



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 09:03 AM UTC

PDB ID : 8PR0 / pdb_00008pr0
EMDB ID : EMD-17830
Title : Cytoplasmic dynein-A heavy chain bound to dynactin-p150glued and IC-LC tower
Authors : Singh, K.; Lau, C.K.; Manigrasso, G.; Gassmann, R.; Carter, A.P.
Deposited on : 2023-07-12
Resolution : 9.40 Å(reported)
Based on initial model : 7Z8G

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:

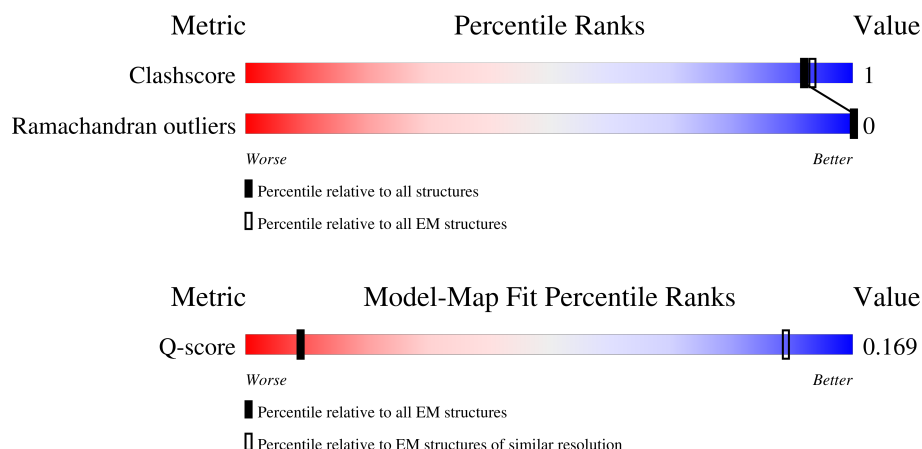
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

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

The reported resolution of this entry is 9.40 Å.

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



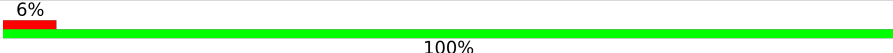
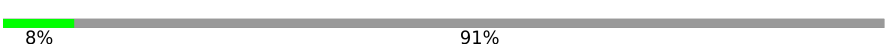
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Q-score	-	25397	224 (8.90 - 9.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	C	612	5% 95%
1	D	612	5% 95%
2	E	89	92% 8%
2	F	89	91% 8%
3	G	113	5% 100%

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Mol	Chain	Length	Quality of chain
3	H	113	 6% 100%
4	I	1281	 33% 66%
4	J	1281	 32% 66%
5	A	4646	 13% 86%
5	B	4646	 8% 91%
6	K	492	 55% 43%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 13123 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 Cytoplasmic dynein 1 intermediate chain 2.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	D	31	Total	C	N	O	0	0
			154	92	31	31		
1	C	31	Total	C	N	O	0	0
			154	92	31	31		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	484	SER	THR	conflict	UNP Q13409
D	499	GLY	ASP	conflict	UNP Q13409
C	484	SER	THR	conflict	UNP Q13409
C	499	GLY	ASP	conflict	UNP Q13409

- Molecule 2 is a protein called Dynein light chain 1, cytoplasmic.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	F	89	Total	C	N	O	0	0
			441	263	89	89		
2	E	89	Total	C	N	O	0	0
			441	263	89	89		

- Molecule 3 is a protein called Dynein light chain Tctex-type 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	G	113	Total	C	N	O	0	0
			558	332	113	113		
3	H	113	Total	C	N	O	0	0
			558	332	113	113		

- Molecule 4 is a protein called Dynactin subunit 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	I	431	Total	C	N	O	0	0
			2136	1274	431	431		
4	J	431	Total	C	N	O	0	0
			2136	1274	431	431		

- Molecule 5 is a protein called Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	B	398	Total	C	N	O	0	0
			1973	1177	398	398		
5	A	643	Total	C	N	O	0	0
			3189	1903	643	643		

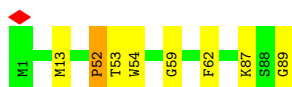
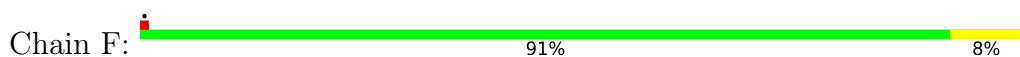
There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	1567	GLU	ARG	engineered mutation	UNP Q14204
B	1610	GLU	LYS	engineered mutation	UNP Q14204
A	1567	GLU	ARG	engineered mutation	UNP Q14204
A	1610	GLU	LYS	engineered mutation	UNP Q14204

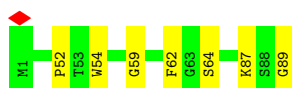
- Molecule 6 is a protein called Cytoplasmic dynein 1 light intermediate chain 2.

Mol	Chain	Residues	Atoms				AltConf	Trace
6	K	280	Total	C	N	O	0	0
			1383	823	280	280		

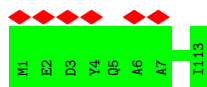
- Molecule 2: Dynein light chain 1, cytoplasmic



- Molecule 2: Dynein light chain 1, cytoplasmic



- Molecule 3: Dynein light chain Tctex-type 1



- Molecule 3: Dynein light chain Tctex-type 1





- Molecule 5: Cytoplasmic dynein 1 heavy chain 1







[illegible]

- Molecule 5: Cytoplasmic dynein 1 heavy chain 1

[illegible]







LEU	LEU	SEU	SEU	LYS	LYS	THR	THR	GLY	GLY	SEU	PRO	PRO	GLY	ALA	ALA	GLY	GLY	VAL	VAL	GLN	GLN	THR	THR	ALA	ALA	LYS	LYS	SEU	SEU	GLY	GLY	GLN	LYS	THR	THR	VAL	VAL	LEU	LEU	SEU	SEU	ASN	ASN	VAL	VAL	GLN	GLN	GLU	GLU	GLU	GLU	LEU	LEU	ASP	ASP	ARG	ARG	MET	MET	THR	THR	THR	THR	LYS	LYS	PRO	PRO	ASP	ASP	SEU	SEU	MET	MET	VAL	VAL	ASN	ASN	THR	THR	THR	THR	GLU	GLU	ASN	ASN	GLU	GLU
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	42909	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 ($e^-/\text{\AA}^2$)	53	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.081	Depositor
Minimum map value	-0.053	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.018	Depositor
Map size (Å)	423.6, 423.6, 423.6	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.118, 2.118, 2.118	Depositor

5 Model quality

5.1 Standard geometry

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	C	0.33	0/153	0.65	0/212
1	D	0.35	0/153	0.63	0/212
2	E	0.36	0/440	0.98	2/612 (0.3%)
2	F	0.40	0/440	0.97	2/612 (0.3%)
3	G	0.33	0/557	0.77	0/774
3	H	0.34	0/557	0.77	0/774
4	I	0.45	0/2135	0.93	5/2976 (0.2%)
4	J	0.44	0/2135	0.94	6/2976 (0.2%)
5	A	0.42	0/3188	0.97	9/4446 (0.2%)
5	B	0.41	0/1971	0.86	1/2746 (0.0%)
6	K	0.40	0/1381	1.00	0/1920
All	All	0.41	0/13110	0.92	25/18260 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	E	0	1
2	F	0	1
4	I	0	1
5	A	0	1
5	B	0	3
6	K	0	3
All	All	0	10

There are no bond length outliers.

