wwPDB EM Validation Summary Report ⓘ

May 23, 2023 – 10:48 AM EDT

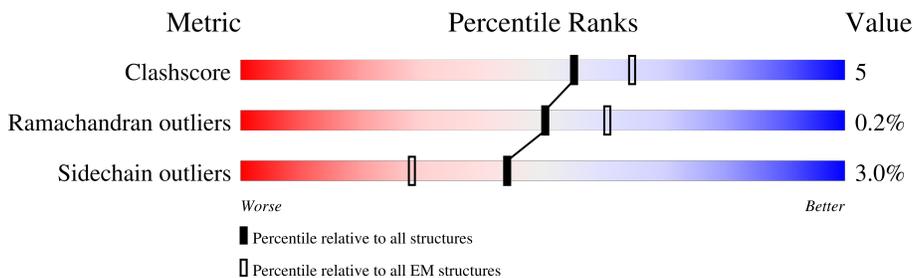|		
PDB ID	:	8HAO
EMDB ID	:	EMD-34598
Title	:	Human parathyroid hormone receptor-1 dimer
Authors	:	Zhao, L.; Xu, H.E.; Yuan, Q.
Deposited on	:	2022-10-26
Resolution	:	3.76 Å(reported)

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 3.76 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.
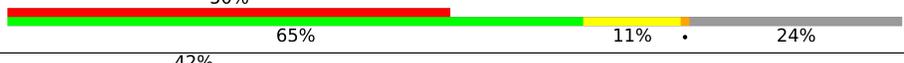
Metric	Percentile Ranks	Value
Clashscore		5
Ramachandran outliers		0.2%
Sidechain outliers		3.0%

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	361	19% / 56% 9% 35%
1	C	361	23% / 59% 6% 35%
2	B	400	38% / 72% 12% 15%
2	D	400	33% / 72% 14% 15%
3	E	71	48% / 75% · · 20%
3	G	71	48% / 70% 10% 20%
4	F	140	41% / 71% 21% 8%
4	N	140	32% / 86% 6% · 8%

W O R L D W I D E
wwPDB
PROTEIN DATA BANK

Continued from previous page...

Mol	Chain	Length	Quality of chain
5	H	35	51% · · · · · · · 89% · · · · 9% ·
5	P	35	60% · · · · · · · 91% · · · · 6% ·
6	I	476	50% · · · · · · · 65% · · · 11% · 24%
6	R	476	42% · · · · · · · 60% · · · 14% · 24%

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 18479 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 Guanine nucleotide-binding protein G(s) subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	235	Total	C	N	O	S	0	0
			1950	1232	350	360	8		
1	C	235	Total	C	N	O	S	0	0
			1950	1232	350	360	8		

- 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	341	Total	C	N	O	S	0	0
			2614	1612	470	511	21		
2	D	341	Total	C	N	O	S	0	0
			2614	1612	470	511	21		

- Molecule 3 is a protein called Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	57	Total	C	N	O	S	0	0
			436	273	77	83	3		
3	G	57	Total	C	N	O	S	0	0
			436	273	77	83	3		

- Molecule 4 is a protein called Nanobody 35.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	F	129	Total	C	N	O	S	0	0
			983	611	173	193	6		
4	N	129	Total	C	N	O	S	0	0
			983	611	173	193	6		

- Molecule 5 is a protein called Parathyroid hormone.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	H	34	Total 288	C 181	N 55	O 50	S 2	0	0
5	P	34	Total 288	C 181	N 55	O 50	S 2	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	35	NH2	-	amidation	UNP P01270
P	35	NH2	-	amidation	UNP P01270

- Molecule 6 is a protein called Parathyroid hormone/parathyroid hormone-related peptide receptor.

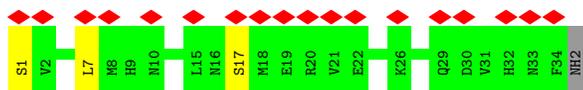| Mol	Chain	Residues	Atoms					AltConf	Trace
6	I	362	Total 2977	C 1969	N 497	O 491	S 20	0	0
6	R	360	Total 2960	C 1958	N 495	O 487	S 20	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	188	ALA	GLY	conflict	UNP Q03431
I	484	ARG	LYS	conflict	UNP Q03431
R	188	ALA	GLY	conflict	UNP Q03431
R	484	ARG	LYS	conflict	UNP Q03431

3   Residue-property plots (i)

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(s) subunit alpha

• Molecule 1: Guanine nucleotide-binding protein G(s) subunit alpha

K305 E311 F312 L313 R314 A318 S319 G320 D321 G322 R323 H324 Y325 H329 C332 S333 V334 D335 T336 E337 N338 I342 F343 N344 D345 C346 R347 I350 Q351 H354 L355 R356 Q357 Y358 E359 L360 L361

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

Chain B:

38%

72% 12% 15%

MET HIS HIS HIS HIS HIS SER SER GLY LEU VAL PRO ARG GLY SER HIS MET ALA SER HIS HIS HIS HIS HIS HIS HIS HIS GLY SER LEU LEU GLN SER E3 L4 D5 Q6 L7 R8 A11 E12 Q13 L14 K15 N16 D20 A21 R22 K23 A24 C25 A26 D27 A28 T29

L30 S31 Q32 I33 T34 N35 N36 I37 V40 G41 R42 I43 Q44 M45 R46 R49 T50 L51 R52 L55 A56 Y59 H62 D66 S67 R68 L69 Q75 D76 G77 K78 S84 T87 N88 K89 V90 H91 A92 I93 P94 L95 R96 W99 V100 M101 T102 C103 S108 G109

L117 D118 N119 I120 N125 L126 K127 T128 R129 E130 G131 N132 V133 R134 V135 S136 R137 E138 L139 A140 G141 G144 Y145 L146 R150 F151 L152 D153 D154 N155 Q156 I157 V158 T159 S160 D163 D170 I171 E172 T173 G174 Q175 T181 G182 H183 T184 G185 L190 S191 L192 A193 P194

D195 T196 R197 L198 F199 V200 S201 C204 D205 K209 L210 W211 D212 V213 R214 E215 G216 M217 C218 R219 Q220 G224 H225 E226 S227 F234 F235 G238 N239 A240 F241 A242 T243 G244 S245 D246 D247 A248 R251 D254 L255 R256 A257 D258 Q259 E260 L261 M262 T263 D267 N268 I269

I270 C271 F278 S281 G282 R283 L284 L285 G288 Y289 D290 D291 C294 N295 D298 A299 L300 K301 A302 D303 R304 A305 G306 V307 L308 A309 G310 H311 D312 L318 G319 D322 G323 G324 G330 S331 W332 D333 S334 F335 L336 K337 I338 G341 S342 S343 GLY GLY GLY SER

GLY GLY GLY SER SER GLY VAL SER GLY TRP ARG LEU PHE LYS LYS ILE SER

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

Chain D:

33%

72% 14% 15%

MET HIS HIS HIS HIS HIS SER SER GLY LEU VAL PRO ARG GLY SER HIS MET ALA SER HIS HIS HIS HIS HIS HIS HIS HIS GLY SER LEU LEU GLN SER E3 L4 D5 Q6 L7 R8 Q9 E10 A11 E12 Q13 L14 K15 N16 Q17 I18 R19 D20 A21 R22 K23 A24 L30

S31 Q32 N36 I37 D38 R42 I43 Q44 M45 R46 L51 R52 G53 H54 L55 A56 K57 I58 Y59 A60 M61 H62 W63 D66 S67 R68 L69 L70 Q75 K78 L79 S84 T87 V90 I93 P94 L95 R96 S97 S98 W99 V100 Y105 A106 P107 S108 G109 G115

S122 L126 K127 T128 R129 E130 G131 N132 V133 R134 V135 S136 R137 G144 Y145 L146 R150 F151 L152 D153 D154 N155 Q156 I157 V158 T159 S160 D163 T164 T165 D170 I171 E172 Q175 T178 T179 F180 T181 G182 G185 L190 S191 L192 A193 P194 D195 T196 R197 L198 F199

A206 L210 W211 D212 V213 R214 E215 G216 M217 G224 H225 E226 S227 D228 I229 F234 F235 P236 N237 G238 N239 A240 F241 A242 T243 G244 S245 D246 D247 A248 L252 F253 D254 L255 R256 A257 D258 Q259 E260 L261 M262 I269 I270 C271 S277 F278 G282 L285 L286 Y289

D290 D291 F292 N293 C294 A299 L300 K301 A302 D303 R304 A305 A309 G310 H311 D312 N313 V320 T321 D322 G323 G324 V327 S331 W332 D333 S334 F335 L336 K337 N340 G341 S342 S343 GLY GLY GLY SER GLY GLY GLY SER SER GLY VAL SER GLY TRP ARG LEU PHE LYS

LYS
ILE
SER

• Molecule 3: Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-2

Chain E:

48%

75%

20%

PHE
PHE
CYS
ALA
ILE
LEU

• Molecule 3: Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-2

Chain G:

48%

70%

10%

20%

CYS
ALA
ILE
LEU

• Molecule 4: Nanobody 35

Chain F:

41%

71%

21%

8%

• Molecule 4: Nanobody 35

Chain N:

32%

86%

6%

8%

• Molecule 5: Parathyroid hormone

Chain H:

51%

89%

9%

• Molecule 5: Parathyroid hormone

Chain P:

• Molecule 6: Parathyroid hormone/parathyroid hormone-related peptide receptor

Chain I:

• Molecule 6: Parathyroid hormone/parathyroid hormone-related peptide receptor

Chain R:

4   Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55858	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 $(e^-/\text{Å}^2)$	50	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.745	Depositor
Minimum map value	-0.003	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.386	Depositor
Map size (Å)	421.888, 421.888, 421.888	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.824, 0.824, 0.824	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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	0/1989	0.50	0/2677
1	C	0.25	0/1989	0.50	0/2677
2	B	0.24	0/2661	0.51	0/3607
2	D	0.24	0/2661	0.52	0/3607
3	E	0.25	0/442	0.49	0/597
3	G	0.26	0/442	0.46	0/597
4	F	0.28	0/1004	0.58	1/1360 (0.1%)
4	N	0.26	0/1004	0.51	0/1360
5	H	0.25	0/293	0.44	0/391
5	P	0.25	0/293	0.44	0/391
6	I	0.24	0/3066	0.46	0/4164
6	R	0.25	0/3049	0.47	0/4141
All	All	0.25	0/18893	0.49	1/25569 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	F	41	PRO	CA-N-CD	-7.35	101.21	111.50

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	1950	0	1925	21	0
1	C	1950	0	1925	16	0
2	B	2614	0	2518	29	0
2	D	2614	0	2518	35	0
3	E	436	0	448	3	0
3	G	436	0	448	4	0
4	F	983	0	945	20	0
4	N	983	0	945	6	0
5	H	288	0	292	2	0
5	P	288	0	292	2	0
6	I	2977	0	2961	29	0
6	R	2960	0	2944	40	0
All	All	18479	0	18161	195	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 5.

The worst 5 of 195 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)
3:E:57:SER:OG	3:E:58:GLU:OE2	1.79	0.99
1:A:266:GLU:OE2	1:C:48:THR:OG1	1.90	0.90
6:I:242:ALA:O	6:I:246:SER:OG	1.97	0.81
4:N:114:THR:HG22	4:N:114:THR:O	1.85	0.75
2:D:93:ILE:HD12	2:D:133:VAL:HG21	1.68	0.75

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	231/361 (64%)	226 (98%)	5 (2%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	231/361 (64%)	227 (98%)	4 (2%)	0	100	100
2	B	339/400 (85%)	333 (98%)	6 (2%)	0	100	100
2	D	339/400 (85%)	333 (98%)	6 (2%)	0	100	100
3	E	55/71 (78%)	55 (100%)	0	0	100	100
3	G	55/71 (78%)	54 (98%)	1 (2%)	0	100	100
4	F	127/140 (91%)	124 (98%)	3 (2%)	0	100	100
4	N	127/140 (91%)	124 (98%)	3 (2%)	0	100	100
5	H	32/35 (91%)	32 (100%)	0	0	100	100
5	P	32/35 (91%)	32 (100%)	0	0	100	100
6	I	352/476 (74%)	333 (95%)	17 (5%)	2 (1%)	25	61
6	R	350/476 (74%)	327 (93%)	21 (6%)	2 (1%)	25	61
All	All	2270/2966 (76%)	2200 (97%)	66 (3%)	4 (0%)	50	78

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	I	150	ARG
6	R	150	ARG
6	I	109	LEU
6	R	109	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	212/315 (67%)	210 (99%)	2 (1%)	78	88
1	C	212/315 (67%)	209 (99%)	3 (1%)	67	82
2	B	282/328 (86%)	274 (97%)	8 (3%)	43	68
2	D	282/328 (86%)	272 (96%)	10 (4%)	36	63
3	E	46/58 (79%)	45 (98%)	1 (2%)	52	73

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	G	46/58 (79%)	46 (100%)	0	100	100
4	F	107/116 (92%)	106 (99%)	1 (1%)	78	88
4	N	107/116 (92%)	105 (98%)	2 (2%)	57	76
5	H	33/33 (100%)	32 (97%)	1 (3%)	41	66
5	P	33/33 (100%)	33 (100%)	0	100	100
6	I	316/407 (78%)	303 (96%)	13 (4%)	30	59
6	R	314/407 (77%)	295 (94%)	19 (6%)	18	51
All	All	1990/2514 (79%)	1930 (97%)	60 (3%)	44	66

5 of 60 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	I	138	PHE
6	R	385	LEU
6	I	288	PHE
6	R	314	PHE
6	R	475	SER

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

Mol	Chain	Res	Type
5	P	9	HIS

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 ⓘ

There are no ligands in this entry.

