Full wwPDB EM Validation Report

Sep 21, 2024 – 08:37 am BST

PDB ID	:	8PJ3
EMDB ID	:	EMD-17698
Title	:	Structure of human 48S translation initiation complex upon transfer of initiator tRNA to eIF5B (48S-3)
Authors	:	Petrychenko, V.; Yi, S.-H.; Liedtke, D.; Peng, B.Z.; Rodnina, M.V.; Fischer, N.
Deposited on	:	2023-06-22
Resolution	:	3.70 Å(reported)

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

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

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

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

EMDB validation analysis	:	0.0.1.dev112
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	FAILED
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 3.70 Å.

There are no overall percentile quality scores available for this entry.

MolProbity failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 123641 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Eukaryotic translation initiation factor 5B.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	621	Total	C	N	O	S	0	0
			4920	3135	850	913	22		

- Molecule 2 is a protein called Eukaryotic translation initiation factor 3 subunit B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	588	Total	C	N	O	S	0	0
			3258	1986	633	634	5		

- Molecule 3 is a protein called Eukaryotic translation initiation factor 3 subunit I.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	2	304	Total	C	N	O	0	0
			1493	885	304	304		

- Molecule 4 is a protein called Eukaryotic translation initiation factor 3 subunit K.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	3	213	Total	C	N	O	0	0
			1057	631	213	213		

- Molecule 5 is a protein called Eukaryotic translation initiation factor 3 subunit F.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	4	257	Total	C	N	O	0	0
			1272	757	257	258		

- Molecule 6 is a protein called Eukaryotic translation initiation factor 3 subunit L.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	5	520	Total	C	N	O	S	0	0
			4347	2814	721	793	19		

- Molecule 7 is a protein called Eukaryotic translation initiation factor 3 subunit M.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	362	Total	C	N	O	S	0	0
			2196	1348	414	427	7		

- Molecule 8 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	57	Total	C	N	O	P	0	0
			1218	547	231	383	57		

- Molecule 9 is a protein called Eukaryotic translation initiation factor 3 subunit H.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	8	317	Total	C	N	O	0	0
			1574	937	318	319		

- Molecule 10 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	9	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 11 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	A	1754	Total	C	N	O	P	0	0
			37429	16718	6714	12244	1753		

- Molecule 12 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	B	142	Total	C	N	O	S	0	0
			1166	743	218	199	6		

- Molecule 13 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	C	256	Total	C	N	O	S	0	0
			2035	1302	378	347	8		

- Molecule 14 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	D	177	Total	C	N	O	S	0	0
			1477	941	295	239	2		

- Molecule 15 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	E	140	Total	C	N	O	S	0	0
			1087	687	215	182	3		

- Molecule 16 is a protein called Small ribosomal subunit protein eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	F	59	Total	C	N	O	S	0	0
			461	285	100	75	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	125	PRO	LYS	conflict	UNP P62861

- Molecule 17 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	G	177	Total	C	N	O	S	0	0
			1430	917	260	252	1		

- Molecule 18 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	H	81	Total	C	N	O	S	0	0
			631	397	116	111	7		

- Molecule 19 is a protein called 40S ribosomal protein S13.

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

- Molecule 20 is a protein called 40S ribosomal protein S15a.

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

- Molecule 21 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	K	81	Total	C	N	O	S	0	0
			617	380	114	118	5		

- Molecule 22 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	L	220	Total	C	N	O	S	0	0
			1707	1104	292	301	10		

- Molecule 23 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	M	131	Total	C	N	O	S	0	0
			1064	668	198	194	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
24	N	207	Total	C	N	O	S	0	0
			1633	1040	288	297	8		

- Molecule 25 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	O	211	Total	C	N	O	S	0	0
			1715	1088	307	306	14		

- Molecule 26 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	P	133	Total	C	N	O	S	0	0
			997	610	196	185	6		

- Molecule 27 is a protein called 40S ribosomal protein S26.

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

- Molecule 28 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	R	198	Total	C	N	O	S	0	0
			1627	1021	322	279	5		

- Molecule 29 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	S	230	Total	C	N	O	S	0	0
			1862	1164	371	320	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
30	T	125	Total	C	N	O	S	0	0
			1015	642	199	169	5		

- Molecule 31 is a protein called 40S ribosomal protein S5.

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

- Molecule 32 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Y	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 33 is a protein called 40S ribosomal protein S3.

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

- Molecule 34 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	a	99	Total	C	N	O	S	0	0
			834	544	149	135	6		

- Molecule 35 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	b	131	Total	C	N	O	S	0	0
			1072	682	201	182	7		

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

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

- Molecule 37 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	d	142	Total	C	N	O	S	0	0
			1105	692	213	197	3		

- Molecule 38 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	e	81	Total	C	N	O	S	0	0
			649	420	119	109	1		

- Molecule 39 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	f	149	Total	C	N	O	S	0	0
			1227	770	249	207	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
40	h	103	Total	C	N	O	S	0	0
			817	511	155	147	4		

- Molecule 41 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	i	50	Total	C	N	O	S	0	0
			419	262	85	67	5		

- Molecule 42 is a protein called Ubiquitin.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	k	68	Total	C	N	O	S	0	0
			554	349	103	95	7		

- Molecule 43 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	m	122	Total	C	N	O	S	0	0
			950	596	168	177	9		

- Molecule 44 is a protein called 40S ribosomal protein S28.

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

- Molecule 45 is a protein called Eukaryotic translation initiation factor 3 subunit G.

Mol	Chain	Residues	Atoms				AltConf	Trace
45	o	77	Total	C	N	O	0	0
			616	389	111	116		

- Molecule 46 is a protein called Eukaryotic translation initiation factor 1A, X-chromosomal.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	q	117	Total	C	N	O	S	0	0
			943	585	180	174	4		

- Molecule 47 is a protein called Eukaryotic translation initiation factor 2 subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	r	296	Total	C	N	O	S	0	0
			2138	1342	384	404	8		

- Molecule 48 is a protein called Eukaryotic translation initiation factor 2 subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	t	455	Total	C	N	O	S	0	0
			3439	2179	599	643	18		

- Molecule 49 is a protein called Eukaryotic translation initiation factor 3 subunit A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	u	706	Total	C	N	O	S	1	0
			5383	3379	982	999	23		

- Molecule 50 is a protein called Eukaryotic translation initiation factor 3 subunit E.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	v	405	Total	C	N	O	S	0	0
			2740	1720	498	510	12		

- Molecule 51 is a RNA chain called Initiator Met-tRNA-i.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	w	75	Total	C	N	O	P	0	0
			1604	717	298	515	74		

- Molecule 52 is a protein called Eukaryotic translation initiation factor 3 subunit D.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	x	423	Total	C	N	O	S	0	0
			2842	1752	523	557	10		

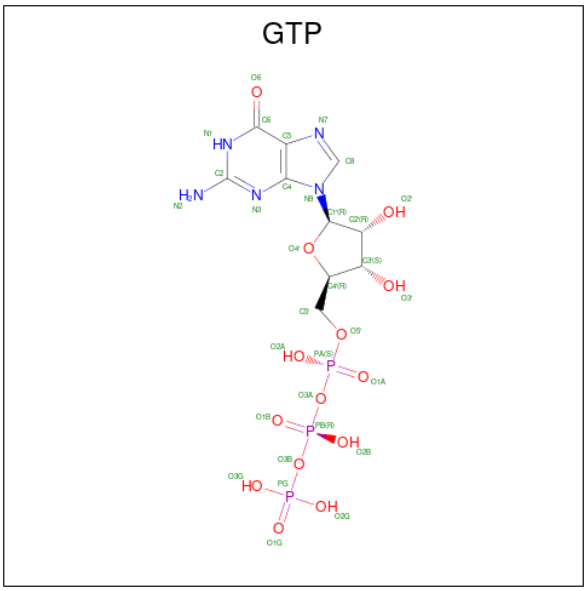
- Molecule 53 is a protein called Eukaryotic translation initiation factor 3 subunit C.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	y	656	Total	C	N	O	S	0	0
			5263	3312	939	977	35		

- Molecule 54 is a protein called Eukaryotic translation initiation factor 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	z	132	Total	C	N	O	S	0	0
			1044	662	184	188	10		

- Molecule 55 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
55	0	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 56 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		AltConf
56	0	1	Total	Na	0
			1	1	

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
57	0	1	Total	Mg	0
			1	1	
57	A	87	Total	Mg	0
			87	87	
57	f	1	Total	Mg	0
			1	1	

- Molecule 58 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
58	Q	1	Total	Zn	0
			1	1	
58	k	1	Total	Zn	0
			1	1	

MolProbity failed to run properly - this section is therefore empty.

3 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	25632	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 ($e^-/Å^2$)	45	Depositor
Minimum defocus (nm)	200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	20.786	Depositor
Minimum map value	-9.149	Depositor
Average map value	0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	3	Depositor
Map size (Å)	417.59998, 417.59998, 417.59998	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.16, 1.16, 1.16	Depositor

4 Model quality

4.1 Standard geometry

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles

4.3.1 Protein backbone

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA

MolProbity failed to run properly - this section is therefore empty.

