Full wwPDB EM Validation Report (i)

Mar 2, 2026 – 12:21 PM EST

PDB ID	:	9P1U / pdb_00009p1u
EMDB ID	:	EMD-71134
Title	:	beta-barrel assembly machine from Escherichia coli in an late state of LptD assembly
Authors	:	Thomson, B.D.; Marquez, M.D.; Kahne, D.
Deposited on	:	2025-06-10
Resolution	:	4.10 Å(reported)
Based on initial models	:	5LJ0, .

The following versions of software and data (see references (i)) were used in the production of this report:
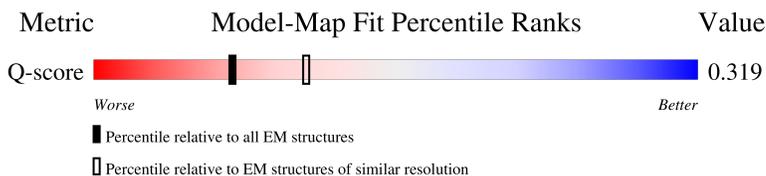
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.48.1

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 4.10 Å.

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

Metric	Percentile Ranks	Value
Clashscore		11
Ramachandran outliers		0.2%
Sidechain outliers		0.2%

Worse *Better*

▮ Percentile relative to all structures

▯ Percentile relative to all EM structures

Metric	Model-Map Fit Percentile Ranks	Value
Q-score		0.319

Worse *Better*

▮ Percentile relative to all EM structures

▯ Percentile relative to EM structures of similar resolution

Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	6458 (3.60 - 4.60)

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	344	12% · 84%
2	D	245	64% 22% 14%
3	E	113	71% 6% 23%
4	G	193	59% 19% 23%

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Mol	Chain	Length	Quality of chain
5	F	819	42% 14% 44%
6	B	392	5% 64% 24% 12%
7	A	818	20% 78% 16% 5%

2 Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 30798 atoms, of which 14946 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 Outer membrane protein assembly factor BamC.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	C	54	751	239	374	62	75	1	0	0

- Molecule 2 is a protein called Outer membrane protein assembly factor BamD.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
2	D	211	3362	1076	1654	301	324	7	0	0

- Molecule 3 is a protein called Outer membrane protein assembly factor BamE.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
3	E	87	1352	432	667	119	132	2	0	0

- Molecule 4 is a protein called LPS-assembly lipoprotein LptE.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
4	G	149	2370	731	1200	211	220	8	0	0

- Molecule 5 is a protein called LPS-assembly protein LptD.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
5	F	459	7266	2360	3512	642	741	11	0	0

There are 38 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	-7	TRP	-	expression tag	UNP P31554
F	-6	SER	-	expression tag	UNP P31554
F	-5	HIS	-	expression tag	UNP P31554

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Chain	Residue	Modelled	Actual	Comment	Reference
F	-4	PRO	-	expression tag	UNP P31554
F	-3	GLN	-	expression tag	UNP P31554
F	-2	PHE	-	expression tag	UNP P31554
F	-1	GLU	-	expression tag	UNP P31554
F	0	LYS	-	expression tag	UNP P31554
F	1	GLY	-	expression tag	UNP P31554
F	2	GLY	-	expression tag	UNP P31554
F	3	GLY	-	expression tag	UNP P31554
F	4	SER	-	expression tag	UNP P31554
F	5	GLY	-	expression tag	UNP P31554
F	6	GLY	-	expression tag	UNP P31554
F	7	GLY	-	expression tag	UNP P31554
F	8	SER	-	expression tag	UNP P31554
F	9	GLY	-	expression tag	UNP P31554
F	10	GLY	-	expression tag	UNP P31554
F	11	SER	-	expression tag	UNP P31554
F	12	ALA	-	expression tag	UNP P31554
F	13	TRP	-	expression tag	UNP P31554
F	14	SER	-	expression tag	UNP P31554
F	15	HIS	-	expression tag	UNP P31554
F	16	PRO	-	expression tag	UNP P31554
F	17	GLN	-	expression tag	UNP P31554
F	18	PHE	-	expression tag	UNP P31554
F	19	GLU	-	expression tag	UNP P31554
F	20	LYS	-	expression tag	UNP P31554
F	21	GLY	-	expression tag	UNP P31554
F	22	SER	-	expression tag	UNP P31554
F	23	GLY	-	expression tag	UNP P31554
F	24	SER	-	expression tag	UNP P31554
F	25	GLY	-	expression tag	UNP P31554
F	26	GLY	-	expression tag	UNP P31554
F	27	SER	-	expression tag	UNP P31554
F	28	ALA	-	expression tag	UNP P31554
F	259	CYS	ILE	engineered mutation	UNP P31554
F	?	-	ASP	deletion	UNP P31554

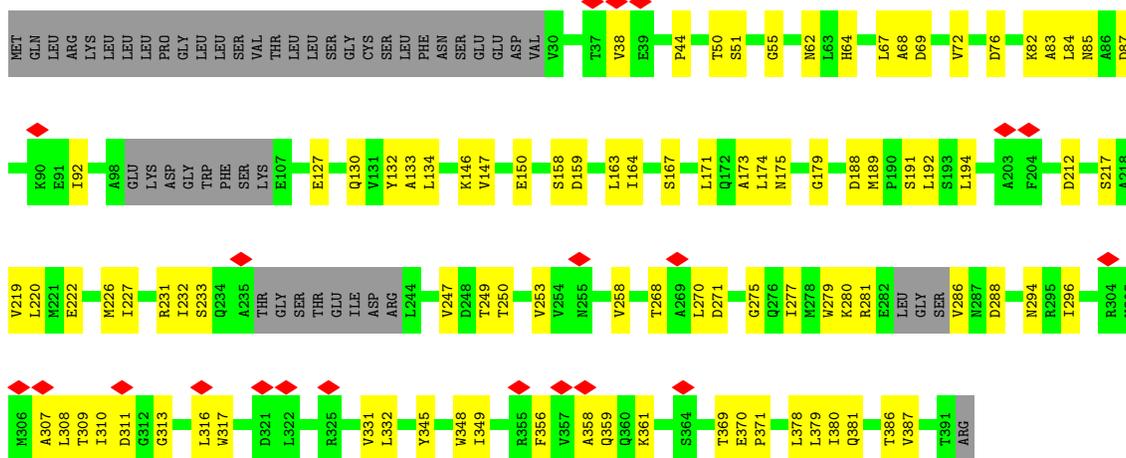- Molecule 6 is a protein called Outer membrane protein assembly factor BamB.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
6	B	343	5102	1616	2532	440	508	6	0	0

- Molecule 7 is a protein called Outer membrane protein assembly factor BamA.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	A	777	Total 10595	C 3453	H 5007	N 987	O 1133	S 15	0	0

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	16	HIS	-	expression tag	UNP P0A940
A	17	HIS	-	expression tag	UNP P0A940
A	18	HIS	-	expression tag	UNP P0A940
A	19	HIS	-	expression tag	UNP P0A940
A	20	HIS	-	expression tag	UNP P0A940
A	21	HIS	-	expression tag	UNP P0A940
A	22	HIS	-	expression tag	UNP P0A940
A	23	HIS	-	expression tag	UNP P0A940
A	512	CYS	ASP	engineered mutation	UNP P0A940

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Outer membrane protein assembly factor BamC

- Molecule 2: Outer membrane protein assembly factor BamD

- Molecule 3: Outer membrane protein assembly factor BamE

MET ARG CYS LYS THR LEU THR ALA ALA ALA VAL LEU LEU MET LEU THR ALA GLY CYS SER THR LEU **E24** D31 I32 S44 R47 M64 L91 T92 L93 L110 SER GLY ASN

• Molecule 4: LPS-assembly lipoprotein LptE

Chain G: 59%   19%   23%

MET ARG TYR LEU ALA THR LEU LEU LEU LEU SER LEU ALA VAL LEU ILE THR ALA GLY C19 D25 M33 K34 V35 D39 S40 L47 V51 R52 N53 Q54 L55 R56 G59 V60 E61 L62 L63 D64 K65 E66 T67 T68 R69 K70 R76 L77 G78 K79 V80 R91 I101

D114 F123 D128 N129 L134 D137 N138 E139 Q140 I143 V144 R150 A151 A152 I156 L159 I167 ARG SER ASP GLU GLU GLN THR SER THR THR ASP THR PRO ALA THR PRO ALA ARG VAL SER THR THR LEU GLY ASN

• Molecule 5: LPS-assembly protein LptD

Chain F: 42%   14%   44%

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

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

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

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

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

HIS ARG GLY ASN ILE MET TRP E273 N274 E275 F276 R277 TYR LEU SER GLN ALA GLY ALA G285 L286 M287 E288 L289 D290 TYR LEU PRO SER ASP LYS VAL TYR GLU ASP GLU HIS PRO ASN ASP ASP SER SER ARG ARG TRP L312 W315 N316 H317 V320 M321 W325 R326 F327 N328