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-34598. 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 ⓘ
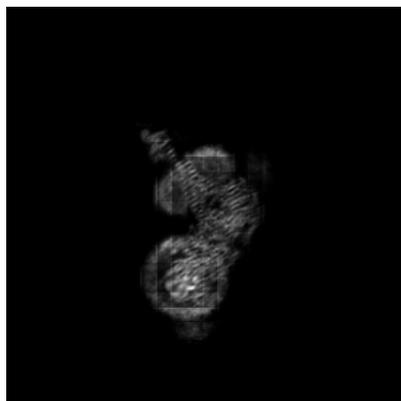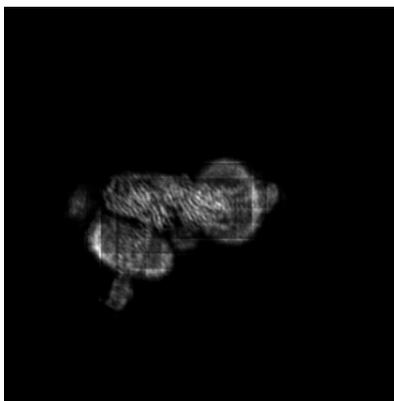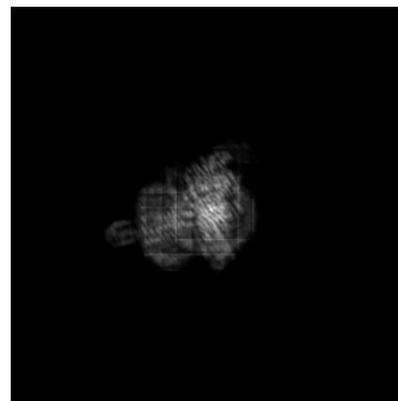
6.1.1   Primary map

X   Y   Z

6.1.2   Raw map

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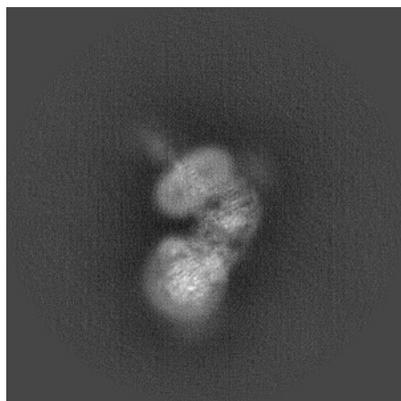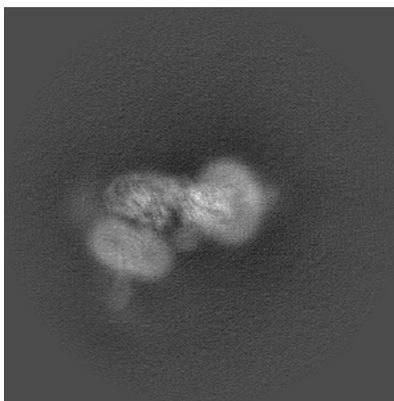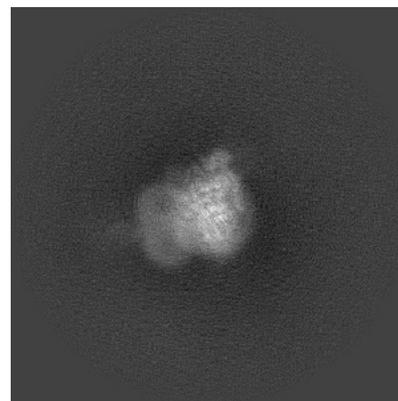
The images above show the map projected in three orthogonal directions.

6.2　Central slices ⓘ

6.2.1　Primary map
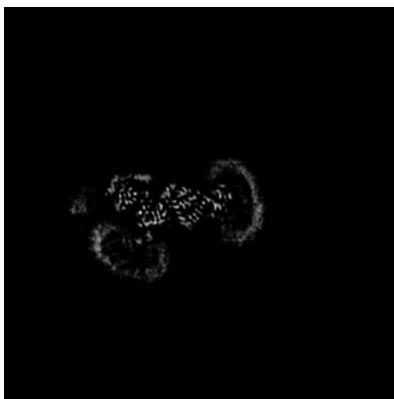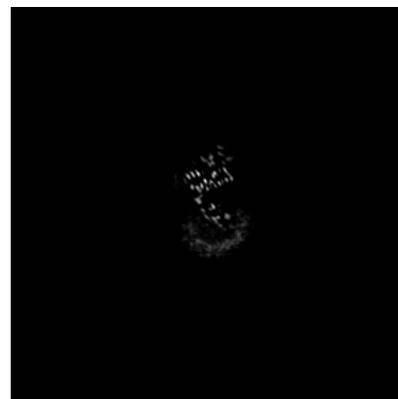
X Index: 256　　　　Y Index: 256　　　　Z Index: 256

6.2.2　Raw map
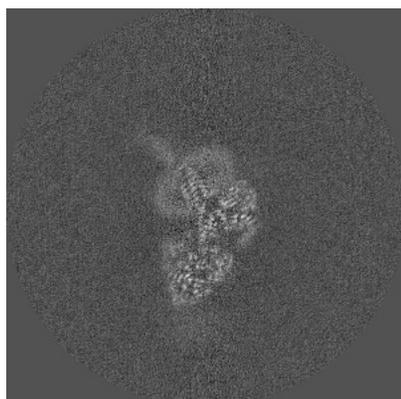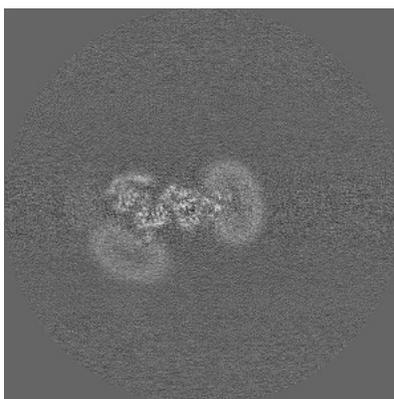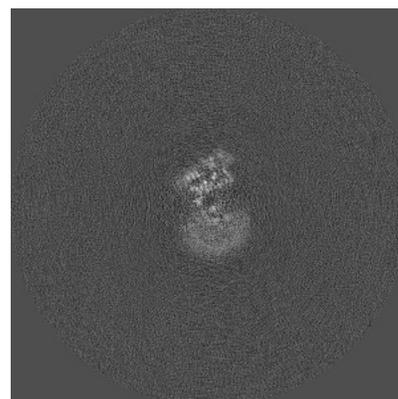
X Index: 256　　　　Y Index: 256　　　　Z Index: 256

