WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Jan 13, 2025 – 01:30 PM JST

PDB ID	:	8XY6
EMDB ID	:	EMD-38767
Title	:	ASFV RNAP M1249L C-tail occupied complex3 (MCOC3)
Authors	:	Zhu, G.L.; Zhu, Y.; Zhu, Z.X.; Sun, F.; Zheng, H.X.
Deposited on	:	2024-01-19
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 (i) symbol.

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

The following versions of software and data (see references (i)) were used in the production of this report:
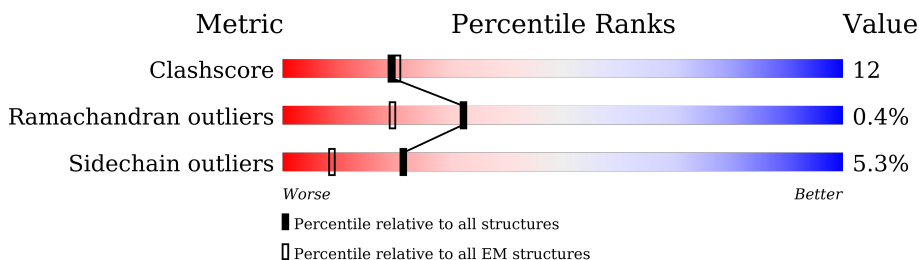
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 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.
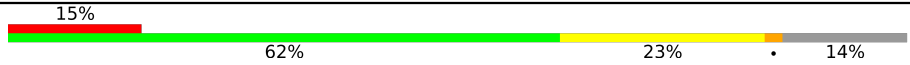
Metric	Percentile Ranks	Value
Clashscore		12
Ramachandran outliers		0.4%
Sidechain outliers		5.3%

Worse   *Better*

■ Percentile relative to all structures
▯ Percentile relative to all EM structures

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	A	1441	8% / 65% / 31% · ·
2	B	1235	· / 66% / 30% · ·
3	C	358	· / 73% / 25% ·
4	D	205	15% / 67% / 30% ·
5	E	130	14% / 58% / 25% · 16%
6	F	151	10% / 42% / 18% · 37%
7	G	105	10% / 61% / 37% ·
8	H	80	61% / 38% ·

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Mol	Chain	Length	Quality of chain
9	I	577	

2 Entry composition ⓘ

There are 11 unique types of molecules in this entry. The entry contains 32407 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 DNA-directed RNA polymerase subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1410	Total 11216	C 7120	N 1949	O 2085	S 62	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	1200	Total 9492	C 6003	N 1662	O 1777	S 50	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase RPB3-11 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	358	Total 2907	C 1885	N 481	O 529	S 12	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerase RPB5 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	205	Total 1669	C 1088	N 278	O 295	S 8	0	0

- Molecule 5 is a protein called C147L.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	109	Total 869	C 554	N 147	O 164	S 4	0	0

- Molecule 6 is a protein called D339L.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	95	Total 758	C 481	N 130	O 141	S 6	0	0

- Molecule 7 is a protein called C122R.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	105	Total 816	C 507	N 141	O 153	S 15	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerase RPB10 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	80	Total 631	C 411	N 102	O 111	S 7	0	0

- Molecule 9 is a protein called M1249L.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	497	Total 4042	C 2605	N 655	O 769	S 13	0	0

- Molecule 10 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

| Mol	Chain	Residues	Atoms		AltConf
10	A	2	Total 2	Zn 2	0
10	B	1	Total 1	Zn 1	0
10	G	2	Total 2	Zn 2	0
10	H	1	Total 1	Zn 1	0

- Molecule 11 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

| Mol	Chain	Residues	Atoms		AltConf
11	A	1	Total 1	Mg 1	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.
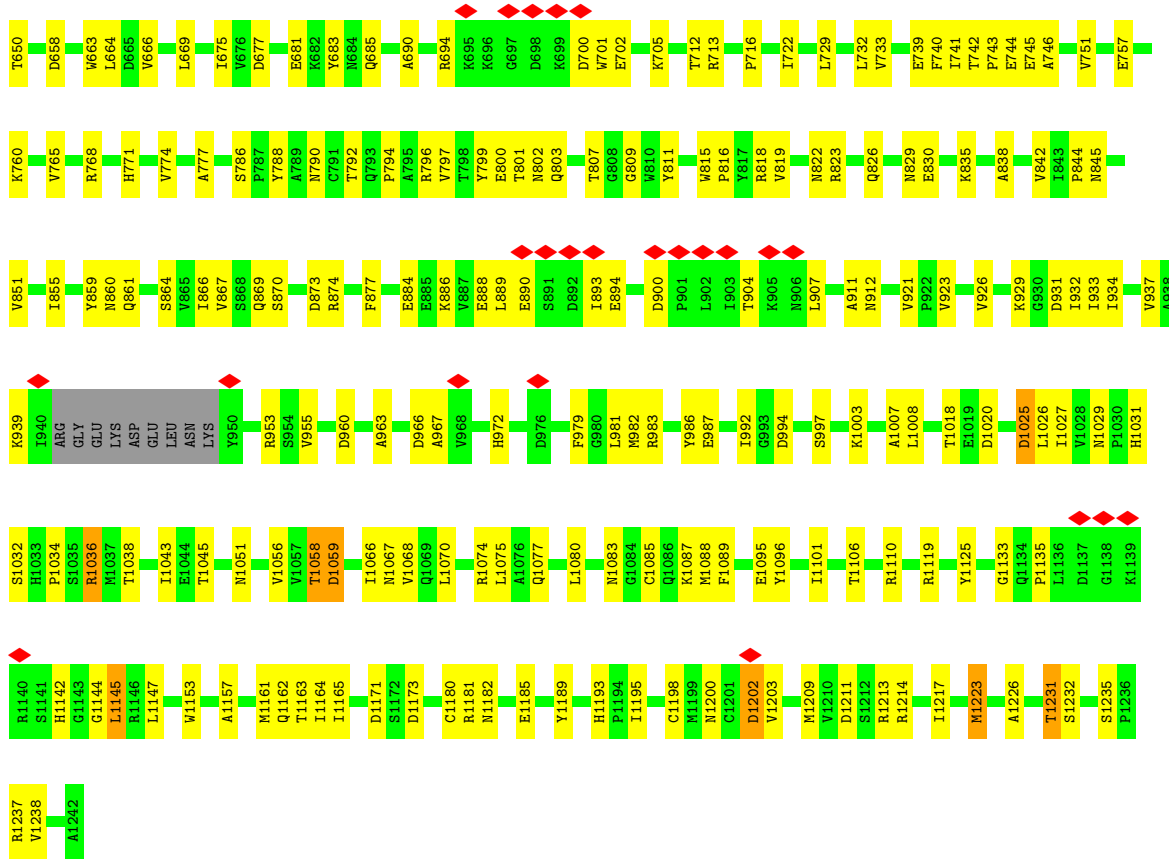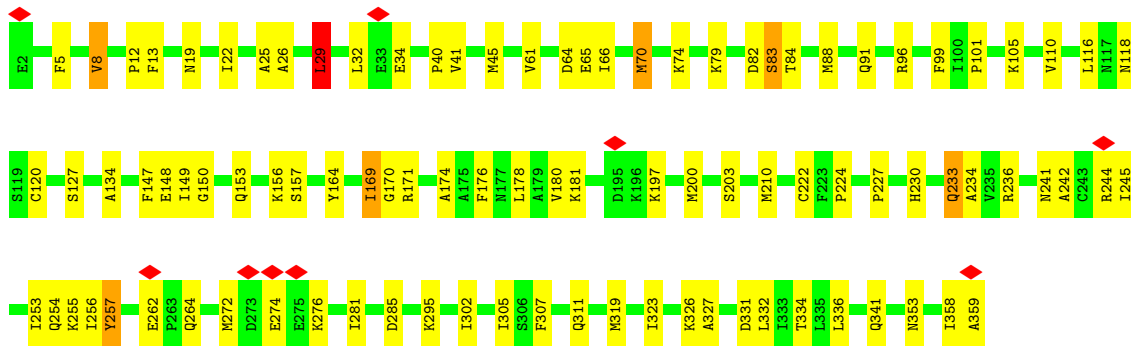
• Molecule 1: DNA-directed RNA polymerase subunit
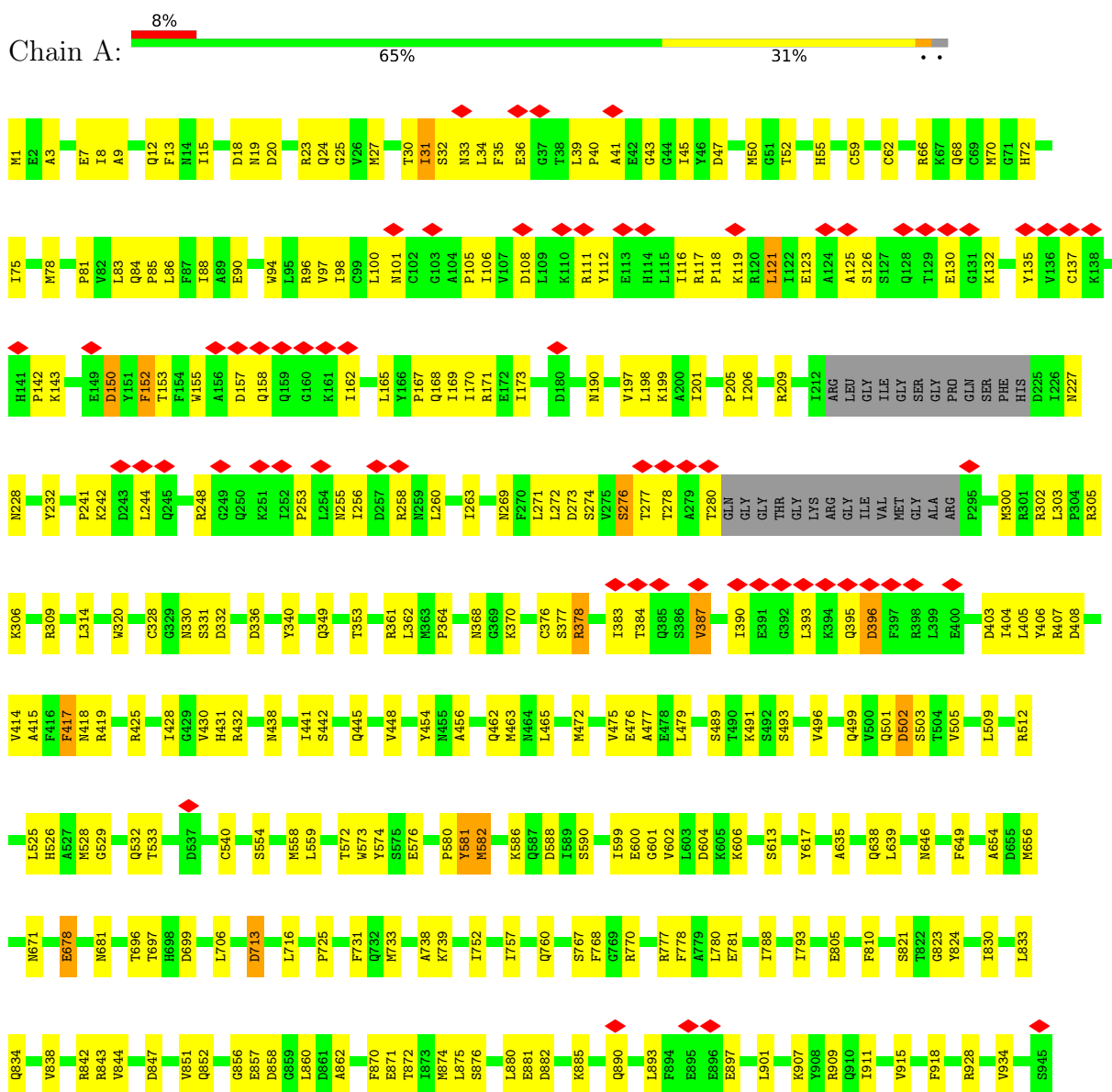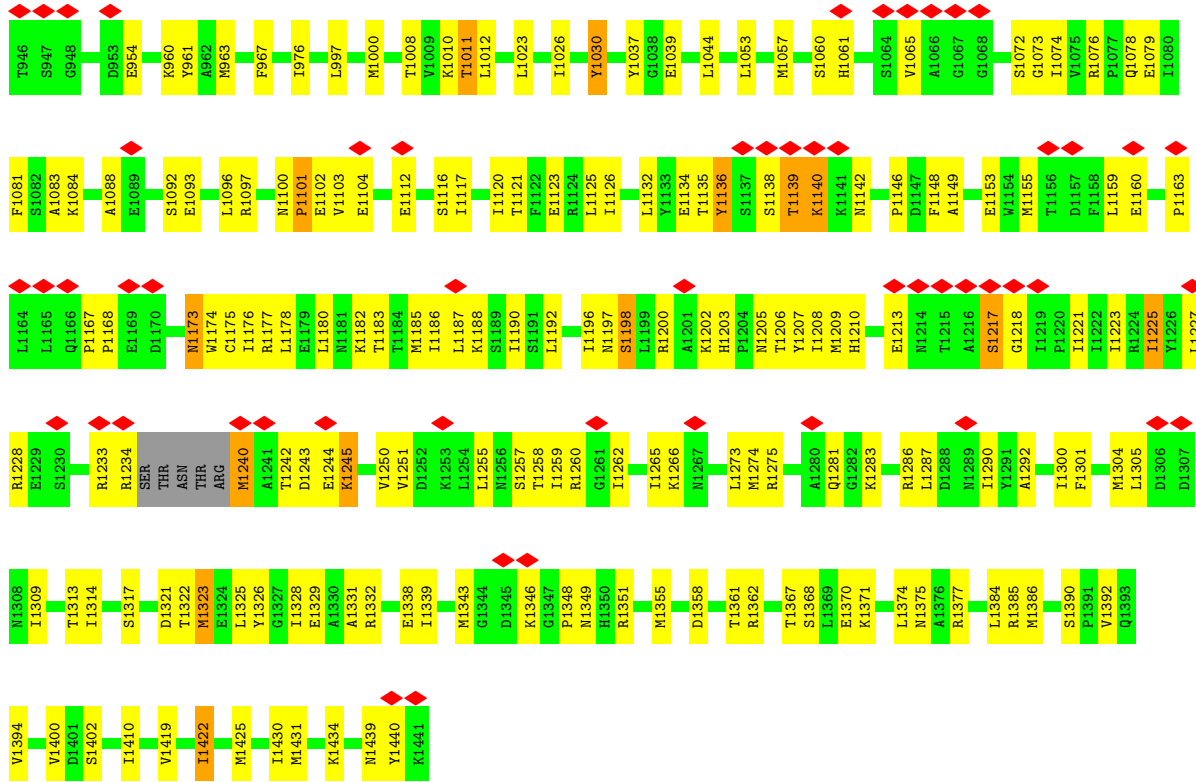
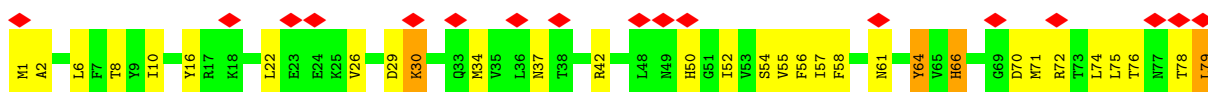• Molecule 2: DNA-directed RNA polymerase subunit beta
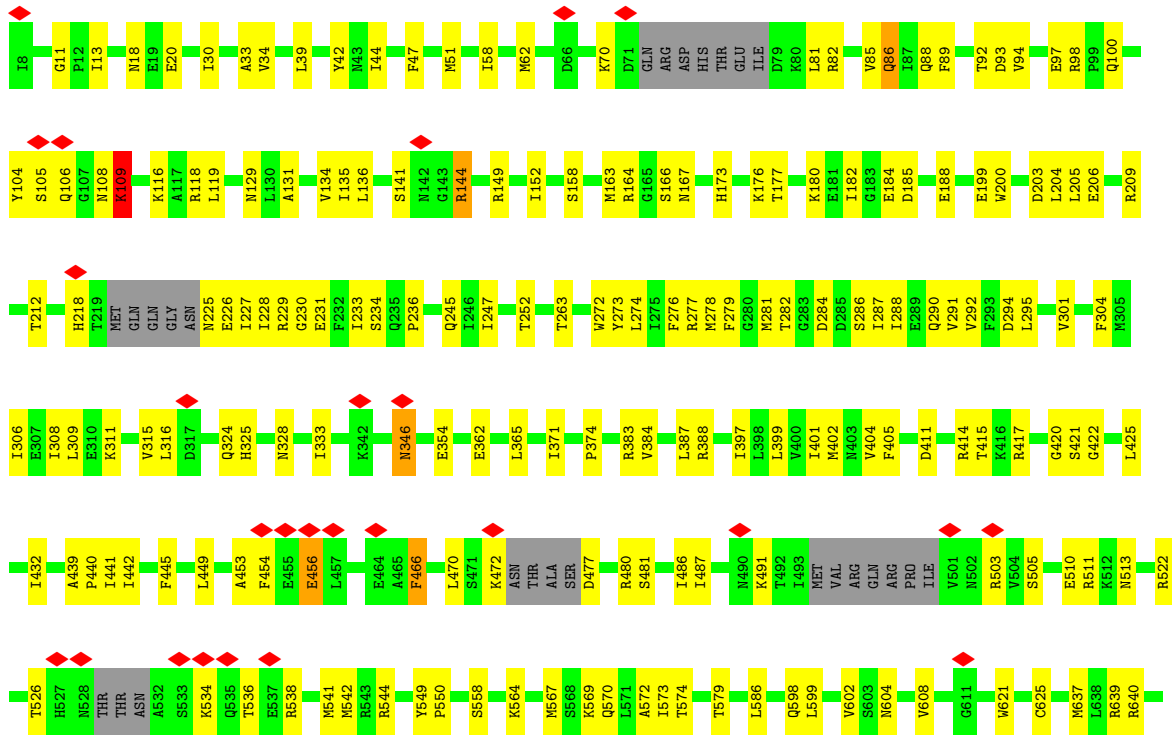
- Molecule 3: DNA-directed RNA polymerase RPB3-11 homolog

