WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Apr 28, 2024 – 12:04 am BST

PDB ID	:	5ARH
EMDB ID	:	EMD-3166
Title	:	Bovine mitochondrial ATP synthase state 2a
Authors	:	Zhou, A.; Rohou, A.; Schep, D.G.; Bason, J.V.; Montgomery, M.G.; Walker, J.E.; Grigorieff, N.; Rubinstein, J.L.
Deposited on	:	2015-09-24
Resolution	:	7.20 Å(reported)
Based on initial models	:	2CLY, 2WSS, 2XND

The following versions of software and data (see references ⓘ) were used in the production of this report:
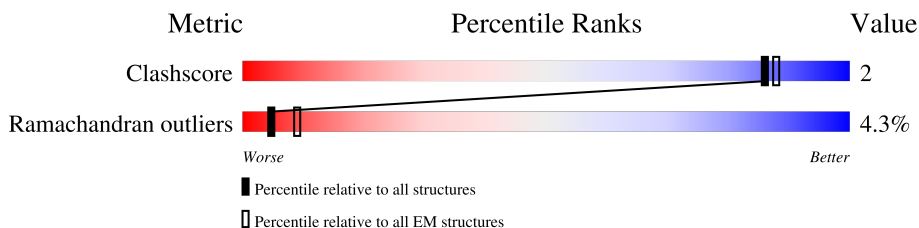
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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 7.20 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		2
Ramachandran outliers		4.3%

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

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	510	90% 9%
1	B	510	87% 6% · 6%
1	C	510	85% 10% · 5%
2	D	482	88% 9% ·
2	E	482	84% 12% ·
2	F	482	90% 6% ·
3	G	273	80% 15% · ·
4	H	146	80% 10% 10%
5	I	50	82% 12% 6%

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Mol	Chain	Length	Quality of chain
6	J	72	6% / 97%
6	K	72	99%
6	L	72	100%
6	M	72	97%
6	N	72	100%
6	O	72	99%
6	P	72	97%
6	Q	72	7% / 97%
7	S	190	67% / 16% / 12%
8	T	174	89% / 8%
9	U	124	81% / 14%
10	V	77	5% / 68% / 17% / 13%
11	W	217	91% / 8%

2 Entity composition ⓘ

There are 11 unique types of molecules in this entry. The entry contains 18544 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 ATP SYNTHASE SUBUNIT ALPHA, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	A	509	Total 2035	C 1018	N 509	O 508	0	0
1	B	480	Total 1918	C 960	N 480	O 478	0	0
1	C	487	Total 1947	C 974	N 487	O 486	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	481	GLY	SER	conflict	UNP P19483
B	481	GLY	SER	conflict	UNP P19483
C	481	GLY	SER	conflict	UNP P19483

- Molecule 2 is a protein called ATP SYNTHASE SUBUNIT BETA, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	D	467	Total 1867	C 934	N 467	O 466	0	0
2	E	466	Total 1863	C 932	N 466	O 465	0	0
2	F	466	Total 1863	C 932	N 466	O 465	0	0

- Molecule 3 is a protein called ATP SYNTHASE SUBUNIT GAMMA, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	G	264	Total 1053	C 528	N 264	O 261	0	0

- Molecule 4 is a protein called ATP SYNTHASE SUBUNIT DELTA, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	H	131	Total 523	C 262	N 131	O 130	0	0

- Molecule 5 is a protein called ATP SYNTHASE SUBUNIT EPSILON, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	I	47	Total 187	C 94	N 47	O 46	0	0

- Molecule 6 is a protein called ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITO-CHONDRIAL.

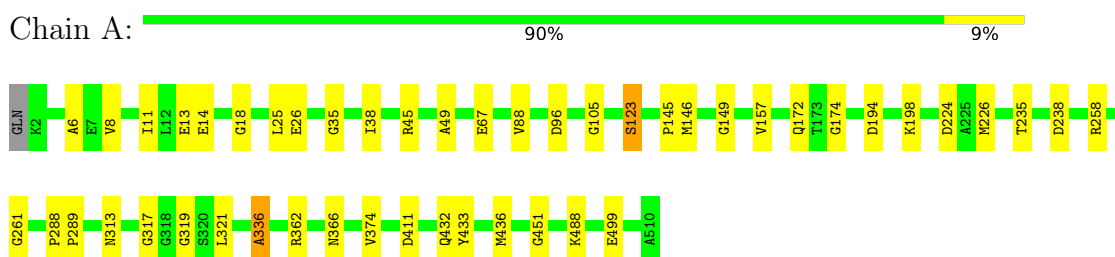| Mol	Chain	Residues	Atoms				AltConf	Trace
6	J	72	Total 288	C 144	N 72	O 72	0	0
6	K	72	Total 288	C 144	N 72	O 72	0	0
6	L	72	Total 288	C 144	N 72	O 72	0	0
6	M	72	Total 288	C 144	N 72	O 72	0	0
6	N	72	Total 288	C 144	N 72	O 72	0	0
6	O	72	Total 288	C 144	N 72	O 72	0	0
6	P	72	Total 288	C 144	N 72	O 72	0	0
6	Q	72	Total 288	C 144	N 72	O 72	0	0

- Molecule 7 is a protein called ATP SYNTHASE SUBUNIT O, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
7	S	168	Total 669	C 334	N 168	O 167	0	1

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S	129	THR	ALA	conflict	UNP P13621

- Molecule 8 is a protein called ATP SYNTHASE F(0) COMPLEX SUBUNIT B1, MITO-CHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	T	174	Total 697	C 348	N 174	O 175	0	0

- Molecule 9 is a protein called ATP SYNTHASE SUBUNIT D, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	U	121	Total 484	C 242	N 121	O 121	0	0

- Molecule 10 is a protein called ATP SYNTHASE-COUPLING FACTOR 6, MITOCHON-DRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	V	67	Total 265	C 132	N 67	O 66	0	1

- Molecule 11 is a protein called ATP SYNTHASE SUBUNIT BETA, MITOCHONDRIAL.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	W	217	Total 869	C 434	N 217	O 218	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: ATP SYNTHASE SUBUNIT ALPHA, MITOCHONDRIAL

Chain A:

- Molecule 1: ATP SYNTHASE SUBUNIT ALPHA, MITOCHONDRIAL

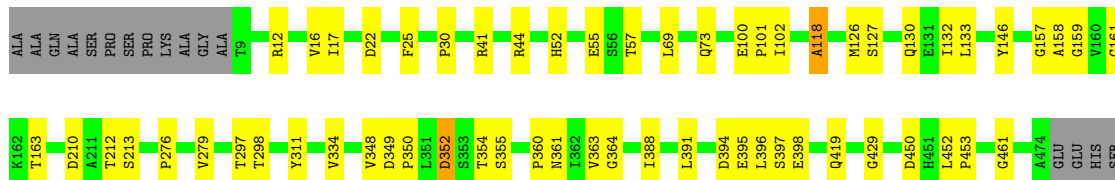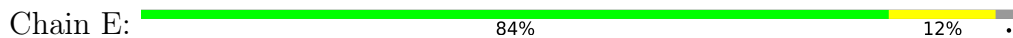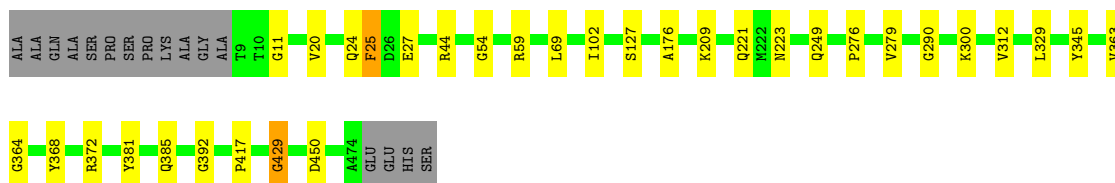Chain B:

- Molecule 1: ATP SYNTHASE SUBUNIT ALPHA, MITOCHONDRIAL

Chain C:
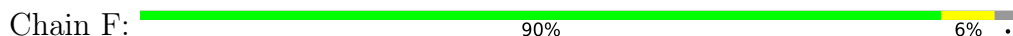
- Molecule 2: ATP SYNTHASE SUBUNIT BETA, MITOCHONDRIAL

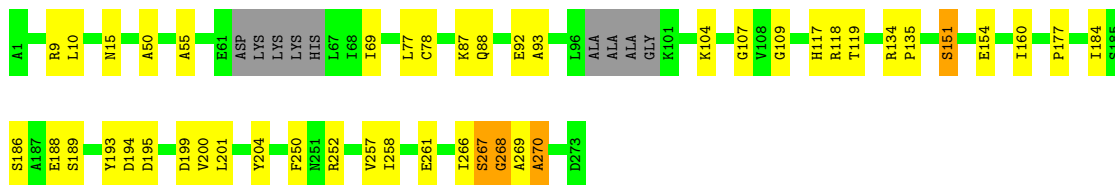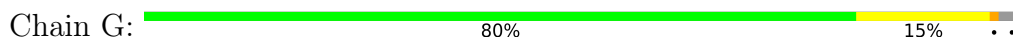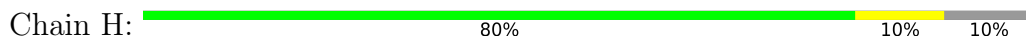Chain D:

