



Full wwPDB EM Validation Report ⓘ

Oct 26, 2024 – 08:31 AM EDT

PDB ID : 5JUY
EMDB ID : EMD-8178
Title : Active human apoptosome with procaspase-9
Authors : Cheng, T.C.; Hong, C.; Akey, I.V.; Yuan, S.; Akey, C.W.
Deposited on : 2016-05-10
Resolution : 4.10 Å (reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev113
Mogul : 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 : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

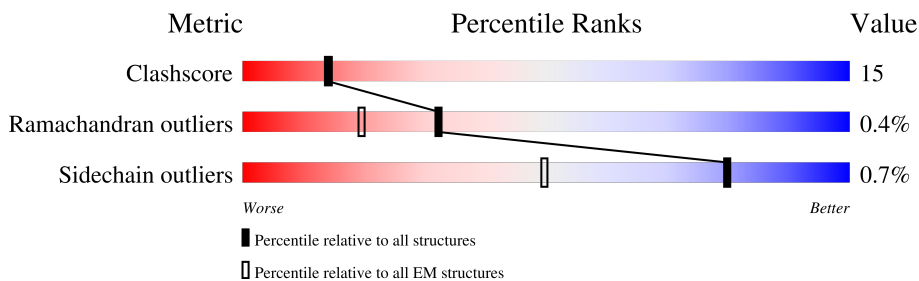
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.10 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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1248	39% 65% 26% 9%
1	B	1248	46% 72% 26% ..
1	C	1248	39% 65% 26% 9%
1	D	1248	46% 72% 27% ..
1	E	1248	46% 72% 27% ..
1	F	1248	39% 65% 26% 9%
1	G	1248	46% 72% 26% ..
2	H	104	80% 57% 43%

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Mol	Chain	Length	Quality of chain
2	I	104	81% 56% 44%
2	J	104	82% 58% 42%
2	K	104	81% 58% 42%
2	L	104	81% 58% 42%
2	M	104	80% 59% 41%
2	N	104	81% 60% 40%
3	O	95	95% 76% 20% .
3	P	95	99% 76% 19% 5%
3	Q	95	100% 77% 19% .
3	R	95	100% 77% 19% .

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 76058 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 Apoptotic protease-activating factor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1139	9099	5764	1563	1711	61	0	0
1	B	1234	9861	6243	1694	1857	67	0	0
1	C	1139	9099	5764	1563	1711	61	0	0
1	D	1234	9861	6243	1694	1857	67	0	0
1	E	1234	9861	6243	1694	1857	67	0	0
1	F	1139	9099	5764	1563	1711	61	0	0
1	G	1234	9861	6243	1694	1857	67	0	0

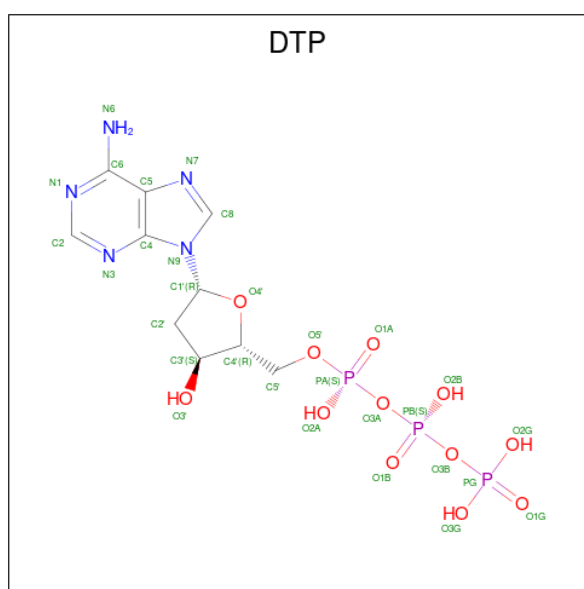
- Molecule 2 is a protein called Cytochrome c.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	H	104	814	517	143	150	4	0	0
2	I	104	814	517	143	150	4	0	0
2	J	104	814	517	143	150	4	0	0
2	K	104	814	517	143	150	4	0	0
2	L	104	814	517	143	150	4	0	0
2	M	104	814	517	143	150	4	0	0
2	N	104	814	517	143	150	4	0	0

- Molecule 3 is a protein called Caspase-9.

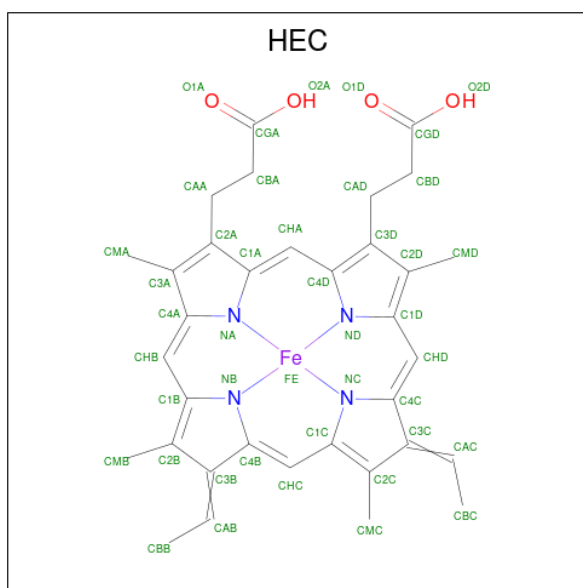
Mol	Chain	Residues	Atoms					AltConf	Trace
3	O	95	Total	C	N	O	S	0	0
			777	475	152	145	5		
3	P	95	Total	C	N	O	S	0	0
			777	475	152	145	5		
3	Q	95	Total	C	N	O	S	0	0
			777	475	152	145	5		
3	R	95	Total	C	N	O	S	0	0
			777	475	152	145	5		

- Molecule 4 is 2'-DEOXYADENOSINE 5'-TRIPHOSPHATE (three-letter code: DTP) (formula: $C_{10}H_{16}N_5O_{12}P_3$).

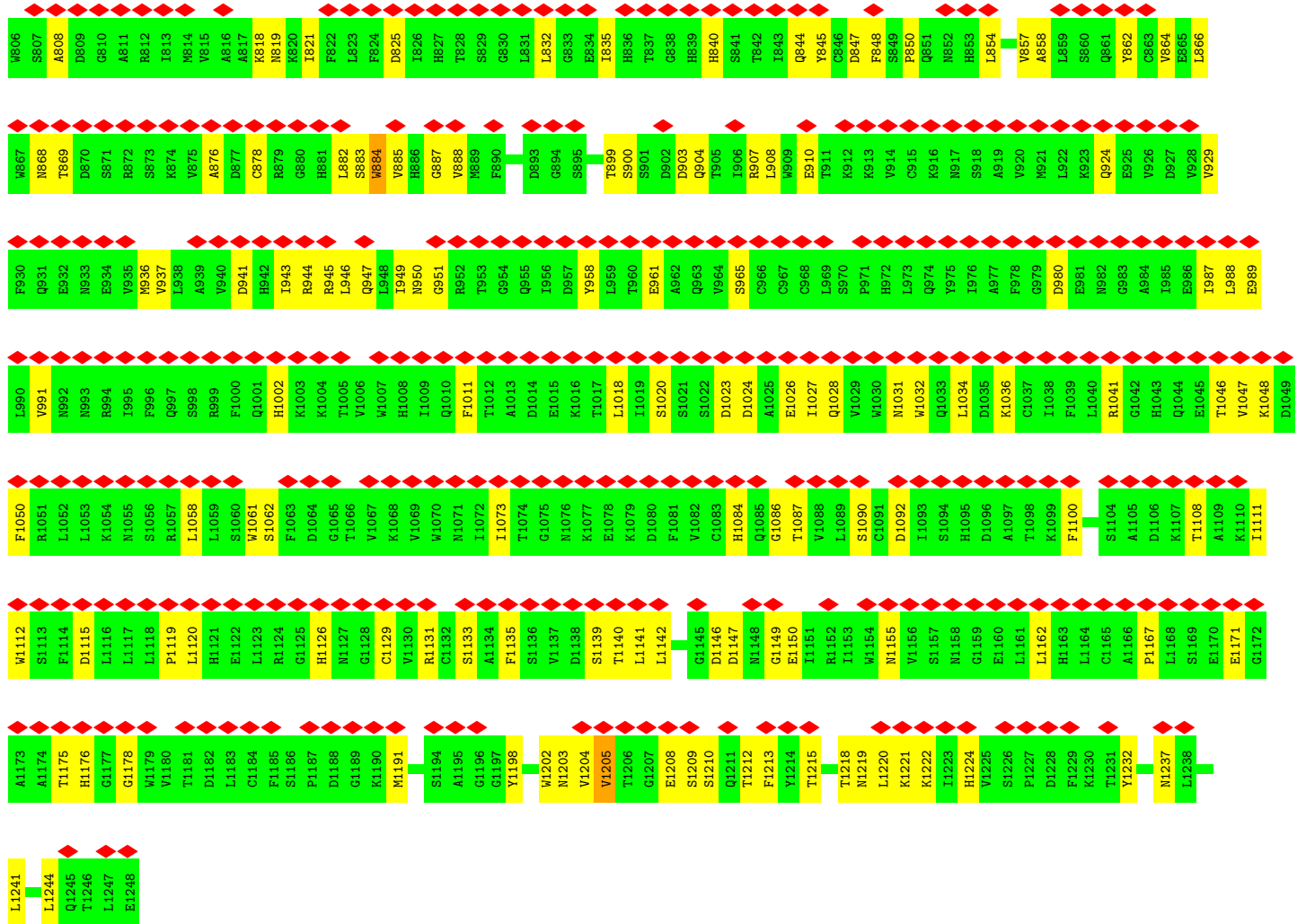


Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total	C	N	O	P	0
			30	10	5	12	3	
4	B	1	Total	C	N	O	P	0
			30	10	5	12	3	
4	C	1	Total	C	N	O	P	0
			30	10	5	12	3	
4	D	1	Total	C	N	O	P	0
			30	10	5	12	3	
4	E	1	Total	C	N	O	P	0
			30	10	5	12	3	
4	F	1	Total	C	N	O	P	0
			30	10	5	12	3	
4	G	1	Total	C	N	O	P	0
			30	10	5	12	3	

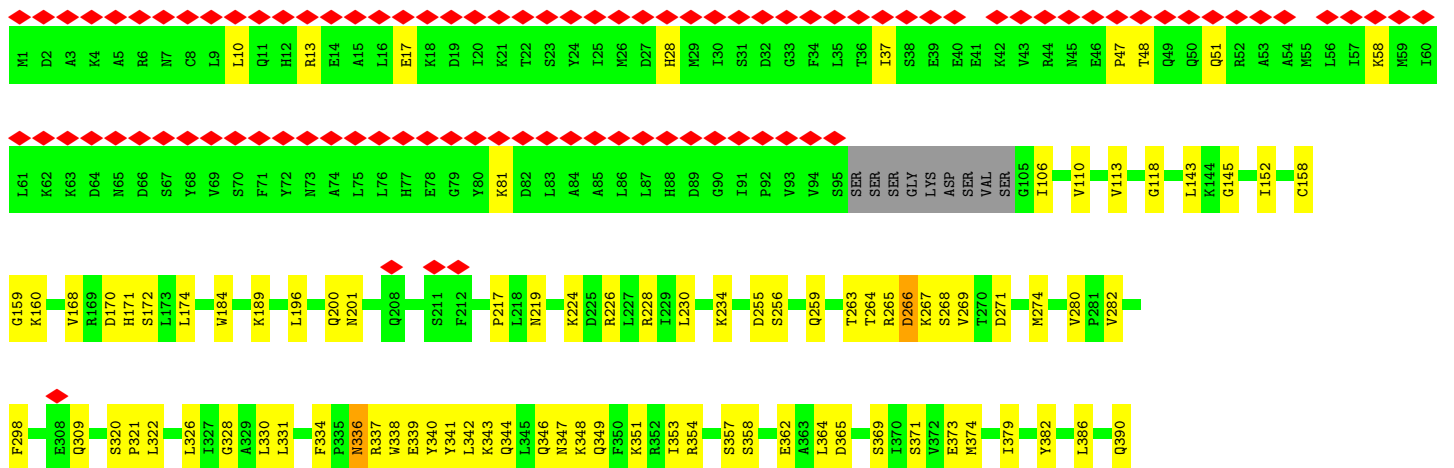
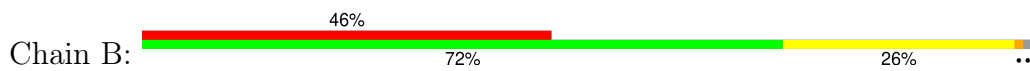
- Molecule 5 is HEME C (three-letter code: HEC) (formula: $C_{34}H_{34}FeN_4O_4$).

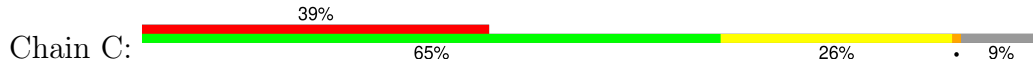


Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Fe	N		O
5	H	1	43	34	1	4	4	0
5	I	1	43	34	1	4	4	0
5	J	1	43	34	1	4	4	0
5	K	1	43	34	1	4	4	0
5	L	1	43	34	1	4	4	0
5	M	1	43	34	1	4	4	0
5	N	1	43	34	1	4	4	0

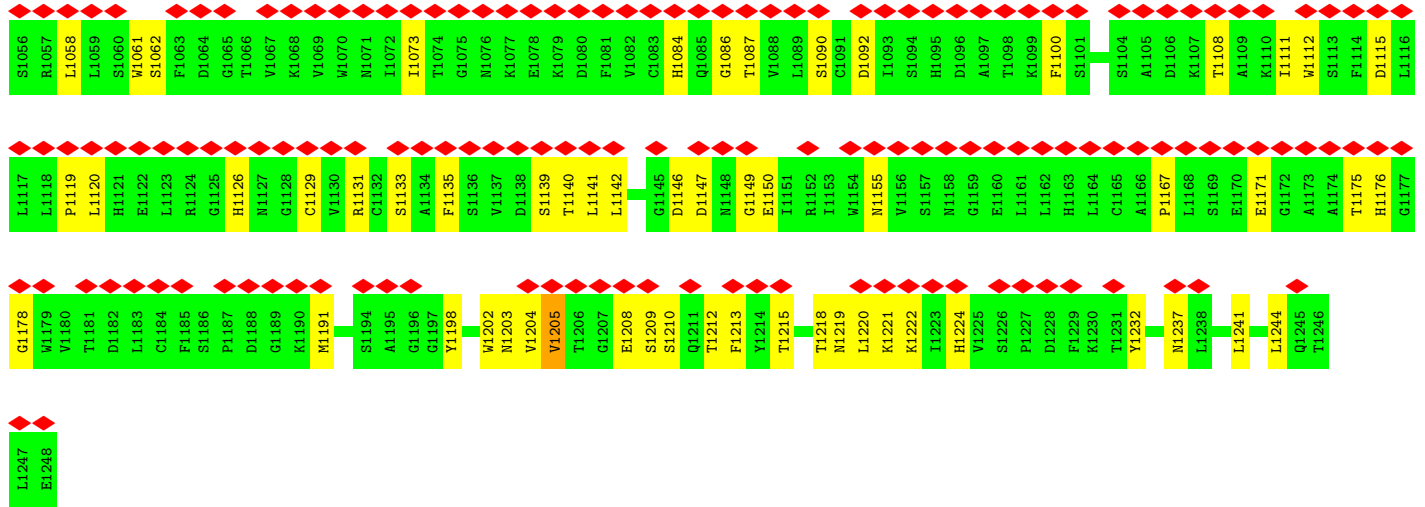


● Molecule 1: Apoptotic protease-activating factor 1

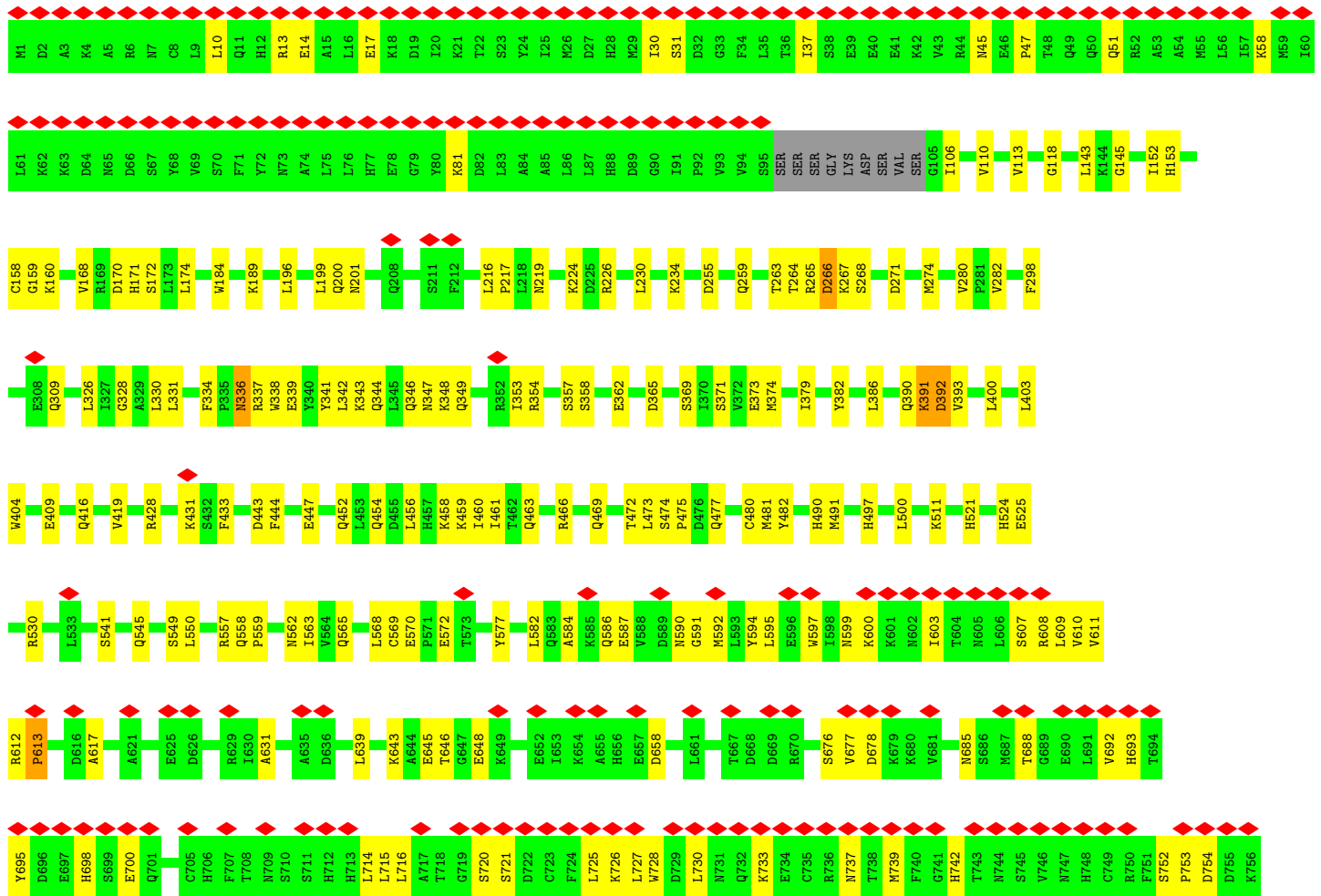


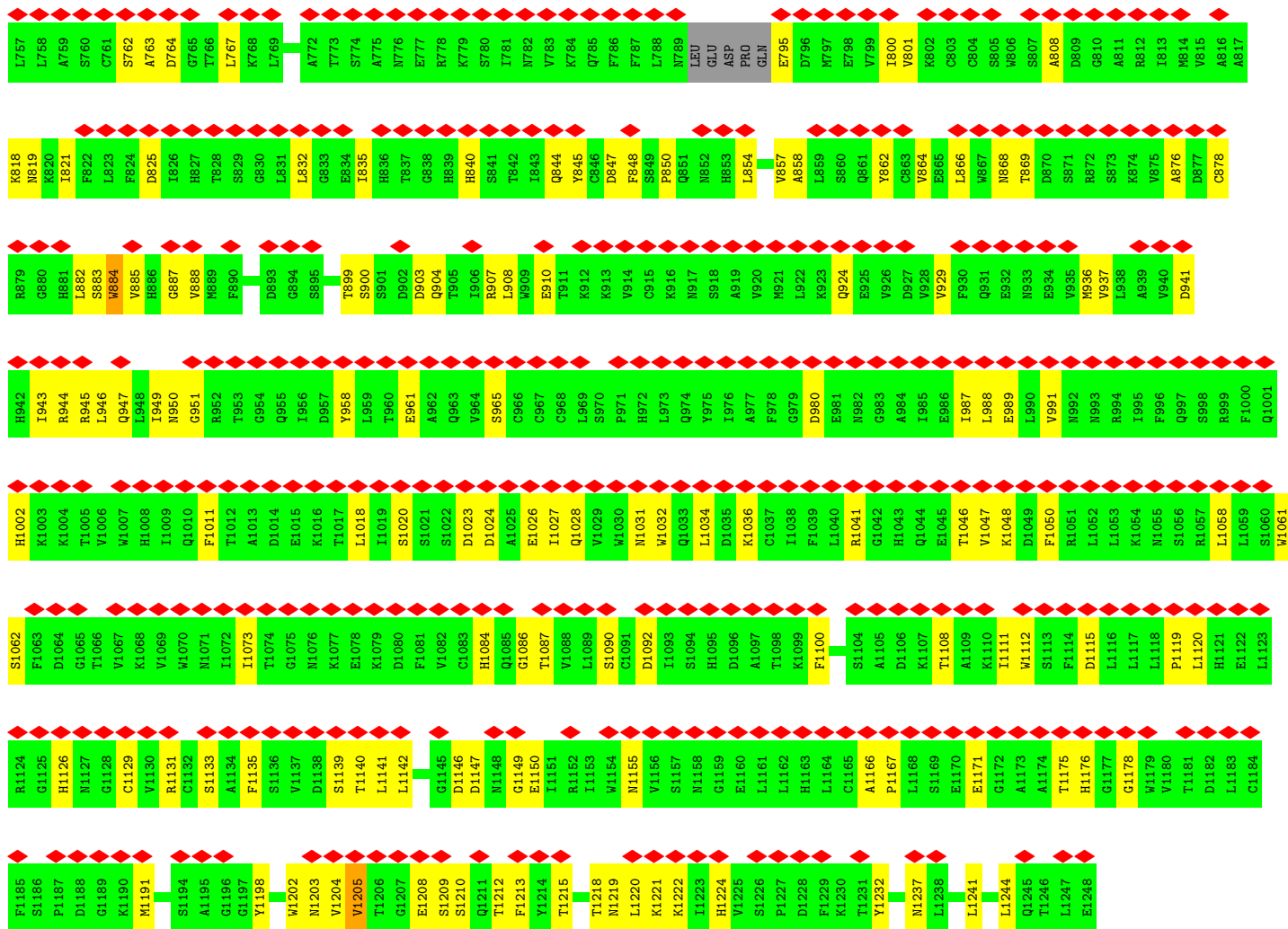


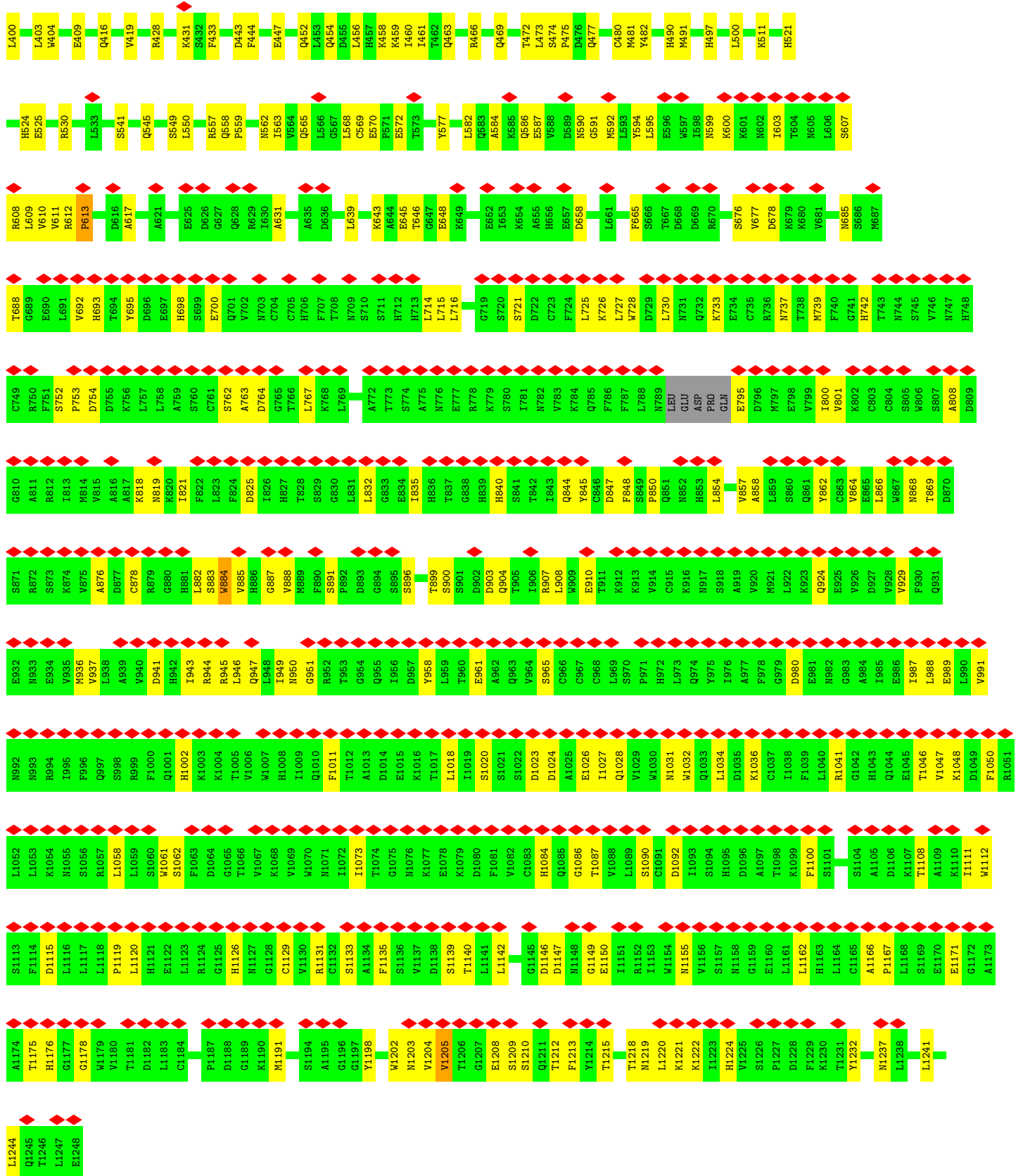
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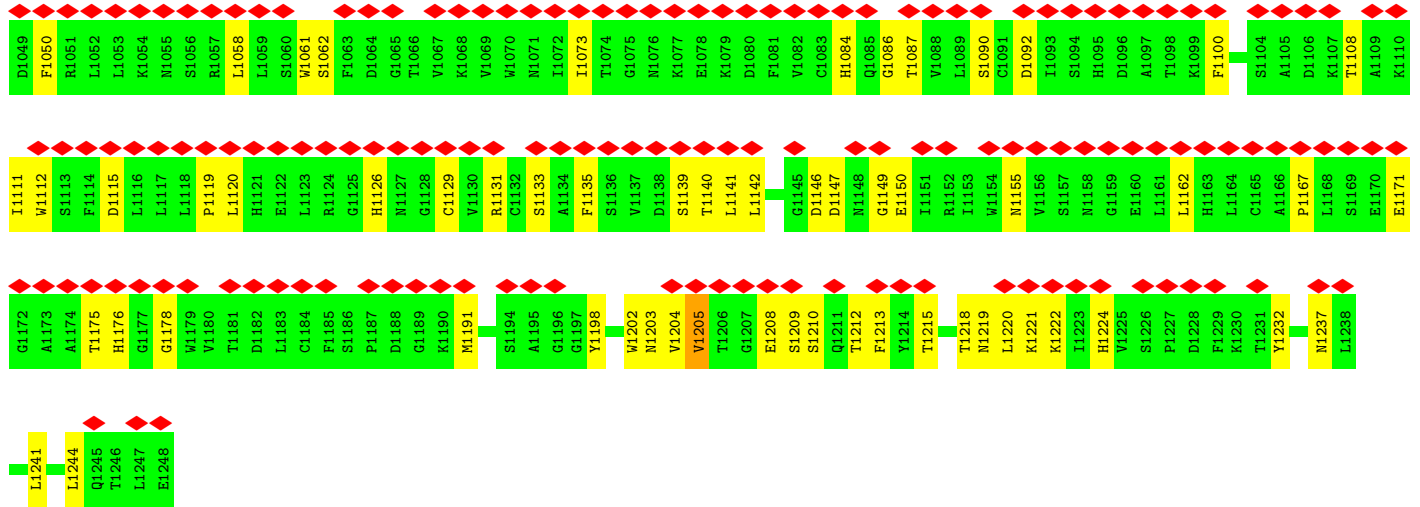
• Molecule 1: Apoptotic protease-activating factor 1



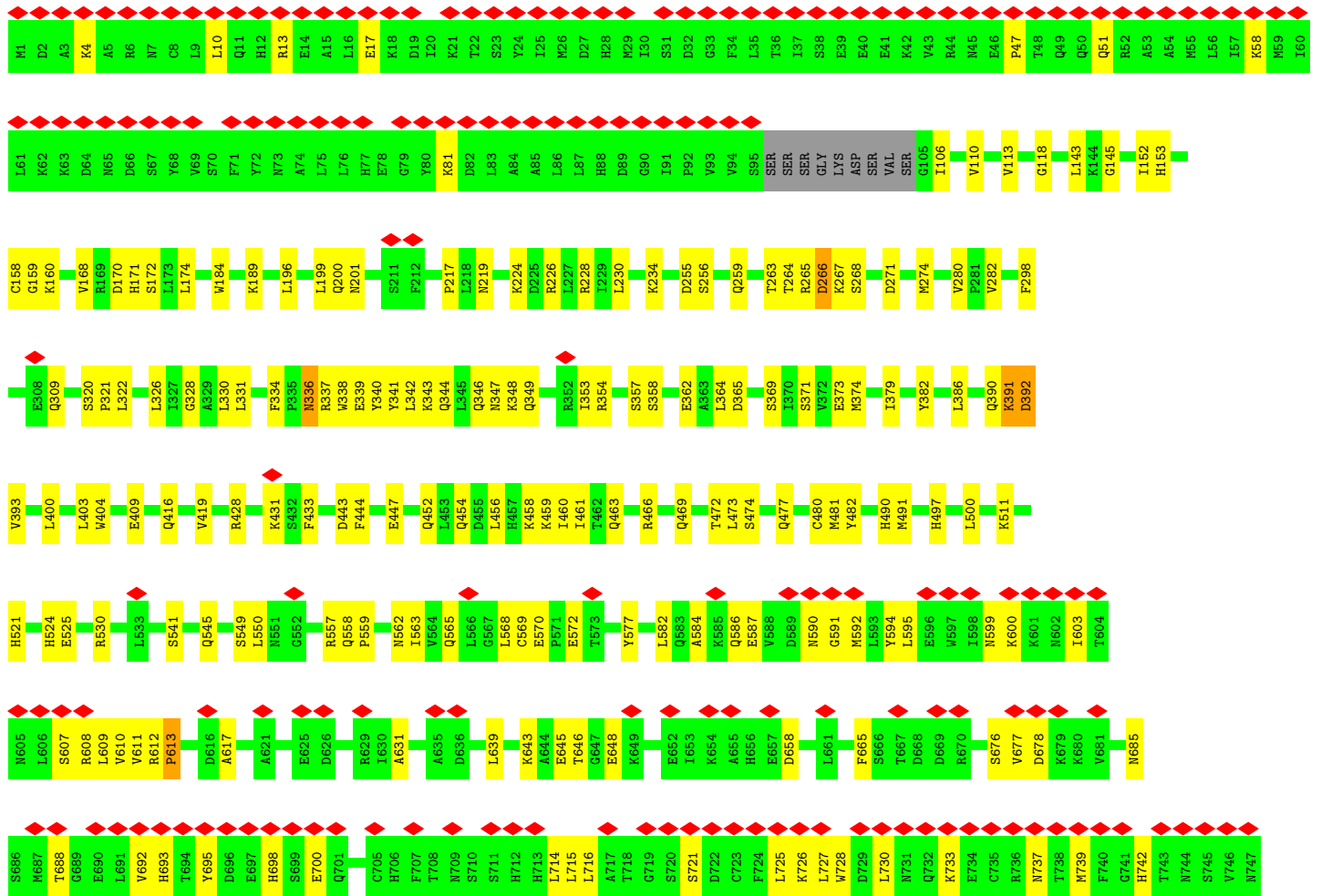


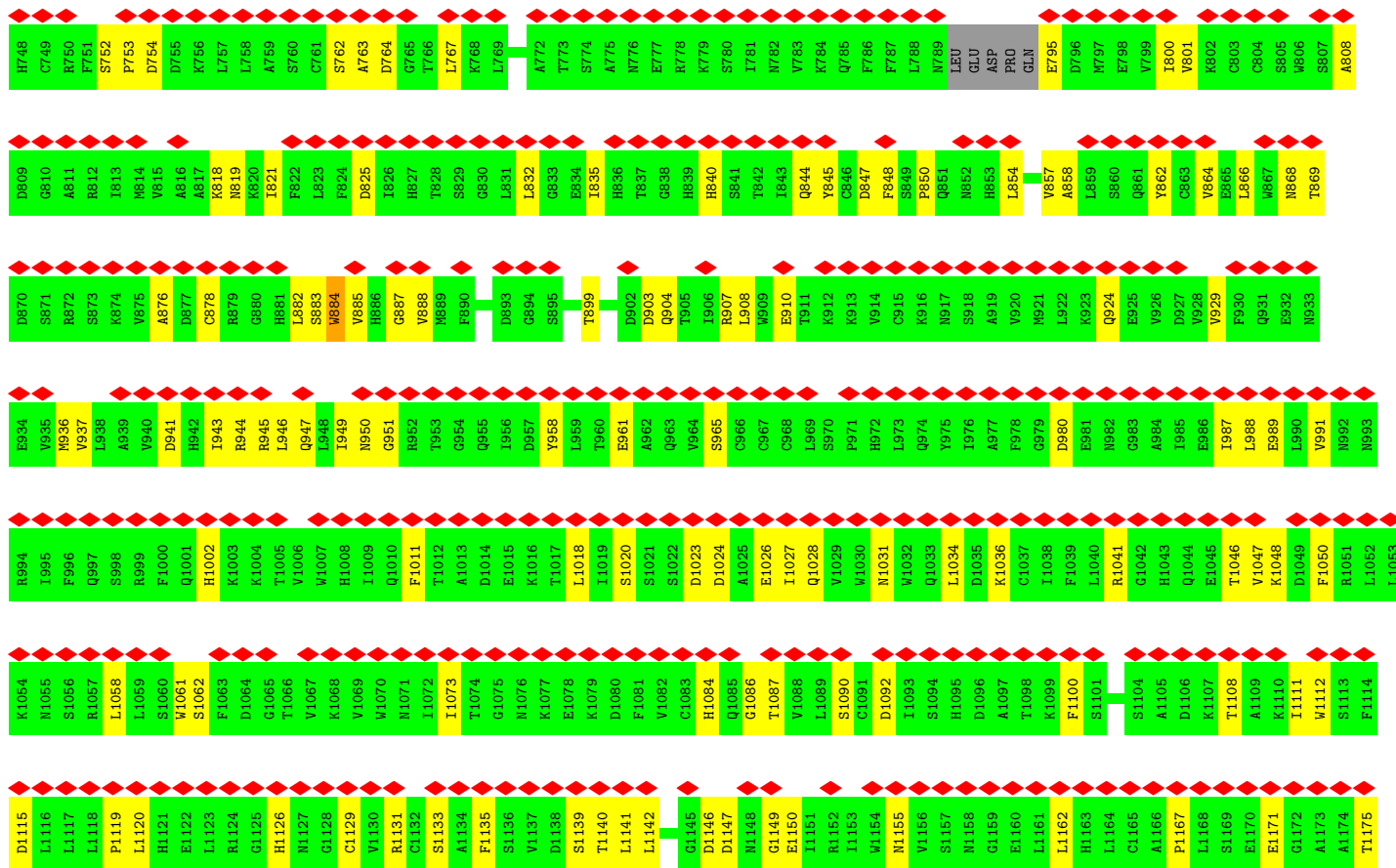


- Molecule 1: Apoptotic protease-activating factor 1

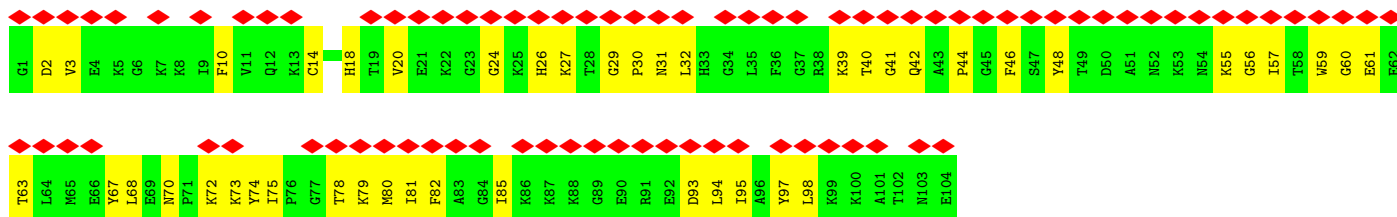
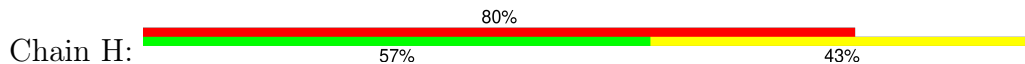