V329 K333 VAL SER ASP PRO SER TYR PHE ASN ASP PHE ASP ASN LYS TYR GLY SER SER THR ASP GLY Y354 K358 Q366 N367 F368 N369 T374 K375 V379 F380 S381 E382 E391 N397 Y398 Y399 D402 R409 I410 Y411 G412 N419 T420 R421 D422 D423 M424

H431 L432 E433 N437 L438 P439 L440 S441 K452 L453 L454 A455 T456 H457 Y458 D464 W465 Y466 R469 R480 V481 M482 V487 M497 Y504 T505 Q506 E509 P510 R511 A512 Q513 R520 D521 Q522 N527 Y528 D529 S530 S531 L532 L533 D536 Y537 S538 G539 L540 F541

G548 L549 D550 R551 I552 I566 D569 F575 I595 T596 W597 E598 N599 D600 L606 V607 E618 Q627 D633 A636 E643 Y644 R645 R650 Q653 Y656 A659 E662 I682 V685 P692 R696 G701 A709

Q712 M716 L717 S723 C724 C725 Y726 Y732 E733 R734 K735 L736 D740 N741 D742 K743 Q744 Y748 D749 N750 F754 N755 I756 E757 L758 R759 G760 LEU SER SER ASN Y765 E771 R774 I777 L778 P779 Y780 Q781 L784

• Molecule 6: Outer membrane protein assembly factor BamB

Chain B:

5%

64%   24%   12%

• Molecule 7: Outer membrane protein assembly factor BamA

Chain A:

20%

78%   16%   5%

4   Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	79819	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	49.55	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	TFS FALCON 4i (4k x 4k)	Depositor
Maximum map value	34.349	Depositor
Minimum map value	-19.043	Depositor
Average map value	0.002	Depositor
Map value standard deviation	1.021	Depositor
Recommended contour level	6.1	Depositor
Map size (Å)	323.84, 323.84, 323.84	wwPDB
Map dimensions	440, 440, 440	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.736, 0.736, 0.736	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#|Z|>5$	RMSZ	$\#|Z|>5$
1	C	0.15	0/386	0.36	0/531
2	D	0.20	0/1745	0.41	0/2367
3	E	0.17	0/700	0.32	0/955
4	G	0.19	0/1187	0.42	0/1603
5	F	0.22	0/3843	0.51	0/5220
6	B	0.13	0/2614	0.34	0/3565
7	A	0.17	0/5715	0.39	0/7689
All	All	0.18	0/16190	0.42	0/21930

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	377	374	373	10	0
2	D	1708	1654	1653	45	0
3	E	685	667	666	4	0
4	G	1170	1200	1199	28	0
5	F	3754	3512	3506	99	0
6	B	2570	2532	2528	61	0
7	A	5588	5007	4865	92	0
All	All	15852	14946	14790	322	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 11.

