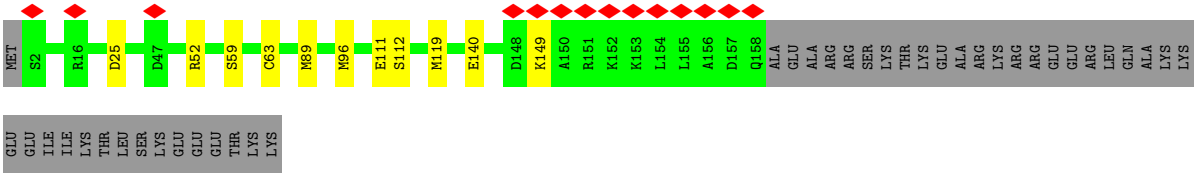
Chain K:



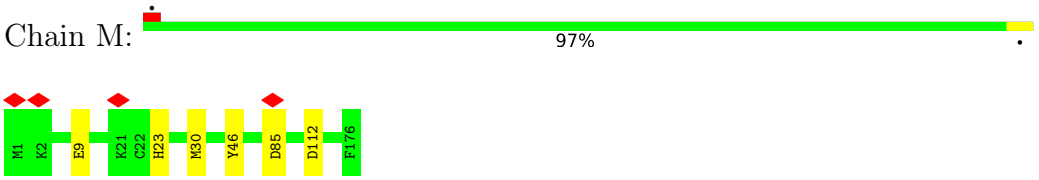


• Molecule 12: 60S ribosomal protein L19

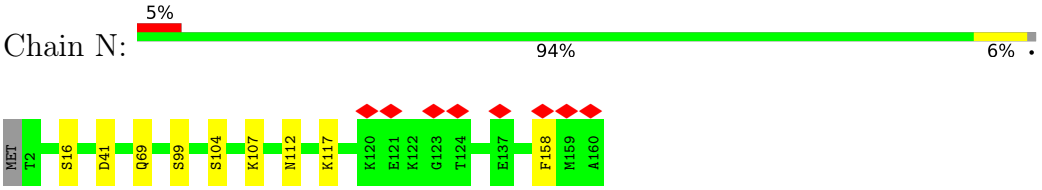
Chain L:



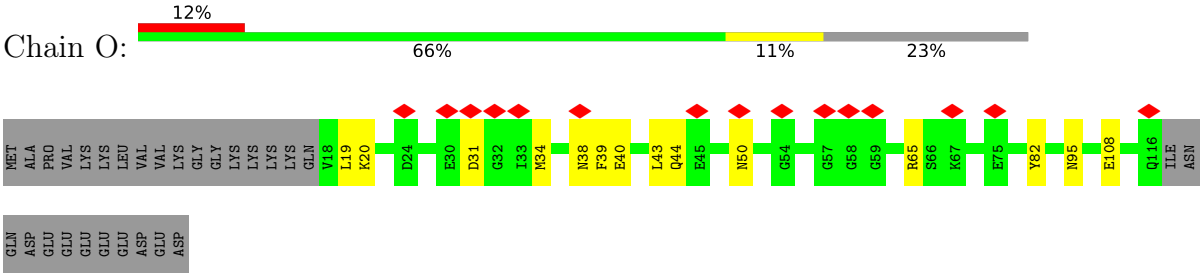
• Molecule 13: 60S ribosomal protein L18a



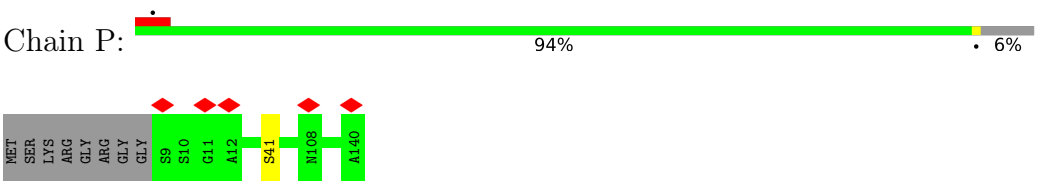
• Molecule 14: 60S ribosomal protein L21



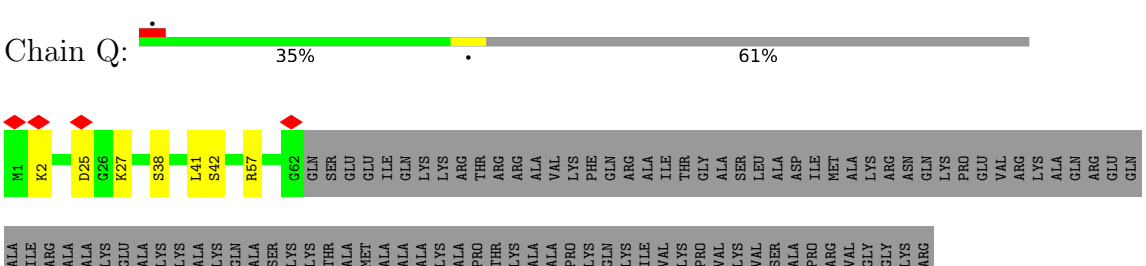
• Molecule 15: 60S ribosomal protein L22



• Molecule 16: 60S ribosomal protein L23

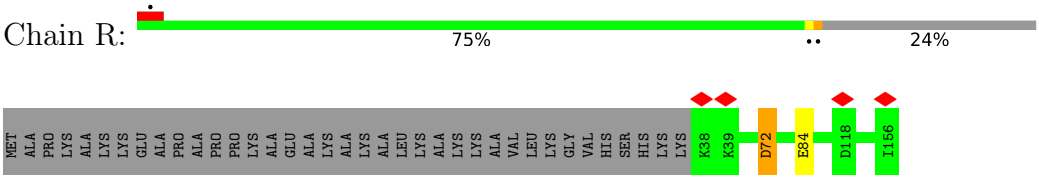


• Molecule 17: 60S ribosomal protein L24



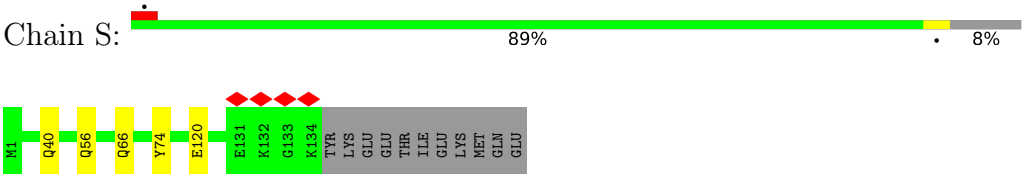
• Molecule 18: 60S ribosomal protein L23a

Chain R:



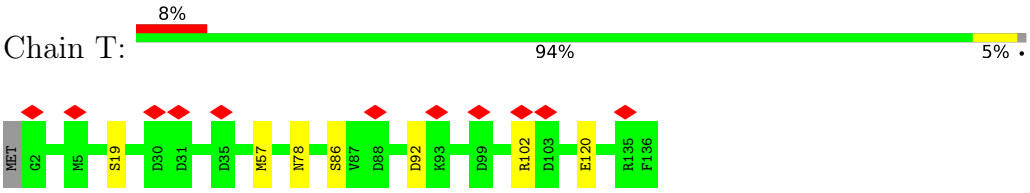
• Molecule 19: Large ribosomal subunit protein uL24

Chain S:



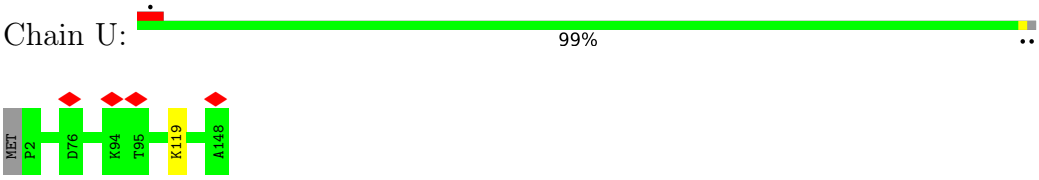
• Molecule 20: 60S ribosomal protein L27

Chain T:



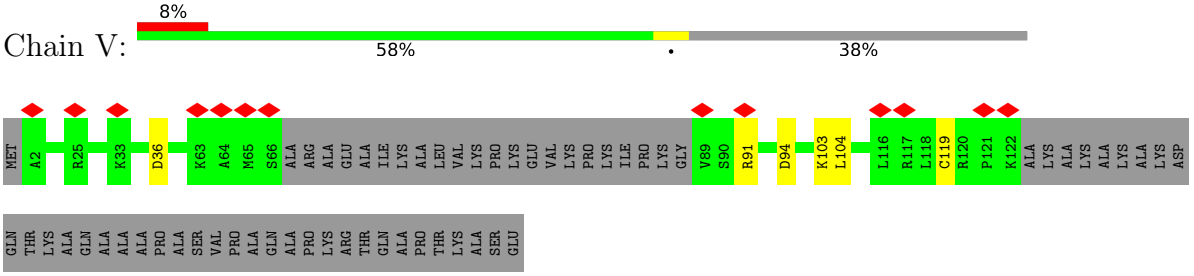
• Molecule 21: 60S ribosomal protein L27a

Chain U:



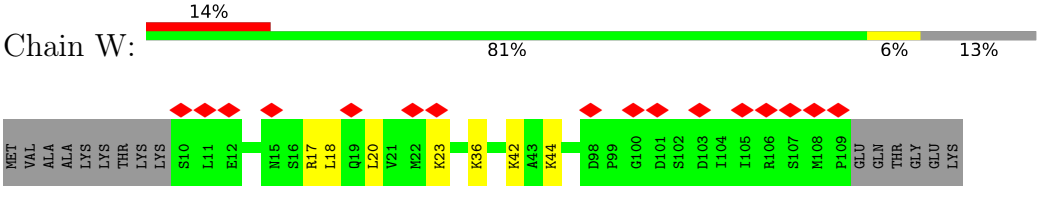
• Molecule 22: 60S ribosomal protein L29

Chain V:



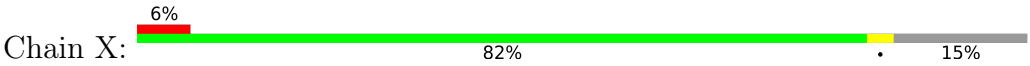
• Molecule 23: 60S ribosomal protein L30

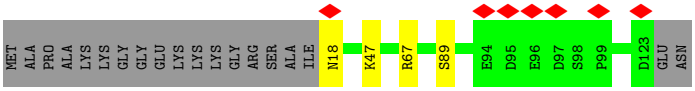
Chain W:



• Molecule 24: 60S ribosomal protein L31

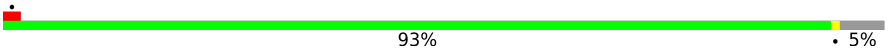
Chain X:

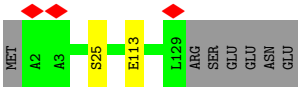




• Molecule 25: 60S ribosomal protein L32

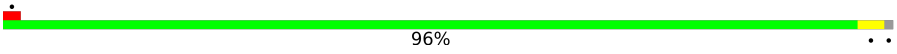
Chain Y:

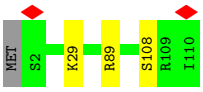




• Molecule 26: 60S ribosomal protein L35a

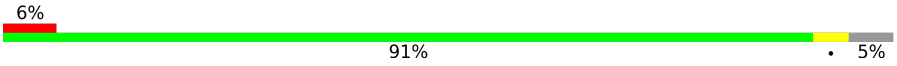
Chain Z:

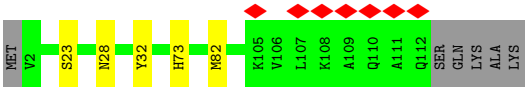




• Molecule 27: 60S ribosomal protein L34

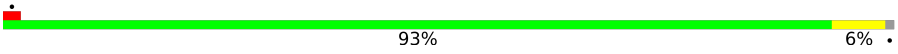
Chain a:

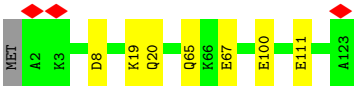




• Molecule 28: 60S ribosomal protein L35

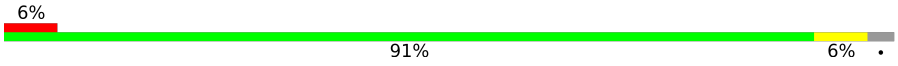
Chain b:

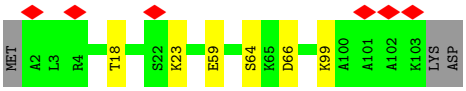




• Molecule 29: 60S ribosomal protein L36

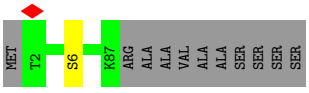
Chain c:





