Full wwPDB EM Validation Report ⓘ

Apr 24, 2025 – 01:37 PM EDT

PDB ID	:	9BLY / pdb_00009bly
EMDB ID	:	EMD-44681
Title	:	Composite structure of full-length human dynein-1 in phi-particle conformation
Authors	:	Chai, P.; Zhang, K.
Deposited on	:	2024-05-02
Resolution	:	3.50 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:

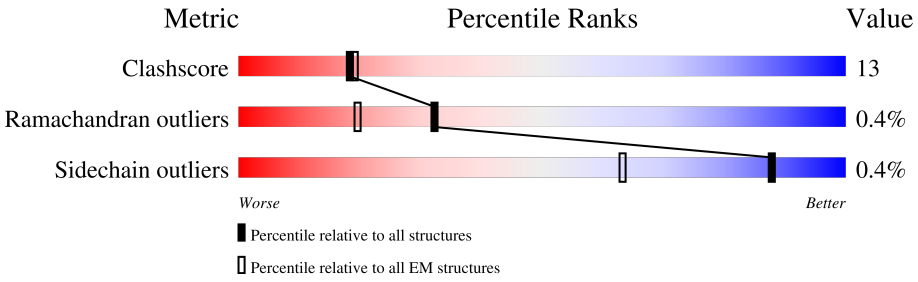
EMDB validation analysis	:	0.0.1.dev117
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

1 Overall quality at a glance

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

The reported resolution of this entry is 3.50 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%

Mol	Chain	Length	Quality of chain
1	A	4646	79% 18% .
1	B	4646	73% 24% . .
2	C	638	57% 5% 38%
2	D	638	35% 27% 38%
3	E	492	61% . 37%
3	F	492	38% 25% 37%
4	G	96	52% 44% . .
4	H	96	51% 46% .
5	I	89	69% 31%

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Mol	Chain	Length	Quality of chain
5	J	89	
6	K	113	
6	L	113	

2 Entry composition (i)

There are 9 unique types of molecules in this entry. The entry contains 89391 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 Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4542	Total 36692	C 23323	N 6381	O 6822	S 166	0	0
1	B	4521	Total 36527	C 23221	N 6349	O 6791	S 166	0	0

- Molecule 2 is a protein called Cytoplasmic dynein 1 intermediate chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	394	Total 3112	C 1962	N 541	O 594	S 15	0	0
2	D	394	Total 3112	C 1962	N 541	O 594	S 15	0	0

- Molecule 3 is a protein called Cytoplasmic dynein 1 light intermediate chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	311	Total 2518	C 1614	N 425	O 468	S 11	0	0
3	F	311	Total 2518	C 1614	N 425	O 468	S 11	0	0

- Molecule 4 is a protein called Dynein light chain roadblock-type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	G	93	Total 742	C 468	N 128	O 143	S 3	0	0
4	H	93	Total 742	C 468	N 128	O 143	S 3	0	0

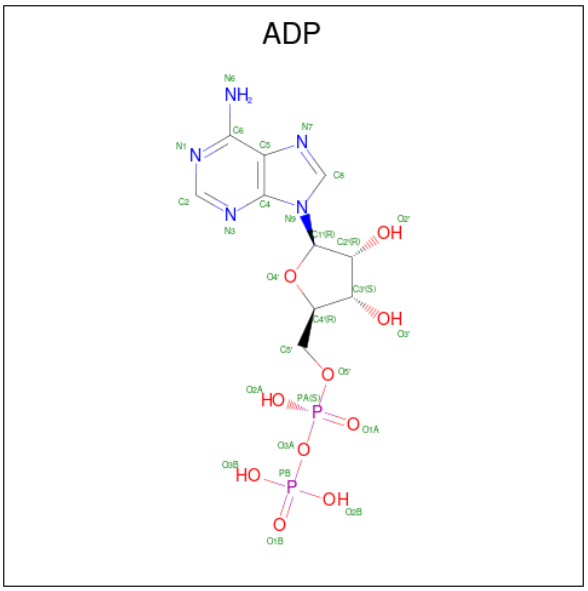
- Molecule 5 is a protein called Dynein light chain 1, cytoplasmic.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	89	Total	C	N	O	S	0	0
			728	465	122	135	6		
5	J	89	Total	C	N	O	S	0	0
			728	465	122	135	6		

- Molecule 6 is a protein called Dynein light chain Tctex-type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	K	113	Total	C	N	O	S	0	0
			872	548	142	175	7		
6	L	113	Total	C	N	O	S	0	0
			872	548	142	175	7		

- Molecule 7 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
7	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	B	1	Total	C	N	O	P	0
			27	10	5	10	2	

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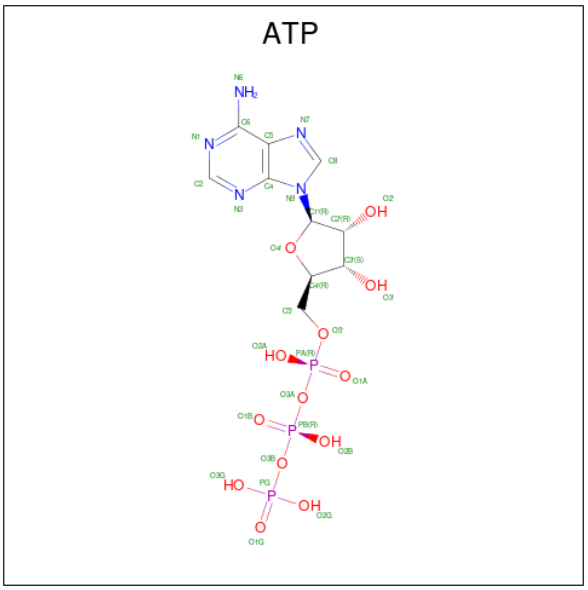
Mol	Chain	Residues	Atoms					AltConf
7	B	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 8 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
8	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
8	B	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 9 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

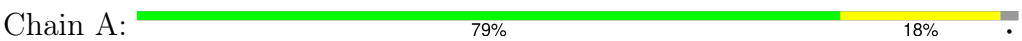
Mol	Chain	Residues	Atoms		AltConf
9	A	2	Total	Mg	0
			2	2	
9	B	2	Total	Mg	0
			2	2	

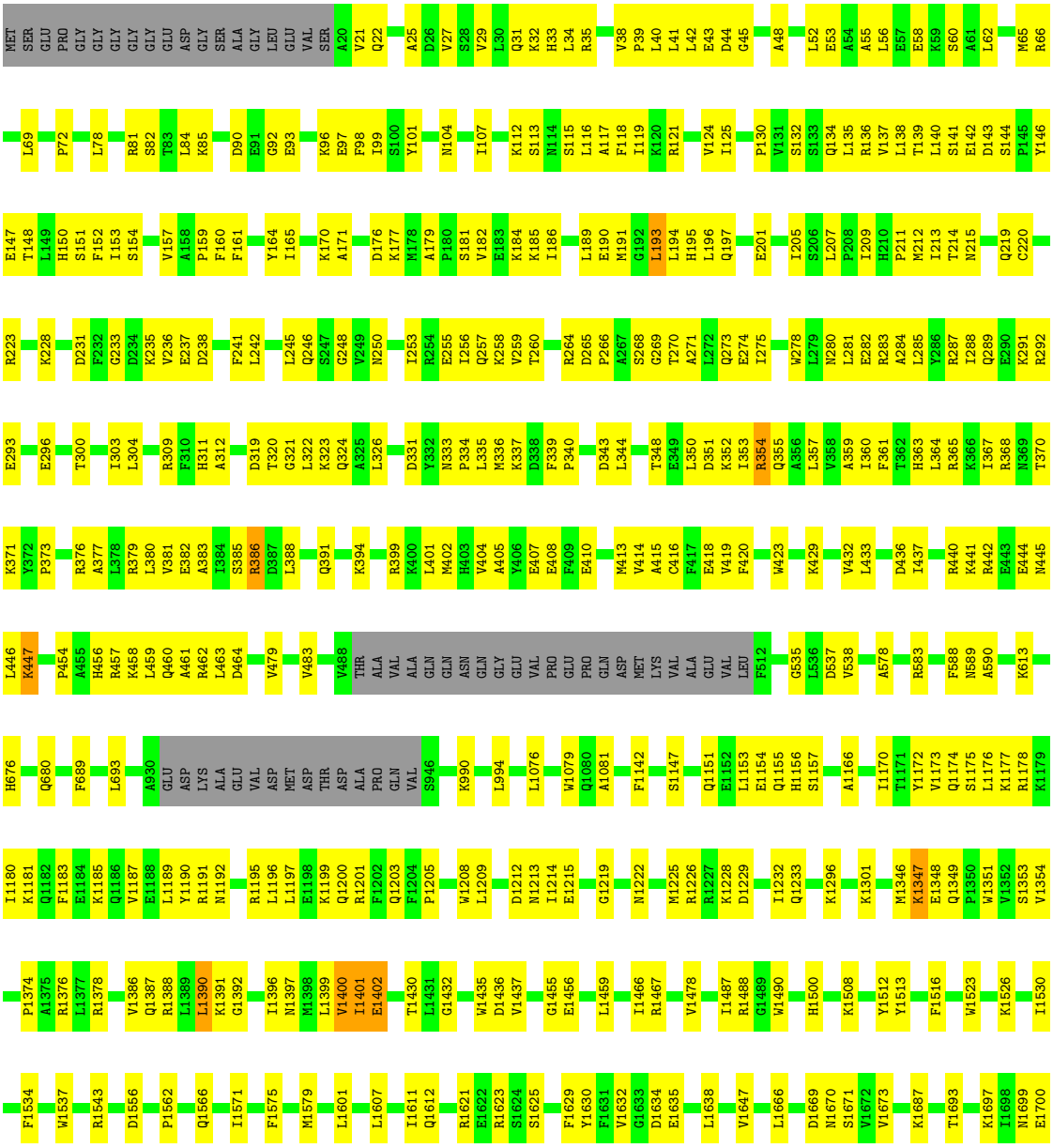
3 Residue-property plots (i)

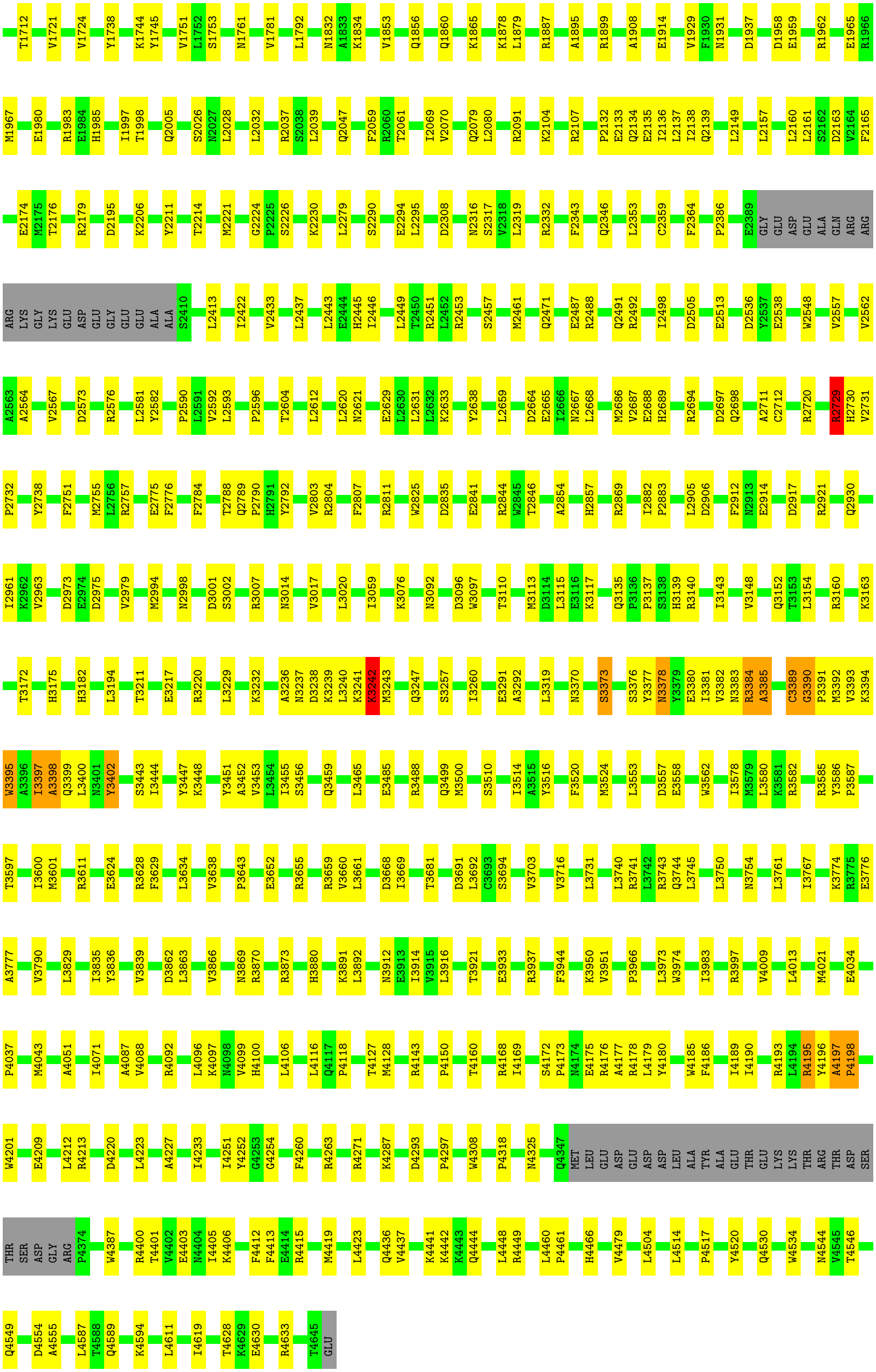
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded 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. 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: Cytoplasmic dynein 1 heavy chain 1

Chain A:

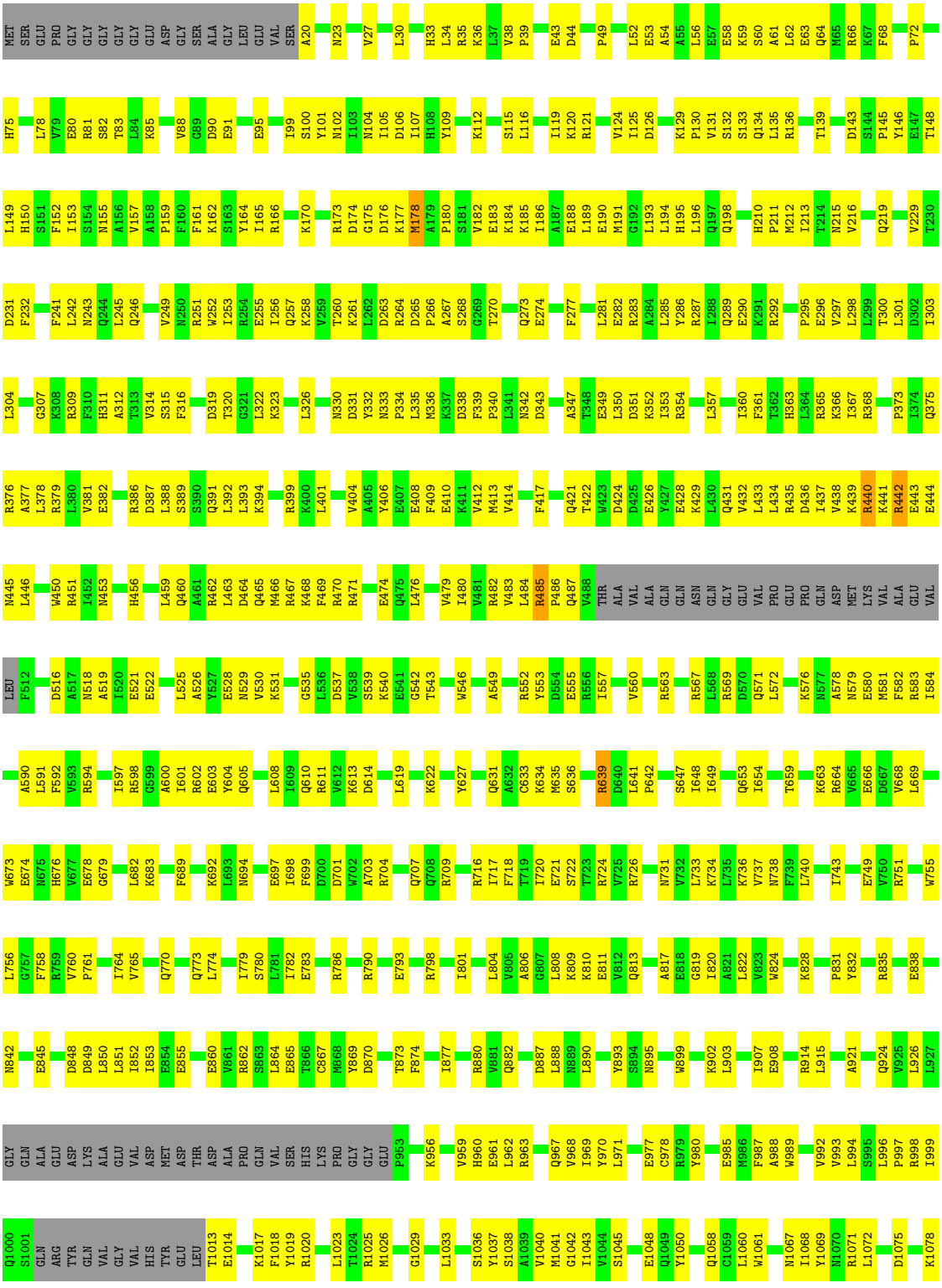


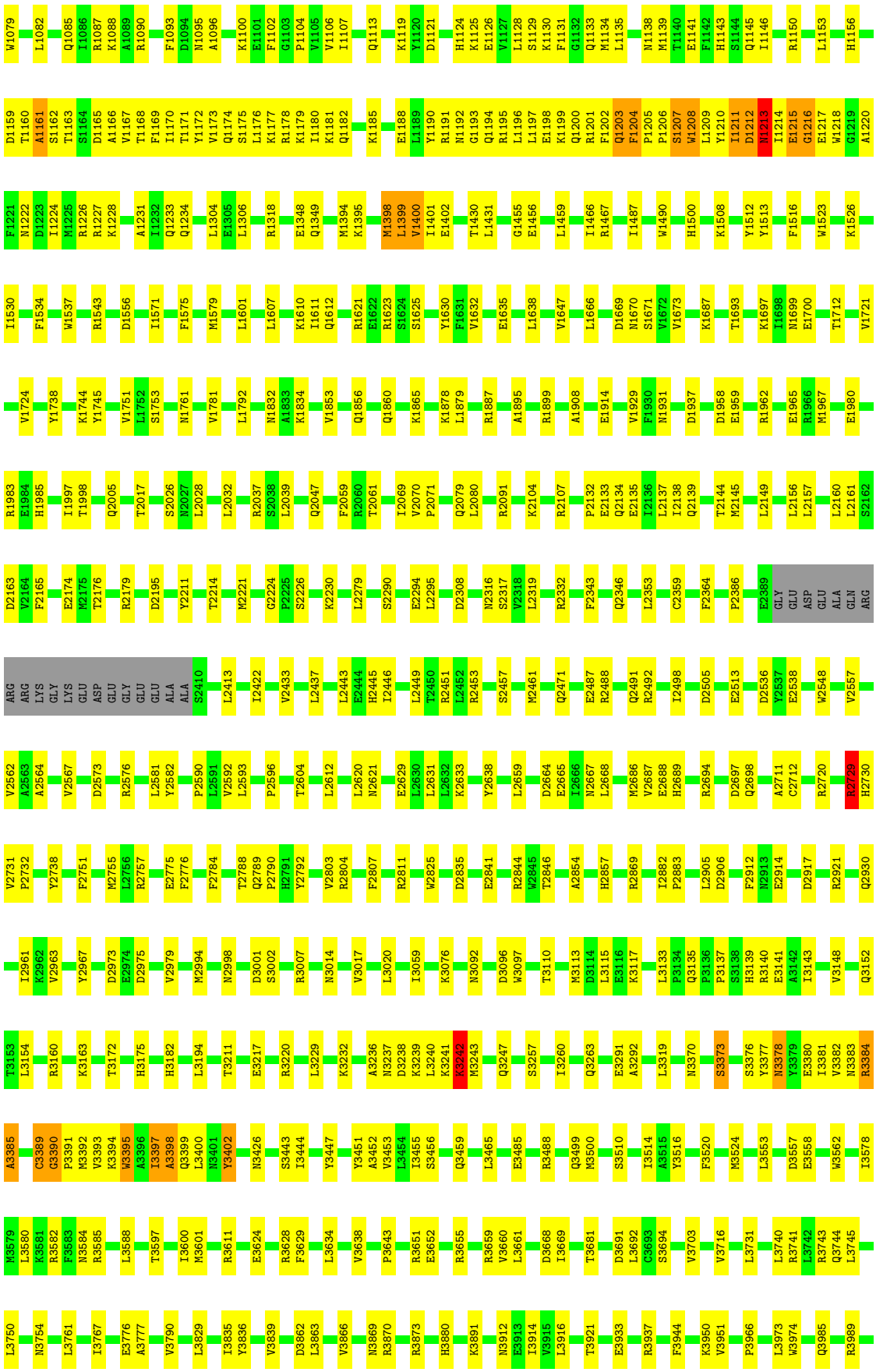


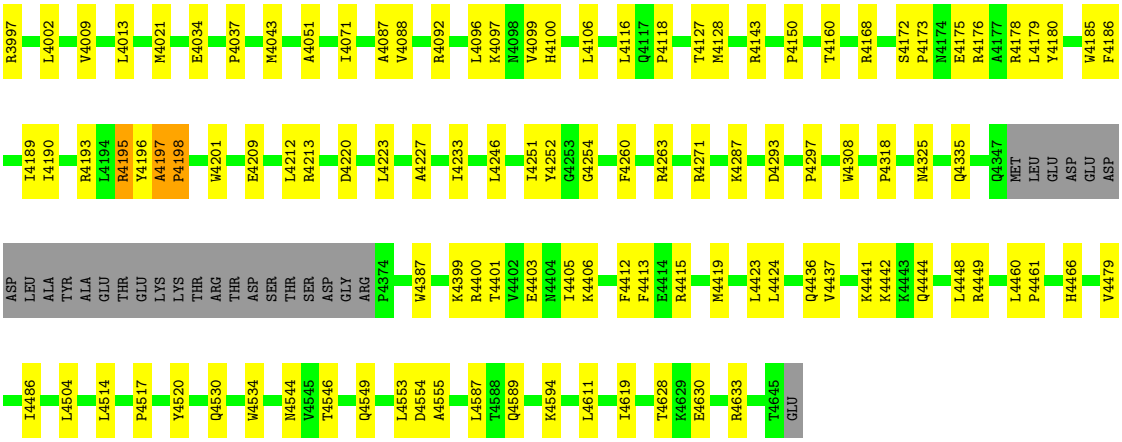


• Molecule 1: Cytoplasmic dynein 1 heavy chain 1

Chain B:

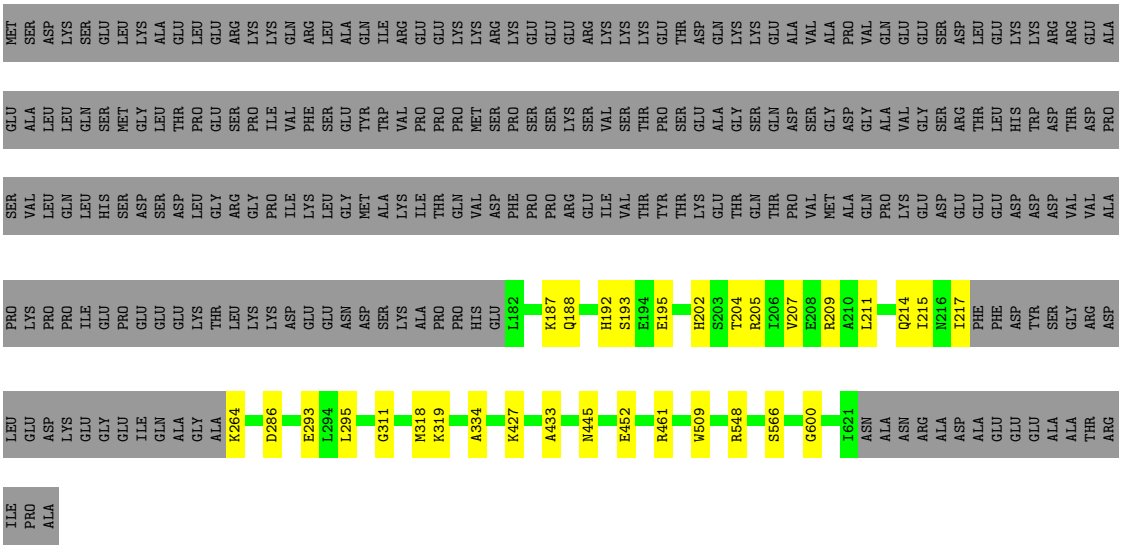






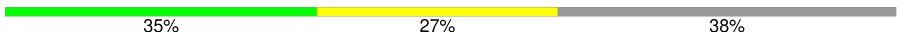
• Molecule 2: Cytoplasmic dynein 1 intermediate chain 2

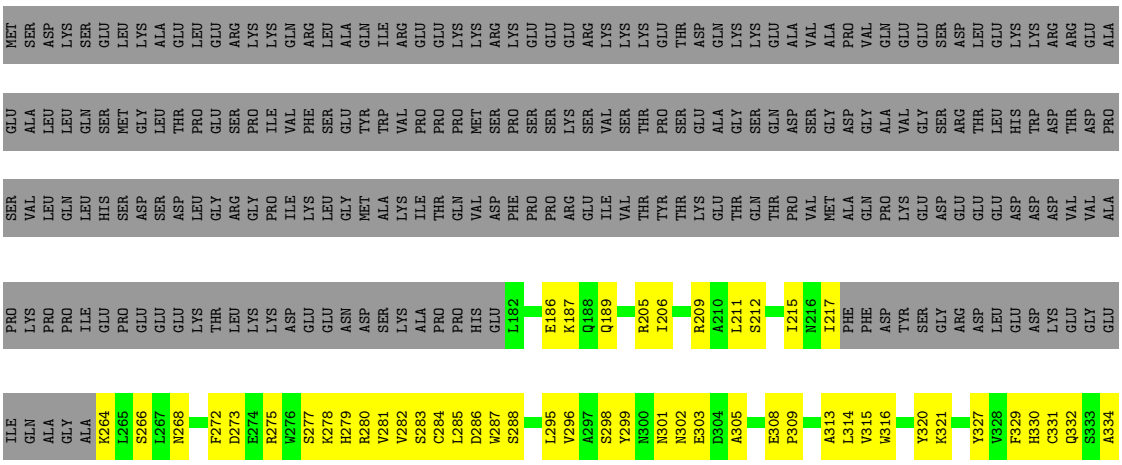
Chain C:

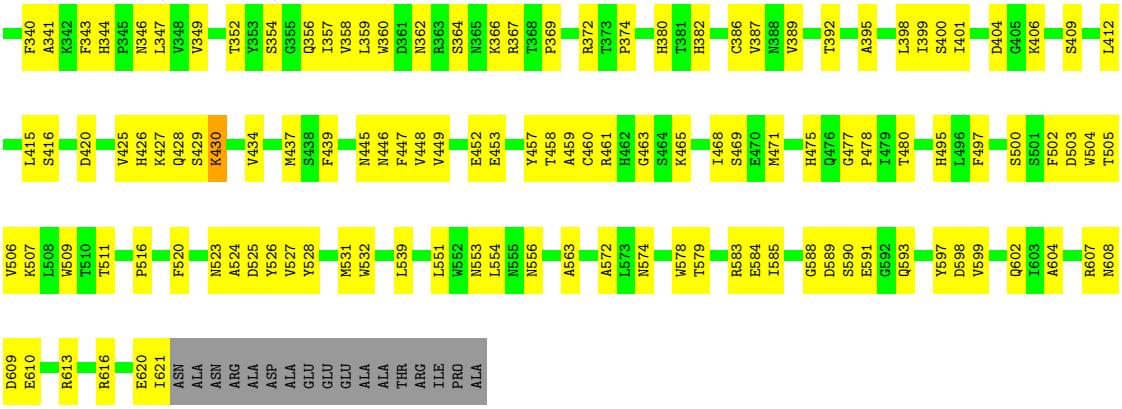


• Molecule 2: Cytoplasmic dynein 1 intermediate chain 2

Chain D:

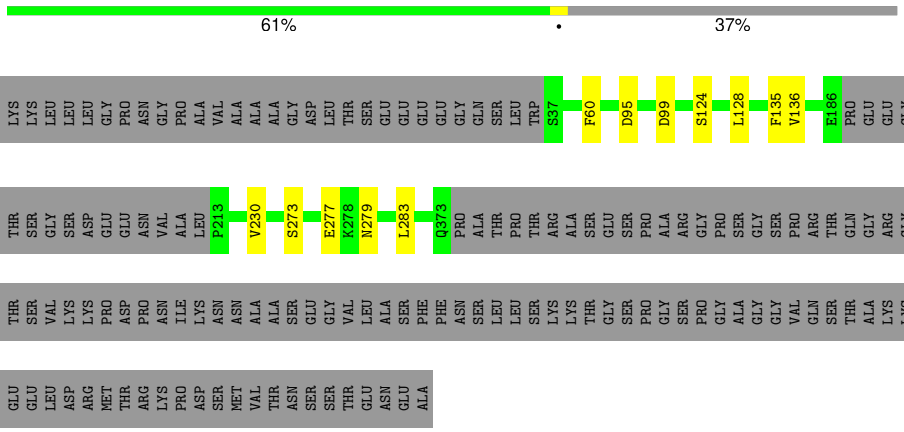






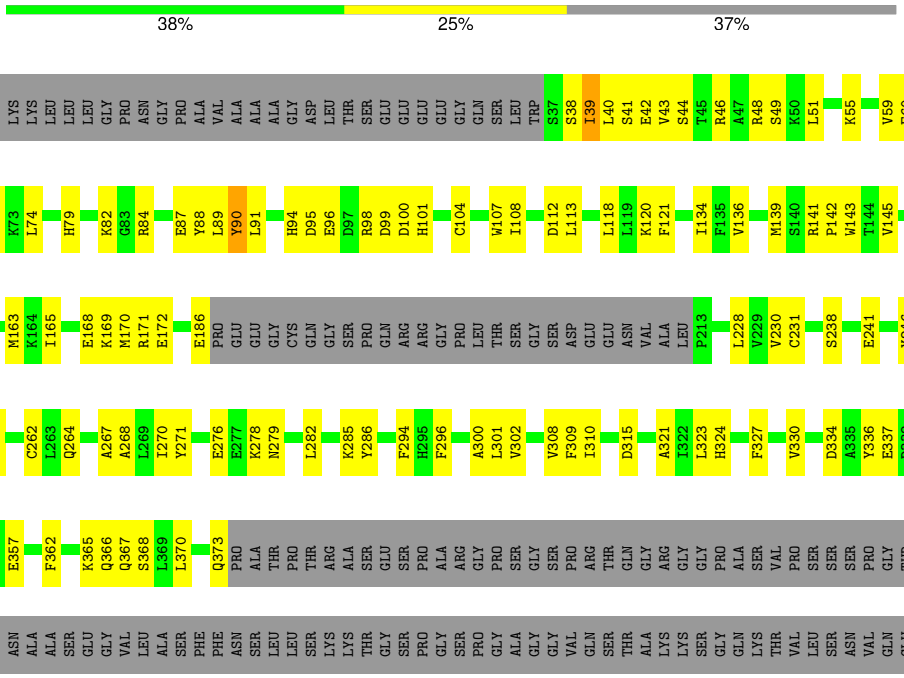
• Molecule 3: Cytoplasmic dynein 1 light intermediate chain 2

