



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 02:18 AM UTC

PDB ID : 9CS6 / pdb_00009cs6
EMDB ID : EMD-45888
Title : TRiC-ADP-S5 state is a conformation when TRiC incubated in 1 mM ADP
Authors : Jin, M.; Cong, Y.
Deposited on : 2024-07-23
Resolution : 4.10 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:

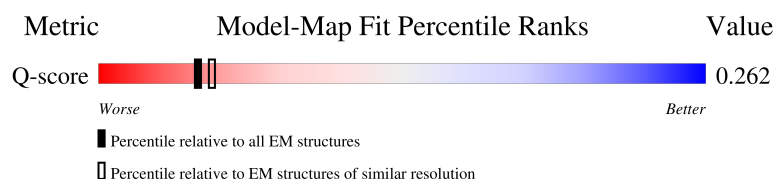
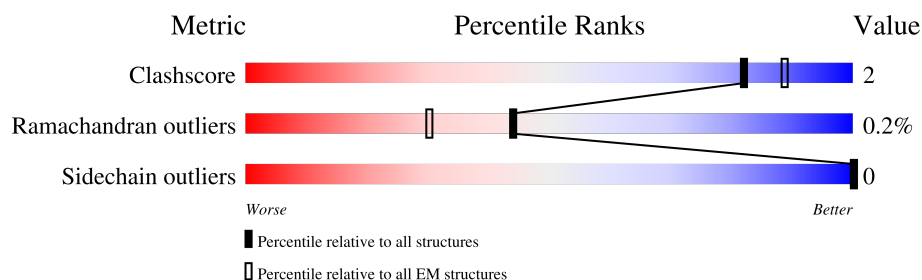
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

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 4.10 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	6458 (3.60 - 4.60)

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	559	<div> <div>31%</div> <div>80%</div> <div>10%</div> <div>9%</div> </div>
1	a	559	<div> <div>33%</div> <div>84%</div> <div>6%</div> <div>10%</div> </div>
2	B	527	<div> <div>23%</div> <div>90%</div> <div>5%</div> <div>5%</div> </div>
2	b	527	<div> <div>29%</div> <div>91%</div> <div>5%</div> </div>

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Mol	Chain	Length	Quality of chain
3	D	528	
3	d	528	
4	E	562	
4	e	562	
5	G	594	
5	g	594	
6	H	550	
6	h	550	
7	Q	568	
7	q	568	
8	Z	546	
8	z	546	

2 Entry composition

There are 8 unique types of molecules in this entry. The entry contains 61410 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 T-complex protein 1 subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	a	504	Total	C	N	O	S	0	0
			3786	2372	658	738	18		
1	A	506	Total	C	N	O	S	0	0
			3807	2386	661	742	18		

- Molecule 2 is a protein called T-complex protein 1 subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	b	503	Total	C	N	O	S	0	0
			3816	2388	659	755	14		
2	B	502	Total	C	N	O	S	0	0
			3811	2385	658	754	14		

- Molecule 3 is a protein called T-complex protein 1 subunit delta.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	d	493	Total	C	N	O	S	0	0
			3751	2339	668	728	16		
3	D	491	Total	C	N	O	S	0	0
			3733	2328	665	724	16		

- Molecule 4 is a protein called T-complex protein 1 subunit epsilon.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	e	524	Total	C	N	O	S	0	0
			4038	2533	693	791	21		
4	E	510	Total	C	N	O	S	0	0
			3918	2459	664	774	21		

- Molecule 5 is a protein called T-complex protein 1 subunit gamma.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	g	477	Total 3635	C 2283	N 638	O 688	S 26	0	0
5	G	485	Total 3700	C 2326	N 648	O 700	S 26	0	0

There are 120 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
g	375	LEU	-	insertion	UNP P39077
g	376	GLU	-	insertion	UNP P39077
g	377	GLY	-	insertion	UNP P39077
g	378	SER	-	insertion	UNP P39077
g	379	GLY	-	insertion	UNP P39077
g	380	SER	-	insertion	UNP P39077
g	381	GLY	-	insertion	UNP P39077
g	382	TRP	-	insertion	UNP P39077
g	383	SER	-	insertion	UNP P39077
g	384	HIS	-	insertion	UNP P39077
g	385	PRO	-	insertion	UNP P39077
g	386	GLN	-	insertion	UNP P39077
g	387	PHE	-	insertion	UNP P39077
g	388	GLU	-	insertion	UNP P39077
g	389	LYS	-	insertion	UNP P39077
g	390	GLY	-	insertion	UNP P39077
g	391	SER	-	insertion	UNP P39077
g	392	GLY	-	insertion	UNP P39077
g	393	LYS	-	insertion	UNP P39077
g	394	ARG	-	insertion	UNP P39077
g	395	ARG	-	insertion	UNP P39077
g	396	TRP	-	insertion	UNP P39077
g	397	LYS	-	insertion	UNP P39077
g	398	LYS	-	insertion	UNP P39077
g	399	ASN	-	insertion	UNP P39077
g	400	PHE	-	insertion	UNP P39077
g	401	ILE	-	insertion	UNP P39077
g	402	ALA	-	insertion	UNP P39077
g	403	VAL	-	insertion	UNP P39077
g	404	SER	-	insertion	UNP P39077
g	405	ALA	-	insertion	UNP P39077
g	406	ALA	-	insertion	UNP P39077
g	407	ASN	-	insertion	UNP P39077
g	408	ARG	-	insertion	UNP P39077
g	409	PHE	-	insertion	UNP P39077

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Chain	Residue	Modelled	Actual	Comment	Reference
g	410	LYS	-	insertion	UNP P39077
g	411	LYS	-	insertion	UNP P39077
g	412	ILE	-	insertion	UNP P39077
g	413	SER	-	insertion	UNP P39077
g	414	SER	-	insertion	UNP P39077
g	415	SER	-	insertion	UNP P39077
g	416	GLY	-	insertion	UNP P39077
g	417	ALA	-	insertion	UNP P39077
g	418	LEU	-	insertion	UNP P39077
g	419	GLY	-	insertion	UNP P39077
g	420	SER	-	insertion	UNP P39077
g	421	GLY	-	insertion	UNP P39077
g	422	HIS	-	insertion	UNP P39077
g	423	HIS	-	insertion	UNP P39077
g	424	HIS	-	insertion	UNP P39077
g	425	HIS	-	insertion	UNP P39077
g	426	HIS	-	insertion	UNP P39077
g	427	HIS	-	insertion	UNP P39077
g	428	HIS	-	insertion	UNP P39077
g	429	HIS	-	insertion	UNP P39077
g	430	GLY	-	insertion	UNP P39077
g	431	SER	-	insertion	UNP P39077
g	432	GLY	-	insertion	UNP P39077
g	433	LEU	-	insertion	UNP P39077
g	434	GLN	-	insertion	UNP P39077
G	375	LEU	-	insertion	UNP P39077
G	376	GLU	-	insertion	UNP P39077
G	377	GLY	-	insertion	UNP P39077
G	378	SER	-	insertion	UNP P39077
G	379	GLY	-	insertion	UNP P39077
G	380	SER	-	insertion	UNP P39077
G	381	GLY	-	insertion	UNP P39077
G	382	TRP	-	insertion	UNP P39077
G	383	SER	-	insertion	UNP P39077
G	384	HIS	-	insertion	UNP P39077
G	385	PRO	-	insertion	UNP P39077
G	386	GLN	-	insertion	UNP P39077
G	387	PHE	-	insertion	UNP P39077
G	388	GLU	-	insertion	UNP P39077
G	389	LYS	-	insertion	UNP P39077
G	390	GLY	-	insertion	UNP P39077
G	391	SER	-	insertion	UNP P39077

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Chain	Residue	Modelled	Actual	Comment	Reference
G	392	GLY	-	insertion	UNP P39077
G	393	LYS	-	insertion	UNP P39077
G	394	ARG	-	insertion	UNP P39077
G	395	ARG	-	insertion	UNP P39077
G	396	TRP	-	insertion	UNP P39077
G	397	LYS	-	insertion	UNP P39077
G	398	LYS	-	insertion	UNP P39077
G	399	ASN	-	insertion	UNP P39077
G	400	PHE	-	insertion	UNP P39077
G	401	ILE	-	insertion	UNP P39077
G	402	ALA	-	insertion	UNP P39077
G	403	VAL	-	insertion	UNP P39077
G	404	SER	-	insertion	UNP P39077
G	405	ALA	-	insertion	UNP P39077
G	406	ALA	-	insertion	UNP P39077
G	407	ASN	-	insertion	UNP P39077
G	408	ARG	-	insertion	UNP P39077
G	409	PHE	-	insertion	UNP P39077
G	410	LYS	-	insertion	UNP P39077
G	411	LYS	-	insertion	UNP P39077
G	412	ILE	-	insertion	UNP P39077
G	413	SER	-	insertion	UNP P39077
G	414	SER	-	insertion	UNP P39077
G	415	SER	-	insertion	UNP P39077
G	416	GLY	-	insertion	UNP P39077
G	417	ALA	-	insertion	UNP P39077
G	418	LEU	-	insertion	UNP P39077
G	419	GLY	-	insertion	UNP P39077
G	420	SER	-	insertion	UNP P39077
G	421	GLY	-	insertion	UNP P39077
G	422	HIS	-	insertion	UNP P39077
G	423	HIS	-	insertion	UNP P39077
G	424	HIS	-	insertion	UNP P39077
G	425	HIS	-	insertion	UNP P39077
G	426	HIS	-	insertion	UNP P39077
G	427	HIS	-	insertion	UNP P39077
G	428	HIS	-	insertion	UNP P39077
G	429	HIS	-	insertion	UNP P39077
G	430	GLY	-	insertion	UNP P39077
G	431	SER	-	insertion	UNP P39077
G	432	GLY	-	insertion	UNP P39077
G	433	LEU	-	insertion	UNP P39077

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Chain	Residue	Modelled	Actual	Comment	Reference
G	434	GLN	-	insertion	UNP P39077

- Molecule 6 is a protein called T-complex protein 1 subunit eta.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	h	508	Total	C	N	O	S	0	0
			3891	2452	666	754	19		
6	H	497	Total	C	N	O	S	0	0
			3804	2401	650	734	19		

- Molecule 7 is a protein called T-complex protein 1 subunit theta.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	q	502	Total	C	N	O	S	0	0
			3809	2403	648	733	25		
7	Q	506	Total	C	N	O	S	0	0
			3833	2417	653	738	25		

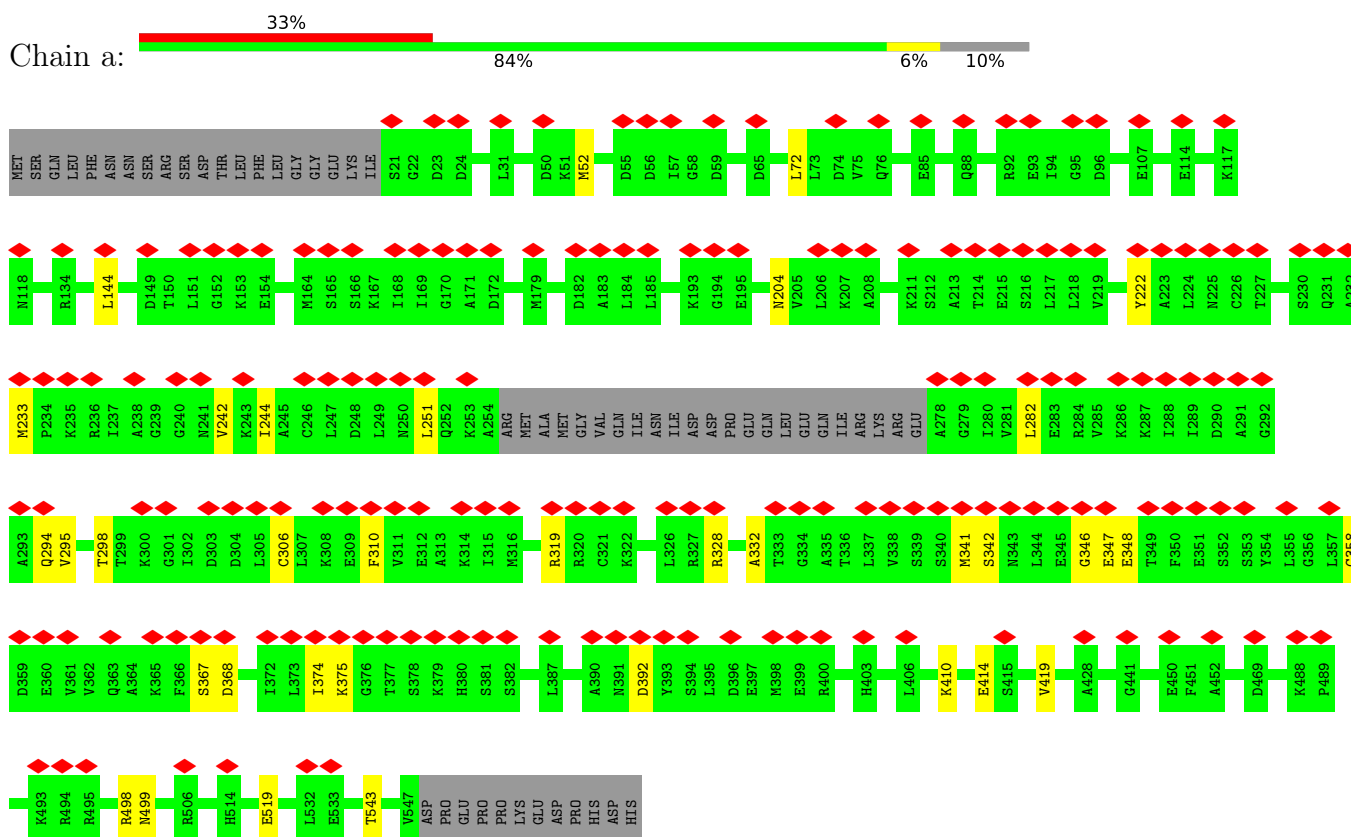
- Molecule 8 is a protein called T-complex protein 1 subunit zeta.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	z	527	Total	C	N	O	S	0	0
			4058	2549	703	789	17		
8	Z	522	Total	C	N	O	S	0	0
			4020	2526	696	781	17		

