



wwPDB EM Validation Summary Report ⓘ

Apr 28, 2025 – 10:35 AM JST

PDB ID : 9JWG / pdb_00009jwg
EMDB ID : EMD-61852
Title : Cryo-EM Focused Refined Map of Human RNF213 E3 module and IpaH1.4 LRR domain
Authors : Zhang, H.
Deposited on : 2024-10-10
Resolution : 3.47 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ 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.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
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) : 2.43.1

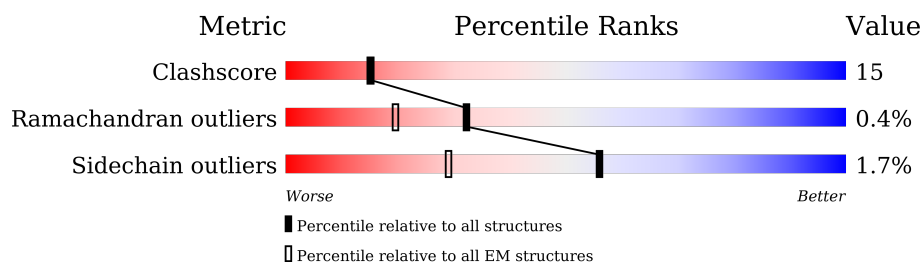
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.47 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)
Clashscore	210492	15764
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 $\leq 5\%$. 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	B	579	
2	A	4841	

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 11647 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 E3 ubiquitin-protein ligase IpaH1.4.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	235	Total	C	N	O	S	0	0
			1872	1199	322	346	5		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-3	GLY	-	expression tag	UNP A0A0H2USG1
B	-2	PRO	-	expression tag	UNP A0A0H2USG1
B	-1	GLY	-	expression tag	UNP A0A0H2USG1
B	0	SER	-	expression tag	UNP A0A0H2USG1
B	37	MET	CYS	conflict	UNP A0A0H2USG1
B	267	ARG	GLN	conflict	UNP A0A0H2USG1

- Molecule 2 is a protein called Ring finger protein 213.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	1221	Total	C	N	O	S	0	0
			9775	6222	1702	1792	59		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	367	GLY	-	expression tag	UNP A0A0A0MTR7
A	368	PRO	-	expression tag	UNP A0A0A0MTR7
A	369	GLY	-	expression tag	UNP A0A0A0MTR7
A	370	THR	-	expression tag	UNP A0A0A0MTR7





