



## Full wwPDB EM Validation Report ⓘ

Mar 7, 2024 – 01:45 pm GMT

PDB ID : 8S4G  
EMDB ID : EMD-19711  
Title : Cryo-EM structure of the Anaphase-promoting complex/cyclosome (APC/C) bound to co-activator Cdh1 at 3.2 Angstrom resolution  
Authors : Hoefler, A.; Yu, J.; Chang, L.; Zhang, Z.; Yang, J.; Boland, A.; Barford, D.  
Deposited on : 2024-02-21  
Resolution : 3.20 Å (reported)  
Based on initial model : 4UI9

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev70  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

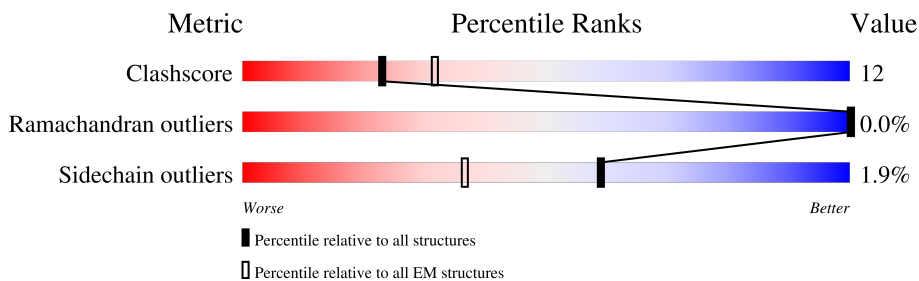
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.20 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	L	185	
2	D	121	
3	A	1944	
4	N	822	
5	I	814	
6	O	755	
7	S	447	
8	K	620	

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Mol	Chain	Length	Quality of chain
8	Q	620	
9	G	85	
9	W	85	
10	M	74	
11	H	110	
12	J	824	
12	P	824	
13	Y	599	
13	Z	599	
14	U	597	
14	V	597	
15	R	496	
16	C	84	

## 2 Entry composition i

There are 17 unique types of molecules in this entry. The entry contains 71413 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 Anaphase-promoting complex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	L	183	1479	926	268	278	7	0	0

- Molecule 2 is a protein called Anaphase-promoting complex subunit 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D	56	470	299	81	89	1	1	0

- Molecule 3 is a protein called Anaphase-promoting complex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	A	1648	12968	8284	2191	2407	86	0	0

- Molecule 4 is a protein called Anaphase-promoting complex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	N	682	5505	3484	973	1021	27	0	0

- Molecule 5 is a protein called Anaphase-promoting complex subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	I	742	5925	3793	989	1109	34	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	809	GLU	-	expression tag	UNP Q9UJX5
I	810	ASN	-	expression tag	UNP Q9UJX5
I	811	LEU	-	expression tag	UNP Q9UJX5

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Chain	Residue	Modelled	Actual	Comment	Reference
I	812	TYR	-	expression tag	UNP Q9UJX5
I	813	PHE	-	expression tag	UNP Q9UJX5
I	814	GLN	-	expression tag	UNP Q9UJX5

- Molecule 6 is a protein called Anaphase-promoting complex subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	O	707	5593	3567	972	1024	30	0	0

- Molecule 7 is a protein called F-box only protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	S	102	811	497	156	149	9	0	0

- Molecule 8 is a protein called Cell division cycle protein 16 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	K	531	4323	2775	726	794	28	0	0
8	Q	506	4103	2630	694	754	25	1	0

- Molecule 9 is a protein called Anaphase-promoting complex subunit CDC26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	G	27	233	146	43	43	1	0	0
9	W	26	225	142	42	40	1	0	0

- Molecule 10 is a protein called Anaphase-promoting complex subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	M	68	553	342	91	118	2	0	0

- Molecule 11 is a protein called Anaphase-promoting complex subunit 16.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	58	Total	C	N	O	S	0	0
			475	304	79	90	2		

- Molecule 12 is a protein called Cell division cycle protein 27 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	J	512	Total	C	N	O	S	1	0
			4121	2646	697	752	26		
12	P	496	Total	C	N	O	S	0	0
			3994	2569	671	728	26		

- Molecule 13 is a protein called Anaphase-promoting complex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Y	502	Total	C	N	O	S	0	0
			3922	2480	682	731	29		
13	Z	488	Total	C	N	O	S	1	0
			3830	2426	664	714	26		

- Molecule 14 is a protein called Cell division cycle protein 23 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	U	540	Total	C	N	O	S	0	0
			4442	2859	747	810	26		
14	V	534	Total	C	N	O	S	1	0
			4380	2817	732	805	26		

- Molecule 15 is a protein called Fizzy-related protein homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	R	432	Total	C	N	O	S	0	0
			3375	2120	612	632	11		

- Molecule 16 is a protein called Anaphase-promoting complex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	C	84	Total	C	N	O	S	0	0
			680	431	123	110	16		

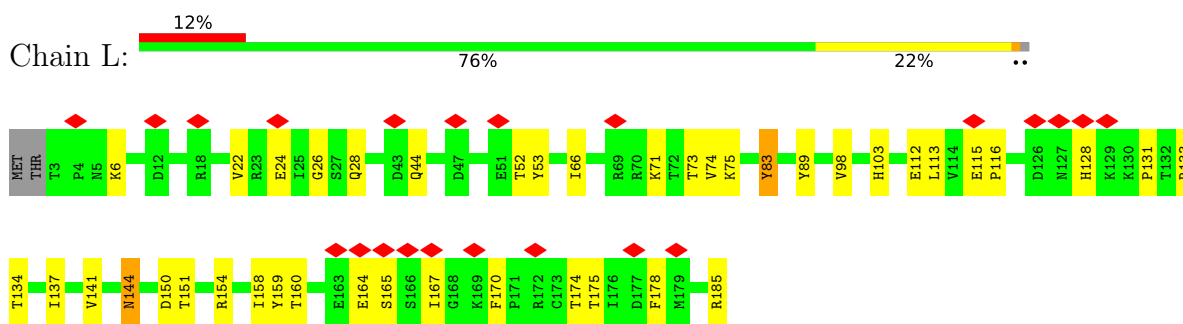
- Molecule 17 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>AltConf</b>
17	N	1	Total 1	Zn 1	0
17	S	2	Total 2	Zn 2	0
17	C	3	Total 3	Zn 3	0

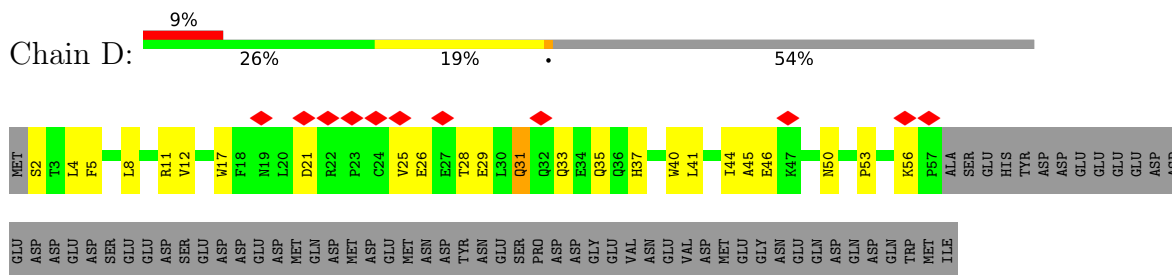
### 3 Residue-property plots

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

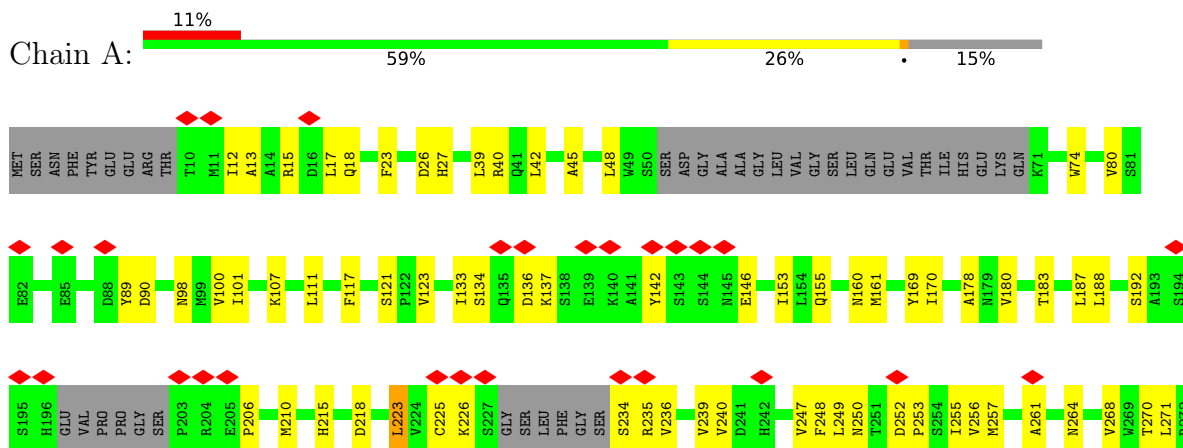
- Molecule 1: Anaphase-promoting complex subunit 10



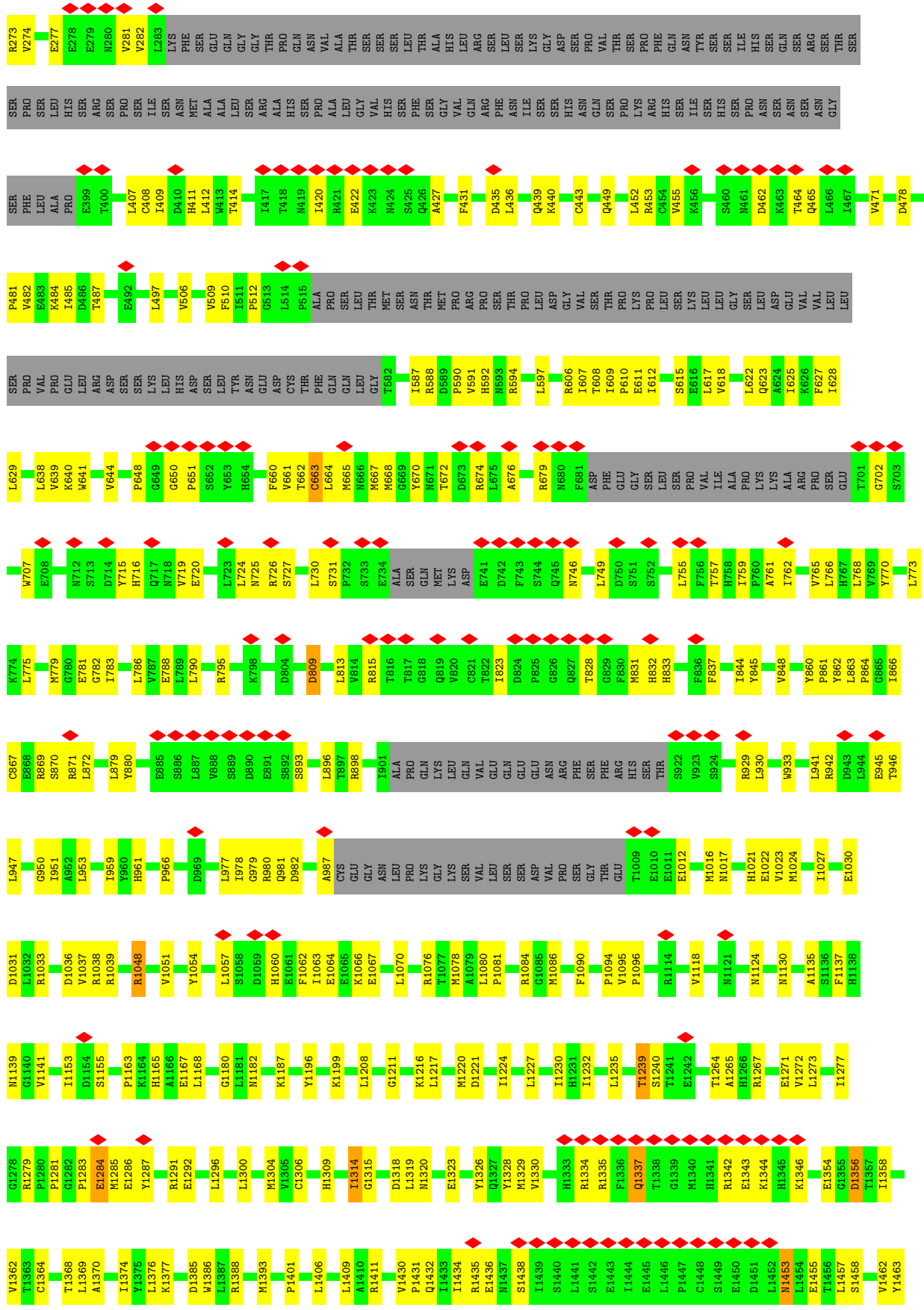
- Molecule 2: Anaphase-promoting complex subunit 15

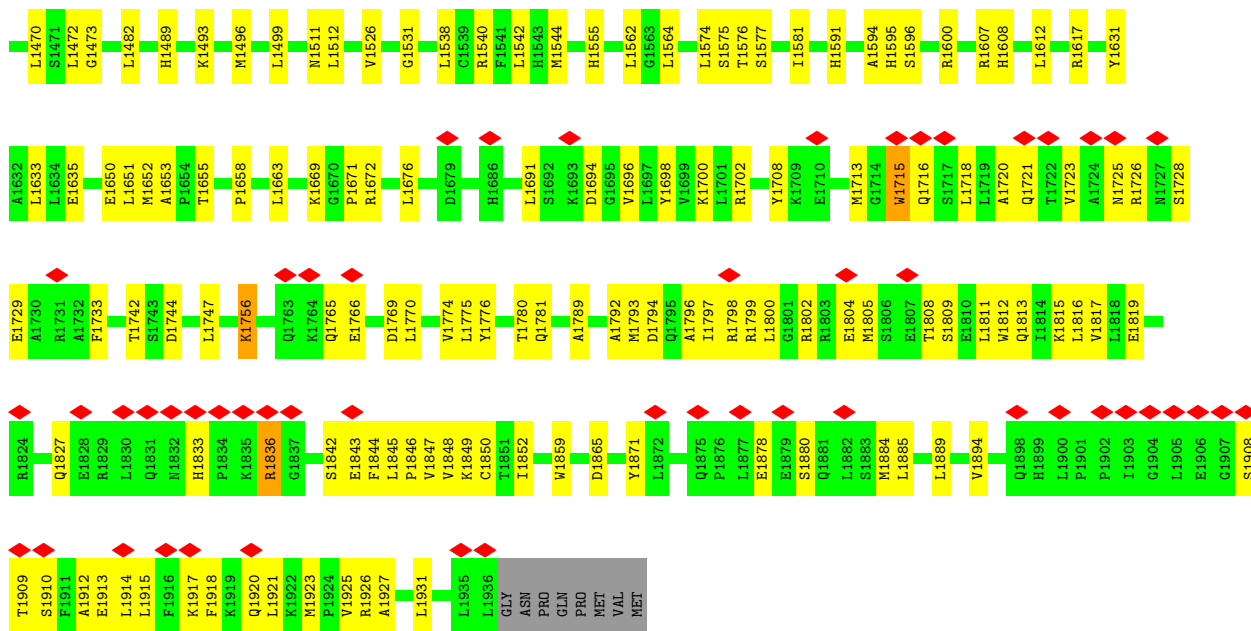


- Molecule 3: Anaphase-promoting complex subunit 1

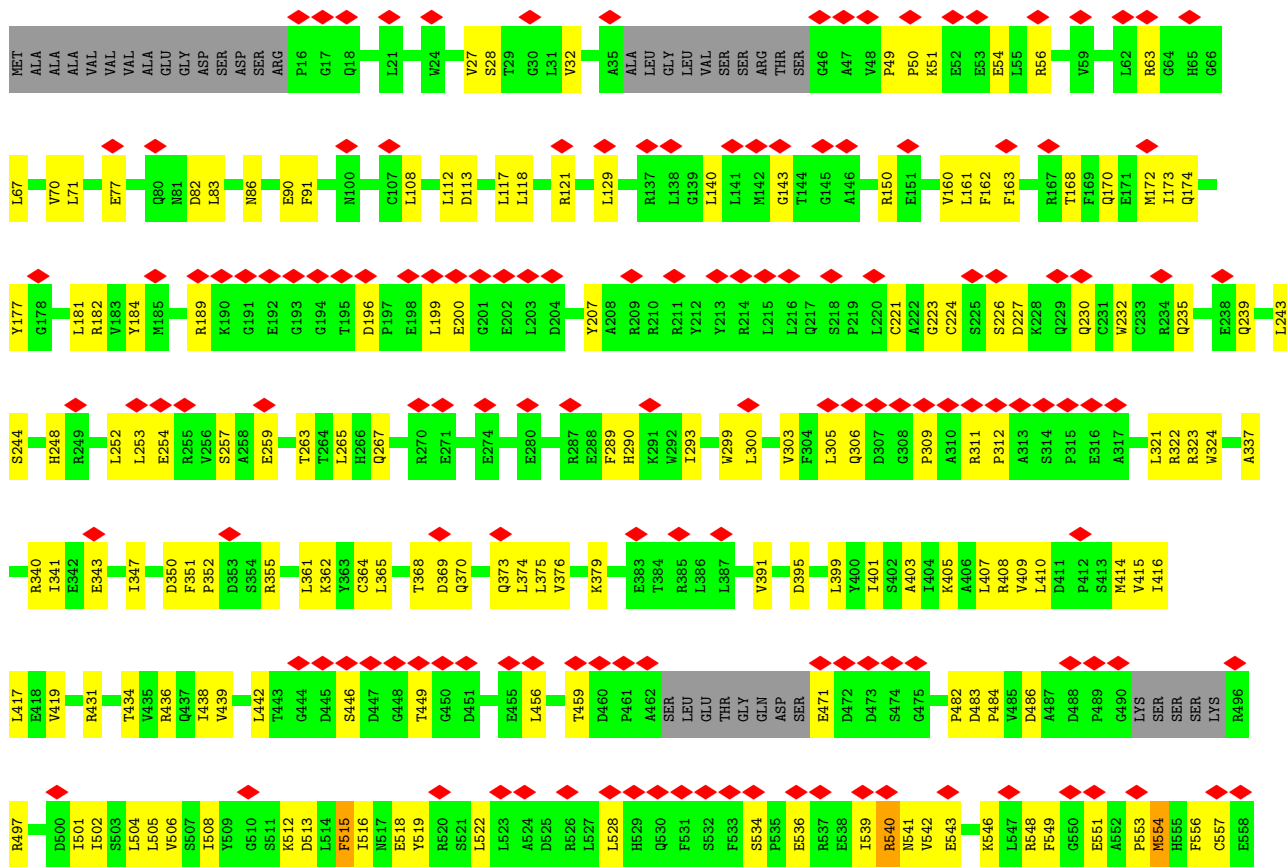


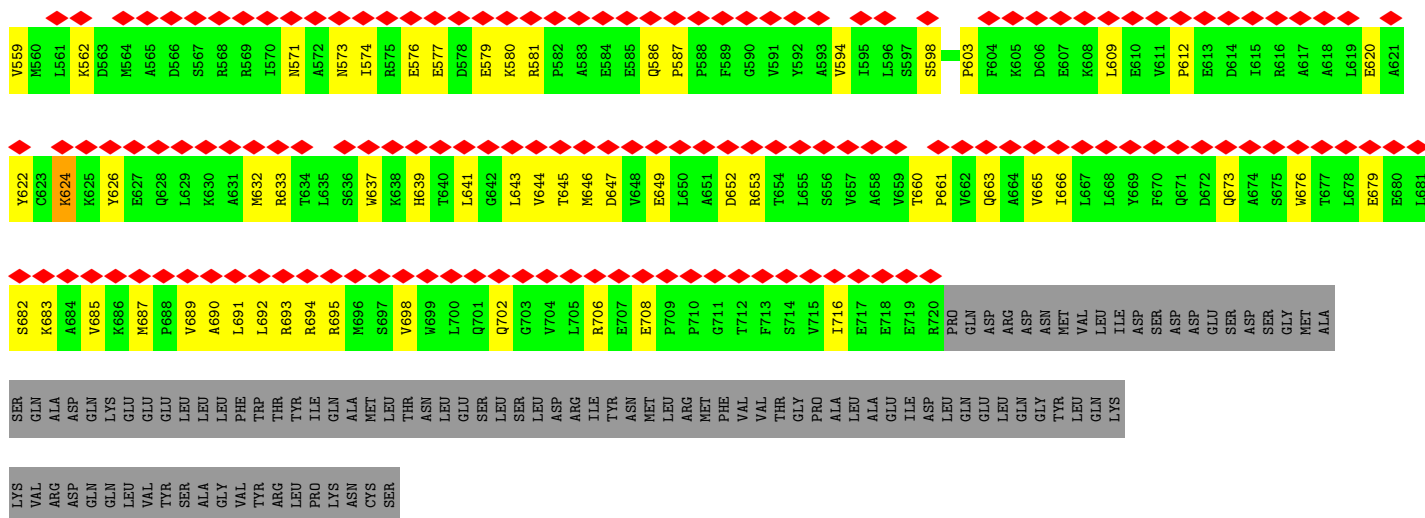




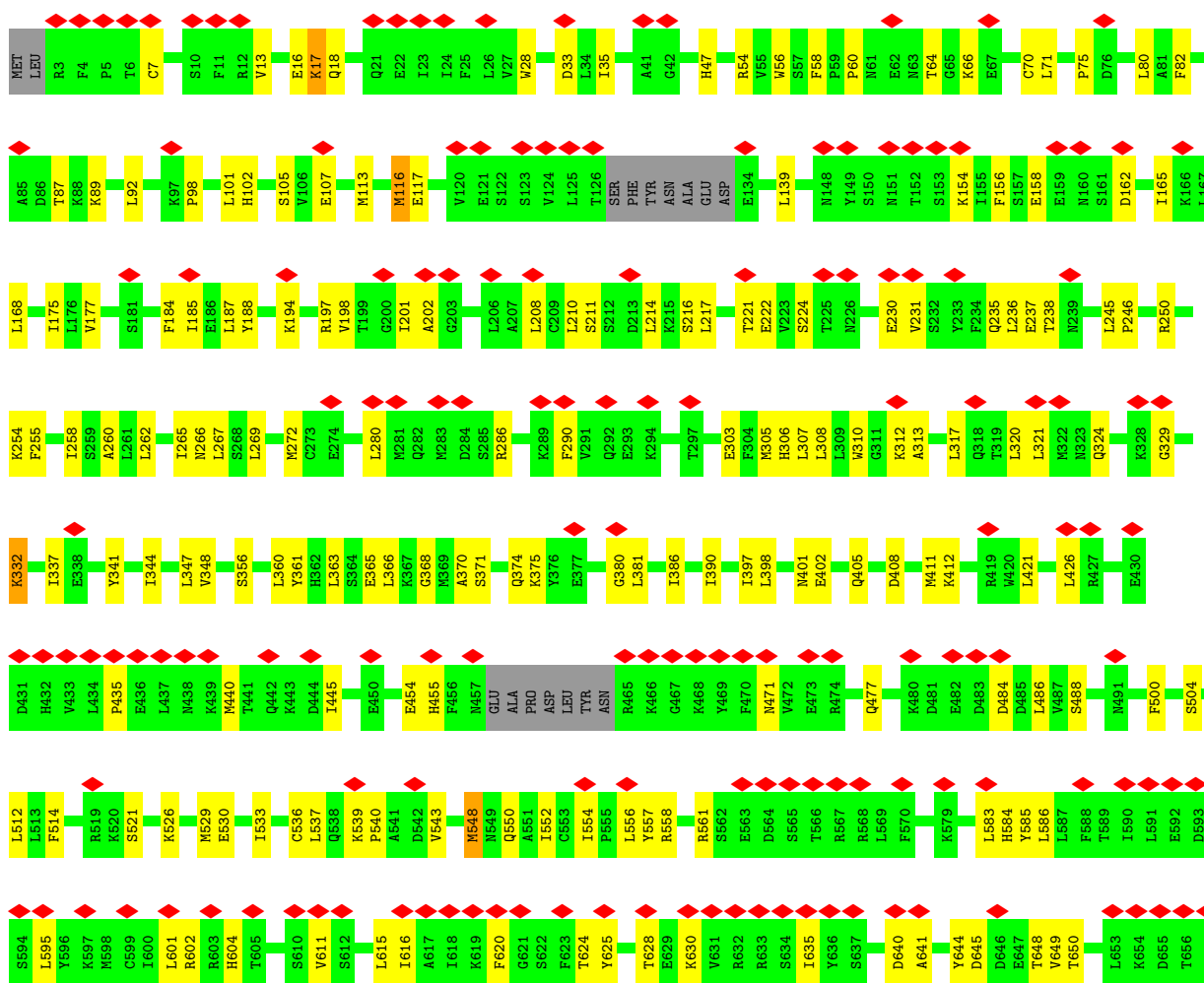


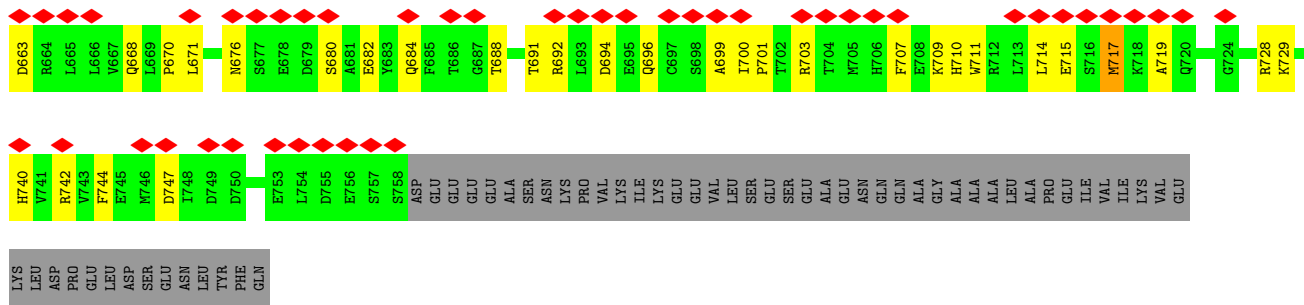
• Molecule 4: Anaphase-promoting complex subunit 2



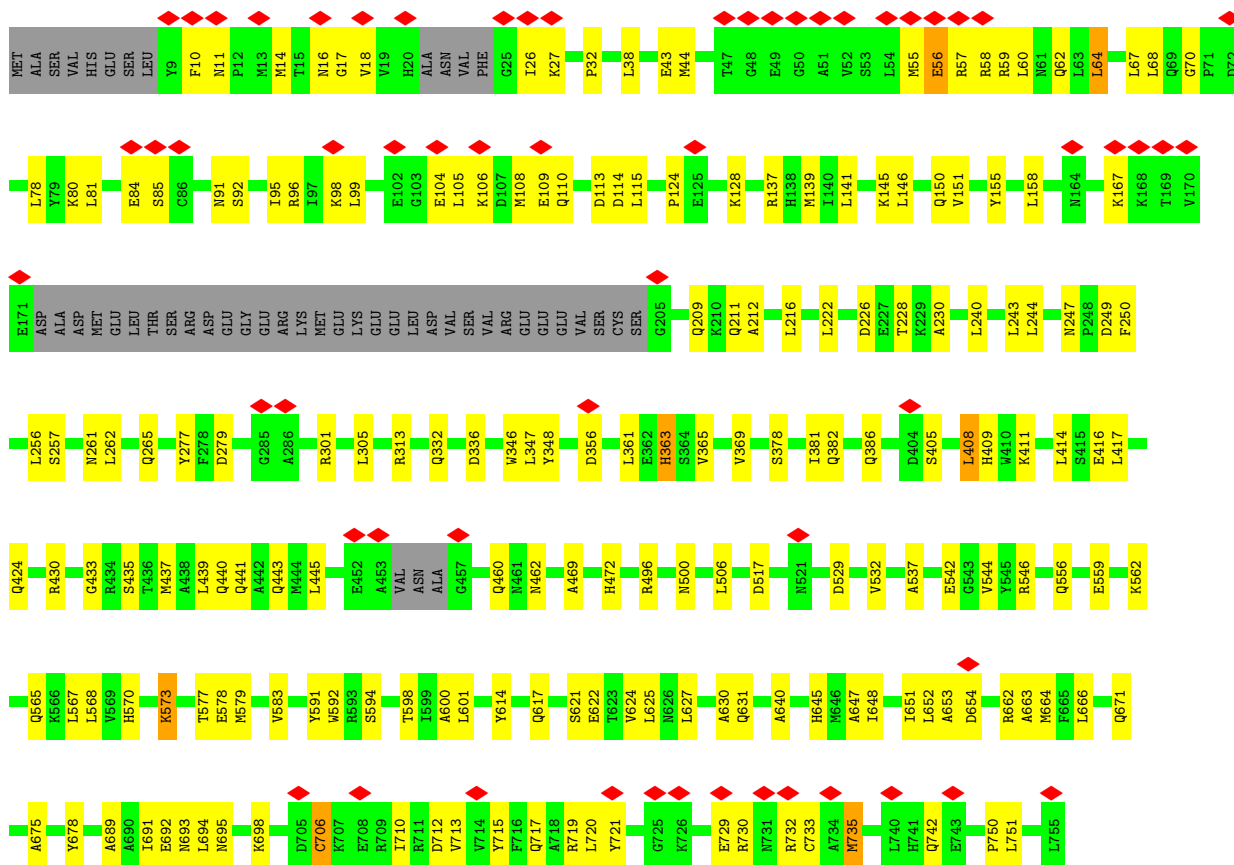


• Molecule 5: Anaphase-promoting complex subunit 4

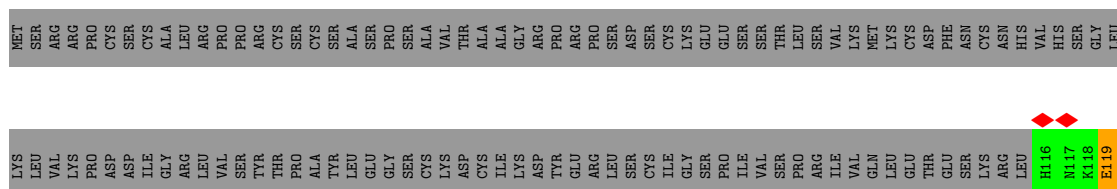




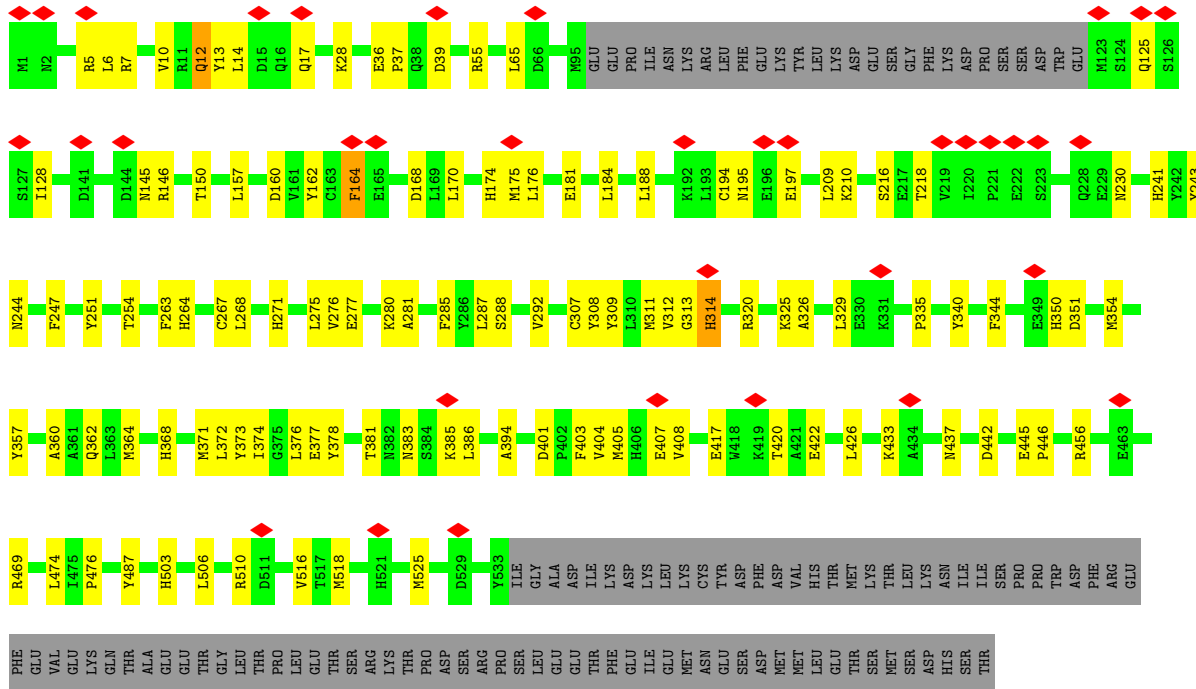
● Molecule 6: Anaphase-promoting complex subunit 5



