WORLDWIDE
wwPDB
PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Oct 6, 2024 – 05:51 AM EDT

PDB ID	:	8FXI
EMDB ID	:	EMD-29534
Title	:	Cryo-EM structure of Stanieria sp. CphA2 in complex with ADPCP and 4x(beta-Asp-Arg)
Authors	:	Markus, L.M.; Sharon, I.; Strauss, M.; Schmeing, T.M.
Deposited on	:	2023-01-24
Resolution	:	2.70 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
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
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)	:	2.39

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 2.70 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
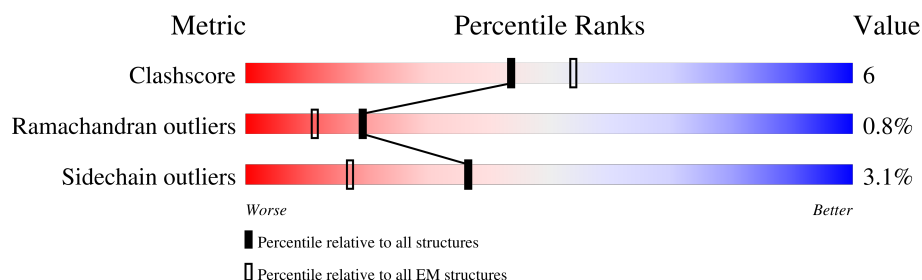
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	642	24% 72% 14% 5% · 7%
1	B	642	19% 81% 11% · · ·
1	C	642	15% 83% 12% · ·
1	D	642	15% 83% 12% · ·
1	E	642	19% 81% 11% · · ·
1	F	642	24% 72% 14% 5% · 7%
2	G	4	25% 50% 25%
2	H	4	25% 50% 25%

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 29641 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 RimK domain-containing protein ATP-grasp.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	594	Total	C	N	O	S	0	0
			4777	3047	803	913	14		
1	B	615	Total	C	N	O	S	0	0
			4921	3143	825	939	14		
1	C	630	Total	C	N	O	S	0	0
			5033	3211	844	964	14		
1	D	630	Total	C	N	O	S	0	0
			5033	3211	844	964	14		
1	E	615	Total	C	N	O	S	0	0
			4921	3143	825	939	14		
1	F	594	Total	C	N	O	S	0	0
			4777	3047	803	913	14		

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	637	GLU	-	expression tag	UNP A0A140K0M0
A	638	ASN	-	expression tag	UNP A0A140K0M0
A	639	LEU	-	expression tag	UNP A0A140K0M0
A	640	TYR	-	expression tag	UNP A0A140K0M0
A	641	PHE	-	expression tag	UNP A0A140K0M0
A	642	GLN	-	expression tag	UNP A0A140K0M0
B	637	GLU	-	expression tag	UNP A0A140K0M0
B	638	ASN	-	expression tag	UNP A0A140K0M0
B	639	LEU	-	expression tag	UNP A0A140K0M0
B	640	TYR	-	expression tag	UNP A0A140K0M0
B	641	PHE	-	expression tag	UNP A0A140K0M0
B	642	GLN	-	expression tag	UNP A0A140K0M0
C	637	GLU	-	expression tag	UNP A0A140K0M0
C	638	ASN	-	expression tag	UNP A0A140K0M0
C	639	LEU	-	expression tag	UNP A0A140K0M0
C	640	TYR	-	expression tag	UNP A0A140K0M0
C	641	PHE	-	expression tag	UNP A0A140K0M0
C	642	GLN	-	expression tag	UNP A0A140K0M0

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
D	637	GLU	-	expression tag	UNP A0A140K0M0
D	638	ASN	-	expression tag	UNP A0A140K0M0
D	639	LEU	-	expression tag	UNP A0A140K0M0
D	640	TYR	-	expression tag	UNP A0A140K0M0
D	641	PHE	-	expression tag	UNP A0A140K0M0
D	642	GLN	-	expression tag	UNP A0A140K0M0
E	637	GLU	-	expression tag	UNP A0A140K0M0
E	638	ASN	-	expression tag	UNP A0A140K0M0
E	639	LEU	-	expression tag	UNP A0A140K0M0
E	640	TYR	-	expression tag	UNP A0A140K0M0
E	641	PHE	-	expression tag	UNP A0A140K0M0
E	642	GLN	-	expression tag	UNP A0A140K0M0
F	637	GLU	-	expression tag	UNP A0A140K0M0
F	638	ASN	-	expression tag	UNP A0A140K0M0
F	639	LEU	-	expression tag	UNP A0A140K0M0
F	640	TYR	-	expression tag	UNP A0A140K0M0
F	641	PHE	-	expression tag	UNP A0A140K0M0
F	642	GLN	-	expression tag	UNP A0A140K0M0

- Molecule 2 is a protein called 4x(beta-Asp-Arg).

Mol	Chain	Residues	Atoms				AltConf	Trace
2	G	3	Total 57	C 30	N 15	O 12	0	0
2	H	3	Total 57	C 30	N 15	O 12	0	0

- Molecule 3 is 1-[(4-aminopyrimidin-5-yl)amino]-2,5-anhydro-1-deoxy-6-O-[(S)-hydroxy{[(R) -hydroxy(phosphonomethyl)phosphoryl]oxy}phosphoryl]-D-allitol (three-letter code: YHZ) (formula: $C_{11}H_{21}N_4O_{12}P_3$) (labeled as "Ligand of Interest" by depositor).

YHZ
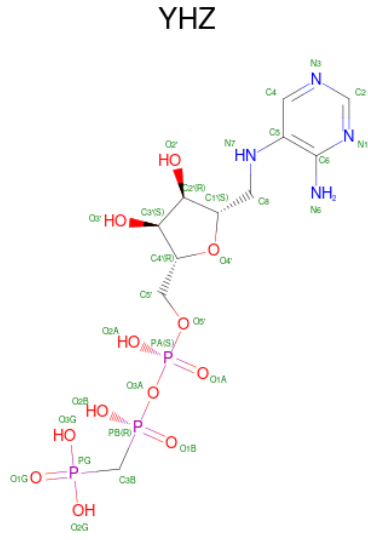
Mol	Chain	Residues	Atoms					AltConf
3	C	1	Total	C	N	O	P	0
			30	11	4	12	3	

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
4	C	2	Total	Mg	0
			2	2	
4	D	2	Total	Mg	0
			2	2	

- Molecule 5 is PHOSPHOMETHYLPHOSPHONIC ACID ADENYLATE ESTER (three-letter code: ACP) (formula: $C_{11}H_{18}N_5O_{12}P_3$).

ACP
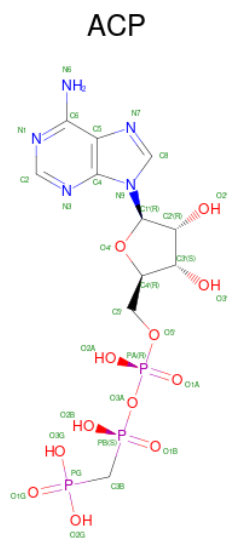
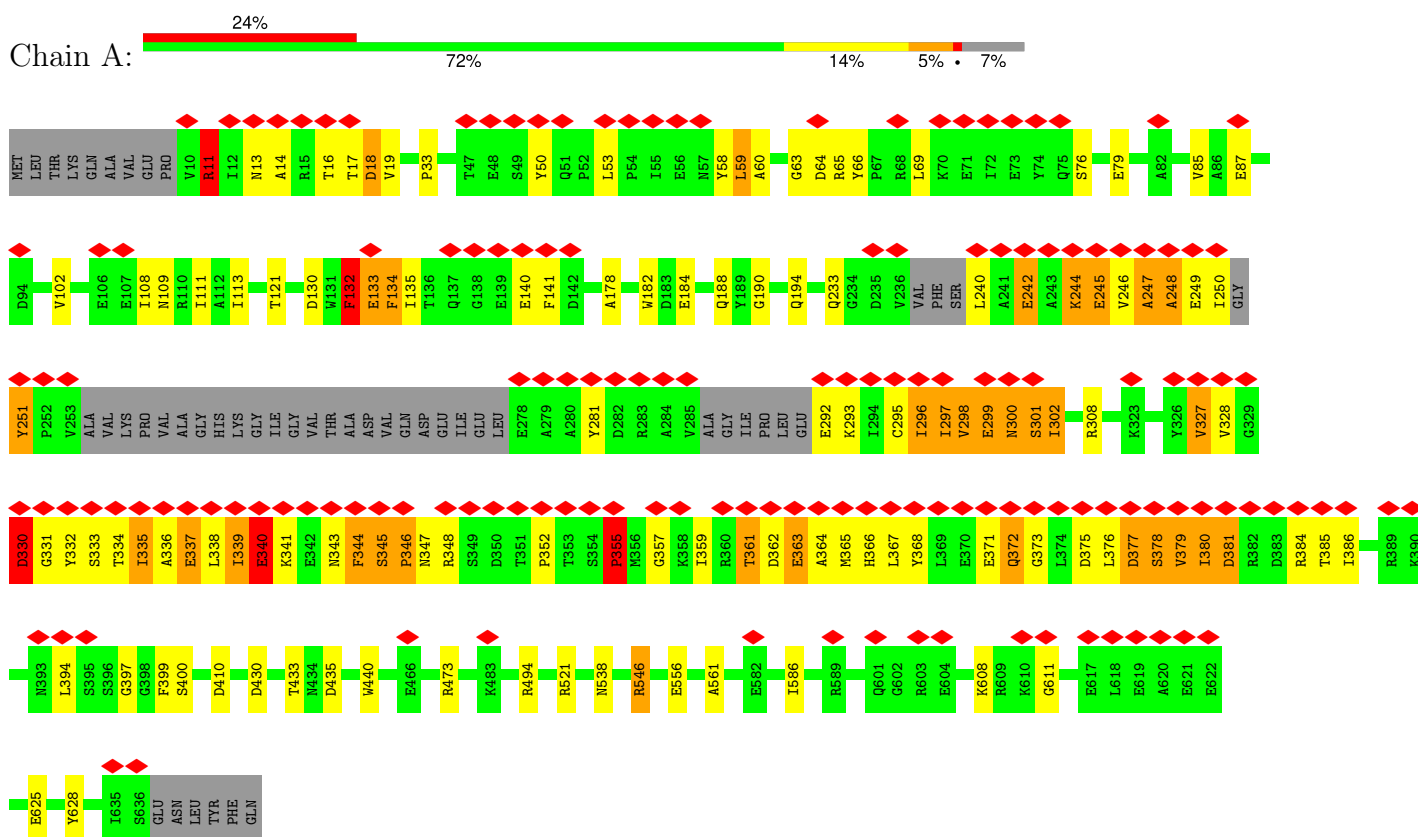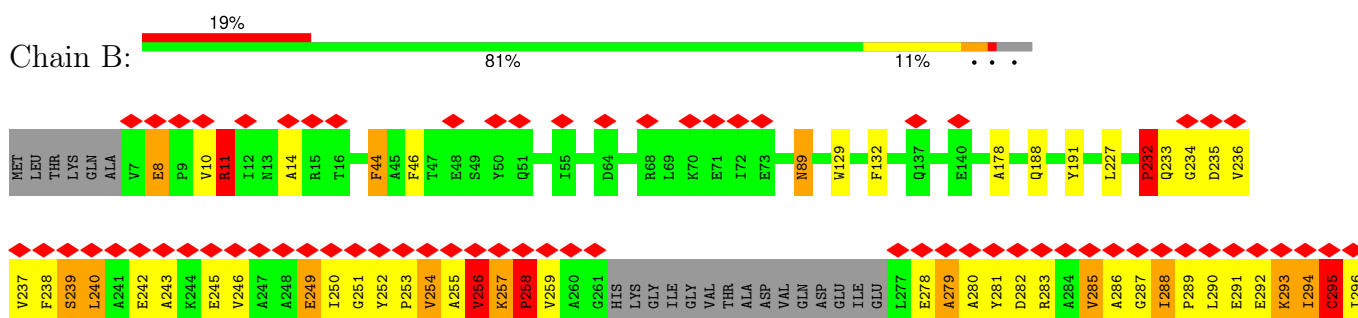| Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
5	D	1	31	11	5	12	3	0

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: RimK domain-containing protein ATP-grasp

• Molecule 1: RimK domain-containing protein ATP-grasp

I297 V298 E299 N300 S301 I302 A303 G304 H305 D306 Y307 R308 Y326 V327 V328 G329 D330 G331 Y332 S333 T334 I335 A336 E337 L338 I339 E340 K341 E342 N343 F344 S345 P346 N347 R348 S349 D350 T351 P352 T353 K358 R360 T361 D362 E363 A364 M365 H366 L367 Y368 L369 E370 E371 Q372 G373 L374 D375
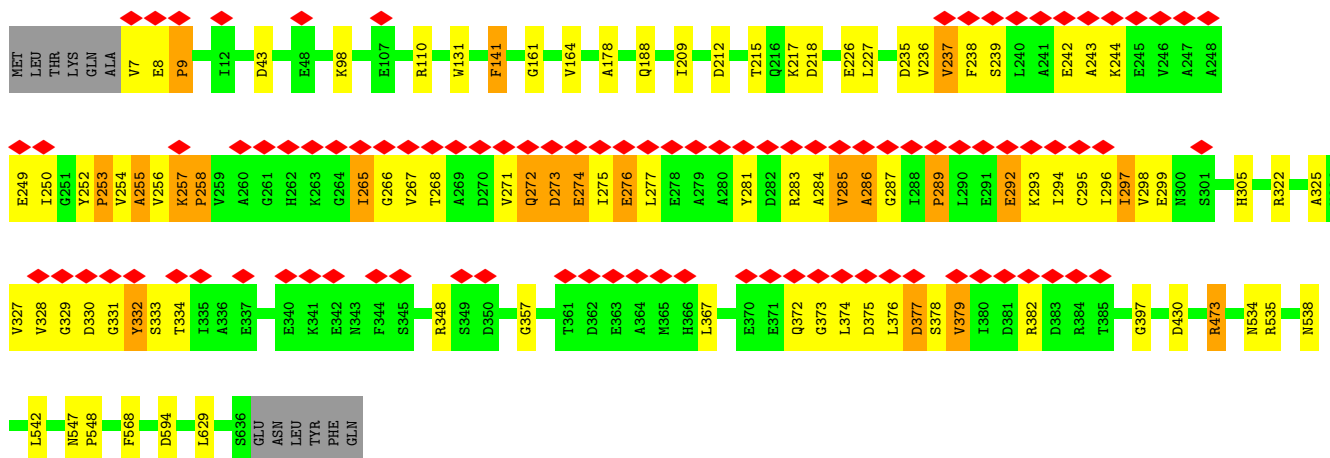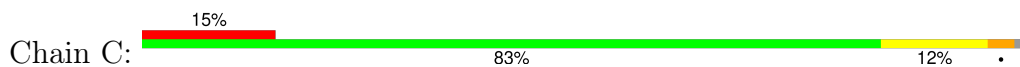
L376 D377 S378 V379 I380 D381 R382 D383 R384 T385 I386 Y387 L388 R389 K390 S395 D430 T443 S444 L475 D505 D513 G523 I524 L525 L542 F568 R589 D594 K610 S636 GLU ASN TYR PHE GLN

• Molecule 1: RimK domain-containing protein ATP-grasp

Chain C:
15%
83%
12%

MET LEU THR LYS GLN ALA V7 E8 P9 I12 D43 E48 K98 E107 R110 W131 F141 G161 V164 A178 Q188 I209 D212 T215 K217 D218 E226 L227 D235 V236 V237 F238 S239 L240 A241 E242 A243 K244 E245 V246 A247 A248

E249 I250 G251 Y252 P253 V254 A255 V256 K257 P258 V259 A260 G261 H262 K263 G264 I265 G266 V267 T268 A269 D270 V271 Q272 D273 E274 I275 E276 L277 E278 A279 A280 Y281 D282 R283 A284 V285 A286 G287 I288 P289 L290 E291 E292 K293 I294 C295 I296 I297 V298 E299 N300 S301 H305 R322 A325 Y326

V327 V328 G329 D330 G331 Y332 S333 T334 I335 A336 E337 E340 K341 E342 N343 F344 S345 R348 S349 D350 G357 T361 D362 E363 A364 M365 H366 L367 E370 E371 Q372 G373 L374 D375 L376 D377 S378 V379 I380 D381 R382 D383 R384 T385 G397 D430 R473 N534 R535 N538

L542 N547 P548 F568 D594 L629 S636 GLU ASN TYR PHE GLN

• Molecule 1: RimK domain-containing protein ATP-grasp

Chain D:
15%
83%
12%

MET LEU THR LYS GLN ALA V7 E8 P9 I12 D43 E48 E107 R110 W131 F141 G161 V164 A178 Q188 K193 I209 D212 T215 Q216 K217 D218 E226 L227 D235 V236 V237 F238 S239 L240 A241 E242 A243 K244 E245 V246 A247 A248

E249 I250 G251 Y252 P253 V254 A255 V256 K257 P258 V259 A260 G261 H262 K263 G264 I265 G266 V267 T268 A269 D270 V271 Q272 D273 E274 I275 E276 L277 E278 A279 A280 Y281 D282 R283 A284 V285 A286 G287 I288 P289 L290 E291 E292 K293 I294 C295 I296 I297 V298 E299 N300 S301 H305 R322 A325 Y326