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	A	1267	VAL	N-CA-C	-11.23	102.10	112.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	J	591	PHE	CA-C-N	10.28	140.48	120.94
4	J	591	PHE	C-N-CA	10.28	140.48	120.94
5	A	1350	PRO	CA-C-N	6.80	129.72	120.54
5	A	1350	PRO	C-N-CA	6.80	129.72	120.54
5	A	1120	TYR	CA-C-N	5.87	132.76	121.54
5	A	1120	TYR	C-N-CA	5.87	132.76	121.54
5	A	1346	MET	N-CA-CB	5.64	118.99	110.30
4	J	696	GLU	CA-C-N	5.54	128.26	120.28
4	J	696	GLU	C-N-CA	5.54	128.26	120.28
4	I	612	MET	CB-CA-C	5.49	120.99	110.17
4	I	612	MET	N-CA-CB	-5.37	100.81	110.37
5	A	1267	VAL	CB-CA-C	5.37	118.20	111.65
5	B	1310	GLY	N-CA-C	5.36	125.89	113.18
4	J	601	GLY	CA-C-N	5.34	127.97	120.28
4	J	601	GLY	C-N-CA	5.34	127.97	120.28
5	A	1437	VAL	CA-C-N	5.34	131.73	121.54
5	A	1437	VAL	C-N-CA	5.34	131.73	121.54
2	E	52	PRO	CA-C-N	5.23	131.11	121.70
2	E	52	PRO	C-N-CA	5.23	131.11	121.70
4	I	946	GLU	N-CA-CB	5.08	118.82	110.39
2	F	52	PRO	CA-C-N	5.07	130.83	121.70
2	F	52	PRO	C-N-CA	5.07	130.83	121.70
4	I	759	CYS	CA-C-N	5.04	127.03	120.28
4	I	759	CYS	C-N-CA	5.04	127.03	120.28

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	A	1307	THR	Peptide
5	B	1309	THR	Peptide
5	B	1349	GLN	Peptide
5	B	1393	TYR	Peptide
2	E	64	SER	Peptide
2	F	13	MET	Peptide
4	I	691	GLU	Peptide
6	K	164	LYS	Peptide
6	K	307	ALA	Peptide
6	K	90	TYR	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	154	0	65	0	0
1	D	154	0	65	0	0
2	E	441	0	204	4	0
2	F	441	0	204	5	0
3	G	558	0	261	0	0
3	H	558	0	261	0	0
4	I	2136	0	1017	3	0
4	J	2136	0	1017	7	0
5	A	3189	0	1395	10	0
5	B	1973	0	864	1	0
6	K	1383	0	604	2	0
All	All	13123	0	5957	28	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 1.

All (28) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:J:773:GLY:H	4:J:859:GLU:HA	1.70	0.56
5:A:1350:PRO:HA	5:A:1430:THR:HA	1.92	0.52
2:F:59:GLY:HA3	2:E:62:PHE:HA	1.93	0.50
6:K:251:LEU:O	6:K:255:GLN:CB	2.62	0.47
5:A:1099:LYS:HA	5:A:1108:ASP:HA	1.97	0.47
5:A:1457:MET:O	5:A:1461:GLU:CB	2.62	0.47
4:I:896:LEU:O	4:I:900:MET:CB	2.63	0.47
4:I:987:ALA:HA	4:J:987:ALA:HA	1.95	0.47
5:B:1051:VAL:O	5:B:1055:LEU:N	2.48	0.46
2:F:62:PHE:HA	2:E:59:GLY:HA3	1.98	0.45
4:J:874:SER:O	4:J:878:TYR:CB	2.65	0.45
5:A:1366:LEU:O	5:A:1370:LEU:N	2.50	0.44
2:E:54:TRP:HA	2:E:87:LYS:HA	1.99	0.44
4:I:906:ALA:O	4:I:910:GLY:N	2.46	0.43
2:F:52:PRO:HA	2:F:53:THR:HA	1.84	0.43
2:F:89:GLY:HA2	2:E:89:GLY:HA2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:1214:ILE:O	5:A:1218:TRP:CB	2.67	0.43
4:J:705:LEU:O	4:J:710:GLN:N	2.49	0.42
4:J:903:LEU:O	4:J:907:MET:CB	2.67	0.42
6:K:137:ALA:HB3	6:K:231:CYS:HA	2.01	0.42
4:J:778:SER:H	4:J:781:ALA:HB3	1.85	0.42
4:J:835:THR:O	4:J:839:ALA:HB2	2.20	0.42
5:A:1458:ALA:O	5:A:1462:PHE:CB	2.68	0.42
5:A:1449:VAL:O	5:A:1453:ALA:CB	2.68	0.42
2:F:54:TRP:HA	2:F:87:LYS:HA	2.02	0.41
5:A:1350:PRO:O	5:A:1354:VAL:N	2.53	0.41
5:A:1051:VAL:O	5:A:1055:LEU:N	2.54	0.41
5:A:1232:ILE:O	5:A:1236:VAL:CB	2.69	0.41

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	29/612 (5%)	29 (100%)	0	0	100	100
1	D	29/612 (5%)	29 (100%)	0	0	100	100
2	E	87/89 (98%)	83 (95%)	4 (5%)	0	100	100
2	F	87/89 (98%)	83 (95%)	4 (5%)	0	100	100
3	G	111/113 (98%)	107 (96%)	4 (4%)	0	100	100
3	H	111/113 (98%)	107 (96%)	4 (4%)	0	100	100
4	I	429/1281 (34%)	422 (98%)	7 (2%)	0	100	100
4	J	429/1281 (34%)	419 (98%)	10 (2%)	0	100	100
5	A	641/4646 (14%)	625 (98%)	16 (2%)	0	100	100
5	B	394/4646 (8%)	382 (97%)	12 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	K	276/492 (56%)	256 (93%)	20 (7%)	0	100	100
All	All	2623/13974 (19%)	2542 (97%)	81 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

There are no protein residues with a non-rotameric sidechain to report in this entry.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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.

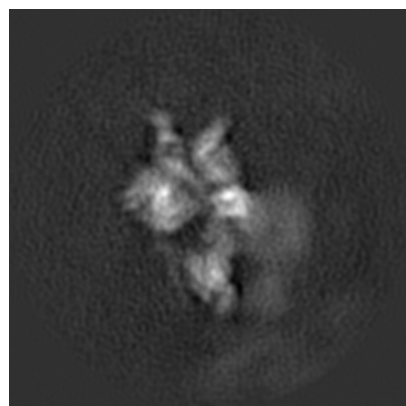
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-17830. These allow visual inspection of the internal detail of the map and identification of artifacts.