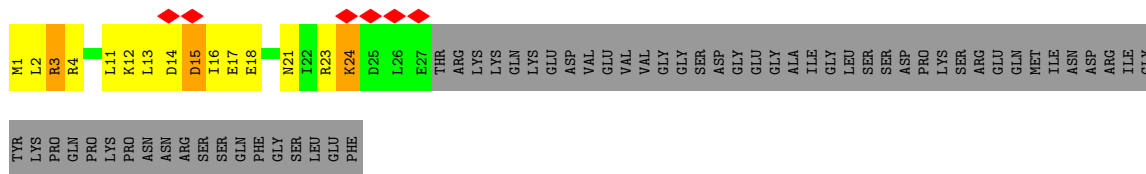
● Molecule 7: F-box only protein 5



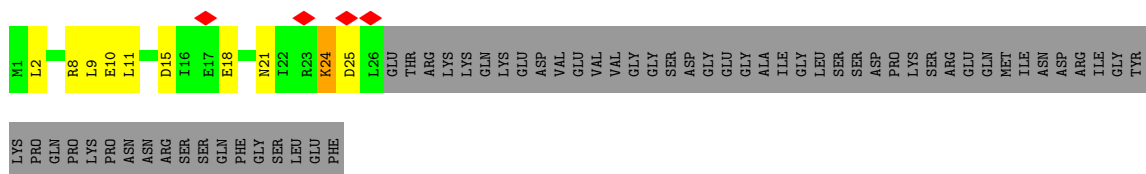




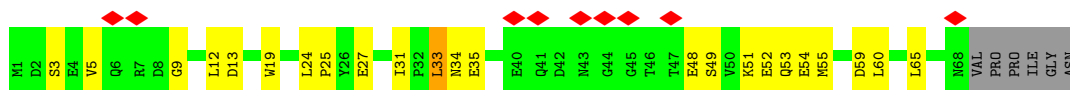
• Molecule 9: Anaphase-promoting complex subunit CDC26



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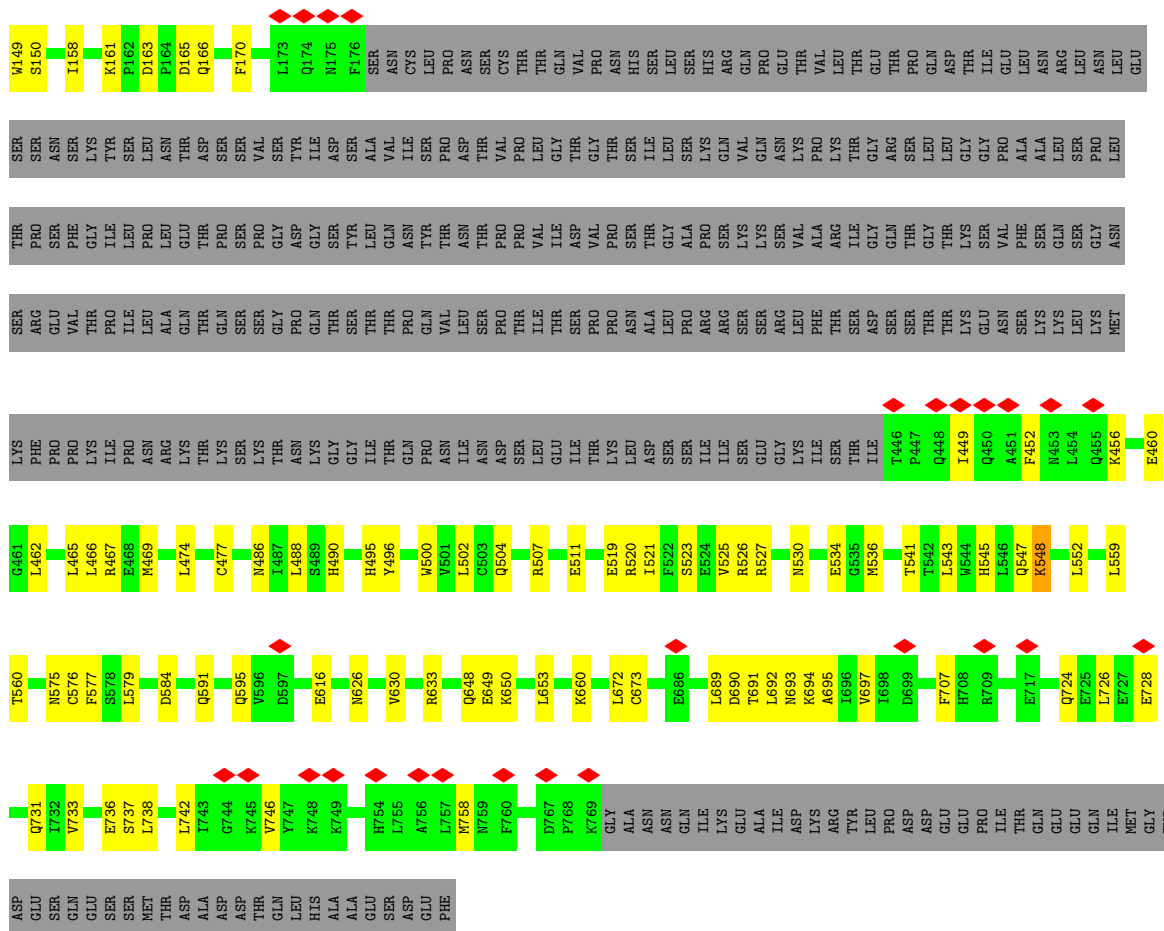


• Molecule 10: Anaphase-promoting complex subunit 13

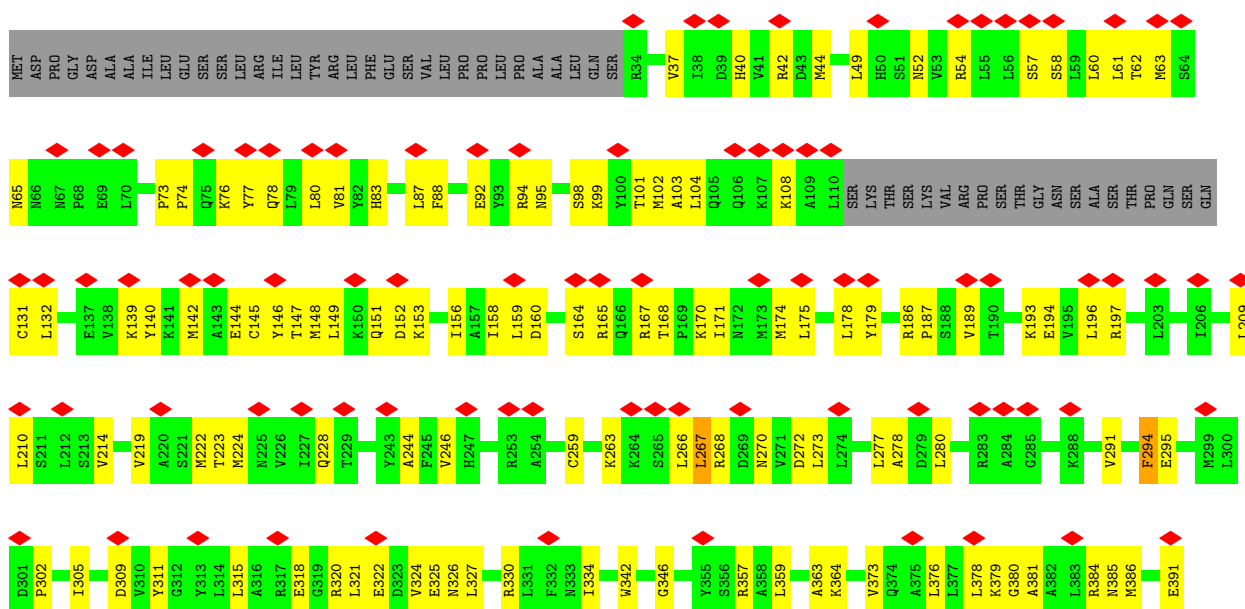


• Molecule 11: Anaphase-promoting complex subunit 16

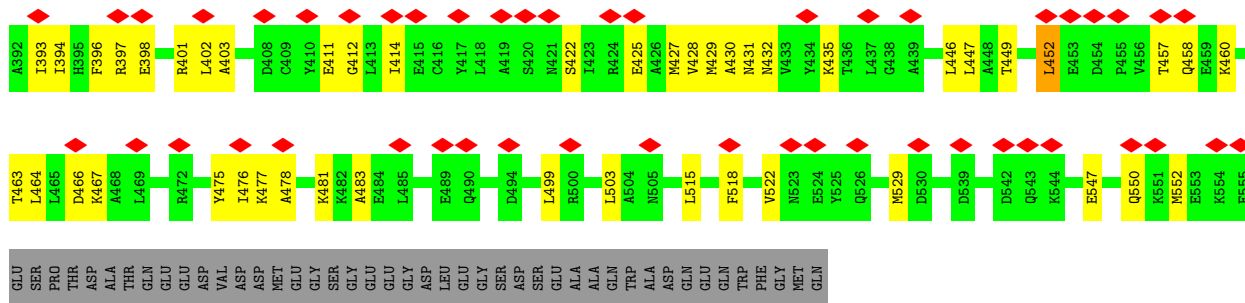




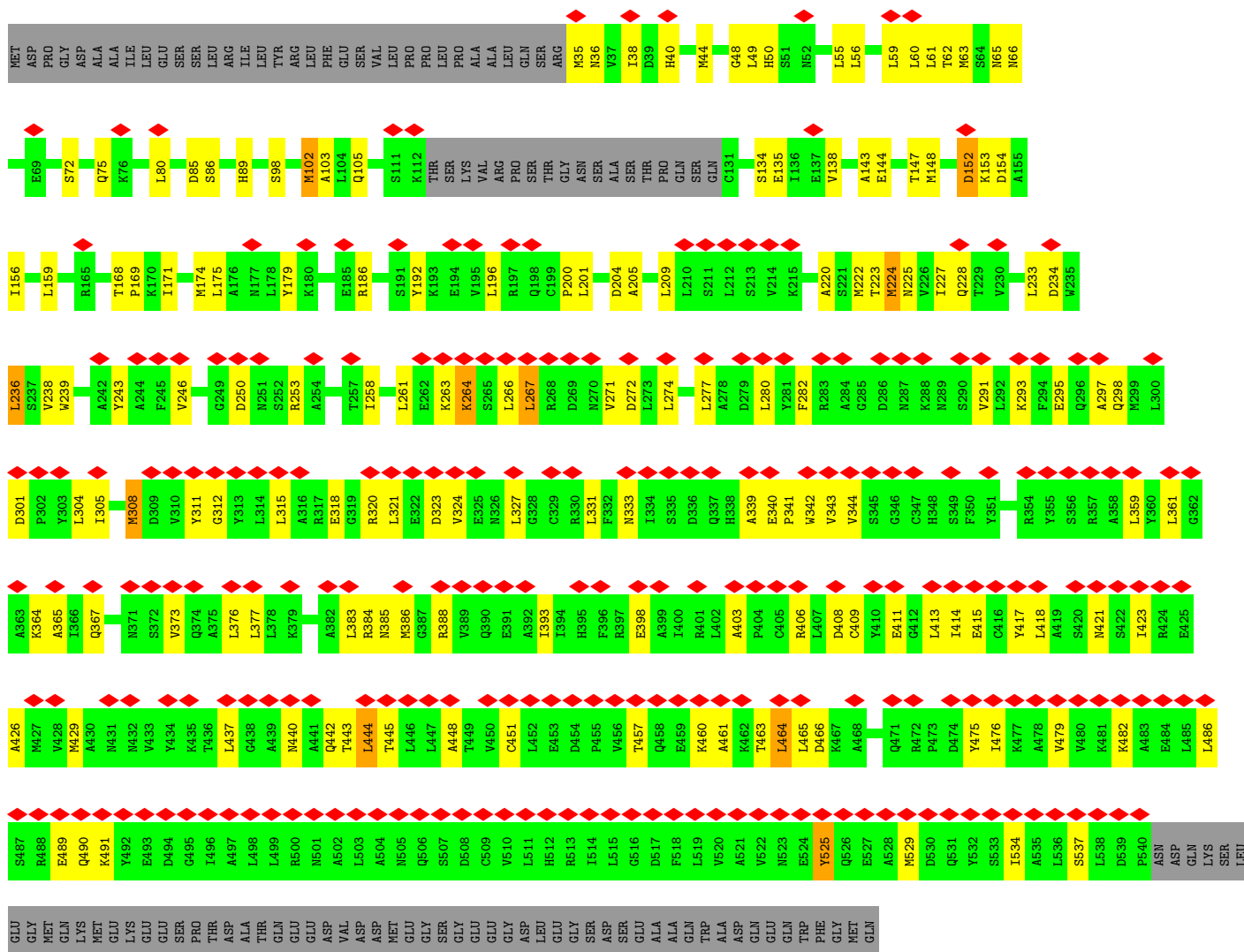
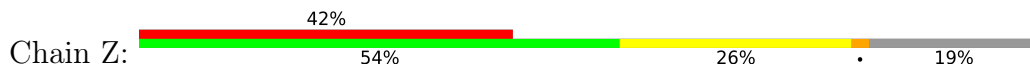
● Molecule 13: Anaphase-promoting complex subunit 7





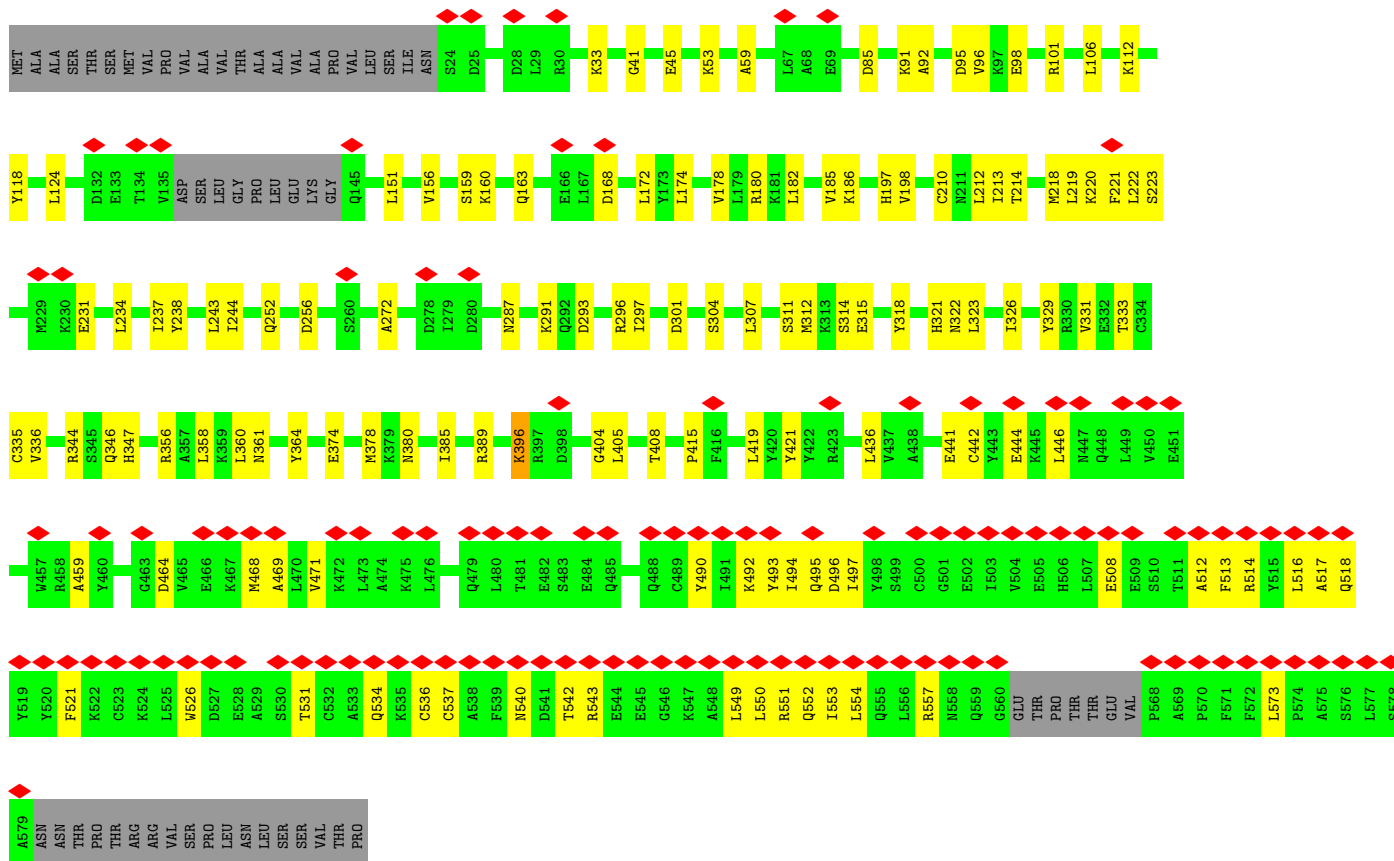


• Molecule 13: Anaphase-promoting complex subunit 7

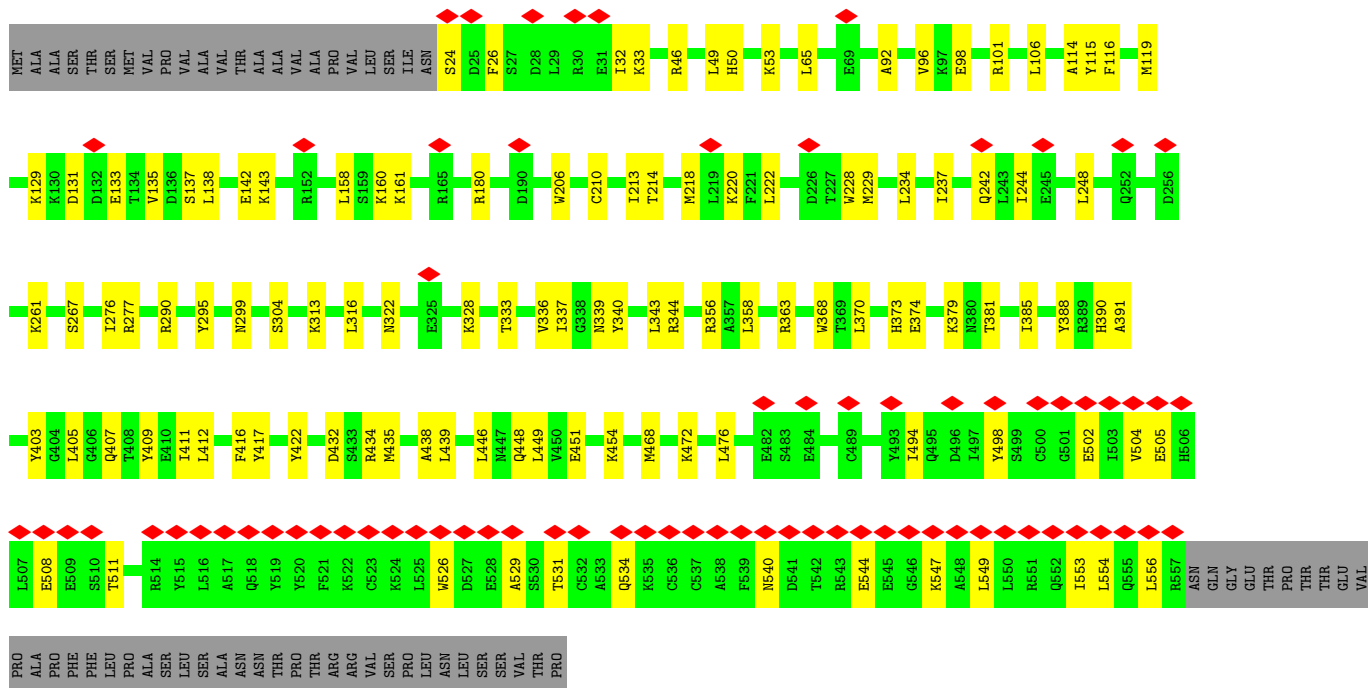


• Molecule 14: Cell division cycle protein 23 homolog

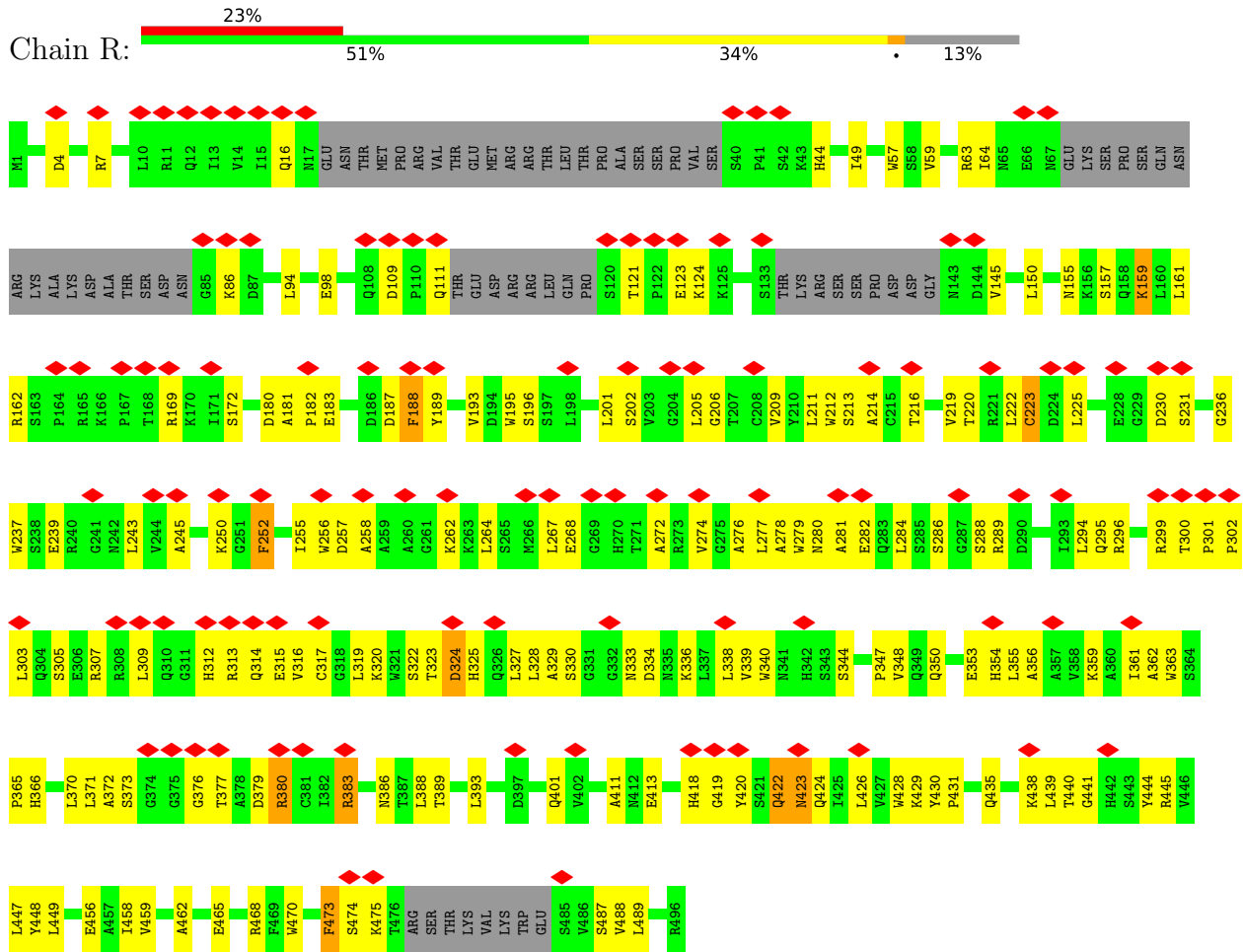




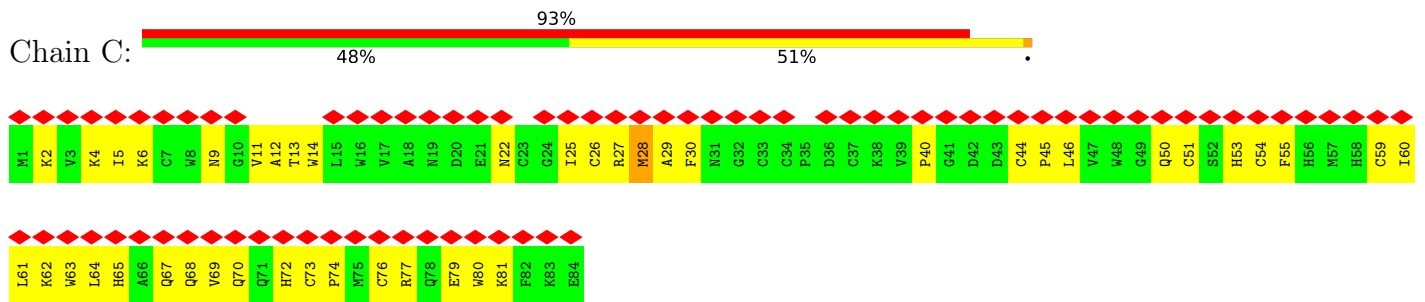
• Molecule 14: Cell division cycle protein 23 homolog



• Molecule 15: Fizzy-related protein homolog



• Molecule 16: Anaphase-promoting complex subunit 11



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	54395	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	40	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	2.019	Depositor
Minimum map value	-0.063	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.038	Depositor
Recommended contour level	0.18	Depositor
Map size (Å)	385.2, 385.2, 385.2	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	Depositor

## 5 Model quality

### 5.1 Standard geometry

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

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	L	0.29	0/1514	0.56	0/2051
2	D	0.30	0/485	0.62	0/662
3	A	0.28	0/13269	0.49	0/18041
4	N	0.26	0/5618	0.53	0/7605
5	I	0.26	0/6050	0.49	0/8188
6	O	0.27	0/5697	0.47	0/7694
7	S	0.27	0/822	0.61	0/1093
8	K	0.27	0/4431	0.45	0/5998
8	Q	0.28	0/4205	0.47	0/5691
9	G	0.31	0/234	0.76	0/310
9	W	0.28	0/226	0.56	0/299
10	M	0.30	0/563	0.58	0/765
11	H	0.31	0/484	0.56	0/651
12	J	0.28	0/4220	0.47	0/5702
12	P	0.28	0/4090	0.44	0/5527
13	Y	0.25	0/3982	0.51	0/5380
13	Z	0.27	0/3893	0.54	0/5262
14	U	0.27	0/4544	0.47	0/6133
14	V	0.28	0/4483	0.45	0/6056
15	R	0.27	0/3446	0.55	0/4670
16	C	0.31	0/703	0.55	0/951
All	All	0.27	0/72959	0.50	0/98729

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	L	1479	0	1462	32	0
2	D	470	0	458	21	0
3	A	12968	0	12918	348	0
4	N	5505	0	5487	170	0
5	I	5925	0	5902	146	0
6	O	5593	0	5659	139	0
7	S	811	0	806	55	0
8	K	4323	0	4229	100	0
8	Q	4103	0	4026	91	0
9	G	233	0	246	20	0
9	W	225	0	242	9	0
10	M	553	0	516	23	0
11	H	475	0	469	13	0
12	J	4121	0	4088	101	0
12	P	3994	0	3955	91	0
13	Y	3922	0	3989	134	0
13	Z	3830	0	3909	121	0
14	U	4442	0	4409	98	0
14	V	4380	0	4326	81	0
15	R	3375	0	3341	140	0
16	C	680	0	640	44	0
17	C	3	0	0	0	0
17	N	1	0	0	0	0
17	S	2	0	0	0	0
All	All	71413	0	71077	1770	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 12.