ALA ALA GLN ALA SER PRO SER PRO LYS ALA GLY ALA T9 V16 I17 V20 V21 D22 E27 P31 H52 L53 G54 E55 L69 V75 I102 Q112 A118 V160 G161 K162 Y180 Q221 Q249 P276 S277 A278 V279 Q282 I304 V312

T332 E341 L342 G343 V348 I357 M393 D394 E399 Q419 G429 Y449 D450 H451 L473 A474 E475 GLU HIS SER

- Molecule 2: ATP SYNTHASE SUBUNIT BETA, MITOCHONDRIAL

Chain E: 84%   12% ·

ALA ALA GLN ALA SER PRO SER PRO LYS ALA GLY ALA T9 R12 V16 I17 D22 F25 P30 R41 R44 H52 E55 S56 T57 L69 Q73 E100 P101 I102 A118 M126 S127 Q130 E131 I132 L133 Y146 G157 A158 G159 V160 G161

K162 T163 D210 A211 T212 S213 P276 V279 T297 T298 Y311 V334 V348 D349 P350 L351 D352 S353 T354 S355 P360 N361 I362 V363 G364 I388 L391 D394 E395 L396 S397 E398 Q419 G429 D450 H451 L452 P453 G461 A474 GLU GLU HIS SER

- Molecule 2: ATP SYNTHASE SUBUNIT BETA, MITOCHONDRIAL

Chain F: 90%   6% ·

ALA ALA GLN ALA SER PRO SER PRO LYS ALA GLY ALA T9 T10 G11 V20 Q24 F25 D26 E27 R44 G54 R59 L69 I102 S127 A176 K209 Q221 M222 N223 Q249 P276 V279 G290 K300 V312 L329 Y345 V363

G364 Y368 R372 Y381 Q385 G392 P417 G429 D450 A474 GLU GLU HIS SER

- Molecule 3: ATP SYNTHASE SUBUNIT GAMMA, MITOCHONDRIAL

Chain G: 80%   15% · ·

A1 R9 L10 N15 A50 A55 E61 ASP LYS LYS HIS L67 I68 I69 L77 C78 K87 Q88 E92 A93 L96 ALA ALA GLY K101 K104 G107 V108 G109 H117 R118 T119 R134 P135 S151 E154 I160 P177 I184 S185

S186 A187 E188 S189 Y193 D194 D195 D199 V200 L201 Y204 F250 N251 R252 V257 I258 E261 I266 S267 G268 A269 A270 D273

- Molecule 4: ATP SYNTHASE SUBUNIT DELTA, MITOCHONDRIAL

Chain H: 80%   10%   10%

ALA GLU ALA ALA ALA ALA GLN ALA PRO ALA ALA GLY PRO GLY Q15 F28 N32 P39 G43 A44 F45 G46 A50 G61 E68 V84 Q91 L92 L93 D101 L145 GLU

- Molecule 5: ATP SYNTHASE SUBUNIT EPSILON, MITOCHONDRIAL
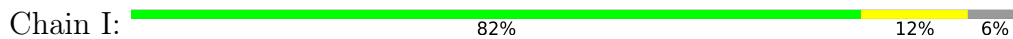
Chain I: 82%   12%   6%

V1 Q6 A7 G8 L9 Y14 T28 I42 V47 LYS LYS GLU

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

6%

Chain J:
97%

I2 G12 P40 Q45 L56 A59 A68 F73
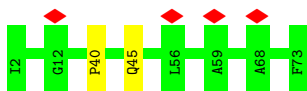
• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL
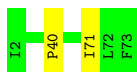
Chain K:
99%

I2 P40 F73

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

Chain L:
100%
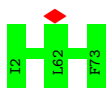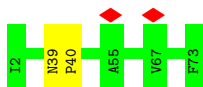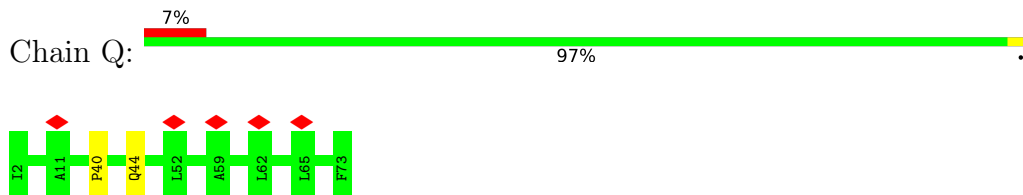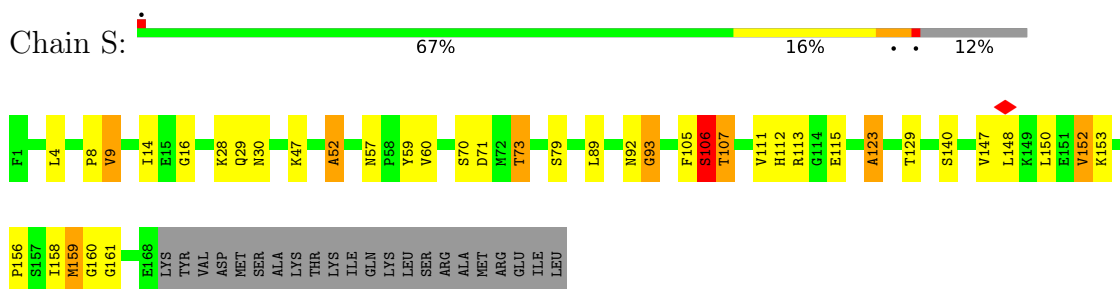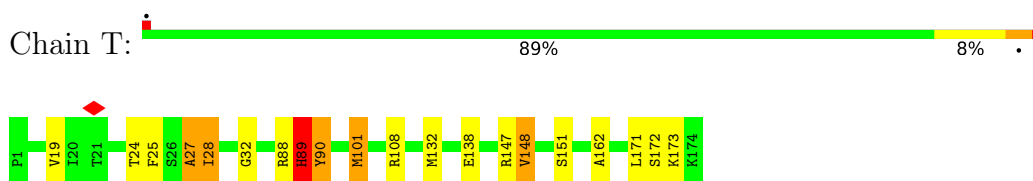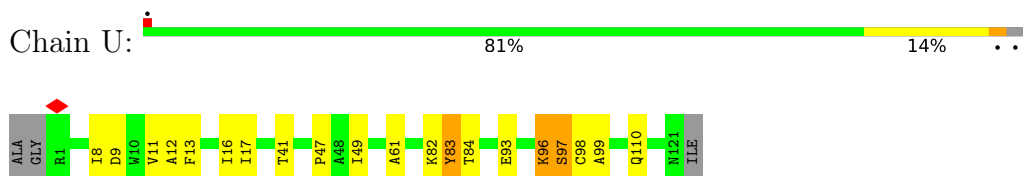
There are no outlier residues recorded for this chain.

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

Chain M:
97%

I2 P40 I71 L72 F73

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

Chain N:
100%

I2 L62 F73

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

Chain O:
99%

I2 N39 M66 V67 F73

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

Chain P:
97%

I2 N39 P40 A55 V67 F73

• Molecule 6: ATP SYNTHASE F(0) COMPLEX SUBUNIT C1, MITOCHONDRIAL

Chain Q:

7%

97%

I2 A11 P40 Q44 L52 A59 L62 L65 F73

• Molecule 7: ATP SYNTHASE SUBUNIT O, MITOCHONDRIAL

Chain S:

67%

16%

12%

F1 L4 P8 V9 I14 E15 G16 K28 Q29 N30 K47 A52 N57 P58 Y59 V60 S70 D71 M72 T73 S79 L89 N92 G93 F105 S106 T107 V111 H112 R113 G114 E115 A123 T129 S140 V147 L148 K149 L150 E151 V152 K153

P156 S157 I158 M159 G160 G161 E168 LYS TYR VAL ASP MET SER ALA LYS THR LYS ILE GLN LYS LEU SER ARG ALA MET ARG GLU ILE LEU

• Molecule 8: ATP SYNTHASE F(0) COMPLEX SUBUNIT B1, MITOCHONDRIAL

Chain T:

89%

8%

P1 V19 I20 T21 T24 F25 S26 A27 I28 G32 R88 H89 Y90 M101 R108 M132 E138 R147 V148 S151 A162 L171 S172 K173 K174

• Molecule 9: ATP SYNTHASE SUBUNIT D, MITOCHONDRIAL

Chain U:

81%

14%

ALA GLY R1 I8 D9 W10 V11 A12 F13 I16 I17 T41 P47 A48 I49 A61 K82 Y83 T84 E93 K96 S97 C98 A99 Q110 N121 ILE

• Molecule 10: ATP SYNTHASE-COUPLING FACTOR 6, MITOCHONDRIAL

Chain V:

5%

68%

17%

13%

PHE ASN LYS GLU L5 D6 P7 V8 D14 S26 G27 G28 P29 V30 D31 A32 G33 P34 E35 K53 N57 P67 K68 F69 E70 V71 VAL GLU LYS PRO GLN SER
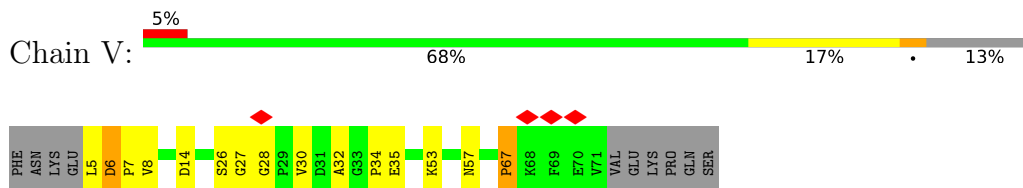
• Molecule 11: ATP SYNTHASE SUBUNIT BETA, MITOCHONDRIAL

