WORLDWIDE PDB

PROTEIN DATA BANK

wwPDB EM Validation Summary Report ⓘ

Nov 30, 2022 – 04:05 AM JST

PDB ID	:	7XTA
EMDB ID	:	EMD-33444
Title	:	Serotonin 4 (5-HT4) receptor-Gi-scFv16 complex
Authors	:	Huang, S.; Xu, P.; Shen, D.D.; Simon, I.A.; Mao, C.; Tan, Y.; Zhang, H.; Harpsoe, K.; Li, H.; Zhang, Y.; You, C.; Yu, X.; Jiang, Y.; Zhang, Y.; Gloriam, D.E.; Xu, H.E.
Deposited on	:	2022-05-16
Resolution	:	3.20 Å(reported)

The following versions of software and data (see references ⓘ) were used in the production of this report:

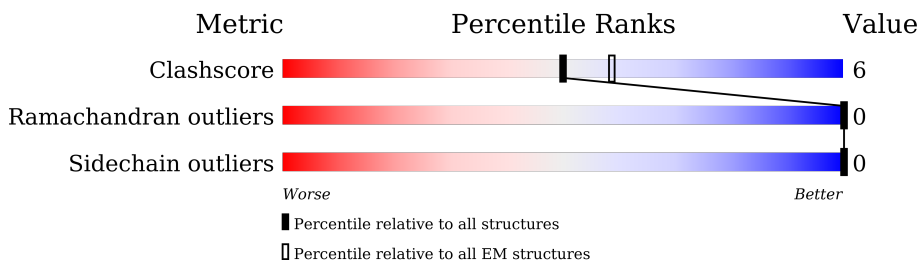|		
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

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 3.20 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	Percentile Ranks	Value
Clashscore		6
Ramachandran outliers		0
Sidechain outliers		0

Worse   *Better*

▮ Percentile relative to all structures
▯ Percentile relative to all EM structures

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 <=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	354	56% 6% 38%
2	B	345	81% 16% •
3	E	249	84% 8% 8%
4	G	71	68% • 30%
5	R	527	43% 11% 46%

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 17490 atoms, of which 8719 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 Guanine nucleotide-binding protein G(i) subunit alpha-1.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	219	Total	C	H	N	O	S	0	0
			3538	1126	1772	295	333	12		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	47	ASN	SER	conflict	UNP P63096
A	203	ALA	GLY	conflict	UNP P63096
A	245	ALA	GLU	conflict	UNP P63096
A	326	SER	ALA	conflict	UNP P63096

- Molecule 2 is a protein called Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	B	333	Total	C	H	N	O	S	0	0
			5026	1580	2468	460	497	21		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-4	MET	-	initiating methionine	UNP P62873
B	-3	GLY	-	expression tag	UNP P62873
B	-2	SER	-	expression tag	UNP P62873
B	-1	LEU	-	expression tag	UNP P62873
B	0	LEU	-	expression tag	UNP P62873
B	1	GLN	-	expression tag	UNP P62873

- Molecule 3 is a protein called scFv16.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	E	230	Total	C	H	N	O	S	0	0
			3472	1120	1704	293	345	10		

- Molecule 4 is a protein called Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-2.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
4	G	50	794	246	403	69	73	3	0	0

- Molecule 5 is a protein called Soluble cytochrome b562,5-hydroxytryptamine receptor 4.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
5	R	283	4635	1525	2360	357	369	24	0	0

There are 37 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	-139	ASP	-	expression tag	UNP P0ABE7
R	-138	TYR	-	expression tag	UNP P0ABE7
R	-137	LYS	-	expression tag	UNP P0ABE7
R	-136	ASP	-	expression tag	UNP P0ABE7
R	-135	ASP	-	expression tag	UNP P0ABE7
R	-134	ASP	-	expression tag	UNP P0ABE7
R	-133	ASP	-	expression tag	UNP P0ABE7
R	-132	ALA	-	expression tag	UNP P0ABE7
R	-131	LYS	-	expression tag	UNP P0ABE7
R	-130	LEU	-	expression tag	UNP P0ABE7
R	-129	GLN	-	expression tag	UNP P0ABE7
R	-128	THR	-	expression tag	UNP P0ABE7
R	-127	MET	-	expression tag	UNP P0ABE7
R	-126	HIS	-	expression tag	UNP P0ABE7
R	-125	HIS	-	expression tag	UNP P0ABE7
R	-124	HIS	-	expression tag	UNP P0ABE7
R	-123	HIS	-	expression tag	UNP P0ABE7
R	-122	HIS	-	expression tag	UNP P0ABE7
R	-121	HIS	-	expression tag	UNP P0ABE7
R	-120	HIS	-	expression tag	UNP P0ABE7
R	-119	HIS	-	expression tag	UNP P0ABE7
R	-118	HIS	-	expression tag	UNP P0ABE7
R	-117	HIS	-	expression tag	UNP P0ABE7
R	-110	TRP	MET	conflict	UNP P0ABE7
R	-15	ILE	HIS	conflict	UNP P0ABE7
R	-11	LEU	-	linker	UNP P0ABE7
R	-10	ALA	-	linker	UNP P0ABE7
R	-9	SER	-	linker	UNP P0ABE7

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Chain	Residue	Modelled	Actual	Comment	Reference
R	-8	GLU	-	linker	UNP P0ABE7
R	-7	ASN	-	linker	UNP P0ABE7
R	-6	LEU	-	linker	UNP P0ABE7
R	-5	TYR	-	linker	UNP P0ABE7
R	-4	PHE	-	linker	UNP P0ABE7
R	-3	GLN	-	linker	UNP P0ABE7
R	-2	GLY	-	linker	UNP P0ABE7
R	-1	GLY	-	linker	UNP P0ABE7
R	0	THR	-	linker	UNP P0ABE7

- Molecule 6 is SEROTONIN (three-letter code: SRO) (formula: $C_{10}H_{12}N_2O$) (labeled as "Ligand of Interest" by depositor).