V327 V328 G329 D330 G331 Y332 S333 T334 I335 A336 E337 E340 K341 E342 N343 F344 S345 R348 S349 D350 G357 T361 D362 E363 A364 M365 H366 L367 E370 E371 Q372 G373 L374 D375 L376 D377 S378 V379 I380 D381 R382 D383 R384 T385 G397 D430 R473 N534 R535 N538
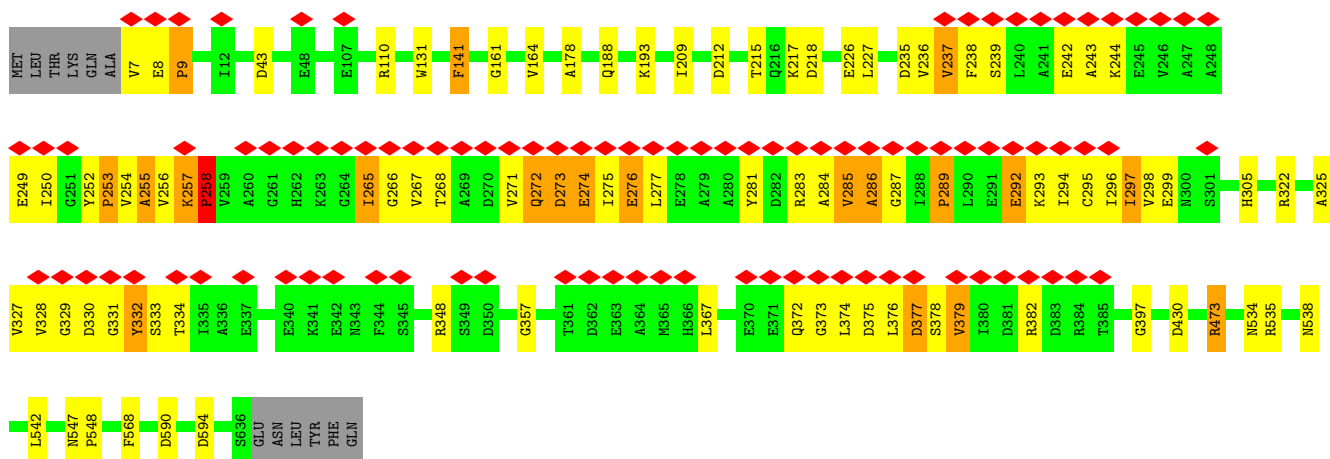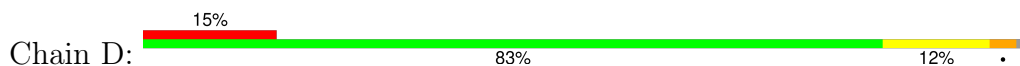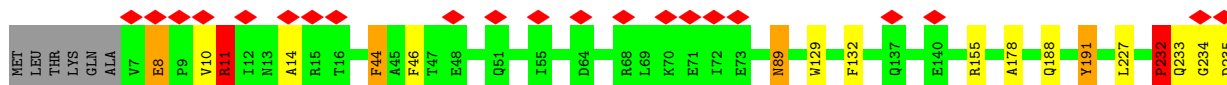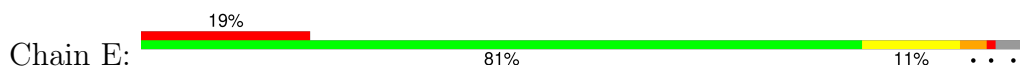
L542 N547 P548 F568 D590 D594 S636 GLU ASN TYR PHE GLN

• Molecule 1: RimK domain-containing protein ATP-grasp

Chain E:
19%
81%
11%

MET LEU THR LYS GLN ALA V7 E8 P9 V10 R11 I12 N13 A14 R15 T16 F44 A45 F46 T47 E48 Q51 I55 D64 R68 L69 K70 E71 I72 E73 N89 W129 F132 Q137 E140 R155 A178 Q188 Y191 L227 P232 Q233 G234 D235

WORLDWIDE
PDB
PROTEIN DATA BANK

• Molecule 1: RimK domain-containing protein ATP-grasp

Chain F:

24%

72%   14%   5% • 7%

• Molecule 2: 4x(beta-Asp-Arg)

Chain G:

25%   50%   25%

• Molecule 2: 4x(beta-Asp-Arg)

Chain H:

25%   50%   25%

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	549663	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 $(e^-/\text{Å}^2)$	80	Depositor
Minimum defocus (nm)	-1.0	Depositor
Maximum defocus (nm)	-2.5	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	2.292	Depositor
Minimum map value	-1.691	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.039	Depositor
Recommended contour level	0.165	Depositor
Map size (Å)	345.6, 345.6, 345.6	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.675, 0.675, 0.675	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: YHZ, MG, 7ID, ACP

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	0.55	11/4871 (0.2%)	1.15	70/6605 (1.1%)
1	B	0.61	14/5021 (0.3%)	1.02	50/6815 (0.7%)
1	C	0.54	11/5135 (0.2%)	0.93	39/6971 (0.6%)
1	D	0.54	11/5135 (0.2%)	0.93	38/6971 (0.5%)
1	E	0.61	14/5021 (0.3%)	1.02	50/6815 (0.7%)
1	F	0.55	11/4871 (0.2%)	1.15	71/6605 (1.1%)
All	All	0.57	72/30054 (0.2%)	1.03	318/40782 (0.8%)

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	3
1	B	0	3
1	C	0	3
1	D	0	3
1	E	0	3
1	F	1	3
All	All	2	18

All (72) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	328	VAL	C-N	14.99	1.60	1.33
1	E	328	VAL	C-N	14.99	1.60	1.33
1	A	345	SER	C-N	13.07	1.59	1.34
1	F	345	SER	C-N	13.07	1.59	1.34
1	D	257	LYS	C-N	12.84	1.58	1.34
1	C	257	LYS	C-N	12.81	1.58	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	327	VAL	C-N	-12.27	1.05	1.34
1	E	327	VAL	C-N	-12.27	1.05	1.34
1	B	256	VAL	C-N	11.65	1.60	1.34
1	E	256	VAL	C-N	11.65	1.60	1.34
1	C	7	VAL	C-N	-11.25	1.08	1.34
1	D	7	VAL	C-N	-11.25	1.08	1.34
1	F	352	PRO	C-N	10.65	1.58	1.34
1	A	352	PRO	C-N	10.64	1.58	1.34
1	A	245	GLU	C-N	10.18	1.57	1.34
1	F	245	GLU	C-N	10.18	1.57	1.34
1	B	326	TYR	C-N	-9.82	1.11	1.34
1	E	326	TYR	C-N	-9.82	1.11	1.34
1	A	18	ASP	C-N	-9.32	1.12	1.34
1	F	18	ASP	C-N	-9.32	1.12	1.34
1	A	240	LEU	C-N	-9.30	1.12	1.34
1	F	240	LEU	C-N	-9.30	1.12	1.34
1	A	133	GLU	C-N	9.04	1.54	1.34
1	F	133	GLU	C-N	9.04	1.54	1.34
1	B	232	PRO	C-N	8.70	1.54	1.34
1	E	232	PRO	C-N	8.69	1.54	1.34
1	E	258	PRO	C-N	8.30	1.53	1.34
1	B	257	LYS	C-N	8.28	1.50	1.34
1	E	257	LYS	C-N	8.28	1.50	1.34
1	B	258	PRO	C-N	8.28	1.53	1.34
1	B	387	TYR	C-N	-8.19	1.15	1.34
1	E	387	TYR	C-N	-8.19	1.15	1.34
1	D	329	GLY	C-N	8.13	1.52	1.34
1	B	524	ILE	C-N	8.12	1.52	1.34
1	E	524	ILE	C-N	8.12	1.52	1.34
1	C	329	GLY	C-N	8.11	1.52	1.34
1	C	374	LEU	C-N	7.81	1.52	1.34
1	C	252	TYR	C-N	-7.80	1.19	1.34
1	D	252	TYR	C-N	-7.80	1.19	1.34
1	D	374	LEU	C-N	7.79	1.51	1.34
1	C	258	PRO	N-CD	7.41	1.58	1.47
1	D	258	PRO	N-CD	7.41	1.58	1.47
1	E	258	PRO	N-CD	7.32	1.58	1.47
1	B	258	PRO	N-CD	7.30	1.58	1.47
1	A	233	GLN	C-N	-7.15	1.20	1.33
1	F	233	GLN	C-N	-7.15	1.20	1.33
1	B	523	GLY	C-N	-7.05	1.17	1.34
1	E	523	GLY	C-N	-7.03	1.17	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	253	PRO	C-N	-6.61	1.18	1.34
1	D	253	PRO	C-N	-6.61	1.18	1.34
1	B	290	LEU	C-N	6.45	1.48	1.34
1	E	290	LEU	C-N	6.45	1.48	1.34
1	D	327	VAL	C-N	-6.10	1.20	1.34
1	C	327	VAL	C-N	-6.08	1.20	1.34
1	A	355	PRO	C-N	5.74	1.47	1.34
1	F	355	PRO	C-N	5.74	1.47	1.34
1	A	344	PHE	C-N	5.65	1.47	1.34
1	F	344	PHE	C-N	5.64	1.47	1.34
1	A	295	CYS	C-N	-5.32	1.21	1.34
1	F	295	CYS	C-N	-5.32	1.21	1.34
1	B	129	TRP	C-N	5.32	1.46	1.34
1	E	129	TRP	C-N	5.32	1.46	1.34
1	A	132	PHE	C-N	-5.26	1.22	1.34
1	F	132	PHE	C-N	-5.26	1.22	1.34
1	E	374	LEU	C-N	5.23	1.46	1.34
1	B	374	LEU	C-N	5.20	1.46	1.34
1	D	255	ALA	C-N	-5.17	1.22	1.34
1	C	255	ALA	C-N	-5.16	1.22	1.34
1	C	275	ILE	C-N	-5.15	1.22	1.34
1	C	284	ALA	C-N	-5.12	1.22	1.34
1	D	275	ILE	C-N	-5.12	1.22	1.34
1	D	284	ALA	C-N	-5.12	1.22	1.34

