Full wwPDB EM Validation Report

Dec 5, 2024 – 10:38 AM EST

PDB ID	:	9CI1
EMDB ID	:	EMD-45607
Title	:	Anthoceros agrestis Rubisco octamer core complexed with Arabidopsis thaliana BSD2
Authors	:	Ang, W.S.L.; Oh, Z.G.; Li, F.W.; Gunn, L.H.
Deposited on	:	2024-07-02
Resolution	:	2.88 Å(reported)
Based on initial models	:	8ILM, 8ILB, 9CHZ

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

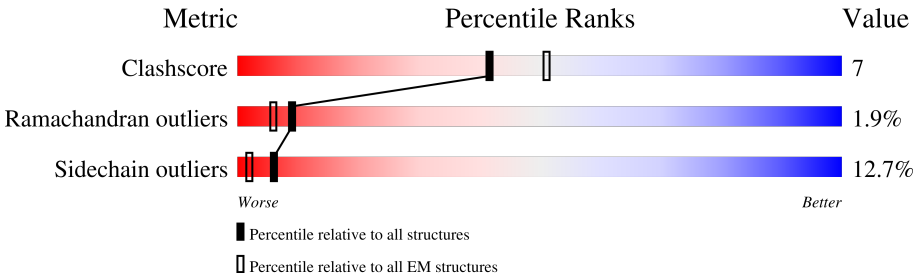
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 2.88 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	1	136	35% 11% 7% • 46%
1	2	136	29% 15% 9% 46%
1	3	136	29% 15% 10% 46%
1	4	136	37% 10% 7% 46%
1	5	136	32% 15% 7% 46%
1	6	136	28% 18% 6% • 46%
1	7	136	29% 18% 5% • 46%
1	8	136	36% 10% 6% • 46%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
2	A	475	76% 14% • 7%
2	B	475	76% 15% • 8%
2	C	475	76% 13% • 7%
2	D	475	75% 14% • 8%
2	E	475	76% 15% • 7%
2	F	475	77% 13% • 8%
2	G	475	75% 15% • 7%
2	H	475	77% 13% • 8%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 31780 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 Bundle Sheath Defective 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	2	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	3	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	4	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	5	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	6	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	7	73	Total	C	N	O	S	0	0
			519	320	91	99	9		
1	8	73	Total	C	N	O	S	0	0
			519	320	91	99	9		

- Molecule 2 is a protein called Rubisco large subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	441	Total	C	N	O	S	0	0
			3461	2189	612	642	18		
2	B	439	Total	C	N	O	S	0	0
			3446	2179	610	639	18		
2	C	441	Total	C	N	O	S	0	0
			3461	2189	612	642	18		
2	D	439	Total	C	N	O	S	0	0
			3446	2179	610	639	18		
2	E	441	Total	C	N	O	S	0	0
			3461	2189	612	642	18		
2	F	439	Total	C	N	O	S	0	0
			3446	2179	610	639	18		
2	G	441	Total	C	N	O	S	0	0
			3461	2189	612	642	18		

Continued on next page...

Continued from previous page...

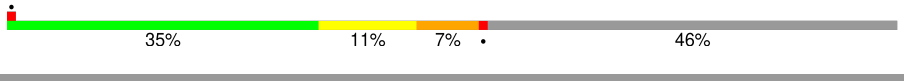
Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	439	Total	C	N	O	S	0	0
			3446	2179	610	639	18		

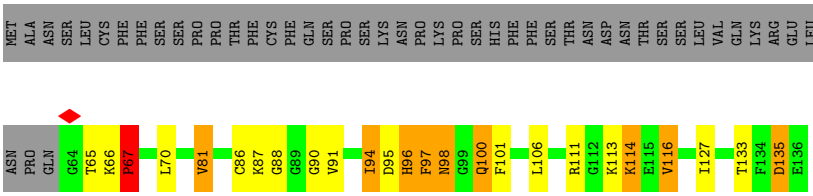
3 Residue-property plots (i)

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: Bundle Sheath Defective 2

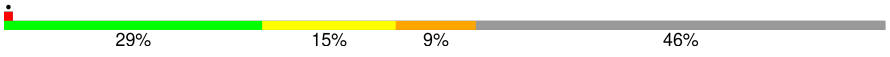
Chain 1:

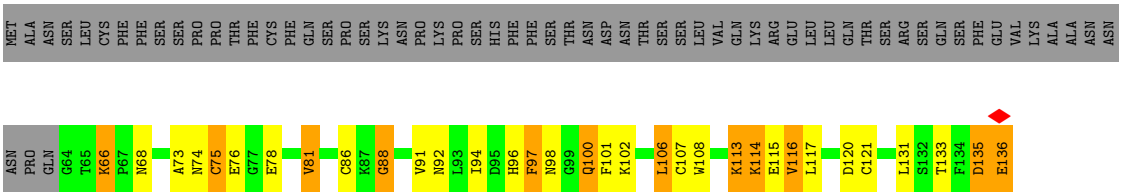




• Molecule 1: Bundle Sheath Defective 2

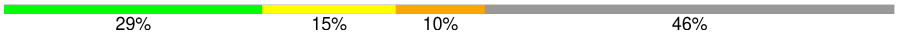
Chain 2:

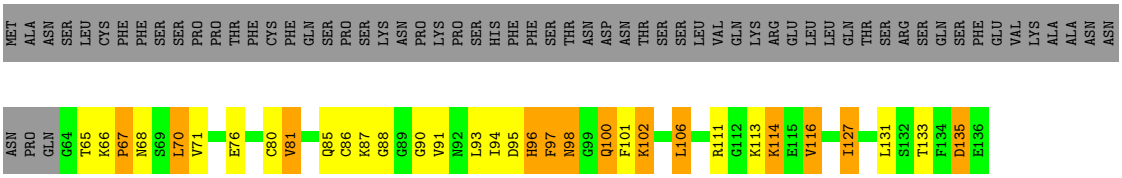




• Molecule 1: Bundle Sheath Defective 2

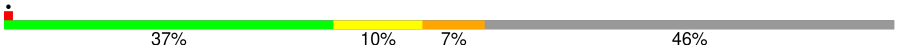
Chain 3:

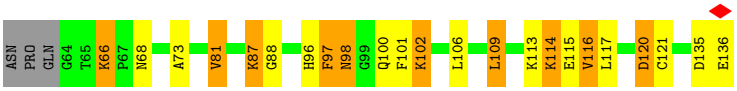




• Molecule 1: Bundle Sheath Defective 2

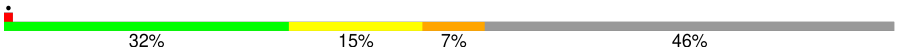
Chain 4:

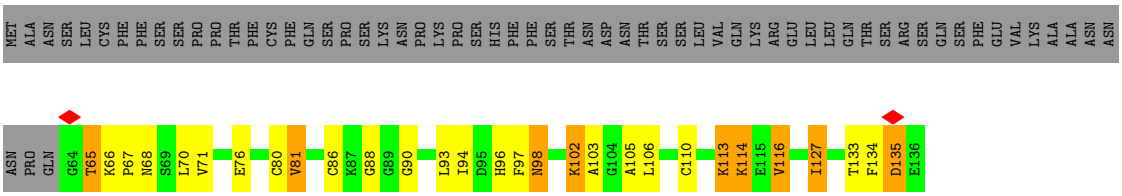




• Molecule 1: Bundle Sheath Defective 2

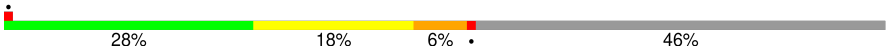
Chain 5:

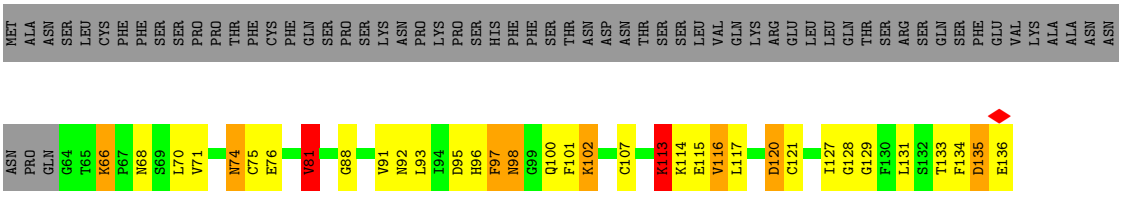




• Molecule 1: Bundle Sheath Defective 2

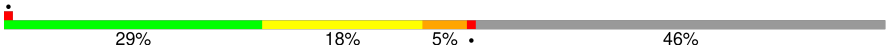
Chain 6:

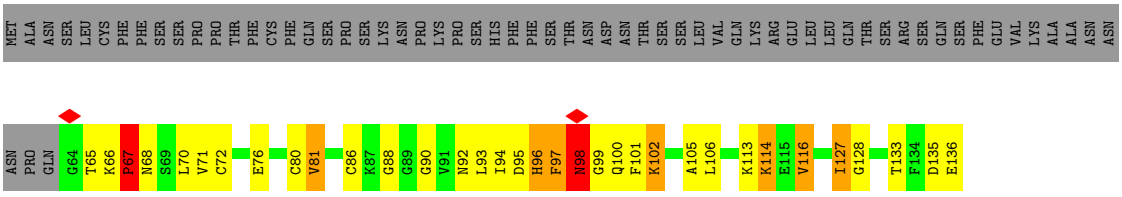




• Molecule 1: Bundle Sheath Defective 2

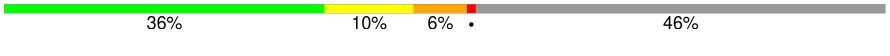
Chain 7:

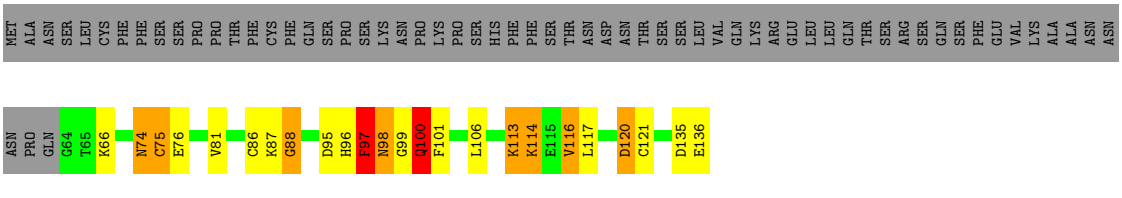




• Molecule 1: Bundle Sheath Defective 2

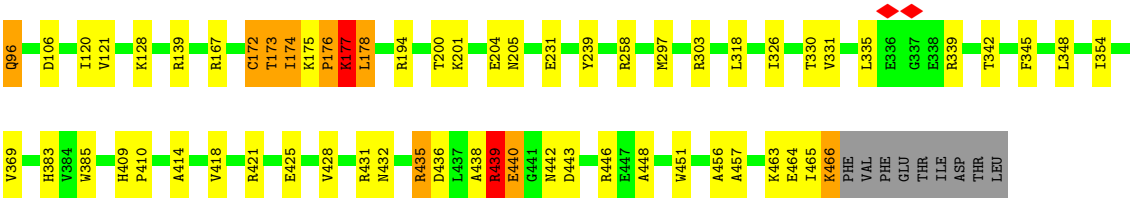
Chain 8:





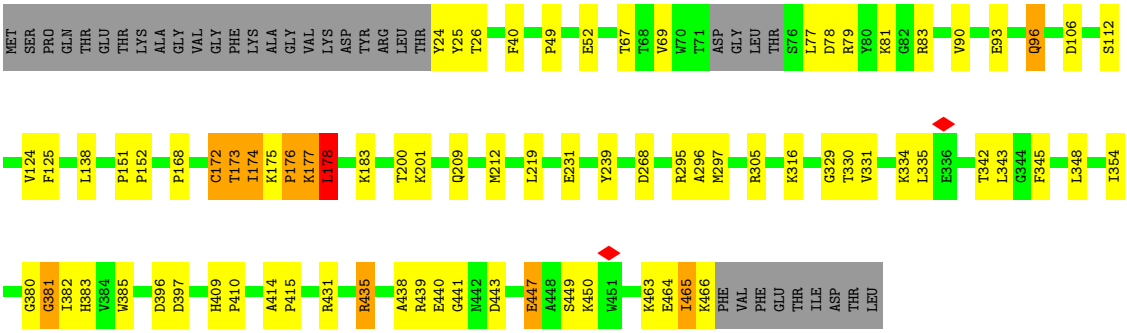
• Molecule 2: Rubisco large subunit

Chain A:



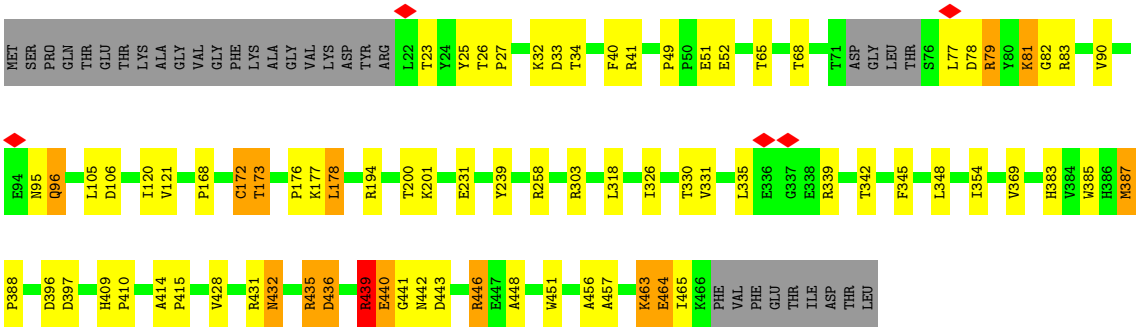
• Molecule 2: Rubisco large subunit

Chain B:



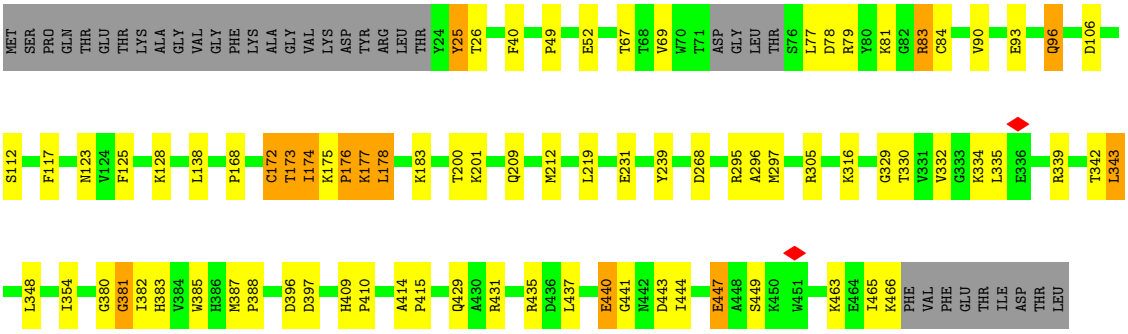
• Molecule 2: Rubisco large subunit

Chain C:



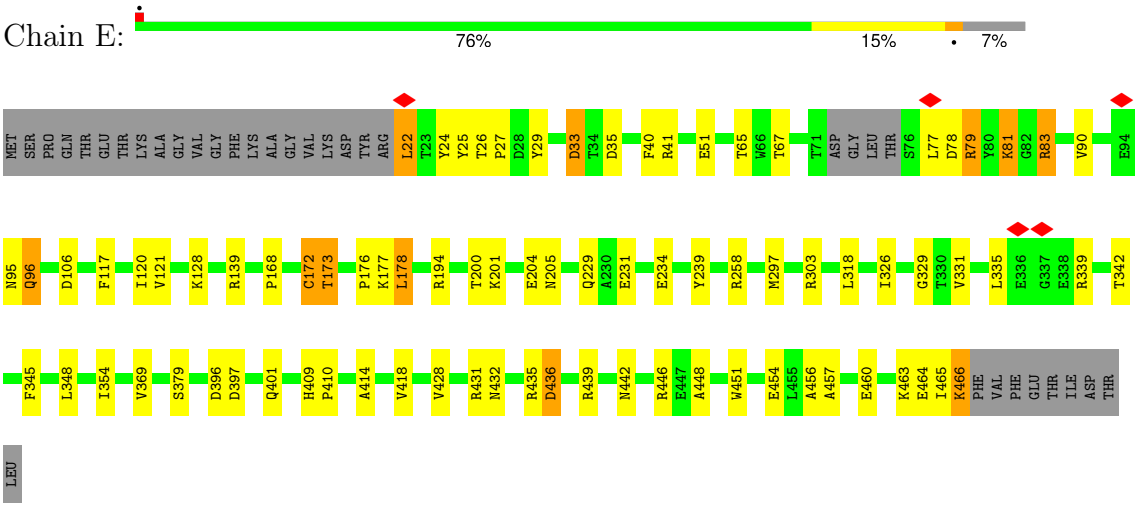
• Molecule 2: Rubisco large subunit

Chain D:



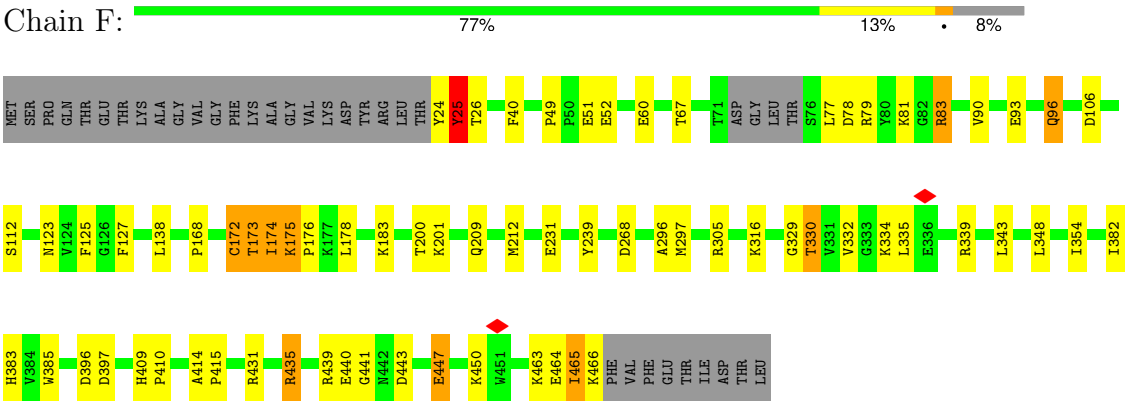
• Molecule 2: Rubisco large subunit

Chain E:



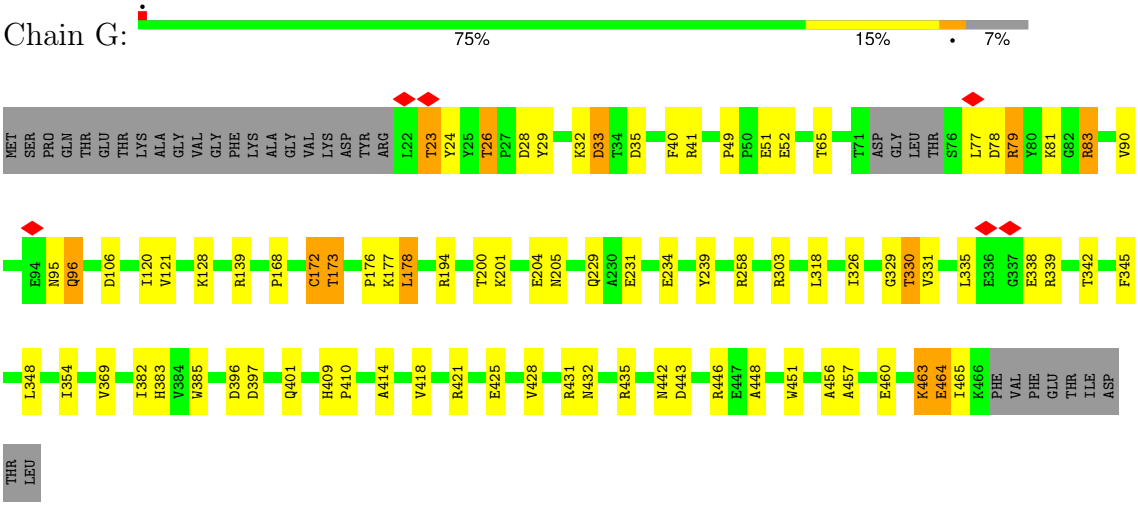
• Molecule 2: Rubisco large subunit

Chain F:



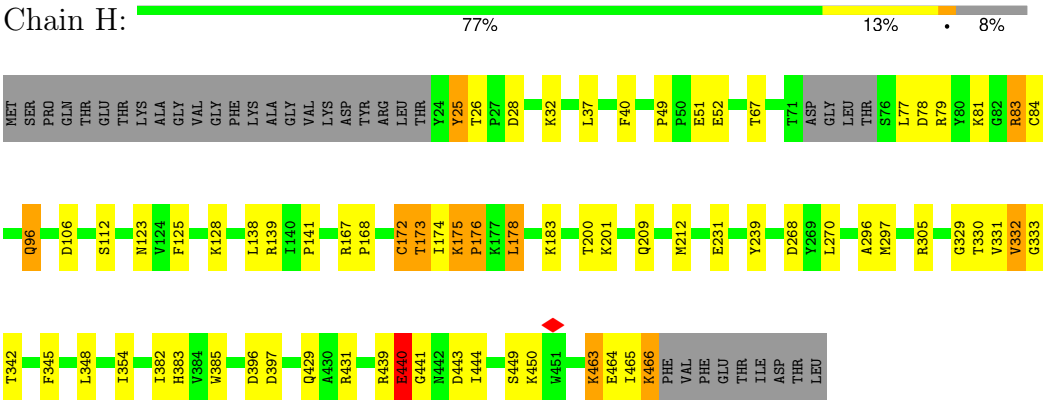
• Molecule 2: Rubisco large subunit

Chain G:



• Molecule 2: Rubisco large subunit

Chain H:


77%
13%
8%
MET SER PRO GLN THR GLU THR LYS ALA GLY VAL GLY PHE LYS ALA GLY VAL LYS ASP TYR ARG LEU THR Y24 Y25 T26 P27 D28 K32 L37 F40 P49 P50 E51 E52 T67 T71 ASP GLY LEU THR S76 L77 D78 R79 Y80 K81 G82 R83 C84 V90 E93
Q96 D106 S112 N123 V124 F125 K128 L138 R139 I140 P141 R167 P168 C172 T173 I174 K175 P176 K177 L178 K183 T200 K201 Q209 M212 E231 Y239 D268 Y269 L270 A296 M297 R305 G329 T330 V331 V332 G333 K334 L335 E336
T342 F345 L348 I354 I382 H383 V384 W385 D396 D397 Q429 A430 R431 R439 E440 G441 N442 D443 I444 S449 K450 W451 K463 E464 I465 K466 PHE VAL PHE GLU THR ILE ASP THR LEU

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	33090	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	65	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	79000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.204	Depositor
Minimum map value	-0.066	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.010	Depositor
Recommended contour level	0.045	Depositor
Map size (Å)	281.6, 281.6, 281.6	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.55, 0.55, 0.55	Depositor

5 Model quality

5.1 Standard geometry

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

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	1	0.63	0/527	0.61	0/705
1	2	0.63	0/527	0.61	0/705
1	3	0.64	0/527	0.61	0/705
1	4	0.63	0/527	0.60	0/705
1	5	0.63	0/527	0.62	0/705
1	6	0.63	0/527	0.61	0/705
1	7	0.64	0/527	0.61	0/705
1	8	0.63	0/527	0.61	0/705
2	A	0.39	0/3532	0.53	0/4785
2	B	0.37	0/3517	0.52	0/4764
2	C	0.37	0/3532	0.53	0/4785
2	D	0.38	0/3517	0.52	0/4764
2	E	0.37	0/3532	0.52	0/4785
2	F	0.37	0/3517	0.52	0/4764
2	G	0.38	0/3532	0.52	0/4785
2	H	0.37	0/3517	0.51	0/4764
All	All	0.42	0/32412	0.53	0/43836

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	1	519	0	493	13	0
1	2	519	0	493	16	0
1	3	519	0	493	15	0
1	4	519	0	493	14	0
1	5	519	0	493	14	0
1	6	519	0	493	19	0
1	7	519	0	493	19	0
1	8	519	0	493	17	0
2	A	3461	0	3368	38	0
2	B	3446	0	3350	37	0
2	C	3461	0	3368	40	0
2	D	3446	0	3350	35	0
2	E	3461	0	3368	35	0
2	F	3446	0	3350	38	0
2	G	3461	0	3368	42	0
2	H	3446	0	3350	35	0
All	All	31780	0	30816	411	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.

