



Full wwPDB EM Validation Report ⓘ

Oct 7, 2026 – 03:03 PM JST

PDB ID : 26EL / pdb_000026el
EMDB ID : EMD-80589
Title : Structure of mouse PADI6 oligomer
Authors : Li, J.; Deng, D.
Deposited on : 2026-04-28
Resolution : 4.00 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ 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:

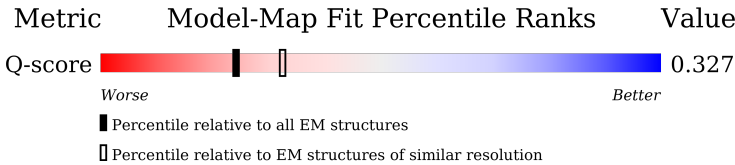
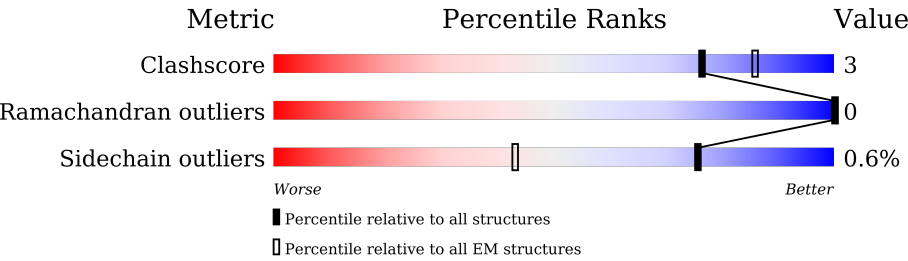
EMDB validation analysis : 0.0.1.dev133
MolProbity : 4-5-2 with Phenix2.2
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.51

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 4.00 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.



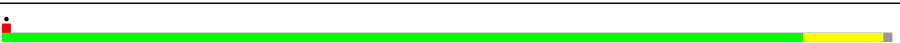
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	7587 (3.50 - 4.50)

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	A	682	
1	B	682	
1	C	682	
1	D	682	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	E	682	
1	F	682	
1	G	682	
1	H	682	
1	I	682	
1	J	682	
1	K	682	
1	L	682	
1	M	682	
1	N	682	
1	O	682	
1	P	682	
1	Q	682	
1	R	682	
1	S	682	
1	T	682	

2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 96650 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 Inactive protein-arginine deiminase type-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	B	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	C	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	D	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	E	568	Total	C	N	O	S	0	0
			4526	2894	745	857	30		
1	F	284	Total	C	N	O	S	0	0
			2214	1412	368	418	16		
1	G	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	H	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	I	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	J	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	K	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	L	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	M	391	Total	C	N	O	S	0	0
			3115	1997	511	584	23		
1	N	253	Total	C	N	O	S	0	0
			1981	1270	327	369	15		
1	O	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	P	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	Q	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		

Continued on next page...

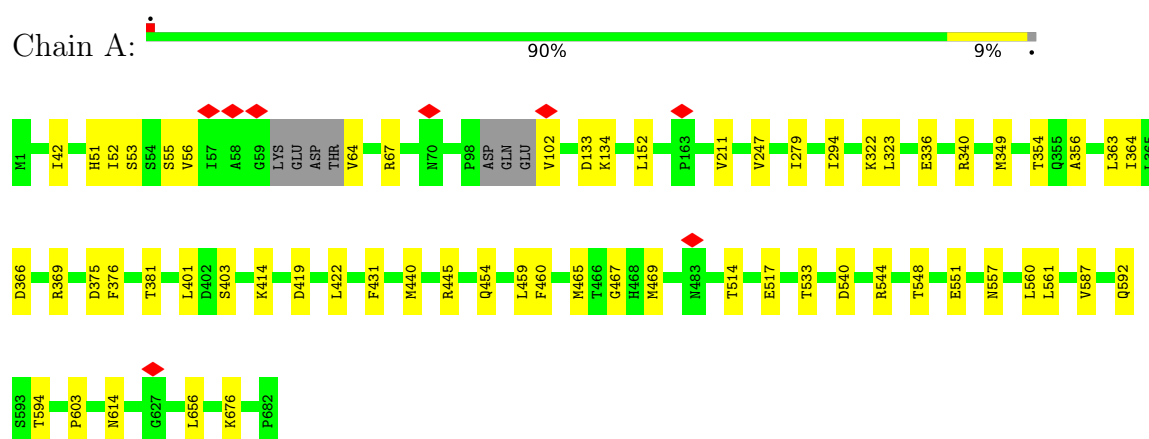
Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		
1	S	617	Total	C	N	O	S	0	0
			4879	3124	805	914	36		
1	T	675	Total	C	N	O	S	0	0
			5329	3409	879	1002	39		

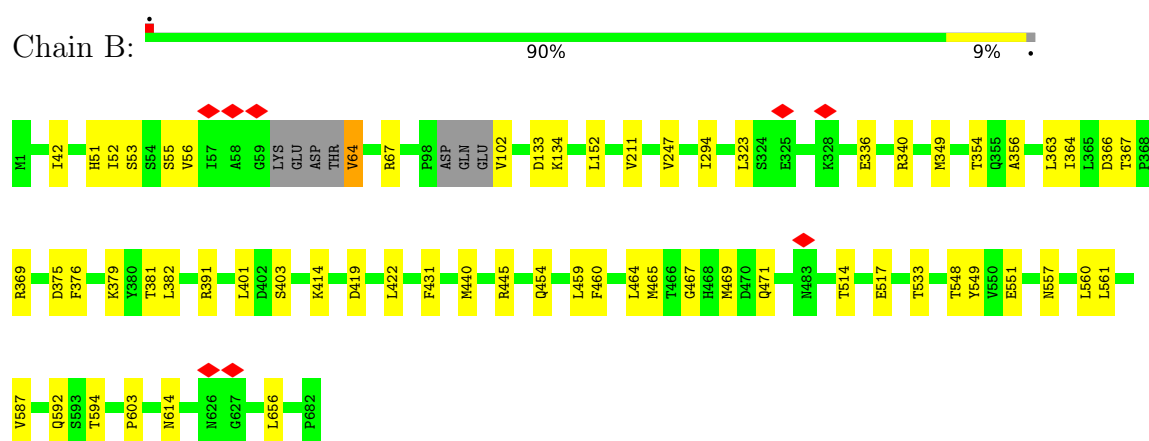
3 Residue-property plots

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.

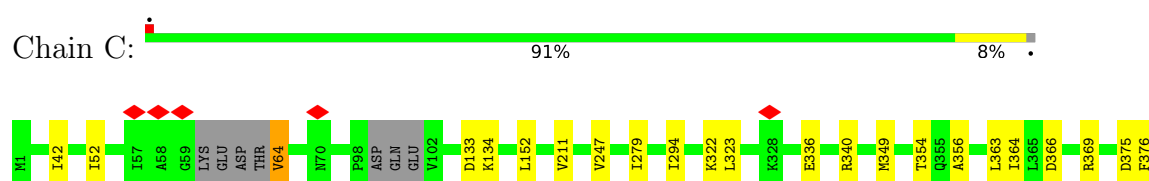
- Molecule 1: Inactive protein-arginine deiminase type-6

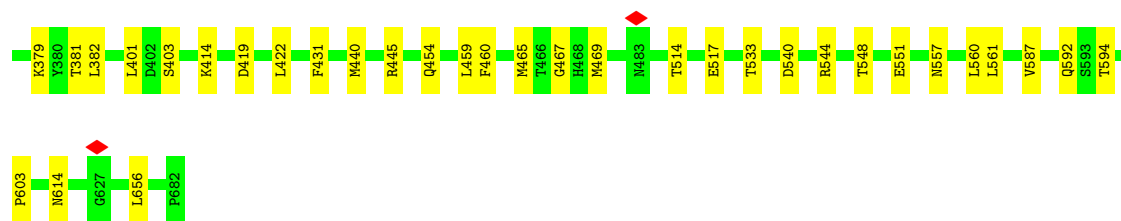


- Molecule 1: Inactive protein-arginine deiminase type-6



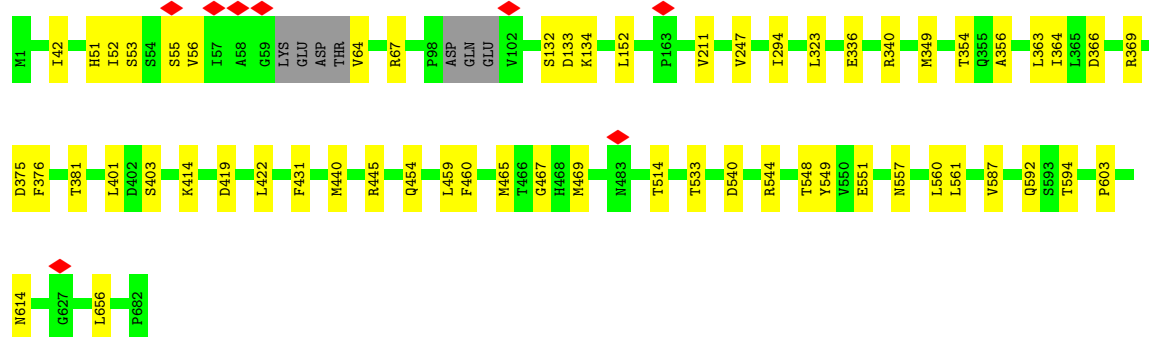
- Molecule 1: Inactive protein-arginine deiminase type-6





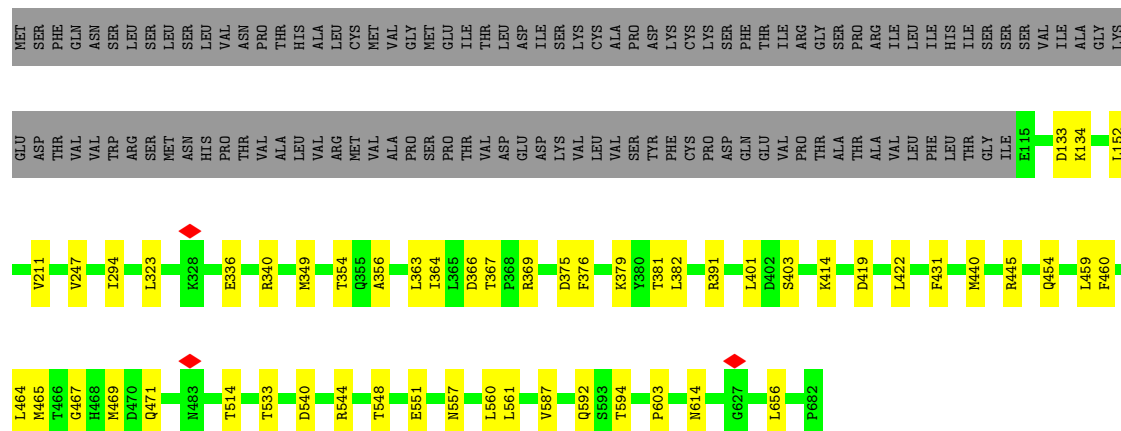
- Molecule 1: Inactive protein-arginine deiminase type-6

Chain D: 90% 9%



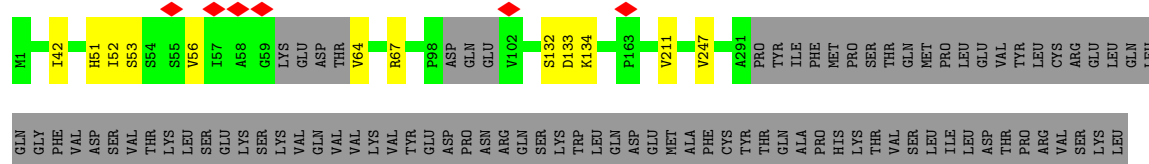
- Molecule 1: Inactive protein-arginine deiminase type-6

Chain E: 75% 8% 17%



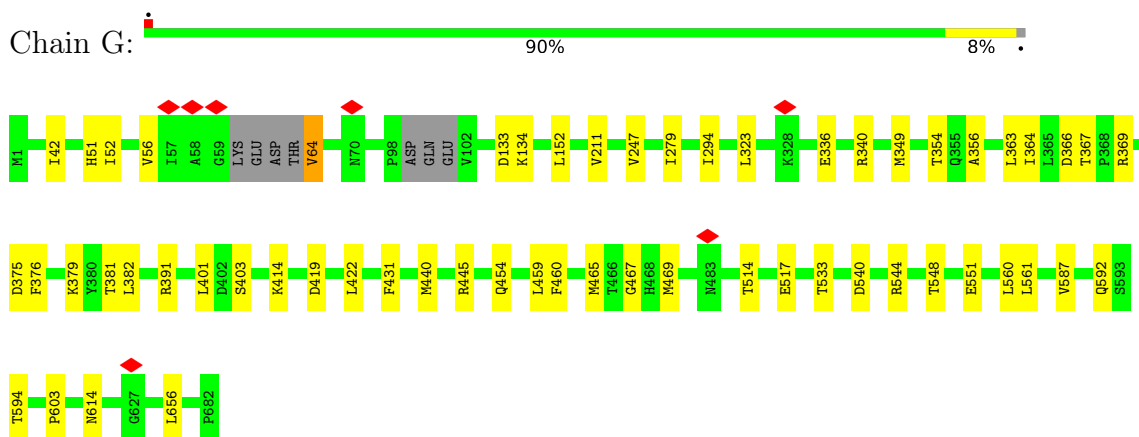
- Molecule 1: Inactive protein-arginine deiminase type-6

Chain F: 40% 58%

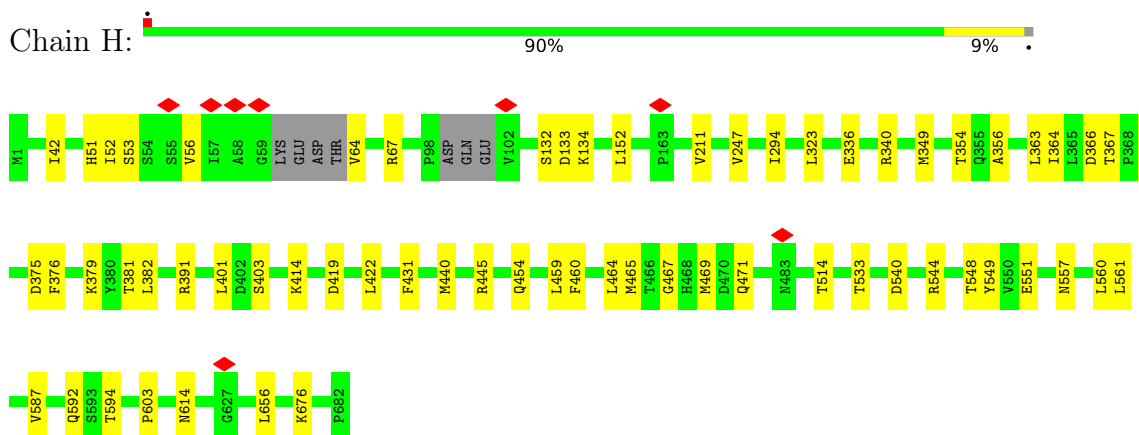


ALA	ASN	ILE	SER	SER	GLU
PHE	LEU	SER	PRO	SER	ASP
LYS	GLY	LEU	SER	GLU	PHE
TRP	ILE	ASN	ALA	GLY	PRO
TRP	PRO	ARG	CYS	ARG	MET
LYS	LYS	THR	PHE	ASP	LYS
PRO	PRO	LEU	GLU	MET	TYR
MET	PHE	LEU	LEU	ASN	THR
THR	GLY	LYS	PHE	LYS	THR
PRO	PRO	THR	GLU	GLY	THR
	ILE	GLU	GLN	LEU	PRO
	LYS	LEU	LYS	ARG	GLY
	ASN	GLY	GLN	GLU	SER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

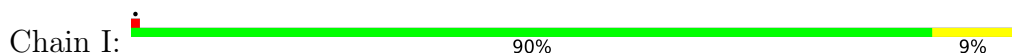
- Molecule 1: Inactive protein-arginine deiminase type-6

