Full wwPDB EM Validation Report (i)

Oct 14, 2025 – 05:41 PM JST

PDB ID	:	8Z5V / pdb_00008z5v
EMDB ID	:	EMD-39783
Title	:	Cryo-EM structure of the MS ring (C34) within the polar flagellar motor
Authors	:	Zhang, L.; Tan, J.X.; Zhou, Y.; Zhu, Y.Q.
Deposited on	:	2024-04-18
Resolution	:	2.93 Å(reported)
Based on initial model	:	.

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

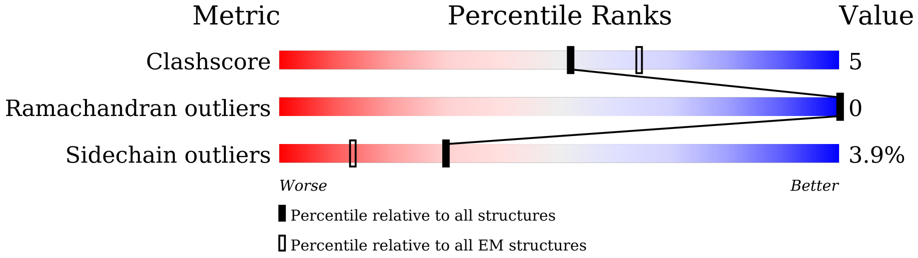
EMDB validation analysis	:	0.0.1.dev129
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

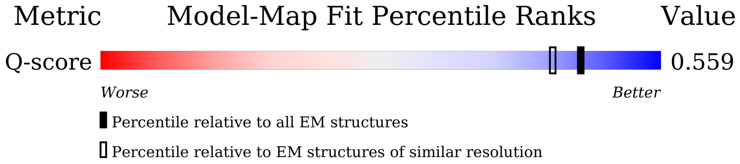
1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.93 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	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	13037 (2.43 - 3.43)

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

Mol	Chain	Length	Quality of chain
1	A	580	 22% • 74%
1	B	580	 21% • 74%
1	C	580	 22% • 74%
1	D	580	 22% • 74%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	E	580	22% • 74%
1	F	580	22% • 74%
1	G	580	22% • 74%
1	H	580	22% • 74%
1	I	580	22% • 74%
1	J	580	22% • 74%
1	K	580	22% • 74%
1	L	580	22% • 74%
1	M	580	22% • 74%
1	N	580	22% • 74%
1	O	580	22% • 74%
1	P	580	22% • 74%
1	Q	580	22% • 74%
1	R	580	22% • 74%
1	S	580	22% • 74%
1	T	580	21% • 74%
1	U	580	22% • 74%
1	V	580	22% • 74%
1	W	580	22% • 74%
1	X	580	22% • 74%
1	Y	580	22% • 74%
1	Z	580	21% • 74%
1	a	580	21% • 74%
1	b	580	22% • 74%
1	c	580	21% • 74%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	d	580	
1	e	580	
1	f	580	
1	g	580	
1	h	580	

2 Entry composition ⓘ

There is only 1 type of molecule in this entry. The entry contains 39814 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 Flagellar M-ring protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	B	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	C	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	D	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	E	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	F	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	G	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	H	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	I	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	J	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	K	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	L	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	M	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	N	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	O	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	P	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		
1	Q	148	Total	C	N	O	S	0	0
			1171	719	215	235	2		

Continued on next page...

Continued from previous page...

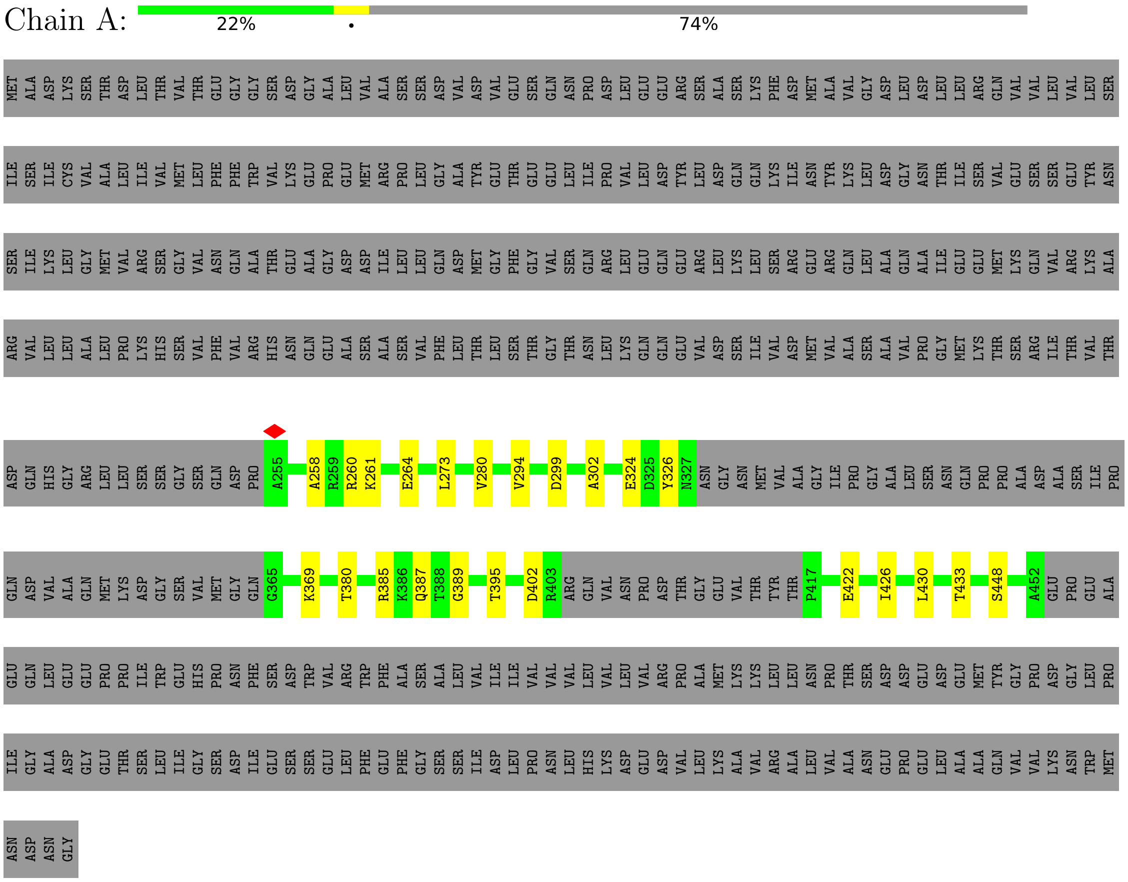
Mol	Chain	Residues	Atoms	AltConf	Trace
1	R	148	Total C N O S 1171 719 215 235 2	0	0
1	S	148	Total C N O S 1171 719 215 235 2	0	0
1	T	148	Total C N O S 1171 719 215 235 2	0	0
1	U	148	Total C N O S 1171 719 215 235 2	0	0
1	V	148	Total C N O S 1171 719 215 235 2	0	0
1	W	148	Total C N O S 1171 719 215 235 2	0	0
1	X	148	Total C N O S 1171 719 215 235 2	0	0
1	Y	148	Total C N O S 1171 719 215 235 2	0	0
1	Z	148	Total C N O S 1171 719 215 235 2	0	0
1	a	148	Total C N O S 1171 719 215 235 2	0	0
1	b	148	Total C N O S 1171 719 215 235 2	0	0
1	c	148	Total C N O S 1171 719 215 235 2	0	0
1	d	148	Total C N O S 1171 719 215 235 2	0	0
1	e	148	Total C N O S 1171 719 215 235 2	0	0
1	f	148	Total C N O S 1171 719 215 235 2	0	0
1	g	148	Total C N O S 1171 719 215 235 2	0	0
1	h	148	Total C N O S 1171 719 215 235 2	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

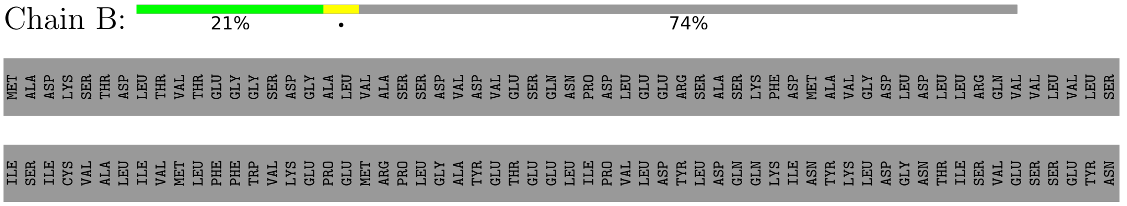
- Molecule 1: Flagellar M-ring protein

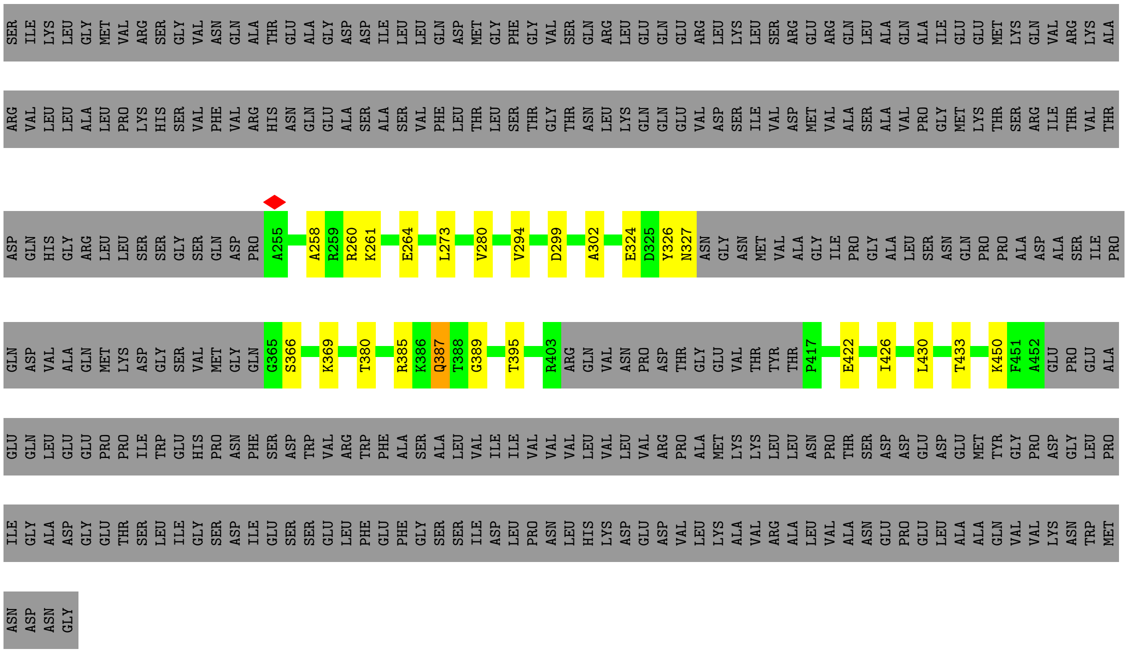
Chain A:



- Molecule 1: Flagellar M-ring protein

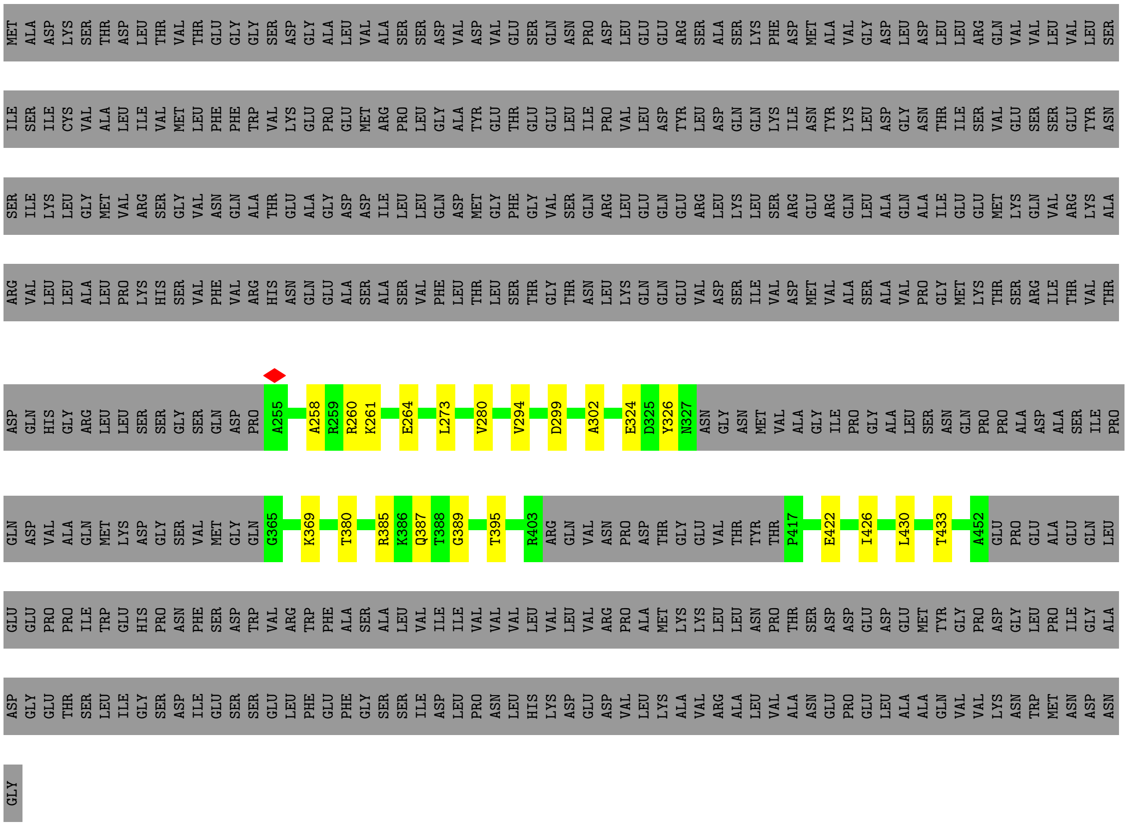
Chain B:





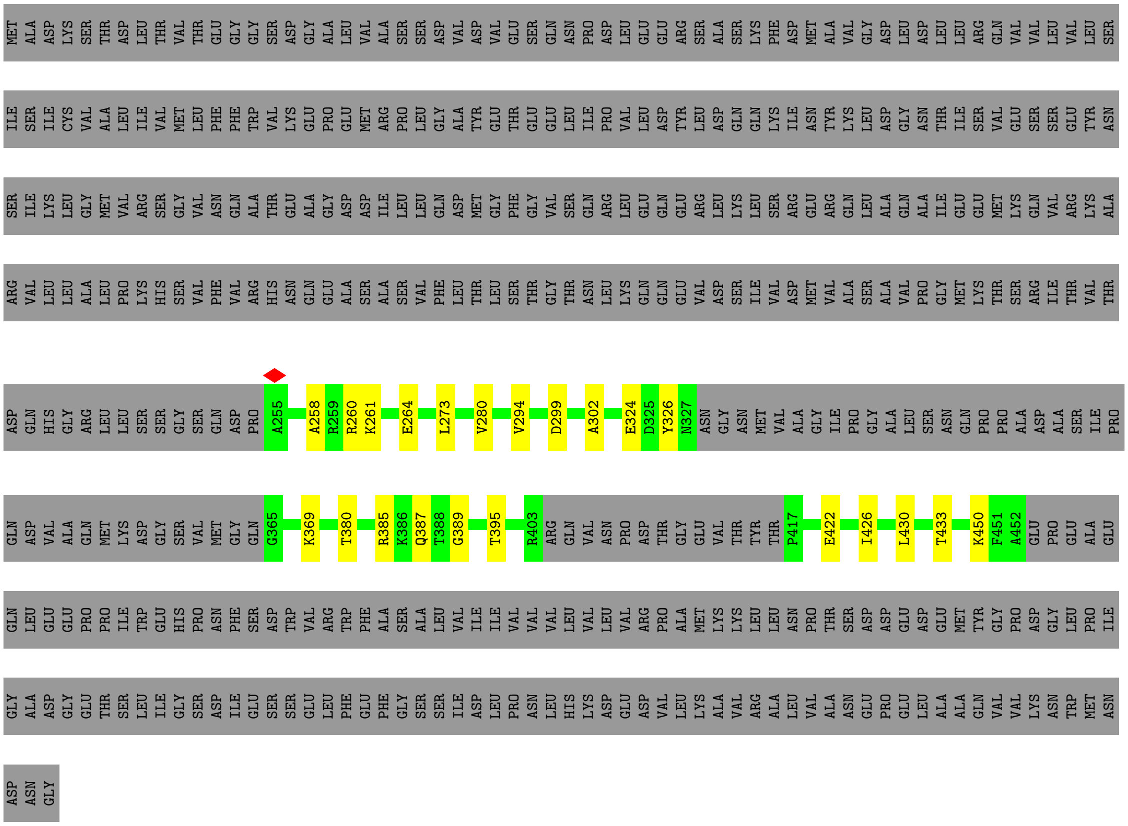
- Molecule 1: Flagellar M-ring protein

Chain C:

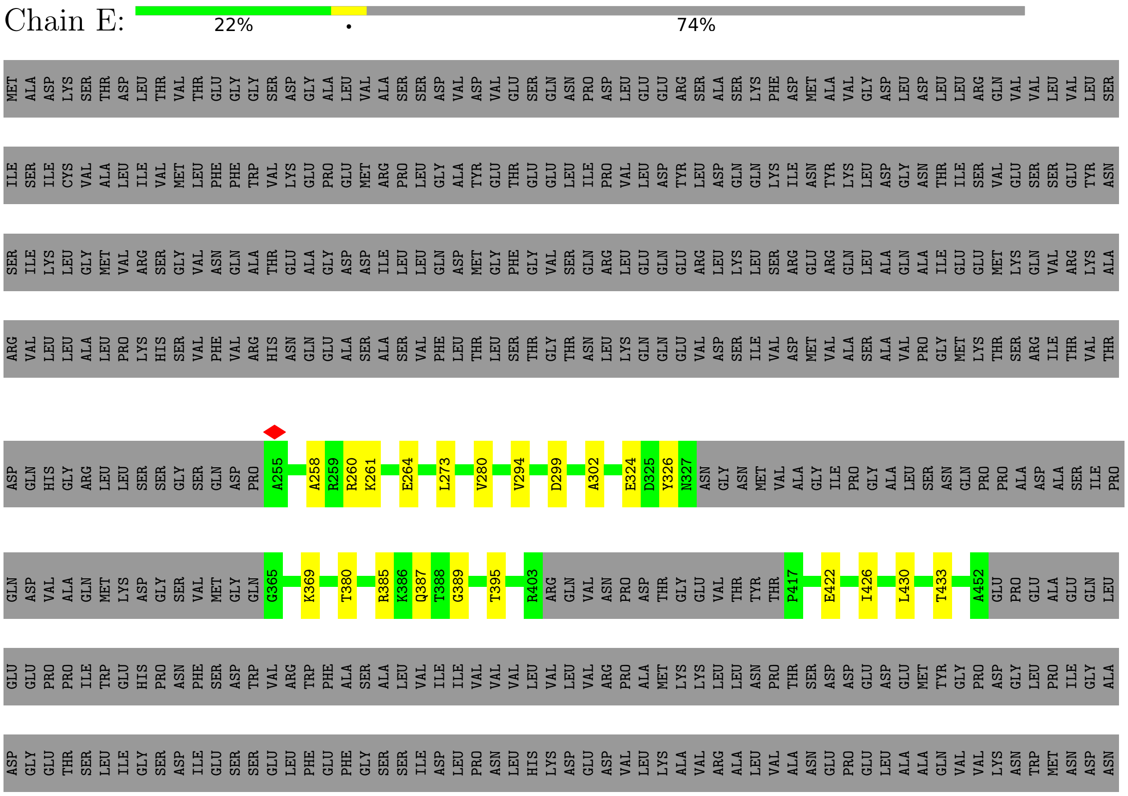



- Molecule 1: Flagellar M-ring protein

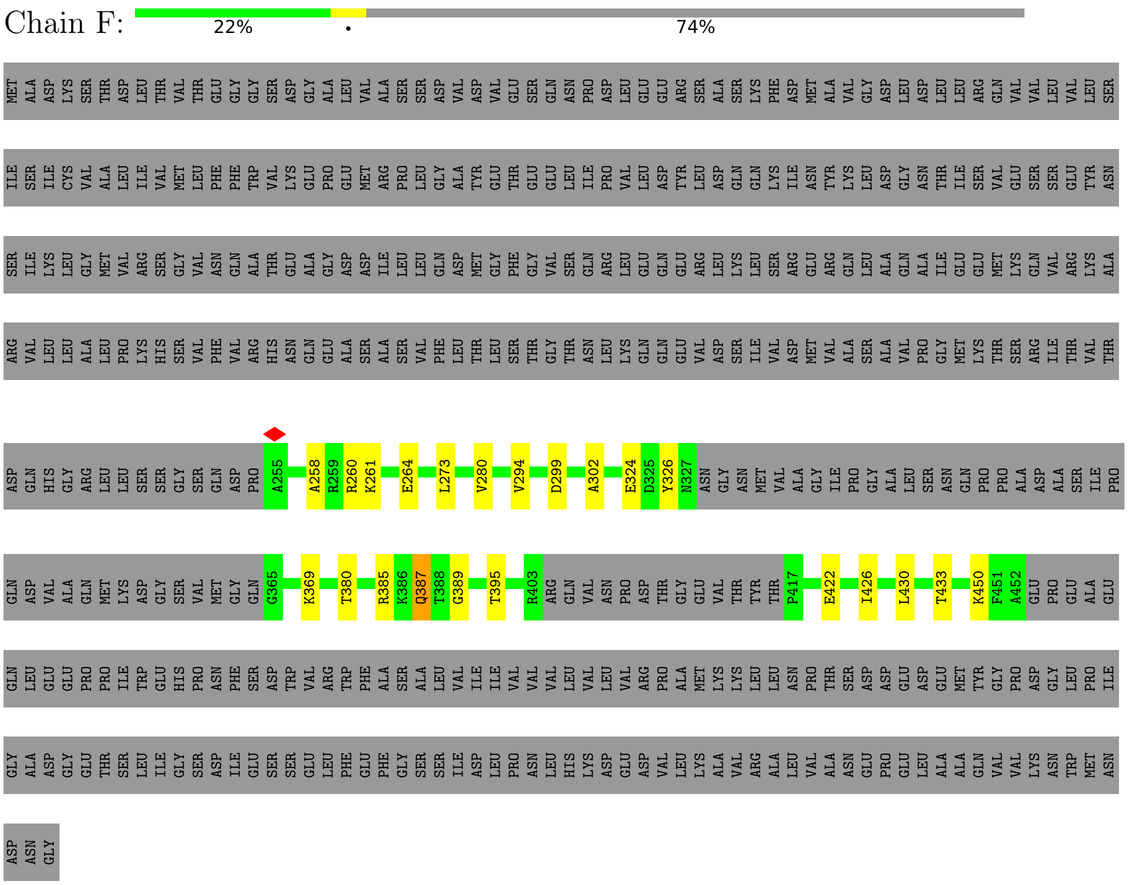
Chain D:

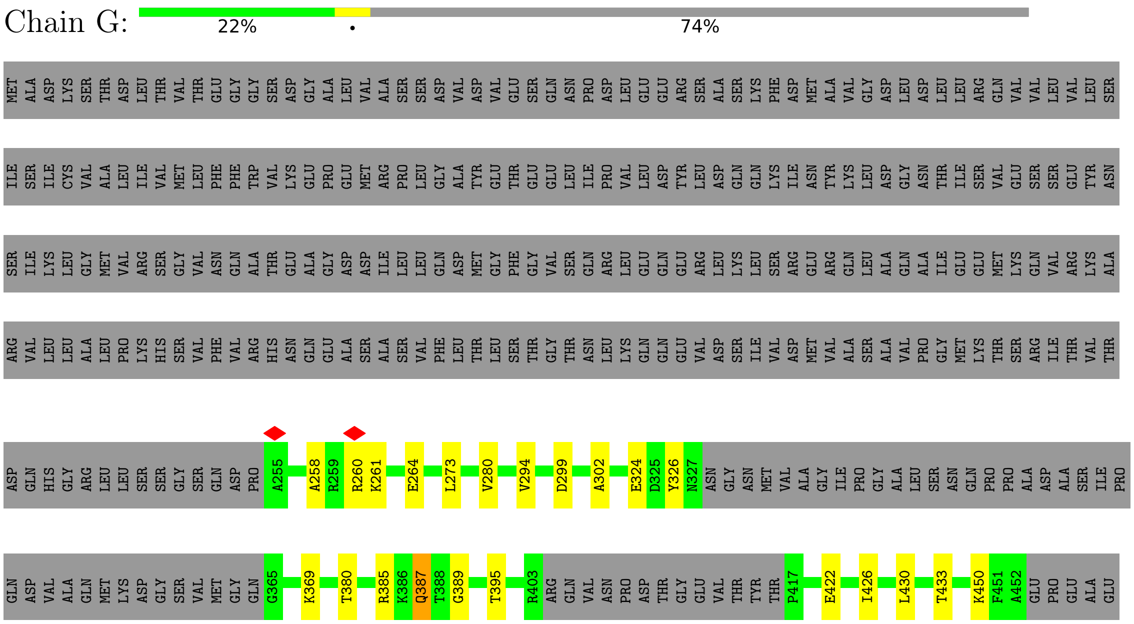
• Molecule 1: Flagellar M-ring protein

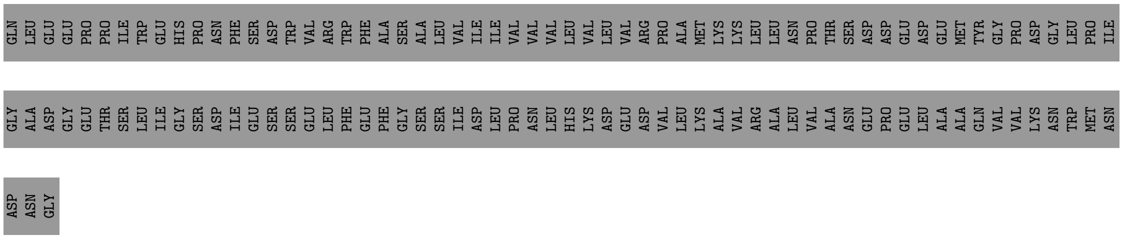


- Molecule 1: Flagellar M-ring protein



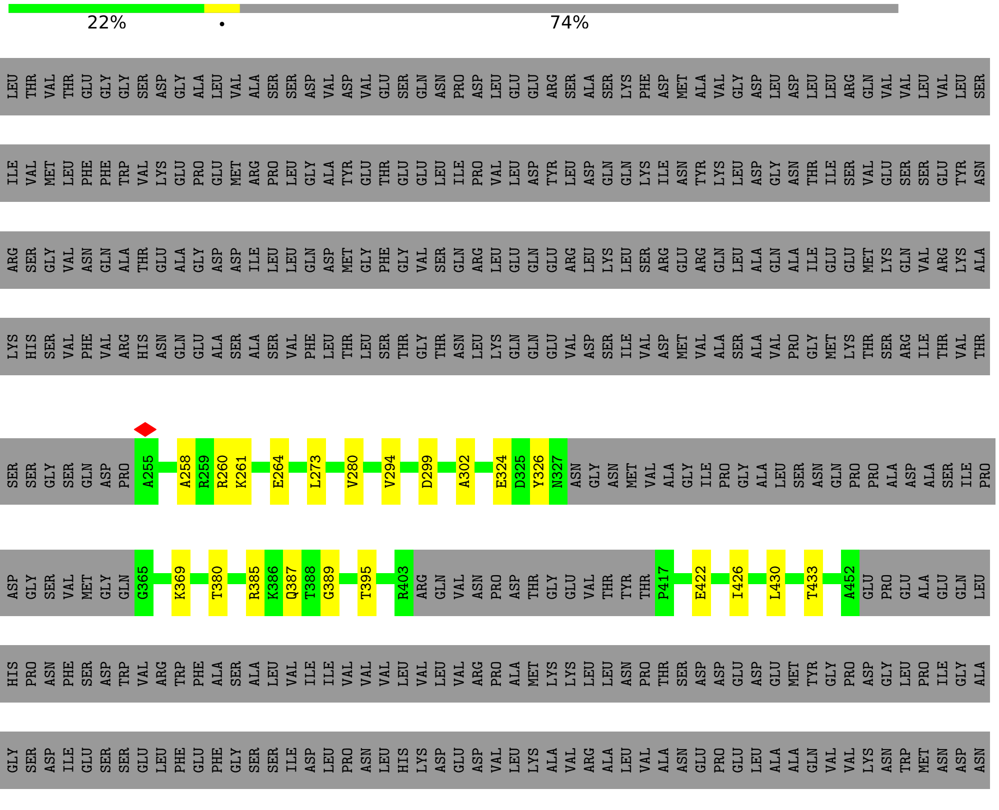
- Molecule 1: Flagellar M-ring protein





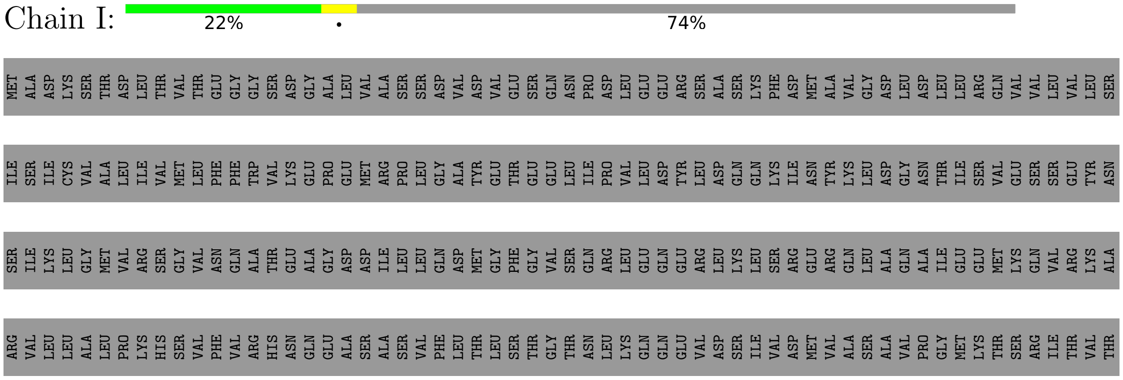
- Molecule 1: Flagellar M-ring protein

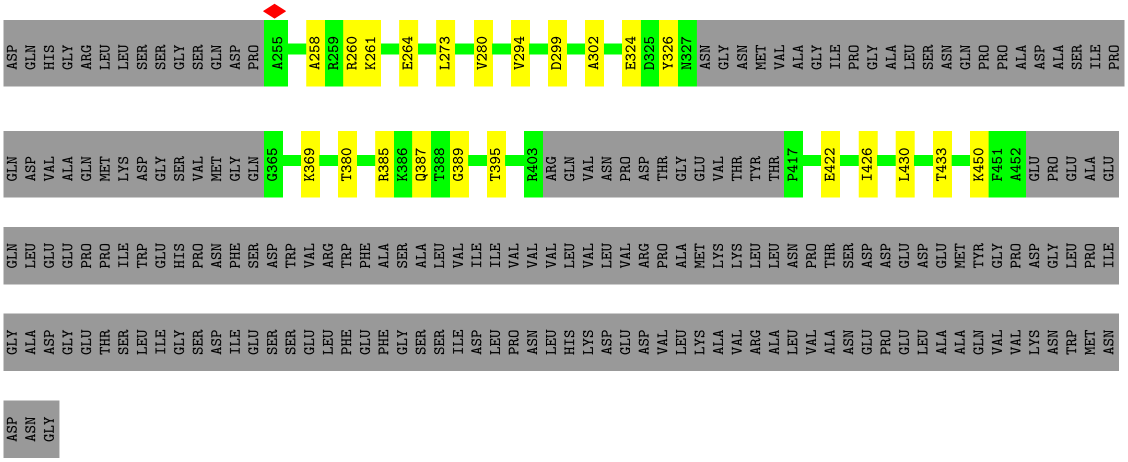
Chain H:



- Molecule 1: Flagellar M-ring protein

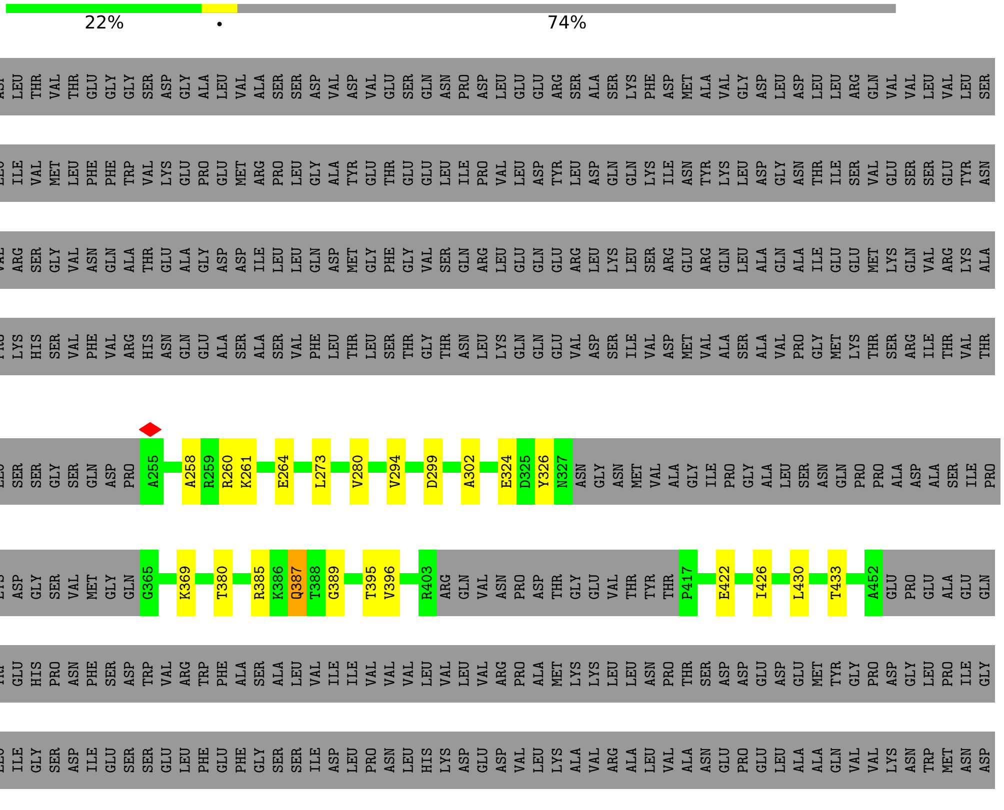
Chain I:





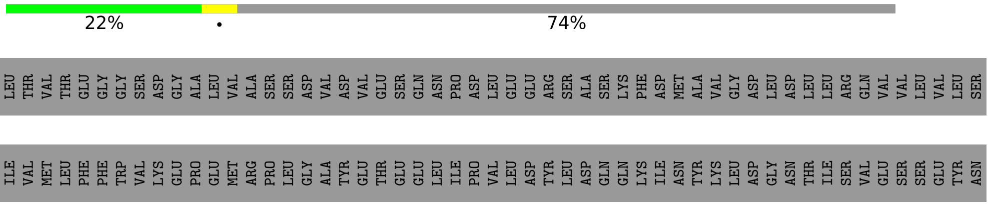
- Molecule 1: Flagellar M-ring protein

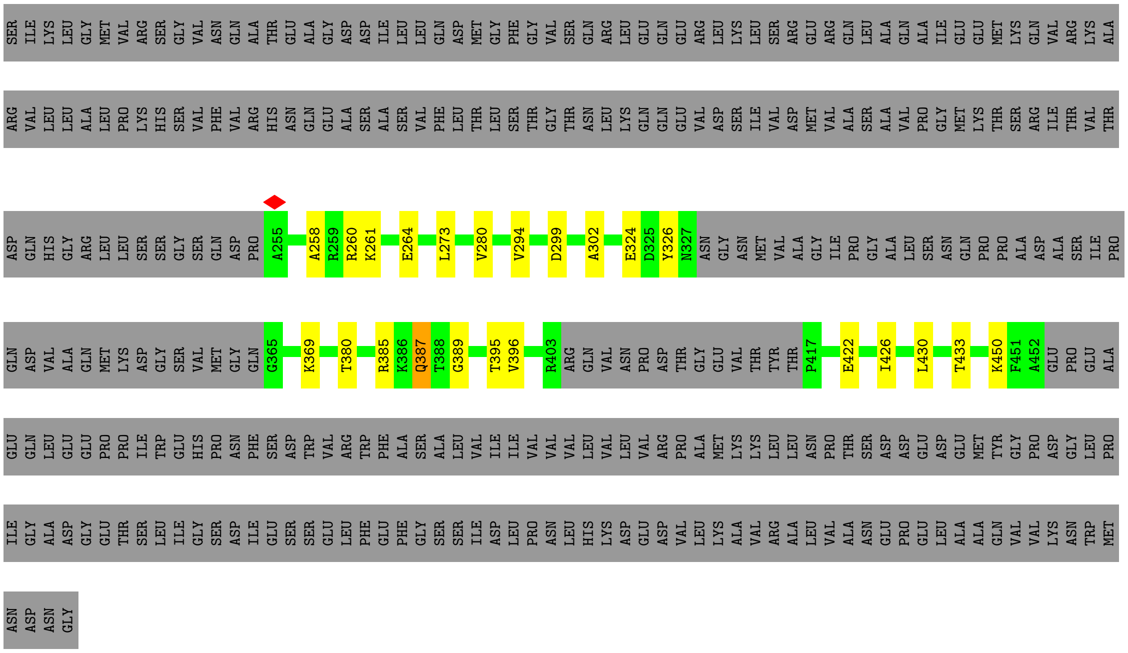
Chain J:



- Molecule 1: Flagellar M-ring protein

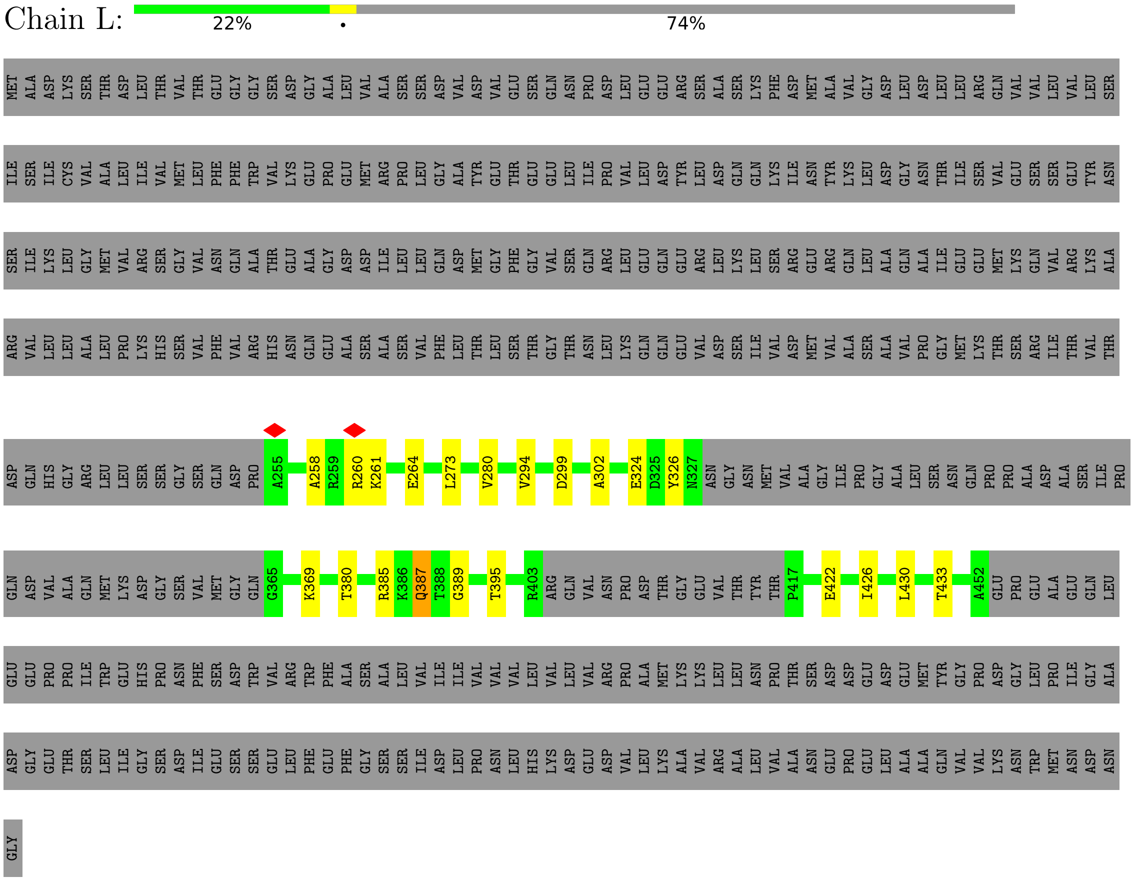
Chain K:





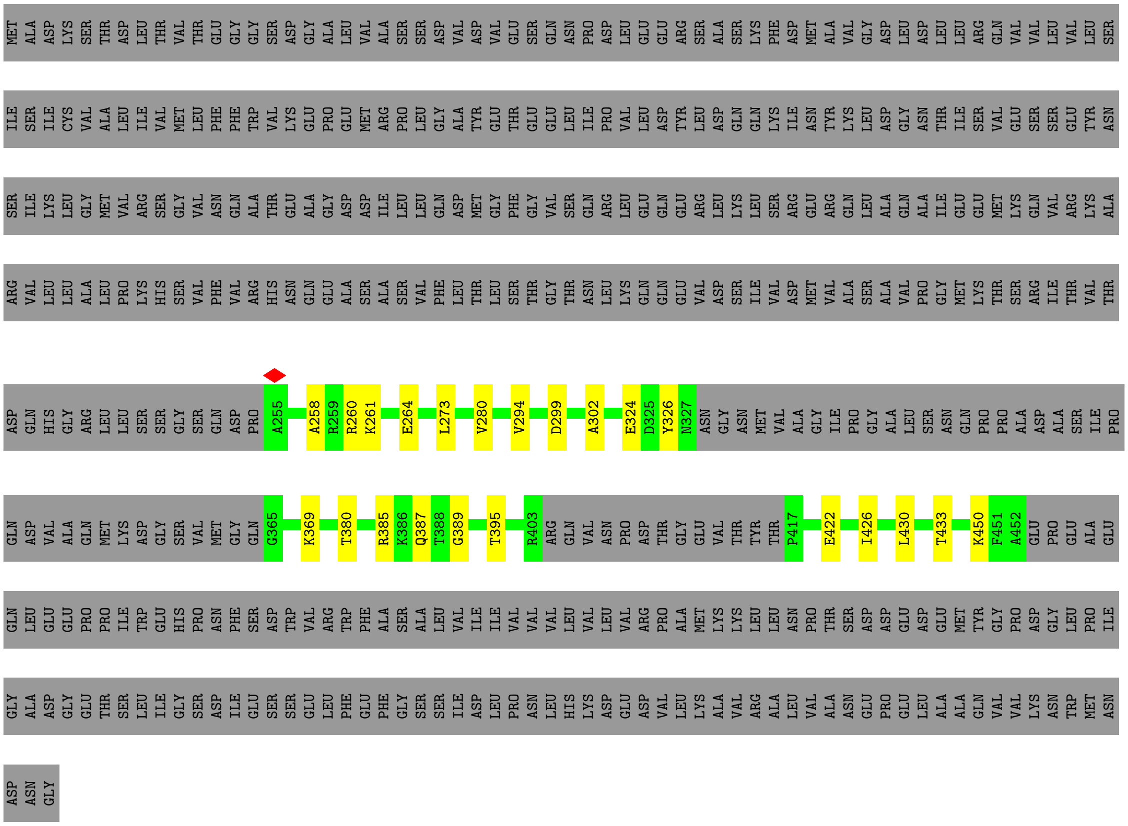
- Molecule 1: Flagellar M-ring protein

Chain L:

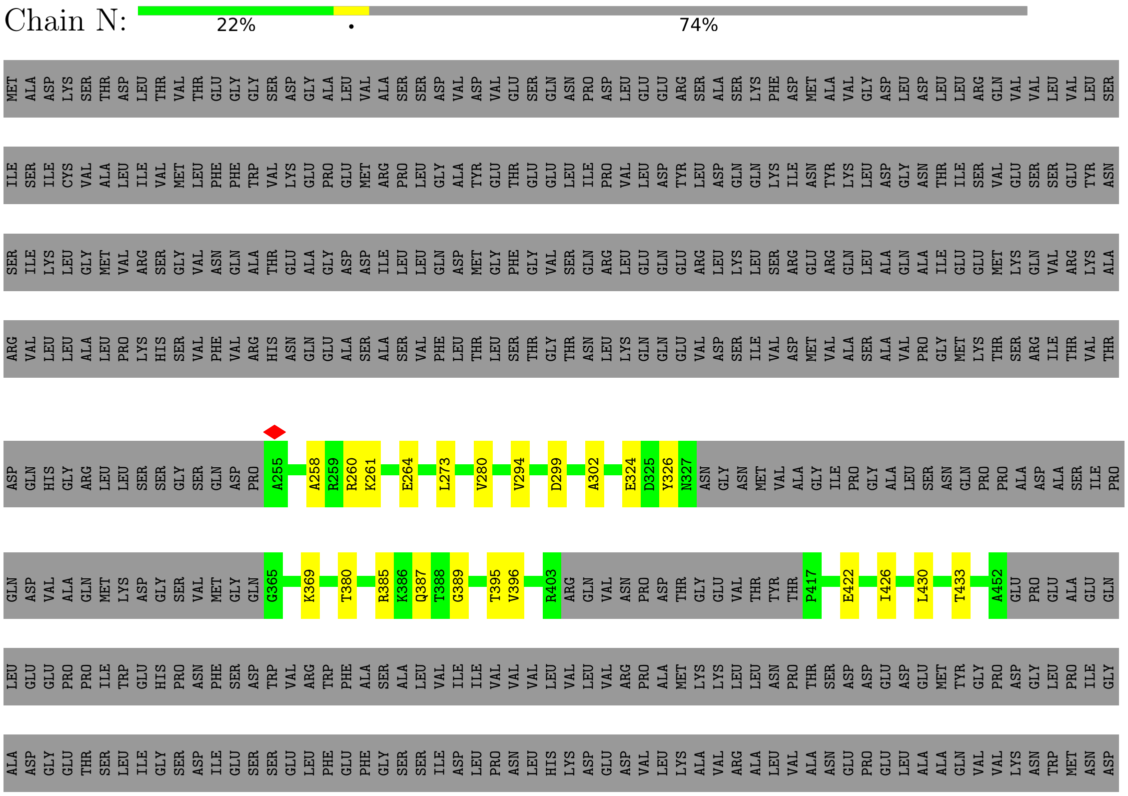


- Molecule 1: Flagellar M-ring protein

Chain M:



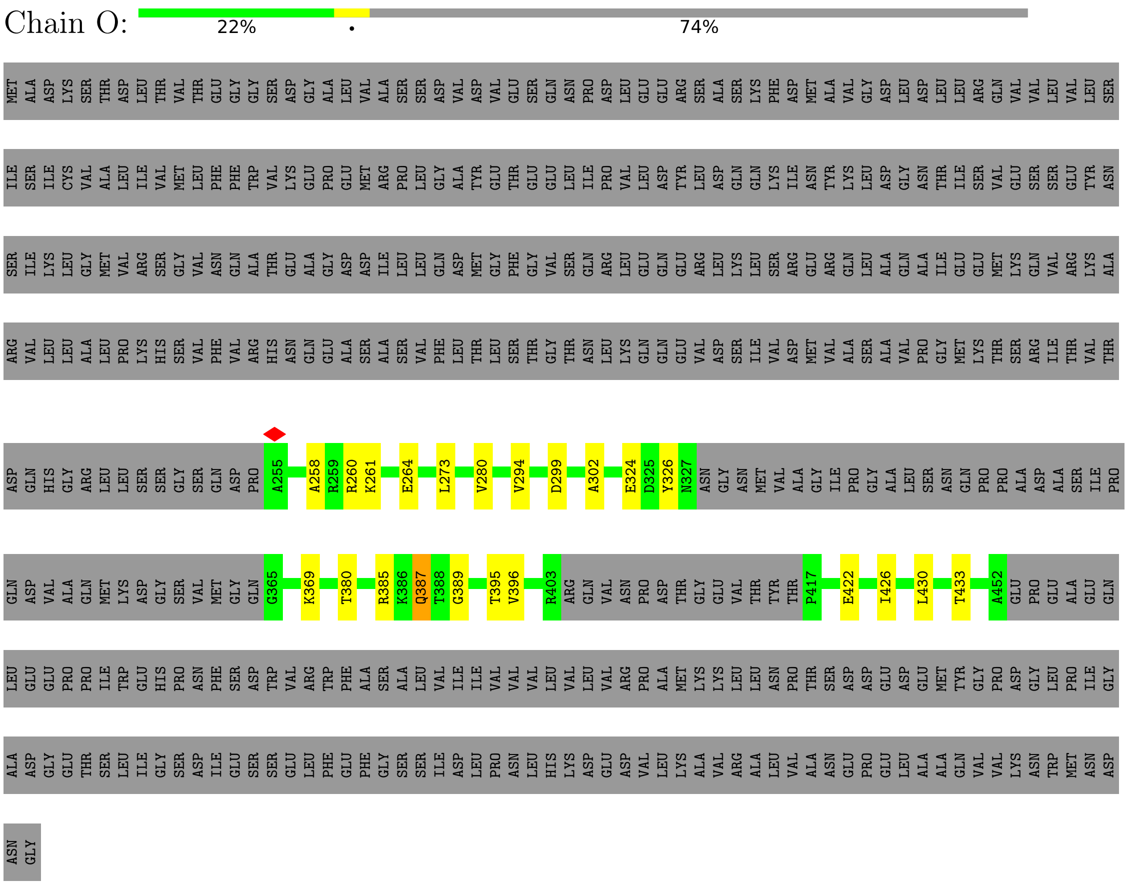
- Molecule 1: Flagellar M-ring protein




ASN GLY

- Molecule 1: Flagellar M-ring protein

Chain O:



MET ALA ASP LYS SER THR ASP LEU THR THR VAL THR GLU GLY GLY SER ASP GLY ALA LEU VAL ALA SER SER ASP VAL ASP VAL GLU SER GLN ASN PRO ASP LEU GLU GLU ARG SER ALA SER LYS PHE ASP MET ALA VAL GLY ASP LEU ASP LEU LEU ARG GLN VAL VAL LEU VAL LEU SER

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

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

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

ASP GLN HIS GLY ARG LEU LEU SER SER GLY SER GLN ASP PRO A255 A258 R259 R260 K261 E264 L273 V280 V294 D299 A302 E324 D325 Y326 N327 ASN GLY ASN MET VAL ALA GLY ILE PRO GLY ALA LEU SER ASN GLN PRO PRO ALA ASP ALA SER ILE PRO

GLN ASP VAL ALA GLN MET LYS ASP GLY SER VAL MET GLY GLN G365 K369 T380 R385 K386 Q387 T388 G389 T395 V396 R403 ARG GLN VAL ASN PRO ASP THR GLY GLU VAL THR TYR THR P417 E422 I426 L430 T433 A452 GLU PRO GLU ALA GLU GLN

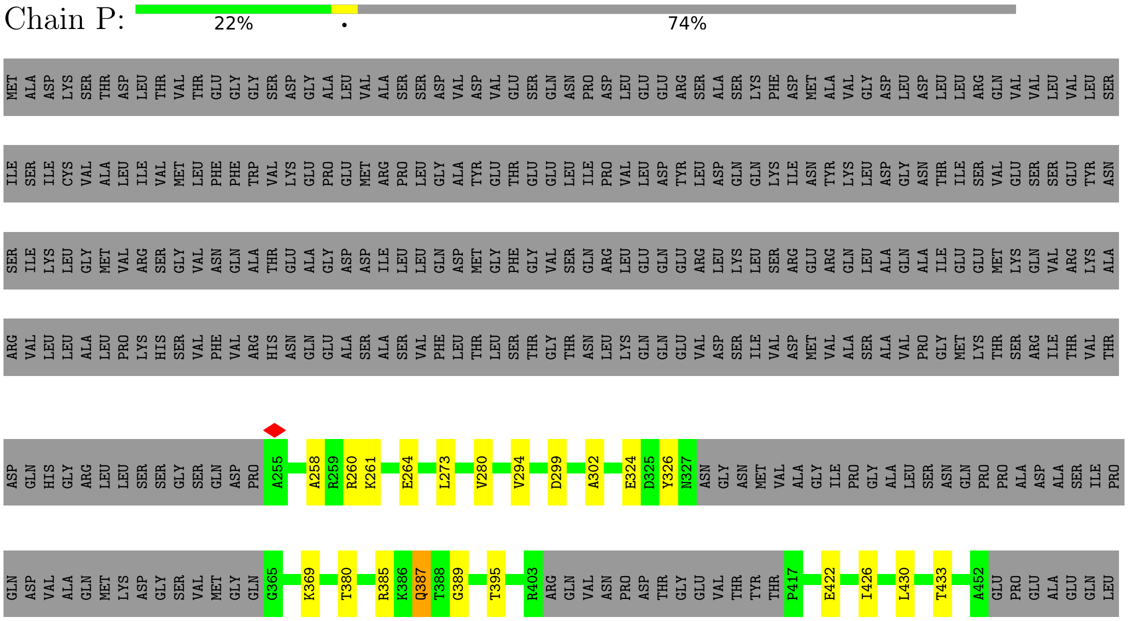
LEU GLU GLU PRO PRO ILE TRP GLU HIS PRO ASN PHE SER ASP TRP VAL ARG TRP PHE ALA SER ALA LEU VAL ILE ILE VAL VAL VAL LEU VAL LEU VAL ARG PRO ALA MET LYS LYS LEU LEU ASN PRO THR SER ASP ASP GLU ASP GLU MET TYR GLY PRO ASP GLY LEU PRO ILE GLY

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

ASN GLY

- Molecule 1: Flagellar M-ring protein

Chain P:



MET ALA ASP LYS SER THR ASP LEU THR THR VAL THR GLU GLY GLY SER ASP GLY ALA LEU VAL ALA SER SER ASP VAL ASP VAL GLU SER GLN ASN PRO ASP LEU GLU GLU ARG SER ALA SER LYS PHE ASP MET ALA VAL GLY ASP LEU ASP LEU LEU ARG GLN VAL VAL LEU VAL LEU SER

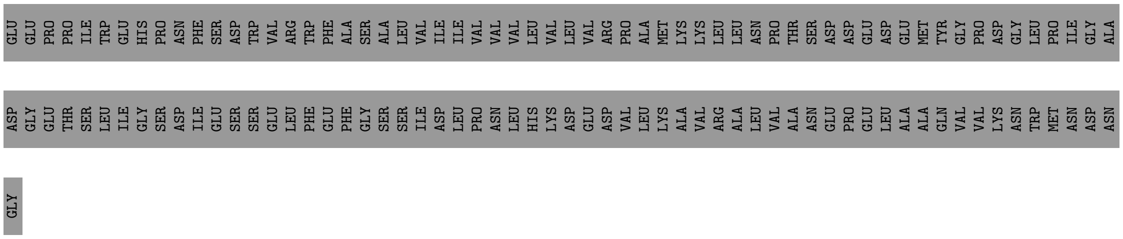
ILE SER ILE CYS VAL ALA LEU ILE VAL MET LEU PHE PHE TRP VAL LYS GLU PRO GLU MET ARG PRO LEU GLY ALA TYR GLU THR GLU GLU LEU ILE PRO VAL LEU ASP TYR LEU ASP GLN GLN LYS ILE ASN TYR LYS LEU ASP GLY ASN THR ILE SER VAL GLU SER SER GLU TYR ASN

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

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

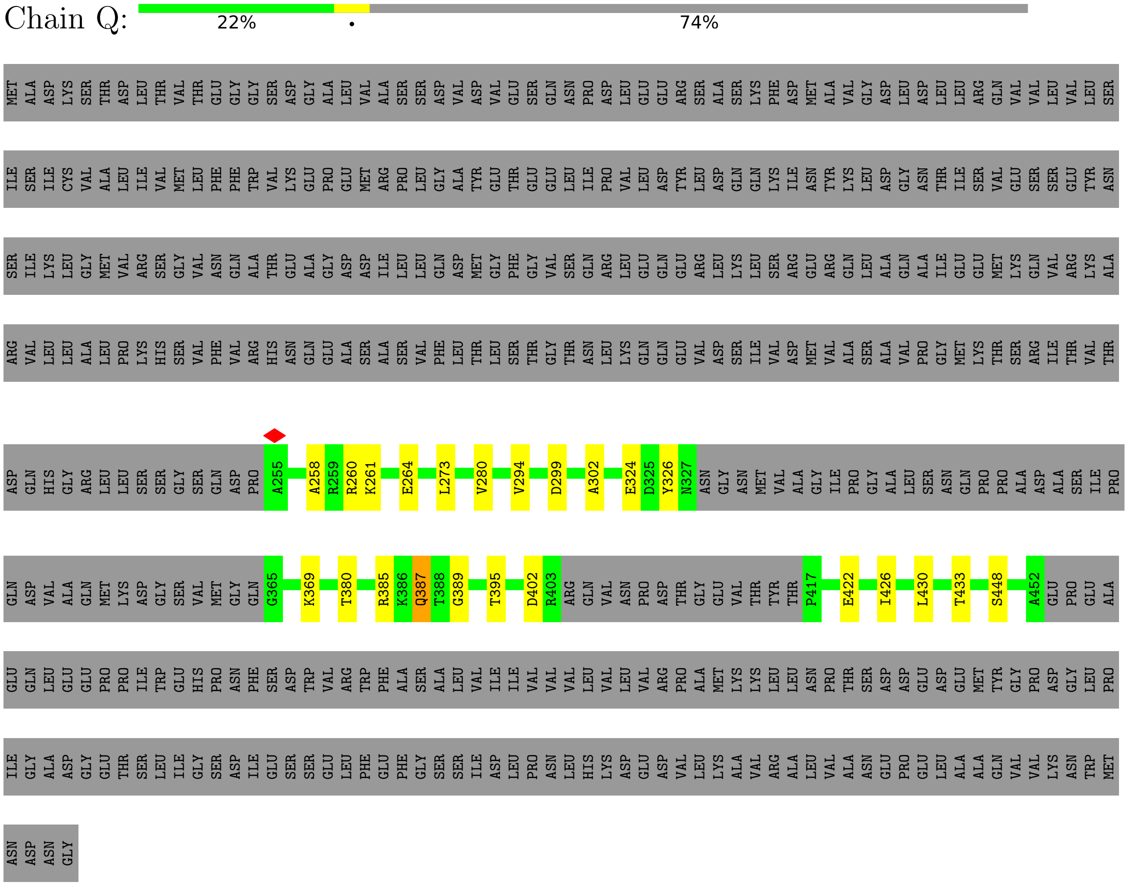
ASP GLN HIS GLY ARG LEU LEU SER SER GLY SER GLN ASP PRO A255 A258 R259 R260 K261 E264 L273 V280 V294 D299 A302 E324 D325 Y326 N327 ASN GLY ASN MET VAL ALA GLY ILE PRO GLY ALA LEU SER ASN GLN PRO PRO ALA ASP ALA SER ILE PRO

GLN ASP VAL ALA GLN MET LYS ASP GLY SER VAL MET GLY GLN G365 K369 T380 R385 K386 Q387 T388 G389 T395 R403 ARG GLN VAL ASN PRO ASP THR GLY GLU VAL THR TYR THR P417 E422 I426 L430 T433 A452 GLU PRO GLU ALA GLU GLN LEU



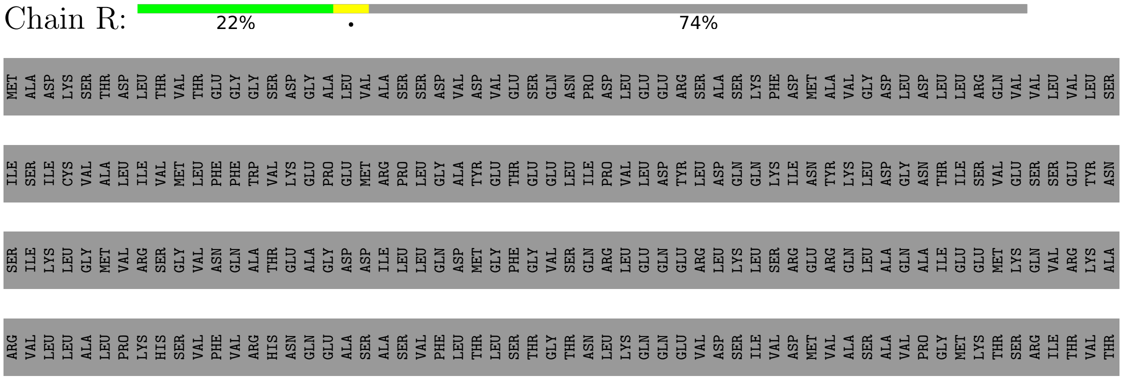
- Molecule 1: Flagellar M-ring protein

Chain Q:



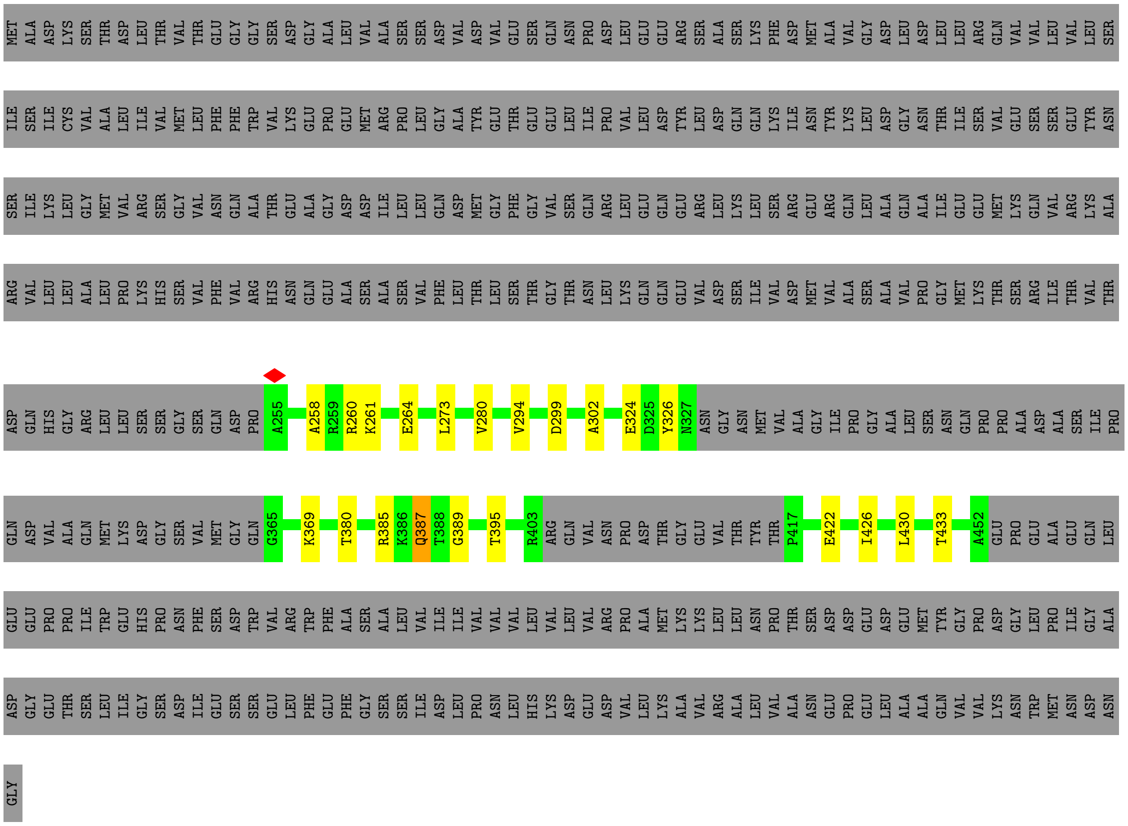
- Molecule 1: Flagellar M-ring protein

Chain R:



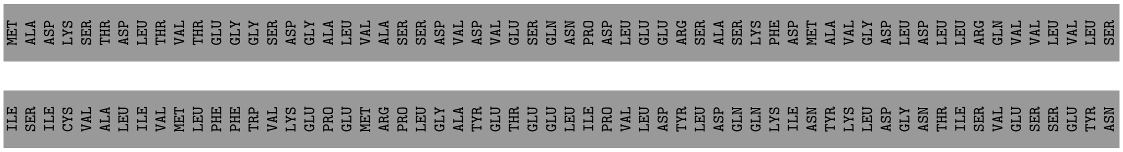
- Molecule 1: Flagellar M-ring protein

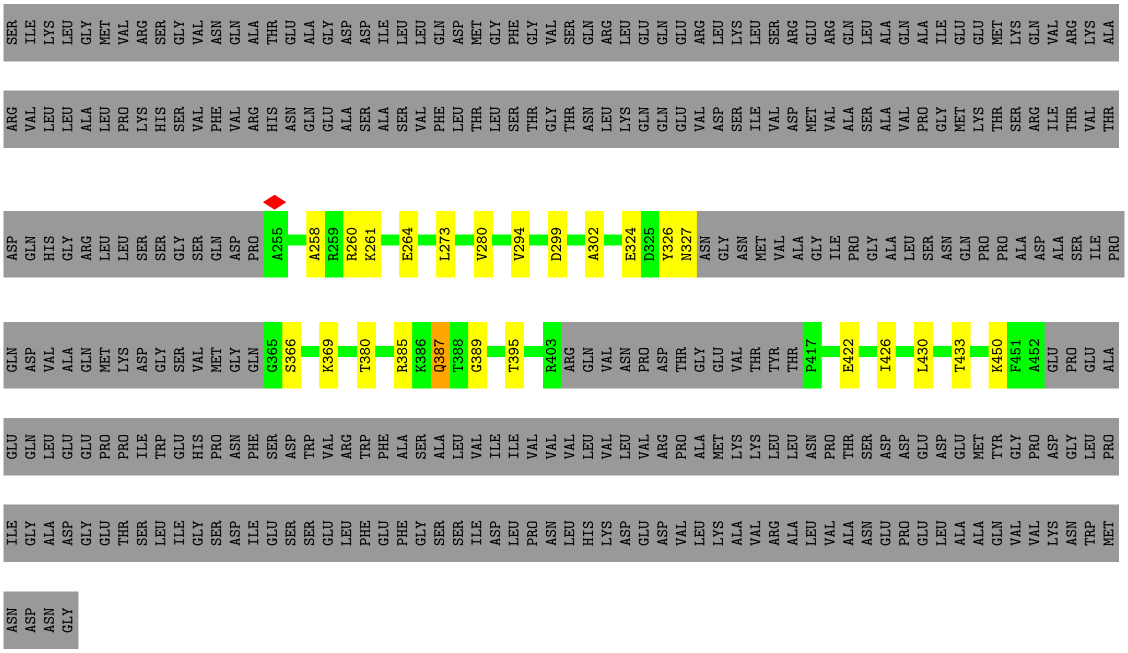
Chain S:



- Molecule 1: Flagellar M-ring protein

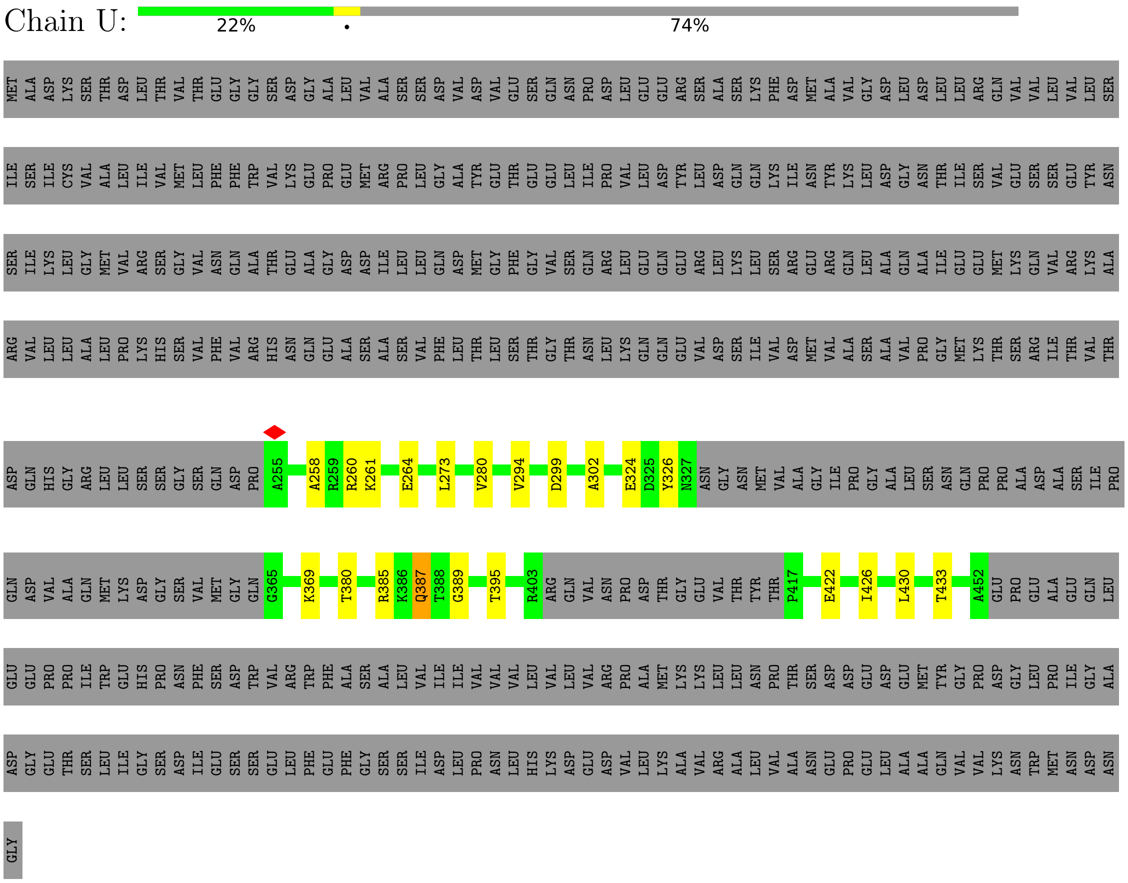
Chain T:





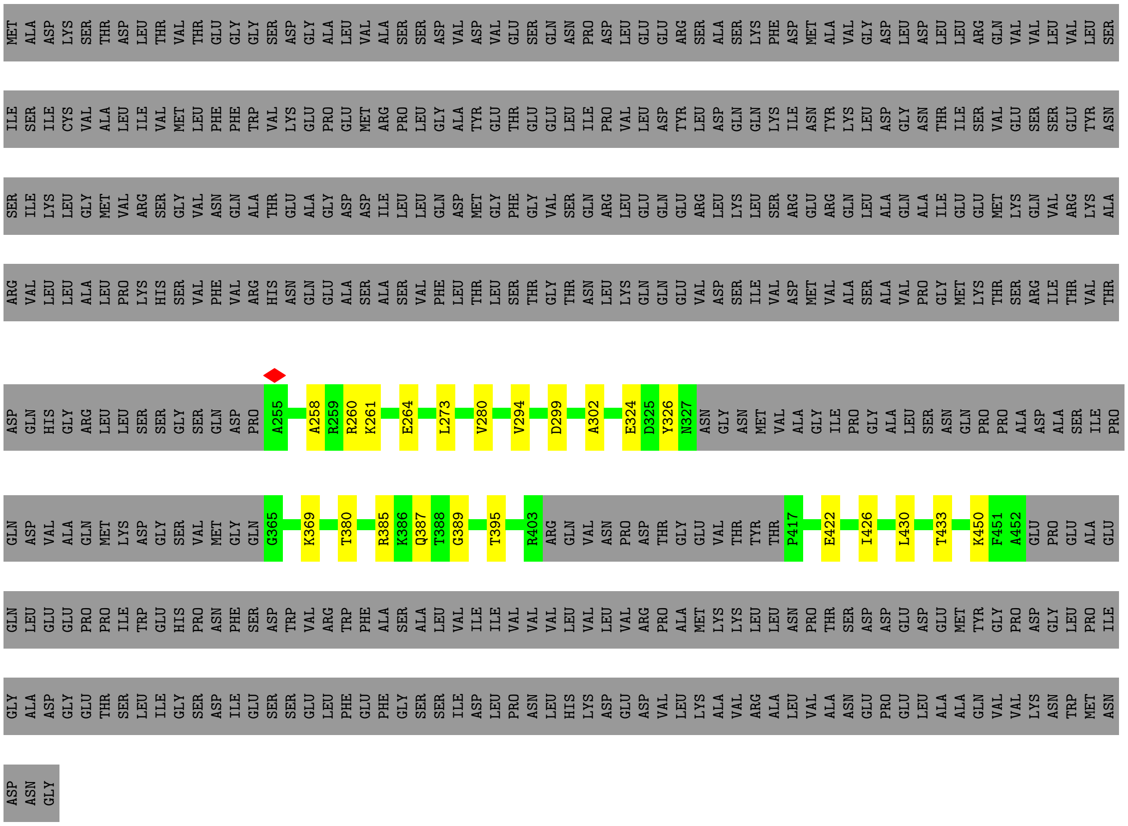
- Molecule 1: Flagellar M-ring protein

Chain U:

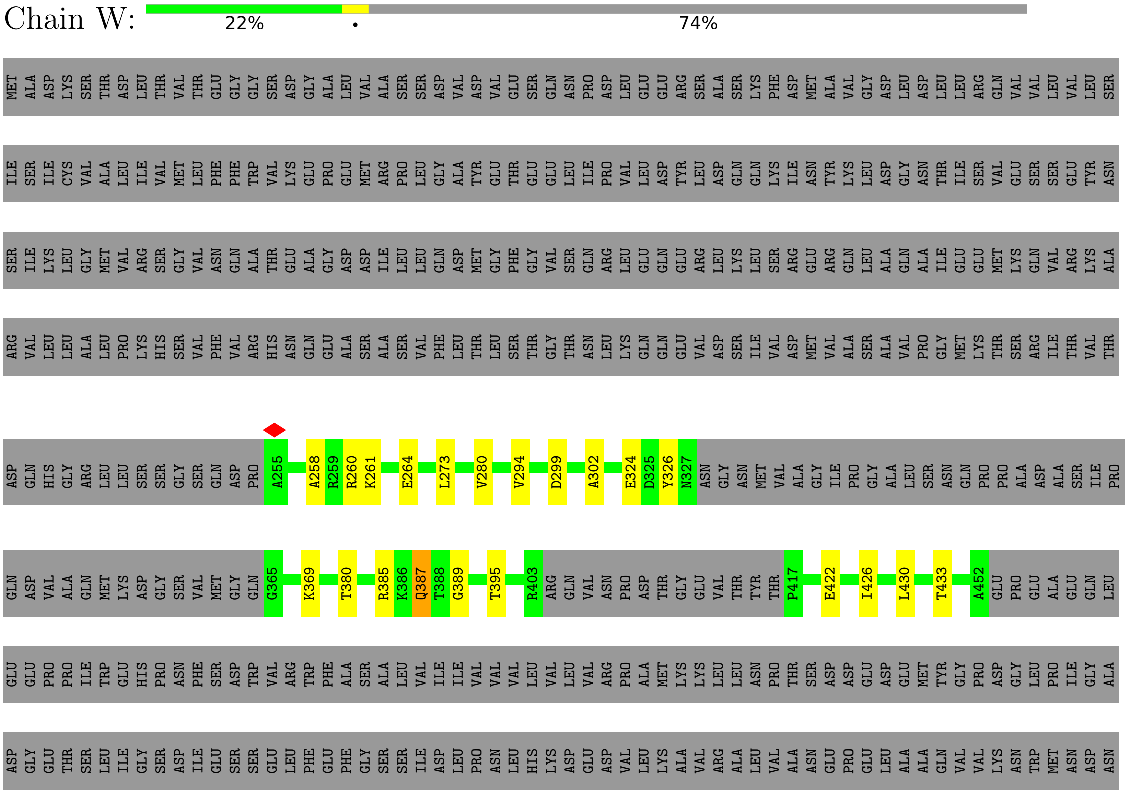


- Molecule 1: Flagellar M-ring protein

Chain V:

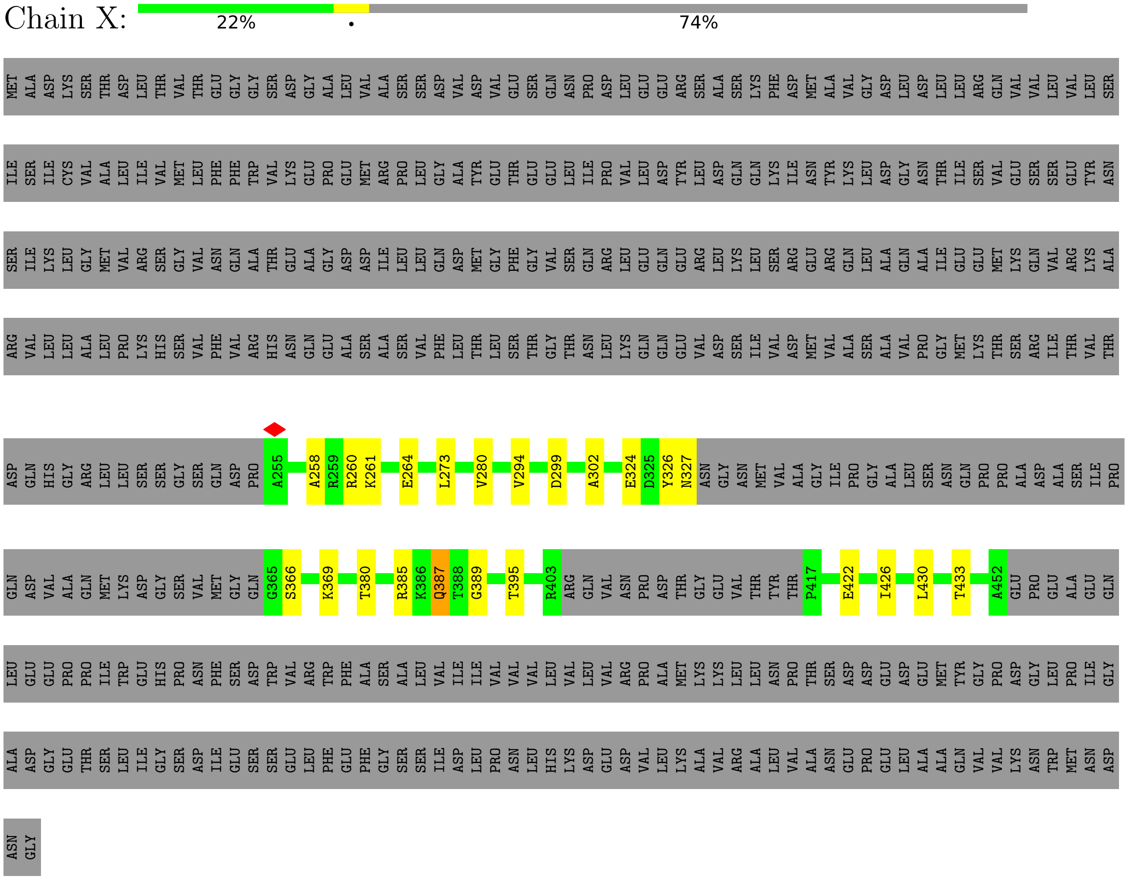


- Molecule 1: Flagellar M-ring protein



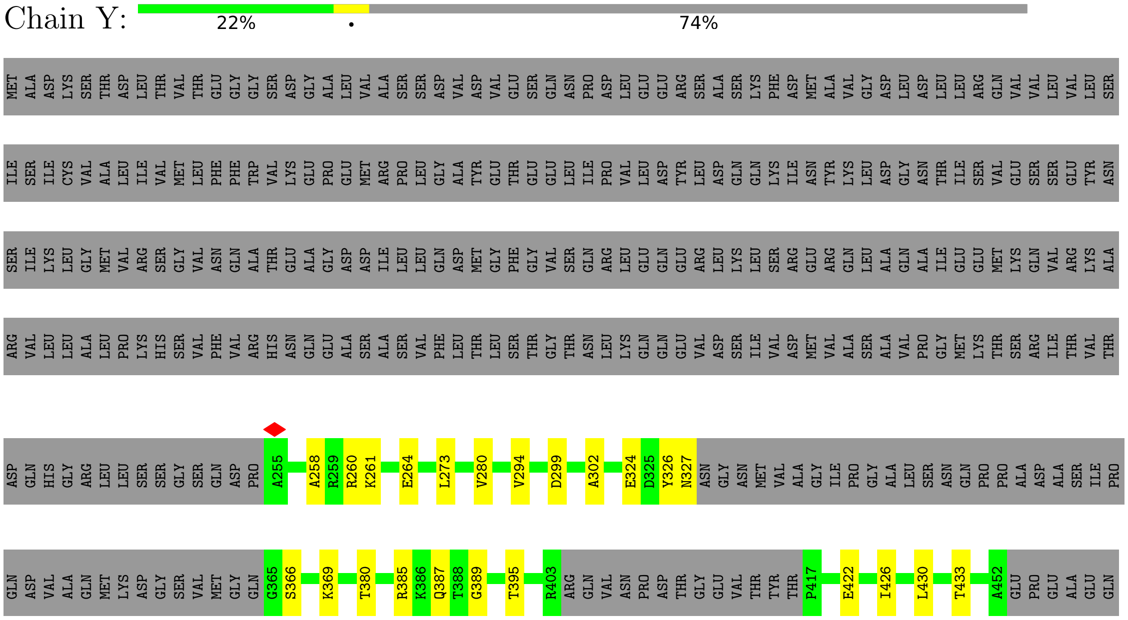
- Molecule 1: Flagellar M-ring protein

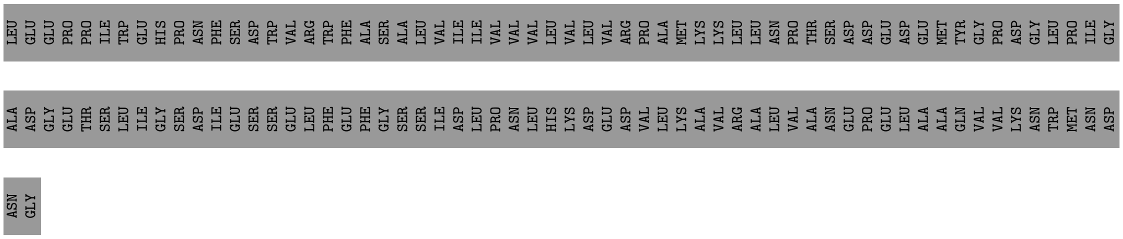
Chain X:



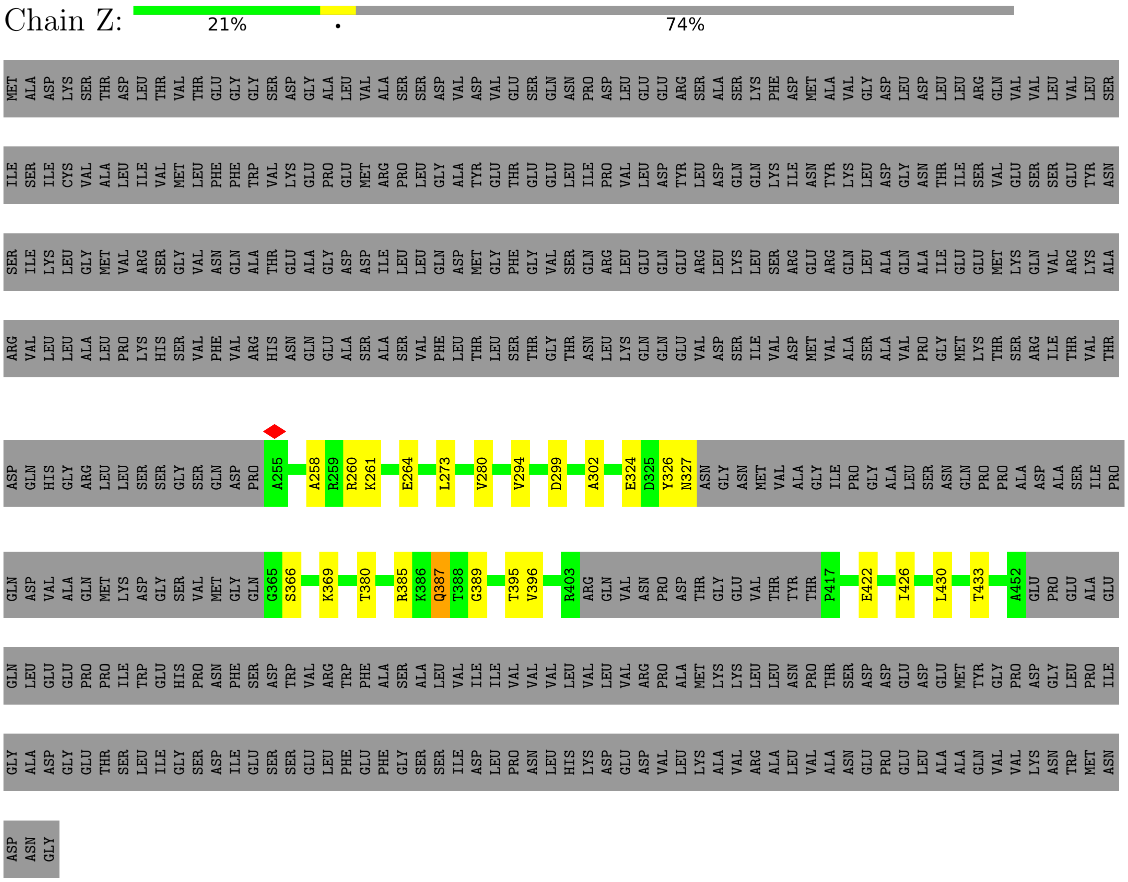
- Molecule 1: Flagellar M-ring protein

Chain Y:

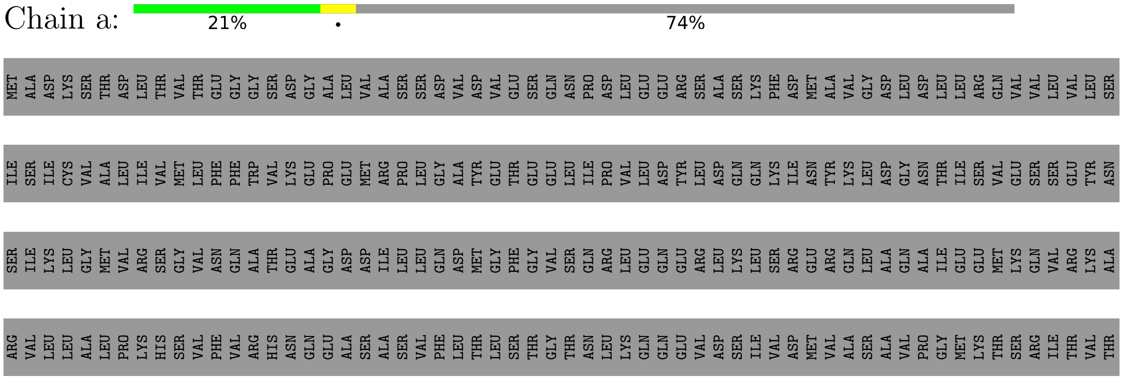


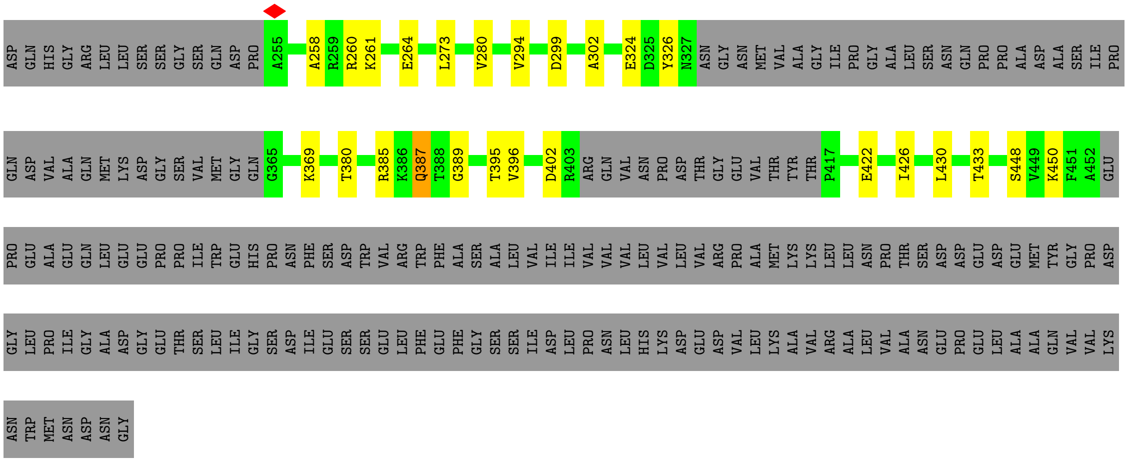


- Molecule 1: Flagellar M-ring protein



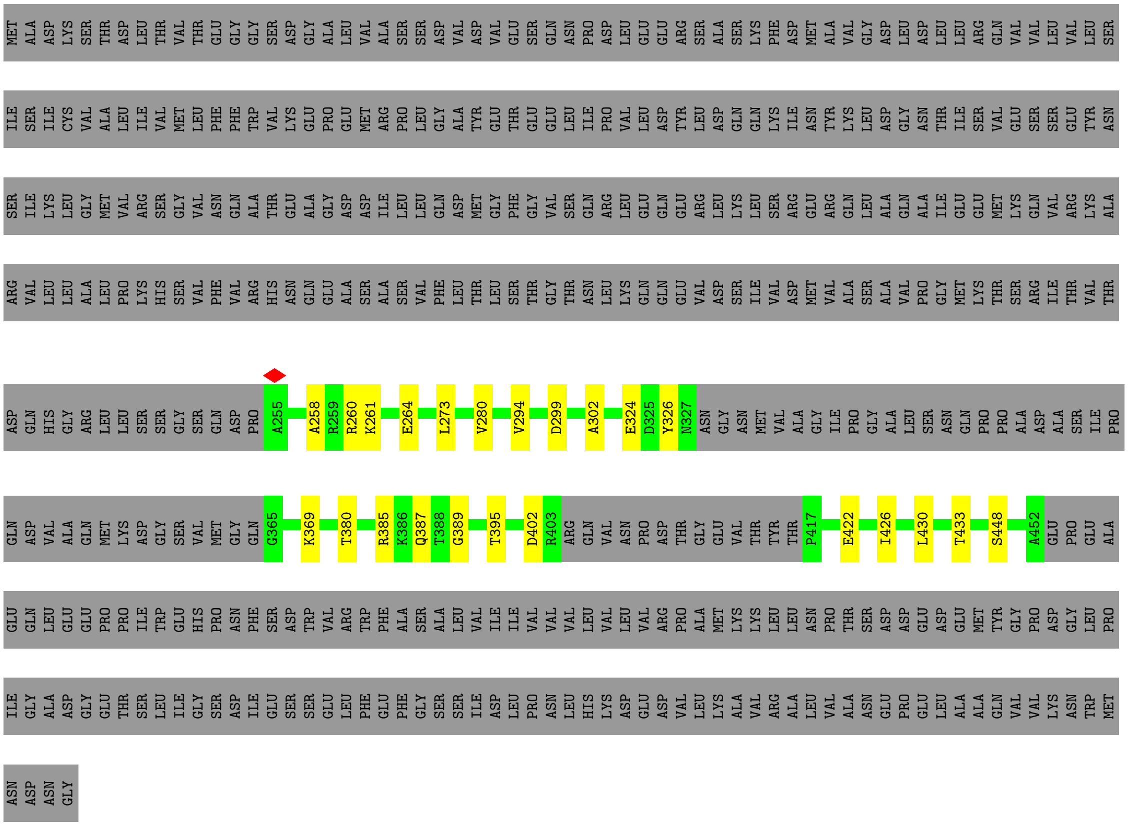
- Molecule 1: Flagellar M-ring protein





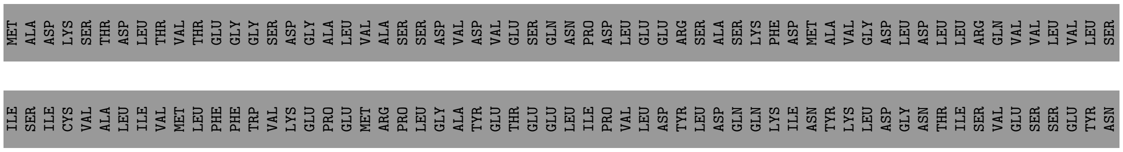
- Molecule 1: Flagellar M-ring protein

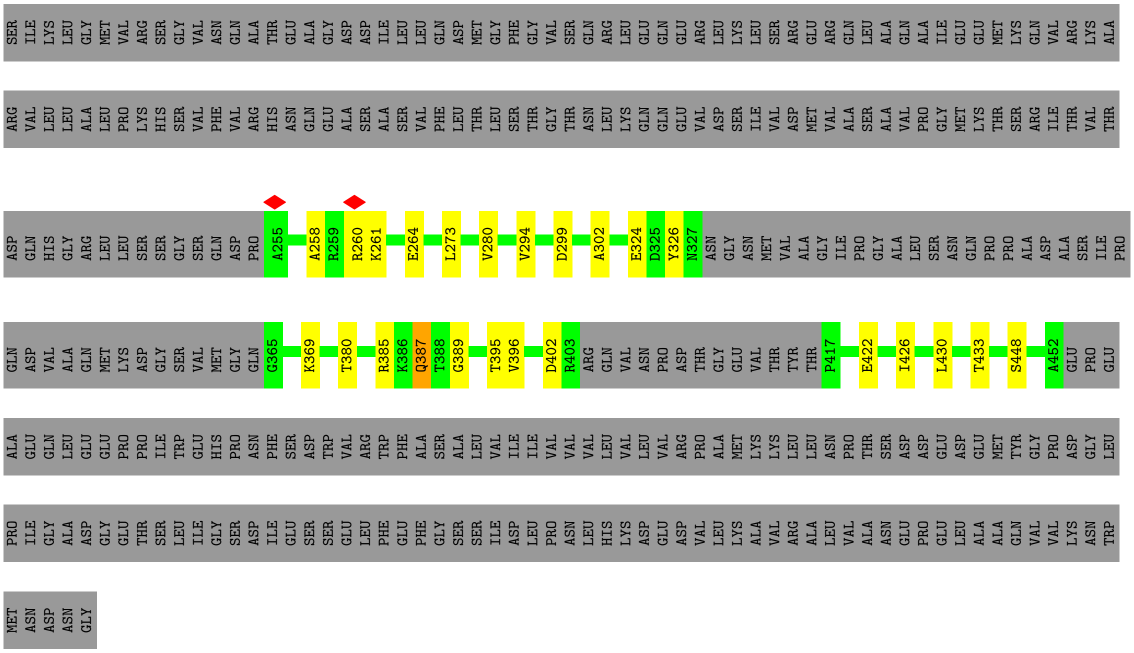
Chain b:



- Molecule 1: Flagellar M-ring protein

Chain c:



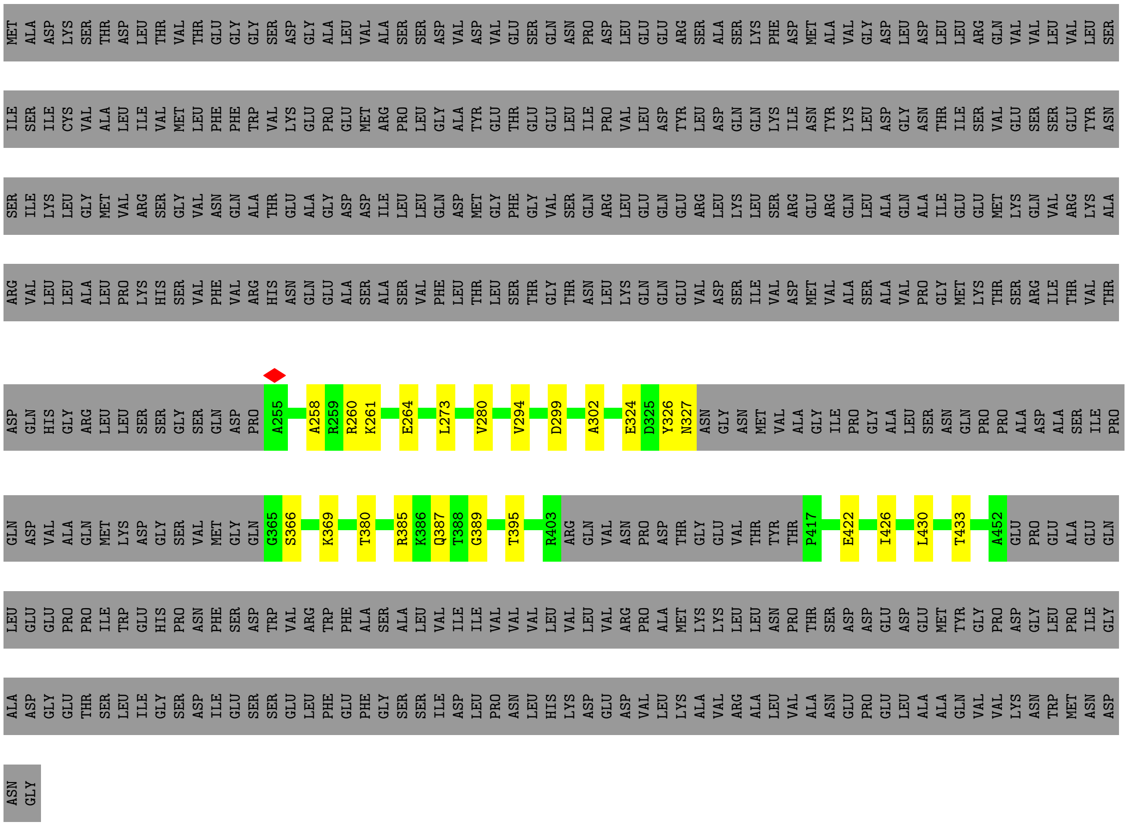


- Molecule 1: Flagellar M-ring protein

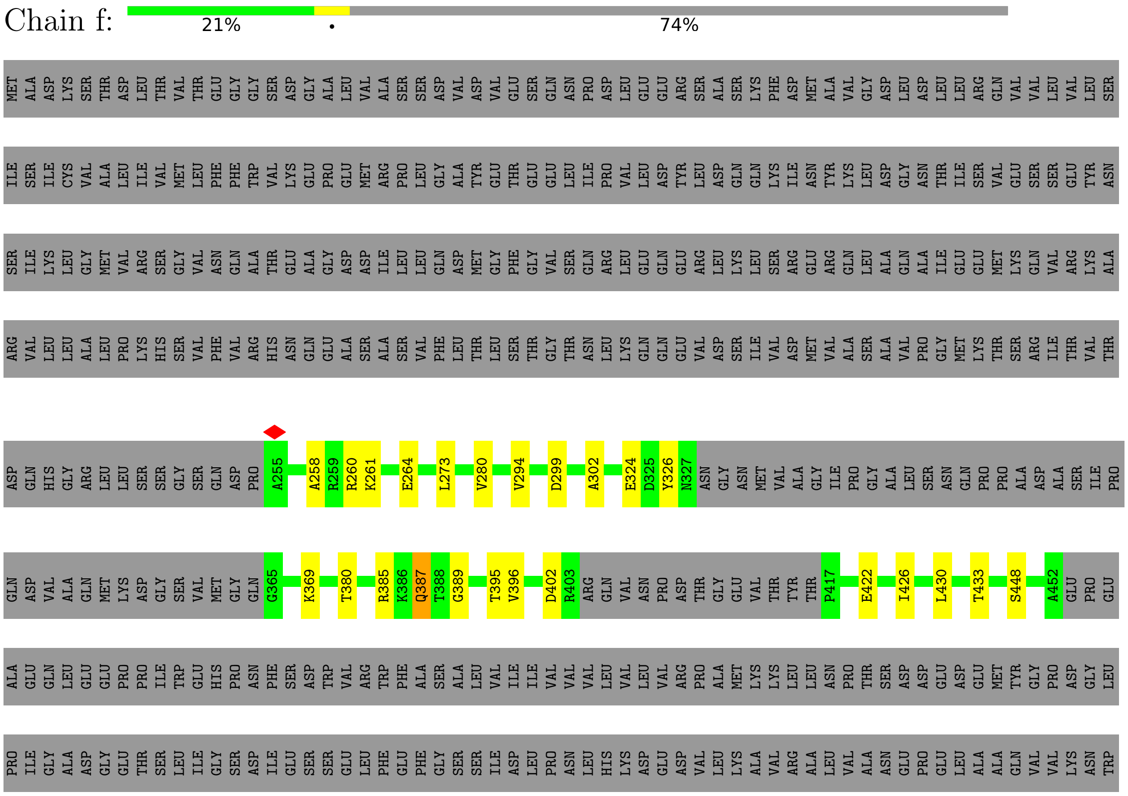
Chain d:

- Molecule 1: Flagellar M-ring protein

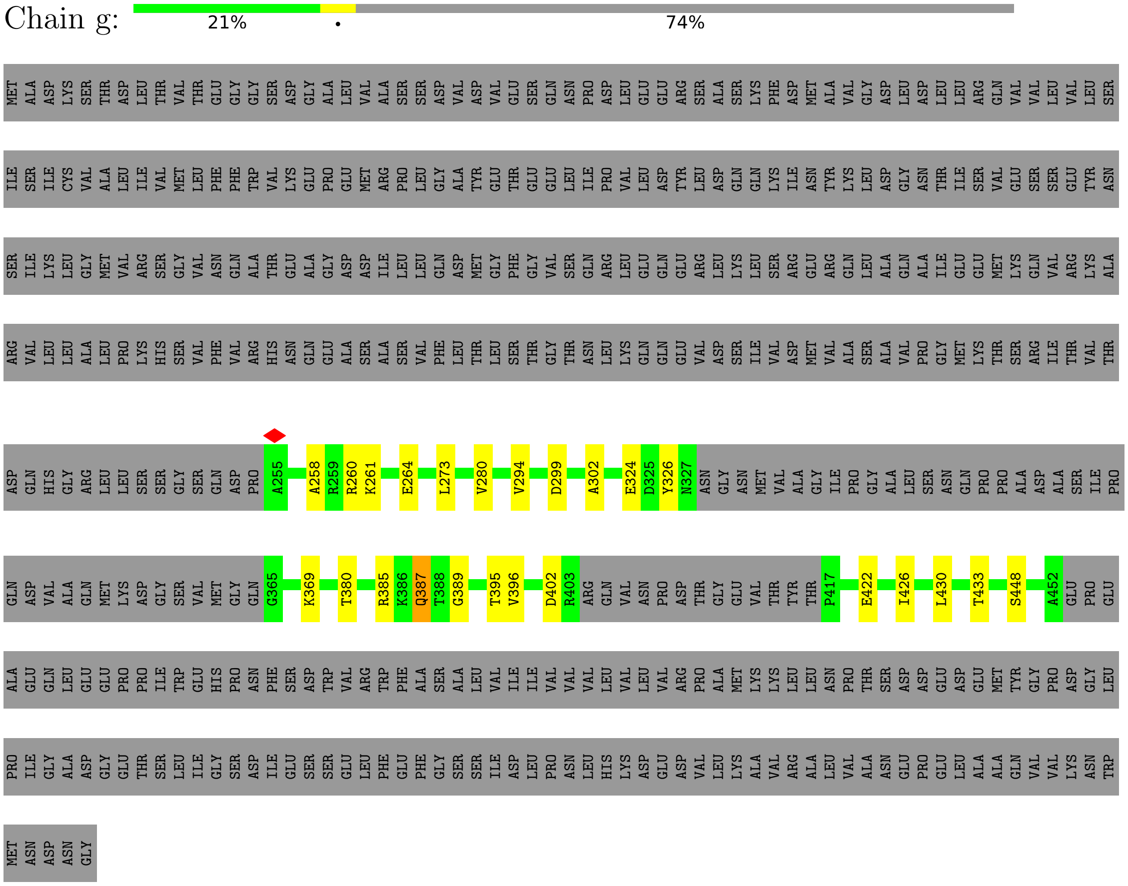
Chain e:



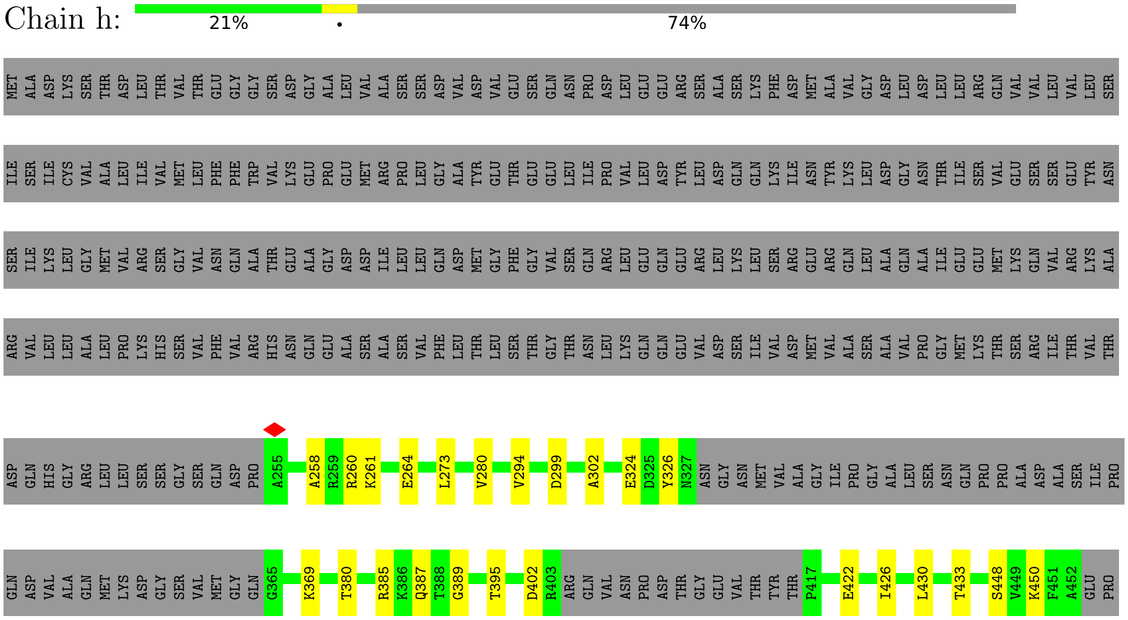
- Molecule 1: Flagellar M-ring protein

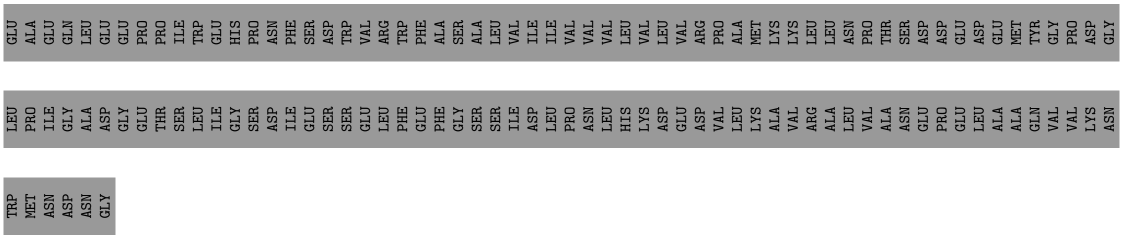


- Molecule 1: Flagellar M-ring protein



- Molecule 1: Flagellar M-ring protein




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

4 Experimental information ⓘ

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C34	Depositor
Number of particles used	58418	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{Å}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	105000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	3.077	Depositor
Minimum map value	-1.858	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.084	Depositor
Recommended contour level	0.25	Depositor
Map size (Å)	384.0, 384.0, 384.0	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.2, 1.2, 1.2	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	0.16	0/1182	0.27	0/1588
1	B	0.16	0/1182	0.27	0/1588
1	C	0.16	0/1182	0.27	0/1588
1	D	0.16	0/1182	0.27	0/1588
1	E	0.16	0/1182	0.27	0/1588
1	F	0.16	0/1182	0.27	0/1588
1	G	0.16	0/1182	0.27	0/1588
1	H	0.16	0/1182	0.27	0/1588
1	I	0.16	0/1182	0.27	0/1588
1	J	0.16	0/1182	0.27	0/1588
1	K	0.16	0/1182	0.27	0/1588
1	L	0.16	0/1182	0.27	0/1588
1	M	0.16	0/1182	0.27	0/1588
1	N	0.16	0/1182	0.27	0/1588
1	O	0.16	0/1182	0.27	0/1588
1	P	0.16	0/1182	0.27	0/1588
1	Q	0.16	0/1182	0.27	0/1588
1	R	0.16	0/1182	0.27	0/1588
1	S	0.16	0/1182	0.27	0/1588
1	T	0.16	0/1182	0.27	0/1588
1	U	0.16	0/1182	0.27	0/1588
1	V	0.16	0/1182	0.27	0/1588
1	W	0.16	0/1182	0.27	0/1588
1	X	0.16	0/1182	0.27	0/1588
1	Y	0.16	0/1182	0.27	0/1588
1	Z	0.16	0/1182	0.27	0/1588
1	a	0.16	0/1182	0.27	0/1588
1	b	0.16	0/1182	0.27	0/1588
1	c	0.16	0/1182	0.27	0/1588
1	d	0.16	0/1182	0.27	0/1588
1	e	0.16	0/1182	0.27	0/1588
1	f	0.16	0/1182	0.27	0/1588
1	g	0.16	0/1182	0.27	0/1588
1	h	0.16	0/1182	0.27	0/1588

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
All	All	0.16	0/40188	0.27	0/53992

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 ⓘ

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	1171	0	1164	12	0
1	B	1171	0	1164	15	0
1	C	1171	0	1164	12	0
1	D	1171	0	1164	12	0
1	E	1171	0	1164	11	0
1	F	1171	0	1164	13	0
1	G	1171	0	1164	13	0
1	H	1171	0	1164	12	0
1	I	1171	0	1164	12	0
1	J	1171	0	1164	13	0
1	K	1171	0	1164	14	0
1	L	1171	0	1164	13	0
1	M	1171	0	1164	13	0
1	N	1171	0	1164	12	0
1	O	1171	0	1164	13	0
1	P	1171	0	1164	13	0
1	Q	1171	0	1164	14	0
1	R	1171	0	1164	12	0
1	S	1171	0	1164	13	0
1	T	1171	0	1164	15	0
1	U	1171	0	1164	13	0
1	V	1171	0	1164	13	0
1	W	1171	0	1164	13	0
1	X	1171	0	1164	14	0
1	Y	1171	0	1164	13	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	Z	1171	0	1164	14	0
1	a	1171	0	1164	16	0
1	b	1171	0	1164	13	0
1	c	1171	0	1164	15	0
1	d	1171	0	1164	15	0
1	e	1171	0	1164	12	0
1	f	1171	0	1164	14	0
1	g	1171	0	1164	14	0
1	h	1171	0	1164	13	0
All	All	39814	0	39576	415	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 5.

