Full wwPDB EM Validation Report ⓘ

Jan 22, 2025 – 07:37 PM JST

PDB ID	:	8ZBM
EMDB ID	:	EMD-39905
Title	:	RAT skeletal muscle ATM complex
Authors	:	Li, D.N.; Zhao, Q.Y.; Liu, C.
Deposited on	:	2024-04-26
Resolution	:	3.32 Å(reported)

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

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

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

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

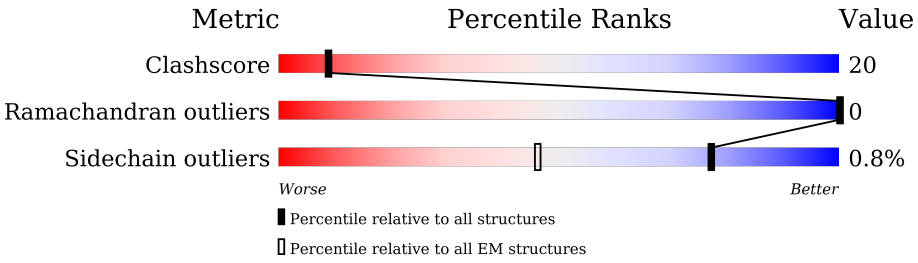
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 3.32 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	E	371	77% 23%
1	H	371	79% 21%
1	O	371	76% 24%
1	P	371	78% 22%
1	Q	371	77% 23%
1	R	371	81% 19%
2	B	166	43% 55% .
2	C	166	48% 49% .

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Mol	Chain	Length	Quality of chain
2	F	166	33% 65%
2	G	166	41% 56%
3	A	780	50% 44% 6%
3	D	780	49% 45% 6%
3	J	780	47% 47% 6%
3	K	780	52% 42% 6%
3	L	780	47% 46% 6%
3	N	780	48% 46% 6%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 58286 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 Actin, alpha skeletal muscle.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	E	371	Total	C	N	O	S	0	0
			2899	1836	489	553	21		
1	H	371	Total	C	N	O	S	0	0
			2899	1836	489	553	21		
1	O	371	Total	C	N	O	S	0	0
			2899	1836	489	553	21		
1	Q	371	Total	C	N	O	S	0	0
			2899	1836	489	553	21		
1	P	371	Total	C	N	O	S	0	0
			2899	1836	489	553	21		
1	R	371	Total	C	N	O	S	0	0
			2899	1836	489	553	21		

- Molecule 2 is a protein called Tropomyosin beta chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	166	Total	C	N	O	S	0	0
			1328	804	231	288	5		
2	B	166	Total	C	N	O	S	0	0
			1328	804	231	288	5		
2	G	166	Total	C	N	O	S	0	0
			1328	804	231	288	5		
2	F	166	Total	C	N	O	S	0	0
			1328	804	231	288	5		

- Molecule 3 is a protein called Myosin heavy chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	A	736	Total	C	N	O	S	0	0
			5903	3780	992	1101	30		
3	D	736	Total	C	N	O	S	0	0
			5903	3780	992	1101	30		
3	J	736	Total	C	N	O	S	0	0
			5903	3780	992	1101	30		

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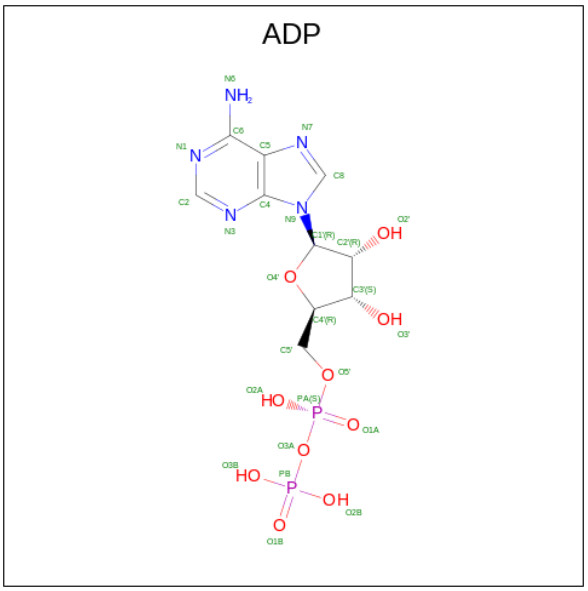
Mol	Chain	Residues	Atoms					AltConf	Trace
3	L	736	Total	C	N	O	S	0	0
			5903	3780	992	1101	30		
3	K	736	Total	C	N	O	S	0	0
			5903	3780	992	1101	30		
3	N	736	Total	C	N	O	S	0	0
			5903	3780	992	1101	30		

- Molecule 4 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



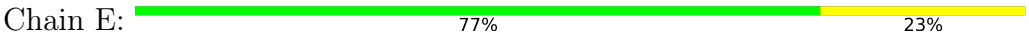
Mol	Chain	Residues	Atoms					AltConf
4	E	1	Total	C	N	O	P	0
			27	10	5	10	2	
4	H	1	Total	C	N	O	P	0
			27	10	5	10	2	
4	O	1	Total	C	N	O	P	0
			27	10	5	10	2	
4	Q	1	Total	C	N	O	P	0
			27	10	5	10	2	
4	P	1	Total	C	N	O	P	0
			27	10	5	10	2	
4	R	1	Total	C	N	O	P	0
			27	10	5	10	2	

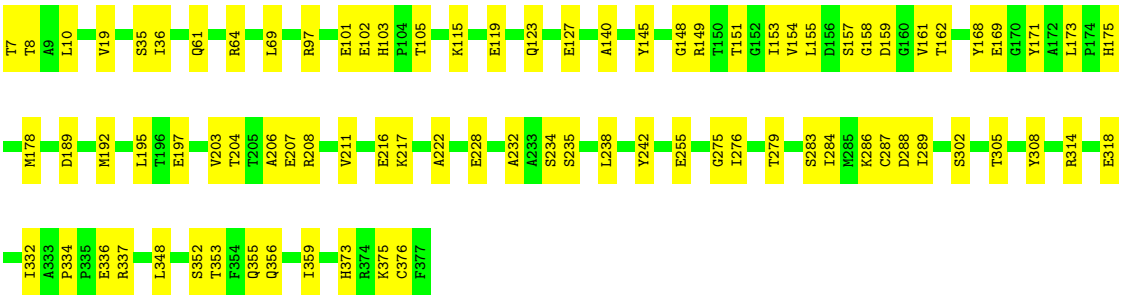
3 Residue-property plots (i)

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

• Molecule 1: Actin, alpha skeletal muscle

Chain E:



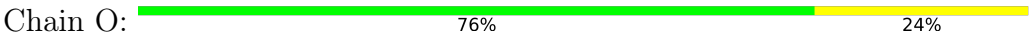


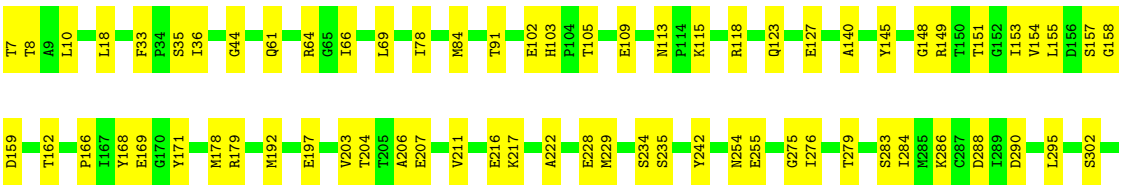
• Molecule 1: Actin, alpha skeletal muscle

Chain H:

• Molecule 1: Actin, alpha skeletal muscle

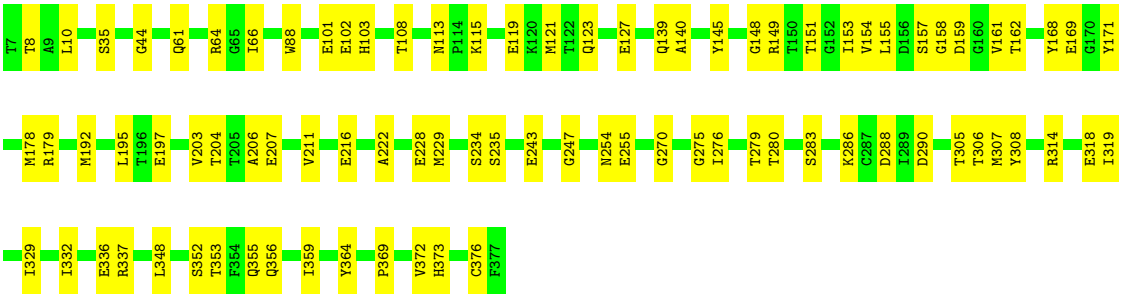
Chain O:





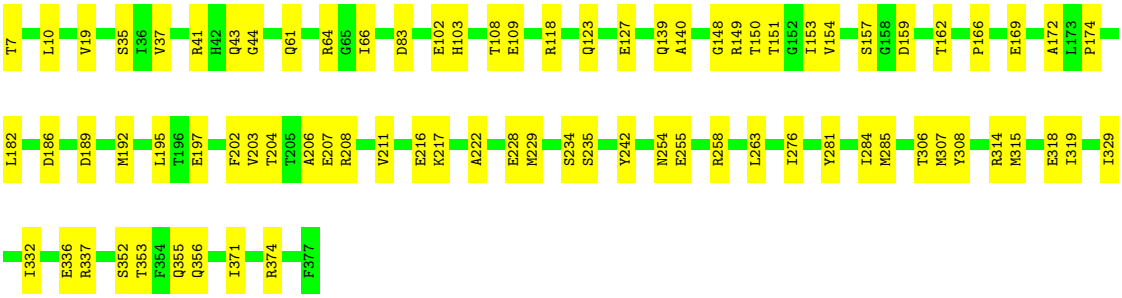
• Molecule 1: Actin, alpha skeletal muscle

Chain Q:



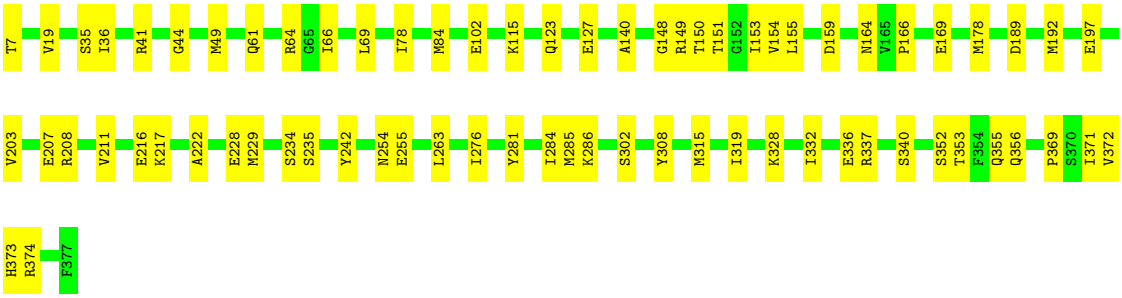
• Molecule 1: Actin, alpha skeletal muscle

Chain P:



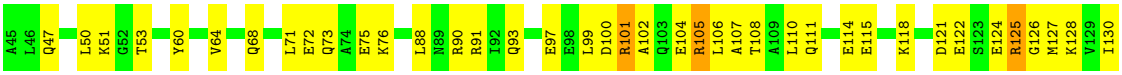
• Molecule 1: Actin, alpha skeletal muscle

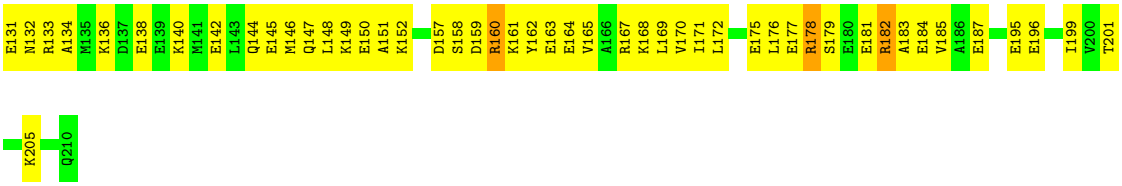
Chain R:



• Molecule 2: Tropomyosin beta chain

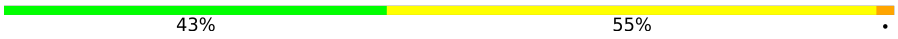
Chain C:





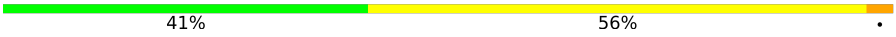
• Molecule 2: Tropomyosin beta chain

Chain B:



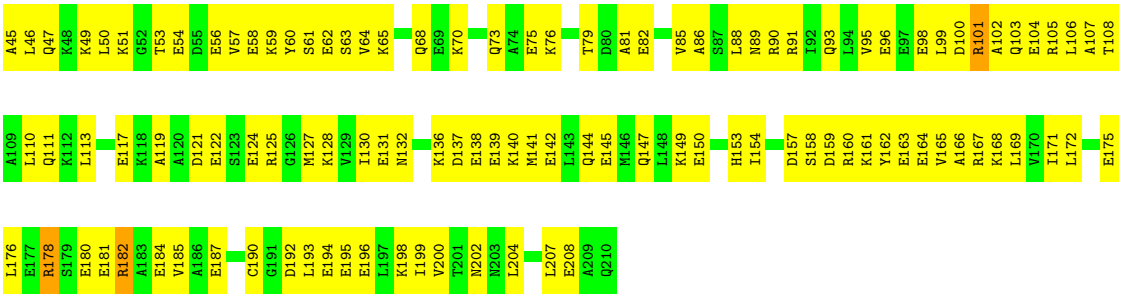
• Molecule 2: Tropomyosin beta chain

Chain G:



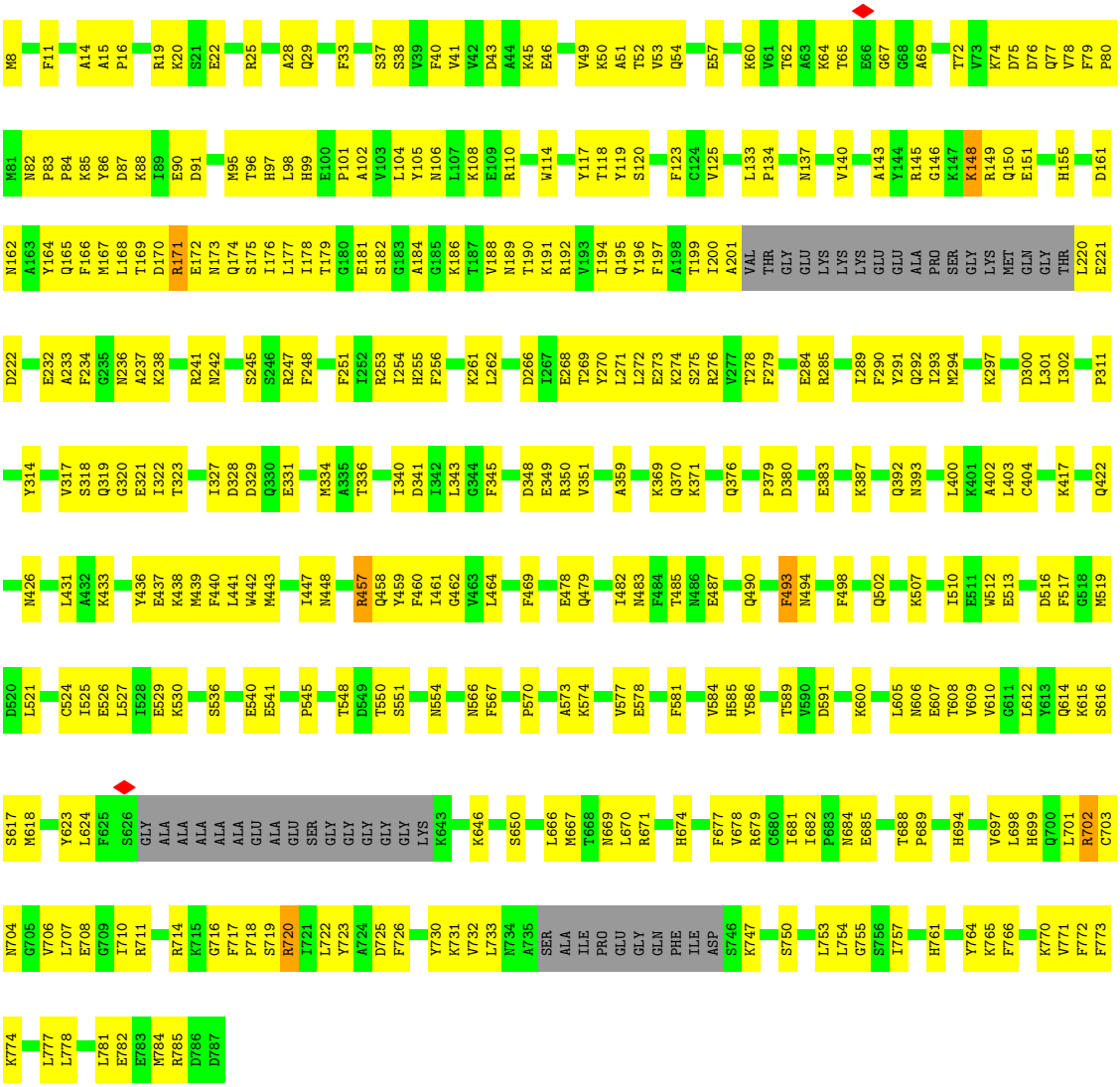
• Molecule 2: Tropomyosin beta chain

Chain F:



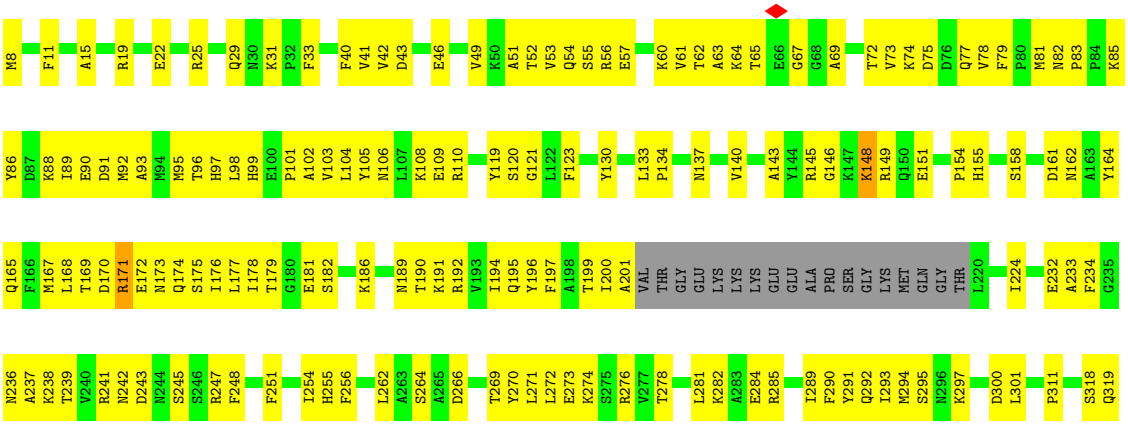
• Molecule 3: Myosin heavy chain 4

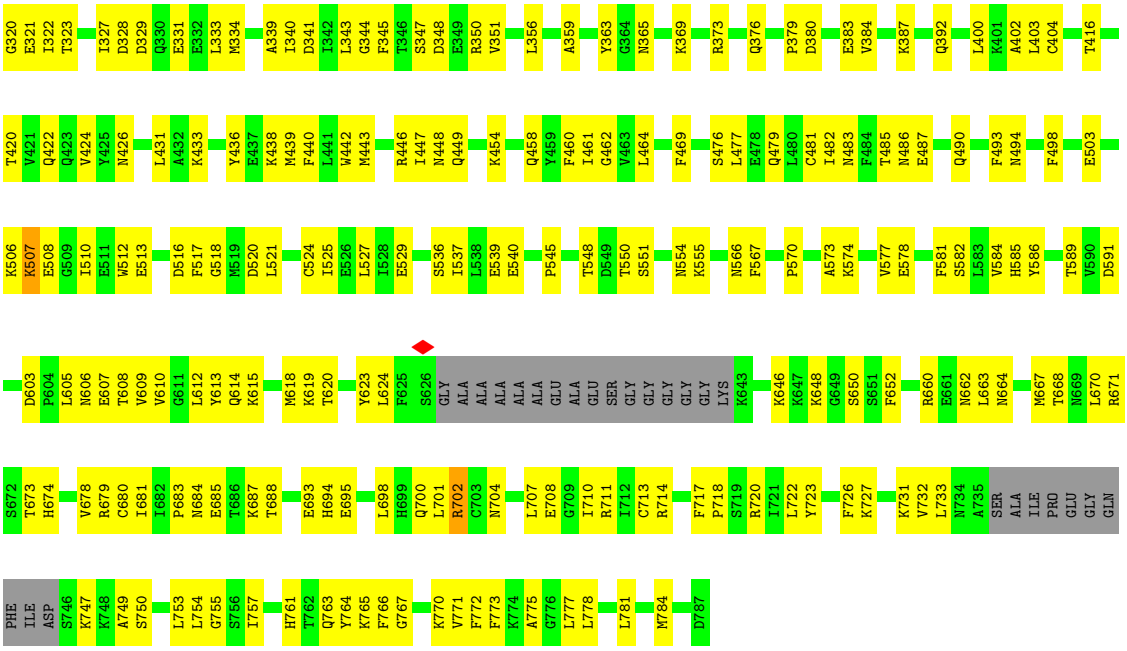
Chain A:



• Molecule 3: Myosin heavy chain 4

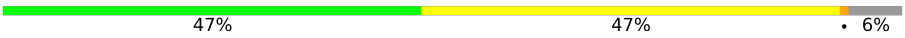
Chain D:

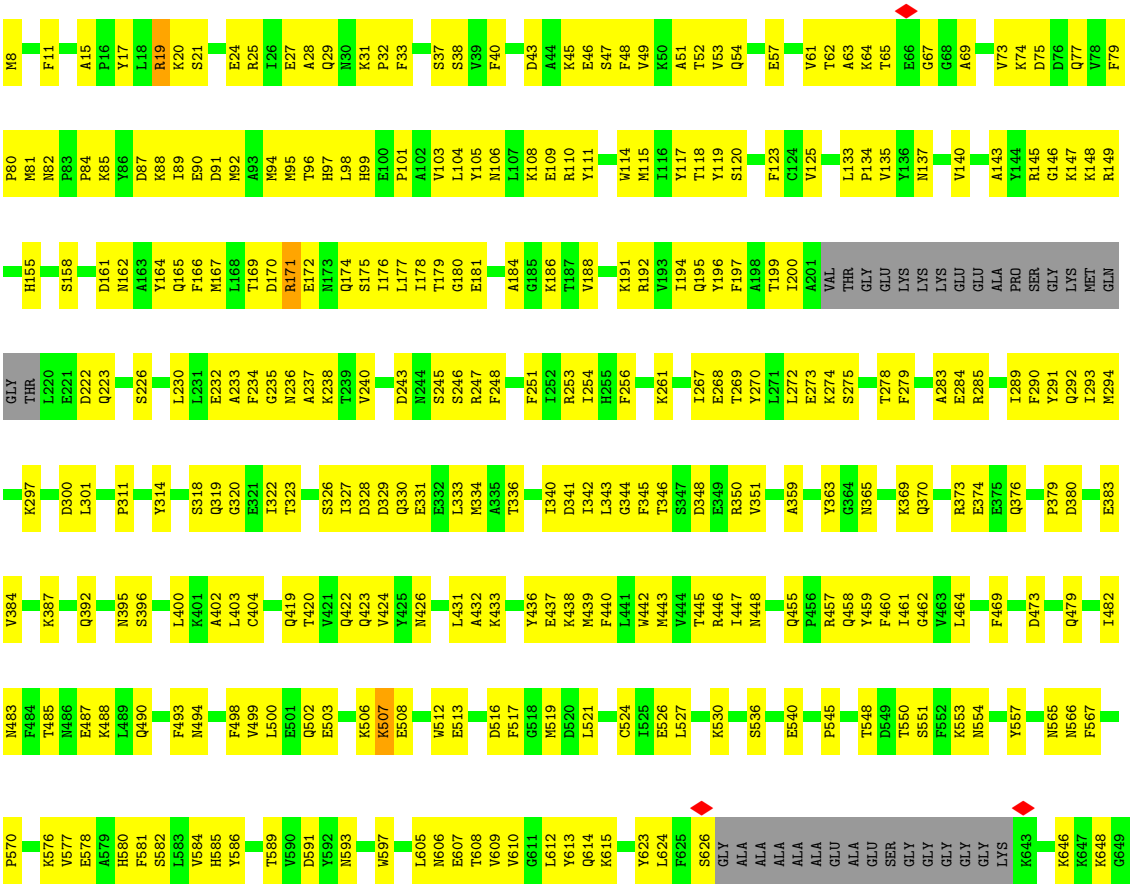


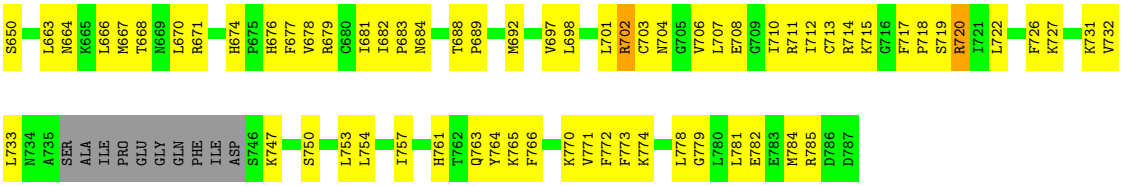


• Molecule 3: Myosin heavy chain 4

Chain J:

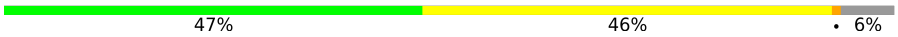


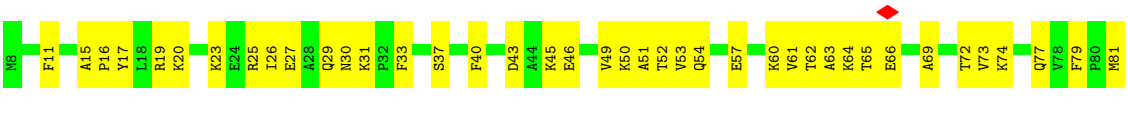


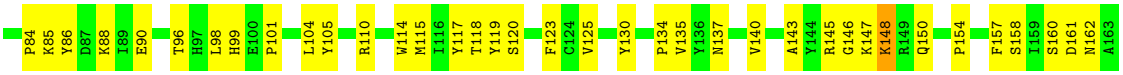


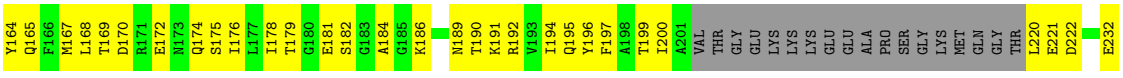
• Molecule 3: Myosin heavy chain 4

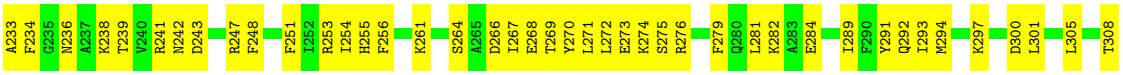
Chain L:

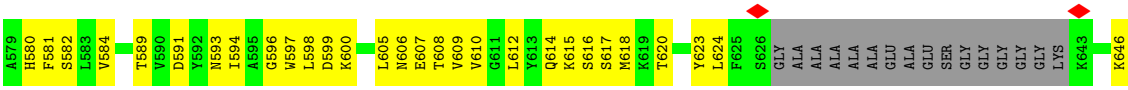


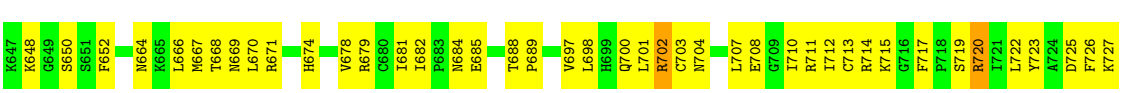


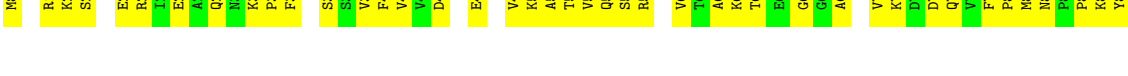






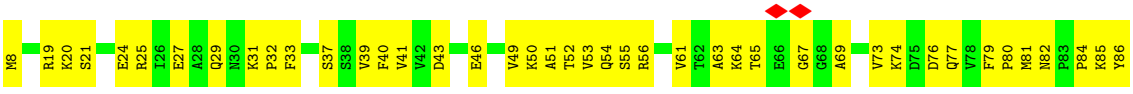


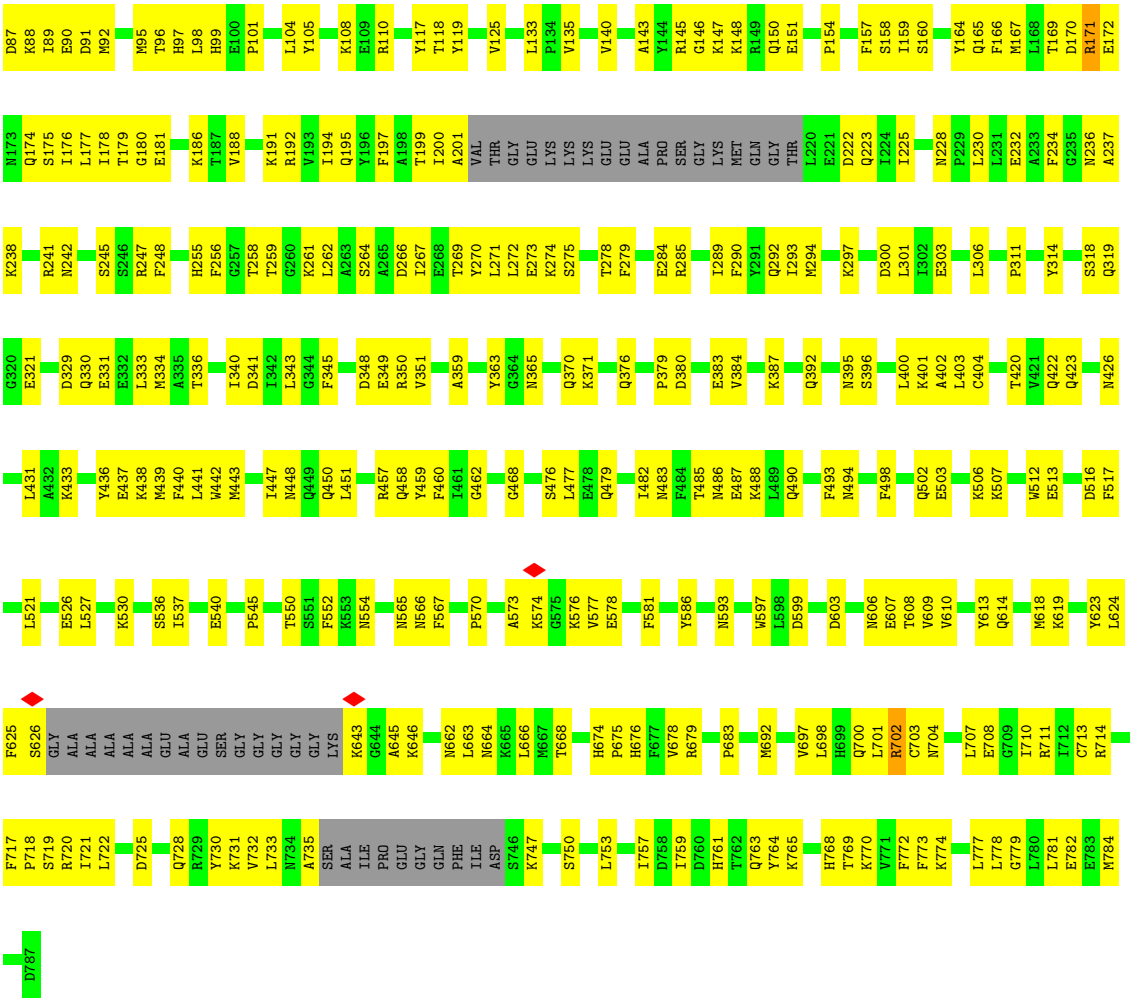




• Molecule 3: Myosin heavy chain 4

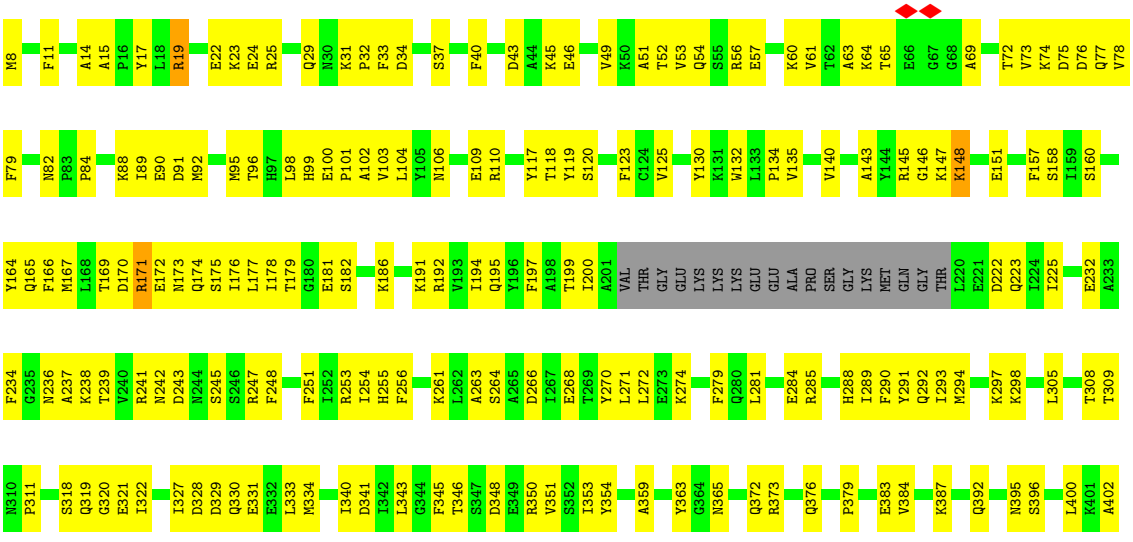
Chain K:

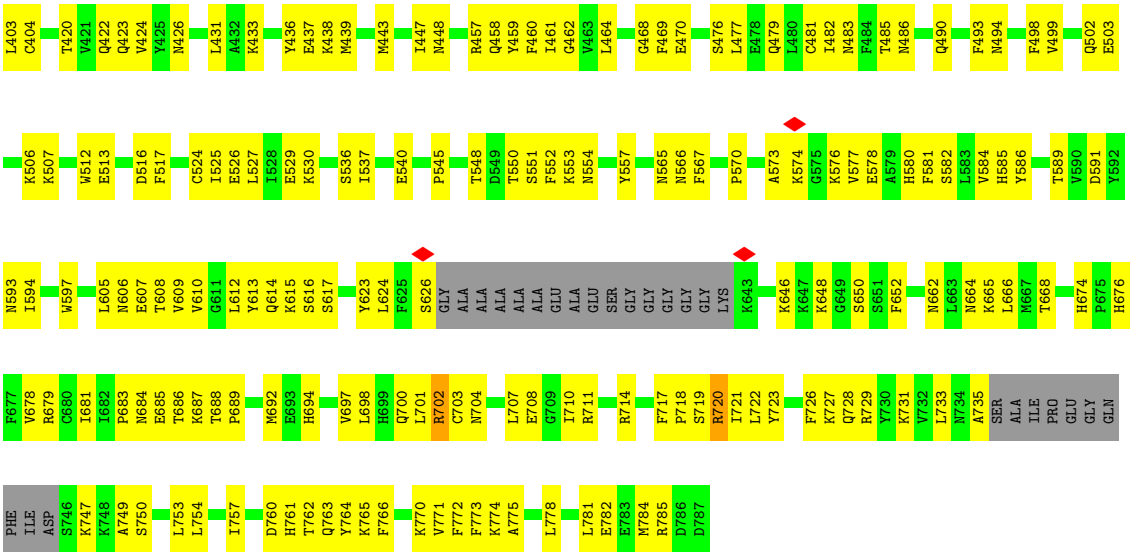




• Molecule 3: Myosin heavy chain 4

Chain N:




L403 C404 T420 V421 Q422 Q423 V424 Y425 N426 L431 A432 K433 Y436 E437 K438 M439 M443 I447 N448 R457 Q458 Y459 F460 I461 G462 V463 L464 G468 F469 E470 S476 L477 E478 Q479 L480 C481 I482 N483 F484 T485 N486 Q490 F493 N494 F498 V499 Q502 E503
K506 K507 W512 E513 D516 F517 C524 I525 E526 L527 I528 E529 K530 S536 I537 E540 P545 T548 D549 T550 S551 F552 K553 N554 Y557 N565 N566 F567 P570 A573 K574 G575 K576 V577 E578 A579 H580 F581 S582 L583 V584 H585 Y586 T589 V590 D591 Y592
N593 I594 W597 L605 N606 E607 T608 V609 V610 G611 L612 Y613 Q614 K615 S616 S617 Y623 L624 F625 S626 GLY ALA ALA ALA ALA ALA GLU ALA GLU SER GLY GLY GLY GLY GLY LYS K643 K646 K647 K648 G649 S650 S651 F652 N662 L663 N664 K665 L666 M667 T668 H674 P675 H676
F677 V678 R679 C680 I681 I682 P683 N684 E685 T686 K687 T688 P689 M692 E693 H694 V697 L698 H699 Q700 L701 R702 C703 N704 L707 E708 G709 I710 R711 R714 F717 P718 S719 R720 I721 L722 Y723 F726 K727 Q728 R729 Y730 K731 V732 L733 N734 A735 SER ALA ILE PRO GLU GLY GLN
PHE ILE ASP S746 K747 K748 A749 S750 L753 L754 I757 D760 H761 T762 Q763 Y764 K765 F766 K770 V771 F772 F773 K774 A775 L778 L781 E782 E783 M784 R785 D786 D787

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	HELICAL	Depositor
Imposed symmetry	HELICAL, twist=-166.69°, rise=27.4 Å, axial sym=C1	Depositor
Number of segments used	62956	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	55	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.028	Depositor
Minimum map value	-0.006	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.003	Depositor
Map size (Å)	424.96, 424.96, 424.96	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality

5.1 Standard geometry

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

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	E	0.44	0/2962	0.47	0/4012
1	H	0.42	0/2962	0.47	0/4012
1	O	0.45	0/2962	0.47	0/4012
1	P	0.42	0/2962	0.46	0/4012
1	Q	0.45	0/2962	0.47	0/4012
1	R	0.43	0/2962	0.46	0/4012
2	B	0.26	0/1330	0.45	0/1769
2	C	0.25	0/1330	0.44	0/1769
2	F	0.26	0/1330	0.47	0/1769
2	G	0.26	0/1330	0.47	0/1769
3	A	0.28	0/6028	0.46	0/8123
3	D	0.28	0/6028	0.45	0/8123
3	J	0.28	0/6028	0.45	0/8123
3	K	0.27	0/6028	0.45	0/8123
3	L	0.28	0/6028	0.45	0/8123
3	N	0.28	0/6028	0.45	0/8123
All	All	0.33	0/59260	0.46	0/79886

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	2899	0	2871	60	0
1	H	2899	0	2871	54	0
1	O	2899	0	2871	63	0
1	P	2899	0	2871	61	0
1	Q	2899	0	2871	65	0
1	R	2899	0	2871	55	0
2	B	1328	0	1327	109	0
2	C	1328	0	1327	97	0
2	F	1328	0	1327	129	0
2	G	1328	0	1327	114	0
3	A	5903	0	5883	289	0
3	D	5903	0	5883	291	0
3	J	5903	0	5883	292	0
3	K	5903	0	5883	263	0
3	L	5903	0	5883	295	0
3	N	5903	0	5883	278	0
4	E	27	0	12	3	0
4	H	27	0	12	3	0
4	O	27	0	12	3	0
4	P	27	0	12	3	0
4	Q	27	0	12	3	0
4	R	27	0	12	3	0
All	All	58286	0	57904	2376	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 20.