SRO

Mol	Chain	Residues	Atoms					AltConf
			Total	C	H	N	O	
6	R	1	25	10	12	2	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: Guanine nucleotide-binding protein G(i) subunit alpha-1

Chain A:

- Molecule 2: Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1

Chain B:

- Molecule 3: scFv16

Chain E:

• Molecule 4: Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-2

Chain G: 68% . 30%

MET ALA SER ASN ASN THR ALA SER ILE ALA GLN ALA R13 A33 L51 R62 GLU LYS LYS PHE PHE CYS ALA ILE LEU

• Molecule 5: Soluble cytochrome b562,5-hydroxytryptamine receptor 4

Chain R: 43% 11% 46%

ASP TYR LYS ASP ASP ASP ALA LYS LEU GLN THR MET HIS HIS HIS HIS HIS HIS HIS HIS ALA ASP LEU GLU ASP ASN TRP GLU THR LEU ASN ASP ASN LEU LYS VAL ILE GLU LYS ALA ASP ASN ALA ALA GLN VAL LYS ASP ALA LEU THR LYS MET ARG ALA ALA ALA

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

ARG ASN ALA TYR ILE GLN LYS LYS TYR LEU ALA SER GLU LEU ASN LEU TYR PHE GLN GLY GLY THR ASP LYS LEU ASP ALA ASN VAL SER GLU GLU GLY PHE GLY SER VAL GLU K18 L22 L25 I29 M40 V43 C44 W45 D46 R47 Q48 T54 N55 Y56 V59 S60

L61 A62 L66 L67 V68 S69 V70 L71 V72 M73 P74 F75 G76 L80 V81 Q82 D99 V100 L101 L102 T103 T104 A105 S106 I107 F108 H109 L110 C111 L115 Y119 C123 V127 Y128 K131 M132 L135 G142 G143 V146 I147 P148 I151 K171 F174 N175

Q176 N177 A199 I202 P203 F204 L205 V208 Y211 Y215 I225 GLN MET LEU GLN ARG ALA GLY ALA SER GLU SER ARG PRO GLN SER ALA ASP GLN HIS SER THR HIS ARG MET ARG THR GLU T254 A257 L260 W271 W298 Y301 I302 F313 L314

R319 R320 A321 F322 L323 I324 I325 L326 C327 C328 ASP ASP ARG GLU TYR ARG ARG PRO SER ILE LEU GLY GLN THR VAL PRO CYS SER THR THR ILE ASN GLY SER THR HIS VAL LEU ARG ASP ALA ALA VAL GLU CYS GLY GLY GLN TRP GLU SER GLN SER HIS PRO PRO ALA THR SER

PRO LEU VAL ALA ALA GLN PRO SER ASP THR

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	611883	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 $(e^-/\text{Å}^2)$	70	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.718	Depositor
Minimum map value	-0.023	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.034	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	214.2, 214.2, 214.2	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.071, 1.071, 1.071	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: SRO

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	0.25	0/1795	0.42	0/2407
2	B	0.24	0/2605	0.46	0/3532
3	E	0.25	0/1812	0.44	0/2456
4	G	0.25	0/397	0.38	0/535
5	R	0.25	0/2336	0.41	0/3184
All	All	0.25	0/8945	0.43	0/12114

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2   Too-close contacts (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	1766	1772	1768	12	0
2	B	2558	2468	2470	35	0
3	E	1768	1704	1701	14	0
4	G	391	403	402	2	0
5	R	2275	2360	2360	42	0
6	R	13	12	12	0	0
All	All	8771	8719	8713	104	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 6.

The worst 5 of 104 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)
5:R:60:SER:HG	5:R:109:HIS:HE2	1.02	0.89
3:E:73:ASP:OD2	3:E:76:LYS:NZ	2.06	0.89
2:B:290:ASP:OD1	2:B:314:ARG:NE	2.12	0.81
1:A:230:TYR:OH	1:A:281:SER:OG	2.03	0.73
5:R:43:VAL:HG11	5:R:59:VAL:CG2	2.19	0.73

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	213/354 (60%)	211 (99%)	2 (1%)	0	100	100
2	B	331/345 (96%)	326 (98%)	5 (2%)	0	100	100
3	E	226/249 (91%)	220 (97%)	6 (3%)	0	100	100
4	G	48/71 (68%)	48 (100%)	0	0	100	100
5	R	279/527 (53%)	272 (98%)	7 (2%)	0	100	100
All	All	1097/1546 (71%)	1077 (98%)	20 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	195/305 (64%)	195 (100%)	0	100	100
2	B	276/287 (96%)	276 (100%)	0	100	100
3	E	195/202 (96%)	195 (100%)	0	100	100
4	G	42/58 (72%)	42 (100%)	0	100	100
5	R	253/458 (55%)	253 (100%)	0	100	100
All	All	961/1310 (73%)	961 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
3	E	142	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

1 ligand is 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
6	SRO	R	401	-	12,14,14	2.86	6 (50%)	12,19,19	1.80	1 (8%)

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
6	SRO	R	401	-	-	1/3/3/3	0/2/2/2

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	R	401	SRO	CZ2-CH2	7.58	1.52	1.36
6	R	401	SRO	CZ2-CE2	-3.57	1.35	1.41
6	R	401	SRO	CH2-CZ3	2.60	1.43	1.38
6	R	401	SRO	CE3-CD2	-2.58	1.37	1.42
6	R	401	SRO	CE3-CZ3	2.55	1.42	1.37

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	R	401	SRO	CZ2-CH2-CZ3	-5.03	114.36	120.15

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	R	401	SRO	CA-CB-CG-CD2

There are no ring outliers.

No monomer is involved in short contacts.

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 then 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.

