



## wwPDB EM Validation Summary Report ⓘ

Nov 26, 2022 – 10:46 PM EST

PDB ID : 7TJ7  
EMDB ID : EMD-25918  
Title : Cardiac thin filament decorated with C1 Ig-domain and regulatory M-domain of cardiac myosin binding protein C (cMyBP-C)  
Authors : Risi, C.M.; Galkin, V.E.  
Deposited on : 2022-01-14  
Resolution : 8.00 Å (reported)  
Based on initial models : 7JH7, 6G2T, 5K6P, 3MFP

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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

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

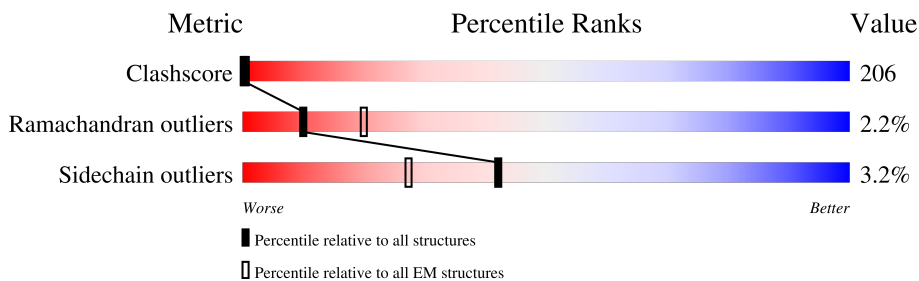
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 8.00 Å.

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






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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	A	375	 88% 8%
1	B	375	 88% 8%
1	C	375	 88% 8%
1	D	375	 88% 8%
1	E	375	 87% 8%
1	F	375	 5% 86% 8%
2	G	220	 5% 11% 82%
2	H	220	 5% 11% 82%

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Mol	Chain	Length	Quality of chain
2	I	220	 5% 12% 82%
2	J	220	 5% 11% 82%
2	K	220	 5% 11% 82%
2	L	220	 5% 11% 82%
2	M	220	 10% 9% 36% 53%
2	N	220	 12% 9% 36% 53%
2	O	220	 11% 9% 36% 53%
2	P	220	 12% 9% 36% 53%
2	Q	220	 11% 9% 36% 53%
2	R	220	 11% 8% 37% 53%
3	S	135	 100%
3	T	135	 100%
3	U	135	 100%
3	V	135	 100%

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 29183 atoms, of which 2016 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 cardiac actin.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	375	Total	C	N	O	S	0	0
			2932	1854	493	565	20		
1	B	375	Total	C	N	O	S	0	0
			2932	1854	493	565	20		
1	C	375	Total	C	N	O	S	0	0
			2932	1854	493	565	20		
1	D	375	Total	C	N	O	S	0	0
			2932	1854	493	565	20		
1	E	375	Total	C	N	O	S	0	0
			2932	1854	493	565	20		
1	F	375	Total	C	N	O	S	0	0
			2932	1854	493	565	20		

- Molecule 2 is a protein called Myosin-binding protein C, cardiac-type.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
2	G	39	Total	C	H	N	O	S	0	0
			666	209	336	62	57	2		
2	H	39	Total	C	H	N	O	S	0	0
			666	209	336	62	57	2		
2	I	39	Total	C	H	N	O	S	0	0
			666	209	336	62	57	2		
2	J	39	Total	C	H	N	O	S	0	0
			666	209	336	62	57	2		
2	K	39	Total	C	H	N	O	S	0	0
			666	209	336	62	57	2		
2	L	39	Total	C	H	N	O	S	0	0
			666	209	336	62	57	2		
2	M	104	Total	C	N	O	S	0	0	
			816	521	138	154	3			
2	N	104	Total	C	N	O	S	0	0	
			816	521	138	154	3			
2	O	104	Total	C	N	O	S	0	0	
			816	521	138	154	3			

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	P	104	Total	C	N	O	S	0	0
			816	521	138	154	3		
2	Q	104	Total	C	N	O	S	0	0
			816	521	138	154	3		
2	R	104	Total	C	N	O	S	0	0
			816	521	138	154	3		

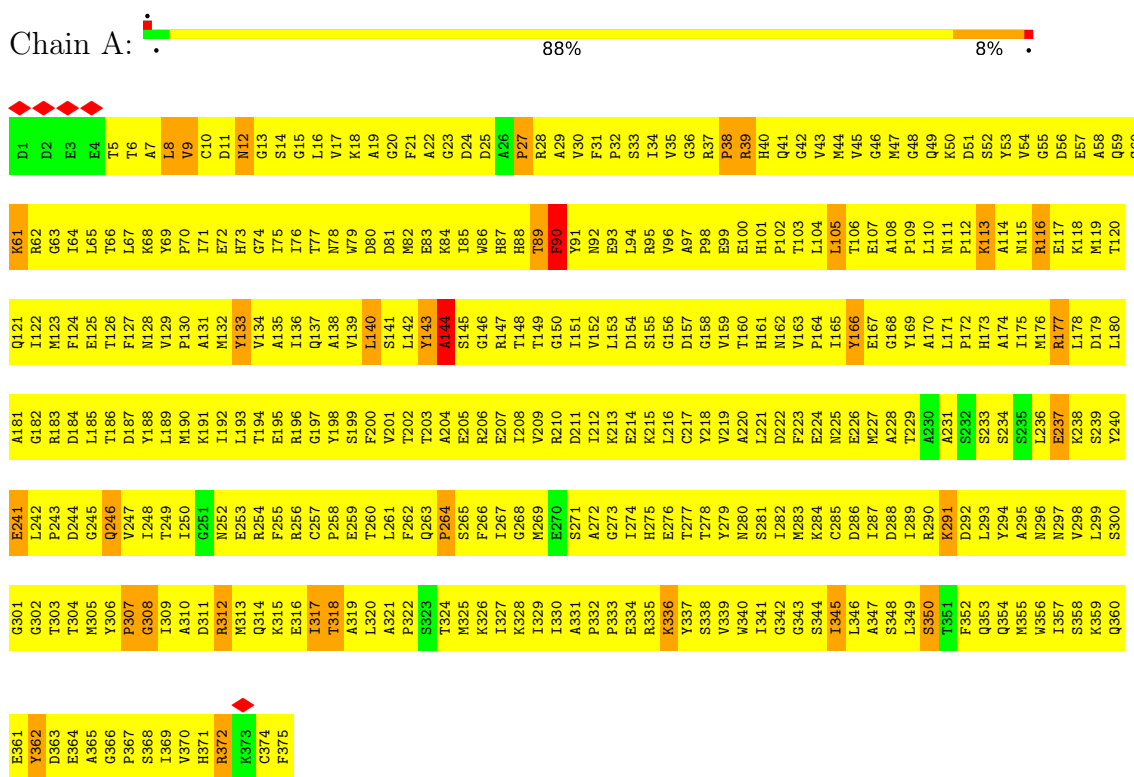
- Molecule 3 is a protein called tropomyosin model.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	S	135	Total	C	N	O	0	0
			674	405	134	135		
3	T	135	Total	C	N	O	0	0
			675	405	135	135		
3	U	135	Total	C	N	O	0	0
			675	405	135	135		
3	V	135	Total	C	N	O	0	0
			675	405	135	135		

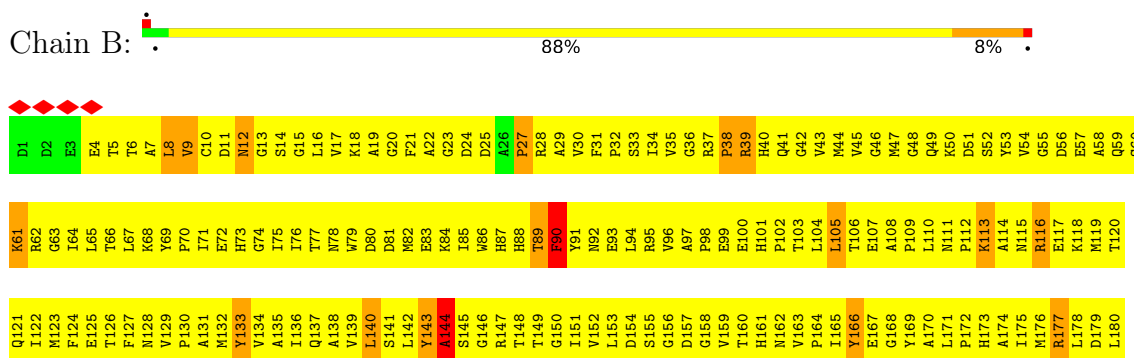
### 3 Residue-property plots

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.

