Full wwPDB EM Validation Report ⓘ

Oct 1, 2024 – 06:08 PM JST

PDB ID	:	8WBF
EMDB ID	:	EMD-37423
Title	:	CryoEM structure of non-structural protein 1 tetramer from ZIKA virus
Authors	:	Jiao, H.Z.; Pan, Q.; Hu, H.L.
Deposited on	:	2023-09-09
Resolution	:	2.99 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:

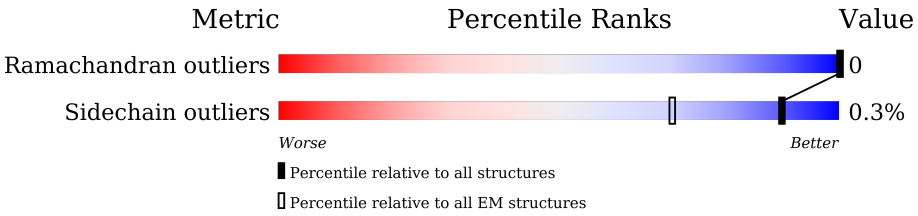
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance

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

The reported resolution of this entry is 2.99 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

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	393	5% 89% · 10%
1	B	393	8% 89% · 10%
1	a	393	17% 84% 16%
1	b	393	18% 84% 16%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 10914 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 Genome polyprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	352	Total	C	N	O	S	0	0
			2819	1773	506	520	20		
1	B	352	Total	C	N	O	S	0	0
			2819	1773	506	520	20		
1	a	330	Total	C	N	O	S	0	0
			2638	1653	473	492	20		
1	b	330	Total	C	N	O	S	0	0
			2638	1653	473	492	20		

There are 160 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	HIS	-	expression tag	UNP A0A1V0E2B5
A	-3	HIS	-	expression tag	UNP A0A1V0E2B5
A	-2	HIS	-	expression tag	UNP A0A1V0E2B5
A	-1	HIS	-	expression tag	UNP A0A1V0E2B5
A	0	HIS	-	expression tag	UNP A0A1V0E2B5
A	1	HIS	-	expression tag	UNP A0A1V0E2B5
A	355	LEU	-	expression tag	UNP A0A1V0E2B5
A	356	VAL	-	expression tag	UNP A0A1V0E2B5
A	357	PRO	-	expression tag	UNP A0A1V0E2B5
A	358	ARG	-	expression tag	UNP A0A1V0E2B5
A	359	GLY	-	expression tag	UNP A0A1V0E2B5
A	360	SER	-	expression tag	UNP A0A1V0E2B5
A	361	TRP	-	expression tag	UNP A0A1V0E2B5
A	362	SER	-	expression tag	UNP A0A1V0E2B5
A	363	HIS	-	expression tag	UNP A0A1V0E2B5
A	364	PRO	-	expression tag	UNP A0A1V0E2B5
A	365	GLN	-	expression tag	UNP A0A1V0E2B5
A	366	PHE	-	expression tag	UNP A0A1V0E2B5
A	367	GLU	-	expression tag	UNP A0A1V0E2B5
A	368	LYS	-	expression tag	UNP A0A1V0E2B5
A	369	GLY	-	expression tag	UNP A0A1V0E2B5
A	370	GLY	-	expression tag	UNP A0A1V0E2B5

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Chain	Residue	Modelled	Actual	Comment	Reference
A	371	GLY	-	expression tag	UNP A0A1V0E2B5
A	372	SER	-	expression tag	UNP A0A1V0E2B5
A	373	GLY	-	expression tag	UNP A0A1V0E2B5
A	374	GLY	-	expression tag	UNP A0A1V0E2B5
A	375	GLY	-	expression tag	UNP A0A1V0E2B5
A	376	SER	-	expression tag	UNP A0A1V0E2B5
A	377	GLY	-	expression tag	UNP A0A1V0E2B5
A	378	GLY	-	expression tag	UNP A0A1V0E2B5
A	379	SER	-	expression tag	UNP A0A1V0E2B5
A	380	ALA	-	expression tag	UNP A0A1V0E2B5
A	381	TRP	-	expression tag	UNP A0A1V0E2B5
A	382	SER	-	expression tag	UNP A0A1V0E2B5
A	383	HIS	-	expression tag	UNP A0A1V0E2B5
A	384	PRO	-	expression tag	UNP A0A1V0E2B5
A	385	GLN	-	expression tag	UNP A0A1V0E2B5
A	386	PHE	-	expression tag	UNP A0A1V0E2B5
A	387	GLU	-	expression tag	UNP A0A1V0E2B5
A	388	LYS	-	expression tag	UNP A0A1V0E2B5
B	-4	HIS	-	expression tag	UNP A0A1V0E2B5
B	-3	HIS	-	expression tag	UNP A0A1V0E2B5
B	-2	HIS	-	expression tag	UNP A0A1V0E2B5
B	-1	HIS	-	expression tag	UNP A0A1V0E2B5
B	0	HIS	-	expression tag	UNP A0A1V0E2B5
B	1	HIS	-	expression tag	UNP A0A1V0E2B5
B	355	LEU	-	expression tag	UNP A0A1V0E2B5
B	356	VAL	-	expression tag	UNP A0A1V0E2B5
B	357	PRO	-	expression tag	UNP A0A1V0E2B5
B	358	ARG	-	expression tag	UNP A0A1V0E2B5
B	359	GLY	-	expression tag	UNP A0A1V0E2B5
B	360	SER	-	expression tag	UNP A0A1V0E2B5
B	361	TRP	-	expression tag	UNP A0A1V0E2B5
B	362	SER	-	expression tag	UNP A0A1V0E2B5
B	363	HIS	-	expression tag	UNP A0A1V0E2B5
B	364	PRO	-	expression tag	UNP A0A1V0E2B5
B	365	GLN	-	expression tag	UNP A0A1V0E2B5
B	366	PHE	-	expression tag	UNP A0A1V0E2B5
B	367	GLU	-	expression tag	UNP A0A1V0E2B5
B	368	LYS	-	expression tag	UNP A0A1V0E2B5
B	369	GLY	-	expression tag	UNP A0A1V0E2B5
B	370	GLY	-	expression tag	UNP A0A1V0E2B5
B	371	GLY	-	expression tag	UNP A0A1V0E2B5
B	372	SER	-	expression tag	UNP A0A1V0E2B5

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Chain	Residue	Modelled	Actual	Comment	Reference
B	373	GLY	-	expression tag	UNP A0A1V0E2B5
B	374	GLY	-	expression tag	UNP A0A1V0E2B5
B	375	GLY	-	expression tag	UNP A0A1V0E2B5
B	376	SER	-	expression tag	UNP A0A1V0E2B5
B	377	GLY	-	expression tag	UNP A0A1V0E2B5
B	378	GLY	-	expression tag	UNP A0A1V0E2B5
B	379	SER	-	expression tag	UNP A0A1V0E2B5
B	380	ALA	-	expression tag	UNP A0A1V0E2B5
B	381	TRP	-	expression tag	UNP A0A1V0E2B5
B	382	SER	-	expression tag	UNP A0A1V0E2B5
B	383	HIS	-	expression tag	UNP A0A1V0E2B5
B	384	PRO	-	expression tag	UNP A0A1V0E2B5
B	385	GLN	-	expression tag	UNP A0A1V0E2B5
B	386	PHE	-	expression tag	UNP A0A1V0E2B5
B	387	GLU	-	expression tag	UNP A0A1V0E2B5
B	388	LYS	-	expression tag	UNP A0A1V0E2B5
a	-4	HIS	-	expression tag	UNP A0A1V0E2B5
a	-3	HIS	-	expression tag	UNP A0A1V0E2B5
a	-2	HIS	-	expression tag	UNP A0A1V0E2B5
a	-1	HIS	-	expression tag	UNP A0A1V0E2B5
a	0	HIS	-	expression tag	UNP A0A1V0E2B5
a	1	HIS	-	expression tag	UNP A0A1V0E2B5
a	355	LEU	-	expression tag	UNP A0A1V0E2B5
a	356	VAL	-	expression tag	UNP A0A1V0E2B5
a	357	PRO	-	expression tag	UNP A0A1V0E2B5
a	358	ARG	-	expression tag	UNP A0A1V0E2B5
a	359	GLY	-	expression tag	UNP A0A1V0E2B5
a	360	SER	-	expression tag	UNP A0A1V0E2B5
a	361	TRP	-	expression tag	UNP A0A1V0E2B5
a	362	SER	-	expression tag	UNP A0A1V0E2B5
a	363	HIS	-	expression tag	UNP A0A1V0E2B5
a	364	PRO	-	expression tag	UNP A0A1V0E2B5
a	365	GLN	-	expression tag	UNP A0A1V0E2B5
a	366	PHE	-	expression tag	UNP A0A1V0E2B5
a	367	GLU	-	expression tag	UNP A0A1V0E2B5
a	368	LYS	-	expression tag	UNP A0A1V0E2B5
a	369	GLY	-	expression tag	UNP A0A1V0E2B5
a	370	GLY	-	expression tag	UNP A0A1V0E2B5
a	371	GLY	-	expression tag	UNP A0A1V0E2B5
a	372	SER	-	expression tag	UNP A0A1V0E2B5
a	373	GLY	-	expression tag	UNP A0A1V0E2B5
a	374	GLY	-	expression tag	UNP A0A1V0E2B5