Ligand SRO R 401

Bond lengths   Bond angles

Torsions   Rings
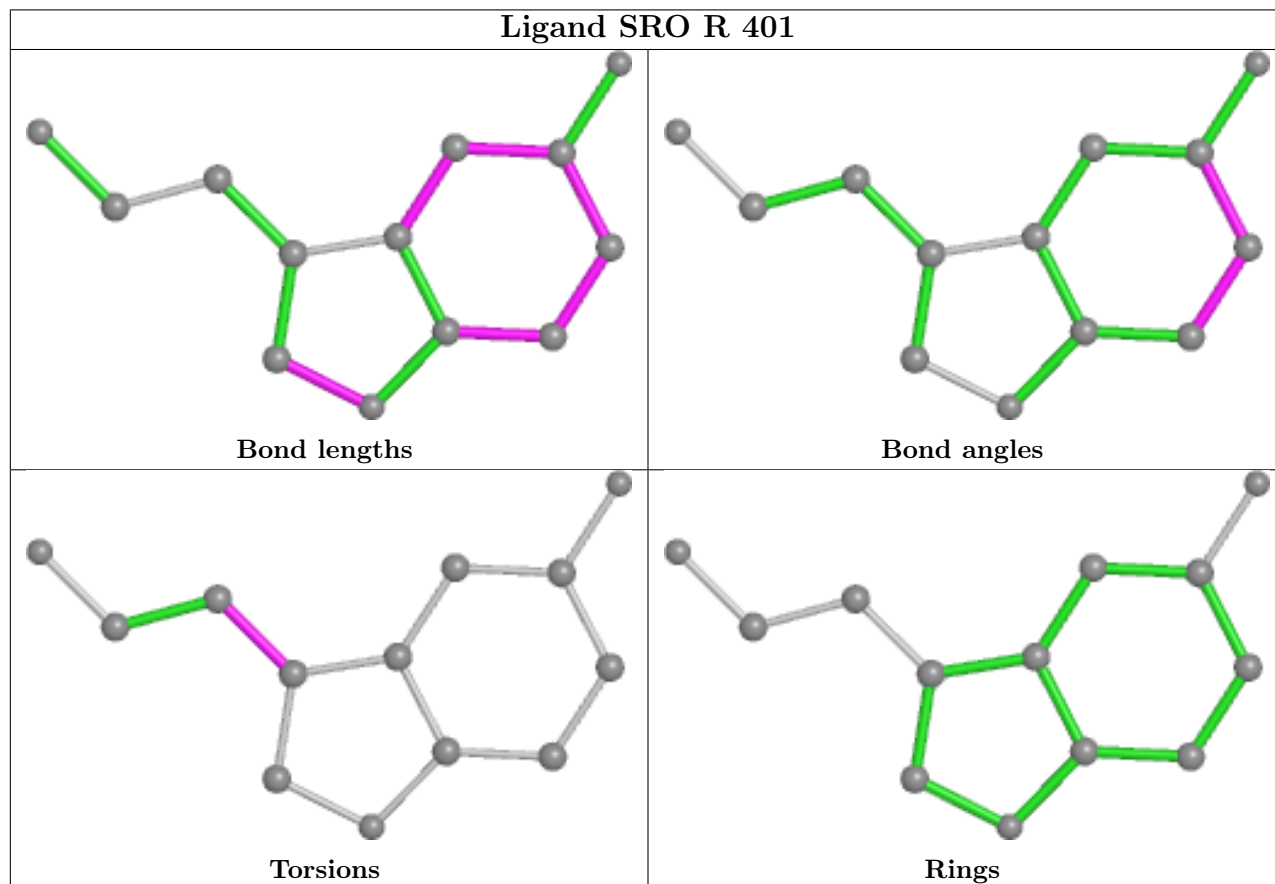
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6   Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-33444. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1   Orthogonal projections ⓘ
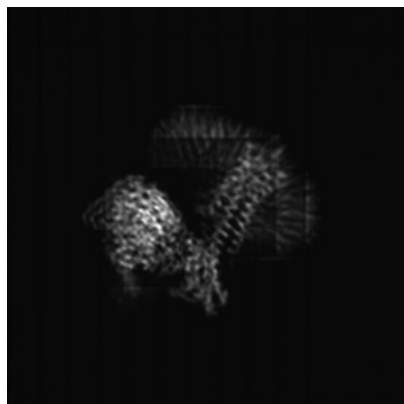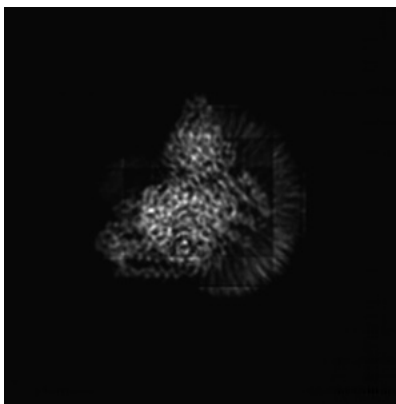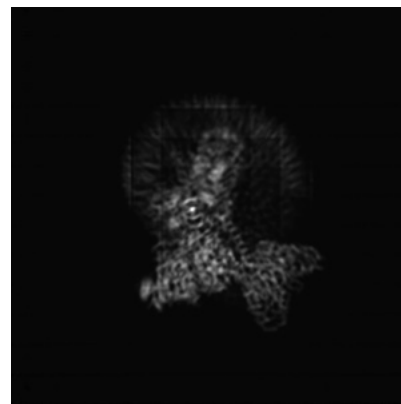
6.1.1   Primary map

X   Y   Z

6.1.2   Raw map

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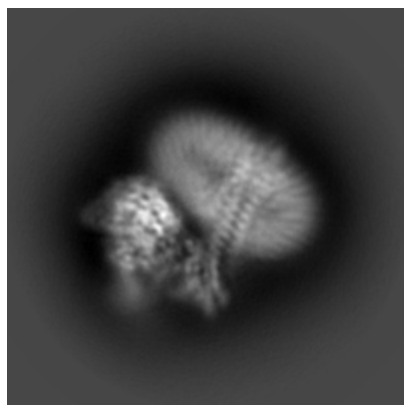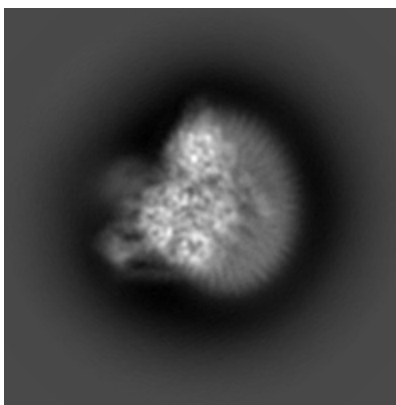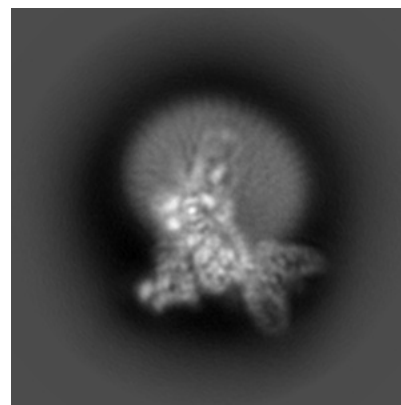
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

