W O R L D W I D E
wwPDB
PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Nov 2, 2024 – 06:44 PM EDT

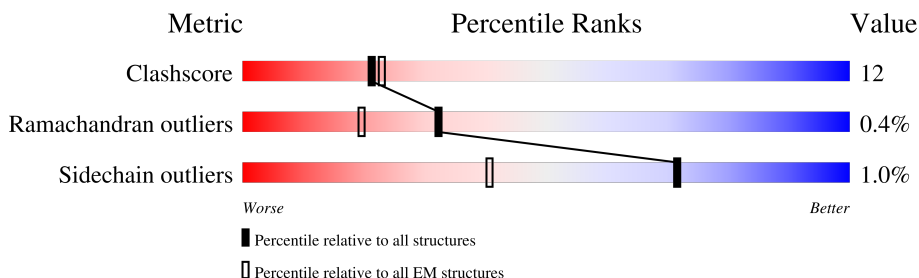|		
PDB ID	:	6NT4
EMDB ID	:	EMD-0501
Title	:	Cryo-EM structure of a human-cockroach hybrid Nav channel bound to alpha-scorpion toxin AaH2.
Authors	:	Clairfeuille, T.; Rohou, A.; Payandeh, J.
Deposited on	:	2019-01-28
Resolution	:	3.50 Å(reported)

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 3.50 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		1.0%

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	1559	20% — 61% / 21% / 18%
2	B	65	92% — 63% / 37%
2	C	65	31% — 72% / 28%
3	D	5	40% / 60%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
6	AJP	A	1611	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
8	Y01	A	1613	X	-	-	-

2 Entity composition ⓘ

There are 8 unique types of molecules in this entry. The entry contains 11924 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 Sodium channel protein PaFPC1,Sodium channel protein type 9 subunit alpha,Sodium channel protein PaFPC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1278	10432	6937	1666	1761	68	0	0

There are 62 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-53	TRP	-	expression tag	UNP D0E0C2
A	-52	SER	-	expression tag	UNP D0E0C2
A	-51	HIS	-	expression tag	UNP D0E0C2
A	-50	PRO	-	expression tag	UNP D0E0C2
A	-49	GLN	-	expression tag	UNP D0E0C2
A	-48	PHE	-	expression tag	UNP D0E0C2
A	-47	GLU	-	expression tag	UNP D0E0C2
A	-46	LYS	-	expression tag	UNP D0E0C2
A	-45	GLY	-	expression tag	UNP D0E0C2
A	-44	GLY	-	expression tag	UNP D0E0C2
A	-43	GLY	-	expression tag	UNP D0E0C2
A	-42	SER	-	expression tag	UNP D0E0C2
A	-41	GLY	-	expression tag	UNP D0E0C2
A	-40	GLY	-	expression tag	UNP D0E0C2
A	-39	GLY	-	expression tag	UNP D0E0C2
A	-38	SER	-	expression tag	UNP D0E0C2
A	-37	GLY	-	expression tag	UNP D0E0C2
A	-36	GLY	-	expression tag	UNP D0E0C2
A	-35	SER	-	expression tag	UNP D0E0C2
A	-34	ALA	-	expression tag	UNP D0E0C2
A	-33	TRP	-	expression tag	UNP D0E0C2
A	-32	SER	-	expression tag	UNP D0E0C2
A	-31	HIS	-	expression tag	UNP D0E0C2
A	-30	PRO	-	expression tag	UNP D0E0C2
A	-29	GLN	-	expression tag	UNP D0E0C2
A	-28	PHE	-	expression tag	UNP D0E0C2
A	-27	GLU	-	expression tag	UNP D0E0C2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-26	LYS	-	expression tag	UNP D0E0C2
A	-25	GLY	-	expression tag	UNP D0E0C2
A	-24	GLY	-	expression tag	UNP D0E0C2
A	-23	SER	-	expression tag	UNP D0E0C2
A	-22	GLY	-	expression tag	UNP D0E0C2
A	-21	GLY	-	expression tag	UNP D0E0C2
A	-20	ASP	-	expression tag	UNP D0E0C2
A	-19	TYR	-	expression tag	UNP D0E0C2
A	-18	LYS	-	expression tag	UNP D0E0C2
A	-17	ASP	-	expression tag	UNP D0E0C2
A	-16	ASP	-	expression tag	UNP D0E0C2
A	-15	ASP	-	expression tag	UNP D0E0C2
A	-14	ASP	-	expression tag	UNP D0E0C2
A	-13	LYS	-	expression tag	UNP D0E0C2
A	-12	GLY	-	expression tag	UNP D0E0C2
A	-11	GLY	-	expression tag	UNP D0E0C2
A	-10	SER	-	expression tag	UNP D0E0C2
A	-9	GLY	-	expression tag	UNP D0E0C2
A	-8	GLY	-	expression tag	UNP D0E0C2
A	-7	ASP	-	expression tag	UNP D0E0C2
A	-6	TYR	-	expression tag	UNP D0E0C2
A	-5	LYS	-	expression tag	UNP D0E0C2
A	-4	ASP	-	expression tag	UNP D0E0C2
A	-3	ASP	-	expression tag	UNP D0E0C2
A	-2	ASP	-	expression tag	UNP D0E0C2
A	-1	ASP	-	expression tag	UNP D0E0C2
A	0	LYS	-	expression tag	UNP D0E0C2
A	270	SER	PHE	conflict	UNP D0E0C2
A	274	LEU	VAL	conflict	UNP D0E0C2
A	275	ILE	LEU	conflict	UNP D0E0C2
A	279	LEU	ILE	conflict	UNP D0E0C2
A	280	PHE	TYR	conflict	UNP D0E0C2
A	283	ASN	VAL	conflict	UNP D0E0C2
A	285	LYS	THR	conflict	UNP D0E0C2
A	286	HIS	GLN	conflict	UNP D0E0C2

- Molecule 2 is a protein called Alpha-mammal toxin AaH2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	65	Total	C	N	O	S	0	1
			505	313	89	95	8		
2	C	65	Total	C	N	O	S	0	1
			505	313	89	95	8		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	65	NH2	-	amidation	UNP P01484
C	65	NH2	-	amidation	UNP P01484

- Molecule 3 is an oligosaccharide called beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose.
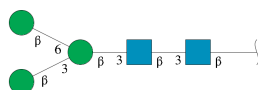
Mol	Chain	Residues	Atoms				AltConf	Trace
3	D	5	Total	C	N	O	0	0
			61	34	2	25		

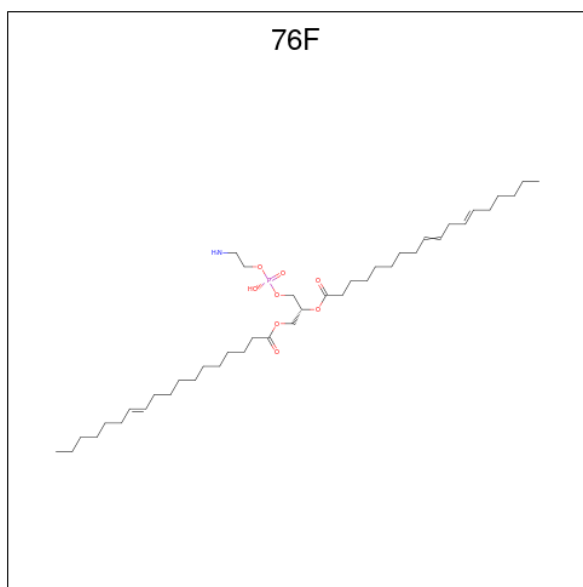- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).
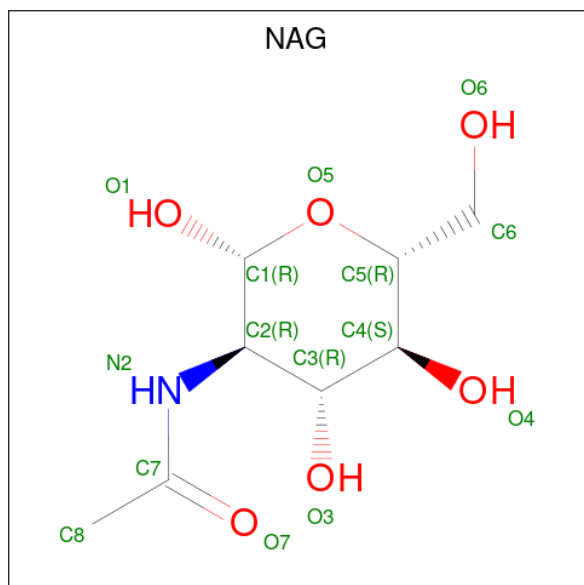
Mol	Chain	Residues	Atoms				AltConf
4	A	1	Total	C	N	O	0
			14	8	1	5	
4	A	1	Total	C	N	O	0
			14	8	1	5	
4	A	1	Total	C	N	O	0
			14	8	1	5	

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Mol	Chain	Residues	Atoms				AltConf
4	A	1	Total 14	C 8	N 1	O 5	0
4	A	1	Total 14	C 8	N 1	O 5	0

- Molecule 5 is (7E,21R,24S)-27-amino-24-hydroxy-18,24-dioxo-19,23,25-trioxa-24lambda 5 -phosphaheptacos-7-en-21-yl (9Z,12E)-octadeca-9,12-dienoate (three-letter code: 76F) (formula: $C_{41}H_{76}NO_8P$).


76F

Mol	Chain	Residues	Atoms					AltConf
5	A	1	Total 31	C 21	N 1	O 8	P 1	0
5	A	1	Total 26	C 16	N 1	O 8	P 1	0
5	A	1	Total 47	C 37	N 1	O 8	P 1	0
5	A	1	Total 40	C 30	N 1	O 8	P 1	0
5	A	1	Total 46	C 36	N 1	O 8	P 1	0

- Molecule 6 is Digitonin (three-letter code: AJP) (formula: $C_{56}H_{92}O_{29}$).

AJP
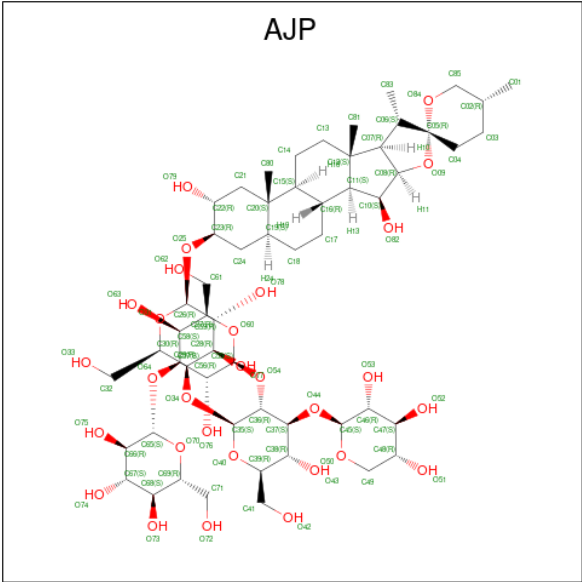
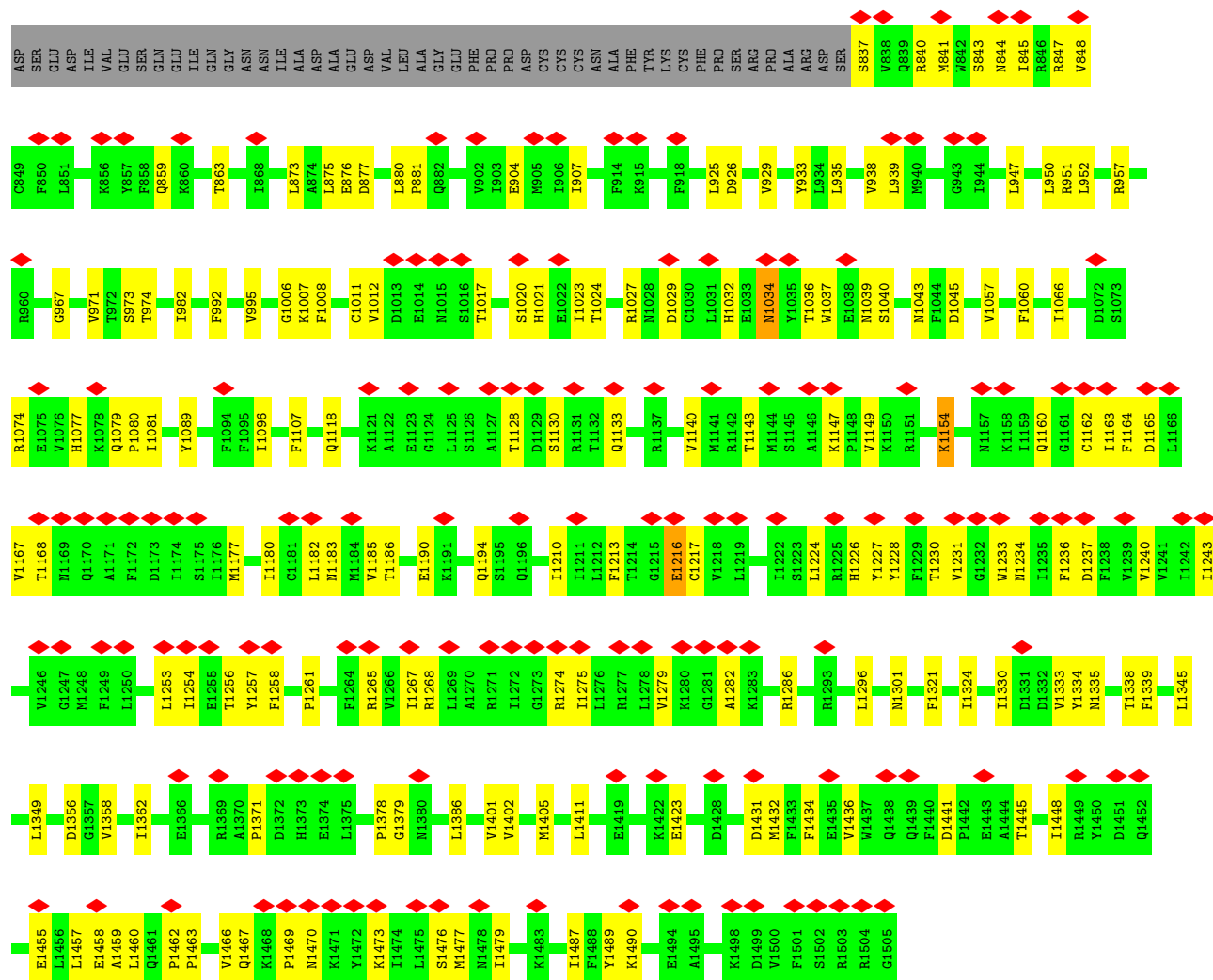| Mol	Chain	Residues	Atoms			AltConf
6	A	1	Total	C	O	0
			85	56	29	

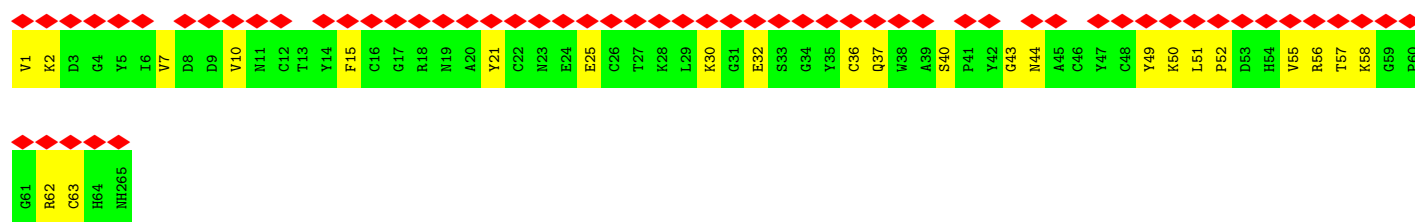- Molecule 7 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{75}O_{10}P$).

