



wwPDB EM Validation Summary Report ⓘ

May 26, 2025 – 12:03 PM EDT

PDB ID : 6URG / pdb_00006urg
EMDB ID : EMD-20860
Title : Cryo-EM structure of human CPSF160-WDR33-CPSF30-CPSF100 PIM complex
Authors : Sun, Y.; Zhang, Y.; Walz, T.; Tong, L.
Deposited on : 2019-10-23
Resolution : 3.00 Å(reported)

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

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<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

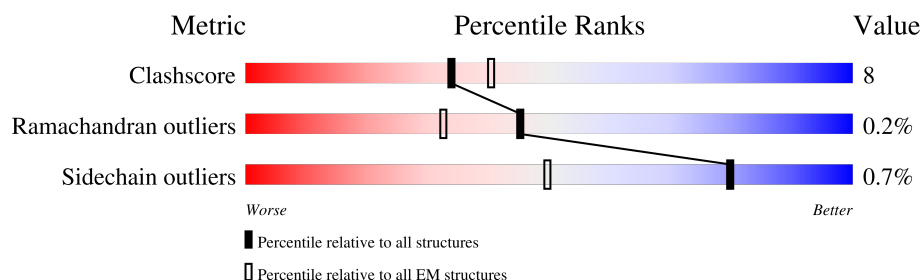
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.00 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	A	1443	
2	B	587	
3	C	250	
4	F	782	

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 13214 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 Cleavage and polyadenylation specificity factor subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1202	Total	C	N	O	S	0	0
			9532	6119	1636	1722	55		

- Molecule 2 is a protein called pre-mRNA 3' end processing protein WDR33.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	366	Total	C	N	O	S	0	0
			2953	1866	539	529	19		

There are 15 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-14	MET	-	expression tag	UNP Q9C0J8
B	-13	GLY	-	expression tag	UNP Q9C0J8
B	-12	SER	-	expression tag	UNP Q9C0J8
B	-11	SER	-	expression tag	UNP Q9C0J8
B	-10	HIS	-	expression tag	UNP Q9C0J8
B	-9	HIS	-	expression tag	UNP Q9C0J8
B	-8	HIS	-	expression tag	UNP Q9C0J8
B	-7	HIS	-	expression tag	UNP Q9C0J8
B	-6	HIS	-	expression tag	UNP Q9C0J8
B	-5	HIS	-	expression tag	UNP Q9C0J8
B	-4	SER	-	expression tag	UNP Q9C0J8
B	-3	SER	-	expression tag	UNP Q9C0J8
B	-2	GLY	-	expression tag	UNP Q9C0J8
B	-1	LEU	-	expression tag	UNP Q9C0J8
B	0	VAL	-	expression tag	UNP Q9C0J8

- Molecule 3 is a protein called Cleavage and polyadenylation specificity factor subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	60	Total	C	N	O	S	0	0
			452	291	75	80	6		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	245	HIS	-	expression tag	UNP O95639
C	246	HIS	-	expression tag	UNP O95639
C	247	HIS	-	expression tag	UNP O95639
C	248	HIS	-	expression tag	UNP O95639
C	249	HIS	-	expression tag	UNP O95639
C	250	HIS	-	expression tag	UNP O95639

- Molecule 4 is a protein called Cleavage and polyadenylation specificity factor subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	F	32	Total	C	N	O	S	0	0
			276	182	41	51	2		

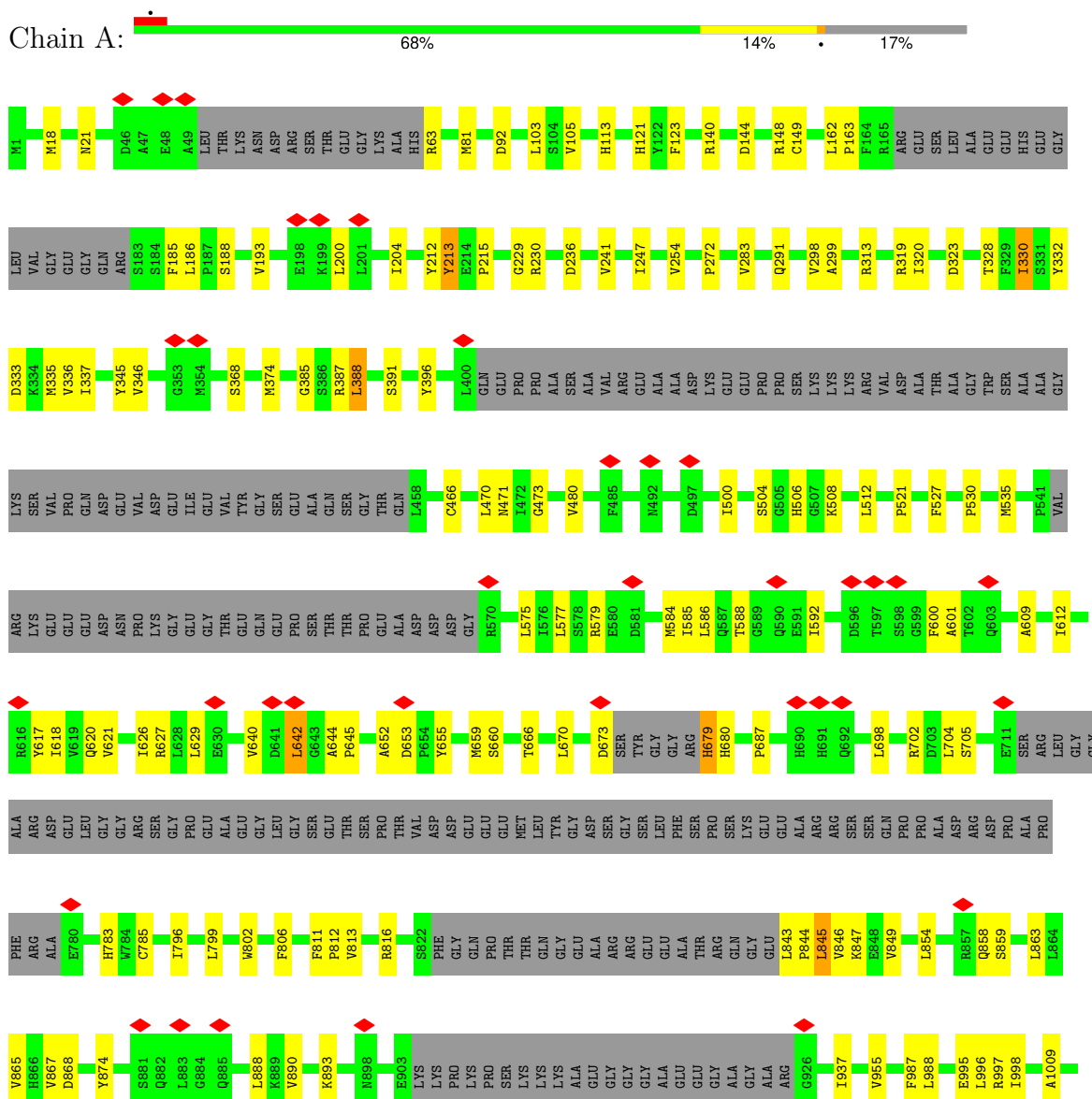
- Molecule 5 is ZINC ION (CCD ID: ZN) (formula: Zn).

