



Full wwPDB EM Validation Report ⓘ

Mar 26, 2026 – 01:51 AM UTC

PDB ID : 9LW6 / pdb_00009lw6
EMDB ID : EMD-63432
Title : Top cap of bacteriophage Mycofy1 mature head (C5 symmetry)
Authors : Li, X.; Shao, Q.; Li, L.; Xie, L.; Ruan, Z.; Fang, Q.
Deposited on : 2025-02-13
Resolution : 3.42 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:

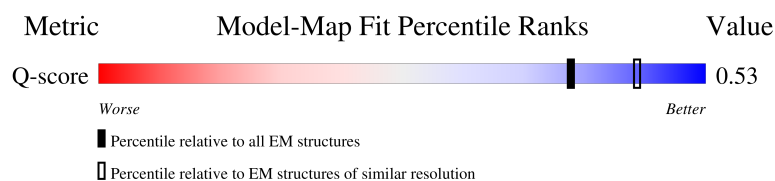
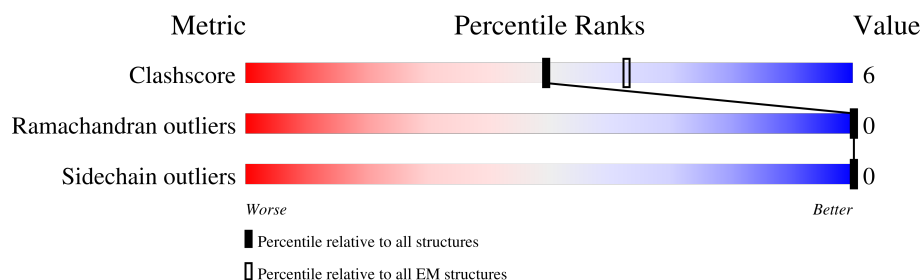
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 3.42 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.



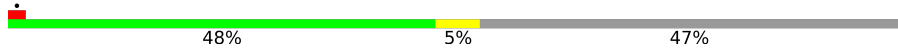
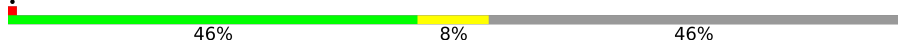
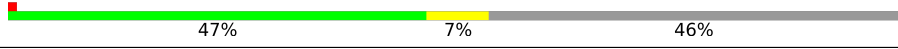
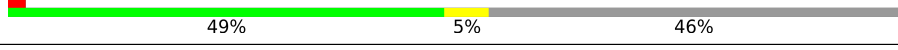
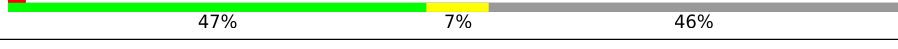
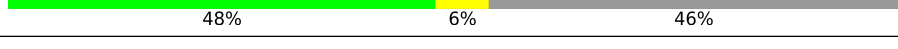
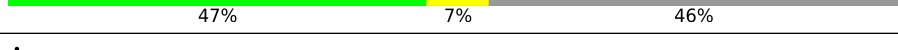
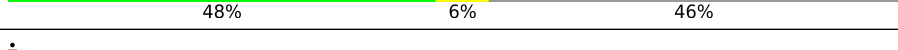
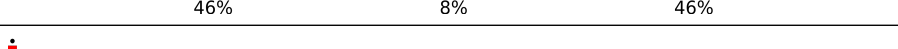
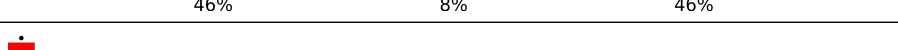
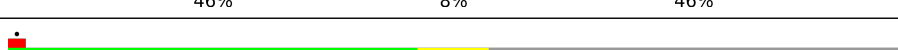
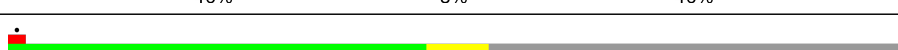
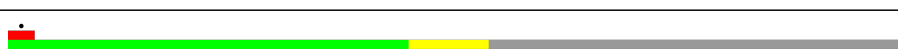
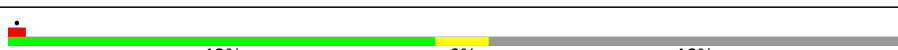
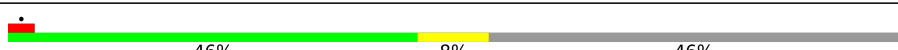
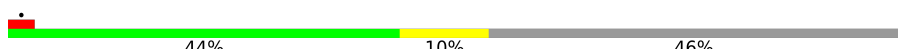
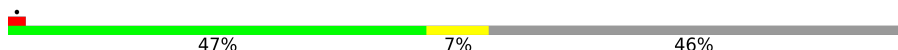
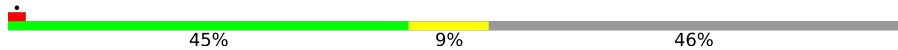
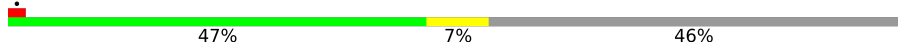
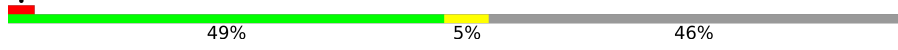
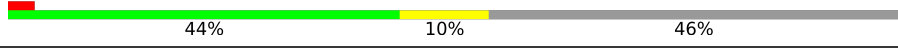
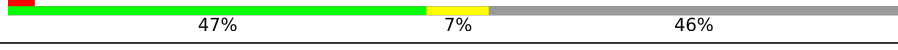
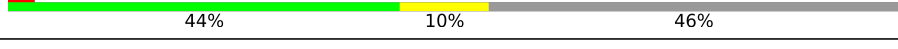
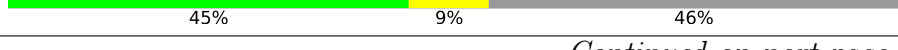
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	13959 (2.92 - 3.92)

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

Mol	Chain	Length	Quality of chain
1	1	543	
1	2	543	
1	3	543	
1	4	543	

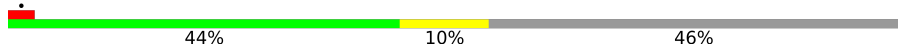
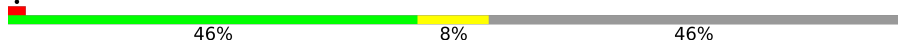
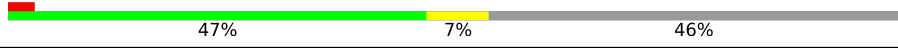
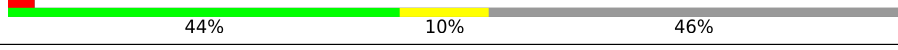
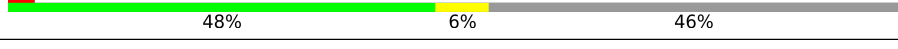
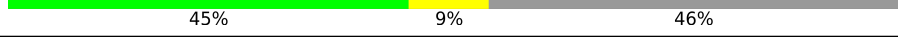
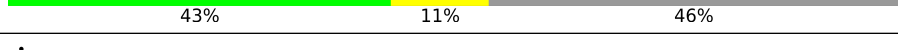
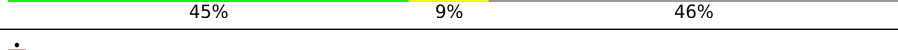
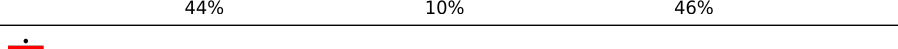
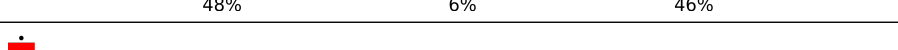
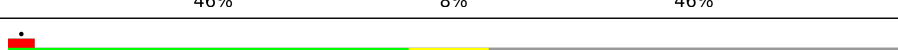
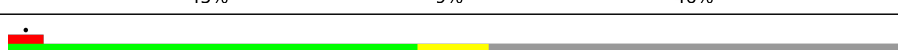
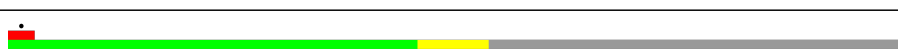
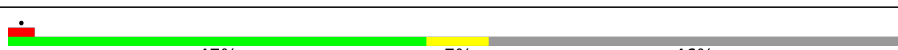
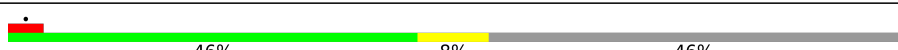
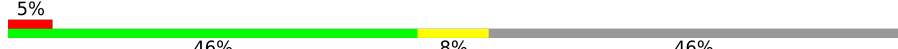
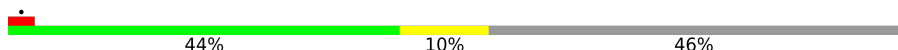
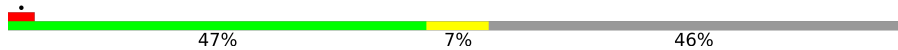
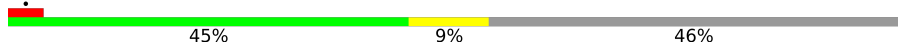
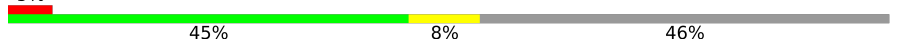
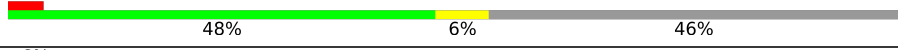
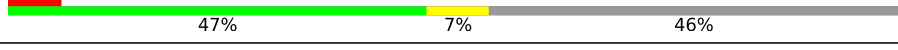
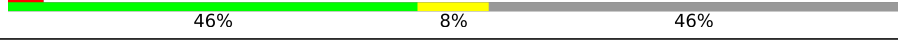
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Mol	Chain	Length	Quality of chain
1	5	543	
1	A	543	
1	B	543	
1	C	543	
1	D	543	
1	E	543	
1	F	543	
1	G	543	
1	H	543	
1	I	543	
1	J	543	
1	K	543	
1	L	543	
1	M	543	
1	N	543	
1	O	543	
1	P	543	
1	Q	543	
1	R	543	
1	S	543	
1	T	543	
1	U	543	
1	V	543	
1	W	543	
1	X	543	

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Mol	Chain	Length	Quality of chain
1	Y	543	
1	Z	543	
1	a	543	
1	b	543	
1	c	543	
1	d	543	
1	e	543	
1	f	543	
1	g	543	
1	h	543	
1	i	543	
1	j	543	
1	k	543	
1	l	543	
1	m	543	
1	n	543	
1	o	543	
1	p	543	
1	q	543	
1	r	543	
1	s	543	
1	t	543	
1	u	543	
1	v	543	
1	w	543	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 120816 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 Phage capsid-like C-terminal domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	B	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	C	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	D	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	E	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	F	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	G	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	H	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	I	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	J	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	K	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	L	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	M	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	N	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	O	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	P	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	Q	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	S	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	T	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	U	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	V	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	W	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	X	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	Y	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	Z	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	a	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	b	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	c	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	d	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	e	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	f	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	g	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	h	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	i	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	j	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	k	293	Total 2241	C 1416	N 385	O 436	S 4	0	0
1	l	293	Total 2241	C 1416	N 385	O 436	S 4	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	m	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	n	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	o	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	p	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	q	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	r	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	s	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	t	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	u	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	v	293	Total	C	N	O	S	0	0
			2241	1416	385	436	4		
1	w	288	Total	C	N	O	S	0	0
			2208	1397	379	428	4		
1	1	288	Total	C	N	O	S	0	0
			2208	1397	379	428	4		
1	2	288	Total	C	N	O	S	0	0
			2208	1397	379	428	4		
1	3	288	Total	C	N	O	S	0	0
			2208	1397	379	428	4		
1	4	288	Total	C	N	O	S	0	0
			2208	1397	379	428	4		
1	5	288	Total	C	N	O	S	0	0
			2208	1397	379	428	4		

There are 54 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	197	HIS	LYS	conflict	UNP Q854Z2
B	197	HIS	LYS	conflict	UNP Q854Z2
C	197	HIS	LYS	conflict	UNP Q854Z2
D	197	HIS	LYS	conflict	UNP Q854Z2
E	197	HIS	LYS	conflict	UNP Q854Z2
F	197	HIS	LYS	conflict	UNP Q854Z2
G	197	HIS	LYS	conflict	UNP Q854Z2

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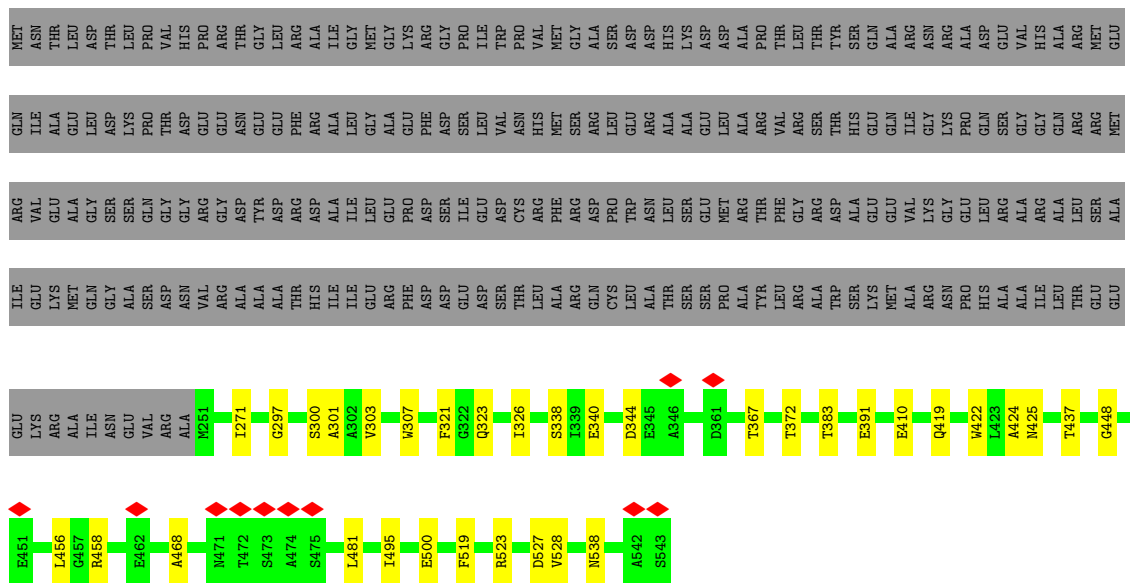
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Chain	Residue	Modelled	Actual	Comment	Reference
H	197	HIS	LYS	conflict	UNP Q854Z2
I	197	HIS	LYS	conflict	UNP Q854Z2
J	197	HIS	LYS	conflict	UNP Q854Z2
K	197	HIS	LYS	conflict	UNP Q854Z2
L	197	HIS	LYS	conflict	UNP Q854Z2
M	197	HIS	LYS	conflict	UNP Q854Z2
N	197	HIS	LYS	conflict	UNP Q854Z2
O	197	HIS	LYS	conflict	UNP Q854Z2
P	197	HIS	LYS	conflict	UNP Q854Z2
Q	197	HIS	LYS	conflict	UNP Q854Z2
R	197	HIS	LYS	conflict	UNP Q854Z2
S	197	HIS	LYS	conflict	UNP Q854Z2
T	197	HIS	LYS	conflict	UNP Q854Z2
U	197	HIS	LYS	conflict	UNP Q854Z2
V	197	HIS	LYS	conflict	UNP Q854Z2
W	197	HIS	LYS	conflict	UNP Q854Z2
X	197	HIS	LYS	conflict	UNP Q854Z2
Y	197	HIS	LYS	conflict	UNP Q854Z2
Z	197	HIS	LYS	conflict	UNP Q854Z2
a	197	HIS	LYS	conflict	UNP Q854Z2
b	197	HIS	LYS	conflict	UNP Q854Z2
c	197	HIS	LYS	conflict	UNP Q854Z2
d	197	HIS	LYS	conflict	UNP Q854Z2
e	197	HIS	LYS	conflict	UNP Q854Z2
f	197	HIS	LYS	conflict	UNP Q854Z2
g	197	HIS	LYS	conflict	UNP Q854Z2
h	197	HIS	LYS	conflict	UNP Q854Z2
i	197	HIS	LYS	conflict	UNP Q854Z2
j	197	HIS	LYS	conflict	UNP Q854Z2
k	197	HIS	LYS	conflict	UNP Q854Z2
l	197	HIS	LYS	conflict	UNP Q854Z2
m	197	HIS	LYS	conflict	UNP Q854Z2
n	197	HIS	LYS	conflict	UNP Q854Z2
o	197	HIS	LYS	conflict	UNP Q854Z2
p	197	HIS	LYS	conflict	UNP Q854Z2
q	197	HIS	LYS	conflict	UNP Q854Z2
r	197	HIS	LYS	conflict	UNP Q854Z2
s	197	HIS	LYS	conflict	UNP Q854Z2
t	197	HIS	LYS	conflict	UNP Q854Z2
u	197	HIS	LYS	conflict	UNP Q854Z2
v	197	HIS	LYS	conflict	UNP Q854Z2
w	197	HIS	LYS	conflict	UNP Q854Z2

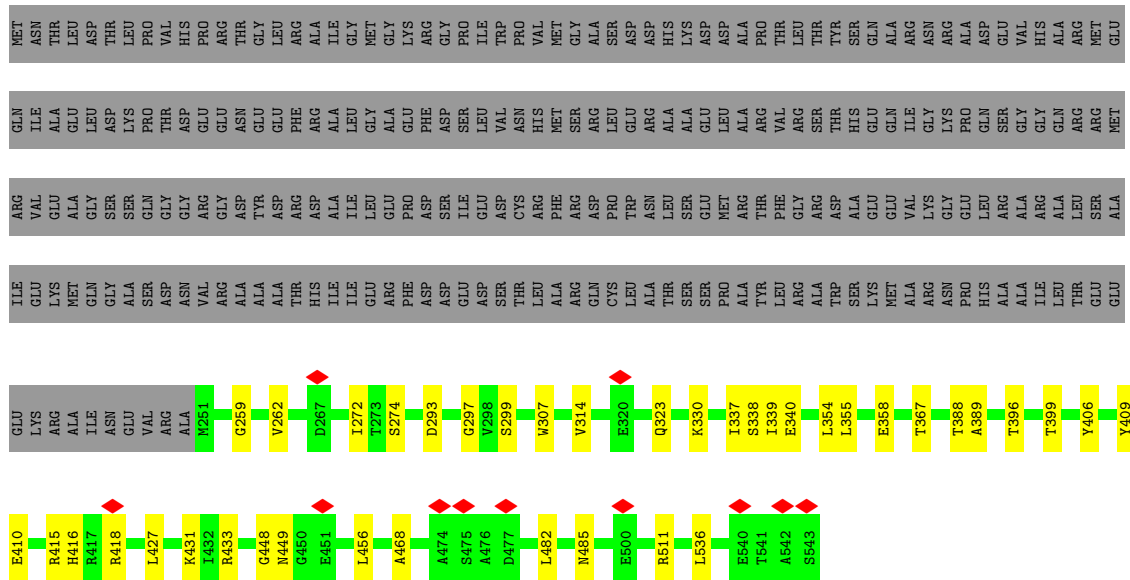
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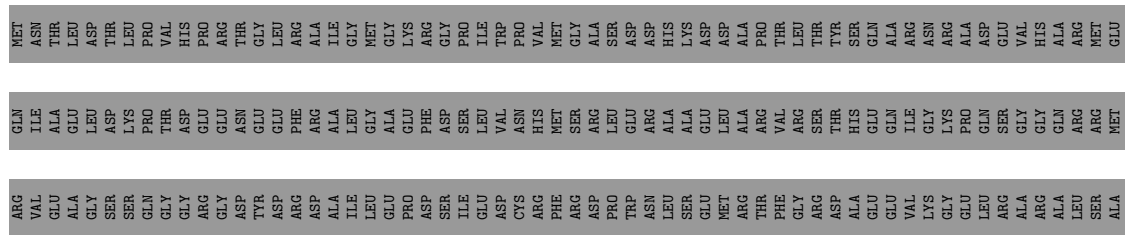
Chain	Residue	Modelled	Actual	Comment	Reference
1	197	HIS	LYS	conflict	UNP Q854Z2
2	197	HIS	LYS	conflict	UNP Q854Z2
3	197	HIS	LYS	conflict	UNP Q854Z2
4	197	HIS	LYS	conflict	UNP Q854Z2
5	197	HIS	LYS	conflict	UNP Q854Z2



- Molecule 1: Phage capsid-like C-terminal domain-containing protein

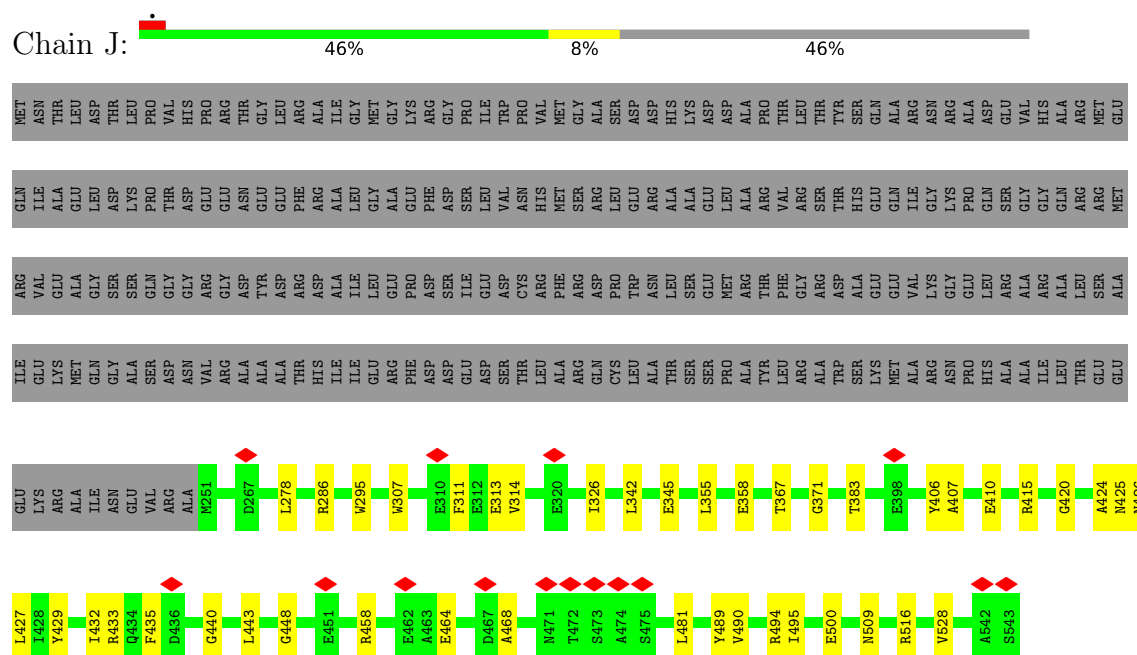


- Molecule 1: Phage capsid-like C-terminal domain-containing protein

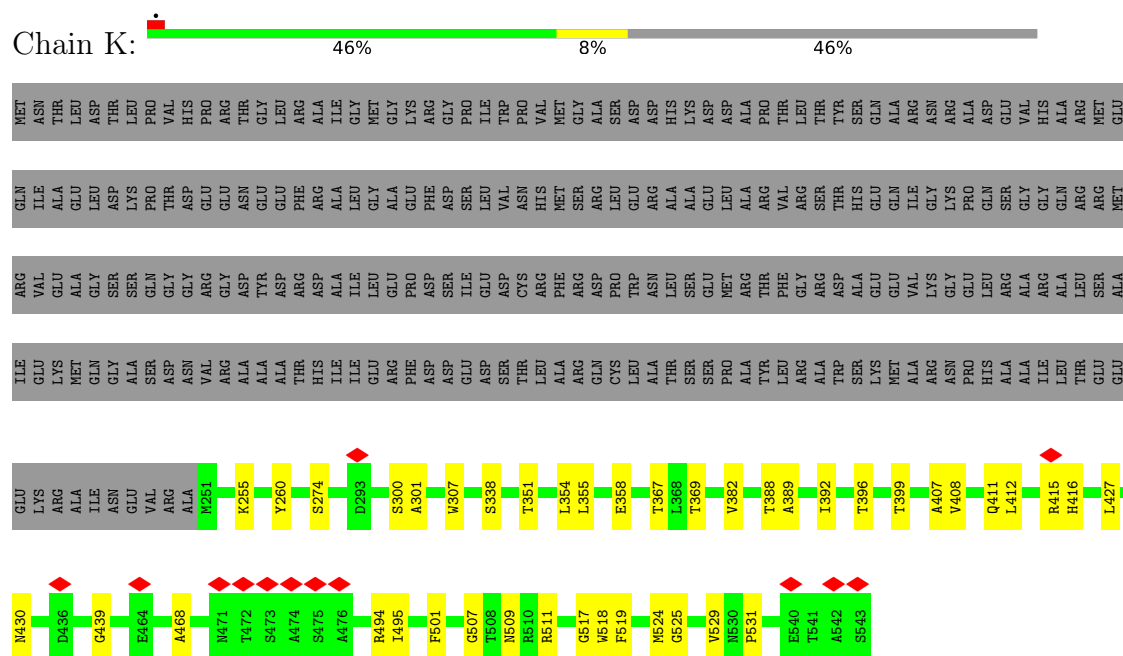




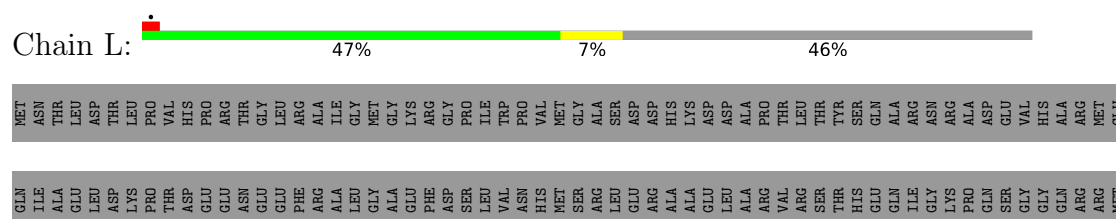
- Molecule 1: Phage capsid-like C-terminal domain-containing protein

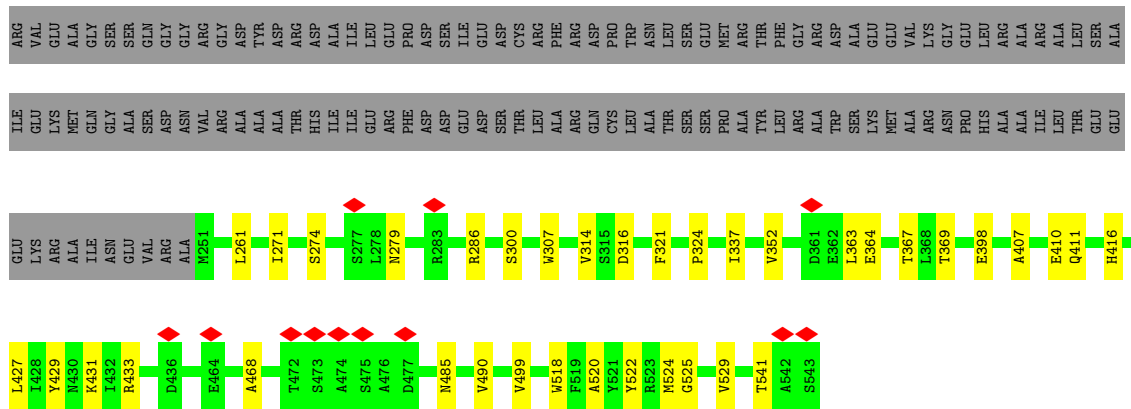


- Molecule 1: Phage capsid-like C-terminal domain-containing protein

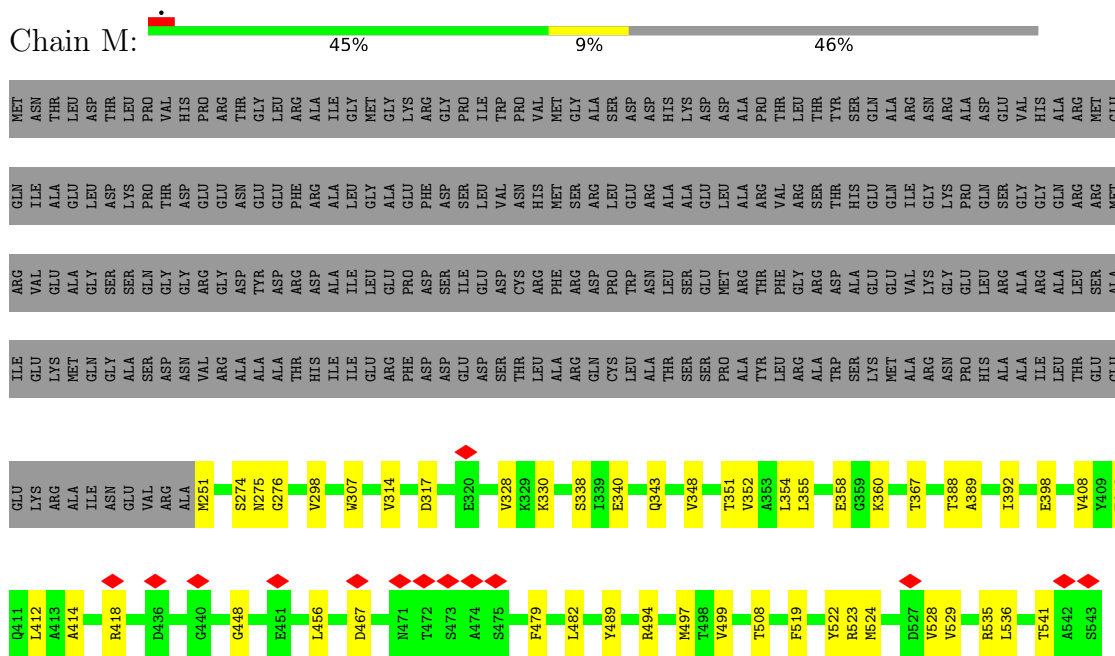


- Molecule 1: Phage capsid-like C-terminal domain-containing protein

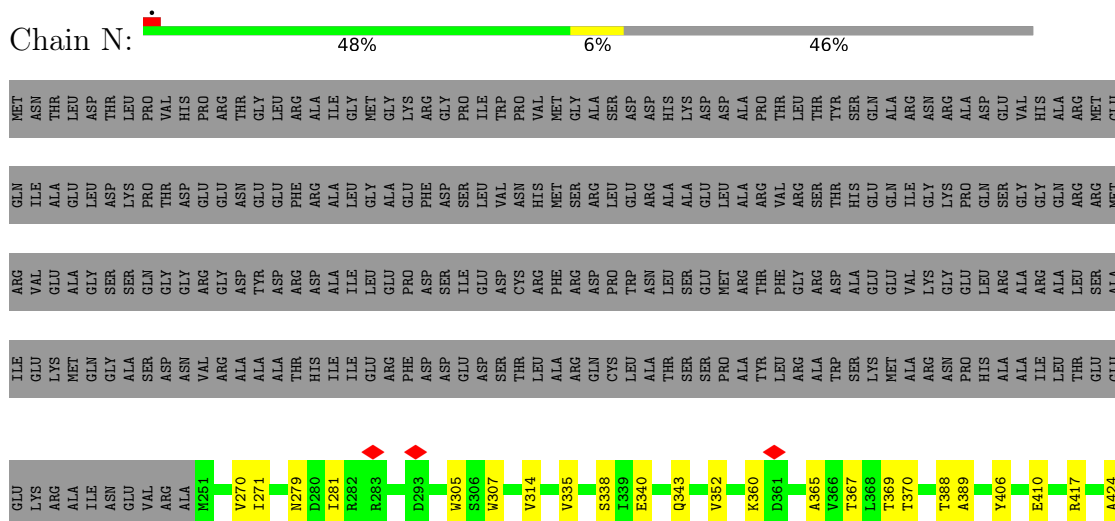




- Molecule 1: Phage capsid-like C-terminal domain-containing protein



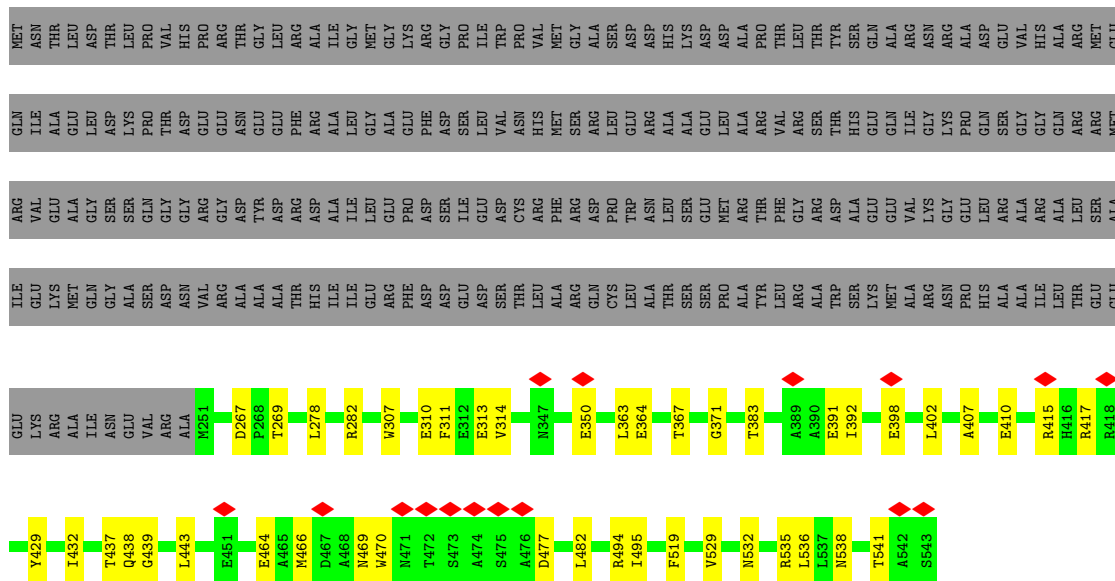
- Molecule 1: Phage capsid-like C-terminal domain-containing protein