LHG
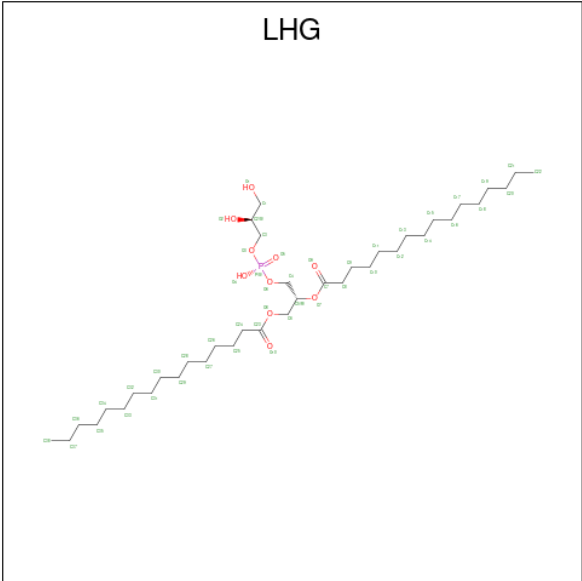
Mol	Chain	Residues	Atoms				AltConf
7	A	1	Total	C	O	P	0
			41	30	10	1	

- Molecule 8 is CHOLESTEROL HEMISUCCINATE (three-letter code: Y01) (formula: $C_{31}H_{50}O_4$).

Mol	Chain	Residues	Atoms			AltConf
8	A	1	Total	C	O	0
			35	31	4	

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: Sodium channel protein PaFPC1,Sodium channel protein type 9 subunit alpha,Sodium channel protein PaFPC1
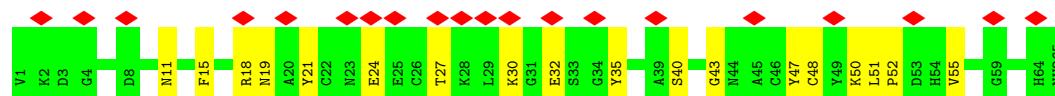
• Molecule 2: Alpha-mammal toxin AaH2

Chain B:

• Molecule 2: Alpha-mammal toxin AaH2

Chain C:

• Molecule 3: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose
-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyrano
se

Chain D:

40%　　　　　　　　　　　　　　　60%

NAG1 NAG2 BMA3 BMA4 BMA5

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	251714	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 $(e^-/\text{Å}^2)$	40	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	26.928	Depositor
Minimum map value	-14.935	Depositor
Average map value	0.045	Depositor
Map value standard deviation	0.870	Depositor
Recommended contour level	4.6	Depositor
Map size (Å)	250.0, 250.0, 250.0	wwPDB
Map dimensions	250, 250, 250	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0, 1.0, 1.0	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: AJP, Y01, BMA, NH2, LHG, NAG, 76F

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	0.34	0/10715	0.49	2/14552 (0.0%)
2	B	0.32	0/518	0.49	0/700
2	C	0.38	0/518	0.58	1/700 (0.1%)
All	All	0.34	0/11751	0.49	3/15952 (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	1	0

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1034	ASN	N-CA-C	6.57	128.74	111.00
2	C	48	CYS	CA-CB-SG	-5.68	103.78	114.00
1	A	1034	ASN	N-CA-CB	5.03	119.64	110.60

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1034	ASN	CA

There are no planarity outliers.