Chain W:

91%

8%

I10 N35 R36 N40 S63 K64 H90 G111 G132 T133 S148 G167 H172 L173 I174 G175 G176 A177 T178 L179 A189 F193 L196 T226
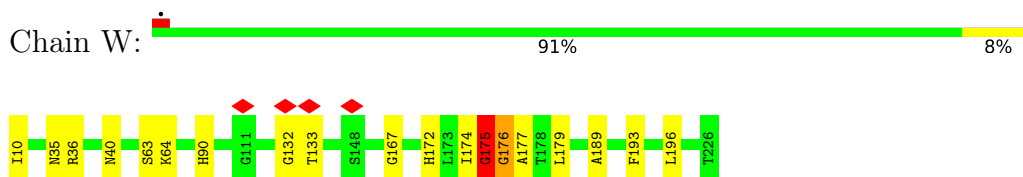
4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	19250	Depositor
Resolution determination method	Not provided	
CTF correction method	EACH PARTICLE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	60.3	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	4100	Depositor
Magnification	30487	Depositor
Image detector	GATAN K2 (4k x 4k)	Depositor
Maximum map value	0.469	Depositor
Minimum map value	-0.097	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.022	Depositor
Recommended contour level	0.13	Depositor
Map size (Å)	419.84, 419.84, 419.84	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.64, 1.64, 1.64	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	A	1.73	4/2034 (0.2%)	1.39	16/2541 (0.6%)
1	B	1.78	1/1916 (0.1%)	1.39	12/2392 (0.5%)
1	C	1.83	6/1946 (0.3%)	1.43	20/2431 (0.8%)
2	D	1.79	1/1866 (0.1%)	1.48	18/2331 (0.8%)
2	E	1.73	1/1862 (0.1%)	1.48	21/2326 (0.9%)
2	F	1.79	5/1862 (0.3%)	1.43	11/2326 (0.5%)
3	G	2.00	8/1050 (0.8%)	1.57	14/1308 (1.1%)
4	H	1.92	1/522 (0.2%)	1.67	9/651 (1.4%)
5	I	1.84	1/186 (0.5%)	1.47	2/231 (0.9%)
6	J	0.30	0/287	0.41	0/357
6	K	0.30	0/287	0.42	0/357
6	L	0.31	0/287	0.44	0/357
6	M	0.29	0/287	0.44	0/357
6	N	0.28	0/287	0.40	0/357
6	O	0.30	0/287	0.41	0/357
6	P	0.29	0/287	0.42	0/357
6	Q	0.30	0/287	0.44	0/357
7	S	1.78	3/668 (0.4%)	1.77	11/834 (1.3%)
8	T	0.84	2/696 (0.3%)	1.08	5/867 (0.6%)
9	U	0.64	1/483 (0.2%)	1.11	3/602 (0.5%)
10	V	0.70	0/264	1.05	2/329 (0.6%)
11	W	0.78	2/868 (0.2%)	1.01	0/1082
All	All	1.59	36/18519 (0.2%)	1.34	144/23107 (0.6%)

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
1	B	0	2
1	C	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	E	0	6
2	F	0	2
7	S	0	8
8	T	0	15
9	U	0	15
10	V	0	9
11	W	0	15
All	All	0	75

All (36) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	S	107	THR	CA-C	14.01	1.89	1.52
11	W	175	GLY	N-CA	-9.30	1.32	1.46
7	S	107	THR	N-CA	7.60	1.61	1.46
2	F	429	GLY	CA-C	-7.57	1.39	1.51
8	T	28	ILE	N-CA	7.47	1.61	1.46
3	G	261	GLU	CA-C	-6.58	1.35	1.52
3	G	252	ARG	CA-C	-6.39	1.36	1.52
1	C	174	GLY	N-CA	-6.32	1.36	1.46
2	F	364	GLY	N-CA	-6.05	1.36	1.46
4	H	28	PHE	CA-C	-6.05	1.37	1.52
3	G	266	ILE	CA-C	-5.84	1.37	1.52
1	C	481	GLY	CA-C	-5.78	1.42	1.51
2	F	364	GLY	CA-C	-5.69	1.42	1.51
1	C	172	GLN	CA-C	-5.62	1.38	1.52
1	A	499	GLU	CA-C	-5.59	1.38	1.52
3	G	109	GLY	CA-C	-5.59	1.43	1.51
2	D	161	GLY	N-CA	-5.57	1.37	1.46
1	C	35	GLY	CA-C	-5.53	1.43	1.51
1	C	421	GLY	CA-C	-5.53	1.43	1.51
2	E	12	ARG	CA-C	-5.40	1.39	1.52
1	B	174	GLY	N-CA	-5.39	1.38	1.46
3	G	261	GLU	N-CA	-5.39	1.35	1.46
1	C	302	HIS	CA-C	-5.34	1.39	1.52
3	G	107	GLY	CA-C	-5.29	1.43	1.51
1	A	174	GLY	N-CA	-5.20	1.38	1.46
3	G	15	ASN	CA-C	-5.17	1.39	1.52
5	I	14	TYR	N-CA	-5.17	1.36	1.46
9	U	97	SER	N-CA	-5.15	1.36	1.46
2	F	11	GLY	CA-C	-5.11	1.43	1.51
3	G	252	ARG	N-CA	-5.10	1.36	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	W	175	GLY	CA-C	-5.10	1.43	1.51
1	A	451	GLY	CA-C	-5.09	1.43	1.51
8	T	28	ILE	CA-C	-5.09	1.39	1.52
1	A	35	GLY	N-CA	-5.08	1.38	1.46
7	S	106	SER	C-N	-5.07	1.22	1.34
2	F	290	GLY	CA-C	-5.02	1.43	1.51