All (1770) 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)
16:C:53:HIS:HE1	16:C:76:CYS:SG	1.82	1.01
8:Q:360:ALA:O	8:Q:364:MET:HB2	1.65	0.97
3:A:788:GLU:HG2	3:A:813:LEU:HD21	1.49	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:O:38:LEU:HD21	6:O:139:MET:HG3	1.53	0.90
7:S:325:LEU:HD23	15:R:219:VAL:HG22	1.55	0.89
13:Y:294:PHE:HB3	13:Y:311:TYR:HD1	1.39	0.85
9:G:12:LYS:HD2	9:G:13:LEU:H	1.40	0.84
11:H:85:LEU:HD21	12:P:560:THR:HG21	1.60	0.83
13:Y:139:LYS:HA	13:Y:142:MET:HG2	1.61	0.81
5:I:175:ILE:HD11	5:I:187:LEU:HB3	1.63	0.80
13:Z:72:SER:H	13:Z:75:GLN:HE21	1.29	0.79
14:U:471:VAL:HG21	14:U:508:GLU:HG3	1.64	0.79
4:N:373:GLN:HA	4:N:376:VAL:HG22	1.63	0.79
12:P:726:LEU:HD21	12:P:742:LEU:HB3	1.64	0.79
13:Z:312:GLY:HA3	13:Z:344:VAL:HG23	1.65	0.78
8:K:78:ARG:HH12	8:Q:17:GLN:HB2	1.50	0.77
12:J:16:LEU:HD12	12:J:50:ARG:HD2	1.66	0.77
15:R:376:GLY:H	15:R:379:ASP:HB3	1.51	0.76
11:H:71:LYS:HA	11:H:71:LYS:HE3	1.67	0.76
13:Z:417:TYR:HB2	13:Z:426:ALA:HB2	1.65	0.76
4:N:603:PRO:HG3	7:S:408:LYS:HD2	1.68	0.76
7:S:371:LYS:HD2	16:C:27:ARG:HH21	1.51	0.76
3:A:257:MET:HB2	3:A:268:VAL:HG22	1.68	0.76
15:R:401:GLN:HE21	15:R:419:GLY:HA3	1.49	0.76
11:H:97:LYS:HE3	11:H:101:GLN:HB3	1.66	0.75
15:R:334:ASP:HB2	15:R:336:LYS:HE3	1.68	0.75
3:A:759:ILE:HB	3:A:831:MET:HE1	1.67	0.75
15:R:361:ILE:HG23	15:R:371:LEU:HD11	1.68	0.75
3:A:39:LEU:HD12	6:O:244:LEU:HB3	1.68	0.75
8:K:181:GLU:HB2	8:K:209:LEU:HD21	1.68	0.75
15:R:330:SER:HG	15:R:340:TRP:HE1	1.31	0.75
12:P:94:GLY:HA3	12:P:100:GLN:HA	1.68	0.75
10:M:34:ASN:HB2	10:M:51:LYS:HE2	1.69	0.75
14:U:514:ARG:HE	14:U:542:THR:HG22	1.51	0.74
10:M:48:GLU:HG2	10:M:52:GLU:HG3	1.69	0.74
12:P:32:TYR:HH	12:P:64:HIS:HD1	1.34	0.74
13:Y:224:MET:SD	13:Y:228:GLN:NE2	2.60	0.74
8:Q:350:HIS:O	8:Q:354:MET:HG2	1.86	0.74
3:A:617:LEU:HD11	3:A:786:LEU:HD12	1.68	0.74
4:N:399:LEU:HD13	7:S:444:LEU:HD13	1.69	0.73
15:R:278:ALA:HB2	15:R:319:LEU:HB3	1.70	0.73
3:A:1054:TYR:H	3:A:1057:LEU:HD12	1.53	0.73
3:A:1635:GLU:HB2	3:A:1669:LYS:HD2	1.70	0.73
3:A:1889:LEU:HD13	3:A:1894:VAL:HB	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:303:GLU:HB3	5:I:317:LEU:HD11	1.71	0.73
7:S:392:GLN:HE22	7:S:406:CYS:HB2	1.52	0.73
3:A:1017:ASN:OD1	3:A:1038:ARG:NH2	2.21	0.72
8:Q:445:GLU:HG3	8:Q:446:PRO:HD3	1.69	0.72
13:Y:294:PHE:HB3	13:Y:311:TYR:CD1	2.24	0.72
9:G:21:ASN:HA	9:G:24:LYS:HZ2	1.54	0.72
13:Y:266:LEU:HD22	13:Z:63:MET:HE3	1.71	0.72
4:N:395:ASP:HB3	7:S:444:LEU:HD21	1.73	0.71
15:R:327:LEU:HD11	15:R:339:VAL:HG12	1.70	0.71
1:L:113:LEU:HB3	1:L:116:PRO:HG3	1.71	0.71
6:O:27:LYS:HD3	6:O:209:GLN:HG3	1.71	0.71
5:I:682:GLU:OE2	5:I:703:ARG:NH1	2.24	0.71
3:A:1036:ASP:OD1	3:A:1039:ARG:NH1	2.24	0.71
3:A:1016:MET:HE1	3:A:1038:ARG:HA	1.72	0.71
12:P:552:LEU:HD21	12:P:576:CYS:HA	1.72	0.70
1:L:144:ASN:ND2	1:L:150:ASP:O	2.23	0.70
3:A:1320:ASN:ND2	3:A:1323:GLU:OE1	2.25	0.70
3:A:1096:PRO:O	6:O:332:GLN:NE2	2.24	0.70
12:P:502:LEU:HD22	12:P:521:ILE:HG23	1.74	0.69
15:R:94:LEU:HD11	15:R:161:LEU:HD21	1.74	0.69
15:R:458:ILE:HG23	15:R:473:PHE:HZ	1.57	0.69
12:P:32:TYR:OH	12:P:64:HIS:ND1	2.22	0.69
14:U:513:PHE:HB3	14:U:536:CYS:HB3	1.73	0.69
3:A:594:ARG:HG2	3:A:608:THR:HG22	1.74	0.69
13:Y:63:MET:HE1	13:Z:267:LEU:HG	1.75	0.69
1:L:6:LYS:HD3	1:L:115:GLU:HG2	1.74	0.69
4:N:91:PHE:HB2	4:N:118:LEU:HD21	1.75	0.69
5:I:139:LEU:HB2	5:I:165:ILE:HG12	1.75	0.69
7:S:414:HIS:HE1	7:S:419:CYS:SG	2.14	0.69
15:R:169:ARG:NH1	15:R:473:PHE:O	2.25	0.69
6:O:559:GLU:OE1	6:O:559:GLU:N	2.26	0.68
7:S:372:ASN:O	7:S:372:ASN:ND2	2.20	0.68
3:A:795:ARG:NH2	3:A:815:ARG:O	2.25	0.68
5:I:440:MET:SD	5:I:440:MET:N	2.67	0.68
12:J:149:TRP:N	12:P:23:ASP:OD2	2.20	0.68
14:V:214:THR:OG1	14:V:218:MET:SD	2.50	0.68
8:K:214:LYS:HB2	8:K:217:GLU:HG3	1.73	0.68
3:A:23:PHE:HB2	3:A:111:LEU:HD13	1.76	0.68
3:A:1658:PRO:HG2	3:A:1663:LEU:HD11	1.76	0.68
4:N:594:VAL:HB	16:C:11:VAL:HG22	1.75	0.68
13:Y:322:GLU:O	13:Y:326:ASN:ND2	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:401:GLN:HG3	15:R:420:TYR:H	1.58	0.68
6:O:542:GLU:OE1	6:O:546:ARG:NH1	2.26	0.67
7:S:322:ARG:NH1	15:R:180:ASP:OD2	2.25	0.67
3:A:773:LEU:HD23	3:A:783:ILE:HB	1.77	0.67
8:Q:313:GLY:O	8:Q:314:HIS:ND1	2.27	0.67
13:Z:261:LEU:HD13	13:Z:267:LEU:HD13	1.74	0.67
5:I:101:LEU:HA	5:I:154:LYS:HE2	1.76	0.67
9:G:12:LYS:HD2	9:G:13:LEU:N	2.08	0.67
13:Z:295:GLU:O	13:Z:298:GLN:NE2	2.28	0.67
10:M:35:GLU:HB3	8:Q:325:LYS:HE2	1.76	0.67
5:I:398:LEU:HA	5:I:401:ASN:HD21	1.60	0.67
3:A:12:ILE:O	3:A:510:PHE:N	2.24	0.67
3:A:178:ALA:HB2	3:A:192:SER:HB3	1.76	0.66
6:O:257:SER:O	6:O:261:ASN:ND2	2.28	0.66
7:S:366:ALA:HB1	16:C:27:ARG:HG3	1.77	0.66
15:R:169:ARG:HD2	15:R:474:SER:HA	1.77	0.66
11:H:87:GLU:N	11:H:87:GLU:OE2	2.24	0.66
7:S:372:ASN:HD22	7:S:372:ASN:C	1.98	0.66
15:R:209:VAL:H	15:R:223:CYS:HB3	1.60	0.66
9:G:17:GLU:N	9:G:17:GLU:OE2	2.26	0.66
13:Z:236:LEU:HA	13:Z:239:TRP:HB3	1.77	0.66
3:A:674:ARG:NH2	3:A:746:ASN:O	2.28	0.66
5:I:312:LYS:NZ	6:O:124:PRO:O	2.29	0.66
13:Y:80:LEU:HD21	13:Y:102:MET:HB2	1.78	0.66
8:K:282:ASN:OD1	8:K:283:GLU:N	2.28	0.66
3:A:953:LEU:HD22	3:A:1817:VAL:HG13	1.77	0.65
15:R:339:VAL:O	15:R:348:VAL:N	2.28	0.65
4:N:340:ARG:HB3	4:N:361:LEU:HD12	1.77	0.65
16:C:55:PHE:HB2	16:C:60:ILE:HD11	1.77	0.65
5:I:504:SER:O	5:I:508:LYS:NZ	2.29	0.65
5:I:662:ARG:HB3	5:I:715:GLU:HG3	1.77	0.65
3:A:1438:SER:HB2	3:A:1457:LEU:HB3	1.79	0.65
4:N:182:ARG:HB3	4:N:223:GLY:HA2	1.78	0.65
12:J:85:LEU:HB3	12:J:124:VAL:HG23	1.79	0.65
12:J:70:GLN:OE1	12:J:70:GLN:N	2.19	0.65
12:P:519:GLU:OE2	12:P:548:LYS:NZ	2.29	0.65
4:N:373:GLN:OE1	4:N:373:GLN:N	2.27	0.65
2:D:8:LEU:HD11	6:O:424:GLN:HE22	1.62	0.65
3:A:1713:MET:HG2	3:A:1715:TRP:H	1.62	0.65
13:Z:386:MET:HG3	13:Z:388:ARG:HH21	1.62	0.65
5:I:374:GLN:HE21	6:O:692:GLU:HB3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Z:331:LEU:HB3	13:Z:341:PRO:HB3	1.77	0.65
15:R:354:HIS:HA	15:R:383:ARG:HH21	1.61	0.65
12:J:726:LEU:HD21	12:J:742:LEU:HD22	1.78	0.65
13:Y:42:ARG:NH1	13:Y:131:CYS:SG	2.69	0.65
1:L:22:VAL:HB	1:L:159:TYR:HB3	1.79	0.64
3:A:1084:ARG:NH2	3:A:1139:ASN:OD1	2.30	0.64
3:A:1912:ALA:HA	3:A:1915:LEU:HD12	1.79	0.64
8:K:61:ARG:HH12	8:K:88:GLN:HE22	1.45	0.64
12:J:726:LEU:HD13	12:J:743:ILE:HG12	1.79	0.64
13:Y:147:THR:HG22	13:Y:178:LEU:HD21	1.79	0.64
13:Z:308:MET:HA	13:Z:311:TYR:HB3	1.77	0.64
5:I:512:LEU:HB3	6:O:439:LEU:HD11	1.77	0.64
13:Y:142:MET:HB2	13:Y:158:ILE:HG21	1.78	0.64
13:Y:142:MET:N	13:Y:142:MET:SD	2.71	0.64
5:I:477:GLN:NE2	5:I:488:SER:OG	2.31	0.64
6:O:625:LEU:HD22	6:O:666:LEU:HD23	1.79	0.64
10:M:54:GLU:N	10:M:54:GLU:OE2	2.28	0.64
12:J:8:VAL:HG11	12:P:462:LEU:HD13	1.78	0.64
2:D:26:GLU:N	2:D:26:GLU:OE2	2.31	0.64
14:V:142:GLU:OE1	14:V:142:GLU:N	2.31	0.64
13:Y:145:CYS:O	13:Y:149:LEU:HB2	1.97	0.64
14:U:106:LEU:HB3	14:U:118:TYR:HB2	1.80	0.64
10:M:54:GLU:HG2	10:M:55:MET:HE3	1.80	0.64
6:O:742:GLN:OE1	6:O:742:GLN:N	2.31	0.64
8:K:78:ARG:NH2	8:Q:17:GLN:OE1	2.30	0.64
13:Y:94:ARG:NH2	13:Z:333:ASN:O	2.31	0.64
3:A:1482:LEU:HG	8:K:552:MET:HG2	1.80	0.64
9:G:2:LEU:HD11	8:Q:276:VAL:HG11	1.80	0.64
14:U:464:ASP:OD2	14:U:468:MET:N	2.31	0.63
15:R:188:PHE:H	15:R:447:LEU:HD12	1.63	0.63
15:R:267:LEU:HB3	15:R:296:ARG:HH11	1.62	0.63
15:R:458:ILE:HG23	15:R:473:PHE:CZ	2.32	0.63
15:R:458:ILE:HG13	15:R:470:TRP:HB2	1.80	0.63
7:S:387:TYR:HE1	7:S:392:GLN:HA	1.63	0.63
12:P:526:ARG:NH1	12:P:530:ASN:O	2.32	0.63
14:U:490:TYR:HE2	14:U:512:ALA:HA	1.62	0.63
3:A:249:LEU:HD13	3:A:256:VAL:HG22	1.79	0.63
4:N:691:LEU:HD21	4:N:695:ARG:HH21	1.64	0.63
12:J:23:ASP:OD1	12:P:150:SER:N	2.22	0.63
15:R:401:GLN:HE22	15:R:445:ARG:HH11	1.44	0.63
3:A:981:GLN:H	3:A:1700:LYS:HZ2	1.47	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:K:419:LYS:O	8:K:419:LYS:NZ	2.32	0.63
3:A:979:GLY:O	3:A:1700:LYS:NZ	2.29	0.63
3:A:1591:HIS:O	3:A:1607:ARG:NH2	2.32	0.63
5:I:714:LEU:HD13	5:I:717:MET:HB3	1.80	0.63
13:Y:83:HIS:HD2	13:Y:99:LYS:HG2	1.64	0.63
4:N:337:ALA:O	4:N:341:ILE:HG13	1.98	0.62
14:V:381:THR:HG21	14:V:412:LEU:HD21	1.81	0.62
3:A:1455:GLU:OE1	3:A:1455:GLU:N	2.32	0.62
3:A:1813:GLN:O	3:A:1817:VAL:HG23	1.99	0.62
16:C:62:LYS:HA	16:C:65:HIS:HE1	1.65	0.62
14:V:434:ARG:HH21	15:R:49:ILE:HD12	1.65	0.62
3:A:142:TYR:HB3	3:A:146:GLU:HG3	1.81	0.62
3:A:716:HIS:ND1	6:O:715:TYR:OH	2.28	0.62
4:N:248:HIS:HA	4:N:253:LEU:HD11	1.81	0.62
4:N:322:ARG:HH11	8:K:565:PHE:HE2	1.47	0.62
15:R:277:LEU:HD23	15:R:286:SER:HB2	1.81	0.62
2:D:40:TRP:O	2:D:44:ILE:HD12	2.00	0.62
3:A:42:LEU:HD13	14:V:363:ARG:HG2	1.82	0.62
13:Z:465:LEU:HD13	13:Z:482:LYS:HG2	1.81	0.62
4:N:679:GLU:OE1	4:N:683:LYS:NZ	2.33	0.62
4:N:562:LYS:NZ	16:C:40:PRO:O	2.31	0.62
10:M:13:ASP:OD2	14:U:356:ARG:NH2	2.33	0.62
13:Z:258:ILE:HD11	13:Z:277:LEU:HD13	1.81	0.62
4:N:574:ILE:HG21	4:N:622:TYR:HE1	1.65	0.62
4:N:577:GLU:OE1	4:N:581:ARG:NH1	2.33	0.61
12:P:502:LEU:HB3	12:P:525:VAL:HG22	1.82	0.61
13:Y:61:LEU:HD11	13:Y:80:LEU:HD13	1.80	0.61
3:A:1802:ARG:HG3	3:A:1804:GLU:HG2	1.82	0.61
6:O:570:HIS:HA	6:O:573:LYS:NZ	2.16	0.61
3:A:1337:GLN:OE1	3:A:1337:GLN:N	2.32	0.61
4:N:189:ARG:HG3	4:N:196:ASP:HB2	1.82	0.61
5:I:217:LEU:HD23	5:I:236:LEU:HD12	1.82	0.61
8:K:453:HIS:HE1	9:W:11:LEU:HG	1.64	0.61
12:P:486:ASN:O	12:P:490:HIS:ND1	2.31	0.61
3:A:1595:HIS:ND1	3:A:1596:SER:O	2.32	0.61
4:N:685:VAL:HB	4:N:687:MET:HG3	1.83	0.61
6:O:301:ARG:NH1	6:O:336:ASP:OD2	2.30	0.61
7:S:334:GLN:OE1	7:S:334:GLN:N	2.32	0.61
8:K:284:LEU:HG	8:K:308:TYR:HB2	1.81	0.61
11:H:100:GLU:OE2	11:H:100:GLU:N	2.22	0.61
13:Y:246:VAL:HG22	13:Y:280:LEU:HD11	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:398:GLU:OE2	13:Y:401:ARG:NH2	2.33	0.61
4:N:405:LYS:HD2	4:N:408:ARG:HH21	1.66	0.61
3:A:1196:TYR:HA	3:A:1199:LYS:HD3	1.82	0.61
9:W:10:GLU:N	9:W:10:GLU:OE2	2.34	0.61
15:R:236:GLY:HA3	15:R:277:LEU:HD12	1.83	0.61
13:Y:302:PRO:O	13:Y:330:ARG:NH1	2.34	0.61
14:U:151:LEU:HD22	14:U:178:VAL:HG23	1.82	0.61
12:P:465:LEU:O	12:P:469:MET:HG3	2.01	0.60
5:I:255:PHE:HE2	5:I:540:PRO:HG3	1.66	0.60
7:S:359:HIS:HE1	16:C:59:CYS:HA	1.66	0.60
14:U:521:PHE:HB2	14:U:549:LEU:HD11	1.84	0.60
3:A:765:VAL:HA	3:A:768:LEU:HD12	1.83	0.60
5:I:692:ARG:HH11	5:I:694:ASP:HB3	1.66	0.60
8:K:423:LYS:NZ	8:K:427:ASP:OD2	2.33	0.60
14:U:318:TYR:HA	14:U:321:HIS:CD2	2.37	0.60
13:Z:342:TRP:HE3	13:Z:361:LEU:HD22	1.67	0.60
5:I:185:ILE:HG12	5:I:201:ILE:HG13	1.84	0.60
6:O:58:ARG:HG3	6:O:62:GLN:HE22	1.66	0.60
3:A:766:LEU:HB3	3:A:790:LEU:HD21	1.82	0.60
6:O:265:GLN:N	6:O:265:GLN:OE1	2.34	0.60
6:O:648:ILE:HD11	6:O:663:ALA:HB1	1.84	0.60
12:J:566:SER:OG	12:J:568:GLU:OE1	2.20	0.60
13:Y:466:ASP:OD1	13:Y:467:LYS:N	2.34	0.60
3:A:225:CYS:HB3	3:A:239:VAL:HG22	1.83	0.60
14:V:526:TRP:HE1	14:V:556:LEU:HD23	1.65	0.60
1:L:164:GLU:OE1	1:L:165:SER:N	2.34	0.60
4:N:689:VAL:HA	4:N:692:LEU:HD12	1.84	0.60
15:R:299:ARG:HE	15:R:302:PRO:HG3	1.66	0.60
6:O:695:ASN:OD1	6:O:717:GLN:NE2	2.35	0.60
7:S:120:ASN:OD1	15:R:445:ARG:NH2	2.34	0.60
3:A:1672:ARG:NH2	3:A:1713:MET:O	2.35	0.60
4:N:415:VAL:O	4:N:419:VAL:HG12	2.02	0.60
8:K:442:ASP:OD1	8:K:442:ASP:N	2.34	0.60
9:G:21:ASN:HA	9:G:24:LYS:NZ	2.17	0.60
15:R:317:CYS:HB2	15:R:359:LYS:HG3	1.84	0.60
13:Y:170:LYS:HE3	13:Z:48:GLY:HA3	1.84	0.60
3:A:1926:ARG:HA	4:N:77:GLU:HG2	1.84	0.59
13:Z:44:MET:HB3	13:Z:49:LEU:HD11	1.82	0.59
5:I:374:GLN:NE2	6:O:689:ALA:O	2.33	0.59
11:H:96:PHE:HB3	12:P:595:GLN:HB3	1.84	0.59
15:R:373:SER:HB3	15:R:383:ARG:HB2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:981:GLN:OE1	3:A:1700:LYS:NZ	2.34	0.59
3:A:1054:TYR:HB2	3:A:1057:LEU:HG	1.83	0.59
3:A:663:CYS:O	3:A:667:MET:HG2	2.03	0.59
4:N:571:ASN:ND2	4:N:622:TYR:OH	2.36	0.59
5:I:177:VAL:HG22	5:I:208:LEU:HD13	1.84	0.59
12:J:446:THR:HB	12:J:449:ILE:HG12	1.83	0.59
14:U:252:GLN:NE2	14:U:256:ASP:OD1	2.34	0.59
13:Z:411:GLU:HA	13:Z:414:ILE:HD12	1.84	0.59
4:N:365:LEU:HD11	4:N:374:LEU:HD13	1.83	0.59
15:R:289:ARG:HG3	15:R:315:GLU:HB2	1.84	0.59
3:A:1431:PRO:HG2	3:A:1434:ILE:HG12	1.84	0.59
4:N:506:VAL:HG23	4:N:515:PHE:HD2	1.66	0.59
5:I:75:PRO:HG2	5:I:117:GLU:HB2	1.83	0.59
5:I:231:VAL:HG23	5:I:556:LEU:HB2	1.84	0.59
5:I:254:LYS:O	5:I:258:ILE:HG12	2.03	0.59
8:K:193:LEU:O	8:K:198:GLN:NE2	2.36	0.59
8:Q:401:ASP:HB3	8:Q:404:VAL:HG22	1.85	0.59
15:R:121:THR:HG22	15:R:123:GLU:H	1.66	0.59
15:R:386:ASN:HD21	15:R:393:LEU:HD13	1.66	0.59
4:N:554:MET:HB2	4:N:557:CYS:HB3	1.83	0.59
5:I:47:HIS:CE1	5:I:54:ARG:HB2	2.38	0.59
8:K:180:GLU:OE1	8:K:180:GLU:N	2.35	0.59
8:K:496:GLU:OE2	12:P:660:LYS:NZ	2.30	0.59
13:Z:222:MET:O	13:Z:225:ASN:ND2	2.36	0.59
3:A:941:LEU:HG	3:A:977:LEU:HD12	1.85	0.59
7:S:393:ARG:HH22	7:S:404:ASP:HB3	1.67	0.59
3:A:436:LEU:HD23	3:A:638:LEU:HD13	1.85	0.59
2:D:11:ARG:NH1	6:O:416:GLU:OE2	2.36	0.58
8:Q:433:LYS:NZ	8:Q:437:ASN:O	2.29	0.58
3:A:45:ALA:O	14:V:180:ARG:NH1	2.28	0.58
3:A:183:THR:HG22	3:A:249:LEU:HD21	1.85	0.58
9:G:11:LEU:HD21	8:Q:456:ARG:HH12	1.68	0.58
13:Y:165:ARG:O	13:Y:165:ARG:NH1	2.33	0.58
15:R:239:GLU:OE2	15:R:281:ALA:N	2.37	0.58
13:Y:373:VAL:HA	13:Y:376:LEU:HD12	1.85	0.58
14:U:312:MET:SD	14:U:312:MET:N	2.76	0.58
14:V:435:MET:N	14:V:435:MET:SD	2.76	0.58
4:N:416:ILE:HD12	4:N:416:ILE:H	1.68	0.58
12:J:691:THR:HA	12:J:694:LYS:HE3	1.84	0.58
2:D:45:ALA:HA	14:U:378:MET:SD	2.42	0.58
3:A:1409:LEU:HD22	3:A:1470:LEU:HD23	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1917:LYS:O	3:A:1920:GLN:NE2	2.30	0.58
4:N:513:ASP:OD2	7:S:380:ARG:NH2	2.30	0.58
12:J:618:ASP:OD1	12:J:618:ASP:N	2.36	0.58
14:V:373:HIS:HD1	14:V:388:TYR:HH	1.51	0.58
3:A:1306:CYS:HB2	3:A:1374:ILE:HG12	1.85	0.58
12:J:155:LEU:HD12	12:J:158:ILE:HD11	1.85	0.58
12:P:648:GLN:OE1	12:P:650:LYS:NZ	2.37	0.58
4:N:311:ARG:HB2	4:N:312:PRO:HD3	1.85	0.58
12:P:690:ASP:OD1	12:P:691:THR:N	2.37	0.58
3:A:271:LEU:HD11	3:A:407:LEU:HD23	1.86	0.58
4:N:369:ASP:OD1	4:N:370:GLN:NE2	2.36	0.58
4:N:641:LEU:HB3	16:C:11:VAL:HB	1.85	0.58
5:I:397:ILE:O	5:I:401:ASN:ND2	2.37	0.58
7:S:366:ALA:O	16:C:27:ARG:NH1	2.37	0.58
12:J:5:GLN:N	12:J:5:GLN:OE1	2.35	0.58
3:A:137:LYS:HE2	3:A:273:ARG:HH11	1.69	0.58
5:I:272:MET:HG2	5:I:347:LEU:HD22	1.86	0.58
6:O:80:LYS:NZ	6:O:84:GLU:OE1	2.37	0.58
13:Z:340:GLU:HG2	13:Z:341:PRO:HD3	1.85	0.58
3:A:1430:VAL:O	3:A:1435:ARG:NH2	2.36	0.57
5:I:386:ILE:O	5:I:390:ILE:HG12	2.04	0.57
7:S:325:LEU:HG	15:R:212:TRP:HB2	1.85	0.57
3:A:1800:LEU:HD23	3:A:1852:ILE:HD12	1.86	0.57
4:N:401:ILE:HG23	4:N:501:ILE:HD12	1.86	0.57
5:I:645:ASP:OD1	5:I:648:THR:N	2.31	0.57
8:K:24:PHE:CE1	8:K:28:LYS:HE2	2.38	0.57
14:U:214:THR:HG21	14:U:396:LYS:HD2	1.85	0.57
14:U:490:TYR:O	14:U:494:ILE:HG12	2.04	0.57
3:A:1063:ILE:HA	3:A:1066:LYS:HE2	1.86	0.57
3:A:1067:GLU:OE2	3:A:1124:ASN:ND2	2.37	0.57
4:N:306:GLN:HG3	4:N:324:TRP:HH2	1.69	0.57
5:I:7:CYS:SG	5:I:628:THR:OG1	2.61	0.57
7:S:119:GLU:HB3	15:R:333:ASN:HD21	1.69	0.57
3:A:1037:VAL:HG13	3:A:1562:LEU:HD21	1.86	0.57
13:Z:227:ILE:HD11	13:Z:234:ASP:HA	1.86	0.57
13:Z:451:CYS:HB2	13:Z:457:THR:HG21	1.87	0.57
15:R:276:ALA:HB1	15:R:319:LEU:HB2	1.86	0.57
3:A:664:LEU:HD21	3:A:762:ILE:HD11	1.85	0.57
6:O:698:LYS:HB2	6:O:713:VAL:HG11	1.85	0.57
11:H:82:LEU:HB3	12:P:577:PHE:HE2	1.70	0.57
6:O:70:GLY:O	6:O:211:GLN:NE2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:K:172:SER:H	8:K:175:MET:HG2	1.69	0.57
8:K:195:ASN:ND2	8:K:196:GLU:OE1	2.38	0.57
12:J:549:ASP:OD1	12:J:580:GLN:NE2	2.27	0.57
3:A:1742:THR:HG22	3:A:1744:ASP:H	1.68	0.57
15:R:353:GLU:O	15:R:383:ARG:NE	2.37	0.57
15:R:419:GLY:O	15:R:423:ASN:ND2	2.38	0.57
2:D:29:GLU:OE1	2:D:29:GLU:N	2.38	0.57
4:N:340:ARG:NH1	4:N:343:GLU:OE2	2.36	0.57
12:J:165:ASP:HA	12:J:467:ARG:HD3	1.86	0.57
3:A:462:ASP:OD2	3:A:464:THR:OG1	2.23	0.57
3:A:641:TRP:HD1	3:A:663:CYS:HG	1.51	0.57
3:A:668:MET:HG2	3:A:755:LEU:HB2	1.85	0.57
13:Y:80:LEU:HG	13:Y:103:ALA:HB2	1.85	0.57
4:N:375:LEU:O	4:N:379:LYS:HG2	2.04	0.57
8:Q:194:CYS:SG	8:Q:195:ASN:N	2.77	0.57
14:U:297:ILE:O	14:U:297:ILE:HD12	2.04	0.57
16:C:26:CYS:SG	16:C:28:MET:HB2	2.45	0.57
4:N:502:ILE:HB	4:N:548:ARG:HH21	1.70	0.56
7:S:381:CYS:SG	7:S:401:CYS:HB3	2.45	0.56
11:H:88:GLU:OE2	11:H:88:GLU:N	2.21	0.56
3:A:726:ARG:NH2	3:A:730:LEU:O	2.39	0.56
3:A:1776:TYR:O	3:A:1780:THR:HG23	2.04	0.56
6:O:216:LEU:HD22	6:O:256:LEU:HD22	1.87	0.56
13:Y:311:TYR:HD2	13:Y:327:LEU:HD22	1.70	0.56
13:Z:440:ASN:HB3	13:Z:443:THR:HG23	1.86	0.56
3:A:497:LEU:HB3	3:A:509:VAL:HB	1.86	0.56
3:A:845:TYR:HB3	3:A:1812:TRP:CE2	2.40	0.56
3:A:959:ILE:HG23	3:A:978:ILE:HA	1.87	0.56
4:N:663:GLN:HA	4:N:666:ILE:HG12	1.87	0.56
8:K:91:ASP:O	8:K:95:MET:HB3	2.06	0.56
8:K:230:ASN:HD21	8:Q:28:LYS:HE3	1.70	0.56
10:M:48:GLU:OE1	10:M:53:GLN:HB3	2.05	0.56
11:H:99:ILE:HG12	12:P:591:GLN:HG2	1.87	0.56
13:Y:529:MET:SD	13:Y:552:MET:HG2	2.45	0.56
14:U:517:ALA:HB1	14:U:549:LEU:HD13	1.87	0.56
14:U:537:CYS:HA	14:U:543:ARG:HA	1.85	0.56
16:C:61:LEU:O	16:C:65:HIS:ND1	2.39	0.56
3:A:1401:PRO:HB2	3:A:1463:TYR:CD2	2.39	0.56
6:O:627:LEU:O	6:O:631:GLN:HG2	2.06	0.56
10:M:31:ILE:HG22	10:M:33:LEU:H	1.71	0.56
14:V:244:ILE:HG21	14:V:276:ILE:HG13	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Z:376:LEU:HD21	13:Z:398:GLU:HB3	1.86	0.56
15:R:257:ASP:HB3	15:R:262:LYS:H	1.69	0.56
3:A:773:LEU:HD21	3:A:779:MET:HG3	1.88	0.56
4:N:306:GLN:HG3	4:N:324:TRP:CH2	2.40	0.56
5:I:185:ILE:HB	5:I:198:VAL:HB	1.88	0.56
8:Q:174:HIS:HB2	8:Q:364:MET:SD	2.46	0.56
13:Y:193:LYS:HA	13:Y:196:LEU:HG	1.87	0.56
13:Y:463:THR:O	13:Y:467:LYS:NZ	2.38	0.56
13:Y:464:LEU:HA	13:Y:467:LYS:HZ3	1.69	0.56
15:R:183:GLU:O	15:R:206:GLY:N	2.38	0.56
3:A:1051:VAL:HG21	3:A:1066:LYS:HG2	1.86	0.56
5:I:211:SER:HB3	5:I:584:HIS:HE2	1.70	0.56
8:K:173:HIS:O	8:K:364:MET:HG2	2.05	0.56
8:Q:320:ARG:HD3	8:Q:344:PHE:CZ	2.41	0.56
13:Y:268:ARG:O	13:Z:66:ASN:ND2	2.33	0.56
14:U:301:ASP:N	14:U:301:ASP:OD1	2.39	0.56
15:R:211:LEU:HG	15:R:220:THR:HB	1.88	0.56
1:L:66:ILE:HD13	1:L:158:ILE:HD11	1.87	0.56
3:A:188:LEU:HD11	3:A:223:LEU:HD13	1.88	0.56
3:A:1217:LEU:HD22	3:A:1612:LEU:HD22	1.86	0.56
5:I:162:ASP:OD2	5:I:162:ASP:N	2.35	0.56
12:J:153:GLU:OE1	12:P:22:ARG:NH2	2.39	0.56
13:Y:54:ARG:NE	13:Y:92:GLU:OE2	2.39	0.56
13:Y:291:VAL:O	13:Y:295:GLU:HG3	2.05	0.56
13:Y:330:ARG:O	13:Y:334:ILE:HG23	2.04	0.56
4:N:224:CYS:HB2	4:N:232:TRP:CD1	2.41	0.56
5:I:269:LEU:HD22	5:I:526:LYS:HD3	1.88	0.56
5:I:341:TYR:HB3	5:I:411:MET:HE2	1.88	0.56
12:J:132:ALA:O	12:J:136:GLU:HG2	2.06	0.56
13:Y:49:LEU:HD11	13:Z:169:PRO:HB2	1.88	0.56
16:C:64:LEU:O	16:C:67:GLN:NE2	2.29	0.56
4:N:83:LEU:HB3	4:N:160:VAL:HG11	1.87	0.56
14:U:304:SER:HB3	14:U:336:VAL:HG22	1.88	0.56
13:Y:309:ASP:N	13:Y:309:ASP:OD1	2.39	0.56
14:U:464:ASP:OD2	14:U:469:ALA:N	2.36	0.56
13:Z:305:ILE:HA	13:Z:308:MET:HE1	1.87	0.56
4:N:112:LEU:HD21	4:N:243:LEU:HB2	1.87	0.55
5:I:680:SER:O	5:I:684:GLN:NE2	2.39	0.55
8:K:171:THR:HG22	8:K:176:LEU:HD12	1.88	0.55
8:K:417:GLU:OE1	8:K:417:GLU:N	2.39	0.55
14:U:490:TYR:CE2	14:U:512:ALA:HA	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:641:TRP:HA	3:A:644:VAL:HG22	1.87	0.55
6:O:624:VAL:HG11	6:O:647:ALA:HB1	1.87	0.55
12:J:166:GLN:O	12:J:169:LYS:NZ	2.33	0.55
12:J:524:GLU:OE2	12:J:527:ARG:NH2	2.39	0.55
8:K:13:TYR:OH	8:Q:160:ASP:OD2	2.22	0.55
3:A:770:TYR:OH	3:A:809:ASP:OD2	2.23	0.55
5:I:60:PRO:HB2	5:I:66:LYS:HZ2	1.72	0.55
5:I:616:ILE:HA	5:I:700:ILE:HD11	1.88	0.55
6:O:105:LEU:HD11	6:O:151:VAL:HG12	1.89	0.55
13:Y:210:LEU:HA	13:Y:214:VAL:HG12	1.88	0.55
3:A:506:VAL:HG22	3:A:639:VAL:HG22	1.87	0.55
13:Y:322:GLU:HG2	13:Y:326:ASN:HD21	1.72	0.55
13:Y:429:MET:HA	13:Y:432:ASN:HD21	1.71	0.55
13:Z:36:ASN:O	13:Z:40:HIS:ND1	2.40	0.55
15:R:366:HIS:NE2	15:R:411:ALA:O	2.33	0.55
3:A:464:THR:OG1	3:A:465:GLN:OE1	2.23	0.55
3:A:1770:LEU:O	3:A:1774:VAL:HG23	2.06	0.55
12:J:602:TYR:HE1	12:J:606:LEU:HD21	1.72	0.55
12:J:752:GLN:OE1	12:J:752:GLN:N	2.39	0.55
14:U:329:TYR:HE2	14:U:356:ARG:HH22	1.54	0.55
15:R:355:LEU:HD12	15:R:379:ASP:HA	1.89	0.55
5:I:87:THR:HB	5:I:89:LYS:HG2	1.89	0.55
8:Q:469:ARG:O	8:Q:469:ARG:HD3	2.07	0.55
3:A:134:SER:OG	3:A:136:ASP:OD1	2.21	0.55
3:A:160:ASN:HD22	3:A:170:ILE:HG12	1.72	0.55
3:A:1078:MET:HB3	3:A:1135:ALA:HB2	1.87	0.55
6:O:356:ASP:OD1	6:O:356:ASP:N	2.39	0.55
13:Z:291:VAL:HG23	13:Z:311:TYR:HE1	1.72	0.55
3:A:15:ARG:HG3	3:A:610:PRO:HG3	1.88	0.55
3:A:731:SER:O	6:O:719:ARG:NH2	2.40	0.55
3:A:775:LEU:HD11	3:A:844:ILE:HD13	1.89	0.55
4:N:660:THR:HG23	4:N:663:GLN:H	1.71	0.55
8:Q:476:PRO:HG2	14:U:182:LEU:HD22	1.88	0.55
14:V:290:ARG:NH2	14:V:322:ASN:OD1	2.40	0.55
15:R:250:LYS:HB2	15:R:252:PHE:CE1	2.42	0.55
2:D:33:GLN:HE21	6:O:26:ILE:HG22	1.71	0.54
4:N:573:ASN:O	4:N:576:GLU:HG3	2.07	0.54
8:K:249:MET:HE2	8:K:253:LEU:HG	1.89	0.54
13:Y:363:ALA:N	13:Y:379:LYS:HD3	2.22	0.54
13:Z:271:VAL:HG11	13:Z:301:ASP:HB2	1.87	0.54
4:N:290:HIS:CE1	8:K:566:ARG:HD3	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:644:TYR:H	5:I:649:VAL:HA	1.73	0.54
7:S:396:CYS:HB3	7:S:403:PHE:H	1.72	0.54
8:K:261:ASP:OD2	8:Q:55:ARG:NH2	2.40	0.54
13:Y:267:LEU:HD23	13:Y:267:LEU:H	1.72	0.54
15:R:239:GLU:OE1	15:R:239:GLU:N	2.39	0.54
5:I:700:ILE:HD12	5:I:701:PRO:HD2	1.87	0.54
12:J:530:ASN:OD1	12:P:59:ARG:NH1	2.40	0.54
8:Q:325:LYS:HE3	8:Q:329:LEU:HD11	1.87	0.54
8:Q:371:MET:HB2	8:Q:394:ALA:HB2	1.89	0.54
13:Z:440:ASN:O	13:Z:444:LEU:HD12	2.07	0.54
15:R:268:GLU:O	15:R:296:ARG:NH1	2.40	0.54
16:C:60:ILE:O	16:C:64:LEU:HB2	2.06	0.54
12:P:165:ASP:OD1	12:P:165:ASP:N	2.40	0.54
13:Z:341:PRO:HA	13:Z:344:VAL:HG12	1.89	0.54
1:L:175:THR:HG21	12:P:733:VAL:HG11	1.89	0.54
3:A:1496:MET:HE1	3:A:1538:LEU:HD22	1.90	0.54
12:P:462:LEU:O	12:P:466:LEU:HG	2.08	0.54
8:Q:368:HIS:NE2	8:Q:401:ASP:OD2	2.41	0.54
13:Z:339:ALA:O	13:Z:343:VAL:HG23	2.08	0.54
15:R:267:LEU:HD23	15:R:296:ARG:HB2	1.89	0.54
8:Q:218:THR:HG21	8:Q:241:HIS:CD2	2.43	0.54
13:Y:159:LEU:HD13	13:Y:175:LEU:HG	1.90	0.54
14:U:540:ASN:OD1	14:U:543:ARG:NH1	2.39	0.54
14:V:106:LEU:HD22	14:V:114:ALA:HB1	1.89	0.54
15:R:429:LYS:HG3	15:R:431:PRO:HD2	1.89	0.54
5:I:107:GLU:OE1	5:I:197:ARG:NH2	2.40	0.54
12:J:583:HIS:O	12:J:587:ILE:HG13	2.08	0.54
13:Z:143:ALA:O	13:Z:147:THR:HG23	2.08	0.54
15:R:124:LYS:HD3	15:R:124:LYS:N	2.22	0.54
3:A:27:HIS:HB3	3:A:101:ILE:HD13	1.89	0.54
13:Z:460:LYS:HA	13:Z:463:THR:HG22	1.89	0.54
5:I:583:LEU:HD13	5:I:604:HIS:HA	1.90	0.54
6:O:462:ASN:OD1	6:O:496:ARG:NE	2.35	0.54
11:H:70:VAL:HG22	13:Y:357:ARG:HD3	1.90	0.54
14:U:389:ARG:NH2	14:U:421:TYR:OH	2.41	0.54
13:Z:373:VAL:HG21	13:Z:403:ALA:HB2	1.89	0.54
15:R:323:THR:HG21	15:R:365:PRO:HA	1.90	0.54
3:A:252:ASP:HB2	3:A:253:PRO:HD3	1.89	0.54
4:N:362:LYS:HB2	4:N:410:LEU:HD12	1.90	0.54
9:G:23:ARG:NH1	8:Q:525:MET:SD	2.81	0.54
8:Q:307:CYS:O	8:Q:311:MET:HG3	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:458:GLN:OE1	13:Y:458:GLN:N	2.32	0.54
3:A:720:GLU:O	3:A:725:ASN:ND2	2.40	0.53
4:N:300:LEU:HA	4:N:303:VAL:HG12	1.90	0.53
9:G:4:ARG:NH2	8:Q:377:GLU:OE2	2.41	0.53
12:P:93:SER:OG	12:P:94:GLY:N	2.41	0.53
14:V:526:TRP:HA	14:V:529:ALA:HB3	1.89	0.53
3:A:90:ASP:OD2	3:A:606:ARG:NH2	2.38	0.53
3:A:864:PRO:HB3	3:A:898:ARG:HH12	1.73	0.53
3:A:1273:LEU:O	3:A:1277:ILE:HG13	2.08	0.53
8:Q:254:THR:OG1	8:Q:267:CYS:SG	2.67	0.53
8:Q:372:LEU:HD13	8:Q:404:VAL:HG12	1.90	0.53
13:Y:322:GLU:O	13:Y:325:GLU:HG3	2.08	0.53
15:R:487:SER:OG	15:R:488:VAL:N	2.40	0.53
3:A:133:ILE:HG22	3:A:215:HIS:HE2	1.72	0.53
4:N:407:LEU:HD12	4:N:417:LEU:HD13	1.88	0.53
4:N:690:ALA:O	4:N:694:ARG:HG3	2.09	0.53
12:P:584:ASP:N	12:P:584:ASP:OD1	2.38	0.53
15:R:422:GLN:NE2	15:R:424:GLN:HG2	2.23	0.53
3:A:1723:VAL:HG22	4:N:254:GLU:HG2	1.90	0.53
7:S:324:PRO:HA	15:R:182:PRO:HD3	1.90	0.53
10:M:3:SER:OG	14:U:180:ARG:NH2	2.42	0.53
12:J:58:TYR:HB2	12:J:78:CYS:HB3	1.90	0.53
13:Y:373:VAL:HG11	13:Y:403:ALA:HB2	1.89	0.53
5:I:615:LEU:HG	5:I:700:ILE:HD13	1.89	0.53
6:O:365:VAL:O	6:O:369:VAL:HG22	2.08	0.53
6:O:43:GLU:OE2	6:O:96:ARG:NH2	2.42	0.53
7:S:359:HIS:CE1	16:C:59:CYS:HA	2.42	0.53
12:J:668:SER:OG	12:J:671:LEU:HB2	2.09	0.53
13:Y:179:TYR:CD2	13:Y:187:PRO:HB2	2.44	0.53
13:Z:224:MET:O	13:Z:228:GLN:HG2	2.09	0.53
4:N:442:LEU:HD22	4:N:456:LEU:HD22	1.91	0.53
15:R:245:ALA:HA	15:R:255:ILE:HA	1.91	0.53
3:A:478:ASP:HB3	3:A:587:ILE:HG13	1.91	0.53
3:A:1849:LYS:HE2	3:A:1926:ARG:HH11	1.74	0.53
4:N:289:PHE:O	4:N:293:ILE:HG12	2.09	0.53
4:N:646:MET:HG2	16:C:5:ILE:HG12	1.91	0.53
5:I:583:LEU:HD11	5:I:611:VAL:HG21	1.89	0.53
6:O:209:GLN:OE1	6:O:247:ASN:ND2	2.42	0.53
1:L:164:GLU:CD	1:L:165:SER:H	2.12	0.53
3:A:121:SER:OG	3:A:155:GLN:OE1	2.26	0.53
3:A:1733:PHE:HE1	3:A:1775:LEU:HD23	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:647:ASP:N	16:C:4:LYS:O	2.37	0.53
8:K:236:SER:OG	8:K:240:ARG:NH1	2.42	0.53
10:M:49:SER:OG	10:M:52:GLU:OE2	2.26	0.53
12:J:142:LEU:HD11	12:J:152:PHE:HB2	1.91	0.53
12:P:691:THR:HA	12:P:694:LYS:HE3	1.90	0.53
13:Z:274:LEU:HD13	13:Z:297:ALA:HA	1.91	0.53
3:A:641:TRP:HE1	3:A:660:PHE:HA	1.74	0.53
4:N:586:GLN:HG2	4:N:587:PRO:HD2	1.91	0.53
5:I:255:PHE:HE1	5:I:366:LEU:HD21	1.74	0.53
5:I:595:LEU:HG	5:I:635:ILE:HD11	1.90	0.53
5:I:696:GLN:HB3	5:I:699:ALA:HB3	1.91	0.53
6:O:109:GLU:HB3	14:U:344:ARG:CZ	2.39	0.53
14:U:314:SER:OG	14:U:315:GLU:OE1	2.26	0.53
3:A:1794:ASP:O	3:A:1798:ARG:HG3	2.09	0.52
3:A:1797:ILE:HG22	3:A:1852:ILE:HD11	1.91	0.52
6:O:16:ASN:OD1	6:O:18:VAL:N	2.40	0.52
14:U:213:ILE:HG23	14:U:218:MET:HG3	1.91	0.52
13:Z:418:LEU:HD23	13:Z:423:ILE:HG13	1.90	0.52
3:A:133:ILE:HG22	3:A:215:HIS:NE2	2.24	0.52
3:A:1031:ASP:HB2	4:N:482:PRO:HB2	1.90	0.52
12:J:521:ILE:O	12:J:525:VAL:HG23	2.10	0.52
8:Q:309:TYR:HA	8:Q:312:VAL:HG22	1.92	0.52
13:Y:224:MET:O	13:Y:228:GLN:NE2	2.41	0.52
13:Y:401:ARG:HH21	13:Y:402:LEU:HG	1.74	0.52
14:U:96:VAL:HG21	14:V:53:LYS:HD3	1.91	0.52
14:U:554:LEU:HA	14:U:557:ARG:HG2	1.92	0.52
16:C:72:HIS:HA	16:C:79:GLU:HA	1.91	0.52
3:A:1342:ARG:HA	3:A:1346:LYS:HB2	1.91	0.52
3:A:1910:SER:N	3:A:1913:GLU:OE2	2.41	0.52
5:I:486:LEU:HD23	5:I:486:LEU:H	1.74	0.52
5:I:624:THR:O	5:I:711:TRP:NE1	2.27	0.52
7:S:399:GLU:OE1	7:S:399:GLU:N	2.43	0.52
8:K:325:LYS:HZ1	10:M:54:GLU:HB2	1.73	0.52
8:Q:442:ASP:N	8:Q:442:ASP:OD1	2.42	0.52
13:Y:270:ASN:HA	13:Z:62:THR:HG21	1.91	0.52
15:R:274:VAL:HA	15:R:288:SER:HB2	1.90	0.52
15:R:362:ALA:HB3	15:R:372:ALA:HB3	1.91	0.52
3:A:1221:ASP:OD2	3:A:1224:ILE:HG12	2.09	0.52
3:A:1239:THR:OG1	3:A:1240:SER:N	2.41	0.52
4:N:63:ARG:HH21	4:N:140:LEU:HA	1.73	0.52
4:N:682:SER:HB2	4:N:692:LEU:HD11	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:O:60:LEU:O	6:O:64:LEU:HG	2.08	0.52
8:K:342:HIS:ND1	8:K:357:TYR:OH	2.31	0.52
13:Y:102:MET:N	13:Y:102:MET:SD	2.82	0.52
15:R:223:CYS:SG	15:R:225:LEU:HD23	2.49	0.52
3:A:1617:ARG:HA	3:A:1691:LEU:HD13	1.90	0.52
3:A:1833:HIS:O	3:A:1836:ARG:NE	2.38	0.52
4:N:643:LEU:O	16:C:9:ASN:ND2	2.42	0.52
7:S:119:GLU:HB2	15:R:188:PHE:CE2	2.44	0.52
6:O:648:ILE:HD12	6:O:651:ILE:HD12	1.91	0.52
6:O:729:GLU:HA	6:O:732:ARG:HG2	1.92	0.52
7:S:391:LEU:HB3	7:S:393:ARG:HG3	1.92	0.52
15:R:187:ASP:HB3	15:R:189:TYR:H	1.75	0.52
16:C:50:GLN:OE1	16:C:81:LYS:HB2	2.08	0.52
3:A:1847:VAL:HG11	4:N:163:PHE:CG	2.45	0.52
14:U:219:LEU:HA	14:U:222:LEU:HG	1.90	0.52
3:A:761:ALA:O	3:A:765:VAL:HG22	2.10	0.52
3:A:1792:ALA:HB2	6:O:598:THR:HG21	1.91	0.52
4:N:687:MET:HE1	4:N:691:LEU:HB3	1.92	0.52
5:I:477:GLN:HB2	5:I:486:LEU:HB2	1.91	0.52
8:Q:417:GLU:HG3	8:Q:420:THR:HB	1.92	0.52
13:Y:430:ALA:HB1	13:Y:447:LEU:HD22	1.90	0.52
13:Z:220:ALA:HA	13:Z:223:THR:HG22	1.89	0.52
13:Z:466:ASP:N	13:Z:466:ASP:OD1	2.41	0.52
13:Y:411:GLU:HG3	13:Y:446:LEU:HD22	1.91	0.52
13:Z:339:ALA:HB1	13:Z:365:ALA:HB1	1.92	0.52
15:R:193:VAL:HG22	15:R:448:TYR:HB3	1.91	0.52
3:A:1432:GLN:O	3:A:1436:GLU:HG2	2.09	0.52
3:A:1878:GLU:HG2	3:A:1880:SER:H	1.75	0.52
4:N:351:PHE:CE1	4:N:409:VAL:HG11	2.44	0.52
5:I:368:GLY:HA3	6:O:653:ALA:HB2	1.92	0.52
5:I:540:PRO:HA	5:I:543:VAL:HG22	1.92	0.52
6:O:594:SER:O	6:O:594:SER:OG	2.25	0.52
14:V:24:SER:HB2	14:V:228:TRP:HB3	1.92	0.52
4:N:645:THR:HG22	16:C:6:LYS:HD3	1.92	0.51
8:K:367:CYS:O	8:K:370:PRO:HD2	2.09	0.51
12:J:6:GLU:HB2	12:J:9:GLN:HB2	1.91	0.51
8:Q:216:SER:O	8:Q:244:ASN:ND2	2.30	0.51
14:U:531:THR:O	14:U:534:GLN:HG3	2.09	0.51
13:Z:239:TRP:CZ3	13:Z:243:TYR:HE2	2.29	0.51
15:R:295:GLN:HB3	15:R:307:ARG:HB3	1.91	0.51
3:A:161:MET:HB2	3:A:169:TYR:HB2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1789:ALA:O	3:A:1793:MET:HG3	2.10	0.51
5:I:198:VAL:HG13	5:I:548:MET:HE1	1.93	0.51
5:I:375:LYS:HD2	6:O:645:HIS:CE1	2.45	0.51
8:K:123:MET:SD	8:K:128:ILE:HB	2.49	0.51
9:G:15:ASP:O	8:Q:487:TYR:OH	2.20	0.51
12:J:629:ARG:NH1	12:J:629:ARG:O	2.43	0.51
8:Q:422:GLU:O	8:Q:426:LEU:HD12	2.10	0.51
14:V:316:LEU:HD23	14:V:343:LEU:HD12	1.92	0.51
3:A:107:LYS:O	3:A:111:LEU:HG	2.11	0.51
3:A:1742:THR:HG21	3:A:1747:LEU:HD12	1.92	0.51
4:N:108:LEU:HD13	4:N:232:TRP:HH2	1.74	0.51
4:N:221:CYS:N	4:N:226:SER:O	2.29	0.51
4:N:399:LEU:CD1	7:S:444:LEU:HD13	2.40	0.51
10:M:27:GLU:OE1	14:V:344:ARG:NH1	2.41	0.51
12:J:650:LYS:HB3	12:J:653:LEU:HD12	1.90	0.51
8:Q:383:ASN:ND2	8:Q:386:LEU:HD12	2.25	0.51
14:V:304:SER:HB3	14:V:336:VAL:HG22	1.91	0.51
4:N:706:ARG:HB2	4:N:716:ILE:HD11	1.93	0.51
5:I:230:GLU:HB2	5:I:558:ARG:HG3	1.92	0.51
5:I:471:ASN:N	5:I:471:ASN:OD1	2.41	0.51
14:U:95:ASP:HB3	14:V:49:LEU:HD22	1.91	0.51
14:V:206:TRP:NE1	14:V:229:MET:SD	2.84	0.51
2:D:53:PRO:O	8:Q:510[B]:ARG:NH2	2.44	0.51
3:A:1163:PRO:HB2	3:A:1168:LEU:HB2	1.92	0.51
3:A:1292:GLU:HG3	3:A:1362:VAL:HG22	1.93	0.51
3:A:1453:ASN:H	3:A:1453:ASN:HD22	1.57	0.51
13:Z:85:ASP:OD1	13:Z:86:SER:N	2.44	0.51
15:R:187:ASP:O	15:R:445:ARG:NH2	2.43	0.51
15:R:438:LYS:O	15:R:438:LYS:HG2	2.10	0.51
16:C:25:ILE:HD12	16:C:59:CYS:HB3	1.91	0.51
13:Y:359:LEU:HD12	13:Y:379:LYS:HD2	1.92	0.51
15:R:312:HIS:HD1	15:R:316:VAL:HG11	1.76	0.51
8:K:389:ARG:HH21	14:V:554:LEU:HD11	1.75	0.51
8:K:441:VAL:HB	8:K:474:LEU:HD22	1.92	0.51
8:K:449:ASN:ND2	9:W:9:LEU:O	2.42	0.51
12:P:527:ARG:HB3	13:Y:302:PRO:HG2	1.91	0.51
14:U:41:GLY:O	14:U:45:GLU:HG2	2.11	0.51
14:U:526:TRP:HA	14:U:553:ILE:HD11	1.93	0.51
1:L:89:TYR:HE2	1:L:150:ASP:HB2	1.76	0.51
4:N:290:HIS:HE1	8:K:566:ARG:HD3	1.75	0.51
5:I:514:PHE:H	6:O:443:GLN:HE22	1.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:586:LEU:HB3	5:I:601:LEU:HB3	1.92	0.51
10:M:24:LEU:HD21	14:V:337:ILE:HD12	1.93	0.51
15:R:313:ARG:NH1	15:R:333:ASN:O	2.44	0.51
3:A:720:GLU:OE2	6:O:719:ARG:NH1	2.44	0.51
4:N:174:GLN:HE22	4:N:263:THR:HB	1.74	0.51
8:Q:247:PHE:CZ	8:Q:277:GLU:HG3	2.46	0.51
13:Y:104:LEU:O	13:Y:108:LYS:HG2	2.11	0.51
13:Y:414:ILE:HD12	13:Y:446:LEU:HD21	1.93	0.51
13:Z:152:ASP:OD2	13:Z:153:LYS:N	2.44	0.51
7:S:358:ARG:HD3	7:S:358:ARG:N	2.26	0.51
7:S:439:LYS:O	7:S:443:ASN:ND2	2.44	0.51
13:Z:264:LYS:NZ	13:Z:266:LEU:HB2	2.25	0.51
3:A:1489:HIS:O	3:A:1493:LYS:HG2	2.12	0.50
15:R:424:GLN:HB2	15:R:439:LEU:O	2.11	0.50
3:A:40:ARG:HD3	14:V:142:GLU:OE2	2.11	0.50
4:N:227:ASP:H	4:N:230:GLN:HE21	1.59	0.50
5:I:310:TRP:HZ2	6:O:44:MET:HE2	1.76	0.50
7:S:369:LEU:HD12	7:S:370:LYS:N	2.26	0.50
3:A:1048:ARG:HH12	4:N:471:GLU:HG2	1.76	0.50
8:K:1:MET:SD	8:K:2:ASN:N	2.84	0.50
8:K:20:GLN:OE1	8:K:20:GLN:N	2.44	0.50
12:J:685:SER:HB3	12:J:716:ASN:HD21	1.77	0.50
12:P:115:CYS:SG	12:P:145:ASN:HB2	2.51	0.50
13:Y:278:ALA:HB1	13:Y:294:PHE:CD1	2.47	0.50
1:L:98:VAL:HB	1:L:134:THR:HG21	1.92	0.50
3:A:1232:ILE:HG22	3:A:1235:LEU:H	1.76	0.50
3:A:1925:VAL:HG11	4:N:70:VAL:HB	1.91	0.50
8:Q:6:LEU:O	8:Q:10:VAL:HG13	2.11	0.50
13:Y:52:ASN:OD1	13:Z:204:ASP:N	2.45	0.50
14:V:508:GLU:HA	14:V:511:THR:HG22	1.93	0.50
15:R:423:ASN:HD22	15:R:445:ARG:HA	1.75	0.50
2:D:25:VAL:HG12	2:D:28:THR:H	1.75	0.50
3:A:1843:GLU:HA	3:A:1846:PRO:HG2	1.93	0.50
13:Z:50:HIS:HB2	13:Z:89:HIS:ND1	2.26	0.50
13:Z:408:ASP:O	13:Z:411:GLU:HG3	2.11	0.50
15:R:314:GLN:NE2	15:R:315:GLU:O	2.44	0.50
3:A:1388:ARG:HH21	3:A:1411:ARG:HH21	1.60	0.50
5:I:216:SER:HA	5:I:237:GLU:HA	1.94	0.50
12:J:453:ASN:OD1	12:J:454:LEU:N	2.44	0.50
13:Y:210:LEU:HD21	13:Y:219:VAL:HG21	1.94	0.50
14:V:234:LEU:HA	14:V:237:ILE:HG22	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Z:250:ASP:OD2	13:Z:253:ARG:NH1	2.44	0.50
3:A:1287:TYR:CD2	3:A:1287:TYR:O	2.65	0.50
3:A:1653:ALA:O	3:A:1655:THR:N	2.41	0.50
3:A:1716:GLN:HA	3:A:1721:GLN:HE22	1.76	0.50
3:A:1720:ALA:HA	4:N:323:ARG:NH2	2.26	0.50
13:Z:413:LEU:HG	13:Z:417:TYR:CE2	2.46	0.50
13:Z:486:LEU:O	13:Z:490:GLN:N	2.43	0.50
15:R:307:ARG:NE	15:R:344:SER:O	2.41	0.50
2:D:25:VAL:HG12	2:D:28:THR:HG22	1.94	0.50
3:A:707:TRP:CD2	6:O:730:ARG:HD3	2.47	0.50
6:O:59:ARG:NH2	6:O:85:SER:O	2.38	0.50
6:O:408:LEU:HA	6:O:411:LYS:HB3	1.94	0.50
12:J:702:ASN:HB3	12:J:705:CYS:SG	2.52	0.50
8:Q:276:VAL:HA	8:Q:311:MET:SD	2.51	0.50
3:A:702:GLY:HA3	6:O:735:MET:CE	2.42	0.50
3:A:1137:PHE:O	3:A:1141:VAL:HG23	2.12	0.50
3:A:1726:ARG:HH22	3:A:1842:SER:HB3	1.77	0.50
4:N:350:ASP:N	4:N:350:ASP:OD1	2.44	0.50
4:N:687:MET:SD	4:N:692:LEU:HG	2.52	0.50
8:K:342:HIS:NE2	9:W:2:LEU:O	2.36	0.50
12:J:60:LEU:HD23	12:J:61:LEU:HD23	1.94	0.50
12:P:672:LEU:HB3	12:P:695:ALA:HB2	1.94	0.50
13:Y:259:CYS:O	13:Y:263:LYS:HG2	2.12	0.50
14:V:267:SER:OG	14:V:299:ASN:OD1	2.30	0.50
4:N:405:LYS:HD2	4:N:408:ARG:NH2	2.27	0.49
5:I:640:ASP:OD1	5:I:641:ALA:N	2.45	0.49
8:K:512:ASP:HB3	8:K:515:SER:HB2	1.94	0.49
13:Y:140:TYR:CZ	13:Y:170:LYS:HB2	2.47	0.49
14:U:301:ASP:OD2	14:U:364:TYR:OH	2.29	0.49
14:U:550:LEU:O	14:U:553:ILE:HG22	2.12	0.49
13:Z:50:HIS:O	13:Z:86:SER:OG	2.30	0.49
2:D:46:GLU:OE1	2:D:46:GLU:N	2.44	0.49
3:A:439:GLN:NE2	3:A:440:LYS:O	2.44	0.49
4:N:170:GLN:O	4:N:173:ILE:HG22	2.12	0.49
13:Z:304:LEU:C	13:Z:305:ILE:HD13	2.32	0.49
3:A:1765:GLN:NE2	3:A:1769:ASP:OD1	2.38	0.49
3:A:1793:MET:O	3:A:1797:ILE:HG12	2.11	0.49
6:O:568:LEU:HB2	6:O:583:VAL:HG11	1.94	0.49
9:G:1:MET:HG2	8:Q:335:PRO:HG3	1.94	0.49
9:G:4:ARG:NH1	8:Q:357:TYR:OH	2.45	0.49
12:P:163:ASP:HB3	12:P:166:GLN:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:354:HIS:CE1	15:R:383:ARG:HG3	2.46	0.49
8:K:174:HIS:CE1	8:K:211:LYS:HD2	2.47	0.49
9:G:11:LEU:HD21	8:Q:456:ARG:NH1	2.27	0.49
12:J:59:ARG:NH1	12:J:59:ARG:HB2	2.28	0.49
12:P:507:ARG:O	12:P:511:GLU:HG2	2.12	0.49
15:R:169:ARG:CZ	15:R:475:LYS:H	2.25	0.49
15:R:280:ASN:HD21	15:R:325:HIS:HB3	1.77	0.49
15:R:379:ASP:OD2	15:R:383:ARG:NH2	2.46	0.49
3:A:623:GLN:HB3	3:A:866:ILE:HD12	1.94	0.49
3:A:1540:ARG:O	3:A:1544:MET:HG2	2.13	0.49
6:O:38:LEU:HB3	6:O:115:LEU:HD11	1.94	0.49
8:K:254:THR:OG1	8:K:267:CYS:SG	2.66	0.49
12:J:66:CYS:HB2	12:J:71:CYS:HB3	1.94	0.49
13:Y:446:LEU:HA	13:Y:449:THR:HG22	1.94	0.49
5:I:101:LEU:HD21	5:I:168:LEU:HD11	1.95	0.49
8:K:325:LYS:NZ	10:M:54:GLU:HB2	2.26	0.49
13:Y:77:TYR:O	13:Y:81:VAL:HG13	2.13	0.49
14:V:213:ILE:HG23	14:V:218:MET:HG3	1.95	0.49
14:V:379:LYS:HD2	15:R:64:ILE:HB	1.94	0.49
1:L:141:VAL:HG11	1:L:151:THR:HG21	1.94	0.49
1:L:175:THR:HG23	1:L:178:PHE:H	1.76	0.49
5:I:671:LEU:HD23	5:I:671:LEU:H	1.76	0.49
7:S:392:GLN:NE2	7:S:406:CYS:HB2	2.22	0.49
8:Q:281:ALA:HA	8:Q:311:MET:HE1	1.93	0.49
13:Y:380:GLY:HA3	13:Y:396:PHE:CE1	2.48	0.49
14:U:92:ALA:O	14:U:96:VAL:HG23	2.12	0.49
14:U:244:ILE:HG23	14:U:272:ALA:HB1	1.95	0.49
13:Z:61:LEU:O	13:Z:65:ASN:ND2	2.30	0.49
6:O:592:TRP:HH2	6:O:630:ALA:HA	1.76	0.49
6:O:621:SER:HB3	6:O:651:ILE:HG12	1.95	0.49
8:K:284:LEU:HD21	8:K:307:CYS:SG	2.52	0.49
3:A:277:GLU:O	3:A:281:VAL:HG23	2.12	0.49
5:I:402:GLU:OE1	5:I:405:GLN:NE2	2.46	0.49
6:O:141:LEU:HD11	6:O:145:LYS:HE2	1.94	0.49
8:K:24:PHE:HE1	8:K:28:LYS:HE2	1.78	0.49
14:U:536:CYS:HB2	14:U:542:THR:HB	1.95	0.49
14:V:328:LYS:HA	14:V:333:THR:HG21	1.95	0.49
14:V:504:VAL:HG23	14:V:505:GLU:H	1.78	0.49
2:D:35:GLN:OE1	2:D:35:GLN:HA	2.13	0.49
7:S:391:LEU:O	7:S:392:GLN:HG3	2.12	0.49
12:P:477:CYS:O	12:P:633:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:194:GLU:OE1	13:Y:197:ARG:NH2	2.46	0.49
13:Y:381:ALA:HA	13:Y:384:ARG:HG2	1.95	0.49
3:A:98:ASN:HA	3:A:123:VAL:HG23	1.95	0.48
3:A:248:PHE:HZ	3:A:250:ASN:HD22	1.60	0.48
3:A:1463:TYR:HE2	3:A:1511:ASN:HB3	1.78	0.48
5:I:198:VAL:HG13	5:I:548:MET:CE	2.42	0.48
6:O:16:ASN:OD1	6:O:18:VAL:HG22	2.13	0.48
6:O:433:GLY:HA3	6:O:617:GLN:HB3	1.94	0.48
12:P:731:GLN:HG2	13:Z:186:ARG:HB2	1.94	0.48
15:R:370:LEU:HD11	15:R:430:TYR:CE1	2.48	0.48
2:D:4:LEU:HD21	6:O:506:LEU:HD13	1.95	0.48
4:N:483:ASP:OD2	4:N:497:ARG:NH2	2.40	0.48
13:Y:447:LEU:HB3	13:Y:464:LEU:HD13	1.94	0.48
3:A:768:LEU:HD21	3:A:861:PRO:HB2	1.95	0.48
3:A:879:LEU:HD11	3:A:929:ARG:HD2	1.95	0.48
4:N:184:TYR:CD2	4:N:299:TRP:HB2	2.49	0.48
4:N:343:GLU:O	4:N:347:ILE:HG13	2.14	0.48
8:K:167:PHE:HE2	8:K:208:LYS:HD3	1.78	0.48
8:K:194:CYS:SG	8:K:195:ASN:N	2.87	0.48
8:K:282:ASN:HD22	12:J:558:ASP:HB3	1.78	0.48
10:M:12:LEU:HD13	14:U:360:LEU:HD23	1.95	0.48
12:J:516:MET:O	12:J:519:GLU:HG3	2.13	0.48
12:J:653:LEU:HD23	12:J:656:MET:HE1	1.94	0.48
3:A:1314:ILE:HG22	3:A:1315:GLY:H	1.78	0.48
4:N:370:GLN:OE1	4:N:373:GLN:NE2	2.46	0.48
4:N:573:ASN:OD1	4:N:574:ILE:N	2.46	0.48
7:S:405:TYR:HD1	7:S:405:TYR:H	1.62	0.48
12:P:545:HIS:O	12:P:547:GLN:NE2	2.47	0.48
8:Q:125:GLN:O	8:Q:128:ILE:HG22	2.14	0.48
14:V:449:LEU:HB3	14:V:476:LEU:HD12	1.94	0.48
13:Z:406:ARG:HH21	13:Z:408:ASP:HB3	1.79	0.48
15:R:189:TYR:OH	15:R:315:GLU:HB3	2.14	0.48
3:A:1314:ILE:HG22	3:A:1315:GLY:N	2.28	0.48
3:A:1651:LEU:HD22	8:K:553:LYS:HB2	1.93	0.48
4:N:401:ILE:O	4:N:405:LYS:HG2	2.14	0.48
8:K:1:MET:SD	8:K:3:LEU:N	2.87	0.48
14:U:315:GLU:OE1	14:U:315:GLU:N	2.45	0.48
13:Z:445:THR:HG21	13:Z:475:TYR:CE2	2.48	0.48
3:A:449:GLN:OE1	3:A:453:ARG:NH1	2.45	0.48
3:A:485:ILE:HG13	3:A:487:THR:HG23	1.96	0.48
3:A:942:ARG:O	3:A:945:GLU:HB3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1012:GLU:OE1	3:A:1012:GLU:N	2.46	0.48
3:A:1918:PHE:HE1	3:A:1923:MET:HG2	1.78	0.48
4:N:162:PHE:HE2	4:N:252:LEU:HD13	1.79	0.48
4:N:446:SER:O	4:N:449:THR:OG1	2.30	0.48
5:I:56:TRP:CE3	5:I:98:PRO:HB3	2.48	0.48
5:I:620:PHE:HD2	5:I:707:PHE:HE2	1.60	0.48
5:I:628:THR:HG22	5:I:630:LYS:H	1.78	0.48
6:O:113:ASP:OD2	14:U:344:ARG:NH2	2.46	0.48
6:O:378:SER:O	6:O:382:GLN:HG2	2.13	0.48
12:J:465:LEU:HD21	12:J:495:HIS:CD2	2.48	0.48
12:J:531:TYR:HD1	12:P:56:LYS:HD2	1.78	0.48
14:U:91:LYS:NZ	14:U:95:ASP:OD1	2.45	0.48
3:A:225:CYS:HA	3:A:409:ILE:HG13	1.95	0.48
4:N:434:THR:O	4:N:438:ILE:HG13	2.13	0.48
6:O:212:ALA:HB1	6:O:243:LEU:HD21	1.95	0.48
6:O:671:GLN:OE1	6:O:693:ASN:ND2	2.46	0.48
12:P:736:GLU:OE2	12:P:738:LEU:N	2.39	0.48
13:Y:209:LEU:HG	13:Y:214:VAL:HG11	1.93	0.48
4:N:641:LEU:HD23	16:C:11:VAL:HG11	1.96	0.48
5:I:269:LEU:O	5:I:272:MET:HB2	2.14	0.48
6:O:91:ASN:OD1	6:O:92:SER:N	2.46	0.48
15:R:347:PRO:HB2	15:R:350:GLN:OE1	2.14	0.48
1:L:75:LYS:HE2	1:L:75:LYS:HA	1.96	0.48
3:A:1078:MET:HB3	3:A:1135:ALA:CB	2.42	0.48
6:O:381:ILE:HG21	6:O:405:SER:HB2	1.95	0.48
6:O:529:ASP:O	6:O:532:VAL:HG12	2.14	0.48
8:Q:445:GLU:HB3	8:Q:474:LEU:HD23	1.96	0.48
13:Y:196:LEU:HD13	13:Y:222:MET:SD	2.53	0.48
13:Y:449:THR:HA	13:Y:452:LEU:HD22	1.96	0.48
14:U:495:GLN:NE2	14:U:496:ASP:OD1	2.47	0.48
1:L:167:ILE:HG23	1:L:170:PHE:H	1.79	0.48
4:N:226:SER:HB3	4:N:230:GLN:HG3	1.96	0.48
6:O:460:GLN:OE1	6:O:496:ARG:NH2	2.45	0.48
7:S:372:ASN:ND2	7:S:372:ASN:C	2.63	0.48
11:H:82:LEU:HB3	12:P:577:PHE:CE2	2.48	0.48
14:U:344:ARG:NH1	14:U:346:GLN:OE1	2.27	0.48
15:R:309:LEU:HD23	15:R:309:LEU:H	1.78	0.48
15:R:327:LEU:HD12	15:R:328:LEU:H	1.79	0.48
1:L:170:PHE:HB3	12:P:738:LEU:HD11	1.96	0.47
3:A:950:GLY:N	3:A:1813:GLN:OE1	2.47	0.47
3:A:1329:MET:HG3	3:A:1330:VAL:HG23	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:181:LEU:HD13	4:N:299:TRP:CD2	2.49	0.47
10:M:9:GLY:HA3	14:U:329:TYR:CD1	2.49	0.47
13:Y:144:GLU:O	13:Y:148:MET:HG3	2.14	0.47
14:U:159:SER:O	14:U:163:GLN:HG2	2.14	0.47
13:Z:246:VAL:HG22	13:Z:280:LEU:HD21	1.95	0.47
15:R:294:LEU:HB3	15:R:296:ARG:HH21	1.79	0.47
3:A:615:SER:HB3	3:A:618:VAL:HG23	1.95	0.47
3:A:1577:SER:O	3:A:1581:ILE:HG12	2.15	0.47
6:O:240:LEU:HD11	6:O:256:LEU:HD23	1.94	0.47
12:J:55:TYR:HA	12:J:82:LEU:HD11	1.95	0.47
13:Y:164:SER:HA	13:Y:167:ARG:HD2	1.96	0.47
2:D:17:TRP:O	6:O:277:TYR:OH	2.30	0.47
2:D:28:THR:O	2:D:31:GLN:HG3	2.14	0.47
3:A:80:VAL:O	3:A:89:TYR:OH	2.31	0.47
3:A:860:TYR:O	3:A:896:LEU:HD12	2.15	0.47
5:I:484:ASP:O	5:I:521:SER:N	2.33	0.47
5:I:557:TYR:OH	5:I:561:ARG:NH2	2.46	0.47
8:K:523:ILE:HG21	12:P:653:LEU:HG	1.96	0.47
14:U:551:ARG:O	14:U:554:LEU:HG	2.15	0.47
15:R:313:ARG:HB3	15:R:334:ASP:HB3	1.95	0.47
1:L:28:GLN:NE2	12:P:616:GLU:OE1	2.47	0.47
3:A:455:VAL:HB	3:A:471:VAL:HG12	1.97	0.47
3:A:1334:ARG:HG2	3:A:1356:ASP:OD1	2.14	0.47
6:O:146:LEU:HD22	6:O:150:GLN:HB3	1.96	0.47
8:K:160:ASP:OD2	8:Q:13:TYR:OH	2.30	0.47
8:K:440:THR:OG1	8:K:442:ASP:OD1	2.31	0.47
9:G:3:ARG:HH21	8:Q:243:TYR:HA	1.80	0.47
10:M:54:GLU:HG2	10:M:55:MET:CE	2.43	0.47
14:U:322:ASN:O	14:U:326:ILE:HG12	2.13	0.47
14:V:340:TYR:CZ	14:V:344:ARG:HD2	2.49	0.47
4:N:554:MET:SD	4:N:554:MET:N	2.80	0.47
5:I:356:SER:HB2	5:I:397:ILE:HG12	1.97	0.47
9:G:16:ILE:HG12	8:Q:518:MET:SD	2.54	0.47