All (411) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:6:96:HIS:HB2	1:6:101:PHE:HD2	1.40	0.87
1:7:97:PHE:HB3	1:7:100:GLN:HB3	1.58	0.85
2:G:201:KCX:HG2	2:G:239:TYR:HD2	1.47	0.79
2:A:201:KCX:HG2	2:A:239:TYR:HD2	1.47	0.79
2:C:201:KCX:HG2	2:C:239:TYR:HD2	1.47	0.79
1:4:81:VAL:HG23	1:4:116:VAL:HG23	1.63	0.79
2:E:201:KCX:HG2	2:E:239:TYR:HD2	1.47	0.79
2:B:176:PRO:HG2	2:B:177:LYS:HE2	1.65	0.78
1:3:97:PHE:HB3	1:3:100:GLN:HB2	1.66	0.77
1:2:96:HIS:HB2	1:2:101:PHE:HD2	1.49	0.77
1:1:96:HIS:HB2	1:1:101:PHE:HD2	1.51	0.75
1:8:81:VAL:HG23	1:8:116:VAL:HG23	1.69	0.74
1:2:81:VAL:HG23	1:2:116:VAL:HG23	1.67	0.74
1:1:97:PHE:HB3	1:1:100:GLN:HB2	1.71	0.73
2:D:334:LYS:HB2	2:D:339:ARG:HG3	1.70	0.71
1:3:96:HIS:HB2	1:3:101:PHE:HD2	1.55	0.71
2:C:428:VAL:HG12	2:C:432:ASN:HD21	1.56	0.71
1:8:100:GLN:H	1:8:100:GLN:HE21	1.38	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:81:VAL:HG23	1:1:116:VAL:HG23	1.74	0.69
1:6:81:VAL:HG23	1:6:116:VAL:HG23	1.75	0.68
1:3:135:ASP:HB3	2:D:329:GLY:HA2	1.75	0.68
1:6:96:HIS:HB2	1:6:101:PHE:CD2	2.27	0.68
2:B:26:THR:HB	2:B:83:ARG:HD3	1.76	0.68
1:3:86:CYS:HB2	1:3:90:GLY:H	1.58	0.67
1:5:135:ASP:HB3	2:F:330:THR:H	1.60	0.67
2:B:49:PRO:HG2	2:B:52:GLU:HB2	1.77	0.66
1:3:81:VAL:HG23	1:3:116:VAL:HG23	1.78	0.65
1:7:81:VAL:HG23	1:7:116:VAL:HG23	1.76	0.65
1:7:96:HIS:HB2	1:7:101:PHE:HD2	1.62	0.65
1:1:86:CYS:HB2	1:1:90:GLY:H	1.62	0.65
2:B:435:ARG:HH21	2:B:440:GLU:HG2	1.62	0.65
2:B:168:PRO:HG3	2:B:396:ASP:HA	1.79	0.65
2:D:26:THR:HB	2:D:83:ARG:HD3	1.78	0.65
2:B:201:KCX:HG3	2:B:239:TYR:CD2	2.33	0.64
2:D:201:KCX:HG3	2:D:239:TYR:CD2	2.33	0.64
2:G:428:VAL:HG13	2:G:431:ARG:HH21	1.61	0.64
2:F:201:KCX:HG3	2:F:239:TYR:CD2	2.33	0.64
2:D:168:PRO:HG3	2:D:396:ASP:HA	1.80	0.64
2:F:168:PRO:HG3	2:F:396:ASP:HA	1.80	0.64
2:F:435:ARG:HH21	2:F:440:GLU:HG2	1.61	0.64
2:G:168:PRO:HG3	2:G:396:ASP:HA	1.80	0.64
2:H:201:KCX:HG3	2:H:239:TYR:CD2	2.33	0.64
2:A:383:HIS:CE1	2:A:385:TRP:HB2	2.32	0.64
1:1:88:GLY:HA2	1:1:114:LYS:HB3	1.80	0.63
2:C:168:PRO:HG3	2:C:396:ASP:HA	1.80	0.63
2:E:168:PRO:HG3	2:E:396:ASP:HA	1.80	0.63
1:2:66:LYS:HD2	1:2:73:ALA:HA	1.79	0.63
2:G:383:HIS:CE1	2:G:385:TRP:HB2	2.34	0.63
2:F:334:LYS:HB2	2:F:339:ARG:HG3	1.80	0.63
1:5:86:CYS:HB2	1:5:90:GLY:H	1.64	0.62
2:C:383:HIS:CE1	2:C:385:TRP:HB2	2.34	0.62
1:5:81:VAL:HG23	1:5:116:VAL:HG23	1.81	0.61
1:7:86:CYS:HB2	1:7:90:GLY:H	1.64	0.61
1:7:102:LYS:HD3	1:7:105:ALA:HB2	1.83	0.60
2:H:385:TRP:HB3	2:H:465:ILE:HG12	1.84	0.60
2:F:26:THR:HB	2:F:83:ARG:HD3	1.82	0.60
1:4:97:PHE:HB2	1:4:101:PHE:CE2	2.37	0.60
1:6:66:LYS:HD2	1:6:71:VAL:HB	1.83	0.60
2:B:447:GLU:HA	2:B:450:LYS:HD2	1.84	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:383:HIS:CE1	2:H:385:TRP:HB2	2.37	0.59
2:F:24:TYR:O	2:F:25:TYR:C	2.41	0.59
2:E:428:VAL:HG13	2:E:431:ARG:HH21	1.67	0.59
2:F:383:HIS:CE1	2:F:385:TRP:HB2	2.37	0.59
1:2:96:HIS:HB2	1:2:101:PHE:CD2	2.34	0.59
2:A:95:ASN:O	2:A:96:GLN:NE2	2.33	0.59
2:B:77:LEU:O	2:B:79:ARG:N	2.36	0.59
1:3:88:GLY:HA2	1:3:114:LYS:HB3	1.85	0.58
2:H:77:LEU:O	2:H:79:ARG:N	2.36	0.58
2:D:77:LEU:O	2:D:79:ARG:N	2.36	0.58
2:F:77:LEU:O	2:F:79:ARG:N	2.36	0.58
2:A:383:HIS:HE1	2:A:385:TRP:HB2	1.69	0.58
1:8:96:HIS:HB2	1:8:101:PHE:HB2	1.84	0.58
2:H:49:PRO:HG2	2:H:52:GLU:HB2	1.85	0.58
1:6:113:LYS:HG2	1:6:115:GLU:HG2	1.86	0.58
2:H:139:ARG:HH21	2:H:141:PRO:HB3	1.68	0.58
1:6:97:PHE:HB2	1:6:101:PHE:CE2	2.39	0.58
2:D:383:HIS:CE1	2:D:385:TRP:HB2	2.40	0.57
2:E:95:ASN:O	2:E:96:GLN:NE2	2.33	0.57
2:G:383:HIS:HE1	2:G:385:TRP:HB2	1.69	0.57
2:G:120:ILE:HG22	2:G:121:VAL:HG13	1.87	0.57
1:7:98:ASN:HD22	1:7:99:GLY:H	1.53	0.57
2:A:90:VAL:HB	2:A:96:GLN:HB3	1.87	0.57
2:C:120:ILE:HG22	2:C:121:VAL:HG13	1.87	0.56
2:G:90:VAL:HB	2:G:96:GLN:HB3	1.87	0.56
2:A:120:ILE:HG22	2:A:121:VAL:HG13	1.87	0.56
2:E:379:SER:HB2	2:E:401:GLN:HB2	1.86	0.56
2:D:173:THR:HB	2:D:201:KCX:HB3	1.87	0.56
2:G:95:ASN:O	2:G:96:GLN:NE2	2.33	0.56
1:4:96:HIS:HB2	1:4:101:PHE:HD2	1.70	0.56
2:C:383:HIS:HE1	2:C:385:TRP:HB2	1.69	0.56
2:B:383:HIS:CE1	2:B:385:TRP:HB2	2.41	0.56
2:C:90:VAL:HB	2:C:96:GLN:HB3	1.87	0.56
2:E:120:ILE:HG22	2:E:121:VAL:HG13	1.87	0.56
2:D:334:LYS:NZ	2:D:339:ARG:H	2.04	0.56
2:B:173:THR:HB	2:B:201:KCX:HB3	1.87	0.55
2:H:173:THR:HB	2:H:201:KCX:HB3	1.88	0.55
2:G:448:ALA:HA	2:G:451:TRP:NE1	2.22	0.55
2:C:342:THR:HA	2:C:345:PHE:CE2	2.42	0.55
2:F:173:THR:HB	2:F:201:KCX:HB3	1.87	0.55
2:C:95:ASN:O	2:C:96:GLN:NE2	2.33	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:383:HIS:HE1	2:F:385:TRP:HB2	1.72	0.55
1:2:135:ASP:O	1:2:136:GLU:C	2.45	0.55
2:E:90:VAL:HB	2:E:96:GLN:HB3	1.87	0.55
2:G:342:THR:HA	2:G:345:PHE:CE2	2.42	0.55
1:8:97:PHE:HB2	1:8:101:PHE:CE2	2.41	0.54
2:E:342:THR:HA	2:E:345:PHE:CE2	2.42	0.54
1:2:97:PHE:HB2	1:2:101:PHE:CE2	2.42	0.54
2:F:385:TRP:HB3	2:F:465:ILE:HG22	1.89	0.54
2:A:342:THR:HA	2:A:345:PHE:CE2	2.42	0.54
2:A:77:LEU:O	2:A:79:ARG:N	2.41	0.54
2:C:77:LEU:O	2:C:79:ARG:N	2.41	0.54
2:G:77:LEU:O	2:G:79:ARG:N	2.41	0.54
2:E:77:LEU:O	2:E:79:ARG:N	2.41	0.54
2:E:456:ALA:O	2:E:457:ALA:HB3	2.07	0.53
2:C:25:TYR:O	2:C:27:PRO:HD3	2.09	0.53
2:F:90:VAL:HB	2:F:96:GLN:HB3	1.91	0.53
2:H:465:ILE:O	2:H:466:LYS:C	2.47	0.53
2:D:348:LEU:HD23	2:D:354:ILE:HD13	1.90	0.53
2:A:25:TYR:O	2:A:27:PRO:HD3	2.09	0.53
2:D:90:VAL:HB	2:D:96:GLN:HB3	1.91	0.53
2:D:172:CYS:SG	2:D:173:THR:N	2.82	0.53
2:F:172:CYS:SG	2:F:173:THR:N	2.82	0.53
2:F:348:LEU:HD23	2:F:354:ILE:HD13	1.90	0.53
2:B:90:VAL:HB	2:B:96:GLN:HB3	1.91	0.53
2:B:172:CYS:SG	2:B:173:THR:N	2.82	0.53
2:H:348:LEU:HD23	2:H:354:ILE:HD13	1.90	0.52
2:D:383:HIS:HE1	2:D:385:TRP:HB2	1.73	0.52
2:H:90:VAL:HB	2:H:96:GLN:HB3	1.91	0.52
2:H:296:ALA:O	2:H:297:MET:HB3	2.10	0.52
2:C:428:VAL:HG13	2:C:431:ARG:HH21	1.74	0.52
2:G:442:ASN:HB3	2:G:446:ARG:NH2	2.25	0.52
2:F:24:TYR:HE2	2:F:81:LYS:HD2	1.75	0.52
1:8:96:HIS:HB2	1:8:101:PHE:CB	2.39	0.52
2:B:348:LEU:HD23	2:B:354:ILE:HD13	1.90	0.52
1:7:66:LYS:HD3	1:7:71:VAL:HB	1.90	0.52
2:B:414:ALA:N	2:B:415:PRO:HD2	2.25	0.52
2:D:409:HIS:CG	2:D:410:PRO:HD2	2.45	0.52
2:F:414:ALA:N	2:F:415:PRO:HD2	2.25	0.52
2:B:409:HIS:CG	2:B:410:PRO:HD2	2.45	0.51
2:H:172:CYS:SG	2:H:173:THR:N	2.82	0.51
1:5:135:ASP:HB3	2:F:329:GLY:HA2	1.92	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:448:ALA:HA	2:C:451:TRP:NE1	2.26	0.51
1:4:96:HIS:HB2	1:4:101:PHE:HB2	1.91	0.51
2:A:176:PRO:O	2:A:177:LYS:C	2.49	0.51
2:F:296:ALA:O	2:F:297:MET:HB3	2.11	0.51
2:H:201:KCX:HG3	2:H:239:TYR:HD2	1.76	0.51
2:H:383:HIS:HE1	2:H:385:TRP:HB2	1.76	0.51
2:B:296:ALA:O	2:B:297:MET:HB3	2.11	0.51
1:4:96:HIS:HB2	1:4:101:PHE:CD2	2.45	0.50
2:A:82:GLY:HA2	2:A:83:ARG:HH21	1.75	0.50
2:D:296:ALA:O	2:D:297:MET:HB3	2.11	0.50
2:C:387:MET:N	2:C:388:PRO:HD2	2.26	0.50
2:A:121:VAL:HG23	2:A:121:VAL:O	2.11	0.50
2:B:201:KCX:HG3	2:B:239:TYR:HD2	1.76	0.50
2:D:201:KCX:HG3	2:D:239:TYR:HD2	1.76	0.50
2:G:442:ASN:O	2:G:446:ARG:HG3	2.11	0.50
2:E:442:ASN:O	2:E:446:ARG:HG3	2.12	0.50
2:C:318:LEU:HD22	2:C:326:ILE:HD12	1.94	0.50
1:6:135:ASP:OD2	2:E:329:GLY:HA2	2.12	0.50
2:A:318:LEU:HD22	2:A:326:ILE:HD12	1.94	0.50
2:E:121:VAL:HG23	2:E:121:VAL:O	2.11	0.50
2:A:448:ALA:HA	2:A:451:TRP:NE1	2.26	0.49
2:G:26:THR:OG1	2:G:83:ARG:HG3	2.12	0.49
2:E:318:LEU:HD22	2:E:326:ILE:HD12	1.94	0.49
2:B:383:HIS:HE1	2:B:385:TRP:HB2	1.76	0.49
1:8:96:HIS:O	1:8:97:PHE:C	2.51	0.49
2:A:303:ARG:NH1	2:B:125:PHE:O	2.46	0.49
2:E:303:ARG:NH1	2:F:125:PHE:O	2.46	0.49
2:H:342:THR:HA	2:H:345:PHE:CE2	2.48	0.49
2:G:121:VAL:O	2:G:121:VAL:HG23	2.12	0.49
1:6:129:GLY:O	1:6:133:THR:HG22	2.13	0.49
2:C:121:VAL:HG23	2:C:121:VAL:O	2.11	0.49
2:C:303:ARG:NH1	2:D:125:PHE:O	2.46	0.49
2:F:201:KCX:HG3	2:F:239:TYR:HD2	1.76	0.49
1:7:96:HIS:CD2	1:7:96:HIS:H	2.30	0.49
1:5:70:LEU:O	1:5:127:ILE:HG12	2.13	0.49
2:A:339:ARG:O	2:A:339:ARG:HG2	2.13	0.49
2:B:342:THR:HA	2:B:345:PHE:CE2	2.48	0.49
2:G:318:LEU:HD22	2:G:326:ILE:HD12	1.94	0.49
2:C:51:GLU:H	2:C:51:GLU:CD	2.15	0.48
2:D:414:ALA:N	2:D:415:PRO:HD2	2.27	0.48
1:1:97:PHE:HB3	1:1:100:GLN:CB	2.42	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:135:ASP:HB3	2:B:329:GLY:HA2	1.94	0.48
1:5:134:PHE:O	1:5:135:ASP:C	2.51	0.48
2:E:25:TYR:O	2:E:27:PRO:HD3	2.14	0.48
2:F:409:HIS:CG	2:F:410:PRO:HD2	2.49	0.48
2:G:303:ARG:NH1	2:H:125:PHE:O	2.46	0.48
2:C:49:PRO:HG2	2:C:52:GLU:HB2	1.94	0.48
1:7:97:PHE:HB2	1:7:101:PHE:CD2	2.49	0.48
2:A:442:ASN:O	2:A:446:ARG:HG3	2.14	0.48
2:H:385:TRP:CZ2	2:H:464:GLU:HG2	2.49	0.48
1:1:96:HIS:HB2	1:1:101:PHE:CD2	2.40	0.48
2:E:172:CYS:SG	2:E:173:THR:N	2.87	0.47
2:H:331:VAL:C	2:H:333:GLY:H	2.17	0.47
1:4:96:HIS:O	1:4:97:PHE:C	2.53	0.47
2:C:172:CYS:SG	2:C:173:THR:N	2.87	0.47
2:G:339:ARG:O	2:G:339:ARG:HG2	2.13	0.47
2:H:383:HIS:HE1	2:H:465:ILE:HD11	1.80	0.47
2:A:409:HIS:CG	2:A:410:PRO:HD2	2.49	0.47
2:E:51:GLU:CD	2:E:51:GLU:H	2.17	0.47
1:6:98:ASN:HD21	1:6:100:GLN:NE2	2.13	0.47
2:E:448:ALA:HA	2:E:451:TRP:NE1	2.28	0.47
1:3:66:LYS:HD3	1:3:71:VAL:HB	1.96	0.47
2:C:339:ARG:HG2	2:C:339:ARG:O	2.13	0.47