All (318) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	377	ASP	O-C-N	-21.97	87.55	122.70
1	F	377	ASP	O-C-N	-21.97	87.55	122.70
1	A	297	ILE	N-CA-C	20.99	167.67	111.00
1	F	297	ILE	N-CA-C	20.98	167.64	111.00
1	C	9	PRO	O-C-N	19.68	154.18	122.70
1	D	9	PRO	O-C-N	19.65	154.15	122.70
1	C	376	LEU	N-CA-C	17.74	158.89	111.00
1	D	376	LEU	N-CA-C	17.74	158.89	111.00
1	F	363	GLU	CB-CA-C	-17.67	75.06	110.40
1	A	363	GLU	CB-CA-C	-17.66	75.08	110.40
1	B	303	ALA	CB-CA-C	-16.95	84.68	110.10
1	E	303	ALA	CB-CA-C	-16.94	84.69	110.10
1	C	9	PRO	CA-C-N	-15.50	83.10	117.20
1	D	9	PRO	CA-C-N	-15.49	83.12	117.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	295	CYS	N-CA-CB	-15.49	82.72	110.60
1	B	295	CYS	N-CA-CB	-15.48	82.73	110.60
1	B	293	LYS	N-CA-C	14.73	150.77	111.00
1	E	293	LYS	N-CA-C	14.73	150.77	111.00
1	B	381	ASP	O-C-N	-14.36	99.72	122.70
1	E	381	ASP	O-C-N	-14.35	99.75	122.70
1	A	297	ILE	CB-CA-C	-14.00	83.60	111.60
1	F	297	ILE	CB-CA-C	-14.00	83.60	111.60
1	E	295	CYS	N-CA-C	13.67	147.90	111.00
1	B	295	CYS	N-CA-C	13.66	147.88	111.00
1	B	279	ALA	N-CA-CB	-13.62	91.03	110.10
1	E	279	ALA	N-CA-CB	-13.60	91.06	110.10
1	A	377	ASP	CA-C-N	13.34	146.54	117.20
1	F	377	ASP	CA-C-N	13.34	146.54	117.20
1	F	292	GLU	N-CA-C	-13.19	75.39	111.00
1	A	292	GLU	N-CA-C	-13.18	75.42	111.00
1	F	385	THR	N-CA-C	-13.02	75.84	111.00
1	A	385	THR	N-CA-C	-13.01	75.87	111.00
1	E	378	SER	O-C-N	12.96	143.43	122.70
1	B	378	SER	O-C-N	12.95	143.41	122.70
1	B	279	ALA	N-CA-C	12.77	145.48	111.00
1	E	279	ALA	N-CA-C	12.77	145.49	111.00
1	A	340	GLU	O-C-N	-12.09	103.36	122.70
1	F	340	GLU	O-C-N	-12.06	103.40	122.70
1	F	373	GLY	N-CA-C	11.83	142.67	113.10
1	A	373	GLY	N-CA-C	11.81	142.63	113.10
1	B	304	GLY	N-CA-C	11.36	141.49	113.10
1	E	304	GLY	N-CA-C	11.35	141.47	113.10
1	D	238	PHE	N-CA-CB	-11.34	90.19	110.60
1	C	238	PHE	N-CA-CB	-11.33	90.21	110.60
1	B	303	ALA	N-CA-CB	-10.90	94.84	110.10
1	E	303	ALA	N-CA-CB	-10.90	94.84	110.10
1	F	332	TYR	N-CA-C	10.88	140.37	111.00
1	A	332	TYR	N-CA-C	10.87	140.35	111.00
1	A	134	PHE	O-C-N	-10.70	105.58	122.70
1	F	134	PHE	O-C-N	-10.67	105.62	122.70
1	B	381	ASP	CA-C-N	10.62	140.57	117.20
1	E	381	ASP	CA-C-N	10.61	140.54	117.20
1	A	379	VAL	CB-CA-C	-10.56	91.34	111.40
1	F	379	VAL	CB-CA-C	-10.55	91.36	111.40
1	F	376	LEU	C-N-CA	10.36	147.61	121.70
1	A	376	LEU	C-N-CA	10.35	147.57	121.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	374	LEU	CB-CA-C	-10.24	90.75	110.20
1	D	374	LEU	CB-CA-C	-10.22	90.78	110.20
1	F	247	ALA	N-CA-CB	10.22	124.41	110.10
1	A	247	ALA	N-CA-CB	10.22	124.40	110.10
1	B	378	SER	CA-C-N	-10.03	95.14	117.20
1	E	378	SER	CA-C-N	-10.01	95.17	117.20
1	E	305	HIS	N-CA-CB	-9.93	92.72	110.60
1	B	305	HIS	N-CA-CB	-9.93	92.73	110.60
1	E	280	ALA	N-CA-C	-9.71	84.77	111.00
1	B	280	ALA	N-CA-C	-9.71	84.80	111.00
1	F	378	SER	N-CA-CB	-9.63	96.06	110.50
1	A	378	SER	N-CA-CB	-9.61	96.08	110.50
1	D	376	LEU	CB-CA-C	-9.53	92.09	110.20
1	C	376	LEU	CB-CA-C	-9.52	92.11	110.20
1	C	286	ALA	CB-CA-C	-9.52	95.83	110.10
1	D	286	ALA	CB-CA-C	-9.50	95.86	110.10
1	E	298	VAL	N-CA-C	9.46	136.56	111.00
1	B	298	VAL	N-CA-C	9.46	136.53	111.00
1	F	379	VAL	N-CA-C	9.45	136.50	111.00
1	A	379	VAL	N-CA-C	9.43	136.47	111.00
1	F	330	ASP	N-CA-CB	-9.41	93.65	110.60
1	A	330	ASP	N-CA-CB	-9.40	93.68	110.60
1	B	327	VAL	O-C-N	9.39	137.73	122.70
1	E	327	VAL	O-C-N	9.39	137.73	122.70
1	A	247	ALA	CB-CA-C	-9.09	96.47	110.10
1	F	247	ALA	CB-CA-C	-9.06	96.51	110.10
1	F	337	GLU	N-CA-C	8.97	135.22	111.00
1	A	337	GLU	N-CA-C	8.97	135.22	111.00
1	B	258	PRO	O-C-N	8.94	137.00	122.70
1	E	258	PRO	O-C-N	8.93	136.98	122.70
1	E	299	GLU	N-CA-CB	8.91	126.64	110.60
1	A	364	ALA	N-CA-CB	-8.90	97.64	110.10
1	B	299	GLU	N-CA-CB	8.89	126.61	110.60
1	F	364	ALA	N-CA-CB	-8.87	97.68	110.10
1	C	254	VAL	O-C-N	-8.85	108.54	122.70
1	C	375	ASP	N-CA-CB	-8.82	94.72	110.60
1	D	254	VAL	O-C-N	-8.82	108.58	122.70
1	D	375	ASP	N-CA-CB	-8.79	94.77	110.60
1	B	292	GLU	O-C-N	8.77	136.74	122.70
1	E	292	GLU	O-C-N	8.77	136.73	122.70
1	C	252	TYR	O-C-N	8.65	137.54	121.10
1	D	252	TYR	O-C-N	8.64	137.51	121.10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	272	GLN	N-CA-C	8.63	134.29	111.00
1	C	272	GLN	N-CA-C	8.62	134.27	111.00
1	C	276	GLU	O-C-N	-8.61	108.93	122.70
1	D	276	GLU	O-C-N	-8.61	108.93	122.70
1	A	301	SER	CB-CA-C	8.59	126.42	110.10
1	F	301	SER	CB-CA-C	8.59	126.42	110.10
1	A	364	ALA	N-CA-C	-8.58	87.84	111.00
1	F	364	ALA	N-CA-C	-8.56	87.87	111.00
1	A	247	ALA	N-CA-C	-8.53	87.97	111.00
1	F	247	ALA	N-CA-C	-8.53	87.97	111.00
1	B	294	ILE	O-C-N	-8.53	109.06	122.70
1	E	294	ILE	O-C-N	-8.53	109.06	122.70
1	B	293	LYS	N-CA-CB	-8.50	95.29	110.60
1	E	293	LYS	N-CA-CB	-8.48	95.33	110.60
1	F	300	ASN	N-CA-C	8.44	133.78	111.00
1	A	300	ASN	N-CA-C	8.43	133.77	111.00
1	A	348	ARG	N-CA-C	-8.43	88.24	111.00
1	B	237	VAL	CA-C-N	-8.42	98.67	117.20
1	F	348	ARG	N-CA-C	-8.42	88.27	111.00
1	E	237	VAL	CA-C-N	-8.40	98.71	117.20
1	C	9	PRO	C-N-CA	-8.37	100.77	121.70
1	D	9	PRO	C-N-CA	-8.37	100.77	121.70
1	D	265	ILE	CB-CA-C	-8.26	95.08	111.60
1	C	265	ILE	CB-CA-C	-8.26	95.08	111.60
1	A	378	SER	CB-CA-C	-8.23	94.46	110.10
1	F	378	SER	CB-CA-C	-8.23	94.46	110.10
1	D	375	ASP	CB-CA-C	8.11	126.63	110.40
1	B	327	VAL	CA-C-N	-8.11	99.36	117.20
1	E	327	VAL	CA-C-N	-8.11	99.36	117.20
1	C	375	ASP	CB-CA-C	8.11	126.61	110.40
1	A	379	VAL	N-CA-CB	-8.03	93.83	111.50
1	F	379	VAL	N-CA-CB	-8.03	93.84	111.50
1	E	290	LEU	CB-CA-C	8.02	125.43	110.20
1	B	280	ALA	N-CA-CB	8.01	121.31	110.10
1	B	290	LEU	CB-CA-C	8.01	125.42	110.20
1	E	280	ALA	N-CA-CB	8.01	121.31	110.10
1	B	378	SER	C-N-CA	-7.98	101.76	121.70
1	E	378	SER	C-N-CA	-7.98	101.75	121.70
1	A	292	GLU	N-CA-CB	7.95	124.91	110.60
1	F	292	GLU	N-CA-CB	7.94	124.89	110.60
1	A	352	PRO	O-C-N	-7.93	110.01	122.70
1	F	352	PRO	O-C-N	-7.93	110.01	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	292	GLU	N-CA-CB	-7.89	96.40	110.60
1	B	292	GLU	N-CA-CB	-7.88	96.42	110.60
1	A	347	ASN	N-CA-C	-7.86	89.77	111.00
1	F	347	ASN	N-CA-C	-7.86	89.78	111.00
1	E	385	THR	O-C-N	-7.84	110.15	122.70
1	B	385	THR	O-C-N	-7.84	110.16	122.70
1	B	381	ASP	C-N-CA	7.83	141.29	121.70
1	E	381	ASP	C-N-CA	7.83	141.26	121.70
1	F	386	ILE	N-CA-C	-7.78	89.98	111.00
1	F	338	LEU	N-CA-C	-7.78	89.99	111.00
1	A	386	ILE	N-CA-C	-7.77	90.03	111.00
1	A	338	LEU	N-CA-C	-7.77	90.03	111.00
1	B	305	HIS	N-CA-C	7.57	131.43	111.00
1	E	305	HIS	N-CA-C	7.56	131.42	111.00
1	D	238	PHE	N-CA-C	7.55	131.38	111.00
1	C	238	PHE	N-CA-C	7.53	131.34	111.00
1	A	384	ARG	N-CA-C	7.52	131.30	111.00
1	F	384	ARG	N-CA-C	7.51	131.27	111.00
1	E	291	GLU	CB-CA-C	-7.48	95.44	110.40
1	B	291	GLU	CB-CA-C	-7.48	95.45	110.40
1	B	327	VAL	C-N-CA	-7.46	103.05	121.70
1	E	327	VAL	C-N-CA	-7.45	103.07	121.70
1	A	296	ILE	CB-CA-C	7.35	126.31	111.60
1	F	296	ILE	CB-CA-C	7.35	126.31	111.60
1	A	344	PHE	N-CA-C	7.33	130.78	111.00
1	F	344	PHE	N-CA-C	7.30	130.72	111.00
1	B	292	GLU	CA-C-N	-7.29	101.16	117.20
1	E	292	GLU	CA-C-N	-7.29	101.17	117.20
1	C	377	ASP	O-C-N	-7.26	111.08	122.70
1	D	377	ASP	O-C-N	-7.26	111.09	122.70
1	A	300	ASN	N-CA-CB	-7.25	97.54	110.60
1	F	300	ASN	N-CA-CB	-7.25	97.54	110.60
1	A	292	GLU	CB-CA-C	7.23	124.85	110.40
1	F	292	GLU	CB-CA-C	7.22	124.84	110.40
1	D	378	SER	N-CA-C	-7.20	91.57	111.00
1	C	378	SER	N-CA-C	-7.18	91.62	111.00
1	B	298	VAL	N-CA-CB	-7.09	95.90	111.50
1	E	298	VAL	N-CA-CB	-7.09	95.91	111.50
1	A	134	PHE	CA-C-N	7.06	132.72	117.20
1	F	134	PHE	CA-C-N	7.05	132.70	117.20
1	A	244	LYS	N-CA-C	-7.04	91.99	111.00
1	F	244	LYS	N-CA-C	-7.04	91.99	111.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	333	SER	N-CA-C	-7.02	92.03	111.00
1	C	285	VAL	C-N-CA	-7.02	104.14	121.70
1	D	285	VAL	C-N-CA	-7.02	104.14	121.70
1	A	333	SER	N-CA-C	-7.02	92.04	111.00
1	B	297	ILE	CB-CA-C	-7.00	97.60	111.60
1	E	297	ILE	CB-CA-C	-6.99	97.62	111.60
1	A	242	GLU	O-C-N	-6.94	111.59	122.70
1	A	11	ARG	N-CA-C	-6.94	92.27	111.00
1	F	11	ARG	N-CA-C	-6.94	92.27	111.00
1	A	339	ILE	C-N-CA	-6.93	104.37	121.70
1	F	339	ILE	C-N-CA	-6.93	104.37	121.70
1	F	248	ALA	N-CA-CB	6.92	119.79	110.10
1	F	242	GLU	O-C-N	-6.92	111.63	122.70
1	A	248	ALA	N-CA-CB	6.89	119.75	110.10
1	C	254	VAL	CA-C-N	6.76	132.07	117.20
1	D	379	VAL	N-CA-C	-6.75	92.77	111.00
1	C	379	VAL	N-CA-C	-6.75	92.79	111.00
1	C	258	PRO	CA-C-N	-6.74	102.38	117.20
1	D	254	VAL	CA-C-N	6.73	132.01	117.20
1	D	258	PRO	CA-C-N	-6.73	102.39	117.20
1	B	524	ILE	O-C-N	6.68	133.39	122.70
1	E	524	ILE	O-C-N	6.68	133.39	122.70
1	B	237	VAL	O-C-N	6.68	133.39	122.70
1	E	237	VAL	O-C-N	6.66	133.36	122.70
1	A	295	CYS	N-CA-C	-6.60	93.17	111.00
1	F	295	CYS	N-CA-C	-6.59	93.21	111.00
1	C	332	TYR	N-CA-CB	6.58	122.44	110.60
1	D	332	TYR	N-CA-CB	6.56	122.41	110.60
1	B	384	ARG	C-N-CA	6.47	137.88	121.70
1	E	384	ARG	C-N-CA	6.45	137.83	121.70
1	C	250	ILE	N-CA-C	-6.42	93.67	111.00
1	D	250	ILE	N-CA-C	-6.41	93.70	111.00
1	E	258	PRO	C-N-CA	-6.39	105.72	121.70
1	B	258	PRO	C-N-CA	-6.39	105.73	121.70
1	B	258	PRO	CA-C-N	-6.35	103.24	117.20
1	E	258	PRO	CA-C-N	-6.34	103.26	117.20
1	E	235	ASP	N-CA-CB	-6.33	99.20	110.60
1	B	235	ASP	N-CA-CB	-6.32	99.22	110.60
1	A	299	GLU	N-CA-C	6.19	127.71	111.00
1	D	249	GLU	CB-CA-C	-6.19	98.02	110.40
1	F	299	GLU	N-CA-C	6.19	127.71	111.00
1	C	249	GLU	CB-CA-C	-6.18	98.04	110.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	377	ASP	N-CA-C	-6.17	94.35	111.00
1	D	377	ASP	N-CA-C	-6.17	94.35	111.00
1	C	273	ASP	CA-C-N	-6.11	103.77	117.20
1	B	523	GLY	C-N-CA	6.10	136.95	121.70
1	D	273	ASP	CA-C-N	-6.09	103.79	117.20
1	E	523	GLY	C-N-CA	6.09	136.91	121.70
1	F	333	SER	N-CA-CB	6.02	119.52	110.50
1	A	333	SER	N-CA-CB	6.01	119.51	110.50
1	E	292	GLU	C-N-CA	-6.00	106.69	121.70
1	B	292	GLU	C-N-CA	-5.99	106.72	121.70
1	F	345	SER	O-C-N	-5.98	109.75	121.10
1	C	286	ALA	N-CA-C	5.95	127.08	111.00
1	D	286	ALA	N-CA-C	5.95	127.07	111.00
1	A	345	SER	O-C-N	-5.95	109.80	121.10
1	F	381	ASP	N-CA-C	5.93	127.03	111.00
1	D	253	PRO	O-C-N	-5.93	113.21	122.70
1	C	253	PRO	O-C-N	-5.93	113.22	122.70
1	A	293	LYS	N-CA-CB	5.92	121.27	110.60
1	A	381	ASP	N-CA-C	5.92	127.00	111.00
1	F	293	LYS	N-CA-CB	5.92	121.25	110.60
1	A	251	TYR	CA-CB-CG	5.91	124.62	113.40
1	F	251	TYR	CA-CB-CG	5.90	124.61	113.40
1	F	380	ILE	N-CA-CB	-5.90	97.23	110.80
1	A	380	ILE	N-CA-CB	-5.88	97.27	110.80
1	B	256	VAL	O-C-N	-5.87	113.30	122.70
1	E	256	VAL	O-C-N	-5.87	113.30	122.70
1	A	378	SER	N-CA-C	5.86	126.82	111.00
1	F	378	SER	N-CA-C	5.83	126.75	111.00
1	F	13	ASN	CB-CA-C	-5.79	98.81	110.40
1	A	13	ASN	CB-CA-C	-5.78	98.84	110.40
1	A	380	ILE	CB-CA-C	-5.72	100.16	111.60
1	F	380	ILE	CB-CA-C	-5.71	100.19	111.60
1	A	352	PRO	CA-C-N	5.63	129.59	117.20
1	F	344	PHE	CB-CA-C	-5.63	99.15	110.40
1	F	352	PRO	CA-C-N	5.63	129.58	117.20
1	A	344	PHE	CB-CA-C	-5.62	99.17	110.40
1	C	252	TYR	CA-C-N	-5.57	101.50	117.10
1	D	252	TYR	CA-C-N	-5.57	101.50	117.10
1	C	267	VAL	N-CA-C	-5.57	95.96	111.00
1	D	267	VAL	N-CA-C	-5.57	95.96	111.00
1	A	298	VAL	N-CA-CB	-5.56	99.27	111.50
1	F	298	VAL	N-CA-CB	-5.56	99.28	111.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	298	VAL	CB-CA-C	-5.55	100.86	111.40
1	F	298	VAL	CB-CA-C	-5.55	100.86	111.40
1	A	330	ASP	N-CA-C	5.52	125.91	111.00
1	F	330	ASP	N-CA-C	5.52	125.91	111.00
1	B	326	TYR	O-C-N	-5.45	113.98	122.70
1	E	326	TYR	O-C-N	-5.45	113.98	122.70
1	F	299	GLU	N-CA-CB	-5.43	100.82	110.60
1	A	299	GLU	N-CA-CB	-5.43	100.83	110.60
1	C	305	HIS	CB-CA-C	-5.43	99.55	110.40
1	D	305	HIS	CB-CA-C	-5.42	99.56	110.40
1	A	397	GLY	N-CA-C	5.40	126.59	113.10
1	F	397	GLY	N-CA-C	5.40	126.59	113.10
1	F	332	TYR	N-CA-CB	-5.39	100.89	110.60
1	A	332	TYR	N-CA-CB	-5.39	100.90	110.60
1	D	373	GLY	N-CA-C	-5.38	99.65	113.10
1	C	373	GLY	N-CA-C	-5.38	99.66	113.10
1	D	327	VAL	C-N-CA	5.35	135.07	121.70
1	F	372	GLN	CB-CA-C	-5.35	99.70	110.40
1	B	387	TYR	O-C-N	-5.34	114.16	122.70
1	C	239	SER	N-CA-CB	-5.34	102.49	110.50
1	E	387	TYR	O-C-N	-5.34	114.16	122.70
1	C	327	VAL	C-N-CA	5.33	135.04	121.70
1	A	372	GLN	CB-CA-C	-5.33	99.74	110.40
1	F	361	THR	N-CA-C	5.31	125.33	111.00
1	C	237	VAL	CB-CA-C	-5.31	101.31	111.40
1	D	237	VAL	CB-CA-C	-5.31	101.31	111.40
1	A	361	THR	N-CA-C	5.30	125.30	111.00
1	D	239	SER	N-CA-CB	-5.30	102.56	110.50
1	C	376	LEU	N-CA-CB	-5.29	99.82	110.40
1	F	302	ILE	N-CA-CB	5.29	122.96	110.80
1	D	376	LEU	N-CA-CB	-5.28	99.83	110.40
1	A	302	ILE	N-CA-CB	5.28	122.94	110.80
1	B	524	ILE	CA-C-N	-5.28	105.59	117.20
1	E	524	ILE	CA-C-N	-5.26	105.62	117.20
1	F	249	GLU	N-CA-C	5.24	125.14	111.00
1	A	249	GLU	N-CA-C	5.23	125.12	111.00
1	A	348	ARG	N-CA-CB	5.21	119.98	110.60
1	F	348	ARG	N-CA-CB	5.21	119.97	110.60
1	B	237	VAL	CB-CA-C	-5.16	101.60	111.40
1	E	237	VAL	CB-CA-C	-5.15	101.61	111.40
1	A	355	PRO	O-C-N	5.14	130.93	122.70
1	F	355	PRO	O-C-N	5.14	130.93	122.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	249	GLU	N-CA-C	-5.09	97.26	111.00
1	E	249	GLU	N-CA-C	-5.07	97.30	111.00
1	E	11	ARG	N-CA-C	-5.07	97.32	111.00
1	A	400	SER	N-CA-CB	-5.07	102.90	110.50
1	B	11	ARG	N-CA-C	-5.06	97.33	111.00
1	D	372	GLN	C-N-CA	-5.06	111.68	122.30
1	C	372	GLN	C-N-CA	-5.05	111.70	122.30
1	F	400	SER	N-CA-CB	-5.05	102.93	110.50
1	C	273	ASP	O-C-N	5.02	130.74	122.70
1	F	337	GLU	N-CA-CB	-5.02	101.57	110.60

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	297	ILE	CA
1	F	297	ILE	CA

All (18) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	340	GLU	Mainchain
1	A	345	SER	Mainchain
1	A	377	ASP	Mainchain
1	B	294	ILE	Mainchain
1	B	382	ARG	Sidechain
1	B	385	THR	Mainchain
1	C	258	PRO	Mainchain
1	C	273	ASP	Mainchain
1	C	276	GLU	Mainchain
1	D	258	PRO	Mainchain
1	D	273	ASP	Mainchain
1	D	276	GLU	Mainchain
1	E	294	ILE	Mainchain
1	E	382	ARG	Sidechain
1	E	385	THR	Mainchain
1	F	340	GLU	Mainchain
1	F	345	SER	Mainchain
1	F	377	ASP	Mainchain

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	4777	0	4718	73	0
1	B	4921	0	4874	47	0
1	C	5033	0	4980	62	0
1	D	5033	0	4980	64	0
1	E	4921	0	4874	48	0
1	F	4777	0	4718	73	0
2	G	57	0	0	5	0
2	H	57	0	0	5	0
3	C	30	0	0	2	0
4	C	2	0	0	0	0
4	D	2	0	0	0	0
5	D	31	0	14	0	0
All	All	29641	0	29158	369	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 6.

