



wwPDB EM Validation Summary Report ⓘ

Mar 3, 2024 – 11:50 AM EST

PDB ID : 6AZ0
EMDB ID : EMD-7023
Title : Mitochondrial ATPase Protease YME1
Authors : Puchades, C.; Rampello, A.J.; Shin, M.; Giuliano, C.; Wiseman, R.L.; Glynn, S.E.; Lander, G.C.
Deposited on : 2017-09-09
Resolution : 3.40 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

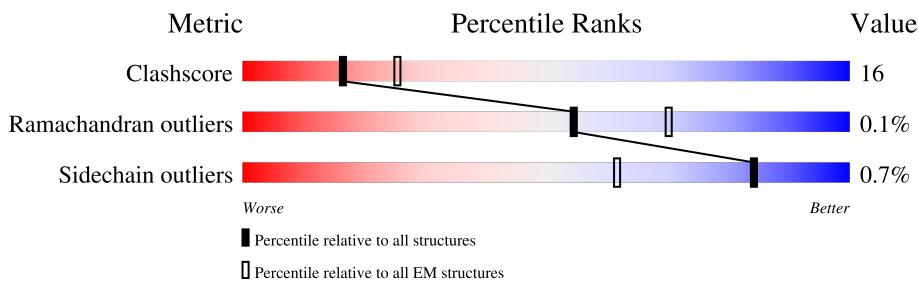
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	1-A	439	
1	1-B	439	
1	1-C	439	
1	1-D	439	
1	1-E	439	
1	1-F	439	
1	2-A	439	
1	2-B	439	



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Mol	Chain	Length	Quality of chain
1	2-C	439	68% 32%
1	2-D	439	66% 34%
1	2-E	439	64% 36%
1	2-F	439	82% 18%
1	3-A	439	64% 35%
1	3-B	439	68% 32%
1	3-C	439	68% 31%
1	3-D	439	65% 35%
1	3-E	439	66% 34%
1	3-F	439	84% 15%
1	4-A	439	60% 40%
1	4-B	439	67% 33%
1	4-C	439	69% 31%
1	4-D	439	67% 33%
1	4-E	439	65% 34%
1	4-F	439	85% 15%
1	5-A	439	64% 35%
1	5-B	439	70% 30%
1	5-C	439	71% 29%
1	5-D	439	66% 34%
1	5-E	439	64% 35%
1	5-F	439	85% 15%
2	1-G	10	40% 90% 10%
2	2-G	10	90% 10%
2	3-G	10	90% 10%

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Mol	Chain	Length	Quality of chain
2	4-G	10	 90% 10%
2	5-G	10	 100%

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 102310 atoms, of which 300 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 Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	1-A	439	3365	2108	590	650	17	0	0
1	2-A	439	3365	2108	590	650	17	0	0
1	3-A	439	3365	2108	590	650	17	0	0
1	4-A	439	3365	2108	590	650	17	0	0
1	5-A	439	3365	2108	590	650	17	0	0
1	1-B	439	3365	2108	590	650	17	0	0
1	2-B	439	3365	2108	590	650	17	0	0
1	3-B	439	3365	2108	590	650	17	0	0
1	4-B	439	3365	2108	590	650	17	0	0
1	5-B	439	3365	2108	590	650	17	0	0
1	1-C	439	3365	2108	590	650	17	0	0
1	2-C	439	3365	2108	590	650	17	0	0
1	3-C	439	3365	2108	590	650	17	0	0
1	4-C	439	3365	2108	590	650	17	0	0
1	5-C	439	3365	2108	590	650	17	0	0
1	1-D	439	3365	2108	590	650	17	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	2-D	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	3-D	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	4-D	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	5-D	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	1-E	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	2-E	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	3-E	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	4-E	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	5-E	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	1-F	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	2-F	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	3-F	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	4-F	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		
1	5-F	439	Total	C	N	O	S	0	0
			3365	2108	590	650	17		

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	381	GLN	GLU	conflict	UNP B3LL85
A	647	GLU	ASN	conflict	UNP B3LL85
A	713	ALA	ASP	conflict	UNP B3LL85
B	381	GLN	GLU	conflict	UNP B3LL85
B	647	GLU	ASN	conflict	UNP B3LL85
B	713	ALA	ASP	conflict	UNP B3LL85
C	381	GLN	GLU	conflict	UNP B3LL85
C	647	GLU	ASN	conflict	UNP B3LL85
C	713	ALA	ASP	conflict	UNP B3LL85
D	381	GLN	GLU	conflict	UNP B3LL85
D	647	GLU	ASN	conflict	UNP B3LL85

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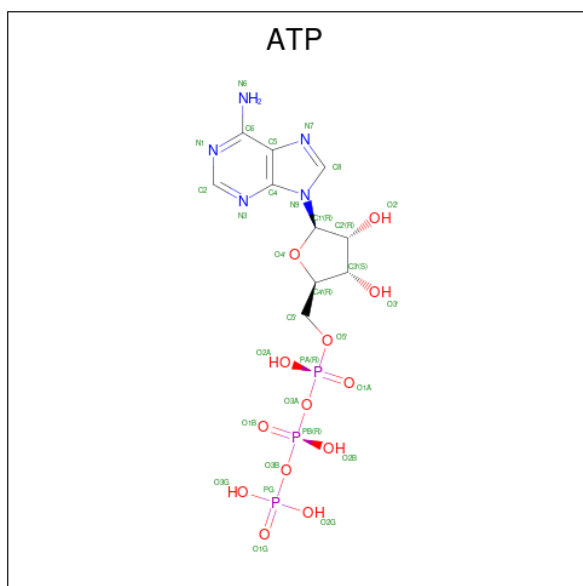
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Chain	Residue	Modelled	Actual	Comment	Reference
D	713	ALA	ASP	conflict	UNP B3LL85
E	381	GLN	GLU	conflict	UNP B3LL85
E	647	GLU	ASN	conflict	UNP B3LL85
E	713	ALA	ASP	conflict	UNP B3LL85
F	381	GLN	GLU	conflict	UNP B3LL85
F	647	GLU	ASN	conflict	UNP B3LL85
F	713	ALA	ASP	conflict	UNP B3LL85

- Molecule 2 is a protein called poly(UNK).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	1-G	10	Total	C	N	O	0	0
			51	30	10	11		
2	2-G	10	Total	C	N	O	0	0
			51	30	10	11		
2	3-G	10	Total	C	N	O	0	0
			51	30	10	11		
2	4-G	10	Total	C	N	O	0	0
			51	30	10	11		
2	5-G	10	Total	C	N	O	0	0
			51	30	10	11		

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf	
3	1-A	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	2-A	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	3-A	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	4-A	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	5-A	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	1-B	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	2-B	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	3-B	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	4-B	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	5-B	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	1-C	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	2-C	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	3-C	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	4-C	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	5-C	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	1-D	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	2-D	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	3-D	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	4-D	1	Total 43	C 10	H 12	N 5	O 13	P 3	0
3	5-D	1	Total 43	C 10	H 12	N 5	O 13	P 3	0

- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
4	1-A	1	Total 1	Zn 1	0
4	2-A	1	Total 1	Zn 1	0
4	3-A	1	Total 1	Zn 1	0
4	4-A	1	Total 1	Zn 1	0
4	5-A	1	Total 1	Zn 1	0
4	1-B	1	Total 1	Zn 1	0
4	2-B	1	Total 1	Zn 1	0
4	3-B	1	Total 1	Zn 1	0
4	4-B	1	Total 1	Zn 1	0
4	5-B	1	Total 1	Zn 1	0
4	1-C	1	Total 1	Zn 1	0
4	2-C	1	Total 1	Zn 1	0
4	3-C	1	Total 1	Zn 1	0
4	4-C	1	Total 1	Zn 1	0
4	5-C	1	Total 1	Zn 1	0
4	1-D	1	Total 1	Zn 1	0
4	2-D	1	Total 1	Zn 1	0
4	3-D	1	Total 1	Zn 1	0
4	4-D	1	Total 1	Zn 1	0
4	5-D	1	Total 1	Zn 1	0
4	1-E	1	Total 1	Zn 1	0
4	2-E	1	Total 1	Zn 1	0

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Mol	Chain	Residues	Atoms		AltConf
4	3-E	1	Total 1	Zn 1	0
4	4-E	1	Total 1	Zn 1	0
4	5-E	1	Total 1	Zn 1	0
4	1-F	1	Total 1	Zn 1	0
4	2-F	1	Total 1	Zn 1	0
4	3-F	1	Total 1	Zn 1	0
4	4-F	1	Total 1	Zn 1	0
4	5-F	1	Total 1	Zn 1	0

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

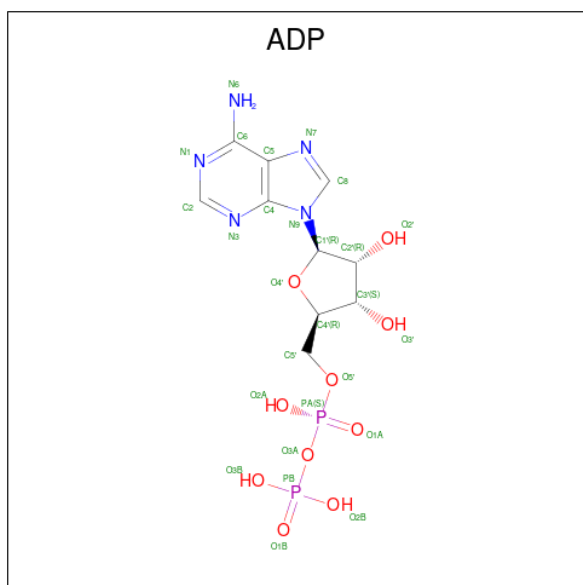
Mol	Chain	Residues	Atoms		AltConf
5	1-A	1	Total 1	Mg 1	0
5	2-A	1	Total 1	Mg 1	0
5	3-A	1	Total 1	Mg 1	0
5	4-A	1	Total 1	Mg 1	0
5	5-A	1	Total 1	Mg 1	0
5	1-B	1	Total 1	Mg 1	0
5	2-B	1	Total 1	Mg 1	0
5	3-B	1	Total 1	Mg 1	0
5	4-B	1	Total 1	Mg 1	0
5	5-B	1	Total 1	Mg 1	0
5	1-C	1	Total 1	Mg 1	0

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Mol	Chain	Residues	Atoms		AltConf
5	2-C	1	Total	Mg	0
			1	1	
5	3-C	1	Total	Mg	0
			1	1	
5	4-C	1	Total	Mg	0
			1	1	
5	5-C	1	Total	Mg	0
			1	1	
5	1-D	1	Total	Mg	0
			1	1	
5	2-D	1	Total	Mg	0
			1	1	
5	3-D	1	Total	Mg	0
			1	1	
5	4-D	1	Total	Mg	0
			1	1	
5	5-D	1	Total	Mg	0
			1	1	

- Molecule 6 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms					AltConf	
6	1-E	1	Total	C	H	N	O	P	0
			39	10	12	5	10	2	
6	2-E	1	Total	C	H	N	O	P	0
			39	10	12	5	10	2	

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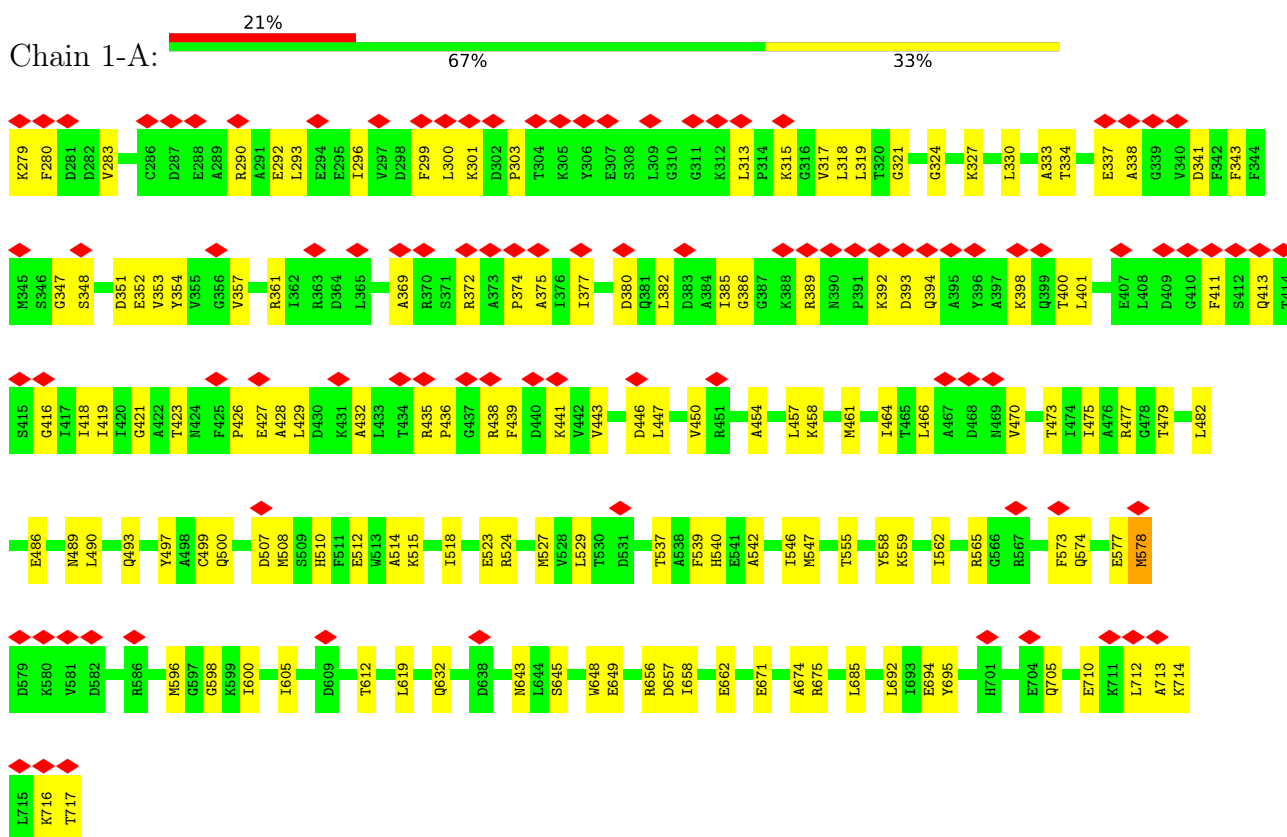
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Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	N	O		P
6	3-E	1	Total 39	10	12	5	10	2	0
6	4-E	1	Total 39	10	12	5	10	2	0
6	5-E	1	Total 39	10	12	5	10	2	0

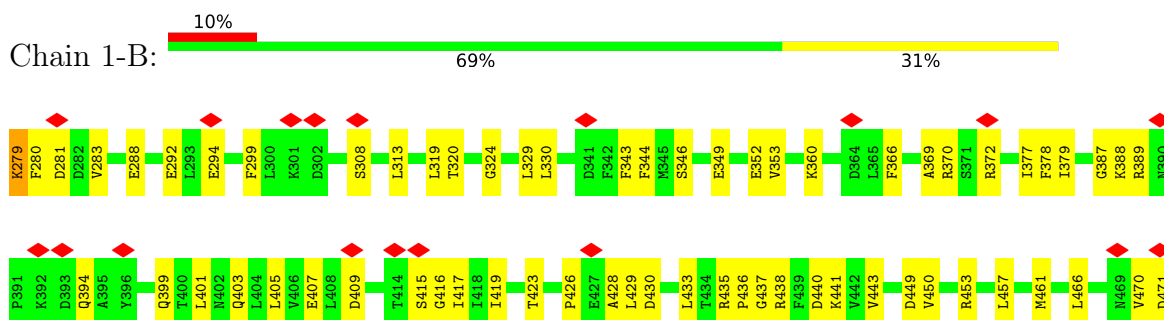
3 Residue-property plots

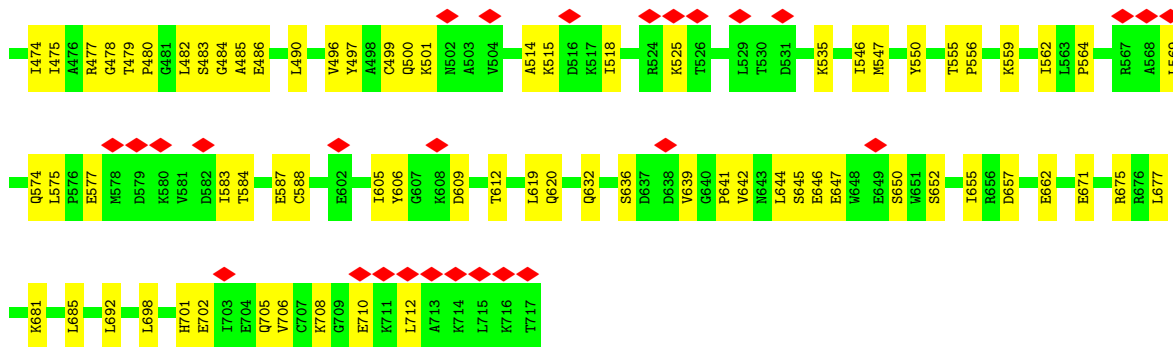
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