2:E:339:ARG:O	2:E:339:ARG:HG2	2.13	0.47
2:A:172:CYS:SG	2:A:173:THR:N	2.87	0.47
2:B:385:TRP:CZ2	2:B:464:GLU:HG3	2.50	0.47
2:B:438:ALA:O	2:B:439:ARG:HD2	2.14	0.47
2:G:172:CYS:SG	2:G:173:THR:N	2.87	0.47
2:G:201:KCX:HG2	2:G:239:TYR:CD2	2.39	0.47
1:6:96:HIS:O	1:6:97:PHE:C	2.53	0.47
2:A:456:ALA:O	2:A:457:ALA:HB3	2.14	0.47
2:C:456:ALA:O	2:C:457:ALA:HB3	2.14	0.47
2:F:439:ARG:O	2:F:440:GLU:C	2.53	0.47
2:C:414:ALA:N	2:C:415:PRO:HD2	2.30	0.47
1:5:102:LYS:HB2	1:5:102:LYS:HE3	1.47	0.47
2:E:33:ASP:OD1	2:E:33:ASP:N	2.49	0.46
1:2:92:ASN:ND2	1:2:107:CYS:HA	2.30	0.46
1:5:66:LYS:HD3	1:5:71:VAL:HB	1.96	0.46
2:A:466:LYS:HB3	2:A:466:LYS:HE2	1.71	0.46
2:G:409:HIS:CG	2:G:410:PRO:HD2	2.50	0.46
1:8:99:GLY:O	1:8:100:GLN:C	2.54	0.46
2:C:23:THR:CB	2:C:83:ARG:HH12	2.28	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:177:LYS:N	2:D:177:LYS:HD2	2.30	0.46
2:E:22:LEU:HD23	2:E:22:LEU:HA	1.74	0.46
2:A:32:LYS:H	2:A:32:LYS:HG2	1.66	0.46
2:G:456:ALA:O	2:G:457:ALA:HB3	2.14	0.46
1:1:70:LEU:HG	2:A:52:GLU:OE1	2.16	0.46
1:5:65:THR:HG22	1:5:127:ILE:HG13	1.97	0.46
1:5:88:GLY:O	1:5:114:LYS:HG2	2.15	0.46
1:8:97:PHE:HB2	1:8:101:PHE:CD2	2.51	0.46
2:G:463:LYS:HA	2:G:463:LYS:HD3	1.63	0.46
1:6:92:ASN:ND2	1:6:107:CYS:HA	2.31	0.46
1:7:70:LEU:O	1:7:127:ILE:HG12	2.16	0.46
2:F:231:GLU:OE2	2:F:231:GLU:N	2.49	0.46
2:G:33:ASP:OD1	2:G:33:ASP:N	2.49	0.46
1:8:135:ASP:OD2	2:G:329:GLY:HA2	2.16	0.46
2:B:380:GLY:O	2:B:381:GLY:C	2.55	0.46
2:G:29:TYR:CD2	2:G:83:ARG:HD3	2.51	0.46
1:7:70:LEU:HG	2:G:52:GLU:OE1	2.15	0.46
2:A:428:VAL:HG12	2:A:432:ASN:HD21	1.81	0.46
2:F:49:PRO:HB2	2:F:51:GLU:OE1	2.16	0.46
2:G:51:GLU:CD	2:G:51:GLU:H	2.19	0.45
2:H:175:LYS:HD2	2:H:175:LYS:HA	1.34	0.45
1:2:121:CYS:O	1:2:121:CYS:SG	2.75	0.45
1:3:90:GLY:O	1:3:106:LEU:HD23	2.17	0.45
2:B:231:GLU:N	2:B:231:GLU:OE2	2.49	0.45
2:G:194:ARG:NE	2:G:231:GLU:OE1	2.50	0.45
1:3:97:PHE:HB3	1:3:100:GLN:CB	2.40	0.45
2:D:231:GLU:N	2:D:231:GLU:OE2	2.49	0.45
1:3:102:LYS:HE3	1:3:102:LYS:HB3	1.67	0.45
1:6:133:THR:HG23	1:6:134:PHE:O	2.17	0.45
2:A:194:ARG:NE	2:A:231:GLU:OE1	2.49	0.45
2:C:435:ARG:HE	2:C:435:ARG:HB3	1.68	0.45
2:F:175:LYS:HD2	2:F:175:LYS:HA	1.34	0.45
1:2:100:GLN:H	1:2:100:GLN:HG3	1.35	0.45
1:4:66:LYS:HD2	1:4:73:ALA:HA	1.98	0.45
1:3:96:HIS:CD2	1:3:96:HIS:H	2.32	0.45
2:B:385:TRP:HB3	2:B:465:ILE:HG22	1.98	0.45
2:H:26:THR:HB	2:H:83:ARG:HD3	1.99	0.45
1:7:97:PHE:O	1:7:98:ASN:C	2.55	0.45
2:H:231:GLU:OE2	2:H:231:GLU:N	2.49	0.45
1:1:97:PHE:HB2	1:1:101:PHE:CD2	2.51	0.45
2:A:83:ARG:O	2:A:83:ARG:HG2	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:29:TYR:CD2	2:E:83:ARG:HD2	2.52	0.45
1:2:106:LEU:HD23	1:2:106:LEU:HA	1.77	0.45
2:B:174:ILE:H	2:B:174:ILE:HG12	1.44	0.45
2:D:387:MET:N	2:D:388:PRO:HD2	2.32	0.45
1:7:100:GLN:HG2	1:7:101:PHE:CE1	2.52	0.44
2:A:201:KCX:HG2	2:A:239:TYR:CD2	2.39	0.44
2:B:331:VAL:HA	2:B:334:LYS:HD2	1.99	0.44
2:E:442:ASN:HB3	2:E:446:ARG:NH1	2.32	0.44
1:3:96:HIS:HB2	1:3:101:PHE:CD2	2.43	0.44
1:5:103:ALA:C	1:5:105:ALA:H	2.20	0.44
1:2:86:CYS:C	1:2:88:GLY:H	2.21	0.44
1:2:88:GLY:O	1:2:114:LYS:HG2	2.17	0.44
1:5:97:PHE:O	1:5:98:ASN:C	2.56	0.44
1:7:72:CYS:HA	1:7:127:ILE:HD11	2.00	0.44
1:8:75:CYS:O	1:8:76:GLU:HB2	2.17	0.44
2:D:380:GLY:O	2:D:381:GLY:C	2.55	0.44
2:G:49:PRO:HG2	2:G:52:GLU:CD	2.37	0.44
1:4:96:HIS:HB2	1:4:101:PHE:CB	2.48	0.44
1:5:110:CYS:O	1:5:113:LYS:HG2	2.17	0.44
2:A:35:ASP:O	2:A:139:ARG:NH2	2.51	0.44
2:D:174:ILE:H	2:D:174:ILE:HG12	1.44	0.44
2:D:447:GLU:H	2:D:447:GLU:HG3	1.52	0.44
1:7:127:ILE:O	1:7:128:GLY:C	2.56	0.44
2:D:176:PRO:HG2	2:D:177:LYS:HD2	1.99	0.44
2:E:35:ASP:O	2:E:139:ARG:NH2	2.51	0.44
1:6:128:GLY:O	2:F:127:PHE:HE1	2.01	0.44
2:D:93:GLU:HG3	2:D:96:GLN:HB2	2.00	0.44
2:A:436:ASP:OD1	2:A:439:ARG:HG3	2.18	0.43
2:C:194:ARG:NE	2:C:231:GLU:OE1	2.50	0.43
1:4:97:PHE:HB2	1:4:101:PHE:CD2	2.53	0.43
2:G:428:VAL:HG12	2:G:432:ASN:HD21	1.83	0.43
1:6:102:LYS:HA	1:6:102:LYS:HD3	1.49	0.43
2:B:343:LEU:HD12	2:B:343:LEU:HA	1.90	0.43
2:H:450:LYS:HA	2:H:450:LYS:HD3	1.87	0.43
1:3:97:PHE:HB2	1:3:101:PHE:CD2	2.52	0.43
1:4:109:LEU:HD13	1:4:109:LEU:HA	1.85	0.43
1:6:121:CYS:O	1:6:121:CYS:SG	2.77	0.43
2:G:23:THR:O	2:G:24:TYR:C	2.56	0.43
1:2:97:PHE:HB3	1:2:100:GLN:OE1	2.18	0.43
1:6:129:GLY:HA2	2:F:60:GLU:OE2	2.19	0.43
2:A:348:LEU:HD23	2:A:354:ILE:HD13	2.01	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:93:GLU:HG3	2:B:96:GLN:HB2	2.00	0.43
2:C:463:LYS:HD3	2:C:463:LYS:HA	1.78	0.43
2:H:49:PRO:HB2	2:H:51:GLU:OE1	2.18	0.43
1:1:94:ILE:HG22	1:1:96:HIS:CD2	2.54	0.43
1:3:97:PHE:O	1:3:98:ASN:C	2.56	0.43
2:A:174:ILE:H	2:A:174:ILE:HG12	1.74	0.43
2:C:201:KCX:HG2	2:C:239:TYR:CD2	2.39	0.43
1:4:121:CYS:O	1:4:121:CYS:SG	2.76	0.43
1:8:100:GLN:HG2	1:8:101:PHE:H	1.84	0.43
2:G:35:ASP:O	2:G:139:ARG:NH2	2.51	0.43
2:H:175:LYS:HB3	2:H:176:PRO:HD3	2.01	0.43
2:A:421:ARG:HD2	2:A:421:ARG:HA	1.77	0.43
2:C:51:GLU:HG2	2:C:52:GLU:H	1.84	0.43
2:G:385:TRP:CD2	2:G:464:GLU:HB2	2.54	0.43
1:1:66:LYS:HB3	1:1:67:PRO:HD2	2.00	0.42
2:A:436:ASP:OD1	2:A:438:ALA:HB3	2.18	0.42
2:B:24:TYR:CZ	2:B:81:LYS:HD2	2.53	0.42
2:C:409:HIS:CG	2:C:410:PRO:HD2	2.54	0.42
1:1:97:PHE:O	1:1:98:ASN:C	2.57	0.42
1:8:121:CYS:O	1:8:121:CYS:SG	2.76	0.42
2:C:348:LEU:HD23	2:C:354:ILE:HD13	2.01	0.42
2:D:25:TYR:HA	2:D:84:CYS:O	2.19	0.42
2:H:93:GLU:HG3	2:H:96:GLN:HB2	2.00	0.42
1:7:135:ASP:HB3	2:H:329:GLY:HA2	2.01	0.42
2:B:177:LYS:HB2	2:B:178:LEU:H	1.58	0.42
2:C:442:ASN:HB3	2:C:446:ARG:NH1	2.34	0.42
2:G:348:LEU:HD23	2:G:354:ILE:HD13	2.01	0.42
1:2:92:ASN:HD21	1:2:108:TRP:H	1.67	0.42
1:5:114:LYS:HE2	1:5:114:LYS:HB2	1.82	0.42
2:D:138:LEU:O	2:D:316:LYS:NZ	2.52	0.42
2:D:343:LEU:HD12	2:D:343:LEU:HA	1.75	0.42
2:H:463:LYS:HA	2:H:463:LYS:HD3	1.83	0.42
1:6:97:PHE:O	1:6:98:ASN:C	2.57	0.42
1:8:135:ASP:OD1	2:G:330:THR:HG22	2.19	0.42
2:A:421:ARG:O	2:A:425:GLU:HG2	2.19	0.42
2:C:439:ARG:H	2:C:439:ARG:HG3	1.54	0.42
2:F:93:GLU:HG3	2:F:96:GLN:HB2	2.00	0.42
2:H:440:GLU:H	2:H:440:GLU:HG3	1.54	0.42
2:F:174:ILE:H	2:F:174:ILE:HG12	1.44	0.42
2:G:382:ILE:HD11	2:G:401:GLN:O	2.19	0.42
1:4:114:LYS:O	1:4:115:GLU:HG2	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:6:97:PHE:HB2	1:6:101:PHE:CD2	2.55	0.42
2:B:219:LEU:HD23	2:B:219:LEU:HA	1.88	0.42
1:8:86:CYS:C	1:8:88:GLY:H	2.23	0.42
1:6:97:PHE:HD2	1:6:98:ASN:ND2	2.17	0.42
2:D:334:LYS:HZ1	2:D:339:ARG:H	1.66	0.42
2:E:194:ARG:NE	2:E:231:GLU:OE1	2.49	0.42
2:E:348:LEU:HD23	2:E:354:ILE:HD13	2.01	0.41
2:E:409:HIS:CG	2:E:410:PRO:HD2	2.55	0.41
1:7:92:ASN:HB3	1:7:96:HIS:NE2	2.35	0.41
1:8:96:HIS:HB2	1:8:101:PHE:HD2	1.85	0.41
2:F:305:ARG:HB3	2:F:305:ARG:NH1	2.36	0.41
1:2:75:CYS:O	1:2:76:GLU:HB2	2.19	0.41
1:8:88:GLY:O	1:8:114:LYS:HG2	2.20	0.41
2:D:305:ARG:HB3	2:D:305:ARG:NH1	2.36	0.41
2:E:436:ASP:OD2	2:E:439:ARG:N	2.53	0.41
1:4:102:LYS:HD3	1:4:102:LYS:HA	1.49	0.41
1:8:96:HIS:HB2	1:8:101:PHE:CD2	2.56	0.41
2:A:439:ARG:HG3	2:A:439:ARG:H	1.58	0.41
2:E:117:PHE:HD1	2:E:117:PHE:HA	1.77	0.41
2:H:168:PRO:HG3	2:H:396:ASP:HA	2.02	0.41
2:B:138:LEU:O	2:B:316:LYS:NZ	2.52	0.41
2:C:68:THR:O	2:C:68:THR:OG1	2.32	0.41
2:C:436:ASP:OD2	2:C:440:GLU:HG3	2.21	0.41
2:F:25:TYR:HD1	2:F:25:TYR:HA	1.74	0.41
2:G:204:GLU:HG2	2:G:205:ASN:N	2.36	0.41
2:H:270:LEU:HD23	2:H:270:LEU:HA	1.91	0.41
1:7:88:GLY:HA2	1:7:114:LYS:HB3	2.01	0.41
2:A:435:ARG:HE	2:A:435:ARG:HB3	1.66	0.41
1:2:75:CYS:O	1:2:78:GLU:HG2	2.20	0.41
1:7:66:LYS:HB3	1:7:67:PRO:HD2	2.03	0.41
2:G:421:ARG:O	2:G:425:GLU:HG2	2.20	0.41
2:H:123:ASN:OD1	2:H:123:ASN:N	2.53	0.41
2:H:305:ARG:HB3	2:H:305:ARG:NH1	2.36	0.41
1:4:87:LYS:HA	1:4:87:LYS:HD3	1.48	0.41
2:A:414:ALA:O	2:A:418:VAL:HG23	2.21	0.41
2:C:81:LYS:HG2	2:C:82:GLY:N	2.36	0.41
2:E:24:TYR:HA	2:E:81:LYS:HZ3	1.85	0.41
2:F:447:GLU:H	2:F:447:GLU:HG3	1.46	0.41
2:B:305:ARG:NH1	2:B:305:ARG:HB3	2.36	0.41
2:F:385:TRP:CZ2	2:F:464:GLU:HG2	2.56	0.41
2:C:446:ARG:HH12	2:C:464:GLU:CD	2.24	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:117:PHE:HD1	2:D:117:PHE:HA	1.80	0.40
2:D:123:ASN:OD1	2:D:123:ASN:N	2.53	0.40
2:E:204:GLU:HG2	2:E:205:ASN:N	2.36	0.40
2:F:435:ARG:HE	2:F:435:ARG:HB3	1.66	0.40
2:B:178:LEU:HD22	2:B:178:LEU:HA	1.91	0.40
2:C:34:THR:O	2:C:105:LEU:HB2	2.22	0.40
2:C:396:ASP:N	2:C:396:ASP:OD1	2.50	0.40
2:D:49:PRO:HG2	2:D:52:GLU:HB2	2.03	0.40
2:G:229:GLN:HG3	2:G:234:GLU:O	2.22	0.40
2:H:25:TYR:HA	2:H:84:CYS:O	2.21	0.40
2:E:229:GLN:HG3	2:E:234:GLU:O	2.22	0.40
2:F:450:LYS:HA	2:F:450:LYS:HD3	1.88	0.40
2:G:414:ALA:O	2:G:418:VAL:HG23	2.21	0.40
1:3:70:LEU:O	1:3:127:ILE:HG12	2.22	0.40
2:A:204:GLU:HG2	2:A:205:ASN:N	2.36	0.40
2:C:81:LYS:HG2	2:C:82:GLY:O	2.22	0.40
2:F:123:ASN:N	2:F:123:ASN:OD1	2.53	0.40
2:B:151:PRO:HA	2:B:152:PRO:HD3	2.00	0.40
2:D:219:LEU:HD23	2:D:219:LEU:HA	1.88	0.40
2:E:414:ALA:O	2:E:418:VAL:HG23	2.21	0.40
2:E:466:LYS:HB3	2:E:466:LYS:HE3	1.67	0.40
2:F:138:LEU:O	2:F:316:LYS:NZ	2.52	0.40
2:G:338:GLU:O	2:G:339:ARG:HB3	2.22	0.40
2:H:37:LEU:O	2:H:138:LEU:HD23	2.21	0.40