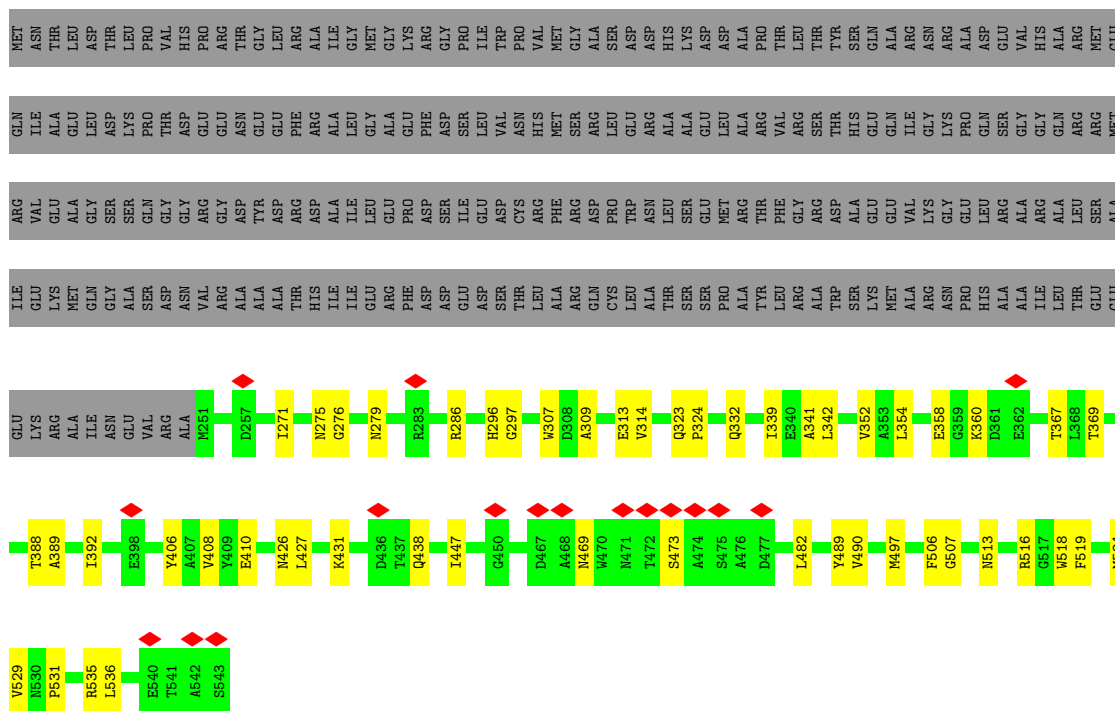
- Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain O: 46% 8% 46%

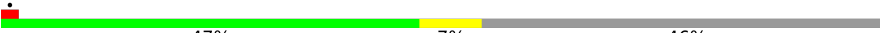


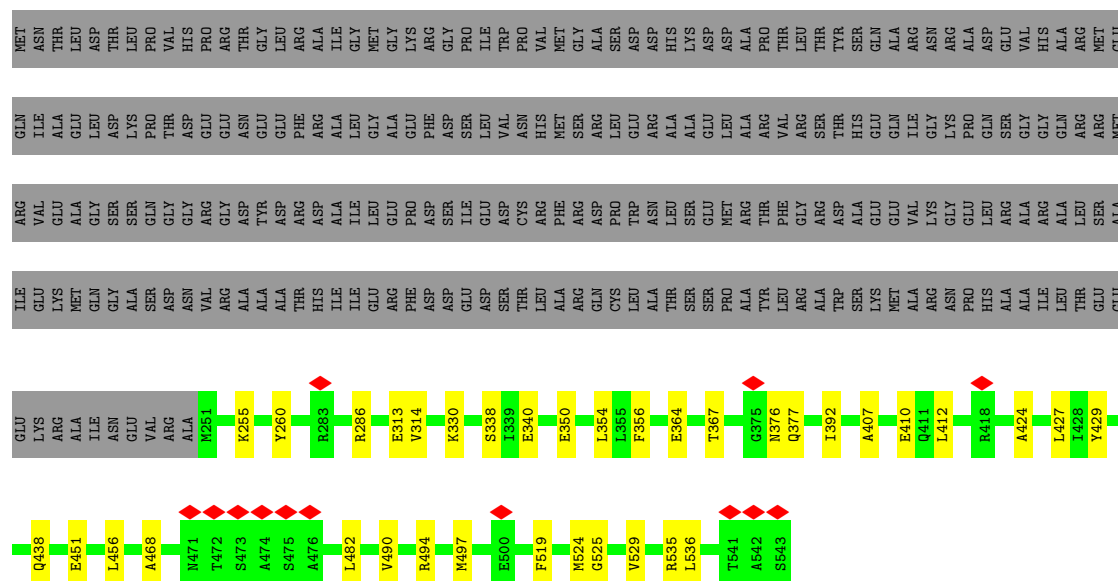
- Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain P: 44% 10% 46%

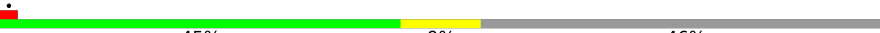


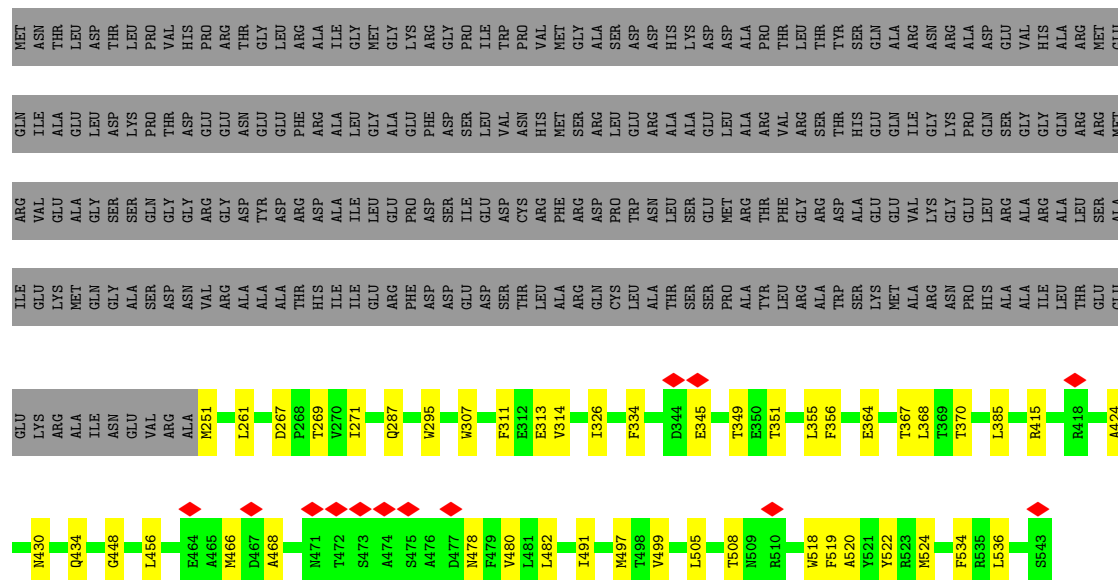
- Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain Q:  47% 7% 46%

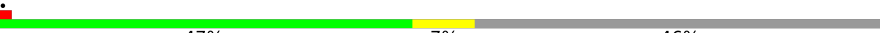


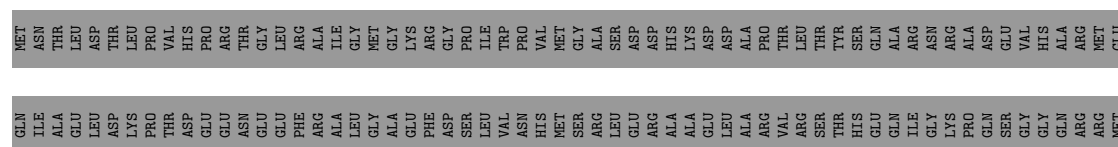
- Molecule 1: Phage capsid-like C-terminal domain-containing protein

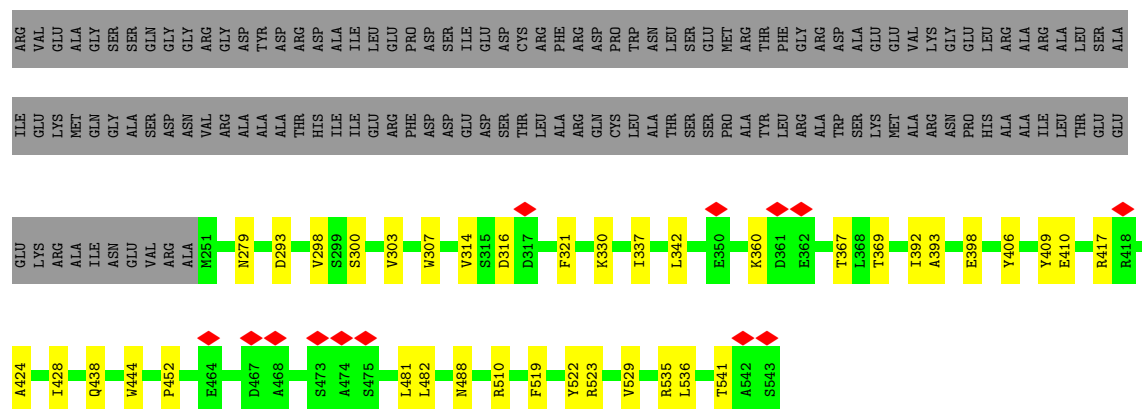
Chain R:  45% 9% 46%



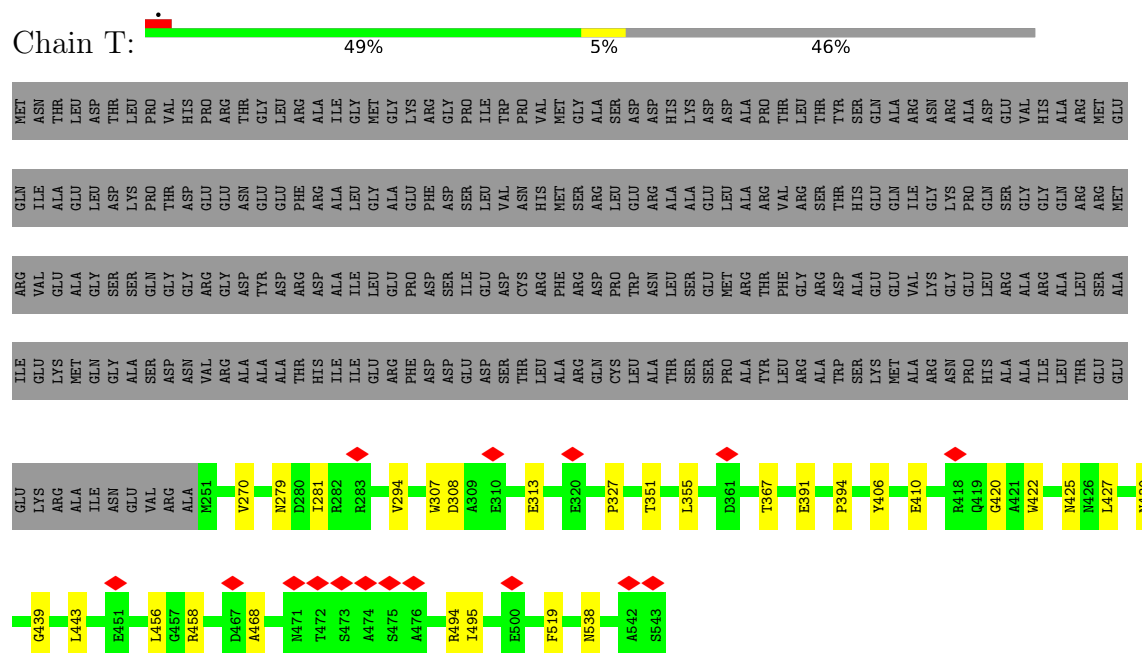
- Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain S:  47% 7% 46%

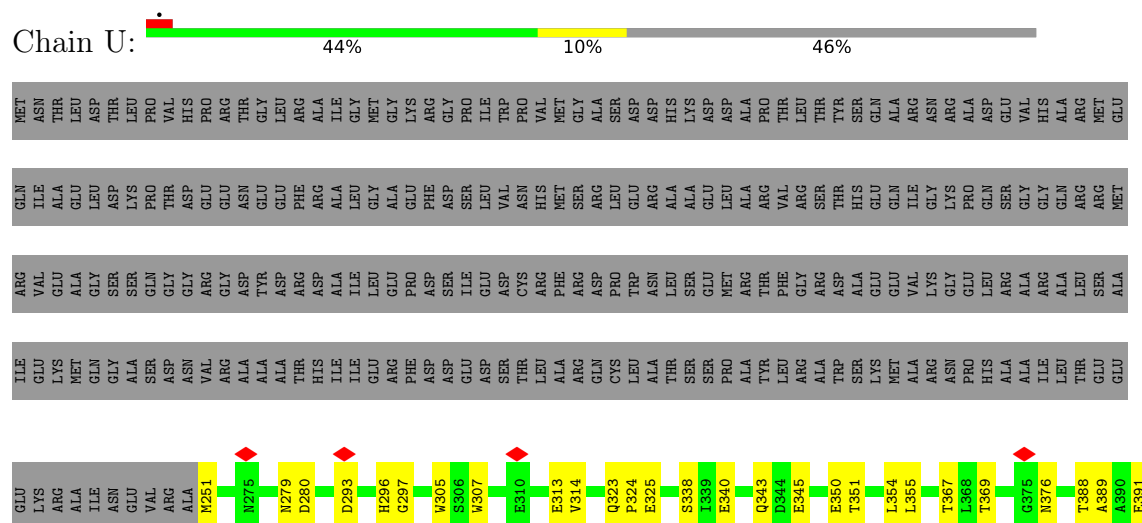


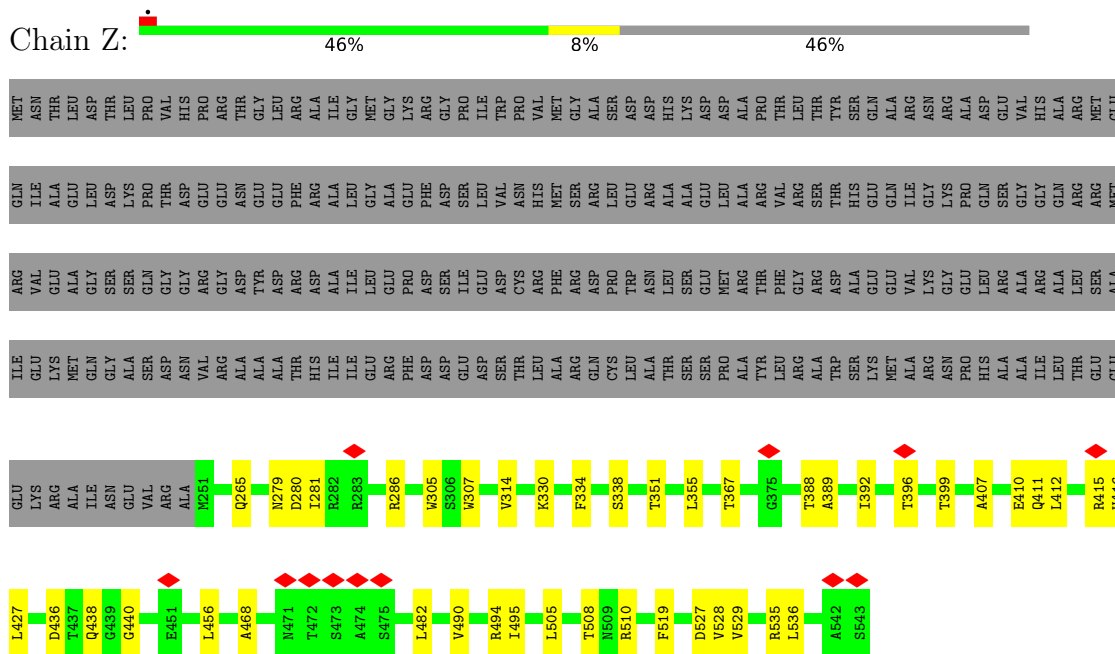


• Molecule 1: Phage capsid-like C-terminal domain-containing protein

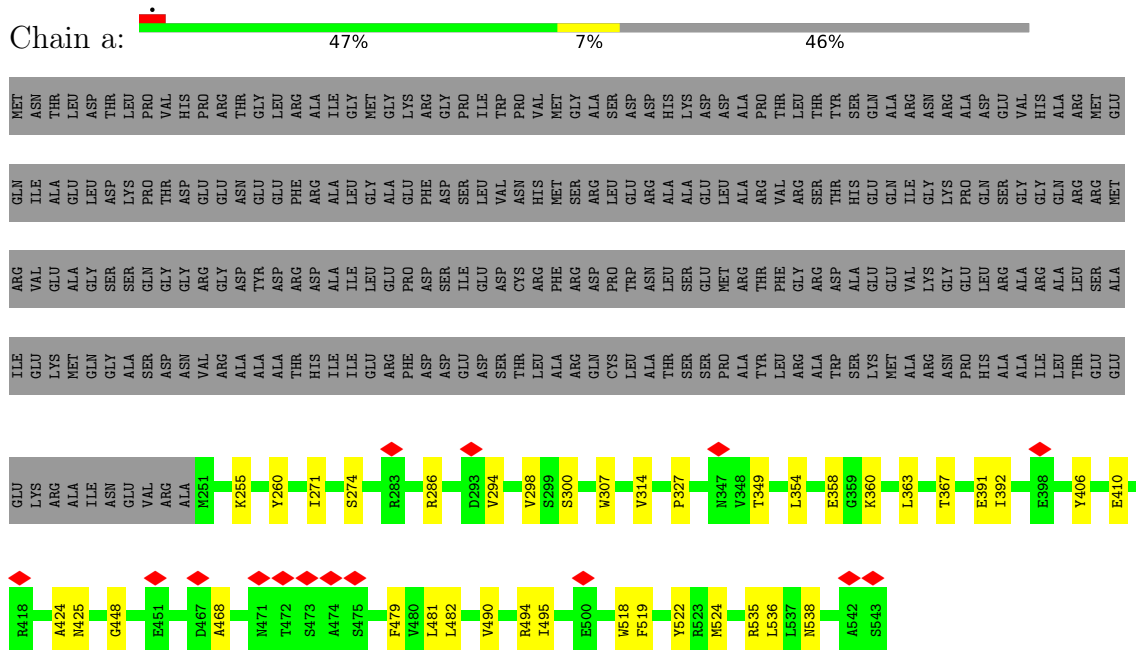


• Molecule 1: Phage capsid-like C-terminal domain-containing protein

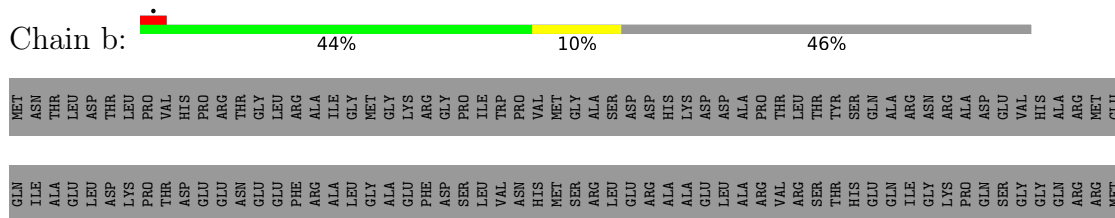


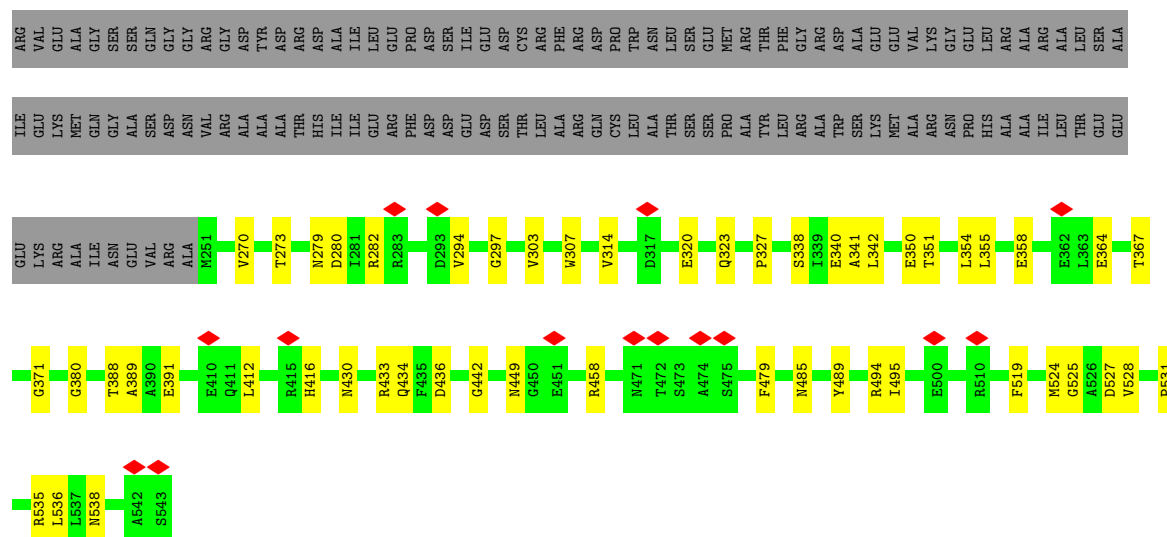


- Molecule 1: Phage capsid-like C-terminal domain-containing protein



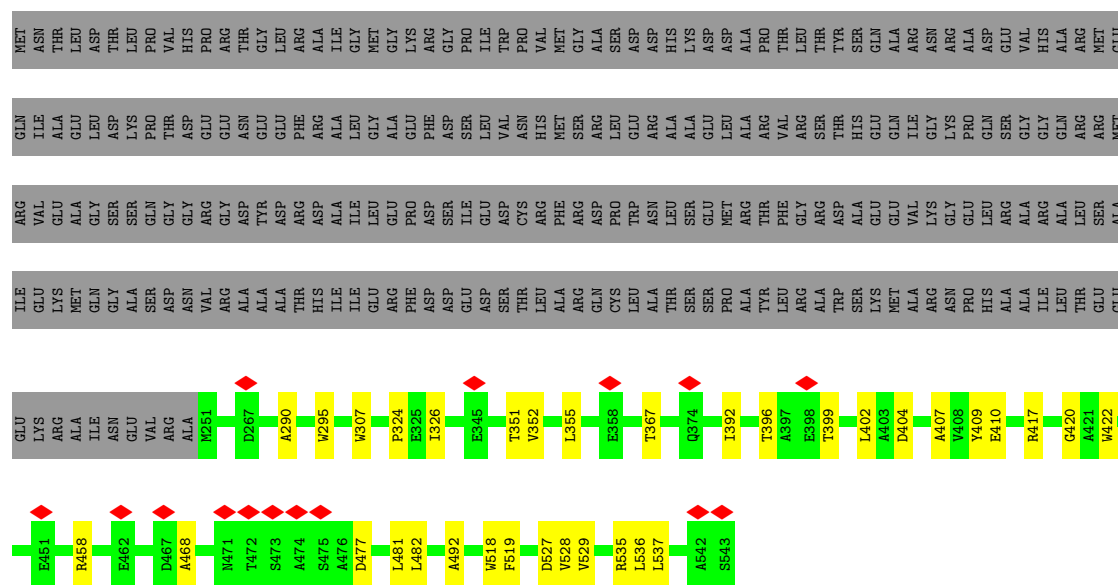
- Molecule 1: Phage capsid-like C-terminal domain-containing protein





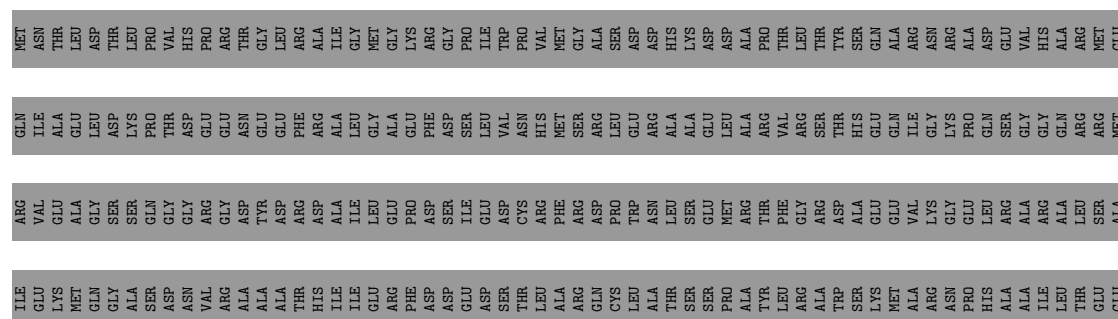
• Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain c: 48% 6% 46%

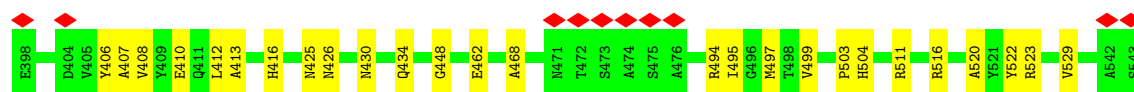


• Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain d: 45% 9% 46%







- Molecule 1: Phage capsid-like C-terminal domain-containing protein

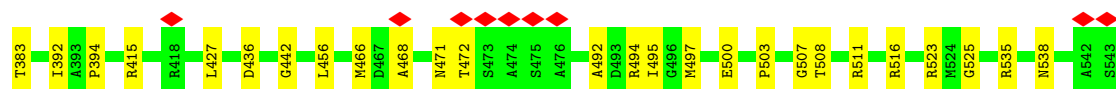
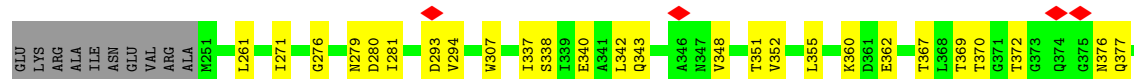
Chain g: 44% 10% 46%

MET ASN THR LEU ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

GLN ILE ALA LEU ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

ARG VAL GLU MET ALA GLY SER GLN GLY ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

ILE GLU MET ALA GLY SER GLN GLY ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543



- Molecule 1: Phage capsid-like C-terminal domain-containing protein

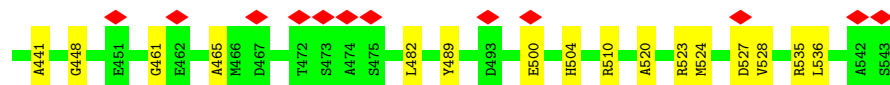
Chain h: 48% 6% 46%

MET ASN THR LEU ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

GLN ILE ALA LEU ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

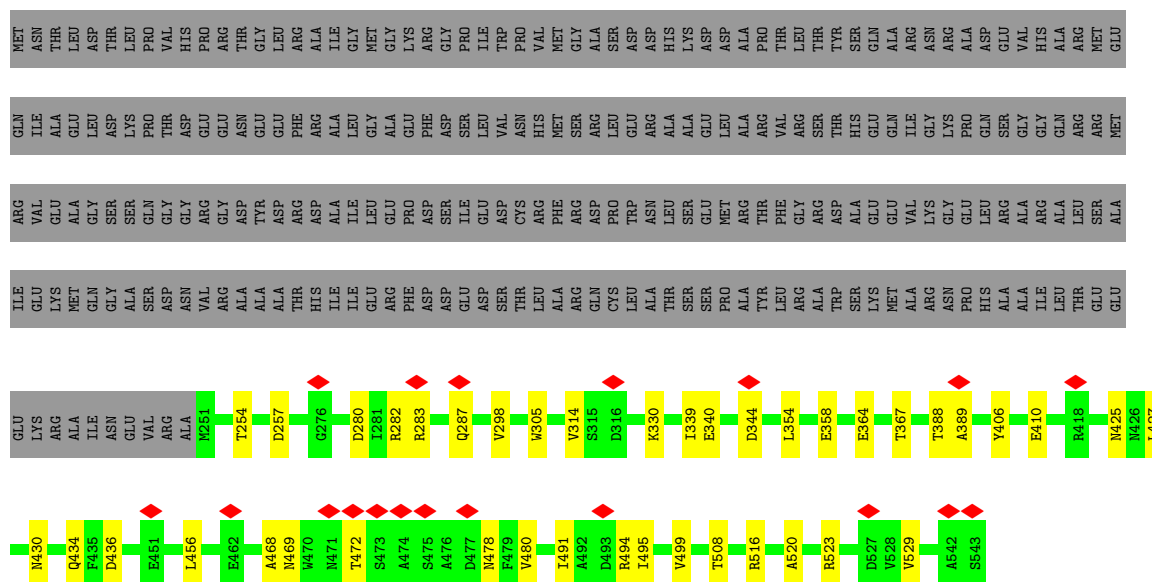
ARG VAL GLU MET ALA GLY SER GLN GLY ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

ILE GLU MET ALA GLY SER GLN GLY ASP THR LEU PRO VAL HIS ASN Q411 ARG A413 H416 M425 M426 M430 Q434 G448 E462 A468 H471 T472 S473 A474 S475 A476 R494 I495 G496 M497 T498 V499 P503 H504 R511 R516 A520 Y521 Y522 R523 V529 A542 S543

