Full wwPDB EM Validation Report ⓘ

Aug 4, 2025 – 04:29 PM JST

PDB ID	:	9J3E / pdb_00009j3e
EMDB ID	:	EMD-61115
Title	:	Cryo-EM structure of TMexCD1-TOprJ1 in complex with 1-(1-naphthylmethyl)piperazine
Authors	:	Shi, Y.; Feng, Y.
Deposited on	:	2024-08-08
Resolution	:	3.00 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

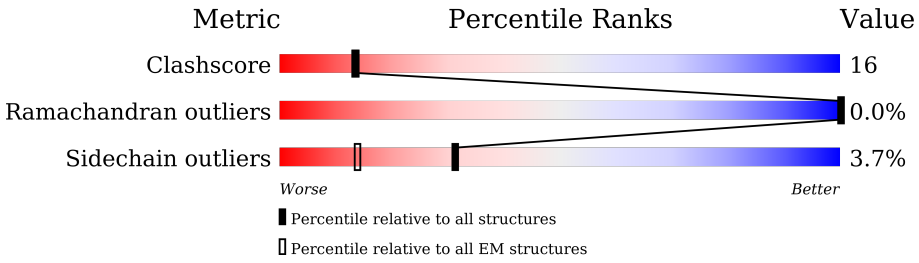
EMDB validation analysis	:	0.0.1.dev126
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	483	8% 59% 24% • 17%
1	B	483	7% 60% 23% • 17%
1	C	483	7% 62% 21% • 17%
2	D	395	66% 18% • 14%
2	E	395	10% 62% 23% • 14%
2	F	395	• 66% 19% 14%
2	G	395	10% 59% 26% 14%
2	H	395	• 67% 18% • 14%

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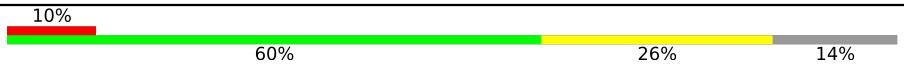
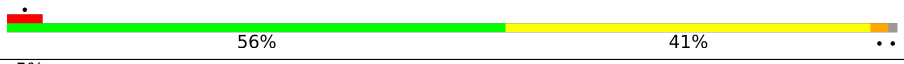
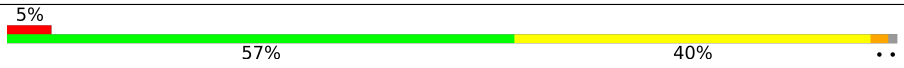
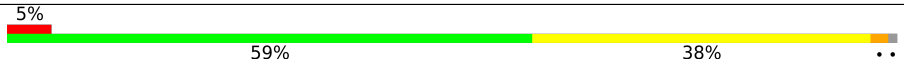
Mol	Chain	Length	Quality of chain
2	I	395	
3	J	1044	
3	K	1044	
3	L	1044	

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 47916 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 RND efflux system, OprJ-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	402	Total	C	N	O	S	0	0
			3065	1876	576	609	4		
1	B	402	Total	C	N	O	S	0	0
			3065	1876	576	609	4		
1	C	402	Total	C	N	O	S	0	0
			3065	1876	576	609	4		

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	478	HIS	-	expression tag	UNP A0A411AKN6
A	479	HIS	-	expression tag	UNP A0A411AKN6
A	480	HIS	-	expression tag	UNP A0A411AKN6
A	481	HIS	-	expression tag	UNP A0A411AKN6
A	482	HIS	-	expression tag	UNP A0A411AKN6
A	483	HIS	-	expression tag	UNP A0A411AKN6
B	478	HIS	-	expression tag	UNP A0A411AKN6
B	479	HIS	-	expression tag	UNP A0A411AKN6
B	480	HIS	-	expression tag	UNP A0A411AKN6
B	481	HIS	-	expression tag	UNP A0A411AKN6
B	482	HIS	-	expression tag	UNP A0A411AKN6
B	483	HIS	-	expression tag	UNP A0A411AKN6
C	478	HIS	-	expression tag	UNP A0A411AKN6
C	479	HIS	-	expression tag	UNP A0A411AKN6
C	480	HIS	-	expression tag	UNP A0A411AKN6
C	481	HIS	-	expression tag	UNP A0A411AKN6
C	482	HIS	-	expression tag	UNP A0A411AKN6
C	483	HIS	-	expression tag	UNP A0A411AKN6

- Molecule 2 is a protein called RND efflux system, MexC-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D	338	Total	C	N	O	S	0	0
			2543	1580	471	487	5		
2	E	338	Total	C	N	O	S	0	0
			2543	1580	471	487	5		
2	F	338	Total	C	N	O	S	0	0
			2543	1580	471	487	5		
2	G	338	Total	C	N	O	S	0	0
			2543	1580	471	487	5		
2	H	338	Total	C	N	O	S	0	0
			2543	1580	471	487	5		
2	I	338	Total	C	N	O	S	0	0
			2543	1580	471	487	5		

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	388	TRP	-	expression tag	UNP A0A411AKL2
D	389	SER	-	expression tag	UNP A0A411AKL2
D	390	HIS	-	expression tag	UNP A0A411AKL2
D	391	PRO	-	expression tag	UNP A0A411AKL2
D	392	GLN	-	expression tag	UNP A0A411AKL2
D	393	PHE	-	expression tag	UNP A0A411AKL2
D	394	GLU	-	expression tag	UNP A0A411AKL2
D	395	LYS	-	expression tag	UNP A0A411AKL2
E	388	TRP	-	expression tag	UNP A0A411AKL2
E	389	SER	-	expression tag	UNP A0A411AKL2
E	390	HIS	-	expression tag	UNP A0A411AKL2
E	391	PRO	-	expression tag	UNP A0A411AKL2
E	392	GLN	-	expression tag	UNP A0A411AKL2
E	393	PHE	-	expression tag	UNP A0A411AKL2
E	394	GLU	-	expression tag	UNP A0A411AKL2
E	395	LYS	-	expression tag	UNP A0A411AKL2
F	388	TRP	-	expression tag	UNP A0A411AKL2
F	389	SER	-	expression tag	UNP A0A411AKL2
F	390	HIS	-	expression tag	UNP A0A411AKL2
F	391	PRO	-	expression tag	UNP A0A411AKL2
F	392	GLN	-	expression tag	UNP A0A411AKL2
F	393	PHE	-	expression tag	UNP A0A411AKL2
F	394	GLU	-	expression tag	UNP A0A411AKL2
F	395	LYS	-	expression tag	UNP A0A411AKL2
G	388	TRP	-	expression tag	UNP A0A411AKL2
G	389	SER	-	expression tag	UNP A0A411AKL2
G	390	HIS	-	expression tag	UNP A0A411AKL2
G	391	PRO	-	expression tag	UNP A0A411AKL2

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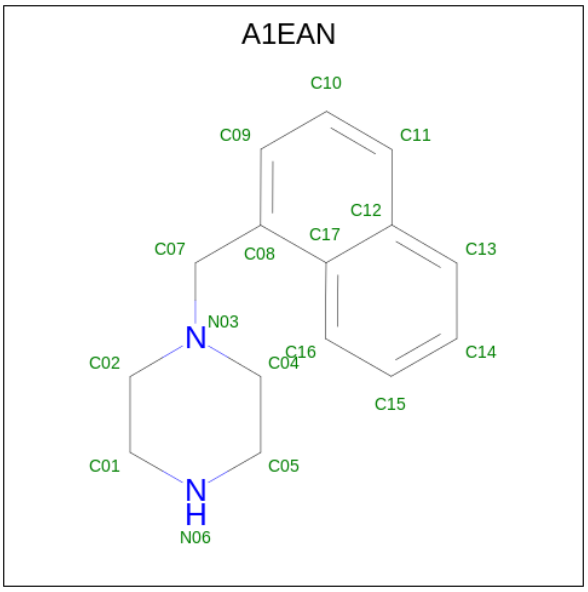
Chain	Residue	Modelled	Actual	Comment	Reference
G	392	GLN	-	expression tag	UNP A0A411AKL2
G	393	PHE	-	expression tag	UNP A0A411AKL2
G	394	GLU	-	expression tag	UNP A0A411AKL2
G	395	LYS	-	expression tag	UNP A0A411AKL2
H	388	TRP	-	expression tag	UNP A0A411AKL2
H	389	SER	-	expression tag	UNP A0A411AKL2
H	390	HIS	-	expression tag	UNP A0A411AKL2
H	391	PRO	-	expression tag	UNP A0A411AKL2
H	392	GLN	-	expression tag	UNP A0A411AKL2
H	393	PHE	-	expression tag	UNP A0A411AKL2
H	394	GLU	-	expression tag	UNP A0A411AKL2
H	395	LYS	-	expression tag	UNP A0A411AKL2
I	388	TRP	-	expression tag	UNP A0A411AKL2
I	389	SER	-	expression tag	UNP A0A411AKL2
I	390	HIS	-	expression tag	UNP A0A411AKL2
I	391	PRO	-	expression tag	UNP A0A411AKL2
I	392	GLN	-	expression tag	UNP A0A411AKL2
I	393	PHE	-	expression tag	UNP A0A411AKL2
I	394	GLU	-	expression tag	UNP A0A411AKL2
I	395	LYS	-	expression tag	UNP A0A411AKL2

- Molecule 3 is a protein called Efflux pump membrane transporter.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	K	1032	Total	C	N	O	S	0	0
			7804	5030	1295	1445	34		
3	J	1032	Total	C	N	O	S	0	0
			7804	5030	1295	1445	34		
3	L	1032	Total	C	N	O	S	0	0
			7804	5030	1295	1445	34		

- Molecule 4 is 1-(naphthalen-1-ylmethyl)piperazine (CCD ID: A1EAN) (formula: $C_{15}H_{18}N_2$) (labeled as "Ligand of Interest" by depositor).



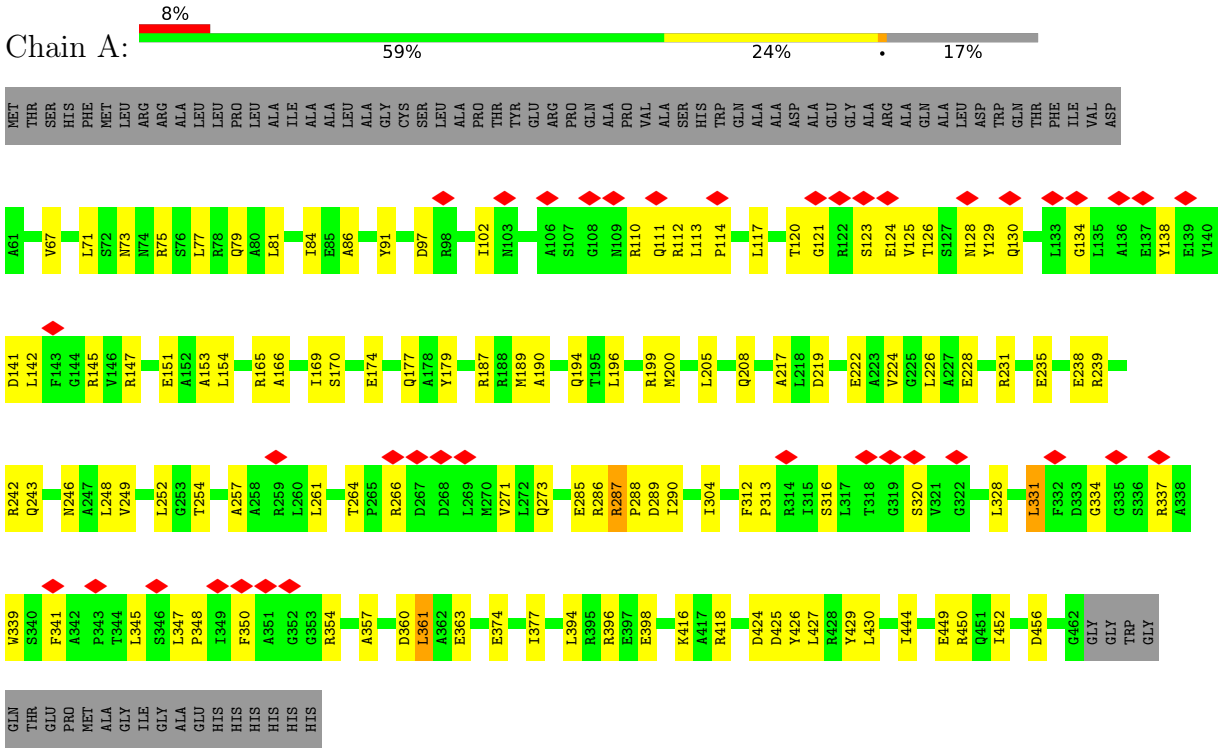
Mol	Chain	Residues	Atoms	AltConf
4	K	1	Total C N 17 15 2	0
4	J	1	Total C N 17 15 2	0
4	L	1	Total C N 17 15 2	0

3 Residue-property plots (i)

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

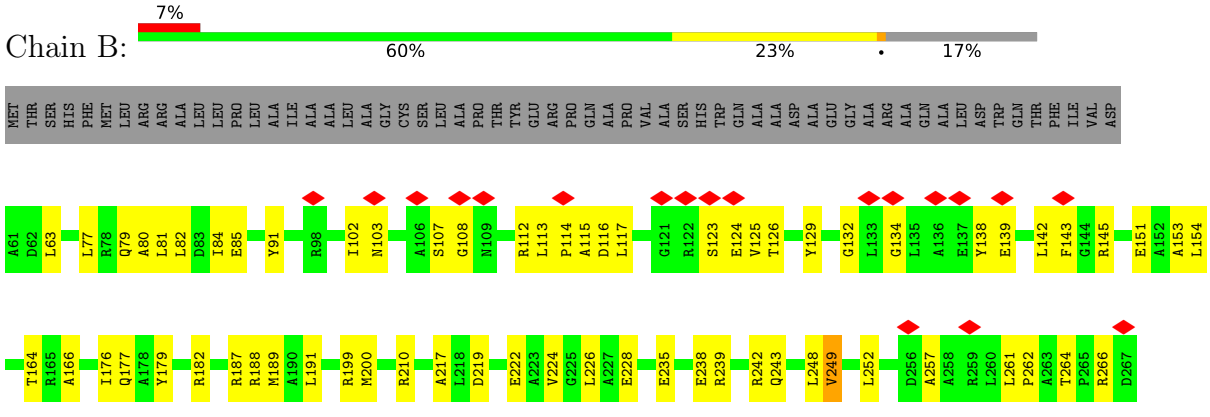
• Molecule 1: RND efflux system, OprJ-like protein

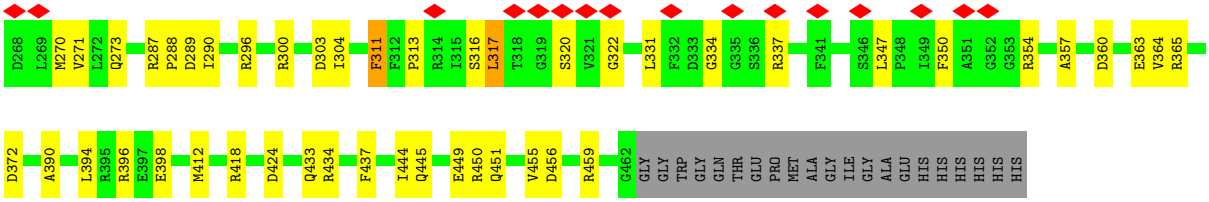
Chain A:



• Molecule 1: RND efflux system, OprJ-like protein

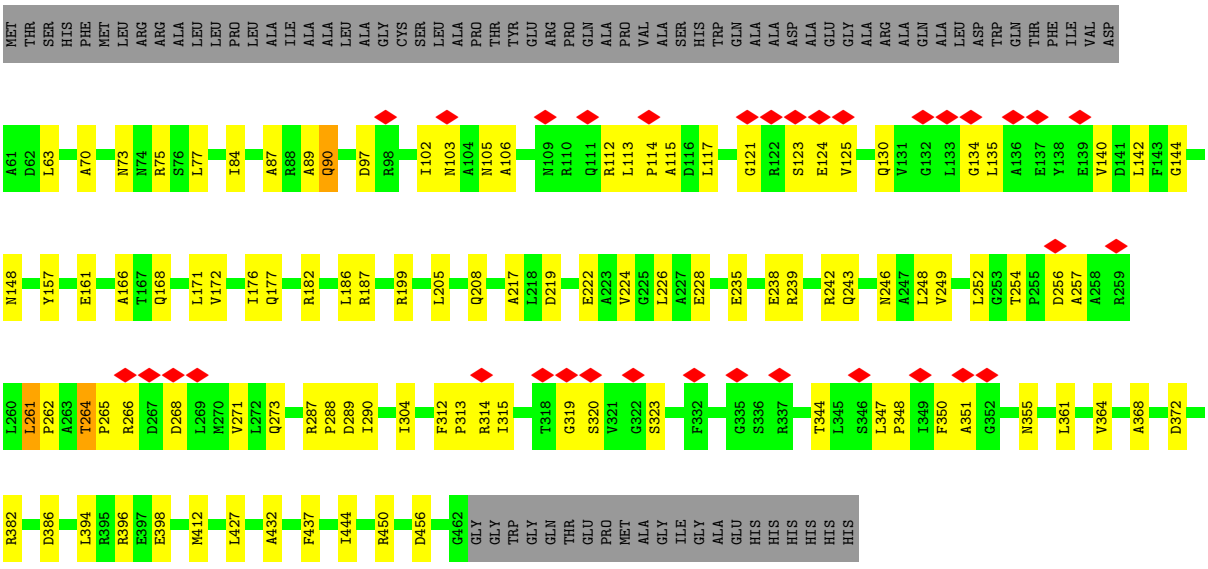
Chain B:





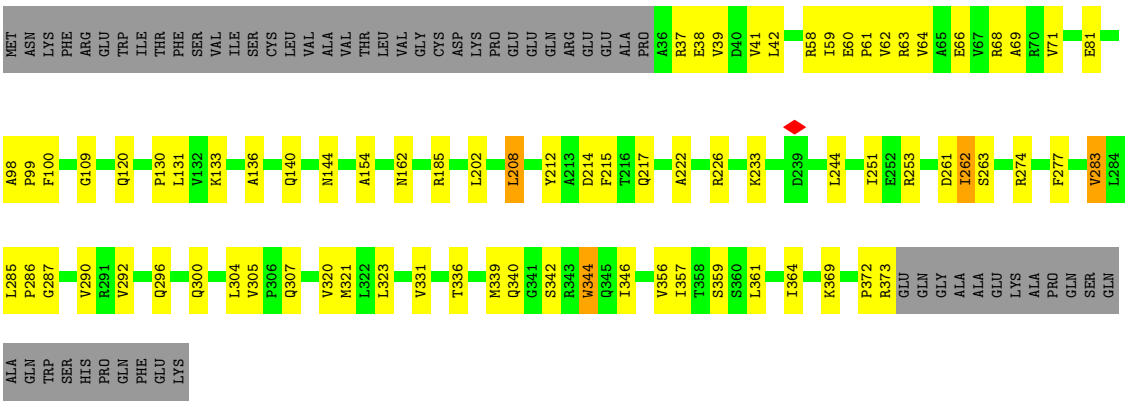
• Molecule 1: RND efflux system, OprJ-like protein

Chain C:



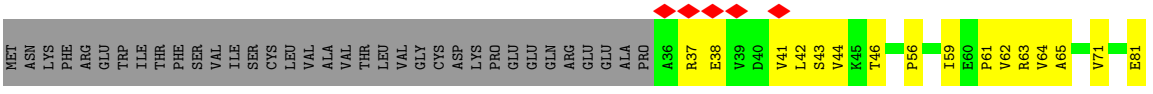
• Molecule 2: RND efflux system, MexC-like protein

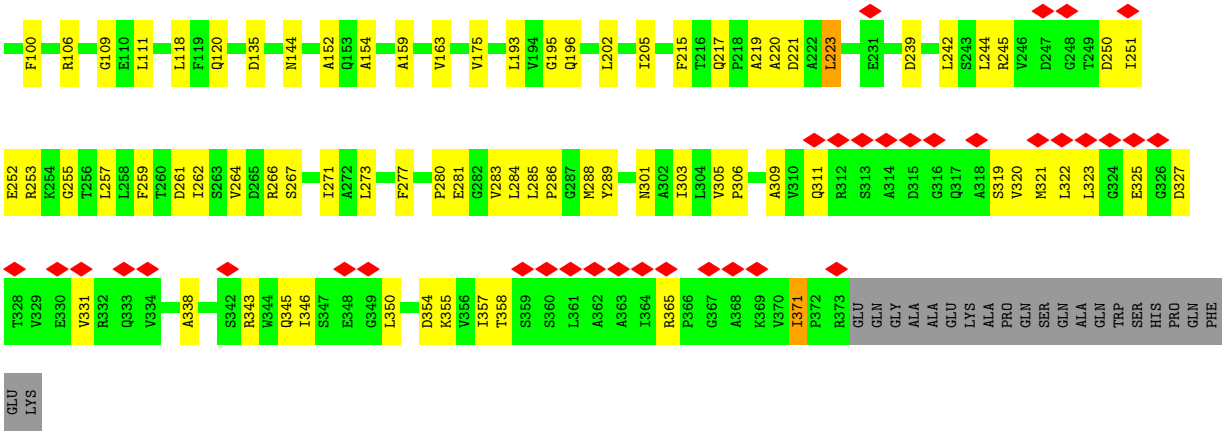
Chain D:



• Molecule 2: RND efflux system, MexC-like protein

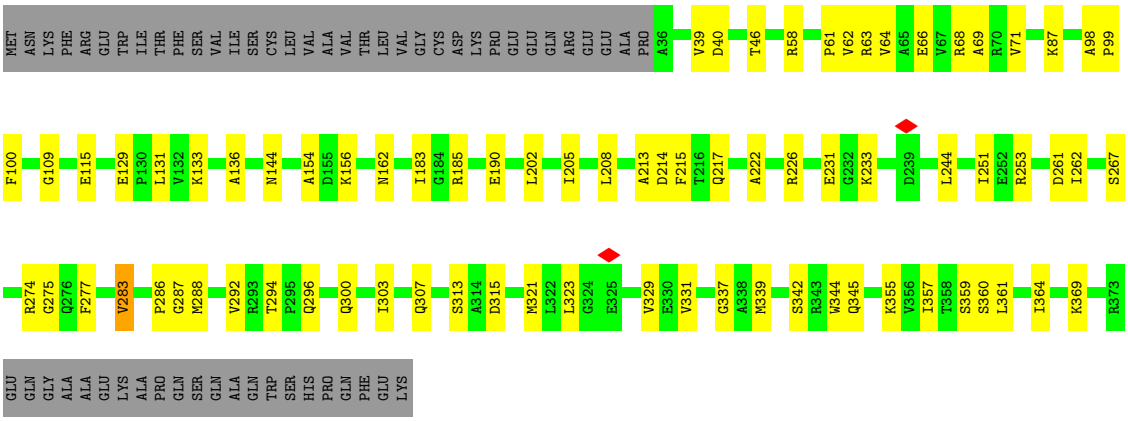
Chain E:





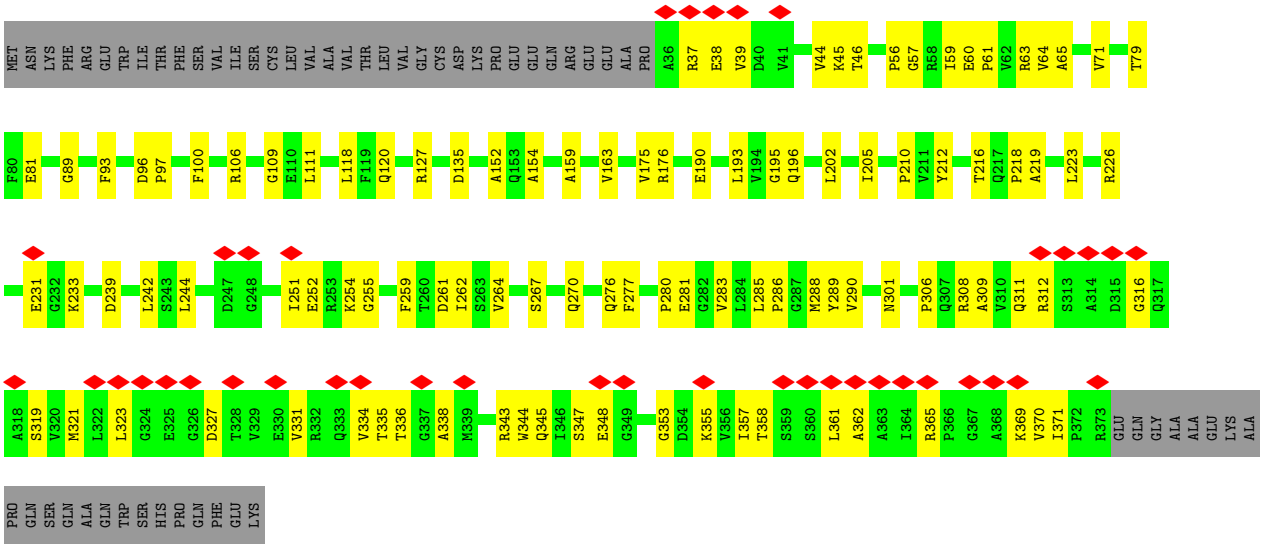
• Molecule 2: RND efflux system, MexC-like protein

Chain F:



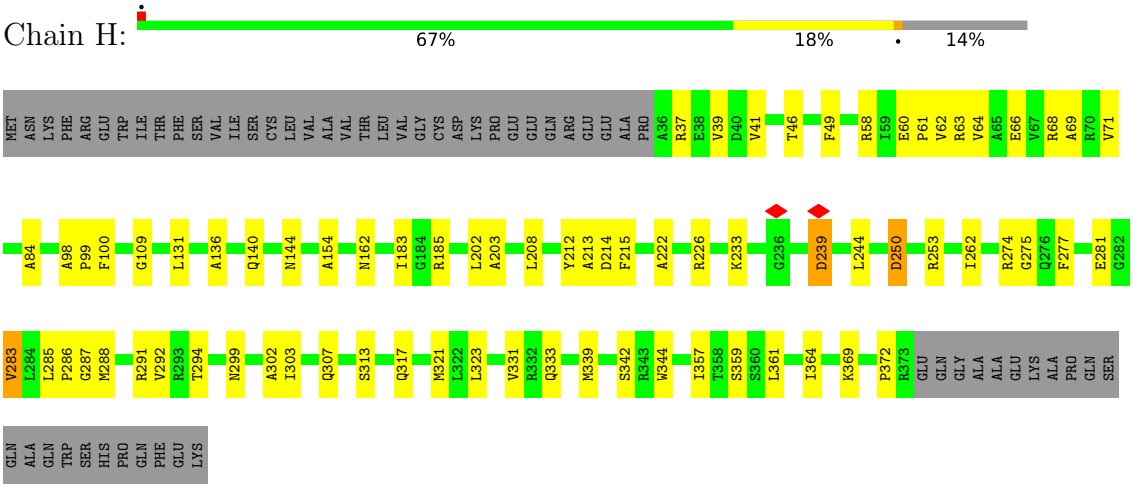
• Molecule 2: RND efflux system, MexC-like protein

Chain G:



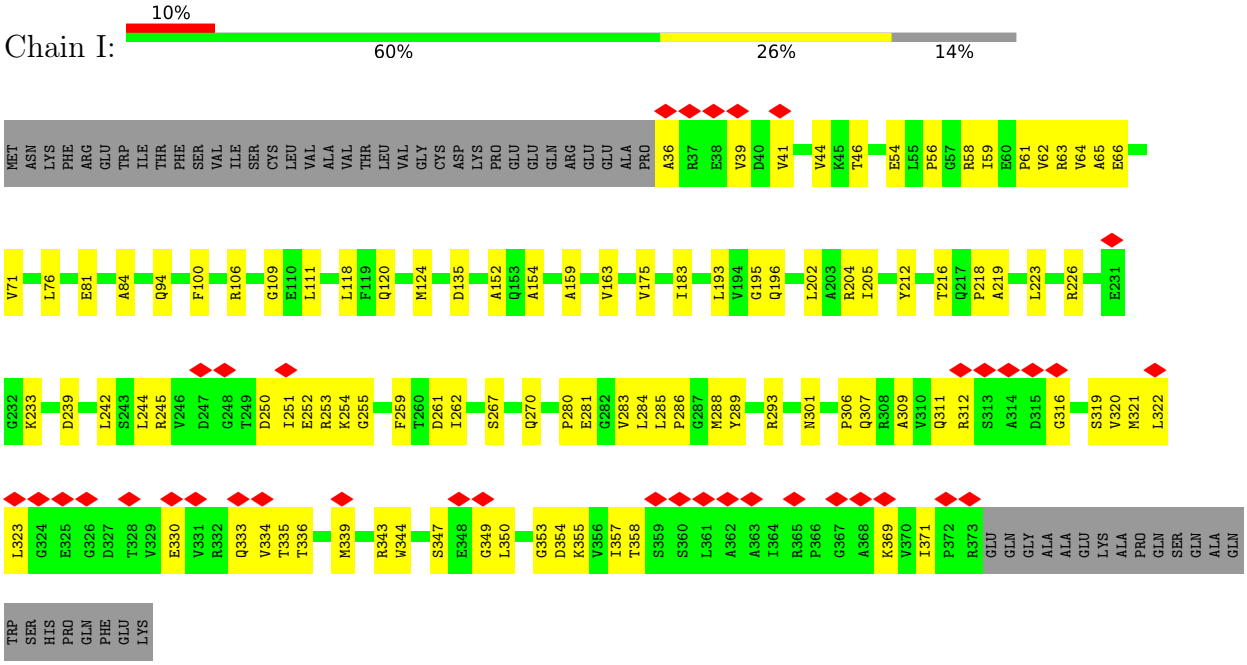
• Molecule 2: RND efflux system, MexC-like protein