5.2 Too-close contacts (i)

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	10432	0	10543	238	0
2	B	505	0	457	15	0
2	C	505	0	457	13	0
3	D	61	0	52	4	0
4	A	70	0	65	2	0
5	A	190	0	0	1	0
6	A	85	0	0	5	0
7	A	41	0	55	3	0
8	A	35	0	49	2	0
All	All	11924	0	11678	273	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 (273) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:65:ALA:HA	1:A:73:PRO:O	1.58	1.03
1:A:540:HIS:HB2	1:A:543:MET:HB3	1.59	0.84
1:A:521:PHE:O	1:A:525:ILE:HD12	1.76	0.84
1:A:283:ASN:OD1	1:A:286:HIS:NE2	2.10	0.82
1:A:125:PRO:HD2	1:A:130:ARG:HD3	1.62	0.80
1:A:1011:CYS:HB3	1:A:1079:GLN:HE22	1.47	0.80
1:A:1177:MET:HG2	1:A:1275:ILE:HD13	1.63	0.80
1:A:86:SER:O	1:A:100:LYS:NZ	2.21	0.73
1:A:100:LYS:HG3	1:A:103:VAL:HB	1.71	0.73
2:B:30:LYS:HD3	2:B:52:PRO:HG2	1.72	0.71
1:A:556:TYR:HE1	1:A:598:LEU:HD11	1.58	0.69
1:A:68:GLN:HE22	1:A:115:SER:HB2	1.58	0.69
2:C:51:LEU:HD12	2:C:52:PRO:HD2	1.75	0.69
1:A:1457:LEU:HD21	1:A:1466:VAL:HB	1.74	0.68
1:A:1074:ARG:HH22	1:A:1081:ILE:HG13	1.58	0.68
1:A:1254:ILE:HG13	1:A:1261:PRO:HG3	1.74	0.67
1:A:1432:MET:HE1	1:A:1460:LEU:HA	1.75	0.67
1:A:216:LEU:O	1:A:218:VAL:N	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1183:ASN:O	1:A:1186:THR:HG22	1.94	0.66
1:A:120:LEU:HD22	1:A:196:TYR:HB3	1.77	0.66
1:A:1231:VAL:HG12	1:A:1233:TRP:H	1.60	0.66
1:A:1371:PRO:HB3	1:A:1379:GLY:H	1.60	0.66
1:A:1167:VAL:HG23	1:A:1168:THR:HG23	1.76	0.66
1:A:504:PRO:HA	1:A:507:LYS:HB3	1.77	0.66
6:A:1611:AJP:O33	6:A:1611:AJP:O60	2.14	0.66
1:A:844:ASN:OD1	1:A:847:ARG:NH1	2.29	0.65
1:A:967:GLY:O	1:A:1301:ASN:ND2	2.29	0.65
6:A:1611:AJP:O40	6:A:1611:AJP:O77	2.14	0.65
1:A:127:THR:HG23	1:A:131:ARG:HB2	1.79	0.65
1:A:1147:LYS:HB2	1:A:1434:PHE:CD1	2.33	0.63
1:A:1432:MET:CE	1:A:1460:LEU:HA	2.29	0.63
1:A:62:PRO:HD3	1:A:121:TRP:HD1	1.64	0.62
1:A:1458:GLU:HG3	1:A:1459:ALA:N	2.14	0.62
1:A:1182:LEU:HA	1:A:1185:VAL:HG12	1.80	0.62
1:A:873:LEU:HD21	1:A:952:LEU:HD22	1.82	0.62
1:A:1448:ILE:O	1:A:1487:ILE:HG22	2.00	0.62
1:A:150:ILE:HG12	1:A:233:ARG:HH11	1.63	0.61
1:A:1265:ARG:HD2	1:A:1268:ARG:HH22	1.66	0.60
1:A:205:ASP:OD2	1:A:236:ARG:NH2	2.34	0.60
1:A:1128:THR:HB	1:A:1133:GLN:HE21	1.66	0.60
1:A:1371:PRO:HB3	1:A:1378:PRO:HA	1.83	0.60
1:A:75:ARG:HD2	1:A:84:LEU:HD22	1.83	0.59
1:A:231:VAL:HG21	1:A:657:ILE:HG21	1.84	0.59
7:A:1612:LHG:O9	7:A:1612:LHG:H102	2.02	0.59
1:A:1213:PHE:O	1:A:1216:GLU:HG3	2.02	0.59
1:A:522:GLU:HA	1:A:525:ILE:HD13	1.83	0.59
1:A:1338:THR:HG22	1:A:1339:PHE:H	1.68	0.59
1:A:71:ARG:HD3	1:A:99:LYS:HG2	1.84	0.59
1:A:1043:ASN:ND2	1:A:1045:ASP:OD2	2.36	0.59
1:A:1321:PHE:HB3	1:A:1324:ILE:HD11	1.83	0.59
1:A:217:VAL:HA	2:B:43:GLY:HA2	1.85	0.58
1:A:1441:ASP:OD2	1:A:1445:THR:N	2.36	0.58
1:A:610:ARG:O	1:A:613:ARG:HB3	2.04	0.57
1:A:1039:ASN:OD1	1:A:1040:SER:N	2.37	0.57
1:A:1253:LEU:HD11	2:C:15:PHE:CG	2.39	0.57
3:D:1:NAG:O4	3:D:2:NAG:N2	2.36	0.57
2:B:2:LYS:NZ	2:B:55:VAL:O	2.38	0.57
2:C:18:ARG:HG2	2:C:19:ASN:H	1.68	0.57
1:A:992:PHE:O	1:A:995:VAL:HG12	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:640:ALA:HB1	1:A:739:LEU:HD11	1.88	0.56
1:A:568:LEU:O	1:A:571:ILE:HG22	2.05	0.56
1:A:72:LEU:HD22	1:A:135:SER:HB2	1.87	0.56
1:A:350:ASN:HB2	1:A:354:GLY:HA2	1.86	0.56
1:A:1023:ILE:HG22	1:A:1024:THR:HG23	1.88	0.56
1:A:1162:CYS:O	1:A:1165:ASP:HB3	2.06	0.56
1:A:75:ARG:HA	1:A:84:LEU:HD21	1.88	0.55
1:A:416:VAL:HG11	1:A:1411:LEU:HD11	1.87	0.55
1:A:206:PHE:O	1:A:209:THR:HG22	2.07	0.55
1:A:933:TYR:HE1	1:A:951:ARG:HA	1.71	0.55
1:A:67:GLU:CD	1:A:71:ARG:H	2.11	0.55
1:A:73:PRO:HG3	1:A:99:LYS:HE2	1.89	0.55
1:A:301:PHE:CE1	1:A:303:ASP:HB3	2.42	0.54
1:A:1257:TYR:HA	5:A:1606:76F:O4P	2.08	0.54
1:A:1154:LYS:HG3	1:A:1164:PHE:CG	2.43	0.54
2:C:24:GLU:HA	2:C:27:THR:OG1	2.07	0.54
6:A:1611:AJP:C80	6:A:1611:AJP:C23	2.86	0.54
1:A:63:ASP:HA	1:A:118:LYS:HB2	1.89	0.54
6:A:1611:AJP:C56	6:A:1611:AJP:C46	2.86	0.54
1:A:100:LYS:O	1:A:104:VAL:HG13	2.08	0.54
1:A:105:VAL:O	1:A:109:GLY:N	2.40	0.54
3:D:2:NAG:O4	3:D:3:BMA:H2	2.08	0.53
1:A:71:ARG:HH21	1:A:99:LYS:HB3	1.73	0.53
1:A:1029:ASP:HA	1:A:1032:HIS:HB3	1.89	0.53
1:A:1401:VAL:HG23	1:A:1402:VAL:HG23	1.90	0.53
1:A:331:SER:OG	1:A:332:SER:N	2.41	0.53
1:A:1160:GLN:HA	1:A:1163:ILE:HG12	1.90	0.53
1:A:345:GLN:HG2	1:A:346:GLY:N	2.22	0.53
1:A:1253:LEU:HA	1:A:1256:THR:HG22	1.91	0.53
1:A:1349:LEU:HD11	1:A:1358:VAL:HG21	1.90	0.53
1:A:1224:LEU:HD23	1:A:1226:HIS:O	2.09	0.52
1:A:129:ILE:O	1:A:132:VAL:HG22	2.09	0.52
1:A:234:SER:O	1:A:237:THR:HG22	2.08	0.52
1:A:1027:ARG:HD2	1:A:1077:HIS:HD2	1.75	0.52
2:C:51:LEU:HD23	2:C:55:VAL:HG11	1.92	0.52
1:A:1177:MET:HA	1:A:1180:ILE:HG22	1.92	0.52
1:A:120:LEU:HD21	1:A:192:HIS:HB3	1.91	0.52
1:A:671:MET:O	1:A:671:MET:HG2	2.09	0.52
3:D:2:NAG:O7	3:D:2:NAG:O3	2.26	0.52
1:A:259:LYS:O	1:A:262:VAL:HG12	2.10	0.52
1:A:1455:GLU:HA	1:A:1458:GLU:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:36:CYS:SG	2:B:37:GLN:N	2.83	0.52
1:A:1224:LEU:HD22	1:A:1228:TYR:HA	1.92	0.51
1:A:971:VAL:O	1:A:974:THR:HG22	2.10	0.51
1:A:217:VAL:HB	2:B:44:ASN:H	1.76	0.51
1:A:243:GLY:O	1:A:643:ASN:ND2	2.44	0.51
1:A:286:HIS:ND1	1:A:345:GLN:HB2	2.25	0.51
1:A:67:GLU:HB2	1:A:73:PRO:HD2	1.91	0.50
1:A:77:ARG:NH2	1:A:121:TRP:HA	2.27	0.50
2:B:7:VAL:HG11	2:B:58:LYS:HA	1.94	0.50
1:A:77:ARG:HH11	1:A:123:LEU:H	1.59	0.50
1:A:522:GLU:HA	1:A:525:ILE:CD1	2.40	0.50
1:A:574:SER:O	1:A:577:PHE:N	2.44	0.50
1:A:1216:GLU:HG3	1:A:1217:CYS:N	2.26	0.50
1:A:308:ASN:OD1	4:A:1604:NAG:N2	2.44	0.50
1:A:208:VAL:HG11	1:A:233:ARG:HG3	1.93	0.50
2:B:32:GLU:HB3	2:B:49:TYR:HB2	1.93	0.50
1:A:947:LEU:HD23	1:A:950:LEU:HD12	1.93	0.50
1:A:1338:THR:HG22	1:A:1339:PHE:N	2.26	0.50
1:A:840:ARG:O	1:A:843:SER:OG	2.22	0.49
1:A:64:GLN:OE1	1:A:64:GLN:N	2.37	0.49
1:A:1457:LEU:HD11	1:A:1466:VAL:H	1.76	0.49
2:B:21:TYR:O	2:B:25:GLU:HG2	2.13	0.49
1:A:1321:PHE:CG	1:A:1362:ILE:HD11	2.48	0.49
1:A:64:GLN:HG2	1:A:65:ALA:H	1.77	0.49
1:A:1279:VAL:HG12	1:A:1282:ALA:H	1.78	0.49
1:A:64:GLN:C	1:A:74:ALA:HA	2.33	0.49
1:A:134:ILE:HD13	1:A:186:ALA:HB1	1.92	0.49
1:A:1334:TYR:HB3	1:A:1345:LEU:HD13	1.94	0.49
1:A:1240:VAL:HA	1:A:1243:ILE:HD12	1.95	0.48
1:A:146:ILE:CD1	1:A:179:GLU:HG3	2.43	0.48
1:A:55:ASP:HA	1:A:59:SER:HB2	1.94	0.48
1:A:289:VAL:HG12	1:A:316:TRP:CD1	2.49	0.48
1:A:1467:GLN:HG3	1:A:1469:PRO:HD2	1.94	0.48
1:A:1007:LYS:O	1:A:1008:PHE:HB2	2.12	0.48
2:B:15:PHE:O	2:B:44:ASN:ND2	2.46	0.48
1:A:306:TRP:CZ3	1:A:310:THR:HG21	2.48	0.48
1:A:877:ASP:OD2	1:A:1338:THR:HG23	2.14	0.48
1:A:600:LEU:O	1:A:604:GLN:N	2.36	0.48
1:A:632:SER:HA	1:A:635:THR:HG22	1.96	0.48
1:A:513:GLY:O	1:A:516:VAL:HG12	2.13	0.47
1:A:1432:MET:O	1:A:1436:VAL:HG13	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:1611:AJP:C17	6:A:1611:AJP:C21	2.92	0.47
1:A:204:LEU:HD22	7:A:1612:LHG:C24	2.44	0.47
1:A:71:ARG:HG2	1:A:72:LEU:H	1.79	0.47
1:A:63:ASP:OD1	1:A:63:ASP:N	2.46	0.47
1:A:1130:SER:OG	1:A:1133:GLN:N	2.48	0.47
1:A:67:GLU:OE2	1:A:70:SER:N	2.48	0.47
2:B:10:VAL:HG12	2:B:10:VAL:O	2.14	0.47
1:A:300:ASN:OD1	1:A:300:ASN:N	2.46	0.47
1:A:545:ILE:O	1:A:549:ARG:HG2	2.15	0.47
1:A:837:SER:O	1:A:840:ARG:NE	2.48	0.46
1:A:904:GLU:HA	1:A:907:ILE:HG22	1.97	0.46
1:A:1371:PRO:HB3	1:A:1379:GLY:N	2.28	0.46
1:A:926:ASP:HA	1:A:929:VAL:HG22	1.96	0.46
1:A:938:VAL:HG13	1:A:939:LEU:HD12	1.98	0.46
1:A:1489:TYR:CG	1:A:1490:LYS:N	2.82	0.46
1:A:176:TYR:OH	1:A:205:ASP:OD1	2.27	0.46
1:A:596:LEU:HD22	1:A:609:PHE:CE2	2.51	0.46
1:A:391:TRP:CE2	8:A:1613:Y01:HAR1	2.50	0.46
1:A:549:ARG:O	1:A:553:THR:HG23	2.16	0.46
1:A:935:LEU:O	1:A:938:VAL:HG12	2.16	0.45
2:B:1:VAL:HG21	2:B:50:LYS:HG2	1.99	0.45
2:C:40:SER:HB2	2:C:43:GLY:O	2.16	0.45
1:A:1402:VAL:O	1:A:1405:MET:N	2.48	0.45
1:A:292:PHE:C	1:A:294:ALA:H	2.20	0.45
1:A:1227:TYR:HB3	1:A:1230:THR:OG1	2.15	0.45
1:A:1466:VAL:HG12	1:A:1470:ASN:HD22	1.82	0.45
1:A:1228:TYR:O	1:A:1234:ASN:ND2	2.50	0.45
1:A:62:PRO:CD	1:A:121:TRP:HD1	2.29	0.45
1:A:288:CYS:SG	1:A:328:CYS:HB3	2.57	0.45
1:A:204:LEU:HD22	7:A:1612:LHG:H242	1.99	0.45
1:A:236:ARG:O	1:A:236:ARG:HG3	2.16	0.45
1:A:573:LEU:HD23	1:A:573:LEU:HA	1.84	0.45
1:A:692:MET:HG3	1:A:1089:TYR:CD2	2.52	0.44
1:A:1253:LEU:HD11	2:C:15:PHE:CD1	2.52	0.44
2:C:30:LYS:HE3	2:C:52:PRO:HG2	1.99	0.44
1:A:568:LEU:HD12	1:A:571:ILE:HG21	1.98	0.44
1:A:65:ALA:C	1:A:66:LEU:HD22	2.37	0.44
1:A:154:CYS:O	1:A:157:MET:HG2	2.18	0.44
1:A:1079:GLN:OE1	1:A:1080:PRO:HD2	2.18	0.44
1:A:526:ALA:O	1:A:529:ILE:HG22	2.17	0.44
1:A:1164:PHE:O	1:A:1167:VAL:HG22	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1012:VAL:HG23	1:A:1017:THR:O	2.18	0.44
3:D:3:BMA:H61	3:D:5:BMA:H2	1.78	0.44
1:A:188:GLY:HA3	1:A:196:TYR:HE2	1.81	0.44
1:A:64:GLN:HB2	1:A:74:ALA:HB1	2.00	0.44
1:A:926:ASP:OD1	1:A:957:ARG:HD3	2.18	0.44
1:A:328:CYS:SG	1:A:329:GLY:N	2.90	0.43
1:A:973:SER:OG	1:A:1118:GLN:NE2	2.50	0.43
1:A:205:ASP:CG	1:A:236:ARG:HH21	2.21	0.43
1:A:1333:VAL:HG12	1:A:1333:VAL:O	2.18	0.43
2:C:40:SER:O	2:C:43:GLY:N	2.48	0.43
1:A:715:TRP:O	1:A:715:TRP:CG	2.70	0.43
1:A:716:SER:O	1:A:716:SER:OG	2.34	0.43
1:A:859:GLN:O	1:A:863:THR:HG23	2.18	0.43
1:A:314:SER:O	1:A:314:SER:OG	2.29	0.43
2:B:51:LEU:HD13	2:B:55:VAL:HG21	2.01	0.43
1:A:200:PRO:O	1:A:203:TRP:HB2	2.18	0.43
1:A:525:ILE:O	1:A:528:ILE:HG22	2.18	0.43
1:A:120:LEU:HD21	1:A:192:HIS:ND1	2.34	0.43
1:A:841:MET:HG2	1:A:845:ILE:HG13	2.00	0.43
1:A:555:ASN:HB2	1:A:613:ARG:HH12	1.83	0.43
1:A:582:SER:O	1:A:582:SER:OG	2.35	0.43
1:A:1060:PHE:CE1	1:A:1096:ILE:HD11	2.54	0.43
1:A:1154:LYS:HG3	1:A:1164:PHE:CD1	2.54	0.43
1:A:1386:LEU:HD23	1:A:1386:LEU:H	1.83	0.43
1:A:1477:MET:O	1:A:1479:ILE:N	2.52	0.43
1:A:1330:ILE:HG23	1:A:1335:ASN:HA	2.01	0.43
1:A:683:ASN:ND2	1:A:685:THR:OG1	2.52	0.42
1:A:1462:PRO:N	1:A:1463:PRO:HD2	2.33	0.42
1:A:925:LEU:HD23	1:A:925:LEU:HA	1.79	0.42
1:A:1254:ILE:O	1:A:1258:PHE:HB3	2.18	0.42
1:A:532:ASN:HA	1:A:558:PHE:CE2	2.54	0.42
1:A:875:LEU:HD12	1:A:875:LEU:O	2.19	0.42
1:A:1236:PHE:HZ	1:A:1267:ILE:HG12	1.84	0.42
2:B:57:THR:HG22	2:B:58:LYS:N	2.35	0.42
1:A:1020:SER:OG	1:A:1021:HIS:N	2.53	0.42
1:A:1147:LYS:HD2	1:A:1434:PHE:CD2	2.55	0.42
1:A:1190:GLU:HA	1:A:1194:GLN:NE2	2.35	0.42
1:A:292:PHE:C	1:A:294:ALA:N	2.72	0.42
1:A:306:TRP:HH2	1:A:344:LEU:HD11	1.84	0.42
1:A:517:LEU:HD21	1:A:573:LEU:HD11	2.01	0.42
1:A:693:ILE:HD11	1:A:705:SER:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1147:LYS:O	1:A:1149:VAL:HG13	2.20	0.42
1:A:683:ASN:OD1	1:A:683:ASN:N	2.50	0.42
1:A:1140:VAL:O	1:A:1143:THR:HG22	2.20	0.42
1:A:197:LEU:HD23	1:A:197:LEU:HA	1.79	0.42
1:A:311:SER:O	1:A:311:SER:OG	2.32	0.42
1:A:1237:ASP:O	1:A:1240:VAL:HG12	2.19	0.42
1:A:843:SER:OG	1:A:844:ASN:N	2.52	0.42
1:A:1490:LYS:HE3	1:A:1490:LYS:HB2	1.82	0.42
1:A:1160:GLN:O	1:A:1164:PHE:N	2.42	0.41
1:A:1296:LEU:HD12	1:A:1296:LEU:HA	1.84	0.41
1:A:1459:ALA:C	1:A:1460:LEU:HD22	2.41	0.41
1:A:75:ARG:O	1:A:76:MET:HB3	2.19	0.41
1:A:531:LEU:HD12	1:A:531:LEU:HA	1.88	0.41
1:A:982:ILE:HG23	1:A:1107:PHE:HE2	1.85	0.41
8:A:1613:Y01:HAP1	8:A:1613:Y01:HAO2	1.75	0.41
1:A:1162:CYS:O	1:A:1165:ASP:CB	2.68	0.41
1:A:192:HIS:HA	1:A:195:ALA:HB3	2.01	0.41
1:A:845:ILE:HA	1:A:848:VAL:HG12	2.03	0.41
1:A:1130:SER:OG	1:A:1133:GLN:HG2	2.21	0.41
1:A:1036:THR:OG1	1:A:1037:TRP:N	2.54	0.41
1:A:1057:VAL:HG23	1:A:1066:ILE:HD11	2.03	0.41
1:A:1256:THR:HG23	1:A:1257:TYR:CE1	2.56	0.41
2:B:62:ARG:HG2	2:B:63:CYS:N	2.35	0.41
1:A:1321:PHE:CD2	1:A:1362:ILE:HD11	2.56	0.41
1:A:1432:MET:HE2	1:A:1460:LEU:HD13	2.03	0.41
1:A:125:PRO:HD2	1:A:130:ARG:CD	2.44	0.41
1:A:263:LEU:HD12	1:A:263:LEU:HA	1.87	0.41
1:A:536:MET:HG3	1:A:613:ARG:HE	1.86	0.41
1:A:541:HIS:CD2	1:A:1006:GLY:HA2	2.55	0.41
1:A:876:GLU:HG3	1:A:876:GLU:O	2.21	0.41
1:A:880:LEU:HB3	1:A:881:PRO:HD3	2.02	0.41
1:A:926:ASP:OD1	1:A:957:ARG:NH1	2.53	0.41
2:C:32:GLU:HG2	2:C:50:LYS:HD2	2.02	0.41
1:A:146:ILE:HD11	1:A:179:GLU:HG3	2.01	0.41
1:A:291:HIS:HB3	1:A:292:PHE:H	1.68	0.41
1:A:1210:ILE:HD13	1:A:1210:ILE:HA	1.91	0.41
1:A:521:PHE:O	1:A:524:PHE:HB3	2.21	0.40
1:A:587:ASP:OD2	1:A:619:ARG:NH2	2.54	0.40
2:B:40:SER:OG	2:B:43:GLY:O	2.28	0.40
1:A:290:LYS:HG2	1:A:341:TYR:CE1	2.55	0.40
1:A:1473:LYS:O	1:A:1476:SER:OG	2.38	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:18:ARG:HB3	2:C:21:TYR:HB2	2.03	0.40
2:C:30:LYS:HE3	2:C:30:LYS:HB3	1.83	0.40
1:A:252:SER:O	1:A:256:THR:HG23	2.21	0.40
1:A:1034:ASN:HD21	4:A:1601:NAG:H4	1.85	0.40
1:A:192:HIS:O	1:A:196:TYR:CD2	2.75	0.40
2:C:35:TYR:HH	2:C:47:TYR:HD2	1.67	0.40
1:A:733:LEU:HD23	1:A:733:LEU:HA	1.76	0.40
1:A:1147:LYS:HB2	1:A:1434:PHE:CE1	2.57	0.40
1:A:1356:ASP:OD1	1:A:1356:ASP:N	2.53	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	1266/1559 (81%)	1109 (88%)	152 (12%)	5 (0%)	30	64
2	B	63/65 (97%)	50 (79%)	13 (21%)	0	100	100
2	C	63/65 (97%)	47 (75%)	15 (24%)	1 (2%)	8	38
All	All	1392/1689 (82%)	1206 (87%)	180 (13%)	6 (0%)	32	64