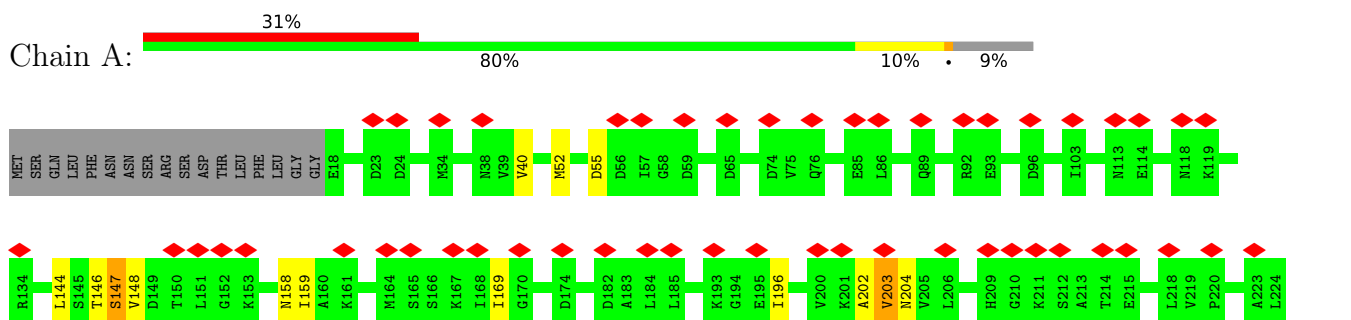
3 Residue-property plots

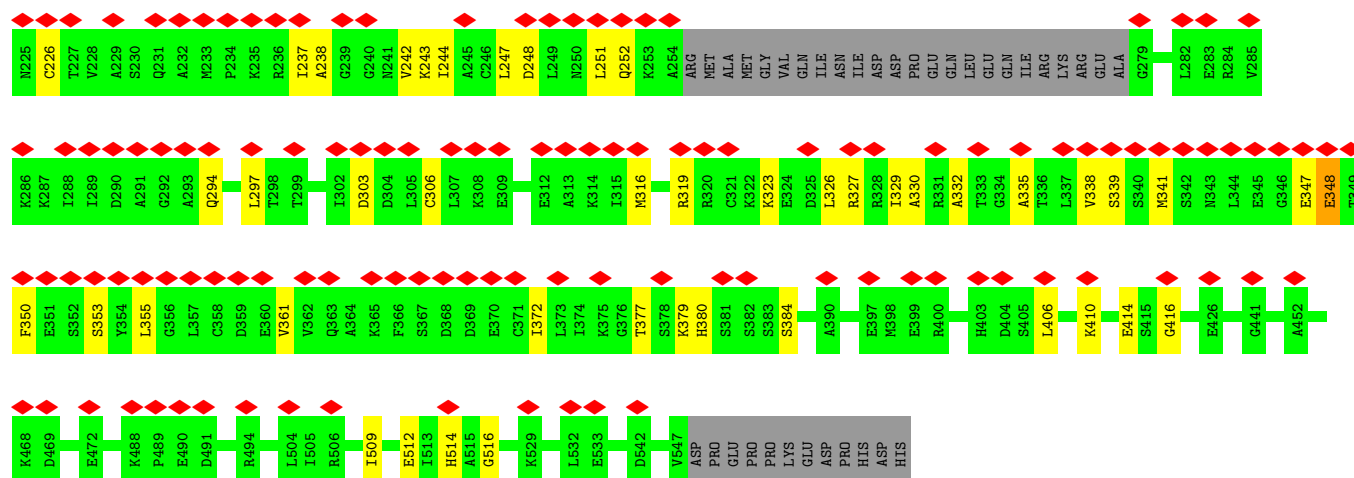
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: T-complex protein 1 subunit alpha

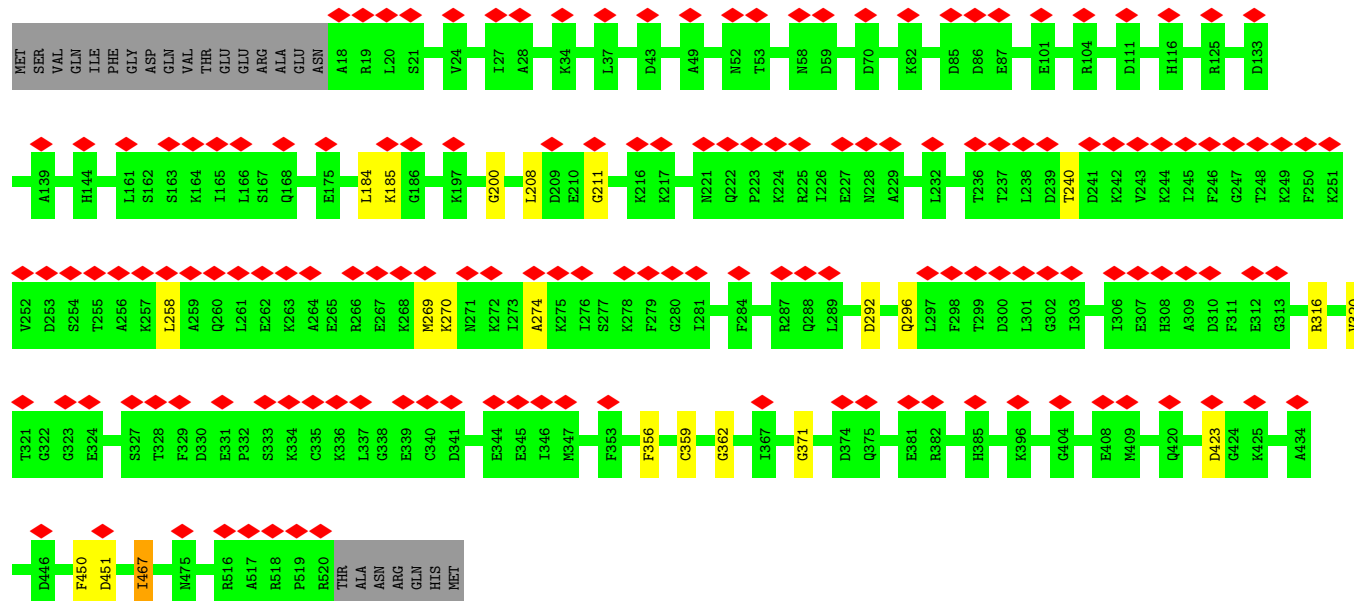
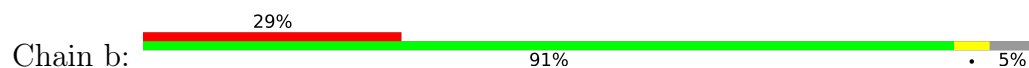


• Molecule 1: T-complex protein 1 subunit alpha

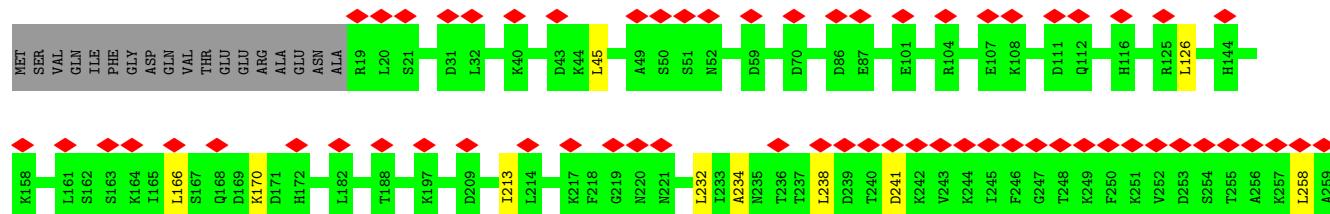
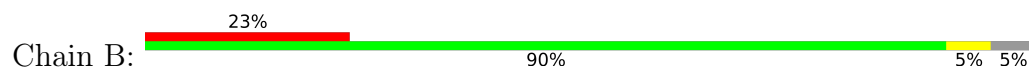


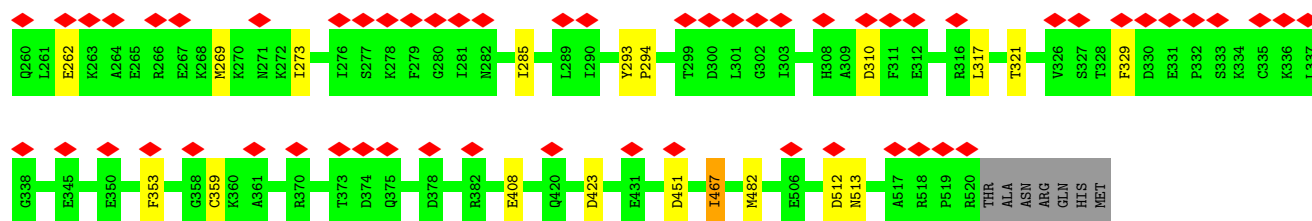


• Molecule 2: T-complex protein 1 subunit beta

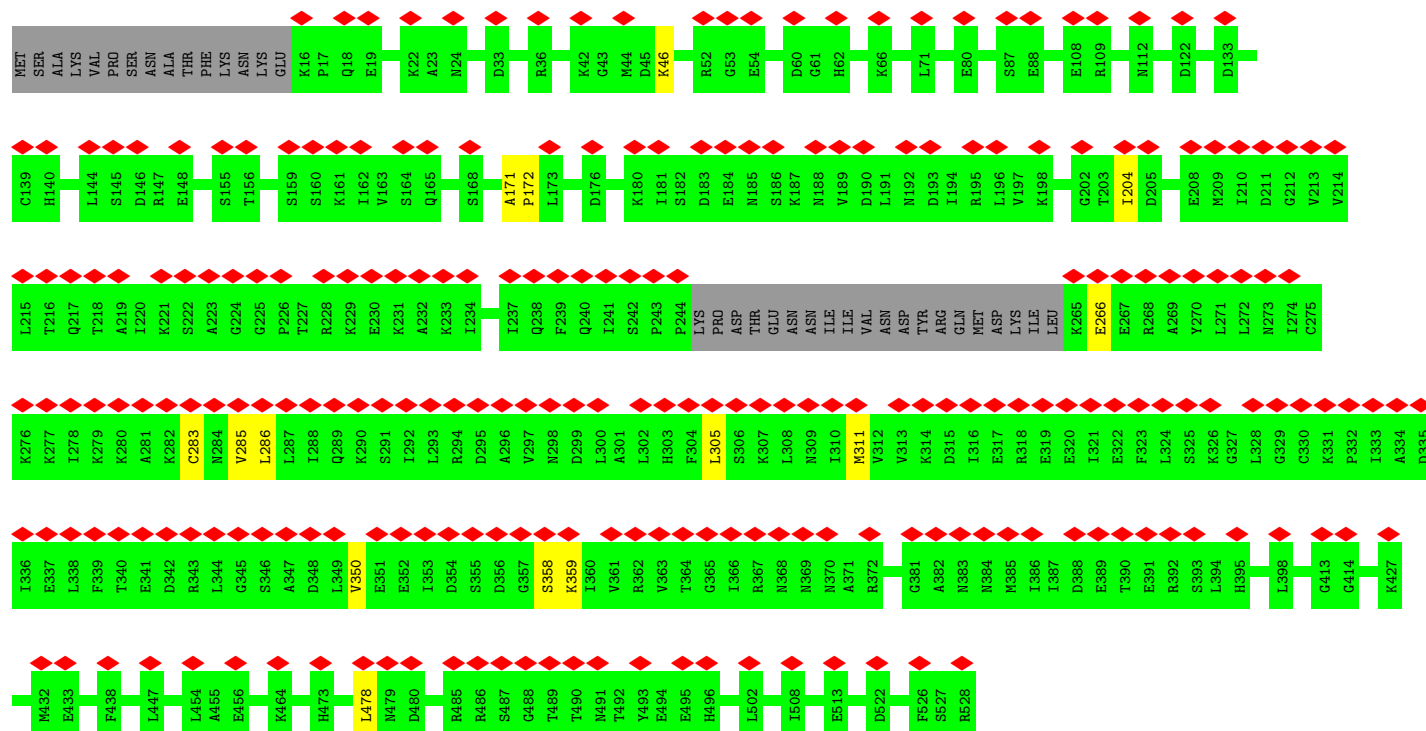
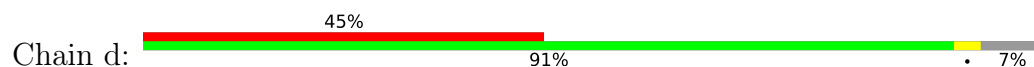


• Molecule 2: T-complex protein 1 subunit beta

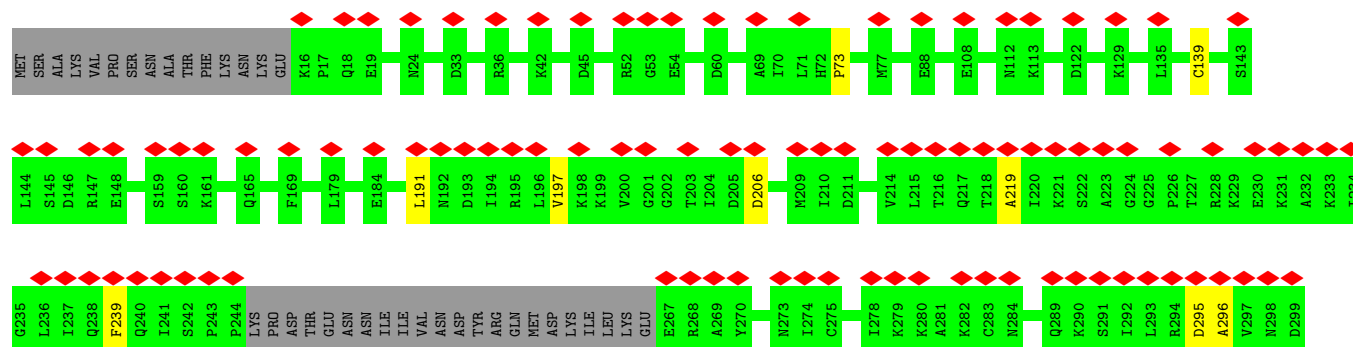
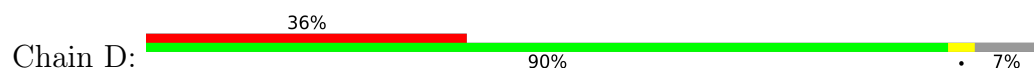