All (369) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:701:YHZ:C8	3:C:701:YHZ:C1'	2.52	0.87
3:C:701:YHZ:C1'	3:C:701:YHZ:C4	2.54	0.86
1:C:164:VAL:HG23	2:G:2:7ID:CD2	2.09	0.82
1:D:236:VAL:HG22	1:D:296:ILE:HG12	1.62	0.81
1:D:164:VAL:HG23	2:H:2:7ID:CD2	2.09	0.81
1:C:236:VAL:HG22	1:C:296:ILE:HG12	1.62	0.79
1:C:256:VAL:HG23	1:C:299:GLU:OE1	1.88	0.74
1:D:256:VAL:HG23	1:D:299:GLU:OE1	1.88	0.74
1:C:257:LYS:HG2	1:C:297:ILE:HG23	1.72	0.72
1:D:257:LYS:HG2	1:D:297:ILE:HG23	1.72	0.70
1:C:256:VAL:HG13	1:C:266:GLY:O	1.95	0.67
1:D:256:VAL:HG13	1:D:266:GLY:O	1.95	0.67
1:D:257:LYS:HG2	1:D:297:ILE:CG2	2.27	0.64
1:C:257:LYS:HG2	1:C:297:ILE:CG2	2.27	0.64
1:A:335:ILE:HG12	1:A:336:ALA:H	1.65	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:209:ILE:HG12	2:G:1:7ID:CD2	2.32	0.60
1:F:335:ILE:HG12	1:F:336:ALA:H	1.65	0.60
1:C:209:ILE:HG12	2:H:1:7ID:CD2	2.32	0.59
1:E:255:ALA:O	1:E:256:VAL:C	2.42	0.58
1:C:164:VAL:HG23	2:G:2:7ID:NE2	2.19	0.56
1:D:161:GLY:HA3	2:H:2:7ID:NE2	2.20	0.56
1:D:164:VAL:HG23	2:H:2:7ID:NE2	2.19	0.56
1:C:281:TYR:CE1	1:C:285:VAL:HG21	2.40	0.56
1:B:255:ALA:O	1:B:256:VAL:C	2.42	0.56
1:F:433:THR:HG22	1:F:435:ASP:H	1.71	0.56
1:D:281:TYR:CE1	1:D:285:VAL:HG21	2.40	0.56
1:A:108:ILE:HG22	1:A:109:ASN:N	2.22	0.55
1:C:161:GLY:HA3	2:G:2:7ID:NE2	2.20	0.55
1:A:433:THR:HG22	1:A:435:ASP:H	1.71	0.55
1:F:108:ILE:HG22	1:F:109:ASN:N	2.21	0.55
1:F:410:ASP:OD1	1:F:440:TRP:NE1	2.40	0.55
1:A:410:ASP:OD1	1:A:440:TRP:NE1	2.40	0.55
1:A:298:VAL:HG12	1:A:298:VAL:O	2.06	0.55
1:B:258:PRO:HB3	1:B:296:ILE:HG22	1.89	0.55
1:D:265:ILE:O	1:D:265:ILE:HG23	2.06	0.55
1:F:298:VAL:HG12	1:F:298:VAL:O	2.06	0.55
1:D:274:GLU:HB2	1:D:277:LEU:HD12	1.89	0.54
1:D:235:ASP:O	1:D:296:ILE:HG23	2.07	0.54
1:C:235:ASP:O	1:C:296:ILE:HG23	2.07	0.54
1:C:265:ILE:HG13	1:C:266:GLY:N	2.23	0.54
1:C:274:GLU:HB2	1:C:277:LEU:HD12	1.89	0.54
1:D:330:ASP:HB2	1:D:382:ARG:HA	1.90	0.53
1:E:258:PRO:HB3	1:E:296:ILE:HG22	1.89	0.53
1:A:301:SER:O	1:A:302:ILE:HG23	2.07	0.53
1:F:301:SER:O	1:F:302:ILE:HG23	2.07	0.53
1:D:265:ILE:HG13	1:D:266:GLY:N	2.23	0.53
1:A:339:ILE:HG23	1:A:359:ILE:HD12	1.91	0.53
1:A:363:GLU:HB3	1:A:366:HIS:HB3	1.90	0.53
1:B:10:VAL:HG23	1:B:10:VAL:O	2.09	0.53
1:E:279:ALA:C	1:E:281:TYR:H	2.10	0.53
1:C:330:ASP:HB2	1:C:382:ARG:HA	1.90	0.52
1:C:237:VAL:CG1	1:C:242:GLU:HB3	2.40	0.52
1:D:322:ARG:NH2	1:D:430:ASP:OD2	2.42	0.52
1:C:331:GLY:O	1:C:332:TYR:CG	2.63	0.52
1:F:546:ARG:HD2	1:F:546:ARG:O	2.10	0.52
1:C:322:ARG:NH2	1:C:430:ASP:OD2	2.42	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:331:GLY:O	1:D:332:TYR:CG	2.63	0.52
1:B:308:ARG:NH1	1:B:430:ASP:OD1	2.43	0.52
1:F:363:GLU:HB3	1:F:366:HIS:HB3	1.90	0.52
1:D:253:PRO:HB3	1:D:272:GLN:H	1.75	0.52
1:A:546:ARG:HD2	1:A:546:ARG:O	2.10	0.52
1:D:271:VAL:C	1:D:272:GLN:HG2	2.30	0.52
1:F:339:ILE:HG23	1:F:359:ILE:HD12	1.91	0.51
1:C:271:VAL:C	1:C:272:GLN:HG2	2.30	0.51
1:E:250:ILE:O	1:E:251:GLY:C	2.49	0.51
1:A:340:GLU:HA	1:A:343:ASN:HB2	1.93	0.51
1:E:308:ARG:NH1	1:E:430:ASP:OD1	2.43	0.51
1:B:246:VAL:HA	1:B:249:GLU:HB3	1.93	0.51
1:B:250:ILE:O	1:B:251:GLY:C	2.49	0.51
1:F:17:THR:HG21	1:F:50:TYR:CE2	2.46	0.51
1:A:113:ILE:HD11	1:A:121:THR:CG2	2.41	0.51
1:B:513:ASP:OD1	1:B:513:ASP:N	2.44	0.51
1:D:332:TYR:HA	1:D:379:VAL:HA	1.93	0.51
1:E:246:VAL:HA	1:E:249:GLU:HB3	1.93	0.51
1:E:513:ASP:OD1	1:E:513:ASP:N	2.44	0.51
1:A:334:THR:O	1:A:335:ILE:C	2.48	0.51
1:D:237:VAL:CG1	1:D:242:GLU:HB3	2.40	0.51
1:F:340:GLU:HA	1:F:343:ASN:HB2	1.93	0.51
1:F:608:LYS:HE3	1:F:611:GLY:HA2	1.93	0.51
1:A:17:THR:HG21	1:A:50:TYR:CE2	2.46	0.51
1:E:234:GLY:HA3	1:E:297:ILE:HA	1.93	0.51
1:E:334:THR:HG22	1:E:335:ILE:N	2.25	0.51
1:F:113:ILE:HD11	1:F:121:THR:CG2	2.41	0.51
1:B:443:THR:OG1	1:B:444:SER:N	2.43	0.51
1:C:332:TYR:HA	1:C:379:VAL:HA	1.93	0.51
1:E:10:VAL:O	1:E:10:VAL:HG23	2.09	0.51
1:F:58:TYR:CE2	1:F:135:ILE:HG21	2.46	0.51
1:A:608:LYS:HE3	1:A:611:GLY:HA2	1.93	0.51
1:F:334:THR:O	1:F:335:ILE:C	2.48	0.51
1:A:58:TYR:CE2	1:A:135:ILE:HG21	2.46	0.50
1:C:253:PRO:HB3	1:C:272:GLN:H	1.75	0.50
1:C:265:ILE:O	1:C:265:ILE:HG23	2.06	0.50
1:F:246:VAL:HG13	1:F:247:ALA:N	2.26	0.50
1:C:237:VAL:HG11	1:C:242:GLU:HB3	1.94	0.50
1:B:334:THR:HG22	1:B:335:ILE:N	2.26	0.50
1:E:443:THR:OG1	1:E:444:SER:N	2.43	0.50
1:F:66:TYR:HB2	1:F:69:LEU:HD13	1.93	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:252:TYR:CE1	1:B:254:VAL:HB	2.46	0.50
1:A:66:TYR:HB2	1:A:69:LEU:HD13	1.93	0.50
1:B:234:GLY:HA3	1:B:297:ILE:HA	1.93	0.50
1:A:246:VAL:HG13	1:A:247:ALA:N	2.26	0.50
1:B:298:VAL:HG13	1:B:300:ASN:H	1.77	0.50
1:D:237:VAL:HG11	1:D:242:GLU:HB3	1.94	0.50
1:E:252:TYR:CE1	1:E:254:VAL:HB	2.46	0.50
1:F:182:TRP:O	1:F:184:GLU:N	2.45	0.50
1:A:244:LYS:HG3	1:A:244:LYS:O	2.11	0.50
1:A:182:TRP:O	1:A:184:GLU:N	2.45	0.49
1:F:244:LYS:HG3	1:F:244:LYS:O	2.11	0.49
1:A:53:LEU:HB2	1:A:58:TYR:CE1	2.47	0.49
1:B:279:ALA:C	1:B:281:TYR:H	2.10	0.49
1:C:287:GLY:O	1:C:289:PRO:HD3	2.12	0.49
1:D:265:ILE:O	1:D:265:ILE:CG2	2.58	0.49
1:F:53:LEU:HB2	1:F:58:TYR:CE1	2.47	0.49
1:F:245:GLU:HA	1:F:248:ALA:HB3	1.94	0.49
1:E:257:LYS:HG3	1:E:258:PRO:N	2.27	0.49
1:A:108:ILE:CG2	1:A:109:ASN:N	2.76	0.49
1:A:245:GLU:HA	1:A:248:ALA:HB3	1.94	0.49
1:D:590:ASP:OD1	1:D:590:ASP:N	2.46	0.49
1:B:386:ILE:HG22	1:B:387:TYR:N	2.28	0.49
1:F:346:PRO:HB2	1:F:355:PRO:HG3	1.95	0.49
1:B:245:GLU:O	1:B:249:GLU:N	2.45	0.49
1:B:257:LYS:HG3	1:B:258:PRO:N	2.27	0.49
1:D:287:GLY:O	1:D:289:PRO:HD3	2.12	0.49
1:F:108:ILE:CG2	1:F:109:ASN:N	2.76	0.49
1:A:308:ARG:NH1	1:A:430:ASP:OD1	2.46	0.49
1:A:341:LYS:HA	1:A:344:PHE:CD2	2.48	0.49
1:A:521:ARG:HH12	1:A:561:ALA:HB2	1.77	0.49
1:B:299:GLU:O	1:B:299:GLU:HG2	2.13	0.49
1:E:386:ILE:HG22	1:E:387:TYR:N	2.28	0.49
1:E:245:GLU:O	1:E:249:GLU:N	2.45	0.48
1:E:299:GLU:O	1:E:299:GLU:HG2	2.13	0.48
1:E:232:PRO:HB3	1:E:298:VAL:HG12	1.95	0.48
1:F:521:ARG:HH12	1:F:561:ALA:HB2	1.77	0.48
1:E:298:VAL:HG13	1:E:300:ASN:H	1.77	0.48
1:F:308:ARG:NH1	1:F:430:ASP:OD1	2.46	0.48
1:E:233:GLN:H	1:E:298:VAL:HG11	1.78	0.48
1:A:76:SER:OG	1:A:79:GLU:OE1	2.32	0.48
1:D:257:LYS:HE3	1:D:297:ILE:HD13	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:232:PRO:HB3	1:B:298:VAL:HG12	1.95	0.48
1:C:594:ASP:OD1	1:C:594:ASP:N	2.47	0.48
1:F:301:SER:O	1:F:302:ILE:CG2	2.62	0.48
1:B:253:PRO:HA	1:B:256:VAL:HG23	1.96	0.48
1:F:341:LYS:HA	1:F:344:PHE:CD2	2.48	0.48
1:A:346:PRO:HB2	1:A:355:PRO:HG3	1.95	0.48
1:B:238:PHE:HA	1:B:293:LYS:HB3	1.96	0.48
1:E:238:PHE:HA	1:E:293:LYS:HB3	1.96	0.48
1:C:367:LEU:HD12	1:C:367:LEU:H	1.78	0.47
1:E:253:PRO:HA	1:E:256:VAL:HG23	1.96	0.47
1:F:18:ASP:CG	1:F:133:GLU:HG3	2.35	0.47
1:D:277:LEU:O	1:D:281:TYR:N	2.44	0.47
1:D:283:ARG:HA	1:D:286:ALA:HB3	1.97	0.47
1:A:363:GLU:O	1:A:366:HIS:HD2	1.98	0.47
1:C:257:LYS:HE3	1:C:297:ILE:HD13	1.95	0.47
1:F:132:PHE:O	1:F:135:ILE:HG22	2.14	0.47
1:F:242:GLU:HB3	1:F:246:VAL:HB	1.96	0.47
1:A:18:ASP:CG	1:A:133:GLU:HG3	2.35	0.47
1:C:178:ALA:HA	1:C:188:GLN:O	2.15	0.47
1:D:594:ASP:N	1:D:594:ASP:OD1	2.47	0.47
1:E:374:LEU:HB2	1:E:378:SER:HB2	1.97	0.47
1:C:283:ARG:HA	1:C:286:ALA:HB3	1.97	0.47
1:C:331:GLY:O	1:C:332:TYR:CD2	2.68	0.47
1:B:233:GLN:H	1:B:298:VAL:HG11	1.78	0.47
1:A:132:PHE:O	1:A:135:ILE:HG22	2.14	0.47
1:B:239:SER:O	1:B:240:LEU:C	2.53	0.47
1:D:331:GLY:O	1:D:332:TYR:CD2	2.68	0.47
1:D:367:LEU:H	1:D:367:LEU:HD12	1.78	0.47
1:E:256:VAL:HG22	1:E:298:VAL:HA	1.96	0.47
1:A:301:SER:O	1:A:302:ILE:CG2	2.62	0.47
1:C:255:ALA:HA	1:C:299:GLU:HB3	1.97	0.47
1:E:278:GLU:C	1:E:281:TYR:HB3	2.36	0.47
1:C:215:THR:HG22	1:C:215:THR:O	2.14	0.47
1:C:534:ASN:OD1	1:C:535:ARG:N	2.48	0.47
1:F:372:GLN:O	1:F:372:GLN:HG3	2.15	0.47
1:B:374:LEU:HB2	1:B:378:SER:HB2	1.97	0.46
1:D:178:ALA:HA	1:D:188:GLN:O	2.14	0.46
1:A:372:GLN:O	1:A:372:GLN:HG3	2.15	0.46
1:D:215:THR:O	1:D:215:THR:HG22	2.14	0.46
1:F:59:LEU:O	1:F:63:GLY:N	2.48	0.46
1:F:244:LYS:O	1:F:245:GLU:C	2.53	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:379:VAL:CG1	1:A:380:ILE:N	2.70	0.46
1:B:242:GLU:O	1:B:243:ALA:C	2.54	0.46
1:C:131:TRP:CD1	1:C:141:PHE:HE1	2.34	0.46
1:E:594:ASP:OD1	1:E:610:LYS:NZ	2.46	0.46
1:F:379:VAL:CG1	1:F:380:ILE:N	2.70	0.46
1:A:242:GLU:HB3	1:A:246:VAL:HB	1.96	0.46
1:A:368:TYR:O	1:A:371:GLU:HB2	2.16	0.46
1:D:131:TRP:CD1	1:D:141:PHE:HE1	2.33	0.46
1:A:59:LEU:O	1:A:63:GLY:N	2.48	0.46
1:E:11:ARG:HD3	1:E:14:ALA:HB2	1.98	0.46
1:F:188:GLN:NE2	1:F:190:GLY:O	2.44	0.46
1:F:363:GLU:O	1:F:366:HIS:HD2	1.98	0.46
1:A:244:LYS:O	1:A:245:GLU:C	2.53	0.46
1:B:11:ARG:HD3	1:B:14:ALA:HB2	1.98	0.46
1:D:534:ASN:OD1	1:D:535:ARG:N	2.48	0.46
1:B:542:LEU:HD12	1:B:568:PHE:CZ	2.50	0.46
1:E:542:LEU:HD12	1:E:568:PHE:CZ	2.50	0.46
1:B:256:VAL:HG22	1:B:298:VAL:HA	1.96	0.46
1:F:361:THR:O	1:F:362:ASP:C	2.54	0.46
1:B:257:LYS:CG	1:B:258:PRO:N	2.79	0.46
1:B:594:ASP:OD1	1:B:610:LYS:NZ	2.46	0.46
1:F:368:TYR:O	1:F:371:GLU:HB2	2.16	0.46
1:A:336:ALA:O	1:A:340:GLU:N	2.49	0.45
1:E:242:GLU:O	1:E:243:ALA:C	2.54	0.45
1:A:361:THR:O	1:A:362:ASP:C	2.54	0.45
1:D:274:GLU:O	1:D:277:LEU:HB2	2.16	0.45
1:E:239:SER:O	1:E:240:LEU:C	2.53	0.45
1:F:76:SER:OG	1:F:79:GLU:OE1	2.32	0.45
1:A:300:ASN:O	1:A:301:SER:HB3	2.16	0.45
1:B:278:GLU:C	1:B:281:TYR:HB3	2.36	0.45
1:E:257:LYS:CG	1:E:258:PRO:N	2.79	0.45
1:C:281:TYR:CZ	1:C:285:VAL:HG21	2.52	0.45
1:D:255:ALA:HA	1:D:299:GLU:HB3	1.97	0.45
1:F:300:ASN:O	1:F:301:SER:HB3	2.16	0.45
1:A:380:ILE:HG22	1:A:381:ASP:N	2.31	0.45
1:D:193:LYS:HE2	1:D:193:LYS:HB3	1.76	0.45
1:F:178:ALA:HA	1:F:188:GLN:O	2.17	0.45
1:A:11:ARG:HB3	1:A:14:ALA:HB2	1.99	0.45
1:E:331:GLY:HA2	1:E:379:VAL:HG13	1.99	0.45
1:F:336:ALA:O	1:F:340:GLU:N	2.49	0.45
1:F:250:ILE:HB	1:F:299:GLU:HB3	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:330:ASP:O	1:F:331:GLY:C	2.55	0.45
1:F:335:ILE:HG12	1:F:336:ALA:N	2.32	0.45
1:A:11:ARG:NH2	1:A:18:ASP:OD2	2.50	0.45
1:C:274:GLU:O	1:C:277:LEU:HB2	2.16	0.45
1:C:473:ARG:HD3	1:C:473:ARG:HA	1.88	0.45
1:D:226:GLU:O	1:D:227:LEU:HD12	2.17	0.45
1:F:69:LEU:HD11	1:F:87:GLU:HG3	1.99	0.45
1:A:178:ALA:HA	1:A:188:GLN:O	2.17	0.45
1:F:375:ASP:HB2	1:F:378:SER:HB2	1.99	0.45
1:F:380:ILE:HG22	1:F:381:ASP:N	2.31	0.45
1:B:178:ALA:HA	1:B:188:GLN:O	2.17	0.44
1:E:89:ASN:O	1:E:89:ASN:ND2	2.48	0.44
1:F:11:ARG:HB3	1:F:14:ALA:HB2	1.99	0.44
1:A:188:GLN:NE2	1:A:190:GLY:O	2.44	0.44
1:D:281:TYR:CZ	1:D:285:VAL:HG21	2.52	0.44
1:E:298:VAL:HG13	1:E:299:GLU:N	2.33	0.44
1:A:250:ILE:HB	1:A:299:GLU:HB3	1.99	0.44
1:A:296:ILE:HD12	1:A:296:ILE:HA	1.91	0.44
1:A:330:ASP:O	1:A:331:GLY:C	2.55	0.44
1:C:226:GLU:O	1:C:227:LEU:HD12	2.17	0.44
1:A:375:ASP:HB2	1:A:378:SER:HB2	1.99	0.44
1:A:102:VAL:HG22	1:A:111:ILE:HG12	1.99	0.44
1:E:178:ALA:HA	1:E:188:GLN:O	2.17	0.44
1:F:11:ARG:NH2	1:F:18:ASP:OD2	2.50	0.44
1:A:64:ASP:O	1:A:66:TYR:N	2.51	0.44
1:A:69:LEU:HD11	1:A:87:GLU:HG3	1.99	0.44
1:B:298:VAL:HG13	1:B:299:GLU:N	2.33	0.44
1:B:331:GLY:HA2	1:B:379:VAL:HG13	1.99	0.44
1:C:265:ILE:O	1:C:265:ILE:CG2	2.58	0.44
1:F:64:ASP:O	1:F:66:TYR:N	2.51	0.44
1:F:102:VAL:HG22	1:F:111:ILE:HG12	1.99	0.44
1:B:287:GLY:C	1:B:288:ILE:HG13	2.39	0.44
1:F:15:ARG:C	1:F:16:THR:HG1	2.22	0.44
1:C:8:GLU:HB3	1:C:9:PRO:CD	2.48	0.43
1:D:379:VAL:O	1:D:379:VAL:HG23	2.18	0.43
1:B:288:ILE:O	1:B:289:PRO:C	2.57	0.43
1:B:295:CYS:HB3	1:B:296:ILE:H	1.56	0.43
1:C:274:GLU:HA	1:C:277:LEU:HD12	2.00	0.43
1:D:242:GLU:O	1:D:243:ALA:C	2.57	0.43
1:F:334:THR:O	1:F:337:GLU:N	2.51	0.43
1:F:85:VAL:HG11	1:F:113:ILE:HD13	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:134:PHE:HD2	1:F:140:GLU:O	2.01	0.43
1:B:386:ILE:CG2	1:B:387:TYR:N	2.82	0.43
1:E:287:GLY:C	1:E:288:ILE:HG13	2.39	0.43
1:E:288:ILE:O	1:E:289:PRO:C	2.57	0.43
1:A:334:THR:O	1:A:337:GLU:N	2.51	0.43
1:D:256:VAL:O	1:D:297:ILE:HA	2.19	0.43
1:C:629:LEU:HD23	1:C:629:LEU:HA	1.89	0.43
1:A:134:PHE:HD2	1:A:140:GLU:O	2.01	0.43
1:C:274:GLU:HA	1:C:277:LEU:CG	2.49	0.43
1:C:542:LEU:HD12	1:C:568:PHE:CZ	2.54	0.43
1:D:256:VAL:CG1	1:D:257:LYS:N	2.82	0.43
1:D:274:GLU:HA	1:D:277:LEU:HD12	2.00	0.43
1:E:8:GLU:C	1:E:10:VAL:H	2.21	0.43
1:E:461:LYS:HE3	1:E:461:LYS:HB2	1.90	0.43
1:A:59:LEU:O	1:A:60:ALA:C	2.58	0.43
1:C:217:LYS:H	1:C:217:LYS:HG2	1.65	0.43
1:B:89:ASN:O	1:B:89:ASN:ND2	2.48	0.42
1:C:379:VAL:O	1:C:379:VAL:HG23	2.18	0.42
1:D:8:GLU:HB3	1:D:9:PRO:CD	2.48	0.42
1:D:542:LEU:HD12	1:D:568:PHE:CZ	2.54	0.42
1:E:387:TYR:O	1:E:388:LEU:HB2	2.19	0.42
1:F:59:LEU:O	1:F:60:ALA:C	2.58	0.42
1:F:135:ILE:HG12	1:F:135:ILE:O	2.19	0.42
1:D:226:GLU:C	1:D:227:LEU:HD12	2.40	0.42
1:D:348:ARG:NH1	1:D:357:GLY:O	2.52	0.42
1:C:256:VAL:CG1	1:C:257:LYS:N	2.82	0.42
1:A:242:GLU:O	1:A:244:LYS:N	2.53	0.42
1:A:250:ILE:HG22	1:A:251:TYR:HD2	1.85	0.42
1:A:625:GLU:HA	1:A:628:TYR:CE2	2.55	0.42
1:B:8:GLU:C	1:B:10:VAL:H	2.21	0.42
1:C:256:VAL:O	1:C:297:ILE:HA	2.19	0.42
1:C:271:VAL:O	1:C:272:GLN:HG2	2.19	0.42
1:C:226:GLU:C	1:C:227:LEU:HD12	2.40	0.42
1:D:256:VAL:HG12	1:D:257:LYS:N	2.35	0.42
1:F:250:ILE:HG22	1:F:251:TYR:HD2	1.85	0.42
1:A:79:GLU:OE1	1:A:79:GLU:N	2.52	0.42
1:D:271:VAL:O	1:D:272:GLN:HG2	2.19	0.42
1:D:334:THR:HA	1:D:377:ASP:HA	2.02	0.42
1:E:287:GLY:O	1:E:288:ILE:C	2.58	0.42
1:E:386:ILE:CG2	1:E:387:TYR:N	2.82	0.42
1:C:242:GLU:O	1:C:243:ALA:C	2.57	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:292:GLU:O	1:C:293:LYS:C	2.58	0.42
1:C:547:ASN:HA	1:C:548:PRO:HD3	1.93	0.42
1:A:341:LYS:O	1:A:344:PHE:HB2	2.20	0.42
1:B:278:GLU:O	1:B:281:TYR:HB3	2.20	0.42
1:A:85:VAL:HG11	1:A:113:ILE:HD13	2.00	0.42
1:E:8:GLU:HG3	1:E:10:VAL:CG2	2.50	0.42
1:E:44:PHE:HD1	1:E:44:PHE:HA	1.73	0.42
1:E:155:ARG:HD3	1:E:155:ARG:HA	1.91	0.42
1:C:325:ALA:HB2	1:C:397:GLY:O	2.20	0.42
1:D:547:ASN:HA	1:D:548:PRO:HD3	1.93	0.42
1:F:18:ASP:O	1:F:19:VAL:C	2.58	0.42
1:F:625:GLU:HA	1:F:628:TYR:CE2	2.55	0.42
1:D:274:GLU:HA	1:D:277:LEU:CG	2.49	0.41
1:D:473:ARG:HD3	1:D:473:ARG:HA	1.88	0.41
1:F:327:VAL:HG11	1:F:339:ILE:HG12	2.02	0.41
1:A:335:ILE:HG12	1:A:336:ALA:N	2.32	0.41
1:A:365:MET:O	1:A:368:TYR:HB3	2.21	0.41
1:B:8:GLU:HG3	1:B:10:VAL:CG2	2.50	0.41
1:C:298:VAL:O	1:C:299:GLU:HB2	2.20	0.41
1:C:348:ARG:NH1	1:C:357:GLY:O	2.52	0.41
1:D:325:ALA:HB2	1:D:397:GLY:O	2.20	0.41
1:F:242:GLU:O	1:F:244:LYS:N	2.53	0.41
1:B:287:GLY:O	1:B:288:ILE:C	2.58	0.41
1:D:212:ASP:HB2	2:G:1:7ID:NH2	2.36	0.41
1:F:297:ILE:HG13	1:F:298:VAL:HG23	2.03	0.41
1:F:341:LYS:O	1:F:344:PHE:HB2	2.20	0.41
1:A:363:GLU:O	1:A:366:HIS:CD2	2.74	0.41
1:B:286:ALA:O	1:B:289:PRO:HD3	2.21	0.41
1:C:334:THR:HA	1:C:377:ASP:HA	2.02	0.41
1:E:286:ALA:O	1:E:289:PRO:HD3	2.21	0.41
1:F:363:GLU:O	1:F:366:HIS:CD2	2.74	0.41
1:A:135:ILE:HG12	1:A:135:ILE:O	2.19	0.41
1:B:44:PHE:HD1	1:B:44:PHE:HA	1.73	0.41
1:B:387:TYR:O	1:B:388:LEU:HB2	2.19	0.41
1:F:296:ILE:HD12	1:F:296:ILE:HA	1.91	0.41
1:F:494:ARG:NH2	1:F:496:SER:OG	2.54	0.41
1:B:348:ARG:HD3	1:B:359:ILE:HG13	2.02	0.41
1:E:278:GLU:O	1:E:281:TYR:HB3	2.20	0.41
1:D:43:ASP:OD1	1:D:110:ARG:HG2	2.20	0.41
1:D:292:GLU:O	1:D:293:LYS:C	2.58	0.41
1:E:348:ARG:HD3	1:E:359:ILE:HG13	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:98:LYS:HE2	1:C:98:LYS:HB3	1.90	0.41
1:C:43:ASP:OD1	1:C:110:ARG:HG2	2.20	0.40
1:C:242:GLU:C	1:C:244:LYS:N	2.74	0.40
1:C:277:LEU:O	1:C:281:TYR:N	2.44	0.40
1:D:217:LYS:H	1:D:217:LYS:HG2	1.65	0.40
1:F:323:LYS:HA	1:F:324:PRO:HD3	1.94	0.40
1:F:366:HIS:CE1	1:F:367:LEU:HG	2.56	0.40
1:F:379:VAL:C	1:F:380:ILE:HG13	2.41	0.40
1:A:18:ASP:O	1:A:19:VAL:C	2.58	0.40
1:A:327:VAL:HG11	1:A:339:ILE:HG12	2.02	0.40
1:A:341:LYS:HG2	1:A:344:PHE:CE2	2.57	0.40
1:B:283:ARG:O	1:B:283:ARG:HG3	2.21	0.40
1:C:212:ASP:HB2	2:H:1:7ID:NH2	2.36	0.40
1:F:33:PRO:HA	1:F:586:ILE:HD12	2.03	0.40
1:A:33:PRO:HA	1:A:586:ILE:HD12	2.03	0.40
1:A:297:ILE:HG13	1:A:298:VAL:HG23	2.03	0.40
1:A:366:HIS:CE1	1:A:367:LEU:HG	2.57	0.40
1:A:379:VAL:C	1:A:380:ILE:HG13	2.41	0.40
1:C:256:VAL:HG12	1:C:257:LYS:N	2.35	0.40
1:D:298:VAL:O	1:D:299:GLU:HB2	2.20	0.40
1:D:242:GLU:O	1:D:244:LYS:N	2.55	0.40
1:D:242:GLU:C	1:D:244:LYS:N	2.74	0.40
1:E:191:TYR:HD1	1:E:191:TYR:HA	1.69	0.40
1:F:341:LYS:HG2	1:F:344:PHE:CE2	2.57	0.40
1:A:335:ILE:HG23	1:A:337:GLU:H	1.86	0.40
1:D:256:VAL:HG12	1:D:258:PRO:HD3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	586/642 (91%)	537 (92%)	43 (7%)	6 (1%)	13	33
1	B	611/642 (95%)	564 (92%)	40 (6%)	7 (1%)	12	30
1	C	628/642 (98%)	579 (92%)	46 (7%)	3 (0%)	25	49
1	D	628/642 (98%)	580 (92%)	45 (7%)	3 (0%)	25	49
1	E	611/642 (95%)	564 (92%)	41 (7%)	6 (1%)	13	33
1	F	586/642 (91%)	537 (92%)	43 (7%)	6 (1%)	13	33
All	All	3650/3852 (95%)	3361 (92%)	258 (7%)	31 (1%)	19	38