All (144) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	S	106	SER	C-N-CA	-16.48	80.49	121.70
7	S	106	SER	O-C-N	-13.22	101.55	122.70
4	H	43	GLY	N-CA-C	-9.82	88.56	113.10
1	C	35	GLY	N-CA-C	-8.97	90.68	113.10
7	S	107	THR	C-N-CA	8.30	142.45	121.70
1	C	194	ASP	N-CA-C	-8.29	88.63	111.00
2	D	449	TYR	N-CA-C	-7.92	89.63	111.00
2	D	16	VAL	N-CA-C	-7.91	89.63	111.00
7	S	52	ALA	C-N-CA	7.62	140.75	121.70
2	D	17	ILE	N-CA-C	-7.41	91.00	111.00
4	H	45	PHE	N-CA-C	-7.36	91.13	111.00
1	C	407	GLY	N-CA-C	-7.31	94.83	113.10
7	S	107	THR	N-CA-C	7.29	130.68	111.00
1	B	25	LEU	N-CA-C	-7.14	91.72	111.00
2	E	22	ASP	N-CA-C	-7.00	92.11	111.00
2	F	345	TYR	N-CA-C	-6.95	92.24	111.00
1	B	508	PHE	N-CA-C	-6.95	92.25	111.00
2	D	20	VAL	N-CA-C	-6.79	92.65	111.00
2	D	161	GLY	N-CA-C	-6.77	96.17	113.10
2	E	355	SER	N-CA-C	-6.65	93.05	111.00
2	E	213	SER	N-CA-C	-6.63	93.10	111.00
3	G	78	CYS	N-CA-C	-6.61	93.16	111.00
3	G	188	GLU	C-N-CA	6.57	138.13	121.70
1	C	119	GLY	N-CA-C	-6.55	96.71	113.10
2	E	349	ASP	N-CA-C	-6.45	93.58	111.00
1	A	35	GLY	N-CA-C	-6.42	97.04	113.10
1	C	42	HIS	C-N-CA	6.42	135.79	122.30
3	G	268	GLY	N-CA-C	-6.41	97.07	113.10
3	G	151	SER	N-CA-C	-6.40	93.72	111.00
1	A	123	SER	N-CA-C	-6.33	93.90	111.00
1	C	313	ASN	C-N-CA	6.32	137.50	121.70
1	A	321	LEU	N-CA-C	-6.30	93.99	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	T	88	ARG	O-C-N	6.28	132.74	122.70
8	T	89	HIS	N-CA-C	-6.28	94.05	111.00
1	C	330	GLN	N-CA-C	-6.25	94.12	111.00
8	T	27	ALA	C-N-CA	6.25	137.33	121.70
2	E	118	ALA	N-CA-C	-6.25	94.13	111.00
1	A	411	ASP	C-N-CA	6.18	137.15	121.70
2	F	59	ARG	N-CA-C	-6.09	94.55	111.00
2	E	311	TYR	N-CA-C	-6.04	94.68	111.00
8	T	101	MET	CA-C-N	-6.04	103.92	117.20
1	C	362	ARG	N-CA-C	-5.99	94.83	111.00
2	D	21	VAL	N-CA-C	-5.97	94.89	111.00
3	G	177	PRO	N-CA-C	-5.96	96.60	112.10
2	F	127	SER	N-CA-C	-5.93	94.99	111.00
2	F	25	PHE	N-CA-C	-5.90	95.08	111.00
2	E	398	GLU	N-CA-C	5.85	126.78	111.00
1	A	157	VAL	N-CA-C	-5.84	95.24	111.00
1	B	506	ALA	C-N-CA	5.83	134.55	122.30
1	A	194	ASP	N-CA-C	-5.82	95.28	111.00
2	F	249	GLN	CA-C-N	-5.82	104.40	117.20
10	V	7	PRO	O-C-N	-5.82	113.39	122.70
1	A	88	VAL	N-CA-C	-5.81	95.31	111.00
1	C	157	VAL	N-CA-C	-5.81	95.32	111.00
4	H	46	GLY	N-CA-C	-5.80	98.60	113.10
1	A	313	ASN	C-N-CA	5.77	136.13	121.70
1	A	67	GLU	N-CA-C	-5.76	95.44	111.00
2	E	212	THR	N-CA-C	-5.76	95.44	111.00
7	S	9	VAL	C-N-CA	5.76	136.10	121.70
9	U	9	ASP	CA-C-N	5.76	129.87	117.20
1	A	362	ARG	N-CA-C	-5.74	95.52	111.00
1	B	372	SER	N-CA-C	-5.73	95.53	111.00
2	D	399	GLU	N-CA-C	-5.68	95.67	111.00
2	F	24	GLN	N-CA-C	-5.68	95.67	111.00
3	G	193	TYR	N-CA-C	-5.66	95.72	111.00
8	T	28	ILE	CA-C-N	-5.65	104.76	117.20
2	E	461	GLY	N-CA-C	-5.65	98.97	113.10
7	S	160	GLY	N-CA-C	5.65	127.23	113.10
1	B	30	ARG	N-CA-C	-5.63	95.79	111.00
2	D	276	PRO	N-CA-C	-5.62	97.48	112.10
1	A	96	ASP	N-CA-C	-5.61	95.85	111.00
1	B	100	GLY	N-CA-C	-5.58	99.16	113.10
4	H	93	LEU	N-CA-C	-5.57	95.96	111.00
2	D	52	HIS	N-CA-C	-5.57	95.96	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	G	118	ARG	C-N-CA	5.56	135.60	121.70
2	D	22	ASP	N-CA-C	-5.55	96.02	111.00
10	V	67	PRO	N-CA-C	5.54	126.51	112.10
1	C	321	LEU	N-CA-C	-5.48	96.21	111.00
3	G	77	LEU	CA-C-N	-5.45	105.22	117.20
1	C	267	ILE	N-CA-C	-5.45	96.30	111.00
2	E	41	ARG	C-N-CA	5.45	135.31	121.70
9	U	96	LYS	CA-C-N	-5.44	105.23	117.20
9	U	8	ILE	N-CA-C	-5.44	96.31	111.00
2	D	304	ILE	N-CA-C	-5.43	96.33	111.00
2	E	133	LEU	N-CA-C	-5.42	96.36	111.00
1	B	287	ARG	N-CA-C	-5.42	96.38	111.00
2	D	118	ALA	N-CA-C	-5.41	96.40	111.00
2	E	364	GLY	N-CA-C	-5.41	99.58	113.10
3	G	154	GLU	N-CA-C	-5.41	96.40	111.00
1	C	408	SER	C-N-CA	5.41	135.21	121.70
2	D	332	THR	N-CA-C	-5.41	96.41	111.00
2	D	112	GLN	N-CA-C	-5.39	96.43	111.00
2	E	16	VAL	N-CA-C	-5.39	96.46	111.00
2	E	298	THR	N-CA-C	-5.38	96.47	111.00
1	B	43	GLY	N-CA-C	-5.38	99.65	113.10
1	C	263	HIS	N-CA-C	-5.37	96.51	111.00
7	S	73	THR	N-CA-C	5.35	125.44	111.00
2	F	364	GLY	C-N-CA	5.34	135.06	121.70
3	G	160	ILE	N-CA-C	-5.34	96.57	111.00
4	H	32	ASN	C-N-CA	5.34	135.06	121.70
2	F	54	GLY	N-CA-C	-5.34	99.75	113.10
3	G	104	LYS	N-CA-C	-5.33	96.61	111.00
2	E	17	ILE	N-CA-C	-5.33	96.61	111.00
4	H	84	VAL	N-CA-C	-5.33	96.62	111.00
2	E	57	THR	N-CA-C	-5.31	96.66	111.00
3	G	266	ILE	N-CA-C	-5.29	96.73	111.00
1	B	334	VAL	C-N-CA	5.27	134.87	121.70
3	G	77	LEU	C-N-CA	5.27	134.87	121.70
1	B	330	GLN	N-CA-C	-5.26	96.79	111.00
7	S	123	ALA	N-CA-C	-5.26	96.80	111.00
1	C	504	PHE	C-N-CA	5.25	134.82	121.70
2	D	27	GLU	N-CA-C	-5.24	96.86	111.00
2	F	20	VAL	N-CA-C	-5.23	96.87	111.00
1	C	372	SER	N-CA-C	-5.23	96.88	111.00
1	B	289	PRO	N-CA-C	-5.22	98.53	112.10
1	A	336	ALA	N-CA-C	-5.21	96.94	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	504	PHE	C-N-CA	5.19	134.68	121.70
2	E	130	GLN	N-CA-C	-5.19	96.99	111.00
4	H	92	LEU	N-CA-C	-5.19	97.00	111.00
2	E	52	HIS	N-CA-C	-5.16	97.06	111.00
7	S	158	ILE	N-CA-C	-5.16	97.06	111.00
1	A	198	LYS	N-CA-C	-5.15	97.08	111.00
2	E	334	VAL	N-CA-C	-5.13	97.14	111.00
5	I	7	ALA	N-CA-C	-5.13	97.16	111.00
1	C	88	VAL	N-CA-C	-5.13	97.16	111.00
5	I	28	THR	C-N-CA	5.12	134.50	121.70
1	C	195	GLU	C-N-CA	5.11	134.47	121.70
1	A	38	ILE	N-CA-C	-5.07	97.31	111.00
2	D	54	GLY	N-CA-C	-5.07	100.44	113.10
1	C	509	GLU	N-CA-C	-5.06	97.34	111.00
4	H	61	GLY	N-CA-C	-5.06	100.46	113.10
1	C	490	SER	C-N-CA	5.05	134.34	121.70
1	A	432	GLN	N-CA-C	-5.05	97.36	111.00
2	D	312	VAL	N-CA-C	-5.05	97.36	111.00
7	S	71	ASP	C-N-CA	5.04	134.31	121.70
3	G	204	TYR	N-CA-C	-5.04	97.39	111.00
2	D	75	VAL	N-CA-C	-5.03	97.42	111.00
4	H	91	GLN	N-CA-C	-5.03	97.42	111.00
1	C	67	GLU	N-CA-C	-5.03	97.42	111.00
2	F	221	GLN	C-N-CA	5.03	134.27	121.70
1	A	366	ASN	C-N-CA	5.02	134.25	121.70
2	F	392	GLY	N-CA-C	-5.02	100.54	113.10
2	E	25	PHE	N-CA-C	-5.02	97.45	111.00
2	E	157	GLY	N-CA-C	-5.00	100.59	113.10

There are no chirality outliers.

All (75) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	336	ALA	Peptide
1	B	379	GLN	Mainchain
1	B	505	LEU	Mainchain
1	C	169	GLY	Mainchain
1	C	24	ASP	Mainchain
2	E	101	PRO	Mainchain
2	E	354	THR	Mainchain,Peptide
2	E	397	SER	Mainchain
2	E	453	PRO	Mainchain,Peptide

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Mol	Chain	Res	Type	Group
2	F	25	PHE	Mainchain
2	F	329	LEU	Mainchain
7	S	106	SER	Mainchain,Peptide
7	S	152	VAL	Peptide
7	S	156	PRO	Peptide
7	S	159	MET	Mainchain
7	S	161	GLY	Mainchain
7	S	70	SER	Peptide
7	S	73	THR	Peptide
8	T	101	MET	Mainchain
8	T	108	ARG	Mainchain
8	T	132	MET	Mainchain
8	T	138	GLU	Mainchain
8	T	148	VAL	Mainchain,Peptide
8	T	162	ALA	Mainchain
8	T	172	SER	Peptide
8	T	173	LYS	Peptide
8	T	25	PHE	Mainchain
8	T	27	ALA	Peptide
8	T	28	ILE	Mainchain
8	T	32	GLY	Mainchain
8	T	89	HIS	Mainchain
8	T	90	TYR	Mainchain
9	U	11	VAL	Mainchain
9	U	110	GLN	Mainchain
9	U	12	ALA	Mainchain
9	U	13	PHE	Mainchain,Peptide
9	U	16	ILE	Mainchain
9	U	17	ILE	Mainchain
9	U	41	THR	Mainchain
9	U	61	ALA	Mainchain
9	U	82	LYS	Mainchain,Peptide
9	U	83	TYR	Mainchain
9	U	93	GLU	Mainchain
9	U	96	LYS	Mainchain
9	U	97	SER	Mainchain
10	V	14	ASP	Mainchain
10	V	27	GLY	Peptide
10	V	28	GLY	Peptide
10	V	35	GLU	Mainchain
10	V	5	LEU	Mainchain
10	V	57	ASN	Mainchain