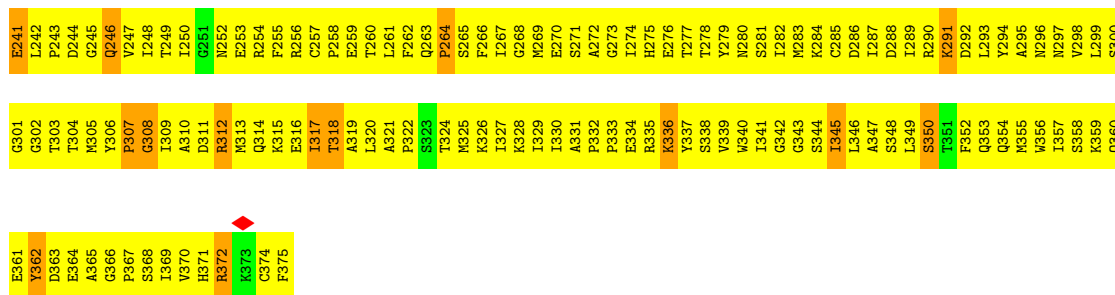
- Molecule 1: cardiac actin



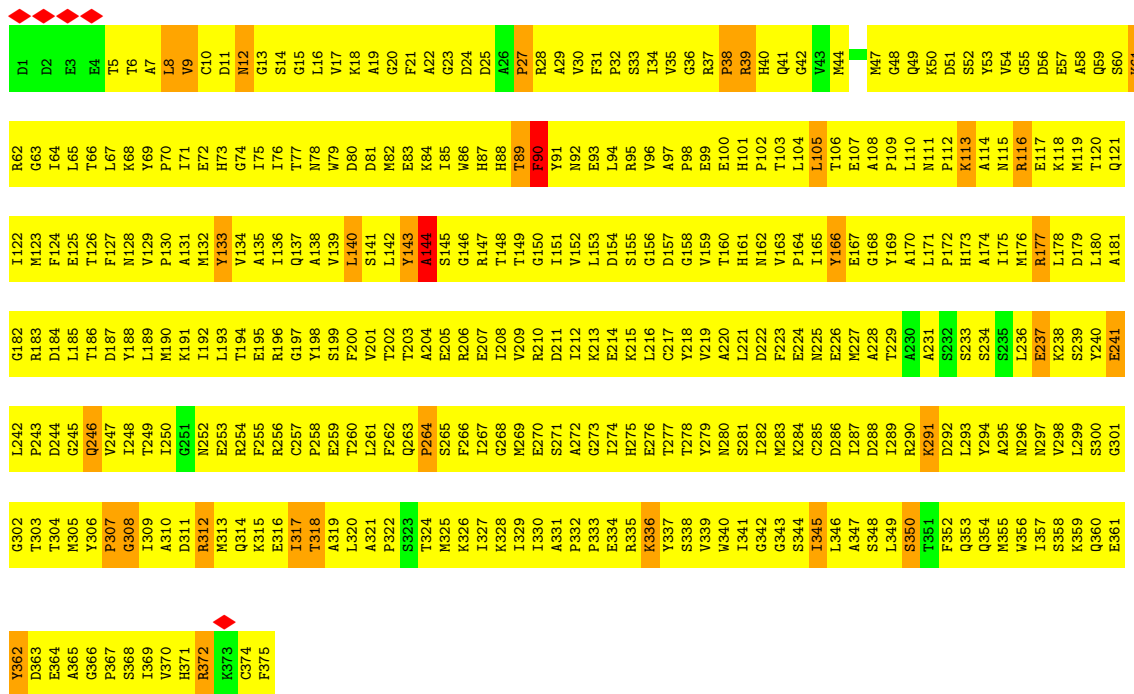
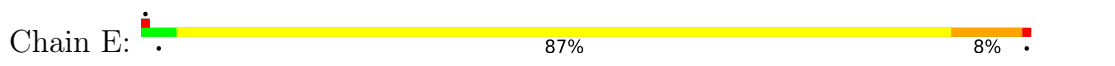
- Molecule 1: cardiac actin



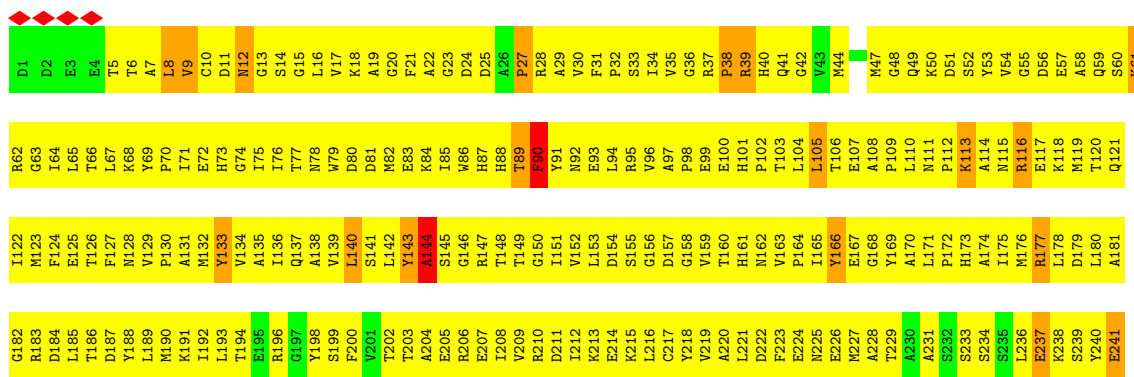
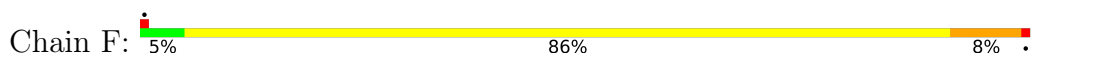