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

6.3 Largest variance slices ⓘ

6.3.1 Primary map
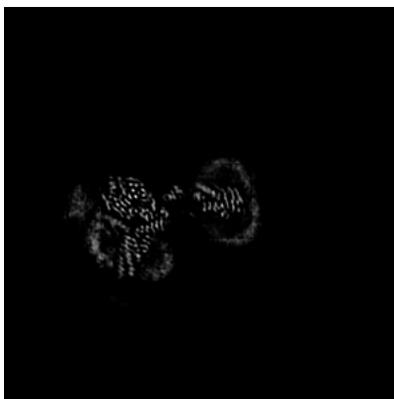
| X Index: 267 | Y Index: 242 | Z Index: 184 |

6.3.2 Raw map
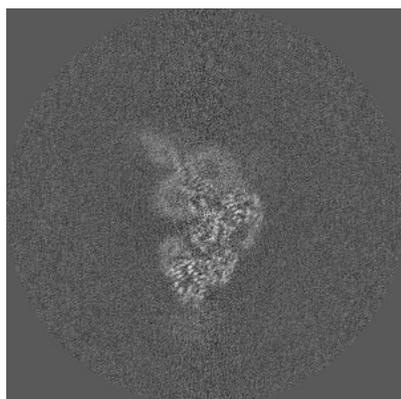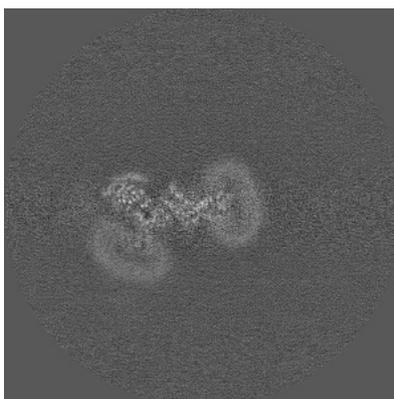
| X Index: 266 | Y Index: 252 | Z Index: 240 |
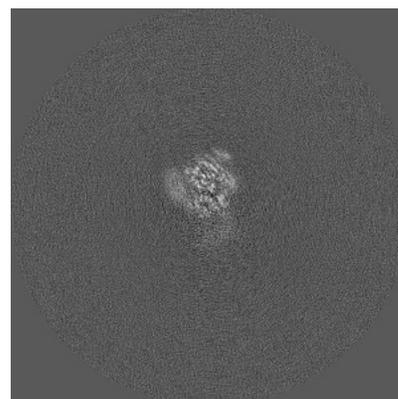
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) ⓘ

6.4.1 Primary map
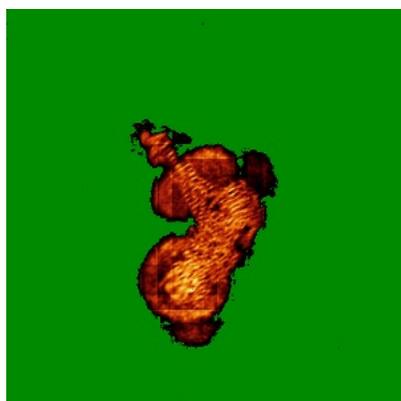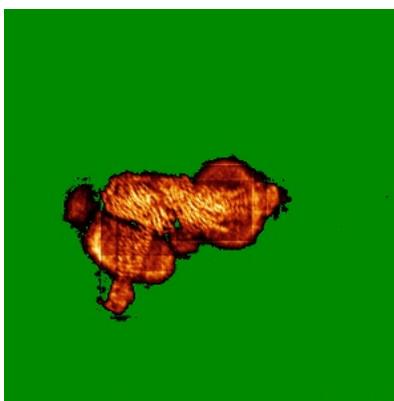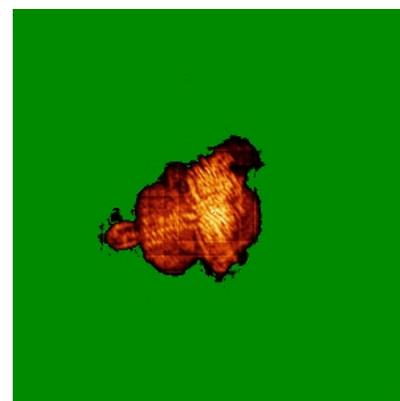
| X | Y | Z |

6.4.2 Raw map

| X | Y | Z |
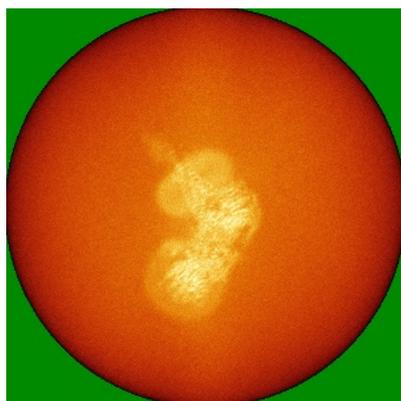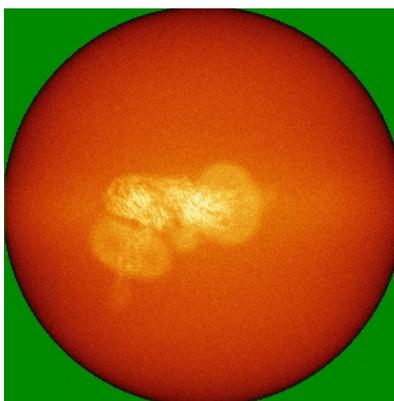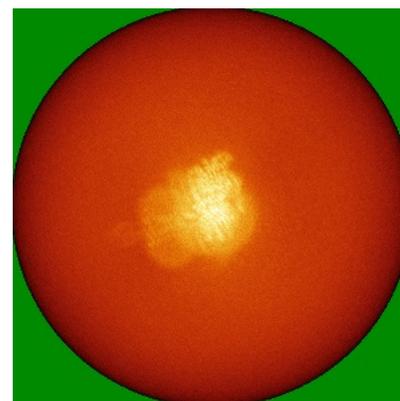
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

