



wwPDB EM Validation Summary Report ⓘ

Apr 29, 2024 – 10:50 PM JST

PDB ID : 8JU5
EMDB ID : EMD-36659
Title : Structure of human TRPV4 with antagonist A1
Authors : Fan, J.; Lei, X.
Deposited on : 2023-06-24
Resolution : 3.74 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.dev92
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

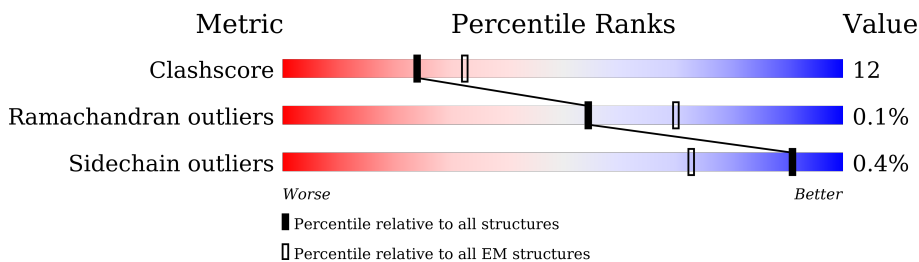
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.74 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	1144	 10% 39% 12% 48%
1	B	1144	 10% 40% 14% 46%
1	C	1144	 11% 37% 14% 48%
1	D	1144	 10% 37% 17% 46%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	F3L	B	1201	-	-	X	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	F3L	D	1201	-	-	X	-

2 Entry composition [i](#)

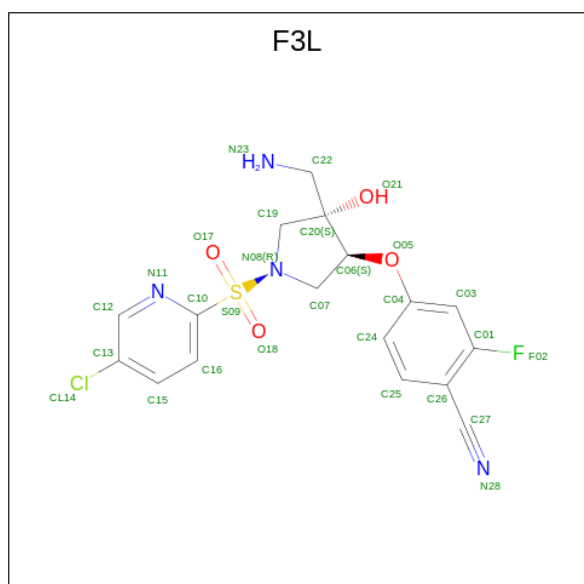
There are 2 unique types of molecules in this entry. The entry contains 19567 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Transient receptor potential cation channel subfamily V member 4,3C-GFP.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	595	Total	C	N	O	S	0	0
			4762	3099	791	848	24		
1	D	622	Total	C	N	O	S	0	0
			4986	3248	825	887	26		
1	C	595	Total	C	N	O	S	0	0
			4765	3105	790	847	23		
1	B	623	Total	C	N	O	S	0	0
			4998	3254	829	888	27		

- Molecule 2 is 4-[(3 {S},4 {S})-4-(aminomethyl)-1-(5-chloranylpyridin-2-yl)sulfonyl-4-oxidanyl-pyrrolidin-3-yl]oxy-2-fluoranyl-benzenecarbonitrile (three-letter code: F3L) (formula: C₁₇H₁₆ClFN₄O₄S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms							AltConf
2	D	1	Total	C	Cl	F	N	O	S	0
			28	17	1	1	4	4	1	

Continued on next page...

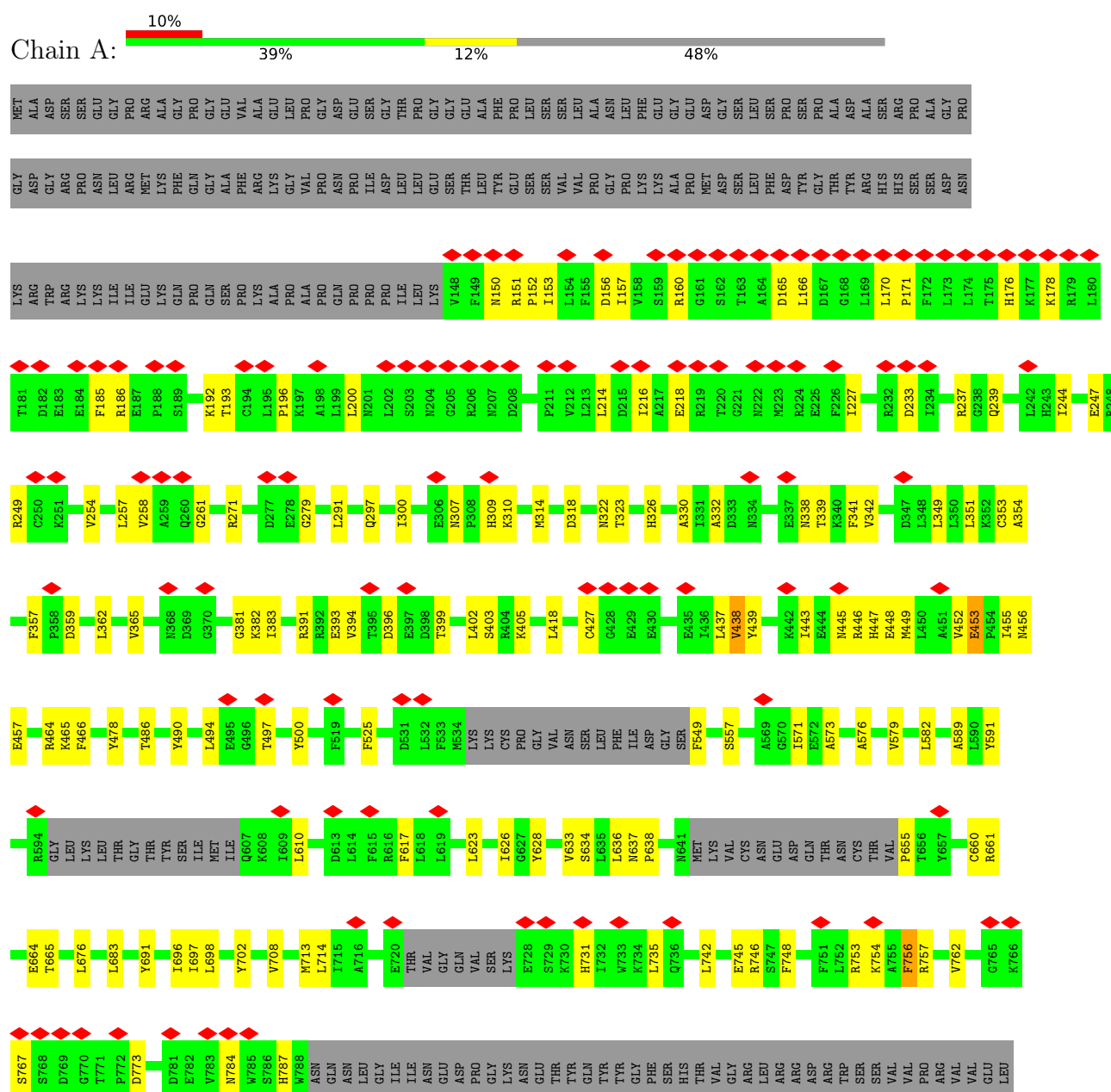
Continued from previous page...

Mol	Chain	Residues	Atoms							AltConf
			Total	C	Cl	F	N	O	S	
2	B	1	28	17	1	1	4	4	1	0

3 Residue-property plots

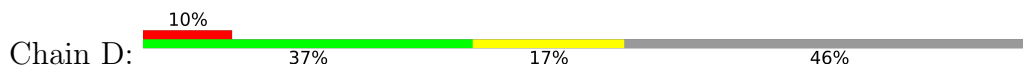
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Transient receptor potential cation channel subfamily V member 4,3C-GFP

