



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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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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

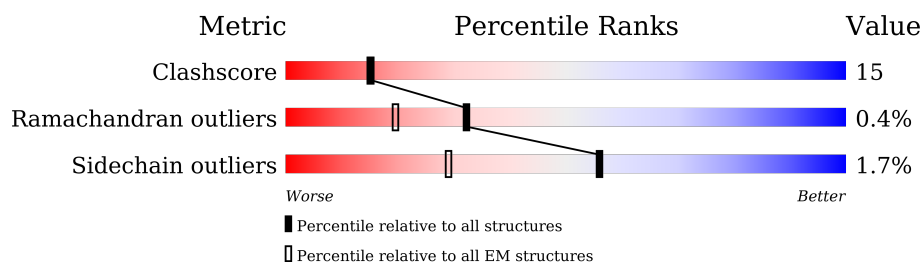
# 1 Overall quality at a glance

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  $\geq 3$ , 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	<div> <div>30%</div> <div>32%8%59%</div> </div>
2	A	4841	<div> <div>16%8%•75%</div> </div>

## 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













## 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 ( $\text{\AA}$ )	527.5, 527.5, 527.5	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	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

All (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
2	A	3937	THR	CA-C	-7.20	1.43	1.52
2	A	4939	TYR	CA-C	-7.04	1.44	1.52
2	A	3927	ALA	N-CA	-6.47	1.38	1.46
2	A	3938	GLU	CA-CB	-6.34	1.43	1.53
2	A	3941	VAL	CA-C	-6.26	1.46	1.52
2	A	4936	ASN	CA-CB	-6.21	1.43	1.53
2	A	3938	GLU	CA-C	-6.07	1.44	1.52
2	A	3930	VAL	N-CA	-5.82	1.38	1.46
2	A	3938	GLU	N-CA	-5.78	1.39	1.46
2	A	3935	LEU	N-CA	-5.66	1.38	1.46
2	A	4939	TYR	C-O	-5.65	1.17	1.24
2	A	3929	PHE	C-N	-5.56	1.27	1.34
2	A	4925	VAL	C-O	-5.39	1.17	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	4937	CYS	CA-CB	-5.30	1.46	1.52
2	A	3985	ALA	CA-C	-5.29	1.45	1.52
2	A	3988	THR	CA-C	-5.16	1.46	1.52
2	A	3939	SER	N-CA	-5.03	1.40	1.46

All (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
2	A	4923	TYR	N-CA-C	6.72	121.84	107.67
2	A	3942	PRO	N-CA-C	6.70	122.37	113.40
2	A	3937	THR	N-CA-C	-6.58	104.11	111.28
2	A	4969	PRO	CA-C-O	6.47	130.14	122.12
2	A	3934	LEU	CA-C-N	-6.33	109.87	121.52
2	A	3934	LEU	C-N-CA	-6.33	109.87	121.52
2	A	3925	SER	N-CA-C	-6.17	104.63	111.36
2	A	3938	GLU	N-CA-C	6.01	120.64	112.88
2	A	3933	VAL	N-CA-C	5.90	117.83	111.58
2	A	3975	MET	N-CA-C	-5.58	105.20	111.28
2	A	3988	THR	CB-CA-C	-5.50	102.48	110.96
2	A	3938	GLU	CA-CB-CG	-5.30	103.51	114.10
2	A	3990	SER	N-CA-C	5.29	117.72	109.52
2	A	4923	TYR	CB-CA-C	-5.23	104.36	111.95
2	A	3987	LYS	CA-C-N	-5.21	113.78	120.65
2	A	3987	LYS	C-N-CA	-5.21	113.78	120.65
2	A	3972	GLU	O-C-N	-5.14	115.59	122.43
2	A	4936	ASN	N-CA-C	5.13	119.30	113.19
2	A	4969	PRO	N-CA-C	5.06	119.27	111.57
2	A	3999	ILE	CB-CA-C	-5.06	105.31	112.14
2	A	3984	THR	CA-C-N	-5.01	112.16	120.68
2	A	3984	THR	C-N-CA	-5.01	112.16	120.68

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

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Mol	Chain	Res	Type	Group
2	A	4268	ILE	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	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.