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	1	71/136 (52%)	52 (73%)	16 (22%)	3 (4%)	2 8

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	2	71/136 (52%)	51 (72%)	17 (24%)	3 (4%)	2 8
1	3	71/136 (52%)	54 (76%)	14 (20%)	3 (4%)	2 8
1	4	71/136 (52%)	52 (73%)	15 (21%)	4 (6%)	1 4
1	5	71/136 (52%)	49 (69%)	18 (25%)	4 (6%)	1 4
1	6	71/136 (52%)	50 (70%)	14 (20%)	7 (10%)	0 1
1	7	71/136 (52%)	50 (70%)	18 (25%)	3 (4%)	2 8
1	8	71/136 (52%)	49 (69%)	15 (21%)	7 (10%)	0 1
2	A	436/475 (92%)	398 (91%)	30 (7%)	8 (2%)	7 23
2	B	434/475 (91%)	391 (90%)	38 (9%)	5 (1%)	11 32
2	C	436/475 (92%)	399 (92%)	31 (7%)	6 (1%)	9 29
2	D	434/475 (91%)	389 (90%)	39 (9%)	6 (1%)	9 29
2	E	436/475 (92%)	404 (93%)	28 (6%)	4 (1%)	14 39
2	F	434/475 (91%)	388 (89%)	42 (10%)	4 (1%)	14 39
2	G	436/475 (92%)	397 (91%)	34 (8%)	5 (1%)	12 34
2	H	434/475 (91%)	387 (89%)	41 (9%)	6 (1%)	9 29
All	All	4048/4888 (83%)	3560 (88%)	410 (10%)	78 (2%)	9 22

All (78) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	5	96	HIS
1	5	135	ASP
2	A	78	ASP
2	B	78	ASP
2	C	78	ASP
2	D	78	ASP
2	E	78	ASP
2	F	78	ASP
2	G	78	ASP
2	H	78	ASP
1	4	135	ASP
1	6	74	ASN
1	6	135	ASP
2	A	177	LYS
2	B	176	PRO
2	B	381	GLY
2	B	441	GLY

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	C	176	PRO
2	D	176	PRO
2	D	381	GLY
2	E	176	PRO
2	F	25	TYR
2	F	176	PRO
2	F	441	GLY
2	G	28	ASP
2	G	176	PRO
2	H	176	PRO
1	1	67	PRO
1	1	98	ASN
1	3	98	ASN
1	6	113	LYS
1	7	98	ASN
1	8	74	ASN
1	8	113	LYS
2	A	175	LYS
2	A	176	PRO
2	A	439	ARG
2	D	441	GLY
2	H	441	GLY
1	6	120	ASP
1	7	67	PRO
1	7	127	ILE
1	8	98	ASN
2	A	178	LEU
2	A	440	GLU
2	C	178	LEU
2	C	439	ARG
2	D	440	GLU
2	E	178	LEU
2	G	178	LEU
2	H	440	GLU
1	2	74	ASN
1	3	67	PRO
1	4	88	GLY
1	4	98	ASN
1	6	88	GLY
1	6	98	ASN
1	8	97	PHE
1	8	120	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	178	LEU
2	D	178	LEU
2	H	178	LEU
1	2	113	LYS
1	4	120	ASP
1	5	67	PRO
1	8	88	GLY
1	8	100	GLN
1	1	127	ILE
1	2	88	GLY
1	3	127	ILE
1	5	127	ILE
2	H	332	VAL
2	A	369	VAL
2	C	369	VAL
2	E	369	VAL
2	G	369	VAL
1	6	81	VAL
2	C	441	GLY

5.3.2 Protein sidechains (i)

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	1	54/114 (47%)	37 (68%)	17 (32%)	0 0
1	2	54/114 (47%)	33 (61%)	21 (39%)	0 0
1	3	54/114 (47%)	29 (54%)	25 (46%)	0 0
1	4	54/114 (47%)	38 (70%)	16 (30%)	0 0
1	5	54/114 (47%)	40 (74%)	14 (26%)	0 1
1	6	54/114 (47%)	34 (63%)	20 (37%)	0 0
1	7	54/114 (47%)	35 (65%)	19 (35%)	0 0
1	8	54/114 (47%)	39 (72%)	15 (28%)	0 1
2	A	356/384 (93%)	321 (90%)	35 (10%)	6 19

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	B	354/384 (92%)	322 (91%)	32 (9%)	8 23
2	C	356/384 (93%)	325 (91%)	31 (9%)	8 24
2	D	354/384 (92%)	313 (88%)	41 (12%)	4 12
2	E	356/384 (93%)	324 (91%)	32 (9%)	8 23
2	F	354/384 (92%)	323 (91%)	31 (9%)	8 24
2	G	356/384 (93%)	327 (92%)	29 (8%)	9 27
2	H	354/384 (92%)	318 (90%)	36 (10%)	6 17
All	All	3272/3984 (82%)	2858 (87%)	414 (13%)	6 10

All (414) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	65	THR
1	1	67	PRO
1	1	81	VAL
1	1	87	LYS
1	1	91	VAL
1	1	94	ILE
1	1	95	ASP
1	1	96	HIS
1	1	97	PHE
1	1	100	GLN
1	1	106	LEU
1	1	111	ARG
1	1	113	LYS
1	1	114	LYS
1	1	116	VAL
1	1	133	THR
1	1	135	ASP
1	2	66	LYS
1	2	68	ASN
1	2	75	CYS
1	2	81	VAL
1	2	91	VAL
1	2	94	ILE
1	2	97	PHE
1	2	98	ASN
1	2	100	GLN
1	2	102	LYS
1	2	106	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	2	113	LYS
1	2	114	LYS
1	2	115	GLU
1	2	116	VAL
1	2	117	LEU
1	2	120	ASP
1	2	131	LEU
1	2	133	THR
1	2	135	ASP
1	2	136	GLU
1	3	65	THR
1	3	67	PRO
1	3	68	ASN
1	3	70	LEU
1	3	76	GLU
1	3	80	CYS
1	3	81	VAL
1	3	85	GLN
1	3	87	LYS
1	3	91	VAL
1	3	93	LEU
1	3	94	ILE
1	3	95	ASP
1	3	96	HIS
1	3	97	PHE
1	3	100	GLN
1	3	102	LYS
1	3	106	LEU
1	3	111	ARG
1	3	113	LYS
1	3	114	LYS
1	3	116	VAL
1	3	131	LEU
1	3	133	THR
1	3	135	ASP
1	4	66	LYS
1	4	68	ASN
1	4	81	VAL
1	4	87	LYS
1	4	97	PHE
1	4	98	ASN
1	4	100	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	4	102	LYS
1	4	106	LEU
1	4	109	LEU
1	4	113	LYS
1	4	114	LYS
1	4	116	VAL
1	4	117	LEU
1	4	120	ASP
1	4	136	GLU
1	5	65	THR
1	5	68	ASN
1	5	76	GLU
1	5	80	CYS
1	5	81	VAL
1	5	93	LEU
1	5	94	ILE
1	5	98	ASN
1	5	102	LYS
1	5	106	LEU
1	5	113	LYS
1	5	114	LYS
1	5	116	VAL
1	5	133	THR
1	6	66	LYS
1	6	68	ASN
1	6	70	LEU
1	6	74	ASN
1	6	75	CYS
1	6	76	GLU
1	6	81	VAL
1	6	91	VAL
1	6	93	LEU
1	6	95	ASP
1	6	97	PHE
1	6	102	LYS
1	6	113	LYS
1	6	114	LYS
1	6	116	VAL
1	6	117	LEU
1	6	120	ASP
1	6	127	ILE
1	6	131	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	6	136	GLU
1	7	65	THR
1	7	67	PRO
1	7	68	ASN
1	7	76	GLU
1	7	80	CYS
1	7	81	VAL
1	7	93	LEU
1	7	94	ILE
1	7	95	ASP
1	7	96	HIS
1	7	97	PHE
1	7	98	ASN
1	7	102	LYS
1	7	106	LEU
1	7	113	LYS
1	7	114	LYS
1	7	116	VAL
1	7	133	THR
1	7	136	GLU
1	8	66	LYS
1	8	74	ASN
1	8	75	CYS
1	8	87	LYS
1	8	95	ASP
1	8	97	PHE
1	8	98	ASN
1	8	100	GLN
1	8	106	LEU
1	8	113	LYS
1	8	114	LYS
1	8	116	VAL
1	8	117	LEU
1	8	120	ASP
1	8	136	GLU
2	A	25	TYR
2	A	26	THR
2	A	32	LYS
2	A	33	ASP
2	A	40	PHE
2	A	41	ARG
2	A	65	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	A	79	ARG
2	A	81	LYS
2	A	83	ARG
2	A	88	GLU
2	A	96	GLN
2	A	106	ASP
2	A	128	LYS
2	A	167	ARG
2	A	172	CYS
2	A	173	THR
2	A	174	ILE
2	A	177	LYS
2	A	178	LEU
2	A	200	THR
2	A	258	ARG
2	A	297	MET
2	A	330	THR
2	A	331	VAL
2	A	335	LEU
2	A	431	ARG
2	A	435	ARG
2	A	439	ARG
2	A	440	GLU
2	A	443	ASP
2	A	463	LYS
2	A	464	GLU
2	A	465	ILE
2	A	466	LYS
2	B	25	TYR
2	B	40	PHE
2	B	67	THR
2	B	69	VAL
2	B	96	GLN
2	B	106	ASP
2	B	112	SER
2	B	124	VAL
2	B	172	CYS
2	B	173	THR
2	B	174	ILE
2	B	175	LYS
2	B	177	LYS
2	B	178	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	183	LYS
2	B	200	THR
2	B	209	GLN
2	B	212	MET
2	B	268	ASP
2	B	295	ARG
2	B	330	THR
2	B	335	LEU
2	B	382	ILE
2	B	397	ASP
2	B	431	ARG
2	B	435	ARG
2	B	443	ASP
2	B	447	GLU
2	B	449	SER
2	B	463	LYS
2	B	465	ILE
2	B	466	LYS
2	C	26	THR
2	C	32	LYS
2	C	33	ASP
2	C	40	PHE
2	C	41	ARG
2	C	65	THR
2	C	79	ARG
2	C	81	LYS
2	C	96	GLN
2	C	106	ASP
2	C	172	CYS
2	C	173	THR
2	C	177	LYS
2	C	178	LEU
2	C	200	THR
2	C	258	ARG
2	C	330	THR
2	C	331	VAL
2	C	335	LEU
2	C	387	MET
2	C	397	ASP
2	C	432	ASN
2	C	435	ARG
2	C	436	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	C	439	ARG
2	C	440	GLU
2	C	443	ASP
2	C	446	ARG
2	C	463	LYS
2	C	464	GLU
2	C	465	ILE
2	D	25	TYR
2	D	40	PHE
2	D	67	THR
2	D	69	VAL
2	D	81	LYS
2	D	83	ARG
2	D	96	GLN
2	D	106	ASP
2	D	112	SER
2	D	128	LYS
2	D	172	CYS
2	D	173	THR
2	D	174	ILE
2	D	175	LYS
2	D	177	LYS
2	D	178	LEU
2	D	183	LYS
2	D	200	THR
2	D	209	GLN
2	D	212	MET
2	D	268	ASP
2	D	295	ARG
2	D	330	THR
2	D	332	VAL
2	D	335	LEU
2	D	342	THR
2	D	343	LEU
2	D	382	ILE
2	D	397	ASP
2	D	429	GLN
2	D	431	ARG
2	D	435	ARG
2	D	437	LEU
2	D	440	GLU
2	D	443	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	D	444	ILE
2	D	447	GLU
2	D	449	SER
2	D	463	LYS
2	D	465	ILE
2	D	466	LYS
2	E	22	LEU
2	E	26	THR
2	E	33	ASP
2	E	40	PHE
2	E	41	ARG
2	E	65	THR
2	E	67	THR
2	E	79	ARG
2	E	81	LYS
2	E	83	ARG
2	E	96	GLN
2	E	106	ASP
2	E	128	LYS
2	E	172	CYS
2	E	173	THR
2	E	177	LYS
2	E	178	LEU
2	E	200	THR
2	E	258	ARG
2	E	297	MET
2	E	331	VAL
2	E	335	LEU
2	E	397	ASP
2	E	432	ASN
2	E	435	ARG
2	E	436	ASP
2	E	454	GLU
2	E	460	GLU
2	E	463	LYS
2	E	464	GLU
2	E	465	ILE
2	E	466	LYS
2	F	25	TYR
2	F	40	PHE
2	F	52	GLU
2	F	67	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	F	83	ARG
2	F	96	GLN
2	F	106	ASP
2	F	112	SER
2	F	172	CYS
2	F	173	THR
2	F	174	ILE
2	F	175	LYS
2	F	178	LEU
2	F	183	LYS
2	F	200	THR
2	F	209	GLN
2	F	212	MET
2	F	268	ASP
2	F	330	THR
2	F	332	VAL
2	F	335	LEU
2	F	343	LEU
2	F	382	ILE
2	F	397	ASP
2	F	431	ARG
2	F	435	ARG
2	F	443	ASP
2	F	447	GLU
2	F	463	LYS
2	F	465	ILE
2	F	466	LYS
2	G	23	THR
2	G	26	THR
2	G	32	LYS
2	G	33	ASP
2	G	40	PHE
2	G	41	ARG
2	G	65	THR
2	G	79	ARG
2	G	81	LYS
2	G	83	ARG
2	G	96	GLN
2	G	106	ASP
2	G	128	LYS
2	G	172	CYS
2	G	173	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	G	177	LYS
2	G	178	LEU
2	G	200	THR
2	G	258	ARG
2	G	330	THR
2	G	331	VAL
2	G	335	LEU
2	G	397	ASP
2	G	435	ARG
2	G	443	ASP
2	G	460	GLU
2	G	463	LYS
2	G	464	GLU
2	G	465	ILE
2	H	25	TYR
2	H	28	ASP
2	H	32	LYS
2	H	40	PHE
2	H	67	THR
2	H	81	LYS
2	H	83	ARG
2	H	96	GLN
2	H	106	ASP
2	H	112	SER
2	H	128	LYS
2	H	167	ARG
2	H	172	CYS
2	H	173	THR
2	H	174	ILE
2	H	175	LYS
2	H	178	LEU
2	H	183	LYS
2	H	200	THR
2	H	209	GLN
2	H	212	MET
2	H	268	ASP
2	H	330	THR
2	H	332	VAL
2	H	335	LEU
2	H	382	ILE
2	H	397	ASP
2	H	429	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	H	431	ARG
2	H	439	ARG
2	H	440	GLU
2	H	443	ASP
2	H	444	ILE
2	H	449	SER
2	H	463	LYS
2	H	466	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
1	2	92	ASN
1	2	98	ASN
1	4	100	GLN
1	5	100	GLN
1	6	92	ASN
1	6	100	GLN
1	7	98	ASN
1	8	100	GLN
2	A	327	HIS
2	B	327	HIS
2	D	327	HIS
2	D	420	ASN
2	D	429	GLN
2	D	432	ASN
2	E	327	HIS
2	F	327	HIS
2	G	327	HIS
2	G	429	GLN
2	G	432	ASN
2	H	327	HIS
2	H	420	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