Chain C:

- Molecule 4: DNA-directed RNA polymerase RPB5 homolog

Chain D:

N80 E81 K82 K83 H84 Y85 E86 L90 I91 V92 D93 K94 L97 S98 K99 K100 N101 I102 L103 D104 I105 I106 V107 E108 Q109 R110 A111 A112 T115 I116 N119 I120 Y121 P122 Y123 I130 V133 I136 P137 K138 H139 K140 T143 Q144 E145 E146 A147 Q148 E149 E154

A191 M192 H193 R198 K204 I205

• Molecule 5: C147L

14%

Chain E: 58% 25% 16%

Y18 V19 E20 T21 E22 E23 E24 N25 L26 V27 ASP SER GLU GLU GLU SER GLU ASP LYS ASP ILE VAL GLU SER PRO SER ILE CYS GLU GLY F49 V50 Q51 A52 S53 S54 Q55 D62 S68 T72 R83 A84 Q85 Q86 I89 N90 G91 S92 T93 M94 L95 K96 K97 K98

Y99 I103 D104 I105 R113 K114 I115 P116 L117 M120 R121 C122 I123 K131 I132 V133 P138 R139 E140 M141 G142 L146 D147

• Molecule 6: D339L

10%

Chain F: 42% 18% 37%

M1 I2 D3 Q4 E8 D14 T17 N22 E32 Y35 K38 C39 F40 K41 N42 S43 F44 I45 L46 T49 G50 V51 I52 Q53 F58 R61 Y69 M70 R73 V77 V78 S79 Y80 LEU ASN ALA PHE ASP LEU ILE ALA ALA VAL LYS ILE ILE LYS

ASN ASP SER ASN ILE ILE LEU GLY GLU SER LEU LEU THR GLU PRO VAL THR ILE VAL ILE PRO SER GLU SER GLN ASN ASN VAL ALA GLU VAL GLY GLN ILE VAL PRO VAL GLN LEU ALA ASN S137 S138 V139 Y140 Y141 I142 R145 Q146 Q147 A148 S149 A150 T151

• Molecule 7: C122R

10%

Chain G: 61% 37%

M1 K2 I3 R13 T14 Y15 V16 D17 I20 I21 F22 R23 C24 S25 V30 Q31 G32 D33 S34 Q35 V39 K42 V43 Y44 H45 T46 G47 E48 M49 E50 D51 K52 Y53 K54 I55 N59 A60 P61 F62 D63 K70 K71 D79 Y80 L81 T82 Q83 I84 C85 Q89 K90

L94 V95 M101 S102 N103 R104 G105

• Molecule 8: DNA-directed RNA polymerase RPB10 homolog

Chain H: 61% 38%

M1 L2 I3 T9 P13 Y17 A18 F21 D22 K23 Y28 I29 K30 M33 P38 P42 L43 D44 L47 Q48 I49 E50 L51 K52 D53 L54 L58 M62 R63 R67 T68 I71 T72 T73 L74 K78 Y79 Y80

• Molecule 9: M1249L

15%

Chain I: 62% 23% 14%

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	60445	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 $(e^-/Å^2)$	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.991	Depositor
Minimum map value	-0.854	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.064	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	419.84, 419.84, 419.84	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.82, 0.82, 0.82	Depositor

5   Model quality ⓘ

5.1   Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	A	0.31	0/11434	0.54	2/15488 (0.0%)
2	B	0.31	0/9680	0.51	1/13094 (0.0%)
3	C	0.32	0/2969	0.49	1/4012 (0.0%)
4	D	0.30	0/1708	0.57	0/2311
5	E	0.29	0/880	0.54	0/1190
6	F	0.30	0/772	0.57	0/1042
7	G	0.32	0/828	0.50	0/1109
8	H	0.34	0/644	0.55	0/872
9	I	0.29	0/4141	0.50	2/5618 (0.0%)
All	All	0.31	0/33056	0.52	6/44736 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1101	PRO	CA-N-CD	-7.41	101.13	111.50
3	C	29	LEU	CA-CB-CG	6.04	129.20	115.30
1	A	1163	PRO	CA-N-CD	-5.85	103.30	111.50
2	B	741	ILE	C-N-CA	5.83	136.27	121.70
9	I	969	LEU	CA-CB-CG	5.29	127.48	115.30
9	I	1028	ASP	CB-CG-OD1	5.24	123.02	118.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1422	ILE	Peptide

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	11216	0	11338	322	0
2	B	9492	0	9449	278	0
3	C	2907	0	2982	68	0
4	D	1669	0	1713	44	0
5	E	869	0	909	27	0
6	F	758	0	751	18	0
7	G	816	0	813	33	0
8	H	631	0	659	27	0
9	I	4042	0	3978	110	0
10	A	2	0	0	0	0
10	B	1	0	0	0	0
10	G	2	0	0	0	0
10	H	1	0	0	0	0
11	A	1	0	0	0	0
All	All	32407	0	32592	803	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 12.