| X | Y | Z |
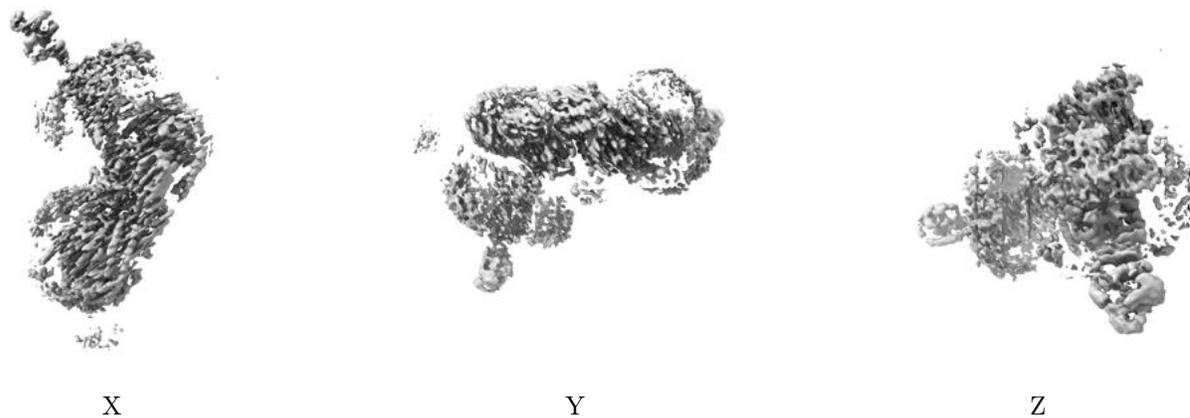
The images above show the 3D surface view of the map at the recommended contour level 0.386. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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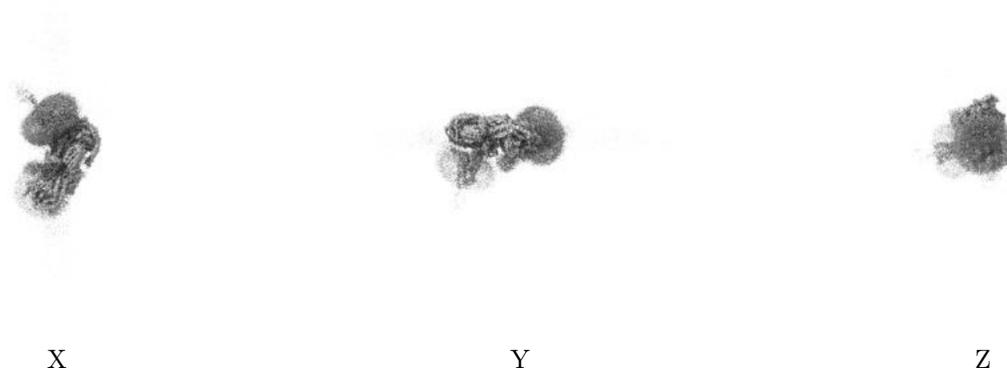
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.6 Mask visualisation ⓘ

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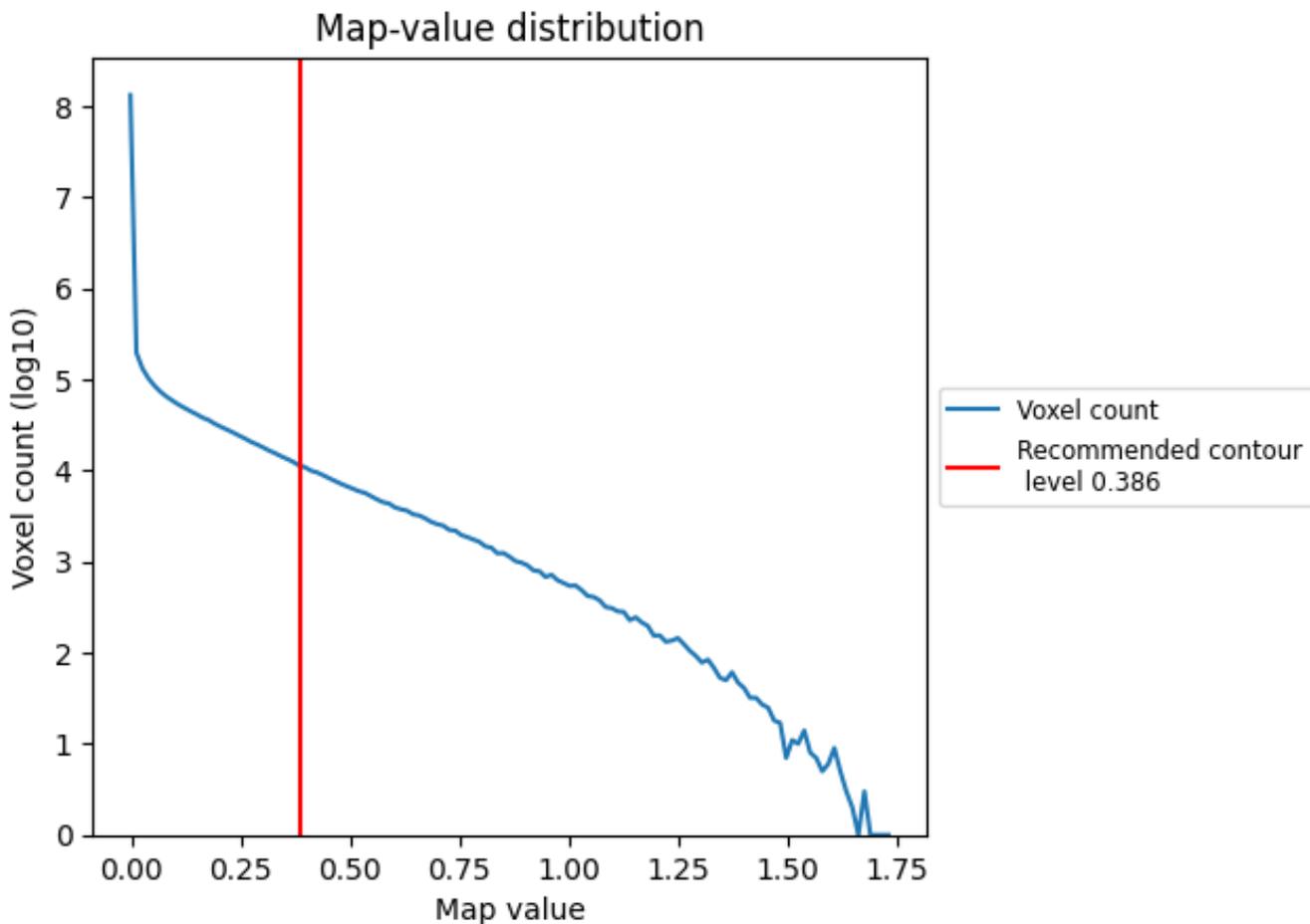
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2   Volume estimate ⓘ
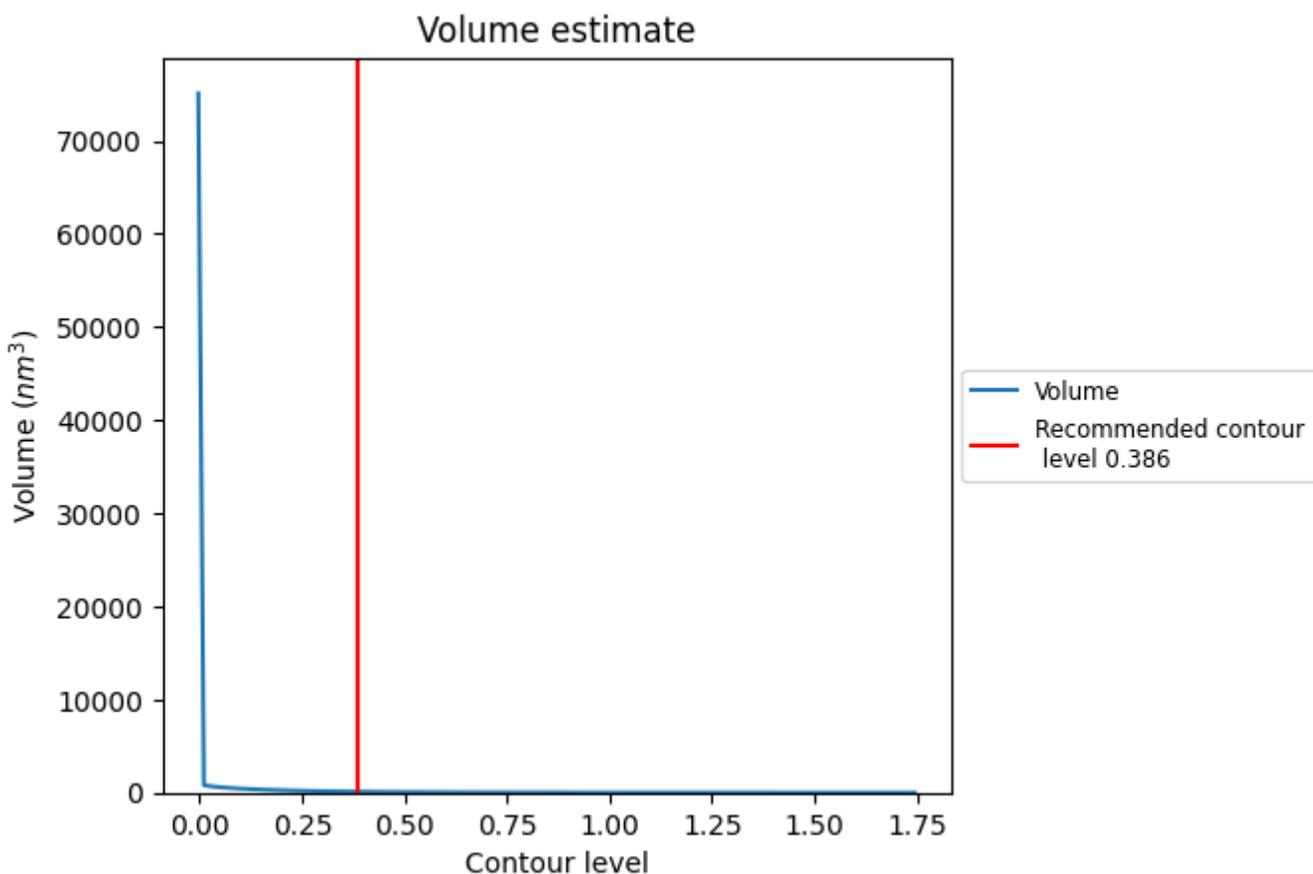
The volume at the recommended contour level is 98 nm^3; this corresponds to an approximate mass of 89 kDa.