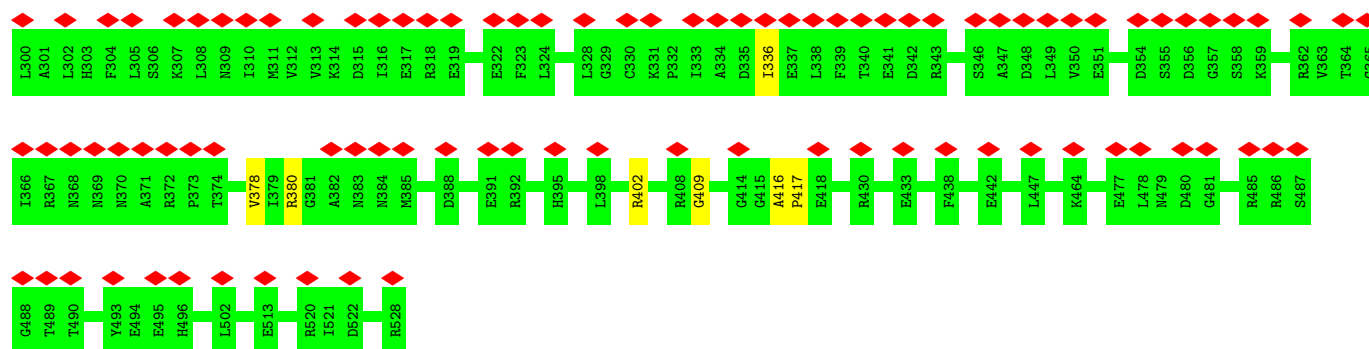


• Molecule 3: T-complex protein 1 subunit delta

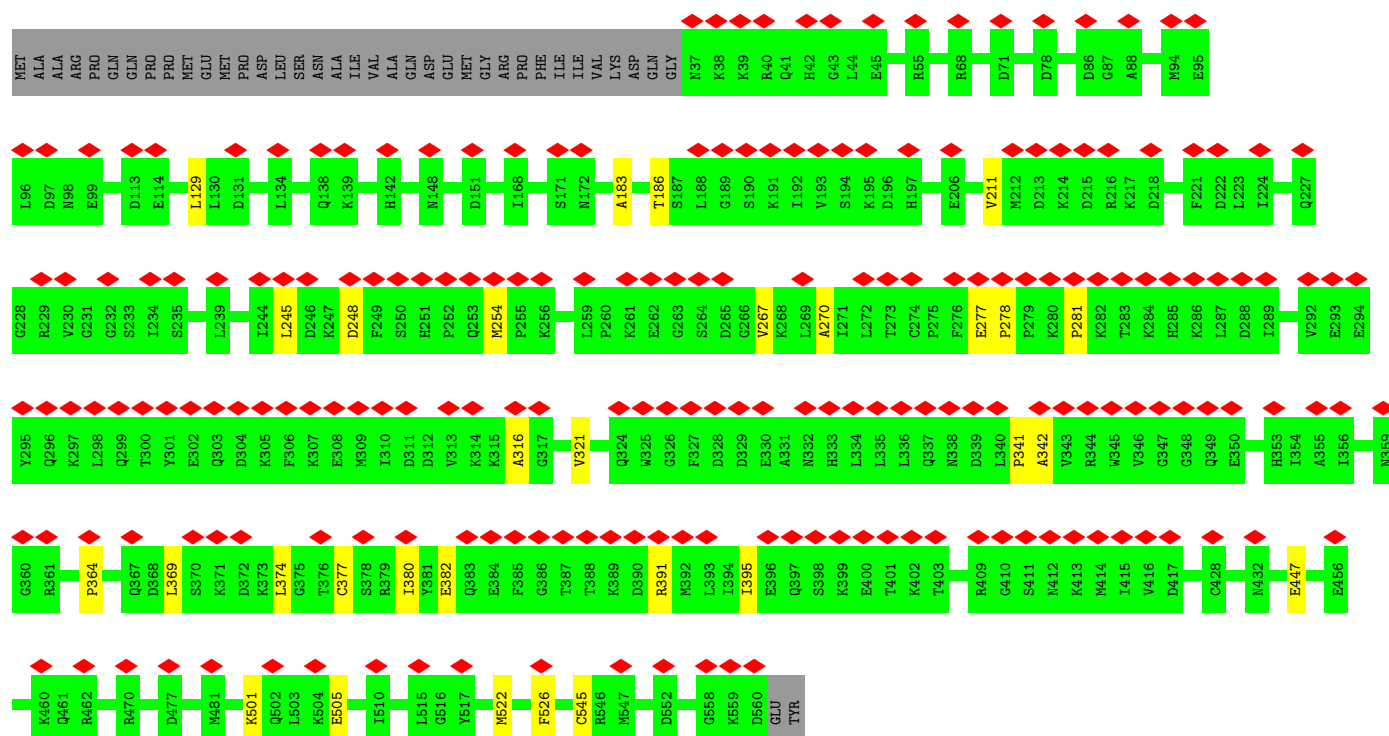
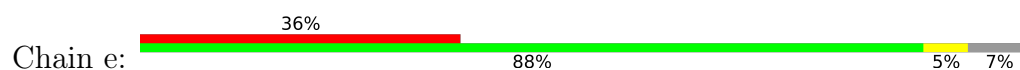


• Molecule 3: T-complex protein 1 subunit delta

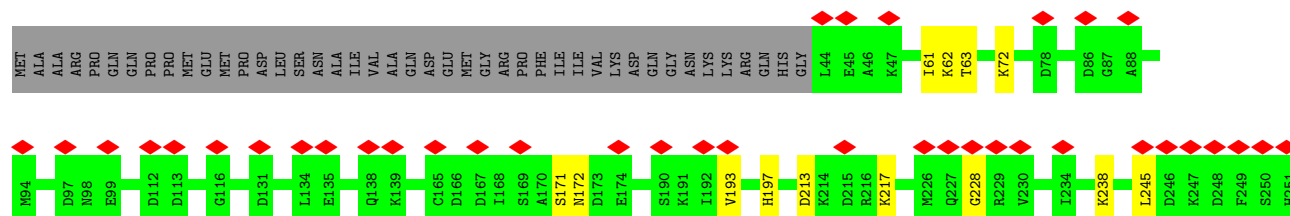
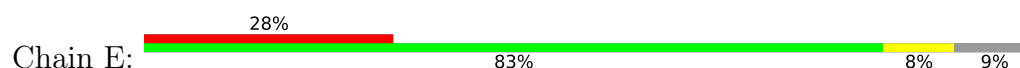


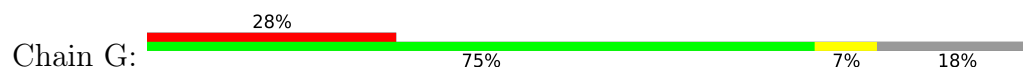


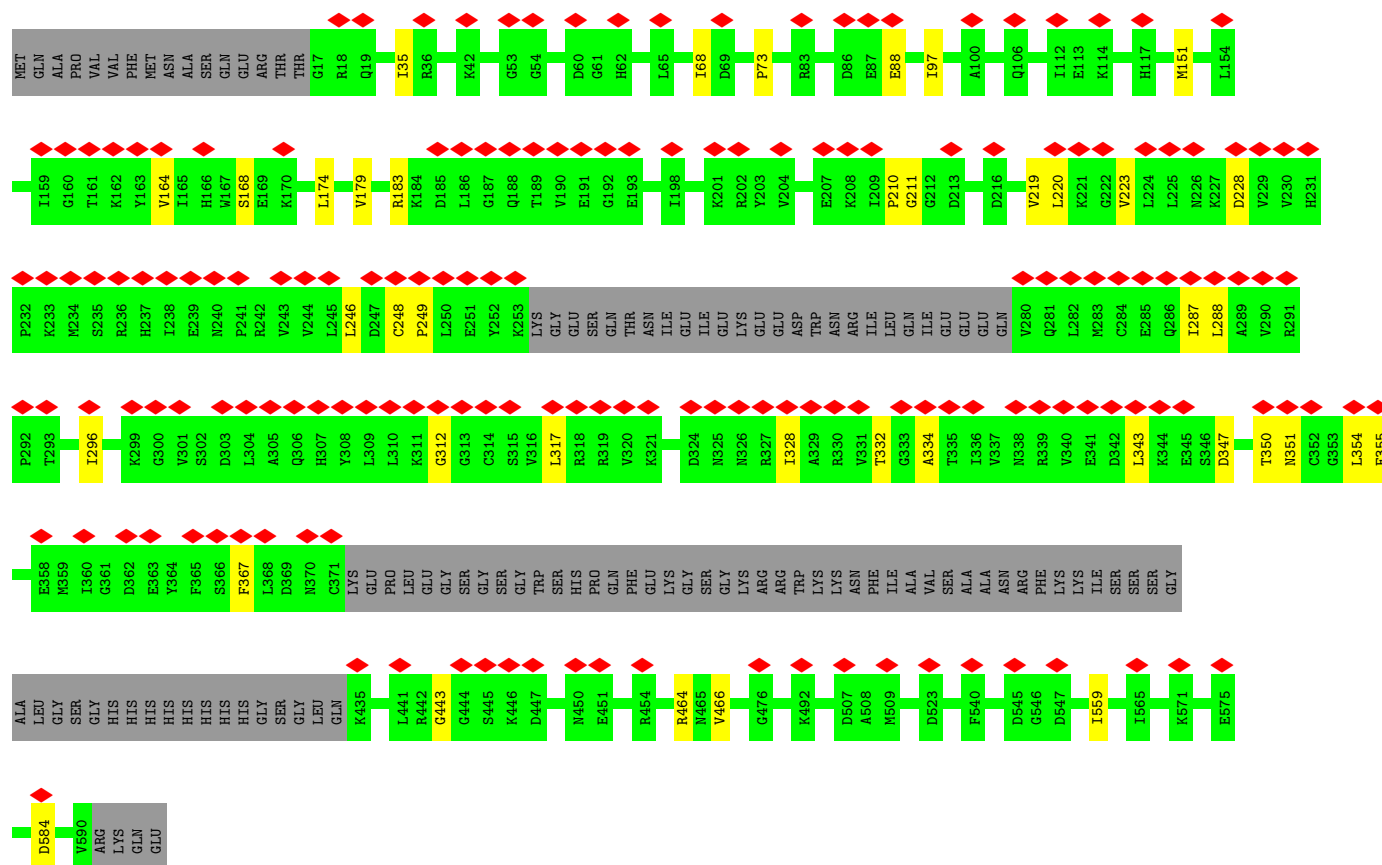
• Molecule 4: T-complex protein 1 subunit epsilon



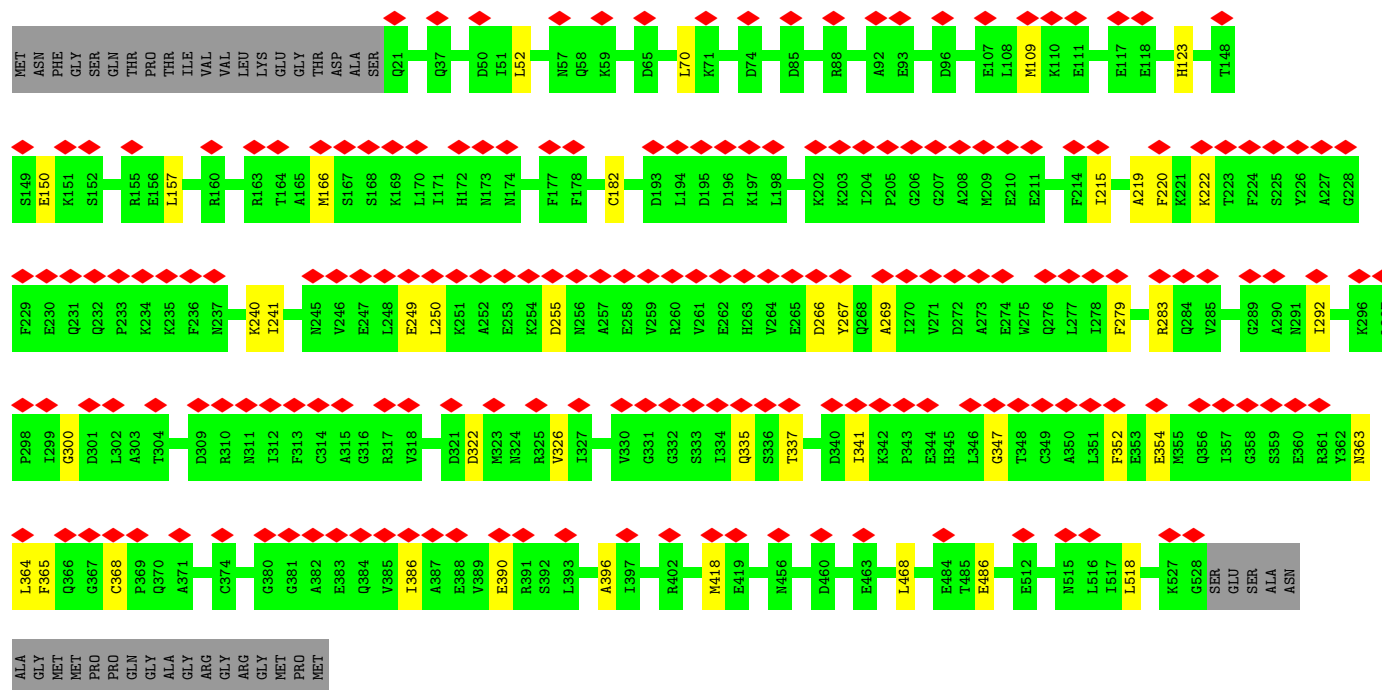
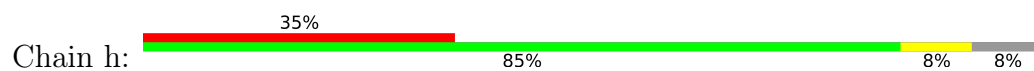
• Molecule 4: T-complex protein 1 subunit epsilon