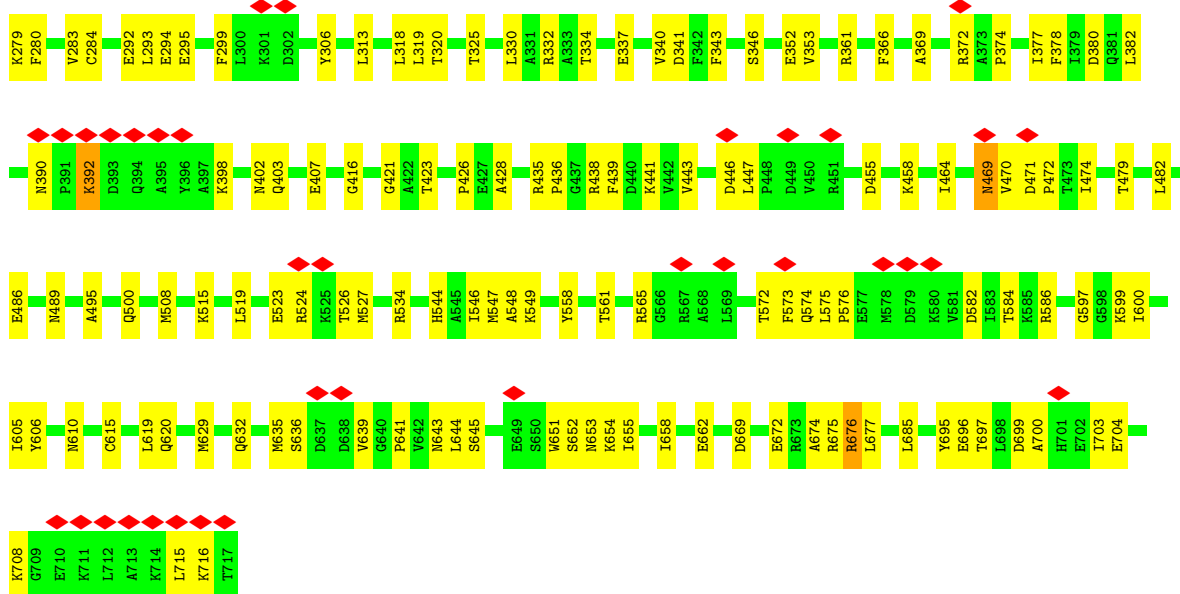


- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

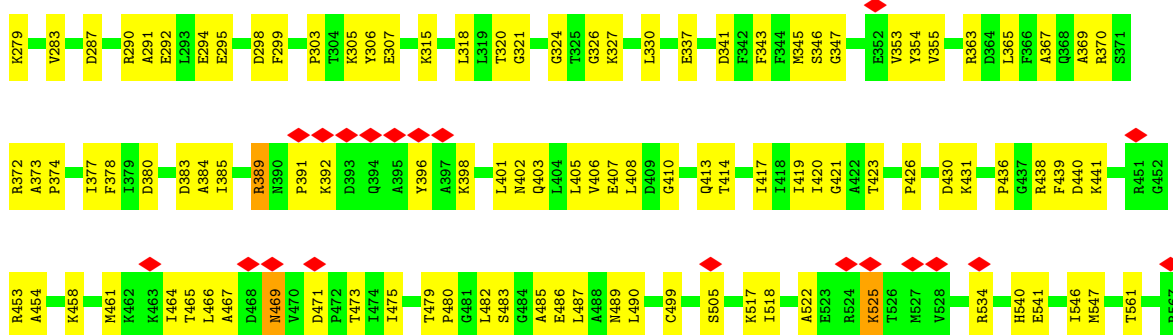


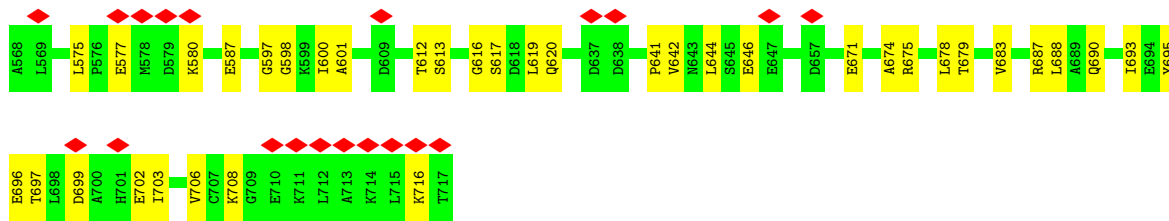


• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

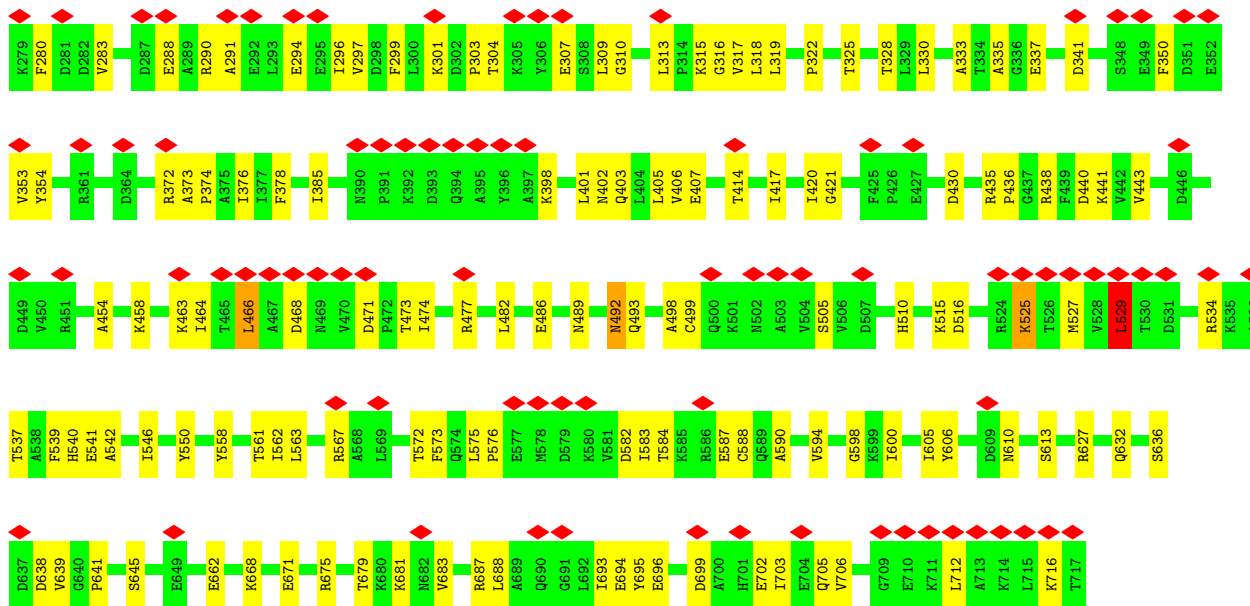


• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

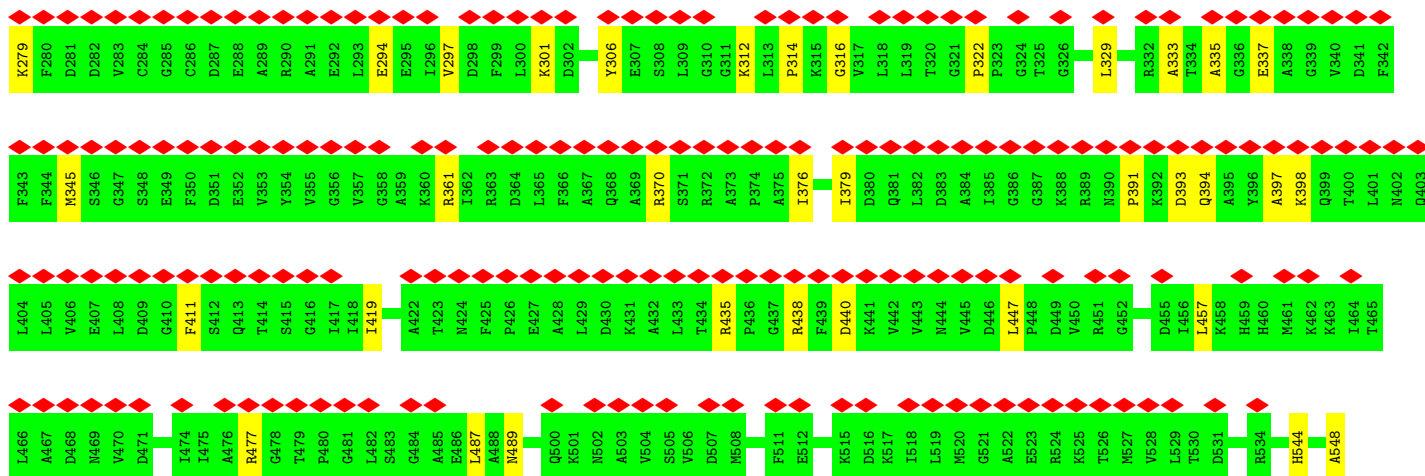
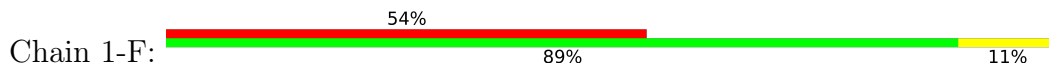


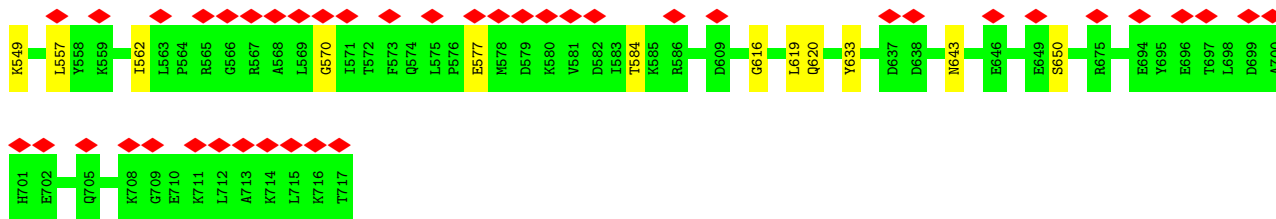


• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



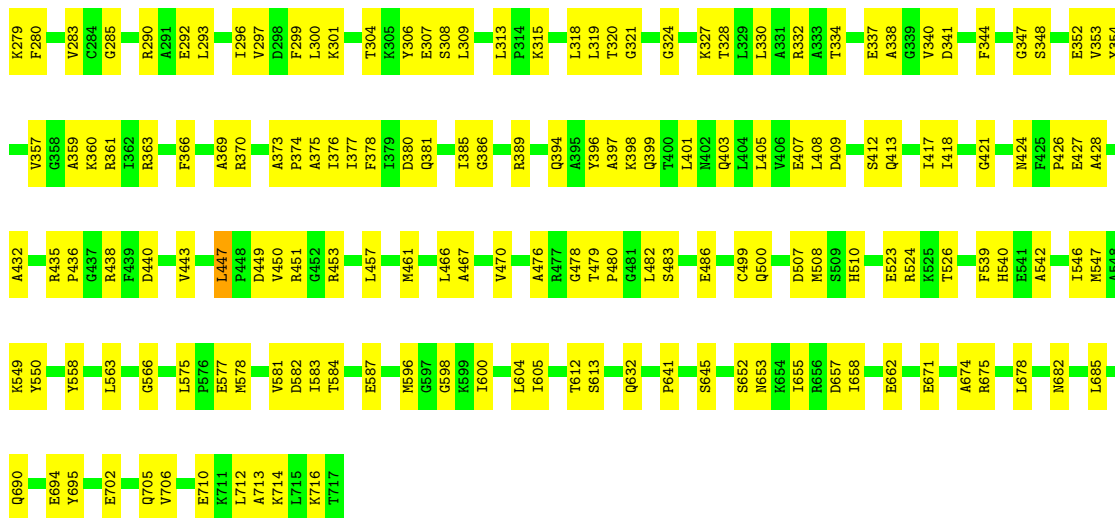
• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1





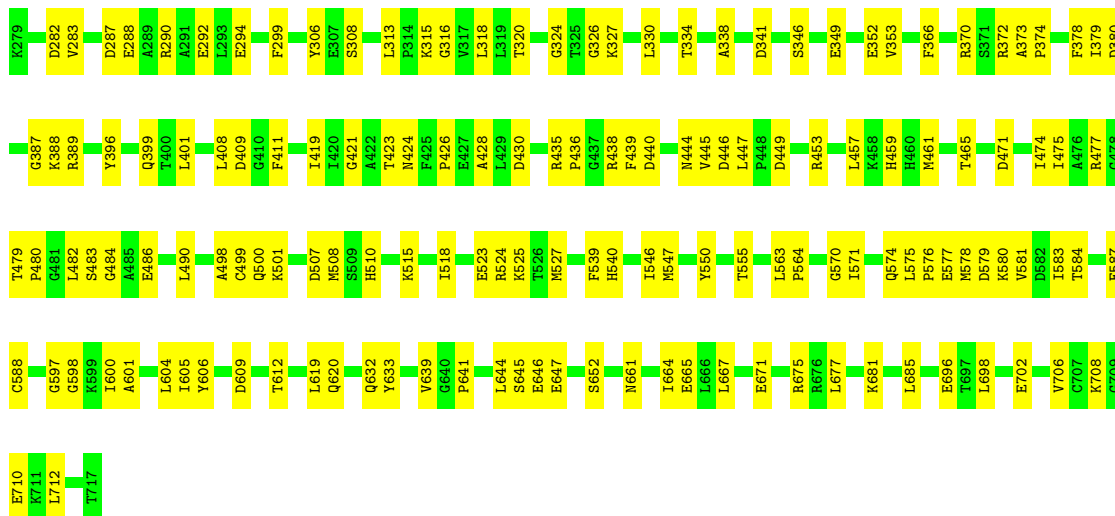
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 2-A: 64% 36%



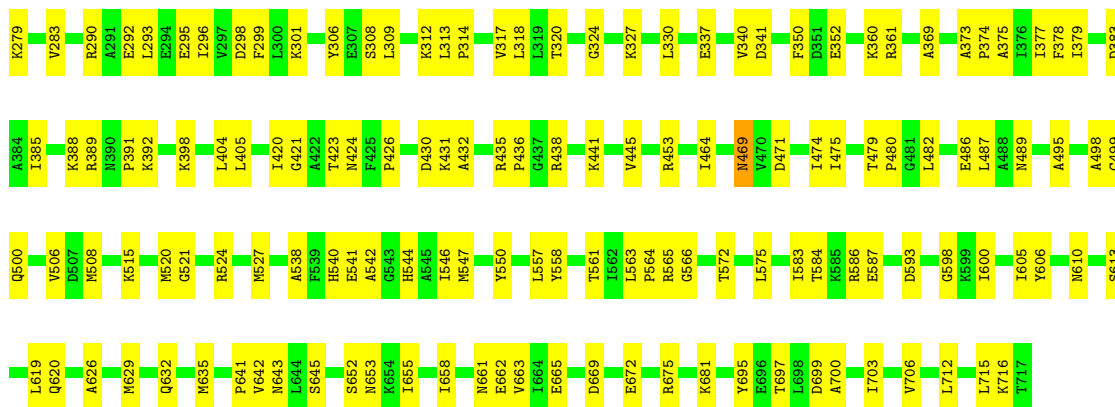
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 2-B: 67% 33%