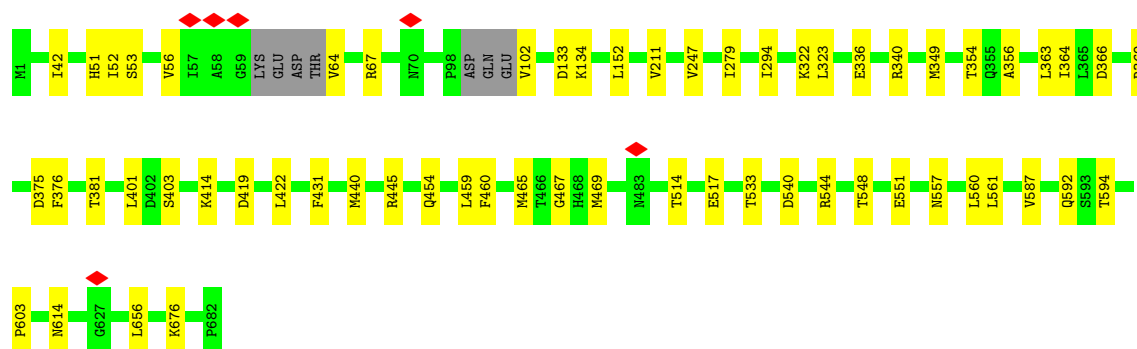


- Molecule 1: Inactive protein-arginine deiminase type-6



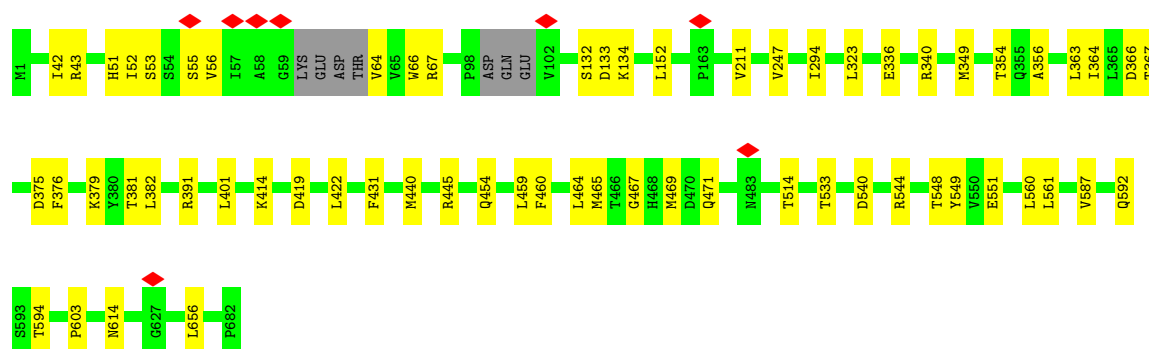
- Molecule 1: Inactive protein-arginine deiminase type-6





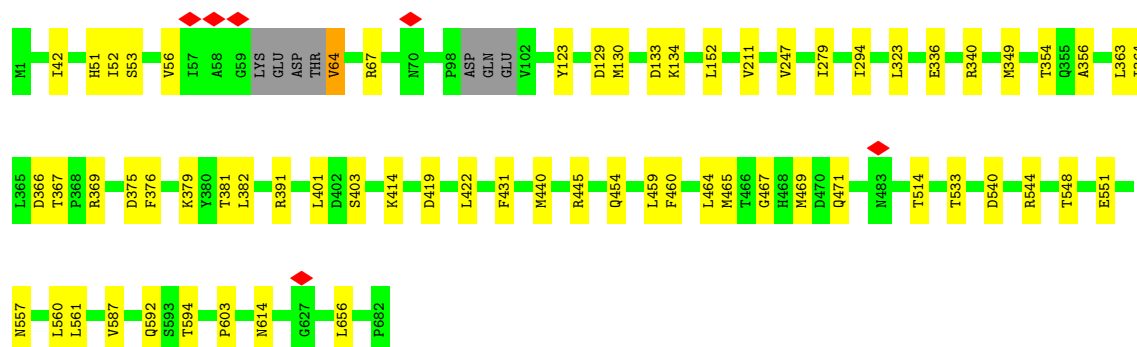
- Molecule 1: Inactive protein-arginine deiminase type-6

Chain J: 90% 9%



- Molecule 1: Inactive protein-arginine deiminase type-6

Chain K: 89% 9%

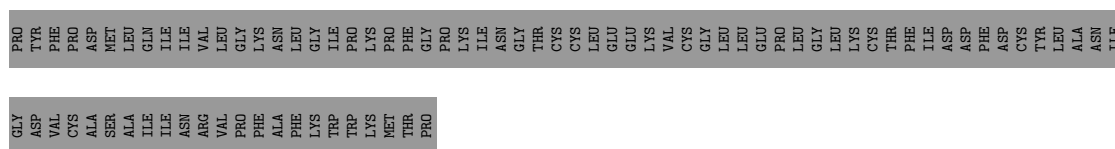


- Molecule 1: Inactive protein-arginine deiminase type-6

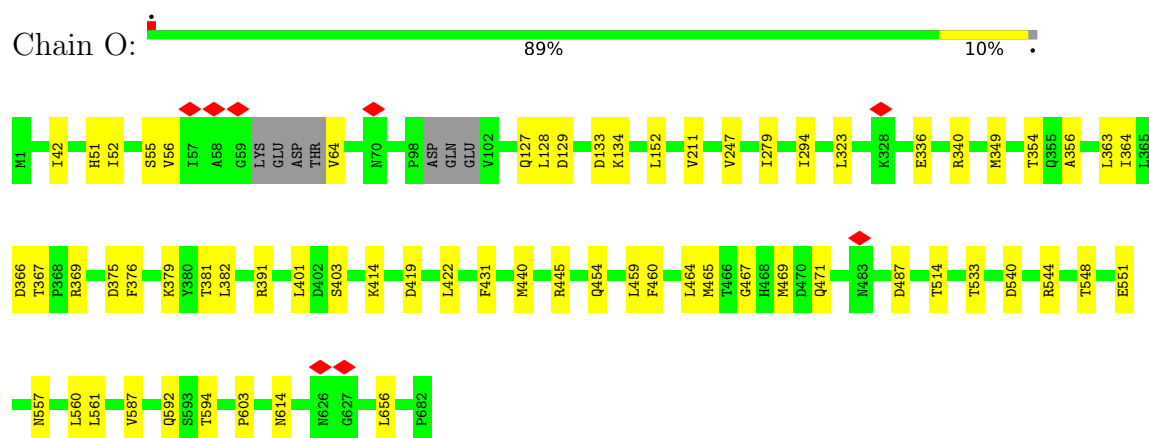
Chain L: 90% 9%



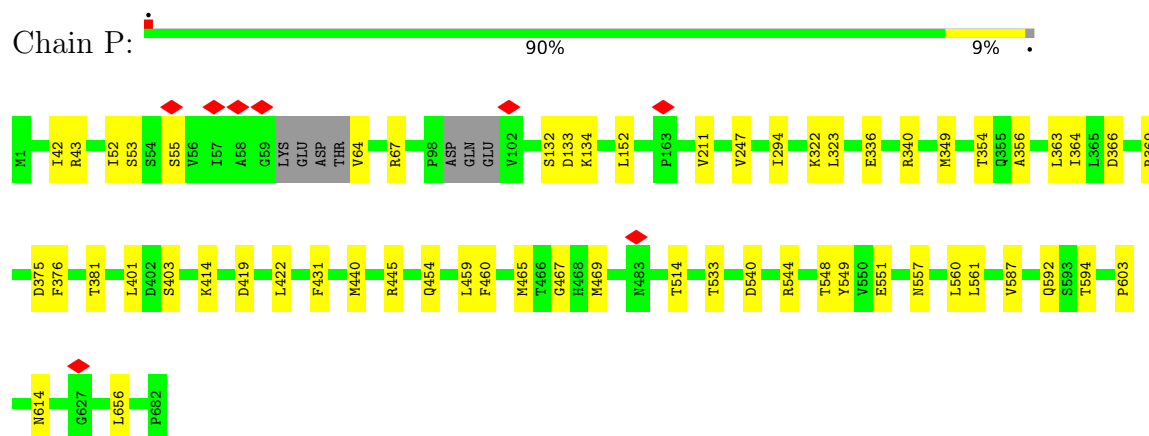




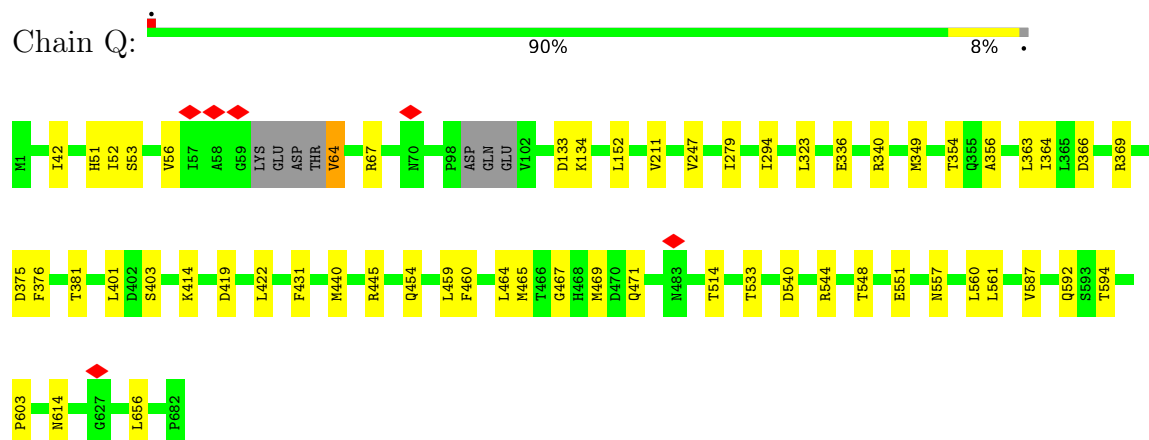
- Molecule 1: Inactive protein-arginine deiminase type-6



- Molecule 1: Inactive protein-arginine deiminase type-6

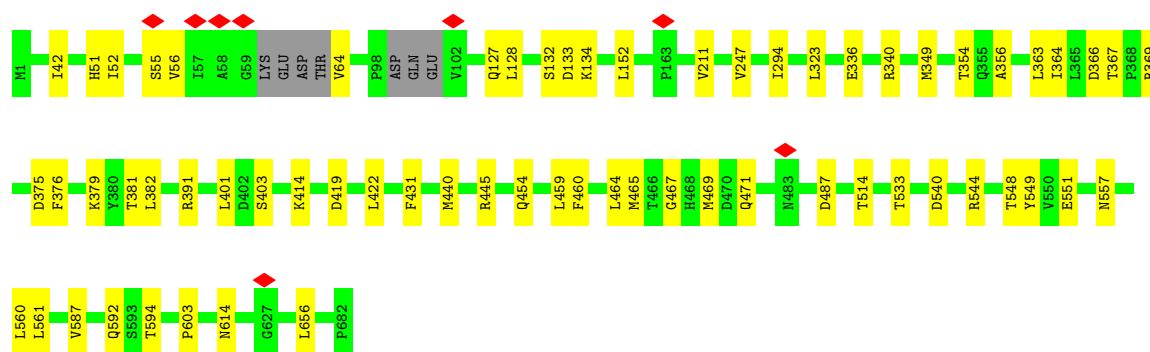


- Molecule 1: Inactive protein-arginine deiminase type-6



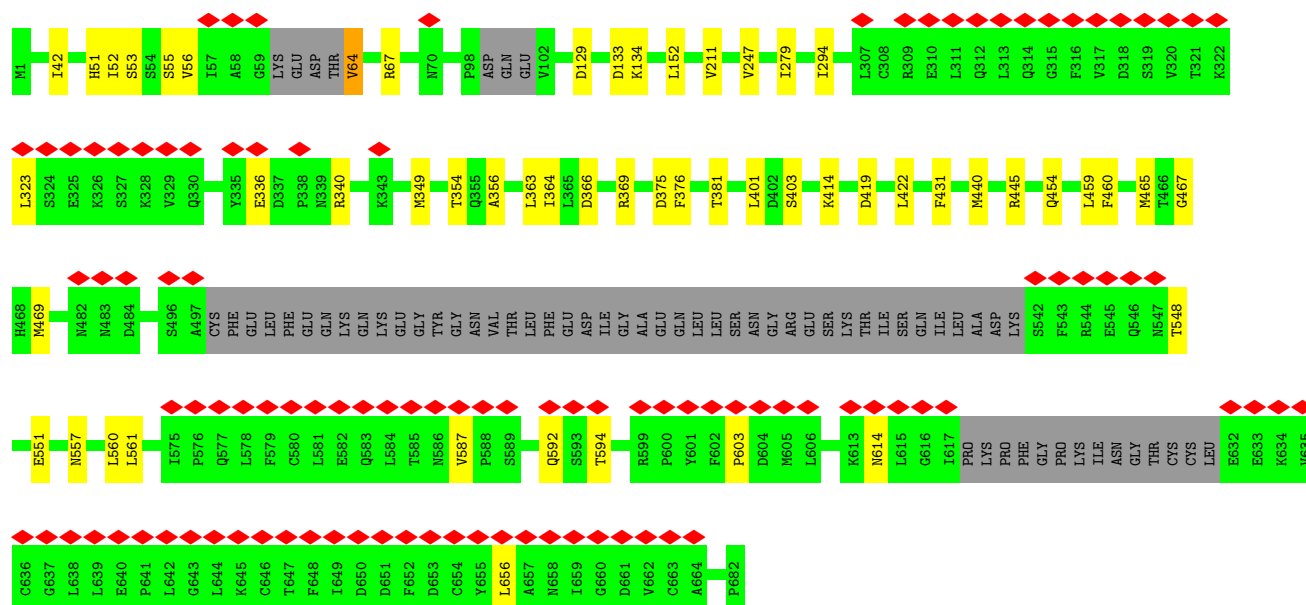
- Molecule 1: Inactive protein-arginine deiminase type-6

Chain R:  89% 10%



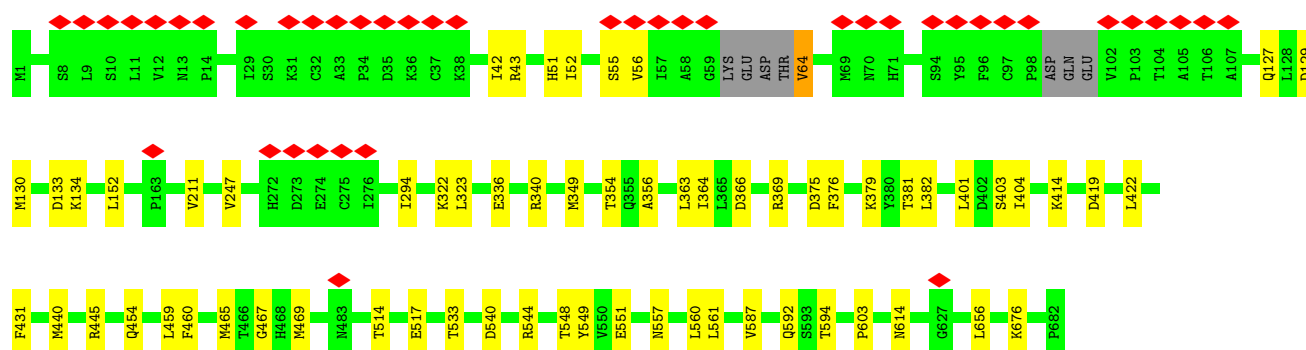
- Molecule 1: Inactive protein-arginine deiminase type-6

Chain S:  16% 83% 8% 10%



- Molecule 1: Inactive protein-arginine deiminase type-6

Chain T:  6% 89% 9%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	718317	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	46.1	Depositor
Minimum defocus (nm)	1100	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.403	Depositor
Minimum map value	-0.080	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.019	Depositor
Recommended contour level	0.05	Depositor
Map size ($\text{\AA}$)	440.0, 440.0, 440.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.1, 1.1, 1.1	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	0.10	0/5450	0.24	0/7390
1	B	0.10	0/5450	0.24	0/7390
1	C	0.10	0/5450	0.24	0/7390
1	D	0.10	0/5450	0.24	0/7390
1	E	0.10	0/4631	0.24	0/6274
1	F	0.10	0/2264	0.25	0/3077
1	G	0.10	0/5450	0.24	0/7390
1	H	0.10	0/5450	0.24	0/7390
1	I	0.10	0/5450	0.24	0/7390
1	J	0.10	0/5450	0.24	0/7390
1	K	0.10	0/5450	0.24	0/7390
1	L	0.10	0/5450	0.24	0/7390
1	M	0.13	0/3185	0.27	0/4309
1	N	0.14	0/2026	0.31	0/2750
1	O	0.10	0/5450	0.24	0/7390
1	P	0.10	0/5450	0.24	0/7390
1	Q	0.10	0/5450	0.24	0/7390
1	R	0.10	0/5450	0.24	0/7390
1	S	0.10	0/4990	0.24	0/6769
1	T	0.10	0/5450	0.24	0/7390
All	All	0.10	0/98846	0.24	0/134029

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5329	0	5339	34	0
1	B	5329	0	5339	36	0
1	C	5329	0	5339	32	0
1	D	5329	0	5339	32	0
1	E	4526	0	4500	28	0
1	F	2214	0	2219	7	0
1	G	5329	0	5339	32	0
1	H	5329	0	5339	36	0
1	I	5329	0	5339	33	0
1	J	5329	0	5339	37	0
1	K	5329	0	5339	39	0
1	L	5329	0	5339	33	0
1	M	3115	0	3120	14	0
1	N	1981	0	1996	20	0
1	O	5329	0	5339	36	0
1	P	5329	0	5339	33	0
1	Q	5329	0	5339	32	0
1	R	5329	0	5339	37	0
1	S	4879	0	4888	31	0
1	T	5329	0	5339	43	0
All	All	96650	0	96808	587	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 3.