Chain H:



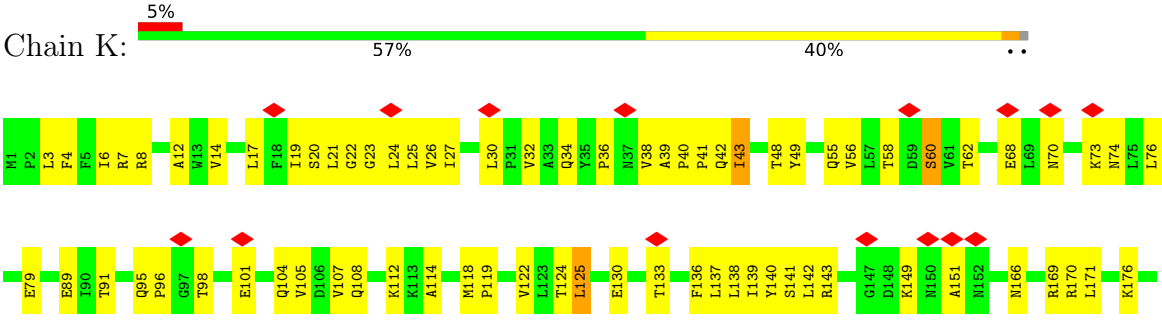
• Molecule 2: RND efflux system, MexC-like protein

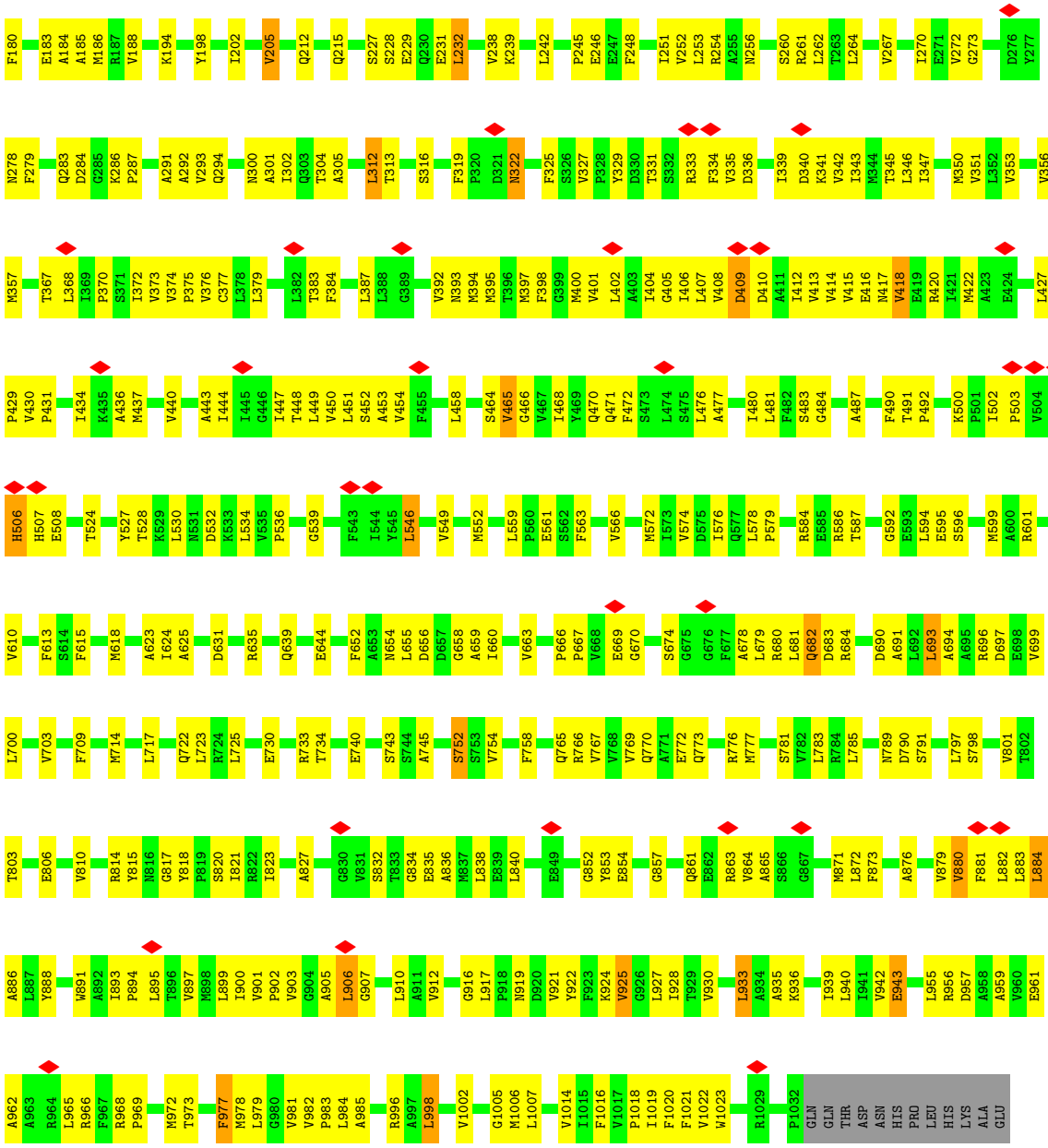
Chain I:



• Molecule 3: Efflux pump membrane transporter

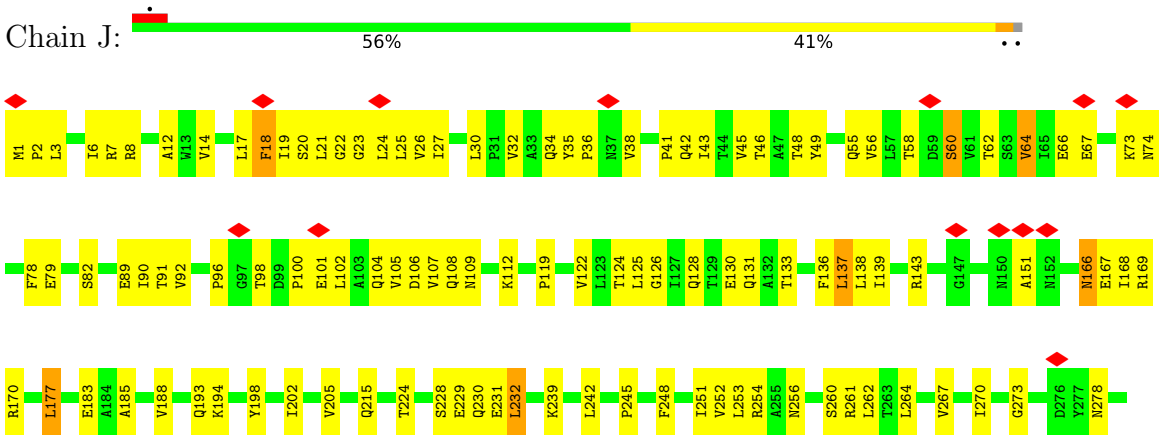
Chain K:

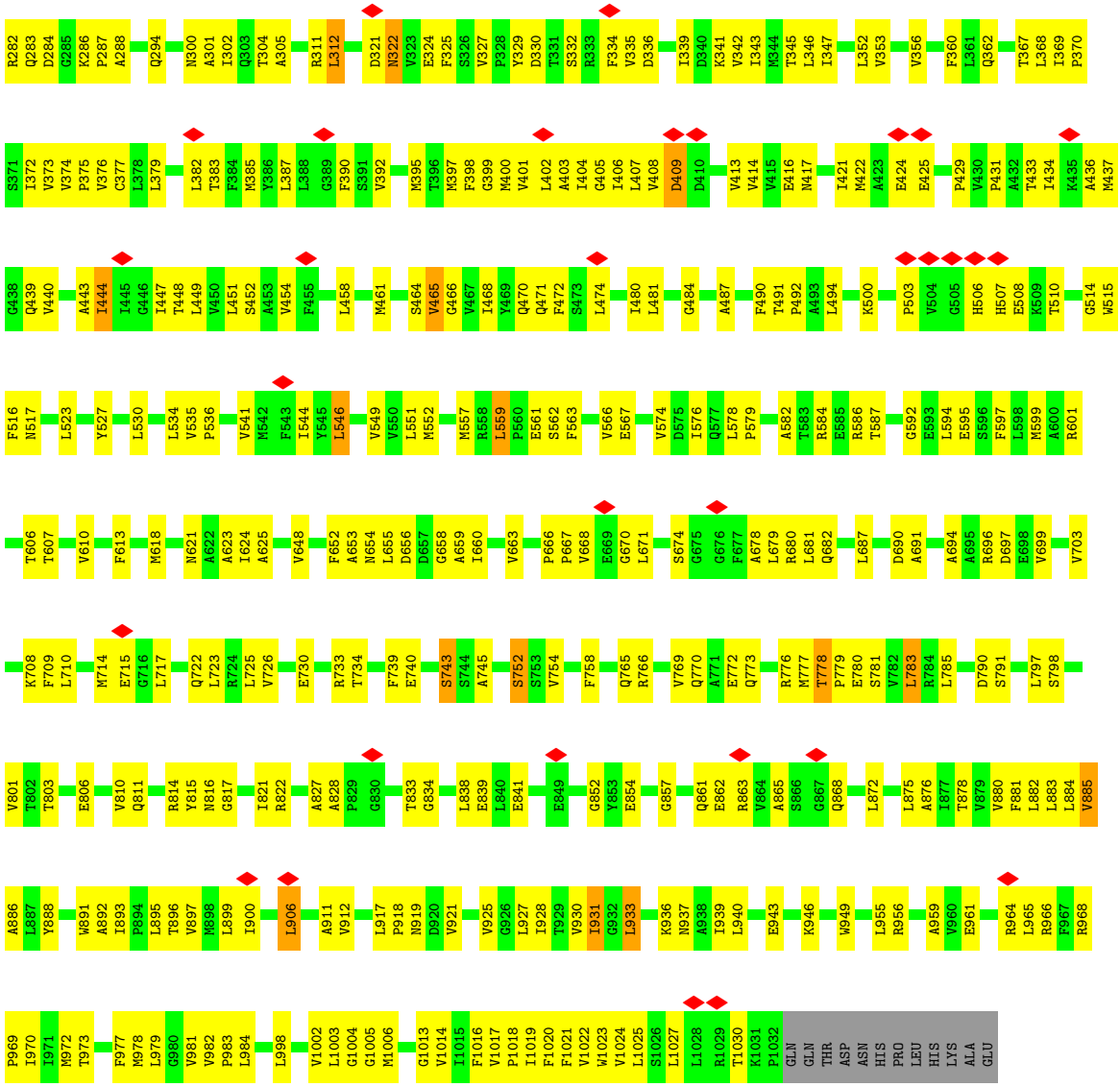




• Molecule 3: Efflux pump membrane transporter

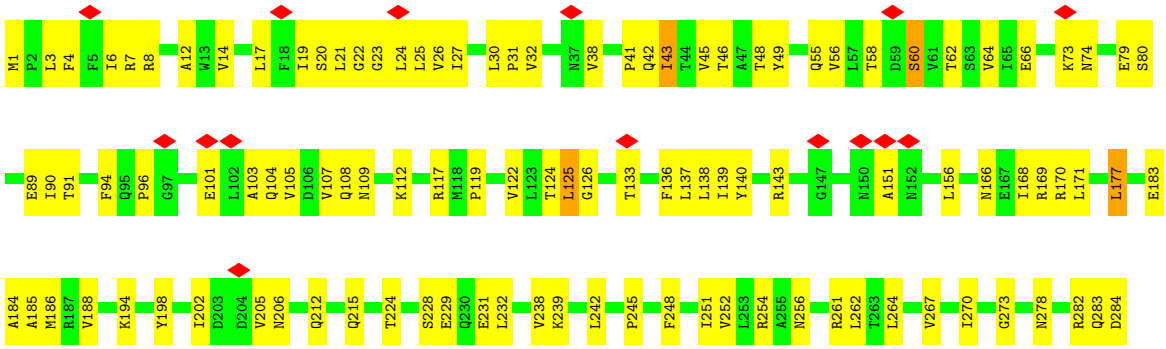
Chain J:

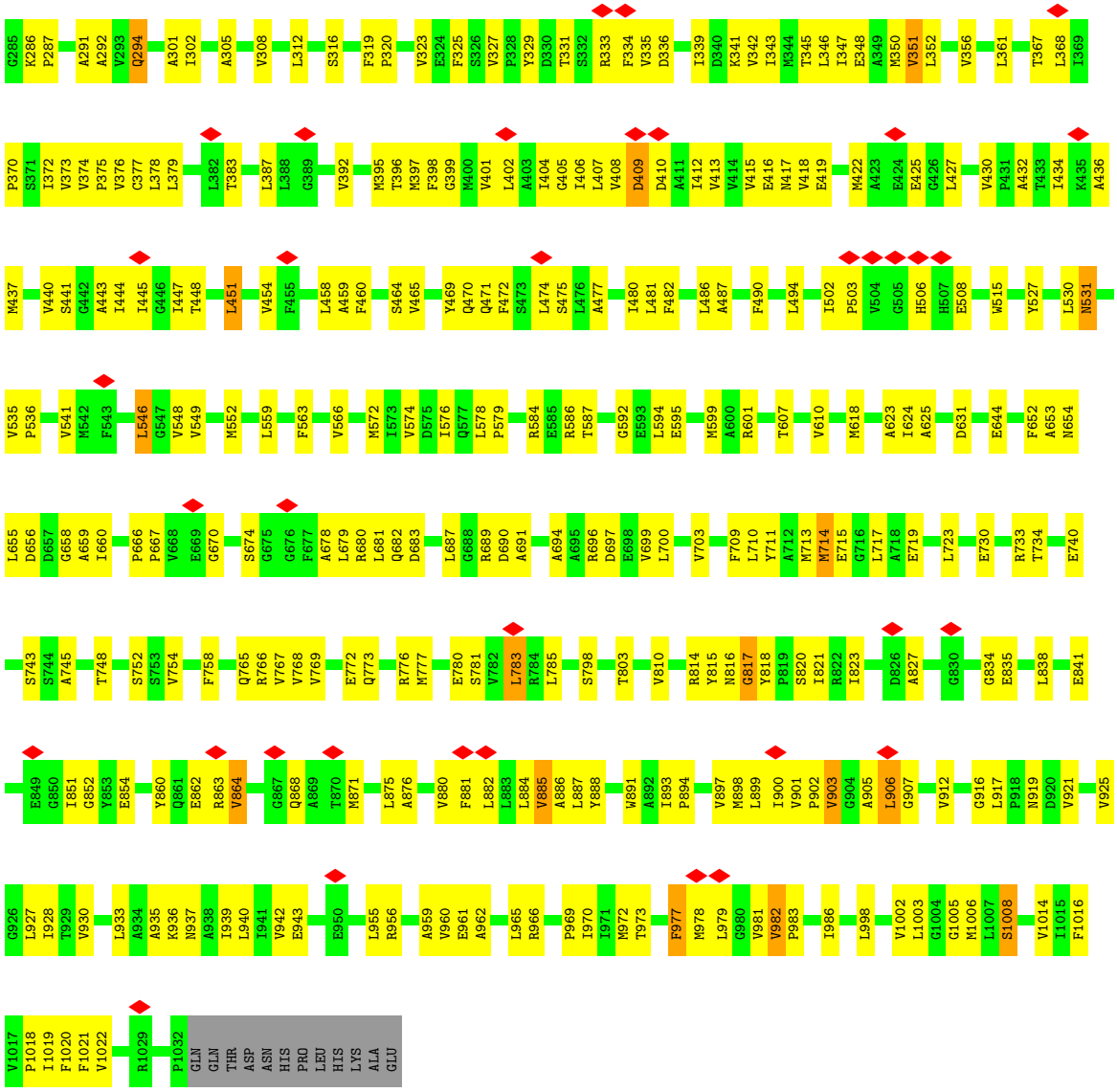




• Molecule 3: Efflux pump membrane transporter

Chain L:




G285 K286 P287 A291 A292 V293 Q294 A301 I302 A305 V308 L312 S316 F319 P320 V323 E324 F325 S326 V327 P328 Y329 D330 T331 S332 R333 F334 V335 D336 I339 D340 K341 V342 I343 M344 T345 L346 I347 E348 A349 M350 V351 L352 V356 L361 T367 L368 I369
P370 S371 I372 V373 V374 P375 V376 C377 L378 L379 L382 T383 L387 L388 G389 V392 M395 T396 M397 F398 G399 M400 V401 L402 A403 I404 G405 I406 L407 V408 D409 D410 A411 I412 V413 V414 V415 E416 N417 V418 E419 M422 A423 E424 E425 G426 L427 V430 P431 A432 T433 I434 K435 A436
M437 V440 S441 G442 A443 I444 I445 G446 I447 T448 L451 V454 F455 L458 A459 F460 S464 V465 Y469 Q470 Q471 F472 S473 L474 S475 L476 A477 I480 L481 F482 L486 A487 F490 L494 I502 P503 V504 G505 H506 H507 E508 W515 Y527 L530 N531
V535 P536 V541 M542 F543 L546 G547 V548 V549 M552 L559 F563 V566 M572 I573 V574 D575 I576 Q577 L578 P579 R584 E585 R586 T587 G592 E593 L594 E595 M599 A600 R601 T607 V610 M618 A623 I624 A625 D631 E644 F652 A653 N654
L655 D656 D657 G658 A659 I660 P666 P667 V668 E669 G670 S674 G675 G676 F677 A678 L679 R680 L681 Q682 D683 L687 G688 R689 D690 A691 A694 A695 R696 D697 E698 V699 L700 V703 F709 L710 Y711 A712 M713 M714 E715 G716 L717 A718 E719 L723 E730 R733 T734 E740
S743 S744 A745 T748 S752 S753 V754 F758 Q765 R766 V767 V768 V769 E772 Q773 R776 M777 E780 S781 V782 L783 R784 L785 S798 T803 V810 R814 Y815 N816 G817 Y818 P819 S820 I821 R822 I823 D826 A827 G830 G834 E835 L838 E841
E849 G850 I851 G852 Y853 E854 Y860 Q861 E862 R863 V864 G867 Q868 A869 T870 M871 L875 A876 V880 F881 L882 L883 L884 V885 A886 L887 Y888 W891 A892 I893 P894 V897 M898 L899 I900 V901 P902 V903 G904 A905 L906 G907 V912 G916 L917 P918 N919 D920 V921 V925
G926 L927 I928 T929 V930 L933 A934 A935 K936 N937 A938 I939 L940 I941 V942 E943 E950 L955 R956 A959 V960 E961 A962 L965 R966 P969 I970 I971 M972 T973 F977 M978 L979 G980 V981 V982 P983 I986 L998 V1002 L1003 G1004 G1005 M1006 L1007 S1008 V1014 I1015 F1016
V1017 P1018 I1019 F1020 F1021 V1022 R1029 P1032 GLN GLN THR ASP ASN HIS PRO LEU HIS LYS ALA GLU

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	52844	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 ($e^-/Å^2$)	51.5	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.285	Depositor
Minimum map value	-0.778	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.030	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	558.0, 558.0, 558.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.93, 0.93, 0.93	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: A1EAN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.24	0/3096	0.42	0/4192
1	B	0.24	0/3096	0.42	3/4192 (0.1%)
1	C	0.24	0/3096	0.42	0/4192
2	D	0.29	0/2574	0.37	0/3487
2	E	0.29	0/2574	0.42	0/3487
2	F	0.29	0/2574	0.36	0/3487
2	G	0.28	0/2574	0.43	0/3487
2	H	0.30	0/2574	0.39	0/3487
2	I	0.27	0/2574	0.43	0/3487
3	J	0.31	0/7960	0.53	0/10845
3	K	0.31	0/7960	0.53	0/10845
3	L	0.30	0/7960	0.51	2/10845 (0.0%)
All	All	0.29	0/48612	0.47	5/66033 (0.0%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	116	ASP	CB-CA-C	-5.56	110.17	116.63
3	L	817	GLY	CA-C-N	-5.36	111.21	123.15
3	L	817	GLY	C-N-CA	-5.36	111.21	123.15
1	B	189	MET	CB-CG-SD	-5.08	97.44	112.70
1	B	151	GLU	CA-CB-CG	5.04	124.19	114.10

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3065	0	3060	93	0
1	B	3065	0	3060	81	0
1	C	3065	0	3060	76	0
2	D	2543	0	2591	61	0
2	E	2543	0	2591	70	0
2	F	2543	0	2591	55	0
2	G	2543	0	2591	77	0
2	H	2543	0	2591	60	0
2	I	2543	0	2591	71	0
3	J	7804	0	7946	353	0
3	K	7804	0	7946	330	0
3	L	7804	0	7946	318	0
4	J	17	0	0	0	0
4	K	17	0	0	0	0
4	L	17	0	0	0	0
All	All	47916	0	48564	1527	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 16.

