Full wwPDB EM Validation Report

May 31, 2025 – 01:32 pm BST

PDB ID	:	9QBJ / pdb_00009qbj
EMDB ID	:	EMD-53000
Title	:	Legobody dimer
Authors	:	Pacesa, M.; Van Hall-Beauvais, A.; Marchand, A.; Georgeon, S.; Correia, B.E.
Deposited on	:	2025-03-03
Resolution	:	3.20 Å(reported)

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 ⓘ 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 ⓘ) were used in the production of this report:

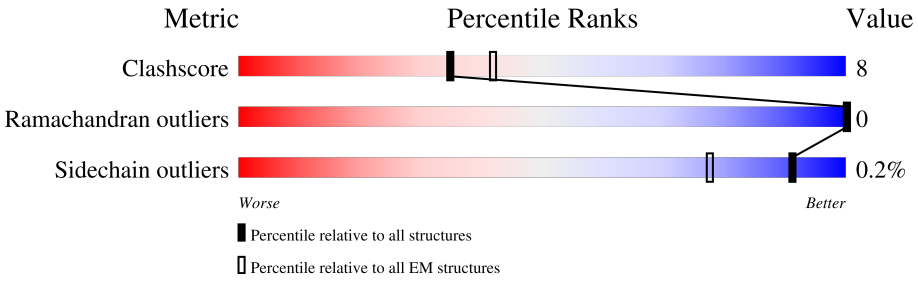
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.20 Å.

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



Metric	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	C	133	72% 26%
1	D	133	77% 22%
2	E	237	68% 19% 13%
2	G	237	71% 16% 13%
3	F	219	80% 13% 7%
3	H	219	75% 18% 7%
4	I	543	73% 16% 11%
5	J	544	8% 65% 13% 21%

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Mol	Chain	Length	Quality of chain
6	A	2	100%
6	B	2	50% 50%

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 15600 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 Nanobody ALFA-H6.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	C	131	Total	C	N	O	S	3	0
			1036	636	192	200	8		
1	D	132	Total	C	N	O	S	3	0
			1046	642	195	201	8		

- Molecule 2 is a protein called Fab antibody 8D3_2_H-H6.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	207	Total	C	N	O	S	0	0
			1582	1006	262	305	9		
2	G	207	Total	C	N	O	S	0	0
			1582	1006	262	305	9		

- Molecule 3 is a protein called Fa antibody 8D3_2_L.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	F	204	Total	C	N	O	S	0	0
			1588	1003	264	315	6		
3	H	204	Total	C	N	O	S	0	0
			1588	1003	264	315	6		

- Molecule 4 is a protein called Maltose/maltodextrin-binding periplasmic protein,Immunoglobulin G-binding protein A,Immunoglobulin G-binding protein G.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	I	484	Total	C	N	O	S	0	0
			3781	2422	617	734	8		

There are 52 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	1	MET	-	initiating methionine	UNP P0AEY0
I	2	HIS	-	expression tag	UNP P0AEY0

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Chain	Residue	Modelled	Actual	Comment	Reference
I	3	HIS	-	expression tag	UNP P0AEY0
I	4	HIS	-	expression tag	UNP P0AEY0
I	5	HIS	-	expression tag	UNP P0AEY0
I	6	HIS	-	expression tag	UNP P0AEY0
I	7	HIS	-	expression tag	UNP P0AEY0
I	8	GLY	-	expression tag	UNP P0AEY0
I	9	SER	-	expression tag	UNP P0AEY0
I	368	GLN	-	linker	UNP P0AEY0
I	369	ALA	-	linker	UNP P0AEY0
I	370	LEU	-	linker	UNP P0AEY0
I	371	ALA	-	linker	UNP P0AEY0
I	372	PHE	-	linker	UNP P0AEY0
I	373	ALA	-	linker	UNP P0AEY0
I	374	GLN	-	linker	UNP P0AEY0
I	375	ILE	-	linker	UNP P0AEY0
I	376	LEU	-	linker	UNP P0AEY0
I	377	ILE	-	linker	UNP P0AEY0
I	378	MET	-	linker	UNP P0AEY0
I	379	PRO	-	linker	UNP P0AEY0
I	380	ASN	-	linker	UNP P0AEY0
I	381	LEU	-	linker	UNP P0AEY0
I	382	THR	-	linker	UNP P0AEY0
I	383	GLU	-	linker	UNP P0AEY0
I	384	GLU	-	linker	UNP P0AEY0
I	412	GLU	-	linker	UNP P02976
I	413	HIS	-	linker	UNP P02976
I	414	GLN	-	linker	UNP P02976
I	415	ALA	-	linker	UNP P02976
I	416	PRO	-	linker	UNP P02976
I	417	LYS	-	linker	UNP P02976
I	418	GLY	-	linker	UNP P02976
I	419	GLY	-	linker	UNP P02976
I	420	SER	-	linker	UNP P02976
I	421	GLY	-	linker	UNP P02976
I	422	GLY	-	linker	UNP P02976
I	423	ALA	-	linker	UNP P02976
I	424	GLY	-	linker	UNP P02976
I	425	SER	-	linker	UNP P02976
I	426	GLY	-	linker	UNP P02976
I	476	GLY	-	linker	UNP P99134
I	477	GLY	-	linker	UNP P99134
I	478	GLY	-	linker	UNP P99134

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Chain	Residue	Modelled	Actual	Comment	Reference
I	479	SER	-	linker	UNP P99134
I	480	GLY	-	linker	UNP P99134
I	481	GLY	-	linker	UNP P99134
I	482	GLY	-	linker	UNP P99134
I	483	SER	-	linker	UNP P99134
I	484	GLY	-	linker	UNP P99134
I	485	GLY	-	linker	UNP P99134
I	486	SER	-	linker	UNP P99134

- Molecule 5 is a protein called Maltose/maltodextrin-binding periplasmic protein,Immunoglobulin G-binding protein A,Immunoglobulin G-binding protein G.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	J	428	Total	C	N	O	S	0	0
			3351	2144	546	653	8		

There are 52 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	initiating methionine	UNP P0AEY0
J	2	HIS	-	expression tag	UNP P0AEY0
J	3	HIS	-	expression tag	UNP P0AEY0
J	4	HIS	-	expression tag	UNP P0AEY0
J	5	HIS	-	expression tag	UNP P0AEY0
J	6	HIS	-	expression tag	UNP P0AEY0
J	7	HIS	-	expression tag	UNP P0AEY0
J	8	GLY	-	expression tag	UNP P0AEY0
J	9	SER	-	expression tag	UNP P0AEY0
J	368	GLN	-	linker	UNP P0AEY0
J	369	ALA	-	linker	UNP P0AEY0
J	370	LEU	-	linker	UNP P0AEY0
J	371	ALA	-	linker	UNP P0AEY0
J	372	PHE	-	linker	UNP P0AEY0
J	373	ALA	-	linker	UNP P0AEY0
J	374	GLN	-	linker	UNP P0AEY0
J	375	ILE	-	linker	UNP P0AEY0
J	376	LEU	-	linker	UNP P0AEY0
J	377	ILE	-	linker	UNP P0AEY0
J	378	MET	-	linker	UNP P0AEY0
J	379	PRO	-	linker	UNP P0AEY0
J	380	ASN	-	linker	UNP P0AEY0
J	381	LEU	-	linker	UNP P0AEY0

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Chain	Residue	Modelled	Actual	Comment	Reference
J	382	THR	-	linker	UNP P0AEY0
J	383	GLU	-	linker	UNP P0AEY0
J	384	GLU	-	linker	UNP P0AEY0
J	412	GLU	-	linker	UNP P02976
J	413	HIS	-	linker	UNP P02976
J	414	GLN	-	linker	UNP P02976
J	415	ALA	-	linker	UNP P02976
J	416	PRO	-	linker	UNP P02976
J	417	LYS	-	linker	UNP P02976
J	418	GLY	-	linker	UNP P02976
J	419	GLY	-	linker	UNP P02976
J	420	SER	-	linker	UNP P02976
J	421	GLY	-	linker	UNP P02976
J	422	GLY	-	linker	UNP P02976
J	423	ALA	-	linker	UNP P02976
J	424	GLY	-	linker	UNP P02976
J	425	SER	-	linker	UNP P02976
J	426	GLY	-	linker	UNP P02976
J	476	GLY	-	linker	UNP P99134
J	477	GLY	-	linker	UNP P99134
J	478	GLY	-	linker	UNP P99134
J	479	SER	-	linker	UNP P99134
J	480	GLY	-	linker	UNP P99134
J	481	GLY	-	linker	UNP P99134
J	482	GLY	-	linker	UNP P99134
J	483	SER	-	linker	UNP P99134
J	484	GLY	-	linker	UNP P99134
J	485	GLY	-	linker	UNP P99134
J	486	SER	-	linker	UNP P99134

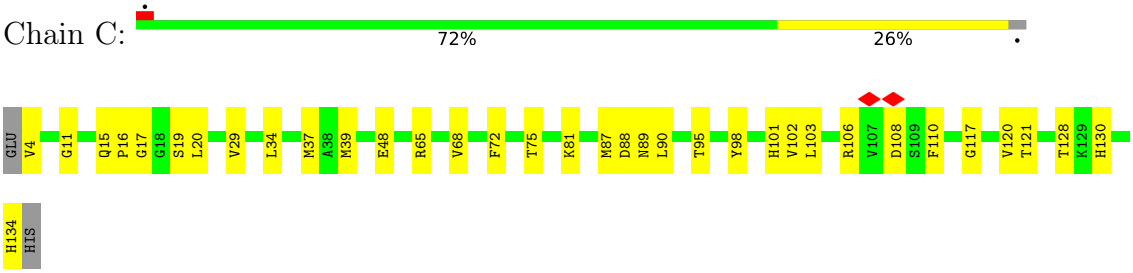
- Molecule 6 is an oligosaccharide called alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms			AltConf	Trace
6	A	2	Total	C	O	0	0
			23	12	11		
6	B	2	Total	C	O	0	0
			23	12	11		

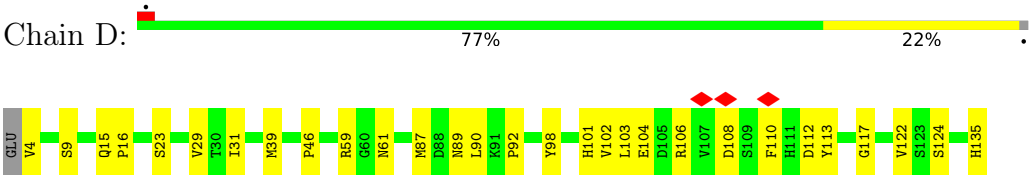
3 Residue-property plots (i)

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.