All (587) 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:517:GLU:OE2	1:C:322:LYS:HE3	1.85	0.77
1:N:48:ILE:HG12	1:N:79:MET:SD	2.34	0.68
1:M:440:MET:O	1:M:445:ARG:NH2	2.27	0.68
1:N:43:ARG:CZ	1:T:129:ASP:HB3	2.25	0.66
1:N:42:ILE:HD13	1:N:52:ILE:HD11	1.78	0.66
1:M:340:ARG:NH2	1:M:366:ASP:OD2	2.25	0.65
1:H:323:LEU:HD11	1:H:614:ASN:HB3	1.78	0.65
1:K:323:LEU:HD11	1:K:614:ASN:HB3	1.78	0.65
1:L:323:LEU:HD11	1:L:614:ASN:HB3	1.78	0.64
1:G:323:LEU:HD11	1:G:614:ASN:HB3	1.79	0.64
1:P:323:LEU:HD11	1:P:614:ASN:HB3	1.78	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:323:LEU:HD11	1:O:614:ASN:HB3	1.78	0.64
1:Q:323:LEU:HD11	1:Q:614:ASN:HB3	1.79	0.64
1:R:323:LEU:HD11	1:R:614:ASN:HB3	1.78	0.64
1:A:440:MET:O	1:A:445:ARG:NH2	2.31	0.64
1:B:323:LEU:HD11	1:B:614:ASN:HB3	1.78	0.64
1:C:440:MET:O	1:C:445:ARG:NH2	2.31	0.64
1:G:440:MET:O	1:G:445:ARG:NH2	2.31	0.64
1:B:440:MET:O	1:B:445:ARG:NH2	2.31	0.64
1:E:323:LEU:HD11	1:E:614:ASN:HB3	1.78	0.64
1:H:440:MET:O	1:H:445:ARG:NH2	2.31	0.64
1:I:323:LEU:HD11	1:I:614:ASN:HB3	1.79	0.64
1:J:323:LEU:HD11	1:J:614:ASN:HB3	1.79	0.64
1:L:440:MET:O	1:L:445:ARG:NH2	2.31	0.64
1:S:440:MET:O	1:S:445:ARG:NH2	2.31	0.64
1:T:323:LEU:HD11	1:T:614:ASN:HB3	1.79	0.64
1:T:440:MET:O	1:T:445:ARG:NH2	2.31	0.64
1:A:323:LEU:HD11	1:A:614:ASN:HB3	1.79	0.64
1:D:440:MET:O	1:D:445:ARG:NH2	2.31	0.64
1:K:440:MET:O	1:K:445:ARG:NH2	2.31	0.64
1:C:323:LEU:HD11	1:C:614:ASN:HB3	1.79	0.63
1:D:323:LEU:HD11	1:D:614:ASN:HB3	1.78	0.63
1:I:440:MET:O	1:I:445:ARG:NH2	2.31	0.63
1:J:440:MET:O	1:J:445:ARG:NH2	2.31	0.63
1:S:323:LEU:HD11	1:S:614:ASN:HB3	1.78	0.63
1:P:440:MET:O	1:P:445:ARG:NH2	2.31	0.63
1:Q:440:MET:O	1:Q:445:ARG:NH2	2.31	0.63
1:E:440:MET:O	1:E:445:ARG:NH2	2.31	0.63
1:O:440:MET:O	1:O:445:ARG:NH2	2.31	0.62
1:R:440:MET:O	1:R:445:ARG:NH2	2.31	0.62
1:Q:340:ARG:NH2	1:Q:366:ASP:OD2	2.34	0.61
1:I:340:ARG:NH2	1:I:366:ASP:OD2	2.34	0.61
1:P:340:ARG:NH2	1:P:366:ASP:OD2	2.34	0.61
1:E:340:ARG:NH2	1:E:366:ASP:OD2	2.34	0.61
1:R:340:ARG:NH2	1:R:366:ASP:OD2	2.34	0.61
1:A:340:ARG:NH2	1:A:366:ASP:OD2	2.34	0.61
1:D:340:ARG:NH2	1:D:366:ASP:OD2	2.34	0.61
1:O:340:ARG:NH2	1:O:366:ASP:OD2	2.34	0.61
1:S:340:ARG:NH2	1:S:366:ASP:OD2	2.34	0.60
1:T:340:ARG:NH2	1:T:366:ASP:OD2	2.34	0.60
1:C:340:ARG:NH2	1:C:366:ASP:OD2	2.34	0.60
1:G:340:ARG:NH2	1:G:366:ASP:OD2	2.34	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:340:ARG:NH2	1:L:366:ASP:OD2	2.34	0.60
1:N:182:ASN:ND2	1:N:243:GLU:O	2.34	0.59
1:E:152:LEU:HD21	1:E:356:ALA:HB2	1.84	0.59
1:O:152:LEU:HD21	1:O:356:ALA:HB2	1.84	0.59
1:B:340:ARG:NH2	1:B:366:ASP:OD2	2.34	0.59
1:A:152:LEU:HD21	1:A:356:ALA:HB2	1.84	0.59
1:G:152:LEU:HD21	1:G:356:ALA:HB2	1.84	0.59
1:R:152:LEU:HD21	1:R:356:ALA:HB2	1.84	0.59
1:J:152:LEU:HD21	1:J:356:ALA:HB2	1.84	0.58
1:O:211:VAL:HG22	1:O:247:VAL:HG12	1.85	0.58
1:B:152:LEU:HD21	1:B:356:ALA:HB2	1.84	0.58
1:J:211:VAL:HG22	1:J:247:VAL:HG12	1.86	0.58
1:K:340:ARG:NH2	1:K:366:ASP:OD2	2.34	0.58
1:C:211:VAL:HG22	1:C:247:VAL:HG12	1.86	0.58
1:H:340:ARG:NH2	1:H:366:ASP:OD2	2.34	0.58
1:J:340:ARG:NH2	1:J:366:ASP:OD2	2.34	0.58
1:L:152:LEU:HD21	1:L:356:ALA:HB2	1.84	0.58
1:R:211:VAL:HG22	1:R:247:VAL:HG12	1.86	0.58
1:S:152:LEU:HD21	1:S:356:ALA:HB2	1.84	0.58
1:D:152:LEU:HD21	1:D:356:ALA:HB2	1.84	0.58
1:I:152:LEU:HD21	1:I:356:ALA:HB2	1.84	0.58
1:P:152:LEU:HD21	1:P:356:ALA:HB2	1.84	0.58
1:Q:152:LEU:HD21	1:Q:356:ALA:HB2	1.84	0.58
1:T:211:VAL:HG22	1:T:247:VAL:HG12	1.86	0.58
1:C:152:LEU:HD21	1:C:356:ALA:HB2	1.84	0.58
1:H:152:LEU:HD21	1:H:356:ALA:HB2	1.84	0.58
1:B:211:VAL:HG22	1:B:247:VAL:HG12	1.86	0.58
1:K:152:LEU:HD21	1:K:356:ALA:HB2	1.84	0.58
1:M:459:LEU:HD12	1:M:469:MET:HE3	1.85	0.58
1:T:152:LEU:HD21	1:T:356:ALA:HB2	1.84	0.58
1:N:129:ASP:OD1	1:N:130:MET:N	2.32	0.57
1:C:431:PHE:HB2	1:C:460:PHE:CD1	2.40	0.57
1:J:431:PHE:HB2	1:J:460:PHE:CD1	2.40	0.57
1:O:431:PHE:HB2	1:O:460:PHE:CD1	2.40	0.57
1:Q:211:VAL:HG22	1:Q:247:VAL:HG12	1.86	0.57
1:B:431:PHE:HB2	1:B:460:PHE:CD1	2.40	0.57
1:D:211:VAL:HG22	1:D:247:VAL:HG12	1.86	0.57
1:D:431:PHE:HB2	1:D:460:PHE:CD1	2.40	0.57
1:P:211:VAL:HG22	1:P:247:VAL:HG12	1.86	0.57
1:R:431:PHE:HB2	1:R:460:PHE:CD1	2.40	0.57
1:S:431:PHE:HB2	1:S:460:PHE:CD1	2.40	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:431:PHE:HB2	1:T:460:PHE:CD1	2.40	0.57
1:E:211:VAL:HG22	1:E:247:VAL:HG12	1.86	0.57
1:I:211:VAL:HG22	1:I:247:VAL:HG12	1.86	0.57
1:S:211:VAL:HG22	1:S:247:VAL:HG12	1.86	0.57
1:I:431:PHE:HB2	1:I:460:PHE:CD1	2.40	0.57
1:G:211:VAL:HG22	1:G:247:VAL:HG12	1.86	0.57
1:L:211:VAL:HG22	1:L:247:VAL:HG12	1.86	0.57
1:A:431:PHE:HB2	1:A:460:PHE:CD1	2.40	0.56
1:F:211:VAL:HG22	1:F:247:VAL:HG12	1.86	0.56
1:A:211:VAL:HG22	1:A:247:VAL:HG12	1.86	0.56
1:E:431:PHE:HB2	1:E:460:PHE:CD1	2.40	0.56
1:H:211:VAL:HG22	1:H:247:VAL:HG12	1.86	0.56
1:K:211:VAL:HG22	1:K:247:VAL:HG12	1.86	0.56
1:Q:431:PHE:HB2	1:Q:460:PHE:CD1	2.40	0.56
1:A:102:VAL:HG21	1:I:676:LYS:HE3	1.88	0.56
1:P:431:PHE:HB2	1:P:460:PHE:CD1	2.40	0.56
1:N:53:SER:OG	1:N:67:ARG:NH1	2.38	0.56
1:G:431:PHE:HB2	1:G:460:PHE:CD1	2.40	0.56
1:H:431:PHE:HB2	1:H:460:PHE:CD1	2.40	0.56
1:K:431:PHE:HB2	1:K:460:PHE:CD1	2.40	0.56
1:L:431:PHE:HB2	1:L:460:PHE:CD1	2.40	0.56
1:N:102:VAL:HG21	1:T:676:LYS:HE3	1.88	0.55
1:O:52:ILE:O	1:O:55:SER:OG	2.23	0.55
1:D:401:LEU:HD21	1:D:467:GLY:HA3	1.88	0.55
1:I:401:LEU:HD21	1:I:467:GLY:HA3	1.88	0.55
1:P:401:LEU:HD21	1:P:467:GLY:HA3	1.88	0.55
1:Q:401:LEU:HD21	1:Q:467:GLY:HA3	1.88	0.55
1:S:401:LEU:HD21	1:S:467:GLY:HA3	1.88	0.55
1:A:401:LEU:HD21	1:A:467:GLY:HA3	1.88	0.55
1:J:43:ARG:NE	1:K:129:ASP:HB3	2.21	0.55
1:N:284:ASP:OD1	1:N:285:THR:N	2.39	0.55
1:K:401:LEU:HD21	1:K:467:GLY:HA3	1.88	0.55
1:C:64:VAL:HG23	1:F:132:SER:HB3	1.88	0.54
1:H:401:LEU:HD21	1:H:467:GLY:HA3	1.88	0.54
1:O:401:LEU:HD21	1:O:467:GLY:HA3	1.88	0.54
1:R:401:LEU:HD21	1:R:467:GLY:HA3	1.88	0.54
1:A:322:LYS:HE3	1:C:517:GLU:OE2	2.07	0.54
1:B:401:LEU:HD21	1:B:467:GLY:HA3	1.88	0.54
1:T:401:LEU:HD21	1:T:467:GLY:HA3	1.88	0.54
1:C:401:LEU:HD21	1:C:467:GLY:HA3	1.88	0.54
1:A:52:ILE:O	1:A:55:SER:OG	2.23	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:401:LEU:HD21	1:J:467:GLY:HA3	1.88	0.54
1:E:401:LEU:HD21	1:E:467:GLY:HA3	1.88	0.54
1:N:211:VAL:HG22	1:N:247:VAL:HG12	1.89	0.54
1:G:401:LEU:HD21	1:G:467:GLY:HA3	1.88	0.53
1:L:401:LEU:HD21	1:L:467:GLY:HA3	1.88	0.53
1:L:43:ARG:NE	1:O:129:ASP:HB3	2.23	0.53
1:M:626:ASN:O	1:M:626:ASN:ND2	2.43	0.52
1:C:414:LYS:NZ	1:C:419:ASP:OD1	2.43	0.51
1:T:414:LYS:NZ	1:T:419:ASP:OD1	2.43	0.51
1:B:459:LEU:HD11	1:B:561:LEU:HD21	1.93	0.51
1:E:459:LEU:HD11	1:E:561:LEU:HD21	1.93	0.51
1:G:64:VAL:HG23	1:R:132:SER:HB3	1.93	0.51
1:C:459:LEU:HD11	1:C:561:LEU:HD21	1.93	0.51
1:T:459:LEU:HD11	1:T:561:LEU:HD21	1.93	0.51
1:G:459:LEU:HD11	1:G:561:LEU:HD21	1.93	0.50
1:J:459:LEU:HD11	1:J:561:LEU:HD21	1.93	0.50
1:L:459:LEU:HD11	1:L:561:LEU:HD21	1.94	0.50
1:O:459:LEU:HD11	1:O:561:LEU:HD21	1.93	0.50
1:I:414:LYS:NZ	1:I:419:ASP:OD1	2.42	0.50
1:R:459:LEU:HD11	1:R:561:LEU:HD21	1.93	0.50
1:H:459:LEU:HD11	1:H:561:LEU:HD21	1.93	0.50
1:L:414:LYS:NZ	1:L:419:ASP:OD1	2.42	0.50
1:K:459:LEU:HD11	1:K:561:LEU:HD21	1.93	0.50
1:G:414:LYS:NZ	1:G:419:ASP:OD1	2.43	0.50
1:D:459:LEU:HD11	1:D:561:LEU:HD21	1.93	0.50
1:S:459:LEU:HD11	1:S:561:LEU:HD21	1.93	0.50
1:N:215:GLN:OE1	1:N:215:GLN:N	2.39	0.50
1:Q:459:LEU:HD11	1:Q:561:LEU:HD21	1.93	0.50
1:I:459:LEU:HD11	1:I:561:LEU:HD21	1.93	0.49
1:P:459:LEU:HD11	1:P:561:LEU:HD21	1.93	0.49
1:P:52:ILE:O	1:P:55:SER:OG	2.23	0.49
1:A:459:LEU:HD11	1:A:561:LEU:HD21	1.94	0.49
1:J:133:ASP:OD1	1:J:134:LYS:N	2.45	0.49
1:B:133:ASP:OD1	1:B:134:LYS:N	2.45	0.49
1:B:517:GLU:OE2	1:P:322:LYS:HE3	2.13	0.49
1:A:133:ASP:OD1	1:A:134:LYS:N	2.45	0.49
1:C:514:THR:HG22	1:C:533:THR:HG22	1.95	0.49
1:T:514:THR:HG22	1:T:533:THR:HG22	1.95	0.49
1:C:133:ASP:OD1	1:C:134:LYS:N	2.45	0.49
1:B:514:THR:HG22	1:B:533:THR:HG22	1.95	0.49
1:J:514:THR:HG22	1:J:533:THR:HG22	1.95	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:422:LEU:O	1:O:454:GLN:NE2	2.46	0.49
1:P:43:ARG:NE	1:S:129:ASP:HB3	2.28	0.49
1:R:422:LEU:O	1:R:454:GLN:NE2	2.45	0.49
1:T:133:ASP:OD1	1:T:134:LYS:N	2.45	0.49
1:K:369:ARG:HE	1:K:403:SER:HG	1.61	0.49
1:D:514:THR:HG22	1:D:533:THR:HG22	1.95	0.49
1:J:132:SER:HB3	1:K:64:VAL:HG23	1.95	0.49
1:P:422:LEU:O	1:P:454:GLN:NE2	2.46	0.49
1:O:133:ASP:OD1	1:O:134:LYS:N	2.45	0.48
1:R:133:ASP:OD1	1:R:134:LYS:N	2.45	0.48
1:F:133:ASP:OD1	1:F:134:LYS:N	2.45	0.48
1:O:514:THR:HG22	1:O:533:THR:HG22	1.95	0.48
1:Q:422:LEU:O	1:Q:454:GLN:NE2	2.46	0.48
1:T:369:ARG:HE	1:T:403:SER:HG	1.61	0.48
1:R:514:THR:HG22	1:R:533:THR:HG22	1.95	0.48
1:A:514:THR:HG22	1:A:533:THR:HG22	1.95	0.48
1:I:514:THR:HG22	1:I:533:THR:HG22	1.95	0.48
1:C:422:LEU:O	1:C:454:GLN:NE2	2.46	0.48
1:T:422:LEU:O	1:T:454:GLN:NE2	2.46	0.48
1:E:422:LEU:O	1:E:454:GLN:NE2	2.46	0.48
1:P:514:THR:HG22	1:P:533:THR:HG22	1.95	0.48
1:Q:514:THR:HG22	1:Q:533:THR:HG22	1.95	0.48
1:D:431:PHE:HE1	1:D:560:LEU:HD11	1.79	0.48
1:J:422:LEU:O	1:J:454:GLN:NE2	2.46	0.48
1:N:43:ARG:NH2	1:T:130:MET:O	2.40	0.48
1:S:431:PHE:HE1	1:S:560:LEU:HD11	1.79	0.48