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Chain	Residue	Modelled	Actual	Comment	Reference
a	375	GLY	-	expression tag	UNP A0A1V0E2B5
a	376	SER	-	expression tag	UNP A0A1V0E2B5
a	377	GLY	-	expression tag	UNP A0A1V0E2B5
a	378	GLY	-	expression tag	UNP A0A1V0E2B5
a	379	SER	-	expression tag	UNP A0A1V0E2B5
a	380	ALA	-	expression tag	UNP A0A1V0E2B5
a	381	TRP	-	expression tag	UNP A0A1V0E2B5
a	382	SER	-	expression tag	UNP A0A1V0E2B5
a	383	HIS	-	expression tag	UNP A0A1V0E2B5
a	384	PRO	-	expression tag	UNP A0A1V0E2B5
a	385	GLN	-	expression tag	UNP A0A1V0E2B5
a	386	PHE	-	expression tag	UNP A0A1V0E2B5
a	387	GLU	-	expression tag	UNP A0A1V0E2B5
a	388	LYS	-	expression tag	UNP A0A1V0E2B5
b	-4	HIS	-	expression tag	UNP A0A1V0E2B5
b	-3	HIS	-	expression tag	UNP A0A1V0E2B5
b	-2	HIS	-	expression tag	UNP A0A1V0E2B5
b	-1	HIS	-	expression tag	UNP A0A1V0E2B5
b	0	HIS	-	expression tag	UNP A0A1V0E2B5
b	1	HIS	-	expression tag	UNP A0A1V0E2B5
b	355	LEU	-	expression tag	UNP A0A1V0E2B5
b	356	VAL	-	expression tag	UNP A0A1V0E2B5
b	357	PRO	-	expression tag	UNP A0A1V0E2B5
b	358	ARG	-	expression tag	UNP A0A1V0E2B5
b	359	GLY	-	expression tag	UNP A0A1V0E2B5
b	360	SER	-	expression tag	UNP A0A1V0E2B5
b	361	TRP	-	expression tag	UNP A0A1V0E2B5
b	362	SER	-	expression tag	UNP A0A1V0E2B5
b	363	HIS	-	expression tag	UNP A0A1V0E2B5
b	364	PRO	-	expression tag	UNP A0A1V0E2B5
b	365	GLN	-	expression tag	UNP A0A1V0E2B5
b	366	PHE	-	expression tag	UNP A0A1V0E2B5
b	367	GLU	-	expression tag	UNP A0A1V0E2B5
b	368	LYS	-	expression tag	UNP A0A1V0E2B5
b	369	GLY	-	expression tag	UNP A0A1V0E2B5
b	370	GLY	-	expression tag	UNP A0A1V0E2B5
b	371	GLY	-	expression tag	UNP A0A1V0E2B5
b	372	SER	-	expression tag	UNP A0A1V0E2B5
b	373	GLY	-	expression tag	UNP A0A1V0E2B5
b	374	GLY	-	expression tag	UNP A0A1V0E2B5
b	375	GLY	-	expression tag	UNP A0A1V0E2B5
b	376	SER	-	expression tag	UNP A0A1V0E2B5

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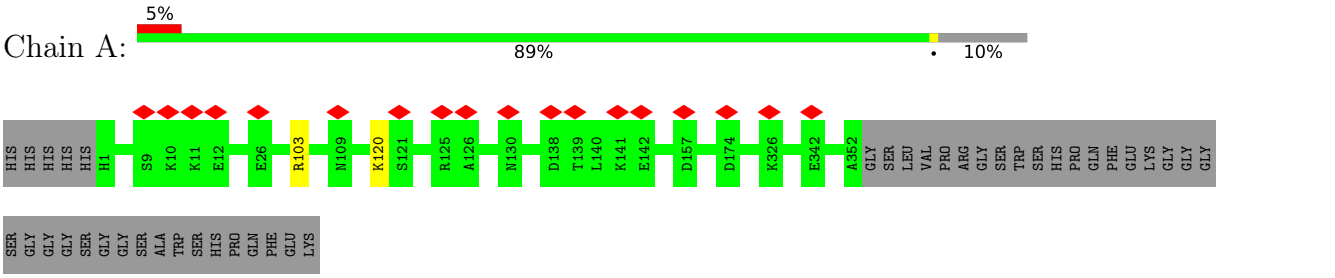
Chain	Residue	Modelled	Actual	Comment	Reference
b	377	GLY	-	expression tag	UNP A0A1V0E2B5
b	378	GLY	-	expression tag	UNP A0A1V0E2B5
b	379	SER	-	expression tag	UNP A0A1V0E2B5
b	380	ALA	-	expression tag	UNP A0A1V0E2B5
b	381	TRP	-	expression tag	UNP A0A1V0E2B5
b	382	SER	-	expression tag	UNP A0A1V0E2B5
b	383	HIS	-	expression tag	UNP A0A1V0E2B5
b	384	PRO	-	expression tag	UNP A0A1V0E2B5
b	385	GLN	-	expression tag	UNP A0A1V0E2B5
b	386	PHE	-	expression tag	UNP A0A1V0E2B5
b	387	GLU	-	expression tag	UNP A0A1V0E2B5
b	388	LYS	-	expression tag	UNP A0A1V0E2B5

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.

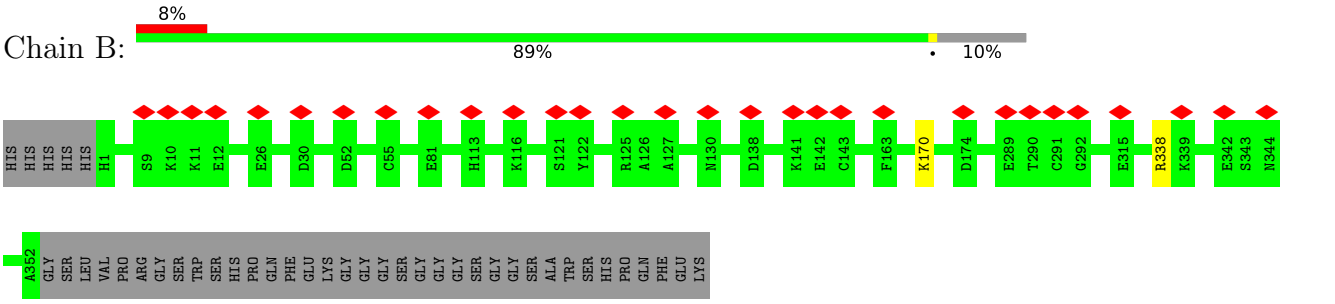
• Molecule 1: Genome polyprotein

Chain A:



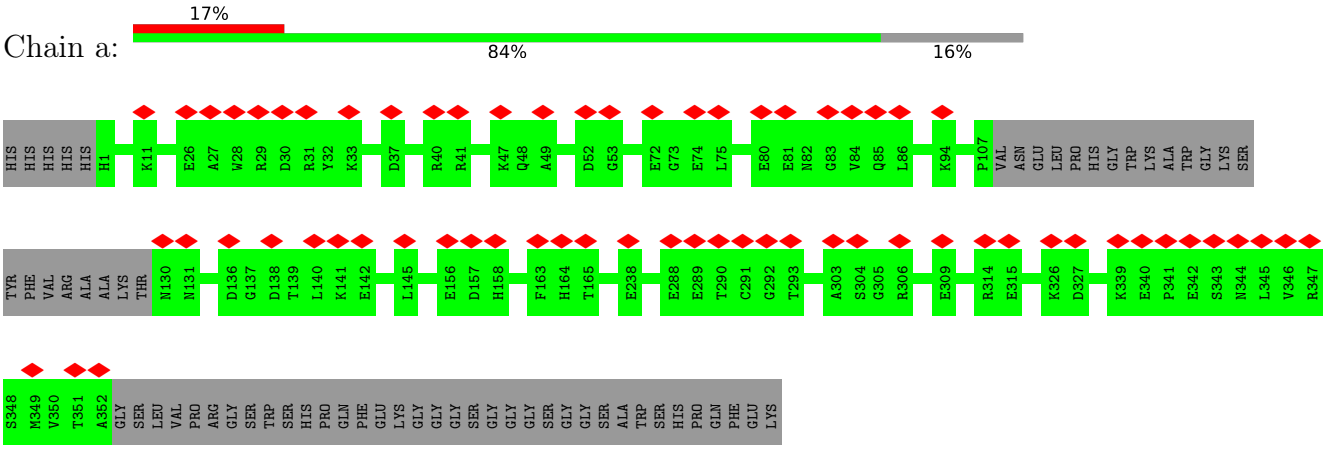
• Molecule 1: Genome polyprotein

Chain B:



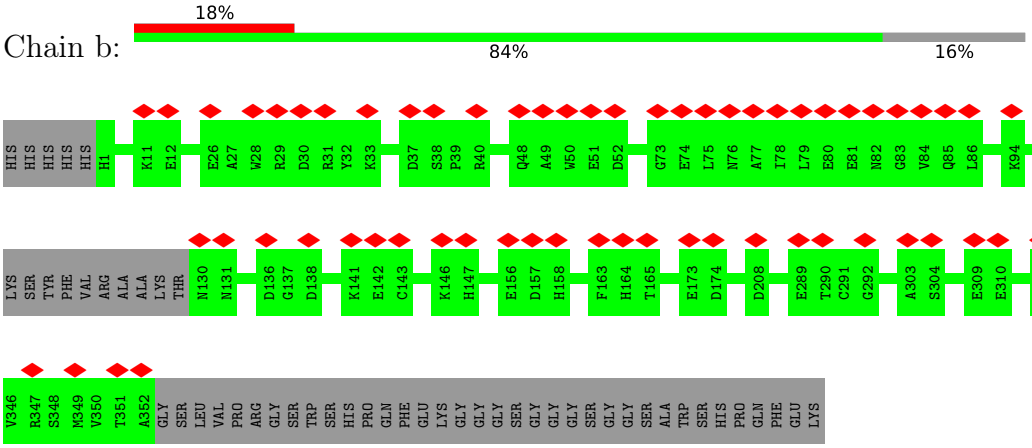
• Molecule 1: Genome polyprotein

Chain a:



• Molecule 1: Genome polyprotein

Chain b:


18%
84%
16%
HIS HIS HIS HIS HIS H1 K11 E12 E26 A27 W28 R29 D30 R31 Y32 K33 D37 S38 P39 R40 Q48 A49 W50 E51 D52 G73 E74 L75 N76 A77 I78 L79 E80 E81 N82 G83 V84 Q85 L86 K94 P107 VAL ASN GLU LEU PRO HIS GLY TRP LYS ALA TRP GLY
LYS SER TYR PHE VAL ARG ALA ALA LYS THR N130 N131 D136 G137 D138 K141 E142 C143 K146 H147 E156 D157 H158 F163 H164 T165 E173 D174 D208 E289 T290 C291 G292 A303 S304 E309 E310 E315 K326 R338 K339 E340 P341 E342 S343 N344 L345
V346 R347 S348 M349 V350 T351 A352 GLY SER LEU VAL PRO ARG GLY SER TRP SER HIS PRO GLN PHE GLU LYS GLY GLY GLY SER GLY GLY GLY SER GLY GLY SER ALA TRP SER HIS PRO GLN PHE GLU LYS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	88058	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 ($e^-/Å^2$)	54	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	4.648	Depositor
Minimum map value	-2.898	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.137	Depositor
Recommended contour level	0.7	Depositor
Map size (Å)	238.0, 238.0, 238.0	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.85, 0.85, 0.85	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	A	0.24	0/2897	0.51	0/3928
1	B	0.24	0/2897	0.52	0/3928
1	a	0.24	0/2707	0.51	0/3668
1	b	0.24	0/2707	0.51	0/3668
All	All	0.24	0/11208	0.51	0/15192

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

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	A	350/393 (89%)	331 (95%)	19 (5%)	0	100	100
1	B	350/393 (89%)	318 (91%)	32 (9%)	0	100	100
1	a	326/393 (83%)	303 (93%)	23 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	b	326/393 (83%)	303 (93%)	23 (7%)	0	100	100
All	All	1352/1572 (86%)	1255 (93%)	97 (7%)	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	
1	A	307/337 (91%)	305 (99%)	2 (1%)	81	91
1	B	307/337 (91%)	305 (99%)	2 (1%)	81	91
1	a	290/337 (86%)	290 (100%)	0	100	100
1	b	290/337 (86%)	290 (100%)	0	100	100
All	All	1194/1348 (89%)	1190 (100%)	4 (0%)	90	96

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	103	ARG
1	A	120	LYS
1	B	170	LYS
1	B	338	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	76	ASN
1	A	158	HIS
1	A	254	HIS
1	B	1	HIS
1	B	95	ASN
1	B	131	ASN
1	B	207	ASN

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Mol	Chain	Res	Type
1	B	263	GLN
1	a	35	HIS
1	a	48	GLN
1	a	286	HIS
1	b	35	HIS
1	b	48	GLN
1	b	195	HIS
1	b	254	HIS
1	b	255	ASN
1	b	286	HIS

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.

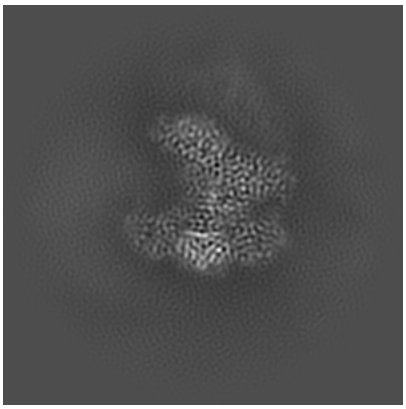
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-37423. These allow visual inspection of the internal detail of the map and identification of artifacts.