6.2.1 Primary map
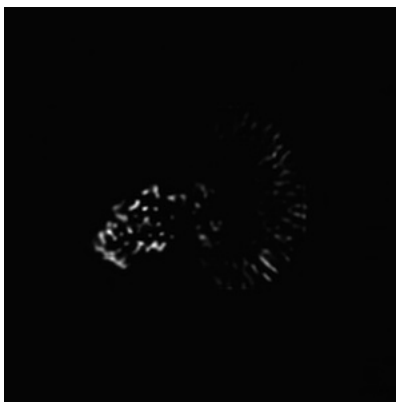
X Index: 100   Y Index: 100   Z Index: 100

6.2.2 Raw map
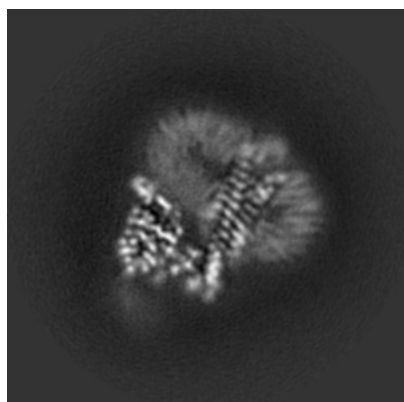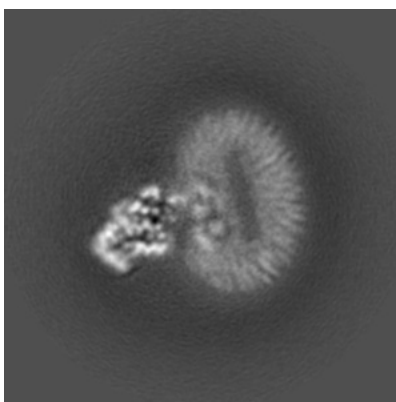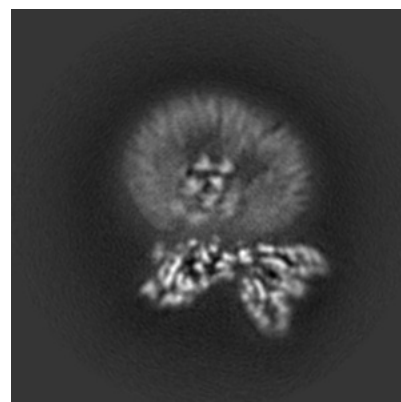
X Index: 100   Y Index: 100   Z Index: 100

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: 98 | Y Index: 71 | Z Index: 94 |

6.3.2 Raw map
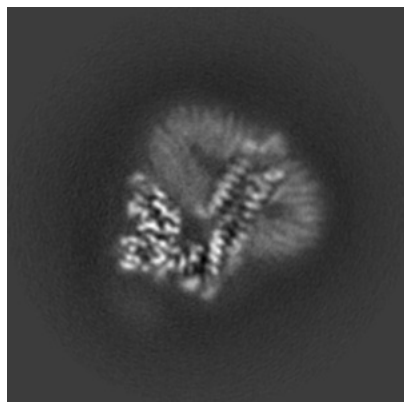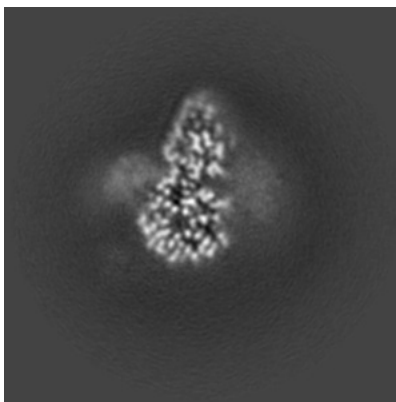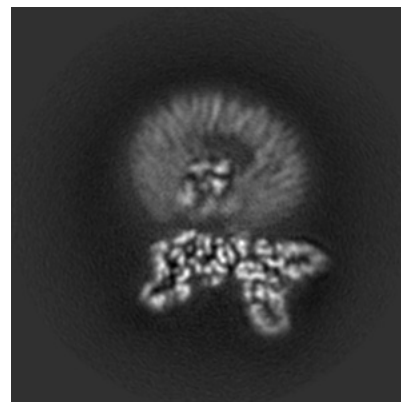
| X Index: 97 | Y Index: 71 | Z Index: 95 |

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

6.4 Orthogonal surface views ⓘ

6.4.1 Primary map

| X | Y | Z |
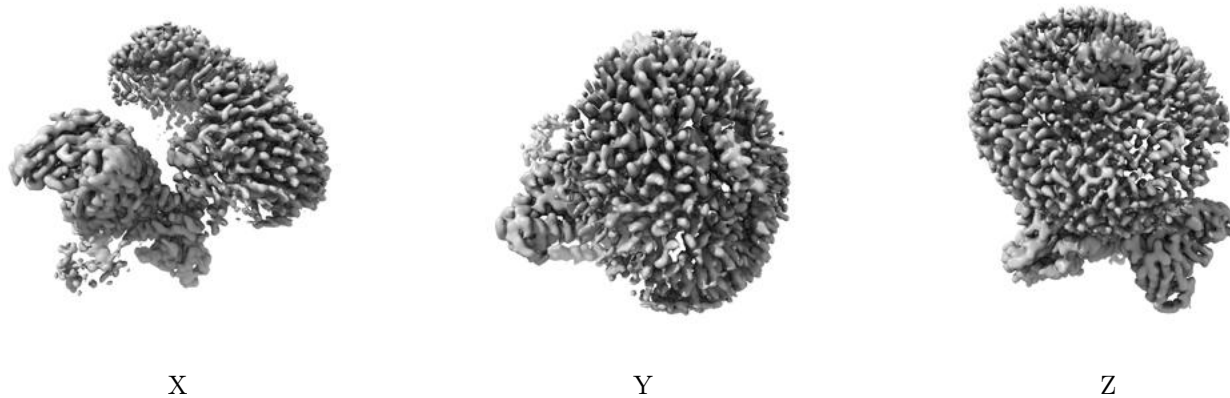
The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map

| X | Y | Z |
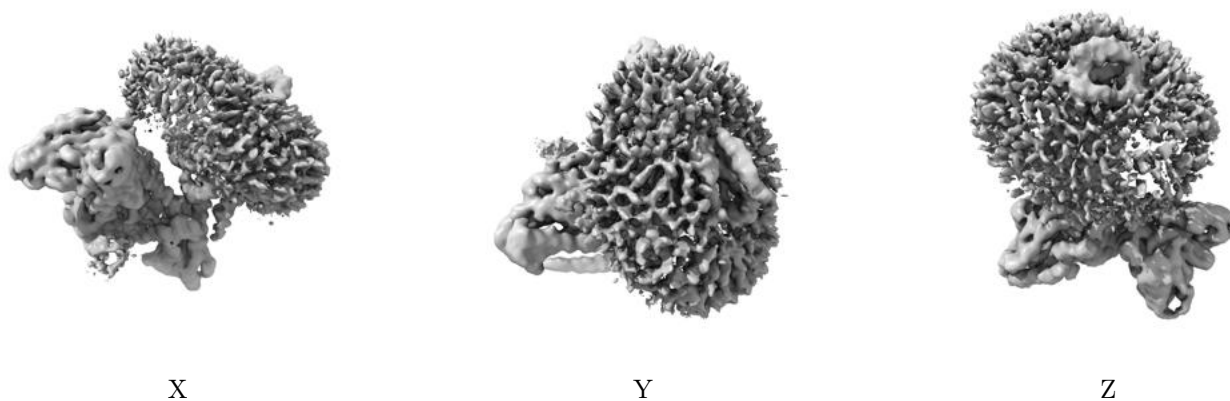
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.5 Mask visualisation ⓘ