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Mol	Chain	Res	Type	Group
10	V	6	ASP	Mainchain,Peptide
10	V	8	VAL	Mainchain
11	W	10	ILE	Mainchain
11	W	132	GLY	Mainchain
11	W	133	THR	Mainchain
11	W	167	GLY	Mainchain
11	W	174	ILE	Peptide
11	W	175	GLY	Peptide
11	W	177	ALA	Mainchain
11	W	179	LEU	Mainchain
11	W	189	ALA	Mainchain
11	W	193	PHE	Mainchain
11	W	196	LEU	Mainchain
11	W	35	ASN	Peptide
11	W	63	SER	Mainchain
11	W	64	LYS	Mainchain
11	W	90	HIS	Mainchain

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	2035	0	589	8	0
1	B	1918	0	553	3	0
1	C	1947	0	563	7	0
2	D	1867	0	533	6	0
2	E	1863	0	532	6	0
2	F	1863	0	532	5	0
3	G	1053	0	283	3	0
4	H	523	0	140	1	0
5	I	187	0	53	0	0
6	J	288	0	92	0	0
6	K	288	0	92	0	0
6	L	288	0	92	0	0
6	M	288	0	92	0	0
6	N	288	0	92	0	0
6	O	288	0	92	0	0
6	P	288	0	92	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	Q	288	0	92	0	0
7	S	669	0	179	10	0
8	T	697	0	182	3	0
9	U	484	0	121	0	0
10	V	265	0	68	0	0
11	W	869	0	226	3	0
All	All	18544	0	5290	49	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 2.

All (49) 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)
7:S:107:THR:C	7:S:107:THR:CA	1.89	1.39
7:S:106:SER:O	7:S:107:THR:C	2.22	0.78
1:B:49:ALA:H	2:F:69:LEU:H	1.36	0.74
4:H:50:ALA:O	6:P:39:ASN:C	2.31	0.69
11:W:172:HIS:O	11:W:175:GLY:HA3	1.93	0.69
2:D:160:VAL:H	2:D:162:LYS:H	1.47	0.62
3:G:267:SER:H	3:G:270:ALA:H	1.52	0.58
3:G:267:SER:H	3:G:270:ALA:N	2.03	0.57
2:E:159:GLY:N	2:E:163:THR:H	2.06	0.54
1:C:261:GLY:HA2	1:C:317:GLY:HA3	1.89	0.54
1:A:49:ALA:H	2:E:69:LEU:N	2.08	0.52
2:F:417:PRO:C	2:F:429:GLY:HA2	2.31	0.51
2:D:473:LEU:C	2:D:475:GLU:H	2.14	0.51
1:A:6:ALA:C	1:A:8:VAL:H	2.14	0.49
8:T:24:THR:CA	11:W:176:GLY:HA2	2.42	0.49
1:A:261:GLY:HA3	1:A:317:GLY:HA3	1.94	0.48
1:A:26:GLU:CA	1:A:45:ARG:H	2.26	0.48
1:C:49:ALA:H	2:D:69:LEU:N	2.11	0.48
2:D:419:GLN:CA	2:D:429:GLY:H	2.27	0.48
7:S:107:THR:CA	7:S:112:HIS:CA	2.91	0.48
1:C:172:GLN:C	1:C:174:GLY:H	2.16	0.48
7:S:28:LYS:C	7:S:30:ASN:H	2.17	0.48
8:T:24:THR:C	11:W:176:GLY:HA2	2.35	0.47
1:C:285:LEU:C	1:C:287:ARG:H	2.19	0.46
1:A:261:GLY:CA	1:A:317:GLY:HA3	2.46	0.45
2:E:419:GLN:H	2:E:429:GLY:H	1.63	0.45
7:S:105:PHE:O	7:S:107:THR:CA	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:S:14:ILE:C	7:S:16:GLY:H	2.19	0.45
2:E:419:GLN:N	2:E:429:GLY:H	2.15	0.45
3:G:184:ILE:C	3:G:186:SER:H	2.19	0.45
8:T:89:HIS:O	8:T:90:TYR:C	2.55	0.45
2:F:368:TYR:O	2:F:372:ARG:N	2.51	0.43
2:D:160:VAL:N	2:D:162:LYS:H	2.14	0.43
1:B:49:ALA:H	2:F:69:LEU:N	2.11	0.43
1:C:189:PHE:C	1:C:192:GLY:H	2.23	0.42
2:F:381:TYR:O	2:F:385:GLN:N	2.51	0.42
7:S:105:PHE:O	7:S:107:THR:N	2.53	0.42
7:S:111:VAL:C	7:S:113:ARG:H	2.23	0.42
1:C:44:LEU:C	1:C:46:ASN:H	2.24	0.41
1:A:105:GLY:HA2	1:A:226:MET:O	2.21	0.41
1:A:149:GLY:HA3	1:A:436:MET:H	1.85	0.41
7:S:57:ASN:C	7:S:59:TYR:H	2.24	0.41
1:B:172:GLN:C	1:B:174:GLY:H	2.24	0.41
7:S:89:LEU:O	7:S:93:GLY:HA2	2.21	0.40
2:E:350:PRO:C	2:E:352:ASP:H	2.25	0.40
2:E:388:ILE:C	2:E:391:LEU:H	2.25	0.40
1:A:258:ARG:O	1:A:319:GLY:HA3	2.22	0.40
1:C:258:ARG:O	1:C:319:GLY:HA3	2.21	0.40
2:D:341:GLU:C	2:D:343:GLY:H	2.25	0.40

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	507/510 (99%)	455 (90%)	35 (7%)	17 (3%)	3	26
1	B	476/510 (93%)	428 (90%)	27 (6%)	21 (4%)	2	22
1	C	485/510 (95%)	431 (89%)	33 (7%)	21 (4%)	2	22

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	D	465/482 (96%)	418 (90%)	31 (7%)	16 (3%)	3	26
2	E	464/482 (96%)	411 (89%)	26 (6%)	27 (6%)	1	18
2	F	464/482 (96%)	419 (90%)	33 (7%)	12 (3%)	5	31
3	G	258/273 (94%)	198 (77%)	33 (13%)	27 (10%)	0	8
4	H	129/146 (88%)	115 (89%)	11 (8%)	3 (2%)	6	34
5	I	45/50 (90%)	31 (69%)	11 (24%)	3 (7%)	1	15
6	J	70/72 (97%)	62 (89%)	6 (9%)	2 (3%)	4	29
6	K	70/72 (97%)	64 (91%)	5 (7%)	1 (1%)	11	46
6	L	70/72 (97%)	57 (81%)	13 (19%)	0	100	100
6	M	70/72 (97%)	64 (91%)	4 (6%)	2 (3%)	4	29
6	N	70/72 (97%)	61 (87%)	9 (13%)	0	100	100
6	O	70/72 (97%)	64 (91%)	5 (7%)	1 (1%)	11	46
6	P	70/72 (97%)	64 (91%)	5 (7%)	1 (1%)	11	46
6	Q	70/72 (97%)	61 (87%)	7 (10%)	2 (3%)	4	29
7	S	166/190 (87%)	107 (64%)	38 (23%)	21 (13%)	0	5
8	T	172/174 (99%)	158 (92%)	9 (5%)	5 (3%)	4	29
9	U	119/124 (96%)	94 (79%)	19 (16%)	6 (5%)	2	20
10	V	65/77 (84%)	48 (74%)	10 (15%)	7 (11%)	0	8
11	W	215/217 (99%)	186 (86%)	25 (12%)	4 (2%)	8	38
All	All	4590/4803 (96%)	3996 (87%)	395 (9%)	199 (4%)	5	22

All (199) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	13	GLU
1	A	14	GLU
1	A	224	ASP
1	A	238	ASP
1	A	374	VAL
1	B	57	SER
1	B	171	ARG
1	B	289	PRO
1	B	331	ALA
1	B	455	LYS
1	C	27	GLU

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Mol	Chain	Res	Type
1	C	238	ASP
1	C	289	PRO
1	C	405	GLN
1	C	409	ASP
2	D	31	PRO
2	D	102	ILE
2	D	249	GLN
2	D	277	SER
2	D	282	GLN
2	D	393	MET
2	D	450	ASP
2	D	451	HIS
2	E	118	ALA
2	E	158	ALA
2	E	276	PRO
2	E	348	VAL
2	E	360	PRO
2	E	395	GLU
2	E	450	ASP
2	F	276	PRO
3	G	50	ALA
3	G	55	ALA
3	G	119	THR
3	G	151	SER
3	G	189	SER
3	G	199	ASP
3	G	250	PHE
4	H	68	GLU
4	H	101	ASP
5	I	9	LEU
7	S	29	GLN
7	S	47	LYS
7	S	79	SER
7	S	93	GLY
7	S	123	ALA
7	S	153	LYS
7	S	159	MET
8	T	151	SER
9	U	83	TYR
9	U	84	THR
9	U	98	CYS
10	V	26	SER