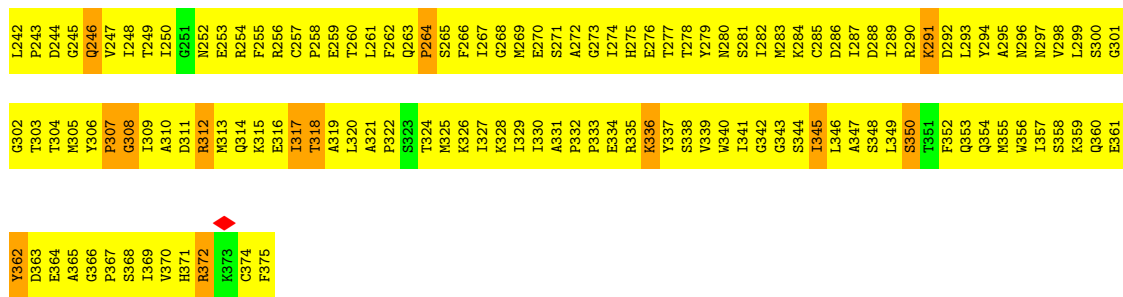
Molecule 1: cardiac actin



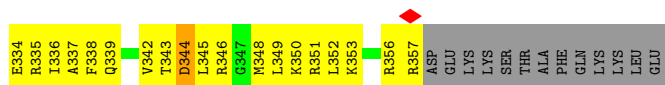
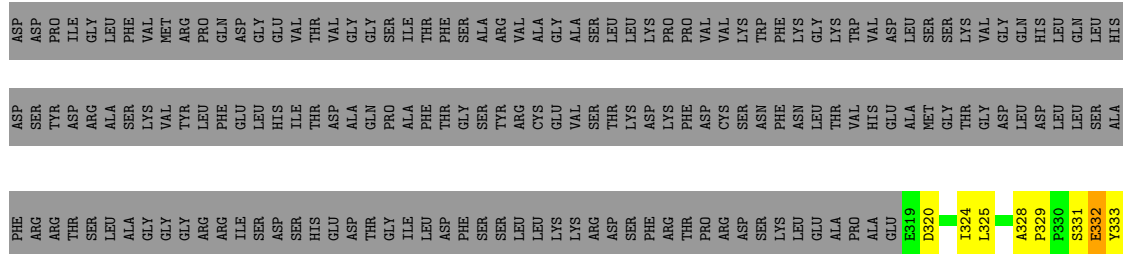
Molecule 1: cardiac actin



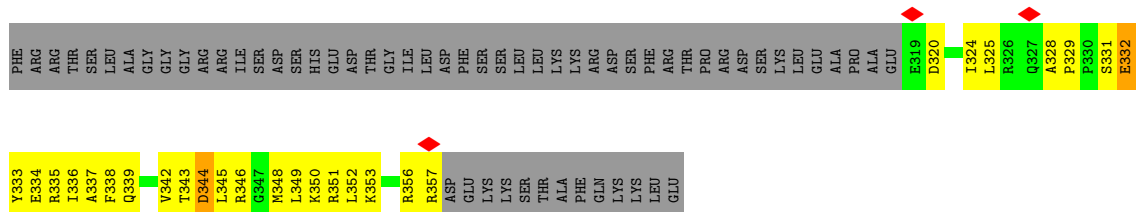
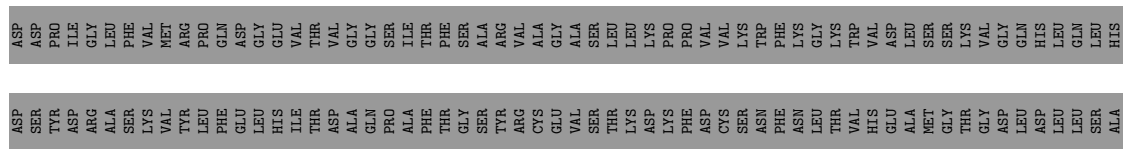




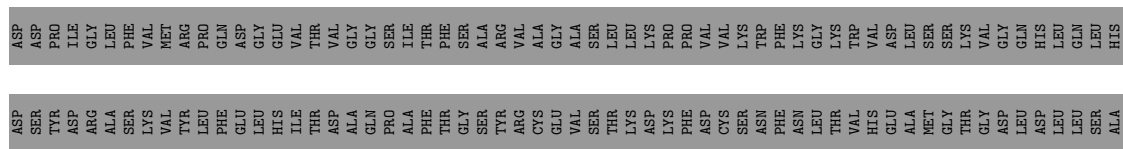
● Molecule 2: Myosin-binding protein C, cardiac-type

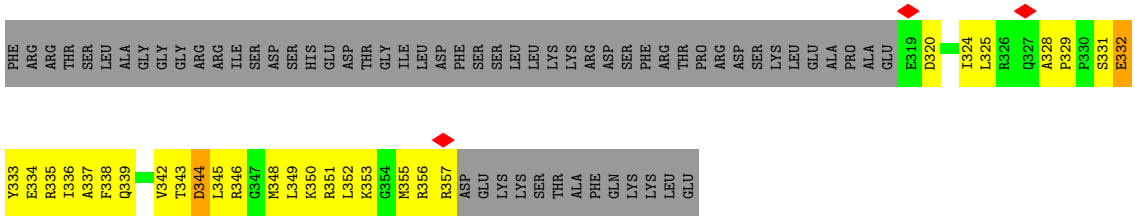


● Molecule 2: Myosin-binding protein C, cardiac-type

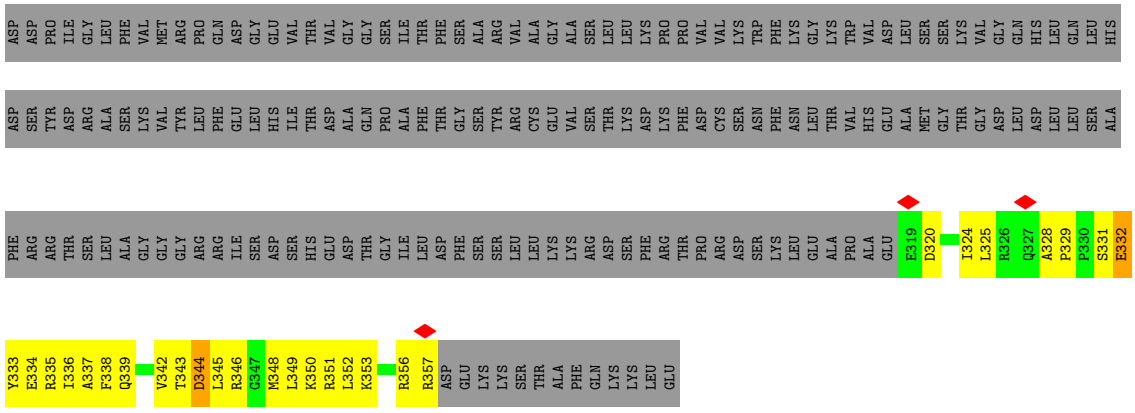


● Molecule 2: Myosin-binding protein C, cardiac-type

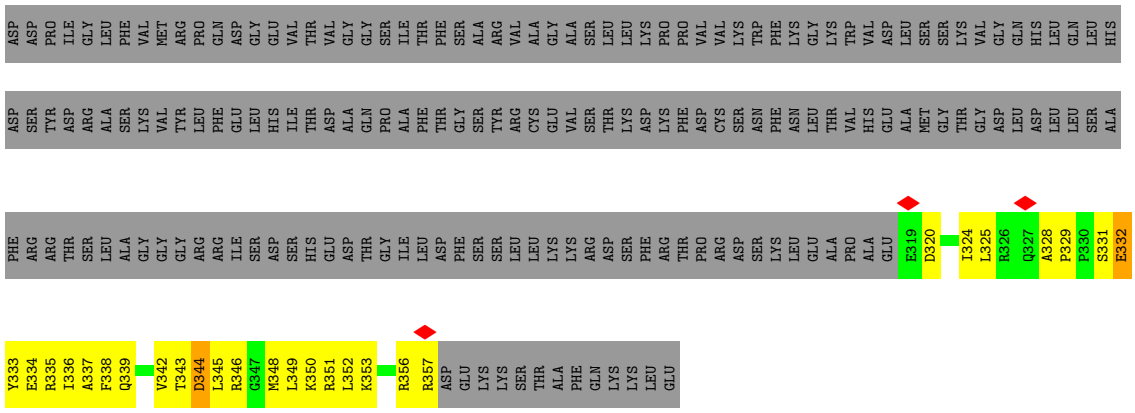




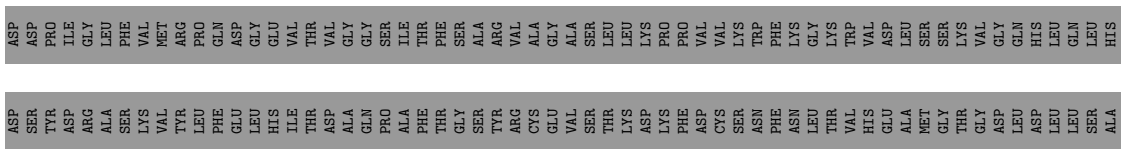
Molecule 2: Myosin-binding protein C, cardiac-type

