WORLDWIDE wwPDB PROTEIN DATA BANK

wwPDB EM Validation Summary Report (i)

Nov 20, 2022 – 07:10 am GMT

PDB ID	:	5GAO
EMDB ID	:	EMD-8013
Title	:	Head region of the yeast spliceosomal U4/U6.U5 tri-snRNP
Authors	:	Nguyen, T.H.D.; Galej, W.P.; Bai, X.C.; Oubridge, C.; Scheres, S.H.W.; Newman, A.J.; Nagai, K.
Deposited on	:	2015-12-15
Resolution	:	3.60 Å(reported)
Based on initial model	:	4BGD

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 3.60 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		7
Ramachandran outliers		1.7%
Sidechain outliers		6.3%
RNA backbone		0.22

Worse   *Better*

▮ Percentile relative to all structures

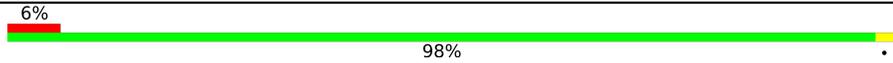▯ Percentile relative to all EM structures
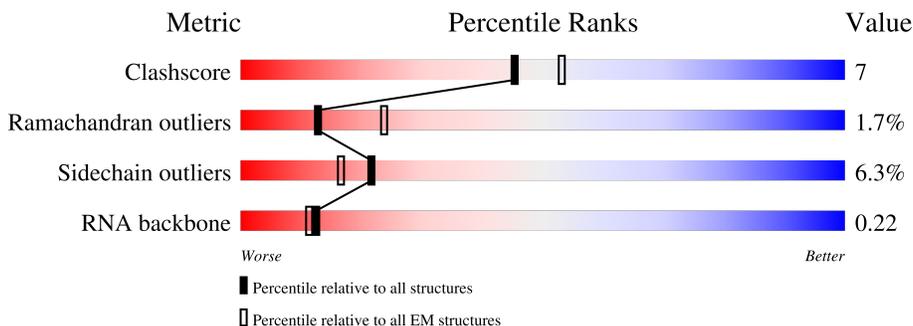
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	k	196	39% · 59%
2	l	146	60% · 38%
3	m	110	80% 5% 15%
4	n	101	79% · 19%
5	p	94	76% 5% 19%
6	q	86	83% · 16%
7	r	77	5% 86% · 10%

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Mol	Chain	Length	Quality of chain
8	E	338	6% ▬ 98% ▪
9	B	2163	59% 18% ▪ 21%
10	V	96	17% 35% 7% 41%
11	A	267	76% 17% ▪ ▪

2 Entry composition (i)

There are 11 unique types of molecules in this entry. The entry contains 23073 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 Small nuclear ribonucleoprotein-associated protein B.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	k	80	Total	C	N	O	S	0	0
			635	406	115	111	3		

- Molecule 2 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	l	91	Total	C	N	O	S	0	0
			720	455	129	134	2		

- Molecule 3 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	m	94	Total	C	N	O	S	0	0
			737	474	140	119	4		

- Molecule 4 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	n	82	Total	C	N	O	S	0	0
			625	399	109	115	2		

- Molecule 5 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	p	76	Total	C	N	O	S	0	0
			580	382	93	102	3		

- Molecule 6 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	q	72	Total	C	N	O	S	0	0
			573	368	101	103	1		

- Molecule 7 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	r	69	Total 526	C 336	N 93	O 95	S 2	0	0

- Molecule 8 is a protein called Snu66.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	E	338	Total 1763	C 1063	N 352	O 348	0	0

- Molecule 9 is a protein called Pre-mRNA-splicing helicase BRR2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	B	1710	Total 13690	C 8772	N 2283	O 2579	S 56	1	0

- Molecule 10 is a RNA chain called Saccharomyces cerevisiae strain UOA_M2 chromosome 5 sequence.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	V	57	Total 1209	C 542	N 212	O 398	P 57	0	0

- Molecule 11 is a protein called Pre-mRNA-splicing factor 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	A	255	Total 2015	C 1300	N 329	O 380	S 6	0	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: Small nuclear ribonucleoprotein-associated protein B

- Molecule 2: Small nuclear ribonucleoprotein Sm D1

- Molecule 3: Small nuclear ribonucleoprotein Sm D2

- Molecule 4: Small nuclear ribonucleoprotein Sm D3

• Molecule 5: Small nuclear ribonucleoprotein E

Chain p:

76% 5% 19%

MET SER ASN LYS VAL LYS THR LYS ALA M10 F18 A65 ASP GLY LYS GLU ASP VAL GLU K73 L77 G78 K79 I80 L81 L82 T88 S92 ALA ASP

• Molecule 6: Small nuclear ribonucleoprotein F

Chain q:

83% 16%

MET SER GLU SER ASP ILE SER ALA MET GLN P12 L79 E83 LEU PRO ASN

• Molecule 7: Small nuclear ribonucleoprotein G

Chain r:

5%

86% 10%

MET V2 S3 I46 ASN GLY GLU ASP PRO ALA N53 L59 I69 S70 L71 D75 A76 ILE

• Molecule 8: Snu66

Chain E:

6%

98%

A5 A101 A194 A212 A368 A385 A389 A390 A391 A392 A393 A394 A395 A396 A397 A404 A408 A411 A488 A489 A512 A513 A531 A532 A533 A534 A535 Y545 Q550 K551 F552 K560

• Molecule 9: Pre-mRNA-splicing helicase BRR2

Chain B:

59% 18% 21%

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

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

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

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

ASP ASP GLU GLU TYR ASP TYR ASN ASP VAL GLU VAL ASN SER LYS LYS ASN ARG ALA LEU PRO ASN ILE GLU ASN ASP ILE ILE LYS LEU ASP ASP GLU LYS SER THR SER ASN ILE GLU GLU VAL PRO ILE TYR SER ILE ASP GLU PHE PHE LEU GLN ARG LYS LEU ARG SER GLU GLU

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

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

• Molecule 10: Saccharomyces cerevisiae strain UOA_M2 chromosome 5 sequence

Chain V:

G A A A U U A A73 U74 U75 A76 U77 A78 A79 A80 C81 C82 A83 G84 A85 C86 C87 G88 U89 C90 U91 U94 G98 G99 U100 C101 A102 A103 U104 U C G G U G U C C C U U U G A A U A C U U

C128 A129 A130 G131 A132 C133 U134 A135 U136 G137 U138 A143 A144 U145 U146 U147 U148 U149 G150 G151 A152 A U A C C U U U

• Molecule 11: Pre-mRNA-splicing factor 8

Chain A: 76% 17% • •

S2147 W2152 R2153 K2154 S2155 N2159 L2162 Y2163 L2164 R2165 L2166 K2167 N2168 I2169 Y2170 V2182 N2188 L2189 L2190 I2194 S2197 A2204 Y2208 T2223 V2224 V2227 P2228 Q2229 I2238 I2244 L2247 E2251 I2259 H2260 T2261 I2293 V2300 N2306 D2309 E2310

G2311 I2321 M2322 E2327 G2328 F2329 E2330 Q2338 L2339 L2340 F2349 G2354 N2355 V2356 W2357 F2374 E2381 R2388 P2389 F2395 S2396 E2397 L2398 D2401 GLU GLU LEU GLU ALA GLU GLN ILE ASP VAL PHE SER

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	140155	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	38	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	35714	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.157	Depositor
Minimum map value	-0.073	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	543.39996, 543.39996, 543.39996	wwPDB
Map dimensions	380, 380, 380	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.43, 1.43, 1.43	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	k	0.42	0/640	0.66	0/860
2	l	0.44	0/725	0.68	0/980
3	m	0.44	0/749	0.64	0/1009
4	n	0.37	0/634	0.57	0/859
5	p	0.48	0/590	0.61	0/802
6	q	0.42	0/585	0.63	0/791
7	r	0.38	0/529	0.57	0/711
8	E	0.41	0/1751	0.53	0/2411
9	B	0.46	0/13989	0.72	1/18966 (0.0%)
10	V	0.33	0/1350	0.77	0/2097
11	A	0.48	0/2064	0.67	0/2801
All	All	0.45	0/23606	0.69	1/32287 (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	k	0	1
9	B	0	5
All	All	0	6

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	B	643	ARG	NE-CZ-NH1	5.31	122.96	120.30

There are no chirality outliers.

5 of 6 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	B	1200	PRO	Peptide
9	B	1484	TYR	Peptide
9	B	790	ASP	Peptide
9	B	791	PRO	Peptide
1	k	84	LEU	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	k	635	0	681	0	0
2	l	720	0	772	0	0
3	m	737	0	767	0	0
4	n	625	0	647	0	0
5	p	580	0	602	0	0
6	q	573	0	572	0	0
7	r	526	0	555	0	0
8	E	1763	0	1764	3	0
9	B	13690	0	13704	234	0
10	V	1209	0	612	15	0
11	A	2015	0	1970	28	0
All	All	23073	0	22646	267	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 7.

The worst 5 of 267 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)
9:B:1700:ILE:HD11	9:B:1740:LEU:HD13	1.37	1.06
9:B:1208:ALA:HB2	9:B:1218:PHE:CD2	2.23	0.74
9:B:1220:ILE:HD13	9:B:1241:LEU:HD11	1.71	0.72
9:B:1183:ILE:CD1	9:B:1192:VAL:HG11	2.19	0.71
9:B:1224:ALA:HB3	9:B:1264:VAL:HA	1.72	0.71

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	k	76/196 (39%)	67 (88%)	8 (10%)	1 (1%)	12	50
2	l	87/146 (60%)	74 (85%)	12 (14%)	1 (1%)	14	53
3	m	92/110 (84%)	80 (87%)	10 (11%)	2 (2%)	6	39
4	n	80/101 (79%)	70 (88%)	10 (12%)	0	100	100
5	p	72/94 (77%)	64 (89%)	8 (11%)	0	100	100
6	q	70/86 (81%)	60 (86%)	10 (14%)	0	100	100
7	r	65/77 (84%)	58 (89%)	6 (9%)	1 (2%)	10	47
8	E	308/338 (91%)	266 (86%)	38 (12%)	4 (1%)	12	50
9	B	1707/2163 (79%)	1499 (88%)	174 (10%)	34 (2%)	7	41
11	A	253/267 (95%)	213 (84%)	34 (13%)	6 (2%)	6	37
All	All	2810/3578 (78%)	2451 (87%)	310 (11%)	49 (2%)	13	45

5 of 49 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	B	448	LEU
9	B	771	THR
9	B	792	SER
9	B	985	GLU
9	B	1370	SER