All (1527) 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)
3:J:2:PRO:HB3	3:J:437:MET:HE2	1.40	1.03
3:K:112:LYS:HZ1	3:L:112:LYS:HE2	1.32	0.95
2:G:46:THR:HG23	2:G:301:ASN:HA	1.53	0.87
2:I:46:THR:HG23	2:I:301:ASN:HA	1.57	0.87
1:C:84:ILE:HD11	1:C:161:GLU:HA	1.61	0.83
2:D:359:SER:HB2	3:L:656:ASP:HB2	1.60	0.83
3:J:897:VAL:HG21	3:J:939:ILE:HD12	1.58	0.83
2:E:305:VAL:HG12	2:E:346:ILE:HD11	1.59	0.82
3:K:32:VAL:HG23	3:K:301:ALA:H	1.44	0.82
2:D:307:GLN:NE2	2:D:339:MET:SD	2.52	0.82
3:L:137:LEU:HD22	3:L:138:LEU:HD23	1.62	0.82
1:B:188:ARG:HH11	1:B:445:GLN:HG2	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:359:SER:HB2	3:K:656:ASP:HB2	1.61	0.81
3:K:539:GLY:HA2	3:K:1023:TRP:HZ3	1.43	0.81
3:L:151:ALA:HB3	3:L:287:PRO:HG2	1.62	0.80
1:A:79:GLN:HE22	1:B:372:ASP:HB2	1.46	0.80
3:K:398:PHE:HA	3:K:401:VAL:HG12	1.64	0.79
3:K:465:VAL:HG13	3:K:563:PHE:HE1	1.47	0.79
3:J:32:VAL:HG23	3:J:301:ALA:H	1.47	0.79
2:H:359:SER:HB2	3:J:656:ASP:HB2	1.64	0.79
1:A:249:VAL:HG23	1:A:257:ALA:HB3	1.64	0.79
3:K:723:LEU:HD11	3:K:803:THR:HB	1.63	0.78
1:C:249:VAL:HG23	1:C:257:ALA:HB3	1.65	0.78
3:J:566:VAL:HG22	3:J:667:PRO:HG3	1.65	0.78
3:J:231:GLU:HB2	3:L:586:ARG:HD2	1.65	0.78
3:K:940:LEU:HD21	3:K:966:ARG:HH21	1.50	0.77
2:I:369:LYS:HE3	2:I:369:LYS:HA	1.68	0.76
2:H:307:GLN:NE2	2:H:339:MET:SD	2.57	0.76
3:J:449:LEU:HG	3:J:883:LEU:HD13	1.68	0.76
3:K:40:PRO:HG3	3:K:861:GLN:HE22	1.50	0.76
3:J:136:PHE:HA	3:J:294:GLN:HA	1.68	0.76
1:B:112:ARG:HG3	1:B:114:PRO:HD2	1.68	0.75
1:A:339:TRP:HE1	1:C:115:ALA:HA	1.50	0.75
3:J:43:ILE:HD13	3:J:107:VAL:HG11	1.68	0.75
3:L:43:ILE:HG21	3:L:107:VAL:HG21	1.68	0.75
2:F:307:GLN:NE2	2:F:339:MET:SD	2.59	0.75
3:L:465:VAL:HG13	3:L:563:PHE:HE1	1.50	0.75
2:H:185:ARG:HD3	2:I:259:PHE:HE2	1.53	0.74
2:H:321:MET:HE1	2:H:331:VAL:HG22	1.67	0.74
3:K:136:PHE:HA	3:K:294:GLN:HA	1.70	0.74
3:J:783:LEU:HB3	3:J:798:SER:HB3	1.68	0.74
3:J:398:PHE:HB3	3:J:998:LEU:HD21	1.69	0.74
3:J:682:GLN:HE21	3:J:815:TYR:HD2	1.35	0.74
3:K:49:TYR:OH	3:L:215:GLN:NE2	2.21	0.74
3:K:449:LEU:HD21	3:K:883:LEU:HD22	1.68	0.74
3:K:231:GLU:HB2	3:J:586:ARG:HD2	1.70	0.73
3:K:783:LEU:HB3	3:K:798:SER:HB3	1.69	0.73
3:J:14:VAL:HG11	3:L:886:ALA:HB2	1.70	0.73
3:L:531:ASN:HB2	3:L:960:VAL:HG22	1.71	0.73
3:K:6:ILE:HD11	3:K:492:PRO:HB2	1.69	0.73
3:K:14:VAL:HG11	3:J:886:ALA:HB2	1.70	0.73
3:J:466:GLY:O	3:J:470:GLN:HB2	1.89	0.73
3:K:30:LEU:HD12	3:K:392:VAL:HG21	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:79:GLU:OE2	3:J:680:ARG:NE	2.22	0.72
3:J:377:CYS:HB3	3:J:407:LEU:HD11	1.71	0.72
2:G:270:GLN:NE2	3:K:261:ARG:O	2.22	0.72
3:K:886:ALA:HB2	3:L:14:VAL:HG11	1.69	0.72
2:H:281:GLU:O	2:I:226:ARG:NH2	2.22	0.72
2:I:270:GLN:NE2	3:J:261:ARG:O	2.22	0.72
2:G:312:ARG:NH1	2:G:316:GLY:O	2.23	0.71
3:K:566:VAL:HG22	3:K:667:PRO:HG3	1.72	0.71
3:L:723:LEU:HD11	3:L:803:THR:HB	1.73	0.71
3:J:458:LEU:HD22	3:J:872:LEU:HD21	1.72	0.71
3:L:398:PHE:HA	3:L:401:VAL:HG12	1.71	0.71
3:K:586:ARG:HD2	3:L:231:GLU:HB2	1.73	0.71
3:L:977:PHE:HB3	3:L:1006:MET:HE2	1.72	0.71
3:J:465:VAL:HG13	3:J:563:PHE:HE1	1.56	0.70
3:L:696:ARG:HE	3:L:714:MET:HE2	1.55	0.70
2:D:58:ARG:NH1	2:D:287:GLY:O	2.25	0.70
3:L:783:LEU:HB3	3:L:798:SER:HB3	1.73	0.70
2:E:217:GLN:HB2	2:E:273:LEU:HD11	1.73	0.70
2:H:183:ILE:HD11	2:H:203:ALA:HB1	1.74	0.70
3:K:43:ILE:HG21	3:K:107:VAL:HG21	1.74	0.70
3:J:12:ALA:HB1	3:J:490:PHE:HA	1.73	0.70
2:H:58:ARG:NH1	2:H:287:GLY:O	2.25	0.70
3:L:79:GLU:OE2	3:L:680:ARG:NE	2.23	0.70
3:L:395:MET:HE3	3:L:471:GLN:HB2	1.73	0.70
3:L:566:VAL:HG22	3:L:667:PRO:HG3	1.73	0.70
1:C:187:ARG:NH2	1:C:266:ARG:O	2.24	0.69
3:L:136:PHE:HA	3:L:294:GLN:HA	1.73	0.69
1:C:112:ARG:HD2	1:C:124:GLU:HG2	1.74	0.69
3:K:137:LEU:HD21	3:K:305:ALA:HB2	1.74	0.69
2:F:58:ARG:NH1	2:F:287:GLY:O	2.25	0.69
3:J:465:VAL:HG13	3:J:563:PHE:CE1	2.28	0.69
3:K:447:ILE:HG21	3:K:936:LYS:HE2	1.75	0.69
3:J:137:LEU:HD21	3:J:305:ALA:HB2	1.74	0.69
3:K:465:VAL:HG13	3:K:563:PHE:CE1	2.28	0.69
2:D:261:ASP:OD2	2:D:262:ILE:N	2.27	0.68
3:L:437:MET:HA	3:L:437:MET:HE2	1.74	0.68
1:A:112:ARG:NH2	1:A:126:THR:OG1	2.26	0.68
3:L:137:LEU:HD21	3:L:305:ALA:HB2	1.75	0.68
2:H:61:PRO:HD3	2:H:286:PRO:HB3	1.76	0.68
3:J:896:THR:HG22	3:J:1024:VAL:HB	1.76	0.68
3:L:278:ASN:O	3:L:584:ARG:NH2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:891:TRP:O	3:J:895:LEU:HD22	1.94	0.68
1:C:166:ALA:HB2	1:C:288:PRO:HB2	1.76	0.68
1:A:187:ARG:NH2	1:A:266:ARG:O	2.26	0.68
3:K:48:THR:HB	3:K:125:LEU:HD22	1.75	0.68
3:J:535:VAL:HG21	3:J:956:ARG:HG3	1.76	0.68
1:A:166:ALA:HB2	1:A:288:PRO:HB2	1.76	0.67
3:L:502:ILE:HD12	3:L:503:PRO:HD2	1.76	0.67
3:L:814:ARG:HH12	3:L:817:GLY:HA2	1.59	0.67
2:E:264:VAL:HG12	2:E:271:ILE:HG12	1.76	0.67
2:I:252:GLU:OE2	2:I:254:LYS:NZ	2.26	0.67
3:J:416:GLU:OE2	3:J:968:ARG:HD2	1.94	0.67
1:B:166:ALA:HB2	1:B:288:PRO:HB2	1.77	0.67
2:F:61:PRO:HG2	2:F:64:VAL:HG22	1.75	0.67
1:A:102:ILE:HD11	1:B:350:PHE:HB3	1.77	0.67
3:K:409:ASP:HB2	3:K:936:LYS:HZ2	1.58	0.67
2:G:120:GLN:NE2	2:H:144:ASN:OD1	2.28	0.67
3:K:559:LEU:HD22	3:K:919:ASN:HB2	1.77	0.67
1:C:186:LEU:HB3	1:C:265:PRO:HD3	1.77	0.67
2:E:309:ALA:HB2	2:E:358:THR:HG22	1.76	0.66
3:K:539:GLY:HA2	3:K:1023:TRP:CZ3	2.28	0.66
2:H:61:PRO:HG2	2:H:64:VAL:HG22	1.76	0.66
3:J:130:GLU:N	3:J:130:GLU:OE1	2.27	0.66
2:D:39:VAL:HG11	2:D:364:ILE:HD11	1.77	0.66
3:K:377:CYS:HB3	3:K:407:LEU:HD11	1.78	0.66
3:J:105:VAL:HG12	3:L:109:ASN:HD21	1.61	0.66
3:J:940:LEU:HA	3:J:943:GLU:OE2	1.96	0.66
2:I:312:ARG:NH1	2:I:316:GLY:O	2.29	0.66
3:K:758:PHE:N	3:K:765:GLN:O	2.24	0.66
1:B:249:VAL:HG22	1:B:257:ALA:HB3	1.78	0.66
3:J:382:LEU:HD21	3:J:400:MET:HE1	1.78	0.66
3:L:465:VAL:HG13	3:L:563:PHE:CE1	2.31	0.66
1:A:112:ARG:HG3	1:A:114:PRO:HD2	1.77	0.66
1:A:128:ASN:OD1	1:A:130:GLN:NE2	2.29	0.66
2:D:144:ASN:OD1	2:I:120:GLN:NE2	2.29	0.65
3:L:124:THR:O	3:L:766:ARG:NH1	2.28	0.65
3:K:149:LYS:HA	3:K:149:LYS:HE2	1.76	0.65
3:J:981:VAL:HG11	3:J:1002:VAL:HG11	1.79	0.65
1:A:81:LEU:O	1:A:84:ILE:HG22	1.95	0.65
2:F:61:PRO:HD3	2:F:286:PRO:HB3	1.77	0.65
1:B:187:ARG:HB3	1:B:444:ILE:HD13	1.78	0.65
1:B:81:LEU:O	1:B:84:ILE:HG22	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:377:CYS:HB3	3:L:407:LEU:HD11	1.77	0.65
2:I:335:THR:HG1	2:I:347:SER:HG	1.44	0.65
1:C:187:ARG:HB3	1:C:444:ILE:HD13	1.79	0.65
3:J:696:ARG:HG3	3:J:821:ILE:HG21	1.78	0.65
1:A:235:GLU:OE1	1:B:396:ARG:NH1	2.30	0.65
2:E:338:ALA:H	2:E:345:GLN:HB3	1.61	0.65
3:K:278:ASN:O	3:K:584:ARG:NH2	2.29	0.65
3:L:188:VAL:HB	3:L:769:VAL:HG22	1.78	0.65
1:B:199:ARG:HH11	1:B:226:LEU:HB3	1.62	0.65
1:C:199:ARG:HH11	1:C:226:LEU:HB3	1.61	0.65
3:J:758:PHE:N	3:J:765:GLN:O	2.27	0.65
3:J:124:THR:O	3:J:766:ARG:NH1	2.29	0.64
3:J:559:LEU:HD12	3:J:919:ASN:HB2	1.80	0.64
3:L:352:LEU:O	3:L:356:VAL:HG22	1.97	0.64
3:J:595:GLU:O	3:J:599:MET:HG2	1.97	0.64
3:J:998:LEU:O	3:J:1002:VAL:HG12	1.97	0.64
2:E:306:PRO:HA	2:E:343:ARG:HA	1.78	0.64
3:L:30:LEU:HD12	3:L:392:VAL:HG21	1.79	0.64
1:A:199:ARG:HH11	1:A:226:LEU:HB3	1.61	0.64
2:E:267:SER:OG	3:L:254:ARG:NE	2.30	0.64
2:H:288:MET:HE1	2:I:219:ALA:HB1	1.78	0.64
2:E:311:GLN:NE2	2:E:319:SER:OG	2.30	0.64
2:H:37:ARG:NH2	3:J:653:ALA:O	2.27	0.64
2:F:321:MET:HE1	2:F:331:VAL:HG22	1.80	0.64
3:K:977:PHE:HB3	3:K:1006:MET:HE2	1.80	0.64
2:D:37:ARG:NH2	3:L:653:ALA:O	2.31	0.64
3:K:151:ALA:HB3	3:K:287:PRO:HG2	1.79	0.64
3:L:758:PHE:N	3:L:765:GLN:O	2.26	0.64
3:L:696:ARG:HG3	3:L:821:ILE:HG21	1.80	0.63
1:B:117:LEU:HD13	1:B:123:SER:HB3	1.79	0.63
3:L:595:GLU:O	3:L:599:MET:HG2	1.98	0.63
1:B:271:VAL:O	1:B:273:GLN:NE2	2.31	0.63
3:K:194:LYS:HD3	3:K:267:VAL:HA	1.81	0.63
3:K:409:ASP:HB2	3:K:936:LYS:NZ	2.13	0.63
2:E:321:MET:HE1	2:E:331:VAL:HG22	1.81	0.63
3:K:891:TRP:O	3:K:895:LEU:HD12	1.97	0.63
3:J:3:LEU:O	3:J:7:ARG:HG2	1.99	0.63
1:B:102:ILE:HD11	1:C:350:PHE:HB3	1.79	0.63
2:E:120:GLN:NE2	2:F:144:ASN:OD1	2.31	0.63
3:J:937:ASN:OD1	3:J:970:ILE:HD12	1.97	0.63
3:L:430:VAL:O	3:L:434:ILE:HD12	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:982:VAL:HG13	3:L:983:PRO:HD3	1.80	0.63
3:J:454:VAL:HG22	3:J:928:ILE:HD11	1.80	0.63
2:D:59:ILE:HD11	2:D:244:LEU:HD21	1.81	0.63
3:K:40:PRO:HG3	3:K:861:GLN:NE2	2.14	0.63
3:K:414:VAL:HG22	3:K:437:MET:HE1	1.80	0.63
3:J:30:LEU:HD12	3:J:392:VAL:HG21	1.80	0.63
3:J:278:ASN:O	3:J:584:ARG:NH2	2.28	0.63
1:B:187:ARG:NH2	1:B:266:ARG:O	2.32	0.62
3:L:447:ILE:HG21	3:L:936:LYS:HE2	1.81	0.62
3:L:361:LEU:HD23	3:L:419:GLU:HG3	1.80	0.62
3:K:124:THR:O	3:K:766:ARG:NH1	2.30	0.62
3:J:188:VAL:HB	3:J:769:VAL:HG22	1.81	0.62
3:J:574:VAL:HB	3:J:625:ALA:HB3	1.80	0.62
3:K:422:MET:HE1	3:K:429:PRO:HG3	1.81	0.62
2:H:244:LEU:HB2	2:H:277:PHE:CE2	2.35	0.62
3:J:341:LYS:O	3:J:345:THR:HG23	1.99	0.62
3:J:422:MET:HE1	3:J:429:PRO:HG3	1.79	0.62
2:I:245:ARG:NH1	2:I:250:ASP:O	2.32	0.62
3:K:576:ILE:HB	3:K:623:ALA:HB3	1.82	0.62
2:G:338:ALA:H	2:G:345:GLN:HB3	1.65	0.62
3:K:56:VAL:O	3:K:60:SER:HB3	1.99	0.62
3:J:215:GLN:NE2	3:L:49:TYR:OH	2.33	0.62
1:A:110:ARG:HH22	1:A:120:THR:H	1.47	0.62
1:A:334:GLY:HA2	1:A:337:ARG:HH21	1.64	0.62
2:I:61:PRO:HG2	2:I:64:VAL:HG22	1.82	0.62
3:L:472:PHE:HE2	3:L:925:VAL:HG11	1.65	0.62
3:L:689:ARG:NH2	3:L:719:GLU:OE2	2.32	0.62
1:C:112:ARG:HG3	1:C:114:PRO:HD2	1.82	0.61
2:H:39:VAL:HG11	2:H:364:ILE:HD11	1.82	0.61
3:K:814:ARG:HH12	3:K:817:GLY:HA2	1.65	0.61
3:J:48:THR:HB	3:J:125:LEU:HD22	1.82	0.61
3:J:398:PHE:HA	3:J:401:VAL:HG12	1.80	0.61
3:L:576:ILE:HB	3:L:623:ALA:HB3	1.82	0.61
3:L:370:PRO:HA	3:L:373:VAL:HG12	1.82	0.61
1:A:110:ARG:HE	1:A:125:VAL:HG21	1.65	0.61
1:C:239:ARG:O	1:C:243:GLN:HG2	1.99	0.61
2:E:65:ALA:HB3	2:E:205:ILE:HB	1.82	0.61
3:J:112:LYS:HE2	3:L:112:LYS:HG3	1.82	0.61
3:J:424:GLU:HG2	3:J:425:GLU:HG2	1.81	0.61
3:J:899:LEU:HD12	3:J:1020:PHE:HB3	1.82	0.61
2:D:61:PRO:HD3	2:D:286:PRO:HB3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:253:LEU:HD21	3:J:264:LEU:HD23	1.82	0.61
3:J:925:VAL:HA	3:J:928:ILE:HG22	1.80	0.61
3:K:464:SER:O	3:K:468:ILE:HG13	2.00	0.61
3:J:579:PRO:HD3	3:J:658:GLY:HA2	1.83	0.61
2:I:218:PRO:HA	2:I:270:GLN:HG2	1.82	0.61
3:J:777:MET:HE2	3:J:777:MET:HA	1.81	0.61
1:A:396:ARG:NH1	1:C:235:GLU:OE1	2.33	0.61
3:L:682:GLN:O	3:L:852:GLY:N	2.26	0.61
1:B:235:GLU:OE1	1:C:396:ARG:NH1	2.34	0.61
2:D:323:LEU:HB2	2:D:357:ILE:HD11	1.82	0.61
3:L:579:PRO:HD3	3:L:658:GLY:HA2	1.83	0.61
3:L:710:LEU:HG	3:L:711:TYR:HD1	1.66	0.61
2:E:321:MET:HE3	2:E:321:MET:HA	1.82	0.60
3:J:409:ASP:HB2	3:J:936:LYS:NZ	2.15	0.60
3:L:73:LYS:HE3	3:L:74:ASN:HB2	1.83	0.60
1:C:182:ARG:NH2	1:C:262:PRO:O	2.33	0.60
1:C:217:ALA:HB2	2:I:135:ASP:HB3	1.83	0.60
2:G:218:PRO:HA	2:G:270:GLN:HG2	1.84	0.60
3:J:41:PRO:HD3	3:J:96:PRO:HA	1.83	0.60
1:A:112:ARG:HD3	1:A:113:LEU:H	1.65	0.60
2:F:288:MET:HE1	2:G:219:ALA:HB1	1.83	0.60
2:I:253:ARG:HG3	2:I:284:LEU:HD11	1.82	0.60
3:K:341:LYS:O	3:K:345:THR:HG23	2.00	0.60
2:F:244:LEU:HB2	2:F:277:PHE:CE2	2.37	0.60
2:H:233:LYS:HA	2:H:233:LYS:HE2	1.84	0.60
3:J:449:LEU:HD21	3:J:883:LEU:HD22	1.81	0.60
3:L:24:LEU:HA	3:L:27:ILE:HD12	1.83	0.60
3:L:907:GLY:HA3	3:L:1008:SER:HB3	1.83	0.60
3:K:21:LEU:HD13	3:K:25:LEU:HD23	1.83	0.60
3:K:188:VAL:HB	3:K:769:VAL:HG22	1.82	0.60
3:L:73:LYS:HD2	3:L:74:ASN:N	2.17	0.60
3:J:322:ASN:OD1	3:J:322:ASN:N	2.33	0.60
3:K:41:PRO:HD3	3:K:96:PRO:HA	1.83	0.60
3:J:780:GLU:N	3:J:780:GLU:OE1	2.33	0.59
2:E:250:ASP:OD2	2:E:250:ASP:N	2.33	0.59
2:G:323:LEU:HG	2:G:327:ASP:HA	1.84	0.59
3:K:530:LEU:O	3:K:534:LEU:HD12	2.02	0.59
2:D:61:PRO:HG2	2:D:64:VAL:HG22	1.83	0.59
3:K:79:GLU:OE1	3:K:680:ARG:NH2	2.31	0.59
3:J:198:TYR:O	3:J:254:ARG:NH2	2.34	0.59
3:L:346:LEU:HD11	3:L:404:ILE:HD13	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:696:ARG:NE	3:L:714:MET:HE2	2.16	0.59
3:K:394:MET:HB3	3:K:398:PHE:CZ	2.38	0.59
3:J:576:ILE:HB	3:J:623:ALA:HB3	1.85	0.59
3:L:395:MET:HA	3:L:398:PHE:CD2	2.37	0.59
2:E:303:ILE:HG22	2:E:346:ILE:HD13	1.83	0.59
2:I:41:VAL:HG22	2:I:355:LYS:HG3	1.85	0.59
3:J:723:LEU:HD21	3:J:803:THR:HB	1.84	0.59
3:L:312:LEU:HD23	3:L:325:PHE:CD2	2.38	0.59
3:L:399:GLY:HA2	3:L:472:PHE:HE1	1.66	0.59
3:J:194:LYS:HD3	3:J:267:VAL:HA	1.84	0.59
2:D:253:ARG:NH2	2:D:283:VAL:HG11	2.18	0.59
3:J:437:MET:HA	3:J:440:VAL:HG22	1.85	0.59
3:L:341:LYS:O	3:L:345:THR:HG23	2.02	0.59
3:L:472:PHE:CE2	3:L:925:VAL:HG21	2.38	0.59
3:J:982:VAL:HG13	3:J:983:PRO:HD3	1.84	0.59
2:G:38:GLU:HG2	2:G:371:ILE:HD11	1.84	0.58
3:K:261:ARG:CZ	3:J:730:GLU:HB3	2.33	0.58
3:K:696:ARG:HE	3:K:714:MET:HE2	1.68	0.58
2:E:365:ARG:NH2	3:L:319:PHE:O	2.36	0.58
2:G:65:ALA:HB3	2:G:205:ILE:HB	1.85	0.58
3:K:700:LEU:HD21	3:K:823:ILE:HD11	1.85	0.58
3:K:935:ALA:O	3:K:939:ILE:HD13	2.04	0.58
3:L:700:LEU:HD21	3:L:823:ILE:HD11	1.85	0.58
2:G:233:LYS:HE2	2:G:233:LYS:N	2.17	0.58
3:K:443:ALA:O	3:K:447:ILE:HG12	2.03	0.58
2:G:61:PRO:HG2	2:G:64:VAL:HG22	1.85	0.58
2:G:321:MET:SD	2:G:357:ILE:HB	2.43	0.58
3:K:198:TYR:O	3:K:254:ARG:NH2	2.36	0.58
3:L:194:LYS:HD3	3:L:267:VAL:HA	1.86	0.58
2:F:253:ARG:NH2	2:F:283:VAL:HG11	2.19	0.58
2:D:336:THR:HB	2:D:344:TRP:NE1	2.18	0.58
2:E:46:THR:HB	2:E:301:ASN:HA	1.85	0.58
2:G:267:SER:OG	3:K:254:ARG:NE	2.36	0.58
3:J:346:LEU:HD22	3:J:404:ILE:HG21	1.86	0.58
2:G:193:LEU:HD21	2:G:196:GLN:HG3	1.86	0.57
2:G:306:PRO:HA	2:G:343:ARG:HA	1.86	0.57
2:G:355:LYS:HE3	2:G:355:LYS:HA	1.85	0.57
3:K:3:LEU:O	3:K:7:ARG:HG2	2.04	0.57
2:E:193:LEU:HD21	2:E:196:GLN:HG3	1.86	0.57
3:L:12:ALA:HB1	3:L:490:PHE:HA	1.86	0.57
2:I:233:LYS:HE2	2:I:233:LYS:N	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:708:LYS:NZ	3:J:839:GLU:OE1	2.25	0.57
2:H:253:ARG:NH2	2:H:283:VAL:HG11	2.19	0.57
2:H:307:GLN:HG3	2:H:344:TRP:CD1	2.39	0.57
3:K:524:THR:O	3:K:528:THR:OG1	2.21	0.57
3:J:370:PRO:HA	3:J:373:VAL:HG12	1.84	0.57
3:L:41:PRO:HD3	3:L:96:PRO:HA	1.86	0.57
3:L:940:LEU:HA	3:L:943:GLU:OE2	2.05	0.57
1:C:84:ILE:HD11	1:C:161:GLU:CA	2.34	0.57
3:J:245:PRO:HB3	3:J:270:ILE:HG22	1.85	0.57
3:L:998:LEU:O	3:L:1002:VAL:HG12	2.03	0.57
3:K:402:LEU:HD21	3:K:472:PHE:HZ	1.69	0.57
3:J:437:MET:SD	3:J:492:PRO:HB3	2.44	0.57
1:C:123:SER:OG	1:C:124:GLU:N	2.37	0.57
3:K:730:GLU:HB3	3:L:261:ARG:CZ	2.35	0.57
1:A:239:ARG:O	1:A:243:GLN:HG2	2.05	0.57
2:I:267:SER:OG	3:J:254:ARG:NE	2.38	0.57
3:K:12:ALA:HB1	3:K:490:PHE:HA	1.86	0.57
3:K:370:PRO:HA	3:K:373:VAL:HG12	1.87	0.57
3:K:536:PRO:HG3	3:K:956:ARG:HH12	1.70	0.57
1:A:112:ARG:HB2	1:A:125:VAL:HA	1.86	0.57
1:A:190:ALA:O	1:A:194:GLN:HG2	2.04	0.57
2:G:127:ARG:NE	2:H:140:GLN:OE1	2.37	0.57
3:K:322:ASN:N	3:K:322:ASN:OD1	2.33	0.57
3:J:930:VAL:HG11	3:J:1005:GLY:HA3	1.87	0.57
3:L:342:VAL:HG21	3:L:397:MET:HB3	1.86	0.57
3:J:437:MET:HE1	3:J:492:PRO:HG3	1.87	0.56
3:L:780:GLU:OE1	3:L:780:GLU:N	2.28	0.56
3:L:903:VAL:O	3:L:1008:SER:OG	2.20	0.56
3:K:49:TYR:CE2	3:K:119:PRO:HG2	2.40	0.56
2:D:321:MET:HE1	2:D:331:VAL:HG22	1.86	0.56
2:E:285:LEU:O	2:E:288:MET:HG3	2.05	0.56
2:H:307:GLN:HE22	2:H:339:MET:CE	2.17	0.56
3:J:261:ARG:CZ	3:L:730:GLU:HB3	2.35	0.56
3:J:443:ALA:O	3:J:447:ILE:HG12	2.04	0.56
3:L:32:VAL:HG12	3:L:392:VAL:HB	1.87	0.56
3:K:79:GLU:HG2	3:K:815:TYR:HD1	1.71	0.56
3:K:982:VAL:HG13	3:K:983:PRO:HD3	1.87	0.56
3:L:143:ARG:CZ	3:L:286:LYS:HE3	2.35	0.56
1:B:188:ARG:NH1	1:B:445:GLN:HG2	2.17	0.56
3:K:998:LEU:O	3:K:1002:VAL:HG12	2.05	0.56
1:B:177:GLN:NE2	1:B:456:ASP:OD1	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:177:GLN:NE2	1:C:456:ASP:OD1	2.37	0.56
2:H:321:MET:HE2	2:H:321:MET:HA	1.86	0.56
3:L:835:GLU:HA	3:L:838:LEU:HD12	1.86	0.56
1:A:71:LEU:HA	1:A:77:LEU:HD23	1.88	0.56
3:K:881:PHE:O	3:K:885:VAL:HG12	2.06	0.56
3:K:871:MET:SD	3:K:871:MET:N	2.75	0.56
3:J:21:LEU:HD13	3:J:25:LEU:HD23	1.87	0.56
3:J:472:PHE:CE2	3:J:925:VAL:HG11	2.41	0.56
1:B:412:MET:HE1	1:B:433:GLN:HG2	1.88	0.56
2:G:81:GLU:N	2:G:81:GLU:OE1	2.39	0.56
2:I:285:LEU:O	2:I:288:MET:HG3	2.06	0.56
1:A:117:LEU:HD13	1:A:123:SER:HB3	1.88	0.55
3:K:42:GLN:NE2	3:K:670:GLY:O	2.39	0.55
3:K:410:ASP:HB3	3:K:487:ALA:HB2	1.88	0.55
3:J:56:VAL:O	3:J:60:SER:HB3	2.04	0.55
1:A:123:SER:OG	1:A:124:GLU:N	2.38	0.55
1:B:412:MET:HE1	1:B:433:GLN:HA	1.86	0.55
2:I:59:ILE:HD11	2:I:244:LEU:HD11	1.87	0.55
3:K:981:VAL:HG11	3:K:1002:VAL:HG11	1.87	0.55
3:J:302:ILE:HD11	3:J:336:ASP:HB2	1.88	0.55
3:J:927:LEU:O	3:J:931:ILE:HG22	2.06	0.55
3:L:405:GLY:HA3	3:L:977:PHE:CE1	2.41	0.55
3:L:536:PRO:HG3	3:L:956:ARG:HH21	1.71	0.55
1:B:123:SER:OG	1:B:124:GLU:N	2.38	0.55
1:C:112:ARG:HB2	1:C:125:VAL:HG23	1.88	0.55
3:K:101:GLU:O	3:K:105:VAL:HG22	2.07	0.55
3:J:966:ARG:O	3:J:969:PRO:HD2	2.07	0.55
3:L:402:LEU:HD21	3:L:472:PHE:HZ	1.72	0.55
3:K:466:GLY:O	3:K:470:GLN:HG2	2.05	0.55
3:K:579:PRO:HD3	3:K:658:GLY:HA2	1.89	0.55
3:J:480:ILE:HD12	3:J:481:LEU:N	2.20	0.55
3:L:166:ASN:OD1	3:L:166:ASN:N	2.39	0.55
1:B:300:ARG:NH1	1:B:303:ASP:OD2	2.40	0.55
3:K:185:ALA:HB1	3:K:766:ARG:O	2.07	0.55
3:K:777:MET:HA	3:K:777:MET:HE2	1.88	0.55
1:C:313:PRO:HG3	1:C:347:LEU:HD22	1.89	0.55
2:H:214:ASP:OD2	2:H:274:ARG:NH2	2.33	0.55
3:K:431:PRO:HA	3:K:434:ILE:HG12	1.87	0.55
3:J:282:ARG:NH2	3:J:595:GLU:OE2	2.32	0.55
1:A:347:LEU:HD12	1:A:348:PRO:HD2	1.88	0.55
1:B:300:ARG:HD2	1:B:365:ARG:HG2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:193:LEU:HD21	2:I:196:GLN:HG3	1.88	0.55
3:K:89:GLU:OE2	3:K:89:GLU:HA	2.07	0.55
3:K:139:ILE:HG22	3:K:292:ALA:HA	1.88	0.55
3:K:367:THR:O	3:K:370:PRO:HD2	2.05	0.55
3:K:940:LEU:HA	3:K:943:GLU:OE2	2.07	0.55
3:J:723:LEU:HD11	3:J:779:PRO:HB3	1.88	0.55
3:L:3:LEU:O	3:L:7:ARG:HG2	2.06	0.55
2:H:342:SER:N	3:K:229:GLU:OE2	2.39	0.55
3:K:302:ILE:HD11	3:K:336:ASP:HB2	1.88	0.55
3:J:797:LEU:O	3:J:801:VAL:HG12	2.07	0.55
1:B:142:LEU:HD12	1:B:143:PHE:N	2.22	0.55
2:E:266:ARG:HH11	2:E:266:ARG:HB2	1.71	0.55
3:J:20:SER:OG	3:J:376:VAL:HG22	2.06	0.55
3:J:23:GLY:HA3	3:J:379:LEU:HB3	1.89	0.55
3:L:42:GLN:HB2	3:L:133:THR:HG22	1.89	0.55
3:J:690:ASP:OD1	3:J:691:ALA:N	2.39	0.54
3:L:437:MET:SD	3:L:441:SER:OG	2.65	0.54
1:B:63:LEU:HD21	1:B:176:ILE:HG13	1.89	0.54
1:B:451:GLN:O	1:B:455:VAL:HG23	2.07	0.54
1:C:271:VAL:O	1:C:273:GLN:NE2	2.39	0.54
1:C:412:MET:HE1	1:C:432:ALA:C	2.32	0.54
2:E:253:ARG:HG3	2:E:284:LEU:HD11	1.88	0.54
3:J:49:TYR:CE2	3:J:119:PRO:HG2	2.42	0.54
3:J:185:ALA:HB1	3:J:766:ARG:O	2.07	0.54
1:A:141:ASP:OD2	1:A:145:ARG:HG3	2.08	0.54
2:G:369:LYS:HE2	2:G:369:LYS:HA	1.89	0.54
3:K:20:SER:OG	3:K:376:VAL:HG22	2.08	0.54
3:K:42:GLN:HB2	3:K:133:THR:HG22	1.89	0.54
3:K:696:ARG:NE	3:K:714:MET:HE2	2.23	0.54
3:K:797:LEU:O	3:K:801:VAL:HG12	2.07	0.54
3:L:655:LEU:HD12	3:L:656:ASP:H	1.72	0.54
1:C:103:ASN:ND2	1:C:105:ASN:OD1	2.39	0.54
2:E:81:GLU:N	2:E:81:GLU:OE1	2.39	0.54
2:F:337:GLY:N	2:F:345:GLN:O	2.27	0.54
2:I:336:THR:HB	2:I:344:TRP:NE1	2.23	0.54
3:K:32:VAL:CG2	3:K:301:ALA:H	2.18	0.54
1:A:187:ARG:HB3	1:A:444:ILE:HD13	1.88	0.54
3:K:655:LEU:HD12	3:K:656:ASP:H	1.72	0.54
1:B:217:ALA:HB2	2:G:135:ASP:HB3	1.90	0.54
1:C:289:ASP:OD1	1:C:290:ILE:N	2.41	0.54
2:H:307:GLN:HG3	2:H:344:TRP:HD1	1.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:395:MET:HE1	3:J:468:ILE:HA	1.89	0.54
3:J:431:PRO:HA	3:J:434:ILE:HD12	1.89	0.54
3:L:333:ARG:NH2	3:L:631:ASP:OD1	2.38	0.54
1:B:313:PRO:HG3	1:B:347:LEU:HD22	1.90	0.54
2:G:219:ALA:O	2:G:223:LEU:HD22	2.07	0.54
2:I:81:GLU:OE1	2:I:81:GLU:N	2.40	0.54
3:L:49:TYR:CE2	3:L:119:PRO:HG2	2.43	0.54
3:L:939:ILE:HA	3:L:942:VAL:HG12	1.90	0.54
1:A:224:VAL:O	1:A:228:GLU:HG2	2.08	0.54
1:C:252:LEU:HD12	1:C:257:ALA:HB1	1.90	0.54
3:K:215:GLN:NE2	3:J:49:TYR:OH	2.40	0.54
3:K:312:LEU:HD23	3:K:325:PHE:CD2	2.43	0.54
3:L:397:MET:N	3:L:397:MET:HE2	2.22	0.54
3:L:410:ASP:HB3	3:L:487:ALA:HB2	1.89	0.54
1:B:398:GLU:OE1	1:B:450:ARG:NH1	2.41	0.54
2:I:335:THR:O	2:I:347:SER:OG	2.25	0.54
3:J:447:ILE:HG23	3:J:936:LYS:HG3	1.90	0.54
3:J:552:MET:HB2	3:J:906:LEU:HB2	1.89	0.54
3:J:597:PHE:HE2	3:J:648:VAL:HG22	1.73	0.54
2:D:253:ARG:HH21	2:D:283:VAL:HG11	1.72	0.54
1:A:290:ILE:HD11	1:A:377:ILE:HG13	1.89	0.53
2:F:342:SER:N	3:L:229:GLU:OE2	2.41	0.53
2:G:252:GLU:HG2	2:G:254:LYS:HZ1	1.73	0.53
2:G:309:ALA:HB2	2:G:358:THR:HG22	1.90	0.53
2:I:65:ALA:HB3	2:I:205:ILE:HB	1.89	0.53
3:J:447:ILE:HG21	3:J:936:LYS:HE2	1.89	0.53
3:J:527:TYR:HE2	3:J:1014:VAL:HB	1.72	0.53
3:J:567:GLU:OE1	3:J:567:GLU:N	2.41	0.53
3:L:20:SER:OG	3:L:376:VAL:HG22	2.08	0.53
3:L:56:VAL:O	3:L:60:SER:HB3	2.08	0.53
3:L:690:ASP:OD2	3:L:691:ALA:N	2.40	0.53
1:B:239:ARG:O	1:B:243:GLN:HG2	2.07	0.53
3:L:427:LEU:HB2	3:L:432:ALA:HB2	1.90	0.53
3:J:342:VAL:HG11	3:J:397:MET:HB3	1.91	0.53
3:J:352:LEU:O	3:J:356:VAL:HG22	2.08	0.53
3:K:546:LEU:HA	3:K:549:VAL:HG12	1.91	0.53
3:L:185:ALA:HB1	3:L:766:ARG:O	2.08	0.53
3:L:681:LEU:HD11	3:L:699:VAL:HG11	1.89	0.53
2:G:336:THR:HB	2:G:344:TRP:NE1	2.23	0.53
3:K:679:LEU:HD11	3:K:853:TYR:HB2	1.88	0.53
1:A:271:VAL:O	1:A:273:GLN:NE2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:262:ILE:O	2:I:285:LEU:HB3	2.09	0.53
3:K:143:ARG:HD2	3:K:286:LYS:HE3	1.91	0.53
3:K:940:LEU:HD21	3:K:966:ARG:NH2	2.21	0.53
1:A:117:LEU:HD12	1:A:125:VAL:HB	1.91	0.53
1:A:177:GLN:NE2	1:A:456:ASP:OD1	2.42	0.53
1:C:134:GLY:HA2	1:C:320:SER:HA	1.91	0.53
2:F:329:VAL:HG21	2:F:364:ILE:HG21	1.90	0.53
3:L:912:VAL:HG23	3:L:917:LEU:HB2	1.90	0.53
2:F:323:LEU:HB2	2:F:357:ILE:HD11	1.91	0.53
2:H:285:LEU:HD22	2:I:262:ILE:HD12	1.91	0.53
3:K:74:ASN:ND2	3:K:98:THR:OG1	2.42	0.53
3:K:114:ALA:O	3:K:118:MET:HE2	2.08	0.53
3:K:448:THR:OG1	3:K:484:GLY:HA3	2.09	0.53
3:J:360:PHE:CD1	3:J:972:MET:HE2	2.44	0.53
3:J:876:ALA:O	3:J:880:VAL:HG12	2.08	0.53
3:J:892:ALA:O	3:J:896:THR:HG23	2.09	0.53
1:C:398:GLU:OE1	1:C:450:ARG:NH1	2.40	0.53
2:G:59:ILE:HD11	2:G:244:LEU:HD11	1.91	0.53
2:I:39:VAL:HB	2:I:357:ILE:HG12	1.91	0.53
3:K:532:ASP:OD1	3:K:956:ARG:NH2	2.31	0.53
3:J:312:LEU:HD23	3:J:325:PHE:CD2	2.44	0.53
3:J:409:ASP:HB2	3:J:936:LYS:HZ2	1.73	0.53
3:L:574:VAL:HB	3:L:625:ALA:HB3	1.90	0.53
3:L:981:VAL:HG11	3:L:1002:VAL:HG11	1.90	0.53
1:B:191:LEU:HD13	1:B:437:PHE:HD1	1.73	0.52
3:K:897:VAL:O	3:K:900:ILE:HG22	2.09	0.52
3:J:838:LEU:HA	3:J:841:GLU:OE1	2.09	0.52
2:G:106:ARG:NH2	2:H:162:ASN:OD1	2.42	0.52
3:K:427:LEU:HD12	3:K:427:LEU:H	1.74	0.52
3:J:536:PRO:HG3	3:J:956:ARG:NH2	2.24	0.52
1:A:134:GLY:HA2	1:A:320:SER:HA	1.90	0.52
1:C:112:ARG:HE	1:C:125:VAL:HA	1.72	0.52
2:D:140:GLN:NE2	2:I:124:MET:SD	2.82	0.52
2:I:321:MET:SD	2:I:357:ILE:N	2.77	0.52
3:J:451:LEU:HA	3:J:454:VAL:HG12	1.89	0.52
3:J:461:MET:SD	3:J:868:GLN:HB3	2.49	0.52
3:L:399:GLY:HA2	3:L:472:PHE:CE1	2.44	0.52
1:A:199:ARG:NH1	1:A:226:LEU:HB3	2.25	0.52
1:C:382:ARG:NE	1:C:386:ASP:OD2	2.42	0.52
3:J:1016:PHE:HB3	3:J:1020:PHE:CZ	2.45	0.52
1:A:111:GLN:OE1	1:A:112:ARG:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:106:ARG:NH2	2:F:162:ASN:OD1	2.43	0.52
2:I:44:VAL:O	2:I:353:GLY:N	2.40	0.52
3:K:595:GLU:O	3:K:599:MET:HG2	2.09	0.52
3:J:362:GLN:HE22	3:J:517:ASN:HB3	1.75	0.52
3:K:449:LEU:HG	3:K:883:LEU:HD13	1.90	0.52
3:J:527:TYR:CE2	3:J:1014:VAL:HB	2.45	0.52
1:B:224:VAL:O	1:B:228:GLU:HG2	2.09	0.52
3:K:420:ARG:NH1	3:K:965:LEU:HD22	2.25	0.52
