Full wwPDB EM Validation Report ⓘ

Nov 16, 2022 – 02:40 AM EST

PDB ID	:	6WB9
EMDB ID	:	EMD-21587
Title	:	Structure of the S. cerevisiae ER membrane complex
Authors	:	Bai, L.; Li, H.
Deposited on	:	2020-03-26
Resolution	:	3.00 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:

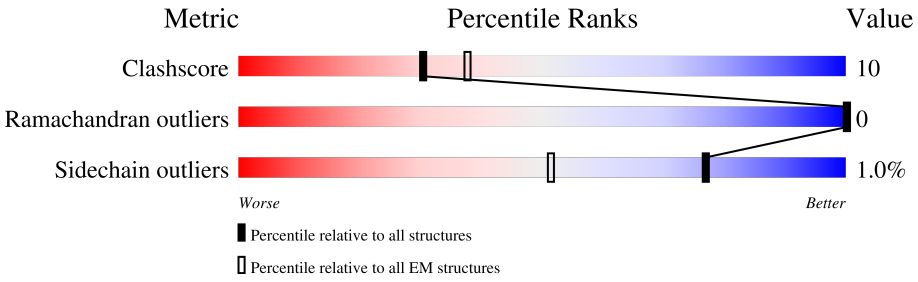
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 3.00 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	0	205	8% 44% 13% 43%
2	1	760	6% 67% 18% 15%
3	2	292	6% 85% 15%
4	3	253	11% 65% 13% 22%
5	4	190	31% 63% 15% 22%
6	5	141	5% 74% 17% 9%
7	6	108	80% 11% 9%
8	7	234	52% 8% 39%

2 Entry composition

There are 10 unique types of molecules in this entry. The entry contains 14507 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 Endoplasmic reticulum membrane protein complex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	0	117	902	564	139	195	4	0	0

- Molecule 2 is a protein called ER membrane protein complex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	1	649	5275	3400	859	1001	15	0	0

- Molecule 3 is a protein called ER membrane protein complex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	2	292	2377	1529	382	453	13	0	0

- Molecule 4 is a protein called ER membrane protein complex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	3	197	1591	1041	254	284	12	0	0

- Molecule 5 is a protein called ER membrane protein complex subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	4	148	1197	783	195	210	9	0	0

- Molecule 6 is a protein called ER membrane protein complex subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	5	128	1025	672	164	186	3	0	0

- Molecule 7 is a protein called ER membrane protein complex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	98	Total	C	N	O	S	0	0
			804	544	124	134	2		

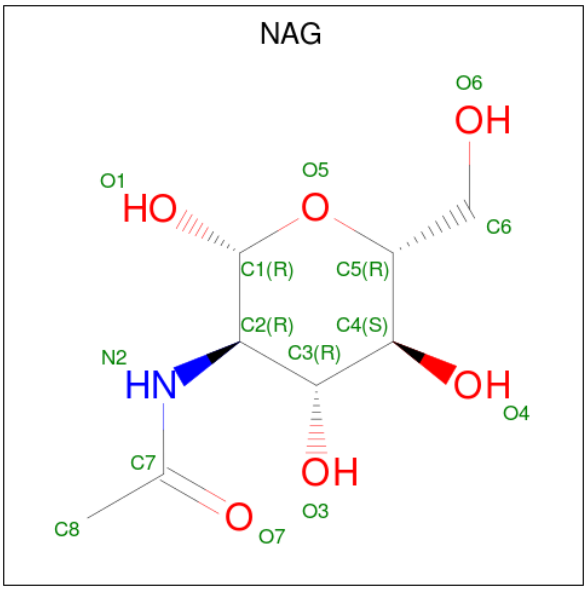
There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
6	82	GLN	HIS	conflict	UNP Q12431

- Molecule 8 is a protein called Protein SOP4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	142	Total	C	N	O	S	0	0
			1160	744	196	216	4		

- Molecule 9 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				AltConf
9	1	1	Total	C	N	O	0
			42	24	3	15	
9	1	1	Total	C	N	O	0
			42	24	3	15	
9	1	1	Total	C	N	O	0
			42	24	3	15	

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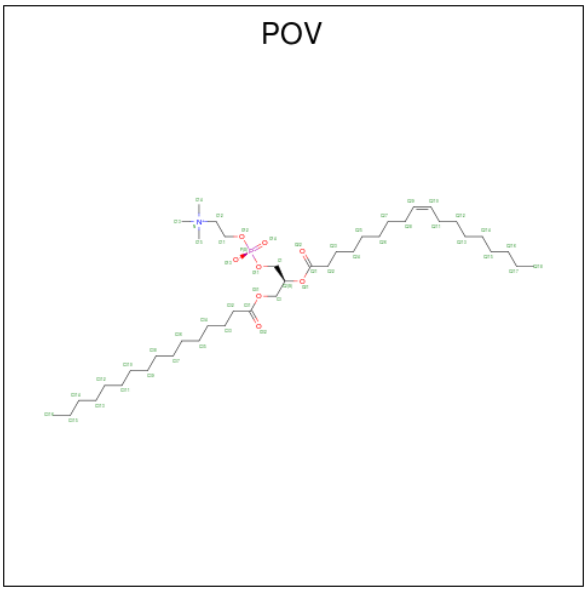
Mol	Chain	Residues	Atoms				AltConf
9	7	1	Total	C	N	O	0
			42	24	3	15	
9	7	1	Total	C	N	O	0
			42	24	3	15	
9	7	1	Total	C	N	O	0
			42	24	3	15	

- Molecule 10 is (2S)-3-(hexadecanoyloxy)-2-[(9Z)-octadec-9-enoyloxy]propyl 2-(trimethylammonio)ethyl phosphate (three-letter code: POV) (formula: $C_{42}H_{82}NO_8P$) (labeled as "Ligand of Interest" by depositor).



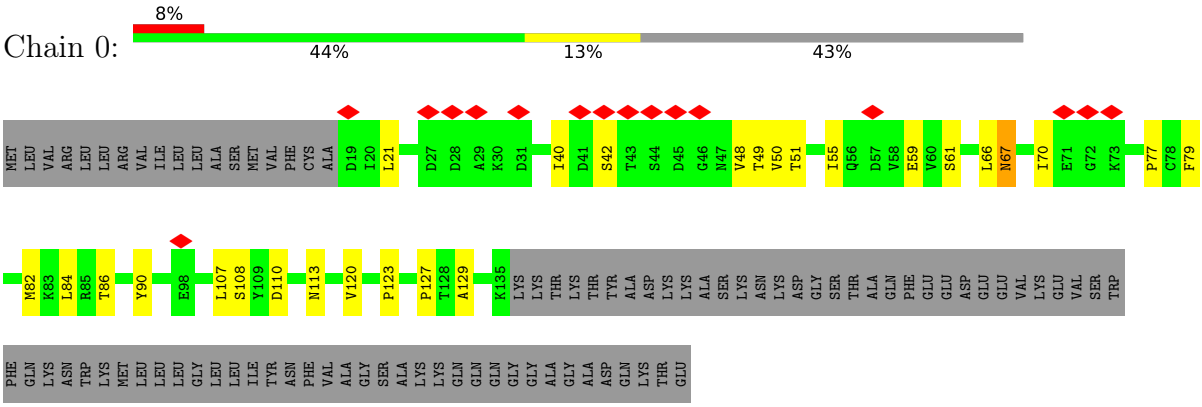
Mol	Chain	Residues	Atoms				AltConf
10	4	1	Total	C	O	P	0
			46	37	8	1	
10	5	1	Total	C	O	P	0
			46	37	8	1	

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.

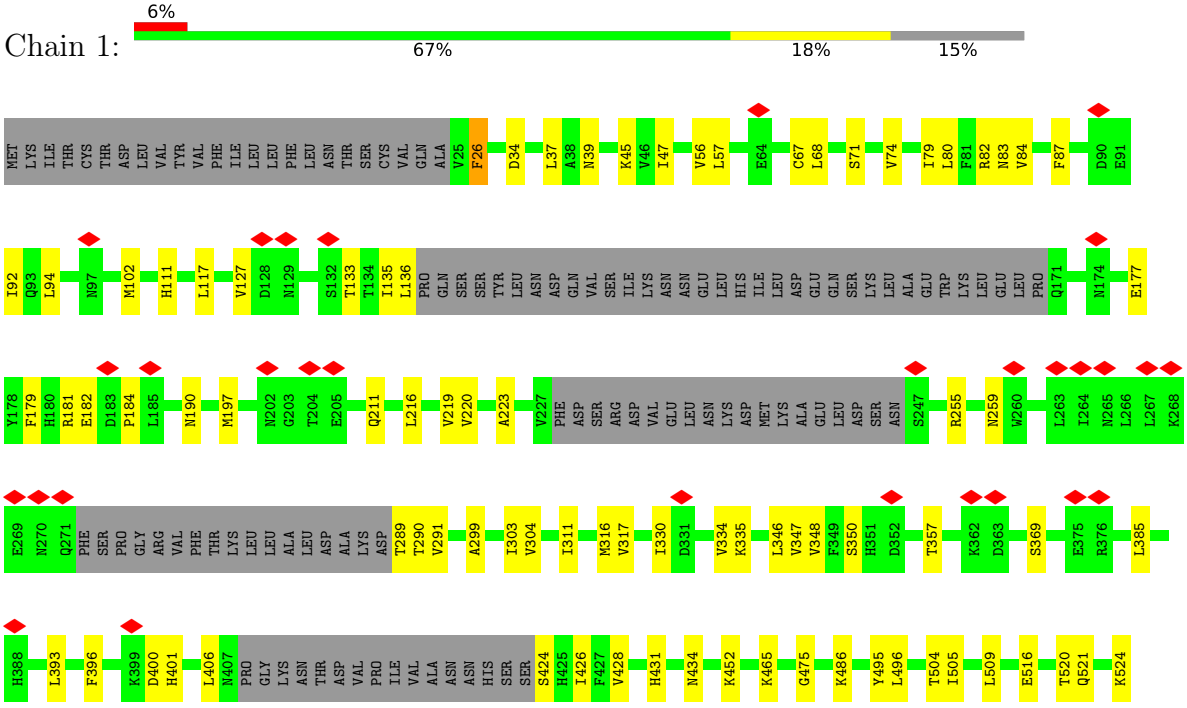
• Molecule 1: Endoplasmic reticulum membrane protein complex subunit 10