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

7 Map analysis ⓘ

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

7.1 Map-value distribution ⓘ
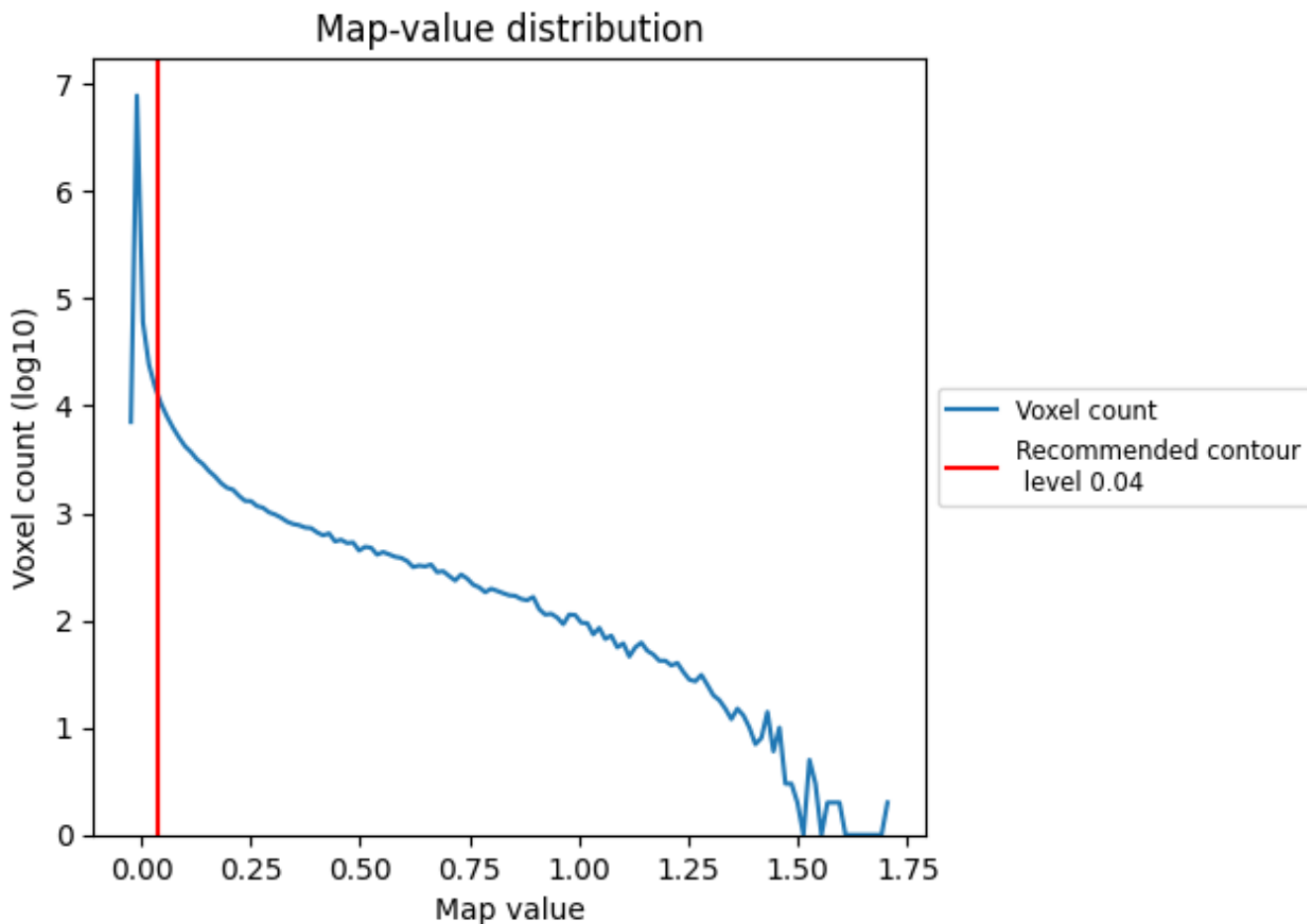
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
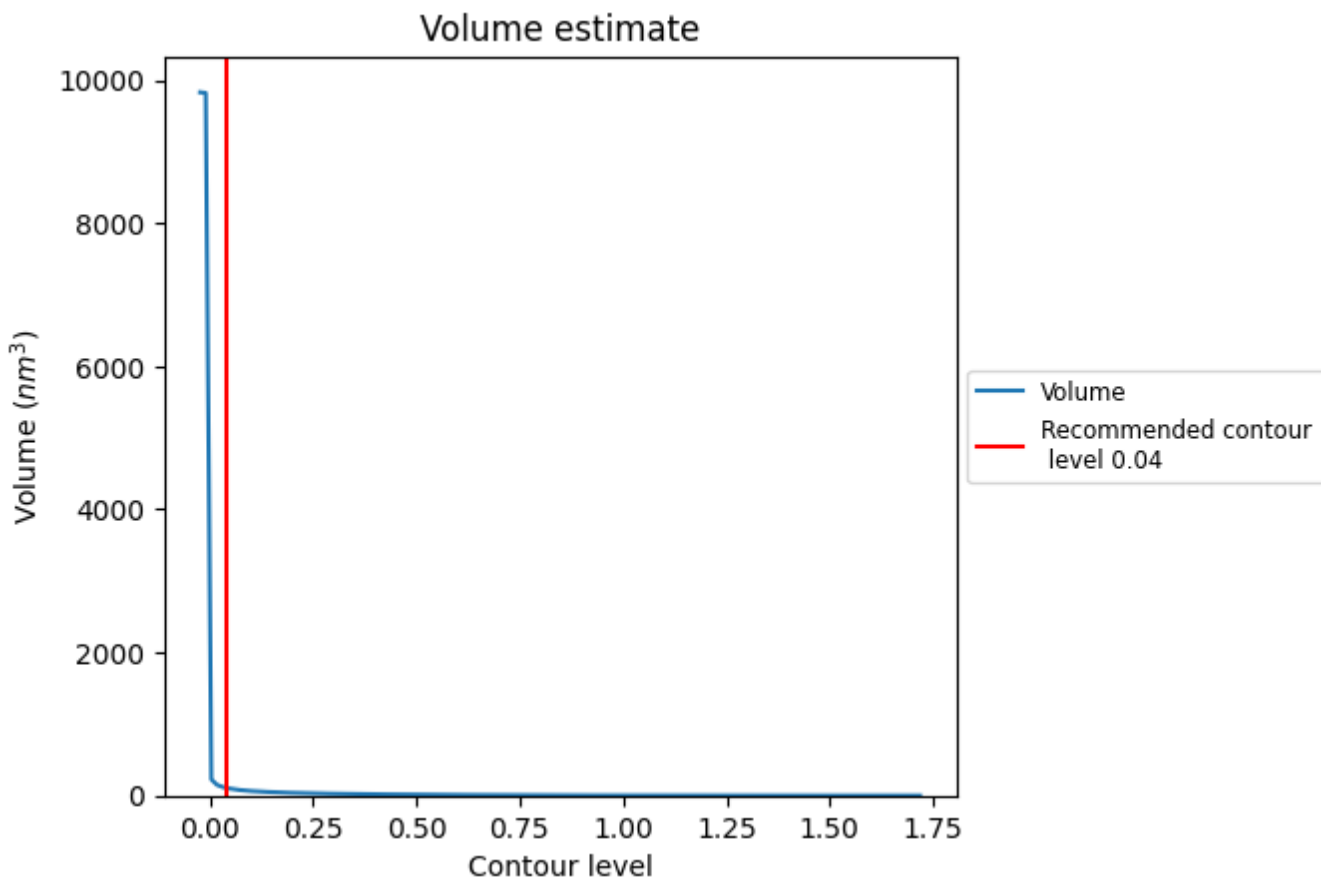
The volume at the recommended contour level is 108 nm^3; this corresponds to an approximate mass of 97 kDa.