3:K:472:PHE:CE2	3:K:925:VAL:HG11	2.45	0.52
3:K:709:PHE:HA	3:K:827:ALA:HA	1.91	0.52
3:K:905:ALA:HA	3:K:927:LEU:HD21	1.92	0.52
3:J:43:ILE:HD11	3:J:92:VAL:HB	1.91	0.52
3:J:448:THR:OG1	3:J:484:GLY:HA3	2.10	0.52
3:L:139:ILE:HG12	3:L:329:TYR:HB3	1.92	0.52
3:L:876:ALA:O	3:L:880:VAL:HG12	2.10	0.52
1:A:238:GLU:OE2	1:A:242:ARG:NE	2.41	0.52
1:C:224:VAL:O	1:C:228:GLU:HG2	2.10	0.52
2:D:214:ASP:OD2	2:D:274:ARG:NH2	2.33	0.52
2:I:250:ASP:OD2	2:I:250:ASP:N	2.43	0.52
3:K:22:GLY:O	3:K:26:VAL:HG23	2.10	0.52
3:K:613:PHE:HD1	3:K:618:MET:HG2	1.75	0.52
3:J:1:MET:HB3	3:J:2:PRO:HD3	1.91	0.52
2:I:36:ALA:HB1	2:I:371:ILE:HG23	1.92	0.52
3:K:238:VAL:HG22	3:J:725:LEU:HB2	1.91	0.52
3:L:709:PHE:HA	3:L:827:ALA:HA	1.90	0.52
3:L:972:MET:HE3	3:L:972:MET:O	2.09	0.52
1:B:199:ARG:NH1	1:B:226:LEU:HB3	2.24	0.52
3:L:48:THR:HB	3:L:125:LEU:HD22	1.92	0.52
3:L:73:LYS:HE3	3:L:74:ASN:HD22	1.75	0.52
3:L:335:VAL:O	3:L:339:ILE:HG23	2.09	0.52
2:I:66:GLU:OE2	2:I:204:ARG:NH2	2.40	0.51
3:J:402:LEU:HD21	3:J:472:PHE:HZ	1.74	0.51
3:J:406:ILE:HD13	3:J:480:ILE:HG21	1.92	0.51
2:E:61:PRO:HD3	2:E:286:PRO:HB3	1.92	0.51
2:F:361:LEU:HD22	2:F:361:LEU:H	1.74	0.51
3:K:635:ARG:HB3	3:K:639:GLN:HG3	1.92	0.51
3:J:912:VAL:HG23	3:J:917:LEU:HB2	1.91	0.51
3:L:202:ILE:HD11	3:L:785:LEU:HD11	1.92	0.51
3:L:884:LEU:HD13	3:L:897:VAL:CG1	2.41	0.51
1:A:112:ARG:HB3	1:A:117:LEU:HD11	1.91	0.51
2:F:215:PHE:CG	2:F:292:VAL:HG21	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:362:ALA:C	2:G:365:ARG:HH22	2.18	0.51
3:L:333:ARG:HD3	3:L:334:PHE:N	2.25	0.51
1:A:91:TYR:HA	1:A:153:ALA:HB1	1.91	0.51
1:B:107:SER:HB3	1:C:344:THR:HG23	1.92	0.51
1:B:289:ASP:OD1	1:B:290:ILE:N	2.43	0.51
2:G:327:ASP:O	2:G:369:LYS:NZ	2.44	0.51
3:J:105:VAL:HG12	3:L:109:ASN:ND2	2.24	0.51
3:L:143:ARG:NE	3:L:286:LYS:HE3	2.26	0.51
3:L:415:VAL:O	3:L:418:VAL:HG12	2.10	0.51
3:L:503:PRO:HB2	3:L:506:HIS:ND1	2.25	0.51
3:L:838:LEU:O	3:L:841:GLU:HG2	2.10	0.51
1:A:313:PRO:HG3	1:A:347:LEU:HD22	1.91	0.51
2:D:244:LEU:HB2	2:D:277:PHE:CE2	2.46	0.51
3:K:940:LEU:HD13	3:K:966:ARG:HB3	1.92	0.51
3:J:106:ASP:HA	3:J:109:ASN:HD22	1.76	0.51
3:J:681:LEU:HD11	3:J:699:VAL:HG11	1.91	0.51
3:J:754:VAL:HG11	3:J:766:ARG:HD2	1.93	0.51
3:J:773:GLN:O	3:J:777:MET:HG2	2.10	0.51
3:L:780:GLU:HA	3:L:783:LEU:HD23	1.93	0.51
1:B:238:GLU:OE2	1:B:242:ARG:NE	2.42	0.51
1:C:142:LEU:HD11	1:C:312:PHE:HD2	1.74	0.51
1:C:254:THR:HG22	1:C:256:ASP:H	1.76	0.51
2:E:321:MET:HB3	2:E:357:ILE:HD12	1.91	0.51
2:H:215:PHE:CG	2:H:292:VAL:HG21	2.46	0.51
3:K:108:GLN:OE1	3:J:109:ASN:HB3	2.10	0.51
3:J:170:ARG:NH2	3:L:816:ASN:O	2.43	0.51
3:J:202:ILE:HA	3:J:205:VAL:HG12	1.92	0.51
3:J:400:MET:O	3:J:404:ILE:HG23	2.10	0.51
3:L:940:LEU:HD13	3:L:966:ARG:HB3	1.93	0.51
2:F:253:ARG:HH21	2:F:283:VAL:HG11	1.75	0.51
3:K:882:LEU:HD11	3:L:17:LEU:HD13	1.92	0.51
3:J:101:GLU:O	3:J:105:VAL:HG22	2.11	0.51
1:C:199:ARG:NH1	1:C:226:LEU:HB3	2.25	0.51
1:C:238:GLU:OE2	1:C:242:ARG:NE	2.43	0.51
2:F:217:GLN:HE22	2:F:296:GLN:HE22	1.58	0.51
3:K:368:LEU:HG	3:K:372:ILE:HD11	1.93	0.51
3:J:202:ILE:HD11	3:J:785:LEU:HD11	1.92	0.51
3:J:696:ARG:NE	3:J:714:MET:HE2	2.26	0.51
2:E:365:ARG:HH22	3:L:320:PRO:HA	1.76	0.51
2:I:242:LEU:N	2:I:255:GLY:O	2.41	0.51
3:K:430:VAL:O	3:K:434:ILE:HG12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:470:GLN:OE1	3:K:470:GLN:HA	2.11	0.51
3:J:55:GLN:NE2	3:J:55:GLN:O	2.43	0.51
3:J:722:GLN:N	3:J:806:GLU:O	2.27	0.51
3:L:367:THR:O	3:L:370:PRO:HD2	2.11	0.51
3:L:409:ASP:HB2	3:L:936:LYS:NZ	2.25	0.51
3:L:552:MET:HB2	3:L:906:LEU:HB2	1.92	0.51
3:L:682:GLN:HB2	3:L:854:GLU:OE2	2.11	0.51
3:L:881:PHE:O	3:L:885:VAL:HG12	2.11	0.51
1:B:112:ARG:HG2	1:B:117:LEU:HD11	1.92	0.51
3:K:610:VAL:HB	3:K:624:ILE:HG22	1.91	0.51
3:K:876:ALA:O	3:K:880:VAL:HG12	2.10	0.51
3:J:143:ARG:NH2	3:J:324:GLU:OE2	2.43	0.51
3:J:360:PHE:HD1	3:J:972:MET:HE2	1.75	0.51
3:J:447:ILE:HD11	3:J:939:ILE:HG21	1.93	0.51
3:L:138:LEU:HD21	3:L:308:VAL:HG11	1.92	0.51
3:L:316:SER:HA	3:L:319:PHE:CD2	2.46	0.51
2:D:120:GLN:NE2	2:E:144:ASN:OD1	2.37	0.50
2:D:261:ASP:OD2	2:D:263:SER:N	2.32	0.50
3:K:985:ALA:O	3:K:996:ARG:HG3	2.11	0.50
3:J:1018:PRO:O	3:J:1022:VAL:HG13	2.11	0.50
2:G:71:VAL:HB	2:G:100:PHE:CZ	2.47	0.50
3:K:300:ASN:O	3:K:304:THR:OG1	2.26	0.50
3:L:715:GLU:O	3:L:715:GLU:HG2	2.10	0.50
2:D:66:GLU:OE1	2:D:68:ARG:NH2	2.35	0.50
3:K:574:VAL:HB	3:K:625:ALA:HB3	1.93	0.50
3:J:143:ARG:HB3	3:J:288:ALA:HB2	1.93	0.50
3:J:166:ASN:OD1	3:J:166:ASN:N	2.40	0.50
3:J:561:GLU:HA	3:J:919:ASN:HB3	1.94	0.50
3:L:137:LEU:O	3:L:331:THR:OG1	2.28	0.50
3:L:169:ARG:HB3	3:L:177:LEU:HD12	1.92	0.50
1:A:217:ALA:HB2	2:E:135:ASP:HB3	1.94	0.50
3:K:561:GLU:HA	3:K:919:ASN:HB3	1.92	0.50
3:K:682:GLN:N	3:K:852:GLY:O	2.45	0.50
3:J:857:GLY:O	3:J:861:GLN:HG2	2.12	0.50
3:K:34:GLN:O	3:K:394:MET:HE3	2.12	0.50
3:L:202:ILE:HA	3:L:205:VAL:HG12	1.94	0.50
3:L:302:ILE:HD11	3:L:336:ASP:HB2	1.92	0.50
3:L:703:VAL:HG13	3:L:709:PHE:CD2	2.47	0.50
3:L:897:VAL:HG21	3:L:939:ILE:HD12	1.93	0.50
3:L:905:ALA:HA	3:L:927:LEU:HD21	1.94	0.50
1:B:91:TYR:CE2	1:B:154:LEU:HD23	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:266:ARG:HB2	2:E:266:ARG:NH1	2.27	0.50
2:H:69:ALA:HB2	2:H:202:LEU:HD11	1.94	0.50
3:K:353:VAL:O	3:K:357:MET:HB2	2.11	0.50
3:K:912:VAL:HG23	3:K:917:LEU:HB2	1.93	0.50
3:J:46:THR:HG22	3:J:89:GLU:OE1	2.11	0.50
3:J:74:ASN:ND2	3:J:98:THR:OG1	2.45	0.50
3:J:167:GLU:OE2	3:L:818:TYR:OH	2.22	0.50
1:C:77:LEU:HD21	1:C:168:GLN:HA	1.93	0.50
2:G:285:LEU:O	2:G:288:MET:HG3	2.11	0.50
3:J:42:GLN:HB2	3:J:133:THR:HG22	1.93	0.50
3:J:610:VAL:HB	3:J:624:ILE:HG22	1.94	0.50
1:A:170:SER:O	1:A:174:GLU:HG3	2.12	0.50
1:B:91:TYR:HA	1:B:153:ALA:HB1	1.94	0.50
2:I:216:THR:HG21	3:J:260:SER:HB2	1.93	0.50
3:J:405:GLY:HA3	3:J:977:PHE:CD1	2.47	0.50
3:J:961:GLU:O	3:J:965:LEU:HG	2.11	0.50
3:L:139:ILE:HG22	3:L:292:ALA:HA	1.93	0.50
3:L:368:LEU:HG	3:L:372:ILE:HD11	1.92	0.50
2:H:62:VAL:HG12	2:H:63:ARG:HG3	1.94	0.50
3:K:73:LYS:HE3	3:K:74:ASN:HB2	1.94	0.50
3:K:79:GLU:HG2	3:K:815:TYR:CD1	2.46	0.50
3:K:415:VAL:O	3:K:418:VAL:HG12	2.12	0.50
3:J:965:LEU:HD12	3:J:966:ARG:HG2	1.92	0.50
2:E:338:ALA:N	2:E:345:GLN:HB3	2.25	0.49
2:G:321:MET:HA	2:G:331:VAL:HA	1.94	0.49
2:H:71:VAL:HB	2:H:100:PHE:CZ	2.46	0.49
3:J:79:GLU:HG2	3:J:815:TYR:CD1	2.47	0.49
3:L:198:TYR:O	3:L:254:ARG:NH2	2.40	0.49
3:L:559:LEU:HD22	3:L:919:ASN:HB2	1.93	0.49
2:D:130:PRO:HA	2:D:133:LYS:NZ	2.27	0.49
2:H:307:GLN:HB2	2:H:342:SER:O	2.12	0.49
3:K:356:VAL:HG23	3:K:972:MET:HE1	1.94	0.49
3:K:681:LEU:HD11	3:K:699:VAL:HG11	1.93	0.49
3:L:563:PHE:O	3:L:921:VAL:HG13	2.12	0.49
3:L:930:VAL:HG11	3:L:1005:GLY:HA3	1.94	0.49
1:C:264:THR:O	1:C:266:ARG:NH2	2.45	0.49
2:I:334:VAL:HG12	2:I:349:GLY:HA3	1.94	0.49
3:K:601:ARG:HA	3:K:601:ARG:HH11	1.77	0.49
3:J:104:GLN:O	3:J:108:GLN:HG3	2.12	0.49
3:L:143:ARG:NH2	3:L:286:LYS:HE3	2.27	0.49
3:L:472:PHE:CE2	3:L:925:VAL:HG11	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:62:VAL:HG12	2:D:63:ARG:HG3	1.94	0.49
3:K:55:GLN:O	3:K:55:GLN:NE2	2.45	0.49
3:K:104:GLN:O	3:K:108:GLN:HG3	2.13	0.49
3:K:176:LYS:HB3	3:K:294:GLN:HG2	1.94	0.49
3:K:690:ASP:OD1	3:K:691:ALA:N	2.46	0.49
3:K:696:ARG:HG3	3:K:821:ILE:HG21	1.94	0.49
3:J:105:VAL:O	3:J:109:ASN:ND2	2.45	0.49
3:J:256:ASN:O	3:L:734:THR:HG23	2.12	0.49
3:J:417:ASN:ND2	3:J:436:ALA:HB1	2.28	0.49
3:J:717:LEU:HB3	3:J:810:VAL:HG13	1.95	0.49
3:K:17:LEU:HD22	3:J:882:LEU:HD11	1.95	0.49
3:J:666:PRO:HD3	3:J:674:SER:HA	1.94	0.49
2:F:62:VAL:HG12	2:F:63:ARG:HG3	1.95	0.49
2:F:69:ALA:HB2	2:F:202:LEU:HD11	1.95	0.49
3:K:969:PRO:O	3:K:973:THR:HG22	2.12	0.49
3:J:487:ALA:HA	3:J:491:THR:HG22	1.94	0.49
3:J:881:PHE:O	3:J:885:VAL:HG12	2.12	0.49
3:L:45:VAL:HB	3:L:90:ILE:HB	1.95	0.49
3:L:395:MET:HG3	3:L:472:PHE:HB2	1.95	0.49
1:B:134:GLY:HA2	1:B:320:SER:HA	1.95	0.49
1:C:112:ARG:HG3	1:C:114:PRO:CD	2.41	0.49
1:C:115:ALA:O	1:C:117:LEU:HD23	2.12	0.49
3:L:666:PRO:HD3	3:L:674:SER:HA	1.95	0.49
3:K:703:VAL:HG13	3:K:709:PHE:CD2	2.47	0.49
3:L:451:LEU:HA	3:L:454:VAL:HG12	1.95	0.49
3:K:118:MET:SD	3:K:118:MET:N	2.86	0.49
3:K:279:PHE:CZ	3:K:618:MET:HE3	2.48	0.49
3:K:464:SER:HB2	3:K:563:PHE:HZ	1.78	0.49
3:K:733:ARG:HG2	3:L:252:VAL:HG11	1.95	0.49
1:A:117:LEU:HA	1:A:121:GLY:HA3	1.95	0.49
2:E:285:LEU:HB3	2:F:262:ILE:O	2.13	0.49
2:I:61:PRO:HD3	2:I:286:PRO:HB3	1.94	0.49
3:K:398:PHE:HB3	3:K:998:LEU:HD21	1.95	0.49
3:K:888:TYR:OH	3:K:939:ILE:HG13	2.13	0.49
3:J:663:VAL:HG11	3:J:674:SER:HB2	1.95	0.49
3:L:104:GLN:O	3:L:108:GLN:HG3	2.13	0.49
3:L:284:ASP:HB3	3:L:599:MET:HE1	1.93	0.49
3:L:405:GLY:HA3	3:L:977:PHE:CD1	2.48	0.49
1:B:182:ARG:NH2	1:B:262:PRO:O	2.42	0.48
2:I:71:VAL:HB	2:I:100:PHE:CZ	2.47	0.48
3:K:23:GLY:HA3	3:K:379:LEU:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:465:VAL:HG21	3:K:865:ALA:HB2	1.94	0.48
3:K:861:GLN:HA	3:K:864:VAL:HG22	1.95	0.48
3:K:1016:PHE:HB3	3:K:1020:PHE:CZ	2.48	0.48
3:L:899:LEU:HD12	3:L:1020:PHE:HB3	1.95	0.48
2:D:339:MET:HE1	3:J:230:GLN:HE21	1.78	0.48
2:G:61:PRO:HD3	2:G:286:PRO:HB3	1.95	0.48
3:K:961:GLU:O	3:K:965:LEU:HG	2.12	0.48
3:J:32:VAL:CG2	3:J:301:ALA:H	2.21	0.48
3:J:854:GLU:OE1	3:J:854:GLU:HA	2.12	0.48
1:C:219:ASP:O	1:C:222:GLU:HG3	2.12	0.48
2:E:71:VAL:HB	2:E:100:PHE:CZ	2.48	0.48
2:I:219:ALA:O	2:I:223:LEU:HD22	2.13	0.48
3:J:530:LEU:HD13	3:J:534:LEU:HD12	1.96	0.48
3:L:101:GLU:O	3:L:105:VAL:HG22	2.13	0.48
3:L:527:TYR:HE2	3:L:1014:VAL:HB	1.78	0.48
1:A:165:ARG:NH2	1:A:286:ARG:O	2.46	0.48
3:J:592:GLY:HA2	3:J:595:GLU:CD	2.38	0.48
3:L:356:VAL:CG2	3:L:972:MET:HE1	2.43	0.48
1:A:252:LEU:HD12	1:A:257:ALA:HB1	1.96	0.48
1:A:425:ASP:OD2	1:A:426:TYR:N	2.46	0.48
2:D:222:ALA:O	2:D:226:ARG:HD3	2.13	0.48
2:F:71:VAL:HB	2:F:100:PHE:CZ	2.49	0.48
3:K:451:LEU:HA	3:K:454:VAL:HG12	1.95	0.48
3:L:242:LEU:HB2	3:L:248:PHE:CE1	2.49	0.48
1:A:91:TYR:CE2	1:A:154:LEU:HD23	2.47	0.48
2:F:46:THR:HG22	2:F:303:ILE:HG13	1.95	0.48
3:J:35:TYR:HB3	3:J:36:PRO:HD2	1.95	0.48
3:J:385:MET:HG3	3:J:390:PHE:HB2	1.95	0.48
3:L:472:PHE:O	3:L:475:SER:OG	2.29	0.48
3:L:935:ALA:O	3:L:939:ILE:HD13	2.13	0.48
3:L:978:MET:HA	3:L:1006:MET:HE1	1.95	0.48
1:A:67:VAL:O	1:A:71:LEU:HG	2.14	0.48
1:C:135:LEU:N	1:C:319:GLY:O	2.46	0.48
2:D:215:PHE:CG	2:D:292:VAL:HG21	2.49	0.48
2:F:40:ASP:N	2:F:359:SER:OG	2.38	0.48
2:F:360:SER:O	2:F:364:ILE:HG13	2.14	0.48
2:I:56:PRO:HB3	2:I:289:TYR:OH	2.13	0.48
3:K:552:MET:HB2	3:K:906:LEU:HB2	1.96	0.48
3:J:343:ILE:O	3:J:347:ILE:HG12	2.13	0.48
3:J:514:GLY:HA2	3:J:517:ASN:OD1	2.13	0.48
2:E:62:VAL:HG12	2:E:63:ARG:HG3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:322:LEU:HA	2:E:355:LYS:O	2.13	0.48
2:G:242:LEU:N	2:G:255:GLY:O	2.45	0.48
2:I:261:ASP:OD1	2:I:262:ILE:N	2.47	0.48
3:K:416:GLU:HG2	3:K:968:ARG:HD2	1.94	0.48
3:K:959:ALA:HB2	3:K:1021:PHE:CD2	2.48	0.48
3:J:34:GLN:OE1	3:J:334:PHE:HB2	2.14	0.48
3:L:937:ASN:CG	3:L:970:ILE:HD12	2.37	0.48
1:A:79:GLN:NE2	1:B:372:ASP:HB2	2.23	0.48
1:C:73:ASN:O	1:C:75:ARG:NH1	2.47	0.48
2:E:219:ALA:O	2:E:223:LEU:HD12	2.13	0.48
3:L:42:GLN:NE2	3:L:670:GLY:O	2.46	0.48
3:L:166:ASN:O	3:L:169:ARG:HG2	2.14	0.48
1:B:357:ALA:HA	1:B:360:ASP:OD2	2.14	0.48
2:D:162:ASN:OD1	2:I:106:ARG:NH2	2.46	0.48
2:G:118:LEU:HA	2:G:152:ALA:HB1	1.95	0.48
2:H:222:ALA:HB1	2:H:226:ARG:NH2	2.29	0.48
2:I:309:ALA:HB2	2:I:358:THR:HG22	1.95	0.48
3:K:437:MET:HE2	3:K:437:MET:HA	1.95	0.48
3:K:754:VAL:HG11	3:K:766:ARG:HD2	1.95	0.48
3:J:654:ASN:O	3:J:654:ASN:ND2	2.47	0.48
1:A:290:ILE:HD12	1:A:290:ILE:HA	1.71	0.47
1:B:138:TYR:O	1:B:317:LEU:N	2.46	0.47
2:F:39:VAL:HG11	2:F:364:ILE:HD11	1.96	0.47
2:G:60:GLU:OE1	2:G:212:TYR:HB2	2.14	0.47
2:I:306:PRO:HA	2:I:343:ARG:HA	1.95	0.47
3:K:256:ASN:O	3:J:734:THR:HG23	2.13	0.47
3:K:592:GLY:HA2	3:K:595:GLU:CD	2.39	0.47
3:K:956:ARG:HG3	3:K:957:ASP:N	2.29	0.47
3:J:374:VAL:HG13	3:J:407:LEU:HD22	1.95	0.47
3:J:703:VAL:HG13	3:J:709:PHE:CD2	2.49	0.47
1:A:112:ARG:NE	1:A:124:GLU:O	2.37	0.47
1:B:287:ARG:HH12	1:B:459:ARG:HH12	1.62	0.47
2:E:321:MET:HB2	2:E:357:ILE:HB	1.95	0.47
2:H:253:ARG:HH21	2:H:283:VAL:HG11	1.77	0.47
3:K:137:LEU:HD22	3:K:138:LEU:HD22	1.97	0.47
3:K:453:ALA:HB1	3:K:879:VAL:HG11	1.95	0.47
3:L:409:ASP:O	3:L:413:VAL:HG13	2.14	0.47
1:C:117:LEU:HD13	1:C:123:SER:HB3	1.95	0.47
2:D:361:LEU:HD22	2:D:361:LEU:H	1.79	0.47
3:K:58:THR:HA	3:K:62:THR:CG2	2.44	0.47
3:K:666:PRO:HD3	3:K:674:SER:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:370:PRO:O	3:J:374:VAL:HG23	2.13	0.47
3:L:55:GLN:O	3:L:55:GLN:NE2	2.47	0.47
3:L:444:ILE:O	3:L:448:THR:HG22	2.14	0.47
1:B:219:ASP:O	1:B:222:GLU:HG3	2.15	0.47
2:G:111:LEU:HA	2:G:159:ALA:HB1	1.97	0.47
3:L:868:GLN:HA	3:L:868:GLN:OE1	2.15	0.47
1:A:112:ARG:HD2	1:A:124:GLU:HB3	1.96	0.47
1:B:142:LEU:HD12	1:B:143:PHE:HB2	1.96	0.47
2:G:175:VAL:HG11	2:G:202:LEU:HD12	1.97	0.47
2:H:307:GLN:HB3	3:K:231:GLU:HG3	1.96	0.47
2:I:322:LEU:N	2:I:330:GLU:O	2.47	0.47
3:K:405:GLY:HA3	3:K:977:PHE:CE2	2.49	0.47
3:K:758:PHE:HB2	3:K:767:VAL:HG23	1.95	0.47
3:J:893:ILE:O	3:J:896:THR:OG1	2.24	0.47
1:C:140:VAL:HG23	1:C:315:ILE:HG13	1.96	0.47
1:C:205:LEU:HD23	1:C:427:LEU:CD2	2.45	0.47
3:J:143:ARG:NH2	3:J:286:LYS:HZ2	2.13	0.47
3:J:655:LEU:HD12	3:J:656:ASP:H	1.78	0.47
3:L:282:ARG:HH21	3:L:595:GLU:CD	2.23	0.47
3:L:884:LEU:HD13	3:L:897:VAL:HG13	1.96	0.47
2:E:239:ASP:OD2	2:E:239:ASP:N	2.47	0.47
2:E:281:GLU:HB2	2:E:283:VAL:HG23	1.96	0.47
2:F:131:LEU:HB3	2:F:136:ALA:HB3	1.97	0.47
2:F:183:ILE:CG2	2:F:205:ILE:HG12	2.45	0.47
2:F:296:GLN:OE1	2:F:296:GLN:HA	2.13	0.47
2:G:308:ARG:NH2	2:G:358:THR:OG1	2.48	0.47
2:H:361:LEU:HD22	2:H:361:LEU:H	1.80	0.47
2:H:369:LYS:HB3	2:H:369:LYS:HE3	1.65	0.47
3:K:725:LEU:HB2	3:L:238:VAL:HG22	1.96	0.47
3:J:18:PHE:HE1	3:L:882:LEU:HB3	1.80	0.47
3:J:23:GLY:O	3:J:27:ILE:HD12	2.15	0.47
3:J:58:THR:HA	3:J:62:THR:CG2	2.45	0.47
3:J:251:ILE:HB	3:J:264:LEU:HB2	1.97	0.47
3:J:252:VAL:HG11	3:L:733:ARG:HG2	1.96	0.47
3:J:395:MET:HA	3:J:398:PHE:CD2	2.50	0.47
3:J:405:GLY:HA3	3:J:977:PHE:CE1	2.49	0.47
3:L:32:VAL:CG2	3:L:301:ALA:H	2.27	0.47
3:L:48:THR:O	3:L:122:VAL:HG22	2.15	0.47
3:L:94:PHE:CE1	3:L:103:ALA:HB1	2.50	0.47
3:L:188:VAL:N	3:L:768:VAL:O	2.45	0.47
3:L:758:PHE:HB2	3:L:767:VAL:HG23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:893:ILE:HD12	3:L:893:ILE:H	1.78	0.47
1:A:345:LEU:HB3	1:C:106:ALA:HB3	1.96	0.47
1:A:398:GLU:OE1	1:A:450:ARG:NH1	2.43	0.47
2:H:307:GLN:HG2	3:K:232:LEU:HB2	1.96	0.47
3:K:925:VAL:HA	3:K:928:ILE:HG22	1.95	0.47
3:J:231:GLU:C	3:J:232:LEU:HD22	2.40	0.47
3:J:395:MET:SD	3:J:471:GLN:HB2	2.55	0.47
3:J:709:PHE:HA	3:J:827:ALA:HA	1.97	0.47
3:J:884:LEU:HD13	3:J:897:VAL:CG1	2.44	0.47
3:L:458:LEU:HD12	3:L:469:TYR:CG	2.50	0.47
3:L:860:TYR:O	3:L:864:VAL:HG22	2.14	0.47
2:F:214:ASP:OD2	2:F:274:ARG:NH2	2.37	0.47
2:G:56:PRO:HG3	3:K:261:ARG:HH21	1.80	0.47
3:K:137:LEU:O	3:K:331:THR:OG1	2.28	0.47
3:K:682:GLN:OE1	3:K:820:SER:HB3	2.15	0.47
3:J:414:VAL:HG11	3:J:491:THR:HG23	1.97	0.47
3:J:969:PRO:O	3:J:973:THR:HG22	2.14	0.47
3:L:21:LEU:HD13	3:L:25:LEU:HD23	1.97	0.47
2:D:69:ALA:HB2	2:D:202:LEU:HD11	1.96	0.47
2:D:251:ILE:HG21	2:D:283:VAL:HG21	1.97	0.47
2:E:109:GLY:O	2:F:154:ALA:HB1	2.15	0.47
2:G:335:THR:OG1	2:G:348:GLU:HB3	2.15	0.47
3:K:397:MET:O	3:K:400:MET:HB2	2.15	0.47
3:J:897:VAL:O	3:J:900:ILE:HG22	2.15	0.47
3:L:417:ASN:ND2	3:L:436:ALA:HB1	2.30	0.47
2:D:342:SER:N	3:J:229:GLU:OE2	2.47	0.46
2:F:183:ILE:HG22	2:F:205:ILE:HG12	1.96	0.46
3:K:198:TYR:CG	3:K:262:LEU:HD21	2.50	0.46
3:K:412:ILE:O	3:K:416:GLU:HB2	2.15	0.46
3:J:198:TYR:CG	3:J:262:LEU:HD21	2.49	0.46
3:L:356:VAL:HG23	3:L:972:MET:HE1	1.97	0.46
3:L:912:VAL:O	3:L:916:GLY:N	2.48	0.46
3:L:940:LEU:O	3:L:966:ARG:HG3	2.14	0.46
2:H:313:SER:OG	2:H:317:GLN:O	2.33	0.46
3:K:342:VAL:HG11	3:K:397:MET:HB3	1.97	0.46
3:K:921:VAL:O	3:K:925:VAL:HG12	2.15	0.46
3:L:871:MET:SD	3:L:871:MET:N	2.80	0.46
3:L:884:LEU:HD23	3:L:884:LEU:HA	1.71	0.46
3:L:897:VAL:O	3:L:900:ILE:HG22	2.15	0.46
2:E:345:GLN:HG2	2:E:346:ILE:N	2.30	0.46
2:F:261:ASP:OD2	2:F:262:ILE:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:118:LEU:HA	2:I:152:ALA:HB1	1.96	0.46
3:K:572:MET:HE1	3:K:644:GLU:OE2	2.16	0.46
3:J:18:PHE:CE1	3:L:882:LEU:HB3	2.49	0.46
3:J:100:PRO:HB2	3:J:131:GLN:NE2	2.29	0.46
3:J:360:PHE:CD1	3:J:972:MET:HG3	2.50	0.46
2:F:222:ALA:HB1	2:F:226:ARG:NH2	2.30	0.46
2:I:62:VAL:HG22	2:I:212:TYR:CE1	2.50	0.46
3:K:112:LYS:NZ	3:L:112:LYS:HE2	2.15	0.46
3:K:978:MET:HE2	3:K:1006:MET:SD	2.54	0.46
3:J:284:ASP:HB3	3:J:599:MET:HE1	1.98	0.46
3:J:682:GLN:O	3:J:852:GLY:N	2.49	0.46
3:L:46:THR:HG22	3:L:89:GLU:OE1	2.16	0.46
3:L:168:ILE:HA	3:L:171:LEU:HG	1.98	0.46
3:L:959:ALA:HB2	3:L:1021:PHE:CD2	2.51	0.46
1:B:103:ASN:HA	1:C:348:PRO:HA	1.98	0.46
2:H:131:LEU:HB3	2:H:136:ALA:HB3	1.97	0.46
2:H:339:MET:HE3	2:H:339:MET:HB3	1.62	0.46
3:K:130:GLU:N	3:K:130:GLU:OE1	2.49	0.46
3:J:710:LEU:HD23	3:J:828:ALA:HA	1.97	0.46
3:L:464:SER:HB2	3:L:563:PHE:HZ	1.80	0.46
2:D:60:GLU:O	2:D:212:TYR:N	2.44	0.46
2:E:245:ARG:NH1	2:E:252:GLU:HB2	2.30	0.46
2:F:98:ALA:HB3	2:F:99:PRO:HD3	1.97	0.46
3:K:68:GLU:OE1	3:K:68:GLU:HA	2.15	0.46
3:K:335:VAL:O	3:K:339:ILE:HG23	2.14	0.46
3:K:477:ALA:O	3:K:480:ILE:HG13	2.16	0.46
3:K:912:VAL:O	3:K:916:GLY:N	2.48	0.46
3:K:966:ARG:O	3:K:969:PRO:HD2	2.16	0.46
3:L:961:GLU:O	3:L:965:LEU:HG	2.16	0.46
3:L:969:PRO:O	3:L:973:THR:HG22	2.15	0.46
1:A:313:PRO:HG3	1:A:347:LEU:HD13	1.96	0.46
3:L:245:PRO:HB3	3:L:270:ILE:HG22	1.97	0.46
3:L:283:GLN:HG2	3:L:284:ASP:OD2	2.16	0.46
3:L:681:LEU:O	3:L:820:SER:HA	2.15	0.46
1:A:264:THR:O	1:A:266:ARG:NH2	2.45	0.46
1:A:416:LYS:HB2	1:A:429:TYR:HE2	1.80	0.46
1:B:79:GLN:HE22	1:C:372:ASP:HB2	1.81	0.46
2:D:217:GLN:HE22	2:D:296:GLN:HE22	1.63	0.46
2:E:118:LEU:HA	2:E:152:ALA:HB1	1.97	0.46
2:I:321:MET:HE2	2:I:322:LEU:N	2.31	0.46
3:K:393:ASN:O	3:K:397:MET:HG2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:397:MET:N	3:J:397:MET:HE2	2.30	0.46
3:L:412:ILE:O	3:L:416:GLU:HB2	2.15	0.46
1:A:189:MET:HE2	1:A:238:GLU:HA	1.98	0.46
2:D:307:GLN:HG2	3:J:232:LEU:HD23	1.97	0.46
2:E:37:ARG:CZ	2:E:38:GLU:H	2.28	0.46
2:E:59:ILE:HD11	2:E:244:LEU:HD11	1.97	0.46
2:I:175:VAL:HG11	2:I:202:LEU:HD12	1.97	0.46
3:K:170:ARG:NH1	3:J:816:ASN:HB3	2.31	0.46
3:K:745:ALA:HB1	3:K:785:LEU:HD21	1.98	0.46
3:J:188:VAL:HA	3:J:270:ILE:HD13	1.97	0.46
3:J:601:ARG:HA	3:J:601:ARG:HH11	1.81	0.46
3:L:319:PHE:HE2	3:L:325:PHE:HB3	1.81	0.46
3:L:965:LEU:HB2	3:L:966:ARG:HD2	1.96	0.46
1:C:248:LEU:HD23	1:C:261:LEU:HD23	1.97	0.46
2:D:41:VAL:HG21	2:D:372:PRO:HB3	1.98	0.46
2:D:131:LEU:HB3	2:D:136:ALA:HB3	1.97	0.46
2:I:281:GLU:HB2	2:I:283:VAL:HG23	1.98	0.46
3:J:335:VAL:O	3:J:339:ILE:HG22	2.16	0.46
3:L:696:ARG:CG	3:L:821:ILE:HG21	2.46	0.46
1:C:199:ARG:NH1	1:C:226:LEU:HD13	2.31	0.45
1:C:266:ARG:HG2	1:C:268:ASP:H	1.81	0.45
2:D:373:ARG:HH21	3:L:654:ASN:ND2	2.14	0.45
2:E:111:LEU:HA	2:E:159:ALA:HB1	1.98	0.45
2:I:280:PRO:HG2	2:I:281:GLU:CD	2.41	0.45
3:K:339:ILE:HG13	3:K:340:ASP:N	2.30	0.45
3:K:503:PRO:HB2	3:K:506:HIS:ND1	2.31	0.45
1:B:80:ALA:HB1	1:B:164:THR:HG23	1.99	0.45
2:D:154:ALA:HB1	2:I:109:GLY:O	2.16	0.45
2:I:251:ILE:O	2:I:251:ILE:HD12	2.16	0.45
2:I:307:GLN:HE21	2:I:339:MET:CE	2.29	0.45
3:K:452:SER:HB2	3:K:481:LEU:HD21	1.98	0.45
3:K:969:PRO:HA	3:K:972:MET:HB3	1.98	0.45
3:J:515:TRP:CD1	3:J:515:TRP:C	2.95	0.45
3:J:1023:TRP:CH2	3:J:1027:LEU:HD12	2.51	0.45
3:L:32:VAL:HG23	3:L:301:ALA:HB3	1.98	0.45
3:L:482:PHE:O	3:L:486:LEU:HG	2.16	0.45
3:L:754:VAL:HG11	3:L:766:ARG:HD2	1.97	0.45
1:A:394:LEU:CD1	1:A:449:GLU:HG2	2.46	0.45
2:F:129:GLU:O	2:F:133:LYS:NZ	2.47	0.45
2:G:319:SER:HA	2:G:334:VAL:HG22	1.98	0.45
2:H:262:ILE:HD12	2:H:262:ILE:HA	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:253:LEU:HD21	3:K:264:LEU:HD12	1.98	0.45
3:K:279:PHE:HZ	3:K:618:MET:HE3	1.82	0.45
3:J:62:THR:O	3:J:66:GLU:HB2	2.17	0.45
3:J:188:VAL:HG13	3:J:270:ILE:HD11	1.98	0.45
3:J:696:ARG:CG	3:J:821:ILE:HG21	2.44	0.45
3:J:833:THR:OG1	3:J:862:GLU:OE2	2.28	0.45
3:L:4:PHE:HE2	3:L:8:ARG:HE	1.64	0.45
3:L:425:GLU:HB2	3:L:427:LEU:HG	1.98	0.45
3:L:592:GLY:HA2	3:L:595:GLU:CD	2.41	0.45
1:A:289:ASP:N	1:A:289:ASP:OD1	2.47	0.45
1:B:113:LEU:HB3	1:B:114:PRO:HD3	1.99	0.45
1:B:252:LEU:HD12	1:B:257:ALA:HB1	1.99	0.45
3:K:534:LEU:HD22	3:K:1019:ILE:HD11	1.97	0.45
3:J:613:PHE:HD1	3:J:618:MET:HG2	1.81	0.45
3:J:778:THR:HG22	3:J:780:GLU:H	1.80	0.45
3:J:895:LEU:O	3:J:899:LEU:HG	2.17	0.45
3:J:966:ARG:C	3:J:969:PRO:HD2	2.41	0.45
3:J:1013:GLY:O	3:J:1017:VAL:HG23	2.16	0.45
3:L:655:LEU:HD12	3:L:656:ASP:N	2.32	0.45
1:A:129:TYR:HB2	1:A:331:LEU:HD21	1.98	0.45
3:K:202:ILE:O	3:K:205:VAL:HG22	2.15	0.45
3:K:754:VAL:HG13	3:K:766:ARG:HB3	1.98	0.45
3:J:139:ILE:HG12	3:J:329:TYR:HB3	1.98	0.45
3:J:503:PRO:HB2	3:J:506:HIS:HB2	1.99	0.45
3:J:594:LEU:HA	3:J:652:PHE:CZ	2.51	0.45
3:J:897:VAL:CG2	3:J:939:ILE:HD12	2.39	0.45
1:A:142:LEU:HD11	1:A:312:PHE:CD1	2.52	0.45
1:C:84:ILE:HA	1:C:84:ILE:HD13	1.68	0.45
2:E:41:VAL:C	2:E:42:LEU:HD22	2.41	0.45
2:F:109:GLY:O	2:G:154:ALA:HB1	2.17	0.45
2:F:251:ILE:HG21	2:F:283:VAL:HG21	1.98	0.45
2:G:109:GLY:O	2:H:154:ALA:HB1	2.16	0.45
2:G:280:PRO:HG2	2:G:281:GLU:CD	2.42	0.45
3:K:242:LEU:HB2	3:K:248:PHE:CE1	2.52	0.45
3:K:884:LEU:HD12	3:K:884:LEU:HA	1.70	0.45
3:J:618:MET:HE3	3:J:618:MET:HB2	1.82	0.45
3:J:668:VAL:HG11	3:J:671:LEU:HD12	1.97	0.45
3:J:949:TRP:CD1	3:J:955:LEU:HD23	2.52	0.45
1:A:138:TYR:O	1:A:316:SER:HA	2.17	0.45
1:A:219:ASP:O	1:A:222:GLU:HG3	2.16	0.45
2:D:244:LEU:HD11	2:D:290:VAL:HB	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:71:VAL:O	2:G:195:GLY:HA3	2.17	0.45
3:J:694:ALA:HA	3:J:697:ASP:OD2	2.17	0.45
3:L:921:VAL:O	3:L:925:VAL:HG12	2.16	0.45
1:A:129:TYR:HB2	1:A:331:LEU:HD11	1.99	0.45
1:C:77:LEU:HD23	1:C:77:LEU:HA	1.68	0.45
2:D:71:VAL:HB	2:D:100:PHE:CZ	2.51	0.45
2:E:221:ASP:OD1	2:E:221:ASP:N	2.49	0.45
3:K:252:VAL:HG11	3:J:733:ARG:HG2	1.99	0.45
3:J:24:LEU:HA	3:J:27:ILE:HD12	1.98	0.45
3:J:242:LEU:HB2	3:J:248:PHE:CE1	2.51	0.45
3:L:430:VAL:HG12	3:L:434:ILE:HD11	1.98	0.45
3:L:925:VAL:O	3:L:928:ILE:HG22	2.15	0.45
1:A:354:ARG:NH2	1:C:97:ASP:OD1	2.50	0.45
1:B:82:LEU:HD23	1:C:368:ALA:HA	1.99	0.45
2:D:109:GLY:O	2:E:154:ALA:HB1	2.17	0.45
2:D:185:ARG:HD2	2:E:259:PHE:HE1	1.81	0.45
2:H:213:ALA:N	2:H:275:GLY:O	2.45	0.45
3:K:1023:TRP:CD1	3:K:1023:TRP:C	2.95	0.45
3:J:66:GLU:HG3	3:J:78:PHE:CE2	2.52	0.45
3:J:239:LYS:O	3:J:239:LYS:HG3	2.17	0.45
3:J:754:VAL:HG13	3:J:766:ARG:HB3	1.99	0.45
3:L:22:GLY:O	3:L:26:VAL:HG23	2.17	0.45
3:L:198:TYR:CG	3:L:262:LEU:HD21	2.52	0.45
3:L:284:ASP:HB2	3:L:286:LYS:NZ	2.31	0.45
3:L:502:ILE:HD12	3:L:503:PRO:CD	2.46	0.45
3:L:572:MET:HE1	3:L:644:GLU:OE2	2.17	0.45
1:A:141:ASP:OD2	1:A:145:ARG:N	2.50	0.45
1:B:85:GLU:HB2	1:C:364:VAL:HG21	1.98	0.45
2:D:339:MET:HB3	2:D:339:MET:HE3	1.73	0.45
3:J:82:SER:O	3:J:811:GLN:HA	2.17	0.45
3:L:443:ALA:O	3:L:447:ILE:HG12	2.17	0.45
3:L:541:VAL:HG11	3:L:1019:ILE:HD13	1.99	0.45