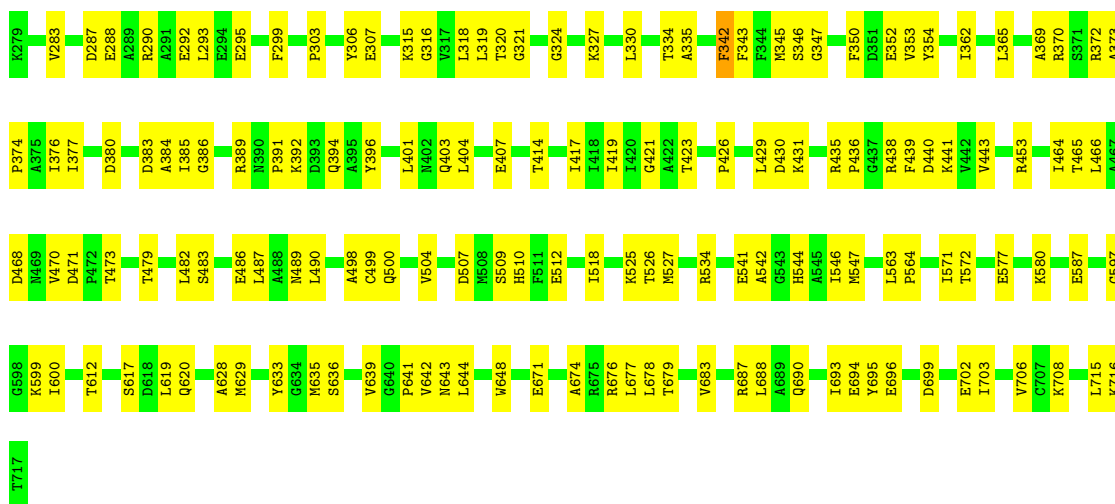


- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

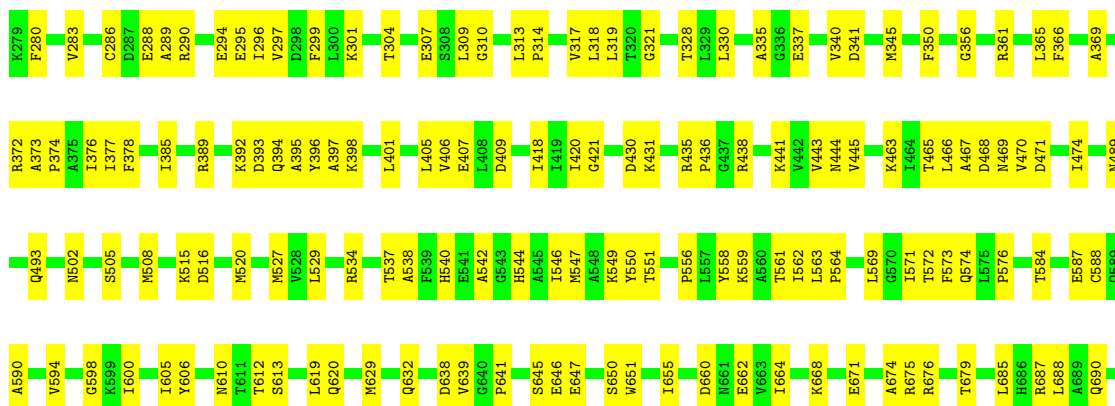
Chain 2-C: 68% 32%



● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1





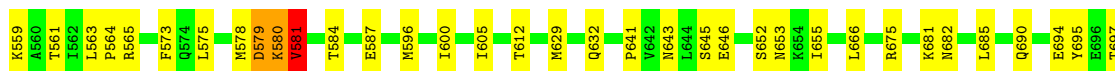
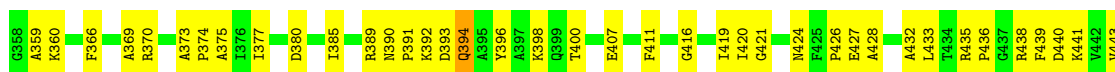
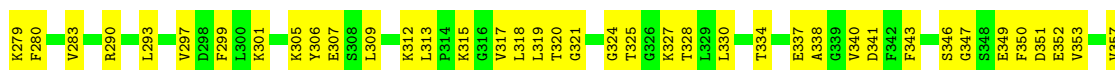
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 2-F: 82% 18%



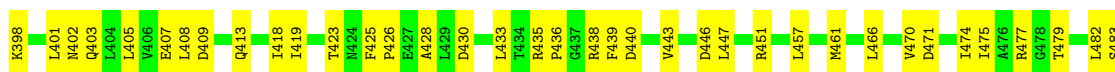
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 3-A: 64% 35%



- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 3-B: 68% 32%





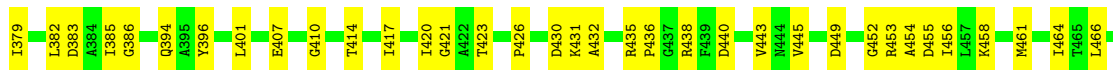
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 3-C: 68% 31%



- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

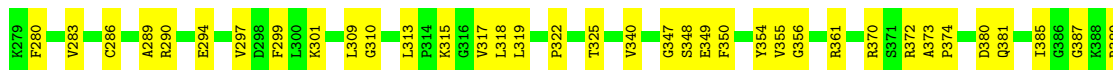
Chain 3-D: 65% 35%



L715
K716
T717

- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

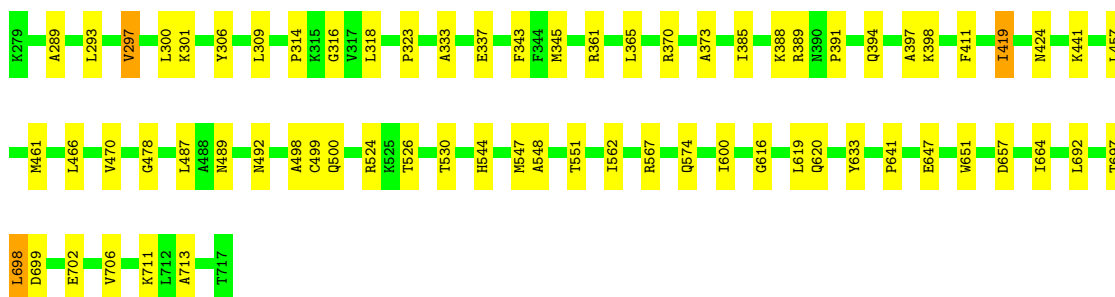
Chain 3-E: 66% 34%





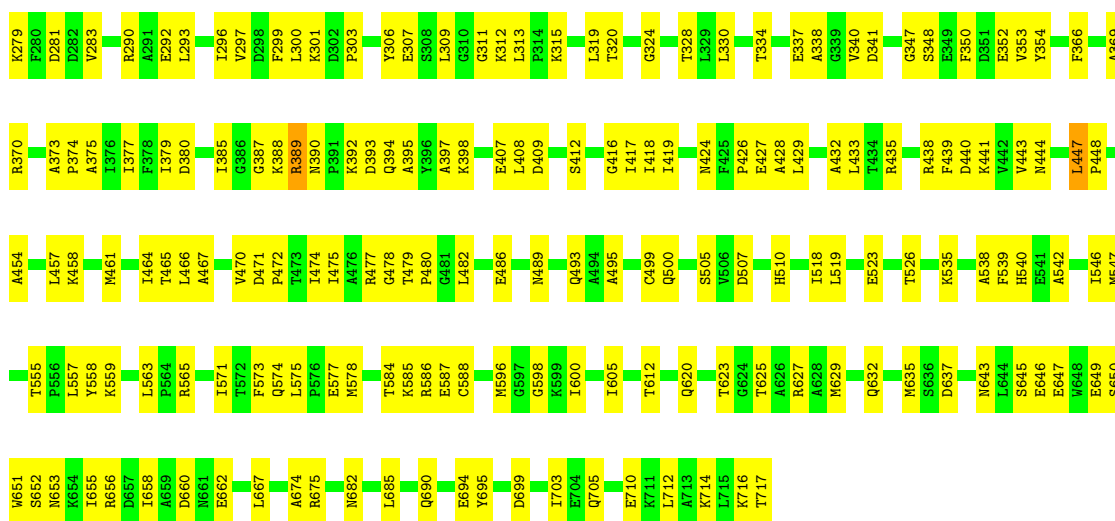
• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 3-F: 84% 15%



• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

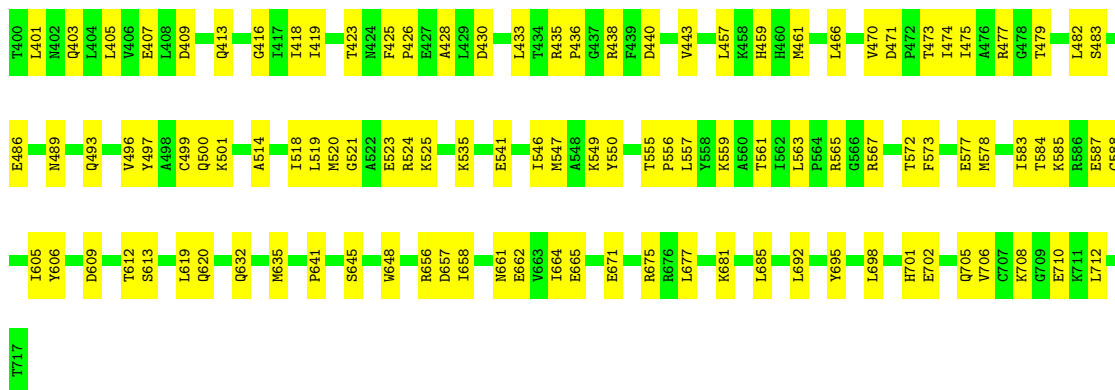
Chain 4-A: 60% 40%



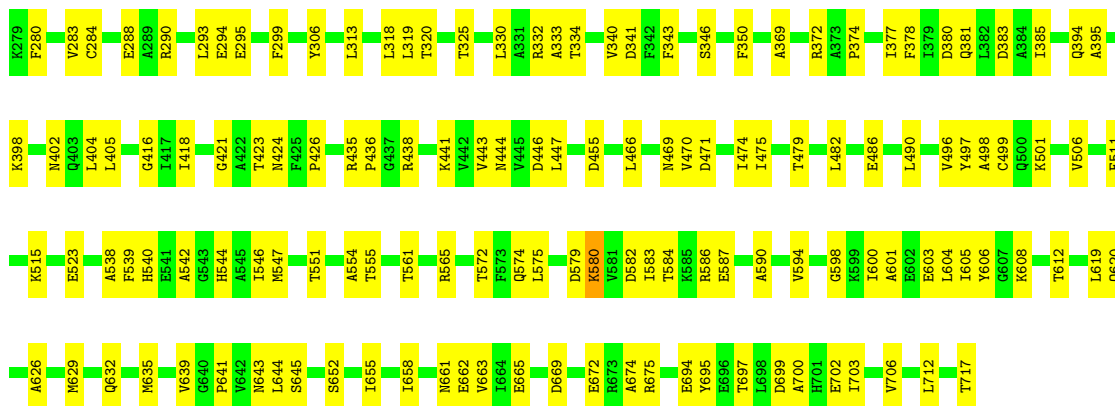
• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

Chain 4-B: 67% 33%

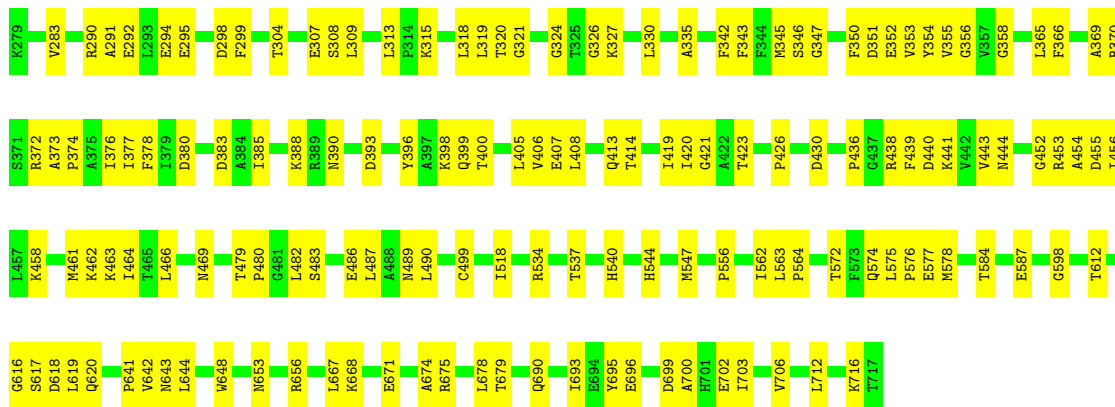




● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

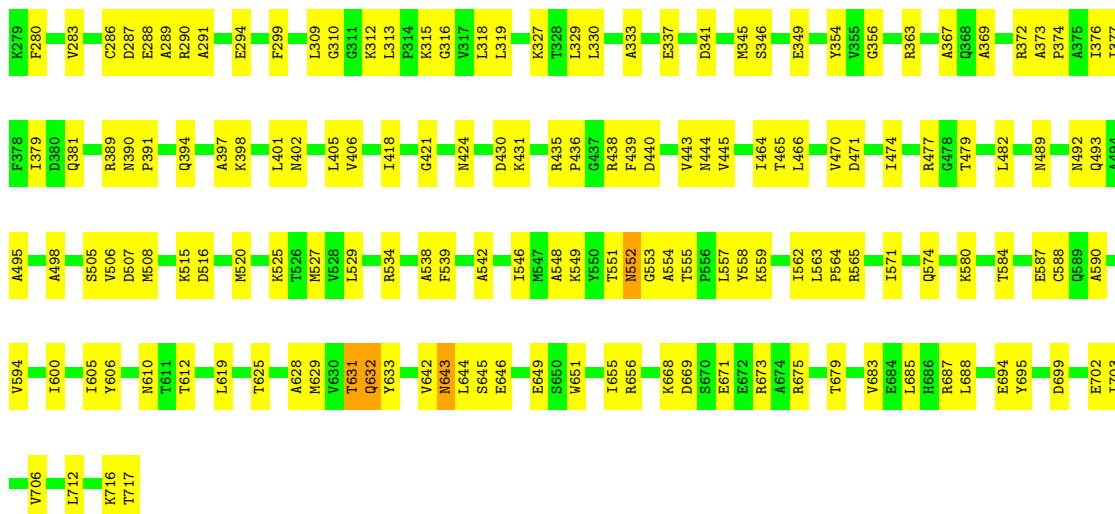


● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

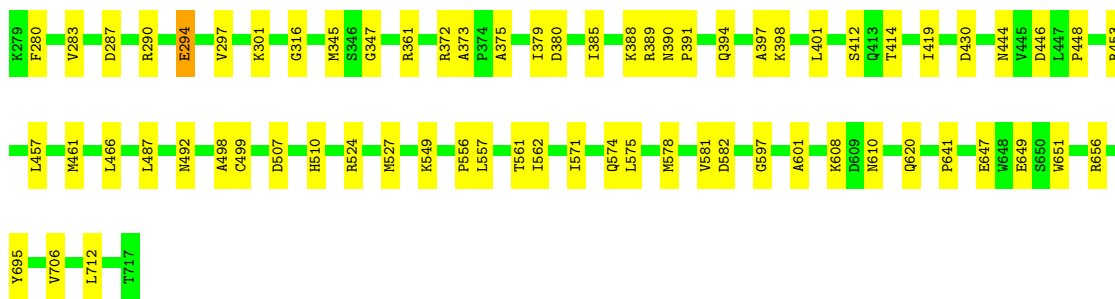
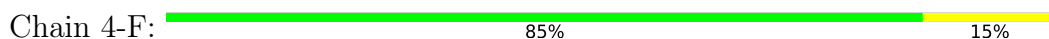


● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1

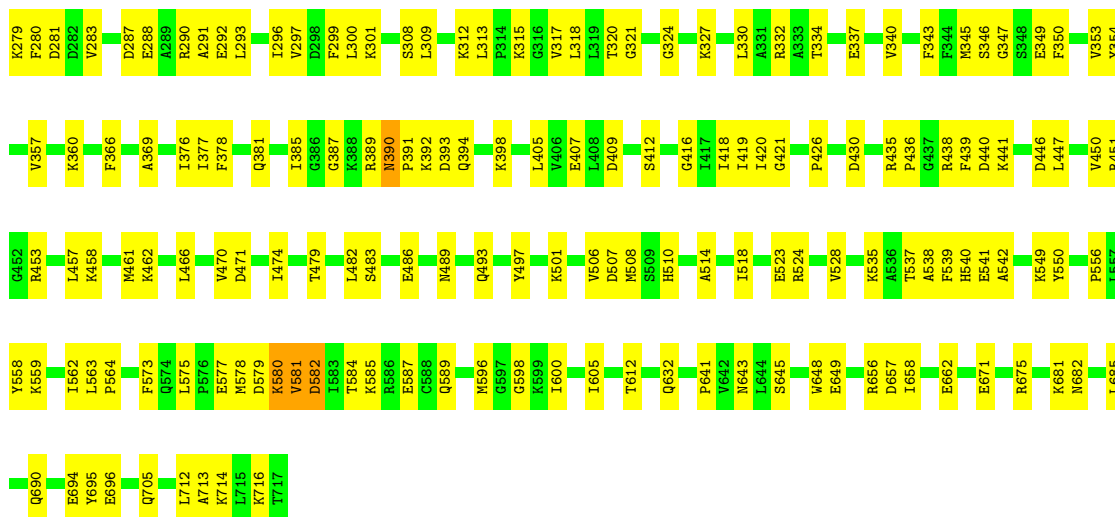




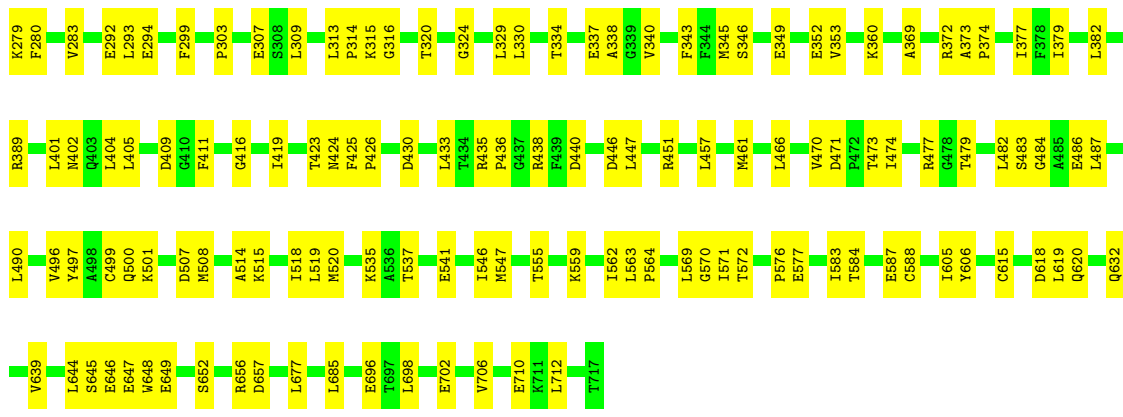
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