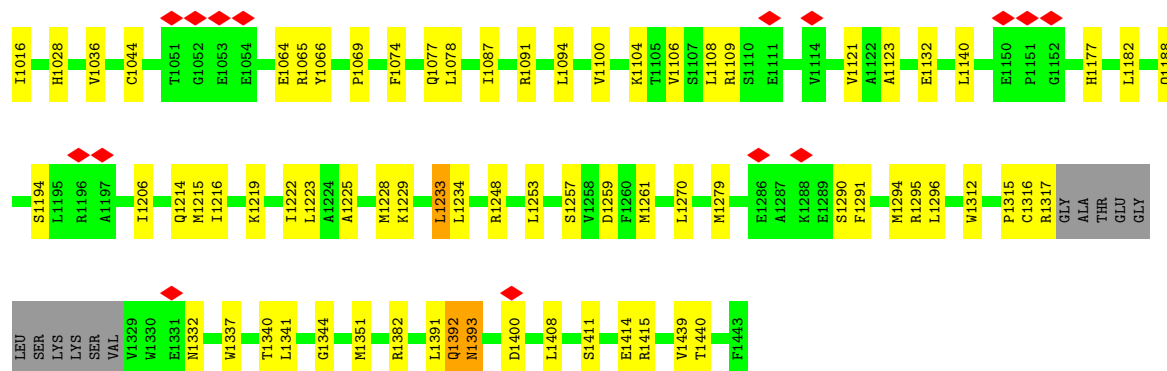
Mol	Chain	Residues	Atoms		AltConf
5	C	1	Total	Zn	0
			1	1	

3 Residue-property plots

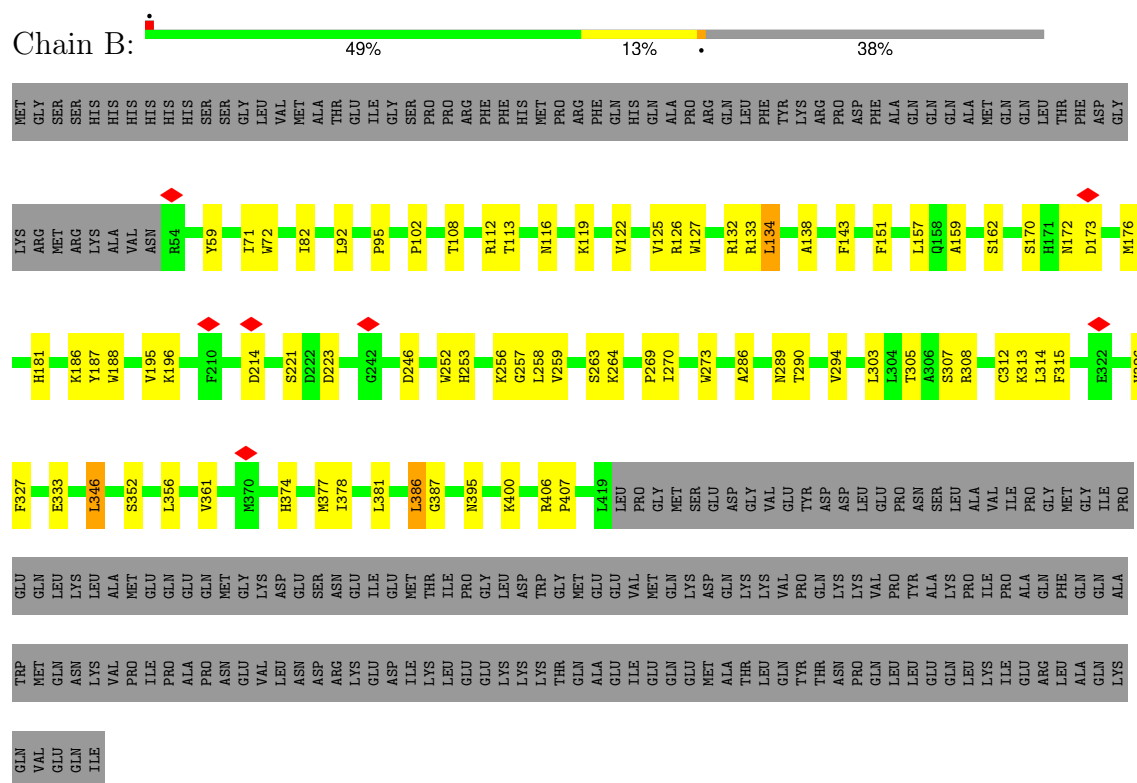
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Cleavage and polyadenylation specificity factor subunit 1

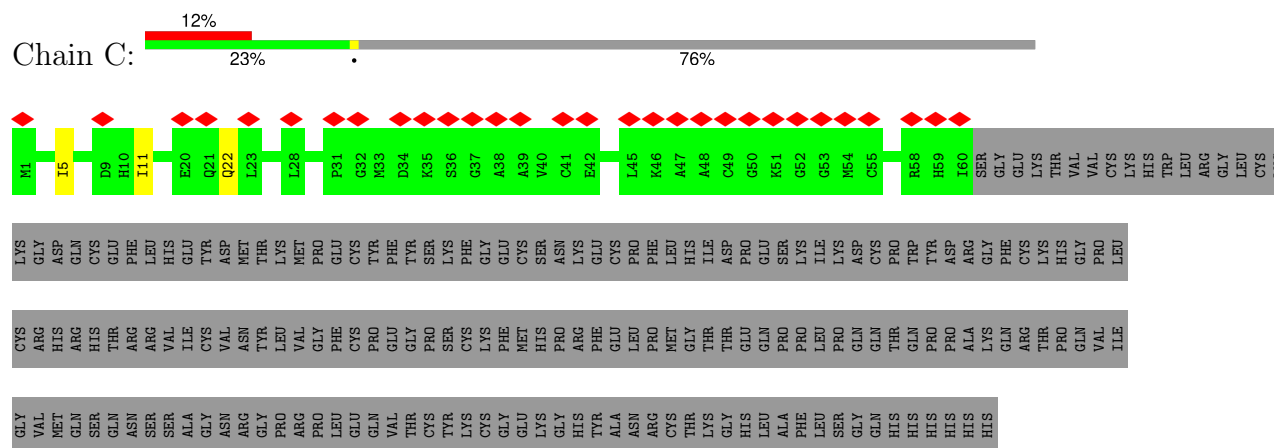




• Molecule 2: pre-mRNA 3' end processing protein WDR33



• Molecule 3: Cleavage and polyadenylation specificity factor subunit 4



Chain F: 96%

Chain F: 