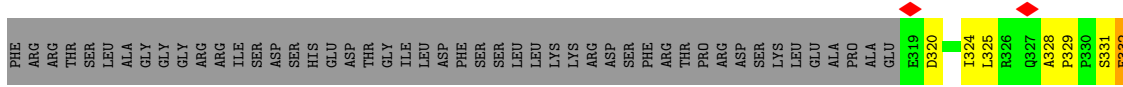


Molecule 2: Myosin-binding protein C, cardiac-type

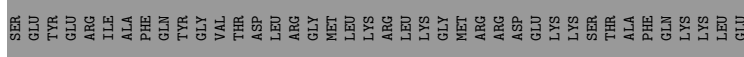
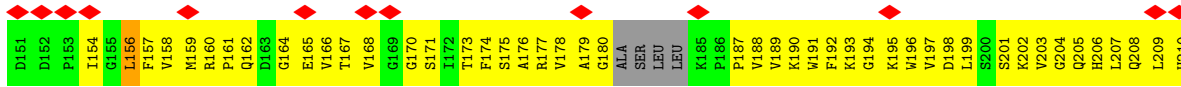


Molecule 2: Myosin-binding protein C, cardiac-type

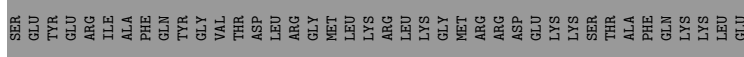
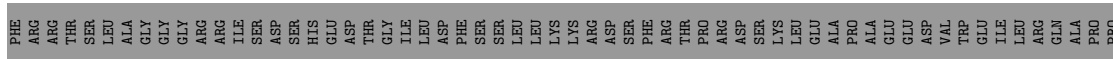
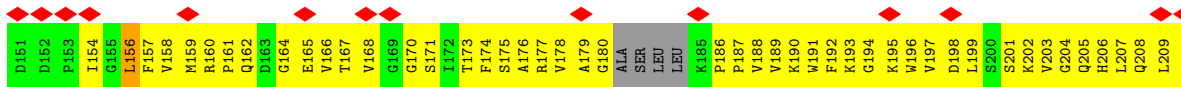




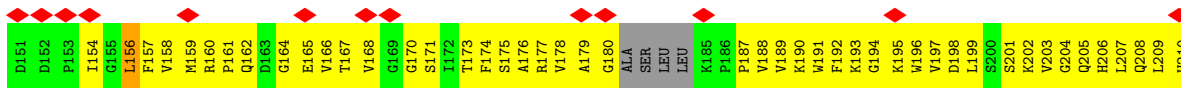
• Molecule 2: Myosin-binding protein C, cardiac-type



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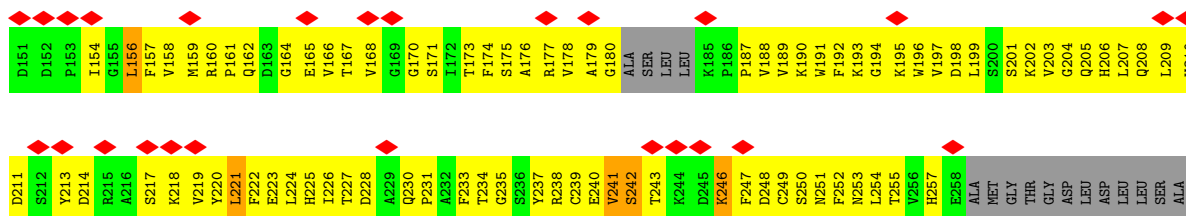


PHE ARG ARG ARG THR SER SER LEU ALA GLY GLY GLY ARG ARG ILE ALA PHE THR ASP SER ASP ARG HIS GLY MET ASP THR LYS THR ARG GLY ILE LEU LYS LEU MET PHE SER SER SER SER LEU LEU LYS LYS LYS ASP ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU LEU ALA PRO GLU ALA PRO ALA GLU ASP ASP VAL TRP TRP ILE LEU ARG ARG GLN ALA ALA PRO PRO PRO PHE

SER GLU TYR GLU THR ARG ARG ILE ALA PHE GLN THR TYR GLY ARG VAL THR ASP SER ASP ARG HIS MET ASP LYS LYS LEU LEU MET ASP THR ARG ARG ARG MET ASP THR ASP SER THR ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU ALA PRO GLU

### ● Molecule 2: Myosin-binding protein C, cardiac-type

Chain P: 9% 12% 36% 53%

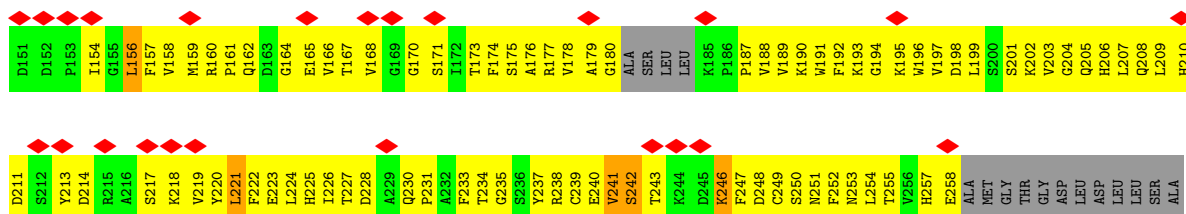


PHE ARG ARG ARG THR SER SER LEU ALA GLY GLY GLY ARG ARG ILE ALA PHE THR ASP SER ASP ARG HIS GLY MET ASP THR LYS THR ARG GLY ILE LEU LYS LEU MET PHE SER SER SER LEU LEU LYS LYS LYS ASP ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU ALA PRO GLU ALA PRO ALA GLU ASP ASP VAL TRP TRP ILE LEU ARG ARG GLN ALA ALA PRO PRO PRO PHE

SER GLU TYR GLU THR ARG ARG ILE ALA PHE GLN THR TYR GLY ARG VAL THR ASP SER ASP ARG HIS MET ASP LYS LYS LEU LEU MET PHE SER SER SER LEU LEU LYS LYS LYS ASP ASP THR ASP SER THR ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU ALA PRO GLU