All (322) 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:F:774:ARG:NH2	5:F:780:TYR:O	1.93	1.00
7:A:715:SER:OG	7:A:740:ASP:OD1	1.90	0.88
6:B:188:ASP:O	6:B:189:MET:HE2	1.85	0.77
7:A:678:GLN:NE2	7:A:692:THR:OG1	2.17	0.77
7:A:387:GLU:OE2	7:A:391:ARG:NH2	2.18	0.76
4:G:39:ASP:OD1	4:G:65:LYS:NZ	2.14	0.76
6:B:55:GLY:N	6:B:76:ASP:OD1	2.19	0.75
5:F:458:TYR:OH	5:F:480:ARG:NH2	2.23	0.71
7:A:362:ASP:OD1	7:A:363:ALA:N	2.23	0.70
6:B:51:SER:O	6:B:82:LYS:NZ	2.25	0.69
5:F:316:ASN:OD1	5:F:329:VAL:HG13	1.93	0.68
4:G:137:ASP:OD2	5:F:358:LYS:NZ	2.22	0.68
6:B:369:THR:OG1	6:B:381:GLN:NE2	2.25	0.66
2:D:135:ARG:NE	7:A:359:THR:O	2.29	0.66
4:G:152:ALA:O	4:G:156:ILE:HD12	1.96	0.65
5:F:424:MET:HE1	5:F:465:TRP:CH2	2.31	0.65
5:F:465:TRP:NE1	5:F:469:ARG:HE	1.95	0.64
4:G:68:THR:O	4:G:68:THR:HG22	1.97	0.64
7:A:358:ASP:OD1	7:A:359:THR:N	2.30	0.64
7:A:191:ASP:OD1	7:A:192:GLU:N	2.30	0.64
6:B:67:LEU:HD13	6:B:72:VAL:HG22	1.79	0.63
5:F:366:GLN:NE2	5:F:367:ASN:OD1	2.30	0.63
4:G:56:ARG:NH2	5:F:402:ASP:OD1	2.32	0.62
5:F:497:MET:HE1	5:F:566:ILE:HG23	1.81	0.62
7:A:615:THR:HG1	7:A:633:THR:HG1	1.48	0.62
5:F:464:ASP:OD1	5:F:465:TRP:N	2.33	0.61
2:D:147:PHE:HB2	2:D:167:LEU:HD21	1.82	0.61
7:A:395:PHE:CE1	7:A:420:GLU:HG2	2.35	0.61
4:G:39:ASP:OD1	4:G:40:SER:N	2.35	0.60
5:F:735:LYS:HD2	5:F:777:ILE:HD13	1.82	0.60
7:A:264:ASP:OD1	7:A:265:GLN:N	2.35	0.60
5:F:659:ALA:HB3	5:F:682:ILE:HG22	1.84	0.60
7:A:360:SER:OG	7:A:420:GLU:OE2	2.12	0.60
7:A:388:ARG:O	7:A:392:LEU:HD23	2.02	0.59
1:C:39:GLU:O	1:C:43:GLU:OE1	2.20	0.59
7:A:617:THR:O	7:A:630:LEU:HD12	2.02	0.59
5:F:482:MET:CE	5:F:552:ILE:HD11	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:38:VAL:HG13	6:B:356:PHE:HB3	1.85	0.59
2:D:192:VAL:O	2:D:195:VAL:HG12	2.03	0.58
7:A:324:SER:C	7:A:325:MET:HE2	2.28	0.58
5:F:328:ASN:CG	5:F:329:VAL:H	2.10	0.58
6:B:286:VAL:HG22	6:B:286:VAL:O	2.04	0.58
7:A:358:ASP:OD1	7:A:420:GLU:OE1	2.21	0.58
6:B:371:PRO:HG3	6:B:380:ILE:HD13	1.84	0.57
7:A:542:GLN:NE2	7:A:545:MET:SD	2.77	0.57
5:F:482:MET:HE2	5:F:552:ILE:HD11	1.85	0.57
2:D:124:LEU:O	2:D:128:PHE:HD2	1.87	0.57
5:F:315:TRP:CZ2	5:F:317:HIS:HB2	2.40	0.57
5:F:419:ASN:CG	5:F:424:MET:HG3	2.29	0.57
7:A:545:MET:HG2	7:A:648:PHE:CD2	2.40	0.57
2:D:133:SER:O	2:D:173:ARG:NH1	2.37	0.56
5:F:606:LEU:HD12	5:F:607:VAL:HG23	1.86	0.56
5:F:379:VAL:HG12	5:F:381:SER:H	1.70	0.56
7:A:398:VAL:HG13	7:A:398:VAL:O	2.06	0.56
7:A:463:ASN:OD1	7:A:465:TYR:CD1	2.59	0.56
1:C:78:LYS:HA	1:C:78:LYS:HE3	1.87	0.56
5:F:481:VAL:O	5:F:482:MET:SD	2.64	0.55
4:G:54:GLN:NE2	4:G:152:ALA:HB3	2.22	0.55
5:F:431:HIS:ND1	5:F:456:THR:OG1	2.38	0.55
4:G:91:ARG:NH1	5:F:709:ALA:HB1	2.21	0.55
5:F:465:TRP:CD1	5:F:469:ARG:HE	2.24	0.55
5:F:771:GLU:OE1	5:F:771:GLU:N	2.32	0.55
4:G:76:ARG:NH1	4:G:78:GLY:HA2	2.22	0.55
6:B:253:VAL:HG22	6:B:258:VAL:HG12	1.89	0.55
6:B:83:ALA:O	6:B:92:ILE:N	2.36	0.55
4:G:128:ASP:OD1	4:G:129:ASN:N	2.40	0.54
4:G:138:ASN:ND2	5:F:548:GLY:HA2	2.22	0.54
7:A:396:GLU:HG2	7:A:397:THR:HG23	1.88	0.54
6:B:231:ARG:NH1	6:B:233:SER:O	2.40	0.54
4:G:35:VAL:HG13	4:G:61:GLU:OE2	2.08	0.54
6:B:38:VAL:HG11	6:B:359:GLN:HB2	1.90	0.54
6:B:191:SER:O	6:B:192:LEU:HD22	2.07	0.54
7:A:268:LEU:CD2	7:A:290:ILE:HD13	2.38	0.54
3:E:31:ASP:OD1	3:E:32:ILE:N	2.41	0.54
5:F:424:MET:CE	5:F:465:TRP:CH2	2.91	0.53
2:D:110:TYR:O	2:D:114:LEU:HD23	2.08	0.53
2:D:195:VAL:HG23	2:D:218:MET:SD	2.49	0.53
4:G:51:VAL:HG11	4:G:77:LEU:HD11	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:320:VAL:HG23	5:F:321:MET:CE	2.39	0.53
7:A:395:PHE:CD1	7:A:418:VAL:HB	2.44	0.53
6:B:281:ARG:NH1	6:B:313:GLY:O	2.37	0.53
2:D:135:ARG:NH2	7:A:450:LEU:O	2.42	0.53
5:F:374:THR:OG1	5:F:391:GLU:OE1	2.21	0.53
5:F:740:ASP:O	5:F:744:GLN:N	2.39	0.53
6:B:219:VAL:C	6:B:227:ILE:HD12	2.34	0.53
2:D:100:PRO:O	2:D:101:THR:OG1	2.25	0.52
6:B:158:SER:O	6:B:159:ASP:OD1	2.26	0.52
2:D:203:ARG:HG3	2:D:203:ARG:HH11	1.75	0.52
5:F:618:GLU:OE2	5:F:618:GLU:O	2.27	0.52
5:F:552:ILE:HG13	5:F:552:ILE:O	2.09	0.52
1:C:82:ILE:HG22	1:C:82:ILE:O	2.09	0.52
1:C:51:HIS:N	2:D:241:ASN:OD1	2.42	0.51
6:B:85:ASN:ND2	6:B:87:ASP:OD1	2.38	0.51
6:B:127:GLU:HA	6:B:150:GLU:HB2	1.92	0.51
7:A:248:THR:HG23	7:A:249:PRO:HD2	1.92	0.51
2:D:110:TYR:CZ	2:D:114:LEU:HD21	2.45	0.51
5:F:421:ARG:NE	5:F:424:MET:HE3	2.25	0.51
7:A:639:ASP:OD1	7:A:640:GLY:N	2.44	0.51
7:A:539:MET:SD	7:A:545:MET:HE1	2.51	0.51
5:F:606:LEU:HD12	5:F:607:VAL:CG2	2.40	0.51
6:B:158:SER:C	6:B:159:ASP:OD1	2.54	0.51
4:G:69:ARG:HA	4:G:69:ARG:NE	2.26	0.51
5:F:754:PHE:CE2	5:F:756:ILE:HD11	2.46	0.51
4:G:139:GLU:OE1	5:F:533:LEU:HD13	2.11	0.50
4:G:140:GLN:O	4:G:143:ILE:HG22	2.11	0.50
7:A:520:ASN:OD1	7:A:523:ASN:N	2.44	0.50
5:F:328:ASN:OD1	5:F:329:VAL:N	2.44	0.50
6:B:194:LEU:HD23	6:B:247:VAL:HG21	1.94	0.50
2:D:124:LEU:O	2:D:128:PHE:CD2	2.64	0.50
7:A:192:GLU:OE1	7:A:192:GLU:HA	2.12	0.50
2:D:133:SER:CB	2:D:176:LYS:HD2	2.41	0.50
6:B:271:ASP:O	6:B:275:GLY:N	2.36	0.50
6:B:294:ASN:OD1	6:B:294:ASN:O	2.29	0.50
7:A:184:GLY:O	7:A:185:ASN:OD1	2.30	0.50
5:F:480:ARG:CD	5:F:482:MET:HE1	2.42	0.49
5:F:716:MET:O	5:F:717:LEU:HD12	2.11	0.49
5:F:528:TYR:N	5:F:550:ASP:OD2	2.45	0.49
5:F:548:GLY:C	5:F:549:LEU:HD12	2.37	0.49
2:D:215:LEU:HD23	2:D:237:ILE:HG23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:122:SER:HB3	2:D:125:GLN:OE1	2.12	0.49
2:D:124:LEU:HG	2:D:128:PHE:HE2	1.78	0.49
5:F:527:ASN:OD1	5:F:527:ASN:O	2.31	0.49
5:F:726:TYR:HA	5:F:758:LEU:HA	1.95	0.49
6:B:164:ILE:HD13	6:B:174:LEU:HD13	1.94	0.49
7:A:266:TYR:HB3	7:A:335:VAL:HG23	1.94	0.49
5:F:497:MET:HE3	5:F:504:TYR:HB3	1.94	0.48
6:B:173:ALA:C	6:B:174:LEU:HD12	2.37	0.48
5:F:556:ASN:N	5:F:557:GLN:OE1	2.46	0.48
5:F:774:ARG:HA	5:F:774:ARG:NE	2.28	0.48
7:A:570:PHE:N	7:A:604:SER:OG	2.44	0.48
7:A:735:THR:HG22	7:A:774:LEU:HD12	1.95	0.48
5:F:599:ASN:O	5:F:600:ASP:OD1	2.31	0.48
5:F:374:THR:HG1	5:F:391:GLU:CD	2.21	0.48
6:B:82:LYS:HE2	6:B:84:LEU:HD11	1.94	0.48
7:A:181:ASN:OD1	7:A:182:ILE:N	2.46	0.48
7:A:298:GLY:O	7:A:301:VAL:HG22	2.13	0.48
6:B:83:ALA:C	6:B:84:LEU:HD12	2.39	0.48
7:A:285:GLU:HA	7:A:288:THR:HG22	1.96	0.48
7:A:588:THR:HG21	7:A:625:HIS:HB3	1.95	0.48
5:F:399:TYR:CE1	5:F:409:ARG:HD3	2.49	0.48
2:D:183:GLU:C	2:D:183:GLU:OE2	2.57	0.48
5:F:723:SER:O	5:F:724:CYS:C	2.56	0.48
7:A:680:SER:C	7:A:681:ASN:OD1	2.57	0.48
2:D:163:ALA:O	2:D:167:LEU:HG	2.13	0.48
7:A:368:GLU:CD	7:A:392:LEU:HD21	2.39	0.48
5:F:437:ASN:OD1	5:F:438:LEU:N	2.47	0.47
5:F:532:LEU:HD23	5:F:533:LEU:N	2.29	0.47
7:A:618:TYR:CD2	7:A:630:LEU:HD13	2.48	0.47
2:D:79:TYR:HD1	2:D:84:ASP:HB2	1.80	0.47
2:D:134:ASP:OD1	2:D:135:ARG:HD2	2.14	0.47
2:D:188:ARG:O	2:D:188:ARG:HD3	2.15	0.47
6:B:378:LEU:C	6:B:379:LEU:HD22	2.39	0.47
7:A:600:THR:HG23	7:A:608:TYR:O	2.13	0.47
7:A:329:ASN:O	7:A:333:LYS:N	2.48	0.47
1:C:35:VAL:HG21	1:C:82:ILE:HD12	1.97	0.47
2:D:46:GLY:O	2:D:48:TRP:CE3	2.67	0.47
7:A:545:MET:HG2	7:A:648:PHE:CG	2.49	0.47
2:D:184:TYR:OH	7:A:367:ARG:HA	2.15	0.47
5:F:521:ASP:O	5:F:522:GLN:OE1	2.32	0.47
6:B:217:SER:HB3	6:B:226:MET:HE1	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:311:ASP:O	6:B:311:ASP:OD1	2.33	0.46
5:F:431:HIS:ND1	5:F:549:LEU:HD23	2.31	0.46
5:F:736:LEU:HD23	5:F:748:TYR:HD1	1.81	0.46
4:G:140:GLN:O	4:G:144:VAL:HG23	2.16	0.46
6:B:50:THR:O	6:B:387:VAL:HG12	2.15	0.46