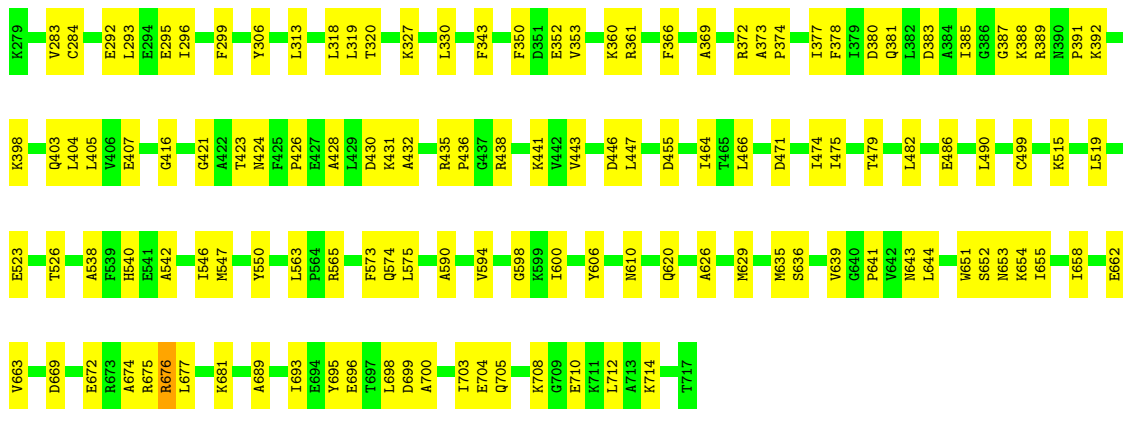
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



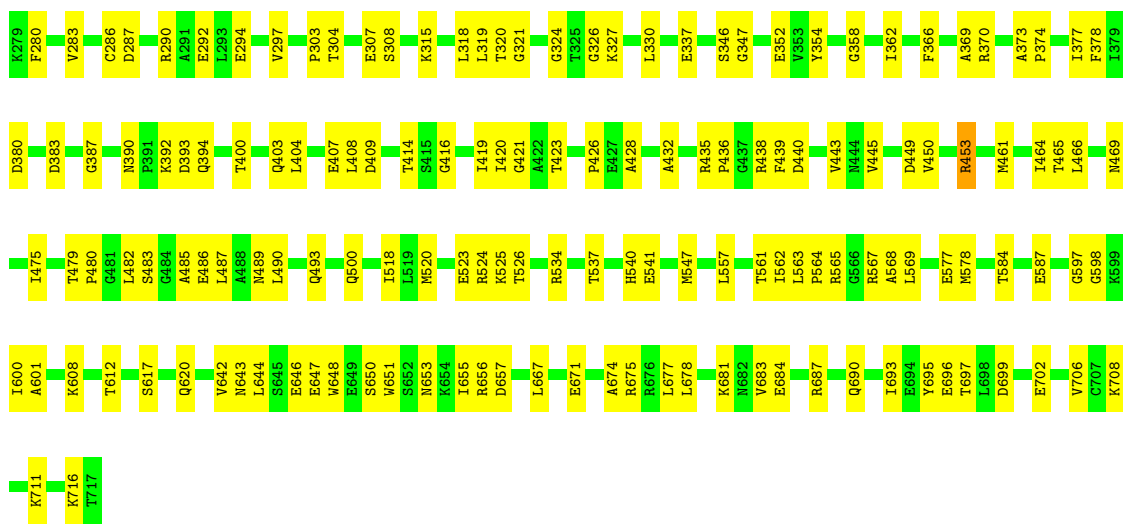
- Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



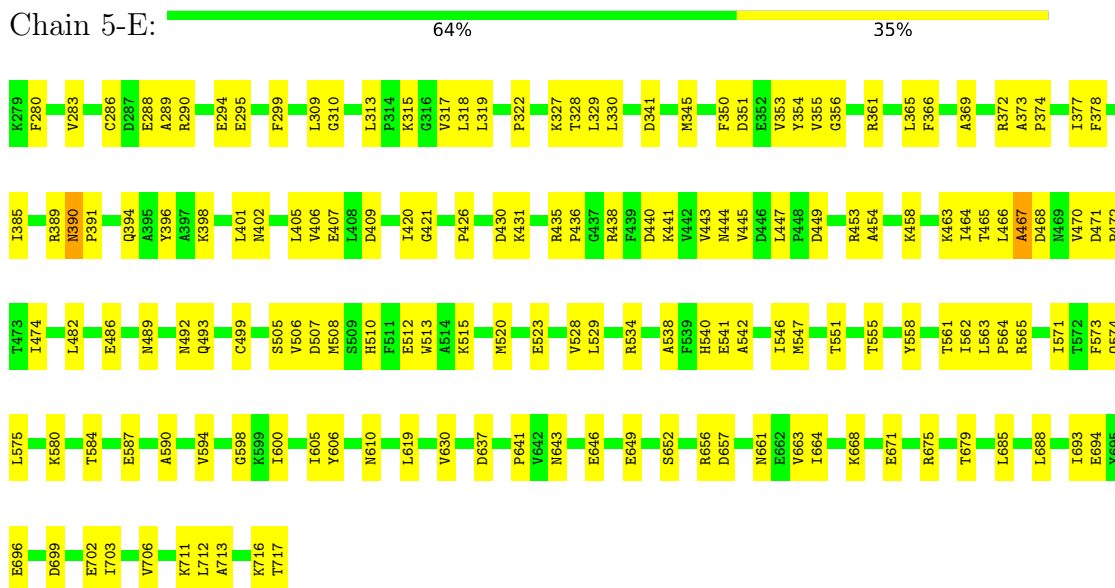
● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



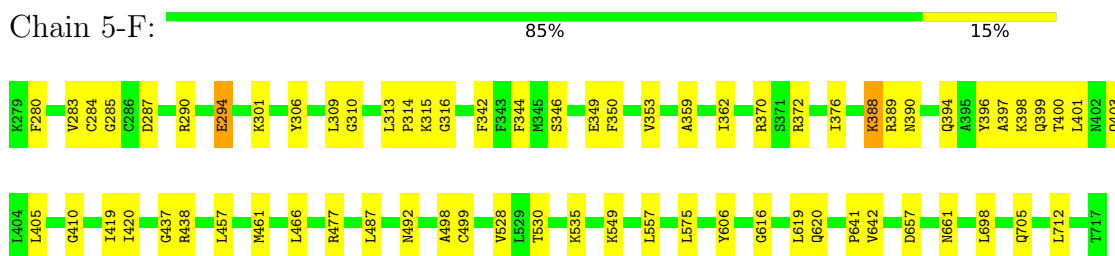
● Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



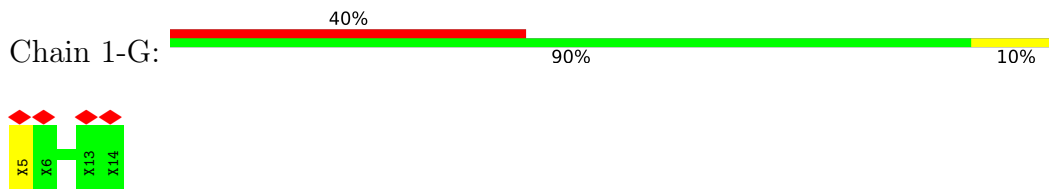
• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



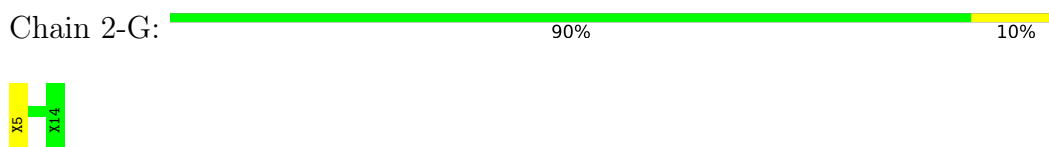
• Molecule 1: Mitochondrial inner membrane i-AAA protease supercomplex subunit YME1



• Molecule 2: poly(UNK)



• Molecule 2: poly(UNK)



• Molecule 2: poly(UNK)





- Molecule 2: poly(UNK)

Chain 4-G:  90% 10%



- Molecule 2: poly(UNK)

Chain 5-G:  100%

There are no outlier residues recorded for this chain.

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	62917	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	51500	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.350	Depositor
Minimum map value	-0.185	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.026	Depositor
Recommended contour level	0.08	Depositor
Map size (\AA)	154.5, 154.5, 154.5	wwPDB
Map dimensions	150, 150, 150	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.03, 1.03, 1.03	Depositor

5 Model quality i

5.1 Standard geometry i

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

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	1-A	0.33	0/3415	0.48	0/4605
1	1-B	0.36	0/3415	0.51	0/4605
1	1-C	0.36	0/3415	0.52	0/4605
1	1-D	0.35	0/3415	0.51	0/4605
1	1-E	0.34	0/3415	0.49	1/4605 (0.0%)
1	1-F	0.34	0/3415	0.60	0/4605
1	2-A	0.35	0/3415	0.49	0/4605
1	2-B	0.37	0/3415	0.50	0/4605
1	2-C	0.38	0/3415	0.52	0/4605
1	2-D	0.38	0/3415	0.51	0/4605
1	2-E	0.35	0/3415	0.49	0/4605
1	2-F	0.35	0/3415	0.61	0/4605
1	3-A	0.37	0/3415	0.51	0/4605
1	3-B	0.40	0/3415	0.51	0/4605
1	3-C	0.41	0/3415	0.54	0/4605
1	3-D	0.40	0/3415	0.53	0/4605
1	3-E	0.37	0/3415	0.49	0/4605
1	3-F	0.36	0/3415	0.60	0/4605
1	4-A	0.31	0/3415	0.46	0/4605
1	4-B	0.34	0/3415	0.49	0/4605
1	4-C	0.34	0/3415	0.50	0/4605
1	4-D	0.33	0/3415	0.49	0/4605
1	4-E	0.32	0/3415	0.49	0/4605
1	4-F	0.36	0/3415	0.61	0/4605
1	5-A	0.39	0/3415	0.51	0/4605
1	5-B	0.42	0/3415	0.54	0/4605
1	5-C	0.43	0/3415	0.54	0/4605
1	5-D	0.43	0/3415	0.55	0/4605
1	5-E	0.39	0/3415	0.52	0/4605
1	5-F	0.34	0/3415	0.59	1/4605 (0.0%)
All	All	0.37	0/102450	0.52	2/138150 (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	2-A	0	1
1	2-F	0	3
1	3-A	0	2
1	3-F	0	2
1	4-A	0	1
1	4-C	0	2
1	4-E	0	1
1	4-F	0	2
1	5-A	0	2
1	5-E	0	1
All	All	0	17

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	1-E	529	LEU	CA-CB-CG	5.64	128.28	115.30
1	5-F	698	LEU	CA-CB-CG	5.20	127.25	115.30

There are no chirality outliers.

5 of 17 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	2-A	447	LEU	Peptide
1	2-F	415	SER	Peptide
1	2-F	416	GLY	Peptide
1	2-F	417	ILE	Peptide
1	3-A	579	ASP	Peptide

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	1-A	3365	0	3397	121	0
1	1-B	3365	0	3397	116	0
1	1-C	3365	0	3396	109	0
1	1-D	3365	0	3396	129	0
1	1-E	3365	0	3397	122	0
1	1-F	3365	0	3397	32	0
1	2-A	3365	0	3397	165	0
1	2-B	3365	0	3397	123	0
1	2-C	3365	0	3396	121	0
1	2-D	3365	0	3396	125	0
1	2-E	3365	0	3397	160	0
1	2-F	3365	0	3394	72	0
1	3-A	3365	0	3397	179	0
1	3-B	3365	0	3397	121	0
1	3-C	3365	0	3396	126	0
1	3-D	3365	0	3396	144	0
1	3-E	3365	0	3397	144	0
1	3-F	3365	0	3397	71	0
1	4-A	3365	0	3396	179	0
1	4-B	3365	0	3397	112	0
1	4-C	3365	0	3396	107	0
1	4-D	3365	0	3396	125	0
1	4-E	3365	0	3397	137	0
1	4-F	3365	0	3395	61	0
1	5-A	3365	0	3397	165	0
1	5-B	3365	0	3397	116	0
1	5-C	3365	0	3396	99	0
1	5-D	3365	0	3396	132	0
1	5-E	3365	0	3397	147	0
1	5-F	3365	0	3397	78	0
2	1-G	51	0	12	1	0
2	2-G	51	0	12	1	0
2	3-G	51	0	12	1	0
2	4-G	51	0	12	1	0
2	5-G	51	0	12	0	0
3	1-A	31	12	12	1	0
3	1-B	31	12	12	2	0
3	1-C	31	12	12	1	0
3	1-D	31	12	12	2	0
3	2-A	31	12	12	2	0
3	2-B	31	12	12	3	0
3	2-C	31	12	12	1	0
3	2-D	31	12	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	3-A	31	12	12	4	0
3	3-B	31	12	12	1	0
3	3-C	31	12	12	1	0
3	3-D	31	12	12	1	0
3	4-A	31	12	12	2	0
3	4-B	31	12	12	2	0
3	4-C	31	12	12	1	0
3	4-D	31	12	12	2	0
3	5-A	31	12	12	1	0
3	5-B	31	12	12	1	0
3	5-C	31	12	12	0	0
3	5-D	31	12	12	1	0
4	1-A	1	0	0	0	0
4	1-B	1	0	0	0	0
4	1-C	1	0	0	0	0
4	1-D	1	0	0	0	0
4	1-E	1	0	0	0	0
4	1-F	1	0	0	0	0
4	2-A	1	0	0	0	0
4	2-B	1	0	0	0	0
4	2-C	1	0	0	0	0
4	2-D	1	0	0	0	0
4	2-E	1	0	0	0	0
4	2-F	1	0	0	0	0
4	3-A	1	0	0	0	0
4	3-B	1	0	0	0	0
4	3-C	1	0	0	0	0
4	3-D	1	0	0	0	0
4	3-E	1	0	0	0	0
4	3-F	1	0	0	0	0
4	4-A	1	0	0	0	0
4	4-B	1	0	0	0	0
4	4-C	1	0	0	0	0
4	4-D	1	0	0	0	0
4	4-E	1	0	0	0	0
4	4-F	1	0	0	0	0
4	5-A	1	0	0	0	0
4	5-B	1	0	0	0	0
4	5-C	1	0	0	0	0
4	5-D	1	0	0	0	0
4	5-E	1	0	0	0	0
4	5-F	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	1-A	1	0	0	0	0
5	1-B	1	0	0	0	0
5	1-C	1	0	0	0	0
5	1-D	1	0	0	0	0
5	2-A	1	0	0	0	0
5	2-B	1	0	0	0	0
5	2-C	1	0	0	0	0
5	2-D	1	0	0	0	0
5	3-A	1	0	0	0	0
5	3-B	1	0	0	0	0
5	3-C	1	0	0	0	0
5	3-D	1	0	0	0	0
5	4-A	1	0	0	0	0
5	4-B	1	0	0	0	0
5	4-C	1	0	0	0	0
5	4-D	1	0	0	0	0
5	5-A	1	0	0	0	0
5	5-B	1	0	0	0	0
5	5-C	1	0	0	0	0
5	5-D	1	0	0	0	0
6	1-E	27	12	12	1	0
6	2-E	27	12	12	1	0
6	3-E	27	12	12	0	0
6	4-E	27	12	12	0	0
6	5-E	27	12	12	1	0
All	All	102010	300	102254	3215	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 16.