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Mol	Chain	Res	Type
10	V	67	PRO
11	W	175	GLY
11	W	176	GLY
1	A	488	LYS
1	B	80	LYS
1	B	224	ASP
1	B	238	ASP
1	B	374	VAL
1	B	430	GLN
1	B	488	LYS
1	B	505	LEU
1	C	47	VAL
1	C	172	GLN
1	C	224	ASP
1	C	319	GLY
1	C	365	ILE
1	C	374	VAL
1	C	433	TYR
1	C	455	LYS
2	D	55	GLU
2	D	348	VAL
2	E	132	ILE
2	E	210	ASP
2	E	297	THR
2	E	394	ASP
2	E	396	LEU
2	F	27	GLU
2	F	176	ALA
2	F	209	LYS
2	F	223	ASN
3	G	9	ARG
3	G	87	LYS
3	G	93	ALA
3	G	194	ASP
3	G	200	VAL
3	G	257	VAL
5	I	6	GLN
5	I	42	ILE
7	S	115	GLU
7	S	147	VAL
7	S	148	LEU
7	S	150	LEU

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Mol	Chain	Res	Type
8	T	147	ARG
9	U	49	ILE
10	V	30	VAL
10	V	32	ALA
1	A	11	ILE
1	A	25	LEU
1	A	123	SER
1	A	146	MET
1	B	26	GLU
1	B	35	GLY
1	B	101	GLU
1	C	406	PHE
1	C	453	LEU
2	E	44	ARG
2	E	73	GLN
2	E	100	GLU
2	E	361	ASN
2	F	102	ILE
2	F	300	LYS
2	F	450	ASP
3	G	10	LEU
3	G	134	ARG
3	G	267	SER
3	G	269	ALA
6	J	45	GLN
7	S	4	LEU
7	S	106	SER
7	S	129	THR
9	U	99	ALA
1	A	18	GLY
1	A	172	GLN
1	A	289	PRO
1	A	433	TYR
1	B	209	LYS
1	B	365	ILE
1	B	435	PRO
1	C	56	SER
1	C	95	VAL
1	C	143	ARG
1	C	145	PRO
1	C	171	ARG
2	D	180	TYR

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Mol	Chain	Res	Type
2	D	221	GLN
2	D	276	PRO
2	D	357	ILE
2	E	30	PRO
2	E	55	GLU
2	E	102	ILE
2	E	126	MET
2	E	146	TYR
2	E	352	ASP
3	G	88	GLN
3	G	92	GLU
3	G	117	HIS
3	G	135	PRO
3	G	195	ASP
3	G	258	ILE
3	G	268	GLY
3	G	270	ALA
6	P	40	PRO
6	Q	44	GLN
7	S	9	VAL
7	S	52	ALA
7	S	60	VAL
7	S	92	ASN
8	T	171	LEU
9	U	47	PRO
11	W	36	ARG
1	A	145	PRO
1	C	194	ASP
2	D	394	ASP
2	E	127	SER
2	E	161	GLY
2	E	452	LEU
2	F	44	ARG
2	F	279	VAL
2	F	312	VAL
2	F	363	VAL
3	G	201	LEU
6	O	39	ASN
7	S	140	SER
10	V	6	ASP
10	V	53	LYS
11	W	40	ASN

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Mol	Chain	Res	Type
1	A	235	THR
2	D	279	VAL
3	G	69	ILE
7	S	8	PRO
8	T	19	VAL
1	B	47	VAL
2	E	279	VAL
6	M	40	PRO
7	S	152	VAL
1	A	288	PRO
1	B	121	ILE
4	H	39	PRO
1	B	115	ILE
2	E	363	VAL
6	J	40	PRO
6	M	71	ILE
8	T	148	VAL
10	V	34	PRO
6	K	40	PRO
6	Q	40	PRO

5.3.2   Protein sidechains ⓘ

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

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-3166. 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 |
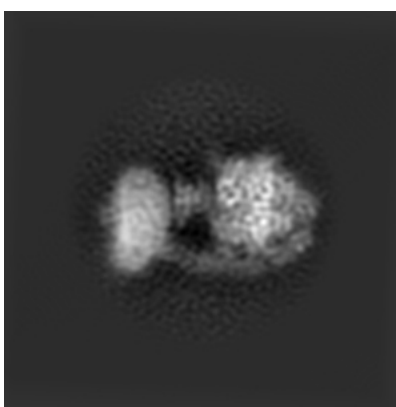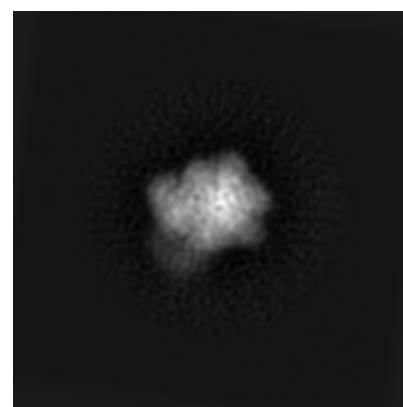
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ

6.2.1 Primary map
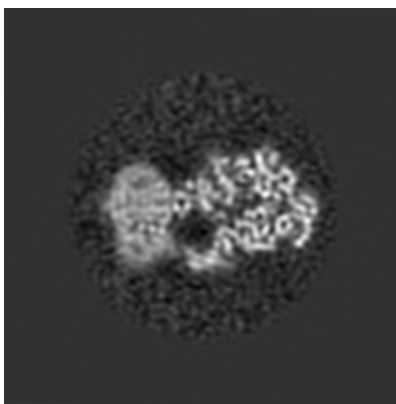
| X Index: 128 | Y Index: 128 | Z Index: 128 |
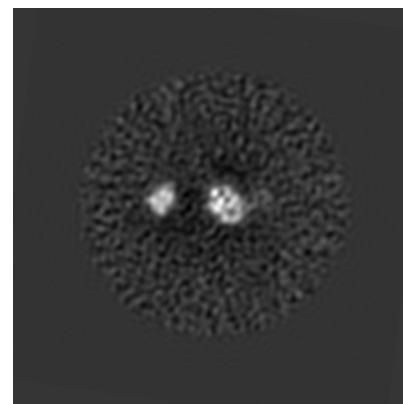
The images above show central slices of the map in three orthogonal directions.

6.3　Largest variance slices　ⓘ

6.3.1　Primary map
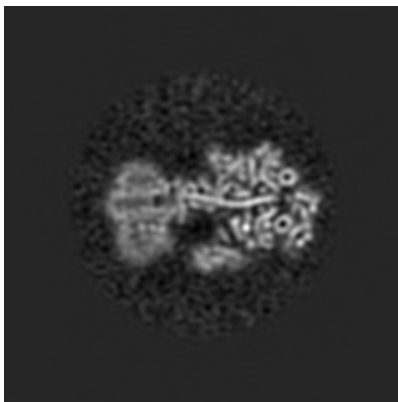
X Index: 133	Y Index: 132	Z Index: 166
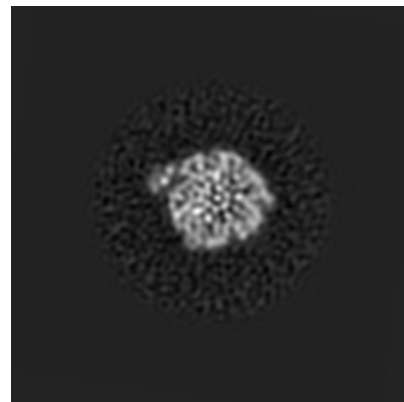
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1　Primary map

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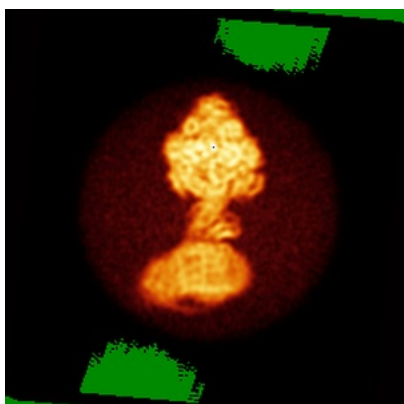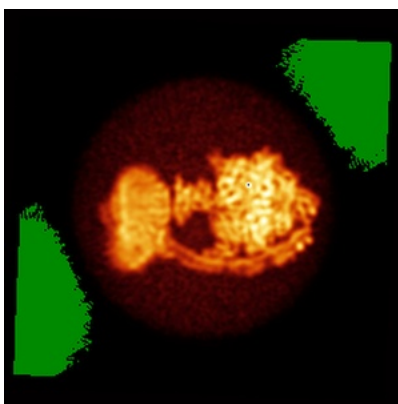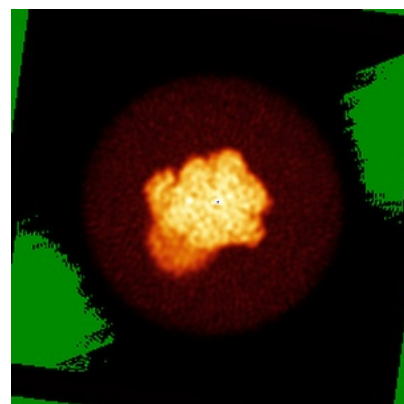
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5   Orthogonal surface views   ⓘ