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	217	VAL
1	A	216	LEU
1	A	128	PRO
2	C	11	ASN
1	A	293	PRO
1	A	319	PRO

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	1136/1371 (83%)	1125 (99%)	11 (1%)	73	84
2	B	54/54 (100%)	53 (98%)	1 (2%)	52	73
2	C	54/54 (100%)	54 (100%)	0	100	100
All	All	1244/1479 (84%)	1232 (99%)	12 (1%)	71	84

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	99	LYS
1	A	227	ARG
1	A	345	GLN
1	A	425	ARG
1	A	565	GLU
1	A	1154	LYS
1	A	1216	GLU
1	A	1274	ARG
1	A	1286	ARG
1	A	1423	GLU
1	A	1431	ASP
2	B	56	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	153	HIS
1	A	291	HIS
1	A	350	ASN
1	A	555	ASN
1	A	629	ASN
1	A	1002	GLN
1	A	1118	GLN
1	A	1133	GLN
1	A	1301	ASN

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Mol	Chain	Res	Type
1	A	1461	GLN
2	B	37	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 ⓘ

5 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
3	NAG	D	1	3,1	14,14,15	0.35	0	17,19,21	1.00	1 (5%)
3	NAG	D	2	3	14,14,15	1.09	2 (14%)	17,19,21	1.07	2 (11%)
3	BMA	D	3	3	11,11,12	0.78	0	15,15,17	1.77	3 (20%)
3	BMA	D	4	3	11,11,12	0.56	0	15,15,17	0.82	1 (6%)
3	BMA	D	5	3	11,11,12	0.55	0	15,15,17	0.72	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
3	NAG	D	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	D	2	3	-	3/6/23/26	0/1/1/1
3	BMA	D	3	3	-	2/2/19/22	0/1/1/1

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W O R L D W I D E
wwPDB
PROTEIN DATA BANK

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	BMA	D	4	3	-	2/2/19/22	0/1/1/1
3	BMA	D	5	3	-	2/2/19/22	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	2	NAG	O5-C1	-2.97	1.38	1.43
3	D	2	NAG	C1-C2	2.48	1.55	1.52

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	3	BMA	C1-O5-C5	4.25	117.89	112.19
3	D	3	BMA	C1-C2-C3	-3.25	104.91	109.64
3	D	2	NAG	C1-O5-C5	2.38	115.37	112.19
3	D	4	BMA	O2-C2-C3	-2.32	105.34	110.15
3	D	1	NAG	O3-C3-C2	2.32	114.22	109.40
3	D	2	NAG	O3-C3-C2	-2.29	104.65	109.40
3	D	3	BMA	O3-C3-C2	2.14	114.42	110.05

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	D	3	BMA	C4-C5-C6-O6
3	D	2	NAG	O5-C5-C6-O6
3	D	5	BMA	C4-C5-C6-O6
3	D	5	BMA	O5-C5-C6-O6
3	D	3	BMA	O5-C5-C6-O6
3	D	2	NAG	C4-C5-C6-O6
3	D	4	BMA	C4-C5-C6-O6
3	D	4	BMA	O5-C5-C6-O6
3	D	2	NAG	C3-C2-N2-C7

There are no ring outliers.

4 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	3	BMA	2	0
3	D	5	BMA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	2	NAG	3	0
3	D	1	NAG	1	0

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

Oligosaccharide Chain D

Bond lengths   Bond angles

Torsions   Rings
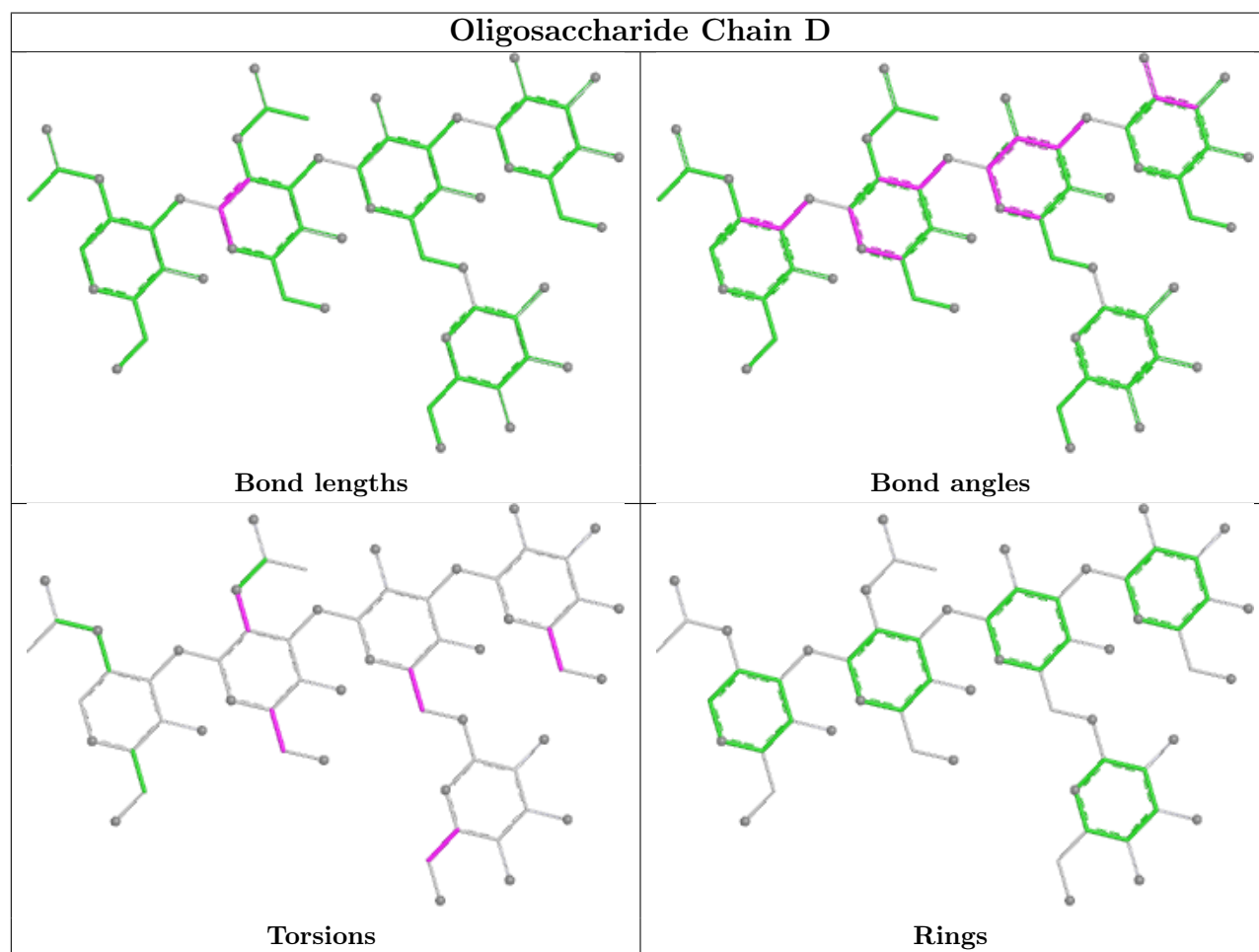
5.6 Ligand geometry ⓘ

13 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
5	76F	A	1606	-	30,30,50	1.12	4 (13%)	33,35,55	1.18	2 (6%)
4	NAG	A	1603	1	14,14,15	0.21	0	17,19,21	0.53	0
6	AJP	A	1611	-	95,95,95	2.90	27 (28%)	144,149,149	2.62	20 (13%)
4	NAG	A	1601	1	14,14,15	0.64	0	17,19,21	1.03	1 (5%)
7	LHG	A	1612	-	40,40,48	0.99	4 (10%)	43,46,54	1.11	2 (4%)
5	76F	A	1607	-	25,25,50	1.21	4 (16%)	28,30,55	1.21	2 (7%)
5	76F	A	1609	-	39,39,50	1.31	6 (15%)	42,44,55	1.26	4 (9%)
4	NAG	A	1605	1	14,14,15	0.22	0	17,19,21	0.50	0
4	NAG	A	1602	1	14,14,15	0.42	0	17,19,21	0.47	0
8	Y01	A	1613	-	38,38,38	1.74	9 (23%)	57,57,57	2.83	26 (45%)
5	76F	A	1608	-	46,46,50	1.33	7 (15%)	49,51,55	1.27	6 (12%)
5	76F	A	1610	-	45,45,50	1.34	7 (15%)	48,50,55	1.24	6 (12%)
4	NAG	A	1604	1	14,14,15	0.22	0	17,19,21	0.48	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
5	76F	A	1606	-	-	18/34/34/54	-
6	AJP	A	1611	-	20/20/38/38	13/28/220/220	0/11/11/11
4	NAG	A	1603	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1601	1	-	2/6/23/26	0/1/1/1
7	LHG	A	1612	-	-	16/45/45/53	-
5	76F	A	1607	-	-	13/29/29/54	-
5	76F	A	1609	-	-	12/43/43/54	-
4	NAG	A	1605	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1602	1	-	2/6/23/26	0/1/1/1
8	Y01	A	1613	-	1/1/12/13	14/19/77/77	0/4/4/4
5	76F	A	1608	-	-	28/50/50/54	-
5	76F	A	1610	-	-	12/49/49/54	-
4	NAG	A	1604	1	-	2/6/23/26	0/1/1/1

All (68) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	1611	AJP	C12-C07	-9.41	1.38	1.56
6	A	1611	AJP	C11-C10	-9.32	1.34	1.53
6	A	1611	AJP	C12-C11	8.92	1.72	1.56
6	A	1611	AJP	O09-C08	8.39	1.57	1.43
6	A	1611	AJP	C14-C15	7.91	1.66	1.53
6	A	1611	AJP	C07-C06	-7.78	1.32	1.54
6	A	1611	AJP	C05-C06	7.48	1.68	1.53
6	A	1611	AJP	C10-C08	6.42	1.67	1.53
6	A	1611	AJP	C07-C08	4.75	1.61	1.53
8	A	1613	Y01	CBH-CBF	-4.46	1.48	1.56
8	A	1613	Y01	CAK-CBD	-4.10	1.46	1.53
6	A	1611	AJP	C13-C14	3.83	1.61	1.53
5	A	1608	76F	C41-C40	3.78	1.53	1.31
5	A	1610	76F	C41-C40	3.78	1.53	1.31
5	A	1608	76F	C22-C21	3.78	1.53	1.31
5	A	1610	76F	C19-C18	3.77	1.53	1.31
5	A	1609	76F	C22-C21	3.77	1.53	1.31
5	A	1608	76F	C19-C18	3.77	1.53	1.31
5	A	1609	76F	C19-C18	3.77	1.53	1.31
5	A	1610	76F	C22-C21	3.72	1.53	1.29
6	A	1611	AJP	O84-C05	3.70	1.47	1.42
6	A	1611	AJP	C16-C15	3.63	1.60	1.53
6	A	1611	AJP	O09-C05	-3.46	1.35	1.42
6	A	1611	AJP	C18-C19	3.30	1.61	1.53
8	A	1613	Y01	CAV-CAZ	-3.15	1.45	1.51
8	A	1613	Y01	CAT-CAR	-3.12	1.47	1.53
8	A	1613	Y01	CAL-CAX	3.07	1.57	1.50
6	A	1611	AJP	C48-C47	-3.03	1.47	1.52
6	A	1611	AJP	O84-C85	2.91	1.47	1.43
8	A	1613	Y01	CAK-CAI	-2.83	1.44	1.50
6	A	1611	AJP	O50-C45	2.74	1.47	1.41
8	A	1613	Y01	CAU-CBI	-2.74	1.49	1.54
6	A	1611	AJP	O31-C26	2.69	1.48	1.41
6	A	1611	AJP	C04-C03	-2.68	1.48	1.53
7	A	1612	LHG	O7-C5	-2.66	1.40	1.46
5	A	1606	76F	O2-C2	-2.66	1.40	1.46
5	A	1610	76F	O2-C2	-2.65	1.40	1.46
5	A	1608	76F	O2-C2	-2.65	1.40	1.46
5	A	1609	76F	O2-C2	-2.64	1.40	1.46
5	A	1607	76F	O2-C2	-2.63	1.40	1.46
6	A	1611	AJP	O50-C49	2.57	1.48	1.43
5	A	1610	76F	O3-C30	2.53	1.40	1.33
5	A	1609	76F	O3-C30	2.41	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	A	1607	76F	O3-C30	2.40	1.40	1.33
5	A	1608	76F	O3-C30	2.39	1.40	1.33
5	A	1606	76F	O3-C30	2.39	1.40	1.33
7	A	1612	LHG	O8-C23	2.38	1.40	1.33
8	A	1613	Y01	OAW-CBC	-2.35	1.41	1.46
6	A	1611	AJP	O60-C55	2.34	1.47	1.41
8	A	1613	Y01	CBI-CBG	-2.29	1.50	1.55
6	A	1611	AJP	O70-C65	2.24	1.47	1.41
5	A	1606	76F	O3-C3	-2.23	1.40	1.45
5	A	1609	76F	O3-C3	-2.23	1.40	1.45
5	A	1607	76F	O3-C3	-2.22	1.40	1.45
6	A	1611	AJP	O40-C35	2.22	1.47	1.41
5	A	1608	76F	O3-C3	-2.21	1.40	1.45
7	A	1612	LHG	O8-C6	-2.21	1.40	1.45
7	A	1612	LHG	O7-C7	2.18	1.40	1.34
5	A	1606	76F	O2-C10	2.16	1.40	1.34
5	A	1607	76F	O2-C10	2.16	1.40	1.34
5	A	1608	76F	O2-C10	2.15	1.40	1.34
5	A	1609	76F	O2-C10	2.15	1.40	1.34
6	A	1611	AJP	O54-C36	2.14	1.49	1.43
6	A	1611	AJP	O34-C35	2.13	1.47	1.41
5	A	1610	76F	O2-C10	2.12	1.40	1.34
5	A	1610	76F	O3-C3	-2.11	1.40	1.45
6	A	1611	AJP	C21-C22	2.09	1.56	1.53
6	A	1611	AJP	C24-C23	2.09	1.56	1.52