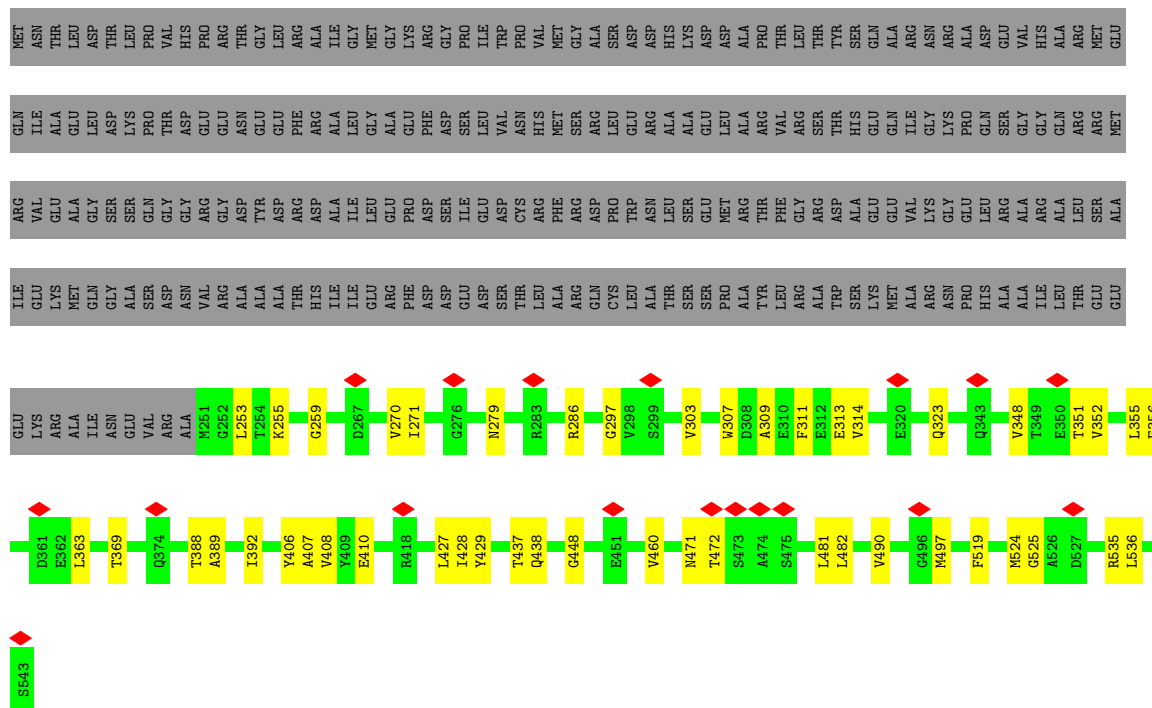


- Molecule 1: Phage capsid-like C-terminal domain-containing protein

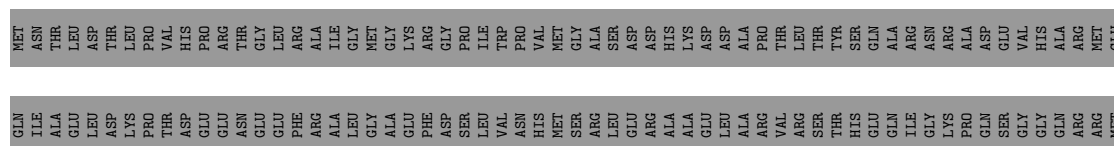
Chain i: 46% 8% 46%

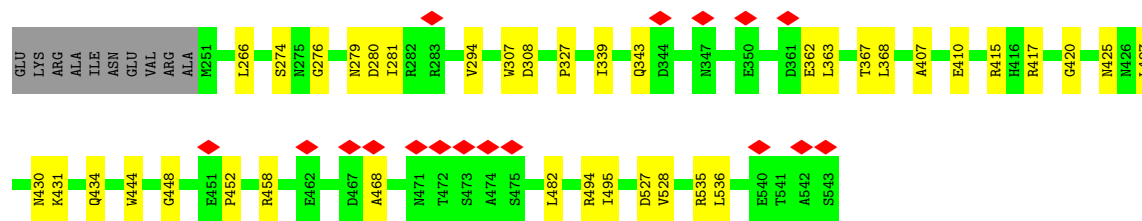


• Molecule 1: Phage capsid-like C-terminal domain-containing protein

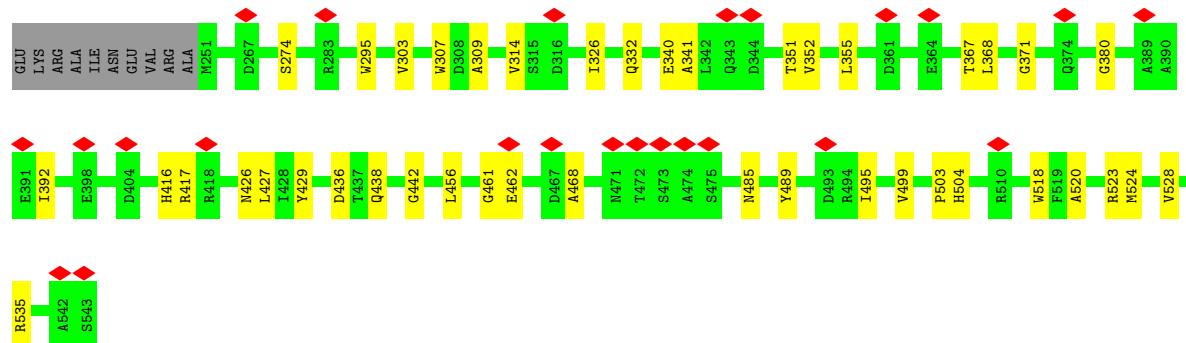
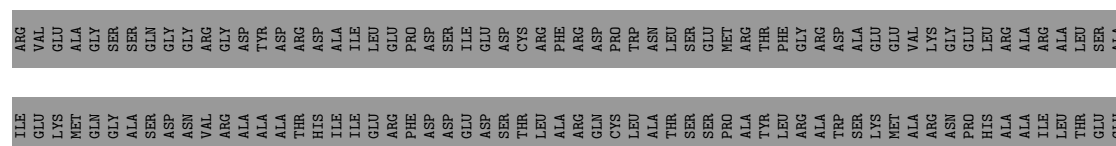
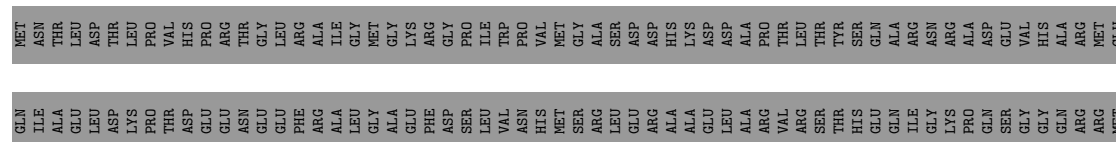


• Molecule 1: Phage capsid-like C-terminal domain-containing protein

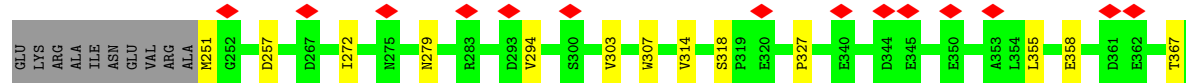
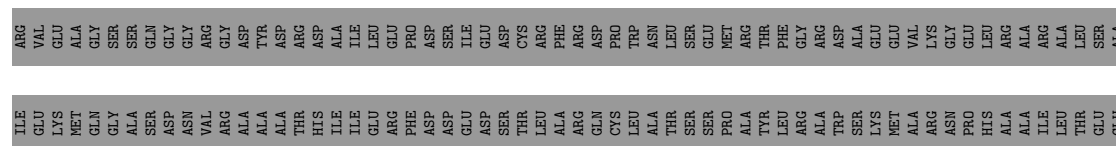
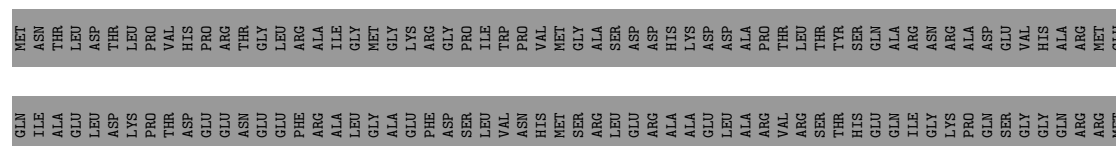


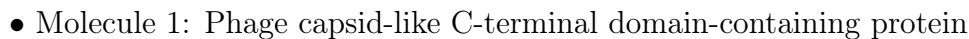


• Molecule 1: Phage capsid-like C-terminal domain-containing protein



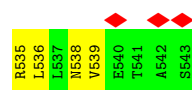
• Molecule 1: Phage capsid-like C-terminal domain-containing protein





- Molecule 1: Phage capsid-like C-terminal domain-containing protein





- Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain t: 48% 6% 46%

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

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

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

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

GLU LYS ARG ALA ILE ASN GLU VAL ARG ALA M251 T273 S274 N275 G276 N279 D280 I281 R282 R283 G287 D293 V307 D317 V328 F334 E340 D344 V348 T349 E350 T351 V352 A353 L354 L355 E358 D361 E362 T367 L368 T369 I392 E398

D404 V405 Y406 A407 E410 R415 R418 W444 P452 E464 A468 T472 S473 A474 S475 Q487 H488 Y489 D493 H504 R510 W518 F519 V528 R535 L536 L537 E540 T541 S543

- Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain u: 6% 47% 7% 46%

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

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

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

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

GLU LYS ARG ALA ILE ASN GLU VAL ARG ALA M251 T254 K255 A256 D257 I271 S274 N275 G276 S277 L278 N279 R283 Q287 T291 W307 D316 K329 S330 A331 I339 E340 A341 L342 Q343 D344 E345 T351 L355 K360 D361 E362 T367 L368 T369 T370

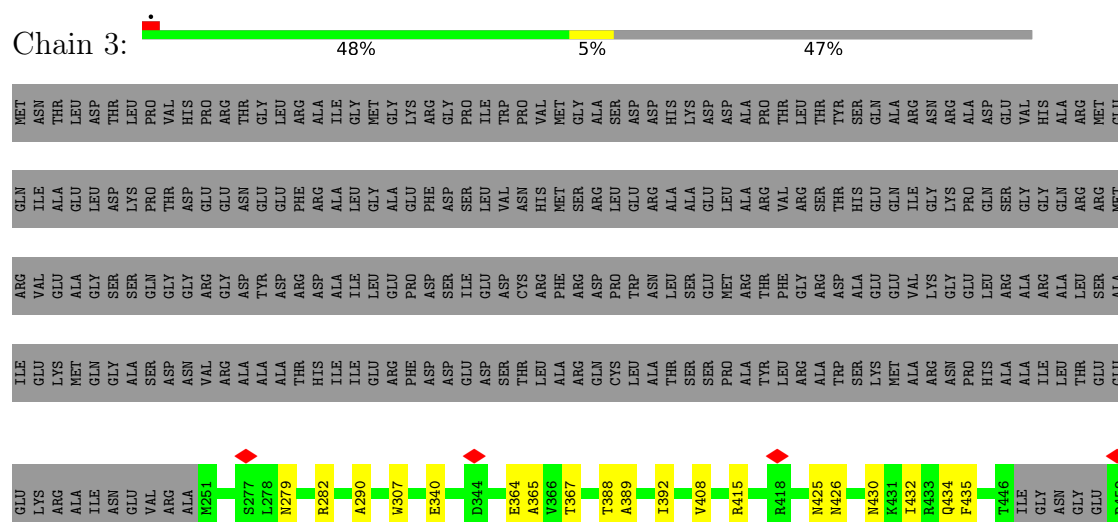
N376 A389 E398 D404 A407 E410 R418 W422 K431 I432 R433 N449 G450 E451 L456 E464 D467 N471 T472 S473 A474 S475 A476 D477 N478 F479 V480 L481 R494 M497 T498 V499 E500 F501 H504 R510 F519 A520 V529

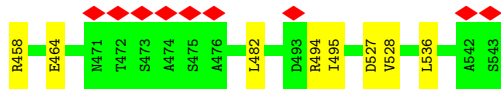
A542 S543

- Molecule 1: Phage capsid-like C-terminal domain-containing protein

- Molecule 1: Phage capsid-like C-terminal domain-containing protein

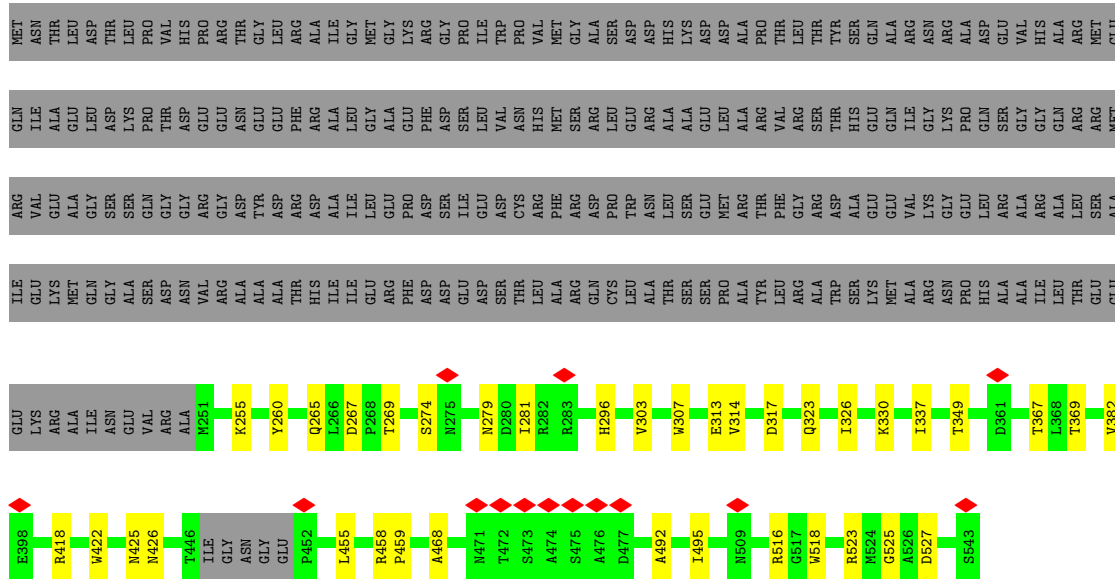
- Molecule 1: Phage capsid-like C-terminal domain-containing protein





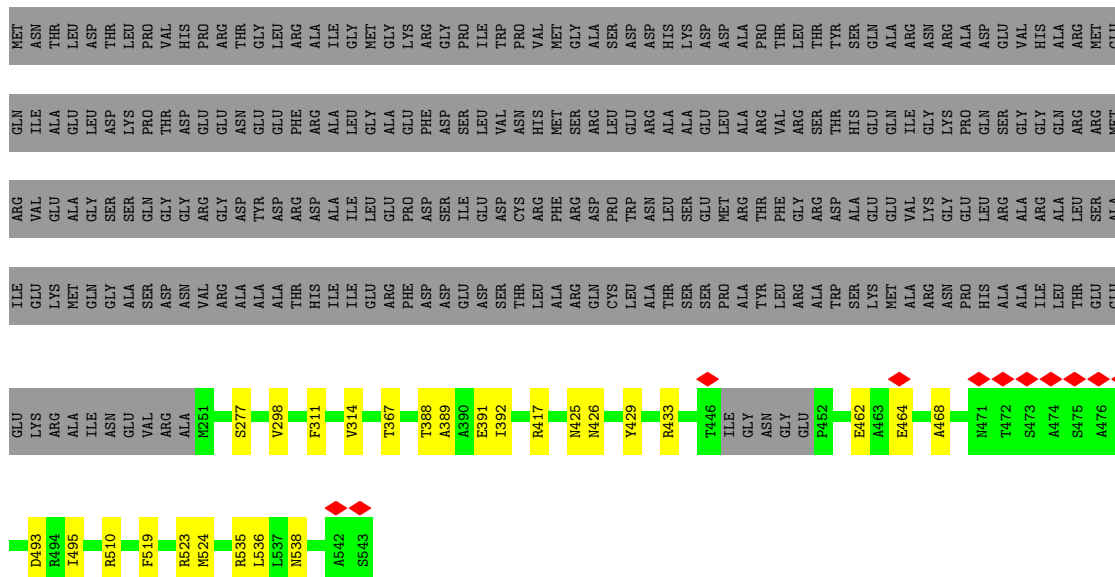
• Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain 4: 46% 7% 47%



• Molecule 1: Phage capsid-like C-terminal domain-containing protein

Chain 5: 48% 5% 47%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C5	Depositor
Number of particles used	19765	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 ($e^-/\text{\AA}^2$)	25.7	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.098	Depositor
Minimum map value	-0.051	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.0203	Depositor
Map size (Å)	823.2, 823.2, 823.2	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.6464, 1.6464, 1.6464	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	1	0.18	0/2258	0.36	0/3081
1	2	0.18	0/2258	0.37	0/3081
1	3	0.19	0/2258	0.38	0/3081
1	4	0.17	0/2258	0.37	0/3081
1	5	0.17	0/2258	0.36	0/3081
1	A	0.19	0/2292	0.37	0/3129
1	B	0.19	0/2292	0.35	0/3129
1	C	0.19	0/2292	0.37	0/3129
1	D	0.20	0/2292	0.40	0/3129
1	E	0.18	0/2292	0.36	0/3129
1	F	0.19	0/2292	0.40	0/3129
1	G	0.20	0/2292	0.38	0/3129
1	H	0.18	0/2292	0.36	0/3129
1	I	0.19	0/2292	0.37	0/3129
1	J	0.18	0/2292	0.36	0/3129
1	K	0.18	0/2292	0.38	0/3129
1	L	0.19	0/2292	0.37	0/3129
1	M	0.19	0/2292	0.37	0/3129
1	N	0.19	0/2292	0.38	0/3129
1	O	0.18	0/2292	0.37	0/3129
1	P	0.19	0/2292	0.37	0/3129
1	Q	0.17	0/2292	0.36	0/3129
1	R	0.18	0/2292	0.36	0/3129
1	S	0.19	0/2292	0.39	0/3129
1	T	0.20	0/2292	0.38	0/3129
1	U	0.19	0/2292	0.39	0/3129
1	V	0.18	0/2292	0.38	0/3129
1	W	0.18	0/2292	0.38	0/3129
1	X	0.19	0/2292	0.40	0/3129
1	Y	0.20	0/2292	0.42	0/3129
1	Z	0.18	0/2292	0.38	0/3129
1	a	0.19	0/2292	0.37	0/3129
1	b	0.18	0/2292	0.37	0/3129
1	c	0.19	0/2292	0.38	0/3129

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	d	0.18	0/2292	0.37	0/3129
1	e	0.19	0/2292	0.39	0/3129
1	f	0.18	0/2292	0.35	0/3129
1	g	0.18	0/2292	0.39	0/3129
1	h	0.17	0/2292	0.37	0/3129
1	i	0.18	0/2292	0.36	0/3129
1	j	0.18	0/2292	0.36	0/3129
1	k	0.18	0/2292	0.36	0/3129
1	l	0.18	0/2292	0.38	0/3129
1	m	0.17	0/2292	0.35	0/3129
1	n	0.17	0/2292	0.36	0/3129
1	o	0.17	0/2292	0.38	0/3129
1	p	0.17	0/2292	0.36	0/3129
1	q	0.18	0/2292	0.37	0/3129
1	r	0.19	0/2292	0.37	0/3129
1	s	0.17	0/2292	0.37	0/3129
1	t	0.16	0/2292	0.35	0/3129
1	u	0.18	0/2292	0.37	0/3129
1	v	0.18	0/2292	0.39	0/3129
1	w	0.19	0/2258	0.37	0/3081
All	All	0.18	0/123564	0.37	0/168678

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	1	2208	0	2122	34	0
1	2	2208	0	2122	20	0
1	3	2208	0	2122	21	0
1	4	2208	0	2122	26	0
1	5	2208	0	2122	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2241	0	2151	35	0
1	B	2241	0	2151	27	0
1	C	2241	0	2151	20	0
1	D	2241	0	2151	31	0
1	E	2241	0	2151	28	0
1	F	2241	0	2151	33	0
1	G	2241	0	2151	29	0
1	H	2241	0	2151	34	0
1	I	2241	0	2151	29	0
1	J	2241	0	2151	35	0
1	K	2241	0	2151	32	0
1	L	2241	0	2151	28	0
1	M	2241	0	2151	36	0
1	N	2241	0	2151	28	0
1	O	2241	0	2151	34	0
1	P	2241	0	2151	40	0
1	Q	2241	0	2151	31	0
1	R	2241	0	2151	33	0
1	S	2241	0	2151	33	0
1	T	2241	0	2151	25	0
1	U	2241	0	2151	43	0
1	V	2241	0	2151	29	0
1	W	2241	0	2151	41	0
1	X	2241	0	2151	34	0
1	Y	2241	0	2151	42	0
1	Z	2241	0	2151	34	0
1	a	2241	0	2151	29	0
1	b	2241	0	2151	35	0
1	c	2241	0	2151	25	0
1	d	2241	0	2151	37	0
1	e	2241	0	2151	47	0
1	f	2241	0	2151	35	0
1	g	2241	0	2151	39	0
1	h	2241	0	2151	26	0
1	i	2241	0	2151	32	0
1	j	2241	0	2151	35	0
1	k	2241	0	2151	33	0
1	l	2241	0	2151	31	0
1	m	2241	0	2151	30	0
1	n	2241	0	2151	30	0
1	o	2241	0	2151	29	0
1	p	2241	0	2151	38	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	q	2241	0	2151	27	0
1	r	2241	0	2151	33	0
1	s	2241	0	2151	31	0
1	t	2241	0	2151	29	0
1	u	2241	0	2151	28	0
1	v	2241	0	2151	28	0
1	w	2208	0	2122	11	0
All	All	120816	0	115980	1358	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 6.