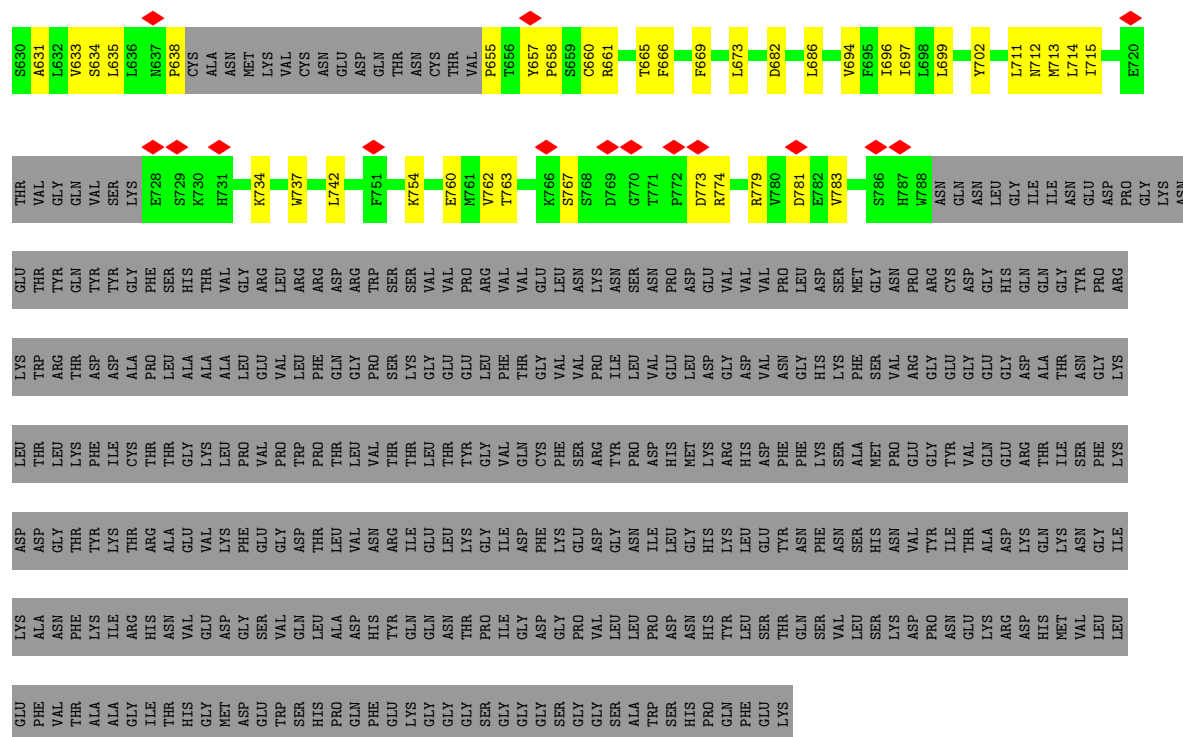


GLY	PRO	GLU	SER	VAL	ASN
GLY	VAL	ASP	ARG	PRO	ASN
GLY	VAL	GLY	TYR	ILE	ASN
SER	ASN	ASN	PRO	LEU	SER
ALA	LEU	ASN	ASP	VAL	ASN
TRP	PRO	ILE	ASP	GLU	PRO
SER	ASN	LEU	HIS	MET	ASP
HIS	ASN	GLY	MET	LEU	ASP
PRO	HIS	HIS	LYS	ASP	GLU
HIS	TYR	LYS	ARG	GLY	VAL
GLN	LEU	LEU	HIS	ASP	VAL
GLU	SER	GLU	ASP	VAL	VAL
LYS	THR	THR	PHE	ASN	VAL
	GLN	ASN	PHE	GLY	LEU
	SER	PHE	LYS	HIS	ASP
	VAL	ASN	SER	LYS	ASN
	VAL	SER	ALA	PHE	MET
	LEU	SER	MET	SER	GLY
	SER	HIS	PRO	VAL	ASN
	LYS	ASN	GLU	ARG	PRO
	ASP	VAL	GLY	GLY	ARG
	PRO	TYR	TYR	GLU	CYS
	ALA	ILE	VAL	GLY	ASP
	GLU	THR	VAL	GLY	GLY
	LYS	ALA	GLN	GLY	GLY
	ARG	ASP	GLU	ASP	HIS
	ASP	LYS	ARG	ASP	GLN
	HIS	GLN	THR	ALA	GLN
	MET	LYS	ILE	THR	GLY
	VAL	ASN	SER	ASN	TYR
	VAL	GLY	PHE	GLY	PRO
	LEU	GLY	PHE	GLY	ARG
	LEU	ILE	LYS	LYS	LYS
	GLU	LYS	ASP	LEU	ARG
	PHE	ALA	ASP	THR	TRP
	VAL	ASN	GLY	LEU	ARG
	THR	PHE	THR	LEU	THR
	ALA	LYS	TYR	PHE	ASP
	ALA	ILE	LYS	ILE	ASP
	GLY	ARG	THR	CYS	ALA
	ILE	HIS	ARG	THR	PRO
	THR	ASN	ALA	THR	LEU
	HIS	VAL	GLU	GLY	ALA
	GLY	GLU	VAL	LYS	ALA
	MET	ASP	LYS	LEU	ALA
	ASP	GLY	PHE	PRO	LEU
	GLU	SER	GLU	VAL	LEU
	TRP	VAL	GLY	THR	VAL
	SER	GLN	ASP	PRO	LEU
	HIS	LEU	THR	PRO	PHE
	PRO	ALA	LEU	THR	GLN
	GLN	ASP	VAL	LEU	GLY
	PHE	HIS	ASN	VAL	GLY
	THR	TYR	ARG	THR	PRO
	GLU	LYS	ILE	THR	GLY
	GLY	GLN	GLU	LEU	GLY
	GLY	ASN	LEU	THR	GLU
	SER	THR	LYS	TYR	GLU
	GLY	PRO	GLY	GLY	LEU
	GLY	ILE	ILE	VAL	GLY
	GLY	GLY	ASP	GLN	THR
	GLY	ASP	PHE	CYS	GLY
	SER	GLY	LYS	PHE	VAL

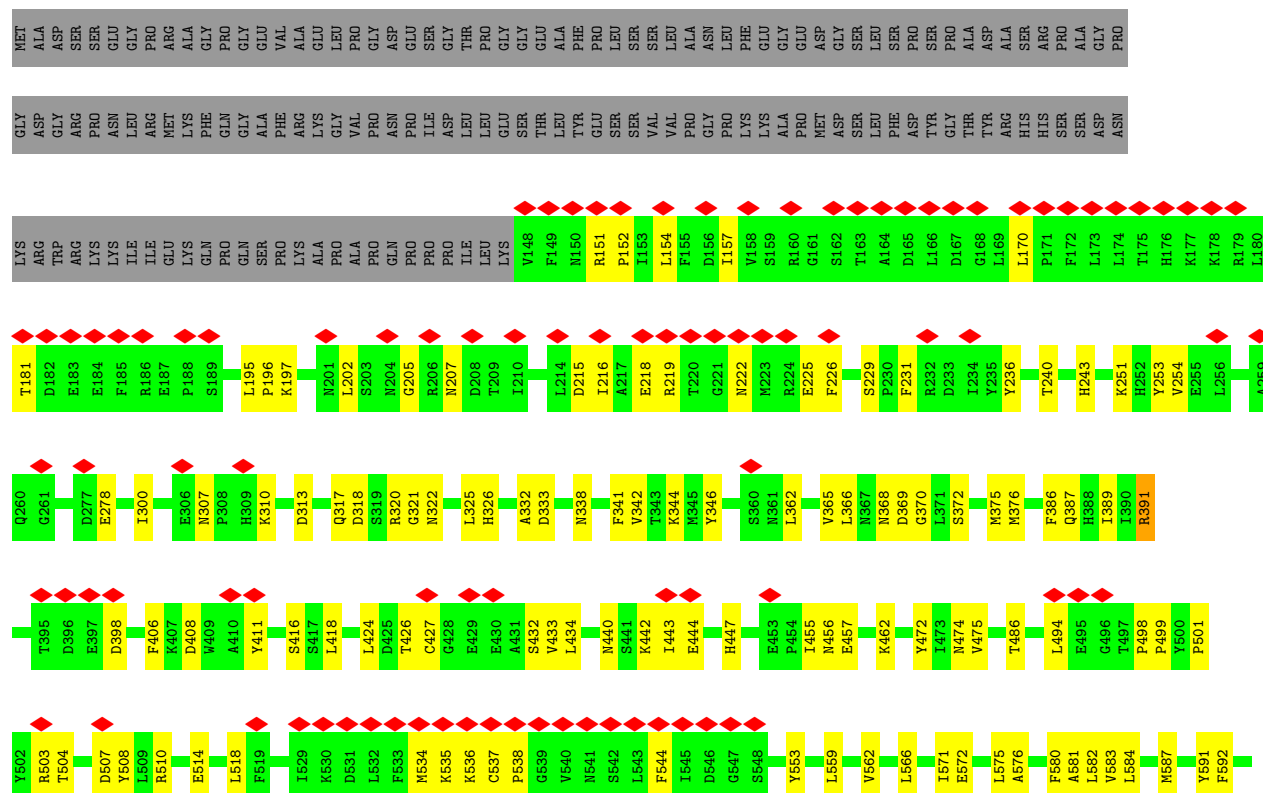
- Molecule 1: Transient receptor potential cation channel subfamily V member 4,3C-GFP