Chain E:



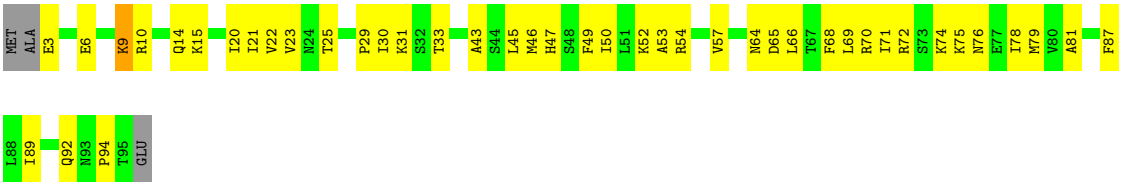
• Molecule 3: Cytoplasmic dynein 1 light intermediate chain 2

Chain F:



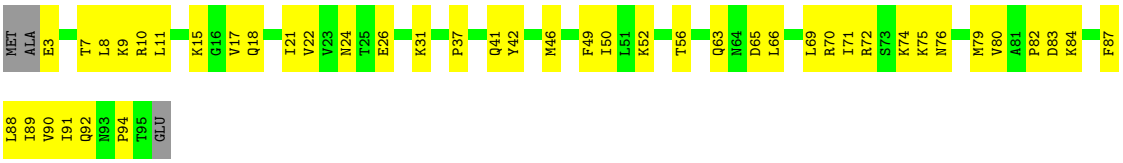
• Molecule 4: Dynein light chain roadblock-type 1

Chain G:



• Molecule 4: Dynein light chain roadblock-type 1

Chain H:

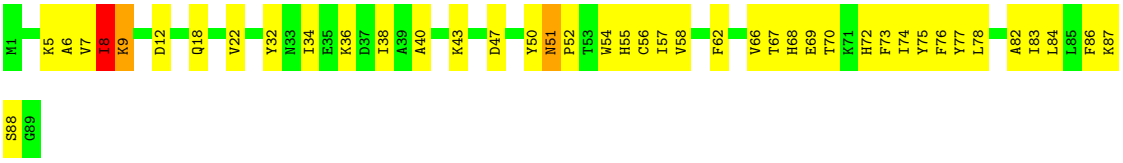


• Molecule 5: Dynein light chain 1, cytoplasmic

Chain I:

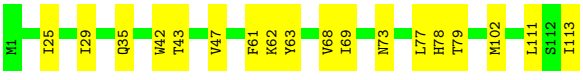
• Molecule 5: Dynein light chain 1, cytoplasmic

Chain J:



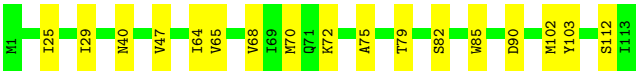
• Molecule 6: Dynein light chain Tctex-type 1

Chain K:



• Molecule 6: Dynein light chain Tctex-type 1

Chain L:


M1
I25
I29
N40
V47
I64
V65
V68
I69
M70
Q71
K72
A75
T79
S82
W85
D90
M102
Y103
S112
I113

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	57816	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	3000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ATP, MG, 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	A	0.32	0/37420	0.54	5/50628 (0.0%)
1	B	0.32	0/37249	0.54	5/50395 (0.0%)
2	C	0.41	1/3195 (0.0%)	0.54	0/4351
2	D	0.36	0/3195	0.54	0/4351
3	E	0.36	0/2573	0.50	0/3473
3	F	0.36	0/2573	0.52	0/3473
4	G	0.27	0/752	0.51	0/1017
4	H	0.28	0/752	0.56	0/1017
5	I	0.24	0/744	0.49	0/997
5	J	0.36	0/744	0.54	0/997
6	K	0.25	0/888	0.45	0/1203
6	L	0.25	0/888	0.46	0/1203
All	All	0.33	1/90973 (0.0%)	0.54	10/123105 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	7
1	B	0	6
3	F	0	1
All	All	0	14

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	509	TRP	CB-CG	-5.56	1.40	1.50

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	3242	LYS	O-C-N	-7.56	110.61	122.70
1	A	3242	LYS	O-C-N	-7.55	110.62	122.70
1	B	3402	TYR	CB-CG-CD2	-6.24	117.25	121.00
1	A	3402	TYR	CB-CG-CD2	-6.24	117.26	121.00
1	B	178	MET	CA-CB-CG	5.46	122.59	113.30
1	A	1669	ASP	CB-CG-OD2	5.36	123.12	118.30
1	B	1669	ASP	CB-CG-OD2	5.32	123.09	118.30
1	A	193	LEU	CA-CB-CG	5.22	127.30	115.30
1	B	2308	ASP	CB-CG-OD1	5.15	122.94	118.30
1	A	2308	ASP	CB-CG-OD1	5.10	122.89	118.30

There are no chirality outliers.

All (14) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1076	LEU	Peptide
1	A	1388	ARG	Sidechain
1	A	2453	ARG	Sidechain
1	A	2729	ARG	Sidechain
1	A	3242	LYS	Mainchain
1	A	3402	TYR	Sidechain
1	A	4195	ARG	Sidechain
1	B	2453	ARG	Sidechain
1	B	2729	ARG	Sidechain
1	B	3242	LYS	Mainchain
1	B	3402	TYR	Sidechain
1	B	4195	ARG	Sidechain
1	B	639	ARG	Sidechain
3	F	90	TYR	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	36692	0	36960	722	0
1	B	36527	0	36807	1027	0
2	C	3112	0	2964	20	0
2	D	3112	0	2964	148	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	E	2518	0	2525	6	0
3	F	2518	0	2525	113	0
4	G	742	0	768	47	0
4	H	742	0	768	42	0
5	I	728	0	714	28	0
5	J	728	0	714	54	0
6	K	872	0	846	17	0
6	L	872	0	846	17	0
7	A	81	0	36	3	0
7	B	81	0	36	3	0
8	A	31	0	12	3	0
8	B	31	0	12	3	0
9	A	2	0	0	0	0
9	B	2	0	0	0	0
All	All	89391	0	89497	2081	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 13.