### ● Molecule 2: Myosin-binding protein C, cardiac-type

Chain Q: 9% 11% 36% 53%

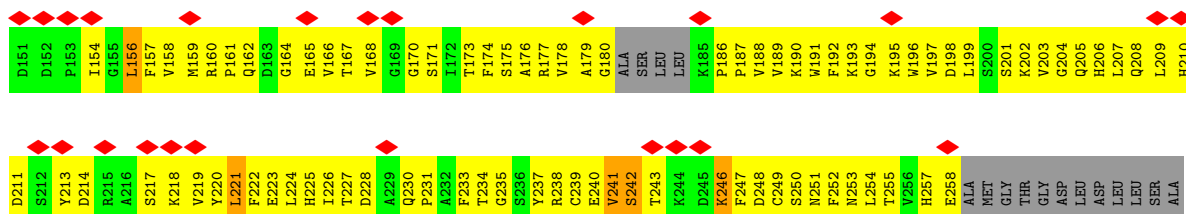


PHE ARG ARG ARG THR SER SER LEU ALA GLY GLY GLY ARG ARG ILE ALA PHE THR ASP SER ASP ARG HIS GLY MET ASP THR LYS THR ARG GLY ILE LEU LYS LEU MET PHE SER SER SER LEU LEU LYS LYS LYS ASP ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU ALA PRO GLU ALA PRO ALA GLU ASP ASP VAL TRP TRP ILE LEU ARG ARG GLN ALA ALA PRO PRO PRO PHE

SER GLU TYR GLU THR ARG ARG ILE ALA PHE GLN THR TYR GLY ARG VAL THR ASP SER ASP ARG HIS MET ASP LYS LYS LEU LEU MET PHE SER SER SER LEU LEU LYS LYS LYS ASP ASP THR ASP SER THR ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU ALA PRO GLU

### ● Molecule 2: Myosin-binding protein C, cardiac-type

Chain R: 8% 11% 37% 53%



PHE ARG ARG ARG THR SER SER LEU ALA GLY GLY GLY ARG ARG ILE ALA PHE THR ASP SER ASP ARG HIS MET ASP THR LYS THR ARG GLY ILE LEU LYS LEU MET PHE SER SER SER LEU LEU LYS LYS LYS ASP ASP THR ASP SER PHE PHE ARG ARG THR THR PRO ARG ASP SER LYS LYS LEU LEU LEU ALA PRO GLU ALA PRO ALA GLU ASP ASP VAL TRP TRP ILE LEU ARG ARG GLN ALA ALA PRO PRO PRO PHE

SER  
GLU  
TYR  
GLU  
ARG  
ILE  
ALA  
PHE  
GLN  
TYR  
GLY  
VAL  
THR  
ASP  
LEU  
ARG  
GLY  
MET  
LEU  
LYS  
ARG  
LEU  
LYS  
GLY  
MET  
ARG  
ARG  
ASP  
GLU  
LYS  
LYS  
SER  
THR  
ALA  
PHE  
GLN  
LYS  
LYS  
LEU  
GLU

- Molecule 3: tropomyosin model

Chain S:  100%

There are no outlier residues recorded for this chain.

- Molecule 3: tropomyosin model

Chain T:  100%

There are no outlier residues recorded for this chain.

- Molecule 3: tropomyosin model

Chain U:  100%

There are no outlier residues recorded for this chain.

- Molecule 3: tropomyosin model

Chain V:  100%

There are no outlier residues recorded for this chain.

## 4 Experimental information

Property	Value	Source
EM reconstruction method	HELICAL	Depositor
Imposed symmetry	HELICAL, twist=-166.7°, rise=27.4 Å, axial sym=C1	Depositor
Number of segments used	9710	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 ( $e^-/\text{Å}^2$ )	34	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	10.978	Depositor
Minimum map value	-4.043	Depositor
Average map value	0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	0.728	Depositor
Map size (Å)	122.395004, 117.015, 305.315	wwPDB
Map dimensions	91, 87, 227	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.345, 1.345, 1.345	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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	0.52	1/2995 (0.0%)	1.00	16/4057 (0.4%)
1	B	0.52	1/2995 (0.0%)	1.00	16/4057 (0.4%)
1	C	0.52	1/2995 (0.0%)	1.00	16/4057 (0.4%)
1	D	0.52	1/2995 (0.0%)	1.00	16/4057 (0.4%)
1	E	0.52	1/2995 (0.0%)	1.00	16/4057 (0.4%)
1	F	0.52	1/2995 (0.0%)	1.00	16/4057 (0.4%)
2	G	0.52	0/336	0.77	0/449
2	H	0.52	0/336	0.77	0/449
2	I	0.52	0/336	0.77	0/449
2	J	0.52	0/336	0.77	0/449
2	K	0.52	0/336	0.77	0/449
2	L	0.52	0/336	0.77	0/449
2	M	0.51	0/837	0.70	0/1134
2	N	0.51	0/837	0.70	0/1134
2	O	0.51	0/837	0.70	0/1134
2	P	0.51	0/837	0.70	0/1134
2	Q	0.51	0/837	0.70	0/1134
2	R	0.51	0/837	0.70	0/1134
All	All	0.52	6/25008 (0.0%)	0.93	96/33840 (0.3%)

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
2	G	0	1
2	H	0	1
2	I	0	1
2	J	0	1
2	K	0	1
2	L	0	1
2	M	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	N	0	2
2	O	0	2
2	P	0	2
2	Q	0	2
2	R	0	2
All	All	0	18

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	38	PRO	N-CD	5.21	1.55	1.47
1	B	38	PRO	N-CD	5.21	1.55	1.47
1	A	38	PRO	N-CD	5.19	1.55	1.47
1	E	38	PRO	N-CD	5.17	1.55	1.47
1	F	38	PRO	N-CD	5.15	1.55	1.47

The worst 5 of 96 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	144	ALA	N-CA-CB	20.91	139.38	110.10
1	E	144	ALA	N-CA-CB	20.90	139.36	110.10
1	B	144	ALA	N-CA-CB	20.89	139.35	110.10
1	A	144	ALA	N-CA-CB	20.89	139.34	110.10
1	F	144	ALA	N-CA-CB	20.86	139.31	110.10

There are no chirality outliers.

5 of 18 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	G	344	ASP	Peptide
2	H	344	ASP	Peptide
2	I	344	ASP	Peptide
2	J	344	ASP	Peptide
2	K	344	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	A	2932	0	2894	1606	0
1	B	2932	0	2894	1615	0
1	C	2932	0	2894	1672	0
1	D	2932	0	2894	1679	0
1	E	2932	0	2894	1609	0
1	F	2932	0	2894	1611	0
2	G	330	336	335	91	0
2	H	330	336	335	92	0
2	I	330	336	335	94	0
2	J	330	336	335	91	0
2	K	330	336	335	92	0
2	L	330	336	335	95	0
2	M	816	0	777	144	0
2	N	816	0	777	141	0
2	O	816	0	777	145	0
2	P	816	0	777	140	0
2	Q	816	0	777	144	0
2	R	816	0	777	145	0
3	S	674	0	134	0	0
3	T	675	0	137	0	0
3	U	675	0	137	0	0
3	V	675	0	137	0	0
All	All	27167	2016	24581	10648	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 206.