V3952	F3953	Q3880	H3756	PHE	GLU	LEU	ARG	ALA	THR	THR	ALA	ASN	THR	THR	ALA	GLN	HIS	ILE	VAL	TYR	GLU	CYS	VAL	TRP	ARG	LEU	
F3953	F3954	Q3884	G3757	ILE	ALA	ARG	ASP	ASP	VAL	VAL	LEU	LEU	VAL	VAL	GLY	VAL	GLN	VAL	GLY	VAL	ASP	GLY	ASP	LEU	PHE	GLY	
L3955	L3955	L3885	P3758	SER	ASN	GLN	ASN	GLN	GLY	GLY	GLU	GLY	GLY	GLY	GLU	VAL	VAL	VAL	GLY	ASP	PHE	GLY	PRO	GLY	GLN	GLY	
D3956	D3956	L3889	Q3760	ASP	GLN	THR	GLU	GLU	PHE	HIS	GLU	HIS	HIS	HIS	GLU	CYS	GLU	GLY	CYS	GLY	GLY	VAL	LYS	ASP	GLY	PRO	
K3957	K3957	S3890	E3762	MET	GLU	SER	GLU	GLU	GLY	HIS	ALA	LYS	GLY	GLY	GLU	ILE	ALA	ALA	TRP	GLY	PHE	PRO	MET	LEU	SER	SER	
L3959	L3959	M3891	C3766	LEU	LEU	THR	THR	THR	THR	GLY	LEU	LEU	LEU	LEU	LEU	ILE	LYS	VAL	VAL	THR	THR	MET	ASN	GLN	LYS	LYS	
R3960	R3960	P3892	C3766	LEU	GLN	THR	THR	THR	THR	GLY	THR	THR	THR	THR	THR	ILE	VAL	GLY	GLY	HIS	LYS	GLN	ARG	GLN	LYS	LYS	
S3963	S3963	E3893	K3769	ASN	GLU	ARG	ARG	GLU	SER	LEU	THR	ILE	ILE	ILE	THR	GLY	SER	ALA	VAL	HIS	GLN	ILE	THR	ARG	GLN	SER	
D3964	D3964	L3894	K3795	PRO	ALA	MET	ASN	GLY	PHE	GLN	ILE	GLN	THR	THR	ILE	GLY	ILE	ALA	PHE	ARG	VAL	PHE	GLY	GLY	TYR	LEU	
T3967	T3967	C3897	K3785	LEU	THR	ARG	ARG	GLU	THR	VAL	SER	THR	THR	THR	THR	THR	CYS	ASN	ASN	CYS	TYR	GLN	VAL	VAL	VAL	VAL	
P3970	P3970	S3898	M3789	MET	ARG	VAL	VAL	VAL	HIS	GLY	VAL	GLY	HIS	THR	PHE	GLU	VAL	ALA	VAL	ARG	THR	ILE	VAL	VAL	VAL	VAL	
F3971	F3971	M3902	C3794	ASN	THR	LEU	LEU	VAL	ILE	ASP	ALA	ASP	ASP	ASP	GLU	ARG	THR	ALA	ALA	HIS	VAL	PHE	ARG	GLY	LEU	LEU	
E3972	E3972	L3902	T3795	GLU	GLU	MET	GLU	GLY	THR	GLN	ILE	GLN	THR	THR	THR	THR	ILE	ALA	PHE	PRO	CYS	GLY	GLY	GLY	LEU	LEU	
A3973	A3973	S3905	R3796	ARG	THR	LEU	LEU	GLY	ILE	LEU	LEU	LEU	LEU	LEU	LEU	ILE	VAL	HIS	HIS	ASN	GLY	ASN	ASN	ASN	ASN	ASN	
V3974	V3974	L3908	K3797	HIS	ARG	GLY	GLY	GLY	ARG	ARG	THR	THR	THR	THR	THR	THR	VAL	GLN	PHE	PHE	ASN	GLN	ASN	VAL	VAL	VAL	
M3975	M3975	A3909	L3798	LYS	ARG	LEU	LEU	GLY	THR	THR	GLU	SER	GLY	GLY	GLY	SER	VAL	GLN	ARG	ARG	ASN	GLN	ASN	GLY	GLY	GLY	
L3978	L3978	V3912	H3815	GLY	VAL	LEU	LEU	GLY	SER	THR	GLU	THR	THR	THR	THR	VAL	VAL	LYS	LYS	LEU	ASN	LYS	THR	THR	LEU	GLY	
C3979	C3979	I3913	L3816	ALA	PRO	ASN	ASN	GLY	THR	THR	GLU	GLN	GLN	GLN	GLN	GLY	GLY	ILE	VAL	ILE	ARG	VAL	GLU	GLU	ALA	ALA	
E3980	E3980	R3914	Q3819	TYR	THR	ALA	ASP	ASP	VAL	VAL	SER	SER	VAL	VAL	VAL	ILE	VAL	GLY	VAL	VAL	GLY	GLY	PRO	GLY	GLY	GLY	
C3981	C3981	R3914	Q3819	TYR	THR	ALA	ASP	ASP	VAL	VAL	SER	SER	VAL	VAL	VAL	ILE	VAL	GLY	VAL	VAL	GLY	GLY	PRO	GLY	GLY	GLY	
K3982	K3982	E3915	R3820	ILE	THR	PRO	CYS	CYS	GLY	GLY	GLU	SER	GLY	GLY	GLY	THR	THR	TYR	TYR	GLY	CYS	GLY	SER	PRO	SER	SER	
E3983	E3983	V3916	F3821	VAL	PRO	HIS	HIS	VAL	LYS	ASP	VAL	ALA	VAL	VAL	VAL	VAL	VAL	LYS	PRO	LYS	GLY	GLY	ALA	ALA	LYS	LYS	
T3984	T3984	S3925	N3827	VAL	LEU	THR	THR	THR	THR	THR	GLU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	PRO	PRO	LYS	GLY	GLY	GLY	GLY	GLY	
A3985	A3985	Q3919	S3823	GLN	LEU	ALA	ALA	GLY	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	PRO	PRO	GLY	GLY	GLY	GLY	GLY	GLY	
S3986	S3986	L3922	R3824	ASN	LEU	SER	PHE	THR	GLY	GLY	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	GLY	ALA	ALA	ALA	ALA	ALA	
K3987	K3987	I3923	L3825	HIS	THR	THR	THR	THR	THR	THR	GLN	GLN	GLN	GLN	GLN	GLY	ALA	GLY	ILE	LYS	LYS	GLY	GLY	GLY	GLY	GLY	
T3988	T3988	F3924	Q3826	MET	LEU	LEU	LEU	LEU	ILE	THR	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	ILE	
L3989	L3989	S3924	N3827	ILE	ARG	ARG	ARG	ARG	ASN	HIS	ARG	ASN	ASN	ASN	ASN	ARG	ALA	ALA	GLY	HIS	VAL	ARG	ALA	ALA	ALA	ALA	
S3990	S3990	G3925	F3828	SER	SER	VAL	VAL	VAL	VAL	VAL	GLU	GLU	GLU	GLU	GLU	ALA	ALA	TYR	PRO	PRO	LEU	LEU	LEU	LEU	LEU	LEU	
R3991	R3991	T3926	S3829	PHE	THR	LEU	LEU	LEU	THR	THR	THR	THR	THR	THR	THR	PRO	PRO	PRO	PRO	PRO	PRO	ASN	VAL	VAL	VAL	VAL	
F3992	F3992	A3927	R3830	ILE	LYS	LYS	LYS	LYS	ILE	ILE	LYS	LYS	LYS	LYS	LYS	LYS	GLN	ALA	ALA	PRO	ASN	VAL	VAL	VAL	VAL	VAL	
S3998	S3998	F3929	T3833	ASP	ARG	ARG	ARG	ARG	GLN	GLN	THR	ILE	THR	THR	THR	THR	GLN	ALA	ALA	ILE	LEU	THR	ARG	GLN	GLY	GLY	
T3999	T3999	G3929		ASP	ASP	LEU	LEU	LEU	THR	PHE	GLU	ARG	GLU	GLU	GLU	GLY	GLY	CYS	ASN	ASN	THR	THR	ASN	ASN	ASN	ASN	
C4000	C4000	V3930	L3842	GLY	VAL	SER	SER	VAL	VAL	VAL	LEU	LEU	LEU	LEU	LEU	LEU	LEU	ALA	ALA	ASN	LYS	LYS	ASP	ASP	ASP	ASP	
L4001	L4001	V3933	A3845	ASN	ASN	VAL	PHE	ILE	ALA	ALA	ASN	THR	PHE	PHE	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
G4002	G4002	L3934		LEU	LEU	GLU	LEU	LEU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	
D4003	D4003	L3935	N3848	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
A4004	A4004	G3936		THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
K4005	K4005	T3937	G3853	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
D4006	D4006	S3939	T3730	ARG	ARG	GLU	GLU	GLU	THR	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	
P4007	P4007	R3940	T3730	ARG	ARG	GLU	GLU	GLU	THR	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	
		V3941	M3856	THR	THR	PRO	SER	SER	THR	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	
C4012	C4012	V3942	D3859	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
D4013	D4013	P3942		PRO	PRO	PRO	PHE	PHE	THR	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	
H4014	H4014	E3943		THR	THR	THR	HIS	HIS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	LYS	
V4015	V4015	L3944	M3864	PRO	PRO	PRO	THR	THR	CYS	CYS	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	
H4016	H4016	Q3945		THR	THR	THR	PRO	PRO	THR	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	
C4017	C4017	G3946	T3867	ALA	ALA	ALA	LEU	LEU	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	
L4018	L4018	L3947		THR	THR	THR	GLU	GLU	THR	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	
R4019	R4019	T3948	K3876	ARG	ARG	ASP	GLU	GLU	THR	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	
C4020	C4020	T3949	P3877	ASP	ASP	LEU	LEU	LEU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	
L4021	L4021	E3950	R3750	THR	THR	THR	ALA	ALA	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	
R4022	R4022	H3951	L3755	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	137886	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	49.41	Depositor
Minimum defocus (nm)	1400	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.542	Depositor
Minimum map value	-1.493	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.048	Depositor
Recommended contour level	0.18	Depositor
Map size (Å)	527.5, 527.5, 527.5	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.055, 1.055, 1.055	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	B	0.12	0/1916	0.33	0/2615
2	A	0.54	22/9978 (0.2%)	0.67	27/13512 (0.2%)
All	All	0.50	22/11894 (0.2%)	0.62	27/16127 (0.2%)

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	A	0	3

The worst 5 of 22 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	3934	LEU	CA-C	-11.75	1.36	1.52
2	A	3929	PHE	CA-C	-11.07	1.37	1.52
2	A	3926	THR	CA-C	-9.73	1.39	1.52
2	A	4926	GLU	CA-C	-8.92	1.40	1.52
2	A	3935	LEU	CA-C	-7.79	1.41	1.52

The worst 5 of 27 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	3939	SER	N-CA-C	-13.61	96.52	111.36
2	A	3929	PHE	N-CA-C	-9.38	99.42	112.45
2	A	3935	LEU	N-CA-C	-8.73	101.46	112.90
2	A	4925	VAL	N-CA-C	8.44	119.22	110.62
2	A	3938	GLU	N-CA-CB	-7.89	98.50	110.73

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	A	3972	GLU	Mainchain
2	A	4079	LYS	Peptide
2	A	4268	ILE	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	1872	0	1900	33	0
2	A	9775	0	9858	313	0
All	All	11647	0	11758	343	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 15.