All (2376) 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)
2:B:64:VAL:HG12	2:B:68:GLN:HE22	1.35	0.92
3:A:297:LYS:HZ1	3:A:334:MET:HB2	1.34	0.92
3:D:710:ILE:O	3:D:714:ARG:HB2	1.72	0.89
1:P:151:THR:HG22	1:P:169:GLU:H	1.36	0.88
1:O:151:THR:HG22	1:O:169:GLU:H	1.39	0.88
3:J:710:ILE:O	3:J:714:ARG:HB2	1.73	0.87
3:D:297:LYS:HZ1	3:D:334:MET:HB2	1.39	0.86
1:E:151:THR:HG22	1:E:169:GLU:H	1.40	0.85
1:R:151:THR:HG22	1:R:169:GLU:H	1.41	0.85
3:L:297:LYS:HZ1	3:L:334:MET:HB2	1.43	0.83
2:G:127:MET:HA	2:G:130:ILE:HG12	1.61	0.82
2:F:64:VAL:HG12	2:F:68:GLN:HE22	1.43	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:610:VAL:HG13	3:K:624:LEU:HD23	1.61	0.82
2:G:187:GLU:HB2	2:F:182:ARG:HH22	1.46	0.81
3:K:610:VAL:HG12	3:K:614:GLN:HE21	1.45	0.81
3:A:292:GLN:HA	3:A:329:ASP:HB3	1.63	0.80
1:E:178:MET:SD	1:E:286:LYS:NZ	2.55	0.80
3:N:719:SER:HB2	3:N:773:PHE:HB2	1.62	0.79
3:L:610:VAL:HG12	3:L:614:GLN:HE21	1.48	0.78
1:R:222:ALA:HB1	1:R:228:GLU:HG3	1.66	0.78
1:Q:151:THR:HG22	1:Q:169:GLU:H	1.48	0.78
1:Q:222:ALA:HB1	1:Q:228:GLU:HG3	1.64	0.77
3:J:178:ILE:HG22	3:J:678:VAL:HB	1.66	0.77
3:L:369:LYS:HD2	3:L:380:ASP:HB3	1.65	0.77
3:L:176:ILE:HD11	3:L:678:VAL:HG23	1.66	0.77
3:J:292:GLN:HA	3:J:329:ASP:HB3	1.65	0.77
3:K:710:ILE:O	3:K:714:ARG:HB2	1.86	0.76
3:D:610:VAL:HG12	3:D:614:GLN:HE21	1.51	0.76
3:A:711:ARG:HA	3:A:714:ARG:HG2	1.66	0.75
3:D:51:ALA:HB1	3:D:63:ALA:HB1	1.68	0.75
1:P:352:SER:HA	1:P:355:GLN:HG2	1.65	0.75
1:R:155:LEU:HD12	1:R:164:ASN:HD21	1.50	0.75
3:D:521:LEU:HD11	3:D:586:TYR:HB3	1.66	0.75
3:J:61:VAL:HG22	3:J:73:VAL:H	1.51	0.75
1:H:178:MET:SD	1:H:286:LYS:NZ	2.60	0.74
3:L:717:PHE:O	3:L:720:ARG:NH1	2.19	0.74
3:A:50:LYS:NZ	3:A:51:ALA:O	2.21	0.74
3:J:65:THR:H	3:J:69:ALA:H	1.35	0.74
3:A:241:ARG:HE	3:A:242:ASN:HB3	1.53	0.74
3:D:610:VAL:HG13	3:D:624:LEU:HD23	1.70	0.74
3:K:292:GLN:HA	3:K:329:ASP:HB3	1.69	0.74
3:A:234:PHE:HD1	3:A:289:ILE:HG13	1.53	0.73
3:A:527:LEU:HD21	3:A:567:PHE:HB2	1.71	0.73
3:N:92:MET:HG2	3:N:103:VAL:HG23	1.70	0.73
1:R:178:MET:SD	1:R:286:LYS:NZ	2.61	0.73
3:N:610:VAL:HG13	3:N:624:LEU:HD23	1.71	0.73
1:O:178:MET:SD	1:O:286:LYS:NZ	2.61	0.73
3:N:90:GLU:OE1	3:N:110:ARG:NH2	2.21	0.73
3:L:172:GLU:O	3:L:174:GLN:NE2	2.22	0.73
1:Q:178:MET:SD	1:Q:286:LYS:NZ	2.62	0.73
3:N:238:LYS:HD2	3:N:243:ASP:HA	1.71	0.72
3:D:174:GLN:HG3	3:D:674:HIS:HB3	1.72	0.72
3:D:623:TYR:HB2	3:D:624:LEU:HD12	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:719:SER:HB2	3:K:773:PHE:HB2	1.71	0.72
2:C:164:GLU:HG3	2:C:167:ARG:HH21	1.55	0.72
3:D:684:ASN:ND2	3:D:688:THR:O	2.23	0.72
1:H:222:ALA:HB1	1:H:228:GLU:HG3	1.72	0.72
3:J:95:MET:SD	3:J:106:ASN:ND2	2.63	0.72
3:L:182:SER:OG	3:L:242:ASN:ND2	2.22	0.72
3:A:172:GLU:O	3:A:174:GLN:NE2	2.23	0.72
3:A:610:VAL:HG12	3:A:614:GLN:HE21	1.55	0.71
3:J:498:PHE:HB2	3:J:517:PHE:HB2	1.71	0.71
3:D:234:PHE:HD1	3:D:289:ILE:HG13	1.55	0.71
2:C:60:TYR:HE2	2:B:57:VAL:HG13	1.55	0.71
3:D:379:PRO:HG3	3:D:400:LEU:HD13	1.72	0.71
1:E:222:ALA:HB1	1:E:228:GLU:HG3	1.71	0.71
2:C:127:MET:HA	2:C:130:ILE:HG12	1.70	0.71
2:C:88:LEU:HD21	2:B:85:VAL:HG23	1.72	0.70
3:A:40:PHE:N	3:A:79:PHE:O	2.24	0.70
3:N:178:ILE:HG22	3:N:678:VAL:HB	1.72	0.70
3:N:182:SER:OG	3:N:242:ASN:ND2	2.24	0.70
1:O:171:TYR:HA	1:P:44:GLY:HA2	1.73	0.70
1:O:204:THR:HG22	1:O:206:ALA:H	1.57	0.70
3:A:701:LEU:HG	3:A:707:LEU:HD23	1.74	0.70
3:N:711:ARG:HA	3:N:714:ARG:HB3	1.73	0.70
1:E:7:THR:OG1	3:A:646:LYS:NZ	2.25	0.70
3:D:270:TYR:HB3	3:D:271:LEU:HD12	1.74	0.70
3:D:479:GLN:O	3:D:483:ASN:ND2	2.19	0.70
1:Q:171:TYR:HA	1:R:44:GLY:HA2	1.74	0.70
3:J:782:GLU:HA	3:J:785:ARG:HE	1.57	0.69
3:J:234:PHE:HD1	3:J:289:ILE:HG13	1.56	0.69
1:H:151:THR:HG22	1:H:169:GLU:H	1.56	0.69
3:J:172:GLU:O	3:J:174:GLN:NE2	2.25	0.69
3:K:148:LYS:HD2	3:K:150:GLN:H	1.56	0.69
3:D:201:ALA:HB2	3:D:262:LEU:HD23	1.73	0.69
3:A:684:ASN:ND2	3:A:688:THR:O	2.26	0.69
3:J:331:GLU:OE1	3:J:331:GLU:N	2.26	0.69
3:J:708:GLU:OE1	3:J:711:ARG:NH1	2.26	0.69
3:D:550:THR:O	3:D:554:ASN:ND2	2.26	0.69
3:K:178:ILE:HG22	3:K:678:VAL:HB	1.74	0.69
3:K:238:LYS:HG2	3:K:285:ARG:HG2	1.75	0.69
3:N:98:LEU:O	3:N:714:ARG:NH1	2.25	0.69
1:R:352:SER:HA	1:R:355:GLN:HG2	1.73	0.69
3:A:781:LEU:HA	3:A:784:MET:HG2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:130:ILE:HB	2:B:130:ILE:HG21	1.75	0.69
2:C:175:GLU:HG3	2:B:176:LEU:HD11	1.73	0.69
3:A:331:GLU:OE1	3:A:331:GLU:N	2.24	0.69
3:K:550:THR:O	3:K:554:ASN:ND2	2.26	0.68
3:N:172:GLU:O	3:N:174:GLN:NE2	2.27	0.68
3:J:51:ALA:HB1	3:J:63:ALA:HB1	1.74	0.68
3:N:101:PRO:HA	3:N:104:LEU:HB3	1.75	0.68
3:D:172:GLU:O	3:D:174:GLN:NE2	2.27	0.68
3:J:521:LEU:HD11	3:J:586:TYR:HB3	1.74	0.68
3:L:238:LYS:HD2	3:L:243:ASP:HA	1.75	0.68
3:L:623:TYR:HB2	3:L:624:LEU:HD12	1.76	0.68
3:K:241:ARG:HE	3:K:242:ASN:HB3	1.57	0.68
3:N:40:PHE:HB2	3:N:79:PHE:HB2	1.74	0.68
2:C:122:GLU:O	2:C:125:ARG:NH1	2.26	0.68
3:A:311:PRO:O	3:A:318:SER:OG	2.12	0.68
3:D:422:GLN:O	3:D:426:ASN:ND2	2.25	0.68
1:H:255:GLU:OE1	1:H:255:GLU:N	2.26	0.68
2:G:179:SER:O	2:G:182:ARG:NH1	2.26	0.68
3:A:502:GLN:NE2	3:A:512:TRP:O	2.22	0.68
3:A:521:LEU:HD11	3:A:586:TYR:HB3	1.76	0.68
3:A:95:MET:SD	3:A:106:ASN:ND2	2.66	0.68
3:K:331:GLU:OE1	3:K:331:GLU:N	2.27	0.68
3:N:177:LEU:O	3:N:679:ARG:NH2	2.27	0.68
3:N:717:PHE:O	3:N:720:ARG:NH1	2.23	0.68
2:C:50:LEU:HG	2:B:46:LEU:HD12	1.73	0.68
3:K:431:LEU:HD11	3:K:609:VAL:HG21	1.75	0.68
3:A:422:GLN:O	3:A:426:ASN:ND2	2.26	0.67
3:A:717:PHE:O	3:A:720:ARG:NH1	2.27	0.67
3:D:82:ASN:ND2	3:D:95:MET:SD	2.67	0.67
2:F:98:GLU:O	2:F:101:ARG:NH1	2.27	0.67
3:J:698:LEU:O	3:J:702:ARG:NE	2.26	0.67
3:J:722:LEU:HG	3:J:770:LYS:HE2	1.74	0.67
1:O:255:GLU:N	1:O:255:GLU:OE2	2.28	0.67
3:D:74:LYS:HB2	3:D:77:GLN:HE22	1.58	0.67
2:G:71:LEU:HD11	2:F:70:LYS:HB2	1.76	0.67
3:K:341:ASP:OD1	3:K:350:ARG:NH2	2.28	0.67
3:A:270:TYR:HB3	3:A:271:LEU:HD12	1.77	0.67
3:D:331:GLU:OE1	3:D:331:GLU:N	2.25	0.67
3:J:40:PHE:N	3:J:79:PHE:O	2.28	0.67
3:L:781:LEU:HA	3:L:784:MET:HG2	1.76	0.67
3:K:51:ALA:HB1	3:K:63:ALA:HB1	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:90:GLU:OE1	3:K:110:ARG:NH2	2.27	0.67
3:D:177:LEU:O	3:D:679:ARG:NH2	2.27	0.67
3:A:698:LEU:O	3:A:702:ARG:NE	2.27	0.67
2:F:144:GLN:O	2:F:147:GLN:NE2	2.25	0.67
3:J:89:ILE:HG22	3:J:91:ASP:H	1.58	0.67
3:J:177:LEU:O	3:J:679:ARG:NH2	2.28	0.67
3:N:331:GLU:OE1	3:N:331:GLU:N	2.27	0.67
3:N:731:LYS:HD2	3:N:753:LEU:HD21	1.77	0.67
1:P:222:ALA:HB1	1:P:228:GLU:HG3	1.77	0.67
2:B:127:MET:HA	2:B:130:ILE:HG22	1.77	0.67
3:D:61:VAL:HG22	3:D:73:VAL:H	1.60	0.67
3:D:65:THR:H	3:D:69:ALA:H	1.42	0.67
3:D:292:GLN:HA	3:D:329:ASP:HB3	1.77	0.67
3:A:550:THR:O	3:A:554:ASN:ND2	2.28	0.67
2:F:145:GLU:O	2:F:149:LYS:HG2	1.95	0.67
3:A:178:ILE:HB	3:A:186:LYS:HE3	1.77	0.66
3:D:40:PHE:N	3:D:79:PHE:O	2.24	0.66
3:J:311:PRO:O	3:J:318:SER:OG	2.12	0.66
3:L:234:PHE:HD1	3:L:289:ILE:HG13	1.60	0.66
2:G:182:ARG:HA	2:G:185:VAL:HG22	1.77	0.66
3:L:270:TYR:HB3	3:L:271:LEU:HD12	1.77	0.66
3:L:331:GLU:OE1	3:L:331:GLU:N	2.25	0.66
3:L:422:GLN:O	3:L:426:ASN:ND2	2.28	0.66
3:K:376:GLN:NE2	3:K:404:CYS:O	2.28	0.66
3:N:82:ASN:ND2	3:N:95:MET:SD	2.68	0.66
1:H:171:TYR:HA	1:Q:44:GLY:HA2	1.78	0.66
3:A:369:LYS:HD2	3:A:380:ASP:HB3	1.76	0.66
3:D:176:ILE:HD11	3:D:678:VAL:HG23	1.77	0.66
3:K:731:LYS:HD2	3:K:753:LEU:HD21	1.77	0.66
3:L:65:THR:H	3:L:69:ALA:H	1.42	0.66
3:L:292:GLN:HA	3:L:329:ASP:HB3	1.76	0.66
1:E:171:TYR:HA	1:O:44:GLY:HA2	1.77	0.66
3:J:710:ILE:O	3:J:714:ARG:CB	2.44	0.66
3:K:256:PHE:HB3	3:K:261:LYS:H	1.61	0.66
1:O:197:GLU:HB2	1:Q:115:LYS:HG3	1.77	0.66
1:O:222:ALA:HB1	1:O:228:GLU:HG3	1.77	0.66
2:C:126:GLY:O	2:C:130:ILE:HG23	1.94	0.66
3:A:149:ARG:NH1	3:A:150:GLN:OE1	2.29	0.66
3:A:681:ILE:HG21	3:A:697:VAL:HG23	1.77	0.66
3:D:255:HIS:N	3:D:264:SER:OG	2.28	0.66
2:F:204:LEU:O	2:F:208:GLU:HB2	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:8:THR:HG23	3:L:646:LYS:HD3	1.78	0.66
2:B:149:LYS:O	2:B:153:HIS:ND1	2.24	0.66
3:K:101:PRO:HA	3:K:104:LEU:HB3	1.77	0.66
3:K:730:TYR:HE2	3:K:781:LEU:HD13	1.60	0.66
3:N:292:GLN:HA	3:N:329:ASP:HB3	1.77	0.66
2:B:124:GLU:O	2:B:127:MET:HG3	1.95	0.66
3:J:90:GLU:OE1	3:J:110:ARG:NH2	2.29	0.66
3:J:105:TYR:HA	3:J:108:LYS:HB3	1.77	0.66
3:L:345:PHE:O	3:L:350:ARG:NH1	2.27	0.66
3:N:256:PHE:HB3	3:N:261:LYS:H	1.60	0.66
3:D:54:GLN:HE22	3:D:57:GLU:HB2	1.60	0.66
3:L:570:PRO:HD3	3:L:581:PHE:HA	1.77	0.66
1:E:255:GLU:OE1	1:E:255:GLU:N	2.26	0.65
3:D:89:ILE:HG22	3:D:91:ASP:H	1.59	0.65
1:Q:352:SER:HA	1:Q:355:GLN:HG2	1.77	0.65
2:C:179:SER:O	2:C:182:ARG:NH1	2.29	0.65
3:D:341:ASP:OD1	3:D:350:ARG:NH2	2.29	0.65
3:K:61:VAL:HG22	3:K:73:VAL:H	1.62	0.65
3:K:177:LEU:O	3:K:679:ARG:NH2	2.29	0.65
3:N:191:LYS:HA	3:N:194:ILE:HG12	1.76	0.65
3:D:490:GLN:HA	3:D:493:PHE:CE1	2.30	0.65
2:G:106:LEU:HD22	2:F:105:ARG:NH2	2.11	0.65
3:J:684:ASN:ND2	3:J:688:THR:O	2.29	0.65
3:D:761:HIS:HA	3:D:764:TYR:HE1	1.61	0.65
2:G:130:ILE:HB	2:F:130:ILE:HG21	1.79	0.65
3:L:99:HIS:HB2	3:L:101:PRO:HD2	1.79	0.65
3:L:191:LYS:HA	3:L:194:ILE:HG12	1.78	0.65
3:L:684:ASN:ND2	3:L:688:THR:O	2.29	0.65
3:K:176:ILE:HD11	3:K:678:VAL:HG23	1.79	0.65
1:E:352:SER:HA	1:E:355:GLN:HG2	1.78	0.65
1:H:352:SER:HA	1:H:355:GLN:HG2	1.78	0.65
2:B:145:GLU:O	2:B:149:LYS:HG2	1.96	0.65
3:D:182:SER:OG	3:D:242:ASN:ND2	2.30	0.65
3:K:40:PHE:N	3:K:79:PHE:O	2.29	0.65
3:N:95:MET:SD	3:N:106:ASN:ND2	2.70	0.65
3:A:345:PHE:O	3:A:350:ARG:NH1	2.29	0.65
3:D:178:ILE:HB	3:D:186:LYS:HE3	1.79	0.65
3:D:311:PRO:O	3:D:318:SER:OG	2.15	0.65
3:L:52:THR:HB	3:L:64:LYS:HB2	1.78	0.65
3:K:365:ASN:HB2	3:K:384:VAL:HG21	1.78	0.65
3:D:181:GLU:OE2	3:D:700:GLN:NE2	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:169:LEU:HD13	2:B:168:LYS:HB3	1.79	0.65
3:D:698:LEU:O	3:D:702:ARG:NE	2.29	0.64
3:J:345:PHE:O	3:J:350:ARG:NH1	2.30	0.64
3:J:379:PRO:HG3	3:J:400:LEU:HD13	1.76	0.64
3:K:172:GLU:O	3:K:174:GLN:NE2	2.24	0.64
3:N:274:LYS:HD2	3:N:433:LYS:HB3	1.78	0.64
3:L:61:VAL:HG22	3:L:73:VAL:H	1.63	0.64
3:K:698:LEU:O	3:K:702:ARG:NE	2.29	0.64
3:L:340:ILE:HG21	3:L:350:ARG:HG2	1.79	0.64
3:N:379:PRO:HG3	3:N:400:LEU:HD13	1.80	0.64
1:P:189:ASP:OD1	1:P:208:ARG:NH1	2.31	0.64
3:A:233:ALA:HB2	3:A:336:THR:HG21	1.79	0.64
1:P:153:ILE:HD13	1:P:284:ILE:HD11	1.79	0.64
3:D:52:THR:HB	3:D:64:LYS:HB2	1.78	0.64
3:D:570:PRO:HD3	3:D:581:PHE:HA	1.80	0.64
3:L:733:LEU:HG	3:L:757:ILE:HG23	1.79	0.64
3:K:438:LYS:HB3	3:K:623:TYR:HB3	1.80	0.64
3:K:606:ASN:OD1	3:K:607:GLU:N	2.31	0.64
3:J:29:GLN:HE21	3:J:85:LYS:HE2	1.62	0.64
3:N:550:THR:O	3:N:554:ASN:ND2	2.30	0.64
3:N:781:LEU:HA	3:N:784:MET:HG2	1.78	0.64
1:O:102:GLU:OE1	1:O:102:GLU:N	2.30	0.64
3:D:527:LEU:HD21	3:D:567:PHE:HB2	1.80	0.64
2:F:49:LYS:O	2:F:53:THR:OG1	2.15	0.64
3:J:52:THR:HB	3:J:64:LYS:HB2	1.79	0.64
3:J:88:LYS:O	3:J:110:ARG:NH1	2.31	0.64
3:J:490:GLN:HA	3:J:493:PHE:CE1	2.32	0.64
3:J:781:LEU:HA	3:J:784:MET:HG2	1.80	0.64
3:L:50:LYS:NZ	3:L:51:ALA:O	2.31	0.64
3:K:31:LYS:HE2	3:K:32:PRO:HD2	1.80	0.64
3:K:340:ILE:HG21	3:K:350:ARG:HG2	1.80	0.64
1:Q:356:GLN:OE1	1:Q:356:GLN:N	2.31	0.64
3:K:502:GLN:NE2	3:K:513:GLU:O	2.31	0.64
3:A:516:ASP:HB3	3:A:519:MET:HG2	1.79	0.64
2:G:108:THR:HA	2:G:111:GLN:HE21	1.62	0.64
3:J:422:GLN:O	3:J:426:ASN:ND2	2.31	0.64
3:A:761:HIS:HA	3:A:764:TYR:HE1	1.64	0.63
3:D:85:LYS:HG3	3:D:86:TYR:HD1	1.62	0.63
2:G:86:ALA:O	2:G:90:ARG:HG2	1.97	0.63
2:G:97:GLU:O	2:G:101:ARG:NE	2.28	0.63
2:G:178:ARG:HA	2:G:181:GLU:HG2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:256:PHE:HB3	3:J:261:LYS:H	1.63	0.63
3:D:345:PHE:O	3:D:350:ARG:NH1	2.31	0.63
3:D:673:THR:HG22	3:D:674:HIS:H	1.61	0.63
2:C:187:GLU:HB2	2:B:182:ARG:HH22	1.63	0.63
3:D:90:GLU:OE1	3:D:110:ARG:NH2	2.32	0.63
3:J:717:PHE:O	3:J:720:ARG:NH1	2.27	0.63
1:P:356:GLN:OE1	1:P:356:GLN:N	2.32	0.63
3:D:403:LEU:HD22	3:D:609:VAL:HG11	1.81	0.63
3:L:458:GLN:HG2	3:L:459:TYR:H	1.62	0.63
3:K:274:LYS:HD2	3:K:433:LYS:HB3	1.79	0.63
3:A:431:LEU:HD11	3:A:609:VAL:HG21	1.80	0.63
3:D:766:PHE:HA	3:D:771:VAL:HA	1.81	0.63
3:L:51:ALA:HB1	3:L:63:ALA:HB1	1.80	0.63
3:L:679:ARG:HD2	3:L:704:ASN:HB3	1.80	0.63
3:K:52:THR:HB	3:K:64:LYS:HB2	1.79	0.63
3:K:294:MET:HG3	3:K:311:PRO:HB3	1.79	0.63
3:D:527:LEU:HD22	3:D:566:ASN:HB2	1.81	0.63
2:G:130:ILE:HA	2:G:133:ARG:HE	1.63	0.63
3:L:550:THR:O	3:L:554:ASN:ND2	2.32	0.63
3:K:725:ASP:OD1	3:K:728:GLN:NE2	2.32	0.63
3:N:422:GLN:O	3:N:426:ASN:ND2	2.32	0.63
3:A:85:LYS:HG3	3:A:86:TYR:HD1	1.64	0.63
3:D:95:MET:SD	3:D:106:ASN:ND2	2.72	0.63
3:J:270:TYR:CG	3:J:666:LEU:HD11	2.34	0.63
3:L:606:ASN:OD1	3:L:607:GLU:N	2.32	0.63
1:Q:102:GLU:N	1:Q:102:GLU:OE1	2.32	0.63
3:A:65:THR:H	3:A:69:ALA:H	1.47	0.63
3:J:274:LYS:HD2	3:J:433:LYS:HB3	1.79	0.63
2:C:88:LEU:HD22	2:B:89:ASN:HB3	1.81	0.63
3:L:311:PRO:O	3:L:318:SER:OG	2.14	0.63
1:E:356:GLN:N	1:E:356:GLN:OE1	2.32	0.62
2:C:99:LEU:HD22	2:B:95:VAL:HG13	1.80	0.62
1:R:102:GLU:OE1	1:R:102:GLU:N	2.32	0.62
3:A:733:LEU:HG	3:A:757:ILE:HG23	1.81	0.62
3:D:373:ARG:NH1	2:G:159:ASP:OD2	2.32	0.62
3:N:376:GLN:NE2	3:N:404:CYS:O	2.32	0.62
3:N:431:LEU:HD11	3:N:609:VAL:HG21	1.79	0.62
3:N:760:ASP:OD1	3:N:763:GLN:NE2	2.32	0.62
1:O:356:GLN:OE1	1:O:356:GLN:N	2.31	0.62
1:Q:255:GLU:OE1	1:Q:255:GLU:N	2.26	0.62
3:D:53:VAL:HG23	3:D:62:THR:H	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:291:TYR:HE1	3:L:322:ILE:HG22	1.64	0.62
3:A:510:ILE:HG12	3:A:765:LYS:HG2	1.81	0.62
3:L:291:TYR:OH	3:L:317:VAL:O	2.18	0.62
3:N:345:PHE:O	3:N:350:ARG:NH1	2.31	0.62
3:N:698:LEU:O	3:N:702:ARG:NE	2.26	0.62
1:R:356:GLN:N	1:R:356:GLN:OE1	2.32	0.62
3:J:576:LYS:NZ	3:J:578:GLU:O	2.31	0.62
3:N:96:THR:OG1	3:N:775:ALA:O	2.16	0.62
3:N:683:PRO:HB2	3:N:692:MET:HB3	1.79	0.62
3:A:718:PRO:HD2	3:A:774:LYS:HA	1.81	0.62
2:F:56:GLU:HA	2:F:59:LYS:HG2	1.81	0.62
2:B:49:LYS:O	2:B:53:THR:OG1	2.15	0.62
3:J:536:SER:O	3:J:540:GLU:HG2	1.99	0.62
3:J:733:LEU:HG	3:J:757:ILE:HG23	1.82	0.62
3:K:192:ARG:HH11	3:K:195:GLN:HE22	1.48	0.62
1:E:115:LYS:HG3	1:Q:197:GLU:HB2	1.81	0.62
3:A:379:PRO:HG3	3:A:400:LEU:HD13	1.81	0.62
3:A:479:GLN:OE1	3:A:479:GLN:N	2.32	0.62
3:J:488:LYS:HG3	3:J:663:LEU:HD21	1.80	0.62
3:L:490:GLN:HA	3:L:493:PHE:CE1	2.34	0.62
3:N:490:GLN:HA	3:N:493:PHE:CE1	2.34	0.62
1:O:78:ILE:HD13	1:O:84:MET:HG2	1.82	0.62
2:B:73:GLN:HA	2:B:76:LYS:HD2	1.81	0.62
2:B:86:ALA:HB1	2:B:90:ARG:HH12	1.65	0.62
3:D:42:VAL:HG13	3:D:77:GLN:HB2	1.82	0.62
3:K:37:SER:HA	3:K:53:VAL:HG12	1.80	0.62
3:K:140:VAL:HA	3:K:143:ALA:HB3	1.81	0.62
3:A:274:LYS:HD2	3:A:433:LYS:HB3	1.82	0.62
3:A:707:LEU:HA	3:A:710:ILE:HG12	1.82	0.62
3:L:96:THR:OG1	3:L:775:ALA:O	2.17	0.62
3:K:8:MET:SD	3:K:25:ARG:NH2	2.68	0.62
1:E:119:GLU:OE2	1:E:373:HIS:NE2	2.30	0.62
2:G:122:GLU:O	2:G:125:ARG:NH1	2.33	0.62
3:J:230:LEU:HD22	3:J:340:ILE:HG12	1.81	0.62
3:N:270:TYR:CG	3:N:666:LEU:HD11	2.34	0.62
1:E:189:ASP:OD1	1:E:208:ARG:NH1	2.33	0.61
2:C:140:LYS:O	2:C:144:GLN:NE2	2.32	0.61
3:D:698:LEU:HD23	3:D:701:LEU:HD23	1.82	0.61
3:N:74:LYS:HB2	3:N:77:GLN:HE22	1.65	0.61
1:Q:159:ASP:OD1	4:Q:401:ADP:O3'	2.18	0.61
2:B:117:GLU:OE1	3:J:373:ARG:NH2	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:47:GLN:O	2:F:51:LYS:NZ	2.26	0.61
3:L:698:LEU:O	3:L:702:ARG:NE	2.30	0.61
3:A:606:ASN:OD1	3:A:607:GLU:N	2.33	0.61
2:B:144:GLN:O	2:B:147:GLN:NE2	2.33	0.61
3:D:431:LEU:HD11	3:D:609:VAL:HG21	1.81	0.61
2:G:74:ALA:HA	2:G:77:LYS:HD2	1.81	0.61
3:J:550:THR:O	3:J:554:ASN:ND2	2.32	0.61
3:L:40:PHE:HB2	3:L:79:PHE:HB2	1.81	0.61
3:K:422:GLN:O	3:K:426:ASN:ND2	2.34	0.61
3:N:311:PRO:O	3:N:318:SER:OG	2.16	0.61
2:F:73:GLN:HA	2:F:76:LYS:HG2	1.83	0.61
2:F:158:SER:HA	2:F:161:LYS:HG2	1.81	0.61
3:N:140:VAL:HA	3:N:143:ALA:HB3	1.83	0.61
1:E:158:GLY:O	1:E:305:THR:OG1	2.18	0.61
2:C:97:GLU:O	2:C:101:ARG:NE	2.29	0.61
2:F:124:GLU:O	2:F:127:MET:HG3	2.01	0.61
2:F:157:ASP:OD1	2:F:160:ARG:NH2	2.32	0.61
3:J:256:PHE:O	3:J:458:GLN:N	2.34	0.61
3:L:192:ARG:HH11	3:L:195:GLN:HE22	1.47	0.61
3:K:479:GLN:OE1	3:K:479:GLN:N	2.34	0.61
3:N:89:ILE:HG22	3:N:91:ASP:H	1.66	0.61
3:N:238:LYS:NZ	3:N:239:THR:O	2.28	0.61
3:A:238:LYS:HE2	3:A:285:ARG:HE	1.66	0.61
3:A:291:TYR:OH	3:A:317:VAL:O	2.18	0.61
3:A:747:LYS:HG3	3:A:766:PHE:HE2	1.64	0.61
3:D:238:LYS:HD2	3:D:243:ASP:HA	1.82	0.61
3:J:251:PHE:HD1	3:J:464:LEU:HB2	1.64	0.61
3:K:279:PHE:HA	3:K:319:GLN:HE21	1.64	0.61
3:K:494:ASN:ND2	3:K:517:PHE:O	2.34	0.61
3:N:570:PRO:HD3	3:N:581:PHE:HA	1.81	0.61
1:H:36:ILE:HD12	1:H:69:LEU:HD13	1.82	0.61
1:O:159:ASP:OD1	4:O:401:ADP:O3'	2.18	0.61
2:B:47:GLN:OE1	2:B:48:LYS:NZ	2.31	0.61
3:J:431:LEU:HD11	3:J:609:VAL:HG21	1.81	0.61
3:L:40:PHE:N	3:L:79:PHE:O	2.30	0.61
3:K:336:THR:O	3:K:340:ILE:HG12	2.00	0.61
3:N:251:PHE:HD1	3:N:464:LEU:HB2	1.66	0.61
3:N:341:ASP:OD1	3:N:350:ARG:NH2	2.33	0.61
1:H:356:GLN:OE1	1:H:356:GLN:N	2.33	0.61
3:D:178:ILE:HG22	3:D:678:VAL:HB	1.82	0.61
3:D:238:LYS:NZ	3:D:239:THR:O	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:606:ASN:OD1	3:J:607:GLU:N	2.33	0.61
3:K:498:PHE:HB2	3:K:517:PHE:HB2	1.82	0.61
1:O:158:GLY:O	1:O:305:THR:OG1	2.18	0.61
1:P:352:SER:H	3:K:540:GLU:CD	2.04	0.61
3:A:340:ILE:HG21	3:A:350:ARG:HG2	1.83	0.61
3:J:54:GLN:HG2	3:J:62:THR:HG22	1.83	0.61
3:K:490:GLN:HA	3:K:493:PHE:CE1	2.35	0.61
3:K:570:PRO:HD3	3:K:581:PHE:HA	1.83	0.61
2:B:98:GLU:O	2:B:101:ARG:NH1	2.34	0.61
3:D:155:HIS:O	3:D:158:SER:OG	2.15	0.61
3:J:346:THR:OG1	3:J:348:ASP:OD1	2.17	0.61
3:J:718:PRO:HD2	3:J:774:LYS:HA	1.83	0.61
3:D:566:ASN:HA	3:D:584:VAL:HG22	1.83	0.60
2:G:50:LEU:HG	2:F:46:LEU:HD12	1.81	0.60
2:F:117:GLU:OE1	3:L:373:ARG:NH1	2.34	0.60
2:C:183:ALA:O	2:B:182:ARG:NH1	2.30	0.60
3:A:90:GLU:OE1	3:A:110:ARG:NH2	2.34	0.60
3:D:606:ASN:OD1	3:D:607:GLU:N	2.34	0.60
3:L:270:TYR:CG	3:L:666:LEU:HD11	2.36	0.60
3:K:345:PHE:O	3:K:350:ARG:NH1	2.32	0.60
3:K:363:TYR:OH	3:K:613:TYR:OH	2.18	0.60
3:N:494:ASN:ND2	3:N:517:PHE:O	2.35	0.60
2:C:175:GLU:O	2:C:178:ARG:NH1	2.34	0.60
3:A:479:GLN:O	3:A:483:ASN:ND2	2.34	0.60
3:D:438:LYS:HB3	3:D:623:TYR:HB3	1.83	0.60
2:F:144:GLN:HA	2:F:147:GLN:HG3	1.84	0.60
3:L:178:ILE:HG22	3:L:678:VAL:HB	1.84	0.60
3:N:234:PHE:HD1	3:N:289:ILE:HG13	1.67	0.60
1:E:336:GLU:OE1	1:E:336:GLU:N	2.34	0.60
2:B:60:TYR:O	2:B:64:VAL:HG23	2.01	0.60
2:B:106:LEU:O	2:B:110:LEU:HG	2.01	0.60
3:J:570:PRO:HD3	3:J:581:PHE:HA	1.83	0.60
3:L:431:LEU:HD11	3:L:609:VAL:HG21	1.81	0.60
3:N:468:GLY:O	3:N:486:ASN:ND2	2.34	0.60
1:H:102:GLU:OE1	1:H:102:GLU:N	2.34	0.60
2:G:88:LEU:HA	2:G:91:ARG:HD3	1.81	0.60
2:F:98:GLU:HG3	2:F:101:ARG:CZ	2.32	0.60
3:J:238:LYS:HG2	3:J:285:ARG:HG2	1.84	0.60
3:K:674:HIS:HD2	3:K:675:PRO:HD2	1.65	0.60
1:R:189:ASP:OD1	1:R:208:ARG:NH1	2.34	0.60
3:L:98:LEU:O	3:L:714:ARG:NH2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:443:MET:O	3:K:447:ILE:HG12	2.02	0.60
3:N:176:ILE:HD11	3:N:678:VAL:HG23	1.84	0.60
3:A:494:ASN:ND2	3:A:517:PHE:O	2.35	0.60
2:B:144:GLN:HA	2:B:147:GLN:HG3	1.84	0.60
3:N:340:ILE:HG21	3:N:350:ARG:HG2	1.82	0.60
2:C:73:GLN:HA	2:C:76:LYS:HD2	1.84	0.60
3:A:77:GLN:N	3:A:77:GLN:OE1	2.34	0.60
3:D:191:LYS:HA	3:D:194:ILE:HG12	1.82	0.60
3:J:101:PRO:HA	3:J:104:LEU:HB3	1.83	0.60
3:K:256:PHE:O	3:K:458:GLN:N	2.32	0.60
3:D:550:THR:HG22	3:D:554:ASN:HD21	1.67	0.60
3:L:479:GLN:O	3:L:483:ASN:ND2	2.34	0.60
3:K:311:PRO:O	3:K:318:SER:OG	2.19	0.60
3:N:499:VAL:O	3:N:503:GLU:HB2	2.01	0.60
3:N:503:GLU:HA	3:N:506:LYS:HG2	1.82	0.60
3:A:197:PHE:HA	3:A:200:ILE:HG22	1.84	0.60
3:J:21:SER:N	3:J:24:GLU:OE2	2.34	0.60
3:N:256:PHE:O	3:N:458:GLN:N	2.33	0.60
1:H:189:ASP:OD1	1:H:208:ARG:NH1	2.35	0.59
1:R:159:ASP:OD1	4:R:401:ADP:O3'	2.19	0.59
3:J:24:GLU:HA	3:J:27:GLU:HG2	1.83	0.59
3:J:273:GLU:OE2	3:J:275:SER:OG	2.19	0.59
3:N:274:LYS:HE2	3:N:437:GLU:HB2	1.83	0.59
1:E:197:GLU:HB2	1:H:115:LYS:HG3	1.83	0.59
2:B:127:MET:O	2:B:131:GLU:HG2	2.02	0.59
3:J:176:ILE:HD11	3:J:678:VAL:HG23	1.84	0.59
3:J:701:LEU:HG	3:J:707:LEU:HD22	1.84	0.59
1:E:102:GLU:OE1	1:E:102:GLU:N	2.35	0.59
1:H:159:ASP:OD1	4:H:401:ADP:O3'	2.20	0.59
3:K:718:PRO:HD2	3:K:774:LYS:HA	1.83	0.59
1:P:102:GLU:OE1	1:P:102:GLU:N	2.36	0.59
3:A:570:PRO:HD3	3:A:581:PHE:HA	1.84	0.59
2:G:175:GLU:O	2:G:178:ARG:NH1	2.35	0.59
2:C:71:LEU:HD11	2:B:70:LYS:HB2	1.84	0.59
2:C:102:ALA:O	2:C:105:ARG:NH1	2.36	0.59
2:C:152:LYS:NZ	2:B:147:GLN:OE1	2.35	0.59
3:A:341:ASP:OD1	3:A:350:ARG:NH2	2.34	0.59
3:D:710:ILE:O	3:D:714:ARG:CB	2.47	0.59
2:G:99:LEU:HD22	2:F:95:VAL:HG22	1.83	0.59
3:J:731:LYS:HD2	3:J:753:LEU:HD21	1.85	0.59
3:K:98:LEU:O	3:K:714:ARG:NE	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:352:SER:H	3:L:540:GLU:CD	2.05	0.59
3:J:341:ASP:OD1	3:J:350:ARG:NH2	2.36	0.59
3:L:291:TYR:HA	3:L:294:MET:HB2	1.84	0.59
3:L:379:PRO:HG3	3:L:400:LEU:HD13	1.82	0.59
3:D:134:PRO:O	3:D:137:ASN:ND2	2.35	0.59
3:D:731:LYS:HD2	3:D:753:LEU:HD21	1.83	0.59
3:L:479:GLN:OE1	3:L:479:GLN:N	2.29	0.59
3:N:40:PHE:N	3:N:79:PHE:O	2.35	0.59
1:H:235:SER:OG	1:H:236:SER:N	2.34	0.59
3:A:166:PHE:O	3:A:169:THR:OG1	2.19	0.59
3:J:469:PHE:HB3	3:J:703:CYS:HA	1.84	0.59
3:L:241:ARG:HE	3:L:242:ASN:HB3	1.67	0.59
3:A:173:ASN:OD1	3:A:460:PHE:N	2.33	0.59
2:B:47:GLN:O	2:B:51:LYS:NZ	2.26	0.59
2:B:157:ASP:OD1	2:B:160:ARG:NH2	2.35	0.59
3:J:502:GLN:NE2	3:J:513:GLU:O	2.35	0.59
3:L:766:PHE:HA	3:L:771:VAL:HA	1.84	0.59
3:J:766:PHE:HA	3:J:771:VAL:HA	1.83	0.59
3:L:20:LYS:O	3:L:25:ARG:NE	2.30	0.59
3:L:527:LEU:HD22	3:L:566:ASN:HB2	1.85	0.59
2:G:121:ASP:HA	2:G:124:GLU:HG2	1.84	0.58
3:J:279:PHE:HA	3:J:319:GLN:HE21	1.68	0.58
3:L:255:HIS:N	3:L:264:SER:OG	2.35	0.58
1:O:229:MET:SD	1:O:254:ASN:ND2	2.76	0.58
3:A:84:PRO:HA	3:A:87:ASP:HB2	1.86	0.58
3:A:270:TYR:CG	3:A:666:LEU:HD11	2.38	0.58
3:D:197:PHE:HA	3:D:200:ILE:HG22	1.84	0.58
2:G:62:GLU:HA	2:G:65:LYS:HE2	1.84	0.58
3:J:118:THR:HB	3:J:125:VAL:HG13	1.86	0.58
3:J:234:PHE:O	3:J:436:TYR:OH	2.21	0.58
3:K:698:LEU:HD13	3:K:701:LEU:HD23	1.83	0.58
3:N:606:ASN:OD1	3:N:607:GLU:N	2.35	0.58
2:C:144:GLN:HA	2:C:147:GLN:HG3	1.84	0.58
2:C:160:ARG:NH1	2:C:161:LYS:HB2	2.18	0.58
3:J:274:LYS:HE2	3:J:437:GLU:HB2	1.83	0.58
3:L:140:VAL:HA	3:L:143:ALA:HB3	1.85	0.58
1:E:159:ASP:OD1	4:E:401:ADP:O3'	2.19	0.58
1:P:306:THR:O	1:P:337:ARG:NH1	2.35	0.58
3:D:192:ARG:HH11	3:D:195:GLN:HE22	1.49	0.58
3:J:140:VAL:HA	3:J:143:ALA:HB3	1.85	0.58
3:L:238:LYS:NZ	3:L:239:THR:O	2.28	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:341:ASP:OD1	3:L:350:ARG:NH2	2.35	0.58
3:L:701:LEU:HD11	3:L:707:LEU:HB3	1.85	0.58
3:D:173:ASN:HB3	3:D:673:THR:HG23	1.85	0.58
3:D:494:ASN:ND2	3:D:520:ASP:OD2	2.36	0.58
2:F:127:MET:HA	2:F:130:ILE:HG22	1.83	0.58
3:L:731:LYS:HD2	3:L:753:LEU:HD21	1.84	0.58
3:K:180:GLY:HA3	3:K:186:LYS:HB2	1.86	0.58
3:D:369:LYS:HD2	3:D:380:ASP:HB3	1.86	0.58
3:J:236:ASN:ND2	3:J:246:SER:HA	2.19	0.58
3:K:29:GLN:HA	3:K:85:LYS:HA	1.86	0.58
3:K:576:LYS:HD3	3:K:577:VAL:N	2.19	0.58
1:O:352:SER:HA	1:O:355:GLN:HG2	1.85	0.58
1:P:204:THR:HG22	1:P:206:ALA:H	1.69	0.58
2:F:149:LYS:O	2:F:153:HIS:ND1	2.30	0.58
3:L:85:LYS:HG3	3:L:86:TYR:HD1	1.69	0.58
3:K:503:GLU:O	3:K:506:LYS:NZ	2.31	0.58
3:K:708:GLU:OE1	3:K:711:ARG:NH1	2.37	0.58
3:L:256:PHE:HB3	3:L:261:LYS:H	1.68	0.58
1:P:159:ASP:OD1	4:P:401:ADP:O3'	2.21	0.58
3:A:502:GLN:NE2	3:A:513:GLU:O	2.37	0.58
3:A:731:LYS:HD2	3:A:753:LEU:HD21	1.86	0.58
3:J:177:LEU:HD21	3:J:670:LEU:HD21	1.85	0.58
3:L:476:SER:OG	3:L:477:LEU:N	2.37	0.58
1:H:119:GLU:OE2	1:H:373:HIS:NE2	2.37	0.58
3:A:191:LYS:HA	3:A:194:ILE:HG12	1.86	0.58
3:D:516:ASP:OD1	3:D:518:GLY:N	2.36	0.58
3:D:577:VAL:HG13	3:D:578:GLU:H	1.69	0.58
1:O:352:SER:H	3:J:540:GLU:CD	2.07	0.57
2:C:99:LEU:HB2	2:B:95:VAL:HG13	1.84	0.57
2:G:124:GLU:O	2:G:127:MET:HG2	2.05	0.57
3:N:536:SER:O	3:N:540:GLU:HG2	2.04	0.57
3:D:443:MET:O	3:D:447:ILE:HG12	2.04	0.57
3:J:29:GLN:HA	3:J:85:LYS:HA	1.85	0.57
3:L:234:PHE:O	3:L:436:TYR:OH	2.22	0.57
3:K:274:LYS:HE2	3:K:437:GLU:HB2	1.86	0.57
3:A:201:ALA:HB2	3:A:262:LEU:HD13	1.86	0.57
3:D:25:ARG:O	3:D:29:GLN:HB2	2.04	0.57
3:D:248:PHE:HB3	3:D:272:LEU:HD13	1.86	0.57
3:J:719:SER:HB2	3:J:773:PHE:HB2	1.86	0.57
3:N:117:TYR:CE1	3:N:135:VAL:HG21	2.39	0.57
3:N:527:LEU:HD21	3:N:567:PHE:HB2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:269:THR:HG21	3:A:440:PHE:HE2	1.69	0.57
1:Q:158:GLY:O	1:Q:305:THR:OG1	2.23	0.57
2:B:45:ALA:N	2:B:47:GLN:OE1	2.37	0.57
3:J:348:ASP:HA	3:J:351:VAL:HG12	1.86	0.57
3:L:403:LEU:HD22	3:L:609:VAL:HG11	1.87	0.57
3:L:498:PHE:HB2	3:L:517:PHE:HB2	1.87	0.57
1:Q:119:GLU:OE2	1:Q:373:HIS:NE2	2.33	0.57
3:J:479:GLN:OE1	3:J:479:GLN:N	2.33	0.57
3:J:610:VAL:HG12	3:J:614:GLN:HE21	1.69	0.57
3:K:683:PRO:HB2	3:K:692:MET:HG3	1.85	0.57
2:C:106:LEU:HD22	2:B:105:ARG:HH21	1.69	0.57
2:F:60:TYR:O	2:F:64:VAL:HG23	2.05	0.57
3:A:234:PHE:CD1	3:A:289:ILE:HG13	2.38	0.57
3:A:548:THR:HG23	3:A:551:SER:H	1.70	0.57
3:D:276:ARG:NH1	3:D:284:GLU:OE2	2.38	0.57
3:N:345:PHE:HE2	3:N:353:ILE:HD11	1.70	0.57
3:N:584:VAL:HA	3:N:589:THR:HA	1.87	0.57
3:L:251:PHE:HD1	3:L:464:LEU:HB2	1.68	0.57
2:C:133:ARG:NH2	2:B:131:GLU:OE2	2.38	0.57
3:A:134:PRO:O	3:A:137:ASN:ND2	2.38	0.57
3:A:186:LYS:HD3	3:A:189:ASN:HD22	1.69	0.57
3:A:720:ARG:HG3	3:A:772:PHE:CD1	2.40	0.57
3:D:476:SER:OG	3:D:477:LEU:N	2.38	0.57
3:J:376:GLN:NE2	3:J:404:CYS:O	2.38	0.57
3:J:503:GLU:O	3:J:506:LYS:NZ	2.36	0.57
1:E:203:VAL:N	1:E:207:GLU:OE2	2.30	0.56
3:A:761:HIS:HA	3:A:764:TYR:CE1	2.39	0.56
2:G:99:LEU:HD11	2:F:98:GLU:HG2	1.86	0.56
3:J:8:MET:O	3:J:19:ARG:NH2	2.38	0.56
3:L:178:ILE:HB	3:L:186:LYS:HE3	1.87	0.56
3:L:346:THR:OG1	3:L:348:ASP:OD1	2.18	0.56
3:L:494:ASN:ND2	3:L:517:PHE:O	2.38	0.56
3:A:174:GLN:HG3	3:A:674:HIS:HB3	1.86	0.56
3:K:74:LYS:HB2	3:K:77:GLN:HE22	1.68	0.56
3:N:438:LYS:HB3	3:N:623:TYR:HB3	1.87	0.56
1:O:36:ILE:HD12	1:O:69:LEU:HD13	1.87	0.56
1:R:336:GLU:OE1	1:R:336:GLU:N	2.38	0.56
3:A:237:ALA:O	3:A:245:SER:OG	2.21	0.56
3:D:77:GLN:OE1	3:D:77:GLN:N	2.39	0.56
3:J:181:GLU:OE1	3:J:181:GLU:N	2.38	0.56
3:N:285:ARG:HH12	3:N:288:HIS:HA	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:100:ASP:O	2:F:103:GLN:NE2	2.38	0.56
3:K:108:LYS:HG3	3:K:692:MET:HE3	1.87	0.56
3:N:498:PHE:HB2	3:N:517:PHE:HB2	1.87	0.56
2:C:88:LEU:HA	2:C:91:ARG:HD3	1.88	0.56
3:A:698:LEU:HD13	3:A:701:LEU:HD23	1.88	0.56
3:D:99:HIS:HB2	3:D:101:PRO:HD2	1.88	0.56
3:D:165:GLN:O	3:D:169:THR:HG23	2.05	0.56
2:G:152:LYS:NZ	2:F:147:GLN:OE1	2.39	0.56
3:L:197:PHE:HA	3:L:200:ILE:HG22	1.86	0.56
3:N:343:LEU:HD13	3:N:447:ILE:HD12	1.87	0.56
3:D:181:GLU:N	3:D:181:GLU:OE1	2.38	0.56
3:D:340:ILE:HG21	3:D:350:ARG:HG2	1.86	0.56
3:D:498:PHE:HB2	3:D:517:PHE:CG	2.41	0.56
2:F:90:ARG:O	2:F:93:GLN:NE2	2.39	0.56
3:L:181:GLU:N	3:L:181:GLU:OE1	2.39	0.56
3:K:53:VAL:HG23	3:K:61:VAL:HB	1.88	0.56
3:K:181:GLU:OE1	3:K:181:GLU:N	2.38	0.56
3:K:273:GLU:OE2	3:K:275:SER:OG	2.21	0.56
1:P:192:MET:HG2	1:P:211:VAL:HG21	1.88	0.56
3:D:707:LEU:HA	3:D:710:ILE:HG12	1.87	0.56
3:J:269:THR:HG21	3:J:440:PHE:HE2	1.70	0.56
3:K:476:SER:OG	3:K:477:LEU:N	2.39	0.56
3:N:279:PHE:HA	3:N:319:GLN:HE21	1.70	0.56
3:A:45:LYS:HD2	3:A:46:GLU:HG2	1.85	0.56
2:G:175:GLU:O	2:G:178:ARG:HD3	2.06	0.56
2:F:192:ASP:O	2:F:195:GLU:HG3	2.05	0.56
3:K:289:ILE:O	3:K:293:ILE:HG12	2.06	0.56
3:N:56:ARG:NH2	3:N:60:LYS:O	2.39	0.56
3:A:8:MET:O	3:A:19:ARG:NH2	2.39	0.56
3:A:266:ASP:HB3	3:A:448:ASN:HD21	1.71	0.56
3:A:319:GLN:N	3:A:319:GLN:OE1	2.39	0.56
2:B:56:GLU:HA	2:B:59:LYS:HG2	1.87	0.56
3:D:695:GLU:HA	3:D:698:LEU:HD12	1.88	0.56
3:L:77:GLN:OE1	3:L:77:GLN:N	2.38	0.56
3:L:376:GLN:NE2	3:L:404:CYS:O	2.39	0.56
1:P:197:GLU:HB2	1:R:115:LYS:HG3	1.87	0.56
3:D:733:LEU:HG	3:D:757:ILE:HG23	1.88	0.56
3:L:179:THR:OG1	3:L:704:ASN:ND2	2.39	0.56
3:N:88:LYS:O	3:N:110:ARG:NH1	2.39	0.56
3:N:181:GLU:OE1	3:N:181:GLU:N	2.39	0.56
3:N:684:ASN:ND2	3:N:688:THR:O	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:134:PRO:HB2	3:D:137:ASN:HD21	1.71	0.55
3:D:234:PHE:CD1	3:D:289:ILE:HG13	2.40	0.55
2:G:148:LEU:HA	2:F:147:GLN:HE22	1.71	0.55
3:J:369:LYS:HD2	3:J:380:ASP:HB3	1.88	0.55
3:K:359:ALA:HB2	3:K:392:GLN:HE22	1.71	0.55
3:D:536:SER:O	3:D:540:GLU:HG2	2.06	0.55
2:G:144:GLN:HB3	2:F:144:GLN:CD	2.27	0.55
3:L:90:GLU:OE1	3:L:110:ARG:NH2	2.39	0.55
1:Q:192:MET:HG3	1:Q:211:VAL:HG11	1.88	0.55
1:Q:216:GLU:HG2	4:Q:401:ADP:C5	2.41	0.55
1:R:255:GLU:OE1	1:R:255:GLU:N	2.32	0.55
3:D:781:LEU:HA	3:D:784:MET:HG2	1.87	0.55
2:G:99:LEU:HG	2:G:103:GLN:HE22	1.71	0.55
2:G:140:LYS:O	2:G:144:GLN:NE2	2.40	0.55
2:F:104:GLU:O	2:F:108:THR:HG23	2.06	0.55
3:J:234:PHE:CD1	3:J:289:ILE:HG13	2.39	0.55
3:J:291:TYR:HE1	3:J:322:ILE:HG22	1.72	0.55
3:L:681:ILE:HG21	3:L:697:VAL:HG23	1.88	0.55
1:O:153:ILE:HG22	1:O:166:PRO:HB3	1.87	0.55
1:Q:10:LEU:HD13	1:Q:103:HIS:HB3	1.89	0.55
3:A:550:THR:HG22	3:A:554:ASN:HD21	1.72	0.55
2:B:86:ALA:HB1	2:B:90:ARG:NH1	2.20	0.55
2:F:168:LYS:O	2:F:172:LEU:HG	2.05	0.55
3:J:681:ILE:HG21	3:J:697:VAL:HG13	1.87	0.55
1:H:306:THR:O	1:H:337:ARG:NH1	2.39	0.55
2:G:103:GLN:NE2	2:F:98:GLU:OE2	2.39	0.55
2:G:134:ALA:O	2:G:138:GLU:HG2	2.07	0.55
3:J:188:VAL:O	3:J:191:LYS:HG2	2.07	0.55
3:J:479:GLN:O	3:J:483:ASN:ND2	2.39	0.55
3:K:248:PHE:HB3	3:K:272:LEU:HD13	1.89	0.55
3:K:380:ASP:OD1	3:K:380:ASP:N	2.39	0.55
3:A:123:PHE:HE1	3:A:679:ARG:HH21	1.54	0.55
3:A:289:ILE:O	3:A:293:ILE:HG12	2.07	0.55
3:A:498:PHE:HB2	3:A:517:PHE:HB2	1.89	0.55
3:J:343:LEU:HD13	3:J:447:ILE:HD12	1.89	0.55
3:L:576:LYS:HZ2	3:L:578:GLU:H	1.55	0.55
3:L:761:HIS:HA	3:L:764:TYR:CE1	2.42	0.55
3:K:164:TYR:O	3:K:167:MET:HG2	2.06	0.55
3:N:476:SER:OG	3:N:477:LEU:N	2.39	0.55
3:N:524:CYS:SG	3:N:585:HIS:ND1	2.75	0.55
3:N:582:SER:HA	3:N:591:ASP:HA	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:760:ASP:OD2	3:N:762:THR:OG1	2.19	0.55
1:R:78:ILE:HD13	1:R:84:MET:HG2	1.88	0.55
3:A:719:SER:HB2	3:A:773:PHE:HB2	1.88	0.55
3:J:720:ARG:HG3	3:J:772:PHE:CD1	2.41	0.55
3:A:184:ALA:HB1	3:A:682:ILE:HD11	1.89	0.55
3:A:279:PHE:HA	3:A:319:GLN:HE21	1.71	0.55
3:A:778:LEU:O	3:A:782:GLU:N	2.35	0.55
3:N:104:LEU:HD11	3:N:694:HIS:HD2	1.70	0.55
3:N:346:THR:OG1	3:N:348:ASP:OD1	2.18	0.55
3:A:322:ILE:HG13	3:A:323:THR:H	1.72	0.55
3:K:232:GLU:O	3:K:236:ASN:HB2	2.06	0.55
3:A:403:LEU:HD22	3:A:609:VAL:HG11	1.89	0.55
3:D:173:ASN:OD1	3:D:460:PHE:N	2.34	0.55
3:D:503:GLU:OE1	3:D:503:GLU:N	2.40	0.55
3:L:536:SER:O	3:L:540:GLU:HG2	2.06	0.55
3:K:319:GLN:OE1	3:K:319:GLN:N	2.40	0.55
3:N:263:ALA:O	3:N:457:ARG:NH2	2.40	0.55
3:N:469:PHE:HB3	3:N:703:CYS:HA	1.89	0.55
3:A:254:ILE:HB	3:A:461:ILE:HG22	1.89	0.54
3:D:119:TYR:OH	3:D:158:SER:OG	2.25	0.54
3:D:254:ILE:HB	3:D:461:ILE:HG22	1.88	0.54
3:D:586:TYR:HD2	3:D:708:GLU:HG3	1.72	0.54
3:J:712:ILE:HD12	3:J:715:LYS:HE3	1.88	0.54
3:K:191:LYS:HA	3:K:194:ILE:HG22	1.88	0.54
1:O:157:SER:HB2	1:O:162:THR:HG23	1.87	0.54
3:J:502:GLN:NE2	3:J:512:TRP:O	2.33	0.54
3:N:348:ASP:HA	3:N:351:VAL:HG12	1.89	0.54
1:O:113:ASN:OD1	1:O:179:ARG:NH1	2.31	0.54
3:A:234:PHE:O	3:A:436:TYR:OH	2.24	0.54
3:A:536:SER:O	3:A:540:GLU:HG2	2.07	0.54
3:J:237:ALA:O	3:J:245:SER:OG	2.20	0.54
3:L:548:THR:HG23	3:L:551:SER:H	1.72	0.54
3:N:248:PHE:HB3	3:N:272:LEU:HD13	1.89	0.54
3:N:297:LYS:HZ1	3:N:334:MET:CB	2.20	0.54
3:N:614:GLN:NE2	3:N:626:SER:O	2.40	0.54
2:G:181:GLU:O	2:G:184:GLU:HG2	2.07	0.54
3:L:37:SER:HA	3:L:53:VAL:HG12	1.88	0.54
3:L:120:SER:HB2	3:L:123:PHE:HB2	1.89	0.54
3:L:165:GLN:O	3:L:169:THR:HG23	2.07	0.54
3:K:89:ILE:HG22	3:K:91:ASP:H	1.72	0.54
3:N:681:ILE:HG21	3:N:697:VAL:HG13	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:359:ILE:HG12	1:O:376:CYS:HB3	1.88	0.54
1:P:10:LEU:HD13	1:P:103:HIS:HB3	1.88	0.54
3:J:33:PHE:CD1	3:J:84:PRO:HD3	2.42	0.54
3:J:92:MET:HG2	3:J:103:VAL:HG23	1.89	0.54
3:J:359:ALA:HB2	3:J:392:GLN:HE22	1.72	0.54
3:L:576:LYS:NZ	3:L:578:GLU:O	2.41	0.54
3:N:722:LEU:HG	3:N:770:LYS:HE2	1.90	0.54
1:Q:8:THR:H	3:L:646:LYS:NZ	2.04	0.54
3:A:701:LEU:HD11	3:A:707:LEU:HB3	1.89	0.54
2:F:45:ALA:N	2:F:47:GLN:OE1	2.41	0.54
3:J:494:ASN:ND2	3:J:517:PHE:O	2.41	0.54
3:J:610:VAL:HG13	3:J:624:LEU:HD23	1.90	0.54
3:J:707:LEU:HA	3:J:710:ILE:HG12	1.88	0.54
3:A:232:GLU:O	3:A:236:ASN:HB2	2.08	0.54
3:J:134:PRO:O	3:J:137:ASN:ND2	2.40	0.54
3:L:503:GLU:OE1	3:L:503:GLU:N	2.40	0.54
3:N:479:GLN:O	3:N:483:ASN:ND2	2.41	0.54
1:Q:204:THR:HG22	1:Q:206:ALA:H	1.73	0.54
3:A:195:GLN:O	3:A:199:THR:HG23	2.08	0.54
3:A:376:GLN:NE2	3:A:404:CYS:O	2.41	0.54
2:B:104:GLU:O	2:B:108:THR:HG23	2.08	0.54
3:D:140:VAL:HA	3:D:143:ALA:HB3	1.89	0.54
3:D:195:GLN:O	3:D:199:THR:HG23	2.08	0.54
3:D:494:ASN:ND2	3:D:517:PHE:O	2.41	0.54
2:G:172:LEU:HD22	2:F:169:LEU:HD23	1.90	0.54
3:K:234:PHE:HD1	3:K:289:ILE:HG13	1.73	0.54
2:C:104:GLU:O	2:C:108:THR:HG23	2.08	0.54
3:J:290:PHE:O	3:J:294:MET:HG2	2.08	0.54
3:J:482:ILE:O	3:J:485:THR:OG1	2.21	0.54
3:L:60:LYS:HA	3:L:72:THR:HG23	1.90	0.54
3:L:175:SER:N	3:L:674:HIS:O	2.41	0.54
3:K:21:SER:HA	3:K:25:ARG:HH21	1.73	0.54
3:N:576:LYS:NZ	3:N:578:GLU:O	2.40	0.54
3:A:179:THR:OG1	3:A:679:ARG:NH1	2.41	0.54
3:D:273:GLU:OE1	3:D:276:ARG:HG2	2.08	0.54
2:F:147:GLN:HA	2:F:150:GLU:HG3	1.88	0.54
3:K:238:LYS:NZ	3:K:321:GLU:HB2	2.23	0.54
3:K:618:MET:HG2	3:K:619:LYS:H	1.73	0.54
1:E:7:THR:OG1	1:E:8:THR:N	2.41	0.53
1:H:123:GLN:O	1:H:127:GLU:HG2	2.07	0.53
1:R:203:VAL:N	1:R:207:GLU:OE2	2.32	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:251:PHE:HB2	3:A:464:LEU:HD12	1.89	0.53
2:F:196:GLU:HA	2:F:199:ILE:HD12	1.89	0.53
3:J:114:TRP:HZ3	3:J:689:PRO:HB2	1.72	0.53
3:K:39:VAL:HA	3:K:80:PRO:HA	1.90	0.53
3:K:175:SER:O	3:K:676:HIS:N	2.40	0.53
3:K:297:LYS:HZ1	3:K:334:MET:HB2	1.72	0.53
3:N:479:GLN:OE1	3:N:479:GLN:N	2.36	0.53
3:N:761:HIS:HA	3:N:764:TYR:CE1	2.43	0.53
1:E:204:THR:HG22	1:E:206:ALA:H	1.72	0.53
1:R:352:SER:H	3:N:540:GLU:CD	2.10	0.53
3:J:240:VAL:HG12	3:J:283:ALA:HB3	1.89	0.53
3:J:363:TYR:HH	3:J:613:TYR:HH	1.52	0.53
3:J:403:LEU:HD22	3:J:609:VAL:HG11	1.90	0.53
3:N:294:MET:HG3	3:N:311:PRO:HB3	1.90	0.53
1:Q:123:GLN:O	1:Q:127:GLU:HG2	2.09	0.53
2:C:148:LEU:HA	2:B:147:GLN:HE22	1.73	0.53
3:A:251:PHE:HD1	3:A:464:LEU:HB2	1.73	0.53
3:D:701:LEU:HD11	3:D:707:LEU:HB3	1.90	0.53
2:F:102:ALA:HA	2:F:105:ARG:NE	2.23	0.53
3:L:145:ARG:NH1	3:L:161:ASP:OD1	2.38	0.53
3:K:278:THR:O	3:K:319:GLN:NE2	2.42	0.53
1:E:192:MET:HG3	1:E:211:VAL:HG11	1.90	0.53
3:A:393:ASN:ND2	3:A:618:MET:SD	2.82	0.53
2:G:175:GLU:HG3	2:F:176:LEU:HD11	1.90	0.53
3:L:164:TYR:O	3:L:167:MET:HG2	2.08	0.53
3:K:188:VAL:O	3:K:191:LYS:HG2	2.08	0.53
3:N:290:PHE:O	3:N:294:MET:HG2	2.08	0.53
2:C:107:ALA:HA	2:C:110:LEU:HD12	1.89	0.53
3:A:623:TYR:HB2	3:A:624:LEU:HD12	1.91	0.53
2:F:149:LYS:C	2:F:153:HIS:HD1	2.11	0.53
3:N:241:ARG:HH21	3:N:242:ASN:ND2	2.05	0.53
1:H:8:THR:H	3:D:646:LYS:NZ	2.07	0.53
1:O:178:MET:HG3	1:O:283:SER:HB2	1.91	0.53
2:B:75:GLU:O	2:B:79:THR:HG23	2.09	0.53
3:J:269:THR:HG21	3:J:440:PHE:CE2	2.43	0.53
3:N:700:GLN:HA	3:N:703:CYS:SG	2.49	0.53
1:E:314:ARG:NE	1:E:318:GLU:OE2	2.31	0.53
1:H:336:GLU:OE1	1:H:336:GLU:N	2.32	0.53
2:C:93:GLN:O	2:C:97:GLU:HG2	2.08	0.53
2:C:111:GLN:HA	2:C:114:GLU:HG2	1.90	0.53
3:A:88:LYS:O	3:A:110:ARG:NH1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:129:VAL:HA	2:B:132:ASN:HD22	1.73	0.53
3:D:162:ASN:HA	3:D:165:GLN:HE21	1.72	0.53
3:J:37:SER:HA	3:J:53:VAL:HG12	1.89	0.53
1:O:192:MET:HG3	1:O:211:VAL:HG11	1.90	0.53
3:A:148:LYS:HD2	3:A:150:GLN:H	1.72	0.53
3:D:482:ILE:O	3:D:485:THR:OG1	2.24	0.53
2:F:121:ASP:O	2:F:125:ARG:HG3	2.08	0.53
3:J:195:GLN:O	3:J:199:THR:HG23	2.09	0.53
3:J:726:PHE:HE2	3:J:727:LYS:HZ2	1.57	0.53
3:L:442:TRP:HB3	3:L:623:TYR:HE1	1.73	0.53
1:H:192:MET:HG3	1:H:211:VAL:HG11	1.90	0.53
1:Q:101:GLU:N	1:Q:101:GLU:OE2	2.40	0.53