96%

VAL	ALA	LEU	PRO	SER	ASP	PRO	ASN	GLY	GLU	ALA	SER	MET
GLY	MET	PHE	GLN	LEU	SER	GLY	PRO	ARG	ILE	ALA	HIS	THR
VAL	SER	CYS	LEU	GLU	ASP	THR	PHE	LEU	GLN	PHE	PRO	SER
LEU	LEU	LYS	ILE	SER	ILE	ALA	PHE	GLY	ASN	LYS	PRO	ILE
VAL	PHE	ALA	ILE	GLY	GLU	GLU	ARG	ARG	ALA	ILE	LEU	LYS
CYS	GLY	LYS	VAL	LEU	GLU	ASP	PHE	LEU	GLN	GLN	HIS	THR
ASN	ASP	ALA	HIS	THR	ASP	ILE	SER	LEU	SER	GLN	LEU	THR
ASN	ASP	GLU	GLY	GLY	ILE	ASP	SER	LEU	LEU	LYS	ALA	LEU
VAL	LYS	LEU	PRO	ASP	GLN	GLN	CYS	ASP	MET	PHE	SER	SER
ALA	GLY	ALA	GLU	GLU	PRO	PRO	HIS	GLN	GLN	SER	PRO	GLY
VAL	THR	TRP	ALA	PRO	ASP	SER	GLY	ILE	GLN	THR	TYR	VAL
ARG	GLY	ILE	SER	MET	ALA	GLU	LEU	TRP	ARG	ILE	ALA	GLU
THR	GLU	GLY	GLN	GLN	HIS	LYS	SER	ARG	PRO	VAL	VAL	SER
GLU	GLU	GLY	ASP	LEU	THR	THR	LEU	LYS	SER	LEU	LYS	SER
THR	GLY	LEU	ALA	LEU	THR	GLY	ALA	ASP	LEU	LYS	LEU	ALA
GLY	ILE	GLY	GLY	SER	K498	ILE	ARG	ALA	ASP	LYS	LEU	ALA
ARG	ILE	MET	CYS	ASP	M442	ILE	VAL	ARG	ALA	GLY	GLY	LEU
ILE	PRO	ARG	CYS	VAL	MET	GLY	PRO	LEU	PRO	GLY	ASN	TYR
GLY	THR	VAL	ARG	PRO	GLY	GLY	LYS	ARG	LEU	PHE	HIS	LEU
LEU	LEU	SER	ALA	THR	GLY	GLY	PRO	SER	GLY	GLY	CYS	LEU
GLY	GLY	LYS	PHE	LYS	GLU	GLY	VAL	VAL	VAL	ASN	ILE	GLN
PRO	PRO	VAL	GLY	CYS	GLY	VAL	LEU	LEU	ALA	ASP	THR	VAL
CYS	LEU	ASP	GLY	ILE	SER	LYS	LEU	ALA	VAL	THR	ILE	GLU
GLN	PRO	GLY	LYS	THR	ARG	GLY	GLY	GLY	GLY	TYR	THR	GLU
GLN	HIS	VAL	ILE	THR	GLY	GLY	SER	LEU	GLN	PRO	PRO	ARG
ASP	GLY	ILE	LYS	GLU	SER	LYS	GLN	ASN	PRO	VAL	VAL	ASP
LEU	VAL	LYS	VAL	SER	PHE	LEU	PRO	ASN	ARG	ALA	TYR	LEU
THR	PHE	LEU	TYR	ILE	THR	THR	GLU	GLY	VAL	GLY	PHE	ASP
TYR	GLY	GLY	GLY	ILE	GLY	GLY	LEU	VAL	GLN	THR	GLU	GLY
ILE	HIS	GLY	PRO	ILE	GLY	GLY	GLY	PHE	GLN	ILE	TYR	GLY
ARG	GLN	GLY	LYS	LYS	ALA	LYS	CYS	ASN	ARG	ILE	GLN	GLY
ASP	SER	LEU	LEU	ALA	LYS	LYS	GLY	VAL	VAL	ASP	MET	TRP
LEU	VAL	LYS	HIS	ARG	LYS	PHE	PHE	GLY	GLY	GLY	PHE	ASP
LEU	PHE	ASP	GLU	THR	THR	THR	ASN	GLN	GLN	THR	GLU	GLU
TYR	ASN	GLY	VAL	TYR	THR	THR	GLY	PHE	GLN	VAL	GLN	ASP
GLN	GLY	GLY	ASP	ILE	ILE	ILE	LEU	ASP	LEU	GLY	ASN	SER
TYR	PRO	ASP	ALA	ASP	ILE	ASP	PHE	LYS	THR	LYS	ASN	SER
ALA	ARG	SER	THR	TYR	TYR	THR	ILE	GLN	VAL	VAL	GLN	ASP
ILE	ILE	GLY	GLU	GLY	E478	GLY	ILE	VAL	GLY	LYS	SER	ILE
VAL	SER	MET	GLU	GLY	I479	GLY	ALA	TRP	GLU	ASP	ARG	ILE
	ASP	GLN	THR	ARG	I480	ARG	CYS	TRP	THR	GLY	HIS	ASP
	PHE	VAL	HIS	SER		SER	GLN	MET	LEU	GLY	ASN	SER
	LYS	GLY	ILE	ASP	F485	ASP	ASP	SER	ARG	GLY	THR	LEU
	GLN	ALA	TYR	GLY	L486	GLY	PRO	ASP	ASP	GLY	GLU	ARG
	VAL	PRO	GLN	ASP	VAL	ASP	LYS	LYS	GLY	ILE	ASP	LEU
	LEU	SER	VAL	SER	PRO	SER	ASN	LEU	ASP	VAL	PHE	HIS
	LEU	ASP	ARG	ILE	GLU	ILE	SER	ARG	GLY	TYR	THR	GLN
	GLY	SER	LYS	LYS	GLU	GLN	ILE	ARG	CYS	VAL	PHE	HIS
	GLY	VAL	ASP	ILE	ALA	THR	LEU	PHE	GLU	ASP	THR	ILE
	ILE	ILE	SER	ILE	THR	THR	LEU	GLU	ALA	ASP	LEU	GLN
	GLN	ALA	VAL	GLN	GLU	GLN	ARG	LYS	ASP	HIS	ASP	VAL
	PHE	GLN	SER	LYS	GLU	THR	THR	ASN	GLY	LYS	VAL	LEU
	THR	LYS	SER	LYS	GLY	ASN	THR	ASN	THR	ASN	ASP	THR
	THR	VAL	THR	THR	GLU	GLY	THR	ASN	GLY	THR	VAL	ASP
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
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	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
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	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
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	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
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	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
	THR	GLY	GLY	GLY	GL							