All (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
2:A:4475:MET:HE1	2:A:4667:GLU:HA	1.66	0.76
2:A:3940:ARG:HH12	2:A:4057:LYS:HB3	1.50	0.76
2:A:4440:ASP:O	2:A:4444:THR:OG1	2.04	0.76
2:A:4007:PRO:HD2	2:A:4052:ARG:HB2	1.67	0.75
2:A:4888:ILE:HG12	2:A:4970:ARG:HD3	1.69	0.74
2:A:4849:ILE:HD12	2:A:4882:ALA:HA	1.71	0.73
2:A:4022:ARG:HA	2:A:4025:PHE:HB3	1.72	0.72
2:A:4115:LYS:NZ	2:A:4120:PHE:O	2.22	0.71
2:A:4807:SER:HB3	2:A:4865:GLU:HG3	1.74	0.70
2:A:3985:ALA:HB3	2:A:4062:ARG:NH1	2.07	0.69
1:B:170:PRO:HG2	1:B:173:LEU:HB2	1.74	0.68
2:A:4848:GLU:N	2:A:4848:GLU:OE1	2.27	0.68
2:A:3958:CYS:SG	2:A:3973:ALA:HB1	2.33	0.68
2:A:4527:ASP:OD2	2:A:4874:ARG:NH1	2.26	0.68
2:A:4031:ILE:HG22	2:A:4038:ALA:HB2	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:4120:PHE:O	2:A:4121:ASN:ND2	2.25	0.67
2:A:4401:SER:HA	2:A:4404:ILE:HD12	1.75	0.67
2:A:3938:GLU:HG3	2:A:3945:GLN:NE2	2.10	0.67
2:A:4476:ALA:HA	2:A:4604:ILE:HD11	1.75	0.66
2:A:4664:PHE:HB2	2:A:4673:MET:HE1	1.76	0.66
2:A:4371:PHE:O	2:A:4375:LEU:HD22	1.96	0.66
1:B:197:ALA:HB2	2:A:4036:LEU:HD11	1.77	0.66
2:A:4327:TYR:HE1	2:A:4449:HIS:HB2	1.60	0.66
2:A:4326:ARG:NH1	2:A:4445:GLU:OE1	2.29	0.65
2:A:3826:GLN:HB3	2:A:4918:LEU:HD11	1.78	0.65
2:A:4012:CYS:HG	2:A:4037:THR:HG1	1.38	0.65
2:A:4235:CYS:SG	2:A:4259:TYR:OH	2.50	0.65
2:A:4225:TYR:HE1	2:A:4735:VAL:HG11	1.61	0.64
2:A:4293:GLN:OE1	2:A:4712:ASN:ND2	2.31	0.64
2:A:4330:TYR:OH	2:A:4449:HIS:NE2	2.30	0.64
2:A:4510:PRO:O	2:A:4873:ARG:NH1	2.30	0.64
1:B:237:ALA:HB3	1:B:266:PRO:HB3	1.79	0.64
2:A:4236:LEU:HD21	2:A:4275:HIS:HB3	1.79	0.64
1:B:206:LEU:HD11	1:B:223:LEU:HD13	1.80	0.63
2:A:4031:ILE:HB	2:A:4036:LEU:HA	1.80	0.63
2:A:4205:LEU:O	2:A:4269:ARG:NH2	2.32	0.63
2:A:3842:LEU:HD12	2:A:3845:ALA:HB3	1.81	0.63
2:A:3880:GLN:HG2	2:A:3935:LEU:HD11	1.81	0.63
1:B:197:ALA:HA	1:B:217:VAL:HB	1.81	0.62
2:A:4431:ARG:HD3	2:A:4433:GLY:H	1.64	0.62
2:A:4814:SER:HA	2:A:4822:ARG:HH21	1.64	0.62
2:A:4900:LYS:O	2:A:4902:SER:N	2.32	0.62
2:A:4252:MET:O	2:A:4252:MET:HG2	1.99	0.62
1:B:68:CYS:HA	1:B:73:GLU:HG3	1.82	0.62
1:B:153:LEU:HB3	1:B:170:PRO:HG3	1.81	0.62
2:A:4919:HIS:HB2	2:A:4970:ARG:HH22	1.64	0.62
2:A:3864:MET:HE1	2:A:3912:VAL:HG12	1.81	0.61
2:A:4012:CYS:SG	2:A:4037:THR:OG1	2.51	0.61
2:A:4344:ALA:HB1	2:A:4350:PRO:HA	1.83	0.61
2:A:4023:ALA:O	2:A:4027:SER:OG	2.14	0.61
2:A:4030:MET:HE1	2:A:4043:PHE:HB3	1.83	0.61
2:A:4469:ALA:HB1	2:A:4592:LEU:HD22	1.81	0.61
2:A:4565:ARG:NH2	2:A:4623:ASP:OD1	2.29	0.61
2:A:4970:ARG:NH1	2:A:4970:ARG:HB2	2.15	0.61
2:A:4840:ARG:HH12	2:A:4841:ARG:HH21	1.48	0.61
2:A:4594:ALA:HB2	2:A:4601:LEU:HD12	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:4252:MET:HE2	2:A:4256:LYS:HB3	1.84	0.60
2:A:3986:SER:HA	2:A:3989:LEU:HD12	1.82	0.60
2:A:4115:LYS:HE2	2:A:4118:SER:HB2	1.82	0.60
2:A:4648:ARG:NH1	2:A:4652:GLU:OE1	2.30	0.60
2:A:3951:HIS:HA	2:A:3954:LEU:HD12	1.84	0.60
2:A:3967:THR:HB	2:A:3970:PRO:HD2	1.84	0.60
2:A:4483:MET:HB2	2:A:4674:ARG:HH12	1.67	0.60
2:A:4264:LYS:HD3	2:A:4306:PHE:CZ	2.37	0.59
2:A:4844:GLU:HG3	2:A:4845:THR:HG23	1.85	0.59
2:A:4435:SER:HB2	2:A:4440:ASP:HB2	1.84	0.59
2:A:4502:TRP:CD1	2:A:4502:TRP:H	2.18	0.59
2:A:3908:LEU:O	2:A:3912:VAL:HG22	2.04	0.58
2:A:3938:GLU:CD	2:A:3945:GLN:HA	2.29	0.58
2:A:4581:LEU:HD13	2:A:4645:VAL:HG21	1.83	0.58
2:A:3964:ASP:OD2	2:A:3967:THR:OG1	2.20	0.58
2:A:3745:GLN:O	2:A:3750:ARG:NH1	2.36	0.58
2:A:4565:ARG:HH21	2:A:4583:ARG:HH11	1.50	0.57
2:A:4855:TYR:HE2	2:A:4876:LEU:HD13	1.69	0.57
2:A:4568:VAL:HG11	2:A:4580:LEU:HD13	1.85	0.57
2:A:4112:GLU:HB2	2:A:4160:LYS:HE2	1.85	0.57
2:A:4345:VAL:HG13	2:A:4396:GLN:HG3	1.85	0.57
2:A:4941:VAL:HB	2:A:4947:THR:HG22	1.84	0.57
2:A:4505:CYS:HA	2:A:4532:ILE:HG21	1.86	0.57
2:A:3937:THR:HB	2:A:3938:GLU:CD	2.30	0.57
2:A:4970:ARG:HB2	2:A:4970:ARG:HH11	1.69	0.57
2:A:4267:CYS:HB2	2:A:4306:PHE:CZ	2.40	0.57
2:A:4362:THR:OG1	2:A:4367:GLN:OE1	2.19	0.56
2:A:3819:GLN:OE1	2:A:3822:ARG:NH1	2.38	0.56
2:A:4628:ALA:HA	2:A:4638:THR:HG21	1.88	0.56
1:B:115:VAL:HG22	1:B:135:GLU:HB2	1.87	0.56
2:A:4139:LEU:HD21	2:A:4178:LEU:HD23	1.88	0.56
1:B:157:ARG:HA	1:B:177:VAL:HB	1.86	0.56
2:A:3759:PRO:O	2:A:3762:GLU:HB2	2.06	0.56
2:A:4778:LEU:HD11	2:A:4894:ILE:HG13	1.87	0.56
2:A:4907:SER:HG	2:A:4909:SER:HG	1.53	0.56
2:A:4229:VAL:HG21	2:A:4735:VAL:HG21	1.88	0.56
2:A:3938:GLU:HB2	2:A:3945:GLN:NE2	2.22	0.55
2:A:4577:VAL:HG11	2:A:4689:LEU:HD21	1.89	0.55
2:A:3878:SER:O	2:A:3880:GLN:N	2.40	0.55
2:A:3930:VAL:HG13	2:A:3934:LEU:HD23	1.90	0.54
2:A:4321:PRO:O	2:A:4712:ASN:ND2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:198:LEU:HD13	1:B:203:ILE:HD12	1.89	0.54
2:A:4923:TYR:O	2:A:4923:TYR:CG	2.56	0.54
2:A:3864:MET:HA	2:A:3867:THR:HG22	1.88	0.54
2:A:4844:GLU:HB3	2:A:4856:CYS:HB2	1.88	0.54
2:A:4377:ARG:HH22	2:A:4445:GLU:CD	2.16	0.54
1:B:99:ARG:HG3	1:B:100:LYS:HG3	1.88	0.54
2:A:4006:ASP:H	2:A:4052:ARG:HD3	1.73	0.54
2:A:4243:LEU:HD23	2:A:4283:LEU:HD11	1.90	0.54
1:B:133:LEU:HD21	1:B:136:LEU:HD21	1.90	0.53
2:A:4562:PRO:HD3	2:A:4615:PHE:HE1	1.73	0.53
2:A:4007:PRO:CD	2:A:4052:ARG:HB2	2.38	0.53
2:A:4371:PHE:O	2:A:4374:THR:OG1	2.21	0.53
2:A:4396:GLN:O	2:A:4400:VAL:HG22	2.09	0.53
2:A:4412:PRO:HB2	2:A:4415:ILE:HD12	1.91	0.53
1:B:176:LEU:HD22	1:B:193:LEU:HD11	1.91	0.53
2:A:4128:PRO:HG3	2:A:4160:LYS:NZ	2.24	0.53
2:A:3915:GLU:HG3	2:A:3919:GLN:OE1	2.09	0.53
2:A:4264:LYS:HA	2:A:4306:PHE:CZ	2.43	0.53
1:B:219:MET:HE3	2:A:3999:ILE:HG23	1.90	0.53
2:A:4799:GLN:O	2:A:4801:VAL:HG23	2.09	0.52
1:B:159:HIS:HB3	1:B:177:VAL:HG12	1.90	0.52
2:A:4915:VAL:HG22	2:A:4970:ARG:HH21	1.73	0.52
2:A:3998:SER:HB3	2:A:4033:PRO:HG2	1.91	0.52
2:A:4787:ILE:HD11	2:A:4887:LEU:HD12	1.93	0.52
2:A:4115:LYS:NZ	2:A:4118:SER:O	2.39	0.51
2:A:4203:ARG:C	2:A:4205:LEU:H	2.16	0.51
2:A:4860:LEU:HG	2:A:4864:THR:HG21	1.91	0.51
2:A:3758:GLU:HG3	2:A:3759:PRO:HD3	1.93	0.51
2:A:4971:LEU:HD12	2:A:4972:SER:H	1.75	0.51
2:A:4289:MET:HE1	2:A:4715:ALA:HA	1.92	0.51
2:A:4410:LEU:O	2:A:4416:SER:OG	2.29	0.51
1:B:42:LEU:HB2	1:B:66:LYS:NZ	2.26	0.51
1:B:42:LEU:HB2	1:B:66:LYS:HZ3	1.76	0.51
1:B:219:MET:SD	1:B:219:MET:N	2.82	0.51
2:A:4225:TYR:CE1	2:A:4735:VAL:HG11	2.44	0.51
2:A:3934:LEU:HD11	2:A:3949:THR:HG22	1.92	0.51
2:A:4961:VAL:HA	2:A:4965:LEU:HB2	1.92	0.51
1:B:113:LEU:HD21	1:B:116:ILE:HD11	1.92	0.51
2:A:3988:THR:O	2:A:3990:SER:N	2.44	0.51
2:A:4264:LYS:HA	2:A:4306:PHE:CE2	2.46	0.51
2:A:4360:CYS:SG	2:A:4367:GLN:NE2	2.72	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:166:LEU:HD11	1:B:178:VAL:HG11	1.93	0.50
2:A:3746:THR:HG23	2:A:3749:GLY:H	1.76	0.50
2:A:4241:ASP:OD1	2:A:4241:ASP:N	2.39	0.50
1:B:114:LYS:HA	1:B:133:LEU:HA	1.92	0.50
2:A:4031:ILE:HD12	2:A:4036:LEU:HD22	1.92	0.50
2:A:3713:TRP:H	2:A:3713:TRP:CD1	2.30	0.50
1:B:231:LEU:HD13	1:B:257:ILE:HG21	1.93	0.50
2:A:4895:VAL:HG11	2:A:4969:PRO:HB3	1.94	0.50
2:A:4305:VAL:HG12	2:A:4305:VAL:O	2.11	0.50
2:A:4584:LEU:HD12	2:A:4623:ASP:HB3	1.94	0.50
2:A:3985:ALA:HB3	2:A:4062:ARG:HH12	1.75	0.50
2:A:4446:MET:HB3	2:A:4588:LEU:HD21	1.94	0.50
2:A:3708:ASN:HB3	2:A:3766:CYS:HB3	1.93	0.49
2:A:4611:ASP:N	2:A:4611:ASP:OD1	2.45	0.49
2:A:3796:ARG:NH2	2:A:3853:GLY:O	2.45	0.49
2:A:3884:GLN:NE2	2:A:4902:SER:O	2.45	0.49
2:A:3940:ARG:O	2:A:3942:PRO:HD3	2.13	0.49
2:A:4404:ILE:HD11	2:A:4423:VAL:HG21	1.93	0.49
1:B:233:LEU:HB2	1:B:266:PRO:HG3	1.94	0.49
2:A:4898:VAL:HG21	2:A:4965:LEU:HB3	1.94	0.49
2:A:3938:GLU:HG3	2:A:3945:GLN:CD	2.38	0.49
2:A:3982:LYS:HA	2:A:4062:ARG:HH11	1.78	0.49
2:A:4501:HIS:HB3	2:A:4848:GLU:HG3	1.94	0.49
2:A:4819:ASP:O	2:A:4822:ARG:HG2	2.13	0.49
1:B:175:LEU:HD11	2:A:4036:LEU:HD12	1.94	0.48
2:A:4264:LYS:HD3	2:A:4306:PHE:CE1	2.48	0.48
2:A:4376:PHE:HA	2:A:4380:ALA:HB3	1.95	0.48
2:A:3947:LEU:O	2:A:3950:GLU:HB2	2.12	0.48
2:A:3953:PHE:HA	2:A:3956:ASP:OD2	2.13	0.48
2:A:4468:LEU:HD12	2:A:4475:MET:HG3	1.95	0.48