• Molecule 1: Apoptotic protease-activating factor 1

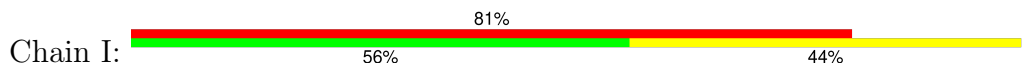


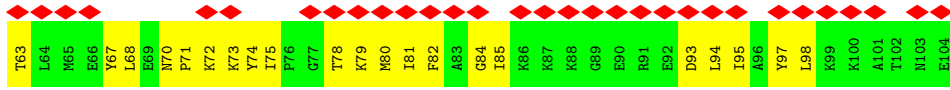
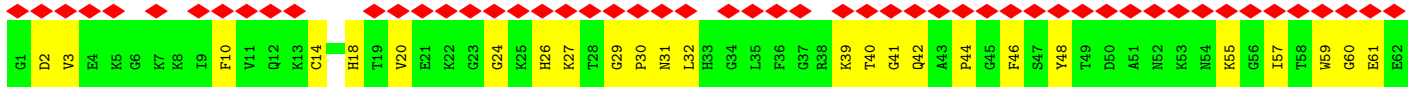


• Molecule 2: Cytochrome c

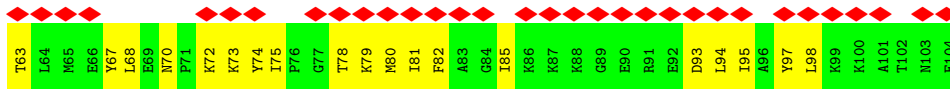
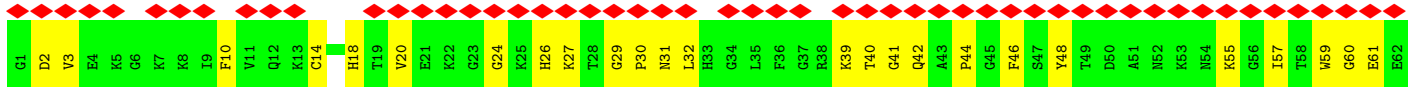
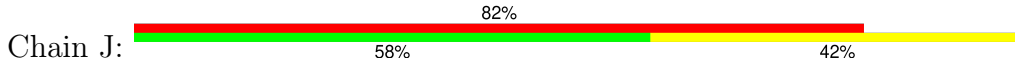


• Molecule 2: Cytochrome c

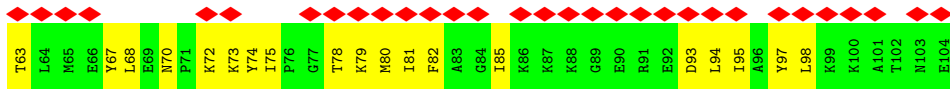
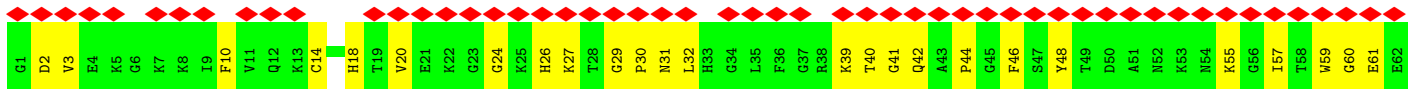
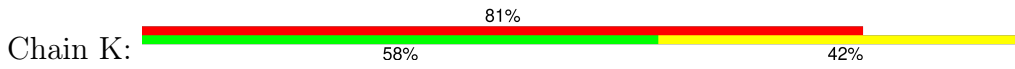




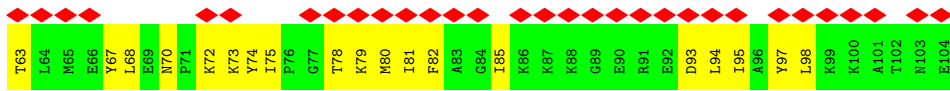
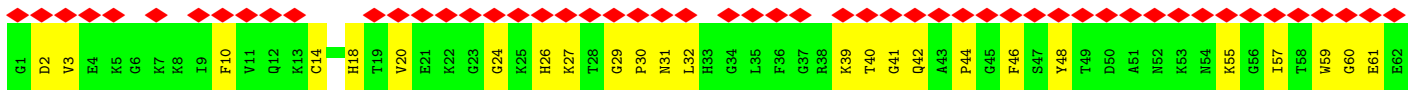
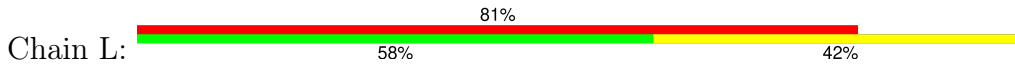
• Molecule 2: Cytochrome c



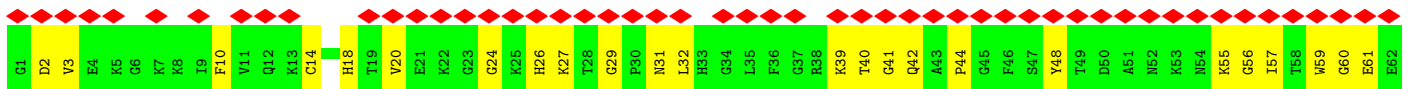
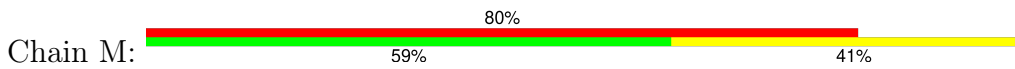
• Molecule 2: Cytochrome c

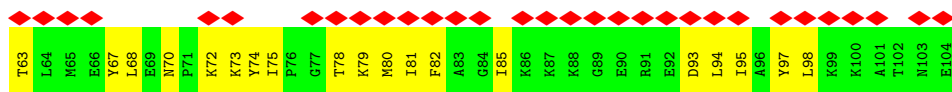


• Molecule 2: Cytochrome c

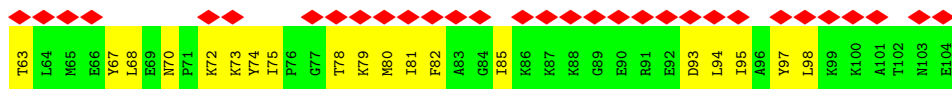
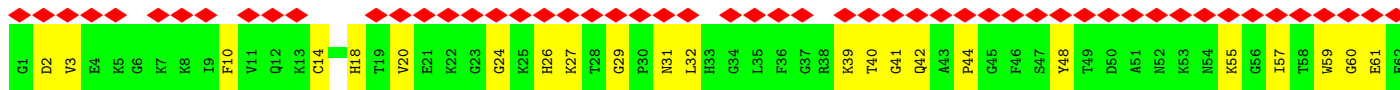
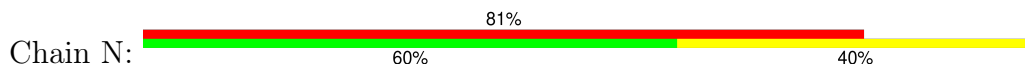


• Molecule 2: Cytochrome c

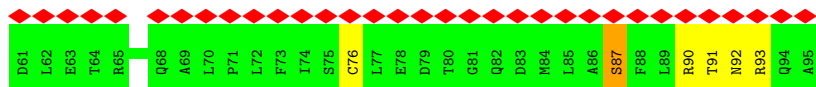
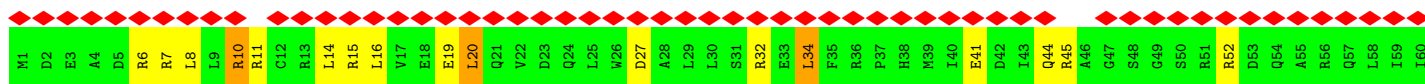
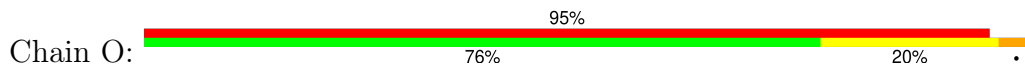




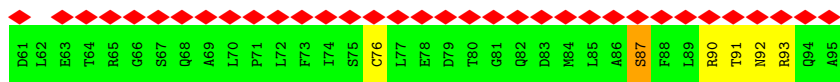
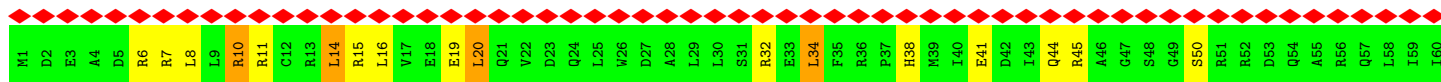
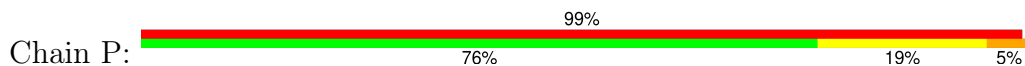
• Molecule 2: Cytochrome c



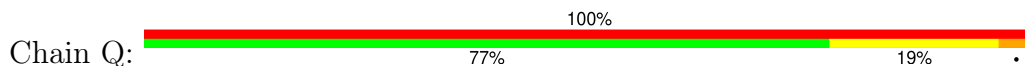
• Molecule 3: Caspase-9



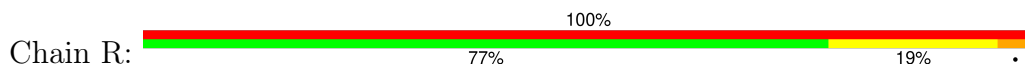
• Molecule 3: Caspase-9



• Molecule 3: Caspase-9



• Molecule 3: Caspase-9



M1	D2	E3	A4	D5	R6	R7	L8	L9	R10	R11	C12	R13	L14	R15	L16	V17	E18	E19	L20	Q21	V22	D23	Q24	L25	W26	D27	A28	L29	L30	S31	R32	E33	L34	F35	R36	F37	H38	M39	I40	E41	D42	I43	O44	R45	A46	G47	S48	G49	S50	R51	R52	D53	O54	A55	R56	Q57	L58	I59	T60
D61	L62	E63	T64	R65	G66	S67	Q68	A69	L70	P71	L72	F73	I74	S75	C76	L77	E78	D79	T80	G81	Q82	D83	M84	L85	A86	S87	F88	L89	R90	T91	N92	R93	Q94	A95																									

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C7	Depositor
Number of particles used	92867	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.8	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	81000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.198	Depositor
Minimum map value	-0.084	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	437.76, 437.76, 437.76	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.368, 1.368, 1.368	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.33	1/9295 (0.0%)	0.46	0/12575
1	B	0.37	1/10068 (0.0%)	0.47	0/13613
1	C	0.33	1/9295 (0.0%)	0.46	0/12575
1	D	0.36	1/10068 (0.0%)	0.47	0/13613
1	E	0.36	1/10068 (0.0%)	0.47	0/13613
1	F	0.33	1/9295 (0.0%)	0.47	0/12575
1	G	0.37	1/10068 (0.0%)	0.47	0/13613
2	H	0.25	0/830	0.42	0/1105
2	I	0.25	0/830	0.42	0/1105
2	J	0.25	0/830	0.42	0/1105
2	K	0.25	0/830	0.42	0/1105
2	L	0.25	0/830	0.42	0/1105
2	M	0.25	0/830	0.42	0/1105
2	N	0.25	0/830	0.42	0/1105
3	O	0.60	0/784	0.61	0/1051
3	P	0.60	0/784	0.61	0/1051
3	Q	0.60	0/784	0.61	0/1051
3	R	0.60	0/784	0.61	0/1051
All	All	0.36	7/77103 (0.0%)	0.47	0/104116

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	1
1	B	0	1
1	C	0	1
1	D	0	1
1	E	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
1	F	0	1
1	G	0	1
All	All	0	7

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	168	VAL	C-N	6.96	1.50	1.34
1	B	168	VAL	C-N	6.94	1.50	1.34
1	A	168	VAL	C-N	6.94	1.50	1.34
1	E	168	VAL	C-N	6.94	1.50	1.34
1	D	168	VAL	C-N	6.93	1.50	1.34
1	G	168	VAL	C-N	6.91	1.50	1.34
1	C	168	VAL	C-N	6.91	1.50	1.34

There are no bond angle outliers.

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	336	ASN	Peptide
1	B	336	ASN	Peptide
1	C	336	ASN	Peptide
1	D	336	ASN	Peptide
1	E	336	ASN	Peptide
1	F	336	ASN	Peptide
1	G	336	ASN	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	9099	0	8967	296	0
1	B	9861	0	9736	300	0
1	C	9099	0	8968	293	0
1	D	9861	0	9736	310	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	9861	0	9736	313	0
1	F	9099	0	8968	300	0
1	G	9861	0	9736	300	0
2	H	814	0	833	59	0
2	I	814	0	833	58	0
2	J	814	0	833	59	0
2	K	814	0	833	57	0
2	L	814	0	833	58	0
2	M	814	0	833	59	0
2	N	814	0	833	56	0
3	O	777	0	787	21	0
3	P	777	0	787	28	0
3	Q	777	0	786	39	0
3	R	777	0	787	29	0
4	A	30	0	9	3	0
4	B	30	0	9	3	0
4	C	30	0	9	3	0
4	D	30	0	9	3	0
4	E	30	0	9	3	0
4	F	30	0	9	3	0
4	G	30	0	9	3	0
5	H	43	0	32	4	0
5	I	43	0	32	4	0
5	J	43	0	32	4	0
5	K	43	0	32	4	0
5	L	43	0	32	4	0
5	M	43	0	32	4	0
5	N	43	0	32	4	0
All	All	76058	0	75112	2327	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 15.