Y628	L543	L437	C250	T181	LYS	GLY	MET
L635	F544	V438	R251	D182	ARG	ASP	ALA
P638	F545	Y439	Y253	E183	TRP	GLY	ASP
CYS	D546	N440	S360	E184	ARG	ARG	SER
ALA	G547	S441	E363	F185	LYS	ASN	GLY
ASN	F548	K442	E255	L256	ILE	LEU	GLY
MET	F549	I443	L257	F186	ILE	ARG	PRO
VAL	Q550	N445	V258	E187	GLU	MET	ARG
L551	Q551	R446		P188	LYS	ALA	ARG
L552	Y553		G261	S189	GLN	GLY	LYS
CYS	S557	E453	A268	L195	PRO	GLN	PRO
GLU		P454	R269	P196	GLN	GLY	PRO
ASP	S563	I455	F273	K197	SER	ALA	GLU
GLN	A565	R456	D277	L198	PRO	VAL	VAL
THR	A566	E457		L200	LYS	ARG	ALA
ASN	L566	Y472		L201	ALA	GLY	ALA
CYS	I571	I473	F284	N204	PRO	VAL	PRO
THR	L575	M474	G285	E205	GLN	GLY	GLY
C660	A576	V475	E286	R206	ASN	ASP	ASP
R661	V577	V476	L289	N207	PRO	PRO	GLU
D662	M578	T486	S290	D208	ILE	LEU	THR
S663	V579	T488	L291	T209	LEU	THR	PRO
L670	L582	A489			GLY	GLY	GLY
L671	V683	Y490	P298	I210	SER	SER	GLY
F674	M587	Y491	V301	L213	VAL	VAL	SER
T677	N588	Q492	X302	L214	LEU	VAL	SER
M680	Y591	P493	Y303	D215	ALA	PRO	LEU
S683	F592	A494	R307	E216	GLY	ALA	LEU
V694	T593	P498	D313	E218	ASN	GLY	ASN
L698	R594	P499		R219	LEU	PRO	LEU
L700	L596		D318	T220	LYS	LYS	PHE
L699	K597	D507	S319	G221	V158	LYS	GLU
L701	THR	R510	N322	N222	S159	ALA	GLY
L702	GLY	L518	T323	Y223	R160	GLY	GLY
L703	THR	F519	V324	R224	G161	MET	ASP
L704	Y602	S417	A332	E225	S162	ASP	GLY
L705	S603	F525	R333	F226	T163	SER	SER
L706	I604	K530	R336		A164	LEU	LEU
L707	M605	D531	E337	S229	D165	PHE	SER
L708	R608	L532	N338	F231	D166	ASP	PRO
L709	I609	F533	T339	R232	L167	GLY	PRO
L710		M534	K340	D233	T167	THR	ALA
L711	D613	K535	F341	T234	T168	TYR	ASP
M712	F617	K536	V342	Y235	L169	ARG	ALA
L713		C537	T343		L170	HIS	ARG
L714	L622	P538	K344	T240	P171	SER	ARG
L715	M625	G539	K345	L242	F172	PRO	GLY
A716		V540	L434	L243	L173	ASP	ALA
		N541	E435	H243	T175	SER	GLY
		S542	I436	I244	K177	ASN	PRO
				T246	K178		
				E247	K179		
				R248	L190		



● Molecule 1: Transient receptor potential cation channel subfamily V member 4,3C-GFP



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	102087	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 ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.409	Depositor
Minimum map value	-1.682	Depositor
Average map value	0.012	Depositor
Map value standard deviation	0.091	Depositor
Recommended contour level	0.45	Depositor
Map size (Å)	266.24, 266.24, 266.24	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: F3L

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	0.26	0/4871	0.51	1/6608 (0.0%)
1	B	0.25	0/5115	0.49	0/6936
1	C	0.25	0/4874	0.51	1/6610 (0.0%)
1	D	0.25	0/5103	0.50	0/6921
All	All	0.25	0/19963	0.50	2/27075 (0.0%)

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
1	A	0	1

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	C	655	PRO	N-CA-CB	5.92	110.40	103.30
1	A	655	PRO	N-CA-CB	5.92	110.40	103.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	453	GLU	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	A	4762	0	4780	102	0
1	B	4998	0	5052	116	0
1	C	4765	0	4781	141	0
1	D	4986	0	5036	144	0
2	B	28	0	0	11	0
2	D	28	0	0	12	0
All	All	19567	0	19649	472	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 12.

The worst 5 of 472 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:C:502:TYR:CE1	1:C:511:LEU:HD22	1.64	1.32
1:C:502:TYR:CE2	1:C:511:LEU:HD21	1.75	1.19
1:C:502:TYR:CZ	1:C:511:LEU:HD22	1.86	1.10
1:D:550:GLN:HG2	2:D:1201:F3L:O18	1.51	1.10
1:C:502:TYR:CZ	1:C:511:LEU:CD2	2.37	1.08

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	A	585/1144 (51%)	545 (93%)	39 (7%)	1 (0%)	47 78

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	617/1144 (54%)	571 (92%)	45 (7%)	1 (0%)	47	78
1	C	583/1144 (51%)	543 (93%)	40 (7%)	0	100	100
1	D	616/1144 (54%)	568 (92%)	48 (8%)	0	100	100
All	All	2401/4576 (52%)	2227 (93%)	172 (7%)	2 (0%)	54	83

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	438	VAL
1	B	730	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	A	515/991 (52%)	513 (100%)	2 (0%)	91	95
1	B	546/991 (55%)	545 (100%)	1 (0%)	93	97
1	C	514/991 (52%)	510 (99%)	4 (1%)	81	89
1	D	544/991 (55%)	543 (100%)	1 (0%)	93	97
All	All	2119/3964 (54%)	2111 (100%)	8 (0%)	91	95

5 of 8 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	391	ARG
1	C	754	LYS
1	C	510	ARG
1	C	509	LEU
1	C	511	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	239	GLN
1	D	474	ASN
1	B	474	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

2 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	F3L	B	1201	-	29,30,30	7.19	24 (82%)	33,45,45	3.13	14 (42%)
2	F3L	D	1201	-	29,30,30	7.18	24 (82%)	33,45,45	2.97	14 (42%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	F3L	B	1201	-	-	3/18/36/36	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	F3L	D	1201	-	-	3/18/36/36	0/3/3/3

The worst 5 of 48 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1201	F3L	C07-N08	-14.07	1.33	1.48
2	D	1201	F3L	C07-N08	-14.05	1.33	1.48
2	B	1201	F3L	C19-N08	13.55	1.64	1.48
2	D	1201	F3L	C19-N08	13.32	1.64	1.48
2	B	1201	F3L	C10-N11	10.37	1.49	1.33

The worst 5 of 28 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1201	F3L	O18-S09-O17	-11.30	101.20	119.52
2	D	1201	F3L	O18-S09-O17	-10.84	101.95	119.52
2	D	1201	F3L	O17-S09-N08	5.44	111.64	106.69
2	B	1201	F3L	O17-S09-N08	5.40	111.61	106.69
2	D	1201	F3L	O18-S09-N08	5.28	111.50	106.69

There are no chirality outliers.

5 of 6 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	1201	F3L	C07-N08-S09-O18
2	D	1201	F3L	C19-N08-S09-O18
2	D	1201	F3L	C07-N08-S09-C10
2	B	1201	F3L	C01-C26-C27-N28
2	B	1201	F3L	C24-C04-O05-C06

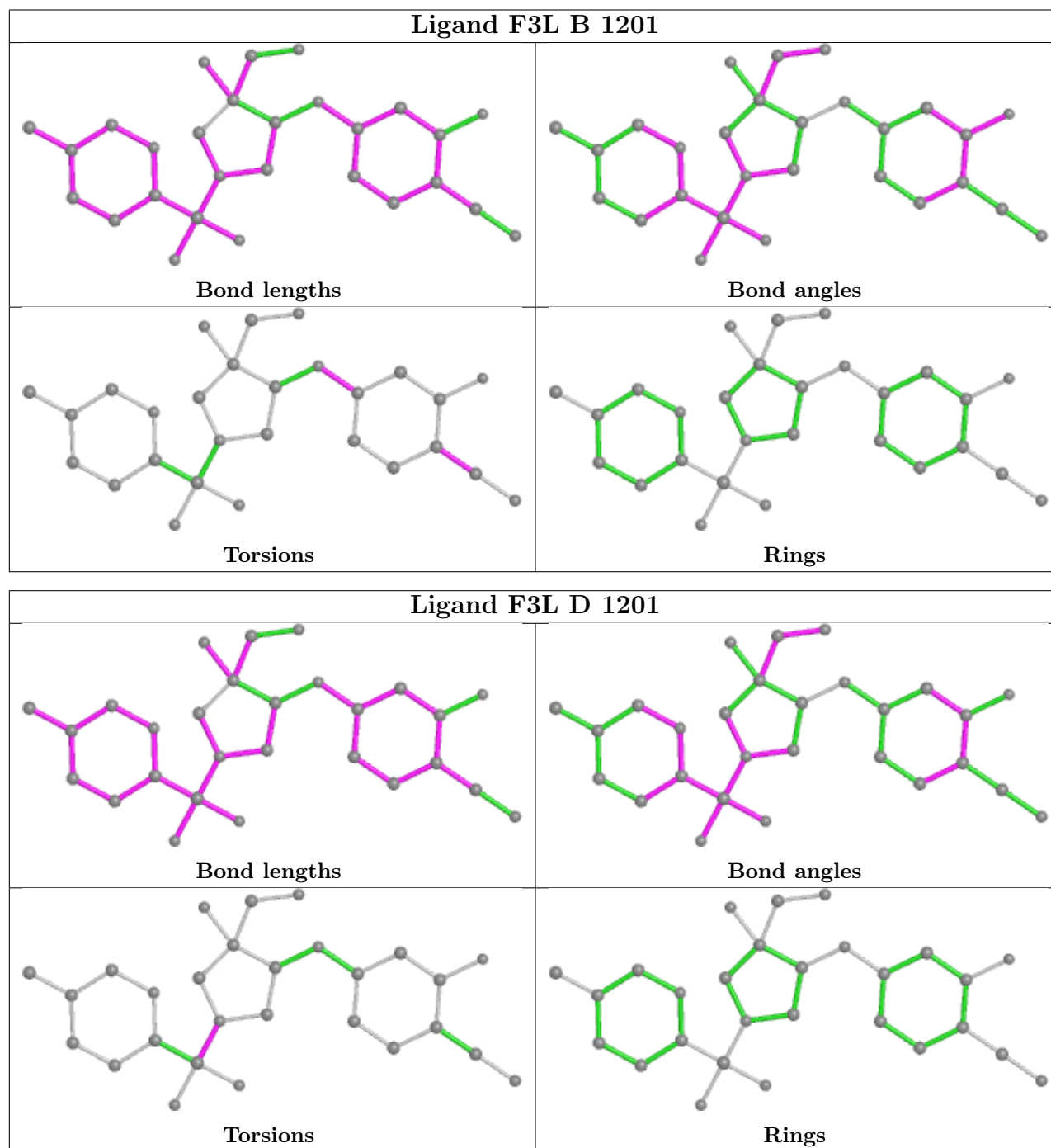
There are no ring outliers.