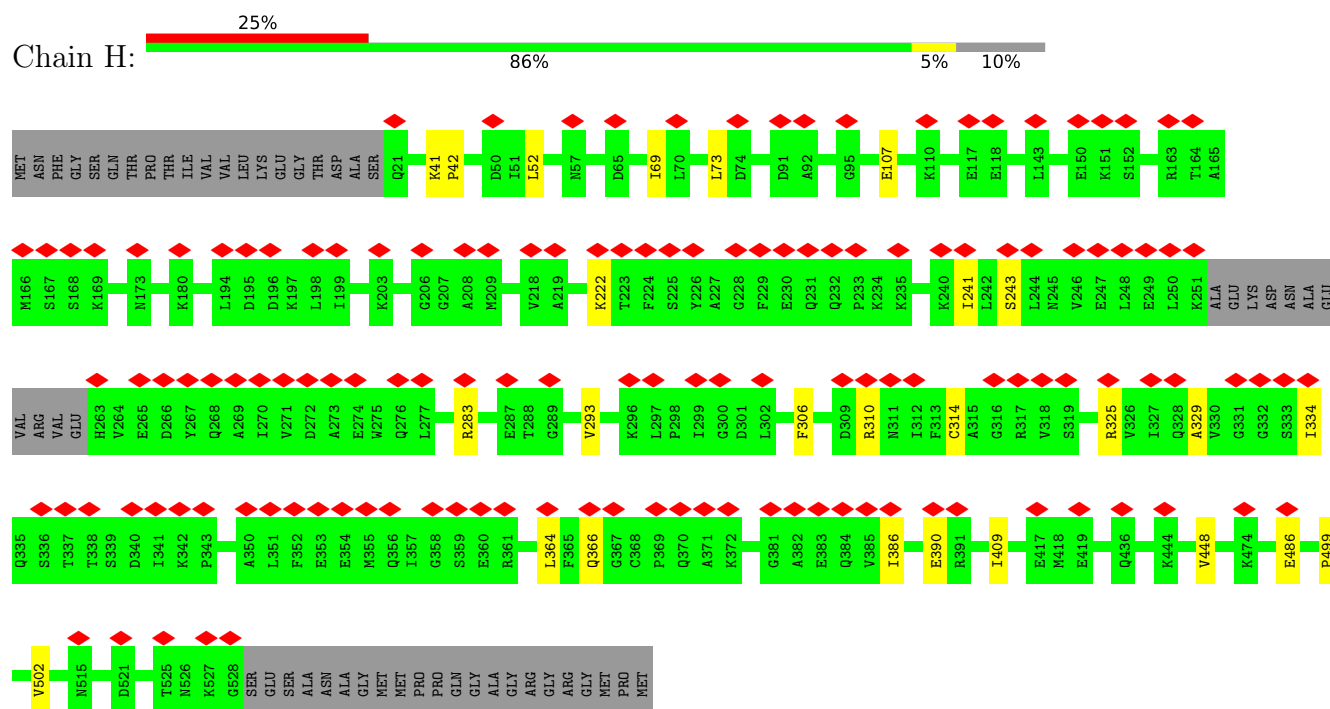




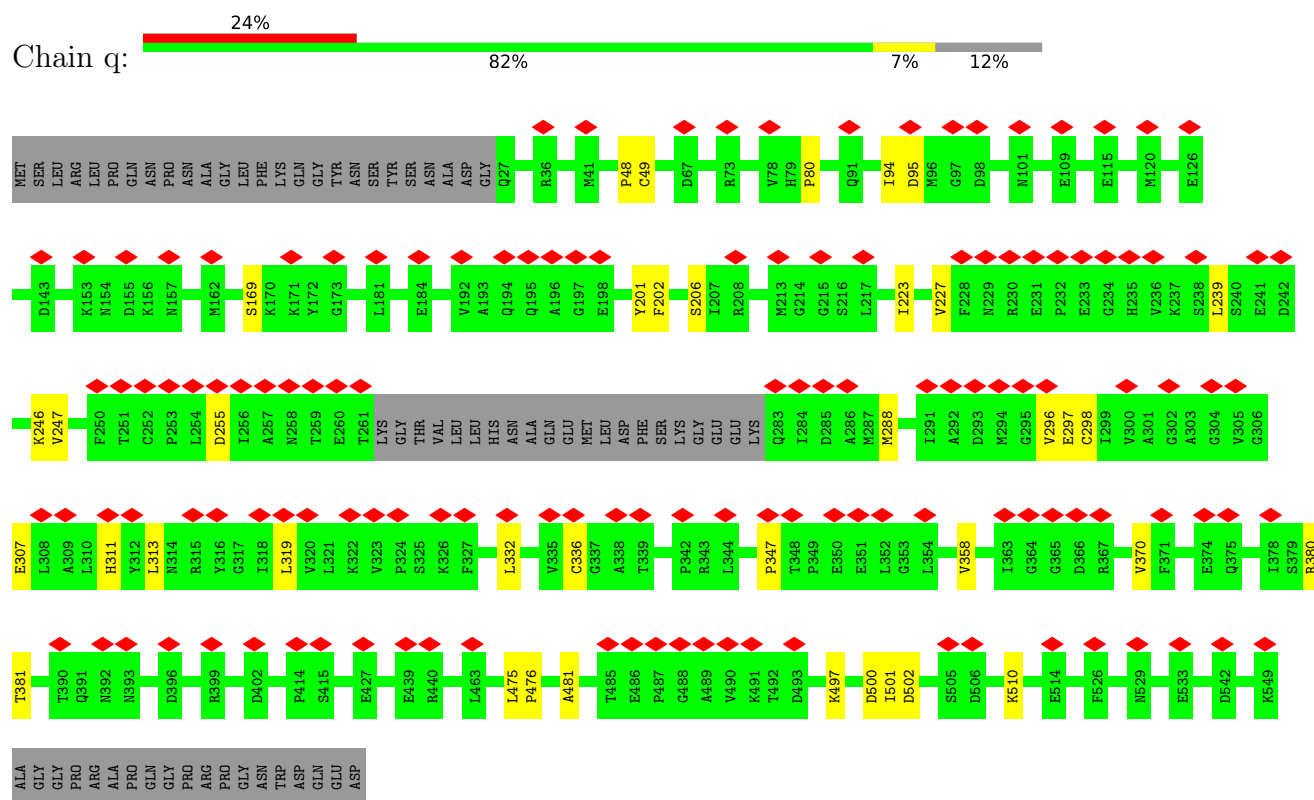
• Molecule 6: T-complex protein 1 subunit eta



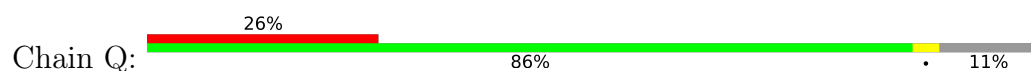
- Molecule 6: T-complex protein 1 subunit eta

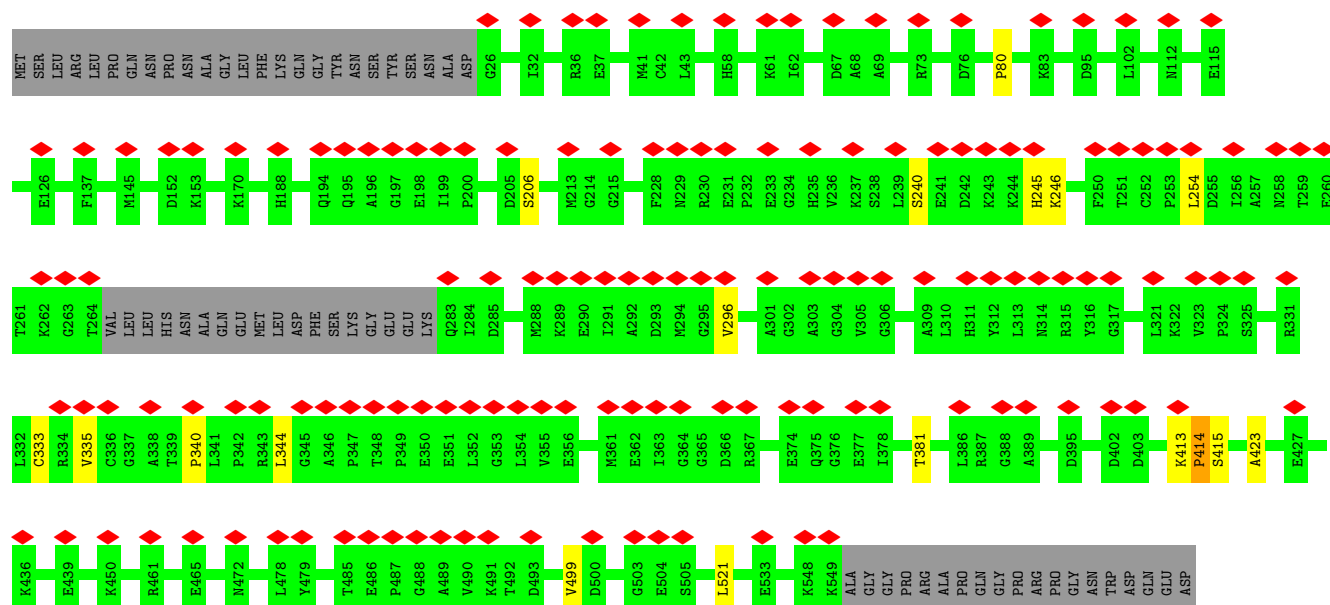


- Molecule 7: T-complex protein 1 subunit theta

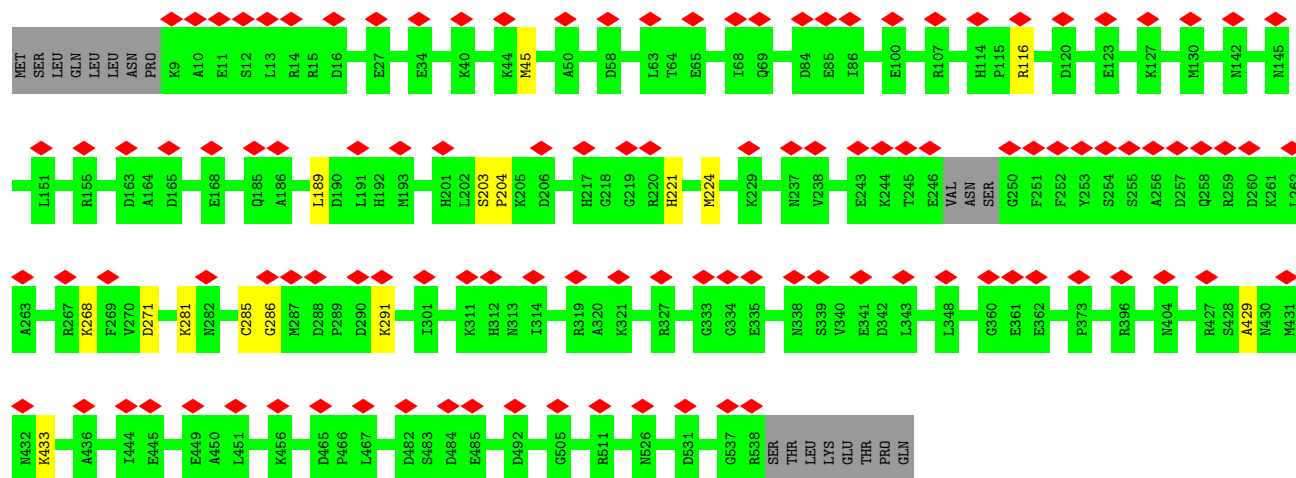


- Molecule 7: T-complex protein 1 subunit theta

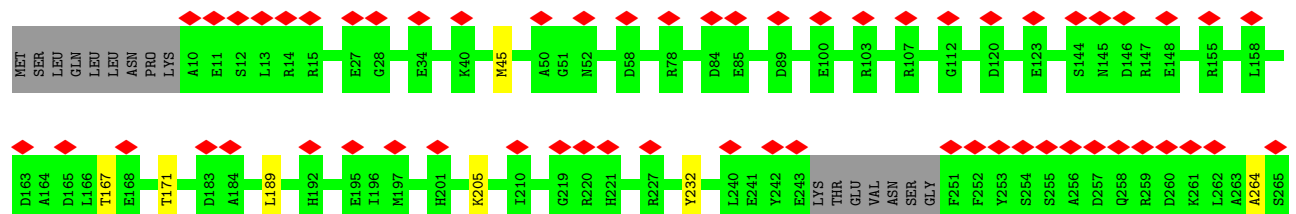


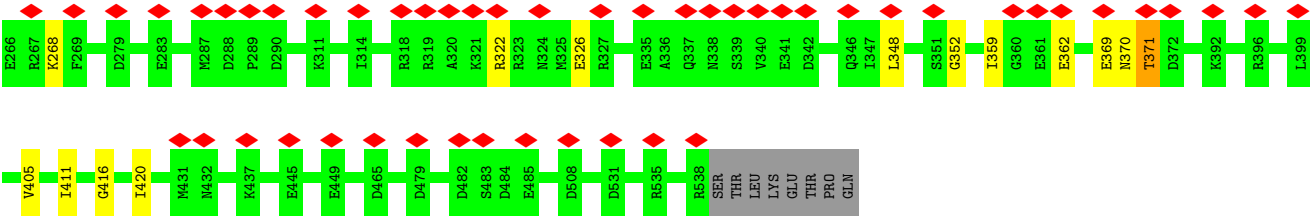


Chain z: 21% 94%



Chain Z: 20% 92%





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	127363	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 ($e^-/\text{\AA}^2$)	38	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	3.014	Depositor
Minimum map value	-1.396	Depositor
Average map value	0.014	Depositor
Map value standard deviation	0.118	Depositor
Recommended contour level	0.7	Depositor
Map size (\AA)	337.408, 337.408, 337.408	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.318, 1.318, 1.318	Depositor

5 Model quality

5.1 Standard geometry

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	0.47	0/3840	0.40	0/5182
1	a	0.47	0/3819	0.41	0/5155
2	B	0.48	0/3849	0.38	0/5186
2	b	0.49	0/3854	0.40	0/5193
3	D	0.49	0/3766	0.38	0/5076
3	d	0.50	0/3784	0.38	0/5099
4	E	0.50	0/3963	0.38	0/5337
4	e	0.50	0/4087	0.39	0/5500
5	G	0.48	0/3742	0.40	0/5053
5	g	0.48	0/3675	0.40	0/4962
6	H	0.47	0/3852	0.37	0/5196
6	h	0.47	0/3940	0.40	2/5316 (0.0%)
7	Q	0.48	0/3876	0.39	0/5232
7	q	0.48	0/3852	0.41	0/5201
8	Z	0.49	0/4070	0.40	0/5498
8	z	0.48	0/4108	0.37	0/5547
All	All	0.48	0/62077	0.39	2/83733 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	h	341	ILE	CA-C-N	5.64	131.66	120.94
6	h	341	ILE	C-N-CA	5.64	131.66	120.94

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	3807	0	3977	41	0
1	a	3786	0	3952	22	0
2	B	3811	0	3928	20	0
2	b	3816	0	3933	14	0
3	D	3733	0	3904	9	0
3	d	3751	0	3923	10	0
4	E	3918	0	3998	25	0
4	e	4038	0	4135	23	0
5	G	3700	0	3855	26	0
5	g	3635	0	3789	25	0
6	H	3804	0	3889	17	0
6	h	3891	0	3972	28	0
7	Q	3833	0	3989	12	0
7	q	3809	0	3963	26	0
8	Z	4020	0	4106	14	0
8	z	4058	0	4148	9	0
All	All	61410	0	63461	307	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 2.