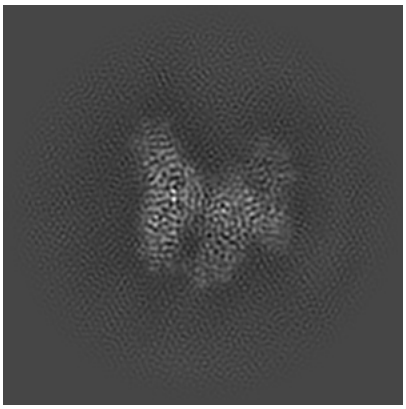
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

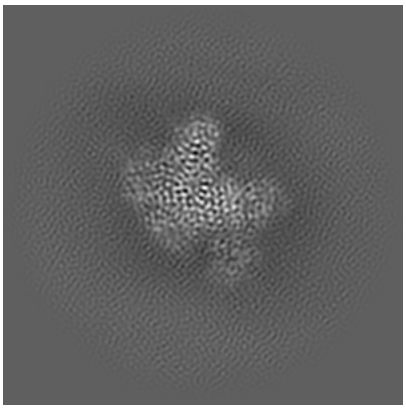
6.1.1 Primary map



X

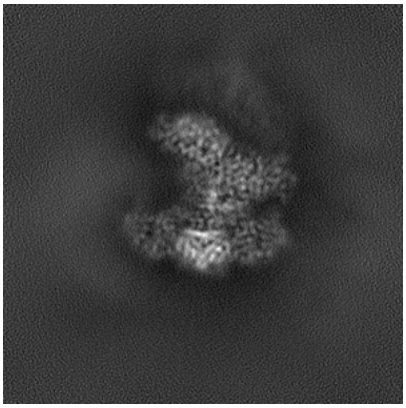


Y

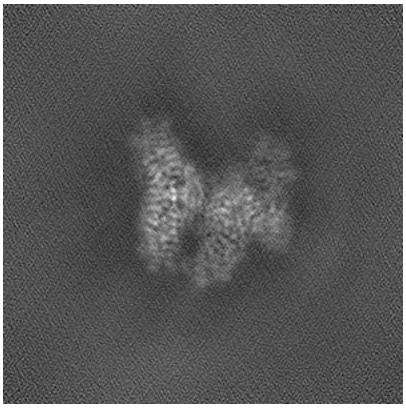


Z

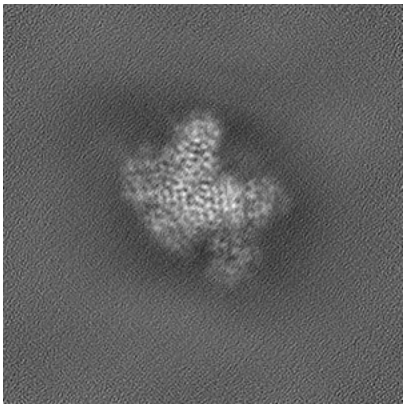
6.1.2 Raw map



X



Y

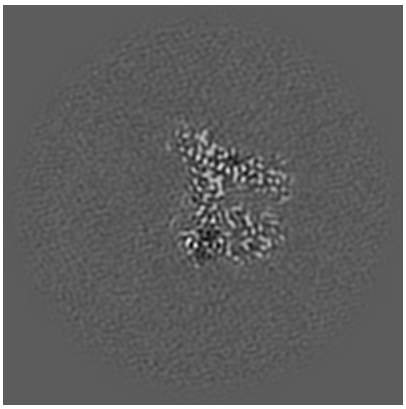


Z

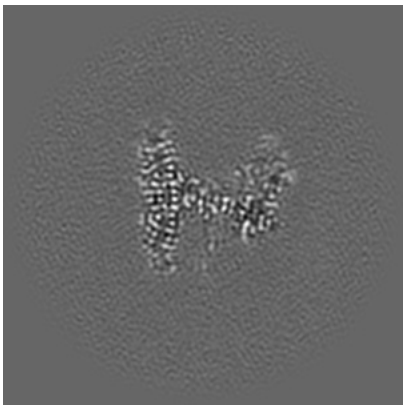
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

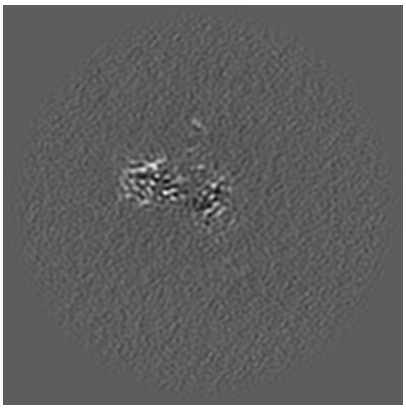
6.2.1 Primary map



X Index: 140

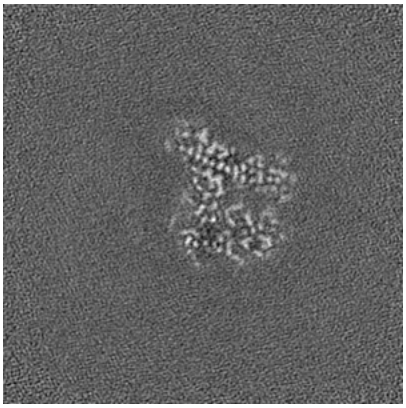


Y Index: 140

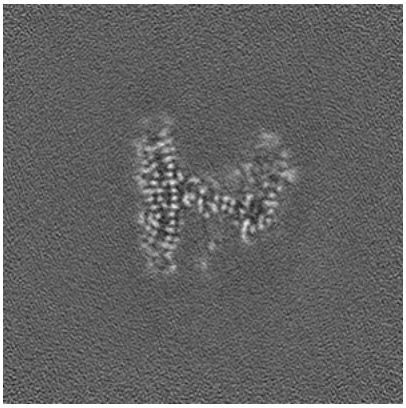


Z Index: 140

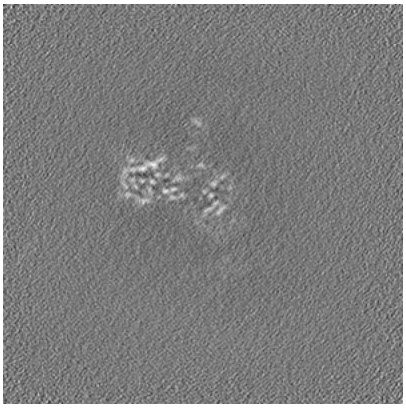
6.2.2 Raw map



X Index: 140



Y Index: 140

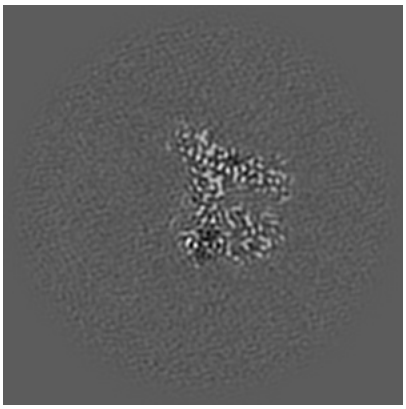


Z Index: 140

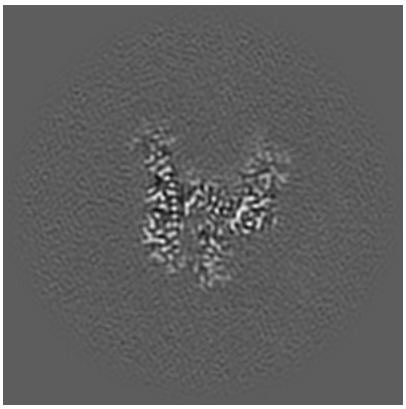
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