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	859796	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	71	Depositor
Minimum defocus (nm)	900	Depositor
Maximum defocus (nm)	2800	Depositor
Magnification	46729	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.214	Depositor
Minimum map value	-0.143	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.0315	Depositor
Map size (Å)	381.59998, 381.59998, 381.59998	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN

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	0/9752	0.53	4/13242 (0.0%)
2	B	0.23	0/3037	0.55	1/4116 (0.0%)
3	C	0.20	0/462	0.61	2/620 (0.3%)
4	F	0.25	0/285	0.61	0/383
All	All	0.23	0/13536	0.54	7/18361 (0.0%)

There are no bond length outliers.

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	386	LEU	N-CA-C	-6.59	98.52	109.46
1	A	213	TYR	N-CA-C	5.76	123.06	110.80
1	A	272	PRO	CA-C-N	5.71	127.23	120.09
1	A	272	PRO	C-N-CA	5.71	127.23	120.09
1	A	330	ILE	N-CA-C	-5.29	100.27	107.99

There are no chirality outliers.

There are no planarity outliers.

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	A	9532	0	9577	159	0
2	B	2953	0	2862	60	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	C	452	0	452	3	0
4	F	276	0	259	17	0
5	C	1	0	0	0	0
All	All	13214	0	13150	211	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 8.

The worst 5 of 211 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)
1:A:642:LEU:CD2	1:A:660:SER:HB3	1.44	1.46
1:A:330:ILE:HD11	1:A:336:VAL:CG2	1.78	1.14
1:A:642:LEU:HD23	1:A:660:SER:CB	1.85	1.05
1:A:642:LEU:HD21	1:A:660:SER:HB3	1.40	1.03
1:A:330:ILE:HD11	1:A:336:VAL:HG23	1.32	1.02

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	A	1182/1443 (82%)	1086 (92%)	93 (8%)	3 (0%)	37	70
2	B	364/587 (62%)	340 (93%)	24 (7%)	0	100	100
3	C	58/250 (23%)	49 (84%)	9 (16%)	0	100	100
4	F	28/782 (4%)	25 (89%)	3 (11%)	0	100	100
All	All	1632/3062 (53%)	1500 (92%)	129 (8%)	3 (0%)	45	77

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	213	TYR
1	A	1393	ASN
1	A	845	LEU

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	A	1051/1235 (85%)	1044 (99%)	7 (1%)	81	91
2	B	318/514 (62%)	316 (99%)	2 (1%)	84	93
3	C	47/217 (22%)	47 (100%)	0	100	100
4	F	30/695 (4%)	29 (97%)	1 (3%)	33	67
All	All	1446/2661 (54%)	1436 (99%)	10 (1%)	80	91

5 of 10 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	134	LEU
2	B	346	LEU
4	F	486	LEU
1	A	679	HIS
1	A	1206	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 16 such sidechains are listed below:

Mol	Chain	Res	Type
2	B	343	HIS
2	B	181	HIS
1	A	885	GLN
1	A	1385	HIS
1	A	691	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](#)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.

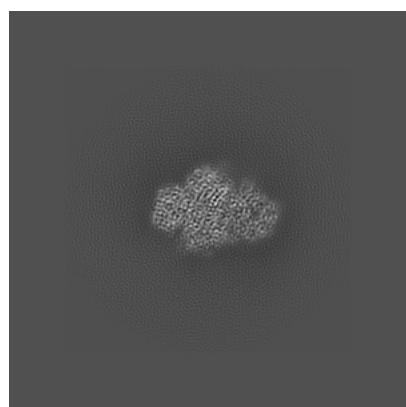
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-20860. These allow visual inspection of the internal detail of the map and identification of artifacts.

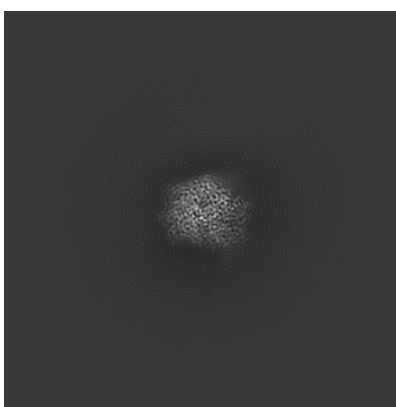
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

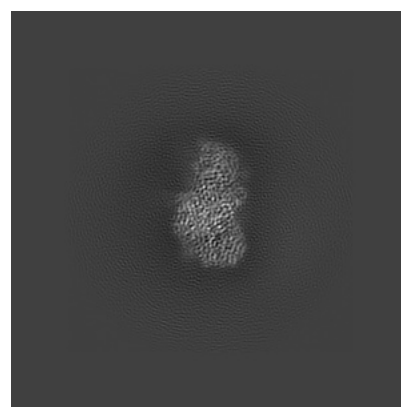
6.1.1 Primary map



X



Y

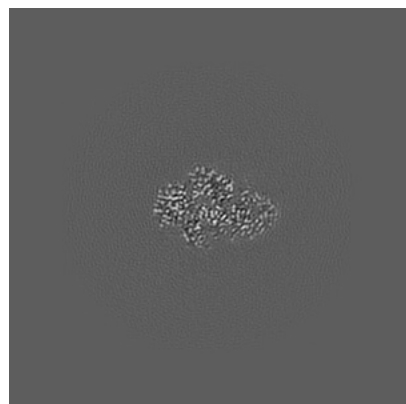


Z

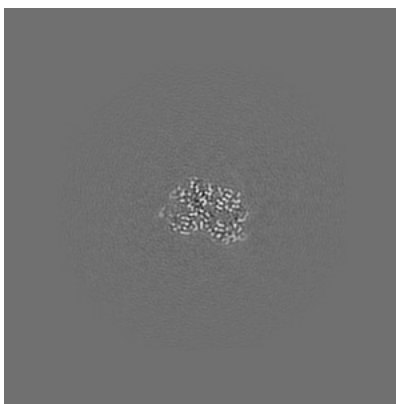
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