7:A:289:LYS:HD2	7:A:289:LYS:C	2.40	0.46
7:A:659:THR:O	7:A:660:VAL:C	2.59	0.46
6:B:345:TYR:CD1	6:B:361:LYS:HD3	2.51	0.46
4:G:33:MET:HE1	4:G:159:LEU:HD22	1.98	0.46
7:A:568:ASP:N	7:A:605:ASP:OD2	2.41	0.46
7:A:768:MET:HB2	7:A:792:LYS:HB3	1.98	0.46
2:D:147:PHE:CB	2:D:167:LEU:HD21	2.44	0.46
7:A:660:VAL:HG12	7:A:740:ASP:HB3	1.99	0.46
6:B:175:ASN:O	6:B:179:GLY:N	2.41	0.45
5:F:530:SER:OG	5:F:551:ARG:N	2.44	0.45
1:C:56:MET:HE1	2:D:236:LYS:HE2	1.97	0.45
2:D:54:GLN:O	2:D:58:LEU:HD23	2.16	0.45
5:F:735:LYS:HD2	5:F:777:ILE:CD1	2.46	0.45
7:A:126:ASP:O	7:A:128:THR:N	2.49	0.45
7:A:268:LEU:HD22	7:A:290:ILE:HG21	1.99	0.45
2:D:135:ARG:NH1	7:A:361:LYS:HG2	2.32	0.45
2:D:234:VAL:O	2:D:237:ILE:HG22	2.16	0.45
7:A:297:ASN:OD1	7:A:300:LYS:N	2.37	0.45
6:B:212:ASP:OD1	6:B:247:VAL:HG13	2.16	0.45
7:A:618:TYR:CG	7:A:630:LEU:HD13	2.52	0.45
7:A:733:VAL:HG22	7:A:776:TRP:HD1	1.82	0.45
5:F:487:VAL:O	5:F:513:GLN:HG3	2.15	0.45
2:D:61:ARG:HA	2:D:61:ARG:NE	2.32	0.45
7:A:686:TYR:HB2	7:A:688:TYR:CE2	2.52	0.45
5:F:532:LEU:HD12	5:F:597:TRP:CZ2	2.52	0.44
5:F:595:ILE:O	5:F:595:ILE:HG13	2.18	0.44
6:B:150:GLU:OE2	6:B:167:SER:HB2	2.17	0.44
7:A:624:ASP:OD1	7:A:624:ASP:O	2.36	0.44
5:F:521:ASP:OD1	5:F:522:GLN:N	2.50	0.44
5:F:627:GLN:O	5:F:636:ALA:HB1	2.17	0.44
5:F:749:ASP:OD1	5:F:750:ASN:N	2.50	0.44
7:A:440:PHE:CD2	7:A:462:LYS:HB3	2.52	0.44
1:C:38:ASP:OD2	1:C:78:LYS:NZ	2.47	0.44
5:F:643:GLU:OE2	5:F:645:ARG:HB2	2.17	0.44
5:F:482:MET:SD	5:F:520:ARG:HB2	2.58	0.44
5:F:656:TYR:HD1	5:F:685:VAL:HG22	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:194:LEU:HD13	7:A:247:LEU:O	2.17	0.44
2:D:198:VAL:HB	2:D:218:MET:HE2	1.99	0.44
6:B:232:ILE:HD12	6:B:268:THR:HG21	2.00	0.44
7:A:224:GLU:OE1	7:A:224:GLU:O	2.36	0.44
7:A:297:ASN:OD1	7:A:299:THR:HG22	2.18	0.44
2:D:68:SER:O	2:D:72:GLN:HG2	2.17	0.44
6:B:68:ALA:O	6:B:69:ASP:OD1	2.35	0.44
7:A:735:THR:HG22	7:A:774:LEU:CD1	2.48	0.44
4:G:101:ILE:HD13	4:G:123:PHE:CE2	2.52	0.44
7:A:143:SER:O	7:A:216:LYS:NZ	2.45	0.44
7:A:660:VAL:HG21	7:A:668:ILE:CD1	2.48	0.44
7:A:709:ASN:OD1	7:A:746:ASP:HA	2.18	0.44
6:B:163:LEU:HD12	6:B:171:LEU:HD21	1.99	0.43
6:B:348:TRP:CG	6:B:358:ALA:HB3	2.52	0.43
7:A:805:ASN:OD1	7:A:806:ILE:N	2.51	0.43
1:C:81:ASP:OD1	1:C:83:ARG:NH2	2.51	0.43
2:D:122:SER:CB	2:D:125:GLN:OE1	2.66	0.43
6:B:345:TYR:CE1	6:B:361:LYS:HD3	2.54	0.43
7:A:774:LEU:HB3	7:A:785:PHE:HB3	2.00	0.43
3:E:44:SER:O	3:E:47:ARG:NH1	2.51	0.43
5:F:317:HIS:CD2	5:F:327:PHE:CD2	3.06	0.43
7:A:674:TYR:HB2	7:A:690:CYS:SG	2.57	0.43
2:D:67:TYR:O	2:D:71:VAL:HG23	2.19	0.43
5:F:653:GLN:NE2	5:F:780:TYR:HD1	2.16	0.43
6:B:44:PRO:HD3	6:B:358:ALA:HB1	2.00	0.43
6:B:133:ALA:C	6:B:134:LEU:HD12	2.44	0.43
7:A:438:VAL:O	7:A:438:VAL:HG12	2.18	0.43
7:A:543:VAL:HG13	7:A:544:ALA:N	2.33	0.43
7:A:628:VAL:HG12	7:A:629:VAL:N	2.33	0.43
2:D:158:GLN:HG2	2:D:159:TYR:CD1	2.53	0.43
5:F:465:TRP:NE1	5:F:469:ARG:NE	2.63	0.43
5:F:536:ASP:OD1	5:F:539:GLY:N	2.47	0.43
5:F:777:ILE:HG13	5:F:778:LEU:CD2	2.48	0.43
6:B:258:VAL:HG23	6:B:270:LEU:HB2	2.01	0.43
7:A:176:GLU:C	7:A:254:ILE:HD13	2.43	0.43
7:A:283:GLU:O	7:A:287:LEU:HD23	2.19	0.43
4:G:47:LEU:HD13	4:G:80:VAL:HG21	2.00	0.43
5:F:329:VAL:O	5:F:358:LYS:O	2.37	0.43
5:F:716:MET:HG2	5:F:733:GLU:HG3	2.00	0.43
7:A:711:MET:HG2	7:A:744:VAL:HG22	2.01	0.43
2:D:134:ASP:OD1	2:D:135:ARG:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:509:GLU:OE1	5:F:509:GLU:O	2.37	0.43
5:F:440:LEU:HD23	5:F:441:SER:N	2.34	0.43
6:B:294:ASN:OD1	6:B:310:ILE:HG12	2.18	0.43
7:A:433:GLY:H	7:A:437:GLY:HA2	1.84	0.43
7:A:618:TYR:CE2	7:A:630:LEU:HD22	2.53	0.43
4:G:61:GLU:CD	4:G:61:GLU:O	2.62	0.42
6:B:307:ALA:C	6:B:308:LEU:HD12	2.44	0.42
7:A:248:THR:HG22	7:A:250:ASP:H	1.84	0.42
4:G:91:ARG:NH1	5:F:709:ALA:CB	2.82	0.42
6:B:146:LYS:HD2	6:B:147:VAL:N	2.34	0.42
3:E:91:LEU:HG	3:E:93:LEU:CD1	2.49	0.42
5:F:320:VAL:HG23	5:F:321:MET:SD	2.59	0.42
5:F:358:LYS:HD2	5:F:375:LYS:HG2	2.01	0.42
5:F:431:HIS:CD2	5:F:432:LEU:N	2.87	0.42
7:A:660:VAL:O	7:A:660:VAL:HG23	2.20	0.42
4:G:52:ARG:HG3	4:G:62:LEU:HD13	2.01	0.42
5:F:575:PHE:CD1	5:F:575:PHE:C	2.98	0.42
7:A:538:ASN:HA	7:A:561:GLN:O	2.19	0.42
4:G:134:LEU:HD21	5:F:528:TYR:O	2.19	0.42
5:F:497:MET:HE2	5:F:506:GLN:CG	2.49	0.42
7:A:587:PRO:HG2	7:A:618:TYR:OH	2.18	0.42
5:F:433:GLU:OE2	5:F:452:LYS:NZ	2.45	0.42
5:F:712:GLN:C	5:F:712:GLN:CD	2.87	0.42
6:B:62:ASN:CG	6:B:62:ASN:O	2.62	0.42
7:A:310:LYS:O	7:A:314:ARG:HG3	2.19	0.42
5:F:653:GLN:NE2	5:F:780:TYR:CD1	2.87	0.42
7:A:419:LYS:HE2	7:A:419:LYS:HA	2.01	0.42
7:A:753:GLN:OE1	7:A:754:TYR:CD1	2.73	0.42
7:A:784:VAL:HB	7:A:805:ASN:HB3	2.00	0.42
5:F:633:ASP:OD1	5:F:633:ASP:O	2.38	0.42
5:F:732:TYR:OH	5:F:734:ARG:HD2	2.20	0.42
6:B:296:ILE:HD11	6:B:310:ILE:HA	2.02	0.42
7:A:588:THR:CG2	7:A:625:HIS:HB3	2.50	0.42
2:D:195:VAL:HG11	3:E:64:MET:HE3	2.01	0.42
5:F:325:TRP:HB3	5:F:327:PHE:CZ	2.55	0.42
5:F:650:ARG:HG2	5:F:692:PRO:HD2	2.02	0.42
5:F:453:LEU:C	5:F:454:LEU:HD12	2.45	0.42
6:B:294:ASN:O	6:B:309:THR:HA	2.20	0.42
2:D:188:ARG:HH11	7:A:372:MET:HE1	1.85	0.41
6:B:279:TRP:C	6:B:280:LYS:HD3	2.44	0.41
7:A:386:LYS:HD2	7:A:398:VAL:HG13	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:329:VAL:O	5:F:358:LYS:HB2	2.20	0.41
5:F:536:ASP:O	5:F:540:LEU:HG	2.20	0.41
7:A:430:ILE:HD13	7:A:440:PHE:HB2	2.02	0.41
1:C:39:GLU:OE1	1:C:39:GLU:N	2.35	0.41
4:G:138:ASN:HD22	5:F:548:GLY:HA2	1.86	0.41
6:B:220:LEU:HG	6:B:222:GLU:OE1	2.20	0.41
7:A:184:GLY:O	7:A:186:HIS:N	2.53	0.41
7:A:619:VAL:O	7:A:629:VAL:HG12	2.19	0.41
5:F:411:TYR:CD1	5:F:412:GLY:N	2.87	0.41
6:B:64:HIS:NE2	6:B:370:GLU:OE2	2.53	0.41
1:C:67:ILE:O	1:C:67:ILE:HG23	2.19	0.41
2:D:220:ASN:O	2:D:224:GLN:HG2	2.20	0.41
2:D:148:SER:HA	2:D:151:VAL:HG12	2.01	0.41
2:D:230:GLN:O	2:D:234:VAL:HG23	2.20	0.41
4:G:39:ASP:HB3	4:G:76:ARG:HA	2.02	0.41
6:B:130:GLN:HB3	6:B:132:TYR:HE1	1.85	0.41
2:D:82:ASN:O	2:D:83:ALA:HB3	2.20	0.41
5:F:328:ASN:CG	5:F:329:VAL:N	2.76	0.41
6:B:331:VAL:HG12	6:B:332:LEU:N	2.36	0.41
7:A:386:LYS:HZ1	7:A:400:THR:N	2.19	0.41
5:F:736:LEU:CD2	5:F:748:TYR:HD1	2.34	0.41
6:B:62:ASN:O	6:B:64:HIS:HD2	2.04	0.41
5:F:369:ASN:OD1	5:F:397:ASN:HB2	2.21	0.40
6:B:249:THR:CG2	6:B:250:THR:N	2.83	0.40
7:A:680:SER:O	7:A:681:ASN:OD1	2.40	0.40
5:F:537:TYR:CE2	5:F:541:PHE:HE2	2.39	0.40
5:F:662:GLU:H	5:F:662:GLU:CD	2.29	0.40
2:D:219:GLU:O	2:D:223:ARG:HG3	2.21	0.40
5:F:781:GLN:N	5:F:781:GLN:OE1	2.53	0.40
6:B:250:THR:HG22	6:B:288:ASP:OD1	2.21	0.40
4:G:34:LYS:NZ	4:G:59:GLY:O	2.42	0.40
6:B:51:SER:HA	6:B:386:THR:HA	2.04	0.40
6:B:270:LEU:HD13	6:B:277:ILE:HA	2.02	0.40
6:B:316:LEU:HD12	6:B:317:TRP:CD1	2.56	0.40
7:A:739:TRP:HE1	7:A:768:MET:CE	2.34	0.40
2:D:111:MET:O	2:D:115:THR:HG23	2.22	0.40
2:D:117:MET:HE2	2:D:170:LEU:HD21	2.03	0.40
4:G:150:ARG:HG2	4:G:150:ARG:HH11	1.87	0.40
6:B:349:ILE:HD11	6:B:356:PHE:CD1	2.57	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	52/344 (15%)	50 (96%)	2 (4%)	0	100	100
2	D	209/245 (85%)	201 (96%)	8 (4%)	0	100	100
3	E	85/113 (75%)	83 (98%)	2 (2%)	0	100	100
4	G	147/193 (76%)	145 (99%)	2 (1%)	0	100	100
5	F	449/819 (55%)	431 (96%)	18 (4%)	0	100	100
6	B	335/392 (86%)	323 (96%)	12 (4%)	0	100	100
7	A	773/818 (94%)	727 (94%)	42 (5%)	4 (0%)	25	62
All	All	2050/2924 (70%)	1960 (96%)	86 (4%)	4 (0%)	45	77