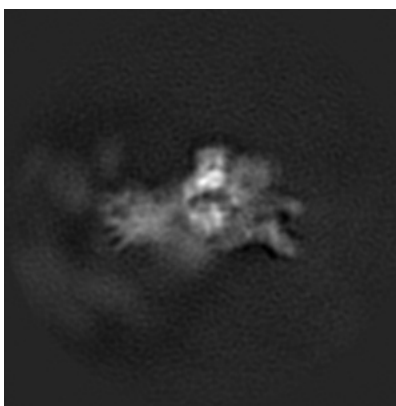
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

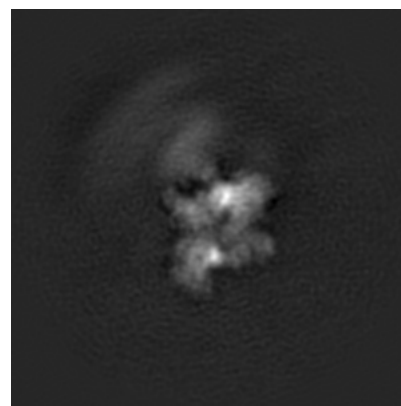
6.1.1 Primary map



X

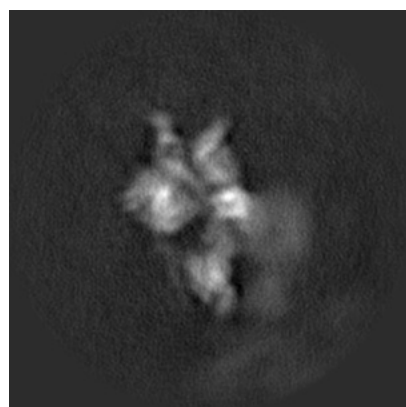


Y

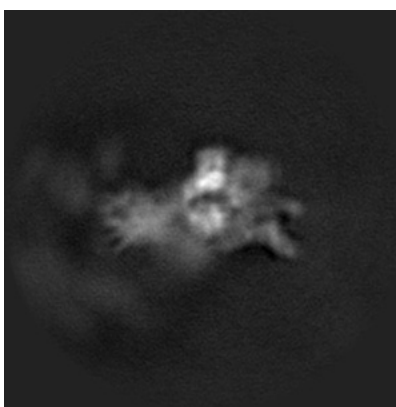


Z

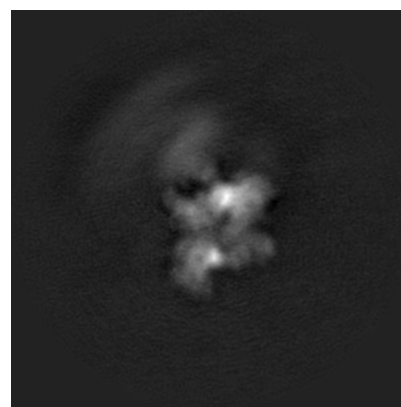
6.1.2 Raw map



X



Y

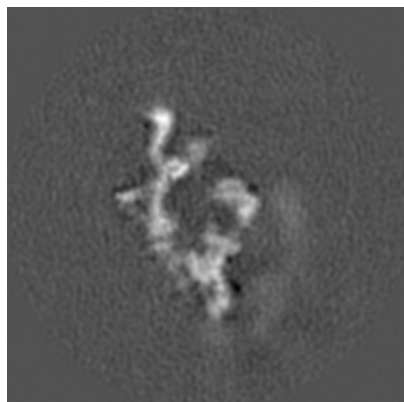


Z

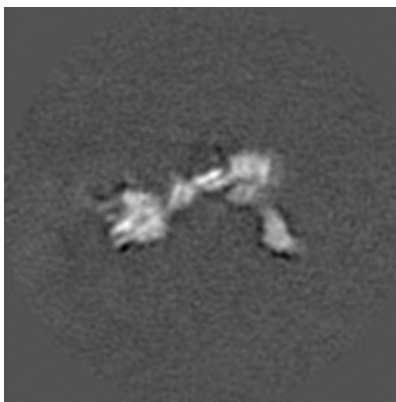
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

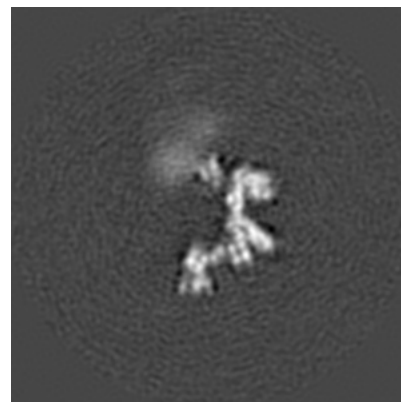
6.2.1 Primary map



X Index: 100

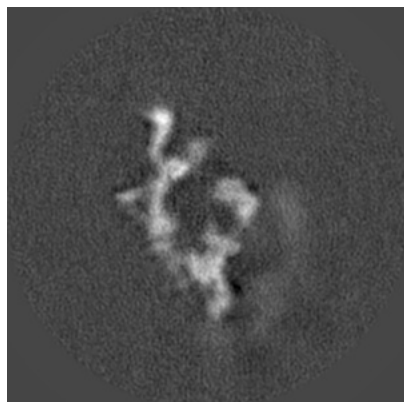


Y Index: 100

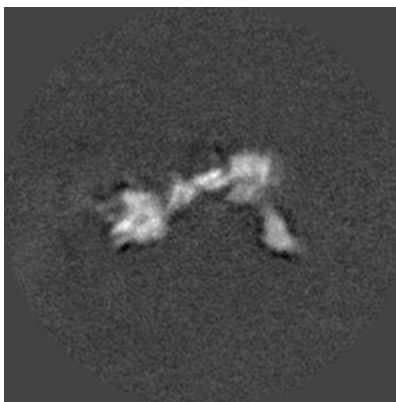


Z Index: 100

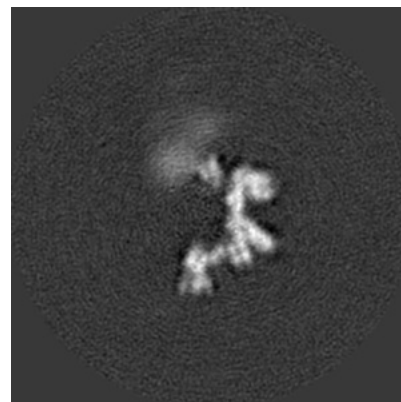
6.2.2 Raw map



X Index: 100



Y Index: 100

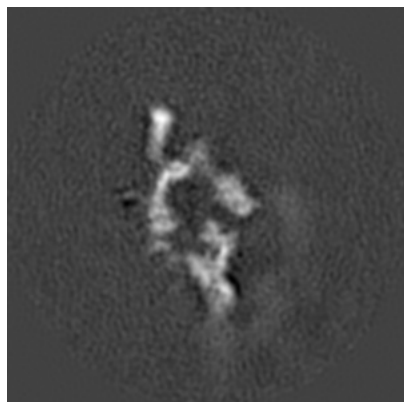


Z Index: 100

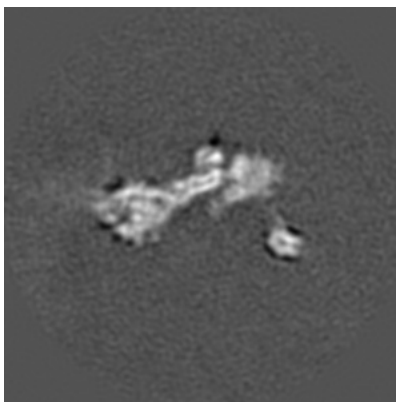
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