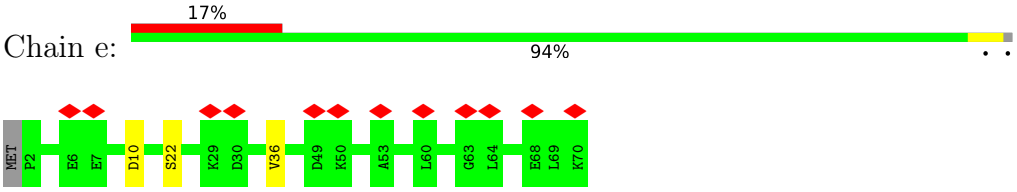
• Molecule 30: 60S ribosomal protein L37

Chain d:



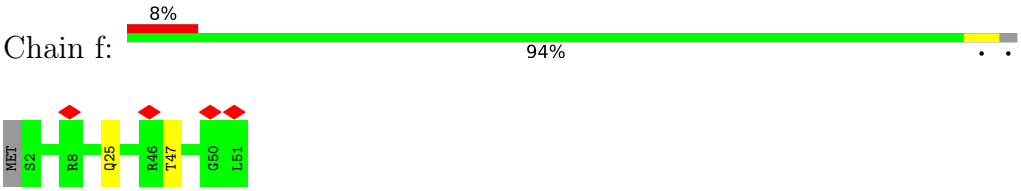
• Molecule 31: 60S ribosomal protein L38

Chain e:



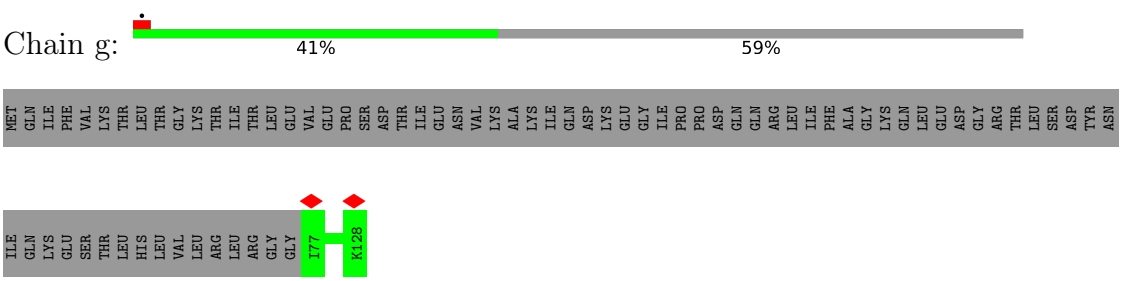
• Molecule 32: 60S ribosomal protein L39

Chain f:



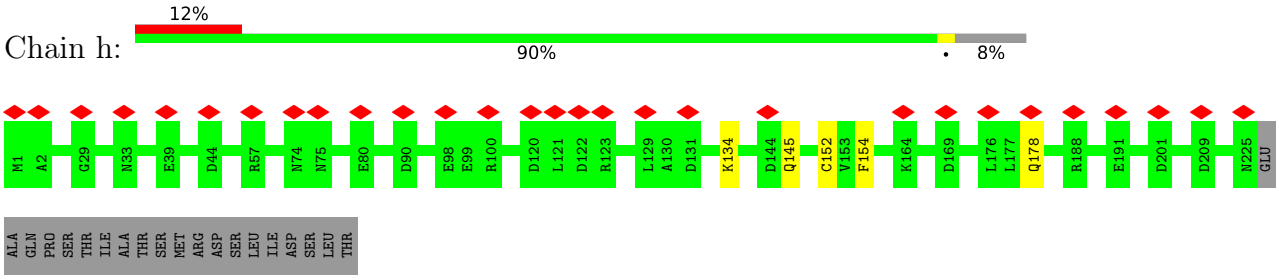
• Molecule 33: Ubiquitin-60S ribosomal protein L40

Chain g:



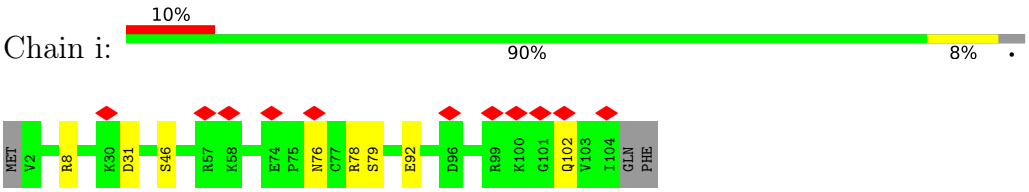
• Molecule 34: Eukaryotic translation initiation factor 6

Chain h:



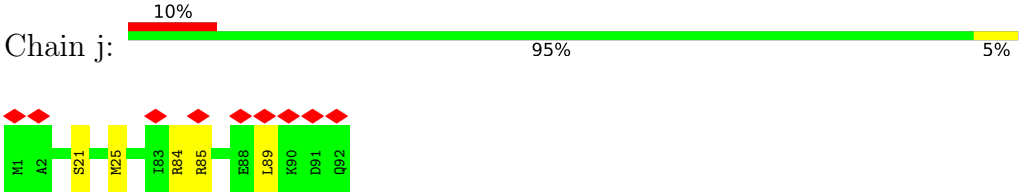
• Molecule 35: 60S ribosomal protein L36a

Chain i:



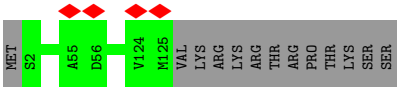
• Molecule 36: 60S ribosomal protein L37a

Chain j:



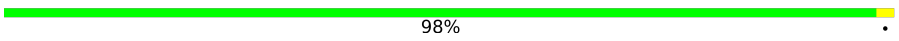
• Molecule 37: 60S ribosomal protein L28

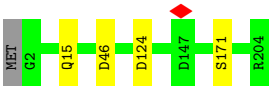
Chain k:



• Molecule 38: 60S ribosomal protein L15

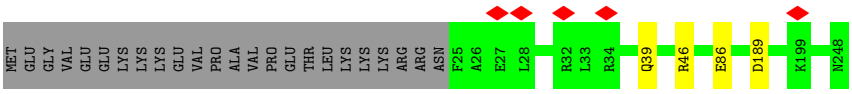
Chain l:





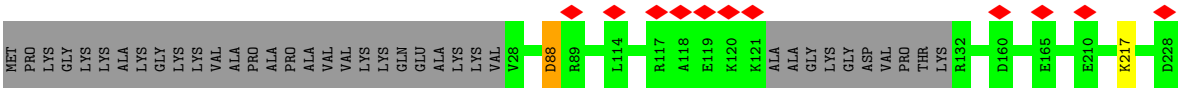
• Molecule 39: Large ribosomal subunit protein uL30

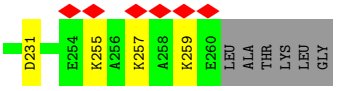
Chain m:



• Molecule 40: 60S ribosomal protein L7a

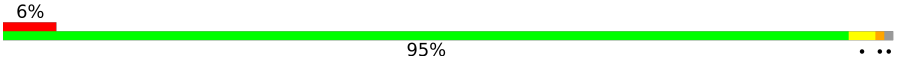
Chain n:

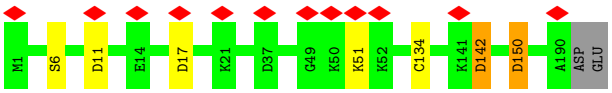




• Molecule 41: 60S ribosomal protein L9

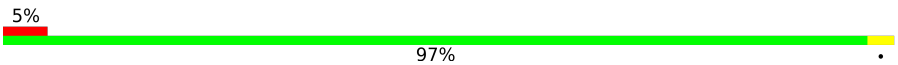
Chain o:

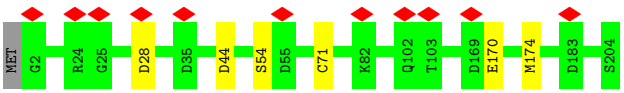




• Molecule 42: Large ribosomal subunit protein uL16

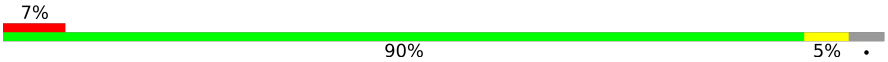
Chain p:

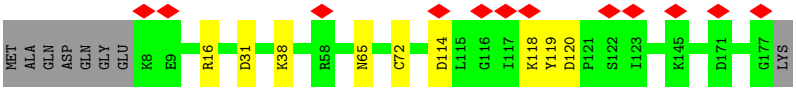




• Molecule 43: 60S ribosomal protein L11

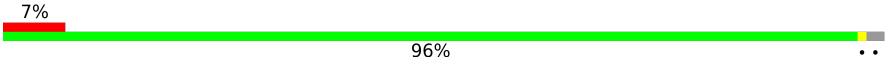
Chain q:

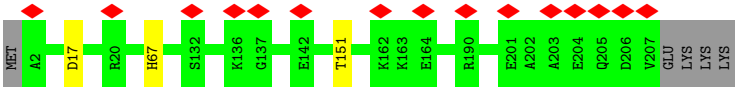




• Molecule 44: 60S ribosomal protein L13

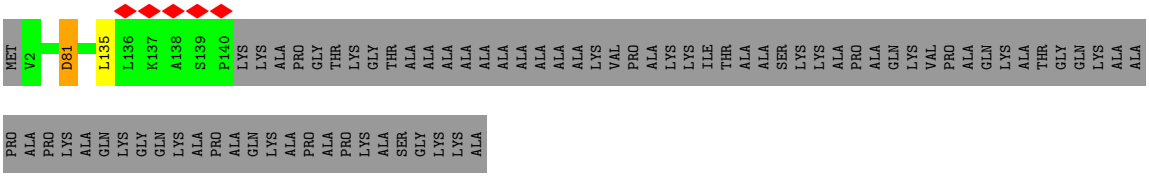
Chain r:





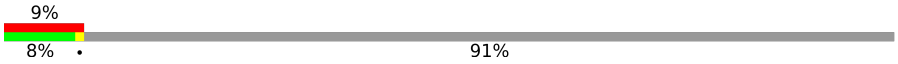
• Molecule 45: 60S ribosomal protein L14

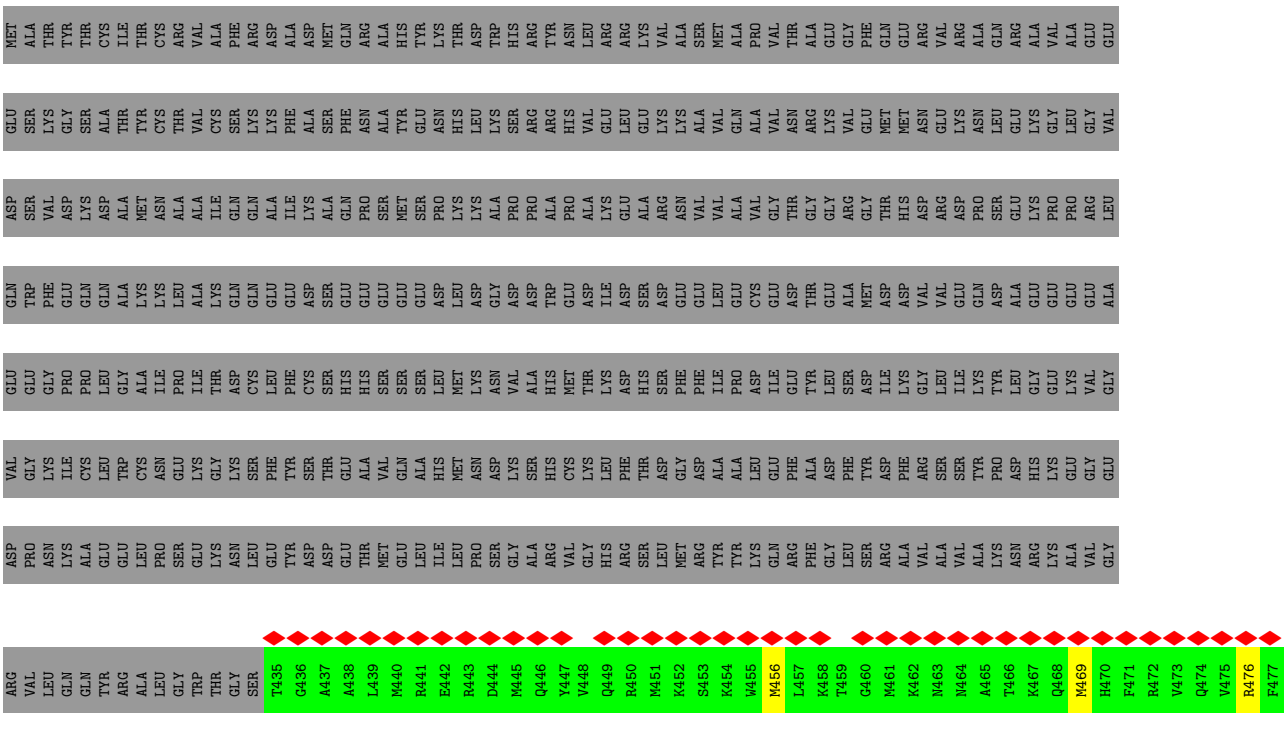
Chain s:



• Molecule 46: Cytoplasmic 60S subunit biogenesis factor ZNF622

Chain 0:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	193000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.487	Depositor
Minimum map value	-0.586	Depositor
Average map value	-0.003	Depositor
Map value standard deviation	0.070	Depositor
Recommended contour level	0.5	Depositor
Map size (Å)	593.6, 593.6, 593.6	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: OMC, MG, UY1, OMG, EPE, 5MC, K, GTP, ZN, PSU, 1MA, UR3, NA, A2M, OMU, 6MZ

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	A	0.18	0/78643	0.75	16/122654 (0.0%)
2	B	0.17	0/2813	0.72	0/4384
3	C	0.18	0/3453	0.75	0/5376
4	D	0.25	0/1925	0.57	1/2581 (0.0%)
5	E	0.24	0/3265	0.49	0/4369
6	F	0.24	0/2914	0.53	0/3915
7	G	0.24	0/2418	0.49	0/3239
8	H	0.25	0/1786	0.52	0/2395
9	I	0.27	0/1666	0.53	0/2228
10	J	0.26	0/1259	0.54	0/1689
11	K	0.26	0/1537	0.60	1/2052 (0.0%)
12	L	0.26	0/1320	0.62	1/1749 (0.1%)
13	M	0.26	0/1501	0.58	1/2013 (0.0%)
14	N	0.30	0/1326	0.60	0/1770
15	O	0.31	0/818	0.69	0/1098
16	P	0.27	0/999	0.56	0/1340
17	Q	0.30	0/532	0.67	1/708 (0.1%)
18	R	0.26	0/993	0.60	1/1334 (0.1%)
19	S	0.27	0/1132	0.58	0/1504
20	T	0.27	0/1130	0.60	1/1507 (0.1%)
21	U	0.25	0/1191	0.54	0/1591
22	V	0.26	0/819	0.67	2/1081 (0.2%)
23	W	0.29	0/783	0.62	0/1052
24	X	0.25	0/883	0.59	0/1190
25	Y	0.25	0/1071	0.55	0/1429
26	Z	0.26	0/901	0.56	0/1206
27	a	0.25	0/892	0.56	0/1189
28	b	0.27	0/1023	0.57	0/1351
29	c	0.29	0/843	0.60	0/1115
30	d	0.24	0/732	0.57	0/968
31	e	0.30	0/575	0.61	0/761
32	f	0.24	0/454	0.57	0/599

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	g	0.25	0/435	0.56	0/575
34	h	0.26	0/1736	0.55	0/2362
35	i	0.27	0/855	0.57	0/1128
36	j	0.25	0/726	0.57	0/963
37	k	0.23	0/1007	0.54	0/1351
38	l	0.24	0/1753	0.55	0/2348
39	m	0.27	0/1890	0.52	0/2519
40	n	0.24	0/1840	0.51	1/2476 (0.0%)
41	o	0.29	0/1537	0.61	2/2066 (0.1%)
42	p	0.28	0/1686	0.57	0/2252
43	q	0.25	0/1381	0.56	1/1848 (0.1%)
44	r	0.25	0/1695	0.56	1/2270 (0.0%)
45	s	0.27	0/1161	0.60	2/1554 (0.1%)
46	0	0.24	0/368	0.52	0/484
All	All	0.21	0/139667	0.69	32/205633 (0.0%)

There are no bond length outliers.

The worst 5 of 32 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2469	C	C2-N1-C1'	8.16	127.78	118.80
1	A	2409	U	C2-N1-C1'	7.29	126.44	117.70
41	o	150	ASP	CB-CG-OD1	7.09	124.68	118.30
45	s	81	ASP	CB-CG-OD1	6.66	124.30	118.30
1	A	1639	U	C2-N1-C1'	6.26	125.22	117.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	D	244/257 (95%)	235 (96%)	9 (4%)	0	100	100
5	E	394/403 (98%)	390 (99%)	4 (1%)	0	100	100
6	F	358/427 (84%)	353 (99%)	5 (1%)	0	100	100
7	G	290/297 (98%)	286 (99%)	4 (1%)	0	100	100
8	H	212/288 (74%)	206 (97%)	6 (3%)	0	100	100
9	I	197/203 (97%)	196 (100%)	1 (0%)	0	100	100
10	J	150/184 (82%)	150 (100%)	0	0	100	100
11	K	185/188 (98%)	183 (99%)	2 (1%)	0	100	100
12	L	155/196 (79%)	154 (99%)	1 (1%)	0	100	100
13	M	174/176 (99%)	170 (98%)	4 (2%)	0	100	100
14	N	157/160 (98%)	156 (99%)	1 (1%)	0	100	100
15	O	97/128 (76%)	92 (95%)	5 (5%)	0	100	100
16	P	130/140 (93%)	129 (99%)	1 (1%)	0	100	100
17	Q	60/157 (38%)	60 (100%)	0	0	100	100
18	R	117/156 (75%)	115 (98%)	2 (2%)	0	100	100
19	S	132/145 (91%)	130 (98%)	2 (2%)	0	100	100
20	T	133/136 (98%)	130 (98%)	3 (2%)	0	100	100
21	U	145/148 (98%)	144 (99%)	1 (1%)	0	100	100
22	V	95/159 (60%)	94 (99%)	1 (1%)	0	100	100
23	W	98/115 (85%)	98 (100%)	0	0	100	100
24	X	104/125 (83%)	104 (100%)	0	0	100	100
25	Y	126/135 (93%)	126 (100%)	0	0	100	100
26	Z	108/110 (98%)	108 (100%)	0	0	100	100
27	a	109/117 (93%)	108 (99%)	1 (1%)	0	100	100
28	b	120/123 (98%)	118 (98%)	2 (2%)	0	100	100
29	c	100/105 (95%)	100 (100%)	0	0	100	100
30	d	85/97 (88%)	85 (100%)	0	0	100	100
31	e	67/70 (96%)	67 (100%)	0	0	100	100
32	f	48/51 (94%)	48 (100%)	0	0	100	100
33	g	50/128 (39%)	50 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	h	223/245 (91%)	218 (98%)	5 (2%)	0	100	100
35	i	101/106 (95%)	98 (97%)	3 (3%)	0	100	100
36	j	90/92 (98%)	87 (97%)	3 (3%)	0	100	100
37	k	122/137 (89%)	121 (99%)	1 (1%)	0	100	100
38	l	202/204 (99%)	200 (99%)	2 (1%)	0	100	100
39	m	222/248 (90%)	217 (98%)	5 (2%)	0	100	100
40	n	219/266 (82%)	216 (99%)	3 (1%)	0	100	100
41	o	188/192 (98%)	186 (99%)	2 (1%)	0	100	100
42	p	201/204 (98%)	199 (99%)	2 (1%)	0	100	100
43	q	168/178 (94%)	167 (99%)	1 (1%)	0	100	100
44	r	204/211 (97%)	201 (98%)	3 (2%)	0	100	100
45	s	137/215 (64%)	136 (99%)	1 (1%)	0	100	100
46	0	41/477 (9%)	41 (100%)	0	0	100	100
All	All	6558/7899 (83%)	6472 (99%)	86 (1%)	0	100	100

There are no Ramachandran outliers to report.

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	
4	D	189/199 (95%)	184 (97%)	5 (3%)	41	67
5	E	345/349 (99%)	342 (99%)	3 (1%)	75	90
6	F	297/348 (85%)	291 (98%)	6 (2%)	50	74
7	G	245/250 (98%)	241 (98%)	4 (2%)	58	79
8	H	193/252 (77%)	184 (95%)	9 (5%)	22	45
9	I	171/174 (98%)	164 (96%)	7 (4%)	26	51
10	J	133/163 (82%)	125 (94%)	8 (6%)	16	35
11	K	164/165 (99%)	161 (98%)	3 (2%)	54	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
12	L	138/175 (79%)	128 (93%)	10 (7%)	12 26
13	M	157/157 (100%)	152 (97%)	5 (3%)	34 60
14	N	139/140 (99%)	130 (94%)	9 (6%)	14 31
15	O	88/115 (76%)	74 (84%)	14 (16%)	2 3
16	P	102/107 (95%)	101 (99%)	1 (1%)	73 88
17	Q	54/126 (43%)	48 (89%)	6 (11%)	5 10
18	R	107/133 (80%)	105 (98%)	2 (2%)	52 75
19	S	124/135 (92%)	119 (96%)	5 (4%)	27 52
20	T	117/118 (99%)	111 (95%)	6 (5%)	20 42
21	U	120/121 (99%)	119 (99%)	1 (1%)	79 91
22	V	82/126 (65%)	78 (95%)	4 (5%)	21 43
23	W	84/97 (87%)	77 (92%)	7 (8%)	9 19
24	X	93/110 (84%)	89 (96%)	4 (4%)	25 49
25	Y	114/121 (94%)	112 (98%)	2 (2%)	54 77
26	Z	89/89 (100%)	86 (97%)	3 (3%)	32 58
27	a	95/100 (95%)	90 (95%)	5 (5%)	19 40
28	b	109/110 (99%)	102 (94%)	7 (6%)	14 32
29	c	86/89 (97%)	80 (93%)	6 (7%)	12 27
30	d	74/80 (92%)	73 (99%)	1 (1%)	62 82
31	e	64/65 (98%)	61 (95%)	3 (5%)	22 45
32	f	47/48 (98%)	45 (96%)	2 (4%)	25 49
33	g	48/116 (41%)	48 (100%)	0	100 100
34	h	195/213 (92%)	190 (97%)	5 (3%)	41 67
35	i	91/94 (97%)	83 (91%)	8 (9%)	8 17
36	j	75/75 (100%)	70 (93%)	5 (7%)	13 29
37	k	107/121 (88%)	107 (100%)	0	100 100
38	l	172/172 (100%)	168 (98%)	4 (2%)	45 71
39	m	192/215 (89%)	188 (98%)	4 (2%)	48 73
40	n	193/223 (86%)	187 (97%)	6 (3%)	35 62
41	o	169/171 (99%)	162 (96%)	7 (4%)	26 51
42	p	173/174 (99%)	167 (96%)	6 (4%)	31 57

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
43	q	142/149 (95%)	134 (94%)	8 (6%)	17 38
44	r	172/177 (97%)	170 (99%)	2 (1%)	67 85
45	s	118/161 (73%)	117 (99%)	1 (1%)	79 91
46	0	38/404 (9%)	35 (92%)	3 (8%)	10 21
All	All	5705/6727 (85%)	5498 (96%)	207 (4%)	32 56

5 of 207 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
24	X	18	ASN
31	e	10	ASP
43	q	118	LYS
25	Y	25	SER
28	b	19	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 11 such sidechains are listed below:

Mol	Chain	Res	Type
34	h	178	GLN
35	i	45	GLN
44	r	149	GLN
40	n	64	GLN
19	S	66	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	3364/5064 (66%)	457 (13%)	3 (0%)
2	B	117/119 (98%)	7 (5%)	0
3	C	145/157 (92%)	13 (8%)	0
All	All	3626/5340 (67%)	477 (13%)	3 (0%)

5 of 477 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	13	U
1	A	39	A
1	A	42	A

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Mol	Chain	Res	Type
1	A	47	A
1	A	48	G

All (3) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	486	C
1	A	964	A
1	A	3734	PSU