1:Q:336:GLU:OE1	1:Q:336:GLU:N	2.38	0.53
3:A:610:VAL:HG13	3:A:624:LEU:HD23	1.90	0.53
3:A:766:PHE:HA	3:A:771:VAL:HA	1.90	0.53
2:B:171:ILE:HG13	2:B:172:LEU:HD23	1.91	0.53
3:D:164:TYR:O	3:D:167:MET:HG2	2.09	0.53
3:D:186:LYS:HD3	3:D:189:ASN:HD22	1.74	0.53
2:G:136:LYS:HB3	2:G:140:LYS:HE2	1.91	0.53
3:L:85:LYS:HG3	3:L:86:TYR:CD1	2.44	0.53
3:L:88:LYS:O	3:L:110:ARG:NH1	2.41	0.53
3:L:101:PRO:HA	3:L:104:LEU:HB3	1.89	0.53
3:L:134:PRO:O	3:L:137:ASN:ND2	2.42	0.53
3:L:266:ASP:HB3	3:L:448:ASN:HD21	1.72	0.53
3:K:502:GLN:NE2	3:K:512:TRP:O	2.31	0.53
3:K:599:ASP:N	3:K:599:ASP:OD1	2.39	0.53
1:O:216:GLU:HG2	4:O:401:ADP:C5	2.44	0.53
2:C:121:ASP:HA	2:C:124:GLU:HG2	1.91	0.53
1:R:192:MET:HG3	1:R:211:VAL:HG11	1.91	0.53
1:R:229:MET:SD	1:R:254:ASN:ND2	2.82	0.53
3:A:256:PHE:O	3:A:458:GLN:N	2.38	0.53
2:B:61:SER:O	2:B:65:LYS:HG2	2.09	0.53
3:D:256:PHE:O	3:D:458:GLN:N	2.42	0.53
3:D:292:GLN:O	3:D:295:SER:OG	2.21	0.53
3:D:701:LEU:HG	3:D:707:LEU:HD23	1.90	0.53
3:J:40:PHE:HB2	3:J:79:PHE:HB2	1.90	0.53
3:J:179:THR:OG1	3:J:704:ASN:ND2	2.41	0.53
3:J:222:ASP:OD1	3:J:223:GLN:N	2.42	0.53
3:L:582:SER:HB3	3:L:591:ASP:HB3	1.91	0.53
3:K:65:THR:H	3:K:69:ALA:H	1.56	0.53
3:N:359:ALA:HB2	3:N:392:GLN:HE22	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:365:ASN:HB2	3:N:384:VAL:HG21	1.90	0.53
3:N:502:GLN:NE2	3:N:513:GLU:O	2.42	0.53
3:A:482:ILE:O	3:A:485:THR:OG1	2.24	0.52
2:B:137:ASP:HA	2:B:140:LYS:HD2	1.90	0.52
2:B:196:GLU:O	2:B:200:VAL:HG23	2.09	0.52
3:D:344:GLY:O	3:D:446:ARG:NH2	2.41	0.52
2:G:144:GLN:HG2	2:F:141:MET:HG2	1.91	0.52
2:F:61:SER:O	2:F:65:LYS:HG2	2.08	0.52
3:J:438:LYS:HB3	3:J:623:TYR:HB3	1.90	0.52
3:L:273:GLU:OE2	3:L:275:SER:OG	2.27	0.52
3:K:147:LYS:O	3:K:165:GLN:NE2	2.27	0.52
3:K:166:PHE:O	3:K:169:THR:OG1	2.24	0.52
3:K:483:ASN:O	3:K:487:GLU:HG2	2.09	0.52
3:K:778:LEU:O	3:K:782:GLU:N	2.33	0.52
3:N:118:THR:HG22	3:N:119:TYR:H	1.73	0.52
3:N:195:GLN:O	3:N:199:THR:HG23	2.10	0.52
1:E:123:GLN:O	1:E:127:GLU:HG2	2.09	0.52
1:O:123:GLN:O	1:O:127:GLU:HG2	2.09	0.52
2:F:127:MET:O	2:F:131:GLU:HG2	2.09	0.52
3:L:700:GLN:HA	3:L:703:CYS:SG	2.49	0.52
3:K:197:PHE:HA	3:K:200:ILE:HG22	1.91	0.52
3:N:289:ILE:O	3:N:293:ILE:HG12	2.09	0.52
1:O:203:VAL:N	1:O:207:GLU:OE2	2.33	0.52
1:Q:290:ASP:OD2	1:R:64:ARG:NE	2.42	0.52
2:C:64:VAL:HG13	2:B:64:VAL:HG22	1.91	0.52
3:A:114:TRP:HZ3	3:A:689:PRO:HB2	1.75	0.52
3:L:195:GLN:O	3:L:199:THR:HG23	2.10	0.52
3:K:118:THR:HG22	3:K:119:TYR:H	1.74	0.52
3:K:234:PHE:O	3:K:436:TYR:OH	2.27	0.52
3:K:439:MET:HA	3:K:623:TYR:CE1	2.44	0.52
3:N:65:THR:H	3:N:69:ALA:H	1.57	0.52
3:N:234:PHE:CD1	3:N:289:ILE:HG13	2.44	0.52
2:B:158:SER:HA	2:B:161:LYS:HG2	1.91	0.52
3:D:485:THR:HG22	3:D:663:LEU:HD12	1.91	0.52
3:L:90:GLU:OE2	3:L:110:ARG:NH1	2.42	0.52
3:K:379:PRO:HG3	3:K:400:LEU:HD13	1.91	0.52
3:N:222:ASP:OD1	3:N:223:GLN:N	2.42	0.52
3:N:232:GLU:O	3:N:236:ASN:HB2	2.09	0.52
3:N:553:LYS:HE2	3:N:557:TYR:CZ	2.44	0.52
1:Q:288:ASP:OD2	1:R:41:ARG:NH2	2.42	0.52
3:K:573:ALA:O	3:K:574:LYS:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:175:SER:O	3:N:676:HIS:N	2.43	0.52
1:R:153:ILE:HD13	1:R:284:ILE:HD11	1.92	0.52
2:B:81:ALA:O	2:B:85:VAL:HG12	2.10	0.52
3:D:234:PHE:O	3:D:436:TYR:OH	2.26	0.52
3:D:319:GLN:N	3:D:319:GLN:OE1	2.42	0.52
3:J:84:PRO:HA	3:J:87:ASP:HB2	1.91	0.52
3:J:145:ARG:NH1	3:J:161:ASP:OD1	2.37	0.52
3:L:174:GLN:HG3	3:L:674:HIS:HB3	1.92	0.52
3:N:176:ILE:N	3:N:462:GLY:O	2.40	0.52
3:A:83:PRO:HG2	3:A:86:TYR:HB2	1.92	0.52
3:D:510:ILE:HG12	3:D:765:LYS:HG2	1.92	0.52
2:F:198:LYS:O	2:F:202:ASN:ND2	2.43	0.52
3:J:120:SER:HB2	3:J:123:PHE:HB2	1.92	0.52
3:N:766:PHE:HA	3:N:771:VAL:HA	1.91	0.52
1:O:306:THR:O	1:O:337:ARG:NH1	2.42	0.52
1:Q:113:ASN:OD1	1:Q:179:ARG:NH1	2.31	0.52
1:Q:359:ILE:HG12	1:Q:376:CYS:HB3	1.90	0.52
2:C:182:ARG:NH1	2:B:179:SER:OG	2.39	0.52
2:C:182:ARG:HA	2:C:185:VAL:HG22	1.91	0.52
1:P:203:VAL:N	1:P:207:GLU:OE2	2.34	0.52
3:A:145:ARG:NH1	3:A:161:ASP:OD1	2.39	0.52
3:A:679:ARG:HD2	3:A:704:ASN:HB3	1.92	0.52
3:L:118:THR:HB	3:L:125:VAL:HG13	1.92	0.52
3:L:469:PHE:HB3	3:L:703:CYS:HA	1.92	0.52
3:K:717:PHE:O	3:K:720:ARG:NH1	2.33	0.52
3:K:731:LYS:HG3	3:K:735:ALA:HA	1.91	0.52
1:E:36:ILE:HD12	1:E:69:LEU:HD13	1.91	0.52
1:O:302:SER:O	1:O:306:THR:OG1	2.21	0.52
1:P:336:GLU:OE1	1:P:336:GLU:N	2.39	0.52
1:P:371:ILE:HD12	1:P:374:ARG:HH11	1.74	0.52
3:A:269:THR:HG21	3:A:440:PHE:CE2	2.44	0.52
3:A:612:LEU:HD23	3:A:615:LYS:HZ2	1.75	0.52
2:B:196:GLU:HA	2:B:199:ILE:HD12	1.92	0.52
2:G:93:GLN:O	2:G:97:GLU:HG2	2.10	0.52
3:L:711:ARG:O	3:L:714:ARG:HG2	2.10	0.52
3:K:21:SER:N	3:K:24:GLU:OE2	2.43	0.52
3:N:439:MET:HA	3:N:623:TYR:CE1	2.45	0.52
3:N:573:ALA:O	3:N:574:LYS:HG2	2.10	0.52
1:Q:8:THR:HG21	3:L:646:LYS:H	1.75	0.52
1:Q:229:MET:SD	1:Q:254:ASN:ND2	2.75	0.52
2:B:147:GLN:HA	2:B:150:GLU:HG3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:106:LEU:HD13	2:F:105:ARG:HE	1.75	0.52
3:J:322:ILE:HG13	3:J:323:THR:H	1.75	0.52
3:L:291:TYR:CE1	3:L:322:ILE:HG22	2.43	0.52
3:K:458:GLN:HG2	3:K:459:TYR:H	1.75	0.52
1:Q:157:SER:HB2	1:Q:162:THR:HG23	1.91	0.51
3:A:134:PRO:HB2	3:A:137:ASN:HD21	1.75	0.51
3:A:297:LYS:NZ	3:A:334:MET:HB2	2.17	0.51
3:N:120:SER:HB2	3:N:123:PHE:HB2	1.91	0.51
3:N:166:PHE:O	3:N:169:THR:OG1	2.23	0.51
3:A:438:LYS:HB3	3:A:623:TYR:HB3	1.91	0.51
3:D:664:ASN:O	3:D:668:THR:HG22	2.11	0.51
3:J:108:LYS:NZ	3:J:692:MET:SD	2.72	0.51
3:L:348:ASP:HA	3:L:351:VAL:HG12	1.92	0.51
3:K:765:LYS:O	3:K:772:PHE:N	2.30	0.51
1:P:352:SER:N	3:K:540:GLU:OE2	2.41	0.51
2:B:54:GLU:O	2:B:58:GLU:HG2	2.10	0.51
2:G:106:LEU:HD13	2:F:105:ARG:NE	2.24	0.51
2:F:107:ALA:HA	2:F:110:LEU:HD12	1.92	0.51
3:J:176:ILE:N	3:J:462:GLY:O	2.36	0.51
3:L:65:THR:HG22	3:L:69:ALA:H	1.76	0.51
3:N:17:TYR:CE2	3:N:135:VAL:HG12	2.45	0.51
2:C:147:GLN:NE2	2:B:144:GLN:HG3	2.25	0.51
1:P:216:GLU:HG2	4:P:401:ADP:C5	2.46	0.51
1:R:216:GLU:HG2	4:R:401:ADP:C5	2.44	0.51
3:A:192:ARG:HH11	3:A:195:GLN:HE22	1.57	0.51
3:D:145:ARG:HD2	3:D:146:GLY:H	1.76	0.51
3:D:241:ARG:HE	3:D:242:ASN:HB3	1.75	0.51
3:D:289:ILE:O	3:D:293:ILE:HG12	2.11	0.51
3:D:300:ASP:OD1	3:D:301:LEU:N	2.42	0.51
2:G:122:GLU:O	2:G:125:ARG:HD3	2.11	0.51
3:J:170:ASP:N	3:J:170:ASP:OD1	2.43	0.51
3:J:553:LYS:HE2	3:J:557:TYR:CZ	2.45	0.51
3:J:763:GLN:HA	3:J:774:LYS:HE2	1.92	0.51
3:L:184:ALA:HB1	3:L:682:ILE:HD11	1.91	0.51
3:L:273:GLU:OE1	3:L:276:ARG:HG2	2.10	0.51
3:L:292:GLN:O	3:L:333:LEU:HD11	2.11	0.51
3:L:618:MET:HB2	3:L:620:THR:HG23	1.92	0.51
3:L:678:VAL:O	3:L:679:ARG:NH1	2.43	0.51
3:K:91:ASP:OD1	3:K:92:MET:N	2.43	0.51
3:N:171:ARG:HG3	3:N:459:TYR:CE1	2.45	0.51
3:N:503:GLU:N	3:N:503:GLU:OE1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:707:LEU:HA	3:N:710:ILE:HG12	1.92	0.51
3:A:82:ASN:ND2	3:A:95:MET:SD	2.83	0.51
3:D:747:LYS:O	3:D:750:SER:OG	2.22	0.51
3:J:499:VAL:HG13	3:J:500:LEU:HD12	1.91	0.51
3:L:722:LEU:HG	3:L:770:LYS:HE2	1.92	0.51
3:K:20:LYS:HB3	3:K:24:GLU:HG3	1.91	0.51
3:K:33:PHE:CD1	3:K:84:PRO:HD3	2.45	0.51
3:K:171:ARG:HG3	3:K:459:TYR:CE1	2.46	0.51
3:N:51:ALA:HB1	3:N:63:ALA:HB1	1.92	0.51
3:N:237:ALA:O	3:N:245:SER:OG	2.29	0.51
2:B:68:GLN:HA	2:B:71:LEU:HD12	1.92	0.51
3:D:348:ASP:HA	3:D:351:VAL:HG12	1.92	0.51
2:G:144:GLN:HA	2:G:147:GLN:HG3	1.93	0.51
3:L:297:LYS:HZ1	3:L:334:MET:H	1.58	0.51
3:L:328:ASP:OD1	3:L:329:ASP:N	2.43	0.51
3:K:700:GLN:HA	3:K:703:CYS:SG	2.51	0.51
3:N:781:LEU:O	3:N:785:ARG:N	2.33	0.51
2:B:64:VAL:HG12	2:B:68:GLN:NE2	2.17	0.51
2:B:90:ARG:O	2:B:93:GLN:NE2	2.38	0.51
3:J:747:LYS:O	3:J:750:SER:OG	2.23	0.51
3:K:41:VAL:HG23	3:K:73:VAL:HG21	1.93	0.51
3:N:297:LYS:HZ1	3:N:334:MET:HB3	1.75	0.51
3:N:612:LEU:HD23	3:N:615:LYS:HZ3	1.75	0.51
2:C:176:LEU:HD13	2:B:176:LEU:HG	1.92	0.51
3:D:274:LYS:HG3	3:D:433:LYS:HB3	1.93	0.51
2:G:189:LYS:NZ	2:F:187:GLU:HA	2.26	0.51
3:J:191:LYS:HA	3:J:194:ILE:HG12	1.91	0.51
3:L:322:ILE:HG13	3:L:323:THR:H	1.76	0.51
3:N:90:GLU:HA	3:N:110:ARG:HH12	1.76	0.51
1:R:36:ILE:HD12	1:R:69:LEU:HD13	1.92	0.51
3:D:40:PHE:HB2	3:D:79:PHE:HB2	1.92	0.51
3:D:524:CYS:SG	3:D:585:HIS:ND1	2.83	0.51
3:L:74:LYS:HB2	3:L:77:GLN:HE22	1.75	0.51
3:L:186:LYS:HD3	3:L:189:ASN:HD22	1.75	0.51
3:K:80:PRO:HB2	3:K:97:HIS:HE2	1.76	0.51
3:K:722:LEU:HG	3:K:770:LYS:HE2	1.93	0.51
3:A:610:VAL:HG12	3:A:614:GLN:NE2	2.26	0.51
3:D:175:SER:N	3:D:674:HIS:O	2.44	0.51
3:D:238:LYS:O	3:D:284:GLU:HB2	2.11	0.51
2:G:95:VAL:HB	2:F:95:VAL:HG11	1.93	0.51
3:J:336:THR:O	3:J:340:ILE:HG13	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:439:MET:HA	3:J:623:TYR:CE1	2.46	0.51
3:J:483:ASN:O	3:J:487:GLU:HG2	2.11	0.51
3:K:96:THR:HB	3:K:778:LEU:HB2	1.93	0.51
3:K:147:LYS:NZ	3:K:158:SER:HB2	2.26	0.51
3:N:104:LEU:HD11	3:N:694:HIS:CD2	2.46	0.51
1:E:275:GLY:O	1:E:279:THR:HG23	2.11	0.50
1:E:352:SER:H	3:A:540:GLU:CD	2.15	0.50
3:A:272:LEU:HD23	3:A:437:GLU:HG2	1.92	0.50
3:D:584:VAL:HA	3:D:589:THR:HA	1.92	0.50
2:F:64:VAL:HG12	2:F:68:GLN:NE2	2.21	0.50
2:F:101:ARG:HA	2:F:104:GLU:HG3	1.93	0.50
3:K:105:TYR:HA	3:K:108:LYS:HB3	1.91	0.50
3:N:31:LYS:HE2	3:N:32:PRO:HD2	1.93	0.50
3:N:192:ARG:HH11	3:N:195:GLN:HE22	1.58	0.50
3:N:197:PHE:HA	3:N:200:ILE:HG22	1.94	0.50
3:N:285:ARG:HB2	3:N:291:TYR:CZ	2.46	0.50
1:P:123:GLN:O	1:P:127:GLU:HG2	2.11	0.50
3:A:300:ASP:OD1	3:A:301:LEU:N	2.44	0.50
2:G:91:ARG:O	2:G:95:VAL:HG22	2.11	0.50
2:G:126:GLY:O	2:G:130:ILE:HG23	2.11	0.50
3:J:278:THR:O	3:J:319:GLN:NE2	2.45	0.50
3:L:701:LEU:HG	3:L:707:LEU:HD22	1.93	0.50
3:L:719:SER:HB2	3:L:773:PHE:HB2	1.92	0.50
3:K:177:LEU:N	3:K:676:HIS:O	2.39	0.50
3:N:11:PHE:HE2	3:N:14:ALA:HB3	1.76	0.50
1:E:359:ILE:HG12	1:E:376:CYS:HB3	1.93	0.50
3:A:101:PRO:HA	3:A:104:LEU:HB3	1.92	0.50
2:G:49:LYS:HG2	2:F:50:LEU:HD11	1.92	0.50
3:J:171:ARG:HG3	3:J:459:TYR:CE1	2.45	0.50
3:K:108:LYS:HZ3	3:K:692:MET:HB2	1.76	0.50
3:K:297:LYS:HZ1	3:K:334:MET:H	1.58	0.50
3:K:761:HIS:HA	3:K:764:TYR:CE1	2.47	0.50
3:N:721:ILE:HD11	3:N:773:PHE:HE2	1.76	0.50
1:E:153:ILE:HD13	1:E:284:ILE:HD11	1.93	0.50
2:C:145:GLU:HB3	2:C:149:LYS:HZ1	1.75	0.50
1:P:7:THR:HA	3:K:646:LYS:HE3	1.93	0.50
1:R:234:SER:OG	1:R:235:SER:N	2.45	0.50
3:A:178:ILE:HG22	3:A:678:VAL:HB	1.94	0.50
3:A:348:ASP:HA	3:A:351:VAL:HG12	1.94	0.50
2:B:47:GLN:O	2:B:51:LYS:HG2	2.12	0.50
2:B:64:VAL:O	2:B:68:GLN:NE2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:124:GLU:HG3	2:B:128:LYS:NZ	2.26	0.50
3:L:438:LYS:HD3	3:L:623:TYR:HB3	1.91	0.50
3:L:516:ASP:OD1	3:L:518:GLY:N	2.44	0.50
3:N:733:LEU:HG	3:N:757:ILE:HG23	1.92	0.50
1:O:115:LYS:HG3	1:R:197:GLU:HB2	1.92	0.50
1:Q:306:THR:O	1:Q:337:ARG:NH1	2.44	0.50
2:C:124:GLU:HA	2:C:127:MET:HG2	1.93	0.50
2:C:144:GLN:HG2	2:B:141:MET:HG2	1.94	0.50
3:A:439:MET:HA	3:A:623:TYR:CE1	2.46	0.50
3:D:343:LEU:HG	3:D:447:ILE:HD12	1.93	0.50
3:D:765:LYS:O	3:D:772:PHE:N	2.38	0.50
3:J:197:PHE:HA	3:J:200:ILE:HG22	1.92	0.50
3:N:175:SER:N	3:N:674:HIS:O	2.45	0.50
3:N:319:GLN:OE1	3:N:319:GLN:N	2.44	0.50
1:H:10:LEU:HD13	1:H:103:HIS:HB3	1.93	0.50
1:O:290:ASP:OD2	1:P:64:ARG:NE	2.44	0.50
3:A:577:VAL:HG13	3:A:578:GLU:H	1.77	0.50
2:G:60:TYR:O	2:G:64:VAL:HG23	2.11	0.50
3:L:251:PHE:O	3:L:268:GLU:N	2.44	0.50
3:N:60:LYS:HG3	3:N:72:THR:HG23	1.94	0.50
2:B:45:ALA:HB3	2:B:47:GLN:HE22	1.77	0.50
2:B:124:GLU:O	2:B:128:LYS:HG3	2.12	0.50
2:G:179:SER:O	2:G:182:ARG:HD3	2.12	0.50
2:F:166:ALA:HA	2:F:169:LEU:HD12	1.94	0.50
3:J:527:LEU:HD21	3:J:567:PHE:HB2	1.93	0.50
3:K:174:GLN:O	3:K:462:GLY:N	2.45	0.50
3:K:176:ILE:N	3:K:462:GLY:O	2.40	0.50
3:K:270:TYR:CG	3:K:666:LEU:HD11	2.47	0.50
3:N:164:TYR:O	3:N:167:MET:HG2	2.11	0.50
3:A:90:GLU:OE2	3:A:110:ARG:NH1	2.45	0.50
3:D:169:THR:O	3:D:171:ARG:NH1	2.45	0.50
3:D:297:LYS:HZ1	3:D:334:MET:H	1.59	0.50
3:D:516:ASP:OD1	3:D:517:PHE:N	2.44	0.50
2:G:50:LEU:HD22	2:F:50:LEU:HD13	1.92	0.50
2:G:73:GLN:HA	2:G:76:LYS:HE2	1.94	0.50
3:J:261:LYS:HB3	3:J:455:GLN:HE22	1.77	0.50
3:L:439:MET:HA	3:L:623:TYR:CE1	2.47	0.50
3:L:612:LEU:HD23	3:L:615:LYS:HZ2	1.76	0.50
3:N:238:LYS:O	3:N:284:GLU:HB2	2.12	0.50
1:O:61:GLN:NE2	1:O:64:ARG:HD3	2.27	0.50
1:O:153:ILE:HD13	1:O:284:ILE:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:188:VAL:HG13	3:A:191:LYS:HE3	1.93	0.50
3:A:710:ILE:O	3:A:714:ARG:HB3	2.12	0.50
3:D:722:LEU:HD23	3:D:770:LYS:HG2	1.93	0.50
3:D:723:TYR:HA	3:D:726:PHE:HB3	1.94	0.50
3:J:233:ALA:HB2	3:J:336:THR:HG21	1.94	0.50
3:N:271:LEU:HA	3:N:662:ASN:HD21	1.77	0.50
1:Q:8:THR:H	3:L:646:LYS:HZ3	1.58	0.49
3:A:140:VAL:HA	3:A:143:ALA:HB3	1.94	0.49
3:D:778:LEU:HA	3:D:781:LEU:HD12	1.93	0.49
3:J:79:PHE:HD2	3:J:99:HIS:HB3	1.76	0.49
3:J:147:LYS:NZ	3:J:158:SER:HB2	2.26	0.49
3:J:667:MET:HB3	3:J:671:ARG:HH12	1.77	0.49
3:J:701:LEU:HD11	3:J:707:LEU:HB3	1.94	0.49
3:K:293:ILE:HD12	3:K:301:LEU:HD13	1.94	0.49
3:N:234:PHE:O	3:N:436:TYR:OH	2.29	0.49
3:N:234:PHE:CE2	3:N:443:MET:HG3	2.47	0.49
3:N:266:ASP:HB3	3:N:448:ASN:HD21	1.77	0.49
3:N:468:GLY:N	3:N:470:GLU:OE2	2.44	0.49
1:O:10:LEU:HB2	1:O:105:THR:HG22	1.94	0.49
3:D:148:LYS:HE3	3:D:151:GLU:HB3	1.93	0.49
2:F:196:GLU:O	2:F:200:VAL:HG23	2.12	0.49
3:J:507:LYS:HD2	3:J:508:GLU:HG2	1.94	0.49
3:L:254:ILE:HB	3:L:461:ILE:HG22	1.94	0.49
3:L:443:MET:O	3:L:447:ILE:HG12	2.12	0.49
3:L:573:ALA:O	3:L:574:LYS:HG2	2.11	0.49
3:K:88:LYS:O	3:K:110:ARG:NH1	2.39	0.49
3:N:170:ASP:N	3:N:170:ASP:OD1	2.45	0.49
3:N:251:PHE:O	3:N:268:GLU:N	2.38	0.49
3:N:264:SER:HB3	3:N:457:ARG:HE	1.76	0.49
3:N:610:VAL:HG12	3:N:614:GLN:HE21	1.77	0.49
1:H:8:THR:OG1	3:D:646:LYS:NZ	2.27	0.49
2:C:136:LYS:HB3	2:C:140:LYS:HE2	1.93	0.49
1:P:308:TYR:CE1	4:P:401:ADP:H2	2.30	0.49
3:A:343:LEU:HD13	3:A:447:ILE:HD12	1.92	0.49
3:D:322:ILE:HG13	3:D:323:THR:H	1.77	0.49
2:F:96:GLU:O	2:F:99:LEU:HG	2.11	0.49
2:F:159:ASP:O	2:F:163:GLU:HG2	2.12	0.49
3:L:610:VAL:HG13	3:L:624:LEU:HD23	1.94	0.49
3:L:648:LYS:HB3	3:L:652:PHE:HB2	1.94	0.49
2:C:108:THR:HA	2:C:111:GLN:HE21	1.78	0.49
1:P:234:SER:OG	1:P:235:SER:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:217:LYS:HD2	1:R:242:TYR:HE1	1.77	0.49
3:D:179:THR:OG1	3:D:704:ASN:ND2	2.44	0.49
3:D:269:THR:HG21	3:D:440:PHE:HE2	1.77	0.49
3:D:711:ARG:HA	3:D:714:ARG:HB3	1.94	0.49
2:G:165:VAL:HG12	2:G:168:LYS:HE2	1.95	0.49
3:L:289:ILE:O	3:L:293:ILE:HG12	2.12	0.49
3:K:8:MET:O	3:K:19:ARG:NH2	2.39	0.49
3:K:290:PHE:O	3:K:294:MET:HG2	2.12	0.49
3:N:82:ASN:HD21	3:N:102:ALA:HB1	1.76	0.49
3:N:173:ASN:OD1	3:N:460:PHE:N	2.35	0.49
3:A:164:TYR:O	3:A:167:MET:HG2	2.12	0.49
2:G:56:GLU:HA	2:G:59:LYS:HE3	1.94	0.49
2:G:157:ASP:O	2:G:160:ARG:HD3	2.12	0.49
2:F:82:GLU:HA	2:F:85:VAL:HG12	1.95	0.49
2:F:181:GLU:O	2:F:185:VAL:HG23	2.12	0.49
3:J:516:ASP:HB3	3:J:519:MET:HG2	1.95	0.49
3:K:99:HIS:HB3	3:K:101:PRO:HD2	1.93	0.49
3:N:616:SER:OG	3:N:617:SER:N	2.44	0.49
3:N:718:PRO:HD2	3:N:774:LYS:HA	1.93	0.49
3:N:720:ARG:HG3	3:N:772:PHE:CD1	2.47	0.49
1:H:203:VAL:N	1:H:207:GLU:OE2	2.27	0.49
3:A:15:ALA:O	3:A:19:ARG:N	2.42	0.49
3:A:290:PHE:O	3:A:294:MET:HG2	2.13	0.49
3:D:224:ILE:H	3:D:224:ILE:HD12	1.78	0.49
2:G:160:ARG:HH12	2:G:161:LYS:HD3	1.78	0.49
3:J:175:SER:O	3:J:676:HIS:N	2.45	0.49
3:L:251:PHE:HB2	3:L:464:LEU:HD12	1.94	0.49
3:L:566:ASN:HA	3:L:584:VAL:HG22	1.94	0.49
3:L:720:ARG:HG3	3:L:772:PHE:HD1	1.78	0.49
3:L:765:LYS:O	3:L:772:PHE:N	2.31	0.49
3:K:65:THR:HG23	3:K:67:GLY:H	1.77	0.49
3:A:118:THR:HB	3:A:125:VAL:HG13	1.95	0.49
3:D:720:ARG:HG3	3:D:772:PHE:CD1	2.48	0.49
2:G:171:ILE:O	2:G:175:GLU:HG2	2.11	0.49
3:J:314:TYR:O	3:J:318:SER:OG	2.30	0.49
3:J:340:ILE:HG21	3:J:350:ARG:HG2	1.94	0.49
3:J:365:ASN:HB2	3:J:384:VAL:HG21	1.95	0.49
3:N:33:PHE:HB2	3:N:84:PRO:HG3	1.94	0.49
3:N:403:LEU:HD22	3:N:609:VAL:HG11	1.93	0.49
1:O:148:GLY:C	3:J:545:PRO:HB3	2.33	0.49
2:C:132:ASN:O	2:C:136:LYS:HG3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:144:GLN:HB3	2:B:144:GLN:CD	2.33	0.49
2:C:177:GLU:HG3	2:C:178:ARG:H	1.77	0.49
2:B:168:LYS:O	2:B:172:LEU:HG	2.13	0.49
3:J:524:CYS:SG	3:J:585:HIS:ND1	2.86	0.49
3:L:147:LYS:NZ	3:L:158:SER:HB2	2.28	0.49
3:L:599:ASP:N	3:L:599:ASP:OD1	2.36	0.49
3:L:717:PHE:HB3	3:L:772:PHE:HB3	1.94	0.49
3:K:297:LYS:HZ1	3:K:334:MET:CB	2.25	0.49
3:K:536:SER:O	3:K:540:GLU:HG2	2.13	0.49
3:A:584:VAL:HA	3:A:589:THR:HA	1.95	0.49
3:D:90:GLU:OE2	3:D:110:ARG:NH1	2.45	0.49
3:D:761:HIS:HA	3:D:764:TYR:CE1	2.46	0.49
2:F:47:GLN:H	2:F:47:GLN:CD	2.15	0.49
3:L:527:LEU:HD21	3:L:567:PHE:HB2	1.93	0.49
3:J:164:TYR:HB2	3:J:197:PHE:HE1	1.78	0.49
3:N:61:VAL:HG22	3:N:73:VAL:H	1.77	0.49
3:N:104:LEU:HD21	3:N:694:HIS:CD2	2.48	0.49
2:C:165:VAL:HG21	2:B:162:TYR:HD1	1.78	0.48
3:A:54:GLN:HG2	3:A:62:THR:HG22	1.95	0.48
3:A:722:LEU:HG	3:A:770:LYS:HE2	1.94	0.48
3:D:165:GLN:HA	3:D:168:LEU:HD12	1.95	0.48
3:D:241:ARG:HH21	3:D:242:ASN:ND2	2.11	0.48
2:F:45:ALA:HB3	2:F:47:GLN:HE22	1.77	0.48
2:F:47:GLN:O	2:F:51:LYS:HG2	2.12	0.48
2:F:163:GLU:HB3	2:F:167:ARG:HH12	1.78	0.48
3:J:161:ASP:HB2	3:J:196:TYR:OH	2.12	0.48
3:K:255:HIS:N	3:K:264:SER:OG	2.26	0.48
3:N:37:SER:HA	3:N:53:VAL:HG12	1.95	0.48
1:H:232:ALA:HB2	1:H:238:LEU:HD12	1.95	0.48
3:A:402:ALA:HB1	3:A:608:THR:OG1	2.13	0.48
3:A:490:GLN:HE21	3:A:494:ASN:HB2	1.77	0.48
3:A:669:ASN:OD1	3:A:670:LEU:N	2.45	0.48
3:D:365:ASN:HB2	3:D:384:VAL:HG21	1.93	0.48
3:J:119:TYR:HB3	3:J:149:ARG:HH22	1.77	0.48
3:J:610:VAL:HG12	3:J:614:GLN:NE2	2.27	0.48
3:J:732:VAL:HG23	3:J:733:LEU:HD22	1.96	0.48
3:K:237:ALA:O	3:K:245:SER:OG	2.27	0.48
3:K:488:LYS:HG3	3:K:663:LEU:HD21	1.95	0.48
3:N:664:ASN:O	3:N:668:THR:HG22	2.13	0.48
3:A:685:GLU:H	3:A:685:GLU:CD	2.17	0.48
3:D:469:PHE:HA	3:D:486:ASN:HD21	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:197:LEU:HD22	2:F:193:LEU:HD11	1.95	0.48
3:J:75:ASP:N	3:J:75:ASP:OD1	2.45	0.48
3:N:443:MET:O	3:N:447:ILE:HG12	2.14	0.48
3:N:593:ASN:O	3:N:597:TRP:NE1	2.47	0.48
1:H:234:SER:OG	1:H:235:SER:N	2.47	0.48
3:A:181:GLU:N	3:A:181:GLU:OE1	2.45	0.48
2:G:176:LEU:HD22	2:F:172:LEU:HB3	1.95	0.48
3:J:319:GLN:OE1	3:J:319:GLN:N	2.45	0.48
3:L:773:PHE:CD1	3:L:777:LEU:HD11	2.48	0.48
3:K:40:PHE:HB2	3:K:79:PHE:HB2	1.95	0.48
3:N:145:ARG:HD2	3:N:146:GLY:H	1.78	0.48
1:Q:234:SER:OG	1:Q:235:SER:N	2.45	0.48
1:Q:275:GLY:O	1:Q:279:THR:HG23	2.13	0.48
1:P:108:THR:OG1	1:P:139:GLN:NE2	2.42	0.48
3:A:359:ALA:HB2	3:A:392:GLN:HE22	1.78	0.48
3:D:237:ALA:O	3:D:245:SER:OG	2.31	0.48
3:D:539:GLU:OE1	3:D:660:ARG:NH1	2.46	0.48
3:D:612:LEU:HD23	3:D:615:LYS:HZ3	1.79	0.48
2:G:75:GLU:HG2	3:N:373:ARG:HH21	1.77	0.48
2:F:54:GLU:O	2:F:58:GLU:HG2	2.13	0.48
3:J:164:TYR:O	3:J:167:MET:HG2	2.13	0.48
3:J:175:SER:N	3:J:674:HIS:O	2.45	0.48
3:N:363:TYR:OH	3:N:613:TYR:OH	2.23	0.48
2:C:165:VAL:HG12	2:C:168:LYS:HE2	1.95	0.48
1:R:308:TYR:CE1	4:R:401:ADP:H2	2.31	0.48
3:D:56:ARG:HH12	3:D:78:VAL:HG21	1.78	0.48
3:D:512:TRP:HE3	3:D:513:GLU:HG3	1.78	0.48
3:D:610:VAL:HG12	3:D:614:GLN:NE2	2.25	0.48
2:F:150:GLU:O	2:F:154:ILE:HG12	2.13	0.48
3:J:490:GLN:HE21	3:J:494:ASN:HB2	1.78	0.48
3:L:26:ILE:HG23	3:L:30:ASN:ND2	2.29	0.48
3:L:165:GLN:HA	3:L:168:LEU:HD12	1.95	0.48
3:K:314:TYR:HD1	3:K:365:ASN:HD21	1.61	0.48
3:N:765:LYS:O	3:N:772:PHE:N	2.32	0.48
2:C:159:ASP:O	2:C:163:GLU:HG3	2.14	0.48
3:A:291:TYR:HE1	3:A:322:ILE:HG22	1.79	0.48
3:A:469:PHE:HB3	3:A:703:CYS:HA	1.94	0.48
3:A:717:PHE:CD1	3:A:774:LYS:HD3	2.48	0.48
3:D:297:LYS:NZ	3:D:334:MET:HB2	2.19	0.48
2:F:60:TYR:O	2:F:63:SER:OG	2.26	0.48
3:J:293:ILE:HD11	3:J:301:LEU:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:279:PHE:HA	3:L:319:GLN:HE21	1.78	0.48
3:L:314:TYR:O	3:L:318:SER:OG	2.31	0.48
3:L:503:GLU:HA	3:L:506:LYS:HE3	1.95	0.48
3:K:92:MET:HG3	3:K:95:MET:SD	2.54	0.48
3:N:701:LEU:HG	3:N:707:LEU:HD22	1.95	0.48
2:C:47:GLN:HG3	2:B:46:LEU:HD11	1.96	0.48
2:C:171:ILE:O	2:C:175:GLU:HG2	2.13	0.48
1:P:192:MET:HG3	1:P:211:VAL:HG11	1.96	0.48
2:B:159:ASP:O	2:B:163:GLU:HG2	2.14	0.48
2:G:60:TYR:CE2	2:F:57:VAL:HG13	2.49	0.48
3:L:233:ALA:HB2	3:L:336:THR:HG21	1.95	0.48
3:L:248:PHE:HB3	3:L:272:LEU:HD13	1.96	0.48
3:K:603:ASP:OD1	3:K:603:ASP:N	2.46	0.48
3:N:179:THR:OG1	3:N:704:ASN:ND2	2.46	0.48
1:E:8:THR:HG23	3:A:646:LYS:HD3	1.95	0.48
1:O:288:ASP:OD2	1:P:41:ARG:NH2	2.46	0.48
2:C:163:GLU:O	2:C:167:ARG:HG3	2.14	0.48
3:A:747:LYS:O	3:A:750:SER:OG	2.23	0.48
3:D:65:THR:HG23	3:D:67:GLY:H	1.78	0.48
3:D:685:GLU:CD	3:D:685:GLU:H	2.16	0.48
3:J:54:GLN:HE22	3:J:57:GLU:HB2	1.78	0.48
3:J:178:ILE:HD12	3:J:186:LYS:HD2	1.95	0.48
3:J:254:ILE:HB	3:J:461:ILE:HG22	1.96	0.48
3:L:176:ILE:N	3:L:462:GLY:O	2.33	0.48
3:L:241:ARG:NH1	3:L:470:GLU:OE1	2.46	0.48
3:L:490:GLN:HE21	3:L:494:ASN:HB2	1.79	0.48
3:K:720:ARG:HG3	3:K:772:PHE:CD1	2.49	0.48
3:N:565:ASN:OD1	3:N:566:ASN:N	2.45	0.48
3:A:22:GLU:HA	3:A:25:ARG:HD2	1.95	0.48
3:A:516:ASP:OD1	3:A:517:PHE:N	2.47	0.48
3:A:708:GLU:O	3:A:711:ARG:HG3	2.13	0.48
3:D:525:ILE:O	3:D:529:GLU:HG3	2.14	0.48
3:D:667:MET:O	3:D:671:ARG:NH1	2.39	0.48
2:G:92:ILE:HD11	2:F:88:LEU:HB3	1.95	0.48
2:G:157:ASP:O	2:G:160:ARG:NH1	2.47	0.48
3:L:582:SER:HA	3:L:591:ASP:HA	1.96	0.48
3:K:643:LYS:HG3	3:K:645:ALA:H	1.79	0.48
1:Q:178:MET:HG3	1:Q:283:SER:HB2	1.96	0.47
3:A:33:PHE:CG	3:A:84:PRO:HD3	2.49	0.47
3:D:92:MET:SD	3:D:103:VAL:HG13	2.54	0.47
3:J:99:HIS:HB3	3:J:101:PRO:HD2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:180:GLY:HA3	3:J:186:LYS:HB2	1.96	0.47
3:J:443:MET:O	3:J:447:ILE:HG12	2.14	0.47
3:L:591:ASP:OD1	3:L:591:ASP:N	2.46	0.47
3:K:222:ASP:OD1	3:K:223:GLN:N	2.47	0.47
3:N:99:HIS:HB3	3:N:101:PRO:HD2	1.96	0.47
3:N:526:GLU:HA	3:N:530:LYS:HG2	1.96	0.47
3:N:548:THR:HG23	3:N:551:SER:H	1.79	0.47
3:N:727:LYS:HE3	3:N:749:ALA:HB3	1.95	0.47
1:E:234:SER:OG	1:E:235:SER:N	2.47	0.47
1:H:302:SER:O	1:H:306:THR:OG1	2.29	0.47
1:P:217:LYS:HD2	1:P:242:TYR:HE1	1.79	0.47
3:A:667:MET:HB3	3:A:671:ARG:HH12	1.79	0.47
2:B:175:GLU:HA	2:B:178:ARG:CD	2.44	0.47
3:J:297:LYS:HZ1	3:J:334:MET:CB	2.26	0.47
3:L:25:ARG:O	3:L:29:GLN:HB2	2.14	0.47
3:L:45:LYS:HD2	3:L:46:GLU:HG2	1.95	0.47
3:L:118:THR:HG22	3:L:119:TYR:H	1.79	0.47
3:L:308:THR:HG22	3:L:314:TYR:CE2	2.49	0.47
3:K:674:HIS:CD2	3:K:675:PRO:HD2	2.47	0.47
1:E:216:GLU:HG2	4:E:401:ADP:C5	2.49	0.47
2:C:164:GLU:O	2:C:168:LYS:HG3	2.13	0.47
3:A:117:TYR:HB3	3:A:155:HIS:HA	1.95	0.47
3:D:96:THR:OG1	3:D:775:ALA:O	2.22	0.47
3:D:281:LEU:HD23	3:D:281:LEU:H	1.79	0.47
3:D:708:GLU:O	3:D:711:ARG:HG3	2.14	0.47
2:F:98:GLU:O	2:F:101:ARG:HD3	2.14	0.47
3:L:33:PHE:CG	3:L:84:PRO:HD3	2.50	0.47
3:K:85:LYS:HG3	3:K:86:TYR:HD1	1.80	0.47
3:K:192:ARG:HH11	3:K:195:GLN:NE2	2.12	0.47
3:N:147:LYS:NZ	3:N:158:SER:HB2	2.29	0.47
1:E:308:TYR:CE1	4:E:401:ADP:H2	2.32	0.47
3:A:175:SER:N	3:A:674:HIS:O	2.46	0.47
3:L:16:PRO:O	3:L:20:LYS:NZ	2.36	0.47
3:L:730:TYR:HD2	3:L:757:ILE:HD12	1.79	0.47
3:K:79:PHE:HD2	3:K:99:HIS:HB3	1.78	0.47
1:H:19:VAL:HG23	1:H:35:SER:HB3	1.95	0.47
1:H:113:ASN:OD1	1:H:179:ARG:NH1	2.32	0.47
1:O:234:SER:OG	1:O:235:SER:N	2.46	0.47
2:C:147:GLN:HA	2:C:150:GLU:HG3	1.95	0.47
2:C:195:GLU:O	2:C:199:ILE:HG13	2.15	0.47
3:A:16:PRO:O	3:A:20:LYS:NZ	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:165:GLN:HA	3:A:168:LEU:HD12	1.95	0.47
3:A:171:ARG:HG3	3:A:459:TYR:CE1	2.50	0.47
3:A:273:GLU:OE1	3:A:276:ARG:HG2	2.14	0.47
3:A:493:PHE:HB2	3:A:677:PHE:CZ	2.48	0.47
2:B:98:GLU:O	2:B:101:ARG:HD3	2.15	0.47
2:B:100:ASP:O	2:B:103:GLN:NE2	2.47	0.47
3:D:8:MET:O	3:D:19:ARG:NH2	2.47	0.47
3:D:43:ASP:OD2	3:D:49:VAL:N	2.47	0.47
3:D:573:ALA:O	3:D:574:LYS:HG2	2.14	0.47
2:G:138:GLU:O	2:G:141:MET:HG2	2.14	0.47
3:J:166:PHE:O	3:J:169:THR:OG1	2.23	0.47
3:L:508:GLU:HB3	3:L:772:PHE:HZ	1.79	0.47
3:L:667:MET:HB3	3:L:671:ARG:HH12	1.77	0.47
1:E:375:LYS:HD2	1:E:375:LYS:HA	1.65	0.47
3:J:235:GLY:C	3:J:236:ASN:HD22	2.17	0.47
3:K:52:THR:N	3:K:64:LYS:O	2.48	0.47
3:K:763:GLN:HA	3:K:774:LYS:HE2	1.97	0.47
3:N:502:GLN:NE2	3:N:512:TRP:O	2.36	0.47
1:E:10:LEU:HB2	1:E:105:THR:HG22	1.97	0.47
2:C:122:GLU:O	2:C:125:ARG:HD3	2.13	0.47
2:C:151:ALA:HB2	2:B:148:LEU:HD13	1.96	0.47
3:D:86:TYR:CD2	3:D:95:MET:HA	2.50	0.47
3:D:88:LYS:HD2	3:D:110:ARG:HG2	1.96	0.47
3:D:582:SER:HA	3:D:591:ASP:HA	1.97	0.47
2:F:53:THR:HA	2:F:56:GLU:HG2	1.96	0.47
3:J:165:GLN:O	3:J:169:THR:HG23	2.13	0.47
3:J:297:LYS:HD3	3:J:330:GLN:HB3	1.96	0.47
3:L:33:PHE:HZ	3:L:81:MET:HB3	1.80	0.47
3:L:284:GLU:O	3:L:320:GLY:HA3	2.14	0.47
3:L:732:VAL:HG23	3:L:733:LEU:HD22	1.97	0.47
3:K:55:SER:OG	3:K:56:ARG:N	2.48	0.47
3:K:697:VAL:O	3:K:701:LEU:N	2.44	0.47
3:N:498:PHE:HB2	3:N:517:PHE:CG	2.49	0.47
3:N:614:GLN:HG2	3:N:624:LEU:O	2.14	0.47
3:N:747:LYS:O	3:N:750:SER:OG	2.25	0.47
2:C:157:ASP:O	2:C:160:ARG:HD3	2.14	0.47
2:C:201:THR:O	2:C:205:LYS:HD3	2.15	0.47
3:A:251:PHE:O	3:A:268:GLU:N	2.46	0.47
3:D:54:GLN:NE2	3:D:57:GLU:HB2	2.29	0.47
3:D:65:THR:HG22	3:D:69:ALA:H	1.79	0.47
3:D:619:LYS:HD3	3:D:619:LYS:HA	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:169:LEU:HD13	2:F:169:LEU:HG	1.96	0.47
2:F:106:LEU:O	2:F:110:LEU:HG	2.15	0.47
2:F:138:GLU:O	2:F:142:GLU:HG3	2.14	0.47
3:J:251:PHE:HB2	3:J:464:LEU:HD12	1.96	0.47
3:L:232:GLU:O	3:L:236:ASN:HB2	2.14	0.47
3:L:319:GLN:N	3:L:319:GLN:OE1	2.48	0.47
3:L:343:LEU:HD13	3:L:447:ILE:HD12	1.95	0.47
3:L:442:TRP:HB3	3:L:623:TYR:CE1	2.48	0.47
3:N:51:ALA:HA	3:N:65:THR:HA	1.97	0.47
3:N:165:GLN:O	3:N:169:THR:HG23	2.15	0.47
3:N:778:LEU:O	3:N:782:GLU:N	2.33	0.47
1:E:10:LEU:HD13	1:E:103:HIS:HB3	1.97	0.47
1:O:275:GLY:O	1:O:279:THR:HG23	2.14	0.47
1:P:255:GLU:OE1	1:P:255:GLU:N	2.34	0.47
3:A:730:TYR:HD2	3:A:757:ILE:HD12	1.80	0.47
2:G:72:GLU:O	2:G:76:LYS:HG3	2.14	0.47
2:G:183:ALA:O	2:F:182:ARG:NH1	2.41	0.47
3:J:155:HIS:O	3:J:158:SER:OG	2.18	0.47
3:J:577:VAL:HG13	3:J:578:GLU:H	1.80	0.47
3:L:11:PHE:HZ	3:L:15:ALA:N	2.12	0.47
3:L:190:THR:O	3:L:194:ILE:HG23	2.15	0.47
3:K:348:ASP:HA	3:K:351:VAL:HG12	1.97	0.47
3:K:747:LYS:O	3:K:750:SER:OG	2.25	0.47
1:H:61:GLN:OE1	1:H:64:ARG:HD3	2.15	0.47
1:O:192:MET:HG2	1:O:211:VAL:HG21	1.95	0.47
2:C:102:ALA:HA	2:C:105:ARG:NE	2.29	0.47
2:C:196:GLU:HA	2:C:199:ILE:HD12	1.96	0.47
3:A:443:MET:O	3:A:447:ILE:HG12	2.15	0.47
2:F:195:GLU:O	2:F:199:ILE:HG13	2.15	0.47
3:N:34:ASP:OD2	3:N:37:SER:HB3	2.14	0.47
3:N:118:THR:HB	3:N:125:VAL:HG13	1.97	0.47
3:N:130:TYR:HB2	3:N:689:PRO:HD3	1.97	0.47
2:C:130:ILE:HG22	2:C:133:ARG:NH2	2.30	0.46
1:P:255:GLU:HA	1:P:258:ARG:HB2	1.97	0.46
3:A:162:ASN:HA	3:A:165:GLN:HE21	1.80	0.46
3:A:684:ASN:OD1	3:A:684:ASN:N	2.47	0.46
3:L:327:ILE:HG22	3:L:328:ASP:O	2.15	0.46
3:K:383:GLU:O	3:K:387:LYS:HG3	2.14	0.46
1:E:178:MET:HG3	1:E:283:SER:HB2	1.97	0.46
3:A:43:ASP:HB2	3:A:46:GLU:O	2.16	0.46
3:A:145:ARG:HD2	3:A:146:GLY:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:253:ARG:HG2	3:A:460:PHE:CD1	2.50	0.46
3:A:278:THR:OG1	3:A:433:LYS:HE2	2.14	0.46
3:A:285:ARG:HD2	3:A:291:TYR:CE2	2.50	0.46
2:G:88:LEU:HD22	2:F:89:ASN:HB3	1.98	0.46
2:G:162:TYR:HA	2:G:165:VAL:HG22	1.97	0.46
2:F:175:GLU:HA	2:F:178:ARG:CD	2.45	0.46
3:J:38:SER:O	3:J:38:SER:OG	2.33	0.46
3:J:98:LEU:O	3:J:714:ARG:NE	2.43	0.46
3:J:761:HIS:HA	3:J:764:TYR:CE1	2.50	0.46
3:L:162:ASN:HA	3:L:165:GLN:HE21	1.80	0.46
3:L:170:ASP:OD1	3:L:170:ASP:N	2.48	0.46
3:L:267:ILE:H	3:L:448:ASN:ND2	2.13	0.46
3:K:174:GLN:HG3	3:K:676:HIS:HE1	1.81	0.46
3:K:195:GLN:O	3:K:199:THR:HG23	2.15	0.46
3:K:577:VAL:HG22	3:K:578:GLU:HG2	1.98	0.46
3:N:525:ILE:O	3:N:529:GLU:HG3	2.15	0.46
3:N:701:LEU:HD11	3:N:707:LEU:HB3	1.98	0.46
1:E:173:LEU:HD12	1:E:287:CYS:SG	2.55	0.46
1:Q:307:MET:SD	1:Q:337:ARG:NH1	2.88	0.46
3:A:80:PRO:HB2	3:A:97:HIS:NE2	2.29	0.46
3:A:255:HIS:HA	3:A:460:PHE:HA	1.97	0.46
3:A:483:ASN:O	3:A:487:GLU:HG2	2.15	0.46
2:G:99:LEU:HD13	2:F:95:VAL:HG13	1.97	0.46
3:J:65:THR:HG23	3:J:67:GLY:H	1.80	0.46
3:L:65:THR:OG1	3:L:66:GLU:N	2.49	0.46
3:L:145:ARG:HD2	3:L:146:GLY:H	1.81	0.46
3:L:482:ILE:O	3:L:485:THR:OG1	2.27	0.46
3:N:254:ILE:HB	3:N:461:ILE:HG22	1.96	0.46
3:N:439:MET:O	3:N:443:MET:HG2	2.15	0.46
3:N:482:ILE:O	3:N:485:THR:OG1	2.27	0.46
1:E:155:LEU:HD11	1:E:276:ILE:HG23	1.97	0.46
1:O:308:TYR:CE1	4:O:401:ADP:H2	2.34	0.46
2:C:142:GLU:O	2:C:146:MET:HG2	2.14	0.46
1:P:353:THR:O	1:P:356:GLN:NE2	2.48	0.46
1:R:7:THR:HA	3:N:646:LYS:HE3	1.96	0.46
3:A:169:THR:O	3:A:171:ARG:NH1	2.47	0.46
3:D:297:LYS:NZ	3:D:334:MET:H	2.13	0.46
3:D:548:THR:HG23	3:D:551:SER:H	1.80	0.46
3:L:723:TYR:HA	3:L:726:PHE:HB3	1.97	0.46
3:L:726:PHE:HE2	3:L:727:LYS:HZ2	1.63	0.46
3:K:96:THR:OG1	3:K:779:GLY:N	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:175:SER:N	3:K:674:HIS:O	2.48	0.46
3:K:269:THR:HG21	3:K:440:PHE:HE1	1.81	0.46
3:N:255:HIS:HB3	3:N:457:ARG:HB2	1.96	0.46
3:N:610:VAL:O	3:N:614:GLN:HG3	2.15	0.46
1:H:216:GLU:HG2	4:H:401:ADP:C5	2.50	0.46
3:D:290:PHE:O	3:D:294:MET:HG2	2.15	0.46
2:G:60:TYR:HE2	2:F:57:VAL:HG13	1.81	0.46
3:J:111:TYR:HD2	3:J:692:MET:HE3	1.79	0.46
3:J:184:ALA:HA	3:J:682:ILE:HD11	1.97	0.46
3:K:701:LEU:HD11	3:K:707:LEU:HB3	1.98	0.46
3:N:383:GLU:O	3:N:387:LYS:HG3	2.16	0.46
2:C:167:ARG:O	2:C:170:VAL:HG12	2.15	0.46
3:D:105:TYR:HA	3:D:108:LYS:HB3	1.97	0.46
3:D:176:ILE:N	3:D:462:GLY:O	2.36	0.46
3:D:773:PHE:CD1	3:D:777:LEU:HD11	2.51	0.46
2:G:99:LEU:HB2	2:F:95:VAL:HG13	1.96	0.46
3:J:82:ASN:ND2	3:J:95:MET:SD	2.88	0.46
3:K:664:ASN:O	3:K:668:THR:HG22	2.15	0.46
2:C:53:THR:HG22	2:B:53:THR:HG22	1.98	0.46
1:P:149:ARG:NH1	1:P:332:ILE:HG13	2.31	0.46
3:A:438:LYS:HD3	3:A:623:TYR:HB3	1.98	0.46
3:D:119:TYR:CE1	3:D:154:PRO:HB3	2.51	0.46
3:J:232:GLU:O	3:J:236:ASN:HB2	2.15	0.46
3:L:114:TRP:HZ3	3:L:689:PRO:HB2	1.80	0.46
1:Q:145:TYR:CE2	1:Q:348:LEU:HD12	2.51	0.46
3:A:62:THR:HG23	3:A:64:LYS:NZ	2.30	0.46
3:A:293:ILE:O	3:A:302:ILE:HD11	2.16	0.46
3:D:618:MET:HB2	3:D:620:THR:HG23	1.97	0.46
2:F:124:GLU:HG3	2:F:128:LYS:NZ	2.31	0.46
3:J:20:LYS:O	3:J:25:ARG:NE	2.43	0.46
3:L:77:GLN:HA	3:L:79:PHE:HE1	1.80	0.46
3:K:170:ASP:N	3:K:170:ASP:OD1	2.48	0.46
3:K:521:LEU:HD21	3:K:586:TYR:HB3	1.97	0.46
3:N:174:GLN:O	3:N:462:GLY:N	2.49	0.46
3:N:334:MET:O	3:N:334:MET:HE3	2.15	0.46
1:O:10:LEU:HD13	1:O:103:HIS:HB3	1.97	0.46
1:Q:153:ILE:HD11	1:Q:280:THR:HG23	1.97	0.46
1:Q:314:ARG:NE	1:Q:318:GLU:OE2	2.32	0.46
1:P:157:SER:HB2	1:P:162:THR:HG23	1.97	0.46
3:A:11:PHE:HZ	3:A:15:ALA:N	2.14	0.46
3:A:118:THR:HG22	3:A:119:TYR:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:45:LYS:HD2	3:J:46:GLU:HG2	1.98	0.46
3:J:248:PHE:HB3	3:J:272:LEU:HD13	1.96	0.46
3:K:145:ARG:HH11	3:K:146:GLY:H	1.64	0.46
3:K:468:GLY:HA2	3:K:486:ASN:HD21	1.81	0.46
3:K:482:ILE:O	3:K:485:THR:OG1	2.25	0.46
3:N:234:PHE:HE2	3:N:443:MET:HG3	1.81	0.46
3:N:298:LYS:HG2	3:N:333:LEU:HD23	1.98	0.46
3:N:330:GLN:O	3:N:333:LEU:HB2	2.16	0.46
1:H:157:SER:HB2	1:H:162:THR:HG23	1.98	0.46
2:C:72:GLU:HA	2:C:75:GLU:HG3	1.97	0.46
1:R:302:SER:HA	1:R:337:ARG:HB2	1.98	0.46
3:A:104:LEU:HD11	3:A:694:HIS:CD2	2.51	0.46
3:A:526:GLU:HA	3:A:530:LYS:HG2	1.97	0.46
2:G:164:GLU:O	2:G:168:LYS:HG3	2.16	0.46
3:J:711:ARG:HA	3:J:714:ARG:HB3	1.98	0.46
3:L:402:ALA:HB1	3:L:608:THR:OG1	2.15	0.46
3:K:167:MET:HB3	3:K:174:GLN:NE2	2.31	0.46
3:K:238:LYS:O	3:K:284:GLU:HB2	2.16	0.46
3:N:311:PRO:HG2	3:N:322:ILE:HD12	1.97	0.46
1:H:308:TYR:CE1	4:H:401:ADP:H2	2.34	0.45
1:Q:149:ARG:NH1	1:Q:332:ILE:HG13	2.31	0.45
1:Q:243:GLU:OE2	1:Q:247:GLY:HA2	2.17	0.45
2:C:127:MET:O	2:C:130:ILE:HG12	2.17	0.45
3:A:732:VAL:HG23	3:A:733:LEU:HD22	1.98	0.45
2:G:99:LEU:HG	2:G:103:GLN:NE2	2.31	0.45
2:G:108:THR:HA	2:G:111:GLN:NE2	2.31	0.45
2:G:142:GLU:O	2:G:146:MET:HG2	2.16	0.45
2:G:163:GLU:O	2:G:167:ARG:HG3	2.17	0.45
3:J:438:LYS:HD3	3:J:623:TYR:HB3	1.96	0.45
3:L:238:LYS:O	3:L:284:GLU:HB2	2.16	0.45
3:L:584:VAL:HA	3:L:589:THR:HA	1.96	0.45
3:K:50:LYS:NZ	3:K:81:MET:SD	2.85	0.45
3:N:516:ASP:OD1	3:N:517:PHE:N	2.49	0.45
1:O:217:LYS:HD2	1:O:242:TYR:HE1	1.80	0.45
2:C:106:LEU:CD1	2:B:105:ARG:HE	2.30	0.45
2:C:179:SER:O	2:C:182:ARG:HD3	2.16	0.45
1:R:115:LYS:HB3	1:R:373:HIS:CE1	2.51	0.45
3:A:52:THR:HB	3:A:64:LYS:HB2	1.97	0.45
3:A:57:GLU:HB3	3:A:60:LYS:O	2.16	0.45
3:D:251:PHE:HD1	3:D:464:LEU:HB2	1.81	0.45
3:D:347:SER:HA	3:D:350:ARG:HD2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:717:PHE:HB3	3:D:772:PHE:HB3	1.99	0.45
2:G:179:SER:HA	2:G:182:ARG:NE	2.31	0.45
2:F:193:LEU:HA	2:F:196:GLU:OE1	2.17	0.45
3:J:108:LYS:HG3	3:J:692:MET:SD	2.56	0.45
3:L:614:GLN:HG2	3:L:624:LEU:O	2.16	0.45
3:K:179:THR:OG1	3:K:679:ARG:NE	2.45	0.45
3:K:420:THR:HG22	3:K:423:GLN:OE1	2.16	0.45
3:N:132:TRP:CD1	3:N:134:PRO:HD3	2.52	0.45
3:N:623:TYR:HB2	3:N:624:LEU:HD12	1.99	0.45
1:Q:203:VAL:N	1:Q:207:GLU:OE2	2.36	0.45
2:C:147:GLN:HE22	2:B:144:GLN:HG3	1.80	0.45
1:P:149:ARG:HH12	1:P:332:ILE:HG13	1.80	0.45
3:A:28:ALA:O	3:A:84:PRO:HB2	2.16	0.45
3:A:37:SER:HA	3:A:53:VAL:HG22	1.96	0.45
3:A:49:VAL:HA	3:A:105:TYR:OH	2.17	0.45
3:A:120:SER:O	3:A:123:PHE:N	2.48	0.45
2:B:53:THR:HA	2:B:56:GLU:HG2	1.97	0.45
3:D:285:ARG:HB2	3:D:291:TYR:OH	2.17	0.45
3:D:512:TRP:CE3	3:D:513:GLU:HG3	2.52	0.45
3:J:623:TYR:HB2	3:J:624:LEU:HD12	1.98	0.45
3:L:720:ARG:HG3	3:L:772:PHE:CD1	2.52	0.45
3:K:527:LEU:HD22	3:K:566:ASN:HB2	1.98	0.45
1:Q:276:ILE:HD13	1:Q:276:ILE:HA	1.83	0.45
2:B:162:TYR:HA	2:B:165:VAL:HG22	1.99	0.45
3:J:297:LYS:HB3	3:J:333:LEU:HD12	1.99	0.45
3:L:161:ASP:HB2	3:L:196:TYR:OH	2.16	0.45
3:L:553:LYS:HE2	3:L:557:TYR:CZ	2.52	0.45
3:K:164:TYR:HB2	3:K:197:PHE:HE1	1.82	0.45
3:K:258:THR:HG23	3:K:259:THR:HG23	1.99	0.45
3:K:266:ASP:HB3	3:K:448:ASN:HD21	1.82	0.45
1:E:35:SER:O	1:E:35:SER:OG	2.33	0.45
1:Q:307:MET:HA	1:Q:337:ARG:NH1	2.31	0.45
1:P:148:GLY:C	3:K:545:PRO:HB3	2.37	0.45
3:A:43:ASP:OD1	3:A:49:VAL:HG22	2.17	0.45
3:A:605:LEU:O	3:A:650:SER:HB2	2.17	0.45
2:B:209:ALA:O	2:B:210:GLN:HG3	2.17	0.45
3:D:99:HIS:H	3:D:102:ALA:HB3	1.81	0.45
3:D:667:MET:HB3	3:D:671:ARG:HH12	1.82	0.45
2:G:104:GLU:O	2:G:108:THR:HG23	2.17	0.45
3:J:548:THR:HG23	3:J:551:SER:H	1.81	0.45
3:J:593:ASN:O	3:J:597:TRP:NE1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:344:GLY:O	3:L:446:ARG:NH2	2.45	0.45
3:L:510:ILE:HG21	3:L:765:LYS:HG2	1.98	0.45
3:L:616:SER:OG	3:L:617:SER:N	2.48	0.45
3:K:225:ILE:HA	3:K:228:ASN:HB2	1.99	0.45
3:K:267:ILE:H	3:K:448:ASN:ND2	2.15	0.45
3:N:23:LYS:HE2	3:N:24:GLU:OE2	2.17	0.45
3:N:281:LEU:HD23	3:N:281:LEU:H	1.80	0.45
1:O:353:THR:O	1:O:356:GLN:NE2	2.49	0.45
3:A:247:ARG:HA	3:A:247:ARG:HD2	1.81	0.45
3:D:104:LEU:HD11	3:D:694:HIS:CD2	2.51	0.45
3:D:339:ALA:O	3:D:343:LEU:HD23	2.17	0.45
2:F:168:LYS:HA	2:F:171:ILE:HG12	1.99	0.45
3:L:49:VAL:HA	3:L:105:TYR:OH	2.17	0.45
3:L:297:LYS:NZ	3:L:334:MET:H	2.15	0.45
3:L:330:GLN:O	3:L:333:LEU:HB2	2.16	0.45
3:K:223:GLN:HB3	3:K:451:LEU:HG	1.99	0.45
3:N:420:THR:HG22	3:N:423:GLN:OE1	2.17	0.45
3:N:723:TYR:HA	3:N:726:PHE:HB3	1.97	0.45
1:E:171:TYR:CD2	1:O:66:ILE:HD12	2.51	0.45
2:C:124:GLU:O	2:C:127:MET:HG2	2.17	0.45
1:P:153:ILE:HG22	1:P:166:PRO:HB3	1.97	0.45
2:B:175:GLU:O	2:B:178:ARG:NH1	2.49	0.45
3:D:82:ASN:OD1	3:D:97:HIS:HB2	2.16	0.45
3:D:292:GLN:O	3:D:333:LEU:HD11	2.17	0.45
3:D:506:LYS:HG3	3:D:507:LYS:N	2.31	0.45
3:J:238:LYS:HE3	3:J:284:GLU:HA	1.99	0.45
3:L:300:ASP:OD1	3:L:301:LEU:N	2.49	0.45
3:L:664:ASN:O	3:L:668:THR:HG22	2.16	0.45
3:L:761:HIS:HA	3:L:764:TYR:HE1	1.82	0.45
3:K:54:GLN:HG2	3:K:55:SER:N	2.31	0.45
3:K:610:VAL:HG12	3:K:614:GLN:NE2	2.24	0.45
3:N:77:GLN:OE1	3:N:77:GLN:N	2.49	0.45
1:E:161:VAL:HG22	1:E:162:THR:H	1.81	0.45
1:H:168:TYR:HD2	1:Q:66:ILE:HD13	1.82	0.45
1:H:319:ILE:HG23	1:H:329:ILE:HG21	1.99	0.45
1:O:145:TYR:CE2	1:O:348:LEU:HD12	2.52	0.45
2:C:140:LYS:HB3	2:B:141:MET:SD	2.56	0.45
2:C:175:GLU:O	2:C:178:ARG:HD3	2.16	0.45
1:R:352:SER:N	3:N:540:GLU:OE1	2.25	0.45
3:A:176:ILE:N	3:A:462:GLY:O	2.24	0.45