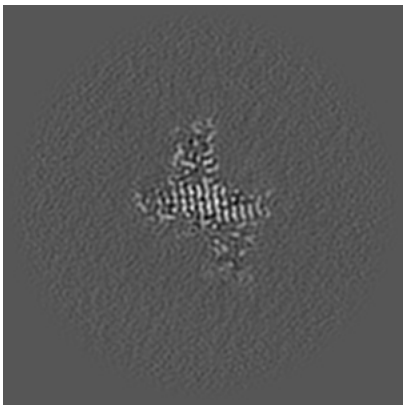
6.3.1 Primary map



X Index: 140

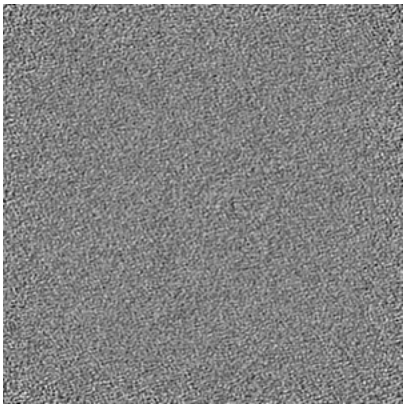


Y Index: 147

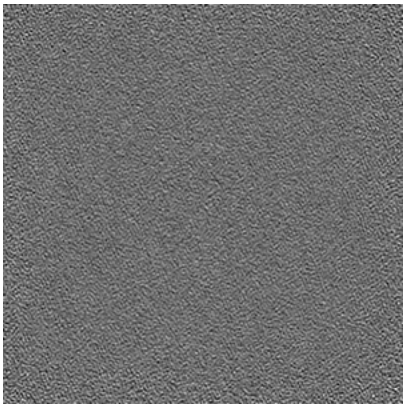


Z Index: 119

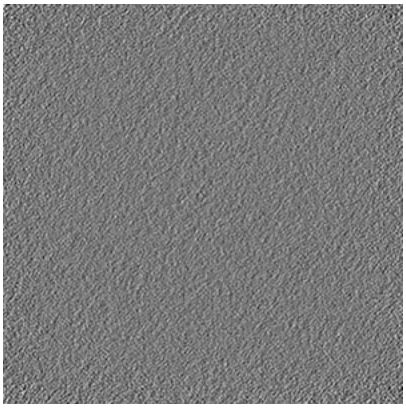
6.3.2 Raw map



X Index: 279



Y Index: 0

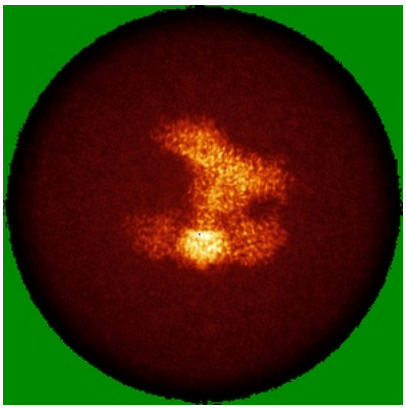


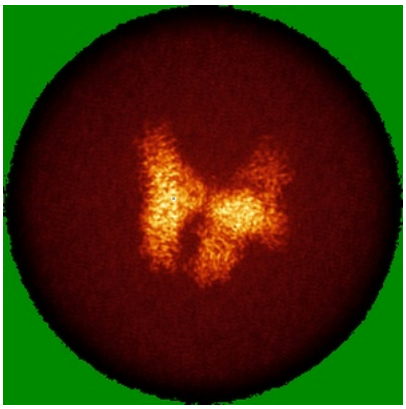
Z Index: 0

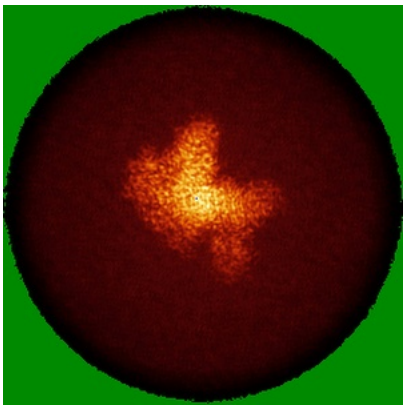
The images above show the largest variance slices of the map in three orthogonal directions.

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

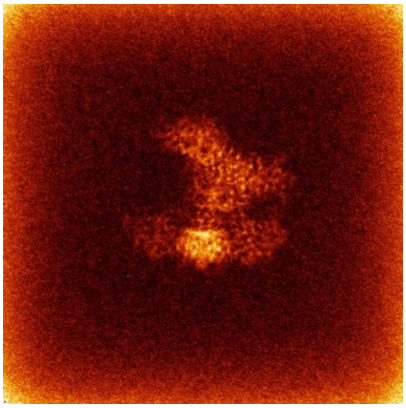
6.4.1 Primary map

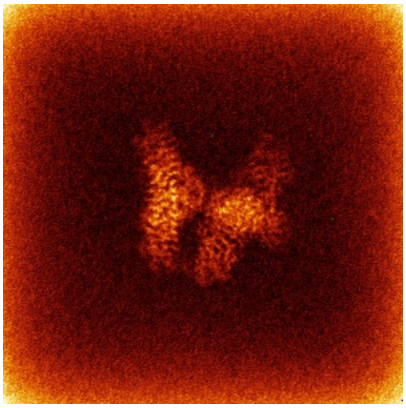

X

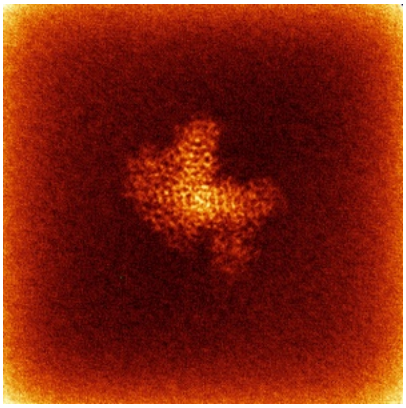

Y


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.

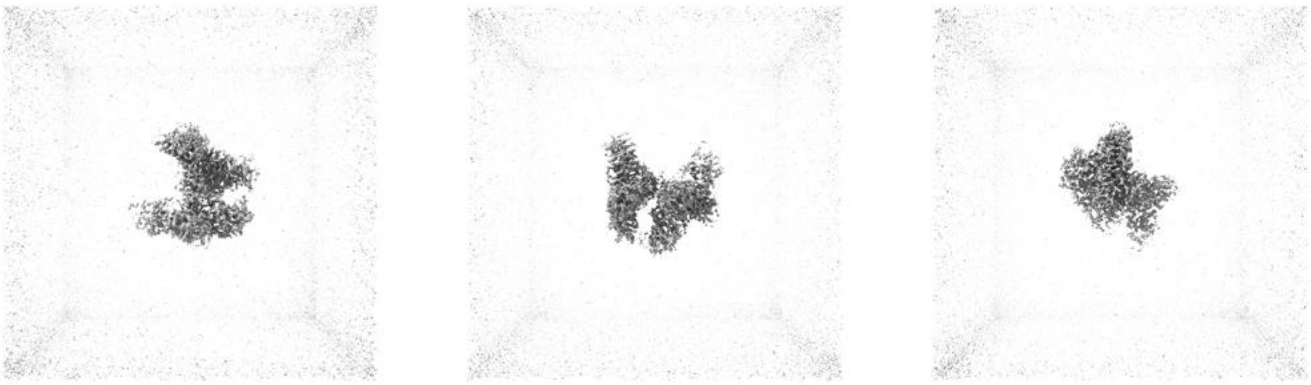
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.7. 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.