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	A	127	ARG
7	A	124	SER
7	A	126	ASP
7	A	660	VAL

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	38/276 (14%)	38 (100%)	0	100	100
2	D	176/204 (86%)	176 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	E	76/95 (80%)	76 (100%)	0	100	100
4	G	130/167 (78%)	130 (100%)	0	100	100
5	F	402/702 (57%)	400 (100%)	2 (0%)	86	90
6	B	277/321 (86%)	277 (100%)	0	100	100
7	A	533/696 (77%)	531 (100%)	2 (0%)	89	91
All	All	1632/2461 (66%)	1628 (100%)	4 (0%)	91	94

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

Mol	Chain	Res	Type
5	F	723	SER
5	F	724	CYS
7	A	178	GLN
7	A	512	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
2	D	72	GLN
4	G	58	ASN
5	F	317	HIS
5	F	397	ASN
5	F	599	ASN
5	F	745	HIS
5	F	776	ASN
6	B	135	ASN
6	B	144	GLN
6	B	170	GLN
6	B	186	ASN
6	B	287	ASN
7	A	411	GLN
7	A	459	ASN
7	A	542	GLN
7	A	625	HIS
7	A	678	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 ⓘ

There are no oligosaccharides in this entry.

5.6   Ligand geometry ⓘ

There are no ligands in this entry.

5.7   Other polymers ⓘ

There are no such residues in this entry.

5.8   Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-71134. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections ⓘ

6.1.1 Primary map

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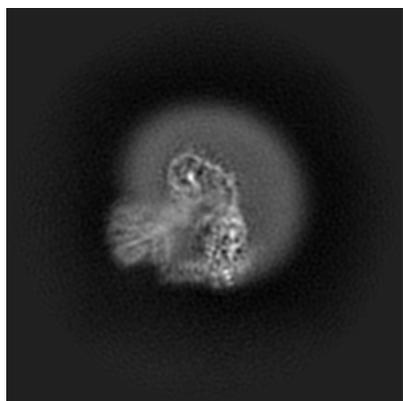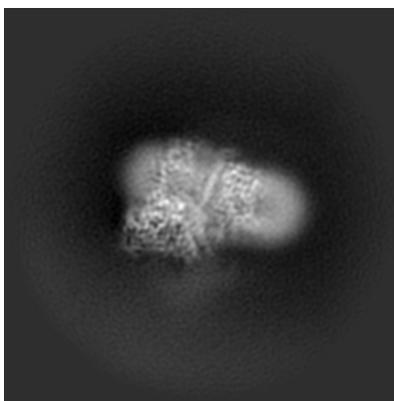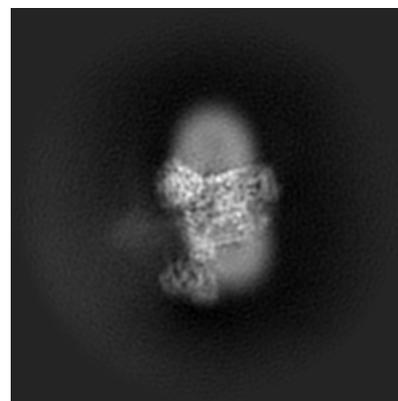
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
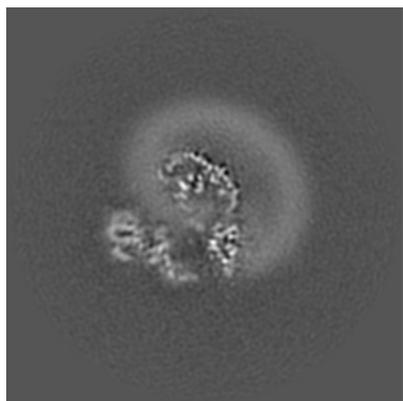
6.2.1 Primary map
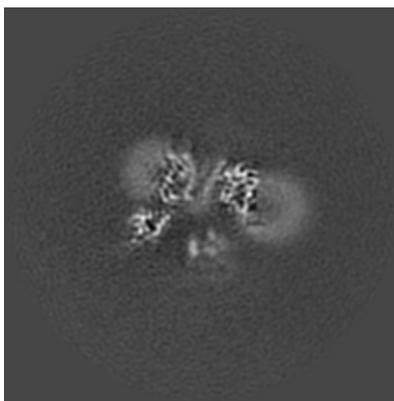
| X Index: 220 | Y Index: 220 | Z Index: 220 |
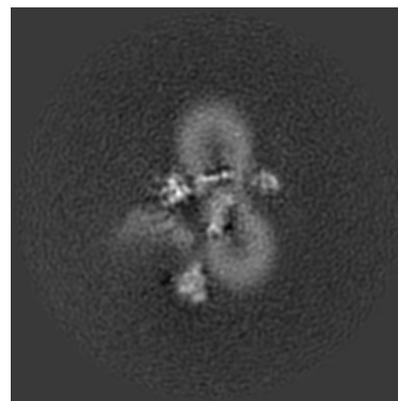
The images above show central slices of the map in three orthogonal directions.