2:A:4243:LEU:HD13	2:A:4260:LEU:HD11	1.96	0.48
2:A:4276:ARG:HD2	2:A:4307:PRO:HA	1.93	0.48
2:A:4510:PRO:HG2	2:A:4849:ILE:HG23	1.95	0.48
2:A:3905:SER:HB3	2:A:3909:ALA:HB3	1.95	0.48
2:A:3755:LEU:HD21	2:A:3759:PRO:HB2	1.94	0.48
2:A:4855:TYR:CE2	2:A:4876:LEU:HD13	2.49	0.47
2:A:3894:GLU:O	2:A:3898:SER:N	2.47	0.47
2:A:3959:LEU:O	2:A:3963:SER:OG	2.31	0.47
2:A:3922:ARG:HH21	2:A:3956:ASP:HB3	1.78	0.47
2:A:4297:LYS:N	2:A:4303:GLN:OE1	2.47	0.47
2:A:4562:PRO:HB3	2:A:4619:HIS:CD2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3736:PRO:HA	2:A:3816:LEU:HD11	1.97	0.47
2:A:4022:ARG:O	2:A:4026:ALA:N	2.46	0.47
2:A:4294:GLY:O	2:A:4300:ARG:NH1	2.47	0.47
2:A:4780:LEU:HD21	2:A:4838:LYS:NZ	2.30	0.47
2:A:4819:ASP:HA	2:A:4822:ARG:HD3	1.96	0.47
2:A:4638:THR:O	2:A:4641:VAL:HG12	2.15	0.47
2:A:4927:ARG:O	2:A:4931:PRO:HD2	2.14	0.47
1:B:90:PRO:HB2	1:B:93:ILE:HG23	1.97	0.47
2:A:4228:GLU:O	2:A:4232:ILE:HG12	2.15	0.47
2:A:4936:ASN:HD22	2:A:4956:ILE:HG12	1.80	0.47
2:A:3876:LYS:HB2	2:A:3877:PRO:HD3	1.97	0.47
2:A:4932:LEU:HD11	2:A:4963:ARG:NH1	2.29	0.47
2:A:3723:TRP:CZ2	2:A:3819:GLN:HG2	2.50	0.46
2:A:4332:ASP:OD1	2:A:4332:ASP:N	2.47	0.46
2:A:4565:ARG:NH2	2:A:4583:ARG:HH11	2.13	0.46
2:A:3730:THR:HG21	2:A:3738:LYS:HG3	1.97	0.46
1:B:133:LEU:HD21	1:B:136:LEU:CD2	2.46	0.46
2:A:3794:CYS:HB3	2:A:3821:PHE:HD2	1.80	0.46
2:A:3938:GLU:HB2	2:A:3945:GLN:HB2	1.98	0.46
2:A:4350:PRO:HG2	2:A:4403:PHE:CD2	2.51	0.46
2:A:4554:GLN:HB3	2:A:4606:LYS:HZ2	1.80	0.46
2:A:4204:PHE:HE1	2:A:4208:TYR:HD2	1.64	0.46
2:A:3940:ARG:HH12	2:A:4057:LYS:CB	2.25	0.46
2:A:3988:THR:O	2:A:3989:LEU:C	2.59	0.46
2:A:3864:MET:HE1	2:A:3912:VAL:CG1	2.46	0.46
2:A:3913:ILE:HA	2:A:3916:VAL:HG12	1.97	0.45
2:A:4404:ILE:HG23	2:A:4410:LEU:HD12	1.97	0.45
2:A:4641:VAL:HG23	2:A:4692:LEU:HD21	1.98	0.45
2:A:3830:ARG:HA	2:A:3833:THR:HG22	1.98	0.45
2:A:3885:LEU:HD23	2:A:3889:LEU:HD12	1.98	0.45
2:A:3987:LYS:O	2:A:3988:THR:C	2.53	0.45
1:B:38:ASN:HB3	1:B:41:TYR:HB2	1.97	0.45
2:A:4557:HIS:NE2	2:A:4587:HIS:HE1	2.14	0.45
2:A:4665:ASP:OD1	2:A:4667:GLU:N	2.41	0.45
2:A:4756:VAL:HA	2:A:4953:LEU:HD21	1.99	0.45
2:A:4800:ASN:HB3	2:A:4979:LEU:HG	1.97	0.45
2:A:3757:GLY:O	2:A:3760:GLN:HB2	2.17	0.45
2:A:3947:LEU:HD21	2:A:3985:ALA:HB2	1.97	0.45
2:A:3974:VAL:O	2:A:3975:MET:C	2.57	0.45
2:A:4779:ARG:O	2:A:4782:LYS:NZ	2.36	0.45
2:A:3947:LEU:O	2:A:3951:HIS:CE1	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:4171:TYR:HD1	2:A:4226:LEU:HD11	1.82	0.45
1:B:137:ASN:HA	1:B:157:ARG:HB2	1.97	0.45
2:A:3824:ARG:NH2	2:A:3856:MET:O	2.50	0.45
2:A:3845:ALA:HA	2:A:3848:ASN:HB3	1.98	0.45
2:A:4126:LYS:HG3	2:A:4127:THR:H	1.81	0.45
2:A:4383:TYR:CE1	2:A:4392:PRO:HD2	2.52	0.45
2:A:4806:TYR:CZ	2:A:4808:SER:HB3	2.52	0.45
2:A:4911:ASP:HB3	2:A:4974:LYS:NZ	2.32	0.45
2:A:4910:VAL:HG21	2:A:4919:HIS:CD2	2.52	0.44
1:B:62:PHE:HZ	1:B:66:LYS:HZ1	1.65	0.44
2:A:3785:LYS:NZ	2:A:3789:MET:SD	2.90	0.44
2:A:3923:ILE:O	2:A:3927:ALA:HB2	2.18	0.44
2:A:4020:CYS:C	2:A:4022:ARG:H	2.26	0.44
2:A:4152:GLU:O	2:A:4156:LEU:HG	2.17	0.44
2:A:4248:GLY:C	2:A:4250:PRO:HD3	2.43	0.44
1:B:48:TRP:CE2	1:B:87:PRO:HD3	2.51	0.44
2:A:4030:MET:SD	2:A:4041:ASP:HA	2.57	0.44
2:A:4129:VAL:HG12	2:A:4942:GLU:HG3	1.99	0.44
2:A:4071:ASP:O	2:A:4075:THR:HG23	2.18	0.44
2:A:4371:PHE:CE2	2:A:4375:LEU:HD21	2.53	0.44
2:A:3758:GLU:N	2:A:3759:PRO:HD2	2.32	0.44
2:A:4583:ARG:O	2:A:4587:HIS:HD2	2.00	0.44
2:A:4502:TRP:CD1	2:A:4502:TRP:N	2.85	0.44
2:A:4502:TRP:CZ2	2:A:4885:SER:HB2	2.52	0.44
2:A:4645:VAL:HG13	2:A:4685:ILE:HD12	2.00	0.44
2:A:4376:PHE:HB2	2:A:4422:LEU:HD21	2.00	0.44
2:A:4701:ASN:O	2:A:4705:GLN:HB2	2.18	0.44
2:A:4873:ARG:NE	2:A:4976:ILE:HD11	2.33	0.44
2:A:3827:ASN:HD21	2:A:3896:ILE:HG12	1.83	0.43
2:A:4355:THR:O	2:A:4359:ALA:N	2.49	0.43
2:A:3884:GLN:NE2	2:A:4902:SER:OG	2.51	0.43
2:A:4395:GLU:OE1	2:A:4395:GLU:N	2.41	0.43
2:A:4973:LEU:HD23	2:A:4973:LEU:HA	1.80	0.43
2:A:3902:MET:HE3	2:A:3902:MET:HB3	1.91	0.43
2:A:4354:LYS:NZ	2:A:4403:PHE:O	2.42	0.43
2:A:4912:ALA:HA	2:A:4915:VAL:HG23	2.00	0.43
2:A:4120:PHE:C	2:A:4121:ASN:HD22	2.21	0.43
2:A:4383:TYR:CD2	2:A:4425:ASN:HB2	2.54	0.43
2:A:4836:TRP:HE1	2:A:4860:LEU:HD13	1.82	0.43
2:A:4915:VAL:HG13	2:A:4970:ARG:HH21	1.84	0.43
2:A:3942:PRO:O	2:A:3943:GLU:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:4014:HIS:NE2	2:A:4035:CYS:SG	2.87	0.43
2:A:4414:ASP:OD1	2:A:4414:ASP:N	2.52	0.43
2:A:3981:CYS:O	2:A:3982:LYS:C	2.59	0.43
2:A:4183:LEU:HD21	2:A:4746:ARG:NH2	2.33	0.43
2:A:4706:ASP:C	2:A:4706:ASP:OD1	2.61	0.43
2:A:4005:LYS:NZ	2:A:4019:ARG:HE	2.17	0.43
2:A:3821:PHE:O	2:A:3825:LEU:HD23	2.18	0.43
2:A:3719:LEU:HD13	2:A:3815:HIS:HD2	1.84	0.42
2:A:4971:LEU:HD12	2:A:4972:SER:N	2.33	0.42
2:A:3940:ARG:NH1	2:A:4057:LYS:HB3	2.28	0.42
2:A:4468:LEU:O	2:A:4472:PRO:HB3	2.19	0.42
2:A:3978:LEU:O	2:A:3979:CYS:C	2.62	0.42
2:A:4905:ASN:N	2:A:4905:ASN:OD1	2.51	0.42
2:A:3938:GLU:HG3	2:A:3945:GLN:HE22	1.82	0.42
2:A:3956:ASP:O	2:A:3960:ARG:N	2.52	0.42
2:A:4559:LEU:HD11	2:A:4619:HIS:CE1	2.54	0.42
2:A:4778:LEU:HD23	2:A:4778:LEU:O	2.19	0.42
2:A:4204:PHE:CE2	2:A:4231:ARG:HD3	2.55	0.42
2:A:4482:THR:O	2:A:4483:MET:HE2	2.19	0.42
2:A:4486:ASP:H	2:A:4553:THR:HG22	1.84	0.42
2:A:4911:ASP:HB3	2:A:4974:LYS:HZ2	1.83	0.42
2:A:3798:LEU:HD23	2:A:3798:LEU:HA	1.80	0.42
2:A:4577:VAL:HG13	2:A:4631:LEU:HD21	2.00	0.42
2:A:3990:SER:O	2:A:3991:ARG:C	2.61	0.42
2:A:4453:VAL:HG23	2:A:4650:LEU:HB2	2.01	0.42
2:A:4689:LEU:HD23	2:A:4689:LEU:O	2.20	0.42
2:A:4148:ASP:HA	2:A:4151:GLN:HG2	2.01	0.42
2:A:4349:LYS:HD2	2:A:4349:LYS:HA	1.77	0.42
2:A:4400:VAL:O	2:A:4404:ILE:HG13	2.19	0.42
2:A:4648:ARG:NH1	2:A:4652:GLU:HB2	2.35	0.42
2:A:4665:ASP:HB2	2:A:4673:MET:SD	2.59	0.42
2:A:4722:PRO:HB2	2:A:4729:LEU:HD11	2.02	0.42
2:A:3999:ILE:HG12	2:A:4033:PRO:HG3	2.02	0.41
2:A:4265:GLN:O	2:A:4269:ARG:CB	2.68	0.41
2:A:4373:LEU:HD23	2:A:4373:LEU:HA	1.90	0.41
2:A:4557:HIS:HB3	2:A:4605:ILE:HA	2.00	0.41
2:A:3864:MET:HE3	2:A:3864:MET:HB2	1.67	0.41
2:A:3982:LYS:O	2:A:4062:ARG:NH1	2.54	0.41
2:A:4427:VAL:HG23	2:A:4430:LEU:HB2	2.01	0.41
2:A:4638:THR:HA	2:A:4641:VAL:HG12	2.01	0.41
2:A:4955:LYS:HG2	2:A:4959:GLN:HE21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:4017:CYS:SG	2:A:4020:CYS:HB3	2.60	0.41
2:A:4352:GLY:O	2:A:4355:THR:HG22	2.21	0.41
2:A:4480:LEU:HD13	2:A:4590:LEU:HD11	2.02	0.41
2:A:4891:HIS:HE1	2:A:4968:LYS:O	2.03	0.41
2:A:3719:LEU:HD13	2:A:3815:HIS:CD2	2.56	0.41
2:A:3726:ALA:HA	2:A:3729:ILE:HG22	2.02	0.41
2:A:4160:LYS:HD3	2:A:4161:ALA:N	2.35	0.41
2:A:3828:PHE:HD2	2:A:3859:ASP:HA	1.85	0.41
2:A:3971:PHE:C	2:A:3973:ALA:N	2.79	0.41
2:A:4485:GLU:HG3	2:A:4671:LYS:HD2	2.03	0.41
2:A:3946:GLY:O	2:A:3949:THR:OG1	2.26	0.41
1:B:99:ARG:HB2	1:B:119:GLN:HG2	2.02	0.41
2:A:4198:LEU:HD21	2:A:4242:PHE:CE2	2.56	0.41
2:A:4203:ARG:N	2:A:4203:ARG:HD3	2.36	0.41
2:A:4305:VAL:HG11	2:A:4311:VAL:HB	2.02	0.41
2:A:4450:ALA:O	2:A:4453:VAL:HG12	2.20	0.41
2:A:4514:GLY:HA3	2:A:4534:GLY:HA3	2.02	0.41
2:A:4738:SER:O	2:A:4738:SER:OG	2.34	0.41
2:A:4780:LEU:HD21	2:A:4838:LYS:HZ1	1.86	0.41
2:A:4791:GLN:NE2	2:A:4880:ALA:HB1	2.36	0.41
2:A:4924:GLU:H	2:A:4924:GLU:HG3	1.51	0.41
1:B:133:LEU:HD22	1:B:150:PRO:HG3	2.03	0.41
2:A:3766:CYS:O	2:A:3769:LYS:HB2	2.21	0.41
2:A:4470:PHE:HA	2:A:4596:GLN:HE22	1.85	0.41
2:A:4907:SER:OG	2:A:4909:SER:OG	2.30	0.40
2:A:4929:LEU:HD23	2:A:4929:LEU:HA	1.81	0.40
1:B:240:ASN:OD1	1:B:240:ASN:N	2.54	0.40
2:A:4001:LEU:HA	2:A:4001:LEU:HD12	1.82	0.40
2:A:4279:LEU:HD23	2:A:4279:LEU:HA	1.96	0.40
2:A:4314:GLN:HB2	2:A:4713:PRO:HG2	2.03	0.40
2:A:4342:ALA:O	2:A:4346:LEU:HG	2.21	0.40
2:A:4095:LEU:HD21	2:A:4119:PRO:HA	2.03	0.40
2:A:4264:LYS:HD3	2:A:4306:PHE:CE2	2.56	0.40
2:A:4798:PHE:CZ	2:A:4866:PHE:HE2	2.40	0.40
2:A:3891:MET:HB2	2:A:3892:PRO:HD3	2.02	0.40
2:A:4601:LEU:HD23	2:A:4601:LEU:HA	1.78	0.40