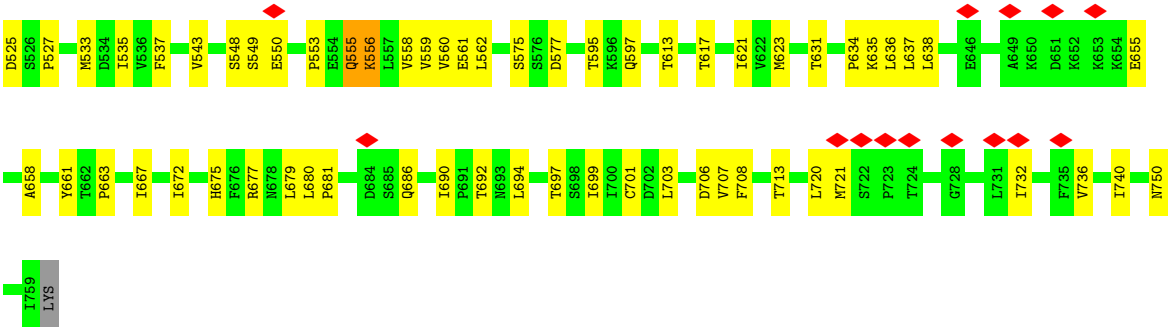
Chain 0:



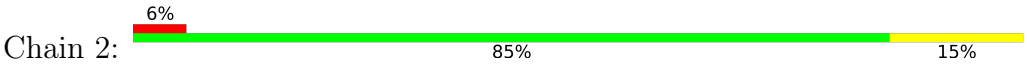
• Molecule 2: ER membrane protein complex subunit 1

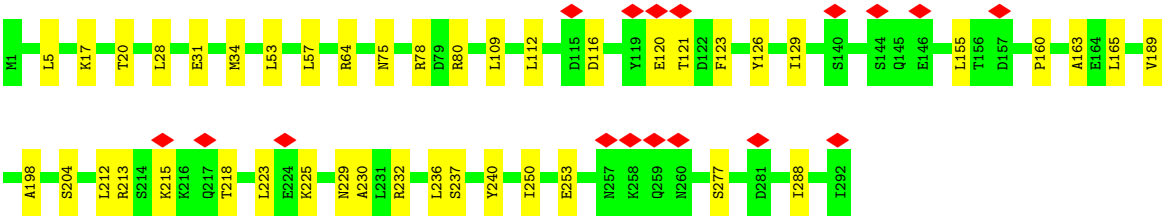
Chain 1:



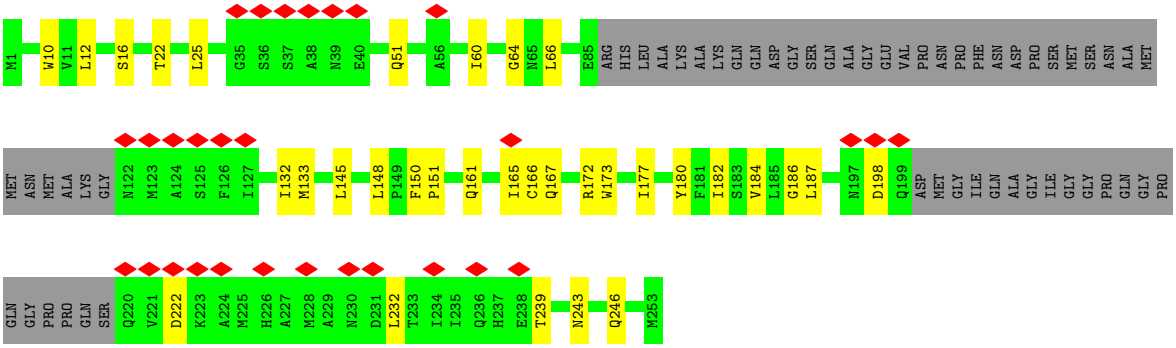


• Molecule 3: ER membrane protein complex subunit 2

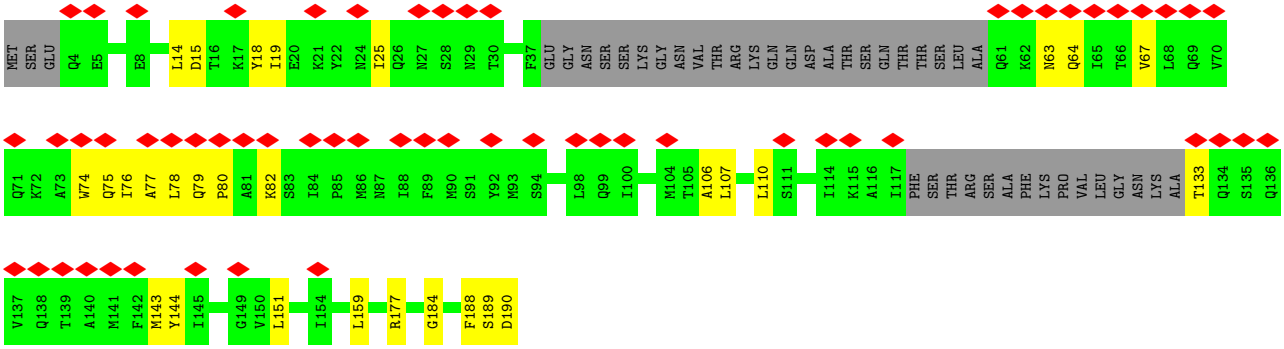




• Molecule 4: ER membrane protein complex subunit 3

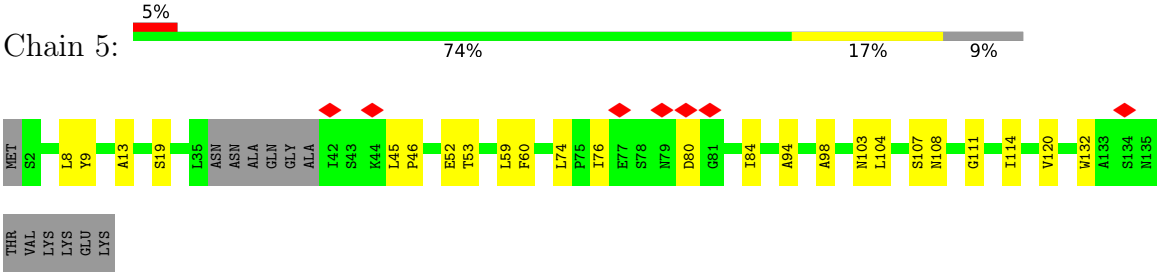


• Molecule 5: ER membrane protein complex subunit 4



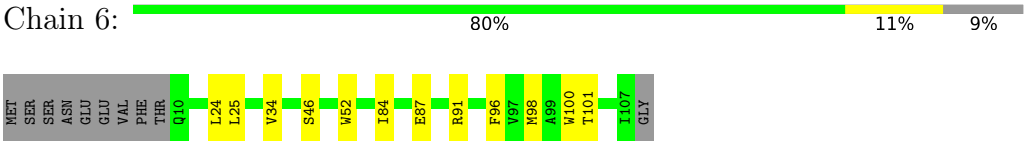
• Molecule 6: ER membrane protein complex subunit 5

Chain 5:



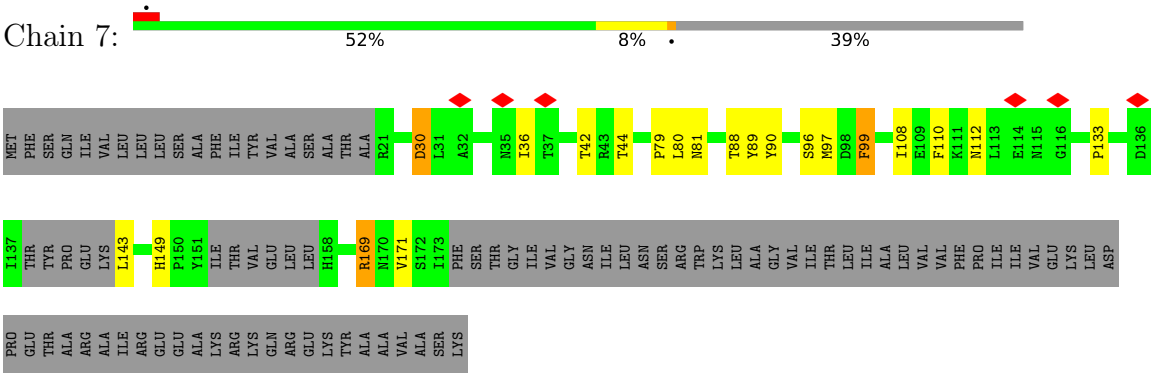
• Molecule 7: ER membrane protein complex subunit 6

Chain 6:



• Molecule 8: Protein SOP4

Chain 7:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	355991	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	2	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.288	Depositor
Minimum map value	-0.213	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.028	Depositor
Map size (Å)	246.96, 246.96, 246.96	wwPDB
Map dimensions	240, 240, 240	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.029, 1.029, 1.029	Depositor

5 Model quality

5.1 Standard geometry

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

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	0	0.29	0/915	0.54	0/1248
2	1	0.31	0/5400	0.52	0/7343
3	2	0.27	0/2412	0.45	0/3249
4	3	0.28	0/1626	0.48	0/2207
5	4	0.27	0/1229	0.47	0/1667
6	5	0.29	0/1048	0.42	0/1416
7	6	0.32	0/827	0.49	0/1125
8	7	0.32	0/1187	0.50	0/1601
All	All	0.30	0/14644	0.49	0/19856

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	0	902	0	875	33	0
2	1	5275	0	5212	147	0
3	2	2377	0	2438	33	0
4	3	1591	0	1611	32	0
5	4	1197	0	1206	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	5	1025	0	1039	26	0
7	6	804	0	808	14	0
8	7	1160	0	1125	23	0
9	1	42	0	39	0	0
9	7	42	0	39	0	0
10	4	46	0	69	5	0
10	5	46	0	69	2	0
All	All	14507	0	14530	288	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 10.