2 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1201	F3L	11	0
2	D	1201	F3L	12	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is

within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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.

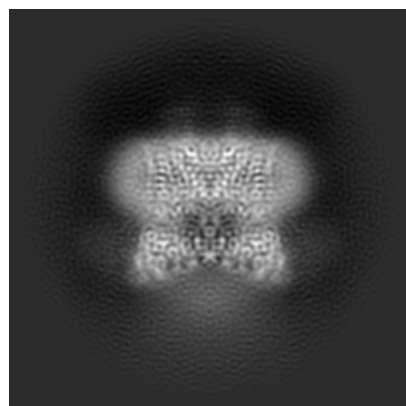
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36659. These allow visual inspection of the internal detail of the map and identification of artifacts.

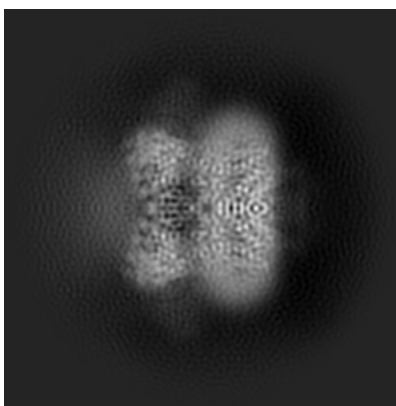
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

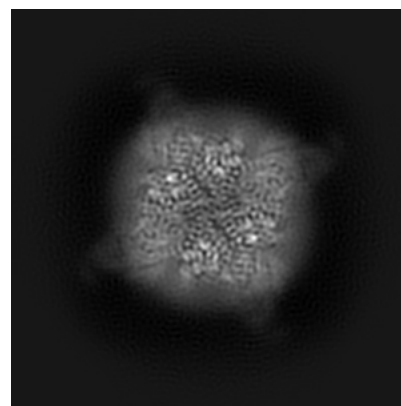
6.1.1 Primary map



X

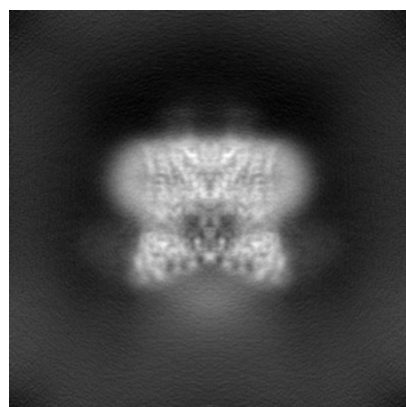


Y

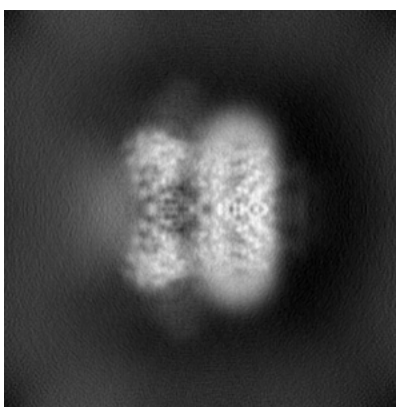


Z

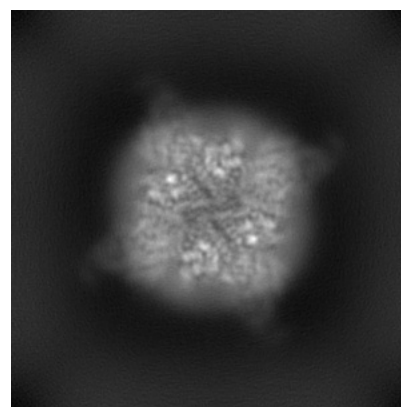
6.1.2 Raw map



X



Y

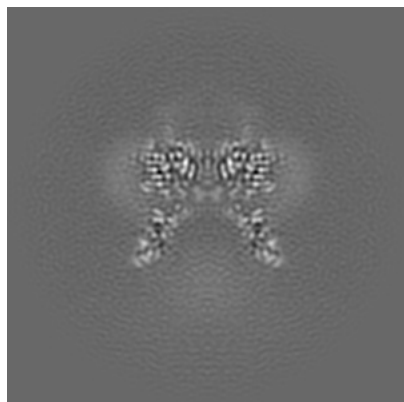


Z

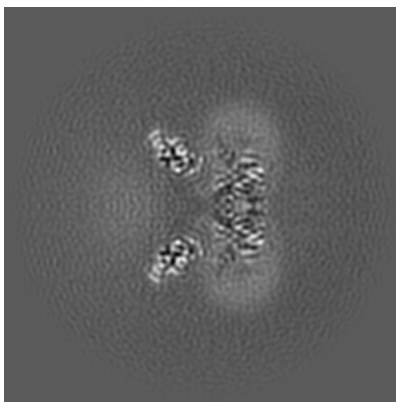
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

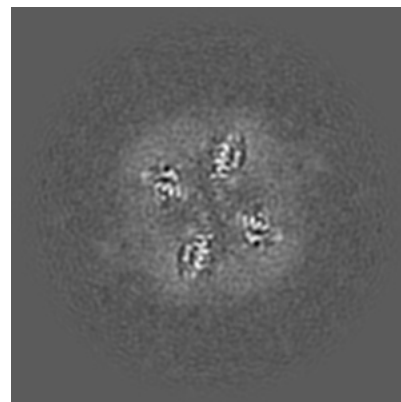
6.2.1 Primary map



X Index: 128

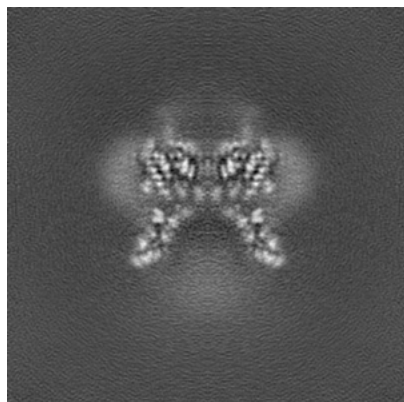


Y Index: 128

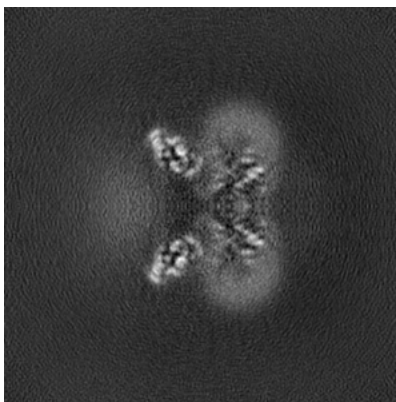


Z Index: 128

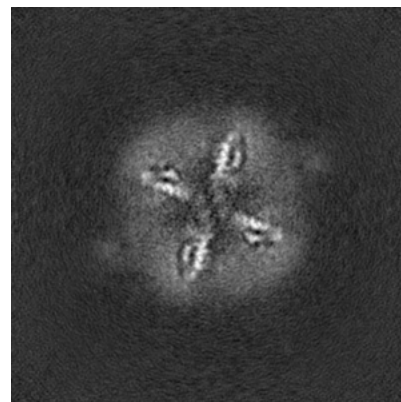
6.2.2 Raw map



X Index: 128



Y Index: 128

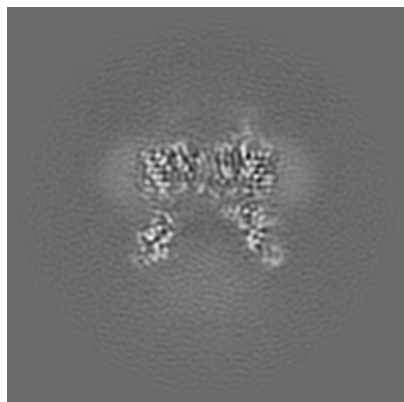


Z Index: 128

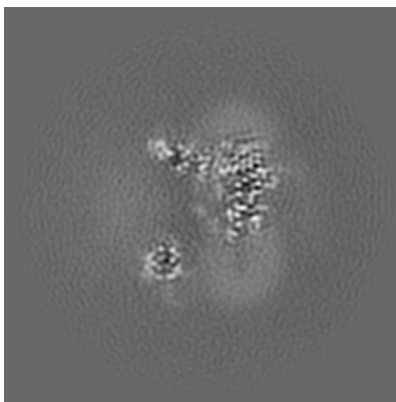
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