All (1358) 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)
1:4:458:ARG:HE	1:4:459:PRO:HD2	1.21	1.06
1:N:307:TRP:HE1	1:O:367:THR:HG21	1.33	0.94
1:P:406:TYR:O	1:P:410:GLU:HB2	1.69	0.92
1:A:307:TRP:HE1	1:B:367:THR:HG21	1.35	0.91
1:S:307:TRP:HE1	1:T:367:THR:HG21	1.36	0.91
1:M:367:THR:HG21	1:R:307:TRP:HE1	1.36	0.89
1:D:307:TRP:HE1	1:E:367:THR:HG21	1.37	0.88
1:q:367:THR:HG21	1:v:307:TRP:HE1	1.37	0.88
1:o:307:TRP:HE1	1:p:367:THR:HG21	1.38	0.88
1:2:307:TRP:HE1	1:3:367:THR:HG21	1.37	0.88
1:I:307:TRP:HE1	1:J:367:THR:HG21	1.41	0.86
1:M:307:TRP:HE1	1:N:367:THR:HG21	1.41	0.86
1:O:392:ILE:HD11	1:O:535:ARG:HD2	1.57	0.86
1:G:367:THR:HG21	1:L:307:TRP:HE1	1.40	0.85
1:W:307:TRP:HE1	1:X:367:THR:HG21	1.42	0.85
1:k:367:THR:HG21	1:p:307:TRP:HE1	1.41	0.84
1:Y:307:TRP:HE1	1:Z:367:THR:HG21	1.41	0.84
1:U:307:TRP:HE1	1:V:367:THR:HG21	1.42	0.83
1:C:307:TRP:HE1	1:D:367:THR:HG21	1.45	0.82
1:J:307:TRP:HE1	1:K:367:THR:HG21	1.45	0.81
1:h:527:ASP:OD1	1:h:528:VAL:N	2.13	0.81
1:k:307:TRP:HE1	1:l:367:THR:HG21	1.44	0.81
1:K:307:TRP:HE1	1:L:367:THR:HG21	1.43	0.80
1:S:367:THR:HG21	1:X:307:TRP:HE1	1.45	0.80
1:t:307:TRP:HE1	1:u:367:THR:HG21	1.47	0.79
1:A:367:THR:HG21	1:F:307:TRP:HE1	1.48	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:c:307:TRP:HE1	1:d:367:THR:HG21	1.46	0.79
1:K:412:LEU:HD21	1:K:416:HIS:HB2	1.65	0.79
1:n:427:LEU:HD22	1:n:468:ALA:HB1	1.65	0.77
1:l:307:TRP:HE1	1:m:367:THR:HG21	1.51	0.76
1:Y:388:THR:HG21	1:Y:531:PRO:HB2	1.67	0.76
1:Z:307:TRP:HE1	1:a:367:THR:HG21	1.50	0.75
1:S:410:GLU:HG2	1:T:430:ASN:HD22	1.51	0.75
1:Z:412:LEU:HD21	1:Z:416:HIS:HB2	1.69	0.74
1:3:290:ALA:HA	1:4:265:GLN:HE22	1.53	0.74
1:M:343:GLN:HE21	1:U:523:ARG:HH11	1.35	0.73
1:2:282:ARG:NH2	1:2:364:GLU:OE2	2.20	0.73
1:T:307:TRP:HE1	1:U:367:THR:HG21	1.53	0.72
1:5:495:ILE:HG22	1:5:523:ARG:HB2	1.70	0.72
1:n:392:ILE:HD11	1:n:535:ARG:HD2	1.71	0.72
1:S:406:TYR:O	1:S:410:GLU:HG3	1.89	0.72
1:X:437:THR:HG23	1:X:438:GLN:HG3	1.71	0.72
1:j:253:LEU:HD21	1:s:340:GLU:HB2	1.70	0.72
1:i:494:ARG:HG2	1:i:495:ILE:HG13	1.71	0.71
1:B:415:ARG:NH2	1:C:274:SER:O	2.24	0.71
1:k:339:ILE:HG22	1:k:343:GLN:HE21	1.54	0.71
1:Z:427:LEU:HD22	1:Z:468:ALA:HB1	1.71	0.71
1:Y:367:THR:HG21	1:d:307:TRP:HE1	1.57	0.70
1:R:345:GLU:HG2	1:g:261:LEU:HB2	1.72	0.70
1:b:412:LEU:HD21	1:b:416:HIS:HB2	1.73	0.70
1:t:279:ASN:ND2	1:t:369:THR:OG1	2.24	0.69
1:e:307:TRP:HE1	1:f:367:THR:HG21	1.58	0.69
1:b:307:TRP:HE1	1:c:367:THR:HG21	1.58	0.69
1:1:415:ARG:NH1	1:2:274:SER:O	2.24	0.69
1:s:369:THR:HG22	1:s:370:THR:HG23	1.74	0.69
1:E:307:TRP:HE1	1:F:367:THR:HG21	1.57	0.69
1:A:427:LEU:HD12	1:A:468:ALA:HB1	1.75	0.68
1:a:392:ILE:HD11	1:a:535:ARG:HD2	1.74	0.68
1:d:509:ASN:N	1:k:313:GLU:OE2	2.26	0.68
1:k:330:LYS:NZ	1:k:332:GLN:OE1	2.25	0.68
1:s:279:ASN:ND2	1:s:369:THR:OG1	2.27	0.68
1:K:494:ARG:HG3	1:K:495:ILE:HG12	1.75	0.68
1:S:519:PHE:HE1	1:X:314:VAL:HG21	1.59	0.68
1:B:307:TRP:HE1	1:C:367:THR:HG21	1.59	0.68
1:m:307:TRP:HE1	1:n:367:THR:HG21	1.58	0.67
1:3:388:THR:HG22	1:3:389:ALA:H	1.59	0.67
1:e:519:PHE:HE1	1:j:314:VAL:HG11	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:w:392:ILE:HD11	1:w:535:ARG:HD2	1.75	0.67
1:Q:364:GLU:HG3	1:Q:524:MET:HE1	1.76	0.67
1:T:391:GLU:OE2	1:T:538:ASN:ND2	2.25	0.67
1:W:279:ASN:ND2	1:W:369:THR:OG1	2.28	0.66
1:W:292:GLY:O	1:W:494:ARG:NH1	2.28	0.66
1:b:307:TRP:NE1	1:c:367:THR:HG21	2.10	0.66
1:O:307:TRP:HE1	1:P:367:THR:HG21	1.60	0.66
1:Z:436:ASP:OD1	1:Z:440:GLY:N	2.28	0.66
1:Q:427:LEU:HD22	1:Q:468:ALA:HB1	1.78	0.66
1:Y:391:GLU:OE2	1:Y:538:ASN:ND2	2.28	0.66
1:M:522:TYR:OH	1:M:524:MET:SD	2.54	0.66
1:G:307:TRP:HE1	1:H:367:THR:HG21	1.59	0.66
1:J:420:GLY:H	1:J:458:ARG:HH21	1.43	0.66
1:N:479:PHE:HB3	1:N:536:LEU:HD21	1.78	0.66
1:b:388:THR:HG21	1:b:531:PRO:HB2	1.78	0.66
1:b:391:GLU:OE1	1:b:538:ASN:ND2	2.30	0.65
1:e:415:ARG:NH2	1:f:274:SER:O	2.29	0.65
1:q:307:TRP:HE1	1:r:367:THR:HG21	1.62	0.65
1:Y:494:ARG:HG3	1:Y:495:ILE:HG13	1.78	0.65
1:Q:392:ILE:HD11	1:Q:535:ARG:HD2	1.78	0.65
1:e:326:ILE:HG12	1:e:527:ASP:HB2	1.79	0.65
1:k:271:ILE:HD13	1:p:529:VAL:HG11	1.78	0.64
1:s:427:LEU:HD22	1:s:468:ALA:HB1	1.79	0.64
1:O:407:ALA:HA	1:O:410:GLU:HG2	1.78	0.64
1:s:314:VAL:HG11	1:t:519:PHE:HE1	1.62	0.64
1:a:494:ARG:HG3	1:a:495:ILE:HG13	1.79	0.64
1:q:367:THR:HG21	1:v:307:TRP:NE1	2.12	0.64
1:s:412:LEU:HD21	1:s:416:HIS:HB2	1.80	0.64
1:W:343:GLN:O	1:e:494:ARG:NH2	2.31	0.64
1:Z:407:ALA:HA	1:Z:410:GLU:HG2	1.80	0.64
1:h:392:ILE:HD11	1:h:535:ARG:HD2	1.79	0.64
1:j:471:ASN:OD1	1:j:472:THR:N	2.30	0.64
1:q:427:LEU:HD22	1:q:468:ALA:HB1	1.79	0.64
1:W:388:THR:HG22	1:W:389:ALA:H	1.63	0.64
1:i:406:TYR:O	1:i:410:GLU:HB2	1.98	0.64
1:V:482:LEU:HD12	1:V:536:LEU:HD12	1.80	0.64
1:H:307:TRP:HE1	1:I:367:THR:HG21	1.63	0.63
1:G:300:SER:OG	1:G:301:ALA:N	2.31	0.63
1:Y:307:TRP:NE1	1:Z:367:THR:HG21	2.12	0.63
1:r:314:VAL:HG11	1:s:519:PHE:HE1	1.64	0.63
1:e:352:VAL:HG11	1:e:518:TRP:HZ3	1.61	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:d:282:ARG:NH2	1:d:493:ASP:OD1	2.31	0.63
1:H:418:ARG:HH21	1:I:278:LEU:HD11	1.64	0.63
1:S:279:ASN:ND2	1:S:369:THR:OG1	2.31	0.63
1:g:415:ARG:NH2	1:h:274:SER:O	2.30	0.63
1:F:511:ARG:NH1	1:G:314:VAL:O	2.29	0.62
1:g:427:LEU:HD12	1:g:468:ALA:HB1	1.81	0.62
1:u:255:LYS:HE3	1:u:255:LYS:HA	1.81	0.62
1:M:274:SER:O	1:R:415:ARG:NH2	2.32	0.62
1:P:307:TRP:NE1	1:Q:367:THR:HG21	2.14	0.62
1:R:522:TYR:OH	1:R:524:MET:SD	2.54	0.62
1:1:282:ARG:NH1	1:1:364:GLU:OE1	2.32	0.62
1:H:479:PHE:HB3	1:H:536:LEU:HD11	1.82	0.62
1:c:527:ASP:OD2	1:c:528:VAL:N	2.31	0.62
1:M:388:THR:HG22	1:M:389:ALA:H	1.65	0.62
1:Q:356:PHE:HB3	1:Q:497:MET:HE1	1.79	0.62
1:1:307:TRP:HE1	1:2:367:THR:HG21	1.64	0.62
1:X:326:ILE:HG12	1:X:527:ASP:HB3	1.82	0.62
1:d:527:ASP:OD1	1:d:528:VAL:N	2.30	0.62
1:o:369:THR:HG22	1:o:370:THR:HG23	1.81	0.62
1:g:307:TRP:HZ2	1:h:367:THR:HG21	1.64	0.62
1:3:307:TRP:HE1	1:4:367:THR:HG21	1.64	0.62
1:A:279:ASN:ND2	1:A:369:THR:OG1	2.30	0.62
1:C:482:LEU:HD12	1:C:536:LEU:HD13	1.80	0.62
1:S:307:TRP:NE1	1:T:367:THR:HG21	2.12	0.62
1:a:391:GLU:OE2	1:a:538:ASN:ND2	2.31	0.62
1:f:425:ASN:HD22	1:f:468:ALA:HB2	1.64	0.62
1:k:411:GLN:HB2	1:k:535:ARG:HD2	1.81	0.62
1:t:279:ASN:ND2	1:t:369:THR:HG1	1.97	0.62
1:2:391:GLU:OE2	1:2:538:ASN:ND2	2.30	0.62
1:E:303:VAL:HG23	1:F:355:LEU:HB3	1.82	0.61
1:N:279:ASN:OD1	1:N:281:ILE:HG13	2.00	0.61
1:N:369:THR:HG22	1:N:370:THR:HG23	1.82	0.61
1:P:307:TRP:HE1	1:Q:367:THR:HG21	1.65	0.61
1:W:392:ILE:HD11	1:W:535:ARG:HD2	1.81	0.61
1:O:494:ARG:HG3	1:O:495:ILE:HG12	1.82	0.61
1:V:432:ILE:HA	1:V:435:PHE:CE2	2.36	0.61
1:f:412:LEU:HD21	1:f:416:HIS:HB2	1.81	0.61
1:5:482:LEU:HD12	1:5:536:LEU:HD13	1.82	0.61
1:e:352:VAL:HG21	1:e:518:TRP:CZ3	2.35	0.61
1:k:388:THR:HG21	1:k:531:PRO:HB2	1.83	0.61
1:q:307:TRP:NE1	1:r:367:THR:HG21	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:425:ASN:HD22	1:R:468:ALA:HB2	1.65	0.61
1:X:406:TYR:O	1:X:410:GLU:HG2	2.00	0.61
1:h:482:LEU:HD12	1:h:536:LEU:HD13	1.81	0.61
1:G:271:ILE:HD13	1:L:529:VAL:HG11	1.82	0.60
1:P:354:LEU:O	1:P:358:GLU:HG2	2.01	0.60
1:p:467:ASP:OD2	1:p:478:ASN:ND2	2.31	0.60
1:Q:313:GLU:OE2	1:V:508:THR:N	2.34	0.60
1:V:529:VAL:HG11	1:W:271:ILE:HD13	1.83	0.60
1:e:406:TYR:O	1:e:410:GLU:HG3	2.01	0.60
1:3:482:LEU:HD12	1:3:536:LEU:HD13	1.83	0.60
1:A:388:THR:HG22	1:A:389:ALA:H	1.64	0.60
1:K:415:ARG:NH2	1:L:274:SER:O	2.34	0.60
1:5:391:GLU:OE2	1:5:538:ASN:ND2	2.35	0.60
1:t:279:ASN:HD21	1:t:369:THR:HG1	1.50	0.60
1:H:407:ALA:HA	1:H:410:GLU:HG2	1.83	0.59
1:e:307:TRP:NE1	1:f:367:THR:HG21	2.17	0.59
1:j:482:LEU:HD12	1:j:536:LEU:HD13	1.84	0.59
1:W:494:ARG:HG3	1:W:495:ILE:HG13	1.83	0.59
1:Z:415:ARG:NH2	1:a:274:SER:O	2.34	0.59
1:S:410:GLU:HG2	1:T:430:ASN:ND2	2.17	0.59
1:G:420:GLY:H	1:G:458:ARG:HH11	1.51	0.59
1:a:307:TRP:HE1	1:b:367:THR:HG21	1.68	0.59
1:o:279:ASN:ND2	1:o:369:THR:OG1	2.35	0.59
1:M:314:VAL:HG21	1:N:519:PHE:HE1	1.66	0.59
1:d:279:ASN:OD1	1:d:281:ILE:HD12	2.02	0.59
1:e:392:ILE:HD11	1:e:535:ARG:HD2	1.84	0.59
1:S:367:THR:HG21	1:X:307:TRP:NE1	2.18	0.59
1:3:494:ARG:HG3	1:3:495:ILE:HG13	1.85	0.59
1:F:433:ARG:NH2	1:F:449:ASN:O	2.30	0.59
1:Y:340:GLU:HG3	1:g:523:ARG:HH12	1.68	0.58
1:n:503:PRO:O	1:n:504:HIS:ND1	2.36	0.58
1:r:372:THR:HG22	1:r:374:GLN:H	1.67	0.58
1:s:471:ASN:OD1	1:s:472:THR:N	2.36	0.58
1:C:352:VAL:HG21	1:C:518:TRP:HZ3	1.68	0.58
1:V:314:VAL:HG21	1:W:519:PHE:HE1	1.68	0.58
1:d:500:GLU:OE2	1:h:504:HIS:NE2	2.28	0.58
1:s:479:PHE:HB3	1:s:536:LEU:HD11	1.84	0.58
1:F:396:THR:HG23	1:F:399:THR:HB	1.85	0.58
1:W:427:LEU:HD12	1:W:468:ALA:HB3	1.84	0.58
1:f:426:ASN:ND2	1:f:462:GLU:OE2	2.35	0.58
1:j:356:PHE:HB3	1:j:497:MET:HE1	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:429:TYR:O	1:5:433:ARG:HG3	2.03	0.58
1:N:406:TYR:O	1:N:410:GLU:HB2	2.03	0.58
1:D:388:THR:HG22	1:D:389:ALA:H	1.68	0.58
1:F:388:THR:HG22	1:F:389:ALA:H	1.69	0.58
1:T:425:ASN:HD22	1:T:468:ALA:HB2	1.68	0.58
1:e:417:ARG:HH22	1:f:426:ASN:HD21	1.52	0.58
1:h:326:ILE:HG12	1:h:527:ASP:HB3	1.83	0.58
1:Y:314:VAL:HG21	1:Z:519:PHE:HE1	1.68	0.58
1:b:294:VAL:HG22	1:b:327:PRO:HA	1.85	0.58
1:X:396:THR:HG23	1:X:399:THR:HB	1.85	0.58
1:j:437:THR:HG23	1:j:438:GLN:HG3	1.86	0.58
1:T:439:GLY:HA2	1:T:443:LEU:HD21	1.85	0.57
1:v:282:ARG:NH2	1:v:364:GLU:OE2	2.37	0.57
1:U:314:VAL:HG11	1:V:519:PHE:HE1	1.70	0.57
1:n:416:HIS:HB3	1:n:485:ASN:HB2	1.85	0.57
1:O:307:TRP:NE1	1:P:367:THR:HG21	2.18	0.57
1:O:529:VAL:HG11	1:P:271:ILE:HD13	1.85	0.57
1:Y:324:PRO:HG3	1:Y:529:VAL:HG13	1.86	0.57
1:f:307:TRP:HZ2	1:g:367:THR:HG21	1.69	0.57
1:g:369:THR:HG22	1:g:370:THR:HG23	1.85	0.57
1:e:392:ILE:HD12	1:e:408:VAL:HG12	1.85	0.57
1:4:255:LYS:HB3	1:4:260:TYR:CE1	2.39	0.57
1:1:455:LEU:HD23	1:1:456:LEU:HG	1.84	0.57
1:Z:438:GLN:N	1:Z:438:GLN:OE1	2.38	0.57
1:s:300:SER:O	1:t:273:THR:OG1	2.21	0.57
1:t:392:ILE:HD11	1:t:535:ARG:HD2	1.85	0.57
1:A:392:ILE:HD12	1:A:408:VAL:HG12	1.86	0.57
1:A:417:ARG:O	1:A:483:TYR:OH	2.21	0.57
1:J:415:ARG:NH1	1:K:274:SER:O	2.37	0.57
1:V:479:PHE:HB3	1:V:536:LEU:HD21	1.86	0.57
1:u:433:ARG:NH2	1:u:449:ASN:O	2.30	0.57
1:Q:524:MET:HG2	1:Q:525:GLY:N	2.20	0.57
1:U:479:PHE:HB3	1:U:536:LEU:HD11	1.86	0.57
1:k:482:LEU:HD12	1:k:536:LEU:HD13	1.85	0.57
1:2:392:ILE:HD11	1:2:535:ARG:HD2	1.87	0.57
1:g:471:ASN:OD1	1:g:472:THR:N	2.36	0.57
1:h:307:TRP:HZ2	1:i:367:THR:HG21	1.70	0.57
1:o:318:SER:HA	1:p:335:VAL:HG23	1.87	0.57
1:Y:286:ARG:HD3	1:Y:490:VAL:HG22	1.85	0.56
1:l:282:ARG:NE	1:l:364:GLU:OE2	2.32	0.56
1:U:279:ASN:ND2	1:U:369:THR:OG1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:415:ARG:NH1	1:W:274:SER:O	2.38	0.56
1:Y:279:ASN:ND2	1:Y:369:THR:OG1	2.36	0.56
1:c:352:VAL:HG21	1:c:518:TRP:HZ3	1.69	0.56
1:A:418:ARG:NH2	1:B:462:GLU:OE2	2.38	0.56
1:R:482:LEU:HD12	1:R:536:LEU:HD13	1.87	0.56
1:T:420:GLY:H	1:T:458:ARG:HH21	1.51	0.56
1:o:494:ARG:HG3	1:o:495:ILE:HG13	1.86	0.56
1:q:330:LYS:HG3	1:q:523:ARG:HG2	1.86	0.56
1:t:307:TRP:NE1	1:u:367:THR:HG21	2.19	0.56
1:t:351:THR:O	1:t:355:LEU:HG	2.05	0.56
1:f:309:ALA:N	1:g:376:ASN:HD21	2.02	0.56
1:p:482:LEU:HD12	1:p:536:LEU:HD13	1.88	0.56
1:q:352:VAL:HG21	1:q:518:TRP:CZ3	2.40	0.56
1:v:522:TYR:OH	1:v:524:MET:SD	2.62	0.56
1:X:278:LEU:N	1:X:464:GLU:OE2	2.33	0.56
1:k:507:GLY:HA3	1:r:313:GLU:OE2	2.05	0.56
1:n:307:TRP:CD1	1:o:367:THR:HG21	2.41	0.56
1:A:278:LEU:HD22	1:F:418:ARG:HH12	1.71	0.56
1:F:406:TYR:O	1:F:409:TYR:N	2.39	0.56
1:H:427:LEU:HD22	1:H:468:ALA:HB1	1.86	0.56
1:R:295:TRP:HB3	1:R:326:ILE:HB	1.87	0.56
1:c:392:ILE:HD11	1:c:535:ARG:HD2	1.86	0.56
1:m:307:TRP:NE1	1:n:367:THR:HG21	2.20	0.56
1:4:495:ILE:HG22	1:4:523:ARG:HB2	1.87	0.56
1:Z:494:ARG:HG3	1:Z:495:ILE:HG13	1.87	0.56
1:a:425:ASN:HD22	1:a:468:ALA:HB2	1.71	0.56
1:l:522:TYR:OH	1:l:524:MET:SD	2.58	0.56
1:1:392:ILE:HD11	1:1:535:ARG:HD2	1.88	0.56
1:R:508:THR:N	1:e:313:GLU:OE2	2.39	0.56
1:Z:482:LEU:HD12	1:Z:536:LEU:HD13	1.87	0.56
1:r:279:ASN:ND2	1:r:369:THR:OG1	2.39	0.56
1:5:392:ILE:HD11	1:5:535:ARG:HD2	1.87	0.56
1:K:511:ARG:NH1	1:R:314:VAL:O	2.39	0.56
1:Q:314:VAL:HG21	1:R:519:PHE:HE1	1.70	0.56
1:l:279:ASN:OD1	1:l:281:ILE:HD12	2.06	0.56
1:p:369:THR:HG21	1:p:466:MET:HG2	1.87	0.56
1:4:303:VAL:HG13	1:4:317:ASP:HB3	1.88	0.56
1:Q:456:LEU:H	1:R:448:GLY:HA2	1.71	0.56
1:U:427:LEU:HD13	1:U:468:ALA:HB1	1.87	0.56
1:Y:392:ILE:HG13	1:Y:393:ALA:H	1.71	0.56
1:O:313:GLU:OE2	1:Z:508:THR:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:n:371:GLY:H	1:n:380:GLY:HA3	1.71	0.55
1:F:337:ILE:HD13	1:I:251:MET:HE2	1.87	0.55
1:O:532:ASN:ND2	1:P:275:ASN:OD1	2.39	0.55
1:Q:407:ALA:HA	1:Q:410:GLU:HG2	1.88	0.55
1:X:388:THR:HG22	1:X:389:ALA:H	1.71	0.55
1:m:279:ASN:OD1	1:m:280:ASP:N	2.40	0.55
1:U:313:GLU:HG2	1:f:511:ARG:HB2	1.88	0.55
1:X:391:GLU:OE2	1:X:538:ASN:ND2	2.34	0.55
1:M:367:THR:HG21	1:R:307:TRP:NE1	2.16	0.55
1:P:279:ASN:ND2	1:P:369:THR:OG1	2.40	0.55
1:b:479:PHE:HB3	1:b:536:LEU:HD21	1.87	0.55
1:e:427:LEU:HG	1:e:468:ALA:HB1	1.88	0.55
1:k:307:TRP:NE1	1:l:367:THR:HG21	2.18	0.55
1:l:279:ASN:OD1	1:l:281:ILE:HG12	2.05	0.55
1:e:367:THR:HG21	1:j:307:TRP:HZ2	1.71	0.55
1:W:282:ARG:NH1	1:W:287:GLN:OE1	2.40	0.55
1:e:279:ASN:OD1	1:e:281:ILE:HG13	2.07	0.55
1:l:358:GLU:O	1:l:362:GLU:HG3	2.05	0.55
1:t:415:ARG:NH2	1:u:274:SER:O	2.39	0.55
1:q:279:ASN:ND2	1:q:369:THR:OG1	2.40	0.55
1:V:410:GLU:HG3	1:W:427:LEU:HD23	1.88	0.55
1:e:358:GLU:O	1:e:362:GLU:HG3	2.07	0.55
1:n:426:ASN:ND2	1:n:462:GLU:OE2	2.33	0.55
1:3:432:ILE:HA	1:3:435:PHE:CD2	2.42	0.55
1:Z:529:VAL:HG11	1:a:271:ILE:HD13	1.88	0.55
1:d:508:THR:HA	1:h:510:ARG:HD3	1.89	0.55
1:2:425:ASN:HD22	1:2:468:ALA:HB2	1.71	0.55
1:J:494:ARG:HG3	1:J:495:ILE:HG13	1.89	0.54
1:M:508:THR:N	1:T:313:GLU:OE2	2.40	0.54
1:g:495:ILE:HD12	1:g:523:ARG:HD3	1.88	0.54
1:u:478:ASN:O	1:u:480:VAL:HG13	2.07	0.54
1:3:392:ILE:HD11	1:3:408:VAL:HG22	1.89	0.54
1:Y:519:PHE:HE1	1:d:314:VAL:HG11	1.72	0.54
1:Z:307:TRP:NE1	1:a:367:THR:HG21	2.19	0.54
1:g:494:ARG:HB3	1:g:523:ARG:HG3	1.88	0.54
1:m:308:ASP:OD2	1:n:332:GLN:NE2	2.39	0.54
1:D:354:LEU:O	1:D:358:GLU:HG2	2.07	0.54
1:P:313:GLU:OE2	1:g:508:THR:N	2.40	0.54
1:Z:279:ASN:OD1	1:Z:281:ILE:HD12	2.07	0.54
1:d:418:ARG:HB2	1:d:418:ARG:NH1	2.22	0.54
1:5:425:ASN:HD22	1:5:468:ALA:HB2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:439:GLY:HA2	1:O:443:LEU:HD21	1.89	0.54
1:V:324:PRO:HG3	1:V:529:VAL:HG13	1.89	0.54
1:W:508:THR:N	1:j:313:GLU:OE2	2.41	0.54
1:P:314:VAL:HG21	1:Q:519:PHE:HE1	1.73	0.54
1:b:350:GLU:O	1:b:354:LEU:HG	2.08	0.54
1:o:439:GLY:HA2	1:o:443:LEU:HD21	1.89	0.54
1:I:392:ILE:HD11	1:I:535:ARG:HD2	1.88	0.54
1:d:425:ASN:HD22	1:d:468:ALA:HB2	1.73	0.54
1:g:360:LYS:HD2	1:g:497:MET:HB2	1.89	0.54
1:J:342:LEU:HD13	1:J:516:ARG:HD3	1.90	0.54
1:P:296:HIS:ND1	1:P:323:GLN:OE1	2.40	0.54
1:d:404:ASP:HB3	1:d:537:LEU:HD11	1.89	0.54
1:d:478:ASN:O	1:d:480:VAL:HG13	2.08	0.54
1:l:307:TRP:NE1	1:m:367:THR:HG21	2.21	0.54
1:t:407:ALA:HA	1:t:410:GLU:HG2	1.90	0.54
1:B:404:ASP:HB3	1:B:537:LEU:HD11	1.89	0.54
1:p:499:VAL:HG22	1:p:520:ALA:HB2	1.90	0.54
1:2:494:ARG:HG3	1:2:495:ILE:HG13	1.90	0.54
1:S:279:ASN:ND2	1:S:369:THR:HG1	2.05	0.54
1:Y:479:PHE:HB3	1:Y:536:LEU:HD11	1.90	0.54
1:d:287:GLN:HG2	1:d:491:ILE:HD11	1.89	0.54
1:1:519:PHE:HE1	1:5:314:VAL:HG11	1.72	0.53
1:3:307:TRP:NE1	1:4:367:THR:HG21	2.23	0.53
1:4:458:ARG:NE	1:4:459:PRO:HD2	2.06	0.53
1:L:416:HIS:HB3	1:L:485:ASN:HB2	1.89	0.53
1:P:410:GLU:OE2	1:Q:427:LEU:HG	2.08	0.53
1:Z:314:VAL:HG11	1:a:519:PHE:HE1	1.74	0.53
1:1:402:LEU:HD11	1:1:443:LEU:HD11	1.91	0.53
1:N:338:SER:OG	1:N:340:GLU:OE1	2.25	0.53
1:W:482:LEU:HD12	1:W:536:LEU:HD13	1.91	0.53
1:o:251:MET:HA	1:o:257:ASP:HB3	1.91	0.53
1:p:342:LEU:HD23	1:p:516:ARG:HH11	1.73	0.53
1:R:287:GLN:HG2	1:R:491:ILE:HD11	1.88	0.53
1:c:407:ALA:HA	1:c:410:GLU:HG2	1.90	0.53
1:I:482:LEU:HD12	1:I:536:LEU:HD13	1.90	0.53
1:P:392:ILE:HD11	1:P:408:VAL:HG22	1.91	0.53
1:a:522:TYR:CE2	1:a:524:MET:HE3	2.43	0.53
1:h:251:MET:HA	1:h:257:ASP:HB3	1.89	0.53
1:i:388:THR:HG22	1:i:389:ALA:H	1.73	0.53
1:j:286:ARG:HD3	1:j:490:VAL:HG12	1.89	0.53
1:n:295:TRP:HB3	1:n:326:ILE:HB	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:425:ASN:HD22	1:J:468:ALA:HB2	1.74	0.53
1:Y:354:LEU:O	1:Y:358:GLU:HG2	2.08	0.53
1:a:349:THR:HG22	1:a:518:TRP:HZ2	1.73	0.53
1:a:354:LEU:O	1:a:358:GLU:HG2	2.09	0.53
1:h:388:THR:HG22	1:h:389:ALA:H	1.74	0.53
1:F:482:LEU:HD12	1:F:536:LEU:HD13	1.90	0.53
1:c:396:THR:HG23	1:c:399:THR:HB	1.89	0.53
1:e:388:THR:HG21	1:e:531:PRO:HB2	1.90	0.53
1:G:522:TYR:HE2	1:G:524:MET:HE2	1.72	0.53
1:J:313:GLU:OE2	1:U:509:ASN:HB2	2.09	0.53
1:K:307:TRP:NE1	1:L:367:THR:HG21	2.19	0.53
1:i:282:ARG:NH1	1:i:364:GLU:OE1	2.42	0.53
1:G:428:ILE:O	1:G:432:ILE:HG12	2.08	0.53
1:N:388:THR:HG22	1:N:389:ALA:H	1.74	0.53
1:h:367:THR:HG23	1:h:368:LEU:HD12	1.91	0.53
1:j:388:THR:HG22	1:j:389:ALA:H	1.73	0.53
1:w:425:ASN:HD22	1:w:468:ALA:HB2	1.74	0.53
1:E:372:THR:HA	1:E:383:THR:HG21	1.91	0.53
1:Z:456:LEU:H	1:a:448:GLY:HA2	1.73	0.53
1:4:418:ARG:NH1	1:5:462:GLU:OE2	2.41	0.52
1:X:279:ASN:OD1	1:X:281:ILE:HG13	2.09	0.52
1:1:428:ILE:O	1:1:432:ILE:HG12	2.09	0.52
1:P:524:MET:HG2	1:P:525:GLY:N	2.25	0.52
1:f:406:TYR:O	1:f:410:GLU:HG2	2.09	0.52
1:i:529:VAL:HG11	1:j:271:ILE:HD13	1.91	0.52
1:2:307:TRP:NE1	1:3:367:THR:HG21	2.17	0.52
1:H:350:GLU:OE2	1:H:350:GLU:N	2.42	0.52
1:K:396:THR:HG23	1:K:399:THR:HB	1.90	0.52
1:K:427:LEU:HD12	1:K:468:ALA:HB1	1.92	0.52
1:L:427:LEU:HD22	1:L:468:ALA:HB1	1.92	0.52
1:d:282:ARG:O	1:d:287:GLN:NE2	2.43	0.52
1:Y:495:ILE:HD12	1:Y:523:ARG:HD3	1.90	0.52
1:j:524:MET:HG2	1:j:525:GLY:H	1.73	0.52
1:l:372:THR:HG22	1:l:377:GLN:HB2	1.92	0.52
1:v:396:THR:HG23	1:v:399:THR:HB	1.91	0.52
1:T:406:TYR:O	1:T:410:GLU:HG3	2.10	0.52
1:m:427:LEU:HG	1:m:431:LYS:NZ	2.25	0.52
1:1:425:ASN:HD22	1:1:468:ALA:HB2	1.74	0.52
1:G:338:SER:OG	1:G:340:GLU:HG2	2.10	0.52
1:H:489:TYR:HD1	1:H:528:VAL:HG22	1.75	0.52
1:b:371:GLY:H	1:b:380:GLY:HA3	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:e:354:LEU:O	1:e:358:GLU:HG2	2.10	0.52
1:k:305:TRP:HB2	1:l:363:LEU:HD22	1.92	0.52
1:1:303:VAL:HG13	1:1:317:ASP:HB3	1.91	0.52
1:J:406:TYR:O	1:J:410:GLU:HG3	2.10	0.52
1:g:279:ASN:OD1	1:g:280:ASP:N	2.43	0.52
1:i:469:ASN:HB3	1:i:472:THR:HG22	1.92	0.52
1:4:307:TRP:HE1	1:5:367:THR:HG21	1.74	0.52
1:H:334:PHE:CE2	1:H:336:PRO:HG3	2.45	0.51
1:U:293:ASP:OD2	1:U:293:ASP:N	2.41	0.51
1:a:294:VAL:HG12	1:a:327:PRO:HA	1.92	0.51
1:m:279:ASN:OD1	1:m:281:ILE:HG13	2.11	0.51
1:W:360:LYS:HE2	1:W:497:MET:HB2	1.93	0.51
1:a:307:TRP:NE1	1:b:367:THR:HG21	2.25	0.51
1:l:482:LEU:HD12	1:l:536:LEU:HD13	1.91	0.51
1:n:368:LEU:HD21	1:n:524:MET:HE1	1.91	0.51
1:4:492:ALA:N	1:4:525:GLY:O	2.43	0.51
1:D:324:PRO:HG3	1:D:529:VAL:HG13	1.91	0.51
1:U:351:THR:O	1:U:355:LEU:HG	2.10	0.51
1:U:488:ASN:ND2	1:U:530:ASN:HB3	2.25	0.51
1:f:529:VAL:HG11	1:g:271:ILE:HD13	1.92	0.51
1:q:524:MET:HG2	1:q:525:GLY:N	2.25	0.51
1:2:286:ARG:HB3	1:2:490:VAL:HG12	1.92	0.51
1:C:427:LEU:HD13	1:C:468:ALA:HB1	1.92	0.51
1:D:341:ALA:HB1	1:D:345:GLU:OE2	2.10	0.51
1:J:345:GLU:HG2	1:1:261:LEU:HB2	1.92	0.51
1:M:410:GLU:OE1	1:N:430:ASN:ND2	2.42	0.51
1:N:388:THR:HG22	1:N:389:ALA:N	2.25	0.51
1:O:437:THR:HG23	1:O:438:GLN:HG3	1.93	0.51
1:X:388:THR:HG22	1:X:389:ALA:N	2.25	0.51
1:W:417:ARG:HG2	1:W:417:ARG:HH11	1.75	0.51
1:p:279:ASN:OD1	1:p:280:ASP:N	2.42	0.51
1:J:314:VAL:HG11	1:K:519:PHE:HE2	1.75	0.51
1:W:478:ASN:O	1:W:480:VAL:HG13	2.10	0.51
1:P:406:TYR:O	1:P:410:GLU:CB	2.51	0.51
1:V:500:GLU:OE1	1:f:504:HIS:NE2	2.36	0.51
1:W:305:TRP:HB2	1:X:363:LEU:HD22	1.93	0.51
1:o:482:LEU:HD12	1:o:536:LEU:HD13	1.92	0.51
1:s:482:LEU:HD12	1:s:536:LEU:HD13	1.93	0.51
1:3:282:ARG:NE	1:3:364:GLU:OE2	2.43	0.51
1:L:364:GLU:OE1	1:L:522:TYR:OH	2.24	0.51
1:X:433:ARG:NH2	1:X:449:ASN:O	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:527:ASP:OD1	1:X:528:VAL:N	2.41	0.51
1:i:495:ILE:HD12	1:i:523:ARG:HD3	1.92	0.51
1:j:428:ILE:HG21	1:j:481:LEU:HD13	1.93	0.51
1:C:479:PHE:HB3	1:C:536:LEU:HD11	1.93	0.51
1:M:338:SER:OG	1:M:340:GLU:OE1	2.28	0.51
1:T:307:TRP:NE1	1:U:367:THR:HG21	2.22	0.51
1:W:398:GLU:HG3	1:W:541:THR:HG22	1.92	0.51
1:d:358:GLU:O	1:d:362:GLU:HG3	2.10	0.51
1:i:406:TYR:O	1:i:410:GLU:CB	2.59	0.51
1:k:367:THR:HG21	1:p:307:TRP:NE1	2.17	0.51
1:1:282:ARG:O	1:1:287:GLN:NE2	2.44	0.51
1:D:352:VAL:HG11	1:D:518:TRP:HZ3	1.76	0.51
1:D:482:LEU:HD13	1:D:536:LEU:HD13	1.93	0.51
1:E:425:ASN:HD22	1:E:468:ALA:HB2	1.75	0.51
1:U:296:HIS:CD2	1:U:325:GLU:HG2	2.46	0.51
1:e:420:GLY:H	1:e:458:ARG:HH11	1.59	0.51
1:p:396:THR:HG23	1:p:399:THR:HB	1.93	0.51
1:v:364:GLU:HA	1:v:367:THR:HG22	1.93	0.51
1:v:433:ARG:NH2	1:v:449:ASN:O	2.35	0.51
1:A:291:THR:O	1:A:494:ARG:NH1	2.44	0.50
1:H:307:TRP:NE1	1:I:367:THR:HG21	2.26	0.50
1:P:489:TYR:HD1	1:P:528:VAL:HG22	1.76	0.50
1:R:478:ASN:O	1:R:480:VAL:HG13	2.10	0.50
1:W:412:LEU:HD13	1:W:535:ARG:HG2	1.92	0.50
1:b:279:ASN:OD1	1:b:280:ASP:N	2.44	0.50
1:i:314:VAL:HG11	1:j:519:PHE:HE1	1.75	0.50
1:N:508:THR:OG1	1:5:510:ARG:NH1	2.44	0.50
1:Q:340:GLU:OE2	1:Y:523:ARG:NE	2.45	0.50
1:l:305:TRP:HB2	1:m:363:LEU:HD22	1.93	0.50
1:t:404:ASP:HB3	1:t:537:LEU:HD11	1.93	0.50
1:w:524:MET:HG2	1:w:525:GLY:N	2.26	0.50
1:J:432:ILE:HA	1:J:435:PHE:CD2	2.46	0.50
1:M:351:THR:O	1:M:355:LEU:HG	2.11	0.50
1:S:392:ILE:HG22	1:S:393:ALA:H	1.75	0.50
1:k:388:THR:HG22	1:k:389:ALA:H	1.77	0.50
1:t:398:GLU:HG2	1:t:541:THR:HA	1.94	0.50
1:4:314:VAL:HG11	1:5:519:PHE:HE1	1.76	0.50
1:J:286:ARG:HD3	1:J:490:VAL:HG22	1.93	0.50
1:J:371:GLY:O	1:J:383:THR:HG21	2.12	0.50
1:K:388:THR:HG21	1:K:531:PRO:HB2	1.93	0.50
1:M:330:LYS:HG3	1:M:523:ARG:HG2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:482:LEU:HD12	1:M:536:LEU:HD13	1.93	0.50
1:q:293:ASP:OD2	1:q:293:ASP:N	2.44	0.50
1:v:406:TYR:O	1:v:410:GLU:HG3	2.11	0.50
1:1:432:ILE:HG21	1:1:455:LEU:HD11	1.92	0.50
1:G:307:TRP:NE1	1:H:367:THR:HG21	2.26	0.50
1:G:418:ARG:HG3	1:G:418:ARG:HH11	1.77	0.50
1:P:339:ILE:HG13	1:P:516:ARG:HH12	1.76	0.50
1:R:334:PHE:HZ	1:R:505:LEU:HD21	1.77	0.50
1:R:368:LEU:HD21	1:R:524:MET:HE1	1.92	0.50
1:U:307:TRP:NE1	1:V:367:THR:HG21	2.19	0.50
1:U:350:GLU:O	1:U:354:LEU:HG	2.11	0.50
1:h:356:PHE:CZ	1:h:520:ALA:HB3	2.46	0.50
1:J:432:ILE:HA	1:J:435:PHE:HD2	1.77	0.50
1:N:307:TRP:NE1	1:O:367:THR:HG21	2.15	0.50
1:N:314:VAL:HG21	1:O:519:PHE:HE1	1.75	0.50
1:W:351:THR:O	1:W:355:LEU:HG	2.11	0.50
1:b:494:ARG:HG3	1:b:495:ILE:HG13	1.94	0.50
1:h:429:TYR:OH	1:h:461:GLY:O	2.26	0.50
1:i:410:GLU:OE2	1:j:427:LEU:HA	2.11	0.50
1:n:489:TYR:HD1	1:n:528:VAL:HG22	1.77	0.50
1:X:279:ASN:OD1	1:X:280:ASP:N	2.44	0.50
1:r:371:GLY:H	1:r:380:GLY:HA3	1.76	0.50
1:B:414:ALA:O	1:B:418:ARG:HG3	2.11	0.50
1:G:347:ASN:HB3	1:G:350:GLU:OE2	2.11	0.50
1:H:324:PRO:HG3	1:H:529:VAL:HG13	1.93	0.50
1:M:489:TYR:HD1	1:M:528:VAL:HG22	1.76	0.50
1:X:454:GLN:NE2	1:X:457:GLY:HA2	2.27	0.50
1:1:307:TRP:NE1	1:2:367:THR:HG21	2.26	0.50
1:O:469:ASN:OD1	1:O:470:TRP:N	2.45	0.50
1:a:286:ARG:HD3	1:a:490:VAL:HG22	1.94	0.50
1:b:416:HIS:HB3	1:b:485:ASN:HB2	1.93	0.50
1:A:351:THR:O	1:A:355:LEU:HG	2.12	0.49
1:J:509:ASN:HB2	1:4:313:GLU:OE1	2.11	0.49
1:M:251:MET:HE3	1:V:337:ILE:HD13	1.94	0.49
1:X:350:GLU:CD	1:X:350:GLU:H	2.20	0.49
1:c:425:ASN:HD22	1:c:468:ALA:HB2	1.77	0.49
1:n:495:ILE:HG22	1:n:523:ARG:HB2	1.93	0.49
1:A:456:LEU:H	1:B:448:GLY:HA2	1.75	0.49
1:Q:255:LYS:HD2	1:Q:260:TYR:CD1	2.47	0.49
1:R:351:THR:O	1:R:355:LEU:HG	2.12	0.49
1:a:314:VAL:HG21	1:b:519:PHE:HE1	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:s:294:VAL:HG12	1:s:327:PRO:HA	1.93	0.49
1:A:253:LEU:HD13	1:F:293:ASP:OD2	2.12	0.49
1:F:354:LEU:O	1:F:358:GLU:HG2	2.12	0.49
1:G:279:ASN:OD1	1:G:280:ASP:N	2.46	0.49
1:I:356:PHE:HB3	1:I:497:MET:HE1	1.94	0.49
1:S:392:ILE:HD11	1:S:535:ARG:HD2	1.94	0.49
1:U:388:THR:HG22	1:U:389:ALA:H	1.78	0.49
1:e:372:THR:HA	1:e:383:THR:HG21	1.93	0.49
1:e:388:THR:HG22	1:e:389:ALA:N	2.28	0.49
1:h:407:ALA:HA	1:h:410:GLU:HG2	1.95	0.49
1:s:388:THR:HG21	1:s:531:PRO:HB2	1.94	0.49
1:D:352:VAL:HG21	1:D:518:TRP:CZ3	2.47	0.49
1:f:407:ALA:HA	1:f:410:GLU:HG2	1.94	0.49
1:p:390:ALA:O	1:p:536:LEU:N	2.44	0.49
1:F:427:LEU:HD21	1:F:431:LYS:HE2	1.94	0.49
1:U:338:SER:OG	1:U:340:GLU:OE1	2.30	0.49
1:V:391:GLU:OE2	1:V:538:ASN:ND2	2.38	0.49
1:c:307:TRP:NE1	1:d:367:THR:HG21	2.20	0.49
1:e:470:TRP:HB2	1:e:541:THR:HG21	1.94	0.49
1:K:494:ARG:NH2	1:U:343:GLN:O	2.45	0.49
1:M:354:LEU:O	1:M:358:GLU:HG2	2.12	0.49
1:S:298:VAL:HG13	1:T:270:VAL:HA	1.95	0.49
1:X:469:ASN:HB3	1:X:472:THR:HG22	1.95	0.49
1:e:427:LEU:HD13	1:j:410:GLU:CD	2.36	0.49
1:f:371:GLY:H	1:f:380:GLY:HA3	1.78	0.49
1:n:351:THR:O	1:n:355:LEU:HG	2.12	0.49
1:p:497:MET:HE3	1:p:499:VAL:HG23	1.94	0.49
1:q:436:ASP:OD1	1:q:439:GLY:N	2.42	0.49
1:G:388:THR:HG23	1:G:390:ALA:H	1.77	0.49
1:a:424:ALA:HB2	1:a:481:LEU:HD12	1.93	0.49
1:b:338:SER:OG	1:b:340:GLU:HG2	2.13	0.49
1:M:497:MET:HE3	1:M:499:VAL:HG23	1.93	0.49
1:Z:396:THR:HG23	1:Z:399:THR:HB	1.93	0.49
1:r:407:ALA:HA	1:r:410:GLU:HG2	1.95	0.49
1:u:407:ALA:HA	1:u:410:GLU:HG2	1.95	0.49
1:H:360:LYS:NZ	1:H:497:MET:HB2	2.28	0.49
1:i:280:ASP:OD1	1:i:283:ARG:NH2	2.46	0.49
1:r:329:LYS:NZ	1:r:375:GLY:O	2.44	0.49
1:K:300:SER:OG	1:K:301:ALA:N	2.45	0.49
1:U:418:ARG:HG3	1:U:419:GLN:HG3	1.95	0.49
1:o:294:VAL:HG12	1:o:327:PRO:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:344:ASP:OD1	1:1:523:ARG:NH2	2.46	0.48
1:H:278:LEU:N	1:H:464:GLU:OE2	2.37	0.48
1:I:456:LEU:HD22	1:J:433:ARG:HH12	1.78	0.48
1:U:324:PRO:HG3	1:U:529:VAL:HG13	1.95	0.48
1:Z:351:THR:O	1:Z:355:LEU:HG	2.13	0.48
1:e:293:ASP:OD1	1:e:294:VAL:HG23	2.13	0.48
1:f:310:GLU:HG2	1:f:311:PHE:CD2	2.48	0.48
1:u:351:THR:O	1:u:355:LEU:HG	2.13	0.48
1:C:501:PHE:CZ	1:C:516:ARG:HD3	2.48	0.48
1:s:350:GLU:O	1:s:354:LEU:HG	2.12	0.48
1:N:305:TRP:HB2	1:O:363:LEU:HD22	1.94	0.48
1:U:279:ASN:OD1	1:U:280:ASP:N	2.46	0.48
1:X:297:GLY:O	1:X:323:GLN:HG3	2.12	0.48
1:b:524:MET:HG2	1:b:525:GLY:N	2.28	0.48
1:e:364:GLU:HA	1:e:367:THR:HG22	1.95	0.48
1:n:314:VAL:HG11	1:o:519:PHE:HE1	1.78	0.48
1:1:424:ALA:HA	1:1:466:MET:HE3	1.95	0.48
1:2:402:LEU:HD11	1:2:443:LEU:HD11	1.96	0.48
1:H:482:LEU:HD12	1:H:536:LEU:HD13	1.95	0.48
1:Q:482:LEU:HD12	1:Q:536:LEU:HD13	1.95	0.48
1:Q:529:VAL:HG11	1:R:271:ILE:HD12	1.94	0.48
1:W:396:THR:HG23	1:W:399:THR:HB	1.96	0.48
1:d:255:LYS:NZ	1:d:259:GLY:O	2.45	0.48
1:e:352:VAL:HG11	1:e:518:TRP:CZ3	2.46	0.48
1:k:335:VAL:HG23	1:p:318:SER:HA	1.95	0.48
1:o:371:GLY:O	1:o:383:THR:OG1	2.27	0.48
1:M:328:VAL:HG11	1:M:494:ARG:HG3	1.96	0.48
1:c:295:TRP:CE3	1:c:326:ILE:HD12	2.48	0.48
1:B:402:LEU:HD11	1:C:447:ILE:HD11	1.95	0.48
1:D:314:VAL:HG11	1:E:519:PHE:HE1	1.79	0.48
1:I:371:GLY:H	1:I:380:GLY:HA3	1.79	0.48
1:P:286:ARG:HD3	1:P:490:VAL:HG22	1.95	0.48
1:r:379:THR:HG22	1:r:384:ALA:HB2	1.95	0.48
1:s:489:TYR:HD1	1:s:528:VAL:HG22	1.78	0.48
1:v:278:LEU:N	1:v:464:GLU:OE1	2.45	0.48
1:E:527:ASP:OD1	1:E:528:VAL:N	2.46	0.48
1:I:300:SER:OG	1:I:301:ALA:N	2.46	0.48
1:L:337:ILE:HD13	1:U:251:MET:HE3	1.96	0.48
1:P:482:LEU:HD12	1:P:536:LEU:HD13	1.95	0.48
1:R:251:MET:HE3	1:g:337:ILE:HD12	1.96	0.48
1:T:422:TRP:HE1	1:T:458:ARG:HB2	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:340:GLU:HG3	1:g:523:ARG:NH1	2.28	0.48
1:h:500:GLU:OE2	1:l:516:ARG:NH2	2.47	0.48
1:i:330:LYS:HB3	1:i:523:ARG:HG2	1.96	0.48
1:2:499:VAL:HG12	1:2:520:ALA:HB2	1.96	0.48
1:A:305:TRP:HB2	1:B:363:LEU:HD22	1.94	0.48
1:E:456:LEU:H	1:F:448:GLY:HA2	1.79	0.48
1:M:479:PHE:HB3	1:M:536:LEU:HD11	1.96	0.48
1:P:352:VAL:HG21	1:P:518:TRP:HZ3	1.78	0.48
1:X:272:ILE:H	1:X:272:ILE:HD12	1.79	0.48
1:g:392:ILE:HD11	1:g:535:ARG:HD2	1.96	0.48
1:m:420:GLY:H	1:m:458:ARG:HH21	1.62	0.48
1:n:438:GLN:HE21	1:o:437:THR:HG22	1.79	0.48
1:u:422:TRP:HZ2	1:u:456:LEU:HD12	1.78	0.48
1:C:489:TYR:HD1	1:C:528:VAL:HG22	1.79	0.48
1:I:279:ASN:ND2	1:I:369:THR:OG1	2.47	0.48
1:U:406:TYR:O	1:U:409:TYR:N	2.47	0.48
1:c:409:TYR:CE2	1:c:417:ARG:HD3	2.49	0.48
1:n:352:VAL:HG21	1:n:518:TRP:HZ3	1.79	0.48
1:q:350:GLU:O	1:q:354:LEU:HG	2.13	0.48
1:G:519:PHE:HE1	1:L:314:VAL:HG11	1.78	0.48
1:Z:286:ARG:HD3	1:Z:490:VAL:HG22	1.95	0.48
1:n:456:LEU:H	1:o:448:GLY:HA2	1.78	0.48
1:p:279:ASN:OD1	1:p:281:ILE:HG12	2.14	0.48
1:r:494:ARG:HG3	1:r:495:ILE:HG13	1.96	0.48
1:K:354:LEU:O	1:K:358:GLU:HG2	2.13	0.47
1:b:351:THR:O	1:b:355:LEU:HG	2.14	0.47
1:h:364:GLU:HG2	1:h:524:MET:HE1	1.95	0.47
1:k:254:THR:OG1	1:k:257:ASP:HB2	2.14	0.47
1:r:424:ALA:HA	1:r:466:MET:HE2	1.96	0.47
1:D:529:VAL:HG11	1:E:271:ILE:HD12	1.95	0.47
1:G:494:ARG:HG3	1:G:495:ILE:HG12	1.95	0.47
1:H:360:LYS:HZ2	1:H:497:MET:HB2	1.80	0.47
1:d:295:TRP:HB3	1:d:326:ILE:HB	1.96	0.47
1:g:436:ASP:HB2	1:g:442:GLY:O	2.13	0.47
1:o:303:VAL:HG23	1:p:355:LEU:HB3	1.96	0.47
1:r:339:ILE:HG22	1:r:516:ARG:HH11	1.79	0.47
1:A:352:VAL:HG21	1:A:518:TRP:CZ3	2.49	0.47
1:C:307:TRP:NE1	1:D:367:THR:HG21	2.23	0.47
1:I:489:TYR:HD1	1:I:528:VAL:HG22	1.80	0.47
1:S:482:LEU:HD12	1:S:536:LEU:HD13	1.96	0.47
1:Z:527:ASP:OD1	1:Z:528:VAL:N	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:e:278:LEU:N	1:e:464:GLU:OE1	2.45	0.47
1:4:307:TRP:NE1	1:5:367:THR:HG21	2.30	0.47
1:C:351:THR:O	1:C:355:LEU:HG	2.15	0.47
1:F:427:LEU:HD13	1:F:468:ALA:HB1	1.96	0.47
1:Y:427:LEU:HD13	1:d:410:GLU:HG3	1.95	0.47
1:l:351:THR:O	1:l:355:LEU:HG	2.15	0.47
1:o:374:GLN:OE1	1:o:374:GLN:N	2.48	0.47
1:A:433:ARG:HH12	1:F:456:LEU:HD22	1.79	0.47
1:M:519:PHE:HE1	1:R:314:VAL:HG11	1.80	0.47
1:S:444:TRP:CZ2	1:S:452:PRO:HG2	2.49	0.47
1:T:279:ASN:OD1	1:T:281:ILE:HG13	2.14	0.47
1:n:436:ASP:HB2	1:n:442:GLY:O	2.14	0.47
1:q:519:PHE:HE1	1:v:314:VAL:HG11	1.80	0.47
1:u:499:VAL:HG22	1:u:520:ALA:HB2	1.96	0.47
1:4:296:HIS:HB3	1:4:323:GLN:HE21	1.79	0.47
1:I:426:ASN:ND2	1:I:462:GLU:OE2	2.45	0.47
1:M:307:TRP:NE1	1:N:367:THR:HG21	2.20	0.47
1:u:307:TRP:HZ2	1:v:367:THR:HG21	1.78	0.47
1:C:407:ALA:HA	1:C:410:GLU:HG2	1.95	0.47
1:J:424:ALA:HB2	1:J:481:LEU:HD12	1.96	0.47
1:M:298:VAL:HG23	1:N:270:VAL:HA	1.95	0.47
1:O:371:GLY:O	1:O:383:THR:HG21	2.15	0.47
1:P:388:THR:HG21	1:P:531:PRO:HB2	1.95	0.47
1:S:303:VAL:HG23	1:T:355:LEU:HB3	1.97	0.47
1:T:351:THR:O	1:T:355:LEU:HG	2.14	0.47
1:Y:482:LEU:HD12	1:Y:536:LEU:HD13	1.96	0.47
1:c:326:ILE:HG12	1:c:527:ASP:HB3	1.97	0.47
1:c:422:TRP:HZ3	1:c:481:LEU:HD21	1.80	0.47
1:l:388:THR:HG22	1:l:389:ALA:N	2.30	0.47
1:n:417:ARG:NH2	1:o:462:GLU:OE2	2.47	0.47
1:o:467:ASP:OD2	1:o:468:ALA:N	2.47	0.47
1:C:529:VAL:HG11	1:D:271:ILE:HD13	1.95	0.47
1:D:372:THR:HG23	1:D:374:GLN:H	1.80	0.47
1:L:398:GLU:HG2	1:L:541:THR:HA	1.97	0.47
1:U:424:ALA:HB2	1:U:481:LEU:HD12	1.96	0.47
1:Y:418:ARG:O	1:Y:458:ARG:NH1	2.47	0.47
1:b:303:VAL:HG23	1:c:355:LEU:HB3	1.96	0.47
1:q:279:ASN:HD21	1:q:281:ILE:HD12	1.79	0.47
1:q:469:ASN:HB2	1:q:472:THR:HG22	1.95	0.47
1:v:427:LEU:HG	1:v:468:ALA:HB1	1.97	0.47
1:w:364:GLU:HA	1:w:367:THR:HG22	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:421:ALA:HB2	1:2:459:PRO:HG2	1.97	0.47
1:3:415:ARG:NH1	1:4:274:SER:O	2.47	0.47
1:A:519:PHE:HE1	1:F:314:VAL:HG11	1.80	0.47
1:M:317:ASP:O	1:N:335:VAL:HG22	2.15	0.47
1:d:422:TRP:HZ3	1:d:481:LEU:HD21	1.79	0.47
1:l:296:HIS:ND1	1:l:325:GLU:OE1	2.48	0.47
1:r:407:ALA:O	1:r:411:GLN:HG3	2.14	0.47
1:u:529:VAL:HG11	1:v:271:ILE:HD13	1.96	0.47
1:5:524:MET:HE2	1:5:524:MET:HB3	1.83	0.47
1:E:307:TRP:NE1	1:F:367:THR:HG21	2.27	0.47
1:E:500:GLU:OE1	1:I:504:HIS:NE2	2.47	0.47
1:P:506:PHE:O	1:P:513:ASN:ND2	2.48	0.47
1:S:330:LYS:HG3	1:S:523:ARG:HG2	1.95	0.47
1:m:444:TRP:CZ2	1:m:452:PRO:HG2	2.50	0.47
1:o:427:LEU:O	1:o:431:LYS:HG3	2.15	0.47
1:r:410:GLU:OE1	1:s:427:LEU:HG	2.15	0.47
1:U:296:HIS:HD2	1:U:325:GLU:HG2	1.79	0.46
1:k:479:PHE:CD1	1:k:538:ASN:HB3	2.50	0.46
1:1:462:GLU:OE1	1:5:417:ARG:NH2	2.49	0.46
1:G:522:TYR:CE2	1:G:524:MET:HE2	2.50	0.46
1:M:529:VAL:HG11	1:N:271:ILE:HD12	1.97	0.46
1:O:282:ARG:NH2	1:O:364:GLU:OE1	2.41	0.46
1:Y:388:THR:HG22	1:Y:389:ALA:N	2.30	0.46
1:b:341:ALA:O	1:b:342:LEU:C	2.59	0.46
1:j:429:TYR:CZ	1:j:460:VAL:HG13	2.50	0.46
1:l:379:THR:HG22	1:l:384:ALA:HB2	1.96	0.46
1:m:482:LEU:HD12	1:m:536:LEU:HD13	1.97	0.46
1:t:352:VAL:HG21	1:t:518:TRP:CZ3	2.50	0.46
1:E:424:ALA:HB2	1:E:481:LEU:HD12	1.97	0.46
1:L:286:ARG:HD3	1:L:490:VAL:HG22	1.96	0.46
1:L:524:MET:HG2	1:L:525:GLY:N	2.31	0.46
1:U:489:TYR:HD1	1:U:528:VAL:HG22	1.80	0.46
1:e:404:ASP:HB3	1:e:537:LEU:HD11	1.96	0.46
1:k:407:ALA:HA	1:k:410:GLU:HG2	1.98	0.46
1:A:388:THR:HG22	1:A:389:ALA:N	2.31	0.46
1:E:419:GLN:HA	1:E:458:ARG:HH21	1.80	0.46
1:G:410:GLU:HB3	1:H:430:ASN:HD22	1.80	0.46
1:I:351:THR:O	1:I:355:LEU:HG	2.15	0.46
1:b:320:GLU:OE1	1:b:320:GLU:N	2.49	0.46
1:l:436:ASP:OD2	1:l:440:GLY:N	2.48	0.46
1:p:444:TRP:CE2	1:p:452:PRO:HG2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:v:426:ASN:O	1:v:426:ASN:ND2	2.48	0.46
1:l:524:MET:HG2	1:l:525:GLY:N	2.31	0.46
1:O:267:ASP:OD2	1:O:269:THR:HG22	2.16	0.46
1:V:388:THR:HG22	1:V:389:ALA:N	2.30	0.46
1:g:342:LEU:HD12	1:g:516:ARG:HD2	1.97	0.46
1:j:524:MET:HG2	1:j:525:GLY:N	2.30	0.46
1:r:274:SER:OG	1:r:362:GLU:OE2	2.32	0.46
1:s:433:ARG:NH2	1:s:451:GLU:HA	2.31	0.46
1:v:424:ALA:HB2	1:v:481:LEU:HD12	1.97	0.46
1:O:350:GLU:OE2	1:O:350:GLU:N	2.49	0.46
1:R:267:ASP:OD2	1:R:269:THR:HG22	2.16	0.46
1:Y:367:THR:HG21	1:d:307:TRP:NE1	2.28	0.46
1:Z:388:THR:HG22	1:Z:389:ALA:N	2.30	0.46