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

123 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	$\#\|Z\| > 2$
1	A2M	A	400	1	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
1	OMU	A	2415	1	19,22,23	1.25	4 (21%)	26,31,34	1.71	5 (19%)
1	PSU	A	1536	1	18,21,22	1.35	2 (11%)	22,30,33	1.91	3 (13%)
1	OMG	A	4392	1	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
1	PSU	A	2508	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A	3884	1	18,21,22	1.33	2 (11%)	22,30,33	1.90	3 (13%)
1	PSU	A	4972	1,48	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	A	3768	1	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
1	OMG	A	4494	1	18,26,27	0.94	1 (5%)	19,38,41	1.12	2 (10%)
1	PSU	A	4576	1,48	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	A	1683	1,48	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
1	A2M	A	3867	1	18,25,26	0.99	1 (5%)	18,36,39	1.25	2 (11%)
1	OMG	A	4499	1	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
1	A2M	A	1871	47,1	18,25,26	1.04	1 (5%)	18,36,39	1.20	2 (11%)
1	OMG	A	4370	1	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	OMC	A	3701	1,48	19,22,23	0.79	0	26,31,34	0.73	0
1	OMG	A	4196	1	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
1	OMC	A	4456	1	19,22,23	0.83	0	26,31,34	0.98	1 (3%)
1	PSU	A	1781	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	4 (18%)
1	OMG	A	1625	1,48	18,26,27	0.93	1 (5%)	19,38,41	1.10	2 (10%)
1	PSU	A	4442	1	18,21,22	1.36	2 (11%)	22,30,33	1.90	4 (18%)
1	PSU	A	3730	1	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
1	OMG	A	4623	1	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
1	OMC	A	3869	1	19,22,23	0.82	0	26,31,34	0.86	1 (3%)
1	PSU	A	4628	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A	3715	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	4 (18%)
1	A2M	A	3830	1	18,25,26	1.04	1 (5%)	18,36,39	1.20	2 (11%)
1	OMG	A	3744	1	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
1	PSU	A	2632	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	A	5001	1,48	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
3	OMG	C	75	3	18,26,27	0.95	1 (5%)	19,38,41	1.06	2 (10%)
3	PSU	C	55	3	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A	4673	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	A2M	A	4571	1	18,25,26	1.01	1 (5%)	18,36,39	1.27	2 (11%)
1	PSU	A	4457	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	4 (18%)
1	PSU	A	3920	47,1	18,21,22	1.34	2 (11%)	22,30,33	1.91	4 (18%)
1	PSU	A	2839	1	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	A	3695	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.88	4 (18%)
1	PSU	A	1782	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	OMC	A	2861	1	19,22,23	0.82	0	26,31,34	0.93	1 (3%)
1	PSU	A	4471	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.90	4 (18%)
1	OMU	A	3925	1	19,22,23	1.20	2 (10%)	26,31,34	1.69	5 (19%)
1	OMG	A	1316	1,48	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
1	PSU	A	3851	1	18,21,22	1.37	2 (11%)	22,30,33	1.85	4 (18%)
1	PSU	A	4403	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	4 (18%)
1	A2M	A	1524	1	18,25,26	1.03	1 (5%)	18,36,39	1.30	2 (11%)
1	PSU	A	1677	1,48	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	A	5010	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	OMC	A	1881	1	19,22,23	0.83	0	26,31,34	1.09	2 (7%)
1	OMC	A	3841	1	19,22,23	0.80	0	26,31,34	0.78	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	A	3639	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
1	OMG	A	2364	1	18,26,27	0.94	1 (5%)	19,38,41	1.06	2 (10%)
1	A2M	A	3785	1	18,25,26	0.98	1 (5%)	18,36,39	1.34	2 (11%)
1	A2M	A	2815	1,48	18,25,26	1.03	1 (5%)	18,36,39	1.21	2 (11%)
1	PSU	A	4579	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A	4500	1	18,21,22	1.37	2 (11%)	22,30,33	1.81	3 (13%)
1	PSU	A	1744	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	OMC	A	2422	47,1	19,22,23	0.82	0	26,31,34	0.84	1 (3%)
1	A2M	A	2363	47,1	18,25,26	1.03	1 (5%)	18,36,39	1.19	2 (11%)
1	PSU	A	4521	47,1,48	18,21,22	1.35	2 (11%)	22,30,33	1.90	3 (13%)
1	A2M	A	4523	47,1	18,25,26	1.03	1 (5%)	18,36,39	1.23	2 (11%)
1	PSU	A	3844	1	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	A	3853	47,1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	A	4312	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A	4296	1	18,21,22	1.33	2 (11%)	22,30,33	1.93	4 (18%)
1	OMG	A	3792	1	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
1	A2M	A	3825	1	18,25,26	1.03	1 (5%)	18,36,39	1.19	2 (11%)
1	5MC	A	3782	47,1	18,22,23	0.96	2 (11%)	26,32,35	1.16	3 (11%)
1	PSU	A	1862	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	OMC	A	2351	47,1	19,22,23	0.82	0	26,31,34	0.87	1 (3%)
1	PSU	A	4493	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.89	4 (18%)
1	PSU	A	3637	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.90	3 (13%)
1	OMC	A	3808	1,48	19,22,23	0.83	0	26,31,34	0.94	1 (3%)
1	PSU	A	4431	1,48	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	UY1	A	3818	1,48	19,22,23	0.87	0	22,31,34	1.76	4 (18%)
1	PSU	A	4689	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	OMG	A	3899	1	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
1	OMU	A	4620	1	19,22,23	1.23	3 (15%)	26,31,34	1.69	4 (15%)
1	PSU	A	1792	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	4 (18%)
1	PSU	A	4423	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	OMC	A	2804	1	19,22,23	0.81	0	26,31,34	0.77	0
1	A2M	A	4590	1	18,25,26	1.03	1 (5%)	18,36,39	1.22	2 (11%)
1	OMG	A	3944	1	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
1	1MA	A	1322	47,1	16,25,26	1.56	2 (12%)	18,37,40	1.06	2 (11%)
1	OMC	A	4536	47,1	19,22,23	0.84	0	26,31,34	0.97	1 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	A	1582	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.91	4 (18%)
1	OMG	A	2876	1	18,26,27	0.92	1 (5%)	19,38,41	1.07	2 (10%)
1	A2M	A	2787	47,1	18,25,26	0.99	1 (5%)	18,36,39	1.34	2 (11%)
1	A2M	A	2401	47,1	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
1	PSU	A	4293	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	A2M	A	1323	1	18,25,26	1.03	1 (5%)	18,36,39	1.30	2 (11%)
1	OMG	A	2424	1	18,26,27	0.92	1 (5%)	19,38,41	1.05	2 (10%)
1	PSU	A	4532	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	A2M	A	1534	47,1	18,25,26	1.01	1 (5%)	18,36,39	1.35	2 (11%)
1	OMG	A	4637	1	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
1	OMC	A	3887	1	19,22,23	0.82	0	26,31,34	0.86	1 (3%)
1	OMG	A	3627	1	18,26,27	0.93	1 (5%)	19,38,41	1.11	2 (10%)
1	A2M	A	3724	1	18,25,26	1.05	1 (5%)	18,36,39	1.22	2 (11%)
1	OMU	A	4498	1,48	19,22,23	1.20	2 (10%)	26,31,34	1.70	5 (19%)
1	PSU	A	3734	1	18,21,22	1.34	2 (11%)	22,30,33	1.98	4 (18%)
1	PSU	A	4361	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	A2M	A	398	1	18,25,26	1.02	1 (5%)	18,36,39	1.24	2 (11%)
1	A2M	A	3718	1	18,25,26	1.03	1 (5%)	18,36,39	1.15	2 (11%)
1	OMG	A	1522	1	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
1	PSU	A	4420	1	18,21,22	1.40	3 (16%)	22,30,33	1.81	4 (18%)
1	PSU	A	3770	1	18,21,22	1.33	2 (11%)	22,30,33	1.89	3 (13%)
1	OMC	A	1340	1	19,22,23	0.83	0	26,31,34	0.88	1 (3%)
1	OMG	A	4618	1,48	18,26,27	0.92	1 (5%)	19,38,41	1.10	2 (10%)
1	OMG	A	4228	1	18,26,27	0.90	1 (5%)	19,38,41	1.13	2 (10%)
1	OMC	A	2824	1	19,22,23	0.82	0	26,31,34	0.84	0
1	PSU	A	4552	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	OMU	A	4306	1	19,22,23	1.23	3 (15%)	26,31,34	1.70	4 (15%)
1	UR3	A	4530	1	19,22,23	1.00	1 (5%)	26,32,35	1.41	1 (3%)
1	PSU	A	4353	1,48	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	5MC	A	4447	1,48	18,22,23	0.99	2 (11%)	26,32,35	1.19	2 (7%)
1	OMU	A	2837	1	19,22,23	1.24	3 (15%)	26,31,34	1.71	5 (19%)
1	OMC	A	2365	47,1	19,22,23	0.81	0	26,31,34	0.79	0
1	6MZ	A	4220	1	18,25,26	0.89	1 (5%)	16,36,39	1.99	4 (25%)
1	PSU	A	4299	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A	1860	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	OMU	A	4227	1	19,22,23	1.22	3 (15%)	26,31,34	1.70	4 (15%)
3	PSU	C	69	3	18,21,22	1.35	2 (11%)	22,30,33	1.88	4 (18%)
1	A2M	A	1326	1	18,25,26	0.99	1 (5%)	18,36,39	1.25	2 (11%)

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
1	A2M	A	400	1	-	0/5/27/28	0/3/3/3
1	OMU	A	2415	1	-	2/9/27/28	0/2/2/2
1	PSU	A	1536	1	-	0/7/25/26	0/2/2/2
1	OMG	A	4392	1	-	0/5/27/28	0/3/3/3
1	PSU	A	2508	1	-	0/7/25/26	0/2/2/2
1	PSU	A	3884	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4972	1,48	-	0/7/25/26	0/2/2/2
1	PSU	A	3768	1	-	0/7/25/26	0/2/2/2
1	OMG	A	4494	1	-	0/5/27/28	0/3/3/3
1	PSU	A	4576	1,48	-	0/7/25/26	0/2/2/2
1	PSU	A	1683	1,48	-	0/7/25/26	0/2/2/2
1	A2M	A	3867	1	-	1/5/27/28	0/3/3/3
1	OMG	A	4499	1	-	0/5/27/28	0/3/3/3
1	A2M	A	1871	47,1	-	0/5/27/28	0/3/3/3
1	OMG	A	4370	1	-	0/5/27/28	0/3/3/3
1	OMC	A	3701	1,48	-	5/9/27/28	0/2/2/2
1	OMG	A	4196	1	-	0/5/27/28	0/3/3/3
1	OMC	A	4456	1	-	2/9/27/28	0/2/2/2
1	PSU	A	1781	1	-	0/7/25/26	0/2/2/2
1	OMG	A	1625	1,48	-	1/5/27/28	0/3/3/3
1	PSU	A	4442	1	-	0/7/25/26	0/2/2/2
1	PSU	A	3730	1	-	0/7/25/26	0/2/2/2
1	OMG	A	4623	1	-	0/5/27/28	0/3/3/3
1	OMC	A	3869	1	-	0/9/27/28	0/2/2/2
1	PSU	A	4628	1	-	0/7/25/26	0/2/2/2
1	PSU	A	3715	1	-	0/7/25/26	0/2/2/2
1	A2M	A	3830	1	-	0/5/27/28	0/3/3/3
1	OMG	A	3744	1	-	0/5/27/28	0/3/3/3
1	PSU	A	2632	1	-	0/7/25/26	0/2/2/2
1	PSU	A	5001	1,48	-	0/7/25/26	0/2/2/2
3	OMG	C	75	3	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	C	55	3	-	0/7/25/26	0/2/2/2
1	PSU	A	4673	1,48	-	0/7/25/26	0/2/2/2
1	A2M	A	4571	1	-	1/5/27/28	0/3/3/3
1	PSU	A	4457	1	-	0/7/25/26	0/2/2/2
1	PSU	A	3920	47,1	-	0/7/25/26	0/2/2/2
1	PSU	A	2839	1	-	0/7/25/26	0/2/2/2
1	PSU	A	3695	1,48	-	0/7/25/26	0/2/2/2
1	PSU	A	1782	1	-	0/7/25/26	0/2/2/2
1	OMC	A	2861	1	-	1/9/27/28	0/2/2/2
1	PSU	A	4471	1,48	-	0/7/25/26	0/2/2/2
1	OMU	A	3925	1	-	0/9/27/28	0/2/2/2
1	OMG	A	1316	1,48	-	0/5/27/28	0/3/3/3
1	PSU	A	3851	1	-	1/7/25/26	0/2/2/2
1	PSU	A	4403	1	-	0/7/25/26	0/2/2/2
1	A2M	A	1524	1	-	0/5/27/28	0/3/3/3
1	PSU	A	1677	1,48	-	4/7/25/26	0/2/2/2
1	PSU	A	5010	1	-	0/7/25/26	0/2/2/2
1	OMC	A	1881	1	-	5/9/27/28	0/2/2/2
1	OMC	A	3841	1	-	0/9/27/28	0/2/2/2
1	PSU	A	3639	1	-	0/7/25/26	0/2/2/2
1	OMG	A	2364	1	-	2/5/27/28	0/3/3/3
1	A2M	A	3785	1	-	2/5/27/28	0/3/3/3
1	A2M	A	2815	1,48	-	0/5/27/28	0/3/3/3
1	PSU	A	4579	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4500	1	-	2/7/25/26	0/2/2/2
1	PSU	A	1744	1,48	-	0/7/25/26	0/2/2/2
1	OMC	A	2422	47,1	-	0/9/27/28	0/2/2/2
1	A2M	A	2363	47,1	-	0/5/27/28	0/3/3/3
1	PSU	A	4521	47,1,48	-	0/7/25/26	0/2/2/2
1	A2M	A	4523	47,1	-	2/5/27/28	0/3/3/3
1	PSU	A	3844	1	-	1/7/25/26	0/2/2/2
1	PSU	A	3853	47,1	-	0/7/25/26	0/2/2/2
1	PSU	A	4312	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4296	1	-	0/7/25/26	0/2/2/2
1	OMG	A	3792	1	-	0/5/27/28	0/3/3/3
1	A2M	A	3825	1	-	0/5/27/28	0/3/3/3
1	5MC	A	3782	47,1	-	0/7/25/26	0/2/2/2
1	PSU	A	1862	1	-	0/7/25/26	0/2/2/2
1	OMC	A	2351	47,1	-	1/9/27/28	0/2/2/2
1	PSU	A	4493	1,48	-	0/7/25/26	0/2/2/2
1	PSU	A	3637	1,48	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMC	A	3808	1,48	-	0/9/27/28	0/2/2/2
1	PSU	A	4431	1,48	-	0/7/25/26	0/2/2/2
1	UY1	A	3818	1,48	-	5/9/27/28	0/2/2/2
1	PSU	A	4689	1	-	0/7/25/26	0/2/2/2
1	OMG	A	3899	1	-	0/5/27/28	0/3/3/3
1	OMU	A	4620	1	-	0/9/27/28	0/2/2/2
1	PSU	A	1792	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4423	1	-	0/7/25/26	0/2/2/2
1	OMC	A	2804	1	-	0/9/27/28	0/2/2/2
1	A2M	A	4590	1	-	1/5/27/28	0/3/3/3
1	OMG	A	3944	1	-	0/5/27/28	0/3/3/3
1	1MA	A	1322	47,1	-	0/3/25/26	0/3/3/3
1	OMC	A	4536	47,1	-	3/9/27/28	0/2/2/2
1	PSU	A	1582	1,48	-	0/7/25/26	0/2/2/2
1	OMG	A	2876	1	-	1/5/27/28	0/3/3/3
1	A2M	A	2787	47,1	-	0/5/27/28	0/3/3/3
1	A2M	A	2401	47,1	-	0/5/27/28	0/3/3/3
1	PSU	A	4293	1	-	0/7/25/26	0/2/2/2
1	A2M	A	1323	1	-	0/5/27/28	0/3/3/3
1	OMG	A	2424	1	-	0/5/27/28	0/3/3/3
1	PSU	A	4532	1	-	0/7/25/26	0/2/2/2
1	A2M	A	1534	47,1	-	2/5/27/28	0/3/3/3
1	OMG	A	4637	1	-	0/5/27/28	0/3/3/3
1	OMC	A	3887	1	-	2/9/27/28	0/2/2/2
1	OMG	A	3627	1	-	0/5/27/28	0/3/3/3
1	A2M	A	3724	1	-	0/5/27/28	0/3/3/3
1	OMU	A	4498	1,48	-	0/9/27/28	0/2/2/2
1	PSU	A	3734	1	-	4/7/25/26	0/2/2/2
1	PSU	A	4361	1,48	-	0/7/25/26	0/2/2/2
1	A2M	A	398	1	-	2/5/27/28	0/3/3/3
1	A2M	A	3718	1	-	0/5/27/28	0/3/3/3
1	OMG	A	1522	1	-	0/5/27/28	0/3/3/3
1	PSU	A	4420	1	-	3/7/25/26	0/2/2/2
1	PSU	A	3770	1	-	0/7/25/26	0/2/2/2
1	OMC	A	1340	1	-	0/9/27/28	0/2/2/2
1	OMG	A	4618	1,48	-	0/5/27/28	0/3/3/3
1	OMG	A	4228	1	-	0/5/27/28	0/3/3/3
1	OMC	A	2824	1	-	2/9/27/28	0/2/2/2
1	PSU	A	4552	1	-	0/7/25/26	0/2/2/2
1	OMU	A	4306	1	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	UR3	A	4530	1	-	0/7/25/26	0/2/2/2
1	PSU	A	4353	1,48	-	0/7/25/26	0/2/2/2
1	5MC	A	4447	1,48	-	4/7/25/26	0/2/2/2
1	OMU	A	2837	1	-	0/9/27/28	0/2/2/2
1	OMC	A	2365	47,1	-	0/9/27/28	0/2/2/2
1	6MZ	A	4220	1	-	0/5/27/28	0/3/3/3
1	PSU	A	4299	1	-	0/7/25/26	0/2/2/2
1	PSU	A	1860	1	-	0/7/25/26	0/2/2/2
1	OMU	A	4227	1	-	0/9/27/28	0/2/2/2
3	PSU	C	69	3	-	0/7/25/26	0/2/2/2
1	A2M	A	1326	1	-	1/5/27/28	0/3/3/3