All (2081) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3381:ILE:CG2	1:B:3390:GLY:HA2	1.30	1.58
1:A:3381:ILE:CG2	1:A:3390:GLY:HA2	1.30	1.57
1:B:3381:ILE:CG2	1:B:3390:GLY:CA	1.94	1.46
1:A:3381:ILE:HG21	1:A:3390:GLY:CA	1.49	1.42
1:A:3381:ILE:CG2	1:A:3390:GLY:CA	1.94	1.41
1:B:3381:ILE:HG21	1:B:3390:GLY:CA	1.49	1.38
1:A:3381:ILE:CD1	1:A:3393:VAL:HG21	1.59	1.32
1:B:3381:ILE:CD1	1:B:3393:VAL:HG21	1.59	1.32
1:A:3455:ILE:CD1	1:B:3455:ILE:HD11	1.65	1.26
1:A:3455:ILE:HD11	1:B:3455:ILE:CD1	1.65	1.26
1:A:3381:ILE:HG23	1:A:3390:GLY:CA	1.72	1.17
1:B:3381:ILE:HG23	1:B:3390:GLY:CA	1.72	1.09
1:A:3381:ILE:HD11	1:A:3393:VAL:CG2	1.85	1.05
1:B:3381:ILE:HD11	1:B:3393:VAL:CG2	1.85	1.05
1:B:1209:LEU:HG	1:B:1214:ILE:HG23	1.40	1.04
1:B:1212:ASP:HA	1:B:1215:GLU:HB2	1.34	1.03
1:B:1214:ILE:O	1:B:1217:GLU:HG2	1.64	0.97
1:A:3380:GLU:HA	1:A:3383:ASN:HD22	1.27	0.96
1:A:3381:ILE:CG2	1:A:3390:GLY:HA3	1.95	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3380:GLU:HA	1:B:3383:ASN:HD22	1.27	0.96
1:B:1348:GLU:O	1:B:1430:THR:HA	1.67	0.95
1:B:3381:ILE:CG2	1:B:3390:GLY:HA3	1.95	0.94
5:J:8:ILE:HG22	5:J:74:ILE:HD11	1.47	0.94
1:A:3459:GLN:NE2	1:B:3456:SER:OG	2.01	0.92
1:A:402:MET:HA	1:A:535:GLY:HA3	1.50	0.91
1:A:3381:ILE:HD11	1:A:3393:VAL:HG21	0.92	0.91
1:A:3456:SER:OG	1:B:3459:GLN:NE2	2.03	0.91
1:B:3381:ILE:HD11	1:B:3393:VAL:HG21	0.92	0.89
1:B:3381:ILE:CG1	1:B:3393:VAL:HG11	2.01	0.89
1:A:3381:ILE:CG1	1:A:3393:VAL:HG11	2.01	0.89
1:B:3381:ILE:HG23	1:B:3390:GLY:N	1.88	0.88
1:A:3381:ILE:HG23	1:A:3390:GLY:N	1.88	0.87
1:A:2221:MET:HG2	1:A:2343:PHE:HB2	1.55	0.87
1:B:2221:MET:HG2	1:B:2343:PHE:HB2	1.55	0.87
1:A:3459:GLN:CD	1:B:3456:SER:OG	2.14	0.86
1:A:182:VAL:HA	1:A:185:LYS:HG2	1.56	0.86
1:A:115:SER:H	1:A:140:LEU:HB3	1.41	0.86
1:A:3456:SER:OG	1:B:3459:GLN:CD	2.15	0.85
1:A:3455:ILE:HD11	1:B:3455:ILE:HD11	0.90	0.85
1:A:193:LEU:HD13	1:B:182:VAL:HG11	1.57	0.84
5:J:6:ALA:HB2	5:J:78:LEU:HD21	1.57	0.84
1:B:4271:ARG:HD3	1:B:4633:ARG:HH12	1.43	0.84
1:B:530:VAL:HG12	1:B:549:ALA:HB1	1.60	0.84
1:B:162:LYS:HG2	1:B:166:ARG:HE	1.41	0.83
1:B:3381:ILE:CD1	1:B:3393:VAL:CG2	2.52	0.83
1:A:2629:GLU:OE2	1:A:2633:LYS:NZ	2.12	0.83
1:A:1400:VAL:O	1:A:1402:GLU:N	2.11	0.83
3:F:72:THR:HG21	3:F:79:HIS:HA	1.60	0.82
1:A:4271:ARG:HD3	1:A:4633:ARG:HH12	1.43	0.82
1:B:2629:GLU:OE2	1:B:2633:LYS:NZ	2.12	0.82
1:B:1212:ASP:HA	1:B:1215:GLU:CB	2.09	0.82
1:B:516:ASP:HA	1:B:563:ARG:HH12	1.45	0.82
1:B:1203:GLN:HA	5:J:5:LYS:HZ1	1.44	0.81
1:B:3381:ILE:HG13	1:B:3393:VAL:HG11	1.63	0.80
1:B:483:VAL:O	1:B:567:ARG:NH1	2.14	0.80
1:B:3238:ASP:HA	1:B:3241:LYS:HD2	1.63	0.80
1:A:3238:ASP:HA	1:A:3241:LYS:HD2	1.64	0.80
1:A:81:ARG:HD3	1:A:99:ILE:HG13	1.64	0.80
1:B:264:ARG:HD3	1:B:274:GLU:HG2	1.64	0.79
1:B:1399:LEU:O	1:B:1401:ILE:N	2.14	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3239:LYS:HB3	1:B:3451:TYR:CZ	2.18	0.79
1:B:3398:ALA:O	1:B:3400:LEU:N	2.14	0.79
4:G:54:ARG:HH12	4:G:65:ASP:HA	1.46	0.79
1:A:3239:LYS:HB3	1:A:3451:TYR:CZ	2.18	0.79
1:A:3381:ILE:HG13	1:A:3393:VAL:HG11	1.63	0.79
1:A:3398:ALA:O	1:A:3400:LEU:N	2.14	0.79
1:B:78:LEU:HD11	1:B:115:SER:HB2	1.65	0.78
1:B:2729:ARG:HD2	1:B:2730:HIS:CE1	2.17	0.78
1:B:1202:PHE:HD2	1:B:1204:PHE:CD2	2.01	0.78
5:J:69:GLU:N	5:J:87:LYS:O	2.14	0.78
1:A:246:GLN:HB2	1:A:309:ARG:HD3	1.64	0.78
1:B:150:HIS:HB2	1:B:193:LEU:HB3	1.66	0.78
1:B:130:PRO:HB2	1:B:133:SER:HB2	1.66	0.78
1:B:399:ARG:NH2	1:B:408:GLU:OE1	2.17	0.78
1:A:2729:ARG:HD2	1:A:2730:HIS:CE1	2.17	0.78
1:B:1212:ASP:CB	1:B:1216:GLY:H	1.97	0.77
1:A:1490:TRP:HH2	1:A:1537:TRP:HD1	1.30	0.77
1:B:1490:TRP:HH2	1:B:1537:TRP:HD1	1.29	0.77
1:B:853:ILE:HG21	1:B:888:LEU:HD21	1.67	0.77
1:A:1571:ILE:HD12	1:A:1611:ILE:HD11	1.67	0.77
1:B:195:HIS:O	1:B:198:GLN:NE2	2.18	0.77
1:A:189:LEU:HG	1:B:189:LEU:HD11	1.67	0.76
1:A:350:LEU:HB3	1:A:419:VAL:HG21	1.67	0.76
1:A:147:GLU:HA	1:A:196:LEU:HD13	1.67	0.76
1:B:1087:ARG:HH21	1:B:1200:GLN:HE22	1.31	0.76
1:B:1210:TYR:HB2	5:J:8:ILE:O	1.84	0.76
1:B:4088:VAL:HG11	1:B:4116:LEU:HD21	1.67	0.76
1:B:365:ARG:NH2	1:B:429:LYS:O	2.18	0.76
1:A:1195:ARG:NH2	3:F:96:GLU:O	2.19	0.76
1:B:1215:GLU:O	1:B:1218:TRP:N	2.19	0.76
2:D:272:PHE:HB2	2:D:593:GLN:HG3	1.68	0.76
1:B:987:PHE:HE2	3:F:87:GLU:HG2	1.49	0.76
1:B:960:HIS:ND1	1:B:978:CYS:SG	2.59	0.76
1:A:2590:PRO:O	1:A:2732:PRO:HD2	1.86	0.75
4:H:79:MET:HB2	4:H:90:VAL:HB	1.66	0.75
1:B:266:PRO:HB3	1:B:376:ARG:HG3	1.69	0.75
2:D:531:MET:HG3	2:D:578:TRP:HD1	1.50	0.75
1:A:113:SER:H	1:A:142:GLU:HG3	1.51	0.75
1:B:1214:ILE:C	1:B:1217:GLU:HG2	2.06	0.75
1:B:1196:LEU:HD23	1:B:1199:LYS:HE2	1.69	0.74
1:B:2590:PRO:O	1:B:2732:PRO:HD2	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3381:ILE:CD1	1:A:3393:VAL:CG2	2.52	0.74
1:B:1214:ILE:HG13	1:B:1215:GLU:H	1.53	0.74
1:B:399:ARG:HH22	1:B:404:VAL:HG11	1.51	0.74
1:A:2149:LEU:HD11	1:A:2157:LEU:HD13	1.68	0.74
1:A:4088:VAL:HG11	1:A:4116:LEU:HD21	1.67	0.74
1:B:1349:GLN:C	1:B:1431:LEU:H	1.90	0.74
1:B:2149:LEU:HD11	1:B:2157:LEU:HD13	1.68	0.74
2:D:273:ASP:O	2:D:277:SER:OG	2.06	0.74
1:A:44:ASP:HB2	1:B:130:PRO:HB3	1.68	0.74
1:A:365:ARG:NH2	1:A:429:LYS:O	2.21	0.74
1:B:3381:ILE:HG13	1:B:3393:VAL:CG1	2.18	0.74
1:B:1571:ILE:HD13	1:B:1607:LEU:HB3	1.69	0.73
1:A:2562:VAL:O	1:A:2804:ARG:NH1	2.21	0.73
1:B:386:ARG:NH2	1:B:453:ASN:O	2.21	0.73
1:A:3381:ILE:HG13	1:A:3393:VAL:CG1	2.18	0.73
1:B:2562:VAL:O	1:B:2804:ARG:NH1	2.21	0.73
5:J:68:HIS:HA	5:J:88:SER:HB2	1.71	0.73
1:A:3243:MET:HE3	1:A:3444:ILE:HG23	1.71	0.73
1:B:336:MET:HA	1:B:339:PHE:HE2	1.54	0.73
1:B:669:LEU:HD22	1:B:673:TRP:HB3	1.69	0.73
1:B:1209:LEU:HG	1:B:1214:ILE:CG2	2.16	0.73
1:B:441:LYS:O	1:B:445:ASN:N	2.22	0.73
5:I:57:ILE:HD13	5:J:57:ILE:HD12	1.71	0.73
1:B:530:VAL:N	1:B:553:TYR:OH	2.18	0.72
2:C:445:ASN:O	2:C:461:ARG:N	2.20	0.72
3:F:113:LEU:HD21	3:F:151:LYS:HD2	1.70	0.72
2:D:553:ASN:ND2	2:D:556:ASN:OD1	2.22	0.72
3:F:62:GLU:HG3	3:F:65:SER:HB2	1.71	0.72
1:A:1490:TRP:CH2	1:A:1537:TRP:HD1	2.08	0.72
1:B:4037:PRO:HB2	1:B:4118:PRO:HG2	1.71	0.72
1:A:181:SER:HA	1:A:184:LYS:HD2	1.72	0.72
1:B:869:TYR:HB2	1:B:914:ARG:HH21	1.54	0.72
1:B:1490:TRP:CH2	1:B:1537:TRP:HD1	2.08	0.72
1:B:1348:GLU:O	1:B:1430:THR:CA	2.37	0.71
1:B:170:LYS:NZ	1:B:176:ASP:O	2.23	0.71
1:B:874:PHE:HB3	1:B:996:LEU:HD21	1.72	0.71
1:A:2788:THR:HG22	1:A:2789:GLN:HG2	1.72	0.71
1:B:1399:LEU:O	1:B:1402:GLU:N	2.23	0.71
2:D:358:VAL:HG13	2:D:369:PRO:HB3	1.72	0.71
1:A:2930:GLN:HG3	1:A:3059:ILE:HG23	1.73	0.71
1:A:4190:ILE:HD12	1:A:4201:TRP:HZ2	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:68:HIS:ND1	5:J:69:GLU:O	2.22	0.71
1:B:242:LEU:HB3	1:B:309:ARG:HE	1.54	0.71
1:B:1211:ILE:C	1:B:1213:ASN:N	2.42	0.71
1:B:1170:ILE:O	1:B:1174:GLN:NE2	2.24	0.71
1:B:1173:VAL:HG22	1:B:1177:LYS:HE3	1.71	0.71
1:B:1202:PHE:CE2	1:B:1204:PHE:HA	2.26	0.71
1:B:1212:ASP:HB2	1:B:1216:GLY:H	1.54	0.71
3:F:259:ARG:HH11	3:F:323:LEU:HD22	1.54	0.70
1:A:253:ILE:HD12	1:A:256:ILE:HD11	1.74	0.70
1:A:4037:PRO:HB2	1:A:4118:PRO:HG2	1.71	0.70
1:B:4190:ILE:HD12	1:B:4201:TRP:HZ2	1.56	0.70
1:A:343:ASP:O	1:A:352:LYS:NZ	2.24	0.70
1:A:4549:GLN:HG3	1:A:4587:LEU:HB2	1.73	0.70
1:B:2581:LEU:HD11	1:B:2593:LEU:HD21	1.73	0.70
1:A:93:GLU:HB2	1:A:211:PRO:HB2	1.73	0.70
1:A:266:PRO:HB3	1:A:376:ARG:HG3	1.73	0.70
1:A:201:GLU:HA	1:A:280:ASN:HD21	1.56	0.70
1:B:2930:GLN:HG3	1:B:3059:ILE:HG23	1.72	0.70
1:A:3455:ILE:CG1	1:B:3455:ILE:HD11	2.20	0.70
2:D:332:GLN:OE1	2:D:372:ARG:NH1	2.24	0.70
1:A:207:LEU:HG	1:A:209:ILE:HG12	1.74	0.70
1:A:3455:ILE:HD11	1:B:3455:ILE:CG1	2.22	0.70
1:B:751:ARG:NH2	2:D:452:GLU:OE2	2.24	0.70
1:B:3392:MET:HA	1:B:3395:TRP:HB2	1.74	0.70
1:B:3381:ILE:HG21	1:B:3390:GLY:HA2	0.71	0.70
1:A:3239:LYS:HA	1:A:3242:LYS:HD2	1.74	0.69
1:A:3381:ILE:HG21	1:A:3390:GLY:HA2	0.71	0.69
1:B:251:ARG:NH1	1:B:251:ARG:O	2.25	0.69
1:B:264:ARG:NH1	1:B:265:ASP:O	2.25	0.69
1:B:2788:THR:HG22	1:B:2789:GLN:HG2	1.72	0.69
1:B:354:ARG:NH1	1:B:422:THR:OG1	2.25	0.69
1:B:977:GLU:HA	3:F:90:TYR:OH	1.92	0.69
2:C:188:GLN:O	2:C:192:HIS:ND1	2.24	0.69
1:A:2775:GLU:OE1	1:A:2857:HIS:NE2	2.24	0.69
1:A:3392:MET:HA	1:A:3395:TRP:HB2	1.74	0.69
1:B:2775:GLU:OE1	1:B:2857:HIS:NE2	2.24	0.69
5:I:43:LYS:NZ	5:I:47:ASP:OD2	2.24	0.69
5:J:43:LYS:NZ	5:J:47:ASP:OD2	2.26	0.69
1:B:1214:ILE:HG22	1:B:1217:GLU:OE2	1.92	0.69
1:B:3243:MET:SD	1:B:3451:TYR:HE2	2.16	0.69
1:B:1209:LEU:CG	1:B:1214:ILE:HG23	2.18	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:359:ALA:O	1:A:363:HIS:ND1	2.23	0.69
1:B:3239:LYS:HA	1:B:3242:LYS:HD2	1.74	0.69
4:G:74:LYS:NZ	4:H:65:ASP:OD1	2.25	0.69
5:J:57:ILE:HG22	5:J:84:LEU:HB3	1.73	0.69
1:A:1181:LYS:HG2	1:A:1185:LYS:HZ1	1.58	0.69
1:B:3239:LYS:HB3	1:B:3451:TYR:CE2	2.28	0.69
1:B:4549:GLN:HG3	1:B:4587:LEU:HB2	1.73	0.69
1:B:722:SER:HB3	1:B:731:ASN:HD21	1.58	0.69
1:B:1466:ILE:HG12	1:B:1500:HIS:HD1	1.57	0.69
1:A:119:ILE:HD12	1:B:155:ASN:HB2	1.74	0.68
1:A:2581:LEU:HD11	1:A:2593:LEU:HD21	1.73	0.68
1:A:3381:ILE:HD12	1:A:3393:VAL:HG21	1.72	0.68
1:A:4197:ALA:HB3	1:A:4198:PRO:HD3	1.75	0.68
1:B:266:PRO:HB2	1:B:379:ARG:HB2	1.74	0.68
5:J:18:GLN:HG2	5:J:74:ILE:HD12	1.75	0.68
1:B:582:PHE:CE1	1:B:668:VAL:HG11	2.27	0.68
1:B:1215:GLU:O	1:B:1217:GLU:N	2.26	0.68
1:A:3239:LYS:HB3	1:A:3451:TYR:CE2	2.28	0.68
1:A:3243:MET:SD	1:A:3451:TYR:HE2	2.16	0.68
1:B:4197:ALA:HB3	1:B:4198:PRO:HD3	1.75	0.68
1:A:458:LYS:O	1:A:461:ALA:HB3	1.93	0.68
1:B:121:ARG:NH1	1:B:133:SER:O	2.25	0.68
1:B:1198:GLU:HA	1:B:1204:PHE:HZ	1.57	0.68
1:B:332:TYR:CE2	1:B:336:MET:HB3	2.29	0.68
2:D:357:ILE:HD11	2:D:380:HIS:HD2	1.58	0.68
1:A:1466:ILE:HG12	1:A:1500:HIS:HD1	1.57	0.68
1:A:3373:SER:HB2	1:A:3377:TYR:CE2	2.29	0.68
1:A:4176:ARG:NH1	1:A:4220:ASP:OD2	2.27	0.68
1:B:813:GLN:NE2	3:F:357:GLU:OE1	2.27	0.68
1:A:3661:LEU:HD12	1:A:3668:ASP:HB2	1.76	0.68
1:B:442:ARG:O	1:B:445:ASN:ND2	2.27	0.68
1:B:639:ARG:HH22	2:D:574:ASN:HD21	1.43	0.68
1:B:1181:LYS:HG2	1:B:1185:LYS:HZ1	1.58	0.67
1:B:1211:ILE:O	1:B:1213:ASN:N	2.27	0.67
2:D:607:ARG:NH1	2:D:610:GLU:OE2	2.28	0.67
4:G:49:PHE:HA	4:G:52:LYS:HG2	1.76	0.67
6:K:79:THR:HG22	6:L:68:VAL:HG22	1.75	0.67
1:B:3373:SER:HB2	1:B:3377:TYR:CE2	2.29	0.67
1:B:264:ARG:O	1:B:376:ARG:NH1	2.27	0.67
1:B:3661:LEU:HD12	1:B:3668:ASP:HB2	1.76	0.67
4:H:80:VAL:HA	4:H:88:LEU:HB2	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1126:GLU:OE1	1:B:1130:LYS:NZ	2.26	0.67
1:B:4176:ARG:NH1	1:B:4220:ASP:OD2	2.26	0.67
1:B:717:ILE:HA	1:B:824:TRP:HE3	1.60	0.67
2:C:215:ILE:O	2:D:209:ARG:NH1	2.27	0.67
2:D:315:VAL:HB	2:D:327:TYR:HB2	1.77	0.67
1:B:83:THR:O	1:B:112:LYS:NZ	2.26	0.67
1:B:255:GLU:HA	1:B:258:LYS:HE3	1.76	0.67
1:B:649:ILE:O	1:B:653:GLN:HG2	1.95	0.67
2:D:211:LEU:HG	4:H:15:LYS:HE3	1.77	0.67
1:A:385:SER:HB2	1:A:454:PRO:HB3	1.77	0.67
1:B:3243:MET:HE3	1:B:3444:ILE:HG23	1.76	0.67
1:A:1170:ILE:HD11	1:A:1232:ILE:HG12	1.76	0.66
1:A:3239:LYS:O	1:A:3243:MET:HG2	1.95	0.66
1:A:357:LEU:HD21	1:A:388:LEU:HD21	1.77	0.66
4:G:65:ASP:HB3	4:H:74:LYS:HD3	1.76	0.66
5:I:55:HIS:NE2	5:I:88:SER:O	2.24	0.66
1:B:1218:TRP:O	1:B:1222:ASN:ND2	2.28	0.66
1:B:1085:GLN:HE22	3:F:39:ILE:HD12	1.61	0.66
1:B:3292:ALA:HA	1:B:3395:TRP:CZ2	2.30	0.66
1:A:3239:LYS:HB3	1:A:3451:TYR:CE1	2.30	0.66
1:B:2906:ASP:OD2	1:B:3655:ARG:NH1	2.29	0.66
3:F:120:LYS:HA	3:F:159:HIS:HE1	1.59	0.66
1:A:132:SER:O	1:A:136:ARG:NH2	2.28	0.66
4:G:14:GLN:NE2	4:G:92:GLN:OE1	2.29	0.66
4:H:21:ILE:HG12	4:H:89:ILE:HD11	1.76	0.66
1:B:456:HIS:HA	1:B:459:LEU:HB2	1.77	0.66
1:B:3239:LYS:HB3	1:B:3451:TYR:CE1	2.31	0.66
1:B:3239:LYS:O	1:B:3243:MET:HG2	1.95	0.66
4:G:49:PHE:HB3	4:H:52:LYS:HZ2	1.60	0.66
1:B:1191:ARG:O	1:B:1194:GLN:NE2	2.29	0.66
1:A:460:GLN:HA	1:A:463:LEU:HD12	1.78	0.65
1:B:1214:ILE:O	1:B:1217:GLU:N	2.23	0.65
1:A:2906:ASP:OD2	1:A:3655:ARG:NH1	2.29	0.65
1:B:260:THR:HG23	1:B:261:LYS:HD3	1.77	0.65
1:B:1206:PRO:O	1:B:1208:TRP:N	2.29	0.65
1:A:3292:ALA:HA	1:A:3395:TRP:CZ2	2.30	0.65
1:B:1211:ILE:C	1:B:1213:ASN:H	1.98	0.65
1:B:3383:ASN:O	1:B:3384:ARG:HB3	1.97	0.65
1:B:3638:VAL:HG12	1:B:3681:THR:HB	1.79	0.65
1:A:348:THR:O	1:A:399:ARG:NH2	2.28	0.65
1:B:270:THR:HG23	1:B:273:GLN:H	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:379:ARG:NH2	1:B:451:ARG:O	2.29	0.65
1:B:581:MET:HG2	1:B:611:ARG:HH21	1.61	0.65
1:B:801:ILE:HD11	1:B:850:LEU:HB3	1.79	0.65
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.79	0.65
1:B:961:GLU:OE2	1:B:963:ARG:NH2	2.30	0.65
1:A:270:THR:HG23	1:A:273:GLN:H	1.62	0.65
1:B:4097:LYS:HA	1:B:4127:THR:HB	1.79	0.65
4:G:20:ILE:HD13	4:G:31:LYS:HZ2	1.62	0.65
1:A:3383:ASN:O	1:A:3384:ARG:HB3	1.97	0.64
1:B:3373:SER:HB2	1:B:3377:TYR:HE2	1.61	0.64
5:I:8:ILE:HD13	5:I:18:GLN:HE21	1.61	0.64
1:A:3373:SER:HB2	1:A:3377:TYR:HE2	1.61	0.64
1:A:3381:ILE:HG12	1:A:3393:VAL:HG11	1.80	0.64
1:B:1202:PHE:HB3	1:B:1204:PHE:CE2	2.32	0.64
2:D:287:TRP:CD1	2:D:579:THR:HA	2.32	0.64
1:B:648:ILE:HD11	1:B:698:ILE:HB	1.80	0.64
1:B:2138:ILE:HD12	1:B:2161:LEU:HD22	1.79	0.64
1:A:4097:LYS:HA	1:A:4127:THR:HB	1.79	0.64
4:G:49:PHE:HB3	4:H:52:LYS:NZ	2.12	0.64
1:A:1400:VAL:C	1:A:1402:GLU:N	2.50	0.64
1:B:3319:LEU:HD21	1:B:3377:TYR:HA	1.79	0.64
1:A:365:ARG:HH22	1:A:432:VAL:HB	1.62	0.64
1:A:2138:ILE:HD12	1:A:2161:LEU:HD22	1.79	0.64
1:A:2536:ASP:OD1	1:A:2576:ARG:NH1	2.31	0.64
1:B:58:GLU:HG3	1:B:61:ALA:H	1.62	0.64
1:B:2536:ASP:OD1	1:B:2576:ARG:NH1	2.31	0.64
1:A:336:MET:HB3	1:A:363:HIS:HD2	1.63	0.63
1:B:755:TRP:CG	2:D:453:GLU:HG3	2.33	0.63
2:D:296:VAL:HG12	2:D:315:VAL:HG22	1.79	0.63
1:A:3659:ARG:HD2	1:B:3628:ARG:CD	2.28	0.63
1:B:1487:ILE:HD12	1:B:1537:TRP:NE1	2.14	0.63
5:I:57:ILE:HD12	5:I:84:LEU:HD23	1.79	0.63
1:B:292:ARG:NH2	1:B:316:PHE:O	2.30	0.63
1:B:987:PHE:CE2	3:F:87:GLU:HG2	2.32	0.63
5:J:8:ILE:HA	5:J:76:PHE:HB3	1.80	0.63
1:A:337:LYS:HZ2	1:A:367:ILE:HB	1.63	0.63
1:B:322:LEU:O	1:B:326:LEU:N	2.24	0.63
1:A:441:LYS:NZ	1:A:447:LYS:O	2.32	0.63
1:A:3557:ASP:OD1	1:A:3743:ARG:NH1	2.32	0.63
1:B:798:ARG:HH12	1:B:855:GLU:HB3	1.64	0.63
1:B:1212:ASP:CA	1:B:1215:GLU:HB2	2.19	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:336:MET:HB3	1:A:363:HIS:CD2	2.33	0.63
1:B:1188:GLU:O	1:B:1191:ARG:HG2	1.99	0.63
3:F:38:SER:O	3:F:40:LEU:N	2.31	0.63
3:F:336:TYR:CZ	3:F:340:ILE:HD11	2.34	0.63
1:A:242:LEU:HB3	1:A:309:ARG:HE	1.63	0.63
1:A:1174:GLN:HA	1:A:1177:LYS:HG2	1.80	0.63
1:A:1201:ARG:NH2	1:B:967:GLN:O	2.31	0.63
1:A:3319:LEU:HD21	1:A:3377:TYR:HA	1.79	0.63
1:B:613:LYS:HE2	1:B:682:LEU:HB2	1.81	0.63
3:F:51:LEU:HB3	3:F:98:ARG:HE	1.62	0.63
1:B:552:ARG:O	1:B:555:GLU:HG2	1.99	0.62
1:A:84:LEU:HB3	1:A:98:PHE:HB3	1.80	0.62
1:A:1487:ILE:HD12	1:A:1537:TRP:NE1	2.14	0.62
1:B:1174:GLN:OE1	1:B:1233:GLN:NE2	2.32	0.62
1:A:264:ARG:HG3	1:A:376:ARG:HH22	1.64	0.62
1:B:1215:GLU:O	1:B:1216:GLY:C	2.37	0.62
1:B:485:ARG:NH1	1:B:486:PRO:O	2.32	0.62
1:B:1908:ALA:HB3	1:B:2353:LEU:HD22	1.81	0.62
1:A:40:LEU:O	1:B:132:SER:OG	2.13	0.62
1:B:3557:ASP:OD1	1:B:3743:ARG:NH1	2.32	0.62
2:D:551:LEU:HB3	2:D:563:ALA:HB3	1.82	0.62
1:A:1229:ASP:O	1:A:1233:GLN:NE2	2.31	0.62
1:A:3628:ARG:CD	1:B:3659:ARG:HD2	2.29	0.62
1:B:482:ARG:O	1:B:487:GLN:NE2	2.31	0.62
2:D:475:HIS:HE2	2:D:503:ASP:HB2	1.64	0.62
6:L:85:TRP:CD1	6:L:90:ASP:HB2	2.34	0.62
1:A:1222:ASN:HA	1:A:1225:MET:HG2	1.80	0.62
1:B:1203:GLN:HA	5:J:5:LYS:NZ	2.14	0.62
1:B:2226:SER:HA	8:B:4702:ATP:O1G	2.00	0.62
1:B:3381:ILE:HG12	1:B:3393:VAL:HG11	1.80	0.62
2:D:268:ASN:OD1	2:D:598:ASP:N	2.27	0.62
6:K:78:HIS:NE2	6:L:40:ASN:OD1	2.32	0.62
2:D:277:SER:HA	2:D:280:ARG:HD2	1.82	0.62
1:A:1908:ALA:HB3	1:A:2353:LEU:HD22	1.81	0.62
1:B:718:PHE:HA	1:B:738:ASN:H	1.65	0.62
1:A:96:LYS:NZ	1:A:97:GLU:O	2.33	0.61
1:B:2080:LEU:O	1:B:4415:ARG:NH1	2.33	0.61
2:D:509:TRP:HB3	2:D:516:PRO:HA	1.80	0.61
1:B:150:HIS:CE1	1:B:194:LEU:HB3	2.35	0.61
1:B:770:GLN:HG2	1:B:773:GLN:HE21	1.64	0.61
1:B:895:ASN:OD1	3:F:353:GLU:HB2	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:382:GLU:OE2	1:A:385:SER:OG	2.17	0.61
1:A:1153:LEU:HD11	1:A:1228:LYS:HG3	1.80	0.61
1:A:1399:LEU:C	1:A:1401:ILE:N	2.53	0.61
2:D:500:SER:OG	2:D:527:VAL:O	2.18	0.61
1:A:2488:ARG:HG3	1:A:2492:ARG:HH12	1.65	0.61
1:B:264:ARG:NH1	1:B:274:GLU:OE2	2.32	0.61
1:B:1214:ILE:O	1:B:1215:GLU:C	2.39	0.61
1:B:264:ARG:NH2	1:B:268:SER:O	2.33	0.61
1:A:2226:SER:HA	8:A:4702:ATP:O1G	2.00	0.61
1:B:721:GLU:OE2	1:B:736:LYS:NZ	2.31	0.61
1:A:2080:LEU:O	1:A:4415:ARG:NH1	2.33	0.61
1:B:88:VAL:HG22	1:B:90:ASP:H	1.65	0.61
5:J:69:GLU:HG3	5:J:88:SER:HA	1.82	0.61
1:B:1043:ILE:HA	1:B:1102:PHE:HE2	1.64	0.61
1:A:3628:ARG:HD2	1:B:3659:ARG:HD2	1.83	0.61
1:B:3319:LEU:CD2	1:B:3377:TYR:HA	2.31	0.61
2:C:214:GLN:HB2	2:D:209:ARG:NH1	2.16	0.61
3:F:59:VAL:HG12	3:F:108:ILE:HA	1.83	0.61
1:A:3659:ARG:HD2	1:B:3628:ARG:HD2	1.82	0.60
1:B:464:ASP:HA	1:B:467:ARG:HG2	1.82	0.60
1:B:666:GLU:OE1	1:B:673:TRP:NE1	2.35	0.60
1:B:870:ASP:HB3	1:B:873:THR:HG22	1.83	0.60
6:L:25:ILE:HG23	6:L:29:ILE:HD12	1.82	0.60
1:B:1210:TYR:H	1:B:1213:ASN:CB	2.15	0.60
1:B:1212:ASP:O	1:B:1213:ASN:C	2.38	0.60
3:F:139:MET:SD	3:F:139:MET:N	2.74	0.60
1:B:466:MET:CE	1:B:470:ARG:HG3	2.32	0.60
1:B:1177:LYS:O	1:B:1180:ILE:HB	2.00	0.60
1:B:1193:GLY:HA2	1:B:1196:LEU:HD12	1.82	0.60
1:A:3381:ILE:HG23	1:A:3390:GLY:H	1.65	0.60
1:A:3761:LEU:HA	1:A:3767:ILE:HD11	1.82	0.60
1:B:761:PRO:HD2	1:B:764:ILE:HD12	1.82	0.60
1:B:1751:VAL:HG21	1:B:1878:LYS:HE3	1.83	0.60
1:B:4436:GLN:HG3	1:B:4441:LYS:HB2	1.84	0.60
2:D:374:PRO:HD3	2:D:416:SER:HA	1.82	0.60
4:G:64:ASN:ND2	4:H:76:ASN:OD1	2.34	0.60
1:B:466:MET:HE2	1:B:470:ARG:HG3	1.83	0.60
1:B:1204:PHE:HB3	1:B:1208:TRP:HE1	1.66	0.60
1:B:1205:PRO:O	1:B:1208:TRP:HD1	1.82	0.60
8:B:4702:ATP:H8	8:B:4702:ATP:H5'1	1.66	0.60
2:D:283:SER:HB2	2:D:298:SER:HB2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:195:HIS:HB2	1:B:178:MET:HE1	1.82	0.60
1:A:242:LEU:HG	1:A:304:LEU:HA	1.83	0.60
1:A:3319:LEU:CD2	1:A:3377:TYR:HA	2.31	0.60
1:B:242:LEU:HD21	1:B:307:GLY:HA3	1.83	0.60
2:C:187:LYS:HB3	4:G:30:ILE:HG13	1.82	0.60
5:I:13:MET:HE3	5:I:17:MET:HG2	1.83	0.60
5:I:64:SER:H	5:J:36:LYS:HD3	1.67	0.60
1:A:1219:GLY:HA2	1:A:1222:ASN:HD21	1.64	0.60
1:A:2905:LEU:HD11	1:A:3652:GLU:HB3	1.82	0.60
1:B:292:ARG:HH12	1:B:320:THR:HG22	1.67	0.60
1:B:526:ALA:O	1:B:553:TYR:OH	2.12	0.60
2:D:457:TYR:CE1	2:D:471:MET:HG2	2.37	0.60
1:B:391:GLN:O	1:B:394:LYS:HG2	2.02	0.60
1:B:633:CYS:SG	1:B:634:LYS:N	2.75	0.60
1:B:3761:LEU:HA	1:B:3767:ILE:HD11	1.82	0.60
1:A:1490:TRP:HH2	1:A:1537:TRP:CD1	2.17	0.59
1:A:2039:LEU:HD12	1:A:4254:GLY:HA2	1.84	0.59
1:B:1490:TRP:HH2	1:B:1537:TRP:CD1	2.17	0.59
1:B:2488:ARG:HG3	1:B:2492:ARG:HH12	1.65	0.59
3:F:241:GLU:HA	3:F:246:TYR:H	1.67	0.59
1:A:1466:ILE:HG12	1:A:1500:HIS:ND1	2.17	0.59
3:E:95:ASP:O	3:E:99:ASP:N	2.34	0.59
4:G:54:ARG:NH2	4:G:64:ASN:O	2.35	0.59
1:A:296:GLU:OE2	1:A:300:THR:OG1	2.20	0.59
1:A:320:THR:OG1	1:A:323:LYS:NZ	2.23	0.59
1:A:456:HIS:HA	1:A:459:LEU:HD13	1.83	0.59
1:A:3377:TYR:O	1:A:3381:ILE:HG12	2.03	0.59
1:B:174:ASP:HA	1:B:177:LYS:HE3	1.85	0.59
2:D:475:HIS:NE2	2:D:503:ASP:HB2	2.16	0.59
6:L:72:LYS:HE2	6:L:103:TYR:CZ	2.36	0.59
1:B:1134:MET:N	1:B:1134:MET:SD	2.75	0.59
1:A:236:VAL:HG23	1:A:303:ILE:HB	1.83	0.59
8:A:4702:ATP:C8	8:A:4702:ATP:H5'1	2.38	0.59
1:B:210:HIS:HB3	1:B:213:ILE:HG22	1.83	0.59
1:B:530:VAL:HG13	1:B:553:TYR:CZ	2.37	0.59
5:J:6:ALA:HB2	5:J:78:LEU:CD2	2.32	0.59
1:A:3447:TYR:HB3	1:A:3451:TYR:CZ	2.38	0.59
1:A:4436:GLN:HG3	1:A:4441:LYS:HB2	1.84	0.59
1:B:582:PHE:HE1	1:B:668:VAL:HG11	1.67	0.59
1:B:2039:LEU:HD12	1:B:4254:GLY:HA2	1.84	0.59
2:D:359:LEU:HB2	2:D:415:LEU:HD22	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3455:ILE:HD12	1:B:3452:ALA:CB	2.32	0.59
1:B:689:PHE:HA	1:B:692:LYS:HE3	1.84	0.59
1:B:3377:TYR:O	1:B:3381:ILE:HG12	2.02	0.59
1:B:3951:VAL:CG2	1:B:3973:LEU:HD21	2.33	0.59
1:A:2422:ILE:HD13	1:A:2487:GLU:HA	1.85	0.59
1:B:85:LYS:HE3	1:B:95:GLU:HB2	1.84	0.59
1:B:2905:LEU:HD11	1:B:3652:GLU:HB3	1.82	0.59
2:D:427:LYS:O	2:D:430:LYS:HG3	2.02	0.59
1:B:343:ASP:O	1:B:352:LYS:NZ	2.36	0.59
1:B:1146:ILE:O	1:B:1150:ARG:HG2	2.03	0.59
1:B:1168:THR:O	1:B:1171:THR:OG1	2.17	0.59
1:B:1212:ASP:HB2	1:B:1216:GLY:N	2.18	0.59
1:B:3381:ILE:HD12	1:B:3393:VAL:HG21	1.72	0.59
1:B:3447:TYR:HB3	1:B:3451:TYR:CZ	2.38	0.59
1:B:4287:LYS:H	1:B:4293:ASP:HB3	1.68	0.59
8:B:4702:ATP:H5'1	8:B:4702:ATP:C8	2.38	0.59
1:A:1623:ARG:HD3	1:A:1630:TYR:HA	1.84	0.59
1:A:1751:VAL:HG21	1:A:1878:LYS:HE3	1.83	0.59
1:A:2841:GLU:OE1	1:A:2844:ARG:NH1	2.36	0.59
1:B:1174:GLN:O	1:B:1178:ARG:NH1	2.35	0.59
1:B:1623:ARG:HD3	1:B:1630:TYR:HA	1.84	0.59
1:B:121:ARG:HB3	1:B:136:ARG:HB2	1.85	0.58
1:B:335:LEU:HD13	1:B:367:ILE:HD12	1.85	0.58
1:B:1210:TYR:H	1:B:1213:ASN:CG	2.06	0.58
1:B:1466:ILE:HG12	1:B:1500:HIS:ND1	2.17	0.58
2:D:215:ILE:HG13	2:D:217:ILE:H	1.68	0.58
2:D:613:ARG:HA	2:D:616:ARG:HG2	1.85	0.58
4:H:72:ARG:NE	4:H:94:PRO:O	2.33	0.58
8:A:4702:ATP:H5'1	8:A:4702:ATP:H8	1.66	0.58
1:B:994:LEU:HD11	1:B:1020:ARG:HA	1.84	0.58
1:B:2841:GLU:OE1	1:B:2844:ARG:NH1	2.36	0.58
2:D:553:ASN:OD1	2:D:554:LEU:N	2.36	0.58
4:G:74:LYS:HG3	4:G:75:LYS:HD2	1.85	0.58
1:A:209:ILE:HA	1:A:248:GLY:HA3	1.84	0.58
1:B:869:TYR:OH	1:B:989:TRP:O	2.20	0.58
1:B:1931:ASN:HD22	1:B:2317:SER:H	1.51	0.58
1:B:2422:ILE:HD13	1:B:2487:GLU:HA	1.85	0.58
3:F:48:ARG:HH11	3:F:49:SER:HB2	1.67	0.58
3:F:139:MET:SD	3:F:231:CYS:HB3	2.42	0.58
5:J:7:VAL:O	5:J:9:LYS:N	2.36	0.58
1:B:120:LYS:HA	1:B:135:LEU:HD13	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:129:LYS:HD2	1:B:130:PRO:HD2	1.85	0.58
1:B:229:VAL:HG12	1:B:303:ILE:HG22	1.85	0.58
3:F:48:ARG:HD2	3:F:49:SER:N	2.18	0.58
1:A:3243:MET:SD	1:A:3451:TYR:CE2	2.96	0.58
1:A:3510:SER:HB3	1:A:3553:LEU:HD21	1.85	0.58
1:B:1131:PHE:HA	1:B:1134:MET:HE1	1.85	0.58
1:B:1161:ALA:HA	1:B:1163:THR:HG23	1.85	0.58
1:B:1205:PRO:HG2	1:B:1207:SER:OG	2.03	0.58
1:B:3243:MET:SD	1:B:3451:TYR:CE2	2.96	0.58
1:A:170:LYS:HG2	1:A:179:ALA:HB3	1.84	0.58
1:A:405:ALA:HB3	1:A:408:GLU:HG2	1.85	0.58
1:A:1191:ARG:NH2	1:A:1215:GLU:OE2	2.36	0.58
1:B:724:ARG:HH11	1:B:726:ARG:HE	1.52	0.58
1:B:3381:ILE:HG23	1:B:3390:GLY:H	1.65	0.58
2:D:607:ARG:HG2	2:D:610:GLU:HG2	1.84	0.58
1:A:321:GLY:O	1:A:324:GLN:NE2	2.36	0.58
1:A:2279:LEU:HA	1:A:2698:GLN:HG3	1.86	0.58
1:A:3452:ALA:HB1	1:B:3455:ILE:HD12	1.86	0.58
1:A:3452:ALA:CB	1:B:3455:ILE:HD12	2.33	0.58
1:A:3951:VAL:CG2	1:A:3973:LEU:HD21	2.33	0.58
1:B:130:PRO:O	1:B:134:GLN:N	2.36	0.58
1:B:2279:LEU:HA	1:B:2698:GLN:HG3	1.86	0.58
1:A:1196:LEU:O	1:A:1200:GLN:N	2.35	0.58
1:A:3455:ILE:HD12	1:B:3452:ALA:HB1	1.86	0.58
1:A:4287:LYS:H	1:A:4293:ASP:HB3	1.68	0.58
3:F:142:PRO:HA	3:F:145:VAL:HG23	1.85	0.58
1:A:1435:TRP:C	1:A:1437:VAL:H	2.06	0.58
1:A:4318:PRO:HG2	1:A:4325:ASN:HA	1.85	0.58
1:B:908:GLU:HG3	1:B:1025:ARG:HG2	1.85	0.58
1:B:1169:PHE:O	1:B:1172:TYR:HB3	2.04	0.58
2:D:495:HIS:HB2	2:D:511:THR:HG22	1.85	0.58
5:J:72:HIS:HB3	5:J:87:LYS:HB3	1.85	0.58
1:A:22:GLN:HE21	1:A:125:ILE:HA	1.68	0.58
1:A:118:PHE:HB3	1:A:135:LEU:HD21	1.86	0.58
1:A:3655:ARG:HG2	1:A:3660:VAL:HG22	1.86	0.58
1:B:4554:ASP:OD1	1:B:4555:ALA:N	2.37	0.58
1:B:4318:PRO:HG2	1:B:4325:ASN:HA	1.85	0.57
1:A:43:GLU:HG3	1:A:81:ARG:HH22	1.69	0.57
1:A:151:SER:O	1:A:154:SER:OG	2.20	0.57
1:A:3597:THR:HG23	1:A:3634:LEU:HD21	1.86	0.57
1:A:4554:ASP:OD1	1:A:4555:ALA:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:231:ASP:OD1	1:B:232:PHE:N	2.37	0.57
1:B:438:VAL:HA	1:B:441:LYS:HB2	1.86	0.57
1:B:864:LEU:HB2	1:B:877:ILE:HG21	1.85	0.57
1:B:4071:ILE:HD11	1:B:4096:LEU:HB3	1.86	0.57
1:A:189:LEU:O	1:A:193:LEU:HD23	2.04	0.57
1:A:1399:LEU:O	1:A:1401:ILE:N	2.38	0.57
1:A:4071:ILE:HD11	1:A:4096:LEU:HB3	1.86	0.57
1:B:734:LYS:HD3	1:B:736:LYS:HZ2	1.69	0.57
1:B:1455:GLY:HA3	1:B:1512:TYR:CE2	2.39	0.57