The worst 5 of 3215 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:392:LYS:CD	1:F:389:ARG:HH22	1.18	1.57
1:A:392:LYS:HD2	1:F:389:ARG:NH2	1.24	1.42
1:A:580:LYS:NZ	1:F:530:THR:HG21	1.36	1.36
1:A:655:ILE:CD1	1:F:664:ILE:HD11	1.58	1.33
1:A:580:LYS:CD	1:F:530:THR:OG1	1.88	1.22

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	1-A	437/439 (100%)	409 (94%)	28 (6%)	0	100	100
1	1-B	437/439 (100%)	397 (91%)	40 (9%)	0	100	100
1	1-C	437/439 (100%)	395 (90%)	42 (10%)	0	100	100
1	1-D	437/439 (100%)	384 (88%)	53 (12%)	0	100	100
1	1-E	437/439 (100%)	401 (92%)	36 (8%)	0	100	100
1	1-F	437/439 (100%)	407 (93%)	30 (7%)	0	100	100
1	2-A	437/439 (100%)	403 (92%)	34 (8%)	0	100	100
1	2-B	437/439 (100%)	399 (91%)	38 (9%)	0	100	100
1	2-C	437/439 (100%)	399 (91%)	38 (9%)	0	100	100
1	2-D	437/439 (100%)	393 (90%)	44 (10%)	0	100	100
1	2-E	437/439 (100%)	401 (92%)	36 (8%)	0	100	100
1	2-F	437/439 (100%)	401 (92%)	35 (8%)	1 (0%)	47	78
1	3-A	437/439 (100%)	394 (90%)	40 (9%)	3 (1%)	22	55
1	3-B	437/439 (100%)	396 (91%)	41 (9%)	0	100	100
1	3-C	437/439 (100%)	393 (90%)	44 (10%)	0	100	100
1	3-D	437/439 (100%)	391 (90%)	46 (10%)	0	100	100
1	3-E	437/439 (100%)	401 (92%)	36 (8%)	0	100	100
1	3-F	437/439 (100%)	403 (92%)	34 (8%)	0	100	100
1	4-A	437/439 (100%)	405 (93%)	31 (7%)	1 (0%)	47	78
1	4-B	437/439 (100%)	402 (92%)	35 (8%)	0	100	100
1	4-C	437/439 (100%)	398 (91%)	38 (9%)	1 (0%)	47	78
1	4-D	437/439 (100%)	396 (91%)	41 (9%)	0	100	100
1	4-E	437/439 (100%)	400 (92%)	36 (8%)	1 (0%)	47	78
1	4-F	437/439 (100%)	400 (92%)	36 (8%)	1 (0%)	47	78
1	5-A	437/439 (100%)	389 (89%)	47 (11%)	1 (0%)	47	78

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	5-B	437/439 (100%)	402 (92%)	35 (8%)	0	100	100
1	5-C	437/439 (100%)	399 (91%)	38 (9%)	0	100	100
1	5-D	437/439 (100%)	390 (89%)	47 (11%)	0	100	100
1	5-E	437/439 (100%)	397 (91%)	40 (9%)	0	100	100
1	5-F	437/439 (100%)	397 (91%)	40 (9%)	0	100	100
All	All	13110/13170 (100%)	11942 (91%)	1159 (9%)	9 (0%)	54	82

5 of 9 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	3-A	580	LYS
1	4-F	375	ALA
1	5-A	581	VAL
1	4-C	580	LYS
1	4-E	632	GLN

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	1-A	354/354 (100%)	353 (100%)	1 (0%)	92	97
1	1-B	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	1-C	354/354 (100%)	351 (99%)	3 (1%)	81	91
1	1-D	354/354 (100%)	350 (99%)	4 (1%)	73	86
1	1-E	354/354 (100%)	350 (99%)	4 (1%)	73	86
1	1-F	354/354 (100%)	350 (99%)	4 (1%)	73	86
1	2-A	354/354 (100%)	354 (100%)	0	100	100
1	2-B	354/354 (100%)	354 (100%)	0	100	100
1	2-C	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	2-D	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	2-E	354/354 (100%)	353 (100%)	1 (0%)	92	97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	2-F	354/354 (100%)	349 (99%)	5 (1%)	67	83
1	3-A	354/354 (100%)	354 (100%)	0	100	100
1	3-B	354/354 (100%)	353 (100%)	1 (0%)	92	97
1	3-C	354/354 (100%)	349 (99%)	5 (1%)	67	83
1	3-D	354/354 (100%)	353 (100%)	1 (0%)	92	97
1	3-E	354/354 (100%)	354 (100%)	0	100	100
1	3-F	354/354 (100%)	347 (98%)	7 (2%)	55	77
1	4-A	354/354 (100%)	353 (100%)	1 (0%)	92	97
1	4-B	354/354 (100%)	354 (100%)	0	100	100
1	4-C	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	4-D	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	4-E	354/354 (100%)	350 (99%)	4 (1%)	73	86
1	4-F	354/354 (100%)	349 (99%)	5 (1%)	67	83
1	5-A	354/354 (100%)	353 (100%)	1 (0%)	92	97
1	5-B	354/354 (100%)	353 (100%)	1 (0%)	92	97
1	5-C	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	5-D	354/354 (100%)	352 (99%)	2 (1%)	86	94
1	5-E	354/354 (100%)	350 (99%)	4 (1%)	73	86
1	5-F	354/354 (100%)	350 (99%)	4 (1%)	73	86
All	All	10620/10620 (100%)	10550 (99%)	70 (1%)	84	92

5 of 70 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	5-B	360	LYS
1	5-C	676	ARG
1	5-E	492	ASN
1	2-F	345	MET
1	2-F	301	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 100 such sidechains are listed below:

Mol	Chain	Res	Type
1	4-A	690	GLN

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Mol	Chain	Res	Type
1	4-E	381	GLN
1	5-F	574	GLN
1	4-B	413	GLN
1	4-D	399	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 75 ligands modelled in this entry, 50 are monoatomic - leaving 25 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
3	ATP	1-B	801	5	26,33,33	0.95	0	31,52,52	1.69	5 (16%)
3	ATP	5-C	801	5	26,33,33	0.97	0	31,52,52	1.91	7 (22%)
3	ATP	3-D	803	5	26,33,33	0.88	0	31,52,52	1.91	6 (19%)
3	ATP	5-A	801	5	26,33,33	0.86	0	31,52,52	1.84	5 (16%)
6	ADP	1-E	801	-	24,29,29	0.94	1 (4%)	29,45,45	1.33	4 (13%)
3	ATP	2-D	803	5	26,33,33	0.85	0	31,52,52	1.87	7 (22%)
3	ATP	3-A	801	5	26,33,33	0.84	0	31,52,52	1.85	6 (19%)
3	ATP	2-B	801	5	26,33,33	0.95	0	31,52,52	1.70	5 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	ATP	4-A	801	5	26,33,33	0.85	0	31,52,52	1.79	5 (16%)
3	ATP	3-B	801	5	26,33,33	0.98	1 (3%)	31,52,52	1.72	5 (16%)
3	ATP	4-B	801	5	26,33,33	0.92	0	31,52,52	1.67	5 (16%)
3	ATP	1-A	801	5	26,33,33	0.86	0	31,52,52	1.81	5 (16%)
3	ATP	4-D	803	5	26,33,33	0.85	0	31,52,52	1.82	5 (16%)
3	ATP	5-D	803	5	26,33,33	0.88	0	31,52,52	1.90	7 (22%)
3	ATP	3-C	801	5	26,33,33	0.95	0	31,52,52	1.90	6 (19%)
3	ATP	1-D	803	5	26,33,33	0.87	0	31,52,52	1.84	5 (16%)
3	ATP	5-B	801	5	26,33,33	0.99	1 (3%)	31,52,52	1.73	5 (16%)
6	ADP	5-E	801	-	24,29,29	0.94	1 (4%)	29,45,45	1.34	4 (13%)
3	ATP	2-A	801	5	26,33,33	0.86	0	31,52,52	1.83	5 (16%)
6	ADP	2-E	801	-	24,29,29	0.92	1 (4%)	29,45,45	1.34	3 (10%)
3	ATP	1-C	801	5	26,33,33	0.93	0	31,52,52	1.87	5 (16%)
3	ATP	4-C	801	5	26,33,33	0.91	0	31,52,52	1.85	5 (16%)
3	ATP	2-C	801	5	26,33,33	0.93	0	31,52,52	1.86	6 (19%)
6	ADP	4-E	801	-	24,29,29	0.92	1 (4%)	29,45,45	1.35	3 (10%)
6	ADP	3-E	801	-	24,29,29	0.93	0	29,45,45	1.35	4 (13%)

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	ATP	1-B	801	5	-	5/18/38/38	0/3/3/3
3	ATP	5-C	801	5	-	6/18/38/38	0/3/3/3
3	ATP	3-D	803	5	-	3/18/38/38	0/3/3/3
3	ATP	5-A	801	5	-	4/18/38/38	0/3/3/3
6	ADP	1-E	801	-	-	0/12/32/32	0/3/3/3
3	ATP	2-D	803	5	-	3/18/38/38	0/3/3/3
3	ATP	3-A	801	5	-	2/18/38/38	0/3/3/3
3	ATP	2-B	801	5	-	5/18/38/38	0/3/3/3
3	ATP	4-A	801	5	-	3/18/38/38	0/3/3/3
3	ATP	3-B	801	5	-	5/18/38/38	0/3/3/3
3	ATP	4-B	801	5	-	5/18/38/38	0/3/3/3
3	ATP	1-A	801	5	-	5/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ATP	4-D	803	5	-	2/18/38/38	0/3/3/3
3	ATP	5-D	803	5	-	3/18/38/38	0/3/3/3
3	ATP	3-C	801	5	-	6/18/38/38	0/3/3/3
3	ATP	1-D	803	5	-	3/18/38/38	0/3/3/3
3	ATP	5-B	801	5	-	5/18/38/38	0/3/3/3
6	ADP	5-E	801	-	-	0/12/32/32	0/3/3/3
3	ATP	2-A	801	5	-	4/18/38/38	0/3/3/3
6	ADP	2-E	801	-	-	0/12/32/32	0/3/3/3
3	ATP	1-C	801	5	-	5/18/38/38	0/3/3/3
3	ATP	4-C	801	5	-	4/18/38/38	0/3/3/3
3	ATP	2-C	801	5	-	5/18/38/38	0/3/3/3
6	ADP	4-E	801	-	-	0/12/32/32	0/3/3/3
6	ADP	3-E	801	-	-	0/12/32/32	0/3/3/3

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	5-B	801	ATP	C2'-C1'	-2.20	1.50	1.53
6	4-E	801	ADP	C5-C4	2.10	1.46	1.40
6	1-E	801	ADP	C5-C4	2.06	1.46	1.40
6	5-E	801	ADP	C2'-C1'	-2.05	1.50	1.53
3	3-B	801	ATP	C2'-C1'	-2.04	1.50	1.53

The worst 5 of 128 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	3-A	801	ATP	PB-O3B-PG	-4.95	115.83	132.83
3	5-A	801	ATP	PB-O3B-PG	-4.95	115.84	132.83
3	2-A	801	ATP	PB-O3B-PG	-4.85	116.18	132.83
3	3-C	801	ATP	PB-O3B-PG	-4.83	116.26	132.83
3	5-C	801	ATP	PB-O3B-PG	-4.77	116.46	132.83

There are no chirality outliers.

5 of 83 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	1-B	801	ATP	C5'-O5'-PA-O1A
3	1-B	801	ATP	C5'-O5'-PA-O2A
3	2-B	801	ATP	C5'-O5'-PA-O1A

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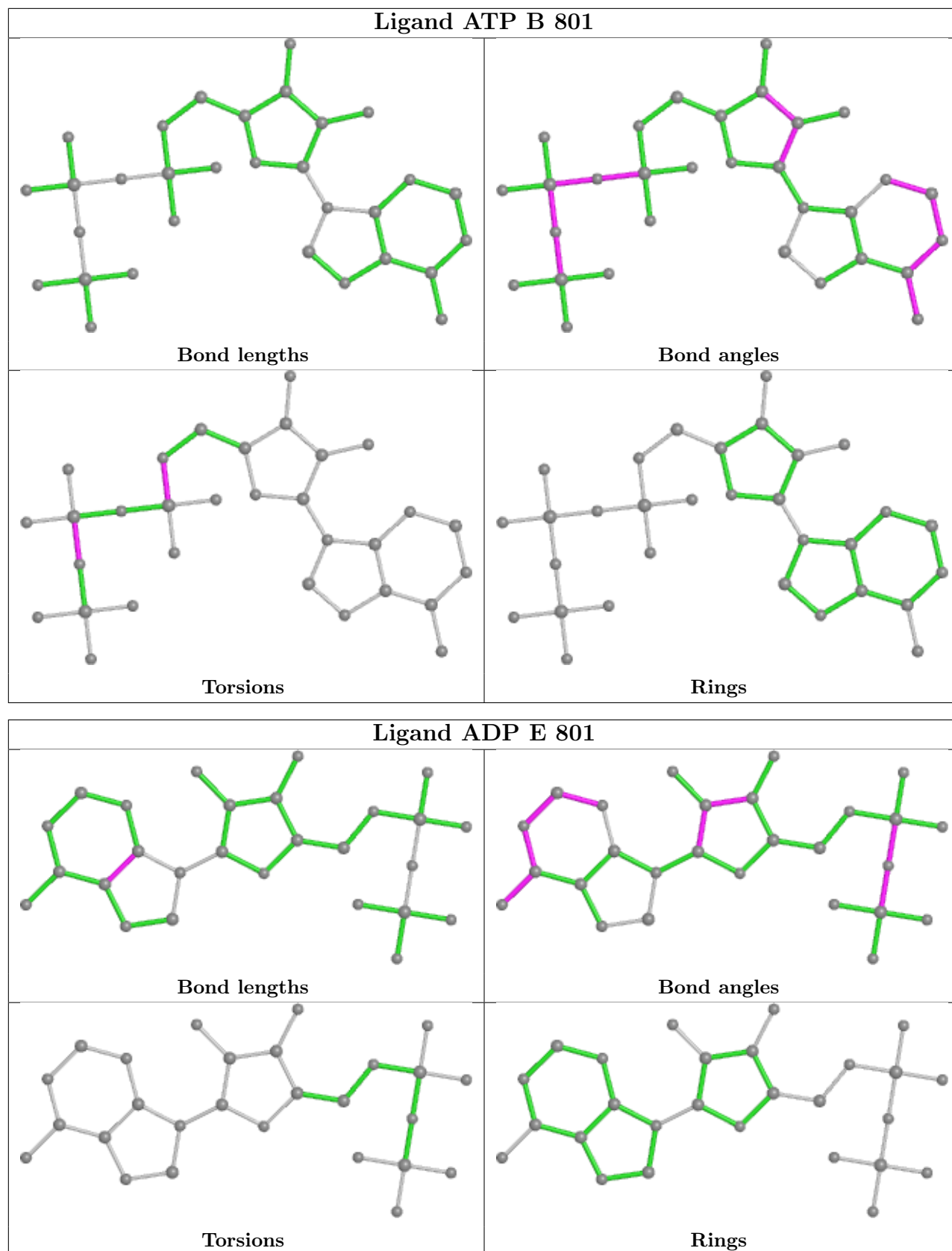
Mol	Chain	Res	Type	Atoms
3	2-B	801	ATP	C5'-O5'-PA-O2A
3	3-B	801	ATP	C5'-O5'-PA-O1A