All (307) 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:144:LEU:HD12	1:A:144:LEU:C	2.13	0.73
7:q:501:ILE:HG22	7:q:501:ILE:O	1.94	0.67
5:g:68:ILE:HG23	5:g:68:ILE:O	1.97	0.65
4:E:393:LEU:C	4:E:393:LEU:HD12	2.25	0.62
1:A:512:GLU:OE1	1:A:512:GLU:HA	2.01	0.61
5:G:164:VAL:O	5:G:168:SER:N	2.34	0.60
4:E:193:VAL:O	4:E:197:HIS:N	2.36	0.59
2:B:258:LEU:C	2:B:258:LEU:HD23	2.27	0.59
6:h:220:PHE:N	6:h:363:ASN:O	2.35	0.59
1:A:237:ILE:C	1:A:237:ILE:HD12	2.27	0.59
1:a:144:LEU:HD12	1:a:144:LEU:C	2.29	0.58
4:e:254:MET:SD	4:e:341:PRO:HA	2.44	0.57
8:Z:322:ARG:O	8:Z:326:GLU:N	2.36	0.57
7:Q:413:LYS:O	7:Q:415:SER:N	2.38	0.57
4:e:270:ALA:HA	4:e:374:LEU:HD22	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:478:LEU:C	3:d:478:LEU:HD12	2.30	0.56
5:G:559:ILE:HG12	5:G:559:ILE:O	2.06	0.56
2:b:423:ASP:OD1	2:b:423:ASP:C	2.49	0.56
6:h:241:ILE:N	6:h:241:ILE:HD12	2.21	0.56
7:q:288:MET:SD	7:q:313:LEU:HG	2.47	0.55
6:h:166:MET:SD	6:h:396:ALA:HB2	2.45	0.55
7:Q:80:PRO:HB2	8:Z:45:MET:SD	2.47	0.55
4:e:447:GLU:N	4:e:447:GLU:OE1	2.37	0.55
2:B:293:TYR:HB3	2:B:294:PRO:HD3	1.87	0.55
6:h:157:LEU:HD23	6:h:157:LEU:C	2.32	0.55
4:e:211:VAL:HG12	4:e:211:VAL:O	2.08	0.54
6:h:364:LEU:HD12	6:h:364:LEU:C	2.32	0.54
8:Z:264:ALA:O	8:Z:268:LYS:N	2.40	0.54
5:G:211:GLY:N	5:G:443:GLY:O	2.41	0.54
4:E:63:THR:OG1	4:E:72:LYS:NZ	2.41	0.53
1:A:323:LYS:O	1:A:327:ARG:N	2.42	0.52
1:A:355:LEU:HD12	1:A:355:LEU:N	2.24	0.52
1:A:406:LEU:C	1:A:406:LEU:HD23	2.34	0.52
1:a:233:MET:SD	1:a:310:PHE:HB2	2.49	0.52
1:A:251:LEU:HB3	1:A:306:CYS:SG	2.50	0.52
2:B:423:ASP:OD1	2:B:423:ASP:C	2.53	0.52
5:g:246:LEU:C	5:g:246:LEU:HD12	2.34	0.52
6:h:70:LEU:C	6:h:70:LEU:HD23	2.35	0.52
6:H:364:LEU:HD12	6:H:364:LEU:C	2.34	0.52
8:z:285:CYS:SG	8:z:291:LYS:HG3	2.50	0.52
4:e:245:LEU:H	4:e:245:LEU:HD23	1.73	0.52
3:D:139:CYS:SG	3:D:409:GLY:HA3	2.50	0.51
4:E:267:VAL:HB	4:E:377:CYS:SG	2.50	0.51
6:H:409:ILE:C	6:H:409:ILE:HD12	2.36	0.51
1:A:410:LYS:O	1:A:414:GLU:N	2.43	0.51
4:E:352:GLU:O	4:E:356:ILE:N	2.39	0.51
1:a:282:LEU:HA	1:a:306:CYS:SG	2.50	0.51
2:b:467:ILE:O	2:b:467:ILE:HG22	2.11	0.51
1:A:202:ALA:O	1:A:203:VAL:HB	2.11	0.50
3:D:336:ILE:HD12	3:D:336:ILE:C	2.36	0.50
7:q:297:GLU:OE1	7:q:297:GLU:N	2.45	0.50
1:A:147:SER:N	1:A:416:GLY:O	2.45	0.50
5:G:220:LEU:C	5:G:220:LEU:HD23	2.37	0.49
4:e:267:VAL:N	4:e:377:CYS:O	2.39	0.49
6:h:52:LEU:C	6:h:52:LEU:HD23	2.37	0.49
4:E:354:ILE:O	4:E:358:THR:OG1	2.19	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Q:521:LEU:C	7:Q:521:LEU:HD23	2.37	0.49
2:b:258:LEU:C	2:b:258:LEU:HD23	2.37	0.49
6:h:219:ALA:HA	6:h:363:ASN:O	2.12	0.49
6:h:354:GLU:HA	6:h:363:ASN:HA	1.94	0.49
8:z:189:LEU:C	8:z:189:LEU:HD12	2.38	0.49
1:A:169:ILE:HD12	1:A:169:ILE:C	2.38	0.49
7:q:202:PHE:O	7:q:202:PHE:CD1	2.66	0.49
1:A:146:THR:O	1:A:148:VAL:N	2.46	0.49
2:b:316:ARG:O	2:b:320:VAL:N	2.45	0.48
1:A:237:ILE:HG12	1:A:316:MET:SD	2.53	0.48
4:e:380:ILE:O	4:e:380:ILE:HG23	2.13	0.48
4:e:270:ALA:HB3	4:e:321:VAL:HA	1.96	0.48
5:g:35:ILE:HG22	5:g:35:ILE:O	2.12	0.48
2:B:126:LEU:C	2:B:126:LEU:HD23	2.38	0.48
6:H:52:LEU:C	6:H:52:LEU:HD23	2.39	0.48
3:d:283:CYS:SG	3:d:285:VAL:O	2.72	0.48
1:a:342:SER:O	1:a:346:GLY:N	2.47	0.48
1:A:144:LEU:HD12	1:A:144:LEU:O	2.14	0.48
2:b:200:GLY:N	2:b:371:GLY:O	2.47	0.48
7:q:247:VAL:HG22	7:q:298:CYS:HB3	1.96	0.48
4:e:321:VAL:O	4:e:342:ALA:HA	2.14	0.47
6:h:182:CYS:SG	6:h:396:ALA:HB1	2.53	0.47
7:Q:413:LYS:N	7:Q:414:PRO:CD	2.76	0.47
1:A:242:VAL:HG23	1:A:294:GLN:HB2	1.96	0.47
2:b:359:CYS:SG	2:b:362:GLY:HA3	2.55	0.47
2:B:408:GLU:N	2:B:408:GLU:OE1	2.47	0.47
4:e:245:LEU:HD23	4:e:245:LEU:N	2.29	0.47
1:A:248:ASP:HB3	1:A:339:SER:HA	1.96	0.47
5:g:32:ALA:O	5:g:36:ARG:N	2.48	0.47
5:g:228:ASP:HA	5:g:364:TYR:HB2	1.97	0.47
5:G:354:LEU:C	5:G:354:LEU:HD12	2.40	0.47
6:h:249:GLU:HB2	6:h:300:GLY:HA3	1.97	0.47
1:a:358:CYS:SG	1:a:374:ILE:HG23	2.55	0.46
7:Q:423:ALA:HB1	7:Q:499:VAL:H	1.80	0.46
5:g:68:ILE:O	5:g:68:ILE:CG2	2.62	0.46
2:B:241:ASP:HB3	2:B:262:GLU:HA	1.97	0.46
2:B:232:LEU:HD21	2:B:329:PHE:CE1	2.51	0.46
2:B:317:LEU:O	2:B:321:THR:OG1	2.22	0.46
6:h:266:ASP:HA	6:h:269:ALA:HB3	1.98	0.46
6:h:292:ILE:HD11	6:h:352:PHE:CG	2.50	0.46
4:e:316:ALA:HB1	4:e:369:LEU:HB2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:144:LEU:C	1:A:144:LEU:CD1	2.85	0.46
1:A:338:VAL:HG11	1:A:341:MET:HB2	1.98	0.46
2:B:234:ALA:N	2:B:285:ILE:O	2.47	0.46
5:g:164:VAL:HB	5:g:171:MET:HG3	1.98	0.46
6:H:364:LEU:HD12	6:H:364:LEU:O	2.16	0.46
7:Q:333:CYS:SG	7:Q:340:PRO:HD3	2.56	0.46
1:a:298:THR:O	1:a:319:ARG:HA	2.17	0.45
5:g:242:ARG:HB2	5:g:292:PRO:HA	1.98	0.45
6:h:386:ILE:O	6:h:390:GLU:N	2.49	0.45
2:B:310:ASP:OD1	2:B:310:ASP:C	2.59	0.45
3:D:239:PHE:HB3	3:D:336:ILE:HG23	1.98	0.45
1:A:347:GLU:O	1:A:348:GLU:HB3	2.16	0.45
4:E:171:SER:OG	4:E:172:ASN:N	2.50	0.45
7:q:246:LYS:HB2	7:q:296:VAL:HA	1.99	0.45
1:A:237:ILE:HD11	1:A:361:VAL:HB	1.98	0.45
1:a:233:MET:SD	1:a:310:PHE:CB	3.05	0.45
1:A:226:CYS:SG	1:A:372:ILE:HD12	2.56	0.45
2:B:482:MET:HE2	2:B:482:MET:HA	1.97	0.45
5:G:68:ILE:O	5:G:68:ILE:HG23	2.16	0.45
6:H:241:ILE:N	6:H:241:ILE:HD12	2.31	0.45
7:q:201:TYR:O	7:q:202:PHE:HB3	2.16	0.45
8:Z:416:GLY:O	8:Z:420:ILE:N	2.45	0.45
1:A:158:ASN:ND2	1:A:514:HIS:O	2.49	0.45
2:b:184:LEU:O	2:b:185:LYS:C	2.59	0.45
4:e:522:MET:O	4:e:526:PHE:N	2.50	0.45
2:B:512:ASP:OD1	2:B:513:ASN:N	2.49	0.45
4:e:211:VAL:O	4:e:211:VAL:CG1	2.63	0.45
2:B:467:ILE:HG22	2:B:467:ILE:O	2.16	0.45
7:q:94:ILE:O	7:q:95:ASP:HB2	2.17	0.45
8:Z:264:ALA:O	8:Z:268:LYS:HB2	2.17	0.45
2:b:185:LYS:HG2	2:b:185:LYS:O	2.17	0.45
2:b:211:GLY:O	2:b:356:PHE:N	2.49	0.45
5:g:186:LEU:O	5:g:194:PRO:HD2	2.16	0.45
2:B:238:LEU:HA	2:B:269:MET:SD	2.56	0.45
6:h:222:LYS:O	6:h:222:LYS:HG3	2.17	0.45
5:G:584:ASP:OD1	5:G:584:ASP:C	2.60	0.44
8:Z:352:GLY:HA3	8:Z:369:GLU:HB2	1.99	0.44
2:B:166:LEU:O	2:B:170:LYS:N	2.50	0.44
1:A:252:GLN:HA	1:A:303:ASP:HB2	2.00	0.44
6:h:418:MET:SD	6:h:468:LEU:HB3	2.57	0.44
8:Z:359:ILE:HG12	8:Z:362:GLU:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:159:ILE:HG12	1:A:516:GLY:O	2.18	0.44
4:e:501:LYS:O	4:e:505:GLU:HB3	2.18	0.44
4:E:319:ASP:O	4:E:341:PRO:HG2	2.17	0.44
1:A:52:MET:SD	5:G:73:PRO:HB2	2.58	0.44
8:z:268:LYS:HA	8:z:271:ASP:HB2	2.00	0.44
2:B:321:THR:HA	2:B:359:CYS:HB3	1.98	0.44
4:E:278:PRO:HA	4:E:279:PRO:HD3	1.92	0.44
5:G:246:LEU:HD12	5:G:246:LEU:C	2.43	0.44
7:q:481:ALA:HB1	7:q:497:LYS:HD3	2.00	0.44
2:B:269:MET:O	2:B:273:ILE:HG12	2.17	0.44
4:e:377:CYS:SG	4:e:395:ILE:HG23	2.58	0.44
4:E:393:LEU:HD12	4:E:393:LEU:O	2.17	0.44
6:H:325:ARG:O	6:H:329:ALA:N	2.50	0.44
1:A:243:LYS:HB3	1:A:355:LEU:HB3	1.98	0.44
4:E:276:PHE:HB2	4:E:327:PHE:CD1	2.53	0.44
6:h:279:PHE:O	6:h:283:ARG:N	2.46	0.44
7:Q:240:SER:O	7:Q:245:HIS:NE2	2.50	0.44
5:g:182:VAL:O	5:g:183:ARG:C	2.61	0.44
6:h:123:HIS:CE1	7:q:49:CYS:SG	3.11	0.44
8:Z:189:LEU:C	8:Z:189:LEU:HD23	2.43	0.44
5:g:558:GLY:O	5:g:559:ILE:C	2.61	0.43
7:q:202:PHE:O	7:q:202:PHE:HD1	2.01	0.43
7:q:247:VAL:HA	7:q:298:CYS:O	2.18	0.43
6:h:109:MET:HE1	6:h:518:LEU:HG	2.00	0.43
6:H:386:ILE:O	6:H:390:GLU:N	2.45	0.43
4:E:326:GLY:HA2	4:E:344:ARG:HB2	2.00	0.43
5:G:332:THR:HA	5:G:350:THR:O	2.18	0.43
7:q:80:PRO:HB2	8:z:45:MET:SD	2.58	0.43
1:A:247:LEU:N	1:A:297:LEU:O	2.47	0.43
5:G:248:CYS:SG	5:G:249:PRO:HD2	2.58	0.43
5:G:334:ALA:HA	5:G:347:ASP:HA	1.99	0.43
6:h:215:ILE:HG21	6:h:364:LEU:HD22	2.00	0.43
2:b:270:LYS:O	2:b:274:ALA:N	2.47	0.43
7:Q:80:PRO:CB	8:Z:45:MET:SD	3.06	0.43
1:A:350:PHE:HB2	1:A:353:SER:HB2	2.00	0.43
3:D:295:ASP:O	3:D:296:ALA:C	2.60	0.43
4:E:305:LYS:HG3	4:E:309:MET:HE2	2.01	0.43
5:g:159:ILE:O	5:g:162:LYS:HG2	2.17	0.43
5:g:205:ARG:O	5:g:438:THR:HA	2.19	0.43
4:E:255:PRO:O	4:E:341:PRO:HB3	2.19	0.43
1:A:40:VAL:O	1:A:40:VAL:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:237:ILE:HD12	1:A:238:ALA:HB3	2.01	0.43
1:a:251:LEU:HB3	1:a:306:CYS:SG	2.59	0.43
1:a:392:ASP:HB2	5:g:191:GLU:HA	2.01	0.43
1:a:419:VAL:N	1:a:519:GLU:O	2.51	0.43
3:D:416:ALA:N	3:D:417:PRO:HD2	2.34	0.43
4:e:281:PRO:HG3	6:h:267:TYR:HB2	2.01	0.43
4:E:245:LEU:HG	4:E:350:GLU:HB3	2.01	0.43
5:g:246:LEU:HD12	5:g:246:LEU:O	2.18	0.43
5:g:42:LYS:HG3	8:z:116:ARG:HD2	2.01	0.42
3:d:266:GLU:OE1	3:d:266:GLU:N	2.34	0.42
4:e:281:PRO:HA	6:h:267:TYR:CD1	2.53	0.42
5:g:452:ILE:O	5:g:456:LEU:N	2.39	0.42
7:Q:335:VAL:HG22	7:Q:381:THR:HB	2.00	0.42
4:E:271:ILE:O	4:E:363:VAL:N	2.52	0.42
6:h:365:PHE:HB3	6:h:368:CYS:SG	2.58	0.42
6:H:41:LYS:N	6:H:42:PRO:HD2	2.35	0.42
6:H:293:VAL:O	6:H:314:CYS:HA	2.19	0.42
7:Q:246:LYS:O	7:Q:296:VAL:HG13	2.19	0.42
8:Z:370:ASN:O	8:Z:371:THR:C	2.62	0.42
1:A:204:ASN:O	1:A:384:SER:HA	2.19	0.42
5:G:174:LEU:HD22	5:G:219:VAL:HG23	2.00	0.42
6:h:322:ASP:O	6:h:326:VAL:HG23	2.19	0.42
6:H:69:ILE:O	6:H:73:LEU:HG	2.19	0.42
8:z:221:HIS:HB3	8:z:224:MET:HG2	2.01	0.42
5:g:359:MET:HA	5:g:364:TYR:HA	2.02	0.42
7:q:223:ILE:HG13	7:q:227:VAL:HG21	2.02	0.42
7:q:298:CYS:HA	7:q:319:LEU:O	2.18	0.42
4:e:183:ALA:O	4:e:186:THR:OG1	2.32	0.42
4:E:213:ASP:O	4:E:217:LYS:N	2.44	0.42
4:E:238:LYS:O	4:E:407:PHE:N	2.53	0.42
7:q:380:ARG:HA	7:q:380:ARG:NE	2.35	0.42
7:q:475:LEU:N	7:q:476:PRO:HD2	2.35	0.42
2:B:451:ASP:C	2:B:451:ASP:OD1	2.62	0.42
3:d:286:LEU:HD12	3:d:305:LEU:HD21	2.02	0.42
4:e:248:ASP:OD1	4:e:248:ASP:C	2.62	0.42
7:Q:206:SER:O	7:Q:381:THR:HA	2.20	0.42
1:A:332:ALA:HA	1:A:379:LYS:O	2.20	0.42
4:e:129:LEU:HB3	4:e:545:CYS:SG	2.59	0.42
5:g:208:LYS:HD2	5:g:449:LEU:HB3	2.02	0.42
6:H:243:SER:HB2	6:H:334:ILE:HA	2.02	0.42
1:A:509:ILE:N	1:A:509:ILE:HD12	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:204:ILE:O	3:d:204:ILE:HG22	2.20	0.42
1:A:55:ASP:OD1	1:A:55:ASP:C	2.63	0.41
2:b:292:ASP:O	2:b:296:GLN:N	2.47	0.41
8:z:281:LYS:O	8:z:286:GLY:N	2.52	0.41
8:Z:205:LYS:HD2	8:Z:205:LYS:N	2.35	0.41
1:A:326:LEU:O	1:A:329:ILE:HB	2.19	0.41
2:b:208:LEU:C	2:b:208:LEU:HD23	2.44	0.41
4:E:313:VAL:HG21	4:E:321:VAL:HG21	2.02	0.41
5:G:179:VAL:O	5:G:183:ARG:HB3	2.20	0.41
6:H:306:PHE:CZ	6:H:310:ARG:HG3	2.55	0.41
7:Q:254:LEU:HA	7:Q:344:LEU:HD11	2.02	0.41
1:A:377:THR:OG1	1:A:380:HIS:HB3	2.20	0.41
3:d:283:CYS:SG	3:d:286:LEU:HD23	2.59	0.41
5:g:298:GLU:HA	5:g:320:VAL:O	2.20	0.41
5:G:35:ILE:CD1	5:G:97:ILE:HB	2.50	0.41
6:h:255:ASP:OD1	6:h:255:ASP:C	2.64	0.41
1:a:410:LYS:O	1:a:414:GLU:N	2.53	0.41
2:b:450:PHE:O	2:b:451:ASP:C	2.64	0.41
4:e:277:GLU:HB2	4:e:278:PRO:HD2	2.01	0.41
7:q:206:SER:O	7:q:381:THR:HA	2.19	0.41
8:Z:405:VAL:HG13	8:Z:411:ILE:HD11	2.01	0.41
5:G:210:PRO:HA	5:G:443:GLY:O	2.21	0.41
5:G:287:ILE:HG12	5:G:343:LEU:HD13	2.02	0.41
1:a:498:ARG:O	1:a:499:ASN:HB2	2.21	0.41
1:A:226:CYS:SG	1:A:372:ILE:HB	2.61	0.41
4:e:382:GLU:HG2	4:e:391:ARG:HB3	2.02	0.41
7:q:500:ASP:OD1	7:q:500:ASP:C	2.63	0.41
1:a:328:ARG:O	1:a:332:ALA:N	2.53	0.41
1:A:330:ALA:HA	1:A:335:ALA:O	2.21	0.41
3:D:197:VAL:O	3:D:378:VAL:HA	2.21	0.41
5:G:288:LEU:HD22	5:G:312:GLY:N	2.35	0.41
5:G:296:ILE:HG12	5:G:317:LEU:HD23	2.03	0.41
7:q:48:PRO:HA	7:q:169:SER:HA	2.03	0.41
1:A:338:VAL:HG12	1:A:338:VAL:O	2.20	0.41
7:q:332:LEU:O	7:q:336:CYS:SG	2.69	0.41
1:a:204:ASN:HB2	1:a:222:TYR:CE1	2.56	0.41
2:B:45:LEU:HD21	3:D:73:PRO:HB2	2.03	0.41
2:B:213:ILE:CG2	2:B:353:PHE:HB3	2.51	0.41
3:d:311:MET:SD	3:d:350:VAL:HG12	2.61	0.41
3:D:206:ASP:O	3:D:380:ARG:HB2	2.20	0.41
4:E:228:GLY:HA2	4:E:408:VAL:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:300:THR:O	4:E:303:GLN:N	2.53	0.41
4:E:383:GLN:N	4:E:392:MET:O	2.53	0.41
5:G:88:GLU:O	5:G:464:ARG:NH1	2.53	0.41
5:G:228:ASP:OD1	5:G:228:ASP:C	2.64	0.41
5:G:355:PHE:HA	5:G:367:PHE:O	2.20	0.41
6:H:41:LYS:N	6:H:42:PRO:CD	2.84	0.41
6:H:283:ARG:HA	6:H:306:PHE:CZ	2.56	0.41
7:q:239:LEU:HD11	7:q:298:CYS:HB2	2.03	0.41
1:a:341:MET:SD	1:a:347:GLU:HG3	2.61	0.41
3:D:191:LEU:HG	3:D:402:ARG:HD2	2.03	0.41
4:E:61:ILE:O	4:E:62:LYS:C	2.63	0.41
4:E:309:MET:O	4:E:313:VAL:HG23	2.21	0.41
5:g:179:VAL:HA	5:g:182:VAL:HG12	2.01	0.41
7:q:502:ASP:OD2	7:q:510:LYS:NZ	2.49	0.41
1:a:242:VAL:HG23	1:a:294:GLN:HB2	2.02	0.40
3:d:171:ALA:HB3	3:d:172:PRO:CD	2.51	0.40
4:e:364:PRO:CG	6:h:250:LEU:HD23	2.51	0.40
5:G:350:THR:O	5:G:351:ASN:HB2	2.21	0.40
7:q:358:VAL:HA	7:q:370:VAL:O	2.21	0.40
1:a:52:MET:SD	5:g:73:PRO:HB2	2.61	0.40
1:a:72:LEU:O	5:g:589:GLY:HA3	2.21	0.40
1:A:244:ILE:O	1:A:355:LEU:HA	2.21	0.40
2:b:240:THR:HA	2:b:269:MET:SD	2.61	0.40
5:g:209:ILE:HB	5:g:441:LEU:O	2.21	0.40
6:H:364:LEU:HD13	6:H:366:GLN:HG3	2.03	0.40
7:q:288:MET:SD	7:q:313:LEU:CG	3.09	0.40
8:z:203:SER:HB2	8:z:204:PRO:HD2	2.02	0.40
1:a:543:THR:HB	3:d:46:LYS:HG3	2.03	0.40
1:A:226:CYS:HB2	1:A:319:ARG:O	2.21	0.40
3:d:358:SER:OG	3:d:359:LYS:N	2.54	0.40
5:G:223:VAL:HG11	5:G:328:ILE:HG12	2.03	0.40
5:G:559:ILE:O	5:G:559:ILE:CG1	2.69	0.40
6:h:240:LYS:HA	6:h:347:GLY:O	2.21	0.40
8:Z:167:THR:O	8:Z:171:THR:OG1	2.31	0.40
1:a:242:VAL:HG13	1:a:358:CYS:HB3	2.02	0.40
1:a:244:ILE:HA	1:a:295:VAL:O	2.22	0.40
5:g:182:VAL:HG13	5:g:198:ILE:HG12	2.04	0.40
5:G:151:MET:SD	5:G:466:VAL:HG11	2.62	0.40
6:H:107:GLU:HG2	6:H:448:VAL:HB	2.03	0.40
6:H:499:PRO:HB2	6:H:502:VAL:HG23	2.03	0.40
8:z:429:ALA:O	8:z:433:LYS:N	2.49	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:Z:232:TYR:HB3	8:Z:348:LEU:HB3	2.04	0.40
1:a:367:SER:O	1:a:368:ASP:HB2	2.21	0.40
4:E:382:GLU:HA	4:E:393:LEU:HA	2.04	0.40
6:h:335:GLN:NE2	6:h:337:THR:OG1	2.51	0.40
7:q:307:GLU:O	7:q:311:HIS:N	2.47	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	502/559 (90%)	474 (94%)	24 (5%)	4 (1%)	16	52
1	a	500/559 (89%)	462 (92%)	36 (7%)	2 (0%)	30	65
2	B	500/527 (95%)	481 (96%)	18 (4%)	1 (0%)	43	76
2	b	501/527 (95%)	474 (95%)	26 (5%)	1 (0%)	43	76
3	D	487/528 (92%)	471 (97%)	15 (3%)	1 (0%)	43	76
3	d	489/528 (93%)	475 (97%)	14 (3%)	0	100	100
4	E	506/562 (90%)	483 (96%)	23 (4%)	0	100	100
4	e	522/562 (93%)	501 (96%)	21 (4%)	0	100	100
5	G	479/594 (81%)	460 (96%)	19 (4%)	0	100	100
5	g	471/594 (79%)	448 (95%)	22 (5%)	1 (0%)	43	76
6	H	493/550 (90%)	483 (98%)	8 (2%)	2 (0%)	30	65
6	h	506/550 (92%)	490 (97%)	14 (3%)	2 (0%)	30	65
7	Q	502/568 (88%)	480 (96%)	21 (4%)	1 (0%)	43	76
7	q	498/568 (88%)	474 (95%)	22 (4%)	2 (0%)	30	65
8	Z	518/546 (95%)	495 (96%)	22 (4%)	1 (0%)	43	76
8	z	523/546 (96%)	503 (96%)	20 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	7997/8868 (90%)	7654 (96%)	325 (4%)	18 (0%)	44	76