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 ⓘ
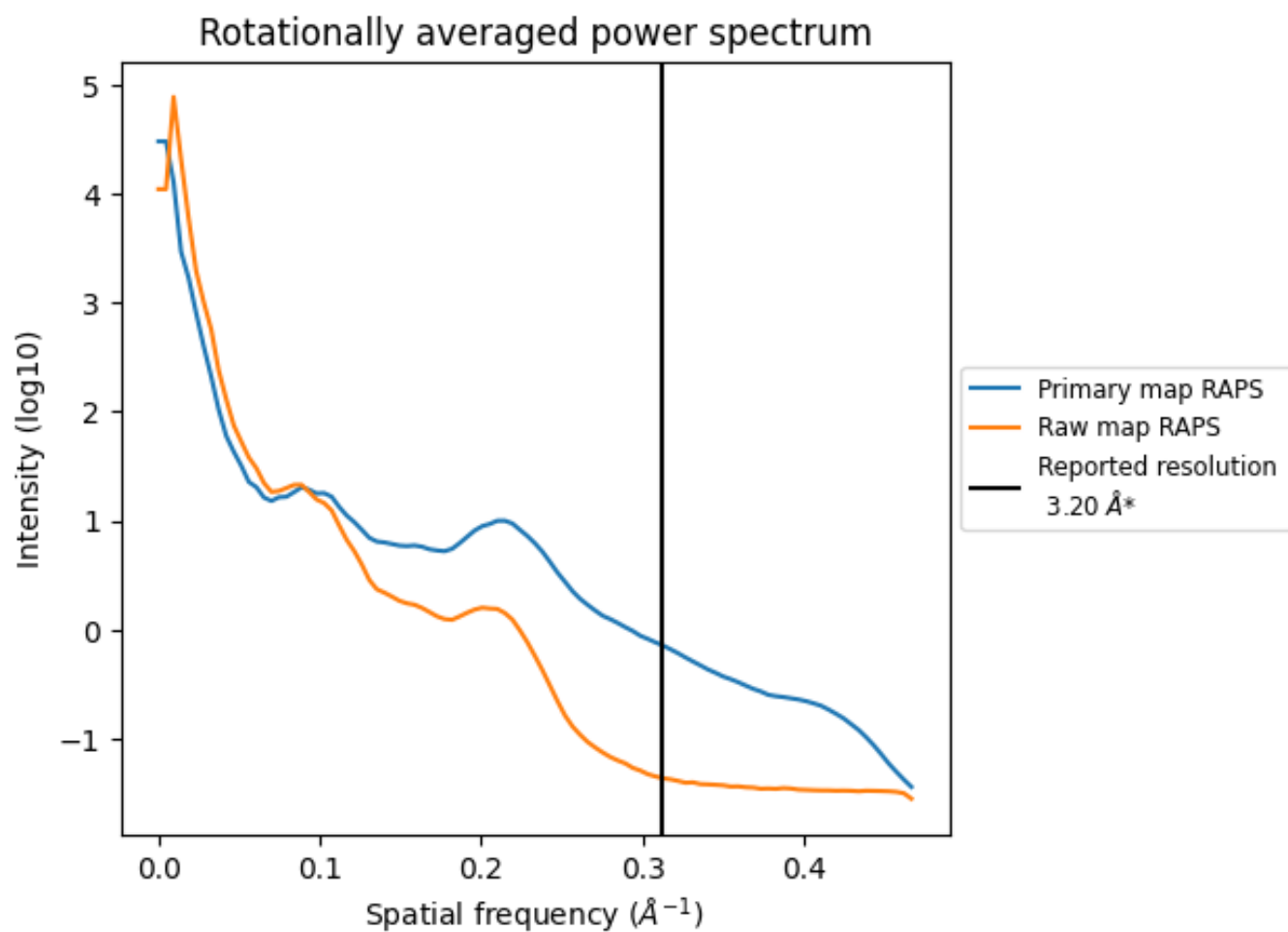
*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