All (2327) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:52:ARG:HD3	3:R:38:HIS:CE1	1.20	1.66
3:Q:52:ARG:CD	3:R:38:HIS:CE1	2.01	1.40
1:E:884:TRP:CH2	2:L:79:LYS:HA	1.68	1.28
1:D:884:TRP:CH2	2:K:79:LYS:HA	1.68	1.28
1:G:884:TRP:CH2	2:N:79:LYS:HA	1.68	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:884:TRP:CH2	2:H:79:LYS:HA	1.68	1.27
1:E:7:ASN:HB2	1:F:236:PRO:CG	1.63	1.26
1:C:884:TRP:CH2	2:J:79:LYS:HA	1.68	1.26
1:F:884:TRP:CH2	2:M:79:LYS:HA	1.68	1.26
1:B:884:TRP:CH2	2:I:79:LYS:HA	1.68	1.26
1:C:884:TRP:CZ3	2:J:79:LYS:HD2	1.74	1.22
1:B:884:TRP:CZ3	2:I:79:LYS:HD2	1.74	1.22
1:D:884:TRP:CZ3	2:K:79:LYS:HD2	1.74	1.21
1:A:884:TRP:CZ3	2:H:79:LYS:HD2	1.74	1.21
1:E:884:TRP:CZ3	2:L:79:LYS:HD2	1.74	1.21
1:F:884:TRP:CZ3	2:M:79:LYS:HD2	1.74	1.21
1:G:884:TRP:CZ3	2:N:79:LYS:HD2	1.74	1.21
1:B:884:TRP:CZ3	2:I:79:LYS:HA	1.82	1.15
1:A:884:TRP:CZ3	2:H:79:LYS:HA	1.82	1.15
1:C:884:TRP:CZ3	2:J:79:LYS:HA	1.82	1.15
1:G:884:TRP:CZ3	2:N:79:LYS:HA	1.81	1.14
1:D:884:TRP:CZ3	2:K:79:LYS:HA	1.82	1.14
1:E:884:TRP:CZ3	2:L:79:LYS:HA	1.82	1.14
1:F:884:TRP:CZ3	2:M:79:LYS:HA	1.82	1.13
1:E:7:ASN:HB2	1:F:236:PRO:HG3	1.28	1.10
1:G:1086:GLY:HA2	2:N:39:LYS:HZ1	1.22	1.04
1:E:7:ASN:HB2	1:F:236:PRO:HG2	1.36	1.01
1:G:569:CYS:SG	1:G:1213:PHE:HE1	1.85	0.99
1:A:565:GLN:NE2	1:A:1213:PHE:H	1.60	0.99
1:F:569:CYS:SG	1:F:1213:PHE:CE1	2.56	0.99
1:B:569:CYS:SG	1:B:600:LYS:NZ	2.36	0.99
1:C:565:GLN:NE2	1:C:1213:PHE:H	1.60	0.99
1:G:569:CYS:SG	1:G:1213:PHE:CE1	2.56	0.99
1:D:569:CYS:SG	1:D:1213:PHE:HE1	1.85	0.99
1:E:569:CYS:SG	1:E:600:LYS:NZ	2.36	0.99
1:F:569:CYS:SG	1:F:600:LYS:NZ	2.36	0.99
1:B:569:CYS:SG	1:B:1213:PHE:CE1	2.56	0.99
1:B:569:CYS:SG	1:B:1213:PHE:HE1	1.85	0.99
1:C:569:CYS:SG	1:C:1213:PHE:CE1	2.56	0.99
1:C:569:CYS:SG	1:C:1213:PHE:HE1	1.85	0.99
1:C:569:CYS:SG	1:C:600:LYS:NZ	2.36	0.99
1:E:569:CYS:SG	1:E:1213:PHE:CE1	2.56	0.99
1:G:569:CYS:SG	1:G:600:LYS:NZ	2.36	0.99
1:A:569:CYS:SG	1:A:1213:PHE:CE1	2.56	0.99
1:B:565:GLN:NE2	1:B:1213:PHE:H	1.60	0.99
1:F:569:CYS:SG	1:F:1213:PHE:HE1	1.85	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:569:CYS:SG	1:E:1213:PHE:HE1	1.85	0.98
1:G:565:GLN:NE2	1:G:1213:PHE:H	1.60	0.98
1:G:884:TRP:HH2	2:N:79:LYS:HA	1.28	0.98
1:D:569:CYS:SG	1:D:1213:PHE:CE1	2.56	0.98
1:A:569:CYS:SG	1:A:1213:PHE:HE1	1.85	0.98
1:A:569:CYS:SG	1:A:600:LYS:NZ	2.36	0.98
1:E:565:GLN:NE2	1:E:1213:PHE:H	1.60	0.97
1:D:569:CYS:SG	1:D:600:LYS:NZ	2.36	0.97
1:F:565:GLN:NE2	1:F:1213:PHE:H	1.60	0.97
1:A:109:TYR:HE1	1:G:4:LYS:NZ	1.34	0.97
1:A:884:TRP:HH2	2:H:79:LYS:HA	1.28	0.97
1:D:565:GLN:NE2	1:D:1213:PHE:H	1.60	0.97
3:O:52:ARG:CB	3:P:38:HIS:CE1	2.48	0.96
3:Q:52:ARG:HD3	3:R:38:HIS:ND1	1.79	0.96
1:E:884:TRP:HH2	2:L:79:LYS:HA	1.28	0.95
1:E:565:GLN:CD	1:E:1213:PHE:H	1.71	0.94
1:F:565:GLN:CD	1:F:1213:PHE:H	1.71	0.94
1:D:565:GLN:CD	1:D:1213:PHE:H	1.71	0.94
1:G:565:GLN:CD	1:G:1213:PHE:H	1.71	0.94
1:E:7:ASN:CB	1:F:236:PRO:HG2	1.97	0.94
1:C:565:GLN:CD	1:C:1213:PHE:H	1.71	0.93
1:D:884:TRP:HH2	2:K:79:LYS:HA	1.28	0.93
1:A:565:GLN:CD	1:A:1213:PHE:H	1.71	0.93
1:C:884:TRP:HH2	2:J:79:LYS:HA	1.28	0.93
1:B:565:GLN:CD	1:B:1213:PHE:H	1.71	0.93
1:B:1086:GLY:HA2	2:I:39:LYS:HZ1	1.30	0.93
1:D:30:ILE:CG2	3:Q:10:ARG:HB3	1.97	0.93
1:F:884:TRP:HH2	2:M:79:LYS:HA	1.28	0.93
1:C:1086:GLY:HA2	2:J:39:LYS:HZ1	1.34	0.93
1:F:1086:GLY:HA2	2:M:39:LYS:HZ1	1.30	0.93
1:E:7:ASN:CB	1:F:236:PRO:CG	2.46	0.92
1:E:550:LEU:CD2	1:E:607:SER:HB2	2.00	0.92
1:G:550:LEU:CD2	1:G:607:SER:HB2	2.00	0.92
1:B:884:TRP:HH2	2:I:79:LYS:HA	1.28	0.92
1:B:550:LEU:CD2	1:B:607:SER:HB2	2.00	0.92
1:F:550:LEU:CD2	1:F:607:SER:HB2	2.00	0.92
1:D:1086:GLY:HA2	2:K:39:LYS:HZ1	1.32	0.92
1:A:550:LEU:CD2	1:A:607:SER:HB2	2.00	0.91
1:A:1086:GLY:HA2	2:H:39:LYS:HZ1	1.32	0.91
1:D:524:HIS:HB2	1:D:646:THR:HG21	1.52	0.91
1:C:550:LEU:CD2	1:C:607:SER:HB2	2.00	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1086:GLY:HA2	2:J:39:LYS:NZ	1.85	0.91
1:B:1086:GLY:HA2	2:I:39:LYS:NZ	1.86	0.91
1:C:524:HIS:HB2	1:C:646:THR:HG21	1.52	0.91
1:D:1086:GLY:HA2	2:K:39:LYS:NZ	1.85	0.91
1:A:1086:GLY:HA2	2:H:39:LYS:NZ	1.86	0.90
3:O:52:ARG:HB2	3:P:38:HIS:CE1	2.06	0.90
1:E:524:HIS:HB2	1:E:646:THR:HG21	1.52	0.90
1:D:550:LEU:CD2	1:D:607:SER:HB2	2.00	0.90
3:O:52:ARG:HB3	3:P:38:HIS:CE1	2.07	0.90
1:B:524:HIS:HB2	1:B:646:THR:HG21	1.52	0.90
1:E:1086:GLY:HA2	2:L:39:LYS:NZ	1.85	0.90
1:G:1086:GLY:HA2	2:N:39:LYS:NZ	1.85	0.90
1:G:524:HIS:HB2	1:G:646:THR:HG21	1.52	0.89
1:F:1086:GLY:HA2	2:M:39:LYS:NZ	1.85	0.89
1:A:524:HIS:HB2	1:A:646:THR:HG21	1.52	0.89
1:F:524:HIS:HB2	1:F:646:THR:HG21	1.52	0.88
1:F:884:TRP:CZ3	2:M:79:LYS:CD	2.57	0.88
1:B:884:TRP:CZ3	2:I:79:LYS:CD	2.57	0.88
1:A:884:TRP:CZ3	2:H:79:LYS:CD	2.57	0.88
1:E:884:TRP:CZ3	2:L:79:LYS:CD	2.57	0.88
1:C:884:TRP:CZ3	2:J:79:LYS:CD	2.57	0.87
1:A:109:TYR:CE1	1:G:4:LYS:NZ	2.04	0.87
1:D:884:TRP:CZ3	2:K:79:LYS:CD	2.57	0.87
1:A:109:TYR:CE1	1:G:4:LYS:HD2	2.11	0.86
3:Q:52:ARG:CD	3:R:38:HIS:HE1	1.89	0.86
3:Q:52:ARG:CB	3:R:38:HIS:HE1	1.88	0.86
3:P:50:SER:CB	3:Q:45:ARG:HH12	1.89	0.85
1:A:884:TRP:CH2	2:H:79:LYS:CA	2.59	0.85
3:Q:52:ARG:HD3	3:R:38:HIS:NE2	1.88	0.85
1:B:884:TRP:CH2	2:I:79:LYS:CA	2.59	0.85
1:E:885:VAL:HG11	1:E:888:VAL:HG13	1.59	0.85
1:G:885:VAL:HG11	1:G:888:VAL:HG13	1.59	0.85
1:E:1086:GLY:HA2	2:L:39:LYS:HZ1	1.41	0.85
1:G:884:TRP:CH2	2:N:79:LYS:CA	2.59	0.85
1:G:884:TRP:CZ3	2:N:79:LYS:CD	2.57	0.85
1:A:885:VAL:HG11	1:A:888:VAL:HG13	1.59	0.85
1:D:885:VAL:HG11	1:D:888:VAL:HG13	1.59	0.85
1:F:885:VAL:HG11	1:F:888:VAL:HG13	1.59	0.85
1:B:882:LEU:HB2	1:B:903:ASP:HB3	1.59	0.84
1:A:882:LEU:HB2	1:A:903:ASP:HB3	1.59	0.84
1:B:885:VAL:HG11	1:B:888:VAL:HG13	1.59	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:884:TRP:CH2	2:J:79:LYS:CA	2.58	0.84
1:G:550:LEU:HD21	1:G:607:SER:HB2	1.60	0.84
1:C:885:VAL:HG11	1:C:888:VAL:HG13	1.59	0.84
1:A:550:LEU:HD21	1:A:607:SER:HB2	1.60	0.83
1:F:884:TRP:CH2	2:M:79:LYS:CA	2.59	0.83
1:F:550:LEU:HD21	1:F:607:SER:HB2	1.60	0.83
1:G:882:LEU:HB2	1:G:903:ASP:HB3	1.59	0.83
1:C:882:LEU:HB2	1:C:903:ASP:HB3	1.59	0.83
1:F:565:GLN:NE2	1:F:1213:PHE:N	2.27	0.82
1:C:550:LEU:HD21	1:C:607:SER:HB2	1.60	0.82
1:E:550:LEU:HD21	1:E:607:SER:HB2	1.60	0.82
1:B:565:GLN:NE2	1:B:1213:PHE:N	2.27	0.82
1:E:565:GLN:NE2	1:E:1213:PHE:N	2.27	0.82
1:E:882:LEU:HB2	1:E:903:ASP:HB3	1.59	0.82
1:B:550:LEU:HD21	1:B:607:SER:HB2	1.60	0.82
1:D:550:LEU:HD21	1:D:607:SER:HB2	1.60	0.82
1:A:565:GLN:NE2	1:A:1213:PHE:N	2.27	0.82
1:C:565:GLN:NE2	1:C:1213:PHE:N	2.27	0.82
1:F:882:LEU:HB2	1:F:903:ASP:HB3	1.59	0.82
1:D:565:GLN:NE2	1:D:1213:PHE:N	2.27	0.81
1:D:884:TRP:CH2	2:K:79:LYS:CA	2.59	0.81
1:G:565:GLN:NE2	1:G:1213:PHE:N	2.27	0.81
1:G:584:ALA:HA	1:G:594:TYR:CE2	2.16	0.81
1:E:584:ALA:HA	1:E:594:TYR:CE2	2.16	0.81
1:D:882:LEU:HB2	1:D:903:ASP:HB3	1.59	0.81
1:D:584:ALA:HA	1:D:594:TYR:CE2	2.16	0.81
1:A:862:TYR:CA	1:A:884:TRP:HA	2.11	0.80
1:B:584:ALA:HA	1:B:594:TYR:CE2	2.16	0.80
1:F:584:ALA:HA	1:F:594:TYR:CE2	2.16	0.80
1:F:862:TYR:CA	1:F:884:TRP:HA	2.11	0.80
1:C:862:TYR:HA	1:C:884:TRP:HA	1.63	0.80
1:E:862:TYR:CA	1:E:884:TRP:HA	2.11	0.80
1:E:884:TRP:CH2	2:L:79:LYS:CA	2.59	0.80
1:A:584:ALA:HA	1:A:594:TYR:CE2	2.16	0.80
1:B:862:TYR:HA	1:B:884:TRP:HA	1.63	0.80
1:D:862:TYR:HA	1:D:884:TRP:HA	1.63	0.80
1:E:862:TYR:HA	1:E:884:TRP:HA	1.63	0.80
1:E:7:ASN:CB	1:F:236:PRO:HG3	2.11	0.80
1:A:862:TYR:HA	1:A:884:TRP:HA	1.63	0.80
3:Q:52:ARG:CD	3:R:38:HIS:ND1	2.40	0.80
1:D:862:TYR:CA	1:D:884:TRP:HA	2.11	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:6:ARG:NH2	1:F:232:LEU:O	2.15	0.79
1:G:862:TYR:CA	1:G:884:TRP:HA	2.11	0.79
1:F:862:TYR:HA	1:F:884:TRP:HA	1.64	0.79
1:F:882:LEU:HD13	1:F:1176:HIS:NE2	1.98	0.79
3:O:15:ARG:CD	3:O:19:GLU:OE2	2.30	0.79
1:B:862:TYR:CA	1:B:884:TRP:HA	2.11	0.79
1:C:584:ALA:HA	1:C:594:TYR:CE2	2.16	0.79
1:E:1084:HIS:HE2	1:E:1108:THR:HG1	1.30	0.79
1:B:882:LEU:HD13	1:B:1176:HIS:NE2	1.98	0.79
1:G:862:TYR:HA	1:G:884:TRP:HA	1.63	0.79
3:Q:15:ARG:CD	3:Q:19:GLU:OE2	2.30	0.79
1:C:862:TYR:CA	1:C:884:TRP:HA	2.11	0.79
1:D:1084:HIS:HE2	1:D:1108:THR:HG1	1.31	0.79
3:P:15:ARG:CD	3:P:19:GLU:OE2	2.30	0.79
3:R:15:ARG:CD	3:R:19:GLU:OE2	2.30	0.79
1:D:882:LEU:HD13	1:D:1176:HIS:NE2	1.98	0.78
1:C:882:LEU:HD13	1:C:1176:HIS:NE2	1.98	0.78
1:A:882:LEU:HD13	1:A:1176:HIS:NE2	1.98	0.78
1:G:882:LEU:HD13	1:G:1176:HIS:NE2	1.98	0.78
1:E:882:LEU:HD13	1:E:1176:HIS:NE2	1.98	0.77
3:P:50:SER:HB2	3:Q:45:ARG:HH12	1.48	0.77
1:A:565:GLN:HE22	1:A:1213:PHE:H	1.33	0.77
1:E:349:GLN:HA	1:E:447:GLU:OE2	1.86	0.76
1:A:349:GLN:HA	1:A:447:GLU:OE2	1.85	0.76
1:B:884:TRP:HH2	2:I:79:LYS:CA	1.97	0.76
1:B:349:GLN:HA	1:B:447:GLU:OE2	1.85	0.76
1:F:884:TRP:HH2	2:M:79:LYS:CA	1.97	0.76
1:G:47:PRO:HG2	1:G:51:GLN:HE22	1.51	0.76
1:C:1084:HIS:HE2	1:C:1108:THR:HG1	1.33	0.76
1:G:1086:GLY:CA	2:N:39:LYS:HZ1	1.98	0.76
1:C:565:GLN:HE22	1:C:1213:PHE:H	1.33	0.76
1:G:884:TRP:HH2	2:N:79:LYS:CA	1.97	0.76
1:A:1084:HIS:HE2	1:A:1108:THR:HG1	1.31	0.76
1:F:349:GLN:HA	1:F:447:GLU:OE2	1.85	0.76
1:E:47:PRO:HG2	1:E:51:GLN:HE22	1.51	0.76
1:B:565:GLN:HE22	1:B:1213:PHE:H	1.33	0.75
1:D:349:GLN:HA	1:D:447:GLU:OE2	1.85	0.75
1:E:7:ASN:CG	1:F:236:PRO:HG2	2.06	0.75
1:C:1112:TRP:HB3	1:C:1119:PRO:HA	1.68	0.75
1:A:882:LEU:CD1	1:A:1176:HIS:NE2	2.50	0.75
1:F:1084:HIS:HE2	1:F:1108:THR:HG1	1.33	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:7:ARG:O	3:Q:11:ARG:HG3	1.87	0.75
1:A:557:ARG:NH2	1:A:1175:THR:HG23	2.02	0.75
1:E:882:LEU:CD1	1:E:1176:HIS:NE2	2.50	0.75
1:G:882:LEU:CD1	1:G:1176:HIS:NE2	2.50	0.75
1:B:47:PRO:HG2	1:B:51:GLN:HE22	1.51	0.75
1:B:557:ARG:NH2	1:B:1175:THR:HG23	2.01	0.75
1:E:884:TRP:HH2	2:L:79:LYS:CA	1.97	0.75
1:C:349:GLN:HA	1:C:447:GLU:OE2	1.85	0.75
1:D:1112:TRP:HB3	1:D:1119:PRO:HA	1.68	0.75
3:R:7:ARG:O	3:R:11:ARG:HG3	1.87	0.75
1:B:882:LEU:CD1	1:B:1176:HIS:NE2	2.50	0.75
1:F:882:LEU:CD1	1:F:1176:HIS:NE2	2.50	0.75
2:N:24:GLY:O	2:N:31:ASN:ND2	2.20	0.75
1:E:1112:TRP:HB3	1:E:1119:PRO:HA	1.68	0.75
1:F:1112:TRP:HB3	1:F:1119:PRO:HA	1.68	0.74
1:G:565:GLN:HE22	1:G:1213:PHE:H	1.33	0.74
2:H:24:GLY:O	2:H:31:ASN:ND2	2.20	0.74
1:B:884:TRP:HZ3	2:I:79:LYS:HD2	1.51	0.74
1:D:309:GLN:NE2	1:D:339:GLU:OE1	2.21	0.74
1:E:309:GLN:NE2	1:E:339:GLU:OE1	2.21	0.74
1:F:557:ARG:NH2	1:F:1175:THR:HG23	2.01	0.74
1:G:349:GLN:HA	1:G:447:GLU:OE2	1.85	0.74
1:G:557:ARG:NH2	1:G:1175:THR:HG23	2.01	0.74
3:P:7:ARG:O	3:P:11:ARG:HG3	1.87	0.74
1:B:339:GLU:OE2	1:B:343:LYS:NZ	2.20	0.74
1:F:941:ASP:H	1:F:946:LEU:HA	1.53	0.74
1:A:884:TRP:HH2	2:H:79:LYS:CA	1.97	0.74
1:C:309:GLN:NE2	1:C:339:GLU:OE1	2.21	0.74
1:D:882:LEU:CD1	1:D:1176:HIS:NE2	2.50	0.74
1:F:309:GLN:NE2	1:F:339:GLU:OE1	2.21	0.74
1:A:1112:TRP:HB3	1:A:1119:PRO:HA	1.68	0.74
1:C:339:GLU:OE2	1:C:343:LYS:NZ	2.20	0.74
2:L:24:GLY:O	2:L:31:ASN:ND2	2.20	0.74
1:A:274:MET:HE3	1:G:358:SER:HB3	1.70	0.74
1:C:557:ARG:NH2	1:C:1175:THR:HG23	2.01	0.74
1:C:882:LEU:CD1	1:C:1176:HIS:NE2	2.50	0.74
1:D:47:PRO:HG2	1:D:51:GLN:HE22	1.51	0.74
1:D:557:ARG:NH2	1:D:1175:THR:HG23	2.01	0.74
1:D:941:ASP:H	1:D:946:LEU:HA	1.53	0.74
1:F:565:GLN:HE22	1:F:1213:PHE:H	1.33	0.74
2:I:24:GLY:O	2:I:31:ASN:ND2	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:884:TRP:HH2	2:J:79:LYS:CA	1.97	0.74
1:C:941:ASP:H	1:C:946:LEU:HA	1.53	0.74
1:E:565:GLN:HE22	1:E:1213:PHE:H	1.33	0.74
1:E:884:TRP:HZ3	2:L:79:LYS:HD2	1.51	0.74
1:G:1112:TRP:HB3	1:G:1119:PRO:HA	1.68	0.74
2:K:24:GLY:O	2:K:31:ASN:ND2	2.20	0.74
2:M:24:GLY:O	2:M:31:ASN:ND2	2.20	0.74
3:Q:52:ARG:HD2	3:R:38:HIS:CE1	2.17	0.74
1:A:274:MET:CE	1:G:358:SER:HB3	2.17	0.74
1:B:1112:TRP:HB3	1:B:1119:PRO:HA	1.68	0.74
1:D:339:GLU:OE2	1:D:343:LYS:NZ	2.20	0.73
1:G:941:ASP:H	1:G:946:LEU:HA	1.53	0.73
3:O:7:ARG:O	3:O:11:ARG:HG3	1.87	0.73
1:D:884:TRP:HH2	2:K:79:LYS:CA	1.97	0.73
1:E:557:ARG:NH2	1:E:1175:THR:HG23	2.01	0.73
2:J:24:GLY:O	2:J:31:ASN:ND2	2.20	0.73
1:A:309:GLN:NE2	1:A:339:GLU:OE1	2.21	0.73
1:C:358:SER:HB3	1:D:274:MET:HE3	1.71	0.73
1:B:309:GLN:NE2	1:B:339:GLU:OE1	2.21	0.73
1:C:884:TRP:HZ3	2:J:79:LYS:HD2	1.51	0.73
1:E:339:GLU:OE2	1:E:343:LYS:NZ	2.20	0.73
1:G:309:GLN:NE2	1:G:339:GLU:OE1	2.21	0.73
3:Q:52:ARG:CB	3:R:38:HIS:CE1	2.72	0.73
1:A:339:GLU:OE2	1:A:343:LYS:NZ	2.20	0.73
1:D:884:TRP:HZ3	2:K:79:LYS:HD2	1.52	0.73
3:R:87:SER:O	3:R:91:THR:HG23	1.89	0.73
1:B:1084:HIS:HE2	1:B:1108:THR:HG1	1.34	0.73
3:Q:87:SER:O	3:Q:91:THR:HG23	1.89	0.72
1:E:941:ASP:H	1:E:946:LEU:HA	1.53	0.72
1:G:339:GLU:OE2	1:G:343:LYS:NZ	2.20	0.72
1:A:941:ASP:H	1:A:946:LEU:HA	1.53	0.72
1:C:358:SER:HB3	1:D:274:MET:CE	2.19	0.72
1:B:941:ASP:H	1:B:946:LEU:HA	1.53	0.72
3:P:87:SER:O	3:P:91:THR:HG23	1.89	0.72
1:B:609:LEU:HB3	1:B:908:LEU:HB2	1.71	0.72
1:C:609:LEU:HB3	1:C:908:LEU:HB2	1.71	0.72
1:D:565:GLN:HE22	1:D:1213:PHE:H	1.33	0.72
2:K:26:HIS:NE2	2:K:44:PRO:O	2.23	0.72
1:B:882:LEU:HB2	1:B:903:ASP:CB	2.20	0.71
1:F:339:GLU:OE2	1:F:343:LYS:NZ	2.20	0.71
1:G:882:LEU:HB2	1:G:903:ASP:CB	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1084:HIS:HE2	1:G:1108:THR:HG1	1.35	0.71
2:I:26:HIS:NE2	2:I:44:PRO:O	2.23	0.71
1:D:609:LEU:HB3	1:D:908:LEU:HB2	1.71	0.71
2:H:26:HIS:NE2	2:H:44:PRO:O	2.23	0.71
2:J:26:HIS:NE2	2:J:44:PRO:O	2.23	0.71
2:L:26:HIS:NE2	2:L:44:PRO:O	2.23	0.71
1:D:1034:LEU:HB3	1:D:1036:LYS:HD3	1.73	0.71
1:E:609:LEU:HB3	1:E:908:LEU:HB2	1.71	0.71
3:O:87:SER:O	3:O:91:THR:HG23	1.89	0.71
1:C:1034:LEU:HB3	1:C:1036:LYS:HD3	1.73	0.71
1:D:358:SER:HB3	1:E:274:MET:CE	2.19	0.71
2:M:26:HIS:NE2	2:M:44:PRO:O	2.23	0.71
1:A:609:LEU:HB3	1:A:908:LEU:HB2	1.71	0.71
1:G:565:GLN:HE22	1:G:1213:PHE:N	1.89	0.71
1:A:1034:LEU:HB3	1:A:1036:LYS:HD3	1.73	0.71
1:D:30:ILE:HG23	3:Q:10:ARG:HB3	1.73	0.71
1:G:549:SER:O	1:G:610:VAL:HB	1.91	0.71
1:A:549:SER:O	1:A:610:VAL:HB	1.91	0.71
1:D:882:LEU:HB2	1:D:903:ASP:CB	2.20	0.71
1:E:549:SER:O	1:E:610:VAL:HB	1.91	0.71
2:N:26:HIS:NE2	2:N:44:PRO:O	2.23	0.71
3:P:41:GLU:HB3	3:P:45:ARG:HH12	1.56	0.71
1:B:28:HIS:CE1	3:P:14:LEU:HD21	2.26	0.71
1:B:346:GLN:O	1:B:348:LYS:HG3	1.91	0.71
1:B:549:SER:O	1:B:610:VAL:HB	1.91	0.71
1:B:1034:LEU:HB3	1:B:1036:LYS:HD3	1.73	0.71
1:F:609:LEU:HB3	1:F:908:LEU:HB2	1.71	0.71
1:G:1034:LEU:HB3	1:G:1036:LYS:HD3	1.73	0.71
1:C:346:GLN:O	1:C:348:LYS:HG3	1.91	0.70
1:D:47:PRO:HG2	1:D:51:GLN:NE2	2.07	0.70
1:E:882:LEU:HB2	1:E:903:ASP:CB	2.20	0.70
1:F:346:GLN:O	1:F:348:LYS:HG3	1.91	0.70
1:G:609:LEU:HB3	1:G:908:LEU:HB2	1.71	0.70
1:A:882:LEU:HB2	1:A:903:ASP:CB	2.20	0.70
1:C:549:SER:O	1:C:610:VAL:HB	1.91	0.70
1:D:346:GLN:O	1:D:348:LYS:HG3	1.91	0.70
1:D:403:LEU:HD13	1:D:460:ILE:HG22	1.73	0.70
1:D:569:CYS:SG	1:D:1213:PHE:CZ	2.85	0.70
1:E:47:PRO:HG2	1:E:51:GLN:NE2	2.07	0.70
1:F:549:SER:O	1:F:610:VAL:HB	1.91	0.70
1:A:569:CYS:SG	1:A:1213:PHE:CZ	2.85	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:565:GLN:HE22	1:C:1213:PHE:N	1.89	0.70
1:E:884:TRP:CE3	2:L:79:LYS:HD2	2.27	0.70
1:A:358:SER:HB3	1:B:274:MET:CE	2.20	0.70
1:E:346:GLN:O	1:E:348:LYS:HG3	1.91	0.70
1:E:358:SER:HB3	1:F:274:MET:CE	2.21	0.70
1:E:1034:LEU:HB3	1:E:1036:LYS:HD3	1.73	0.70
1:E:189:LYS:NZ	1:E:374:MET:SD	2.65	0.70
1:E:403:LEU:HD13	1:E:460:ILE:HG22	1.73	0.70
1:G:569:CYS:SG	1:G:1213:PHE:CZ	2.85	0.70
1:B:358:SER:HB3	1:C:274:MET:CE	2.21	0.70
1:C:403:LEU:HD13	1:C:460:ILE:HG22	1.73	0.70
1:C:569:CYS:SG	1:C:1213:PHE:CZ	2.85	0.70
1:D:189:LYS:NZ	1:D:374:MET:SD	2.65	0.70
1:D:854:LEU:HB3	1:D:866:LEU:HD11	1.74	0.70
1:A:854:LEU:HB3	1:A:866:LEU:HD11	1.74	0.70
1:G:346:GLN:O	1:G:348:LYS:HG3	1.91	0.70
1:C:854:LEU:HB3	1:C:866:LEU:HD11	1.74	0.70
1:C:882:LEU:HB2	1:C:903:ASP:CB	2.21	0.70
1:D:884:TRP:CE3	2:K:79:LYS:HD2	2.27	0.70
1:E:569:CYS:SG	1:E:1213:PHE:CZ	2.85	0.70
1:B:565:GLN:HE22	1:B:1213:PHE:N	1.89	0.69
1:B:884:TRP:CE3	2:I:79:LYS:HD2	2.27	0.69
1:G:854:LEU:HB3	1:G:866:LEU:HD11	1.74	0.69
1:A:346:GLN:O	1:A:348:LYS:HG3	1.91	0.69
1:D:14:GLU:OE1	1:E:31:SER:OG	2.10	0.69
1:E:854:LEU:HB3	1:E:866:LEU:HD11	1.74	0.69
1:F:882:LEU:HB2	1:F:903:ASP:CB	2.20	0.69
1:F:1034:LEU:HB3	1:F:1036:LYS:HD3	1.73	0.69
1:G:884:TRP:CE3	2:N:79:LYS:HD2	2.27	0.69
3:P:15:ARG:HD3	3:P:19:GLU:OE2	1.92	0.69
1:G:47:PRO:HG2	1:G:51:GLN:NE2	2.07	0.69
1:A:844:GLN:HE22	2:H:79:LYS:NZ	1.91	0.69
1:B:854:LEU:HB3	1:B:866:LEU:HD11	1.74	0.69
1:E:844:GLN:HE22	2:L:79:LYS:NZ	1.91	0.69
1:B:569:CYS:SG	1:B:1213:PHE:CZ	2.85	0.69
1:C:844:GLN:HE22	2:J:79:LYS:NZ	1.91	0.69
1:D:549:SER:O	1:D:610:VAL:HB	1.91	0.69
3:Q:15:ARG:HD3	3:Q:19:GLU:OE2	1.92	0.69
1:B:47:PRO:HG2	1:B:51:GLN:NE2	2.07	0.69
1:F:854:LEU:HB3	1:F:866:LEU:HD11	1.74	0.69
1:B:844:GLN:HE22	2:I:79:LYS:NZ	1.90	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:844:GLN:HE22	2:K:79:LYS:NZ	1.91	0.69
1:F:189:LYS:NZ	1:F:374:MET:SD	2.65	0.69
1:F:403:LEU:HD13	1:F:460:ILE:HG22	1.74	0.69
1:F:569:CYS:SG	1:F:1213:PHE:CZ	2.85	0.69
1:G:844:GLN:HE22	2:N:79:LYS:NZ	1.91	0.69
1:F:565:GLN:HE22	1:F:1213:PHE:N	1.89	0.68
1:B:403:LEU:HD13	1:B:460:ILE:HG22	1.73	0.68
1:F:844:GLN:HE22	2:M:79:LYS:NZ	1.91	0.68
1:A:403:LEU:HD13	1:A:460:ILE:HG22	1.73	0.68
1:B:37:ILE:HG13	3:P:10:ARG:NH1	2.08	0.68
1:B:590:ASN:C	1:B:592:MET:H	1.97	0.68
1:C:189:LYS:NZ	1:C:374:MET:SD	2.65	0.68
1:G:403:LEU:HD13	1:G:460:ILE:HG22	1.74	0.68
2:I:61:GLU:HA	2:I:95:ILE:HG21	1.76	0.68
3:R:15:ARG:HD3	3:R:19:GLU:OE2	1.93	0.68
1:F:884:TRP:CE3	2:M:79:LYS:HD2	2.27	0.68
2:J:61:GLU:HA	2:J:95:ILE:HG21	1.76	0.68
1:B:611:VAL:HG12	1:B:613:PRO:HD3	1.75	0.68
2:H:61:GLU:HA	2:H:95:ILE:HG21	1.75	0.68
1:C:590:ASN:C	1:C:592:MET:H	1.97	0.68
1:D:565:GLN:HE22	1:D:1213:PHE:N	1.89	0.68
1:F:611:VAL:HG12	1:F:613:PRO:HD3	1.75	0.68
1:G:611:VAL:HG12	1:G:613:PRO:HD3	1.75	0.68
1:D:1204:VAL:HG12	1:D:1205:VAL:HG23	1.76	0.68
1:G:189:LYS:NZ	1:G:374:MET:SD	2.65	0.68
1:E:565:GLN:HE22	1:E:1213:PHE:N	1.89	0.67
2:H:20:VAL:HG12	2:H:32:LEU:HB2	1.77	0.67
1:A:884:TRP:CE3	2:H:79:LYS:HD2	2.27	0.67
1:C:611:VAL:HG12	1:C:613:PRO:HD3	1.75	0.67
1:C:884:TRP:CE3	2:J:79:LYS:HD2	2.27	0.67
1:C:1204:VAL:HG12	1:C:1205:VAL:HG23	1.76	0.67
1:D:590:ASN:C	1:D:592:MET:H	1.97	0.67
1:C:1086:GLY:HA2	2:J:39:LYS:CE	2.24	0.67
1:G:565:GLN:CD	1:G:1213:PHE:N	2.48	0.67
2:K:61:GLU:HA	2:K:95:ILE:HG21	1.75	0.67
2:N:61:GLU:HA	2:N:95:ILE:HG21	1.75	0.67
3:O:15:ARG:HD3	3:O:19:GLU:OE2	1.93	0.67
3:O:52:ARG:CB	3:P:38:HIS:HE1	2.07	0.67
1:A:590:ASN:C	1:A:592:MET:H	1.97	0.67
2:I:20:VAL:HG12	2:I:32:LEU:HB2	1.77	0.67
1:E:1204:VAL:HG12	1:E:1205:VAL:HG23	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:20:VAL:HG12	2:N:32:LEU:HB2	1.77	0.67
1:B:1086:GLY:HA2	2:I:39:LYS:CE	2.24	0.67
1:D:358:SER:HB3	1:E:274:MET:HE2	1.76	0.67
1:E:590:ASN:C	1:E:592:MET:H	1.97	0.67
1:F:565:GLN:CD	1:F:1213:PHE:N	2.48	0.67
1:A:189:LYS:NZ	1:A:374:MET:SD	2.65	0.67
2:J:18:HIS:NE2	5:J:500:HEC:NB	2.43	0.67
2:K:18:HIS:NE2	5:K:500:HEC:NB	2.43	0.67
2:M:61:GLU:HA	2:M:95:ILE:HG21	1.76	0.67
3:O:6:ARG:O	3:O:10:ARG:HG2	1.95	0.67
1:A:611:VAL:HG12	1:A:613:PRO:HD3	1.75	0.67
2:L:61:GLU:HA	2:L:95:ILE:HG21	1.75	0.67
1:A:565:GLN:CD	1:A:1213:PHE:N	2.48	0.67
1:B:189:LYS:NZ	1:B:374:MET:SD	2.65	0.67
2:L:18:HIS:NE2	5:L:500:HEC:NB	2.43	0.67
1:B:1204:VAL:HG12	1:B:1205:VAL:HG23	1.76	0.66
1:D:611:VAL:HG12	1:D:613:PRO:HD3	1.75	0.66
2:N:18:HIS:NE2	5:N:500:HEC:NB	2.43	0.66
1:E:611:VAL:HG12	1:E:613:PRO:HD3	1.75	0.66
1:E:1086:GLY:HA2	2:L:39:LYS:CE	2.24	0.66
3:Q:6:ARG:O	3:Q:10:ARG:HG2	1.95	0.66
1:A:569:CYS:HG	1:A:1213:PHE:HE1	1.43	0.66
1:B:474:SER:HB2	1:B:477:GLN:HG2	1.78	0.66
1:E:565:GLN:CD	1:E:1213:PHE:N	2.48	0.66
1:F:590:ASN:C	1:F:592:MET:H	1.97	0.66
1:A:1086:GLY:HA2	2:H:39:LYS:CE	2.24	0.66
1:B:565:GLN:CD	1:B:1213:PHE:N	2.48	0.66
1:F:1086:GLY:HA2	2:M:39:LYS:CE	2.25	0.66
2:H:18:HIS:NE2	5:H:500:HEC:NB	2.43	0.66
1:C:565:GLN:CD	1:C:1213:PHE:N	2.48	0.66
1:D:565:GLN:CD	1:D:1213:PHE:N	2.48	0.66
1:D:1027:ILE:HD11	1:D:1047:VAL:HG11	1.78	0.66
1:E:1027:ILE:HD11	1:E:1047:VAL:HG11	1.78	0.66
1:F:1027:ILE:HD11	1:F:1047:VAL:HG11	1.78	0.66
1:G:1086:GLY:HA2	2:N:39:LYS:CE	2.24	0.66
1:F:358:SER:HB3	1:G:274:MET:CE	2.25	0.66
1:A:474:SER:HB2	1:A:477:GLN:HG2	1.78	0.66
1:G:590:ASN:C	1:G:592:MET:H	1.97	0.66
2:I:18:HIS:NE2	5:I:500:HEC:NB	2.43	0.66
2:L:20:VAL:HG12	2:L:32:LEU:HB2	1.77	0.66
1:E:844:GLN:NE2	2:L:79:LYS:HE3	2.11	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:1204:VAL:HG12	1:F:1205:VAL:HG23	1.77	0.66
3:R:6:ARG:O	3:R:10:ARG:HG2	1.95	0.66
1:D:1086:GLY:HA2	2:K:39:LYS:CE	2.24	0.66
2:J:20:VAL:HG12	2:J:32:LEU:HB2	1.77	0.66
1:F:844:GLN:NE2	2:M:79:LYS:HE3	2.11	0.66
3:P:6:ARG:O	3:P:10:ARG:HG2	1.95	0.66
1:D:844:GLN:NE2	2:K:79:LYS:HE3	2.11	0.65
1:F:354:ARG:NH1	1:F:362:GLU:OE1	2.30	0.65
1:G:844:GLN:NE2	2:N:79:LYS:HE3	2.11	0.65
1:G:1027:ILE:HD11	1:G:1047:VAL:HG11	1.78	0.65
2:K:20:VAL:HG12	2:K:32:LEU:HB2	1.77	0.65
2:M:18:HIS:NE2	5:M:500:HEC:NB	2.43	0.65
1:E:391:LYS:O	1:E:392:ASP:HB2	1.96	0.65
1:F:391:LYS:O	1:F:392:ASP:HB2	1.96	0.65
1:A:1204:VAL:HG12	1:A:1205:VAL:HG23	1.76	0.65
1:B:354:ARG:NH1	1:B:362:GLU:OE1	2.30	0.65
1:C:474:SER:HB2	1:C:477:GLN:HG2	1.78	0.65
1:D:943:ILE:HG22	1:D:944:ARG:HG2	1.78	0.65
1:E:569:CYS:HG	1:E:1213:PHE:HE1	1.42	0.65
1:E:943:ILE:HG22	1:E:944:ARG:HG2	1.78	0.65
1:F:201:ASN:HD21	1:G:219:ASN:HD21	1.44	0.65
1:F:943:ILE:HG22	1:F:944:ARG:HG2	1.78	0.65
1:G:1204:VAL:HG12	1:G:1205:VAL:HG23	1.76	0.65
1:A:866:LEU:HB3	1:A:876:ALA:HB3	1.77	0.65
1:B:590:ASN:O	1:B:592:MET:N	2.30	0.65
1:C:1027:ILE:HD11	1:C:1047:VAL:HG11	1.78	0.65
1:C:590:ASN:O	1:C:592:MET:N	2.30	0.65
1:E:354:ARG:NH1	1:E:362:GLU:OE1	2.30	0.65
1:F:590:ASN:O	1:F:592:MET:N	2.30	0.65
1:G:354:ARG:NH1	1:G:362:GLU:OE1	2.30	0.65
1:C:844:GLN:NE2	2:J:79:LYS:HE3	2.11	0.65
1:C:943:ILE:HG22	1:C:944:ARG:HG2	1.78	0.65
1:G:866:LEU:HB3	1:G:876:ALA:HB3	1.77	0.65
1:G:943:ILE:HG22	1:G:944:ARG:HG2	1.78	0.65
2:M:20:VAL:HG12	2:M:32:LEU:HB2	1.77	0.65
1:A:943:ILE:HG22	1:A:944:ARG:HG2	1.78	0.65
1:B:391:LYS:O	1:B:392:ASP:HB2	1.96	0.65
1:B:884:TRP:HZ3	2:I:79:LYS:HA	1.56	0.65
1:C:354:ARG:NH1	1:C:362:GLU:OE1	2.30	0.65
1:C:266:ASP:OD2	1:C:268:SER:OG	2.16	0.64
1:D:866:LEU:HB3	1:D:876:ALA:HB3	1.77	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:565:GLN:HE22	1:A:1213:PHE:N	1.89	0.64
1:B:943:ILE:HG22	1:B:944:ARG:HG2	1.78	0.64
1:D:160:LYS:N	4:D:1301:DTP:O1A	2.21	0.64
1:D:266:ASP:OD2	1:D:268:SER:OG	2.16	0.64
1:D:391:LYS:O	1:D:392:ASP:HB2	1.96	0.64
1:F:469:GLN:HB2	1:F:472:THR:HB	1.79	0.64
1:F:1133:SER:HB2	1:F:1142:LEU:HD11	1.79	0.64
1:G:474:SER:HB2	1:G:477:GLN:HG2	1.78	0.64
1:A:590:ASN:O	1:A:592:MET:N	2.30	0.64
1:A:1133:SER:HB2	1:A:1142:LEU:HD11	1.79	0.64
1:C:866:LEU:HB3	1:C:876:ALA:HB3	1.77	0.64
1:D:643:LYS:HE3	1:D:645:GLU:HB3	1.79	0.64
1:D:715:LEU:HD13	1:D:727:LEU:HD21	1.79	0.64
1:G:1133:SER:HB2	1:G:1142:LEU:HD11	1.79	0.64
2:J:2:ASP:N	2:J:93:ASP:OD1	2.28	0.64
1:A:160:LYS:N	4:A:1301:DTP:O1A	2.21	0.64
1:A:643:LYS:HE3	1:A:645:GLU:HB3	1.79	0.64
1:B:266:ASP:OD2	1:B:268:SER:OG	2.16	0.64
1:D:590:ASN:O	1:D:592:MET:N	2.30	0.64
1:E:469:GLN:HB2	1:E:472:THR:HB	1.79	0.64
2:N:2:ASP:N	2:N:93:ASP:OD1	2.28	0.64
1:A:354:ARG:NH1	1:A:362:GLU:OE1	2.30	0.64
1:B:844:GLN:NE2	2:I:79:LYS:HE3	2.11	0.64
1:B:866:LEU:HB3	1:B:876:ALA:HB3	1.77	0.64
1:F:866:LEU:HB3	1:F:876:ALA:HB3	1.77	0.64
1:A:1027:ILE:HD11	1:A:1047:VAL:HG11	1.78	0.64
1:C:643:LYS:HE3	1:C:645:GLU:HB3	1.79	0.64
1:D:354:ARG:NH1	1:D:362:GLU:OE1	2.30	0.64
1:A:844:GLN:NE2	2:H:79:LYS:HE3	2.11	0.64
1:E:715:LEU:HD13	1:E:727:LEU:HD21	1.79	0.64
1:G:391:LYS:O	1:G:392:ASP:HB2	1.96	0.64
1:G:884:TRP:HZ3	2:N:79:LYS:HD2	1.52	0.64
1:A:884:TRP:HZ3	2:H:79:LYS:HA	1.56	0.64
1:A:1232:TYR:HB2	1:A:1244:LEU:HB2	1.80	0.64
1:B:1027:ILE:HD11	1:B:1047:VAL:HG11	1.78	0.64
1:B:1232:TYR:HB2	1:B:1244:LEU:HB2	1.80	0.64
1:C:1232:TYR:HB2	1:C:1244:LEU:HB2	1.80	0.64
1:E:160:LYS:N	4:E:1301:DTP:O1A	2.21	0.64
1:E:643:LYS:HE3	1:E:645:GLU:HB3	1.79	0.64
1:E:474:SER:HB2	1:E:477:GLN:HG2	1.78	0.64
1:F:1086:GLY:CA	2:M:39:LYS:HZ1	2.07	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2:ASP:N	2:I:93:ASP:OD1	2.28	0.64
1:B:643:LYS:HE3	1:B:645:GLU:HB3	1.79	0.64
1:D:474:SER:HB2	1:D:477:GLN:HG2	1.78	0.64
1:E:866:LEU:HB3	1:E:876:ALA:HB3	1.77	0.64
1:A:391:LYS:O	1:A:392:ASP:HB2	1.96	0.63
1:B:1133:SER:HB2	1:B:1142:LEU:HD11	1.79	0.63
1:C:715:LEU:HD13	1:C:727:LEU:HD21	1.79	0.63
1:G:469:GLN:HB2	1:G:472:THR:HB	1.79	0.63
1:G:643:LYS:HE3	1:G:645:GLU:HB3	1.79	0.63
1:G:1232:TYR:HB2	1:G:1244:LEU:HB2	1.80	0.63
1:D:469:GLN:HB2	1:D:472:THR:HB	1.79	0.63
1:E:945:ARG:HH22	1:E:988:LEU:HD22	1.64	0.63
1:E:1133:SER:HB2	1:E:1142:LEU:HD11	1.79	0.63
1:F:474:SER:HB2	1:F:477:GLN:HG2	1.78	0.63
1:C:391:LYS:O	1:C:392:ASP:HB2	1.96	0.63
1:C:1133:SER:HB2	1:C:1142:LEU:HD11	1.79	0.63
1:A:266:ASP:OD2	1:A:268:SER:OG	2.16	0.63
1:C:884:TRP:HZ3	2:J:79:LYS:HA	1.56	0.63
1:G:715:LEU:HD13	1:G:727:LEU:HD21	1.79	0.63
1:D:1133:SER:HB2	1:D:1142:LEU:HD11	1.79	0.63
1:D:1232:TYR:HB2	1:D:1244:LEU:HB2	1.80	0.63
1:A:109:TYR:HE1	1:G:4:LYS:HZ3	0.70	0.63
1:F:565:GLN:OE1	1:F:1213:PHE:N	2.32	0.63
1:F:715:LEU:HD13	1:F:727:LEU:HD21	1.79	0.63
1:F:1232:TYR:HB2	1:F:1244:LEU:HB2	1.80	0.63
1:G:565:GLN:OE1	1:G:1213:PHE:N	2.32	0.63
1:D:565:GLN:OE1	1:D:1213:PHE:N	2.32	0.63
1:A:715:LEU:HD13	1:A:727:LEU:HD21	1.79	0.62
1:D:945:ARG:HH22	1:D:988:LEU:HD22	1.64	0.62
1:E:590:ASN:O	1:E:592:MET:N	2.30	0.62
1:F:643:LYS:HE3	1:F:645:GLU:HB3	1.79	0.62
1:G:945:ARG:HH22	1:G:988:LEU:HD22	1.64	0.62
1:B:715:LEU:HD13	1:B:727:LEU:HD21	1.79	0.62
1:C:903:ASP:OD2	1:C:907:ARG:NH1	2.28	0.62
1:E:1232:TYR:HB2	1:E:1244:LEU:HB2	1.80	0.62
1:G:590:ASN:O	1:G:592:MET:N	2.30	0.62
3:O:52:ARG:HB2	3:P:38:HIS:HE1	1.61	0.62
1:A:945:ARG:HH22	1:A:988:LEU:HD22	1.64	0.62
1:B:469:GLN:HB2	1:B:472:THR:HB	1.79	0.62
1:B:945:ARG:HH22	1:B:988:LEU:HD22	1.64	0.62
1:G:160:LYS:N	4:G:1301:DTP:O1A	2.21	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:2:ASP:N	2:K:93:ASP:OD1	2.28	0.62
1:A:565:GLN:OE1	1:A:1213:PHE:N	2.32	0.62
1:A:1031:ASN:HB2	1:A:1036:LYS:HB2	1.82	0.62
1:C:945:ARG:HH22	1:C:988:LEU:HD22	1.64	0.62
1:F:266:ASP:OD2	1:F:268:SER:OG	2.16	0.62
1:F:569:CYS:HG	1:F:1213:PHE:HE1	1.47	0.62
1:A:557:ARG:HH22	1:A:1175:THR:HG23	1.64	0.62
1:C:565:GLN:OE1	1:C:1213:PHE:N	2.32	0.62
1:F:945:ARG:HH22	1:F:988:LEU:HD22	1.64	0.62
2:M:2:ASP:N	2:M:93:ASP:OD1	2.28	0.62
1:A:469:GLN:HB2	1:A:472:THR:HB	1.79	0.62
1:B:924:GLN:NE2	1:B:965:SER:O	2.33	0.62
1:B:1031:ASN:HB2	1:B:1036:LYS:HB2	1.82	0.62
1:C:469:GLN:HB2	1:C:472:THR:HB	1.79	0.62
1:G:569:CYS:HG	1:G:1213:PHE:HE1	1.44	0.62
1:G:1031:ASN:HB2	1:G:1036:LYS:HB2	1.82	0.62
1:B:557:ARG:HH22	1:B:1175:THR:HG23	1.64	0.62
1:A:1086:GLY:CA	2:H:39:LYS:HZ1	2.10	0.62
1:B:565:GLN:OE1	1:B:1213:PHE:N	2.32	0.62
1:C:924:GLN:NE2	1:C:965:SER:O	2.33	0.62
1:D:862:TYR:HB3	1:D:884:TRP:HA	1.82	0.62
1:F:924:GLN:NE2	1:F:965:SER:O	2.33	0.62
1:A:924:GLN:NE2	1:A:965:SER:O	2.33	0.62
1:E:924:GLN:NE2	1:E:965:SER:O	2.33	0.62
1:E:587:GLU:OE1	1:E:594:TYR:OH	2.18	0.62
1:G:559:PRO:HD3	1:G:1171:GLU:OE1	2.00	0.62
1:G:714:LEU:HB3	1:G:730:LEU:HD12	1.82	0.62
1:A:145:GLY:HA2	1:A:259:GLN:NE2	2.15	0.61
1:D:569:CYS:HG	1:D:1213:PHE:HE1	1.48	0.61
1:E:565:GLN:OE1	1:E:1213:PHE:N	2.32	0.61
1:G:266:ASP:OD2	1:G:268:SER:OG	2.16	0.61
1:G:587:GLU:OE1	1:G:594:TYR:OH	2.17	0.61
1:A:358:SER:HB3	1:B:274:MET:HE3	1.81	0.61
1:C:1031:ASN:HB2	1:C:1036:LYS:HB2	1.82	0.61
1:G:557:ARG:HH22	1:G:1175:THR:HG23	1.64	0.61
1:D:559:PRO:HD3	1:D:1171:GLU:OE1	2.00	0.61
1:F:714:LEU:HB3	1:F:730:LEU:HD12	1.82	0.61
1:G:884:TRP:HZ3	2:N:79:LYS:HA	1.56	0.61
1:G:924:GLN:NE2	1:G:965:SER:O	2.33	0.61
2:L:2:ASP:N	2:L:93:ASP:OD1	2.28	0.61
1:A:274:MET:HG2	1:G:358:SER:OG	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:559:PRO:HD3	1:C:1171:GLU:OE1	2.00	0.61
1:C:862:TYR:HB3	1:C:884:TRP:HA	1.82	0.61
1:D:924:GLN:NE2	1:D:965:SER:O	2.33	0.61
1:E:145:GLY:HA2	1:E:259:GLN:NE2	2.15	0.61
1:F:559:PRO:HD3	1:F:1171:GLU:OE1	2.00	0.61
1:A:587:GLU:OE1	1:A:594:TYR:OH	2.18	0.61
1:A:884:TRP:HZ3	2:H:79:LYS:HD2	1.52	0.61
1:D:145:GLY:HA2	1:D:259:GLN:NE2	2.15	0.61
1:E:862:TYR:HB3	1:E:884:TRP:HA	1.82	0.61
1:F:587:GLU:OE1	1:F:594:TYR:OH	2.18	0.61
1:F:882:LEU:HD12	1:F:903:ASP:HB2	1.83	0.61
1:F:1031:ASN:HB2	1:F:1036:LYS:HB2	1.82	0.61
2:H:2:ASP:N	2:H:93:ASP:OD1	2.28	0.61
1:A:862:TYR:HB3	1:A:884:TRP:HA	1.82	0.61
1:B:160:LYS:N	4:B:1301:DTP:O1A	2.21	0.61
1:B:882:LEU:HD13	1:B:1176:HIS:CE1	2.36	0.61
1:A:882:LEU:HD13	1:A:1176:HIS:CE1	2.36	0.61
1:A:882:LEU:HD12	1:A:903:ASP:HB2	1.83	0.61
1:D:599:ASN:ND2	1:D:1241:LEU:O	2.34	0.61
1:D:882:LEU:HD13	1:D:1176:HIS:CE1	2.36	0.61
1:E:714:LEU:HB3	1:E:730:LEU:HD12	1.82	0.61
1:E:882:LEU:HD12	1:E:903:ASP:HB2	1.83	0.61
1:F:145:GLY:HA2	1:F:259:GLN:NE2	2.15	0.61
1:F:862:TYR:CB	1:F:884:TRP:HA	2.31	0.61
1:F:1092:ASP:OD2	1:F:1133:SER:OG	2.17	0.61
1:G:145:GLY:HA2	1:G:259:GLN:NE2	2.16	0.61
1:A:752:SER:OG	1:A:754:ASP:O	2.19	0.61
1:B:145:GLY:HA2	1:B:259:GLN:NE2	2.16	0.61
1:B:599:ASN:ND2	1:B:1241:LEU:O	2.34	0.61
1:E:559:PRO:HD3	1:E:1171:GLU:OE1	2.00	0.61
1:G:599:ASN:ND2	1:G:1241:LEU:O	2.34	0.61
1:A:714:LEU:HB3	1:A:730:LEU:HD12	1.82	0.61
1:B:882:LEU:HD12	1:B:903:ASP:HB2	1.83	0.61
1:C:265:ARG:NH2	4:C:1301:DTP:O2G	2.31	0.61
1:E:266:ASP:OD2	1:E:268:SER:OG	2.16	0.61
1:E:358:SER:HB3	1:F:274:MET:HE3	1.82	0.61
1:F:844:GLN:HE22	2:M:79:LYS:CE	2.14	0.61
1:G:862:TYR:HB3	1:G:884:TRP:HA	1.82	0.61
1:B:844:GLN:HE22	2:I:79:LYS:CE	2.14	0.61
1:C:557:ARG:HH22	1:C:1175:THR:HG23	1.64	0.61
1:C:714:LEU:HB3	1:C:730:LEU:HD12	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:882:LEU:HD13	1:C:1176:HIS:CE1	2.36	0.61
1:D:844:GLN:HE22	2:K:79:LYS:CE	2.14	0.61
1:F:482:TYR:HH	1:F:490:HIS:HE2	1.45	0.61
3:Q:52:ARG:HB2	3:R:38:HIS:HE1	1.65	0.61
1:B:358:SER:HB3	1:C:274:MET:HE2	1.82	0.60
1:C:160:LYS:N	4:C:1301:DTP:O1A	2.21	0.60
1:D:1031:ASN:HB2	1:D:1036:LYS:HB2	1.82	0.60
1:G:752:SER:OG	1:G:754:ASP:O	2.19	0.60
1:G:882:LEU:HD12	1:G:903:ASP:HB2	1.83	0.60
1:A:559:PRO:HD3	1:A:1171:GLU:OE1	2.00	0.60
1:B:714:LEU:HB3	1:B:730:LEU:HD12	1.82	0.60
1:C:1092:ASP:OD2	1:C:1133:SER:OG	2.17	0.60
1:D:844:GLN:NE2	2:K:79:LYS:CE	2.64	0.60
1:D:882:LEU:HD12	1:D:903:ASP:HB2	1.83	0.60
1:D:1086:GLY:CA	2:K:39:LYS:HZ1	2.10	0.60
1:E:201:ASN:HD21	1:F:219:ASN:HD21	1.49	0.60
1:E:557:ARG:HH22	1:E:1175:THR:HG23	1.64	0.60
1:E:752:SER:OG	1:E:754:ASP:O	2.19	0.60
1:E:844:GLN:NE2	2:L:79:LYS:CE	2.64	0.60
1:E:1031:ASN:HB2	1:E:1036:LYS:HB2	1.82	0.60
1:F:358:SER:HB3	1:G:274:MET:HE3	1.83	0.60
1:G:265:ARG:NH2	4:G:1301:DTP:O2G	2.31	0.60
1:B:903:ASP:OD2	1:B:907:ARG:NH1	2.28	0.60
1:B:1086:GLY:CA	2:I:39:LYS:HZ1	2.07	0.60
1:D:1092:ASP:OD2	1:D:1133:SER:OG	2.17	0.60
1:E:844:GLN:HE22	2:L:79:LYS:CE	2.14	0.60
1:F:599:ASN:ND2	1:F:1241:LEU:O	2.34	0.60
1:G:844:GLN:HE22	2:N:79:LYS:CE	2.14	0.60
1:C:844:GLN:NE2	2:J:79:LYS:CE	2.65	0.60
1:C:862:TYR:CB	1:C:884:TRP:HA	2.31	0.60
1:C:882:LEU:HD12	1:C:903:ASP:HB2	1.83	0.60
1:D:884:TRP:HZ3	2:K:79:LYS:HA	1.56	0.60
1:E:1087:THR:N	2:L:39:LYS:HZ3	2.00	0.60
1:G:844:GLN:NE2	2:N:79:LYS:CE	2.65	0.60
1:B:559:PRO:HD3	1:B:1171:GLU:OE1	2.00	0.60
1:B:862:TYR:HB3	1:B:884:TRP:HA	1.82	0.60
1:D:714:LEU:HB3	1:D:730:LEU:HD12	1.82	0.60
1:D:752:SER:OG	1:D:754:ASP:O	2.19	0.60
1:E:862:TYR:CB	1:E:884:TRP:HA	2.31	0.60
1:F:557:ARG:HH22	1:F:1175:THR:HG23	1.64	0.60
1:F:1210:SER:HB2	1:F:1212:THR:HG23	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:599:ASN:ND2	1:A:1241:LEU:O	2.34	0.60
1:B:569:CYS:HG	1:B:1213:PHE:HE1	1.50	0.60
1:B:862:TYR:CB	1:B:884:TRP:HA	2.31	0.60
1:C:145:GLY:HA2	1:C:259:GLN:NE2	2.15	0.60
1:D:557:ARG:HH22	1:D:1175:THR:HG23	1.64	0.60
1:E:882:LEU:HD13	1:E:1176:HIS:CE1	2.36	0.60
1:F:862:TYR:HB3	1:F:884:TRP:HA	1.82	0.60
1:F:884:TRP:HZ3	2:M:79:LYS:HD2	1.51	0.60
1:B:587:GLU:OE1	1:B:594:TYR:OH	2.18	0.60
1:B:752:SER:OG	1:B:754:ASP:O	2.19	0.60
1:D:862:TYR:CB	1:D:884:TRP:HA	2.31	0.60
1:A:844:GLN:HE22	2:H:79:LYS:CE	2.14	0.60
1:A:844:GLN:NE2	2:H:79:LYS:CE	2.65	0.60
1:A:862:TYR:CB	1:A:884:TRP:HA	2.31	0.60
1:B:844:GLN:NE2	2:I:79:LYS:CE	2.65	0.60
1:G:1210:SER:HB2	1:G:1212:THR:HG23	1.84	0.60
1:E:265:ARG:NH2	4:E:1301:DTP:O2G	2.31	0.60
1:F:882:LEU:HD13	1:F:1176:HIS:CE1	2.36	0.60
1:G:862:TYR:CB	1:G:884:TRP:HA	2.31	0.60
1:G:882:LEU:HD13	1:G:1176:HIS:CE1	2.36	0.60
1:C:358:SER:OG	1:D:274:MET:HG2	2.02	0.60
1:D:1210:SER:HB2	1:D:1212:THR:HG23	1.84	0.60
1:E:599:ASN:ND2	1:E:1241:LEU:O	2.34	0.60
1:F:844:GLN:NE2	2:M:79:LYS:CE	2.64	0.60
1:C:599:ASN:ND2	1:C:1241:LEU:O	2.34	0.59
1:E:1115:ASP:HB2	1:E:1120:LEU:HD11	1.84	0.59
1:F:882:LEU:HD13	1:F:1176:HIS:CD2	2.37	0.59
1:A:903:ASP:OD2	1:A:907:ARG:NH1	2.28	0.59
1:A:1115:ASP:HB2	1:A:1120:LEU:HD11	1.84	0.59
1:B:201:ASN:HD21	1:C:219:ASN:HD21	1.50	0.59
1:E:1210:SER:HB2	1:E:1212:THR:HG23	1.84	0.59
1:F:752:SER:OG	1:F:754:ASP:O	2.19	0.59
1:F:903:ASP:OD2	1:F:907:ARG:NH1	2.28	0.59
1:B:1115:ASP:HB2	1:B:1120:LEU:HD11	1.84	0.59
1:G:903:ASP:OD2	1:G:907:ARG:NH1	2.28	0.59
1:A:201:ASN:HD21	1:B:219:ASN:HD21	1.50	0.59
1:A:882:LEU:HD13	1:A:1176:HIS:CD2	2.38	0.59
1:C:844:GLN:HE22	2:J:79:LYS:CE	2.14	0.59
1:D:1115:ASP:HB2	1:D:1120:LEU:HD11	1.84	0.59
1:E:715:LEU:HB3	1:E:727:LEU:HD11	1.85	0.59
1:B:882:LEU:HD13	1:B:1176:HIS:CD2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:752:SER:OG	1:C:754:ASP:O	2.19	0.59
1:C:1210:SER:HB2	1:C:1212:THR:HG23	1.84	0.59
1:D:482:TYR:HH	1:D:490:HIS:HE2	1.50	0.59
1:D:715:LEU:HB3	1:D:727:LEU:HD11	1.85	0.59
1:D:1131:ARG:NH2	1:D:1147:ASP:OD1	2.36	0.59
1:E:903:ASP:OD2	1:E:907:ARG:NH1	2.28	0.59
1:F:1115:ASP:HB2	1:F:1120:LEU:HD11	1.84	0.59
3:Q:52:ARG:CG	3:R:38:HIS:CE1	2.82	0.59
1:F:715:LEU:HB3	1:F:727:LEU:HD11	1.85	0.59
1:A:1210:SER:HB2	1:A:1212:THR:HG23	1.84	0.59
1:C:1131:ARG:NH2	1:C:1147:ASP:OD1	2.36	0.59
1:E:1131:ARG:NH2	1:E:1147:ASP:OD1	2.36	0.59
1:G:1115:ASP:HB2	1:G:1120:LEU:HD11	1.84	0.59
3:P:41:GLU:HB3	3:P:45:ARG:NH1	2.17	0.59
1:B:358:SER:HB3	1:C:274:MET:HE3	1.84	0.59
1:D:882:LEU:HD13	1:D:1176:HIS:CD2	2.37	0.59
1:C:521:HIS:NE2	1:C:525:GLU:OE2	2.36	0.59
1:C:1031:ASN:HB3	1:C:1034:LEU:HD12	1.85	0.59
1:E:882:LEU:HD13	1:E:1176:HIS:CD2	2.37	0.59
1:G:463:GLN:OE1	1:G:466:ARG:NH2	2.28	0.59
1:A:358:SER:HB3	1:B:274:MET:HE2	1.84	0.58
1:A:521:HIS:NE2	1:A:525:GLU:OE2	2.36	0.58
1:F:160:LYS:N	4:F:1301:DTP:O1A	2.20	0.58
1:G:882:LEU:HD13	1:G:1176:HIS:CD2	2.38	0.58
1:D:358:SER:OG	1:E:274:MET:HG2	2.03	0.58
1:E:1202:TRP:HA	1:E:1208:GLU:HB2	1.85	0.58
1:F:1202:TRP:HA	1:F:1208:GLU:HB2	1.85	0.58
1:B:48:THR:HG22	1:D:45:ASN:OD1	2.04	0.58
1:B:1031:ASN:HB3	1:B:1034:LEU:HD12	1.85	0.58
1:B:1210:SER:HB2	1:B:1212:THR:HG23	1.84	0.58
1:C:201:ASN:HD21	1:D:219:ASN:HD21	1.51	0.58
1:C:715:LEU:HB3	1:C:727:LEU:HD11	1.85	0.58
1:C:1115:ASP:HB2	1:C:1120:LEU:HD11	1.84	0.58
1:D:903:ASP:OD2	1:D:907:ARG:NH1	2.28	0.58
1:E:4:LYS:HA	1:F:237:ARG:HH21	1.68	0.58
1:F:884:TRP:HZ3	2:M:79:LYS:HA	1.56	0.58
2:J:67:TYR:OH	2:J:80:MET:SD	2.57	0.58