8 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	KCX	A	201	2	10,11,12	0.64	0	6,12,14	0.85	0
2	KCX	H	201	2	10,11,12	0.74	0	6,12,14	0.78	0
2	KCX	F	201	2	10,11,12	0.73	0	6,12,14	0.79	0
2	KCX	D	201	2	10,11,12	0.74	0	6,12,14	0.78	0
2	KCX	C	201	2	10,11,12	0.64	0	6,12,14	0.86	0
2	KCX	E	201	2	10,11,12	0.64	0	6,12,14	0.86	0
2	KCX	G	201	2	10,11,12	0.64	0	6,12,14	0.86	0
2	KCX	B	201	2	10,11,12	0.73	0	6,12,14	0.79	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	KCX	A	201	2	-	3/9/10/12	-
2	KCX	H	201	2	-	3/9/10/12	-
2	KCX	F	201	2	-	3/9/10/12	-
2	KCX	D	201	2	-	3/9/10/12	-
2	KCX	C	201	2	-	3/9/10/12	-
2	KCX	E	201	2	-	3/9/10/12	-
2	KCX	G	201	2	-	3/9/10/12	-
2	KCX	B	201	2	-	3/9/10/12	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (24) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	201	KCX	CG-CD-CE-NZ
2	D	201	KCX	CG-CD-CE-NZ
2	F	201	KCX	CG-CD-CE-NZ
2	H	201	KCX	CG-CD-CE-NZ
2	B	201	KCX	CA-CB-CG-CD
2	D	201	KCX	CA-CB-CG-CD
2	F	201	KCX	CA-CB-CG-CD
2	H	201	KCX	CA-CB-CG-CD
2	A	201	KCX	OQ1-CX-NZ-CE
2	A	201	KCX	OQ2-CX-NZ-CE
2	C	201	KCX	OQ1-CX-NZ-CE
2	C	201	KCX	OQ2-CX-NZ-CE
2	E	201	KCX	OQ1-CX-NZ-CE
2	E	201	KCX	OQ2-CX-NZ-CE
2	G	201	KCX	OQ1-CX-NZ-CE
2	G	201	KCX	OQ2-CX-NZ-CE
2	B	201	KCX	C-CA-CB-CG
2	D	201	KCX	C-CA-CB-CG
2	F	201	KCX	C-CA-CB-CG
2	H	201	KCX	C-CA-CB-CG
2	A	201	KCX	N-CA-CB-CG
2	C	201	KCX	N-CA-CB-CG
2	E	201	KCX	N-CA-CB-CG
2	G	201	KCX	N-CA-CB-CG

There are no ring outliers.

8 monomers are involved in 19 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	201	KCX	2	0
2	H	201	KCX	3	0
2	F	201	KCX	3	0
2	D	201	KCX	3	0
2	C	201	KCX	2	0
2	E	201	KCX	1	0
2	G	201	KCX	2	0
2	B	201	KCX	3	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

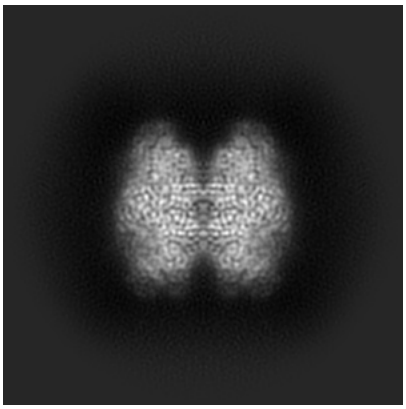
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-45607. These allow visual inspection of the internal detail of the map and identification of artifacts.

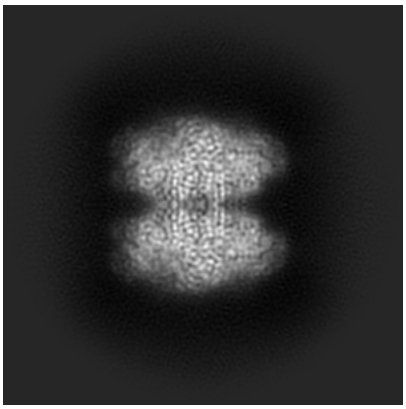
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

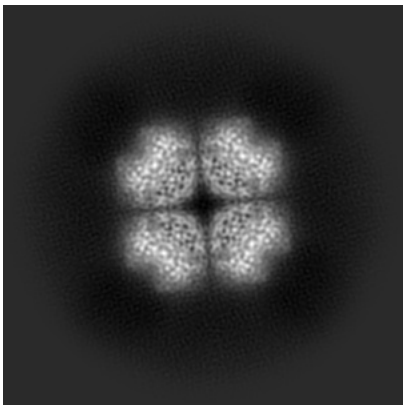
6.1.1 Primary map



X

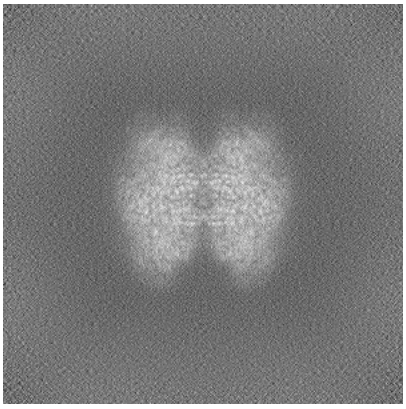


Y

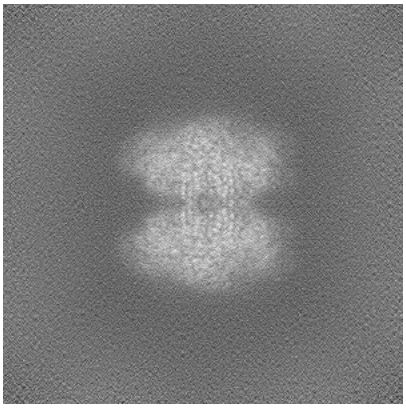


Z

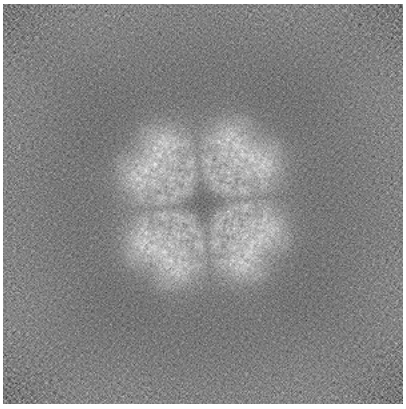
6.1.2 Raw map



X



Y

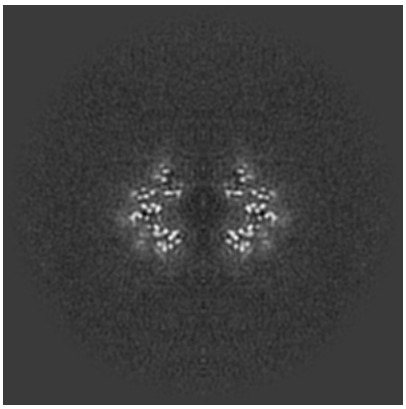


Z

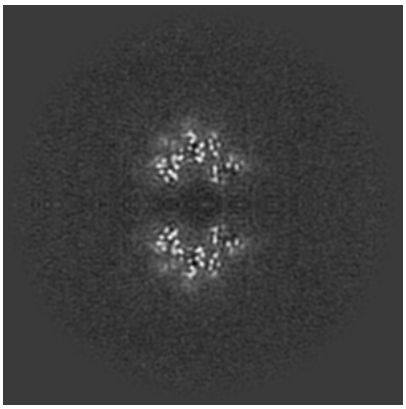
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

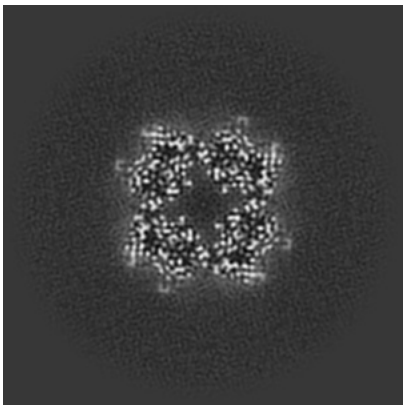
6.2.1 Primary map



X Index: 256



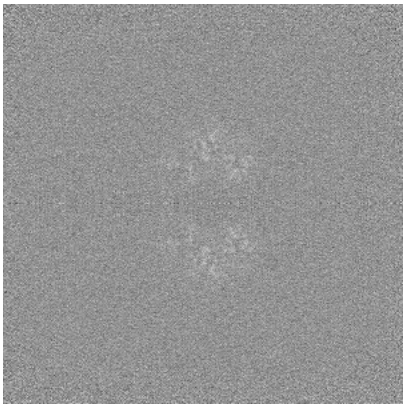
Y Index: 256



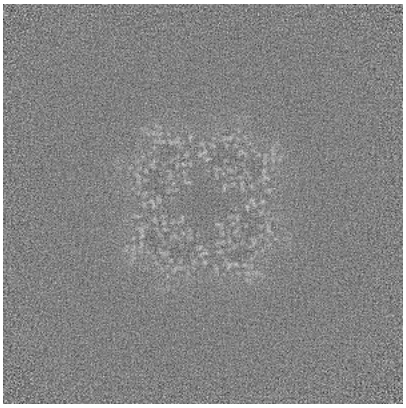
Z Index: 256

6.2.2 Raw map

X Index: 256



Y Index: 256

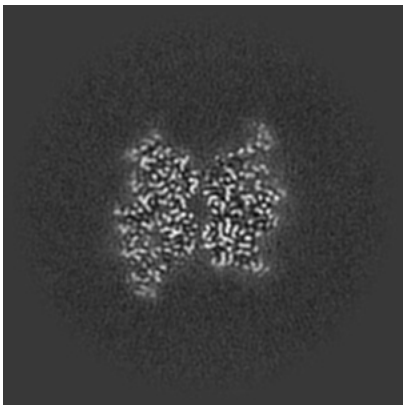


Z Index: 256

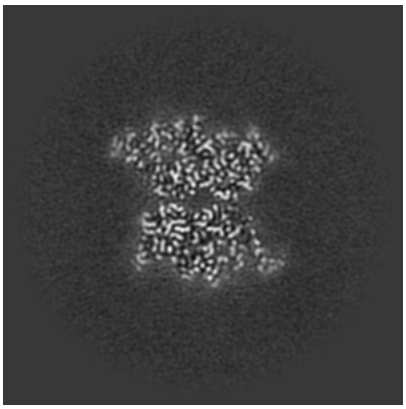
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

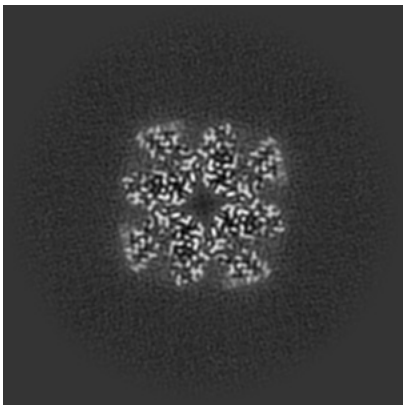
6.3.1 Primary map



X Index: 217

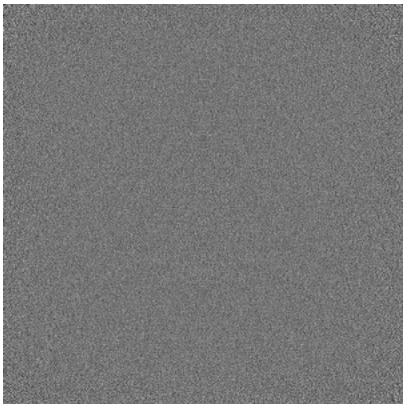


Y Index: 217

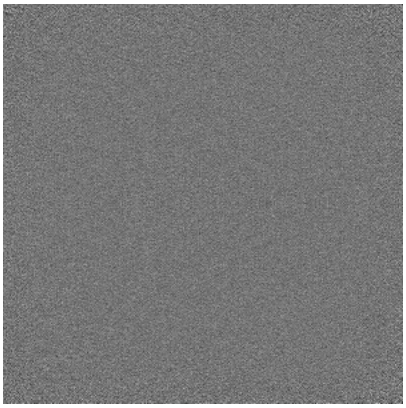


Z Index: 273

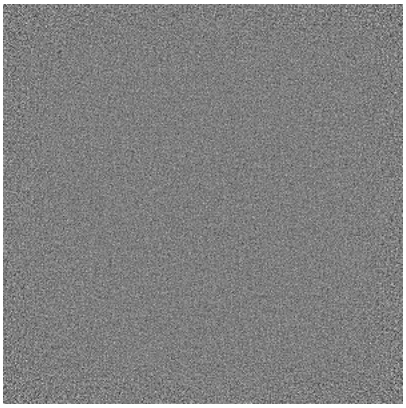
6.3.2 Raw map



X Index: 0



Y Index: 0

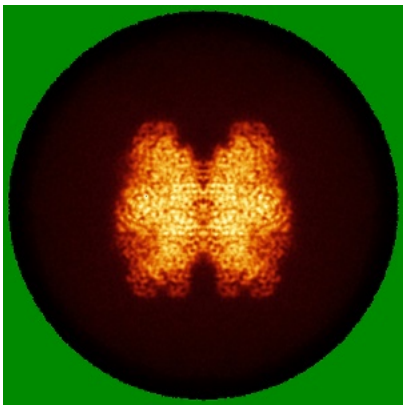


Z Index: 0

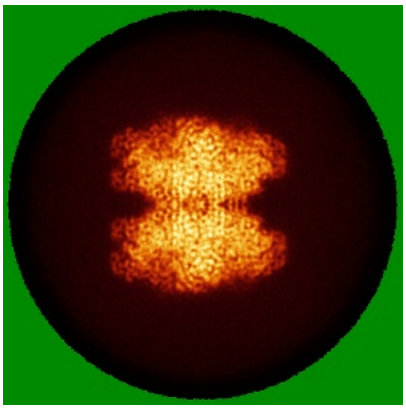
The images above show the largest variance slices of the map in three orthogonal directions.