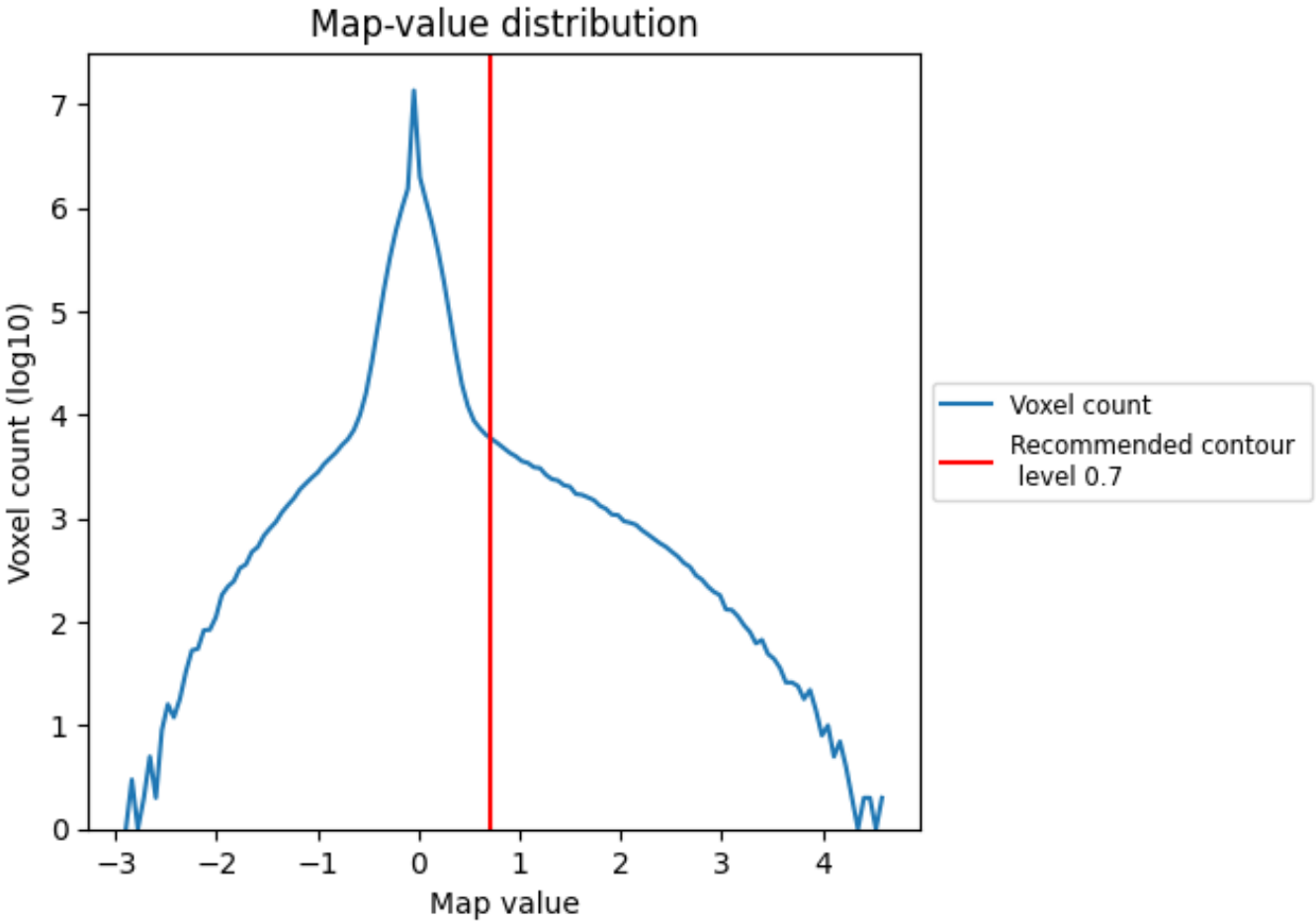
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

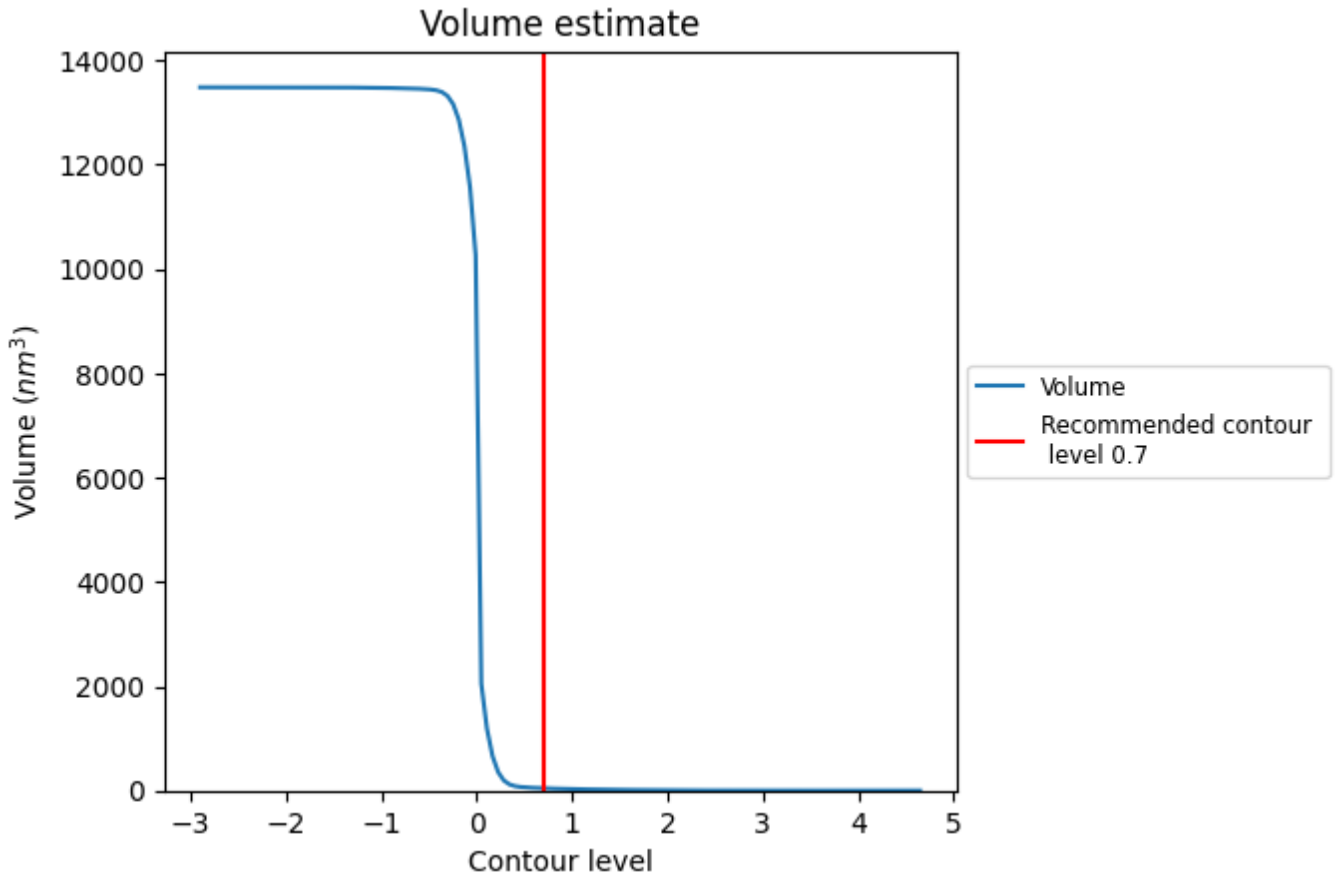
This section contains the results of statistical analysis of the map.

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.