The worst 5 of 343 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)
2:A:3928:LEU:HD13	2:A:4072:LEU:HB3	1.61	0.82
2:A:4428:PRO:HB2	2:A:4595:SER:HB3	1.64	0.78
2:A:4908:TYR:HB3	2:A:4969:PRO:HD2	1.64	0.78
2:A:4308:LYS:HB3	2:A:4310:VAL:HG12	1.66	0.77
2:A:4976:ILE:HG13	2:A:4977:PRO:HD2	1.66	0.77

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	233/579 (40%)	228 (98%)	5 (2%)	0	100	100
2	A	1207/4841 (25%)	1077 (89%)	124 (10%)	6 (0%)	25	59
All	All	1440/5420 (27%)	1305 (91%)	129 (9%)	6 (0%)	32	64

5 of 6 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A	4901	LEU
2	A	4003	ASP
2	A	4927	ARG
2	A	3989	LEU
2	A	4900	LYS

5.3.2 Protein sidechains ⓘ

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	B	214/503 (42%)	213 (100%)	1 (0%)	86	92
2	A	1093/4330 (25%)	1072 (98%)	21 (2%)	52	73
All	All	1307/4833 (27%)	1285 (98%)	22 (2%)	56	75

5 of 22 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	4061	PHE
2	A	4800	ASN
2	A	4329	VAL
2	A	4924	GLU
2	A	3986	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 13 such sidechains are listed below:

Mol	Chain	Res	Type
2	A	4587	HIS

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Mol	Chain	Res	Type
2	A	4599	GLN
2	A	4936	ASN
2	A	4691	HIS
2	A	4728	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.

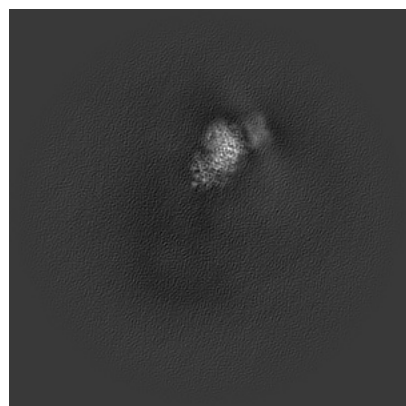
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-61852. These allow visual inspection of the internal detail of the map and identification of artifacts.

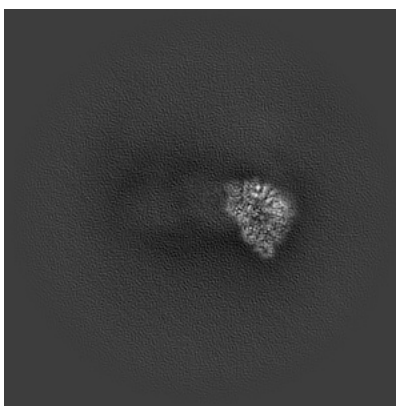
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

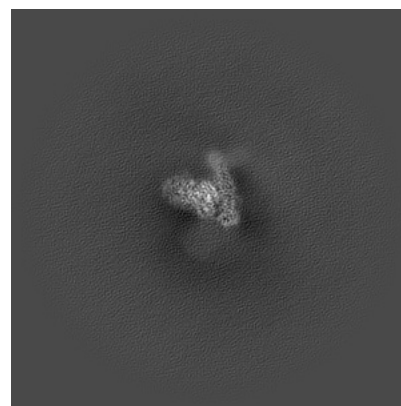
6.1.1 Primary map



X

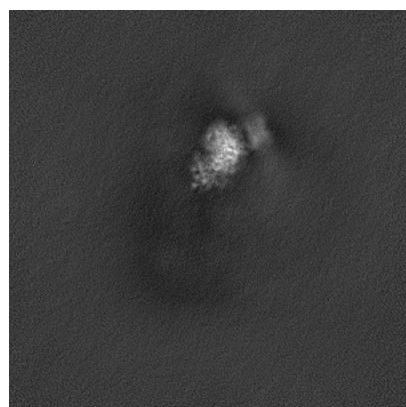


Y

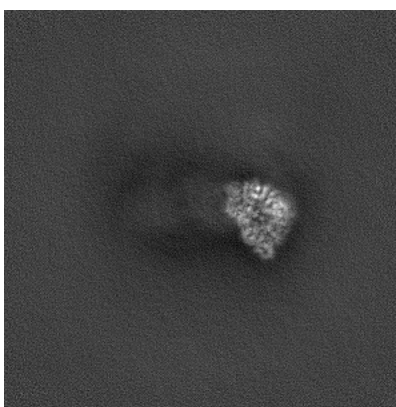


Z

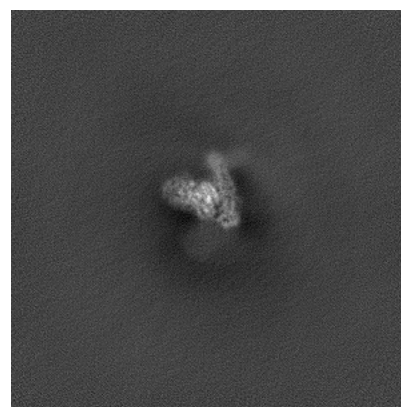
6.1.2 Raw map



X



Y

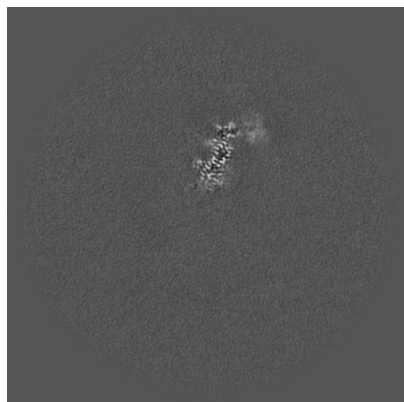


Z

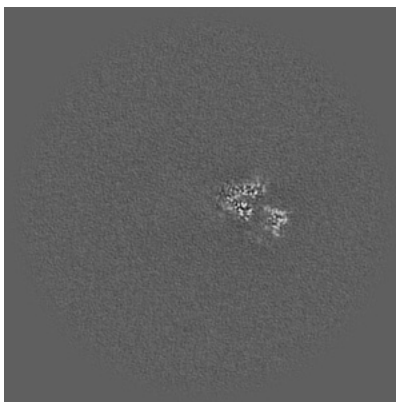
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