All (803) 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)
4:D:10:ILE:HD11	4:D:55:VAL:HG11	1.56	0.87
2:B:98:ARG:NH2	2:B:167:ASN:O	2.10	0.83
2:B:1161:MET:O	2:B:1163:THR:N	2.10	0.83
1:A:1176:ILE:HB	1:A:1225:ILE:HG23	1.65	0.79
1:A:116:ILE:HG12	1:A:118:PRO:HD2	1.65	0.79
5:E:138:PRO:HA	5:E:141:MET:HG3	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1181:ARG:NH2	2:B:1235:SER:O	2.16	0.79
1:A:678:GLU:OE2	9:I:843:ARG:NH1	2.17	0.77
3:C:79:LYS:O	3:C:83:SER:OG	2.02	0.77
1:A:1274:MET:SD	1:A:1286:ARG:NH1	2.58	0.76
2:B:1238:VAL:HG11	5:E:131:LYS:HD2	1.68	0.76
2:B:414:ARG:HG3	2:B:415:THR:HG23	1.68	0.75
1:A:362:LEU:HD12	1:A:405:LEU:HD23	1.69	0.74
2:B:58:ILE:HA	2:B:62:MET:HG3	1.69	0.74
1:A:1076:ARG:NH2	1:A:1338:GLU:OE2	2.20	0.74
2:B:86:GLN:OE1	2:B:88:GLN:NE2	2.17	0.73
2:B:152:ILE:HG21	2:B:466:PHE:HD2	1.53	0.73
7:G:70:LYS:NZ	7:G:79:ASP:OD1	2.22	0.73
1:A:431:HIS:HE2	1:A:454:TYR:HH	1.35	0.71
2:B:1087:LYS:NZ	3:C:203:SER:O	2.22	0.71
8:H:29:ILE:HG13	8:H:49:ILE:HD13	1.71	0.71
1:A:81:PRO:HB2	1:A:167:PRO:HB2	1.73	0.71
1:A:1138:SER:OG	1:A:1139:THR:N	2.22	0.71
3:C:127:SER:HB2	3:C:147:PHE:HB2	1.74	0.70
7:G:21:ILE:HG22	7:G:31:GLN:HA	1.74	0.70
3:C:84:THR:HB	3:C:157:SER:H	1.56	0.69
1:A:1074:ILE:HG23	1:A:1078:GLN:HG2	1.73	0.69
1:A:88:ILE:HD11	1:A:280:THR:HG22	1.75	0.69
1:A:31:ILE:HD11	1:A:33:ASN:HB3	1.75	0.68
1:A:1206:THR:HB	1:A:1225:ILE:HD11	1.75	0.68
2:B:994:ASP:OD2	2:B:1110:ARG:NH2	2.26	0.68
2:B:354:GLU:OE2	9:I:1178:GLN:NE2	2.27	0.68
2:B:404:VAL:HG13	7:G:52:LYS:HG3	1.76	0.68
2:B:1045:THR:OG1	2:B:1106:THR:OG1	2.12	0.68
1:A:431:HIS:NE2	1:A:454:TYR:OH	2.24	0.67
2:B:274:LEU:O	2:B:278:MET:HG2	1.93	0.67
1:A:1101:PRO:HA	1:A:1104:GLU:HB3	1.75	0.67
1:A:1234:ARG:HG2	1:A:1240:MET:HG3	1.77	0.67
1:A:588:ASP:HA	1:A:601:GLY:HA2	1.75	0.67
1:A:142:PRO:HB3	1:A:158:GLN:HB2	1.75	0.67
3:C:26:ALA:HB1	3:C:32:LEU:HB3	1.76	0.67
1:A:554:SER:O	1:A:558:MET:HG3	1.95	0.66
2:B:11:GLY:O	2:B:713:ARG:NH1	2.29	0.66
2:B:453:ALA:HB3	2:B:456:GLU:HB3	1.78	0.65
1:A:300:MET:HE2	1:A:1392:VAL:HG13	1.79	0.65
1:A:871:GLU:OE1	1:A:1010:LYS:NZ	2.30	0.65
1:A:108:ASP:HB3	1:A:111:ARG:HH11	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:331:SER:O	1:A:638:GLN:NE2	2.31	0.64
4:D:76:THR:O	4:D:80:ASN:ND2	2.29	0.64
5:E:103:ILE:HD12	5:E:104:ASP:N	2.11	0.64
6:F:46:LEU:N	6:F:77:VAL:O	2.30	0.64
1:A:378:ARG:HD3	1:A:387:VAL:HG21	1.79	0.64
2:B:1043:ILE:HG21	2:B:1066:ILE:HD11	1.79	0.64
4:D:52:ILE:HG21	4:D:83:LYS:HD3	1.79	0.64
2:B:188:GLU:OE2	2:B:511:ARG:NH2	2.30	0.64
9:I:1070:ASP:OD2	9:I:1074:ARG:NH2	2.31	0.64
1:A:1190:ILE:HD11	1:A:1260:ARG:HE	1.62	0.63
8:H:17:TYR:HB3	8:H:58:LEU:HD22	1.79	0.63
9:I:1029:ILE:HG13	9:I:1033:VAL:HG21	1.79	0.63
3:C:110:VAL:H	3:C:134:ALA:HB3	1.64	0.63
1:A:253:PRO:HG2	1:A:256:ILE:HD13	1.80	0.63
1:A:336:ASP:OD2	1:A:432:ARG:NH2	2.29	0.63
3:C:254:GLN:OE1	3:C:341:GLN:NE2	2.32	0.63
8:H:30:LYS:HA	8:H:33:MET:HE3	1.80	0.63
9:I:721:ARG:HD2	9:I:726:LEU:HD23	1.81	0.63
2:B:277:ARG:NH2	2:B:284:ASP:OD1	2.32	0.62
2:B:1238:VAL:HG12	5:E:55:GLN:HB2	1.81	0.62
1:A:580:PRO:O	9:I:864:TYR:OH	2.17	0.62
2:B:304:PHE:O	2:B:308:ILE:HG22	1.99	0.62
9:I:877:GLU:OE2	9:I:897:ARG:NH1	2.32	0.62
1:A:209:ARG:NH1	1:A:227:ASN:OD1	2.32	0.62
9:I:1079:ASN:ND2	9:I:1172:GLU:OE2	2.32	0.62
2:B:185:ASP:HB2	2:B:188:GLU:HG2	1.81	0.62
2:B:830:GLU:HG2	8:H:73:THR:HA	1.82	0.62
1:A:101:ASN:OD1	1:A:248:ARG:NH2	2.33	0.62
1:A:306:LYS:NZ	9:I:1237:ASP:OD1	2.32	0.61
1:A:1136:TYR:CE2	1:A:1155:MET:HG2	2.36	0.61
1:A:1339:ILE:O	1:A:1343:MET:HG2	2.00	0.61
7:G:23:ARG:NH1	7:G:24:CYS:O	2.32	0.61
2:B:1083:ASN:ND2	2:B:1085:CYS:SG	2.73	0.61
2:B:889:LEU:HD12	2:B:894:GLU:HB3	1.83	0.61
1:A:1138:SER:HB3	1:A:1140:LYS:HE3	1.83	0.61
2:B:276:PHE:HB3	2:B:287:ILE:HD12	1.80	0.61
2:B:586:LEU:HD23	2:B:664:LEU:HD11	1.83	0.61
2:B:510:GLU:OE1	2:B:510:GLU:N	2.26	0.61
2:B:425:LEU:HD21	2:B:486:ILE:HD11	1.82	0.61
4:D:101:ASN:O	4:D:105:ILE:HD12	2.01	0.60
3:C:241:ASN:OD1	3:C:244:ARG:NH2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:493:SER:OG	1:A:1349:ASN:ND2	2.33	0.60
2:B:441:ILE:HD11	2:B:470:LEU:HD11	1.82	0.60
1:A:526:HIS:NE2	2:B:1095:GLU:OE2	2.29	0.60
2:B:835:LYS:NZ	2:B:1059:ASP:OD1	2.29	0.60
8:H:68:THR:O	8:H:72:THR:OG1	2.11	0.60
1:A:582:MET:HB2	1:A:725:PRO:HG2	1.82	0.60
2:B:281:MET:HB3	9:I:1067:MET:SD	2.42	0.60
2:B:900:ASP:O	2:B:904:THR:OG1	2.15	0.60
2:B:292:VAL:HG23	2:B:294:ASP:H	1.67	0.60
2:B:534:LYS:HD2	9:I:1225:ASP:HB3	1.84	0.60
4:D:2:ALA:O	4:D:6:LEU:HB2	2.02	0.59
1:A:499:GLN:HB3	1:A:503:SER:HB2	1.83	0.59
2:B:118:ARG:NH2	2:B:184:GLU:OE2	2.34	0.59
4:D:192:MET:O	4:D:193:HIS:ND1	2.34	0.59
1:A:475:VAL:HG23	5:E:103:ILE:HG22	1.84	0.59
1:A:1386:MET:HG2	1:A:1394:VAL:HG13	1.85	0.59
2:B:100:GLN:HB3	2:B:109:LYS:HG3	1.85	0.59
1:A:171:ARG:HB2	1:A:197:VAL:HG11	1.84	0.59
1:A:419:ARG:HG3	1:A:463:MET:HG2	1.84	0.59
1:A:1213:GLU:HB2	1:A:1221:ILE:HG12	1.84	0.59
2:B:869:GLN:NE2	2:B:873:ASP:OD1	2.34	0.59
4:D:34:MET:HA	4:D:37:ASN:HB3	1.84	0.59
9:I:1095:HIS:CE1	9:I:1096:VAL:HG13	2.38	0.59
2:B:279:PHE:HB2	2:B:387:LEU:HD11	1.84	0.59
2:B:796:ARG:NH1	9:I:1249:GLN:OXT	2.35	0.59
9:I:932:PHE:O	9:I:936:ARG:NH2	2.35	0.59
1:A:1076:ARG:NH1	1:A:1079:GLU:OE1	2.36	0.58
1:A:1240:MET:SD	1:A:1240:MET:N	2.76	0.58
1:A:1367:THR:OG1	1:A:1377:ARG:NH1	2.36	0.58
3:C:88:MET:SD	3:C:150:GLY:HA3	2.43	0.58
9:I:719:ILE:HG21	9:I:726:LEU:HD11	1.83	0.58
1:A:1136:TYR:CZ	1:A:1155:MET:HG2	2.38	0.58
1:A:377:SER:HA	1:A:390:ILE:HG12	1.85	0.58
2:B:118:ARG:NH1	2:B:199:GLU:OE2	2.36	0.58
3:C:61:VAL:HA	3:C:65:GLU:HB2	1.85	0.58
2:B:404:VAL:HA	7:G:52:LYS:HD2	1.85	0.58
1:A:1182:LYS:HE3	1:A:1221:ILE:HD11	1.84	0.58
1:A:150:ASP:OD2	1:A:153:THR:OG1	2.19	0.58
2:B:866:ILE:HG23	2:B:1008:LEU:HB3	1.86	0.58
8:H:33:MET:HE1	9:I:815:LEU:HD21	1.86	0.58
4:D:42:ARG:NH2	4:D:54:SER:OG	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:ILE:HG12	1:A:33:ASN:H	1.68	0.57
2:B:1133:GLY:HA3	2:B:1214:ARG:HD3	1.86	0.57
6:F:46:LEU:HD21	6:F:79:SER:HB3	1.86	0.57
2:B:18:ASN:ND2	2:B:712:THR:O	2.35	0.57
2:B:294:ASP:HB2	2:B:608:VAL:HG21	1.86	0.57
1:A:395:GLN:NE2	1:A:396:ASP:OD1	2.32	0.57
1:A:1208:ILE:HG13	1:A:1225:ILE:HD13	1.85	0.57
2:B:316:LEU:HA	2:B:324:GLN:HE22	1.69	0.57
1:A:320:TRP:CE2	2:B:1135:PRO:HG3	2.39	0.57
1:A:599:ILE:HD12	1:A:599:ILE:O	2.04	0.57
1:A:502:ASP:HB2	2:B:861:GLN:HG2	1.87	0.56
1:A:376:CYS:SG	1:A:405:LEU:HD11	2.45	0.56
1:A:572:THR:HG23	1:A:606:LYS:HB2	1.86	0.56
1:A:276:SER:HB2	5:E:19:VAL:HG22	1.88	0.56
1:A:1332:ARG:HD2	1:A:1358:ASP:OD1	2.05	0.56
3:C:5:PHE:CE1	3:C:45:MET:HB3	2.40	0.56
4:D:71:MET:SD	4:D:75:LEU:HD23	2.44	0.56
6:F:49:THR:HG22	6:F:50:GLY:H	1.71	0.56
2:B:866:ILE:HB	2:B:1027:ILE:HB	1.87	0.56
3:C:25:ALA:O	3:C:29:LEU:HD23	2.05	0.56
9:I:675:LYS:N	9:I:675:LYS:HD2	2.19	0.56
1:A:1431:MET:SD	5:E:86:GLN:NE2	2.76	0.56
2:B:1067:ASN:HB3	2:B:1070:LEU:HB2	1.88	0.56
4:D:133:VAL:HB	4:D:136:ILE:HD12	1.88	0.56
2:B:230:GLY:HA3	2:B:397:ILE:HD11	1.87	0.56
2:B:513:ASN:HA	2:B:811:TYR:HA	1.88	0.56
4:D:56:PHE:HB3	4:D:58:PHE:CE1	2.41	0.56
1:A:1375:ASN:ND2	1:A:1385:ARG:HE	2.04	0.56
3:C:236:ARG:NE	3:C:359:ALA:O	2.38	0.56
9:I:788:TYR:HB2	9:I:795:PHE:CZ	2.41	0.56
1:A:512:ARG:HA	1:A:602:VAL:HG12	1.88	0.56
3:C:305:ILE:HD11	3:C:323:ILE:HG23	1.87	0.56
4:D:42:ARG:NH2	4:D:85:TYR:OH	2.35	0.56
1:A:1300:ILE:HB	1:A:1325:LEU:HD13	1.88	0.55
6:F:8:GLU:HG3	6:F:73:ARG:HD3	1.88	0.55
1:A:1273:LEU:HB2	1:A:1290:ILE:HD11	1.89	0.55
2:B:675:ILE:HD11	2:B:739:GLU:HB3	1.87	0.55
1:A:1375:ASN:HD22	1:A:1385:ARG:HE	1.53	0.55
2:B:144:ARG:HA	2:B:144:ARG:HE	1.71	0.55
1:A:111:ARG:NH2	1:A:112:TYR:OH	2.40	0.55
1:A:255:ASN:HA	1:A:258:ARG:HE	1.69	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:278:THR:HB	5:E:22:GLU:HB2	1.88	0.55
1:A:1135:THR:OG1	1:A:1173:ASN:HA	2.07	0.55
7:G:85:CYS:SG	7:G:90:LYS:HD2	2.47	0.55
1:A:1093:GLU:H	1:A:1317:SER:HB3	1.71	0.55
1:A:1227:LEU:HD11	1:A:1250:VAL:HG11	1.89	0.55
1:A:824:TYR:OH	9:I:1232:SER:OG	2.21	0.55
1:A:1329:GLU:OE2	4:D:198:ARG:NH1	2.40	0.55
1:A:574:TYR:OH	1:A:576:GLU:OE2	2.23	0.55
2:B:893:ILE:HG23	2:B:939:LYS:H	1.72	0.55
3:C:70:MET:HE2	3:C:176:PHE:CZ	2.42	0.55
2:B:694:ARG:HG2	2:B:701:TRP:CD1	2.42	0.55
2:B:792:THR:HG23	2:B:1038:THR:HA	1.89	0.55
9:I:1040:MET:HG3	9:I:1180:GLU:HB3	1.89	0.54
1:A:448:VAL:HG21	2:B:861:GLN:HB2	1.89	0.54
1:A:1262:ILE:HG23	1:A:1265:ILE:HB	1.89	0.54
1:A:1321:ASP:O	1:A:1325:LEU:HD12	2.06	0.54
2:B:513:ASN:ND2	2:B:807:THR:O	2.40	0.54
6:F:44:PHE:HD2	6:F:46:LEU:HD23	1.73	0.54
1:A:260:LEU:O	1:A:263:ILE:HG22	2.07	0.54
1:A:1410:ILE:HD11	1:A:1422:ILE:HD13	1.90	0.54
1:A:862:ALA:HB2	1:A:1351:ARG:HD2	1.88	0.54
1:A:1100:ASN:O	1:A:1103:VAL:HG22	2.06	0.54
7:G:82:THR:HG23	7:G:95:VAL:HG23	1.90	0.54
1:A:681:ASN:ND2	1:A:780:LEU:O	2.39	0.54
1:A:1177:ARG:HG2	1:A:1177:ARG:HH11	1.71	0.54
1:A:1242:THR:OG1	1:A:1244:GLU:OE1	2.21	0.54
1:A:241:PRO:HG2	1:A:244:LEU:HD21	1.89	0.54
2:B:92:THR:O	2:B:92:THR:OG1	2.25	0.54
2:B:204:LEU:HD23	2:B:420:GLY:HA3	1.89	0.54
1:A:430:VAL:HG21	1:A:477:ALA:HB1	1.89	0.54
1:A:1117:ILE:O	1:A:1262:ILE:HG22	2.08	0.54
2:B:203:ASP:N	2:B:505:SER:O	2.35	0.54
2:B:404:VAL:O	7:G:52:LYS:NZ	2.29	0.54
4:D:1:MET:CE	4:D:2:ALA:H	2.21	0.54
3:C:12:PRO:HA	3:C:41:VAL:HA	1.90	0.54
1:A:1096:LEU:HB3	1:A:1309:ILE:HG12	1.90	0.53
1:A:654:ALA:HB3	2:B:1083:ASN:HB3	1.90	0.53
3:C:257:TYR:HE2	3:C:336:LEU:HB3	1.73	0.53
2:B:1075:LEU:HD22	2:B:1080:LEU:HD12	1.91	0.53
3:C:118:ASN:HA	9:I:702:MET:HE1	1.89	0.53
1:A:12:GLN:HB3	2:B:1231:THR:HG23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:526:THR:OG1	2:B:569:LYS:NZ	2.41	0.53
2:B:1036:ARG:NH1	9:I:1249:GLN:HE21	2.06	0.53
2:B:1056:VAL:HB	9:I:822:TYR:HB3	1.89	0.53
1:A:559:LEU:HD22	1:A:639:LEU:HD22	1.89	0.53
2:B:742:THR:O	2:B:746:ALA:N	2.38	0.53
2:B:844:PRO:HD2	8:H:74:LEU:HD11	1.90	0.53
2:B:877:PHE:HB3	2:B:1110:ARG:HD2	1.90	0.53
2:B:889:LEU:H	2:B:889:LEU:HD22	1.74	0.53
2:B:1003:LYS:NZ	9:I:1249:GLN:OE1	2.26	0.53
9:I:695:ARG:HG3	9:I:700:ILE:HD11	1.91	0.53
1:A:130:GLU:HB2	1:A:143:LYS:HD3	1.91	0.53
1:A:713:ASP:OD1	1:A:713:ASP:N	2.42	0.53
2:B:579:THR:HA	2:B:666:VAL:HG23	1.90	0.53
2:B:934:ILE:HG13	2:B:955:VAL:HB	1.91	0.53
1:A:1146:PRO:HA	1:A:1149:ALA:HB2	1.91	0.53
2:B:912:ASN:HB2	2:B:931:ASP:HA	1.91	0.53
1:A:90:GLU:OE2	1:A:94:TRP:NE1	2.38	0.53
2:B:311:LYS:O	2:B:315:VAL:HG23	2.09	0.53
2:B:491:LYS:HD2	2:B:491:LYS:N	2.23	0.52
5:E:115:ILE:O	5:E:139:ARG:NH1	2.42	0.52
1:A:671:ASN:HD21	9:I:842:LYS:HZ1	1.57	0.52
2:B:522:ARG:NH2	2:B:572:ALA:O	2.39	0.52
1:A:733:MET:HE3	2:B:1034:PRO:HG3	1.89	0.52
5:E:122:CYS:HB2	5:E:133:VAL:HG12	1.91	0.52
1:A:340:TYR:CE1	1:A:465:LEU:HD22	2.45	0.52
1:A:1180:LEU:HB2	1:A:1221:ILE:HB	1.92	0.52
3:C:253:ILE:O	3:C:256:ILE:HG13	2.09	0.52
1:A:851:VAL:HG22	1:A:1362:ARG:HD2	1.90	0.52
1:A:858:ASP:HB3	4:D:191:ALA:HB2	1.91	0.52
1:A:649:PHE:HB3	2:B:855:ILE:HD12	1.92	0.52
1:A:875:LEU:O	1:A:909:ARG:NH2	2.42	0.52
1:A:1178:LEU:HB2	1:A:1223:ILE:HG23	1.90	0.52
2:B:722:ILE:HD11	2:B:732:LEU:HD11	1.91	0.52
2:B:877:PHE:O	2:B:1110:ARG:NH1	2.38	0.52
1:A:586:LYS:NZ	9:I:884:ILE:O	2.34	0.52
8:H:21:PHE:HZ	8:H:51:LEU:HD13	1.75	0.52
1:A:1:MET:O	2:B:1189:TYR:OH	2.25	0.52
1:A:770:ARG:HG3	1:A:777:ARG:HG3	1.92	0.52
2:B:182:ILE:O	9:I:685:PRO:HB3	2.09	0.52
1:A:1065:VAL:HG13	1:A:1072:SER:HB3	1.91	0.51
2:B:818:ARG:O	2:B:983:ARG:NH1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:178:LEU:O	3:C:224:PRO:HD3	2.09	0.51
9:I:734:ASP:OD1	9:I:735:LYS:N	2.43	0.51
2:B:206:GLU:HB3	2:B:526:THR:HA	1.92	0.51
2:B:231:GLU:HG2	2:B:247:ILE:HG12	1.93	0.51
2:B:34:VAL:HG13	2:B:39:LEU:HD13	1.91	0.51
2:B:388:ARG:NH2	2:B:604:ASN:OD1	2.41	0.51
2:B:690:ALA:O	2:B:694:ARG:HG3	2.09	0.51
2:B:1193:HIS:O	2:B:1195:ILE:N	2.44	0.51
3:C:302:ILE:HD12	3:C:305:ILE:HD12	1.92	0.51
2:B:886:LYS:HA	2:B:981:LEU:H	1.75	0.51
9:I:729:GLN:NE2	9:I:731:GLU:H	2.08	0.51
1:A:479:LEU:HD13	5:E:146:LEU:HD13	1.92	0.51
1:A:805:GLU:HG2	2:B:794:PRO:HB3	1.93	0.51
1:A:1197:ASN:OD1	1:A:1198:SER:N	2.44	0.51
2:B:70:LYS:NZ	9:I:1192:MET:HA	2.26	0.51
2:B:346:ASN:OD1	2:B:346:ASN:N	2.43	0.51