The worst 5 of 178 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1322	1MA	C2-N3	4.75	1.34	1.29
1	A	4420	PSU	C6-C5	3.32	1.39	1.35
1	A	1322	1MA	C6-N6	3.26	1.35	1.27
1	A	3734	PSU	C6-C5	3.22	1.39	1.35
1	A	3768	PSU	C6-C5	3.20	1.39	1.35

The worst 5 of 319 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1536	PSU	N1-C2-N3	6.05	121.99	115.13
1	A	3637	PSU	N1-C2-N3	6.05	121.99	115.13
1	A	4296	PSU	N1-C2-N3	6.05	121.99	115.13
1	A	1582	PSU	N1-C2-N3	6.03	121.96	115.13
1	A	3920	PSU	N1-C2-N3	6.02	121.95	115.13

There are no chirality outliers.

5 of 63 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1326	A2M	C1'-C2'-O2'-CM'
1	A	1677	PSU	C2'-C1'-C5-C4
1	A	1881	OMC	O4'-C1'-N1-C2
1	A	1881	OMC	O4'-C1'-N1-C6
1	A	1881	OMC	C3'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 391 ligands modelled in this entry, 389 are monoatomic - leaving 2 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	$\#\|Z\| > 2$
51	EPE	M	201	-	15,15,15	0.81	1 (6%)	18,20,20	1.73	6 (33%)
50	GTP	B	205	2	26,34,34	0.95	2 (7%)	32,54,54	0.75	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
51	EPE	M	201	-	-	5/9/19/19	0/1/1/1
50	GTP	B	205	2	-	0/18/38/38	0/3/3/3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	M	201	EPE	C10-S	2.74	1.81	1.77
50	B	205	GTP	C5-C6	-2.60	1.42	1.47
50	B	205	GTP	C8-N7	-2.06	1.31	1.35

The worst 5 of 6 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
51	M	201	EPE	C5-N4-C3	4.20	118.28	108.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
51	M	201	EPE	C7-N4-C3	2.74	118.23	111.23
51	M	201	EPE	C7-N4-C5	2.63	117.96	111.23
51	M	201	EPE	O3S-S-C10	2.33	109.53	105.77
51	M	201	EPE	O2S-S-C10	2.20	109.56	106.92

There are no chirality outliers.

All (5) torsion outliers are listed below:

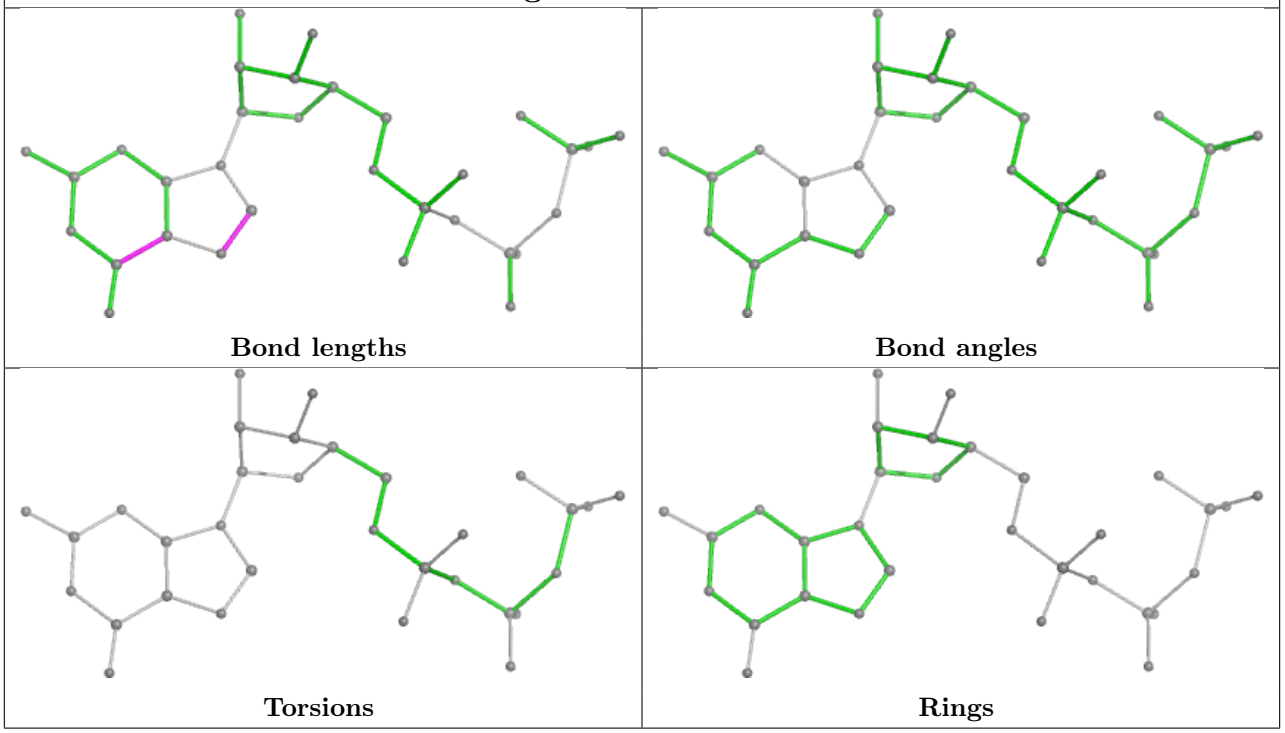
Mol	Chain	Res	Type	Atoms
51	M	201	EPE	C10-C9-N1-C2
51	M	201	EPE	C9-C10-S-O1S
51	M	201	EPE	C9-C10-S-O3S
51	M	201	EPE	C9-C10-S-O2S
51	M	201	EPE	C8-C7-N4-C5

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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 GTP B 205



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

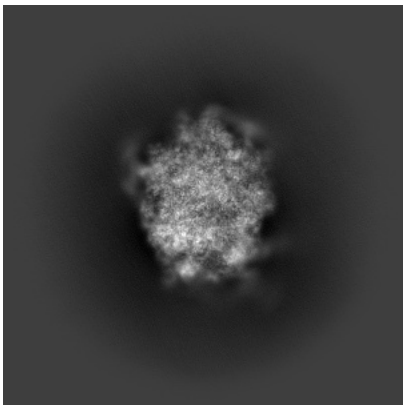
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-51452. These allow visual inspection of the internal detail of the map and identification of artifacts.

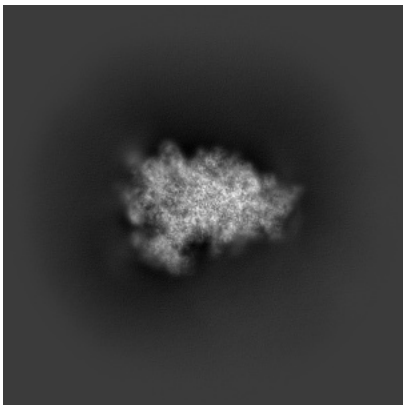
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

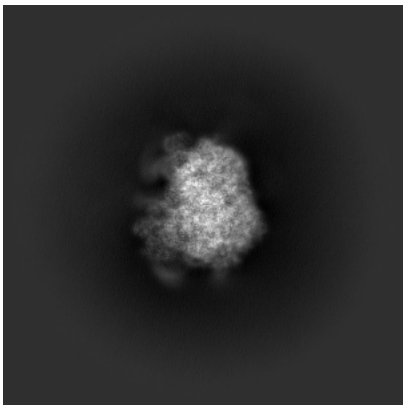
6.1.1 Primary map



X

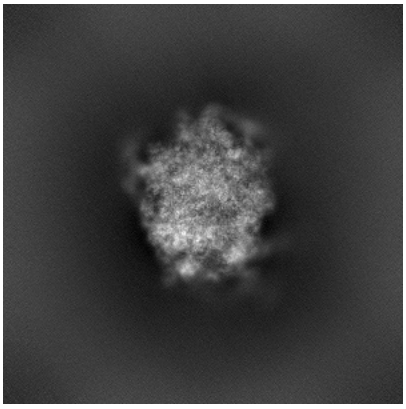


Y

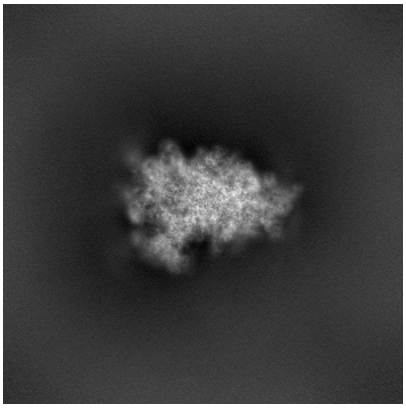


Z

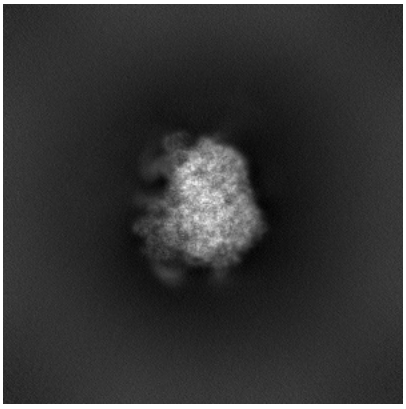
6.1.2 Raw map



X



Y

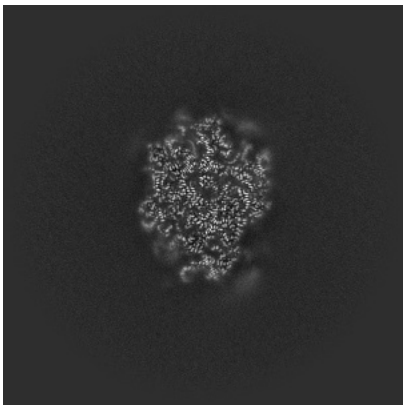


Z

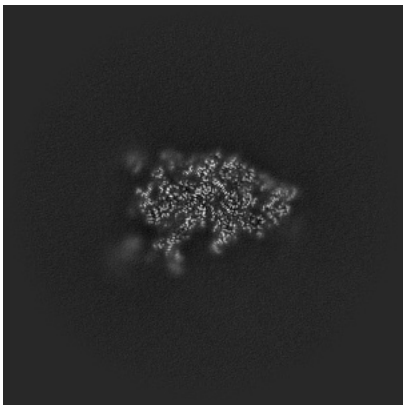
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