1:B:3381:ILE:HD12	1:B:3389:CYS:HB3	1.86	0.57
1:B:3510:SER:HB3	1:B:3553:LEU:HD21	1.84	0.57
4:G:66:LEU:HG	4:H:71:ILE:HD11	1.85	0.57
2:D:352:THR:HG23	2:D:354:SER:H	1.69	0.57
2:D:480:THR:OG1	2:D:500:SER:O	2.19	0.57
1:A:442:ARG:NH2	1:A:445:ASN:OD1	2.37	0.57
1:A:1455:GLY:HA3	1:A:1512:TYR:CE2	2.39	0.57
1:B:315:SER:O	1:B:319:ASP:N	2.25	0.57
1:A:160:PHE:HB2	1:B:107:ILE:HD12	1.86	0.57
1:A:228:LYS:N	1:A:231:ASP:OD2	2.31	0.57
1:A:1386:VAL:O	1:A:1390:LEU:N	2.36	0.57
1:B:808:LEU:O	1:B:811:GLU:HG2	2.05	0.57
1:B:3597:THR:HG23	1:B:3634:LEU:HD21	1.86	0.57
1:A:2592:VAL:HG23	1:A:2731:VAL:HG11	1.86	0.57
1:A:3839:VAL:HG21	1:A:3863:LEU:HA	1.85	0.57
1:B:88:VAL:HB	1:B:95:GLU:HA	1.86	0.57
1:B:1085:GLN:HA	1:B:1088:LYS:HE3	1.86	0.57
1:B:2107:ARG:NH2	1:B:2139:GLN:OE1	2.38	0.57
2:D:583:ARG:NH1	2:D:599:VAL:O	2.31	0.57
1:A:116:LEU:HD22	1:A:139:THR:HG22	1.87	0.57
1:A:2562:VAL:HG11	1:A:2755:MET:HB2	1.85	0.57
1:B:2562:VAL:HG11	1:B:2755:MET:HB2	1.85	0.57
1:B:3839:VAL:HG21	1:B:3863:LEU:HA	1.85	0.57
1:B:4071:ILE:HG13	1:B:4099:VAL:HG12	1.87	0.57
2:D:349:VAL:HG21	2:D:398:LEU:HD11	1.87	0.57
1:A:1931:ASN:HD22	1:A:2317:SER:H	1.51	0.57
1:A:4168:ARG:NE	1:A:4220:ASP:OD1	2.30	0.57
1:A:4544:ASN:HD22	1:A:4589:GLN:HG3	1.70	0.57
3:F:251:LEU:HA	3:F:254:ILE:HG12	1.87	0.57
5:J:58:VAL:HG22	5:J:83:ILE:HG12	1.86	0.57
1:A:3381:ILE:HG13	1:A:3393:VAL:CB	2.35	0.57
1:A:3381:ILE:HD12	1:A:3389:CYS:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3655:ARG:HG2	1:B:3660:VAL:HG22	1.86	0.57
1:B:4168:ARG:NE	1:B:4220:ASP:OD1	2.30	0.57
2:D:187:LYS:HE3	4:H:24:ASN:H	1.69	0.57
3:F:67:LYS:HB3	3:F:136:VAL:HG21	1.86	0.57
3:F:87:GLU:HB2	3:F:108:ILE:HG23	1.86	0.57
1:A:3459:GLN:OE1	1:B:3456:SER:OG	2.14	0.56
1:B:3951:VAL:HG22	1:B:3973:LEU:HD21	1.87	0.56
2:D:505:THR:HG22	2:D:507:LYS:HG3	1.87	0.56
4:G:25:THR:HA	4:G:87:PHE:HE2	1.70	0.56
1:A:2107:ARG:NH2	1:A:2139:GLN:OE1	2.38	0.56
1:A:3243:MET:HE1	1:A:3447:TYR:HB2	1.86	0.56
1:A:3951:VAL:HG22	1:A:3973:LEU:HD21	1.87	0.56
1:B:1206:PRO:O	1:B:1207:SER:C	2.42	0.56
2:D:448:VAL:HG21	2:D:497:PHE:CZ	2.39	0.56
1:A:2319:LEU:HD13	1:A:2359:CYS:SG	2.45	0.56
1:A:3172:THR:HG21	1:A:3694:SER:HB3	1.87	0.56
1:B:1170:ILE:O	1:B:1173:VAL:HG12	2.06	0.56
1:B:1174:GLN:HA	1:B:1177:LYS:HG2	1.87	0.56
1:B:1220:ALA:O	1:B:1224:ILE:HG12	2.05	0.56
1:B:3172:THR:HG21	1:B:3694:SER:HB3	1.87	0.56
1:B:3891:LYS:HD2	1:B:4013:LEU:HD23	1.87	0.56
1:B:4444:GLN:O	1:B:4449:ARG:NH1	2.38	0.56
2:C:202:HIS:NE2	4:G:81:ALA:HB1	2.21	0.56
2:D:268:ASN:HB2	2:D:597:TYR:HA	1.86	0.56
3:E:124:SER:O	3:E:128:LEU:N	2.36	0.56
3:F:365:LYS:O	3:F:368:SER:OG	2.21	0.56
5:J:9:LYS:HB2	5:J:75:TYR:O	2.06	0.56
1:A:3443:SER:HB2	1:A:3447:TYR:CE2	2.40	0.56
1:A:4209:GLU:OE2	1:A:4213:ARG:NE	2.36	0.56
1:B:91:GLU:HA	1:B:243:ASN:HB3	1.88	0.56
1:B:1045:SER:O	1:B:1048:GLU:HG3	2.06	0.56
2:D:266:SER:O	2:D:597:TYR:HB2	2.05	0.56
4:H:22:VAL:H	4:H:31:LYS:HZ3	1.53	0.56
1:A:189:LEU:HD22	1:B:185:LYS:HE2	1.88	0.56
1:A:1174:GLN:O	1:A:1178:ARG:NH1	2.33	0.56
1:A:2433:VAL:HG22	1:A:2498:ILE:HD11	1.87	0.56
1:B:960:HIS:O	1:B:1107:ILE:HA	2.05	0.56
1:B:2319:LEU:HD13	1:B:2359:CYS:SG	2.46	0.56
1:B:2592:VAL:HG23	1:B:2731:VAL:HG11	1.86	0.56
1:B:4544:ASN:HD22	1:B:4589:GLN:HG3	1.70	0.56
1:B:1139:MET:O	1:B:1143:HIS:ND1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:VAL:HG13	1:A:237:GLU:HG2	1.87	0.56
1:A:3891:LYS:HD2	1:A:4013:LEU:HD23	1.87	0.56
1:B:153:ILE:O	1:B:157:VAL:HG12	2.06	0.56
1:B:365:ARG:HH22	1:B:432:VAL:HB	1.71	0.56
1:B:1138:ASN:OD1	1:B:1139:MET:N	2.38	0.56
3:F:255:GLN:HE22	3:F:323:LEU:HD11	1.69	0.56
1:A:1985:HIS:CD2	1:A:1997:ILE:HD13	2.41	0.56
1:B:1998:THR:HG21	1:B:2005:GLN:HB3	1.88	0.56
1:B:3381:ILE:HG13	1:B:3393:VAL:CB	2.35	0.56
5:J:12:ASP:OD2	5:J:68:HIS:HE1	1.89	0.56
1:A:4071:ILE:HG13	1:A:4099:VAL:HG12	1.87	0.56
1:B:3443:SER:HB2	1:B:3447:TYR:CE2	2.40	0.56
1:B:817:ALA:HA	3:F:366:GLN:HE21	1.71	0.56
1:B:819:GLY:HA3	1:B:832:TYR:CZ	2.40	0.56
1:B:1079:TRP:HB3	1:B:1131:PHE:CZ	2.41	0.56
1:B:1537:TRP:CE3	1:B:1601:LEU:HD11	2.41	0.55
1:B:1985:HIS:CD2	1:B:1997:ILE:HD13	2.41	0.55
6:K:73:ASN:HD21	6:L:75:ALA:HB2	1.72	0.55
1:A:3601:MET:HG3	1:A:3611:ARG:NH2	2.21	0.55
1:A:4444:GLN:O	1:A:4449:ARG:NH1	2.38	0.55
1:B:349:GLU:OE1	1:B:349:GLU:N	2.40	0.55
1:B:724:ARG:HD2	1:B:726:ARG:HH21	1.69	0.55
1:B:2433:VAL:HG22	1:B:2498:ILE:HD11	1.87	0.55
2:D:589:ASP:OD1	2:D:590:SER:N	2.38	0.55
1:B:387:ASP:OD1	1:B:388:LEU:N	2.38	0.55
2:D:531:MET:HG3	2:D:578:TRP:CD1	2.36	0.55
1:A:21:VAL:HA	1:A:124:VAL:HB	1.88	0.55
1:A:179:ALA:HA	1:A:182:VAL:HG22	1.87	0.55
1:B:2573:ASP:OD1	1:B:2576:ARG:NH2	2.39	0.55
1:A:55:ALA:HB3	1:A:101:TYR:HD2	1.70	0.55
1:B:1150:ARG:O	1:B:1153:LEU:HG	2.06	0.55
1:B:3601:MET:HG3	1:B:3611:ARG:NH2	2.21	0.55
5:I:58:VAL:HG22	5:I:83:ILE:HG12	1.89	0.55
1:A:1154:GLU:HA	1:A:1156:HIS:CE1	2.42	0.55
1:A:1998:THR:HG21	1:A:2005:GLN:HB3	1.88	0.55
1:B:72:PRO:O	1:B:75:HIS:NE2	2.38	0.55
1:B:246:GLN:HA	1:B:249:VAL:HG12	1.88	0.55
1:B:1131:PHE:O	1:B:1135:LEU:HG	2.06	0.55
1:A:29:VAL:O	1:A:33:HIS:ND1	2.39	0.55
1:A:371:LYS:HE3	1:A:440:ARG:HH21	1.71	0.55
1:A:1435:TRP:C	1:A:1437:VAL:N	2.59	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1537:TRP:CE3	1:A:1601:LEU:HD11	2.41	0.55
1:A:3243:MET:HE1	1:A:3444:ILE:O	2.07	0.55
1:A:1155:GLN:HE22	1:A:1157:SER:HB2	1.71	0.55
1:B:335:LEU:HG	1:B:366:LYS:NZ	2.22	0.55
2:D:448:VAL:HG22	2:D:458:THR:HG23	1.89	0.55
4:H:83:ASP:OD1	4:H:84:LYS:N	2.37	0.55
1:A:3455:ILE:HD12	1:B:3452:ALA:HA	1.87	0.55
1:B:148:THR:HG23	1:B:152:PHE:CE2	2.41	0.55
1:B:613:LYS:HG3	1:B:682:LEU:HD12	1.88	0.55
1:B:1212:ASP:CA	1:B:1216:GLY:H	2.20	0.55
1:A:136:ARG:NE	1:B:139:THR:HG23	2.21	0.54
1:A:354:ARG:NH1	1:A:355:GLN:HG2	2.21	0.54
1:A:2694:ARG:NH1	1:A:2697:ASP:OD2	2.40	0.54
4:H:21:ILE:HD12	4:H:31:LYS:HB2	1.90	0.54
5:J:70:THR:O	5:J:72:HIS:ND1	2.29	0.54
2:D:503:ASP:O	2:D:505:THR:OG1	2.22	0.54
5:J:50:TYR:HB2	5:J:54:TRP:CH2	2.42	0.54
1:A:265:ASP:OD2	1:A:268:SER:OG	2.23	0.54
1:A:479:VAL:O	1:A:483:VAL:N	2.31	0.54
1:A:3580:LEU:HD13	1:A:3600:ILE:HD11	1.89	0.54
1:B:241:PHE:O	1:B:245:LEU:HG	2.08	0.54
1:B:3580:LEU:HD13	1:B:3600:ILE:HD11	1.89	0.54
3:F:88:TYR:HD1	3:F:107:TRP:CD1	2.26	0.54
1:A:264:ARG:O	1:A:376:ARG:NH1	2.18	0.54
1:A:269:GLY:O	1:A:386:ARG:NH2	2.40	0.54
1:A:2573:ASP:OD1	1:A:2576:ARG:NH2	2.39	0.54
1:B:479:VAL:HG11	1:B:590:ALA:HB3	1.90	0.54
1:B:1126:GLU:O	1:B:1129:SER:OG	2.18	0.54
1:B:1198:GLU:O	1:B:1201:ARG:NH1	2.40	0.54
1:B:1832:ASN:HD21	1:B:1834:LYS:HB2	1.72	0.54
2:D:504:TRP:CE3	2:D:523:ASN:HB3	2.43	0.54
5:J:50:TYR:HB2	5:J:54:TRP:CZ2	2.42	0.54
1:A:1196:LEU:HA	1:A:1199:LYS:HG2	1.90	0.54
5:I:55:HIS:ND1	5:J:66:VAL:HB	2.22	0.54
1:A:274:GLU:OE1	1:A:376:ARG:NH2	2.40	0.54
1:B:639:ARG:NH2	2:D:574:ASN:HD21	2.05	0.54
1:B:4209:GLU:OE2	1:B:4213:ARG:NE	2.36	0.54
1:B:2596:PRO:HB2	1:B:2738:TYR:CZ	2.43	0.54
1:A:456:HIS:CE1	1:A:460:GLN:HB2	2.43	0.54
1:B:126:ASP:H	1:B:134:GLN:NE2	2.06	0.54
1:B:1013:THR:OG1	1:B:1014:GLU:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1832:ASN:HD21	1:A:1834:LYS:HB2	1.72	0.54
1:A:2047:GLN:HA	1:A:2070:VAL:HG21	1.89	0.54
1:B:27:VAL:HG23	1:B:66:ARG:HH11	1.73	0.54
1:B:78:LEU:HB3	1:B:104:ASN:HB2	1.90	0.54
1:B:1141:GLU:O	1:B:1145:GLN:HG2	2.07	0.54
1:B:1212:ASP:HA	1:B:1216:GLY:H	1.72	0.54
2:D:475:HIS:CE1	2:D:477:GLY:H	2.26	0.54
1:A:3182:HIS:NE2	1:A:3582:ARG:O	2.40	0.54
1:B:480:ILE:HG23	1:B:484:LEU:HB2	1.89	0.54
1:B:664:ARG:HG2	1:B:664:ARG:HH11	1.73	0.54
1:B:1100:LYS:NZ	1:B:1102:PHE:HB2	2.23	0.54
1:B:1176:LEU:HD13	1:B:1179:LYS:HD3	1.89	0.54
1:B:1571:ILE:HD12	1:B:1611:ILE:HD11	1.90	0.54
1:A:3452:ALA:HA	1:B:3455:ILE:HD12	1.88	0.53
1:B:862:ARG:HA	1:B:865:GLU:HG3	1.90	0.53
1:B:2665:GLU:HB3	1:B:2668:LEU:HD12	1.90	0.53
1:B:3383:ASN:O	1:B:3384:ARG:CB	2.56	0.53
2:D:578:TRP:HA	2:D:585:ILE:HD12	1.91	0.53
3:F:39:ILE:HA	3:F:42:GLU:HG2	1.90	0.53
4:G:57:VAL:HG11	4:G:66:LEU:HD11	1.88	0.53
5:I:13:MET:HA	5:I:71:LYS:HD2	1.89	0.53
1:A:53:GLU:HA	1:A:56:LEU:HB3	1.90	0.53
1:A:401:LEU:HA	1:A:404:VAL:HB	1.89	0.53
1:A:1467:ARG:HE	1:A:1523:TRP:HZ2	1.56	0.53
1:A:2294:GLU:OE1	1:A:2294:GLU:N	2.39	0.53
1:B:257:GLN:HA	1:B:260:THR:HG22	1.89	0.53
1:B:3243:MET:HE1	1:B:3447:TYR:HB2	1.89	0.53
1:B:3914:ILE:O	1:B:3937:ARG:NH1	2.42	0.53
2:D:445:ASN:OD1	2:D:446:ASN:N	2.36	0.53
1:A:3914:ILE:O	1:A:3937:ARG:NH1	2.42	0.53
1:B:361:PHE:CD1	1:B:426:GLU:HG3	2.43	0.53
1:B:1139:MET:HE3	1:B:1209:LEU:H	1.73	0.53
1:B:1156:HIS:NE2	1:B:1166:ALA:HA	2.24	0.53
1:B:1212:ASP:C	1:B:1214:ILE:N	2.59	0.53
1:B:1467:ARG:HE	1:B:1523:TRP:HZ2	1.57	0.53
1:B:3691:ASP:OD1	1:B:3692:LEU:N	2.42	0.53
1:A:3456:SER:OG	1:B:3459:GLN:OE1	2.14	0.53
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.91	0.53
1:B:631:GLN:HG3	2:D:572:ALA:HB2	1.90	0.53
1:B:2694:ARG:NH1	1:B:2697:ASP:OD2	2.41	0.53
2:D:439:PHE:HB3	2:D:447:PHE:CE1	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:46:MET:O	4:H:50:ILE:HG12	2.08	0.53
1:A:148:THR:O	1:A:152:PHE:HD2	1.92	0.53
1:A:189:LEU:HD21	1:B:185:LYS:HB3	1.91	0.53
1:A:368:ARG:NH1	1:A:436:ASP:O	2.42	0.53
1:A:3459:GLN:OE1	1:B:3453:VAL:HA	2.09	0.53
1:B:848:ASP:OD1	1:B:849:ASP:N	2.41	0.53
1:B:2047:GLN:HA	1:B:2070:VAL:HG21	1.89	0.53
1:B:3243:MET:HE3	1:B:3444:ILE:HA	1.89	0.53
2:D:457:TYR:HE1	2:D:471:MET:HG2	1.73	0.53
3:F:59:VAL:HG11	3:F:108:ILE:HG13	1.89	0.53
5:I:77:TYR:CZ	5:I:82:ALA:HB2	2.44	0.53
1:A:241:PHE:O	1:A:245:LEU:HG	2.09	0.53
1:A:1487:ILE:HD12	1:A:1537:TRP:HE1	1.74	0.53
1:B:676:HIS:CD2	1:B:678:GLU:HB2	2.44	0.53
1:B:2835:ASP:HB3	1:B:3092:ASN:HD22	1.74	0.53
1:A:40:LEU:HD23	1:A:45:GLY:HA2	1.90	0.53
1:A:3292:ALA:HA	1:A:3395:TRP:HZ2	1.74	0.53
1:B:1161:ALA:C	1:B:1163:THR:H	2.12	0.53
1:B:3237:ASN:O	1:B:3241:LYS:HG3	2.09	0.53
1:B:3520:PHE:HB3	1:B:3524:MET:HB3	1.91	0.53
6:K:69:ILE:HG23	6:K:102:MET:SD	2.49	0.53
1:A:182:VAL:HB	1:A:185:LYS:HE2	1.90	0.53
1:A:361:PHE:HA	1:A:364:LEU:HD12	1.91	0.53
1:B:1398:MET:O	1:B:1399:LEU:C	2.47	0.53
1:B:3380:GLU:O	1:B:3383:ASN:HB2	2.08	0.53
1:A:2596:PRO:HB2	1:A:2738:TYR:CZ	2.43	0.53
1:A:1887:ARG:HE	1:A:2039:LEU:HD11	1.74	0.53
1:A:3750:LEU:O	1:A:3754:ASN:ND2	2.42	0.53
1:B:116:LEU:HD23	1:B:139:THR:HB	1.91	0.53
1:B:3292:ALA:HA	1:B:3395:TRP:HZ2	1.74	0.53
1:B:3750:LEU:O	1:B:3754:ASN:ND2	2.42	0.53
2:D:475:HIS:CE1	2:D:503:ASP:HB2	2.44	0.53
3:F:48:ARG:HD2	3:F:49:SER:HB2	1.90	0.53
1:A:253:ILE:HA	1:A:256:ILE:HG12	1.91	0.52
1:A:1147:SER:O	1:A:1151:GLN:HG2	2.09	0.52
1:A:2665:GLU:HB3	1:A:2668:LEU:HD12	1.90	0.52
1:B:330:ASN:HA	1:B:333:ASN:HB2	1.90	0.52
1:B:1130:LYS:O	1:B:1133:GLN:HG2	2.09	0.52
1:B:3916:LEU:HD11	1:B:3937:ARG:HG3	1.91	0.52
2:D:344:HIS:CD2	2:D:347:LEU:HD13	2.44	0.52
4:G:68:PHE:HD2	4:H:72:ARG:HB3	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3380:GLU:O	1:A:3383:ASN:HB2	2.08	0.52
1:B:264:ARG:NH1	1:B:267:ALA:O	2.39	0.52
1:B:431:GLN:O	1:B:435:ARG:HG2	2.09	0.52
1:B:530:VAL:HG13	1:B:553:TYR:CE1	2.45	0.52
1:B:1487:ILE:HD12	1:B:1537:TRP:HE1	1.73	0.52
1:B:1887:ARG:HE	1:B:2039:LEU:HD11	1.74	0.52
2:D:445:ASN:HD21	2:D:463:GLY:H	1.58	0.52
2:D:579:THR:HG21	2:D:584:GLU:CD	2.29	0.52
3:F:250:HIS:HD2	3:F:340:ILE:HG22	1.73	0.52
1:A:205:ILE:HD13	1:A:255:GLU:HG2	1.91	0.52
1:A:3382:VAL:O	1:A:3383:ASN:C	2.48	0.52
1:A:3691:ASP:OD1	1:A:3692:LEU:N	2.42	0.52
1:B:350:LEU:HA	1:B:353:ILE:HD12	1.91	0.52
1:B:636:SER:HB2	1:B:641:LEU:HB2	1.92	0.52
1:B:642:PRO:HB2	1:B:749:GLU:OE2	2.08	0.52
1:B:867:CYS:SG	1:B:873:THR:OG1	2.60	0.52
1:B:1543:ARG:NH1	1:B:1612:GLN:OE1	2.41	0.52
1:B:1687:LYS:HD3	1:B:1712:THR:HG23	1.91	0.52
2:D:607:ARG:HG3	2:D:609:ASP:HB3	1.92	0.52
3:F:228:LEU:HD21	3:F:286:TYR:CE1	2.44	0.52
3:F:321:ALA:HA	3:F:324:HIS:NE2	2.25	0.52
1:A:78:LEU:HD22	1:A:107:ILE:HA	1.91	0.52
1:B:487:GLN:H	1:B:567:ARG:HH22	1.58	0.52
1:A:242:LEU:HB3	1:A:309:ARG:NE	2.24	0.52
1:B:581:MET:HA	1:B:584:ILE:HD12	1.91	0.52
1:B:1194:GLN:NE2	1:B:1195:ARG:HG3	2.24	0.52
1:B:3243:MET:HE1	1:B:3444:ILE:O	2.08	0.52
2:D:506:VAL:H	2:D:520:PHE:HB3	1.74	0.52
3:F:68:THR:HG21	3:F:82:LYS:HE2	1.92	0.52
1:A:27:VAL:O	1:A:31:GLN:HB2	2.10	0.52
1:A:2835:ASP:HB3	1:A:3092:ASN:HD22	1.74	0.52
1:A:3237:ASN:O	1:A:3241:LYS:HG3	2.09	0.52
1:A:3916:LEU:HD11	1:A:3937:ARG:HG3	1.91	0.52
1:B:439:LYS:O	1:B:442:ARG:NH1	2.43	0.52
1:B:2620:LEU:HD22	1:B:2631:LEU:HD23	1.91	0.52
5:J:50:TYR:C	5:J:54:TRP:HH2	2.13	0.52
6:L:90:ASP:OD1	6:L:112:SER:N	2.26	0.52
1:A:38:VAL:HG21	1:A:52:LEU:HD22	1.91	0.52
1:A:193:LEU:HB2	1:B:178:MET:HE2	1.90	0.52
1:B:569:ARG:NH1	1:B:603:GLU:OE1	2.43	0.52
1:B:580:GLU:HA	1:B:583:ARG:NH2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:804:LEU:HD11	1:B:899:TRP:CD1	2.45	0.52
1:B:1210:TYR:N	1:B:1213:ASN:OD1	2.36	0.52
1:B:3182:HIS:NE2	1:B:3582:ARG:O	2.40	0.52
1:B:3382:VAL:O	1:B:3383:ASN:C	2.48	0.52
1:A:1205:PRO:O	1:A:1208:TRP:HB3	2.09	0.52
1:B:988:ALA:O	1:B:992:VAL:HG23	2.10	0.52
1:B:2621:ASN:OD1	1:B:3014:ASN:ND2	2.42	0.52
3:F:168:GLU:O	3:F:171:ARG:NH2	2.43	0.52
3:F:241:GLU:HA	3:F:246:TYR:HB2	1.91	0.52
1:A:373:PRO:HB2	1:A:376:ARG:HB3	1.91	0.52
1:A:2620:LEU:HD22	1:A:2631:LEU:HD23	1.91	0.52
1:B:464:ASP:OD1	1:B:465:GLN:N	2.43	0.52
1:B:1965:GLU:HG2	1:B:2026:SER:HB3	1.91	0.52
1:B:2294:GLU:OE1	1:B:2294:GLU:N	2.39	0.52
1:B:3381:ILE:CD1	1:B:3389:CYS:HB3	2.40	0.52
2:D:526:TYR:CE1	2:D:528:TYR:HB2	2.45	0.52
3:F:120:LYS:HA	3:F:159:HIS:CE1	2.43	0.52
1:A:195:HIS:CE1	1:A:264:ARG:HE	2.28	0.52
1:A:1543:ARG:NH1	1:A:1612:GLN:OE1	2.41	0.52
1:A:4179:LEU:HD12	1:A:4223:LEU:HD22	1.92	0.52
1:B:476:LEU:HD22	1:B:591:LEU:HD11	1.91	0.52
1:B:755:TRP:CD2	2:D:453:GLU:HG3	2.44	0.52
1:B:1227:ARG:HH21	1:B:1228:LYS:HZ1	1.56	0.52
1:A:146:TYR:OH	1:B:164:TYR:HB3	2.10	0.51
1:A:195:HIS:CE1	1:A:264:ARG:HB2	2.45	0.51
1:A:340:PRO:HB2	1:A:360:ILE:HB	1.91	0.51
1:A:1929:VAL:H	1:A:2332:ARG:HH21	1.59	0.51
1:A:2807:PHE:CE2	1:A:2811:ARG:HD3	2.46	0.51
1:A:2973:ASP:OD2	1:A:3007:ARG:NH2	2.44	0.51
1:B:331:ASP:OD1	1:B:332:TYR:N	2.43	0.51
1:B:1139:MET:HE1	1:B:1208:TRP:HA	1.92	0.51
2:D:480:THR:HB	2:D:528:TYR:CD2	2.45	0.51
1:A:42:LEU:HB3	1:A:81:ARG:HH21	1.75	0.51
1:A:280:ASN:HA	1:A:283:ARG:NE	2.25	0.51
1:A:368:ARG:HH11	1:A:437:ILE:HD13	1.74	0.51
1:A:1687:LYS:HD3	1:A:1712:THR:HG23	1.91	0.51
1:A:1965:GLU:HG2	1:A:2026:SER:HB3	1.91	0.51
2:D:278:LYS:O	2:D:280:ARG:HG3	2.11	0.51
5:I:8:ILE:HD13	5:I:18:GLN:NE2	2.25	0.51
1:A:136:ARG:HG3	1:B:152:PHE:CE2	2.44	0.51
1:A:1392:GLY:O	1:A:1396:ILE:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3453:VAL:HA	1:B:3459:GLN:OE1	2.11	0.51
1:A:3624:GLU:HG3	1:A:3669:ILE:HD13	1.93	0.51
1:B:694:ASN:ND2	1:B:697:GLU:OE1	2.43	0.51
1:B:2973:ASP:OD2	1:B:3007:ARG:NH2	2.44	0.51
1:B:4413:PHE:HD2	1:B:4504:LEU:HD13	1.75	0.51
1:A:1671:SER:HB2	1:A:1693:THR:HG23	1.92	0.51
1:A:2729:ARG:HD2	1:A:2730:HIS:NE2	2.25	0.51
1:A:4009:VAL:HG13	1:A:4013:LEU:HD12	1.93	0.51
1:B:81:ARG:HE	1:B:99:ILE:HG21	1.74	0.51
1:B:286:TYR:O	1:B:290:GLU:HG2	2.11	0.51
1:B:1037:TYR:HB3	3:F:121:PHE:CZ	2.45	0.51
1:B:1093:PHE:CZ	1:B:1113:GLN:HG3	2.46	0.51
1:B:4178:ARG:NH2	1:B:4297:PRO:O	2.43	0.51
1:B:4179:LEU:HD12	1:B:4223:LEU:HD22	1.92	0.51
4:H:26:GLU:HA	4:H:87:PHE:HE2	1.75	0.51
1:A:4517:PRO:HG3	1:A:4611:LEU:HD13	1.93	0.51
1:B:365:ARG:NH2	1:B:432:VAL:HB	2.26	0.51
1:B:717:ILE:HG13	1:B:822:LEU:HB2	1.93	0.51
1:B:755:TRP:CE2	2:D:453:GLU:HA	2.45	0.51
1:B:2807:PHE:CE2	1:B:2811:ARG:HD3	2.45	0.51
1:B:3624:GLU:HG3	1:B:3669:ILE:HD13	1.93	0.51
2:D:429:SER:O	2:D:429:SER:OG	2.28	0.51
1:A:195:HIS:HE1	1:A:264:ARG:HE	1.57	0.51
1:A:3378:ASN:HD22	1:A:3378:ASN:H	1.59	0.51
1:B:106:ASP:OD1	1:B:107:ILE:N	2.38	0.51
1:B:363:HIS:O	1:B:366:LYS:HG2	2.10	0.51
2:D:264:LYS:HG2	2:D:602:GLN:HE22	1.74	0.51
2:D:426:HIS:HD2	2:D:468:ILE:HG21	1.75	0.51
1:A:29:VAL:HA	1:A:32:LYS:HE2	1.92	0.51
1:A:1929:VAL:H	1:A:2332:ARG:NH2	2.09	0.51
1:A:3381:ILE:CD1	1:A:3389:CYS:HB3	2.40	0.51
1:A:4178:ARG:NH2	1:A:4297:PRO:O	2.43	0.51
1:B:296:GLU:O	1:B:300:THR:HG23	2.10	0.51
1:B:1033:LEU:O	1:B:1036:SER:OG	2.11	0.51
1:B:1213:ASN:N	5:J:9:LYS:O	2.44	0.51
1:B:1671:SER:HB2	1:B:1693:THR:HG23	1.92	0.51
1:B:1929:VAL:H	1:B:2332:ARG:HH21	1.59	0.51
1:B:2729:ARG:HD2	1:B:2730:HIS:NE2	2.24	0.51
2:D:584:GLU:HA	2:D:598:ASP:HA	1.91	0.51
1:A:193:LEU:HB2	1:B:178:MET:CE	2.41	0.51
1:A:2621:ASN:OD1	1:A:3014:ASN:ND2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:467:ARG:O	1:B:471:ARG:HG2	2.11	0.51
1:B:1215:GLU:C	1:B:1217:GLU:N	2.63	0.51
1:B:2638:TYR:HB3	1:B:2659:LEU:HD11	1.93	0.51
5:I:68:HIS:CD2	5:I:73:PHE:HB2	2.46	0.51
6:K:77:LEU:HD13	6:L:70:MET:HE3	1.92	0.51
1:B:572:LEU:HD11	1:B:581:MET:HE2	1.92	0.51
1:B:1210:TYR:CG	5:J:8:ILE:HG13	2.46	0.51
1:B:4460:LEU:HD12	1:B:4461:PRO:HD2	1.93	0.51
1:B:4517:PRO:HG3	1:B:4611:LEU:HD13	1.93	0.51
2:D:526:TYR:CZ	2:D:528:TYR:HB2	2.45	0.51
3:F:276:GLU:HG3	3:F:278:LYS:HG3	1.93	0.51
1:A:3211:THR:HG23	1:A:3761:LEU:HD11	1.93	0.51
1:B:59:LYS:HZ1	1:B:63:GLU:HB2	1.74	0.51
1:B:1860:GLN:HG2	1:B:1865:LYS:HG2	1.93	0.51
1:B:3243:MET:CE	1:B:3444:ILE:HG23	2.41	0.51
1:A:21:VAL:HG13	1:A:124:VAL:HG21	1.93	0.50
1:A:117:ALA:HB3	1:A:138:LEU:HB2	1.93	0.50
1:A:385:SER:O	1:A:388:LEU:HB2	2.11	0.50
1:A:3238:ASP:O	1:A:3242:LYS:HG3	2.11	0.50
1:A:4413:PHE:HD2	1:A:4504:LEU:HD13	1.75	0.50
1:B:361:PHE:CG	1:B:426:GLU:HG3	2.46	0.50
1:B:717:ILE:HG22	1:B:718:PHE:CD2	2.46	0.50
3:F:118:LEU:O	3:F:121:PHE:HB3	2.11	0.50
1:A:253:ILE:HG12	1:A:319:ASP:HB3	1.92	0.50
1:A:3194:LEU:HD23	1:A:3500:MET:SD	2.51	0.50
1:A:3383:ASN:O	1:A:3384:ARG:CB	2.56	0.50
1:B:253:ILE:HA	1:B:256:ILE:HG12	1.93	0.50
1:B:368:ARG:NH1	1:B:437:ILE:HD13	2.27	0.50
1:B:526:ALA:O	1:B:553:TYR:CZ	2.64	0.50
1:B:1061:TRP:HB2	1:B:1119:LYS:NZ	2.26	0.50
1:B:1159:ASP:O	1:B:1160:THR:OG1	2.30	0.50
1:B:1199:LYS:HA	1:B:1201:ARG:CZ	2.41	0.50
1:B:2224:GLY:O	1:B:2346:GLN:HA	2.12	0.50
1:B:3750:LEU:HG	1:B:3754:ASN:HD21	1.76	0.50
1:A:85:LYS:HB2	1:A:112:LYS:HE3	1.94	0.50
1:A:150:HIS:CE1	1:A:190:GLU:HA	2.46	0.50
1:A:152:PHE:HZ	1:B:121:ARG:HA	1.77	0.50
1:B:351:ASP:OD2	1:B:352:LYS:N	2.43	0.50
1:B:1929:VAL:H	1:B:2332:ARG:NH2	2.09	0.50
1:B:2487:GLU:O	1:B:2491:GLN:HG3	2.12	0.50
1:B:4009:VAL:HG13	1:B:4013:LEU:HD12	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:228:LEU:HD23	3:F:268:ALA:HB3	1.93	0.50
1:A:3750:LEU:HG	1:A:3754:ASN:HD21	1.76	0.50
1:B:68:PHE:HZ	1:B:135:LEU:HD11	1.76	0.50
1:B:1075:ASP:HB3	1:B:1078:LYS:HB3	1.93	0.50
1:B:3378:ASN:H	1:B:3378:ASN:HD22	1.59	0.50
4:G:70:ARG:NH2	4:G:72:ARG:HH21	2.08	0.50
1:A:1435:TRP:O	1:A:1437:VAL:N	2.45	0.50
1:B:378:LEU:HG	1:B:379:ARG:HH21	1.76	0.50
1:B:622:LYS:NZ	2:D:525:ASP:OD2	2.35	0.50
1:B:3194:LEU:HD23	1:B:3500:MET:SD	2.51	0.50
1:B:3211:THR:HG23	1:B:3761:LEU:HD11	1.93	0.50
2:D:409:SER:HB2	2:D:420:ASP:HB3	1.93	0.50
1:A:2917:ASP:OD2	1:A:2921:ARG:NH2	2.45	0.50
1:B:333:ASN:HA	1:B:336:MET:HG2	1.94	0.50
1:B:401:LEU:HB2	1:B:409:PHE:CE1	2.47	0.50
1:B:3319:LEU:HD21	1:B:3377:TYR:CA	2.42	0.50
1:A:1201:ARG:CZ	1:B:968:VAL:HG22	2.42	0.50
1:A:3319:LEU:HD21	1:A:3377:TYR:CA	2.42	0.50
1:B:126:ASP:H	1:B:134:GLN:HE22	1.58	0.50
1:B:213:ILE:HD13	1:B:300:THR:HG22	1.93	0.50
1:B:335:LEU:HD23	1:B:339:PHE:HZ	1.77	0.50
1:B:3238:ASP:O	1:B:3242:LYS:HG3	2.11	0.50
2:C:548:ARG:HA	2:C:566:SER:HA	1.92	0.50
4:G:6:GLU:O	4:G:9:LYS:HG3	2.11	0.50
1:A:146:TYR:OH	1:B:165:ILE:HG23	2.12	0.50
1:A:256:ILE:HA	1:A:259:VAL:HG12	1.94	0.50
1:A:2224:GLY:O	1:A:2346:GLN:HA	2.12	0.50
1:B:526:ALA:O	1:B:529:ASN:N	2.42	0.50
1:B:716:ARG:HG2	3:F:370:LEU:HD11	1.94	0.50
2:D:299:TYR:OH	2:D:302:ASN:HA	2.12	0.50
2:D:343:PHE:HD2	2:D:412:LEU:HD23	1.76	0.50
1:A:235:LYS:HA	1:A:238:ASP:HB2	1.93	0.50
1:A:1860:GLN:HG2	1:A:1865:LYS:HG2	1.93	0.50
1:A:2487:GLU:O	1:A:2491:GLN:HG3	2.12	0.50
1:A:141:SER:OG	1:A:143:ASP:OD1	2.28	0.49
1:A:159:PRO:HD2	1:B:107:ILE:HD11	1.93	0.49
1:A:2174:GLU:OE1	1:A:2176:THR:OG1	2.30	0.49
1:A:4460:LEU:HD12	1:A:4461:PRO:HD2	1.93	0.49
1:B:1205:PRO:O	1:B:1206:PRO:C	2.49	0.49
2:D:478:PRO:HD2	2:D:502:PHE:HB2	1.93	0.49
3:F:262:CYS:HB2	3:F:267:ALA:HB3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:46:MET:HA	4:G:49:PHE:CE2	2.47	0.49
5:J:34:ILE:O	5:J:38:ILE:HG12	2.12	0.49
3:F:142:PRO:O	3:F:336:TYR:OH	2.18	0.49
4:H:17:VAL:HA	4:H:92:GLN:HE22	1.77	0.49
1:A:65:MET:O	1:A:69:LEU:HG	2.12	0.49
1:A:121:ARG:HD2	1:A:136:ARG:HG2	1.93	0.49
1:A:2638:TYR:HB3	1:A:2659:LEU:HD11	1.93	0.49
1:B:161:PHE:O	1:B:165:ILE:HG12	2.12	0.49
1:B:340:PRO:HG2	1:B:360:ILE:HB	1.94	0.49
1:B:3384:ARG:O	1:B:3385:ALA:C	2.51	0.49
2:D:296:VAL:HG13	2:D:340:PHE:CZ	2.47	0.49
2:D:459:ALA:HB2	2:D:468:ILE:HD13	1.94	0.49
2:D:523:ASN:CG	2:D:524:ALA:H	2.15	0.49
1:A:78:LEU:HB3	1:A:104:ASN:HB2	1.95	0.49
1:A:233:GLY:O	1:A:236:VAL:HG12	2.12	0.49
1:A:1929:VAL:HG13	1:A:1958:ASP:OD2	2.12	0.49
1:B:43:GLU:OE2	1:B:81:ARG:NH2	2.38	0.49
1:B:1013:THR:O	1:B:1017:LYS:N	2.41	0.49
1:B:4387:TRP:CD1	1:B:4479:VAL:HG11	2.48	0.49
2:D:288:SER:HB2	2:D:340:PHE:CE1	2.47	0.49
2:D:313:ALA:HB3	2:D:329:PHE:HB3	1.95	0.49
1:A:3384:ARG:O	1:A:3385:ALA:C	2.51	0.49
1:B:701:ASP:OD1	1:B:704:ARG:NH2	2.46	0.49
1:B:2174:GLU:OE1	1:B:2176:THR:OG1	2.30	0.49
2:D:277:SER:CA	2:D:280:ARG:HD2	2.42	0.49
1:A:331:ASP:N	1:A:331:ASP:OD1	2.43	0.49
1:A:4387:TRP:CD1	1:A:4479:VAL:HG11	2.48	0.49
1:B:180:PRO:O	1:B:184:LYS:NZ	2.29	0.49
1:B:980:TYR:HB2	3:F:88:TYR:CE2	2.48	0.49
1:B:1175:SER:HA	1:B:1178:ARG:NH2	2.28	0.49
1:B:2538:GLU:HB3	1:B:2548:TRP:CE2	2.48	0.49
2:D:425:VAL:HG11	2:D:429:SER:HA	1.94	0.49
2:D:504:TRP:CD2	2:D:523:ASN:HB3	2.47	0.49
4:G:70:ARG:HH21	4:G:72:ARG:HH21	1.59	0.49
1:A:1176:LEU:O	1:A:1180:ILE:HG13	2.12	0.49
1:A:3377:TYR:HD1	1:A:3397:ILE:HG12	1.78	0.49
1:A:4180:TYR:OH	1:A:4220:ASP:OD1	2.30	0.49
1:B:23:ASN:O	1:B:126:ASP:HA	2.13	0.49
1:B:35:ARG:NH2	1:B:53:GLU:OE2	2.46	0.49
1:B:354:ARG:O	1:B:357:LEU:HB3	2.12	0.49
1:B:409:PHE:CD2	1:B:470:ARG:HD2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:903:LEU:O	1:B:907:ILE:HG12	2.13	0.49
1:B:1211:ILE:HG13	1:B:1212:ASP:OD1	2.12	0.49
1:B:1556:ASP:OD2	1:B:1621:ARG:NH2	2.43	0.49
2:D:320:TYR:CE2	2:D:321:LYS:HG2	2.48	0.49
4:G:69:LEU:HD11	4:H:69:LEU:HD11	1.93	0.49
1:A:1197:LEU:HA	1:A:1200:GLN:HB2	1.95	0.49
1:A:4043:MET:HB3	1:A:4051:ALA:HB3	1.95	0.49
1:B:195:HIS:CE1	1:B:198:GLN:HE21	2.30	0.49
1:B:592:PHE:HA	1:B:597:ILE:HD11	1.94	0.49
1:B:1929:VAL:HG13	1:B:1958:ASP:OD2	2.12	0.49
1:B:2211:TYR:O	1:B:2214:THR:OG1	2.29	0.49
2:D:301:ASN:OD1	2:D:302:ASN:N	2.46	0.49
1:A:4403:GLU:HA	1:A:4406:LYS:HE2	1.95	0.49
1:A:4436:GLN:HG2	1:A:4442:LYS:HG2	1.95	0.49
1:B:185:LYS:O	1:B:189:LEU:HG	2.13	0.49
1:B:1203:GLN:O	1:B:1204:PHE:C	2.50	0.49
1:B:2564:ALA:HB3	1:B:2567:VAL:HG23	1.95	0.49
1:B:2869:ARG:NE	1:B:2869:ARG:HA	2.28	0.49
4:G:23:VAL:HA	4:G:29:PRO:HA	1.94	0.49
1:A:165:ILE:HG23	1:A:170:LYS:HB3	1.94	0.49
1:A:1374:PRO:O	1:A:1378:ARG:N	2.41	0.49
1:A:2869:ARG:NE	1:A:2869:ARG:HA	2.28	0.49
1:B:242:LEU:HB3	1:B:309:ARG:NE	2.27	0.49
1:B:413:MET:HE1	1:B:463:LEU:HB3	1.95	0.49
1:B:4180:TYR:OH	1:B:4220:ASP:OD1	2.30	0.49
1:B:4436:GLN:HG2	1:B:4442:LYS:HG2	1.95	0.49
1:A:423:TRP:HE1	1:A:457:ARG:HH12	1.61	0.48
1:A:578:ALA:O	1:A:583:ARG:N	2.37	0.48
1:A:588:PHE:O	1:A:590:ALA:N	2.46	0.48
1:A:1166:ALA:O	1:A:1170:ILE:HG12	2.13	0.48
1:A:1219:GLY:HA2	1:A:1222:ASN:ND2	2.28	0.48
1:A:2564:ALA:HB3	1:A:2567:VAL:HG23	1.94	0.48
1:B:399:ARG:O	1:B:399:ARG:NH1	2.41	0.48
1:B:1959:GLU:HB3	1:B:1962:ARG:HG3	1.95	0.48
4:H:18:GLN:HB2	4:H:91:ILE:HG23	1.94	0.48
5:I:55:HIS:HE1	5:J:67:THR:O	1.95	0.48
5:J:77:TYR:CE2	5:J:82:ALA:HB2	2.47	0.48
1:A:146:TYR:CZ	1:B:164:TYR:HD2	2.31	0.48
1:A:2538:GLU:HB3	1:A:2548:TRP:CE2	2.48	0.48
1:A:3950:LYS:HB3	1:A:3973:LEU:CD1	2.43	0.48