5:E:122:CYS:SG	5:E:131:LYS:NZ	2.67	0.51
2:B:209:ARG:NE	2:B:212:THR:OG1	2.44	0.51
7:G:1:MET:HE3	7:G:1:MET:HA	1.93	0.51
9:I:683:LEU:O	9:I:683:LEU:HD23	2.11	0.51
2:B:152:ILE:HG21	2:B:466:PHE:CD2	2.41	0.51
2:B:420:GLY:O	2:B:422:GLY:N	2.43	0.51
3:C:262:GLU:O	3:C:264:GLN:N	2.44	0.51
9:I:695:ARG:HD3	9:I:702:MET:HA	1.93	0.51
1:A:1008:THR:HA	1:A:1011:THR:HG22	1.93	0.50
4:D:79:LEU:HD13	4:D:109:GLN:NE2	2.26	0.50
8:H:28:TYR:CE2	8:H:49:ILE:HG23	2.47	0.50
9:I:722:THR:HG22	9:I:723:PRO:HD2	1.93	0.50
2:B:1088:MET:HG3	2:B:1101:ILE:HB	1.93	0.50
9:I:721:ARG:NH2	9:I:735:LYS:HD2	2.27	0.50
1:A:171:ARG:HH21	1:A:199:LYS:HB2	1.76	0.50
2:B:992:ILE:HG23	2:B:1007:ALA:HA	1.94	0.50
8:H:18:ALA:O	8:H:21:PHE:N	2.45	0.50
2:B:236:PRO:HB3	2:B:374:PRO:HB2	1.94	0.50
2:B:541:MET:SD	2:B:544:ARG:NH2	2.85	0.50
2:B:966:ASP:N	2:B:966:ASP:OD1	2.42	0.50
1:A:893:LEU:HD21	1:A:961:TYR:CD2	2.46	0.50
2:B:1144:GLY:O	2:B:1145:LEU:HB2	2.11	0.50
6:F:53:GLN:OE1	6:F:73:ARG:NH2	2.45	0.50
1:A:228:ASN:O	1:A:232:TYR:HD1	1.93	0.50
1:A:491:LYS:O	1:A:1349:ASN:N	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:13:PHE:HB2	3:C:40:PRO:HG2	1.94	0.50
9:I:737:TYR:O	9:I:782:TYR:OH	2.18	0.50
1:A:1205:ASN:O	1:A:1228:ARG:HG2	2.12	0.50
2:B:384:VAL:HG11	9:I:1062:ASP:HA	1.94	0.50
3:C:169:ILE:HG13	3:C:171:ARG:H	1.77	0.50
4:D:72:ARG:NH1	4:D:108:GLU:OE2	2.36	0.50
9:I:1236:VAL:HG12	9:I:1238:ILE:HG22	1.93	0.50
4:D:64:TYR:HA	4:D:70:ASP:OD2	2.12	0.50
1:A:328:CYS:HB2	2:B:1007:ALA:HB2	1.93	0.49
1:A:403:ASP:OD1	1:A:404:ILE:N	2.45	0.49
1:A:1057:MET:CE	1:A:1074:ILE:HB	2.42	0.49
2:B:809:GLY:HA2	2:B:826:GLN:HB3	1.93	0.49
1:A:525:LEU:HD11	3:C:295:LYS:HE3	1.94	0.49
2:B:402:MET:HB3	2:B:404:VAL:HG23	1.94	0.49
2:B:797:VAL:O	2:B:801:THR:HG23	2.12	0.49
1:A:1188:LYS:HB3	1:A:1260:ARG:HH21	1.77	0.49
1:A:1175:CYS:SG	1:A:1176:ILE:N	2.85	0.49
1:A:1390:SER:O	1:A:1394:VAL:HG12	2.11	0.49
3:C:8:VAL:HG11	3:C:358:ILE:HG13	1.93	0.49
4:D:75:LEU:O	4:D:79:LEU:HD12	2.11	0.49
7:G:81:LEU:HD23	7:G:94:LEU:HD13	1.94	0.49
1:A:526:HIS:HB3	3:C:210:MET:HE3	1.94	0.49
4:D:22:LEU:HD11	4:D:52:ILE:HD12	1.93	0.49
9:I:851:ASP:OD1	9:I:855:LEU:N	2.37	0.49
9:I:1066:LEU:HD11	9:I:1134:PRO:HB3	1.94	0.49
2:B:286:SER:O	2:B:290:GLN:HG2	2.13	0.49
2:B:786:SER:HB2	2:B:800:GLU:HG2	1.95	0.49
2:B:851:VAL:HG22	2:B:1026:LEU:HB2	1.95	0.49
1:A:83:LEU:HD23	1:A:197:VAL:HG23	1.95	0.49
1:A:830:ILE:HG21	2:B:1153:TRP:CE2	2.48	0.49
1:A:875:LEU:HD12	1:A:880:LEU:HD12	1.93	0.49
3:C:233:GLN:HG3	3:C:234:ALA:N	2.27	0.49
7:G:103:ASN:O	7:G:104:ARG:NH1	2.44	0.49
8:H:28:TYR:HE2	8:H:49:ILE:HG23	1.77	0.49
1:A:157:ASP:HB3	1:A:162:ILE:HG12	1.94	0.49
1:A:314:LEU:O	2:B:1213:ARG:NH2	2.46	0.49
1:A:540:CYS:SG	3:C:276:LYS:NZ	2.85	0.49
2:B:284:ASP:O	2:B:288:ILE:HG12	2.13	0.49
3:C:230:HIS:HB3	3:C:233:GLN:HG2	1.94	0.49
4:D:130:ILE:HG23	4:D:136:ILE:HD13	1.94	0.49
9:I:1239:SER:HB3	9:I:1242:VAL:HG22	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:911:ILE:HD12	1:A:911:ILE:H	1.77	0.49
1:A:1132:LEU:HB3	1:A:1134:GLU:HG2	1.95	0.49
1:A:1200:ARG:HH22	1:A:1210:HIS:CE1	2.31	0.49
1:A:1370:GLU:CD	1:A:1371:LYS:H	2.16	0.49
3:C:227:PRO:HG2	3:C:230:HIS:HB2	1.95	0.49
1:A:529:GLY:HA2	1:A:532:GLN:HG3	1.94	0.49
1:A:1244:GLU:HG2	1:A:1245:LYS:N	2.28	0.49
1:A:1430:ILE:HD13	5:E:120:MET:HE3	1.94	0.49
2:B:822:ASN:O	2:B:823:ARG:NH1	2.45	0.49
5:E:85:GLN:O	5:E:89:ILE:HG23	2.13	0.48
1:A:852:GLN:NE2	1:A:1358:ASP:OD2	2.46	0.48
1:A:1183:THR:O	1:A:1187:LEU:HB2	2.13	0.48
7:G:24:CYS:SG	7:G:25:SER:N	2.86	0.48
1:A:376:CYS:HB2	1:A:406:TYR:O	2.14	0.48
2:B:472:LYS:HG2	2:B:477:ASP:HB2	1.95	0.48
3:C:22:ILE:HD11	8:H:54:LEU:HD23	1.94	0.48
2:B:874:ARG:HG2	3:C:99:PHE:CE2	2.49	0.48
4:D:79:LEU:HD13	4:D:109:GLN:HE21	1.79	0.48
1:A:18:ASP:OD2	1:A:171:ARG:NH2	2.43	0.48
1:A:31:ILE:HG12	1:A:32:SER:N	2.29	0.48
1:A:43:GLY:N	1:A:47:ASP:OD2	2.35	0.48
1:A:897:GLU:HB2	1:A:961:TYR:CE1	2.49	0.48
2:B:564:LYS:HD2	2:B:567:MET:HB2	1.96	0.48
5:E:99:TYR:HB2	5:E:105:ILE:HG12	1.94	0.48
9:I:938:PRO:HG2	9:I:973:TYR:CE2	2.48	0.48
4:D:146:GLU:O	4:D:149:GLU:HG3	2.12	0.48
2:B:743:PRO:HA	2:B:746:ALA:HB3	1.96	0.48
4:D:57:ILE:HG12	4:D:91:ILE:HD12	1.95	0.48
9:I:1096:VAL:O	9:I:1100:VAL:HG22	2.14	0.48
2:B:765:VAL:O	2:B:768:ARG:NH1	2.47	0.48
2:B:1018:THR:HA	2:B:1088:MET:HA	1.96	0.48
2:B:1161:MET:HA	2:B:1164:ILE:HB	1.95	0.48
2:B:1223:MET:HE3	2:B:1223:MET:HA	1.95	0.48
5:E:22:GLU:N	5:E:22:GLU:OE1	2.47	0.48
1:A:13:PHE:O	1:A:1402:SER:HA	2.14	0.48
1:A:1101:PRO:HD2	1:A:1102:GLU:N	2.29	0.48
2:B:225:ASN:OD1	2:B:252:THR:OG1	2.30	0.48
1:A:3:ALA:O	2:B:1209:MET:HG2	2.13	0.48
1:A:8:ILE:HG23	2:B:1232:SER:HB3	1.94	0.48
1:A:255:ASN:HA	1:A:258:ARG:NE	2.28	0.48
1:A:671:ASN:HD21	9:I:842:LYS:NZ	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:757:ILE:HG23	1:A:810:PHE:CD2	2.49	0.48
2:B:1003:LYS:H	9:I:1249:GLN:HE22	1.62	0.48
1:A:838:VAL:HG13	1:A:842:ARG:HA	1.95	0.47
2:B:694:ARG:HG2	2:B:701:TRP:CG	2.49	0.47
9:I:836:THR:HB	9:I:838:LEU:HD13	1.96	0.47
1:A:35:PHE:HD1	1:A:40:PRO:HA	1.79	0.47
2:B:1067:ASN:ND2	2:B:1070:LEU:HD23	2.29	0.47
9:I:739:SER:HB3	9:I:783:GLU:OE2	2.14	0.47
9:I:745:PHE:CD2	9:I:780:ARG:HD3	2.48	0.47
1:A:1096:LEU:O	1:A:1292:ALA:HB1	2.14	0.47
2:B:757:GLU:OE2	2:B:760:LYS:NZ	2.47	0.47
2:B:1089:PHE:HA	2:B:1096:TYR:HA	1.96	0.47
2:B:1185:GLU:HG3	2:B:1200:ASN:ND2	2.28	0.47
4:D:90:LEU:HB2	4:D:120:ILE:HA	1.96	0.47
1:A:78:MET:HG3	1:A:201:ILE:HG23	1.95	0.47
1:A:1262:ILE:HG12	1:A:1265:ILE:HD13	1.96	0.47
1:A:1273:LEU:HD11	1:A:1292:ALA:HB3	1.95	0.47
2:B:972:HIS:ND1	9:I:680:GLU:OE2	2.47	0.47
4:D:6:LEU:O	4:D:10:ILE:HG22	2.14	0.47
9:I:1099:LEU:HD22	9:I:1167:GLU:HG3	1.95	0.47
1:A:1431:MET:HA	5:E:117:LEU:HD23	1.96	0.47
6:F:139:VAL:HA	6:F:150:ALA:HB2	1.95	0.47
1:A:277:THR:HG22	1:A:278:THR:N	2.30	0.47
1:A:1305:LEU:HD21	4:D:2:ALA:HB2	1.97	0.47
1:A:1322:THR:O	1:A:1326:TYR:HB2	2.13	0.47
7:G:52:LYS:HE3	7:G:53:TYR:CZ	2.49	0.47
1:A:491:LYS:HG3	1:A:1348:PRO:HB3	1.95	0.47
1:A:1101:PRO:HD2	1:A:1102:GLU:H	1.80	0.47
1:A:1182:LYS:HA	1:A:1185:MET:SD	2.54	0.47
2:B:205:LEU:HG	2:B:505:SER:HB2	1.95	0.47
2:B:218:HIS:ND1	2:B:226:GLU:HB2	2.29	0.47
2:B:650:THR:HB	2:B:663:TRP:HB2	1.95	0.47
2:B:1202:ASP:OD1	2:B:1203:VAL:N	2.38	0.47
7:G:55:ILE:O	7:G:59:ASN:ND2	2.32	0.47
9:I:716:LYS:HE3	9:I:716:LYS:HB3	1.62	0.47
9:I:1203:GLU:N	9:I:1203:GLU:OE1	2.48	0.47
1:A:915:VAL:HA	1:A:918:PHE:CE2	2.50	0.47
1:A:1374:LEU:HD21	1:A:1384:LEU:HG	1.97	0.47
2:B:912:ASN:ND2	2:B:931:ASP:OD1	2.39	0.47
3:C:180:VAL:HG22	3:C:222:CYS:HB3	1.97	0.47
1:A:50:MET:HB2	1:A:206:ILE:HG13	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:907:LYS:O	1:A:911:ILE:HD12	2.14	0.47
2:B:558:SER:O	2:B:802:ASN:ND2	2.45	0.47
1:A:55:HIS:HB3	1:A:66:ARG:HH12	1.80	0.47
1:A:419:ARG:HB2	1:A:463:MET:SD	2.55	0.47
1:A:590:SER:O	1:A:600:GLU:HB3	2.14	0.47
3:C:153:GLN:HB2	3:C:156:LYS:HG3	1.95	0.47
3:C:274:GLU:OE2	3:C:326:LYS:HD3	2.15	0.47
4:D:10:ILE:HD13	4:D:57:ILE:HD11	1.95	0.47
7:G:13:ARG:HD3	7:G:15:TYR:CE2	2.50	0.47
1:A:489:SER:HB2	1:A:496:VAL:HG13	1.97	0.46
2:B:218:HIS:CG	2:B:226:GLU:HB2	2.50	0.46
2:B:860:ASN:HA	2:B:864:SER:HB2	1.97	0.46
1:A:777:ARG:NH2	7:G:63:ASP:OD2	2.48	0.46
2:B:20:GLU:HG2	2:B:716:PRO:HG2	1.97	0.46
2:B:1025:ASP:OD1	2:B:1025:ASP:N	2.48	0.46
6:F:14:ASP:OD1	6:F:14:ASP:N	2.47	0.46
2:B:819:VAL:HG13	2:B:983:ARG:HB2	1.96	0.46
6:F:4:GLN:HA	6:F:4:GLN:OE1	2.15	0.46
1:A:9:ALA:HB2	2:B:1235:SER:HA	1.98	0.46
1:A:528:MET:HG2	3:C:307:PHE:CD1	2.50	0.46
1:A:1132:LEU:O	1:A:1175:CYS:N	2.46	0.46
1:A:1136:TYR:CE2	1:A:1139:THR:HG23	2.50	0.46
2:B:1185:GLU:HG3	2:B:1200:ASN:HD22	1.81	0.46
3:C:96:ARG:NH2	3:C:148:GLU:O	2.34	0.46
8:H:48:GLN:HB2	9:I:822:TYR:CD1	2.50	0.46
9:I:850:TYR:O	9:I:857:HIS:NE2	2.47	0.46
9:I:1095:HIS:ND1	9:I:1096:VAL:HG13	2.30	0.46
2:B:93:ASP:HB3	2:B:131:ALA:HB3	1.97	0.46
9:I:1222:ASP:OD1	9:I:1222:ASP:N	2.49	0.46
1:A:25:GLY:HA3	1:A:75:ILE:HG13	1.97	0.46
1:A:364:PRO:O	1:A:368:ASN:ND2	2.44	0.46
1:A:417:PHE:CD1	1:A:465:LEU:HD12	2.51	0.46
1:A:419:ARG:HD3	1:A:456:ALA:HB2	1.97	0.46
1:A:1202:LYS:HE3	1:A:1257:SER:HB3	1.97	0.46
1:A:155:TRP:HB3	1:A:162:ILE:HG22	1.97	0.46
1:A:165:LEU:HD13	1:A:169:ILE:HD13	1.98	0.46
2:B:788:TYR:CD1	2:B:1066:ILE:HD12	2.50	0.46
1:A:425:ARG:NH2	1:A:1039:GLU:OE2	2.35	0.46
3:C:96:ARG:NH1	8:H:3:ILE:O	2.41	0.46
4:D:75:LEU:HA	4:D:78:THR:OG1	2.16	0.46
1:A:34:LEU:HD22	1:A:45:ILE:HD11	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1275:ARG:O	1:A:1287:LEU:N	2.46	0.46
2:B:227:ILE:HG22	2:B:228:ILE:H	1.81	0.46
9:I:673:ASP:HB3	9:I:674:THR:H	1.56	0.46
1:A:997:LEU:HD13	4:D:192:MET:HB2	1.98	0.46
1:A:1012:LEU:HD23	1:A:1012:LEU:HA	1.71	0.46
2:B:119:LEU:HB2	9:I:683:LEU:HD21	1.98	0.46
1:A:462:GLN:HB2	9:I:1242:VAL:HG12	1.99	0.45
1:A:1120:ILE:HD12	1:A:1190:ILE:HD11	1.97	0.45
3:C:197:LYS:HA	3:C:200:MET:HE3	1.99	0.45
6:F:3:ASP:OD1	6:F:4:GLN:N	2.47	0.45
6:F:43:SER:HB3	6:F:78:VAL:HG11	1.98	0.45
2:B:1008:LEU:HD12	2:B:1008:LEU:HA	1.74	0.45
9:I:828:ASN:OD1	9:I:828:ASN:N	2.49	0.45
1:A:418:ASN:HB2	1:A:428:ILE:HG12	1.98	0.45
1:A:143:LYS:HD2	1:A:143:LYS:HA	1.64	0.45
2:B:82:ARG:HD2	2:B:454:PHE:CD2	2.51	0.45
2:B:511:ARG:O	2:B:811:TYR:HB2	2.15	0.45
2:B:534:LYS:H	2:B:534:LYS:HG2	1.54	0.45
3:C:257:TYR:CE2	3:C:336:LEU:HB3	2.50	0.45
1:A:19:ASN:O	1:A:23:ARG:HD3	2.17	0.45
1:A:646:ASN:HB3	3:C:210:MET:SD	2.57	0.45
1:A:20:ASP:O	1:A:24:GLN:HB2	2.17	0.45
1:A:870:PHE:CE1	1:A:928:ARG:HB2	2.52	0.45
1:A:1037:TYR:H	5:E:72:THR:HG21	1.80	0.45
1:A:1060:SER:OG	1:A:1073:GLY:N	2.41	0.45
1:A:1227:LEU:HD21	1:A:1250:VAL:HG11	1.98	0.45
2:B:739:GLU:OE2	2:B:771:HIS:NE2	2.39	0.45
6:F:35:TYR:HE1	6:F:40:PHE:CD2	2.34	0.45
6:F:58:PHE:HB2	6:F:69:TYR:CZ	2.51	0.45
1:A:94:TRP:O	1:A:98:ILE:HG13	2.15	0.45
1:A:581:TYR:O	1:A:582:MET:HB3	2.17	0.45
1:A:823:GLY:HA2	9:I:1236:VAL:HG23	1.98	0.45
1:A:856:GLY:O	1:A:857:GLU:HB2	2.17	0.45
2:B:104:TYR:HD2	9:I:677:LEU:HD13	1.82	0.45
2:B:306:ILE:HG23	7:G:1:MET:SD	2.57	0.45
3:C:120:CYS:SG	9:I:696:ILE:HG21	2.57	0.45
7:G:21:ILE:HD12	7:G:21:ILE:O	2.17	0.45
1:A:533:THR:HG22	3:C:311:GLN:HB3	1.99	0.45
2:B:176:LYS:H	9:I:806:GLU:CD	2.20	0.45
2:B:272:TRP:CH2	2:B:309:LEU:HD22	2.51	0.45
2:B:911:ALA:HB1	2:B:932:ILE:HG12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1032:SER:O	2:B:1036:ARG:HG3	2.17	0.45
3:C:170:GLY:HA2	3:C:176:PHE:HB2	1.99	0.45
9:I:1072:ALA:O	9:I:1075:ILE:HG22	2.17	0.45
9:I:1173:LEU:O	9:I:1177:ILE:HG12	2.17	0.45
1:A:7:GLU:O	2:B:1235:SER:N	2.44	0.45
1:A:725:PRO:HB3	1:A:731:PHE:CE2	2.51	0.45
2:B:263:THR:HB	9:I:1208:ASP:HB3	1.98	0.45
2:B:963:ALA:HB2	2:B:986:TYR:CE2	2.52	0.45
3:C:84:THR:N	3:C:157:SER:O	2.50	0.45
1:A:303:LEU:HD11	2:B:1223:MET:CE	2.47	0.45
1:A:383:ILE:HG13	1:A:384:THR:HG23	1.98	0.45
1:A:1044:LEU:HD23	2:B:1157:ALA:HB1	1.99	0.45
2:B:205:LEU:HA	2:B:205:LEU:HD23	1.72	0.45
2:B:229:ARG:HD2	9:I:1219:PHE:CZ	2.52	0.45
2:B:233:ILE:HG12	2:B:245:GLN:HB2	1.99	0.45
2:B:279:PHE:CG	2:B:383:ARG:HD2	2.52	0.45
2:B:442:ILE:HD13	2:B:442:ILE:HA	1.89	0.45
9:I:965:SER:HA	9:I:968:GLU:HG2	1.99	0.45
1:A:1328:ILE:HD11	1:A:1361:THR:HB	2.00	0.44
2:B:42:TYR:OH	2:B:522:ARG:HA	2.17	0.44
4:D:61:ASN:HA	4:D:66:HIS:HE1	1.82	0.44
8:H:62:MET:HE2	8:H:62:MET:HA	1.98	0.44
9:I:681:ILE:HA	9:I:684:ASP:OD2	2.17	0.44
1:A:85:PRO:HD2	1:A:271:LEU:HD12	1.98	0.44
2:B:1051:ASN:OD1	2:B:1074:ARG:NH2	2.37	0.44
2:B:173:HIS:HB3	9:I:795:PHE:HE2	1.81	0.44
2:B:234:SER:HB3	2:B:374:PRO:HD2	1.99	0.44
2:B:921:VAL:HG21	2:B:933:ILE:HG22	1.99	0.44
2:B:1018:THR:HG22	2:B:1088:MET:HG2	1.99	0.44
1:A:278:THR:HG21	5:E:24:GLU:HB3	1.98	0.44
1:A:1126:ILE:HG13	1:A:1178:LEU:HD22	1.99	0.44
1:A:1187:LEU:HD12	9:I:936:ARG:NH1	2.33	0.44
2:B:30:ILE:HD11	2:B:774:VAL:HB	1.98	0.44
2:B:44:ILE:HD13	2:B:163:MET:SD	2.58	0.44
9:I:677:LEU:HD23	9:I:723:PRO:HB3	1.99	0.44
9:I:772:LYS:HB3	9:I:772:LYS:HE3	1.58	0.44
1:A:72:HIS:N	1:A:205:PRO:HB3	2.32	0.44
1:A:475:VAL:CG2	5:E:103:ILE:HG22	2.48	0.44
1:A:1187:LEU:HD12	9:I:936:ARG:HH12	1.82	0.44
2:B:1181:ARG:HD3	2:B:1237:ARG:NH2	2.32	0.44
4:D:1:MET:HE2	4:D:2:ALA:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:75:LEU:HA	4:D:75:LEU:HD13	1.77	0.44