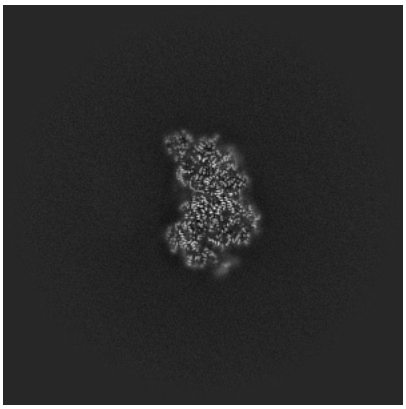
6.2.1 Primary map



X Index: 280

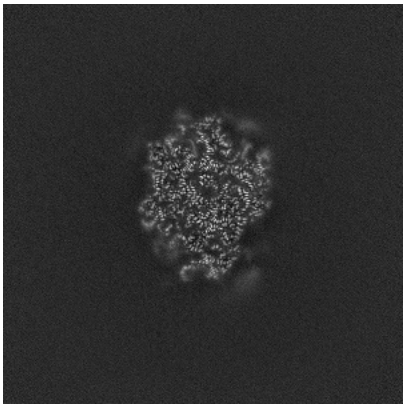


Y Index: 280

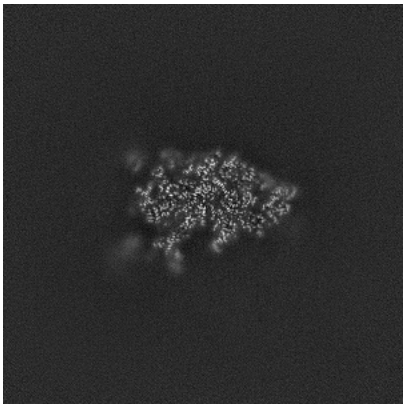


Z Index: 280

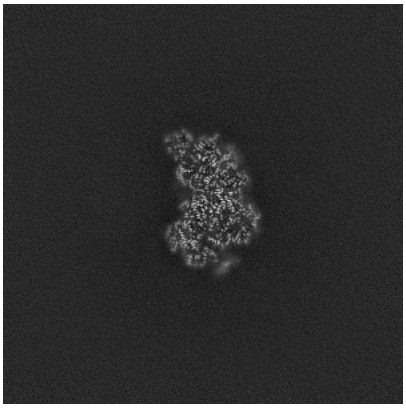
6.2.2 Raw map



X Index: 280



Y Index: 280

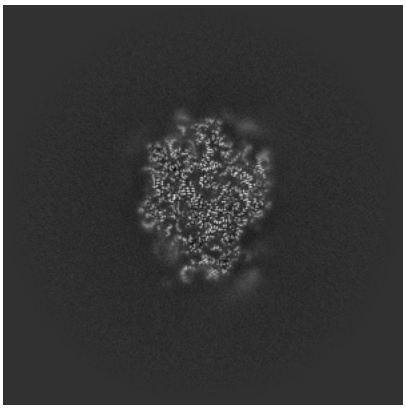


Z Index: 280

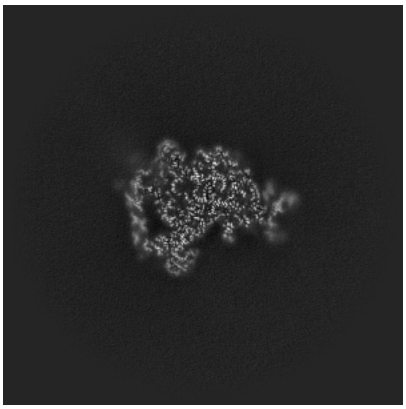
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

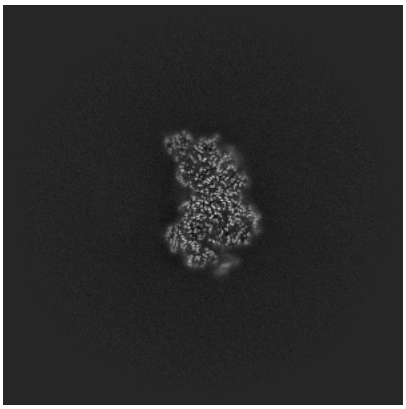
6.3.1 Primary map



X Index: 281

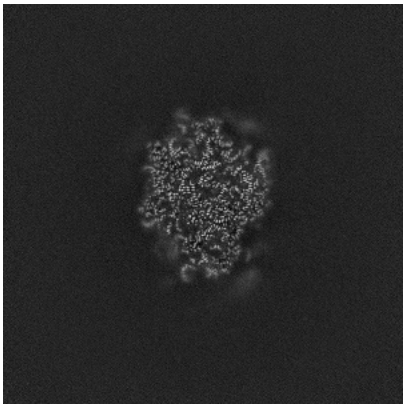


Y Index: 252

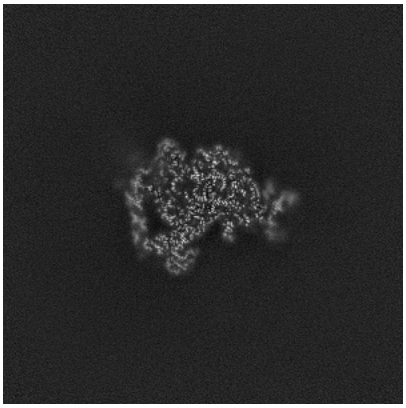


Z Index: 279

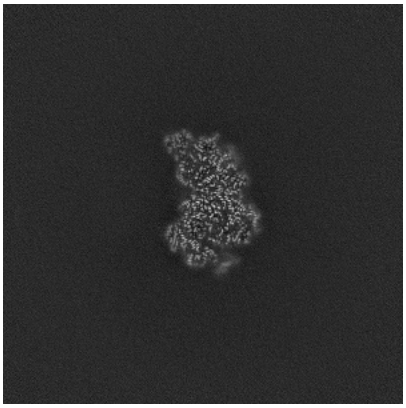
6.3.2 Raw map



X Index: 282



Y Index: 252

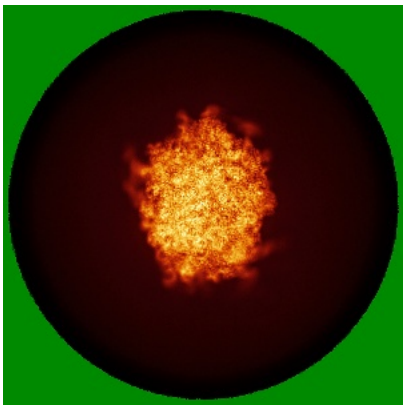


Z Index: 279

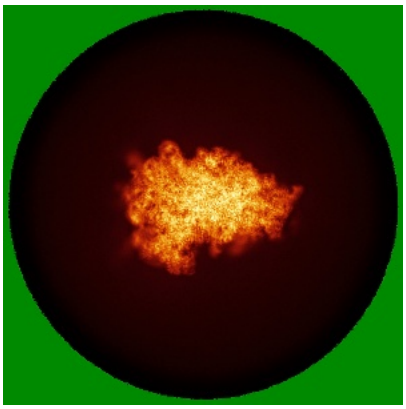
The images above show the largest variance slices of the map in three orthogonal directions.

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

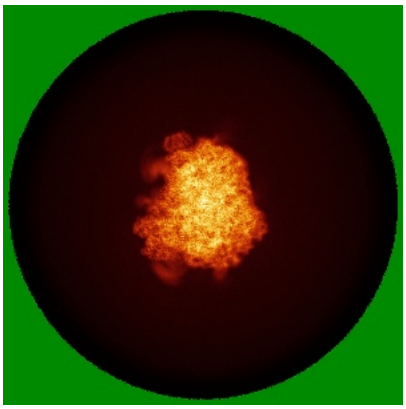
6.4.1 Primary map



X

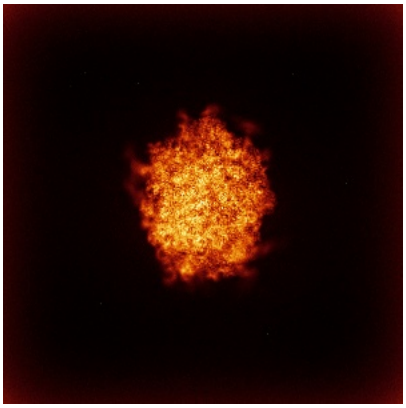


Y

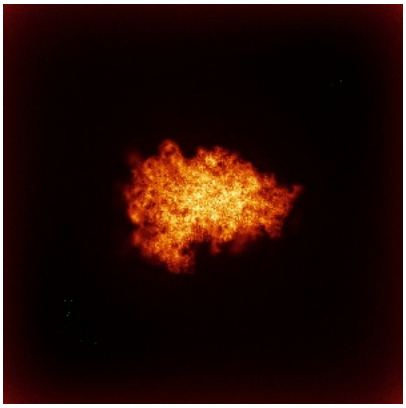


Z

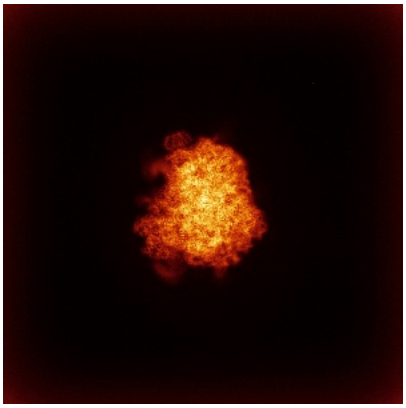
6.4.2 Raw map



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 0.5. 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.