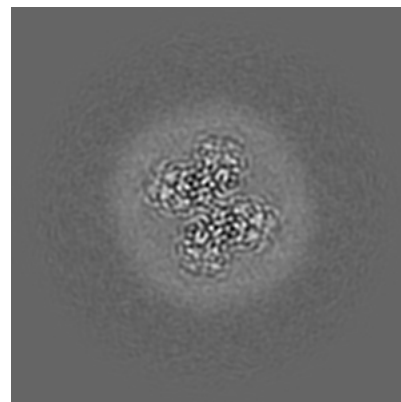
6.3.1 Primary map



X Index: 130

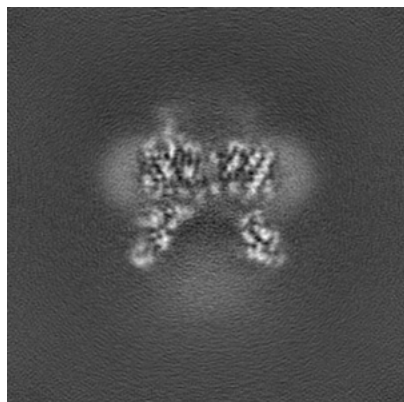


Y Index: 118

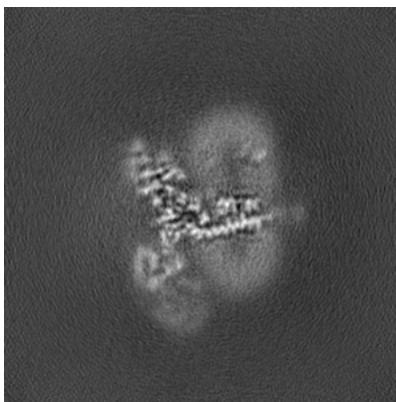


Z Index: 157

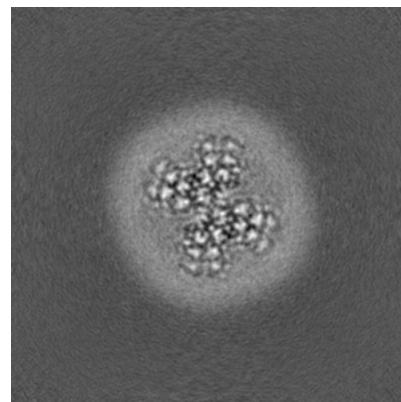
6.3.2 Raw map



X Index: 126



Y Index: 98

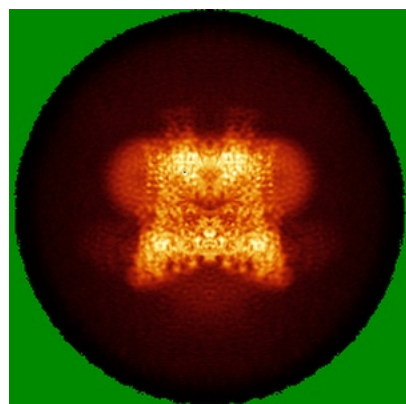


Z Index: 157

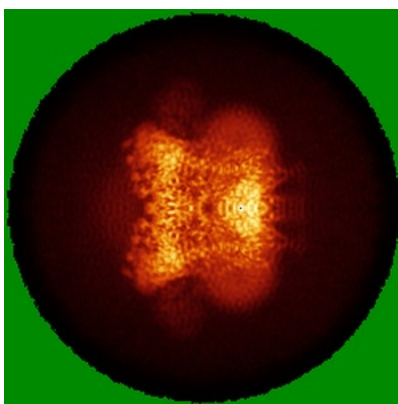
The images above show the largest variance slices of the map in three orthogonal directions.

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

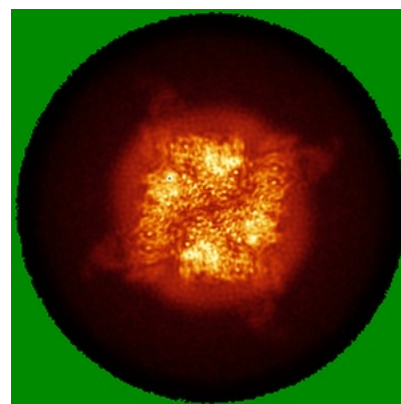
6.4.1 Primary map



X

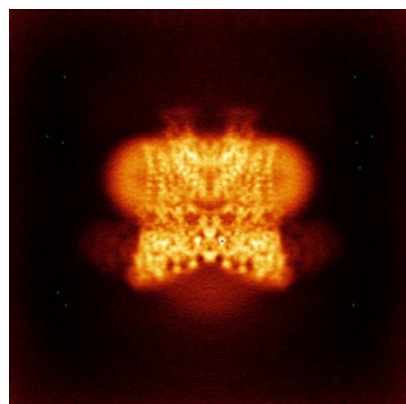


Y

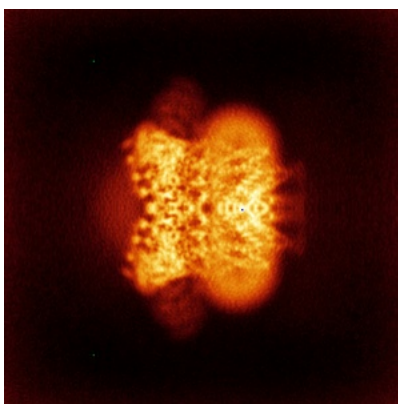


Z

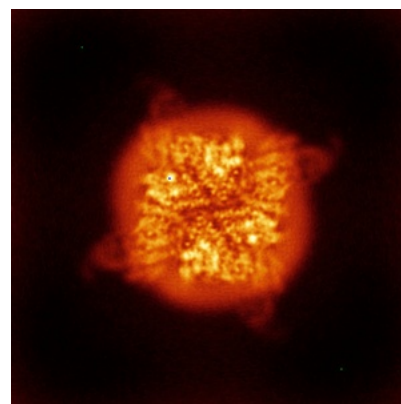
6.4.2 Raw map



X



Y

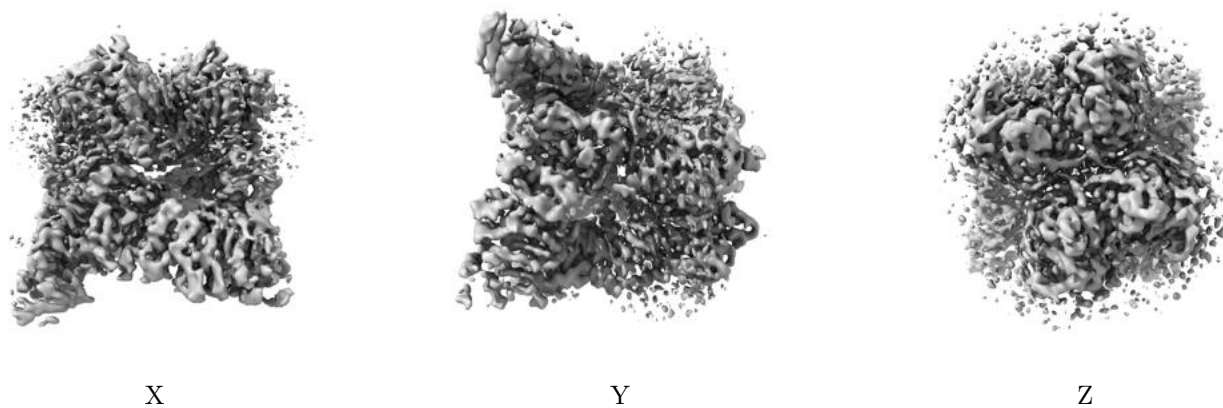


Z

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.