The worst 5 of 10648 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:F:79:TRP:O	1:F:83:GLU:HG3	1.32	1.30
1:F:223:PHE:O	1:F:227:MET:HG2	1.31	1.29
1:D:79:TRP:O	1:D:83:GLU:HG3	1.32	1.29
1:A:79:TRP:O	1:A:83:GLU:HG3	1.32	1.28
1:B:79:TRP:O	1:B:83:GLU:HG3	1.32	1.27

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	373/375 (100%)	263 (70%)	99 (26%)	11 (3%)	4	29
1	B	373/375 (100%)	263 (70%)	99 (26%)	11 (3%)	4	29
1	C	373/375 (100%)	263 (70%)	99 (26%)	11 (3%)	4	29
1	D	373/375 (100%)	263 (70%)	99 (26%)	11 (3%)	4	29
1	E	373/375 (100%)	263 (70%)	99 (26%)	11 (3%)	4	29
1	F	373/375 (100%)	263 (70%)	99 (26%)	11 (3%)	4	29
2	G	37/220 (17%)	29 (78%)	8 (22%)	0	100	100
2	H	37/220 (17%)	29 (78%)	8 (22%)	0	100	100
2	I	37/220 (17%)	29 (78%)	8 (22%)	0	100	100
2	J	37/220 (17%)	29 (78%)	8 (22%)	0	100	100
2	K	37/220 (17%)	29 (78%)	8 (22%)	0	100	100
2	L	37/220 (17%)	29 (78%)	8 (22%)	0	100	100
2	M	100/220 (46%)	89 (89%)	11 (11%)	0	100	100
2	N	100/220 (46%)	89 (89%)	11 (11%)	0	100	100
2	O	100/220 (46%)	89 (89%)	11 (11%)	0	100	100
2	P	100/220 (46%)	89 (89%)	11 (11%)	0	100	100
2	Q	100/220 (46%)	89 (89%)	11 (11%)	0	100	100
2	R	100/220 (46%)	89 (89%)	11 (11%)	0	100	100
All	All	3060/4890 (63%)	2286 (75%)	708 (23%)	66 (2%)	10	35

5 of 66 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	12	ASN
1	A	237	GLU
1	B	12	ASN
1	B	237	GLU

*Continued on next page...*

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Mol	Chain	Res	Type
1	C	12	ASN

### 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	A	318/318 (100%)	308 (97%)	10 (3%)	40 62
1	B	318/318 (100%)	308 (97%)	10 (3%)	40 62
1	C	318/318 (100%)	308 (97%)	10 (3%)	40 62
1	D	318/318 (100%)	308 (97%)	10 (3%)	40 62
1	E	318/318 (100%)	308 (97%)	10 (3%)	40 62
1	F	318/318 (100%)	308 (97%)	10 (3%)	40 62
2	G	34/189 (18%)	33 (97%)	1 (3%)	42 64
2	H	34/189 (18%)	33 (97%)	1 (3%)	42 64
2	I	34/189 (18%)	33 (97%)	1 (3%)	42 64
2	J	34/189 (18%)	33 (97%)	1 (3%)	42 64
2	K	34/189 (18%)	33 (97%)	1 (3%)	42 64
2	L	34/189 (18%)	33 (97%)	1 (3%)	42 64
2	M	89/189 (47%)	86 (97%)	3 (3%)	37 60
2	N	89/189 (47%)	86 (97%)	3 (3%)	37 60
2	O	89/189 (47%)	86 (97%)	3 (3%)	37 60
2	P	89/189 (47%)	86 (97%)	3 (3%)	37 60
2	Q	89/189 (47%)	86 (97%)	3 (3%)	37 60
2	R	89/189 (47%)	86 (97%)	3 (3%)	37 60
All	All	2646/4176 (63%)	2562 (97%)	84 (3%)	42 61

5 of 84 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	F	317	ILE

*Continued on next page...*

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Mol	Chain	Res	Type
2	N	246	LYS
1	F	372	ARG
2	L	332	GLU
2	P	241	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 36 such sidechains are listed below:

Mol	Chain	Res	Type
1	F	162	ASN
2	R	257	HIS
1	F	360	GLN
2	O	257	HIS
1	C	137	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](#)

There are no ligands in this entry.

### 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-25918. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

### 6.1 Orthogonal projections [i](#)

#### 6.1.1 Primary map



X



Y



Z

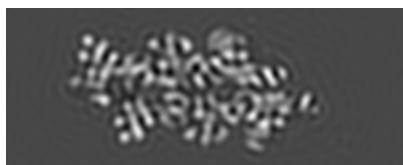
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

#### 6.2.1 Primary map



X Index: 45



Y Index: 43



Z Index: 113

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: 40



Y Index: 38



Z Index: 60

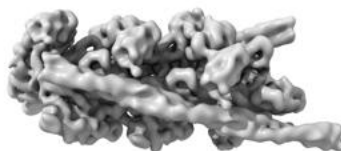
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal surface views [i](#)

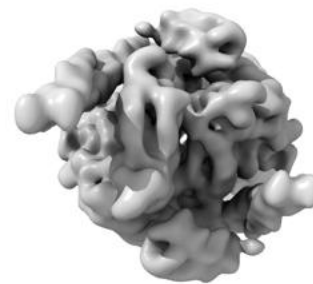
### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.728. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

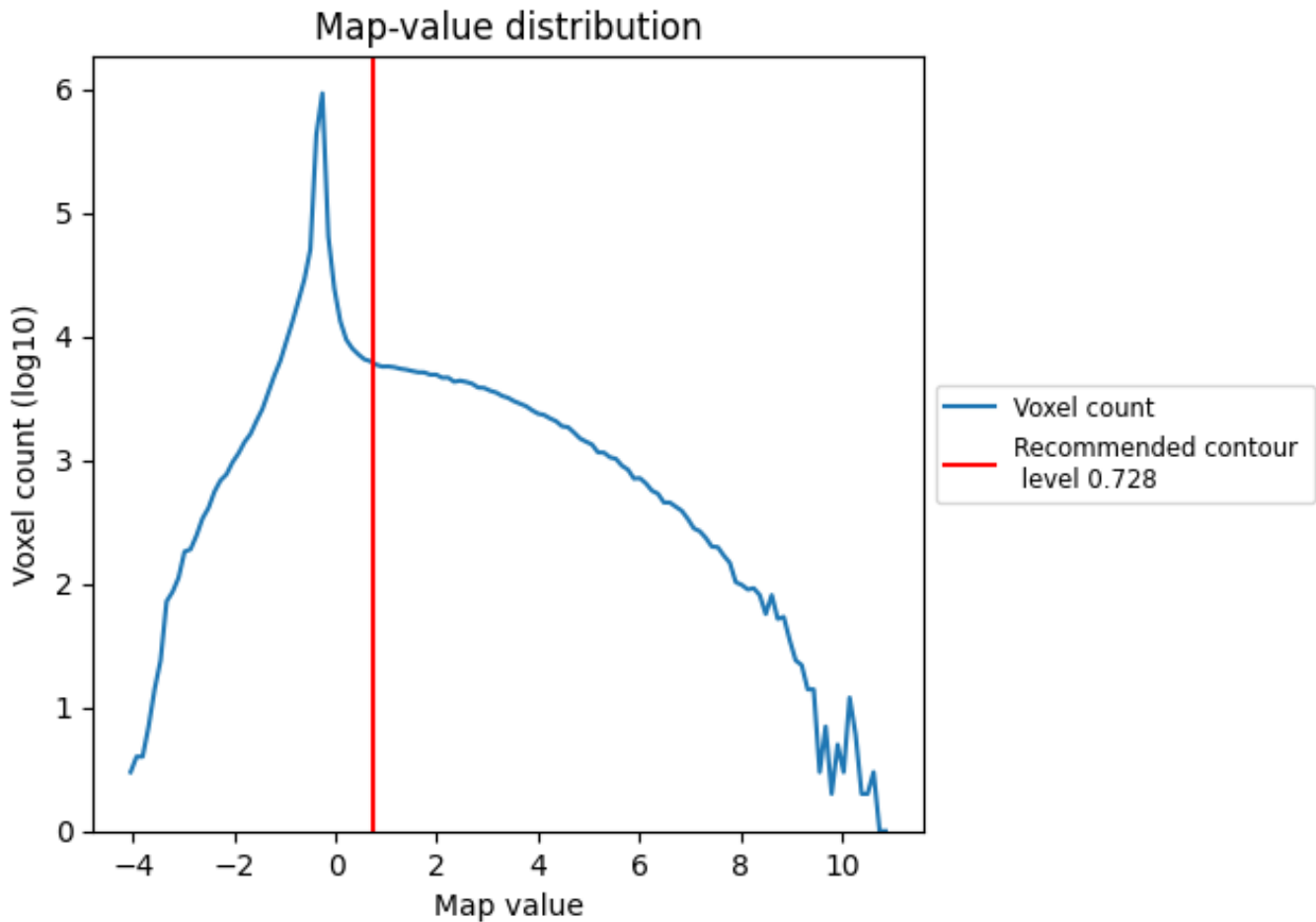
## 6.5 Mask visualisation

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.