4.4 Non-standard residues in protein, DNA, RNA chains

29 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	$\#\|Z\| > 2$
11	B8N	A	1248	11	24,29,30	3.06	6 (25%)	29,42,45	1.72	6 (20%)
11	PSU	A	119	11	18,21,22	1.01	1 (5%)	22,30,33	1.61	4 (18%)
11	A2M	A	27	57,11	18,25,26	4.30	8 (44%)	18,36,39	3.81	5 (27%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
11	UR3	A	1830	11	19,22,23	2.82	7 (36%)	26,32,35	1.47	4 (15%)
11	6MZ	A	1832	57,11	18,25,26	1.74	3 (16%)	16,36,39	2.09	3 (18%)
11	5MU	A	814	11	19,22,23	0.23	0	28,32,35	0.32	0
11	OMG	A	509	57,11	18,26,27	2.63	8 (44%)	19,38,41	2.66	8 (42%)
11	OMC	A	174	57,11	19,22,23	0.55	0	26,31,34	0.68	0
11	A2M	A	159	11	18,25,26	4.31	8 (44%)	18,36,39	3.85	5 (27%)
11	A2M	A	166	11	18,25,26	4.31	9 (50%)	18,36,39	3.77	4 (22%)
11	OMU	A	121	11	19,22,23	3.01	6 (31%)	26,31,34	1.67	5 (19%)
11	OMG	A	683	11	18,26,27	2.56	8 (44%)	19,38,41	2.95	11 (57%)
11	A2M	A	1031	11	18,25,26	4.33	7 (38%)	18,36,39	3.74	4 (22%)
11	MA6	A	1851	11	18,26,27	1.36	3 (16%)	19,38,41	3.36	2 (10%)
11	PSU	A	612	11	18,21,22	1.03	1 (5%)	22,30,33	1.81	5 (22%)
11	OMC	A	517	11	19,22,23	0.58	0	26,31,34	0.80	0
11	JMH	A	1219	57,11	18,22,23	2.93	5 (27%)	21,32,35	1.76	5 (23%)
11	OMU	A	116	11	19,22,23	3.00	6 (31%)	26,31,34	1.58	4 (15%)
11	A2M	A	484	11	18,25,26	4.25	9 (50%)	18,36,39	3.85	4 (22%)
11	OMC	A	1703	11	19,22,23	0.58	0	26,31,34	0.65	0
11	OMG	A	644	11	18,26,27	2.42	8 (44%)	19,38,41	2.62	8 (42%)
11	MA6	A	1850	11	18,26,27	1.36	3 (16%)	19,38,41	3.13	2 (10%)
11	PSU	A	1081	11	18,21,22	1.01	1 (5%)	22,30,33	1.82	3 (13%)
11	A2M	A	1678	11	18,25,26	4.34	9 (50%)	18,36,39	3.88	4 (22%)
11	5MC	A	1374	11	18,22,23	0.59	0	26,32,35	0.64	0
11	PSU	A	822	11	18,21,22	1.03	1 (5%)	22,30,33	1.78	5 (22%)
11	PSU	A	823	11	18,21,22	1.09	1 (5%)	22,30,33	1.77	4 (18%)
11	PSU	A	1243	11	18,21,22	1.04	1 (5%)	22,30,33	1.84	5 (22%)
11	A2M	A	668	57,11	18,25,26	4.22	8 (44%)	18,36,39	3.79	6 (33%)

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
11	B8N	A	1248	11	-	3/16/34/35	0/2/2/2
11	PSU	A	119	11	-	2/7/25/26	0/2/2/2
11	A2M	A	27	57,11	-	1/5/27/28	0/3/3/3
11	UR3	A	1830	11	-	2/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	6MZ	A	1832	57,11	-	2/5/27/28	0/3/3/3
11	5MU	A	814	11	-	0/7/25/26	0/2/2/2
11	OMG	A	509	57,11	-	3/5/27/28	0/3/3/3
11	OMC	A	174	57,11	-	0/9/27/28	0/2/2/2
11	A2M	A	159	11	-	1/5/27/28	0/3/3/3
11	A2M	A	166	11	-	1/5/27/28	0/3/3/3
11	OMU	A	121	11	-	0/9/27/28	0/2/2/2
11	OMG	A	683	11	-	2/5/27/28	0/3/3/3
11	A2M	A	1031	11	-	1/5/27/28	0/3/3/3
11	MA6	A	1851	11	-	6/7/29/30	0/3/3/3
11	PSU	A	612	11	-	0/7/25/26	0/2/2/2
11	OMC	A	517	11	-	0/9/27/28	0/2/2/2
11	JMH	A	1219	57,11	-	1/7/25/26	0/2/2/2
11	OMU	A	116	11	-	1/9/27/28	0/2/2/2
11	A2M	A	484	11	-	1/5/27/28	0/3/3/3
11	OMC	A	1703	11	-	0/9/27/28	0/2/2/2
11	OMG	A	644	11	-	4/5/27/28	0/3/3/3
11	MA6	A	1850	11	-	3/7/29/30	0/3/3/3
11	PSU	A	1081	11	-	1/7/25/26	0/2/2/2
11	A2M	A	1678	11	-	1/5/27/28	0/3/3/3
11	5MC	A	1374	11	-	0/7/25/26	0/2/2/2
11	PSU	A	822	11	-	2/7/25/26	0/2/2/2
11	PSU	A	823	11	-	0/7/25/26	0/2/2/2
11	PSU	A	1243	11	-	0/7/25/26	0/2/2/2
11	A2M	A	668	57,11	-	2/5/27/28	0/3/3/3

All (127) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	A	1031	A2M	C3'-C2'	-12.96	1.24	1.52
11	A	27	A2M	C3'-C2'	-12.90	1.24	1.52
11	A	1678	A2M	C3'-C2'	-12.77	1.24	1.52
11	A	166	A2M	C3'-C2'	-12.76	1.24	1.52
11	A	159	A2M	C3'-C2'	-12.66	1.24	1.52
11	A	484	A2M	C3'-C2'	-12.51	1.25	1.52
11	A	668	A2M	C3'-C2'	-12.40	1.25	1.52
11	A	1219	JMH	C2-N1	8.43	1.50	1.38
11	A	1248	B8N	C4-N3	-8.31	1.25	1.40
11	A	159	A2M	O4'-C1'	7.80	1.52	1.41
11	A	1678	A2M	O4'-C1'	7.63	1.51	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	A	1830	UR3	C2-N1	7.63	1.49	1.38
11	A	166	A2M	O4'-C1'	7.61	1.51	1.41
11	A	1248	B8N	C6-N1	7.56	1.55	1.36
11	A	27	A2M	O4'-C1'	7.54	1.51	1.41
11	A	1031	A2M	O4'-C1'	7.53	1.51	1.41
11	A	484	A2M	O4'-C1'	7.53	1.51	1.41
11	A	116	OMU	C2-N1	7.06	1.49	1.38
11	A	121	OMU	C2-N1	7.06	1.49	1.38
11	A	116	OMU	C2-N3	7.04	1.50	1.38
11	A	121	OMU	C2-N3	6.98	1.50	1.38
11	A	668	A2M	O4'-C4'	-6.93	1.29	1.45
11	A	668	A2M	O4'-C1'	6.89	1.50	1.41
11	A	1678	A2M	O4'-C4'	-6.68	1.30	1.45
11	A	159	A2M	O4'-C4'	-6.46	1.30	1.45
11	A	166	A2M	O4'-C4'	-6.43	1.30	1.45
11	A	1031	A2M	O4'-C4'	-6.43	1.30	1.45
11	A	484	A2M	O4'-C4'	-6.30	1.30	1.45
11	A	27	A2M	O4'-C4'	-6.24	1.31	1.45
11	A	121	OMU	C6-C5	6.20	1.49	1.35
11	A	116	OMU	C6-C5	6.13	1.49	1.35
11	A	1830	UR3	C6-C5	6.10	1.49	1.35
11	A	1219	JMH	C6-C5	5.98	1.49	1.35
11	A	1248	B8N	C6-C5	5.53	1.42	1.34
11	A	1832	6MZ	C6-N6	5.35	1.43	1.35
11	A	509	OMG	C2-N3	5.22	1.45	1.33
11	A	1678	A2M	C3'-C4'	5.21	1.66	1.53
11	A	509	OMG	C4-N3	5.17	1.49	1.37
11	A	159	A2M	C3'-C4'	5.14	1.66	1.53
11	A	1219	JMH	C2-N3	5.12	1.48	1.39
11	A	484	A2M	C3'-C4'	5.09	1.66	1.53
11	A	509	OMG	C2-N2	5.09	1.46	1.34
11	A	1830	UR3	C2-N3	5.04	1.48	1.39
11	A	683	OMG	C2-N3	5.01	1.45	1.33
11	A	1031	A2M	C3'-C4'	5.01	1.65	1.53
11	A	683	OMG	C2-N2	5.01	1.46	1.34
11	A	1248	B8N	C2-N1	5.00	1.54	1.39
11	A	166	A2M	C3'-C4'	4.99	1.65	1.53
11	A	27	A2M	C3'-C4'	4.98	1.65	1.53
11	A	668	A2M	C3'-C4'	4.97	1.65	1.53
11	A	644	OMG	C2-N2	4.94	1.45	1.34
11	A	644	OMG	C4-N3	4.88	1.49	1.37
11	A	683	OMG	C4-N3	4.80	1.49	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	A	644	OMG	C2-N3	4.78	1.44	1.33
11	A	121	OMU	C4-N3	4.09	1.45	1.38
11	A	116	OMU	C4-N3	4.04	1.45	1.38
11	A	1248	B8N	C1'-C5	3.68	1.58	1.50
11	A	683	OMG	C6-N1	3.56	1.43	1.37
11	A	509	OMG	C6-N1	3.50	1.43	1.37
11	A	1248	B8N	O2-C2	-3.46	1.16	1.22
11	A	484	A2M	O2'-C2'	3.45	1.51	1.42
11	A	1031	A2M	O2'-C2'	3.44	1.51	1.42
11	A	823	PSU	C6-C5	3.42	1.39	1.35
11	A	119	PSU	C6-C5	3.42	1.39	1.35
11	A	166	A2M	O2'-C2'	3.42	1.51	1.42
11	A	27	A2M	O2'-C2'	3.41	1.51	1.42
11	A	159	A2M	O2'-C2'	3.39	1.51	1.42
11	A	1678	A2M	O2'-C2'	3.37	1.51	1.42
11	A	1243	PSU	C6-C5	3.36	1.39	1.35
11	A	668	A2M	O2'-C2'	3.31	1.51	1.42
11	A	1851	MA6	C2-N3	3.17	1.37	1.32
11	A	822	PSU	C6-C5	3.17	1.39	1.35
11	A	1850	MA6	C2-N3	3.17	1.37	1.32
11	A	484	A2M	C6-N6	3.14	1.45	1.34
11	A	1678	A2M	C6-N6	3.12	1.45	1.34
11	A	159	A2M	C6-N6	3.12	1.45	1.34
11	A	166	A2M	C6-N6	3.10	1.45	1.34
11	A	1031	A2M	C6-N6	3.10	1.45	1.34
11	A	668	A2M	C6-N6	3.09	1.45	1.34
11	A	1081	PSU	C6-C5	3.08	1.38	1.35
11	A	27	A2M	C6-N6	3.07	1.45	1.34
11	A	1830	UR3	C6-N1	3.02	1.45	1.38
11	A	612	PSU	C6-C5	2.98	1.38	1.35
11	A	509	OMG	C5-C6	2.91	1.53	1.47
11	A	1851	MA6	C5-C4	-2.90	1.33	1.40
11	A	644	OMG	C6-N1	2.90	1.42	1.37
11	A	668	A2M	C5-C4	-2.86	1.33	1.40
11	A	1219	JMH	C6-N1	2.82	1.44	1.38
11	A	1850	MA6	C5-C4	-2.82	1.33	1.40
11	A	1031	A2M	C5-C4	-2.80	1.33	1.40
11	A	166	A2M	C5-C4	-2.79	1.33	1.40
11	A	1678	A2M	C5-C4	-2.79	1.33	1.40
11	A	27	A2M	C5-C4	-2.76	1.33	1.40
11	A	484	A2M	C5-C4	-2.71	1.33	1.40
11	A	683	OMG	C5-C6	2.69	1.52	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	A	159	A2M	C5-C4	-2.68	1.33	1.40
11	A	121	OMU	C6-N1	2.59	1.44	1.38
11	A	116	OMU	C6-N1	2.59	1.44	1.38
11	A	683	OMG	C2-N1	2.54	1.44	1.37
11	A	1219	JMH	C5-C4	2.49	1.48	1.42
11	A	509	OMG	O6-C6	-2.47	1.18	1.23
11	A	644	OMG	C5-C6	2.45	1.52	1.47
11	A	683	OMG	C5-C4	-2.44	1.36	1.43
11	A	644	OMG	O6-C6	-2.44	1.18	1.23
11	A	1832	6MZ	C5-C4	-2.42	1.34	1.40
11	A	644	OMG	C5-C4	-2.40	1.37	1.43
11	A	683	OMG	O6-C6	-2.39	1.18	1.23
11	A	509	OMG	C2-N1	2.36	1.43	1.37
11	A	509	OMG	C5-C4	-2.34	1.37	1.43
11	A	1830	UR3	O4-C4	-2.32	1.18	1.23
11	A	1832	6MZ	C9-N6	-2.27	1.41	1.45
11	A	644	OMG	C2-N1	2.22	1.43	1.37
11	A	1830	UR3	O2-C2	-2.21	1.18	1.22
11	A	1830	UR3	C5-C4	2.21	1.49	1.43
11	A	484	A2M	C2-N3	2.21	1.35	1.32
11	A	121	OMU	C5-C4	2.17	1.48	1.43
11	A	166	A2M	O3'-C3'	2.10	1.47	1.43
11	A	27	A2M	C2-N3	2.10	1.35	1.32
11	A	668	A2M	O3'-C3'	2.09	1.47	1.43
11	A	159	A2M	C2-N3	2.09	1.35	1.32
11	A	1678	A2M	C2-N3	2.09	1.35	1.32
11	A	116	OMU	C5-C4	2.07	1.48	1.43
11	A	1678	A2M	O3'-C3'	2.06	1.47	1.43
11	A	166	A2M	C2-N3	2.04	1.35	1.32
11	A	1851	MA6	C4-N3	2.03	1.38	1.35
11	A	484	A2M	O3'-C3'	2.03	1.47	1.43
11	A	1850	MA6	C4-N3	2.01	1.38	1.35