3:A:754:LEU:HD12	3:A:755:GLY:N	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:582:SER:HB3	3:D:591:ASP:HB3	1.99	0.45
3:J:40:PHE:HB3	3:J:48:PHE:HD2	1.82	0.45
3:J:77:GLN:HA	3:J:79:PHE:HE1	1.82	0.45
3:J:344:GLY:O	3:J:446:ARG:NH2	2.42	0.45
3:J:722:LEU:HD23	3:J:770:LYS:HG2	1.98	0.45
3:J:747:LYS:HG3	3:J:766:PHE:HE2	1.82	0.45
3:L:501:GLU:HG2	3:L:505:TYR:CE2	2.52	0.45
3:K:98:LEU:HD23	3:K:98:LEU:HA	1.83	0.45
3:K:270:TYR:HB3	3:K:666:LEU:HD11	1.98	0.45
3:K:349:GLU:HG3	3:K:442:TRP:HH2	1.81	0.45
3:N:708:GLU:O	3:N:711:ARG:HG3	2.17	0.45
1:E:232:ALA:HB2	1:E:238:LEU:HD12	1.98	0.45
1:O:149:ARG:NH1	1:O:332:ILE:HG13	2.31	0.45
1:Q:148:GLY:C	3:L:545:PRO:HB3	2.38	0.45
2:C:134:ALA:O	2:C:138:GLU:HG2	2.16	0.45
2:C:165:VAL:HA	2:C:168:LYS:HE2	1.99	0.45
1:P:263:LEU:O	1:P:276:ILE:HG12	2.16	0.45
3:A:40:PHE:HB2	3:A:79:PHE:HB2	1.97	0.45
2:B:163:GLU:O	2:B:167:ARG:HG2	2.17	0.45
2:G:53:THR:HG21	2:F:50:LEU:HD12	1.98	0.45
3:J:402:ALA:HB1	3:J:608:THR:OG1	2.17	0.45
3:L:253:ARG:HG2	3:L:460:PHE:CD1	2.52	0.45
3:L:469:PHE:HA	3:L:486:ASN:HD21	1.82	0.45
3:L:707:LEU:HA	3:L:710:ILE:HG12	1.99	0.45
3:L:708:GLU:O	3:L:711:ARG:HG3	2.17	0.45
1:H:171:TYR:CD2	1:Q:66:ILE:HD12	2.52	0.45
1:R:148:GLY:C	3:N:545:PRO:HB3	2.38	0.45
3:A:192:ARG:O	3:A:195:GLN:HG2	2.17	0.45
3:A:525:ILE:O	3:A:529:GLU:HG3	2.17	0.45
3:D:247:ARG:HA	3:D:247:ARG:HD2	1.82	0.45
3:J:17:TYR:CD2	3:J:135:VAL:HG12	2.50	0.45
3:J:169:THR:O	3:J:171:ARG:NH1	2.50	0.45
3:J:698:LEU:O	3:J:701:LEU:HB3	2.17	0.45
3:K:43:ASP:HB2	3:K:46:GLU:O	2.16	0.45
3:K:625:PHE:HD2	3:K:626:SER:HG	1.64	0.45
3:N:728:GLN:HE22	3:N:729:ARG:HH21	1.65	0.45
1:R:61:GLN:O	1:R:64:ARG:HG3	2.17	0.44
3:A:102:ALA:O	3:A:106:ASN:HB2	2.16	0.44
3:A:285:ARG:HB3	3:A:321:GLU:O	2.17	0.44
3:A:322:ILE:HG13	3:A:323:THR:N	2.31	0.44
3:D:85:LYS:HG3	3:D:86:TYR:CD1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:101:ARG:HA	2:G:104:GLU:CD	2.37	0.44
3:K:593:ASN:O	3:K:597:TRP:NE1	2.49	0.44
3:N:490:GLN:HE21	3:N:494:ASN:HB2	1.82	0.44
1:Q:35:SER:O	1:Q:35:SER:OG	2.31	0.44
2:C:145:GLU:HB3	2:C:149:LYS:NZ	2.31	0.44
3:A:297:LYS:HZ1	3:A:334:MET:H	1.64	0.44
3:D:75:ASP:OD1	3:D:75:ASP:N	2.47	0.44
3:D:170:ASP:OD1	3:D:170:ASP:N	2.50	0.44
3:D:356:LEU:HD11	3:D:620:THR:HG22	1.98	0.44
3:D:584:VAL:HG12	3:D:589:THR:HB	2.00	0.44
2:G:47:GLN:HG3	2:F:46:LEU:HD11	1.99	0.44
2:G:158:SER:HB2	2:F:158:SER:OG	2.16	0.44
2:F:70:LYS:HE3	3:N:372:GLN:HB3	1.99	0.44
3:J:174:GLN:HG3	3:J:674:HIS:HB3	1.99	0.44
3:J:526:GLU:HA	3:J:530:LYS:HG2	1.98	0.44
3:J:648:LYS:HA	3:J:648:LYS:HD2	1.81	0.44
3:L:282:LYS:NZ	3:L:319:GLN:O	2.39	0.44
3:L:356:LEU:HD21	3:L:620:THR:HG22	1.99	0.44
3:L:571:LYS:HD3	3:L:572:PRO:HD2	2.00	0.44
3:K:269:THR:HG21	3:K:440:PHE:CE1	2.53	0.44
3:K:395:ASN:OD1	3:K:396:SER:N	2.50	0.44
3:K:537:ILE:HG22	3:K:552:PHE:HE1	1.83	0.44
3:K:759:ILE:HD11	3:K:763:GLN:HG3	1.99	0.44
3:N:43:ASP:HB2	3:N:46:GLU:O	2.16	0.44
3:N:490:GLN:NE2	3:N:490:GLN:O	2.48	0.44
3:N:537:ILE:HG22	3:N:552:PHE:HE1	1.83	0.44
1:E:64:ARG:HG2	1:E:69:LEU:HD11	2.00	0.44
1:H:140:ALA:HB1	1:H:154:VAL:CG1	2.47	0.44
1:O:35:SER:O	1:O:35:SER:OG	2.33	0.44
1:Q:61:GLN:OE1	1:Q:64:ARG:HD3	2.17	0.44
1:Q:353:THR:O	1:Q:356:GLN:NE2	2.50	0.44
1:Q:369:PRO:O	1:Q:372:VAL:HG23	2.17	0.44
1:R:61:GLN:OE1	1:R:64:ARG:HD3	2.17	0.44
3:D:31:LYS:HD2	3:D:31:LYS:HA	1.84	0.44
3:D:376:GLN:NE2	3:D:404:CYS:O	2.50	0.44
3:D:490:GLN:HE21	3:D:494:ASN:HB2	1.82	0.44
2:G:207:LEU:HD21	2:F:204:LEU:HD22	2.00	0.44
3:J:117:TYR:CE1	3:J:135:VAL:HG21	2.52	0.44
3:J:664:ASN:O	3:J:668:THR:HG22	2.16	0.44
3:K:82:ASN:CG	3:K:97:HIS:HB2	2.38	0.44
3:K:133:LEU:HD23	3:K:133:LEU:HA	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:297:LYS:HB3	3:K:333:LEU:HD12	2.00	0.44
3:K:717:PHE:HB3	3:K:772:PHE:HB3	1.99	0.44
2:C:68:GLN:NE2	2:B:67:ALA:HB2	2.33	0.44
1:P:148:GLY:HA2	3:K:545:PRO:HB3	2.00	0.44
2:B:124:GLU:HG3	2:B:128:LYS:HZ2	1.81	0.44
3:D:101:PRO:HA	3:D:104:LEU:HB3	1.99	0.44
3:D:164:TYR:HB2	3:D:197:PHE:HE1	1.81	0.44
3:D:439:MET:HA	3:D:623:TYR:CZ	2.52	0.44
2:F:180:GLU:O	2:F:184:GLU:HG3	2.17	0.44
3:L:17:TYR:CD2	3:L:135:VAL:HG12	2.51	0.44
3:K:117:TYR:HE1	3:K:135:VAL:HG21	1.81	0.44
3:K:403:LEU:HD22	3:K:609:VAL:HG11	1.99	0.44
3:K:710:ILE:O	3:K:714:ARG:CB	2.61	0.44
1:H:359:ILE:HG12	1:H:376:CYS:HB3	1.99	0.44
1:P:202:PHE:HB3	1:P:207:GLU:HG3	1.99	0.44
1:R:140:ALA:HB1	1:R:154:VAL:CG1	2.47	0.44
3:A:38:SER:OG	3:A:38:SER:O	2.35	0.44
3:A:75:ASP:OD1	3:A:75:ASP:N	2.48	0.44
3:A:114:TRP:CZ3	3:A:689:PRO:HB2	2.51	0.44
3:A:256:PHE:HB3	3:A:261:LYS:H	1.81	0.44
3:A:586:TYR:HD1	3:A:708:GLU:HG3	1.82	0.44
2:B:119:ALA:O	2:B:122:GLU:HG3	2.18	0.44
2:B:137:ASP:O	2:B:141:MET:HG3	2.17	0.44
3:D:233:ALA:O	3:D:289:ILE:HG12	2.17	0.44
3:D:454:LYS:N	3:D:454:LYS:HD2	2.33	0.44
2:G:78:ALA:O	2:G:82:GLU:HG2	2.18	0.44
3:J:11:PHE:HZ	3:J:15:ALA:N	2.15	0.44
3:J:92:MET:SD	3:J:92:MET:N	2.91	0.44
3:J:420:THR:HG22	3:J:423:GLN:OE1	2.18	0.44
3:J:667:MET:HB3	3:J:671:ARG:NH1	2.31	0.44
3:L:50:LYS:HD2	3:L:50:LYS:HA	1.77	0.44
3:K:87:ASP:OD1	3:K:88:LYS:N	2.50	0.44
3:N:345:PHE:HB3	3:N:350:ARG:HE	1.82	0.44
3:N:707:LEU:O	3:N:710:ILE:HG12	2.18	0.44
2:C:101:ARG:HA	2:C:104:GLU:CD	2.38	0.44
2:C:148:LEU:HD12	2:B:144:GLN:HB2	2.00	0.44
1:P:307:MET:HA	1:P:337:ARG:NH1	2.32	0.44
3:A:96:THR:HB	3:A:778:LEU:HB2	2.00	0.44
3:A:442:TRP:HB3	3:A:623:TYR:HE1	1.83	0.44
3:D:190:THR:O	3:D:194:ILE:HG23	2.18	0.44
3:J:123:PHE:HE1	3:J:679:ARG:HH11	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:612:LEU:HD23	3:J:615:LYS:HZ3	1.81	0.44
3:L:241:ARG:HH21	3:L:242:ASN:ND2	2.15	0.44
3:L:281:LEU:HD23	3:L:281:LEU:H	1.83	0.44
3:L:712:ILE:HD12	3:L:715:LYS:HE3	1.99	0.44
3:N:577:VAL:HG13	3:N:578:GLU:H	1.83	0.44
3:N:582:SER:HB3	3:N:591:ASP:HB3	2.00	0.44
1:E:157:SER:HB2	1:E:162:THR:HG23	1.99	0.44
1:E:352:SER:N	3:A:540:GLU:OE2	2.50	0.44
1:H:158:GLY:O	1:H:305:THR:OG1	2.31	0.44
1:O:7:THR:OG1	3:J:646:LYS:NZ	2.37	0.44
1:O:155:LEU:HD11	1:O:276:ILE:HG23	2.00	0.44
1:R:353:THR:O	1:R:356:GLN:NE2	2.51	0.44
3:A:60:LYS:HA	3:A:72:THR:HG23	1.99	0.44
3:A:99:HIS:H	3:A:102:ALA:HB3	1.82	0.44
3:A:177:LEU:HD12	3:A:677:PHE:CE1	2.53	0.44
3:A:276:ARG:HH12	3:A:284:GLU:CD	2.20	0.44
2:B:163:GLU:HB3	2:B:167:ARG:HH12	1.83	0.44
3:D:119:TYR:HB3	3:D:149:ARG:HH22	1.81	0.44
3:D:192:ARG:O	3:D:195:GLN:HG2	2.18	0.44
3:D:498:PHE:HB2	3:D:517:PHE:CD2	2.52	0.44
2:G:49:LYS:HD2	2:F:50:LEU:HD21	1.99	0.44
2:G:145:GLU:HB3	2:G:149:LYS:NZ	2.33	0.44
3:J:62:THR:O	3:J:62:THR:HG23	2.17	0.44
3:J:74:LYS:HE2	3:J:77:GLN:HE22	1.83	0.44
3:J:395:ASN:OD1	3:J:396:SER:N	2.50	0.44
3:L:164:TYR:HB2	3:L:197:PHE:HE1	1.81	0.44
3:L:192:ARG:O	3:L:195:GLN:HG2	2.18	0.44
3:L:234:PHE:CD1	3:L:289:ILE:HG13	2.46	0.44
3:L:725:ASP:OD2	3:L:785:ARG:NH2	2.51	0.44
1:O:61:GLN:O	1:O:64:ARG:HG3	2.18	0.44
1:Q:308:TYR:CE1	4:Q:401:ADP:H2	2.35	0.44
1:P:37:VAL:HG21	1:P:83:ASP:HB3	2.00	0.44
1:R:150:THR:HG23	1:R:151:THR:HG23	2.00	0.44
3:A:29:GLN:HA	3:A:85:LYS:HA	1.99	0.44
3:A:98:LEU:O	3:A:714:ARG:NE	2.51	0.44
3:A:220:LEU:HD23	3:A:221:GLU:N	2.33	0.44
3:A:541:GLU:OE1	3:A:551:SER:OG	2.29	0.44
3:D:284:GLU:O	3:D:320:GLY:HA3	2.18	0.44
3:D:732:VAL:HG23	3:D:733:LEU:HD22	2.00	0.44
3:J:81:MET:HG3	3:J:82:ASN:O	2.18	0.44
3:J:778:LEU:O	3:J:782:GLU:N	2.37	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:274:LYS:HG3	3:L:433:LYS:HB3	1.99	0.44
3:L:438:LYS:HB3	3:L:623:TYR:HB3	1.99	0.44
3:N:686:THR:OG1	3:N:687:LYS:N	2.51	0.44
1:E:140:ALA:HB1	1:E:154:VAL:CG1	2.48	0.44
1:O:153:ILE:HG23	1:O:295:LEU:HD22	2.00	0.44
2:C:146:MET:HA	2:C:149:LYS:HD2	1.99	0.44
1:R:281:TYR:O	1:R:285:MET:HG2	2.18	0.44
3:A:524:CYS:SG	3:A:585:HIS:ND1	2.91	0.44
2:B:82:GLU:HA	2:B:85:VAL:HG12	1.99	0.44
2:B:108:THR:HA	2:B:111:GLN:HE21	1.83	0.44
2:B:122:GLU:O	2:B:125:ARG:HG2	2.18	0.44
2:B:165:VAL:HA	2:B:168:LYS:HB2	1.99	0.44
3:D:363:TYR:HH	3:D:613:TYR:HH	1.66	0.44
3:D:438:LYS:HD3	3:D:623:TYR:HB3	1.99	0.44
3:J:47:SER:OG	3:J:48:PHE:N	2.51	0.44
3:J:267:ILE:H	3:J:448:ASN:ND2	2.15	0.44
3:J:419:GLN:OE1	3:J:423:GLN:HB3	2.18	0.44
3:J:683:PRO:HA	3:J:697:VAL:HG22	1.99	0.44
3:J:754:LEU:HD13	3:J:764:TYR:OH	2.18	0.44
3:L:62:THR:HG23	3:L:62:THR:O	2.18	0.44
3:L:256:PHE:O	3:L:458:GLN:N	2.50	0.44
3:L:341:ASP:HA	3:L:350:ARG:NH1	2.33	0.44
3:K:238:LYS:HZ1	3:K:321:GLU:HB2	1.82	0.44
3:K:768:HIS:CE1	3:K:769:THR:HG1	2.36	0.44
3:N:292:GLN:O	3:N:333:LEU:HD11	2.18	0.44
3:N:766:PHE:HD1	3:N:771:VAL:HB	1.82	0.44
1:E:334:PRO:O	1:E:337:ARG:NH1	2.51	0.43
1:H:148:GLY:C	3:D:545:PRO:HB3	2.38	0.43
1:O:33:PHE:HZ	1:O:91:THR:HG1	1.66	0.43
1:O:140:ALA:HB1	1:O:154:VAL:CG1	2.48	0.43
2:C:60:TYR:CE2	2:B:57:VAL:HG13	2.43	0.43
1:P:319:ILE:HG23	1:P:329:ILE:HG21	2.00	0.43
3:A:164:TYR:HB2	3:A:197:PHE:HE1	1.83	0.43
3:A:370:GLN:HG2	3:A:371:LYS:O	2.18	0.43
3:A:442:TRP:HB3	3:A:623:TYR:CE1	2.52	0.43
2:B:161:LYS:HA	2:B:164:GLU:CD	2.39	0.43
3:D:120:SER:HB3	3:D:123:PHE:HB2	2.00	0.43
3:D:698:LEU:HA	3:D:701:LEU:HB3	1.99	0.43
3:J:133:LEU:HD23	3:J:133:LEU:HA	1.84	0.43
3:N:284:GLU:O	3:N:320:GLY:HA3	2.17	0.43
1:E:148:GLY:C	3:A:545:PRO:HB3	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:195:LEU:HD23	1:E:195:LEU:HA	1.81	0.43
1:Q:140:ALA:HB1	1:Q:154:VAL:CG1	2.47	0.43
1:Q:155:LEU:HD11	1:Q:276:ILE:HG23	2.00	0.43
1:Q:161:VAL:HG22	1:Q:162:THR:H	1.83	0.43
2:C:100:ASP:O	2:C:104:GLU:HG3	2.17	0.43
1:P:140:ALA:HB1	1:P:154:VAL:CG1	2.48	0.43
1:R:19:VAL:HG23	1:R:35:SER:HB3	2.00	0.43
3:A:255:HIS:CG	3:A:460:PHE:HB3	2.53	0.43
3:D:54:GLN:OE1	3:D:55:SER:OG	2.29	0.43
2:G:167:ARG:HA	2:G:170:VAL:HG12	2.00	0.43
3:J:65:THR:HG23	3:J:67:GLY:N	2.33	0.43
3:K:65:THR:HG22	3:K:69:ALA:H	1.82	0.43
3:K:306:LEU:HB3	3:K:387:LYS:HE2	2.00	0.43
3:N:251:PHE:HB2	3:N:464:LEU:HD12	2.00	0.43
2:C:47:GLN:O	2:C:51:LYS:HG2	2.18	0.43
1:R:155:LEU:HD11	1:R:276:ILE:HG23	2.01	0.43
1:R:263:LEU:O	1:R:276:ILE:HG12	2.17	0.43
3:A:33:PHE:CD1	3:A:84:PRO:HD3	2.53	0.43
3:A:238:LYS:O	3:A:284:GLU:HB2	2.18	0.43
3:A:706:VAL:O	3:A:710:ILE:HG23	2.18	0.43
3:D:119:TYR:CD1	3:D:154:PRO:HB3	2.53	0.43
3:D:605:LEU:O	3:D:650:SER:HB2	2.18	0.43
3:J:20:LYS:HG2	3:J:115:MET:HE2	2.00	0.43
3:J:43:ASP:HB2	3:J:46:GLU:O	2.17	0.43
3:L:148:LYS:HD2	3:L:150:GLN:H	1.83	0.43
3:L:222:ASP:N	3:L:222:ASP:OD1	2.50	0.43
3:K:271:LEU:HA	3:K:662:ASN:HD21	1.84	0.43
3:N:117:TYR:HE1	3:N:135:VAL:HG21	1.82	0.43
1:E:302:SER:HA	1:E:337:ARG:HB2	2.01	0.43
1:Q:108:THR:OG1	1:Q:139:GLN:NE2	2.43	0.43
1:R:315:MET:O	1:R:319:ILE:HG22	2.18	0.43
1:R:371:ILE:HA	1:R:374:ARG:NH1	2.33	0.43
2:B:58:GLU:O	2:B:62:GLU:HG2	2.18	0.43
3:D:61:VAL:HG11	3:D:78:VAL:HG11	1.99	0.43
3:D:161:ASP:HB2	3:D:196:TYR:OH	2.19	0.43
3:D:177:LEU:HD21	3:D:670:LEU:HD21	2.00	0.43
3:D:438:LYS:NZ	3:D:624:LEU:HG	2.33	0.43
3:D:681:ILE:H	3:D:681:ILE:HD12	1.82	0.43
3:J:28:ALA:O	3:J:84:PRO:HB2	2.17	0.43
3:J:31:LYS:HE2	3:J:32:PRO:HD2	2.01	0.43
3:J:297:LYS:HZ1	3:J:334:MET:H	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:527:LEU:HD22	3:J:566:ASN:HB2	2.00	0.43
3:N:52:THR:HB	3:N:64:LYS:HB2	2.01	0.43
3:N:481:CYS:O	3:N:485:THR:HG23	2.18	0.43
3:N:727:LYS:HZ1	3:N:750:SER:HB3	1.83	0.43
1:P:229:MET:SD	1:P:254:ASN:ND2	2.91	0.43
3:A:161:ASP:HB2	3:A:196:TYR:OH	2.18	0.43
3:A:170:ASP:OD1	3:A:170:ASP:N	2.49	0.43
3:D:121:GLY:O	3:D:149:ARG:NH2	2.50	0.43
3:D:266:ASP:HB3	3:D:448:ASN:HD21	1.83	0.43
2:G:130:ILE:HG13	2:G:131:GLU:N	2.34	0.43
2:F:132:ASN:O	2:F:136:LYS:HG2	2.18	0.43
3:J:251:PHE:O	3:J:268:GLU:N	2.40	0.43
3:J:300:ASP:N	3:J:300:ASP:OD1	2.50	0.43
3:L:596:GLY:O	3:L:600:LYS:HB2	2.18	0.43
3:N:75:ASP:O	3:N:78:VAL:HG22	2.19	0.43
3:N:665:LYS:HE3	3:N:665:LYS:HB2	1.81	0.43
1:H:217:LYS:HD2	1:H:242:TYR:HE1	1.84	0.43
2:C:144:GLN:HA	2:C:147:GLN:CG	2.48	0.43
1:P:43:GLN:OE1	1:P:43:GLN:N	2.42	0.43
1:P:195:LEU:HD23	1:P:195:LEU:HA	1.85	0.43
3:D:43:ASP:HB2	3:D:46:GLU:O	2.18	0.43
3:D:269:THR:HG21	3:D:440:PHE:CE2	2.54	0.43
3:D:402:ALA:HB1	3:D:608:THR:OG1	2.19	0.43
3:D:446:ARG:NH1	3:D:449:GLN:OE1	2.52	0.43
2:G:88:LEU:CD2	2:F:85:VAL:HG23	2.49	0.43
2:G:140:LYS:HB3	2:F:141:MET:SD	2.59	0.43
2:G:148:LEU:HA	2:F:147:GLN:NE2	2.34	0.43
2:F:101:ARG:O	2:F:104:GLU:HG3	2.19	0.43
3:N:308:THR:OG1	3:N:309:THR:N	2.51	0.43
3:N:754:LEU:HD13	3:N:764:TYR:OH	2.18	0.43
1:O:314:ARG:O	1:O:318:GLU:HG2	2.19	0.43
1:Q:88:TRP:HH2	1:Q:121:MET:HG3	1.84	0.43
1:Q:195:LEU:HD23	1:Q:195:LEU:HA	1.82	0.43
2:C:162:TYR:HA	2:C:165:VAL:HG22	2.00	0.43
1:P:35:SER:O	1:P:35:SER:OG	2.34	0.43
3:A:120:SER:HB2	3:A:123:PHE:HB2	1.99	0.43
3:D:192:ARG:HH11	3:D:195:GLN:NE2	2.15	0.43
2:G:165:VAL:HA	2:G:168:LYS:HE2	1.99	0.43
2:G:196:GLU:HA	2:G:199:ILE:HD12	2.00	0.43
2:F:47:GLN:O	2:F:50:LEU:HB3	2.18	0.43
2:F:108:THR:HA	2:F:111:GLN:HE21	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:499:VAL:O	3:L:503:GLU:HB2	2.18	0.43
3:L:610:VAL:HG12	3:L:614:GLN:NE2	2.24	0.43
3:L:669:ASN:OD1	3:L:670:LEU:N	2.52	0.43
3:K:76:ASP:OD2	3:K:76:ASP:N	2.47	0.43
3:N:45:LYS:HD2	3:N:46:GLU:HG2	1.99	0.43
3:N:402:ALA:HB1	3:N:608:THR:OG1	2.18	0.43
3:N:420:THR:O	3:N:424:VAL:HG23	2.19	0.43
1:H:153:ILE:HG22	1:H:166:PRO:HA	2.01	0.43
1:R:371:ILE:HD12	1:R:374:ARG:HH11	1.83	0.43
2:B:47:GLN:CD	2:B:47:GLN:H	2.21	0.43
3:D:83:PRO:HG2	3:D:86:TYR:HB2	2.01	0.43
3:J:243:ASP:OD2	3:J:326:SER:OG	2.28	0.43
3:J:605:LEU:O	3:J:650:SER:HB2	2.19	0.43
3:L:247:ARG:HA	3:L:247:ARG:HD2	1.80	0.43
3:L:443:MET:SD	3:L:444:VAL:HG23	2.59	0.43
3:L:747:LYS:O	3:L:750:SER:OG	2.24	0.43
3:K:300:ASP:O	3:K:303:GLU:HG2	2.19	0.43
3:K:765:LYS:HD3	3:K:765:LYS:HA	1.78	0.43
3:N:395:ASN:OD1	3:N:396:SER:N	2.52	0.43
3:A:8:MET:SD	3:A:22:GLU:HG3	2.59	0.43
3:A:441:LEU:HA	3:A:441:LEU:HD23	1.75	0.43
3:A:490:GLN:O	3:A:490:GLN:NE2	2.51	0.43
3:A:512:TRP:CZ3	3:A:716:GLY:HA3	2.54	0.43
3:D:60:LYS:HB3	3:D:72:THR:HG23	2.00	0.43
2:G:172:LEU:CD2	2:F:172:LEU:HB2	2.49	0.43
3:J:88:LYS:NZ	3:J:109:GLU:HB3	2.33	0.43
3:J:91:ASP:HA	3:J:119:TYR:O	2.19	0.43
3:J:363:TYR:HD2	3:J:432:ALA:HB2	1.84	0.43
3:J:370:GLN:NE2	3:J:374:GLU:O	2.37	0.43
3:J:582:SER:HA	3:J:591:ASP:HA	2.00	0.43
3:L:119:TYR:CE1	3:L:154:PRO:HB3	2.54	0.43
3:K:234:PHE:CE2	3:K:443:MET:HG2	2.54	0.43
3:D:130:TYR:HE1	3:D:687:LYS:HZ2	1.66	0.43
3:D:718:PRO:HA	3:D:720:ARG:NH1	2.34	0.43
2:G:145:GLU:OE1	2:G:149:LYS:NZ	2.50	0.43
3:J:20:LYS:HB3	3:J:24:GLU:HG3	2.00	0.43
3:L:392:GLN:HA	3:L:618:MET:SD	2.59	0.43
3:L:498:PHE:HB2	3:L:517:PHE:CD2	2.54	0.43
3:L:698:LEU:O	3:L:701:LEU:HB3	2.19	0.43
3:L:710:ILE:HA	3:L:713:CYS:SG	2.59	0.43
3:N:148:LYS:HE3	3:N:151:GLU:HB3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:153:ILE:HD13	1:H:284:ILE:HD11	2.00	0.42
3:A:65:THR:HG23	3:A:67:GLY:H	1.84	0.42
3:J:82:ASN:OD1	3:J:97:HIS:N	2.51	0.42
3:L:395:ASN:OD1	3:L:396:SER:N	2.52	0.42
3:N:100:GLU:OE2	3:N:698:LEU:HD21	2.19	0.42
3:N:241:ARG:HE	3:N:242:ASN:HB3	1.83	0.42
3:N:253:ARG:HH12	3:N:268:GLU:HG3	1.84	0.42
1:H:195:LEU:HA	1:H:195:LEU:HD23	1.81	0.42
1:Q:140:ALA:HB1	1:Q:154:VAL:HG11	1.99	0.42
2:C:128:LYS:O	2:C:131:GLU:HG3	2.19	0.42
3:A:125:VAL:HG23	3:A:681:ILE:HD11	2.01	0.42
3:A:498:PHE:HB2	3:A:517:PHE:CG	2.54	0.42
3:A:667:MET:HB3	3:A:671:ARG:NH1	2.34	0.42
3:D:62:THR:HG23	3:D:62:THR:O	2.19	0.42
3:D:359:ALA:HB2	3:D:392:GLN:HE22	1.84	0.42
3:D:383:GLU:O	3:D:387:LYS:HG3	2.19	0.42
3:D:481:CYS:O	3:D:485:THR:HG23	2.18	0.42
2:F:113:LEU:HB3	3:L:373:ARG:NH1	2.34	0.42
3:J:327:ILE:HG12	3:J:328:ASP:O	2.19	0.42
3:J:383:GLU:O	3:J:387:LYS:HG3	2.18	0.42
3:J:420:THR:O	3:J:424:VAL:HG23	2.19	0.42
3:L:43:ASP:HB2	3:L:46:GLU:O	2.18	0.42
3:L:110:ARG:O	3:L:115:MET:N	2.51	0.42
3:L:167:MET:HB3	3:L:174:GLN:NE2	2.34	0.42
3:K:757:ILE:O	3:K:757:ILE:HG22	2.19	0.42
3:N:698:LEU:HD23	3:N:698:LEU:HA	1.73	0.42
1:H:375:LYS:HD2	1:H:375:LYS:HA	1.80	0.42
2:C:90:ARG:NH2	2:C:93:GLN:OE1	2.52	0.42
3:A:685:GLU:OE1	3:A:685:GLU:N	2.49	0.42
2:B:120:ALA:O	2:B:123:SER:OG	2.31	0.42
3:D:439:MET:HA	3:D:623:TYR:CE1	2.54	0.42
2:G:129:VAL:HA	2:G:132:ASN:HD22	1.84	0.42
2:G:201:THR:O	2:G:205:LYS:HD3	2.18	0.42
2:F:161:LYS:HA	2:F:164:GLU:CD	2.40	0.42
2:F:194:GLU:O	2:F:198:LYS:HG2	2.19	0.42
3:J:145:ARG:HD2	3:J:146:GLY:H	1.85	0.42
3:J:334:MET:HE3	3:J:334:MET:O	2.20	0.42
3:J:773:PHE:CD2	3:J:778:LEU:HD11	2.54	0.42
3:L:308:THR:OG1	3:L:309:THR:N	2.52	0.42
3:L:612:LEU:HD23	3:L:615:LYS:NZ	2.35	0.42
3:L:710:ILE:O	3:L:714:ARG:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:80:PRO:HB2	3:K:97:HIS:NE2	2.33	0.42
3:K:781:LEU:HA	3:K:784:MET:HG3	2.01	0.42
3:N:174:GLN:HG3	3:N:674:HIS:HB3	2.01	0.42
3:N:186:LYS:NZ	3:N:678:VAL:HG12	2.34	0.42
3:N:192:ARG:HH11	3:N:195:GLN:NE2	2.17	0.42
1:H:307:MET:HA	1:H:337:ARG:NH1	2.34	0.42
1:Q:171:TYR:CD2	1:R:66:ILE:HD12	2.54	0.42
1:R:148:GLY:HA2	3:N:545:PRO:HB3	2.01	0.42
3:A:148:LYS:HE3	3:A:151:GLU:HB3	2.01	0.42
3:A:167:MET:HB3	3:A:174:GLN:NE2	2.35	0.42
3:A:297:LYS:NZ	3:A:334:MET:H	2.17	0.42
3:A:341:ASP:HA	3:A:350:ARG:NH1	2.34	0.42
3:D:11:PHE:HZ	3:D:15:ALA:N	2.16	0.42
3:D:498:PHE:HB2	3:D:517:PHE:HB2	2.00	0.42
3:D:508:GLU:O	3:D:767:GLY:HA3	2.19	0.42
3:D:662:ASN:OD1	3:D:663:LEU:N	2.52	0.42
2:G:169:LEU:HD12	2:G:169:LEU:HA	1.86	0.42
3:J:162:ASN:HA	3:J:165:GLN:HE21	1.84	0.42
3:J:253:ARG:HG2	3:J:460:PHE:CD1	2.54	0.42
3:L:383:GLU:O	3:L:387:LYS:HG3	2.18	0.42
3:L:474:PHE:HB2	3:L:576:LYS:HE2	2.01	0.42
3:K:498:PHE:HB2	3:K:517:PHE:CG	2.53	0.42
3:N:54:GLN:HE22	3:N:57:GLU:HB2	1.84	0.42
1:O:7:THR:OG1	1:O:8:THR:N	2.51	0.42
2:C:88:LEU:CD2	2:B:85:VAL:HG23	2.45	0.42
1:R:149:ARG:NH1	1:R:332:ILE:HG13	2.34	0.42
3:A:105:TYR:CE1	3:A:108:LYS:HD3	2.55	0.42
3:A:188:VAL:O	3:A:191:LYS:HG2	2.19	0.42
2:B:101:ARG:NH1	2:B:105:ARG:HH22	2.17	0.42
3:D:65:THR:HG23	3:D:67:GLY:N	2.34	0.42
3:D:86:TYR:HD2	3:D:95:MET:HA	1.84	0.42
3:D:282:LYS:HD3	3:D:282:LYS:HA	1.88	0.42
3:D:285:ARG:HB3	3:D:321:GLU:O	2.20	0.42
2:G:148:LEU:HD12	2:F:144:GLN:CB	2.49	0.42
2:G:172:LEU:CD2	2:F:169:LEU:HA	2.49	0.42
2:F:56:GLU:HB2	2:F:60:TYR:CZ	2.55	0.42
3:J:179:THR:HG23	3:J:679:ARG:NH2	2.34	0.42
3:J:284:GLU:O	3:J:320:GLY:HA3	2.19	0.42
3:J:557:TYR:OH	3:J:580:HIS:O	2.27	0.42
3:J:591:ASP:OD1	3:J:591:ASP:N	2.51	0.42
3:J:763:GLN:O	3:J:774:LYS:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:297:LYS:NZ	3:L:334:MET:HB2	2.23	0.42
3:K:119:TYR:CE1	3:K:159:ILE:HD11	2.54	0.42
3:K:255:HIS:CG	3:K:460:PHE:HB3	2.54	0.42
1:H:307:MET:SD	1:H:337:ARG:NH1	2.93	0.42
1:O:307:MET:HA	1:O:337:ARG:NH1	2.35	0.42
1:O:319:ILE:HG23	1:O:329:ILE:HG21	2.02	0.42
2:C:157:ASP:O	2:C:160:ARG:NH1	2.53	0.42
1:R:123:GLN:O	1:R:127:GLU:HG2	2.19	0.42
3:A:266:ASP:HA	3:A:448:ASN:OD1	2.20	0.42
2:B:96:GLU:O	2:B:99:LEU:HG	2.19	0.42
2:B:195:GLU:O	2:B:199:ILE:HG13	2.19	0.42
3:D:294:MET:HG3	3:D:311:PRO:HB3	2.02	0.42
3:J:473:ASP:OD1	3:J:473:ASP:N	2.53	0.42
3:L:255:HIS:HB2	3:L:457:ARG:HG2	2.01	0.42
3:K:402:ALA:HB1	3:K:608:THR:OG1	2.19	0.42
3:K:707:LEU:O	3:K:710:ILE:HG12	2.19	0.42
3:K:732:VAL:HG23	3:K:733:LEU:HD22	2.01	0.42
3:N:251:PHE:HD2	3:N:268:GLU:HB2	1.83	0.42
1:H:140:ALA:HB1	1:H:154:VAL:HG11	2.00	0.42
1:R:337:ARG:HA	1:R:340:SER:OG	2.18	0.42
3:A:616:SER:OG	3:A:617:SER:N	2.51	0.42
2:G:189:LYS:HZ1	2:F:187:GLU:HG2	1.83	0.42
3:L:685:GLU:CD	3:L:685:GLU:H	2.18	0.42
3:K:65:THR:HG23	3:K:67:GLY:N	2.34	0.42
3:K:526:GLU:HA	3:K:530:LYS:HG2	2.02	0.42
3:K:550:THR:HG22	3:K:554:ASN:HD21	1.85	0.42
1:H:73:ILE:HG12	1:H:78:ILE:HG13	2.02	0.42
1:O:315:MET:O	1:O:319:ILE:HG22	2.20	0.42
1:P:109:GLU:OE2	1:P:118:ARG:NE	2.52	0.42
3:D:33:PHE:HZ	3:D:81:MET:HB3	1.84	0.42
3:D:65:THR:HG22	3:D:69:ALA:N	2.35	0.42
3:D:93:ALA:HA	3:D:98:LEU:HD21	2.02	0.42
3:D:232:GLU:O	3:D:236:ASN:HB2	2.19	0.42
3:J:98:LEU:O	3:J:99:HIS:ND1	2.51	0.42
3:J:167:MET:HB3	3:J:174:GLN:NE2	2.35	0.42
3:L:297:LYS:HD3	3:L:330:GLN:C	2.40	0.42
3:L:481:CYS:O	3:L:485:THR:HG23	2.20	0.42
3:L:577:VAL:HG13	3:L:578:GLU:H	1.85	0.42
3:L:598:LEU:HD23	3:L:598:LEU:HA	1.91	0.42
3:K:157:PHE:HA	3:K:160:SER:OG	2.20	0.42
3:K:512:TRP:CE2	3:K:717:PHE:HB2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:527:LEU:HD21	3:K:567:PHE:HB2	2.01	0.42
3:N:605:LEU:O	3:N:650:SER:HB2	2.20	0.42
1:E:288:ASP:OD1	1:E:289:ILE:N	2.53	0.42
1:Q:319:ILE:HG23	1:Q:329:ILE:HG21	2.02	0.42
1:P:19:VAL:HG23	1:P:35:SER:HB3	2.01	0.42
1:P:315:MET:O	1:P:319:ILE:HG22	2.19	0.42
1:R:49:MET:HG2	3:L:544:PHE:HZ	1.84	0.42
2:B:99:LEU:O	2:B:103:GLN:HG3	2.19	0.42
3:D:49:VAL:HA	3:D:105:TYR:OH	2.19	0.42
3:D:440:PHE:O	3:D:443:MET:HG3	2.19	0.42
3:D:726:PHE:HE2	3:D:727:LYS:HZ2	1.68	0.42
3:D:754:LEU:HD12	3:D:755:GLY:N	2.34	0.42
2:F:75:GLU:O	2:F:79:THR:HG23	2.20	0.42
3:J:192:ARG:HH11	3:J:195:GLN:HE22	1.68	0.42
3:J:292:GLN:C	3:J:333:LEU:HD21	2.40	0.42
3:J:512:TRP:HE3	3:J:513:GLU:HG3	1.85	0.42
3:L:117:TYR:HE1	3:L:135:VAL:HG21	1.84	0.42
3:L:305:LEU:HD22	3:L:355:LYS:HA	2.00	0.42
3:L:441:LEU:HD23	3:L:441:LEU:HA	1.84	0.42
3:L:526:GLU:HA	3:L:530:LYS:HG2	2.01	0.42
3:L:726:PHE:CE2	3:L:750:SER:HA	2.55	0.42
3:K:370:GLN:HG2	3:K:371:LYS:O	2.20	0.42
3:N:33:PHE:CG	3:N:84:PRO:HD3	2.55	0.42
3:N:438:LYS:HZ3	3:N:624:LEU:HA	1.84	0.42
1:P:281:TYR:O	1:P:285:MET:HG2	2.20	0.42
1:R:369:PRO:O	1:R:372:VAL:HG23	2.20	0.42
3:A:11:PHE:HE2	3:A:14:ALA:HB3	1.85	0.42
3:A:65:THR:HG23	3:A:67:GLY:N	2.34	0.42
3:A:74:LYS:HB2	3:A:77:GLN:HE22	1.85	0.42
3:A:284:GLU:O	3:A:320:GLY:HA3	2.20	0.42
3:A:417:LYS:HB3	3:A:417:LYS:HE3	1.88	0.42
3:D:41:VAL:HG12	3:D:51:ALA:HB2	2.01	0.42
3:D:285:ARG:HB2	3:D:291:TYR:CZ	2.54	0.42
3:D:487:GLU:OE2	3:D:521:LEU:HD12	2.19	0.42
2:G:70:LYS:HE3	2:G:70:LYS:HB2	1.75	0.42
2:F:140:LYS:O	2:F:144:GLN:HG2	2.19	0.42
3:J:117:TYR:HE1	3:J:135:VAL:HG21	1.83	0.42
3:J:177:LEU:HD13	3:J:677:PHE:CE1	2.54	0.42
3:J:706:VAL:O	3:J:710:ILE:HG23	2.20	0.42
3:L:130:TYR:HB2	3:L:689:PRO:HD3	2.02	0.42
3:K:577:VAL:HG13	3:K:578:GLU:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:327:ILE:HG12	3:N:328:ASP:O	2.20	0.42
3:N:490:GLN:HG2	3:N:586:TYR:CG	2.55	0.42
3:N:580:HIS:ND1	3:N:594:ILE:HG22	2.34	0.42
1:E:149:ARG:NH1	1:E:332:ILE:HG13	2.35	0.41
1:E:175:HIS:CD2	1:Q:270:GLY:HA3	2.55	0.41
1:Q:168:TYR:HD2	1:R:66:ILE:HD13	1.85	0.41
1:P:182:LEU:HA	1:P:186:ASP:OD2	2.20	0.41
3:A:192:ARG:HH11	3:A:195:GLN:NE2	2.18	0.41
3:A:251:PHE:CE2	3:A:253:ARG:HG3	2.55	0.41
2:B:60:TYR:O	2:B:63:SER:OG	2.24	0.41
3:D:186:LYS:HZ3	3:D:680:CYS:HB2	1.85	0.41
3:D:710:ILE:HA	3:D:713:CYS:SG	2.60	0.41
2:G:165:VAL:HG11	2:F:162:TYR:CE2	2.55	0.41
2:F:137:ASP:HA	2:F:140:LYS:HD2	2.00	0.41
3:J:179:THR:OG1	3:J:679:ARG:NE	2.51	0.41
3:L:605:LEU:O	3:L:650:SER:HB2	2.19	0.41
3:N:164:TYR:HB2	3:N:197:PHE:HE1	1.85	0.41
3:A:457:ARG:HD3	3:A:457:ARG:H	1.84	0.41
3:A:711:ARG:HA	3:A:714:ARG:CG	2.44	0.41
3:A:723:TYR:HA	3:A:726:PHE:HB3	2.01	0.41
2:B:178:ARG:NH1	2:B:179:SER:HB2	2.35	0.41
3:D:380:ASP:OD1	3:D:380:ASP:N	2.50	0.41
3:D:537:ILE:HG23	3:D:555:LYS:HD2	2.02	0.41
3:D:577:VAL:HG13	3:D:578:GLU:N	2.34	0.41
2:G:193:LEU:HD12	2:F:190:CYS:HB3	2.01	0.41
2:F:86:ALA:HB1	2:F:90:ARG:NH1	2.36	0.41
3:L:65:THR:HG22	3:L:69:ALA:N	2.35	0.41
3:L:345:PHE:HB3	3:L:350:ARG:HE	1.86	0.41
3:L:359:ALA:HB2	3:L:392:GLN:HE22	1.85	0.41
3:K:498:PHE:HB2	3:K:517:PHE:CB	2.49	0.41
3:N:88:LYS:NZ	3:N:109:GLU:HB3	2.34	0.41
3:N:251:PHE:CE2	3:N:253:ARG:HG3	2.56	0.41
3:N:612:LEU:HD23	3:N:615:LYS:NZ	2.34	0.41
1:H:144:LEU:HA	1:H:144:LEU:HD12	1.82	0.41
1:P:254:ASN:ND2	1:P:258:ARG:HH11	2.19	0.41
3:A:91:ASP:HB2	3:A:150:GLN:HE22	1.85	0.41
3:A:248:PHE:HB3	3:A:272:LEU:HD13	2.01	0.41
2:G:100:ASP:O	2:G:104:GLU:HG3	2.21	0.41
3:J:174:GLN:O	3:J:462:GLY:N	2.52	0.41
3:J:363:TYR:OH	3:J:613:TYR:OH	2.26	0.41
3:L:220:LEU:HD23	3:L:221:GLU:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:763:GLN:HG3	3:L:777:LEU:HD22	2.01	0.41
3:K:710:ILE:HA	3:K:713:CYS:SG	2.60	0.41
3:K:773:PHE:CG	3:K:777:LEU:HD11	2.54	0.41
3:N:53:VAL:HA	3:N:63:ALA:HA	2.02	0.41
1:H:155:LEU:HD11	1:H:276:ILE:HG23	2.02	0.41
1:O:109:GLU:OE2	1:O:118:ARG:NH2	2.54	0.41
1:O:328:LYS:HA	1:O:328:LYS:HD3	1.82	0.41
2:C:181:GLU:O	2:C:184:GLU:HG3	2.21	0.41
1:R:153:ILE:HG22	1:R:166:PRO:HB3	2.01	0.41
2:B:103:GLN:HA	2:B:106:LEU:HB3	2.02	0.41
3:D:164:TYR:HB2	3:D:197:PHE:CE1	2.55	0.41
3:D:763:GLN:H	3:D:763:GLN:HG2	1.74	0.41
2:G:49:LYS:HE3	2:G:49:LYS:HB2	1.85	0.41
3:J:297:LYS:HZ1	3:J:334:MET:HB2	1.86	0.41
3:J:710:ILE:HA	3:J:713:CYS:SG	2.60	0.41
3:L:778:LEU:O	3:L:782:GLU:N	2.40	0.41
3:K:201:ALA:HB2	3:K:262:LEU:HD13	2.03	0.41
3:K:730:TYR:CE2	3:K:781:LEU:HD13	2.48	0.41
3:N:297:LYS:HB2	3:N:330:GLN:HB3	2.03	0.41
3:N:683:PRO:HA	3:N:697:VAL:HG22	2.01	0.41
1:H:13:ASP:HB3	1:H:20:LYS:HG3	2.03	0.41
2:C:72:GLU:O	2:C:75:GLU:HG3	2.19	0.41
3:A:60:LYS:HG3	3:A:72:THR:HG21	2.02	0.41
3:A:327:ILE:HG22	3:A:328:ASP:O	2.20	0.41
3:A:573:ALA:O	3:A:574:LYS:HG2	2.20	0.41
2:G:82:GLU:HA	2:G:85:VAL:HG22	2.02	0.41
3:J:94:MET:SD	3:J:719:SER:HA	2.60	0.41
3:J:442:TRP:HB3	3:J:623:TYR:CE1	2.56	0.41
3:L:523:ALA:O	3:L:526:GLU:HG3	2.20	0.41
3:L:577:VAL:HG13	3:L:578:GLU:N	2.36	0.41
3:L:593:ASN:O	3:L:597:TRP:NE1	2.53	0.41
3:K:91:ASP:HA	3:K:119:TYR:O	2.21	0.41
3:K:118:THR:HB	3:K:125:VAL:HG13	2.02	0.41
3:K:565:ASN:OD1	3:K:566:ASN:N	2.53	0.41
1:E:353:THR:O	1:E:356:GLN:NE2	2.53	0.41
1:H:335:PRO:HB2	3:D:416:THR:O	2.20	0.41
3:A:314:TYR:O	3:A:318:SER:OG	2.38	0.41
3:D:278:THR:OG1	3:D:433:LYS:HE2	2.20	0.41
2:F:58:GLU:O	2:F:62:GLU:HG2	2.20	0.41
3:J:253:ARG:HH12	3:J:268:GLU:HG3	1.86	0.41
3:L:54:GLN:HE22	3:L:57:GLU:HB2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:148:LYS:HB3	3:K:151:GLU:OE1	2.21	0.41
3:N:192:ARG:O	3:N:195:GLN:HG2	2.20	0.41
3:N:648:LYS:HB3	3:N:652:PHE:HB2	2.03	0.41
3:A:60:LYS:HG3	3:A:72:THR:CG2	2.50	0.41
3:A:273:GLU:OE2	3:A:275:SER:OG	2.39	0.41
3:A:591:ASP:OD1	3:A:591:ASP:N	2.48	0.41
3:D:130:TYR:OH	3:D:683:PRO:HD2	2.20	0.41
3:D:133:LEU:HD23	3:D:133:LEU:HA	1.84	0.41
3:D:373:ARG:HH12	2:G:156:GLU:N	2.18	0.41
3:D:420:THR:O	3:D:424:VAL:HG23	2.20	0.41
2:G:149:LYS:O	2:G:153:HIS:ND1	2.54	0.41
2:F:163:GLU:HB3	2:F:167:ARG:NH1	2.36	0.41
3:J:53:VAL:HG23	3:J:61:VAL:HB	2.02	0.41
3:J:188:VAL:O	3:J:192:ARG:HG2	2.20	0.41
3:J:341:ASP:HA	3:J:350:ARG:CZ	2.50	0.41
3:L:43:ASP:OD1	3:L:49:VAL:HG22	2.21	0.41
3:L:308:THR:HG21	3:L:313:ASP:HB3	2.02	0.41
3:L:476:SER:OG	3:L:600:LYS:NZ	2.54	0.41
3:L:774:LYS:HB2	3:L:777:LEU:HD23	2.03	0.41
3:K:247:ARG:HA	3:K:247:ARG:HD2	1.91	0.41
3:K:516:ASP:OD1	3:K:517:PHE:N	2.53	0.41
3:N:92:MET:N	3:N:92:MET:SD	2.93	0.41
3:N:157:PHE:HA	3:N:160:SER:OG	2.20	0.41
3:N:763:GLN:O	3:N:774:LYS:HG2	2.20	0.41
1:E:314:ARG:O	1:E:318:GLU:HG2	2.21	0.41
1:H:314:ARG:NE	1:H:318:GLU:OE2	2.35	0.41
1:Q:364:TYR:OH	1:Q:369:PRO:HG3	2.21	0.41
1:P:371:ILE:HD12	1:P:374:ARG:HD2	2.02	0.41
3:A:62:THR:HG23	3:A:62:THR:O	2.20	0.41
3:A:190:THR:O	3:A:194:ILE:HG23	2.20	0.41
3:A:383:GLU:O	3:A:387:LYS:HG3	2.20	0.41
3:A:530:LYS:HA	3:A:530:LYS:HD2	1.89	0.41
3:A:584:VAL:HG12	3:A:589:THR:HB	2.03	0.41
3:A:773:PHE:CD1	3:A:777:LEU:HD11	2.56	0.41
2:B:167:ARG:O	2:B:171:ILE:HG12	2.21	0.41
3:D:718:PRO:HG3	3:D:775:ALA:HB2	2.03	0.41
2:G:177:GLU:O	2:G:181:GLU:HG2	2.20	0.41
3:J:29:GLN:HG2	3:J:85:LYS:HB2	2.02	0.41
3:J:49:VAL:HA	3:J:105:TYR:OH	2.21	0.41
3:L:157:PHE:HA	3:L:160:SER:OG	2.21	0.41
3:L:679:ARG:O	3:L:681:ILE:HD12	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:222:ASP:HA	3:K:225:ILE:HG22	2.02	0.41
3:K:266:ASP:HA	3:K:448:ASN:OD1	2.20	0.41
3:N:179:THR:OG1	3:N:679:ARG:NE	2.53	0.41
3:N:247:ARG:HA	3:N:247:ARG:HD2	1.82	0.41
1:E:145:TYR:CE2	1:E:348:LEU:HD12	2.56	0.41
1:E:217:LYS:HD2	1:E:242:TYR:HE1	1.86	0.41
1:O:168:TYR:CE2	1:O:169:GLU:HG2	2.56	0.41
1:P:172:ALA:O	1:P:174:PRO:HD3	2.21	0.41
1:P:314:ARG:O	1:P:318:GLU:HG2	2.21	0.41
1:R:328:LYS:HD3	1:R:328:LYS:HA	1.83	0.41
3:A:222:ASP:N	3:A:222:ASP:OD1	2.54	0.41
3:A:233:ALA:O	3:A:289:ILE:HG12	2.20	0.41
3:A:348:ASP:OD1	3:A:349:GLU:N	2.53	0.41
3:A:478:GLU:H	3:A:478:GLU:CD	2.24	0.41
3:A:600:LYS:HB3	3:A:600:LYS:HE2	1.90	0.41
3:A:612:LEU:HD23	3:A:615:LYS:NZ	2.35	0.41
2:B:129:VAL:HA	2:B:132:ASN:ND2	2.36	0.41
2:G:132:ASN:O	2:G:136:LYS:HG3	2.21	0.41
2:F:64:VAL:O	2:F:68:GLN:NE2	2.53	0.41
2:F:81:ALA:O	2:F:85:VAL:HG12	2.21	0.41
2:F:136:LYS:HA	2:F:139:GLU:OE2	2.20	0.41
3:J:65:THR:HG22	3:J:69:ALA:H	1.86	0.41
3:J:341:ASP:HA	3:J:350:ARG:NH1	2.35	0.41
3:J:445:THR:H	3:J:445:THR:HG1	1.65	0.41
3:J:612:LEU:HD23	3:J:615:LYS:NZ	2.36	0.41
3:L:269:THR:HG21	3:L:440:PHE:CE1	2.55	0.41
3:L:667:MET:HB3	3:L:671:ARG:NH1	2.35	0.41
3:L:717:PHE:CB	3:L:772:PHE:HB3	2.51	0.41
3:K:119:TYR:CE1	3:K:154:PRO:HB3	2.56	0.41
3:K:200:ILE:HA	3:K:200:ILE:HD12	1.86	0.41
3:K:343:LEU:HD13	3:K:450:GLN:OE1	2.21	0.41
3:K:438:LYS:HZ3	3:K:624:LEU:HA	1.85	0.41
3:N:43:ASP:OD2	3:N:49:VAL:N	2.53	0.41
3:N:75:ASP:OD1	3:N:76:ASP:N	2.53	0.41
3:N:253:ARG:HG2	3:N:460:PHE:CD1	2.55	0.41
3:N:685:GLU:H	3:N:685:GLU:CD	2.22	0.41
3:N:727:LYS:HD3	3:N:753:LEU:HD12	2.03	0.41
1:E:19:VAL:HG23	1:E:35:SER:HB3	2.03	0.41
1:E:168:TYR:HD2	1:O:66:ILE:HD13	1.86	0.41
1:O:18:LEU:HD23	1:O:18:LEU:HA	1.94	0.41
2:C:110:LEU:O	2:C:114:GLU:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:725:ASP:OD1	3:A:785:ARG:NH2	2.52	0.41
2:B:112:LYS:HD2	2:B:112:LYS:HA	1.94	0.41
3:D:327:ILE:HG12	3:D:328:ASP:O	2.21	0.41
3:D:521:LEU:O	3:D:525:ILE:HG13	2.21	0.41
3:D:648:LYS:HB3	3:D:652:PHE:HB2	2.03	0.41
2:G:92:ILE:HG23	2:F:91:ARG:HH21	1.86	0.41
2:G:133:ARG:NH2	2:F:130:ILE:HG23	2.35	0.41
2:G:207:LEU:HD13	2:F:207:LEU:HB2	2.02	0.41
3:J:565:ASN:OD1	3:J:566:ASN:N	2.54	0.41
3:K:24:GLU:O	3:K:27:GLU:HG2	2.21	0.41
3:K:179:THR:OG1	3:K:704:ASN:ND2	2.54	0.41
3:K:230:LEU:HD22	3:K:340:ILE:HD13	2.03	0.41
3:K:300:ASP:OD1	3:K:300:ASP:N	2.54	0.41
3:K:613:TYR:HD2	3:K:624:LEU:HD22	1.85	0.41
3:N:8:MET:SD	3:N:22:GLU:HG2	2.60	0.41
3:N:222:ASP:HA	3:N:225:ILE:HG12	2.02	0.41
1:E:101:GLU:OE1	1:E:101:GLU:N	2.45	0.40
1:H:315:MET:O	1:H:319:ILE:HG22	2.22	0.40
2:C:158:SER:HB2	2:B:158:SER:OG	2.20	0.40
1:P:150:THR:HG23	1:P:151:THR:HG23	2.03	0.40
1:P:371:ILE:HA	1:P:374:ARG:NH1	2.36	0.40
3:A:699:HIS:HA	3:A:702:ARG:HH21	1.86	0.40
3:D:175:SER:HA	3:D:462:GLY:H	1.86	0.40
3:D:328:ASP:OD2	3:D:329:ASP:N	2.54	0.40
3:D:442:TRP:HB3	3:D:623:TYR:CE1	2.57	0.40
3:D:603:ASP:OD1	3:D:603:ASP:N	2.52	0.40
3:D:684:ASN:HA	3:D:693:GLU:OE2	2.21	0.40
2:F:147:GLN:HA	2:F:150:GLU:CG	2.50	0.40
3:J:186:LYS:NZ	3:J:678:VAL:HG12	2.37	0.40
3:J:614:GLN:NE2	3:J:626:SER:O	2.53	0.40
3:L:23:LYS:O	3:L:27:GLU:HB2	2.21	0.40
3:K:105:TYR:CE1	3:K:108:LYS:HD3	2.55	0.40
3:A:41:VAL:HA	3:A:78:VAL:HG12	2.02	0.40
3:A:76:ASP:OD1	3:A:76:ASP:N	2.51	0.40
2:B:156:GLU:HB3	2:B:160:ARG:HH12	1.85	0.40
3:D:88:LYS:NZ	3:D:109:GLU:HB3	2.36	0.40
3:D:727:LYS:HE3	3:D:749:ALA:HB3	2.02	0.40
2:F:101:ARG:HA	2:F:104:GLU:CG	2.51	0.40
2:F:119:ALA:O	2:F:122:GLU:HG3	2.22	0.40
2:F:137:ASP:O	2:F:141:MET:HG3	2.22	0.40
3:J:192:ARG:HD3	3:J:195:GLN:NE2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:498:PHE:HB2	3:L:517:PHE:CG	2.56	0.40
3:L:504:GLU:O	3:L:507:LYS:HG3	2.21	0.40
3:K:167:MET:HG3	3:K:459:TYR:HE2	1.85	0.40
3:K:179:THR:HG23	3:K:679:ARG:NH2	2.36	0.40
3:K:297:LYS:NZ	3:K:334:MET:H	2.19	0.40
3:K:401:LYS:HE3	3:K:401:LYS:HB2	1.90	0.40
3:K:441:LEU:HD13	3:K:441:LEU:HA	1.95	0.40
3:N:305:LEU:HD11	3:N:354:TYR:HB3	2.03	0.40
3:N:726:PHE:HE2	3:N:750:SER:HA	1.86	0.40
1:E:61:GLN:OE1	1:E:64:ARG:HD3	2.20	0.40
2:C:115:GLU:HA	2:C:118:LYS:HB3	2.03	0.40
3:A:566:ASN:HA	3:A:584:VAL:HG22	2.03	0.40
3:D:476:SER:N	3:D:479:GLN:HE21	2.19	0.40
2:G:169:LEU:HD22	2:F:165:VAL:HB	2.04	0.40
3:J:96:THR:OG1	3:J:779:GLY:N	2.54	0.40
3:J:247:ARG:HA	3:J:247:ARG:HD2	1.78	0.40
3:J:442:TRP:HB3	3:J:623:TYR:HE1	1.86	0.40
3:J:765:LYS:HD3	3:J:765:LYS:HA	1.86	0.40
3:L:511:GLU:HB2	3:L:514:PHE:CE2	2.55	0.40
3:L:576:LYS:HD2	3:L:577:VAL:H	1.86	0.40
3:L:729:ARG:HA	3:L:729:ARG:HD3	1.93	0.40
3:K:49:VAL:HA	3:K:105:TYR:OH	2.22	0.40
3:K:297:LYS:HD3	3:K:330:GLN:HB3	2.03	0.40
3:K:707:LEU:HA	3:K:710:ILE:HG12	2.04	0.40
3:N:731:LYS:HG3	3:N:735:ALA:HA	2.02	0.40
1:H:307:MET:HA	1:H:337:ARG:HH12	1.86	0.40
1:O:168:TYR:HD2	1:P:66:ILE:HD13	1.86	0.40
2:C:179:SER:HA	2:C:182:ARG:NE	2.36	0.40
3:A:54:GLN:HE22	3:A:57:GLU:HB2	1.87	0.40
3:A:200:ILE:HD12	3:A:200:ILE:HA	1.84	0.40
3:A:510:ILE:HD12	3:A:510:ILE:HA	1.94	0.40
3:A:698:LEU:O	3:A:701:LEU:HB3	2.22	0.40
2:B:108:THR:O	2:B:111:GLN:NE2	2.54	0.40
3:D:8:MET:SD	3:D:22:GLU:HG2	2.62	0.40
3:D:274:LYS:CG	3:D:433:LYS:HB3	2.51	0.40
3:J:118:THR:HG22	3:J:119:TYR:H	1.86	0.40
3:J:584:VAL:HA	3:J:589:THR:HA	2.03	0.40
3:J:717:PHE:CD1	3:J:774:LYS:HD3	2.56	0.40
3:L:117:TYR:CE1	3:L:135:VAL:HG21	2.57	0.40
3:L:580:HIS:ND1	3:L:594:ILE:HB	2.35	0.40
3:K:20:LYS:HB3	3:K:24:GLU:CG	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:165:GLN:O	3:K:169:THR:HG23	2.22	0.40
3:K:721:ILE:HD11	3:K:773:PHE:CE2	2.56	0.40
3:N:15:ALA:HB1	3:N:19:ARG:NH1	2.36	0.40
3:N:550:THR:HG22	3:N:554:ASN:HD21	1.86	0.40
3:N:722:LEU:HD23	3:N:770:LYS:HG2	2.03	0.40
2:C:172:LEU:HD12	2:C:172:LEU:HA	1.94	0.40
1:P:61:GLN:O	1:P:64:ARG:HG3	2.21	0.40
1:R:140:ALA:HB1	1:R:154:VAL:HG11	2.03	0.40
3:A:110:ARG:NH2	3:A:118:THR:HG23	2.37	0.40
3:A:133:LEU:HD23	3:A:133:LEU:HA	1.83	0.40
3:A:182:SER:OG	3:A:242:ASN:ND2	2.36	0.40
3:A:274:LYS:CD	3:A:433:LYS:HB3	2.50	0.40
3:A:274:LYS:HE2	3:A:437:GLU:HG3	2.04	0.40
3:D:251:PHE:HB2	3:D:464:LEU:HD12	2.03	0.40
3:D:266:ASP:HA	3:D:448:ASN:OD1	2.21	0.40
2:F:86:ALA:O	2:F:90:ARG:NE	2.55	0.40
3:J:80:PRO:HB2	3:J:97:HIS:NE2	2.36	0.40
3:J:226:SER:HB2	3:J:342:ILE:HD11	2.03	0.40
3:L:31:LYS:HD2	3:L:31:LYS:HA	1.91	0.40
3:L:192:ARG:HH11	3:L:195:GLN:NE2	2.15	0.40
3:L:439:MET:HA	3:L:623:TYR:CZ	2.55	0.40
3:L:454:LYS:HD2	3:L:454:LYS:N	2.37	0.40
3:N:25:ARG:O	3:N:29:GLN:HB2	2.21	0.40
3:N:179:THR:HG23	3:N:679:ARG:NH2	2.36	0.40
3:N:238:LYS:HG2	3:N:321:GLU:OE2	2.21	0.40
3:N:666:LEU:O	3:N:668:THR:N	2.55	0.40
3:N:698:LEU:O	3:N:701:LEU:HB3	2.21	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	E	369/371 (100%)	346 (94%)	23 (6%)	0	100	100
1	H	369/371 (100%)	346 (94%)	23 (6%)	0	100	100
1	O	369/371 (100%)	349 (95%)	20 (5%)	0	100	100
1	P	369/371 (100%)	344 (93%)	25 (7%)	0	100	100
1	Q	369/371 (100%)	349 (95%)	20 (5%)	0	100	100
1	R	369/371 (100%)	349 (95%)	20 (5%)	0	100	100
2	B	164/166 (99%)	161 (98%)	3 (2%)	0	100	100
2	C	164/166 (99%)	157 (96%)	7 (4%)	0	100	100
2	F	164/166 (99%)	163 (99%)	1 (1%)	0	100	100
2	G	164/166 (99%)	161 (98%)	3 (2%)	0	100	100
3	A	728/780 (93%)	665 (91%)	63 (9%)	0	100	100
3	D	728/780 (93%)	665 (91%)	63 (9%)	0	100	100
3	J	728/780 (93%)	665 (91%)	63 (9%)	0	100	100
3	K	728/780 (93%)	660 (91%)	68 (9%)	0	100	100
3	L	728/780 (93%)	654 (90%)	74 (10%)	0	100	100
3	N	728/780 (93%)	665 (91%)	63 (9%)	0	100	100
All	All	7238/7570 (96%)	6699 (93%)	539 (7%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	E	314/314 (100%)	313 (100%)	1 (0%)	91	94
1	H	314/314 (100%)	313 (100%)	1 (0%)	91	94
1	O	314/314 (100%)	314 (100%)	0	100	100
1	P	314/314 (100%)	314 (100%)	0	100	100
1	Q	314/314 (100%)	314 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	R	314/314 (100%)	314 (100%)	0	100	100
2	B	142/142 (100%)	139 (98%)	3 (2%)	48	70
2	C	142/142 (100%)	136 (96%)	6 (4%)	25	54
2	F	142/142 (100%)	139 (98%)	3 (2%)	48	70
2	G	142/142 (100%)	136 (96%)	6 (4%)	25	54
3	A	637/663 (96%)	630 (99%)	7 (1%)	70	82
3	D	637/663 (96%)	633 (99%)	4 (1%)	84	90
3	J	637/663 (96%)	630 (99%)	7 (1%)	70	82
3	K	637/663 (96%)	633 (99%)	4 (1%)	84	90
3	L	637/663 (96%)	632 (99%)	5 (1%)	79	87
3	N	637/663 (96%)	631 (99%)	6 (1%)	75	85
All	All	6274/6430 (98%)	6221 (99%)	53 (1%)	77	87