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	k	71/176 (40%)	69 (97%)	2 (3%)	43	72
2	l	85/129 (66%)	82 (96%)	3 (4%)	36	68
3	m	78/103 (76%)	74 (95%)	4 (5%)	24	58
4	n	69/89 (78%)	67 (97%)	2 (3%)	42	72
5	p	65/83 (78%)	60 (92%)	5 (8%)	13	45
6	q	63/77 (82%)	62 (98%)	1 (2%)	62	83
7	r	57/66 (86%)	55 (96%)	2 (4%)	36	68
8	E	20/20 (100%)	18 (90%)	2 (10%)	7	35
9	B	1536/1955 (79%)	1428 (93%)	108 (7%)	15	48
11	A	220/236 (93%)	206 (94%)	14 (6%)	17	52
All	All	2264/2934 (77%)	2121 (94%)	143 (6%)	21	53

5 of 143 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	B	1724	THR
9	B	1860	PHE
11	A	2164	LEU
9	B	901	VAL
9	B	897	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 15 such sidechains are listed below:

Mol	Chain	Res	Type
9	B	1280	ASN
11	A	2306	ASN
9	B	1513	ASN
11	A	2394	GLN
9	B	2069	GLN

5.3.3   RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	V	55/96 (57%)	34 (61%)	5 (9%)

5 of 34 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
10	V	74	U
10	V	75	U
10	V	78	A
10	V	80	A
10	V	81	C

All (5) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
10	V	80	A
10	V	83	A
10	V	88	G
10	V	143	A
10	V	150	G

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 ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
8	E	14

The worst 5 of 14 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	132:ALA	C	150:ALA	N	37.33
1	E	170:ALA	C	180:ALA	N	34.57
1	E	102:ALA	C	120:ALA	N	31.59
1	E	299:ALA	C	310:ALA	N	27.52
1	E	226:ALA	C	240:ALA	N	26.36

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-8013. 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 ⓘ

6.1.1 Primary map

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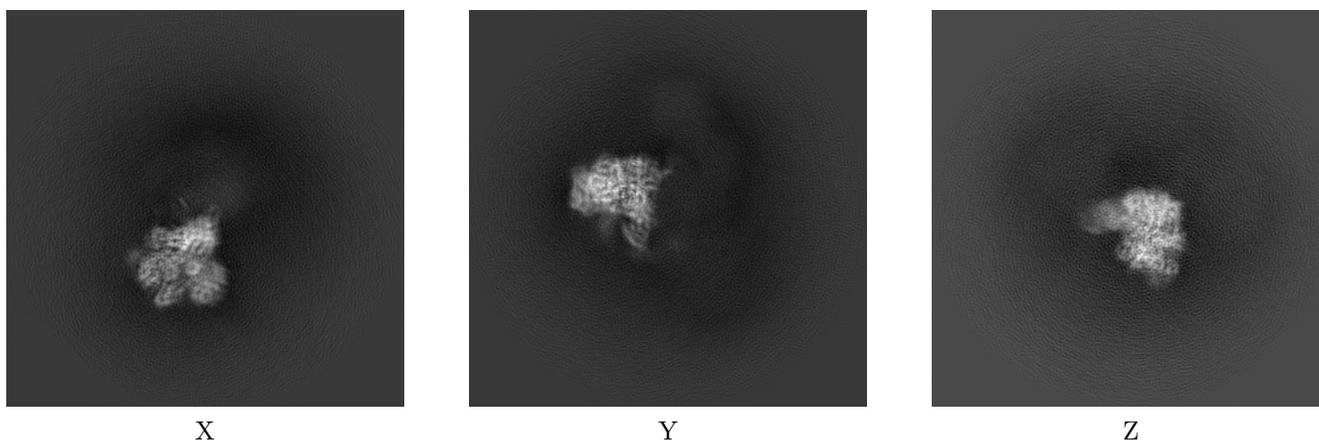
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ

6.2.1 Primary map

| X Index: 190 | Y Index: 190 | Z Index: 190 |
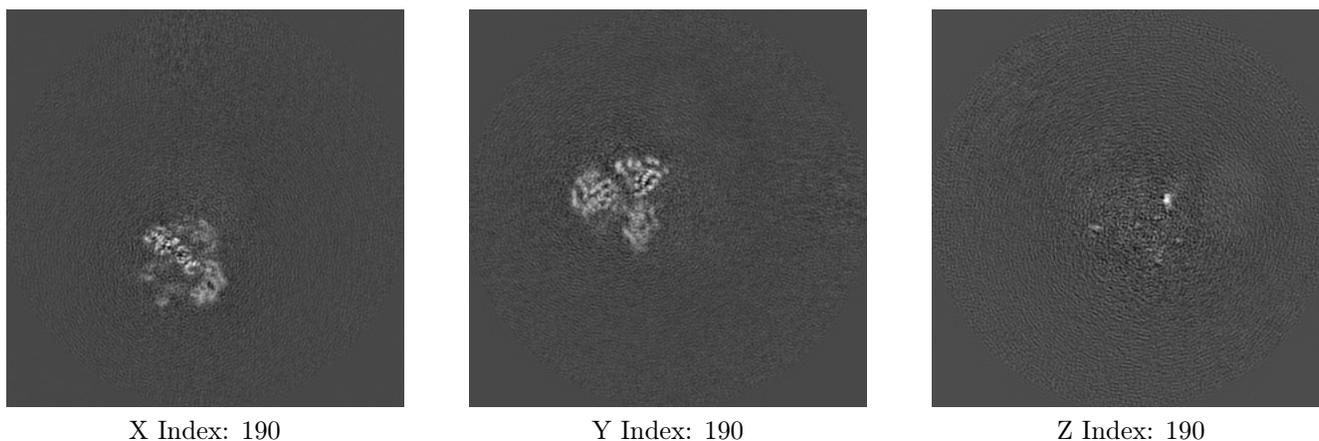
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ
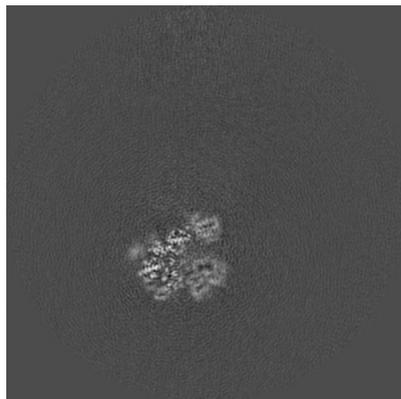
6.3.1 Primary map
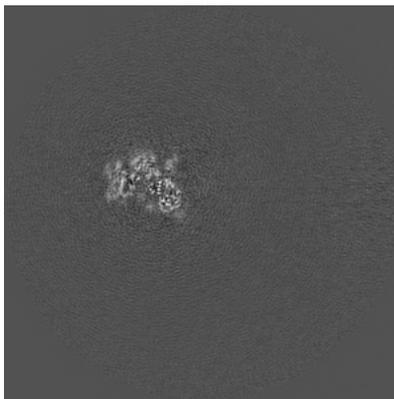
| X Index: 211 | Y Index: 155 | Z Index: 161 |
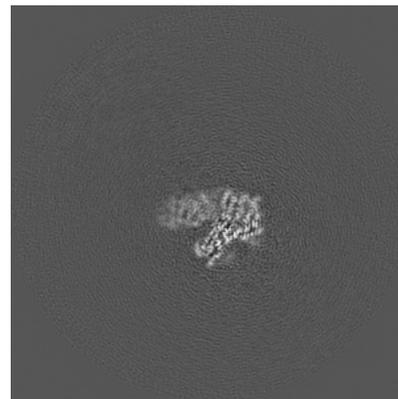
The images above show the largest variance slices of the map in three orthogonal directions.