8:H:42:PRO:HD3	9:I:818:GLN:OE1	2.17	0.44
9:I:1158:PRO:O	9:I:1162:VAL:HG23	2.16	0.44
1:A:36:GLU:HB3	1:A:41:ALA:HA	1.99	0.44
1:A:86:LEU:HD23	1:A:272:LEU:HD21	1.99	0.44
1:A:499:GLN:NE2	1:A:617:TYR:OH	2.30	0.44
2:B:411:ASP:OD2	2:B:538:ARG:NH2	2.39	0.44
3:C:74:LYS:HG2	3:C:164:TYR:CD1	2.52	0.44
3:C:242:ALA:HA	3:C:245:ILE:HD12	2.00	0.44
1:A:1251:VAL:O	1:A:1255:LEU:HB2	2.18	0.44
2:B:182:ILE:HD12	9:I:685:PRO:HB2	1.99	0.44
2:B:273:TYR:O	2:B:277:ARG:HG2	2.18	0.44
2:B:860:ASN:OD1	2:B:1029:ASN:ND2	2.43	0.44
2:B:1025:ASP:OD1	8:H:9:THR:OG1	2.31	0.44
8:H:44:ASP:HB3	8:H:47:LEU:HB2	1.99	0.44
9:I:1065:ARG:O	9:I:1069:VAL:HG23	2.18	0.44
1:A:1374:LEU:HD11	1:A:1384:LEU:HD21	1.98	0.44
2:B:301:VAL:HA	2:B:402:MET:CE	2.48	0.44
6:F:146:GLN:H	6:F:146:GLN:HG2	1.60	0.44
2:B:44:ILE:HG23	2:B:166:SER:HA	2.00	0.44
1:A:353:THR:HA	1:A:404:ILE:HA	2.00	0.43
1:A:559:LEU:HD11	1:A:635:ALA:HB1	1.99	0.43
2:B:278:MET:HE3	2:B:333:ILE:HG12	1.99	0.43
2:B:354:GLU:OE2	9:I:1182:LEU:HD11	2.17	0.43
2:B:823:ARG:HA	2:B:823:ARG:HD3	1.83	0.43
7:G:33:ASP:O	7:G:35:GLN:N	2.51	0.43
8:H:48:GLN:HA	9:I:822:TYR:HA	2.00	0.43
9:I:1170:LEU:HD23	9:I:1170:LEU:HA	1.90	0.43
1:A:967:PHE:HB2	1:A:1023:LEU:HD13	1.99	0.43
1:A:1084:LYS:HB3	1:A:1088:ALA:HB3	2.00	0.43
1:A:1178:LEU:HB2	1:A:1223:ILE:CG2	2.48	0.43
1:A:1182:LYS:O	1:A:1186:ILE:HG13	2.18	0.43
2:B:365:LEU:HD23	2:B:365:LEU:HA	1.78	0.43
2:B:702:GLU:OE2	2:B:705:LYS:HD2	2.18	0.43
2:B:733:VAL:HG21	2:B:740:PHE:HE1	1.83	0.43
9:I:1083:LEU:O	9:I:1086:VAL:HG23	2.18	0.43
1:A:1186:ILE:HD12	1:A:1187:LEU:N	2.33	0.43
1:A:1192:LEU:O	1:A:1196:ILE:HG12	2.19	0.43
2:B:89:PHE:HB3	2:B:134:VAL:HG23	2.00	0.43
2:B:572:ALA:HB1	2:B:777:ALA:O	2.19	0.43
3:C:327:ALA:HB1	3:C:331:ASP:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:884:ILE:HD12	9:I:884:ILE:HA	1.88	0.43
1:A:793:ILE:HG13	2:B:1068:VAL:HG21	2.01	0.43
1:A:1326:TYR:CE1	4:D:133:VAL:HG11	2.53	0.43
1:A:1419:VAL:HG11	2:B:1165:ILE:HD11	1.99	0.43
3:C:66:ILE:HA	3:C:245:ILE:HD13	1.99	0.43
4:D:82:LYS:HA	4:D:82:LYS:HD3	1.61	0.43
7:G:81:LEU:HD23	7:G:94:LEU:HB3	2.00	0.43
1:A:97:VAL:O	1:A:106:ILE:HG12	2.18	0.43
1:A:415:ALA:HB1	1:A:465:LEU:HD21	2.00	0.43
1:A:1112:GLU:OE1	1:A:1112:GLU:N	2.51	0.43
1:A:1125:LEU:HD12	1:A:1259:ILE:HG13	2.00	0.43
2:B:291:VAL:HG11	2:B:309:LEU:HD11	1.99	0.43
3:C:64:ASP:O	3:C:170:GLY:N	2.47	0.43
5:E:114:LYS:HB3	5:E:114:LYS:NZ	2.33	0.43
1:A:1097:ARG:HD2	1:A:1292:ALA:HB2	2.01	0.43
2:B:1020:ASP:OD1	2:B:1020:ASP:N	2.42	0.43
3:C:101:PRO:HG3	8:H:13:PRO:HB3	2.00	0.43
7:G:71:LYS:HB3	7:G:71:LYS:HE3	1.68	0.43
9:I:938:PRO:HG2	9:I:973:TYR:HE2	1.82	0.43
1:A:907:LYS:HG3	1:A:911:ILE:CD1	2.49	0.43
2:B:503:ARG:NH2	9:I:1216:PRO:HA	2.34	0.43
2:B:681:GLU:O	2:B:685:GLN:HG2	2.19	0.43
1:A:1323:MET:HB2	1:A:1331:ALA:HB2	2.00	0.43
2:B:1036:ARG:HB2	2:B:1038:THR:HG23	2.00	0.43
3:C:276:LYS:HE2	3:C:326:LYS:HG2	2.00	0.43
4:D:92:VAL:O	4:D:122:PRO:HA	2.19	0.43
4:D:119:ASN:HD22	4:D:119:ASN:HA	1.63	0.43
5:E:113:ARG:HH22	5:E:142:GLY:HA2	1.83	0.43
7:G:15:TYR:HA	7:G:20:ILE:HD12	2.00	0.43
1:A:15:ILE:HD11	1:A:1400:VAL:HA	2.01	0.43
1:A:860:LEU:HD21	1:A:1030:TYR:HE1	1.84	0.43
1:A:1083:ALA:HB3	1:A:1368:SER:HB3	2.01	0.43
2:B:888:GLU:HB3	2:B:979:PHE:HB3	2.01	0.43
1:A:438:ASN:ND2	1:A:441:ILE:HD13	2.34	0.43
1:A:1217:SER:OG	1:A:1218:GLY:N	2.51	0.43
2:B:295:LEU:HD23	2:B:295:LEU:HA	1.77	0.43
2:B:425:LEU:HD23	2:B:425:LEU:HA	1.86	0.43
2:B:923:VAL:HG12	2:B:967:ALA:H	1.83	0.43
3:C:257:TYR:HE1	3:C:281:ILE:HG12	1.82	0.43
3:C:332:LEU:O	3:C:336:LEU:HG	2.19	0.43
5:E:23:GLU:C	5:E:24:GLU:HG3	2.40	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:68:SER:O	5:E:121:ARG:NH1	2.44	0.43
7:G:16:VAL:HA	7:G:17:ASP:HA	1.64	0.43
9:I:687:TYR:OH	9:I:714:GLU:HG2	2.19	0.43
9:I:1073:VAL:HG22	9:I:1145:LEU:HB2	2.00	0.43
1:A:242:LYS:HD3	1:A:242:LYS:N	2.34	0.42
1:A:501:GLN:HA	1:A:738:ALA:HB1	2.01	0.42
1:A:1053:LEU:HD11	1:A:1081:PHE:HE2	1.84	0.42
1:A:1301:PHE:HZ	4:D:123:TYR:HB2	1.83	0.42
2:B:432:ILE:HG12	2:B:481:SER:HB3	2.01	0.42
2:B:439:ALA:HB3	2:B:440:PRO:HD3	2.01	0.42
2:B:573:ILE:HG23	2:B:574:THR:HG23	2.00	0.42
8:H:63:ARG:O	8:H:67:ARG:HG3	2.19	0.42
2:B:815:TRP:CG	2:B:816:PRO:HD3	2.54	0.42
2:B:904:THR:HG21	2:B:907:LEU:HD12	2.01	0.42
2:B:987:GLU:HA	3:C:91:GLN:HE22	1.84	0.42
2:B:1051:ASN:ND2	2:B:1058:THR:OG1	2.52	0.42
6:F:38:LYS:HB2	6:F:38:LYS:HE2	1.73	0.42
7:G:3:ILE:O	7:G:3:ILE:HD12	2.19	0.42
9:I:1040:MET:HB3	9:I:1184:SER:OG	2.19	0.42
1:A:303:LEU:HD11	2:B:1223:MET:HE1	2.01	0.42
1:A:390:ILE:HA	1:A:393:LEU:HD12	2.02	0.42
1:A:842:ARG:HG3	1:A:1037:TYR:HE1	1.84	0.42
1:A:1233:ARG:CZ	1:A:1233:ARG:HA	2.49	0.42
2:B:144:ARG:HA	2:B:144:ARG:NE	2.32	0.42
2:B:796:ARG:HG3	2:B:1038:THR:HG22	2.00	0.42
3:C:116:LEU:HD23	9:I:702:MET:SD	2.59	0.42
1:A:70:MET:HB3	2:B:1217:ILE:HG21	2.00	0.42
2:B:70:LYS:HZ3	9:I:1192:MET:HA	1.84	0.42
2:B:136:LEU:HD23	2:B:449:LEU:HD21	2.01	0.42
1:A:843:ARG:NH1	4:D:154:GLU:HB3	2.35	0.42
1:A:1174:TRP:CZ3	7:G:39:VAL:HG21	2.54	0.42
2:B:152:ILE:HD13	2:B:466:PHE:CD2	2.54	0.42
2:B:399:LEU:HD23	2:B:399:LEU:HA	1.89	0.42
2:B:639:ARG:NH2	2:B:745:GLU:OE2	2.52	0.42
3:C:181:LYS:H	3:C:181:LYS:HG2	1.60	0.42
1:A:84:GLN:HE21	1:A:198:LEU:HD11	1.84	0.42
1:A:767:SER:OG	1:A:768:PHE:N	2.53	0.42
1:A:1266:LYS:HA	1:A:1266:LYS:HD3	1.79	0.42
1:A:1430:ILE:HG21	5:E:120:MET:HE3	2.01	0.42
2:B:200:TRP:CE2	2:B:487:ILE:HG12	2.55	0.42
2:B:301:VAL:HA	2:B:402:MET:HE1	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:331:ASP:O	3:C:334:THR:HG22	2.20	0.42
4:D:29:ASP:N	4:D:29:ASP:OD1	2.52	0.42
1:A:332:ASP:OD2	2:B:859:TYR:OH	2.27	0.42
1:A:656:MET:H	1:A:656:MET:HG2	1.68	0.42
2:B:13:ILE:HD13	2:B:677:ASP:HB2	2.02	0.42
3:C:101:PRO:HD2	3:C:147:PHE:CZ	2.54	0.42
7:G:61:PRO:HA	7:G:82:THR:HG21	2.02	0.42
1:A:417:PHE:CE1	1:A:465:LEU:HD12	2.55	0.42
2:B:97:GLU:OE1	2:B:129:ASN:ND2	2.43	0.42
2:B:281:MET:O	2:B:281:MET:HG3	2.18	0.42
2:B:281:MET:O	2:B:287:ILE:HD11	2.20	0.42
2:B:751:VAL:HG22	2:B:771:HIS:HB2	2.02	0.42
6:F:145:ARG:HA	6:F:145:ARG:HD2	1.74	0.42
9:I:1023:THR:HG23	9:I:1149:PHE:CD2	2.55	0.42
1:A:302:ARG:O	1:A:309:ARG:N	2.50	0.42
1:A:442:SER:HB3	2:B:1119:ARG:HD2	2.01	0.42
1:A:752:ILE:HB	1:A:788:ILE:HB	2.00	0.42
2:B:538:ARG:O	2:B:542:MET:HG2	2.19	0.42
2:B:799:TYR:HB3	2:B:803:GLN:NE2	2.35	0.42
1:A:870:PHE:CE2	1:A:1000:MET:HG2	2.55	0.42
1:A:1167:PRO:HA	1:A:1168:PRO:HD3	1.90	0.42
1:A:1202:LYS:HZ2	1:A:1258:THR:H	1.67	0.42
1:A:1281:GLN:OE1	1:A:1281:GLN:N	2.47	0.42
2:B:116:LYS:HD2	9:I:683:LEU:HD22	2.00	0.42
2:B:640:ARG:HD2	2:B:675:ILE:HD13	2.02	0.42
2:B:1031:HIS:O	2:B:1034:PRO:HD2	2.20	0.42
2:B:1083:ASN:OD1	2:B:1083:ASN:N	2.52	0.42
1:A:72:HIS:H	1:A:205:PRO:HB3	1.85	0.41
1:A:361:ARG:O	1:A:364:PRO:HD2	2.20	0.41
1:A:697:THR:OG1	7:G:89:GLN:OE1	2.34	0.41
1:A:872:THR:HG21	1:A:901:LEU:HD21	2.02	0.41
1:A:1425:MET:HB3	6:F:61:ARG:HE	1.85	0.41
2:B:81:LEU:O	2:B:141:SER:N	2.46	0.41
2:B:105:SER:OG	2:B:106:GLN:N	2.53	0.41
2:B:180:LYS:HB3	2:B:180:LYS:HE3	1.81	0.41
3:C:149:ILE:HG22	3:C:150:GLY:H	1.85	0.41
4:D:103:LEU:O	4:D:106:ILE:HG22	2.20	0.41
9:I:876:ILE:HG22	9:I:878:VAL:HG13	2.02	0.41
9:I:1017:TYR:O	9:I:1021:ILE:HG13	2.20	0.41
1:A:121:LEU:HD22	1:A:121:LEU:HA	1.83	0.41
1:A:123:GLU:OE1	1:A:123:GLU:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:526:HIS:HD2	1:A:646:ASN:ND2	2.17	0.41
1:A:934:VAL:HG13	1:A:1026:ILE:HD11	2.02	0.41
1:A:1300:ILE:HG23	1:A:1314:ILE:HG21	2.01	0.41
2:B:417:ARG:NH1	2:B:744:GLU:OE2	2.43	0.41
2:B:683:TYR:OH	7:G:79:ASP:OD2	2.21	0.41
2:B:874:ARG:HA	3:C:99:PHE:CZ	2.56	0.41
5:E:83:ARG:HD2	5:E:83:ARG:HA	1.76	0.41
8:H:23:LYS:HB2	8:H:23:LYS:HE2	1.73	0.41
1:A:706:LEU:HD11	1:A:760:GLN:HA	2.03	0.41
1:A:716:LEU:HD23	1:A:716:LEU:HA	1.94	0.41
2:B:923:VAL:HG12	2:B:966:ASP:HA	2.02	0.41
2:B:1147:LEU:HD12	2:B:1147:LEU:HA	1.94	0.41
2:B:1180:CYS:SG	2:B:1182:ASN:HB3	2.60	0.41
3:C:264:GLN:H	3:C:264:GLN:HG2	1.54	0.41
9:I:1239:SER:O	9:I:1243:LEU:HG	2.21	0.41
1:A:1116:SER:HA	1:A:1260:ARG:NH1	2.35	0.41
2:B:867:VAL:HG22	2:B:1026:LEU:HD22	2.02	0.41
8:H:48:GLN:HB2	9:I:822:TYR:HD1	1.85	0.41
8:H:48:GLN:O	8:H:48:GLN:HG3	2.19	0.41
9:I:709:LYS:HB3	9:I:709:LYS:HE3	1.80	0.41
1:A:150:ASP:OD1	1:A:152:PHE:N	2.49	0.41
1:A:242:LYS:HD3	1:A:242:LYS:H	1.85	0.41
1:A:1116:SER:HA	1:A:1260:ARG:HH11	1.85	0.41
2:B:1051:ASN:HA	2:B:1056:VAL:HG22	2.03	0.41
2:B:1074:ARG:O	2:B:1077:GLN:HG2	2.20	0.41
1:A:59:CYS:HB3	1:A:62:CYS:SG	2.59	0.41
1:A:696:THR:HG23	1:A:699:ASP:H	1.86	0.41
1:A:881:GLU:O	1:A:885:LYS:HB3	2.20	0.41
1:A:1146:PRO:HG2	7:G:35:GLN:NE2	2.35	0.41
2:B:324:GLN:HG2	2:B:325:HIS:CE1	2.56	0.41
2:B:790:ASN:OD1	2:B:790:ASN:N	2.43	0.41
1:A:604:ASP:N	1:A:604:ASP:OD1	2.51	0.41
2:B:13:ILE:HG12	2:B:677:ASP:O	2.21	0.41
2:B:182:ILE:HD11	9:I:785:PHE:CZ	2.55	0.41
2:B:277:ARG:HB2	2:B:282:THR:HG22	2.03	0.41
2:B:599:LEU:HD21	2:B:621:TRP:CZ2	2.56	0.41
2:B:870:SER:HA	3:C:174:ALA:HB2	2.03	0.41
2:B:1180:CYS:O	2:B:1181:ARG:HB3	2.20	0.41
5:E:95:LEU:HD23	5:E:95:LEU:HA	1.89	0.41
7:G:42:LYS:HG3	7:G:44:TYR:CE1	2.55	0.41
9:I:1095:HIS:ND1	9:I:1096:VAL:N	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:778:PHE:CE2	7:G:84:ILE:HG23	2.55	0.41
9:I:1033:VAL:HG22	9:I:1049:ARG:HA	2.01	0.41
1:A:96:ARG:HD3	1:A:125:ALA:HB1	2.03	0.41
1:A:100:LEU:HD12	1:A:173:ILE:HG21	2.02	0.41
2:B:33:ALA:HA	2:B:729:LEU:HD22	2.03	0.41
2:B:47:PHE:O	2:B:51:MET:HG2	2.21	0.41
2:B:1173:ASP:OD1	2:B:1173:ASP:N	2.54	0.41
3:C:34:GLU:OE1	3:C:34:GLU:N	2.54	0.41
7:G:46:THR:O	7:G:46:THR:OG1	2.33	0.41
8:H:67:ARG:O	8:H:71:ILE:HG23	2.20	0.41
1:A:85:PRO:HB2	1:A:272:LEU:HD23	2.02	0.41
1:A:86:LEU:CD2	1:A:272:LEU:HD21	2.51	0.41
1:A:1121:THR:HG23	1:A:1123:GLU:HG3	2.02	0.41
1:A:1192:LEU:HD13	1:A:1196:ILE:HG12	2.03	0.41
1:A:1208:ILE:CG2	1:A:1223:ILE:HD11	2.51	0.41
1:A:1304:MET:HE2	1:A:1304:MET:HB2	1.99	0.41
9:I:729:GLN:HE22	9:I:731:GLU:H	1.68	0.41
9:I:1129:LEU:O	9:I:1133:ASP:N	2.39	0.41
2:B:135:ILE:HG12	2:B:149:ARG:NH1	2.36	0.40
8:H:33:MET:CE	9:I:815:LEU:HD21	2.51	0.40
9:I:721:ARG:HG3	9:I:721:ARG:HH11	1.86	0.40
1:A:86:LEU:HD11	2:B:1226:ALA:HB1	2.03	0.40
1:A:269:ASN:O	1:A:273:ASP:HB2	2.21	0.40
1:A:349:GLN:NE2	1:A:408:ASP:OD1	2.46	0.40
1:A:472:MET:H	1:A:472:MET:HG2	1.72	0.40
1:A:844:VAL:HG11	1:A:1355:MET:HE1	2.04	0.40
2:B:227:ILE:HD11	2:B:252:THR:HA	2.02	0.40
3:C:82:ASP:OD1	9:I:706:ARG:NH2	2.39	0.40
9:I:786:LEU:O	9:I:790:GLN:HG3	2.21	0.40
1:A:165:LEU:HB3	1:A:170:ILE:HD11	2.04	0.40
1:A:330:ASN:ND2	1:A:445:GLN:OE1	2.54	0.40
1:A:438:ASN:HD22	1:A:441:ILE:HD13	1.86	0.40
1:A:842:ARG:NH1	1:A:1037:TYR:OH	2.55	0.40
1:A:1207:TYR:O	1:A:1225:ILE:HD12	2.21	0.40
2:B:173:HIS:HB3	9:I:795:PHE:CE2	2.56	0.40
2:B:371:ILE:O	2:B:374:PRO:HD3	2.20	0.40
2:B:549:TYR:N	2:B:550:PRO:HD2	2.36	0.40
2:B:598:GLN:O	2:B:602:VAL:HG12	2.21	0.40
2:B:829:ASN:ND2	2:B:845:ASN:HA	2.36	0.40
2:B:838:ALA:O	2:B:842:VAL:HG22	2.21	0.40
2:B:890:GLU:N	2:B:894:GLU:OE1	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:236:ARG:HG3	3:C:358:ILE:CG2	2.52	0.40
1:A:98:ILE:HA	1:A:105:PRO:HA	2.03	0.40
1:A:505:VAL:O	1:A:509:LEU:HG	2.22	0.40
1:A:960:LYS:O	1:A:963:MET:HG2	2.22	0.40
1:A:1301:PHE:HB2	1:A:1325:LEU:HD21	2.02	0.40
1:A:1431:MET:HE1	6:F:17:THR:HG23	2.03	0.40
2:B:669:LEU:HD23	2:B:669:LEU:HA	1.82	0.40
2:B:829:ASN:ND2	2:B:844:PRO:O	2.53	0.40
4:D:26:VAL:HB	4:D:30:LYS:HG2	2.04	0.40
4:D:94:LYS:HA	4:D:97:LEU:HD23	2.04	0.40
7:G:22:PHE:HB2	7:G:30:VAL:HG12	2.02	0.40
8:H:38:PRO:HG3	9:I:815:LEU:HD23	2.03	0.40
1:A:476:GLU:OE2	2:B:1163:THR:OG1	2.18	0.40
1:A:573:TRP:N	1:A:604:ASP:OD2	2.47	0.40
1:A:823:GLY:CA	9:I:1236:VAL:HG23	2.52	0.40
1:A:876:SER:HB3	1:A:1283:LYS:HB2	2.02	0.40
3:C:353:ASN:HD22	3:C:353:ASN:HA	1.66	0.40
4:D:192:MET:O	4:D:193:HIS:CG	2.74	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1402/1441 (97%)	1328 (95%)	69 (5%)	5 (0%)	30	66
2	B	1186/1235 (96%)	1098 (93%)	83 (7%)	5 (0%)	30	66
3	C	356/358 (99%)	334 (94%)	22 (6%)	0	100	100
4	D	203/205 (99%)	195 (96%)	8 (4%)	0	100	100
5	E	105/130 (81%)	93 (89%)	12 (11%)	0	100	100
6	F	91/151 (60%)	83 (91%)	6 (7%)	2 (2%)	5	27