6.5.1   Primary map

X   Y   Z
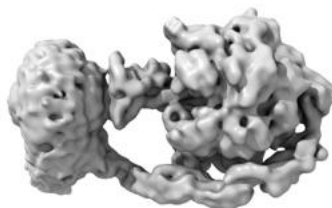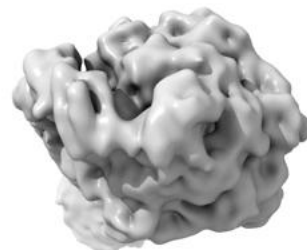
The images above show the 3D surface view of the map at the recommended contour level 0.13. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

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 ⓘ
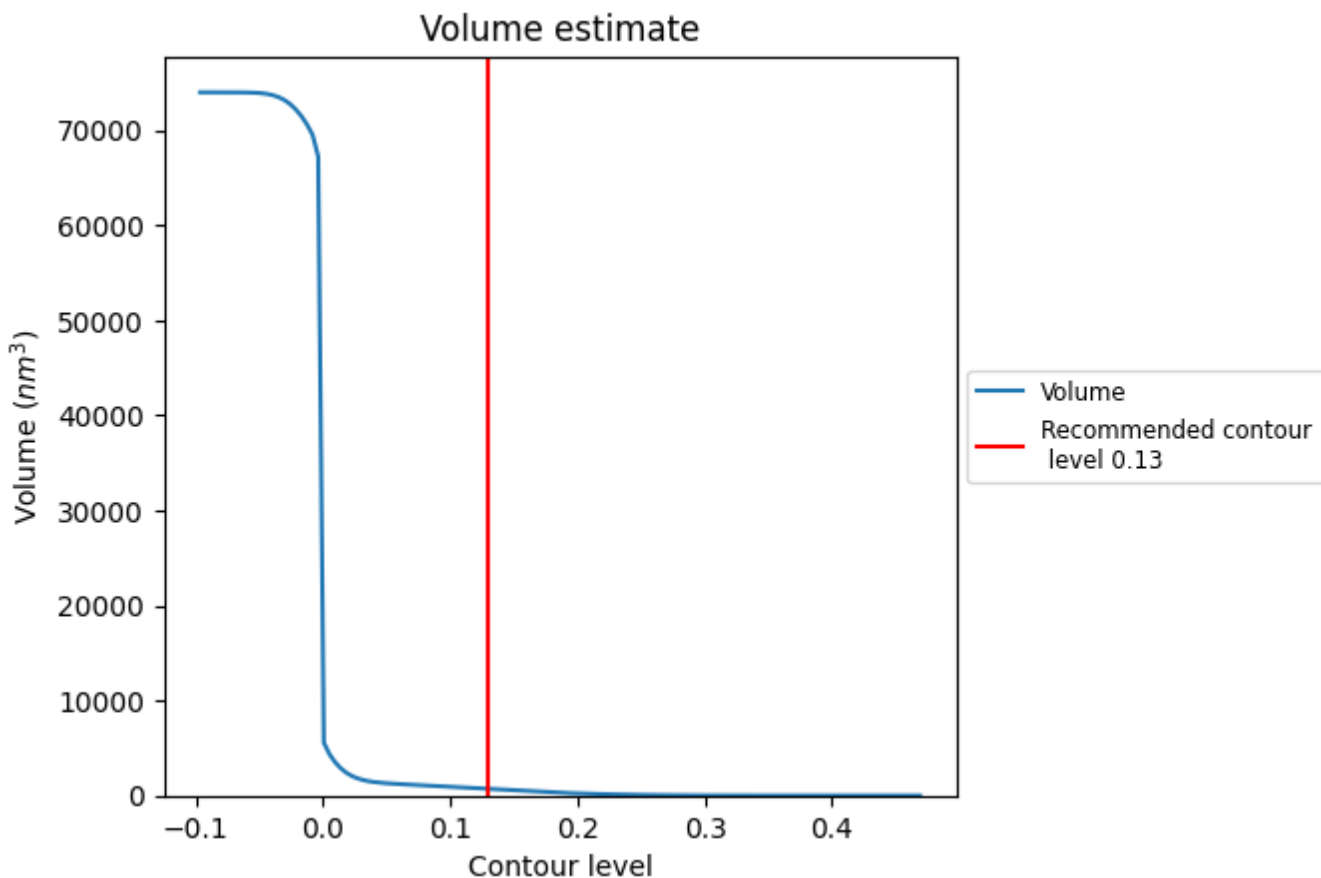
The volume at the recommended contour level is 719 nm^3; this corresponds to an approximate mass of 649 kDa.

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 ⓘ
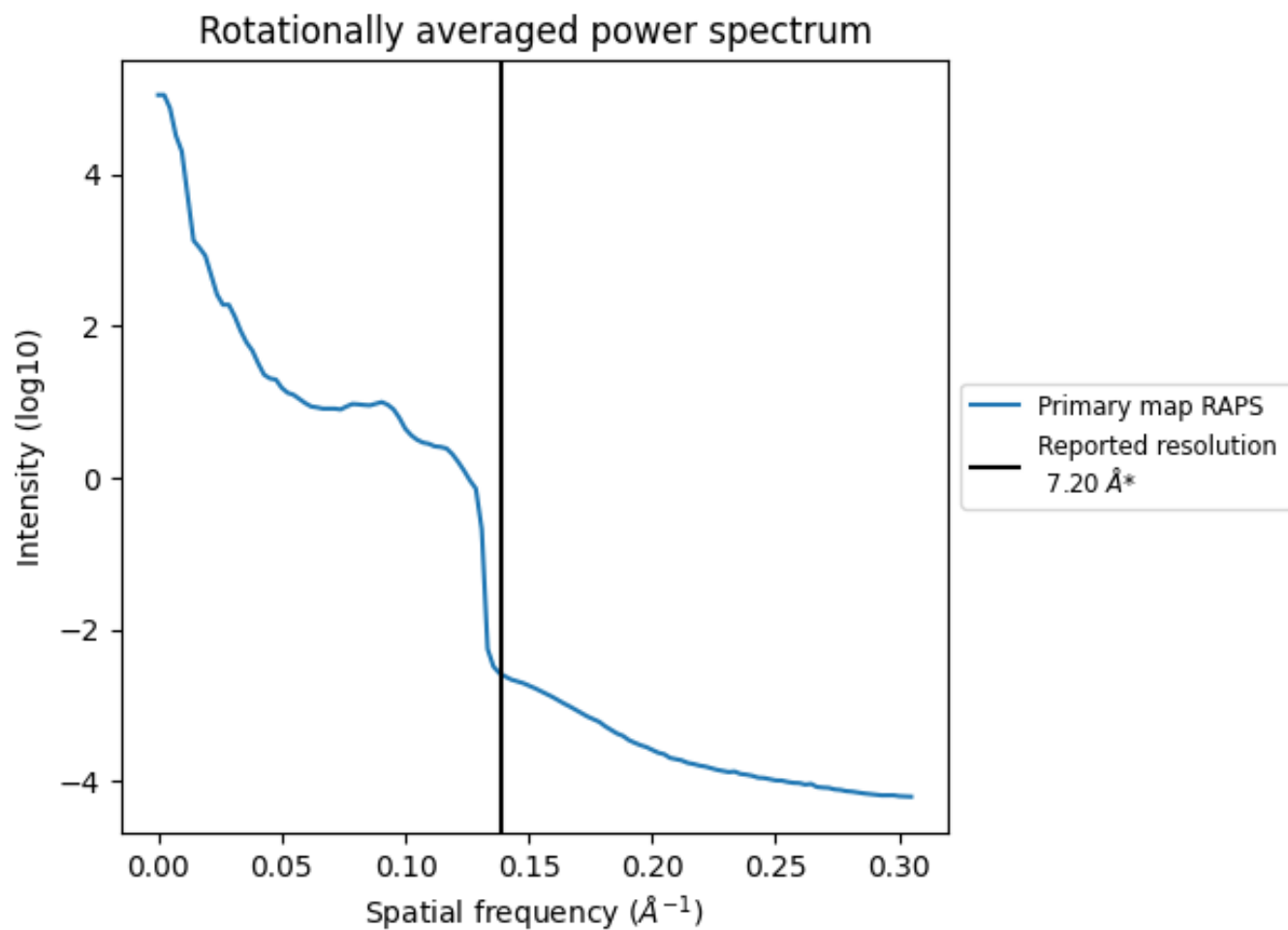
*Reported resolution corresponds to spatial frequency of 0.139 Å^{-1}

8 Fourier-Shell correlation ⓘ

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-3166 and PDB model 5ARH. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay ⓘ