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	a	375	LYS
1	A	147	SER
1	a	348	GLU
6	h	150	GLU
6	h	486	GLU
6	H	486	GLU
1	A	348	GLU
2	b	467	ILE
6	H	222	LYS
1	A	203	VAL
2	B	467	ILE
3	D	219	ALA
5	g	559	ILE
7	q	255	ASP
8	Z	371	THR
7	Q	414	PRO
7	q	347	PRO
1	A	196	ILE

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	423/471 (90%)	423 (100%)	0	100	100
1	a	420/471 (89%)	420 (100%)	0	100	100
2	B	420/441 (95%)	420 (100%)	0	100	100
2	b	420/441 (95%)	420 (100%)	0	100	100
3	D	418/453 (92%)	418 (100%)	0	100	100
3	d	420/453 (93%)	420 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	E	438/483 (91%)	438 (100%)	0	100	100
4	e	451/483 (93%)	451 (100%)	0	100	100
5	G	409/501 (82%)	409 (100%)	0	100	100
5	g	402/501 (80%)	402 (100%)	0	100	100
6	H	414/454 (91%)	414 (100%)	0	100	100
6	h	423/454 (93%)	423 (100%)	0	100	100
7	Q	423/473 (89%)	423 (100%)	0	100	100
7	q	421/473 (89%)	421 (100%)	0	100	100
8	Z	440/463 (95%)	440 (100%)	0	100	100
8	z	444/463 (96%)	444 (100%)	0	100	100
All	All	6786/7478 (91%)	6786 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	294	GLN
1	A	445	GLN
2	b	304	ASN
2	b	308	HIS
2	b	420	GLN
2	B	118	GLN
2	B	222	GLN
3	d	67	GLN
3	d	72	HIS
3	d	217	GLN
3	d	238	GLN
3	d	240	GLN
3	D	140	HIS
3	D	188	ASN
3	D	384	ASN
4	e	93	GLN
4	e	111	GLN
4	e	253	GLN
4	e	338	ASN
4	E	349	GLN
4	E	397	GLN

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Mol	Chain	Res	Type
6	h	123	HIS
6	h	311	ASN
6	H	25	GLN
6	H	123	HIS
6	H	232	GLN
6	H	245	ASN
6	H	311	ASN
6	H	335	GLN
6	H	452	GLN
7	q	27	GLN
7	q	39	HIS
7	Q	66	ASN
7	Q	314	ASN
8	z	298	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.