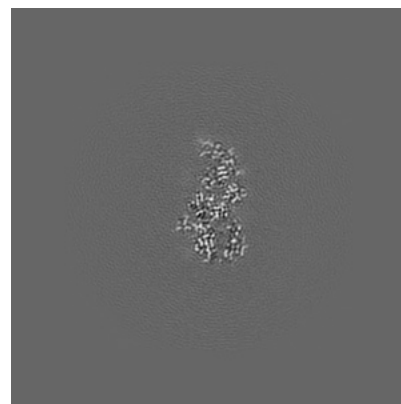
6.2.1 Primary map



X Index: 180



Y Index: 180

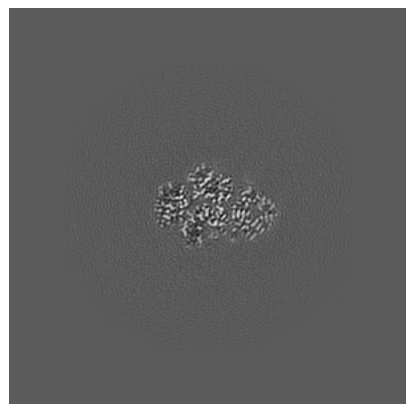


Z Index: 180

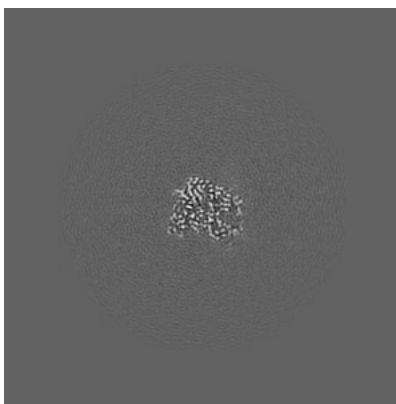
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

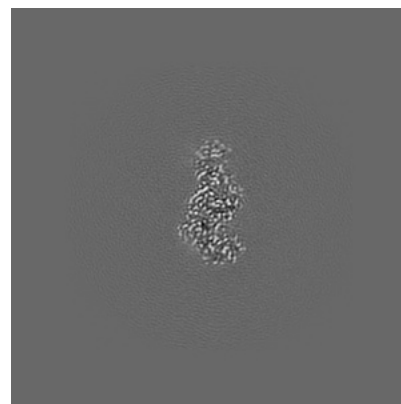
6.3.1 Primary map



X Index: 181



Y Index: 185

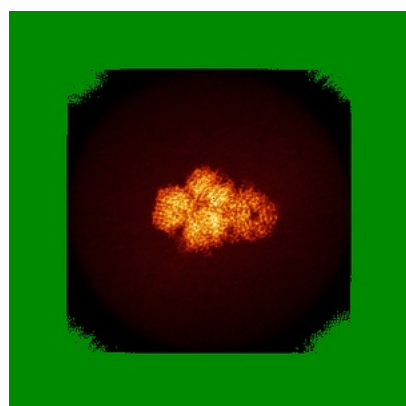


Z Index: 171

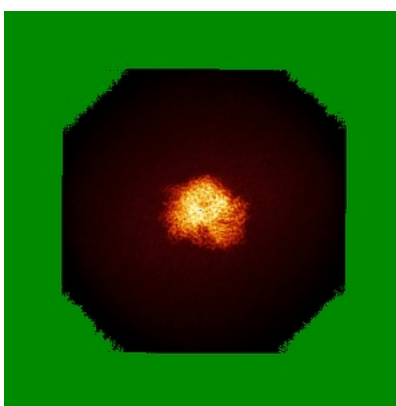
The images above show the largest variance slices of the map in three orthogonal directions.

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

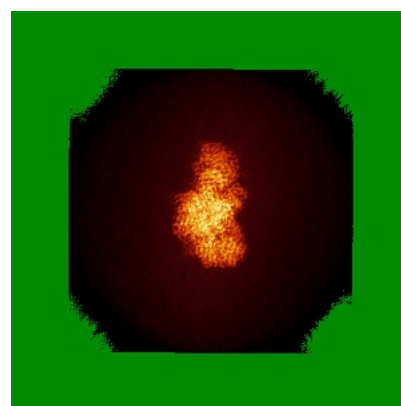
6.4.1 Primary map



X



Y

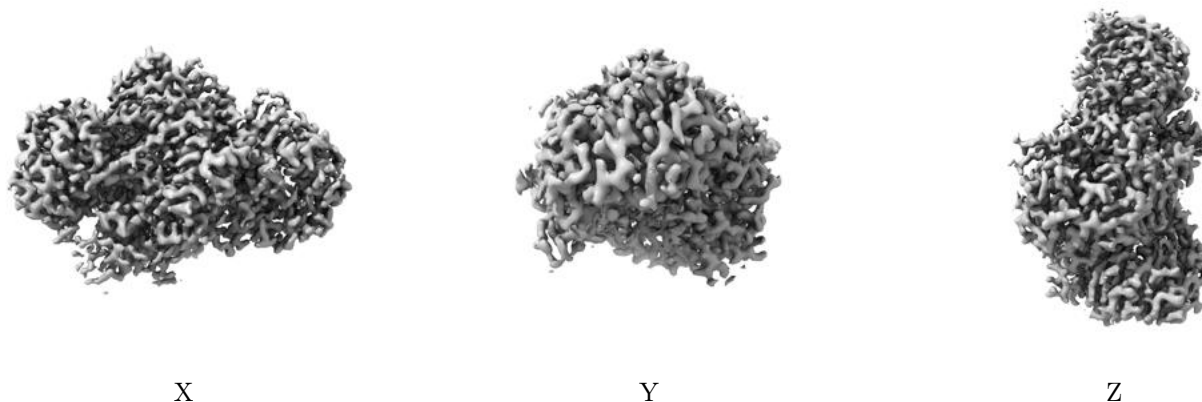


Z

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 0.0315. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