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	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

All (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
2	A	3879	PRO

### 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

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	219	MET
2	A	3933	VAL
2	A	3935	LEU
2	A	3938	GLU
2	A	3940	ARG
2	A	3981	CYS
2	A	3986	SER
2	A	3992	PHE
2	A	3999	ILE
2	A	4015	VAL
2	A	4018	LEU
2	A	4052	ARG
2	A	4056	GLU
2	A	4058	HIS
2	A	4061	PHE
2	A	4284	SER
2	A	4329	VAL
2	A	4800	ASN
2	A	4924	GLU
2	A	4925	VAL
2	A	4929	LEU
2	A	4931	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	72	GLN
1	B	105	HIS
2	A	3708	ASN
2	A	3884	GLN
2	A	3945	GLN
2	A	4063	GLN
2	A	4197	HIS
2	A	4587	HIS
2	A	4599	GLN
2	A	4603	ASN
2	A	4691	HIS
2	A	4728	HIS
2	A	4936	ASN

### 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.



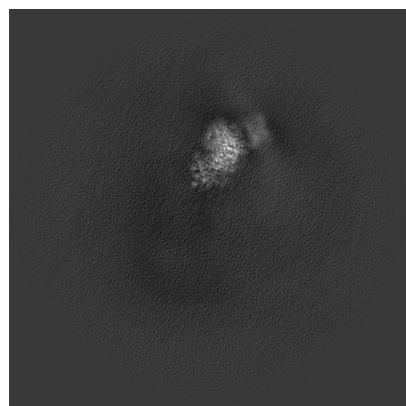
## 6 Map visualisation [i](#)

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.

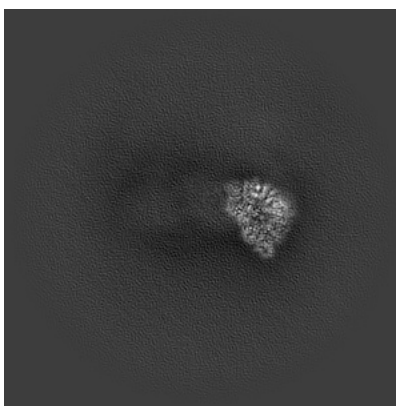
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