2:F:369:LYS:HE3	2:F:369:LYS:HB3	1.75	0.44
2:G:57:GLY:N	2:G:290:VAL:O	2.50	0.44
3:K:527:TYR:OH	3:K:1014:VAL:HG22	2.17	0.44
3:K:594:LEU:HA	3:K:652:PHE:CZ	2.52	0.44
3:J:283:GLN:HG2	3:J:284:ASP:OD2	2.17	0.44
3:J:368:LEU:HG	3:J:372:ILE:HD11	1.98	0.44
3:J:530:LEU:CD1	3:J:534:LEU:HD12	2.47	0.44
3:L:3:LEU:HD23	3:L:4:PHE:H	1.81	0.44
3:L:594:LEU:HA	3:L:652:PHE:CZ	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:71:VAL:O	2:E:195:GLY:HA3	2.17	0.44
2:G:344:TRP:HD1	2:G:345:GLN:N	2.15	0.44
2:H:109:GLY:O	2:I:154:ALA:HB1	2.17	0.44
3:J:166:ASN:O	3:J:169:ARG:HG2	2.18	0.44
3:J:369:ILE:HG12	3:J:494:LEU:HB3	1.98	0.44
3:J:491:THR:N	3:J:492:PRO:HD2	2.31	0.44
3:J:888:TYR:OH	3:J:939:ILE:HG13	2.18	0.44
3:J:961:GLU:OE1	3:J:964:ARG:HD3	2.18	0.44
3:J:977:PHE:O	3:J:981:VAL:HG23	2.17	0.44
3:L:343:ILE:O	3:L:347:ILE:HG12	2.17	0.44
1:B:287:ARG:HG2	1:B:289:ASP:OD1	2.17	0.44
2:D:81:GLU:OE1	2:D:81:GLU:N	2.40	0.44
2:D:217:GLN:HE22	2:D:296:GLN:NE2	2.15	0.44
2:H:98:ALA:HB3	2:H:99:PRO:HD3	1.99	0.44
2:I:323:LEU:HB2	2:I:355:LYS:HD2	2.00	0.44
3:K:48:THR:O	3:K:122:VAL:HG22	2.18	0.44
3:K:406:ILE:HB	3:K:933:LEU:HD21	2.00	0.44
3:K:458:LEU:HD22	3:K:872:LEU:HD21	1.99	0.44
3:K:654:ASN:O	3:K:654:ASN:ND2	2.51	0.44
3:K:962:ALA:O	3:K:965:LEU:HD12	2.18	0.44
3:J:882:LEU:HD13	3:J:882:LEU:HA	1.82	0.44
3:J:893:ILE:HD11	3:J:946:LYS:HE3	1.98	0.44
3:L:23:GLY:HA3	3:L:379:LEU:HB3	1.99	0.44
3:L:31:PRO:O	3:L:392:VAL:N	2.40	0.44
3:L:966:ARG:C	3:L:969:PRO:HD2	2.43	0.44
1:A:112:ARG:HA	1:A:112:ARG:NH1	2.33	0.44
1:A:394:LEU:HD11	1:A:449:GLU:HG2	1.98	0.44
1:B:210:ARG:NE	2:G:135:ASP:OD2	2.50	0.44
1:C:117:LEU:HA	1:C:121:GLY:HA3	2.00	0.44
3:K:333:ARG:HD3	3:K:334:PHE:N	2.33	0.44
3:K:500:LYS:HD2	3:K:500:LYS:HA	1.83	0.44
3:L:206:ASN:HD21	3:L:748:THR:HG21	1.82	0.44
3:L:239:LYS:O	3:L:239:LYS:HG3	2.17	0.44
3:L:477:ALA:O	3:L:481:LEU:HD23	2.17	0.44
3:L:601:ARG:HH11	3:L:601:ARG:HA	1.82	0.44
1:B:459:ARG:HH11	1:B:459:ARG:HG2	1.82	0.44
2:F:66:GLU:OE1	2:F:68:ARG:NH2	2.38	0.44
2:G:44:VAL:HB	2:G:353:GLY:H	1.82	0.44
3:K:773:GLN:O	3:K:777:MET:HG2	2.18	0.44
3:J:137:LEU:HD22	3:J:138:LEU:HD22	1.98	0.44
3:J:834:GLY:O	3:J:838:LEU:HD23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:357:ALA:HA	1:A:360:ASP:OD2	2.17	0.44
1:B:311:PHE:HD1	1:B:311:PHE:HA	1.71	0.44
2:D:98:ALA:HB3	2:D:99:PRO:HD3	1.98	0.44
3:K:316:SER:HA	3:K:319:PHE:CD1	2.52	0.44
3:K:342:VAL:HG21	3:K:397:MET:HB3	2.00	0.44
3:J:592:GLY:HA2	3:J:595:GLU:OE2	2.18	0.44
1:A:147:ARG:HG2	1:A:151:GLU:OE1	2.16	0.44
1:A:328:LEU:HA	1:A:331:LEU:HD23	2.00	0.44
2:D:233:LYS:HD2	2:D:233:LYS:HA	1.74	0.44
2:F:307:GLN:HG3	2:F:344:TRP:CD1	2.53	0.44
2:G:216:THR:HG21	3:K:260:SER:HB2	2.00	0.44
2:G:312:ARG:HH21	2:G:344:TRP:HH2	1.65	0.44
3:K:202:ILE:HD11	3:K:785:LEU:HD11	1.99	0.44
3:K:502:ILE:HD12	3:K:502:ILE:O	2.18	0.44
3:J:45:VAL:HB	3:J:90:ILE:HB	2.00	0.44
3:J:300:ASN:O	3:J:304:THR:OG1	2.29	0.44
3:J:465:VAL:HG21	3:J:865:ALA:HB2	2.00	0.44
3:L:370:PRO:O	3:L:374:VAL:HG23	2.18	0.44
3:L:678:ALA:HB1	3:L:680:ARG:HH12	1.83	0.44
1:A:97:ASP:N	1:B:354:ARG:HH22	2.14	0.44
1:B:394:LEU:HD13	1:B:449:GLU:HG2	1.99	0.44
2:E:261:ASP:OD1	2:E:262:ILE:N	2.51	0.44
2:G:39:VAL:HB	2:G:357:ILE:HG23	1.99	0.44
3:K:136:PHE:CZ	3:K:329:TYR:HE2	2.36	0.44
3:J:405:GLY:O	3:J:408:VAL:HG12	2.18	0.44
3:L:4:PHE:O	3:L:8:ARG:HG3	2.18	0.44
3:K:725:LEU:HD22	3:K:803:THR:HG22	1.99	0.44
3:K:955:LEU:HD23	3:K:1022:VAL:HG23	2.00	0.44
3:K:978:MET:HE1	3:K:1007:LEU:HB2	2.00	0.44
3:J:205:VAL:HG23	3:J:264:LEU:HD21	1.99	0.44
3:J:330:ASP:OD1	3:J:332:SER:HB3	2.18	0.44
3:J:797:LEU:HD12	3:J:801:VAL:HG11	2.00	0.44
3:J:822:ARG:H	3:J:822:ARG:HG2	1.69	0.44
3:L:286:LYS:HB2	3:L:286:LYS:HE2	1.29	0.44
3:L:395:MET:CG	3:L:472:PHE:HB2	2.47	0.44
3:L:962:ALA:O	3:L:966:ARG:HG2	2.18	0.44
3:L:966:ARG:O	3:L:970:ILE:HG12	2.17	0.44
3:L:1018:PRO:O	3:L:1022:VAL:HG13	2.17	0.44
2:D:296:GLN:OE1	2:D:296:GLN:HA	2.18	0.43
2:G:285:LEU:HB3	2:H:262:ILE:O	2.18	0.43
2:I:321:MET:HE1	2:I:355:LYS:HD3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:978:MET:HA	3:J:1006:MET:SD	2.58	0.43
3:L:372:ILE:O	3:L:375:PRO:HD2	2.18	0.43
3:L:480:ILE:C	3:L:480:ILE:HD12	2.43	0.43
3:L:881:PHE:HD1	3:L:898:MET:SD	2.41	0.43
1:B:115:ALA:O	1:B:117:LEU:HD23	2.18	0.43
1:B:313:PRO:HG3	1:B:347:LEU:HD13	2.01	0.43
2:D:321:MET:CE	2:D:331:VAL:HG22	2.48	0.43
2:G:344:TRP:CD1	2:G:344:TRP:C	2.96	0.43
3:K:166:ASN:OD1	3:K:166:ASN:N	2.49	0.43
3:K:357:MET:HB3	3:K:367:THR:OG1	2.19	0.43
3:K:978:MET:HA	3:K:1006:MET:HE1	1.98	0.43
3:J:46:THR:OG1	3:J:128:GLN:HB2	2.18	0.43
3:J:302:ILE:HD13	3:J:332:SER:OG	2.18	0.43
3:J:959:ALA:HB2	3:J:1021:PHE:CE2	2.53	0.43
3:L:682:GLN:N	3:L:852:GLY:O	2.25	0.43
1:A:416:LYS:HB2	1:A:429:TYR:CE2	2.53	0.43
1:C:313:PRO:HG3	1:C:347:LEU:HD13	2.00	0.43
2:E:61:PRO:HG2	2:E:64:VAL:HG22	2.00	0.43
2:F:288:MET:HB2	2:G:264:VAL:HG21	2.00	0.43
2:G:335:THR:OG1	2:G:335:THR:O	2.32	0.43
2:H:291:ARG:NH1	3:J:193:GLN:OE1	2.51	0.43
3:K:472:PHE:CE2	3:K:925:VAL:HG21	2.53	0.43
3:K:527:TYR:OH	3:K:1014:VAL:O	2.25	0.43
3:K:893:ILE:O	3:K:897:VAL:HG12	2.18	0.43
3:J:535:VAL:HG23	3:J:536:PRO:HD3	1.99	0.43
3:L:527:TYR:CE2	3:L:1014:VAL:HB	2.52	0.43
3:L:745:ALA:HB1	3:L:785:LEU:HD21	2.01	0.43
1:A:86:ALA:N	1:B:364:VAL:HG11	2.32	0.43
1:A:205:LEU:HD23	1:A:427:LEU:CD2	2.49	0.43
1:C:112:ARG:HD3	1:C:113:LEU:H	1.83	0.43
2:F:244:LEU:HD23	2:F:292:VAL:HG12	2.01	0.43
2:I:321:MET:HE2	2:I:321:MET:C	2.43	0.43
3:K:895:LEU:O	3:K:899:LEU:HG	2.19	0.43
3:K:897:VAL:HG21	3:K:939:ILE:HD12	1.99	0.43
3:J:1023:TRP:CZ2	3:J:1027:LEU:HD12	2.53	0.43
3:L:772:GLU:O	3:L:776:ARG:HG2	2.18	0.43
1:A:285:GLU:OE2	1:A:285:GLU:HA	2.18	0.43
2:E:280:PRO:HG2	2:E:281:GLU:CD	2.43	0.43
3:K:447:ILE:HD11	3:K:939:ILE:HG21	2.00	0.43
3:K:891:TRP:C	3:K:894:PRO:HD2	2.42	0.43
3:J:399:GLY:O	3:J:403:ALA:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:541:VAL:HG11	3:J:1019:ILE:HD13	2.00	0.43
3:L:168:ILE:HD11	3:L:312:LEU:HD12	2.01	0.43
3:L:863:ARG:HD2	3:L:863:ARG:C	2.44	0.43
1:A:418:ARG:HE	1:A:424:ASP:CG	2.26	0.43
2:E:242:LEU:HD21	2:E:257:LEU:HB2	2.01	0.43
2:F:213:ALA:N	2:F:275:GLY:O	2.45	0.43
2:G:281:GLU:HB2	2:G:283:VAL:HG23	2.01	0.43
3:K:797:LEU:HD12	3:K:801:VAL:HG11	2.00	0.43
3:K:857:GLY:O	3:K:861:GLN:HG3	2.18	0.43
3:J:461:MET:HE2	3:J:872:LEU:HD13	2.01	0.43
3:L:186:MET:HB3	3:L:767:VAL:HG22	2.00	0.43
3:L:834:GLY:O	3:L:838:LEU:HG	2.19	0.43
1:A:361:LEU:HB2	1:C:89:ALA:HB1	2.00	0.43
1:B:112:ARG:HD3	1:B:124:GLU:C	2.43	0.43
1:B:139:GLU:OE2	1:B:145:ARG:HD2	2.19	0.43
1:B:199:ARG:NH1	1:B:226:LEU:HD13	2.33	0.43
1:C:130:GLN:HA	1:C:323:SER:O	2.18	0.43
2:F:185:ARG:HD3	2:G:259:PHE:CE1	2.54	0.43
2:G:44:VAL:O	2:G:353:GLY:N	2.52	0.43
2:G:93:PHE:CE2	2:G:202:LEU:HB3	2.54	0.43
3:K:3:LEU:HD23	3:K:4:PHE:H	1.83	0.43
3:K:141:SER:O	3:K:142:LEU:HD23	2.19	0.43
3:K:212:GLN:CD	3:K:251:ILE:HG23	2.44	0.43
3:K:734:THR:HG23	3:L:256:ASN:O	2.17	0.43
3:K:834:GLY:O	3:K:838:LEU:HD23	2.17	0.43
3:K:940:LEU:O	3:K:966:ARG:HG3	2.18	0.43
3:J:582:ALA:HB3	3:J:621:ASN:HB3	2.01	0.43
3:J:687:LEU:H	3:J:687:LEU:HD22	1.83	0.43
3:J:875:LEU:HA	3:J:878:THR:HG22	2.00	0.43
3:L:717:LEU:HB3	3:L:810:VAL:HG13	2.01	0.43
1:B:390:ALA:O	1:B:394:LEU:HG	2.18	0.43
1:C:87:ALA:HA	1:C:90:GLN:OE1	2.19	0.43
1:C:437:PHE:HD1	1:C:437:PHE:HA	1.71	0.43
2:I:62:VAL:HG12	2:I:63:ARG:HG3	2.00	0.43
3:K:140:TYR:CE1	3:K:291:ALA:HB3	2.54	0.43
3:K:835:GLU:HG3	3:K:836:ALA:N	2.33	0.43
3:J:409:ASP:O	3:J:413:VAL:HG13	2.18	0.43
3:J:474:LEU:HD23	3:J:474:LEU:HA	1.72	0.43
3:J:557:MET:HB3	3:J:557:MET:HE3	1.77	0.43
3:J:659:ALA:O	3:J:660:ILE:HD13	2.18	0.43
3:L:1016:PHE:HB3	3:L:1020:PHE:CZ	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:56:PRO:HB3	2:E:289:TYR:OH	2.18	0.43
2:F:115:GLU:HG2	2:F:156:LYS:NZ	2.33	0.43
3:K:136:PHE:O	3:K:136:PHE:CG	2.72	0.43
3:J:621:ASN:OD1	3:J:717:LEU:HD11	2.19	0.43
3:L:188:VAL:HG13	3:L:270:ILE:HD11	2.01	0.43
3:L:610:VAL:HB	3:L:624:ILE:HG22	2.01	0.43
3:L:683:ASP:HA	3:L:851:ILE:HD13	2.01	0.43
1:C:70:ALA:HB1	1:C:171:LEU:HD11	2.01	0.43
2:D:38:GLU:O	2:D:373:ARG:NH2	2.51	0.43
2:E:217:GLN:HA	2:E:217:GLN:OE1	2.18	0.43
2:H:244:LEU:HD23	2:H:292:VAL:HG12	2.01	0.43
2:H:299:ASN:HB3	2:H:302:ALA:HB2	2.01	0.43
2:I:71:VAL:O	2:I:195:GLY:HA3	2.18	0.43
2:I:320:VAL:HG21	2:I:350:LEU:HD11	2.00	0.43
3:K:76:LEU:HD12	3:K:95:GLN:HA	2.01	0.43
3:K:979:LEU:HA	3:K:982:VAL:HG12	2.01	0.43
3:J:122:VAL:O	3:J:126:GLY:N	2.43	0.43
3:J:353:VAL:HG21	3:J:408:VAL:HG21	2.01	0.43
3:J:447:ILE:CD1	3:J:939:ILE:HG21	2.48	0.43
3:J:708:LYS:HD2	3:J:839:GLU:HG2	2.01	0.43
3:L:578:LEU:HD11	3:L:587:THR:CA	2.49	0.43
3:L:679:LEU:HD12	3:L:854:GLU:O	2.19	0.43
3:L:891:TRP:C	3:L:894:PRO:HD2	2.44	0.43
2:G:56:PRO:HB3	2:G:289:TYR:OH	2.19	0.42
2:I:111:LEU:HA	2:I:159:ALA:HB1	2.01	0.42
3:K:185:ALA:N	3:K:273:GLY:O	2.52	0.42
3:K:346:LEU:HD11	3:K:404:ILE:HD13	2.01	0.42
3:K:717:LEU:HB3	3:K:810:VAL:HG13	2.00	0.42
3:K:772:GLU:O	3:K:776:ARG:HG2	2.19	0.42
3:J:64:VAL:O	3:J:67:GLU:HG3	2.19	0.42
3:J:367:THR:O	3:J:370:PRO:HD2	2.20	0.42
3:J:464:SER:HB2	3:J:563:PHE:HZ	1.84	0.42
3:J:679:LEU:HD12	3:J:854:GLU:O	2.18	0.42
3:J:884:LEU:HD23	3:J:884:LEU:HA	1.69	0.42
3:J:911:ALA:HB2	3:J:1004:GLY:HA3	1.99	0.42
3:L:168:ILE:HB	3:L:177:LEU:HD11	1.99	0.42
3:L:352:LEU:HD13	3:L:979:LEU:HB3	2.01	0.42
3:L:682:GLN:NE2	3:L:815:TYR:HD2	2.16	0.42
1:A:287:ARG:O	1:A:290:ILE:HG22	2.18	0.42
1:B:266:ARG:NH2	1:B:270:MET:HE3	2.34	0.42
2:E:43:SER:HA	2:E:354:ASP:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:46:THR:HG22	2:H:303:ILE:HG13	2.01	0.42
2:I:54:GLU:HG2	2:I:293:ARG:HG2	2.00	0.42
3:K:166:ASN:O	3:K:169:ARG:HG2	2.18	0.42
3:K:186:MET:HB3	3:K:767:VAL:HG22	2.00	0.42
3:K:578:LEU:HD11	3:K:587:THR:CA	2.49	0.42
3:J:382:LEU:HD21	3:J:400:MET:CE	2.48	0.42
3:J:592:GLY:O	3:J:595:GLU:HG2	2.20	0.42
3:L:117:ARG:HA	3:L:117:ARG:HD2	1.74	0.42
3:L:346:LEU:CD1	3:L:404:ILE:HD13	2.49	0.42
3:L:378:LEU:HD21	3:L:404:ILE:HD12	2.00	0.42
1:C:246:ASN:O	1:C:249:VAL:HG12	2.19	0.42
2:D:300:GLN:OE1	2:D:300:GLN:HA	2.19	0.42
2:E:242:LEU:N	2:E:255:GLY:O	2.45	0.42
2:H:60:GLU:O	2:H:212:TYR:N	2.44	0.42
3:K:24:LEU:HA	3:K:27:ILE:CD1	2.49	0.42
3:K:444:ILE:HD13	3:K:444:ILE:HA	1.82	0.42
3:K:659:ALA:O	3:K:660:ILE:HD13	2.19	0.42
3:J:42:GLN:NE2	3:J:670:GLY:O	2.53	0.42
3:J:183:GLU:OE2	3:J:765:GLN:NE2	2.52	0.42
3:J:739:PHE:O	3:J:743:SER:OG	2.32	0.42
3:L:58:THR:HG23	3:L:814:ARG:HD2	2.01	0.42
3:L:140:TYR:CE1	3:L:291:ALA:HB3	2.54	0.42
3:L:460:PHE:HD1	3:L:460:PHE:O	2.03	0.42
3:L:694:ALA:HA	3:L:697:ASP:OD2	2.18	0.42
1:A:199:ARG:NH1	1:A:226:LEU:HD13	2.34	0.42
1:B:179:TYR:HD2	1:B:248:LEU:HD21	1.84	0.42
1:B:199:ARG:NE	1:B:434:ARG:HE	2.18	0.42
1:C:112:ARG:CZ	1:C:112:ARG:HA	2.49	0.42
3:K:36:PRO:HD3	3:K:393:ASN:ND2	2.34	0.42
3:K:188:VAL:HG13	3:K:270:ILE:HD11	2.01	0.42
3:K:283:GLN:HG2	3:K:284:ASP:OD2	2.19	0.42
3:K:447:ILE:CG2	3:K:936:LYS:HG3	2.49	0.42
1:A:84:ILE:HD12	1:A:84:ILE:HA	1.91	0.42
1:B:418:ARG:NE	1:B:424:ASP:OD2	2.52	0.42
1:C:63:LEU:HA	1:C:63:LEU:HD23	1.81	0.42
2:E:44:VAL:HG23	2:E:354:ASP:O	2.19	0.42
2:G:60:GLU:HG2	2:G:61:PRO:HD2	2.01	0.42
3:K:239:LYS:O	3:K:239:LYS:HG3	2.19	0.42
3:K:395:MET:SD	3:K:471:GLN:HB2	2.59	0.42
3:K:615:PHE:H	3:K:624:ILE:HD12	1.85	0.42
3:K:655:LEU:HD12	3:K:656:ASP:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:682:GLN:HG3	3:K:818:TYR:HB2	2.01	0.42
3:J:372:ILE:O	3:J:375:PRO:HD2	2.19	0.42
3:L:978:MET:HE2	3:L:1006:MET:SD	2.59	0.42
1:A:196:LEU:O	1:A:200:MET:HG2	2.19	0.42
2:D:336:THR:HB	2:D:344:TRP:CD1	2.55	0.42
2:F:313:SER:OG	2:F:315:ASP:OD1	2.32	0.42
3:K:333:ARG:NH2	3:K:631:ASP:OD1	2.52	0.42
3:K:402:LEU:HD21	3:K:472:PHE:CZ	2.52	0.42
3:K:694:ALA:HA	3:K:697:ASP:OD2	2.20	0.42
3:J:151:ALA:HB3	3:J:287:PRO:HG2	2.02	0.42
3:J:436:ALA:O	3:J:439:GLN:HB2	2.19	0.42
3:J:745:ALA:HB1	3:J:785:LEU:HD21	2.01	0.42
3:J:863:ARG:HD2	3:J:863:ARG:C	2.44	0.42
1:A:112:ARG:HG3	1:A:114:PRO:CD	2.45	0.42
1:B:191:LEU:HD12	1:B:437:PHE:O	2.20	0.42
2:D:285:LEU:HD22	2:E:262:ILE:HD12	2.01	0.42
2:F:231:GLU:HB3	2:F:233:LYS:HG2	2.02	0.42
2:G:251:ILE:HG21	2:G:283:VAL:HG11	2.02	0.42
2:H:323:LEU:HD13	2:H:357:ILE:HD11	2.02	0.42
2:I:319:SER:HB3	2:I:333:GLN:HA	2.02	0.42
3:K:313:THR:O	3:K:316:SER:OG	2.34	0.42
3:K:343:ILE:O	3:K:347:ILE:HG12	2.20	0.42
3:K:443:ALA:HB2	3:K:943:GLU:HG3	2.00	0.42
3:K:655:LEU:HD23	3:K:660:ILE:HG12	2.01	0.42
3:K:982:VAL:CG1	3:K:983:PRO:HD3	2.49	0.42
3:J:421:ILE:HD12	3:J:436:ALA:HB2	2.01	0.42
3:J:562:SER:HB2	3:J:918:PRO:HB2	2.02	0.42
3:L:156:LEU:HD11	3:L:323:VAL:HG21	2.01	0.42
3:L:536:PRO:HG3	3:L:956:ARG:NH2	2.35	0.42
2:G:190:GLU:HB2	2:H:63:ARG:HD3	2.02	0.42
3:J:444:ILE:HD13	3:J:444:ILE:HA	1.85	0.42
3:J:508:GLU:OE1	3:J:508:GLU:N	2.51	0.42
3:J:933:LEU:HD13	3:J:933:LEU:HA	1.80	0.42
3:L:170:ARG:HA	3:L:170:ARG:HD3	1.87	0.42
1:A:177:GLN:HG2	1:A:452:ILE:HG23	2.02	0.42
1:A:374:GLU:OE1	1:C:75:ARG:NE	2.52	0.42
2:D:369:LYS:HE3	2:D:369:LYS:HB3	1.86	0.42
2:E:175:VAL:HG11	2:E:202:LEU:HD12	2.01	0.42
2:F:307:GLN:HB2	2:F:342:SER:O	2.19	0.42
3:K:372:ILE:O	3:K:375:PRO:HD2	2.19	0.42
3:K:696:ARG:CG	3:K:821:ILE:HG21	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:137:LEU:HB3	3:J:138:LEU:HD23	2.02	0.42
3:L:490:PHE:CE2	3:L:494:LEU:HD11	2.55	0.42
3:L:966:ARG:O	3:L:969:PRO:HD2	2.19	0.42
1:B:112:ARG:CZ	1:B:124:GLU:HB3	2.50	0.42
1:C:287:ARG:HG2	1:C:289:ASP:OD1	2.19	0.42
2:F:267:SER:OG	3:K:789:ASN:ND2	2.53	0.42
2:G:96:ASP:HA	2:G:97:PRO:HD3	1.92	0.42
2:G:210:PRO:HG3	2:G:276:GLN:NE2	2.35	0.42
3:K:578:LEU:HD11	3:K:587:THR:HA	2.01	0.42
3:J:465:VAL:HG12	3:J:921:VAL:HG11	2.01	0.42
3:J:578:LEU:HD11	3:J:587:THR:HA	2.02	0.42
3:L:406:ILE:HD13	3:L:480:ILE:HG21	2.02	0.42
1:B:290:ILE:HD13	1:B:290:ILE:HA	1.85	0.41
1:C:394:LEU:HD23	1:C:394:LEU:HA	1.78	0.41
2:G:261:ASP:OD1	2:G:262:ILE:N	2.47	0.41
3:K:137:LEU:N	3:K:293:VAL:O	2.53	0.41
3:K:476:LEU:HD12	3:K:476:LEU:HA	1.90	0.41
3:K:939:ILE:HA	3:K:942:VAL:HG12	2.02	0.41
3:J:22:GLY:O	3:J:26:VAL:HG23	2.20	0.41
3:J:772:GLU:O	3:J:776:ARG:HG2	2.21	0.41
3:J:955:LEU:HD11	3:J:1025:LEU:HB3	2.02	0.41
3:J:979:LEU:HA	3:J:982:VAL:HG12	2.01	0.41
3:J:982:VAL:CG1	3:J:983:PRO:HD3	2.50	0.41
3:L:955:LEU:HD12	3:L:955:LEU:HA	1.80	0.41
1:B:112:ARG:HD3	1:B:125:VAL:HA	2.01	0.41
2:G:56:PRO:HG3	3:K:261:ARG:NH2	2.36	0.41
3:K:170:ARG:NH2	3:J:816:ASN:O	2.53	0.41
3:J:73:LYS:HD2	3:J:74:ASN:N	2.36	0.41
3:J:136:PHE:O	3:J:136:PHE:CG	2.72	0.41
3:J:534:LEU:HD22	3:J:541:VAL:HG21	2.02	0.41
3:L:740:GLU:C	3:L:740:GLU:OE2	2.63	0.41
1:A:179:TYR:HD1	1:A:248:LEU:HD21	1.85	0.41
1:A:350:PHE:HB3	1:C:102:ILE:HD11	2.03	0.41
2:D:208:LEU:H	2:D:208:LEU:HG	1.66	0.41
2:I:259:PHE:CE1	2:I:261:ASP:HA	2.55	0.41
3:K:137:LEU:HB3	3:K:138:LEU:HD23	2.01	0.41
3:J:168:ILE:HB	3:J:177:LEU:HD11	2.01	0.41
3:J:696:ARG:HE	3:J:714:MET:HE2	1.84	0.41
3:J:814:ARG:HH12	3:J:817:GLY:HA2	1.84	0.41
3:L:19:ILE:HD12	3:L:19:ILE:HA	1.81	0.41
3:L:139:ILE:O	3:L:139:ILE:HG13	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:508:GLU:OE1	3:L:508:GLU:N	2.54	0.41
3:L:578:LEU:HD11	3:L:587:THR:HA	2.02	0.41
1:B:296:ARG:NH1	1:B:372:ASP:OD1	2.54	0.41
2:D:41:VAL:HG22	2:D:357:ILE:HD12	2.03	0.41
2:F:87:LYS:HB3	2:F:87:LYS:HE3	1.76	0.41
2:G:369:LYS:HD3	2:G:370:VAL:N	2.35	0.41
3:K:722:GLN:N	3:K:806:GLU:O	2.28	0.41
3:J:102:LEU:HA	3:J:105:VAL:HG22	2.03	0.41
3:J:185:ALA:N	3:J:273:GLY:O	2.53	0.41
3:L:531:ASN:O	3:L:535:VAL:HG13	2.20	0.41
3:L:888:TYR:OH	3:L:939:ILE:HG13	2.20	0.41
2:D:42:LEU:O	2:D:356:VAL:HG12	2.20	0.41
2:F:300:GLN:OE1	2:F:300:GLN:HA	2.19	0.41
2:H:250:ASP:OD2	2:H:250:ASP:N	2.54	0.41
2:I:56:PRO:HG3	3:J:261:ARG:NH2	2.34	0.41
3:K:19:ILE:HA	3:K:19:ILE:HD12	1.83	0.41
3:K:245:PRO:HB3	3:K:270:ILE:HG22	2.03	0.41
3:K:790:ASP:OD1	3:K:790:ASP:C	2.63	0.41
3:J:360:PHE:HE2	3:J:516:PHE:CE2	2.38	0.41
3:L:185:ALA:N	3:L:273:GLY:O	2.54	0.41
2:D:373:ARG:HH21	3:L:654:ASN:HD21	1.68	0.41
2:E:215:PHE:CE2	2:E:273:LEU:HB2	2.55	0.41
2:E:322:LEU:HD23	2:E:322:LEU:H	1.85	0.41
2:G:45:LYS:HE3	2:G:45:LYS:HB3	1.86	0.41
2:H:222:ALA:HB1	2:H:226:ARG:HH22	1.86	0.41
2:I:58:ARG:HA	2:I:288:MET:O	2.21	0.41
3:J:231:GLU:HG3	3:J:232:LEU:HD22	2.03	0.41
3:J:392:VAL:HG13	3:J:397:MET:CE	2.51	0.41
3:J:500:LYS:HD3	3:J:500:LYS:HA	1.95	0.41
3:J:546:LEU:HA	3:J:549:VAL:HG12	2.03	0.41
3:L:396:THR:C	3:L:397:MET:HE2	2.46	0.41
3:L:982:VAL:CG1	3:L:983:PRO:HD3	2.49	0.41
1:A:166:ALA:HA	1:A:169:ILE:HG22	2.02	0.41
1:B:108:GLY:HA2	1:B:129:TYR:HA	2.02	0.41
1:B:132:GLY:HA3	1:B:322:GLY:HA3	2.02	0.41
1:B:334:GLY:HA2	1:B:337:ARG:NH2	2.36	0.41
1:B:394:LEU:CD1	1:B:449:GLU:HG2	2.50	0.41
2:G:321:MET:HE2	2:G:361:LEU:HD22	2.03	0.41
2:H:41:VAL:HG21	2:H:372:PRO:HB3	2.03	0.41
3:K:70:ASN:ND2	3:L:169:ARG:HD3	2.36	0.41
3:K:882:LEU:HD13	3:K:882:LEU:HA	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:1018:PRO:O	3:K:1022:VAL:HG12	2.21	0.41
3:J:790:ASP:OD1	3:J:791:SER:N	2.54	0.41
3:L:1:MET:HE2	3:L:1:MET:N	2.36	0.41
3:L:79:GLU:HG2	3:L:815:TYR:CD1	2.55	0.41
3:L:138:LEU:HD12	3:L:139:ILE:C	2.45	0.41
3:L:348:GLU:O	3:L:351:VAL:HG12	2.21	0.41
1:A:304:ILE:HD12	1:A:363:GLU:HA	2.02	0.41
1:B:360:ASP:HA	1:B:363:GLU:HG2	2.03	0.41
1:C:87:ALA:HB1	1:C:157:TYR:HA	2.03	0.41
2:G:244:LEU:HB2	2:G:277:PHE:CE1	2.56	0.41
3:K:24:LEU:HA	3:K:27:ILE:HD12	2.02	0.41
3:K:370:PRO:O	3:K:374:VAL:HG23	2.20	0.41
3:K:491:THR:N	3:K:492:PRO:HD2	2.35	0.41
3:J:6:ILE:HD13	3:J:6:ILE:HA	1.87	0.41
3:J:402:LEU:HD21	3:J:472:PHE:CZ	2.55	0.41
3:J:740:GLU:OE2	3:J:740:GLU:C	2.64	0.41
3:J:955:LEU:HD21	3:J:1025:LEU:HD23	2.03	0.41
3:L:122:VAL:O	3:L:126:GLY:N	2.42	0.41
3:L:659:ALA:O	3:L:660:ILE:HD13	2.20	0.41
1:C:144:GLY:O	1:C:148:ASN:N	2.42	0.41
2:D:304:LEU:HD13	2:D:340:GLN:OE1	2.21	0.41
2:E:38:GLU:HA	2:E:371:ILE:O	2.20	0.41
2:E:320:VAL:HG21	2:E:350:LEU:HD21	2.03	0.41
2:F:323:LEU:HB3	2:F:355:LYS:HB2	2.02	0.41
2:G:37:ARG:CZ	2:G:38:GLU:H	2.34	0.41
2:H:66:GLU:OE1	2:H:68:ARG:NH2	2.42	0.41
2:I:84:ALA:O	2:I:183:ILE:HG22	2.20	0.41
3:K:183:GLU:OE2	3:K:184:ALA:N	2.44	0.41
3:K:409:ASP:O	3:K:413:VAL:HG13	2.21	0.41
3:K:414:VAL:HG11	3:K:491:THR:HG22	2.03	0.41
3:K:417:ASN:ND2	3:K:436:ALA:HB1	2.35	0.41
3:K:508:GLU:OE1	3:K:508:GLU:N	2.54	0.41
3:K:666:PRO:HA	3:K:667:PRO:HD3	1.97	0.41
3:K:679:LEU:HD22	3:K:840:LEU:HD22	2.02	0.41
3:K:901:VAL:HG22	3:K:902:PRO:HD3	2.02	0.41
3:K:907:GLY:O	3:K:910:LEU:HG	2.21	0.41
3:K:1016:PHE:HB3	3:K:1020:PHE:CE2	2.56	0.41
3:J:523:LEU:HD12	3:J:523:LEU:HA	1.92	0.41
3:J:715:GLU:OE2	3:J:822:ARG:HB2	2.20	0.41
3:J:949:TRP:HH2	3:J:1030:THR:HG22	1.86	0.41
3:J:966:ARG:O	3:J:970:ILE:HG12	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:212:GLN:CD	3:L:251:ILE:HG23	2.45	0.41
3:L:447:ILE:HG23	3:L:936:LYS:HG3	2.02	0.41
3:L:546:LEU:HA	3:L:549:VAL:HG12	2.03	0.41
3:L:773:GLN:O	3:L:777:MET:HG2	2.20	0.41
3:L:901:VAL:HG22	3:L:902:PRO:HD3	2.03	0.41
3:L:959:ALA:HB2	3:L:1021:PHE:CE2	2.56	0.41
3:J:284:ASP:CG	3:J:606:THR:HG1	2.29	0.41
3:J:360:PHE:O	3:J:362:GLN:HG3	2.21	0.41
3:J:921:VAL:O	3:J:925:VAL:HG12	2.21	0.41
3:L:136:PHE:O	3:L:136:PHE:CG	2.73	0.41
3:L:548:VAL:HG13	3:L:906:LEU:HG	2.04	0.41
2:E:244:LEU:HB2	2:E:277:PHE:CE1	2.56	0.40
2:H:84:ALA:O	2:H:183:ILE:HG22	2.20	0.40
2:H:317:GLN:NE2	2:H:333:GLN:HB3	2.36	0.40
3:K:395:MET:HA	3:K:398:PHE:CD2	2.56	0.40
3:K:546:LEU:HA	3:K:549:VAL:CG1	2.51	0.40
3:K:693:LEU:HD13	3:K:693:LEU:HA	1.92	0.40
3:K:873:PHE:HE2	3:K:924:LYS:NZ	2.18	0.40
3:K:922:TYR:HB3	3:K:998:LEU:HD13	2.03	0.40
3:J:311:ARG:HA	3:J:311:ARG:HD2	1.91	0.40
3:J:955:LEU:HD23	3:J:955:LEU:HA	1.81	0.40
3:L:66:GLU:OE2	3:L:80:SER:OG	2.32	0.40
1:A:246:ASN:HA	1:A:249:VAL:HG12	2.03	0.40
1:A:430:LEU:HA	1:A:430:LEU:HD23	1.82	0.40
1:B:200:MET:HE3	1:B:200:MET:HB3	1.87	0.40
2:E:251:ILE:HG21	2:E:283:VAL:HG11	2.03	0.40
3:K:346:LEU:HD13	3:K:346:LEU:HA	1.93	0.40
3:K:678:ALA:HB1	3:K:680:ARG:HH12	1.86	0.40
3:K:752:SER:HB3	3:K:770:GLN:CD	2.46	0.40
3:K:885:VAL:HG13	3:L:14:VAL:HG21	2.03	0.40
3:K:930:VAL:HG11	3:K:1005:GLY:HA3	2.03	0.40
3:J:232:LEU:HD13	3:J:232:LEU:HA	1.82	0.40
3:L:251:ILE:HB	3:L:264:LEU:HB2	2.02	0.40
3:L:655:LEU:HD23	3:L:660:ILE:HG12	2.03	0.40
1:C:351:ALA:HB1	1:C:355:ASN:H	1.86	0.40
2:D:305:VAL:HG22	2:D:346:ILE:HD13	2.02	0.40
2:E:325:GLU:H	2:E:325:GLU:CD	2.28	0.40
2:G:308:ARG:NH1	2:G:358:THR:O	2.55	0.40
2:H:49:PHE:HB3	2:H:302:ALA:CB	2.52	0.40
2:I:44:VAL:HG23	2:I:354:ASP:O	2.21	0.40
3:K:790:ASP:OD1	3:K:791:SER:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:342:VAL:HG21	3:J:397:MET:HB3	2.03	0.40
3:J:544:ILE:HD13	3:J:544:ILE:HA	1.94	0.40
3:J:981:VAL:HG13	3:J:984:LEU:HD12	2.02	0.40
3:L:183:GLU:CD	3:L:184:ALA:H	2.26	0.40
3:L:474:LEU:HD23	3:L:474:LEU:HA	1.77	0.40
1:A:196:LEU:HD11	1:A:231:ARG:HG3	2.03	0.40
2:E:220:ALA:HA	2:E:223:LEU:HD12	2.02	0.40
2:E:305:VAL:HG12	2:E:346:ILE:CD1	2.42	0.40
2:E:323:LEU:HD11	2:E:327:ASP:HA	2.02	0.40
2:G:89:GLY:O	2:G:176:ARG:NH1	2.42	0.40
2:I:76:LEU:N	2:I:94:GLN:O	2.50	0.40
3:K:14:VAL:HG21	3:J:885:VAL:HG13	2.02	0.40
3:K:58:THR:HG23	3:K:814:ARG:HD2	2.03	0.40
3:K:407:LEU:HG	3:K:483:SER:HB2	2.04	0.40
3:K:447:ILE:HG23	3:K:936:LYS:HG3	2.03	0.40
3:K:740:GLU:C	3:K:740:GLU:OE1	2.64	0.40
3:K:863:ARG:HD2	3:K:863:ARG:C	2.46	0.40
3:J:6:ILE:HD11	3:J:433:THR:HG21	2.03	0.40
3:J:448:THR:O	3:J:452:SER:HB3	2.21	0.40
3:L:6:ILE:HD13	3:L:6:ILE:HA	1.94	0.40
3:L:320:PRO:HB2	3:L:323:VAL:HG12	2.02	0.40
3:L:459:ALA:HB1	3:L:470:GLN:OE1	2.21	0.40
3:L:480:ILE:HD12	3:L:481:LEU:N	2.36	0.40
3:L:515:TRP:O	3:L:515:TRP:HD1	2.04	0.40
1:A:73:ASN:O	1:A:75:ARG:NH1	2.54	0.40
1:A:341:PHE:C	1:A:341:PHE:CD1	2.99	0.40
1:C:172:VAL:O	1:C:176:ILE:HD12	2.22	0.40
2:F:190:GLU:HB2	2:G:63:ARG:HD3	2.03	0.40
2:H:239:ASP:OD2	2:H:239:ASP:N	2.53	0.40
3:K:39:ALA:HB2	3:K:669:GLU:O	2.22	0.40
3:K:180:PHE:HD1	3:K:180:PHE:HA	1.80	0.40
3:K:663:VAL:HG11	3:K:674:SER:HB2	2.03	0.40
3:K:984:LEU:HD23	3:K:984:LEU:HA	1.89	0.40
3:J:678:ALA:HB1	3:J:680:ARG:HH12	1.87	0.40
3:J:682:GLN:N	3:J:852:GLY:O	2.54	0.40
3:J:752:SER:HB3	3:J:770:GLN:CD	2.47	0.40
3:J:778:THR:HG22	3:J:780:GLU:N	2.35	0.40
3:L:30:LEU:HG	3:L:32:VAL:HG13	2.03	0.40
3:L:412:ILE:HD12	3:L:972:MET:HG3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	400/483 (83%)	392 (98%)	8 (2%)	0	100	100
1	B	400/483 (83%)	390 (98%)	10 (2%)	0	100	100
1	C	400/483 (83%)	393 (98%)	7 (2%)	0	100	100
2	D	336/395 (85%)	332 (99%)	4 (1%)	0	100	100
2	E	336/395 (85%)	330 (98%)	6 (2%)	0	100	100
2	F	336/395 (85%)	331 (98%)	5 (2%)	0	100	100
2	G	336/395 (85%)	327 (97%)	9 (3%)	0	100	100
2	H	336/395 (85%)	332 (99%)	4 (1%)	0	100	100
2	I	336/395 (85%)	328 (98%)	8 (2%)	0	100	100
3	J	1030/1044 (99%)	993 (96%)	36 (4%)	1 (0%)	48	81
3	K	1030/1044 (99%)	994 (96%)	35 (3%)	1 (0%)	48	81
3	L	1030/1044 (99%)	989 (96%)	40 (4%)	1 (0%)	48	81
All	All	6306/6951 (91%)	6131 (97%)	172 (3%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	L	752	SER
3	K	752	SER
3	J	752	SER