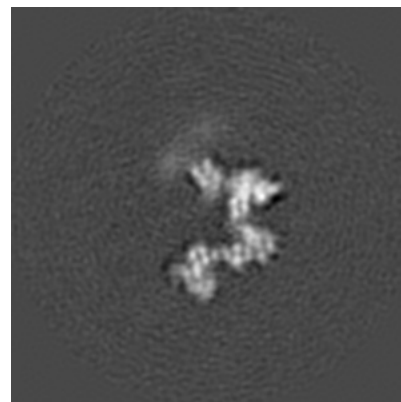
6.3.1 Primary map



X Index: 102

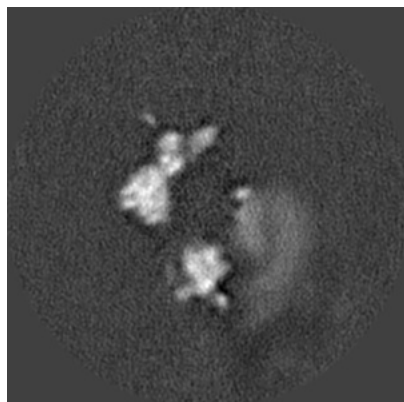


Y Index: 104

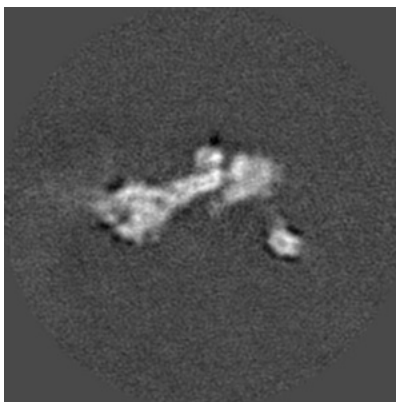


Z Index: 106

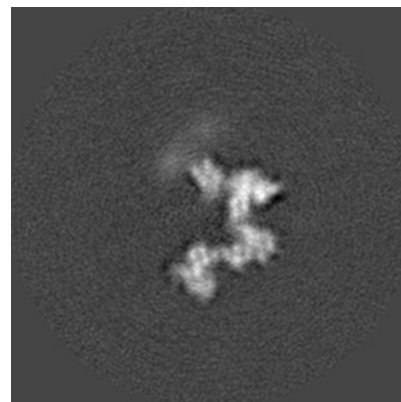
6.3.2 Raw map



X Index: 92



Y Index: 104

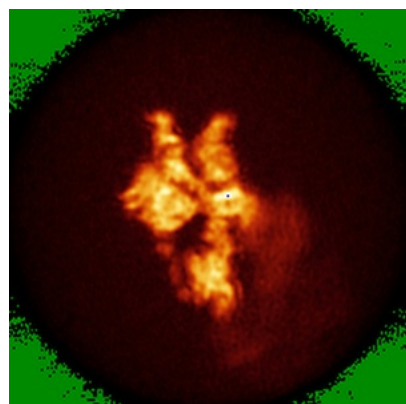


Z Index: 106

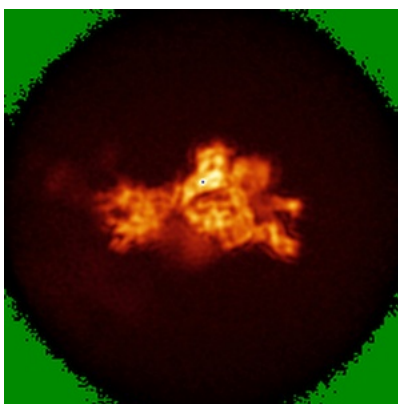
The images above show the largest variance slices of the map in three orthogonal directions.