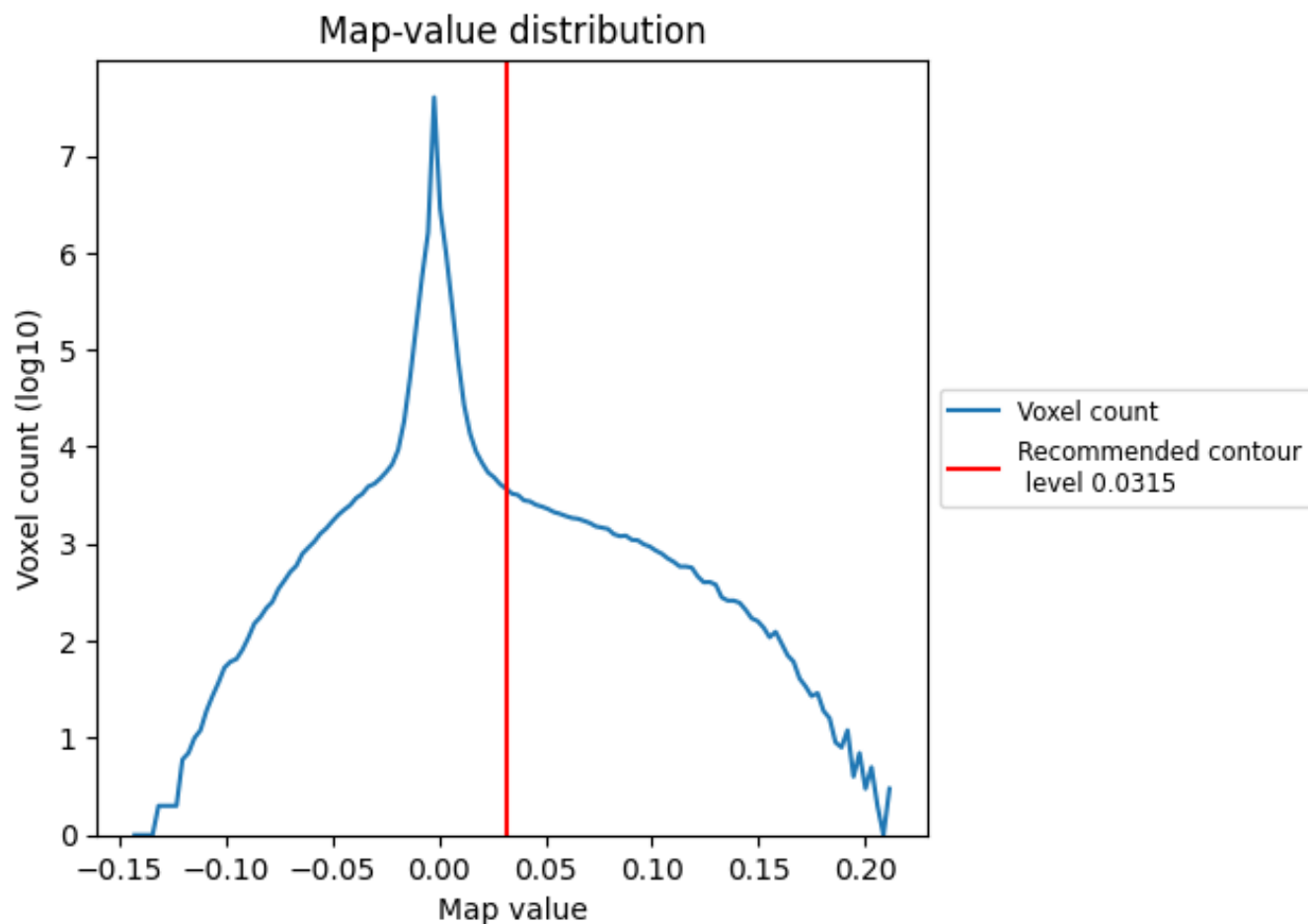
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

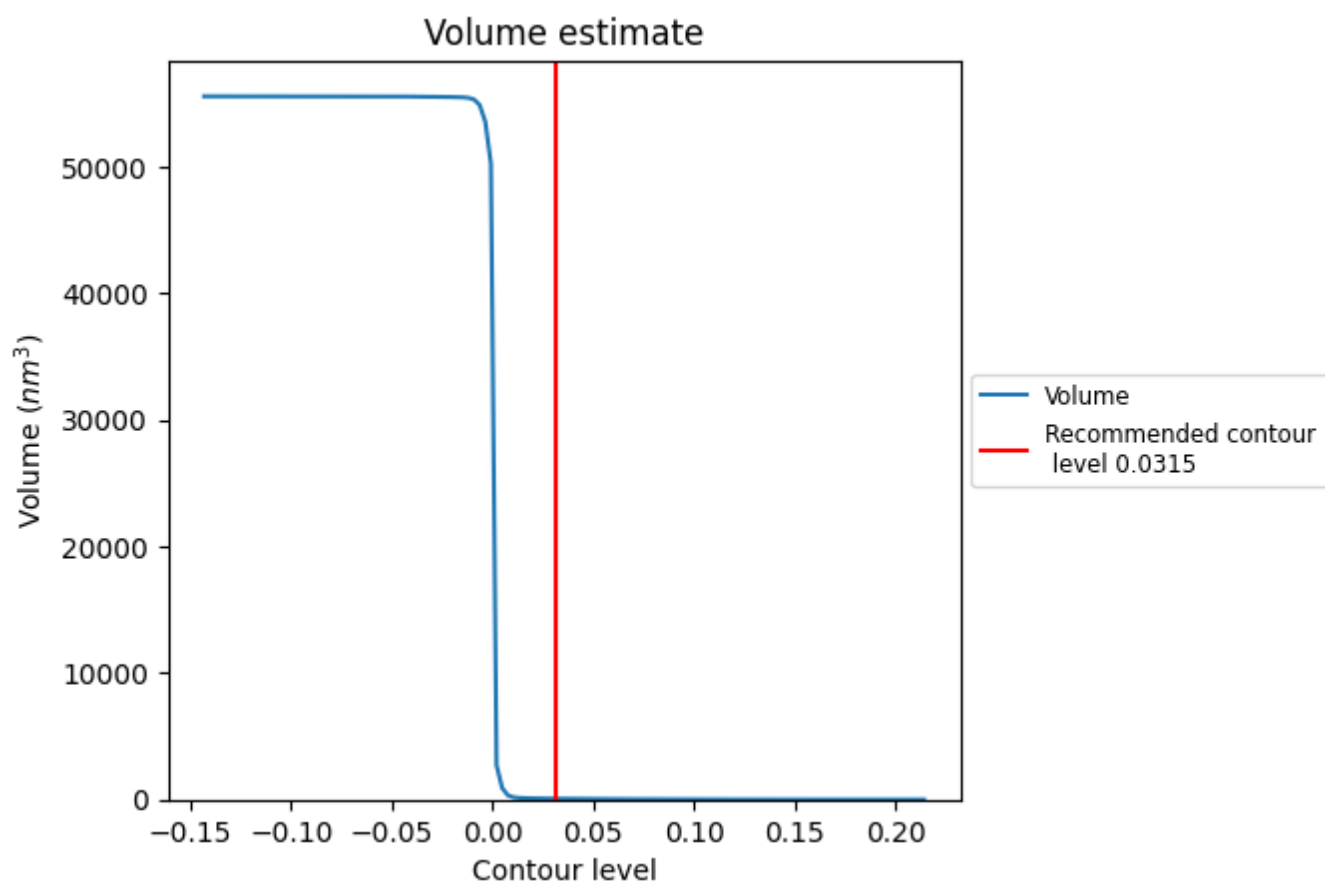
This section contains the results of statistical analysis of the map.