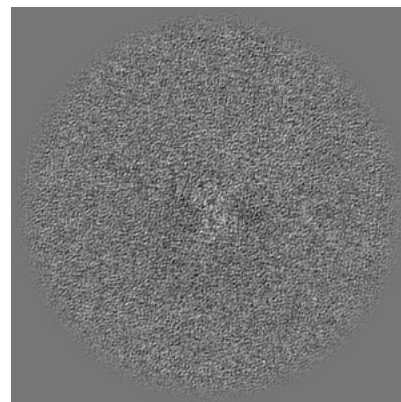
6.2.1 Primary map



X Index: 250



Y Index: 250

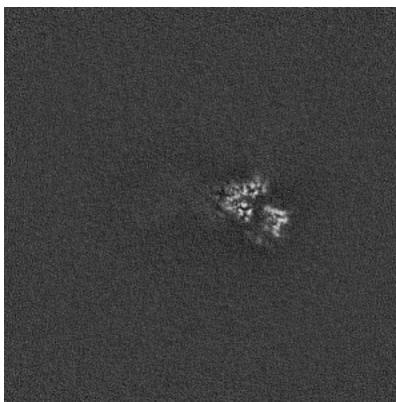


Z Index: 250

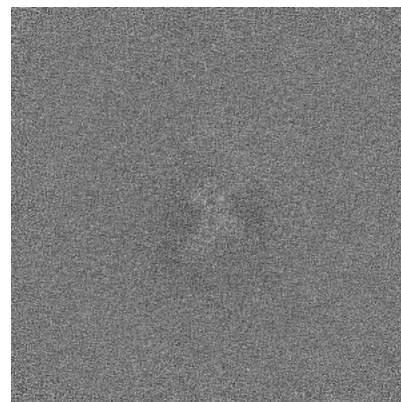
6.2.2 Raw map



X Index: 250



Y Index: 250

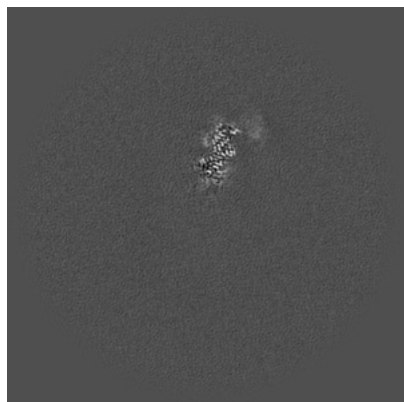


Z Index: 250

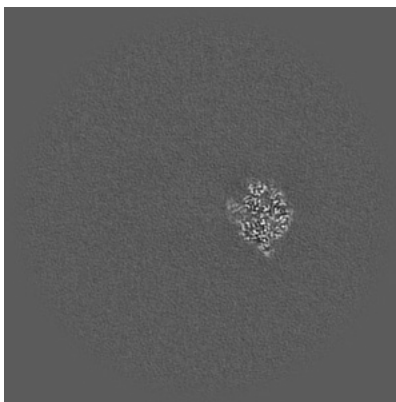
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

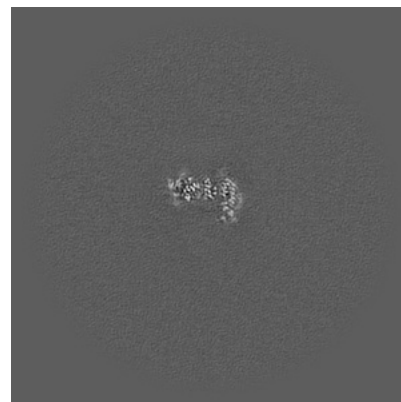
6.3.1 Primary map



X Index: 247

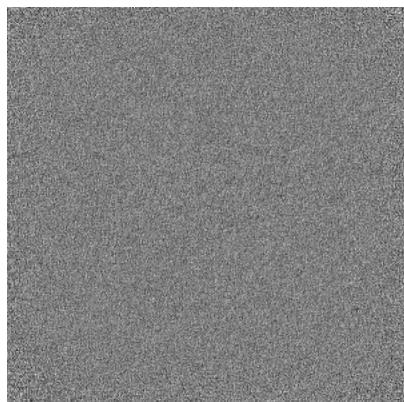


Y Index: 269

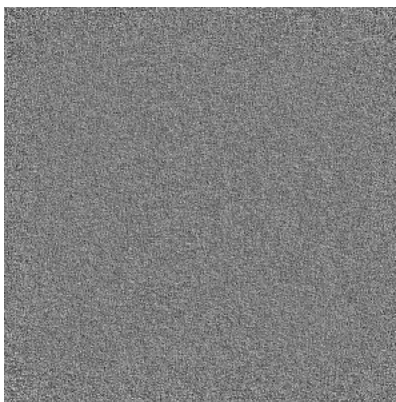


Z Index: 316

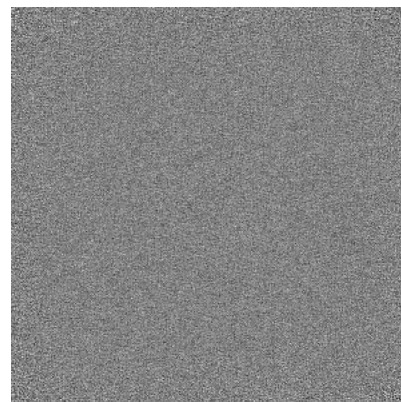
6.3.2 Raw map



X Index: 0



Y Index: 0

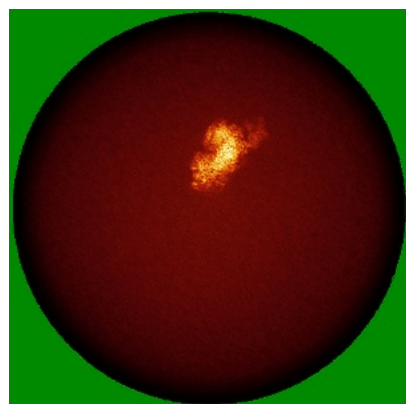


Z Index: 0

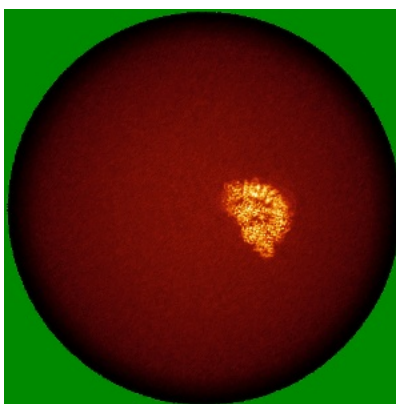
The images above show the largest variance slices of the map in three orthogonal directions.