6.3　Largest variance slices ⓘ
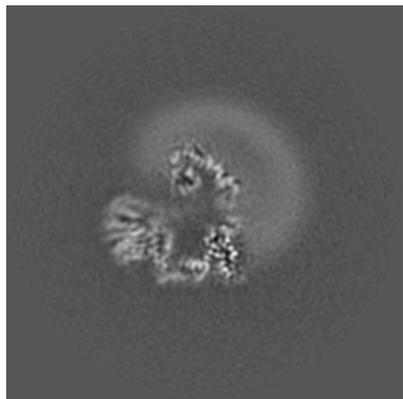
6.3.1　Primary map
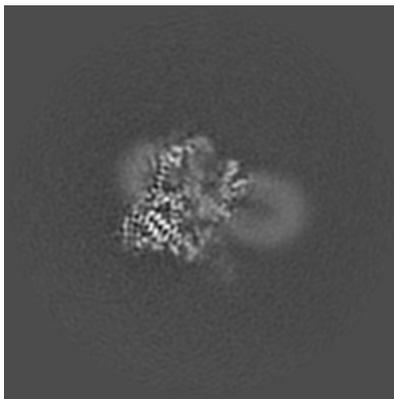
| X Index: 208 | Y Index: 249 | Z Index: 176 |
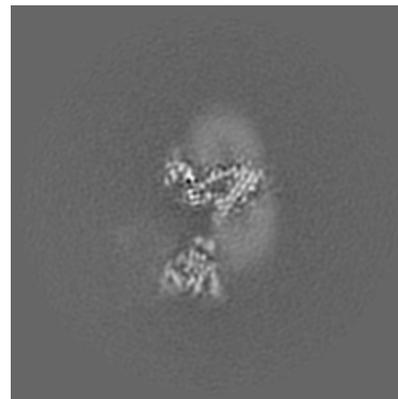
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1　Primary map

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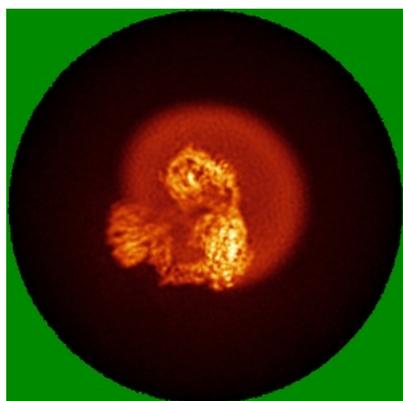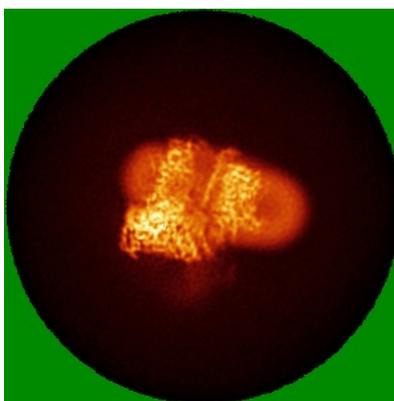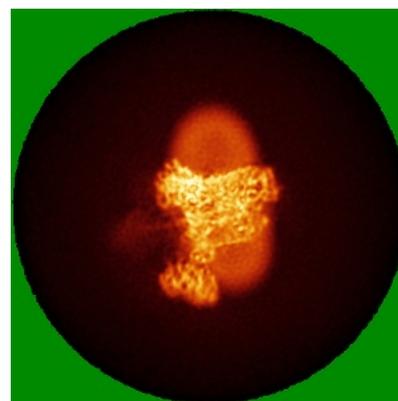
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (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 6.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

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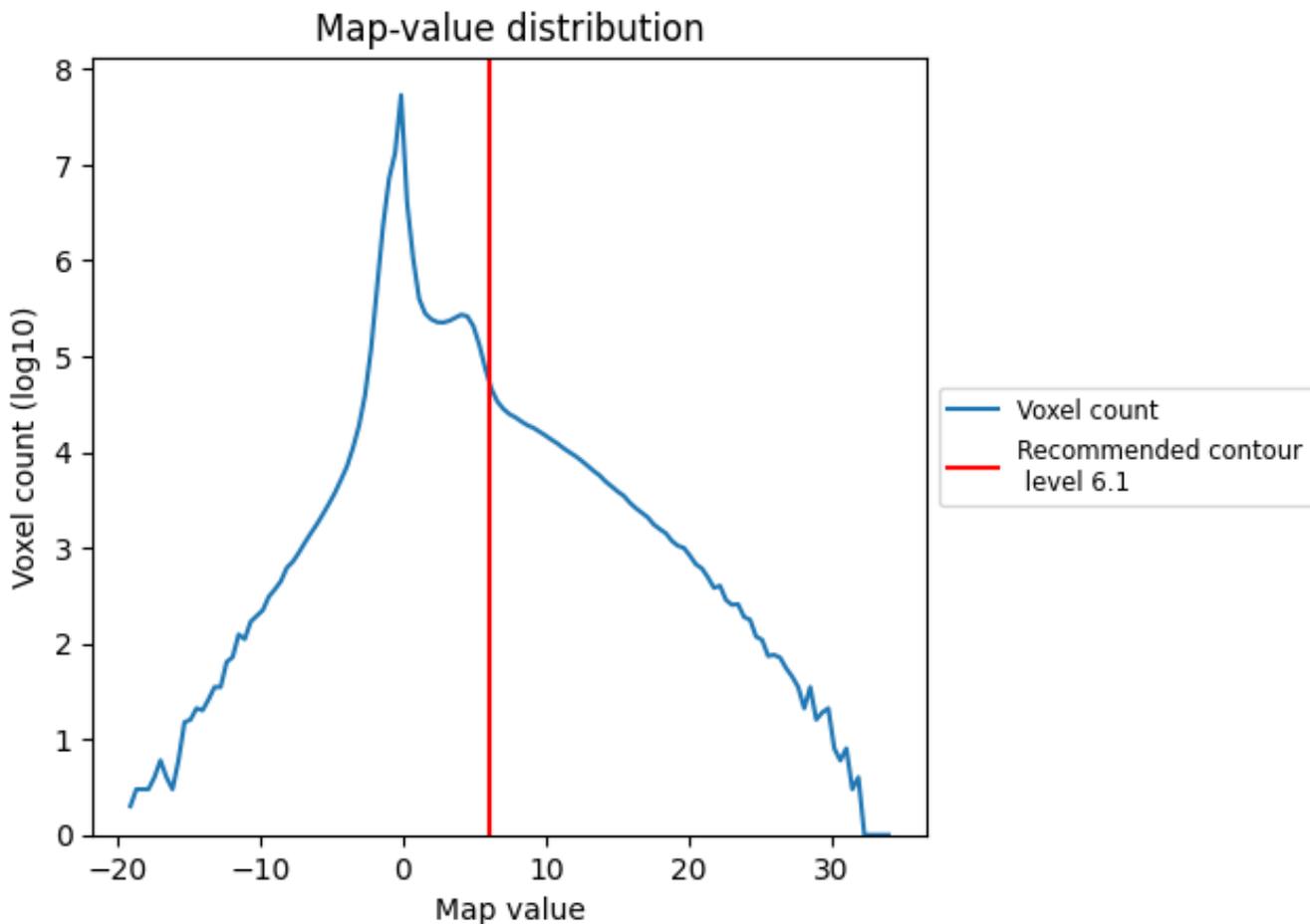
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2　Volume estimate ⓘ
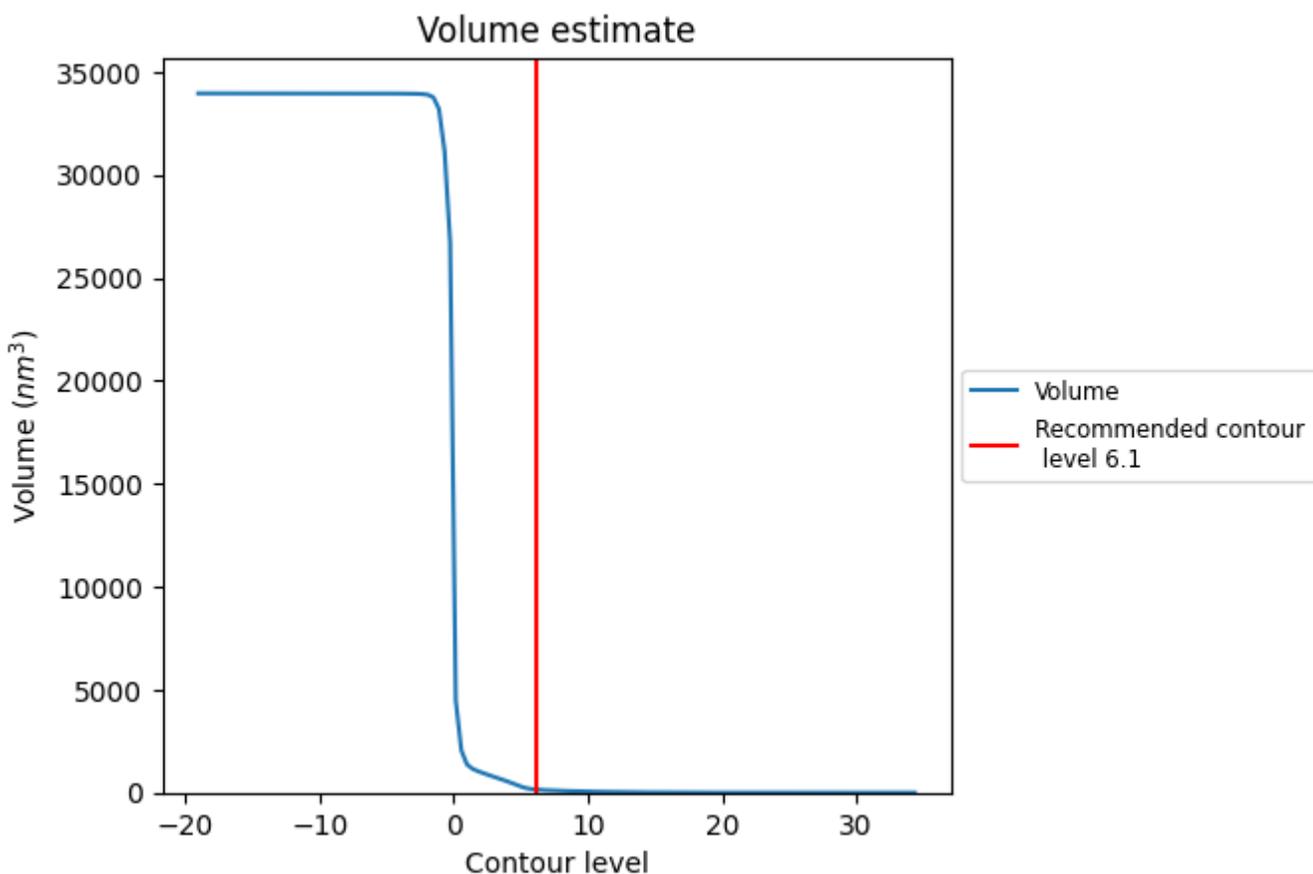
The volume at the recommended contour level is 152 nm^3; this corresponds to an approximate mass of 137 kDa.