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 ⓘ
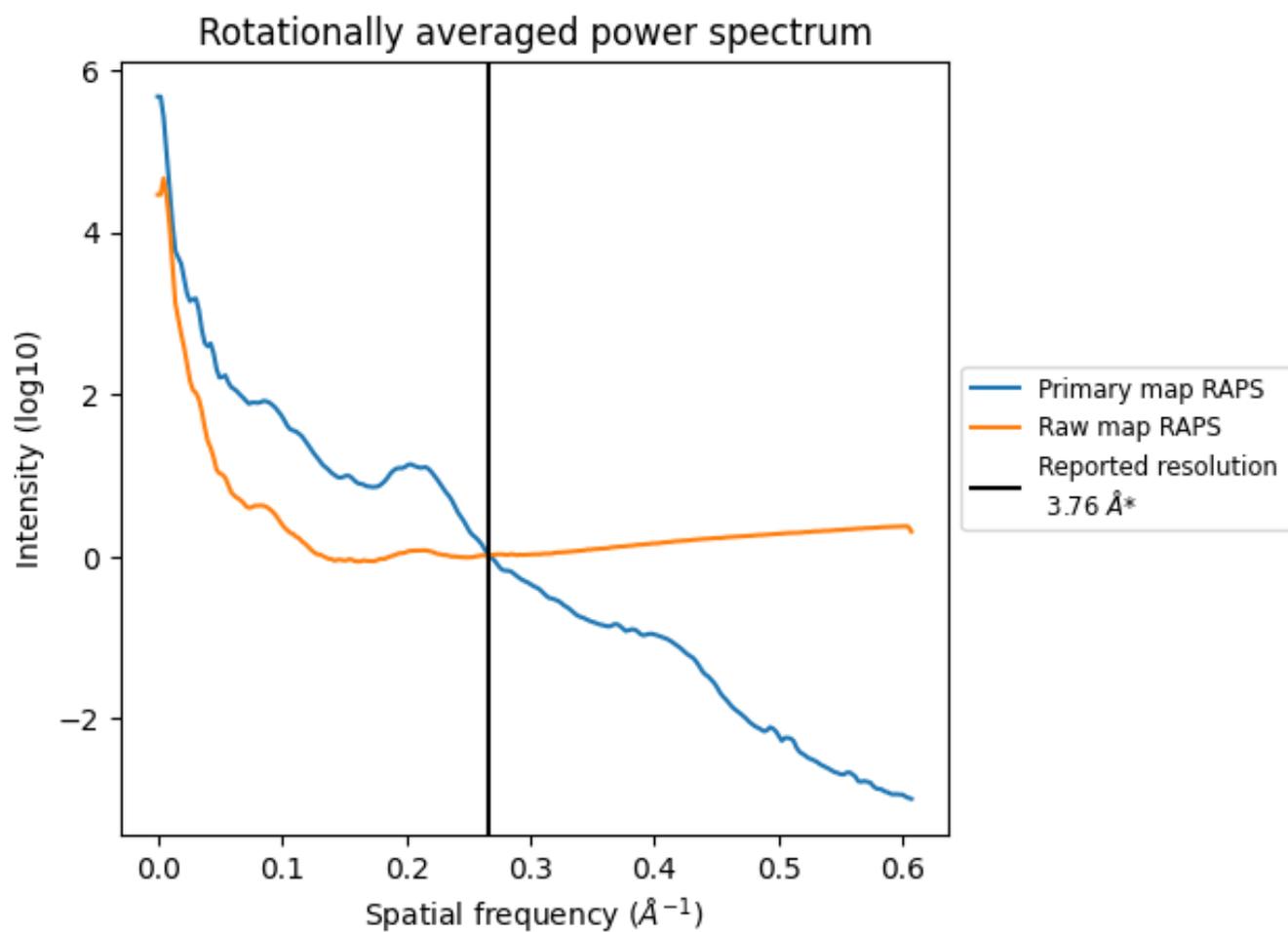
*Reported resolution corresponds to spatial frequency of 0.266 Å^{-1}