3:Q:52:ARG:HB3	3:R:38:HIS:CE1	2.37	0.58
1:C:882:LEU:HD13	1:C:1176:HIS:CD2	2.38	0.58
1:C:1086:GLY:CA	2:J:39:LYS:HZ1	2.12	0.58
1:C:1202:TRP:HA	1:C:1208:GLU:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1202:TRP:HA	1:D:1208:GLU:HB2	1.85	0.58
1:B:1131:ARG:NH2	1:B:1147:ASP:OD1	2.36	0.58
1:E:884:TRP:HZ3	2:L:79:LYS:HA	1.56	0.58
1:F:1131:ARG:NH2	1:F:1147:ASP:OD1	2.36	0.58
1:G:884:TRP:CZ3	2:N:79:LYS:CA	2.74	0.58
1:A:1031:ASN:HB3	1:A:1034:LEU:HD12	1.85	0.58
1:B:265:ARG:NH2	4:B:1301:DTP:O2G	2.31	0.58
1:B:482:TYR:HH	1:B:490:HIS:HE2	1.50	0.58
1:D:265:ARG:NH2	4:D:1301:DTP:O2G	2.31	0.58
1:F:1031:ASN:HB3	1:F:1034:LEU:HD12	1.85	0.58
1:G:1131:ARG:NH2	1:G:1147:ASP:OD1	2.36	0.58
1:A:1131:ARG:NH2	1:A:1147:ASP:OD1	2.36	0.58
1:C:884:TRP:CH2	2:J:78:THR:O	2.57	0.58
1:D:1031:ASN:HB3	1:D:1034:LEU:HD12	1.85	0.58
1:E:358:SER:HB3	1:F:274:MET:HE2	1.85	0.58
1:G:1048:LYS:H	1:G:1062:SER:HA	1.69	0.58
1:B:1202:TRP:HA	1:B:1208:GLU:HB2	1.85	0.58
1:C:587:GLU:OE1	1:C:594:TYR:OH	2.18	0.58
1:E:482:TYR:HH	1:E:490:HIS:HE2	1.48	0.58
1:F:1048:LYS:H	1:F:1062:SER:HA	1.69	0.58
1:G:715:LEU:HB3	1:G:727:LEU:HD11	1.85	0.58
1:B:521:HIS:NE2	1:B:525:GLU:OE2	2.36	0.57
1:D:521:HIS:NE2	1:D:525:GLU:OE2	2.36	0.57
1:E:482:TYR:OH	1:E:490:HIS:NE2	2.35	0.57
1:F:521:HIS:NE2	1:F:525:GLU:OE2	2.36	0.57
1:G:482:TYR:OH	1:G:490:HIS:NE2	2.36	0.57
1:A:715:LEU:HB3	1:A:727:LEU:HD11	1.85	0.57
1:B:884:TRP:CH2	2:I:78:THR:O	2.57	0.57
1:D:884:TRP:CH2	2:K:78:THR:O	2.57	0.57
1:G:1202:TRP:HA	1:G:1208:GLU:HB2	1.86	0.57
1:B:715:LEU:HB3	1:B:727:LEU:HD11	1.85	0.57
1:D:201:ASN:HD21	1:E:219:ASN:HD21	1.52	0.57
1:B:454:GLN:OE1	1:B:458:LYS:NZ	2.38	0.57
1:D:454:GLN:OE1	1:D:458:LYS:NZ	2.38	0.57
1:E:358:SER:OG	1:F:274:MET:HG2	2.04	0.57
1:E:521:HIS:NE2	1:E:525:GLU:OE2	2.36	0.57
1:B:1048:LYS:H	1:B:1062:SER:HA	1.69	0.57
1:C:454:GLN:OE1	1:C:458:LYS:NZ	2.38	0.57
1:E:454:GLN:OE1	1:E:458:LYS:NZ	2.38	0.57
1:F:884:TRP:CH2	2:M:78:THR:O	2.57	0.57
1:G:521:HIS:NE2	1:G:525:GLU:OE2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:454:GLN:OE1	1:A:458:LYS:NZ	2.38	0.57
1:B:884:TRP:CZ3	2:I:79:LYS:CA	2.74	0.57
1:D:1048:LYS:H	1:D:1062:SER:HA	1.69	0.57
1:E:1048:LYS:H	1:E:1062:SER:HA	1.69	0.57
1:G:884:TRP:CH2	2:N:78:THR:O	2.57	0.57
1:G:1031:ASN:HB3	1:G:1034:LEU:HD12	1.85	0.57
1:A:1202:TRP:HA	1:A:1208:GLU:HB2	1.85	0.57
1:B:358:SER:OG	1:C:274:MET:HG2	2.04	0.57
1:D:482:TYR:OH	1:D:490:HIS:NE2	2.35	0.57
1:G:454:GLN:OE1	1:G:458:LYS:NZ	2.38	0.57
1:A:884:TRP:CH2	2:H:78:THR:O	2.57	0.57
1:D:1139:SER:O	1:D:1140:THR:HG22	2.05	0.57
1:G:264:THR:OG1	1:G:265:ARG:N	2.37	0.57
1:A:358:SER:OG	1:B:274:MET:HG2	2.04	0.57
1:C:763:ALA:HA	1:C:801:VAL:H	1.70	0.57
1:C:1048:LYS:H	1:C:1062:SER:HA	1.69	0.57
1:D:264:THR:OG1	1:D:265:ARG:N	2.37	0.57
1:E:763:ALA:HA	1:E:801:VAL:H	1.70	0.57
1:E:1031:ASN:HB3	1:E:1034:LEU:HD12	1.85	0.57
1:F:265:ARG:NH2	4:F:1301:DTP:O2G	2.31	0.57
1:F:454:GLN:OE1	1:F:458:LYS:NZ	2.38	0.57
1:G:1092:ASP:OD2	1:G:1133:SER:OG	2.17	0.57
1:G:1139:SER:O	1:G:1140:THR:HG22	2.05	0.57
1:B:264:THR:OG1	1:B:265:ARG:N	2.37	0.56
1:B:524:HIS:HB2	1:B:646:THR:CG2	2.32	0.56
1:F:264:THR:OG1	1:F:265:ARG:N	2.38	0.56
1:A:1139:SER:O	1:A:1140:THR:HG22	2.05	0.56
1:C:482:TYR:HH	1:C:490:HIS:HE2	1.53	0.56
1:C:1139:SER:O	1:C:1140:THR:HG22	2.05	0.56
1:D:587:GLU:OE1	1:D:594:TYR:OH	2.18	0.56
1:E:1092:ASP:OD2	1:E:1133:SER:OG	2.17	0.56
1:B:1139:SER:O	1:B:1140:THR:HG22	2.05	0.56
1:E:524:HIS:HB2	1:E:646:THR:CG2	2.32	0.56
1:B:1023:ASP:OD1	1:B:1046:THR:OG1	2.24	0.56
1:C:482:TYR:OH	1:C:490:HIS:NE2	2.35	0.56
1:C:884:TRP:CZ3	2:J:79:LYS:CA	2.74	0.56
1:D:569:CYS:HB3	1:D:600:LYS:HZ3	1.71	0.56
1:E:884:TRP:CH2	2:L:78:THR:O	2.57	0.56
1:A:264:THR:OG1	1:A:265:ARG:N	2.37	0.56
1:C:716:LEU:HB3	1:C:728:TRP:HB2	1.87	0.56
1:D:463:GLN:OE1	1:D:466:ARG:NH2	2.28	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:264:THR:OG1	1:E:265:ARG:N	2.37	0.56
1:A:524:HIS:HB2	1:A:646:THR:CG2	2.32	0.56
1:A:565:GLN:NE2	1:A:1213:PHE:CA	2.69	0.56
1:A:1048:LYS:H	1:A:1062:SER:HA	1.69	0.56
1:C:1087:THR:N	2:J:39:LYS:HZ3	2.04	0.56
1:F:1139:SER:O	1:F:1140:THR:HG22	2.05	0.56
1:C:1086:GLY:CA	2:J:39:LYS:NZ	2.66	0.56
1:G:565:GLN:NE2	1:G:1213:PHE:CA	2.69	0.56
1:G:716:LEU:HB3	1:G:728:TRP:HB2	1.87	0.56
1:A:844:GLN:HE22	2:H:79:LYS:HE3	1.71	0.56
1:A:1023:ASP:OD1	1:A:1046:THR:OG1	2.24	0.56
1:B:763:ALA:HA	1:B:801:VAL:H	1.70	0.56
1:D:716:LEU:HB3	1:D:728:TRP:HB2	1.87	0.56
1:E:1139:SER:O	1:E:1140:THR:HG22	2.05	0.56
2:M:67:TYR:OH	2:M:80:MET:SD	2.57	0.56
1:A:170:ASP:OD1	1:A:171:HIS:N	2.39	0.56
1:B:143:LEU:C	1:B:145:GLY:H	2.09	0.56
1:B:844:GLN:HE22	2:I:79:LYS:HE3	1.71	0.56
1:C:264:THR:OG1	1:C:265:ARG:N	2.37	0.56
1:C:326:LEU:HD13	1:C:353:ILE:CG2	2.37	0.56
1:D:326:LEU:HD13	1:D:353:ILE:CG2	2.36	0.56
1:F:143:LEU:C	1:F:145:GLY:H	2.09	0.56
3:P:50:SER:CB	3:Q:45:ARG:NH1	2.64	0.56
1:C:1023:ASP:OD1	1:C:1046:THR:OG1	2.24	0.55
1:D:884:TRP:CZ3	2:K:79:LYS:CA	2.74	0.55
1:E:326:LEU:HD13	1:E:353:ILE:CG2	2.36	0.55
1:F:336:ASN:HB2	1:G:431:LYS:HE3	1.87	0.55
1:G:844:GLN:HE22	2:N:79:LYS:HE3	1.71	0.55
1:A:463:GLN:OE1	1:A:466:ARG:NH2	2.28	0.55
1:B:170:ASP:OD1	1:B:171:HIS:N	2.39	0.55
1:B:326:LEU:HD13	1:B:353:ILE:CG2	2.37	0.55
1:B:1092:ASP:OD2	1:B:1133:SER:OG	2.17	0.55
1:G:170:ASP:OD1	1:G:171:HIS:N	2.39	0.55
1:A:326:LEU:HD13	1:A:353:ILE:CG2	2.37	0.55
1:A:716:LEU:HB3	1:A:728:TRP:HB2	1.87	0.55
1:A:884:TRP:CZ3	2:H:79:LYS:CA	2.74	0.55
1:B:845:TYR:HB3	1:B:858:ALA:HB3	1.89	0.55
1:C:217:PRO:HG3	1:C:226:ARG:HH12	1.72	0.55
1:C:844:GLN:HE22	2:J:79:LYS:HE3	1.71	0.55
1:D:217:PRO:HG3	1:D:226:ARG:HH12	1.71	0.55
1:A:763:ALA:HA	1:A:801:VAL:H	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:617:ALA:HA	1:C:904:GLN:HG2	1.89	0.55
1:C:845:TYR:HB3	1:C:858:ALA:HB3	1.89	0.55
1:D:572:GLU:HA	1:D:577:TYR:CD2	2.42	0.55
1:E:884:TRP:N	1:E:884:TRP:CD1	2.73	0.55
1:F:572:GLU:HA	1:F:577:TYR:CD2	2.42	0.55
1:F:716:LEU:HB3	1:F:728:TRP:HB2	1.87	0.55
1:F:763:ALA:HA	1:F:801:VAL:H	1.70	0.55
1:G:763:ALA:HA	1:G:801:VAL:H	1.70	0.55
1:A:845:TYR:HB3	1:A:858:ALA:HB3	1.89	0.55
1:B:572:GLU:HA	1:B:577:TYR:CD2	2.42	0.55
1:C:170:ASP:OD1	1:C:171:HIS:N	2.39	0.55
1:C:463:GLN:OE1	1:C:466:ARG:NH2	2.28	0.55
1:C:572:GLU:HA	1:C:577:TYR:CD2	2.42	0.55
1:D:763:ALA:HA	1:D:801:VAL:H	1.70	0.55
1:E:572:GLU:HA	1:E:577:TYR:CD2	2.42	0.55
1:F:326:LEU:HD13	1:F:353:ILE:CG2	2.36	0.55
1:A:572:GLU:HA	1:A:577:TYR:CD2	2.42	0.55
1:B:28:HIS:CE1	3:P:14:LEU:CD2	2.90	0.55
1:B:565:GLN:NE2	1:B:1213:PHE:CA	2.69	0.55
1:B:1086:GLY:CA	2:I:39:LYS:NZ	2.66	0.55
1:C:565:GLN:NE2	1:C:1213:PHE:CA	2.69	0.55
1:D:143:LEU:C	1:D:145:GLY:H	2.09	0.55
1:D:617:ALA:HA	1:D:904:GLN:HG2	1.89	0.55
1:D:844:GLN:HE22	2:K:79:LYS:HE3	1.71	0.55
1:F:217:PRO:HG3	1:F:226:ARG:HH12	1.71	0.55
1:G:326:LEU:HD13	1:G:353:ILE:CG2	2.36	0.55
1:G:572:GLU:HA	1:G:577:TYR:CD2	2.42	0.55
1:E:716:LEU:HB3	1:E:728:TRP:HB2	1.87	0.55
3:O:27:ASP:OD1	3:R:13:ARG:HG2	2.06	0.55
1:A:1092:ASP:OD2	1:A:1133:SER:OG	2.17	0.55
1:D:170:ASP:OD1	1:D:171:HIS:N	2.39	0.55
1:D:565:GLN:NE2	1:D:1213:PHE:CA	2.69	0.55
1:E:565:GLN:NE2	1:E:1213:PHE:CA	2.69	0.55
1:F:844:GLN:HE22	2:M:79:LYS:HE3	1.71	0.55
1:G:845:TYR:HB3	1:G:858:ALA:HB3	1.89	0.55
3:R:8:LEU:HD23	3:R:8:LEU:C	2.27	0.55
3:R:15:ARG:HD2	3:R:19:GLU:OE2	2.07	0.55
1:D:1086:GLY:CA	2:K:39:LYS:NZ	2.66	0.55
1:F:170:ASP:OD1	1:F:171:HIS:N	2.39	0.55
2:N:60:GLY:N	2:N:63:THR:OG1	2.34	0.55
3:P:8:LEU:C	3:P:8:LEU:HD23	2.27	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:617:ALA:HA	1:B:904:GLN:HG2	1.89	0.55
1:D:845:TYR:HB3	1:D:858:ALA:HB3	1.89	0.55
1:D:884:TRP:N	1:D:884:TRP:CD1	2.73	0.55
1:F:524:HIS:HB2	1:F:646:THR:CG2	2.32	0.55
1:A:482:TYR:HH	1:A:490:HIS:HE2	1.47	0.54
1:E:143:LEU:C	1:E:145:GLY:H	2.09	0.54
1:F:565:GLN:NE2	1:F:1213:PHE:CA	2.69	0.54
1:A:550:LEU:HD21	1:A:607:SER:CB	2.35	0.54
1:B:716:LEU:HB3	1:B:728:TRP:HB2	1.87	0.54
1:B:1219:ASN:HB2	1:B:1237:ASN:HB3	1.89	0.54
1:E:170:ASP:OD1	1:E:171:HIS:N	2.39	0.54
1:E:844:GLN:HE22	2:L:79:LYS:HE3	1.71	0.54
1:G:265:ARG:HH11	1:G:371:SER:HG	1.52	0.54
1:G:1023:ASP:OD1	1:G:1046:THR:OG1	2.24	0.54
1:C:1219:ASN:HB2	1:C:1237:ASN:HB3	1.89	0.54
1:F:550:LEU:HD21	1:F:607:SER:CB	2.35	0.54
1:F:884:TRP:N	1:F:884:TRP:CD1	2.73	0.54
3:Q:8:LEU:HD23	3:Q:8:LEU:C	2.27	0.54
1:B:482:TYR:OH	1:B:490:HIS:NE2	2.35	0.54
1:C:727:LEU:HB3	1:C:737:ASN:HB2	1.90	0.54
1:D:800:ILE:H	1:D:818:LYS:HE2	1.73	0.54
1:D:1087:THR:N	2:K:39:LYS:HZ3	2.06	0.54
1:E:217:PRO:HG3	1:E:226:ARG:HH12	1.71	0.54
1:E:617:ALA:HA	1:E:904:GLN:HG2	1.89	0.54
1:A:143:LEU:C	1:A:145:GLY:H	2.09	0.54
1:A:217:PRO:HG3	1:A:226:ARG:HH12	1.71	0.54
1:A:219:ASN:HD21	1:G:201:ASN:HD21	1.54	0.54
1:D:727:LEU:HB3	1:D:737:ASN:HB2	1.90	0.54
1:D:1023:ASP:OD1	1:D:1046:THR:OG1	2.24	0.54
1:F:800:ILE:H	1:F:818:LYS:HE2	1.73	0.54
1:G:143:LEU:C	1:G:145:GLY:H	2.09	0.54
1:B:800:ILE:H	1:B:818:LYS:HE2	1.73	0.54
1:E:884:TRP:CZ3	2:L:79:LYS:CA	2.74	0.54
3:O:15:ARG:HD2	3:O:19:GLU:OE2	2.07	0.54
1:B:217:PRO:HG3	1:B:226:ARG:HH12	1.72	0.54
1:B:727:LEU:HB3	1:B:737:ASN:HB2	1.90	0.54
1:C:143:LEU:C	1:C:145:GLY:H	2.09	0.54
1:C:800:ILE:H	1:C:818:LYS:HE2	1.73	0.54
1:D:558:GLN:HA	1:D:559:PRO:C	2.28	0.54
1:D:612:ARG:NH2	1:D:903:ASP:O	2.41	0.54
1:E:727:LEU:HB3	1:E:737:ASN:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1086:GLY:CA	2:L:39:LYS:NZ	2.66	0.54
1:F:612:ARG:NH2	1:F:903:ASP:O	2.41	0.54
1:F:845:TYR:HB3	1:F:858:ALA:HB3	1.89	0.54
2:I:40:THR:HA	2:I:59:TRP:HE1	1.73	0.54
1:A:800:ILE:H	1:A:818:LYS:HE2	1.73	0.54
1:A:1219:ASN:HB2	1:A:1237:ASN:HB3	1.89	0.54
1:C:265:ARG:NH1	1:C:371:SER:OG	2.37	0.54
1:D:30:ILE:CG2	3:Q:10:ARG:CB	2.80	0.54
1:A:265:ARG:HH11	1:A:371:SER:HG	1.55	0.54
1:E:558:GLN:HA	1:E:559:PRO:C	2.28	0.54
1:F:558:GLN:HA	1:F:559:PRO:C	2.28	0.54
1:G:482:TYR:HH	1:G:490:HIS:HE2	1.52	0.54
1:G:550:LEU:HD21	1:G:607:SER:CB	2.35	0.54
2:L:40:THR:HA	2:L:59:TRP:HE1	1.73	0.54
1:A:558:GLN:HA	1:A:559:PRO:C	2.28	0.54
1:A:617:ALA:HA	1:A:904:GLN:HG2	1.89	0.54
1:A:864:VAL:CG2	1:A:885:VAL:HG21	2.38	0.54
1:B:336:ASN:HB2	1:C:431:LYS:HE3	1.90	0.54
1:D:1219:ASN:HB2	1:D:1237:ASN:HB3	1.89	0.54
1:F:265:ARG:HH11	1:F:371:SER:HG	1.55	0.54
1:F:987:ILE:HD11	1:F:1018:LEU:HD22	1.90	0.54
1:F:1219:ASN:HB2	1:F:1237:ASN:HB3	1.89	0.54
1:G:217:PRO:HG3	1:G:226:ARG:HH12	1.72	0.54
1:G:612:ARG:NH2	1:G:903:ASP:O	2.41	0.54
3:Q:15:ARG:HD2	3:Q:19:GLU:OE2	2.07	0.54
1:B:13:ARG:O	1:B:17:GLU:HG3	2.09	0.53
1:B:558:GLN:HA	1:B:559:PRO:C	2.28	0.53
1:B:612:ARG:NH2	1:B:903:ASP:O	2.41	0.53
1:C:558:GLN:HA	1:C:559:PRO:C	2.28	0.53
1:F:727:LEU:HB3	1:F:737:ASN:HB2	1.90	0.53
1:D:358:SER:HB3	1:E:274:MET:HE3	1.89	0.53
1:D:524:HIS:HB2	1:D:646:THR:CG2	2.32	0.53
1:E:845:TYR:HB3	1:E:858:ALA:HB3	1.89	0.53
1:E:987:ILE:HD11	1:E:1018:LEU:HD22	1.90	0.53
1:F:266:ASP:OD1	1:F:267:LYS:N	2.41	0.53
1:G:800:ILE:H	1:G:818:LYS:HE2	1.73	0.53
3:O:8:LEU:HD23	3:O:8:LEU:C	2.27	0.53
1:A:266:ASP:OD1	1:A:267:LYS:N	2.41	0.53
1:C:266:ASP:OD1	1:C:267:LYS:N	2.42	0.53
1:C:1061:TRP:CE2	1:C:1090:SER:HA	2.43	0.53
1:E:266:ASP:OD1	1:E:267:LYS:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:612:ARG:NH2	1:E:903:ASP:O	2.41	0.53
1:E:1023:ASP:OD1	1:E:1046:THR:OG1	2.24	0.53
1:F:1023:ASP:OD1	1:F:1046:THR:OG1	2.24	0.53
2:K:40:THR:HA	2:K:59:TRP:HE1	1.73	0.53
2:N:40:THR:HA	2:N:59:TRP:HE1	1.73	0.53
1:C:864:VAL:CG2	1:C:885:VAL:HG21	2.38	0.53
1:D:13:ARG:O	1:D:17:GLU:HG3	2.09	0.53
1:D:1061:TRP:CE2	1:D:1090:SER:HA	2.43	0.53
1:E:698:HIS:CE1	1:E:726:LYS:HD2	2.44	0.53
1:E:864:VAL:CG2	1:E:885:VAL:HG21	2.38	0.53
1:E:1061:TRP:CE2	1:E:1090:SER:HA	2.43	0.53
1:F:358:SER:OG	1:G:274:MET:HG2	2.09	0.53
1:G:266:ASP:OD1	1:G:267:LYS:N	2.41	0.53
1:G:558:GLN:HA	1:G:559:PRO:C	2.28	0.53
1:G:864:VAL:CG2	1:G:885:VAL:HG21	2.38	0.53
1:G:987:ILE:HD11	1:G:1018:LEU:HD22	1.91	0.53
1:A:612:ARG:NH2	1:A:903:ASP:O	2.41	0.53
1:A:884:TRP:N	1:A:884:TRP:CD1	2.73	0.53
1:B:267:LYS:HZ1	1:B:419:VAL:HG12	1.74	0.53
1:B:1061:TRP:CE2	1:B:1090:SER:HA	2.43	0.53
1:E:13:ARG:O	1:E:17:GLU:HG3	2.09	0.53
1:E:800:ILE:H	1:E:818:LYS:HE2	1.73	0.53
1:F:617:ALA:HA	1:F:904:GLN:HG2	1.89	0.53
1:B:584:ALA:HB1	1:B:594:TYR:CD2	2.44	0.53
1:B:884:TRP:N	1:B:884:TRP:CD1	2.73	0.53
1:C:612:ARG:NH2	1:C:903:ASP:O	2.41	0.53
1:D:1149:GLY:HA3	1:D:1178:GLY:HA2	1.91	0.53
1:E:1149:GLY:HA3	1:E:1178:GLY:HA2	1.91	0.53
2:M:40:THR:HA	2:M:59:TRP:HE1	1.73	0.53
1:A:698:HIS:CE1	1:A:726:LYS:HD2	2.44	0.53
1:A:1086:GLY:CA	2:H:39:LYS:NZ	2.66	0.53
1:A:1087:THR:N	2:H:39:LYS:HZ3	2.06	0.53
1:B:463:GLN:OE1	1:B:466:ARG:NH2	2.28	0.53
1:C:884:TRP:N	1:C:884:TRP:CD1	2.73	0.53
1:D:864:VAL:CG2	1:D:885:VAL:HG21	2.38	0.53
1:D:987:ILE:HD11	1:D:1018:LEU:HD22	1.90	0.53
1:G:727:LEU:HB3	1:G:737:ASN:HB2	1.90	0.53
1:G:1149:GLY:HA3	1:G:1178:GLY:HA2	1.91	0.53
2:I:67:TYR:OH	2:I:80:MET:SD	2.57	0.53
2:J:40:THR:HA	2:J:59:TRP:HE1	1.73	0.53
1:A:336:ASN:HB2	1:B:431:LYS:HE3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1149:GLY:HA3	1:A:1178:GLY:HA2	1.91	0.53
1:B:266:ASP:OD1	1:B:267:LYS:N	2.41	0.53
1:B:864:VAL:CG2	1:B:885:VAL:HG21	2.38	0.53
1:F:864:VAL:CG2	1:F:885:VAL:HG21	2.38	0.53
1:G:524:HIS:HB2	1:G:646:THR:CG2	2.32	0.53
1:A:267:LYS:HZ1	1:A:419:VAL:HG12	1.74	0.53
1:A:727:LEU:HB3	1:A:737:ASN:HB2	1.90	0.53
1:C:267:LYS:HZ1	1:C:419:VAL:HG12	1.74	0.53
1:D:584:ALA:HB1	1:D:594:TYR:CD2	2.44	0.53
1:F:698:HIS:CE1	1:F:726:LYS:HD2	2.44	0.53
1:G:617:ALA:HA	1:G:904:GLN:HG2	1.89	0.53
1:G:698:HIS:CE1	1:G:726:LYS:HD2	2.44	0.53
1:G:1219:ASN:HB2	1:G:1237:ASN:HB3	1.90	0.53
1:C:524:HIS:HB2	1:C:646:THR:CG2	2.32	0.53
1:C:584:ALA:HB1	1:C:594:TYR:CD2	2.44	0.53
1:D:698:HIS:CE1	1:D:726:LYS:HD2	2.44	0.53
1:F:631:ALA:HB1	1:F:639:LEU:HD11	1.91	0.53
1:F:1061:TRP:CE2	1:F:1090:SER:HA	2.43	0.53
1:F:1149:GLY:HA3	1:F:1178:GLY:HA2	1.91	0.53
1:F:1191:MET:SD	1:F:1209:SER:OG	2.63	0.53
2:H:40:THR:HA	2:H:59:TRP:HE1	1.73	0.53
1:A:274:MET:HE2	1:G:358:SER:HB3	1.91	0.52
1:D:266:ASP:OD1	1:D:267:LYS:N	2.41	0.52
1:D:267:LYS:HZ1	1:D:419:VAL:HG12	1.74	0.52
1:E:844:GLN:HE22	2:L:79:LYS:HZ2	1.56	0.52
1:E:1219:ASN:HB2	1:E:1237:ASN:HB3	1.89	0.52
1:G:13:ARG:O	1:G:17:GLU:HG3	2.08	0.52
1:G:884:TRP:N	1:G:884:TRP:CD1	2.73	0.52
1:A:844:GLN:HE22	2:H:79:LYS:HZ2	1.56	0.52
1:A:1061:TRP:CE2	1:A:1090:SER:HA	2.43	0.52
1:C:1149:GLY:HA3	1:C:1178:GLY:HA2	1.91	0.52
1:D:609:LEU:HD23	1:D:908:LEU:HD13	1.91	0.52
1:E:336:ASN:HB2	1:F:431:LYS:HE3	1.91	0.52
1:F:1087:THR:N	2:M:39:LYS:HZ3	2.07	0.52
1:G:584:ALA:HB1	1:G:594:TYR:CD2	2.44	0.52
1:A:987:ILE:HD11	1:A:1018:LEU:HD22	1.90	0.52
1:B:326:LEU:HD13	1:B:353:ILE:HG22	1.92	0.52
1:B:1126:HIS:CE1	1:B:1129:CYS:H	2.28	0.52
1:B:1149:GLY:HA3	1:B:1178:GLY:HA2	1.91	0.52
1:C:698:HIS:CE1	1:C:726:LYS:HD2	2.44	0.52
1:E:631:ALA:HB1	1:E:639:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:945:ARG:HD2	1:G:961:GLU:HB2	1.92	0.52
1:G:1061:TRP:CE2	1:G:1090:SER:HA	2.43	0.52
2:K:67:TYR:OH	2:K:80:MET:SD	2.57	0.52
1:A:365:ASP:OD1	1:A:444:PHE:CE1	2.63	0.52
1:B:1087:THR:N	2:I:39:LYS:HZ3	2.07	0.52
1:C:265:ARG:HH11	1:C:371:SER:HG	1.57	0.52
1:E:267:LYS:HZ1	1:E:419:VAL:HG12	1.74	0.52
1:E:609:LEU:HD23	1:E:908:LEU:HD13	1.91	0.52
1:G:365:ASP:OD1	1:G:444:PHE:CE1	2.63	0.52
3:P:50:SER:HB3	3:Q:45:ARG:NH1	2.24	0.52
1:A:584:ALA:HB1	1:A:594:TYR:CD2	2.44	0.52
1:C:336:ASN:HB2	1:D:431:LYS:HE3	1.91	0.52
1:D:326:LEU:HD13	1:D:353:ILE:HG22	1.92	0.52
1:F:358:SER:HB3	1:G:274:MET:HE2	1.92	0.52
1:F:945:ARG:HD2	1:F:961:GLU:HB2	1.92	0.52
2:M:60:GLY:N	2:M:63:THR:OG1	2.34	0.52
1:A:945:ARG:HD2	1:A:961:GLU:HB2	1.92	0.52
1:C:326:LEU:HD13	1:C:353:ILE:HG22	1.92	0.52
1:E:326:LEU:HD13	1:E:353:ILE:HG22	1.92	0.52
1:E:584:ALA:HB1	1:E:594:TYR:CD2	2.44	0.52
1:F:1086:GLY:CA	2:M:39:LYS:NZ	2.66	0.52
1:G:631:ALA:HB1	1:G:639:LEU:HD11	1.91	0.52
1:G:844:GLN:NE2	2:N:79:LYS:NZ	2.58	0.52
2:H:67:TYR:OH	2:H:80:MET:SD	2.57	0.52
1:B:987:ILE:HD11	1:B:1018:LEU:HD22	1.90	0.52
1:C:987:ILE:HD11	1:C:1018:LEU:HD22	1.90	0.52
1:D:37:ILE:HG12	3:Q:10:ARG:CD	2.40	0.52
1:D:725:LEU:HB2	1:D:739:MET:HB2	1.92	0.52
1:F:365:ASP:OD1	1:F:444:PHE:CE1	2.63	0.52
1:A:326:LEU:HD13	1:A:353:ILE:HG22	1.92	0.52
1:A:609:LEU:HD23	1:A:908:LEU:HD13	1.91	0.52
1:A:882:LEU:HD12	1:A:1176:HIS:NE2	2.25	0.52
1:B:550:LEU:HD21	1:B:607:SER:CB	2.35	0.52
1:C:1126:HIS:CE1	1:C:1129:CYS:H	2.28	0.52
1:D:14:GLU:HB2	1:E:31:SER:OG	2.09	0.52
1:D:864:VAL:HG23	1:D:885:VAL:HG21	1.92	0.52
1:E:945:ARG:HD2	1:E:961:GLU:HB2	1.92	0.52
2:N:67:TYR:OH	2:N:80:MET:SD	2.57	0.52
1:A:1126:HIS:CE1	1:A:1129:CYS:H	2.28	0.52
1:B:365:ASP:OD1	1:B:444:PHE:CE1	2.63	0.52
1:E:365:ASP:OD1	1:E:444:PHE:CE1	2.63	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:267:LYS:HZ1	1:F:419:VAL:HG12	1.75	0.52
1:F:326:LEU:HD13	1:F:353:ILE:HG22	1.92	0.52
1:A:265:ARG:NH2	4:A:1301:DTP:O2G	2.31	0.52
1:A:416:GLN:HE21	1:G:334:PHE:HE1	1.57	0.52
1:A:530:ARG:HD2	1:A:545:GLN:HE22	1.75	0.52
1:B:698:HIS:CE1	1:B:726:LYS:HD2	2.44	0.52
1:B:945:ARG:HD2	1:B:961:GLU:HB2	1.92	0.52
1:C:864:VAL:HG23	1:C:885:VAL:HG21	1.92	0.52
1:D:844:GLN:NE2	2:K:79:LYS:NZ	2.57	0.52
1:D:882:LEU:HD12	1:D:1176:HIS:NE2	2.25	0.52
1:D:1126:HIS:CE1	1:D:1129:CYS:H	2.28	0.52
1:E:864:VAL:HG23	1:E:885:VAL:HG21	1.92	0.52
1:F:584:ALA:HB1	1:F:594:TYR:CD2	2.44	0.52
1:G:609:LEU:HD23	1:G:908:LEU:HD13	1.91	0.52
1:B:844:GLN:NE2	2:I:79:LYS:NZ	2.57	0.51
1:C:609:LEU:HD23	1:C:908:LEU:HD13	1.91	0.51
1:E:550:LEU:HD21	1:E:607:SER:CB	2.35	0.51
1:E:600:LYS:HZ1	1:E:1213:PHE:HZ	1.58	0.51
1:G:265:ARG:NH1	1:G:371:SER:OG	2.37	0.51
1:A:844:GLN:NE2	2:H:79:LYS:NZ	2.58	0.51
1:E:725:LEU:HB2	1:E:739:MET:HB2	1.92	0.51
1:F:882:LEU:HD12	1:F:1176:HIS:NE2	2.25	0.51
1:G:267:LYS:HZ1	1:G:419:VAL:HG12	1.74	0.51
2:J:60:GLY:N	2:J:63:THR:OG1	2.34	0.51
1:C:550:LEU:HD21	1:C:607:SER:CB	2.35	0.51
1:C:725:LEU:HB2	1:C:739:MET:HB2	1.92	0.51
1:F:337:ARG:NH1	1:G:409:GLU:OE2	2.44	0.51
1:G:326:LEU:HD13	1:G:353:ILE:HG22	1.92	0.51
1:B:400:LEU:HB3	1:B:404:TRP:CZ3	2.46	0.51
1:C:334:PHE:HE1	1:D:416:GLN:HE21	1.57	0.51
1:C:400:LEU:HB3	1:C:404:TRP:CZ3	2.46	0.51
1:D:365:ASP:OD1	1:D:444:PHE:CE1	2.63	0.51
1:D:530:ARG:HD2	1:D:545:GLN:HE22	1.75	0.51
1:D:550:LEU:HD21	1:D:607:SER:CB	2.35	0.51
1:D:631:ALA:HB1	1:D:639:LEU:HD11	1.91	0.51
1:E:530:ARG:HD2	1:E:545:GLN:HE22	1.76	0.51
1:F:482:TYR:OH	1:F:490:HIS:NE2	2.35	0.51
1:F:609:LEU:HD23	1:F:908:LEU:HD13	1.91	0.51
1:F:692:VAL:HG12	1:F:693:HIS:ND1	2.26	0.51
1:F:884:TRP:CZ3	2:M:79:LYS:CA	2.74	0.51
1:G:864:VAL:HG23	1:G:885:VAL:HG21	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:590:ASN:C	1:A:592:MET:N	2.64	0.51
1:A:692:VAL:HG12	1:A:693:HIS:ND1	2.25	0.51
1:A:725:LEU:HB2	1:A:739:MET:HB2	1.92	0.51
1:B:609:LEU:HD23	1:B:908:LEU:HD13	1.91	0.51
1:D:1191:MET:SD	1:D:1209:SER:OG	2.63	0.51
1:E:882:LEU:HD12	1:E:1176:HIS:NE2	2.25	0.51
1:F:844:GLN:NE2	2:M:79:LYS:NZ	2.57	0.51
2:K:60:GLY:N	2:K:63:THR:OG1	2.34	0.51
3:P:50:SER:HB3	3:Q:45:ARG:HH12	1.74	0.51
1:B:692:VAL:HG12	1:B:693:HIS:ND1	2.26	0.51
1:C:692:VAL:HG12	1:C:693:HIS:ND1	2.26	0.51
1:E:1086:GLY:HA2	2:L:39:LYS:HE2	1.92	0.51
1:F:530:ARG:HD2	1:F:545:GLN:HE22	1.75	0.51
1:F:1126:HIS:CE1	1:F:1129:CYS:H	2.28	0.51
1:C:365:ASP:OD1	1:C:444:PHE:CE1	2.63	0.51
1:D:590:ASN:C	1:D:592:MET:N	2.64	0.51
1:F:590:ASN:C	1:F:592:MET:N	2.64	0.51
1:G:1086:GLY:HA2	2:N:39:LYS:HE2	1.92	0.51
1:G:1086:GLY:CA	2:N:39:LYS:NZ	2.66	0.51
1:G:1126:HIS:CE1	1:G:1129:CYS:H	2.28	0.51
2:L:60:GLY:N	2:L:63:THR:OG1	2.34	0.51
1:A:400:LEU:HB3	1:A:404:TRP:CZ3	2.46	0.51
1:A:631:ALA:HB1	1:A:639:LEU:HD11	1.91	0.51
1:B:265:ARG:HH11	1:B:371:SER:HG	1.54	0.51
1:B:725:LEU:HB2	1:B:739:MET:HB2	1.92	0.51
1:B:864:VAL:HG23	1:B:885:VAL:HG21	1.92	0.51
1:C:945:ARG:HD2	1:C:961:GLU:HB2	1.92	0.51
1:D:336:ASN:HB2	1:E:431:LYS:HE3	1.93	0.51
1:D:400:LEU:HB3	1:D:404:TRP:CZ3	2.46	0.51
1:F:265:ARG:NH1	1:F:371:SER:OG	2.37	0.51
1:G:590:ASN:C	1:G:592:MET:N	2.64	0.51
2:H:60:GLY:N	2:H:63:THR:OG1	2.34	0.51
2:H:94:LEU:HD21	5:H:500:HEC:HMB1	1.93	0.51
2:M:94:LEU:HD21	5:M:500:HEC:HMB1	1.93	0.51
1:B:590:ASN:C	1:B:592:MET:N	2.64	0.51
1:C:530:ARG:HD2	1:C:545:GLN:HE22	1.76	0.51
1:E:1126:HIS:CE1	1:E:1129:CYS:H	2.28	0.51
1:G:152:ILE:HD11	1:G:263:THR:HG22	1.92	0.51
2:I:94:LEU:HD21	5:I:500:HEC:HMB1	1.93	0.51
2:N:94:LEU:HD21	5:N:500:HEC:HMB1	1.93	0.51
3:P:32:ARG:HD2	3:P:76:CYS:SG	2.51	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:530:ARG:HD2	1:B:545:GLN:HE22	1.76	0.51
1:B:1002:HIS:ND1	1:B:1024:ASP:OD2	2.44	0.51
1:C:562:ASN:HB2	1:C:565:GLN:HG2	1.93	0.51
1:F:334:PHE:HE1	1:G:416:GLN:HE21	1.58	0.51
1:F:725:LEU:HB2	1:F:739:MET:HB2	1.92	0.51
1:G:530:ARG:HD2	1:G:545:GLN:HE22	1.76	0.51
1:G:725:LEU:HB2	1:G:739:MET:HB2	1.92	0.51
1:G:882:LEU:HD12	1:G:1176:HIS:NE2	2.25	0.51
1:A:152:ILE:HD11	1:A:263:THR:HG22	1.92	0.50
1:A:864:VAL:HG23	1:A:885:VAL:HG21	1.92	0.50
1:B:608:ARG:HD2	1:B:910:GLU:HB2	1.94	0.50
1:C:844:GLN:NE2	2:J:79:LYS:NZ	2.57	0.50
1:D:562:ASN:HB2	1:D:565:GLN:HG2	1.94	0.50
1:D:945:ARG:HD2	1:D:961:GLU:HB2	1.92	0.50
1:E:692:VAL:HG12	1:E:693:HIS:ND1	2.26	0.50
1:F:864:VAL:HG23	1:F:885:VAL:HG21	1.92	0.50
2:I:60:GLY:N	2:I:63:THR:OG1	2.34	0.50
3:O:32:ARG:HD2	3:O:76:CYS:SG	2.51	0.50
1:B:700:GLU:HG3	1:B:721:SER:HB2	1.94	0.50
1:C:1002:HIS:ND1	1:C:1024:ASP:OD2	2.45	0.50
1:D:1002:HIS:ND1	1:D:1024:ASP:OD2	2.44	0.50
1:E:400:LEU:HB3	1:E:404:TRP:CZ3	2.46	0.50
1:F:862:TYR:HB3	1:F:884:TRP:CA	2.42	0.50
1:F:1002:HIS:ND1	1:F:1024:ASP:OD2	2.44	0.50
1:A:334:PHE:HE1	1:B:416:GLN:HE21	1.58	0.50
1:A:608:ARG:HD2	1:A:910:GLU:HB2	1.94	0.50
1:A:1002:HIS:ND1	1:A:1024:ASP:OD2	2.44	0.50
1:B:344:GLN:OE1	1:B:349:GLN:NE2	2.44	0.50
1:B:562:ASN:HB2	1:B:565:GLN:HG2	1.94	0.50
1:C:1086:GLY:HA2	2:J:39:LYS:HE2	1.92	0.50
1:G:819:ASN:ND2	1:G:840:HIS:O	2.45	0.50
1:C:348:LYS:NZ	1:C:443:ASP:OD1	2.45	0.50
1:G:692:VAL:HG12	1:G:693:HIS:ND1	2.26	0.50
1:G:1002:HIS:ND1	1:G:1024:ASP:OD2	2.44	0.50
2:L:94:LEU:HD21	5:L:500:HEC:HMB1	1.93	0.50
3:P:15:ARG:HD2	3:P:19:GLU:OE2	2.07	0.50
1:A:431:LYS:HE3	1:G:336:ASN:HB2	1.92	0.50
1:A:482:TYR:OH	1:A:490:HIS:NE2	2.35	0.50
1:A:762:SER:OG	1:A:764:ASP:OD1	2.26	0.50
1:B:631:ALA:HB1	1:B:639:LEU:HD11	1.91	0.50
1:E:562:ASN:HB2	1:E:565:GLN:HG2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:862:TYR:HB3	1:E:884:TRP:CA	2.42	0.50
1:F:152:ILE:HD11	1:F:263:THR:HG22	1.92	0.50
1:G:400:LEU:HB3	1:G:404:TRP:CZ3	2.46	0.50
3:Q:52:ARG:HD2	3:R:38:HIS:ND1	2.22	0.50
1:B:152:ILE:HD11	1:B:263:THR:HG22	1.92	0.50
1:B:348:LYS:NZ	1:B:443:ASP:OD1	2.45	0.50
1:C:882:LEU:HD12	1:C:1176:HIS:NE2	2.25	0.50
1:D:265:ARG:NH1	1:D:371:SER:OG	2.37	0.50
1:D:348:LYS:NZ	1:D:443:ASP:OD1	2.45	0.50
1:E:463:GLN:OE1	1:E:466:ARG:NH2	2.28	0.50
1:F:562:ASN:HB2	1:F:565:GLN:HG2	1.93	0.50
1:F:819:ASN:ND2	1:F:840:HIS:O	2.45	0.50
1:G:646:THR:HG23	1:G:648:GLU:HG3	1.94	0.50
1:A:700:GLU:HG3	1:A:721:SER:HB2	1.94	0.50
1:A:819:ASN:ND2	1:A:840:HIS:O	2.45	0.50
1:C:631:ALA:HB1	1:C:639:LEU:HD11	1.91	0.50
1:C:700:GLU:HG3	1:C:721:SER:HB2	1.94	0.50
1:D:692:VAL:HG12	1:D:693:HIS:ND1	2.26	0.50
1:F:862:TYR:OH	1:F:1237:ASN:O	2.30	0.50
3:R:32:ARG:HD2	3:R:76:CYS:SG	2.51	0.50
1:C:152:ILE:HD11	1:C:263:THR:HG22	1.92	0.50
1:C:825:ASP:HB2	1:C:832:LEU:HD22	1.93	0.50
1:D:1086:GLY:HA2	2:K:39:LYS:HE2	1.92	0.50
1:D:1222:LYS:HB3	1:D:1224:HIS:HE1	1.77	0.50
1:E:1002:HIS:ND1	1:E:1024:ASP:OD2	2.44	0.50
1:F:400:LEU:HB3	1:F:404:TRP:CZ3	2.46	0.50
1:A:298:PHE:HD2	1:A:328:GLY:HA3	1.77	0.50
1:A:562:ASN:HB2	1:A:565:GLN:HG2	1.93	0.50
1:B:825:ASP:HB2	1:B:832:LEU:HD22	1.93	0.50
1:C:358:SER:HB3	1:D:274:MET:HE2	1.93	0.50
1:C:608:ARG:HD2	1:C:910:GLU:HB2	1.94	0.50
1:C:819:ASN:ND2	1:C:840:HIS:O	2.45	0.50
1:D:819:ASN:ND2	1:D:840:HIS:O	2.45	0.50
1:E:348:LYS:NZ	1:E:443:ASP:OD1	2.45	0.50
1:E:862:TYR:OH	1:E:1237:ASN:O	2.30	0.50
1:G:348:LYS:NZ	1:G:443:ASP:OD1	2.45	0.50
1:A:365:ASP:OD1	1:A:444:PHE:HE1	1.95	0.49
1:A:646:THR:HG23	1:A:648:GLU:HG3	1.94	0.49
1:A:1222:LYS:HB3	1:A:1224:HIS:HE1	1.77	0.49
1:B:819:ASN:ND2	1:B:840:HIS:O	2.45	0.49
1:D:152:ILE:HD11	1:D:263:THR:HG22	1.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:365:ASP:OD1	1:D:444:PHE:HE1	1.95	0.49
1:F:646:THR:HG23	1:F:648:GLU:HG3	1.94	0.49
1:G:298:PHE:HD2	1:G:328:GLY:HA3	1.77	0.49
1:G:862:TYR:HB3	1:G:884:TRP:CA	2.42	0.49
1:G:862:TYR:OH	1:G:1237:ASN:O	2.30	0.49
2:I:41:GLY:HA2	2:I:48:TYR:CE1	2.47	0.49
2:J:41:GLY:HA2	2:J:48:TYR:CE1	2.47	0.49
3:Q:16:LEU:O	3:Q:20:LEU:HB2	2.12	0.49
1:A:1086:GLY:HA2	2:H:39:LYS:HE2	1.92	0.49
1:B:1222:LYS:HB3	1:B:1224:HIS:HE1	1.77	0.49
1:E:819:ASN:ND2	1:E:840:HIS:O	2.45	0.49
1:E:884:TRP:CE3	2:L:81:ILE:HD11	2.48	0.49
1:E:1086:GLY:CA	2:L:39:LYS:HZ1	2.20	0.49
1:F:298:PHE:HD2	1:F:328:GLY:HA3	1.77	0.49
1:F:463:GLN:OE1	1:F:466:ARG:NH2	2.28	0.49
1:F:1222:LYS:HB3	1:F:1224:HIS:HE1	1.77	0.49
1:G:562:ASN:HB2	1:G:565:GLN:HG2	1.94	0.49
2:H:41:GLY:HA2	2:H:48:TYR:CE1	2.47	0.49
3:R:16:LEU:O	3:R:20:LEU:HB2	2.12	0.49
1:C:365:ASP:OD1	1:C:444:PHE:HE1	1.96	0.49
1:C:862:TYR:HB3	1:C:884:TRP:CA	2.42	0.49
1:C:884:TRP:CE3	2:J:81:ILE:HD11	2.48	0.49
1:D:762:SER:OG	1:D:764:ASP:OD1	2.26	0.49
1:F:600:LYS:HZ1	1:F:1213:PHE:HZ	1.60	0.49
1:F:884:TRP:CE3	2:M:81:ILE:HD11	2.47	0.49
1:G:1020:SER:HB2	1:G:1028:GLN:HE21	1.77	0.49
2:J:94:LEU:HD21	5:J:500:HEC:HMB1	1.93	0.49
2:K:41:GLY:HA2	2:K:48:TYR:CE1	2.47	0.49
1:A:265:ARG:NH1	1:A:371:SER:OG	2.37	0.49
1:A:331:LEU:HD13	1:A:338:TRP:CH2	2.48	0.49
1:C:1222:LYS:HB3	1:C:1224:HIS:HE1	1.77	0.49
1:D:825:ASP:HB2	1:D:832:LEU:HD22	1.93	0.49
1:E:152:ILE:HD11	1:E:263:THR:HG22	1.92	0.49
1:F:365:ASP:OD1	1:F:444:PHE:HE1	1.96	0.49
1:F:700:GLU:HG3	1:F:721:SER:HB2	1.94	0.49
2:N:41:GLY:HA2	2:N:48:TYR:CE1	2.47	0.49
3:Q:32:ARG:HD2	3:Q:76:CYS:SG	2.52	0.49
1:A:825:ASP:HB2	1:A:832:LEU:HD22	1.93	0.49
1:B:298:PHE:HD2	1:B:328:GLY:HA3	1.77	0.49
1:B:885:VAL:HG12	1:B:887:GLY:N	2.28	0.49
1:B:1086:GLY:HA2	2:I:39:LYS:HE2	1.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:646:THR:HG23	1:D:648:GLU:HG3	1.94	0.49
1:D:700:GLU:HG3	1:D:721:SER:HB2	1.94	0.49
1:D:862:TYR:OH	1:D:1237:ASN:O	2.30	0.49
1:D:884:TRP:CE3	2:K:81:ILE:HD11	2.47	0.49
1:E:700:GLU:HG3	1:E:721:SER:HB2	1.94	0.49
2:I:40:THR:HG22	2:I:59:TRP:CE2	2.48	0.49
1:B:118:GLY:O	1:B:184:TRP:HB2	2.13	0.49
1:B:862:TYR:HB3	1:B:884:TRP:CA	2.42	0.49
1:D:31:SER:HA	3:Q:11:ARG:HA	1.95	0.49
1:D:334:PHE:HE1	1:E:416:GLN:HE21	1.60	0.49
1:E:590:ASN:C	1:E:592:MET:N	2.64	0.49
1:E:885:VAL:HG12	1:E:887:GLY:N	2.28	0.49
1:F:118:GLY:O	1:F:184:TRP:HB2	2.13	0.49
1:F:348:LYS:NZ	1:F:443:ASP:OD1	2.45	0.49
1:F:825:ASP:HB2	1:F:832:LEU:HD22	1.93	0.49
1:G:608:ARG:HD2	1:G:910:GLU:HB2	1.94	0.49
1:A:862:TYR:HB3	1:A:884:TRP:CA	2.42	0.49
1:B:334:PHE:HE1	1:C:416:GLN:HE21	1.60	0.49
1:B:884:TRP:CE3	2:I:81:ILE:HD11	2.48	0.49
1:D:118:GLY:O	1:D:184:TRP:HB2	2.13	0.49
1:D:565:GLN:NE2	1:D:1213:PHE:HA	2.28	0.49
1:E:265:ARG:NH1	1:E:371:SER:OG	2.37	0.49
1:E:365:ASP:OD1	1:E:444:PHE:HE1	1.95	0.49
1:E:844:GLN:NE2	2:L:79:LYS:NZ	2.57	0.49
1:F:608:ARG:HD2	1:F:910:GLU:HB2	1.94	0.49
1:G:825:ASP:HB2	1:G:832:LEU:HD22	1.93	0.49
1:G:1222:LYS:HB3	1:G:1224:HIS:HE1	1.76	0.49
1:A:862:TYR:OH	1:A:1237:ASN:O	2.30	0.49
1:C:118:GLY:O	1:C:184:TRP:HB2	2.13	0.49
1:C:885:VAL:HG12	1:C:887:GLY:N	2.28	0.49
1:C:1020:SER:HB2	1:C:1028:GLN:HE21	1.77	0.49
1:D:1020:SER:HB2	1:D:1028:GLN:HE21	1.77	0.49
1:E:331:LEU:HD13	1:E:338:TRP:CH2	2.48	0.49
1:E:825:ASP:HB2	1:E:832:LEU:HD22	1.93	0.49
2:L:41:GLY:HA2	2:L:48:TYR:CE1	2.47	0.49
2:M:40:THR:HG22	2:M:59:TRP:CE2	2.48	0.49
3:O:16:LEU:O	3:O:20:LEU:HB2	2.12	0.49
1:B:365:ASP:OD1	1:B:444:PHE:HE1	1.96	0.49
1:B:929:VAL:HB	1:B:936:MET:HB2	1.95	0.49
1:D:569:CYS:CB	1:D:600:LYS:HZ3	2.25	0.49
1:D:862:TYR:HB3	1:D:884:TRP:CA	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:298:PHE:HD2	1:E:328:GLY:HA3	1.77	0.49
1:E:608:ARG:HD2	1:E:910:GLU:HB2	1.94	0.49
1:F:331:LEU:HD13	1:F:338:TRP:CH2	2.47	0.49
1:F:565:GLN:NE2	1:F:1213:PHE:HA	2.28	0.49
2:H:40:THR:HG22	2:H:59:TRP:CE2	2.48	0.49
2:J:40:THR:HG22	2:J:59:TRP:CE2	2.48	0.49
2:K:94:LEU:HD21	5:K:500:HEC:HMB1	1.93	0.49
2:L:40:THR:HG22	2:L:59:TRP:CE2	2.48	0.49
1:A:885:VAL:HG12	1:A:887:GLY:N	2.28	0.49
1:B:265:ARG:NH1	1:B:371:SER:OG	2.37	0.49
1:B:1203:ASN:OD1	1:B:1204:VAL:N	2.46	0.49
1:C:331:LEU:HD13	1:C:338:TRP:CH2	2.47	0.49
1:C:646:THR:HG23	1:C:648:GLU:HG3	1.94	0.49
1:F:1086:GLY:HA2	2:M:39:LYS:HE2	1.92	0.49
1:G:700:GLU:HG3	1:G:721:SER:HB2	1.94	0.49
1:B:646:THR:HG23	1:B:648:GLU:HG3	1.94	0.48
1:C:565:GLN:NE2	1:C:1213:PHE:HA	2.28	0.48
1:D:608:ARG:HD2	1:D:910:GLU:HB2	1.94	0.48
1:D:1026:GLU:HG3	1:D:1041:ARG:HG2	1.95	0.48
1:D:1203:ASN:OD1	1:D:1204:VAL:N	2.46	0.48
1:E:646:THR:HG23	1:E:648:GLU:HG3	1.94	0.48
1:E:1203:ASN:OD1	1:E:1204:VAL:N	2.46	0.48
1:G:118:GLY:O	1:G:184:TRP:HB2	2.13	0.48
1:G:565:GLN:NE2	1:G:1213:PHE:HA	2.28	0.48
1:G:884:TRP:CE3	2:N:81:ILE:HD11	2.47	0.48
1:A:565:GLN:NE2	1:A:1213:PHE:HA	2.28	0.48
1:A:884:TRP:CE3	2:H:81:ILE:HD11	2.47	0.48
1:B:565:GLN:NE2	1:B:1213:PHE:HA	2.28	0.48
1:B:862:TYR:OH	1:B:1237:ASN:O	2.30	0.48
1:D:113:VAL:HG11	1:D:174:LEU:HD21	1.95	0.48
1:D:885:VAL:HG12	1:D:887:GLY:N	2.28	0.48
1:E:265:ARG:HH11	1:E:371:SER:HG	1.58	0.48
1:E:568:LEU:HD13	1:E:595:LEU:O	2.13	0.48
1:E:1026:GLU:HG3	1:E:1041:ARG:HG2	1.95	0.48
1:E:1222:LYS:HB3	1:E:1224:HIS:HE1	1.77	0.48
1:F:752:SER:HB2	1:F:753:PRO:HD2	1.95	0.48
1:G:1026:GLU:HG3	1:G:1041:ARG:HG2	1.95	0.48
1:G:1203:ASN:OD1	1:G:1204:VAL:N	2.46	0.48
2:K:40:THR:HG22	2:K:59:TRP:CE2	2.48	0.48
2:M:41:GLY:HA2	2:M:48:TYR:CE1	2.47	0.48
3:P:16:LEU:O	3:P:20:LEU:HB2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:118:GLY:O	1:A:184:TRP:HB2	2.13	0.48
1:A:568:LEU:HD13	1:A:595:LEU:O	2.13	0.48
1:A:929:VAL:HB	1:A:936:MET:HB2	1.95	0.48
1:E:113:VAL:HG11	1:E:174:LEU:HD21	1.95	0.48
1:E:1020:SER:HB2	1:E:1028:GLN:HE21	1.77	0.48
1:F:885:VAL:HG12	1:F:887:GLY:N	2.28	0.48
1:G:752:SER:HB2	1:G:753:PRO:HD2	1.95	0.48
1:A:196:LEU:HG	1:A:200:GLN:HE22	1.78	0.48
1:A:1026:GLU:HG3	1:A:1041:ARG:HG2	1.95	0.48
1:B:1198:TYR:HA	1:B:1215:THR:HB	1.96	0.48
1:D:568:LEU:HD13	1:D:595:LEU:O	2.13	0.48
1:E:230:LEU:O	1:E:234:LYS:N	2.41	0.48
1:E:565:GLN:NE2	1:E:1213:PHE:HA	2.28	0.48
1:F:344:GLN:OE1	1:F:349:GLN:NE2	2.44	0.48
1:F:1026:GLU:HG3	1:F:1041:ARG:HG2	1.95	0.48
1:G:550:LEU:HD23	1:G:607:SER:HB2	1.91	0.48
1:B:331:LEU:HD13	1:B:338:TRP:CH2	2.48	0.48
1:B:1191:MET:SD	1:B:1209:SER:OG	2.63	0.48
1:C:113:VAL:HG11	1:C:174:LEU:HD21	1.95	0.48
1:C:862:TYR:OH	1:C:1237:ASN:O	2.30	0.48
1:C:929:VAL:HB	1:C:936:MET:HB2	1.95	0.48
1:C:1026:GLU:HG3	1:C:1041:ARG:HG2	1.95	0.48
1:C:1198:TYR:HA	1:C:1215:THR:HB	1.96	0.48
1:D:1198:TYR:HA	1:D:1215:THR:HB	1.96	0.48
1:G:331:LEU:HD13	1:G:338:TRP:CH2	2.48	0.48
1:G:885:VAL:HG12	1:G:887:GLY:N	2.28	0.48
2:N:40:THR:HG22	2:N:59:TRP:CE2	2.48	0.48
1:B:1020:SER:HB2	1:B:1028:GLN:HE21	1.77	0.48
1:C:298:PHE:HD2	1:C:328:GLY:HA3	1.77	0.48
1:D:298:PHE:HD2	1:D:328:GLY:HA3	1.77	0.48
1:F:196:LEU:HG	1:F:200:GLN:HE22	1.78	0.48
1:A:113:VAL:HG11	1:A:174:LEU:HD21	1.95	0.48
1:A:1203:ASN:OD1	1:A:1204:VAL:N	2.46	0.48
1:B:113:VAL:HG11	1:B:174:LEU:HD21	1.95	0.48
1:B:752:SER:HB2	1:B:753:PRO:HD2	1.95	0.48
1:D:331:LEU:HD13	1:D:338:TRP:CH2	2.48	0.48
1:D:752:SER:HB2	1:D:753:PRO:HD2	1.95	0.48
1:E:1198:TYR:HA	1:E:1215:THR:HB	1.96	0.48
1:F:1203:ASN:OD1	1:F:1204:VAL:N	2.46	0.48
1:C:170:ASP:OD2	1:C:172:SER:OG	2.32	0.48
1:D:326:LEU:HA	1:D:326:LEU:HD23	1.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:497:HIS:HA	1:E:500:LEU:HB3	1.96	0.48
1:F:113:VAL:HG11	1:F:174:LEU:HD21	1.95	0.48
1:F:497:HIS:HA	1:F:500:LEU:HB3	1.96	0.48
1:F:1020:SER:HB2	1:F:1028:GLN:HE21	1.77	0.48
1:G:541:SER:O	1:G:545:GLN:HG3	2.14	0.48
1:G:929:VAL:HB	1:G:936:MET:HB2	1.95	0.48
1:A:1198:TYR:HA	1:A:1215:THR:HB	1.96	0.48
1:B:497:HIS:HA	1:B:500:LEU:HB3	1.95	0.48
1:B:882:LEU:HD12	1:B:1176:HIS:NE2	2.25	0.48
1:B:1026:GLU:HG3	1:B:1041:ARG:HG2	1.95	0.48
1:C:158:CYS:SG	1:C:159:GLY:N	2.87	0.48
1:D:14:GLU:OE1	1:E:31:SER:CB	2.62	0.48
1:D:929:VAL:HB	1:D:936:MET:HB2	1.95	0.48
1:E:118:GLY:O	1:E:184:TRP:HB2	2.13	0.48
1:E:170:ASP:OD2	1:E:172:SER:OG	2.32	0.48
1:G:113:VAL:HG11	1:G:174:LEU:HD21	1.95	0.48
1:G:196:LEU:HG	1:G:200:GLN:HE22	1.78	0.48
1:G:568:LEU:HD13	1:G:595:LEU:O	2.13	0.48
1:G:762:SER:OG	1:G:764:ASP:OD1	2.26	0.48
1:A:330:LEU:HD13	1:A:341:TYR:OH	2.14	0.48
1:B:196:LEU:HG	1:B:200:GLN:HE22	1.78	0.48
1:C:541:SER:O	1:C:545:GLN:HG3	2.14	0.48
1:C:568:LEU:HD13	1:C:595:LEU:O	2.13	0.48
1:C:590:ASN:C	1:C:592:MET:N	2.64	0.48
1:D:541:SER:O	1:D:545:GLN:HG3	2.14	0.48
1:D:550:LEU:HD23	1:D:607:SER:HB2	1.91	0.48
1:E:158:CYS:SG	1:E:159:GLY:N	2.87	0.48
1:E:196:LEU:HG	1:E:200:GLN:HE22	1.78	0.48
1:E:929:VAL:HB	1:E:936:MET:HB2	1.95	0.48
1:F:158:CYS:SG	1:F:159:GLY:N	2.87	0.48
1:F:550:LEU:HD23	1:F:607:SER:HB2	1.91	0.48
1:F:568:LEU:HD13	1:F:595:LEU:O	2.13	0.48
1:B:569:CYS:HB3	1:B:600:LYS:HZ3	1.79	0.47
1:D:330:LEU:HD13	1:D:341:TYR:OH	2.14	0.47
1:E:752:SER:HB2	1:E:753:PRO:HD2	1.95	0.47
1:G:365:ASP:OD1	1:G:444:PHE:HE1	1.95	0.47
1:A:344:GLN:OE1	1:A:349:GLN:NE2	2.44	0.47
1:A:752:SER:HB2	1:A:753:PRO:HD2	1.95	0.47
1:B:568:LEU:HD13	1:B:595:LEU:O	2.13	0.47
1:C:330:LEU:HD13	1:C:341:TYR:OH	2.14	0.47
1:C:600:LYS:HZ1	1:C:1213:PHE:HZ	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:348:LYS:NZ	1:A:443:ASP:OD1	2.45	0.47
1:A:541:SER:O	1:A:545:GLN:HG3	2.14	0.47
1:A:1020:SER:HB2	1:A:1028:GLN:HE21	1.77	0.47
1:C:497:HIS:HA	1:C:500:LEU:HB3	1.96	0.47
1:C:1203:ASN:OD1	1:C:1204:VAL:N	2.46	0.47
1:D:344:GLN:OE1	1:D:349:GLN:NE2	2.44	0.47
1:F:330:LEU:HD13	1:F:341:TYR:OH	2.14	0.47
1:F:844:GLN:HE22	2:M:79:LYS:HZ2	1.61	0.47
1:F:1198:TYR:HA	1:F:1215:THR:HB	1.96	0.47
1:A:109:TYR:CE1	1:G:4:LYS:CD	2.58	0.47
1:B:821:ILE:HB	1:B:835:ILE:HB	1.97	0.47
1:C:344:GLN:OE1	1:C:349:GLN:NE2	2.44	0.47
1:D:196:LEU:HG	1:D:200:GLN:HE22	1.78	0.47
1:E:1131:ARG:H	1:E:1146:ASP:HA	1.80	0.47
1:G:158:CYS:SG	1:G:159:GLY:N	2.87	0.47
1:A:106:ILE:HA	1:A:110:VAL:HG21	1.97	0.47
1:B:170:ASP:OD2	1:B:172:SER:OG	2.32	0.47
1:C:752:SER:HB2	1:C:753:PRO:HD2	1.95	0.47
1:C:821:ILE:HB	1:C:835:ILE:HB	1.97	0.47
1:E:330:LEU:HD13	1:E:341:TYR:OH	2.14	0.47
1:F:541:SER:O	1:F:545:GLN:HG3	2.14	0.47
1:B:230:LEU:O	1:B:234:LYS:N	2.41	0.47
1:C:1131:ARG:H	1:C:1146:ASP:HA	1.80	0.47
1:D:14:GLU:HB2	1:E:31:SER:HG	1.80	0.47
1:E:160:LYS:HB3	4:E:1301:DTP:O1B	2.15	0.47
1:G:600:LYS:HZ1	1:G:1213:PHE:HZ	1.63	0.47
2:K:39:LYS:HB2	2:K:42:GLN:HG3	1.97	0.47
2:L:39:LYS:HB2	2:L:42:GLN:HG3	1.97	0.47
1:A:230:LEU:O	1:A:234:LYS:N	2.41	0.47
1:A:337:ARG:NH1	1:B:409:GLU:OE2	2.48	0.47
1:A:497:HIS:HA	1:A:500:LEU:HB3	1.96	0.47
1:A:550:LEU:HD23	1:A:607:SER:HB2	1.91	0.47
1:A:600:LYS:HZ1	1:A:1213:PHE:HZ	1.63	0.47
1:B:158:CYS:SG	1:B:159:GLY:N	2.87	0.47
1:B:330:LEU:HD13	1:B:341:TYR:OH	2.14	0.47
1:B:1221:LYS:HE3	1:B:1222:LYS:HE3	1.97	0.47
1:D:497:HIS:HA	1:D:500:LEU:HB3	1.96	0.47
1:D:821:ILE:HB	1:D:835:ILE:HB	1.97	0.47