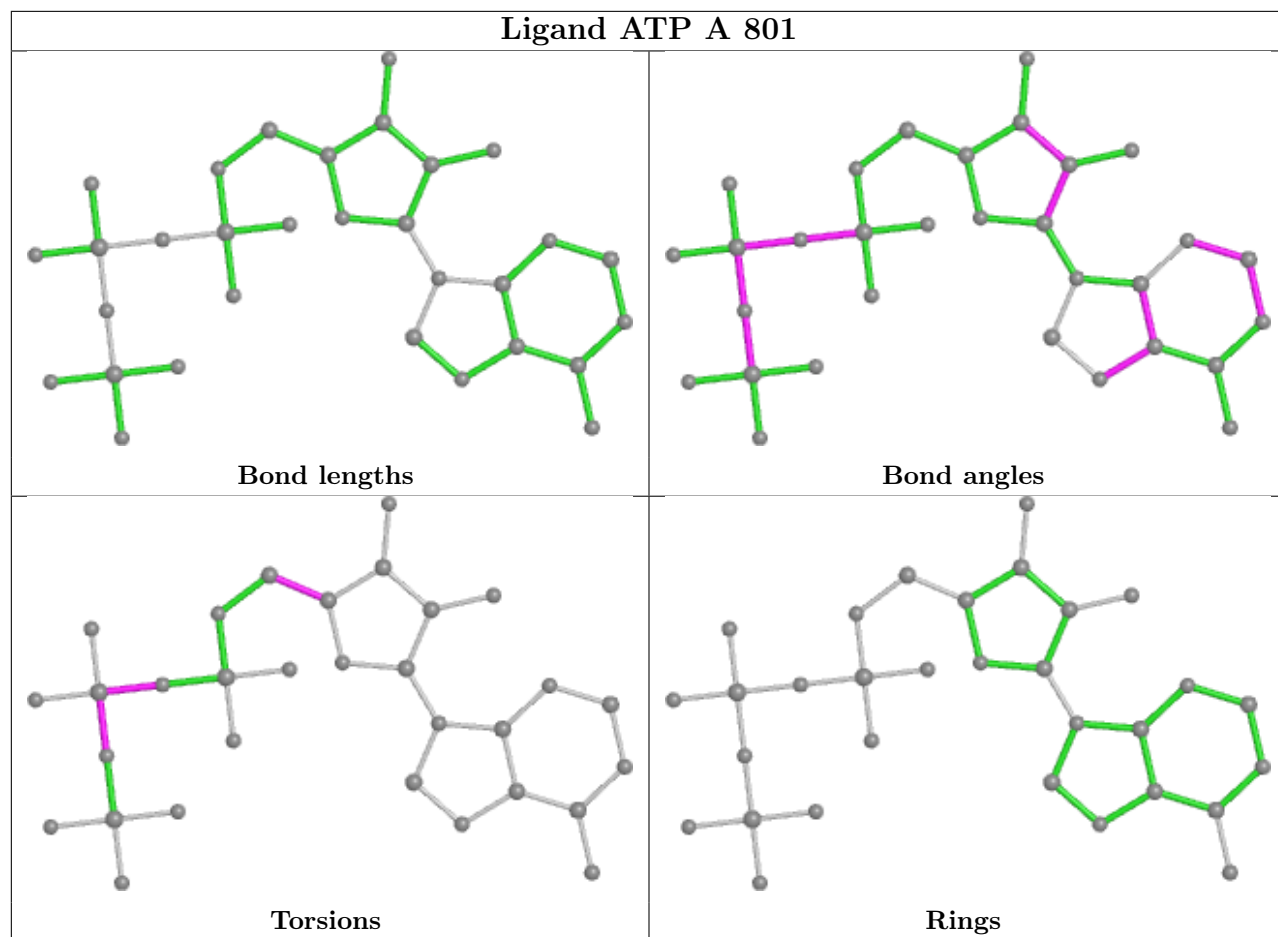
There are no ring outliers.

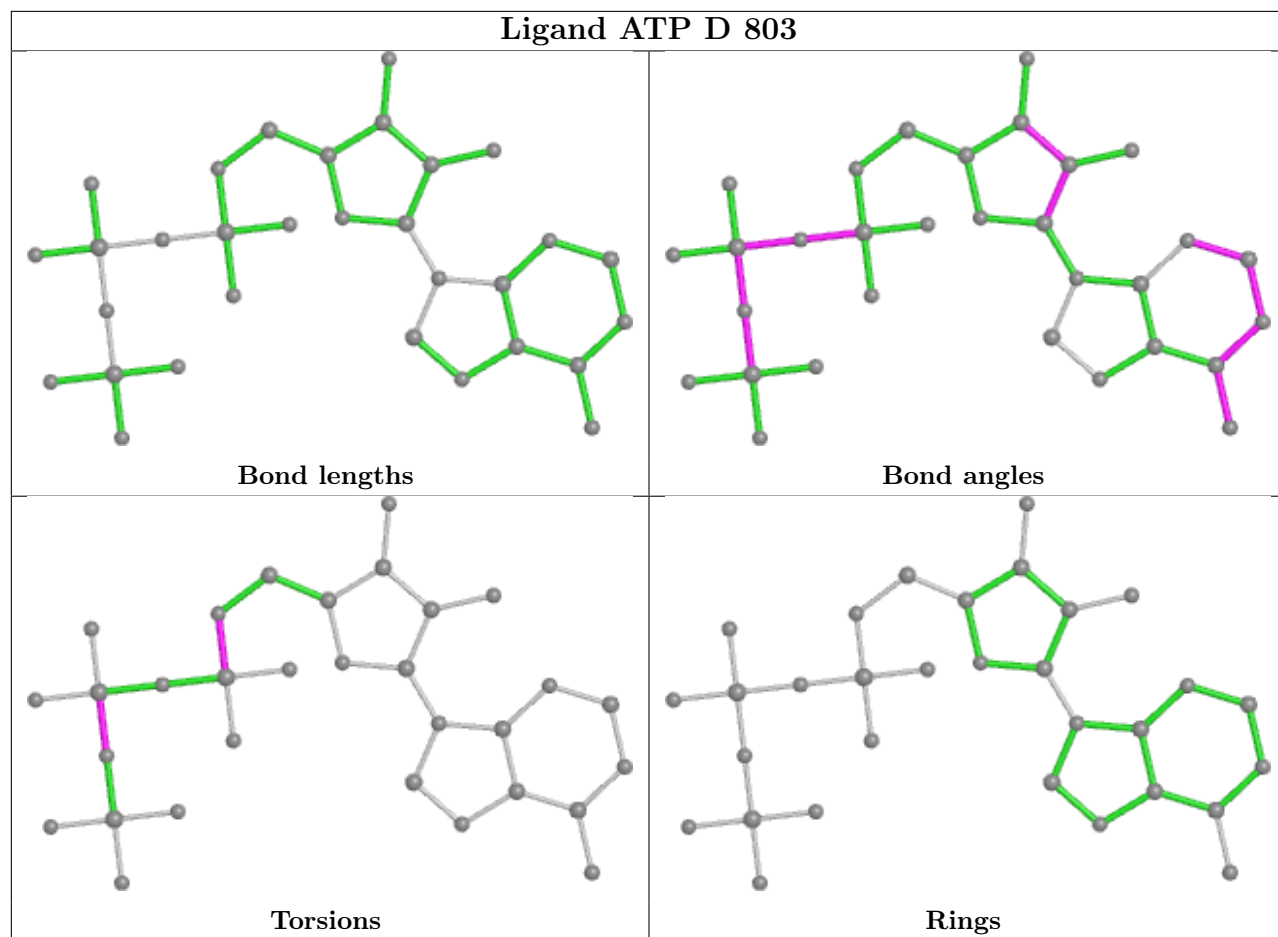
21 monomers are involved in 32 short contacts:

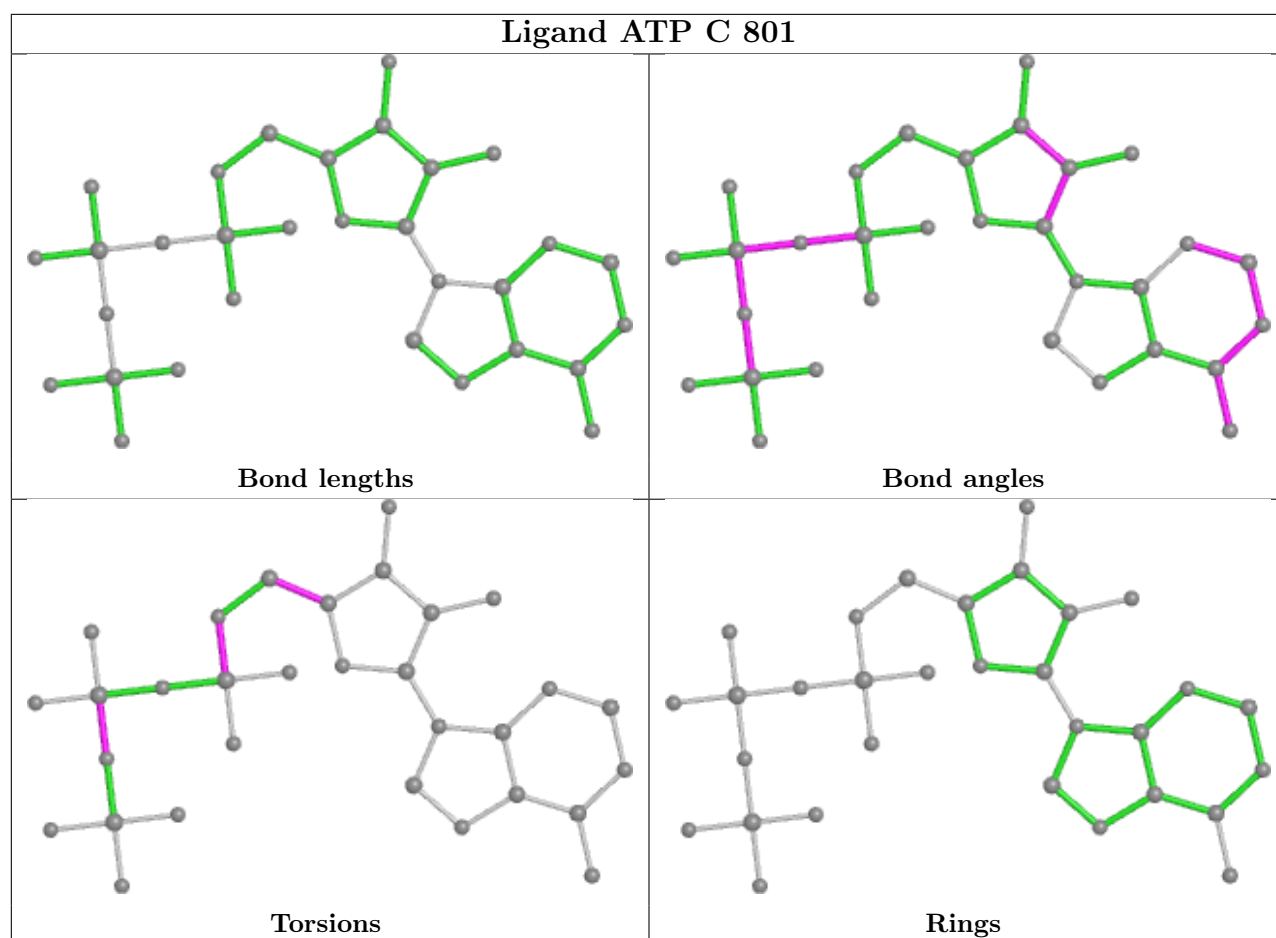
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	1-B	801	ATP	2	0
3	3-D	803	ATP	1	0
3	5-A	801	ATP	1	0
6	1-E	801	ADP	1	0
3	3-A	801	ATP	4	0
3	2-B	801	ATP	3	0
3	4-A	801	ATP	2	0
3	3-B	801	ATP	1	0
3	4-B	801	ATP	2	0
3	1-A	801	ATP	1	0
3	4-D	803	ATP	2	0
3	5-D	803	ATP	1	0
3	3-C	801	ATP	1	0
3	1-D	803	ATP	2	0
3	5-B	801	ATP	1	0
6	5-E	801	ADP	1	0
3	2-A	801	ATP	2	0
6	2-E	801	ADP	1	0
3	1-C	801	ATP	1	0
3	4-C	801	ATP	1	0
3	2-C	801	ATP	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 than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.









5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

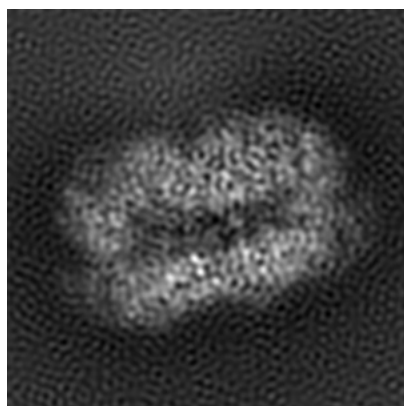
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-7023. These allow visual inspection of the internal detail of the map and identification of artifacts.

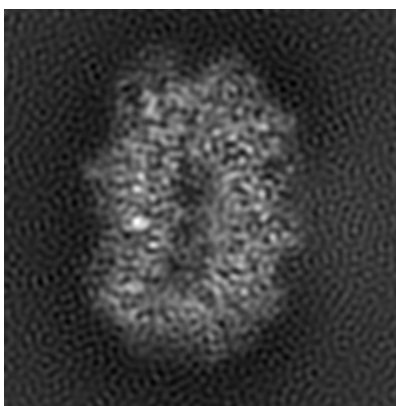
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

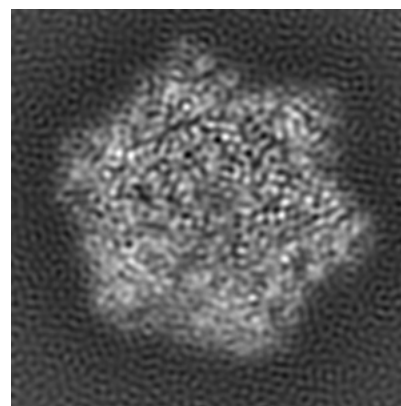
6.1.1 Primary map



X

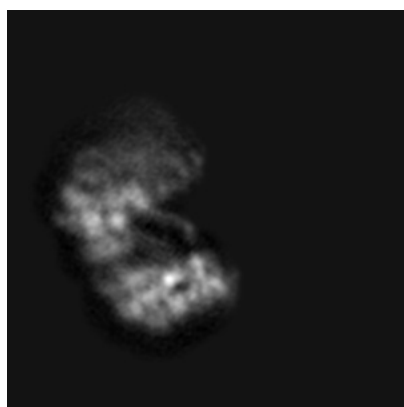


Y

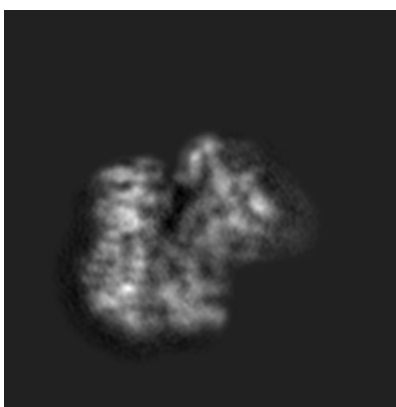


Z

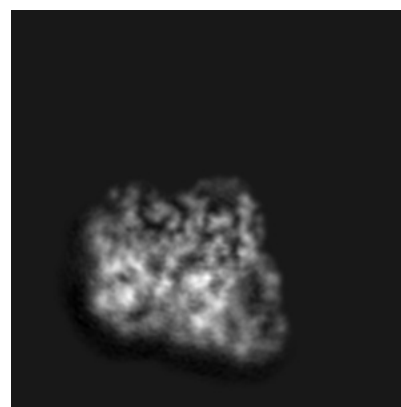
6.1.2 Raw map



X



Y

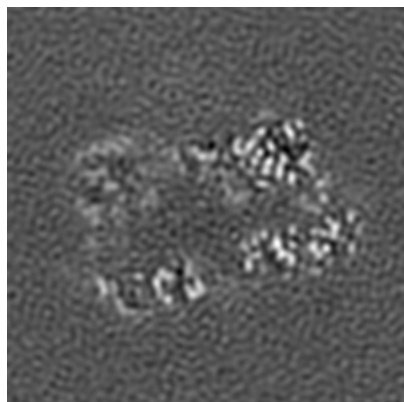


Z

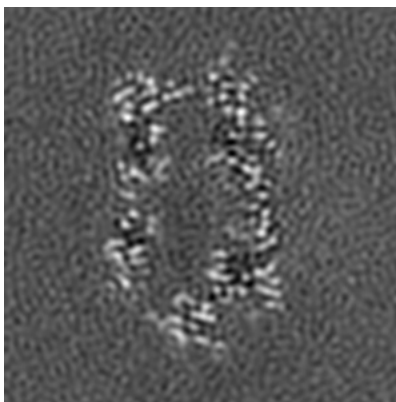
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