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	310/368 (84%)	304 (98%)	6 (2%)	52	79
1	B	310/368 (84%)	300 (97%)	10 (3%)	34	67
1	C	310/368 (84%)	303 (98%)	7 (2%)	45	75
2	D	259/308 (84%)	254 (98%)	5 (2%)	52	79
2	E	259/308 (84%)	256 (99%)	3 (1%)	67	86
2	F	259/308 (84%)	256 (99%)	3 (1%)	67	86
2	G	259/308 (84%)	252 (97%)	7 (3%)	40	71
2	H	259/308 (84%)	254 (98%)	5 (2%)	52	79
2	I	259/308 (84%)	256 (99%)	3 (1%)	67	86
3	J	828/839 (99%)	789 (95%)	39 (5%)	22	56
3	K	828/839 (99%)	779 (94%)	49 (6%)	16	47
3	L	828/839 (99%)	781 (94%)	47 (6%)	17	49
All	All	4968/5469 (91%)	4784 (96%)	184 (4%)	31	63

All (184) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	208	GLN
1	A	254	THR
1	A	261	LEU
1	A	287	ARG
1	A	331	LEU
1	A	361	LEU
1	B	77	LEU
1	B	126	THR
1	B	249	VAL
1	B	261	LEU
1	B	264	THR
1	B	304	ILE
1	B	311	PHE
1	B	316	SER
1	B	317	LEU
1	B	331	LEU
1	C	90	GLN
1	C	208	GLN
1	C	261	LEU
1	C	264	THR
1	C	304	ILE
1	C	314	ARG