1:D:1131:ARG:H	1:D:1146:ASP:HA	1.80	0.47
1:E:344:GLN:OE1	1:E:349:GLN:NE2	2.44	0.47
1:E:541:SER:O	1:E:545:GLN:HG3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:106:ILE:HA	1:F:110:VAL:HG21	1.97	0.47
1:F:160:LYS:HB3	4:F:1301:DTP:O1B	2.15	0.47
1:F:1131:ARG:H	1:F:1146:ASP:HA	1.80	0.47
1:G:106:ILE:HA	1:G:110:VAL:HG21	1.97	0.47
1:G:497:HIS:HA	1:G:500:LEU:HB3	1.96	0.47
1:G:1198:TYR:HA	1:G:1215:THR:HB	1.96	0.47
2:I:39:LYS:HB2	2:I:42:GLN:HG3	1.97	0.47
1:A:158:CYS:SG	1:A:159:GLY:N	2.87	0.47
1:A:170:ASP:OD2	1:A:172:SER:OG	2.32	0.47
1:A:1221:LYS:HE3	1:A:1222:LYS:HE3	1.97	0.47
1:B:337:ARG:NH1	1:C:409:GLU:OE2	2.48	0.47
1:B:541:SER:O	1:B:545:GLN:HG3	2.14	0.47
1:C:196:LEU:HG	1:C:200:GLN:HE22	1.78	0.47
1:D:158:CYS:SG	1:D:159:GLY:N	2.87	0.47
1:G:170:ASP:OD2	1:G:172:SER:OG	2.32	0.47
1:A:821:ILE:HB	1:A:835:ILE:HB	1.97	0.47
1:B:106:ILE:HA	1:B:110:VAL:HG21	1.97	0.47
1:B:1222:LYS:HB3	1:B:1224:HIS:CE1	2.50	0.47
1:D:170:ASP:OD2	1:D:172:SER:OG	2.32	0.47
1:D:230:LEU:O	1:D:234:LYS:N	2.41	0.47
1:E:266:ASP:CG	1:E:268:SER:HG	2.18	0.47
1:F:929:VAL:HB	1:F:936:MET:HB2	1.95	0.47
1:A:1131:ARG:H	1:A:1146:ASP:HA	1.80	0.47
1:A:1222:LYS:HB3	1:A:1224:HIS:CE1	2.50	0.47
1:B:570:GLU:HB2	1:B:577:TYR:HB2	1.97	0.47
1:C:1222:LYS:HB3	1:C:1224:HIS:CE1	2.50	0.47
1:D:337:ARG:NH1	1:E:409:GLU:OE2	2.48	0.47
1:D:1222:LYS:HB3	1:D:1224:HIS:CE1	2.50	0.47
1:E:1222:LYS:HB3	1:E:1224:HIS:CE1	2.50	0.47
2:J:39:LYS:HB2	2:J:42:GLN:HG3	1.97	0.47
1:A:570:GLU:HB2	1:A:577:TYR:HB2	1.97	0.46
1:C:230:LEU:O	1:C:234:LYS:N	2.41	0.46
1:C:612:ARG:HG3	1:C:904:GLN:O	2.16	0.46
1:C:1221:LYS:HE3	1:C:1222:LYS:HE3	1.97	0.46
1:D:160:LYS:HB3	4:D:1301:DTP:O1B	2.15	0.46
1:E:152:ILE:HG22	1:E:280:VAL:HB	1.97	0.46
1:G:330:LEU:HD13	1:G:341:TYR:OH	2.14	0.46
2:H:39:LYS:HB2	2:H:42:GLN:HG3	1.97	0.46
1:B:160:LYS:HB3	4:B:1301:DTP:O1B	2.15	0.46
1:C:337:ARG:NH1	1:D:409:GLU:OE2	2.49	0.46
1:E:524:HIS:CB	1:E:646:THR:HG21	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:612:ARG:HG3	1:E:904:GLN:O	2.16	0.46
1:E:1221:LYS:HE3	1:E:1222:LYS:HE3	1.97	0.46
1:G:1222:LYS:HB3	1:G:1224:HIS:CE1	2.50	0.46
2:I:70:ASN:HD22	2:I:73:LYS:HB2	1.81	0.46
2:M:39:LYS:HB2	2:M:42:GLN:HG3	1.97	0.46
1:A:160:LYS:HB3	4:A:1301:DTP:O1B	2.15	0.46
1:B:862:TYR:HB3	1:B:884:TRP:N	2.31	0.46
1:E:106:ILE:HA	1:E:110:VAL:HG21	1.97	0.46
1:E:862:TYR:HB3	1:E:884:TRP:N	2.31	0.46
1:F:152:ILE:HG22	1:F:280:VAL:HB	1.97	0.46
1:G:1131:ARG:H	1:G:1146:ASP:HA	1.80	0.46
2:L:70:ASN:HD22	2:L:73:LYS:HB2	1.81	0.46
1:A:472:THR:O	1:A:473:LEU:HD12	2.16	0.46
1:A:888:VAL:HG12	1:A:899:THR:HA	1.98	0.46
1:C:524:HIS:CB	1:C:646:THR:HG21	2.36	0.46
1:D:152:ILE:HG22	1:D:280:VAL:HB	1.97	0.46
1:D:862:TYR:HB3	1:D:884:TRP:N	2.31	0.46
1:E:337:ARG:NH1	1:F:409:GLU:OE2	2.48	0.46
1:E:472:THR:O	1:E:473:LEU:HD12	2.16	0.46
1:E:821:ILE:HB	1:E:835:ILE:HB	1.97	0.46
1:G:160:LYS:HB3	4:G:1301:DTP:O1B	2.15	0.46
1:C:950:ASN:OD1	1:C:951:GLY:N	2.49	0.46
1:D:265:ARG:HH11	1:D:371:SER:HG	1.57	0.46
1:D:950:ASN:OD1	1:D:951:GLY:N	2.49	0.46
1:G:821:ILE:HB	1:G:835:ILE:HB	1.97	0.46
1:G:888:VAL:HG12	1:G:899:THR:HA	1.98	0.46
2:H:10:PHE:HA	2:H:14:CYS:HB2	1.98	0.46
1:C:570:GLU:HB2	1:C:577:TYR:HB2	1.97	0.46
1:C:862:TYR:HB3	1:C:884:TRP:N	2.31	0.46
1:F:170:ASP:OD2	1:F:172:SER:OG	2.32	0.46
1:F:1221:LYS:HE3	1:F:1222:LYS:HE3	1.97	0.46
1:G:152:ILE:HG22	1:G:280:VAL:HB	1.97	0.46
1:G:1011:PHE:HE1	1:G:1018:LEU:HD13	1.81	0.46
2:N:39:LYS:HB2	2:N:42:GLN:HG3	1.97	0.46
1:A:643:LYS:HD3	1:A:646:THR:HG22	1.98	0.46
1:A:1011:PHE:HE1	1:A:1018:LEU:HD13	1.81	0.46
1:B:888:VAL:HG12	1:B:899:THR:HA	1.98	0.46
1:B:950:ASN:OD1	1:B:951:GLY:N	2.49	0.46
1:D:1011:PHE:HE1	1:D:1018:LEU:HD13	1.81	0.46
1:G:1191:MET:SD	1:G:1209:SER:OG	2.63	0.46
1:B:472:THR:O	1:B:473:LEU:HD12	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:643:LYS:HD3	1:B:646:THR:HG22	1.98	0.46
1:D:106:ILE:HA	1:D:110:VAL:HG21	1.97	0.46
1:E:950:ASN:OD1	1:E:951:GLY:N	2.49	0.46
1:F:570:GLU:HB2	1:F:577:TYR:HB2	1.97	0.46
1:F:821:ILE:HB	1:F:835:ILE:HB	1.97	0.46
1:F:1222:LYS:HB3	1:F:1224:HIS:CE1	2.50	0.46
1:G:570:GLU:HB2	1:G:577:TYR:HB2	1.97	0.46
1:G:862:TYR:HB3	1:G:884:TRP:N	2.31	0.46
2:M:10:PHE:HA	2:M:14:CYS:HB2	1.98	0.46
2:M:70:ASN:HD22	2:M:73:LYS:HB2	1.81	0.46
2:N:10:PHE:HA	2:N:14:CYS:HB2	1.98	0.46
3:R:90:ARG:NH2	3:R:90:ARG:HG2	2.31	0.46
1:A:612:ARG:HG3	1:A:904:GLN:O	2.16	0.46
1:B:152:ILE:HG22	1:B:280:VAL:HB	1.97	0.46
1:F:950:ASN:OD1	1:F:951:GLY:N	2.49	0.46
1:F:1215:THR:HG21	1:F:1220:LEU:HD21	1.98	0.46
1:G:1215:THR:HG21	1:G:1220:LEU:HD21	1.98	0.46
2:H:70:ASN:HD22	2:H:73:LYS:HB2	1.81	0.46
1:A:950:ASN:OD1	1:A:951:GLY:N	2.49	0.45
1:A:1215:THR:HG21	1:A:1220:LEU:HD21	1.98	0.45
1:B:1215:THR:HG21	1:B:1220:LEU:HD21	1.99	0.45
1:C:160:LYS:HB3	4:C:1301:DTP:O1B	2.15	0.45
1:C:472:THR:O	1:C:473:LEU:HD12	2.16	0.45
1:C:1215:THR:HG21	1:C:1220:LEU:HD21	1.98	0.45
1:D:1221:LYS:HE3	1:D:1222:LYS:HE3	1.97	0.45
1:E:550:LEU:HD23	1:E:607:SER:HB2	1.91	0.45
1:E:1011:PHE:HE1	1:E:1018:LEU:HD13	1.81	0.45
1:F:862:TYR:HB3	1:F:884:TRP:N	2.31	0.45
1:G:472:THR:O	1:G:473:LEU:HD12	2.16	0.45
1:C:106:ILE:HA	1:C:110:VAL:HG21	1.97	0.45
1:C:844:GLN:HE22	2:J:79:LYS:HZ2	1.62	0.45
1:C:1011:PHE:HE1	1:C:1018:LEU:HD13	1.81	0.45
1:D:472:THR:O	1:D:473:LEU:HD12	2.16	0.45
1:D:570:GLU:HB2	1:D:577:TYR:HB2	1.97	0.45
1:G:1221:LYS:HE3	1:G:1222:LYS:HE3	1.97	0.45
2:J:68:LEU:HB3	2:J:85:ILE:HD12	1.98	0.45
2:K:68:LEU:HB3	2:K:85:ILE:HD12	1.98	0.45
3:O:90:ARG:NH2	3:O:90:ARG:HG2	2.31	0.45
3:Q:90:ARG:NH2	3:Q:90:ARG:HG2	2.31	0.45
1:A:298:PHE:CD2	1:A:328:GLY:HA3	2.52	0.45
1:A:461:ILE:HD11	1:A:491:MET:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:48:THR:CG2	1:D:45:ASN:OD1	2.64	0.45
1:C:152:ILE:HG22	1:C:280:VAL:HB	1.97	0.45
1:F:1011:PHE:HE1	1:F:1018:LEU:HD13	1.81	0.45
2:I:10:PHE:HA	2:I:14:CYS:HB2	1.98	0.45
1:A:862:TYR:HB3	1:A:884:TRP:N	2.31	0.45
1:D:1215:THR:HG21	1:D:1220:LEU:HD21	1.98	0.45
1:E:1215:THR:HG21	1:E:1220:LEU:HD21	1.99	0.45
1:F:612:ARG:HG3	1:F:904:GLN:O	2.16	0.45
1:G:612:ARG:HG3	1:G:904:GLN:O	2.16	0.45
2:H:68:LEU:HB3	2:H:85:ILE:HD12	1.98	0.45
1:A:1150:GLU:HB2	1:A:1167:PRO:HG2	1.99	0.45
1:B:461:ILE:HD11	1:B:491:MET:HA	1.99	0.45
1:E:334:PHE:HE1	1:F:416:GLN:HE21	1.63	0.45
1:E:570:GLU:HB2	1:E:577:TYR:HB2	1.97	0.45
1:F:472:THR:O	1:F:473:LEU:HD12	2.16	0.45
1:F:1150:GLU:HB2	1:F:1167:PRO:HG2	1.99	0.45
1:G:950:ASN:OD1	1:G:951:GLY:N	2.49	0.45
1:G:1150:GLU:HB2	1:G:1167:PRO:HG2	1.99	0.45
2:J:70:ASN:HD22	2:J:73:LYS:HB2	1.81	0.45
2:L:10:PHE:HA	2:L:14:CYS:HB2	1.98	0.45
1:A:152:ILE:HG22	1:A:280:VAL:HB	1.97	0.45
1:B:1131:ARG:H	1:B:1146:ASP:HA	1.80	0.45
1:B:1150:GLU:HB2	1:B:1167:PRO:HG2	1.99	0.45
1:C:643:LYS:HD3	1:C:646:THR:HG22	1.98	0.45
1:C:1191:MET:SD	1:C:1209:SER:OG	2.63	0.45
1:D:612:ARG:HG3	1:D:904:GLN:O	2.16	0.45
1:F:461:ILE:HD11	1:F:491:MET:HA	1.99	0.45
1:G:461:ILE:HD11	1:G:491:MET:HA	1.99	0.45
1:B:298:PHE:CD2	1:B:328:GLY:HA3	2.52	0.45
1:B:612:ARG:HG3	1:B:904:GLN:O	2.16	0.45
1:B:821:ILE:HD11	1:B:857:VAL:HG21	1.99	0.45
1:C:888:VAL:HG12	1:C:899:THR:HA	1.98	0.45
1:E:821:ILE:HD11	1:E:857:VAL:HG21	1.99	0.45
1:F:888:VAL:HG12	1:F:899:THR:HA	1.98	0.45
2:K:10:PHE:HA	2:K:14:CYS:HB2	1.98	0.45
1:C:216:LEU:HA	1:C:217:PRO:HD2	1.84	0.45
1:C:821:ILE:HD11	1:C:857:VAL:HG21	1.99	0.45
1:D:868:ASN:OD1	1:D:869:THR:N	2.50	0.45
1:F:326:LEU:HD23	1:F:326:LEU:HA	1.44	0.45
1:F:821:ILE:HD11	1:F:857:VAL:HG21	1.99	0.45
1:A:868:ASN:OD1	1:A:869:THR:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:868:ASN:OD1	1:B:869:THR:N	2.50	0.45
1:E:326:LEU:HD23	1:E:326:LEU:HA	1.44	0.45
1:E:1150:GLU:HB2	1:E:1167:PRO:HG2	1.99	0.45
1:F:868:ASN:OD1	1:F:869:THR:N	2.50	0.45
1:G:298:PHE:CD2	1:G:328:GLY:HA3	2.52	0.45
2:J:10:PHE:HA	2:J:14:CYS:HB2	1.98	0.45
2:K:70:ASN:HD22	2:K:73:LYS:HB2	1.81	0.45
2:N:68:LEU:HB3	2:N:85:ILE:HD12	1.98	0.45
3:P:90:ARG:NH2	3:P:90:ARG:HG2	2.31	0.45
1:A:409:GLU:OE2	1:G:337:ARG:NH1	2.49	0.45
1:A:480:CYS:SG	1:A:481:MET:N	2.90	0.45
1:B:1011:PHE:HE1	1:B:1018:LEU:HD13	1.81	0.45
1:C:1150:GLU:HB2	1:C:1167:PRO:HG2	1.99	0.45
1:E:390:GLN:HB2	1:E:393:VAL:HG21	1.99	0.45
1:E:461:ILE:HD11	1:E:491:MET:HA	1.99	0.45
1:F:762:SER:OG	1:F:764:ASP:OD1	2.26	0.45
1:G:643:LYS:HD3	1:G:646:THR:HG22	1.98	0.45
1:G:868:ASN:OD1	1:G:869:THR:N	2.50	0.45
2:N:70:ASN:HD22	2:N:73:LYS:HB2	1.81	0.45
1:B:600:LYS:HA	1:B:603:ILE:HG13	2.00	0.44
1:D:821:ILE:HD11	1:D:857:VAL:HG21	1.99	0.44
1:E:643:LYS:HD3	1:E:646:THR:HG22	1.98	0.44
2:I:72:LYS:NZ	2:I:78:THR:O	2.51	0.44
3:Q:41:GLU:HA	3:Q:44:GLN:HE21	1.83	0.44
1:A:821:ILE:HD11	1:A:857:VAL:HG21	1.99	0.44
1:C:868:ASN:OD1	1:C:869:THR:N	2.50	0.44
1:D:357:SER:OG	1:D:358:SER:N	2.50	0.44
1:D:888:VAL:HG12	1:D:899:THR:HA	1.98	0.44
1:D:1150:GLU:HB2	1:D:1167:PRO:HG2	1.99	0.44
1:E:480:CYS:SG	1:E:481:MET:N	2.90	0.44
1:F:230:LEU:O	1:F:234:LYS:N	2.41	0.44
1:F:643:LYS:HD3	1:F:646:THR:HG22	1.98	0.44
1:G:266:ASP:CG	1:G:268:SER:HG	2.19	0.44
1:G:1087:THR:N	2:N:39:LYS:HZ3	2.15	0.44
2:L:68:LEU:HB3	2:L:85:ILE:HD12	1.98	0.44
3:O:45:ARG:O	3:O:45:ARG:HG2	2.17	0.44
1:A:569:CYS:HB3	1:A:600:LYS:HZ3	1.82	0.44
1:B:357:SER:OG	1:B:358:SER:N	2.50	0.44
1:B:480:CYS:SG	1:B:481:MET:N	2.90	0.44
1:C:480:CYS:SG	1:C:481:MET:N	2.90	0.44
1:C:600:LYS:HA	1:C:603:ILE:HG13	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:298:PHE:CD2	1:D:328:GLY:HA3	2.52	0.44
1:D:643:LYS:HD3	1:D:646:THR:HG22	1.98	0.44
1:E:888:VAL:HG12	1:E:899:THR:HA	1.98	0.44
1:G:346:GLN:C	1:G:348:LYS:N	2.71	0.44
2:L:67:TYR:OH	2:L:80:MET:SD	2.57	0.44
2:M:68:LEU:HB3	2:M:85:ILE:HD12	1.98	0.44
2:M:72:LYS:NZ	2:M:78:THR:O	2.51	0.44
1:A:600:LYS:HA	1:A:603:ILE:HG13	2.00	0.44
1:C:461:ILE:HD11	1:C:491:MET:HA	1.99	0.44
1:D:342:LEU:O	1:D:346:GLN:CG	2.66	0.44
1:D:480:CYS:SG	1:D:481:MET:N	2.90	0.44
1:E:530:ARG:NH1	1:E:545:GLN:OE1	2.51	0.44
1:E:1191:MET:SD	1:E:1209:SER:OG	2.63	0.44
1:F:342:LEU:O	1:F:346:GLN:CG	2.66	0.44
2:J:72:LYS:NZ	2:J:78:THR:O	2.51	0.44
3:R:10:ARG:HG2	3:R:10:ARG:H	1.60	0.44
1:A:357:SER:OG	1:A:358:SER:N	2.50	0.44
1:C:342:LEU:O	1:C:346:GLN:CG	2.66	0.44
1:D:390:GLN:HB2	1:D:393:VAL:HG21	1.99	0.44
1:E:357:SER:OG	1:E:358:SER:N	2.50	0.44
1:F:390:GLN:HB2	1:F:393:VAL:HG21	1.99	0.44
1:F:600:LYS:HA	1:F:603:ILE:HG13	2.00	0.44
1:G:342:LEU:O	1:G:346:GLN:CG	2.66	0.44
1:G:600:LYS:HA	1:G:603:ILE:HG13	2.00	0.44
1:G:695:TYR:HE1	1:G:733:LYS:HD2	1.83	0.44
1:G:821:ILE:HD11	1:G:857:VAL:HG21	1.99	0.44
2:I:68:LEU:HB3	2:I:85:ILE:HD12	1.98	0.44
2:J:3:VAL:O	2:J:97:TYR:HB2	2.18	0.44
2:N:3:VAL:O	2:N:97:TYR:HB2	2.18	0.44
1:B:390:GLN:HB2	1:B:393:VAL:HG21	1.99	0.44
1:B:550:LEU:HD23	1:B:607:SER:HB2	1.91	0.44
1:C:695:TYR:HE1	1:C:733:LYS:HD2	1.82	0.44
1:E:600:LYS:HA	1:E:603:ILE:HG13	2.00	0.44
1:E:868:ASN:OD1	1:E:869:THR:N	2.50	0.44
1:G:230:LEU:O	1:G:234:LYS:N	2.41	0.44
1:G:530:ARG:NH1	1:G:545:GLN:OE1	2.51	0.44
1:G:795:GLU:HG3	1:G:795:GLU:O	2.18	0.44
1:A:530:ARG:NH1	1:A:545:GLN:OE1	2.51	0.44
1:B:695:TYR:HE1	1:B:733:LYS:HD2	1.83	0.44
1:C:298:PHE:CD2	1:C:328:GLY:HA3	2.52	0.44
1:C:795:GLU:HG3	1:C:795:GLU:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1135:PHE:CE1	1:C:1142:LEU:HD13	2.53	0.44
1:D:461:ILE:HD11	1:D:491:MET:HA	1.99	0.44
1:D:600:LYS:HA	1:D:603:ILE:HG13	2.00	0.44
1:D:685:ASN:HB3	1:D:688:THR:HB	1.99	0.44
1:F:298:PHE:CD2	1:F:328:GLY:HA3	2.52	0.44
1:G:344:GLN:OE1	1:G:349:GLN:NE2	2.44	0.44
1:G:390:GLN:HB2	1:G:393:VAL:HG21	1.99	0.44
2:K:3:VAL:O	2:K:97:TYR:HB2	2.18	0.44
2:L:3:VAL:O	2:L:97:TYR:HB2	2.18	0.44
2:M:70:ASN:ND2	2:M:73:LYS:HB2	2.33	0.44
1:A:342:LEU:O	1:A:346:GLN:CG	2.66	0.44
1:A:346:GLN:C	1:A:348:LYS:N	2.71	0.44
1:A:685:ASN:HB3	1:A:688:THR:HB	1.99	0.44
1:B:346:GLN:C	1:B:348:LYS:N	2.71	0.44
1:B:391:LYS:H	1:B:391:LYS:HG2	1.62	0.44
1:B:600:LYS:HZ1	1:B:1213:PHE:HZ	1.65	0.44
1:B:1135:PHE:CE1	1:B:1142:LEU:HD13	2.53	0.44
1:C:357:SER:OG	1:C:358:SER:N	2.50	0.44
1:D:524:HIS:N	1:D:646:THR:OG1	2.51	0.44
2:K:72:LYS:NZ	2:K:78:THR:O	2.51	0.44
2:N:70:ASN:ND2	2:N:73:LYS:HB2	2.33	0.44
1:A:695:TYR:OH	1:A:732:GLN:O	2.31	0.44
1:B:685:ASN:HB3	1:B:688:THR:HB	1.99	0.44
1:C:346:GLN:C	1:C:348:LYS:N	2.71	0.44
1:C:530:ARG:NH1	1:C:545:GLN:OE1	2.51	0.44
1:C:847:ASP:OD1	1:C:848:PHE:N	2.51	0.44
1:D:530:ARG:NH1	1:D:545:GLN:OE1	2.51	0.44
1:D:695:TYR:HE1	1:D:733:LYS:HD2	1.83	0.44
1:D:847:ASP:OD1	1:D:848:PHE:N	2.51	0.44
1:E:685:ASN:HB3	1:E:688:THR:HB	2.00	0.44
1:G:480:CYS:SG	1:G:481:MET:N	2.90	0.44
2:H:72:LYS:NZ	2:H:78:THR:O	2.51	0.44
3:O:41:GLU:HA	3:O:44:GLN:HE21	1.83	0.44
1:A:795:GLU:HG3	1:A:795:GLU:O	2.18	0.43
1:B:326:LEU:HD23	1:B:326:LEU:HA	1.44	0.43
1:B:524:HIS:N	1:B:646:THR:OG1	2.51	0.43
1:C:390:GLN:HB2	1:C:393:VAL:HG21	1.99	0.43
1:E:342:LEU:O	1:E:346:GLN:CG	2.66	0.43
1:E:695:TYR:HE1	1:E:733:LYS:HD2	1.83	0.43
1:E:795:GLU:HG3	1:E:795:GLU:O	2.18	0.43
1:F:524:HIS:N	1:F:646:THR:OG1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:795:GLU:HG3	1:F:795:GLU:O	2.18	0.43
1:G:685:ASN:HB3	1:G:688:THR:HB	1.99	0.43
2:L:18:HIS:CE1	2:L:29:GLY:HA3	2.53	0.43
2:L:72:LYS:NZ	2:L:78:THR:O	2.51	0.43
2:N:18:HIS:CE1	2:N:29:GLY:HA3	2.53	0.43
1:B:224:LYS:HE3	1:B:255:ASP:O	2.18	0.43
1:B:342:LEU:O	1:B:346:GLN:CG	2.66	0.43
1:B:530:ARG:NH1	1:B:545:GLN:OE1	2.51	0.43
1:B:795:GLU:HG3	1:B:795:GLU:O	2.18	0.43
1:C:334:PHE:HD2	1:C:337:ARG:HH11	1.66	0.43
1:E:298:PHE:CD2	1:E:328:GLY:HA3	2.52	0.43
1:E:891:SER:OG	1:E:896:SER:O	2.34	0.43
1:F:480:CYS:SG	1:F:481:MET:N	2.90	0.43
1:F:884:TRP:HH2	2:M:78:THR:C	2.22	0.43
1:G:224:LYS:HE3	1:G:255:ASP:O	2.18	0.43
1:G:357:SER:OG	1:G:358:SER:N	2.50	0.43
1:G:524:HIS:N	1:G:646:THR:OG1	2.51	0.43
2:H:18:HIS:CE1	2:H:29:GLY:HA3	2.53	0.43
2:J:70:ASN:ND2	2:J:73:LYS:HB2	2.33	0.43
1:A:524:HIS:N	1:A:646:THR:OG1	2.51	0.43
1:A:695:TYR:HE1	1:A:733:LYS:HD2	1.83	0.43
1:A:847:ASP:OD1	1:A:848:PHE:N	2.51	0.43
1:A:1135:PHE:CE1	1:A:1142:LEU:HD13	2.53	0.43
1:B:428:ARG:HG2	1:B:433:PHE:CE1	2.54	0.43
1:E:524:HIS:N	1:E:646:THR:OG1	2.51	0.43
1:F:357:SER:OG	1:F:358:SER:N	2.50	0.43
1:G:268:SER:O	1:G:271:ASP:N	2.51	0.43
1:G:844:GLN:HE22	2:N:79:LYS:HZ2	1.63	0.43
1:G:884:TRP:HH2	2:N:78:THR:C	2.22	0.43
2:N:72:LYS:NZ	2:N:78:THR:O	2.51	0.43
3:R:41:GLU:HA	3:R:44:GLN:HE21	1.83	0.43
1:A:386:LEU:O	1:A:386:LEU:HD23	2.19	0.43
1:A:390:GLN:HB2	1:A:393:VAL:HG21	1.99	0.43
1:A:965:SER:H	1:A:980:ASP:HA	1.84	0.43
1:B:937:VAL:HB	1:B:949:ILE:HB	2.00	0.43
1:C:685:ASN:HB3	1:C:688:THR:HB	2.00	0.43
1:C:937:VAL:HB	1:C:949:ILE:HB	2.00	0.43
1:C:965:SER:H	1:C:980:ASP:HA	1.84	0.43
1:D:582:LEU:O	1:D:586:GLN:HG3	2.19	0.43
1:F:530:ARG:NH1	1:F:545:GLN:OE1	2.51	0.43
1:G:386:LEU:O	1:G:386:LEU:HD23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:569:CYS:HB3	1:G:600:LYS:HZ3	1.83	0.43
2:H:70:ASN:ND2	2:H:73:LYS:HB2	2.33	0.43
2:M:26:HIS:O	2:M:27:LYS:HD2	2.19	0.43
1:A:224:LYS:HE3	1:A:255:ASP:O	2.18	0.43
1:B:334:PHE:HD2	1:B:337:ARG:HH11	1.66	0.43
1:B:582:LEU:O	1:B:586:GLN:HG3	2.19	0.43
1:E:762:SER:OG	1:E:764:ASP:OD1	2.26	0.43
1:E:1135:PHE:CE1	1:E:1142:LEU:HD13	2.53	0.43
1:F:965:SER:H	1:F:980:ASP:HA	1.84	0.43
1:G:1218:THR:H	1:G:1237:ASN:ND2	2.17	0.43
2:J:18:HIS:CE1	2:J:29:GLY:HA3	2.53	0.43
2:N:26:HIS:O	2:N:27:LYS:HD2	2.19	0.43
1:A:266:ASP:CG	1:A:268:SER:H	2.20	0.43
1:A:346:GLN:O	1:A:348:LYS:N	2.52	0.43
1:A:884:TRP:HH2	2:H:78:THR:C	2.22	0.43
1:C:428:ARG:HG2	1:C:433:PHE:CE1	2.54	0.43
1:C:524:HIS:N	1:C:646:THR:OG1	2.51	0.43
1:C:884:TRP:HH2	2:J:78:THR:O	2.02	0.43
1:D:224:LYS:HE3	1:D:255:ASP:O	2.18	0.43
1:D:386:LEU:O	1:D:386:LEU:HD23	2.19	0.43
1:D:937:VAL:HB	1:D:949:ILE:HB	2.00	0.43
1:E:224:LYS:HE3	1:E:255:ASP:O	2.18	0.43
1:E:346:GLN:C	1:E:348:LYS:N	2.71	0.43
1:E:428:ARG:HG2	1:E:433:PHE:CE1	2.54	0.43
1:E:884:TRP:HH2	2:L:78:THR:C	2.22	0.43
1:E:1166:ALA:HA	1:E:1167:PRO:HD2	1.93	0.43
1:F:346:GLN:C	1:F:348:LYS:N	2.71	0.43
2:I:26:HIS:O	2:I:27:LYS:HD2	2.19	0.43
2:J:26:HIS:O	2:J:27:LYS:HD2	2.19	0.43
2:M:18:HIS:CE1	2:M:29:GLY:HA3	2.53	0.43
2:N:82:PHE:HE2	2:N:85:ILE:HG13	1.84	0.43
1:A:379:ILE:O	1:A:382:TYR:N	2.52	0.43
1:B:346:GLN:O	1:B:348:LYS:N	2.52	0.43
1:B:386:LEU:O	1:B:386:LEU:HD23	2.19	0.43
1:D:965:SER:H	1:D:980:ASP:HA	1.84	0.43
1:E:268:SER:O	1:E:271:ASP:N	2.51	0.43
1:E:1100:PHE:HB3	1:E:1111:ILE:HD11	2.00	0.43
1:F:224:LYS:HE3	1:F:255:ASP:O	2.18	0.43
1:F:386:LEU:HD23	1:F:386:LEU:O	2.19	0.43
1:F:685:ASN:HB3	1:F:688:THR:HB	1.99	0.43
1:F:695:TYR:HE1	1:F:733:LYS:HD2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:847:ASP:OD1	1:F:848:PHE:N	2.51	0.43
1:G:266:ASP:CG	1:G:268:SER:H	2.20	0.43
1:G:379:ILE:O	1:G:382:TYR:N	2.52	0.43
2:H:3:VAL:O	2:H:97:TYR:HB2	2.18	0.43
2:I:18:HIS:CE1	2:I:29:GLY:HA3	2.53	0.43
1:A:326:LEU:HA	1:A:326:LEU:HD23	1.44	0.43
1:C:379:ILE:O	1:C:382:TYR:N	2.52	0.43
1:D:428:ARG:HG2	1:D:433:PHE:CE1	2.54	0.43
1:F:582:LEU:O	1:F:586:GLN:HG3	2.19	0.43
1:F:937:VAL:HB	1:F:949:ILE:HB	2.00	0.43
1:G:847:ASP:OD1	1:G:848:PHE:N	2.51	0.43
2:I:3:VAL:O	2:I:97:TYR:HB2	2.18	0.43
2:I:70:ASN:ND2	2:I:73:LYS:HB2	2.33	0.43
2:K:26:HIS:O	2:K:27:LYS:HD2	2.19	0.43
2:L:41:GLY:HA2	2:L:48:TYR:CZ	2.54	0.43
1:A:524:HIS:CB	1:A:646:THR:HG21	2.36	0.43
1:B:379:ILE:O	1:B:382:TYR:N	2.52	0.43
1:B:767:LEU:HD21	1:B:801:VAL:HG11	2.01	0.43
1:B:1100:PHE:HB3	1:B:1111:ILE:HD11	2.00	0.43
1:C:224:LYS:HE3	1:C:255:ASP:O	2.18	0.43
1:C:346:GLN:O	1:C:348:LYS:N	2.52	0.43
1:D:725:LEU:HD11	1:D:742:HIS:CD2	2.54	0.43
1:D:884:TRP:HH2	2:K:78:THR:C	2.22	0.43
1:D:1100:PHE:HB3	1:D:1111:ILE:HD11	2.00	0.43
1:E:725:LEU:HD11	1:E:742:HIS:CD2	2.54	0.43
1:E:847:ASP:OD1	1:E:848:PHE:N	2.51	0.43
1:E:965:SER:H	1:E:980:ASP:HA	1.84	0.43
1:F:379:ILE:O	1:F:382:TYR:N	2.52	0.43
1:G:428:ARG:HG2	1:G:433:PHE:CE1	2.54	0.43
2:H:41:GLY:HA2	2:H:48:TYR:CZ	2.54	0.43
2:H:82:PHE:HE2	2:H:85:ILE:HG13	1.84	0.43
2:K:18:HIS:CE1	2:K:29:GLY:HA3	2.53	0.43
2:K:70:ASN:ND2	2:K:73:LYS:HB2	2.33	0.43
2:M:3:VAL:O	2:M:97:TYR:HB2	2.18	0.43
1:B:884:TRP:HH2	2:I:78:THR:C	2.22	0.43
1:B:965:SER:H	1:B:980:ASP:HA	1.84	0.43
1:C:582:LEU:O	1:C:586:GLN:HG3	2.19	0.43
1:C:767:LEU:HD21	1:C:801:VAL:HG11	2.01	0.43
1:D:334:PHE:HD2	1:D:337:ARG:HH11	1.66	0.43
1:D:795:GLU:O	1:D:795:GLU:HG3	2.18	0.43
1:D:1135:PHE:CE1	1:D:1142:LEU:HD13	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1218:THR:H	1:E:1237:ASN:ND2	2.17	0.43
1:F:201:ASN:ND2	1:G:219:ASN:HD21	2.14	0.43
1:F:346:GLN:O	1:F:348:LYS:N	2.52	0.43
1:F:1100:PHE:HB3	1:F:1111:ILE:HD11	2.00	0.43
1:G:346:GLN:O	1:G:348:LYS:N	2.52	0.43
1:G:1050:PHE:CD1	1:G:1058:LEU:HD11	2.54	0.43
2:H:67:TYR:HD1	2:H:74:TYR:HB3	1.84	0.43
2:L:26:HIS:O	2:L:27:LYS:HD2	2.19	0.43
2:L:70:ASN:ND2	2:L:73:LYS:HB2	2.33	0.43
2:L:82:PHE:HE2	2:L:85:ILE:HG13	1.84	0.43
3:P:41:GLU:HA	3:P:44:GLN:HE21	1.83	0.43
1:C:676:SER:OG	1:C:678:ASP:OD1	2.37	0.42
1:C:884:TRP:HH2	2:J:78:THR:C	2.22	0.42
1:D:767:LEU:HD21	1:D:801:VAL:HG11	2.01	0.42
1:E:658:ASP:HB3	1:E:677:VAL:HB	2.00	0.42
1:F:1135:PHE:CE1	1:F:1142:LEU:HD13	2.53	0.42
1:G:658:ASP:HB3	1:G:677:VAL:HB	2.00	0.42
1:G:937:VAL:HB	1:G:949:ILE:HB	2.00	0.42
2:I:82:PHE:HE2	2:I:85:ILE:HG13	1.84	0.42
2:N:41:GLY:HA2	2:N:48:TYR:CZ	2.54	0.42
3:P:90:ARG:HG2	3:P:90:ARG:HH21	1.84	0.42
1:A:658:ASP:HB3	1:A:677:VAL:HB	2.00	0.42
1:A:1050:PHE:CD1	1:A:1058:LEU:HD11	2.54	0.42
1:B:266:ASP:CG	1:B:268:SER:H	2.20	0.42
1:C:550:LEU:HD23	1:C:607:SER:HB2	1.91	0.42
1:C:1100:PHE:HB3	1:C:1111:ILE:HD11	2.00	0.42
1:D:658:ASP:HB3	1:D:677:VAL:HB	2.00	0.42
1:E:767:LEU:HD21	1:E:801:VAL:HG11	2.01	0.42
1:F:808:ALA:HB2	1:F:850:PRO:HA	2.01	0.42
1:G:1135:PHE:CE1	1:G:1142:LEU:HD13	2.53	0.42
2:M:82:PHE:HE2	2:M:85:ILE:HG13	1.84	0.42
3:R:90:ARG:HG2	3:R:90:ARG:HH21	1.85	0.42
1:A:511:LYS:HB2	1:A:563:ILE:HG13	2.02	0.42
1:A:767:LEU:HD21	1:A:801:VAL:HG11	2.01	0.42
1:B:658:ASP:HB3	1:B:677:VAL:HB	2.00	0.42
1:B:1218:THR:H	1:B:1237:ASN:ND2	2.17	0.42
1:D:524:HIS:CB	1:D:646:THR:HG21	2.36	0.42
1:F:266:ASP:CG	1:F:268:SER:H	2.20	0.42
1:G:808:ALA:HB2	1:G:850:PRO:HA	2.02	0.42
2:J:14:CYS:SG	5:J:500:HEC:HBB3	2.59	0.42
2:J:82:PHE:HE2	2:J:85:ILE:HG13	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:14:CYS:SG	5:N:500:HEC:HBB3	2.59	0.42
3:O:90:ARG:HG2	3:O:90:ARG:HH21	1.85	0.42
1:A:428:ARG:HG2	1:A:433:PHE:CE1	2.54	0.42
1:A:937:VAL:HB	1:A:949:ILE:HB	2.00	0.42
1:A:1100:PHE:HB3	1:A:1111:ILE:HD11	2.00	0.42
1:A:1218:THR:H	1:A:1237:ASN:ND2	2.17	0.42
1:D:346:GLN:C	1:D:348:LYS:N	2.71	0.42
1:E:379:ILE:O	1:E:382:TYR:N	2.52	0.42
1:E:937:VAL:HB	1:E:949:ILE:HB	2.00	0.42
1:F:658:ASP:HB3	1:F:677:VAL:HB	2.00	0.42
1:F:725:LEU:HD11	1:F:742:HIS:CD2	2.54	0.42
1:F:767:LEU:HD21	1:F:801:VAL:HG11	2.01	0.42
2:J:67:TYR:HD1	2:J:74:TYR:HB3	1.84	0.42
2:K:14:CYS:SG	5:K:500:HEC:HBB3	2.59	0.42
3:O:34:LEU:HD12	3:O:34:LEU:HA	1.93	0.42
3:Q:90:ARG:HG2	3:Q:90:ARG:HH21	1.84	0.42
1:B:511:LYS:HB2	1:B:563:ILE:HG13	2.02	0.42
1:B:847:ASP:OD1	1:B:848:PHE:N	2.51	0.42
1:B:989:GLU:HG2	1:B:991:VAL:H	1.85	0.42
1:C:725:LEU:HD11	1:C:742:HIS:CD2	2.54	0.42
1:C:1135:PHE:HE1	1:C:1142:LEU:HD13	1.85	0.42
1:D:676:SER:OG	1:D:678:ASP:OD1	2.37	0.42
1:D:1218:THR:H	1:D:1237:ASN:ND2	2.17	0.42
1:E:346:GLN:O	1:E:348:LYS:N	2.52	0.42
1:E:808:ALA:HB2	1:E:850:PRO:HA	2.01	0.42
1:G:145:GLY:HA2	1:G:259:GLN:HE21	1.85	0.42
2:H:26:HIS:O	2:H:27:LYS:HD2	2.19	0.42
2:I:14:CYS:SG	5:I:500:HEC:HBB3	2.59	0.42
2:K:41:GLY:HA2	2:K:48:TYR:CZ	2.54	0.42
3:R:7:ARG:HA	3:R:10:ARG:HG3	2.02	0.42
1:A:808:ALA:HB2	1:A:850:PRO:HA	2.01	0.42
1:C:658:ASP:HB3	1:C:677:VAL:HB	2.00	0.42
1:D:14:GLU:CB	1:E:31:SER:HG	2.33	0.42
1:D:452:GLN:N	1:D:452:GLN:OE1	2.53	0.42
1:E:386:LEU:HD23	1:E:386:LEU:O	2.19	0.42
1:E:582:LEU:O	1:E:586:GLN:HG3	2.19	0.42
1:F:334:PHE:HD2	1:F:337:ARG:HH11	1.66	0.42
1:F:1050:PHE:CD1	1:F:1058:LEU:HD11	2.54	0.42
2:H:40:THR:HG23	2:H:57:ILE:HG13	2.02	0.42
2:K:82:PHE:HE2	2:K:85:ILE:HG13	1.84	0.42
2:N:67:TYR:HD1	2:N:74:TYR:HB3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:320:SER:HA	1:A:321:PRO:HD3	1.87	0.42
1:B:1032:TRP:C	1:B:1034:LEU:H	2.23	0.42
1:C:386:LEU:HD23	1:C:386:LEU:O	2.19	0.42
1:C:400:LEU:HB3	1:C:404:TRP:HZ3	1.84	0.42
1:C:1050:PHE:CD1	1:C:1058:LEU:HD11	2.54	0.42
1:D:884:TRP:HH2	2:K:78:THR:O	2.02	0.42
1:G:10:LEU:CD2	1:G:13:ARG:NH2	2.83	0.42
1:G:320:SER:HA	1:G:321:PRO:HD3	1.87	0.42
1:G:511:LYS:HB2	1:G:563:ILE:HG13	2.02	0.42
1:G:582:LEU:O	1:G:586:GLN:HG3	2.19	0.42
2:I:94:LEU:O	2:I:98:LEU:HG	2.20	0.42
2:J:41:GLY:HA2	2:J:48:TYR:CZ	2.54	0.42
2:M:41:GLY:HA2	2:M:48:TYR:CZ	2.54	0.42
1:B:265:ARG:HG3	1:B:265:ARG:O	2.20	0.42
1:B:320:SER:HA	1:B:321:PRO:HD3	1.87	0.42
1:B:1050:PHE:CD1	1:B:1058:LEU:HD11	2.54	0.42
1:B:1135:PHE:HE1	1:B:1142:LEU:HD13	1.85	0.42
1:C:145:GLY:HA2	1:C:259:GLN:HE21	1.85	0.42
1:C:266:ASP:CG	1:C:268:SER:H	2.20	0.42
1:C:1218:THR:H	1:C:1237:ASN:ND2	2.17	0.42
1:D:10:LEU:CD2	1:D:13:ARG:NH2	2.83	0.42
1:D:265:ARG:HG3	1:D:265:ARG:O	2.20	0.42
1:D:379:ILE:O	1:D:382:TYR:N	2.52	0.42
1:F:1218:THR:H	1:F:1237:ASN:ND2	2.17	0.42
1:G:400:LEU:HB3	1:G:404:TRP:HZ3	1.85	0.42
1:G:767:LEU:HD21	1:G:801:VAL:HG11	2.01	0.42
1:G:1135:PHE:HE1	1:G:1142:LEU:HD13	1.85	0.42
2:H:14:CYS:SG	5:H:500:HEC:HBB3	2.59	0.42
2:L:14:CYS:SG	5:L:500:HEC:HBB3	2.59	0.42
2:N:40:THR:HG23	2:N:57:ILE:HG13	2.02	0.42
3:O:7:ARG:HA	3:O:10:ARG:HG3	2.02	0.42
1:A:265:ARG:HG3	1:A:265:ARG:O	2.20	0.42
1:B:268:SER:O	1:B:271:ASP:N	2.51	0.42
1:D:346:GLN:O	1:D:348:LYS:N	2.52	0.42
1:E:452:GLN:OE1	1:E:452:GLN:N	2.53	0.42
1:E:1050:PHE:CD1	1:E:1058:LEU:HD11	2.54	0.42
1:F:428:ARG:HG2	1:F:433:PHE:CE1	2.54	0.42
1:G:452:GLN:OE1	1:G:452:GLN:N	2.53	0.42
2:H:94:LEU:O	2:H:98:LEU:HG	2.20	0.42
2:M:40:THR:HG23	2:M:57:ILE:HG13	2.02	0.42
2:M:67:TYR:HD1	2:M:74:TYR:HB3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:582:LEU:O	1:A:586:GLN:HG3	2.19	0.42
1:A:864:VAL:HB	1:A:878:CYS:HB2	2.02	0.42
1:A:1032:TRP:C	1:A:1034:LEU:H	2.23	0.42
1:B:10:LEU:CD2	1:B:13:ARG:NH2	2.83	0.42
1:B:452:GLN:OE1	1:B:452:GLN:N	2.53	0.42
1:C:265:ARG:O	1:C:265:ARG:HG3	2.20	0.42
1:C:268:SER:O	1:C:271:ASP:N	2.51	0.42
1:C:452:GLN:OE1	1:C:452:GLN:N	2.53	0.42
1:C:864:VAL:HB	1:C:878:CYS:HB2	2.02	0.42
1:D:864:VAL:HB	1:D:878:CYS:HB2	2.02	0.42
1:D:989:GLU:HG2	1:D:991:VAL:H	1.85	0.42
1:E:265:ARG:HG3	1:E:265:ARG:O	2.20	0.42
1:E:266:ASP:CG	1:E:268:SER:H	2.20	0.42
1:F:989:GLU:HG2	1:F:991:VAL:H	1.85	0.42
1:G:334:PHE:HD2	1:G:337:ARG:HH11	1.66	0.42
1:G:676:SER:OG	1:G:678:ASP:OD1	2.37	0.42
1:G:725:LEU:HD11	1:G:742:HIS:CD2	2.54	0.42
1:G:965:SER:H	1:G:980:ASP:HA	1.84	0.42
2:J:94:LEU:O	2:J:98:LEU:HG	2.20	0.42
2:L:67:TYR:HD1	2:L:74:TYR:HB3	1.84	0.42
2:M:14:CYS:SG	5:M:500:HEC:HBB3	2.59	0.42
1:A:452:GLN:N	1:A:452:GLN:OE1	2.53	0.41
1:A:989:GLU:HG2	1:A:991:VAL:H	1.85	0.41
1:F:947:GLN:HG2	1:F:958:TYR:HD1	1.85	0.41
1:A:862:TYR:HB3	1:A:883:SER:C	2.41	0.41
1:B:456:LEU:O	1:B:459:LYS:HB3	2.20	0.41
1:D:266:ASP:CG	1:D:268:SER:H	2.20	0.41
1:D:1050:PHE:CD1	1:D:1058:LEU:HD11	2.54	0.41
1:F:369:SER:O	1:F:373:GLU:HG2	2.21	0.41
1:F:511:LYS:HB2	1:F:563:ILE:HG13	2.01	0.41
1:F:864:VAL:HB	1:F:878:CYS:HB2	2.02	0.41
2:K:67:TYR:HD1	2:K:74:TYR:HB3	1.84	0.41
2:K:94:LEU:O	2:K:98:LEU:HG	2.20	0.41
2:L:94:LEU:O	2:L:98:LEU:HG	2.20	0.41
1:A:145:GLY:HA2	1:A:259:GLN:HE21	1.85	0.41
1:A:1191:MET:SD	1:A:1209:SER:OG	2.63	0.41
1:C:269:VAL:C	1:C:271:ASP:H	2.24	0.41
1:G:282:VAL:O	1:G:282:VAL:HG12	2.21	0.41
1:G:947:GLN:HG2	1:G:958:TYR:HD1	1.85	0.41
1:G:1100:PHE:HB3	1:G:1111:ILE:HD11	2.00	0.41
2:I:41:GLY:HA2	2:I:48:TYR:CZ	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:334:PHE:HD2	1:A:337:ARG:HH11	1.66	0.41
1:B:725:LEU:HD11	1:B:742:HIS:CD2	2.54	0.41
1:B:862:TYR:HB3	1:B:883:SER:C	2.41	0.41
1:C:511:LYS:HB2	1:C:563:ILE:HG13	2.02	0.41
1:D:342:LEU:O	1:D:346:GLN:HG3	2.21	0.41
1:D:456:LEU:O	1:D:459:LYS:HB3	2.21	0.41
1:D:808:ALA:HB2	1:D:850:PRO:HA	2.02	0.41
1:D:885:VAL:HG13	1:D:900:SER:O	2.21	0.41
1:E:282:VAL:O	1:E:282:VAL:HG12	2.20	0.41
1:E:1135:PHE:HE1	1:E:1142:LEU:HD13	1.85	0.41
1:F:265:ARG:HG3	1:F:265:ARG:O	2.20	0.41
1:F:337:ARG:O	1:F:340:TYR:N	2.54	0.41
1:G:265:ARG:HG3	1:G:265:ARG:O	2.20	0.41
1:G:369:SER:O	1:G:373:GLU:HG2	2.20	0.41
2:I:40:THR:HG23	2:I:57:ILE:HG13	2.02	0.41
2:K:40:THR:HG23	2:K:57:ILE:HG13	2.02	0.41
1:A:676:SER:OG	1:A:678:ASP:OD1	2.37	0.41
1:B:808:ALA:HB2	1:B:850:PRO:HA	2.01	0.41
1:C:456:LEU:O	1:C:459:LYS:HB3	2.21	0.41
1:C:808:ALA:HB2	1:C:850:PRO:HA	2.01	0.41
1:D:30:ILE:HG21	3:Q:10:ARG:HB3	1.93	0.41
1:D:268:SER:O	1:D:271:ASP:N	2.51	0.41
1:E:369:SER:O	1:E:373:GLU:HG2	2.20	0.41
1:E:474:SER:HA	1:E:475:PRO:HD2	1.91	0.41
1:F:452:GLN:OE1	1:F:452:GLN:N	2.53	0.41
2:N:94:LEU:O	2:N:98:LEU:HG	2.20	0.41
3:Q:7:ARG:HA	3:Q:10:ARG:HG3	2.02	0.41
1:A:884:TRP:HH2	2:H:78:THR:O	2.02	0.41
1:C:369:SER:O	1:C:373:GLU:HG2	2.20	0.41
1:D:400:LEU:HB3	1:D:404:TRP:HZ3	1.84	0.41
1:D:947:GLN:HG2	1:D:958:TYR:HD1	1.85	0.41
1:E:337:ARG:O	1:E:340:TYR:N	2.54	0.41
1:F:268:SER:O	1:F:271:ASP:N	2.51	0.41
1:F:282:VAL:O	1:F:282:VAL:HG12	2.20	0.41
1:F:456:LEU:O	1:F:459:LYS:HB3	2.21	0.41
1:F:884:TRP:HH2	2:M:79:LYS:N	2.18	0.41
1:F:884:TRP:HH2	2:M:78:THR:O	2.02	0.41
1:G:337:ARG:O	1:G:340:TYR:N	2.54	0.41
1:G:989:GLU:HG2	1:G:991:VAL:H	1.85	0.41
2:J:40:THR:HG23	2:J:57:ILE:HG13	2.02	0.41
2:L:40:THR:HG23	2:L:57:ILE:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:94:LEU:O	2:M:98:LEU:HG	2.20	0.41
1:A:342:LEU:O	1:A:346:GLN:HG3	2.21	0.41
1:A:947:GLN:HG2	1:A:958:TYR:HD1	1.85	0.41
1:B:282:VAL:O	1:B:282:VAL:HG12	2.21	0.41
1:C:700:GLU:HB2	1:C:720:SER:HB2	2.03	0.41
1:D:216:LEU:HA	1:D:217:PRO:HD2	1.84	0.41
1:D:282:VAL:O	1:D:282:VAL:HG12	2.20	0.41
1:G:342:LEU:O	1:G:346:GLN:HG3	2.21	0.41
1:G:862:TYR:HB3	1:G:883:SER:C	2.41	0.41
1:A:725:LEU:HD11	1:A:742:HIS:CD2	2.54	0.41
1:A:1135:PHE:HE1	1:A:1142:LEU:HD13	1.85	0.41
1:B:145:GLY:HA2	1:B:259:GLN:HE21	1.85	0.41
1:B:569:CYS:CB	1:B:600:LYS:HZ3	2.33	0.41
1:B:885:VAL:HG13	1:B:900:SER:O	2.21	0.41
1:C:153:HIS:HA	1:C:264:THR:O	2.21	0.41
1:C:584:ALA:CA	1:C:594:TYR:CE2	2.98	0.41
1:C:762:SER:OG	1:C:764:ASP:OD1	2.26	0.41
1:D:196:LEU:O	1:D:199:LEU:HB2	2.21	0.41
1:E:334:PHE:HD2	1:E:337:ARG:HH11	1.66	0.41
1:E:864:VAL:HB	1:E:878:CYS:HB2	2.02	0.41
1:E:1032:TRP:C	1:E:1034:LEU:H	2.23	0.41
1:F:322:LEU:HD23	1:F:364:LEU:HD13	2.03	0.41
1:F:676:SER:OG	1:F:678:ASP:OD1	2.37	0.41
1:F:885:VAL:HG13	1:F:900:SER:O	2.21	0.41
1:G:864:VAL:HB	1:G:878:CYS:HB2	2.02	0.41
2:I:30:PRO:HB3	2:I:46:PHE:CD2	2.56	0.41
2:K:30:PRO:HB3	2:K:46:PHE:CD2	2.56	0.41
2:M:55:LYS:HG2	2:M:75:ILE:HG12	2.03	0.41
1:A:400:LEU:HB3	1:A:404:TRP:HZ3	1.84	0.41
1:B:369:SER:O	1:B:373:GLU:HG2	2.21	0.41
1:B:400:LEU:HB3	1:B:404:TRP:HZ3	1.84	0.41
1:B:700:GLU:HB2	1:B:720:SER:HB2	2.03	0.41
1:B:864:VAL:HB	1:B:878:CYS:HB2	2.02	0.41
1:C:196:LEU:O	1:C:199:LEU:HB2	2.21	0.41
1:C:282:VAL:O	1:C:282:VAL:HG12	2.21	0.41
1:C:342:LEU:O	1:C:346:GLN:HG3	2.21	0.41
1:C:862:TYR:HB3	1:C:883:SER:C	2.41	0.41
1:D:369:SER:O	1:D:373:GLU:HG2	2.21	0.41
1:D:530:ARG:HD2	1:D:545:GLN:NE2	2.36	0.41
1:D:1032:TRP:C	1:D:1034:LEU:H	2.23	0.41
1:E:10:LEU:CD2	1:E:13:ARG:NH2	2.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:322:LEU:HD23	1:E:364:LEU:HD13	2.03	0.41
1:E:456:LEU:O	1:E:459:LYS:HB3	2.21	0.41
1:E:511:LYS:HB2	1:E:563:ILE:HG13	2.02	0.41
1:E:530:ARG:HD2	1:E:545:GLN:NE2	2.36	0.41
1:E:565:GLN:OE1	1:E:1212:THR:HB	2.21	0.41
1:E:884:TRP:HH2	2:L:78:THR:O	2.02	0.41
1:F:565:GLN:OE1	1:F:1212:THR:HB	2.21	0.41
1:F:862:TYR:HB3	1:F:883:SER:C	2.41	0.41
1:F:1141:LEU:HG	1:F:1155:ASN:HA	2.03	0.41
1:G:228:ARG:HD3	1:G:256:SER:HB3	2.03	0.41
1:G:326:LEU:HA	1:G:326:LEU:HD23	1.44	0.41
1:G:456:LEU:O	1:G:459:LYS:HB3	2.21	0.41
1:G:565:GLN:OE1	1:G:1212:THR:HB	2.21	0.41
2:I:67:TYR:HD1	2:I:74:TYR:HB3	1.84	0.41
2:L:30:PRO:HB3	2:L:46:PHE:CD2	2.56	0.41
2:L:55:LYS:HG2	2:L:75:ILE:HG12	2.03	0.41
5:M:500:HEC:HMC1	5:M:500:HEC:CBC	2.51	0.41
1:A:153:HIS:HA	1:A:264:THR:O	2.21	0.41
1:B:337:ARG:O	1:B:340:TYR:N	2.54	0.41
1:B:342:LEU:O	1:B:346:GLN:HG3	2.21	0.41
1:B:676:SER:OG	1:B:678:ASP:OD1	2.37	0.41
1:C:569:CYS:HB3	1:C:600:LYS:HZ3	1.85	0.41
1:D:474:SER:HA	1:D:475:PRO:HD2	1.91	0.41
1:D:511:LYS:HB2	1:D:563:ILE:HG13	2.02	0.41
1:D:700:GLU:HB2	1:D:720:SER:HB2	2.03	0.41
1:E:342:LEU:O	1:E:346:GLN:HG3	2.21	0.41
1:E:676:SER:OG	1:E:678:ASP:OD1	2.37	0.41
1:E:947:GLN:HG2	1:E:958:TYR:HD1	1.85	0.41
1:F:153:HIS:HA	1:F:264:THR:O	2.21	0.41
1:F:400:LEU:HB3	1:F:404:TRP:HZ3	1.85	0.41
1:F:1032:TRP:C	1:F:1034:LEU:H	2.23	0.41
2:J:30:PRO:HB3	2:J:46:PHE:CD2	2.56	0.41
5:N:500:HEC:CBC	5:N:500:HEC:HMC1	2.51	0.41
1:A:1155:ASN:HB3	1:A:1162:LEU:HB2	2.04	0.40
1:B:269:VAL:C	1:B:271:ASP:H	2.24	0.40
1:B:351:LYS:NZ	1:B:365:ASP:OD2	2.54	0.40
1:C:322:LEU:HD23	1:C:364:LEU:HD13	2.03	0.40
1:C:326:LEU:HD23	1:C:326:LEU:HA	1.44	0.40
1:C:885:VAL:HG13	1:C:900:SER:O	2.21	0.40
1:C:1141:LEU:HG	1:C:1155:ASN:HA	2.03	0.40
1:D:37:ILE:HG12	3:Q:10:ARG:HD2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:862:TYR:HB3	1:D:883:SER:C	2.41	0.40
1:D:1141:LEU:HG	1:D:1155:ASN:HA	2.03	0.40
1:D:1166:ALA:HA	1:D:1167:PRO:HD2	1.93	0.40
1:E:153:HIS:HA	1:E:264:THR:O	2.21	0.40
1:E:885:VAL:HG13	1:E:900:SER:O	2.21	0.40
1:F:631:ALA:H	1:F:665:PHE:HZ	1.69	0.40
1:F:1155:ASN:HB3	1:F:1162:LEU:HB2	2.04	0.40
1:G:322:LEU:HD23	1:G:364:LEU:HD13	2.03	0.40
1:G:1141:LEU:HG	1:G:1155:ASN:HA	2.03	0.40
1:G:1155:ASN:HB3	1:G:1162:LEU:HB2	2.04	0.40
2:N:55:LYS:HG2	2:N:75:ILE:HG12	2.03	0.40
3:R:14:LEU:HD13	3:R:14:LEU:HA	1.97	0.40
1:A:228:ARG:HD3	1:A:256:SER:HB3	2.03	0.40
1:A:282:VAL:HG12	1:A:282:VAL:O	2.21	0.40
1:A:289:GLU:OE2	1:A:303:LYS:NZ	2.43	0.40
1:D:153:HIS:HA	1:D:264:THR:O	2.21	0.40
1:D:565:GLN:OE1	1:D:1212:THR:HB	2.21	0.40
1:D:1135:PHE:HE1	1:D:1142:LEU:HD13	1.85	0.40
1:E:196:LEU:O	1:E:199:LEU:HB2	2.21	0.40
1:E:862:TYR:HB3	1:E:883:SER:C	2.41	0.40
1:E:1155:ASN:HB3	1:E:1162:LEU:HB2	2.04	0.40
1:F:530:ARG:HD2	1:F:545:GLN:NE2	2.36	0.40
1:F:584:ALA:CA	1:F:594:TYR:CE2	2.98	0.40
1:G:196:LEU:O	1:G:199:LEU:HB2	2.21	0.40
2:H:30:PRO:HB3	2:H:46:PHE:CD2	2.56	0.40
5:H:500:HEC:CBC	5:H:500:HEC:HMC1	2.51	0.40
5:I:500:HEC:HMC1	5:I:500:HEC:CBC	2.51	0.40
5:J:500:HEC:HMC1	5:J:500:HEC:CBC	2.51	0.40
3:P:34:LEU:HD12	3:P:34:LEU:HA	1.93	0.40
1:A:885:VAL:HG13	1:A:900:SER:O	2.21	0.40
1:B:884:TRP:HH2	2:I:79:LYS:N	2.18	0.40
1:B:947:GLN:HG2	1:B:958:TYR:HD1	1.85	0.40
1:C:947:GLN:HG2	1:C:958:TYR:HD1	1.85	0.40
1:C:1032:TRP:C	1:C:1034:LEU:H	2.23	0.40
1:E:7:ASN:CG	1:F:236:PRO:CG	2.81	0.40
1:E:351:LYS:NZ	1:E:365:ASP:OD2	2.54	0.40
1:E:989:GLU:HG2	1:E:991:VAL:H	1.85	0.40
1:G:153:HIS:HA	1:G:264:THR:O	2.21	0.40
1:G:631:ALA:H	1:G:665:PHE:HZ	1.69	0.40
2:K:55:LYS:HG2	2:K:75:ILE:HG12	2.03	0.40
5:L:500:HEC:HMC1	5:L:500:HEC:CBC	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:14:LEU:HD13	3:Q:14:LEU:HA	1.98	0.40
1:A:196:LEU:O	1:A:199:LEU:HB2	2.21	0.40
1:A:1141:LEU:HG	1:A:1155:ASN:HA	2.03	0.40
1:B:228:ARG:HD3	1:B:256:SER:HB3	2.03	0.40
1:B:266:ASP:CG	1:B:268:SER:HG	2.23	0.40
1:B:1146:ASP:HB2	1:B:1150:GLU:HG2	2.04	0.40
1:C:337:ARG:O	1:C:340:TYR:N	2.54	0.40
1:C:351:LYS:NZ	1:C:365:ASP:OD2	2.54	0.40
1:C:884:TRP:HH2	2:J:79:LYS:N	2.18	0.40
1:C:989:GLU:HG2	1:C:991:VAL:H	1.85	0.40
1:D:597:TRP:CD2	1:D:600:LYS:HE3	2.57	0.40
1:E:631:ALA:H	1:E:665:PHE:HZ	1.69	0.40
1:F:289:GLU:OE2	1:F:303:LYS:NZ	2.43	0.40
2:H:39:LYS:HD2	2:H:56:GLY:O	2.22	0.40
2:H:55:LYS:HG2	2:H:75:ILE:HG12	2.03	0.40
2:I:71:PRO:CD	2:I:84:GLY:HA2	2.52	0.40
2:J:55:LYS:HG2	2:J:75:ILE:HG12	2.03	0.40
2:M:39:LYS:HD2	2:M:56:GLY:O	2.22	0.40
1:A:217:PRO:HG3	1:A:226:ARG:NH1	2.36	0.40
1:A:369:SER:O	1:A:373:GLU:HG2	2.21	0.40
1:A:597:TRP:CD2	1:A:600:LYS:HE3	2.57	0.40
1:B:322:LEU:HD23	1:B:364:LEU:HD13	2.02	0.40
1:D:145:GLY:HA2	1:D:259:GLN:HE21	1.85	0.40
1:E:400:LEU:HB3	1:E:404:TRP:HZ3	1.84	0.40
2:I:55:LYS:HG2	2:I:75:ILE:HG12	2.03	0.40
5:K:500:HEC:CBC	5:K:500:HEC:HMC1	2.51	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	1135/1248 (91%)	1045 (92%)	84 (7%)	6 (0%)	25	62
1	B	1228/1248 (98%)	1138 (93%)	84 (7%)	6 (0%)	25	62
1	C	1135/1248 (91%)	1045 (92%)	84 (7%)	6 (0%)	25	62
1	D	1228/1248 (98%)	1138 (93%)	84 (7%)	6 (0%)	25	62
1	E	1228/1248 (98%)	1138 (93%)	84 (7%)	6 (0%)	25	62
1	F	1135/1248 (91%)	1045 (92%)	84 (7%)	6 (0%)	25	62
1	G	1228/1248 (98%)	1138 (93%)	84 (7%)	6 (0%)	25	62
2	H	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
2	I	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
2	J	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
2	K	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
2	L	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
2	M	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
2	N	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
3	O	93/95 (98%)	92 (99%)	1 (1%)	0	100	100
3	P	93/95 (98%)	92 (99%)	1 (1%)	0	100	100
3	Q	93/95 (98%)	92 (99%)	1 (1%)	0	100	100
3	R	93/95 (98%)	92 (99%)	1 (1%)	0	100	100
All	All	9403/9844 (96%)	8741 (93%)	620 (7%)	42 (0%)	32	67