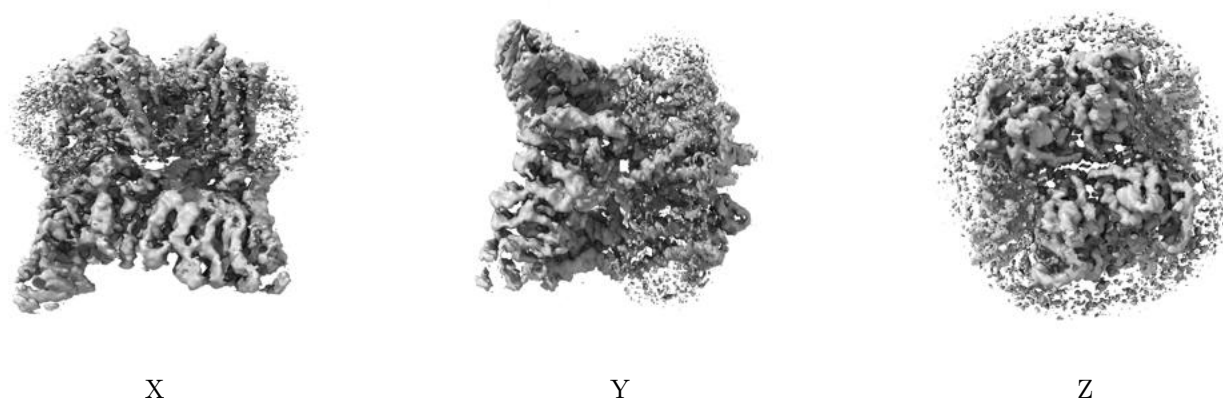
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.45. 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.

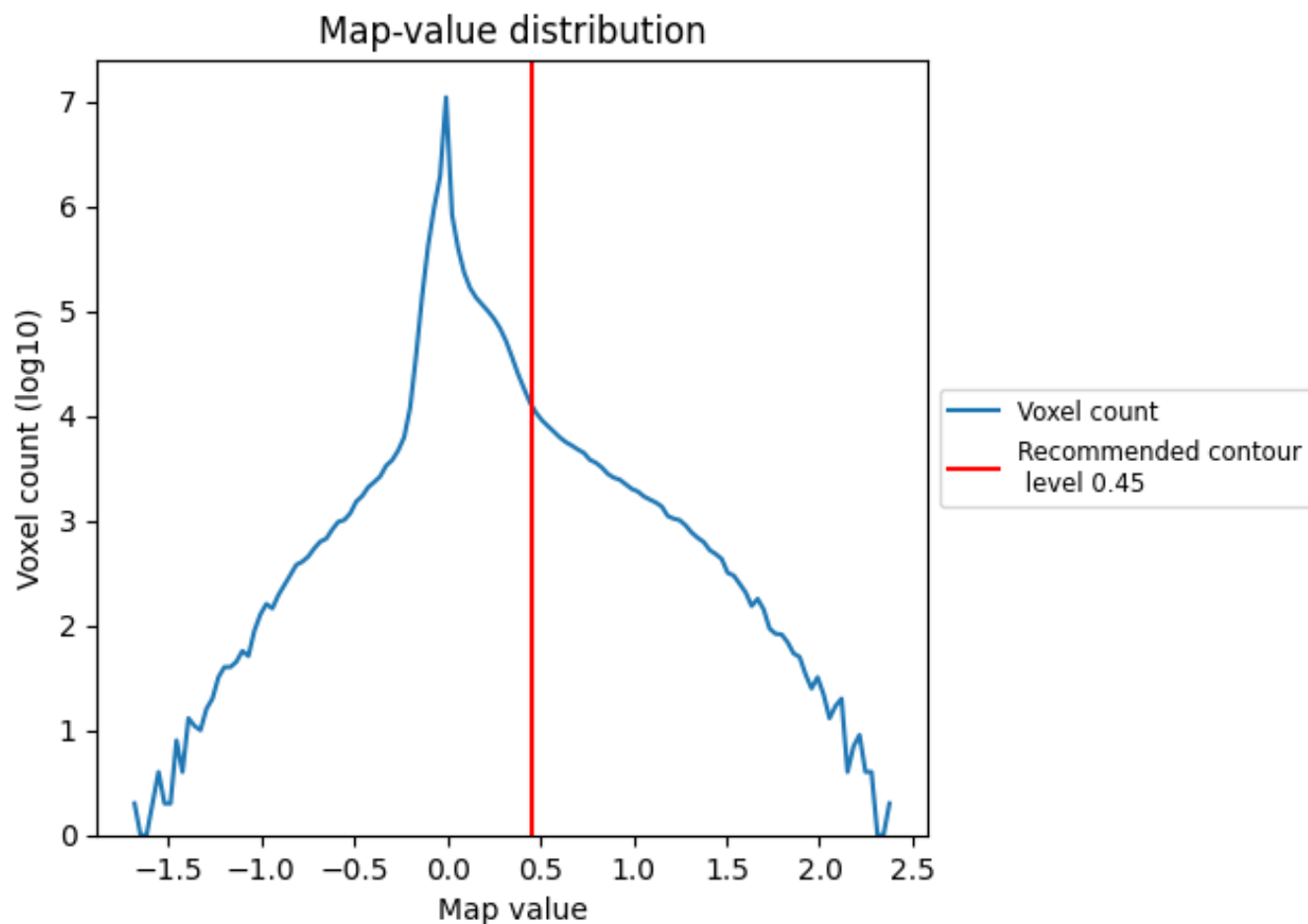
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

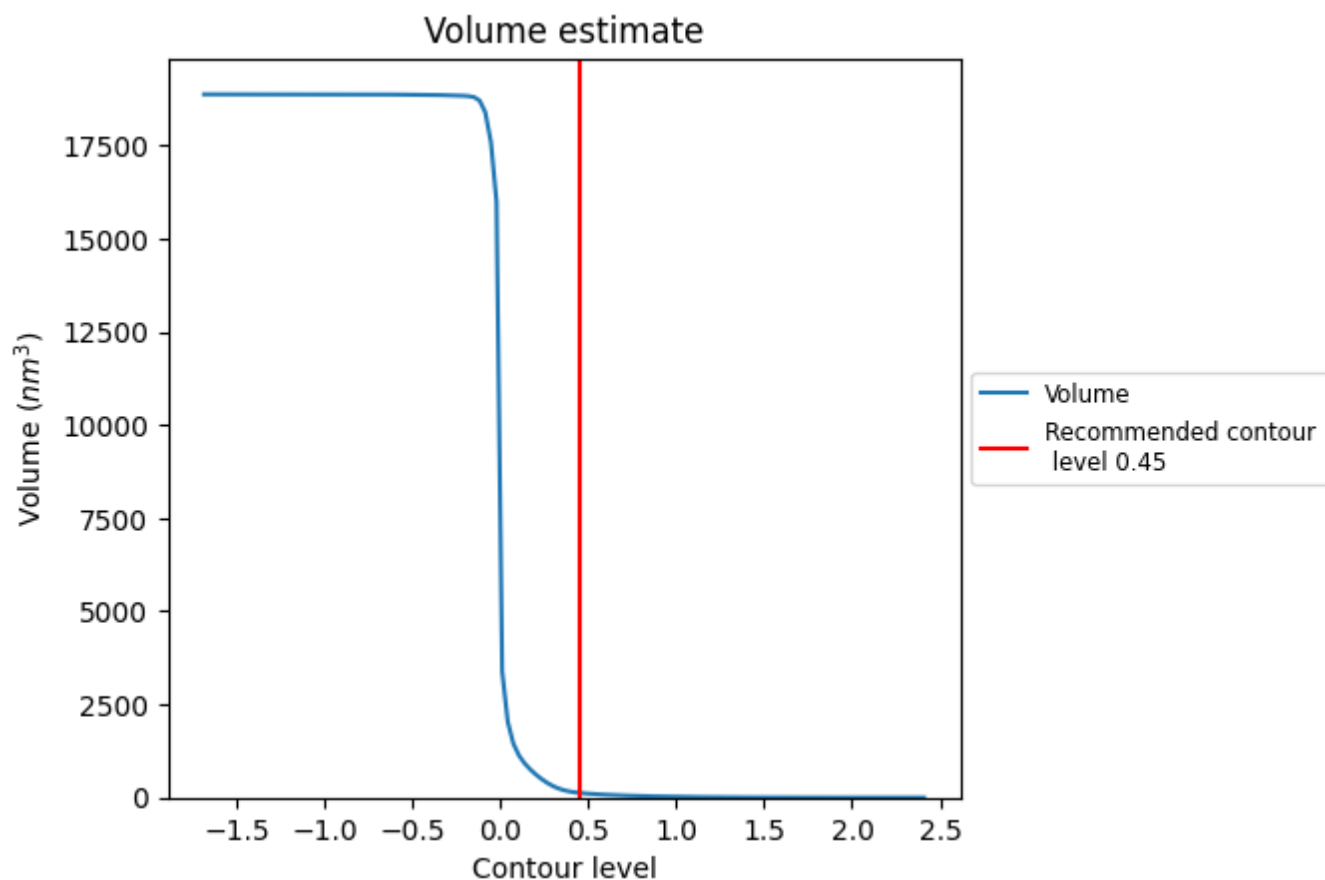
This section contains the results of statistical analysis of the map.