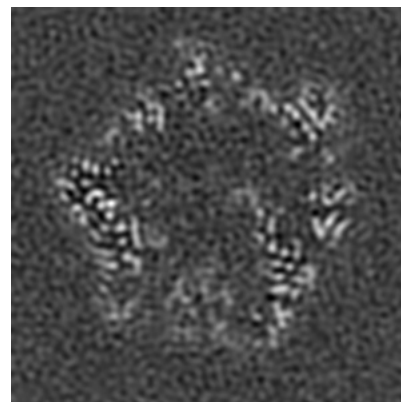
6.2.1 Primary map



X Index: 75

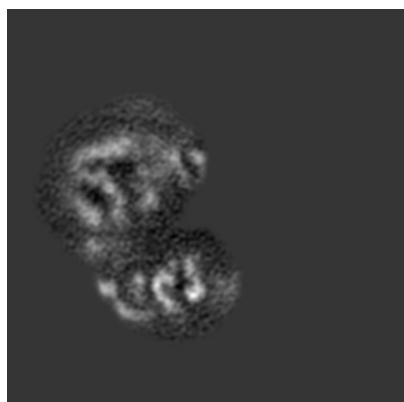


Y Index: 75

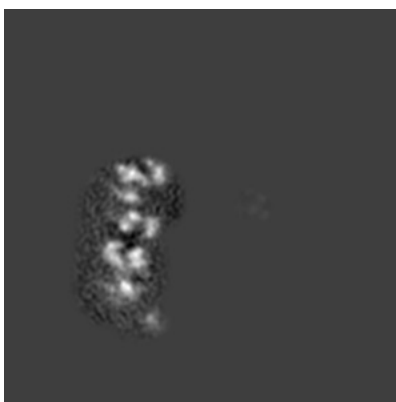


Z Index: 75

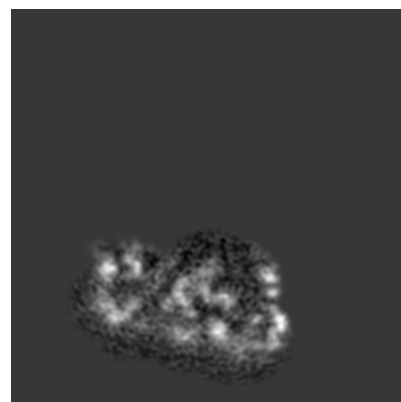
6.2.2 Raw map



X Index: 75



Y Index: 75

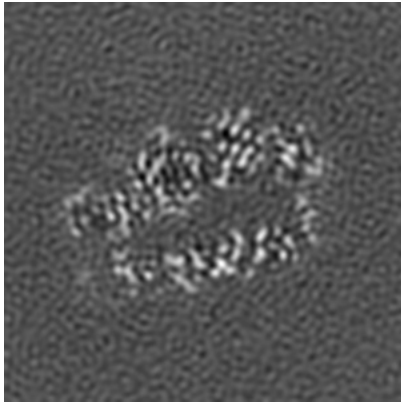


Z Index: 75

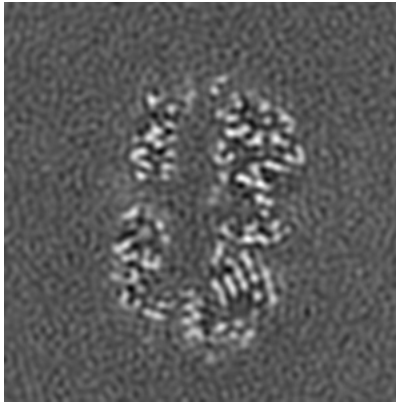
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

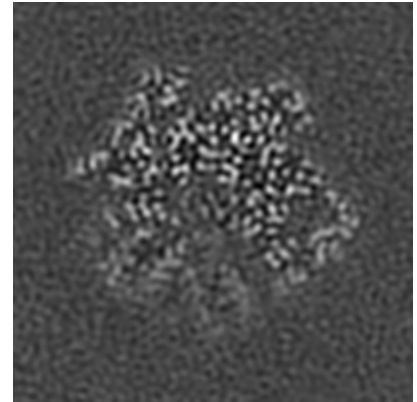
6.3.1 Primary map



X Index: 98

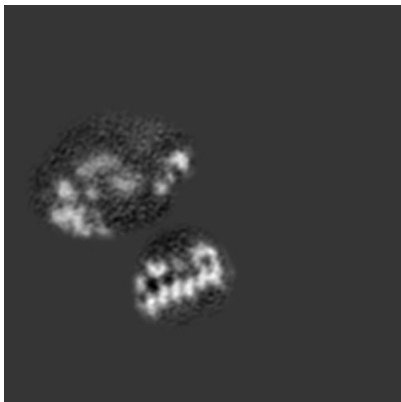


Y Index: 86

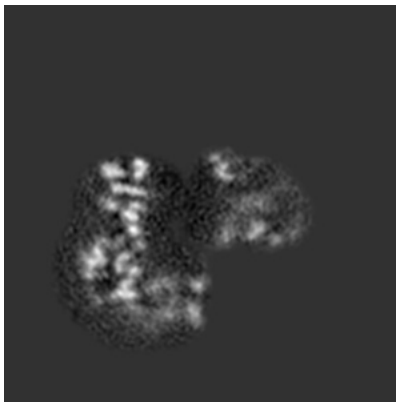


Z Index: 91

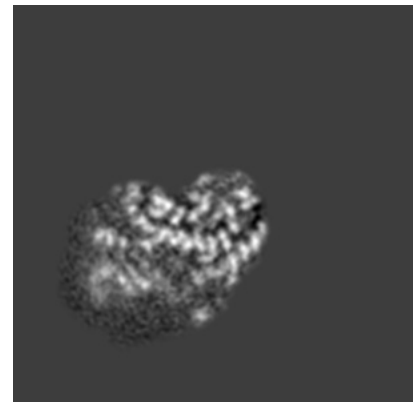
6.3.2 Raw map



X Index: 87



Y Index: 59

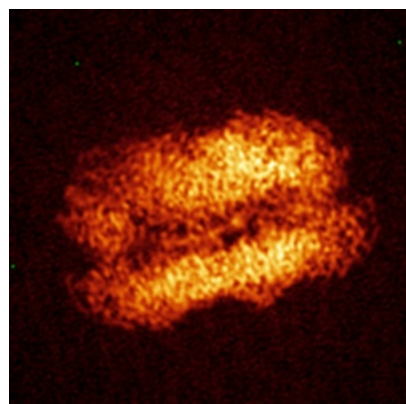


Z Index: 49

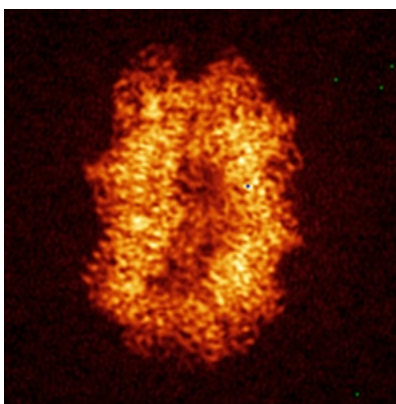
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

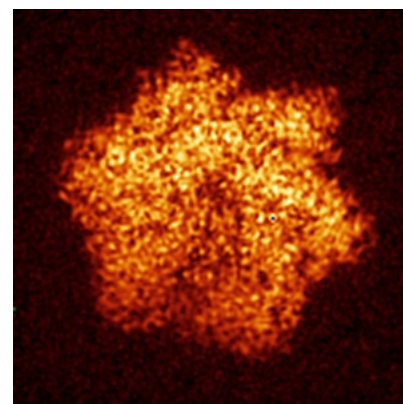
6.4.1 Primary map



X



Y



Z

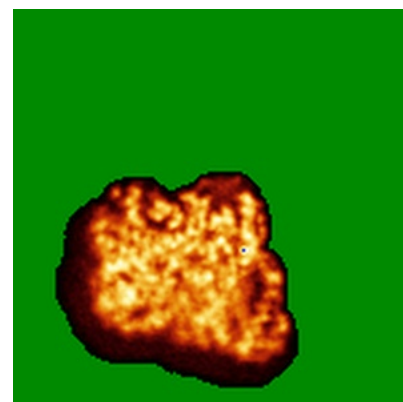
6.4.2 Raw map



X



Y

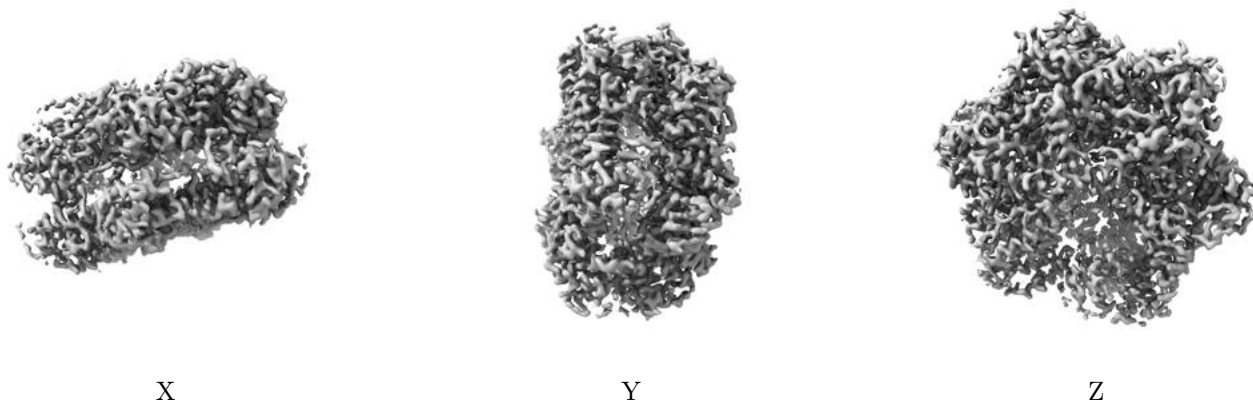


Z

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.

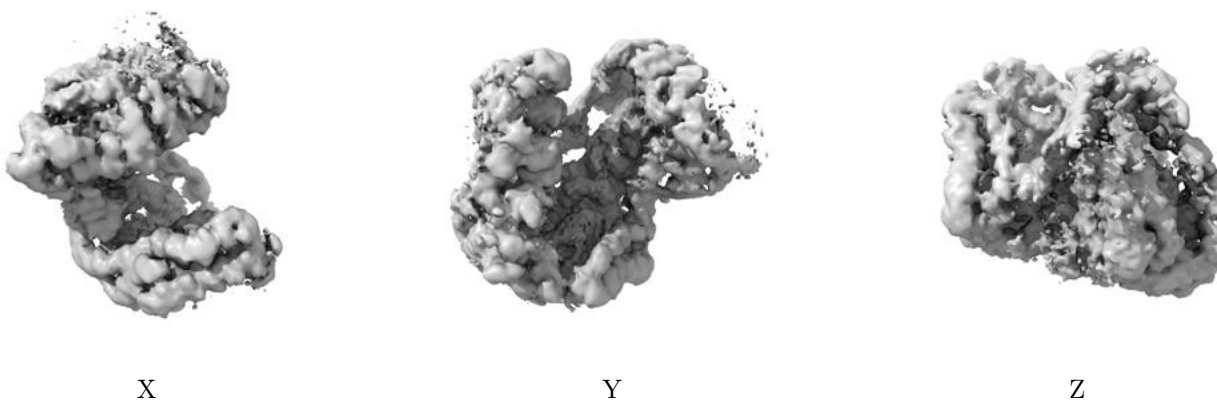
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.08. 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



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.

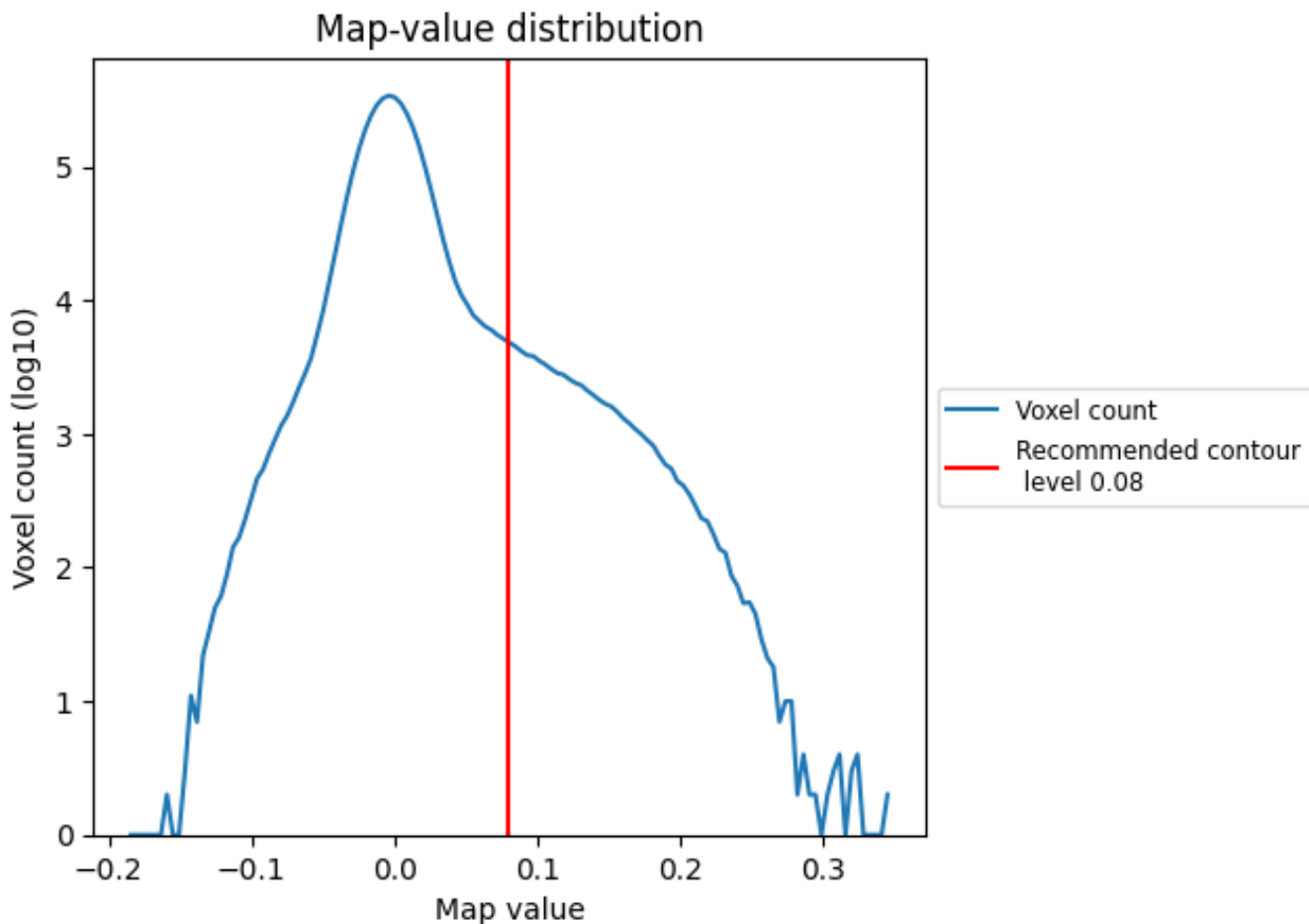
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

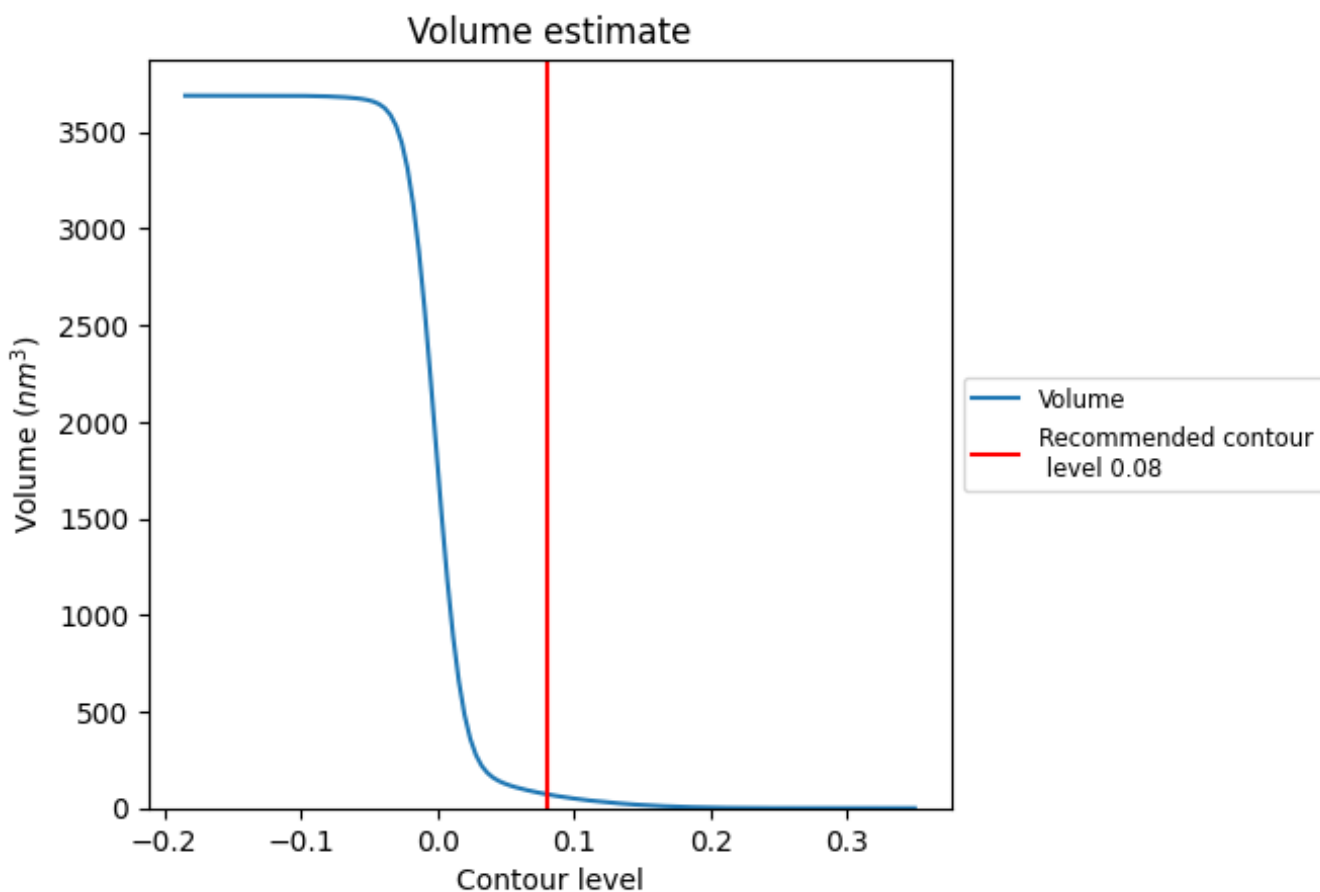
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