All (288) 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)
3:2:120:GLU:OE2	3:2:126:TYR:HB2	1.33	1.27
2:1:219:VAL:HG11	2:1:703:LEU:HD23	1.23	1.10
1:0:90:TYR:HB3	1:0:107:LEU:HD11	1.37	1.05
2:1:304:VAL:HG22	2:1:703:LEU:HD21	1.34	1.05
6:5:111:GLY:HA2	6:5:114:ILE:HG22	1.37	1.03
2:1:304:VAL:HG22	2:1:703:LEU:CD2	1.90	1.01
2:1:385:LEU:HD23	2:1:426:ILE:HG21	1.42	1.01
2:1:548:SER:OG	2:1:556:LYS:HD3	1.60	1.01
2:1:703:LEU:HG	2:1:707:VAL:HG22	1.43	0.99
1:0:82:MET:SD	1:0:107:LEU:HD23	2.03	0.98
2:1:304:VAL:CG2	2:1:703:LEU:HD21	1.92	0.98
2:1:385:LEU:HG	5:4:188:PHE:CD2	1.98	0.98
2:1:393:LEU:HD23	2:1:393:LEU:O	1.68	0.94
2:1:47:ILE:HD11	2:1:136:LEU:HD21	1.52	0.92
2:1:67:CYS:SG	2:1:87:PHE:O	2.30	0.90
6:5:108:ASN:ND2	6:5:114:ILE:HD13	1.87	0.89
2:1:289:THR:HG22	2:1:290:THR:N	1.88	0.87
1:0:90:TYR:HB3	1:0:107:LEU:CD1	2.05	0.86
1:0:90:TYR:CB	1:0:107:LEU:HD11	2.04	0.86
2:1:509:LEU:CD2	2:1:562:LEU:HD21	2.06	0.85
8:7:44:THR:HG22	8:7:96:SER:HB2	1.57	0.85
2:1:45:LYS:HD3	2:1:136:LEU:HD22	1.59	0.84
2:1:634:PRO:HD2	2:1:637:LEU:HD12	1.57	0.84
5:4:63:ASN:O	5:4:67:VAL:HG23	1.78	0.83
2:1:289:THR:HG22	2:1:290:THR:H	1.42	0.83
4:3:180:TYR:O	4:3:184:VAL:HG23	1.79	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:56:VAL:HG11	2:1:74:VAL:HG11	1.60	0.82
2:1:434:ASN:OD1	2:1:434:ASN:O	1.98	0.80
2:1:495:TYR:HA	2:1:535:ILE:HD12	1.63	0.80
8:7:44:THR:HG22	8:7:96:SER:CB	2.10	0.80
8:7:36:ILE:HG22	8:7:36:ILE:O	1.81	0.79
2:1:509:LEU:HD22	2:1:562:LEU:HD21	1.65	0.79
2:1:289:THR:HG22	2:1:291:VAL:H	1.49	0.78
2:1:495:TYR:HA	2:1:535:ILE:CD1	2.14	0.78
1:0:66:LEU:HD11	1:0:84:LEU:HD11	1.66	0.78
2:1:496:LEU:HG	2:1:535:ILE:HD11	1.65	0.78
2:1:732:ILE:O	2:1:736:VAL:HG23	1.85	0.76
2:1:617:THR:HA	4:3:166:CYS:SG	2.26	0.76
2:1:67:CYS:SG	2:1:92:ILE:HD12	2.27	0.75
2:1:393:LEU:HD21	2:1:401:HIS:ND1	2.03	0.74
5:4:110:LEU:HD11	5:4:159:LEU:HD12	1.68	0.74
6:5:111:GLY:HA2	6:5:114:ILE:CG2	2.17	0.73
6:5:19:SER:OG	6:5:53:THR:HG23	1.88	0.73
2:1:289:THR:CG2	2:1:290:THR:H	2.02	0.72
1:0:108:SER:HA	2:1:516:GLU:OE1	1.90	0.72
2:1:385:LEU:HD23	2:1:426:ILE:CG2	2.17	0.72
2:1:111:HIS:CE1	2:1:127:VAL:HG22	2.26	0.71
1:0:40:ILE:HD13	1:0:50:VAL:HG22	1.71	0.71
2:1:703:LEU:HG	2:1:707:VAL:CG2	2.17	0.71
4:3:186:GLY:O	7:6:98:MET:CE	2.38	0.70
5:4:79:GLN:HE22	5:4:143:MET:HG3	1.55	0.70
2:1:289:THR:CG2	2:1:290:THR:N	2.55	0.69
2:1:697:THR:HG22	2:1:713:THR:HG22	1.74	0.68
1:0:50:VAL:HG23	1:0:120:VAL:HG23	1.74	0.68
2:1:45:LYS:CD	2:1:136:LEU:HD22	2.22	0.68
2:1:357:THR:OG1	2:1:369:SER:HB3	1.92	0.68
3:2:198:ALA:HB1	6:5:114:ILE:HD12	1.75	0.68
8:7:80:LEU:HD22	8:7:88:THR:HG21	1.76	0.67
5:4:110:LEU:HD11	5:4:159:LEU:CD1	2.26	0.66
2:1:67:CYS:SG	2:1:92:ILE:CD1	2.84	0.65
2:1:509:LEU:HD21	2:1:562:LEU:HD21	1.78	0.65
2:1:495:TYR:CA	2:1:535:ILE:CD1	2.75	0.65
2:1:304:VAL:HG22	2:1:703:LEU:HD23	1.79	0.64
2:1:636:LEU:CD1	4:3:165:ILE:HD12	2.27	0.64
2:1:219:VAL:CG1	2:1:703:LEU:HD23	2.16	0.64
1:0:66:LEU:CD2	1:0:107:LEU:HD22	2.27	0.63
2:1:655:GLU:HG2	2:1:658:ALA:HB2	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:76:ILE:HG23	5:4:79:GLN:OE1	1.99	0.62
2:1:655:GLU:OE2	4:3:167:GLN:NE2	2.30	0.62
2:1:68:LEU:HD11	2:1:82:ARG:HB3	1.82	0.62
2:1:548:SER:HG	2:1:556:LYS:HD3	1.66	0.61
2:1:548:SER:OG	2:1:556:LYS:CD	2.43	0.61
2:1:559:VAL:HG21	2:1:638:LEU:HB3	1.83	0.60
1:0:40:ILE:CD1	1:0:50:VAL:HG22	2.31	0.60
2:1:393:LEU:O	2:1:393:LEU:CD2	2.47	0.60
2:1:56:VAL:HG11	2:1:74:VAL:CG1	2.31	0.60
4:3:186:GLY:O	7:6:98:MET:HE1	2.01	0.60
2:1:56:VAL:CG2	2:1:74:VAL:HG13	2.31	0.59
2:1:83:ASN:HD21	8:7:42:THR:HG21	1.66	0.59
8:7:97:MET:O	8:7:169:ARG:NH2	2.34	0.59
1:0:82:MET:SD	1:0:107:LEU:CD2	2.86	0.59
2:1:56:VAL:CG1	2:1:74:VAL:HG11	2.32	0.59
2:1:334:VAL:HG12	2:1:335:LYS:HG2	1.84	0.59
3:2:160:PRO:O	4:3:51:GLN:NE2	2.35	0.58
3:2:20:THR:HG23	6:5:120:VAL:CG2	2.33	0.58
2:1:47:ILE:HD11	2:1:136:LEU:CD2	2.28	0.58
5:4:107:LEU:HD23	5:4:110:LEU:HD12	1.85	0.58
2:1:697:THR:HG22	2:1:713:THR:CG2	2.33	0.58
2:1:636:LEU:HD13	4:3:165:ILE:HD12	1.86	0.57
4:3:16:SER:HB3	10:5:201:POV:H31F	1.86	0.57
4:3:60:ILE:HD11	4:3:232:LEU:HA	1.85	0.57
2:1:197:MET:HG2	2:1:211:GLN:HG3	1.86	0.56
1:0:123:PRO:HB3	2:1:520:THR:CG2	2.36	0.56
2:1:505:ILE:HD12	2:1:533:MET:HE1	1.87	0.56
2:1:56:VAL:CG1	2:1:74:VAL:CG1	2.84	0.56
1:0:61:SER:HA	1:0:84:LEU:O	2.06	0.56
3:2:212:LEU:HD12	5:4:19:ILE:HD13	1.86	0.55
3:2:277:SER:HA	6:5:104:LEU:HD23	1.88	0.55
1:0:42:SER:HA	1:0:48:VAL:HG23	1.89	0.55
1:0:66:LEU:HD22	1:0:107:LEU:HD22	1.87	0.55
4:3:22:THR:HG21	4:3:132:ILE:HD11	1.88	0.55
6:5:60:PHE:CE2	7:6:34:VAL:HG21	2.42	0.55
5:4:82:LYS:HG2	5:4:151:LEU:HD22	1.89	0.55
2:1:34:ASP:OD2	2:1:677:ARG:NH1	2.41	0.54
2:1:303:ILE:HG21	2:1:346:LEU:HD11	1.89	0.54
1:0:50:VAL:HG23	1:0:120:VAL:CG2	2.37	0.54
2:1:45:LYS:HD3	2:1:136:LEU:CD2	2.36	0.54
2:1:26:PHE:HB3	8:7:171:VAL:H	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:690:ILE:HB	2:1:699:ILE:HB	1.90	0.54
3:2:34:MET:HG2	3:2:57:LEU:HD13	1.90	0.53
8:7:36:ILE:HG21	8:7:99:PHE:CE1	2.43	0.53
4:3:64:GLY:HA2	4:3:239:THR:HA	1.89	0.53
1:0:123:PRO:HB3	2:1:520:THR:HG21	1.91	0.53
2:1:37:LEU:O	2:1:39:ASN:ND2	2.42	0.53
2:1:575:SER:O	5:4:177:ARG:NH2	2.42	0.53
2:1:694:LEU:HD21	2:1:720:LEU:HB2	1.89	0.53
3:2:213:ARG:HD3	5:4:25:ILE:HD11	1.91	0.53
2:1:636:LEU:HD12	4:3:165:ILE:CD1	2.38	0.53
2:1:303:ILE:HG22	2:1:303:ILE:O	2.08	0.53
2:1:703:LEU:CG	2:1:707:VAL:HG22	2.27	0.53
5:4:79:GLN:N	5:4:80:PRO:CD	2.72	0.53
2:1:655:GLU:CD	4:3:167:GLN:NE2	2.62	0.52
4:3:186:GLY:O	7:6:98:MET:HE2	2.09	0.52
2:1:82:ARG:NH2	2:1:706:ASP:OD2	2.42	0.52
7:6:24:LEU:HD21	7:6:84:ILE:HA	1.92	0.52
1:0:50:VAL:HG12	1:0:51:THR:N	2.23	0.52
2:1:84:VAL:HG23	2:1:680:LEU:HD21	1.90	0.52
3:2:20:THR:HG23	6:5:120:VAL:HG22	1.90	0.52
3:2:223:LEU:HD22	3:2:250:ILE:HG23	1.92	0.52
5:4:79:GLN:HE22	5:4:143:MET:CG	2.21	0.52
2:1:475:GLY:HA2	2:1:486:LYS:HG3	1.92	0.52
8:7:36:ILE:O	8:7:36:ILE:CG2	2.54	0.52
2:1:255:ARG:NH2	6:5:52:GLU:OE1	2.36	0.51
6:5:13:ALA:HB2	10:5:201:POV:H28A	1.92	0.51
8:7:81:ASN:O	8:7:112:ASN:ND2	2.43	0.51
8:7:89:TYR:HA	8:7:108:ILE:O	2.11	0.51
2:1:655:GLU:CD	4:3:167:GLN:HE22	2.13	0.51
2:1:393:LEU:HD21	2:1:401:HIS:CE1	2.45	0.51
2:1:385:LEU:HD21	2:1:428:VAL:CG2	2.41	0.51
5:4:15:ASP:OD1	5:4:15:ASP:O	2.28	0.51
3:2:218:THR:HG22	3:2:218:THR:O	2.11	0.51
3:2:155:LEU:HD23	3:2:165:LEU:HD21	1.92	0.50
2:1:56:VAL:HG21	2:1:74:VAL:CG1	2.41	0.50
3:2:75:ASN:OD1	3:2:78:ARG:NH1	2.45	0.50
8:7:96:SER:OG	8:7:99:PHE:O	2.30	0.50
2:1:71:SER:O	2:1:80:LEU:N	2.43	0.50
3:2:31:GLU:OE1	3:2:64:ARG:NH2	2.42	0.50
3:2:288:ILE:HD13	5:4:14:LEU:HD21	1.93	0.50
8:7:133:PRO:CG	8:7:143:LEU:HD22	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:111:HIS:CE1	2:1:127:VAL:CG2	2.95	0.50
2:1:255:ARG:O	2:1:259:ASN:ND2	2.40	0.50
4:3:222:ASP:OD1	4:3:222:ASP:N	2.42	0.50
1:0:48:VAL:HG13	1:0:120:VAL:HG11	1.94	0.50