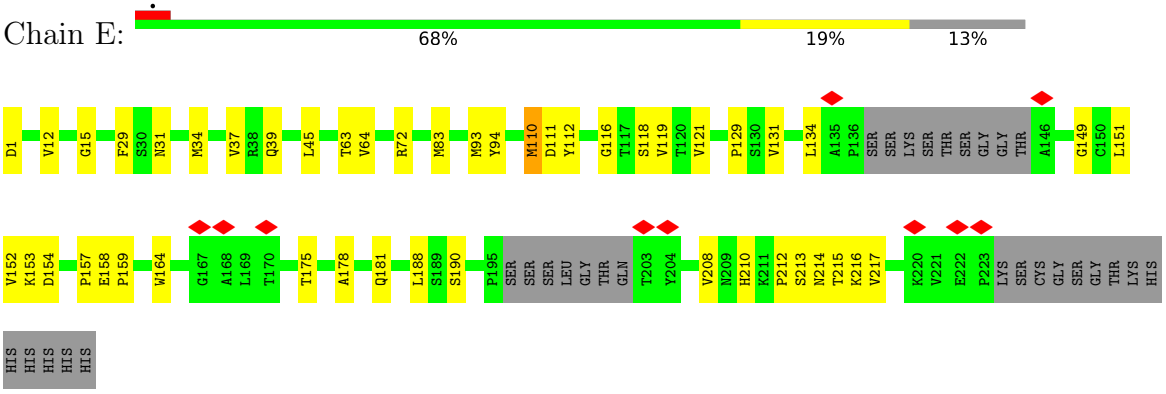
• Molecule 1: Nanobody ALFA-H6



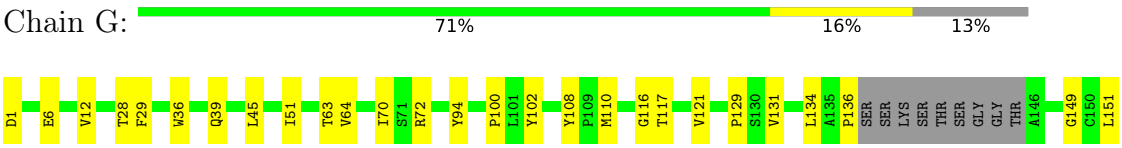
• Molecule 1: Nanobody ALFA-H6



• Molecule 2: Fab antibody 8D3_2_H-H6

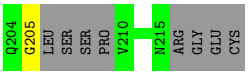


• Molecule 2: Fab antibody 8D3_2_H-H6



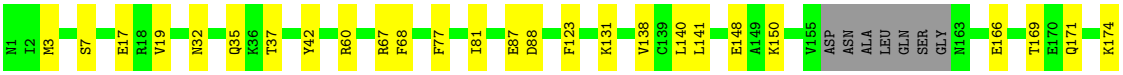
• Molecule 3: Fa antibody 8D3_2_L

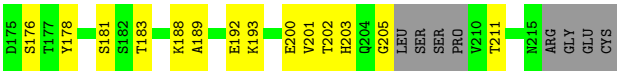
Chain F:



• Molecule 3: Fa antibody 8D3_2_L

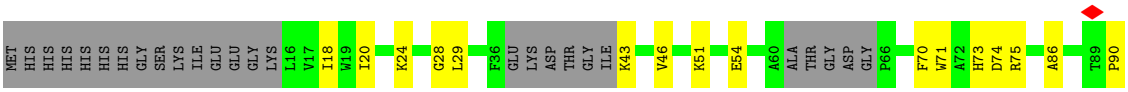
Chain H:

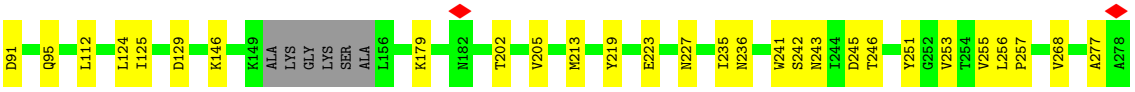


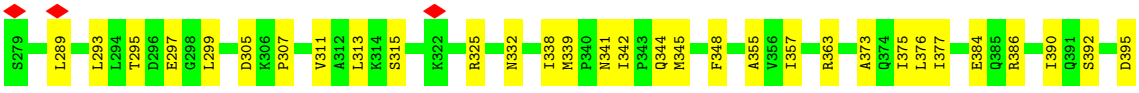


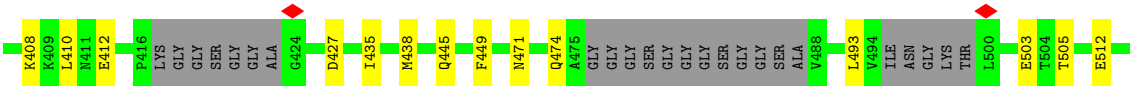
• Molecule 4: Maltose/maltodextrin-binding periplasmic protein,Immunoglobulin G-binding protein A,Immunoglobulin G-binding protein G

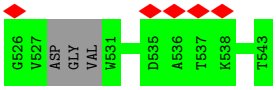
Chain I:





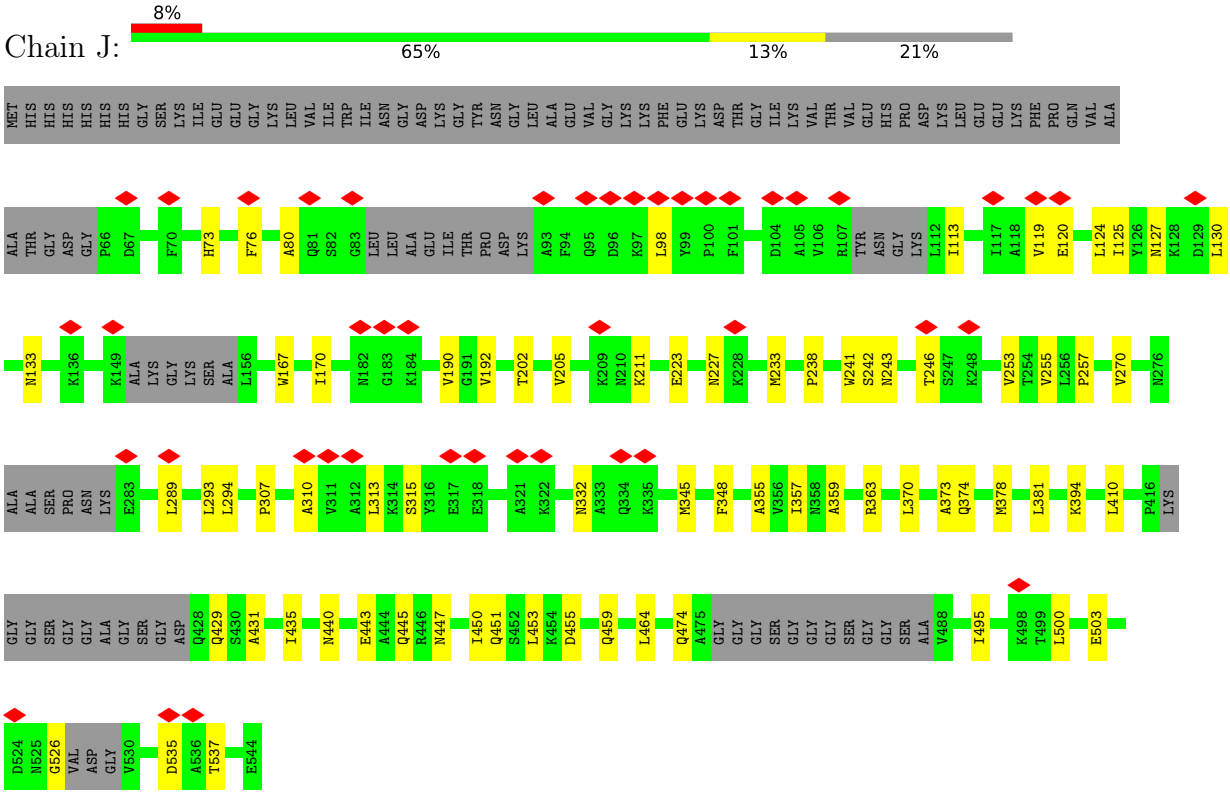






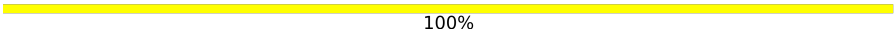
• Molecule 5: Maltose/maltodextrin-binding periplasmic protein,Immunoglobulin G-binding protein A,Immunoglobulin G-binding protein G

Chain J:



• Molecule 6: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain A:



• Molecule 6: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain B:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	114803	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.492	Depositor
Minimum map value	-0.251	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.06	Depositor
Map size (Å)	259.28, 259.28, 259.28	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.926, 0.926, 0.926	Depositor

5 Model quality

5.1 Standard geometry

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

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	C	0.17	0/1057	0.48	0/1429
1	D	0.18	0/1068	0.47	0/1444
2	E	0.15	0/1624	0.39	0/2211
2	G	0.14	0/1624	0.36	0/2211
3	F	0.17	0/1623	0.45	0/2203
3	H	0.17	0/1623	0.45	0/2203
4	I	0.14	0/3861	0.35	0/5233
5	J	0.16	0/3420	0.40	0/4636
All	All	0.15	0/15900	0.40	0/21570

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	C	1036	0	985	24	0
1	D	1046	0	992	21	0
2	E	1582	0	1532	33	0
2	G	1582	0	1532	27	0
3	F	1588	0	1549	20	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	H	1588	0	1549	26	0
4	I	3781	0	3719	61	0
5	J	3351	0	3286	48	0
6	A	23	0	21	2	0
6	B	23	0	21	1	0
All	All	15600	0	15186	241	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 8.