All (116) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	A	1851	MA6	N1-C6-N6	-13.20	103.17	117.06
11	A	1850	MA6	N1-C6-N6	-12.41	103.99	117.06
11	A	1678	A2M	C1'-N9-C4	10.39	144.89	126.64
11	A	484	A2M	C1'-N9-C4	10.33	144.79	126.64
11	A	27	A2M	C1'-N9-C4	10.24	144.64	126.64
11	A	159	A2M	C1'-N9-C4	10.17	144.50	126.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	A	166	A2M	C1'-N9-C4	9.75	143.77	126.64
11	A	1031	A2M	C1'-N9-C4	9.75	143.77	126.64
11	A	668	A2M	C1'-N9-C4	9.62	143.54	126.64
11	A	668	A2M	C5-C6-N6	9.09	134.16	120.35
11	A	1678	A2M	C5-C6-N6	9.07	134.14	120.35
11	A	166	A2M	C5-C6-N6	8.96	133.96	120.35
11	A	1031	A2M	C5-C6-N6	8.93	133.93	120.35
11	A	159	A2M	C5-C6-N6	8.92	133.91	120.35
11	A	484	A2M	C5-C6-N6	8.77	133.69	120.35
11	A	27	A2M	C5-C6-N6	8.76	133.66	120.35
11	A	683	OMG	O2'-C2'-C1'	7.54	124.04	109.09
11	A	644	OMG	O2'-C2'-C1'	6.16	121.31	109.09
11	A	668	A2M	N6-C6-N1	-6.09	105.93	118.57
11	A	1678	A2M	N6-C6-N1	-6.06	105.99	118.57
11	A	159	A2M	N6-C6-N1	-6.03	106.06	118.57
11	A	509	OMG	O2'-C2'-C1'	6.01	121.02	109.09
11	A	1031	A2M	N6-C6-N1	-5.98	106.17	118.57
11	A	166	A2M	N6-C6-N1	-5.97	106.17	118.57
11	A	484	A2M	N6-C6-N1	-5.96	106.20	118.57
11	A	27	A2M	N6-C6-N1	-5.89	106.34	118.57
11	A	1832	6MZ	N3-C2-N1	-5.81	119.60	128.68
11	A	166	A2M	N3-C2-N1	-5.80	119.61	128.68
11	A	1851	MA6	N3-C2-N1	-5.75	119.70	128.68
11	A	1678	A2M	N3-C2-N1	-5.71	119.76	128.68
11	A	644	OMG	O3'-C3'-C4'	5.68	127.46	111.05
11	A	27	A2M	N3-C2-N1	-5.66	119.83	128.68
11	A	1031	A2M	N3-C2-N1	-5.63	119.88	128.68
11	A	484	A2M	N3-C2-N1	-5.61	119.91	128.68
11	A	159	A2M	N3-C2-N1	-5.44	120.18	128.68
11	A	668	A2M	N3-C2-N1	-5.40	120.24	128.68
11	A	1850	MA6	N3-C2-N1	-5.24	120.48	128.68
11	A	121	OMU	C4-N3-C2	-5.13	119.82	126.58
11	A	509	OMG	O3'-C3'-C4'	5.07	125.71	111.05
11	A	1248	B8N	C5-C4-N3	4.90	125.25	116.17
11	A	1081	PSU	C4-N3-C2	-4.80	119.43	126.34
11	A	1243	PSU	N1-C2-N3	4.80	120.56	115.13
11	A	683	OMG	O3'-C3'-C2'	4.66	124.39	111.17
11	A	1243	PSU	C4-N3-C2	-4.64	119.65	126.34
11	A	116	OMU	C4-N3-C2	-4.63	120.47	126.58
11	A	822	PSU	C4-N3-C2	-4.59	119.72	126.34
11	A	1081	PSU	N1-C2-N3	4.57	120.31	115.13
11	A	823	PSU	C4-N3-C2	-4.55	119.78	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	A	612	PSU	N1-C2-N3	4.55	120.29	115.13
11	A	822	PSU	N1-C2-N3	4.50	120.22	115.13
11	A	823	PSU	N1-C2-N3	4.47	120.20	115.13
11	A	612	PSU	C4-N3-C2	-4.47	119.90	126.34
11	A	1830	UR3	C4-N3-C2	-4.46	120.36	124.56
11	A	1832	6MZ	C2-N1-C6	4.40	120.36	116.59
11	A	119	PSU	N1-C2-N3	4.19	119.88	115.13
11	A	119	PSU	C4-N3-C2	-4.10	120.43	126.34
11	A	1219	JMH	C1'-N1-C2	4.08	123.88	116.99
11	A	1248	B8N	C4-N3-C2	-4.05	120.33	125.46
11	A	1219	JMH	C6-N1-C2	-3.87	118.32	121.79
11	A	509	OMG	O3'-C3'-C2'	3.86	122.12	111.17
11	A	644	OMG	O3'-C3'-C2'	3.78	121.89	111.17
11	A	121	OMU	N3-C2-N1	3.71	119.82	114.89
11	A	683	OMG	O3'-C3'-C4'	3.71	121.77	111.05
11	A	1219	JMH	O2-C2-N3	-3.71	116.12	121.34
11	A	683	OMG	C5-C6-N1	3.69	120.48	113.95
11	A	683	OMG	CM2-O2'-C2'	3.69	124.20	114.52
11	A	509	OMG	C5-C6-N1	3.65	120.40	113.95
11	A	1832	6MZ	C1'-N9-C4	-3.44	120.60	126.64
11	A	116	OMU	N3-C2-N1	3.39	119.38	114.89
11	A	1830	UR3	C1'-N1-C2	3.38	122.69	116.99
11	A	509	OMG	C2-N1-C6	-3.37	118.89	125.10
11	A	121	OMU	C5-C4-N3	3.29	119.76	114.84
11	A	683	OMG	C2-N1-C6	-3.26	119.09	125.10
11	A	116	OMU	C5-C4-N3	3.19	119.62	114.84
11	A	683	OMG	C5'-C4'-C3'	3.14	126.96	115.18
11	A	509	OMG	C5'-C4'-C3'	3.11	126.82	115.18
11	A	1248	B8N	C31-N3-C4	3.10	121.88	117.31
11	A	1248	B8N	N3-C2-N1	3.09	121.12	116.76
11	A	612	PSU	O2-C2-N1	-2.94	119.55	122.79
11	A	116	OMU	O4-C4-C5	-2.81	120.22	125.16
11	A	823	PSU	O2-C2-N1	-2.76	119.75	122.79
11	A	1830	UR3	C6-N1-C2	-2.75	119.32	121.79
11	A	1243	PSU	O2-C2-N1	-2.73	119.78	122.79
11	A	121	OMU	O4-C4-C5	-2.73	120.36	125.16
11	A	644	OMG	C5-C6-N1	2.68	118.68	113.95
11	A	1081	PSU	O2-C2-N1	-2.61	119.92	122.79
11	A	644	OMG	O5'-C5'-C4'	2.60	117.85	108.99
11	A	159	A2M	C2'-C3'-C4'	2.55	107.53	101.99
11	A	822	PSU	O2-C2-N1	-2.52	120.01	122.79
11	A	612	PSU	C6-N1-C2	-2.50	120.13	122.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	A	509	OMG	C8-N7-C5	2.49	107.74	102.99
11	A	1219	JMH	O3'-C3'-C2'	2.45	119.73	111.82
11	A	1248	B8N	O4-C4-N3	-2.40	115.90	119.98
11	A	823	PSU	C6-N1-C2	-2.36	120.27	122.68
11	A	683	OMG	N2-C2-N1	2.36	121.73	116.71
11	A	1830	UR3	O2-C2-N3	-2.34	118.05	121.34
11	A	509	OMG	O6-C6-C5	-2.32	119.83	124.37
11	A	119	PSU	C6-N1-C2	-2.32	120.31	122.68
11	A	1243	PSU	C6-N1-C2	-2.31	120.32	122.68
11	A	683	OMG	O6-C6-C5	-2.31	119.86	124.37
11	A	644	OMG	C5'-C4'-C3'	2.31	123.83	115.18
11	A	644	OMG	N1-C2-N3	-2.25	119.12	123.32
11	A	119	PSU	O2-C2-N1	-2.23	120.34	122.79
11	A	668	A2M	C3'-C2'-C1'	2.20	107.03	102.89
11	A	822	PSU	O4'-C1'-C2'	2.19	108.23	105.14
11	A	822	PSU	C6-N1-C2	-2.17	120.46	122.68
11	A	612	PSU	O4'-C1'-C2'	2.14	108.16	105.14
11	A	27	A2M	O4'-C1'-C2'	-2.10	102.95	106.59
11	A	1219	JMH	O3'-C3'-C4'	2.09	117.09	111.05
11	A	668	A2M	C2'-C3'-C4'	2.08	106.52	101.99
11	A	644	OMG	O4'-C4'-C5'	2.07	116.19	109.37
11	A	1248	B8N	O4'-C1'-C2'	2.06	108.05	105.14
11	A	683	OMG	C8-N7-C5	2.05	106.90	102.99
11	A	683	OMG	N1-C2-N3	-2.04	119.51	123.32
11	A	121	OMU	O2-C2-N1	-2.02	120.10	122.79
11	A	1243	PSU	C6-C5-C4	2.00	119.60	118.20

There are no chirality outliers.