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

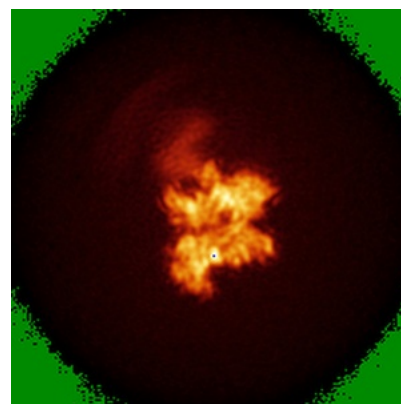
6.4.1 Primary map



X

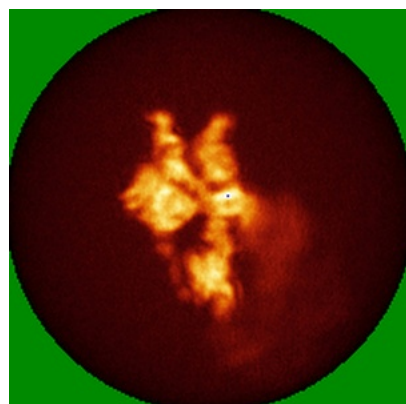


Y

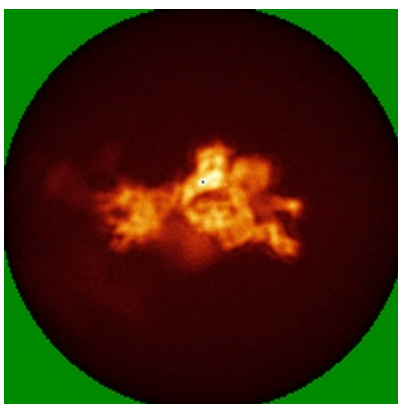


Z

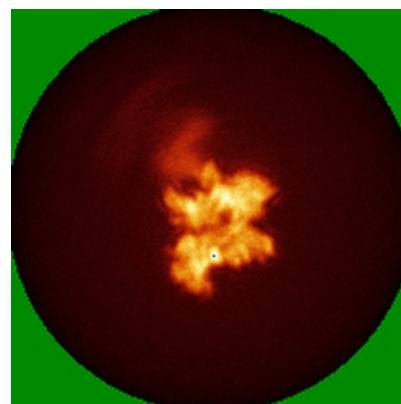
6.4.2 Raw map



X



Y

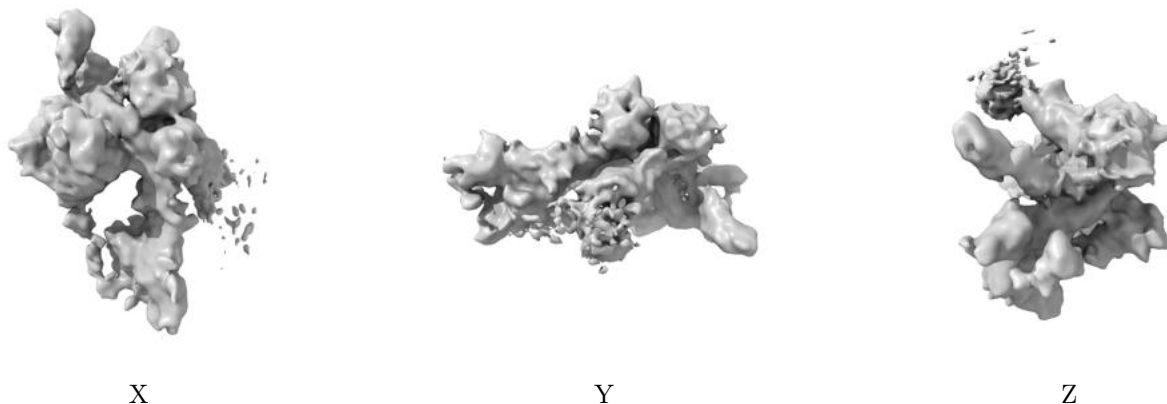


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

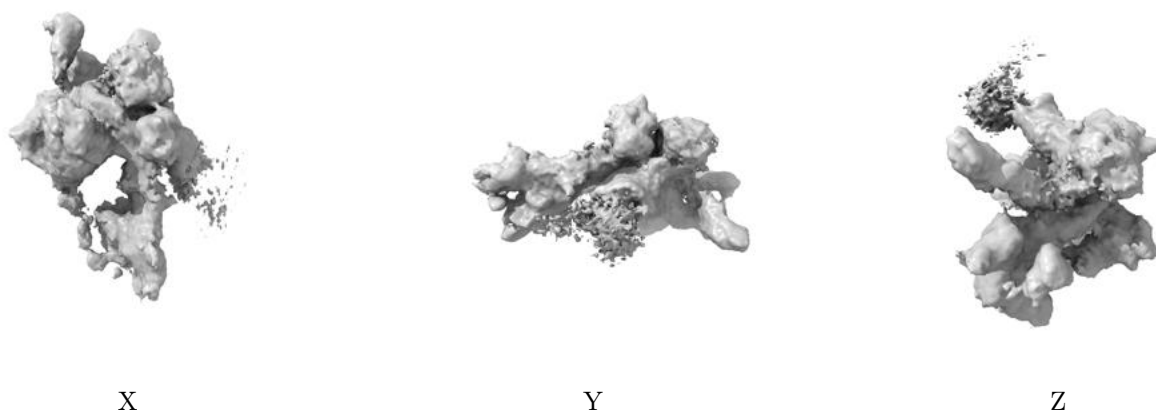
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.018. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

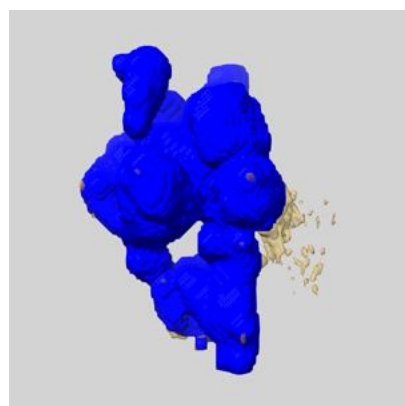
6.6 Mask visualisation [i](#)

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

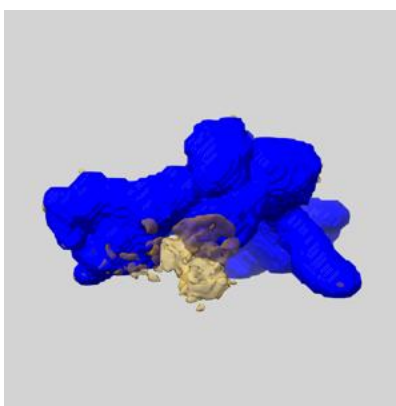
A mask typically either:

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

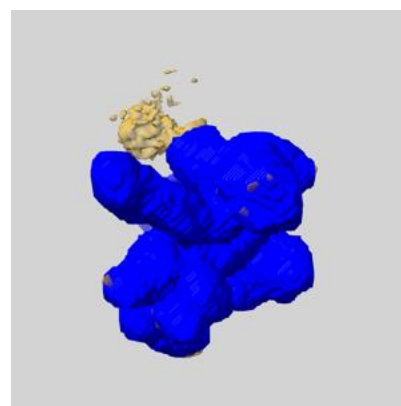
6.6.1 emd_17830_msk_1.map [i](#)