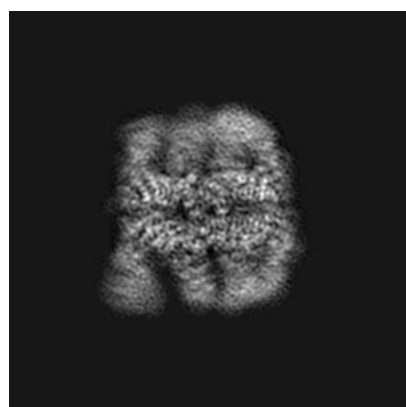
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-45888. These allow visual inspection of the internal detail of the map and identification of artifacts.

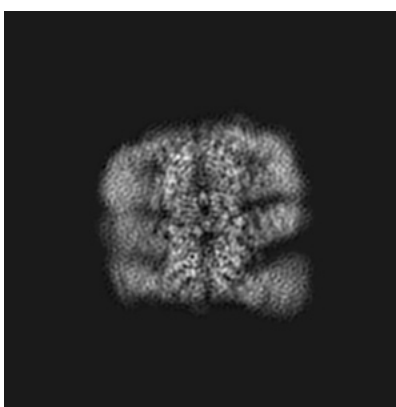
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

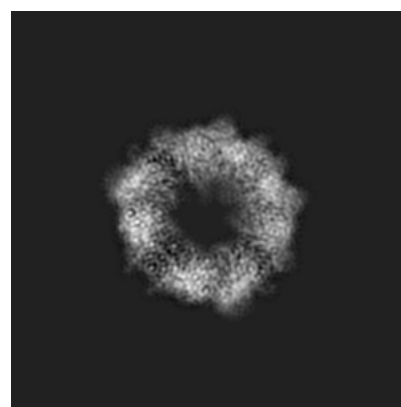
6.1.1 Primary map



X



Y

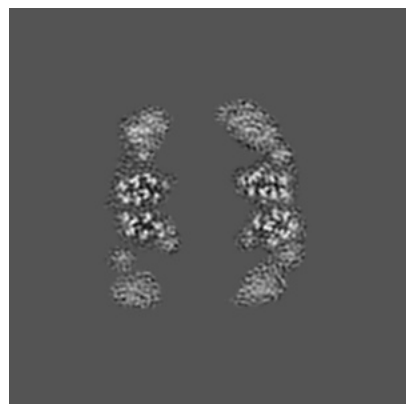


Z

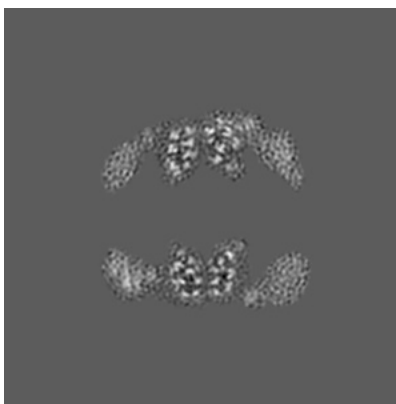
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

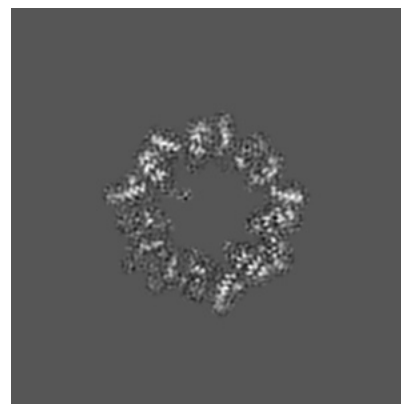
6.2.1 Primary map



X Index: 128



Y Index: 128



Z Index: 128

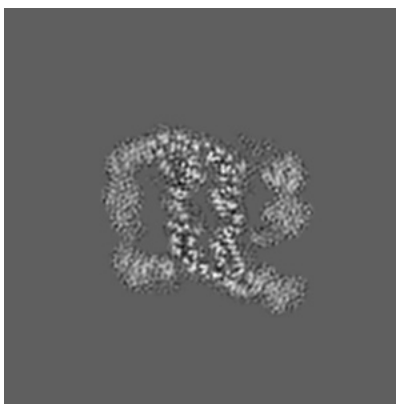
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 154



Y Index: 154

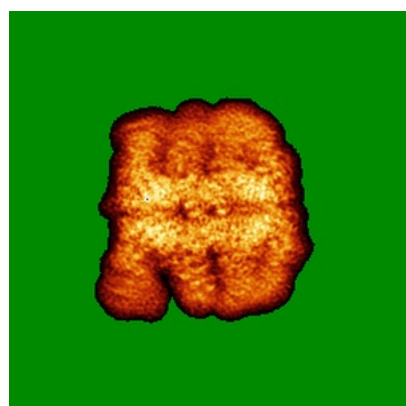


Z Index: 116

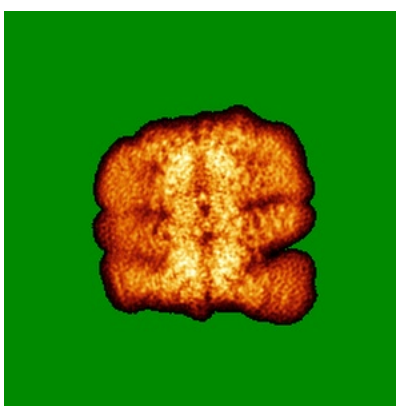
The images above show the largest variance slices of the map in three orthogonal directions.

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

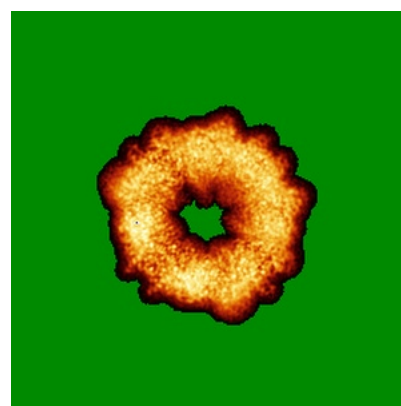
6.4.1 Primary map



X



Y

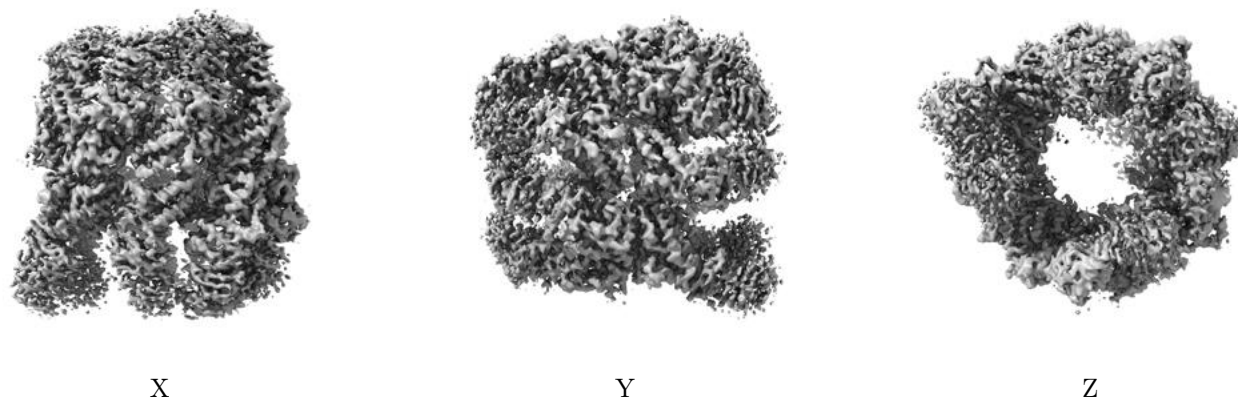


Z

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 0.7. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

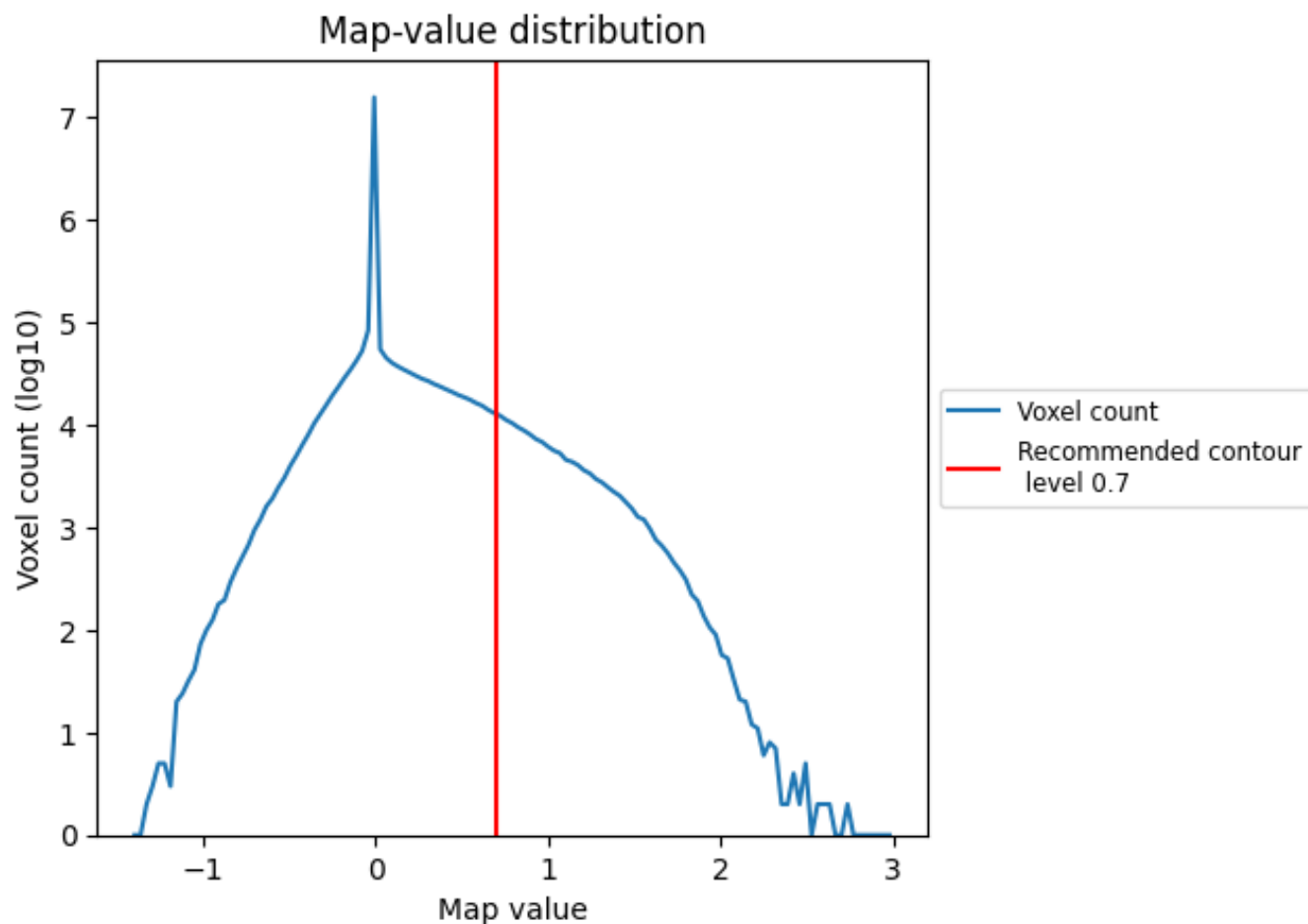
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

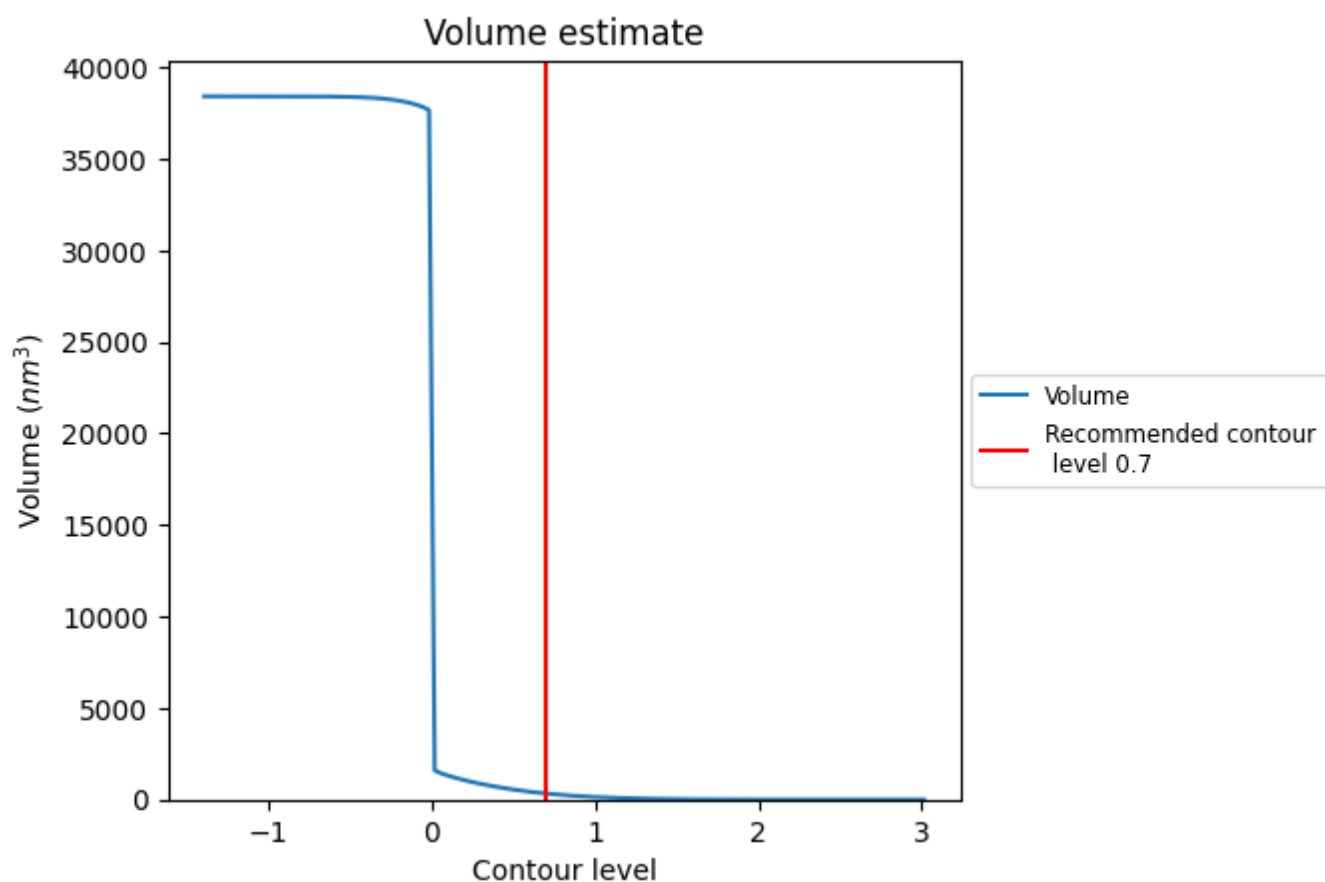
This section contains the results of statistical analysis of the map.