All (40) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
11	A	27	A2M	C1'-C2'-O2'-CM'
11	A	116	OMU	C1'-C2'-O2'-CM2
11	A	166	A2M	C1'-C2'-O2'-CM'
11	A	484	A2M	C1'-C2'-O2'-CM'
11	A	509	OMG	C1'-C2'-O2'-CM2
11	A	644	OMG	C4'-C5'-O5'-P
11	A	644	OMG	C3'-C4'-C5'-O5'
11	A	644	OMG	C1'-C2'-O2'-CM2
11	A	1031	A2M	C1'-C2'-O2'-CM'
11	A	1678	A2M	C1'-C2'-O2'-CM'
11	A	1832	6MZ	N1-C6-N6-C9

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Mol	Chain	Res	Type	Atoms
11	A	1850	MA6	C5-C6-N6-C9
11	A	1850	MA6	C5-C6-N6-C10
11	A	1851	MA6	O4'-C4'-C5'-O5'
11	A	1851	MA6	C5-C6-N6-C10
11	A	683	OMG	C1'-C2'-O2'-CM2
11	A	1248	B8N	C31-C32-C33-C34
11	A	1248	B8N	C31-C32-C33-N34
11	A	1830	UR3	O4'-C1'-N1-C2
11	A	509	OMG	C3'-C4'-C5'-O5'
11	A	668	A2M	O4'-C4'-C5'-O5'
11	A	1851	MA6	C3'-C4'-C5'-O5'
11	A	668	A2M	C3'-C4'-C5'-O5'
11	A	822	PSU	C3'-C4'-C5'-O5'
11	A	822	PSU	O4'-C4'-C5'-O5'
11	A	683	OMG	C3'-C4'-C5'-O5'
11	A	1850	MA6	N1-C6-N6-C10
11	A	1830	UR3	O4'-C1'-N1-C6
11	A	1851	MA6	N1-C6-N6-C10
11	A	644	OMG	O4'-C4'-C5'-O5'
11	A	1851	MA6	C5-C6-N6-C9
11	A	159	A2M	C3'-C4'-C5'-O5'
11	A	119	PSU	O4'-C4'-C5'-O5'
11	A	1832	6MZ	C5-C6-N6-C9
11	A	1851	MA6	C4'-C5'-O5'-P
11	A	1248	B8N	O4'-C1'-C5-C4
11	A	1081	PSU	C4'-C5'-O5'-P
11	A	509	OMG	O4'-C4'-C5'-O5'
11	A	119	PSU	C3'-C4'-C5'-O5'
11	A	1219	JMH	C2'-C1'-N1-C2

There are no ring outliers.

No monomer is involved in short contacts.

4.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

4.6 Ligand geometry (i)

Of 93 ligands modelled in this entry, 92 are monoatomic - leaving 1 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	$\#\|Z\| > 2$
55	GTP	0	2001	56,57	26,34,34	1.12	2 (7%)	32,54,54	1.78	6 (18%)

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
55	GTP	0	2001	56,57	-	1/18/38/38	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	0	2001	GTP	C5-C6	-3.92	1.39	1.47
55	0	2001	GTP	C2-N3	2.08	1.38	1.33

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	0	2001	GTP	PA-O3A-PB	-5.04	115.52	132.83
55	0	2001	GTP	PB-O3B-PG	-3.25	121.67	132.83
55	0	2001	GTP	C5-C6-N1	3.24	119.67	113.95
55	0	2001	GTP	C8-N7-C5	3.09	108.87	102.99
55	0	2001	GTP	C2-N1-C6	-2.88	119.79	125.10
55	0	2001	GTP	C3'-C2'-C1'	2.71	105.06	100.98

There are no chirality outliers.

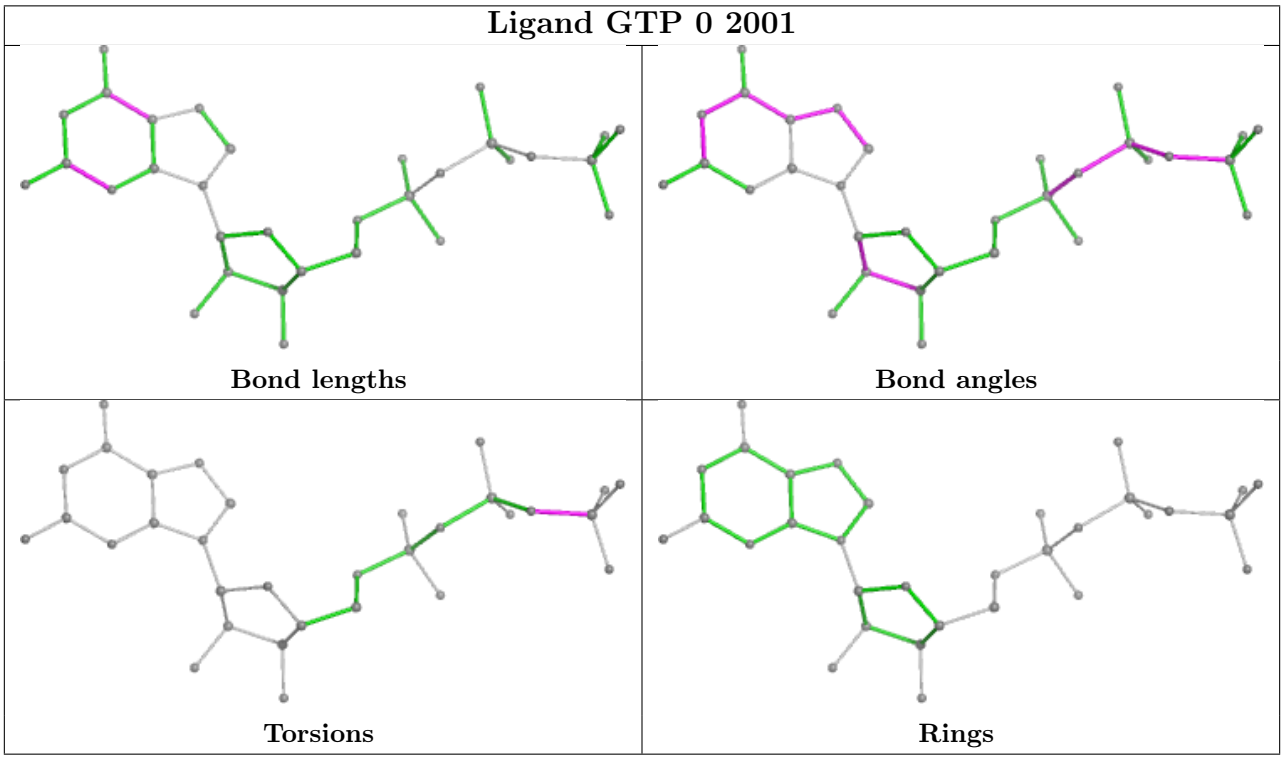
All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	0	2001	GTP	PB-O3B-PG-O2G

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.



4.7 Other polymers (i)

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

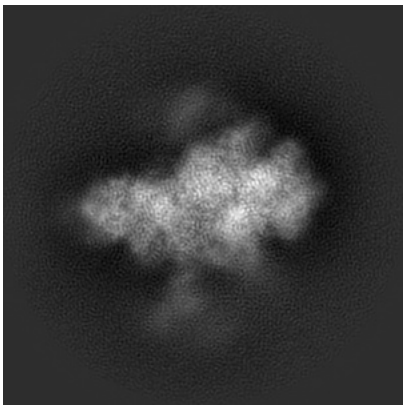
5 Map visualisation

This section contains visualisations of the EMDB entry EMD-17698. These allow visual inspection of the internal detail of the map and identification of artifacts.