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.

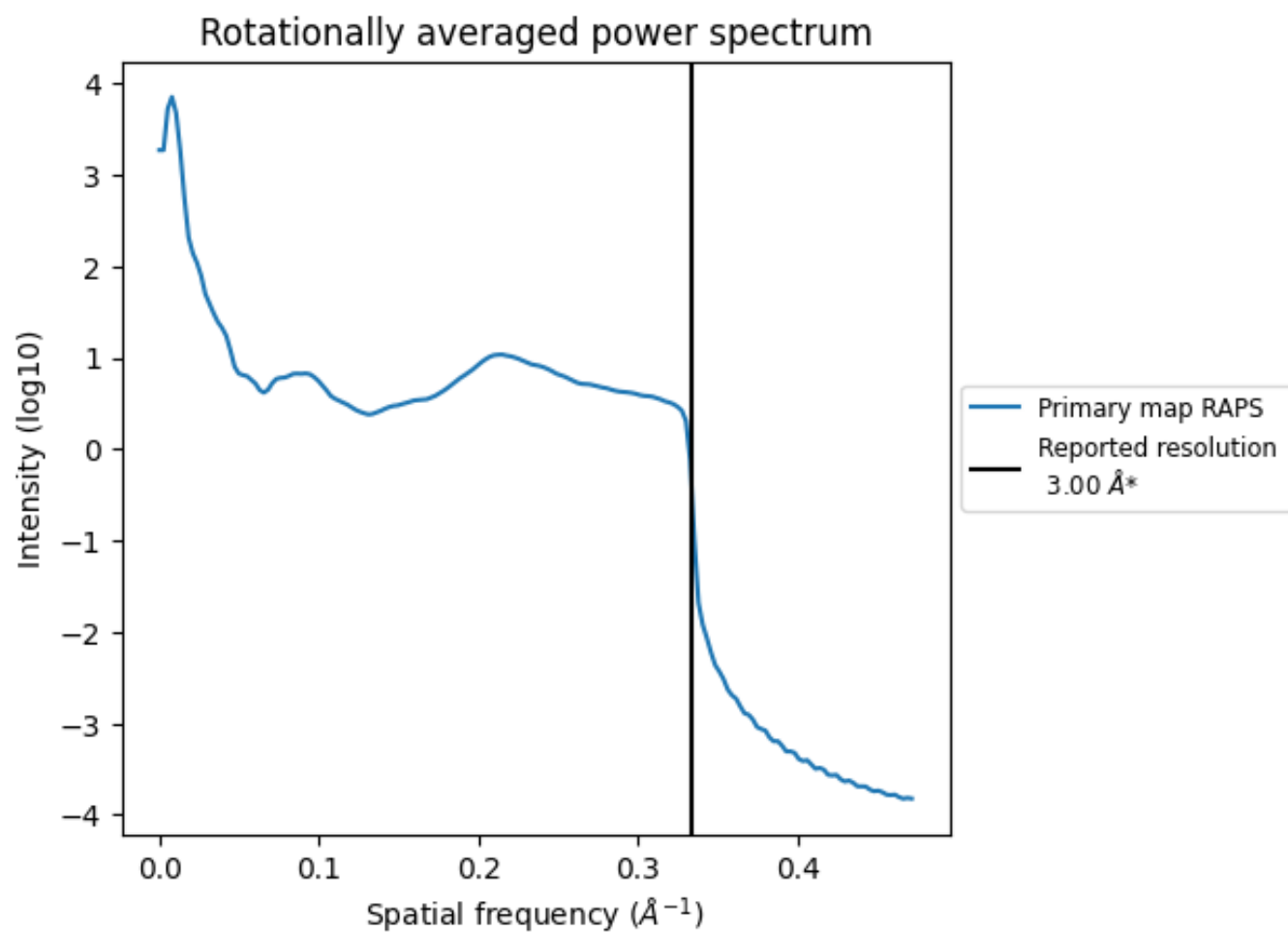
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 68 nm³; this corresponds to an approximate mass of 61 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 0.333 Å⁻¹

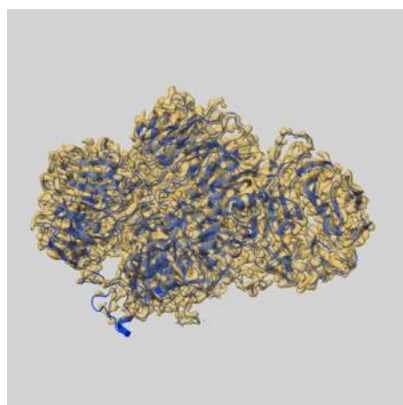
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

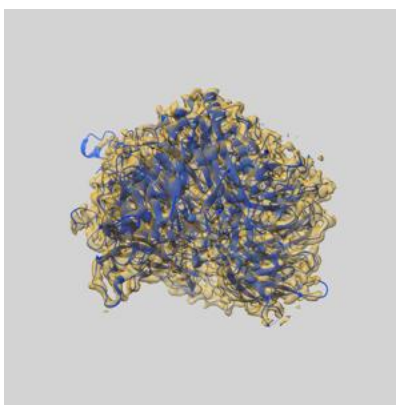
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-20860 and PDB model 6URG. Per-residue inclusion information can be found in [section 3](#) on [page 5](#).