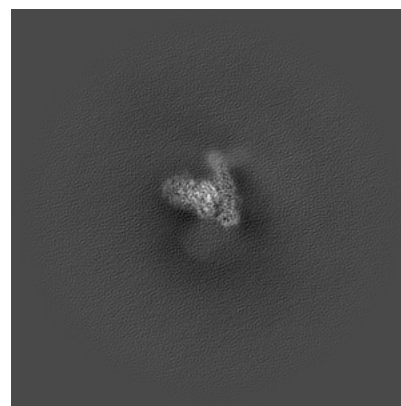
#### 6.1.1 Primary map



X

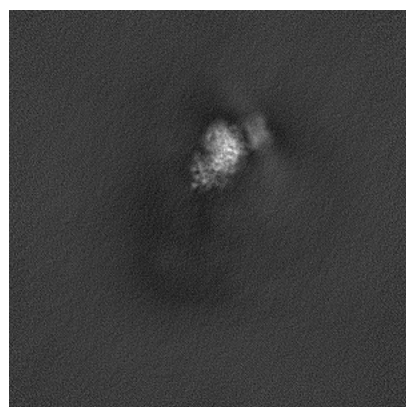


Y

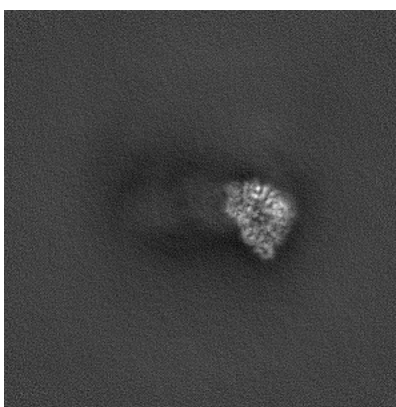


Z

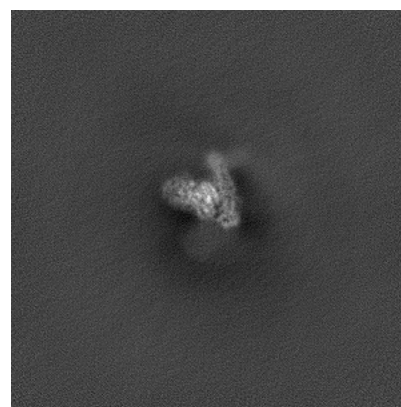
#### 6.1.2 Raw map



X



Y



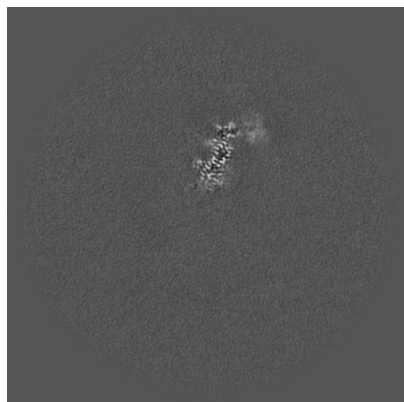
Z

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

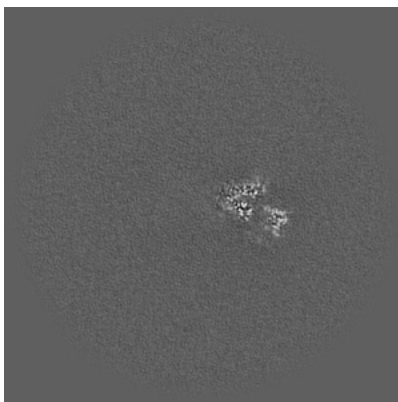


## 6.2 Central slices [i](#)

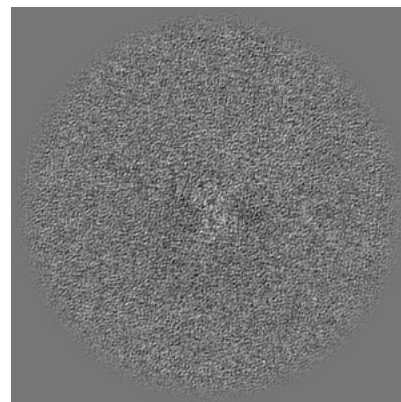
### 6.2.1 Primary map



X Index: 250



Y Index: 250

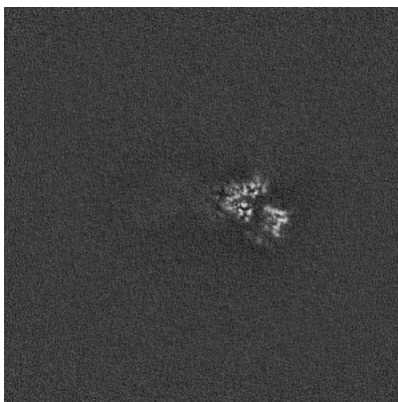


Z Index: 250

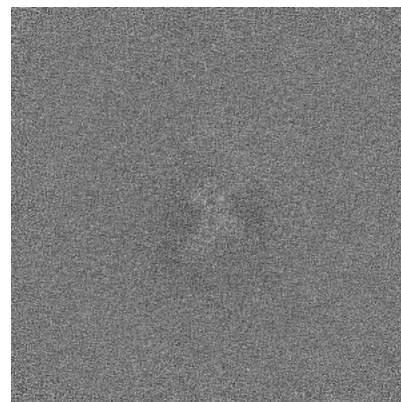
### 6.2.2 Raw map



X Index: 250



Y Index: 250

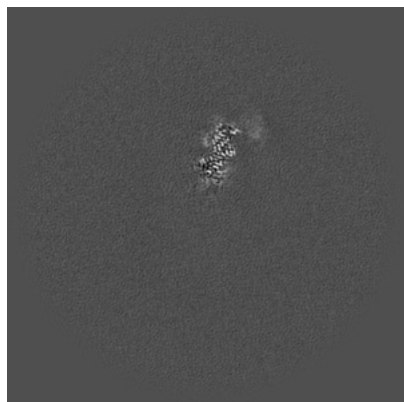


Z Index: 250

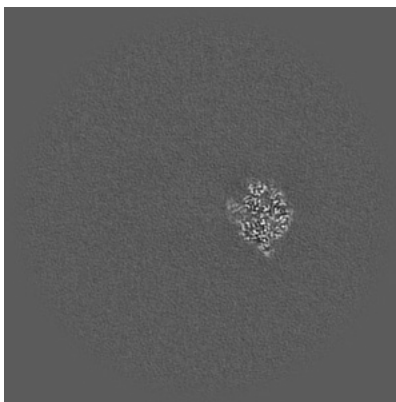
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

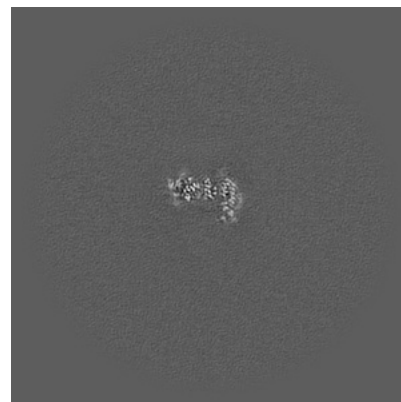
### 6.3.1 Primary map



X Index: 247

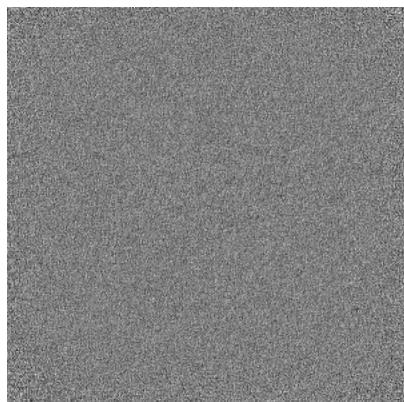


Y Index: 269

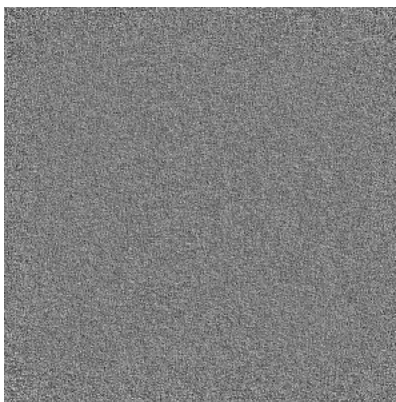


Z Index: 316

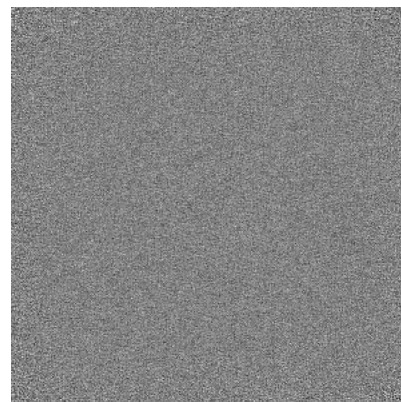
### 6.3.2 Raw map



X Index: 0



Y Index: 0

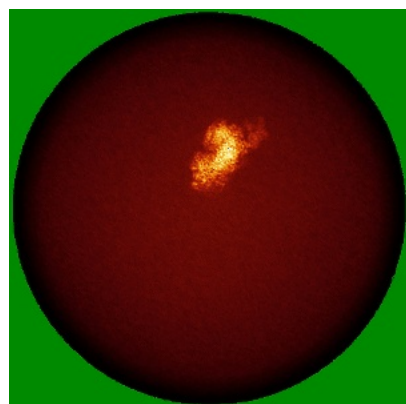


Z Index: 0

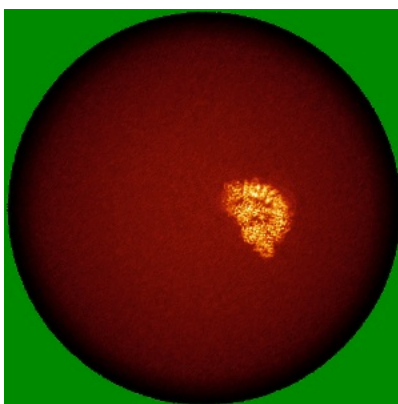
The images above show the largest variance slices of the map in three orthogonal directions.