All (53) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	97	ARG
1	H	97	ARG
2	C	101	ARG
2	C	105	ARG
2	C	125	ARG
2	C	160	ARG
2	C	178	ARG
2	C	182	ARG
3	A	148	LYS
3	A	171	ARG
3	A	457	ARG
3	A	493	PHE
3	A	507	LYS
3	A	702	ARG
3	A	720	ARG
2	B	101	ARG
2	B	178	ARG
2	B	182	ARG
3	D	148	LYS
3	D	171	ARG
3	D	507	LYS
3	D	702	ARG

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Mol	Chain	Res	Type
2	G	101	ARG
2	G	105	ARG
2	G	125	ARG
2	G	160	ARG
2	G	178	ARG
2	G	182	ARG
2	F	101	ARG
2	F	178	ARG
2	F	182	ARG
3	J	19	ARG
3	J	148	LYS
3	J	171	ARG
3	J	457	ARG
3	J	507	LYS
3	J	702	ARG
3	J	720	ARG
3	L	19	ARG
3	L	148	LYS
3	L	507	LYS
3	L	702	ARG
3	L	720	ARG
3	K	171	ARG
3	K	457	ARG
3	K	507	LYS
3	K	702	ARG
3	N	19	ARG
3	N	148	LYS
3	N	171	ARG
3	N	507	LYS
3	N	702	ARG
3	N	720	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (121) such sidechains are listed below:

Mol	Chain	Res	Type
1	E	90	HIS
1	E	94	ASN
1	E	227	ASN
1	H	75	HIS
1	H	90	HIS
1	H	94	ASN
1	O	61	GLN

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Mol	Chain	Res	Type
1	O	89	HIS
1	O	90	HIS
1	O	94	ASN
1	Q	89	HIS
1	Q	90	HIS
1	Q	94	ASN
1	Q	227	ASN
2	C	103	GLN
2	C	111	GLN
2	C	132	ASN
1	R	89	HIS
1	R	90	HIS
1	R	94	ASN
1	R	164	ASN
1	R	227	ASN
3	A	162	ASN
3	A	189	ASN
3	A	392	GLN
3	A	448	ASN
3	A	490	GLN
3	A	554	ASN
3	A	559	GLN
3	A	614	GLN
3	A	704	ASN
3	A	728	GLN
2	B	68	GLN
2	B	103	GLN
2	B	111	GLN
2	B	132	ASN
2	B	144	GLN
3	D	189	ASN
3	D	242	ASN
3	D	365	ASN
3	D	392	GLN
3	D	419	GLN
3	D	479	GLN
3	D	490	GLN
3	D	554	ASN
3	D	559	GLN
3	D	614	GLN
3	D	664	ASN
3	D	704	ASN