All (69) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	1611	AJP	O84-C05-O09	-19.26	64.05	109.88
6	A	1611	AJP	C04-C05-C06	16.05	144.73	115.66
6	A	1611	AJP	C14-C15-C20	-8.07	104.82	113.91
8	A	1613	Y01	CAE-CBI-CAU	-6.71	100.71	110.61
8	A	1613	Y01	CBH-CBF-CBD	6.29	121.90	112.71
8	A	1613	Y01	CAT-CBH-CBF	6.05	116.74	108.74
8	A	1613	Y01	CAS-CBF-CBH	-6.01	105.67	113.08
8	A	1613	Y01	CAD-CBH-CAZ	5.90	117.40	108.38
8	A	1613	Y01	CAD-CBH-CBF	-5.72	105.25	111.66
6	A	1611	AJP	C17-C16-C11	-5.26	104.87	112.29
6	A	1611	AJP	C21-C20-C19	5.15	112.15	107.23
8	A	1613	Y01	CBI-CBE-CBB	-5.13	111.57	119.50
8	A	1613	Y01	CAV-CAZ-CBH	-4.37	110.83	116.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	1611	AJP	O09-C08-C10	4.13	118.56	110.20
4	A	1601	NAG	C1-O5-C5	3.95	117.48	112.19
5	A	1606	76F	O2-C10-C11	3.95	120.02	111.48
5	A	1610	76F	O2-C10-C11	3.94	120.00	111.48
5	A	1608	76F	O2-C10-C11	3.92	119.97	111.48
5	A	1609	76F	O2-C10-C11	3.92	119.96	111.48
7	A	1612	LHG	O7-C7-C8	3.91	119.94	111.48
5	A	1607	76F	O2-C10-C11	3.91	119.93	111.48
8	A	1613	Y01	CAP-CBE-CBB	3.62	117.65	112.18
6	A	1611	AJP	C65-O64-C57	-3.60	109.45	117.98
6	A	1611	AJP	C11-C12-C07	3.59	105.58	100.16
8	A	1613	Y01	CAU-CBI-CBG	3.58	112.61	107.25
8	A	1613	Y01	CAP-CBE-CBI	-3.58	99.63	103.84
8	A	1613	Y01	CAT-CBH-CAZ	-3.56	102.60	108.74
6	A	1611	AJP	C35-O34-C29	-3.55	109.56	117.98
6	A	1611	AJP	C55-O54-C36	-3.55	109.57	117.98
6	A	1611	AJP	C45-O44-C37	-3.52	109.62	117.98
6	A	1611	AJP	C26-O25-C23	-3.42	109.55	115.27
8	A	1613	Y01	OAW-CAY-OAG	-3.41	115.73	123.70
8	A	1613	Y01	OAW-CAY-CAM	3.40	118.83	111.48
8	A	1613	Y01	CAQ-CBG-CBD	3.34	124.44	119.10
8	A	1613	Y01	CAR-CAT-CBH	3.28	119.76	112.78
6	A	1611	AJP	O84-C05-C06	-3.09	98.04	107.26
8	A	1613	Y01	CAV-CAZ-CAI	3.02	124.66	120.57
8	A	1613	Y01	CAE-CBI-CBE	2.99	117.10	111.68
6	A	1611	AJP	C03-C02-C85	2.86	112.06	108.59
5	A	1610	76F	C20-C21-C22	-2.83	109.46	127.02
6	A	1611	AJP	C05-C06-C07	2.82	107.53	103.37
5	A	1608	76F	C42-C41-C40	-2.81	109.49	126.42
5	A	1609	76F	C23-C22-C21	-2.81	109.50	126.42
8	A	1613	Y01	CAC-CBB-CBE	-2.77	108.73	112.88
7	A	1612	LHG	O8-C23-C24	2.69	120.02	111.83
5	A	1606	76F	O3-C30-C31	2.68	120.00	111.83
5	A	1607	76F	O3-C30-C31	2.67	119.98	111.83
5	A	1609	76F	O3-C30-C31	2.67	119.98	111.83
5	A	1608	76F	O3-C30-C31	2.67	119.97	111.83
8	A	1613	Y01	CAO-CBB-CBE	2.61	115.75	110.33
6	A	1611	AJP	C24-C19-C18	-2.59	107.25	111.73
8	A	1613	Y01	CBH-CAZ-CAI	-2.51	119.27	122.93
5	A	1610	76F	O3-C30-C31	2.48	119.40	111.83
8	A	1613	Y01	CBC-CAV-CAZ	-2.39	107.92	111.45
6	A	1611	AJP	C15-C20-C19	2.35	111.78	108.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1613	Y01	CAK-CBD-CBG	2.29	114.17	110.93
8	A	1613	Y01	CBF-CBD-CBG	2.25	112.03	109.09
6	A	1611	AJP	O09-C05-C04	-2.23	104.01	108.54
8	A	1613	Y01	CAD-CBH-CAT	-2.14	106.17	109.43
6	A	1611	AJP	C13-C12-C11	2.10	112.22	108.11
8	A	1613	Y01	CBG-CBI-CBE	2.10	102.51	100.10
6	A	1611	AJP	C80-C20-C15	-2.06	108.41	111.18
5	A	1608	76F	C39-C40-C41	-2.06	109.43	124.83
5	A	1608	76F	C23-C22-C21	-2.06	109.43	124.83
5	A	1608	76F	C17-C18-C19	-2.05	109.47	124.83
5	A	1609	76F	C17-C18-C19	-2.05	109.49	124.83
5	A	1610	76F	C39-C40-C41	-2.05	109.49	124.83
5	A	1610	76F	C17-C18-C19	-2.05	109.50	124.83
5	A	1610	76F	C42-C41-C40	-2.04	109.51	124.83

All (21) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
6	A	1611	AJP	C56
6	A	1611	AJP	C55
6	A	1611	AJP	C11
6	A	1611	AJP	C05
6	A	1611	AJP	C19
6	A	1611	AJP	C66
6	A	1611	AJP	C68
6	A	1611	AJP	C08
6	A	1611	AJP	C35
6	A	1611	AJP	C57
6	A	1611	AJP	C23
6	A	1611	AJP	C67
6	A	1611	AJP	C47
6	A	1611	AJP	C12
6	A	1611	AJP	C16
6	A	1611	AJP	C07
6	A	1611	AJP	C59
6	A	1611	AJP	C22
6	A	1611	AJP	C39
6	A	1611	AJP	C06
8	A	1613	Y01	CBF

All (136) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	1606	76F	C1-O3P-P-O1P
5	A	1606	76F	C1-O3P-P-O2P
5	A	1606	76F	C1-O3P-P-O4P
5	A	1606	76F	C4-O4P-P-O2P
5	A	1606	76F	C4-O4P-P-O3P
5	A	1607	76F	C1-O3P-P-O1P
5	A	1607	76F	C1-O3P-P-O2P
5	A	1607	76F	C1-O3P-P-O4P
5	A	1607	76F	C4-O4P-P-O1P
5	A	1608	76F	C1-O3P-P-O1P
5	A	1608	76F	C1-O3P-P-O2P
5	A	1608	76F	C1-O3P-P-O4P
5	A	1608	76F	C4-O4P-P-O2P
5	A	1608	76F	C4-O4P-P-O3P
5	A	1609	76F	C1-O3P-P-O1P
5	A	1610	76F	C1-O3P-P-O1P
5	A	1610	76F	C1-O3P-P-O2P
5	A	1610	76F	C1-O3P-P-O4P
6	A	1611	AJP	O50-C45-O44-C37
7	A	1612	LHG	C3-O3-P-O5
7	A	1612	LHG	C3-O3-P-O6
7	A	1612	LHG	C4-O6-P-O3
8	A	1613	Y01	CAO-CBB-CBE-CAP
8	A	1613	Y01	CAO-CBB-CBE-CBI
8	A	1613	Y01	CAC-CBB-CBE-CBI
8	A	1613	Y01	CAX-CAL-CAM-CAY
6	A	1611	AJP	C46-C45-O44-C37
8	A	1613	Y01	CAC-CBB-CBE-CAP
6	A	1611	AJP	C28-C29-O34-C35
6	A	1611	AJP	C37-C36-O54-C55
4	A	1605	NAG	C4-C5-C6-O6
4	A	1603	NAG	C4-C5-C6-O6
5	A	1608	76F	C20-C21-C22-C23
5	A	1608	76F	C39-C40-C41-C42
4	A	1602	NAG	O5-C5-C6-O6
4	A	1605	NAG	O5-C5-C6-O6
8	A	1613	Y01	CAJ-CAO-CBB-CAC
4	A	1601	NAG	O5-C5-C6-O6
4	A	1604	NAG	O5-C5-C6-O6
6	A	1611	AJP	O40-C39-C41-O42
4	A	1601	NAG	C4-C5-C6-O6
4	A	1603	NAG	O5-C5-C6-O6
8	A	1613	Y01	CAJ-CAO-CBB-CBE

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Mol	Chain	Res	Type	Atoms
5	A	1608	76F	C17-C18-C19-C20
4	A	1604	NAG	C4-C5-C6-O6
4	A	1602	NAG	C4-C5-C6-O6
6	A	1611	AJP	C38-C39-C41-O42
6	A	1611	AJP	O70-C65-O64-C57
5	A	1606	76F	C10-C11-C12-C13
5	A	1606	76F	C30-C31-C32-C33
5	A	1607	76F	C31-C30-O3-C3
5	A	1609	76F	C10-C11-C12-C13
5	A	1606	76F	C11-C10-O2-C2
7	A	1612	LHG	C7-C8-C9-C10
8	A	1613	Y01	CAJ-CAN-CBA-CAB
7	A	1612	LHG	C24-C25-C26-C27
5	A	1608	76F	C35-C36-C37-C38
5	A	1606	76F	O4-C10-O2-C2
5	A	1610	76F	C11-C10-O2-C2
5	A	1607	76F	O5-C30-O3-C3
6	A	1611	AJP	O31-C30-C32-O33
5	A	1610	76F	C1-C2-C3-O3
8	A	1613	Y01	CAJ-CAN-CBA-CAA
5	A	1607	76F	C30-C31-C32-C33
5	A	1610	76F	O4-C10-O2-C2
5	A	1608	76F	C11-C10-O2-C2
5	A	1609	76F	C11-C10-O2-C2
7	A	1612	LHG	C8-C7-O7-C5
5	A	1608	76F	O4-C10-O2-C2
7	A	1612	LHG	O9-C7-O7-C5
6	A	1611	AJP	C68-C69-C71-O72
5	A	1608	76F	C10-C11-C12-C13
5	A	1609	76F	O4-C10-O2-C2
5	A	1608	76F	C12-C13-C14-C15
5	A	1606	76F	C31-C32-C33-C34
7	A	1612	LHG	C24-C23-O8-C6
5	A	1609	76F	C31-C30-O3-C3
5	A	1607	76F	C11-C10-O2-C2
6	A	1611	AJP	O70-C69-C71-O72
5	A	1606	76F	C31-C30-O3-C3
6	A	1611	AJP	C30-C29-O34-C35
5	A	1608	76F	C31-C30-O3-C3
5	A	1608	76F	C1-C2-C3-O3
5	A	1607	76F	C11-C12-C13-C14
5	A	1608	76F	C18-C19-C20-C21

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Mol	Chain	Res	Type	Atoms
5	A	1609	76F	C18-C19-C20-C21
5	A	1609	76F	C19-C20-C21-C22
5	A	1610	76F	C18-C19-C20-C21
5	A	1607	76F	O2-C10-C11-C12
5	A	1609	76F	C21-C22-C23-C24
7	A	1612	LHG	O6-C4-C5-C6
7	A	1612	LHG	O10-C23-O8-C6
5	A	1608	76F	O5-C30-O3-C3
5	A	1607	76F	C31-C32-C33-C34
5	A	1608	76F	C3-C2-O2-C10
5	A	1609	76F	O5-C30-O3-C3
5	A	1606	76F	O5-C30-O3-C3
5	A	1607	76F	O4-C10-O2-C2
7	A	1612	LHG	O6-C4-C5-O7
5	A	1608	76F	O2-C2-C3-O3
5	A	1610	76F	O2-C2-C3-O3
6	A	1611	AJP	C38-C37-O44-C45
5	A	1608	76F	O3P-C1-C2-C3
5	A	1608	76F	O3P-C1-C2-O2
5	A	1610	76F	C19-C20-C21-C22
6	A	1611	AJP	C36-C37-O44-C45
5	A	1606	76F	O4P-C4-C5-N
5	A	1606	76F	C4-O4P-P-O1P
7	A	1612	LHG	C3-O3-P-O4
7	A	1612	LHG	C4-O6-P-O5
5	A	1608	76F	C2-C1-O3P-P
5	A	1610	76F	O3-C30-C31-C32
5	A	1608	76F	C40-C41-C42-C43
5	A	1608	76F	C38-C39-C40-C41
5	A	1606	76F	O2-C10-C11-C12
8	A	1613	Y01	CAM-CAL-CAX-OAF
8	A	1613	Y01	CAM-CAL-CAX-OAH
5	A	1610	76F	C38-C39-C40-C41
7	A	1612	LHG	C9-C10-C11-C12
5	A	1608	76F	C21-C22-C23-C24
5	A	1607	76F	O4-C10-C11-C12
5	A	1608	76F	C16-C17-C18-C19
5	A	1610	76F	C40-C41-C42-C43
5	A	1606	76F	C32-C33-C34-C35
5	A	1609	76F	O3-C30-C31-C32
5	A	1608	76F	O3-C30-C31-C32
5	A	1606	76F	O3-C30-C31-C32

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Mol	Chain	Res	Type	Atoms
5	A	1609	76F	C14-C15-C16-C17
7	A	1612	LHG	O2-C2-C3-O3
7	A	1612	LHG	C1-C2-C3-O3
5	A	1608	76F	O5-C30-C31-C32
5	A	1606	76F	O5-C30-C31-C32
8	A	1613	Y01	OAG-CAY-OAW-CBC
5	A	1609	76F	O5-C30-C31-C32
8	A	1613	Y01	CAL-CAM-CAY-OAW
8	A	1613	Y01	CAM-CAY-OAW-CBC

There are no ring outliers.