2:1:216:LEU:HD21	2:1:707:VAL:HG23	1.93	0.50
2:1:667:ILE:HD11	2:1:672:ILE:HD11	1.94	0.50
2:1:631:THR:HB	2:1:672:ILE:HD13	1.93	0.49
2:1:679:LEU:HG	2:1:681:PRO:HD3	1.94	0.49
4:3:150:PHE:HA	7:6:46:SER:HB2	1.95	0.49
6:5:108:ASN:HD21	6:5:114:ILE:HD13	1.74	0.49
5:4:79:GLN:HB2	5:4:80:PRO:HD3	1.94	0.49
8:7:30:ASP:OD1	8:7:30:ASP:N	2.42	0.49
7:6:25:LEU:HD11	7:6:91:ARG:NE	2.28	0.49
2:1:316:MET:HG2	2:1:699:ILE:HD13	1.95	0.49
2:1:56:VAL:HG22	2:1:74:VAL:HG13	1.93	0.49
3:2:109:LEU:HD22	3:2:129:ILE:HG23	1.95	0.49
2:1:102:MET:HG3	2:1:117:LEU:HD21	1.94	0.48
3:2:237:SER:OG	6:5:103:ASN:ND2	2.39	0.48
1:0:129:ALA:HB1	2:1:663:PRO:HB2	1.94	0.48
2:1:621:ILE:HD13	2:1:638:LEU:HD12	1.95	0.48
2:1:636:LEU:HD12	4:3:165:ILE:HD12	1.94	0.48
2:1:509:LEU:HD21	2:1:562:LEU:CD2	2.44	0.48
2:1:558:VAL:HG22	2:1:597:GLN:HG3	1.95	0.48
10:4:201:POV:O32	7:6:46:SER:OG	2.32	0.48
8:7:80:LEU:HD22	8:7:88:THR:CG2	2.43	0.48
5:4:75:GLN:HB3	5:4:144:TYR:HB2	1.96	0.48
2:1:549:SER:HA	2:1:553:PRO:HA	1.94	0.48
2:1:182:GLU:HG2	2:1:184:PRO:HD2	1.96	0.47
2:1:504:THR:HG22	2:1:524:LYS:HG2	1.96	0.47
2:1:561:GLU:OE2	2:1:635:LYS:NZ	2.44	0.47
2:1:661:TYR:CZ	2:1:663:PRO:HB3	2.49	0.47
4:3:66:LEU:O	4:3:239:THR:OG1	2.25	0.47
7:6:96:PHE:O	7:6:100:TRP:HB2	2.14	0.47
2:1:495:TYR:C	2:1:535:ILE:CD1	2.83	0.47
6:5:60:PHE:CZ	7:6:34:VAL:HG21	2.49	0.47
2:1:135:ILE:HG22	2:1:136:LEU:N	2.30	0.47
2:1:636:LEU:CD1	4:3:165:ILE:CD1	2.93	0.47
2:1:311:ILE:HD11	2:1:348:VAL:HG21	1.96	0.47
5:4:107:LEU:HD21	10:4:201:POV:H213	1.97	0.47
10:4:201:POV:H311	10:4:201:POV:H38	1.64	0.47
2:1:94:LEU:O	2:1:133:THR:OG1	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:133:MET:HG3	4:3:177:ILE:HD11	1.97	0.47
8:7:80:LEU:CD2	8:7:88:THR:HG21	2.44	0.47
1:0:127:PRO:HD3	2:1:521:GLN:HE22	1.80	0.46
2:1:304:VAL:CG2	2:1:703:LEU:CD2	2.69	0.46
5:4:76:ILE:O	5:4:79:GLN:HB2	2.15	0.46
8:7:90:TYR:HB2	8:7:108:ILE:HB	1.96	0.46
2:1:220:VAL:O	2:1:686:GLN:NE2	2.49	0.46
3:2:198:ALA:CB	6:5:114:ILE:HD12	2.45	0.46
2:1:424:SER:N	5:4:184:GLY:O	2.48	0.46
1:0:50:VAL:CG1	1:0:51:THR:N	2.79	0.46
6:5:45:LEU:HD23	6:5:46:PRO:HD2	1.97	0.46
2:1:495:TYR:C	2:1:535:ILE:HD11	2.35	0.46
5:4:106:ALA:O	5:4:110:LEU:HG	2.16	0.46
2:1:299:ALA:HA	2:1:317:VAL:HG13	1.98	0.46
2:1:750:ASN:OD1	3:2:80:ARG:NH1	2.41	0.46
5:4:77:ALA:C	5:4:80:PRO:HD2	2.37	0.46
2:1:56:VAL:CG2	2:1:74:VAL:CG1	2.94	0.46
2:1:57:LEU:HD22	2:1:117:LEU:HD22	1.98	0.46
2:1:675:HIS:O	2:1:675:HIS:ND1	2.48	0.45
3:2:112:LEU:O	3:2:116:ASP:N	2.49	0.45
3:2:28:LEU:HD13	6:5:132:TRP:HH2	1.81	0.45
4:3:187:LEU:HA	7:6:98:MET:HE1	1.97	0.45
6:5:8:LEU:HD22	6:5:59:LEU:HD22	1.97	0.45
4:3:198:ASP:OD2	7:6:91:ARG:NH1	2.37	0.45
4:3:12:LEU:HG	4:3:145:LEU:HD11	1.99	0.45
2:1:543:VAL:HG22	2:1:559:VAL:HG22	1.97	0.45
3:2:28:LEU:HD13	6:5:132:TRP:CH2	2.51	0.45
4:3:182:ILE:HD13	7:6:101:THR:HG21	1.97	0.45
4:3:161:GLN:NE2	4:3:173:TRP:O	2.47	0.45
2:1:67:CYS:SG	2:1:92:ILE:HD11	2.57	0.44
2:1:655:GLU:CG	2:1:658:ALA:HB2	2.48	0.44
3:2:20:THR:HG23	6:5:120:VAL:HG21	2.00	0.44
4:3:148:LEU:O	4:3:172:ARG:NE	2.51	0.44
4:3:243:ASN:HD22	4:3:246:GLN:HE21	1.64	0.44
6:5:108:ASN:ND2	6:5:114:ILE:CD1	2.72	0.44
1:0:21:LEU:HD12	1:0:70:ILE:HD11	2.00	0.44
8:7:88:THR:O	8:7:88:THR:HG23	2.18	0.44
5:4:15:ASP:OD2	5:4:18:TYR:HB2	2.17	0.44
8:7:44:THR:HG22	8:7:96:SER:HB3	1.92	0.44
1:0:67:ASN:N	1:0:67:ASN:OD1	2.50	0.44
1:0:48:VAL:O	1:0:120:VAL:HG21	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:431:HIS:HD2	5:4:190:ASP:HB3	1.83	0.44
2:1:496:LEU:N	2:1:535:ILE:HD11	2.33	0.44
5:4:79:GLN:N	5:4:80:PRO:HD2	2.33	0.44
8:7:79:PRO:O	8:7:90:TYR:OH	2.35	0.43
2:1:701:CYS:HA	2:1:708:PHE:O	2.18	0.43
6:5:76:ILE:HD12	6:5:107:SER:HB3	2.00	0.43
1:0:59:GLU:HA	1:0:86:THR:HG23	2.01	0.43
2:1:396:PHE:HD2	2:1:400:ASP:HB3	1.83	0.43
2:1:347:VAL:HG21	2:1:406:LEU:HD21	2.00	0.43
6:5:94:ALA:O	6:5:98:ALA:N	2.50	0.43
2:1:721:MET:HE1	4:3:10:TRP:HB2	2.01	0.43
10:4:201:POV:H2	10:4:201:POV:H22A	1.73	0.43
2:1:527:PRO:HA	2:1:548:SER:HA	1.99	0.43
3:2:204:SER:OG	3:2:230:ALA:HB2	2.19	0.43
4:3:151:PRO:HD2	7:6:46:SER:HB2	2.00	0.43
2:1:525:ASP:HA	2:1:550:GLU:OE1	2.18	0.42
2:1:555:GLN:HE21	2:1:555:GLN:HB2	1.65	0.42
5:4:74:TRP:O	5:4:78:LEU:HD12	2.19	0.42
2:1:330:ILE:HD12	2:1:350:SER:HB3	2.01	0.42
3:2:5:LEU:HB3	6:5:74:LEU:HG	2.01	0.42
5:4:76:ILE:O	5:4:80:PRO:HD3	2.19	0.42
3:2:34:MET:HE1	3:2:53:LEU:HB3	2.01	0.42
6:5:84:ILE:HG21	6:5:104:LEU:HB3	2.01	0.42
8:7:36:ILE:HG21	8:7:99:PHE:HE1	1.83	0.42
1:0:67:ASN:ND2	1:0:77:PRO:O	2.53	0.42
2:1:223:ALA:HB3	2:1:303:ILE:HB	2.02	0.42
2:1:613:THR:OG1	2:1:692:THR:O	2.32	0.42
3:2:163:ALA:HB1	3:2:189:VAL:HG13	2.02	0.42
2:1:559:VAL:O	2:1:595:THR:HA	2.19	0.42
2:1:560:VAL:HG22	2:1:595:THR:HG22	2.02	0.42
1:0:49:THR:HA	1:0:120:VAL:CG2	2.49	0.42
1:0:127:PRO:HG3	2:1:595:THR:HB	2.03	0.41
8:7:133:PRO:HG3	8:7:143:LEU:HD22	2.02	0.41
3:2:232:ARG:HH21	3:2:236:LEU:HD21	1.85	0.41
6:5:80:ASP:OD1	6:5:80:ASP:N	2.53	0.41
2:1:496:LEU:HG	2:1:535:ILE:CD1	2.42	0.41
3:2:215:LYS:HE3	3:2:215:LYS:HB3	1.87	0.41
2:1:79:ILE:H	2:1:79:ILE:HG13	1.70	0.41
2:1:177:GLU:HB3	2:1:190:ASN:HB3	2.03	0.41
2:1:465:LYS:HD2	5:4:189:SER:HB3	2.02	0.41
3:2:225:LYS:O	3:2:229:ASN:ND2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:237:SER:HB3	3:2:240:TYR:HB2	2.02	0.41
1:0:79:PHE:O	2:1:452:LYS:NZ	2.54	0.41
3:2:120:GLU:HG2	3:2:121:THR:N	2.35	0.41
10:4:201:POV:H313	10:4:201:POV:H310	1.87	0.41
8:7:143:LEU:O	8:7:143:LEU:HD12	2.21	0.41
2:1:56:VAL:CG1	2:1:74:VAL:HG13	2.50	0.41
1:0:110:ASP:HB3	1:0:113:ASN:HB2	2.02	0.40
2:1:577:ASP:OD1	5:4:177:ARG:NH2	2.54	0.40
2:1:623:MET:HG3	2:1:631:THR:CG2	2.51	0.40
1:0:123:PRO:HB3	2:1:520:THR:HG22	2.03	0.40
2:1:135:ILE:CG2	2:1:136:LEU:N	2.84	0.40
2:1:740:ILE:HG22	4:3:25:LEU:HD21	2.03	0.40
5:4:64:GLN:HG2	5:4:133:THR:HG21	2.04	0.40
1:0:55:ILE:HD12	1:0:55:ILE:HA	1.97	0.40
2:1:181:ARG:HD2	2:1:181:ARG:HA	1.92	0.40
3:2:212:LEU:HD21	3:2:253:GLU:HG2	2.03	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	0	115/205 (56%)	101 (88%)	14 (12%)	0	100	100
2	1	639/760 (84%)	571 (89%)	68 (11%)	0	100	100
3	2	290/292 (99%)	275 (95%)	15 (5%)	0	100	100
4	3	191/253 (76%)	183 (96%)	8 (4%)	0	100	100
5	4	142/190 (75%)	133 (94%)	9 (6%)	0	100	100
6	5	124/141 (88%)	119 (96%)	5 (4%)	0	100	100
7	6	96/108 (89%)	92 (96%)	4 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	7	136/234 (58%)	125 (92%)	11 (8%)	0	100	100
All	All	1733/2183 (79%)	1599 (92%)	134 (8%)	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	0	105/178 (59%)	104 (99%)	1 (1%)	76	91
2	1	604/707 (85%)	599 (99%)	5 (1%)	81	93
3	2	264/264 (100%)	262 (99%)	2 (1%)	81	93
4	3	176/217 (81%)	176 (100%)	0	100	100
5	4	131/166 (79%)	131 (100%)	0	100	100
6	5	116/126 (92%)	115 (99%)	1 (1%)	78	92
7	6	86/95 (90%)	84 (98%)	2 (2%)	50	80
8	7	127/204 (62%)	122 (96%)	5 (4%)	32	69
All	All	1609/1957 (82%)	1593 (99%)	16 (1%)	77	91