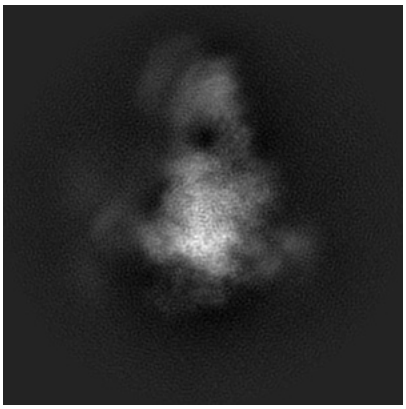
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

5.1 Orthogonal projections

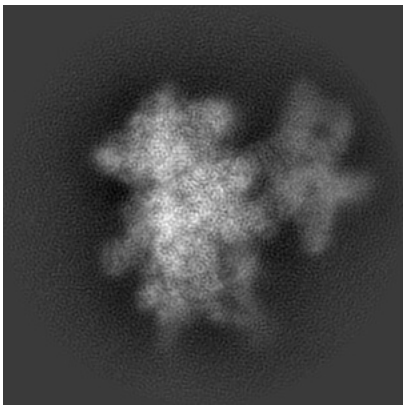
5.1.1 Primary map



X

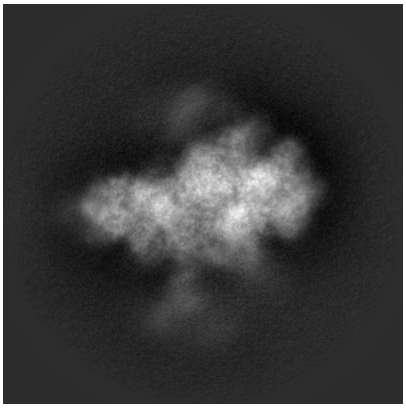


Y

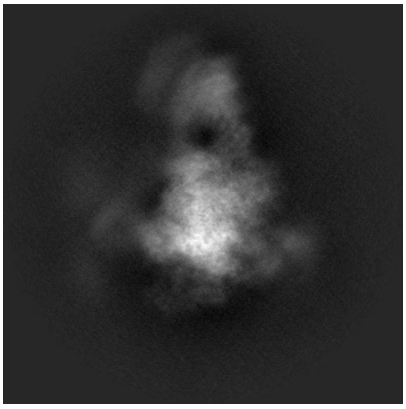


Z

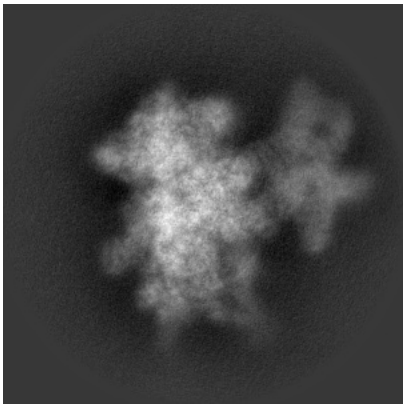
5.1.2 Raw map



X



Y

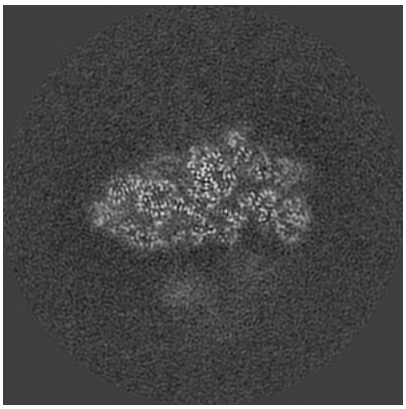


Z

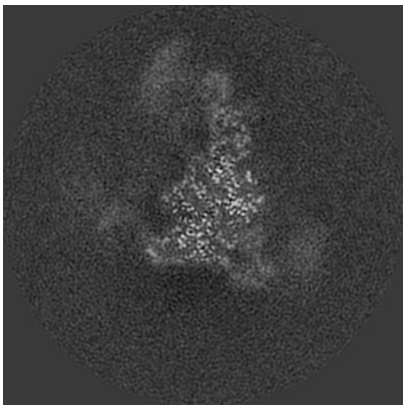
The images above show the map projected in three orthogonal directions.

5.2 Central slices (i)

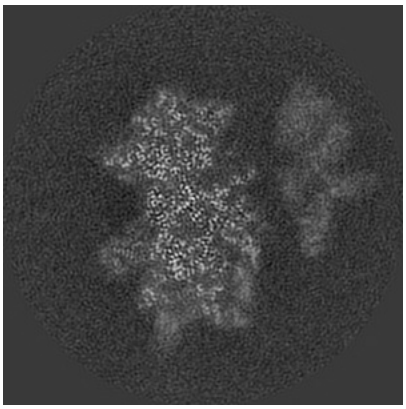
5.2.1 Primary map



X Index: 180

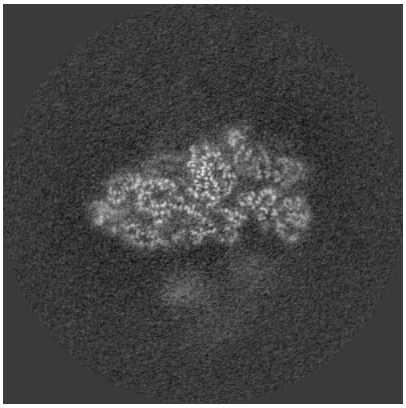


Y Index: 180

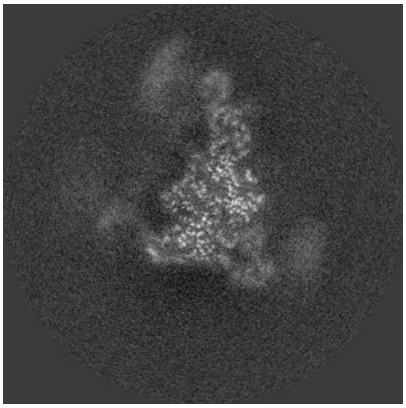


Z Index: 180

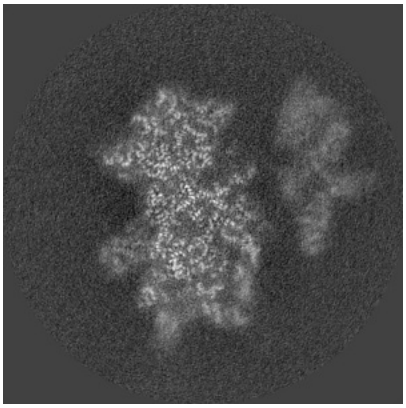
5.2.2 Raw map



X Index: 180



Y Index: 180

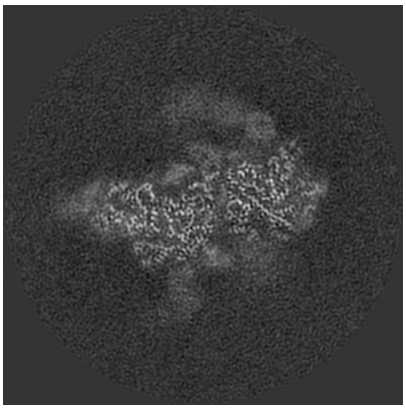


Z Index: 180

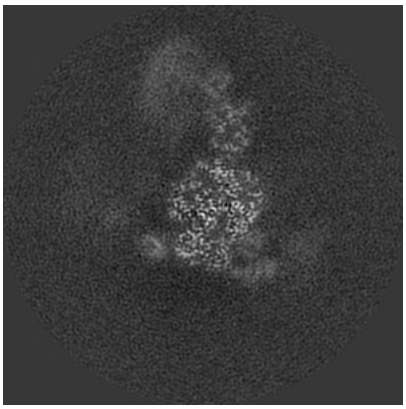
The images above show central slices of the map in three orthogonal directions.

5.3 Largest variance slices (i)

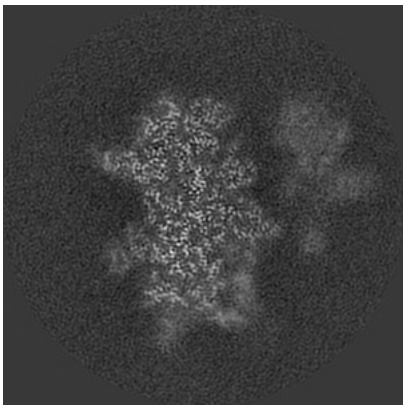
5.3.1 Primary map



X Index: 147

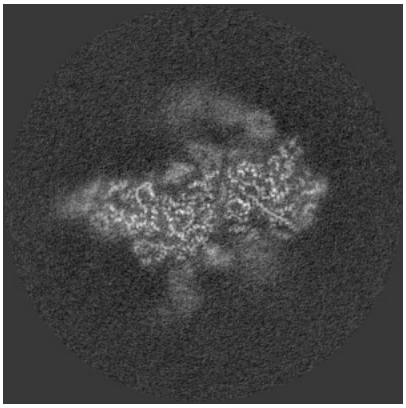


Y Index: 185

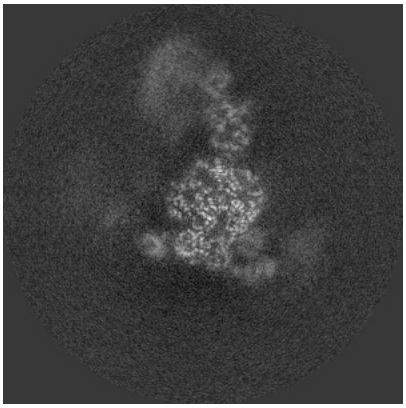


Z Index: 174

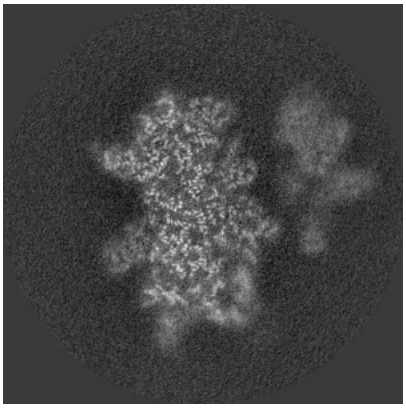
5.3.2 Raw map



X Index: 147



Y Index: 185

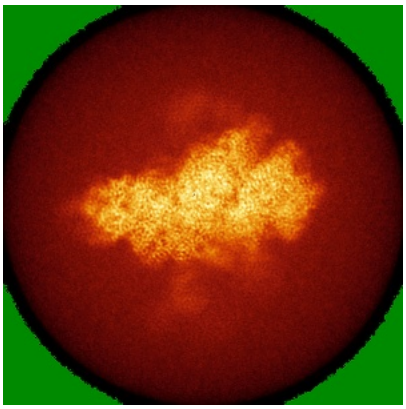


Z Index: 175

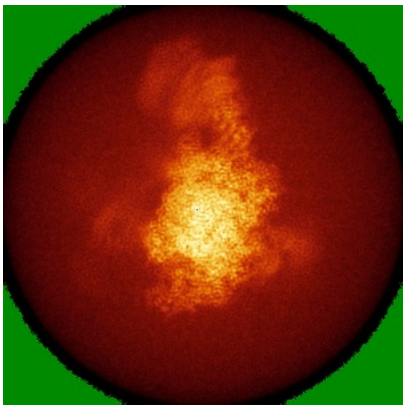
The images above show the largest variance slices of the map in three orthogonal directions.