6 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	1606	76F	1	0
6	A	1611	AJP	5	0
4	A	1601	NAG	1	0
7	A	1612	LHG	3	0
8	A	1613	Y01	2	0
4	A	1604	NAG	1	0

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

Ligand 76F A 1606

Bond lengths

Bond angles

Torsions

Rings

Ligand AJP A 1611

Bond lengths

Bond angles

Torsions

Rings

Ligand LHG A 1612

Bond lengths

Bond angles

Torsions

Rings

Ligand 76F A 1607

Bond lengths

Bond angles

Torsions

Rings

Ligand 76F A 1609

Bond lengths

Bond angles

Torsions

Rings

Ligand Y01 A 1613

Bond lengths

Bond angles

Torsions

Rings

Ligand 76F A 1608

Bond lengths

Bond angles

Torsions

Rings

Ligand 76F A 1610

Bond lengths

Bond angles

Torsions

Rings

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-0501. 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 ⓘ
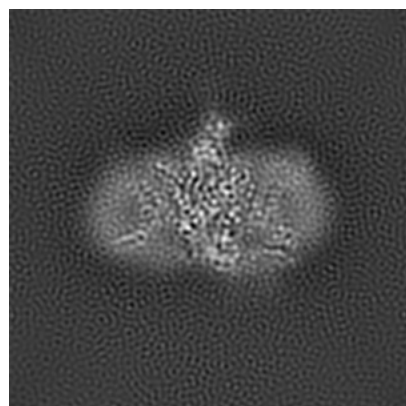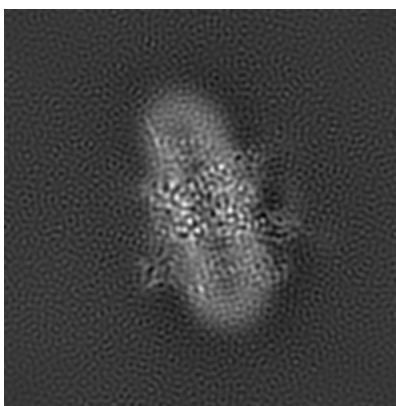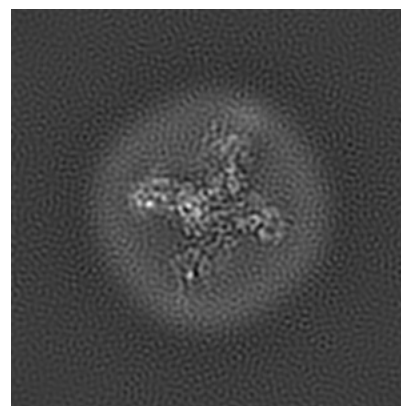
6.1.1 Primary map

| X | Y | Z |

6.1.2 Raw map

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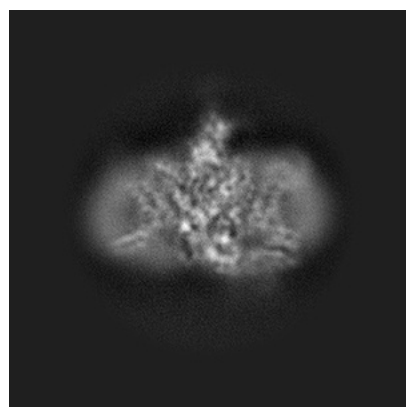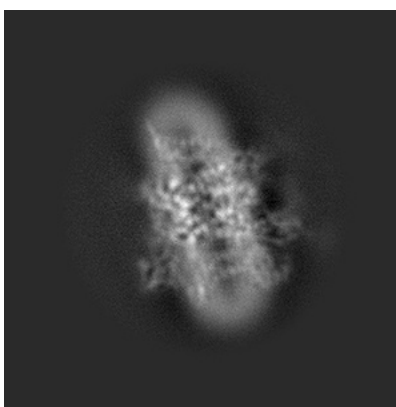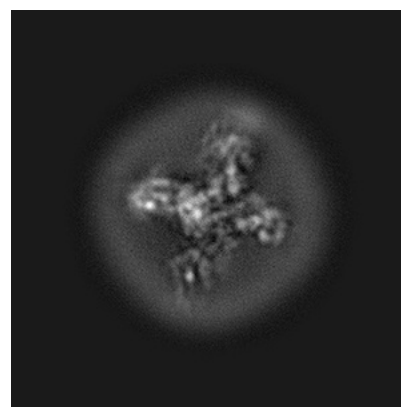
The images above show the map projected in three orthogonal directions.

6.2　Central slices ⓘ
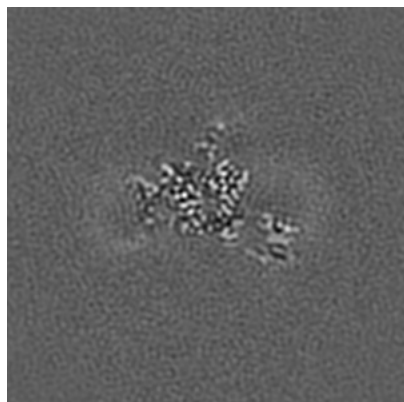
6.2.1　Primary map
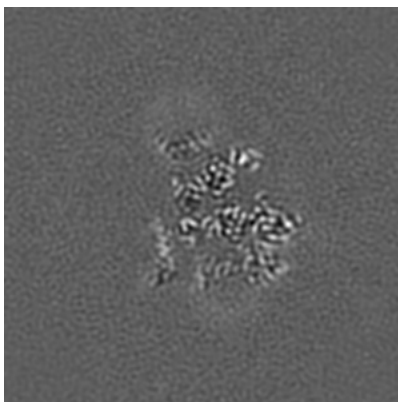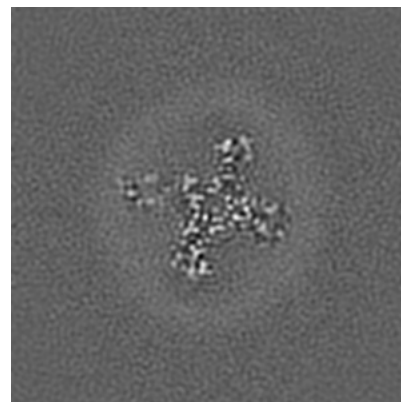
| X Index: 125 | Y Index: 125 | Z Index: 125 |

6.2.2　Raw map
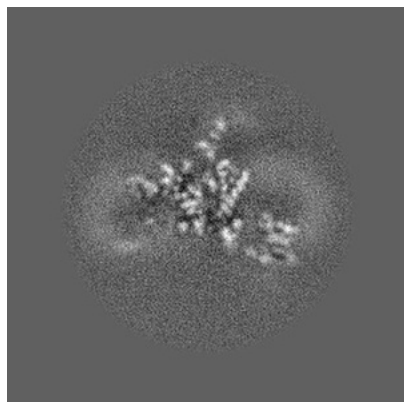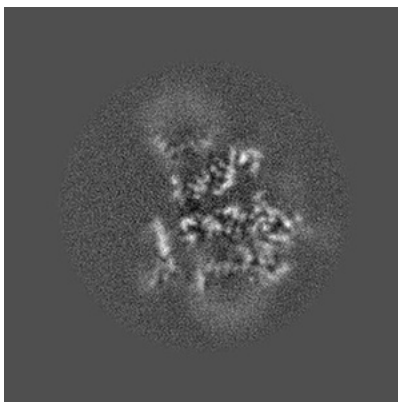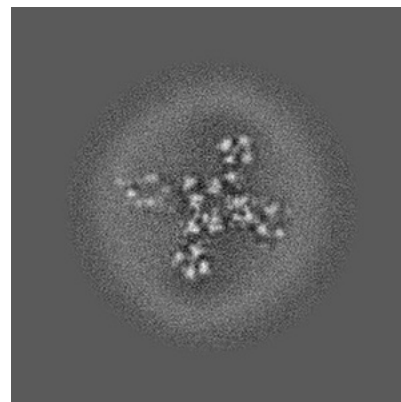
| X Index: 125 | Y Index: 125 | Z Index: 125 |

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

6.3 Largest variance slices ⓘ

6.3.1 Primary map
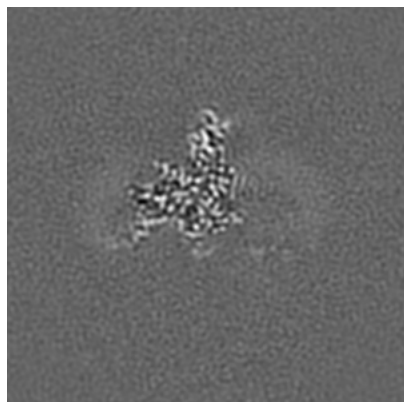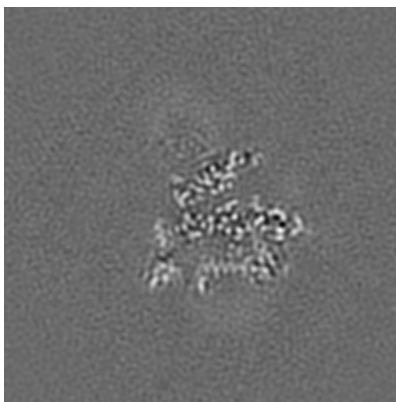
| X Index: 117 | Y Index: 127 | Z Index: 133 |
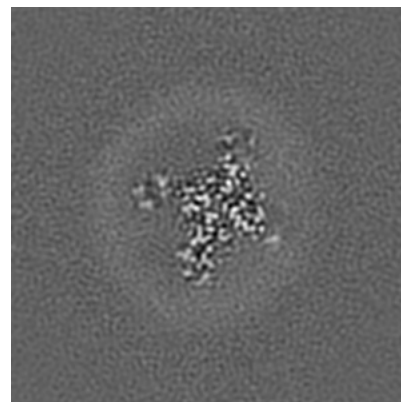
6.3.2 Raw map
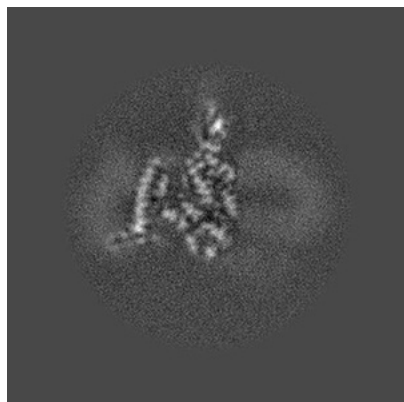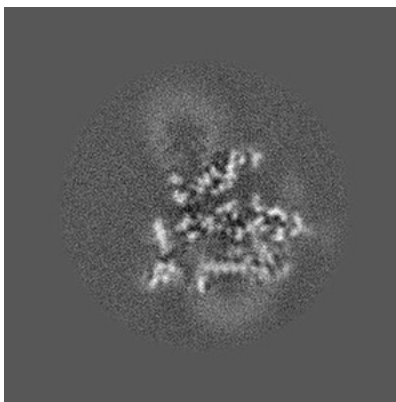
| X Index: 111 | Y Index: 127 | Z Index: 116 |
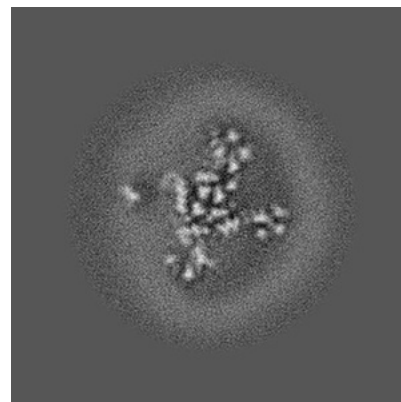
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map
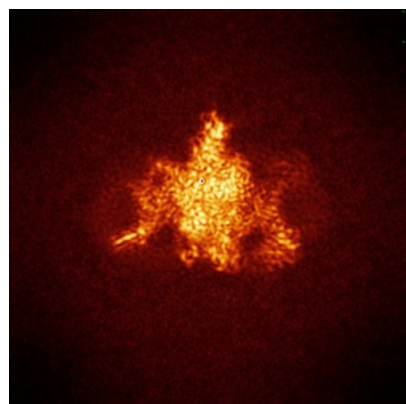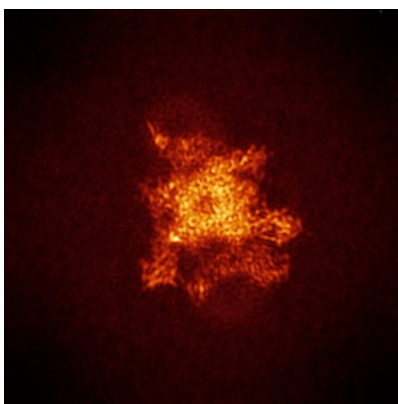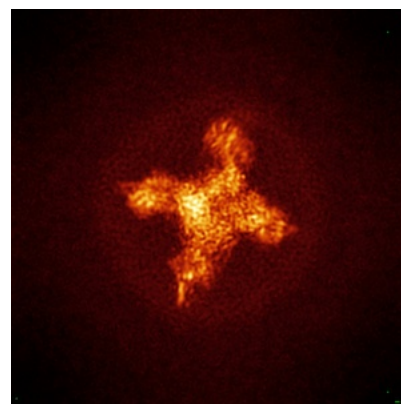
| X | Y | Z |