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

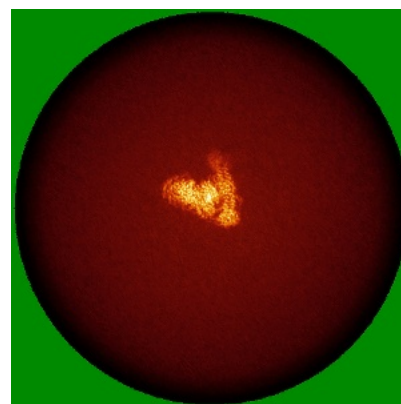
6.4.1 Primary map



X

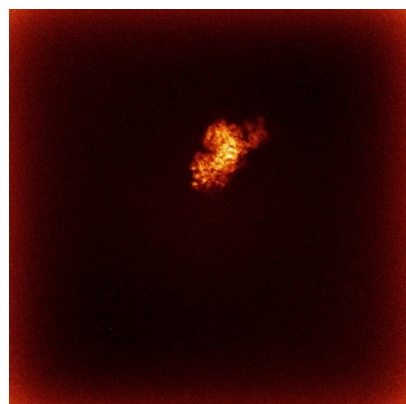


Y

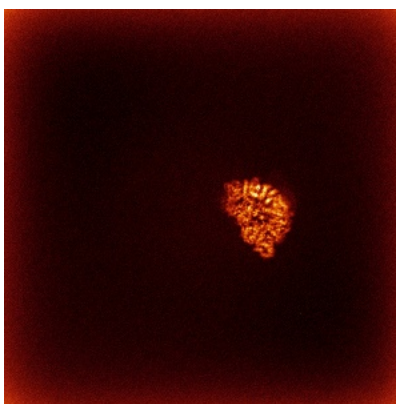


Z

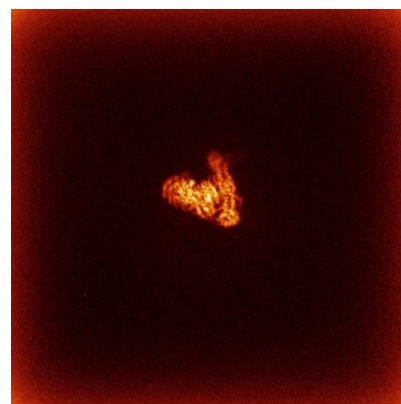
6.4.2 Raw map



X



Y

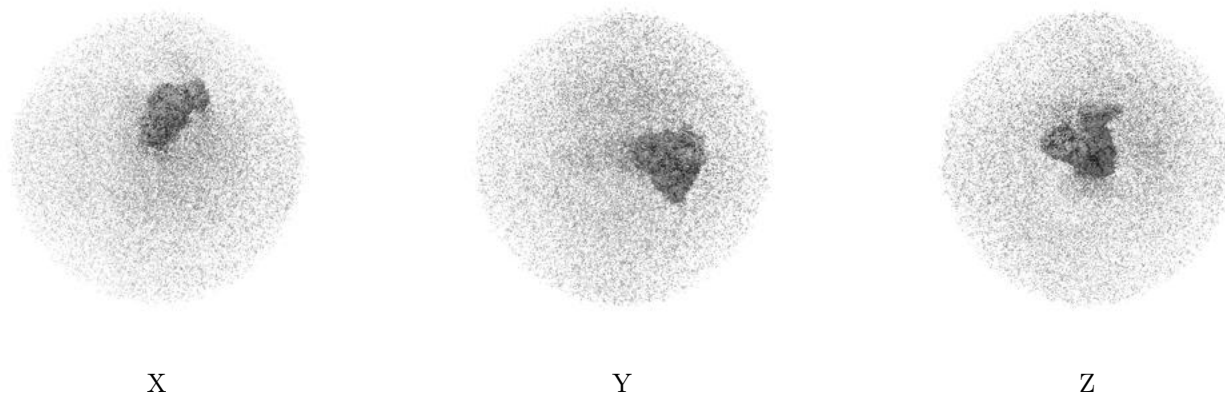


Z

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.

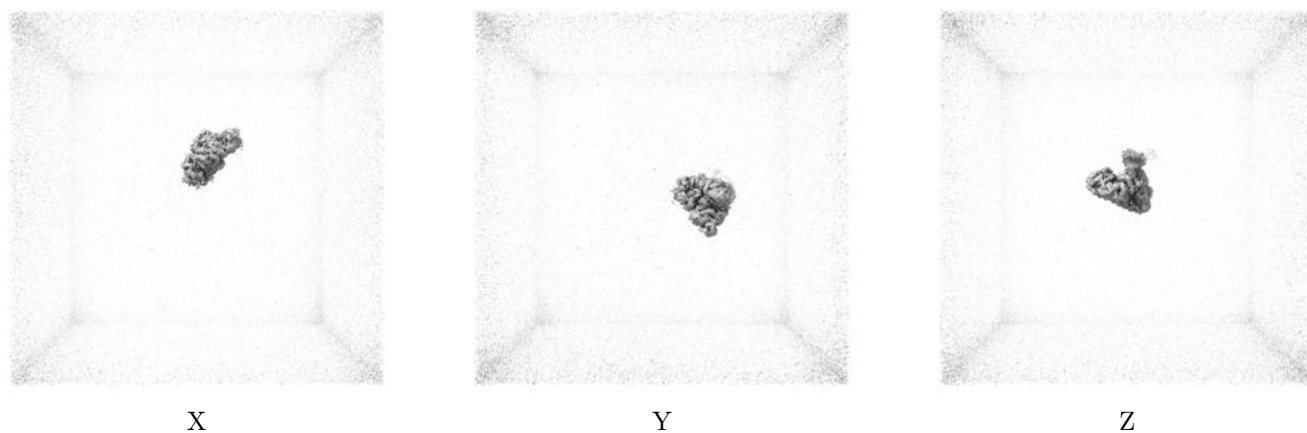
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.18. 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.

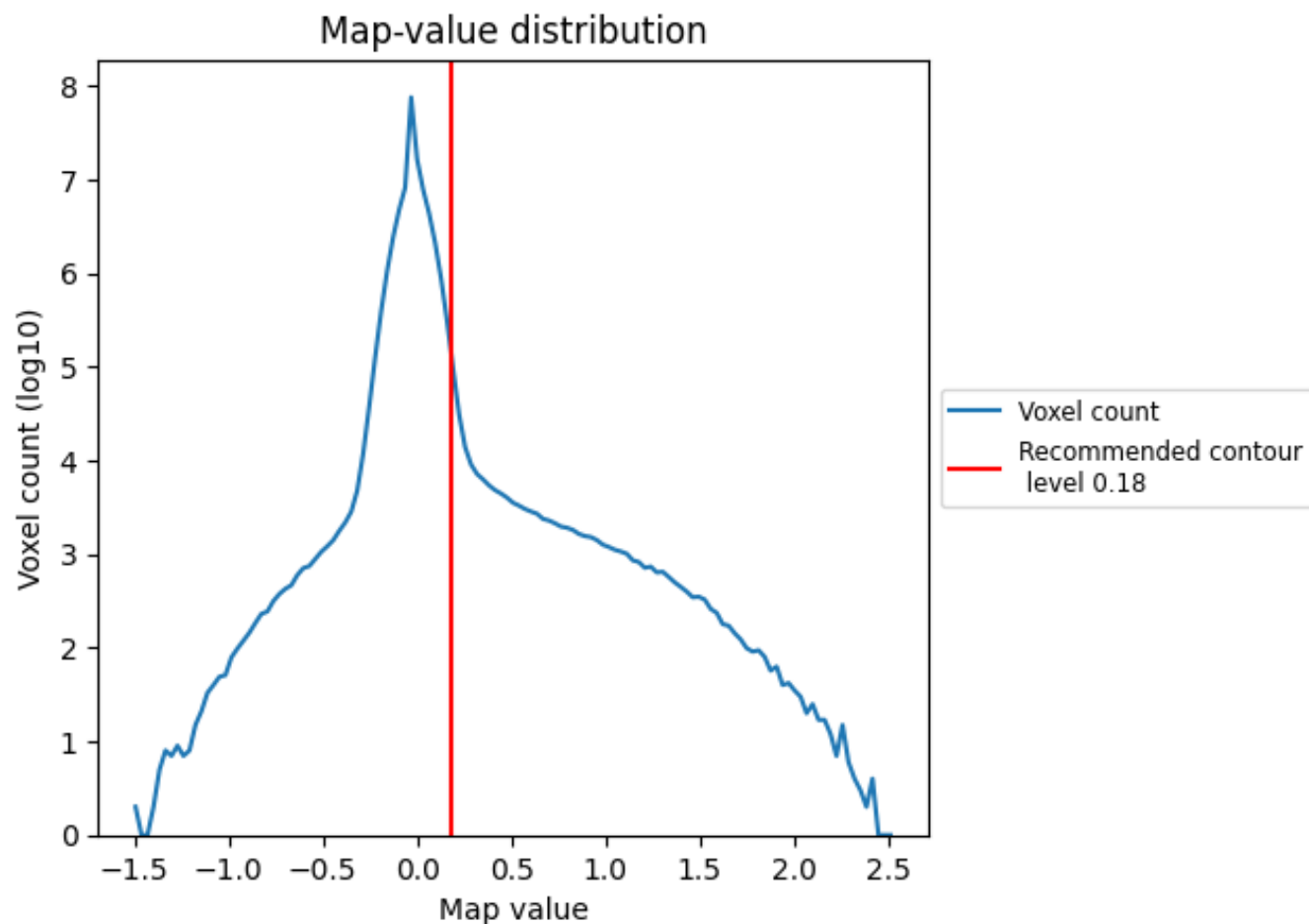
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