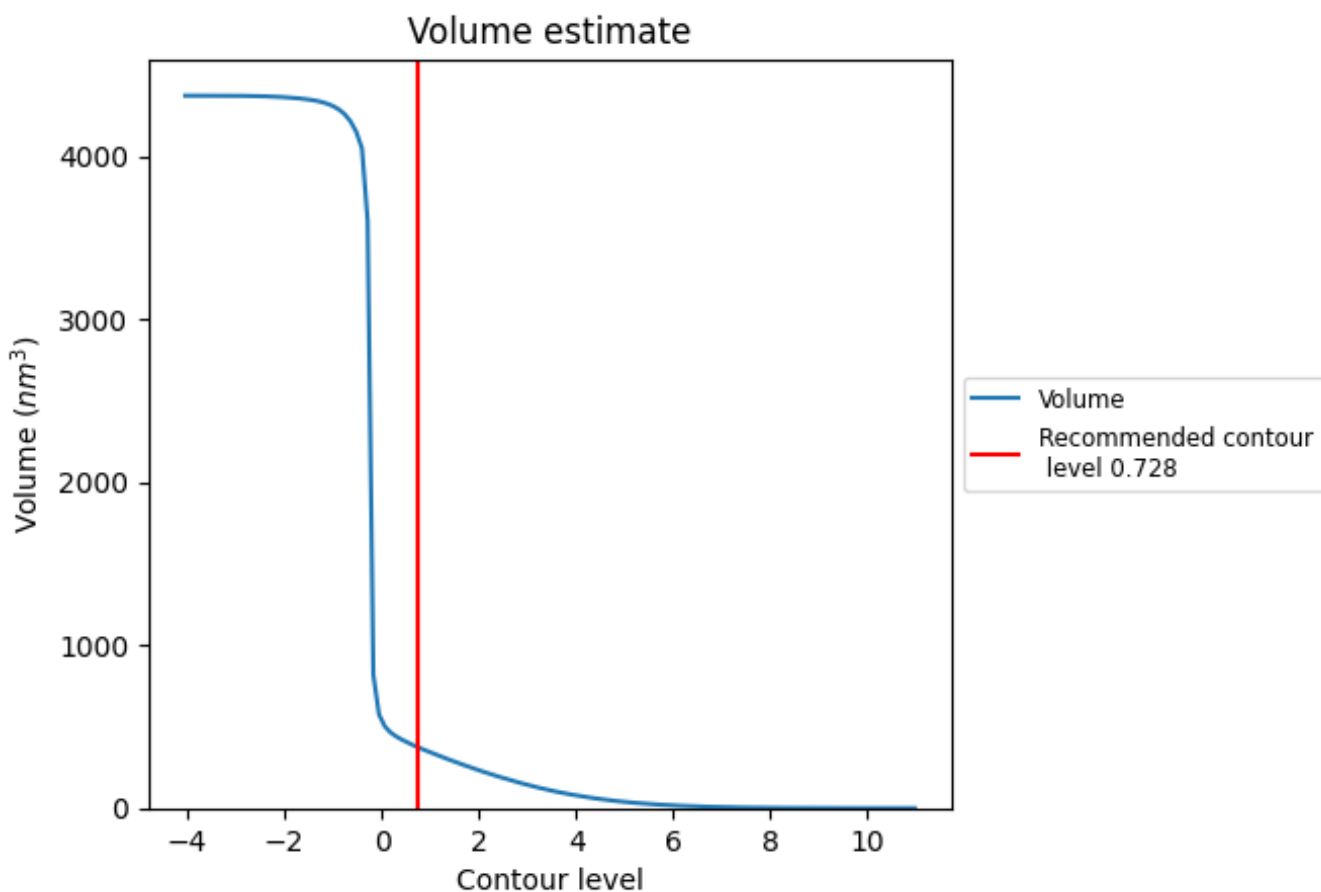
### 7.1 Map-value distribution [i](#)



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 376 nm<sup>3</sup>; this corresponds to an approximate mass of 340 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](#)

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

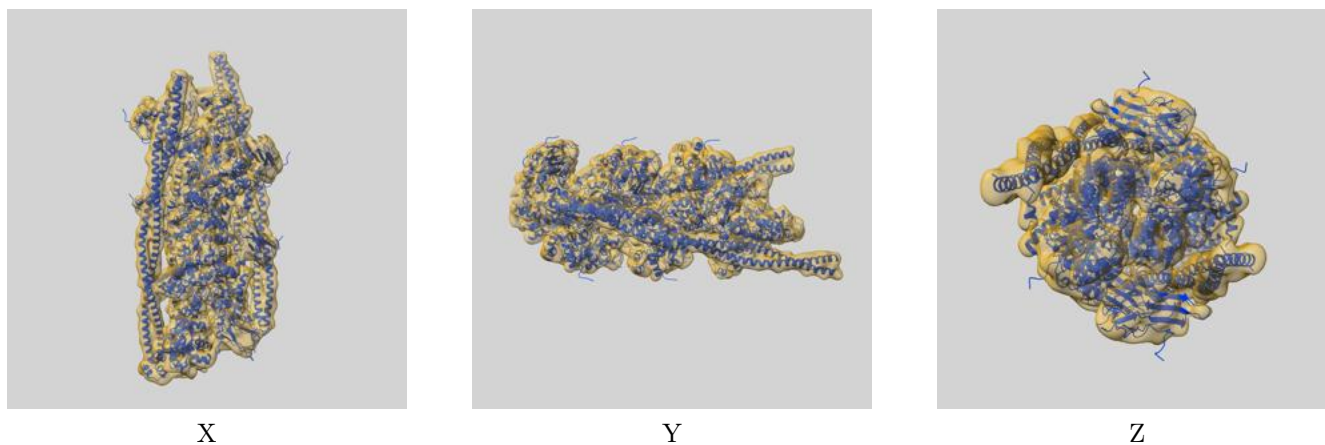
## 8 Fourier-Shell correlation

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

## 9 Map-model fit [i](#)

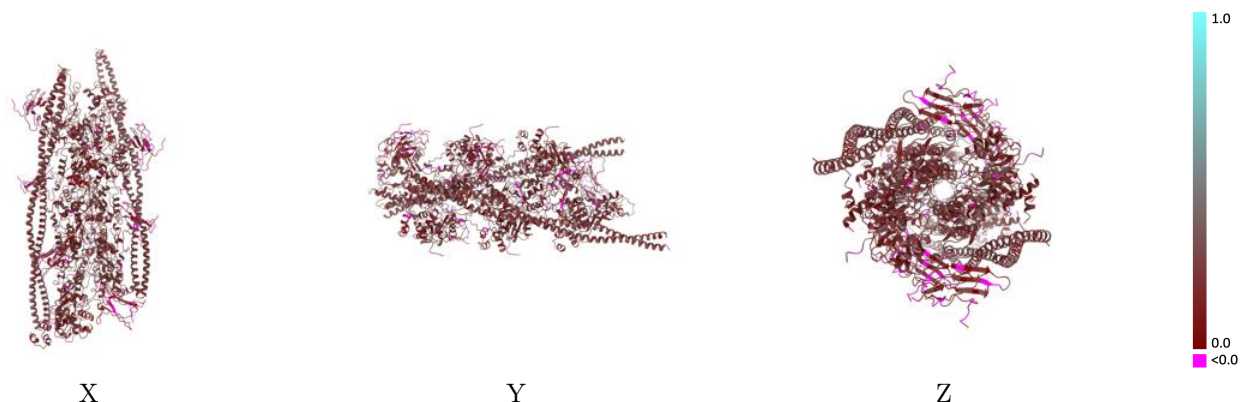
This section contains information regarding the fit between EMDB map EMD-25918 and PDB model 7TJ7. Per-residue inclusion information can be found in section 3 on page 6.