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

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6.5 Mask visualisation (i)

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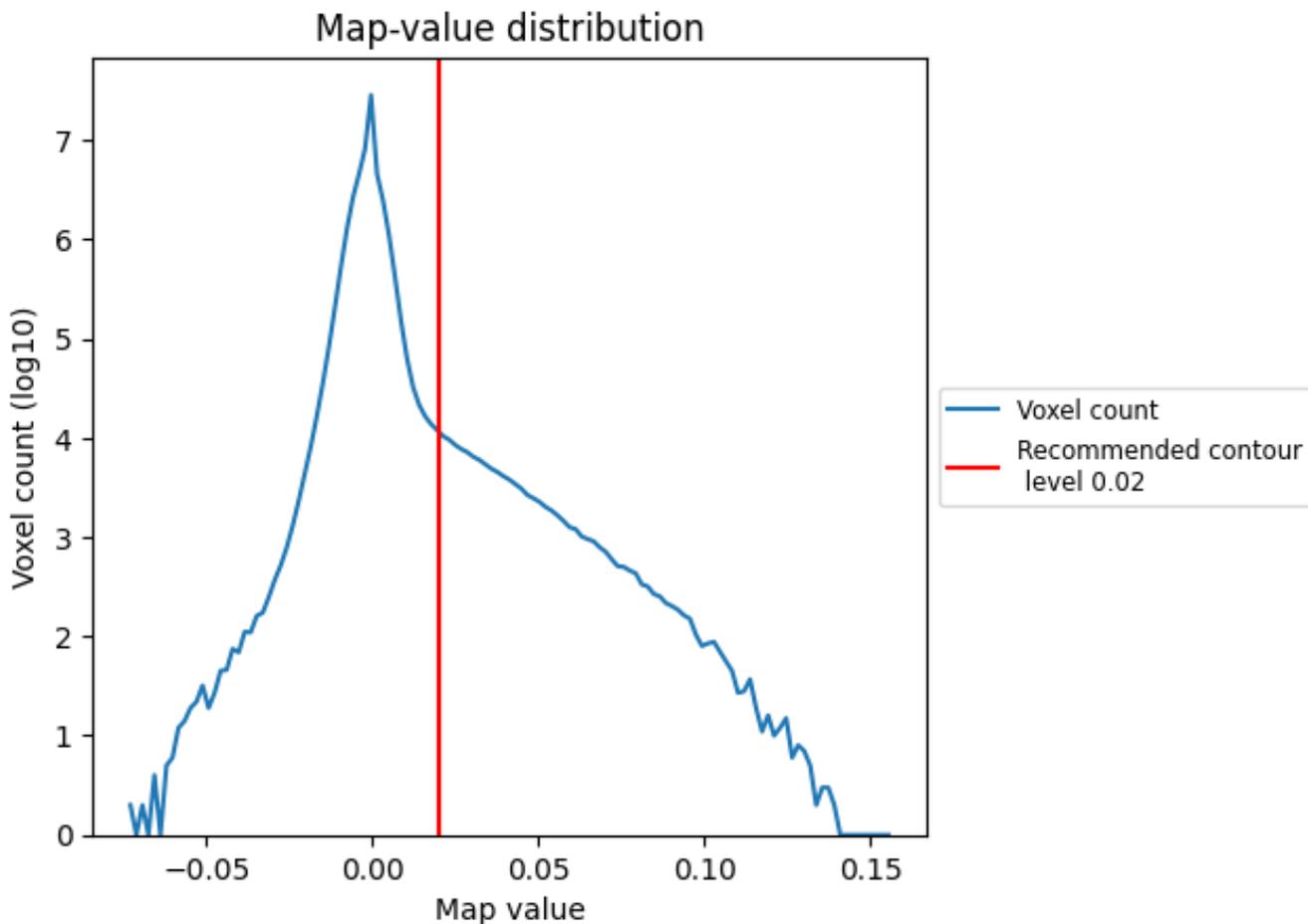
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2   Volume estimate ⓘ
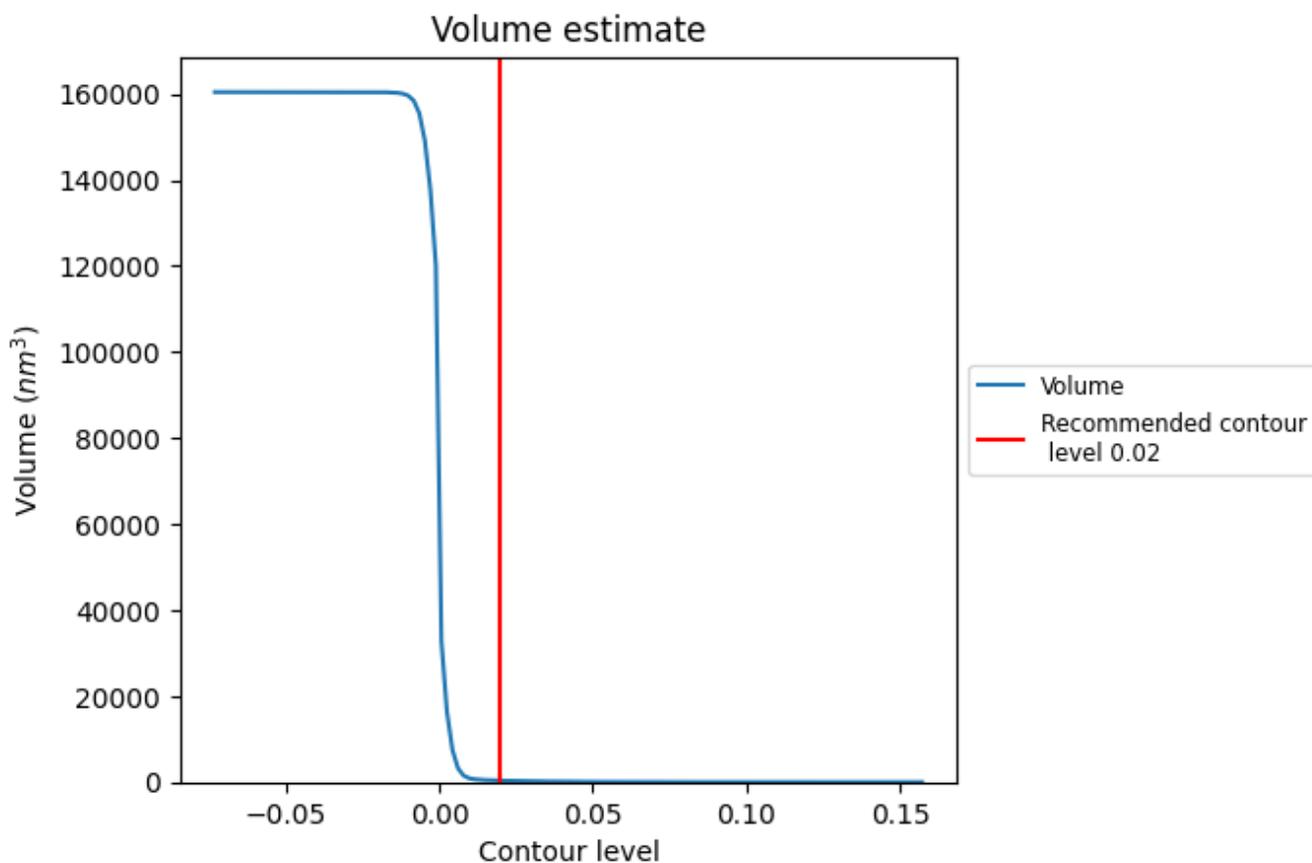
The volume at the recommended contour level is 352 nm^3; this corresponds to an approximate mass of 318 kDa.