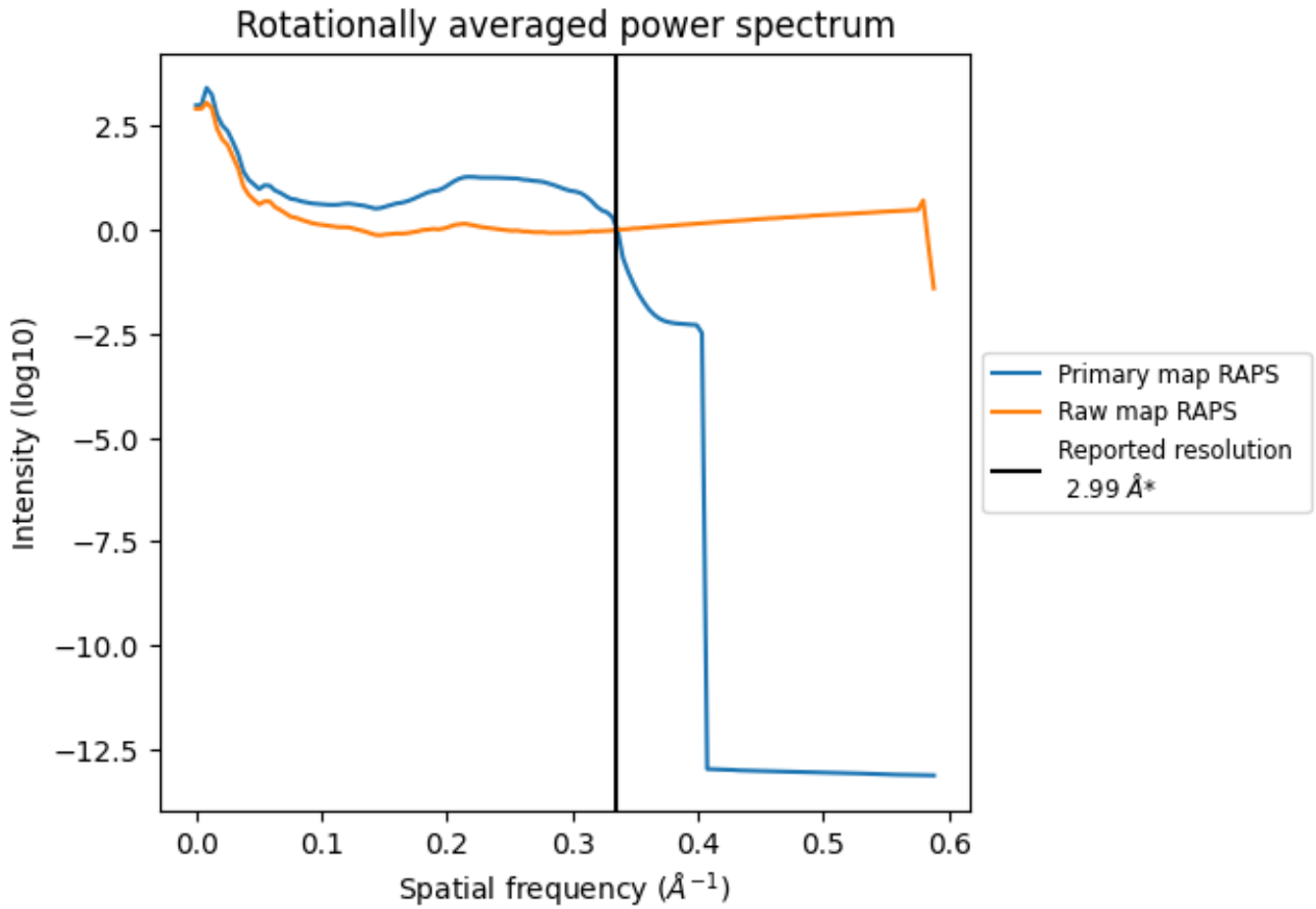
7.2 Volume estimate



The volume at the recommended contour level is 44 nm^3; this corresponds to an approximate mass of 40 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)

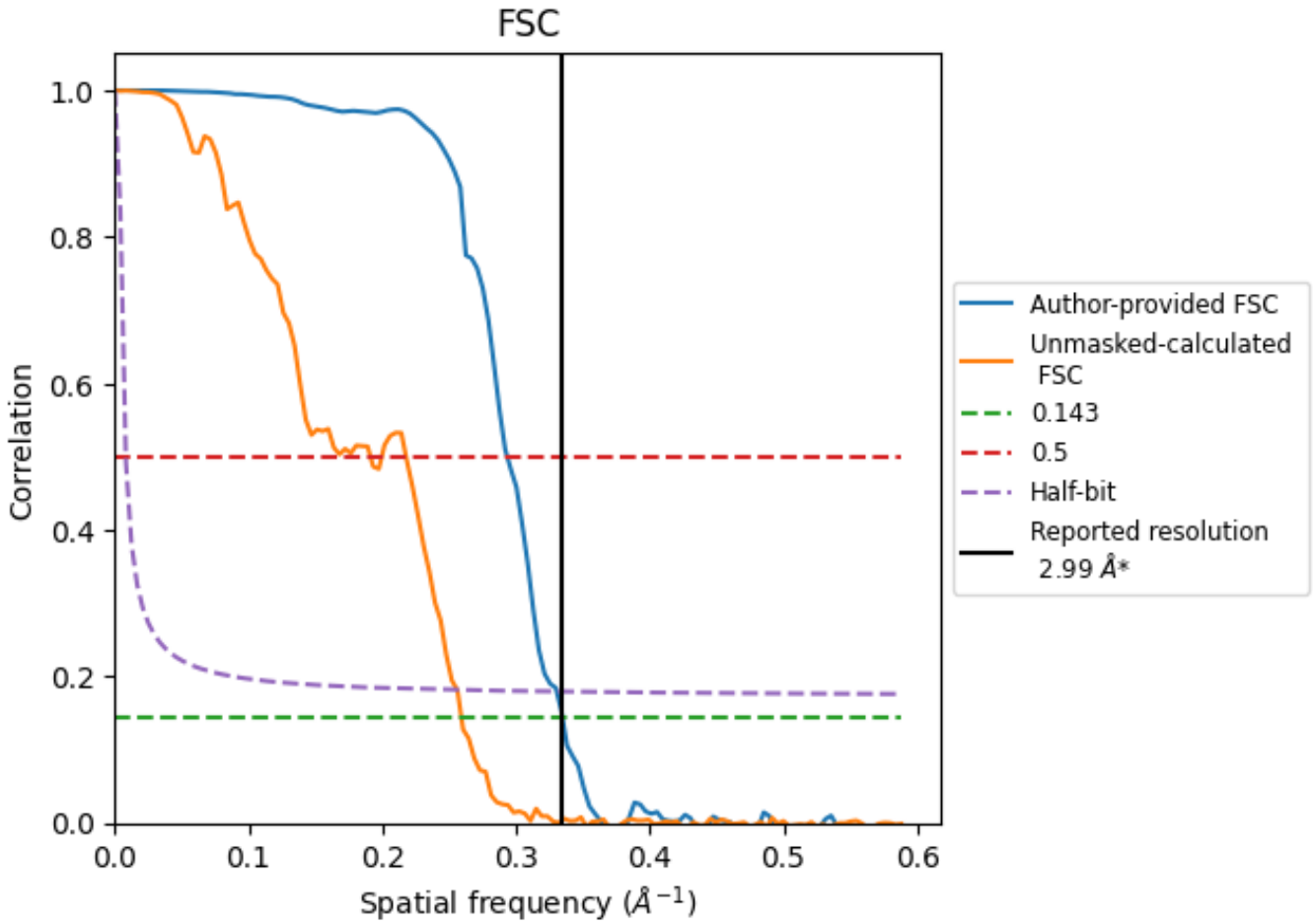


*Reported resolution corresponds to spatial frequency of 0.334 $Å^{-1}$

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 0.334 Å^{-1}

8.2 Resolution estimates (i)

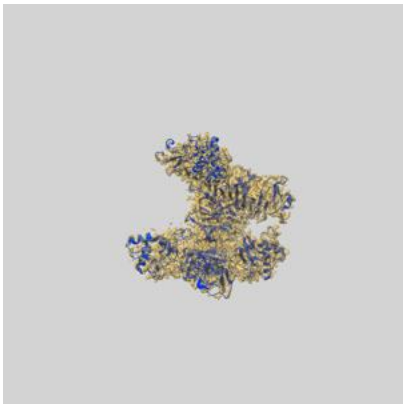
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.99	-	-
Author-provided FSC curve	2.99	3.41	3.03
Unmasked-calculated*	3.86	5.23	3.90

*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 3.86 differs from the reported value 2.99 by more than 10 %

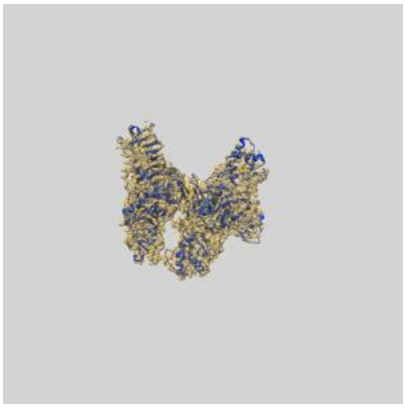
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-37423 and PDB model 8WBF. Per-residue inclusion information can be found in section 3 on page 8.