1:A:4400:ARG:HE	1:A:4405:ILE:HD11	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:121:ARG:HE	1:B:136:ARG:NH2	2.10	0.48
1:B:406:TYR:CD2	1:B:474:GLU:HG2	2.48	0.48
1:B:810:LYS:HE2	3:F:357:GLU:HB3	1.95	0.48
1:B:842:ASN:O	1:B:845:GLU:HG3	2.12	0.48
1:B:1182:GLN:HA	1:B:1185:LYS:HZ2	1.78	0.48
1:B:4400:ARG:HE	1:B:4405:ILE:HD11	1.78	0.48
2:D:352:THR:HG22	2:D:356:GLN:H	1.77	0.48
2:D:620:GLU:HG3	2:D:621:ILE:HG12	1.95	0.48
5:I:17:MET:HA	5:I:20:ASP:HB2	1.95	0.48
1:A:333:ASN:HB3	1:A:337:LYS:HZ3	1.78	0.48
1:A:446:LEU:HD23	1:A:446:LEU:H	1.79	0.48
1:A:462:ARG:NH1	1:A:537:ASP:O	2.46	0.48
1:A:1142:PHE:HA	1:A:1183:PHE:HE1	1.78	0.48
1:A:1647:VAL:HG21	1:A:1670:ASN:HB3	1.95	0.48
1:B:82:SER:O	1:B:100:SER:N	2.41	0.48
1:B:557:ILE:HA	1:B:560:VAL:HG22	1.96	0.48
1:B:1575:PHE:O	1:B:1579:MET:HG2	2.12	0.48
3:F:252:ASP:HB3	3:F:327:PHE:HE1	1.79	0.48
4:G:68:PHE:O	4:H:71:ILE:HG13	2.13	0.48
1:A:143:ASP:OD1	1:A:144:SER:N	2.39	0.48
1:A:364:LEU:O	1:A:367:ILE:HG22	2.13	0.48
1:B:581:MET:HE3	1:B:608:LEU:HD12	1.94	0.48
1:B:2061:THR:OG1	1:B:2133:GLU:OE1	2.28	0.48
1:A:1575:PHE:O	1:A:1579:MET:HG2	2.12	0.48
1:B:35:ARG:HD2	1:B:56:LEU:HD11	1.95	0.48
1:B:1128:LEU:HD21	1:B:1200:GLN:HG3	1.94	0.48
1:B:3377:TYR:HD1	1:B:3397:ILE:HG12	1.78	0.48
1:B:4043:MET:HB3	1:B:4051:ALA:HB3	1.95	0.48
1:A:1172:TYR:O	1:A:1175:SER:OG	2.23	0.48
1:A:3243:MET:SD	1:A:3447:TYR:HB2	2.54	0.48
1:B:80:GLU:HB3	1:B:102:ASN:HB2	1.94	0.48
1:B:388:LEU:O	1:B:391:GLN:HG3	2.14	0.48
1:B:2917:ASP:OD2	1:B:2921:ARG:NH2	2.45	0.48
1:B:4196:TYR:O	1:B:4197:ALA:C	2.52	0.48
1:B:4251:ILE:HG22	1:B:4252:TYR:CD2	2.49	0.48
3:F:230:VAL:HA	3:F:270:ILE:O	2.14	0.48
4:G:53:ALA:HB2	4:H:49:PHE:CE1	2.49	0.48
5:J:54:TRP:NE1	5:J:87:LYS:HB2	2.28	0.48
1:A:130:PRO:HB3	1:B:44:ASP:HB2	1.96	0.48
1:A:1346:MET:O	1:A:1348:GLU:N	2.46	0.48
1:A:1914:GLU:HG2	7:A:4701:ADP:O1A	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:639:ARG:NH1	2:D:528:TYR:CE2	2.80	0.48
1:A:31:GLN:HE21	1:A:56:LEU:HG	1.78	0.48
1:A:266:PRO:HB2	1:A:379:ARG:HB2	1.94	0.48
1:A:2069:ILE:HB	1:A:2137:LEU:HD21	1.96	0.48
1:A:3944:PHE:CE1	1:A:3974:TRP:HB3	2.48	0.48
1:B:185:LYS:O	1:B:188:GLU:HG3	2.14	0.48
1:B:4403:GLU:HA	1:B:4406:LYS:HE2	1.95	0.48
2:D:382:HIS:CG	2:D:404:ASP:HB2	2.49	0.48
1:A:82:SER:HA	1:A:113:SER:HB2	1.95	0.48
1:A:1347:LYS:HA	1:A:1432:GLY:N	2.29	0.48
1:A:4196:TYR:O	1:A:4197:ALA:C	2.52	0.48
1:B:810:LYS:HA	1:B:810:LYS:HD3	1.66	0.48
1:B:1085:GLN:NE2	3:F:39:ILE:HD12	2.29	0.48
1:B:1090:ARG:HH21	1:B:1121:ASP:HA	1.78	0.48
1:B:3243:MET:SD	1:B:3447:TYR:HB2	2.54	0.48
2:D:599:VAL:HG23	2:D:604:ALA:HB2	1.95	0.48
3:F:43:VAL:O	3:F:46:ARG:HG2	2.13	0.48
4:G:69:LEU:H	4:G:79:MET:HE3	1.77	0.48
1:A:171:ALA:HA	1:A:177:LYS:NZ	2.29	0.48
1:A:365:ARG:HD3	1:A:433:LEU:HD13	1.96	0.48
1:A:3452:ALA:CA	1:B:3455:ILE:HD12	2.44	0.48
1:B:365:ARG:HD3	1:B:433:LEU:HD22	1.96	0.48
1:B:1192:ASN:O	1:B:1195:ARG:HB2	2.13	0.48
1:B:1202:PHE:CD2	1:B:1204:PHE:N	2.82	0.48
1:B:3835:ILE:HG12	1:B:3870:ARG:HD2	1.95	0.48
2:D:445:ASN:OD1	2:D:461:ARG:N	2.45	0.48
3:F:59:VAL:HA	3:F:134:ILE:O	2.14	0.48
5:J:6:ALA:HB2	5:J:22:VAL:HG13	1.96	0.48
1:A:3455:ILE:HD12	1:B:3452:ALA:CA	2.43	0.47
1:B:180:PRO:O	1:B:184:LYS:HG2	2.14	0.47
1:B:1647:VAL:HG21	1:B:1670:ASN:HB3	1.95	0.47
1:B:3944:PHE:CE1	1:B:3974:TRP:HB3	2.48	0.47
2:C:433:ALA:O	2:C:452:GLU:N	2.32	0.47
3:F:186:GLU:OE2	3:F:300:ALA:N	2.47	0.47
1:A:309:ARG:HG3	1:A:311:HIS:CE1	2.49	0.47
1:A:4251:ILE:HG22	1:A:4252:TYR:CD2	2.49	0.47
1:B:146:TYR:CE1	1:B:196:LEU:HD22	2.50	0.47
1:A:78:LEU:HD13	1:A:107:ILE:HG22	1.97	0.47
1:A:1931:ASN:HD21	1:A:2316:ASN:HB2	1.79	0.47
1:A:3381:ILE:HG13	1:A:3393:VAL:HB	1.95	0.47
1:A:3731:LEU:HD11	1:A:3790:VAL:HG12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:75:HIS:O	1:B:119:ILE:HA	2.14	0.47
1:B:1042:GLY:O	1:B:1045:SER:OG	2.22	0.47
2:D:279:HIS:NE2	2:D:303:GLU:OE2	2.35	0.47
2:D:401:ILE:HD12	2:D:406:LYS:O	2.14	0.47
6:K:73:ASN:ND2	6:L:75:ALA:HB2	2.30	0.47
1:B:131:VAL:HA	1:B:134:GLN:HB3	1.96	0.47
1:B:717:ILE:HG22	1:B:718:PHE:HD2	1.80	0.47
1:B:1931:ASN:HD21	1:B:2316:ASN:HB2	1.79	0.47
4:H:17:VAL:HA	4:H:92:GLN:NE2	2.28	0.47
1:A:195:HIS:HE1	1:A:264:ARG:HB2	1.80	0.47
1:A:351:ASP:OD1	1:A:352:LYS:N	2.45	0.47
1:A:2138:ILE:HD11	1:A:2165:PHE:CG	2.50	0.47
1:B:487:GLN:H	1:B:567:ARG:NH2	2.12	0.47
1:B:817:ALA:HA	3:F:366:GLN:NE2	2.29	0.47
1:B:969:ILE:CG1	1:B:1058:GLN:HB3	2.44	0.47
1:B:1166:ALA:O	1:B:1170:ILE:HG12	2.15	0.47
1:B:1399:LEU:C	1:B:1401:ILE:N	2.68	0.47
1:B:1914:GLU:HG2	7:B:4701:ADP:O1A	2.13	0.47
1:B:3175:HIS:HB3	1:B:3516:TYR:CE1	2.50	0.47
1:B:4415:ARG:HE	1:B:4415:ARG:HB3	1.54	0.47
2:C:214:GLN:O	2:D:209:ARG:NH2	2.34	0.47
1:B:484:LEU:HD11	1:B:563:ARG:NH1	2.30	0.47
1:B:2751:PHE:HB3	1:B:2803:VAL:HG11	1.96	0.47
2:D:314:LEU:CD2	2:D:316:TRP:HB2	2.45	0.47
5:J:54:TRP:CD1	5:J:87:LYS:HB2	2.50	0.47
1:A:42:LEU:HB3	1:A:81:ARG:NH2	2.29	0.47
1:A:456:HIS:CE1	1:A:460:GLN:HE21	2.32	0.47
1:A:1959:GLU:HB3	1:A:1962:ARG:HG3	1.96	0.47
1:A:3175:HIS:HB3	1:A:3516:TYR:CE1	2.50	0.47
1:A:3835:ILE:HG12	1:A:3870:ARG:HD2	1.95	0.47
1:B:54:ALA:O	1:B:58:GLU:N	2.47	0.47
1:B:720:ILE:HG23	3:F:367:GLN:HG2	1.97	0.47
1:B:2069:ILE:HB	1:B:2137:LEU:HD21	1.96	0.47
1:B:2134:GLN:O	1:B:2138:ILE:HG12	2.15	0.47
1:B:2138:ILE:HD11	1:B:2165:PHE:CG	2.50	0.47
1:B:2179:ARG:NH2	1:B:2195:ASP:OD1	2.43	0.47
1:B:3381:ILE:HG13	1:B:3393:VAL:HB	1.96	0.47
2:D:480:THR:OG1	2:D:528:TYR:O	2.33	0.47
3:F:231:CYS:HB2	3:F:271:TYR:CD1	2.50	0.47
3:F:285:LYS:HB3	3:F:296:PHE:HE1	1.80	0.47
6:L:47:VAL:HG13	6:L:65:VAL:HB	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:153:ILE:O	1:A:157:VAL:HG22	2.15	0.47
1:A:365:ARG:HD3	1:A:433:LEU:HD22	1.97	0.47
1:A:676:HIS:O	1:A:680:GLN:N	2.45	0.47
1:B:212:MET:HA	1:B:215:ASN:HD21	1.80	0.47
1:B:382:GLU:O	1:B:386:ARG:HG2	2.15	0.47
1:B:627:TYR:O	1:B:633:CYS:HB3	2.15	0.47
1:B:1205:PRO:O	1:B:1208:TRP:CD1	2.66	0.47
1:B:1227:ARG:HE	1:B:1228:LYS:NZ	2.13	0.47
1:B:3247:GLN:HG3	1:B:3444:ILE:HD13	1.96	0.47
1:B:3950:LYS:HB3	1:B:3973:LEU:CD1	2.44	0.47
1:B:4628:THR:OG1	1:B:4630:GLU:HG2	2.15	0.47
2:D:305:ALA:HB3	2:D:308:GLU:HG2	1.96	0.47
3:F:357:GLU:OE1	3:F:362:PHE:HB2	2.15	0.47
1:A:136:ARG:HE	1:B:139:THR:HG23	1.77	0.47
1:A:152:PHE:CZ	1:B:121:ARG:HA	2.50	0.47
1:A:1181:LYS:HG2	1:A:1185:LYS:NZ	2.28	0.47
1:A:3966:PRO:HG3	1:A:3997:ARG:HG3	1.97	0.47
1:B:347:ALA:HB2	1:B:352:LYS:HZ2	1.80	0.47
1:B:476:LEU:HD13	1:B:591:LEU:HG	1.96	0.47
1:B:779:ILE:HA	1:B:782:ILE:HG22	1.95	0.47
1:B:3175:HIS:CD2	1:B:3585:ARG:HH22	2.32	0.47
3:E:273:SER:O	3:E:277:GLU:N	2.48	0.47
1:A:85:LYS:HE2	1:A:112:LYS:HE3	1.97	0.47
1:A:1761:ASN:HB3	1:A:1781:VAL:HG22	1.96	0.47
1:A:2443:LEU:HD21	1:A:2513:GLU:OE1	2.14	0.47
1:A:3239:LYS:HB3	1:A:3451:TYR:CD2	2.50	0.47
1:B:368:ARG:HH11	1:B:437:ILE:HD13	1.80	0.47
1:B:2386:PRO:HG3	1:B:2413:LEU:HD13	1.97	0.47
1:B:3731:LEU:HD11	1:B:3790:VAL:HG12	1.97	0.47
1:B:3966:PRO:HG3	1:B:3997:ARG:HG3	1.97	0.47
1:A:55:ALA:HB3	1:A:101:TYR:CD2	2.48	0.46
1:A:139:THR:OG1	1:B:136:ARG:HD3	2.15	0.46
1:A:256:ILE:O	1:A:260:THR:OG1	2.11	0.46
1:A:377:ALA:O	1:A:381:VAL:HG23	2.14	0.46
1:A:456:HIS:O	1:A:459:LEU:HB2	2.14	0.46
1:A:2386:PRO:HG3	1:A:2413:LEU:HD13	1.97	0.46
1:A:3553:LEU:HB2	1:A:3578:ILE:HD13	1.97	0.46
1:A:3703:VAL:HG21	1:A:3829:LEU:HD22	1.97	0.46
1:B:424:ASP:O	1:B:428:GLU:HG2	2.15	0.46
1:B:444:GLU:HB3	1:B:446:LEU:HD22	1.96	0.46
1:B:1196:LEU:O	1:B:1200:GLN:N	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:60:PHE:HE2	3:F:148:SER:HB2	1.80	0.46
1:A:3247:GLN:HG3	1:A:3444:ILE:HD13	1.96	0.46
1:B:915:LEU:HD12	1:B:993:VAL:HB	1.96	0.46
1:B:2443:LEU:HD21	1:B:2513:GLU:OE1	2.14	0.46
3:F:345:VAL:HG22	3:F:347:LYS:H	1.80	0.46
4:G:21:ILE:HG23	4:G:89:ILE:HG13	1.96	0.46
1:A:415:ALA:O	1:A:418:GLU:HG3	2.15	0.46
1:A:4175:GLU:OE1	1:A:4175:GLU:N	2.48	0.46
1:B:49:PRO:HD2	1:B:52:LEU:HD13	1.96	0.46
1:B:581:MET:HG2	1:B:611:ARG:NH2	2.30	0.46
1:B:4423:LEU:HD13	1:B:4466:HIS:ND1	2.31	0.46
2:D:590:SER:OG	2:D:591:GLU:OE1	2.34	0.46
1:A:255:GLU:OE2	1:A:258:LYS:NZ	2.37	0.46
1:A:3236:ALA:O	1:A:3240:LEU:HG	2.16	0.46
1:A:3452:ALA:HA	1:B:3455:ILE:CD1	2.46	0.46
1:B:373:PRO:HB2	1:B:376:ARG:HB3	1.96	0.46
1:B:977:GLU:HG2	3:F:90:TYR:OH	2.15	0.46
1:B:1163:THR:O	1:B:1166:ALA:HB3	2.15	0.46
1:B:1202:PHE:HE2	1:B:1204:PHE:HA	1.79	0.46
1:B:1623:ARG:NH1	1:B:1632:VAL:O	2.48	0.46
1:B:1761:ASN:HB3	1:B:1781:VAL:HG22	1.96	0.46
1:B:3239:LYS:HB3	1:B:3451:TYR:CD2	2.50	0.46
2:D:427:LYS:HG3	2:D:428:GLN:OE1	2.15	0.46
1:A:2091:ARG:NH1	7:A:4701:ADP:H5'2	2.31	0.46
1:A:3455:ILE:CD1	1:B:3452:ALA:HA	2.46	0.46
1:A:4423:LEU:HD13	1:A:4466:HIS:ND1	2.31	0.46
1:B:35:ARG:NH1	1:B:52:LEU:HB3	2.30	0.46
1:B:52:LEU:O	1:B:56:LEU:HG	2.15	0.46
1:B:2091:ARG:NH1	7:B:4701:ADP:H5'2	2.31	0.46
2:D:359:LEU:HD22	2:D:415:LEU:HD13	1.96	0.46
2:D:531:MET:SD	2:D:532:TRP:N	2.89	0.46
5:I:53:THR:HB	5:I:89:GLY:HA3	1.98	0.46
1:A:1879:LEU:HD22	7:A:4701:ADP:C4	2.51	0.46
1:A:2751:PHE:HB3	1:A:2803:VAL:HG11	1.96	0.46
1:A:4628:THR:OG1	1:A:4630:GLU:HG2	2.15	0.46
1:B:434:LEU:HD23	1:B:435:ARG:HH12	1.81	0.46
1:B:543:THR:O	1:B:546:TRP:HB3	2.16	0.46
4:H:9:LYS:HE2	4:H:9:LYS:HA	1.97	0.46
5:J:77:TYR:CZ	5:J:82:ALA:HB2	2.51	0.46
1:A:323:LYS:HG3	1:A:324:GLN:H	1.79	0.46
1:A:1931:ASN:ND2	1:A:2316:ASN:HB2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3601:MET:HG3	1:A:3611:ARG:HH21	1.80	0.46
1:B:591:LEU:HB3	1:B:594:ARG:HB3	1.98	0.46
1:B:786:ARG:NH1	1:B:790:ARG:HH12	2.14	0.46
1:B:1071:ARG:CZ	3:F:43:VAL:HG12	2.46	0.46
1:B:1937:ASP:HA	1:B:1967:MET:HG3	1.98	0.46
1:B:3236:ALA:O	1:B:3240:LEU:HG	2.16	0.46
1:B:3703:VAL:HG21	1:B:3829:LEU:HD22	1.97	0.46
2:D:437:MET:HB3	2:D:449:VAL:HG12	1.97	0.46
6:K:111:LEU:HD11	6:L:64:ILE:HD11	1.97	0.46
1:A:293:GLU:N	1:A:293:GLU:OE1	2.48	0.46
1:A:331:ASP:HB3	1:A:370:THR:HB	1.96	0.46
1:A:354:ARG:HB3	1:A:419:VAL:HG13	1.98	0.46
1:A:1172:TYR:CE2	1:A:1176:LEU:HD11	2.51	0.46
1:A:1556:ASP:OD2	1:A:1621:ARG:NH2	2.43	0.46
1:A:3243:MET:CE	1:A:3444:ILE:HG23	2.41	0.46
1:B:186:ILE:O	1:B:190:GLU:HG2	2.16	0.46
1:B:399:ARG:HE	1:B:412:VAL:HG11	1.81	0.46
1:B:439:LYS:O	1:B:442:ARG:HD3	2.15	0.46
1:B:1931:ASN:ND2	1:B:2316:ASN:HB2	2.31	0.46
1:B:2445:HIS:HB3	1:B:2505:ASP:OD2	2.15	0.46
1:B:3921:THR:HG21	1:B:3933:GLU:HG2	1.98	0.46
2:D:392:THR:HG22	2:D:395:ALA:HB3	1.96	0.46
2:D:465:LYS:HB3	2:D:465:LYS:HE3	1.79	0.46
1:A:1229:ASP:OD2	1:A:1233:GLN:NE2	2.47	0.46
1:A:2790:PRO:HB3	1:A:3076:LYS:HG2	1.98	0.46
1:A:3175:HIS:CD2	1:A:3585:ARG:HH22	2.32	0.46
1:A:3239:LYS:HB3	1:A:3451:TYR:CD1	2.51	0.46
1:A:3921:THR:HG21	1:A:3933:GLU:HG2	1.98	0.46
1:B:146:TYR:CZ	1:B:196:LEU:HD22	2.51	0.46
1:B:1209:LEU:CB	1:B:1214:ILE:HG23	2.45	0.46
2:D:329:PHE:CE2	2:D:360:TRP:HB2	2.51	0.46
2:D:401:ILE:HG12	2:D:434:VAL:HG11	1.98	0.46
2:D:504:TRP:CZ3	2:D:523:ASN:HB3	2.51	0.46
4:H:66:LEU:HD21	4:H:69:LEU:HB2	1.97	0.46
5:I:65:TYR:CD2	5:J:40:ALA:HA	2.51	0.46
1:A:191:MET:HA	1:A:194:LEU:HD21	1.97	0.46
1:A:257:GLN:NE2	1:A:320:THR:O	2.37	0.46
1:B:30:LEU:O	1:B:34:LEU:HG	2.16	0.46
1:B:33:HIS:HA	1:B:36:LYS:HZ2	1.81	0.46
1:B:277:PHE:O	1:B:281:LEU:HG	2.16	0.46
1:B:1176:LEU:HA	1:B:1179:LYS:HD3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3553:LEU:HB2	1:B:3578:ILE:HD13	1.97	0.46
2:D:286:ASP:OD1	2:D:287:TRP:N	2.48	0.46
2:D:458:THR:O	2:D:469:SER:OG	2.21	0.46
5:I:63:GLY:HA2	5:J:36:LYS:HE2	1.98	0.46
1:A:282:GLU:O	1:A:285:LEU:HG	2.16	0.45
1:A:288:ILE:HD11	1:A:322:LEU:HD22	1.97	0.45
1:A:2290:SER:HB2	1:A:2295:LEU:HG	1.99	0.45
1:A:2445:HIS:HB3	1:A:2505:ASP:OD2	2.15	0.45
1:B:1071:ARG:HH11	3:F:46:ARG:HD2	1.80	0.45
1:B:2290:SER:HB2	1:B:2295:LEU:HG	1.99	0.45
1:B:3110:THR:O	1:B:3140:ARG:NH1	2.49	0.45
3:F:88:TYR:O	3:F:89:LEU:HD12	2.16	0.45
1:A:223:ARG:HH12	1:A:228:LYS:NZ	2.14	0.45
1:A:337:LYS:HD2	1:A:363:HIS:C	2.36	0.45
1:A:3117:LYS:HE2	1:A:3139:HIS:CD2	2.51	0.45
1:B:186:ILE:HA	1:B:189:LEU:HD12	1.98	0.45
1:B:338:ASP:OD1	1:B:339:PHE:N	2.49	0.45
1:B:516:ASP:HA	1:B:563:ARG:NH1	2.22	0.45
1:B:1069:TYR:CE1	1:B:1130:LYS:HG2	2.52	0.45
1:B:4034:GLU:OE1	1:B:4143:ARG:NH1	2.41	0.45
1:B:4160:THR:HG23	1:B:4212:LEU:HD21	1.99	0.45
3:F:55:LYS:HB2	3:F:104:CYS:SG	2.56	0.45
1:A:22:GLN:NE2	1:A:134:GLN:OE1	2.49	0.45
1:A:2134:GLN:O	1:A:2138:ILE:HG12	2.15	0.45
1:A:3110:THR:O	1:A:3140:ARG:NH1	2.49	0.45
1:B:277:PHE:CE2	1:B:281:LEU:HD11	2.51	0.45
1:B:635:MET:HB3	1:B:635:MET:HE2	1.70	0.45
1:B:1212:ASP:O	1:B:1214:ILE:N	2.49	0.45
1:B:1721:VAL:HA	1:B:1724:VAL:HG12	1.98	0.45
1:B:4517:PRO:HG2	1:B:4619:ILE:HD12	1.98	0.45
2:D:357:ILE:H	2:D:357:ILE:HD12	1.82	0.45
4:G:76:ASN:HA	4:G:94:PRO:HD3	1.97	0.45
4:G:78:ILE:HD11	4:G:89:ILE:HB	1.97	0.45
1:A:335:LEU:HB3	1:A:339:PHE:CZ	2.50	0.45
1:B:641:LEU:HD23	1:B:641:LEU:HA	1.79	0.45
1:B:770:GLN:HG2	1:B:773:GLN:NE2	2.29	0.45
1:B:1879:LEU:HD22	7:B:4701:ADP:C4	2.51	0.45
2:C:264:LYS:O	2:C:600:GLY:N	2.50	0.45
4:G:45:LEU:HD21	4:H:56:THR:HA	1.99	0.45
6:K:43:THR:HG23	6:K:69:ILE:HD12	1.98	0.45
1:A:350:LEU:HA	1:A:353:ILE:HD12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1071:ARG:NH1	3:F:43:VAL:HA	2.32	0.45
1:B:1198:GLU:HA	1:B:1204:PHE:CZ	2.45	0.45
1:B:1204:PHE:HD2	1:B:1208:TRP:HZ2	1.63	0.45
1:A:322:LEU:O	1:A:326:LEU:N	2.47	0.45
1:A:382:GLU:O	1:A:385:SER:OG	2.35	0.45
1:B:518:ASN:O	1:B:521:GLU:HG2	2.16	0.45
1:B:1135:LEU:O	1:B:1139:MET:HG3	2.17	0.45
1:B:1139:MET:CE	1:B:1209:LEU:H	2.30	0.45
1:B:1210:TYR:N	1:B:1213:ASN:CB	2.78	0.45
1:B:2961:ILE:HD11	1:B:2998:ASN:HB3	1.98	0.45
1:B:3117:LYS:HE2	1:B:3139:HIS:CD2	2.51	0.45
1:B:3601:MET:HG3	1:B:3611:ARG:HH21	1.80	0.45
1:B:4175:GLU:N	1:B:4175:GLU:OE1	2.48	0.45
2:D:284:CYS:SG	2:D:285:LEU:N	2.90	0.45
3:F:62:GLU:OE2	3:F:141:ARG:NH2	2.45	0.45
1:A:177:LYS:HD3	1:A:177:LYS:HA	1.69	0.45
1:A:1635:GLU:HA	1:A:1638:LEU:HD12	1.98	0.45
1:A:3243:MET:HE3	1:A:3444:ILE:HA	1.99	0.45
1:A:4100:HIS:HB3	1:A:4128:MET:HB2	1.99	0.45
1:B:213:ILE:HG13	1:B:232:PHE:CE1	2.52	0.45
1:B:440:ARG:NH1	1:B:444:GLU:HB2	2.31	0.45
1:B:1078:LYS:O	1:B:1082:LEU:HD23	2.16	0.45
1:B:3239:LYS:HB3	1:B:3451:TYR:CD1	2.51	0.45
2:D:446:ASN:HA	2:D:460:CYS:HA	1.98	0.45
4:H:22:VAL:H	4:H:31:LYS:NZ	2.13	0.45
1:A:339:PHE:HB2	1:A:340:PRO:HD3	1.98	0.45
1:B:283:ARG:HG3	1:B:287:ARG:HH12	1.81	0.45
1:B:363:HIS:HA	1:B:366:LYS:HD3	1.99	0.45
1:B:780:SER:O	1:B:783:GLU:HG3	2.17	0.45
3:F:165:ILE:HD13	3:F:170:MET:HB2	1.99	0.45
1:A:27:VAL:HG22	1:A:65:MET:SD	2.57	0.45
1:A:152:PHE:HE1	1:B:119:ILE:O	2.00	0.45
1:A:689:PHE:O	1:A:693:LEU:N	2.47	0.45
1:A:2668:LEU:HD21	1:A:2720:ARG:CZ	2.47	0.45
1:B:301:LEU:HD12	1:B:304:LEU:HD11	1.99	0.45
1:B:391:GLN:HB2	1:B:394:LYS:HE3	1.99	0.45
1:B:1224:ILE:HG23	1:B:1228:LYS:NZ	2.32	0.45
1:B:1997:ILE:H	1:B:1997:ILE:HD12	1.82	0.45
1:B:3217:GLU:HB2	1:B:3220:ARG:HH21	1.82	0.45
2:D:282:VAL:HG11	2:D:588:GLY:HA3	1.98	0.45
1:A:1456:GLU:O	1:A:1516:PHE:HE2	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.98	0.45
1:A:2028:LEU:HG	1:A:2032:LEU:HD23	1.99	0.45
1:A:2963:VAL:HG23	1:A:3643:PRO:HB2	1.99	0.45
1:A:3239:LYS:HD3	1:A:3451:TYR:CE1	2.52	0.45
1:B:161:PHE:HE2	1:B:183:GLU:HG3	1.81	0.45
1:B:659:THR:C	1:B:663:LYS:HZ2	2.20	0.45
1:B:760:VAL:HG23	1:B:765:VAL:HG22	1.99	0.45
1:B:1037:TYR:O	1:B:1040:VAL:HB	2.16	0.45
1:B:2028:LEU:HG	1:B:2032:LEU:HD23	1.99	0.45
1:B:2668:LEU:HD21	1:B:2720:ARG:CZ	2.47	0.45
1:B:3239:LYS:HD3	1:B:3451:TYR:CE1	2.52	0.45
1:B:4401:THR:O	1:B:4405:ILE:HG12	2.17	0.45
2:D:308:GLU:HB2	2:D:309:PRO:HD2	1.99	0.45
2:D:331:CYS:SG	2:D:358:VAL:HG11	2.57	0.45
4:G:71:ILE:HB	4:G:78:ILE:HG23	1.99	0.45
6:K:25:ILE:HG23	6:K:29:ILE:HD12	2.00	0.45
1:A:157:VAL:O	1:A:161:PHE:N	2.30	0.44
1:A:164:TYR:HD2	1:B:109:TYR:CZ	2.36	0.44
1:A:990:LYS:O	1:A:994:LEU:N	2.50	0.44
1:A:3257:SER:HA	1:A:3260:ILE:HD12	1.99	0.44
1:B:251:ARG:NH2	1:B:255:GLU:HB2	2.31	0.44
1:B:1026:MET:HG2	1:B:1029:GLY:O	2.18	0.44
1:B:4189:ILE:O	1:B:4193:ARG:HG3	2.17	0.44
1:B:4412:PHE:HZ	1:B:4514:LEU:HD13	1.82	0.44
2:D:364:SER:HB2	2:D:366:LYS:HE3	2.00	0.44
3:E:279:ASN:O	3:E:283:LEU:N	2.42	0.44
4:G:71:ILE:HD13	4:H:69:LEU:HD13	1.98	0.44
5:J:9:LYS:HG2	5:J:76:PHE:HA	1.97	0.44
1:A:1623:ARG:NH1	1:A:1632:VAL:O	2.48	0.44
1:A:2912:PHE:CE2	1:A:2914:GLU:HB2	2.52	0.44
1:A:3659:ARG:HG3	1:B:3629:PHE:HZ	1.82	0.44
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.99	0.44
1:A:4517:PRO:HG2	1:A:4619:ILE:HD12	1.98	0.44
1:B:182:VAL:HA	1:B:185:LYS:HD3	1.98	0.44
1:B:459:LEU:O	1:B:463:LEU:HG	2.17	0.44
1:B:485:ARG:O	1:B:487:GLN:NE2	2.50	0.44
1:B:3096:ASP:OD1	1:B:3097:TRP:N	2.50	0.44
1:B:3160:ARG:O	1:B:3163:LYS:HG2	2.17	0.44
2:D:212:SER:HA	2:D:320:TYR:OH	2.17	0.44
3:F:152:TRP:O	3:F:155:VAL:HB	2.16	0.44
4:H:37:PRO:O	4:H:41:GLN:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:170:LYS:HZ2	1:A:179:ALA:HB3	1.82	0.44
1:A:1937:ASP:HA	1:A:1967:MET:HG3	1.98	0.44
1:A:4189:ILE:O	1:A:4193:ARG:HG3	2.17	0.44
1:B:64:GLN:HB3	1:B:105:ILE:HD11	1.99	0.44
1:B:193:LEU:O	1:B:196:LEU:HB2	2.17	0.44
1:B:414:VAL:HG22	1:B:467:ARG:HH22	1.82	0.44
1:B:439:LYS:HG2	1:B:442:ARG:CZ	2.47	0.44
1:B:462:ARG:HE	1:B:537:ASP:HB2	1.81	0.44
1:B:674:GLU:HB2	1:B:683:LYS:HD3	1.98	0.44
1:B:1179:LYS:O	1:B:1182:GLN:HB2	2.17	0.44
1:B:2548:TRP:CD1	1:B:2576:ARG:HG2	2.53	0.44
1:B:2790:PRO:HB3	1:B:3076:LYS:HG2	1.98	0.44
1:B:4172:SER:HB2	1:B:4173:PRO:HD3	1.98	0.44
4:G:23:VAL:HG11	4:G:43:ALA:HB1	2.00	0.44
4:H:7:THR:O	4:H:11:LEU:HD23	2.17	0.44
1:A:1697:LYS:HB3	1:A:1700:GLU:OE1	2.18	0.44
1:A:1997:ILE:H	1:A:1997:ILE:HD12	1.82	0.44
1:A:2206:LYS:HD3	1:A:2206:LYS:HA	1.86	0.44
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	1.98	0.44
1:A:2961:ILE:HD11	1:A:2998:ASN:HB3	1.98	0.44
1:A:4087:ALA:HA	1:A:4092:ARG:HB3	1.98	0.44
1:B:967:GLN:HG2	1:B:1061:TRP:CD2	2.53	0.44
1:B:1060:LEU:HD22	1:B:1119:LYS:HE2	2.00	0.44
1:B:1090:ARG:HH22	1:B:1124:HIS:HB3	1.81	0.44
1:B:1697:LYS:HB3	1:B:1700:GLU:OE1	2.18	0.44
1:B:2437:LEU:HD21	1:B:2451:ARG:HG3	1.98	0.44
1:B:2912:PHE:CE2	1:B:2914:GLU:HB2	2.52	0.44
2:C:205:ARG:NH2	2:C:209:ARG:HH21	2.15	0.44
2:C:207:VAL:O	2:C:211:LEU:HG	2.18	0.44
1:A:52:LEU:HD12	1:A:101:TYR:CD1	2.52	0.44
1:A:365:ARG:NH1	1:A:436:ASP:OD2	2.51	0.44
1:A:2061:THR:OG1	1:A:2133:GLU:OE1	2.28	0.44
1:A:2975:ASP:O	1:A:2979:VAL:HG23	2.18	0.44
1:A:4412:PHE:HZ	1:A:4514:LEU:HD13	1.82	0.44
1:B:435:ARG:HH21	1:B:438:VAL:HG21	1.82	0.44
1:B:1068:ILE:O	1:B:1072:LEU:HG	2.17	0.44
4:G:3:GLU:HG3	4:G:6:GLU:H	1.82	0.44
6:K:68:VAL:HG22	6:L:79:THR:HG22	2.00	0.44
1:A:195:HIS:HE1	1:A:264:ARG:NE	2.14	0.44
1:A:1571:ILE:HD13	1:A:1607:LEU:HB3	1.99	0.44
1:A:2548:TRP:CD1	1:A:2576:ARG:HG2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2776:PHE:HZ	1:A:2846:THR:HG23	1.83	0.44
1:A:4185:TRP:O	1:A:4189:ILE:HG12	2.17	0.44
1:B:1124:HIS:NE2	1:B:1128:LEU:HD11	2.33	0.44
1:B:1197:LEU:HD23	1:B:1208:TRP:CH2	2.52	0.44
1:B:4100:HIS:HB3	1:B:4128:MET:HB2	1.99	0.44
2:D:386:CYS:SG	2:D:437:MET:HG3	2.58	0.44
5:J:75:TYR:CE1	5:J:82:ALA:HB1	2.53	0.44
1:A:41:LEU:HA	1:B:132:SER:HB2	1.98	0.44
1:A:213:ILE:HB	1:A:241:PHE:CZ	2.53	0.44
1:A:213:ILE:HD12	1:A:303:ILE:HD11	1.99	0.44
1:A:1724:VAL:HG11	1:A:1753:SER:HB3	2.00	0.44
1:B:333:ASN:O	1:B:336:MET:HG2	2.18	0.44
1:B:389:SER:O	1:B:393:LEU:HG	2.18	0.44
1:B:441:LYS:HZ2	1:B:450:TRP:HH2	1.64	0.44
1:B:525:LEU:HA	1:B:528:GLU:CD	2.38	0.44
1:B:1060:LEU:HD22	1:B:1119:LYS:HG2	2.00	0.44
1:B:1095:ASN:OD1	1:B:1096:ALA:N	2.48	0.44
1:B:1231:ALA:HA	1:B:1234:GLN:OE1	2.17	0.44
1:B:1456:GLU:O	1:B:1516:PHE:HE2	2.00	0.44
1:B:3485:GLU:HG3	1:B:3488:ARG:HH22	1.83	0.44
1:B:3880:HIS:ND1	1:B:4021:MET:HG3	2.33	0.44
3:F:38:SER:OG	3:F:39:ILE:N	2.50	0.44
1:A:1170:ILE:O	1:A:1174:GLN:HG2	2.18	0.44
1:A:1625:SER:HB2	1:A:1699:ASN:ND2	2.33	0.44
1:B:479:VAL:HG22	1:B:483:VAL:HG21	1.99	0.44
1:B:969:ILE:HG12	1:B:1058:GLN:HB3	1.99	0.44
1:B:1190:TYR:O	1:B:1194:GLN:HG3	2.18	0.44
1:B:1635:GLU:HA	1:B:1638:LEU:HD12	1.98	0.44
1:B:4087:ALA:HA	1:B:4092:ARG:HB3	1.98	0.44
2:D:539:LEU:HD21	2:D:551:LEU:HD11	2.00	0.44
5:I:52:PRO:HA	5:I:53:THR:HA	1.80	0.44
5:J:9:LYS:HE3	5:J:77:TYR:CD1	2.53	0.44
1:A:3217:GLU:HB2	1:A:3220:ARG:HH21	1.82	0.44
1:A:3485:GLU:HG3	1:A:3488:ARG:HH22	1.83	0.44
1:A:4186:PHE:O	1:A:4190:ILE:HG12	2.18	0.44
1:A:4190:ILE:HD12	1:A:4201:TRP:CZ2	2.45	0.44
1:B:1170:ILE:HG22	1:B:1174:GLN:HE22	1.83	0.44
1:B:1625:SER:HB2	1:B:1699:ASN:ND2	2.33	0.44
1:B:2776:PHE:HZ	1:B:2846:THR:HG23	1.83	0.44
1:A:1346:MET:O	1:A:1349:GLN:N	2.50	0.43
1:A:1980:GLU:OE2	1:A:1983:ARG:NH1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4401:THR:O	1:A:4405:ILE:HG12	2.17	0.43
1:B:956:LYS:N	1:B:985:GLU:OE2	2.39	0.43
1:B:2961:ILE:HG13	1:B:2963:VAL:HG13	2.00	0.43
1:B:2963:VAL:HG23	1:B:3643:PRO:HB2	1.99	0.43
2:C:214:GLN:C	2:D:209:ARG:HH12	2.22	0.43
2:D:480:THR:HB	2:D:528:TYR:CE2	2.52	0.43
1:A:344:LEU:HD21	1:A:388:LEU:HD23	2.00	0.43
1:A:3160:ARG:O	1:A:3163:LYS:HG2	2.17	0.43
1:A:3370:ASN:OD1	1:A:3377:TYR:CZ	2.72	0.43
1:B:522:GLU:O	1:B:525:LEU:HG	2.18	0.43
1:B:717:ILE:HA	1:B:824:TRP:CE3	2.46	0.43
1:B:921:ALA:O	1:B:924:GLN:HG3	2.18	0.43
1:B:926:LEU:HD13	1:B:1104:PRO:HG3	2.00	0.43
1:B:2557:VAL:O	1:B:2757:ARG:NH2	2.52	0.43
1:B:3232:LYS:HA	1:B:3232:LYS:HD3	1.76	0.43
3:F:366:GLN:OE1	3:F:366:GLN:HA	2.18	0.43
5:J:32:TYR:HB2	5:J:38:ILE:HD13	2.01	0.43
1:A:182:VAL:O	1:A:186:ILE:HG13	2.18	0.43
1:A:3194:LEU:HD21	1:A:3499:GLN:HB2	2.01	0.43
1:A:3629:PHE:HZ	1:B:3659:ARG:HG3	1.83	0.43
1:B:252:TRP:O	1:B:256:ILE:HG23	2.18	0.43
1:B:255:GLU:O	1:B:258:LYS:HG2	2.19	0.43
1:B:287:ARG:HA	1:B:290:GLU:HG2	1.99	0.43
1:B:368:ARG:NH2	1:B:436:ASP:O	2.51	0.43
1:B:572:LEU:HD23	1:B:604:TYR:HD2	1.83	0.43
1:B:860:GLU:OE2	1:B:880:ARG:HB2	2.18	0.43
1:B:882:GLN:HE22	1:B:999:ILE:HA	1.83	0.43
1:B:1490:TRP:HZ3	1:B:1534:PHE:HB3	1.83	0.43
1:B:2457:SER:O	1:B:2461:MET:HG3	2.18	0.43
1:B:4437:VAL:HG21	1:B:4448:LEU:HD13	2.00	0.43
2:C:204:THR:HA	4:G:10:ARG:NH1	2.33	0.43
2:D:387:VAL:HG12	2:D:400:SER:HB2	2.01	0.43
4:H:70:ARG:HB3	4:H:79:MET:SD	2.59	0.43
5:I:13:MET:HE2	5:I:18:GLN:HA	2.00	0.43
1:A:170:LYS:HE2	1:A:176:ASP:HB3	2.00	0.43
1:A:235:LYS:HB3	1:A:241:PHE:CG	2.54	0.43
1:A:270:THR:H	1:A:273:GLN:HB2	1.83	0.43
1:A:285:LEU:HB2	1:A:322:LEU:HD21	2.00	0.43
1:A:388:LEU:O	1:A:391:GLN:HG3	2.18	0.43
1:A:1189:LEU:O	1:A:1192:ASN:HB3	2.18	0.43
1:A:3148:VAL:O	1:A:3152:GLN:HG3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3514:ILE:HD11	1:A:3553:LEU:HD13	2.00	0.43
1:B:157:VAL:O	1:B:161:PHE:HB3	2.18	0.43
1:B:330:ASN:O	1:B:334:PRO:HD3	2.18	0.43
1:B:347:ALA:HA	1:B:352:LYS:HD3	1.99	0.43
1:B:468:LYS:HE3	1:B:468:LYS:HB3	1.88	0.43
1:B:718:PHE:CE1	1:B:820:ILE:HD13	2.53	0.43
1:B:860:GLU:HG2	1:B:877:ILE:HG23	2.00	0.43
1:B:1071:ARG:NH1	3:F:46:ARG:HD2	2.33	0.43
1:B:4297:PRO:HB3	1:B:4308:TRP:CD1	2.54	0.43
3:F:41:SER:O	3:F:44:SER:OG	2.24	0.43
3:F:95:ASP:HB2	3:F:294:PHE:CZ	2.53	0.43
1:A:31:GLN:HB3	1:A:35:ARG:HH21	1.83	0.43
1:A:118:PHE:CE1	1:A:137:VAL:HG23	2.53	0.43
1:A:146:TYR:OH	1:B:161:PHE:O	2.36	0.43
1:A:185:LYS:CE	1:B:189:LEU:HA	2.48	0.43
1:A:1353:SER:O	1:A:1354:VAL:C	2.56	0.43
1:A:1666:LEU:HD23	1:A:1673:VAL:HA	2.00	0.43
1:A:4172:SER:HB2	1:A:4173:PRO:HD3	1.98	0.43
1:B:410:GLU:HB3	1:B:471:ARG:NH2	2.33	0.43
1:B:433:LEU:O	1:B:437:ILE:HG12	2.17	0.43
1:B:1050:TYR:CD1	1:B:1100:LYS:HD2	2.52	0.43
1:B:1177:LYS:HA	1:B:1180:ILE:HD12	2.01	0.43
1:B:1182:GLN:O	1:B:1185:LYS:HG2	2.19	0.43
1:B:1724:VAL:HG11	1:B:1753:SER:HB3	2.00	0.43
4:H:3:GLU:OE2	4:H:10:ARG:NH2	2.35	0.43
4:H:22:VAL:HB	4:H:31:LYS:HZ2	1.83	0.43
5:J:56:CYS:HA	5:J:84:LEU:O	2.19	0.43
1:A:2079:GLN:HB2	1:A:2160:LEU:HD11	2.00	0.43
1:A:2538:GLU:HB3	1:A:2548:TRP:CZ2	2.54	0.43
1:A:2557:VAL:O	1:A:2757:ARG:NH2	2.52	0.43
1:B:58:GLU:OE2	1:B:60:SER:OG	2.31	0.43
1:B:146:TYR:CG	1:B:196:LEU:HB3	2.54	0.43