All (241) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:443:GLU:OE1	5:J:447:ASN:ND2	2.17	0.72
4:I:75:ARG:NH2	6:A:2:GLC:O4	2.25	0.70
2:E:129:PRO:HD3	2:E:210:HIS:HD1	1.57	0.70
2:E:94:TYR:O	2:E:116:GLY:HA2	1.95	0.67
1:C:39:MET:HG2	1:C:102:VAL:HG22	1.76	0.67
5:J:167:TRP:HA	5:J:170:ILE:HD12	1.77	0.66
2:E:181:GLN:HG2	3:F:165:GLN:HE22	1.62	0.65
2:G:129:PRO:HD3	2:G:210:HIS:HD1	1.62	0.65
2:E:214:ASN:O	2:E:216:LYS:NZ	2.25	0.64
2:E:29:PHE:O	2:E:72:ARG:NH2	2.31	0.64
2:G:94:TYR:O	2:G:116:GLY:HA2	1.99	0.63
2:G:209:ASN:HB2	2:G:216:LYS:HZ1	1.64	0.63
5:J:124:LEU:HD22	5:J:257:PRO:HD3	1.79	0.63
4:I:125:ILE:HG12	4:I:253:VAL:HG12	1.80	0.62
1:C:34:LEU:HA	1:C:37:MET:HG3	1.82	0.62
2:G:29:PHE:O	2:G:72:ARG:NH2	2.33	0.61
5:J:125:ILE:HG12	5:J:253:VAL:HG12	1.83	0.60
3:H:17:GLU:N	3:H:17:GLU:OE2	2.33	0.60
1:D:9:SER:HG	1:D:23[B]:SER:HG	1.45	0.60
3:F:22:SER:HB2	3:F:78:THR:HG22	1.83	0.60
2:E:131:VAL:HG12	2:E:152:VAL:HG12	1.83	0.60
1:C:89:ASN:HB2	4:I:410:LEU:HD22	1.83	0.59
4:I:376:LEU:HD23	4:I:386:ARG:HD3	1.85	0.59
4:I:242:SER:HB3	4:I:307:PRO:HD3	1.84	0.59
1:D:135:HIS:ND1	2:E:1:ASP:OD2	2.35	0.59
4:I:73:HIS:O	4:I:341:ASN:ND2	2.36	0.59
2:G:134:LEU:HD21	2:G:151:LEU:HD22	1.86	0.58
3:H:166:GLU:OE2	3:H:166:GLU:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:223:GLU:O	5:J:227:ASN:ND2	2.27	0.58
2:E:134:LEU:HD21	2:E:151:LEU:HD23	1.86	0.58
2:E:111:ASP:OD1	2:E:112:TYR:N	2.37	0.58
5:J:190:VAL:HB	5:J:374:GLN:HE22	1.68	0.57
1:D:59:ARG:NH1	1:D:59:ARG:HA	2.20	0.57
2:E:158:GLU:OE1	2:E:158:GLU:N	2.33	0.57
4:I:243:ASN:O	4:I:246:THR:OG1	2.22	0.57
5:J:445:GLN:HE22	5:J:474:GLN:HE21	1.53	0.57
1:C:75:THR:HB	4:I:395:ASP:HB2	1.87	0.57
1:D:46:PRO:HB2	3:H:3:MET:HE1	1.86	0.57
5:J:120:GLU:OE2	6:B:1:BGC:O2	2.22	0.57
3:H:60:ARG:NH1	3:H:68:PHE:O	2.38	0.56
2:E:214:ASN:ND2	4:I:505:THR:OG1	2.36	0.56
4:I:289:LEU:HD23	4:I:293:LEU:HD21	1.87	0.56
4:I:493:LEU:O	4:I:503:GLU:HA	2.05	0.56
3:F:200:GLU:N	3:F:200:GLU:OE2	2.38	0.56
2:G:134:LEU:HB3	3:H:123:PHE:HD2	1.70	0.56
2:E:153:LYS:HG3	2:E:154:ASP:OD1	2.06	0.56
4:I:124:LEU:HD22	4:I:257:PRO:HD3	1.87	0.56
1:C:15:GLN:HG3	1:C:16:PRO:HD2	1.88	0.56
1:D:103:LEU:HD11	1:D:110:PHE:HB3	1.88	0.56
1:D:98:TYR:O	1:D:117:GLY:HA2	2.07	0.55
5:J:451:GLN:O	5:J:455:ASP:HB2	2.05	0.55
3:H:67:ARG:NH2	3:H:88:ASP:OD2	2.39	0.55
4:I:219:TYR:HE1	4:I:236:ASN:HD21	1.53	0.55
5:J:503:GLU:N	5:J:503:GLU:OE1	2.40	0.55
5:J:80:ALA:HB2	5:J:113:ILE:HG12	1.89	0.54
1:D:112:ASP:OD1	1:D:112:ASP:N	2.37	0.54
1:C:87:MET:HE3	1:C:90:LEU:HD21	1.90	0.54
4:I:427:ASP:OD1	4:I:427:ASP:N	2.39	0.54
3:F:18:ARG:HA	3:F:81:ILE:O	2.08	0.54
2:G:207:ASN:ND2	2:G:218:ASP:OD2	2.41	0.54
1:D:101:HIS:HE1	1:D:103:LEU:HB2	1.71	0.53
4:I:357:ILE:HG22	4:I:363:ARG:HH22	1.73	0.53
5:J:345:MET:O	5:J:348:PHE:HB3	2.09	0.53
4:I:73:HIS:NE2	4:I:339:MET:O	2.36	0.53
1:C:19:SER:OG	4:I:384:GLU:OE2	2.24	0.53
2:E:178:ALA:HB2	2:E:188:LEU:HD23	1.90	0.52
1:D:89:ASN:HD22	5:J:410:LEU:HB2	1.74	0.52
1:D:92:PRO:HG3	1:D:124:SER:HB3	1.90	0.52
3:F:89:LEU:HD23	3:F:111:ILE:HD12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:87:MET:HB3	1:D:90:LEU:HD21	1.92	0.52
5:J:451:GLN:O	5:J:451:GLN:NE2	2.42	0.52
5:J:289:LEU:HD23	5:J:293:LEU:HD12	1.92	0.52
2:E:15:GLY:O	4:I:445:GLN:NE2	2.43	0.51
2:G:136:PRO:HG2	2:G:223:PRO:HG3	1.93	0.51
4:I:299:LEU:HD13	4:I:311:VAL:HG21	1.92	0.51
5:J:211:LYS:HE3	5:J:211:LYS:HA	1.91	0.51
4:I:18:ILE:HB	4:I:46:VAL:HG12	1.93	0.51
5:J:243:ASN:O	5:J:246:THR:OG1	2.21	0.50
3:H:200:GLU:OE2	3:H:211:THR:OG1	2.26	0.50
1:C:48:GLU:OE1	1:C:48:GLU:N	2.45	0.50
3:F:17:GLU:N	3:F:17:GLU:OE1	2.44	0.50
2:G:162:VAL:HG22	2:G:208:VAL:HG12	1.94	0.50
2:E:29:PHE:HE1	2:E:34:MET:HE2	1.77	0.50
4:I:251:TYR:OH	4:I:325:ARG:NH1	2.44	0.50
5:J:431:ALA:HB1	5:J:453:LEU:HD21	1.93	0.50
1:C:101:HIS:CE1	1:C:103:LEU:HB2	2.47	0.49
2:E:93:MET:HE2	2:E:118:SER:HB2	1.94	0.49
3:H:150:LYS:HB2	3:H:202:THR:HG22	1.94	0.49
1:D:102:VAL:HB	1:D:113:TYR:HB2	1.93	0.49
4:I:503:GLU:OE1	4:I:503:GLU:N	2.46	0.49
4:I:268:VAL:HB	4:I:338:ILE:HA	1.93	0.49
1:D:4:VAL:HG22	1:D:29:VAL:HB	1.94	0.49
5:J:202:THR:HA	5:J:205:VAL:HG12	1.93	0.49
1:D:15:GLN:HG3	1:D:16:PRO:HD2	1.95	0.49
3:F:141:LEU:HB2	3:F:144:PHE:HE1	1.78	0.49
5:J:355:ALA:O	5:J:359:ALA:N	2.43	0.49
1:C:134:HIS:NE2	2:G:1:ASP:OD1	2.43	0.49
4:I:223:GLU:O	4:I:227:ASN:ND2	2.31	0.49
4:I:438:MET:HE1	4:I:471:ASN:HB2	1.95	0.49
5:J:73:HIS:HA	5:J:76:PHE:HD2	1.78	0.48
2:E:175:THR:HG23	2:E:190:SER:HB2	1.95	0.48
2:E:213:SER:OG	2:E:215:THR:OG1	2.29	0.48
5:J:119:VAL:HG22	5:J:270:VAL:HG22	1.94	0.48
1:C:88:ASP:OD2	4:I:392:SER:OG	2.31	0.48
3:H:141:LEU:HD11	3:H:201:VAL:HG11	1.95	0.48
4:I:235:ILE:HG13	4:I:256:LEU:HD22	1.94	0.48
5:J:233:MET:SD	5:J:233:MET:N	2.87	0.48
5:J:242:SER:HB3	5:J:307:PRO:HD3	1.95	0.48
4:I:28:GLY:N	4:I:305:ASP:OD2	2.33	0.48
1:C:95:THR:HG23	1:C:121:THR:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:87:GLU:HA	3:F:173:SER:HB3	1.95	0.48
5:J:535:ASP:OD2	5:J:535:ASP:N	2.43	0.47
1:C:103:LEU:HD11	1:C:110:PHE:HB3	1.95	0.47
5:J:127:ASN:HB3	5:J:130:LEU:HB2	1.95	0.47
5:J:238:PRO:HA	5:J:241:TRP:CE2	2.49	0.47
4:I:345:MET:O	4:I:348:PHE:HB3	2.14	0.47
4:I:445:GLN:HE22	4:I:474:GLN:HE22	1.63	0.47
5:J:119:VAL:HB	5:J:310:ALA:HB3	1.95	0.47
3:H:171:GLN:HE21	3:H:176:SER:HB3	1.80	0.47
4:I:43:LYS:HD2	4:I:43:LYS:HA	1.69	0.47
5:J:378:MET:HG2	5:J:381:LEU:HG	1.96	0.47
1:C:15:GLN:NE2	1:C:128:THR:OG1	2.48	0.47
1:C:17:GLY:HA2	1:C:89:ASN:HA	1.96	0.47
2:E:39:GLN:HB2	2:E:45:LEU:HD23	1.97	0.47
1:D:31:ILE:HD12	1:D:31:ILE:H	1.80	0.46
1:C:130:HIS:HD2	2:G:28:THR:HA	1.80	0.46
3:H:189:ALA:O	3:H:193:LYS:HE3	2.14	0.46
4:I:313:LEU:HD23	4:I:315:SER:H	1.80	0.46
1:C:11:GLY:HA2	1:C:20:LEU:HD21	1.97	0.46
2:E:210:HIS:O	2:E:214:ASN:N	2.48	0.46
2:G:36:TRP:HD1	2:G:70:ILE:HD12	1.80	0.46
4:I:74:ASP:OD2	6:A:2:GLC:O3	2.25	0.46
5:J:440:ASN:HD22	5:J:474:GLN:HB2	1.80	0.46
3:H:87:GLU:OE2	3:H:87:GLU:N	2.34	0.46
3:H:148:GLU:O	3:H:203:HIS:ND1	2.47	0.46
2:E:210:HIS:HD2	2:E:212:PRO:HD2	1.80	0.46
2:G:51:ILE:HB	2:G:70:ILE:HG12	1.97	0.46
2:G:191:VAL:HG21	3:H:140:LEU:HD11	1.98	0.46
2:G:63:THR:HG23	2:G:64:VAL:HG13	1.98	0.46
2:G:100:PRO:HG2	2:G:108:TYR:HB3	1.96	0.46
1:C:34:LEU:HD13	1:C:81:LYS:HG2	1.98	0.46
2:E:93:MET:HE3	2:E:93:MET:HB2	1.90	0.45
3:F:89:LEU:HD21	3:F:173:SER:HA	1.99	0.45
2:G:129:PRO:HD3	2:G:210:HIS:ND1	2.29	0.45
3:H:32:ASN:O	3:H:35:GLN:NE2	2.44	0.45
2:E:216:LYS:HD3	2:E:216:LYS:N	2.31	0.45
3:H:171:GLN:HB2	3:H:178:TYR:CZ	2.51	0.45
4:I:86:ALA:HB2	4:I:277:ALA:HA	1.99	0.45
3:F:67:ARG:NH2	3:F:88:ASP:OD2	2.47	0.45
3:H:188:LYS:O	3:H:192:GLU:HG3	2.17	0.45
4:I:20:ILE:HD12	4:I:24:LYS:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:I:129:ASP:N	4:I:129:ASP:OD1	2.49	0.45
4:I:311:VAL:HG22	4:I:313:LEU:H	1.81	0.45
4:I:435:ILE:HD13	4:I:449:PHE:HB3	1.98	0.45
5:J:133:ASN:OD1	5:J:133:ASN:N	2.49	0.45
5:J:357:ILE:HG22	5:J:363:ARG:NH2	2.32	0.45
5:J:495:ILE:HG21	5:J:500:LEU:HG	1.98	0.45
5:J:378:MET:HE2	5:J:378:MET:HB2	1.86	0.44
2:E:83:MET:HE1	2:E:119:VAL:HG11	1.98	0.44
2:G:39:GLN:HB2	2:G:45:LEU:HD23	1.99	0.44
1:C:65:ARG:HB3	1:C:68:VAL:HG22	1.99	0.44
4:I:241:TRP:HB2	4:I:307:PRO:HG2	1.99	0.44
4:I:213:MET:HE3	4:I:213:MET:HB3	1.79	0.44
4:I:342:ILE:HG22	4:I:344:GLN:H	1.83	0.44
5:J:98:LEU:HD11	5:J:294:LEU:HD11	1.99	0.44
5:J:192:VAL:HG12	5:J:370:LEU:HD22	1.99	0.44
1:D:61:ASN:OD1	1:D:61:ASN:N	2.51	0.44
4:I:202:THR:HA	4:I:205:VAL:HG12	1.98	0.44
4:I:255:VAL:HA	4:I:332:ASN:HD21	1.83	0.44
5:J:355:ALA:HB2	5:J:373:ALA:HB2	1.99	0.44
4:I:71:TRP:CD1	4:I:75:ARG:HG3	2.53	0.44
3:F:25:SER:OG	3:F:27:GLN:O	2.34	0.43
2:E:12:VAL:HG23	2:E:121:VAL:HG12	2.01	0.43
3:F:125:PRO:HD3	3:F:137:VAL:HG12	2.01	0.43
3:F:127:ASP:N	3:F:127:ASP:OD1	2.50	0.43
5:J:238:PRO:HA	5:J:241:TRP:CD2	2.54	0.43
1:D:106:ARG:O	1:D:108:ASP:N	2.48	0.43
2:E:31:ASN:ND2	2:G:102:TYR:OH	2.49	0.43
2:G:149:GLY:HA3	2:G:191:VAL:HG12	2.01	0.43
4:I:295:THR:OG1	4:I:297:GLU:OE1	2.27	0.43
2:E:63:THR:HG23	2:E:64:VAL:HG13	2.00	0.43
2:E:158:GLU:OE1	2:E:159:PRO:HD3	2.18	0.43
2:G:131:VAL:HG22	2:G:152:VAL:HG12	2.01	0.43
5:J:255:VAL:HA	5:J:332:ASN:HD21	1.84	0.43
2:G:12:VAL:HG23	2:G:121:VAL:HG12	1.99	0.43
2:G:110:MET:O	3:H:42:TYR:OH	2.30	0.43
4:I:51:LYS:NZ	4:I:54:GLU:HB2	2.34	0.43
4:I:51:LYS:O	4:I:51:LYS:HG3	2.19	0.43
4:I:91:ASP:O	4:I:95:GLN:HG2	2.18	0.43
4:I:241:TRP:O	4:I:245:ASP:N	2.47	0.43
3:F:87:GLU:OE1	3:F:87:GLU:N	2.32	0.42
3:F:203:HIS:CD2	3:F:205:GLY:H	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:431:ALA:HB2	5:J:464:LEU:HD11	2.01	0.42
1:C:4:VAL:HG22	1:C:29:VAL:HB	2.00	0.42
2:E:37:VAL:HG21	2:E:110:MET:HE1	2.01	0.42
4:I:18:ILE:HG21	4:I:29:LEU:HD21	2.01	0.42
4:I:146:LYS:HE3	4:I:146:LYS:HB3	1.92	0.42
2:E:208:VAL:HG22	2:E:217:VAL:HB	2.01	0.42
3:H:19:VAL:HG22	3:H:81:ILE:HB	2.02	0.42
5:J:124:LEU:HD11	5:J:233:MET:HB2	2.02	0.42
1:C:87:MET:HE1	1:C:120:VAL:HG11	2.02	0.42
2:E:1:ASP:OD2	2:E:1:ASP:N	2.43	0.42
4:I:179:LYS:HD3	4:I:179:LYS:HA	1.86	0.42
4:I:386:ARG:O	4:I:390:ILE:HG12	2.20	0.42
1:D:101:HIS:CE1	1:D:103:LEU:HB2	2.54	0.42
2:E:149:GLY:HA2	2:E:164:TRP:CZ2	2.55	0.42
2:E:157:PRO:HD2	2:E:210:HIS:CE1	2.55	0.42
3:F:115:VAL:HA	3:F:145:TYR:HD2	1.85	0.41
3:F:141:LEU:HB2	3:F:144:PHE:CE1	2.55	0.41
5:J:435:ILE:HG13	5:J:453:LEU:HD22	2.02	0.41
1:D:16:PRO:HG3	1:D:122:VAL:HG12	2.02	0.41
5:J:447:ASN:HA	5:J:450:ILE:HG22	2.02	0.41
4:I:20:ILE:HG22	4:I:70:PHE:HB2	2.00	0.41
1:C:98:TYR:O	1:C:117:GLY:HA2	2.20	0.41
1:C:106:ARG:O	1:C:108:ASP:N	2.52	0.41
2:G:160:VAL:HA	2:G:209:ASN:O	2.21	0.41
3:H:138:VAL:HG22	3:H:183:THR:HG22	2.01	0.41
3:F:123:PHE:HA	3:F:124:PRO:HD3	1.91	0.41
2:G:176:PHE:CD1	3:H:169:THR:HB	2.55	0.41
3:H:174:LYS:HE3	3:H:174:LYS:HB3	1.89	0.41
4:I:29:LEU:HG	4:I:46:VAL:HG11	2.02	0.41
4:I:408:LYS:O	4:I:412:GLU:HG3	2.20	0.41
5:J:313:LEU:HD23	5:J:315:SER:H	1.84	0.41
2:G:176:PHE:HE2	3:H:181:SER:HB3	1.86	0.41
4:I:355:ALA:HB2	4:I:373:ALA:HB2	2.02	0.41
4:I:90:PRO:HG3	4:I:112:LEU:HD12	2.03	0.41
5:J:394:LYS:HE2	5:J:394:LYS:HB2	1.81	0.41
5:J:429:GLN:H	5:J:429:GLN:CD	2.28	0.41
3:F:120:VAL:HG22	3:F:141:LEU:HD22	2.03	0.41
3:F:128:GLU:OE1	3:F:128:GLU:N	2.37	0.41
3:H:37:THR:HG21	3:H:77:PHE:CE1	2.56	0.41
4:I:373:ALA:O	4:I:377:ILE:HG13	2.21	0.41
1:D:104:GLU:OE1	1:D:106:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:6:GLU:HB2	2:G:117:THR:HG23	2.03	0.41
4:I:512:GLU:H	4:I:512:GLU:CD	2.27	0.41
1:D:39:MET:HE3	1:D:39:MET:HB3	1.92	0.40
3:H:131:LYS:HE3	5:J:526:GLY:HA2	2.03	0.40
5:J:113:ILE:HD12	5:J:113:ILE:HA	1.89	0.40
3:H:203:HIS:CD2	3:H:205:GLY:H	2.39	0.40
1:C:72:PHE:CE1	1:C:87:MET:HB3	2.56	0.40
4:I:375:ILE:HD13	4:I:375:ILE:HA	1.96	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	C	132/133 (99%)	128 (97%)	4 (3%)	0	100	100
1	D	133/133 (100%)	131 (98%)	2 (2%)	0	100	100
2	E	201/237 (85%)	194 (96%)	7 (4%)	0	100	100
2	G	201/237 (85%)	197 (98%)	4 (2%)	0	100	100
3	F	198/219 (90%)	188 (95%)	10 (5%)	0	100	100
3	H	198/219 (90%)	193 (98%)	5 (2%)	0	100	100
4	I	468/543 (86%)	459 (98%)	9 (2%)	0	100	100
5	J	412/544 (76%)	403 (98%)	9 (2%)	0	100	100
All	All	1943/2265 (86%)	1893 (97%)	50 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	C	112/111 (101%)	112 (100%)	0	100 100
1	D	113/111 (102%)	113 (100%)	0	100 100
2	E	176/201 (88%)	175 (99%)	1 (1%)	84 92
2	G	176/201 (88%)	176 (100%)	0	100 100
3	F	180/192 (94%)	180 (100%)	0	100 100
3	H	180/192 (94%)	179 (99%)	1 (1%)	84 92
4	I	398/432 (92%)	398 (100%)	0	100 100
5	J	353/433 (82%)	351 (99%)	2 (1%)	84 92
All	All	1688/1873 (90%)	1684 (100%)	4 (0%)	91 97