1:B:422:LEU:O	1:B:454:GLN:NE2	2.45	0.48
1:E:514:THR:HG22	1:E:533:THR:HG22	1.95	0.48
1:I:431:PHE:HE1	1:I:560:LEU:HD11	1.79	0.48
1:T:431:PHE:HE1	1:T:560:LEU:HD11	1.79	0.48
1:C:431:PHE:HE1	1:C:560:LEU:HD11	1.79	0.47
1:J:431:PHE:HE1	1:J:560:LEU:HD11	1.79	0.47
1:D:133:ASP:OD1	1:D:134:LYS:N	2.45	0.47
1:I:322:LYS:HE3	1:T:517:GLU:OE2	2.15	0.47
1:L:422:LEU:O	1:L:454:GLN:NE2	2.45	0.47
1:Q:369:ARG:HE	1:Q:403:SER:HG	1.61	0.47
1:P:431:PHE:HE1	1:P:560:LEU:HD11	1.79	0.47
1:Q:431:PHE:HE1	1:Q:560:LEU:HD11	1.79	0.47
1:R:431:PHE:HE1	1:R:560:LEU:HD11	1.79	0.47
1:A:431:PHE:HE1	1:A:560:LEU:HD11	1.79	0.47
1:E:354:THR:HG22	1:E:363:LEU:HD11	1.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:133:ASP:OD1	1:G:134:LYS:N	2.45	0.47
1:G:422:LEU:O	1:G:454:GLN:NE2	2.46	0.47
1:L:133:ASP:OD1	1:L:134:LYS:N	2.45	0.47
1:L:354:THR:HG22	1:L:363:LEU:HD11	1.97	0.47
1:P:369:ARG:HE	1:P:403:SER:HG	1.61	0.47
1:S:133:ASP:OD1	1:S:134:LYS:N	2.45	0.47
1:B:354:THR:HG22	1:B:363:LEU:HD11	1.97	0.47
1:B:431:PHE:HE1	1:B:560:LEU:HD11	1.79	0.47
1:C:369:ARG:HE	1:C:403:SER:HG	1.62	0.47
1:E:133:ASP:OD1	1:E:134:LYS:N	2.45	0.47
1:G:354:THR:HG22	1:G:363:LEU:HD11	1.97	0.47
1:H:422:LEU:O	1:H:454:GLN:NE2	2.46	0.47
1:J:354:THR:HG22	1:J:363:LEU:HD11	1.97	0.47
1:K:422:LEU:O	1:K:454:GLN:NE2	2.46	0.47
1:O:354:THR:HG22	1:O:363:LEU:HD11	1.97	0.47
1:O:431:PHE:HE1	1:O:560:LEU:HD11	1.79	0.47
1:H:369:ARG:HE	1:H:403:SER:HG	1.63	0.47
1:L:514:THR:HG22	1:L:533:THR:HG22	1.95	0.47
1:R:354:THR:HG22	1:R:363:LEU:HD11	1.97	0.47
1:S:422:LEU:O	1:S:454:GLN:NE2	2.46	0.47
1:C:354:THR:HG22	1:C:363:LEU:HD11	1.97	0.47
1:D:52:ILE:O	1:D:55:SER:OG	2.23	0.47
1:D:422:LEU:O	1:D:454:GLN:NE2	2.46	0.47
1:G:431:PHE:HE1	1:G:560:LEU:HD11	1.79	0.47
1:G:514:THR:HG22	1:G:533:THR:HG22	1.95	0.47
1:H:133:ASP:OD1	1:H:134:LYS:N	2.45	0.47
1:H:354:THR:HG22	1:H:363:LEU:HD11	1.97	0.47
1:K:133:ASP:OD1	1:K:134:LYS:N	2.45	0.47
1:K:354:THR:HG22	1:K:363:LEU:HD11	1.97	0.47
1:K:514:THR:HG22	1:K:533:THR:HG22	1.95	0.47
1:L:431:PHE:HE1	1:L:560:LEU:HD11	1.79	0.47
1:Q:279:ILE:HD11	1:R:549:TYR:HD1	1.80	0.47
1:S:52:ILE:O	1:S:55:SER:OG	2.23	0.47
1:H:514:THR:HG22	1:H:533:THR:HG22	1.95	0.47
1:T:354:THR:HG22	1:T:363:LEU:HD11	1.97	0.47
1:I:279:ILE:HD11	1:J:549:TYR:HD1	1.80	0.47
1:J:414:LYS:NZ	1:J:419:ASP:OD1	2.43	0.47
1:M:307:LEU:HD11	1:M:320:VAL:HG11	1.96	0.47
1:G:369:ARG:HE	1:G:403:SER:HG	1.62	0.46
1:I:422:LEU:O	1:I:454:GLN:NE2	2.46	0.46
1:L:369:ARG:HE	1:L:403:SER:HG	1.62	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:133:ASP:OD1	1:P:134:LYS:N	2.45	0.46
1:Q:133:ASP:OD1	1:Q:134:LYS:N	2.45	0.46
1:Q:354:THR:HG22	1:Q:363:LEU:HD11	1.97	0.46
1:D:369:ARG:HE	1:D:403:SER:HG	1.63	0.46
1:E:431:PHE:HE1	1:E:560:LEU:HD11	1.79	0.46
1:H:431:PHE:HE1	1:H:560:LEU:HD11	1.79	0.46
1:K:431:PHE:HE1	1:K:560:LEU:HD11	1.79	0.46
1:M:367:THR:O	1:M:367:THR:OG1	2.31	0.46
1:S:354:THR:HG22	1:S:363:LEU:HD11	1.97	0.46
1:S:369:ARG:HE	1:S:403:SER:HG	1.63	0.46
1:A:354:THR:HG22	1:A:363:LEU:HD11	1.97	0.46
1:C:279:ILE:HD11	1:D:549:TYR:HD1	1.80	0.46
1:D:354:THR:HG22	1:D:363:LEU:HD11	1.97	0.46
1:G:279:ILE:HD11	1:H:549:TYR:HD1	1.80	0.46
1:A:279:ILE:HD11	1:B:549:TYR:HD1	1.81	0.46
1:E:414:LYS:NZ	1:E:419:ASP:OD1	2.43	0.46
1:P:354:THR:HG22	1:P:363:LEU:HD11	1.97	0.46
1:S:279:ILE:HD11	1:T:549:TYR:HD1	1.80	0.46
1:I:133:ASP:OD1	1:I:134:LYS:N	2.45	0.46
1:I:354:THR:HG22	1:I:363:LEU:HD11	1.97	0.46
1:Q:414:LYS:NZ	1:Q:419:ASP:OD1	2.42	0.46
1:A:422:LEU:O	1:A:454:GLN:NE2	2.46	0.46
1:B:369:ARG:HE	1:B:403:SER:HG	1.64	0.46
1:D:375:ASP:OD1	1:D:376:PHE:N	2.49	0.46
1:E:369:ARG:HE	1:E:403:SER:HG	1.64	0.46
1:J:375:ASP:OD1	1:J:376:PHE:N	2.49	0.46
1:K:279:ILE:HD11	1:L:549:TYR:HD1	1.80	0.46
1:B:64:VAL:HG23	1:H:132:SER:HB3	1.98	0.46
1:B:375:ASP:OD1	1:B:376:PHE:N	2.49	0.46
1:I:517:GLU:OE2	1:T:322:LYS:HE3	2.16	0.46
1:M:547:ASN:O	1:M:551:GLU:HG2	2.16	0.46
1:S:375:ASP:OD1	1:S:376:PHE:N	2.49	0.46
1:A:676:LYS:HE3	1:I:102:VAL:HG21	1.97	0.45
1:N:52:ILE:O	1:N:55:SER:OG	2.28	0.45
1:P:414:LYS:NZ	1:P:419:ASP:OD1	2.43	0.45
1:A:294:ILE:HD13	1:A:422:LEU:HD13	1.99	0.45
1:B:414:LYS:NZ	1:B:419:ASP:OD1	2.43	0.45
1:K:414:LYS:NZ	1:K:419:ASP:OD1	2.42	0.45
1:M:590:ASN:OD1	1:M:590:ASN:N	2.49	0.45
1:R:52:ILE:O	1:R:55:SER:OG	2.23	0.45
1:E:294:ILE:HD13	1:E:422:LEU:HD13	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:294:ILE:HD13	1:H:422:LEU:HD13	1.99	0.45
1:K:294:ILE:HD13	1:K:422:LEU:HD13	1.99	0.45
1:H:414:LYS:NZ	1:H:419:ASP:OD1	2.43	0.45
1:I:294:ILE:HD13	1:I:422:LEU:HD13	1.99	0.45
1:S:294:ILE:HD13	1:S:422:LEU:HD13	1.99	0.45
1:T:52:ILE:O	1:T:55:SER:OG	2.23	0.45
1:A:375:ASP:OD1	1:A:376:PHE:N	2.49	0.45
1:D:294:ILE:HD13	1:D:422:LEU:HD13	1.99	0.45
1:G:294:ILE:HD13	1:G:422:LEU:HD13	1.99	0.45
1:M:629:CYS:O	1:M:633:GLU:HG2	2.17	0.45
1:Q:294:ILE:HD13	1:Q:422:LEU:HD13	1.99	0.45
1:C:375:ASP:OD1	1:C:376:PHE:N	2.49	0.45
1:L:294:ILE:HD13	1:L:422:LEU:HD13	1.99	0.45
1:O:279:ILE:HD11	1:P:549:TYR:HD1	1.80	0.45
1:P:294:ILE:HD13	1:P:422:LEU:HD13	1.99	0.45
1:O:375:ASP:OD1	1:O:376:PHE:N	2.49	0.45
1:T:375:ASP:OD1	1:T:376:PHE:N	2.49	0.45
1:B:52:ILE:O	1:B:55:SER:OG	2.23	0.45
1:B:102:VAL:HG21	1:H:676:LYS:HE3	1.99	0.45
1:I:375:ASP:OD1	1:I:376:PHE:N	2.49	0.45
1:O:294:ILE:HD13	1:O:422:LEU:HD13	1.99	0.45
1:R:294:ILE:HD13	1:R:422:LEU:HD13	1.99	0.45
1:R:369:ARG:HE	1:R:403:SER:HG	1.62	0.45
1:R:375:ASP:OD1	1:R:376:PHE:N	2.49	0.45
1:R:414:LYS:NZ	1:R:419:ASP:OD1	2.42	0.45
1:H:375:ASP:OD1	1:H:376:PHE:N	2.49	0.44
1:I:369:ARG:HE	1:I:403:SER:HG	1.63	0.44
1:O:369:ARG:HE	1:O:403:SER:HG	1.62	0.44
1:T:294:ILE:HD13	1:T:422:LEU:HD13	1.99	0.44
1:A:369:ARG:HE	1:A:403:SER:HG	1.63	0.44
1:B:294:ILE:HD13	1:B:422:LEU:HD13	1.99	0.44
1:C:294:ILE:HD13	1:C:422:LEU:HD13	1.99	0.44
1:K:375:ASP:OD1	1:K:376:PHE:N	2.49	0.44
1:J:52:ILE:O	1:J:55:SER:OG	2.23	0.44
1:J:66:TRP:HE1	1:K:123:TYR:HE2	1.66	0.44
1:J:294:ILE:HD13	1:J:422:LEU:HD13	1.99	0.44
1:O:414:LYS:NZ	1:O:419:ASP:OD1	2.43	0.44
1:P:603:PRO:HD3	1:P:656:LEU:HD11	1.99	0.44
1:N:43:ARG:HH21	1:T:130:MET:C	2.23	0.44
1:A:603:PRO:HD3	1:A:656:LEU:HD11	1.99	0.44
1:D:603:PRO:HD3	1:D:656:LEU:HD11	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:603:PRO:HD3	1:E:656:LEU:HD11	1.99	0.44
1:G:375:ASP:OD1	1:G:376:PHE:N	2.49	0.44
1:L:375:ASP:OD1	1:L:376:PHE:N	2.49	0.44
1:N:43:ARG:HH11	1:T:127:GLN:HG3	1.82	0.44
1:O:603:PRO:HD3	1:O:656:LEU:HD11	1.99	0.44
1:Q:603:PRO:HD3	1:Q:656:LEU:HD11	1.99	0.44
1:I:603:PRO:HD3	1:I:656:LEU:HD11	1.99	0.44
1:R:603:PRO:HD3	1:R:656:LEU:HD11	1.99	0.44
1:S:603:PRO:HD3	1:S:656:LEU:HD11	1.99	0.44
1:B:603:PRO:HD3	1:B:656:LEU:HD11	1.99	0.43
1:G:603:PRO:HD3	1:G:656:LEU:HD11	1.99	0.43
1:N:211:VAL:HB	1:N:225:VAL:HB	1.99	0.43
1:J:603:PRO:HD3	1:J:656:LEU:HD11	1.99	0.43
1:L:603:PRO:HD3	1:L:656:LEU:HD11	1.99	0.43
1:N:123:TYR:CZ	1:T:64:VAL:HB	2.53	0.43
1:A:548:THR:HA	1:A:551:GLU:HG2	2.00	0.43
1:E:375:ASP:OD1	1:E:376:PHE:N	2.49	0.43
1:I:548:THR:HA	1:I:551:GLU:HG2	2.00	0.43
1:O:459:LEU:HD12	1:O:469:MET:HE3	2.01	0.43
1:P:375:ASP:OD1	1:P:376:PHE:N	2.49	0.43
1:C:603:PRO:HD3	1:C:656:LEU:HD11	1.99	0.43
1:D:459:LEU:HD12	1:D:469:MET:HE3	2.01	0.43
1:D:548:THR:HA	1:D:551:GLU:HG2	2.00	0.43
1:H:603:PRO:HD3	1:H:656:LEU:HD11	1.99	0.43
1:Q:375:ASP:OD1	1:Q:376:PHE:N	2.49	0.43
1:T:603:PRO:HD3	1:T:656:LEU:HD11	1.99	0.43
1:B:459:LEU:HD12	1:B:469:MET:HE3	2.01	0.43
1:D:349:MET:HE3	1:D:364:ILE:HG21	2.00	0.43
1:J:459:LEU:HD12	1:J:469:MET:HE3	2.01	0.43
1:K:603:PRO:HD3	1:K:656:LEU:HD11	1.99	0.43
1:R:459:LEU:HD12	1:R:469:MET:HE3	2.01	0.43
1:S:548:THR:HA	1:S:551:GLU:HG2	2.00	0.43
1:A:349:MET:HE3	1:A:364:ILE:HG21	2.00	0.43
1:H:548:THR:HA	1:H:551:GLU:HG2	2.00	0.43
1:K:548:THR:HA	1:K:551:GLU:HG2	2.00	0.43
1:P:548:THR:HA	1:P:551:GLU:HG2	2.00	0.43
1:S:349:MET:HE3	1:S:364:ILE:HG21	2.00	0.43
1:S:459:LEU:HD12	1:S:469:MET:HE3	2.01	0.43
1:S:460:PHE:O	1:S:557:ASN:ND2	2.52	0.43
1:D:414:LYS:NZ	1:D:419:ASP:OD1	2.42	0.43
1:D:460:PHE:O	1:D:557:ASN:ND2	2.52	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:548:THR:HA	1:E:551:GLU:HG2	2.01	0.43
1:P:349:MET:HE3	1:P:364:ILE:HG21	2.00	0.43
1:Q:349:MET:HE3	1:Q:364:ILE:HG21	2.00	0.43
1:Q:460:PHE:O	1:Q:557:ASN:ND2	2.52	0.43
1:I:349:MET:HE3	1:I:364:ILE:HG21	2.00	0.42
1:P:460:PHE:O	1:P:557:ASN:ND2	2.52	0.42
1:S:414:LYS:NZ	1:S:419:ASP:OD1	2.43	0.42
1:D:42:ILE:HD13	1:D:52:ILE:HD11	2.02	0.42
1:I:459:LEU:HD12	1:I:469:MET:HE3	2.01	0.42
1:Q:548:THR:HA	1:Q:551:GLU:HG2	2.01	0.42
1:S:42:ILE:HD13	1:S:52:ILE:HD11	2.02	0.42
1:T:548:THR:HA	1:T:551:GLU:HG2	2.00	0.42
1:A:42:ILE:HD13	1:A:52:ILE:HD11	2.02	0.42
1:C:548:THR:HA	1:C:551:GLU:HG2	2.00	0.42
1:E:587:VAL:HG23	1:E:592:GLN:HG2	2.01	0.42
1:H:460:PHE:O	1:H:557:ASN:ND2	2.52	0.42
1:J:43:ARG:HH21	1:K:130:MET:C	2.28	0.42
1:J:548:THR:HA	1:J:551:GLU:HG2	2.00	0.42
1:L:587:VAL:HG23	1:L:592:GLN:HG2	2.01	0.42
1:O:548:THR:HA	1:O:551:GLU:HG2	2.00	0.42
1:R:42:ILE:HD13	1:R:52:ILE:HD11	2.02	0.42
1:B:548:THR:HA	1:B:551:GLU:HG2	2.00	0.42
1:E:349:MET:HE3	1:E:364:ILE:HG21	2.00	0.42
1:G:587:VAL:HG23	1:G:592:GLN:HG2	2.01	0.42
1:I:42:ILE:HD13	1:I:52:ILE:HD11	2.02	0.42
1:K:460:PHE:O	1:K:557:ASN:ND2	2.52	0.42
1:N:127:GLN:CD	1:T:43:ARG:HH11	2.27	0.42