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

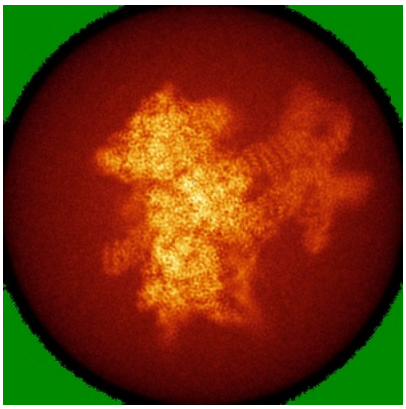
5.4.1 Primary map



X

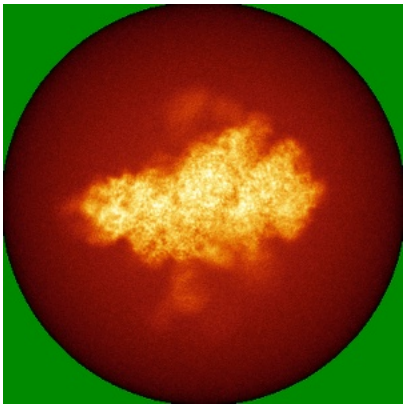


Y

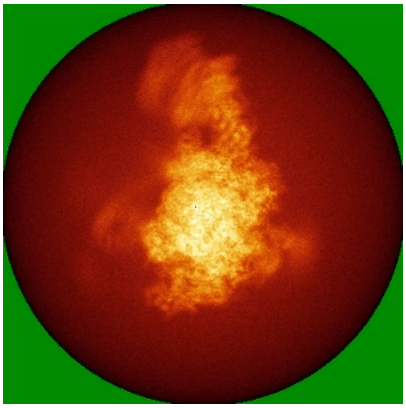


Z

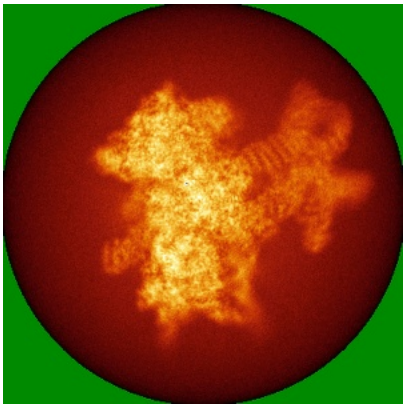
5.4.2 Raw map



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.

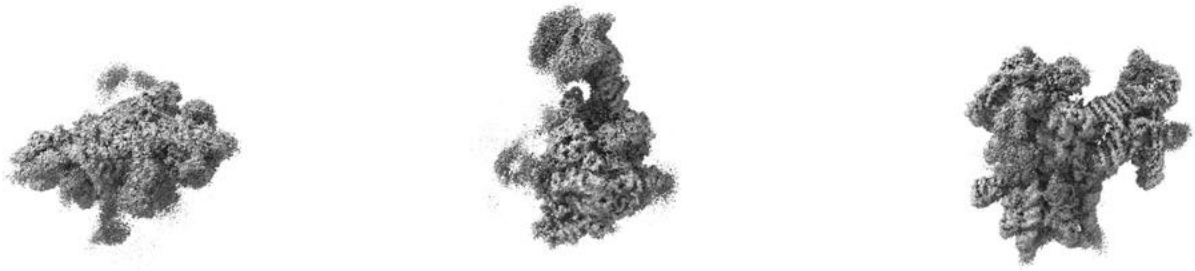
5.5 Orthogonal surface views (i)

5.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 3.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

5.5.2 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.

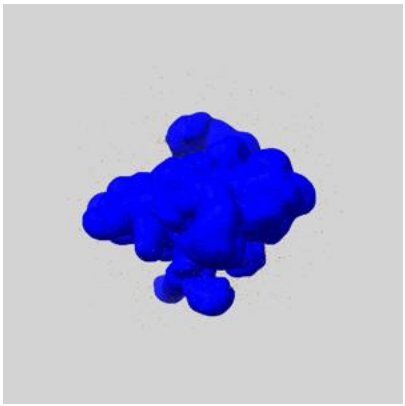
5.6 Mask visualisation

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

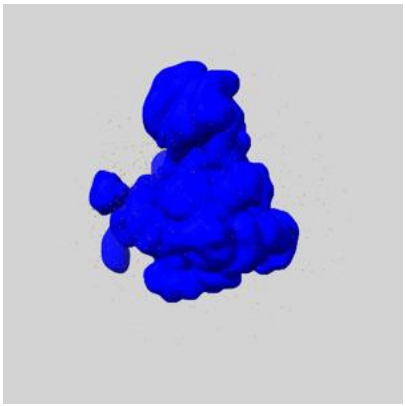
A mask typically either:

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

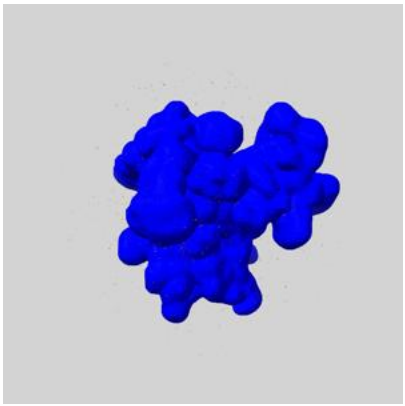
5.6.1 emd_17698_msk_1.map



X



Y

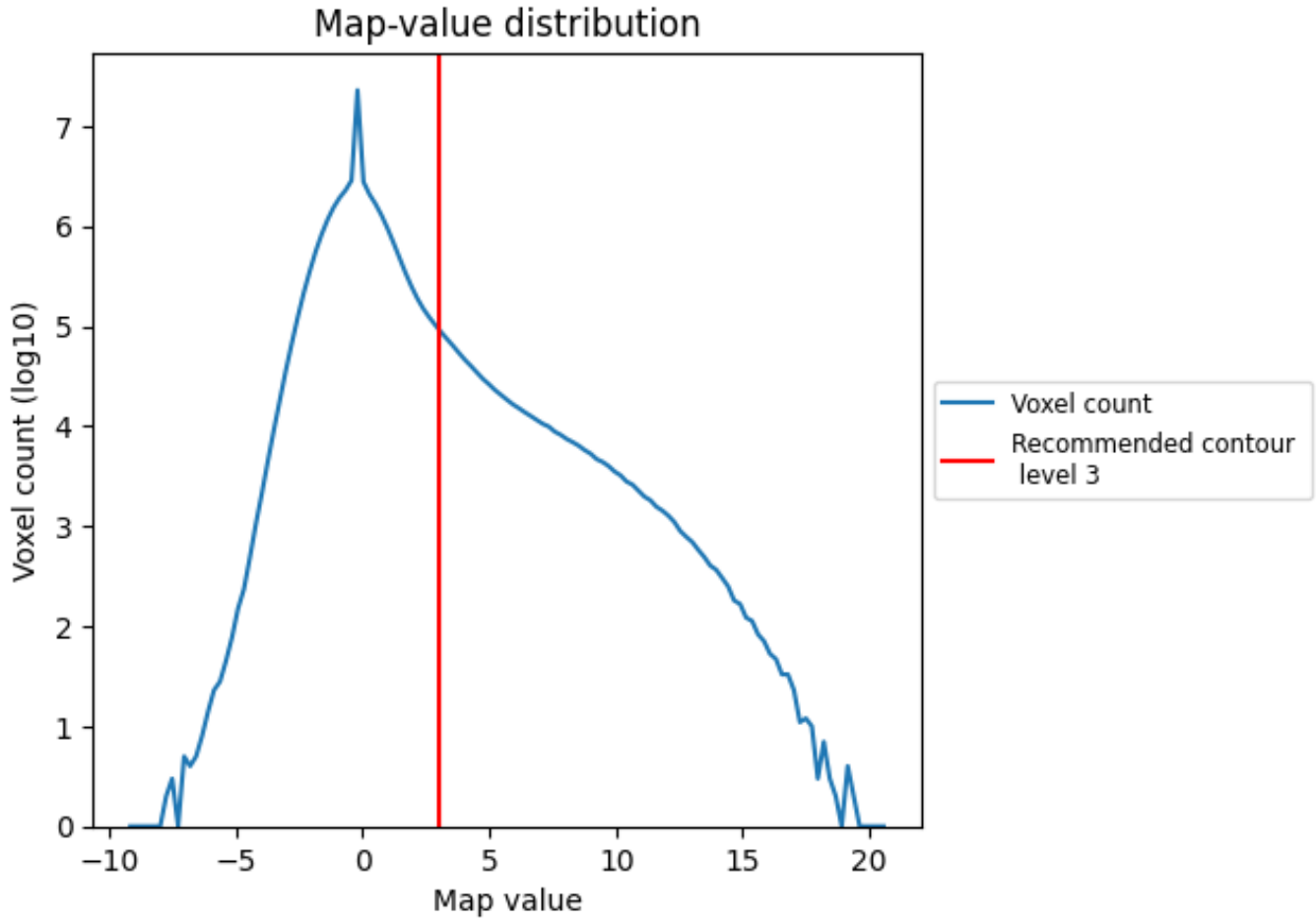


Z

6 Map analysis

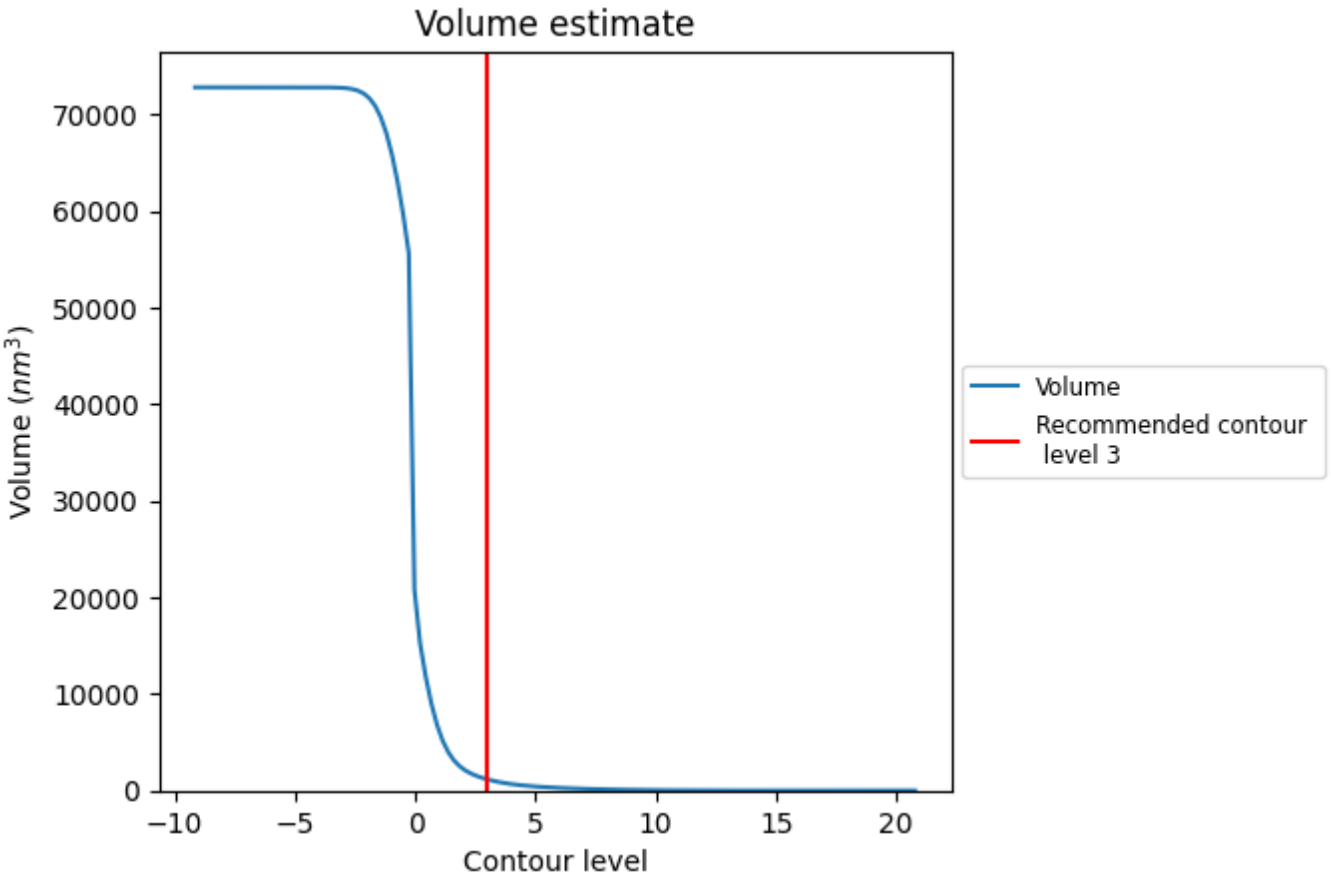
This section contains the results of statistical analysis of the map.

6.1 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.

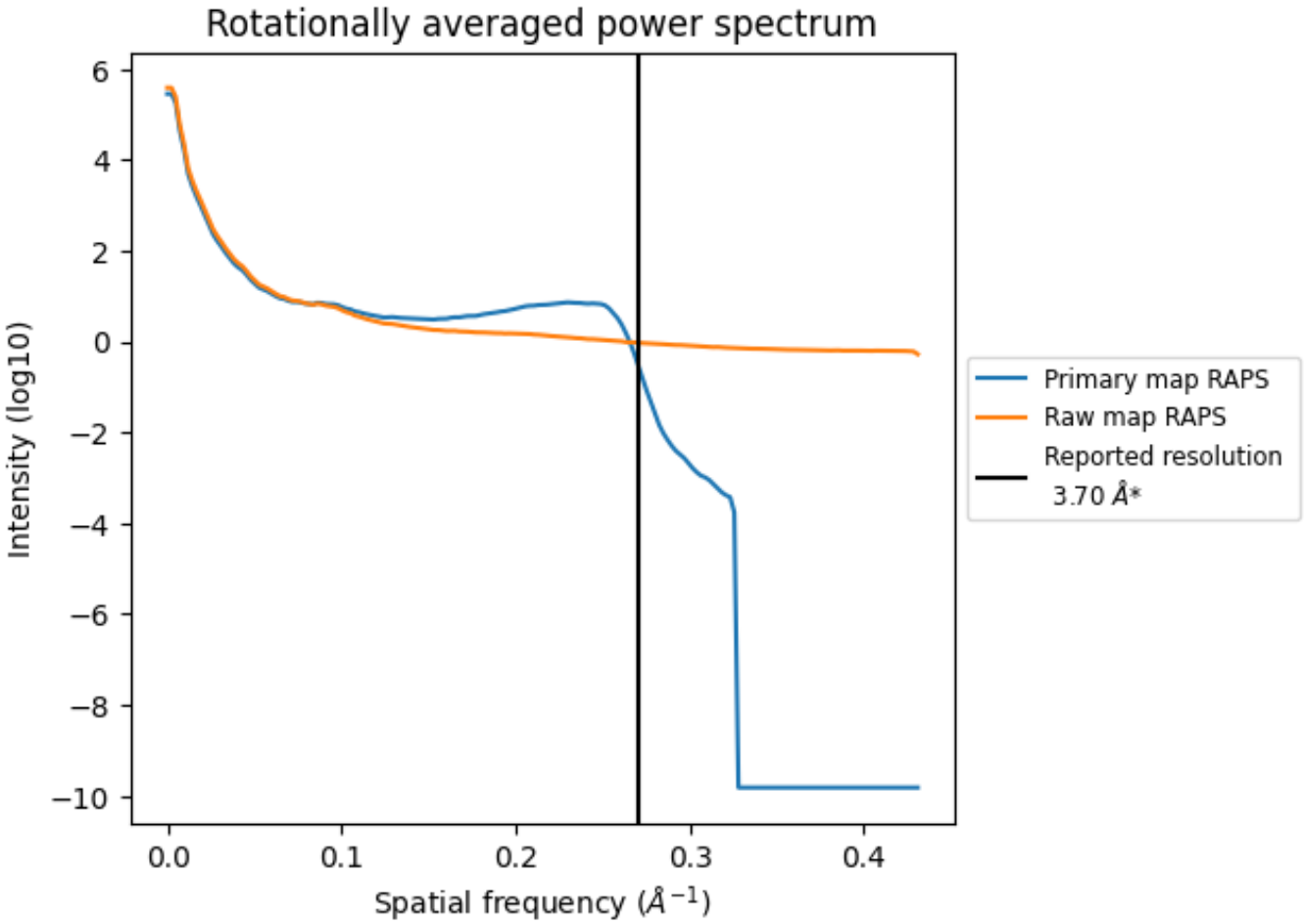
6.2 Volume estimate



The volume at the recommended contour level is 1159 nm^3; this corresponds to an approximate mass of 1047 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.

6.3 Rotationally averaged power spectrum (i)

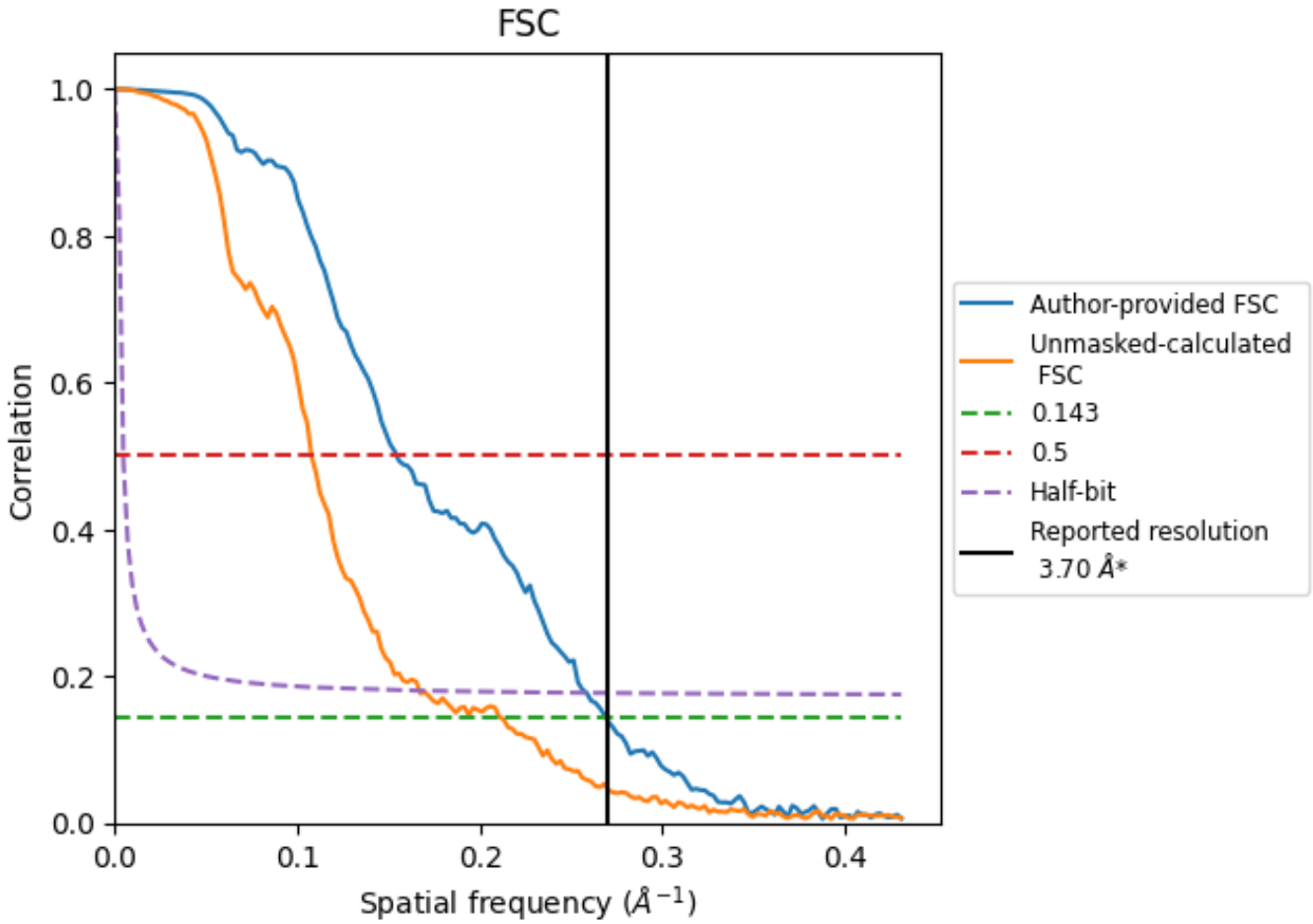


*Reported resolution corresponds to spatial frequency of 0.270 Å^{-1}

7 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.