X



Y

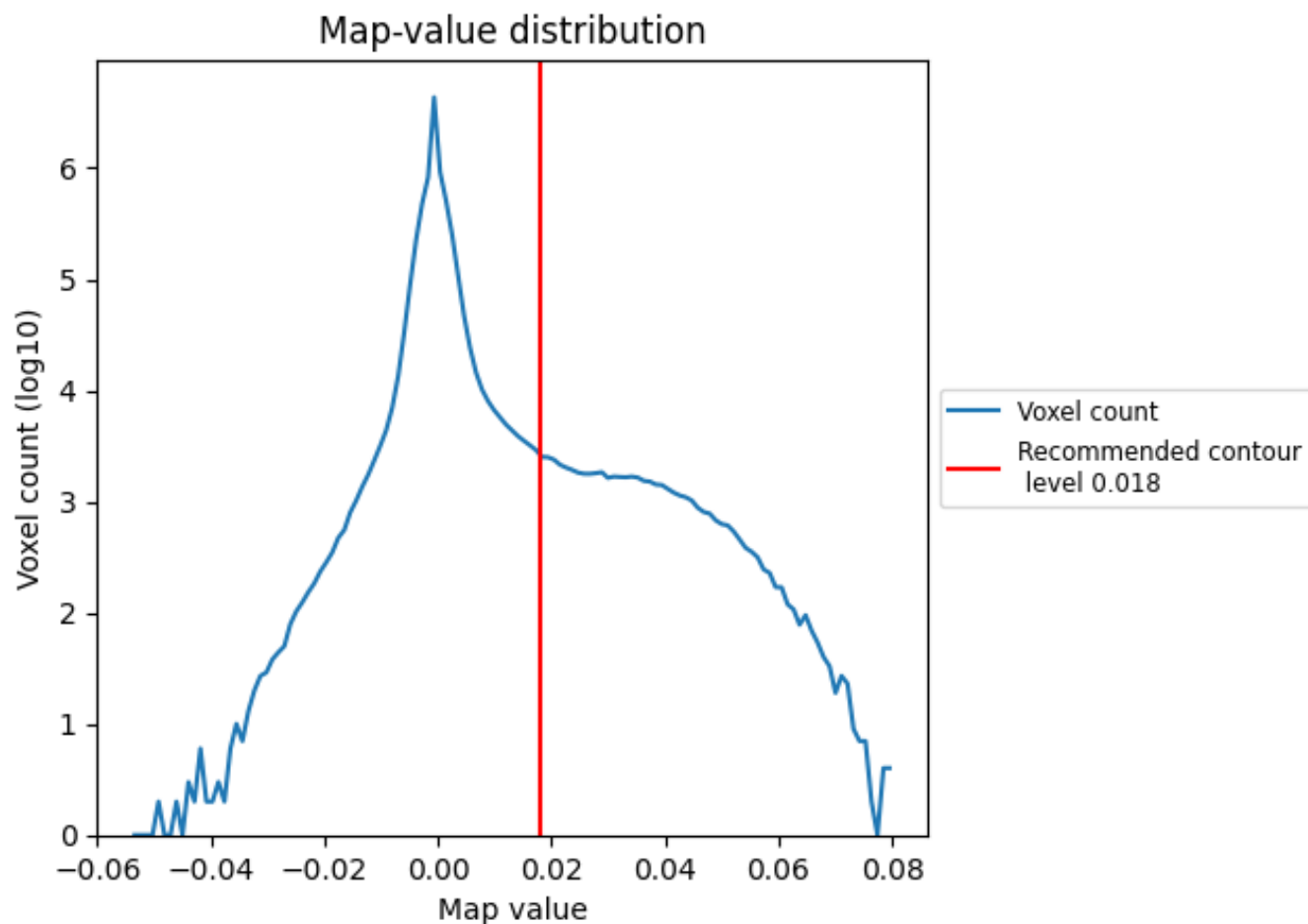


Z

7 Map analysis [i](#)

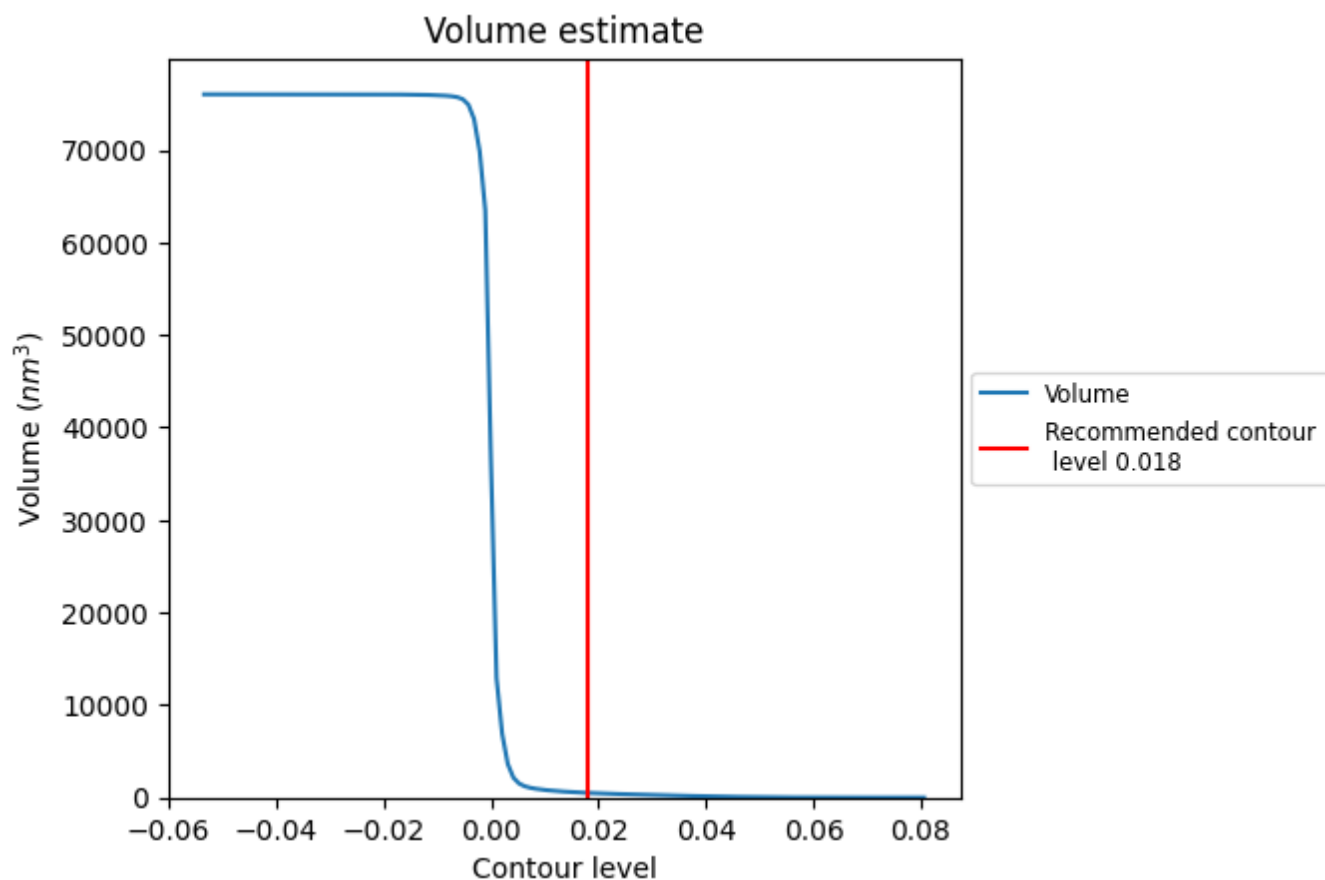
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

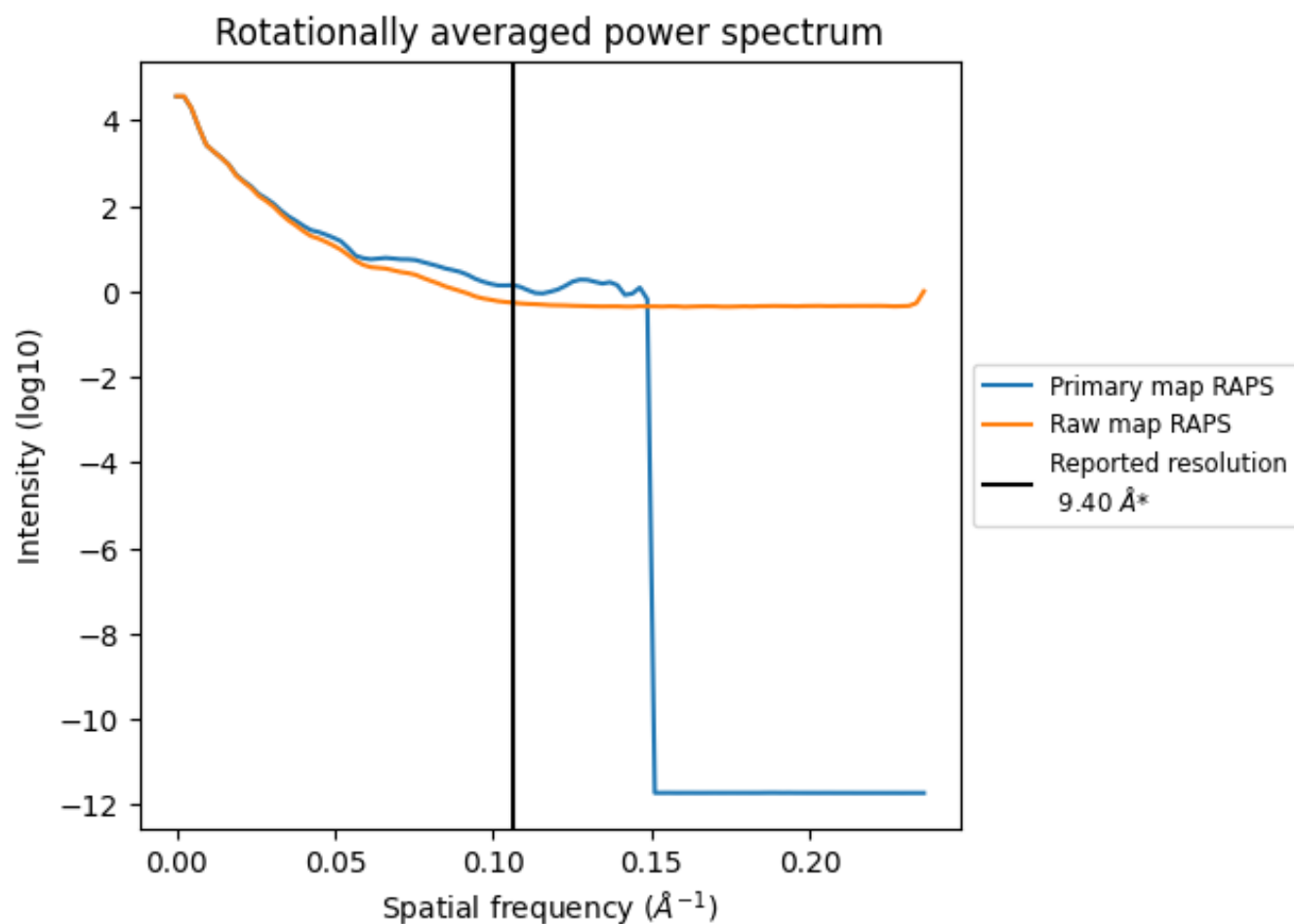
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 503 nm³; this corresponds to an approximate mass of 454 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