All (415) 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:258:ALA:HA	1:a:261:LYS:HD2	1.70	0.74
1:U:258:ALA:HA	1:U:261:LYS:HD2	1.70	0.73
1:X:258:ALA:HA	1:X:261:LYS:HD2	1.70	0.73
1:Y:258:ALA:HA	1:Y:261:LYS:HD2	1.70	0.73
1:d:258:ALA:HA	1:d:261:LYS:HD2	1.70	0.73
1:R:258:ALA:HA	1:R:261:LYS:HD2	1.70	0.73
1:V:258:ALA:HA	1:V:261:LYS:HD2	1.70	0.73
1:b:258:ALA:HA	1:b:261:LYS:HD2	1.70	0.73
1:g:258:ALA:HA	1:g:261:LYS:HD2	1.70	0.73
1:S:258:ALA:HA	1:S:261:LYS:HD2	1.70	0.73
1:e:258:ALA:HA	1:e:261:LYS:HD2	1.70	0.73
1:P:258:ALA:HA	1:P:261:LYS:HD2	1.70	0.73
1:B:258:ALA:HA	1:B:261:LYS:HD2	1.70	0.73
1:O:258:ALA:HA	1:O:261:LYS:HD2	1.70	0.73
1:M:258:ALA:HA	1:M:261:LYS:HD2	1.70	0.72
1:h:258:ALA:HA	1:h:261:LYS:HD2	1.70	0.72
1:J:258:ALA:HA	1:J:261:LYS:HD2	1.70	0.72
1:E:258:ALA:HA	1:E:261:LYS:HD2	1.70	0.72
1:W:258:ALA:HA	1:W:261:LYS:HD2	1.70	0.72
1:T:258:ALA:HA	1:T:261:LYS:HD2	1.70	0.72
1:Z:258:ALA:HA	1:Z:261:LYS:HD2	1.70	0.72
1:c:258:ALA:HA	1:c:261:LYS:HD2	1.70	0.72
1:D:258:ALA:HA	1:D:261:LYS:HD2	1.70	0.72
1:G:258:ALA:HA	1:G:261:LYS:HD2	1.70	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:258:ALA:HA	1:L:261:LYS:HD2	1.70	0.72
1:A:258:ALA:HA	1:A:261:LYS:HD2	1.70	0.71
1:f:258:ALA:HA	1:f:261:LYS:HD2	1.70	0.71
1:H:258:ALA:HA	1:H:261:LYS:HD2	1.70	0.71
1:C:258:ALA:HA	1:C:261:LYS:HD2	1.70	0.71
1:Q:258:ALA:HA	1:Q:261:LYS:HD2	1.71	0.71
1:K:258:ALA:HA	1:K:261:LYS:HD2	1.70	0.71
1:N:258:ALA:HA	1:N:261:LYS:HD2	1.70	0.71
1:F:258:ALA:HA	1:F:261:LYS:HD2	1.70	0.71
1:I:258:ALA:HA	1:I:261:LYS:HD2	1.70	0.71
1:I:324:GLU:HG3	1:I:369:LYS:HD2	1.77	0.67
1:N:324:GLU:HG3	1:N:369:LYS:HD2	1.77	0.67
1:F:324:GLU:HG3	1:F:369:LYS:HD2	1.77	0.67
1:J:324:GLU:HG3	1:J:369:LYS:HD2	1.77	0.67
1:M:324:GLU:HG3	1:M:369:LYS:HD2	1.77	0.67
1:P:324:GLU:HG3	1:P:369:LYS:HD2	1.77	0.67
1:G:324:GLU:HG3	1:G:369:LYS:HD2	1.77	0.67
1:L:324:GLU:HG3	1:L:369:LYS:HD2	1.77	0.67
1:Q:324:GLU:HG3	1:Q:369:LYS:HD2	1.77	0.67
1:C:324:GLU:HG3	1:C:369:LYS:HD2	1.77	0.67
1:K:324:GLU:HG3	1:K:369:LYS:HD2	1.77	0.67
1:T:324:GLU:HG3	1:T:369:LYS:HD2	1.77	0.67
1:H:324:GLU:HG3	1:H:369:LYS:HD2	1.77	0.67
1:O:324:GLU:HG3	1:O:369:LYS:HD2	1.77	0.67
1:B:324:GLU:HG3	1:B:369:LYS:HD2	1.77	0.66
1:D:324:GLU:HG3	1:D:369:LYS:HD2	1.77	0.66
1:R:324:GLU:HG3	1:R:369:LYS:HD2	1.77	0.66
1:S:324:GLU:HG3	1:S:369:LYS:HD2	1.77	0.66
1:E:324:GLU:HG3	1:E:369:LYS:HD2	1.77	0.66
1:U:324:GLU:HG3	1:U:369:LYS:HD2	1.77	0.66
1:W:324:GLU:HG3	1:W:369:LYS:HD2	1.77	0.66
1:h:324:GLU:HG3	1:h:369:LYS:HD2	1.77	0.66
1:A:324:GLU:HG3	1:A:369:LYS:HD2	1.77	0.66
1:V:324:GLU:HG3	1:V:369:LYS:HD2	1.77	0.66
1:X:324:GLU:HG3	1:X:369:LYS:HD2	1.77	0.66
1:g:324:GLU:HG3	1:g:369:LYS:HD2	1.77	0.66
1:a:324:GLU:HG3	1:a:369:LYS:HD2	1.77	0.66
1:Z:324:GLU:HG3	1:Z:369:LYS:HD2	1.77	0.66
1:d:324:GLU:HG3	1:d:369:LYS:HD2	1.77	0.65
1:e:324:GLU:HG3	1:e:369:LYS:HD2	1.77	0.65
1:Y:324:GLU:HG3	1:Y:369:LYS:HD2	1.77	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:324:GLU:HG3	1:b:369:LYS:HD2	1.77	0.65
1:c:324:GLU:HG3	1:c:369:LYS:HD2	1.77	0.65
1:f:324:GLU:HG3	1:f:369:LYS:HD2	1.77	0.65
1:b:324:GLU:OE2	1:b:326:TYR:OH	2.26	0.54
1:Y:324:GLU:OE2	1:Y:326:TYR:OH	2.26	0.54
1:Z:324:GLU:OE2	1:Z:326:TYR:OH	2.26	0.54
1:a:324:GLU:OE2	1:a:326:TYR:OH	2.26	0.54
1:c:324:GLU:OE2	1:c:326:TYR:OH	2.26	0.54
1:d:324:GLU:OE2	1:d:326:TYR:OH	2.26	0.54
1:X:324:GLU:OE2	1:X:326:TYR:OH	2.26	0.54
1:e:324:GLU:OE2	1:e:326:TYR:OH	2.26	0.54
1:f:324:GLU:OE2	1:f:326:TYR:OH	2.26	0.53
1:P:273:LEU:HD23	1:P:294:VAL:HG11	1.91	0.53
1:W:324:GLU:OE2	1:W:326:TYR:OH	2.26	0.53
1:D:273:LEU:HD23	1:D:294:VAL:HG11	1.91	0.53
1:H:273:LEU:HD23	1:H:294:VAL:HG11	1.91	0.53
1:J:273:LEU:HD23	1:J:294:VAL:HG11	1.91	0.53
1:L:273:LEU:HD23	1:L:294:VAL:HG11	1.91	0.53
1:N:273:LEU:HD23	1:N:294:VAL:HG11	1.91	0.53
1:R:273:LEU:HD23	1:R:294:VAL:HG11	1.91	0.53
1:V:324:GLU:OE2	1:V:326:TYR:OH	2.26	0.53
1:g:324:GLU:OE2	1:g:326:TYR:OH	2.26	0.53
1:B:273:LEU:HD23	1:B:294:VAL:HG11	1.91	0.53
1:F:273:LEU:HD23	1:F:294:VAL:HG11	1.91	0.53
1:O:273:LEU:HD23	1:O:294:VAL:HG11	1.91	0.53
1:P:324:GLU:OE2	1:P:326:TYR:OH	2.26	0.53
1:h:324:GLU:OE2	1:h:326:TYR:OH	2.26	0.53
1:C:273:LEU:HD23	1:C:294:VAL:HG11	1.91	0.53
1:E:273:LEU:HD23	1:E:294:VAL:HG11	1.91	0.53
1:G:273:LEU:HD23	1:G:294:VAL:HG11	1.91	0.53
1:K:273:LEU:HD23	1:K:294:VAL:HG11	1.91	0.53
1:T:273:LEU:HD23	1:T:294:VAL:HG11	1.91	0.53
1:U:324:GLU:OE2	1:U:326:TYR:OH	2.26	0.53
1:A:273:LEU:HD23	1:A:294:VAL:HG11	1.91	0.53
1:M:273:LEU:HD23	1:M:294:VAL:HG11	1.91	0.53
1:A:324:GLU:OE2	1:A:326:TYR:OH	2.26	0.53
1:I:273:LEU:HD23	1:I:294:VAL:HG11	1.91	0.53
1:Q:273:LEU:HD23	1:Q:294:VAL:HG11	1.91	0.53
1:T:324:GLU:OE2	1:T:326:TYR:OH	2.26	0.53
1:g:273:LEU:HD23	1:g:294:VAL:HG11	1.91	0.53
1:h:273:LEU:HD23	1:h:294:VAL:HG11	1.91	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:324:GLU:OE2	1:Q:326:TYR:OH	2.26	0.53
1:V:273:LEU:HD23	1:V:294:VAL:HG11	1.91	0.53
1:e:273:LEU:HD23	1:e:294:VAL:HG11	1.91	0.53
1:J:324:GLU:OE2	1:J:326:TYR:OH	2.26	0.52
1:S:273:LEU:HD23	1:S:294:VAL:HG11	1.91	0.52
1:S:324:GLU:OE2	1:S:326:TYR:OH	2.26	0.52
1:f:273:LEU:HD23	1:f:294:VAL:HG11	1.91	0.52
1:B:324:GLU:OE2	1:B:326:TYR:OH	2.26	0.52
1:C:324:GLU:OE2	1:C:326:TYR:OH	2.26	0.52
1:R:324:GLU:OE2	1:R:326:TYR:OH	2.26	0.52
1:W:273:LEU:HD23	1:W:294:VAL:HG11	1.91	0.52
1:c:273:LEU:HD23	1:c:294:VAL:HG11	1.91	0.52
1:K:324:GLU:OE2	1:K:326:TYR:OH	2.26	0.52
1:U:273:LEU:HD23	1:U:294:VAL:HG11	1.91	0.52
1:a:273:LEU:HD23	1:a:294:VAL:HG11	1.91	0.52
1:X:273:LEU:HD23	1:X:294:VAL:HG11	1.91	0.52
1:Y:273:LEU:HD23	1:Y:294:VAL:HG11	1.91	0.52
1:d:273:LEU:HD23	1:d:294:VAL:HG11	1.91	0.52
1:D:324:GLU:OE2	1:D:326:TYR:OH	2.26	0.52
1:Z:273:LEU:HD23	1:Z:294:VAL:HG11	1.91	0.52
1:E:324:GLU:OE2	1:E:326:TYR:OH	2.26	0.52
1:F:324:GLU:OE2	1:F:326:TYR:OH	2.26	0.52
1:O:324:GLU:OE2	1:O:326:TYR:OH	2.26	0.52
1:N:324:GLU:OE2	1:N:326:TYR:OH	2.26	0.52
1:b:273:LEU:HD23	1:b:294:VAL:HG11	1.91	0.52
1:L:324:GLU:OE2	1:L:326:TYR:OH	2.26	0.51
1:G:324:GLU:OE2	1:G:326:TYR:OH	2.26	0.51
1:H:324:GLU:OE2	1:H:326:TYR:OH	2.26	0.51
1:I:324:GLU:OE2	1:I:326:TYR:OH	2.26	0.51
1:M:324:GLU:OE2	1:M:326:TYR:OH	2.26	0.51
1:L:430:LEU:HA	1:L:433:THR:HB	1.94	0.50
1:P:430:LEU:HA	1:P:433:THR:HB	1.94	0.50
1:S:430:LEU:HA	1:S:433:THR:HB	1.94	0.50
1:H:430:LEU:HA	1:H:433:THR:HB	1.94	0.50
1:J:430:LEU:HA	1:J:433:THR:HB	1.94	0.50
1:N:430:LEU:HA	1:N:433:THR:HB	1.94	0.50
1:Q:430:LEU:HA	1:Q:433:THR:HB	1.94	0.50
1:U:430:LEU:HA	1:U:433:THR:HB	1.94	0.50
1:M:430:LEU:HA	1:M:433:THR:HB	1.94	0.50
1:O:430:LEU:HA	1:O:433:THR:HB	1.94	0.50
1:R:430:LEU:HA	1:R:433:THR:HB	1.94	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:430:LEU:HA	1:I:433:THR:HB	1.94	0.50
1:W:430:LEU:HA	1:W:433:THR:HB	1.94	0.50
1:G:430:LEU:HA	1:G:433:THR:HB	1.94	0.49
1:K:430:LEU:HA	1:K:433:THR:HB	1.94	0.49
1:T:430:LEU:HA	1:T:433:THR:HB	1.94	0.49
1:V:430:LEU:HA	1:V:433:THR:HB	1.94	0.49
1:F:430:LEU:HA	1:F:433:THR:HB	1.94	0.49
1:X:430:LEU:HA	1:X:433:THR:HB	1.94	0.49
1:Y:430:LEU:HA	1:Y:433:THR:HB	1.94	0.49
1:E:430:LEU:HA	1:E:433:THR:HB	1.94	0.49
1:Z:430:LEU:HA	1:Z:433:THR:HB	1.94	0.49
1:C:430:LEU:HA	1:C:433:THR:HB	1.94	0.49
1:a:430:LEU:HA	1:a:433:THR:HB	1.94	0.49
1:D:430:LEU:HA	1:D:433:THR:HB	1.94	0.49
1:J:299:ASP:O	1:J:389:GLY:HA2	2.13	0.49
1:M:299:ASP:O	1:M:389:GLY:HA2	2.13	0.49
1:b:430:LEU:HA	1:b:433:THR:HB	1.94	0.49
1:c:430:LEU:HA	1:c:433:THR:HB	1.94	0.49
1:A:430:LEU:HA	1:A:433:THR:HB	1.94	0.49
1:B:430:LEU:HA	1:B:433:THR:HB	1.94	0.49
1:G:299:ASP:O	1:G:389:GLY:HA2	2.13	0.49
1:P:299:ASP:O	1:P:389:GLY:HA2	2.13	0.49
1:g:430:LEU:HA	1:g:433:THR:HB	1.94	0.49
1:D:299:ASP:O	1:D:389:GLY:HA2	2.13	0.49
1:R:299:ASP:O	1:R:389:GLY:HA2	2.13	0.49
1:b:299:ASP:O	1:b:389:GLY:HA2	2.13	0.49
1:e:430:LEU:HA	1:e:433:THR:HB	1.94	0.49
1:f:430:LEU:HA	1:f:433:THR:HB	1.94	0.49
1:A:299:ASP:O	1:A:389:GLY:HA2	2.13	0.48
1:O:299:ASP:O	1:O:389:GLY:HA2	2.13	0.48
1:S:299:ASP:O	1:S:389:GLY:HA2	2.13	0.48
1:V:299:ASP:O	1:V:389:GLY:HA2	2.13	0.48
1:Z:299:ASP:O	1:Z:389:GLY:HA2	2.13	0.48
1:d:430:LEU:HA	1:d:433:THR:HB	1.94	0.48
1:h:430:LEU:HA	1:h:433:THR:HB	1.94	0.48
1:L:299:ASP:O	1:L:389:GLY:HA2	2.13	0.48
1:X:299:ASP:O	1:X:389:GLY:HA2	2.13	0.48
1:d:299:ASP:O	1:d:389:GLY:HA2	2.13	0.48
1:E:299:ASP:O	1:E:389:GLY:HA2	2.13	0.48
1:f:299:ASP:O	1:f:389:GLY:HA2	2.13	0.48
1:g:299:ASP:O	1:g:389:GLY:HA2	2.13	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:299:ASP:O	1:H:389:GLY:HA2	2.13	0.48
1:I:299:ASP:O	1:I:389:GLY:HA2	2.13	0.48
1:T:299:ASP:O	1:T:389:GLY:HA2	2.13	0.48
1:U:299:ASP:O	1:U:389:GLY:HA2	2.13	0.48
1:e:299:ASP:O	1:e:389:GLY:HA2	2.13	0.48
1:B:299:ASP:O	1:B:389:GLY:HA2	2.13	0.48
1:K:299:ASP:O	1:K:389:GLY:HA2	2.13	0.48
1:F:299:ASP:O	1:F:389:GLY:HA2	2.13	0.48
1:Y:299:ASP:O	1:Y:389:GLY:HA2	2.13	0.48
1:c:299:ASP:O	1:c:389:GLY:HA2	2.13	0.48
1:h:299:ASP:O	1:h:389:GLY:HA2	2.13	0.48
1:a:299:ASP:O	1:a:389:GLY:HA2	2.13	0.48
1:C:299:ASP:O	1:C:389:GLY:HA2	2.13	0.47
1:N:299:ASP:O	1:N:389:GLY:HA2	2.13	0.47
1:B:260:ARG:O	1:B:264:GLU:HG2	2.15	0.47
1:J:260:ARG:O	1:J:264:GLU:HG2	2.15	0.47
1:Q:299:ASP:O	1:Q:389:GLY:HA2	2.13	0.47
1:g:260:ARG:O	1:g:264:GLU:HG2	2.15	0.47
1:E:260:ARG:O	1:E:264:GLU:HG2	2.15	0.47
1:W:299:ASP:O	1:W:389:GLY:HA2	2.13	0.47
1:G:260:ARG:O	1:G:264:GLU:HG2	2.15	0.47
1:H:260:ARG:O	1:H:264:GLU:HG2	2.15	0.47
1:d:260:ARG:O	1:d:264:GLU:HG2	2.15	0.47
1:D:260:ARG:O	1:D:264:GLU:HG2	2.15	0.47
1:K:260:ARG:O	1:K:264:GLU:HG2	2.15	0.47
1:M:260:ARG:O	1:M:264:GLU:HG2	2.15	0.47
1:U:260:ARG:O	1:U:264:GLU:HG2	2.15	0.47
1:W:260:ARG:O	1:W:264:GLU:HG2	2.15	0.47
1:Y:260:ARG:O	1:Y:264:GLU:HG2	2.15	0.47
1:a:260:ARG:O	1:a:264:GLU:HG2	2.15	0.47
1:A:260:ARG:O	1:A:264:GLU:HG2	2.15	0.47
1:N:260:ARG:O	1:N:264:GLU:HG2	2.15	0.47
1:R:260:ARG:O	1:R:264:GLU:HG2	2.15	0.47
1:S:260:ARG:O	1:S:264:GLU:HG2	2.15	0.47
1:c:260:ARG:O	1:c:264:GLU:HG2	2.15	0.47
1:T:260:ARG:O	1:T:264:GLU:HG2	2.15	0.47
1:f:260:ARG:O	1:f:264:GLU:HG2	2.15	0.47
1:P:260:ARG:O	1:P:264:GLU:HG2	2.15	0.46
1:Q:260:ARG:O	1:Q:264:GLU:HG2	2.15	0.46
1:V:260:ARG:O	1:V:264:GLU:HG2	2.15	0.46
1:h:260:ARG:O	1:h:264:GLU:HG2	2.15	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:e:260:ARG:O	1:e:264:GLU:HG2	2.15	0.46
1:O:260:ARG:O	1:O:264:GLU:HG2	2.15	0.46
1:Z:260:ARG:O	1:Z:264:GLU:HG2	2.15	0.46
1:X:260:ARG:O	1:X:264:GLU:HG2	2.15	0.46
1:C:260:ARG:O	1:C:264:GLU:HG2	2.15	0.46
1:L:260:ARG:O	1:L:264:GLU:HG2	2.15	0.46
1:I:260:ARG:O	1:I:264:GLU:HG2	2.15	0.46
1:b:260:ARG:O	1:b:264:GLU:HG2	2.15	0.46
1:F:260:ARG:O	1:F:264:GLU:HG2	2.15	0.46
1:a:369:LYS:HE3	1:a:369:LYS:HB3	1.85	0.45
1:P:369:LYS:HE3	1:P:369:LYS:HB3	1.85	0.45
1:T:369:LYS:HB3	1:T:369:LYS:HE3	1.85	0.45
1:G:387:GLN:HE21	1:G:387:GLN:HB2	1.63	0.45
1:L:369:LYS:HE3	1:L:369:LYS:HB3	1.85	0.45
1:d:258:ALA:O	1:d:261:LYS:HG2	2.18	0.44
1:e:258:ALA:O	1:e:261:LYS:HG2	2.18	0.44
1:T:258:ALA:O	1:T:261:LYS:HG2	2.18	0.44
1:b:369:LYS:HE3	1:b:369:LYS:HB3	1.85	0.44
1:S:258:ALA:O	1:S:261:LYS:HG2	2.18	0.44
1:Y:258:ALA:O	1:Y:261:LYS:HG2	2.18	0.44
1:Z:258:ALA:O	1:Z:261:LYS:HG2	2.18	0.44
1:d:387:GLN:HE21	1:d:387:GLN:HB2	1.63	0.44
1:J:258:ALA:O	1:J:261:LYS:HG2	2.18	0.44
1:U:369:LYS:HB3	1:U:369:LYS:HE3	1.85	0.44
1:X:258:ALA:O	1:X:261:LYS:HG2	2.18	0.44
1:C:258:ALA:O	1:C:261:LYS:HG2	2.18	0.44
1:F:258:ALA:O	1:F:261:LYS:HG2	2.18	0.44
1:M:258:ALA:O	1:M:261:LYS:HG2	2.18	0.44
1:U:258:ALA:O	1:U:261:LYS:HG2	2.18	0.44
1:G:258:ALA:O	1:G:261:LYS:HG2	2.18	0.44
1:I:258:ALA:O	1:I:261:LYS:HG2	2.18	0.44
1:a:387:GLN:HE21	1:a:387:GLN:HB2	1.63	0.44
1:L:387:GLN:HE21	1:L:387:GLN:HB2	1.63	0.44
1:c:258:ALA:O	1:c:261:LYS:HG2	2.18	0.44
1:A:258:ALA:O	1:A:261:LYS:HG2	2.18	0.44
1:O:258:ALA:O	1:O:261:LYS:HG2	2.18	0.44
1:g:387:GLN:HE21	1:g:387:GLN:HB2	1.63	0.44
1:N:258:ALA:O	1:N:261:LYS:HG2	2.18	0.43
1:a:258:ALA:O	1:a:261:LYS:HG2	2.18	0.43
1:f:258:ALA:O	1:f:261:LYS:HG2	2.18	0.43
1:B:258:ALA:O	1:B:261:LYS:HG2	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:258:ALA:O	1:P:261:LYS:HG2	2.18	0.43
1:E:258:ALA:O	1:E:261:LYS:HG2	2.18	0.43
1:K:258:ALA:O	1:K:261:LYS:HG2	2.18	0.43
1:Q:258:ALA:O	1:Q:261:LYS:HG2	2.18	0.43
1:R:258:ALA:O	1:R:261:LYS:HG2	2.18	0.43
1:B:369:LYS:HE3	1:B:369:LYS:HB3	1.85	0.43
1:W:258:ALA:O	1:W:261:LYS:HG2	2.18	0.43
1:g:258:ALA:O	1:g:261:LYS:HG2	2.18	0.43
1:h:258:ALA:O	1:h:261:LYS:HG2	2.18	0.43
1:X:387:GLN:HE21	1:X:387:GLN:HB2	1.63	0.43
1:D:258:ALA:O	1:D:261:LYS:HG2	2.18	0.43
1:L:258:ALA:O	1:L:261:LYS:HG2	2.18	0.43
1:c:369:LYS:HE3	1:c:369:LYS:HB3	1.85	0.43
1:K:387:GLN:HE21	1:K:387:GLN:HB2	1.63	0.43
1:Q:369:LYS:HE3	1:Q:369:LYS:HB3	1.85	0.43
1:V:258:ALA:O	1:V:261:LYS:HG2	2.18	0.43
1:H:258:ALA:O	1:H:261:LYS:HG2	2.18	0.43
1:V:369:LYS:HE3	1:V:369:LYS:HB3	1.85	0.43
1:b:258:ALA:O	1:b:261:LYS:HG2	2.18	0.43
1:F:387:GLN:HE21	1:F:387:GLN:HB2	1.63	0.43
1:H:369:LYS:HE3	1:H:369:LYS:HB3	1.85	0.42
1:B:387:GLN:HE21	1:B:387:GLN:HB2	1.63	0.42
1:Q:402:ASP:OD1	1:Q:448:SER:OG	2.33	0.42
1:U:387:GLN:HE21	1:U:387:GLN:HB2	1.63	0.42
1:M:369:LYS:HE3	1:M:369:LYS:HB3	1.85	0.42
1:M:450:LYS:HE2	1:M:450:LYS:HB2	1.85	0.42
1:Q:302:ALA:HB3	1:R:385:ARG:HB3	2.02	0.42
1:Q:387:GLN:HE21	1:Q:387:GLN:HB2	1.63	0.42
1:T:450:LYS:HE2	1:T:450:LYS:HB2	1.85	0.42
1:W:302:ALA:HB3	1:X:385:ARG:HB3	2.02	0.42
1:c:302:ALA:HB3	1:d:385:ARG:HB3	2.02	0.42
1:P:302:ALA:HB3	1:Q:385:ARG:HB3	2.02	0.42
1:P:387:GLN:HE21	1:P:387:GLN:HB2	1.63	0.42
1:R:302:ALA:HB3	1:S:385:ARG:HB3	2.02	0.42
1:V:302:ALA:HB3	1:W:385:ARG:HB3	2.02	0.42
1:b:302:ALA:HB3	1:c:385:ARG:HB3	2.02	0.42
1:d:302:ALA:HB3	1:e:385:ARG:HB3	2.02	0.42
1:A:385:ARG:HB3	1:h:302:ALA:HB3	2.02	0.42
1:A:302:ALA:HB3	1:B:385:ARG:HB3	2.02	0.42
1:X:302:ALA:HB3	1:Y:385:ARG:HB3	2.02	0.42
1:F:450:LYS:HB2	1:F:450:LYS:HE2	1.85	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:302:ALA:HB3	1:L:385:ARG:HB3	2.02	0.41
1:L:302:ALA:HB3	1:M:385:ARG:HB3	2.02	0.41
1:L:426:ILE:O	1:L:430:LEU:HG	2.20	0.41
1:d:369:LYS:HE3	1:d:369:LYS:HB3	1.85	0.41
1:d:426:ILE:O	1:d:430:LEU:HG	2.21	0.41
1:h:426:ILE:O	1:h:430:LEU:HG	2.20	0.41
1:B:302:ALA:HB3	1:C:385:ARG:HB3	2.02	0.41
1:J:387:GLN:HE21	1:J:387:GLN:HB2	1.63	0.41
1:O:426:ILE:O	1:O:430:LEU:HG	2.20	0.41
1:Y:426:ILE:O	1:Y:430:LEU:HG	2.20	0.41
1:g:426:ILE:O	1:g:430:LEU:HG	2.20	0.41
1:F:302:ALA:HB3	1:G:385:ARG:HB3	2.02	0.41
1:H:426:ILE:O	1:H:430:LEU:HG	2.20	0.41
1:S:426:ILE:O	1:S:430:LEU:HG	2.21	0.41
1:T:387:GLN:HE21	1:T:387:GLN:HB2	1.63	0.41
1:W:426:ILE:O	1:W:430:LEU:HG	2.21	0.41
1:X:426:ILE:O	1:X:430:LEU:HG	2.21	0.41
1:Z:426:ILE:O	1:Z:430:LEU:HG	2.21	0.41
1:a:302:ALA:HB3	1:b:385:ARG:HB3	2.02	0.41
1:c:426:ILE:O	1:c:430:LEU:HG	2.20	0.41
1:f:402:ASP:OD1	1:f:448:SER:OG	2.33	0.41
1:g:302:ALA:HB3	1:h:385:ARG:HB3	2.02	0.41
1:A:402:ASP:OD1	1:A:448:SER:OG	2.33	0.41
1:C:426:ILE:O	1:C:430:LEU:HG	2.20	0.41
1:D:426:ILE:O	1:D:430:LEU:HG	2.20	0.41
1:E:302:ALA:HB3	1:F:385:ARG:HB3	2.02	0.41
1:G:426:ILE:O	1:G:430:LEU:HG	2.20	0.41
1:K:426:ILE:O	1:K:430:LEU:HG	2.21	0.41
1:P:426:ILE:O	1:P:430:LEU:HG	2.21	0.41
1:S:302:ALA:HB3	1:T:385:ARG:HB3	2.02	0.41
1:U:302:ALA:HB3	1:V:385:ARG:HB3	2.02	0.41
1:W:369:LYS:HB3	1:W:369:LYS:HE3	1.85	0.41
1:W:387:GLN:HE21	1:W:387:GLN:HB2	1.63	0.41
1:a:450:LYS:HE2	1:a:450:LYS:HB2	1.85	0.41
1:G:302:ALA:HB3	1:H:385:ARG:HB3	2.02	0.41
1:M:302:ALA:HB3	1:N:385:ARG:HB3	2.02	0.41
1:O:302:ALA:HB3	1:P:385:ARG:HB3	2.02	0.41
1:Q:426:ILE:O	1:Q:430:LEU:HG	2.20	0.41
1:V:426:ILE:O	1:V:430:LEU:HG	2.20	0.41
1:Y:302:ALA:HB3	1:Z:385:ARG:HB3	2.02	0.41
1:a:426:ILE:O	1:a:430:LEU:HG	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:e:302:ALA:HB3	1:f:385:ARG:HB3	2.02	0.41
1:h:450:LYS:HE2	1:h:450:LYS:HB2	1.85	0.41
1:I:450:LYS:HB2	1:I:450:LYS:HE2	1.85	0.41
1:N:426:ILE:O	1:N:430:LEU:HG	2.20	0.41
1:O:387:GLN:HE21	1:O:387:GLN:HB2	1.63	0.41
1:X:369:LYS:HB3	1:X:369:LYS:HE3	1.85	0.41
1:Z:387:GLN:HE21	1:Z:387:GLN:HB2	1.63	0.41
1:g:402:ASP:OD1	1:g:448:SER:OG	2.33	0.41
1:I:426:ILE:O	1:I:430:LEU:HG	2.20	0.41
1:J:302:ALA:HB3	1:K:385:ARG:HB3	2.02	0.41
1:S:369:LYS:HB3	1:S:369:LYS:HE3	1.85	0.41
1:V:450:LYS:HE2	1:V:450:LYS:HB2	1.85	0.41
1:M:426:ILE:O	1:M:430:LEU:HG	2.20	0.41
1:R:426:ILE:O	1:R:430:LEU:HG	2.21	0.41
1:T:426:ILE:O	1:T:430:LEU:HG	2.20	0.41
1:a:402:ASP:OD1	1:a:448:SER:OG	2.33	0.41
1:A:426:ILE:O	1:A:430:LEU:HG	2.20	0.41
1:C:369:LYS:HE3	1:C:369:LYS:HB3	1.85	0.41
1:D:302:ALA:HB3	1:E:385:ARG:HB3	2.02	0.41
1:E:426:ILE:O	1:E:430:LEU:HG	2.21	0.41
1:H:302:ALA:HB3	1:I:385:ARG:HB3	2.02	0.41
1:R:369:LYS:HB3	1:R:369:LYS:HE3	1.85	0.41
1:U:426:ILE:O	1:U:430:LEU:HG	2.20	0.41
1:b:402:ASP:OD1	1:b:448:SER:OG	2.33	0.41
1:c:387:GLN:HE21	1:c:387:GLN:HB2	1.63	0.41
1:e:426:ILE:O	1:e:430:LEU:HG	2.21	0.41
1:D:450:LYS:HB2	1:D:450:LYS:HE2	1.85	0.41
1:J:294:VAL:HG22	1:J:396:VAL:HG22	2.03	0.41
1:T:302:ALA:HB3	1:U:385:ARG:HB3	2.02	0.41
1:Y:369:LYS:HB3	1:Y:369:LYS:HE3	1.85	0.41
1:d:294:VAL:HG22	1:d:396:VAL:HG22	2.03	0.41
1:f:302:ALA:HB3	1:g:385:ARG:HB3	2.02	0.41
1:G:450:LYS:HE2	1:G:450:LYS:HB2	1.85	0.40
1:J:426:ILE:O	1:J:430:LEU:HG	2.20	0.40
1:f:426:ILE:O	1:f:430:LEU:HG	2.20	0.40
1:h:402:ASP:OD1	1:h:448:SER:OG	2.33	0.40
1:K:294:VAL:HG22	1:K:396:VAL:HG22	2.03	0.40
1:N:302:ALA:HB3	1:O:385:ARG:HB3	2.02	0.40
1:O:294:VAL:HG22	1:O:396:VAL:HG22	2.03	0.40
1:d:327:ASN:HB2	1:d:366:SER:HB3	2.04	0.40
1:B:426:ILE:O	1:B:430:LEU:HG	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:302:ALA:HB3	1:D:385:ARG:HB3	2.02	0.40
1:Y:327:ASN:HB2	1:Y:366:SER:HB3	2.04	0.40
1:Z:294:VAL:HG22	1:Z:396:VAL:HG22	2.03	0.40
1:Z:302:ALA:HB3	1:a:385:ARG:HB3	2.02	0.40
1:b:426:ILE:O	1:b:430:LEU:HG	2.20	0.40
1:e:327:ASN:HB2	1:e:366:SER:HB3	2.04	0.40
1:F:426:ILE:O	1:F:430:LEU:HG	2.20	0.40
1:Z:327:ASN:HB2	1:Z:366:SER:HB3	2.04	0.40
1:a:294:VAL:HG22	1:a:396:VAL:HG22	2.03	0.40
1:c:294:VAL:HG22	1:c:396:VAL:HG22	2.03	0.40
1:f:294:VAL:HG22	1:f:396:VAL:HG22	2.03	0.40
1:g:294:VAL:HG22	1:g:396:VAL:HG22	2.03	0.40
1:B:327:ASN:HB2	1:B:366:SER:HB3	2.04	0.40
1:B:450:LYS:HB2	1:B:450:LYS:HE2	1.85	0.40
1:I:302:ALA:HB3	1:J:385:ARG:HB3	2.02	0.40
1:K:450:LYS:HB2	1:K:450:LYS:HE2	1.85	0.40
1:N:294:VAL:HG22	1:N:396:VAL:HG22	2.03	0.40
1:S:387:GLN:HE21	1:S:387:GLN:HB2	1.63	0.40
1:T:327:ASN:HB2	1:T:366:SER:HB3	2.04	0.40
1:X:327:ASN:HB2	1:X:366:SER:HB3	2.04	0.40
1:c:402:ASP:OD1	1:c:448:SER:OG	2.33	0.40
1:f:387:GLN:HE21	1:f:387:GLN:HB2	1.63	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	B	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	C	142/580 (24%)	138 (97%)	4 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	D	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	E	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	F	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	G	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	H	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	I	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	J	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	K	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	L	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	M	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	N	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	O	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	P	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	Q	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	R	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	S	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	T	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	U	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	V	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	W	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	X	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	Y	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	Z	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	a	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	b	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	c	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	d	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	e	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	f	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	g	142/580 (24%)	138 (97%)	4 (3%)	0	100	100
1	h	142/580 (24%)	138 (97%)	4 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	4828/19720 (24%)	4692 (97%)	136 (3%)	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	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	B	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	C	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	D	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	E	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	F	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	G	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	H	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	I	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	J	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	K	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	L	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	M	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	N	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	O	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	P	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	Q	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	R	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	S	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	T	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	U	128/500 (26%)	123 (96%)	5 (4%)	27	52