7.1 FSC



*Reported resolution corresponds to spatial frequency of 0.270 Å^{-1}

7.2 Resolution estimates (i)

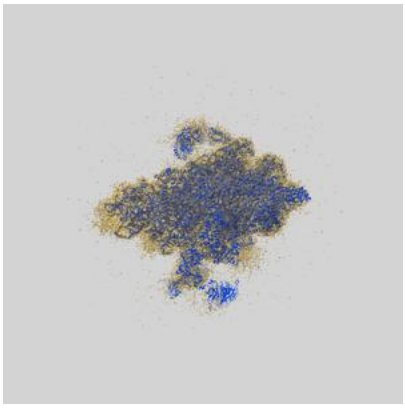
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.71	6.47	3.87
Unmasked-calculated*	4.73	9.28	5.99

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.73 differs from the reported value 3.7 by more than 10 %

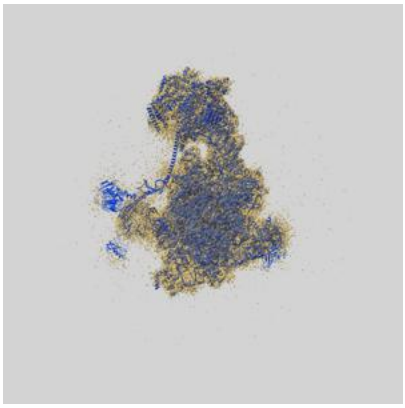
8 Map-model fit

This section contains information regarding the fit between EMDB map EMD-17698 and PDB model 8PJ3. Per-residue inclusion information can be found in section **??** on page **??**.

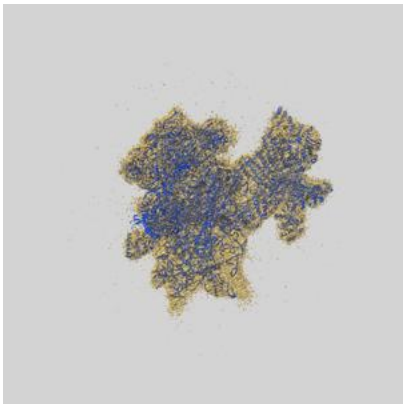
8.1 Map-model overlay



X



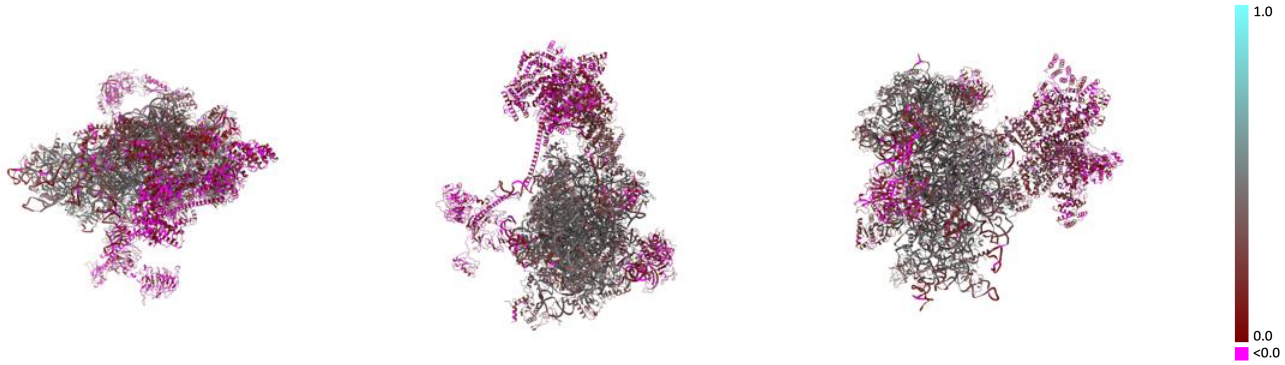
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 3.0 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.

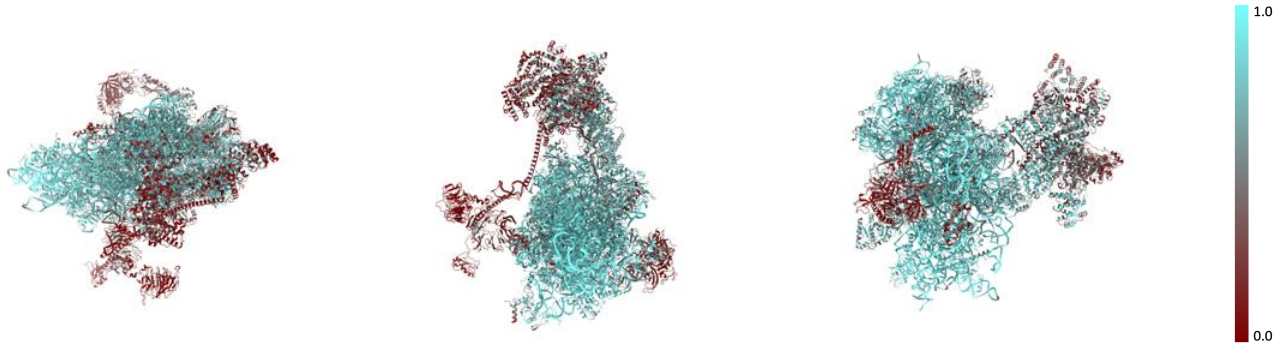
8.2 Q-score mapped to coordinate model (i)



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.

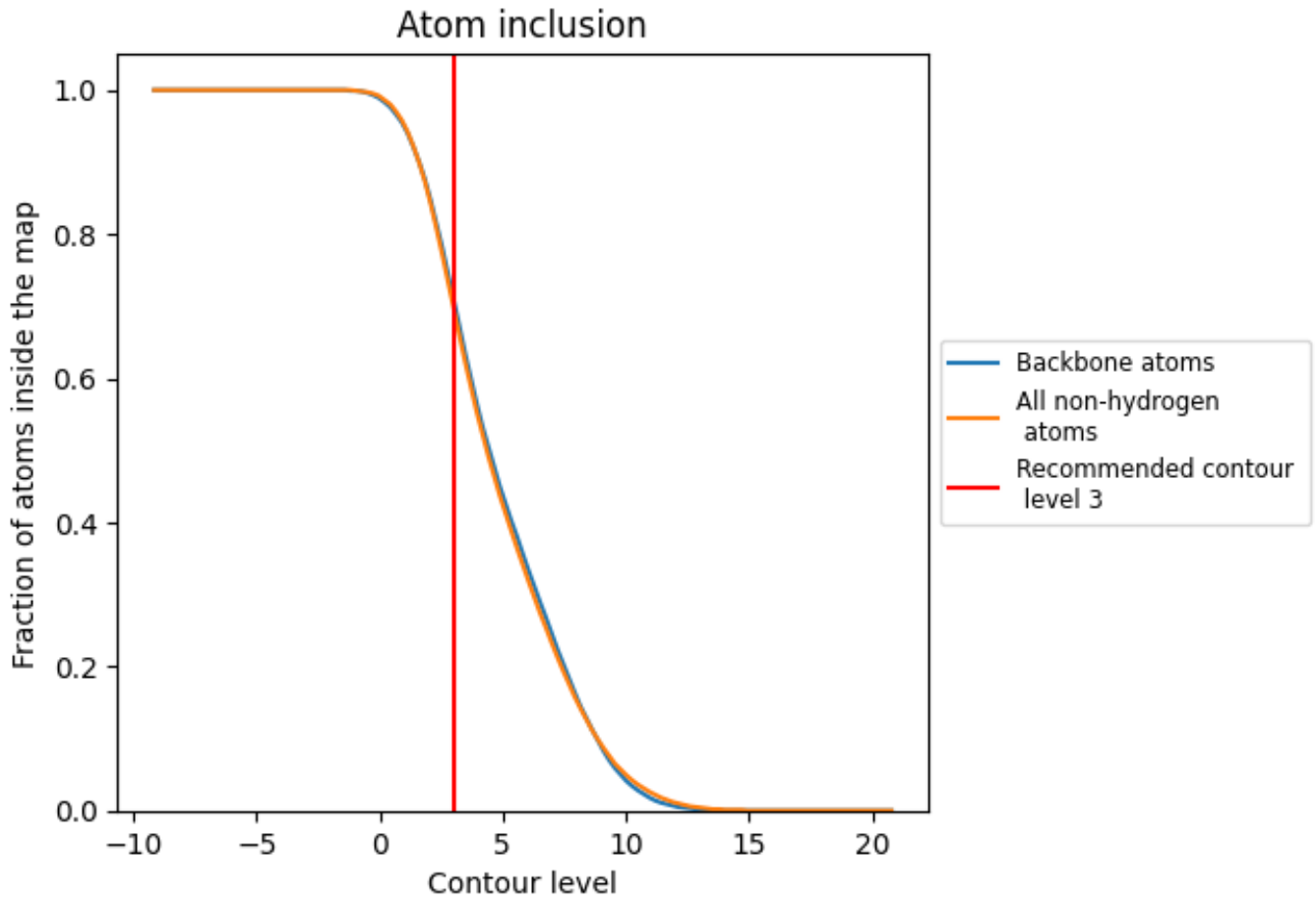
8.3 Atom inclusion mapped to coordinate model (i)



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 (3).

8.4 Atom inclusion (i)



At the recommended contour level, 71% of all backbone atoms, 70% of all non-hydrogen atoms, are inside the map.

8.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6980	0.3120
0	0.5780	0.2760
1	0.1450	0.0790
2	0.0030	0.0290
3	0.2580	0.0400
4	0.4140	0.0820
5	0.2490	0.0460
6	0.3860	0.0960
7	0.4730	0.1680
8	0.3820	0.0720
9	0.7270	0.3710
A	0.9310	0.3970
B	0.8420	0.4530
C	0.8670	0.4520
D	0.8370	0.4350
E	0.8560	0.4640
F	0.7600	0.4010
G	0.7550	0.3780
H	0.7950	0.4370
I	0.8260	0.4360
J	0.8550	0.4620
K	0.8080	0.4430
L	0.7980	0.4370
M	0.7350	0.3970
N	0.8300	0.4350
O	0.7990	0.4200
P	0.8050	0.4220
Q	0.8710	0.4590
R	0.8690	0.4210
S	0.8370	0.3790
T	0.8720	0.4300
V	0.8130	0.4360
Y	0.8710	0.4420
Z	0.7560	0.4070
a	0.8200	0.4240

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Chain	Atom inclusion	Q-score
b	0.8100	0.4010
c	0.8010	0.3880
d	0.8800	0.4330
e	0.7170	0.3790
f	0.8050	0.3940
h	0.7810	0.3970
i	0.9080	0.4610
k	0.6870	0.2650
m	0.6080	0.2420
n	0.7160	0.4150
o	0.3860	0.1630
q	0.7190	0.4110
r	0.5270	0.2080
t	0.0800	0.0790
u	0.5210	0.2010
v	0.4960	0.1120
w	0.7200	0.1600
x	0.5450	0.2260
y	0.5770	0.2550
z	0.4810	0.2130