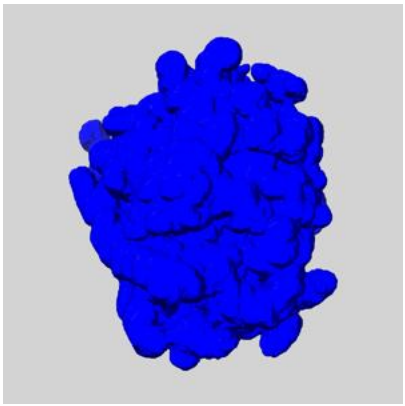
6.6 Mask visualisation (i)

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

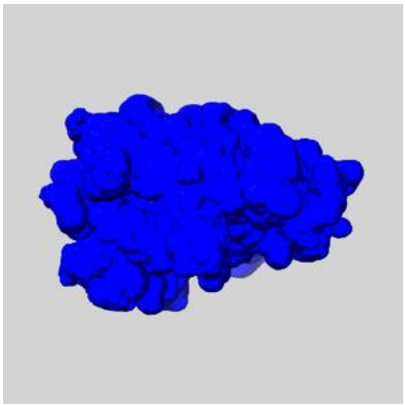
A mask typically either:

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

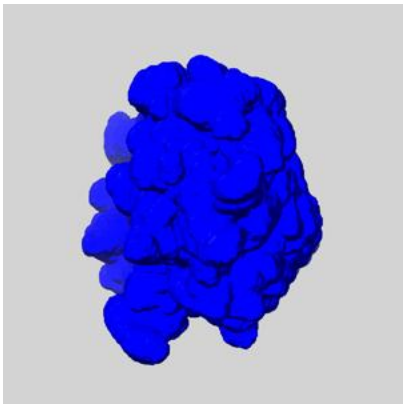
6.6.1 emd_51452_msk_1.map (i)



X



Y

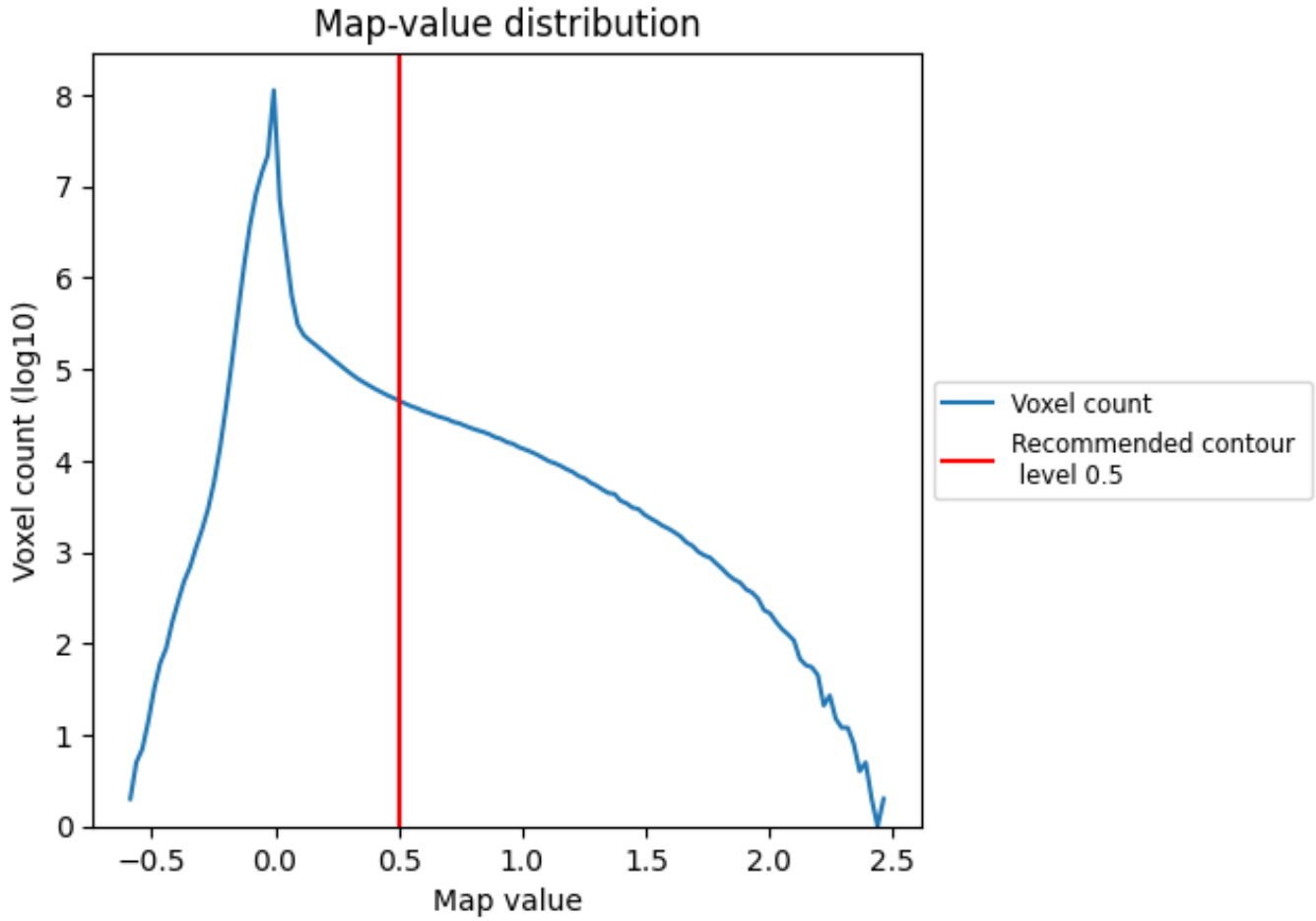


Z

7 Map analysis

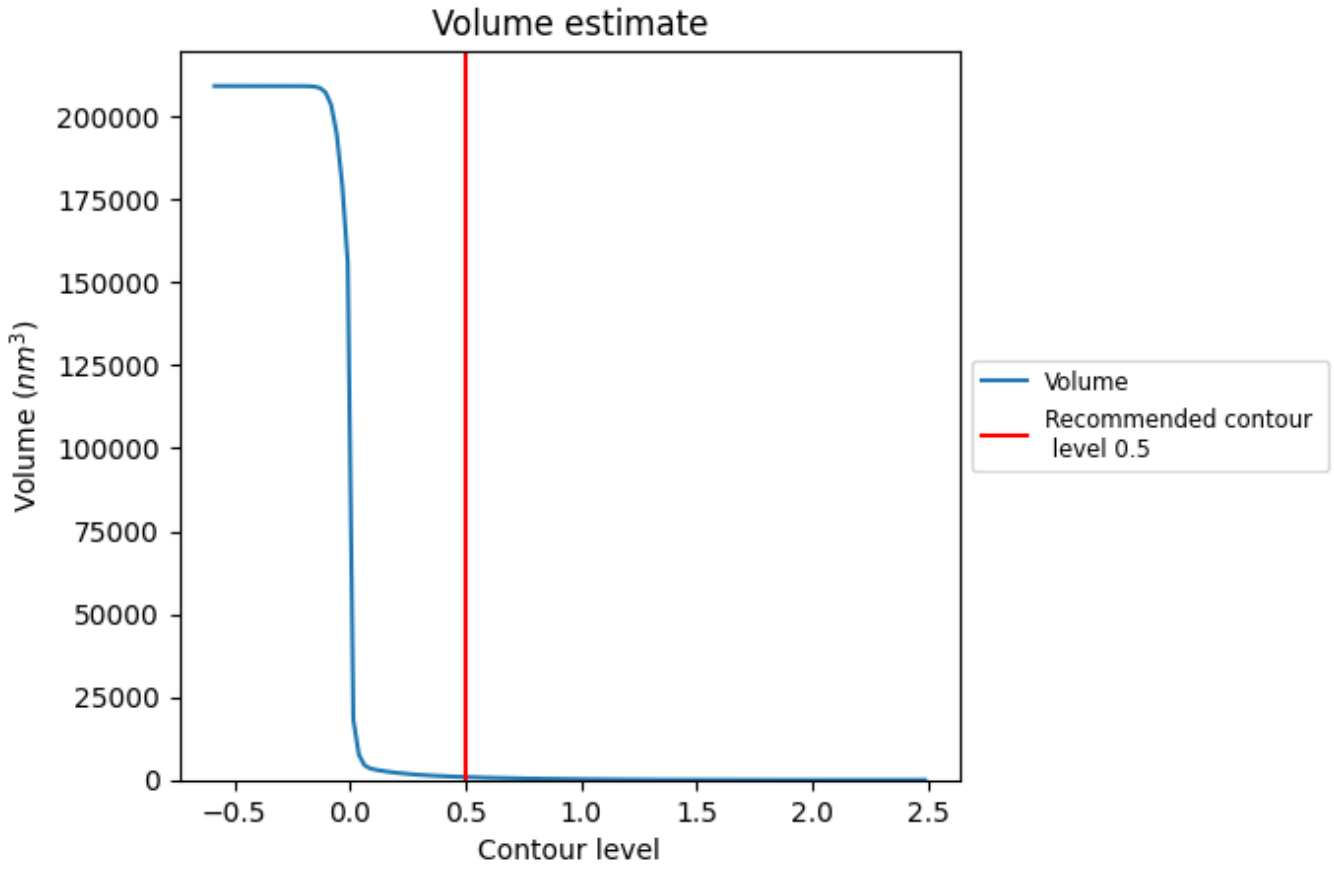
This section contains the results of statistical analysis of the map.

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.

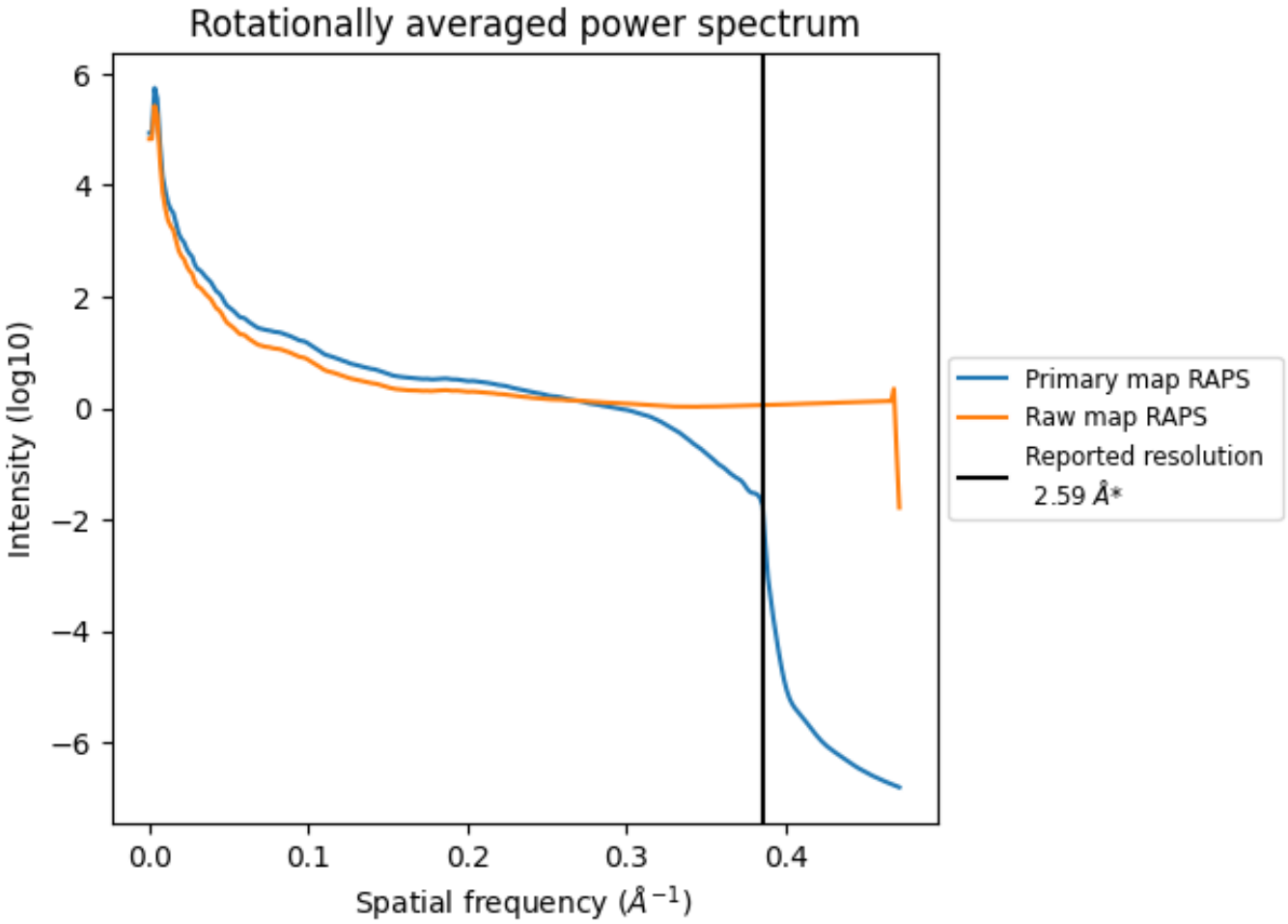
7.2 Volume estimate (i)



The volume at the recommended contour level is 877 nm^3; this corresponds to an approximate mass of 792 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)