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	V	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	W	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	X	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	Y	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	Z	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	a	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	b	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	c	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	d	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	e	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	f	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	g	128/500 (26%)	123 (96%)	5 (4%)	27	52
1	h	128/500 (26%)	123 (96%)	5 (4%)	27	52
All	All	4352/17000 (26%)	4182 (96%)	170 (4%)	30	52

All (170) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	280	VAL
1	A	380	THR
1	A	387	GLN
1	A	395	THR
1	A	422	GLU
1	B	280	VAL
1	B	380	THR
1	B	387	GLN
1	B	395	THR
1	B	422	GLU
1	C	280	VAL
1	C	380	THR
1	C	387	GLN
1	C	395	THR
1	C	422	GLU
1	D	280	VAL
1	D	380	THR
1	D	387	GLN
1	D	395	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	422	GLU
1	E	280	VAL
1	E	380	THR
1	E	387	GLN
1	E	395	THR
1	E	422	GLU
1	F	280	VAL
1	F	380	THR
1	F	387	GLN
1	F	395	THR
1	F	422	GLU
1	G	280	VAL
1	G	380	THR
1	G	387	GLN
1	G	395	THR
1	G	422	GLU
1	H	280	VAL
1	H	380	THR
1	H	387	GLN
1	H	395	THR
1	H	422	GLU
1	I	280	VAL
1	I	380	THR
1	I	387	GLN
1	I	395	THR
1	I	422	GLU
1	J	280	VAL
1	J	380	THR
1	J	387	GLN
1	J	395	THR
1	J	422	GLU
1	K	280	VAL
1	K	380	THR
1	K	387	GLN
1	K	395	THR
1	K	422	GLU
1	L	280	VAL
1	L	380	THR
1	L	387	GLN
1	L	395	THR
1	L	422	GLU
1	M	280	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	M	380	THR
1	M	387	GLN
1	M	395	THR
1	M	422	GLU
1	N	280	VAL
1	N	380	THR
1	N	387	GLN
1	N	395	THR
1	N	422	GLU
1	O	280	VAL
1	O	380	THR
1	O	387	GLN
1	O	395	THR
1	O	422	GLU
1	P	280	VAL
1	P	380	THR
1	P	387	GLN
1	P	395	THR
1	P	422	GLU
1	Q	280	VAL
1	Q	380	THR
1	Q	387	GLN
1	Q	395	THR
1	Q	422	GLU
1	R	280	VAL
1	R	380	THR
1	R	387	GLN
1	R	395	THR
1	R	422	GLU
1	S	280	VAL
1	S	380	THR
1	S	387	GLN
1	S	395	THR
1	S	422	GLU
1	T	280	VAL
1	T	380	THR
1	T	387	GLN
1	T	395	THR
1	T	422	GLU
1	U	280	VAL
1	U	380	THR
1	U	387	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	U	395	THR
1	U	422	GLU
1	V	280	VAL
1	V	380	THR
1	V	387	GLN
1	V	395	THR
1	V	422	GLU
1	W	280	VAL
1	W	380	THR
1	W	387	GLN
1	W	395	THR
1	W	422	GLU
1	X	280	VAL
1	X	380	THR
1	X	387	GLN
1	X	395	THR
1	X	422	GLU
1	Y	280	VAL
1	Y	380	THR
1	Y	387	GLN
1	Y	395	THR
1	Y	422	GLU
1	Z	280	VAL
1	Z	380	THR
1	Z	387	GLN
1	Z	395	THR
1	Z	422	GLU
1	a	280	VAL
1	a	380	THR
1	a	387	GLN
1	a	395	THR
1	a	422	GLU
1	b	280	VAL
1	b	380	THR
1	b	387	GLN
1	b	395	THR
1	b	422	GLU
1	c	280	VAL
1	c	380	THR
1	c	387	GLN
1	c	395	THR
1	c	422	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	d	280	VAL
1	d	380	THR
1	d	387	GLN
1	d	395	THR
1	d	422	GLU
1	e	280	VAL
1	e	380	THR
1	e	387	GLN
1	e	395	THR
1	e	422	GLU
1	f	280	VAL
1	f	380	THR
1	f	387	GLN
1	f	395	THR
1	f	422	GLU
1	g	280	VAL
1	g	380	THR
1	g	387	GLN
1	g	395	THR
1	g	422	GLU
1	h	280	VAL
1	h	380	THR
1	h	387	GLN
1	h	395	THR
1	h	422	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (102) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	305	GLN
1	A	387	GLN
1	A	445	ASN
1	B	305	GLN
1	B	387	GLN
1	B	445	ASN
1	C	305	GLN
1	C	387	GLN
1	C	445	ASN
1	D	305	GLN
1	D	387	GLN
1	D	445	ASN
1	E	305	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	E	387	GLN
1	E	445	ASN
1	F	305	GLN
1	F	387	GLN
1	F	445	ASN
1	G	305	GLN
1	G	387	GLN
1	G	445	ASN
1	H	305	GLN
1	H	387	GLN
1	H	445	ASN
1	I	305	GLN
1	I	387	GLN
1	I	445	ASN
1	J	305	GLN
1	J	387	GLN
1	J	445	ASN
1	K	305	GLN
1	K	387	GLN
1	K	445	ASN
1	L	305	GLN
1	L	387	GLN
1	L	445	ASN
1	M	305	GLN
1	M	387	GLN
1	M	445	ASN
1	N	305	GLN
1	N	387	GLN
1	N	445	ASN
1	O	305	GLN
1	O	387	GLN
1	O	445	ASN
1	P	305	GLN
1	P	387	GLN
1	P	445	ASN
1	Q	305	GLN
1	Q	387	GLN
1	Q	445	ASN
1	R	305	GLN
1	R	387	GLN
1	R	445	ASN
1	S	305	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	S	387	GLN
1	S	445	ASN
1	T	305	GLN
1	T	387	GLN
1	T	445	ASN
1	U	305	GLN
1	U	387	GLN
1	U	445	ASN
1	V	305	GLN
1	V	387	GLN
1	V	445	ASN
1	W	305	GLN
1	W	387	GLN
1	W	445	ASN
1	X	305	GLN
1	X	387	GLN
1	X	445	ASN
1	Y	305	GLN
1	Y	387	GLN
1	Y	445	ASN
1	Z	305	GLN
1	Z	387	GLN
1	Z	445	ASN
1	a	305	GLN
1	a	387	GLN
1	a	445	ASN
1	b	305	GLN
1	b	387	GLN
1	b	445	ASN
1	c	305	GLN
1	c	387	GLN
1	c	445	ASN
1	d	305	GLN
1	d	387	GLN
1	d	445	ASN
1	e	305	GLN
1	e	387	GLN
1	e	445	ASN
1	f	305	GLN
1	f	387	GLN
1	f	445	ASN
1	g	305	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	g	387	GLN
1	g	445	ASN
1	h	305	GLN
1	h	387	GLN
1	h	445	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

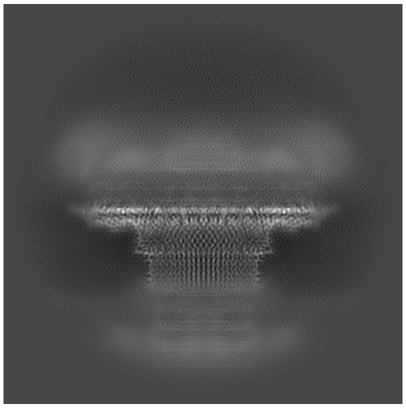
6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-39783. These allow visual inspection of the internal detail of the map and identification of artifacts.

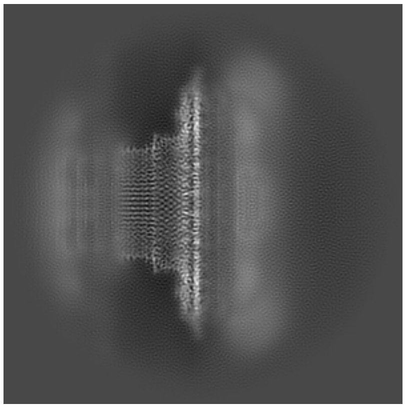
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections ⓘ

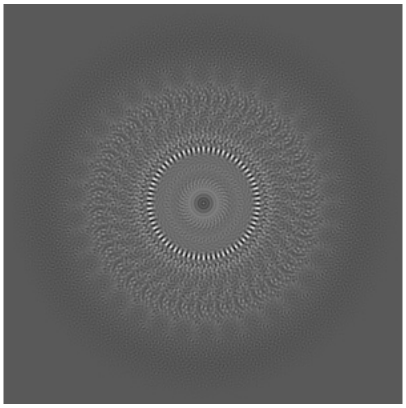
6.1.1 Primary map



X

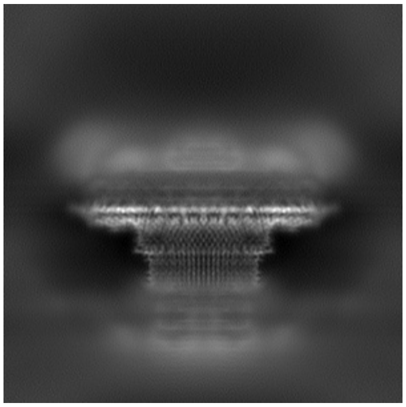


Y

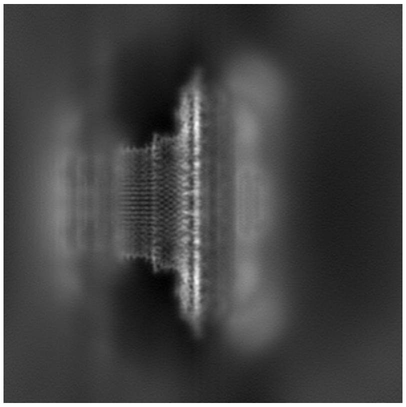


Z

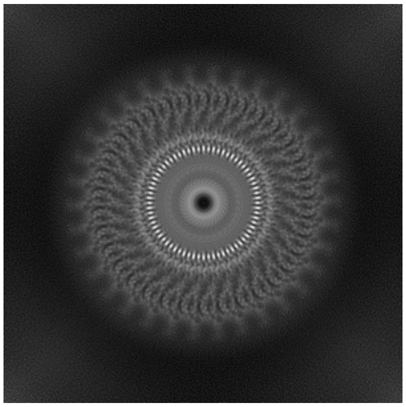
6.1.2 Raw map



X



Y

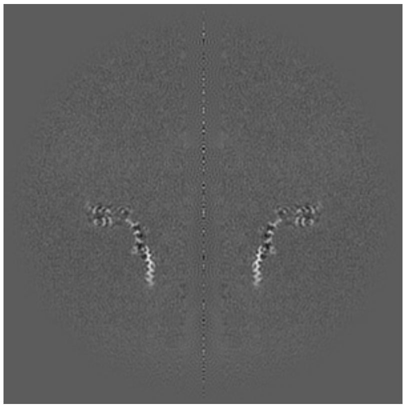


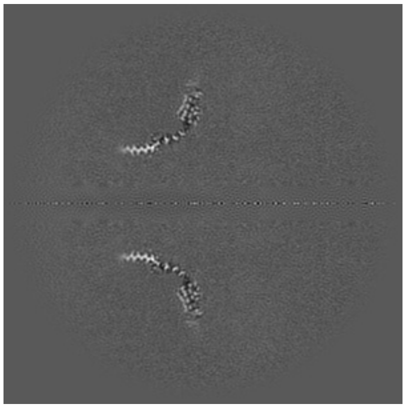
Z

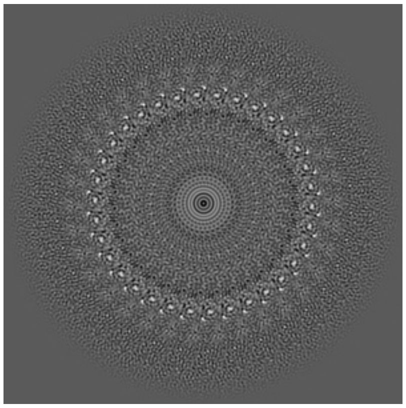
The images above show the map projected in three orthogonal directions.

6.2 Central slices

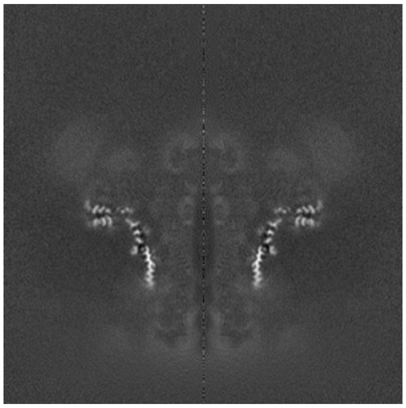
6.2.1 Primary map

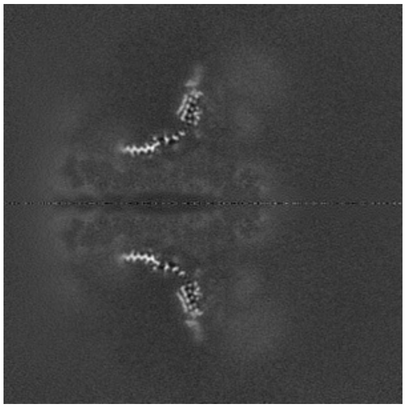

X Index: 160

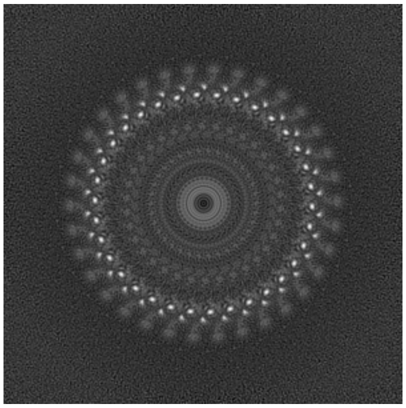

Y Index: 160


Z Index: 160

6.2.2 Raw map


X Index: 160

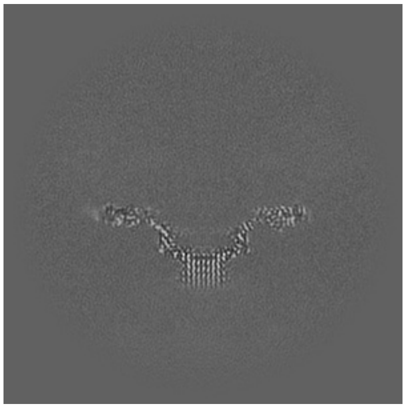

Y Index: 160


Z Index: 160

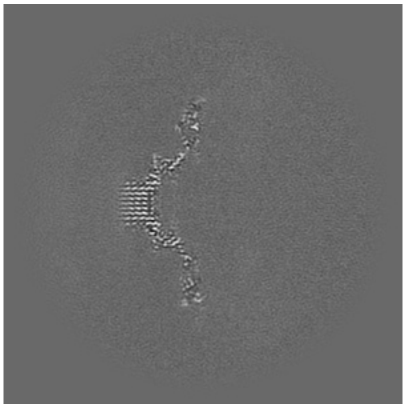
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ

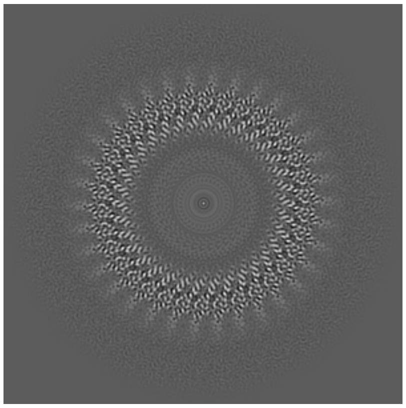
6.3.1 Primary map



X Index: 118

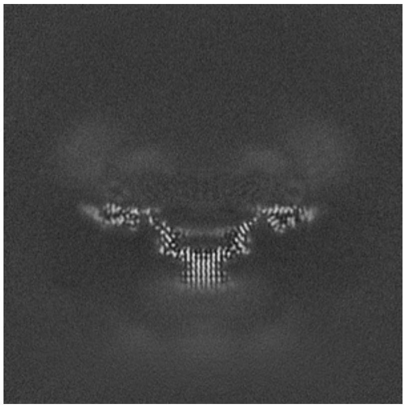


Y Index: 118

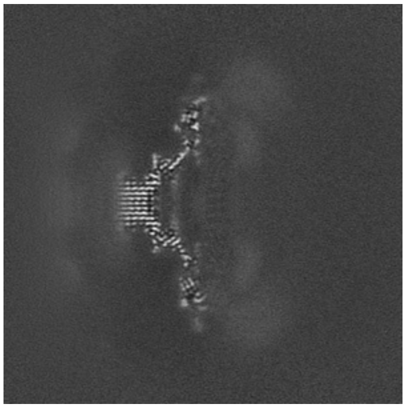


Z Index: 153

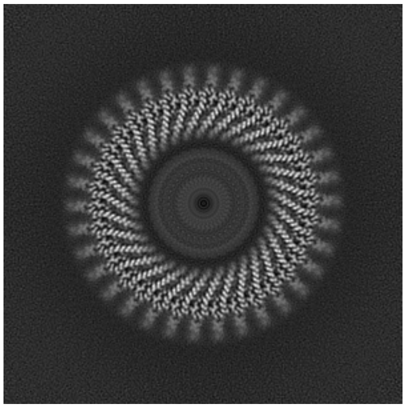
6.3.2 Raw map



X Index: 117



Y Index: 118

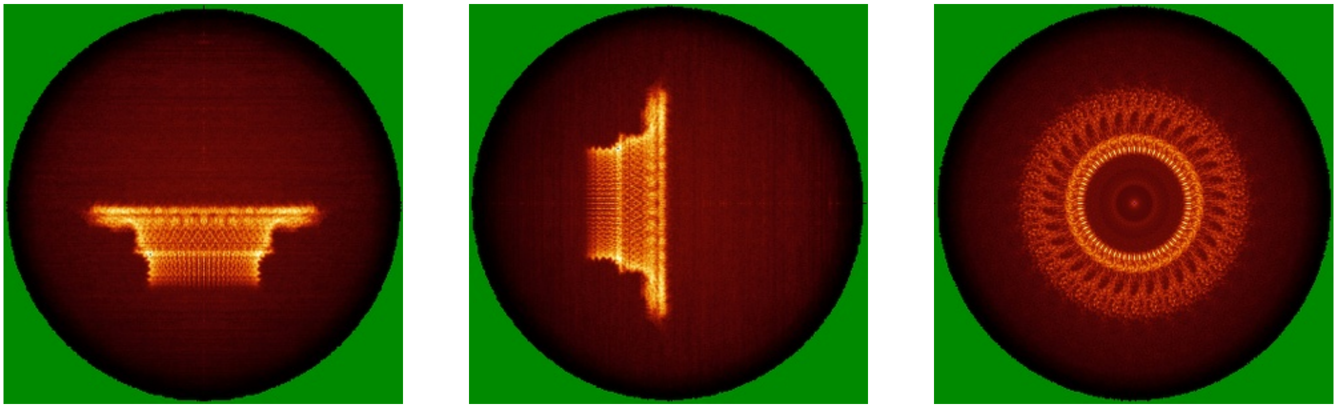


Z Index: 154

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

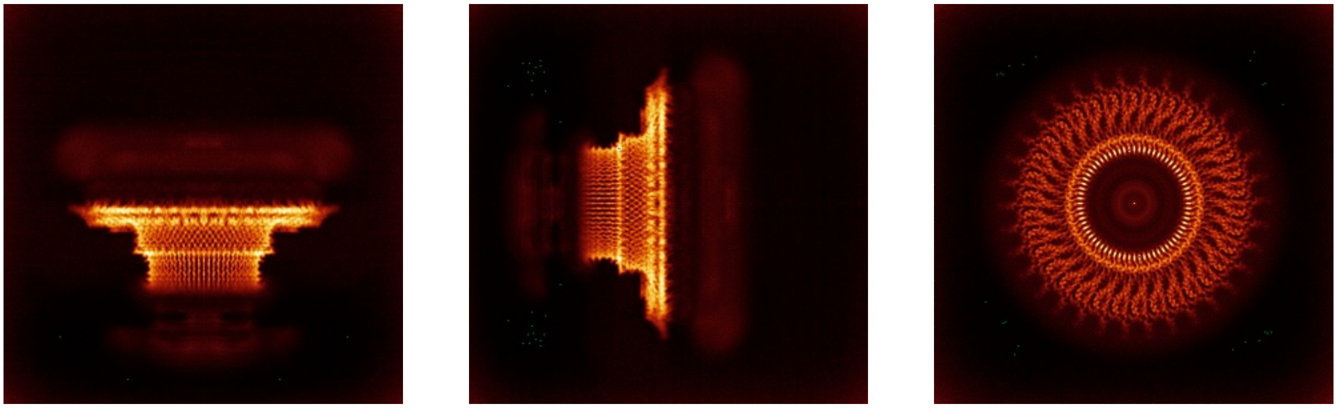
6.4 Orthogonal standard-deviation projections (False-color)

6.4.1 Primary map



X Y Z

6.4.2 Raw map

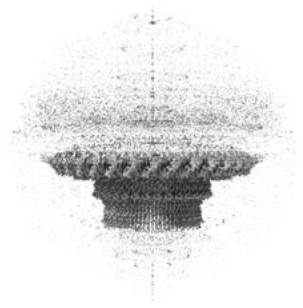


X Y Z

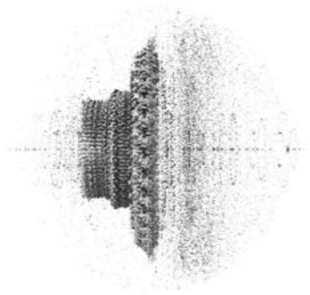
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

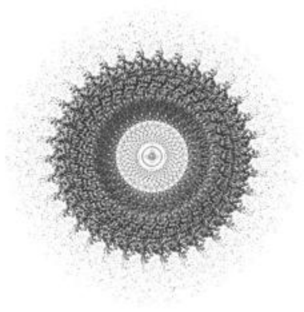
6.5.1 Primary map



X



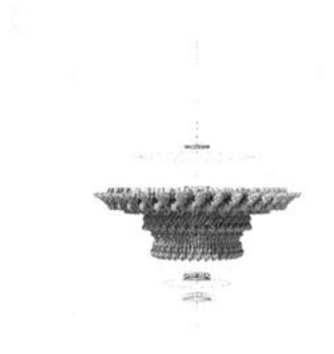
Y



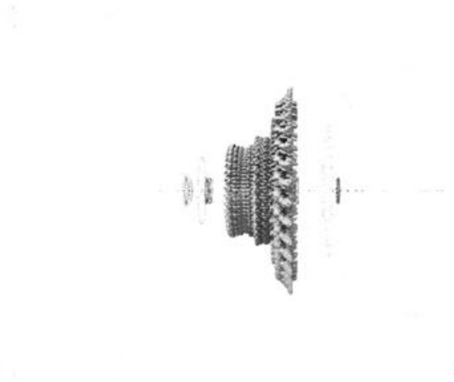
Z

The images above show the 3D surface view of the map at the recommended contour level 0.25. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