6.4.2 Raw map

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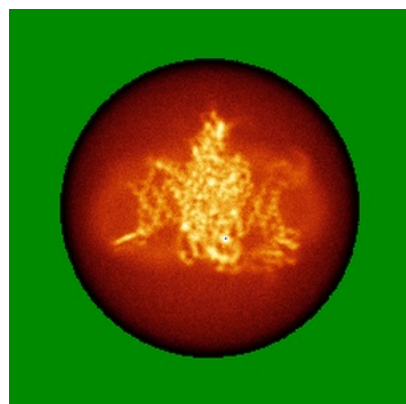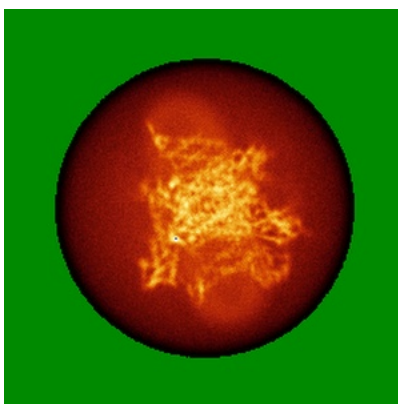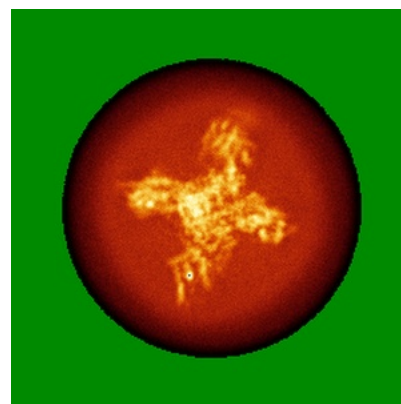
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

| X | Y | Z |
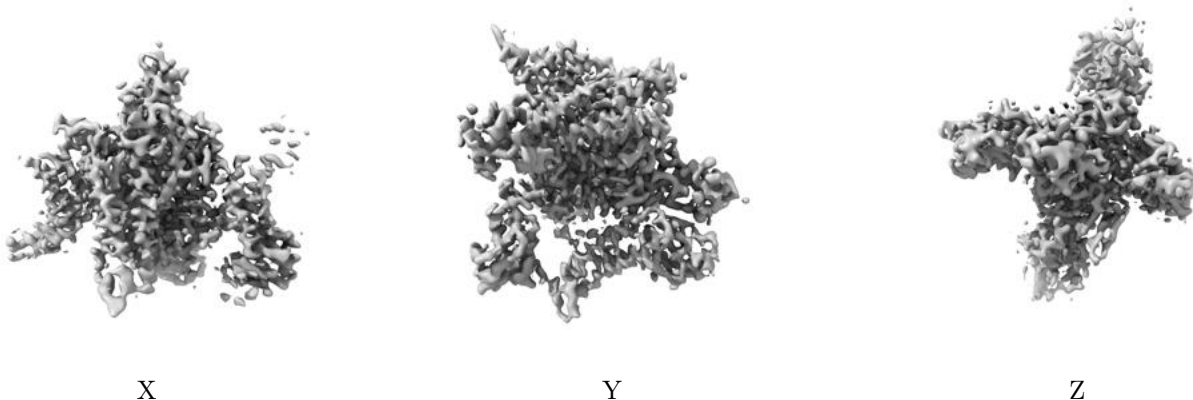
The images above show the 3D surface view of the map at the recommended contour level 4.6. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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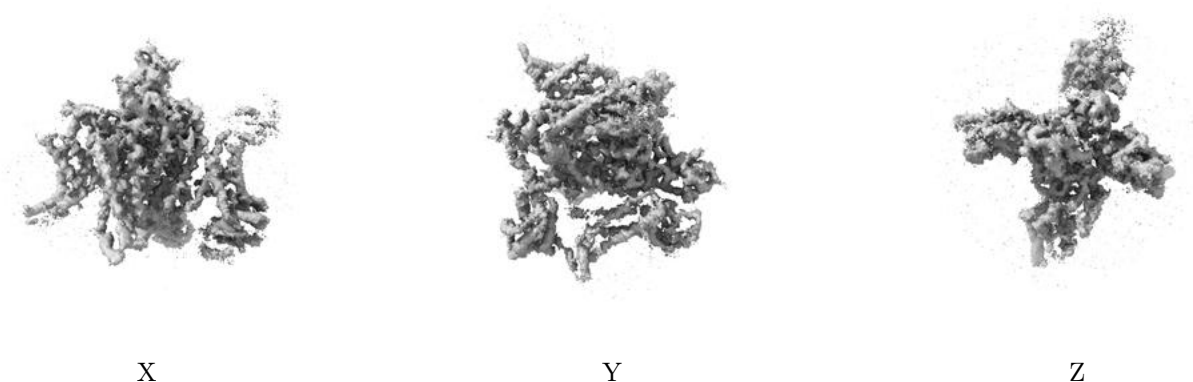
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

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_0501_msk_1.map ⓘ

X   Y   Z
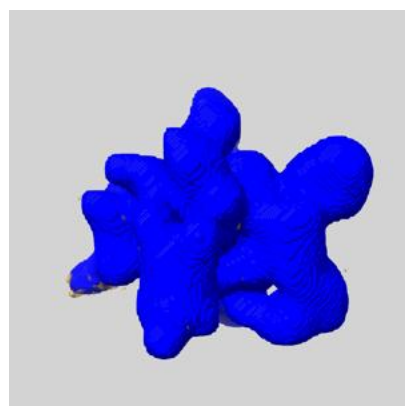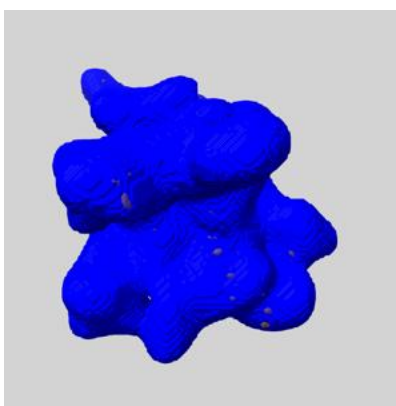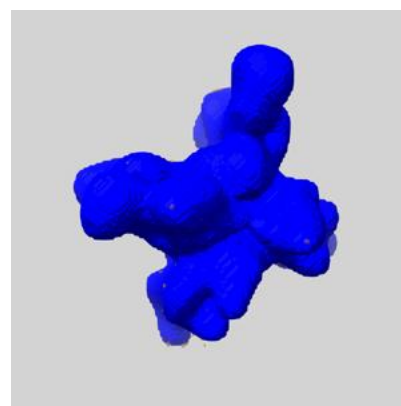
7 Map analysis ⓘ

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 ⓘ
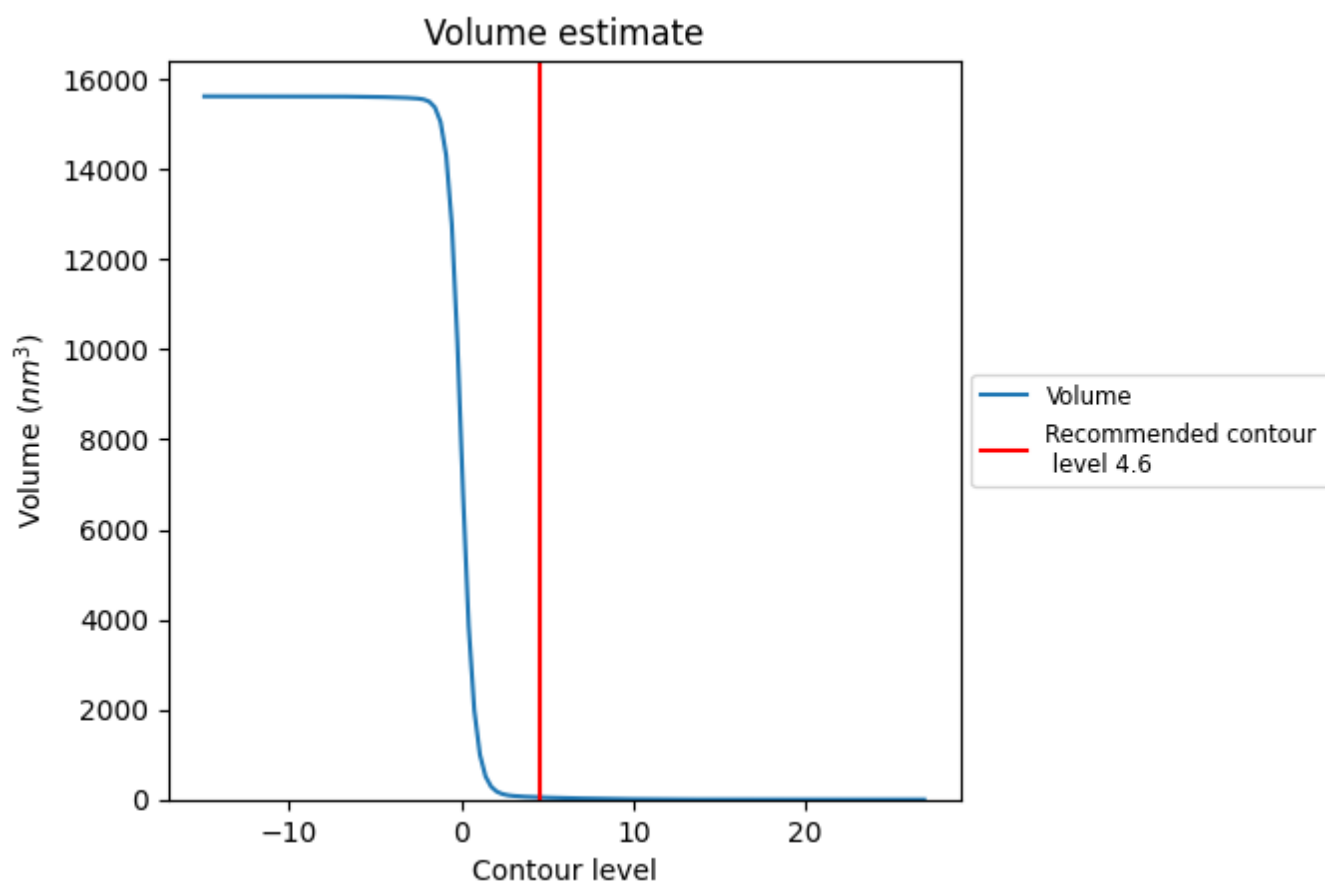
The volume at the recommended contour level is 49 nm^3; this corresponds to an approximate mass of 44 kDa.

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 ⓘ
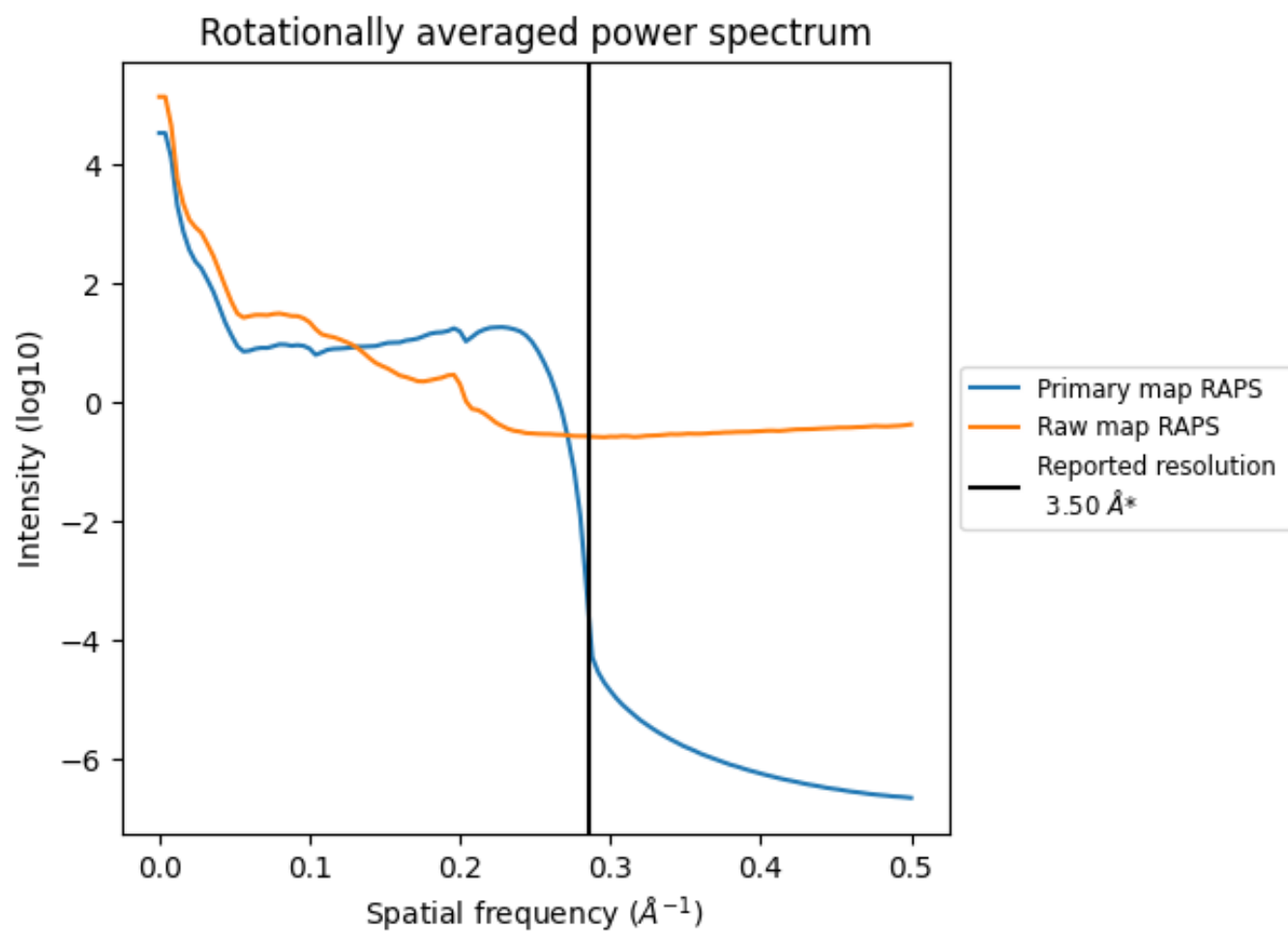
*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