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 ⓘ
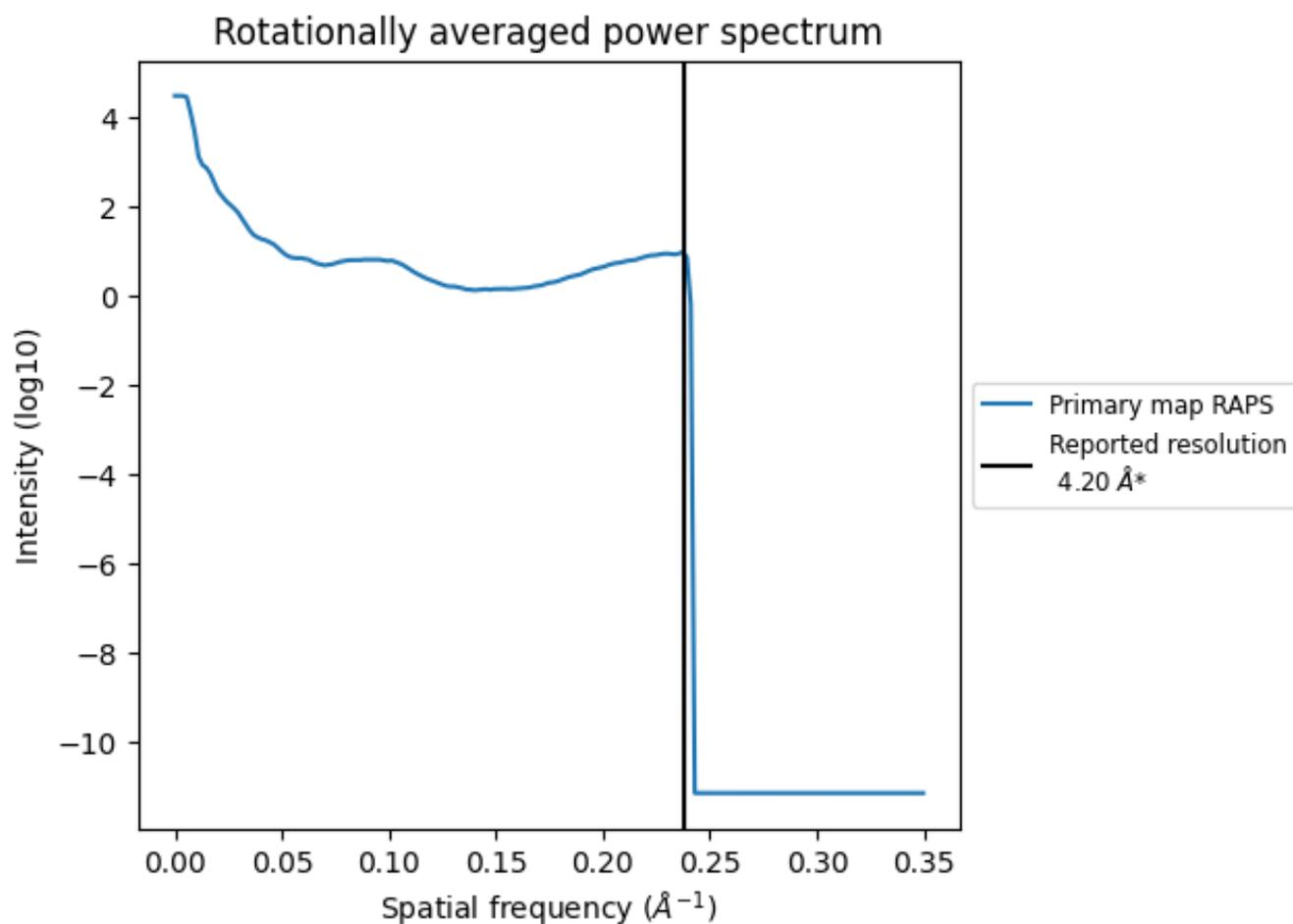
*Reported resolution corresponds to spatial frequency of 0.238 Å^{-1}