8   Fourier-Shell correlation ⓘ

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1   FSC ⓘ
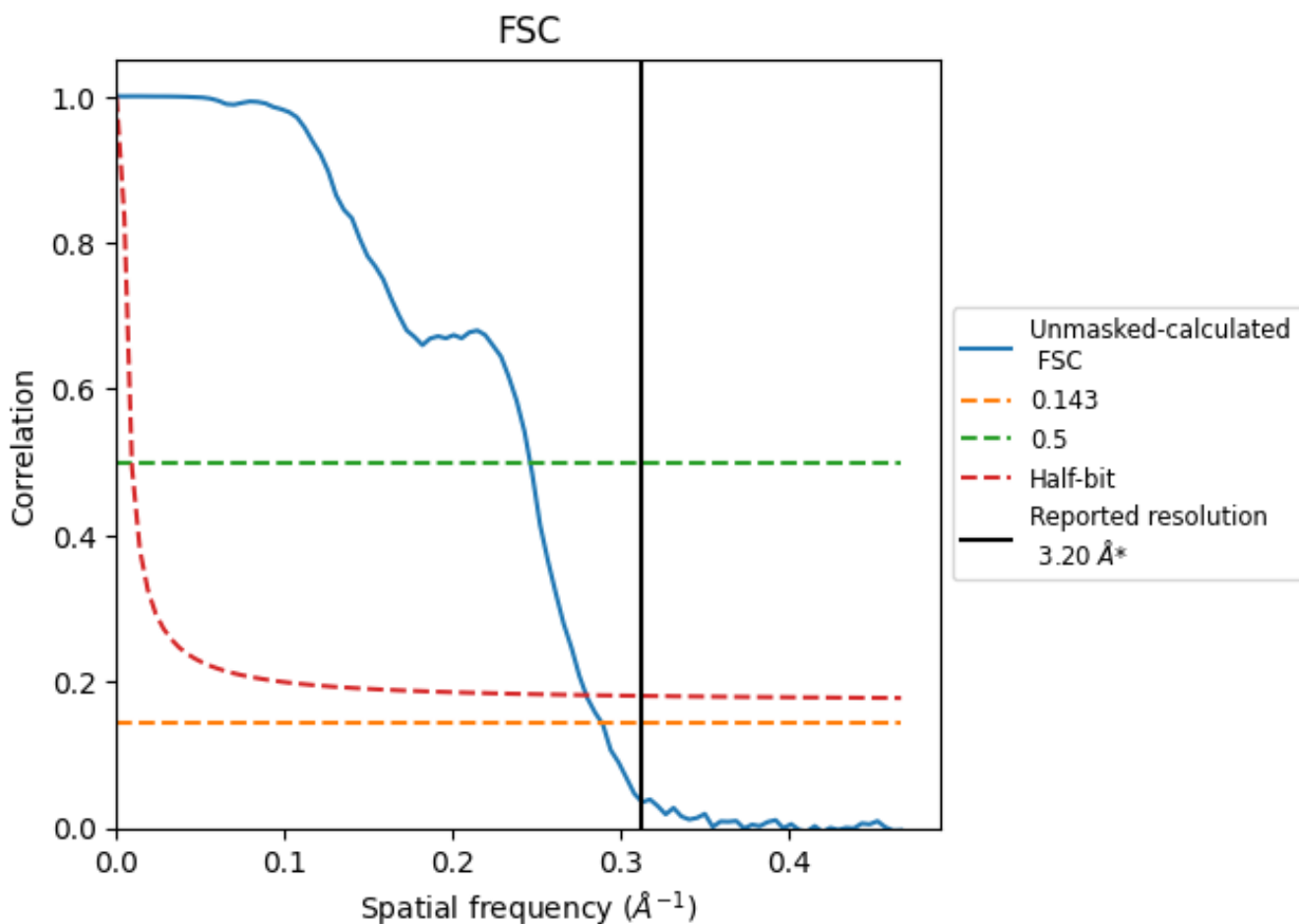
*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

8.2 Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.46	4.06	3.58

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-33444 and PDB model 7XTA. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay (i)

| X | Y | Z |
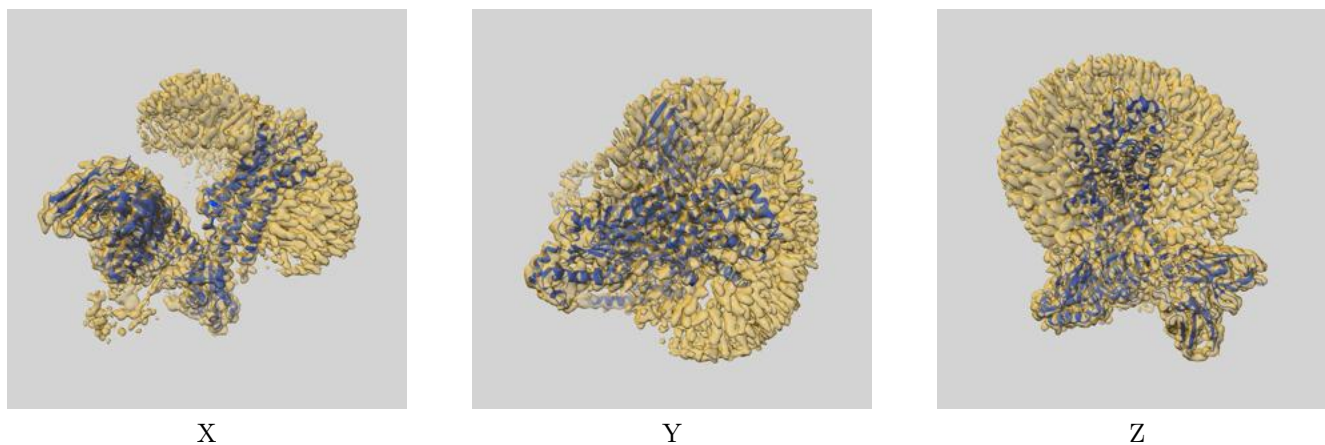
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ

X Y Z
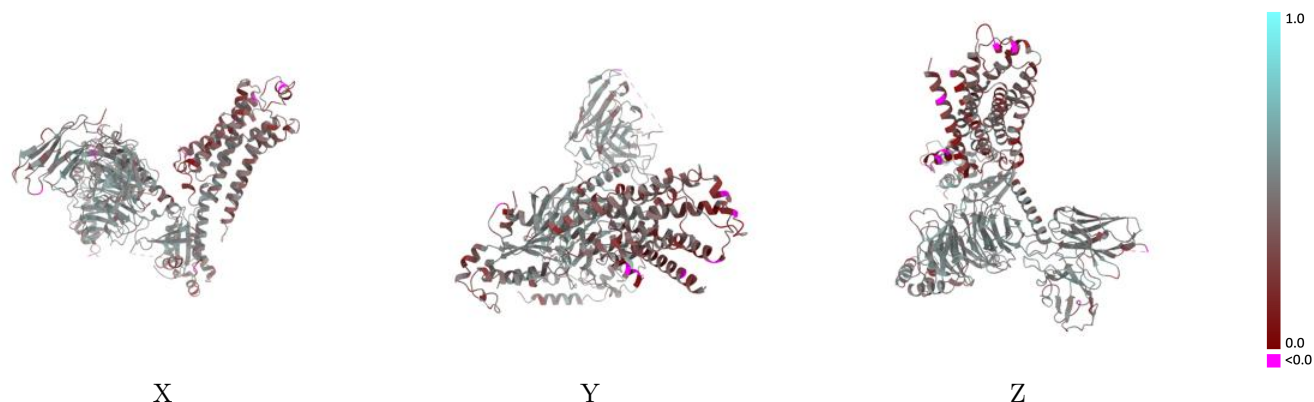
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model ⓘ