1:N:141:MET:HE3	1:N:141:MET:HB3	1.92	0.42
1:O:42:ILE:HD13	1:O:52:ILE:HD11	2.02	0.42
1:R:548:THR:HA	1:R:551:GLU:HG2	2.00	0.42
1:B:42:ILE:HD13	1:B:52:ILE:HD11	2.01	0.42
1:J:42:ILE:HD13	1:J:52:ILE:HD11	2.02	0.42
1:L:459:LEU:HD12	1:L:469:MET:HE3	2.01	0.42
1:D:587:VAL:HG23	1:D:592:GLN:HG2	2.01	0.42
1:K:587:VAL:HG23	1:K:592:GLN:HG2	2.01	0.42
1:C:42:ILE:HD13	1:C:52:ILE:HD11	2.02	0.42
1:C:587:VAL:HG23	1:C:592:GLN:HG2	2.01	0.42
1:G:459:LEU:HD12	1:G:469:MET:HE3	2.01	0.42
1:H:587:VAL:HG23	1:H:592:GLN:HG2	2.01	0.42
1:I:587:VAL:HG23	1:I:592:GLN:HG2	2.01	0.42
1:P:587:VAL:HG23	1:P:592:GLN:HG2	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:460:PHE:O	1:R:557:ASN:ND2	2.52	0.42
1:S:587:VAL:HG23	1:S:592:GLN:HG2	2.01	0.42
1:T:42:ILE:HD13	1:T:52:ILE:HD11	2.02	0.42
1:T:587:VAL:HG23	1:T:592:GLN:HG2	2.01	0.42
1:A:414:LYS:NZ	1:A:419:ASP:OD1	2.43	0.42
1:A:459:LEU:HD12	1:A:469:MET:HE3	2.01	0.42
1:G:517:GLU:OE2	1:L:322:LYS:HE3	2.19	0.42
1:L:349:MET:HE3	1:L:364:ILE:HG21	2.00	0.42
1:M:463:TRP:CD1	1:M:463:TRP:H	2.38	0.42
1:O:349:MET:HE3	1:O:364:ILE:HG21	2.00	0.42
1:O:460:PHE:O	1:O:557:ASN:ND2	2.52	0.42
1:P:42:ILE:HD13	1:P:52:ILE:HD11	2.02	0.42
1:C:459:LEU:HD12	1:C:469:MET:HE3	2.01	0.42
1:G:349:MET:HE3	1:G:364:ILE:HG21	2.00	0.42
1:Q:42:ILE:HD13	1:Q:52:ILE:HD11	2.02	0.42
1:T:349:MET:HE3	1:T:364:ILE:HG21	2.00	0.42
1:A:587:VAL:HG23	1:A:592:GLN:HG2	2.01	0.42
1:C:349:MET:HE3	1:C:364:ILE:HG21	2.00	0.42
1:F:42:ILE:HD13	1:F:52:ILE:HD11	2.02	0.42
1:J:349:MET:HE3	1:J:364:ILE:HG21	2.00	0.42
1:P:132:SER:HB3	1:S:64:VAL:HG23	2.00	0.42
1:Q:587:VAL:HG23	1:Q:592:GLN:HG2	2.01	0.42
1:S:336:GLU:H	1:S:336:GLU:CD	2.28	0.42
1:T:459:LEU:HD12	1:T:469:MET:HE3	2.01	0.42
1:T:460:PHE:O	1:T:557:ASN:ND2	2.52	0.42
1:C:460:PHE:O	1:C:557:ASN:ND2	2.52	0.41
1:E:460:PHE:O	1:E:557:ASN:ND2	2.52	0.41
1:J:587:VAL:HG23	1:J:592:GLN:HG2	2.01	0.41
1:L:548:THR:HA	1:L:551:GLU:HG2	2.00	0.41
1:N:43:ARG:NH1	1:T:129:ASP:HB3	2.34	0.41
1:P:459:LEU:HD12	1:P:469:MET:HE3	2.01	0.41
1:Q:459:LEU:HD12	1:Q:469:MET:HE3	2.01	0.41
1:B:587:VAL:HG23	1:B:592:GLN:HG2	2.01	0.41
1:D:336:GLU:H	1:D:336:GLU:CD	2.28	0.41
1:G:42:ILE:HG21	1:G:52:ILE:HD12	2.02	0.41
1:G:548:THR:HA	1:G:551:GLU:HG2	2.00	0.41
1:H:42:ILE:HD13	1:H:52:ILE:HD11	2.02	0.41
1:I:540:ASP:O	1:I:544:ARG:HG2	2.20	0.41
1:K:349:MET:HE3	1:K:364:ILE:HG21	2.00	0.41
1:L:42:ILE:HG21	1:L:52:ILE:HD12	2.02	0.41
1:L:52:ILE:O	1:L:55:SER:OG	2.23	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:349:MET:HE3	1:R:364:ILE:HG21	2.00	0.41
1:A:336:GLU:H	1:A:336:GLU:CD	2.28	0.41
1:A:540:ASP:O	1:A:544:ARG:HG2	2.20	0.41
1:B:349:MET:HE3	1:B:364:ILE:HG21	2.00	0.41
1:E:540:ASP:O	1:E:544:ARG:HG2	2.20	0.41
1:H:349:MET:HE3	1:H:364:ILE:HG21	2.00	0.41
1:D:132:SER:HB3	1:Q:64:VAL:HG23	2.01	0.41
1:D:540:ASP:O	1:D:544:ARG:HG2	2.20	0.41
1:I:336:GLU:CD	1:I:336:GLU:H	2.28	0.41
1:K:42:ILE:HD13	1:K:52:ILE:HD11	2.02	0.41
1:L:42:ILE:HD13	1:L:52:ILE:HD11	2.02	0.41
1:P:336:GLU:CD	1:P:336:GLU:H	2.28	0.41
1:F:42:ILE:HG21	1:F:52:ILE:HD12	2.02	0.41
1:F:51:HIS:CG	1:F:56:VAL:HG22	2.56	0.41
1:G:42:ILE:HD13	1:G:52:ILE:HD11	2.02	0.41
1:G:540:ASP:O	1:G:544:ARG:HG2	2.20	0.41
1:H:42:ILE:HG21	1:H:52:ILE:HD12	2.02	0.41
1:K:42:ILE:HG21	1:K:52:ILE:HD12	2.02	0.41
1:M:349:MET:HE3	1:M:364:ILE:HG21	2.03	0.41
1:P:540:ASP:O	1:P:544:ARG:HG2	2.20	0.41
1:Q:540:ASP:O	1:Q:544:ARG:HG2	2.20	0.41
1:B:51:HIS:CG	1:B:56:VAL:HG22	2.56	0.41
1:J:51:HIS:CG	1:J:56:VAL:HG22	2.56	0.41
1:O:587:VAL:HG23	1:O:592:GLN:HG2	2.01	0.41
1:E:459:LEU:HD12	1:E:469:MET:HE3	2.01	0.41
1:L:540:ASP:O	1:L:544:ARG:HG2	2.21	0.41
1:N:43:ARG:NH1	1:T:127:GLN:CG	2.84	0.41
1:O:379:LYS:HA	1:O:382:LEU:HG	2.03	0.41
1:R:587:VAL:HG23	1:R:592:GLN:HG2	2.01	0.41
1:A:53:SER:OG	1:A:67:ARG:NH1	2.54	0.41
1:D:51:HIS:CG	1:D:56:VAL:HG22	2.56	0.41
1:D:53:SER:OG	1:D:67:ARG:NH1	2.54	0.41
1:E:379:LYS:HA	1:E:382:LEU:HG	2.03	0.41
1:I:460:PHE:O	1:I:557:ASN:ND2	2.52	0.41
1:L:51:HIS:CG	1:L:56:VAL:HG22	2.56	0.41
1:P:53:SER:OG	1:P:67:ARG:NH1	2.54	0.41
1:Q:53:SER:OG	1:Q:67:ARG:NH1	2.54	0.41
1:R:379:LYS:HA	1:R:382:LEU:HG	2.03	0.41
1:S:51:HIS:CG	1:S:56:VAL:HG22	2.56	0.41
1:B:379:LYS:HA	1:B:382:LEU:HG	2.03	0.41
1:C:540:ASP:O	1:C:544:ARG:HG2	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:51:HIS:CG	1:G:56:VAL:HG22	2.56	0.41
1:H:51:HIS:CG	1:H:56:VAL:HG22	2.56	0.41
1:H:53:SER:OG	1:H:67:ARG:NH1	2.54	0.41
1:H:336:GLU:H	1:H:336:GLU:CD	2.28	0.41
1:H:459:LEU:HD12	1:H:469:MET:HE3	2.01	0.41
1:H:540:ASP:O	1:H:544:ARG:HG2	2.20	0.41
1:I:51:HIS:CG	1:I:56:VAL:HG22	2.56	0.41
1:I:53:SER:OG	1:I:67:ARG:NH1	2.54	0.41
1:J:379:LYS:HA	1:J:382:LEU:HG	2.03	0.41
1:K:51:HIS:CG	1:K:56:VAL:HG22	2.56	0.41
1:K:336:GLU:H	1:K:336:GLU:CD	2.28	0.41
1:K:459:LEU:HD12	1:K:469:MET:HE3	2.01	0.41
1:K:464:LEU:HD13	1:K:471:GLN:OE1	2.21	0.41
1:K:540:ASP:O	1:K:544:ARG:HG2	2.20	0.41
1:L:379:LYS:HA	1:L:382:LEU:HG	2.03	0.41
1:M:487:ASP:OD1	1:M:487:ASP:N	2.45	0.41
1:O:51:HIS:CG	1:O:56:VAL:HG22	2.56	0.41
1:O:336:GLU:H	1:O:336:GLU:CD	2.28	0.41
1:O:487:ASP:OD1	1:O:487:ASP:N	2.53	0.41
1:O:540:ASP:O	1:O:544:ARG:HG2	2.20	0.41
1:Q:336:GLU:H	1:Q:336:GLU:CD	2.28	0.41
1:R:51:HIS:CG	1:R:56:VAL:HG22	2.56	0.41
1:S:53:SER:OG	1:S:67:ARG:NH1	2.54	0.41
1:A:51:HIS:CG	1:A:56:VAL:HG22	2.56	0.41
1:E:367:THR:HG22	1:E:391:ARG:HB3	2.04	0.41
1:H:464:LEU:HD13	1:H:471:GLN:OE1	2.21	0.41
1:J:336:GLU:H	1:J:336:GLU:CD	2.28	0.41
1:K:53:SER:OG	1:K:67:ARG:NH1	2.54	0.41
1:K:379:LYS:HA	1:K:382:LEU:HG	2.03	0.41
1:M:540:ASP:O	1:M:544:ARG:HG2	2.21	0.41
1:R:336:GLU:H	1:R:336:GLU:CD	2.28	0.41
1:R:487:ASP:OD1	1:R:487:ASP:N	2.53	0.41
1:T:379:LYS:HA	1:T:382:LEU:HG	2.03	0.41
1:T:540:ASP:O	1:T:544:ARG:HG2	2.21	0.41
1:G:379:LYS:HA	1:G:382:LEU:HG	2.03	0.40
1:H:379:LYS:HA	1:H:382:LEU:HG	2.03	0.40
1:J:464:LEU:HD13	1:J:471:GLN:OE1	2.21	0.40
1:K:367:THR:HG22	1:K:391:ARG:HB3	2.03	0.40
1:R:464:LEU:HD13	1:R:471:GLN:OE1	2.21	0.40
1:R:540:ASP:O	1:R:544:ARG:HG2	2.21	0.40
1:T:42:ILE:HG21	1:T:52:ILE:HD12	2.02	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:42:ILE:HG21	1:B:52:ILE:HD12	2.02	0.40
1:B:460:PHE:O	1:B:557:ASN:ND2	2.52	0.40
1:C:379:LYS:HA	1:C:382:LEU:HG	2.03	0.40
1:E:464:LEU:HD13	1:E:471:GLN:OE1	2.21	0.40
1:F:53:SER:OG	1:F:67:ARG:NH1	2.54	0.40
1:G:367:THR:HG22	1:G:391:ARG:HB3	2.04	0.40
1:H:367:THR:HG22	1:H:391:ARG:HB3	2.04	0.40
1:J:43:ARG:CD	1:K:129:ASP:HB3	2.51	0.40
1:J:540:ASP:O	1:J:544:ARG:HG2	2.20	0.40
1:L:367:THR:HG22	1:L:391:ARG:HB3	2.04	0.40
1:O:42:ILE:HG21	1:O:52:ILE:HD12	2.02	0.40
1:O:367:THR:HG22	1:O:391:ARG:HB3	2.04	0.40
1:O:464:LEU:HD13	1:O:471:GLN:OE1	2.21	0.40
1:R:42:ILE:HG21	1:R:52:ILE:HD12	2.02	0.40
1:R:367:THR:HG22	1:R:391:ARG:HB3	2.04	0.40
1:B:336:GLU:H	1:B:336:GLU:CD	2.28	0.40
1:B:367:THR:HG22	1:B:391:ARG:HB3	2.04	0.40
1:B:464:LEU:HD13	1:B:471:GLN:OE1	2.21	0.40
1:C:42:ILE:HG21	1:C:52:ILE:HD12	2.02	0.40
1:D:42:ILE:HG21	1:D:52:ILE:HD12	2.02	0.40
1:G:336:GLU:H	1:G:336:GLU:CD	2.28	0.40
1:P:42:ILE:HG21	1:P:52:ILE:HD12	2.02	0.40
1:Q:42:ILE:HG21	1:Q:52:ILE:HD12	2.02	0.40
1:R:376:PHE:O	1:R:379:LYS:HG2	2.22	0.40
1:T:51:HIS:CG	1:T:56:VAL:HG22	2.56	0.40
1:T:336:GLU:H	1:T:336:GLU:CD	2.28	0.40
1:T:404:ILE:HD12	1:T:404:ILE:HA	1.99	0.40
1:A:460:PHE:O	1:A:557:ASN:ND2	2.52	0.40
1:B:53:SER:OG	1:B:67:ARG:NH1	2.54	0.40
1:C:336:GLU:H	1:C:336:GLU:CD	2.28	0.40
1:E:336:GLU:H	1:E:336:GLU:CD	2.28	0.40
1:J:53:SER:OG	1:J:67:ARG:NH1	2.54	0.40
1:K:376:PHE:O	1:K:379:LYS:HG2	2.22	0.40
1:L:336:GLU:H	1:L:336:GLU:CD	2.28	0.40
1:M:378:MET:HE2	1:M:378:MET:HB2	1.91	0.40
1:O:127:GLN:HG2	1:O:128:LEU:N	2.37	0.40
1:Q:464:LEU:HD13	1:Q:471:GLN:OE1	2.21	0.40
1:R:127:GLN:HG2	1:R:128:LEU:N	2.37	0.40
1:S:42:ILE:HG21	1:S:52:ILE:HD12	2.02	0.40
1:H:376:PHE:O	1:H:379:LYS:HG2	2.22	0.40
1:J:42:ILE:HG21	1:J:52:ILE:HD12	2.02	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:367:THR:HG22	1:J:391:ARG:HB3	2.04	0.40
1:Q:51:HIS:CG	1:Q:56:VAL:HG22	2.56	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	669/682 (98%)	662 (99%)	7 (1%)	0	100	100
1	B	669/682 (98%)	662 (99%)	7 (1%)	0	100	100
1	C	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	D	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	E	566/682 (83%)	561 (99%)	5 (1%)	0	100	100
1	F	278/682 (41%)	276 (99%)	2 (1%)	0	100	100
1	G	669/682 (98%)	662 (99%)	7 (1%)	0	100	100
1	H	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	I	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	J	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	K	669/682 (98%)	662 (99%)	7 (1%)	0	100	100
1	L	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	M	389/682 (57%)	384 (99%)	5 (1%)	0	100	100
1	N	245/682 (36%)	241 (98%)	4 (2%)	0	100	100
1	O	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	P	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	Q	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
1	R	669/682 (98%)	663 (99%)	6 (1%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	S	607/682 (89%)	601 (99%)	6 (1%)	0	100	100
1	T	669/682 (98%)	663 (99%)	6 (1%)	0	100	100
All	All	12120/13640 (89%)	12004 (99%)	116 (1%)	0	100	100