1:e:348:VAL:O	1:e:352:VAL:HG22	2.16	0.46
1:o:527:ASP:OD2	1:o:528:VAL:N	2.48	0.46
1:q:352:VAL:HG11	1:q:518:TRP:HZ3	1.80	0.46
1:r:305:TRP:HB2	1:s:363:LEU:HD22	1.98	0.46
1:l:527:ASP:OD1	1:l:528:VAL:N	2.46	0.46
1:L:407:ALA:O	1:L:411:GLN:HG3	2.15	0.46
1:O:311:PHE:CZ	1:Z:338:SER:HB2	2.51	0.46
1:R:499:VAL:HG22	1:R:520:ALA:HB2	1.98	0.46
1:O:429:TYR:HA	1:O:432:ILE:HD12	1.98	0.46
1:W:404:ASP:HB3	1:W:537:LEU:HD11	1.98	0.46
1:k:324:PRO:HG2	1:k:529:VAL:HG13	1.98	0.46
1:l:407:ALA:HA	1:l:410:GLU:HG2	1.97	0.46
1:l:499:VAL:HG12	1:l:520:ALA:HB2	1.96	0.46
1:H:338:SER:OG	1:H:340:GLU:OE1	2.34	0.46
1:K:529:VAL:HG11	1:L:271:ILE:HD13	1.98	0.46
1:M:348:VAL:O	1:M:352:VAL:HG23	2.16	0.46
1:T:294:VAL:HG12	1:T:327:PRO:HA	1.97	0.46
1:U:427:LEU:O	1:U:431:LYS:HG2	2.16	0.46
1:W:314:VAL:HG11	1:X:519:PHE:HE1	1.81	0.46
1:i:508:THR:N	1:p:313:GLU:OE1	2.49	0.46
1:F:388:THR:HG22	1:F:389:ALA:N	2.30	0.45
1:L:524:MET:HE2	1:L:524:MET:HB3	1.83	0.45
1:O:477:ASP:OD1	1:O:477:ASP:N	2.49	0.45
1:V:432:ILE:HA	1:V:435:PHE:CD2	2.51	0.45
1:W:407:ALA:HA	1:W:410:GLU:HG2	1.98	0.45
1:Z:392:ILE:HD11	1:Z:535:ARG:HB3	1.98	0.45
1:f:499:VAL:HG12	1:f:520:ALA:HB2	1.98	0.45
1:n:307:TRP:NE1	1:o:367:THR:HG21	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:q:391:GLU:OE2	1:q:538:ASN:ND2	2.47	0.45
1:s:297:GLY:O	1:s:323:GLN:HG3	2.16	0.45
1:4:267:ASP:OD2	1:4:269:THR:HG22	2.16	0.45
1:A:367:THR:HG21	1:F:307:TRP:NE1	2.26	0.45
1:H:330:LYS:HE2	1:H:330:LYS:HB3	1.79	0.45
1:P:324:PRO:HG3	1:P:529:VAL:HG13	1.97	0.45
1:P:427:LEU:O	1:P:431:LYS:HG3	2.17	0.45
1:Q:350:GLU:O	1:Q:354:LEU:HG	2.16	0.45
1:R:356:PHE:HB3	1:R:497:MET:HE1	1.97	0.45
1:R:430:ASN:O	1:R:434:GLN:HG3	2.16	0.45
1:U:305:TRP:HB2	1:V:363:LEU:HD22	1.98	0.45
1:U:456:LEU:H	1:V:448:GLY:HA2	1.81	0.45
1:n:309:ALA:HB2	1:o:376:ASN:CG	2.41	0.45
1:p:326:ILE:HG12	1:p:527:ASP:HB3	1.98	0.45
1:p:351:THR:O	1:p:355:LEU:HG	2.16	0.45
1:2:430:ASN:O	1:2:434:GLN:HG3	2.16	0.45
1:4:425:ASN:HD22	1:4:468:ALA:HB2	1.81	0.45
1:D:352:VAL:HG11	1:D:518:TRP:CZ3	2.51	0.45
1:F:330:LYS:HE2	1:F:330:LYS:HB3	1.87	0.45
1:G:337:ILE:HG12	1:G:338:SER:H	1.80	0.45
1:R:261:LEU:HD21	1:f:298:VAL:HG11	1.99	0.45
1:R:370:THR:O	1:R:370:THR:HG22	2.17	0.45
1:W:303:VAL:HG11	1:X:356:PHE:HE1	1.81	0.45
1:r:428:ILE:O	1:r:432:ILE:HG12	2.17	0.45
1:s:539:VAL:HG13	1:s:539:VAL:O	2.16	0.45
1:u:339:ILE:O	1:u:343:GLN:HG3	2.17	0.45
1:v:255:LYS:HA	1:v:259:GLY:HA3	1.98	0.45
1:K:307:TRP:HE1	1:L:367:THR:CG2	2.21	0.45
1:K:509:ASN:N	1:R:313:GLU:OE2	2.48	0.45
1:O:398:GLU:OE1	1:O:541:THR:HA	2.16	0.45
1:c:290:ALA:HB2	1:c:492:ALA:HB1	1.97	0.45
1:e:436:ASP:HB2	1:e:442:GLY:O	2.16	0.45
1:u:279:ASN:ND2	1:u:369:THR:OG1	2.47	0.45
1:2:326:ILE:HG12	1:2:527:ASP:HB3	1.97	0.45
1:k:388:THR:HG22	1:k:389:ALA:N	2.31	0.45
1:l:297:GLY:O	1:l:323:GLN:HG3	2.16	0.45
1:r:482:LEU:HD12	1:r:536:LEU:HD13	1.98	0.45
1:F:297:GLY:O	1:F:323:GLN:HG3	2.17	0.45
1:J:311:PHE:CE1	1:U:338:SER:HB2	2.52	0.45
1:M:360:LYS:HD3	1:M:497:MET:HG3	1.98	0.45
1:R:364:GLU:HA	1:R:367:THR:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:334:PHE:HZ	1:Z:505:LEU:HD21	1.81	0.45
1:b:297:GLY:O	1:b:323:GLN:HG3	2.17	0.45
1:b:354:LEU:O	1:b:358:GLU:HG2	2.17	0.45
1:c:477:ASP:OD1	1:c:477:ASP:N	2.47	0.45
1:j:388:THR:HG22	1:j:389:ALA:N	2.31	0.45
1:q:436:ASP:HB2	1:q:442:GLY:O	2.15	0.45
1:s:371:GLY:H	1:s:380:GLY:HA3	1.81	0.45
1:t:535:ARG:HD3	1:t:535:ARG:HA	1.90	0.45
1:w:477:ASP:HB3	1:w:538:ASN:HD21	1.81	0.45
1:3:388:THR:HG22	1:3:389:ALA:N	2.30	0.45
1:A:300:SER:HB3	1:A:321:PHE:CD1	2.52	0.45
1:A:524:MET:HG2	1:A:525:GLY:N	2.32	0.45
1:D:427:LEU:HG	1:D:468:ALA:HB1	1.99	0.45
1:E:326:ILE:HG22	1:E:527:ASP:HB3	1.98	0.45
1:E:391:GLU:OE2	1:E:538:ASN:ND2	2.49	0.45
1:K:255:LYS:HD2	1:K:260:TYR:CD1	2.52	0.45
1:M:388:THR:HG22	1:M:389:ALA:N	2.30	0.45
1:W:497:MET:HE2	1:W:497:MET:HB3	1.87	0.45
1:c:324:PRO:HG3	1:c:529:VAL:HG13	1.99	0.45
1:d:508:THR:N	1:k:313:GLU:OE2	2.50	0.45
1:e:355:LEU:HB3	1:j:303:VAL:HG23	1.99	0.45
1:f:282:ARG:NE	1:f:364:GLU:OE2	2.33	0.45
1:m:294:VAL:HG22	1:m:327:PRO:HA	1.99	0.45
1:A:352:VAL:HG11	1:A:518:TRP:HZ3	1.80	0.45
1:J:358:GLU:OE1	1:J:358:GLU:N	2.47	0.45
1:J:425:ASN:OD1	1:J:426:ASN:N	2.49	0.45
1:P:507:GLY:O	1:Z:510:ARG:HD3	2.16	0.45
1:Q:338:SER:HB3	1:d:311:PHE:CZ	2.52	0.45
1:S:337:ILE:HG21	1:S:342:LEU:HD12	1.99	0.45
1:T:427:LEU:HD12	1:T:468:ALA:HB1	1.99	0.45
1:b:458:ARG:HA	1:b:458:ARG:HE	1.82	0.45
1:d:338:SER:HB2	1:k:311:PHE:CZ	2.51	0.45
1:e:482:LEU:HD12	1:e:536:LEU:HD13	1.98	0.45
1:1:494:ARG:HG3	1:1:495:ILE:HG13	1.98	0.45
1:A:324:PRO:HG3	1:A:529:VAL:HG13	1.99	0.45
1:D:407:ALA:O	1:D:411:GLN:HG3	2.16	0.45
1:D:444:TRP:HE1	1:D:452:PRO:HB2	1.81	0.45
1:E:410:GLU:OE1	1:F:427:LEU:HG	2.17	0.45
1:L:261:LEU:HB2	1:U:345:GLU:HG2	1.99	0.45
1:S:398:GLU:HG2	1:S:541:THR:HA	1.99	0.45
1:V:406:TYR:O	1:V:410:GLU:OE1	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:406:TYR:O	1:Y:410:GLU:OE1	2.35	0.45
1:b:314:VAL:HG11	1:c:519:PHE:HE1	1.82	0.45
1:m:527:ASP:OD2	1:m:528:VAL:N	2.43	0.45
1:v:350:GLU:H	1:v:350:GLU:CD	2.23	0.45
1:v:482:LEU:HD12	1:v:536:LEU:HD13	1.99	0.45
1:5:388:THR:HG22	1:5:389:ALA:N	2.31	0.45
1:s:307:TRP:CZ2	1:t:367:THR:HG21	2.52	0.45
1:4:422:TRP:CE2	1:4:455:LEU:HD23	2.52	0.45
1:5:493:ASP:OD1	1:5:524:MET:HG3	2.17	0.45
1:M:456:LEU:H	1:N:448:GLY:HA2	1.82	0.44
1:P:438:GLN:OE1	1:Q:438:GLN:NE2	2.49	0.44
1:R:385:LEU:HD21	1:R:534:PHE:HB2	1.99	0.44
1:R:424:ALA:HA	1:R:466:MET:HE1	1.99	0.44
1:U:297:GLY:O	1:U:323:GLN:HG3	2.17	0.44
1:e:412:LEU:HD23	1:e:417:ARG:HA	1.98	0.44
1:e:417:ARG:HH22	1:f:426:ASN:ND2	2.13	0.44
1:g:351:THR:O	1:g:355:LEU:HG	2.17	0.44
1:i:287:GLN:HG2	1:i:491:ILE:HD11	2.00	0.44
1:t:444:TRP:CE2	1:t:452:PRO:HG2	2.52	0.44
1:B:381:ILE:HG13	1:B:385:LEU:HD12	1.99	0.44
1:E:340:GLU:HB2	1:1:523:ARG:CZ	2.48	0.44
1:L:499:VAL:HG22	1:L:520:ALA:HB2	1.99	0.44
1:f:392:ILE:HD11	1:f:408:VAL:HG22	1.99	0.44
1:g:503:PRO:O	1:g:516:ARG:HG2	2.17	0.44
1:m:407:ALA:HA	1:m:410:GLU:HG2	1.98	0.44
1:r:279:ASN:OD1	1:r:281:ILE:HG13	2.17	0.44
1:v:479:PHE:HB3	1:v:536:LEU:HD11	1.97	0.44
1:3:279:ASN:ND2	1:3:365:ALA:O	2.47	0.44
1:O:314:VAL:HG11	1:P:519:PHE:HE1	1.82	0.44
1:S:510:ARG:HA	1:S:510:ARG:HD3	1.82	0.44
1:h:388:THR:HG22	1:h:389:ALA:N	2.31	0.44
1:r:342:LEU:O	1:r:342:LEU:HD23	2.16	0.44
1:r:425:ASN:HD22	1:r:468:ALA:HB2	1.83	0.44
1:L:429:TYR:O	1:L:433:ARG:HG3	2.17	0.44
1:M:275:ASN:OD1	1:M:276:GLY:N	2.50	0.44
1:N:360:LYS:HG3	1:N:522:TYR:CE1	2.53	0.44
1:W:340:GLU:HA	1:W:343:GLN:HG2	2.00	0.44
1:X:330:LYS:HG3	1:X:523:ARG:HG2	2.00	0.44
1:Y:438:GLN:OE1	1:Z:438:GLN:HG3	2.18	0.44
1:i:410:GLU:OE2	1:j:427:LEU:HD13	2.17	0.44
1:s:391:GLU:OE2	1:s:538:ASN:ND2	2.34	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:t:281:ILE:HD12	1:t:281:ILE:H	1.83	0.44
1:v:412:LEU:HD23	1:v:417:ARG:HA	1.99	0.44
1:1:425:ASN:OD1	1:1:426:ASN:N	2.48	0.44
1:A:466:MET:HE2	1:A:466:MET:HB3	1.95	0.44
1:D:307:TRP:NE1	1:E:367:THR:HG21	2.18	0.44
1:D:456:LEU:H	1:E:448:GLY:HA2	1.83	0.44
1:K:507:GLY:C	1:U:510:ARG:HD3	2.43	0.44
1:T:456:LEU:H	1:U:448:GLY:HA2	1.82	0.44
1:U:391:GLU:OE2	1:U:538:ASN:ND2	2.33	0.44
1:a:360:LYS:HG3	1:a:522:TYR:CE1	2.53	0.44
1:f:360:LYS:HG3	1:f:522:TYR:CE1	2.52	0.44
1:s:352:VAL:HG21	1:s:518:TRP:HZ3	1.82	0.44
1:1:277:SER:HA	1:1:464:GLU:OE2	2.18	0.44
1:4:279:ASN:HD21	1:4:281:ILE:HG13	1.83	0.44
1:4:425:ASN:OD1	1:4:426:ASN:N	2.49	0.44
1:E:300:SER:HB2	1:E:321:PHE:CD1	2.53	0.44
1:X:334:PHE:CE2	1:X:336:PRO:HG3	2.53	0.44
1:j:392:ILE:HD11	1:j:408:VAL:HG22	1.99	0.44
1:k:328:VAL:HG11	1:k:494:ARG:HG3	1.98	0.44
1:l:415:ARG:NH1	1:m:274:SER:O	2.44	0.44
1:u:339:ILE:HG13	1:u:340:GLU:N	2.32	0.44
1:G:425:ASN:HD22	1:G:468:ALA:HB2	1.83	0.44
1:I:303:VAL:HG23	1:J:355:LEU:HB3	2.00	0.44
1:J:407:ALA:HA	1:J:410:GLU:OE1	2.18	0.44
1:J:410:GLU:HG2	1:K:430:ASN:OD1	2.16	0.44
1:N:352:VAL:HG21	1:N:518:TRP:HZ3	1.82	0.44
1:O:314:VAL:HG12	1:P:332:GLN:HB3	1.99	0.44
1:S:316:ASP:OD1	1:S:316:ASP:N	2.47	0.44
1:S:488:ASN:O	1:S:529:VAL:HG22	2.18	0.44
1:j:255:LYS:HA	1:j:259:GLY:HA3	2.00	0.44
1:s:535:ARG:HD3	1:s:535:ARG:HA	1.83	0.44
1:w:330:LYS:HE2	1:w:330:LYS:HB3	1.90	0.44
1:D:444:TRP:CD1	1:D:452:PRO:HG2	2.53	0.44
1:J:295:TRP:CE3	1:J:326:ILE:HD12	2.52	0.44
1:M:412:LEU:HB2	1:M:535:ARG:HG3	2.00	0.44
1:Z:279:ASN:OD1	1:Z:280:ASP:N	2.51	0.44
1:g:338:SER:OG	1:g:340:GLU:OE1	2.34	0.44
1:g:492:ALA:O	1:g:525:GLY:N	2.51	0.44
1:u:254:THR:OG1	1:u:257:ASP:HB2	2.18	0.44
1:v:279:ASN:OD1	1:v:280:ASP:N	2.51	0.44
1:F:416:HIS:HB3	1:F:485:ASN:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:433:ARG:NH2	1:Q:451:GLU:HA	2.33	0.44
1:V:524:MET:HG2	1:V:525:GLY:N	2.32	0.44
1:i:305:TRP:HB2	1:j:363:LEU:HD22	2.00	0.44
1:n:499:VAL:HG12	1:n:520:ALA:HB2	1.98	0.44
1:q:476:ALA:HB1	1:q:542:ALA:HB2	1.99	0.44
1:4:326:ILE:HG12	1:4:527:ASP:HB3	1.99	0.44
1:B:425:ASN:OD1	1:B:426:ASN:N	2.51	0.43
1:Q:412:LEU:HD13	1:Q:535:ARG:HG2	1.99	0.43
1:a:349:THR:HG22	1:a:518:TRP:CZ2	2.52	0.43
1:g:279:ASN:OD1	1:g:281:ILE:HG12	2.18	0.43
1:g:372:THR:HA	1:g:383:THR:HG21	2.00	0.43
1:i:425:ASN:HD22	1:i:468:ALA:HB2	1.82	0.43
1:n:352:VAL:HG11	1:n:518:TRP:CE3	2.53	0.43
1:p:404:ASP:HB3	1:p:537:LEU:HD11	1.99	0.43
1:r:342:LEU:HD13	1:r:516:ARG:HD3	2.00	0.43
1:u:291:THR:O	1:u:494:ARG:NH1	2.43	0.43
1:3:432:ILE:HA	1:3:435:PHE:HD2	1.83	0.43
1:B:279:ASN:OD1	1:B:280:ASP:N	2.50	0.43
1:E:422:TRP:HZ3	1:E:481:LEU:HD21	1.82	0.43
1:F:406:TYR:O	1:F:410:GLU:OE1	2.36	0.43
1:O:278:LEU:N	1:O:464:GLU:OE2	2.50	0.43
1:O:415:ARG:HH21	1:P:276:GLY:HA3	1.83	0.43
1:P:297:GLY:O	1:P:323:GLN:HG3	2.18	0.43
1:V:406:TYR:O	1:V:409:TYR:N	2.50	0.43
1:W:297:GLY:O	1:W:323:GLN:HG3	2.18	0.43
1:e:303:VAL:HG23	1:f:355:LEU:HB3	1.98	0.43
1:h:410:GLU:OE2	1:i:427:LEU:HG	2.18	0.43
1:1:266:LEU:HD11	1:5:298:VAL:HG13	1.99	0.43
1:1:341:ALA:O	1:1:345:GLU:HG3	2.18	0.43
1:H:348:VAL:O	1:H:352:VAL:HG23	2.18	0.43
1:I:414:ALA:O	1:I:418:ARG:HG2	2.18	0.43
1:L:279:ASN:ND2	1:L:369:THR:OG1	2.52	0.43
1:d:499:VAL:HG22	1:d:520:ALA:HB2	2.01	0.43
1:t:350:GLU:OE2	1:t:350:GLU:N	2.38	0.43
1:3:458:ARG:HA	1:3:458:ARG:HD3	1.69	0.43
1:G:410:GLU:CD	1:H:427:LEU:HG	2.44	0.43
1:T:394:PRO:HD3	1:T:538:ASN:O	2.17	0.43
1:W:338:SER:HB2	1:j:311:PHE:CZ	2.53	0.43
1:X:427:LEU:HD12	1:X:468:ALA:HB1	2.00	0.43
1:c:420:GLY:H	1:c:458:ARG:HH21	1.65	0.43
1:f:330:LYS:HB3	1:f:523:ARG:HG2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:j:535:ARG:HD3	1:j:535:ARG:HA	1.85	0.43
1:t:279:ASN:HD22	1:t:281:ILE:HD13	1.83	0.43
1:u:368:LEU:HD23	1:u:368:LEU:HA	1.85	0.43
1:l:364:GLU:HA	1:l:367:THR:HG22	1.99	0.43
1:F:272:ILE:HG22	1:F:274:SER:H	1.83	0.43
1:I:338:SER:OG	1:I:340:GLU:OE1	2.36	0.43
1:O:391:GLU:OE2	1:O:538:ASN:ND2	2.38	0.43
1:S:360:LYS:HG3	1:S:522:TYR:CE1	2.52	0.43
1:S:392:ILE:HD11	1:S:535:ARG:HB3	1.99	0.43
1:c:482:LEU:HD12	1:c:536:LEU:HD13	2.01	0.43
1:i:354:LEU:O	1:i:358:GLU:HG2	2.18	0.43
1:k:519:PHE:HE1	1:p:314:VAL:HG11	1.83	0.43
1:r:351:THR:O	1:r:355:LEU:HG	2.17	0.43
1:u:500:GLU:N	1:u:519:PHE:O	2.38	0.43
1:A:482:LEU:HD12	1:A:536:LEU:HD13	2.01	0.43
1:B:482:LEU:HD12	1:B:536:LEU:HD13	2.01	0.43
1:G:527:ASP:OD1	1:G:528:VAL:N	2.43	0.43
1:M:398:GLU:HG2	1:M:541:THR:HA	2.00	0.43
1:a:406:TYR:O	1:a:410:GLU:HG3	2.17	0.43
1:f:503:PRO:O	1:f:516:ARG:HG2	2.18	0.43
1:h:330:LYS:HG3	1:h:523:ARG:HG2	1.99	0.43
1:m:363:LEU:HD12	1:m:363:LEU:HA	1.90	0.43
1:q:347:ASN:HB3	1:q:350:GLU:OE2	2.18	0.43
1:t:293:ASP:O	1:t:328:VAL:HG12	2.18	0.43
1:v:339:ILE:HD12	1:v:516:ARG:NH2	2.33	0.43
1:M:414:ALA:O	1:M:418:ARG:HG2	2.18	0.43
1:N:279:ASN:ND2	1:N:365:ALA:O	2.50	0.43
1:U:388:THR:HG22	1:U:389:ALA:N	2.33	0.43
1:X:300:SER:OG	1:X:301:ALA:N	2.51	0.43
1:a:479:PHE:HB3	1:a:536:LEU:HD21	2.01	0.43
1:e:376:ASN:ND2	1:j:309:ALA:HB2	2.33	0.43
1:h:369:THR:HG21	1:h:465:ALA:HB3	1.99	0.43
1:k:292:GLY:O	1:k:494:ARG:HD3	2.18	0.43
1:E:300:SER:OG	1:E:301:ALA:N	2.52	0.43
1:G:303:VAL:HG23	1:H:355:LEU:HB3	2.01	0.43
1:H:392:ILE:HD11	1:H:408:VAL:HG22	2.01	0.43
1:S:409:TYR:CZ	1:S:417:ARG:HD3	2.54	0.43
1:Y:374:GLN:OE1	1:Y:374:GLN:HA	2.18	0.43
1:a:522:TYR:HE2	1:a:524:MET:HE3	1.83	0.43
1:b:388:THR:HG22	1:b:389:ALA:N	2.34	0.43
1:b:527:ASP:CG	1:b:528:VAL:H	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:i:456:LEU:H	1:j:448:GLY:HA2	1.83	0.43
1:p:330:LYS:HE2	1:p:330:LYS:HB3	1.91	0.43
1:r:297:GLY:O	1:r:323:GLN:HG3	2.18	0.43
1:t:334:PHE:HB2	1:t:519:PHE:HD1	1.84	0.43
1:t:406:TYR:O	1:t:410:GLU:HG2	2.18	0.43
1:v:279:ASN:ND2	1:v:369:THR:OG1	2.51	0.43
1:v:293:ASP:OD2	1:v:293:ASP:N	2.52	0.43
1:w:482:LEU:HD12	1:w:536:LEU:HD13	2.00	0.43
1:G:364:GLU:HG3	1:G:524:MET:HE1	2.00	0.43
1:K:338:SER:HB2	1:R:311:PHE:CZ	2.54	0.43
1:K:392:ILE:HD11	1:K:408:VAL:HG22	2.01	0.43
1:Q:524:MET:HG2	1:Q:525:GLY:H	1.83	0.43
1:S:293:ASP:OD2	1:S:293:ASP:N	2.50	0.43
1:Z:305:TRP:HB2	1:a:363:LEU:HD22	2.01	0.43
1:a:300:SER:O	1:b:273:THR:HG22	2.19	0.43
1:f:412:LEU:HD23	1:f:413:ALA:O	2.19	0.43
1:g:348:VAL:O	1:g:352:VAL:HG23	2.19	0.43
1:l:466:MET:HE2	1:l:466:MET:HB3	1.86	0.43
1:n:429:TYR:OH	1:n:461:GLY:O	2.29	0.43
1:p:430:ASN:O	1:p:434:GLN:HG3	2.19	0.43
1:r:494:ARG:HH11	1:r:494:ARG:HG2	1.84	0.43
1:t:307:TRP:CE3	1:u:331:ALA:HB2	2.53	0.43
1:u:422:TRP:HZ3	1:u:481:LEU:HD21	1.84	0.43
1:E:297:GLY:O	1:E:323:GLN:HG3	2.18	0.43
1:H:420:GLY:HA3	1:H:483:TYR:CZ	2.54	0.43
1:i:340:GLU:O	1:i:344:ASP:HB2	2.19	0.43
1:k:438:GLN:HG2	1:p:438:GLN:OE1	2.19	0.43
1:o:456:LEU:H	1:p:448:GLY:HA2	1.84	0.43
1:A:271:ILE:H	1:F:299:SER:HA	1.83	0.42
1:B:535:ARG:HD3	1:B:535:ARG:HA	1.80	0.42
1:D:357:ALA:HA	1:D:497:MET:HE1	2.01	0.42
1:E:495:ILE:HG22	1:E:523:ARG:HB2	2.01	0.42
1:L:324:PRO:HG3	1:L:529:VAL:HG13	2.00	0.42
1:L:363:LEU:O	1:L:367:THR:HG23	2.19	0.42
1:Q:286:ARG:HD3	1:Q:490:VAL:HG22	1.99	0.42
1:c:351:THR:O	1:c:355:LEU:HG	2.19	0.42
1:d:482:LEU:HD12	1:d:536:LEU:HD13	2.01	0.42
1:i:339:ILE:HD11	1:k:330:LYS:HE3	2.00	0.42
1:k:390:ALA:HA	1:k:535:ARG:NH1	2.32	0.42
1:p:278:LEU:N	1:p:464:GLU:OE1	2.52	0.42
1:5:425:ASN:OD1	1:5:426:ASN:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:352:VAL:HG11	1:A:518:TRP:CZ3	2.54	0.42
1:K:524:MET:HG2	1:K:525:GLY:N	2.34	0.42
1:N:535:ARG:HD3	1:N:535:ARG:HA	1.95	0.42
1:W:303:VAL:HG23	1:X:355:LEU:HB3	2.01	0.42
1:f:255:LYS:HA	1:f:259:GLY:HA3	2.01	0.42
1:f:407:ALA:HA	1:f:410:GLU:CG	2.49	0.42
1:j:279:ASN:ND2	1:j:369:THR:OG1	2.52	0.42
1:l:422:TRP:HZ3	1:l:481:LEU:HD21	1.84	0.42
1:v:503:PRO:O	1:v:516:ARG:HG2	2.19	0.42
1:1:430:ASN:O	1:1:434:GLN:HG3	2.18	0.42
1:3:430:ASN:O	1:3:434:GLN:HG3	2.19	0.42
1:C:535:ARG:HD3	1:C:535:ARG:HA	1.88	0.42
1:D:351:THR:O	1:D:355:LEU:HG	2.19	0.42
1:H:501:PHE:HD1	1:H:518:TRP:HE1	1.66	0.42
1:K:388:THR:HG22	1:K:389:ALA:N	2.34	0.42
1:P:309:ALA:HB2	1:Q:376:ASN:CG	2.44	0.42
1:T:494:ARG:HG3	1:T:495:ILE:HG23	2.01	0.42
1:Y:334:PHE:CE2	1:Y:336:PRO:HG3	2.54	0.42
1:Y:479:PHE:CD1	1:Y:538:ASN:HB3	2.55	0.42
1:b:430:ASN:O	1:b:434:GLN:HG3	2.18	0.42
1:f:279:ASN:ND2	1:f:369:THR:OG1	2.52	0.42
1:i:254:THR:OG1	1:i:257:ASP:HB2	2.19	0.42
1:i:499:VAL:HG22	1:i:520:ALA:HB2	2.00	0.42
1:j:407:ALA:HA	1:j:410:GLU:HG2	1.99	0.42
1:m:417:ARG:HH22	1:n:426:ASN:ND2	2.17	0.42
1:n:303:VAL:HG23	1:o:355:LEU:HB3	2.00	0.42
1:o:417:ARG:O	1:o:483:TYR:OH	2.38	0.42
1:s:412:LEU:HD23	1:s:413:ALA:O	2.19	0.42
1:1:482:LEU:HD13	1:1:536:LEU:HD13	2.01	0.42
1:2:407:ALA:HA	1:2:410:GLU:HG2	2.01	0.42
1:A:354:LEU:O	1:A:358:GLU:HG2	2.18	0.42
1:D:326:ILE:HG12	1:D:527:ASP:HB3	2.00	0.42
1:I:388:THR:HG22	1:I:389:ALA:N	2.34	0.42
1:U:436:ASP:HB2	1:U:442:GLY:O	2.20	0.42
1:Y:406:TYR:O	1:Y:409:TYR:HB3	2.19	0.42
1:Y:425:ASN:HD22	1:Y:468:ALA:HB2	1.85	0.42
1:e:297:GLY:O	1:e:323:GLN:HB2	2.20	0.42
1:h:356:PHE:CE2	1:h:520:ALA:HB3	2.54	0.42
1:l:326:ILE:O	1:l:326:ILE:HG13	2.19	0.42
1:p:335:VAL:O	1:p:335:VAL:HG13	2.19	0.42
1:q:271:ILE:HD13	1:v:529:VAL:HG11	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:427:LEU:O	1:D:431:LYS:HG3	2.19	0.42
1:O:310:GLU:HG2	1:O:311:PHE:CD2	2.54	0.42
1:R:349:THR:HG22	1:R:518:TRP:HZ2	1.85	0.42
1:U:407:ALA:O	1:U:411:GLN:HG3	2.20	0.42
1:Y:279:ASN:OD1	1:Y:281:ILE:HG13	2.19	0.42
1:e:279:ASN:OD1	1:e:280:ASP:N	2.52	0.42
1:D:392:ILE:HD11	1:D:535:ARG:HD2	2.02	0.42
1:E:338:SER:HB3	1:5:311:PHE:CZ	2.55	0.42
1:K:517:GLY:O	1:K:518:TRP:HD1	2.03	0.42
1:V:351:THR:O	1:V:355:LEU:HG	2.20	0.42
1:Y:255:LYS:HB3	1:Y:260:TYR:CE2	2.54	0.42
1:Y:505:LEU:HB2	1:Y:515:SER:HB2	2.02	0.42
1:g:456:LEU:H	1:h:448:GLY:HA2	1.85	0.42
1:l:388:THR:HG21	1:l:531:PRO:HB2	2.00	0.42
1:u:418:ARG:HA	1:u:418:ARG:HD3	1.87	0.42
1:E:344:ASP:CG	1:1:523:ARG:HH22	2.27	0.42
1:L:316:ASP:OD2	1:L:316:ASP:N	2.52	0.42
1:V:430:ASN:O	1:V:434:GLN:HG3	2.20	0.42
1:d:335:VAL:HG13	1:d:335:VAL:O	2.19	0.42
1:l:407:ALA:O	1:l:411:GLN:HG3	2.20	0.42
1:m:281:ILE:HD12	1:m:368:LEU:HB3	2.02	0.42
1:p:502:ILE:HA	1:p:503:PRO:HD3	1.91	0.42
1:q:456:LEU:H	1:r:448:GLY:HA2	1.84	0.42
1:u:316:ASP:OD1	1:u:316:ASP:N	2.51	0.42
1:B:427:LEU:HB2	1:B:468:ALA:HB1	2.02	0.42
1:G:418:ARG:HG3	1:G:418:ARG:NH1	2.35	0.42
1:I:422:TRP:O	1:I:461:GLY:N	2.44	0.42
1:P:469:ASN:O	1:P:473:SER:OG	2.35	0.42
1:V:392:ILE:HD11	1:V:535:ARG:HD2	2.02	0.42
1:W:495:ILE:HG22	1:W:496:GLY:O	2.19	0.42
1:Y:255:LYS:HA	1:Y:259:GLY:HA3	2.02	0.42
1:Z:407:ALA:O	1:Z:411:GLN:HG3	2.19	0.42
1:a:298:VAL:HG23	1:b:270:VAL:HA	2.02	0.42
1:a:482:LEU:HD12	1:a:536:LEU:HD12	2.00	0.42
1:d:430:ASN:O	1:d:434:GLN:HG3	2.20	0.42
1:e:456:LEU:H	1:f:448:GLY:HA2	1.84	0.42
1:p:478:ASN:O	1:p:480:VAL:HG13	2.20	0.42
1:C:501:PHE:HZ	1:C:516:ARG:HD3	1.84	0.42
1:F:338:SER:HB2	1:G:311:PHE:CE1	2.55	0.42
1:G:410:GLU:HB3	1:H:430:ASN:ND2	2.34	0.42
1:O:482:LEU:HD12	1:O:536:LEU:HD13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:314:VAL:HG11	1:T:519:PHE:HE1	1.84	0.42
1:a:255:LYS:O	1:a:260:TYR:HD2	2.03	0.42
1:d:457:GLY:O	1:d:458:ARG:HD2	2.20	0.42
1:g:276:GLY:HA2	1:g:362:GLU:OE2	2.19	0.42
1:i:388:THR:HG22	1:i:389:ALA:N	2.35	0.42
1:j:348:VAL:O	1:j:352:VAL:HG23	2.20	0.42
1:p:425:ASN:HD22	1:p:468:ALA:HB2	1.85	0.42
1:q:414:ALA:O	1:q:418:ARG:HG3	2.20	0.42
1:5:277:SER:HA	1:5:464:GLU:OE2	2.20	0.42
1:5:510:ARG:HE	1:5:510:ARG:HB2	1.69	0.42
1:F:259:GLY:O	1:F:262:VAL:HG22	2.19	0.42
1:F:339:ILE:HG13	1:F:340:GLU:N	2.35	0.42
1:F:415:ARG:HE	1:F:415:ARG:HB3	1.65	0.42
1:J:440:GLY:HA2	1:K:439:GLY:HA2	2.01	0.42
1:J:500:GLU:OE1	1:N:504:HIS:NE2	2.53	0.42
1:Q:367:THR:HG22	1:Q:377:GLN:HE21	1.85	0.42
1:b:535:ARG:HD3	1:b:535:ARG:HA	1.90	0.42
1:d:368:LEU:HD23	1:d:368:LEU:HA	1.89	0.42
1:k:348:VAL:O	1:k:352:VAL:HG23	2.20	0.42
1:o:314:VAL:HG11	1:p:519:PHE:HE1	1.85	0.42
1:l:297:GLY:O	1:l:323:GLN:HG3	2.20	0.42
1:2:414:ALA:HB2	1:3:464:GLU:OE2	2.19	0.42
1:4:369:THR:O	1:4:382:VAL:HG22	2.20	0.42
1:J:426:ASN:O	1:J:426:ASN:ND2	2.51	0.41
1:K:501:PHE:HD1	1:K:518:TRP:CD1	2.38	0.41
1:S:424:ALA:HB2	1:S:481:LEU:HD12	2.03	0.41
1:V:495:ILE:HG22	1:V:523:ARG:HB2	2.01	0.41
1:i:430:ASN:O	1:i:434:GLN:HG3	2.19	0.41
1:k:351:THR:O	1:k:355:LEU:HG	2.20	0.41
1:r:255:LYS:HA	1:r:255:LYS:HD3	1.84	0.41
1:r:402:LEU:HD11	1:s:447:ILE:HD12	2.01	0.41
1:3:527:ASP:OD1	1:3:528:VAL:N	2.53	0.41
1:A:331:ALA:HB2	1:F:307:TRP:CE3	2.55	0.41
1:B:502:ILE:HA	1:B:503:PRO:HD3	1.93	0.41
1:G:430:ASN:HD22	1:L:410:GLU:HB3	1.85	0.41
1:I:456:LEU:H	1:J:448:GLY:HA2	1.85	0.41
1:I:521:TYR:CZ	1:l:339:ILE:HD11	2.55	0.41
1:M:467:ASP:OD2	1:M:479:PHE:N	2.51	0.41
1:O:417:ARG:NH2	1:P:426:ASN:HD21	2.18	0.41
1:O:466:MET:HE2	1:O:466:MET:HB3	1.91	0.41
1:Q:330:LYS:HD3	1:g:340:GLU:OE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:424:ALA:HB3	1:Q:429:TYR:CE1	2.55	0.41
1:c:535:ARG:HD3	1:c:535:ARG:HA	1.94	0.41
1:d:279:ASN:OD1	1:d:280:ASP:N	2.52	0.41
1:i:364:GLU:HA	1:i:367:THR:HG22	2.01	0.41
1:p:500:GLU:OE1	1:t:504:HIS:NE2	2.46	0.41
1:w:458:ARG:HA	1:w:458:ARG:HD3	1.61	0.41
1:B:466:MET:HE2	1:B:466:MET:HB3	1.93	0.41
1:D:330:LYS:HE2	1:D:330:LYS:HB3	1.84	0.41
1:J:494:ARG:NH2	1:N:343:GLN:O	2.53	0.41
1:P:341:ALA:O	1:P:342:LEU:C	2.64	0.41
1:U:481:LEU:O	1:U:536:LEU:HD12	2.20	0.41
1:V:360:LYS:NZ	1:V:497:MET:HB2	2.36	0.41
1:W:425:ASN:OD1	1:W:426:ASN:N	2.52	0.41
1:Y:504:HIS:HE1	1:g:500:GLU:OE2	2.03	0.41
1:d:502:ILE:HA	1:d:503:PRO:HD3	1.93	0.41
1:d:535:ARG:HD3	1:d:535:ARG:HA	1.96	0.41
1:j:351:THR:O	1:j:355:LEU:HG	2.20	0.41
1:o:398:GLU:HG2	1:o:541:THR:HA	2.03	0.41
1:s:415:ARG:NH1	1:t:274:SER:O	2.52	0.41
1:u:431:LYS:HE2	1:u:431:LYS:HB2	1.70	0.41
1:A:456:LEU:HD22	1:B:433:ARG:HH22	1.85	0.41
1:B:305:TRP:HB2	1:C:363:LEU:HD22	2.03	0.41
1:H:309:ALA:HB2	1:I:376:ASN:HD21	1.84	0.41
1:H:391:GLU:OE2	1:H:538:ASN:ND2	2.54	0.41
1:H:424:ALA:HB2	1:H:481:LEU:HD12	2.02	0.41
1:H:471:ASN:OD1	1:H:472:THR:N	2.53	0.41
1:K:369:THR:O	1:K:382:VAL:HG22	2.20	0.41
1:P:535:ARG:HD3	1:P:535:ARG:HA	1.85	0.41
1:Y:510:ARG:HD3	1:g:507:GLY:C	2.46	0.41
1:e:279:ASN:ND2	1:e:369:THR:OG1	2.52	0.41
1:r:300:SER:OG	1:r:301:ALA:N	2.53	0.41
1:r:330:LYS:HB3	1:r:523:ARG:HG2	2.00	0.41
1:3:425:ASN:OD1	1:3:426:ASN:N	2.52	0.41
1:A:443:LEU:HD23	1:A:443:LEU:HA	1.91	0.41
1:I:424:ALA:HB2	1:I:481:LEU:HD12	2.01	0.41
1:J:429:TYR:O	1:J:433:ARG:HG3	2.21	0.41
1:N:417:ARG:CZ	1:O:426:ASN:HD22	2.34	0.41
1:W:329:LYS:HE2	1:W:376:ASN:HA	2.02	0.41
1:c:404:ASP:HB3	1:c:537:LEU:HD11	2.02	0.41
1:d:458:ARG:HD2	1:d:458:ARG:HA	1.85	0.41
1:h:489:TYR:HD1	1:h:528:VAL:HG22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:i:298:VAL:HG23	1:j:270:VAL:HA	2.02	0.41
1:k:356:PHE:HB3	1:k:497:MET:HE1	2.03	0.41
1:l:337:ILE:HG13	1:l:338:SER:N	2.35	0.41
1:A:392:ILE:HG22	1:A:393:ALA:H	1.86	0.41
1:B:522:TYR:OH	1:B:524:MET:SD	2.78	0.41
1:c:402:LEU:HD11	1:d:447:ILE:HD12	2.01	0.41
1:f:430:ASN:O	1:f:434:GLN:HG3	2.21	0.41
1:m:415:ARG:NH2	1:n:274:SER:O	2.54	0.41
1:n:340:GLU:O	1:n:341:ALA:C	2.63	0.41
1:u:480:VAL:HG23	1:u:481:LEU:N	2.36	0.41
1:w:279:ASN:OD1	1:w:281:ILE:HG13	2.20	0.41
1:4:330:LYS:HE2	1:4:330:LYS:HB3	1.92	0.41
1:A:330:LYS:HE2	1:A:330:LYS:HB3	1.91	0.41
1:B:420:GLY:H	1:B:458:ARG:HH11	1.69	0.41
1:L:427:LEU:O	1:L:431:LYS:HG3	2.21	0.41
1:N:424:ALA:HB2	1:N:481:LEU:HD12	2.03	0.41
1:X:341:ALA:O	1:X:342:LEU:C	2.63	0.41
1:Y:295:TRP:CD1	1:Z:265:GLN:HE21	2.39	0.41
1:Y:368:LEU:HD21	1:Y:524:MET:HE1	2.01	0.41
1:b:489:TYR:HD1	1:b:528:VAL:HG22	1.85	0.41
1:g:535:ARG:HD3	1:g:535:ARG:HA	1.80	0.41
1:h:348:VAL:O	1:h:352:VAL:HG12	2.20	0.41
1:i:478:ASN:O	1:i:480:VAL:HG13	2.19	0.41
1:m:427:LEU:HD23	1:m:468:ALA:O	2.21	0.41
1:o:535:ARG:HD3	1:o:535:ARG:HA	1.97	0.41
1:s:430:ASN:O	1:s:434:GLN:HG3	2.21	0.41
1:D:440:GLY:HA3	1:E:437:THR:O	2.21	0.41
1:H:310:GLU:OE2	1:1:338:SER:OG	2.30	0.41
1:M:392:ILE:HD11	1:M:408:VAL:HG22	2.03	0.41
1:Q:340:GLU:OE1	1:Y:523:ARG:NH2	2.54	0.41
1:V:423:LEU:HD11	1:V:463:ALA:HB2	2.02	0.41
1:Z:330:LYS:HE2	1:Z:330:LYS:HB3	1.86	0.41
1:j:406:TYR:O	1:j:410:GLU:HG2	2.21	0.41
1:l:298:VAL:HG23	1:m:266:LEU:HD11	2.02	0.41
1:o:272:ILE:HG21	1:o:358:GLU:OE2	2.21	0.41
1:q:501:PHE:O	1:q:503:PRO:HD3	2.21	0.41
1:v:251:MET:HA	1:v:257:ASP:HB3	2.03	0.41
1:w:282:ARG:NE	1:w:364:GLU:OE1	2.34	0.41
1:w:424:ALA:HB2	1:w:481:LEU:HD12	2.02	0.41
1:A:348:VAL:O	1:A:352:VAL:HG13	2.21	0.41
1:H:278:LEU:H	1:H:464:GLU:CD	2.26	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:427:LEU:HB2	1:J:468:ALA:HB1	2.03	0.41
1:L:300:SER:HB3	1:L:321:PHE:CD1	2.56	0.41
1:M:448:GLY:HA2	1:R:456:LEU:H	1.86	0.41
1:O:402:LEU:HD11	1:P:447:ILE:HD11	2.03	0.41
1:W:307:TRP:NE1	1:X:367:THR:HG21	2.23	0.41
1:Y:508:THR:N	1:f:313:GLU:OE2	2.54	0.41
1:e:388:THR:HG22	1:e:389:ALA:H	1.86	0.41
1:e:398:GLU:HG3	1:e:541:THR:HG22	2.02	0.41
1:f:494:ARG:HG3	1:f:495:ILE:HG23	2.01	0.41
1:f:497:MET:HE2	1:f:497:MET:HB3	1.87	0.41
1:g:372:THR:HG22	1:g:377:GLN:OE1	2.21	0.41
1:g:394:PRO:HD3	1:g:538:ASN:O	2.21	0.41
1:k:303:VAL:HG13	1:k:317:ASP:HB3	2.02	0.41
1:k:363:LEU:HD22	1:p:305:TRP:HB2	2.03	0.41
1:m:494:ARG:HG3	1:m:495:ILE:HG13	2.02	0.41
1:q:337:ILE:HG21	1:q:342:LEU:HD12	2.02	0.41
1:t:348:VAL:O	1:t:352:VAL:HG22	2.21	0.41
1:t:354:LEU:O	1:t:358:GLU:HG2	2.21	0.41
1:3:340:GLU:H	1:3:340:GLU:HG2	1.72	0.41
1:J:278:LEU:N	1:J:464:GLU:OE2	2.52	0.41
1:J:443:LEU:HD12	1:J:443:LEU:HA	1.83	0.41
1:K:388:THR:HG22	1:K:389:ALA:H	1.86	0.41
1:P:360:LYS:NZ	1:P:497:MET:HB2	2.35	0.41
1:U:466:MET:HE2	1:U:466:MET:HB3	1.82	0.41
1:Y:410:GLU:HG3	1:Z:427:LEU:HG	2.02	0.41
1:e:340:GLU:H	1:e:340:GLU:HG3	1.71	0.41
1:p:422:TRP:HZ2	1:p:456:LEU:HD12	1.86	0.41
1:q:330:LYS:HE2	1:q:330:LYS:HB3	1.81	0.41
1:2:370:THR:HG22	1:2:370:THR:O	2.21	0.41
1:B:307:TRP:NE1	1:C:367:THR:HG21	2.32	0.40
1:C:303:VAL:HG23	1:D:355:LEU:HB3	2.03	0.40
1:P:314:VAL:O	1:g:511:ARG:HD2	2.22	0.40
1:S:300:SER:HB2	1:S:321:PHE:CD1	2.56	0.40
1:U:392:ILE:HD11	1:U:408:VAL:HG22	2.01	0.40
1:W:410:GLU:HB3	1:X:430:ASN:HD22	1.86	0.40
1:f:350:GLU:O	1:f:354:LEU:HG	2.21	0.40
1:i:516:ARG:HG3	1:i:516:ARG:HH11	1.86	0.40
1:m:276:GLY:HA2	1:m:362:GLU:HG2	2.03	0.40
1:m:339:ILE:O	1:m:343:GLN:HG3	2.21	0.40
1:p:402:LEU:O	1:p:405:VAL:HG12	2.21	0.40
1:r:338:SER:OG	1:r:340:GLU:HG2	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:s:524:MET:HG2	1:s:525:GLY:H	1.85	0.40
1:B:318:SER:HA	1:B:319:PRO:HD3	1.97	0.40
1:K:351:THR:O	1:K:355:LEU:HG	2.20	0.40
1:L:352:VAL:HG21	1:L:518:TRP:HZ3	1.86	0.40
1:S:410:GLU:HB3	1:T:427:LEU:CD2	2.52	0.40
1:S:428:ILE:HG21	1:S:481:LEU:HD13	2.03	0.40
1:S:438:GLN:HG2	1:X:438:GLN:OE1	2.21	0.40
1:W:330:LYS:HE2	1:W:330:LYS:HB3	1.86	0.40
1:Y:444:TRP:CE2	1:Y:452:PRO:HG2	2.55	0.40
1:g:293:ASP:OD1	1:g:294:VAL:N	2.55	0.40
1:l:281:ILE:HD11	1:l:423:LEU:HD21	2.02	0.40
1:l:410:GLU:HB3	1:m:430:ASN:ND2	2.36	0.40
1:q:430:ASN:O	1:q:434:GLN:HG3	2.21	0.40
1:4:337:ILE:N	1:4:516:ARG:O	2.48	0.40
1:A:307:TRP:CE3	1:B:331:ALA:HB2	2.56	0.40
1:B:351:THR:O	1:B:355:LEU:HG	2.21	0.40
1:D:251:MET:HA	1:D:257:ASP:HB3	2.03	0.40
1:H:307:TRP:CE3	1:I:331:ALA:HB2	2.55	0.40
1:I:326:ILE:HG12	1:I:527:ASP:HB3	2.04	0.40
1:Q:494:ARG:NH2	1:g:343:GLN:O	2.54	0.40
1:S:392:ILE:HG22	1:S:393:ALA:N	2.37	0.40
1:T:308:ASP:C	1:U:376:ASN:HD21	2.30	0.40
1:W:510:ARG:HD3	1:e:507:GLY:O	2.22	0.40
1:b:433:ARG:NH2	1:b:449:ASN:O	2.36	0.40
1:b:436:ASP:HB2	1:b:442:GLY:O	2.21	0.40
1:h:441:ALA:HB2	1:i:436:ASP:HB3	2.03	0.40
1:l:456:LEU:HD23	1:m:448:GLY:H	1.86	0.40
1:m:425:ASN:HD22	1:m:468:ALA:HB2	1.86	0.40
1:m:430:ASN:O	1:m:434:GLN:HG3	2.22	0.40
1:m:535:ARG:HD3	1:m:535:ARG:HA	1.88	0.40
1:2:303:VAL:HG13	1:2:317:ASP:HB3	2.03	0.40
1:4:349:THR:HG22	1:4:518:TRP:HZ2	1.87	0.40
1:B:494:ARG:HG3	1:B:495:ILE:HG13	2.02	0.40
1:B:501:PHE:HZ	1:B:516:ARG:HD3	1.86	0.40
1:C:424:ALA:HB2	1:C:481:LEU:HD12	2.02	0.40
1:D:300:SER:HB2	1:D:321:PHE:CD1	2.57	0.40
1:G:466:MET:HE3	1:G:466:MET:HB2	1.89	0.40
1:H:494:ARG:HG3	1:H:495:ILE:HG13	2.03	0.40
1:I:436:ASP:OD2	1:I:443:LEU:HB3	2.22	0.40
1:P:388:THR:HG22	1:P:389:ALA:N	2.36	0.40
1:Q:535:ARG:HD3	1:Q:535:ARG:HA	2.00	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:354:LEU:O	1:W:358:GLU:HG2	2.21	0.40
1:W:368:LEU:HD23	1:W:368:LEU:HA	1.87	0.40
1:d:297:GLY:O	1:d:323:GLN:HG3	2.22	0.40
1:e:502:ILE:HA	1:e:503:PRO:HD3	1.91	0.40
1:j:297:GLY:O	1:j:323:GLN:HG3	2.20	0.40
1:p:479:PHE:HB3	1:p:536:LEU:HD21	2.02	0.40
1:r:456:LEU:H	1:s:448:GLY:HA2	1.85	0.40
1:t:489:TYR:HD1	1:t:528:VAL:HG12	1.86	0.40
1:u:360:LYS:NZ	1:u:497:MET:HB2	2.36	0.40
1:u:370:THR:HG22	1:u:370:THR:O	2.22	0.40
1:v:407:ALA:O	1:v:411:GLN:HG3	2.21	0.40
1:I:429:TYR:OH	1:I:460:VAL:HG13	2.22	0.40
1:J:489:TYR:HD1	1:J:528:VAL:HG22	1.87	0.40
1:K:407:ALA:O	1:K:411:GLN:HG3	2.20	0.40
1:V:535:ARG:HD3	1:V:535:ARG:HA	1.93	0.40
1:X:539:VAL:HG13	1:X:539:VAL:O	2.22	0.40
1:b:282:ARG:NE	1:b:364:GLU:OE2	2.42	0.40
1:e:476:ALA:HB1	1:e:542:ALA:HB2	2.04	0.40
1:g:466:MET:HE2	1:g:466:MET:HB3	1.80	0.40
1:u:329:LYS:HD3	1:u:376:ASN:C	2.46	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	1	284/543 (52%)	278 (98%)	6 (2%)	0	100	100
1	2	284/543 (52%)	274 (96%)	10 (4%)	0	100	100
1	3	284/543 (52%)	277 (98%)	7 (2%)	0	100	100
1	4	284/543 (52%)	278 (98%)	6 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	5	284/543 (52%)	278 (98%)	6 (2%)	0	100	100
1	A	291/543 (54%)	282 (97%)	9 (3%)	0	100	100
1	B	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	C	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	D	291/543 (54%)	285 (98%)	6 (2%)	0	100	100
1	E	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	F	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	G	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	H	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	I	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	J	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	K	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	L	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	M	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	N	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	O	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	P	291/543 (54%)	286 (98%)	5 (2%)	0	100	100
1	Q	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	R	291/543 (54%)	284 (98%)	7 (2%)	0	100	100
1	S	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	T	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	U	291/543 (54%)	286 (98%)	5 (2%)	0	100	100
1	V	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	W	291/543 (54%)	284 (98%)	7 (2%)	0	100	100
1	X	291/543 (54%)	286 (98%)	5 (2%)	0	100	100
1	Y	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	Z	291/543 (54%)	285 (98%)	6 (2%)	0	100	100
1	a	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	b	291/543 (54%)	285 (98%)	6 (2%)	0	100	100
1	c	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	d	291/543 (54%)	283 (97%)	8 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	e	291/543 (54%)	282 (97%)	9 (3%)	0	100	100
1	f	291/543 (54%)	290 (100%)	1 (0%)	0	100	100
1	g	291/543 (54%)	283 (97%)	8 (3%)	0	100	100
1	h	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	i	291/543 (54%)	282 (97%)	9 (3%)	0	100	100
1	j	291/543 (54%)	286 (98%)	5 (2%)	0	100	100
1	k	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	l	291/543 (54%)	288 (99%)	3 (1%)	0	100	100
1	m	291/543 (54%)	290 (100%)	1 (0%)	0	100	100
1	n	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	o	291/543 (54%)	287 (99%)	4 (1%)	0	100	100
1	p	291/543 (54%)	284 (98%)	7 (2%)	0	100	100
1	q	291/543 (54%)	285 (98%)	6 (2%)	0	100	100
1	r	291/543 (54%)	286 (98%)	5 (2%)	0	100	100
1	s	291/543 (54%)	281 (97%)	10 (3%)	0	100	100
1	t	291/543 (54%)	290 (100%)	1 (0%)	0	100	100
1	u	291/543 (54%)	281 (97%)	10 (3%)	0	100	100
1	v	291/543 (54%)	289 (99%)	2 (1%)	0	100	100
1	w	284/543 (52%)	278 (98%)	6 (2%)	0	100	100
All	All	15672/29322 (53%)	15415 (98%)	257 (2%)	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	1	226/432 (52%)	226 (100%)	0	100	100
1	2	226/432 (52%)	226 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	3	226/432 (52%)	226 (100%)	0	100	100
1	4	226/432 (52%)	226 (100%)	0	100	100
1	5	226/432 (52%)	226 (100%)	0	100	100
1	A	229/432 (53%)	229 (100%)	0	100	100
1	B	229/432 (53%)	229 (100%)	0	100	100
1	C	229/432 (53%)	229 (100%)	0	100	100
1	D	229/432 (53%)	229 (100%)	0	100	100
1	E	229/432 (53%)	229 (100%)	0	100	100
1	F	229/432 (53%)	229 (100%)	0	100	100
1	G	229/432 (53%)	229 (100%)	0	100	100
1	H	229/432 (53%)	229 (100%)	0	100	100
1	I	229/432 (53%)	229 (100%)	0	100	100
1	J	229/432 (53%)	229 (100%)	0	100	100
1	K	229/432 (53%)	229 (100%)	0	100	100
1	L	229/432 (53%)	229 (100%)	0	100	100
1	M	229/432 (53%)	229 (100%)	0	100	100
1	N	229/432 (53%)	229 (100%)	0	100	100
1	O	229/432 (53%)	229 (100%)	0	100	100
1	P	229/432 (53%)	229 (100%)	0	100	100
1	Q	229/432 (53%)	229 (100%)	0	100	100
1	R	229/432 (53%)	229 (100%)	0	100	100
1	S	229/432 (53%)	229 (100%)	0	100	100
1	T	229/432 (53%)	229 (100%)	0	100	100
1	U	229/432 (53%)	229 (100%)	0	100	100
1	V	229/432 (53%)	229 (100%)	0	100	100
1	W	229/432 (53%)	229 (100%)	0	100	100
1	X	229/432 (53%)	229 (100%)	0	100	100
1	Y	229/432 (53%)	229 (100%)	0	100	100
1	Z	229/432 (53%)	229 (100%)	0	100	100
1	a	229/432 (53%)	229 (100%)	0	100	100
1	b	229/432 (53%)	229 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	c	229/432 (53%)	229 (100%)	0	100	100
1	d	229/432 (53%)	229 (100%)	0	100	100
1	e	229/432 (53%)	229 (100%)	0	100	100
1	f	229/432 (53%)	229 (100%)	0	100	100
1	g	229/432 (53%)	229 (100%)	0	100	100
1	h	229/432 (53%)	229 (100%)	0	100	100
1	i	229/432 (53%)	229 (100%)	0	100	100
1	j	229/432 (53%)	229 (100%)	0	100	100
1	k	229/432 (53%)	229 (100%)	0	100	100
1	l	229/432 (53%)	229 (100%)	0	100	100
1	m	229/432 (53%)	229 (100%)	0	100	100
1	n	229/432 (53%)	229 (100%)	0	100	100
1	o	229/432 (53%)	229 (100%)	0	100	100
1	p	229/432 (53%)	229 (100%)	0	100	100
1	q	229/432 (53%)	229 (100%)	0	100	100
1	r	229/432 (53%)	229 (100%)	0	100	100
1	s	229/432 (53%)	229 (100%)	0	100	100
1	t	229/432 (53%)	229 (100%)	0	100	100
1	u	229/432 (53%)	229 (100%)	0	100	100
1	v	229/432 (53%)	229 (100%)	0	100	100
1	w	226/432 (52%)	226 (100%)	0	100	100
All	All	12348/23328 (53%)	12348 (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 (98) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	416	HIS
1	A	430	ASN
1	A	449	ASN
1	B	377	GLN
1	B	430	ASN
1	B	485	ASN