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 ⓘ
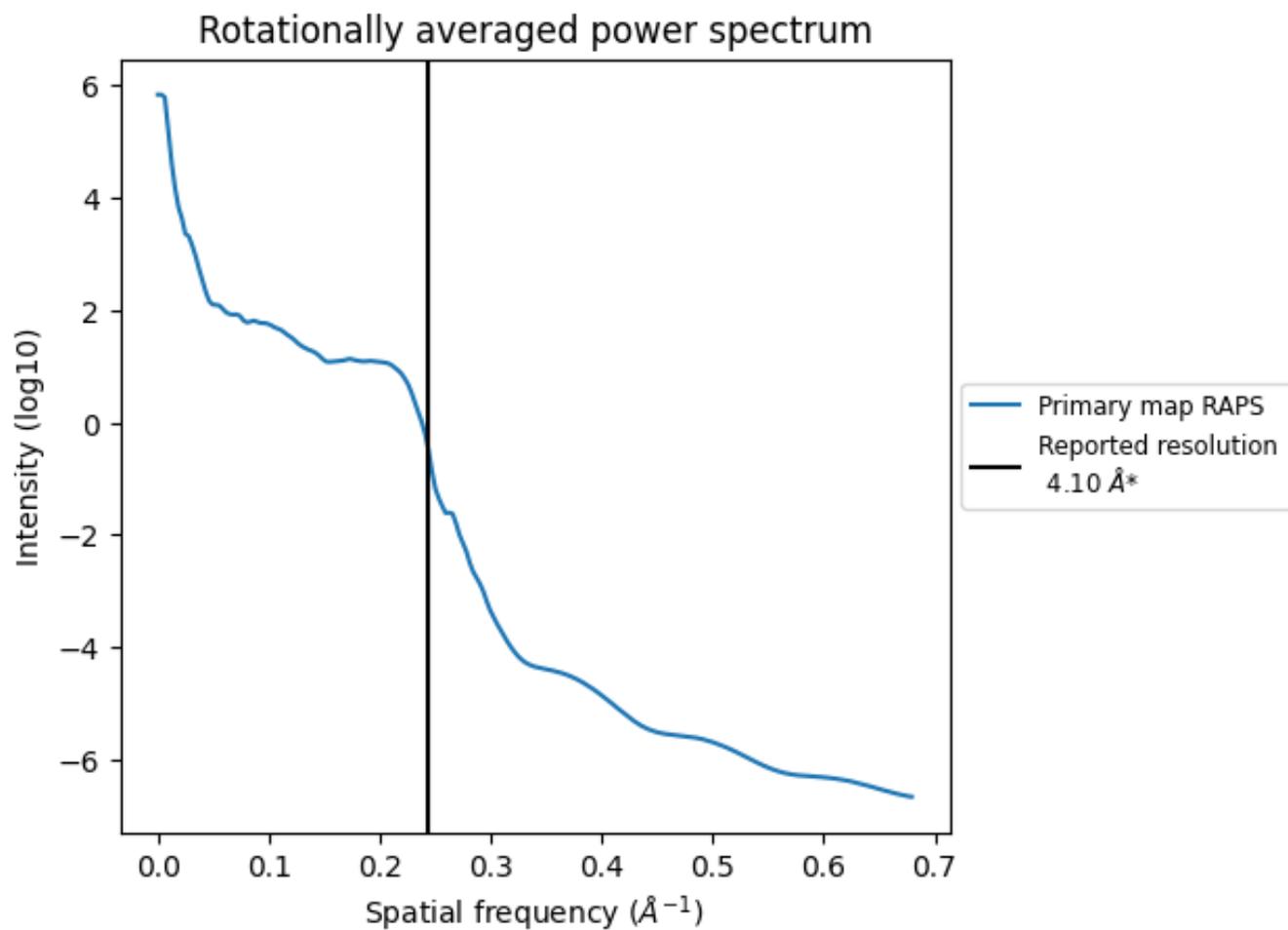
*Reported resolution corresponds to spatial frequency of 0.244 Å^{-1}

8 Fourier-Shell correlation ⓘ

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-71134 and PDB model 9P1U. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay ⓘ

X   Y   Z
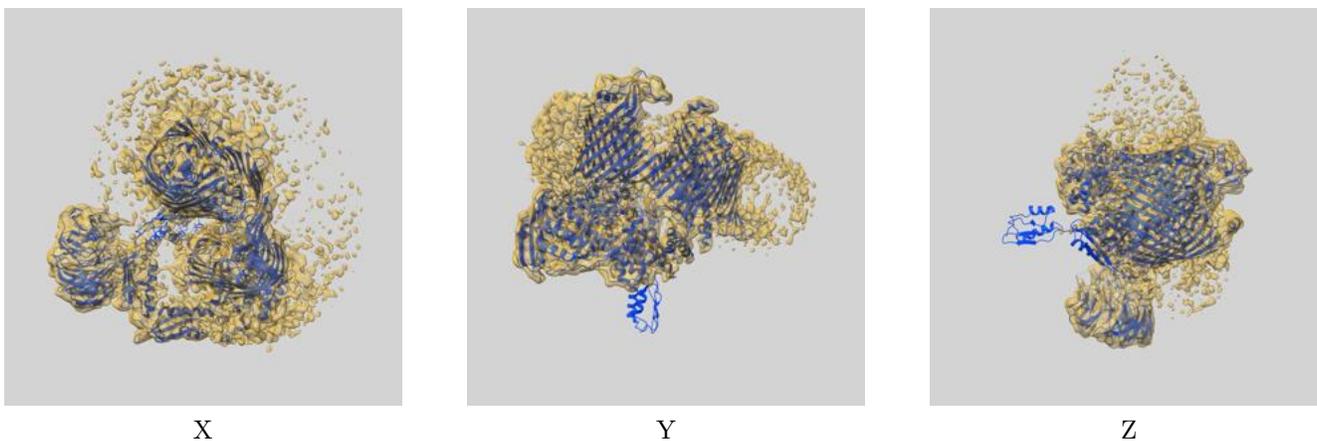
The images above show the 3D surface view of the map at the recommended contour level 6.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2　Q-score mapped to coordinate model ⓘ