All (42) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1073	ILE
1	B	1073	ILE
1	C	1073	ILE
1	D	1073	ILE
1	E	1073	ILE
1	F	1073	ILE
1	G	1073	ILE
1	A	591	GLY
1	B	591	GLY
1	C	591	GLY
1	D	591	GLY
1	E	591	GLY
1	F	591	GLY
1	G	591	GLY

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Mol	Chain	Res	Type
1	A	347	ASN
1	B	347	ASN
1	C	347	ASN
1	D	347	ASN
1	E	347	ASN
1	F	347	ASN
1	G	347	ASN
1	A	266	ASP
1	B	266	ASP
1	C	266	ASP
1	D	266	ASP
1	E	266	ASP
1	F	266	ASP
1	G	266	ASP
1	A	613	PRO
1	B	613	PRO
1	C	613	PRO
1	D	613	PRO
1	E	613	PRO
1	F	613	PRO
1	G	613	PRO
1	A	1205	VAL
1	B	1205	VAL
1	C	1205	VAL
1	D	1205	VAL
1	E	1205	VAL
1	F	1205	VAL
1	G	1205	VAL

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	1022/1119 (91%)	1019 (100%)	3 (0%)	91	92
1	B	1106/1119 (99%)	1101 (100%)	5 (0%)	86	90
1	C	1022/1119 (91%)	1019 (100%)	3 (0%)	91	92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	1106/1119 (99%)	1101 (100%)	5 (0%)	86	90
1	E	1106/1119 (99%)	1101 (100%)	5 (0%)	86	90
1	F	1022/1119 (91%)	1019 (100%)	3 (0%)	91	92
1	G	1106/1119 (99%)	1101 (100%)	5 (0%)	86	90
2	H	84/84 (100%)	84 (100%)	0	100	100
2	I	84/84 (100%)	84 (100%)	0	100	100
2	J	84/84 (100%)	84 (100%)	0	100	100
2	K	84/84 (100%)	84 (100%)	0	100	100
2	L	84/84 (100%)	84 (100%)	0	100	100
2	M	84/84 (100%)	84 (100%)	0	100	100
2	N	84/84 (100%)	84 (100%)	0	100	100
3	O	84/84 (100%)	77 (92%)	7 (8%)	9	30
3	P	84/84 (100%)	77 (92%)	7 (8%)	9	30
3	Q	84/84 (100%)	77 (92%)	7 (8%)	9	30
3	R	84/84 (100%)	77 (92%)	7 (8%)	9	30
All	All	8414/8757 (96%)	8357 (99%)	57 (1%)	80	86