1:B:377:ALA:O	1:B:381:VAL:HG23	2.19	0.43
1:B:456:HIS:CE1	1:B:460:GLN:HB2	2.53	0.43
1:B:462:ARG:HH22	1:B:535:GLY:C	2.22	0.43
1:B:1156:HIS:CE1	1:B:1166:ALA:HA	2.53	0.43
1:B:3154:LEU:HG	1:B:3516:TYR:CD1	2.54	0.43
1:B:4415:ARG:O	1:B:4419:MET:HG2	2.18	0.43
3:F:70:LEU:O	3:F:74:LEU:HD23	2.18	0.43
4:G:64:ASN:HA	4:H:75:LYS:HD3	2.00	0.43
6:K:35:GLN:H	6:K:42:TRP:HZ3	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:164:TYR:HA	1:B:109:TYR:CD2	2.53	0.43
1:A:284:ALA:O	1:A:287:ARG:HG2	2.18	0.43
1:A:1195:ARG:NH2	3:F:99:ASP:HB2	2.34	0.43
1:A:3291:GLU:O	1:A:3395:TRP:NE1	2.52	0.43
1:B:35:ARG:HH22	1:B:53:GLU:HG2	1.84	0.43
1:B:336:MET:HA	1:B:339:PHE:CE2	2.43	0.43
1:B:525:LEU:HA	1:B:528:GLU:OE2	2.19	0.43
1:B:598:ARG:O	1:B:601:ILE:HG22	2.19	0.43
1:B:997:PRO:HA	1:B:1018:PHE:HA	2.00	0.43
1:B:1090:ARG:HH22	1:B:1124:HIS:CB	2.32	0.43
1:B:2230:LYS:HG2	1:B:2364:PHE:CG	2.54	0.43
1:B:4185:TRP:O	1:B:4189:ILE:HG12	2.18	0.43
3:F:321:ALA:HA	3:F:324:HIS:CD2	2.53	0.43
4:G:21:ILE:HB	4:G:33:THR:OG1	2.19	0.43
5:I:67:THR:O	5:J:55:HIS:HE1	2.01	0.43
6:K:29:ILE:HD13	6:K:102:MET:HE1	2.00	0.43
1:A:288:ILE:HA	1:A:291:LYS:HB3	2.01	0.43
1:A:391:GLN:HA	1:A:394:LYS:HE2	2.00	0.43
1:A:1834:LYS:HA	1:A:1834:LYS:HD3	1.88	0.43
1:A:2457:SER:O	1:A:2461:MET:HG3	2.18	0.43
1:A:3880:HIS:ND1	1:A:4021:MET:HG3	2.33	0.43
1:A:4227:ALA:HB2	1:A:4233:ILE:HD12	2.01	0.43
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	2.00	0.43
1:B:101:TYR:CG	1:B:102:ASN:N	2.86	0.43
1:B:211:PRO:O	1:B:215:ASN:ND2	2.51	0.43
1:B:580:GLU:O	1:B:584:ILE:HG13	2.19	0.43
1:B:959:VAL:HA	1:B:1106:VAL:O	2.18	0.43
1:B:2144:THR:HG22	1:B:2145:MET:HE2	2.01	0.43
1:B:2975:ASP:O	1:B:2979:VAL:HG23	2.18	0.43
1:B:4227:ALA:HB2	1:B:4233:ILE:HD12	2.00	0.43
1:B:4246:LEU:HD23	1:B:4246:LEU:HA	1.90	0.43
3:F:337:GLU:OE1	3:F:337:GLU:N	2.49	0.43
5:I:53:THR:HG21	5:J:67:THR:HB	2.00	0.43
5:J:9:LYS:H	5:J:76:PHE:HA	1.83	0.43
6:L:72:LYS:HE2	6:L:103:TYR:CE1	2.53	0.43
1:A:118:PHE:HB3	1:A:135:LEU:HD11	2.01	0.43
1:A:1459:LEU:H	1:A:1459:LEU:HD12	1.83	0.43
1:A:2230:LYS:HG2	1:A:2364:PHE:CG	2.54	0.43
1:A:2457:SER:HB2	1:A:2732:PRO:HB3	2.01	0.43
1:B:462:ARG:HH21	1:B:537:ASP:HB2	1.84	0.43
1:B:908:GLU:HB2	1:B:1019:TYR:CZ	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1899:ARG:N	1:B:1899:ARG:HD2	2.34	0.43
1:B:3291:GLU:O	1:B:3395:TRP:NE1	2.52	0.43
1:B:3514:ILE:HD11	1:B:3553:LEU:HD13	2.00	0.43
1:B:4186:PHE:O	1:B:4190:ILE:HG12	2.18	0.43
3:F:238:SER:O	3:F:241:GLU:HB3	2.19	0.43
1:A:39:PRO:HG3	1:A:48:ALA:H	1.84	0.43
1:A:107:ILE:HD11	1:B:159:PRO:HD2	2.01	0.43
1:A:1899:ARG:N	1:A:1899:ARG:HD2	2.34	0.43
1:A:3485:GLU:OE2	1:A:3774:LYS:NZ	2.43	0.43
1:B:304:LEU:HD13	1:B:309:ARG:HB3	2.00	0.43
1:B:368:ARG:HD2	1:B:368:ARG:HA	1.82	0.43
1:B:530:VAL:HG22	1:B:553:TYR:CE2	2.53	0.43
1:B:579:ASN:O	1:B:583:ARG:HG3	2.19	0.43
1:B:774:LEU:HD12	1:B:774:LEU:HA	1.84	0.43
1:B:1023:LEU:HD12	1:B:1033:LEU:HD22	2.01	0.43
1:B:1163:THR:HA	1:B:1166:ALA:HB3	2.01	0.43
1:B:1209:LEU:C	1:B:1210:TYR:HD2	2.22	0.43
1:B:1213:ASN:CA	5:J:9:LYS:O	2.67	0.43
1:B:1980:GLU:OE2	1:B:1983:ARG:NH1	2.51	0.43
1:B:2079:GLN:HB2	1:B:2160:LEU:HD11	2.00	0.43
1:B:2784:PHE:HB3	1:B:2792:TYR:CD2	2.54	0.43
1:B:2882:ILE:HB	1:B:2883:PRO:HD2	2.01	0.43
1:B:3381:ILE:CG1	1:B:3393:VAL:CG1	2.82	0.43
1:B:4173:PRO:HD2	1:B:4176:ARG:HH21	1.84	0.43
1:B:4611:LEU:HB2	1:B:4619:ILE:HD11	2.00	0.43
2:D:287:TRP:CZ2	2:D:295:LEU:HD12	2.54	0.43
1:A:55:ALA:HA	1:A:58:GLU:HB2	2.01	0.42
1:A:189:LEU:CD2	1:B:185:LYS:HB3	2.48	0.42
1:A:278:TRP:O	1:A:281:LEU:HG	2.19	0.42
1:A:2882:ILE:HB	1:A:2883:PRO:HD2	2.01	0.42
1:A:3745:LEU:HD13	1:A:3777:ALA:HA	2.01	0.42
1:A:4297:PRO:HB3	1:A:4308:TRP:CD1	2.54	0.42
1:A:4423:LEU:HD22	1:A:4466:HIS:HB2	2.01	0.42
1:B:191:MET:O	1:B:194:LEU:HG	2.19	0.42
1:B:309:ARG:HG2	1:B:312:ALA:HB3	2.00	0.42
1:B:902:LYS:HB2	1:B:902:LYS:HE3	1.71	0.42
1:B:1135:LEU:HD22	1:B:1190:TYR:CD1	2.53	0.42
1:B:2967:TYR:OH	1:B:2975:ASP:OD2	2.34	0.42
1:B:3194:LEU:HD21	1:B:3499:GLN:HB2	2.01	0.42
1:B:3389:CYS:O	1:B:3390:GLY:C	2.57	0.42
3:F:259:ARG:NE	3:F:315:ASP:OD2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:62:PHE:HB2	5:J:57:ILE:HD11	2.01	0.42
1:A:90:ASP:N	1:A:90:ASP:OD1	2.50	0.42
1:A:283:ARG:HG3	1:A:287:ARG:HH21	1.84	0.42
1:A:324:GLN:OE1	1:A:324:GLN:N	2.51	0.42
1:A:1347:LYS:HA	1:A:1432:GLY:H	1.85	0.42
1:A:1853:VAL:HA	1:A:1856:GLN:HG3	2.01	0.42
1:A:4415:ARG:O	1:A:4419:MET:HG2	2.18	0.42
1:B:410:GLU:O	1:B:414:VAL:HG23	2.19	0.42
1:B:722:SER:HA	1:B:733:LEU:HD23	2.02	0.42
1:B:1125:LYS:HA	1:B:1128:LEU:HD12	2.01	0.42
1:B:3110:THR:O	1:B:3113:MET:HB2	2.19	0.42
1:B:3257:SER:HA	1:B:3260:ILE:HD12	1.99	0.42
4:H:42:TYR:O	4:H:46:MET:HG2	2.19	0.42
1:A:25:ALA:O	1:A:66:ARG:NH1	2.40	0.42
1:A:186:ILE:O	1:A:190:GLU:HG2	2.19	0.42
1:A:289:GLN:HA	1:A:292:ARG:CZ	2.48	0.42
1:A:354:ARG:HA	1:A:357:LEU:HB2	2.02	0.42
1:A:2994:MET:HG3	1:A:2998:ASN:HD22	1.84	0.42
1:A:3389:CYS:O	1:A:3390:GLY:C	2.57	0.42
1:B:38:VAL:N	1:B:39:PRO:HD2	2.34	0.42
1:B:121:ARG:HD3	1:B:133:SER:O	2.19	0.42
1:B:149:LEU:O	1:B:153:ILE:HG12	2.19	0.42
1:B:1226:ARG:HA	1:B:1226:ARG:NE	2.34	0.42
1:B:1853:VAL:HA	1:B:1856:GLN:HG3	2.01	0.42
1:B:3370:ASN:OD1	1:B:3377:TYR:CZ	2.72	0.42
1:B:3381:ILE:HD12	1:B:3390:GLY:N	2.35	0.42
1:B:3745:LEU:HD13	1:B:3777:ALA:HA	2.01	0.42
2:C:311:GLY:HA3	2:C:334:ALA:HA	2.01	0.42
3:F:169:LYS:O	3:F:172:GLU:HG3	2.19	0.42
3:F:370:LEU:HA	3:F:373:GLN:HG2	2.01	0.42
5:J:7:VAL:HB	5:J:9:LYS:HE2	2.01	0.42
6:K:77:LEU:HD13	6:L:70:MET:CE	2.48	0.42
6:L:72:LYS:HG2	6:L:103:TYR:CE2	2.55	0.42
1:A:1190:TYR:HE1	1:A:1208:TRP:HH2	1.66	0.42
1:A:1562:PRO:O	1:A:1566:GLN:HG2	2.20	0.42
1:A:2825:TRP:CZ3	1:A:2854:ALA:HB2	2.55	0.42
1:A:3096:ASP:OD1	1:A:3097:TRP:N	2.50	0.42
1:A:3110:THR:O	1:A:3113:MET:HB2	2.20	0.42
1:A:3115:LEU:HD13	1:A:3143:ILE:HG21	2.01	0.42
1:A:3154:LEU:HG	1:A:3516:TYR:CD1	2.54	0.42
1:A:4196:TYR:CZ	1:A:4318:PRO:HB3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:178:MET:O	1:B:182:VAL:HG13	2.20	0.42
1:B:578:ALA:HB1	1:B:582:PHE:HE2	1.84	0.42
1:B:627:TYR:CD2	1:B:647:SER:HB3	2.55	0.42
1:B:835:ARG:O	1:B:838:GLU:HG3	2.19	0.42
1:B:1165:ASP:O	1:B:1168:THR:HB	2.19	0.42
1:B:1174:GLN:HA	1:B:1177:LYS:HZ2	1.84	0.42
1:B:1209:LEU:CD1	5:J:18:GLN:HE22	2.32	0.42
1:B:1399:LEU:O	1:B:1400:VAL:C	2.57	0.42
1:B:2538:GLU:HB3	1:B:2548:TRP:CZ2	2.54	0.42
1:B:4423:LEU:HD22	1:B:4466:HIS:HB2	2.01	0.42
3:F:94:HIS:ND1	3:F:100:ASP:O	2.50	0.42
5:J:68:HIS:CG	5:J:73:PHE:HB2	2.55	0.42
1:A:201:GLU:HA	1:A:280:ASN:ND2	2.30	0.42
1:A:257:GLN:NE2	1:A:319:ASP:O	2.52	0.42
1:A:1209:LEU:HD23	1:A:1209:LEU:H	1.84	0.42
1:A:2784:PHE:HB3	1:A:2792:TYR:CD2	2.54	0.42
1:A:3239:LYS:HD3	1:A:3451:TYR:CD1	2.54	0.42
1:A:4437:VAL:HG21	1:A:4448:LEU:HD13	2.00	0.42
1:B:639:ARG:NH1	2:D:528:TYR:CZ	2.88	0.42
1:B:1203:GLN:O	1:B:1205:PRO:N	2.53	0.42
1:B:1459:LEU:H	1:B:1459:LEU:HD12	1.83	0.42
1:B:2825:TRP:CZ3	1:B:2854:ALA:HB2	2.55	0.42
1:B:3115:LEU:HD13	1:B:3143:ILE:HG21	2.01	0.42
2:D:287:TRP:CE2	2:D:295:LEU:HD12	2.54	0.42
3:F:48:ARG:NH1	3:F:49:SER:HB2	2.34	0.42
1:A:58:GLU:HG2	1:A:60:SER:H	1.83	0.42
1:A:150:HIS:CG	1:A:196:LEU:HD21	2.54	0.42
1:A:1209:LEU:HD12	1:A:1214:ILE:HG13	2.02	0.42
1:A:2211:TYR:O	1:A:2214:THR:OG1	2.29	0.42
1:A:3558:GLU:HG2	1:A:3562:TRP:CE2	2.54	0.42
1:B:33:HIS:HA	1:B:36:LYS:NZ	2.34	0.42
1:B:68:PHE:O	1:B:120:LYS:NZ	2.37	0.42
1:B:145:PRO:O	1:B:149:LEU:HG	2.19	0.42
1:B:213:ILE:HD12	1:B:303:ILE:HD11	2.02	0.42
1:B:282:GLU:O	1:B:285:LEU:HG	2.20	0.42
1:B:399:ARG:NH2	1:B:404:VAL:HG11	2.28	0.42
1:B:440:ARG:O	1:B:443:GLU:HB3	2.19	0.42
1:B:539:SER:O	1:B:542:GLY:N	2.49	0.42
1:B:699:PHE:CE2	1:B:758:PHE:HB3	2.55	0.42
1:B:703:ALA:O	1:B:707:GLN:HG3	2.19	0.42
1:B:810:LYS:HE2	3:F:357:GLU:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3148:VAL:O	1:B:3152:GLN:HG3	2.19	0.42
2:D:500:SER:OG	2:D:527:VAL:HG13	2.19	0.42
3:F:59:VAL:HG23	3:F:134:ILE:HG23	2.00	0.42
4:G:47:HIS:HA	4:G:50:ILE:HG12	2.02	0.42
1:A:285:LEU:HA	1:A:288:ILE:HG12	2.01	0.42
1:A:1526:LYS:O	1:A:1530:ILE:HG13	2.20	0.42
1:A:3243:MET:CE	1:A:3444:ILE:HA	2.49	0.42
1:A:3659:ARG:HG3	1:B:3629:PHE:CZ	2.54	0.42
1:B:295:PRO:HA	1:B:298:LEU:HD12	2.01	0.42
1:B:602:ARG:HA	1:B:605:GLN:HB2	2.02	0.42
1:B:610:GLN:NE2	1:B:614:ASP:OD1	2.52	0.42
1:B:1160:THR:O	1:B:1162:SER:N	2.53	0.42
1:B:1212:ASP:N	1:B:1215:GLU:OE1	2.53	0.42
1:B:1526:LYS:O	1:B:1530:ILE:HG13	2.20	0.42
1:B:3243:MET:CE	1:B:3447:TYR:HB2	2.50	0.42
1:B:4628:THR:HG1	1:B:4630:GLU:HG2	1.84	0.42
4:G:70:ARG:HB2	4:H:70:ARG:HG2	2.01	0.42
1:A:420:PHE:CE2	1:A:460:GLN:HG2	2.55	0.42
1:A:462:ARG:NH1	1:A:538:VAL:HA	2.34	0.42
1:A:1744:LYS:HD3	1:A:1745:TYR:CE2	2.55	0.42
1:A:3373:SER:O	1:A:3377:TYR:HD2	2.03	0.42
1:B:332:TYR:CE1	1:B:335:LEU:HD22	2.54	0.42
1:B:361:PHE:HB2	1:B:426:GLU:CD	2.40	0.42
1:B:998:ARG:CZ	1:B:1019:TYR:HD1	2.33	0.42
1:B:1172:TYR:O	1:B:1175:SER:OG	2.21	0.42
1:B:1666:LEU:HD23	1:B:1673:VAL:HA	2.01	0.42
1:B:2445:HIS:NE2	1:B:2449:LEU:HD22	2.34	0.42
2:C:293:GLU:O	2:C:318:MET:N	2.53	0.42
2:D:206:ILE:O	2:D:209:ARG:HB3	2.20	0.42
3:F:168:GLU:HG2	3:F:169:LYS:N	2.34	0.42
4:G:3:GLU:HB3	4:G:6:GLU:HB2	2.02	0.42
4:H:8:LEU:HD12	4:H:9:LYS:N	2.34	0.42
1:A:185:LYS:HE3	1:B:189:LEU:HD23	2.01	0.42
1:A:1490:TRP:HZ3	1:A:1534:PHE:HB3	1.83	0.42
1:A:2059:PHE:CZ	1:A:2104:LYS:HD3	2.55	0.42
1:A:4034:GLU:OE1	1:A:4143:ARG:NH1	2.41	0.42
1:B:619:LEU:HD21	1:B:654:ILE:HG23	2.01	0.42
1:B:2488:ARG:CG	1:B:2492:ARG:HH12	2.32	0.42
1:B:2667:ASN:OD1	1:B:2712:CYS:HB2	2.20	0.42
1:B:3558:GLU:HG2	1:B:3562:TRP:CE2	2.54	0.42
1:B:4196:TYR:CZ	1:B:4318:PRO:HB3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:334:ALA:O	2:D:352:THR:OG1	2.28	0.42
5:I:38:ILE:HG22	5:I:58:VAL:HG21	2.01	0.42
1:A:119:ILE:O	1:A:135:LEU:HG	2.20	0.42
1:A:333:ASN:N	1:A:334:PRO:HD2	2.35	0.42
1:A:413:MET:CE	1:A:464:ASP:HA	2.50	0.42
1:A:1399:LEU:O	1:A:1400:VAL:C	2.58	0.42
1:A:2445:HIS:NE2	1:A:2449:LEU:HD22	2.34	0.42
1:A:3716:VAL:HB	1:A:3836:TYR:OH	2.20	0.42
1:A:3740:LEU:O	1:A:3744:GLN:HG3	2.20	0.42
1:A:4099:VAL:HG23	1:A:4106:LEU:HD11	2.02	0.42
1:A:4173:PRO:HD2	1:A:4176:ARG:HH21	1.84	0.42
1:B:828:LYS:C	1:B:831:PRO:HD2	2.40	0.42
1:B:1210:TYR:N	1:B:1210:TYR:CD2	2.88	0.42
1:B:1744:LYS:HD3	1:B:1745:TYR:CE2	2.55	0.42
1:B:2994:MET:HG3	1:B:2998:ASN:HD22	1.84	0.42
1:B:3951:VAL:HG23	1:B:3973:LEU:HD21	2.01	0.42
1:A:121:ARG:CD	1:A:136:ARG:HG2	2.50	0.41
1:A:271:ALA:O	1:A:275:ILE:HG23	2.19	0.41
1:A:410:GLU:O	1:A:414:VAL:HG23	2.19	0.41
1:A:2132:PRO:HB2	1:A:2135:GLU:HB3	2.02	0.41
1:A:2667:ASN:OD1	1:A:2712:CYS:HB2	2.20	0.41
1:A:2688:GLU:OE1	1:A:2689:HIS:CE1	2.72	0.41
1:B:263:ASP:HA	1:B:277:PHE:HE2	1.85	0.41
1:B:476:LEU:O	1:B:479:VAL:HG12	2.20	0.41
1:B:887:ASP:O	1:B:890:LEU:HG	2.20	0.41
1:B:1181:LYS:HG2	1:B:1185:LYS:NZ	2.30	0.41
1:B:1895:ALA:HB2	1:B:2037:ARG:HB2	2.02	0.41
1:B:3243:MET:CE	1:B:3444:ILE:HA	2.49	0.41
1:B:4099:VAL:HG23	1:B:4106:LEU:HD11	2.02	0.41
1:B:4412:PHE:CZ	1:B:4520:TYR:HB2	2.55	0.41
3:F:155:VAL:O	3:F:158:GLU:HG3	2.20	0.41
6:K:61:PHE:HB2	6:K:63:TYR:CZ	2.54	0.41
6:L:29:ILE:HG21	6:L:102:MET:HE1	2.00	0.41
1:A:115:SER:N	1:A:140:LEU:HB3	2.22	0.41
1:A:220:CYS:O	1:A:223:ARG:NE	2.51	0.41
1:A:246:GLN:HG2	1:A:312:ALA:HB2	2.02	0.41
1:A:1623:ARG:NH1	1:A:1629:PHE:O	2.47	0.41
1:A:2631:LEU:HD13	1:A:2686:MET:HE1	2.02	0.41
1:A:3232:LYS:HD3	1:A:3232:LYS:HA	1.76	0.41
1:A:3381:ILE:HD12	1:A:3390:GLY:N	2.35	0.41
1:A:3629:PHE:CZ	1:B:3659:ARG:HG3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4071:ILE:HD13	1:A:4071:ILE:HA	1.87	0.41
1:A:4412:PHE:CZ	1:A:4520:TYR:HB2	2.55	0.41
1:A:4415:ARG:HE	1:A:4415:ARG:HB3	1.54	0.41
1:B:320:THR:OG1	1:B:323:LYS:NZ	2.53	0.41
1:B:806:ALA:HB1	3:F:355:ALA:O	2.20	0.41
1:B:1124:HIS:CE1	1:B:1128:LEU:HD11	2.54	0.41
1:B:2446:ILE:HD12	1:B:2446:ILE:HA	1.92	0.41
1:B:2688:GLU:OE1	1:B:2689:HIS:CE1	2.73	0.41
1:B:3239:LYS:HD3	1:B:3451:TYR:CD1	2.54	0.41
1:B:3392:MET:CA	1:B:3395:TRP:HB2	2.48	0.41
1:B:4534:TRP:CD2	1:B:4594:LYS:HD3	2.56	0.41
1:B:4553:LEU:HD23	1:B:4553:LEU:HA	1.87	0.41
3:F:330:VAL:HG11	3:F:339:PHE:CD1	2.55	0.41
4:G:22:VAL:O	4:G:30:ILE:N	2.53	0.41
4:H:69:LEU:HB3	4:H:80:VAL:HG13	2.00	0.41
5:J:68:HIS:HB3	5:J:86:PHE:HB2	2.01	0.41
1:A:31:GLN:O	1:A:34:LEU:HG	2.19	0.41
1:A:121:ARG:HH22	1:B:143:ASP:CG	2.24	0.41
1:A:197:GLN:HG2	1:B:170:LYS:HE3	2.03	0.41
1:A:407:GLU:HA	1:A:410:GLU:OE1	2.21	0.41
1:A:429:LYS:HB3	1:A:429:LYS:HE3	1.87	0.41
1:A:1203:GLN:CD	3:F:48:ARG:HB3	2.40	0.41
1:A:1229:ASP:O	1:A:1232:ILE:HG22	2.20	0.41
1:A:2581:LEU:HD12	1:A:2604:THR:HG22	2.02	0.41
1:A:2961:ILE:HG13	1:A:2963:VAL:HG13	2.00	0.41
1:A:3377:TYR:CD1	1:A:3397:ILE:HG12	2.55	0.41
1:A:3392:MET:CA	1:A:3395:TRP:HB2	2.48	0.41
1:B:441:LYS:HD3	1:B:446:LEU:HD21	2.03	0.41
1:B:456:HIS:ND1	1:B:456:HIS:O	2.53	0.41
1:B:1020:ARG:HH22	3:F:84:ARG:N	2.19	0.41
1:B:2457:SER:HB2	1:B:2732:PRO:HB3	2.01	0.41
1:B:3373:SER:O	1:B:3377:TYR:HD2	2.03	0.41
1:B:3588:LEU:HD21	1:B:3638:VAL:HG11	2.02	0.41
1:B:3740:LEU:O	1:B:3744:GLN:HG3	2.20	0.41
1:B:4546:THR:HG21	1:B:4589:GLN:HE21	1.84	0.41
2:C:217:ILE:HG13	2:D:205:ARG:HH11	1.85	0.41
2:D:591:GLU:OE1	2:D:591:GLU:N	2.53	0.41
3:F:228:LEU:CD2	3:F:268:ALA:HB3	2.50	0.41
1:A:35:ARG:O	1:A:39:PRO:HD3	2.21	0.41
1:A:1079:TRP:C	1:A:1081:ALA:H	2.22	0.41
1:A:1738:TYR:HE2	1:A:1792:LEU:HD21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2612:LEU:HD12	1:A:2612:LEU:HA	1.96	0.41
1:A:3586:TYR:HA	1:A:3587:PRO:HD3	1.92	0.41
1:A:3659:ARG:CD	1:B:3628:ARG:HD3	2.50	0.41
1:B:120:LYS:HE2	1:B:125:ILE:HG12	2.01	0.41
1:B:282:GLU:OE2	1:B:333:ASN:ND2	2.53	0.41
1:B:375:GLN:O	1:B:379:ARG:HG2	2.20	0.41
1:B:469:PHE:HZ	1:B:553:TYR:HB2	1.85	0.41
1:B:470:ARG:HH22	1:B:531:LYS:HZ3	1.68	0.41
1:B:484:LEU:HD21	1:B:519:ALA:HB3	2.03	0.41
1:B:3017:VAL:HB	1:B:3020:LEU:HB2	2.03	0.41
2:C:193:SER:OG	2:C:195:GLU:OE1	2.31	0.41
2:D:288:SER:HB2	2:D:340:PHE:CZ	2.55	0.41
2:D:608:ASN:OD1	2:D:608:ASN:N	2.52	0.41
3:E:136:VAL:HA	3:E:230:VAL:O	2.21	0.41
3:F:168:GLU:HB2	3:F:171:ARG:HH21	1.85	0.41
3:F:334:ASP:OD2	3:F:339:PHE:HB2	2.20	0.41
4:G:15:LYS:O	4:G:92:GLN:HG3	2.20	0.41
1:A:40:LEU:HD11	1:B:36:LYS:HD2	2.02	0.41
1:A:72:PRO:HB3	1:A:124:VAL:HG23	2.03	0.41
1:A:241:PHE:CE2	1:A:245:LEU:HD21	2.56	0.41
1:A:288:ILE:HG13	1:A:292:ARG:NH2	2.35	0.41
1:A:1173:VAL:HA	1:A:1176:LEU:HD12	2.01	0.41
1:A:1508:LYS:HG2	1:A:1513:TYR:CZ	2.56	0.41
1:A:2163:ASP:OD1	1:A:4530:GLN:NE2	2.53	0.41
1:A:4546:THR:HG21	1:A:4589:GLN:HE21	1.85	0.41
1:B:740:LEU:O	1:B:743:ILE:HG22	2.20	0.41
1:B:1038:SER:O	1:B:1041:MET:HG2	2.21	0.41
1:B:2912:PHE:HE2	1:B:2914:GLU:HB2	1.86	0.41
1:B:3447:TYR:HB3	1:B:3451:TYR:OH	2.21	0.41
1:B:4399:LYS:HE2	1:B:4399:LYS:HB3	1.95	0.41
2:D:341:ALA:HA	2:D:389:VAL:HG21	2.02	0.41
3:E:60:PHE:O	3:E:135:PHE:HA	2.21	0.41
4:H:80:VAL:HG22	4:H:82:PRO:HD3	2.02	0.41
5:I:14:SER:HB3	5:I:71:LYS:HZ1	1.86	0.41
1:A:160:PHE:CE1	1:B:109:TYR:HA	2.56	0.41
1:A:250:ASN:O	1:A:253:ILE:HG22	2.20	0.41
1:A:350:LEU:HD13	1:A:416:CYS:HA	2.01	0.41
1:A:365:ARG:NH2	1:A:432:VAL:HB	2.31	0.41
1:A:2179:ARG:NH2	1:A:2195:ASP:OD1	2.43	0.41
1:A:2912:PHE:HE2	1:A:2914:GLU:HB2	1.86	0.41
1:A:3741:ARG:NH2	1:A:3776:GLU:OE1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4534:TRP:CD2	1:A:4594:LYS:HD3	2.56	0.41
1:B:180:PRO:HA	1:B:183:GLU:CD	2.40	0.41
1:B:567:ARG:O	1:B:571:GLN:HG3	2.20	0.41
1:B:1188:GLU:HA	1:B:1191:ARG:NE	2.36	0.41
1:B:1304:LEU:O	1:B:1306:LEU:N	2.54	0.41
1:B:2163:ASP:OD1	1:B:4530:GLN:NE2	2.53	0.41
1:B:3001:ASP:OD1	1:B:3002:SER:N	2.54	0.41
1:B:4424:LEU:HD13	1:B:4486:ILE:HG13	2.03	0.41
2:D:215:ILE:HD11	2:D:217:ILE:HG22	2.02	0.41
2:D:528:TYR:CD2	2:D:528:TYR:C	2.92	0.41
3:F:38:SER:HG	3:F:39:ILE:N	2.19	0.41
3:F:91:LEU:HB2	3:F:104:CYS:HB3	2.01	0.41
3:F:141:ARG:HB3	3:F:143:TRP:NE1	2.34	0.41
1:A:65:MET:SD	1:A:66:ARG:HD2	2.61	0.41
1:A:136:ARG:HG3	1:B:152:PHE:CZ	2.56	0.41
1:A:289:GLN:HG3	1:A:292:ARG:HH22	1.86	0.41
1:A:4260:PHE:HD1	1:A:4263:ARG:NH2	2.19	0.41
1:B:59:LYS:HZ3	1:B:62:LEU:HB3	1.86	0.41
1:B:323:LYS:HA	1:B:326:LEU:HB3	2.03	0.41
1:B:417:PHE:O	1:B:421:GLN:HG2	2.20	0.41
1:B:441:LYS:HD3	1:B:446:LEU:CD2	2.50	0.41
1:B:603:GLU:HG2	1:B:604:TYR:CD1	2.55	0.41
1:B:673:TRP:O	1:B:679:GLY:HA3	2.21	0.41
1:B:718:PHE:HB2	1:B:737:VAL:HA	2.03	0.41
1:B:755:TRP:CZ2	2:D:453:GLU:HA	2.55	0.41
1:B:851:LEU:O	1:B:855:GLU:OE1	2.38	0.41
1:B:1018:PHE:CZ	1:B:1020:ARG:HD2	2.55	0.41
1:B:2290:SER:HA	1:B:2294:GLU:OE1	2.21	0.41
2:C:286:ASP:O	2:C:295:LEU:HA	2.20	0.41
1:A:152:PHE:CE1	1:B:136:ARG:HB3	2.56	0.41
1:A:189:LEU:HA	1:B:185:LYS:HE2	2.03	0.41
1:A:214:THR:HA	1:A:296:GLU:OE1	2.21	0.41
1:A:383:ALA:HA	1:A:386:ARG:NE	2.35	0.41
1:A:1153:LEU:HD12	1:A:1153:LEU:HA	1.84	0.41
1:A:2107:ARG:HD2	1:A:2136:ILE:HG12	2.02	0.41
1:A:3001:ASP:OD1	1:A:3002:SER:N	2.54	0.41
1:A:3862:ASP:OD1	1:A:3866:VAL:HG23	2.20	0.41
1:B:20:ALA:N	1:B:124:VAL:HA	2.36	0.41
1:B:311:HIS:HA	1:B:314:VAL:HG22	2.03	0.41
1:B:1610:LYS:HA	1:B:1610:LYS:HD3	1.96	0.41
1:B:1738:TYR:HE2	1:B:1792:LEU:HD21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2905:LEU:HD12	1:B:2905:LEU:HA	1.93	0.41
1:B:4260:PHE:HD1	1:B:4263:ARG:NH2	2.19	0.41
2:D:186:GLU:HA	2:D:189:GLN:HG2	2.03	0.41
2:D:305:ALA:O	2:D:308:GLU:HG3	2.20	0.41
2:D:426:HIS:CD2	2:D:468:ILE:HG21	2.56	0.41
2:D:457:TYR:HB3	2:D:468:ILE:HD12	2.03	0.41
4:H:26:GLU:HA	4:H:87:PHE:CE2	2.56	0.41
1:A:161:PHE:CE2	1:A:165:ILE:HD11	2.56	0.41
1:A:283:ARG:HB2	1:A:287:ARG:NH2	2.35	0.41
1:A:376:ARG:O	1:A:380:LEU:HG	2.21	0.41
1:A:1183:PHE:O	1:A:1187:VAL:HG23	2.20	0.41
1:A:1346:MET:C	1:A:1348:GLU:N	2.72	0.41
1:A:1623:ARG:NH2	1:A:1634:ASP:OD1	2.54	0.41
1:A:2664:ASP:HA	1:A:2711:ALA:HB3	2.03	0.41
1:A:3017:VAL:HB	1:A:3020:LEU:HB2	2.03	0.41
1:A:3243:MET:CE	1:A:3447:TYR:HB2	2.50	0.41
1:A:3291:GLU:OE2	1:A:3394:LYS:HE2	2.21	0.41
1:A:4197:ALA:HB3	1:A:4198:PRO:CD	2.49	0.41
1:B:263:ASP:HA	1:B:277:PHE:CE2	2.56	0.41
1:B:264:ARG:HH11	1:B:274:GLU:CD	2.24	0.41
1:B:406:TYR:O	1:B:410:GLU:HG2	2.21	0.41
1:B:809:LYS:HG2	1:B:813:GLN:OE1	2.21	0.41
1:B:852:ILE:HG13	1:B:853:ILE:N	2.36	0.41
1:B:962:LEU:HD23	1:B:971:LEU:HG	2.03	0.41
1:B:970:TYR:HE1	3:F:101:HIS:CE1	2.39	0.41
1:B:1167:VAL:HA	1:B:1170:ILE:HB	2.02	0.41
1:B:3985:GLN:HB3	1:B:3989:ARG:NH1	2.36	0.41
2:D:399:ILE:HG21	2:D:447:PHE:CZ	2.56	0.41
2:D:589:ASP:OD2	2:D:591:GLU:HB2	2.21	0.41
3:F:60:PHE:CG	3:F:61:GLY:N	2.89	0.41
3:F:279:ASN:O	3:F:282:LEU:HG	2.21	0.41
1:A:92:GLY:O	1:A:212:MET:HA	2.21	0.41
1:A:351:ASP:O	1:A:354:ARG:HD3	2.21	0.41
1:A:1212:ASP:OD1	1:A:1213:ASN:N	2.53	0.41
1:A:2905:LEU:HD12	1:A:2905:LEU:HA	1.93	0.41
1:B:756:LEU:HD23	1:B:756:LEU:HA	1.92	0.41
1:B:1212:ASP:HB2	1:B:1216:GLY:CA	2.50	0.41
1:B:1508:LYS:HG2	1:B:1513:TYR:CZ	2.56	0.41
1:B:2581:LEU:HD12	1:B:2604:THR:HG22	2.02	0.41
1:B:2664:ASP:HA	1:B:2711:ALA:HB3	2.03	0.41
1:B:3135:GLN:O	1:B:3137:PRO:HD3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3716:VAL:HB	1:B:3836:TYR:OH	2.21	0.41
1:B:3912:ASN:O	1:B:3937:ARG:NH1	2.54	0.41
2:C:204:THR:HA	4:G:10:ARG:HH12	1.85	0.41
2:D:346:ASN:ND2	2:D:362:ASN:HB3	2.36	0.41
3:F:51:LEU:HB3	3:F:98:ARG:NE	2.32	0.41
3:F:254:ILE:HG22	3:F:340:ILE:HD13	2.03	0.41
3:F:301:LEU:HB3	3:F:309:PHE:HB3	2.03	0.41
3:F:302:VAL:HA	3:F:308:VAL:HG13	2.03	0.41
5:I:77:TYR:CE2	5:I:82:ALA:HB2	2.55	0.41
5:J:62:PHE:CE2	5:J:82:ALA:HB3	2.56	0.41
1:A:323:LYS:O	1:A:326:LEU:HB3	2.20	0.40
1:A:1197:LEU:O	1:A:1201:ARG:N	2.54	0.40
1:A:1222:ASN:O	1:A:1226:ARG:HG3	2.21	0.40
1:A:1478:VAL:CG2	1:A:1488:ARG:HH21	2.34	0.40
1:A:2446:ILE:HD12	1:A:2446:ILE:HA	1.92	0.40
1:A:3135:GLN:O	1:A:3137:PRO:HD3	2.21	0.40
1:A:3229:LEU:HD12	1:A:3465:LEU:HD13	2.04	0.40
1:A:3447:TYR:HB3	1:A:3451:TYR:OH	2.21	0.40
1:B:173:ARG:CZ	1:B:175:GLY:HA3	2.51	0.40
1:B:216:VAL:O	1:B:219:GLN:HG2	2.20	0.40
1:B:289:GLN:HE22	1:B:326:LEU:HD13	1.86	0.40
1:B:576:LYS:O	1:B:611:ARG:HD2	2.22	0.40
1:B:790:ARG:O	1:B:793:GLU:HG2	2.21	0.40
1:B:2590:PRO:HG3	1:B:2687:VAL:CG1	2.51	0.40
1:B:2631:LEU:HD13	1:B:2686:MET:HE1	2.03	0.40
1:B:3319:LEU:HD21	1:B:3377:TYR:H	1.86	0.40
4:G:75:LYS:HE2	4:H:63:GLN:HE22	1.86	0.40
5:I:55:HIS:CD2	5:I:88:SER:HB3	2.56	0.40
6:K:62:LYS:HG3	6:K:113:ILE:HG12	2.02	0.40
1:A:2590:PRO:HG3	1:A:2687:VAL:CG1	2.51	0.40
1:B:342:ASN:OD1	1:B:342:ASN:N	2.54	0.40
1:B:2070:VAL:HB	1:B:2071:PRO:HD3	2.02	0.40
1:B:2582:TYR:CE2	1:B:2612:LEU:HD13	2.56	0.40
1:B:3584:ASN:O	1:B:3651:ARG:NH2	2.53	0.40
1:B:3741:ARG:NH2	1:B:3776:GLU:OE1	2.53	0.40
2:D:330:HIS:HB3	2:D:367:ARG:HG3	2.03	0.40
4:G:21:ILE:HG13	4:G:31:LYS:O	2.21	0.40
5:I:88:SER:HG	5:J:55:HIS:CE1	2.33	0.40
1:A:62:LEU:O	1:A:66:ARG:HG2	2.21	0.40
1:A:280:ASN:O	1:A:283:ARG:HG2	2.21	0.40
1:A:283:ARG:HB2	1:A:287:ARG:HH21	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:368:ARG:NH2	1:A:440:ARG:HB2	2.36	0.40
1:A:1170:ILE:HD13	1:A:1170:ILE:HA	1.91	0.40
1:A:3319:LEU:HD21	1:A:3377:TYR:H	1.86	0.40
1:A:3869:ASN:O	1:A:3873:ARG:HG2	2.22	0.40
1:B:285:LEU:HB2	1:B:322:LEU:HD11	2.03	0.40
1:B:1202:PHE:CD2	1:B:1204:PHE:CD2	2.93	0.40
1:B:4002:LEU:HD11	1:B:4335:GLN:HB3	2.04	0.40
1:B:4150:PRO:O	1:B:4195:ARG:NH2	2.53	0.40
3:F:139:MET:O	3:F:142:PRO:HD3	2.21	0.40
3:F:248:ASP:OD1	3:F:249:GLU:N	2.55	0.40
5:J:51:ASN:HA	5:J:52:PRO:HD3	1.88	0.40
1:A:182:VAL:HG21	1:B:196:LEU:HD11	2.03	0.40
1:A:420:PHE:HE1	1:A:457:ARG:CZ	2.34	0.40
1:A:1203:GLN:HG2	3:F:46:ARG:HH12	1.85	0.40
1:A:1387:GLN:O	1:A:1391:LYS:N	2.54	0.40
1:A:1895:ALA:HB2	1:A:2037:ARG:HB2	2.02	0.40
1:A:2582:TYR:CE2	1:A:2612:LEU:HD13	2.56	0.40
1:B:296:GLU:OE2	1:B:297:VAL:HG23	2.21	0.40
1:B:365:ARG:CZ	1:B:433:LEU:HB2	2.52	0.40
1:B:388:LEU:O	1:B:392:LEU:HG	2.22	0.40
1:B:850:LEU:HD21	1:B:893:TYR:CE2	2.57	0.40
1:B:980:TYR:HB2	3:F:88:TYR:HE2	1.86	0.40
1:B:2059:PHE:CZ	1:B:2104:LYS:HD3	2.55	0.40
1:B:3133:LEU:HD11	1:B:3141:GLU:HB3	2.03	0.40
1:B:3862:ASP:OD1	1:B:3866:VAL:HG23	2.20	0.40
3:F:308:VAL:HG12	3:F:310:ILE:HD11	2.03	0.40
4:G:68:PHE:HD1	4:G:79:MET:HE1	1.87	0.40
6:K:47:VAL:HG11	6:L:82:SER:H	1.85	0.40
1:A:40:LEU:HA	1:A:45:GLY:N	2.37	0.40
1:A:440:ARG:NH1	1:A:444:GLU:OE2	2.54	0.40
1:A:3243:MET:HE2	1:A:3448:LYS:HB2	2.04	0.40
1:A:3892:LEU:HD13	1:A:3983:ILE:HG21	2.03	0.40
1:A:3912:ASN:O	1:A:3937:ARG:NH1	2.54	0.40
1:A:4106:LEU:HD23	1:A:4106:LEU:HA	1.93	0.40
1:A:4150:PRO:O	1:A:4195:ARG:NH2	2.53	0.40
1:A:4169:ILE:HG23	1:A:4177:ALA:HA	2.03	0.40
1:B:569:ARG:NH2	1:B:600:ALA:HB2	2.37	0.40
1:B:850:LEU:HD23	1:B:850:LEU:HA	1.89	0.40
1:B:1212:ASP:HA	1:B:1216:GLY:N	2.37	0.40
1:B:1958:ASP:HA	1:B:2017:THR:OG1	2.22	0.40
1:B:2132:PRO:HB2	1:B:2135:GLU:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2156:LEU:HD23	1:B:4405:ILE:HG23	2.04	0.40
1:B:3229:LEU:HD12	1:B:3465:LEU:HD13	2.04	0.40
1:B:3263:GLN:CD	1:B:3426:ASN:HB3	2.42	0.40
1:B:3291:GLU:OE2	1:B:3394:LYS:HE2	2.21	0.40
1:B:3869:ASN:O	1:B:3873:ARG:HG2	2.22	0.40
2:D:281:VAL:HG13	2:D:590:SER:HA	2.02	0.40
2:D:327:TYR:HB3	2:D:360:TRP:HH2	1.85	0.40
2:D:554:LEU:HD13	2:D:554:LEU:HA	1.93	0.40
3:F:160:ILE:HA	3:F:163:MET:HG3	2.03	0.40
3:F:250:HIS:CD2	3:F:340:ILE:HG22	2.54	0.40
4:G:46:MET:O	4:G:50:ILE:HG23	2.21	0.40
6:K:35:GLN:HB2	6:K:42:TRP:CH2	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	4532/4646 (98%)	4352 (96%)	163 (4%)	17 (0%)	30 64
1	B	4509/4646 (97%)	4356 (97%)	132 (3%)	21 (0%)	25 59
2	C	390/638 (61%)	354 (91%)	36 (9%)	0	100 100
2	D	390/638 (61%)	359 (92%)	31 (8%)	0	100 100
3	E	307/492 (62%)	287 (94%)	20 (6%)	0	100 100
3	F	307/492 (62%)	286 (93%)	19 (6%)	2 (1%)	19 53
4	G	91/96 (95%)	84 (92%)	7 (8%)	0	100 100
4	H	91/96 (95%)	83 (91%)	8 (9%)	0	100 100
5	I	87/89 (98%)	84 (97%)	3 (3%)	0	100 100
5	J	87/89 (98%)	80 (92%)	4 (5%)	3 (3%)	3 24