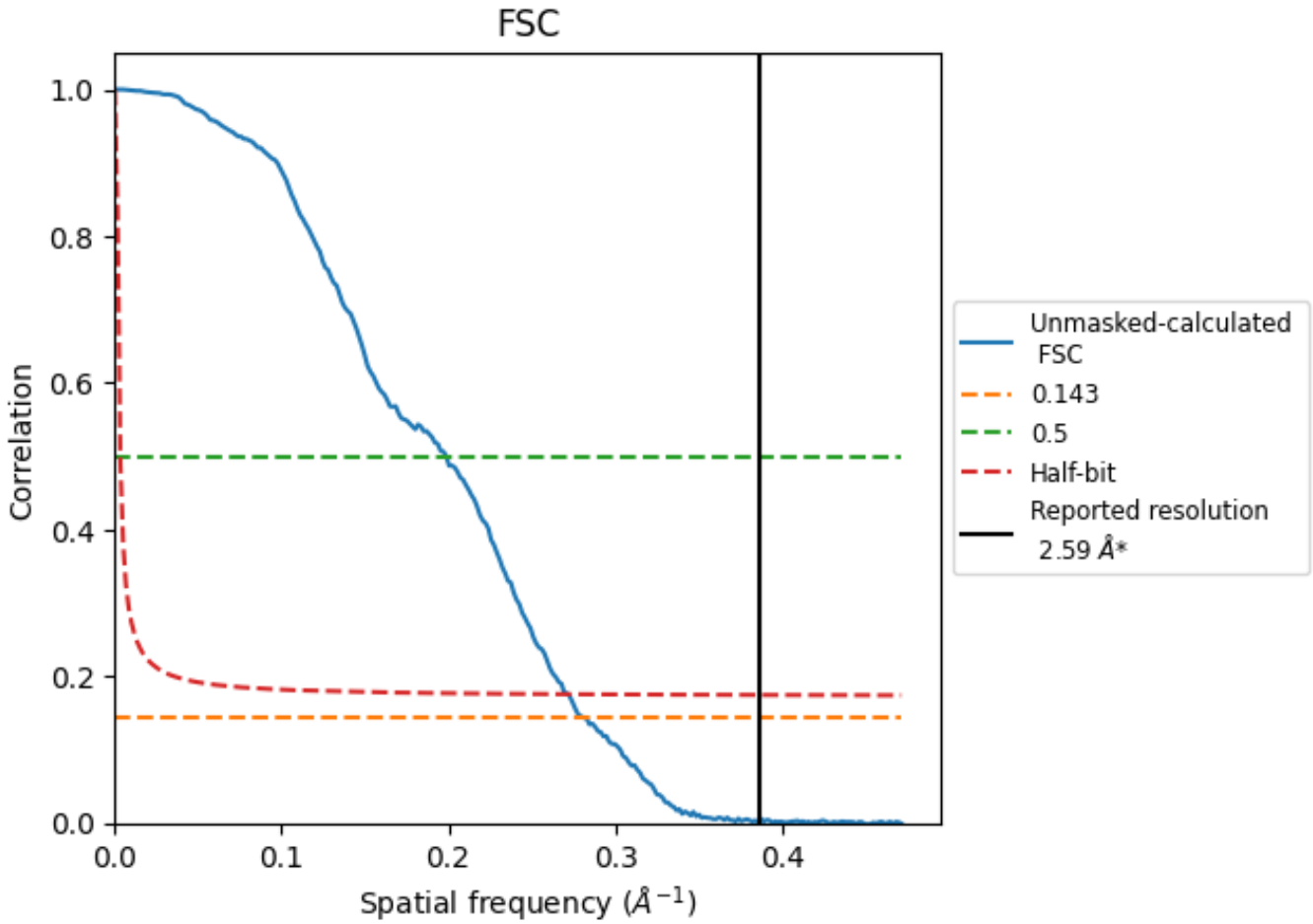


*Reported resolution corresponds to spatial frequency of 0.386 Å^{-1}

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 0.386 Å^{-1}

8.2 Resolution estimates (i)

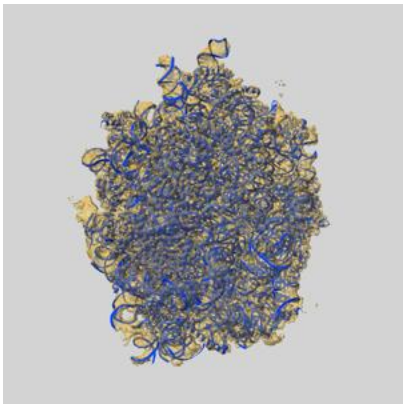
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.59	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.55	5.03	3.68

*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 3.55 differs from the reported value 2.59 by more than 10 %

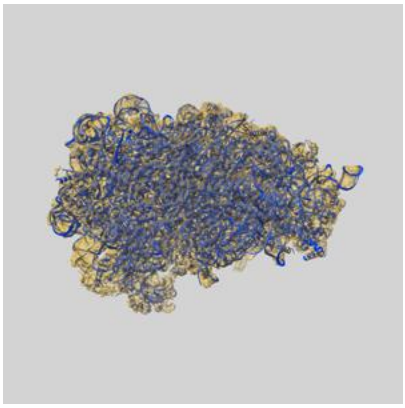
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-51452 and PDB model 9GMO. Per-residue inclusion information can be found in section 3 on page 15.

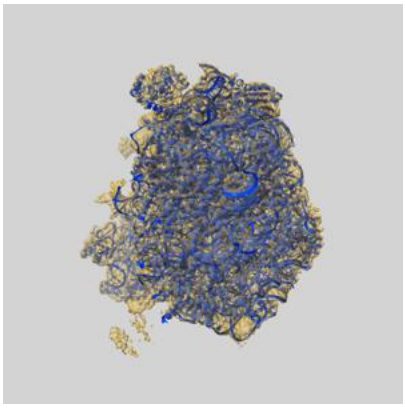
9.1 Map-model overlay



X



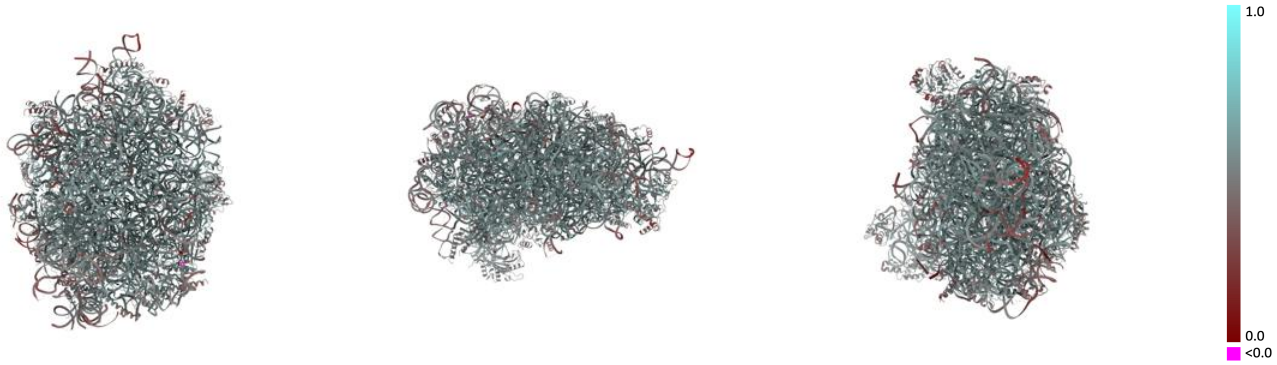
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.5 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.

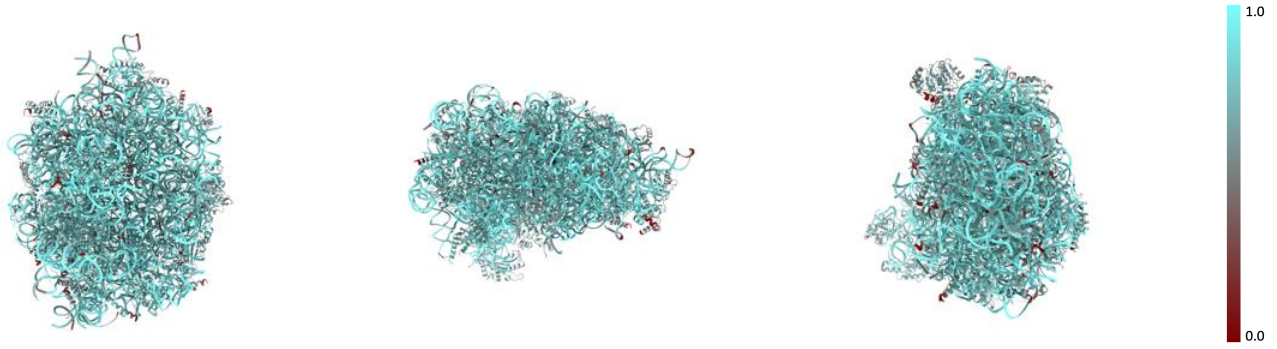
9.2 Q-score mapped to coordinate model



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.

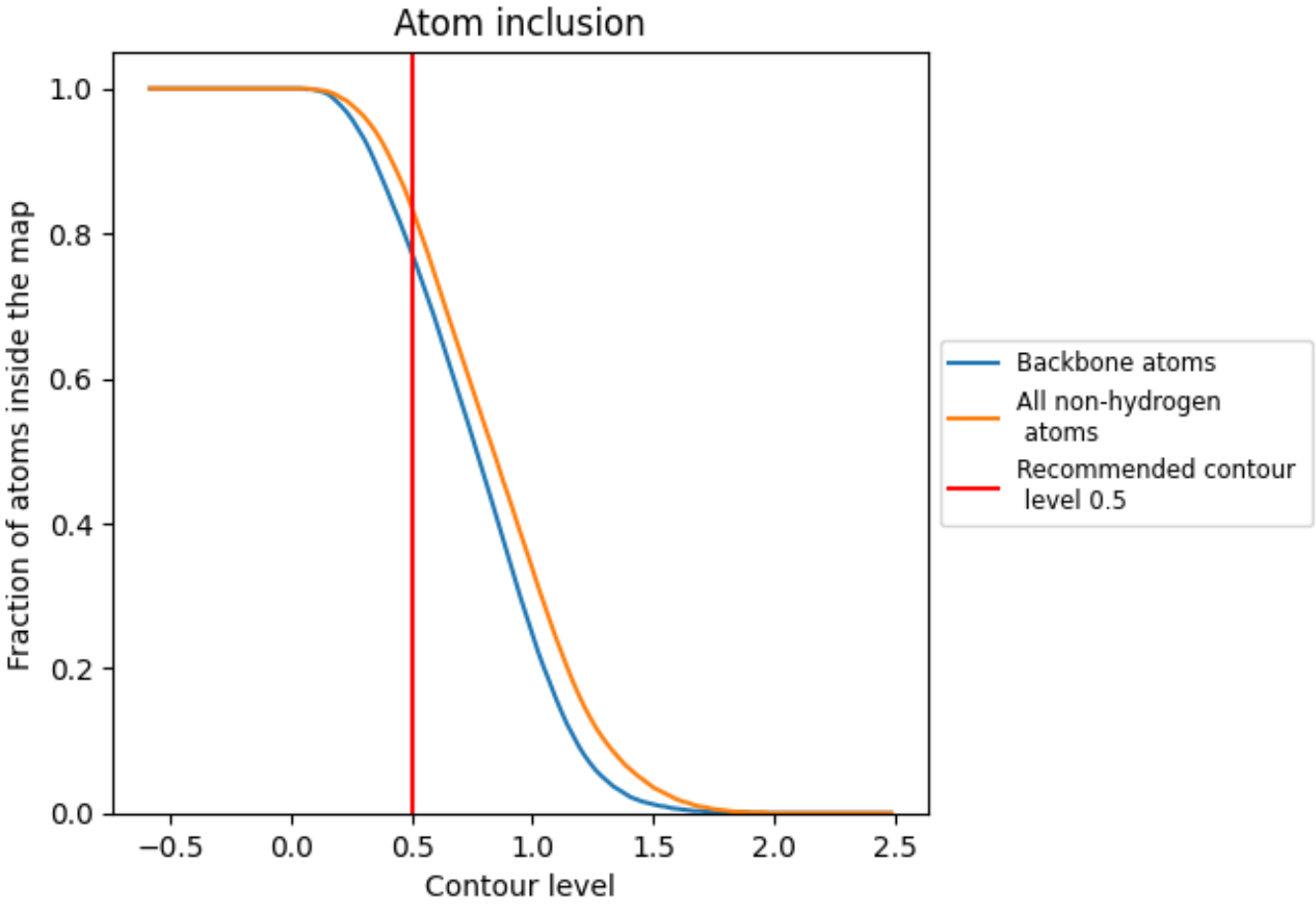
9.3 Atom inclusion mapped to coordinate model



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 (0.5).

9.4 Atom inclusion (i)



At the recommended contour level, 77% of all backbone atoms, 84% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8350	0.5360
0	0.1820	0.4420
A	0.9040	0.5330
B	0.9550	0.5510
C	0.9280	0.5480
D	0.7890	0.5740
E	0.7780	0.5540
F	0.7800	0.5590
G	0.7650	0.5170
H	0.7490	0.5260
I	0.7740	0.5560
J	0.7930	0.5540
K	0.7670	0.5670
L	0.7590	0.5250
M	0.7870	0.5620
N	0.7480	0.5390
O	0.6480	0.4540
P	0.7450	0.5570
Q	0.7260	0.5410
R	0.7620	0.5430
S	0.7790	0.5420
T	0.7160	0.5190
U	0.8070	0.5700
V	0.6970	0.5170
W	0.6460	0.4960
X	0.7500	0.5460
Y	0.7790	0.5700
Z	0.8230	0.5860
a	0.7200	0.5470
b	0.7530	0.5200
c	0.7030	0.5030
d	0.8290	0.5770
e	0.6300	0.4860
f	0.7550	0.5690
g	0.7670	0.5460

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Chain	Atom inclusion	Q-score
h	0.5910	0.4670
i	0.7010	0.5510
j	0.7040	0.5300
k	0.8100	0.5620
l	0.8260	0.5830
m	0.7680	0.5520
n	0.7030	0.5060
o	0.7300	0.5290
p	0.7540	0.5430
q	0.6960	0.4860
r	0.7390	0.5340
s	0.7860	0.5300