There are no Ramachandran outliers to report.

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	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	B	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	C	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	D	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	E	510/613 (83%)	507 (99%)	3 (1%)	78	81
1	F	253/613 (41%)	252 (100%)	1 (0%)	84	84
1	G	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	H	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	I	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	J	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	K	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	L	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	M	353/613 (58%)	352 (100%)	1 (0%)	86	85
1	N	226/613 (37%)	224 (99%)	2 (1%)	70	76
1	O	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	P	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	Q	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	R	606/613 (99%)	602 (99%)	4 (1%)	76	79
1	S	556/613 (91%)	552 (99%)	4 (1%)	76	79

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	T	606/613 (99%)	602 (99%)	4 (1%)	76	79
All	All	10988/12260 (90%)	10917 (99%)	71 (1%)	76	81

All (71) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	64	VAL
1	A	381	THR
1	A	465	MET
1	A	594	THR
1	B	64	VAL
1	B	381	THR
1	B	465	MET
1	B	594	THR
1	C	64	VAL
1	C	381	THR
1	C	465	MET
1	C	594	THR
1	D	64	VAL
1	D	381	THR
1	D	465	MET
1	D	594	THR
1	E	381	THR
1	E	465	MET
1	E	594	THR
1	F	64	VAL
1	G	64	VAL
1	G	381	THR
1	G	465	MET
1	G	594	THR
1	H	64	VAL
1	H	381	THR
1	H	465	MET
1	H	594	THR
1	I	64	VAL
1	I	381	THR
1	I	465	MET
1	I	594	THR
1	J	64	VAL
1	J	381	THR
1	J	465	MET
1	J	594	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	K	64	VAL
1	K	381	THR
1	K	465	MET
1	K	594	THR
1	L	64	VAL
1	L	381	THR
1	L	465	MET
1	L	594	THR
1	M	681	THR
1	N	127	GLN
1	N	248	GLU
1	O	64	VAL
1	O	381	THR
1	O	465	MET
1	O	594	THR
1	P	64	VAL
1	P	381	THR
1	P	465	MET
1	P	594	THR
1	Q	64	VAL
1	Q	381	THR
1	Q	465	MET
1	Q	594	THR
1	R	64	VAL
1	R	381	THR
1	R	465	MET
1	R	594	THR
1	S	64	VAL
1	S	381	THR
1	S	465	MET
1	S	594	THR
1	T	64	VAL
1	T	381	THR
1	T	465	MET
1	T	594	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (141) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	127	GLN
1	A	158	ASN
1	A	176	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	196	GLN
1	A	341	GLN
1	A	392	GLN
1	A	583	GLN
1	A	607	GLN
1	B	127	GLN
1	B	158	ASN
1	B	176	GLN
1	B	196	GLN
1	B	341	GLN
1	B	392	GLN
1	B	506	GLN
1	B	583	GLN
1	B	607	GLN
1	C	158	ASN
1	C	176	GLN
1	C	196	GLN
1	C	341	GLN
1	C	506	GLN
1	C	583	GLN
1	C	607	GLN
1	D	127	GLN
1	D	158	ASN
1	D	176	GLN
1	D	196	GLN
1	D	341	GLN
1	D	392	GLN
1	D	583	GLN
1	D	607	GLN
1	E	127	GLN
1	E	158	ASN
1	E	176	GLN
1	E	196	GLN
1	E	341	GLN
1	E	392	GLN
1	E	506	GLN
1	E	583	GLN
1	E	607	GLN
1	F	127	GLN
1	F	158	ASN
1	F	176	GLN
1	F	196	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	G	158	ASN
1	G	176	GLN
1	G	196	GLN
1	G	341	GLN
1	G	392	GLN
1	G	583	GLN
1	G	607	GLN
1	H	127	GLN
1	H	158	ASN
1	H	176	GLN
1	H	196	GLN
1	H	341	GLN
1	H	583	GLN
1	H	607	GLN
1	I	127	GLN
1	I	158	ASN
1	I	176	GLN
1	I	196	GLN
1	I	341	GLN
1	I	583	GLN
1	I	607	GLN
1	J	127	GLN
1	J	158	ASN
1	J	176	GLN
1	J	196	GLN
1	J	341	GLN
1	J	392	GLN
1	J	506	GLN
1	J	583	GLN
1	J	607	GLN
1	K	158	ASN
1	K	176	GLN
1	K	196	GLN
1	K	341	GLN
1	K	583	GLN
1	K	607	GLN
1	L	127	GLN
1	L	158	ASN
1	L	176	GLN
1	L	196	GLN
1	L	341	GLN
1	L	392	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	L	583	GLN
1	L	607	GLN
1	M	523	GLN
1	M	583	GLN
1	M	626	ASN
1	N	196	GLN
1	N	239	ASN
1	O	127	GLN
1	O	158	ASN
1	O	176	GLN
1	O	196	GLN
1	O	341	GLN
1	O	392	GLN
1	O	506	GLN
1	O	583	GLN
1	O	607	GLN
1	P	127	GLN
1	P	158	ASN
1	P	176	GLN
1	P	196	GLN
1	P	341	GLN
1	P	583	GLN
1	P	607	GLN
1	Q	158	ASN
1	Q	176	GLN
1	Q	196	GLN
1	Q	341	GLN
1	Q	583	GLN
1	Q	607	GLN
1	R	127	GLN
1	R	158	ASN
1	R	176	GLN
1	R	196	GLN
1	R	341	GLN
1	R	392	GLN
1	R	506	GLN
1	R	583	GLN
1	R	607	GLN
1	S	127	GLN
1	S	158	ASN
1	S	176	GLN
1	S	196	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	S	341	GLN
1	S	392	GLN
1	S	583	GLN
1	S	607	GLN
1	T	127	GLN
1	T	158	ASN
1	T	176	GLN
1	T	196	GLN
1	T	341	GLN
1	T	506	GLN
1	T	583	GLN
1	T	607	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 oligosaccharides 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.

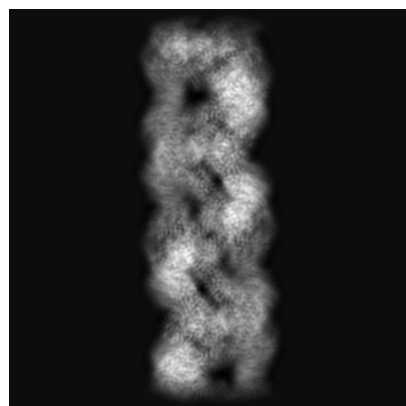
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-80589. These allow visual inspection of the internal detail of the map and identification of artifacts.

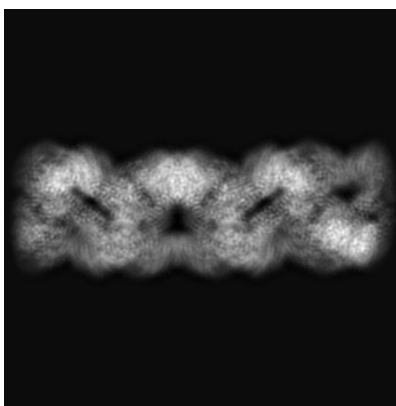
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

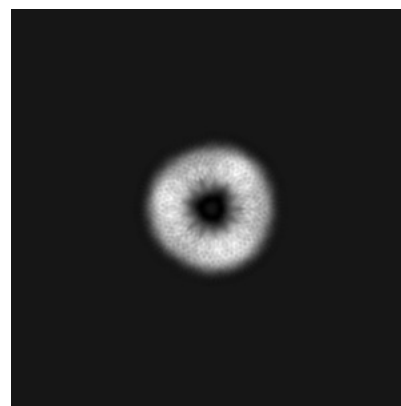
6.1.1 Primary map



X

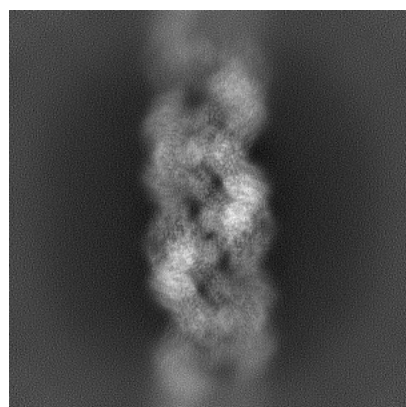


Y

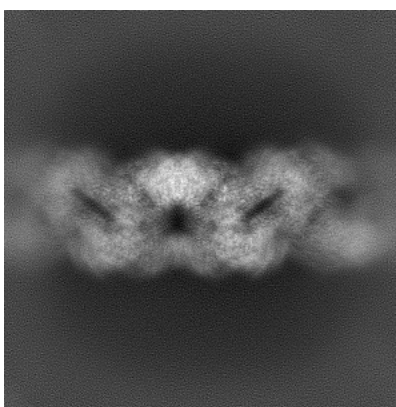


Z

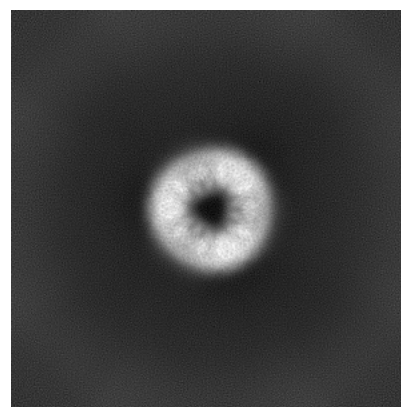
6.1.2 Raw map



X



Y

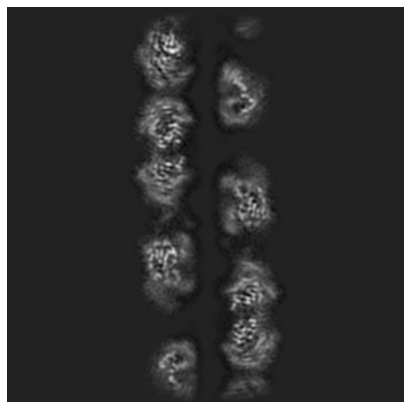


Z

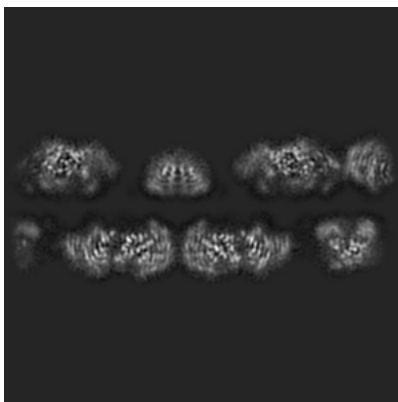
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

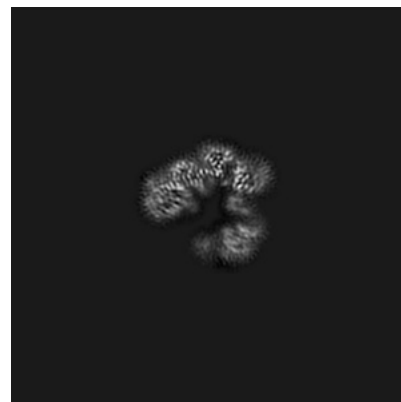
6.2.1 Primary map



X Index: 200

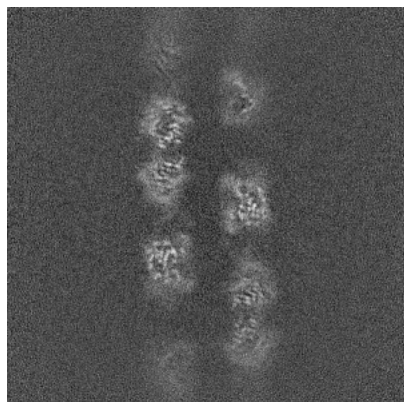


Y Index: 200

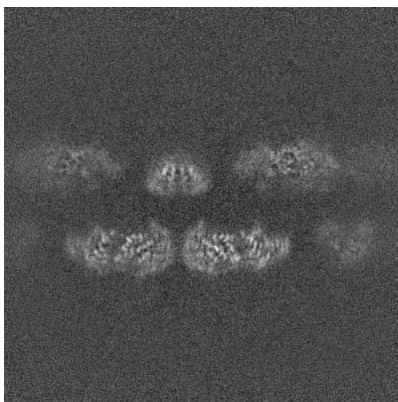


Z Index: 200

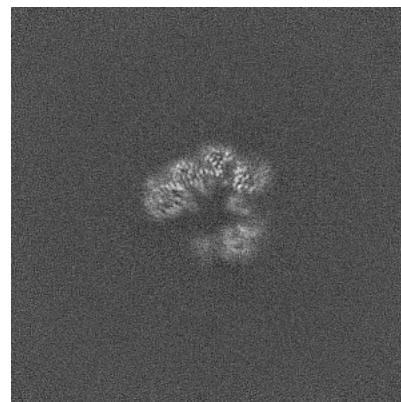
6.2.2 Raw map



X Index: 200



Y Index: 200

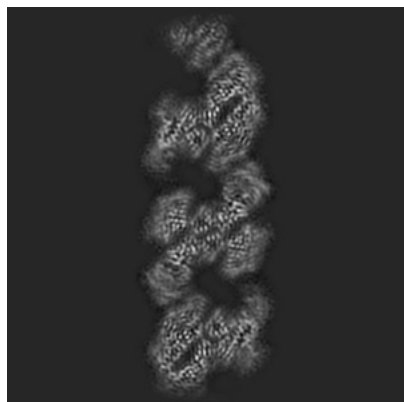


Z Index: 200

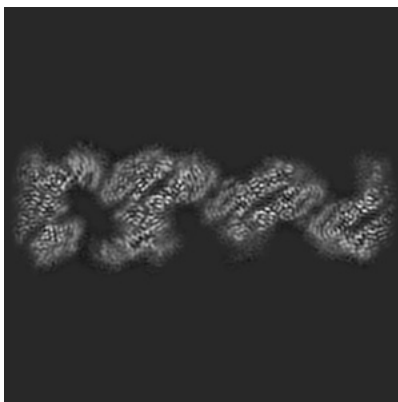
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