### 9.1 Map-model overlay [i](#)



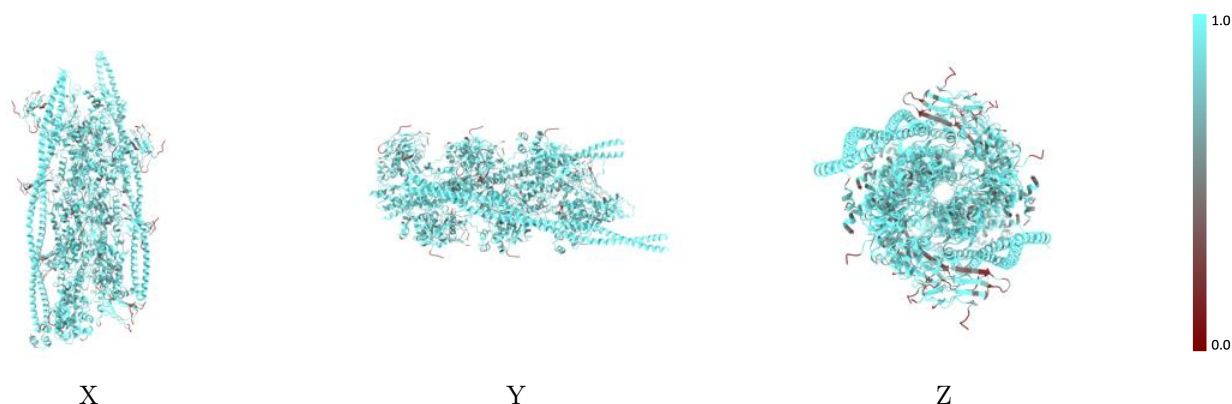
The images above show the 3D surface view of the map at the recommended contour level 0.728 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



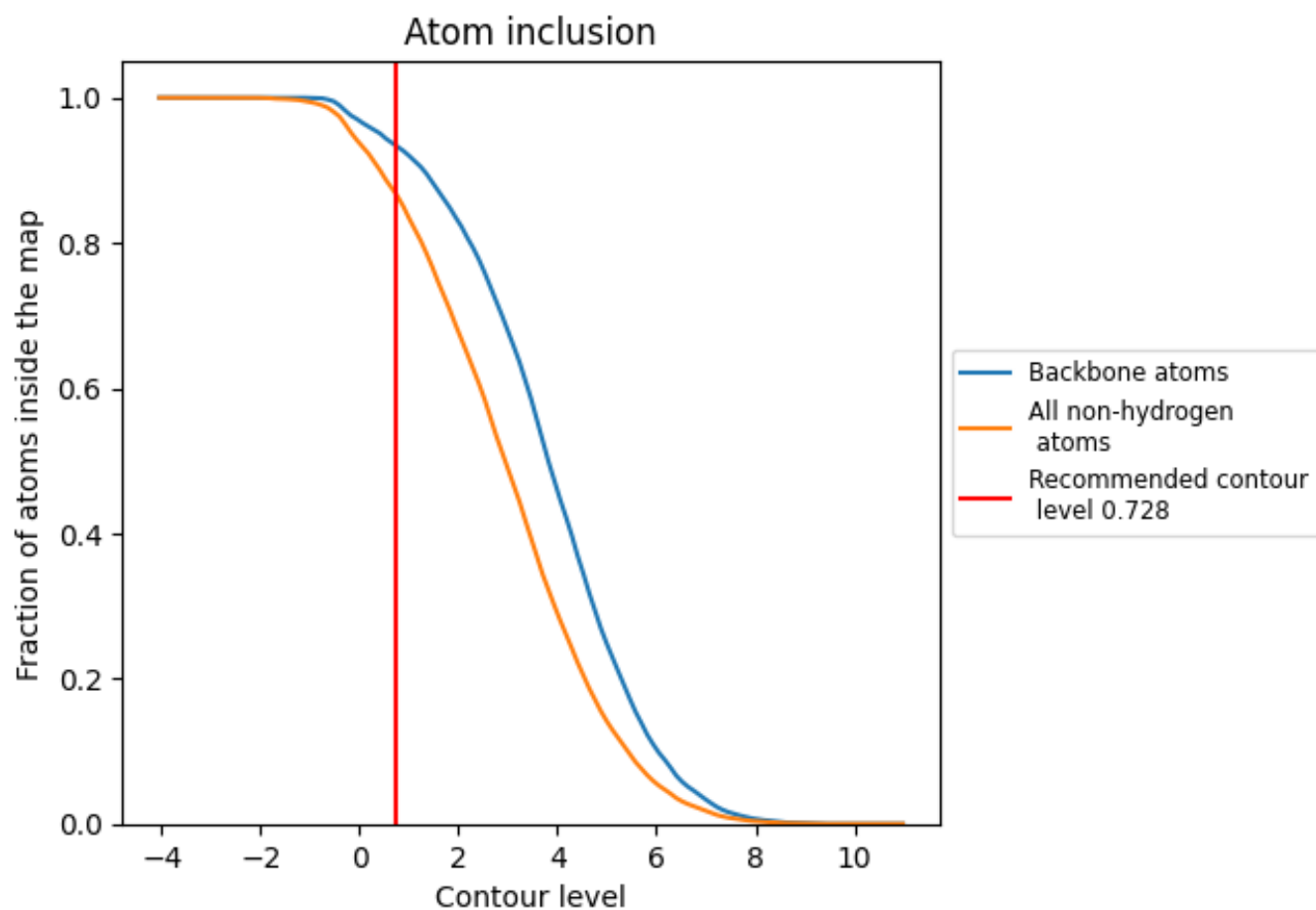
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



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 (0.728).















































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 87% 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 (0.728) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8681	 0.1960
A	 0.8915	 0.2140
B	 0.8929	 0.2140
C	 0.8912	 0.2130
D	 0.8919	 0.2160
E	 0.8912	 0.2150
F	 0.8936	 0.2140
G	 0.8444	 0.1460
H	 0.8381	 0.1490
I	 0.8317	 0.1420
J	 0.8317	 0.1490
K	 0.8286	 0.1460
L	 0.8476	 0.1470
M	 0.6874	 0.1210
N	 0.6824	 0.1200
O	 0.6812	 0.1220
P	 0.6762	 0.1150
Q	 0.6800	 0.1200
R	 0.6775	 0.1210
S	 0.9926	 0.2540
T	 0.9941	 0.2550
U	 0.9941	 0.2530
V	 0.9926	 0.2540