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.

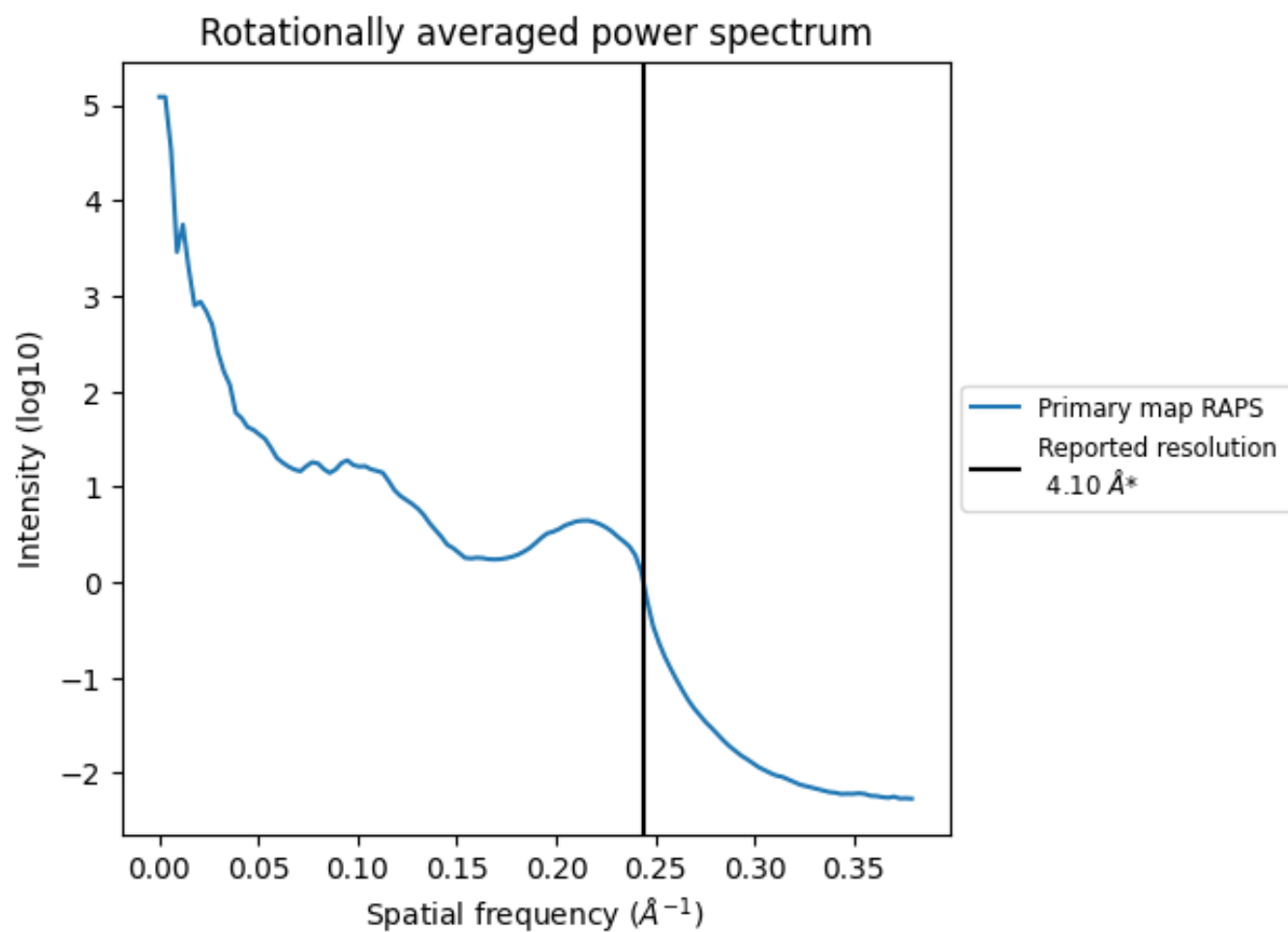
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 328 nm³; this corresponds to an approximate mass of 296 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.244 Å⁻¹

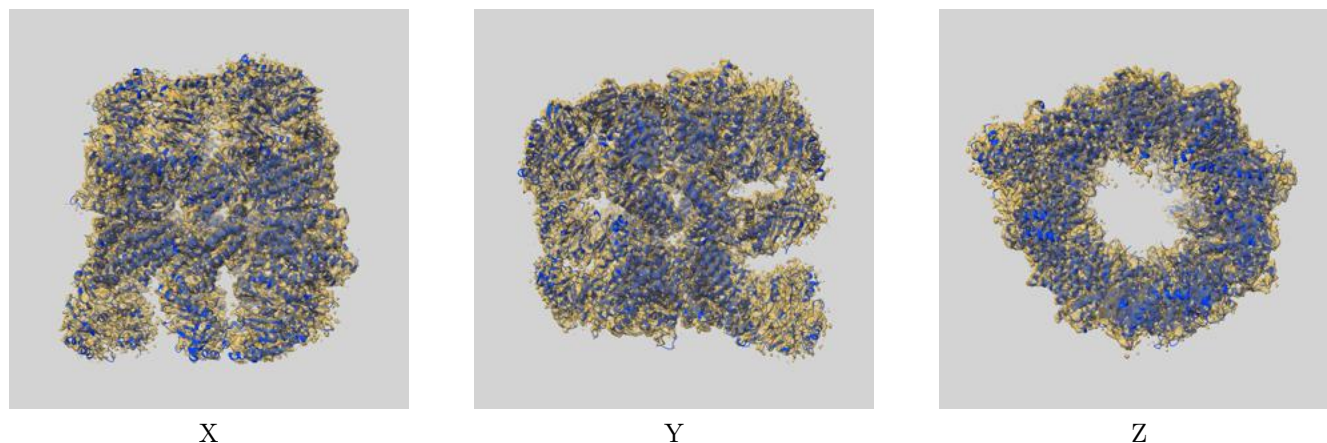
8 Fourier-Shell correlation ⓘ

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

9 Map-model fit [i](#)

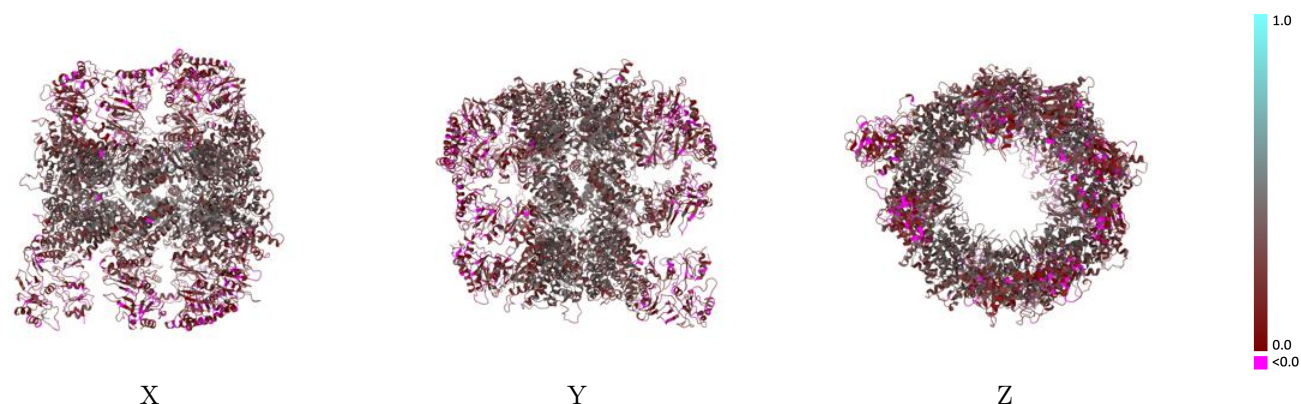
This section contains information regarding the fit between EMDB map EMD-45888 and PDB model 9CS6. Per-residue inclusion information can be found in [section 3](#) on [page 9](#).

9.1 Map-model overlay [i](#)



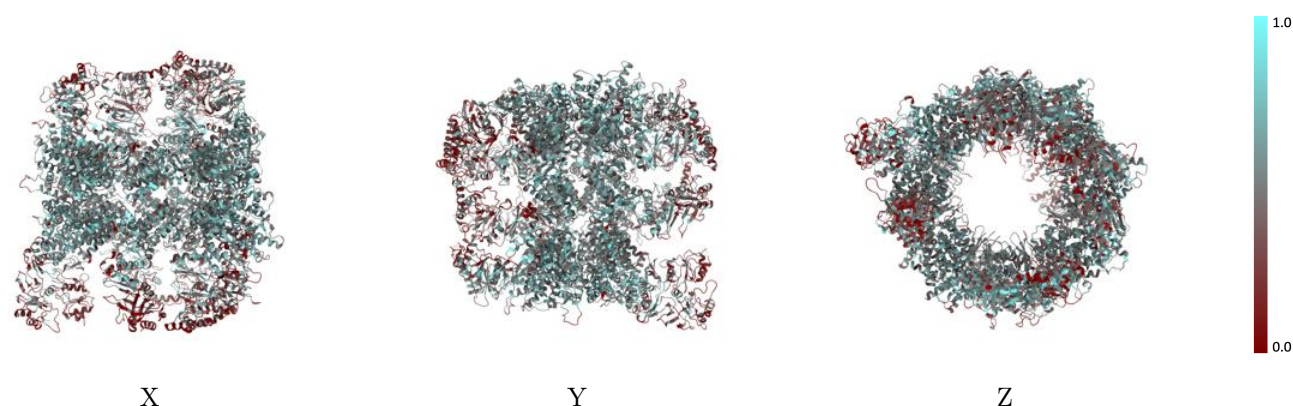
The images above show the 3D surface view of the map at the recommended contour level 0.7 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



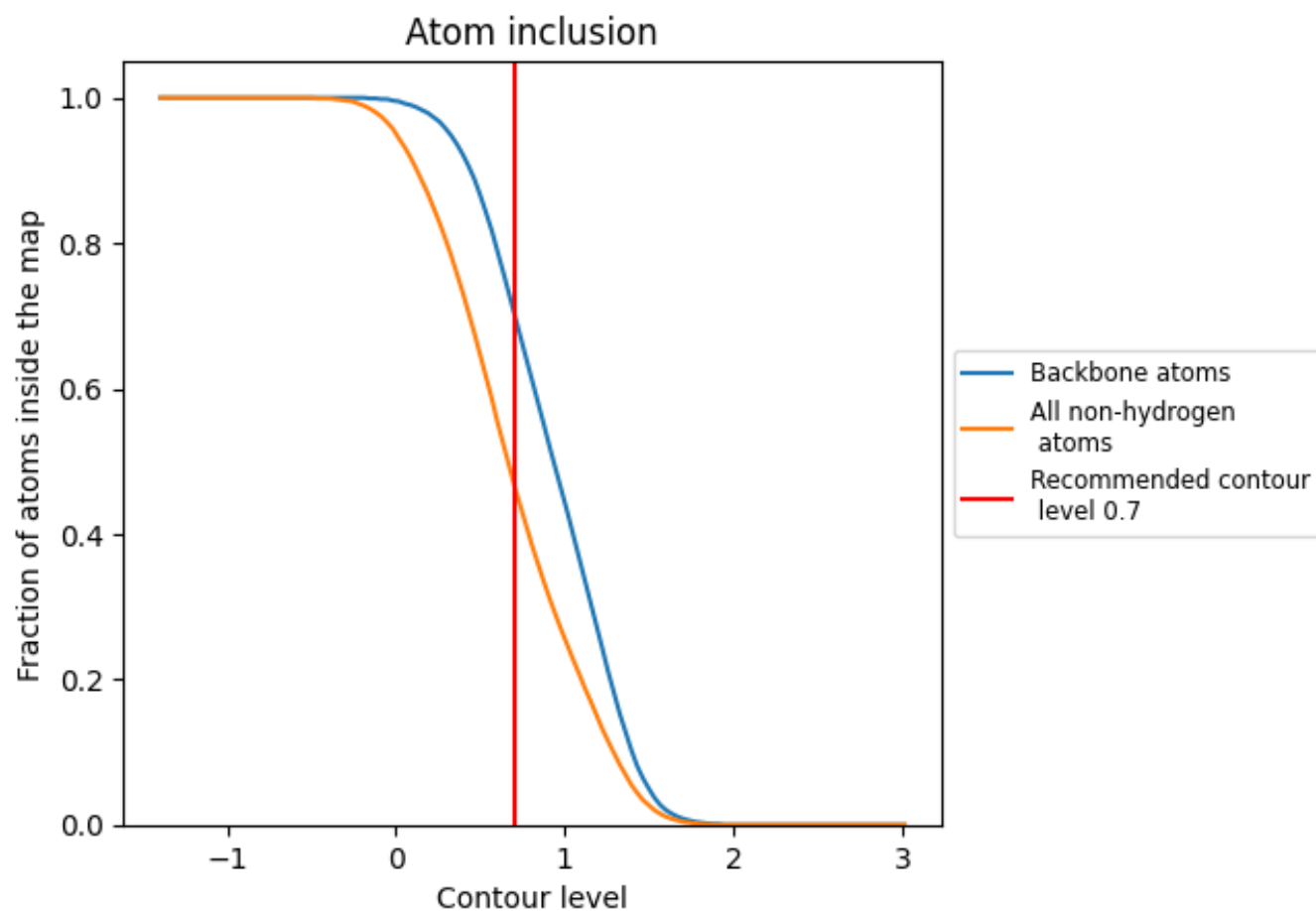
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.7).



































9.4 Atom inclusion [i](#)



At the recommended contour level, 70% of all backbone atoms, 47% 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 (0.7) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4680	 0.2620
A	 0.4680	 0.2550
B	 0.5070	 0.2840
D	 0.4430	 0.2510
E	 0.4770	 0.2470
G	 0.4430	 0.2460
H	 0.5000	 0.2670
Q	 0.4750	 0.2710
Z	 0.5270	 0.2970
a	 0.4640	 0.2620
b	 0.4740	 0.2730
d	 0.3890	 0.2280
e	 0.4300	 0.2400
g	 0.4360	 0.2490
h	 0.4400	 0.2530
q	 0.4870	 0.2770
z	 0.5200	 0.2900