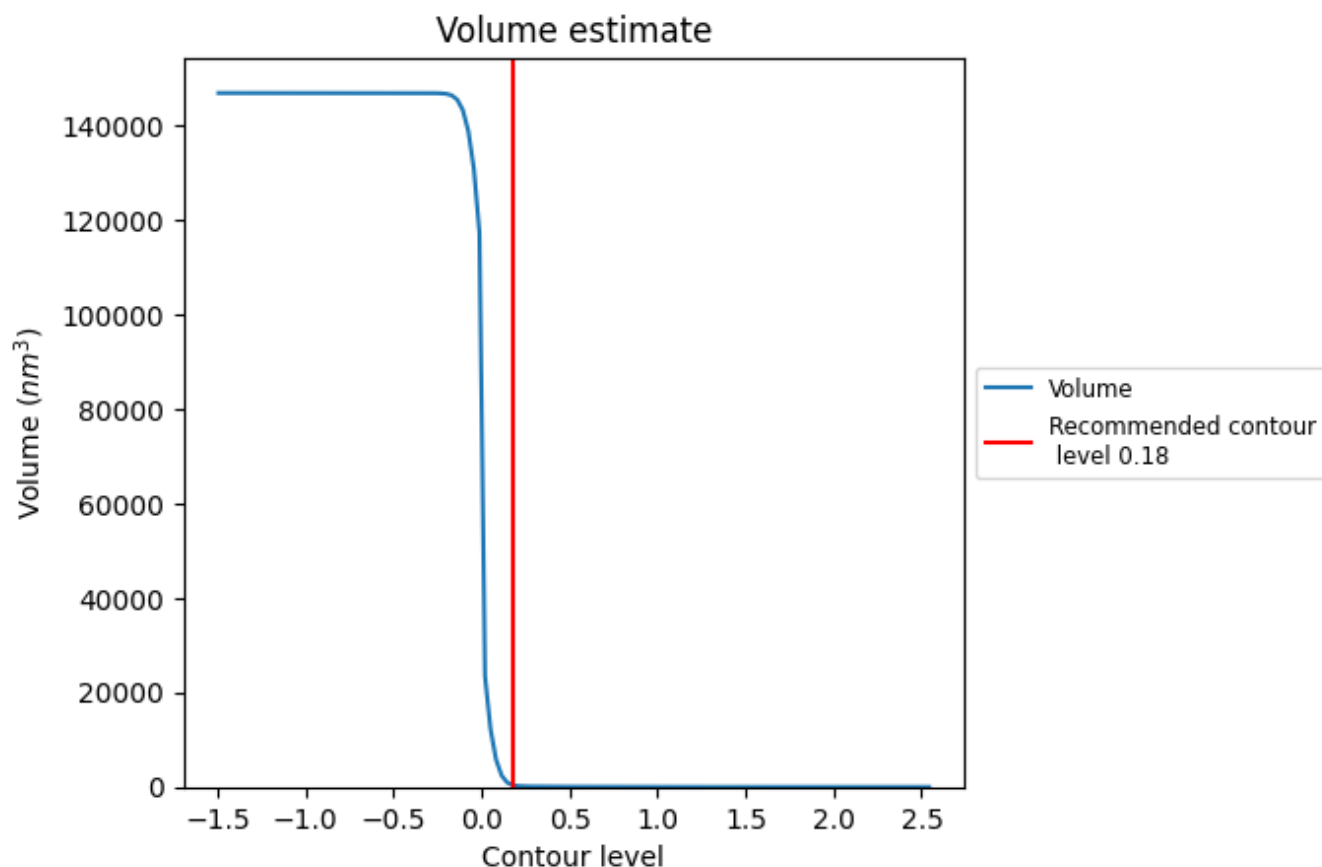
This section contains the results of statistical analysis of the map.

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.

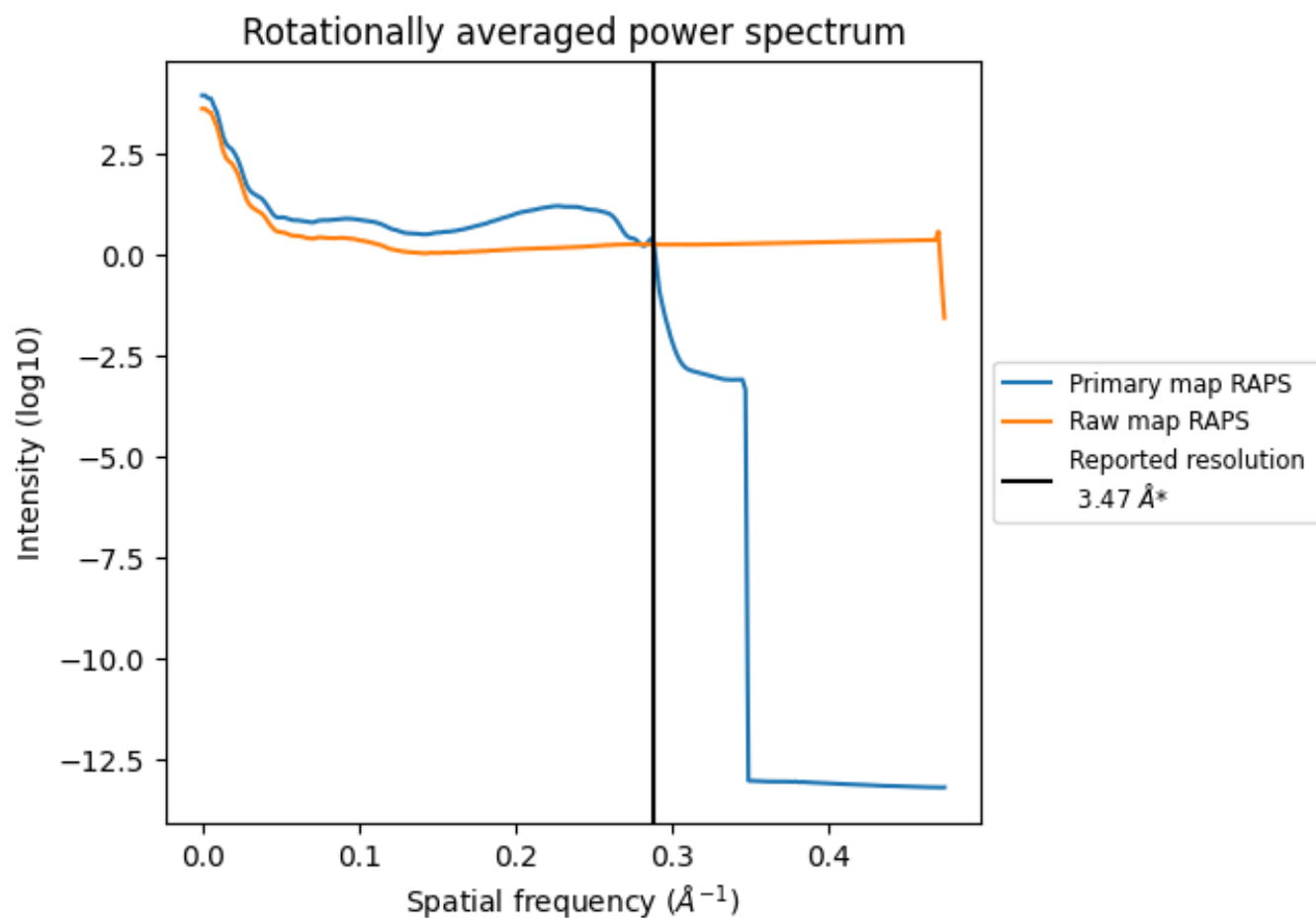
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 362 nm^3 ; this corresponds to an approximate mass of 327 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 ⓘ