12:J:42:PHE:HB2	12:J:71:CYS:SG	2.54	0.47
12:J:672:LEU:HB3	12:J:695:ALA:HB2	1.97	0.47
12:P:536:MET:HB3	12:P:559:LEU:HD11	1.96	0.47
13:Y:57:SER:HB3	13:Y:83:HIS:HB2	1.95	0.47
14:V:540:ASN:ND2	15:R:145:VAL:O	2.47	0.47
8:K:74:TYR:HB2	8:K:132:ILE:HD11	1.96	0.47
13:Y:74:PRO:HB3	13:Y:132:LEU:HD11	1.96	0.47
13:Y:475:TYR:CE2	13:Y:477:LYS:HB2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:R:401:GLN:HE22	15:R:445:ARG:HD2	1.78	0.47
1:L:6:LYS:HB3	1:L:115:GLU:HB3	1.96	0.47
3:A:1239:THR:HG21	15:R:161:LEU:HD12	1.95	0.47
3:A:1729:GLU:OE1	3:A:1729:GLU:N	2.47	0.47
4:N:374:LEU:HD23	4:N:375:LEU:HD22	1.96	0.47
5:I:557:TYR:HA	5:I:694:ASP:HB2	1.95	0.47
6:O:108:MET:HE1	6:O:155:TYR:HA	1.96	0.47
7:S:122:HIS:CD2	7:S:123:VAL:HG22	2.49	0.47
8:K:302:TRP:HB2	8:K:326:ALA:HB2	1.96	0.47
12:P:534:GLU:N	12:P:534:GLU:OE1	2.48	0.47
12:P:693:ASN:O	12:P:697:VAL:HG22	2.14	0.47
8:Q:146:ARG:O	8:Q:150:THR:HG23	2.15	0.47
8:Q:285:PHE:HB2	8:Q:308:TYR:CE1	2.49	0.47
13:Y:153:LYS:O	13:Y:156:ILE:HG12	2.14	0.47
14:U:385:ILE:O	14:U:389:ARG:HG2	2.15	0.47
15:R:4:ASP:OD1	15:R:7:ARG:NH1	2.48	0.47
16:C:70:GLN:HB2	16:C:72:HIS:HD2	1.79	0.47
2:D:37:HIS:O	2:D:41:LEU:HD22	2.15	0.47
3:A:867:CYS:HB3	3:A:870:SER:OG	2.15	0.47
6:O:556:GLN:HG2	6:O:559:GLU:HB2	1.97	0.47
13:Y:311:TYR:CD2	13:Y:327:LEU:HD22	2.49	0.47
14:V:416:PHE:HA	14:V:446:LEU:HD11	1.97	0.47
15:R:257:ASP:HB2	15:R:264:LEU:HD23	1.97	0.47
1:L:24:GLU:OE2	1:L:26:GLY:N	2.30	0.47
3:A:1086:MET:SD	3:A:1564:LEU:HG	2.55	0.47
7:S:443:ASN:O	7:S:447:LEU:HG	2.15	0.47
8:K:249:MET:HE3	8:K:252:LYS:HB3	1.97	0.47
13:Y:40:HIS:NE2	13:Z:201:LEU:HB2	2.29	0.47
13:Z:55:LEU:HD23	13:Z:59:LEU:HD11	1.97	0.47
3:A:1482:LEU:H	3:A:1482:LEU:HD12	1.80	0.47
7:S:324:PRO:O	7:S:325:LEU:HD13	2.15	0.47
8:K:35:GLU:HB3	8:K:40:ILE:HD11	1.97	0.47
14:U:85:ASP:N	14:U:85:ASP:OD1	2.47	0.47
15:R:322:SER:HA	15:R:363:TRP:CG	2.50	0.47
3:A:218:ASP:OD2	14:V:454:LYS:NZ	2.35	0.46
6:O:430:ARG:HD3	6:O:472:HIS:CD2	2.49	0.46
7:S:393:ARG:NH2	7:S:404:ASP:HB3	2.28	0.46
9:G:12:LYS:HZ2	9:G:14:ASP:N	2.13	0.46
12:J:149:TRP:NE1	12:J:153:GLU:HB2	2.30	0.46
12:J:731:GLN:O	8:Q:145:ASN:ND2	2.49	0.46
8:Q:176:LEU:O	8:Q:210:LYS:NZ	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:Q:251:TYR:HA	8:Q:254:THR:HG22	1.96	0.46
13:Y:168:THR:O	13:Y:171:ILE:HG12	2.14	0.46
14:V:129:LYS:O	14:V:133:GLU:HG2	2.14	0.46
14:V:432:ASP:HB3	14:V:435:MET:HE1	1.97	0.46
14:V:494:ILE:O	14:V:498:TYR:HD1	1.99	0.46
3:A:1279:ARG:HD3	3:A:1287:TYR:CZ	2.50	0.46
8:K:4:GLU:O	8:K:8:LYS:HG2	2.15	0.46
15:R:195:TRP:HD1	15:R:196:SER:H	1.63	0.46
3:A:431:PHE:HB2	3:A:481:PRO:HG3	1.96	0.46
3:A:443:CYS:HB3	3:A:452:LEU:HD11	1.97	0.46
3:A:702:GLY:HA3	6:O:735:MET:HE1	1.98	0.46
3:A:862:TYR:CZ	3:A:864:PRO:HA	2.50	0.46
3:A:1909:THR:N	3:A:1913:GLU:OE2	2.43	0.46
4:N:505:LEU:O	4:N:508:ILE:HG12	2.16	0.46
4:N:528:LEU:HD11	4:N:641:LEU:HD11	1.96	0.46
8:K:225:ASP:HA	8:K:228:GLN:HE22	1.80	0.46
12:J:173:LEU:HD23	12:J:176:PHE:H	1.80	0.46
14:U:218:MET:HA	14:U:221:PHE:CD2	2.50	0.46
14:U:508:GLU:OE1	14:U:508:GLU:N	2.48	0.46
14:V:46:ARG:HB3	14:V:116:PHE:CE2	2.51	0.46
14:V:544:GLU:HA	14:V:547:LYS:NZ	2.29	0.46
2:D:50:ASN:N	2:D:50:ASN:OD1	2.42	0.46
3:A:781:GLU:OE1	3:A:781:GLU:N	2.48	0.46
5:I:370:ALA:HB2	5:I:381:LEU:HG	1.97	0.46
9:G:3:ARG:NH2	8:Q:243:TYR:O	2.48	0.46
12:J:466:LEU:HA	12:J:469:MET:HE3	1.97	0.46
12:J:762:TRP:CE2	8:Q:362:GLN:HB2	2.50	0.46
13:Z:308:MET:SD	13:Z:308:MET:N	2.82	0.46
3:A:1023:VAL:O	3:A:1027:ILE:HG13	2.14	0.46
3:A:1279:ARG:HD3	3:A:1287:TYR:CE1	2.50	0.46
3:A:1393:MET:HB3	12:P:649:GLU:OE1	2.15	0.46
4:N:609:LEU:HD12	4:N:639:HIS:HB2	1.98	0.46
6:O:694:LEU:HD12	6:O:713:VAL:HG13	1.97	0.46
8:K:224:VAL:HG23	8:K:224:VAL:O	2.15	0.46
3:A:1220:MET:CE	3:A:1264:THR:HB	2.46	0.46
6:O:305:LEU:HD11	6:O:346:TRP:HD1	1.80	0.46
10:M:24:LEU:HD13	10:M:25:PRO:HD2	1.98	0.46
12:J:27:LEU:HD21	12:P:147:PHE:HB3	1.98	0.46
12:J:633[B]:ARG:HG2	12:J:664:ILE:HD12	1.97	0.46
13:Y:144:GLU:O	13:Y:147:THR:OG1	2.28	0.46
13:Y:429:MET:HA	13:Y:432:ASN:ND2	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:U:185:VAL:HG13	14:U:212:LEU:HD22	1.97	0.46
14:U:415:PRO:HB2	14:U:446:LEU:HD13	1.98	0.46
14:V:411:ILE:HG12	15:R:57:TRP:HB3	1.97	0.46
13:Z:359:LEU:HD11	13:Z:383:LEU:HD22	1.97	0.46
15:R:300:THR:OG1	15:R:301:PRO:HD3	2.15	0.46
16:C:2:LYS:HD2	16:C:2:LYS:HA	1.69	0.46
1:L:53:TYR:HB3	1:L:154:ARG:HG2	1.96	0.46
3:A:13:ALA:HB2	3:A:648:PRO:HB3	1.98	0.46
3:A:1267:ARG:HB3	3:A:1267:ARG:NH1	2.31	0.46
4:N:694:ARG:O	4:N:698:VAL:HG23	2.16	0.46
7:S:322:ARG:HG2	15:R:182:PRO:HG3	1.98	0.46
12:J:641:LEU:O	12:J:644:ILE:HG22	2.16	0.46
12:P:724:GLN:O	12:P:728:GLU:HG2	2.15	0.46
14:U:389:ARG:HD3	14:U:405:LEU:HD11	1.97	0.46
3:A:155:GLN:NE2	3:A:160:ASN:OD1	2.48	0.46
3:A:234:SER:OG	3:A:235:ARG:N	2.48	0.46
3:A:650:GLY:N	3:A:651:PRO:HD3	2.30	0.46
3:A:1927:ALA:O	3:A:1931:LEU:HG	2.16	0.46
5:I:158:GLU:N	5:I:158:GLU:OE1	2.49	0.46
6:O:67:LEU:HD11	6:O:78:LEU:HD21	1.98	0.46
6:O:625:LEU:HD11	6:O:663:ALA:HB2	1.98	0.46
12:J:633[A]:ARG:HG2	12:J:664:ILE:HD12	1.97	0.46
15:R:222:LEU:HD21	15:R:256:TRP:HB3	1.98	0.46
16:C:4:LYS:HD2	16:C:4:LYS:C	2.36	0.46
3:A:1385:ASP:OD1	3:A:1388:ARG:NH2	2.48	0.46
4:N:405:LYS:O	4:N:409:VAL:HG12	2.15	0.46
4:N:528:LEU:HD11	4:N:641:LEU:HD21	1.98	0.46
5:I:250:ARG:NH2	5:I:365:GLU:OE2	2.49	0.46
5:I:381:LEU:HD12	5:I:381:LEU:HA	1.68	0.46
8:K:379:GLY:HA3	8:K:411:VAL:HG23	1.98	0.46
8:Q:351:ASP:N	8:Q:351:ASP:OD1	2.45	0.46
15:R:272:ALA:HB3	15:R:289:ARG:HB3	1.98	0.46
15:R:444:TYR:HB2	15:R:462:ALA:HB1	1.98	0.46
4:N:512:LYS:HG3	4:N:549:PHE:CE2	2.51	0.46
4:N:637:TRP:CE3	16:C:12:ALA:HB2	2.51	0.46
4:N:689:VAL:O	4:N:693:ARG:HG3	2.16	0.46
5:I:71:LEU:HD23	5:I:80:LEU:HD11	1.96	0.46
5:I:236:LEU:HD23	5:I:550:GLN:HA	1.98	0.46
5:I:306:HIS:CG	6:O:57:ARG:HH21	2.34	0.46
5:I:380:GLY:HA3	5:I:543:VAL:HG21	1.98	0.46
6:O:378:SER:HB2	6:O:417:LEU:HD13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:O:721:TYR:HD2	6:O:733:CYS:HG	1.64	0.46
12:J:527:ARG:NH2	12:J:528:ILE:HB	2.31	0.46
13:Y:62:THR:HA	13:Y:65:ASN:ND2	2.31	0.46
14:U:98:GLU:OE1	14:U:101:ARG:NH2	2.49	0.46
14:V:370:LEU:O	14:V:374:GLU:HG2	2.16	0.46
13:Z:159:LEU:HD22	13:Z:171:ILE:HG23	1.97	0.46
3:A:1827:GLN:NE2	4:N:143:GLY:O	2.49	0.45
4:N:541:ASN:OD1	4:N:542:VAL:N	2.49	0.45
5:I:307:LEU:HD13	5:I:313:ALA:HB2	1.98	0.45
6:O:32:PRO:HB3	6:O:158:LEU:HA	1.98	0.45
8:K:252:LYS:O	8:K:256:VAL:HG12	2.16	0.45
8:K:258:MET:HE1	8:K:267:CYS:HB3	1.98	0.45
12:P:543:LEU:HB3	12:P:552:LEU:HB2	1.99	0.45
8:Q:37:PRO:HB3	8:Q:65:LEU:HD11	1.98	0.45
13:Y:321:LEU:O	13:Y:324:VAL:HG22	2.16	0.45
13:Y:518:PHE:O	13:Y:522:VAL:HG23	2.15	0.45
14:V:504:VAL:HG23	14:V:505:GLU:N	2.30	0.45
1:L:71:LYS:NZ	1:L:133:ARG:O	2.39	0.45
4:N:403:ALA:O	4:N:407:LEU:HG	2.16	0.45
12:J:711:SER:OG	12:J:782:ARG:NH1	2.49	0.45
13:Y:503:LEU:HD21	13:Y:515:LEU:HD22	1.98	0.45
14:V:432:ASP:HB3	14:V:435:MET:CE	2.46	0.45
3:A:893:SER:HB3	3:A:896:LEU:HB2	1.98	0.45
3:A:1130:ASN:OD1	3:A:1130:ASN:N	2.47	0.45
3:A:1797:ILE:HG21	3:A:1848:VAL:HG23	1.98	0.45
5:I:648:THR:HG22	5:I:670:PRO:HB3	1.98	0.45
6:O:622:GLU:OE1	6:O:662:ARG:NH2	2.49	0.45
7:S:331:SER:OG	7:S:332:ALA:N	2.49	0.45
8:K:196:GLU:O	8:K:199:GLU:HG3	2.17	0.45
12:J:92:LEU:HD11	12:J:120:LEU:HD23	1.98	0.45
12:P:500:TRP:O	12:P:504:GLN:HG2	2.17	0.45
14:V:313:LYS:HE2	14:V:343:LEU:HB3	1.97	0.45
13:Z:98:SER:O	13:Z:102:MET:HG2	2.16	0.45
13:Z:152:ASP:O	13:Z:156:ILE:HG12	2.16	0.45
1:L:185:ARG:NE	12:P:575:ASN:OD1	2.48	0.45
3:A:640:LYS:O	3:A:644:VAL:HG13	2.16	0.45
3:A:641:TRP:HD1	3:A:663:CYS:SG	2.39	0.45
4:N:660:THR:HG22	4:N:663:GLN:OE1	2.17	0.45
5:I:266:ASN:ND2	5:I:530:GLU:OE2	2.50	0.45
6:O:691:ILE:HD11	6:O:720:LEU:HB3	1.98	0.45
8:K:6:LEU:HD12	8:K:6:LEU:HA	1.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:63:VAL:HG21	13:Y:364:LYS:HB2	1.98	0.45
12:J:738:LEU:HB2	15:R:489:LEU:HD12	1.97	0.45
13:Y:87:LEU:HD13	13:Y:95:ASN:HB3	1.97	0.45
13:Z:168:THR:OG1	13:Z:171:ILE:HG12	2.16	0.45
13:Z:196:LEU:HD22	13:Z:222:MET:HE1	1.97	0.45
15:R:230:ASP:OD1	15:R:231:SER:N	2.49	0.45
3:A:845:TYR:HB3	3:A:1812:TRP:NE1	2.31	0.45
3:A:845:TYR:CE1	3:A:951:ILE:HD11	2.51	0.45
3:A:1859:TRP:CE2	3:A:1884:MET:HG3	2.51	0.45
4:N:554:MET:CE	4:N:554:MET:H	2.29	0.45
4:N:556:PHE:O	4:N:559:VAL:HG12	2.17	0.45
5:I:184:PHE:HA	5:I:198:VAL:O	2.17	0.45
6:O:95:ILE:HA	6:O:98:LYS:HE2	1.99	0.45
12:J:170:PHE:HD2	12:J:456:LYS:HG2	1.82	0.45
13:Y:320:ARG:O	13:Y:324:VAL:HG13	2.16	0.45
14:U:33:LYS:NZ	14:U:59:ALA:O	2.49	0.45
15:R:159:LYS:HA	15:R:162:ARG:HG2	1.98	0.45
15:R:312:HIS:ND1	15:R:338:LEU:HD12	2.32	0.45
16:C:50:GLN:CD	16:C:50:GLN:H	2.20	0.45
3:A:1076:ARG:HB2	3:A:1555:HIS:CE1	2.51	0.45
6:O:562:LYS:O	6:O:565:GLN:HB2	2.17	0.45
8:K:15:ASP:O	8:K:17:GLN:NE2	2.48	0.45
12:J:148:LEU:HD12	12:J:149:TRP:N	2.32	0.45
12:P:523:SER:OG	12:P:527:ARG:NH1	2.49	0.45
12:P:626:ASN:O	12:P:630:VAL:HG22	2.17	0.45
8:Q:184:LEU:O	8:Q:188:LEU:HD23	2.16	0.45
8:Q:271:HIS:HD2	8:Q:287:LEU:HD22	1.80	0.45
13:Y:315:LEU:HD11	13:Y:320:ARG:HB2	1.97	0.45
14:V:242:GLN:OE1	14:V:242:GLN:N	2.49	0.45
15:R:243:LEU:HA	15:R:258:ALA:H	1.82	0.45
1:L:112:GLU:OE2	1:L:112:GLU:HA	2.16	0.45
3:A:1715:TRP:O	3:A:1715:TRP:CG	2.70	0.45
12:J:524:GLU:O	12:J:528:ILE:HG22	2.17	0.45
13:Y:159:LEU:HB3	13:Y:175:LEU:HG	1.99	0.45
13:Z:429:MET:HB3	13:Z:429:MET:HE2	1.85	0.45
3:A:274:VAL:HG12	3:A:408:CYS:HB2	1.99	0.45
3:A:726:ARG:HH22	3:A:730:LEU:N	2.14	0.45
3:A:1141:VAL:HG11	3:A:1608:HIS:CG	2.52	0.45
4:N:51:LYS:HG3	4:N:54:GLU:H	1.81	0.45
4:N:232:TRP:HB2	4:N:235:GLN:NE2	2.31	0.45
4:N:305:LEU:O	4:N:309:PRO:HD2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:415:VAL:HG23	4:N:416:ILE:HD12	1.99	0.45
4:N:646:MET:HA	16:C:6:LYS:H	1.81	0.45
8:K:333:TYR:HD2	8:K:336:ALA:HB2	1.81	0.45
12:J:617:LEU:HD12	12:J:644:ILE:HG13	1.99	0.45
8:Q:164:PHE:CE2	8:Q:168:ASP:HB2	2.51	0.45
13:Y:37:VAL:HB	13:Y:60:LEU:HD21	1.99	0.45
14:U:347:HIS:ND1	14:U:374:GLU:OE1	2.49	0.45
15:R:202:SER:OG	15:R:237:TRP:NE1	2.49	0.45
1:L:44:GLN:HG3	1:L:52:THR:HB	1.98	0.45
3:A:226:LYS:HB2	3:A:236:VAL:HG12	1.99	0.45
3:A:1090:PHE:HE1	3:A:1182:ASN:OD1	2.00	0.45
3:A:1921:LEU:HD23	3:A:1921:LEU:H	1.82	0.45
5:I:116:MET:HG2	5:I:210:LEU:HB3	1.98	0.45
10:M:19:TRP:CH2	14:V:356:ARG:HB3	2.51	0.45
13:Y:210:LEU:HD12	13:Y:244:ALA:HA	1.99	0.45
13:Z:293:LYS:HD3	13:Z:293:LYS:HA	1.78	0.45
3:A:39:LEU:HD23	3:A:39:LEU:H	1.83	0.45
3:A:716:HIS:HA	3:A:719:VAL:HG12	1.99	0.45
3:A:1033:ARG:NH1	3:A:1531:GLY:O	2.50	0.45
12:P:75:LEU:HG	12:P:91:ILE:HD13	1.98	0.45
12:P:107:VAL:HG22	12:P:144:LEU:HD11	1.97	0.45
12:P:496:TYR:CE1	13:Z:105:GLN:HG3	2.52	0.45
8:Q:264:HIS:O	8:Q:268:LEU:HG	2.17	0.45
14:V:343:LEU:HD23	14:V:343:LEU:HA	1.83	0.45
13:Z:308:MET:HB3	13:Z:327:LEU:HD21	1.98	0.45
3:A:625:ILE:O	3:A:629:LEU:HG	2.17	0.44
3:A:1062:PHE:O	3:A:1066:LYS:HG3	2.17	0.44
4:N:90:GLU:OE2	4:N:121:ARG:NH1	2.50	0.44
5:I:214:LEU:O	5:I:238:THR:OG1	2.34	0.44
5:I:305:MET:SD	6:O:62:GLN:HG3	2.57	0.44
5:I:625:TYR:OH	5:I:711:TRP:O	2.22	0.44
8:K:408:VAL:O	8:K:411:VAL:HG12	2.17	0.44
12:P:520:ARG:NH1	13:Z:154:ASP:OD1	2.49	0.44
12:P:547:GLN:HA	12:P:579:LEU:HD21	1.99	0.44
8:Q:170:LEU:HD23	8:Q:175:MET:SD	2.57	0.44
14:V:26:PHE:HA	14:V:32:ILE:HD11	1.99	0.44
3:A:1216:LYS:HG3	3:A:1224:ILE:HG13	1.98	0.44
5:I:717:MET:HG3	5:I:719:ALA:HB2	1.99	0.44
7:S:359:HIS:CG	16:C:62:LYS:HG2	2.52	0.44
7:S:376:LYS:HE2	7:S:387:TYR:CG	2.52	0.44
12:P:53:LYS:HG3	12:P:56:LYS:HE2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Z:220:ALA:O	13:Z:224:MET:HG3	2.16	0.44
15:R:201:LEU:HD11	15:R:459:VAL:HG21	2.00	0.44
3:A:100:VAL:HG13	3:A:117:PHE:HB2	1.98	0.44
3:A:611:GLU:OE2	3:A:612:ILE:HG22	2.17	0.44
4:N:82:ASP:OD1	4:N:86:ASN:ND2	2.47	0.44
6:O:110:GLN:NE2	6:O:114:ASP:OD1	2.50	0.44
8:Q:36:GLU:HB2	8:Q:39:ASP:OD2	2.17	0.44
8:Q:210:LYS:HE2	8:Q:210:LYS:HB3	1.75	0.44
13:Y:346:GLY:HA3	13:Y:378:LEU:HD21	1.99	0.44
13:Y:431:ASN:O	13:Y:435:LYS:HG2	2.17	0.44
14:U:174:LEU:HD12	14:U:174:LEU:O	2.17	0.44
14:U:238:TYR:CD1	14:U:243:LEU:HD12	2.52	0.44
5:I:28:TRP:CE2	5:I:35:ILE:HD12	2.53	0.44
5:I:398:LEU:HA	5:I:401:ASN:ND2	2.29	0.44
6:O:378:SER:HB3	6:O:409:HIS:NE2	2.32	0.44
7:S:393:ARG:HH21	7:S:413:TYR:HB2	1.81	0.44
8:K:446:PRO:HB3	9:W:8:ARG:HB2	1.98	0.44
12:J:587:ILE:HG23	12:J:607:LEU:HD11	1.99	0.44
13:Y:160:ASP:HA	13:Y:167:ARG:NH2	2.32	0.44
13:Y:391:GLU:HA	13:Y:394:ILE:HG12	1.98	0.44
13:Y:475:TYR:HD2	13:Y:478:ALA:H	1.65	0.44
14:U:307:LEU:O	14:U:311:SER:N	2.47	0.44
4:N:199:LEU:HD12	4:N:200:GLU:HG2	2.00	0.44
5:I:92:LEU:HB2	5:I:102:HIS:HB3	1.98	0.44
5:I:329:GLY:O	5:I:332:LYS:HG3	2.18	0.44
5:I:539:LYS:O	5:I:543:VAL:HG13	2.17	0.44
8:K:400:GLU:HB2	8:K:431:LYS:HE3	1.99	0.44
12:J:653:LEU:HD23	12:J:656:MET:CE	2.48	0.44
8:Q:14:LEU:HD12	8:Q:14:LEU:HA	1.82	0.44
13:Y:152:ASP:O	13:Y:156:ILE:HG23	2.17	0.44
14:U:549:LEU:HA	14:U:552:GLN:HG2	2.00	0.44
15:R:212:TRP:CH2	15:R:214:ALA:HA	2.52	0.44
15:R:320:LYS:HB2	15:R:361:ILE:HG22	2.00	0.44
3:A:261:ALA:O	3:A:264:ASN:ND2	2.51	0.44
3:A:869:ARG:HH12	3:A:946:THR:HG23	1.83	0.44
3:A:1652:MET:HB2	8:K:555:LEU:HB3	2.00	0.44
4:N:56:ARG:NH1	4:N:140:LEU:HD21	2.32	0.44
5:I:533:ILE:HG22	5:I:537:LEU:HD23	1.99	0.44
8:K:28:LYS:HE3	8:Q:230:ASN:HD21	1.82	0.44
8:K:210:LYS:O	8:K:240:ARG:NH2	2.51	0.44
12:J:564:LYS:HE2	12:J:564:LYS:HB3	1.68	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:P:53:LYS:HB3	12:P:56:LYS:HG3	1.99	0.44
8:Q:326:ALA:HA	8:Q:329:LEU:HD12	1.98	0.44
14:U:531:THR:HG21	14:U:573:LEU:HG	2.00	0.44
15:R:279:TRP:HZ3	15:R:282:GLU:HA	1.82	0.44
16:C:63:TRP:CD1	16:C:74:PRO:HG3	2.51	0.44
3:A:662:THR:HG23	3:A:672:THR:HG21	2.00	0.44
3:A:980:ARG:NH2	3:A:982:ASP:OD1	2.47	0.44
3:A:1021:HIS:HA	3:A:1024:MET:HB2	2.00	0.44
3:A:1265:ALA:HB2	3:A:1309:HIS:CE1	2.53	0.44
4:N:612:PRO:HD3	4:N:665:VAL:HG13	1.99	0.44
5:I:371:SER:HB2	6:O:652:LEU:HD22	1.98	0.44
6:O:542:GLU:O	6:O:546:ARG:HG2	2.17	0.44
7:S:376:LYS:HA	16:C:28:MET:SD	2.57	0.44
7:S:392:GLN:OE1	7:S:408:LYS:HG2	2.17	0.44
8:K:171:THR:O	8:K:171:THR:OG1	2.33	0.44
12:J:527:ARG:HG2	12:J:527:ARG:HH11	1.82	0.44
12:P:707:PHE:CZ	12:P:738:LEU:HG	2.53	0.44
14:U:344:ARG:CZ	14:U:344:ARG:HB3	2.47	0.44
14:V:549:LEU:O	14:V:553:ILE:HG13	2.17	0.44
13:Z:175:LEU:HG	13:Z:179:TYR:CE2	2.53	0.44
13:Z:442:GLN:HA	13:Z:445:THR:HG22	1.99	0.44
15:R:377:THR:O	15:R:380:ARG:NE	2.51	0.44
16:C:60:ILE:HG21	16:C:80:TRP:NE1	2.33	0.44
3:A:1326:TYR:HA	3:A:1329:MET:HG2	1.99	0.44
3:A:1631:TYR:HB2	3:A:1708:TYR:HB2	2.00	0.44
3:A:1726:ARG:NH2	3:A:1842:SER:HB3	2.32	0.44
4:N:113:ASP:O	4:N:117:LEU:HG	2.18	0.44
6:O:435:SER:H	6:O:654:ASP:HB3	1.83	0.44
7:S:440:SER:HA	7:S:443:ASN:HD22	1.82	0.44
12:P:742:LEU:HD23	12:P:742:LEU:HA	1.78	0.44
14:U:323:LEU:HB3	14:U:333:THR:OG1	2.17	0.44
13:Z:476:ILE:HA	13:Z:479:VAL:HG22	2.00	0.44
15:R:187:ASP:C	15:R:189:TYR:H	2.20	0.44
1:L:83:TYR:O	1:L:83:TYR:HD2	2.00	0.44
1:L:89:TYR:CE2	1:L:150:ASP:HB2	2.53	0.44
3:A:1094:PRO:HG2	3:A:1153:ILE:HD11	2.00	0.44
3:A:1694:ASP:HB3	3:A:1696:VAL:HG23	1.99	0.44
4:N:129:LEU:HD11	4:N:150:ARG:HA	2.00	0.44
4:N:174:GLN:HE21	4:N:267:GLN:NE2	2.15	0.44
4:N:504:LEU:O	4:N:508:ILE:HG23	2.17	0.44
9:G:4:ARG:NH2	8:Q:376:LEU:HD23	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:547:GLU:HA	13:Y:550:GLN:HG2	1.99	0.44
14:V:403:TYR:HD2	14:V:435:MET:HG3	1.83	0.44
15:R:284:LEU:N	15:R:296:ARG:O	2.51	0.44
16:C:28:MET:CE	16:C:29:ALA:H	2.30	0.44
3:A:26:ASP:OD1	6:O:500:ASN:ND2	2.32	0.43
3:A:715:TYR:HE1	6:O:750:PRO:HD2	1.83	0.43
3:A:1574:LEU:O	3:A:1617:ARG:NH1	2.44	0.43
4:N:649:GLU:HB2	16:C:2:LYS:HB3	2.00	0.43
5:I:16:GLU:HB2	5:I:742:ARG:HG3	2.00	0.43
5:I:71:LEU:HG	5:I:82:PHE:HB3	2.00	0.43
12:J:34:GLU:OE1	12:P:495:HIS:NE2	2.29	0.43
12:J:750:LEU:HD23	12:J:750:LEU:HA	1.88	0.43
14:V:448:GLN:HB3	14:V:451:GLU:OE1	2.17	0.43
13:Z:476:ILE:HD12	13:Z:476:ILE:H	1.83	0.43
13:Z:525:TYR:O	13:Z:529:MET:HG2	2.17	0.43
15:R:169:ARG:NH1	15:R:475:LYS:H	2.16	0.43
3:A:1060:HIS:O	3:A:1064:GLU:HG2	2.19	0.43
3:A:1809:SER:O	3:A:1813:GLN:HG2	2.18	0.43
5:I:188:TYR:HA	5:I:194:LYS:HA	2.00	0.43
8:K:309:TYR:OH	10:M:59:ASP:OD2	2.24	0.43
8:K:563:TRP:HD1	8:K:565:PHE:CE1	2.36	0.43
8:Q:506:LEU:HD23	8:Q:506:LEU:HA	1.79	0.43
13:Y:315:LEU:HG	13:Y:324:VAL:HG12	1.99	0.43
14:U:358:LEU:HD23	14:U:358:LEU:HA	1.82	0.43
15:R:196:SER:HB3	15:R:237:TRP:CE2	2.53	0.43
3:A:757:THR:HB	3:A:832:HIS:ND1	2.33	0.43
4:N:439:VAL:HG13	4:N:519:TYR:HD1	1.83	0.43
5:I:426:LEU:HD12	5:I:435:PRO:HG3	2.00	0.43
12:J:753:THR:HG23	8:Q:386:LEU:HD21	1.99	0.43
12:J:766:LEU:HD23	12:J:766:LEU:HA	1.80	0.43
8:Q:288:SER:O	8:Q:292:VAL:HG22	2.16	0.43
8:Q:378:TYR:HA	8:Q:381:THR:HG22	1.99	0.43
13:Y:396:PHE:HE2	13:Y:412:GLY:HA3	1.83	0.43
14:U:293:ASP:OD2	14:U:296:ARG:HB2	2.18	0.43
14:V:531:THR:O	14:V:534:GLN:HG2	2.18	0.43
4:N:407:LEU:HB2	4:N:417:LEU:HB2	2.00	0.43
8:K:285:PHE:HB2	8:K:308:TYR:CE1	2.54	0.43
12:J:12:ILE:O	12:J:16:LEU:HD23	2.18	0.43
12:J:18:HIS:O	12:P:73:TYR:OH	2.22	0.43
8:Q:170:LEU:HD22	8:Q:176:LEU:HD11	1.99	0.43
13:Y:40:HIS:O	13:Y:44:MET:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:76:LYS:HE2	13:Y:76:LYS:HB3	1.84	0.43
14:V:368:TRP:HB3	14:V:391:ALA:HB2	2.00	0.43
13:Z:384:ARG:HD2	13:Z:415:GLU:OE2	2.19	0.43
15:R:329:ALA:HB3	15:R:361:ILE:HG21	2.00	0.43
3:A:74:TRP:O	3:A:588:ARG:NH2	2.50	0.43
3:A:1080:LEU:N	3:A:1081:PRO:HD2	2.34	0.43
5:I:290:PHE:CG	5:I:320:LEU:HD22	2.52	0.43
6:O:10:PHE:HD1	14:V:390:HIS:CD2	2.37	0.43
6:O:532:VAL:HG23	6:O:546:ARG:HB2	2.00	0.43
8:K:13:TYR:HB3	8:K:22:ALA:HB2	2.00	0.43
8:K:405:MET:HB2	8:K:428:ALA:HB2	2.00	0.43
12:J:543:LEU:O	12:J:547:GLN:N	2.51	0.43
12:J:694:LYS:O	12:J:698:ILE:HG23	2.18	0.43
12:P:521:ILE:O	12:P:525:VAL:HG23	2.18	0.43
13:Y:384:ARG:NH1	13:Y:385:ASN:OD1	2.52	0.43
14:U:441:GLU:O	14:U:444:GLU:HG2	2.17	0.43
14:U:493:TYR:OH	14:U:508:GLU:OE2	2.25	0.43
13:Z:393:ILE:HD11	13:Z:417:TYR:CE1	2.54	0.43
3:A:1283:PRO:O	3:A:1286:GLU:N	2.49	0.43
3:A:1780:THR:OG1	3:A:1781:GLN:N	2.52	0.43
4:N:641:LEU:HA	4:N:641:LEU:HD12	1.84	0.43
5:I:286:ARG:HG2	5:I:324:GLN:HE22	1.84	0.43
5:I:552:ILE:HG23	5:I:554:ILE:HG23	1.99	0.43
7:S:121:GLN:OE1	7:S:121:GLN:N	2.33	0.43
9:G:15:ASP:HB3	9:G:18:GLU:OE1	2.19	0.43
8:Q:181:GLU:OE2	8:Q:209:LEU:HA	2.18	0.43
8:Q:275:LEU:HD22	8:Q:280:LYS:HB2	2.00	0.43
14:U:210:CYS:HA	14:U:237:ILE:HD13	2.01	0.43
14:U:297:ILE:O	14:U:297:ILE:CD1	2.66	0.43
2:D:12:VAL:HG12	6:O:313:ARG:CZ	2.49	0.43
4:N:576:GLU:O	4:N:579:GLU:HG3	2.18	0.43
5:I:202:ALA:O	5:I:221:THR:OG1	2.32	0.43
5:I:360:LEU:C	6:O:437:MET:HE1	2.38	0.43
6:O:96:ARG:O	6:O:99:LEU:HG	2.18	0.43
6:O:675:ALA:HA	6:O:678:TYR:CD2	2.53	0.43
8:K:251:TYR:HA	8:K:254:THR:HG22	2.00	0.43
12:P:8:VAL:O	12:P:12:ILE:HG13	2.19	0.43
14:V:502:GLU:OE1	14:V:502:GLU:HA	2.19	0.43
13:Z:56:LEU:HA	13:Z:59:LEU:HD12	2.01	0.43
13:Z:135:GLU:O	13:Z:138:VAL:HG22	2.18	0.43
3:A:253:PRO:HB2	3:A:255:ILE:HG23	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:665:MET:HB3	3:A:670:TYR:HB2	2.01	0.43
3:A:786:LEU:HD23	3:A:790:LEU:HG	2.00	0.43
3:A:1472:LEU:HD12	3:A:1472:LEU:HA	1.82	0.43
3:A:1725:ASN:O	3:A:1728:SER:N	2.41	0.43
3:A:1845:LEU:HA	3:A:1848:VAL:HG12	2.01	0.43
4:N:161:LEU:HD23	4:N:161:LEU:HA	1.89	0.43
5:I:89:LYS:HA	5:I:105:SER:HA	2.00	0.43
5:I:709:LYS:HE3	5:I:710:HIS:CD2	2.54	0.43
6:O:14:MET:HB2	14:V:138:LEU:HD12	2.01	0.43
6:O:578:GLU:OE1	6:O:578:GLU:N	2.38	0.43
7:S:364:GLU:CD	7:S:364:GLU:H	2.22	0.43
12:J:732:ILE:HG22	12:J:733:VAL:HG13	2.00	0.43
12:P:43:LEU:HD23	12:P:43:LEU:HA	1.86	0.43
14:U:419:LEU:HB2	14:U:442:CYS:HB3	2.00	0.43
14:U:492:LYS:O	14:U:495:GLN:HG3	2.18	0.43
13:Z:135:GLU:HA	13:Z:138:VAL:HG22	2.00	0.43
3:A:661:VAL:O	3:A:665:MET:HG2	2.19	0.43
5:I:17:LYS:HE2	5:I:18:GLN:H	1.84	0.43
5:I:116:MET:SD	5:I:210:LEU:HD23	2.59	0.43
5:I:222:GLU:OE2	5:I:224:SER:OG	2.27	0.43
5:I:514:PHE:N	6:O:443:GLN:HE22	2.16	0.43
5:I:548:MET:C	5:I:548:MET:SD	2.97	0.43
6:O:445:LEU:HD23	6:O:469:ALA:HB2	2.01	0.43
8:K:190:LEU:H	8:K:190:LEU:HD12	1.84	0.43
8:K:403:PHE:O	8:K:407:GLU:HG2	2.18	0.43
8:K:487:TYR:OH	9:W:15:ASP:O	2.23	0.43
9:G:12:LYS:NZ	9:G:13:LEU:HB2	2.34	0.43
8:Q:157:LEU:HD23	8:Q:184:LEU:HD21	2.01	0.43
8:Q:357:TYR:CE2	8:Q:373:TYR:HB3	2.54	0.43
13:Y:58:SER:HB2	13:Y:83:HIS:CE1	2.53	0.43
14:U:296:ARG:HG3	14:V:101:ARG:NH2	2.33	0.43
14:V:468:MET:O	14:V:472:LYS:HG3	2.19	0.43
13:Z:448:ALA:HA	13:Z:451:CYS:SG	2.59	0.43
15:R:386:ASN:OD1	15:R:393:LEU:HD22	2.19	0.43
3:A:1335:ARG:NE	8:K:511:ASP:OD2	2.49	0.43
3:A:1463:TYR:CE2	3:A:1511:ASN:HB3	2.54	0.43
3:A:1733:PHE:CD1	3:A:1776:TYR:HB2	2.54	0.43
3:A:1914:LEU:O	3:A:1918:PHE:HB3	2.19	0.43
6:O:706:CYS:O	6:O:710:ILE:HG13	2.19	0.43
12:J:69:PRO:HB3	12:J:110:PHE:HA	2.01	0.43
8:Q:503:HIS:CD2	14:U:389:ARG:HH12	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:62:THR:HA	13:Y:65:ASN:HD21	1.84	0.43
13:Y:140:TYR:HD1	13:Y:171:ILE:HG22	1.84	0.43
13:Y:428:VAL:O	13:Y:432:ASN:ND2	2.52	0.43
13:Z:340:GLU:HG2	13:Z:341:PRO:CD	2.48	0.43
3:A:435:ASP:OD1	3:A:436:LEU:N	2.52	0.42
3:A:1051:VAL:CG2	3:A:1066:LYS:HG2	2.49	0.42
3:A:1227:LEU:O	3:A:1230:ILE:HG12	2.19	0.42
3:A:1370:ALA:O	3:A:1374:ILE:HG13	2.19	0.42
3:A:1766:GLU:CD	3:A:1798:ARG:HH12	2.21	0.42
4:N:663:GLN:HA	4:N:666:ILE:CG1	2.49	0.42
6:O:222:LEU:HB3	6:O:230:ALA:HB2	2.01	0.42
12:J:653:LEU:HA	12:J:656:MET:CE	2.48	0.42
12:P:496:TYR:CZ	13:Z:105:GLN:HG3	2.54	0.42
8:Q:162:TYR:OH	8:Q:197:GLU:OE1	2.37	0.42
13:Y:483:ALA:HB2	13:Y:499:LEU:HD11	2.01	0.42
14:U:112:LYS:HD3	14:U:168:ASP:HB3	2.01	0.42
14:U:404:GLY:O	14:U:408:THR:HG22	2.18	0.42
13:Z:264:LYS:HZ3	13:Z:266:LEU:HB2	1.83	0.42
15:R:213:SER:HB2	15:R:216:THR:OG1	2.19	0.42
15:R:456:GLU:OE1	15:R:456:GLU:N	2.52	0.42
3:A:17:LEU:HD21	3:A:512:PRO:HD2	2.01	0.42
3:A:828:THR:O	3:A:831:MET:HB2	2.18	0.42
3:A:1267:ARG:HB3	3:A:1267:ARG:HH11	1.84	0.42
3:A:1271:GLU:HB2	3:A:1319:LEU:HD21	2.02	0.42
5:I:500:PHE:O	5:I:504:SER:HB3	2.19	0.42
6:O:440:GLN:HG3	6:O:441:GLN:N	2.34	0.42
12:P:460:GLU:OE2	12:P:467:ARG:NH2	2.43	0.42
13:Y:476:ILE:HG13	13:Y:477:LYS:N	2.34	0.42
13:Z:80:LEU:HB3	13:Z:103:ALA:HB2	2.00	0.42
13:Z:200:PRO:HB2	13:Z:201:LEU:HD12	2.01	0.42
13:Z:323:ASP:OD1	13:Z:324:VAL:N	2.52	0.42
1:L:164:GLU:OE1	1:L:167:ILE:HB	2.18	0.42
3:A:724:LEU:O	3:A:727:SER:OG	2.32	0.42
3:A:779:MET:SD	3:A:782:GLY:N	2.90	0.42
3:A:1070:LEU:HD22	3:A:1118:VAL:HG23	2.00	0.42
5:I:255:PHE:CE2	5:I:540:PRO:HG3	2.51	0.42
5:I:688:THR:HG23	5:I:691:THR:HG22	2.01	0.42
6:O:578:GLU:HG2	6:O:579:MET:N	2.35	0.42
15:R:440:THR:HG22	15:R:441:GLY:N	2.34	0.42
16:C:28:MET:HE3	16:C:29:ALA:H	1.85	0.42
3:A:481:PRO:HD2	3:A:590:PRO:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1062:PHE:CE2	3:A:1066:LYS:HD3	2.54	0.42
3:A:1208:LEU:HD23	3:A:1208:LEU:HA	1.86	0.42
3:A:1756:LYS:HB3	3:A:1756:LYS:HE3	1.76	0.42
3:A:1808:THR:HA	3:A:1811:LEU:HD12	2.02	0.42
4:N:27:VAL:HG11	4:N:71:LEU:HD11	2.01	0.42
4:N:49:PRO:HA	4:N:50:PRO:HD3	1.89	0.42
4:N:253:LEU:O	4:N:257:SER:OG	2.26	0.42
4:N:626:TYR:OH	4:N:633:ARG:NH1	2.52	0.42
4:N:637:TRP:HA	16:C:12:ALA:HA	2.02	0.42
5:I:344:ILE:O	5:I:348:VAL:HG23	2.19	0.42
5:I:454:GLU:HG3	5:I:455:HIS:CD2	2.55	0.42
8:Q:340:TYR:CE2	8:Q:344:PHE:HE2	2.36	0.42
13:Z:364:LYS:O	13:Z:367:GLN:HG3	2.19	0.42
15:R:320:LYS:HE3	15:R:320:LYS:HB3	1.88	0.42
15:R:413:GLU:OE1	15:R:473:PHE:HD1	2.02	0.42
3:A:411:HIS:NE2	3:A:414:THR:OG1	2.29	0.42
3:A:1095:VAL:HG21	6:O:363:HIS:ND1	2.34	0.42
3:A:1167:GLU:HG3	3:A:1168:LEU:HG	2.01	0.42
3:A:1281:PRO:HG3	3:A:1354:GLU:OE1	2.19	0.42
3:A:1815:LYS:O	3:A:1819:GLU:HG2	2.19	0.42
6:O:279:ASP:OD1	14:V:409:TYR:OH	2.31	0.42
13:Y:146:TYR:HB3	13:Y:151:GLN:O	2.19	0.42
14:U:168:ASP:OD1	14:U:168:ASP:N	2.50	0.42
14:U:436:LEU:HB2	14:U:459:ALA:HB2	2.00	0.42
14:U:512:ALA:O	14:U:516:LEU:HG	2.20	0.42
14:V:439:LEU:HD23	14:V:439:LEU:HA	1.89	0.42
15:R:59:VAL:O	15:R:63:ARG:HG2	2.19	0.42
3:A:844:ILE:O	3:A:848:VAL:HG22	2.19	0.42
4:N:708:GLU:HG2	4:N:708:GLU:O	2.20	0.42
5:I:740:HIS:HE1	5:I:742:ARG:HH21	1.67	0.42
8:K:228:GLN:OE1	8:K:228:GLN:N	2.47	0.42
11:H:67:LEU:HD22	13:Y:342:TRP:CH2	2.53	0.42
12:J:14:GLN:HE21	12:P:116:PHE:HE2	1.68	0.42
12:J:720:LYS:O	12:J:724:GLN:HG2	2.19	0.42
12:P:170:PHE:HB3	12:P:456:LYS:NZ	2.34	0.42
12:P:449:ILE:HA	12:P:452:PHE:HB3	2.01	0.42
8:Q:403:PHE:O	8:Q:407:GLU:HG2	2.19	0.42
13:Y:186:ARG:HA	13:Y:186:ARG:HH11	1.84	0.42
14:U:494:ILE:O	14:U:497:ILE:HG22	2.20	0.42
1:L:174:THR:HG22	12:P:737:SER:H	1.83	0.42
3:A:206:PRO:HB2	3:A:240:VAL:HB	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:420:ILE:HD12	3:A:420:ILE:N	2.34	0.42
3:A:1376:LEU:HG	3:A:1377:LYS:HG3	2.01	0.42
3:A:1633:LEU:HD23	3:A:1633:LEU:HA	1.88	0.42
3:A:1796:ALA:HA	3:A:1799:ARG:NH1	2.34	0.42
3:A:1915:LEU:HB3	4:N:67:LEU:HD11	2.01	0.42
4:N:177:TYR:HE1	4:N:303:VAL:HG21	1.84	0.42
4:N:364:CYS:O	4:N:368:THR:HG22	2.20	0.42
4:N:546:LYS:NZ	4:N:551:GLU:HG2	2.35	0.42
4:N:653:ARG:NH2	4:N:702:GLN:O	2.53	0.42
4:N:661:PRO:O	4:N:665:VAL:HG23	2.20	0.42
5:I:650:THR:HA	5:I:668:GLN:HG2	2.01	0.42
6:O:16:ASN:OD1	6:O:17:GLY:N	2.52	0.42
9:W:21:ASN:HA	9:W:24:LYS:HE3	2.02	0.42
12:P:758:MET:HE2	12:P:758:MET:HB2	1.98	0.42
13:Y:222:MET:HE3	13:Y:223:THR:HG23	2.01	0.42
13:Y:259:CYS:SG	13:Y:277:LEU:HD21	2.59	0.42
13:Z:489:GLU:HG3	13:Z:491:LYS:HG2	2.02	0.42
15:R:172:SER:O	15:R:439:LEU:HD11	2.20	0.42
3:A:48:LEU:HD22	14:V:50:HIS:CE1	2.54	0.42
3:A:880:TYR:HB2	3:A:930:LEU:HD22	2.01	0.42
3:A:987:ALA:HB2	3:A:1698:TYR:HE2	1.85	0.42
3:A:1022:GLU:H	3:A:1022:GLU:HG3	1.69	0.42
3:A:1473:GLY:HA2	3:A:1526:VAL:HG23	2.01	0.42
3:A:1650:GLU:HB2	8:K:556:LYS:HE2	2.01	0.42
3:A:1871:TYR:CE1	3:A:1889:LEU:HD11	2.54	0.42
3:A:1908:SER:HB3	3:A:1917:LYS:NZ	2.34	0.42
4:N:28:SER:O	4:N:32:VAL:HG12	2.20	0.42
8:K:502:PHE:CZ	8:K:518:MET:HB3	2.55	0.42
12:P:68:THR:HG23	12:P:71:CYS:H	1.85	0.42
13:Y:37:VAL:HG12	13:Z:233:LEU:HD11	2.02	0.42
13:Y:315:LEU:CD1	13:Y:320:ARG:HB2	2.50	0.42
14:V:137:SER:O	14:V:143:LYS:NZ	2.53	0.42
3:A:622:LEU:HD11	3:A:641:TRP:CZ3	2.54	0.42
3:A:947:LEU:HD23	3:A:947:LEU:HA	1.94	0.42
3:A:1235:LEU:HD23	3:A:1272:VAL:HG21	2.02	0.42
3:A:1296:LEU:HD11	3:A:1369:LEU:HD12	2.02	0.42
4:N:351:PHE:HZ	4:N:355:ARG:HH21	1.68	0.42
4:N:644:VAL:HG23	4:N:661:PRO:HG3	2.02	0.42
5:I:659:ARG:O	5:I:663:ASP:HB2	2.20	0.42
7:S:369:LEU:HD12	7:S:370:LYS:H	1.84	0.42
8:K:209:LEU:O	8:K:211:LYS:HG3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:K:372:LEU:HD22	8:K:404:VAL:HG22	2.02	0.42
12:J:104:ASP:HA	12:J:107:VAL:HG12	2.02	0.42
13:Y:98:SER:O	13:Y:101:THR:OG1	2.30	0.42
14:U:197:HIS:NE2	14:U:223:SER:O	2.30	0.42
14:V:368:TRP:CB	14:V:391:ALA:HB2	2.50	0.42
14:V:422:TYR:CZ	14:V:438:ALA:HB1	2.55	0.42
13:Z:457:THR:HG22	13:Z:457:THR:O	2.19	0.42
13:Z:534:ILE:HD12	13:Z:537:SER:HB3	2.01	0.42
16:C:44:CYS:N	16:C:45:PRO:HD3	2.35	0.42
1:L:22:VAL:HA	1:L:160:THR:O	2.20	0.42
3:A:482:VAL:HG21	3:A:609:ILE:HG13	2.00	0.42
3:A:627:PHE:CZ	3:A:864:PRO:HG2	2.55	0.42
3:A:1153:ILE:HD13	3:A:1153:ILE:HA	1.85	0.42
3:A:1300:LEU:O	3:A:1304:MET:HG3	2.20	0.42
3:A:1377:LYS:NZ	3:A:1576:THR:O	2.42	0.42
3:A:1633:LEU:HD21	8:K:556:LYS:HD3	2.02	0.42
4:N:543:GLU:HA	4:N:546:LYS:HD3	2.02	0.42
7:S:386:LYS:O	7:S:394:ALA:HA	2.20	0.42
12:J:684:LYS:HD3	12:J:687:LYS:HG2	2.01	0.42
14:U:53:LYS:HA	14:V:92:ALA:HB1	2.01	0.42
14:U:101:ARG:HG3	14:V:295:TYR:HB2	2.01	0.42
13:Z:153:LYS:O	13:Z:156:ILE:HG13	2.20	0.42
15:R:181:ALA:O	15:R:465:GLU:HB3	2.20	0.42
15:R:294:LEU:HD13	15:R:296:ARG:NH2	2.35	0.42
15:R:388:LEU:HG	15:R:389:THR:HG23	2.02	0.42
3:A:248:PHE:CE2	3:A:250:ASN:HB2	2.55	0.41
3:A:422:GLU:HG2	3:A:449:GLN:HG2	2.02	0.41
3:A:749:LEU:HD12	3:A:823:ILE:HG13	2.02	0.41
3:A:1155:SER:HB2	3:A:1187:LYS:O	2.20	0.41
3:A:1163:PRO:O	3:A:1165:HIS:N	2.53	0.41
3:A:1718:LEU:HD11	4:N:265:LEU:HD13	2.02	0.41
3:A:1800:LEU:HD12	3:A:1800:LEU:HA	1.86	0.41
3:A:1885:LEU:HD12	3:A:1889:LEU:HD23	2.02	0.41
4:N:108:LEU:CD2	4:N:239:GLN:HB3	2.50	0.41
4:N:351:PHE:N	4:N:352:PRO:HD2	2.35	0.41
4:N:620:GLU:OE1	4:N:624:LYS:NZ	2.53	0.41
8:K:55:ARG:HD2	8:Q:263:PHE:O	2.20	0.41
9:W:18:GLU:H	9:W:18:GLU:HG3	1.66	0.41
9:W:24:LYS:HD2	9:W:25:ASP:N	2.35	0.41
12:J:539:TYR:O	12:J:543:LEU:HD13	2.20	0.41
12:J:643:MET:HE2	12:J:643:MET:HB3	1.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:186:ARG:NH1	13:Y:189:VAL:HB	2.35	0.41
13:Y:196:LEU:HD12	13:Y:197:ARG:N	2.35	0.41
14:V:358:LEU:HD13	14:V:358:LEU:HA	1.93	0.41
14:V:385:ILE:HG23	14:V:405:LEU:HD11	2.02	0.41
3:A:981:GLN:H	3:A:1700:LYS:NZ	2.14	0.41
3:A:1328:TYR:HD1	3:A:1358:ILE:HG21	1.84	0.41
5:I:644:TYR:OH	5:I:729:LYS:HA	2.20	0.41
6:O:128:LYS:O	6:O:137:ARG:NH2	2.52	0.41
6:O:226:ASP:OD1	6:O:228:THR:OG1	2.34	0.41
6:O:417:LEU:HD23	6:O:417:LEU:HA	1.90	0.41
7:S:374:SER:HA	16:C:22:ASN:HD21	1.85	0.41
12:P:488:LEU:HD23	12:P:488:LEU:HA	1.79	0.41
13:Y:273:LEU:HD23	13:Y:273:LEU:HA	1.91	0.41
16:C:68:GLN:HG3	16:C:69:VAL:H	1.85	0.41
3:A:100:VAL:HG11	3:A:153:ILE:HG12	2.02	0.41
3:A:180:VAL:HG21	3:A:187:LEU:HD13	2.02	0.41
3:A:270:THR:HB	3:A:412:LEU:HD11	2.02	0.41
3:A:435:ASP:N	3:A:439:GLN:O	2.37	0.41
3:A:982:ASP:HB2	3:A:1676:LEU:HD21	2.02	0.41
4:N:170:GLN:NE2	4:N:259:GLU:OE2	2.53	0.41
6:O:591:TYR:HB2	6:O:600:ALA:HB2	2.02	0.41
8:K:177:THR:HB	8:K:180:GLU:OE1	2.21	0.41
12:J:743:ILE:HA	12:J:746:VAL:HG12	2.02	0.41
12:P:42:PHE:HB2	12:P:71:CYS:SG	2.61	0.41
8:Q:7:ARG:O	8:Q:10:VAL:HG22	2.19	0.41
8:Q:405:MET:HA	8:Q:408:VAL:HG22	2.02	0.41
13:Y:422:SER:HB3	13:Y:425:GLU:HB2	2.01	0.41
13:Z:238:VAL:HG11	13:Z:261:LEU:HD21	2.02	0.41
13:Z:264:LYS:H	13:Z:264:LYS:HG3	1.66	0.41
15:R:109:ASP:O	15:R:111:GLN:N	2.52	0.41
15:R:393:LEU:HD12	15:R:393:LEU:HA	1.92	0.41
16:C:51:CYS:SG	16:C:73:CYS:HB2	2.59	0.41
1:L:185:ARG:HB3	12:P:541:THR:HG23	2.02	0.41
3:A:1453:ASN:O	3:A:1457:LEU:HD13	2.20	0.41
3:A:1766:GLU:OE2	3:A:1798:ARG:NH1	2.48	0.41
6:O:11:ASN:HA	6:O:249:ASP:OD2	2.21	0.41
6:O:712:ASP:HB3	6:O:751:LEU:HD13	2.03	0.41
7:S:382:ASN:OD1	7:S:382:ASN:O	2.38	0.41
12:J:26:PHE:O	12:J:29:GLU:HG2	2.20	0.41
13:Z:38:ILE:H	13:Z:38:ILE:HD12	1.85	0.41
3:A:282:VAL:HG12	15:R:16:GLN:HE21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1180:GLY:HA3	3:A:1211:GLY:CA	2.51	0.41
4:N:108:LEU:HD21	4:N:239:GLN:HB3	2.01	0.41
4:N:673:GLN:HB2	4:N:676:TRP:CZ2	2.55	0.41
5:I:280:LEU:HA	5:I:337:ILE:HD11	2.03	0.41
5:I:371:SER:OG	6:O:652:LEU:HB3	2.20	0.41
6:O:56:GLU:H	6:O:56:GLU:HG3	1.67	0.41
6:O:78:LEU:HA	6:O:78:LEU:HD23	1.66	0.41
6:O:577:THR:HG21	6:O:614:TYR:CD2	2.55	0.41
7:S:446:ARG:HG2	7:S:447:LEU:HD23	2.01	0.41
8:K:34:ARG:HH11	8:K:34:ARG:HA	1.85	0.41
12:J:536:MET:HB3	12:J:559:LEU:HD11	2.01	0.41
12:J:662:LEU:HD12	12:J:662:LEU:O	2.19	0.41
13:Z:192:TYR:HB3	13:Z:209:LEU:CD2	2.51	0.41
15:R:324:ASP:C	15:R:324:ASP:OD1	2.58	0.41
15:R:428:TRP:CZ3	15:R:435:GLN:HB2	2.56	0.41
3:A:18:GLN:O	3:A:606:ARG:N	2.43	0.41
3:A:1600:ARG:HH11	3:A:1600:ARG:HG3	1.85	0.41
4:N:598:SER:HB3	16:C:13:THR:HB	2.02	0.41
5:I:747:ASP:OD1	5:I:747:ASP:N	2.53	0.41
12:P:77:LYS:O	12:P:80:VAL:HG12	2.20	0.41
12:P:692:LEU:HD23	12:P:692:LEU:HA	1.89	0.41
14:V:160:LYS:HE3	14:V:160:LYS:HB2	1.73	0.41
14:V:277:ARG:HH12	15:R:44:HIS:HD2	1.69	0.41
13:Z:321:LEU:HA	13:Z:324:VAL:HG12	2.03	0.41
13:Z:461:ALA:O	13:Z:464:LEU:HD23	2.21	0.41
15:R:305:SER:O	15:R:307:ARG:N	2.53	0.41
1:L:103:HIS:ND1	3:A:1594:ALA:HB2	2.35	0.41
2:D:46:GLU:HA	14:U:380:ASN:ND2	2.36	0.41
3:A:1030:GLU:OE1	3:A:1030:GLU:N	2.54	0.41
4:N:341:ILE:HD13	4:N:374:LEU:CA	2.50	0.41
4:N:438:ILE:HD13	4:N:505:LEU:HB3	2.02	0.41
4:N:574:ILE:O	4:N:577:GLU:HG3	2.20	0.41
5:I:13:VAL:HG22	5:I:744:PHE:CE2	2.56	0.41
5:I:265:ILE:HD13	5:I:265:ILE:HA	1.89	0.41
6:O:631:GLN:HB2	6:O:640:ALA:HB2	2.03	0.41
12:J:170:PHE:CD2	12:J:456:LYS:HG2	2.55	0.41
12:J:563:ASP:OD2	12:P:55:TYR:OH	2.32	0.41
12:J:625:ARG:HD3	12:J:625:ARG:HA	1.87	0.41
12:J:684:LYS:HB2	12:J:687:LYS:HB3	2.02	0.41
12:P:650:LYS:HE2	12:P:650:LYS:HB2	1.80	0.41
13:Y:78:GLN:HA	13:Y:81:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Y:270:ASN:ND2	13:Z:59:LEU:HD23	2.35	0.41
13:Z:144:GLU:O	13:Z:147:THR:OG1	2.23	0.41
13:Z:311:TYR:O	13:Z:315:LEU:HG	2.21	0.41
13:Z:384:ARG:NH2	13:Z:385:ASN:OD1	2.42	0.41
15:R:188:PHE:N	15:R:447:LEU:HD12	2.34	0.41
15:R:276:ALA:HB2	15:R:317:CYS:HA	2.02	0.41
15:R:312:HIS:CE1	15:R:316:VAL:HG21	2.56	0.41
1:L:73:THR:HG23	1:L:131:PRO:HB2	2.03	0.41
1:L:74:VAL:HG11	1:L:137:ILE:HD11	2.03	0.41
3:A:676:ALA:HA	3:A:679:ARG:HE	1.86	0.41
4:N:548:ARG:HG3	4:N:549:PHE:HD1	1.86	0.41
5:I:58:PHE:HE1	5:I:64:THR:HG21	1.85	0.41
5:I:269:LEU:HA	5:I:272:MET:HG3	2.02	0.41
6:O:64:LEU:O	6:O:68:LEU:HG	2.21	0.41
13:Y:196:LEU:HD22	13:Y:222:MET:HE2	2.02	0.41
14:U:156:VAL:O	14:U:160:LYS:HG2	2.21	0.41
14:V:96:VAL:HG23	14:V:98:GLU:HG3	2.03	0.41
14:V:131:ASP:O	14:V:135:VAL:HG23	2.21	0.41
13:Z:72:SER:OG	13:Z:75:GLN:HG3	2.20	0.41
16:C:46:LEU:HB3	16:C:54:CYS:SG	2.61	0.41
3:A:247:VAL:HG11	3:A:427:ALA:HB3	2.03	0.41
3:A:591:VAL:CG1	3:A:592:HIS:N	2.84	0.41
3:A:628:ILE:HG21	3:A:765:VAL:HG21	2.02	0.41
3:A:1364:CYS:O	3:A:1368:THR:HG22	2.21	0.41
3:A:1434:ILE:HD13	3:A:1434:ILE:N	2.36	0.41
3:A:1458:SER:O	3:A:1462:VAL:HG22	2.21	0.41
4:N:415:VAL:HG21	4:N:484:PRO:HG3	2.03	0.41
4:N:436:ARG:HG2	4:N:518:GLU:OE1	2.21	0.41
4:N:516:ILE:HD12	4:N:553:PRO:HB3	2.03	0.41
4:N:534:SER:OG	4:N:536:GLU:OE2	2.39	0.41
5:I:33:ASP:OD1	5:I:728:ARG:NE	2.49	0.41
5:I:235:GLN:HB3	5:I:552:ILE:HB	2.02	0.41
5:I:363:LEU:HB3	5:I:390:ILE:CD1	2.51	0.41
5:I:552:ILE:HD13	5:I:552:ILE:HA	1.92	0.41
5:I:585:TYR:OH	5:I:602:ARG:NH2	2.49	0.41
6:O:58:ARG:CG	6:O:62:GLN:HE22	2.32	0.41
6:O:81:LEU:O	6:O:84:GLU:HG2	2.20	0.41
6:O:104:GLU:HB3	6:O:106:LYS:HG2	2.03	0.41
6:O:347:LEU:HD23	6:O:347:LEU:HA	1.88	0.41
6:O:348:TYR:CZ	6:O:361:LEU:HD11	2.55	0.41
6:O:414:LEU:HD13	6:O:417:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:M:5:VAL:HG12	14:U:124:LEU:HD22	2.01	0.41
12:J:23:ASP:OD1	12:P:149:TRP:N	2.50	0.41
8:Q:474:LEU:HA	8:Q:474:LEU:HD12	1.81	0.41
14:V:244:ILE:O	14:V:248:LEU:HD23	2.21	0.41
13:Z:196:LEU:HD23	13:Z:196:LEU:HA	1.93	0.41
13:Z:238:VAL:HG13	13:Z:261:LEU:HD11	2.02	0.41
13:Z:295:GLU:OE2	13:Z:298:GLN:NE2	2.54	0.41
13:Z:377:LEU:HD21	13:Z:409:CYS:HA	2.03	0.41
13:Z:448:ALA:HB2	13:Z:464:LEU:HD21	2.03	0.41
15:R:418:HIS:CD2	15:R:426:LEU:HG	2.56	0.41
15:R:420:TYR:O	15:R:422:GLN:N	2.52	0.41
3:A:484:LYS:HB2	3:A:592:HIS:CD2	2.56	0.41
3:A:872:LEU:HD12	3:A:933:TRP:CH2	2.55	0.41
3:A:1284:GLU:HG3	3:A:1285:MET:H	1.85	0.41
3:A:1318:ASP:N	3:A:1318:ASP:OD1	2.54	0.41
3:A:1671:PRO:O	3:A:1702:ARG:HD3	2.21	0.41
4:N:391:VAL:O	4:N:431:ARG:NH2	2.54	0.41
4:N:439:VAL:HG12	4:N:522:LEU:HD23	2.03	0.41
5:I:408:ASP:OD2	5:I:412:LYS:NZ	2.54	0.41
5:I:692:ARG:NH1	5:I:694:ASP:HB3	2.35	0.41
6:O:361:LEU:HD23	6:O:361:LEU:HA	1.83	0.41
8:K:57:ALA:O	8:K:61:ARG:HG2	2.21	0.41
10:M:60:LEU:HD11	12:J:549:ASP:HB3	2.01	0.41
13:Y:152:ASP:OD1	13:Y:152:ASP:N	2.54	0.41
13:Y:393:ILE:O	13:Y:397:ARG:HG3	2.21	0.41
14:U:186:LYS:HE2	14:U:186:LYS:HB2	1.85	0.41
14:U:234:LEU:HA	14:U:237:ILE:HG22	2.03	0.41
14:V:161:LYS:HB3	14:V:161:LYS:HE3	1.95	0.41
14:V:261:LYS:HB2	14:V:261:LYS:HE3	1.82	0.41
13:Z:361:LEU:HD23	13:Z:361:LEU:HA	1.90	0.41
13:Z:437:LEU:HB2	13:Z:443:THR:HG21	2.03	0.41
15:R:312:HIS:ND1	15:R:316:VAL:HG11	2.36	0.41
15:R:356:ALA:HB3	15:R:376:GLY:HA3	2.02	0.41
15:R:420:TYR:CE1	15:R:445:ARG:HD3	2.56	0.41
16:C:30:PHE:HE1	16:C:55:PHE:HA	1.85	0.41
3:A:597:LEU:HD11	3:A:607:ILE:HD13	2.03	0.40
3:A:863:LEU:HB2	3:A:867:CYS:SG	2.60	0.40
3:A:966:PRO:HB3	3:A:980:ARG:HH12	1.86	0.40
3:A:1287:TYR:CE2	3:A:1291:ARG:HG2	2.56	0.40
3:A:1499:LEU:HD22	3:A:1512:LEU:HB3	2.02	0.40
3:A:1797:ILE:HG22	3:A:1852:ILE:CD1	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:168:THR:O	4:N:172:MET:HG3	2.21	0.40
4:N:459:THR:HG21	4:N:548:ARG:HD3	2.03	0.40
5:I:245:LEU:HB3	5:I:246:PRO:HD3	2.03	0.40
5:I:321:LEU:HD23	5:I:321:LEU:HA	1.90	0.40
6:O:386:GLN:HB2	6:O:424:GLN:NE2	2.36	0.40
8:K:40:ILE:HD13	8:K:63:ARG:HD3	2.03	0.40
12:J:539:TYR:CE1	12:J:543:LEU:HD11	2.56	0.40
12:J:602:TYR:CE1	12:J:606:LEU:HD21	2.54	0.40
12:J:659:GLN:NE2	12:J:663:ASP:OD1	2.53	0.40
12:J:762:TRP:NE1	8:Q:362:GLN:HB2	2.36	0.40
13:Y:318:GLU:OE1	13:Y:320:ARG:NH2	2.52	0.40
14:U:231:GLU:N	14:U:231:GLU:OE1	2.53	0.40
2:D:2:SER:N	6:O:542:GLU:OE2	2.54	0.40
2:D:4:LEU:HD12	2:D:5:PHE:N	2.36	0.40
3:A:89:TYR:HB2	6:O:537:ALA:HB2	2.03	0.40
5:I:540:PRO:O	5:I:543:VAL:HG22	2.20	0.40
7:S:403:PHE:CZ	7:S:405:TYR:HB3	2.55	0.40
12:J:163:ASP:O	12:J:167:THR:HG23	2.21	0.40
12:P:689:LEU:HD23	12:P:689:LEU:HA	1.89	0.40
12:P:742:LEU:O	12:P:746:VAL:HG22	2.22	0.40
8:Q:5:ARG:HA	8:Q:5:ARG:HD2	1.89	0.40
13:Y:305:ILE:HD11	13:Y:334:ILE:HD11	2.03	0.40
14:V:33:LYS:HG2	14:V:65:LEU:HD11	2.03	0.40
14:V:115:TYR:OH	14:V:161:LYS:HD3	2.21	0.40
14:V:210:CYS:HA	14:V:237:ILE:HD13	2.03	0.40
14:V:304:SER:OG	14:V:339:ASN:ND2	2.51	0.40
13:Z:318:GLU:OE2	13:Z:320:ARG:HG2	2.21	0.40
15:R:150:LEU:HD23	15:R:150:LEU:HA	1.95	0.40
3:A:497:LEU:HA	3:A:497:LEU:HD23	1.81	0.40
3:A:1343:GLU:HG2	3:A:1344:LYS:H	1.86	0.40
3:A:1369:LEU:HD21	3:A:1406:LEU:HD22	2.03	0.40
3:A:1805:MET:HE2	3:A:1811:LEU:HG	2.03	0.40
3:A:1844:PHE:O	3:A:1848:VAL:HG12	2.21	0.40
4:N:540:ARG:HA	4:N:543:GLU:HG3	2.02	0.40
4:N:652:ASP:OD1	4:N:653:ARG:N	2.54	0.40
5:I:156:PHE:HZ	5:I:260:ALA:HB1	1.87	0.40
5:I:262:LEU:HD23	5:I:262:LEU:HA	1.94	0.40
5:I:308:LEU:HD21	5:I:445:ILE:HG23	2.02	0.40
8:K:28:LYS:HD3	8:K:28:LYS:HA	1.67	0.40
8:K:90:LEU:HD12	8:K:90:LEU:HA	1.94	0.40
8:K:502:PHE:CE2	8:K:518:MET:HB3	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:27:LEU:HD11	12:P:147:PHE:O	2.20	0.40
12:J:138:TYR:CD1	12:J:151:PRO:HB3	2.57	0.40
12:P:62:LYS:HD2	12:P:62:LYS:HA	1.89	0.40
12:P:161:LYS:HD2	12:P:474:LEU:HD11	2.03	0.40
13:Y:457:THR:OG1	13:Y:460:LYS:HB3	2.21	0.40
14:U:287:ASN:O	14:U:291:LYS:HG2	2.22	0.40
14:V:119:MET:HG3	14:V:158:LEU:HD21	2.03	0.40
13:Z:205:ALA:O	13:Z:209:LEU:HG	2.22	0.40
15:R:289:ARG:HA	15:R:315:GLU:HB2	2.03	0.40
3:A:896:LEU:HD12	3:A:896:LEU:HA	1.85	0.40
3:A:1538:LEU:O	3:A:1542:LEU:HG	2.20	0.40
4:N:486:ASP:OD1	4:N:486:ASP:N	2.51	0.40
4:N:660:THR:HG21	4:N:695:ARG:NH1	2.36	0.40
5:I:421:LEU:HD12	5:I:421:LEU:HA	1.95	0.40
6:O:544:VAL:HG12	6:O:567:LEU:HD22	2.03	0.40
6:O:601:LEU:HD23	6:O:601:LEU:HA	1.85	0.40
12:P:726:LEU:HD12	12:P:726:LEU:HA	1.81	0.40
8:Q:371:MET:HA	8:Q:374:ILE:HG22	2.04	0.40
8:Q:506:LEU:HD11	8:Q:516:VAL:HG22	2.03	0.40
13:Y:78:GLN:O	13:Y:81:VAL:HG22	2.21	0.40
13:Y:246:VAL:HG13	13:Y:280:LEU:HD21	2.03	0.40
14:U:331:VAL:HG11	14:U:361:ASN:HB3	2.03	0.40
15:R:98:GLU:OE2	15:R:157:SER:OG	2.32	0.40
15:R:155:ASN:HB3	15:R:159:LYS:NZ	2.36	0.40
4:N:253:LEU:H	4:N:253:LEU:HD12	1.86	0.40
4:N:321:LEU:HA	4:N:324:TRP:CE3	2.56	0.40
4:N:536:GLU:HA	4:N:539:ILE:HG12	2.03	0.40
5:I:47:HIS:HA	5:I:54:ARG:HA	2.04	0.40
5:I:70:CYS:HB2	5:I:113:MET:HG2	2.04	0.40
5:I:361:TYR:N	6:O:437:MET:HE1	2.36	0.40
6:O:262:LEU:HA	6:O:262:LEU:HD23	1.87	0.40
6:O:592:TRP:CH2	6:O:630:ALA:HA	2.55	0.40
8:K:334:GLY:HA3	8:K:364:MET:SD	2.62	0.40
10:M:31:ILE:HD13	10:M:31:ILE:HA	1.89	0.40
12:J:634:HIS:NE2	12:J:636:ASN:HB2	2.36	0.40
12:P:158:ILE:O	12:P:633:ARG:HD3	2.21	0.40
8:Q:12:GLN:HE21	8:Q:12:GLN:HB3	1.72	0.40
13:Y:73:PRO:HB2	13:Y:74:PRO:HD3	2.03	0.40
13:Y:481:LYS:HD3	13:Y:481:LYS:HA	1.88	0.40
14:U:172:LEU:HD12	14:U:198:VAL:HG11	2.03	0.40
14:U:301:ASP:HB3	14:U:335:CYS:SG	2.62	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:Z:60:LEU:O	13:Z:63:MET:HB2	2.21	0.40
13:Z:72:SER:H	13:Z:75:GLN:NE2	2.08	0.40
13:Z:134:SER:O	13:Z:138:VAL:HG13	2.22	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	L	181/185 (98%)	173 (96%)	8 (4%)	0	100	100
2	D	55/121 (46%)	52 (94%)	3 (6%)	0	100	100
3	A	1628/1944 (84%)	1558 (96%)	68 (4%)	2 (0%)	51	83
4	N	674/822 (82%)	651 (97%)	23 (3%)	0	100	100
5	I	736/814 (90%)	709 (96%)	27 (4%)	0	100	100
6	O	699/755 (93%)	683 (98%)	16 (2%)	0	100	100
7	S	94/447 (21%)	85 (90%)	9 (10%)	0	100	100
8	K	525/620 (85%)	512 (98%)	13 (2%)	0	100	100
8	Q	503/620 (81%)	489 (97%)	14 (3%)	0	100	100
9	G	25/85 (29%)	25 (100%)	0	0	100	100
9	W	24/85 (28%)	24 (100%)	0	0	100	100
10	M	66/74 (89%)	60 (91%)	6 (9%)	0	100	100
11	H	56/110 (51%)	56 (100%)	0	0	100	100
12	J	509/824 (62%)	494 (97%)	15 (3%)	0	100	100
12	P	492/824 (60%)	480 (98%)	12 (2%)	0	100	100
13	Y	498/599 (83%)	489 (98%)	9 (2%)	0	100	100
13	Z	485/599 (81%)	473 (98%)	12 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	U	534/597 (89%)	510 (96%)	24 (4%)	0	100	100
14	V	533/597 (89%)	521 (98%)	12 (2%)	0	100	100
15	R	420/496 (85%)	389 (93%)	31 (7%)	0	100	100
16	C	82/84 (98%)	76 (93%)	6 (7%)	0	100	100
All	All	8819/11302 (78%)	8509 (96%)	308 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	1284	GLU
3	A	1314	ILE