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	G	103/105 (98%)	96 (93%)	6 (6%)	1 (1%)	13	46
8	H	78/80 (98%)	75 (96%)	3 (4%)	0	100	100
9	I	489/577 (85%)	466 (95%)	21 (4%)	2 (0%)	30	66
All	All	4013/4282 (94%)	3768 (94%)	230 (6%)	15 (0%)	32	66

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	421	SER
2	B	1162	GLN
2	B	1202	ASP
1	A	976	ILE
1	A	1142	ASN
7	G	34	SER
9	I	709	LYS
1	A	1140	LYS
6	F	70	MET
9	I	874	ALA
2	B	109	LYS
1	A	582	MET
1	A	847	ASP
2	B	1145	LEU
6	F	45	ILE

5.3.2   Protein sidechains ⓘ

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	A	1248/1270 (98%)	1182 (95%)	66 (5%)	19	51
2	B	1042/1074 (97%)	999 (96%)	43 (4%)	26	60
3	C	327/327 (100%)	314 (96%)	13 (4%)	27	61
4	D	185/185 (100%)	167 (90%)	18 (10%)	6	27
5	E	100/120 (83%)	95 (95%)	5 (5%)	20	53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	F	86/135 (64%)	78 (91%)	8 (9%)	7	29
7	G	96/96 (100%)	93 (97%)	3 (3%)	35	68
8	H	70/70 (100%)	66 (94%)	4 (6%)	17	49
9	I	447/522 (86%)	416 (93%)	31 (7%)	13	42
All	All	3601/3799 (95%)	3410 (95%)	191 (5%)	21	51

All (191) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	27	MET
1	A	30	THR
1	A	31	ILE
1	A	39	LEU
1	A	52	THR
1	A	68	GLN
1	A	117	ARG
1	A	119	LYS
1	A	121	LEU
1	A	126	SER
1	A	132	LYS
1	A	135	TYR
1	A	137	CYS
1	A	150	ASP
1	A	152	PHE
1	A	168	GLN
1	A	190	ASN
1	A	274	SER
1	A	276	SER
1	A	305	ARG
1	A	370	LYS
1	A	378	ARG
1	A	387	VAL
1	A	396	ASP
1	A	407	ARG
1	A	414	VAL
1	A	417	PHE
1	A	502	ASP
1	A	581	TYR
1	A	613	SER
1	A	678	GLU
1	A	713	ASP

Continued from previous page...

Mol	Chain	Res	Type
1	A	739	LYS
1	A	781	GLU
1	A	821	SER
1	A	833	LEU
1	A	834	GLN
1	A	874	MET
1	A	882	ASP
1	A	890	GLN
1	A	954	GLU
1	A	1011	THR
1	A	1030	TYR
1	A	1061	HIS
1	A	1092	SER
1	A	1136	TYR
1	A	1139	THR
1	A	1148	PHE
1	A	1153	GLU
1	A	1159	LEU
1	A	1160	GLU
1	A	1173	ASN
1	A	1198	SER
1	A	1203	HIS
1	A	1209	MET
1	A	1217	SER
1	A	1225	ILE
1	A	1240	MET
1	A	1243	ASP
1	A	1245	LYS
1	A	1313	THR
1	A	1323	MET
1	A	1346	LYS
1	A	1434	LYS
1	A	1439	ASN
1	A	1440	TYR
2	B	85	VAL
2	B	86	GLN
2	B	94	VAL
2	B	108	ASN
2	B	109	LYS
2	B	144	ARG
2	B	158	SER
2	B	164	ARG

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Mol	Chain	Res	Type
2	B	177	THR
2	B	328	ASN
2	B	346	ASN
2	B	362	GLU
2	B	401	ILE
2	B	405	PHE
2	B	445	PHE
2	B	456	GLU
2	B	466	PHE
2	B	480	ARG
2	B	536	THR
2	B	570	GLN
2	B	625	CYS
2	B	637	MET
2	B	658	ASP
2	B	700	ASP
2	B	884	GLU
2	B	926	VAL
2	B	929	LYS
2	B	937	VAL
2	B	953	ARG
2	B	960	ASP
2	B	982	MET
2	B	997	SER
2	B	1025	ASP
2	B	1036	ARG
2	B	1058	THR
2	B	1059	ASP
2	B	1125	TYR
2	B	1142	HIS
2	B	1171	ASP
2	B	1198	CYS
2	B	1211	ASP
2	B	1223	MET
2	B	1231	THR
3	C	8	VAL
3	C	19	ASN
3	C	29	LEU
3	C	70	MET
3	C	83	SER
3	C	105	LYS
3	C	169	ILE

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Mol	Chain	Res	Type
3	C	233	GLN
3	C	255	LYS
3	C	257	TYR
3	C	272	MET
3	C	285	ASP
3	C	319	MET
4	D	8	THR
4	D	16	TYR
4	D	30	LYS
4	D	50	HIS
4	D	64	TYR
4	D	66	HIS
4	D	74	LEU
4	D	79	LEU
4	D	85	TYR
4	D	100	LYS
4	D	110	ARG
4	D	116	ILE
4	D	138	LYS
4	D	140	LYS
4	D	143	THR
4	D	148	GLN
4	D	149	GLU
4	D	204	LYS
5	E	50	VAL
5	E	62	ASP
5	E	93	THR
5	E	97	LYS
5	E	114	LYS
6	F	4	GLN
6	F	14	ASP
6	F	17	THR
6	F	22	ASN
6	F	32	GLU
6	F	38	LYS
6	F	42	ASN
6	F	51	VAL
7	G	16	VAL
7	G	79	ASP
7	G	101	MET
8	H	22	ASP
8	H	44	ASP

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Mol	Chain	Res	Type
8	H	53	ASP
8	H	78	LYS
9	I	673	ASP
9	I	676	VAL
9	I	689	TYR
9	I	704	LYS
9	I	713	TYR
9	I	715	PHE
9	I	716	LYS
9	I	717	THR
9	I	722	THR
9	I	732	PHE
9	I	733	TYR
9	I	772	LYS
9	I	783	GLU
9	I	801	GLU
9	I	828	ASN
9	I	837	ARG
9	I	843	ARG
9	I	853	ARG
9	I	869	SER
9	I	871	GLN
9	I	882	ASP
9	I	936	ARG
9	I	958	TYR
9	I	961	TYR
9	I	969	LEU
9	I	973	TYR
9	I	1025	LYS
9	I	1041	GLU
9	I	1105	TYR
9	I	1222	ASP
9	I	1226	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	671	ASN
1	A	1062	HIS
2	B	419	HIS
2	B	1083	ASN
3	C	91	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 ⓘ

Of 7 ligands modelled in this entry, 7 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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-38767. 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 ⓘ
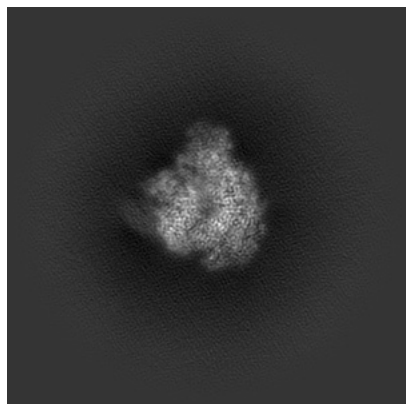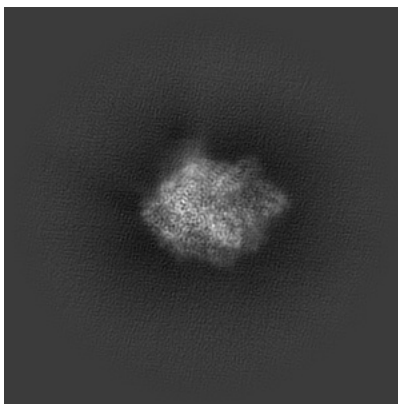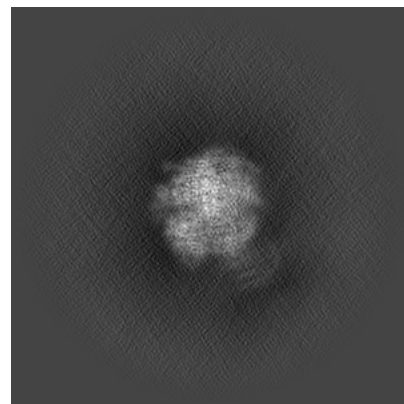
6.1.1 Primary map

X   Y   Z

6.1.2 Raw map

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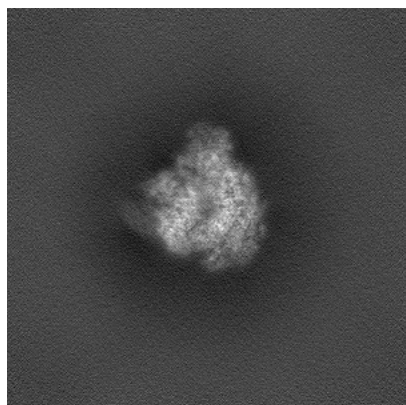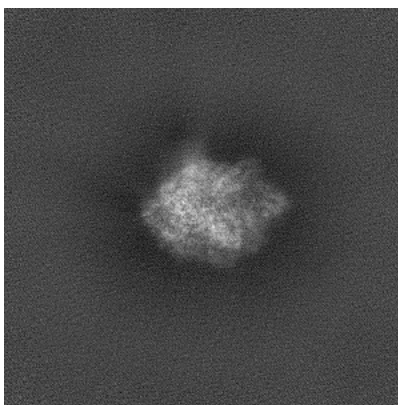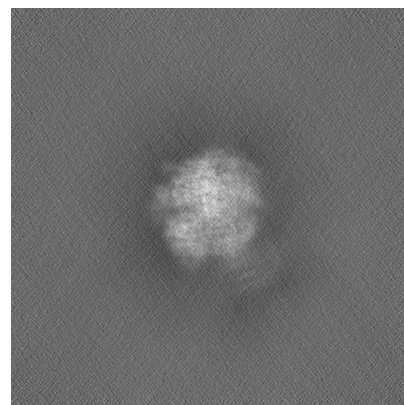
The images above show the map projected in three orthogonal directions.