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	67	ASN
2	1	26	PHE
2	1	179	PHE
2	1	537	PHE
2	1	555	GLN
2	1	556	LYS
3	2	17	LYS
3	2	123	PHE
6	5	9	TYR
7	6	52	TRP

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Mol	Chain	Res	Type
7	6	87	GLU
8	7	30	ASP
8	7	99	PHE
8	7	110	PHE
8	7	149	HIS
8	7	169	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	104	GLN
2	1	39	ASN
2	1	83	ASN
2	1	111	HIS
2	1	211	GLN
2	1	265	ASN
2	1	431	HIS
2	1	434	ASN
2	1	521	GLN
2	1	555	GLN
2	1	597	GLN
2	1	629	GLN
2	1	678	ASN
3	2	257	ASN
4	3	54	GLN
4	3	65	ASN
4	3	199	GLN
4	3	246	GLN
5	4	79	GLN
6	5	96	ASN
6	5	108	ASN
7	6	43	GLN
7	6	70	GLN
8	7	100	ASN
8	7	119	GLN
8	7	121	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

8 ligands 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	$\#\|Z\| > 2$
9	NAG	1	802	2	14,14,15	0.39	0	17,19,21	0.59	1 (5%)
9	NAG	1	803	2	14,14,15	0.40	0	17,19,21	0.56	0
9	NAG	7	301	8	14,14,15	0.52	0	17,19,21	0.43	0
9	NAG	7	302	8	14,14,15	0.62	0	17,19,21	0.49	0
10	POV	5	201	-	45,45,51	1.36	5 (11%)	49,50,59	1.12	2 (4%)
10	POV	4	201	-	45,45,51	1.36	5 (11%)	49,50,59	1.13	2 (4%)
9	NAG	7	303	8	14,14,15	0.39	0	17,19,21	0.41	0
9	NAG	1	801	2	14,14,15	0.32	0	17,19,21	0.43	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
9	NAG	1	802	2	-	2/6/23/26	0/1/1/1
9	NAG	1	803	2	-	2/6/23/26	0/1/1/1
9	NAG	7	301	8	-	0/6/23/26	0/1/1/1
9	NAG	7	302	8	-	2/6/23/26	0/1/1/1
10	POV	5	201	-	-	19/47/47/55	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
10	POV	4	201	-	-	20/47/47/55	-
9	NAG	7	303	8	-	2/6/23/26	0/1/1/1
9	NAG	1	801	2	-	2/6/23/26	0/1/1/1

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	5	201	POV	P-O12	3.59	1.68	1.54
10	4	201	POV	P-O12	3.57	1.68	1.54
10	5	201	POV	O31-C31	3.33	1.43	1.33
10	4	201	POV	O31-C31	3.30	1.43	1.33
10	5	201	POV	O21-C21	3.20	1.43	1.34
10	4	201	POV	O21-C21	3.18	1.43	1.34
10	5	201	POV	P-O11	2.96	1.69	1.60
10	4	201	POV	P-O11	2.92	1.69	1.60
10	4	201	POV	O21-C2	-2.53	1.40	1.46
10	5	201	POV	O21-C2	-2.47	1.40	1.46

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	4	201	POV	O21-C21-C22	4.48	121.16	111.50
10	5	201	POV	O21-C21-C22	3.97	120.05	111.50
10	5	201	POV	O31-C31-C32	2.76	120.58	111.91
10	4	201	POV	O31-C31-C32	2.50	119.77	111.91
9	1	802	NAG	C1-O5-C5	2.07	115.00	112.19

There are no chirality outliers.