All (57) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	391	LYS
1	A	392	ASP
1	A	884	TRP
1	B	58	LYS
1	B	81	LYS
1	B	391	LYS
1	B	392	ASP
1	B	884	TRP
1	C	391	LYS
1	C	392	ASP
1	C	884	TRP
1	D	58	LYS
1	D	81	LYS
1	D	391	LYS
1	D	392	ASP
1	D	884	TRP
1	E	58	LYS

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Mol	Chain	Res	Type
1	E	81	LYS
1	E	391	LYS
1	E	392	ASP
1	E	884	TRP
1	F	391	LYS
1	F	392	ASP
1	F	884	TRP
1	G	58	LYS
1	G	81	LYS
1	G	391	LYS
1	G	392	ASP
1	G	884	TRP
3	O	10	ARG
3	O	14	LEU
3	O	20	LEU
3	O	34	LEU
3	O	87	SER
3	O	92	ASN
3	O	93	ARG
3	P	10	ARG
3	P	14	LEU
3	P	20	LEU
3	P	34	LEU
3	P	87	SER
3	P	92	ASN
3	P	93	ARG
3	Q	10	ARG
3	Q	14	LEU
3	Q	20	LEU
3	Q	34	LEU
3	Q	87	SER
3	Q	92	ASN
3	Q	93	ARG
3	R	10	ARG
3	R	14	LEU
3	R	20	LEU
3	R	34	LEU
3	R	87	SER
3	R	92	ASN
3	R	93	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (123) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	121	GLN
1	A	201	ASN
1	A	214	GLN
1	A	602	ASN
1	A	703	ASN
1	A	712	HIS
1	A	713	HIS
1	A	782	ASN
1	A	819	ASN
1	A	844	GLN
1	A	924	GLN
1	A	992	ASN
1	A	1076	ASN
1	A	1126	HIS
1	B	11	GLN
1	B	45	ASN
1	B	51	GLN
1	B	201	ASN
1	B	214	GLN
1	B	602	ASN
1	B	703	ASN
1	B	712	HIS
1	B	713	HIS
1	B	782	ASN
1	B	819	ASN
1	B	844	GLN
1	B	924	GLN
1	B	992	ASN
1	B	1076	ASN
1	B	1126	HIS
1	C	121	GLN
1	C	201	ASN
1	C	214	GLN
1	C	416	GLN
1	C	602	ASN
1	C	703	ASN
1	C	712	HIS
1	C	713	HIS
1	C	782	ASN
1	C	819	ASN
1	C	844	GLN
1	C	924	GLN
1	C	992	ASN

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Mol	Chain	Res	Type
1	C	1076	ASN
1	C	1126	HIS
1	D	11	GLN
1	D	51	GLN
1	D	201	ASN
1	D	214	GLN
1	D	416	GLN
1	D	602	ASN
1	D	703	ASN
1	D	712	HIS
1	D	713	HIS
1	D	782	ASN
1	D	819	ASN
1	D	844	GLN
1	D	924	GLN
1	D	992	ASN
1	D	1076	ASN
1	D	1126	HIS
1	E	11	GLN
1	E	45	ASN
1	E	51	GLN
1	E	201	ASN
1	E	214	GLN
1	E	602	ASN
1	E	703	ASN
1	E	712	HIS
1	E	713	HIS
1	E	782	ASN
1	E	819	ASN
1	E	844	GLN
1	E	924	GLN
1	E	992	ASN
1	E	1076	ASN
1	E	1126	HIS
1	F	201	ASN
1	F	214	GLN
1	F	416	GLN
1	F	602	ASN
1	F	703	ASN
1	F	712	HIS
1	F	713	HIS
1	F	782	ASN

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Mol	Chain	Res	Type
1	F	819	ASN
1	F	844	GLN
1	F	924	GLN
1	F	992	ASN
1	F	1076	ASN
1	F	1126	HIS
1	G	11	GLN
1	G	45	ASN
1	G	51	GLN
1	G	121	GLN
1	G	201	ASN
1	G	214	GLN
1	G	416	GLN
1	G	602	ASN
1	G	703	ASN
1	G	712	HIS
1	G	713	HIS
1	G	782	ASN
1	G	819	ASN
1	G	844	GLN
1	G	924	GLN
1	G	992	ASN
1	G	1076	ASN
1	G	1126	HIS
2	H	70	ASN
2	I	70	ASN
2	K	70	ASN
2	M	70	ASN
2	N	70	ASN
3	O	44	GLN
3	O	92	ASN
3	P	44	GLN
3	P	92	ASN
3	Q	44	GLN
3	Q	92	ASN
3	R	38	HIS
3	R	44	GLN
3	R	92	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

14 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	HEC	I	500	-	32,50,50	2.16	5 (15%)	30,82,82	1.66	4 (13%)
5	HEC	N	500	-	32,50,50	2.16	5 (15%)	30,82,82	1.68	5 (16%)
4	DTP	F	1301	-	28,32,32	3.51	11 (39%)	35,50,50	2.24	3 (8%)
4	DTP	A	1301	-	28,32,32	3.51	11 (39%)	35,50,50	2.24	3 (8%)
5	HEC	K	500	-	32,50,50	2.17	5 (15%)	30,82,82	1.67	4 (13%)
5	HEC	J	500	-	32,50,50	2.17	5 (15%)	30,82,82	1.66	4 (13%)
5	HEC	M	500	-	32,50,50	2.16	5 (15%)	30,82,82	1.67	4 (13%)
4	DTP	E	1301	-	28,32,32	3.51	11 (39%)	35,50,50	2.25	3 (8%)
5	HEC	H	500	-	32,50,50	2.17	5 (15%)	30,82,82	1.67	5 (16%)
4	DTP	G	1301	-	28,32,32	3.52	11 (39%)	35,50,50	2.24	3 (8%)
4	DTP	C	1301	-	28,32,32	3.51	11 (39%)	35,50,50	2.24	3 (8%)
4	DTP	B	1301	-	28,32,32	3.51	11 (39%)	35,50,50	2.24	3 (8%)
4	DTP	D	1301	-	28,32,32	3.52	11 (39%)	35,50,50	2.24	3 (8%)
5	HEC	L	500	-	32,50,50	2.16	5 (15%)	30,82,82	1.67	5 (16%)

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
5	HEC	I	500	-	-	1/10/54/54	-
5	HEC	N	500	-	-	1/10/54/54	-
4	DTP	F	1301	-	-	6/18/34/34	0/3/3/3
4	DTP	A	1301	-	-	6/18/34/34	0/3/3/3
5	HEC	K	500	-	-	1/10/54/54	-
5	HEC	J	500	-	-	1/10/54/54	-
5	HEC	M	500	-	-	1/10/54/54	-
4	DTP	E	1301	-	-	6/18/34/34	0/3/3/3
5	HEC	H	500	-	-	1/10/54/54	-
4	DTP	G	1301	-	-	6/18/34/34	0/3/3/3
4	DTP	C	1301	-	-	6/18/34/34	0/3/3/3
4	DTP	B	1301	-	-	6/18/34/34	0/3/3/3
4	DTP	D	1301	-	-	6/18/34/34	0/3/3/3
5	HEC	L	500	-	-	1/10/54/54	-