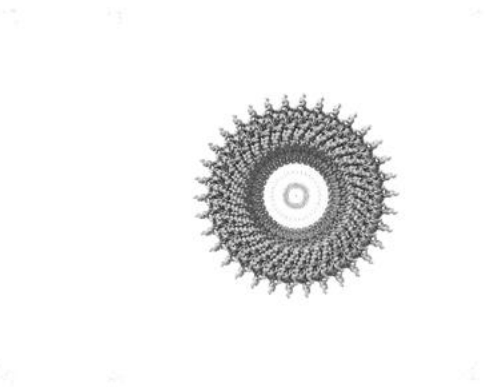
6.5.2 Raw map



X



Y



Z

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

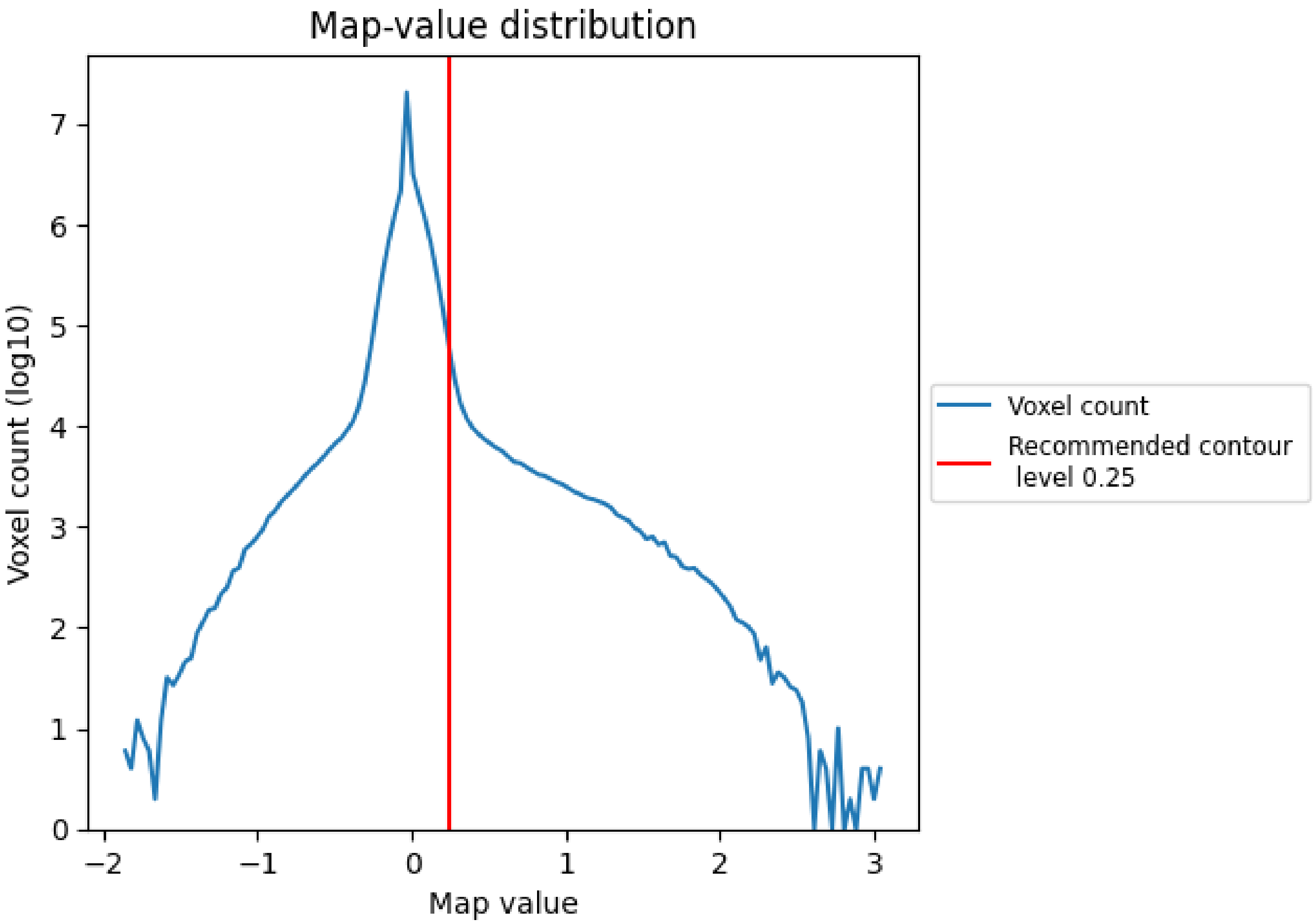
6.6 Mask visualisation ⓘ

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

7 Map analysis ⓘ

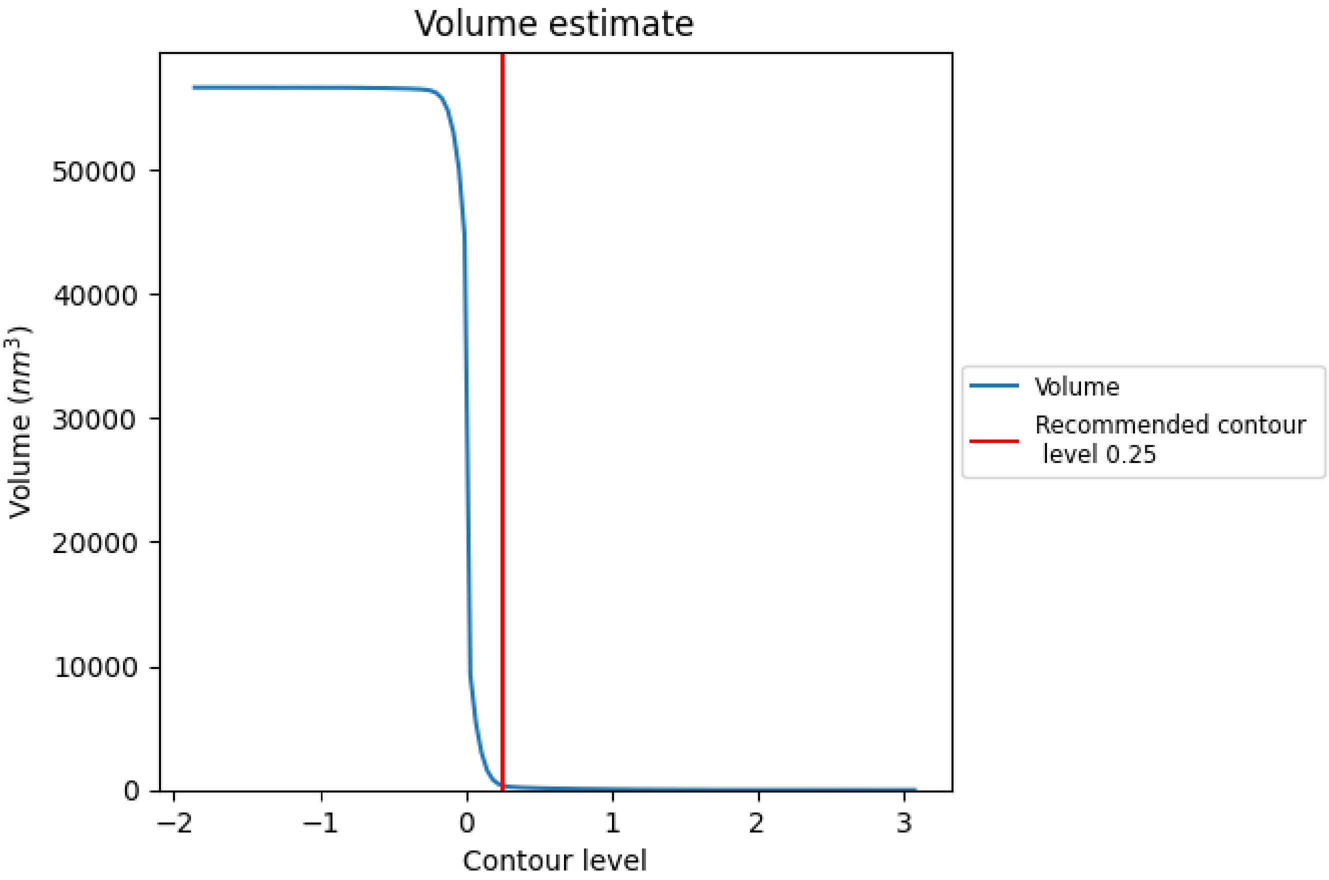
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution ⓘ



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

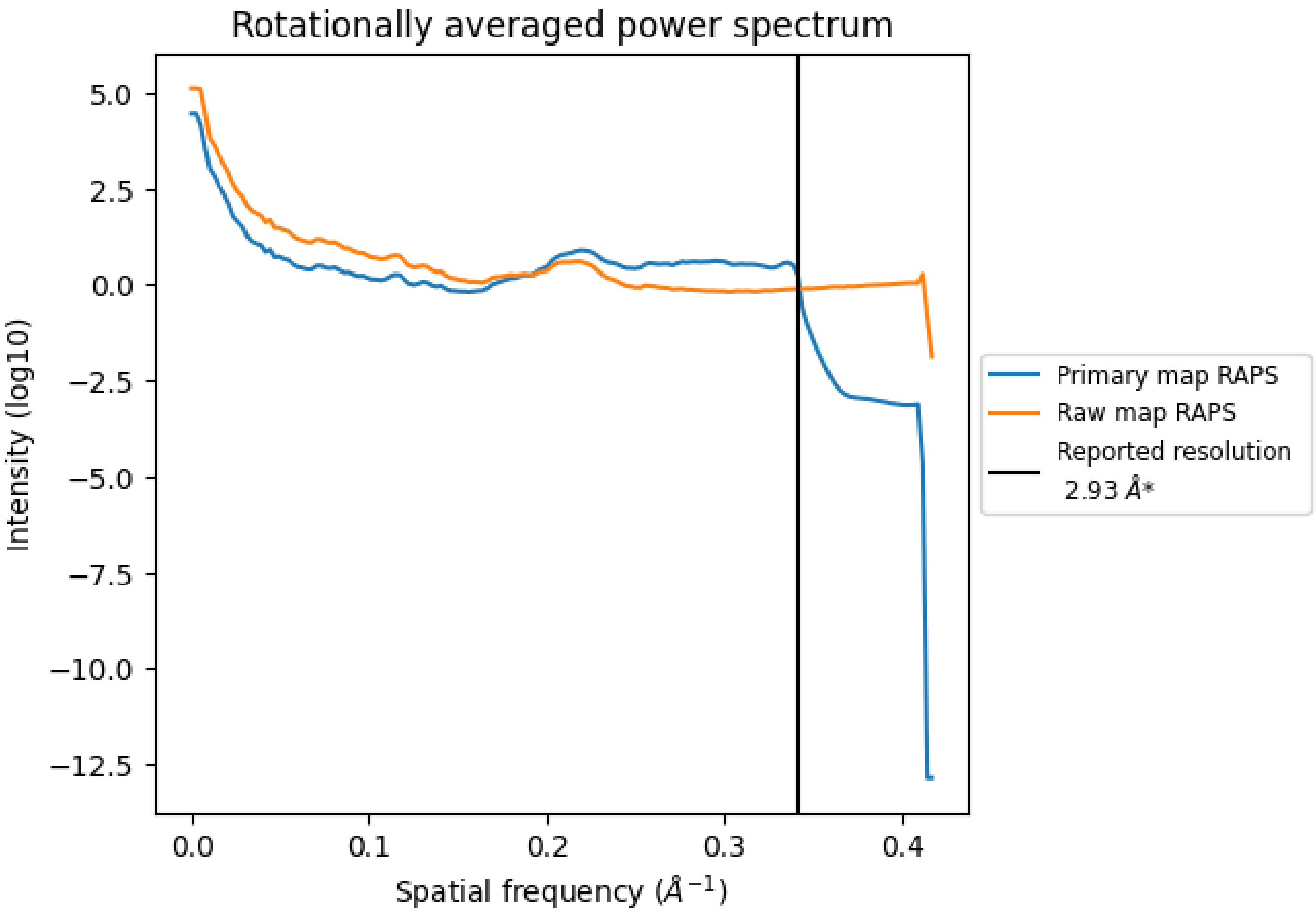
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 373 nm^3; this corresponds to an approximate mass of 337 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 ⓘ

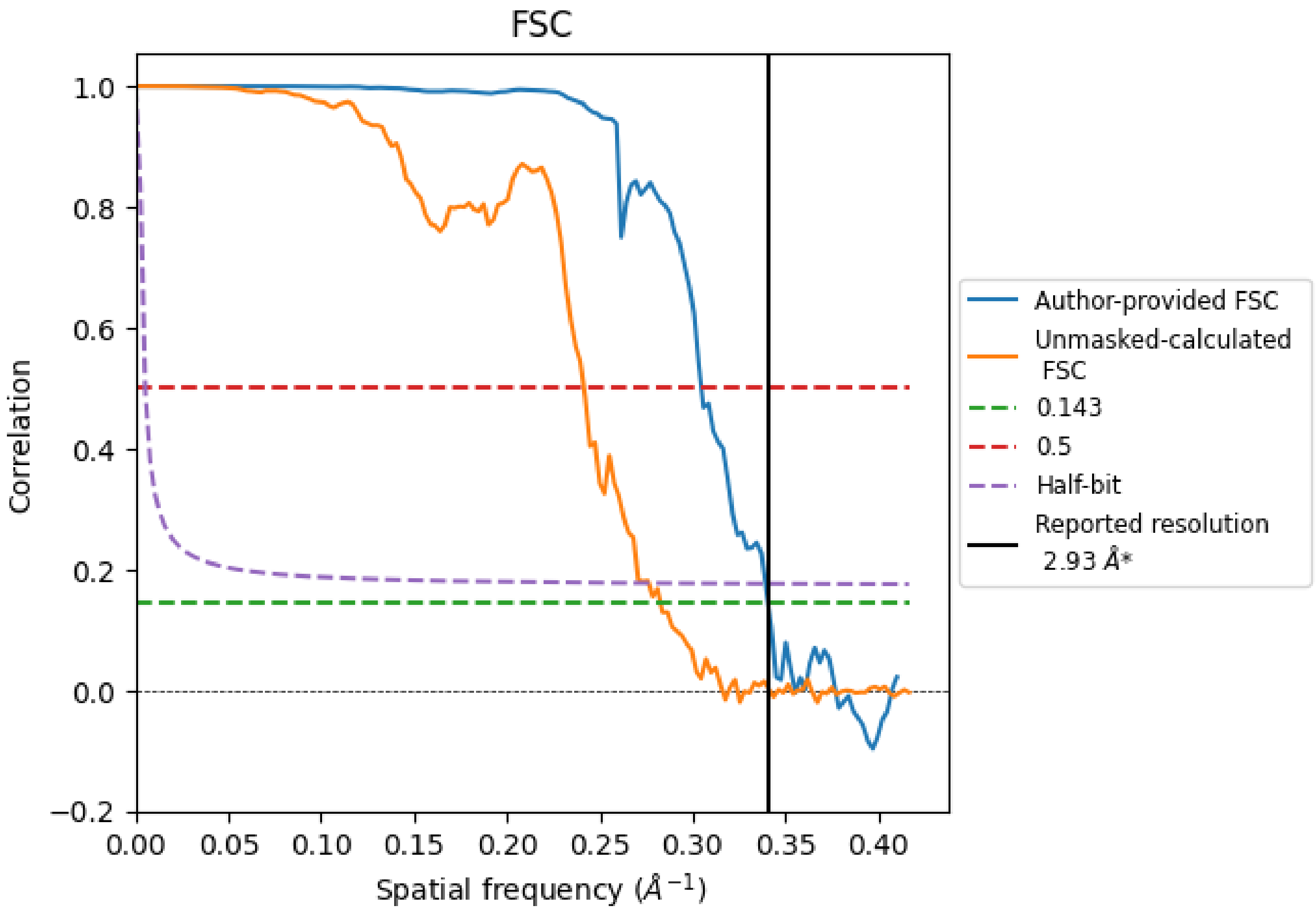


*Reported resolution corresponds to spatial frequency of 0.341 Å^{-1}

8 Fourier-Shell correlation ⓘ

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC ⓘ



*Reported resolution corresponds to spatial frequency of 0.341 Å^{-1}

8.2 Resolution estimates ⓘ

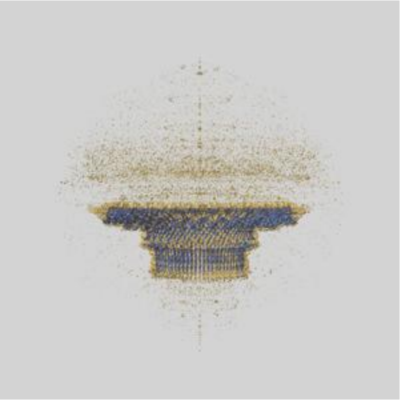
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.93	-	-
Author-provided FSC curve	2.93	3.28	2.95
Unmasked-calculated*	3.53	4.14	3.62

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.53 differs from the reported value 2.93 by more than 10 %

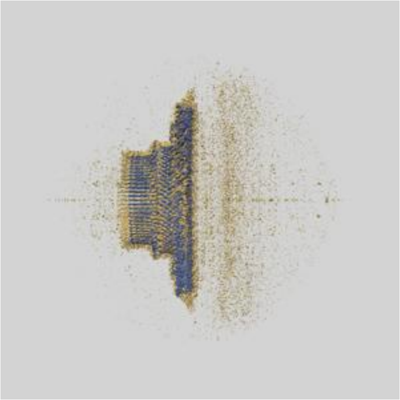
9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-39783 and PDB model 8Z5V. Per-residue inclusion information can be found in section 3 on page 7.

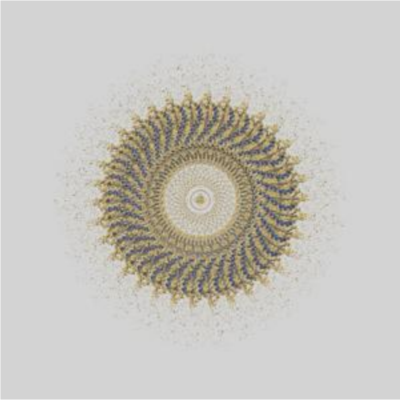
9.1 Map-model overlay ⓘ



X



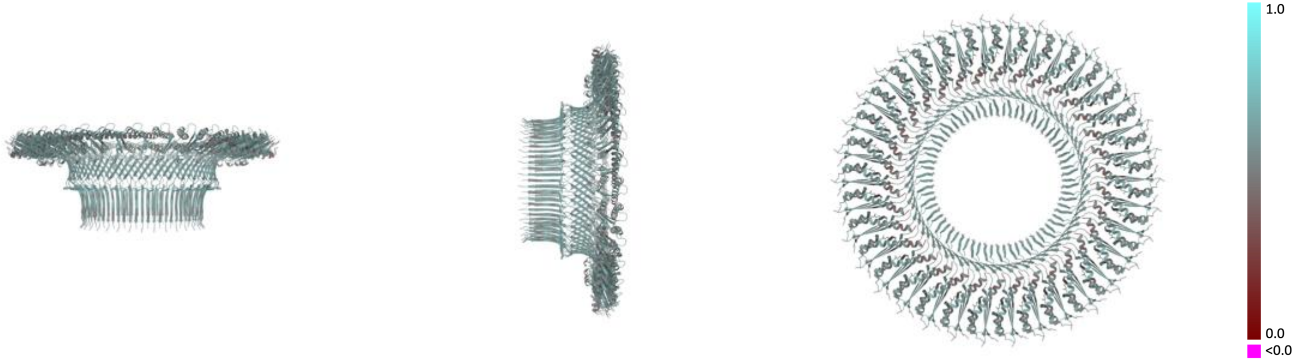
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.25 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

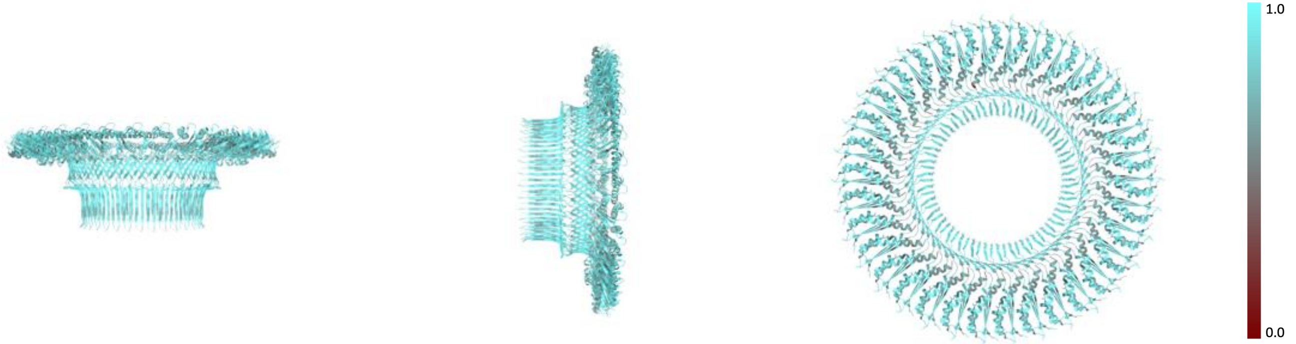
9.2 Q-score mapped to coordinate model ⓘ



X Y Z

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

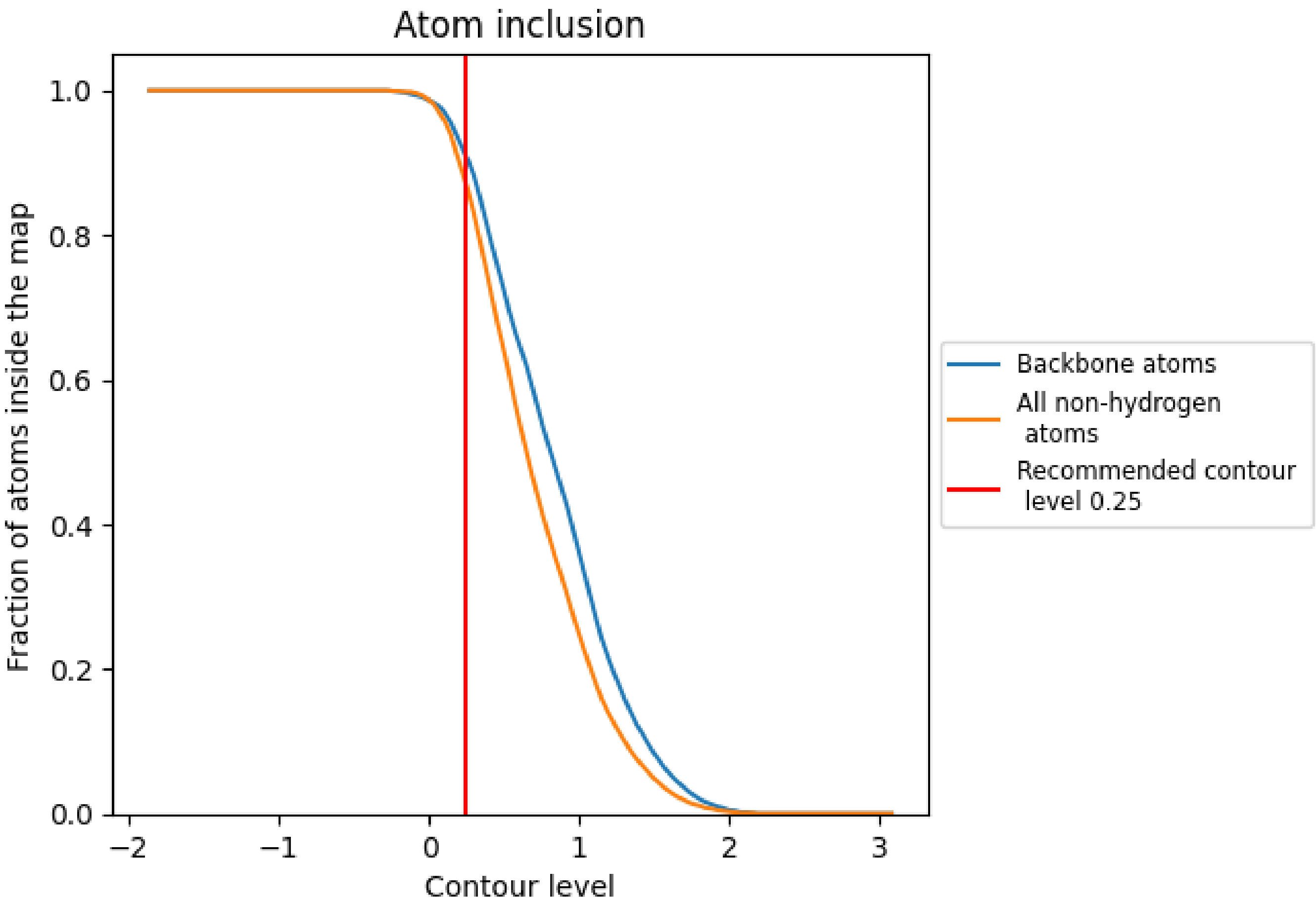
9.3 Atom inclusion mapped to coordinate model ⓘ



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.25).

9.4 Atom inclusion (i)



At the recommended contour level, 91% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.25) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8680	0.5590
A	0.8670	0.5570
B	0.8750	0.5590
C	0.8720	0.5590
D	0.8690	0.5580
E	0.8640	0.5580
F	0.8720	0.5570
G	0.8610	0.5570
H	0.8670	0.5570
I	0.8700	0.5600
J	0.8710	0.5590
K	0.8660	0.5580
L	0.8670	0.5580
M	0.8630	0.5590
N	0.8670	0.5590
O	0.8630	0.5580
P	0.8670	0.5570
Q	0.8700	0.5630
R	0.8650	0.5600
S	0.8690	0.5600
T	0.8700	0.5600
U	0.8690	0.5610
V	0.8650	0.5600
W	0.8670	0.5600
X	0.8670	0.5590
Y	0.8670	0.5590
Z	0.8700	0.5600
a	0.8720	0.5590
b	0.8640	0.5590
c	0.8680	0.5570
d	0.8670	0.5590
e	0.8670	0.5600
f	0.8660	0.5590
g	0.8660	0.5560
h	0.8700	0.5600