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	E	110	MET
3	H	7	SER
5	J	459	GLN
5	J	537	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	44	GLN
1	C	69	GLN
1	C	130	HIS
1	D	89	ASN
1	D	101	HIS
1	D	132	HIS
2	E	31	ASN
2	E	39	GLN
2	E	74	ASN
2	E	214	ASN

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Mol	Chain	Res	Type
3	F	44	GLN
3	F	129	GLN
3	F	165	GLN
4	I	81	GLN
4	I	161	GLN
4	I	182	ASN
4	I	341	ASN
4	I	368	GLN
4	I	380	ASN
4	I	385	GLN
4	I	414	GLN
4	I	474	GLN
5	J	161	GLN
5	J	182	ASN
5	J	341	ASN
5	J	374	GLN
5	J	380	ASN
5	J	385	GLN
5	J	414	GLN
5	J	440	ASN
5	J	445	GLN
5	J	459	GLN
5	J	474	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

4 monosaccharides 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	$\#\|Z\| > 2$
6	BGC	A	1	6	12,12,12	0.43	0	17,17,17	1.41	3 (17%)
6	GLC	A	2	6	11,11,12	0.62	0	15,15,17	0.81	0
6	BGC	B	1	6	12,12,12	0.45	0	17,17,17	1.07	2 (11%)
6	GLC	B	2	6	11,11,12	0.54	0	15,15,17	0.81	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
6	BGC	A	1	6	-	1/2/22/22	0/1/1/1
6	GLC	A	2	6	-	0/2/19/22	0/1/1/1
6	BGC	B	1	6	-	2/2/22/22	0/1/1/1
6	GLC	B	2	6	-	1/2/19/22	0/1/1/1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	1	BGC	C1-O5-C5	3.07	119.45	113.66
6	A	1	BGC	O5-C5-C6	2.92	113.70	106.44
6	B	1	BGC	C1-O5-C5	2.64	118.65	113.66
6	A	1	BGC	O5-C5-C4	2.20	113.69	109.69
6	B	1	BGC	O5-C5-C6	2.15	111.79	106.44

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	B	1	BGC	O5-C5-C6-O6
6	A	1	BGC	O5-C5-C6-O6
6	B	2	GLC	O5-C5-C6-O6
6	B	1	BGC	C4-C5-C6-O6

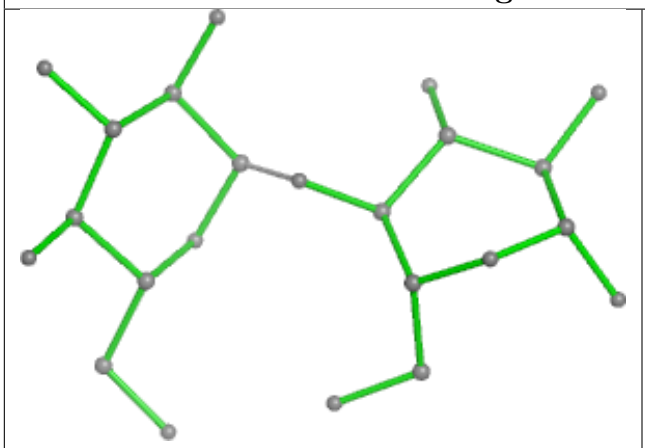
There are no ring outliers.