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	K	111/113 (98%)	108 (97%)	3 (3%)	0	100	100
6	L	111/113 (98%)	108 (97%)	3 (3%)	0	100	100
All	All	11013/12148 (91%)	10541 (96%)	429 (4%)	43 (0%)	32	64

All (43) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	589	ASN
1	A	1400	VAL
1	A	1401	ILE
1	A	3384	ARG
1	B	540	LYS
1	B	1207	SER
1	B	1211	ILE
1	B	1215	GLU
1	B	1400	VAL
1	B	3384	ARG
5	J	8	ILE
1	A	1402	GLU
1	A	3390	GLY
1	A	3398	ALA
1	B	1161	ALA
1	B	1212	ASP
1	B	1216	GLY
1	B	1398	MET
1	B	1399	LEU
1	B	3390	GLY
1	B	3398	ALA
5	J	9	LYS
1	A	1436	ASP
1	A	3389	CYS
1	A	3399	GLN
1	B	3389	CYS
1	B	3399	GLN
3	F	39	ILE
1	A	1347	LYS
1	A	3376	SER
1	B	3376	SER
1	A	4197	ALA
1	B	1213	ASN
1	B	4197	ALA

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Mol	Chain	Res	Type
3	F	112	ASP
1	A	1351	TRP
1	A	3385	ALA
1	B	3385	ALA
5	J	51	ASN
1	A	3391	PRO
1	B	3391	PRO
1	A	4198	PRO
1	B	4198	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	4044/4125 (98%)	4026 (100%)	18 (0%)	89 95
1	B	4028/4125 (98%)	4010 (100%)	18 (0%)	89 95
2	C	344/557 (62%)	342 (99%)	2 (1%)	84 91
2	D	344/557 (62%)	342 (99%)	2 (1%)	84 91
3	E	279/422 (66%)	279 (100%)	0	100 100
3	F	279/422 (66%)	278 (100%)	1 (0%)	89 95
4	G	87/89 (98%)	86 (99%)	1 (1%)	70 83
4	H	87/89 (98%)	87 (100%)	0	100 100
5	I	78/78 (100%)	78 (100%)	0	100 100
5	J	78/78 (100%)	77 (99%)	1 (1%)	65 81
6	K	97/97 (100%)	97 (100%)	0	100 100
6	L	97/97 (100%)	97 (100%)	0	100 100
All	All	9842/10736 (92%)	9799 (100%)	43 (0%)	88 95