6.2　Central slices　ⓘ
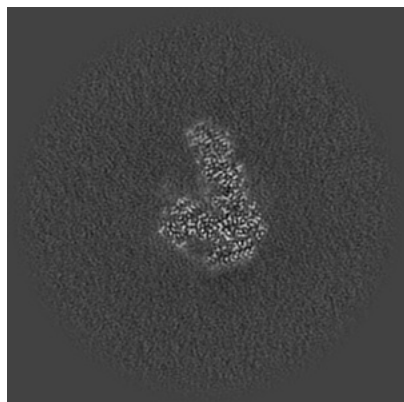
6.2.1　Primary map
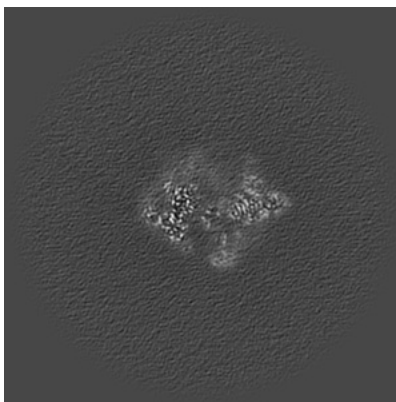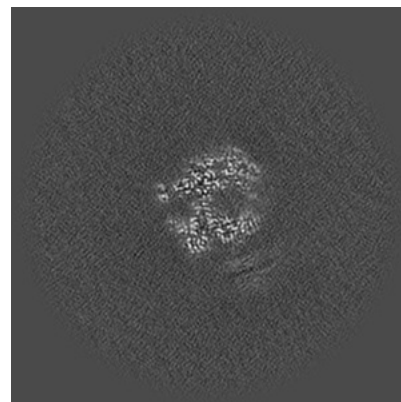
| X Index: 256 | Y Index: 256 | Z Index: 256 |

6.2.2　Raw map
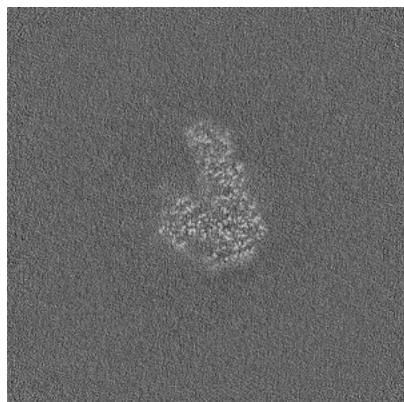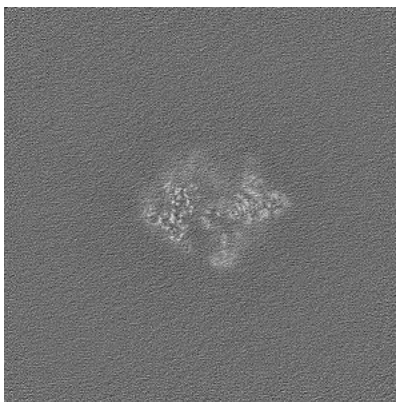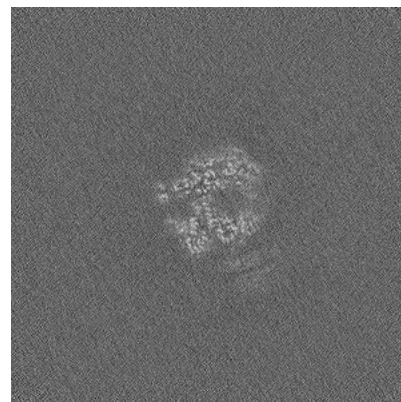
| X Index: 256 | Y Index: 256 | Z Index: 256 |

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

6.3 Largest variance slices ⓘ
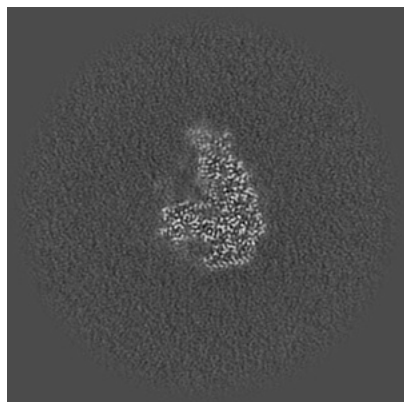
6.3.1 Primary map
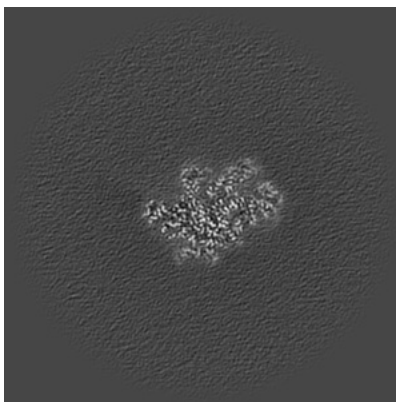
| X Index: 251 | Y Index: 277 | Z Index: 229 |
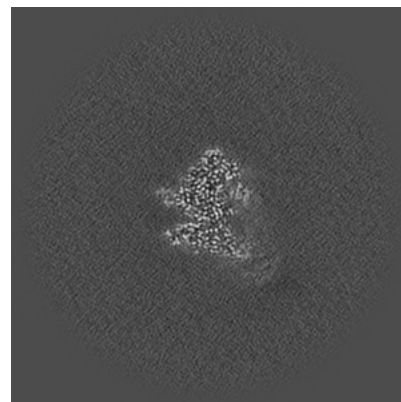
6.3.2 Raw map
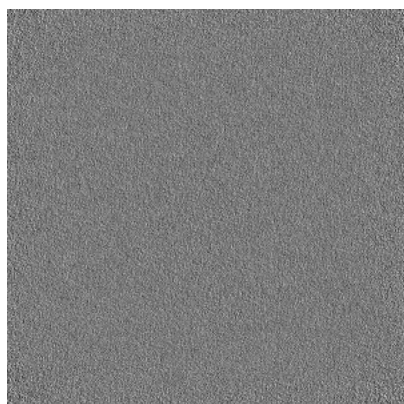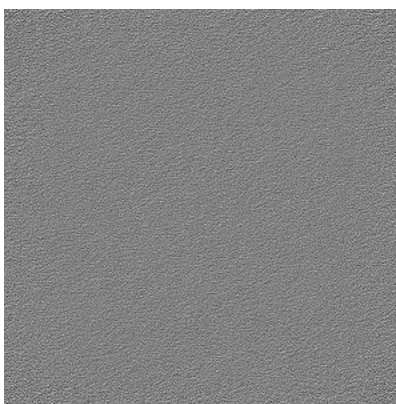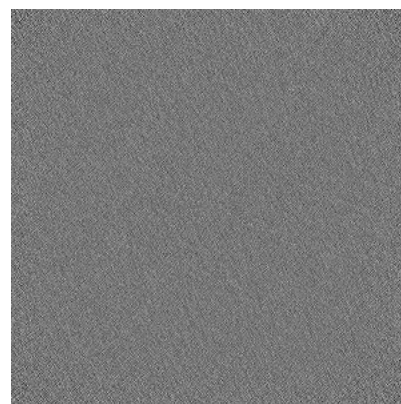
| X Index: 0 | Y Index: 0 | Z Index: 0 |

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

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

6.4.1 Primary map
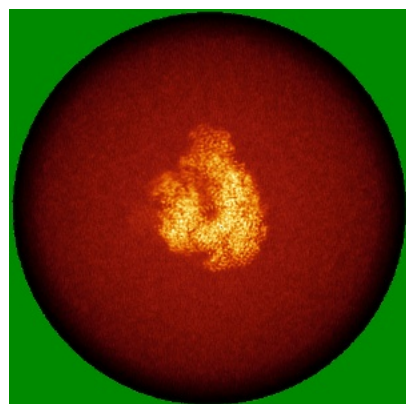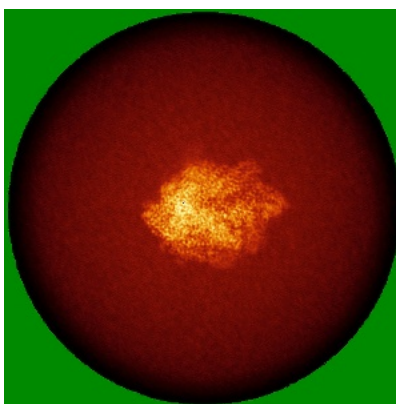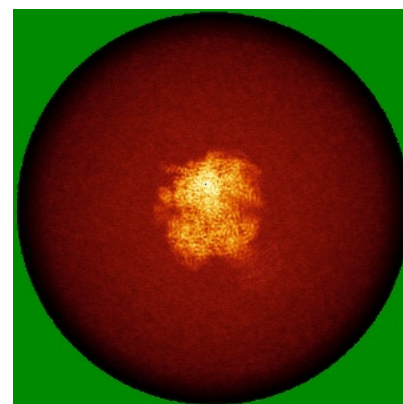
X   Y   Z

6.4.2 Raw map

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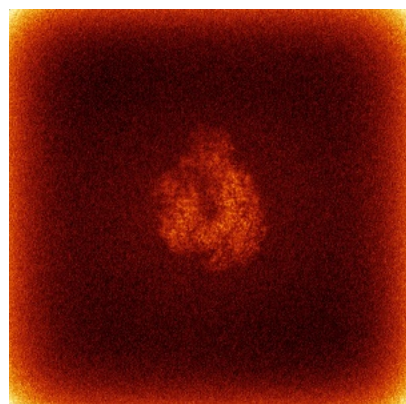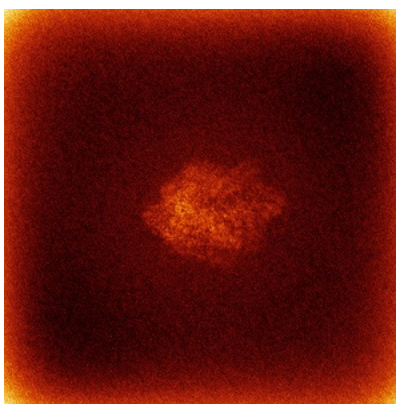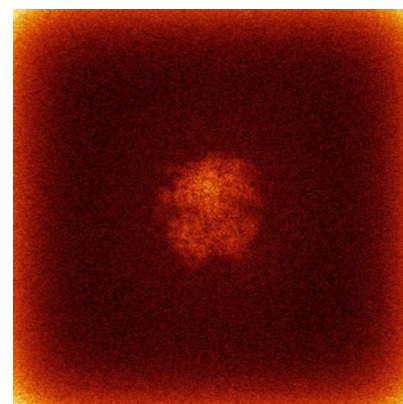
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

| X | Y | Z |
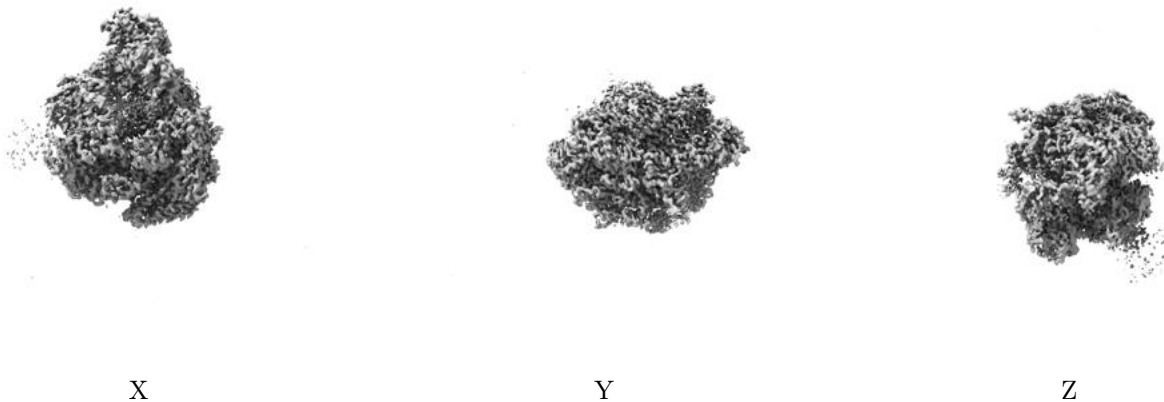
The images above show the 3D surface view of the map at the recommended contour level 0.4. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

| X | Y | Z |
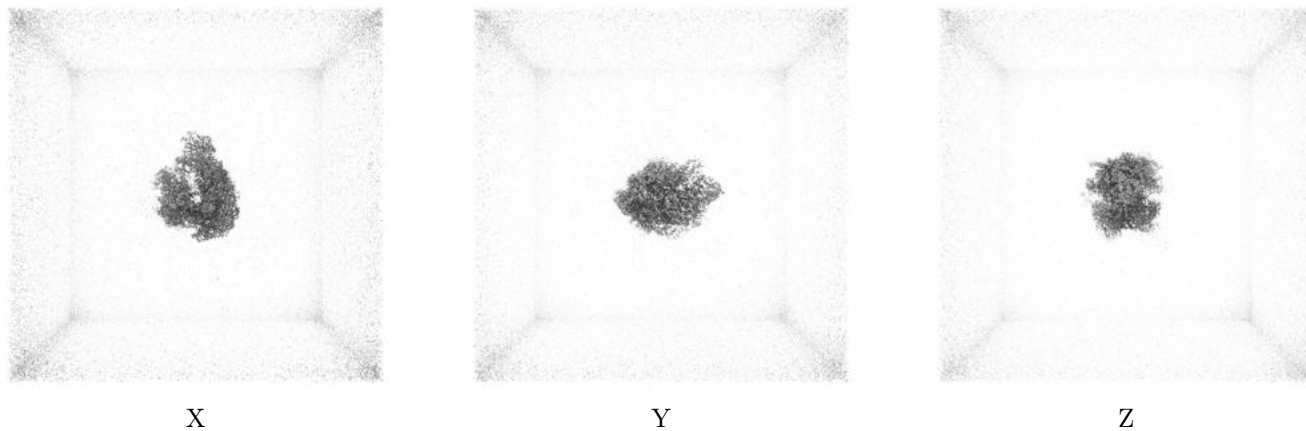
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.6　Mask visualisation ⓘ

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_38767_msk_1.map ⓘ

X　　　　　　　　　　　　　　　Y　　　　　　　　　　　　　　　Z
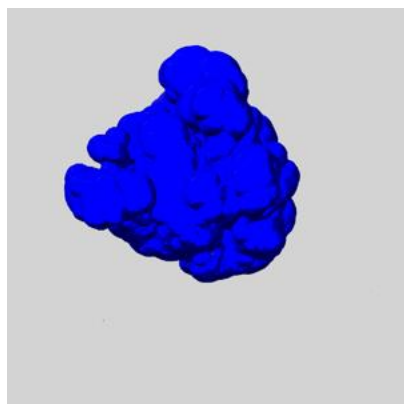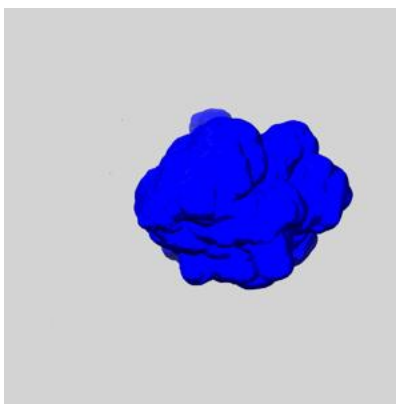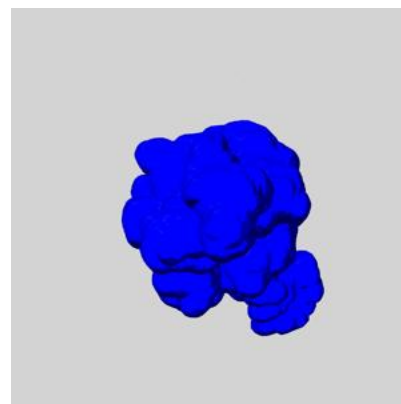
7 Map analysis ⓘ

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 ⓘ
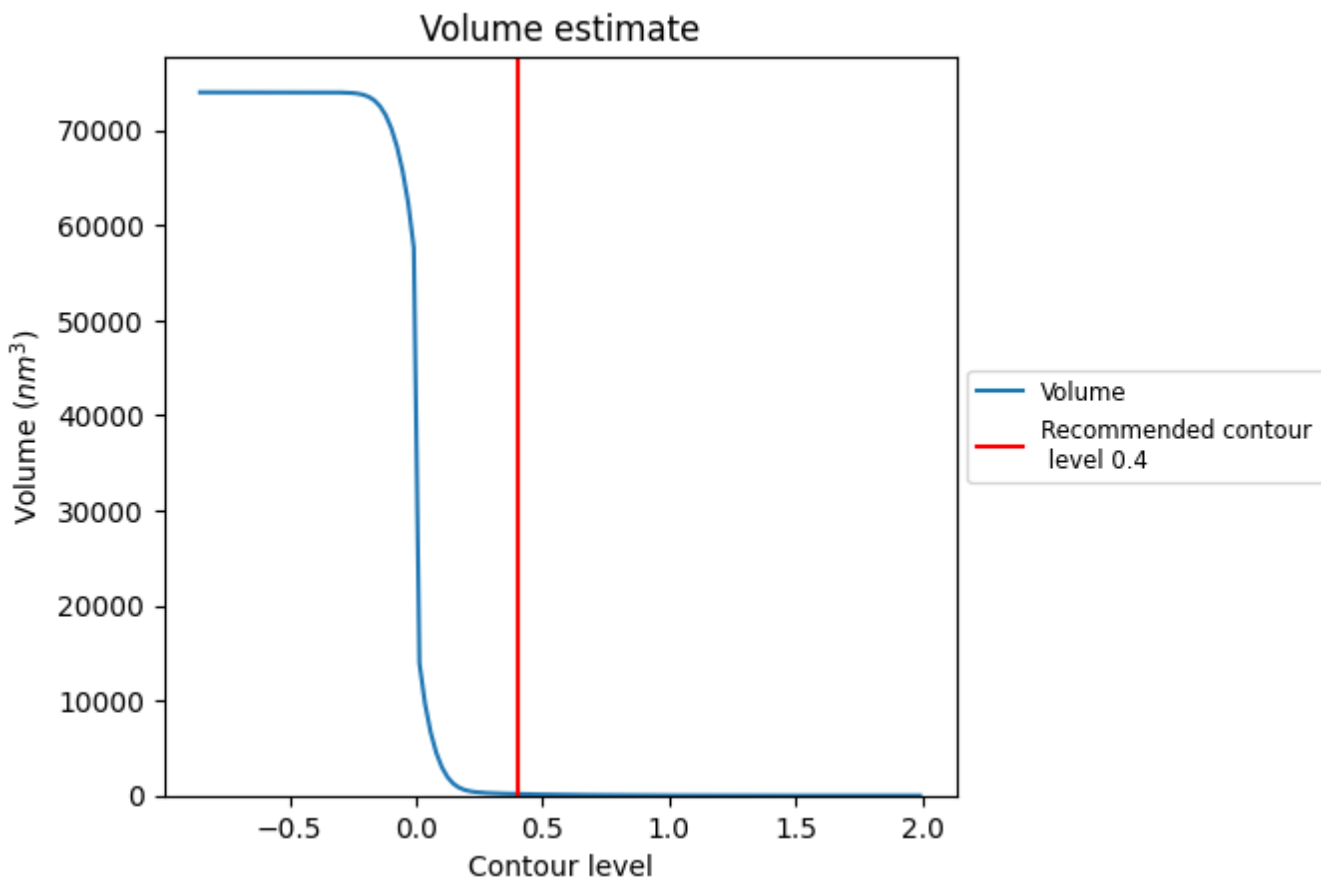
The volume at the recommended contour level is 165 nm^3; this corresponds to an approximate mass of 149 kDa.