All (49) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
10	4	201	POV	O11-C1-C2-O21
10	4	201	POV	C22-C21-O21-C2
10	4	201	POV	O22-C21-O21-C2
9	7	302	NAG	O5-C5-C6-O6
9	1	802	NAG	O5-C5-C6-O6
9	1	801	NAG	O5-C5-C6-O6
9	7	303	NAG	O5-C5-C6-O6
9	7	302	NAG	C4-C5-C6-O6
9	1	803	NAG	C4-C5-C6-O6

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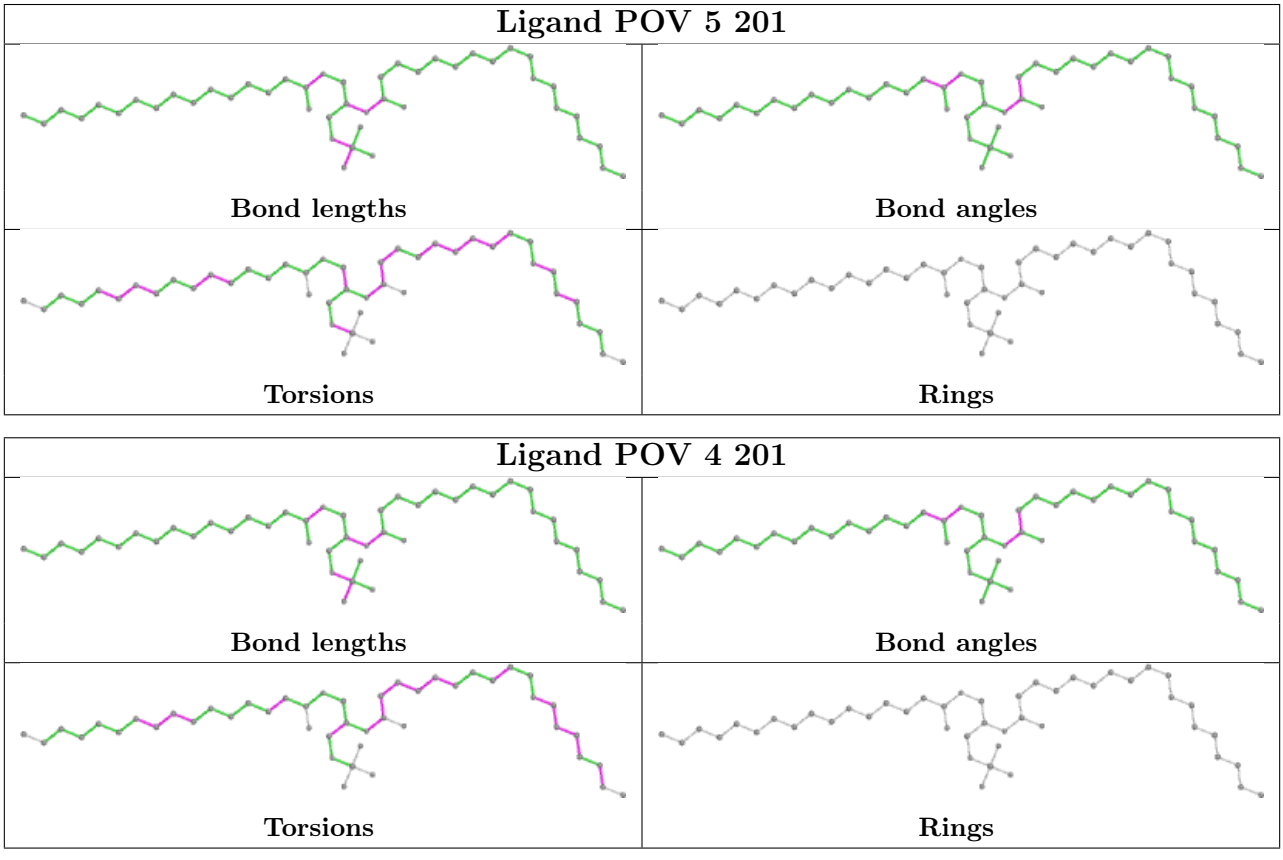
Mol	Chain	Res	Type	Atoms
9	1	801	NAG	C4-C5-C6-O6
9	1	802	NAG	C4-C5-C6-O6
9	7	303	NAG	C4-C5-C6-O6
9	1	803	NAG	O5-C5-C6-O6
10	5	201	POV	C22-C21-O21-C2
10	5	201	POV	O22-C21-O21-C2
10	5	201	POV	C35-C36-C37-C38
10	4	201	POV	C21-C22-C23-C24
10	4	201	POV	C24-C25-C26-C27
10	5	201	POV	C310-C311-C312-C313
10	4	201	POV	C311-C310-C39-C38
10	4	201	POV	C36-C37-C38-C39
10	5	201	POV	C210-C211-C212-C213
10	4	201	POV	C23-C24-C25-C26
10	4	201	POV	C210-C211-C212-C213
10	5	201	POV	C26-C27-C28-C29
10	4	201	POV	C37-C38-C39-C310
10	5	201	POV	C39-C310-C311-C312
10	5	201	POV	C21-C22-C23-C24
10	5	201	POV	C23-C24-C25-C26
10	4	201	POV	C213-C214-C215-C216
10	5	201	POV	O21-C2-C3-O31
10	4	201	POV	C31-C32-C33-C34
10	4	201	POV	C215-C216-C217-C218
10	4	201	POV	O11-C1-C2-C3
10	4	201	POV	C211-C212-C213-C214
10	5	201	POV	C212-C213-C214-C215
10	4	201	POV	C212-C213-C214-C215
10	5	201	POV	C1-C2-C3-O31
10	5	201	POV	C24-C25-C26-C27
10	5	201	POV	C311-C310-C39-C38
10	5	201	POV	C1-O11-P-O14
10	4	201	POV	C22-C23-C24-C25
10	5	201	POV	C27-C28-C29-C210
10	4	201	POV	C27-C28-C29-C210
10	5	201	POV	C25-C26-C27-C28
10	5	201	POV	C34-C35-C36-C37
10	5	201	POV	O21-C21-C22-C23
10	4	201	POV	O22-C21-C22-C23
10	4	201	POV	O21-C21-C22-C23

There are no ring outliers.

2 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
10	5	201	POV	2	0
10	4	201	POV	5	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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.

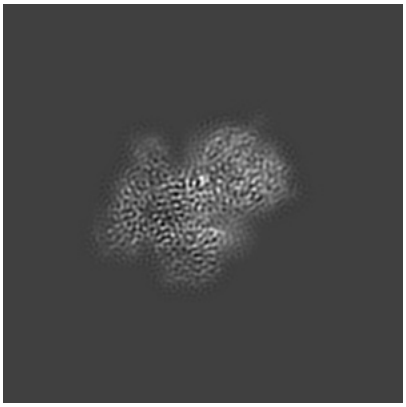
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-21587. These allow visual inspection of the internal detail of the map and identification of artifacts.

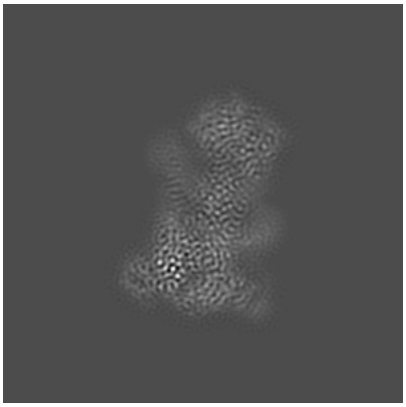
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

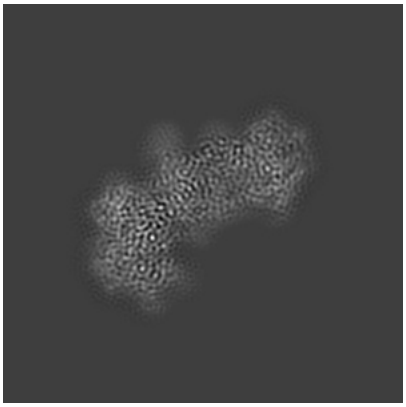
6.1.1 Primary map



X



Y



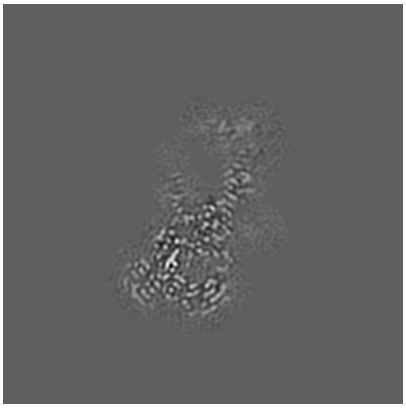
Z

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

6.2 Central slices

6.2.1 Primary map

X Index: 120



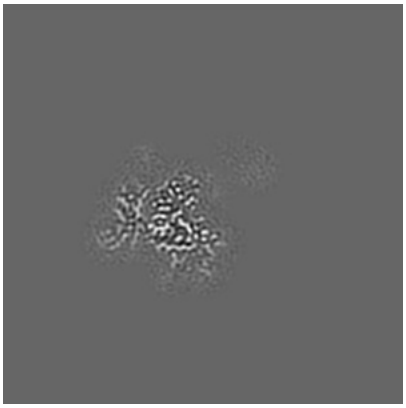
Y Index: 120

Z Index: 120

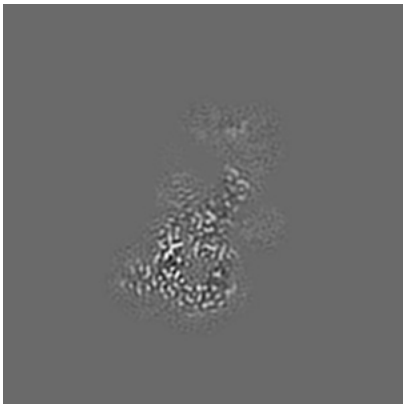
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

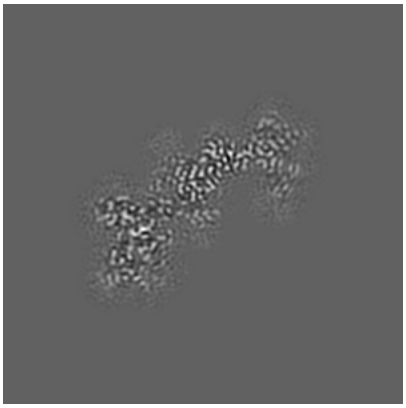
6.3.1 Primary map



X Index: 84



Y Index: 117



Z Index: 128

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.028. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