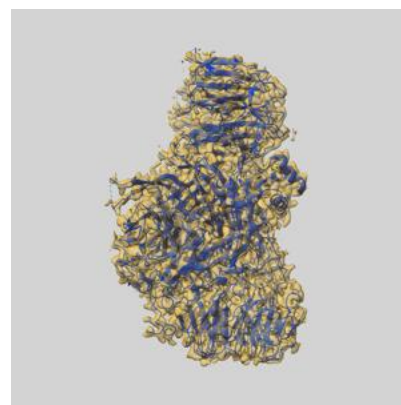
9.1 Map-model overlay [i](#)



X



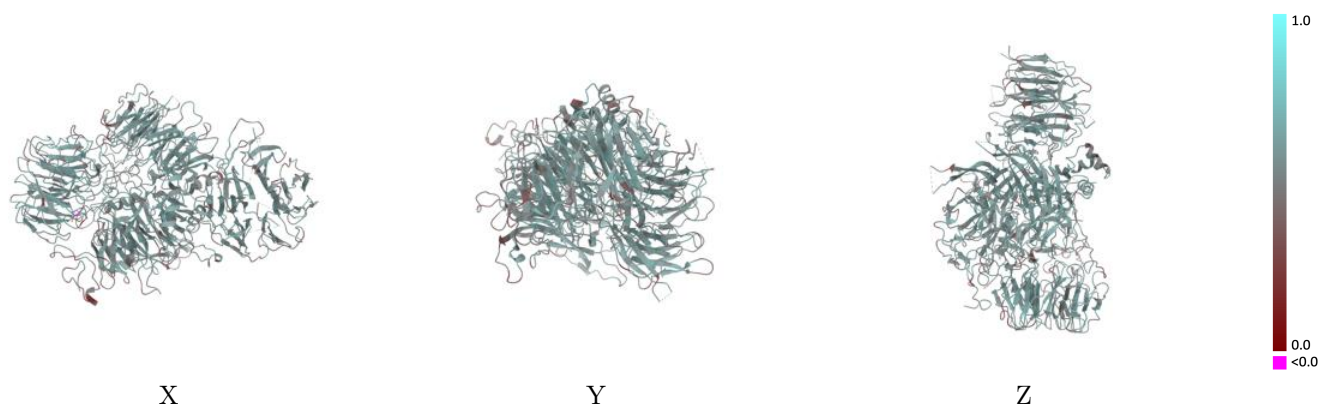
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0315 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](#)



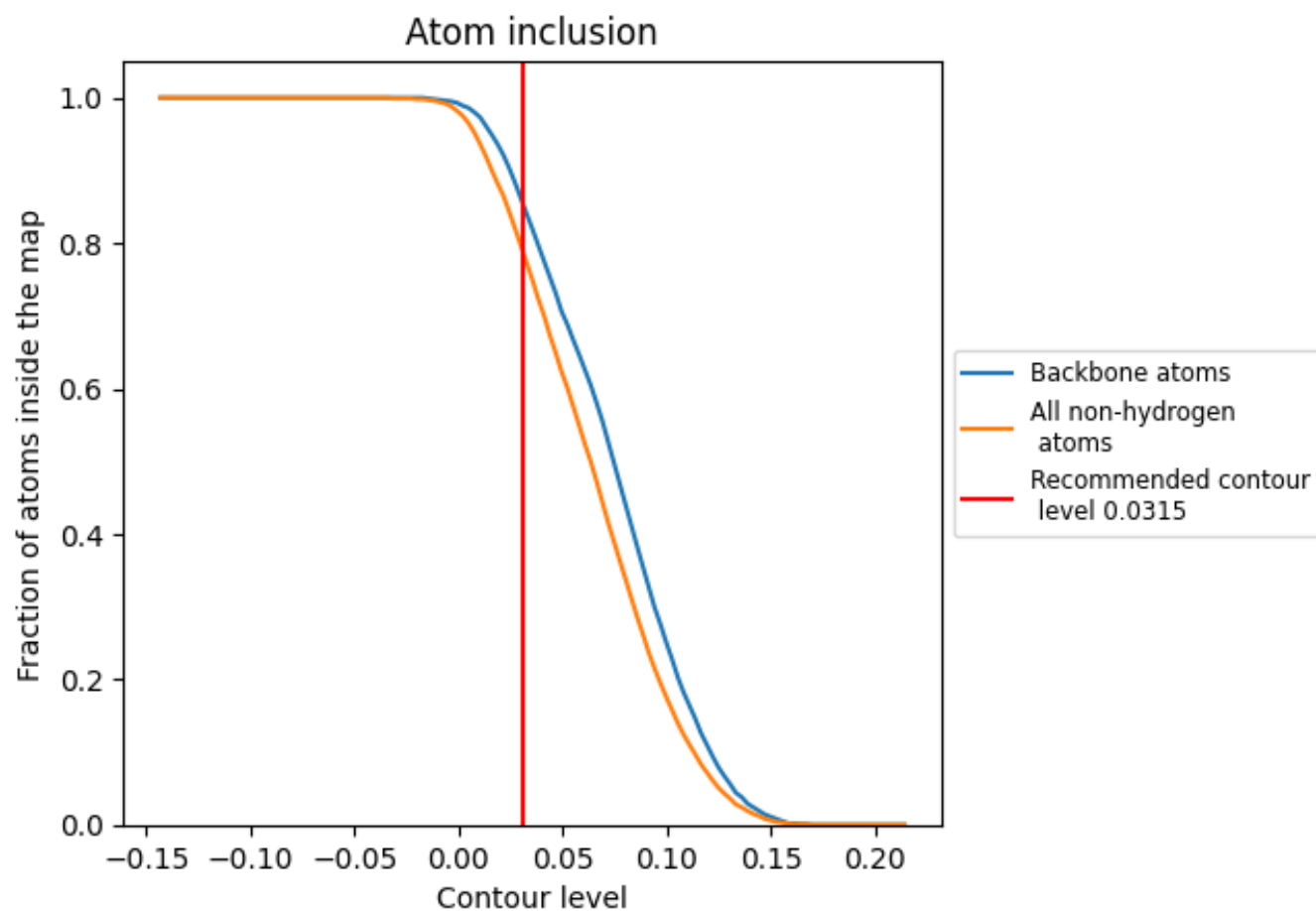
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0315).

9.4 Atom inclusion [i](#)



At the recommended contour level, 85% of all backbone atoms, 78% 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 (0.0315) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.7840	<div></div> 0.5430
A	<div></div> 0.7990	<div></div> 0.5460
B	<div></div> 0.8020	<div></div> 0.5480
C	<div></div> 0.3970	<div></div> 0.4570
F	<div></div> 0.7160	<div></div> 0.5190