X	Y	Z
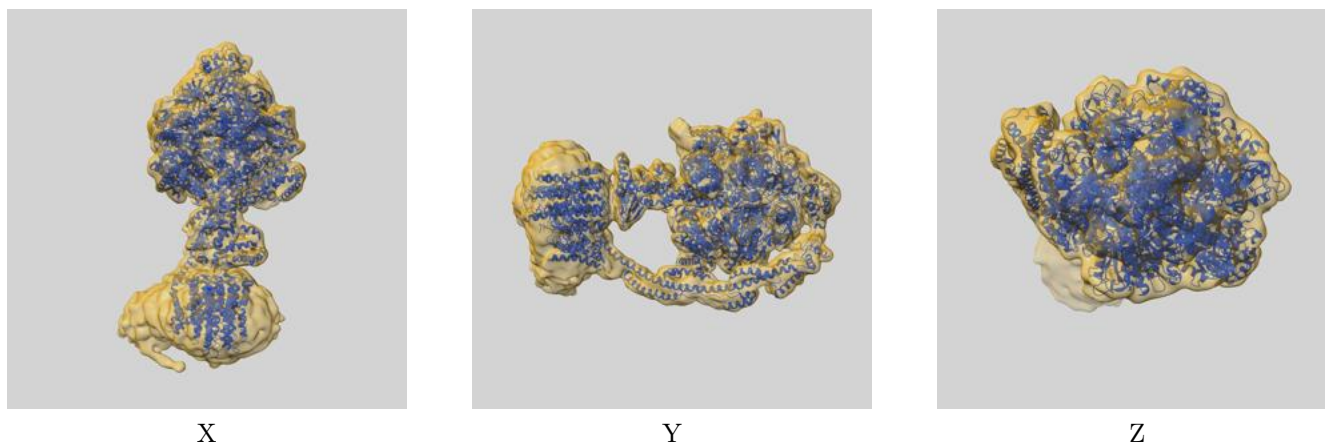
The images above show the 3D surface view of the map at the recommended contour level 0.13 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2　Q-score mapped to coordinate model ⓘ

X　　　　　　　　　Y　　　　　　　　　Z
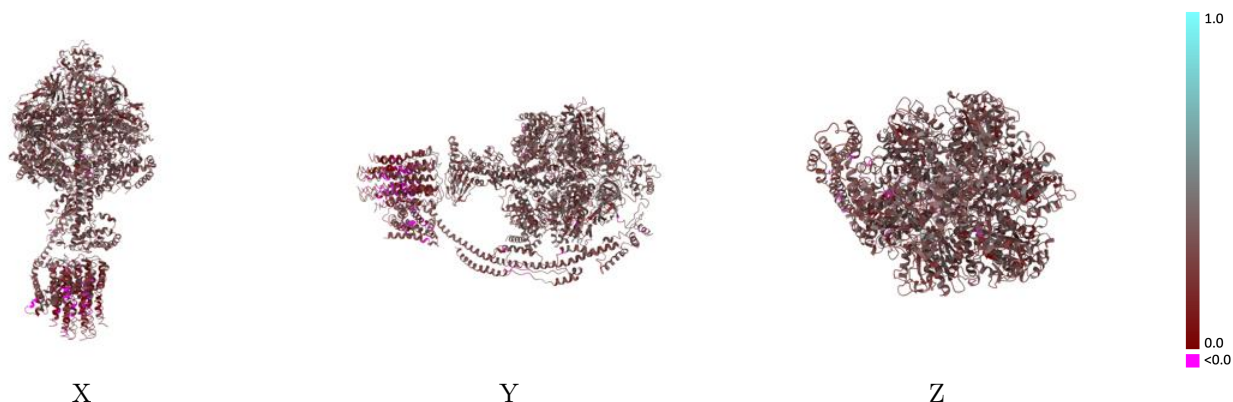
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
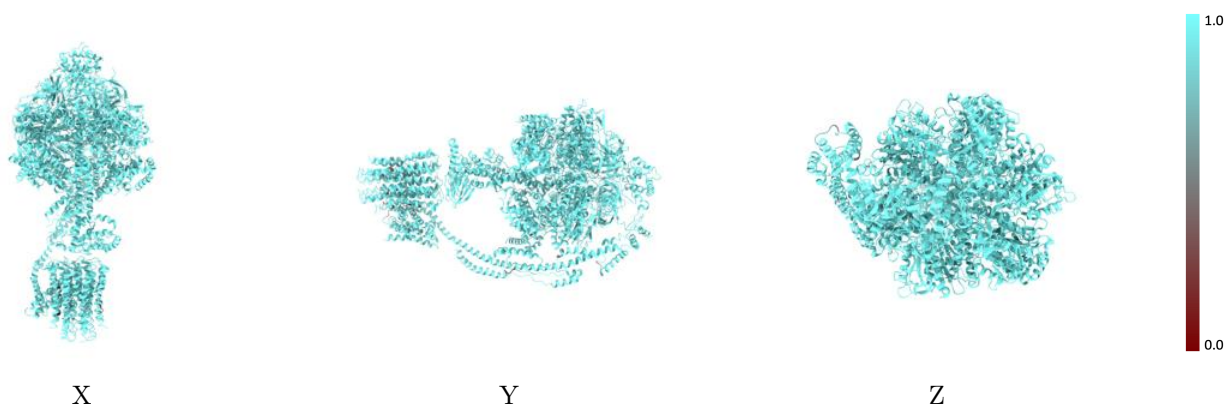
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.13).

WORLDWIDE
wwPDB
PROTEIN DATA BANK
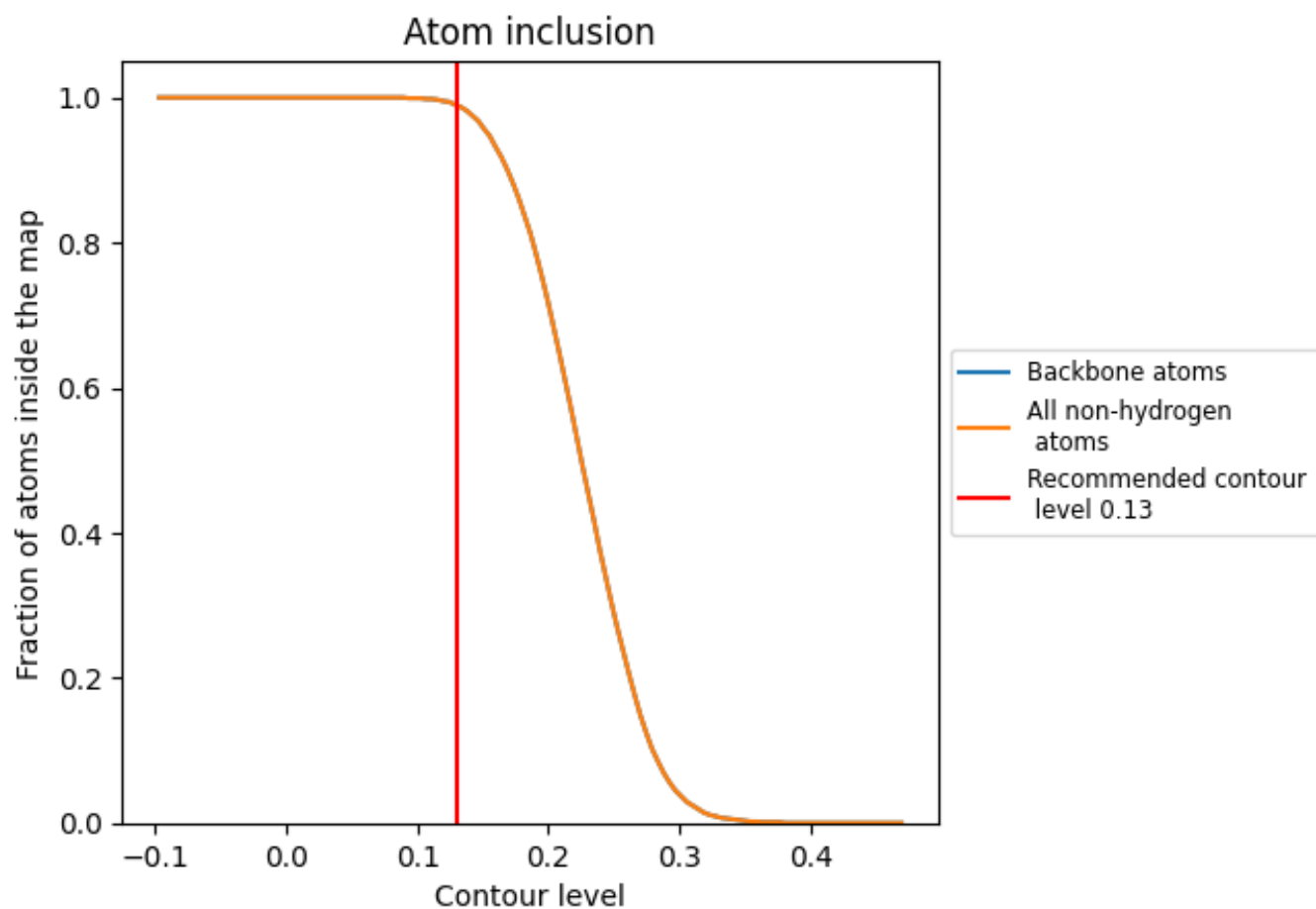
9.4 Atom inclusion ⓘ

At the recommended contour level, 99% of all backbone atoms, 99% 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 (0.13) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9890	0.2750
A	0.9980	0.2970
B	1.0000	0.3060
C	0.9960	0.3070
D	1.0000	0.3030
E	1.0000	0.2970
F	0.9970	0.3040
G	0.9990	0.3040
H	0.9980	0.3040
I	1.0000	0.2980
J	0.9310	0.1290
K	0.9720	0.1270
L	0.9830	0.1870
M	0.9790	0.1510
N	0.9830	0.1950
O	0.9620	0.1240
P	0.9620	0.1740
Q	0.9130	0.1290
S	0.9930	0.3050
T	0.9910	0.2830
U	0.9730	0.2470
V	0.8830	0.2370
W	0.9630	0.1780

1.0

0.0
<0.0