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 ⓘ
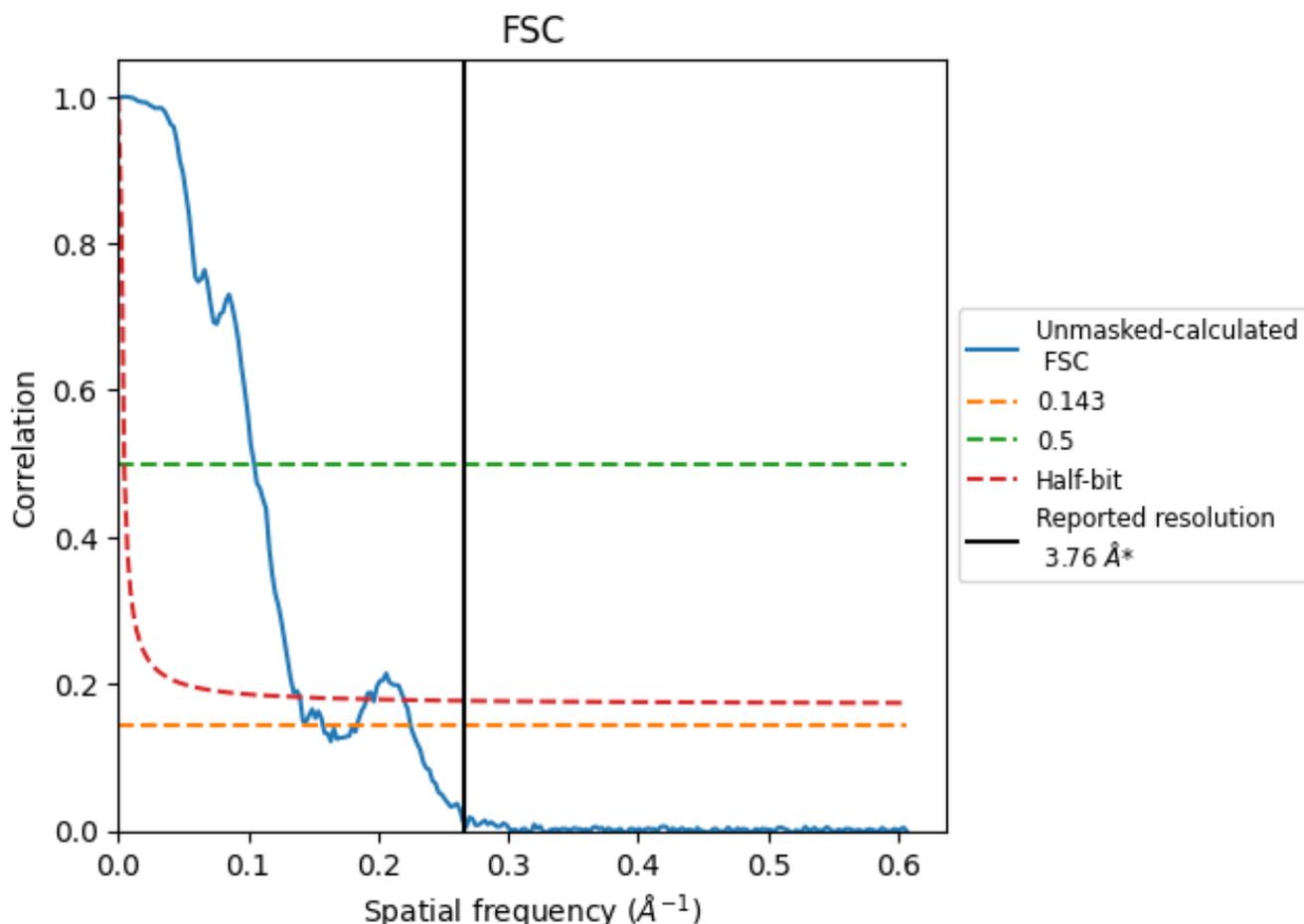
*Reported resolution corresponds to spatial frequency of 0.266 Å^{-1}

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.76	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.35	9.56	7.15

*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 6.35 differs from the reported value 3.76 by more than 10 %

9   Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-34598 and PDB model 8HAO. Per-residue inclusion information can be found in section 3 on page 6.

## 9.1   Map-model overlay ⓘ

X   Y   Z
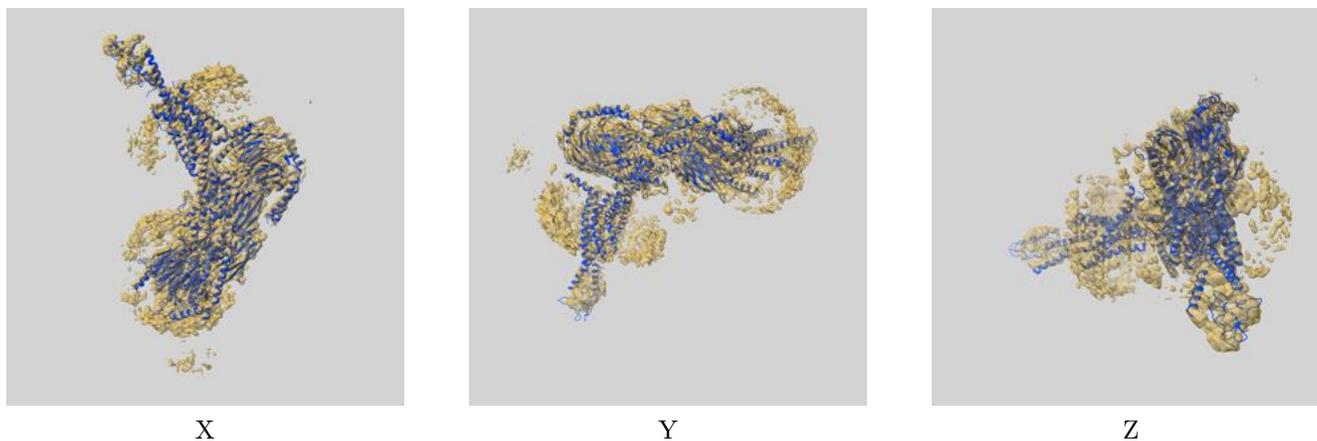
The images above show the 3D surface view of the map at the recommended contour level 0.386 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2   Q-score mapped to coordinate model ⓘ