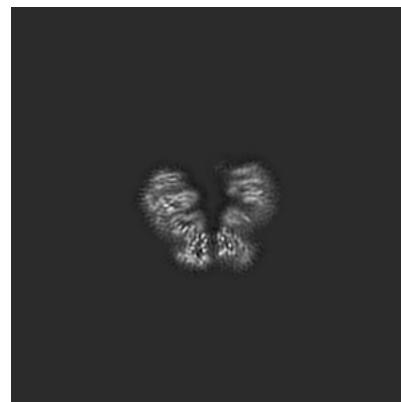
6.3.1 Primary map



X Index: 232

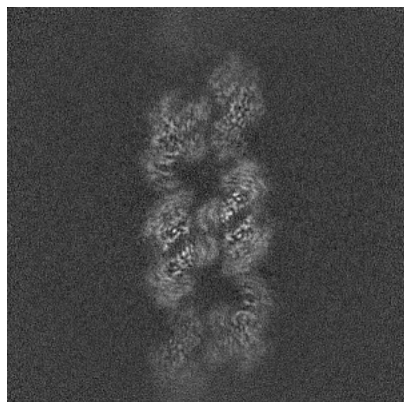


Y Index: 166

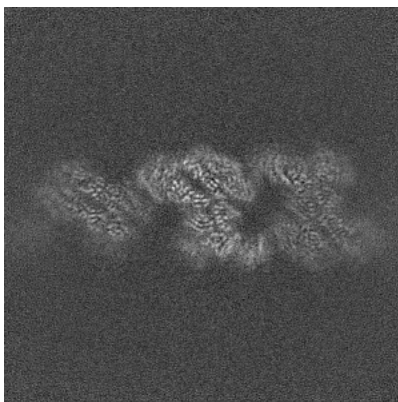


Z Index: 255

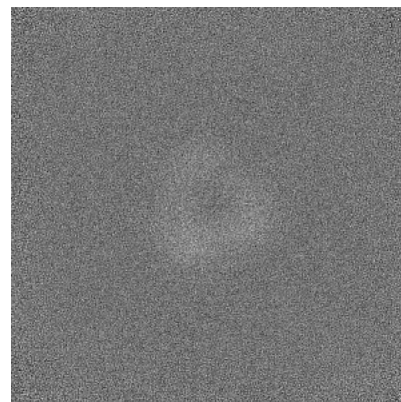
6.3.2 Raw map



X Index: 224



Y Index: 232

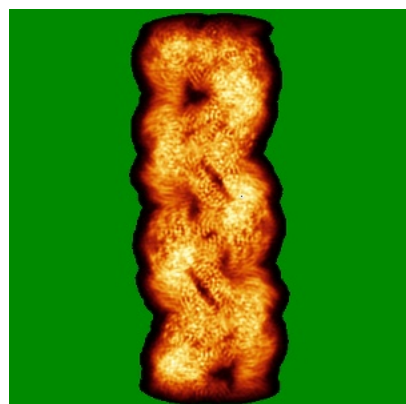


Z Index: 399

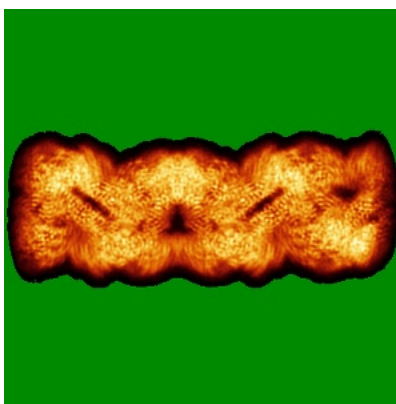
The images above show the largest variance slices of the map in three orthogonal directions.

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

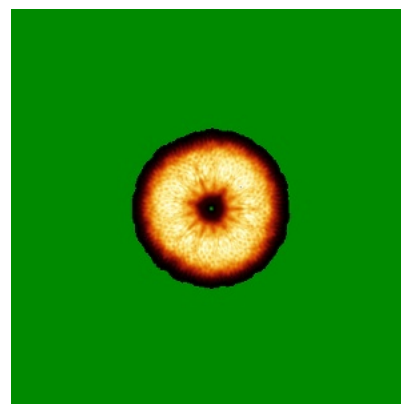
6.4.1 Primary map



X

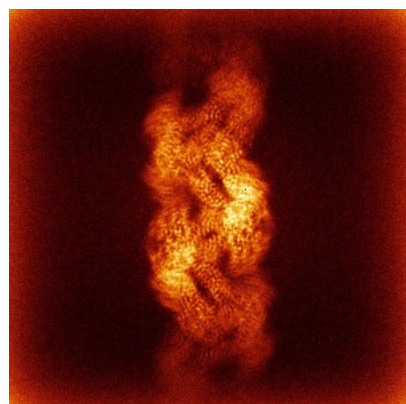


Y

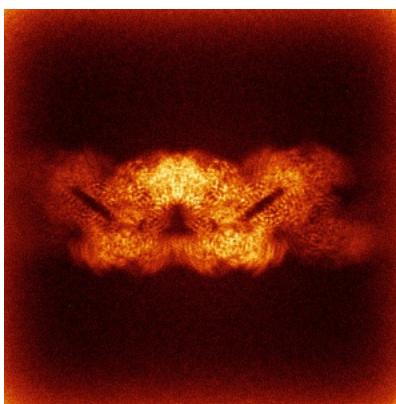


Z

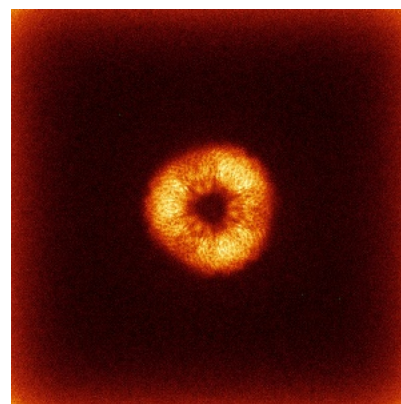
6.4.2 Raw map



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



X



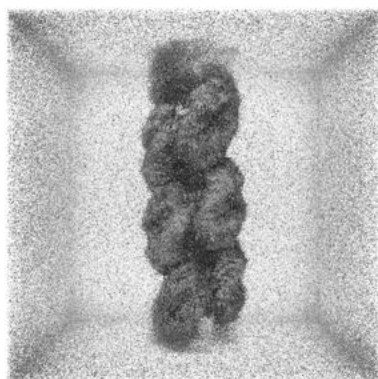
Y



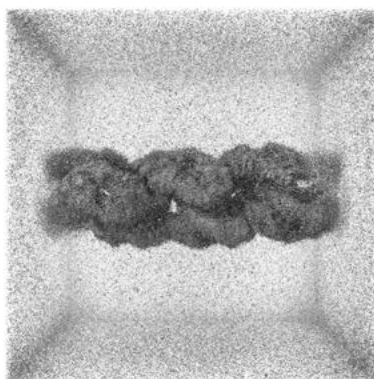
Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

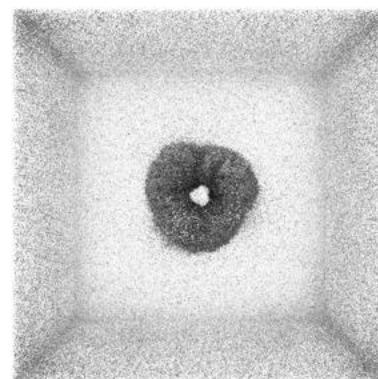
6.5.2 Raw map



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.

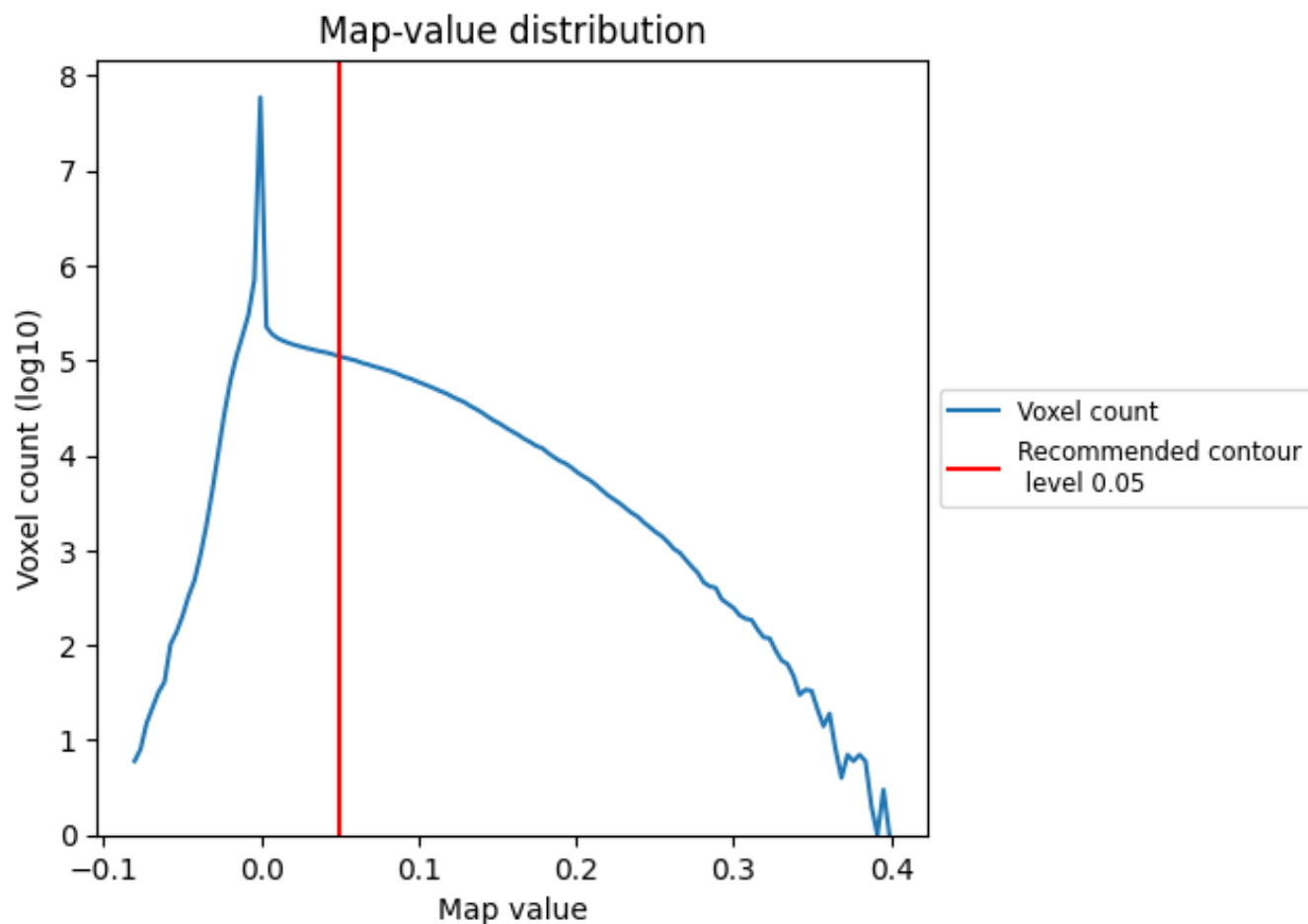
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

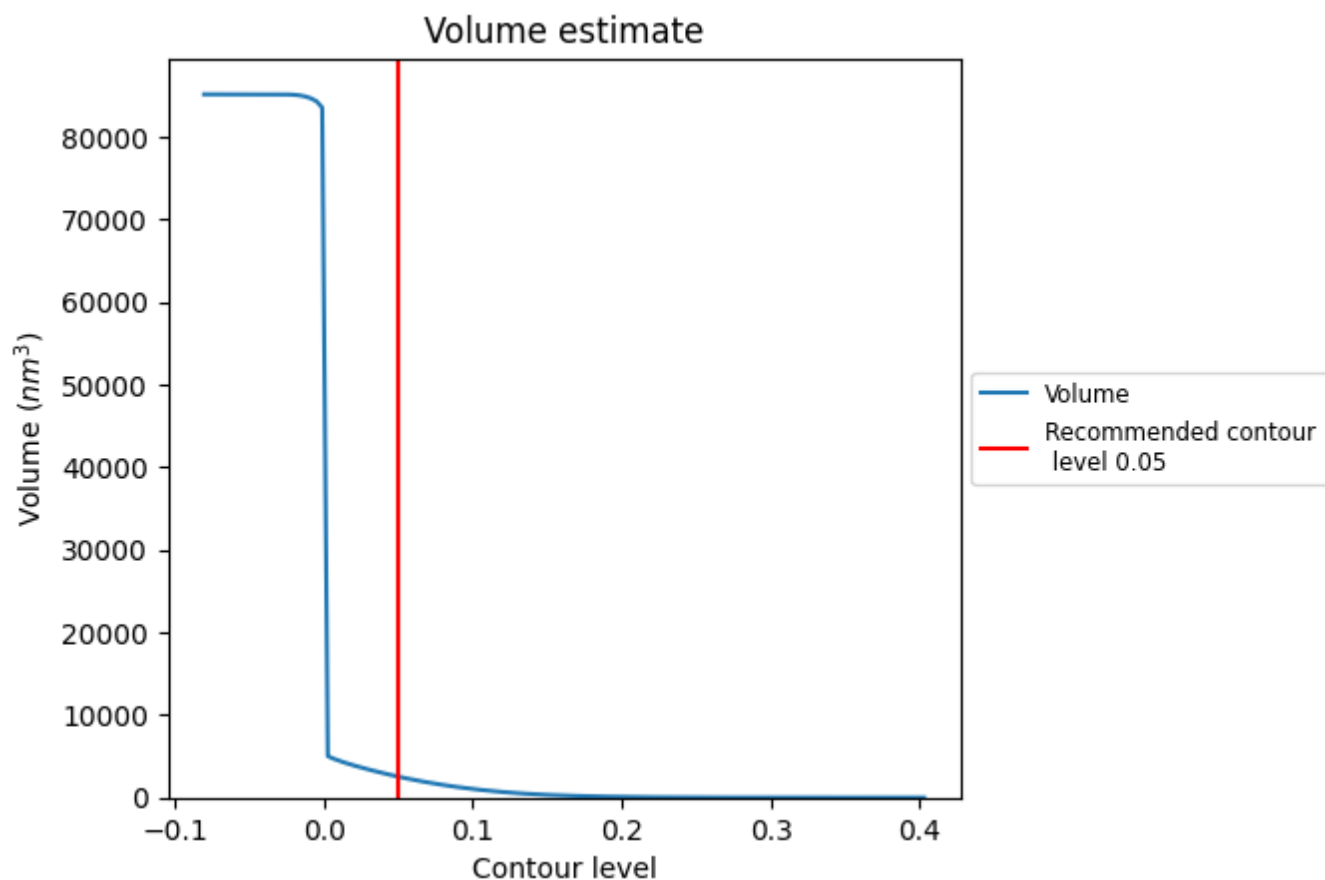
This section contains the results of statistical analysis of the map.

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.