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.

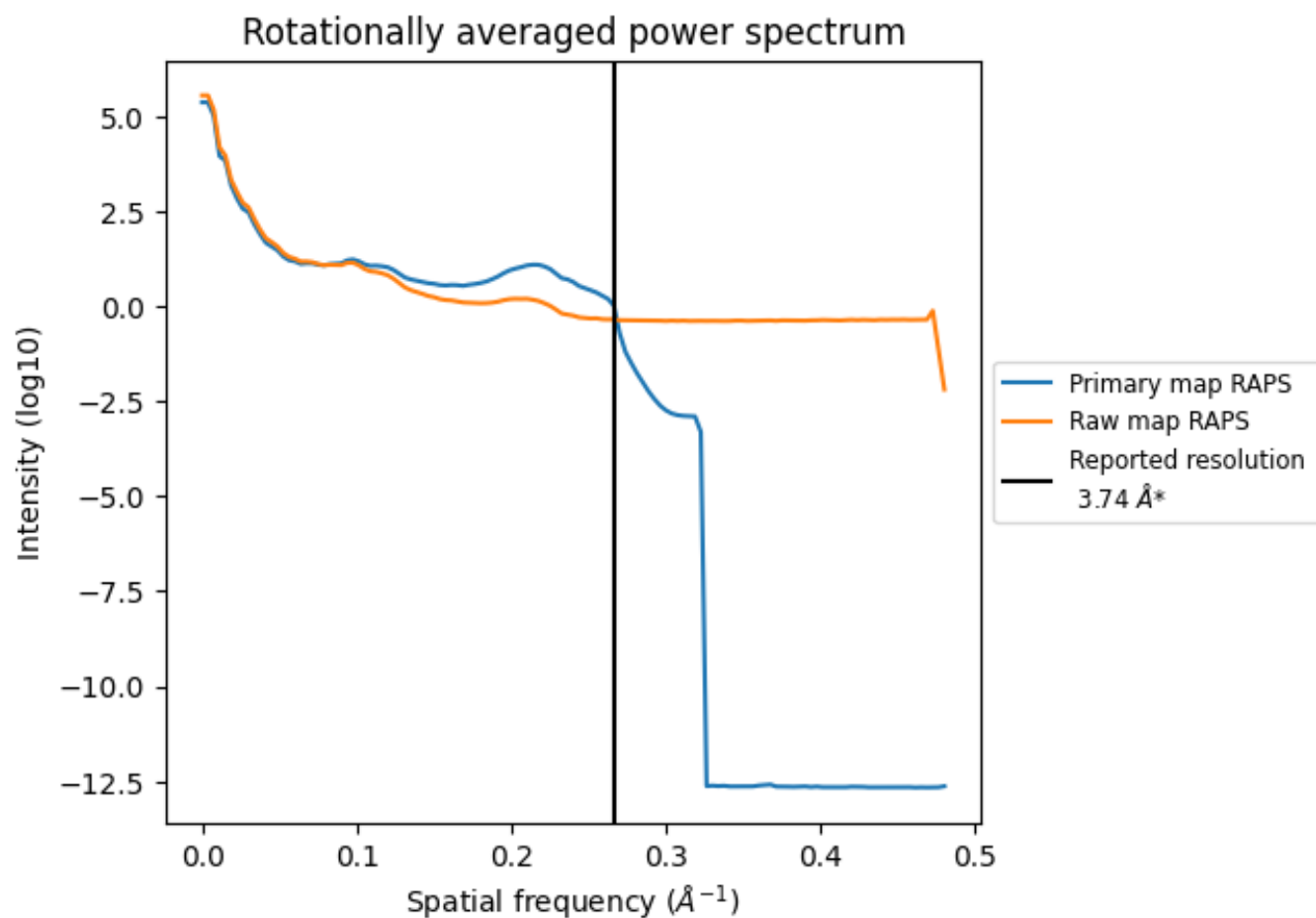
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 126 nm³; this corresponds to an approximate mass of 114 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

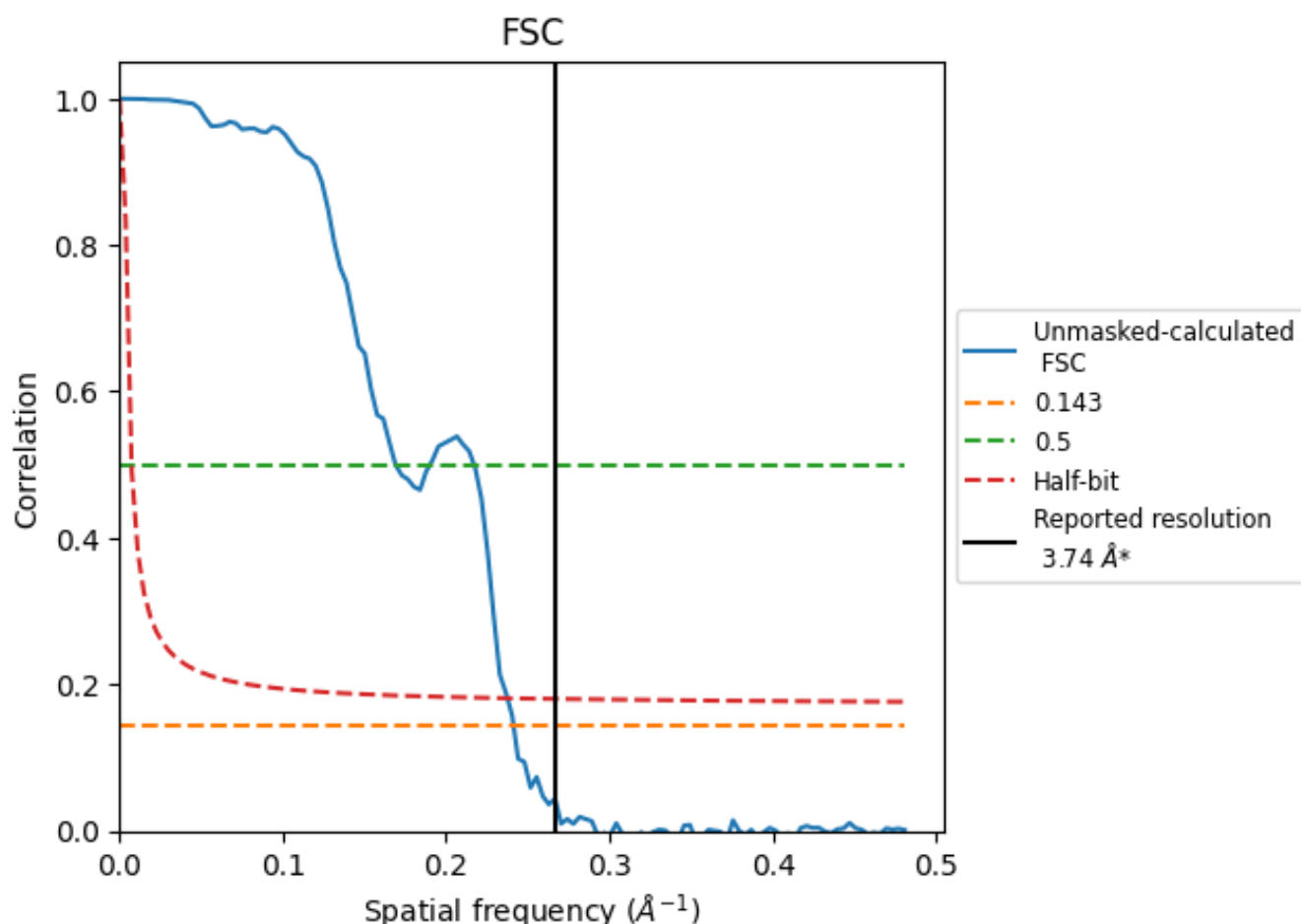


*Reported resolution corresponds to spatial frequency of 0.267 \AA^{-1}

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 0.267 Å⁻¹

8.2 Resolution estimates [i](#)

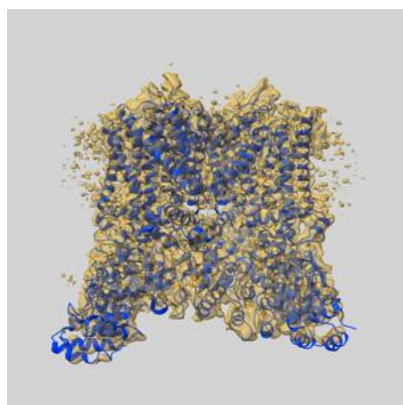
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.74	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.14	5.92	4.21

*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 4.14 differs from the reported value 3.74 by more than 10 %

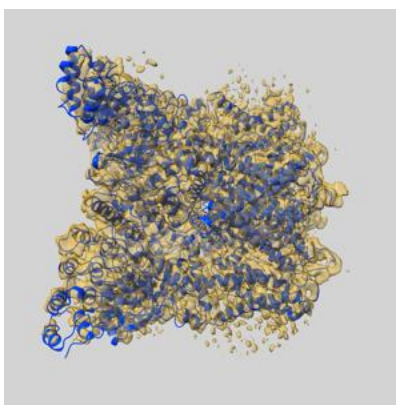
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-36659 and PDB model 8JU5. Per-residue inclusion information can be found in [section 3](#) on [page 6](#).