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

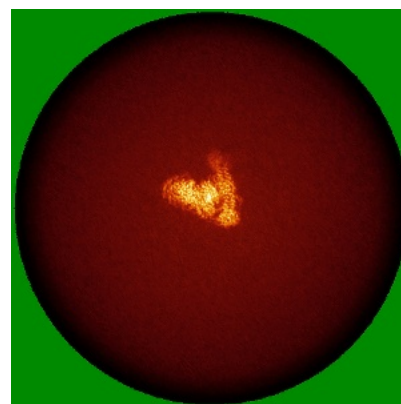
### 6.4.1 Primary map



X

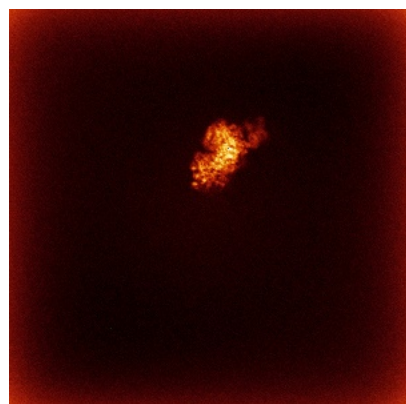


Y

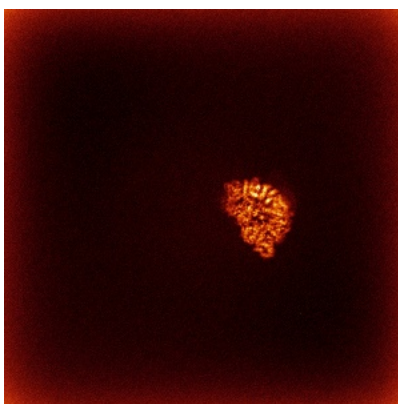


Z

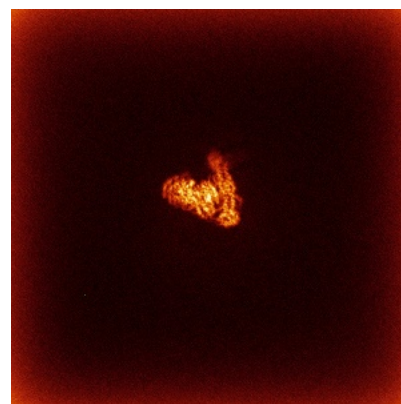
### 6.4.2 Raw map



X



Y



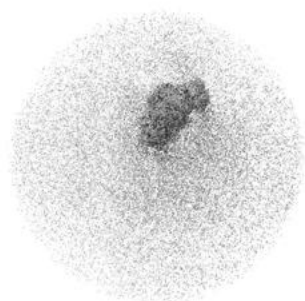
Z

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.

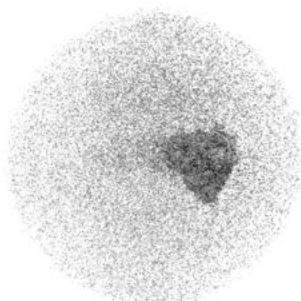


## 6.5 Orthogonal surface views [i](#)

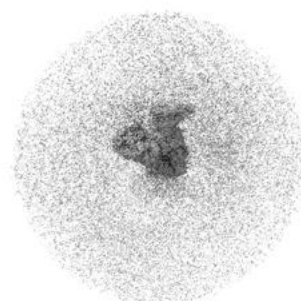
### 6.5.1 Primary map



X



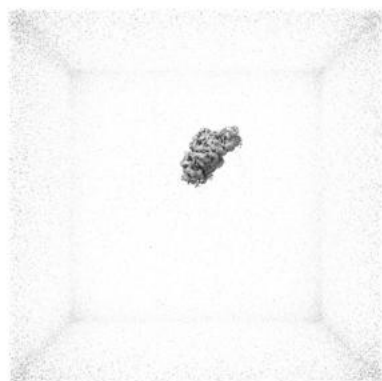
Y



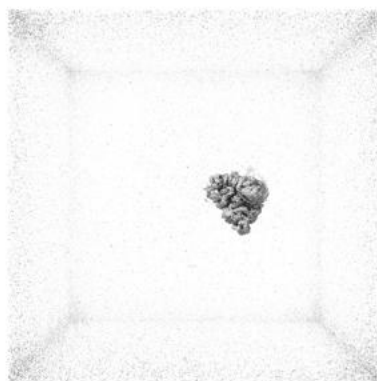
Z

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



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.

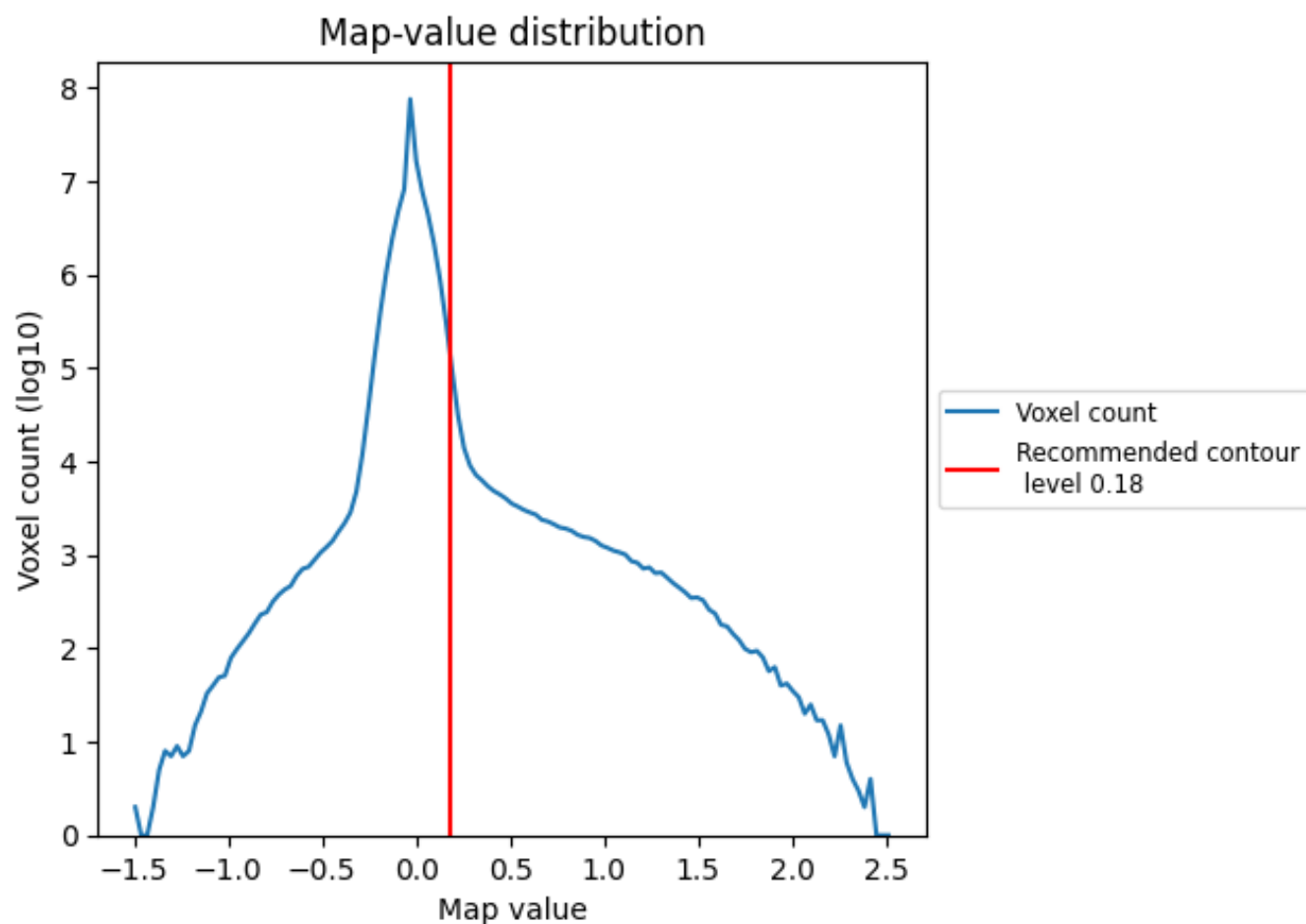
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

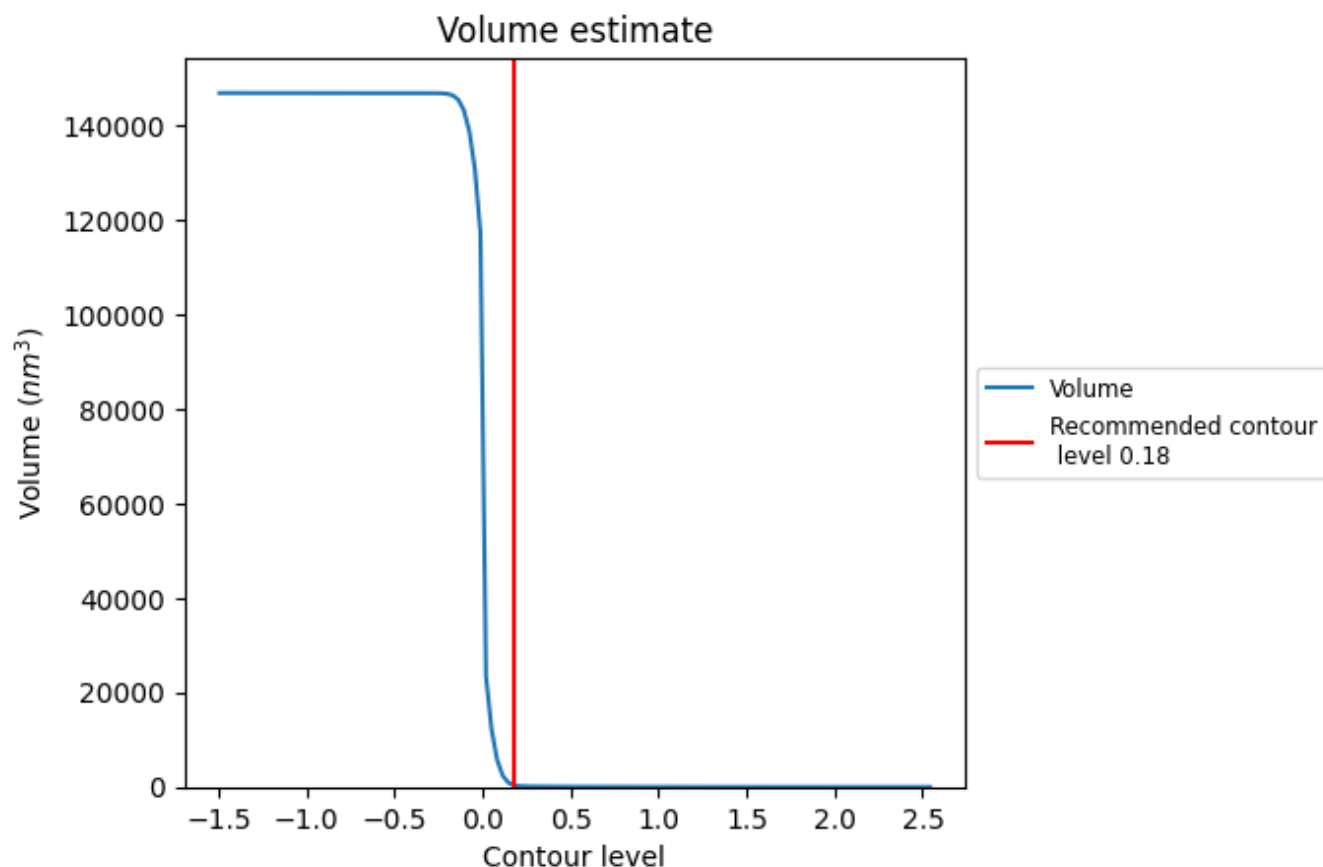
This section contains the results of statistical analysis of the map.