### 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	L	168/170 (99%)	165 (98%)	3 (2%)	59	82
2	D	54/115 (47%)	51 (94%)	3 (6%)	21	57
3	A	1450/1720 (84%)	1429 (99%)	21 (1%)	67	86
4	N	600/724 (83%)	591 (98%)	9 (2%)	65	85
5	I	663/736 (90%)	653 (98%)	10 (2%)	65	85
6	O	604/650 (93%)	592 (98%)	12 (2%)	55	80
7	S	91/403 (23%)	81 (89%)	10 (11%)	6	26
8	K	463/548 (84%)	453 (98%)	10 (2%)	52	79
8	Q	437/548 (80%)	433 (99%)	4 (1%)	78	91
9	G	26/77 (34%)	23 (88%)	3 (12%)	5	24
9	W	25/77 (32%)	24 (96%)	1 (4%)	31	66
10	M	61/67 (91%)	59 (97%)	2 (3%)	38	71
11	H	52/89 (58%)	52 (100%)	0	100	100
12	J	442/727 (61%)	435 (98%)	7 (2%)	62	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	P	429/727 (59%)	426 (99%)	3 (1%)	84	94
13	Y	425/513 (83%)	417 (98%)	8 (2%)	57	81
13	Z	417/513 (81%)	400 (96%)	17 (4%)	30	66
14	U	471/520 (91%)	468 (99%)	3 (1%)	86	94
14	V	463/520 (89%)	459 (99%)	4 (1%)	78	91
15	R	370/431 (86%)	355 (96%)	15 (4%)	30	66
16	C	75/75 (100%)	72 (96%)	3 (4%)	31	66
All	All	7786/9950 (78%)	7638 (98%)	148 (2%)	59	81