2 monomers are involved in 3 short contacts:

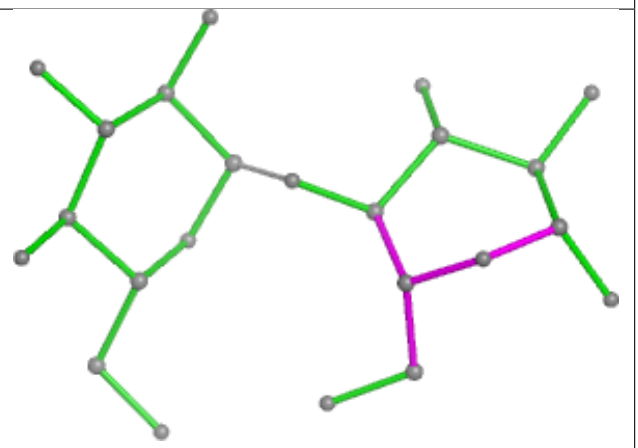
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	A	2	GLC	2	0
6	B	1	BGC	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

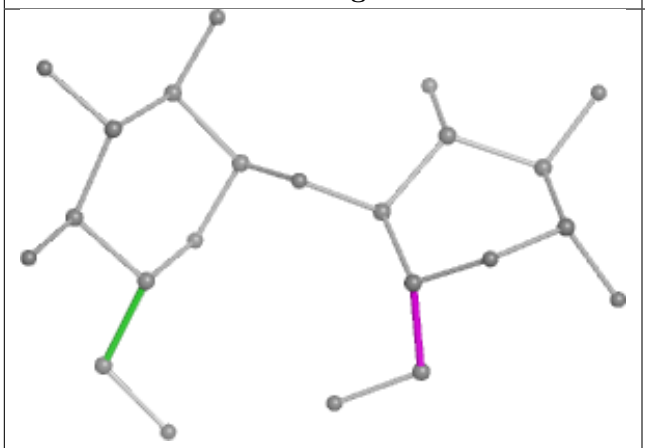
Oligosaccharide Chain A



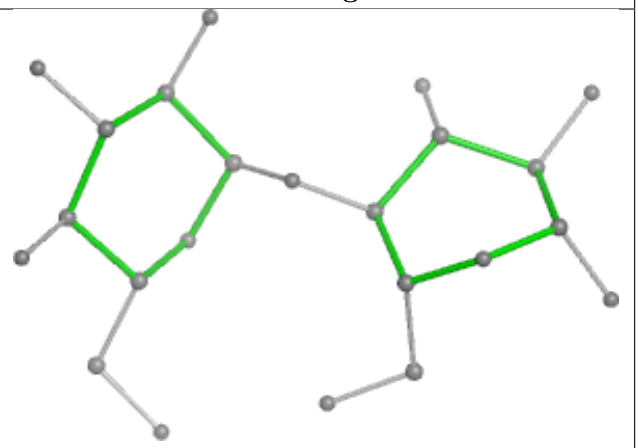
Bond lengths



Bond angles

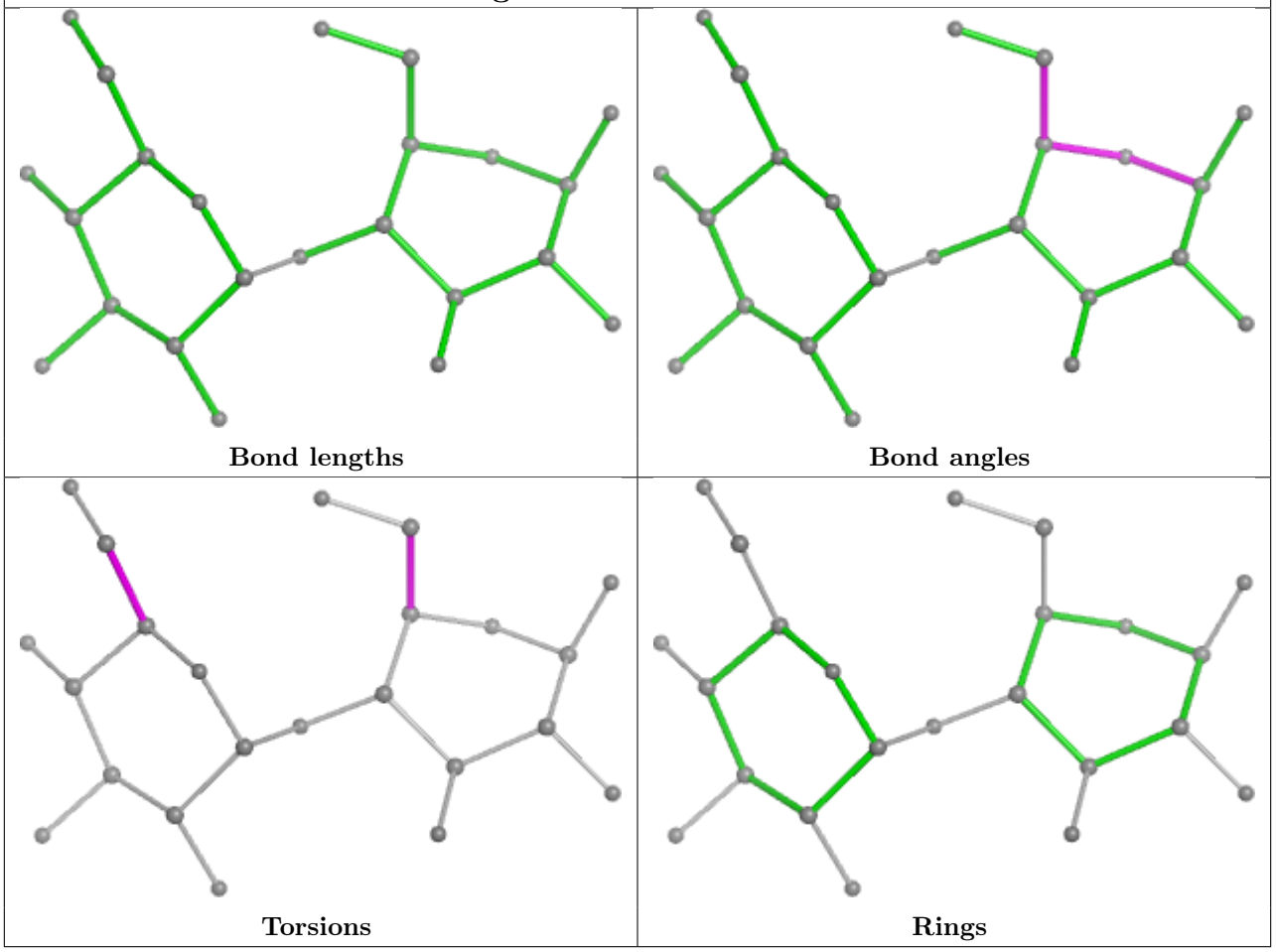


Torsions



Rings

Oligosaccharide Chain B



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.

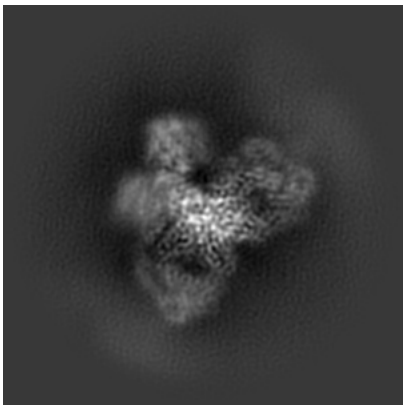
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-53000. These allow visual inspection of the internal detail of the map and identification of artifacts.

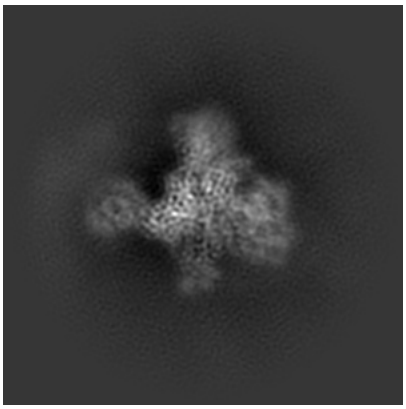
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

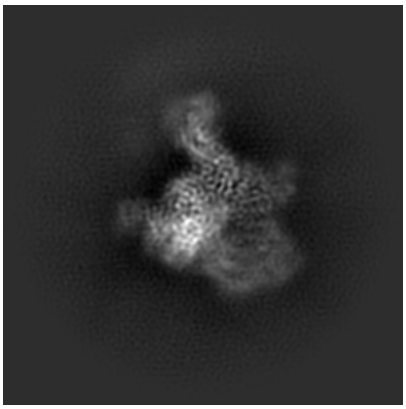
6.1.1 Primary map



X

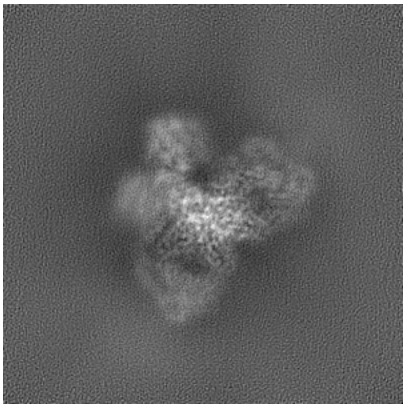


Y

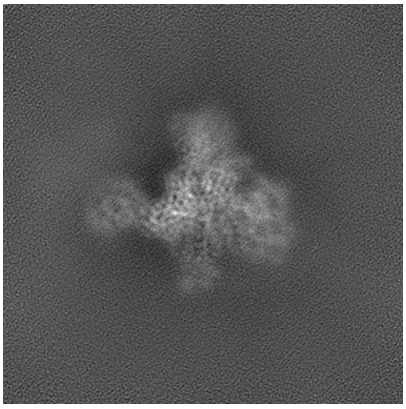


Z

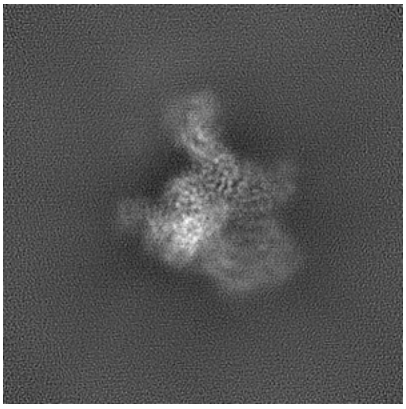
6.1.2 Raw map



X



Y

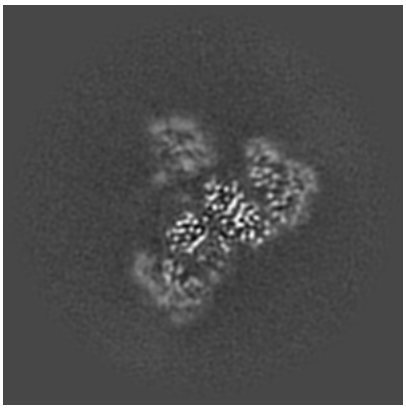


Z

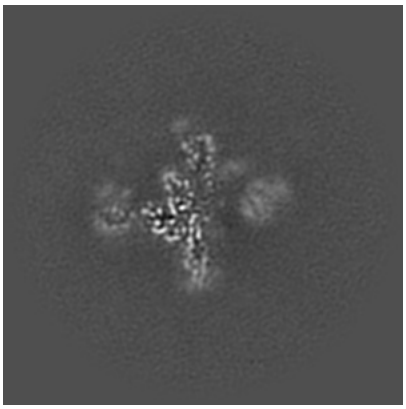
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

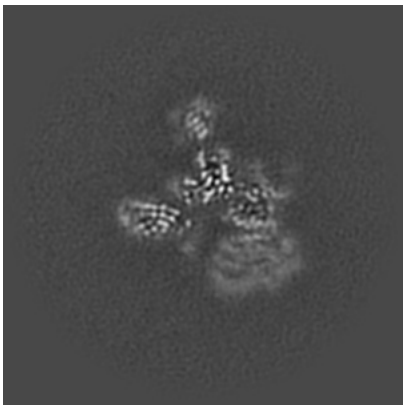
6.2.1 Primary map



X Index: 140

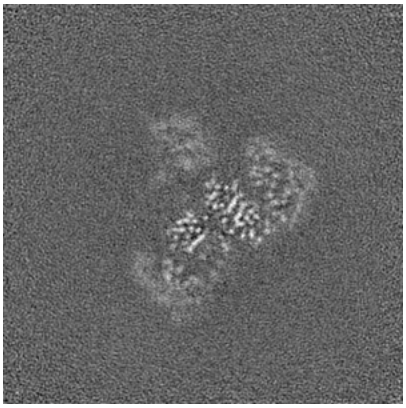


Y Index: 140

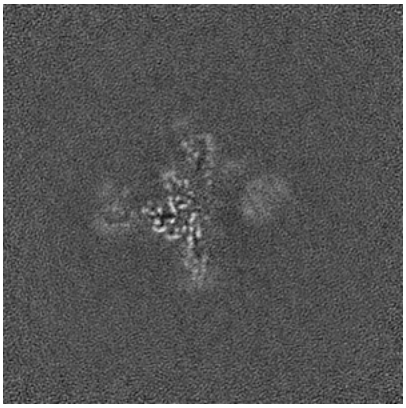


Z Index: 140

6.2.2 Raw map



X Index: 140



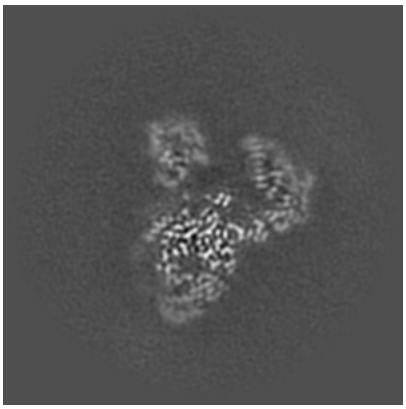
Y Index: 140

Z Index: 140

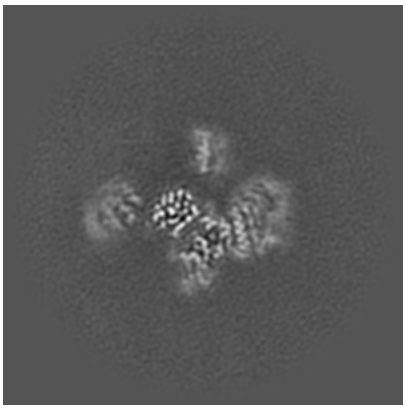
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