### 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.

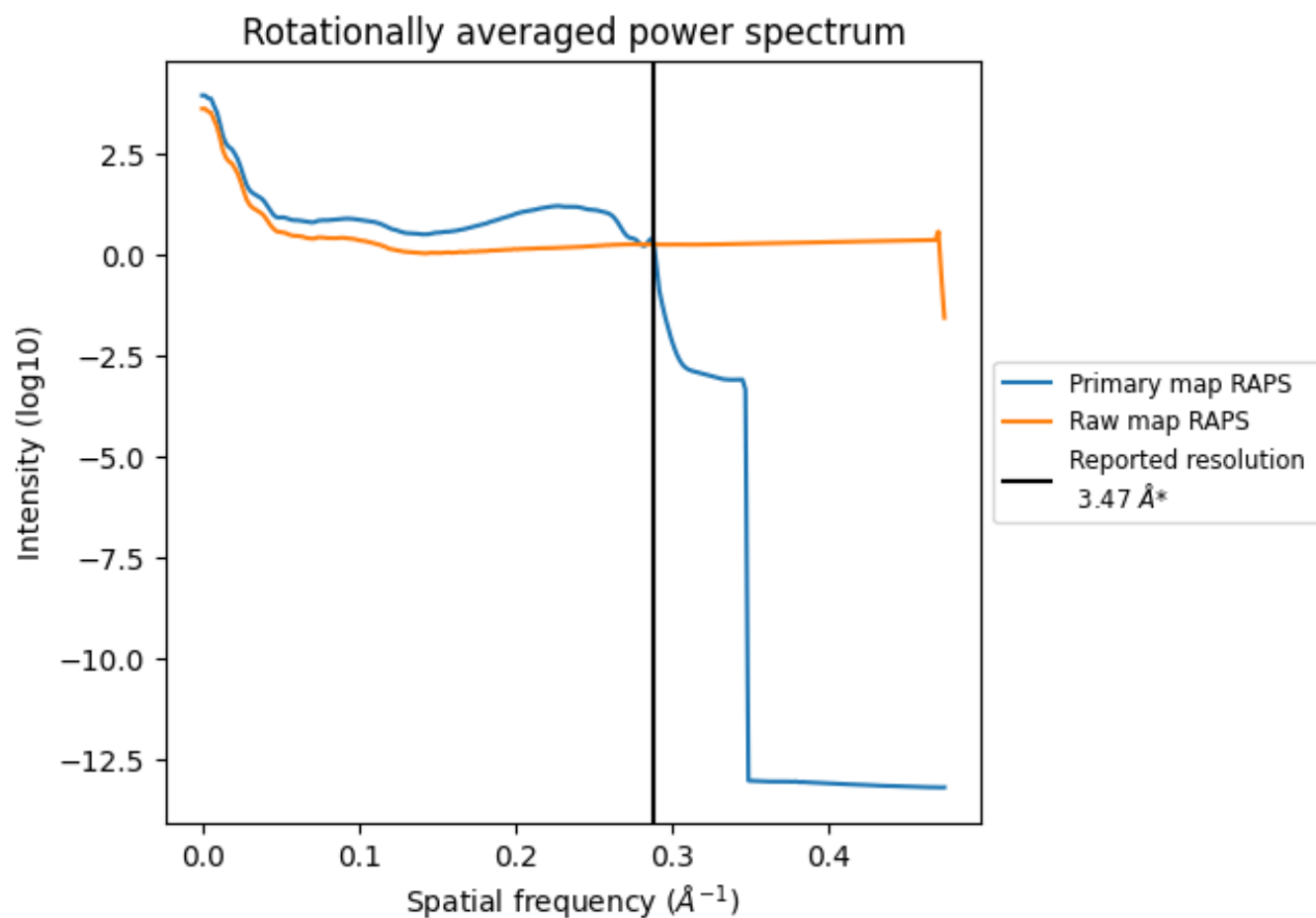
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 362 nm<sup>3</sup>; 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 ⓘ