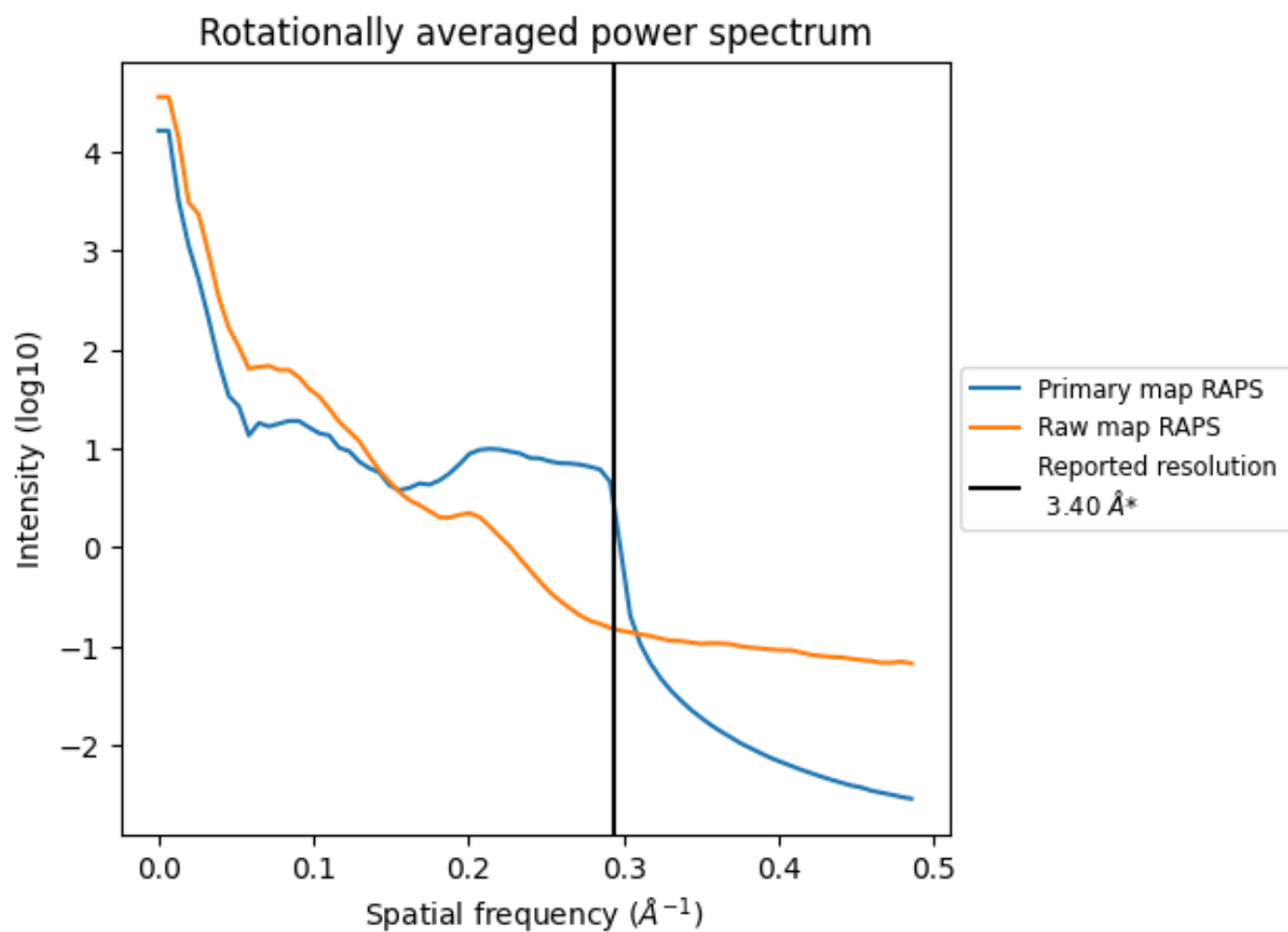
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 72 nm³; this corresponds to an approximate mass of 65 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum i

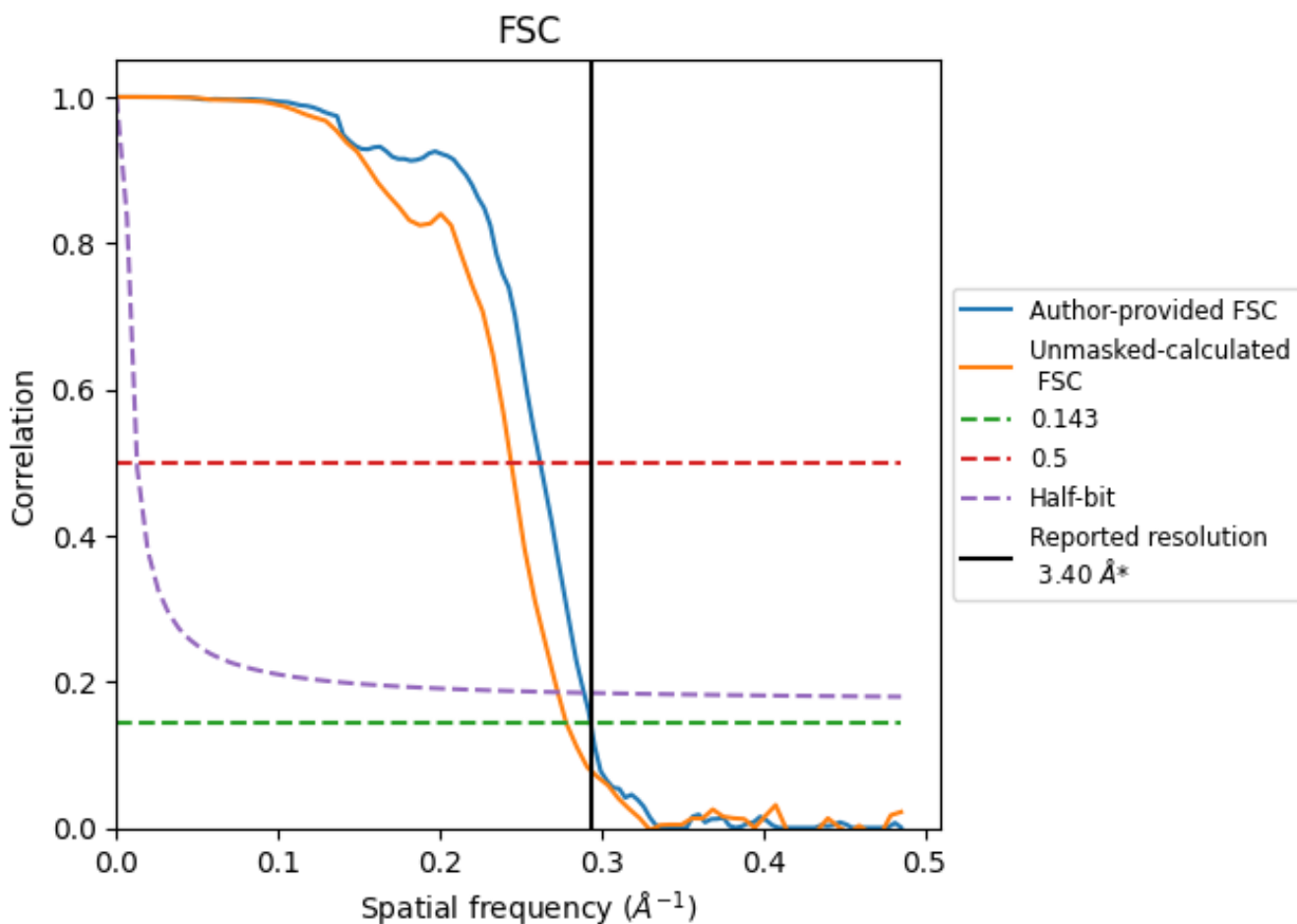


*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

8.2 Resolution estimates [i](#)

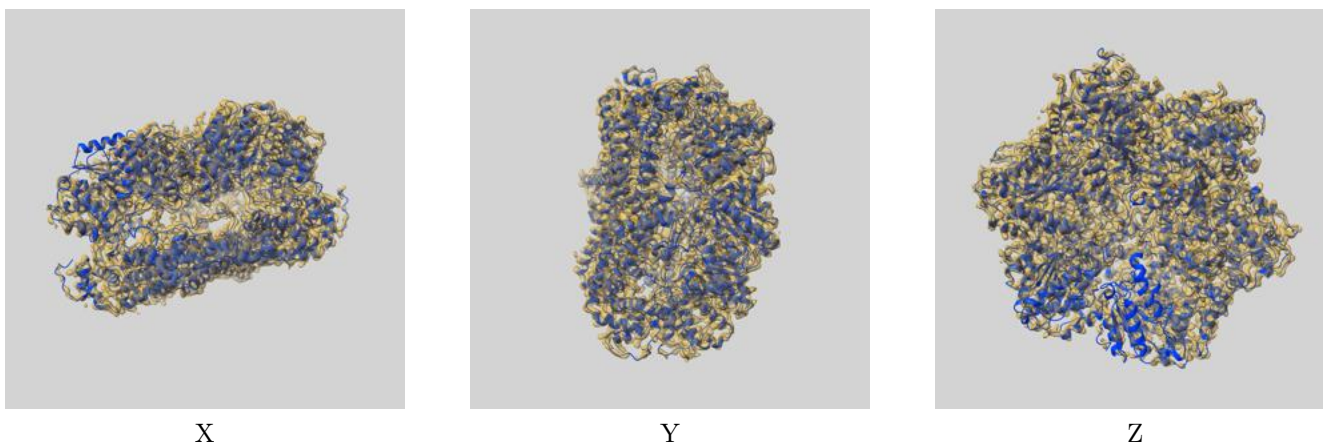
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.41	3.82	3.45
Unmasked-calculated*	3.59	4.10	3.66

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-7023 and PDB model 6AZ0. Per-residue inclusion information can be found in section 3 on page 13.

9.1 Map-model overlay [i](#)

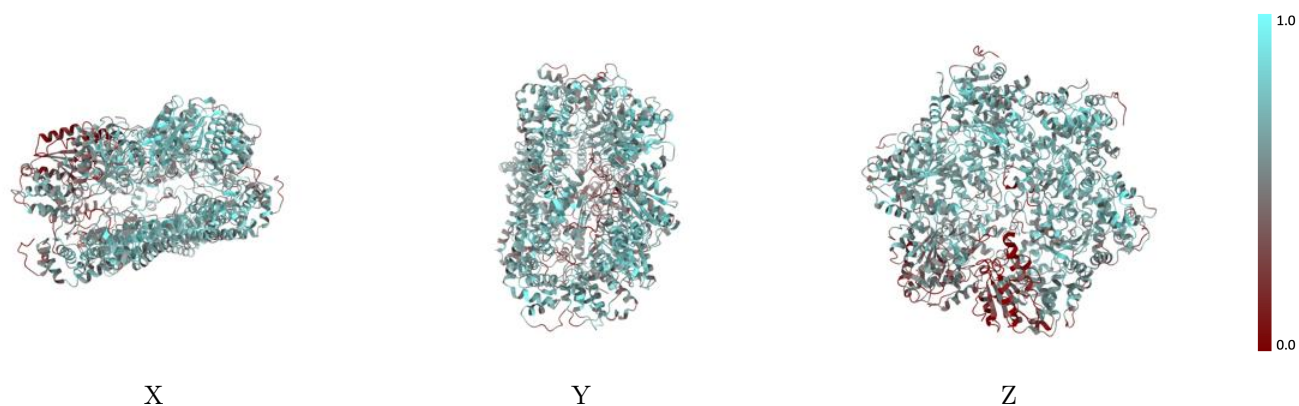


The images above show the 3D surface view of the map at the recommended contour level 0.08 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)

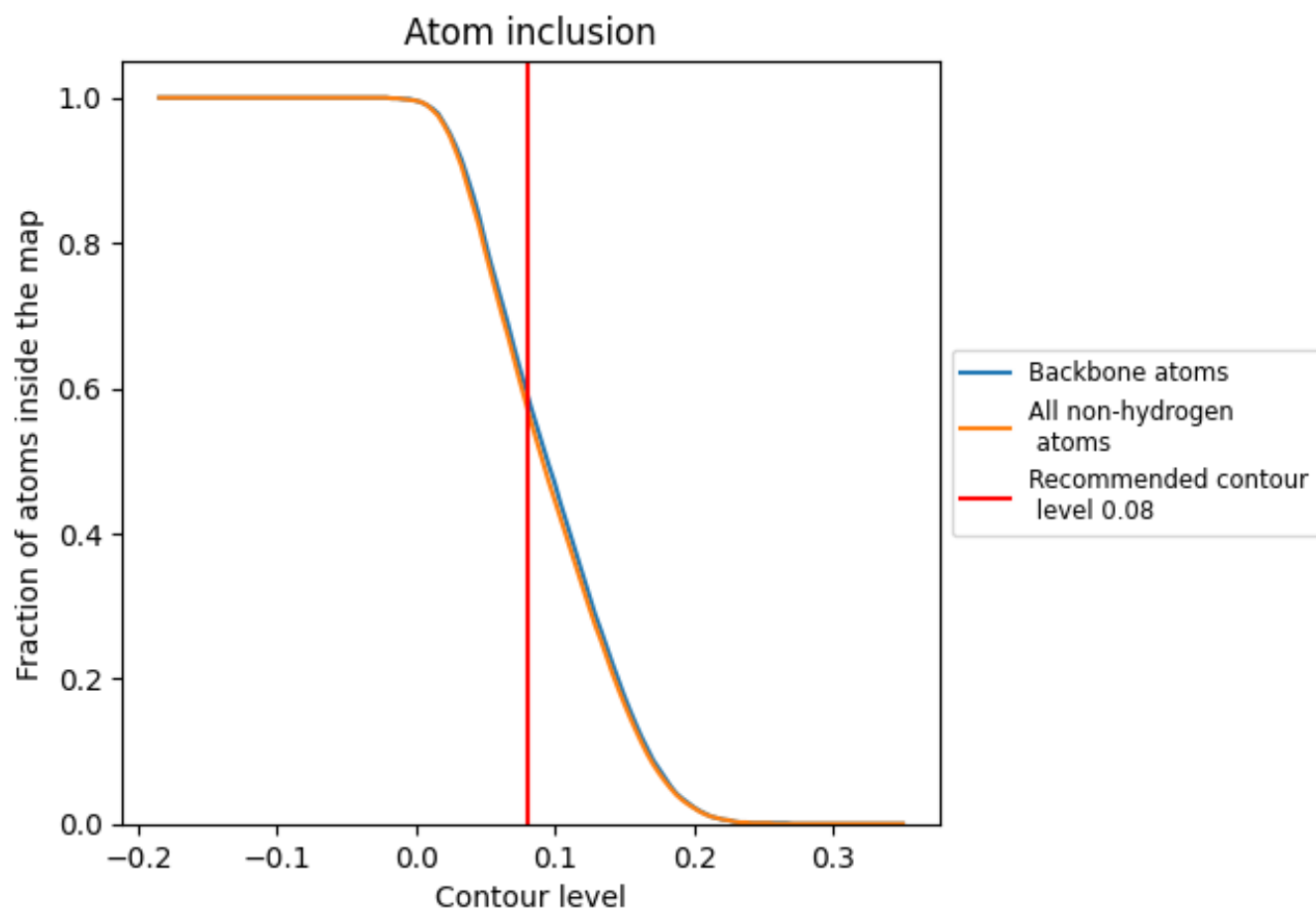
This section was not generated.

9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.08).

9.4 Atom inclusion [i](#)



At the recommended contour level, 59% of all backbone atoms, 57% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	0.5700
A	0.5750
B	0.6370
C	0.6610
D	0.6440
E	0.5760
F	0.3660
G	0.5880