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Mol	Chain	Res	Type
1	C	323	GLN
1	C	434	GLN
1	C	487	GLN
1	E	296	HIS
1	E	438	GLN
1	E	471	ASN
1	E	478	ASN
1	F	347	ASN
1	F	488	ASN
1	G	438	GLN
1	H	530	ASN
1	I	430	ASN
1	I	438	GLN
1	I	469	ASN
1	I	485	ASN
1	I	487	GLN
1	J	287	GLN
1	J	504	HIS
1	L	538	ASN
1	M	296	HIS
1	M	343	GLN
1	M	430	ASN
1	N	347	ASN
1	N	478	ASN
1	O	532	ASN
1	P	275	ASN
1	P	426	ASN
1	P	509	ASN
1	Q	438	GLN
1	Q	471	ASN
1	R	376	ASN
1	R	488	ASN
1	S	416	HIS
1	S	426	ASN
1	S	485	ASN
1	T	430	ASN
1	T	449	ASN
1	U	296	HIS
1	U	376	ASN
1	U	419	GLN
1	V	376	ASN
1	X	377	GLN

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Mol	Chain	Res	Type
1	X	416	HIS
1	Y	426	ASN
1	Y	471	ASN
1	Y	504	HIS
1	Z	296	HIS
1	Z	376	ASN
1	Z	478	ASN
1	Z	487	GLN
1	a	323	GLN
1	a	471	ASN
1	d	454	GLN
1	d	469	ASN
1	e	296	HIS
1	e	376	ASN
1	e	426	ASN
1	e	454	GLN
1	f	323	GLN
1	f	426	ASN
1	g	343	GLN
1	g	376	ASN
1	i	449	ASN
1	j	478	ASN
1	k	411	GLN
1	k	416	HIS
1	k	430	ASN
1	l	434	GLN
1	m	454	GLN
1	n	426	ASN
1	q	275	ASN
1	r	296	HIS
1	r	343	GLN
1	r	377	GLN
1	s	426	ASN
1	t	304	GLN
1	t	416	HIS
1	u	287	GLN
1	u	296	HIS
1	u	411	GLN
1	u	469	ASN
1	v	347	ASN
1	w	538	ASN
1	1	487	GLN