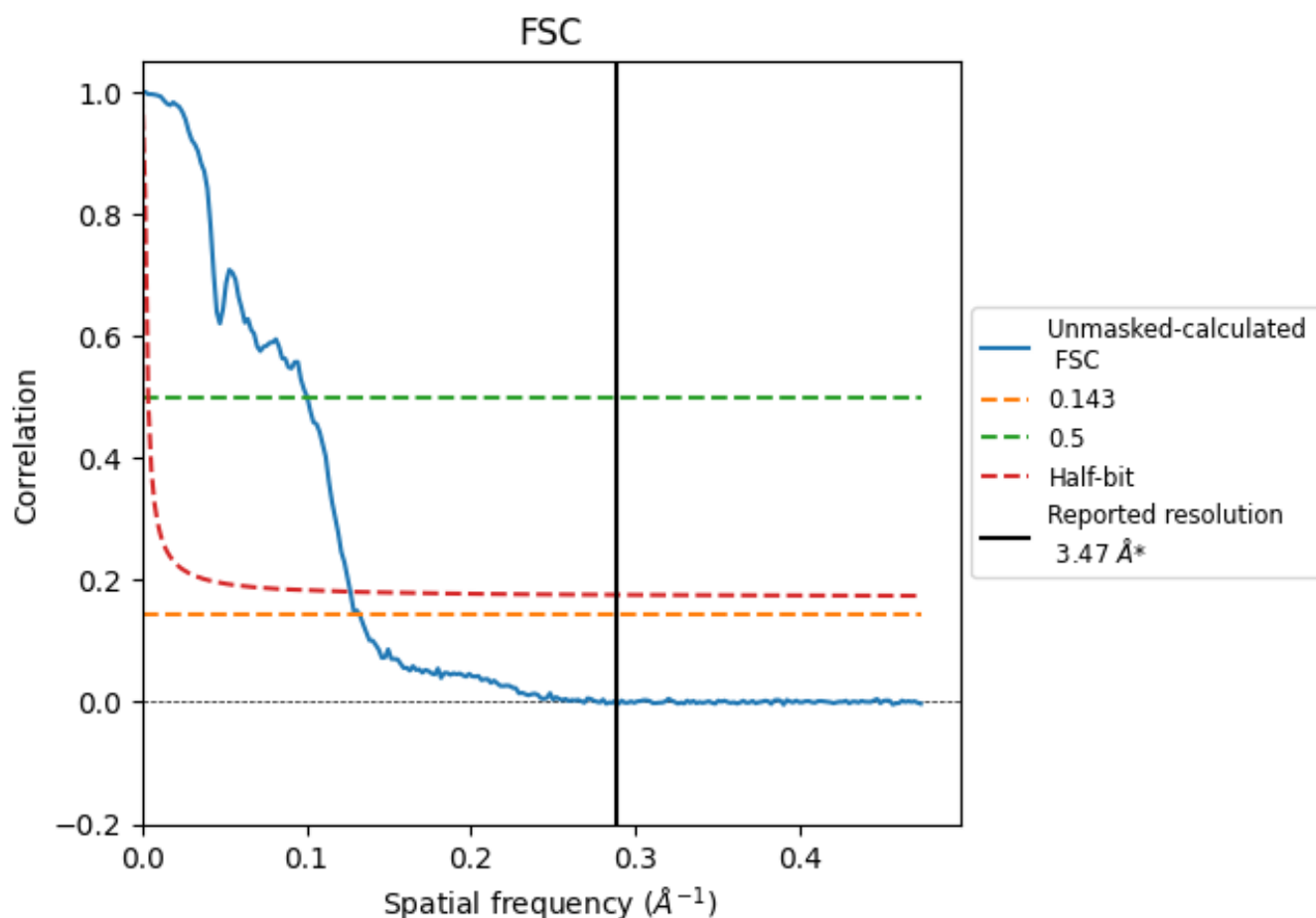


\*Reported resolution corresponds to spatial frequency of 0.288 Å<sup>-1</sup>

## 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  $\text{\AA}^{-1}$



## 8.2 Resolution estimates [i](#)

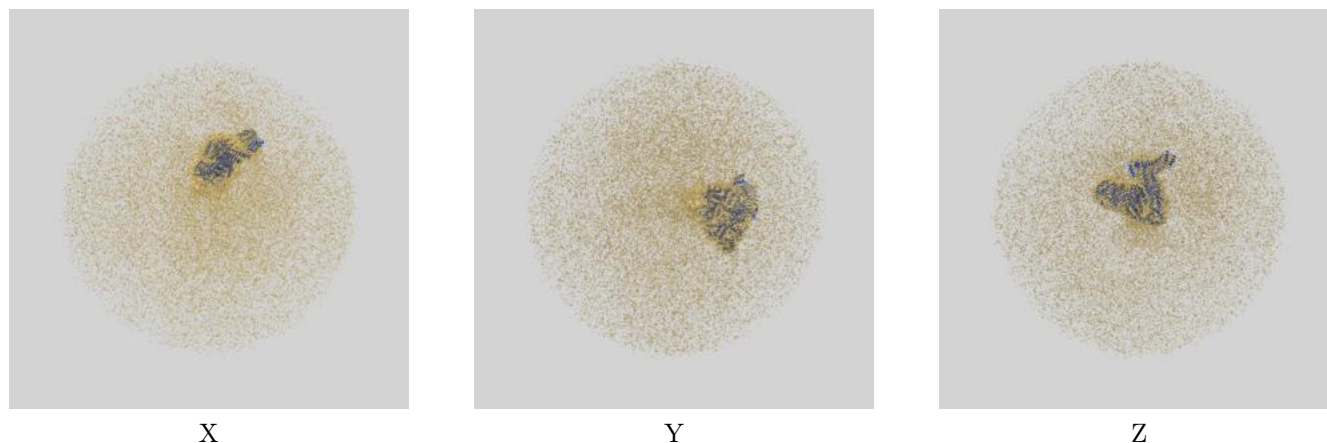
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.47	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.56	9.95	7.89

\*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](#)

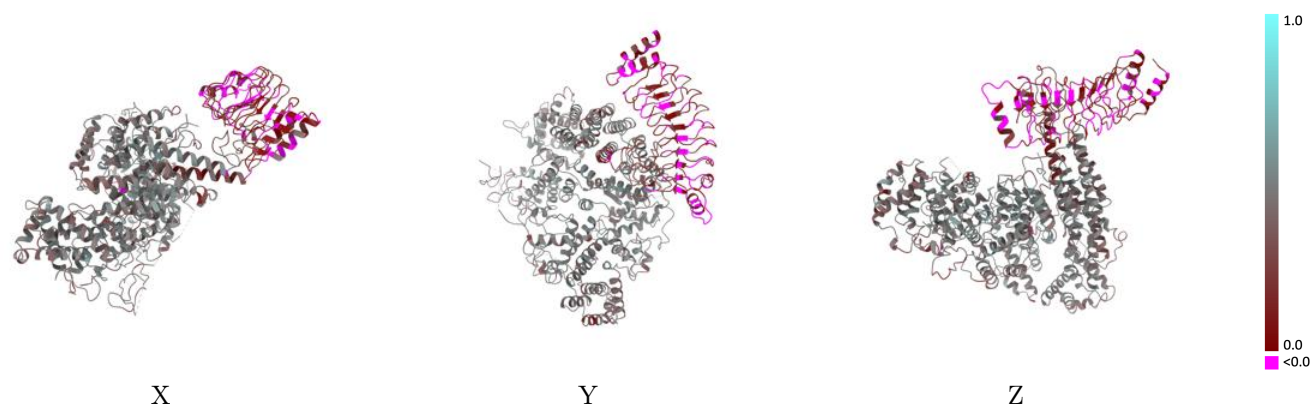
This section contains information regarding the fit between EMDB map EMD-61852 and PDB model 9JWG. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

### 9.1 Map-model overlay [i](#)



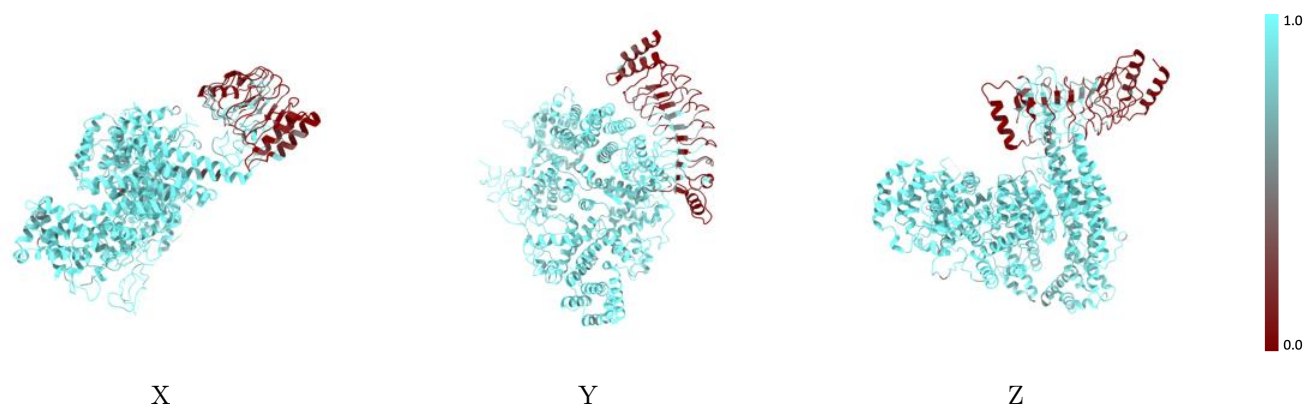
The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



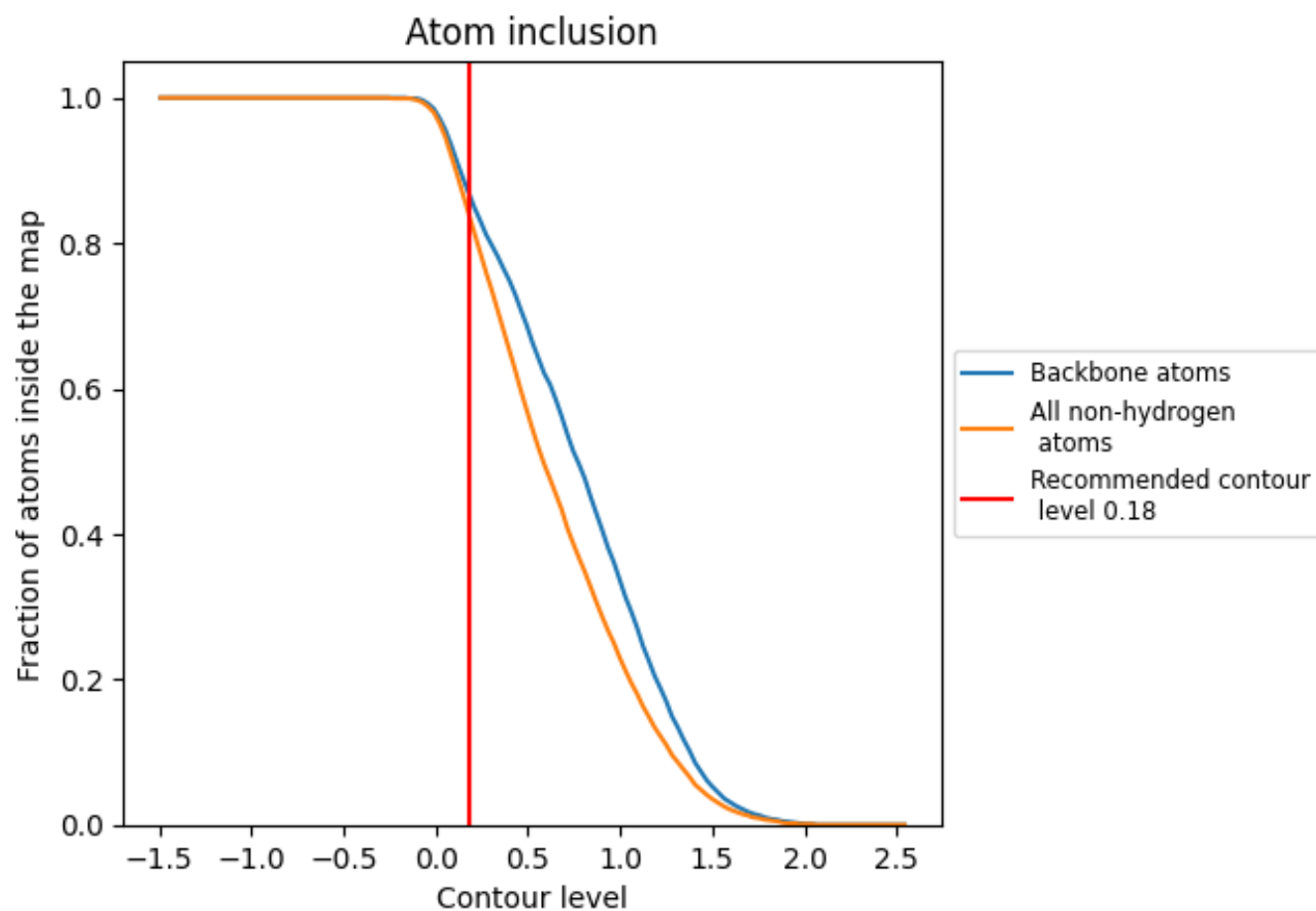
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