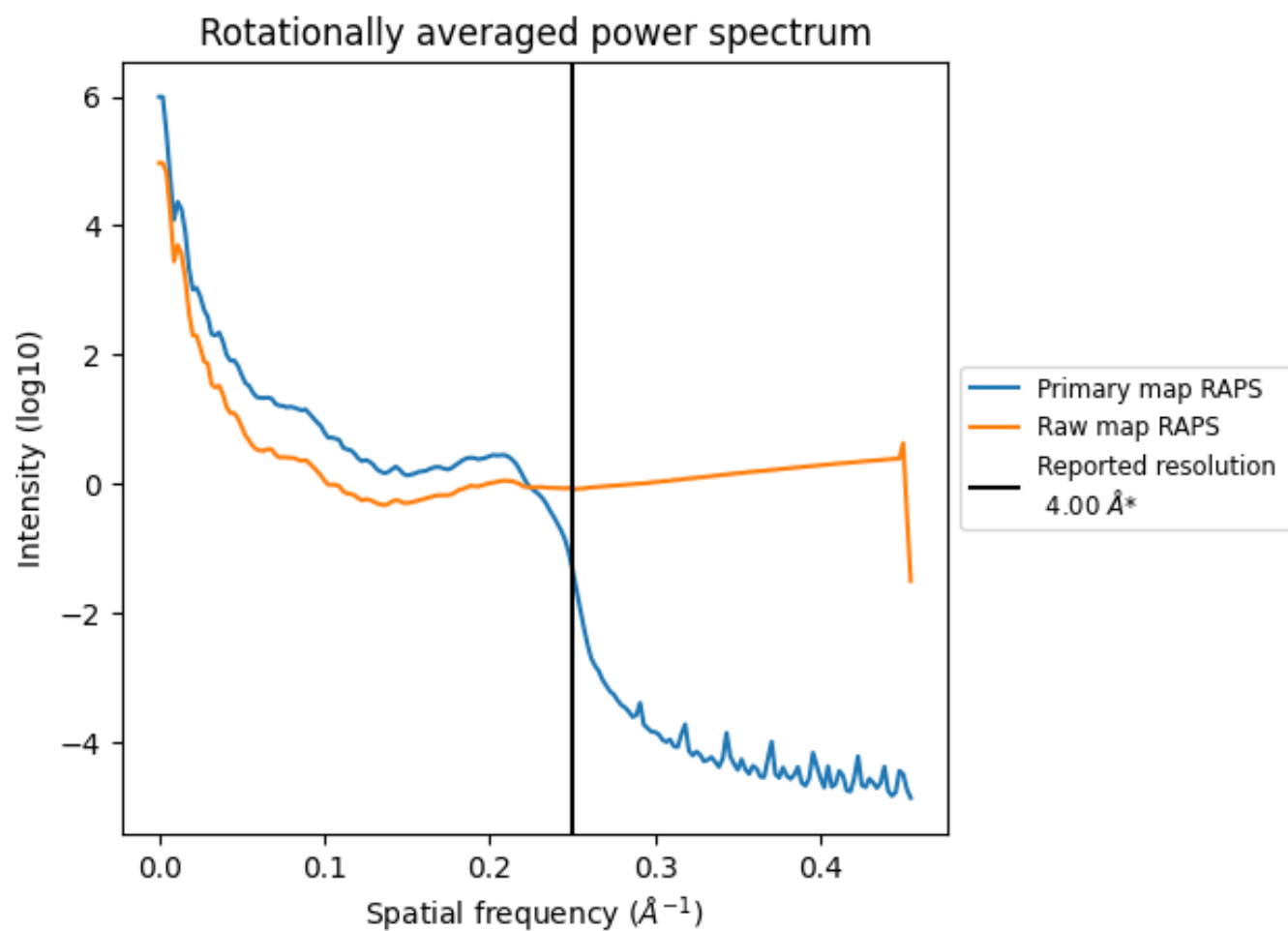
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2532 nm³; this corresponds to an approximate mass of 2287 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](#)

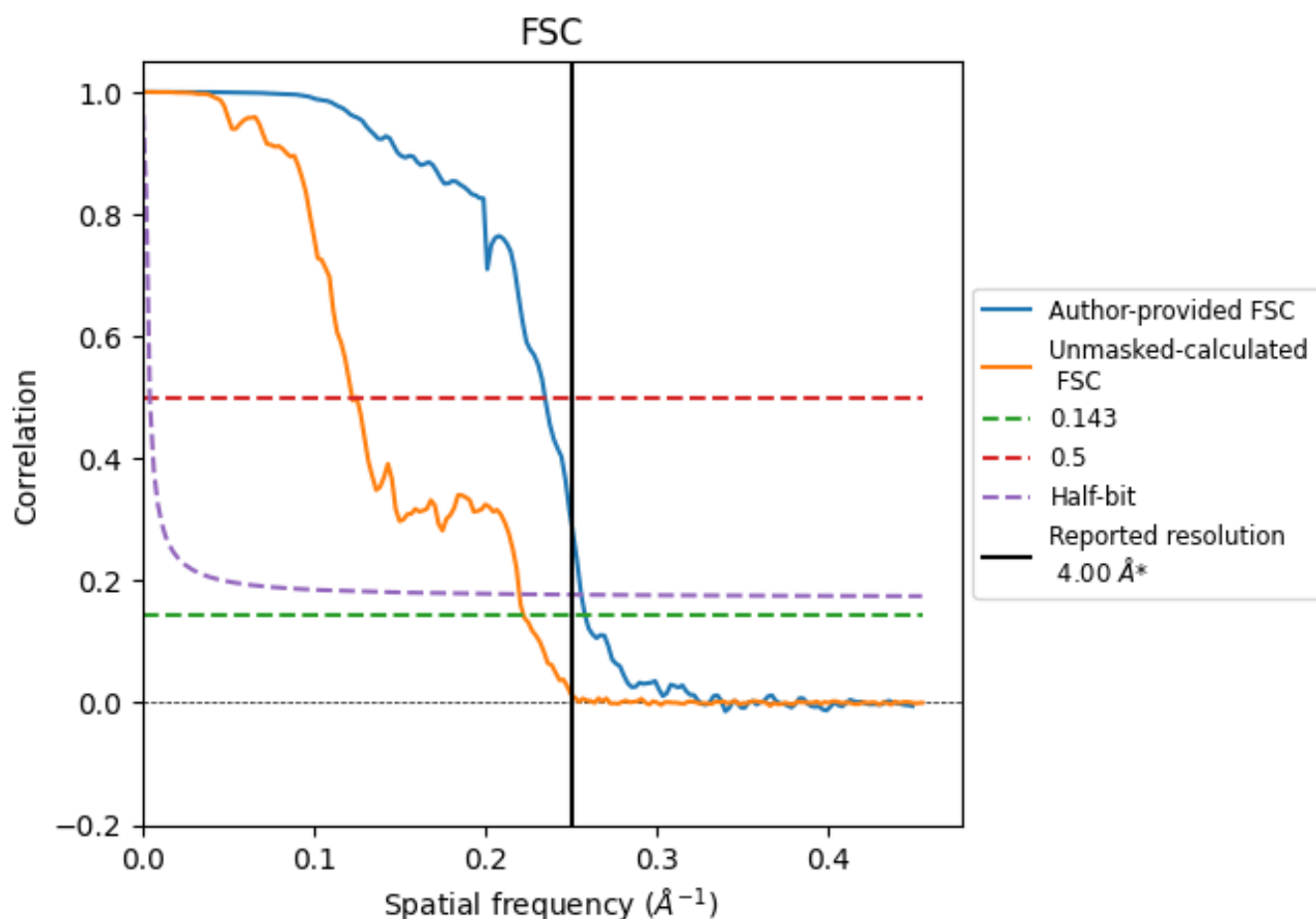


*Reported resolution corresponds to spatial frequency of $0.250 \text{ \AA}^{-1}$

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 0.250 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

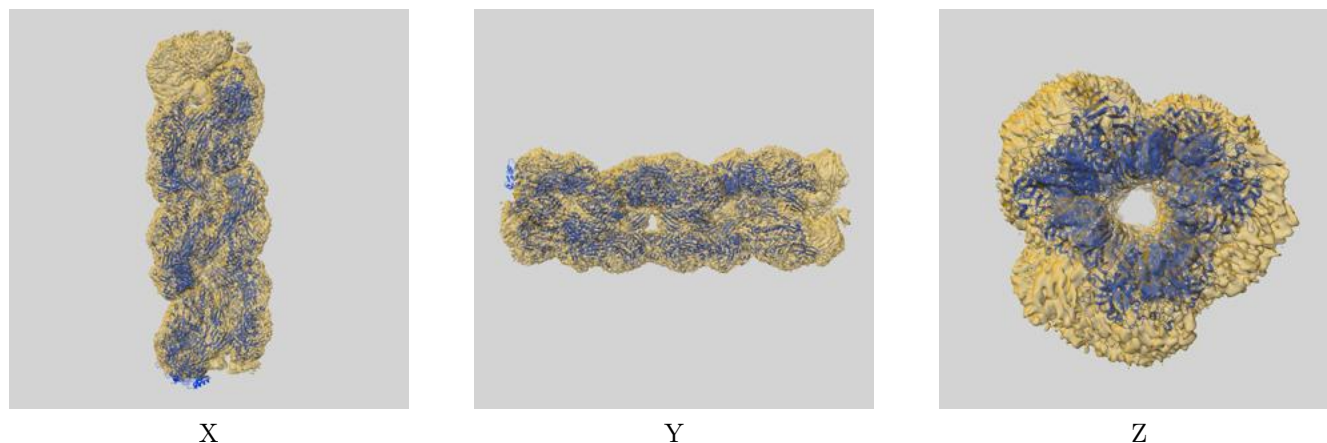
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.00	-	-
Author-provided FSC curve	3.88	4.26	3.91
Unmasked-calculated*	4.50	8.17	4.55

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.50 differs from the reported value 4.0 by more than 10 %

9 Map-model fit [i](#)

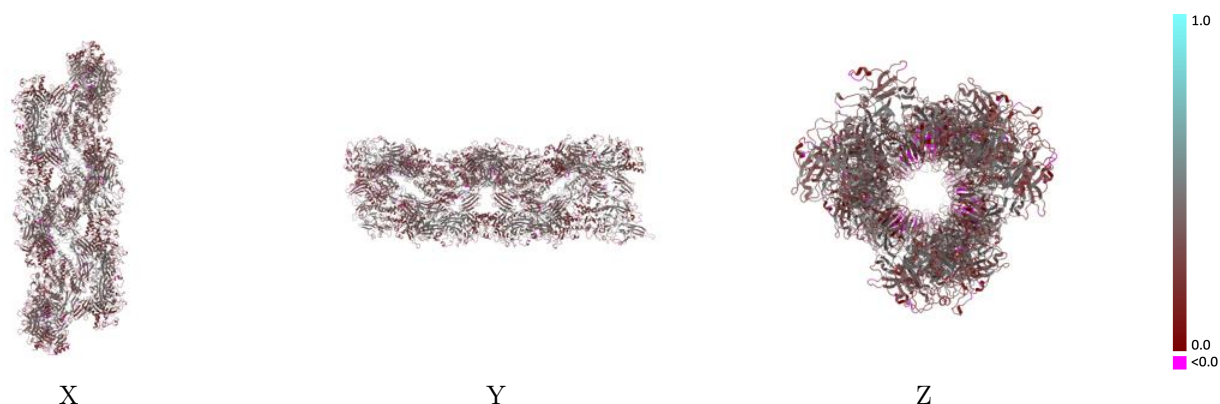
This section contains information regarding the fit between EMDB map EMD-80589 and PDB model 26EL. Per-residue inclusion information can be found in section [3](#) on page [6](#).

9.1 Map-model overlay [i](#)



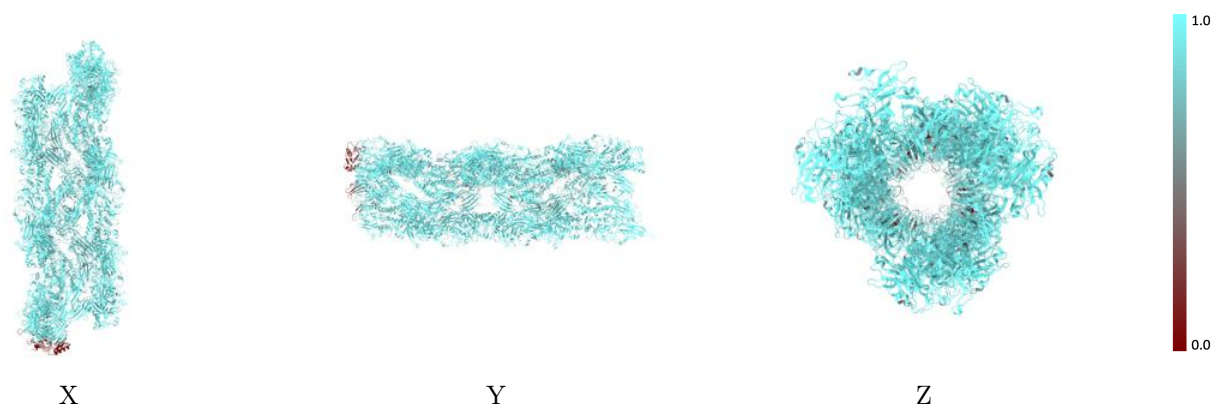
The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



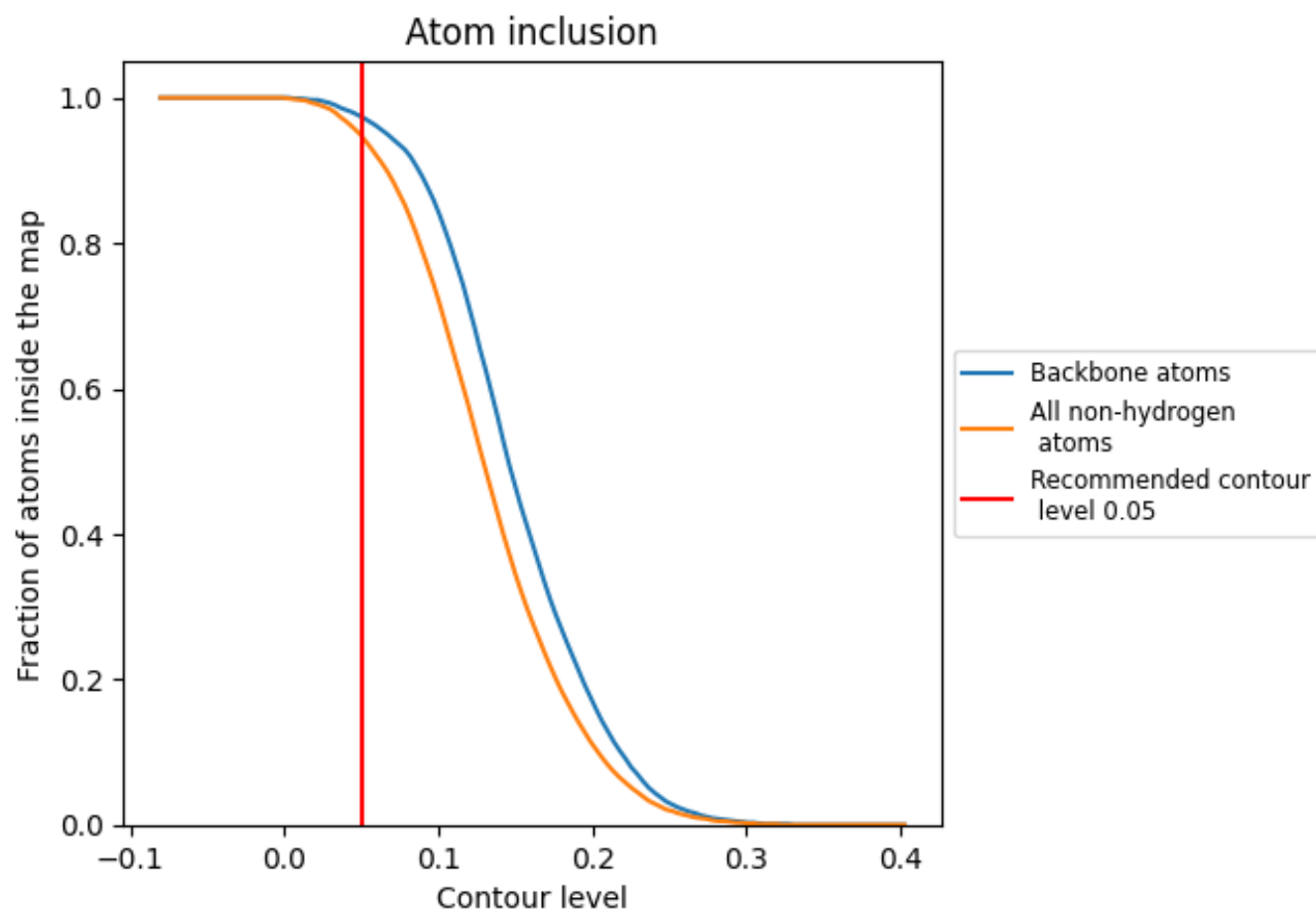
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.05).

9.4 Atom inclusion ⓘ



At the recommended contour level, 97% of all backbone atoms, 95% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9480	 0.3270
A	 0.9630	 0.3340
B	 0.9580	 0.3240
C	 0.9610	 0.3310
D	 0.9620	 0.3250
E	 0.9650	 0.3380
F	 0.9610	 0.3230
G	 0.9610	 0.3330
H	 0.9630	 0.3250
I	 0.9610	 0.3310
J	 0.9620	 0.3230
K	 0.9630	 0.3320
L	 0.9620	 0.3230
M	 0.9610	 0.3160
N	 0.8600	 0.2930
O	 0.9590	 0.3320
P	 0.9620	 0.3230
Q	 0.9610	 0.3300
R	 0.9630	 0.3250
S	 0.7880	 0.3290
T	 0.9070	 0.3220