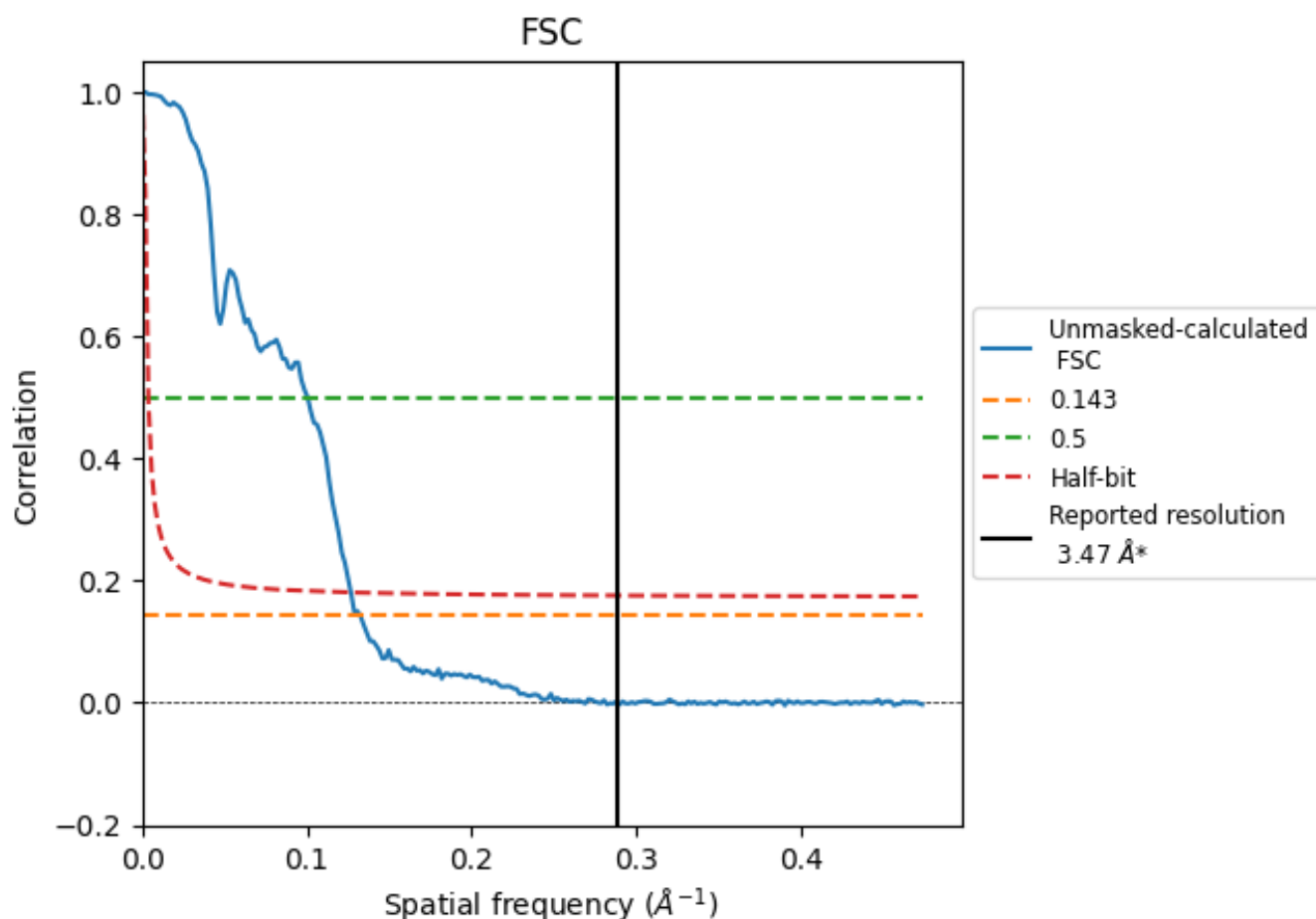


*Reported resolution corresponds to spatial frequency of 0.288 Å⁻¹

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 0.288 Å⁻¹

8.2 Resolution estimates [i](#)

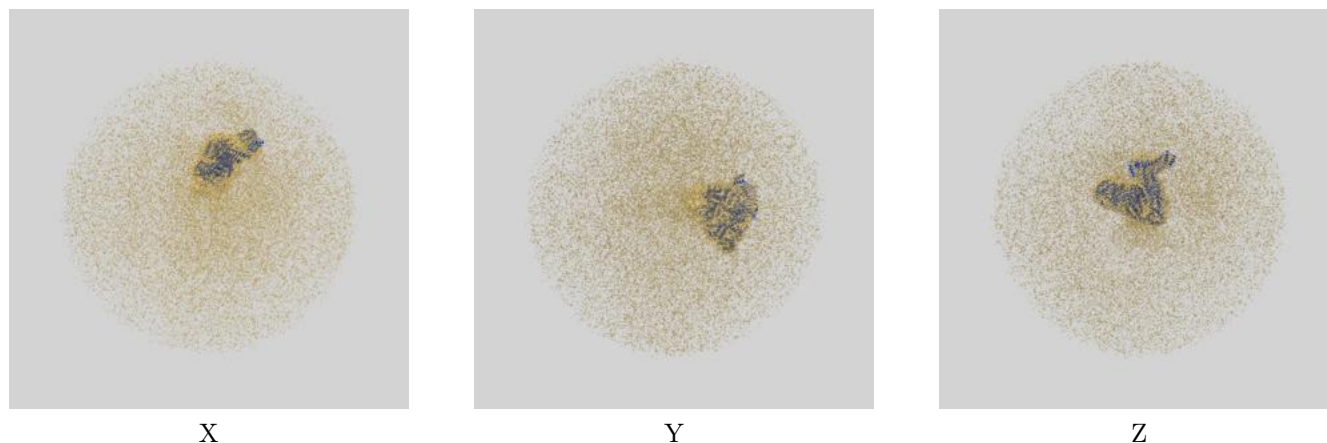
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.47	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.56	9.95	7.89

*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 7.56 differs from the reported value 3.47 by more than 10 %