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Mol	Chain	Res	Type
1	C	361	LEU
2	D	208	LEU
2	D	262	ILE
2	D	283	VAL
2	D	320	VAL
2	D	344	TRP
2	E	163	VAL
2	E	223	LEU
2	E	371	ILE
2	F	208	LEU
2	F	283	VAL
2	F	294	THR
2	G	79	THR
2	G	163	VAL
2	G	226	ARG
2	G	231	GLU
2	G	239	ASP
2	G	311	GLN
2	G	347	SER
2	H	208	LEU
2	H	239	ASP
2	H	250	ASP
2	H	283	VAL
2	H	294	THR
2	I	163	VAL
2	I	239	ASP
2	I	311	GLN
3	K	8	ARG
3	K	38	VAL
3	K	43	ILE
3	K	60	SER
3	K	91	THR
3	K	125	LEU
3	K	171	LEU
3	K	205	VAL
3	K	227	SER
3	K	228	SER
3	K	232	LEU
3	K	246	GLU
3	K	272	VAL
3	K	312	LEU
3	K	322	ASN

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Mol	Chain	Res	Type
3	K	327	VAL
3	K	350	MET
3	K	351	VAL
3	K	383	THR
3	K	384	PHE
3	K	387	LEU
3	K	408	VAL
3	K	409	ASP
3	K	418	VAL
3	K	440	VAL
3	K	450	VAL
3	K	465	VAL
3	K	506	HIS
3	K	507	HIS
3	K	546	LEU
3	K	596	SER
3	K	682	GLN
3	K	683	ASP
3	K	684	ARG
3	K	693	LEU
3	K	743	SER
3	K	781	SER
3	K	832	SER
3	K	854	GLU
3	K	880	VAL
3	K	884	LEU
3	K	885	VAL
3	K	903	VAL
3	K	906	LEU
3	K	925	VAL
3	K	933	LEU
3	K	943	GLU
3	K	977	PHE
3	K	998	LEU
3	J	8	ARG
3	J	17	LEU
3	J	18	PHE
3	J	19	ILE
3	J	38	VAL
3	J	60	SER
3	J	64	VAL
3	J	91	THR

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Mol	Chain	Res	Type
3	J	137	LEU
3	J	166	ASN
3	J	177	LEU
3	J	224	THR
3	J	228	SER
3	J	232	LEU
3	J	312	LEU
3	J	321	ASP
3	J	322	ASN
3	J	327	VAL
3	J	383	THR
3	J	387	LEU
3	J	409	ASP
3	J	444	ILE
3	J	465	VAL
3	J	507	HIS
3	J	510	THR
3	J	546	LEU
3	J	551	LEU
3	J	559	LEU
3	J	607	THR
3	J	726	VAL
3	J	743	SER
3	J	778	THR
3	J	781	SER
3	J	783	LEU
3	J	885	VAL
3	J	906	LEU
3	J	931	ILE
3	J	933	LEU
3	J	1003	LEU
3	L	38	VAL
3	L	43	ILE
3	L	60	SER
3	L	62	THR
3	L	64	VAL
3	L	91	THR
3	L	125	LEU
3	L	177	LEU
3	L	224	THR
3	L	228	SER
3	L	232	LEU

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Mol	Chain	Res	Type
3	L	294	GLN
3	L	327	VAL
3	L	350	MET
3	L	351	VAL
3	L	383	THR
3	L	387	LEU
3	L	408	VAL
3	L	409	ASP
3	L	422	MET
3	L	440	VAL
3	L	445	ILE
3	L	451	LEU
3	L	530	LEU
3	L	531	ASN
3	L	546	LEU
3	L	607	THR
3	L	618	MET
3	L	687	LEU
3	L	713	MET
3	L	714	MET
3	L	743	SER
3	L	781	SER
3	L	783	LEU
3	L	862	GLU
3	L	864	VAL
3	L	875	LEU
3	L	885	VAL
3	L	887	LEU
3	L	903	VAL
3	L	906	LEU
3	L	933	LEU
3	L	977	PHE
3	L	982	VAL
3	L	986	ILE
3	L	1003	LEU
3	L	1008	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (42) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	94	GLN
1	A	103	ASN

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Mol	Chain	Res	Type
1	A	221	GLN
1	B	105	ASN
1	B	109	ASN
1	C	73	ASN
1	C	208	GLN
1	C	221	GLN
1	C	402	GLN
1	C	440	GLN
2	D	140	GLN
2	D	217	GLN
2	D	317	GLN
2	E	276	GLN
2	E	311	GLN
2	F	217	GLN
2	G	276	GLN
2	G	333	GLN
2	H	299	ASN
2	H	301	ASN
2	H	307	GLN
2	I	120	GLN
2	I	307	GLN
3	K	206	ASN
3	K	213	ASN
3	K	507	HIS
3	K	704	ASN
3	K	773	GLN
3	K	811	GLN
3	K	995	GLN
3	J	74	ASN
3	J	109	ASN
3	J	206	ASN
3	J	773	GLN
3	J	995	GLN
3	L	83	ASN
3	L	109	ASN
3	L	128	GLN
3	L	206	ASN
3	L	651	HIS
3	L	773	GLN
3	L	995	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)

3 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	A1EAN	J	1101	-	19,19,19	3.28	4 (21%)	25,25,25	1.25	3 (12%)
4	A1EAN	L	1101	-	19,19,19	3.27	4 (21%)	25,25,25	1.26	3 (12%)
4	A1EAN	K	1101	-	19,19,19	3.27	4 (21%)	25,25,25	1.21	3 (12%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	A1EAN	J	1101	-	-	4/4/12/12	0/3/3/3
4	A1EAN	L	1101	-	-	4/4/12/12	0/3/3/3
4	A1EAN	K	1101	-	-	4/4/12/12	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	K	1101	A1EAN	C07-N03	-12.35	1.23	1.47
4	J	1101	A1EAN	C07-N03	-12.34	1.23	1.47
4	L	1101	A1EAN	C07-N03	-12.30	1.23	1.47
4	J	1101	A1EAN	C17-C12	-4.23	1.35	1.43
4	L	1101	A1EAN	C17-C12	-4.21	1.35	1.43
4	K	1101	A1EAN	C17-C12	-4.13	1.35	1.43
4	J	1101	A1EAN	C15-C16	2.67	1.42	1.36
4	K	1101	A1EAN	C15-C16	2.62	1.42	1.36
4	L	1101	A1EAN	C15-C16	2.62	1.42	1.36
4	J	1101	A1EAN	C13-C12	2.14	1.47	1.41
4	L	1101	A1EAN	C13-C12	2.09	1.47	1.41
4	K	1101	A1EAN	C13-C12	2.09	1.47	1.41

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	J	1101	A1EAN	C01-C02-N03	3.36	115.76	110.94
4	L	1101	A1EAN	C01-C02-N03	3.29	115.66	110.94
4	K	1101	A1EAN	C08-C07-N03	-3.22	109.55	114.14
4	J	1101	A1EAN	C08-C07-N03	-3.09	109.74	114.14
4	L	1101	A1EAN	C08-C07-N03	-3.05	109.80	114.14
4	K	1101	A1EAN	C01-C02-N03	2.91	115.12	110.94
4	L	1101	A1EAN	C04-N03-C02	2.63	114.74	108.83
4	J	1101	A1EAN	C04-N03-C02	2.51	114.48	108.83
4	K	1101	A1EAN	C04-N03-C02	2.50	114.46	108.83

There are no chirality outliers.

All (12) torsion outliers are listed below:

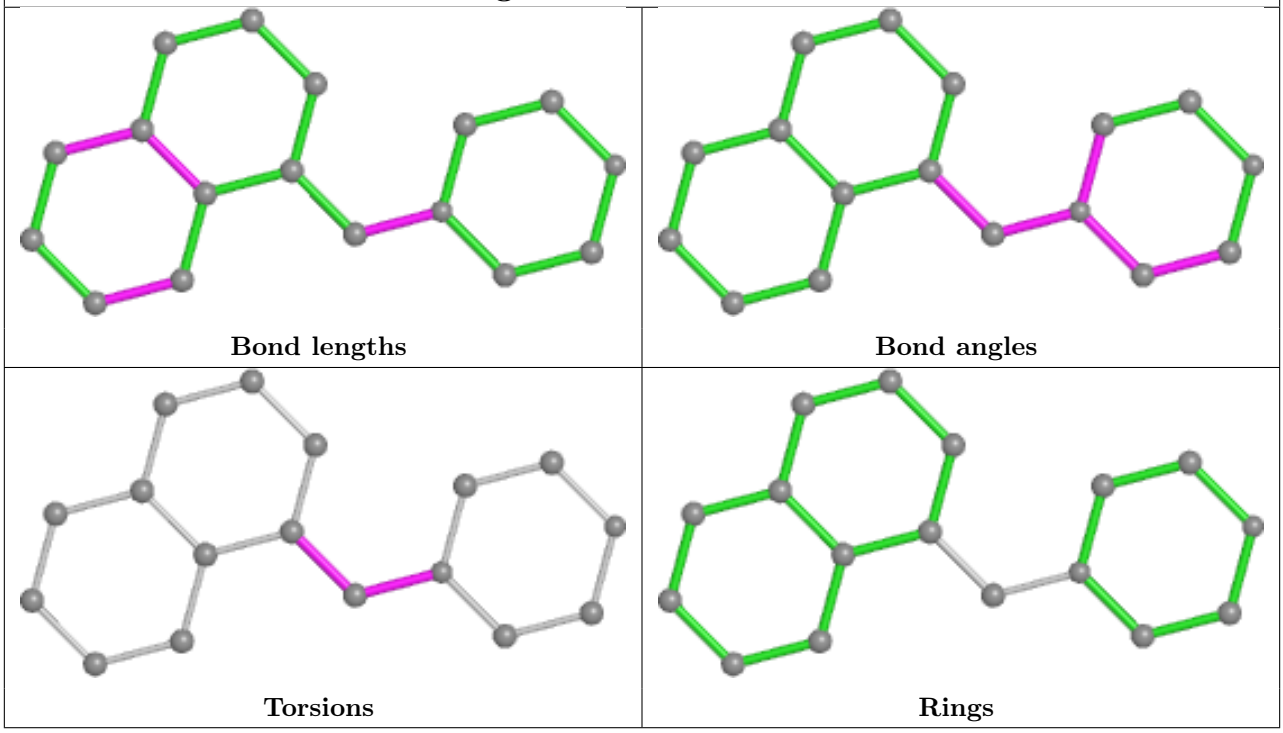
Mol	Chain	Res	Type	Atoms
4	L	1101	A1EAN	C08-C07-N03-C02
4	K	1101	A1EAN	C08-C07-N03-C02
4	K	1101	A1EAN	C08-C07-N03-C04
4	J	1101	A1EAN	C08-C07-N03-C02
4	J	1101	A1EAN	C08-C07-N03-C04
4	L	1101	A1EAN	C08-C07-N03-C04
4	J	1101	A1EAN	N03-C07-C08-C17
4	L	1101	A1EAN	N03-C07-C08-C17
4	K	1101	A1EAN	N03-C07-C08-C17
4	L	1101	A1EAN	N03-C07-C08-C09
4	J	1101	A1EAN	N03-C07-C08-C09
4	K	1101	A1EAN	N03-C07-C08-C09

There are no ring outliers.

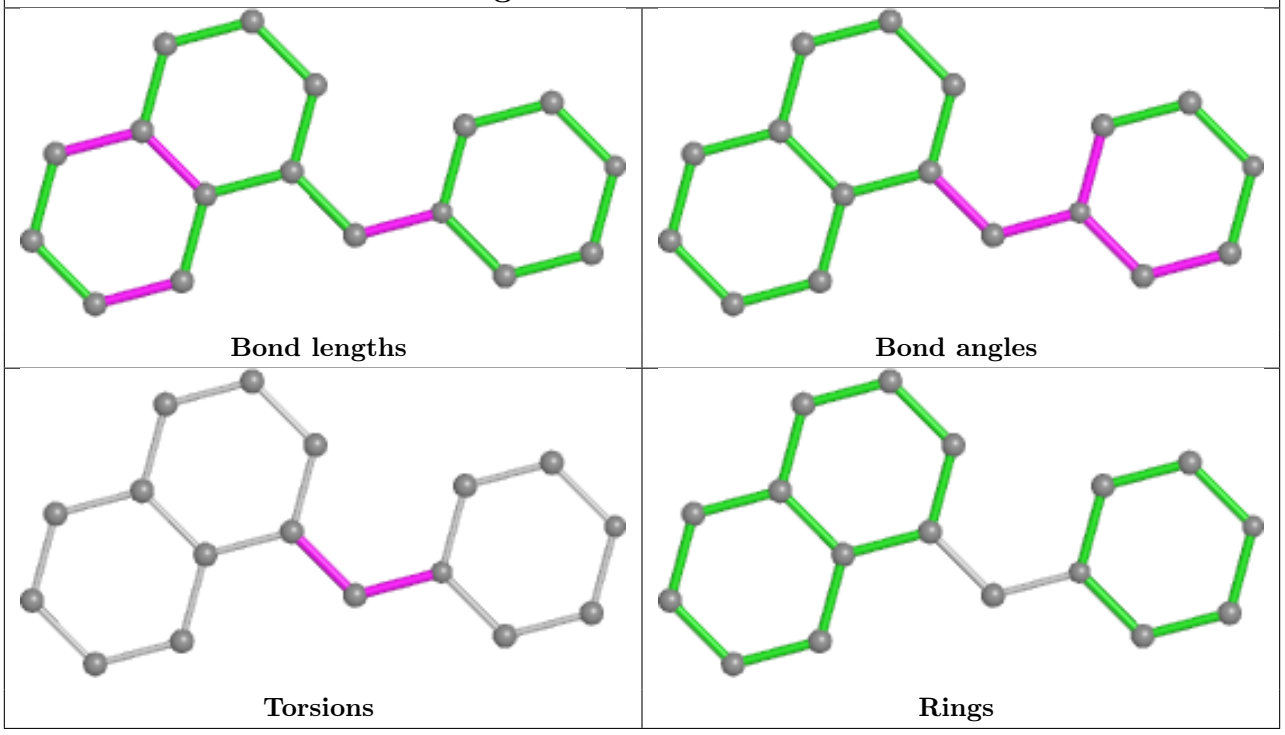
No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

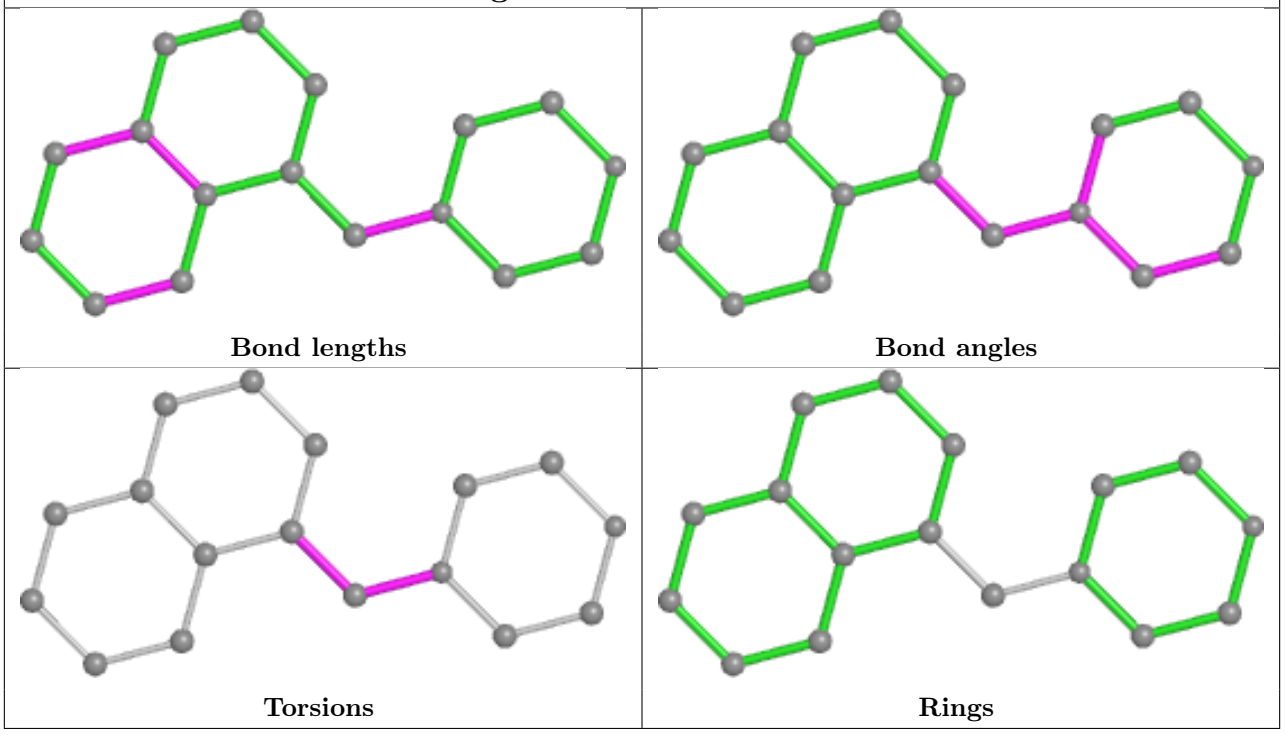
Ligand A1EAN J 1101



Ligand A1EAN L 1101



Ligand A1EAN K 1101



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.

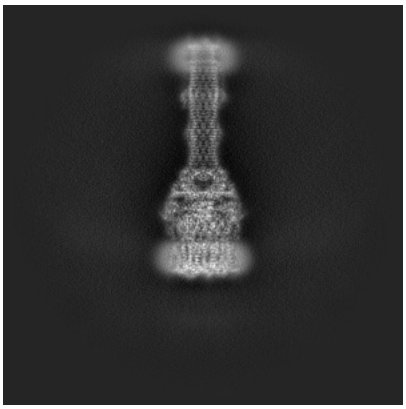
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-61115. These allow visual inspection of the internal detail of the map and identification of artifacts.

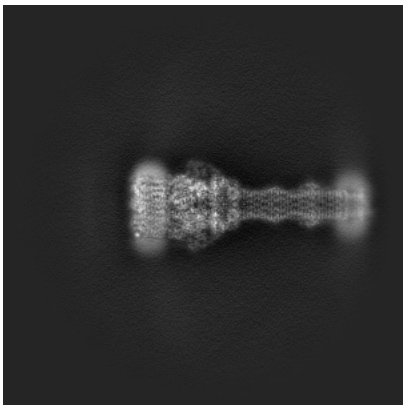
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

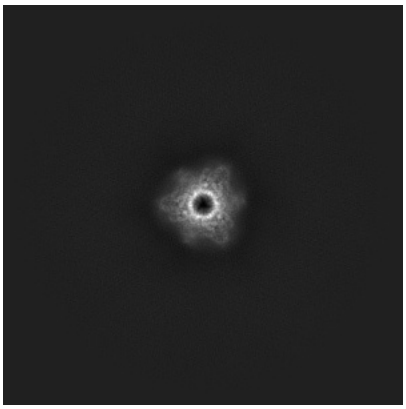
6.1.1 Primary map



X

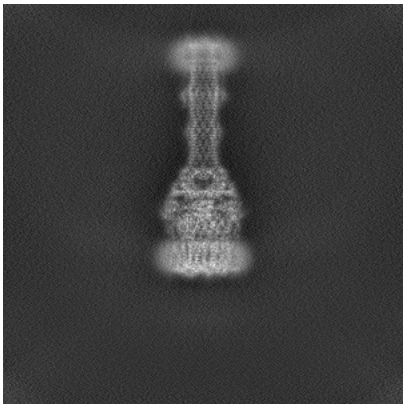


Y

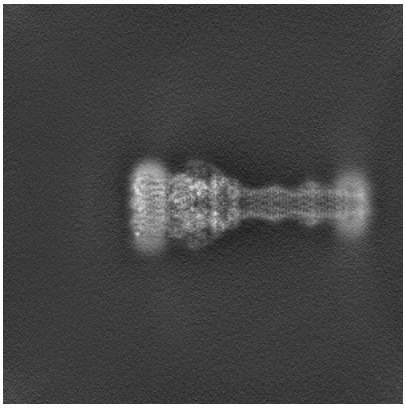


Z

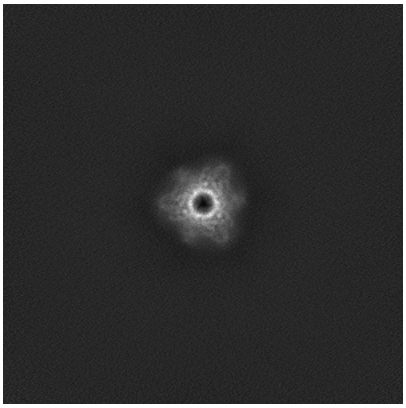
6.1.2 Raw map



X



Y

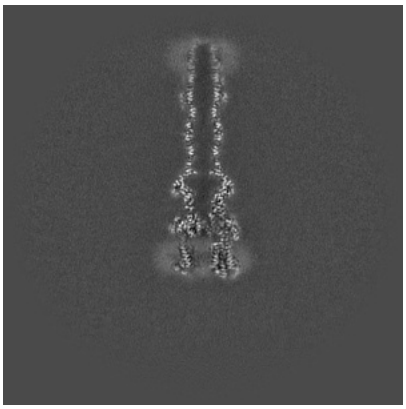


Z

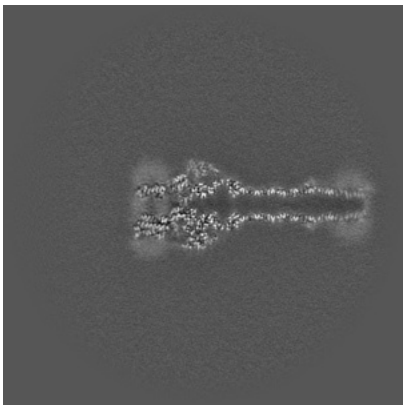
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

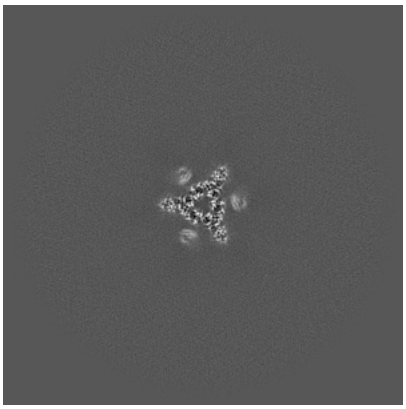
6.2.1 Primary map



X Index: 300

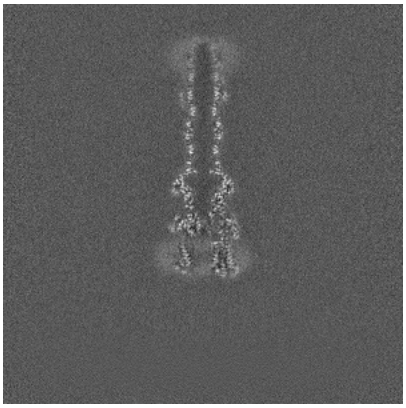


Y Index: 300

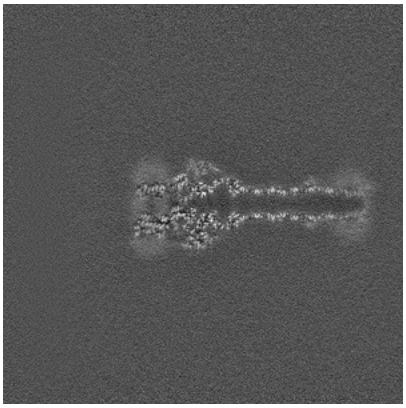


Z Index: 300

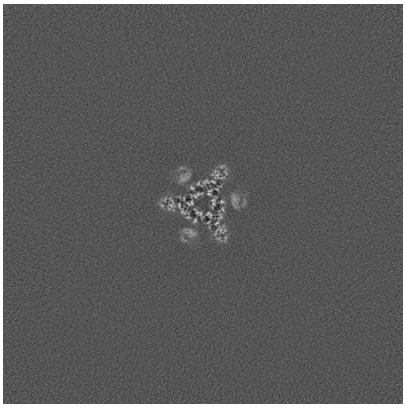
6.2.2 Raw map



X Index: 300



Y Index: 300

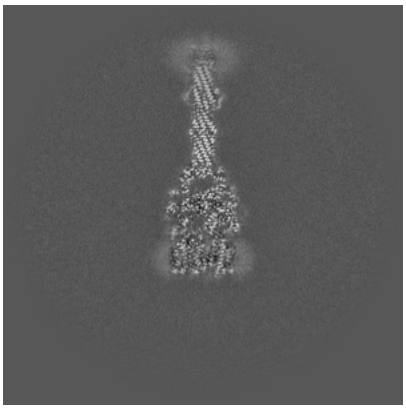


Z Index: 300

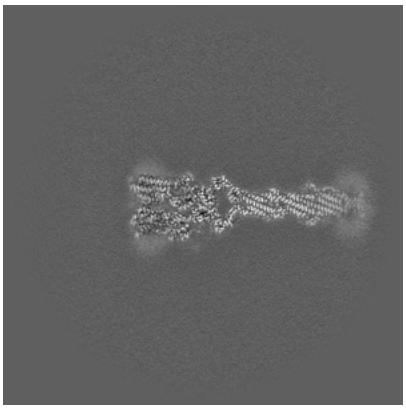
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