All (43) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	215	ASN

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Mol	Chain	Res	Type
1	A	219	GLN
1	A	354	ARG
1	A	386	ARG
1	A	447	LYS
1	A	613	LYS
1	A	1296	LYS
1	A	1301	LYS
1	A	1376	ARG
1	A	1390	LEU
1	A	1397	ASN
1	A	1430	THR
1	A	2471	GLN
1	A	2729	ARG
1	A	3373	SER
1	A	3378	ASN
1	A	3395	TRP
1	A	3397	ILE
1	B	440	ARG
1	B	442	ARG
1	B	485	ARG
1	B	709	ARG
1	B	1067	ASN
1	B	1203	GLN
1	B	1204	PHE
1	B	1208	TRP
1	B	1213	ASN
1	B	1318	ARG
1	B	1394	MET
1	B	1395	LYS
1	B	2471	GLN
1	B	2729	ARG
1	B	3373	SER
1	B	3378	ASN
1	B	3395	TRP
1	B	3397	ILE
2	C	319	LYS
2	C	427	LYS
2	D	275	ARG
2	D	430	LYS
3	F	264	GLN
4	G	9	LYS
5	J	8	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	22	GLN
1	A	195	HIS
1	A	280	ASN
1	A	456	HIS
1	A	460	GLN
1	A	1233	GLN
1	A	1643	ASN
1	A	1931	ASN
1	A	2554	GLN
1	A	2713	ASN
1	A	3092	ASN
1	A	3200	HIS
1	A	3378	ASN
1	A	3383	ASN
1	A	3602	ASN
1	A	3735	GLN
1	A	3754	ASN
1	A	4335	GLN
1	B	150	HIS
1	B	195	HIS
1	B	773	GLN
1	B	882	GLN
1	B	1151	GLN
1	B	1200	GLN
1	B	1222	ASN
1	B	1643	ASN
1	B	1931	ASN
1	B	2554	GLN
1	B	2713	ASN
1	B	3092	ASN
1	B	3200	HIS
1	B	3378	ASN
1	B	3383	ASN
1	B	3602	ASN
1	B	3735	GLN
1	B	3754	ASN
1	B	4335	GLN
2	D	330	HIS
2	D	344	HIS
2	D	380	HIS
3	F	159	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 12 ligands modelled in this entry, 4 are monoatomic - leaving 8 for Mogul analysis.

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	$\#\|Z\| > 2$
7	ADP	A	4704	-	24,29,29	0.74	0	29,45,45	0.74	1 (3%)
7	ADP	B	4701	9	24,29,29	0.73	0	29,45,45	0.73	1 (3%)
8	ATP	A	4702	9	28,33,33	0.76	0	34,52,52	0.79	1 (2%)
8	ATP	B	4702	9	28,33,33	0.76	0	34,52,52	0.79	1 (2%)
7	ADP	A	4703	-	24,29,29	0.74	0	29,45,45	0.72	1 (3%)
7	ADP	B	4703	-	24,29,29	0.75	0	29,45,45	0.73	1 (3%)
7	ADP	B	4704	-	24,29,29	0.73	0	29,45,45	0.74	1 (3%)
7	ADP	A	4701	9	24,29,29	0.74	0	29,45,45	0.73	1 (3%)

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
7	ADP	A	4704	-	-	2/12/32/32	0/3/3/3
7	ADP	B	4701	9	-	0/12/32/32	0/3/3/3
8	ATP	A	4702	9	-	2/18/38/38	0/3/3/3
8	ATP	B	4702	9	-	2/18/38/38	0/3/3/3
7	ADP	A	4703	-	-	0/12/32/32	0/3/3/3
7	ADP	B	4703	-	-	0/12/32/32	0/3/3/3
7	ADP	B	4704	-	-	2/12/32/32	0/3/3/3
7	ADP	A	4701	9	-	0/12/32/32	0/3/3/3

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	B	4704	ADP	C5-C6-N6	2.34	123.87	120.31
7	A	4704	ADP	C5-C6-N6	2.32	123.85	120.31
8	B	4702	ATP	C5-C6-N6	2.27	123.77	120.31
7	B	4701	ADP	C5-C6-N6	2.26	123.76	120.31
8	A	4702	ATP	C5-C6-N6	2.26	123.75	120.31
7	A	4701	ADP	C5-C6-N6	2.26	123.75	120.31
7	B	4703	ADP	C5-C6-N6	2.24	123.73	120.31
7	A	4703	ADP	C5-C6-N6	2.24	123.72	120.31

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	A	4704	ADP	PA-O3A-PB-O2B
7	B	4704	ADP	PA-O3A-PB-O2B
8	A	4702	ATP	O4'-C4'-C5'-O5'
8	B	4702	ATP	O4'-C4'-C5'-O5'
7	A	4704	ADP	PA-O3A-PB-O1B
7	B	4704	ADP	PA-O3A-PB-O1B
8	A	4702	ATP	C3'-C4'-C5'-O5'
8	B	4702	ATP	C3'-C4'-C5'-O5'

There are no ring outliers.

4 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	B	4701	ADP	3	0
8	A	4702	ATP	3	0

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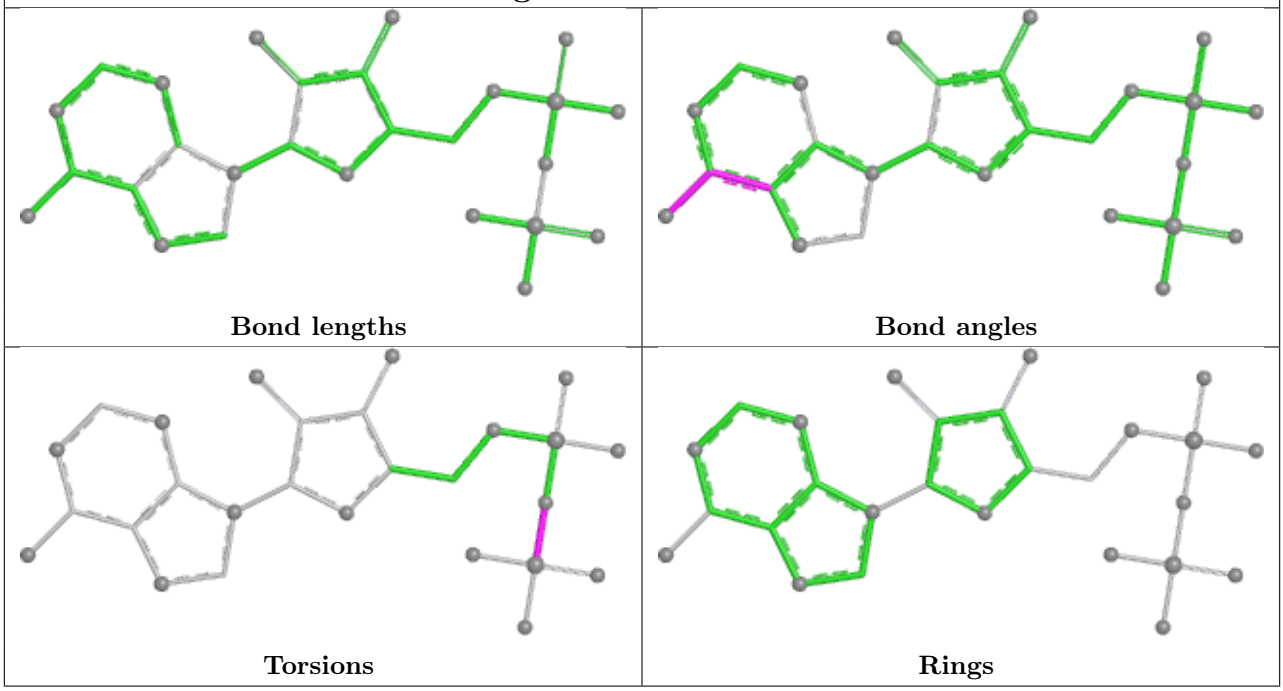
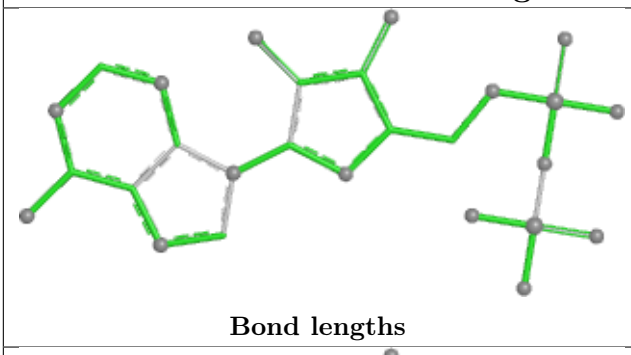
Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	B	4702	ATP	3	0
7	A	4701	ADP	3	0

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.

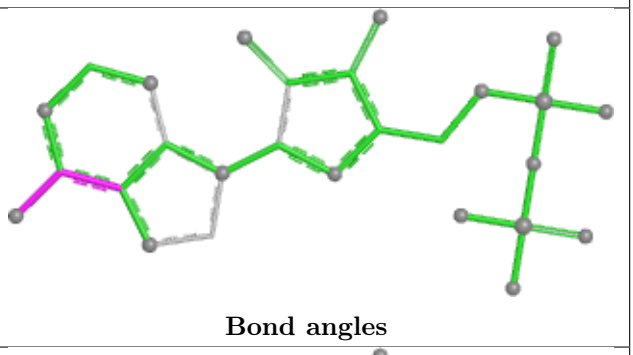
Ligand ADP A 4704



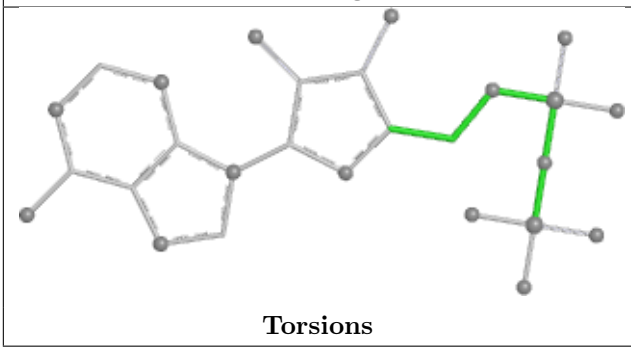
Ligand ADP B 4701



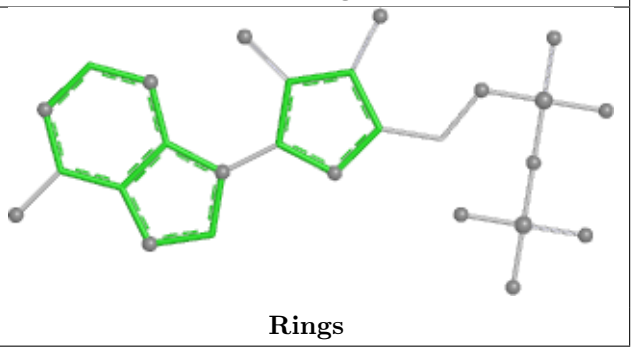
Bond lengths



Bond angles

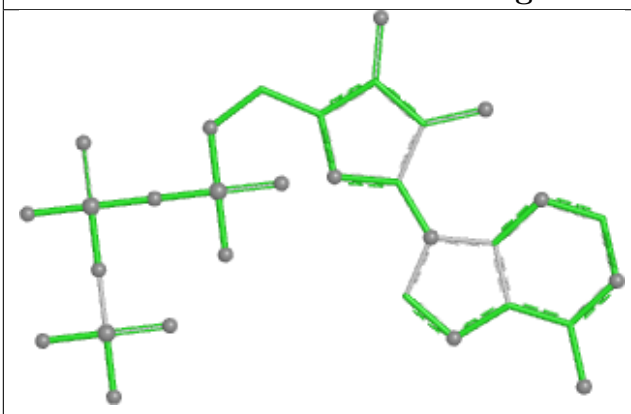


Torsions

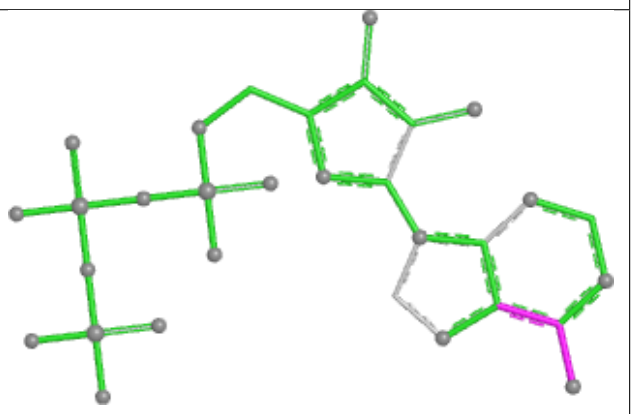


Rings

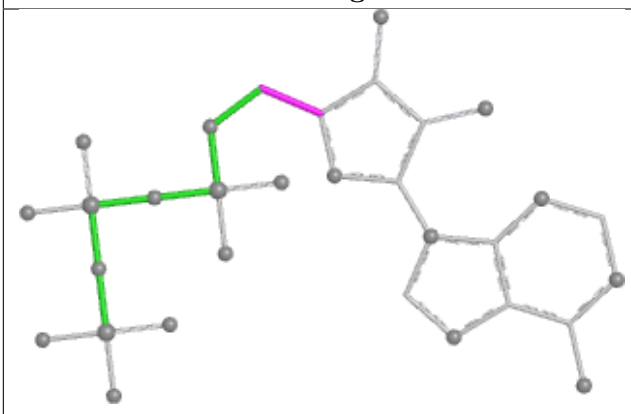
Ligand ATP A 4702



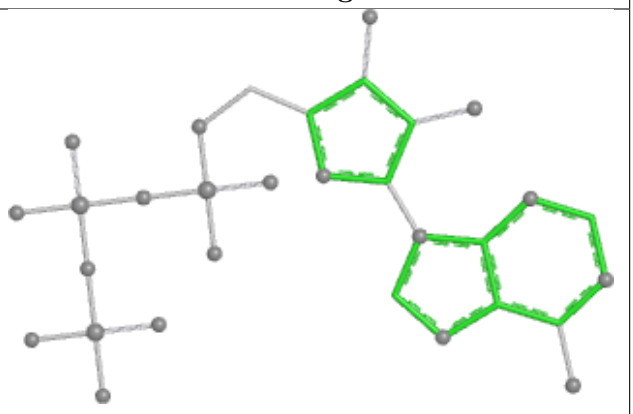
Bond lengths



Bond angles

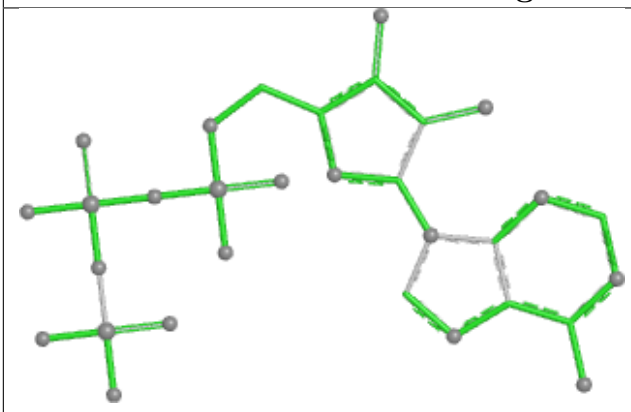


Torsions

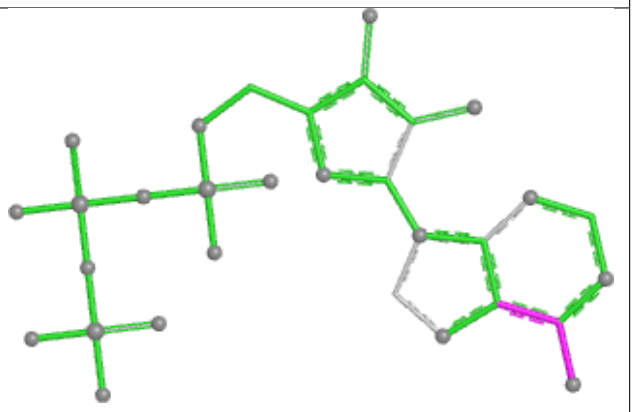


Rings

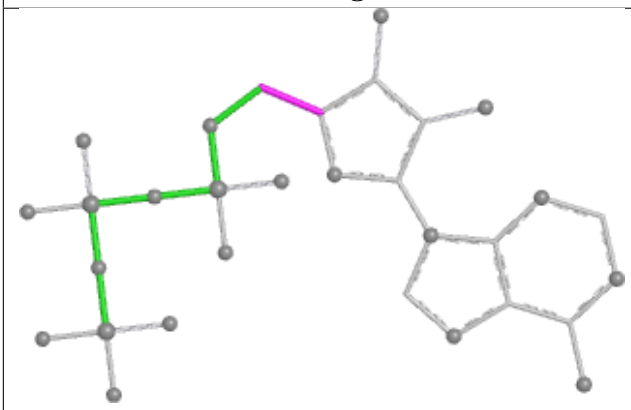
Ligand ATP B 4702



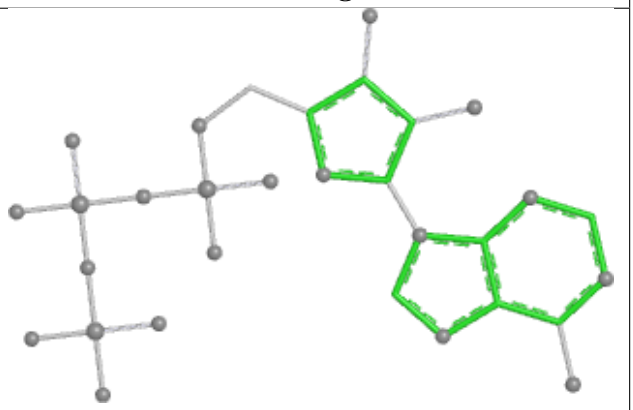
Bond lengths



Bond angles

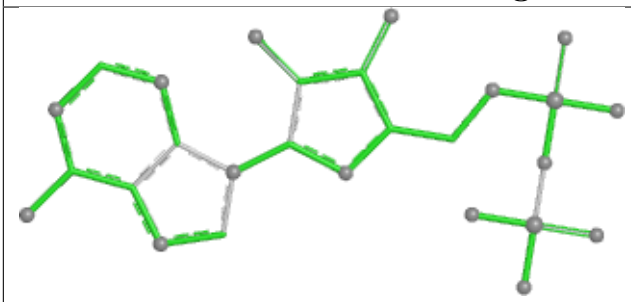


Torsions

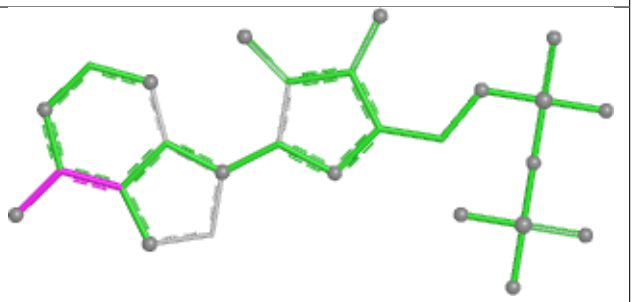


Rings

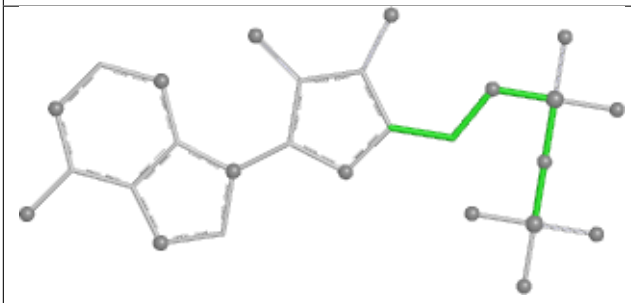
Ligand ADP A 4703



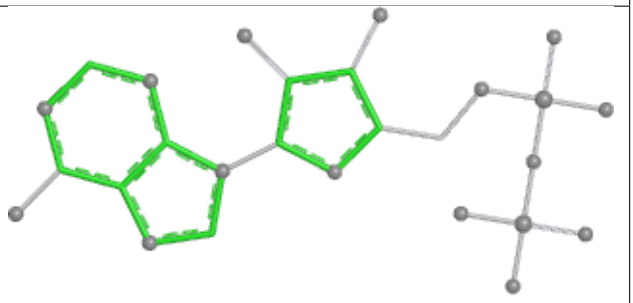
Bond lengths



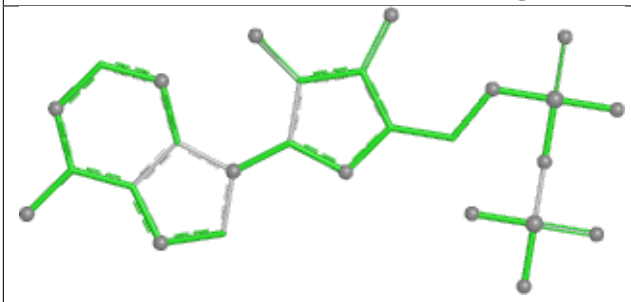
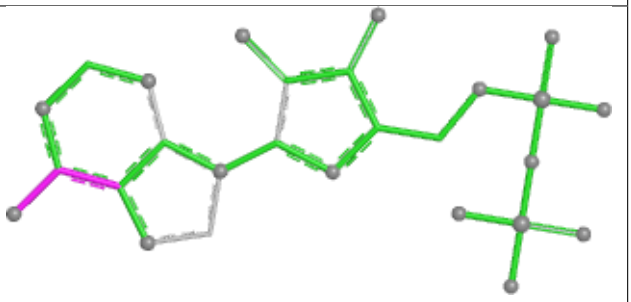
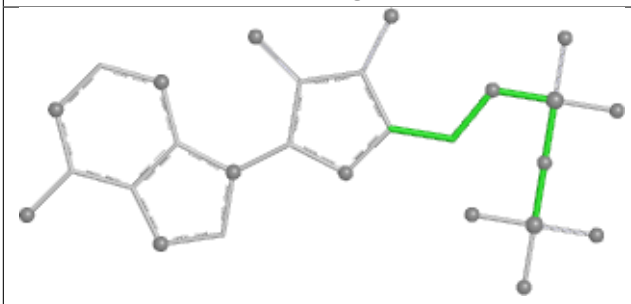
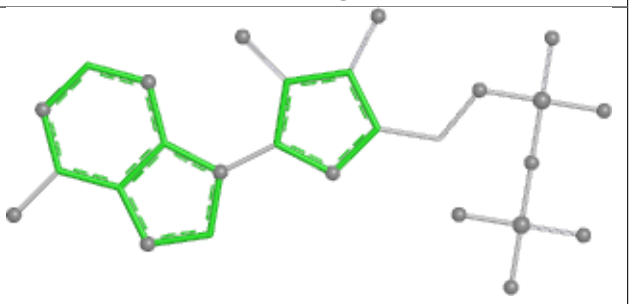
Bond angles

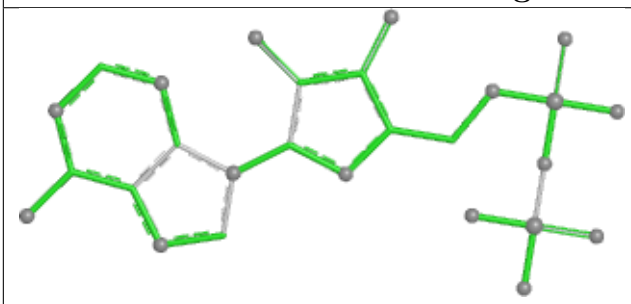
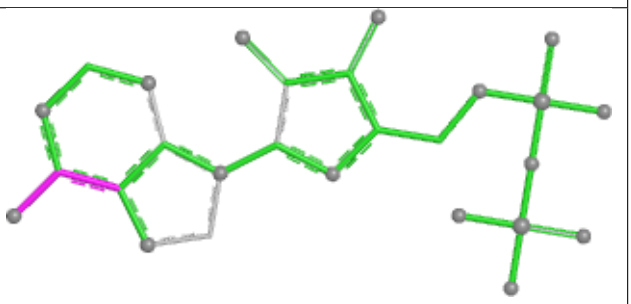
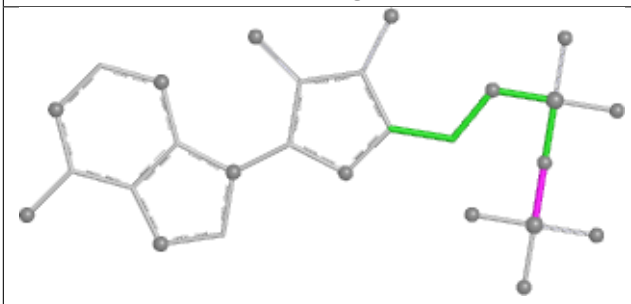
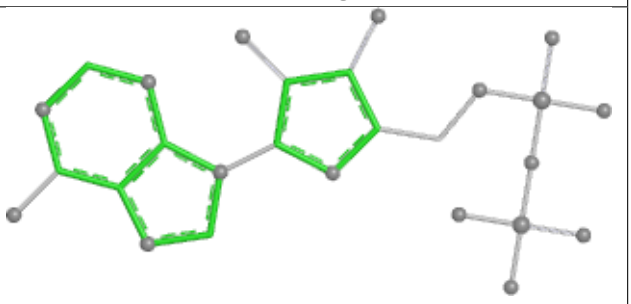


Torsions

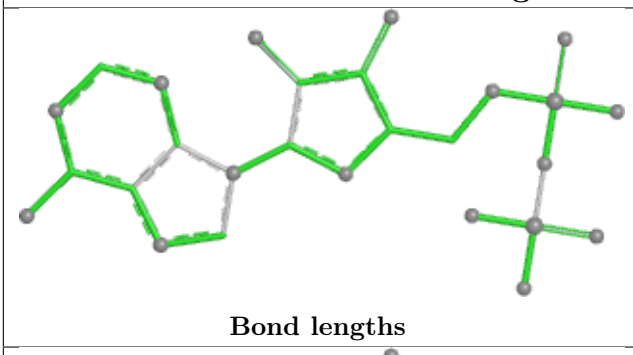


Rings

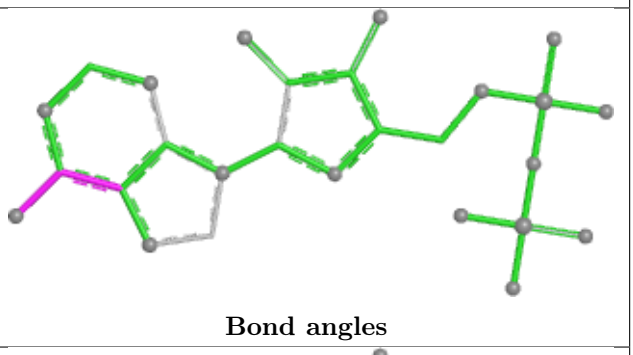
Ligand ADP B 4703	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP B 4704	
 Bond lengths	 Bond angles
 Torsions	 Rings

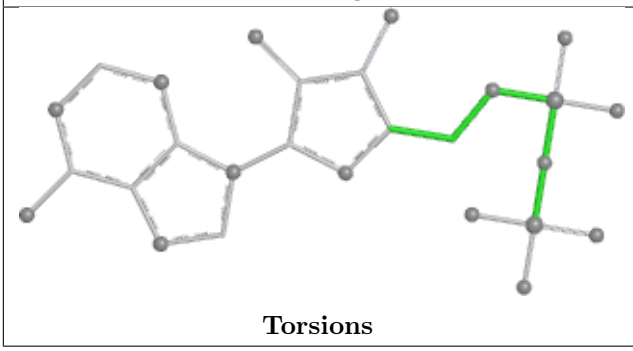
Ligand ADP A 4701



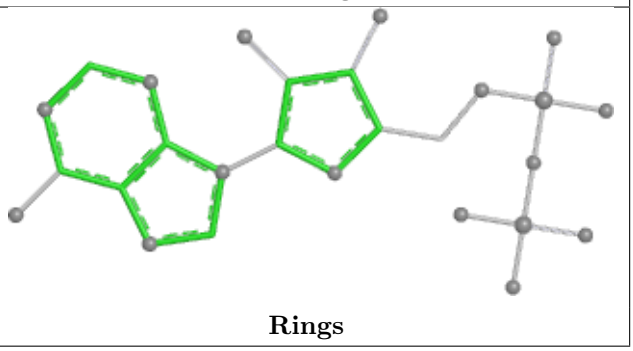
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-44681. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

6.5 Orthogonal surface views

This section was not generated.

6.6 Mask visualisation

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

7 Map analysis

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

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

This section was not generated.