All (31) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	258	PRO
1	B	285	VAL
1	C	289	PRO
1	D	289	PRO
1	E	258	PRO
1	E	285	VAL
1	A	335	ILE
1	A	346	PRO
1	F	335	ILE
1	F	346	PRO
1	A	16	THR
1	A	65	ARG
1	C	268	THR
1	D	268	THR
1	F	16	THR
1	F	65	ARG
1	A	357	GLY
1	B	282	ASP
1	E	282	ASP
1	F	357	GLY
1	B	256	VAL
1	C	328	VAL
1	D	328	VAL
1	E	256	VAL
1	B	259	VAL
1	E	259	VAL
1	A	355	PRO
1	F	355	PRO
1	B	232	PRO
1	B	297	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	E	232	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	520/558 (93%)	503 (97%)	17 (3%)	33	62
1	B	535/558 (96%)	512 (96%)	23 (4%)	25	52
1	C	547/558 (98%)	537 (98%)	10 (2%)	54	80
1	D	547/558 (98%)	537 (98%)	10 (2%)	54	80
1	E	535/558 (96%)	512 (96%)	23 (4%)	25	52
1	F	520/558 (93%)	503 (97%)	17 (3%)	33	62
All	All	3204/3348 (96%)	3104 (97%)	100 (3%)	37	64

All (100) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	ARG
1	A	59	LEU
1	A	130	ASP
1	A	132	PHE
1	A	141	PHE
1	A	194	GLN
1	A	281	TYR
1	A	327	VAL
1	A	328	VAL
1	A	330	ASP
1	A	394	LEU
1	A	399	PHE
1	A	473	ARG
1	A	494	ARG
1	A	538	ASN
1	A	546	ARG
1	A	556	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	8	GLU
1	B	11	ARG
1	B	44	PHE
1	B	46	PHE
1	B	89	ASN
1	B	132	PHE
1	B	191	TYR
1	B	227	LEU
1	B	236	VAL
1	B	239	SER
1	B	240	LEU
1	B	254	VAL
1	B	285	VAL
1	B	288	ILE
1	B	295	CYS
1	B	297	ILE
1	B	298	VAL
1	B	306	ASP
1	B	330	ASP
1	B	475	LEU
1	B	505	ASP
1	B	525	LEU
1	B	589	ARG
1	C	141	PHE
1	C	218	ASP
1	C	274	GLU
1	C	292	GLU
1	C	294	ILE
1	C	295	CYS
1	C	297	ILE
1	C	333	SER
1	C	473	ARG
1	C	538	ASN
1	D	141	PHE
1	D	218	ASP
1	D	274	GLU
1	D	292	GLU
1	D	294	ILE
1	D	295	CYS
1	D	297	ILE
1	D	333	SER
1	D	473	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	538	ASN
1	E	8	GLU
1	E	11	ARG
1	E	44	PHE
1	E	46	PHE
1	E	89	ASN
1	E	132	PHE
1	E	191	TYR
1	E	227	LEU
1	E	236	VAL
1	E	239	SER
1	E	240	LEU
1	E	254	VAL
1	E	285	VAL
1	E	288	ILE
1	E	295	CYS
1	E	297	ILE
1	E	298	VAL
1	E	306	ASP
1	E	330	ASP
1	E	475	LEU
1	E	505	ASP
1	E	525	LEU
1	E	589	ARG
1	F	11	ARG
1	F	59	LEU
1	F	130	ASP
1	F	132	PHE
1	F	141	PHE
1	F	194	GLN
1	F	281	TYR
1	F	327	VAL
1	F	328	VAL
1	F	330	ASP
1	F	394	LEU
1	F	399	PHE
1	F	473	ARG
1	F	494	ARG
1	F	538	ASN
1	F	546	ARG
1	F	556	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such

sidechains are listed below:

Mol	Chain	Res	Type
1	A	366	HIS
1	B	416	GLN
1	C	208	HIS
1	C	416	GLN
1	D	416	GLN
1	E	416	GLN
1	F	366	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

6 non-standard protein/DNA/RNA residues 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	$\#|Z| > 2$
2	7ID	G	1	2	17,18,19	0.60	0	16,22,24	0.77	0
2	7ID	H	3	2	17,18,19	0.62	0	16,22,24	0.73	0
2	7ID	H	2	2	17,18,19	0.62	0	16,22,24	0.64	0
2	7ID	G	2	2	17,18,19	0.62	0	16,22,24	0.64	0
2	7ID	G	3	2	17,18,19	0.62	0	16,22,24	0.73	0
2	7ID	H	1	2	17,18,19	0.60	0	16,22,24	0.77	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
2	7ID	G	1	2	-	9/20/21/23	-
2	7ID	H	3	2	-	5/20/21/23	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	7ID	H	2	2	-	14/20/21/23	-
2	7ID	G	2	2	-	14/20/21/23	-
2	7ID	G	3	2	-	5/20/21/23	-
2	7ID	H	1	2	-	9/20/21/23	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (56) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	G	1	7ID	C-CA-CB-CG
2	G	1	7ID	O-C-CA-CB
2	G	1	7ID	NH1-CZ2-NE2-CD2
2	G	1	7ID	NH2-CZ2-NE2-CD2
2	H	1	7ID	C-CA-CB-CG
2	H	1	7ID	O-C-CA-CB
2	H	1	7ID	NH1-CZ2-NE2-CD2
2	H	1	7ID	NH2-CZ2-NE2-CD2
2	G	2	7ID	C-CA-CB-CG
2	G	2	7ID	CB-CG-N2-CA2
2	G	2	7ID	OD1-CG-N2-CA2
2	G	2	7ID	CG2-CD2-NE2-CZ2
2	G	2	7ID	NH1-CZ2-NE2-CD2
2	G	2	7ID	NH2-CZ2-NE2-CD2
2	H	2	7ID	C-CA-CB-CG
2	H	2	7ID	CB-CG-N2-CA2
2	H	2	7ID	OD1-CG-N2-CA2
2	H	2	7ID	CG2-CD2-NE2-CZ2
2	H	2	7ID	NH1-CZ2-NE2-CD2
2	H	2	7ID	NH2-CZ2-NE2-CD2
2	G	3	7ID	O-C-CA-CB
2	G	3	7ID	NH1-CZ2-NE2-CD2
2	G	3	7ID	NH2-CZ2-NE2-CD2
2	H	3	7ID	O-C-CA-CB
2	H	3	7ID	NH1-CZ2-NE2-CD2
2	H	3	7ID	NH2-CZ2-NE2-CD2
2	G	1	7ID	N2-CA2-CB2-CG2
2	H	1	7ID	N2-CA2-CB2-CG2
2	G	2	7ID	N2-CA2-CB2-CG2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
2	H	2	7ID	N2-CA2-CB2-CG2
2	G	1	7ID	CO2-CA2-CB2-CG2
2	H	1	7ID	CO2-CA2-CB2-CG2
2	G	1	7ID	NE2-CD2-CG2-CB2
2	H	1	7ID	NE2-CD2-CG2-CB2
2	G	2	7ID	CO2-CA2-CB2-CG2
2	H	2	7ID	CO2-CA2-CB2-CG2
2	G	1	7ID	CA2-CB2-CG2-CD2
2	H	1	7ID	CA2-CB2-CG2-CD2
2	G	2	7ID	N2-CA2-CO2-O2
2	G	2	7ID	N2-CA2-CO2-OX2
2	H	2	7ID	N2-CA2-CO2-O2
2	H	2	7ID	N2-CA2-CO2-OX2
2	G	1	7ID	N-CA-CB-CG
2	H	1	7ID	N-CA-CB-CG
2	G	2	7ID	N-CA-CB-CG
2	H	2	7ID	N-CA-CB-CG
2	G	3	7ID	CA2-CB2-CG2-CD2
2	H	3	7ID	CA2-CB2-CG2-CD2
2	G	2	7ID	NE2-CD2-CG2-CB2
2	H	2	7ID	NE2-CD2-CG2-CB2
2	G	2	7ID	CA2-CB2-CG2-CD2
2	H	2	7ID	CA2-CB2-CG2-CD2
2	G	3	7ID	N2-CA2-CO2-O2
2	H	3	7ID	N2-CA2-CO2-O2
2	G	2	7ID	CO2-CA2-N2-CG
2	H	2	7ID	CO2-CA2-N2-CG

There are no ring outliers.

4 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	G	1	7ID	2	0
2	H	2	7ID	3	0
2	G	2	7ID	3	0
2	H	1	7ID	2	0

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 6 ligands modelled in this entry, 4 are monoatomic - leaving 2 for Mogul analysis.

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	ACP	D	701	4	27,33,33	0.95	1 (3%)	33,52,52	0.87	2 (6%)
3	YHZ	C	701	4	28,31,31	8.51	3 (10%)	35,47,47	2.77	5 (14%)

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	ACP	D	701	4	-	5/15/38/38	0/3/3/3
3	YHZ	C	701	4	-	8/20/39/39	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	701	YHZ	C8-C1'	44.14	2.52	1.52
3	C	701	YHZ	C8-N7	-7.59	1.31	1.45
5	D	701	ACP	PB-O2B	-2.34	1.50	1.56
3	C	701	YHZ	PB-O2B	-2.34	1.50	1.56

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	701	YHZ	C1'-C8-N7	14.46	141.12	112.99
3	C	701	YHZ	C6-C5-N7	4.26	132.21	120.58
3	C	701	YHZ	C4-N3-C2	-4.10	110.96	115.80
5	D	701	ACP	O1G-PG-C3B	-2.34	106.27	111.37
3	C	701	YHZ	O1G-PG-C3B	-2.33	106.30	111.37
5	D	701	ACP	C5-C6-N6	2.32	123.85	120.31
3	C	701	YHZ	C5-C4-N3	2.08	126.44	122.04

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	701	YHZ	C2'-C1'-C8-N7
3	C	701	YHZ	C1'-C8-N7-C5
3	C	701	YHZ	O4'-C4'-C5'-O5'
5	D	701	ACP	O4'-C4'-C5'-O5'
3	C	701	YHZ	C3'-C4'-C5'-O5'
5	D	701	ACP	C3'-C4'-C5'-O5'
3	C	701	YHZ	O4'-C1'-C8-N7
3	C	701	YHZ	C5'-O5'-PA-O1A
3	C	701	YHZ	C5'-O5'-PA-O2A
3	C	701	YHZ	C5'-O5'-PA-O3A
5	D	701	ACP	C5'-O5'-PA-O1A
5	D	701	ACP	C5'-O5'-PA-O2A
5	D	701	ACP	C5'-O5'-PA-O3A

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	701	YHZ	2	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 ACP D 701	
Bond lengths	Bond angles
Torsions	Rings

Ligand YHZ C 701	
Bond lengths	Bond angles
Torsions	Rings
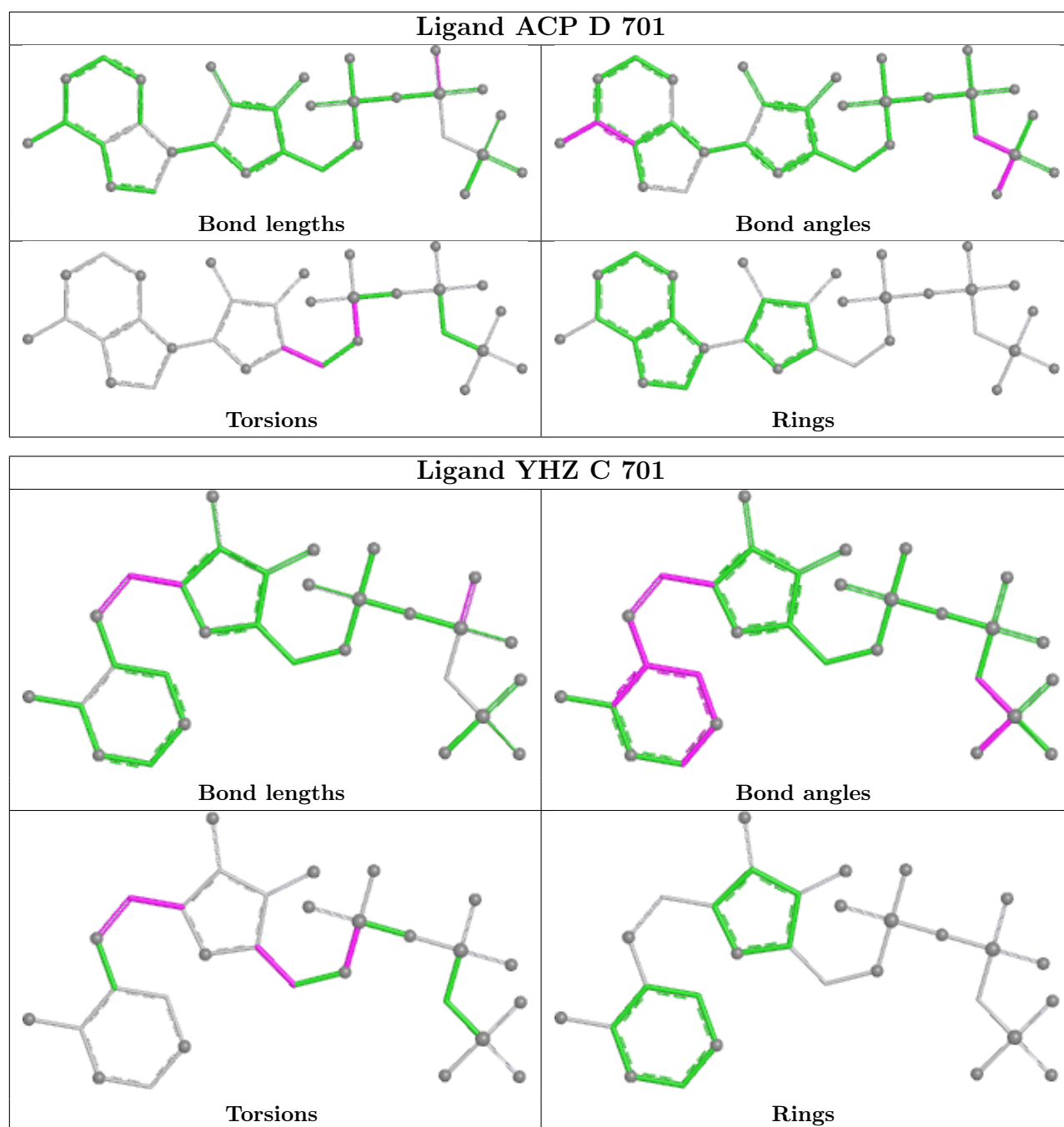
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	B	5
1	E	5
1	C	4
1	D	4
1	A	3
1	F	3

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	256:VAL	C	257:LYS	N	1.60
1	E	256:VAL	C	257:LYS	N	1.60
1	A	233:GLN	C	234:GLY	N	1.20
1	C	327:VAL	C	328:VAL	N	1.20
1	D	327:VAL	C	328:VAL	N	1.20
1	F	233:GLN	C	234:GLY	N	1.20
1	C	252:TYR	C	253:PRO	N	1.19
1	D	252:TYR	C	253:PRO	N	1.19
1	C	253:PRO	C	254:VAL	N	1.18
1	D	253:PRO	C	254:VAL	N	1.18
1	B	523:GLY	C	524:ILE	N	1.17
1	E	523:GLY	C	524:ILE	N	1.17
1	B	387:TYR	C	388:LEU	N	1.15
1	E	387:TYR	C	388:LEU	N	1.15
1	A	18:ASP	C	19:VAL	N	1.12
1	A	240:LEU	C	241:ALA	N	1.12
1	F	18:ASP	C	19:VAL	N	1.12
1	F	240:LEU	C	241:ALA	N	1.12
1	B	326:TYR	C	327:VAL	N	1.11
1	E	326:TYR	C	327:VAL	N	1.11
1	C	7:VAL	C	8:GLU	N	1.08
1	D	7:VAL	C	8:GLU	N	1.08
1	B	327:VAL	C	328:VAL	N	1.05
1	E	327:VAL	C	328:VAL	N	1.05

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-29534. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections ⓘ
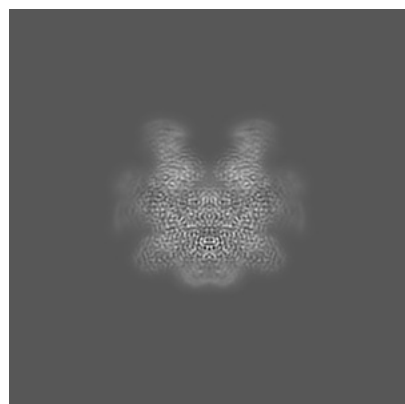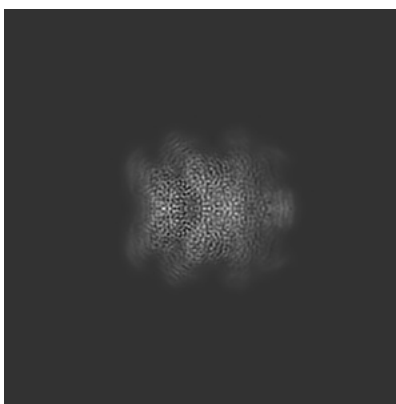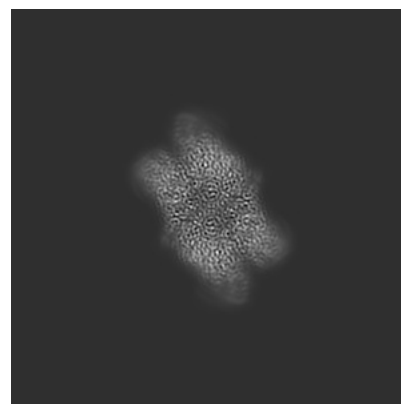
6.1.1 Primary map

X Y Z

6.1.2 Raw map

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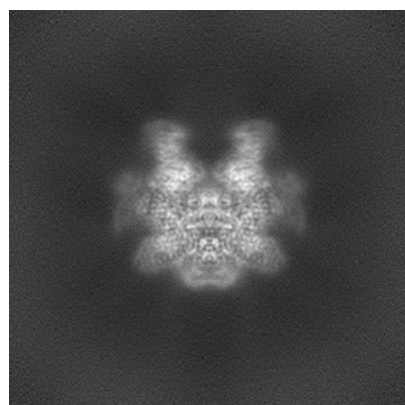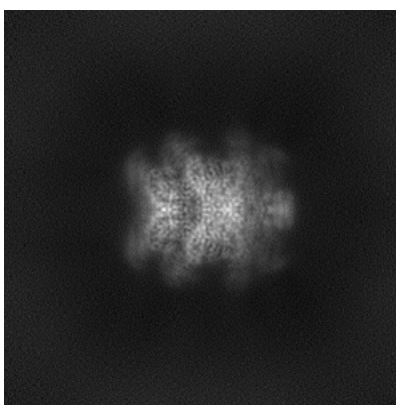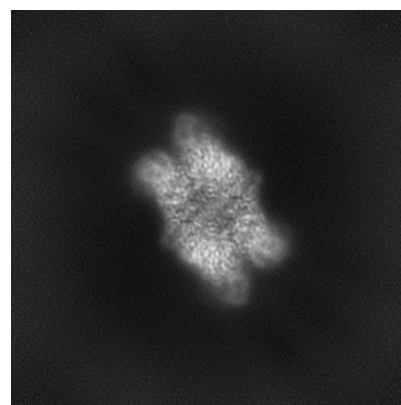
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

6.2.1 Primary map
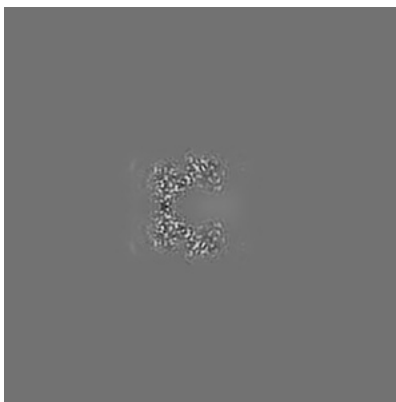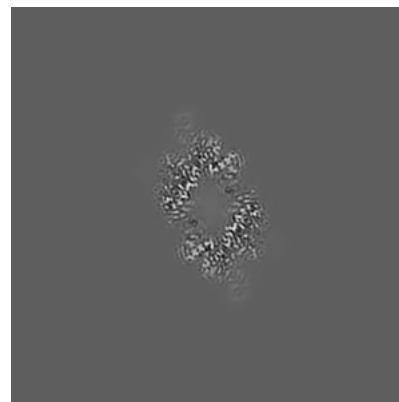
X Index: 256   Y Index: 256   Z Index: 256