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 ⓘ
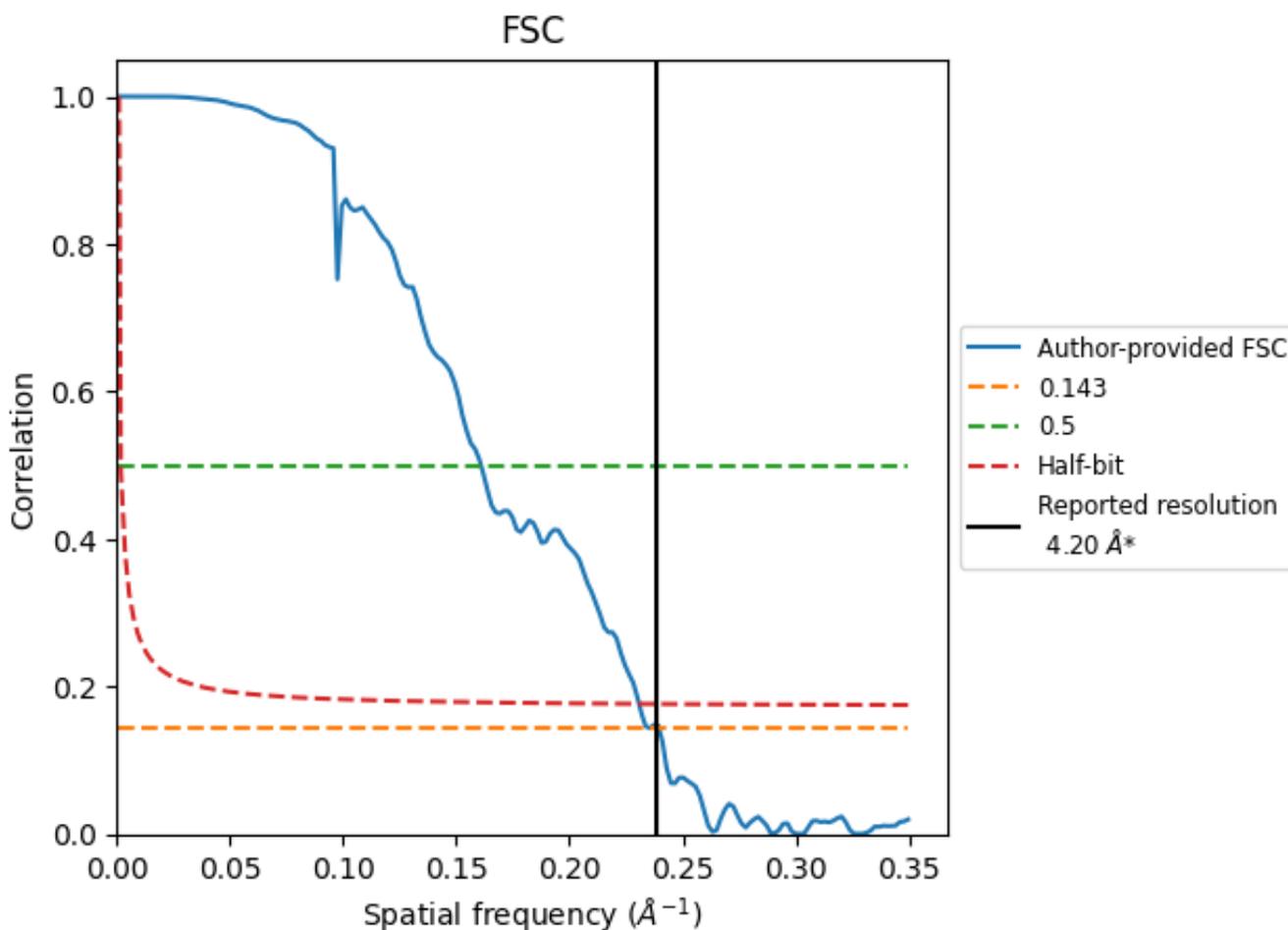
*Reported resolution corresponds to spatial frequency of 0.238 Å^{-1}