All (148) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	L	83	TYR
1	L	128	HIS
1	L	144	ASN
2	D	21	ASP
2	D	31	GLN
2	D	56	LYS
3	A	210	MET
3	A	223	LEU
3	A	663	CYS
3	A	809	ASP
3	A	833	HIS
3	A	837	PHE
3	A	871	ARG
3	A	961	HIS
3	A	1048	ARG
3	A	1239	THR
3	A	1337	GLN
3	A	1356	ASP
3	A	1386	TRP
3	A	1453	ASN
3	A	1575	SER
3	A	1715	TRP
3	A	1756	LYS
3	A	1816	LEU
3	A	1836	ARG
3	A	1850	CYS
3	A	1865	ASP
4	N	207	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	N	244	SER
4	N	414	MET
4	N	515	PHE
4	N	540	ARG
4	N	554	MET
4	N	580	LYS
4	N	624	LYS
4	N	632	MET
5	I	17	LYS
5	I	116	MET
5	I	267	LEU
5	I	332	LYS
5	I	529	MET
5	I	536	CYS
5	I	548	MET
5	I	662	ARG
5	I	676	ASN
5	I	717	MET
6	O	55	MET
6	O	56	GLU
6	O	64	LEU
6	O	167	LYS
6	O	250	PHE
6	O	363	HIS
6	O	408	LEU
6	O	517	ASP
6	O	573	LYS
6	O	664	MET
6	O	706	CYS
6	O	735	MET
7	S	119	GLU
7	S	321	PHE
7	S	331	SER
7	S	358	ARG
7	S	372	ASN
7	S	382	ASN
7	S	403	PHE
7	S	405	TYR
7	S	414	HIS
7	S	442	LYS
8	K	15	ASP
8	K	31	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	K	91	ASP
8	K	190	LEU
8	K	225	ASP
8	K	340	TYR
8	K	358	PHE
8	K	378	TYR
8	K	442	ASP
8	K	500	ASP
9	G	3	ARG
9	G	15	ASP
9	G	24	LYS
9	W	24	LYS
10	M	33	LEU
10	M	65	LEU
12	J	66	CYS
12	J	633[A]	ARG
12	J	633[B]	ARG
12	J	646	TYR
12	J	747	TYR
12	J	765	ASP
12	J	782	ARG
12	P	26	PHE
12	P	548	LYS
12	P	673	CYS
8	Q	12	GLN
8	Q	164	PHE
8	Q	314	HIS
8	Q	385	LYS
13	Y	88	PHE
13	Y	174	MET
13	Y	267	LEU
13	Y	272	ASP
13	Y	294	PHE
13	Y	386	MET
13	Y	427	MET
13	Y	452	LEU
14	U	220	LYS
14	U	396	LYS
14	U	518	GLN
14	V	220	LYS
14	V	222	LEU
14	V	407	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
14	V	417	TYR
13	Z	35	MET
13	Z	102	MET
13	Z	148	MET
13	Z	152	ASP
13	Z	174	MET
13	Z	224	MET
13	Z	236	LEU
13	Z	263	LYS
13	Z	264	LYS
13	Z	267	LEU
13	Z	272	ASP
13	Z	282	PHE
13	Z	308	MET
13	Z	421	ASN
13	Z	444	LEU
13	Z	464	LEU
13	Z	525	TYR
15	R	86	LYS
15	R	159	LYS
15	R	188	PHE
15	R	205	LEU
15	R	223	CYS
15	R	252	PHE
15	R	303	LEU
15	R	324	ASP
15	R	380	ARG
15	R	383	ARG
15	R	422	GLN
15	R	423	ASN
15	R	449	LEU
15	R	468	ARG
15	R	473	PHE
16	C	14	TRP
16	C	28	MET
16	C	77	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	D	33	GLN
3	A	819	GLN