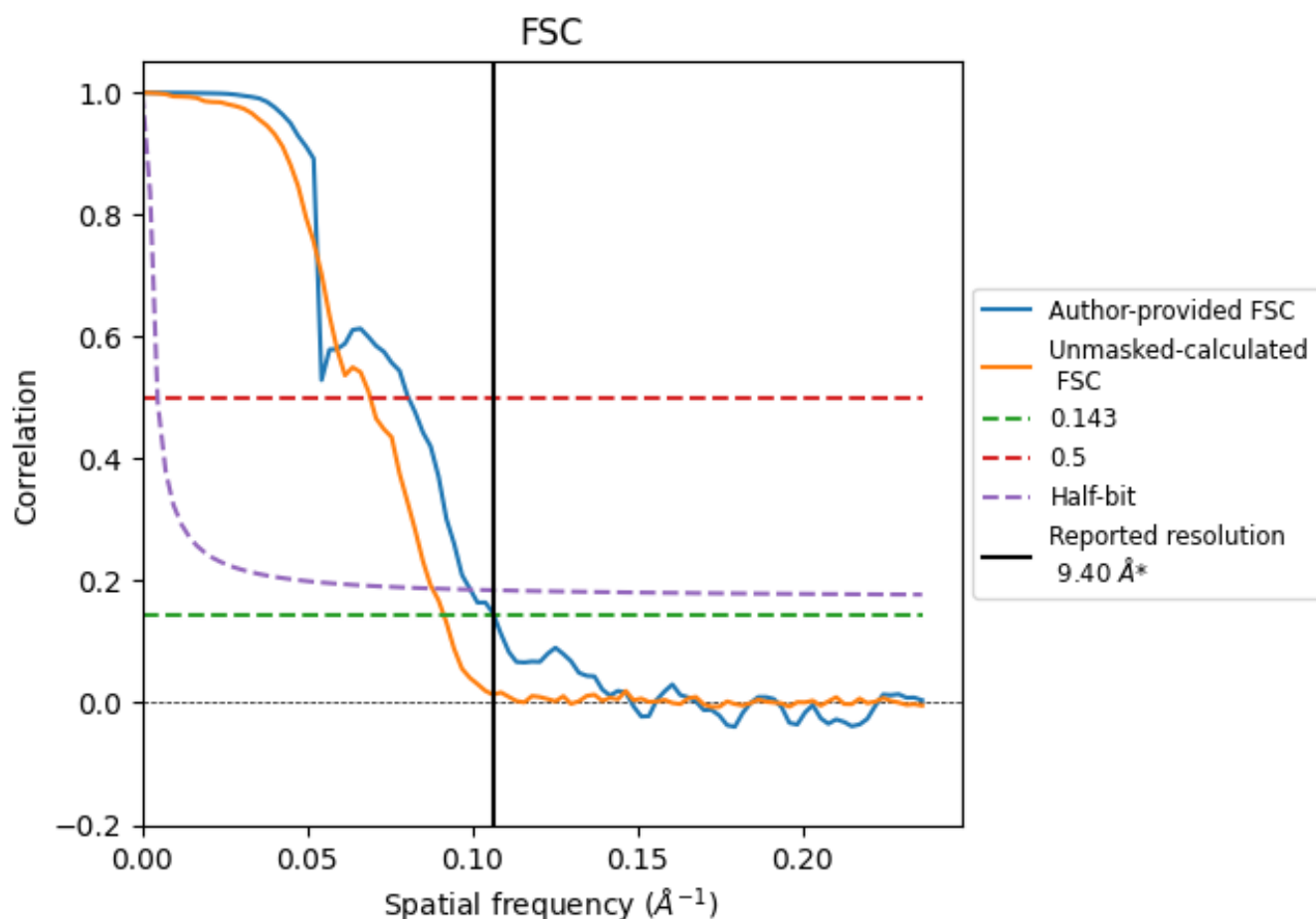


*Reported resolution corresponds to spatial frequency of 0.106 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.106 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

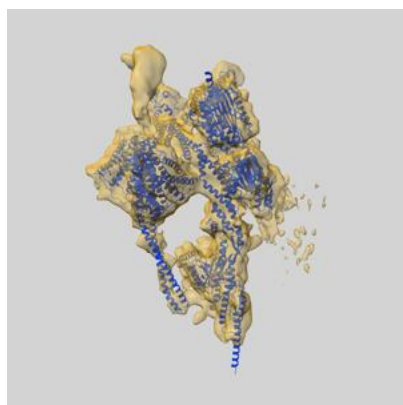
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	9.40	-	-
Author-provided FSC curve	9.39	12.41	10.07
Unmasked-calculated*	10.95	14.49	11.39

*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 10.95 differs from the reported value 9.4 by more than 10 %

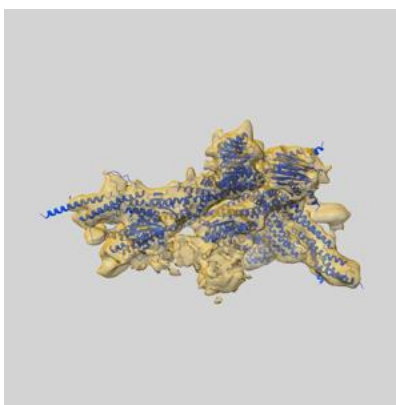
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-17830 and PDB model 8PR0. Per-residue inclusion information can be found in section [3](#) on page [6](#).

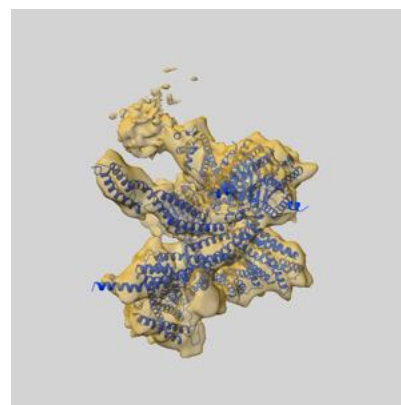
9.1 Map-model overlay [i](#)