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Mol	Chain	Res	Type
3	D	734	ASN
3	D	768	HIS
2	G	89	ASN
2	G	111	GLN
2	G	132	ASN
2	F	68	GLN
2	F	132	ASN
2	F	144	GLN
2	F	202	ASN
2	F	203	ASN
3	J	29	GLN
3	J	162	ASN
3	J	189	ASN
3	J	195	GLN
3	J	236	ASN
3	J	392	GLN
3	J	455	GLN
3	J	490	GLN
3	J	491	GLN
3	J	554	ASN
3	J	614	GLN
3	J	704	ASN
3	J	734	ASN
3	L	30	ASN
3	L	97	HIS
3	L	106	ASN
3	L	162	ASN
3	L	189	ASN
3	L	195	GLN
3	L	242	ASN
3	L	255	HIS
3	L	392	GLN
3	L	448	ASN
3	L	490	GLN
3	L	554	ASN
3	L	614	GLN
3	L	664	ASN
3	L	674	HIS
3	L	704	ASN
3	L	728	GLN
3	L	734	ASN
3	K	106	ASN

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Mol	Chain	Res	Type
3	K	162	ASN
3	K	189	ASN
3	K	195	GLN
3	K	255	HIS
3	K	365	ASN
3	K	392	GLN
3	K	426	ASN
3	K	483	ASN
3	K	490	GLN
3	K	614	GLN
3	K	674	HIS
3	K	676	HIS
3	K	704	ASN
3	N	30	ASN
3	N	82	ASN
3	N	162	ASN
3	N	242	ASN
3	N	365	ASN
3	N	392	GLN
3	N	426	ASN
3	N	448	ASN
3	N	483	ASN
3	N	554	ASN
3	N	614	GLN
3	N	664	ASN
3	N	674	HIS
3	N	676	HIS
3	N	704	ASN
3	N	728	GLN
3	N	734	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

6 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	ADP	H	401	-	24,29,29	0.93	1 (4%)	29,45,45	1.48	4 (13%)
4	ADP	E	401	-	24,29,29	0.93	1 (4%)	29,45,45	1.48	4 (13%)
4	ADP	R	401	-	24,29,29	0.93	1 (4%)	29,45,45	1.50	4 (13%)
4	ADP	P	401	-	24,29,29	0.93	1 (4%)	29,45,45	1.49	4 (13%)
4	ADP	Q	401	-	24,29,29	0.94	1 (4%)	29,45,45	1.49	4 (13%)
4	ADP	O	401	-	24,29,29	0.93	1 (4%)	29,45,45	1.50	4 (13%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	ADP	H	401	-	-	3/12/32/32	0/3/3/3
4	ADP	E	401	-	-	3/12/32/32	0/3/3/3
4	ADP	R	401	-	-	3/12/32/32	0/3/3/3
4	ADP	P	401	-	-	3/12/32/32	0/3/3/3
4	ADP	Q	401	-	-	3/12/32/32	0/3/3/3
4	ADP	O	401	-	-	3/12/32/32	0/3/3/3

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	P	401	ADP	C5-C4	2.26	1.46	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	H	401	ADP	C5-C4	2.25	1.46	1.40
4	E	401	ADP	C5-C4	2.24	1.46	1.40
4	Q	401	ADP	C5-C4	2.23	1.46	1.40
4	R	401	ADP	C5-C4	2.23	1.46	1.40
4	O	401	ADP	C5-C4	2.19	1.46	1.40

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	Q	401	ADP	PA-O3A-PB	-3.76	119.93	132.83
4	R	401	ADP	PA-O3A-PB	-3.75	119.95	132.83
4	O	401	ADP	PA-O3A-PB	-3.74	119.98	132.83
4	P	401	ADP	PA-O3A-PB	-3.73	120.02	132.83
4	E	401	ADP	PA-O3A-PB	-3.64	120.32	132.83
4	H	401	ADP	PA-O3A-PB	-3.58	120.56	132.83
4	H	401	ADP	C3'-C2'-C1'	3.30	105.95	100.98
4	E	401	ADP	C3'-C2'-C1'	3.29	105.93	100.98
4	O	401	ADP	C3'-C2'-C1'	3.26	105.89	100.98
4	R	401	ADP	C3'-C2'-C1'	3.26	105.88	100.98
4	Q	401	ADP	C3'-C2'-C1'	3.25	105.88	100.98
4	P	401	ADP	C3'-C2'-C1'	3.24	105.86	100.98
4	Q	401	ADP	N3-C2-N1	-2.93	124.09	128.68
4	H	401	ADP	N3-C2-N1	-2.92	124.11	128.68
4	O	401	ADP	N3-C2-N1	-2.90	124.15	128.68
4	R	401	ADP	N3-C2-N1	-2.89	124.17	128.68
4	E	401	ADP	N3-C2-N1	-2.79	124.31	128.68
4	P	401	ADP	N3-C2-N1	-2.79	124.32	128.68
4	P	401	ADP	C4-C5-N7	-2.75	106.53	109.40
4	E	401	ADP	C4-C5-N7	-2.75	106.54	109.40
4	H	401	ADP	C4-C5-N7	-2.71	106.58	109.40
4	Q	401	ADP	C4-C5-N7	-2.70	106.58	109.40
4	R	401	ADP	C4-C5-N7	-2.70	106.58	109.40
4	O	401	ADP	C4-C5-N7	-2.70	106.59	109.40

There are no chirality outliers.

All (18) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	E	401	ADP	C5'-O5'-PA-O2A
4	H	401	ADP	C5'-O5'-PA-O2A
4	O	401	ADP	C5'-O5'-PA-O2A
4	Q	401	ADP	C5'-O5'-PA-O2A

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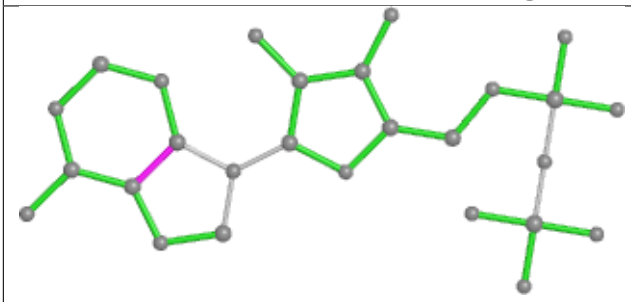
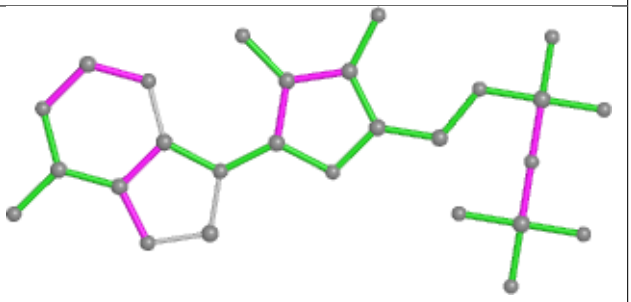
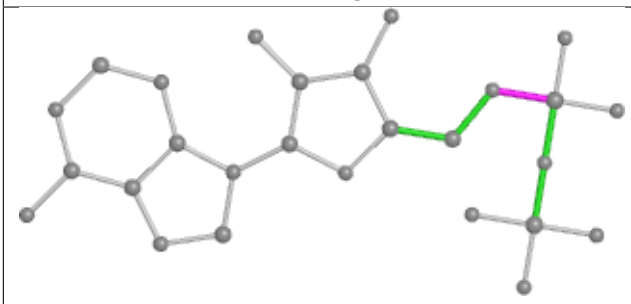
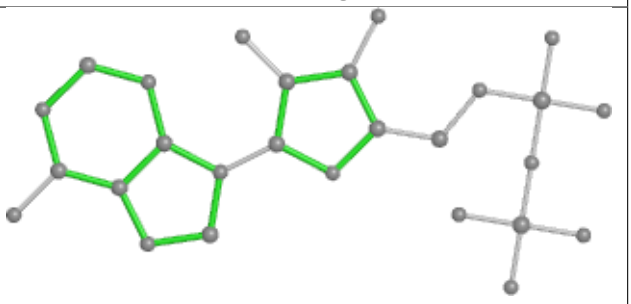
Mol	Chain	Res	Type	Atoms
4	P	401	ADP	C5'-O5'-PA-O2A
4	R	401	ADP	C5'-O5'-PA-O2A
4	E	401	ADP	C5'-O5'-PA-O3A
4	H	401	ADP	C5'-O5'-PA-O3A
4	O	401	ADP	C5'-O5'-PA-O3A
4	Q	401	ADP	C5'-O5'-PA-O3A
4	P	401	ADP	C5'-O5'-PA-O3A
4	R	401	ADP	C5'-O5'-PA-O3A
4	E	401	ADP	C5'-O5'-PA-O1A
4	H	401	ADP	C5'-O5'-PA-O1A
4	Q	401	ADP	C5'-O5'-PA-O1A
4	O	401	ADP	C5'-O5'-PA-O1A
4	P	401	ADP	C5'-O5'-PA-O1A
4	R	401	ADP	C5'-O5'-PA-O1A

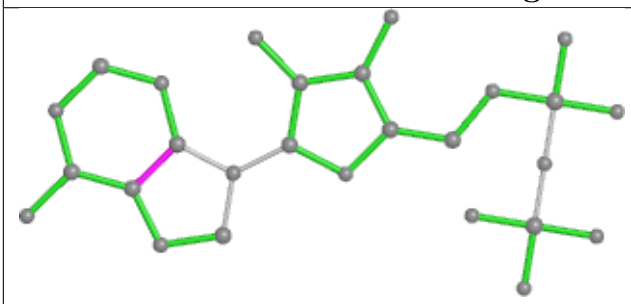
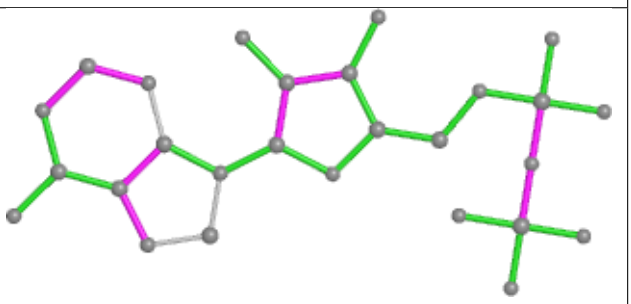
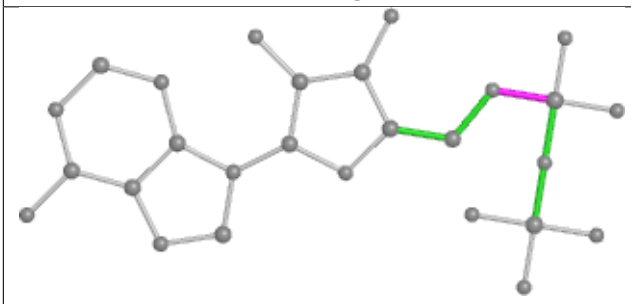
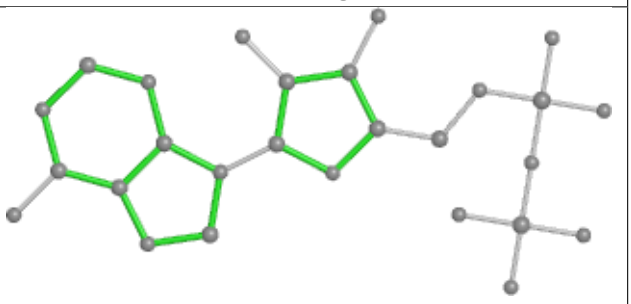
There are no ring outliers.

6 monomers are involved in 18 short contacts:

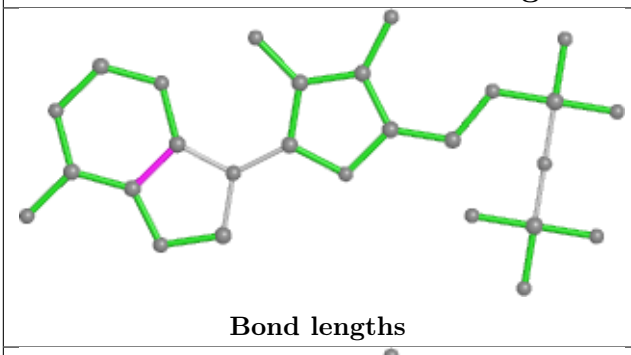
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	H	401	ADP	3	0
4	E	401	ADP	3	0
4	R	401	ADP	3	0
4	P	401	ADP	3	0
4	Q	401	ADP	3	0
4	O	401	ADP	3	0

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

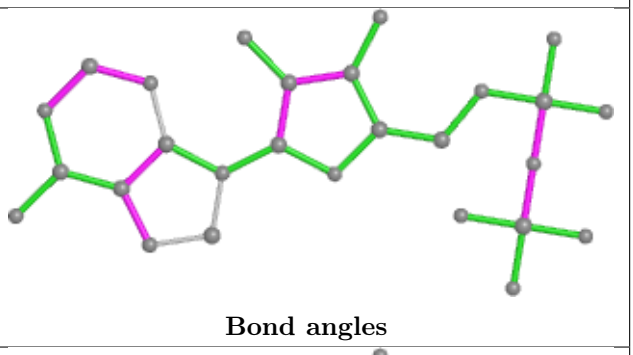
Ligand ADP H 401	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP E 401	
 Bond lengths	 Bond angles
 Torsions	 Rings

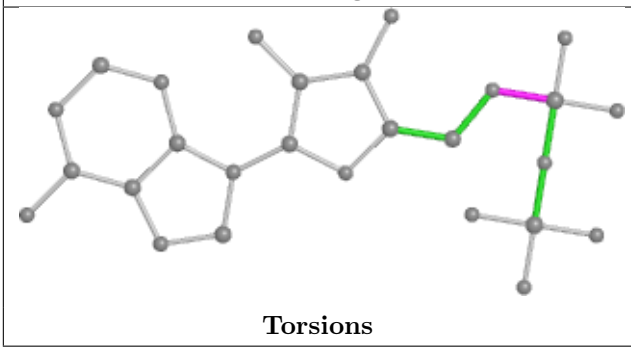
Ligand ADP R 401



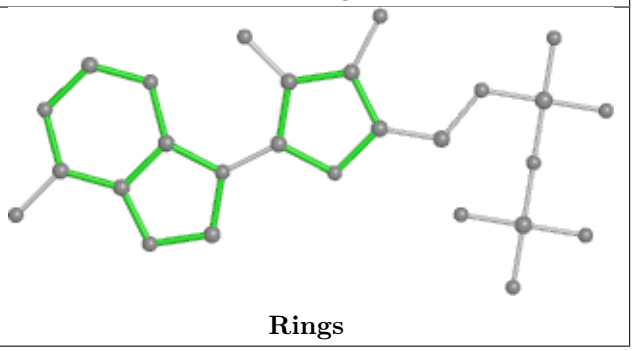
Bond lengths



Bond angles

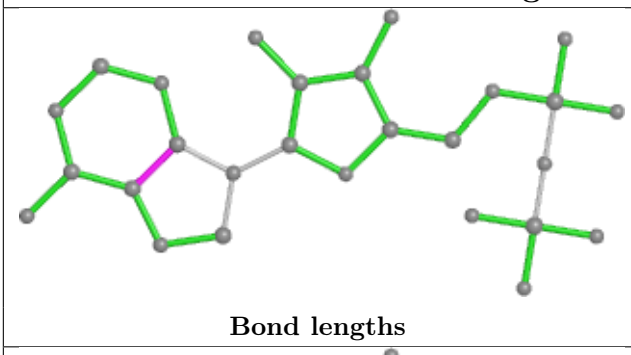


Torsions

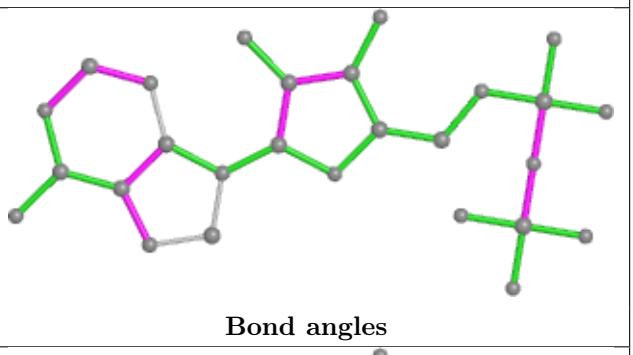


Rings

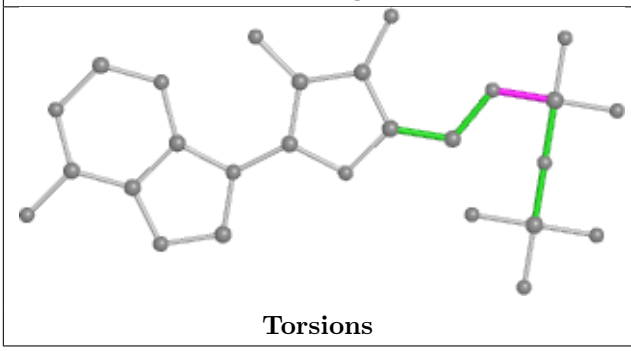
Ligand ADP P 401



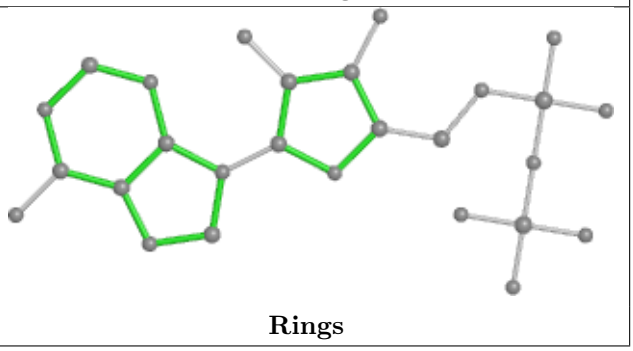
Bond lengths



Bond angles

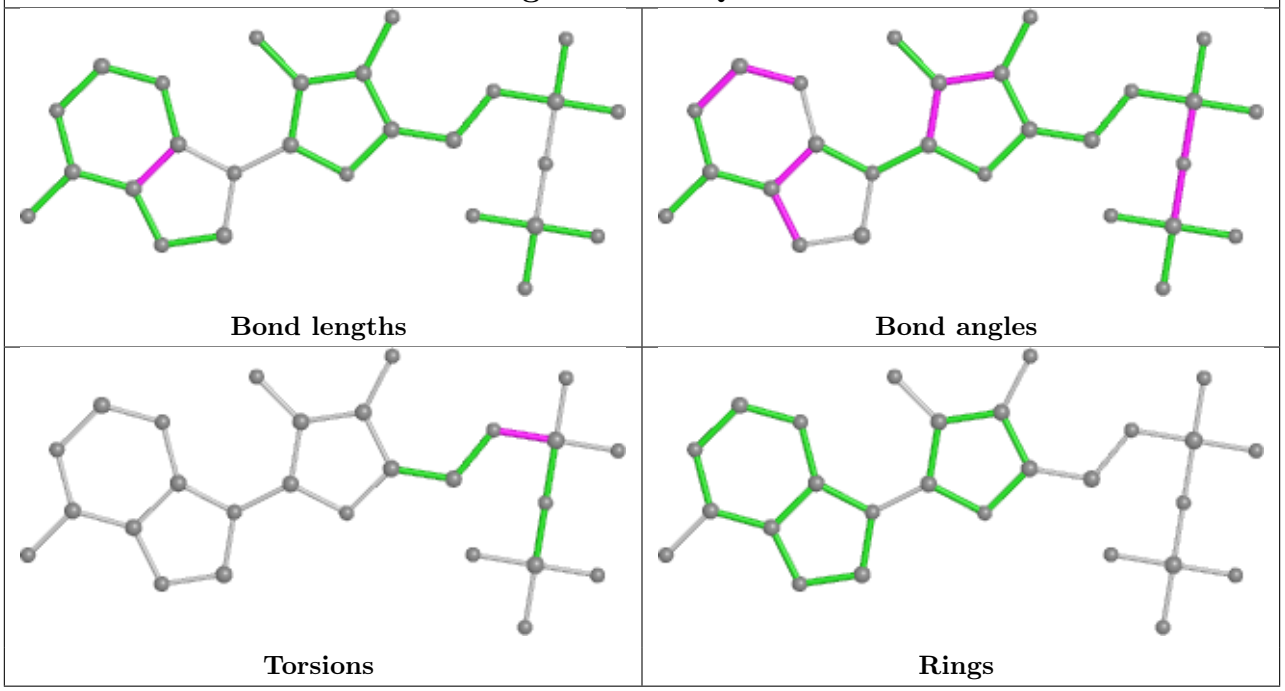


Torsions

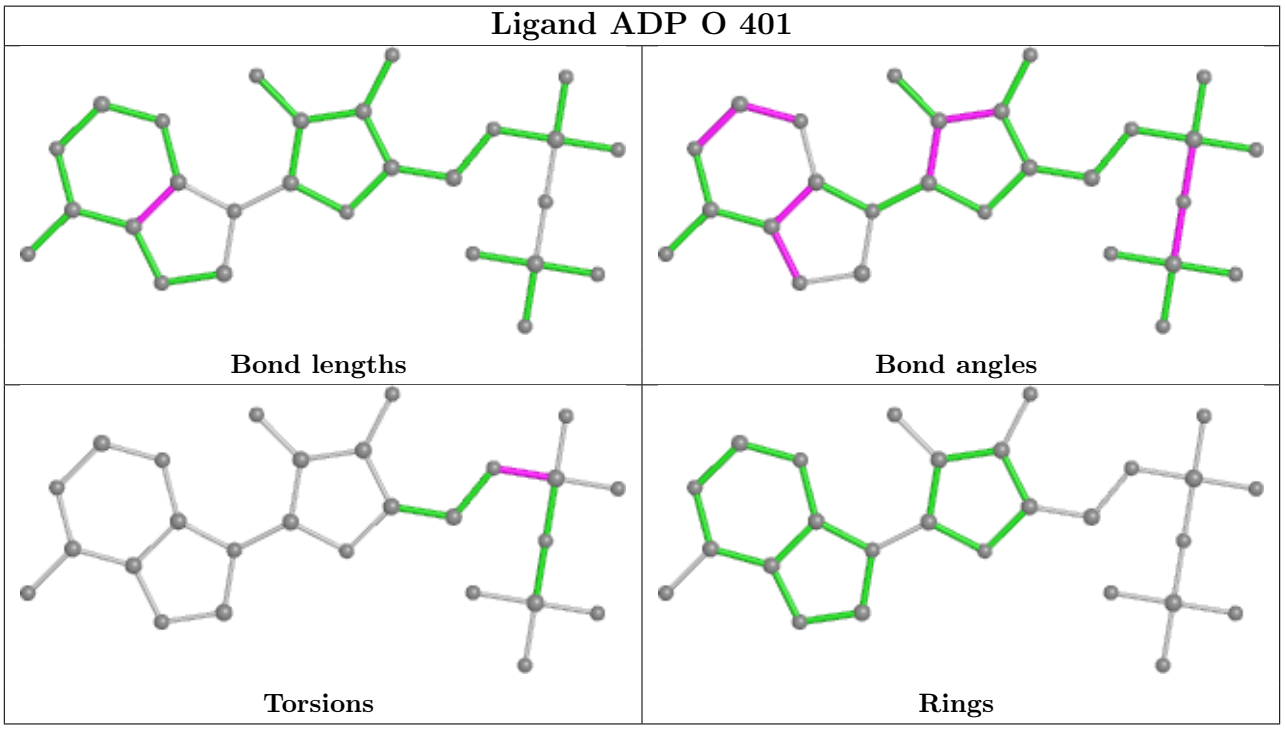


Rings

Ligand ADP Q 401



Ligand ADP O 401



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

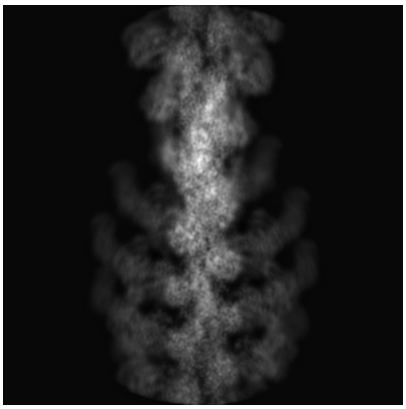
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-39905. These allow visual inspection of the internal detail of the map and identification of artifacts.