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Mol	Chain	Res	Type
4	N	174	GLN
5	I	401	ASN
6	O	424	GLN
7	S	359	HIS
7	S	443	ASN
8	K	195	ASN
8	K	198	GLN
13	Y	83	HIS
13	Y	326	ASN
13	Z	75	GLN
15	R	44	HIS
15	R	401	GLN
15	R	422	GLN
15	R	423	ASN
16	C	50	GLN
16	C	71	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 monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.



No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

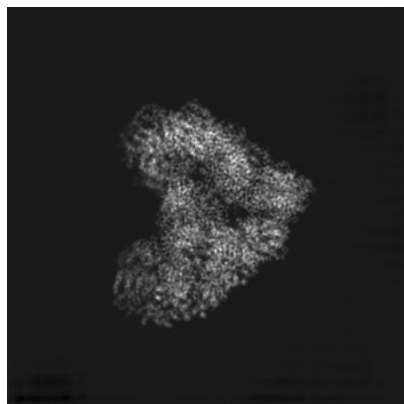
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-19711. These allow visual inspection of the internal detail of the map and identification of artifacts.

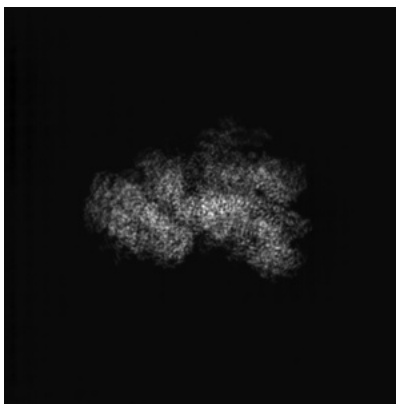
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

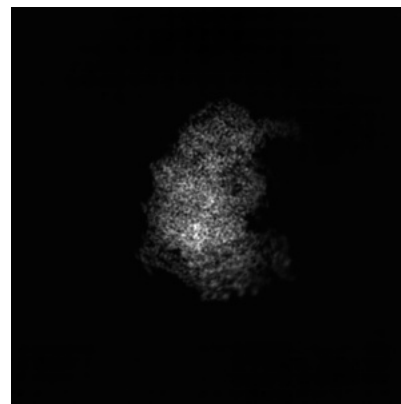
#### 6.1.1 Primary map



X

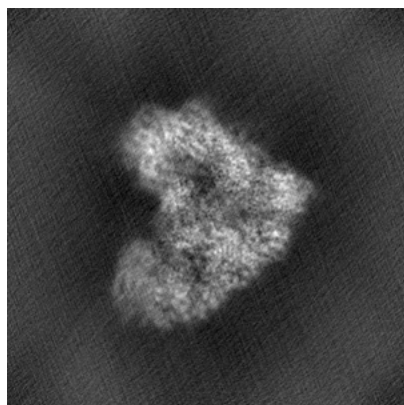


Y

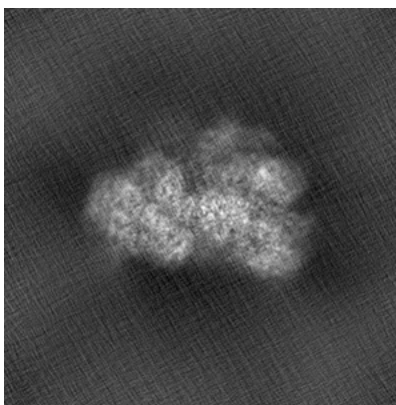


Z

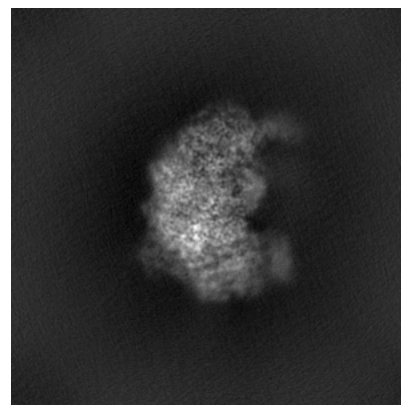
#### 6.1.2 Raw map



X



Y



Z

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

## 6.2 Central slices [i](#)

### 6.2.1 Primary map



X Index: 180

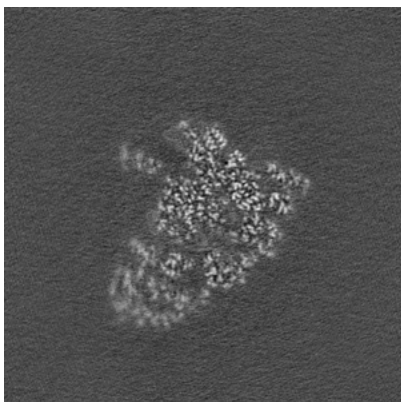


Y Index: 180

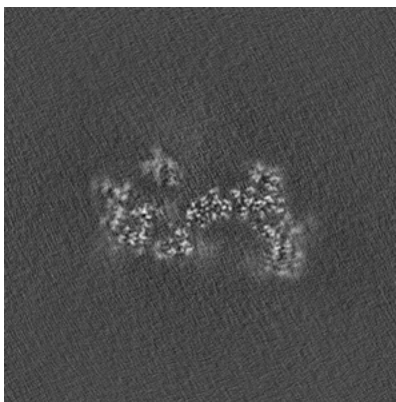


Z Index: 180

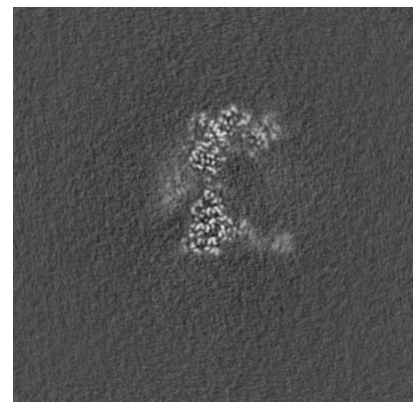
### 6.2.2 Raw map



X Index: 180



Y Index: 180

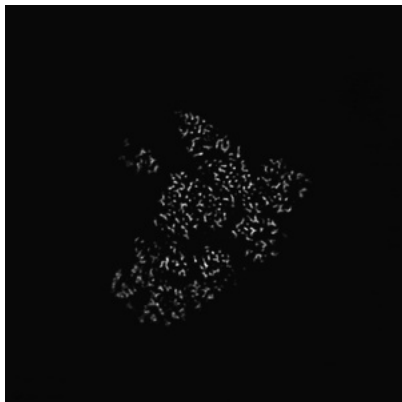


Z Index: 180

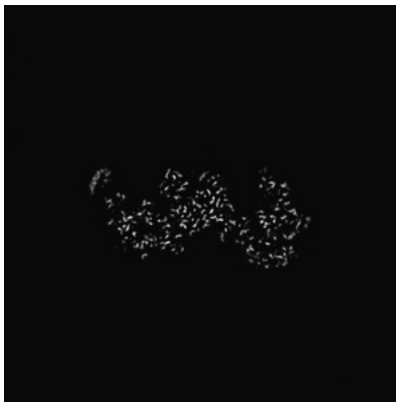
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

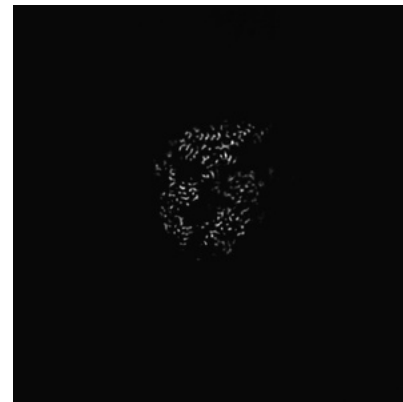
### 6.3.1 Primary map



X Index: 175

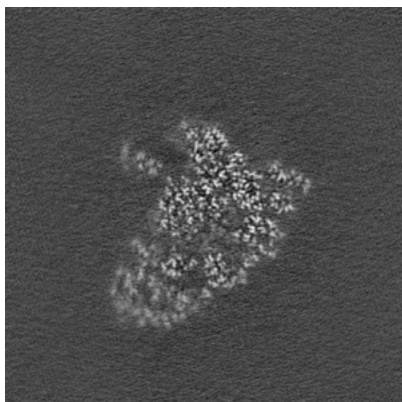


Y Index: 163

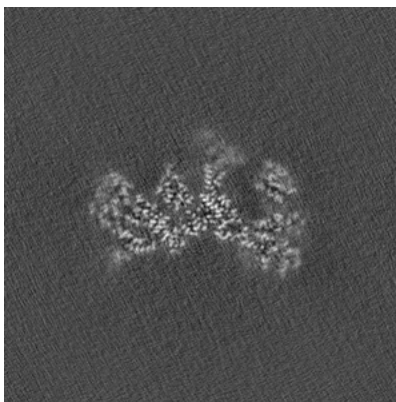


Z Index: 155

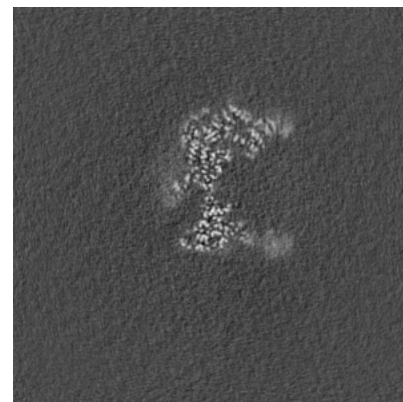
### 6.3.2 Raw map



X Index: 179



Y Index: 155

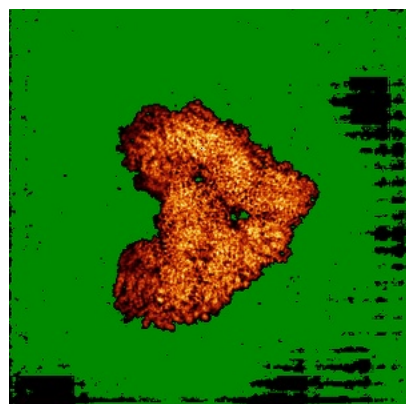


Z Index: 187

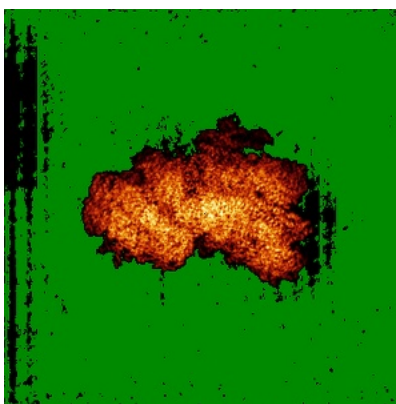
The images above show the largest variance slices of the map in three orthogonal directions.