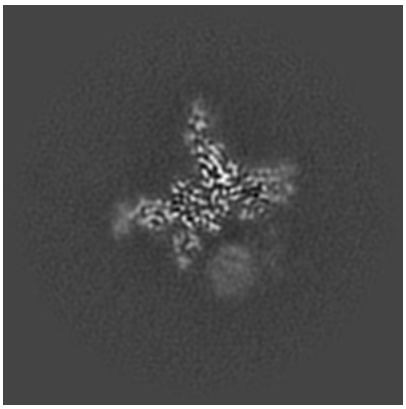
6.3.1 Primary map



X Index: 133

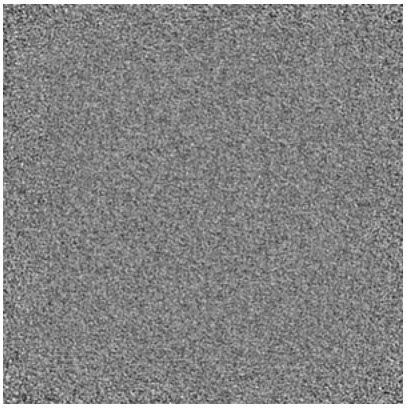


Y Index: 126

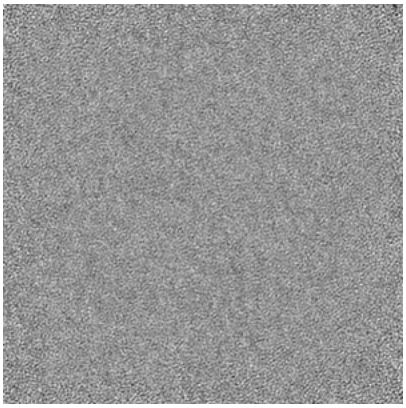


Z Index: 129

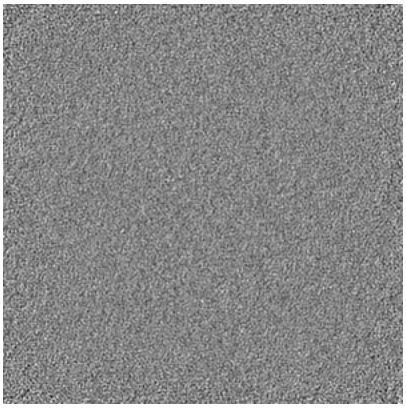
6.3.2 Raw map



X Index: 0



Y Index: 0

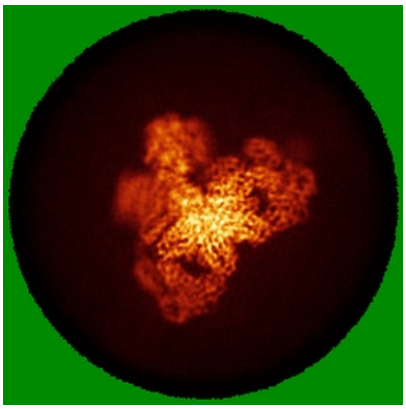


Z Index: 0

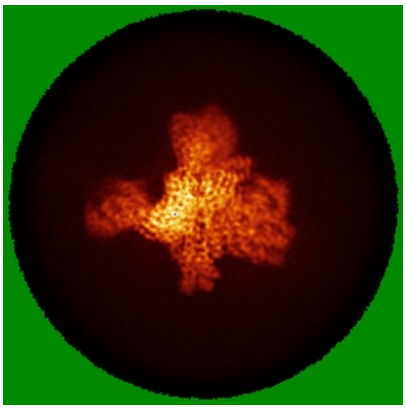
The images above show the largest variance slices of the map in three orthogonal directions.

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

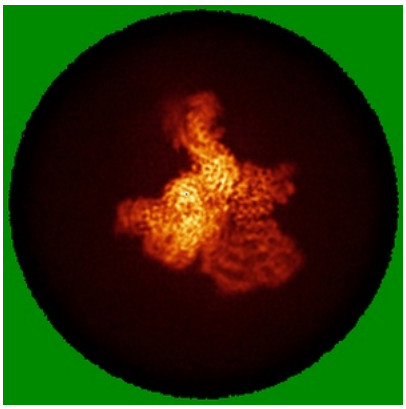
6.4.1 Primary map



X

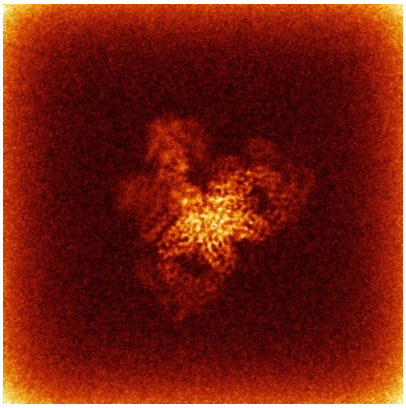


Y

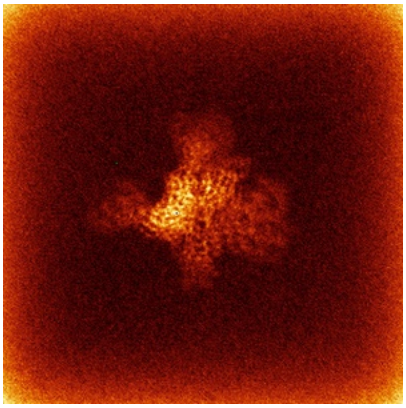


Z

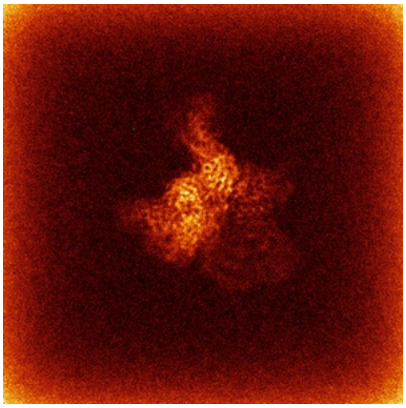
6.4.2 Raw map



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.

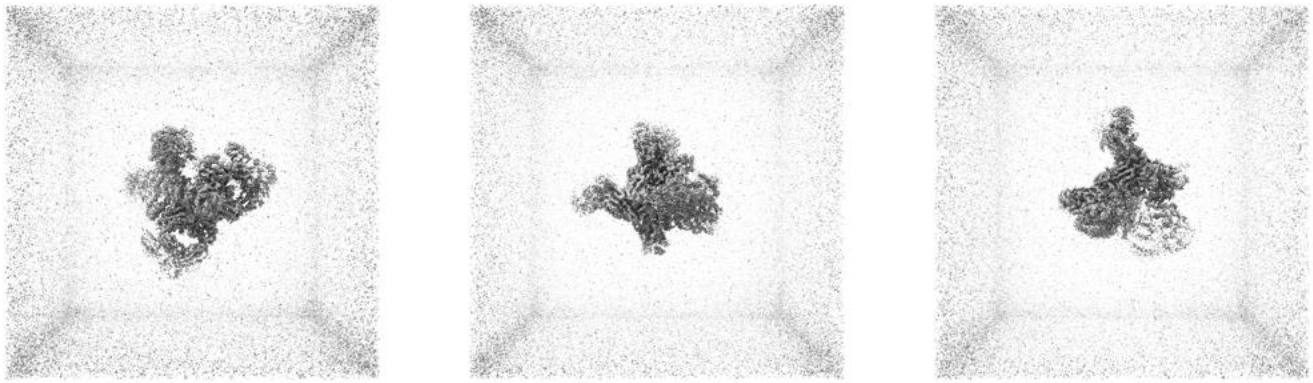
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.06. 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.

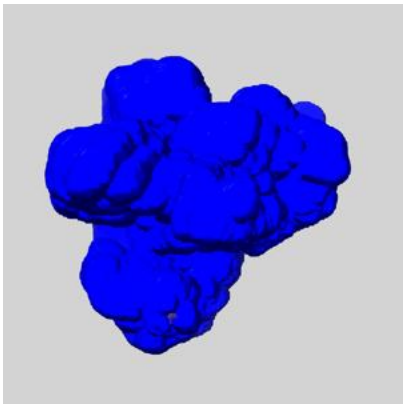
6.6 Mask visualisation (i)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

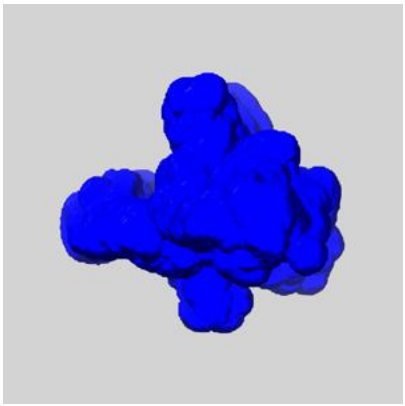
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

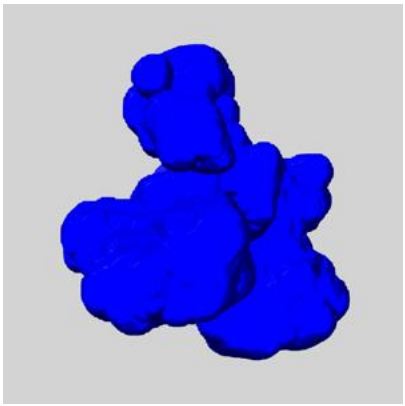
6.6.1 emd_53000_msk_1.map (i)