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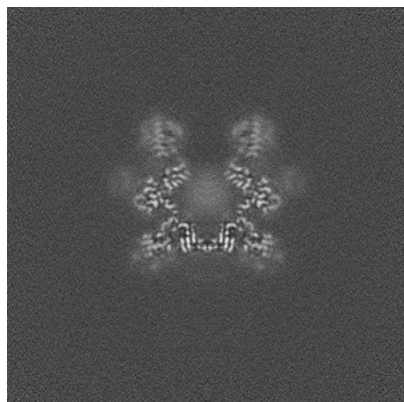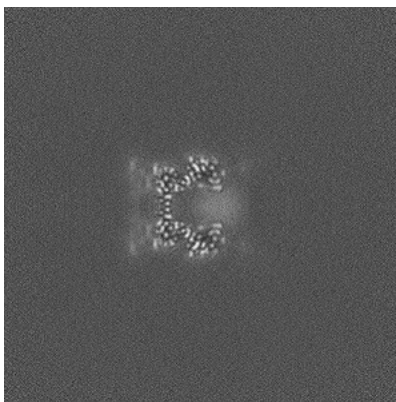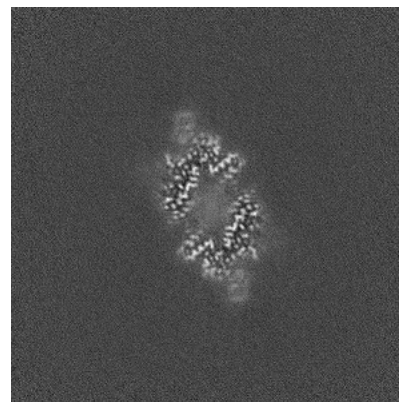
X Index: 256   Y Index: 256   Z Index: 256

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: 256	Y Index: 280	Z Index: 213
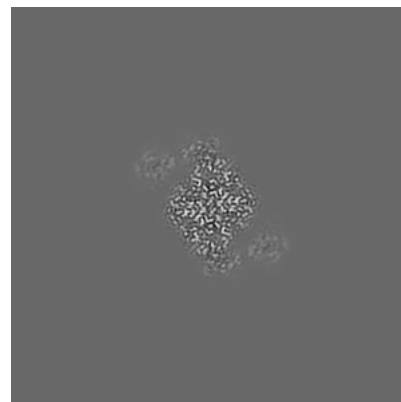
6.3.2　Raw map
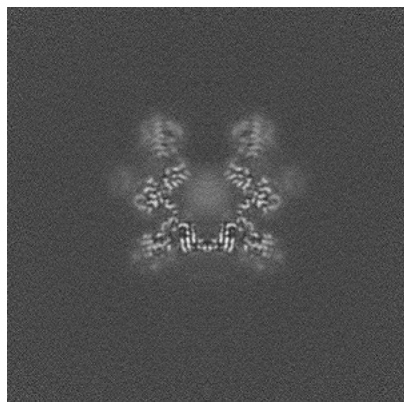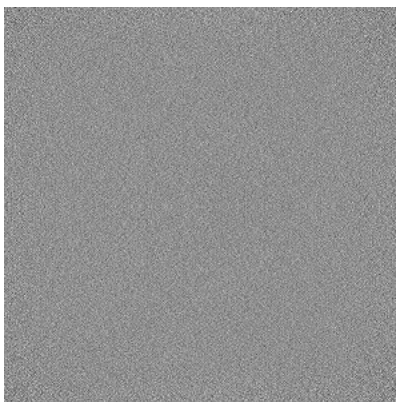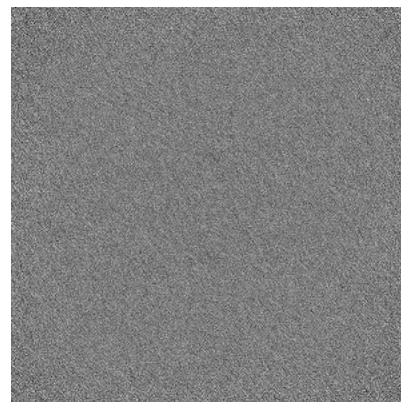
X Index: 256	Y Index: 0	Z Index: 0

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
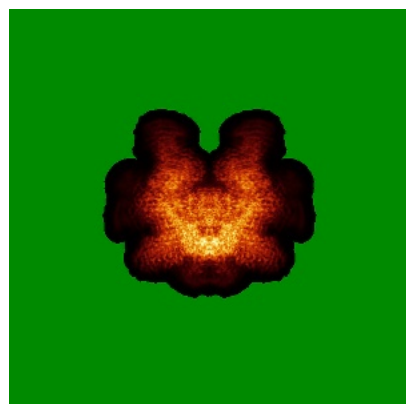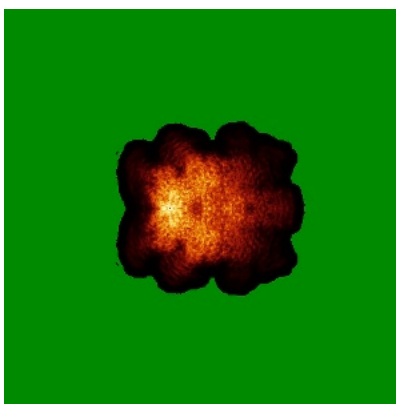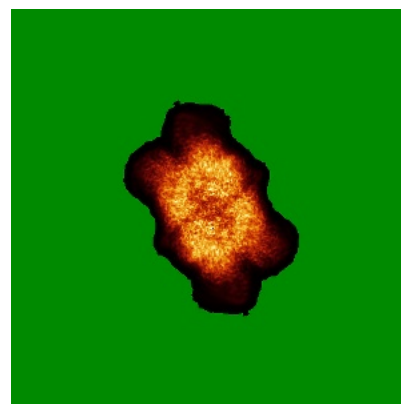
X	Y	Z

6.4.2 Raw map

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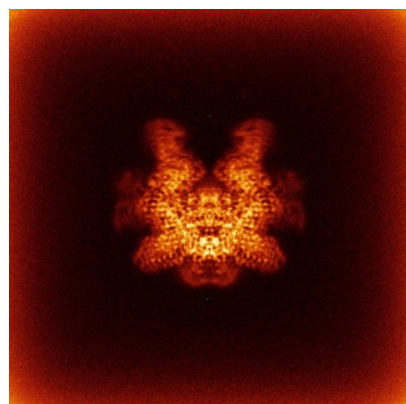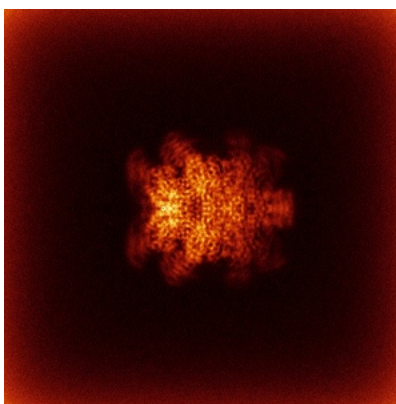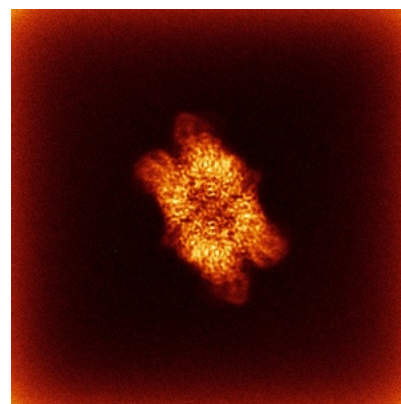
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X   Y   Z
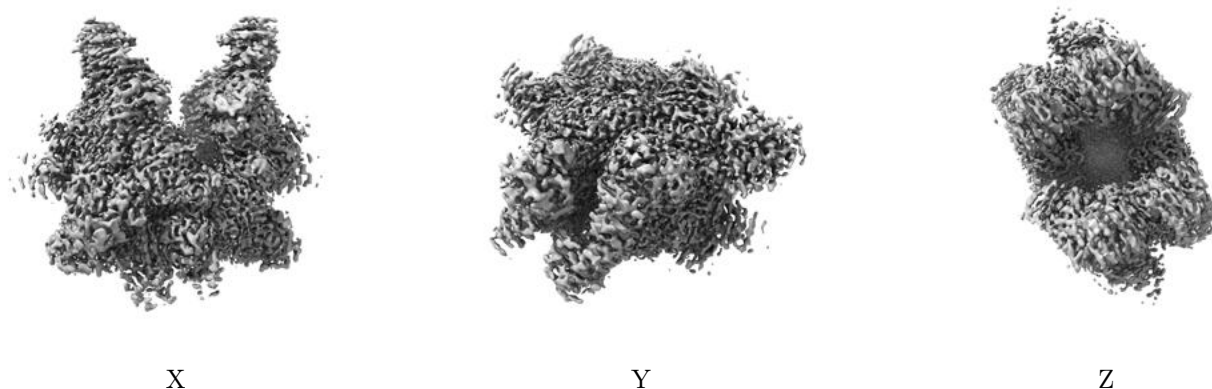
The images above show the 3D surface view of the map at the recommended contour level 0.165. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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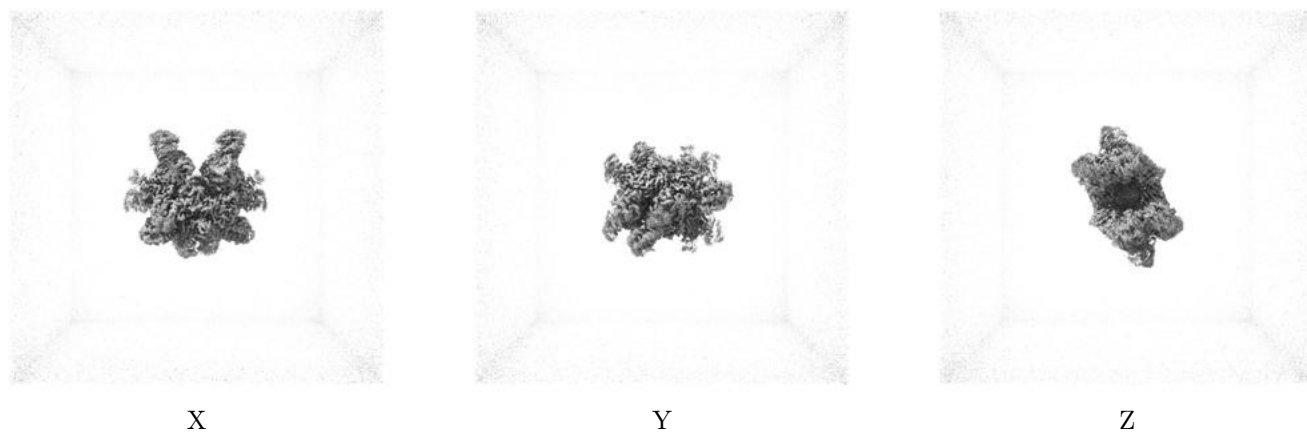
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

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_29534_msk_1.map ⓘ

X   Y   Z
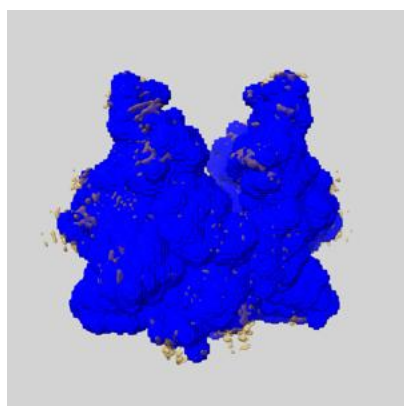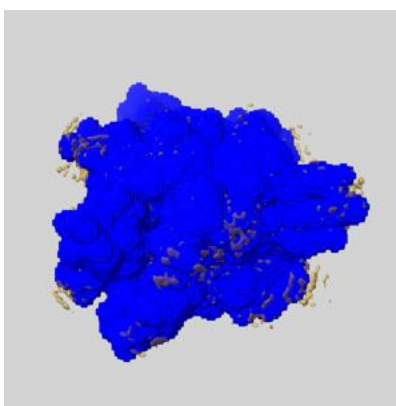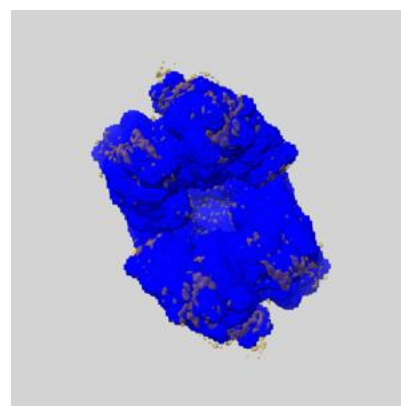
7 Map analysis ⓘ

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 (i)
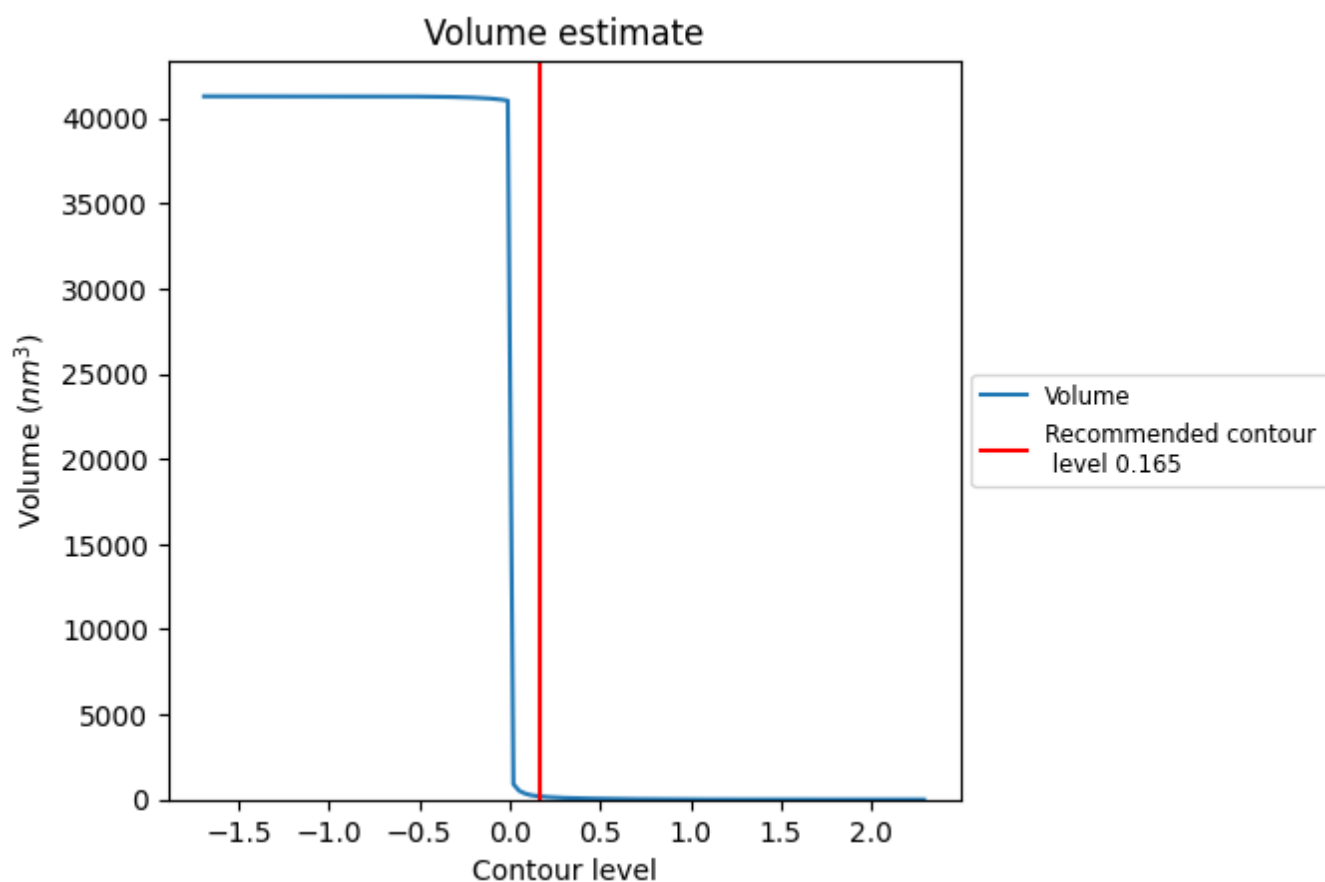
The volume at the recommended contour level is 188 nm^3; this corresponds to an approximate mass of 170 kDa.