8.2   Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.20	-	-
Author-provided FSC curve	4.18	6.22	4.33
Unmasked-calculated*	-	-	-

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-8013 and PDB model 5GAO. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay ⓘ

X   Y   Z
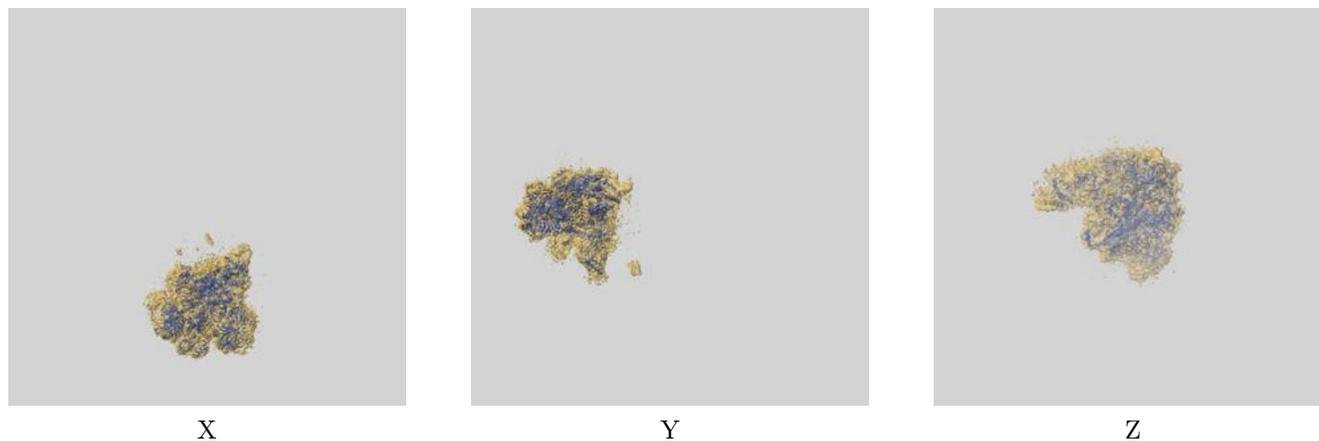
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2   Q-score mapped to coordinate model ⓘ

X   Y   Z
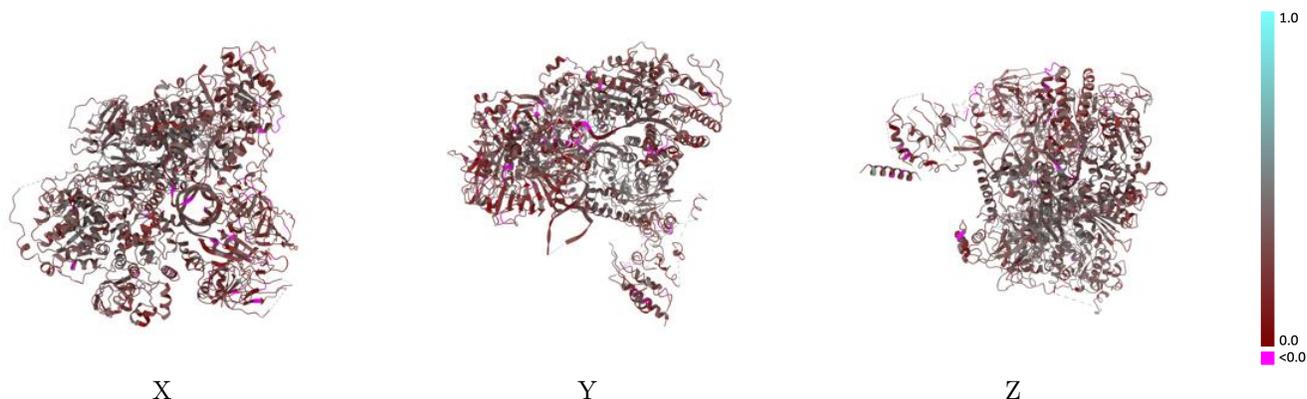
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
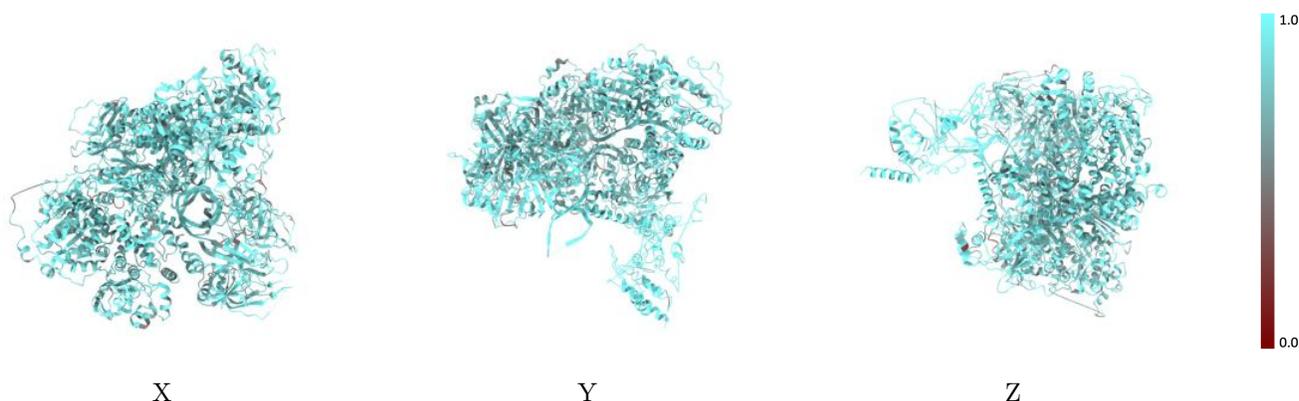
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.02).