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Mol	Chain	Res	Type
1	1	488	ASN
1	1	504	HIS
1	1	538	ASN
1	2	416	HIS
1	2	485	ASN
1	4	323	GLN
1	4	538	ASN
1	5	487	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.

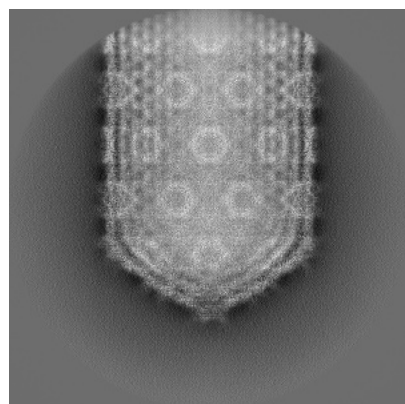
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-63432. These allow visual inspection of the internal detail of the map and identification of artifacts.

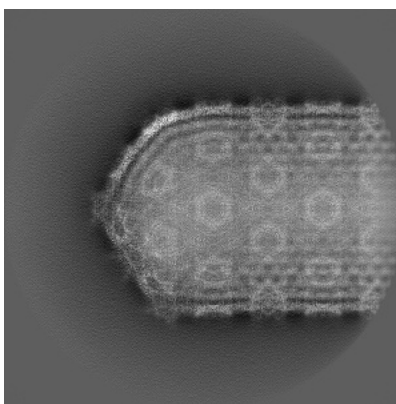
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

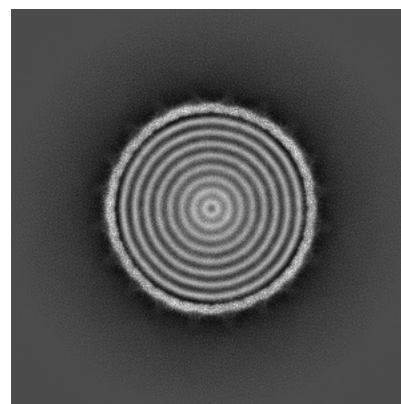
6.1.1 Primary map



X

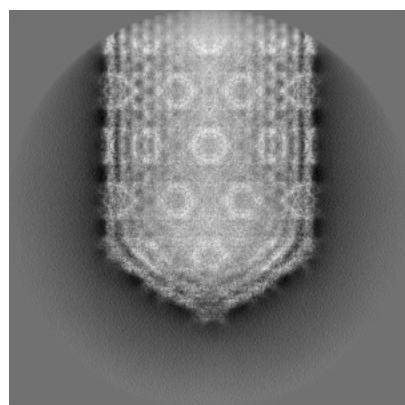


Y

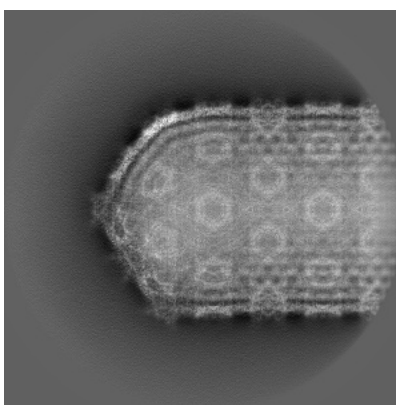


Z

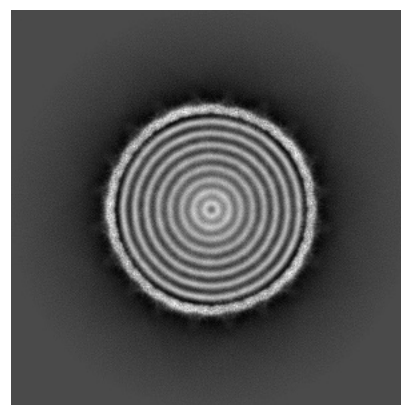
6.1.2 Raw map



X



Y

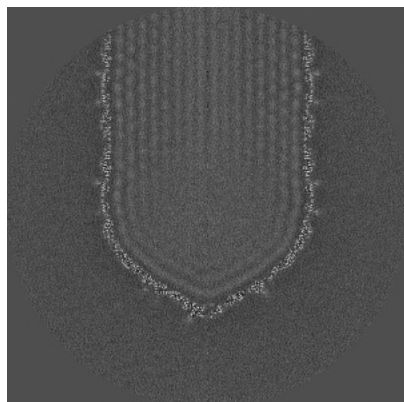


Z

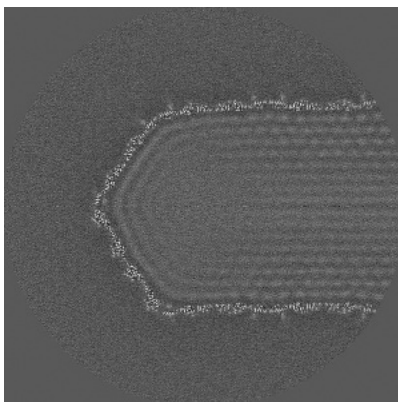
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

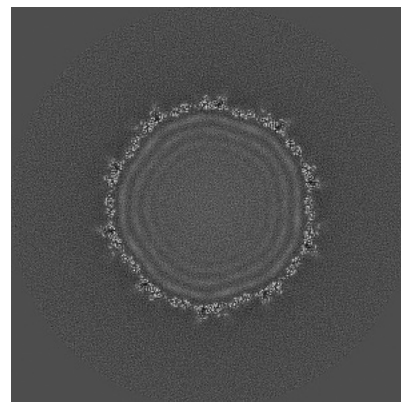
6.2.1 Primary map



X Index: 250

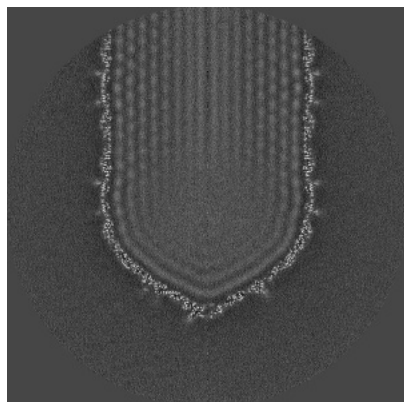


Y Index: 250

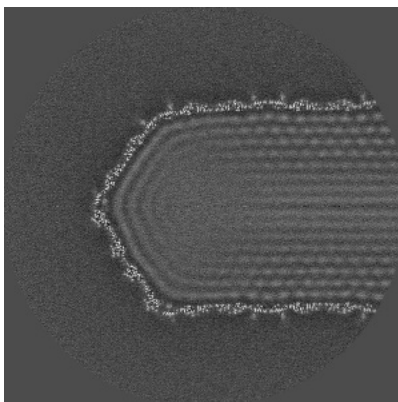


Z Index: 250

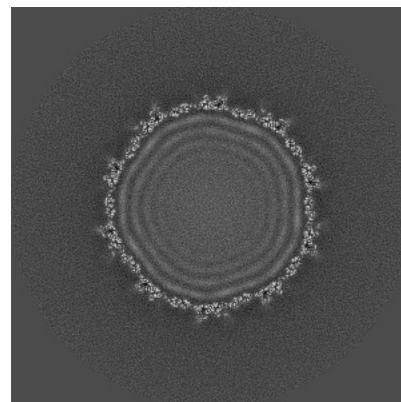
6.2.2 Raw map



X Index: 250



Y Index: 250

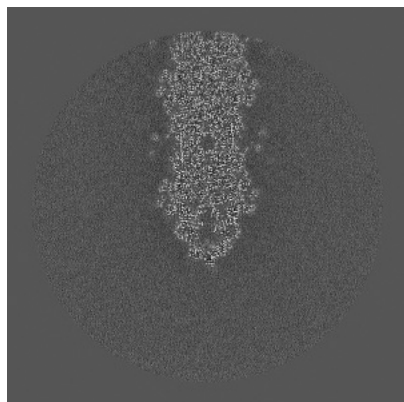


Z Index: 250

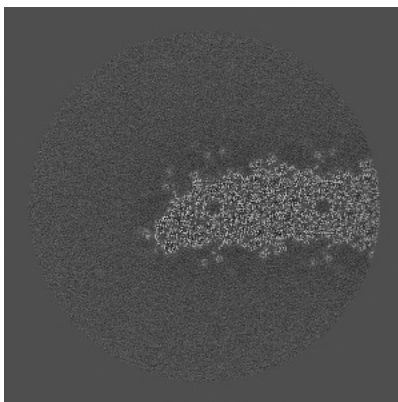
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

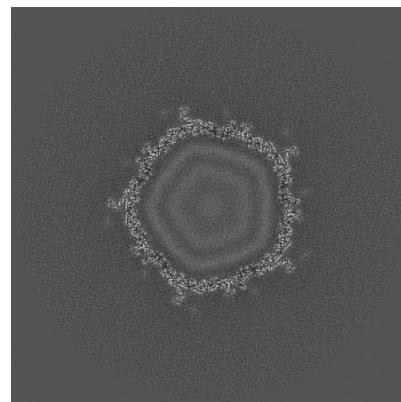
6.3.1 Primary map



X Index: 127

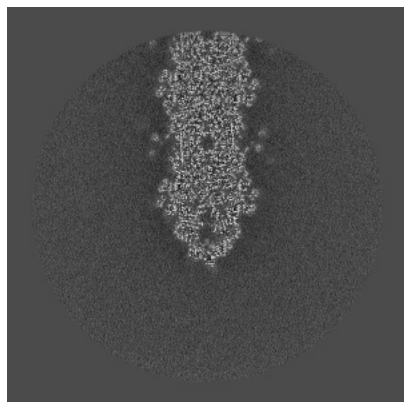


Y Index: 373

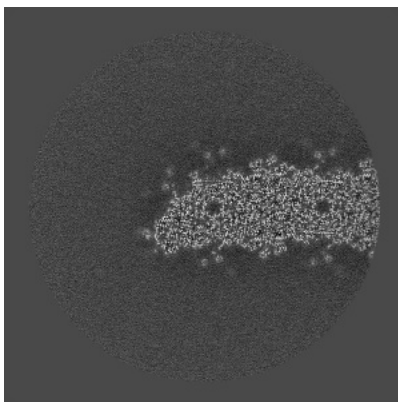


Z Index: 178

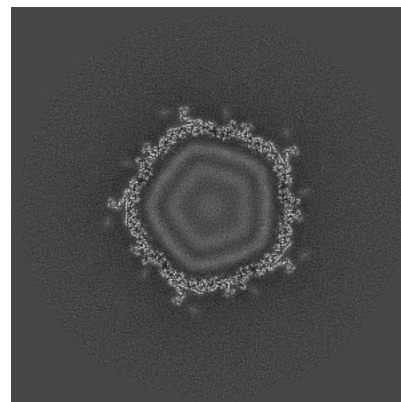
6.3.2 Raw map



X Index: 127



Y Index: 373

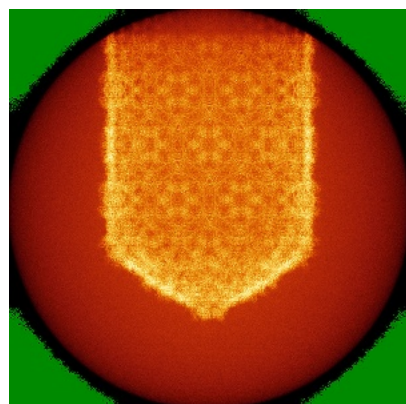


Z Index: 178

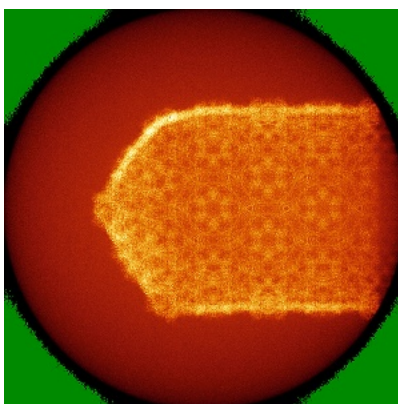
The images above show the largest variance slices of the map in three orthogonal directions.