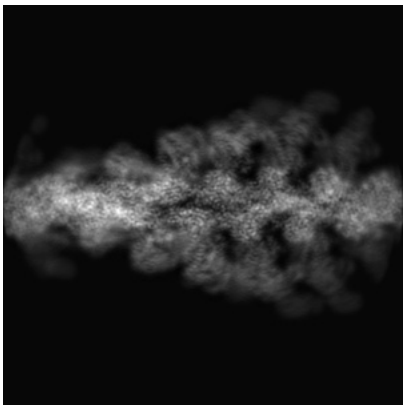
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

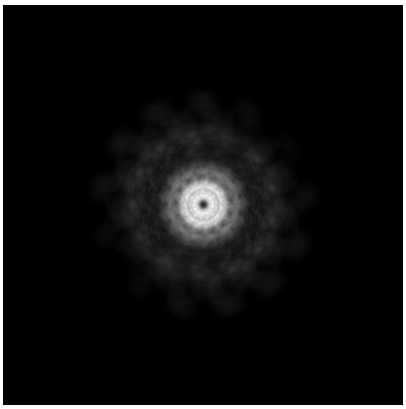
6.1.1 Primary map



X

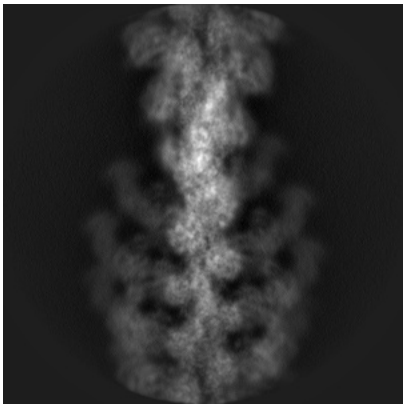


Y

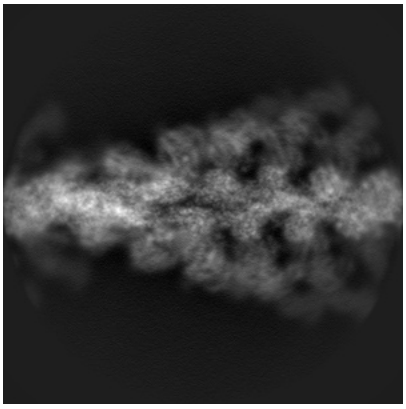


Z

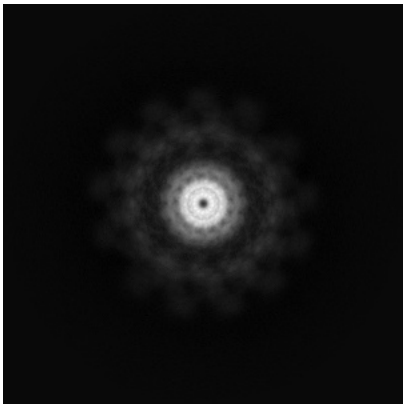
6.1.2 Raw map



X



Y

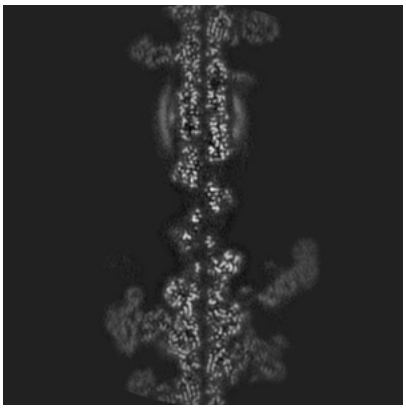


Z

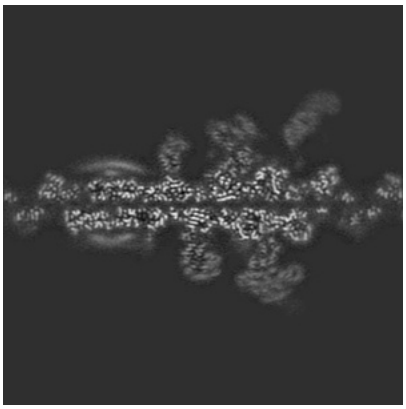
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

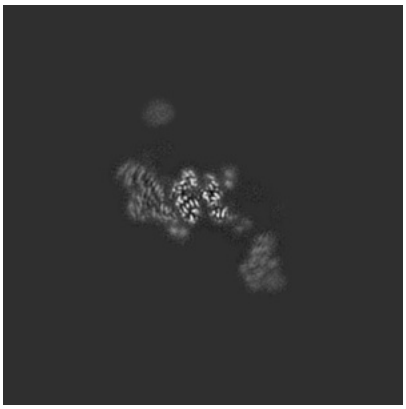
6.2.1 Primary map



X Index: 256

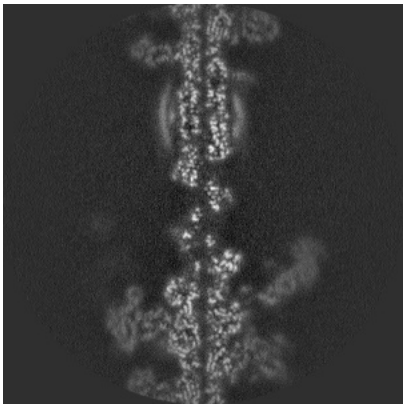


Y Index: 256

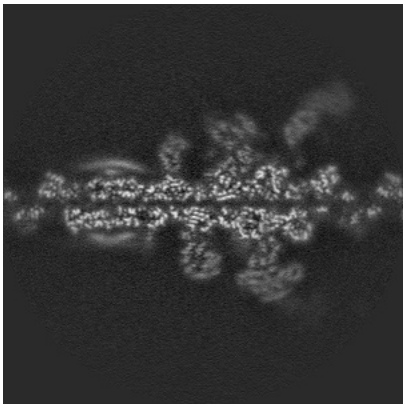


Z Index: 256

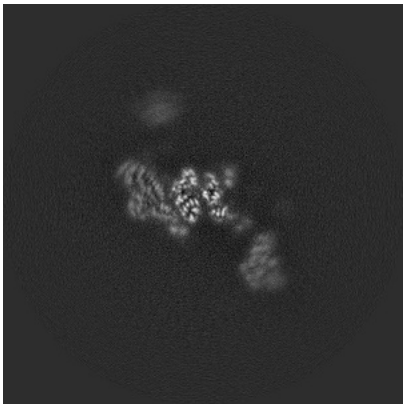
6.2.2 Raw map



X Index: 256



Y Index: 256

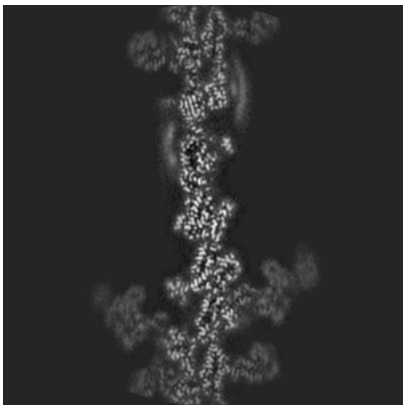


Z Index: 256

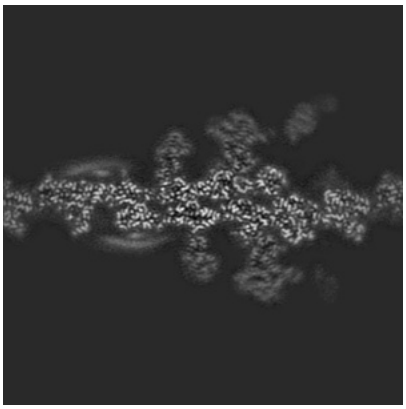
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

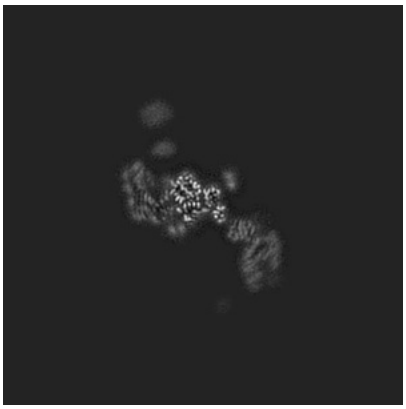
6.3.1 Primary map



X Index: 245

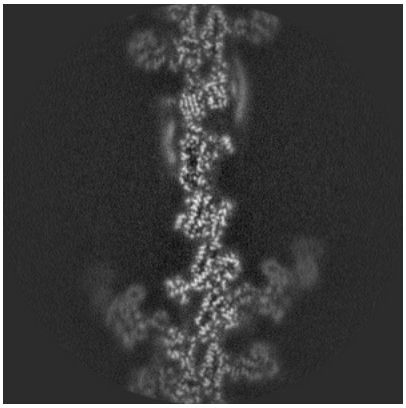


Y Index: 248

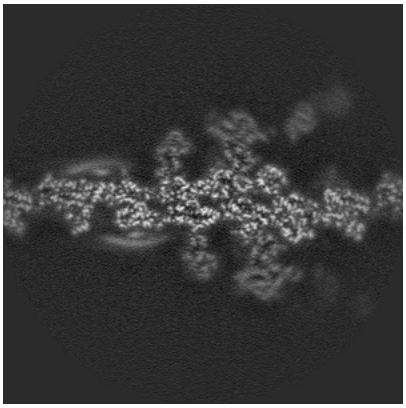


Z Index: 247

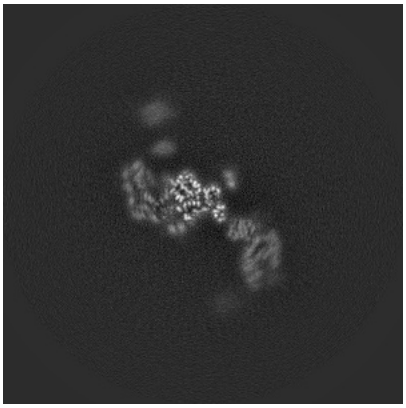
6.3.2 Raw map



X Index: 246



Y Index: 248

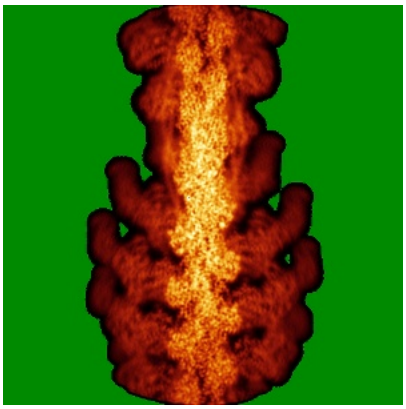


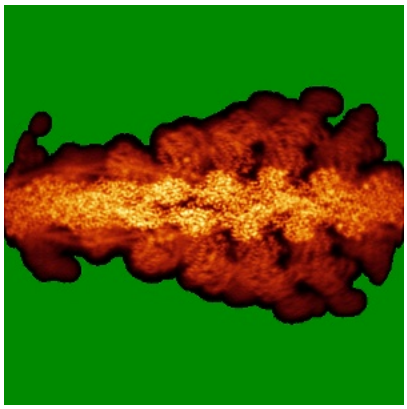
Z Index: 247

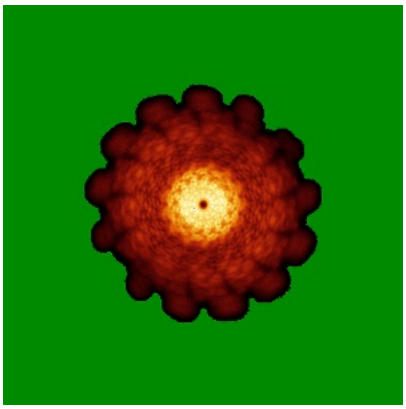
The images above show the largest variance slices of the map in three orthogonal directions.

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

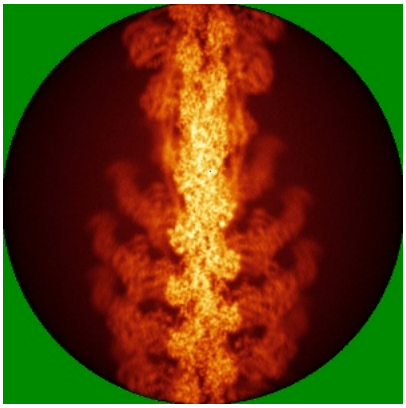
6.4.1 Primary map

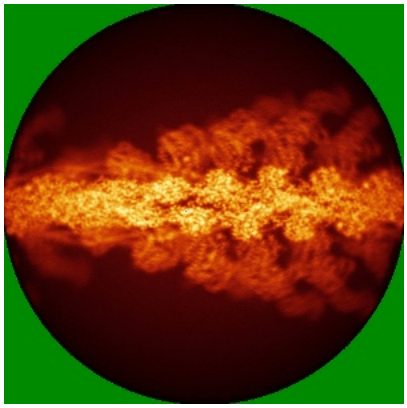

X

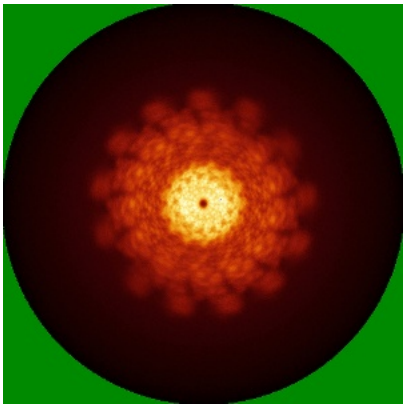

Y


Z

6.4.2 Raw map


X

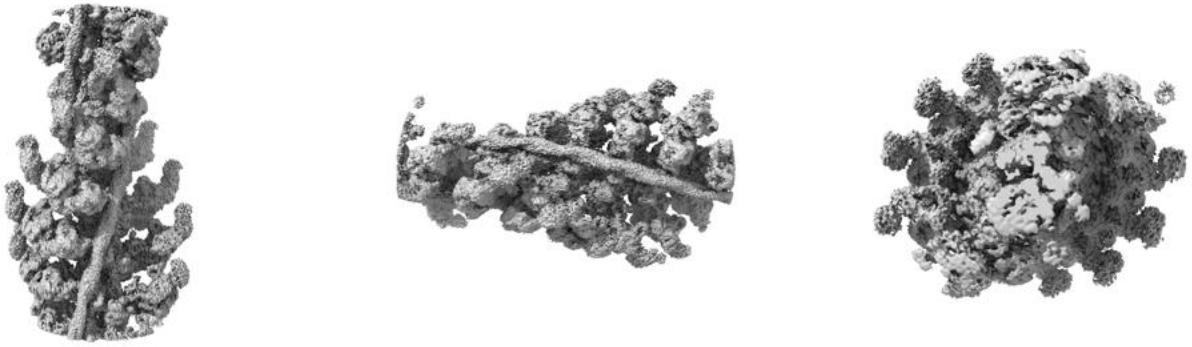

Y


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

6.5.2 Raw map

X Y Z

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

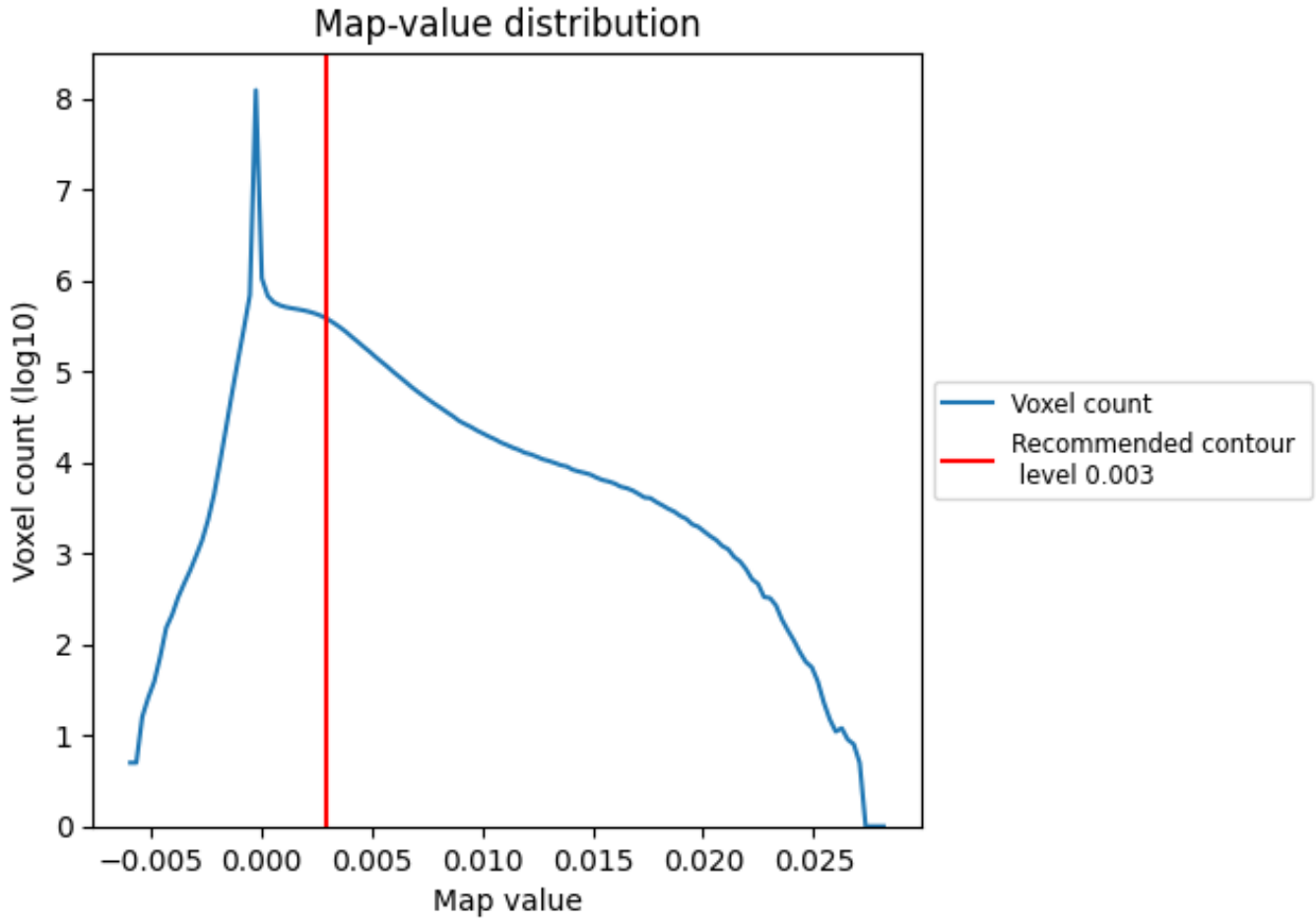
6.6 Mask visualisation (i)

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

7 Map analysis

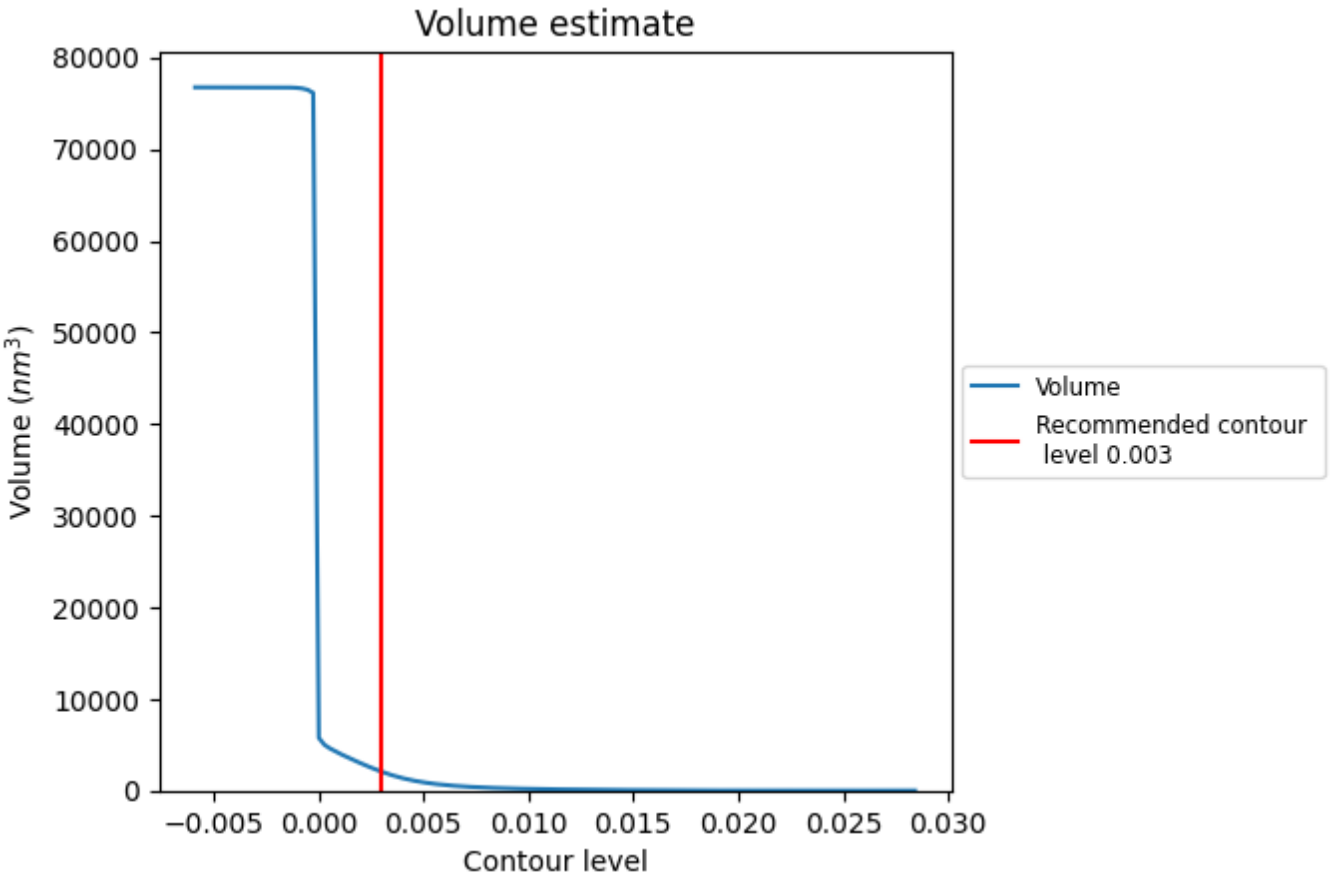
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

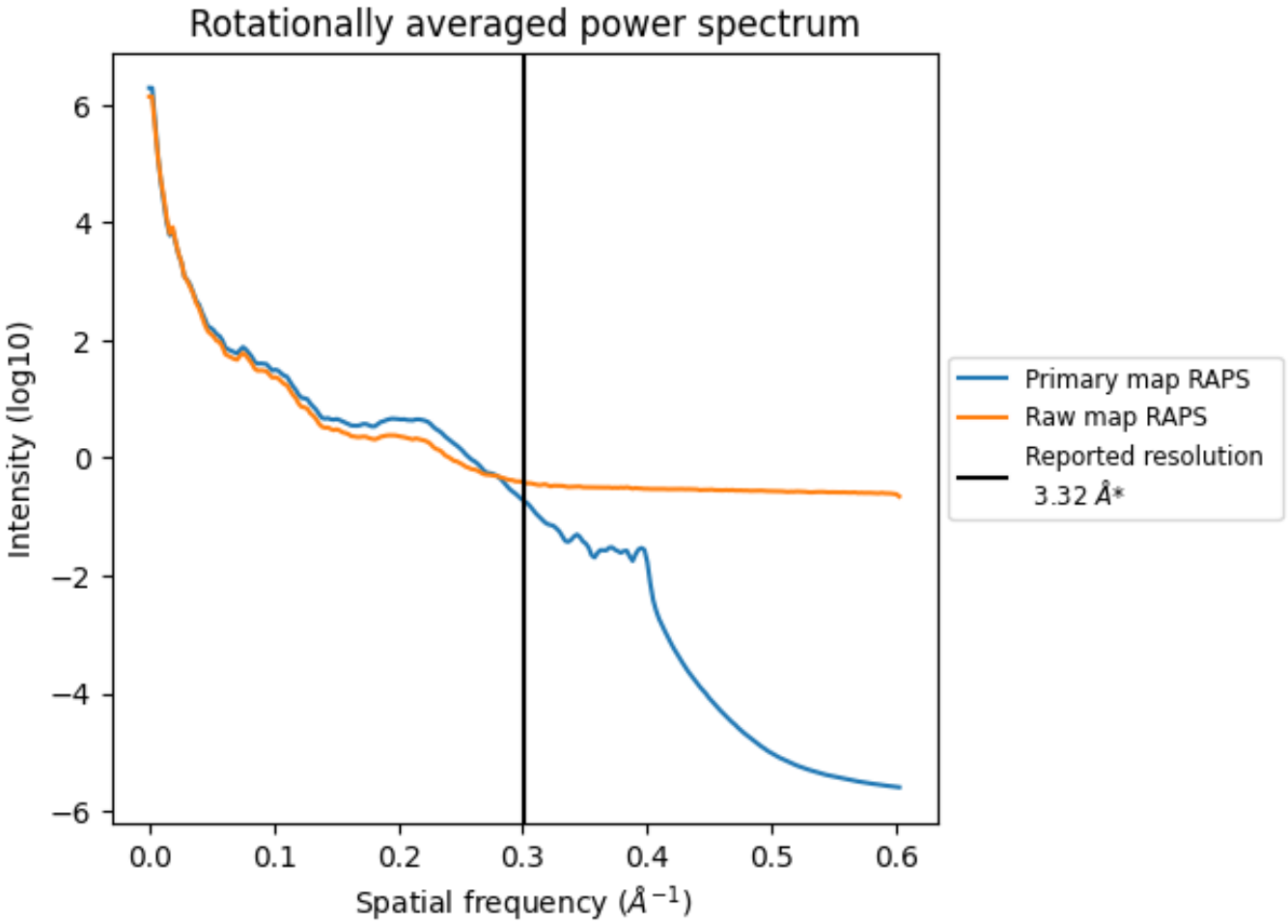
7.2 Volume estimate



The volume at the recommended contour level is 2063 nm^3; this corresponds to an approximate mass of 1863 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)

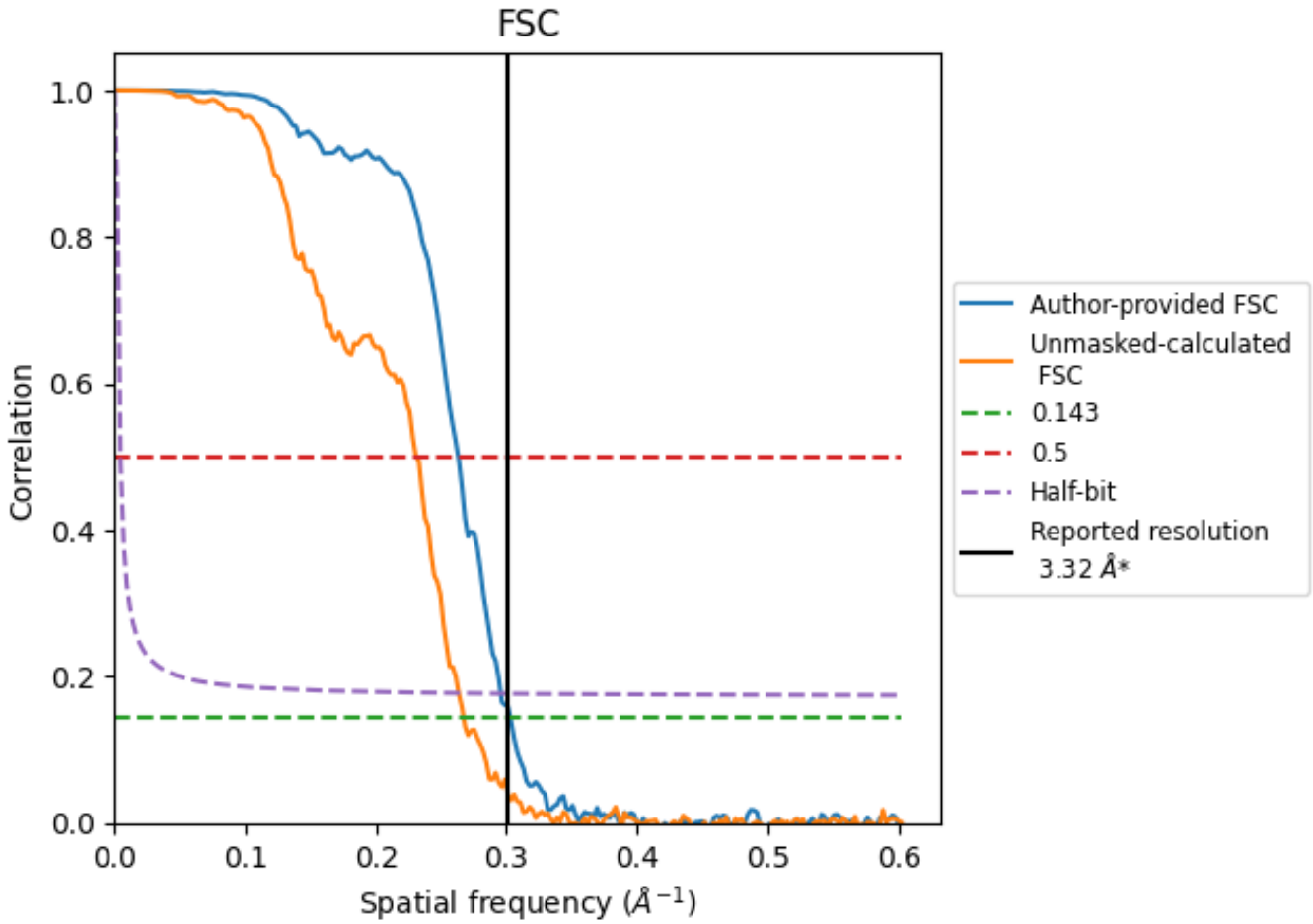


*Reported resolution corresponds to spatial frequency of 0.301 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.301 Å^{-1}

8.2 Resolution estimates (i)

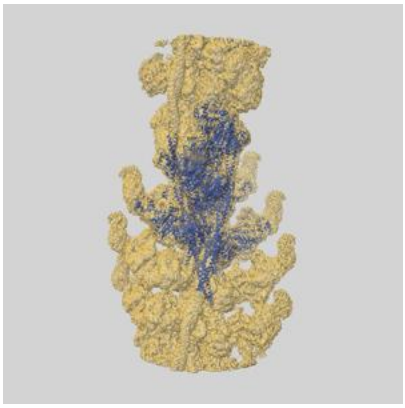
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.32	-	-
Author-provided FSC curve	3.30	3.80	3.38
Unmasked-calculated*	3.74	4.33	3.80

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.74 differs from the reported value 3.32 by more than 10 %

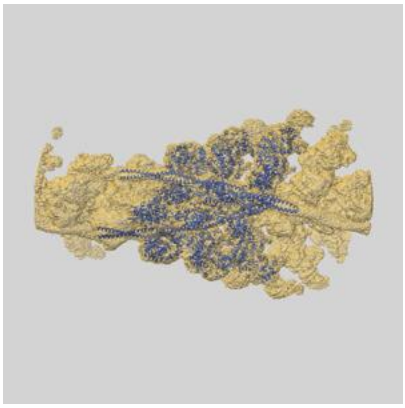
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-39905 and PDB model 8ZBM. Per-residue inclusion information can be found in section 3 on page 6.

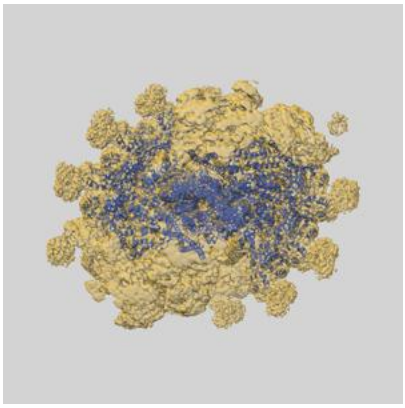
9.1 Map-model overlay



X



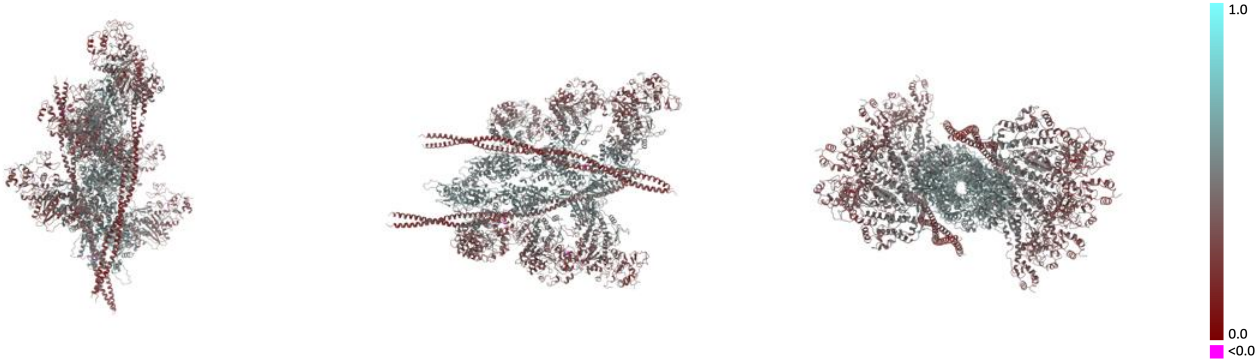
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.003 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.

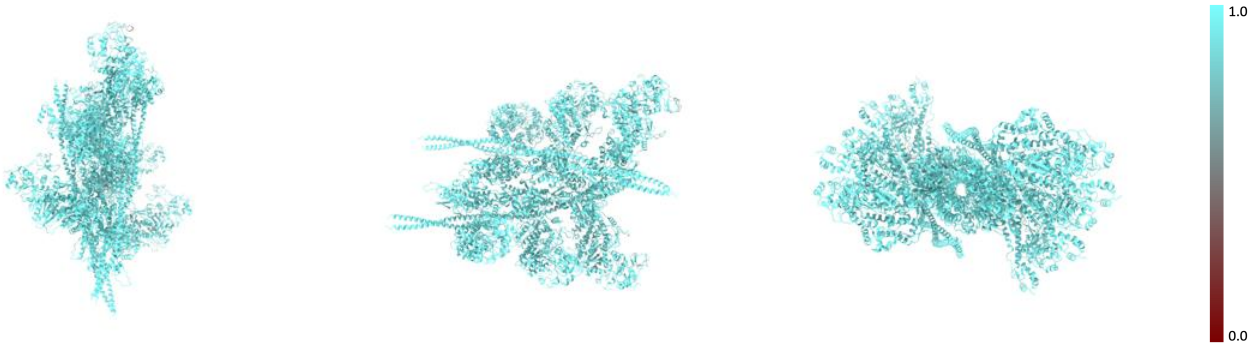
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

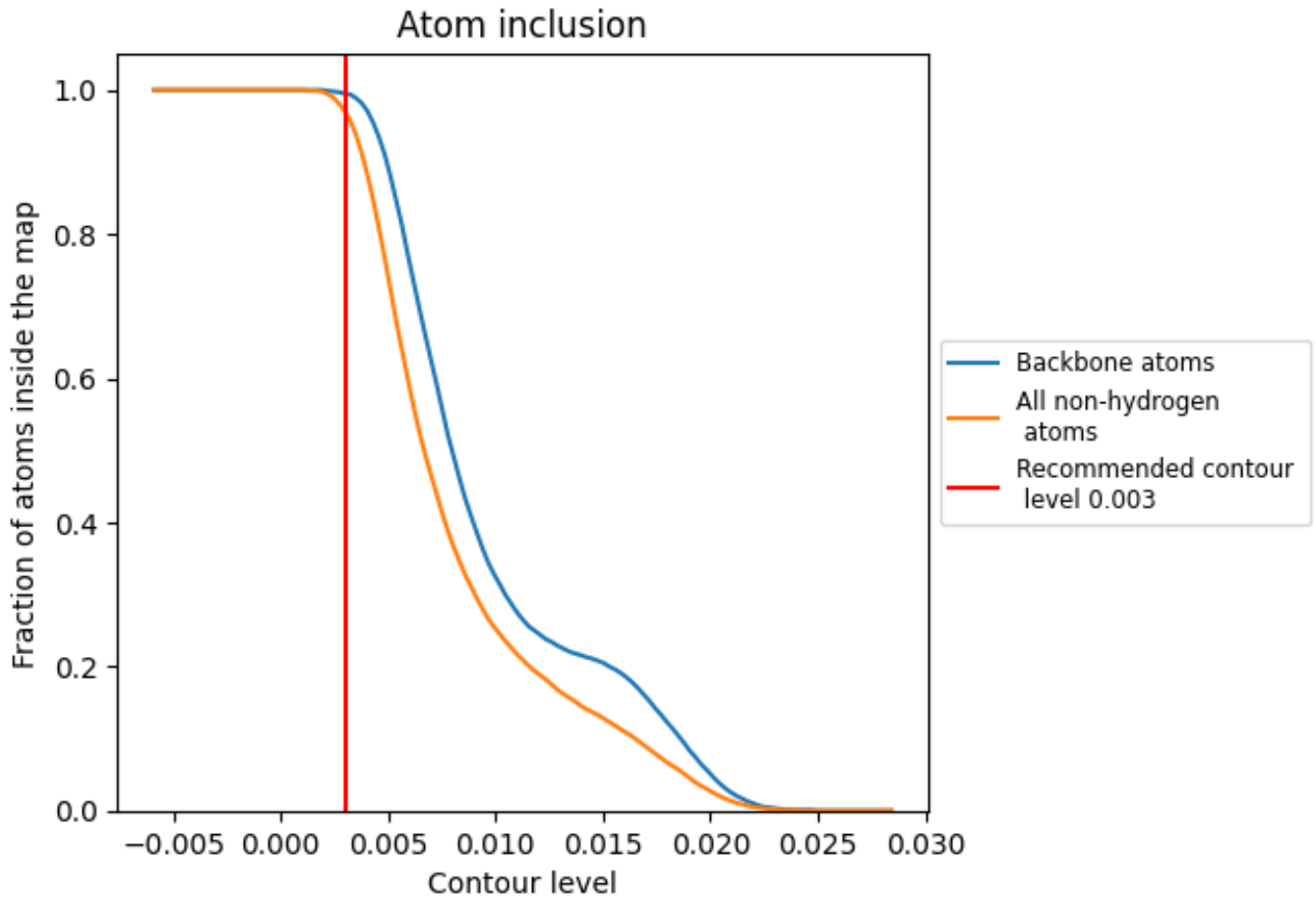
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.003).

9.4 Atom inclusion (i)



At the recommended contour level, 100% of all backbone atoms, 97% 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 (0.003) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9700	0.4180
A	0.9600	0.3860
B	0.9800	0.2430
C	0.9790	0.2510
D	0.9580	0.3840
E	0.9970	0.5410
F	0.9820	0.2370
G	0.9760	0.2400
H	0.9970	0.5380
J	0.9590	0.3860
K	0.9470	0.3780
L	0.9570	0.3880
N	0.9530	0.3820
O	0.9990	0.5420
P	0.9980	0.5360
Q	0.9980	0.5430
R	0.9980	0.5390