X   Y   Z
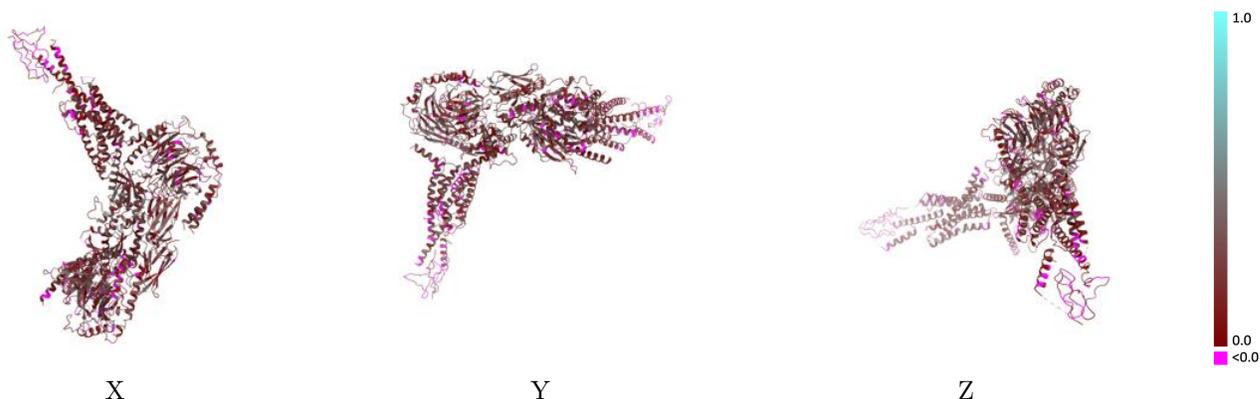
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
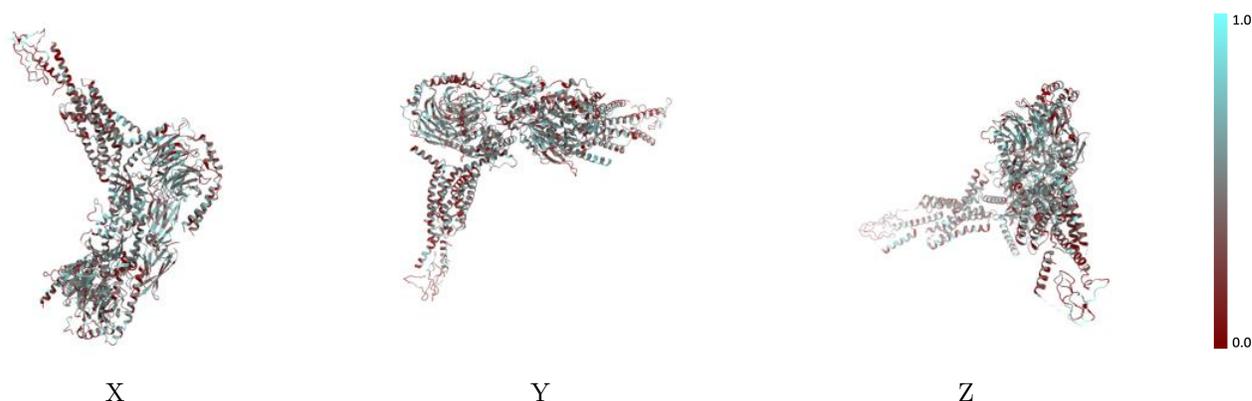
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.386).

9.4 Atom inclusion ⓘ
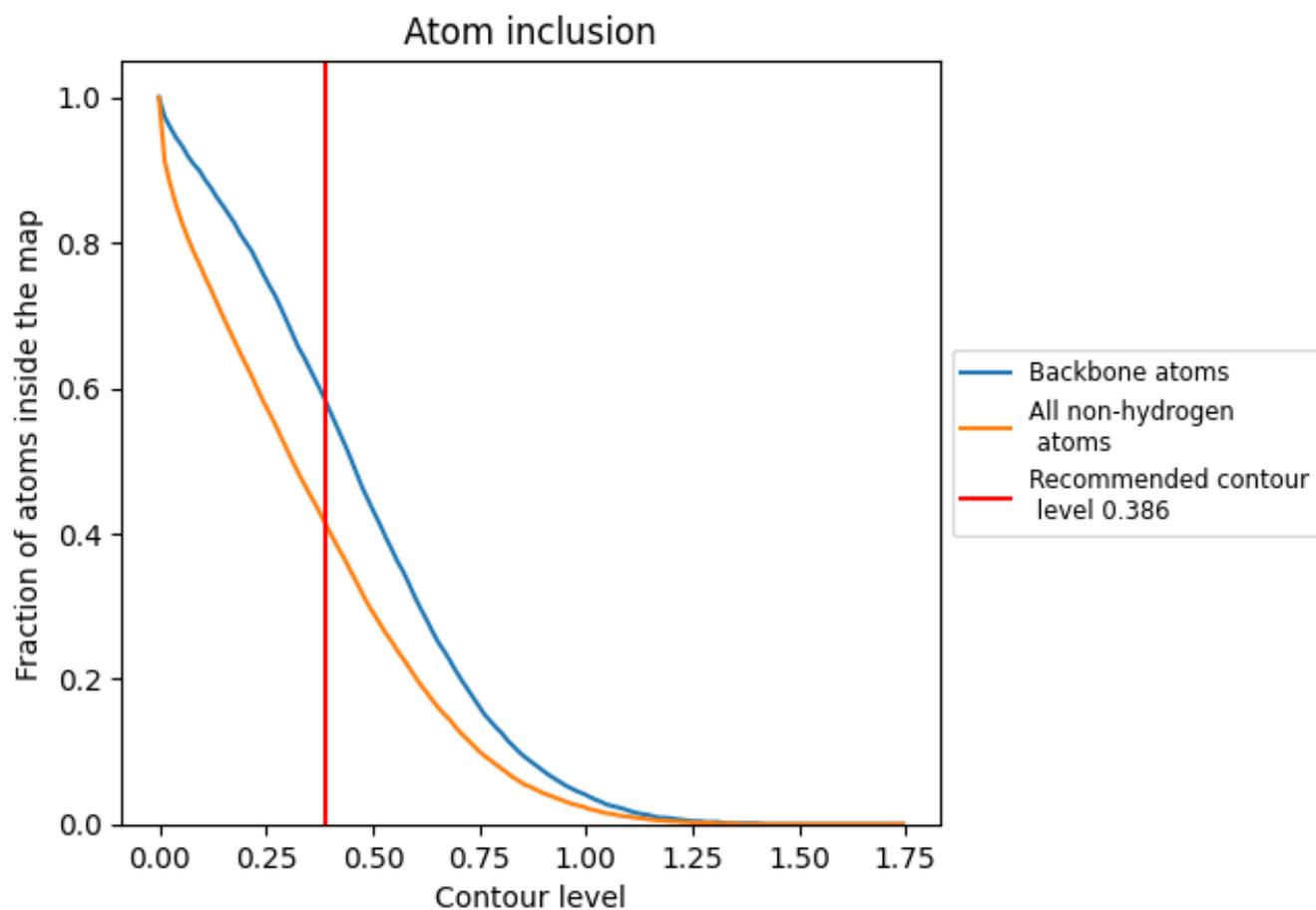
At the recommended contour level, 59% of all backbone atoms, 42% of all non-hydrogen atoms, are inside the map.

9.5　Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.386) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4160	0.2060
A	0.4950	0.2590
B	0.4460	0.2270
C	0.4650	0.2180
D	0.4580	0.2380
E	0.3850	0.1550
F	0.4430	0.2330
G	0.3680	0.2010
H	0.3850	0.1730
I	0.3150	0.1410
N	0.4760	0.2740
P	0.3430	0.1590
R	0.3640	0.1640

1.0

0.0
<0.0