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 ⓘ
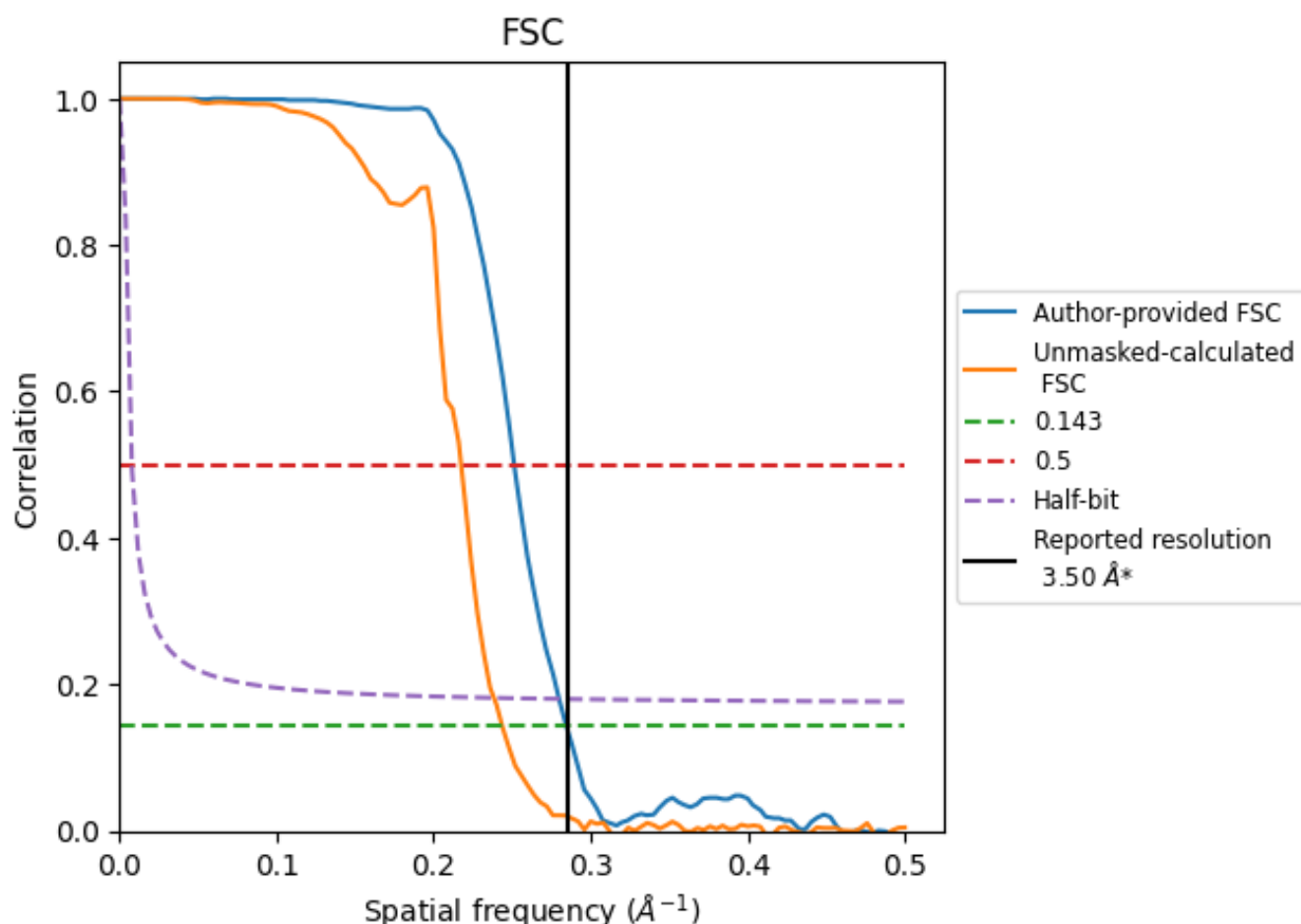
*Reported resolution corresponds to spatial frequency of 0.286 $Å^{-1}$

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	3.51	3.98	3.57
Unmasked-calculated*	4.10	4.60	4.19

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.10 differs from the reported value 3.5 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-0501 and PDB model 6NT4. Per-residue inclusion information can be found in section 3 on page 10.

9.1 Map-model overlay ⓘ
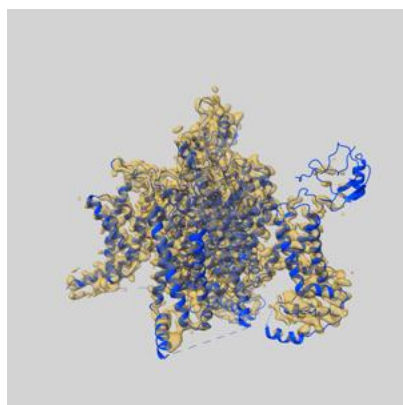
| X | Y | Z |
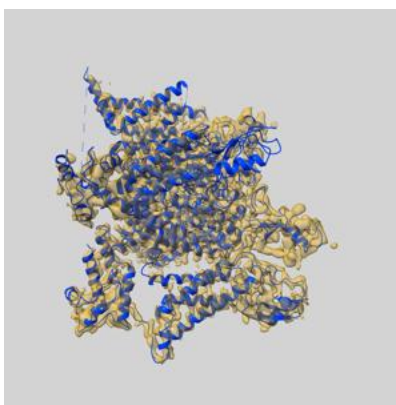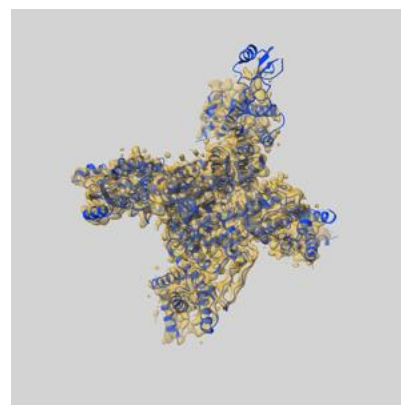
The images above show the 3D surface view of the map at the recommended contour level 4.6 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2   Q-score mapped to coordinate model   ⓘ
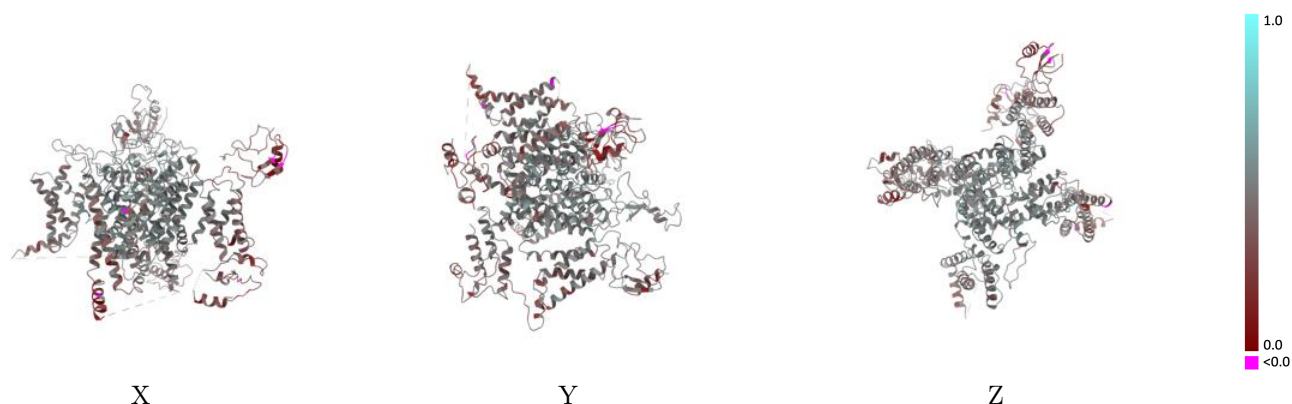
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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   ⓘ
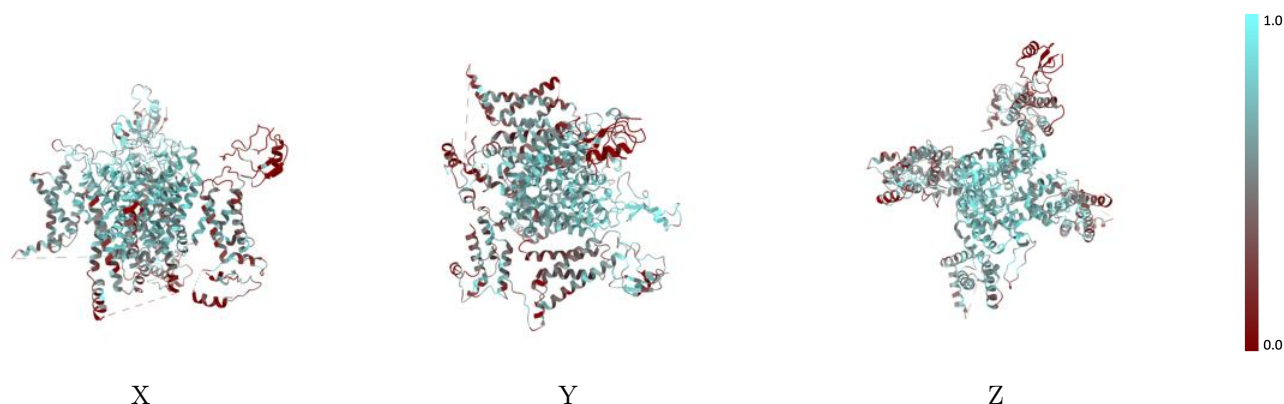
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (4.6).

9.4 Atom inclusion ⓘ
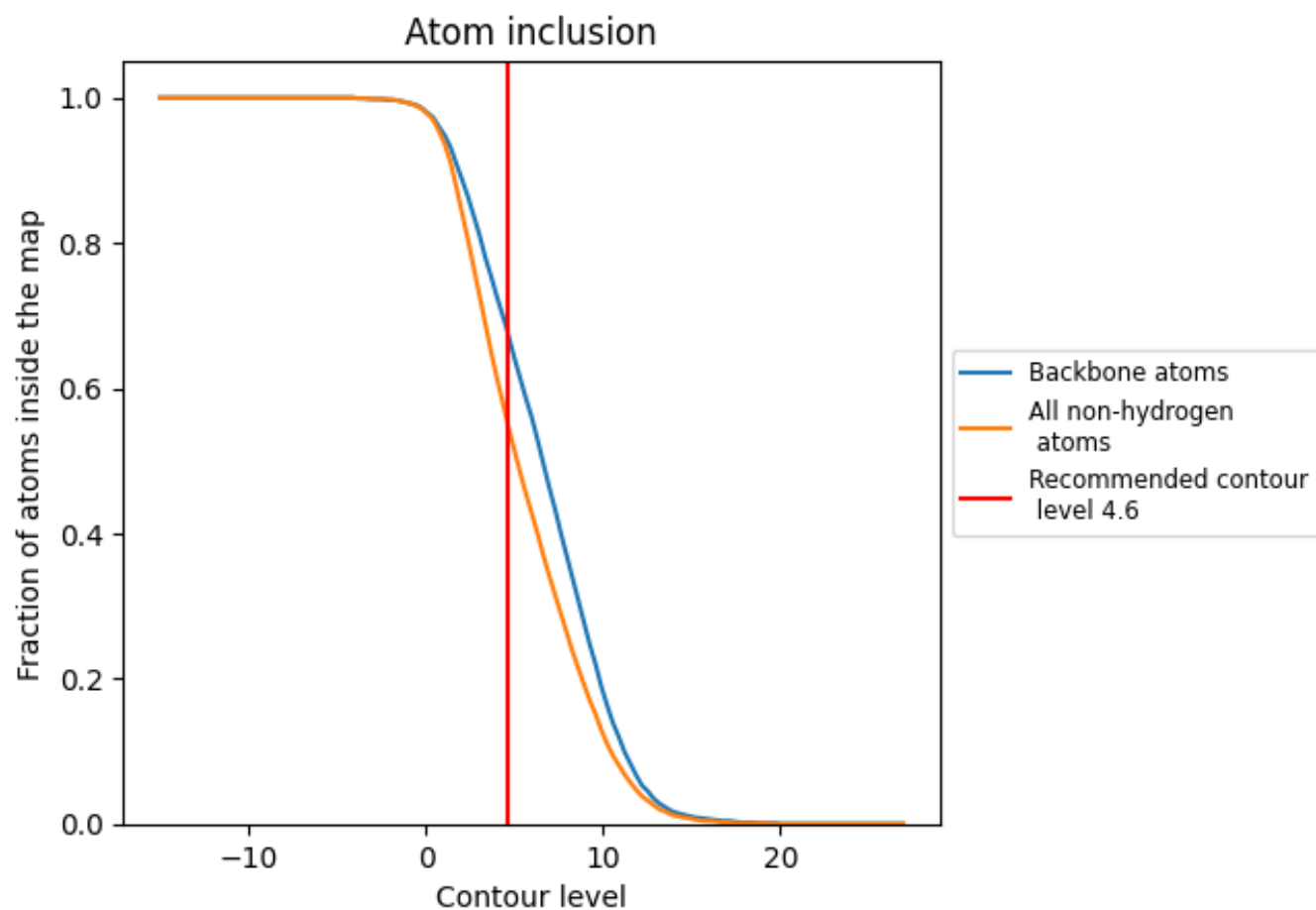
At the recommended contour level, 68% of all backbone atoms, 56% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (4.6) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5560	0.4440
A	0.5780	0.4520
B	0.0730	0.3070
C	0.5380	0.4160
D	0.7870	0.4850

1.0

0.0
<0.0