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 ⓘ
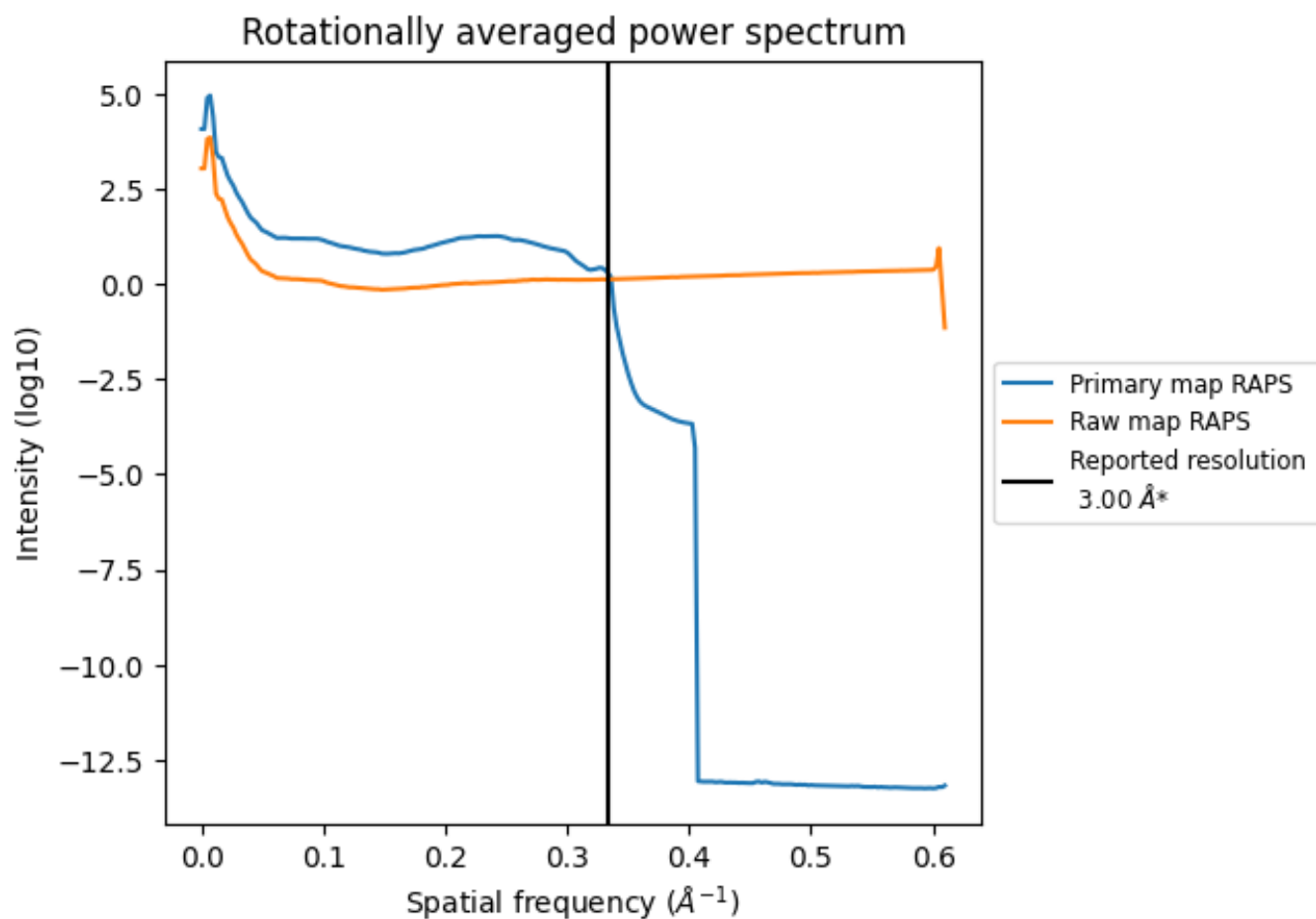
*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

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 ⓘ
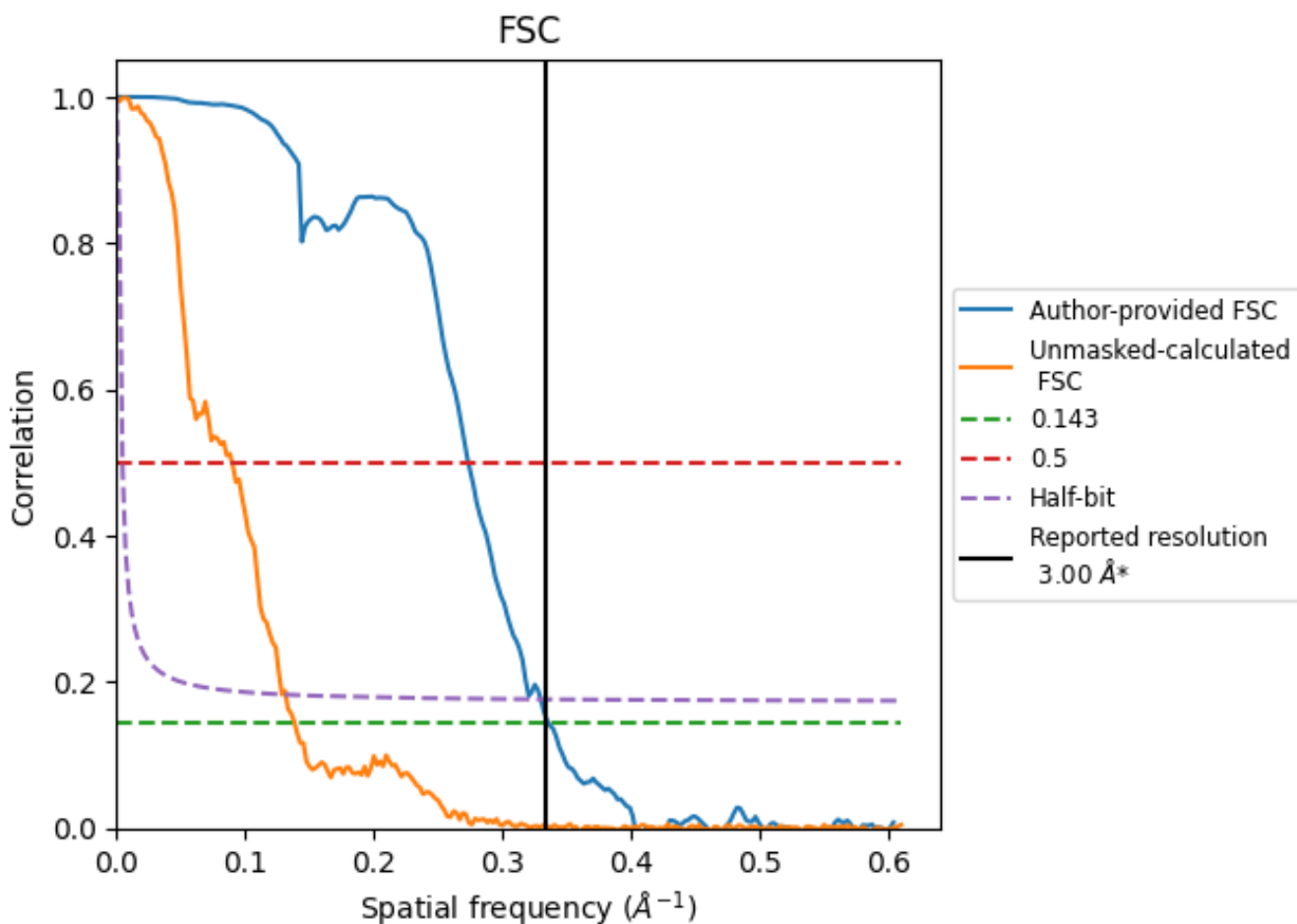
*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	2.98	3.66	3.03
Unmasked-calculated*	7.22	11.12	7.78

*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 7.22 differs from the reported value 3.0 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-38767 and PDB model 8XY6. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay ⓘ

X

Y

Z
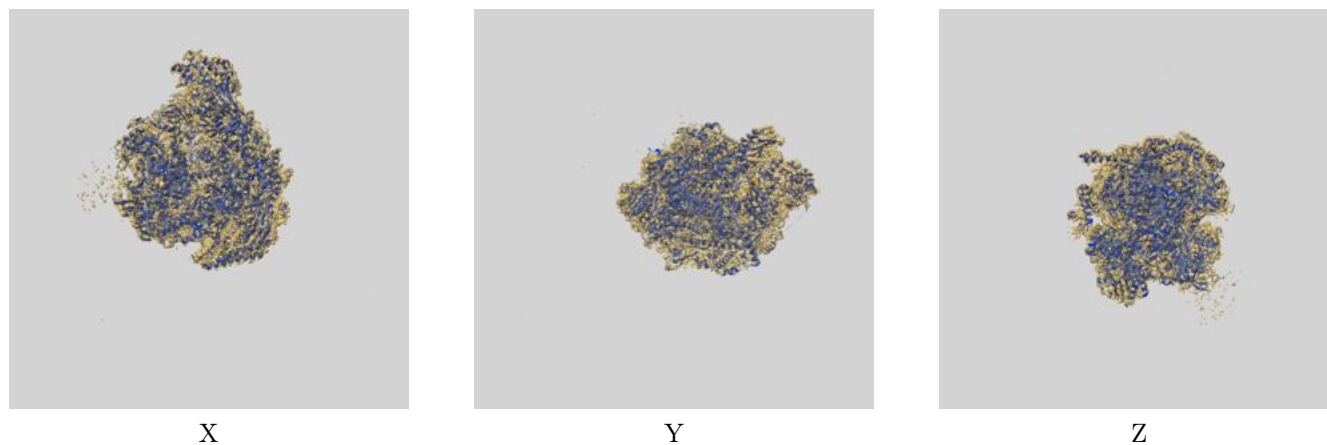
The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2   Q-score mapped to coordinate model ⓘ

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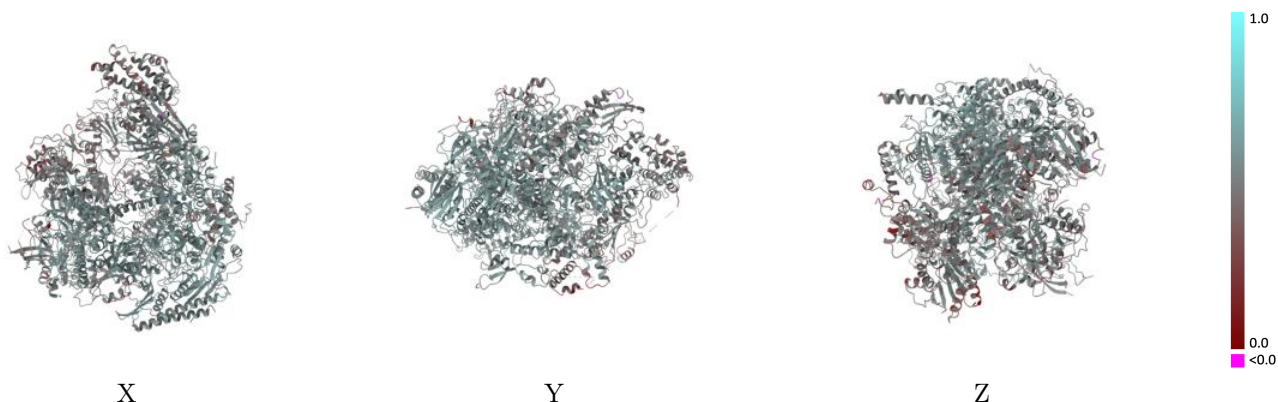
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3   Atom inclusion mapped to coordinate model ⓘ

X   Y   Z
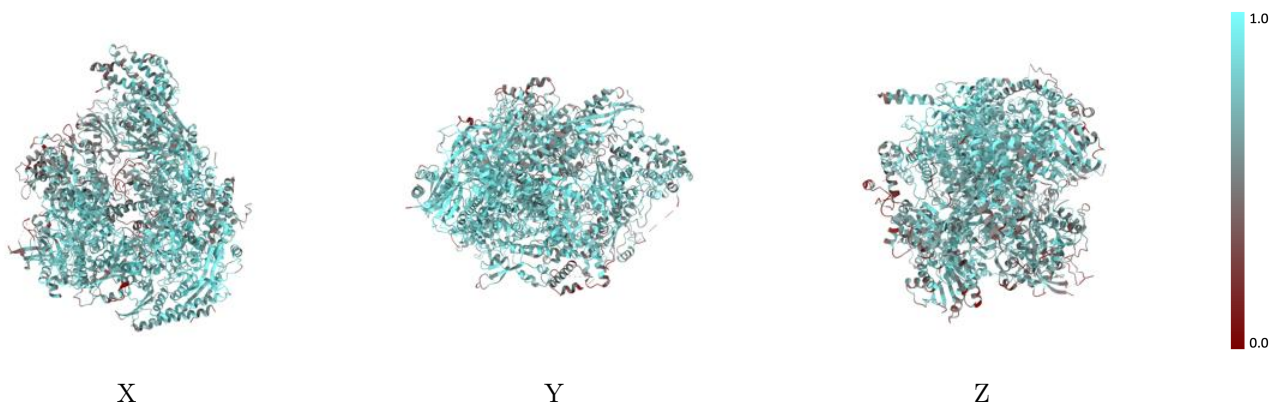
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.4).

9.4 Atom inclusion ⓘ
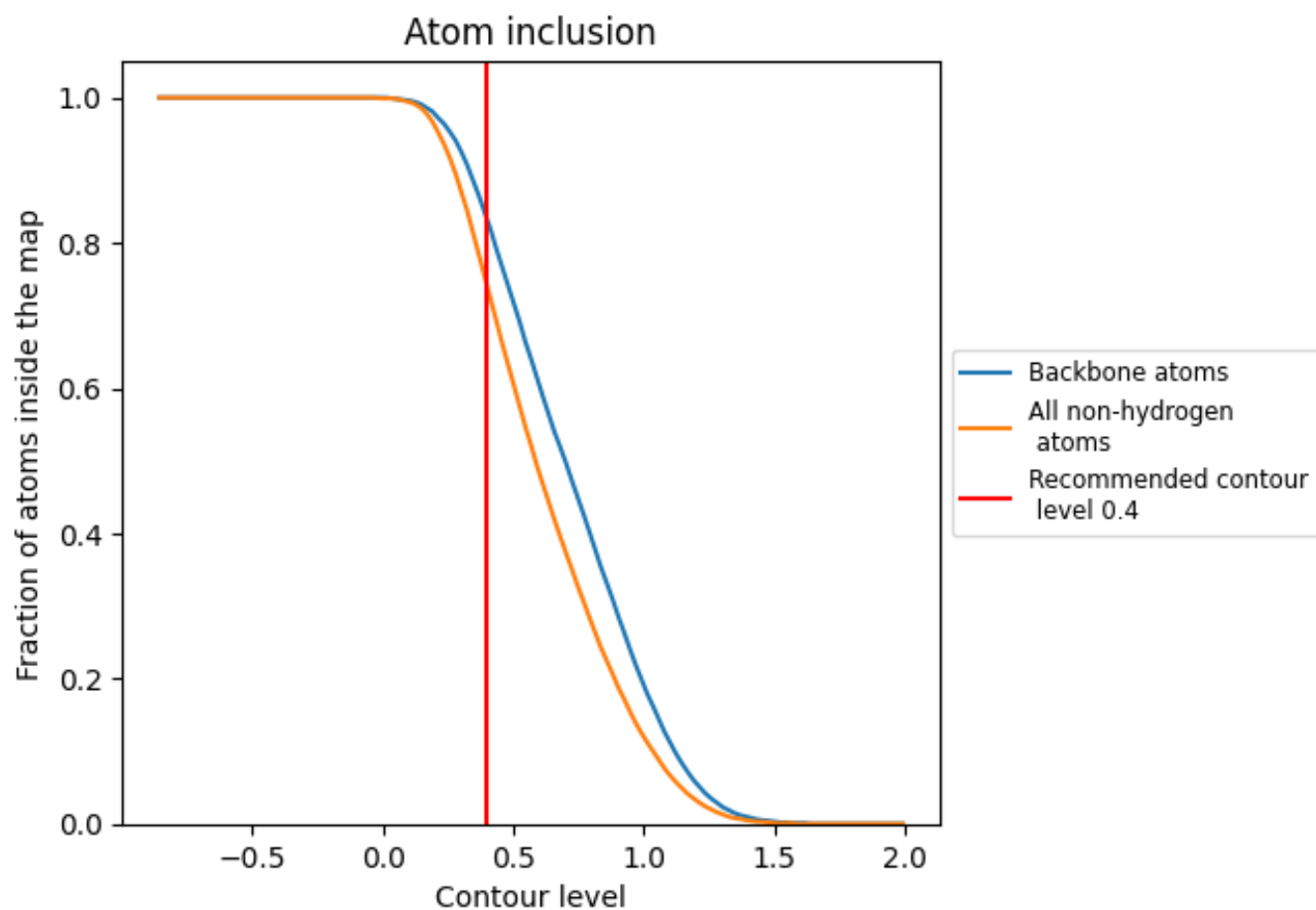
At the recommended contour level, 83% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7420	0.5190
A	0.7430	0.5200
B	0.7880	0.5360
C	0.8050	0.5480
D	0.6830	0.4770
E	0.7060	0.5210
F	0.6350	0.4900
G	0.7270	0.4980
H	0.8690	0.5660
I	0.6240	0.4770

1.0

0.0
<0.0