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 ⓘ
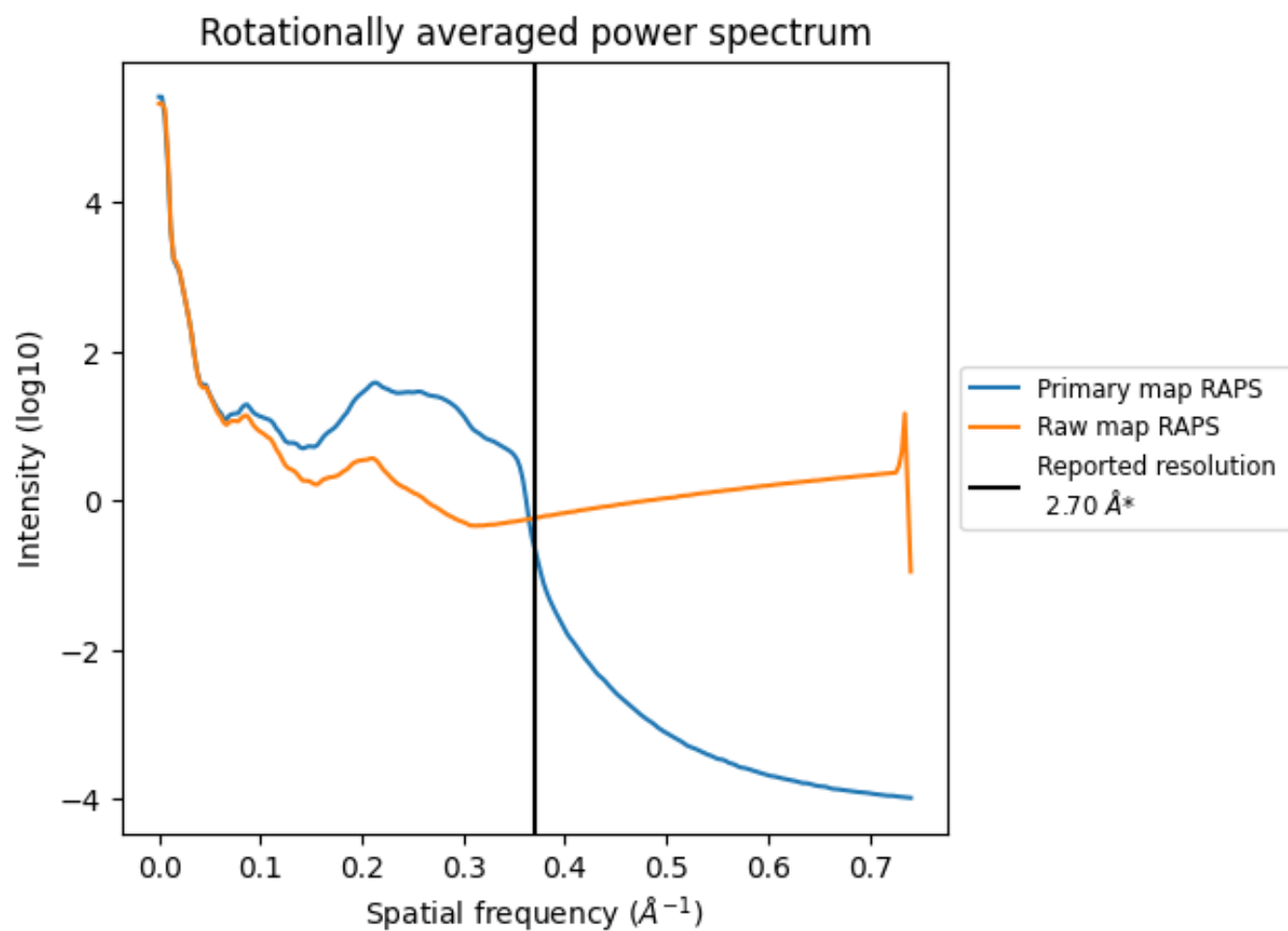
*Reported resolution corresponds to spatial frequency of 0.370 Å^{-1}

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 ⓘ
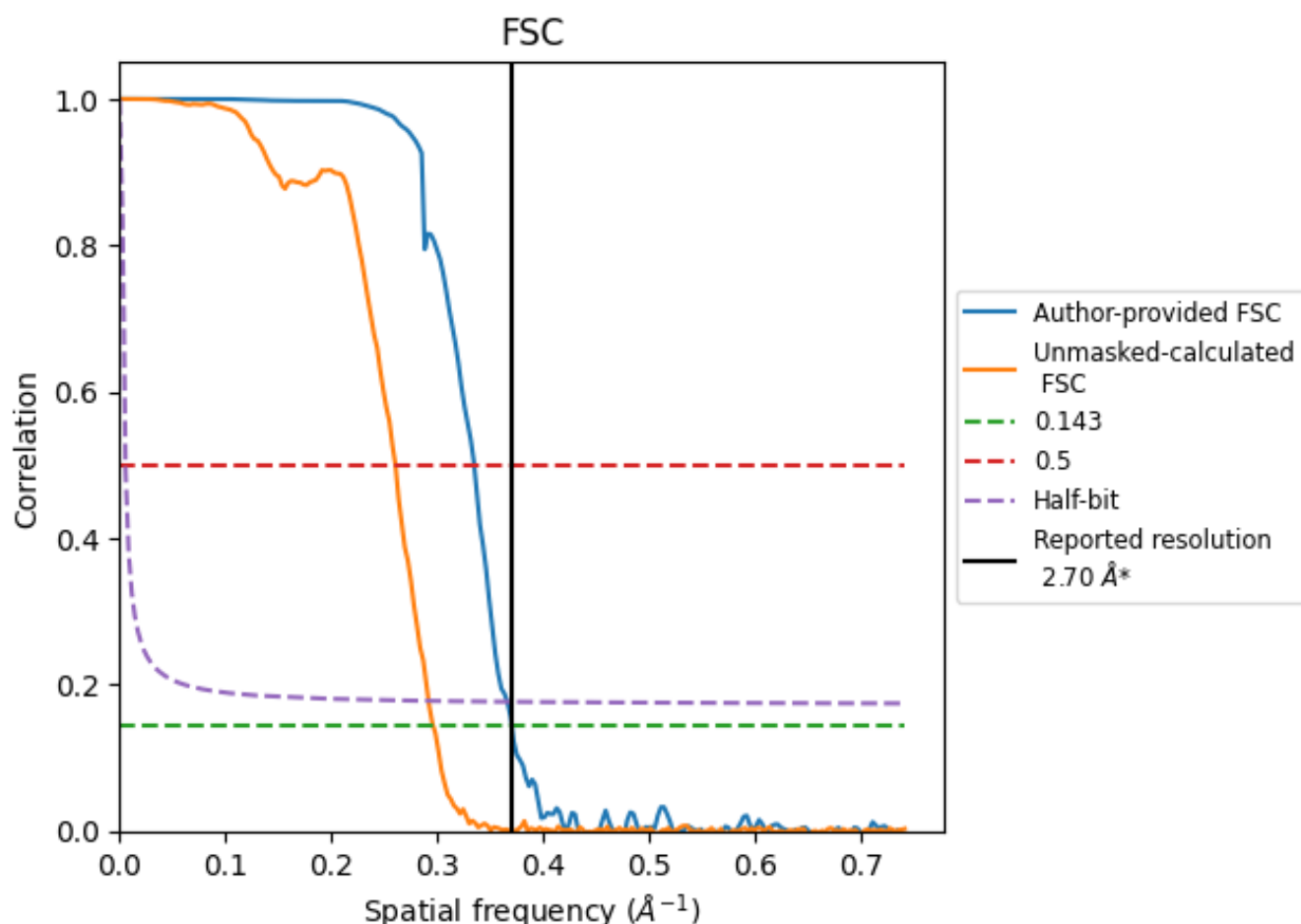
*Reported resolution corresponds to spatial frequency of 0.370 Å^{-1}

8.2 Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.70	-	-
Author-provided FSC curve	2.70	2.99	2.73
Unmasked-calculated*	3.38	3.84	3.43

*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 3.38 differs from the reported value 2.7 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-29534 and PDB model 8FXI. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay ⓘ
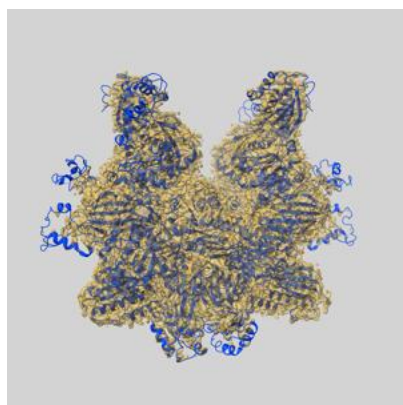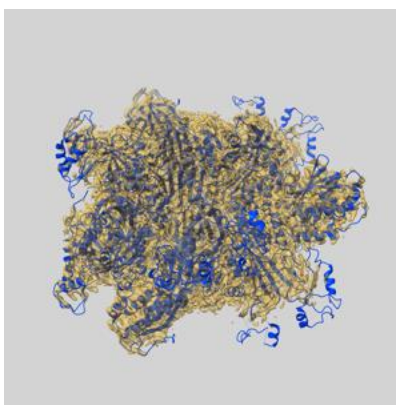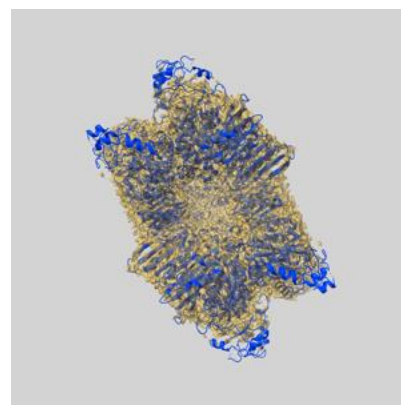
X   Y   Z

The images above show the 3D surface view of the map at the recommended contour level 0.165 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
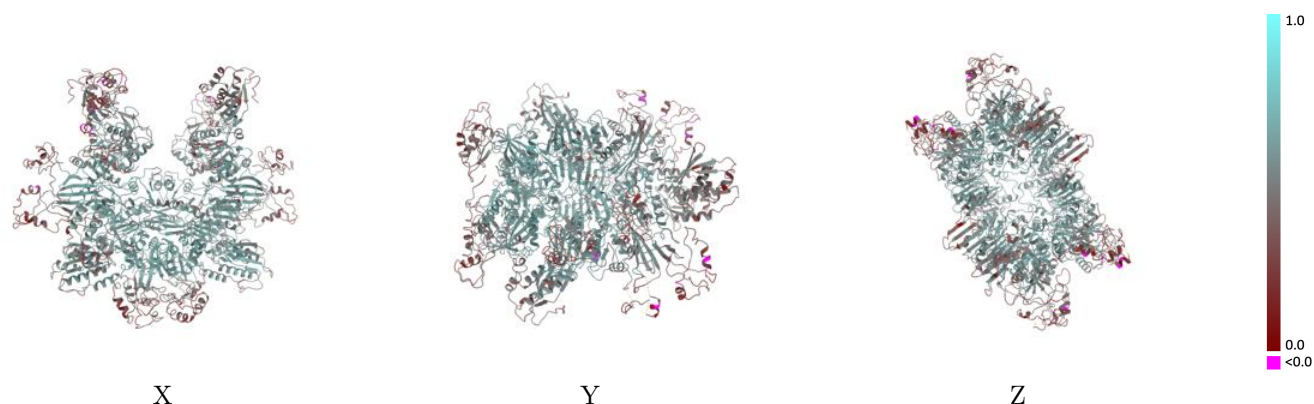
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
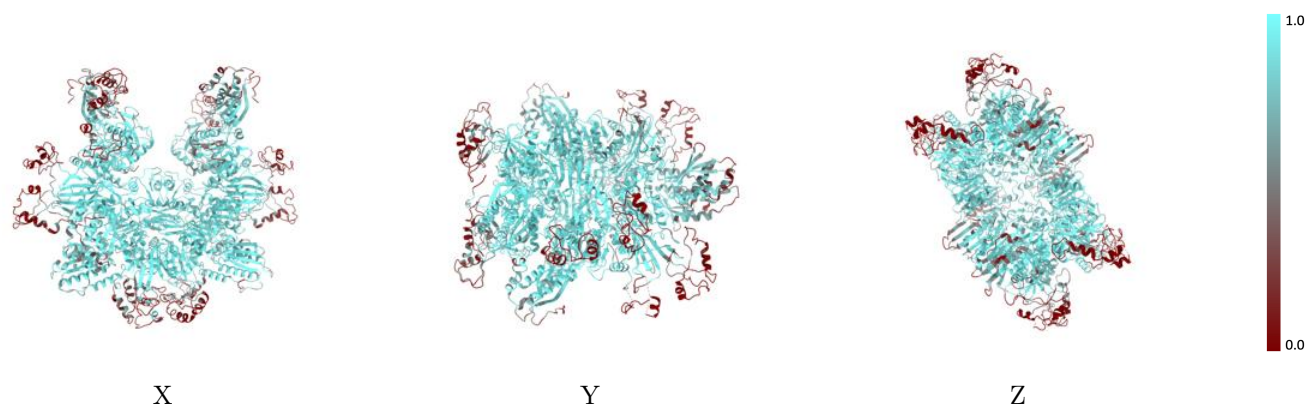
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.165).

9.4　Atom inclusion ⓘ
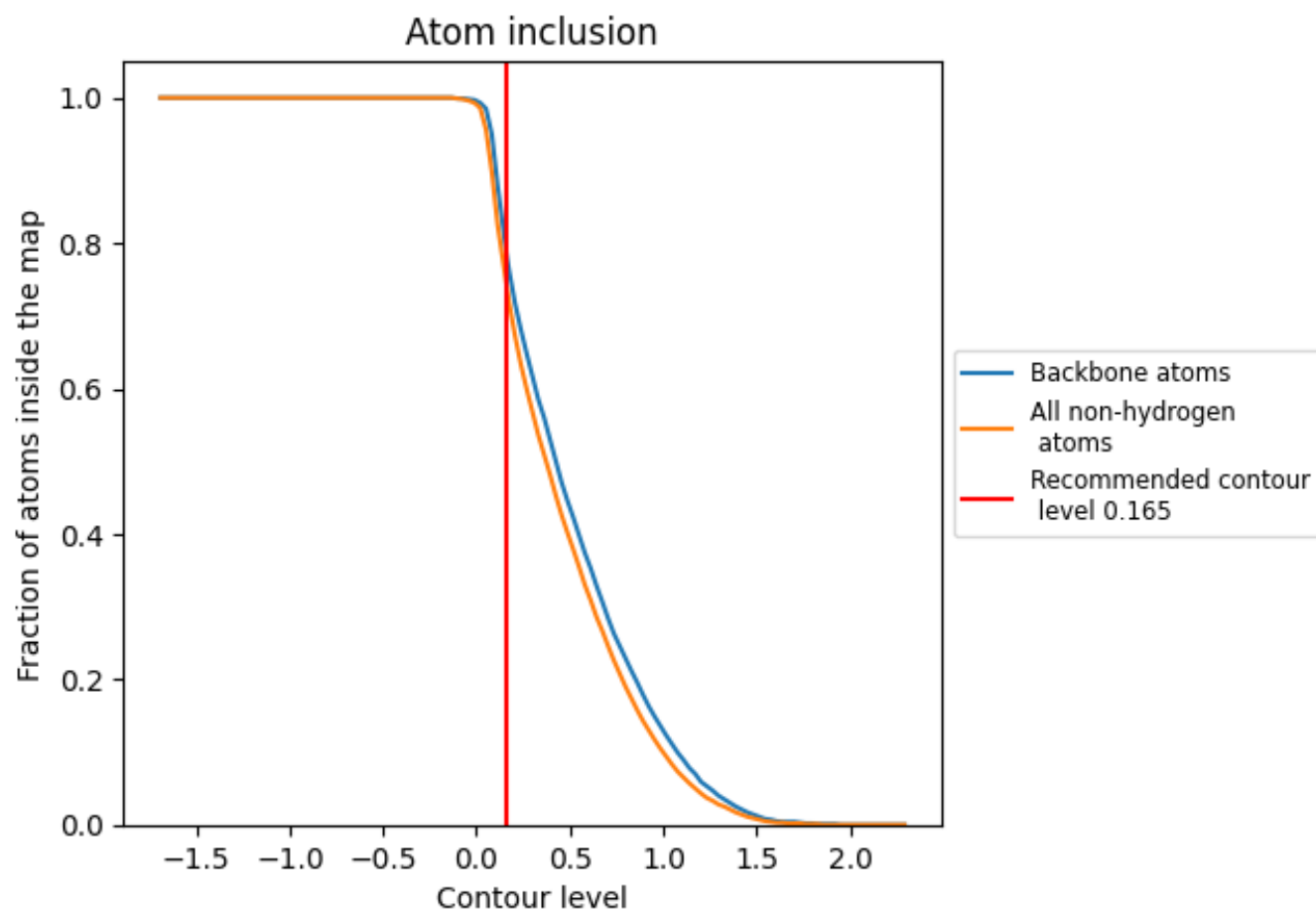
At the recommended contour level, 78% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5　Map-model fit summary　ⓘ

The table lists the average atom inclusion at the recommended contour level (0.165) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7350	0.5100
A	0.6590	0.4630
B	0.7450	0.5150
C	0.7980	0.5500
D	0.7980	0.5510
E	0.7440	0.5160
F	0.6570	0.4630
G	0.7450	0.4920
H	0.7450	0.4870

1.0

0.0
<0.0