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

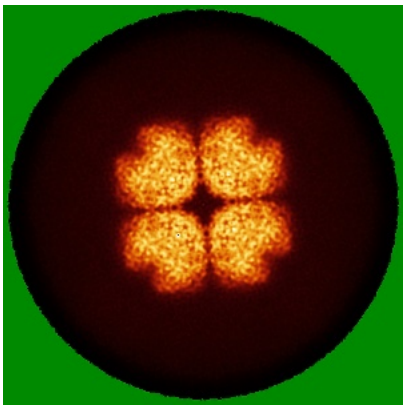
6.4.1 Primary map



X

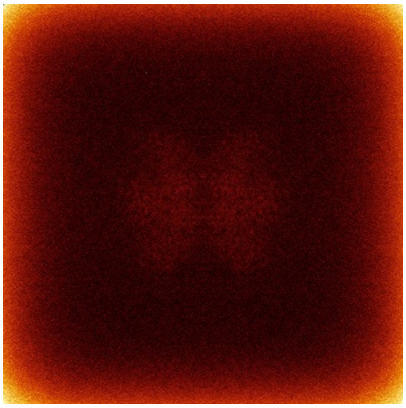


Y

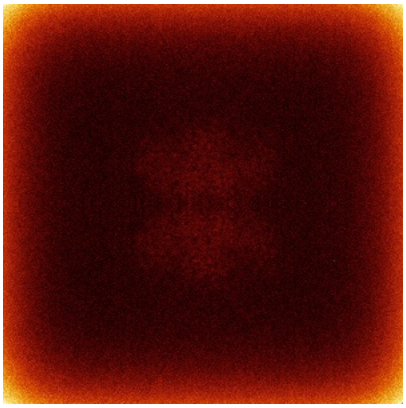


Z

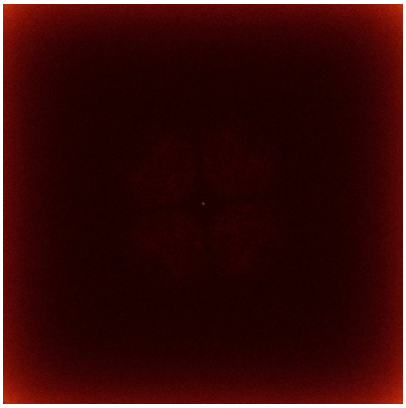
6.4.2 Raw map



X



Y

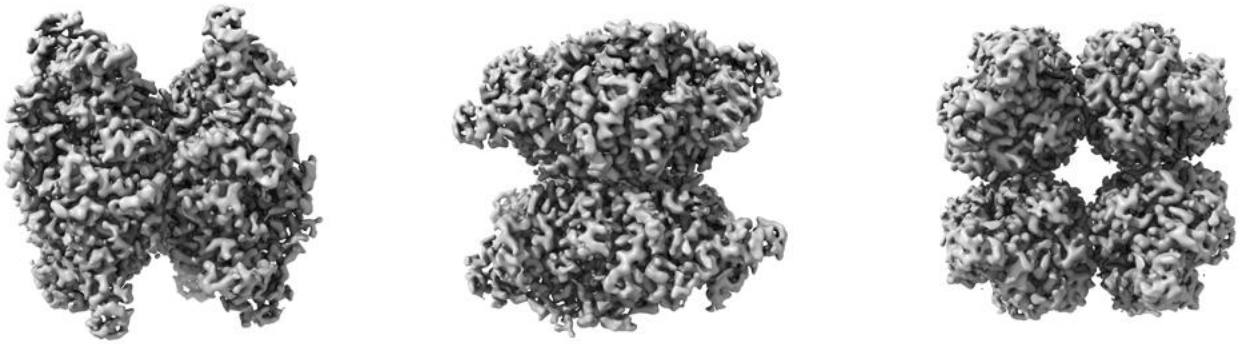


Z

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

6.5 Orthogonal surface views (i)

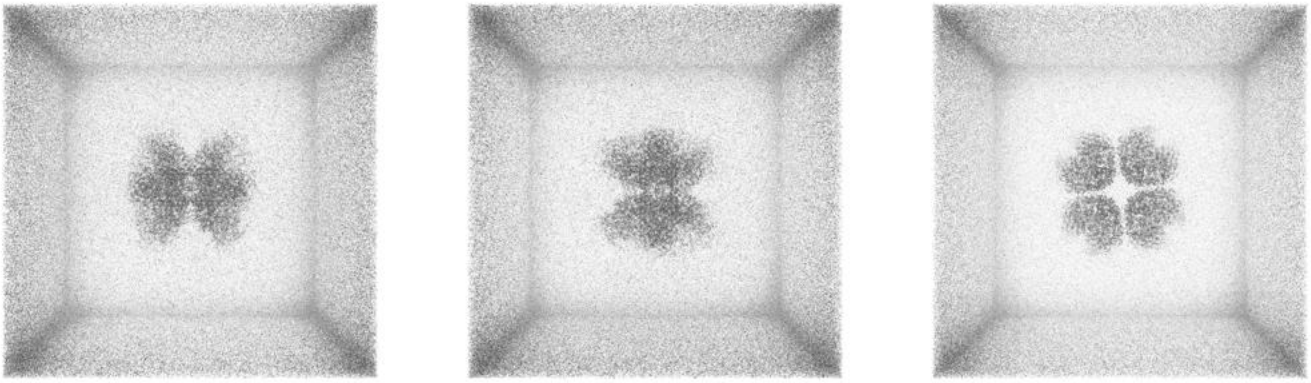
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.045. 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.

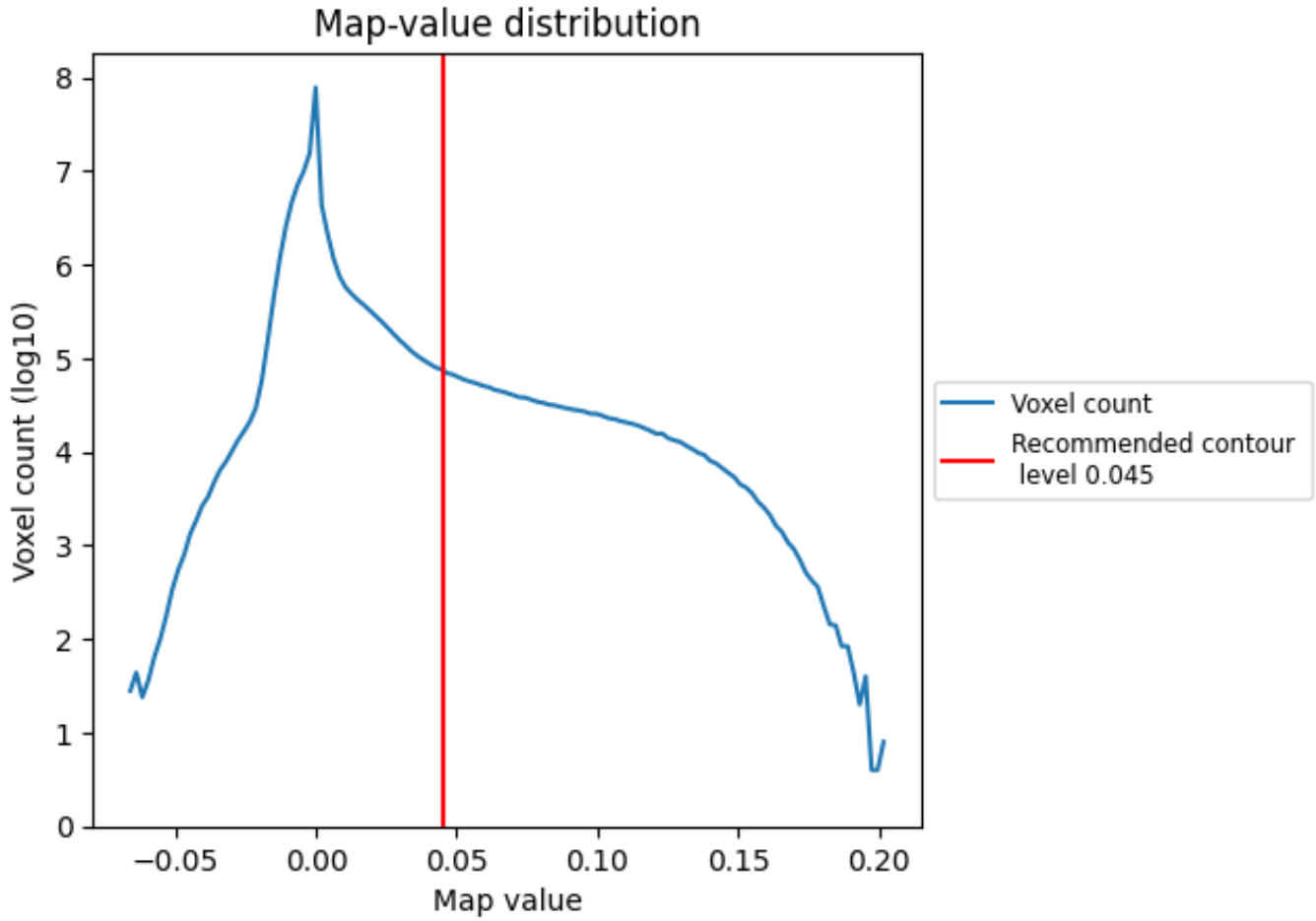
6.6 Mask visualisation (i)

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

7 Map analysis

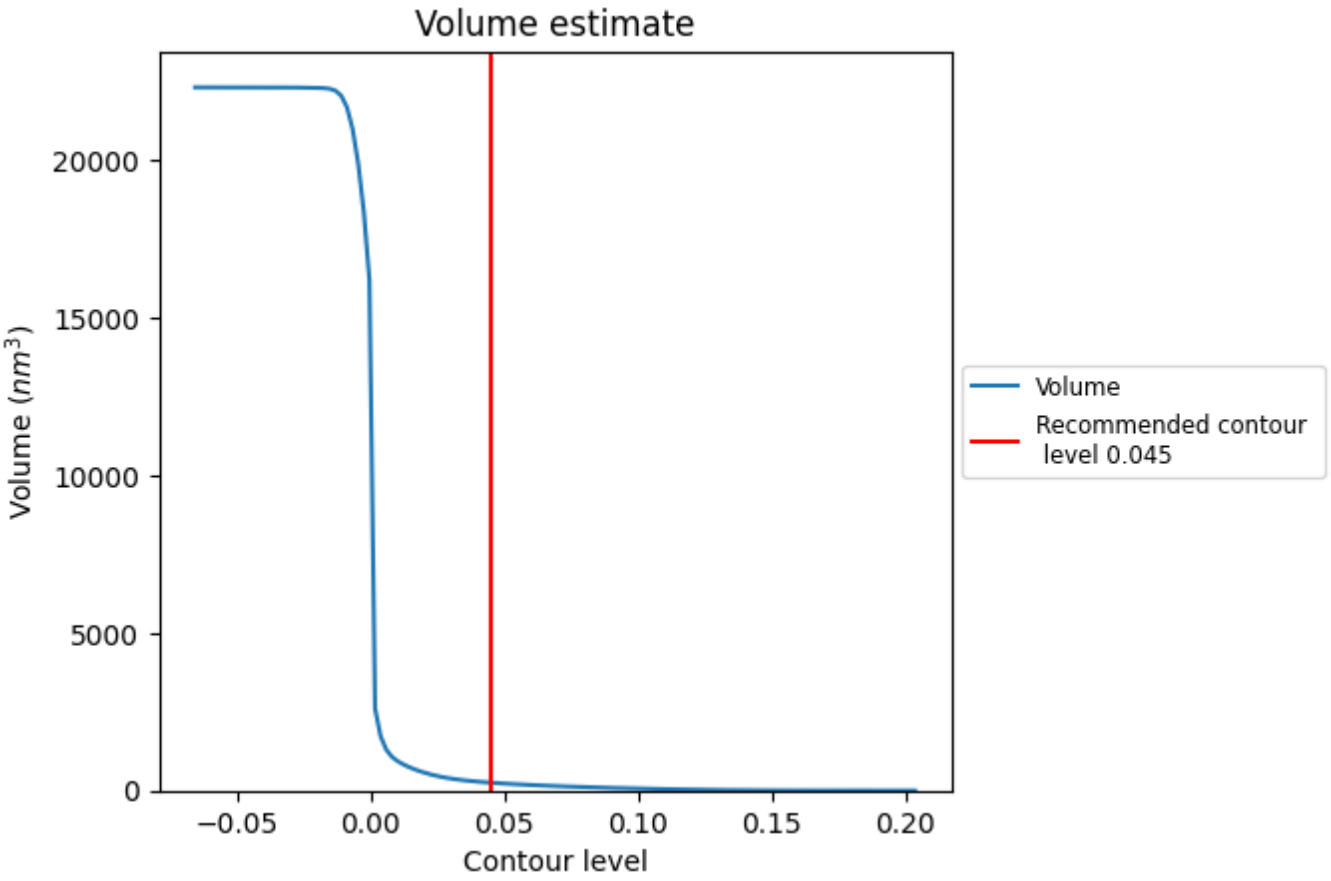
This section contains the results of statistical analysis of the map.

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.

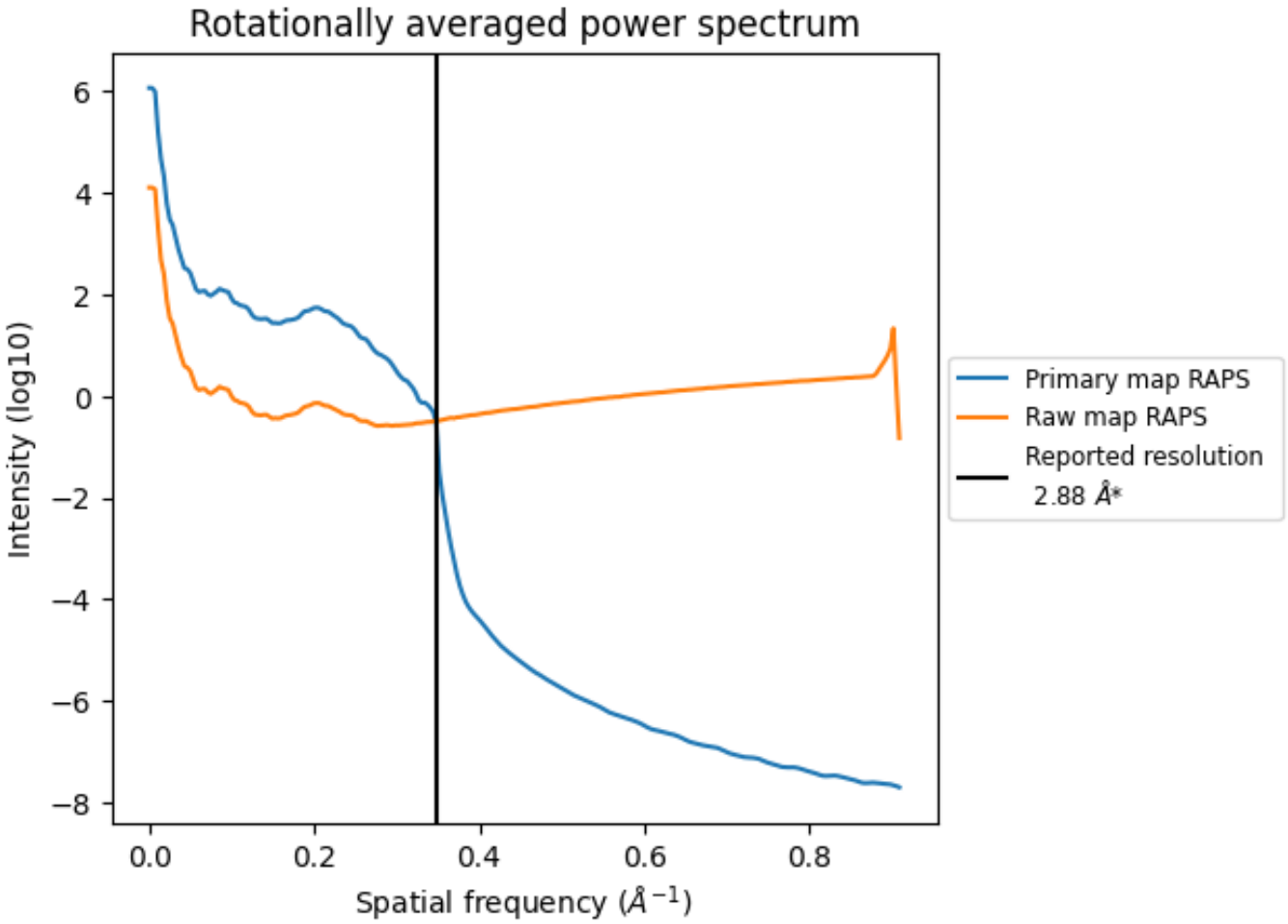
7.2 Volume estimate



The volume at the recommended contour level is 249 nm^3; this corresponds to an approximate mass of 225 kDa.