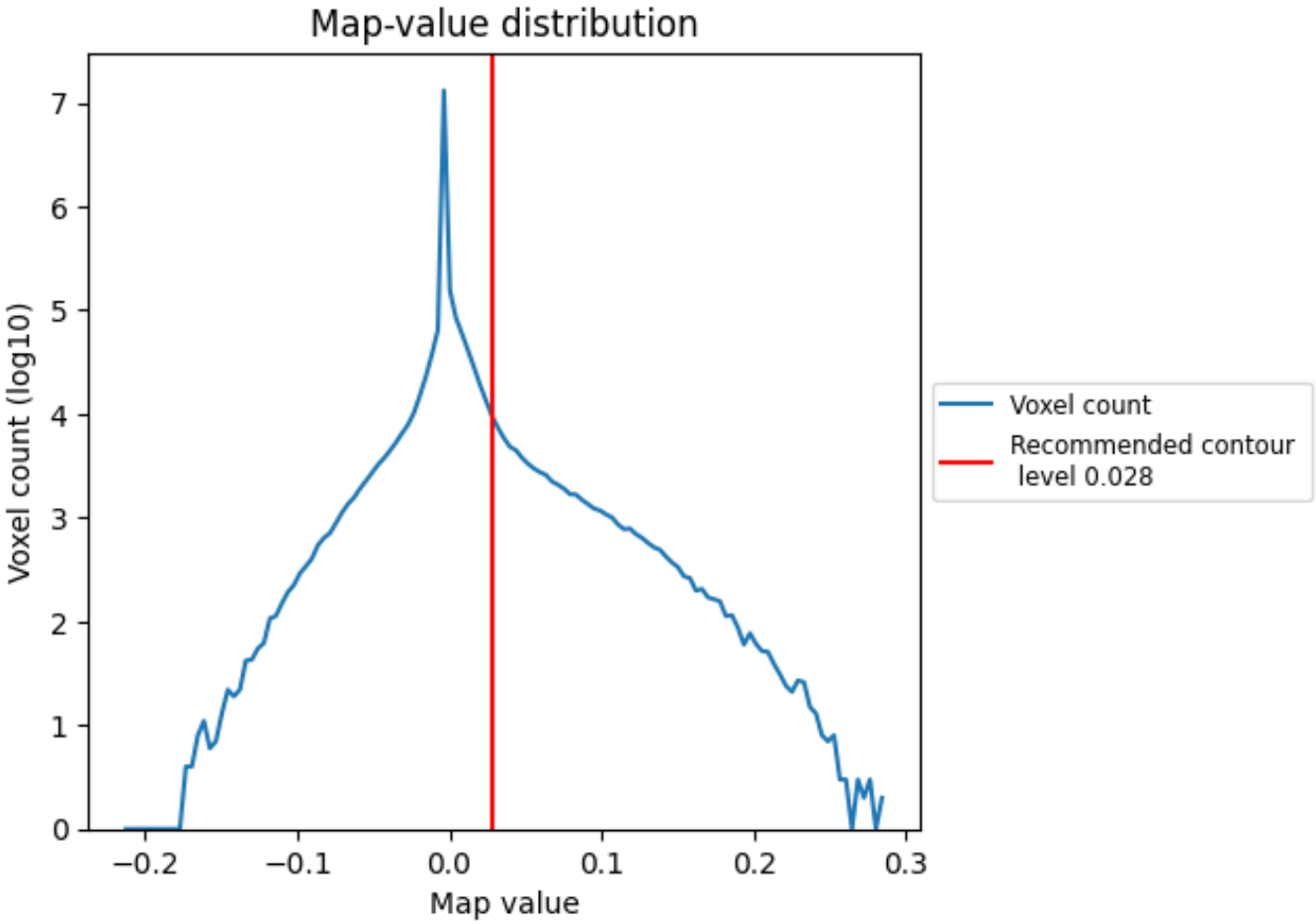
6.5 Mask visualisation (i)

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

7 Map analysis

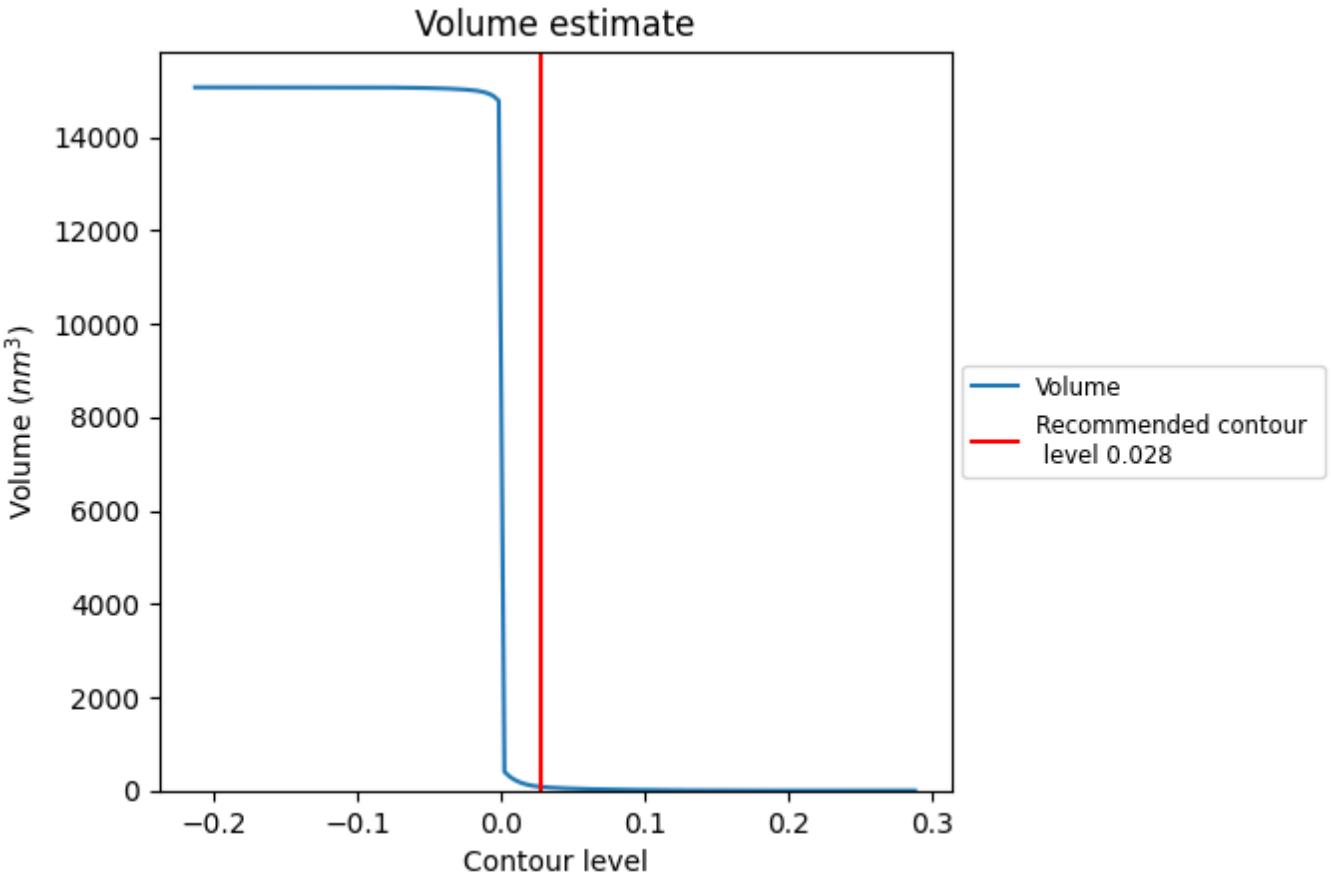
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

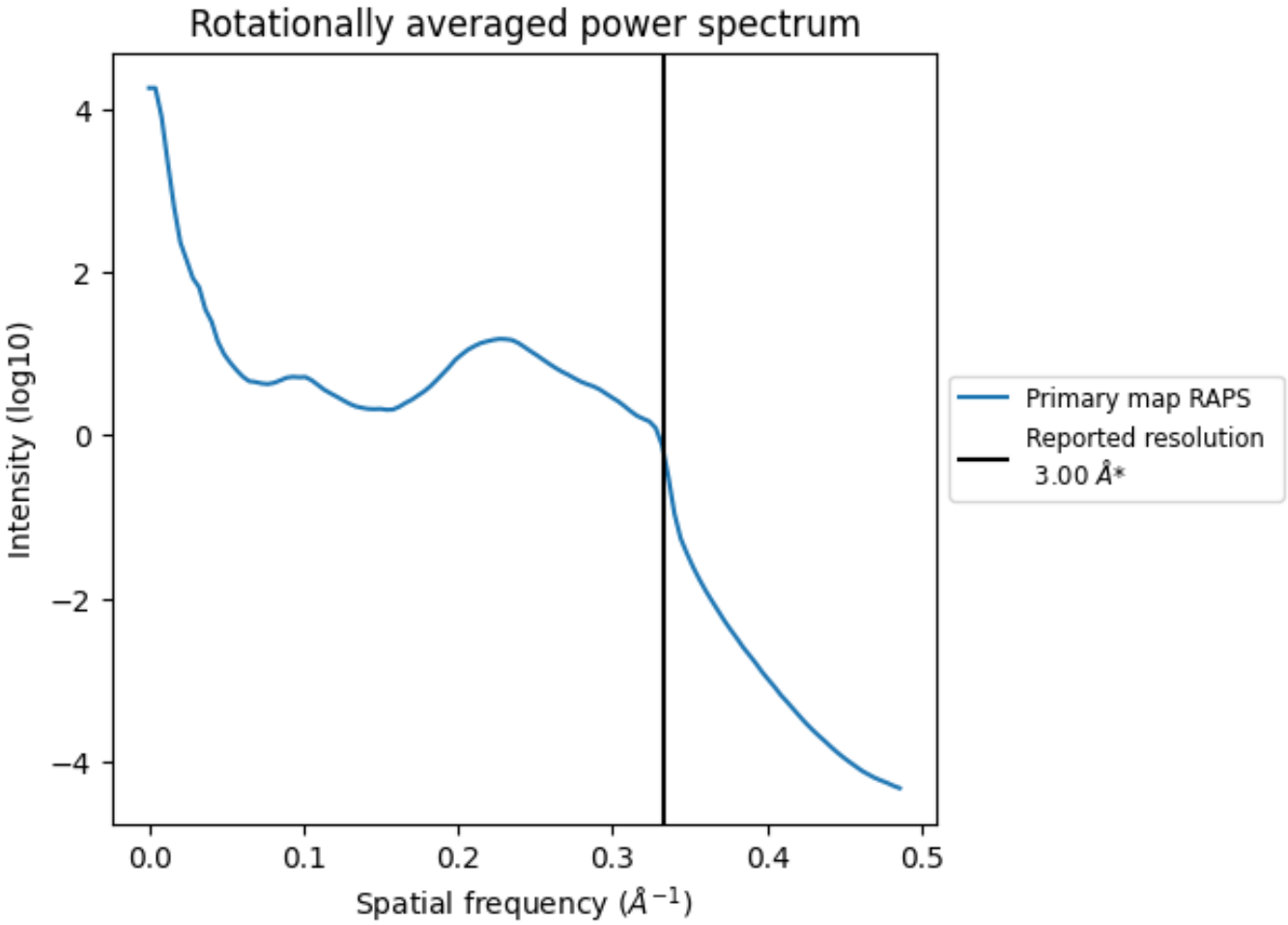
7.2 Volume estimate (i)