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

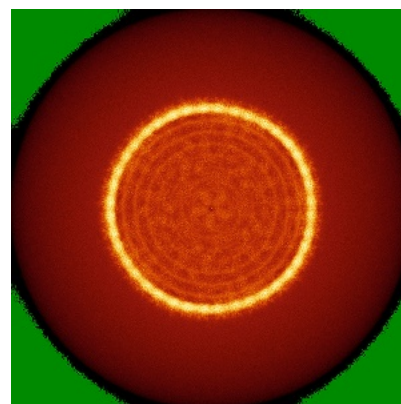
6.4.1 Primary map



X

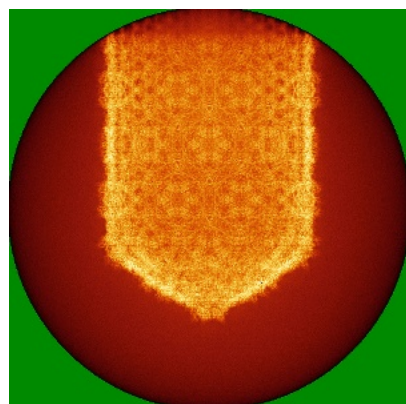


Y

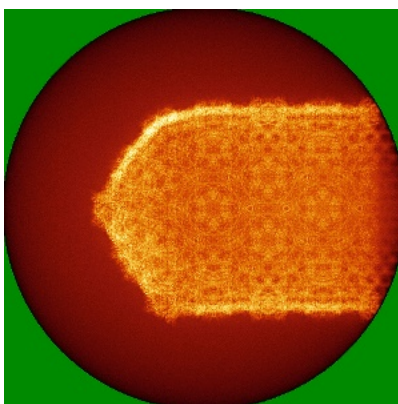


Z

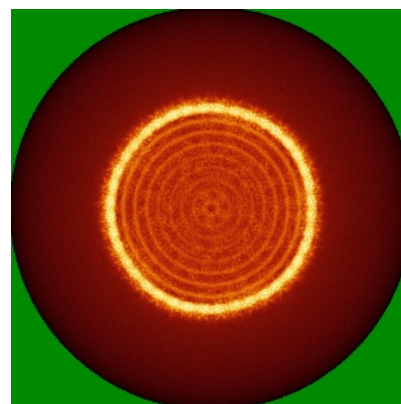
6.4.2 Raw map



X



Y

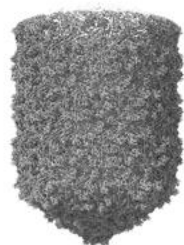


Z

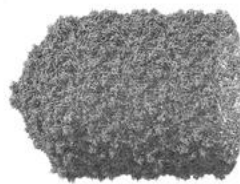
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

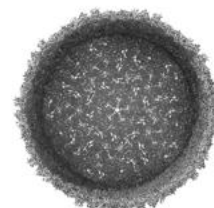
6.5.1 Primary map



X



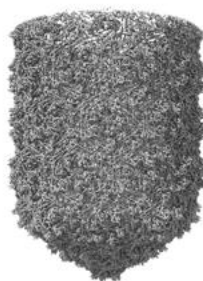
Y



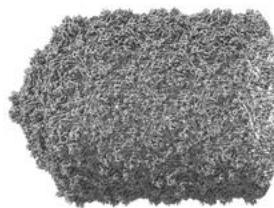
Z

The images above show the 3D surface view of the map at the recommended contour level 0.0203. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

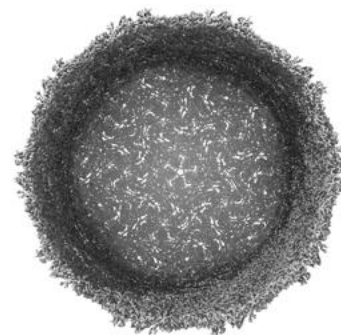
6.5.2 Raw map



X



Y



Z

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

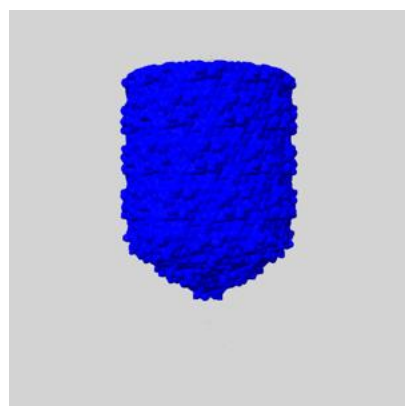
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

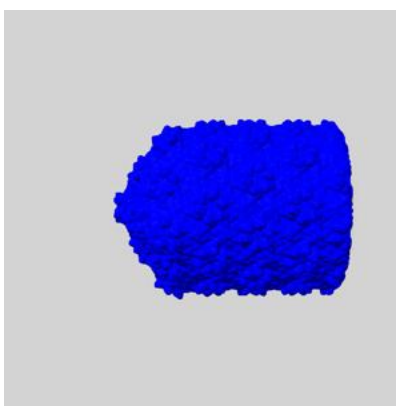
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

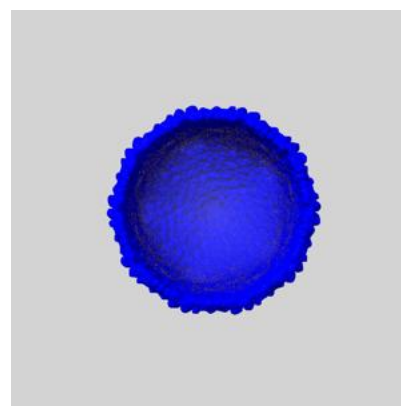
6.6.1 emd_63432_msk_1.map [i](#)



X



Y

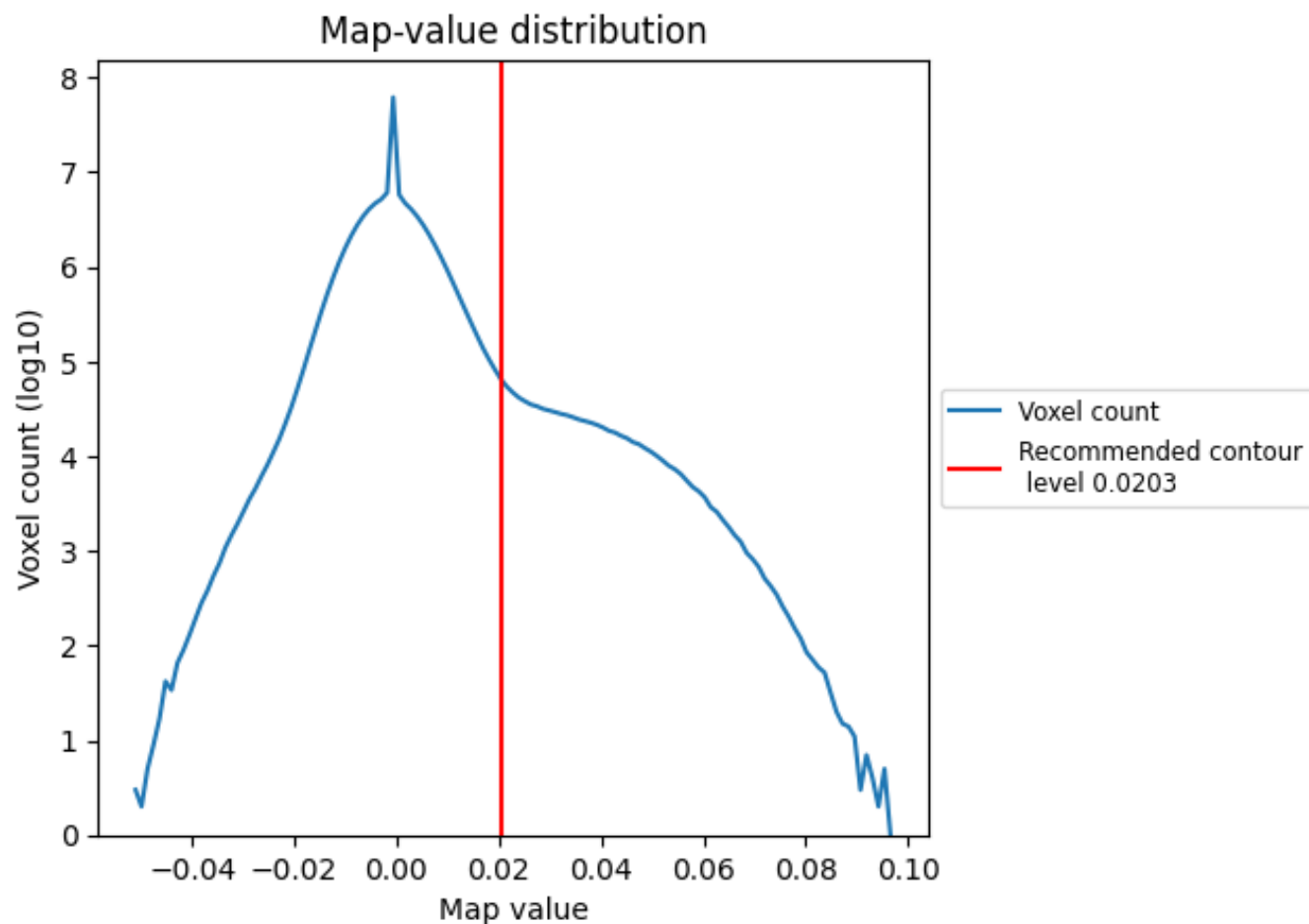


Z

7 Map analysis [i](#)

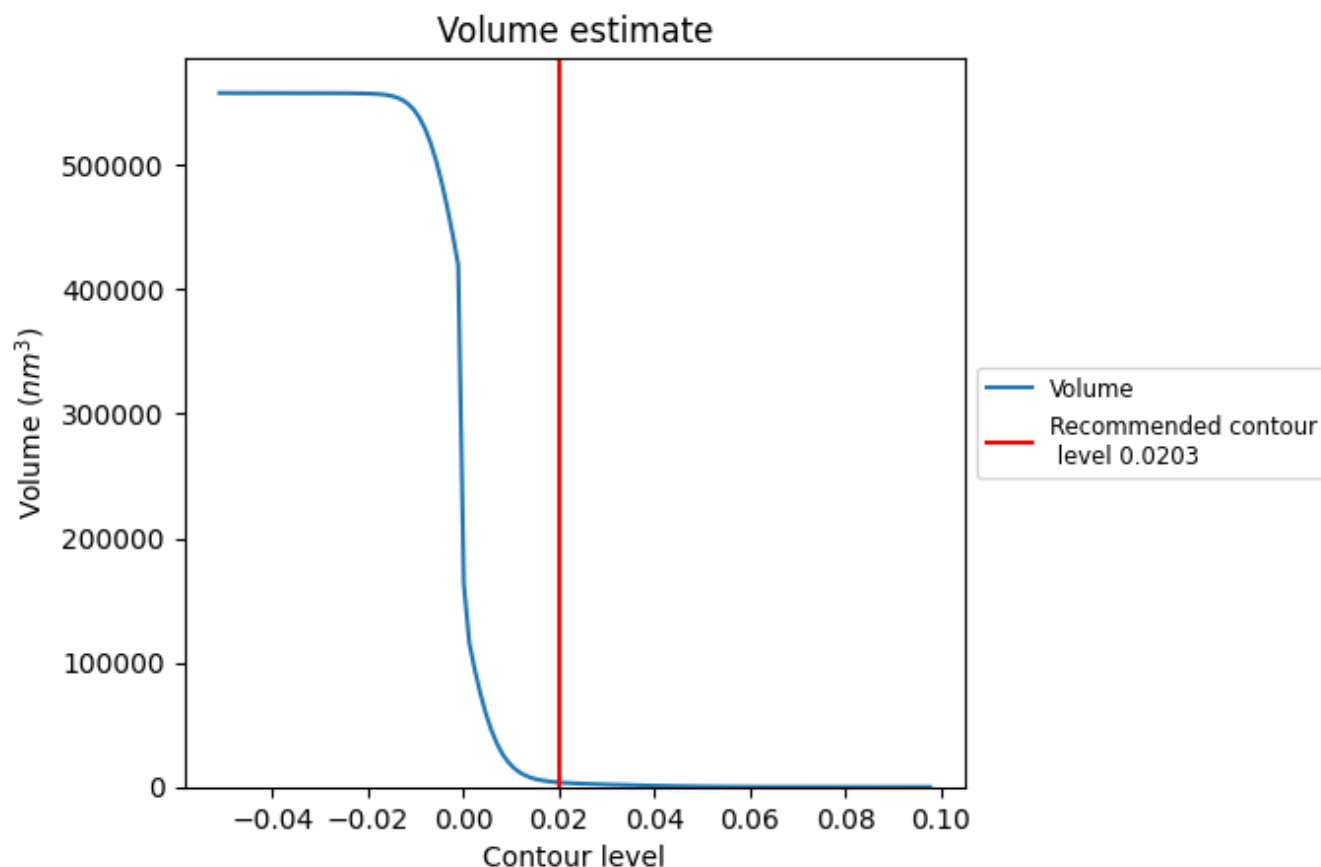
This section contains the results of statistical analysis of the map.

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.

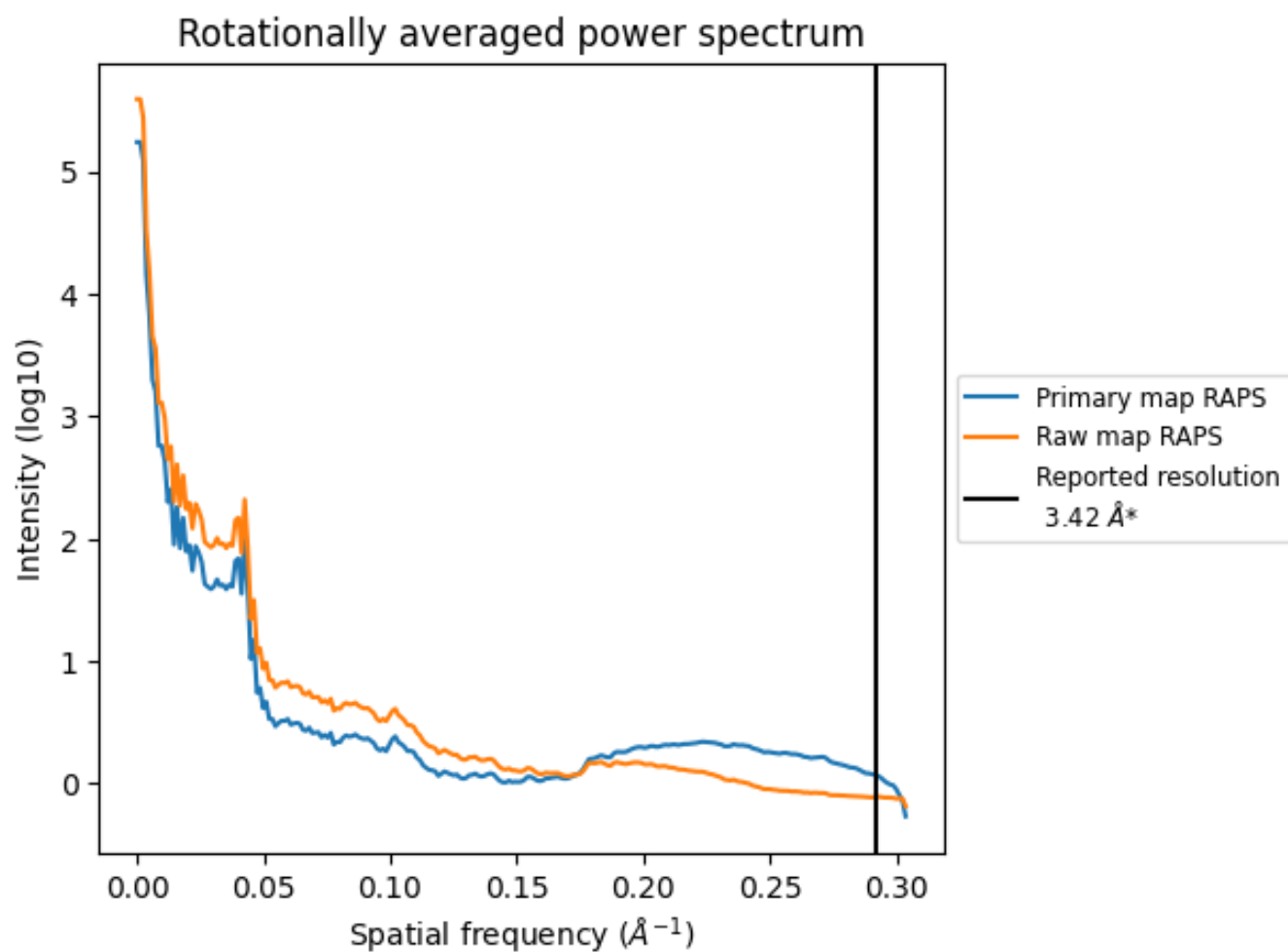
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3591 nm³; this corresponds to an approximate mass of 3244 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 ⓘ

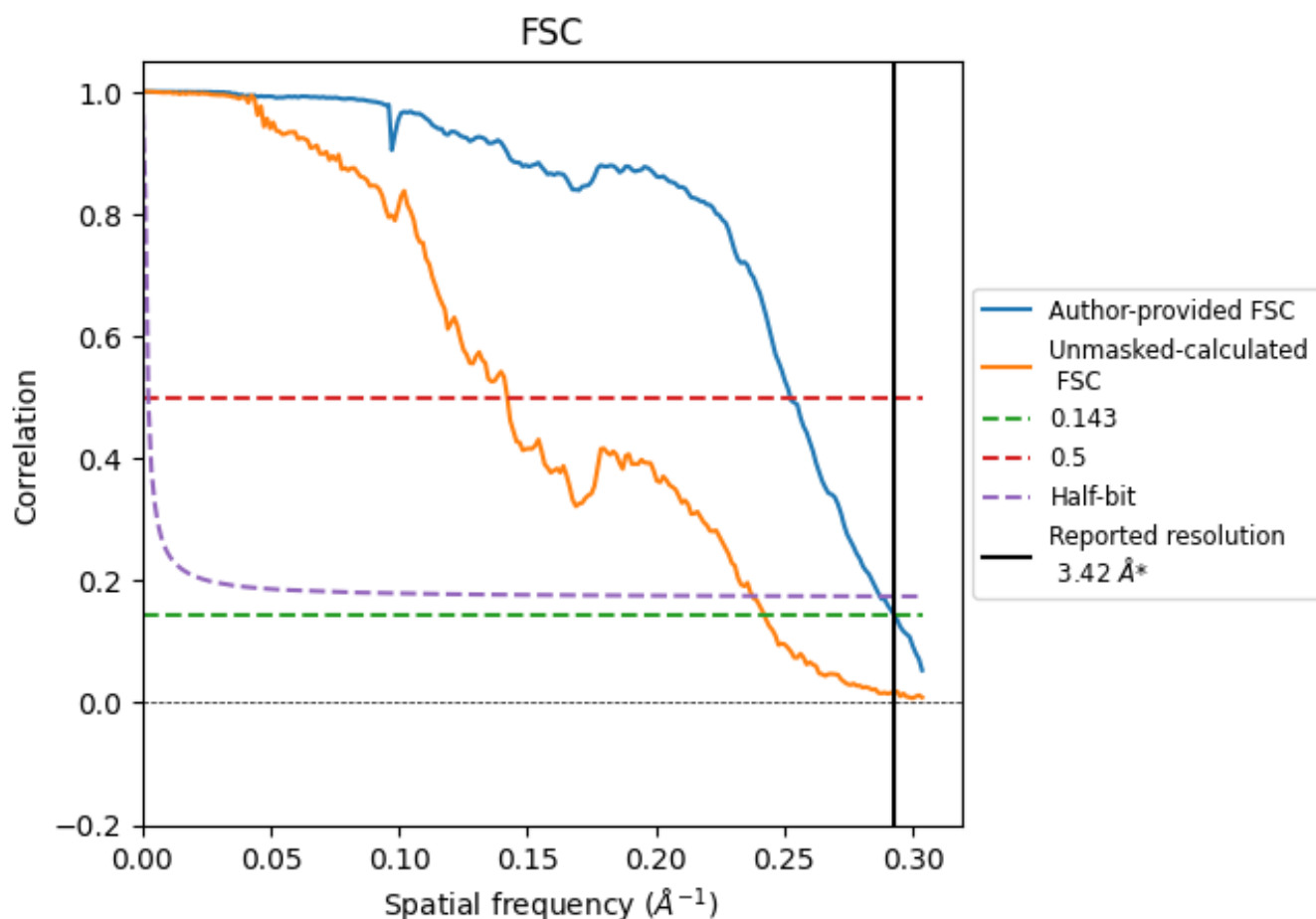


*Reported resolution corresponds to spatial frequency of 0.292 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.292 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.42	-	-
Author-provided FSC curve	3.42	3.96	3.48
Unmasked-calculated*	4.13	7.03	4.21

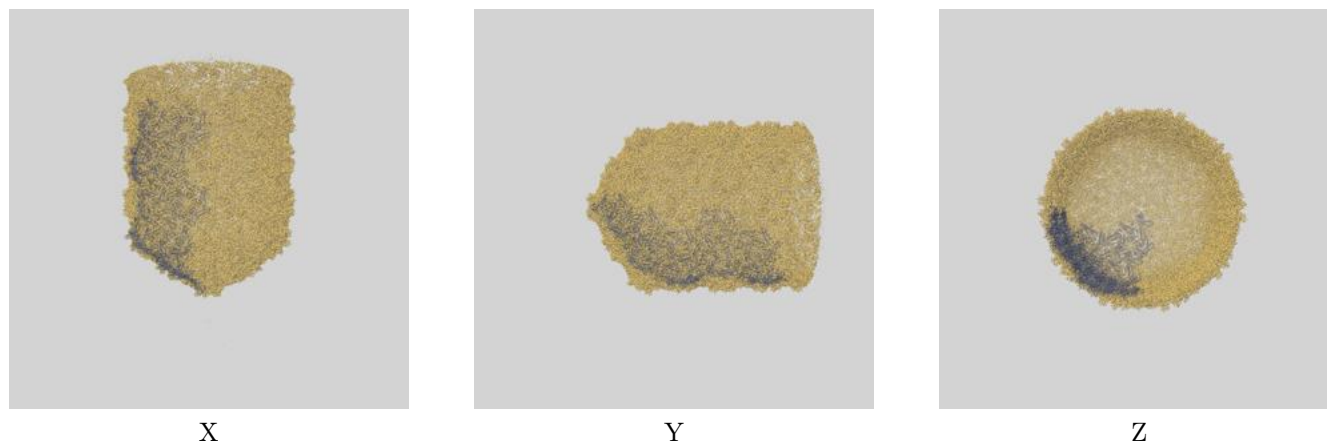
*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.13 differs from the reported value 3.42 by more than 10 %

9 Map-model fit [i](#)

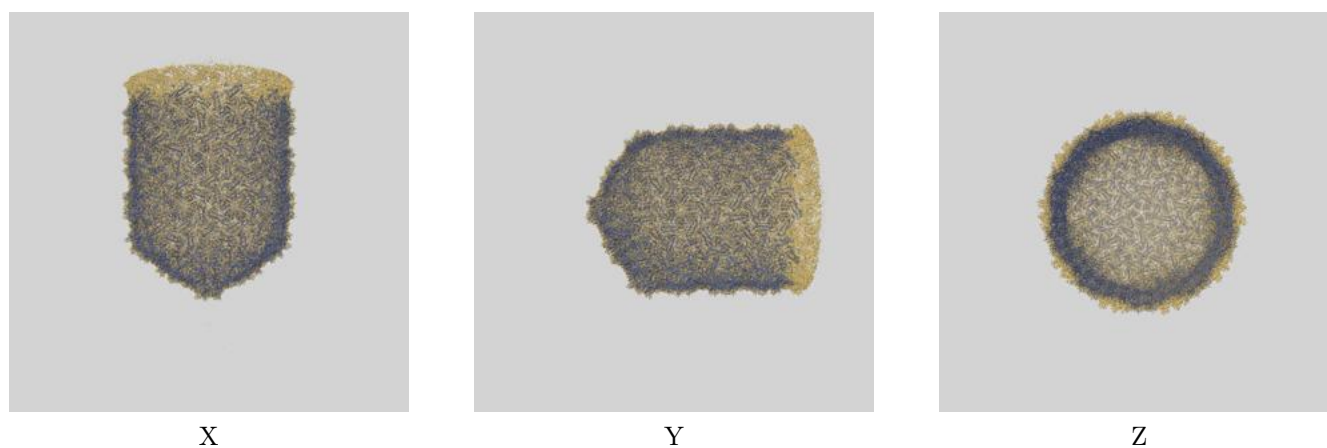
This section contains information regarding the fit between EMDB map EMD-63432 and PDB model 9LW6. Per-residue inclusion information can be found in section 3 on page 10.

9.1 Map-model overlays

9.1.1 Map-model overlay [i](#)

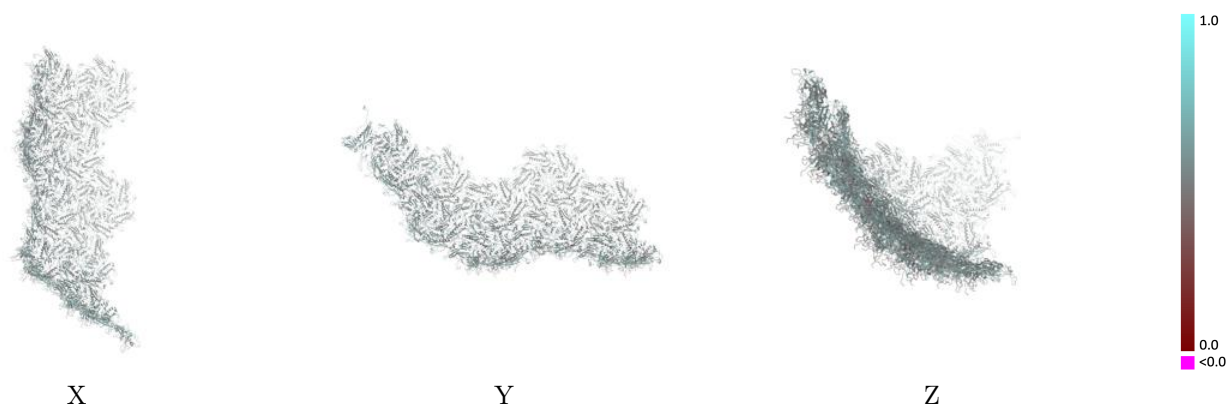


9.1.2 Map-model assembly overlay [i](#)



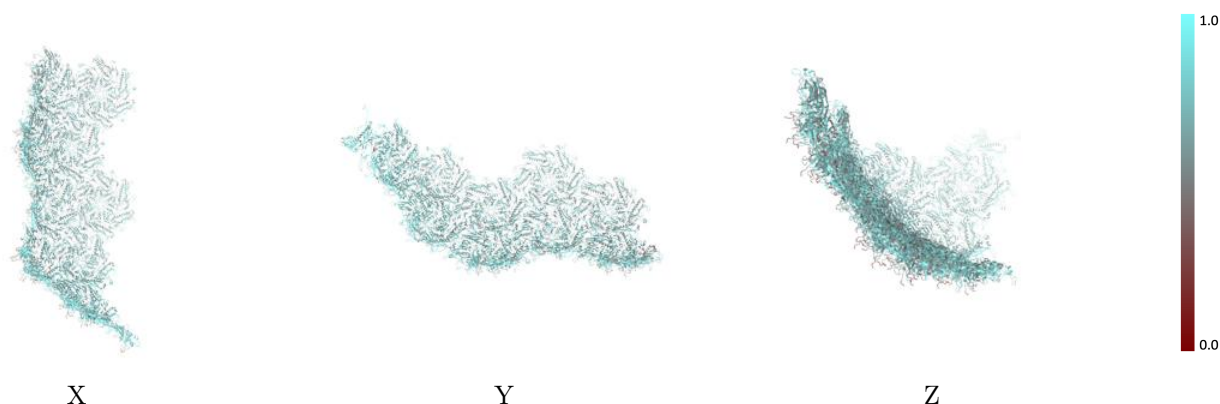
The images above show the 3D surface view of the map at the recommended contour level 0.0203 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



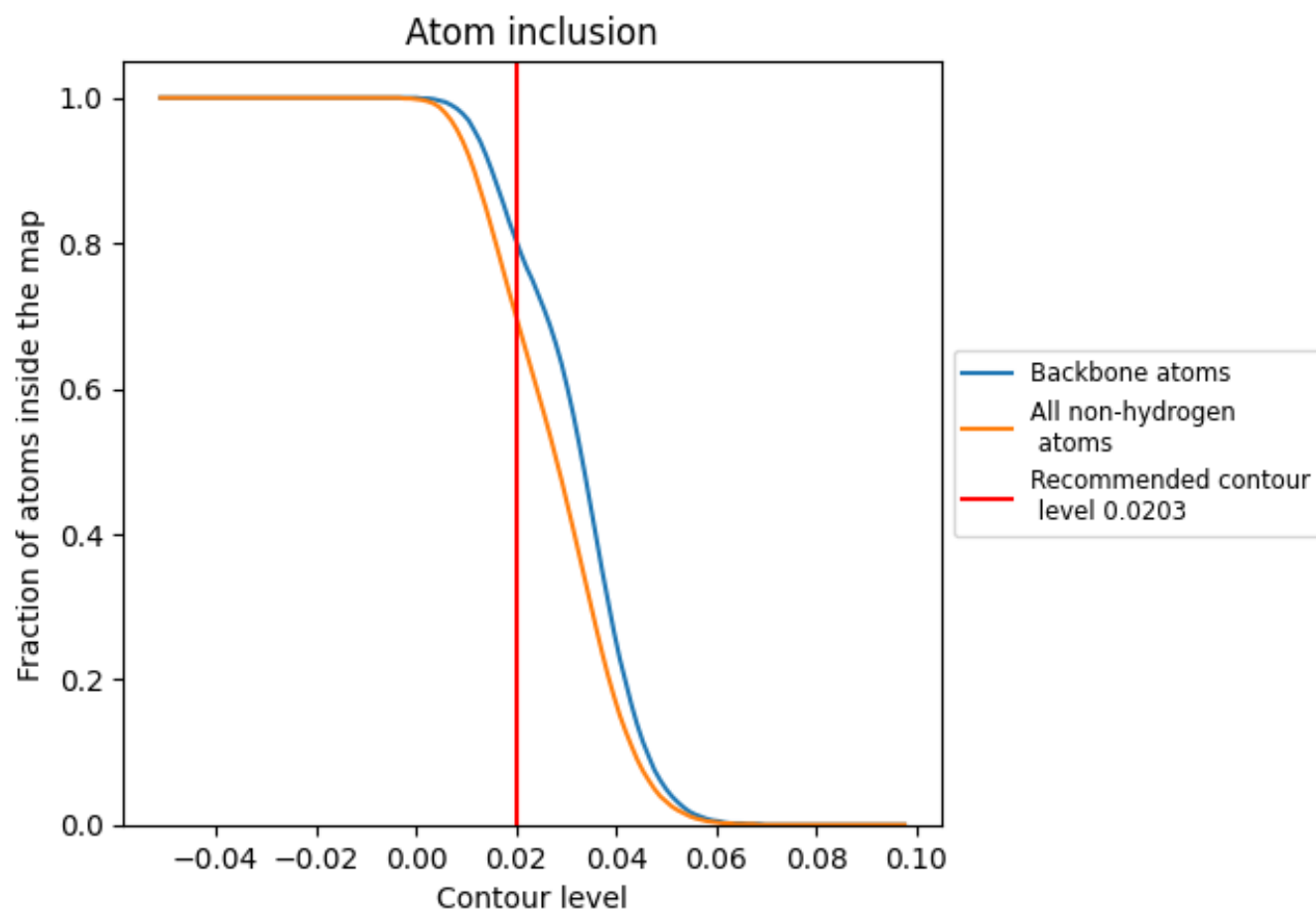
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0203).

9.4 Atom inclusion [i](#)



At the recommended contour level, 80% of all backbone atoms, 69% 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 (0.0203) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6940	 0.5300
1	 0.7180	 0.5340
2	 0.7100	 0.5310
3	 0.7090	 0.5290
4	 0.7000	 0.5270
5	 0.6990	 0.5260
A	 0.7480	 0.5470
B	 0.7450	 0.5410
C	 0.7410	 0.5480
D	 0.7370	 0.5370
E	 0.7380	 0.5440
F	 0.7360	 0.5430
G	 0.7330	 0.5370
H	 0.7300	 0.5370
I	 0.7250	 0.5330
J	 0.7140	 0.5350
K	 0.6900	 0.5340
L	 0.7100	 0.5320
M	 0.6950	 0.5330
N	 0.7100	 0.5340
O	 0.7040	 0.5320
P	 0.6910	 0.5350
Q	 0.6870	 0.5260
R	 0.7000	 0.5360
S	 0.7060	 0.5340
T	 0.7050	 0.5340
U	 0.6900	 0.5320
V	 0.6930	 0.5350
W	 0.6830	 0.5310
X	 0.6930	 0.5290
Y	 0.6940	 0.5300
Z	 0.6880	 0.5290
a	 0.6880	 0.5230
b	 0.6840	 0.5230
c	 0.6840	 0.5240



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Chain	Atom inclusion	Q-score
d	 0.6760	 0.5280
e	 0.6840	 0.5280
f	 0.6880	 0.5320
g	 0.6890	 0.5280
h	 0.6830	 0.5300
i	 0.6940	 0.5250
j	 0.6860	 0.5300
k	 0.6710	 0.5280
l	 0.6700	 0.5210
m	 0.6590	 0.5160
n	 0.6440	 0.5190
o	 0.6310	 0.5110
p	 0.6500	 0.5190
q	 0.6710	 0.5270
r	 0.6700	 0.5200
s	 0.6560	 0.5200
t	 0.6430	 0.5230
u	 0.6140	 0.5120
v	 0.6540	 0.5190
w	 0.7520	 0.5470