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

7.3 Rotationally averaged power spectrum (i)

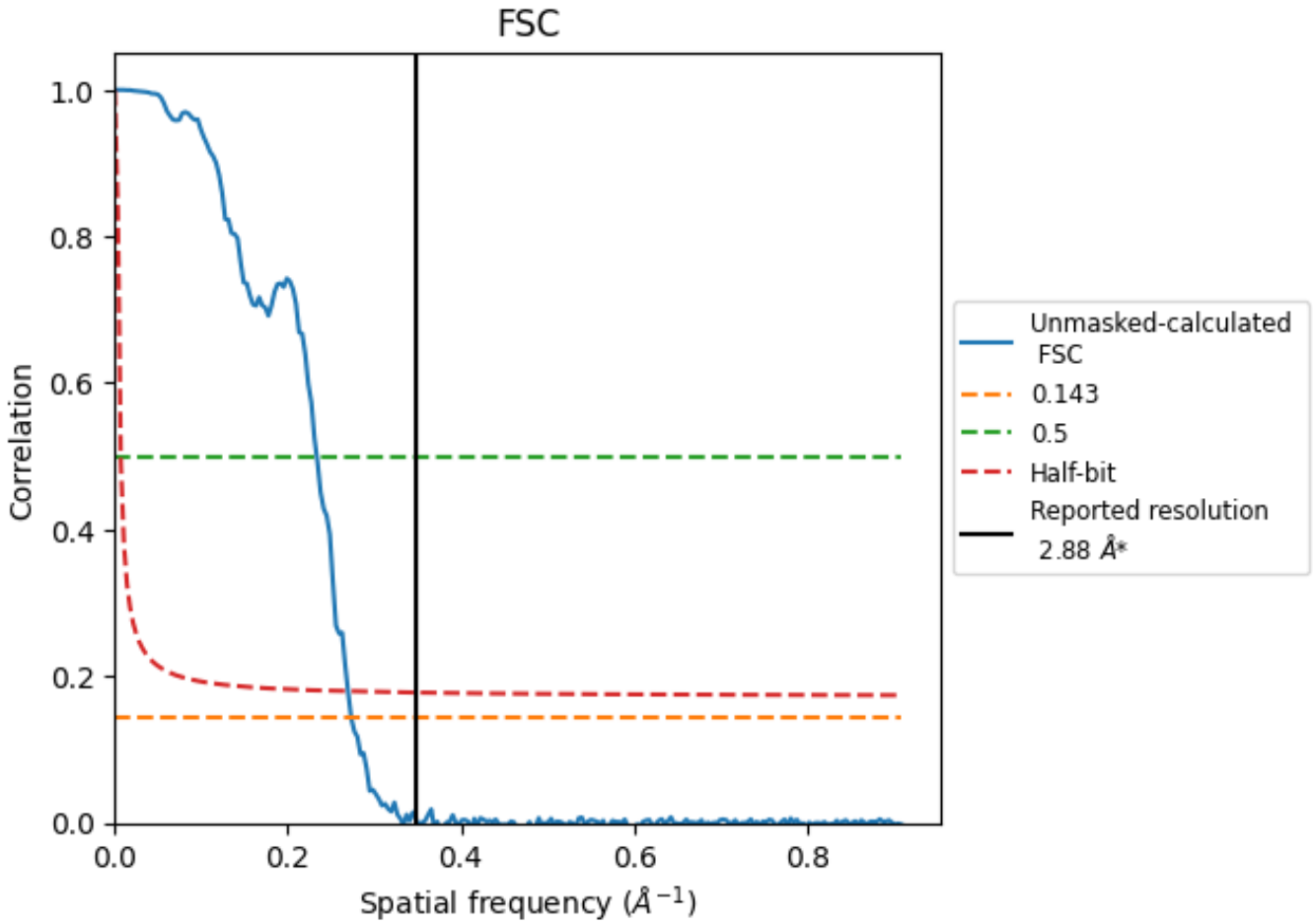


*Reported resolution corresponds to spatial frequency of 0.347 Å^{-1}

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 0.347 Å^{-1}

8.2 Resolution estimates (i)

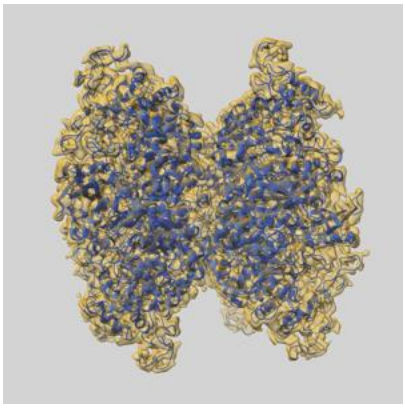
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.88	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.66	4.28	3.71

*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 3.66 differs from the reported value 2.88 by more than 10 %

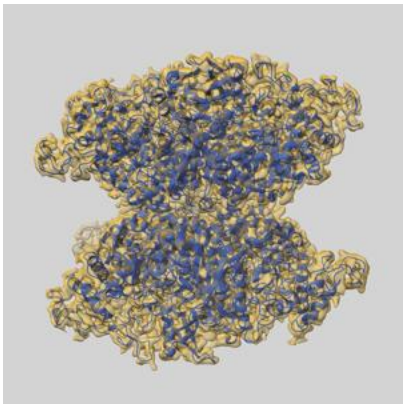
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45607 and PDB model 9CI1. Per-residue inclusion information can be found in section 3 on page 6.

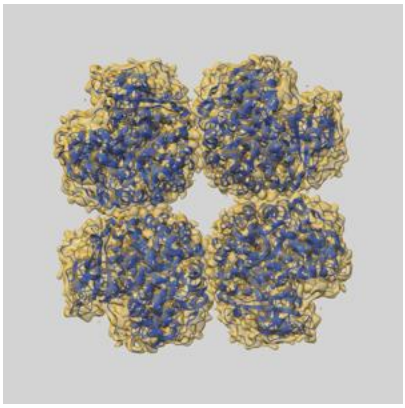
9.1 Map-model overlay



X



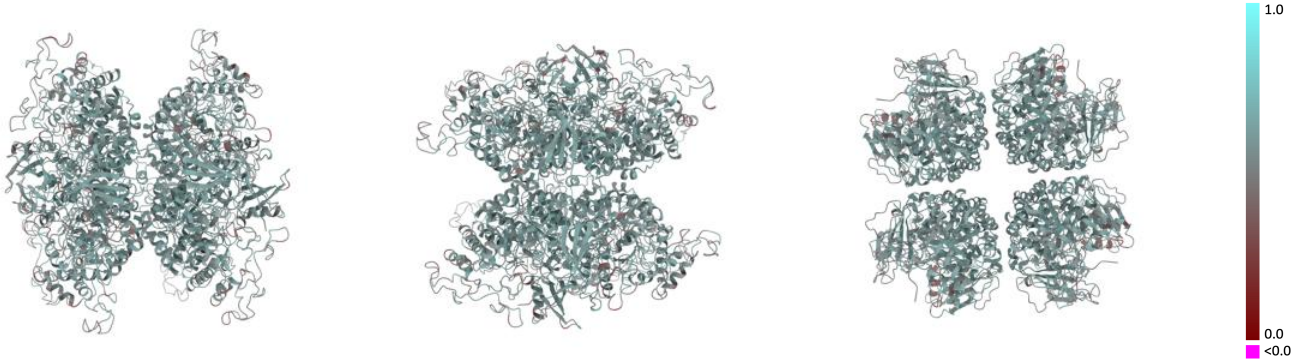
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.045 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

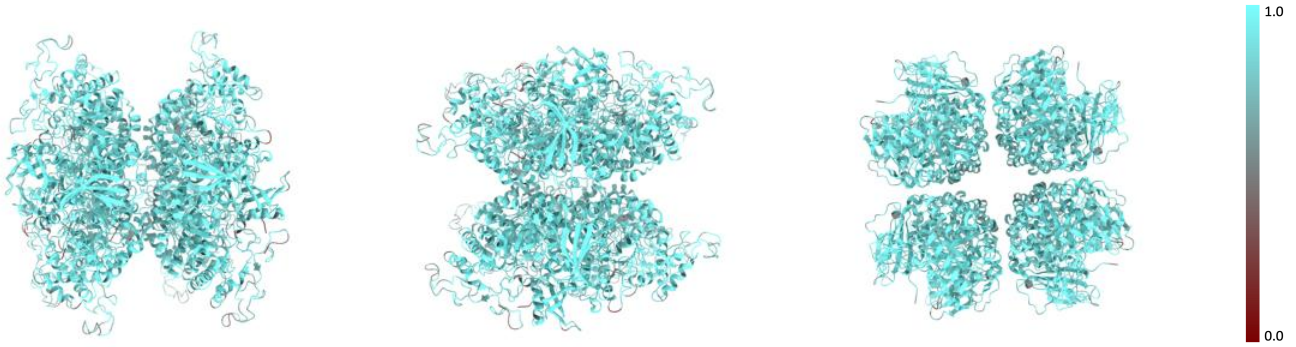
9.2 Q-score mapped to coordinate model (i)



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.

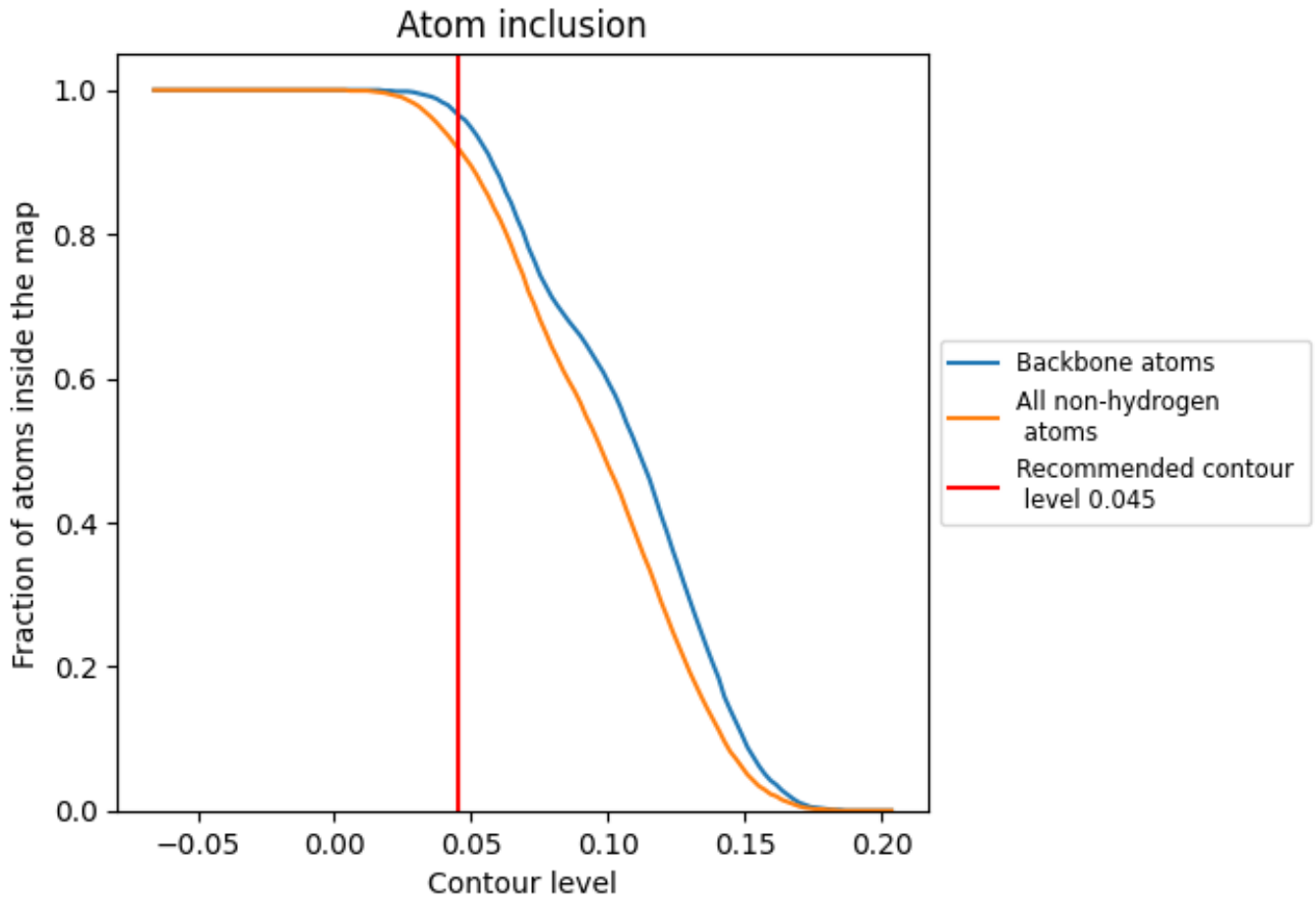
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.045).

9.4 Atom inclusion (i)



At the recommended contour level, 97% of all backbone atoms, 92% 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 (0.045) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9200	0.5620
1	0.7910	0.5170
2	0.8490	0.5030
3	0.7890	0.5160
4	0.8510	0.5090
5	0.7950	0.5070
6	0.8390	0.5080
7	0.7790	0.5180
8	0.8510	0.5110
A	0.9280	0.5680
B	0.9420	0.5710
C	0.9300	0.5680
D	0.9420	0.5690
E	0.9300	0.5680
F	0.9440	0.5720
G	0.9290	0.5690
H	0.9430	0.5700