The volume at the recommended contour level is 80 nm^3; this corresponds to an approximate mass of 72 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 0.333 Å^{-1}

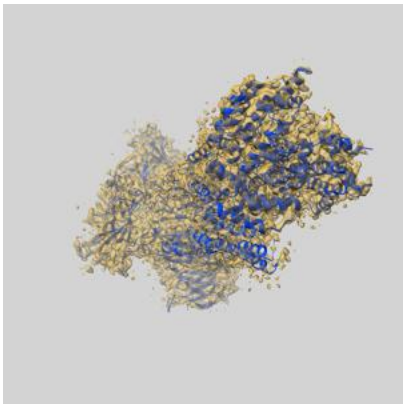
8 Fourier-Shell correlation (i)

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

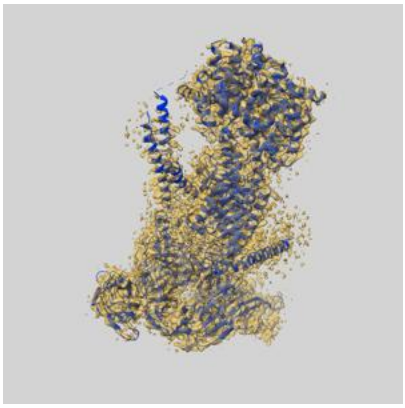
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-21587 and PDB model 6WB9. Per-residue inclusion information can be found in section 3 on page 6.

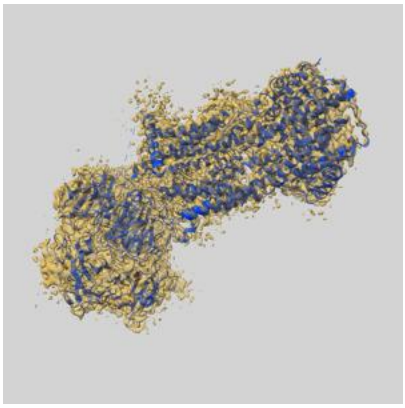
9.1 Map-model overlay



X



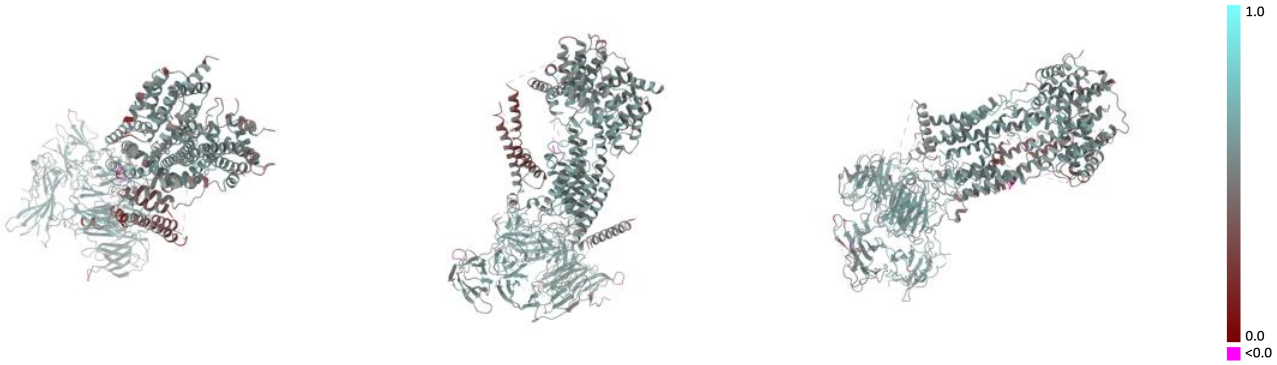
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.028 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.

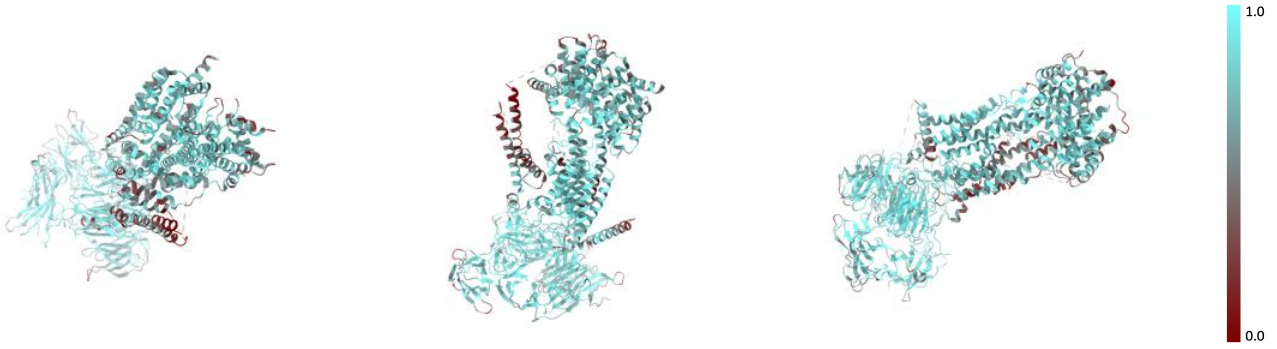
9.2 Q-score mapped to coordinate model (i)



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.

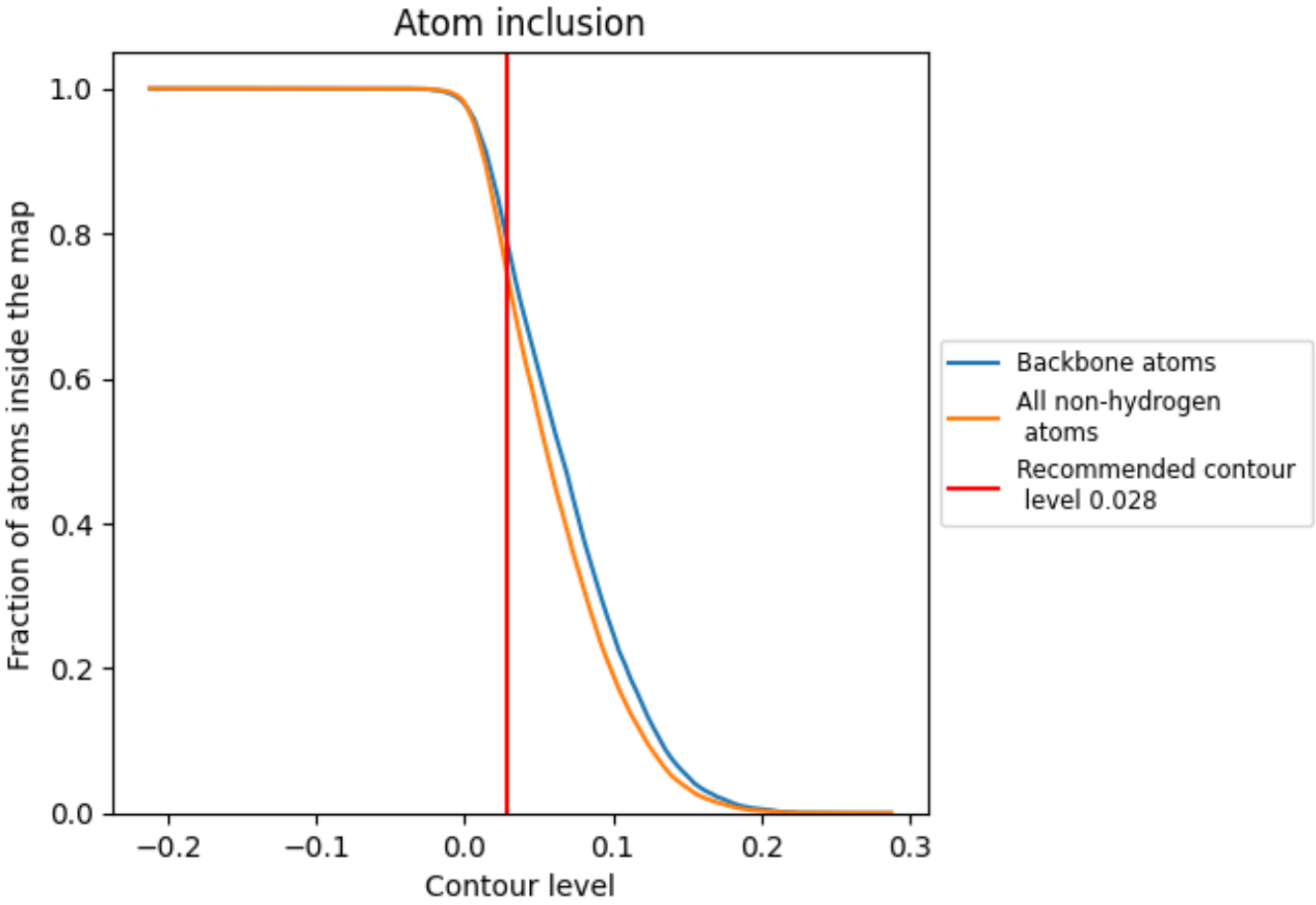
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.028).

9.4 Atom inclusion (i)



At the recommended contour level, 80% of all backbone atoms, 75% 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 (0.028) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7513	0.5320
0	0.7007	0.5120
1	0.7903	0.5480
2	0.7525	0.5310
3	0.7125	0.5220
4	0.5277	0.4270
5	0.7906	0.5580
6	0.8411	0.5750
7	0.8020	0.5480