X



Y

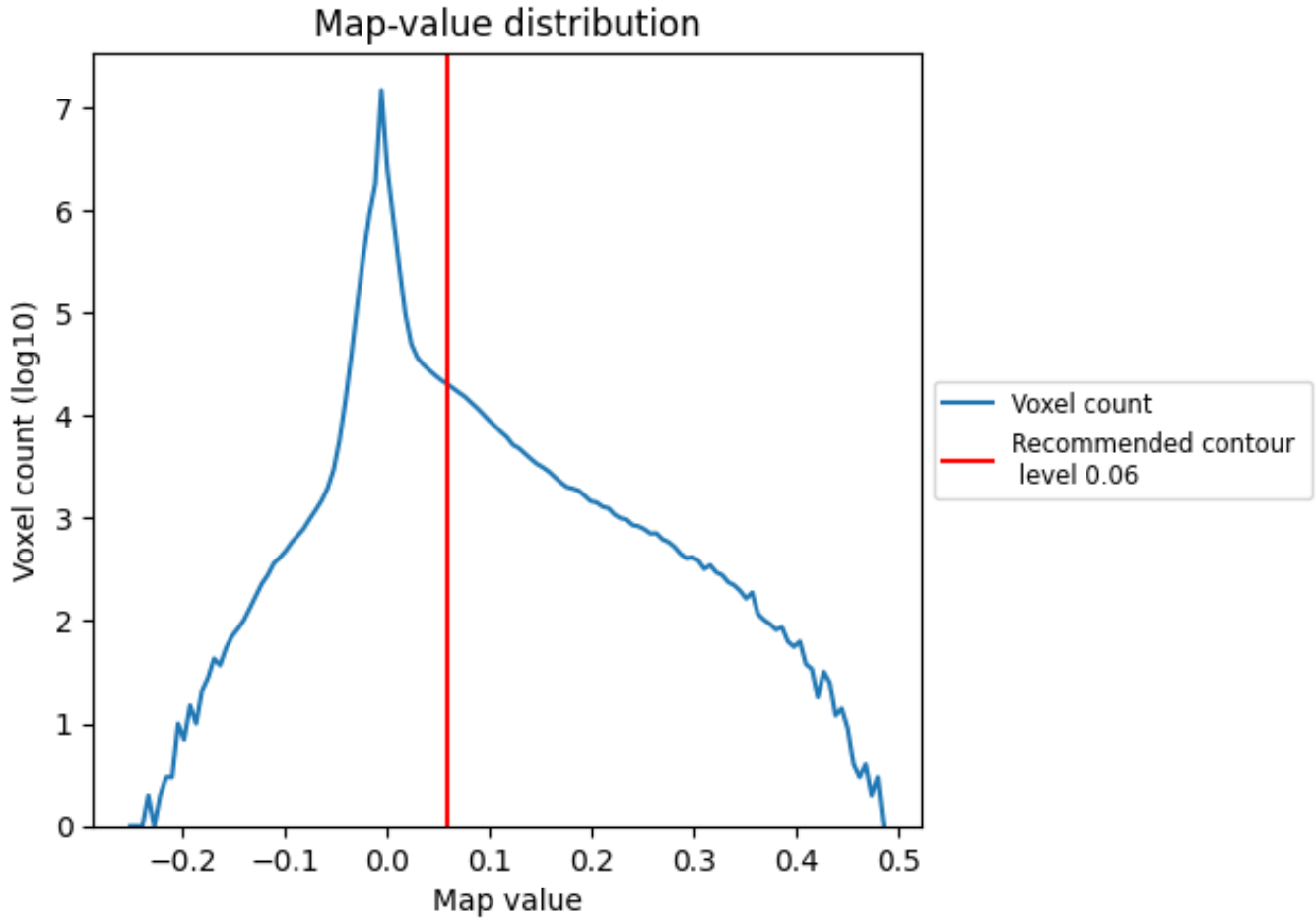


Z

7 Map analysis

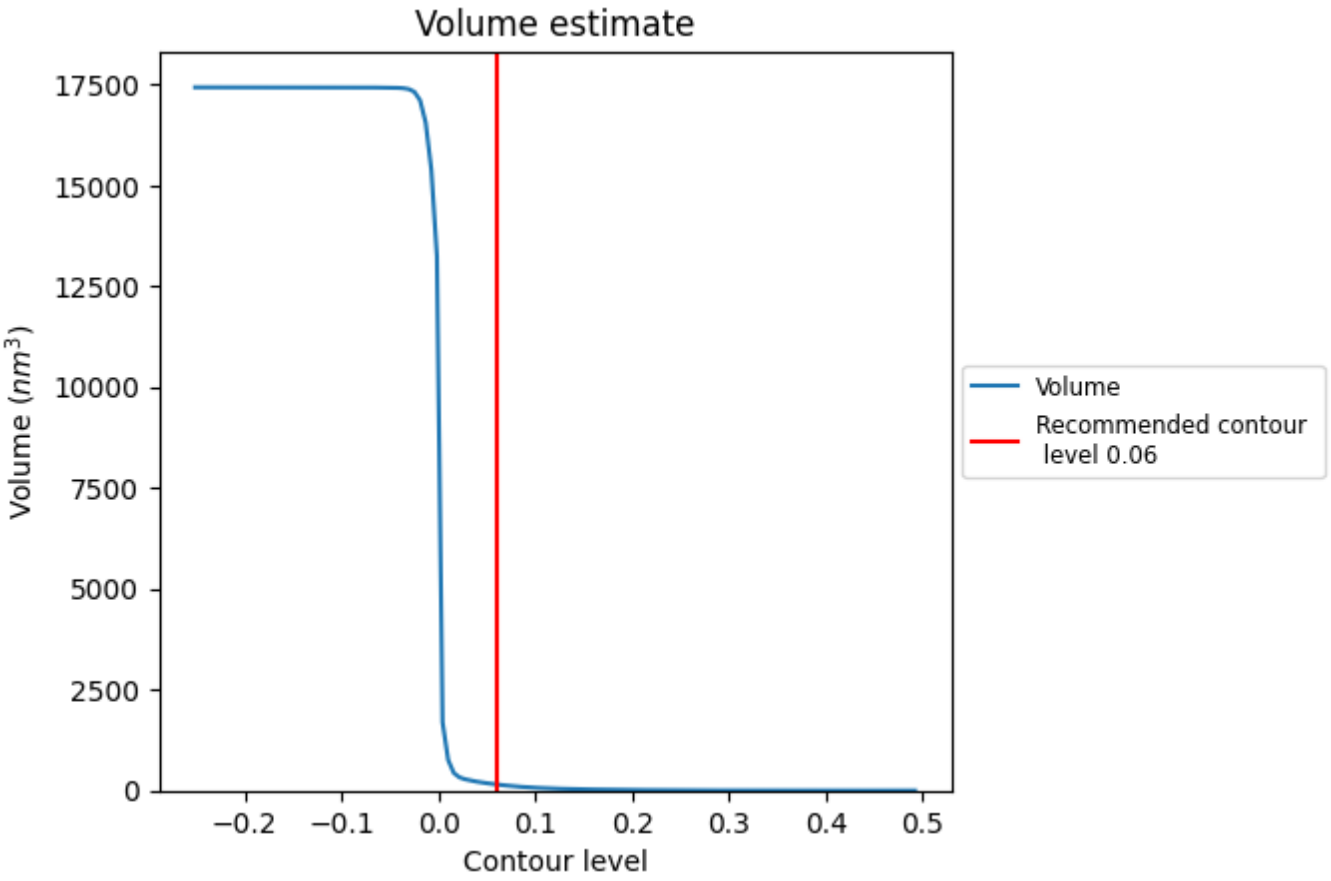
This section contains the results of statistical analysis of the map.

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.

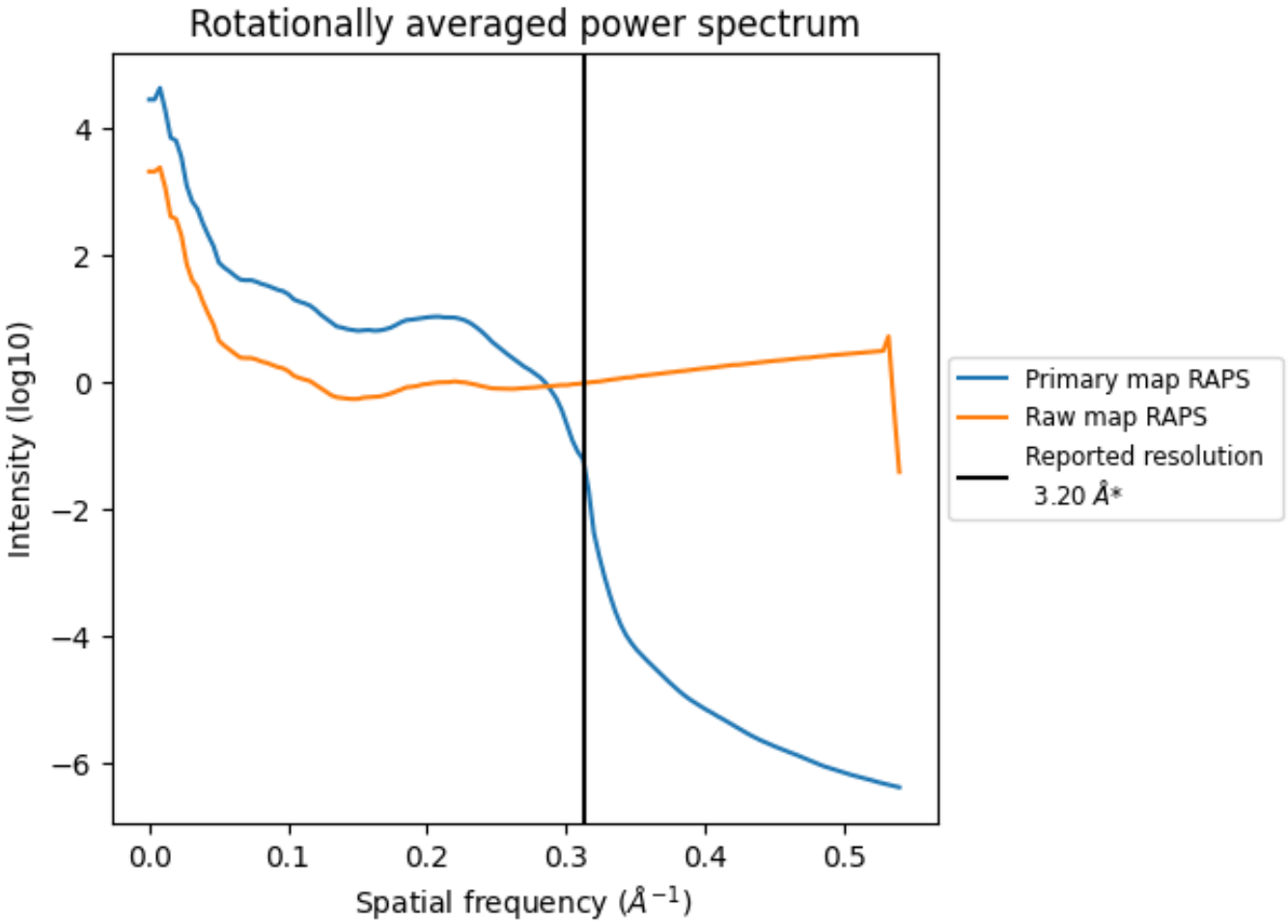
7.2 Volume estimate



The volume at the recommended contour level is 152 nm^3; this corresponds to an approximate mass of 137 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)