X Y Z
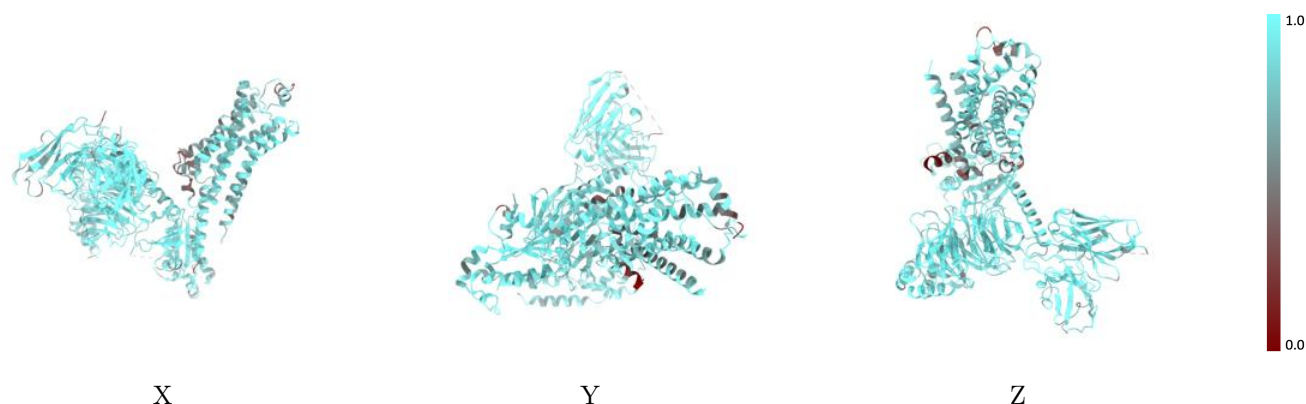
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.04).

9.4   Atom inclusion ⓘ
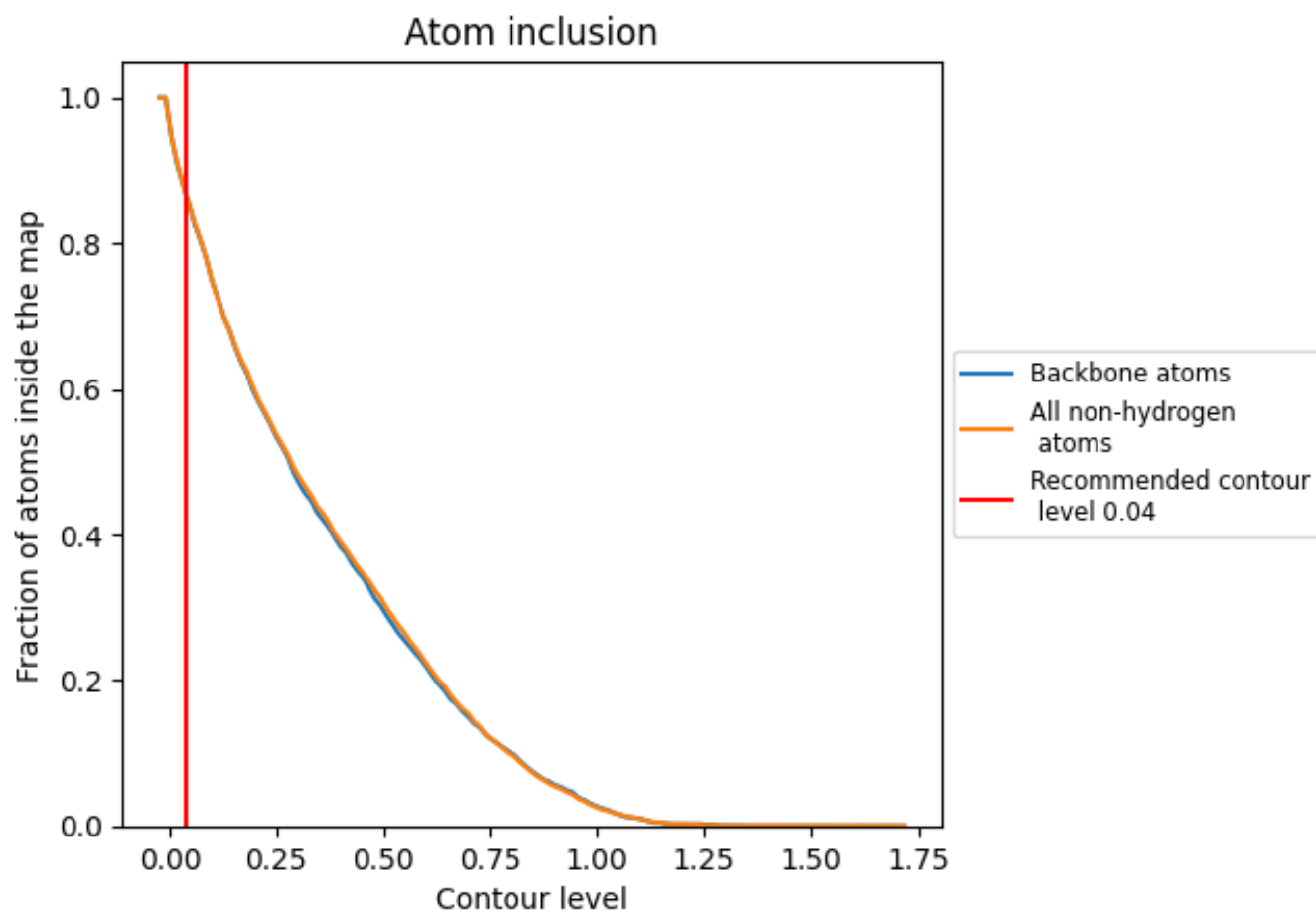
At the recommended contour level, 86% of all backbone atoms, 86% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8633	0.4260
A	0.8840	0.4380
B	0.9363	0.4900
E	0.9057	0.4700
G	0.8724	0.4300
R	0.7626	0.3090