9 Map-model fit [i](#)

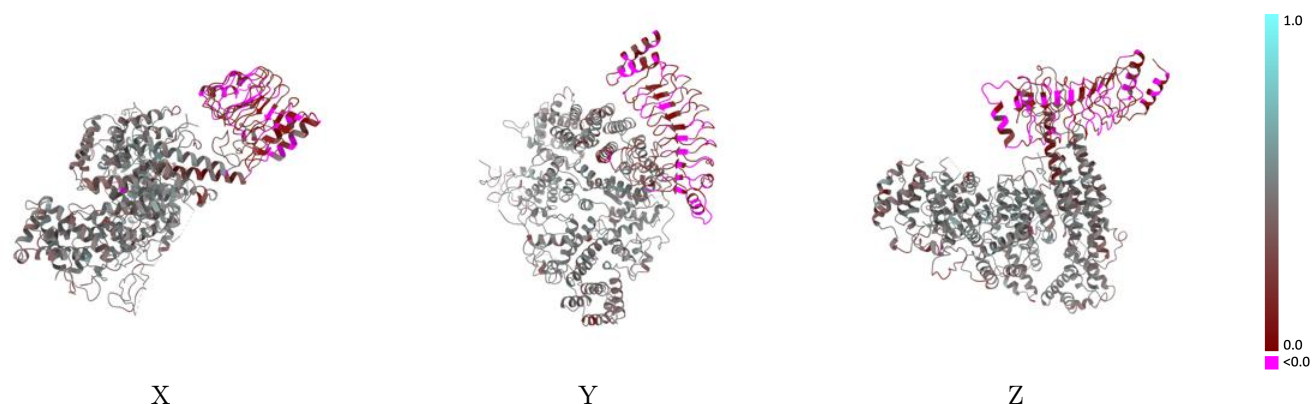
This section contains information regarding the fit between EMDB map EMD-61852 and PDB model 9JWG. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

9.1 Map-model overlay [i](#)



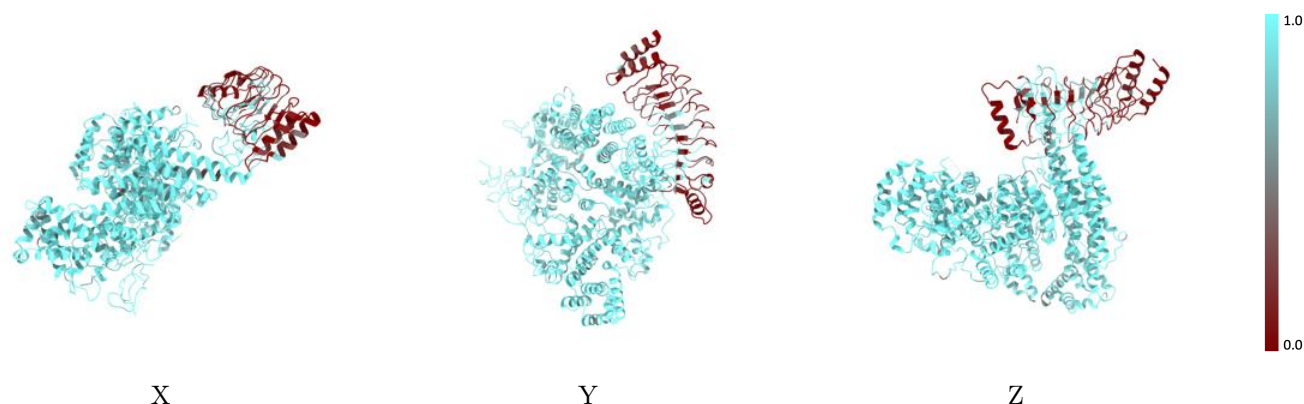
The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



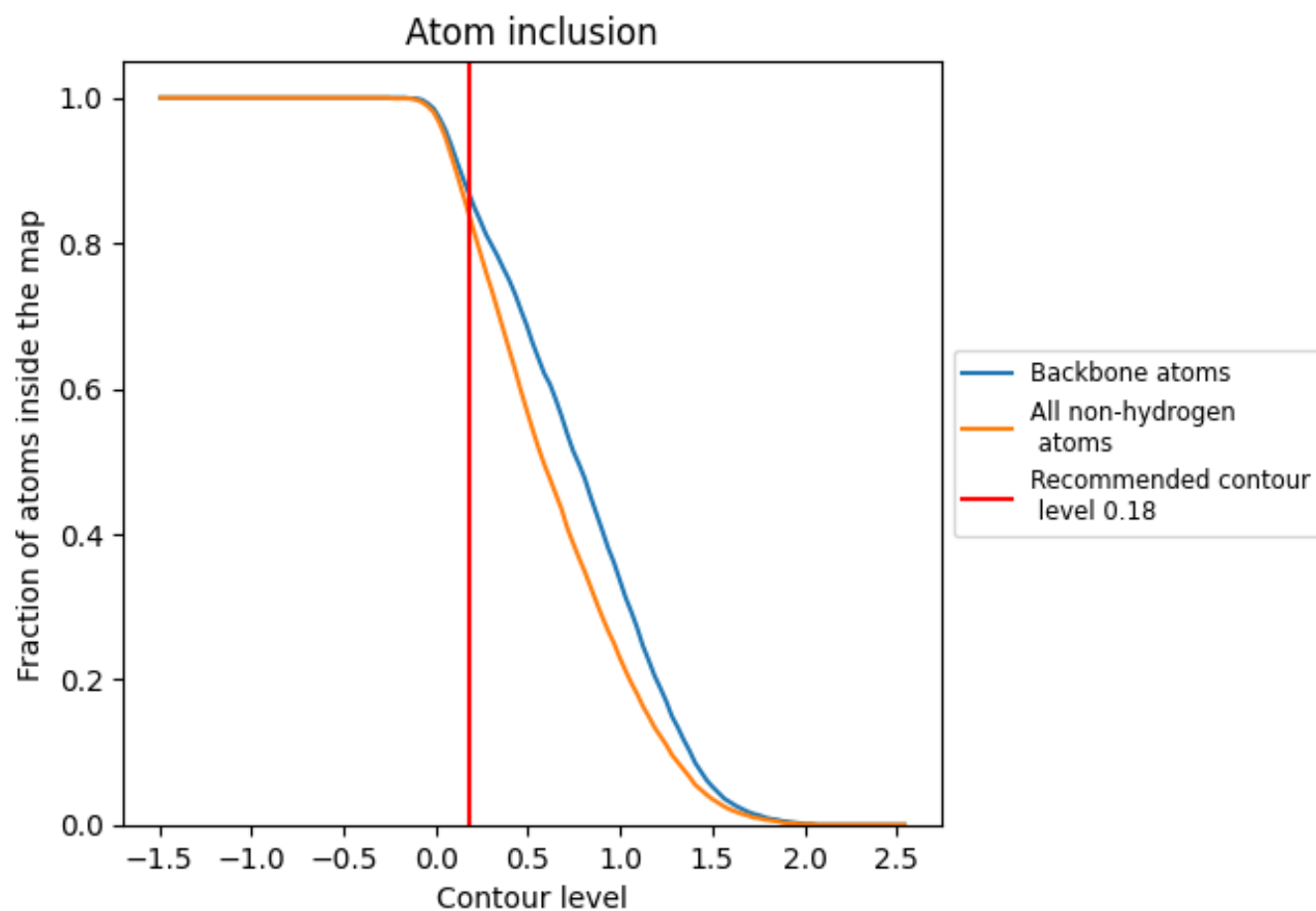
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.18).

9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 84% 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 (0.18) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.8400	<div></div> 0.3790
A	<div></div> 0.9500	<div></div> 0.4410
B	<div></div> 0.2740	<div></div> 0.0530