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

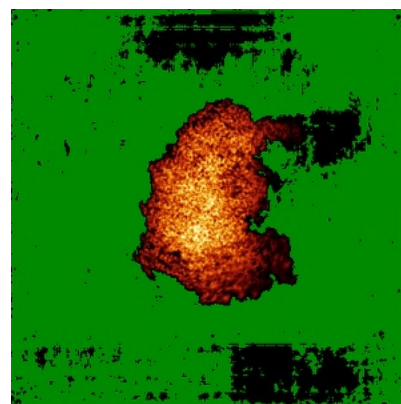
### 6.4.1 Primary map



X

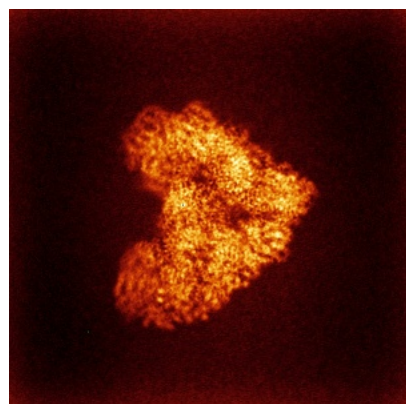


Y

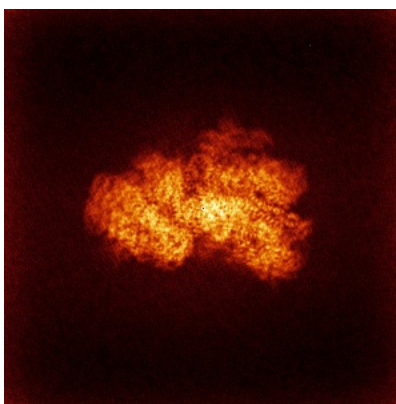


Z

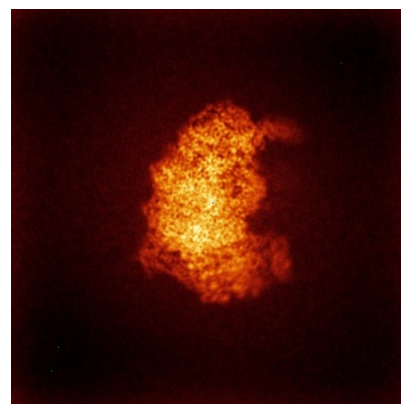
### 6.4.2 Raw map



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](#)

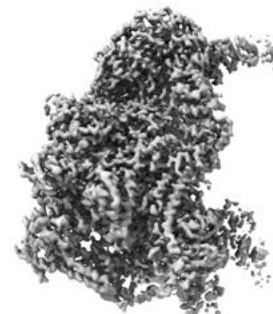
### 6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.18. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

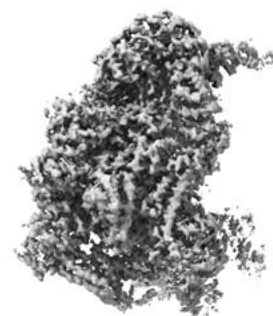
### 6.5.2 Raw map



X



Y



Z

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

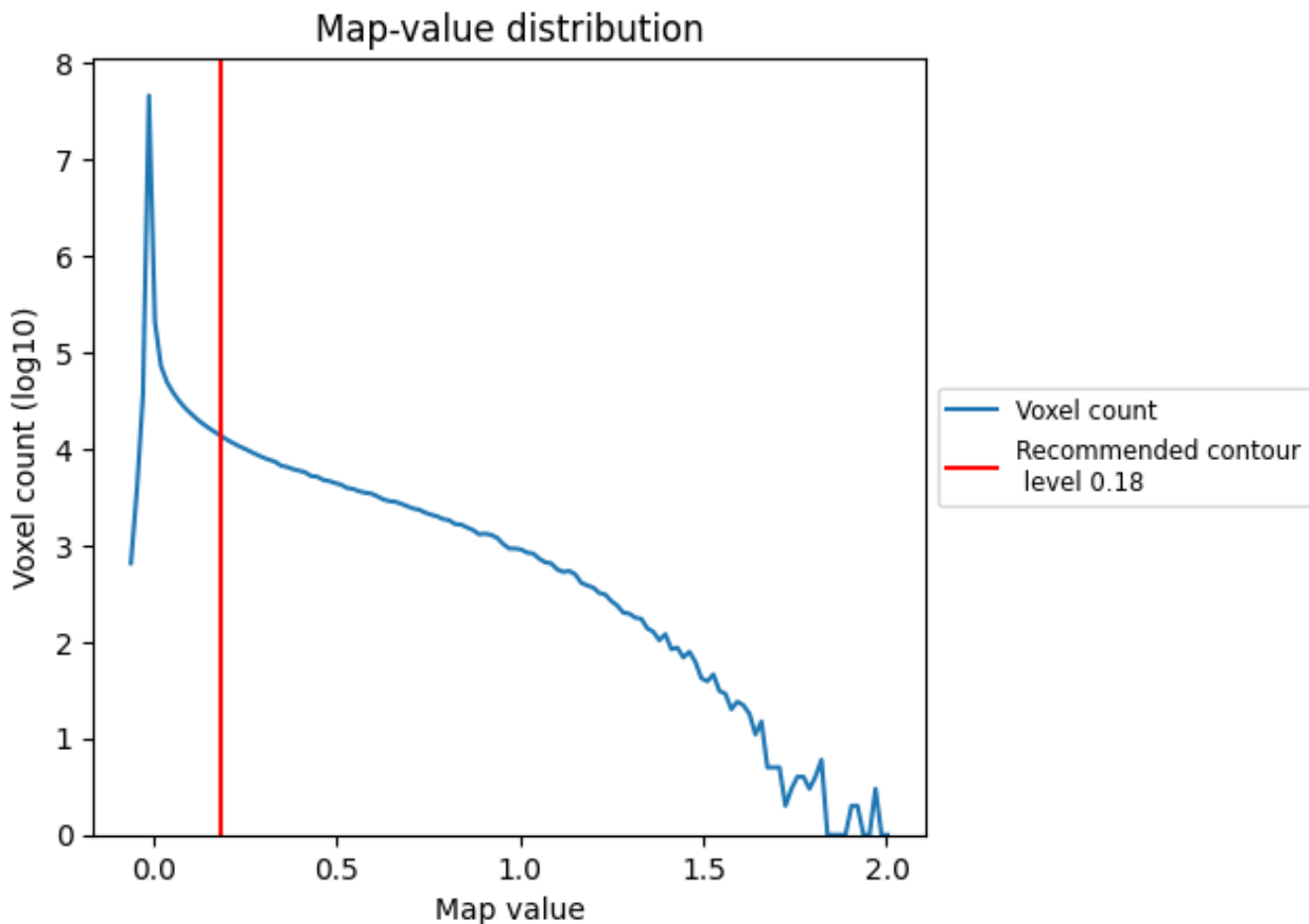
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

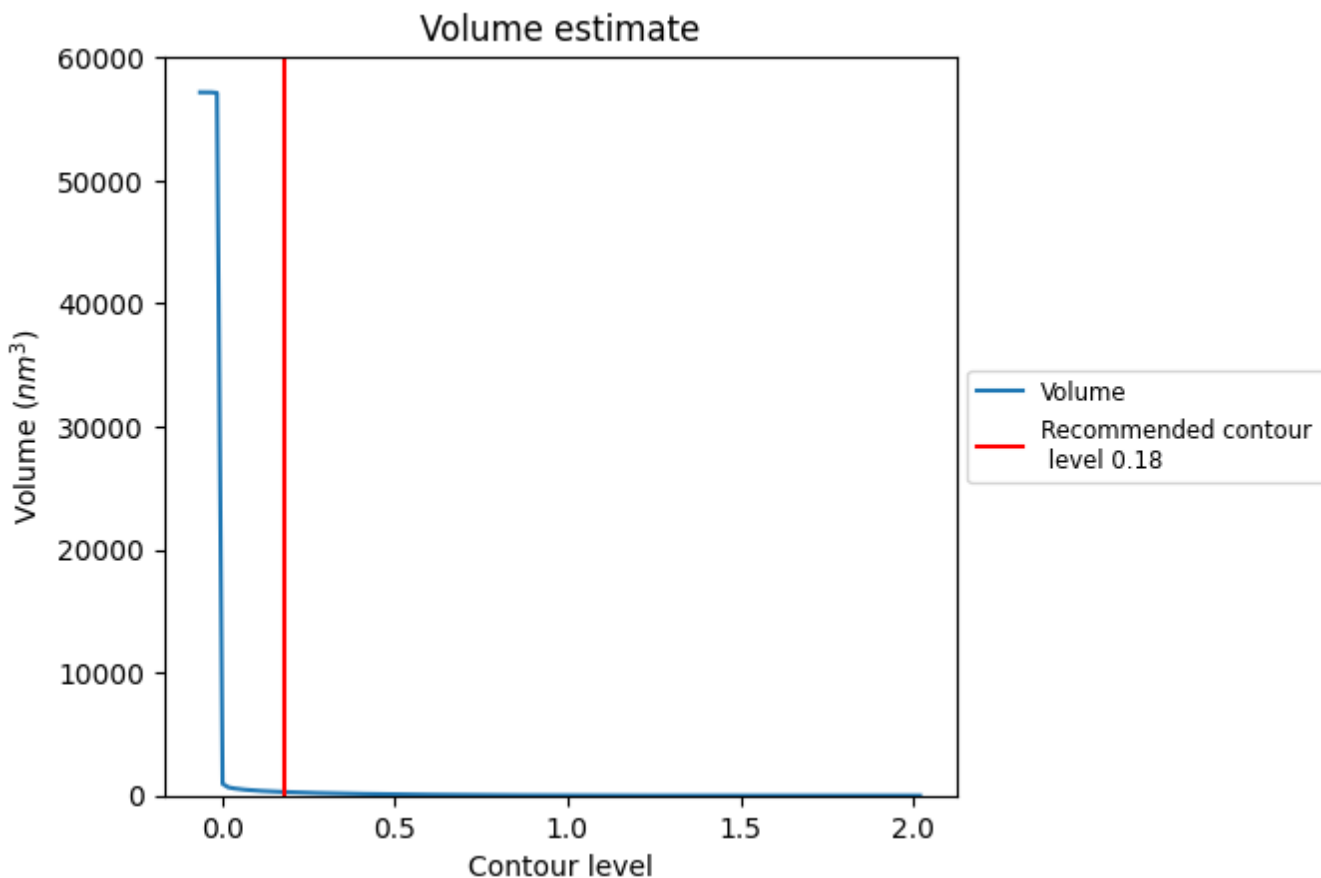
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

## 7.2 Volume estimate [i](#)

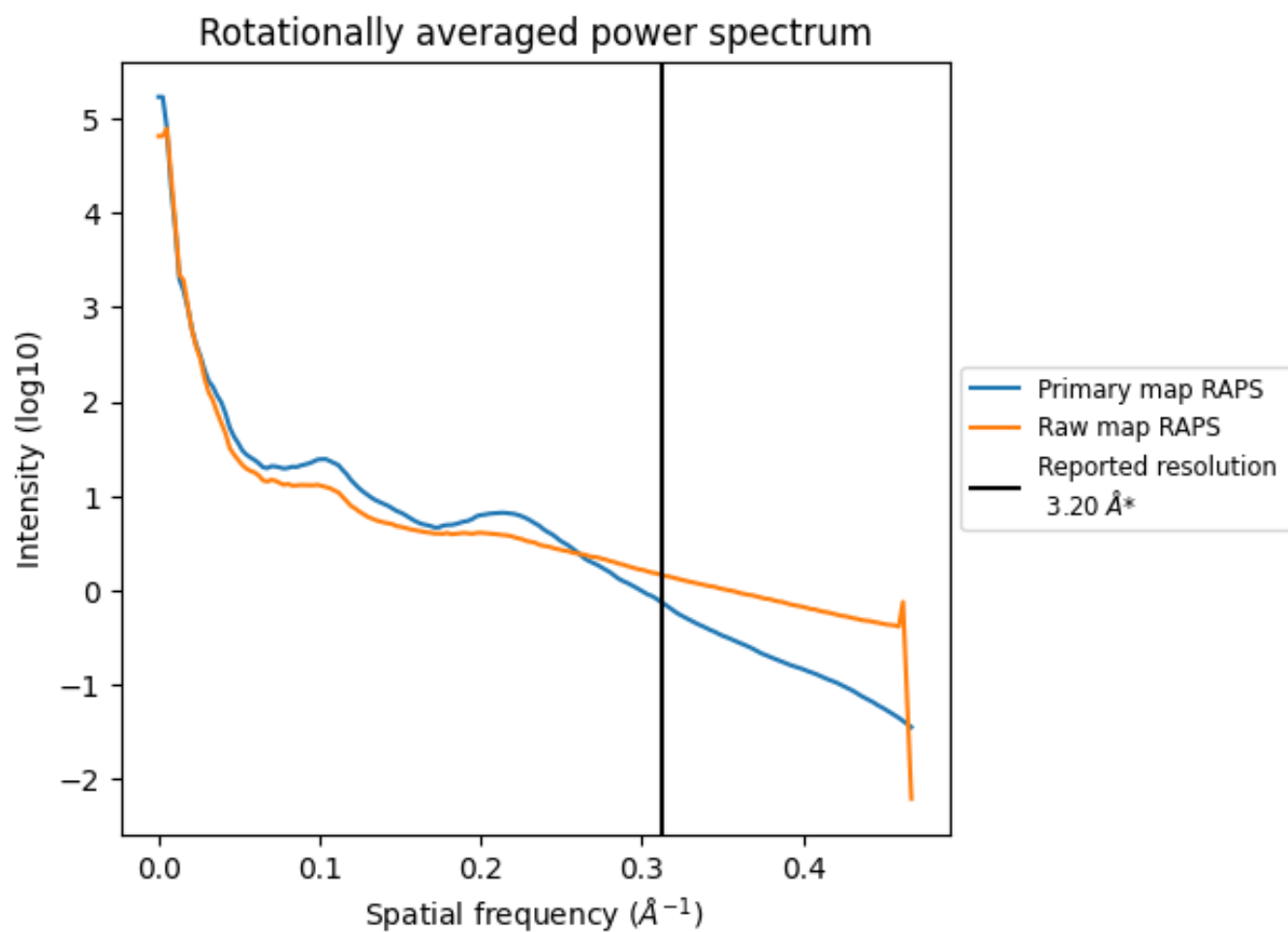


The volume at the recommended contour level is 291 nm<sup>3</sup>; this corresponds to an approximate mass of 263 kDa.

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](#)

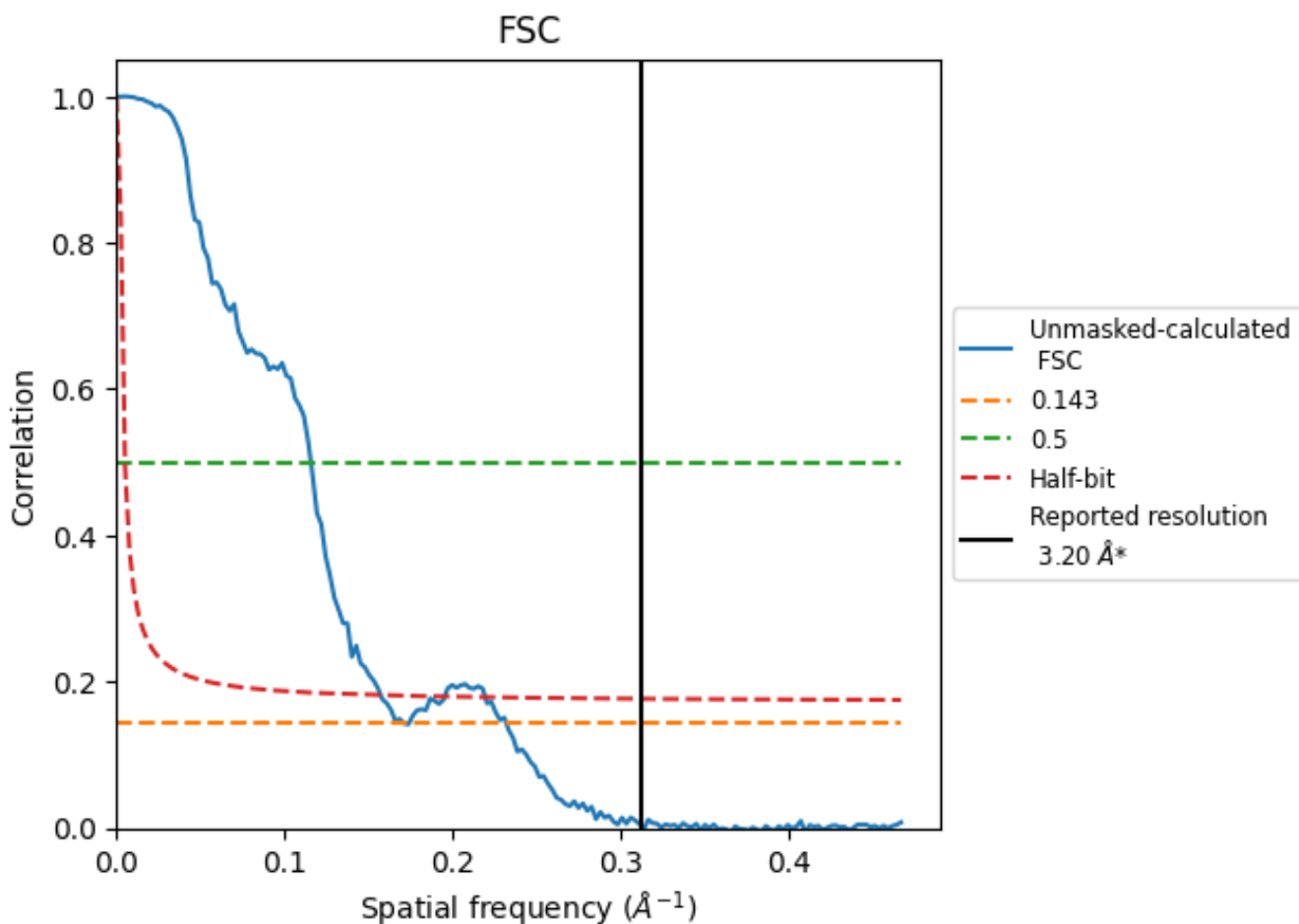


\*Reported resolution corresponds to spatial frequency of  $0.312 \text{ \AA}^{-1}$

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.312  $\text{\AA}^{-1}$

## 8.2 Resolution estimates [i](#)

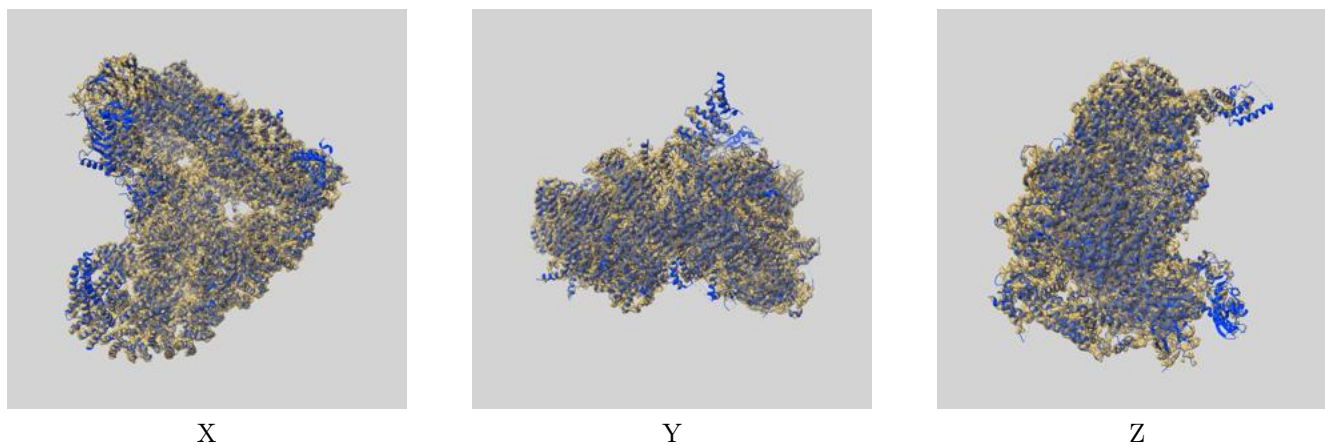
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	5.84	8.64	6.35

\*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 5.84 differs from the reported value 3.2 by more than 10 %

## 9 Map-model fit [i](#)

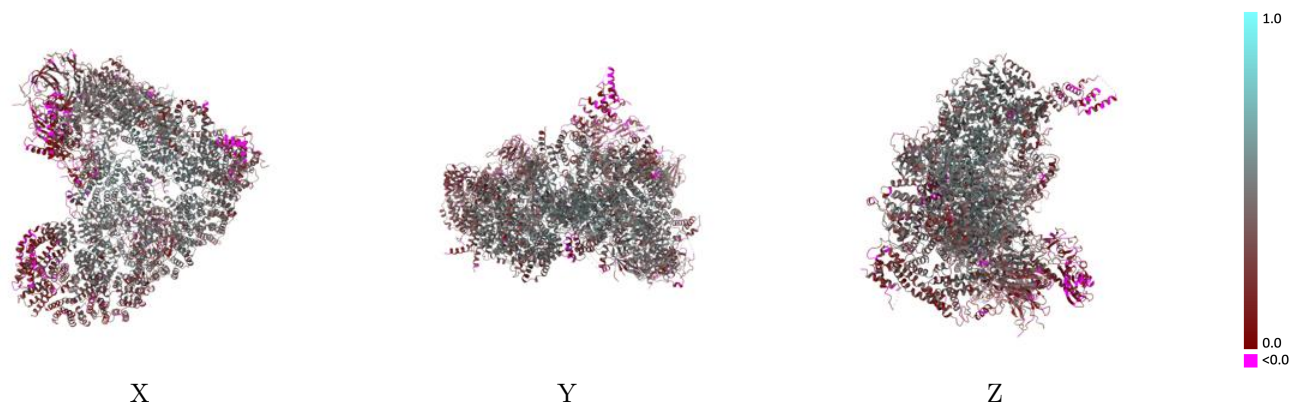
This section contains information regarding the fit between EMDB map EMD-19711 and PDB model 8S4G. Per-residue inclusion information can be found in section 3 on page 8.

### 9.1 Map-model overlay [i](#)



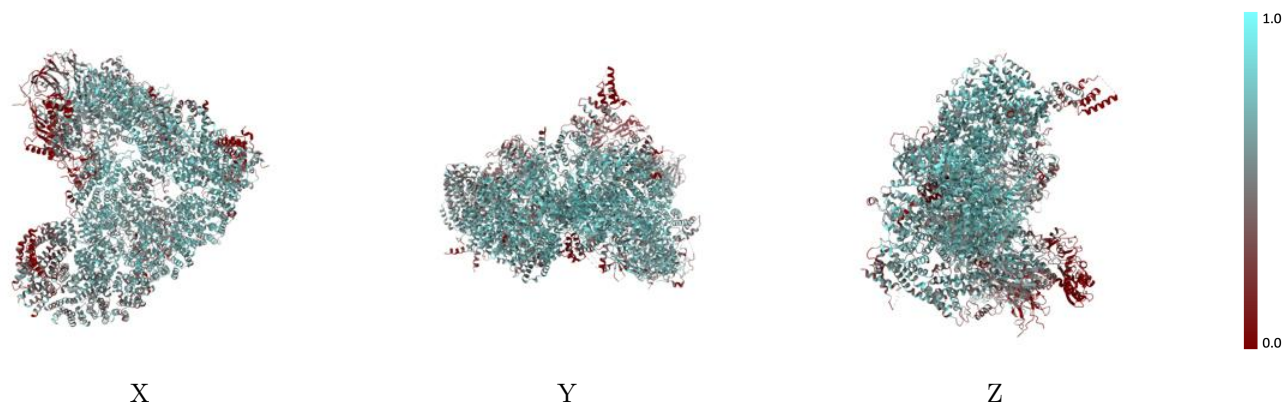
The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



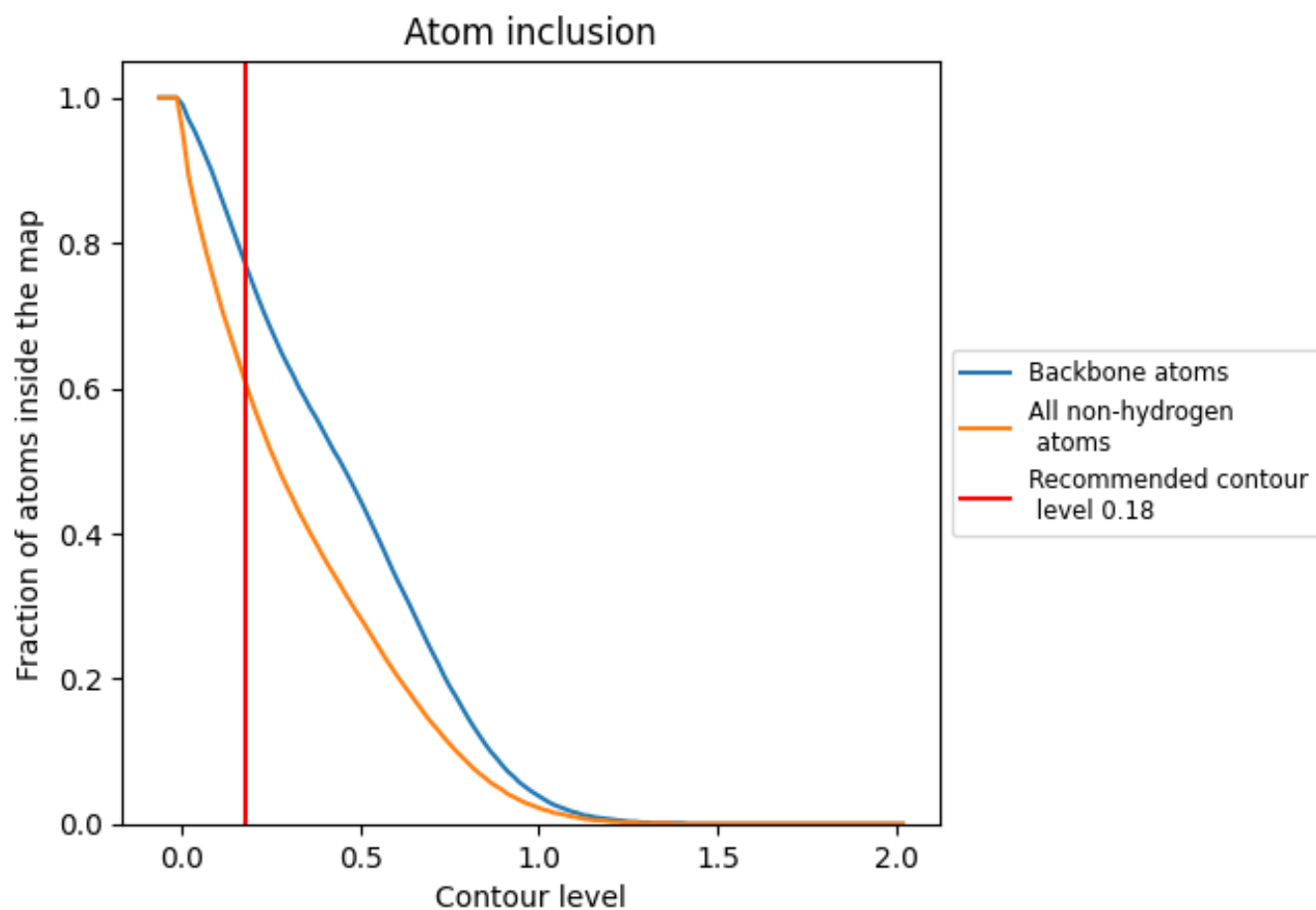
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.18).













































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 77% of all backbone atoms, 60% 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 (0.18) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6050	 0.3700
A	 0.6640	 0.4160
C	 0.1040	 0.1430
D	 0.6320	 0.4260
G	 0.5820	 0.3730
H	 0.6490	 0.3680
I	 0.5310	 0.3410
J	 0.6950	 0.4060
K	 0.6990	 0.4500
L	 0.6770	 0.4380
M	 0.6390	 0.4100
N	 0.4240	 0.2390
O	 0.7010	 0.4380
P	 0.6980	 0.4320
Q	 0.7070	 0.4400
R	 0.5420	 0.3250
S	 0.2720	 0.2050
U	 0.5890	 0.3590
V	 0.6750	 0.4330
W	 0.6130	 0.4670
Y	 0.5360	 0.2670
Z	 0.4040	 0.2070