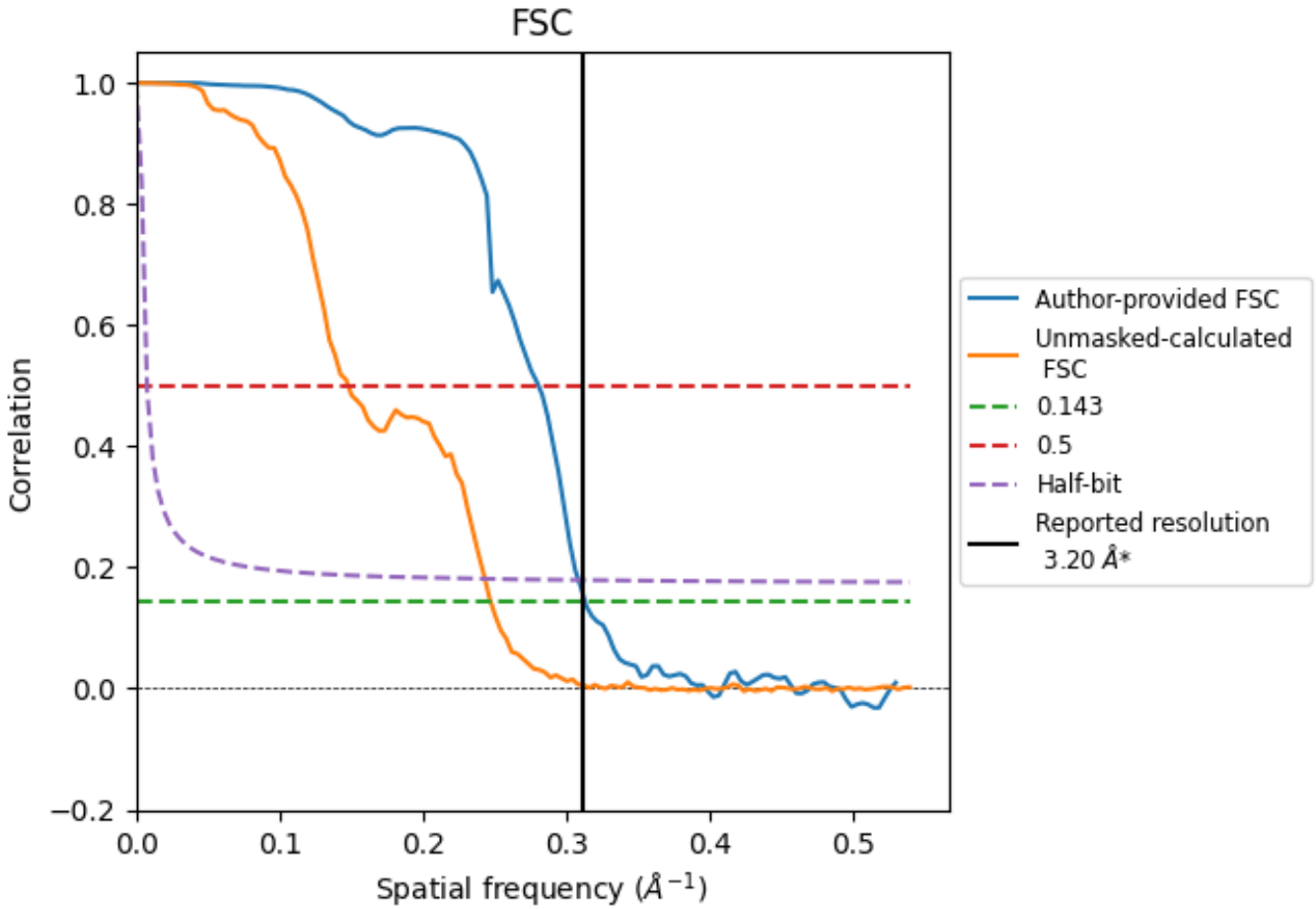


*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



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

8.2 Resolution estimates (i)

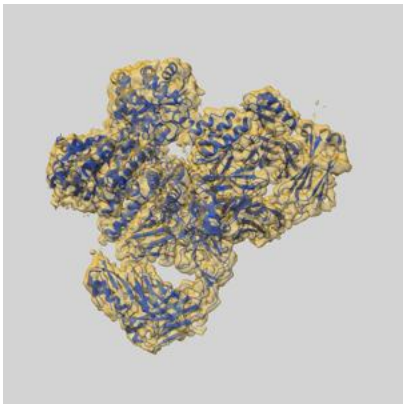
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	3.19	3.56	3.24
Unmasked-calculated*	4.04	6.75	4.11

*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 4.04 differs from the reported value 3.2 by more than 10 %

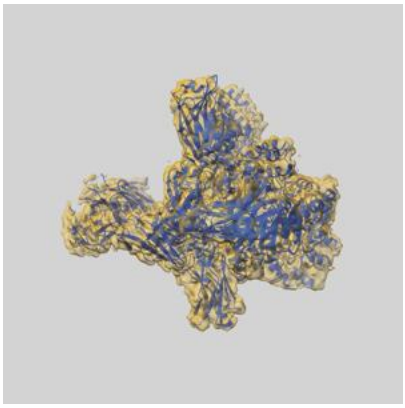
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-53000 and PDB model 9QBJ. Per-residue inclusion information can be found in section 3 on page 8.

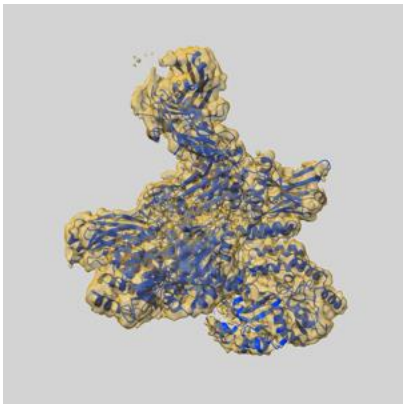
9.1 Map-model overlay



X



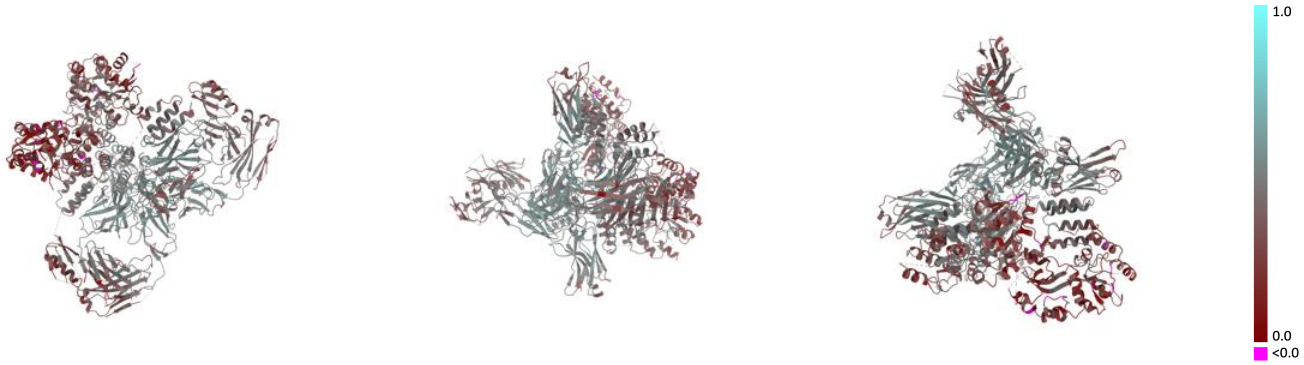
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.06 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.

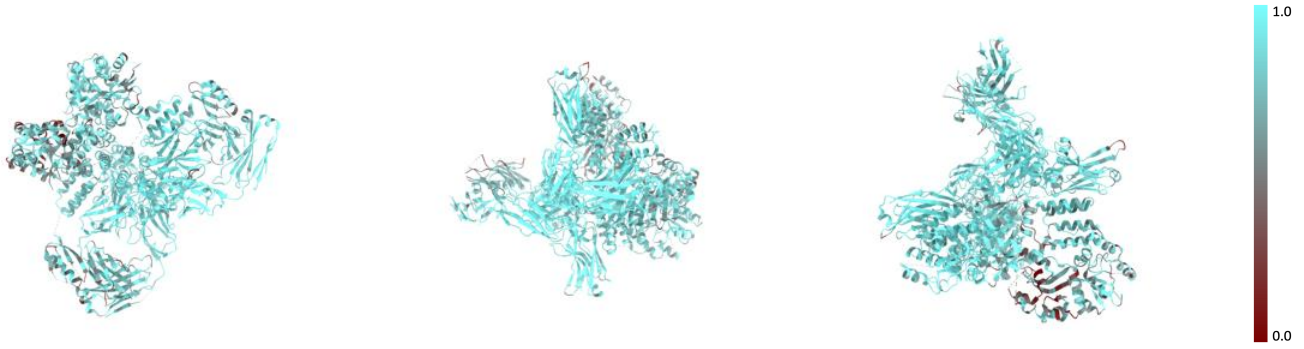
9.2 Q-score mapped to coordinate model (i)



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.

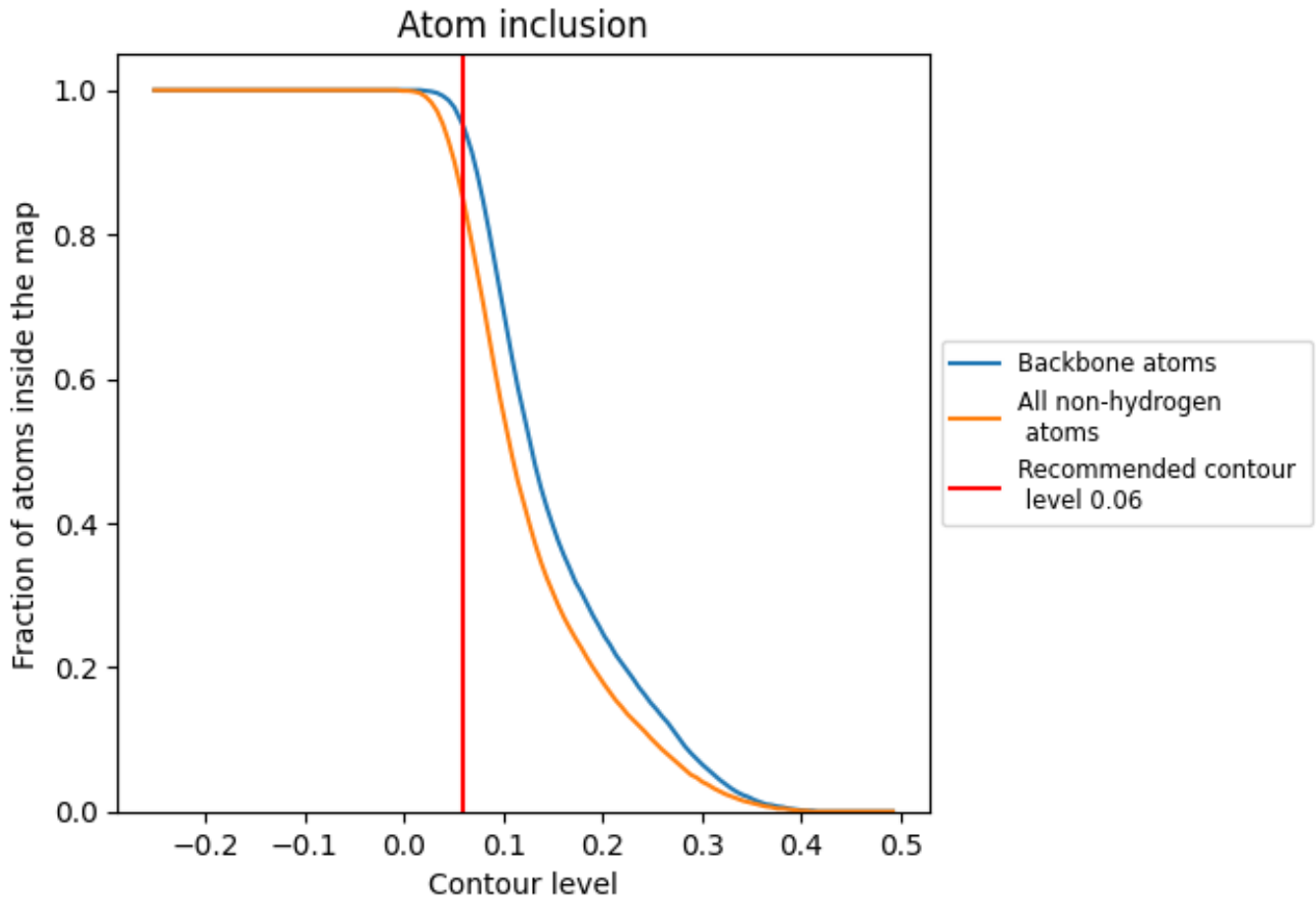
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.06).

9.4 Atom inclusion (i)



At the recommended contour level, 95% of all backbone atoms, 85% 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 (0.06) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8470	0.4050
A	0.8260	0.4010
B	0.6090	0.2330
C	0.9220	0.4720
D	0.8740	0.4570
E	0.8820	0.4870
F	0.9000	0.4520
G	0.9190	0.4960
H	0.9360	0.4690
I	0.8330	0.3540
J	0.7170	0.2930