X　　　　　　　　Y　　　　　　　　Z
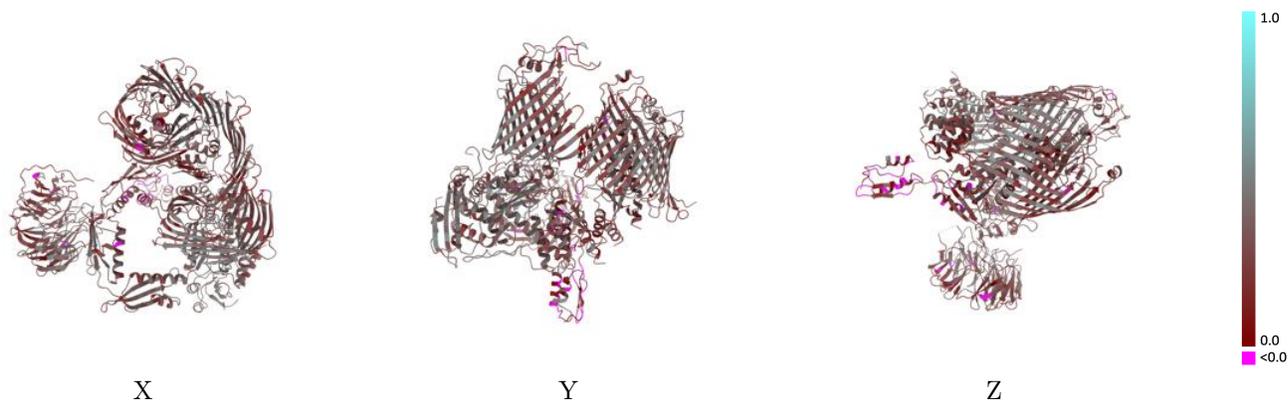
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3　Atom inclusion mapped to coordinate model ⓘ

X　　　　　　　　Y　　　　　　　　Z
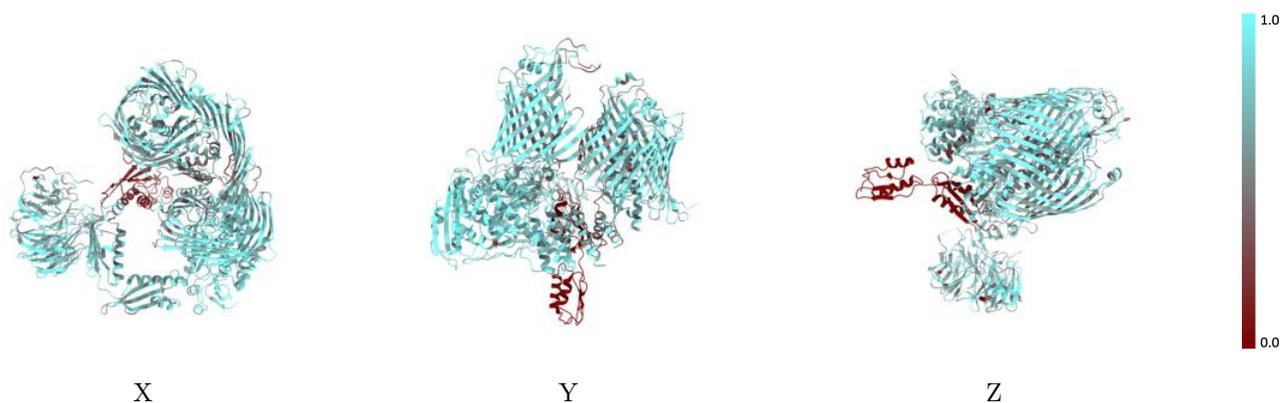
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (6.1).

9.4   Atom inclusion ⓘ
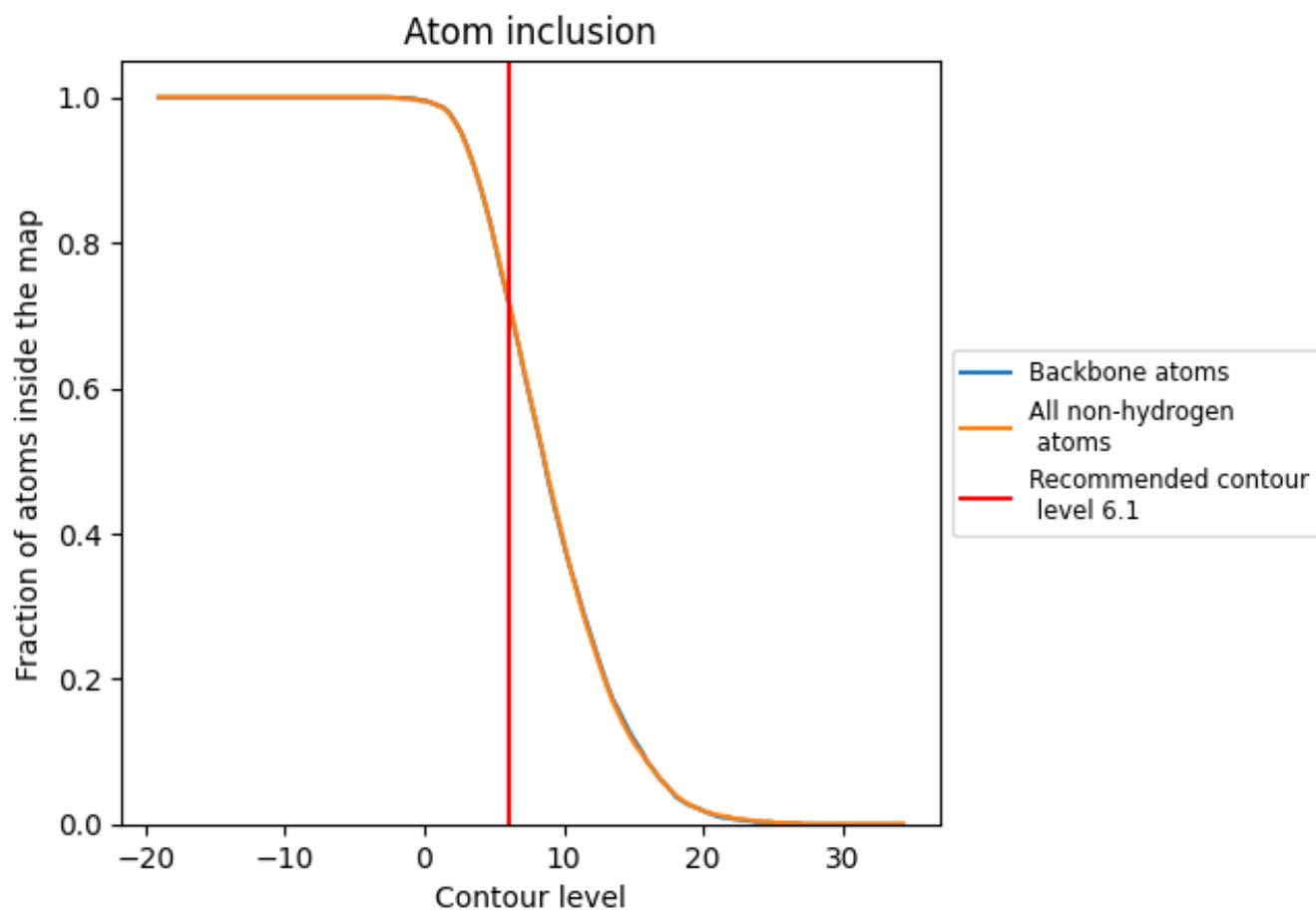
At the recommended contour level, 71% of all backbone atoms, 72% of all non-hydrogen atoms, are inside the map.

9.5   Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (6.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7160	0.3190
A	0.6810	0.3220
B	0.7210	0.2920
C	0.7400	0.3620
D	0.7530	0.3320
E	0.8900	0.4070
F	0.7300	0.3030
G	0.7290	0.3330

1.0

0.0
<0.0