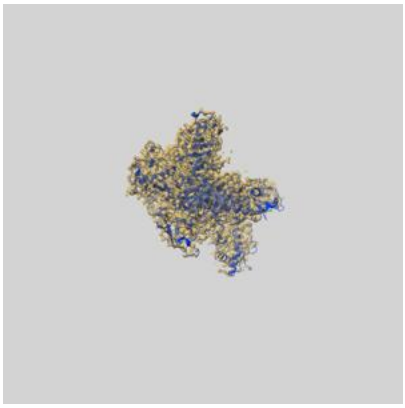
9.1 Map-model overlay



X



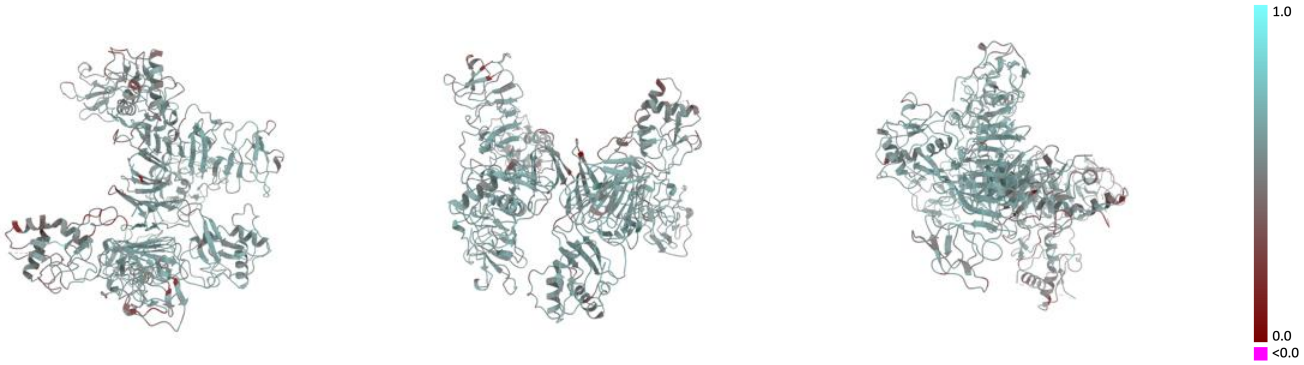
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.7 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.

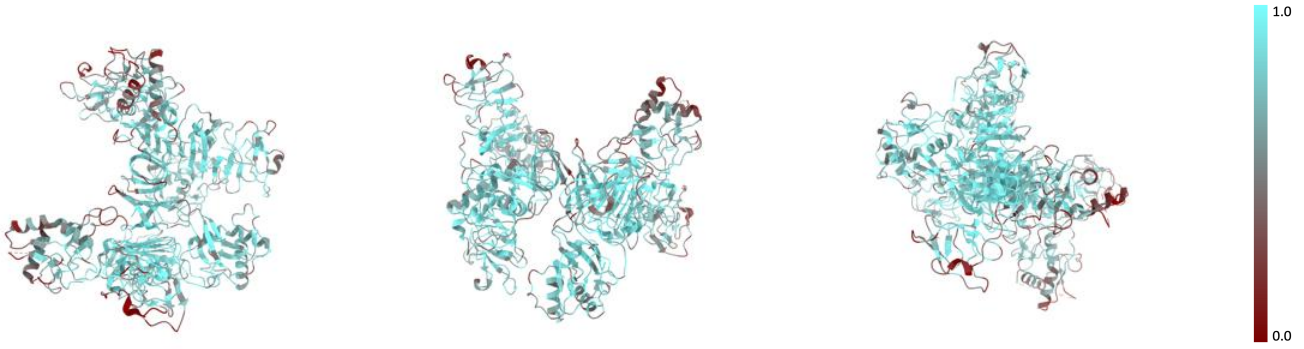
9.2 Q-score mapped to coordinate model (i)



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.

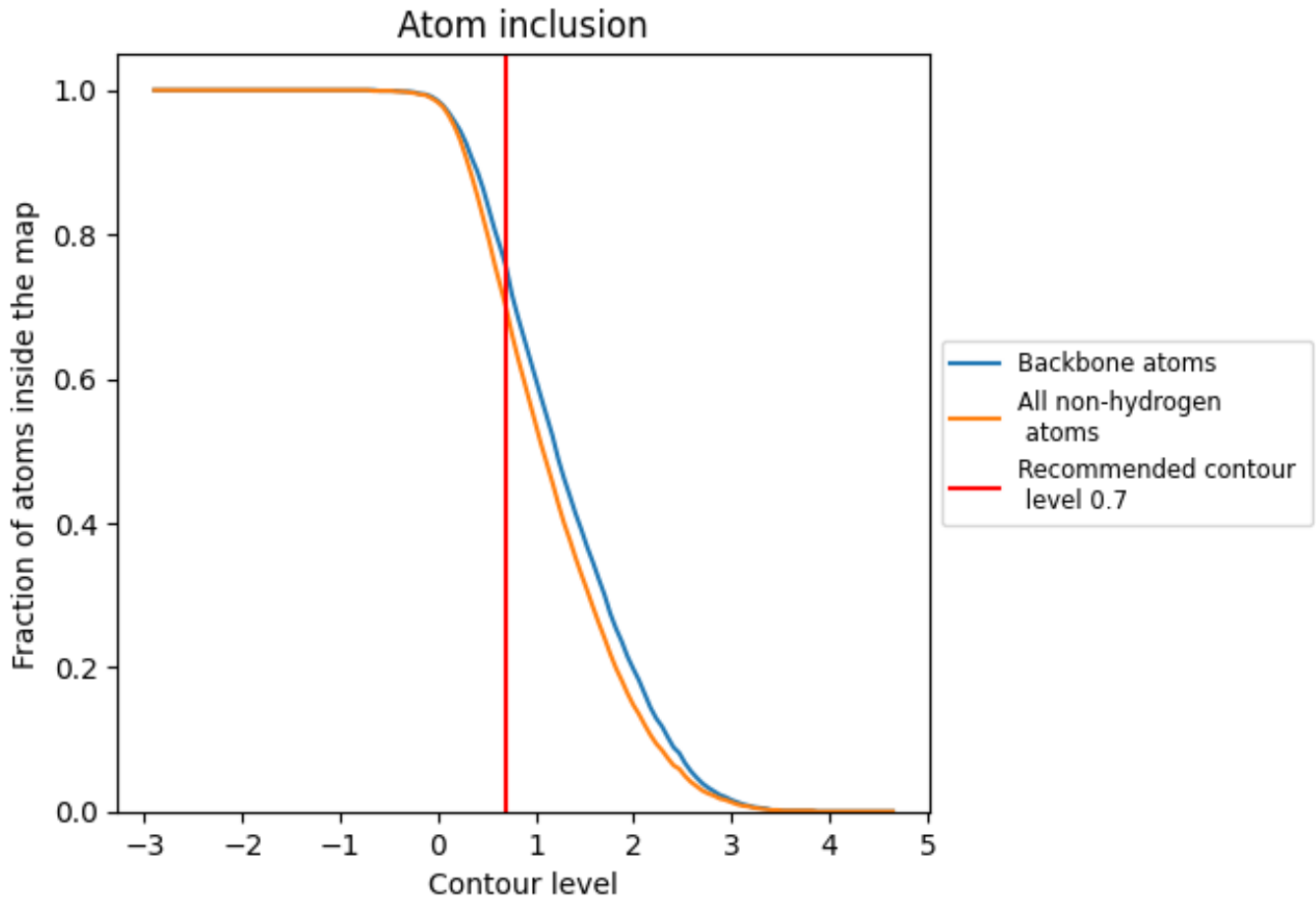
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.7).

9.4 Atom inclusion (i)



At the recommended contour level, 75% of all backbone atoms, 70% 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 (0.7) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6960	0.5480
A	0.7680	0.5730
B	0.7420	0.5650
a	0.6310	0.5130
b	0.6350	0.5370