X



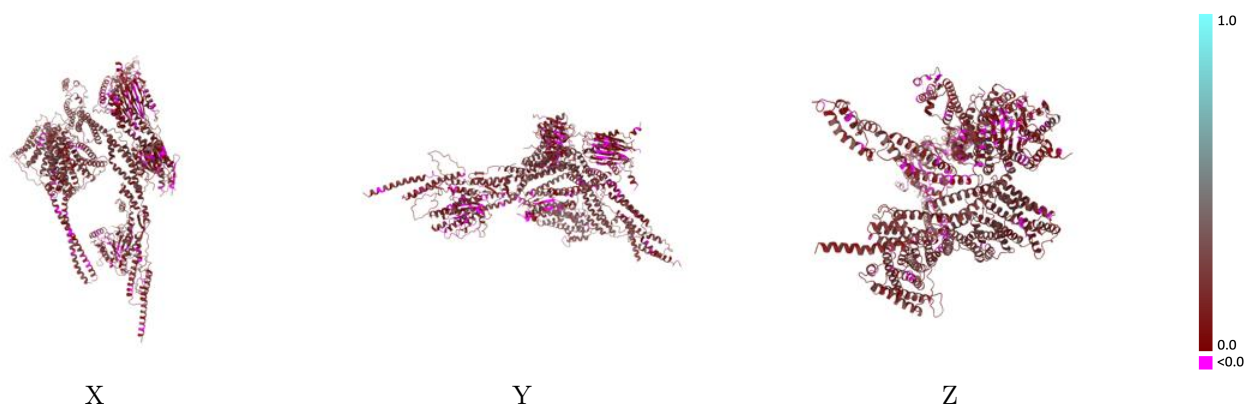
Y



Z

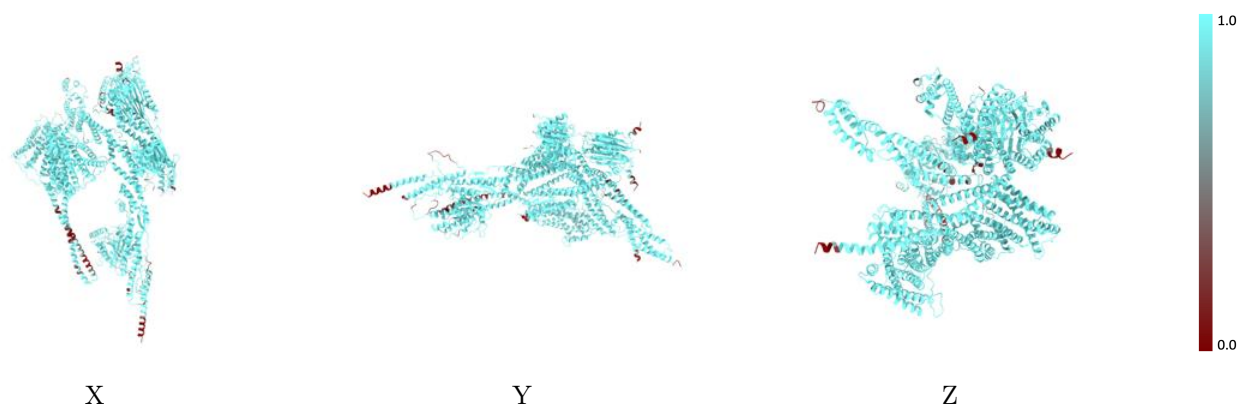
The images above show the 3D surface view of the map at the recommended contour level 0.018 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



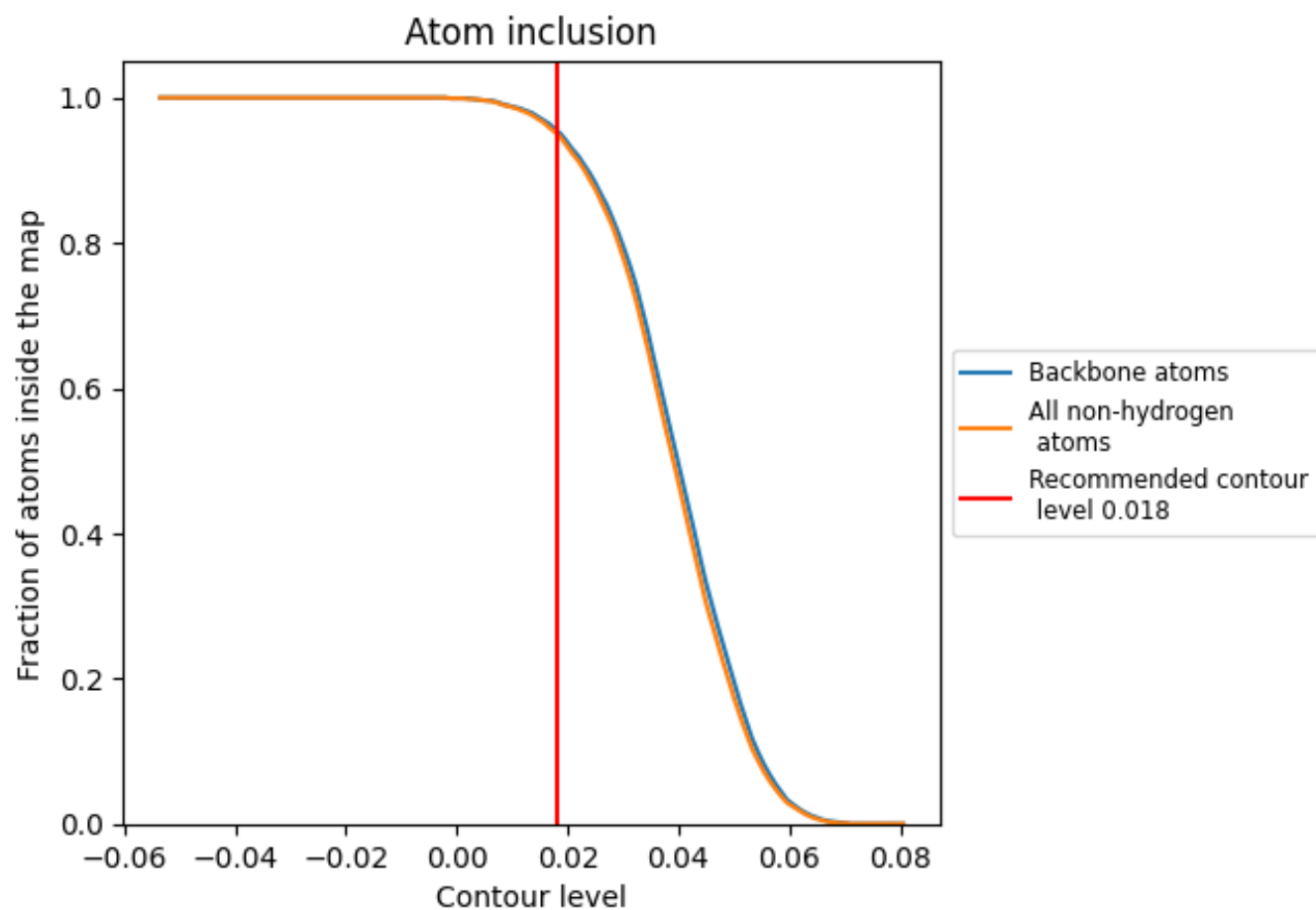
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.018).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 95% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.018) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9510	 0.1690
A	 0.9300	 0.1990
B	 0.9430	 0.1610
C	 0.8960	 0.1030
D	 0.9220	 0.1030
E	 0.9820	 0.1520
F	 0.9770	 0.1420
G	 0.9370	 0.0890
H	 0.9340	 0.0870
I	 0.9410	 0.1840
J	 0.9770	 0.2110
K	 0.9850	 0.1200