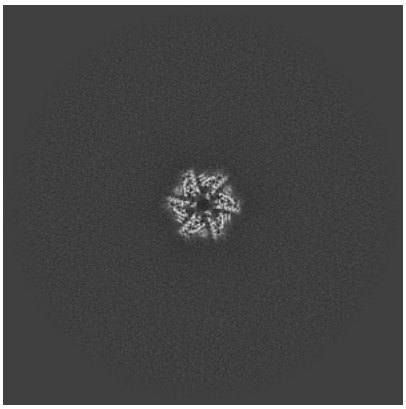
6.3.1 Primary map



X Index: 318

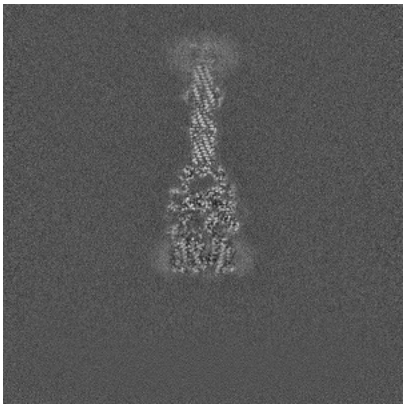


Y Index: 283

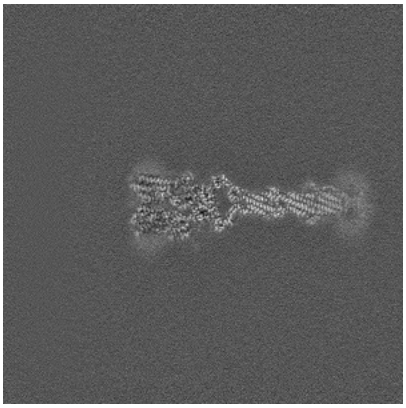


Z Index: 318

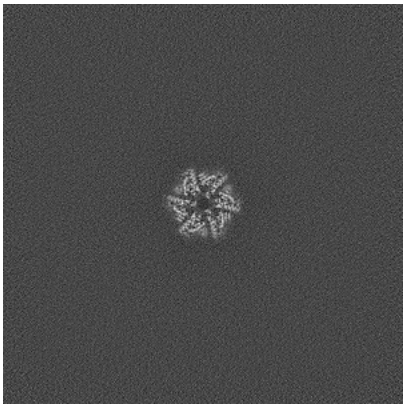
6.3.2 Raw map



X Index: 317



Y Index: 283

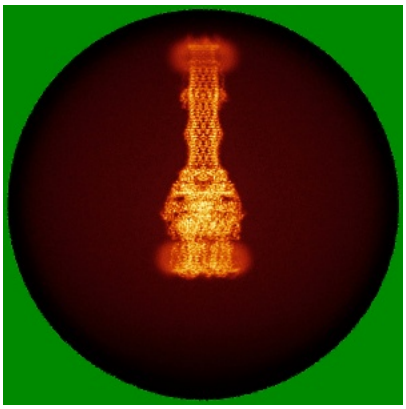


Z Index: 318

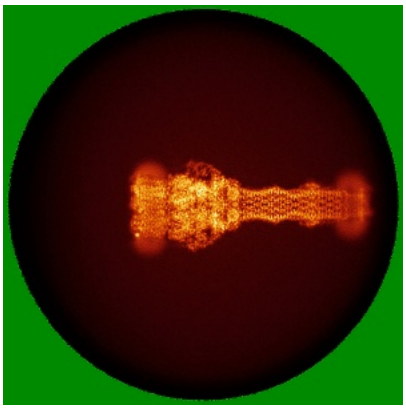
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

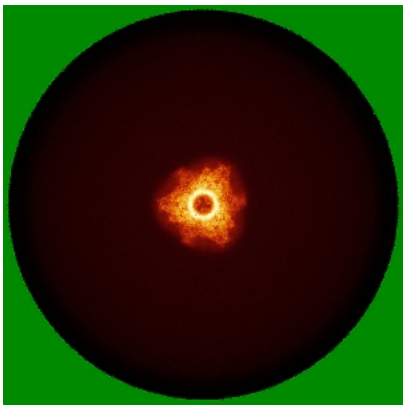
6.4.1 Primary map



X

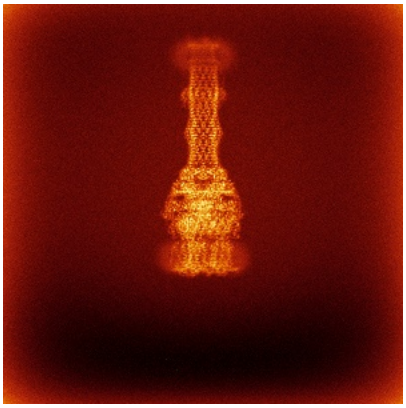


Y

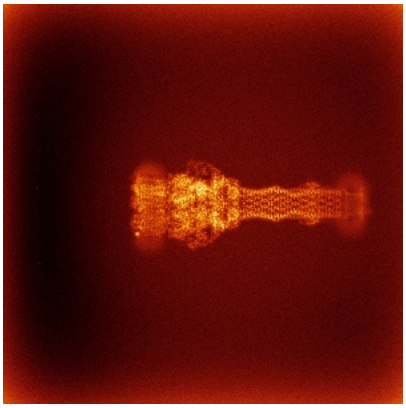


Z

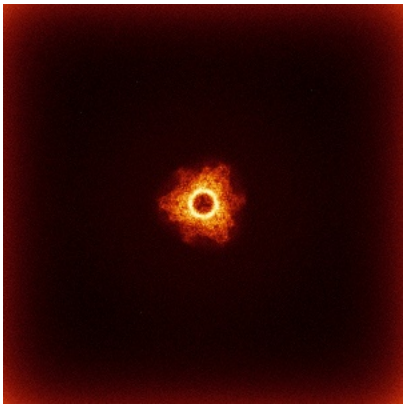
6.4.2 Raw map



X



Y

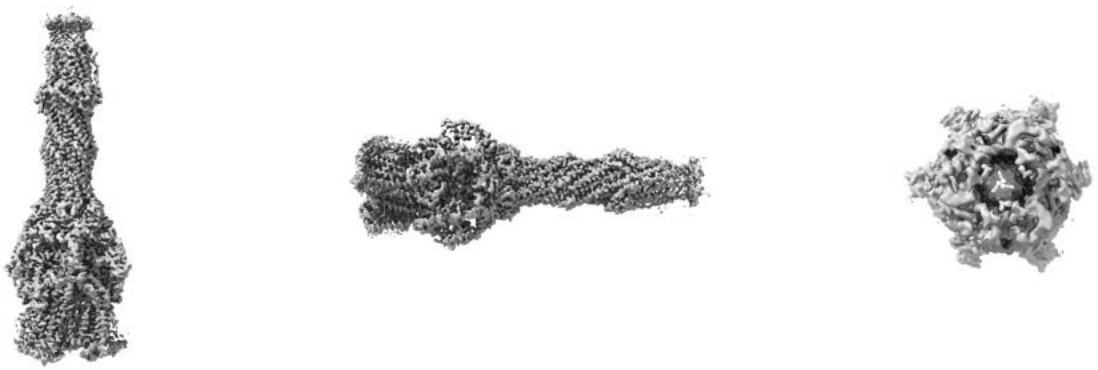


Z

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

6.5.2 Raw map

X Y Z

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

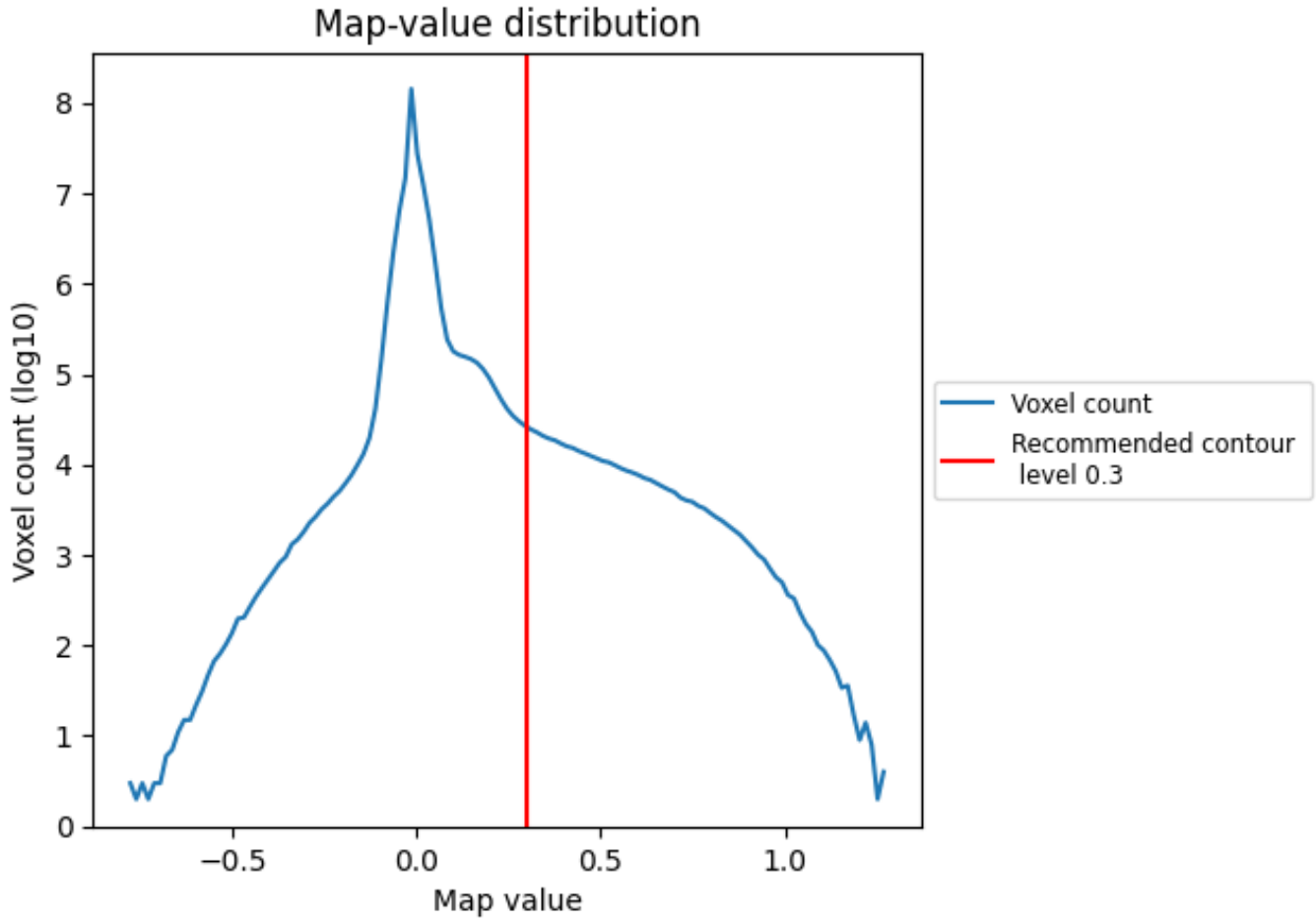
6.6 Mask visualisation (i)

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

7 Map analysis

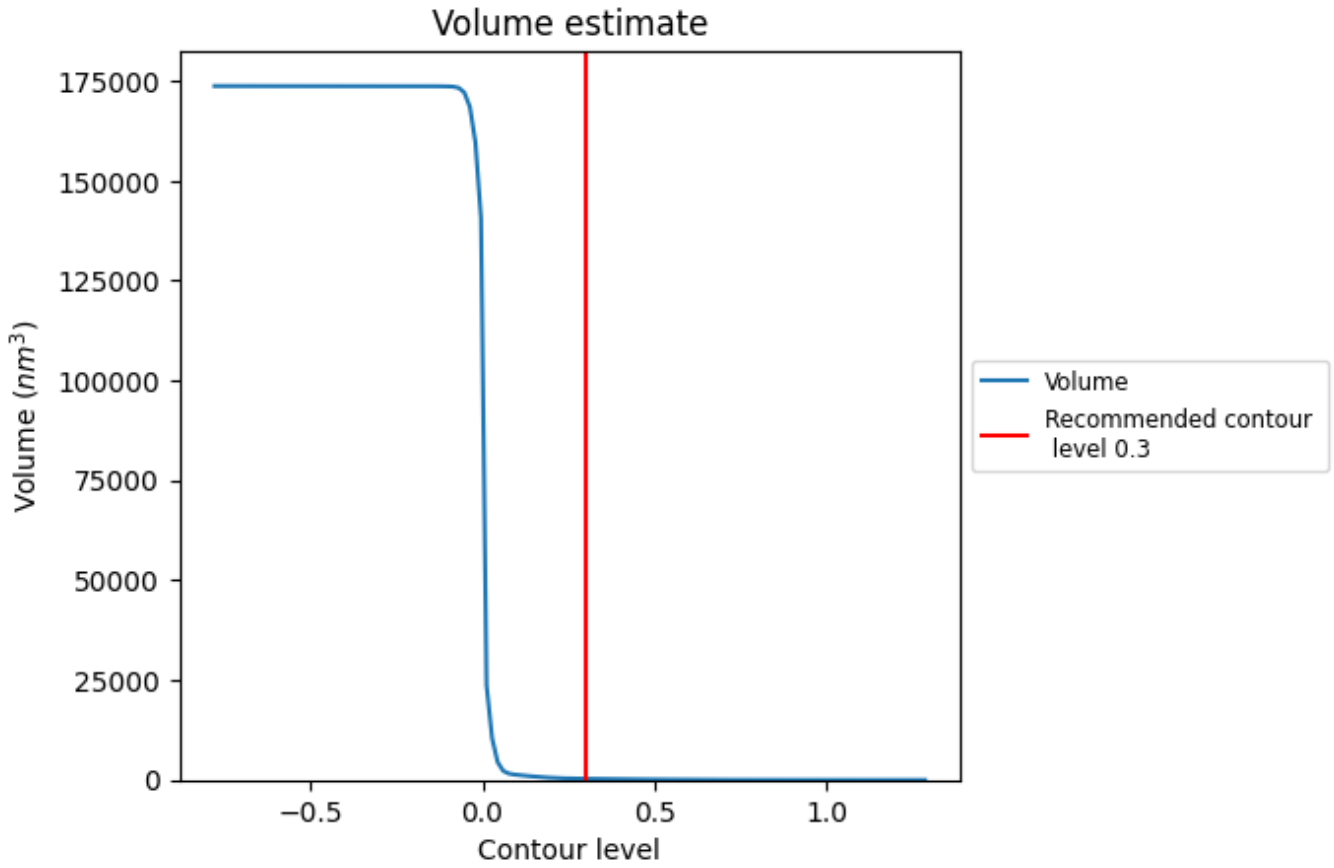
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

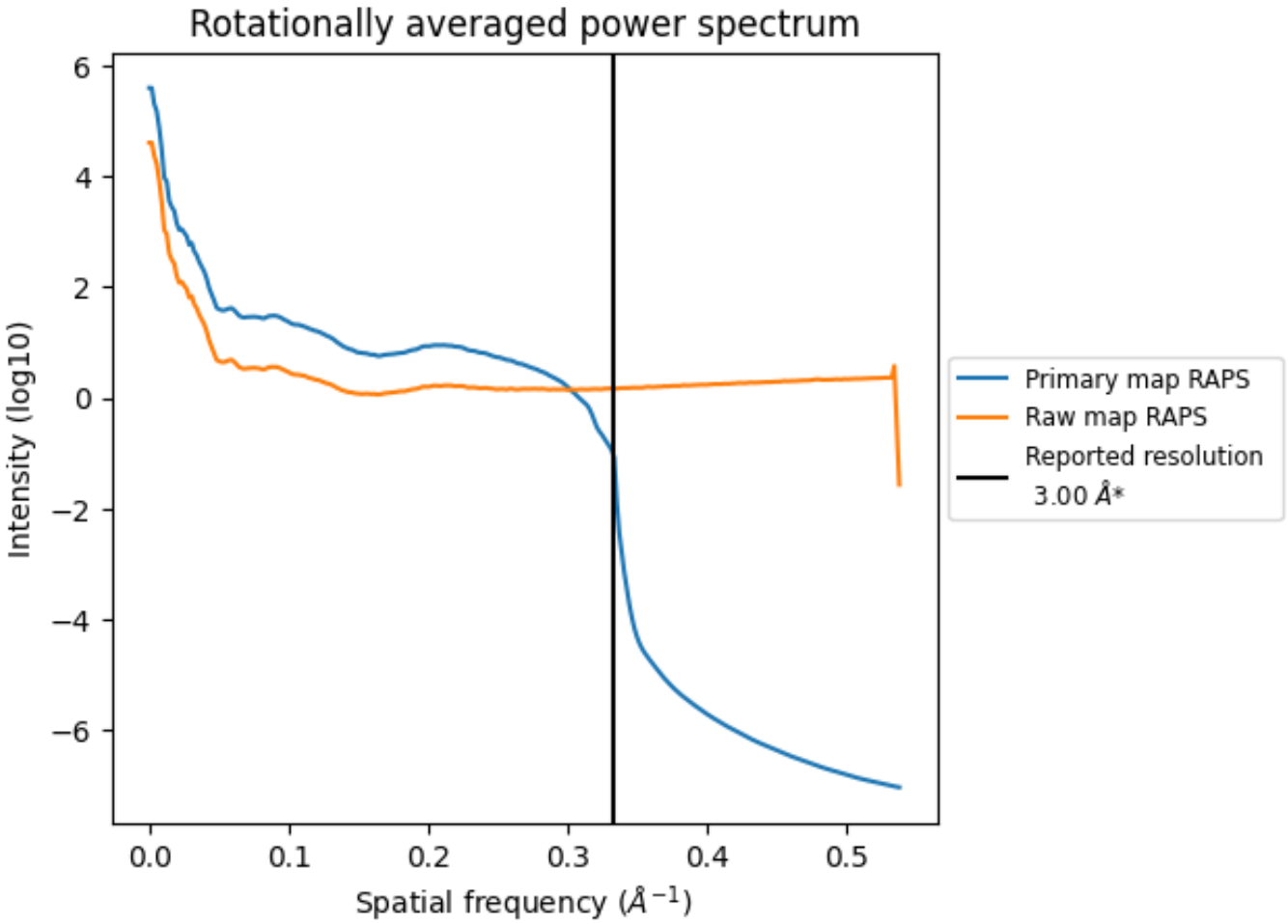
7.2 Volume estimate



The volume at the recommended contour level is 293 nm^3; this corresponds to an approximate mass of 265 kDa.

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

7.3 Rotationally averaged power spectrum (i)

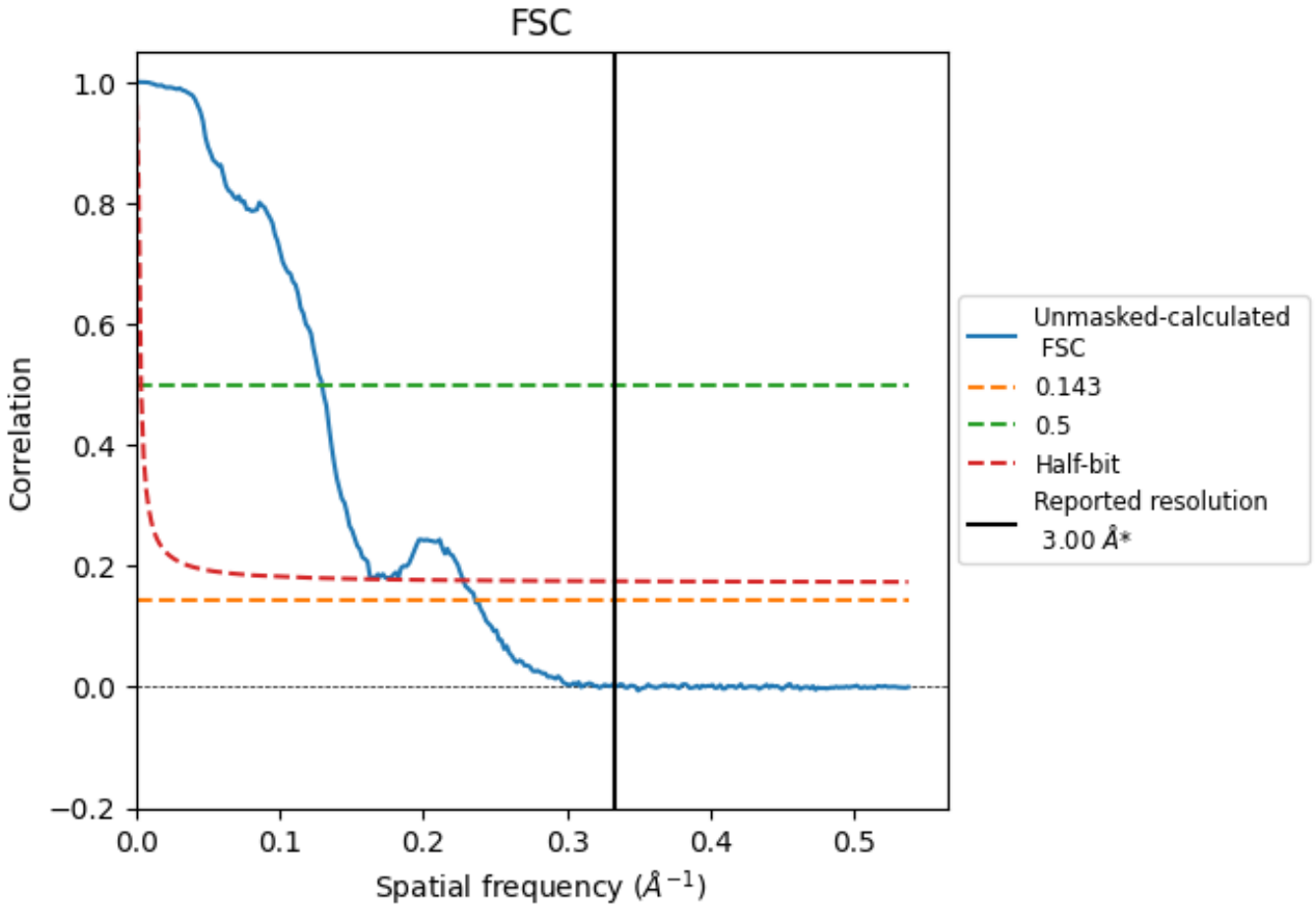


*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2 Resolution estimates (i)

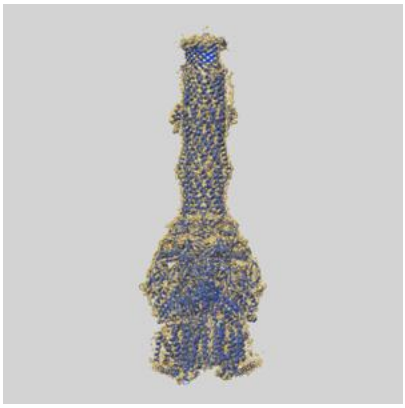
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.24	7.72	4.39

*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 4.24 differs from the reported value 3.0 by more than 10 %

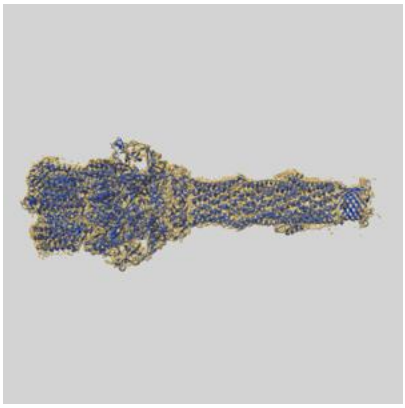
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-61115 and PDB model 9J3E. Per-residue inclusion information can be found in section 3 on page 8.

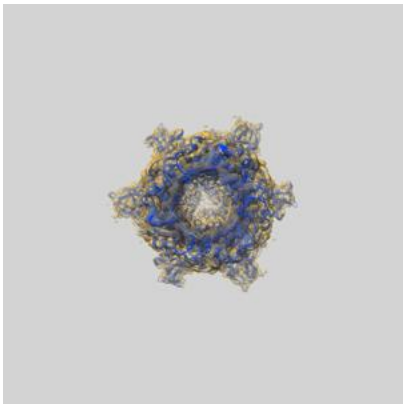
9.1 Map-model overlay



X



Y



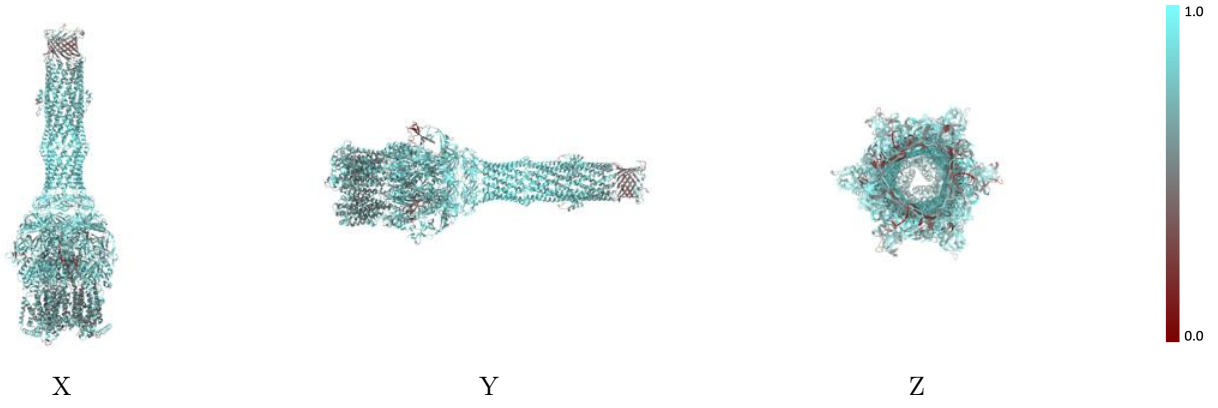
Z

The images above show the 3D surface view of the map at the recommended contour level 0.3 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)

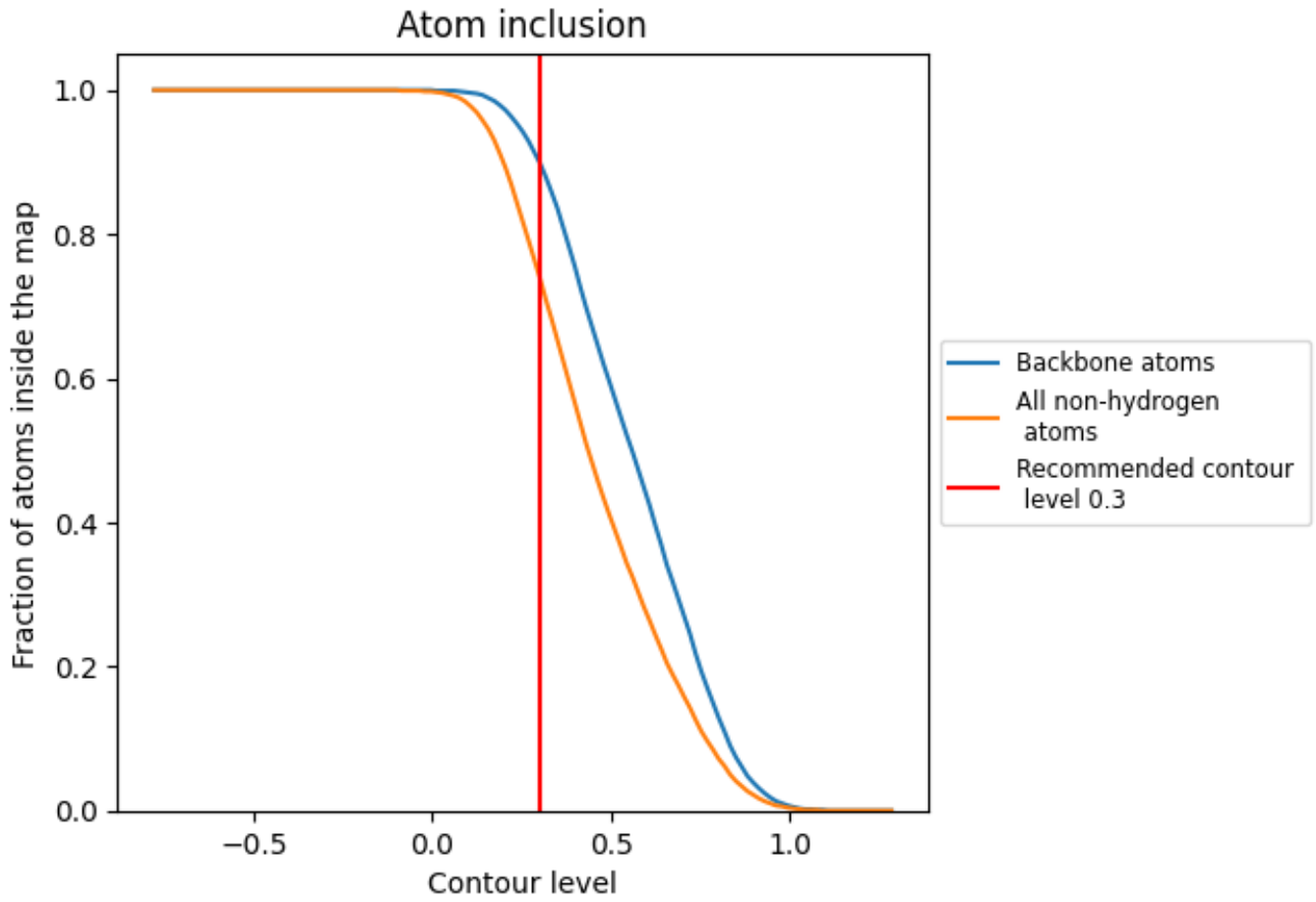
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.3).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 74% 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 (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7410	0.4680
A	0.7110	0.4440
B	0.7130	0.4450
C	0.7100	0.4460
D	0.8310	0.5120
E	0.7460	0.4690
F	0.8340	0.5100
G	0.7440	0.4690
H	0.8330	0.5120
I	0.7470	0.4700
J	0.7200	0.4620
K	0.7220	0.4620
L	0.7230	0.4640