9.4   Atom inclusion ⓘ
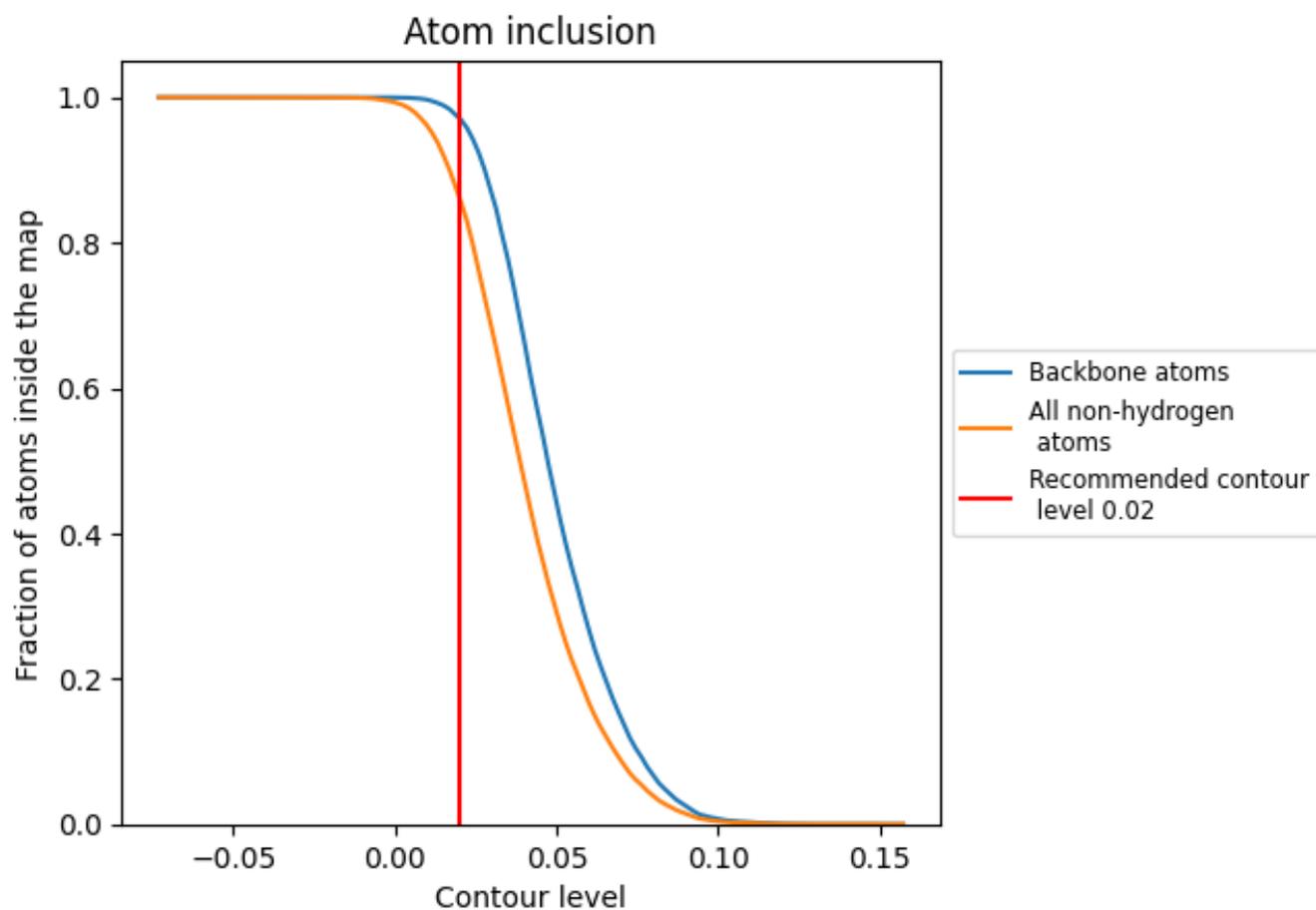
At the recommended contour level, 97% of all backbone atoms, 86% of all non-hydrogen atoms, are inside the map.

9.5   Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8626	0.3050
A	0.8805	0.3570
B	0.8627	0.3280
E	0.8812	0.2770
V	0.9239	0.2850
k	0.7794	0.2240
l	0.8107	0.2310
m	0.8347	0.2210
n	0.8236	0.2280
p	0.8562	0.2190
q	0.8683	0.2510
r	0.8417	0.2150

1.0

0.0
<0.0