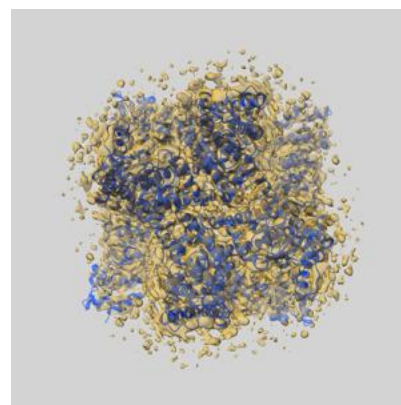
9.1 Map-model overlay [i](#)



X



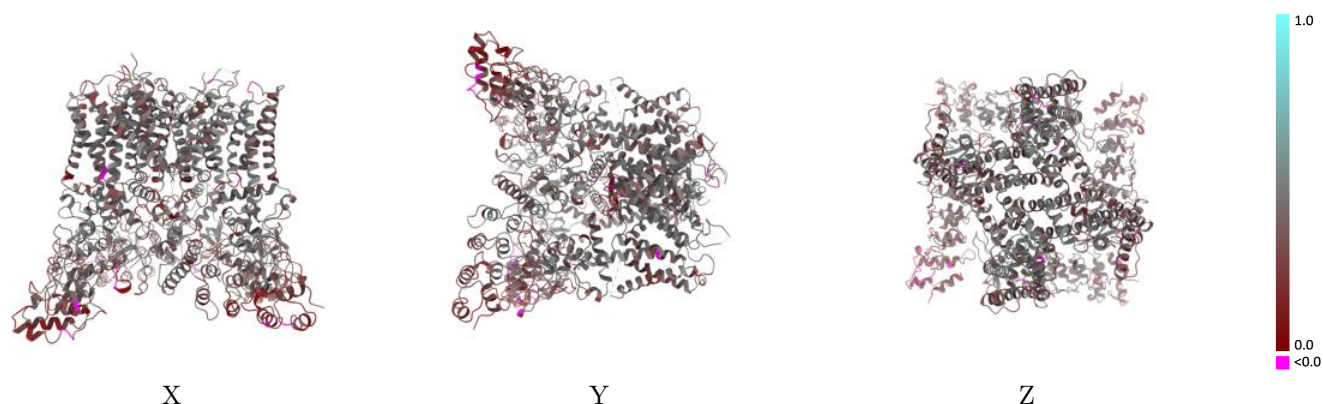
Y



Z

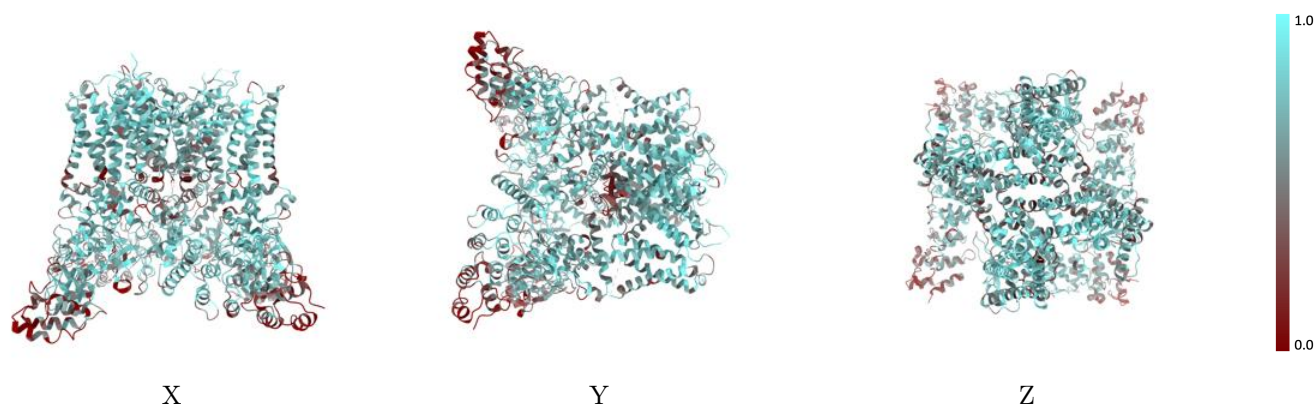
The images above show the 3D surface view of the map at the recommended contour level 0.45 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



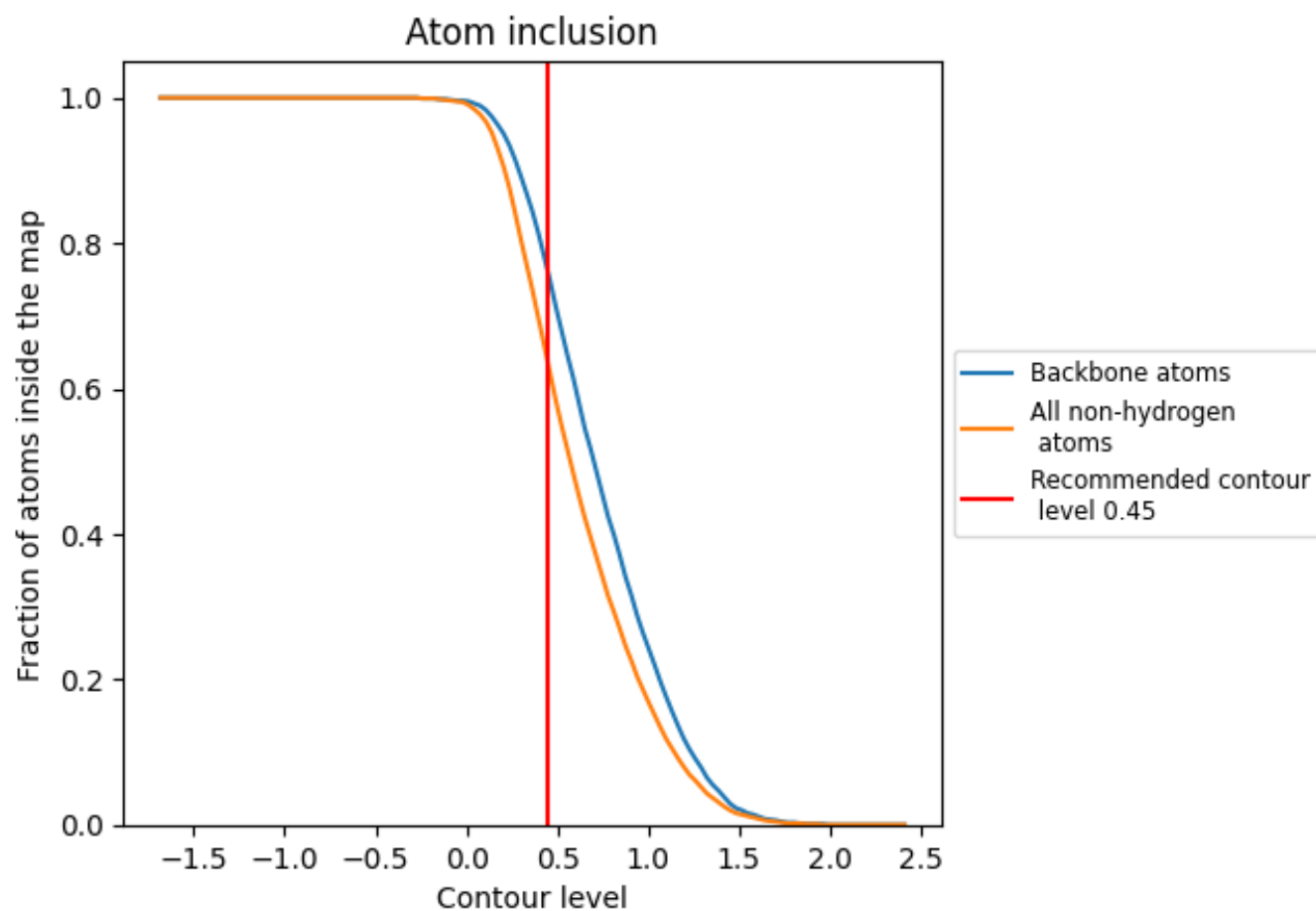
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.45).

9.4 Atom inclusion [i](#)



At the recommended contour level, 76% of all backbone atoms, 63% 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 (0.45) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.6320	<div></div> 0.3740
A	<div></div> 0.6350	<div></div> 0.3680
B	<div></div> 0.6460	<div></div> 0.3940
C	<div></div> 0.6020	<div></div> 0.3390
D	<div></div> 0.6450	<div></div> 0.3900