All (112) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	1301	DTP	C2'-C3'	-12.34	1.21	1.52
4	G	1301	DTP	C2'-C3'	-12.33	1.21	1.52
4	F	1301	DTP	C2'-C3'	-12.33	1.21	1.52
4	A	1301	DTP	C2'-C3'	-12.31	1.21	1.52
4	E	1301	DTP	C2'-C3'	-12.31	1.21	1.52
4	C	1301	DTP	C2'-C3'	-12.31	1.21	1.52
4	B	1301	DTP	C2'-C3'	-12.29	1.21	1.52
4	G	1301	DTP	O4'-C4'	-8.29	1.26	1.45
4	D	1301	DTP	O4'-C4'	-8.28	1.26	1.45
4	F	1301	DTP	O4'-C4'	-8.27	1.26	1.45
4	A	1301	DTP	O4'-C4'	-8.27	1.26	1.45
4	E	1301	DTP	O4'-C4'	-8.27	1.26	1.45
4	C	1301	DTP	O4'-C4'	-8.27	1.26	1.45
4	B	1301	DTP	O4'-C4'	-8.25	1.26	1.45
4	E	1301	DTP	C1'-N9	-6.65	1.31	1.49
4	C	1301	DTP	C1'-N9	-6.63	1.31	1.49
4	F	1301	DTP	C1'-N9	-6.62	1.31	1.49
4	G	1301	DTP	C1'-N9	-6.62	1.31	1.49
4	B	1301	DTP	C1'-N9	-6.62	1.31	1.49
4	A	1301	DTP	C1'-N9	-6.62	1.31	1.49
4	D	1301	DTP	C1'-N9	-6.61	1.31	1.49
5	K	500	HEC	C3D-C2D	5.48	1.53	1.37
5	I	500	HEC	C3D-C2D	5.47	1.53	1.37
5	H	500	HEC	C3D-C2D	5.47	1.53	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	J	500	HEC	C3D-C2D	5.46	1.53	1.37
5	L	500	HEC	C3D-C2D	5.46	1.53	1.37
5	M	500	HEC	C3D-C2D	5.45	1.53	1.37
5	N	500	HEC	C3D-C2D	5.43	1.53	1.37
5	K	500	HEC	C2B-C3B	-5.16	1.35	1.40
5	N	500	HEC	C2B-C3B	-5.12	1.35	1.40
5	J	500	HEC	C2B-C3B	-5.12	1.35	1.40
5	L	500	HEC	C2B-C3B	-5.11	1.35	1.40
5	I	500	HEC	C2B-C3B	-5.11	1.35	1.40
5	M	500	HEC	C2B-C3B	-5.10	1.35	1.40
5	H	500	HEC	C2B-C3B	-5.09	1.35	1.40
5	J	500	HEC	C3C-C2C	-4.80	1.35	1.40
5	I	500	HEC	C3C-C2C	-4.80	1.35	1.40
5	K	500	HEC	C3C-C2C	-4.79	1.35	1.40
5	H	500	HEC	C3C-C2C	-4.79	1.35	1.40
5	L	500	HEC	C3C-C2C	-4.78	1.35	1.40
5	N	500	HEC	C3C-C2C	-4.77	1.35	1.40
5	M	500	HEC	C3C-C2C	-4.77	1.35	1.40
4	D	1301	DTP	C3'-C4'	4.23	1.64	1.53
4	E	1301	DTP	C3'-C4'	4.23	1.64	1.53
4	G	1301	DTP	C3'-C4'	4.20	1.64	1.53
4	C	1301	DTP	C3'-C4'	4.20	1.64	1.53
4	B	1301	DTP	C3'-C4'	4.20	1.64	1.53
4	A	1301	DTP	C3'-C4'	4.20	1.64	1.53
4	F	1301	DTP	C3'-C4'	4.19	1.64	1.53
5	N	500	HEC	CBB-CAB	-4.16	1.34	1.49
5	H	500	HEC	CBB-CAB	-4.15	1.34	1.49
5	M	500	HEC	CBB-CAB	-4.15	1.34	1.49
5	L	500	HEC	CBB-CAB	-4.14	1.34	1.49
5	J	500	HEC	CBB-CAB	-4.14	1.34	1.49
5	K	500	HEC	CBB-CAB	-4.13	1.34	1.49
5	I	500	HEC	CBB-CAB	-4.13	1.34	1.49
5	H	500	HEC	CBC-CAC	-4.08	1.34	1.49
5	J	500	HEC	CBC-CAC	-4.08	1.34	1.49
5	N	500	HEC	CBC-CAC	-4.08	1.34	1.49
5	L	500	HEC	CBC-CAC	-4.07	1.34	1.49
5	K	500	HEC	CBC-CAC	-4.07	1.34	1.49
5	I	500	HEC	CBC-CAC	-4.07	1.34	1.49
5	M	500	HEC	CBC-CAC	-4.06	1.34	1.49
4	E	1301	DTP	O4'-C1'	3.36	1.49	1.42
4	D	1301	DTP	O4'-C1'	3.35	1.49	1.42
4	A	1301	DTP	O4'-C1'	3.34	1.49	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	G	1301	DTP	O4'-C1'	3.33	1.49	1.42
4	C	1301	DTP	O4'-C1'	3.32	1.49	1.42
4	B	1301	DTP	O4'-C1'	3.31	1.49	1.42
4	F	1301	DTP	O4'-C1'	3.31	1.49	1.42
4	G	1301	DTP	O3'-C3'	2.80	1.49	1.43
4	F	1301	DTP	O3'-C3'	2.77	1.49	1.43
4	C	1301	DTP	O3'-C3'	2.76	1.49	1.43
4	A	1301	DTP	O3'-C3'	2.76	1.49	1.43
4	B	1301	DTP	O3'-C3'	2.74	1.49	1.43
4	D	1301	DTP	O3'-C3'	2.74	1.49	1.43
4	E	1301	DTP	O3'-C3'	2.73	1.49	1.43
4	C	1301	DTP	PB-O3B	-2.71	1.56	1.59
4	F	1301	DTP	PB-O3B	-2.66	1.56	1.59
4	G	1301	DTP	PB-O3B	-2.65	1.56	1.59
4	G	1301	DTP	C2-N3	2.63	1.36	1.32
4	A	1301	DTP	PB-O3B	-2.63	1.56	1.59
4	D	1301	DTP	PB-O3B	-2.63	1.56	1.59
4	B	1301	DTP	PB-O3B	-2.62	1.56	1.59
4	D	1301	DTP	C2-N3	2.60	1.36	1.32
4	E	1301	DTP	C2-N3	2.60	1.36	1.32
4	C	1301	DTP	C2-N3	2.59	1.36	1.32
4	A	1301	DTP	C2-N3	2.58	1.36	1.32
4	B	1301	DTP	C2-N3	2.58	1.36	1.32
4	E	1301	DTP	PB-O3B	-2.57	1.56	1.59
4	F	1301	DTP	C2-N3	2.55	1.36	1.32
4	B	1301	DTP	PA-O3A	-2.41	1.56	1.59
4	D	1301	DTP	PA-O3A	-2.40	1.56	1.59
4	F	1301	DTP	PA-O3A	-2.39	1.56	1.59
4	A	1301	DTP	PA-O3A	-2.38	1.56	1.59
4	C	1301	DTP	PA-O3A	-2.37	1.56	1.59
4	E	1301	DTP	PA-O3A	-2.37	1.56	1.59
4	G	1301	DTP	PA-O3A	-2.36	1.57	1.59
4	D	1301	DTP	PB-O3A	-2.34	1.57	1.59
4	B	1301	DTP	PB-O3A	-2.28	1.57	1.59
4	G	1301	DTP	PB-O3A	-2.27	1.57	1.59
4	A	1301	DTP	PB-O3A	-2.25	1.57	1.59
4	C	1301	DTP	PB-O3A	-2.24	1.57	1.59
4	F	1301	DTP	PB-O3A	-2.19	1.57	1.59
4	E	1301	DTP	PB-O3A	-2.17	1.57	1.59
4	E	1301	DTP	C6-N6	2.08	1.41	1.34
4	G	1301	DTP	C6-N6	2.08	1.41	1.34
4	C	1301	DTP	C6-N6	2.08	1.41	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	1301	DTP	C6-N6	2.08	1.41	1.34
4	B	1301	DTP	C6-N6	2.08	1.41	1.34
4	A	1301	DTP	C6-N6	2.07	1.41	1.34
4	F	1301	DTP	C6-N6	2.07	1.41	1.34

All (52) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	1301	DTP	C5-C6-N6	9.00	134.02	120.31
4	F	1301	DTP	C5-C6-N6	8.98	133.98	120.31
4	B	1301	DTP	C5-C6-N6	8.97	133.98	120.31
4	A	1301	DTP	C5-C6-N6	8.96	133.97	120.31
4	C	1301	DTP	C5-C6-N6	8.95	133.94	120.31
4	D	1301	DTP	C5-C6-N6	8.94	133.93	120.31
4	G	1301	DTP	C5-C6-N6	8.93	133.92	120.31
4	D	1301	DTP	N3-C2-N1	-6.39	120.00	128.67
4	G	1301	DTP	N3-C2-N1	-6.38	120.01	128.67
4	E	1301	DTP	N3-C2-N1	-6.38	120.01	128.67
4	C	1301	DTP	N3-C2-N1	-6.36	120.04	128.67
4	A	1301	DTP	N3-C2-N1	-6.36	120.04	128.67
4	B	1301	DTP	N3-C2-N1	-6.34	120.07	128.67
4	F	1301	DTP	N3-C2-N1	-6.31	120.10	128.67
4	D	1301	DTP	N6-C6-N1	-5.67	106.23	118.33
4	G	1301	DTP	N6-C6-N1	-5.66	106.24	118.33
4	E	1301	DTP	N6-C6-N1	-5.66	106.24	118.33
4	F	1301	DTP	N6-C6-N1	-5.66	106.24	118.33
4	A	1301	DTP	N6-C6-N1	-5.66	106.25	118.33
4	B	1301	DTP	N6-C6-N1	-5.66	106.25	118.33
4	C	1301	DTP	N6-C6-N1	-5.64	106.28	118.33
5	K	500	HEC	CMB-C2B-C1B	-4.15	122.38	128.46
5	I	500	HEC	CMB-C2B-C1B	-4.12	122.42	128.46
5	J	500	HEC	CMB-C2B-C1B	-4.11	122.43	128.46
5	N	500	HEC	CMB-C2B-C1B	-4.11	122.43	128.46
5	M	500	HEC	CMB-C2B-C1B	-4.11	122.43	128.46
5	L	500	HEC	CMB-C2B-C1B	-4.11	122.43	128.46
5	H	500	HEC	CMB-C2B-C1B	-4.10	122.44	128.46
5	N	500	HEC	CMC-C2C-C1C	-3.55	123.26	128.46
5	J	500	HEC	CMC-C2C-C1C	-3.54	123.28	128.46
5	M	500	HEC	CMC-C2C-C1C	-3.53	123.28	128.46
5	I	500	HEC	CMC-C2C-C1C	-3.53	123.28	128.46
5	L	500	HEC	CMC-C2C-C1C	-3.53	123.29	128.46
5	H	500	HEC	CMC-C2C-C1C	-3.52	123.29	128.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	K	500	HEC	CMC-C2C-C1C	-3.51	123.31	128.46
5	K	500	HEC	CMB-C2B-C3B	3.25	129.64	125.82
5	H	500	HEC	CMB-C2B-C3B	3.23	129.62	125.82
5	M	500	HEC	CMB-C2B-C3B	3.23	129.62	125.82
5	L	500	HEC	CMB-C2B-C3B	3.21	129.59	125.82
5	N	500	HEC	CMB-C2B-C3B	3.20	129.59	125.82
5	I	500	HEC	CMB-C2B-C3B	3.20	129.58	125.82
5	J	500	HEC	CMB-C2B-C3B	3.17	129.55	125.82
5	N	500	HEC	CMC-C2C-C3C	2.85	129.18	125.82
5	M	500	HEC	CMC-C2C-C3C	2.84	129.16	125.82
5	H	500	HEC	CMC-C2C-C3C	2.82	129.14	125.82
5	J	500	HEC	CMC-C2C-C3C	2.82	129.13	125.82
5	L	500	HEC	CMC-C2C-C3C	2.82	129.13	125.82
5	K	500	HEC	CMC-C2C-C3C	2.79	129.10	125.82
5	I	500	HEC	CMC-C2C-C3C	2.79	129.10	125.82
5	N	500	HEC	CBD-CAD-C3D	-2.02	109.14	112.54
5	H	500	HEC	CBD-CAD-C3D	-2.01	109.16	112.54
5	L	500	HEC	CBD-CAD-C3D	-2.01	109.17	112.54

There are no chirality outliers.

All (49) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1301	DTP	C5'-O5'-PA-O1A
4	A	1301	DTP	C5'-O5'-PA-O2A
4	A	1301	DTP	C5'-O5'-PA-O3A
4	A	1301	DTP	O4'-C4'-C5'-O5'
4	B	1301	DTP	C5'-O5'-PA-O1A
4	B	1301	DTP	C5'-O5'-PA-O2A
4	B	1301	DTP	C5'-O5'-PA-O3A
4	B	1301	DTP	O4'-C4'-C5'-O5'
4	C	1301	DTP	C5'-O5'-PA-O1A
4	C	1301	DTP	C5'-O5'-PA-O2A
4	C	1301	DTP	C5'-O5'-PA-O3A
4	C	1301	DTP	O4'-C4'-C5'-O5'
4	D	1301	DTP	C5'-O5'-PA-O1A
4	D	1301	DTP	C5'-O5'-PA-O2A
4	D	1301	DTP	C5'-O5'-PA-O3A
4	D	1301	DTP	O4'-C4'-C5'-O5'
4	E	1301	DTP	C5'-O5'-PA-O1A
4	E	1301	DTP	C5'-O5'-PA-O2A
4	E	1301	DTP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
4	E	1301	DTP	O4'-C4'-C5'-O5'
4	F	1301	DTP	C5'-O5'-PA-O1A
4	F	1301	DTP	C5'-O5'-PA-O2A
4	F	1301	DTP	C5'-O5'-PA-O3A
4	F	1301	DTP	O4'-C4'-C5'-O5'
4	G	1301	DTP	C5'-O5'-PA-O1A
4	G	1301	DTP	C5'-O5'-PA-O2A
4	G	1301	DTP	C5'-O5'-PA-O3A
4	G	1301	DTP	O4'-C4'-C5'-O5'
4	A	1301	DTP	C3'-C4'-C5'-O5'
4	B	1301	DTP	C3'-C4'-C5'-O5'
4	C	1301	DTP	C3'-C4'-C5'-O5'
4	D	1301	DTP	C3'-C4'-C5'-O5'
4	E	1301	DTP	C3'-C4'-C5'-O5'
4	F	1301	DTP	C3'-C4'-C5'-O5'
4	G	1301	DTP	C3'-C4'-C5'-O5'
4	A	1301	DTP	PG-O3B-PB-O2B
4	B	1301	DTP	PG-O3B-PB-O2B
4	C	1301	DTP	PG-O3B-PB-O2B
4	D	1301	DTP	PG-O3B-PB-O2B
4	E	1301	DTP	PG-O3B-PB-O2B
4	F	1301	DTP	PG-O3B-PB-O2B
4	G	1301	DTP	PG-O3B-PB-O2B
5	N	500	HEC	CAD-CBD-CGD-O2D
5	H	500	HEC	CAD-CBD-CGD-O2D
5	I	500	HEC	CAD-CBD-CGD-O2D
5	J	500	HEC	CAD-CBD-CGD-O2D
5	K	500	HEC	CAD-CBD-CGD-O2D
5	L	500	HEC	CAD-CBD-CGD-O2D
5	M	500	HEC	CAD-CBD-CGD-O2D

There are no ring outliers.

14 monomers are involved in 49 short contacts:

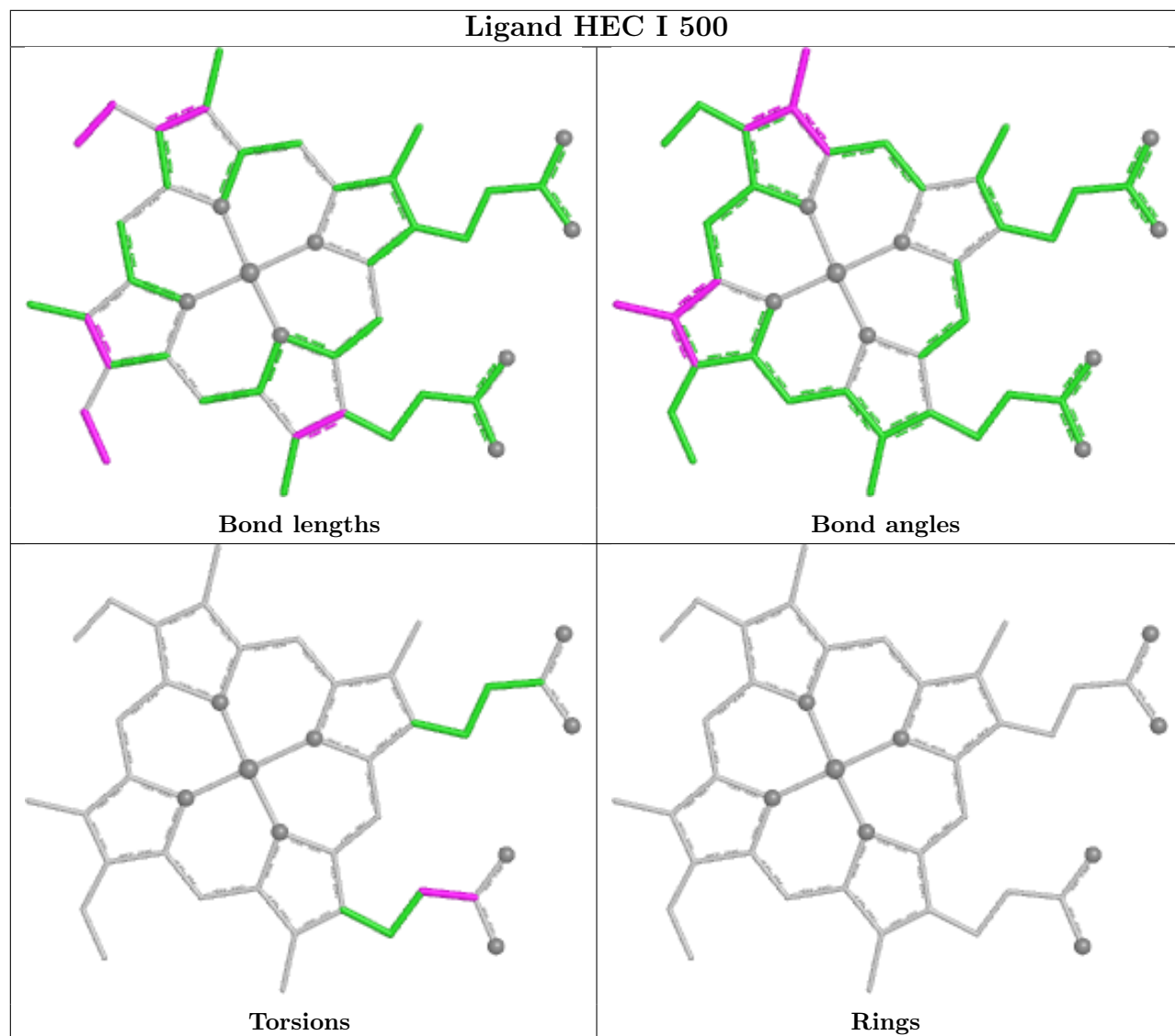
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	I	500	HEC	4	0
5	N	500	HEC	4	0
4	F	1301	DTP	3	0
4	A	1301	DTP	3	0
5	K	500	HEC	4	0
5	J	500	HEC	4	0
5	M	500	HEC	4	0

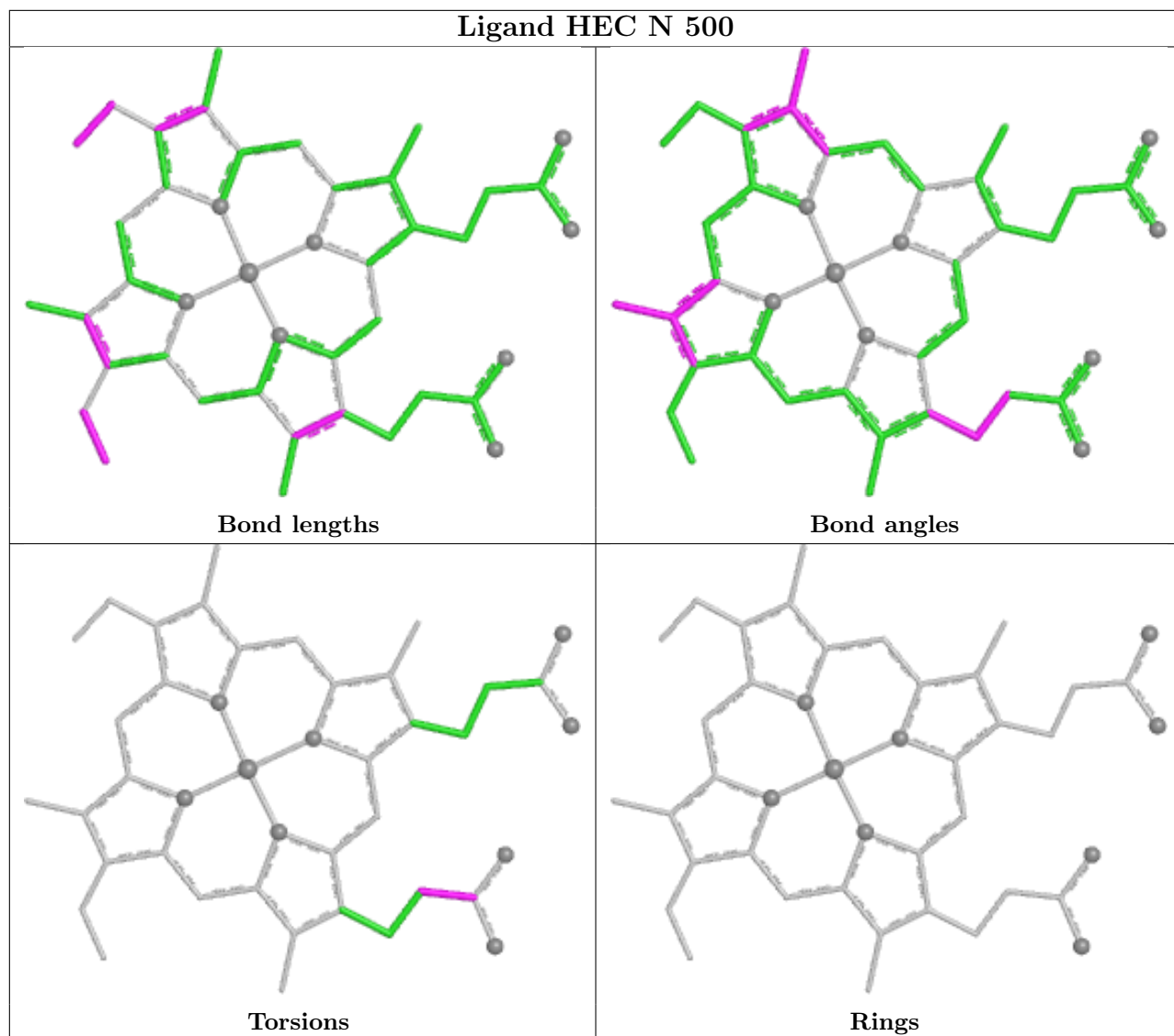
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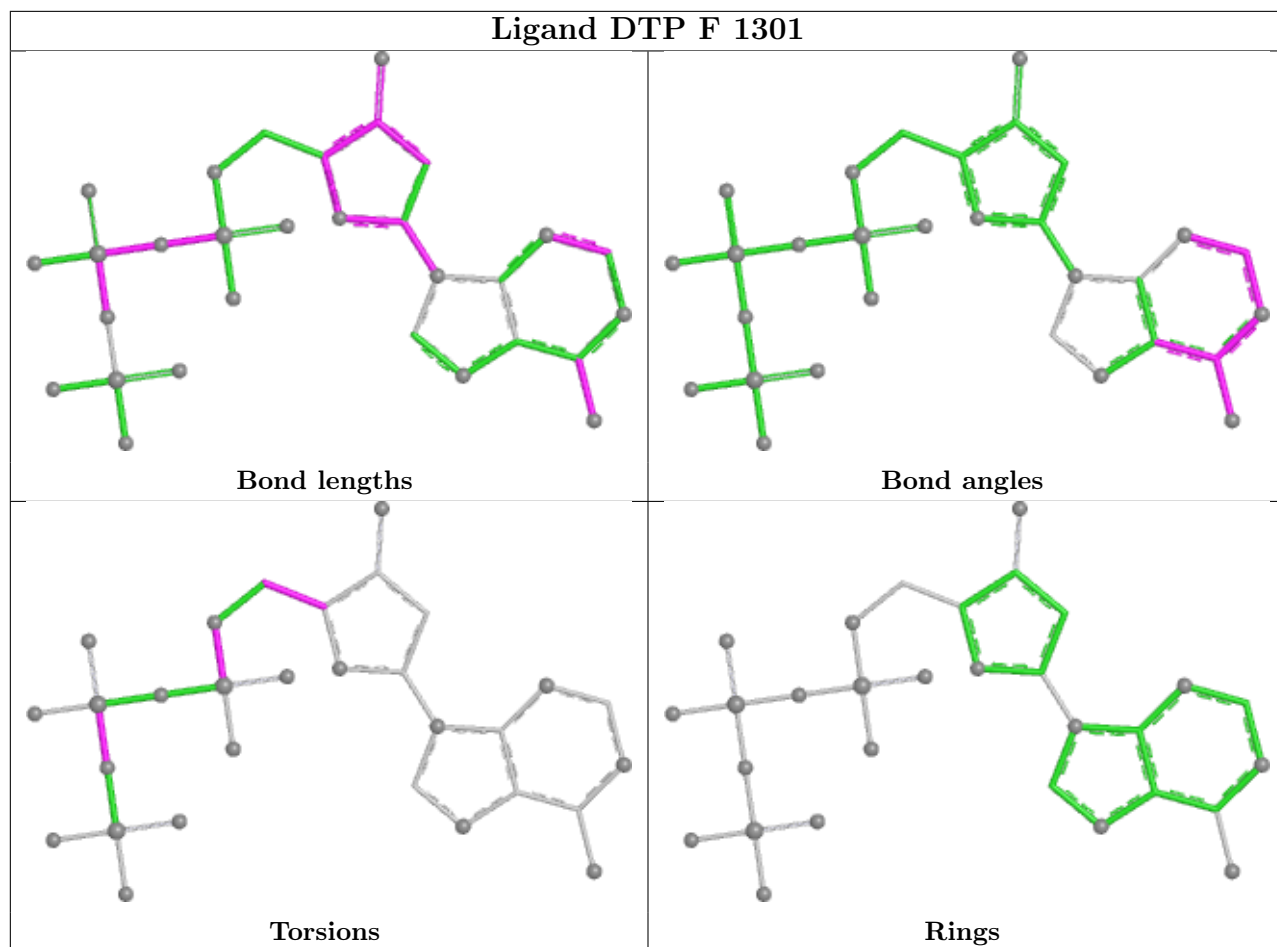
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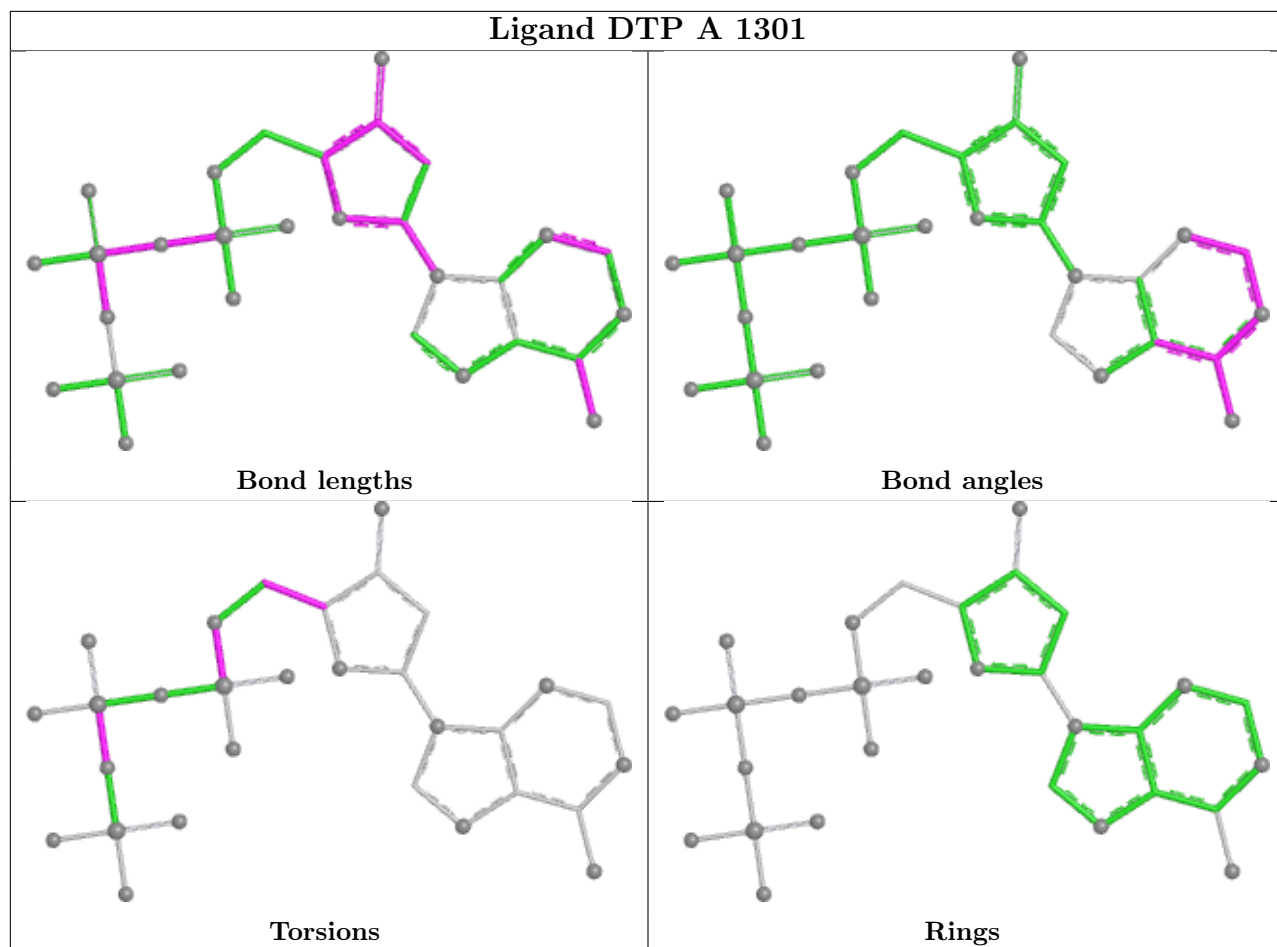
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	E	1301	DTP	3	0
5	H	500	HEC	4	0
4	G	1301	DTP	3	0
4	C	1301	DTP	3	0
4	B	1301	DTP	3	0
4	D	1301	DTP	3	0
5	L	500	HEC	4	0

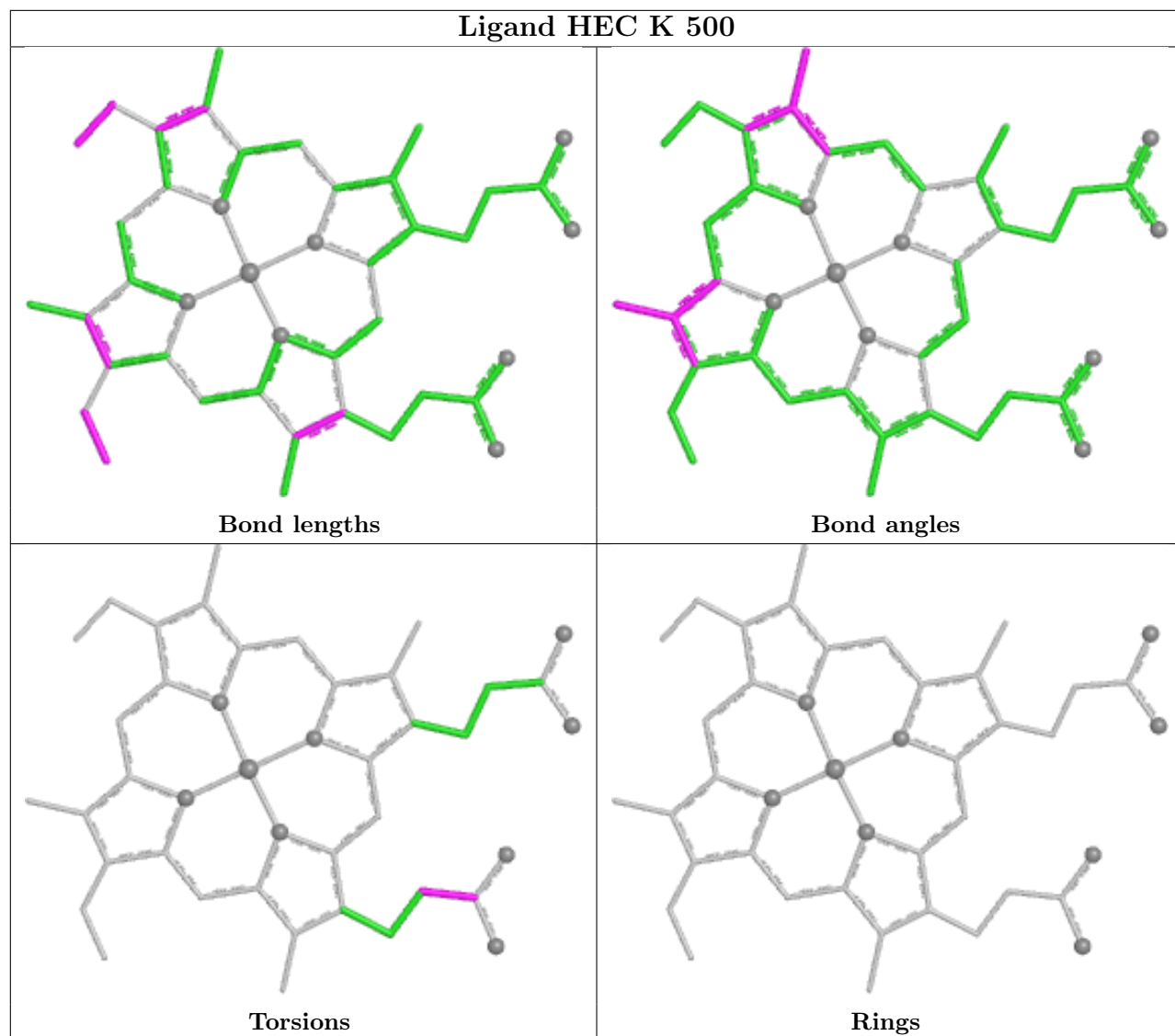
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 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.

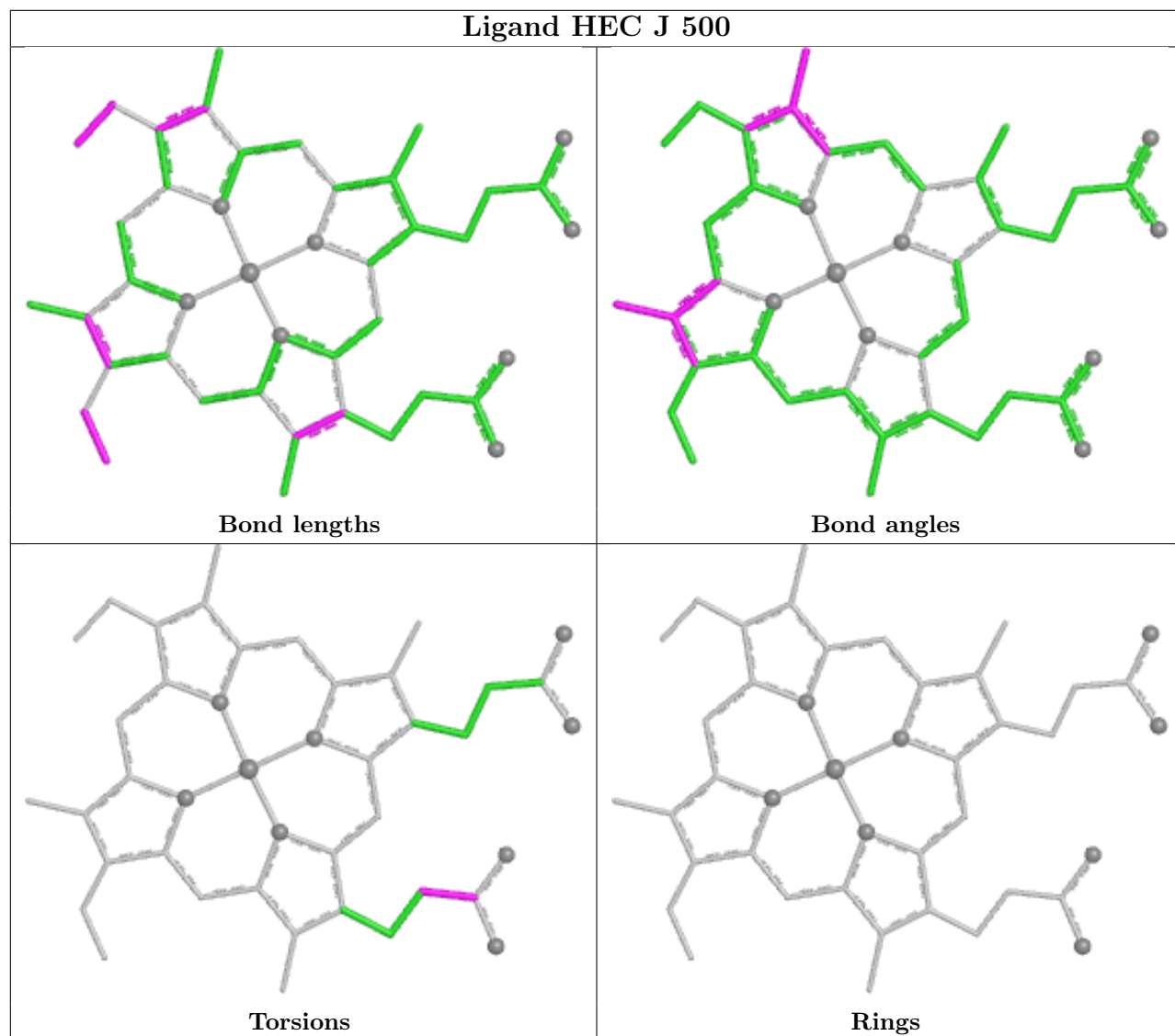


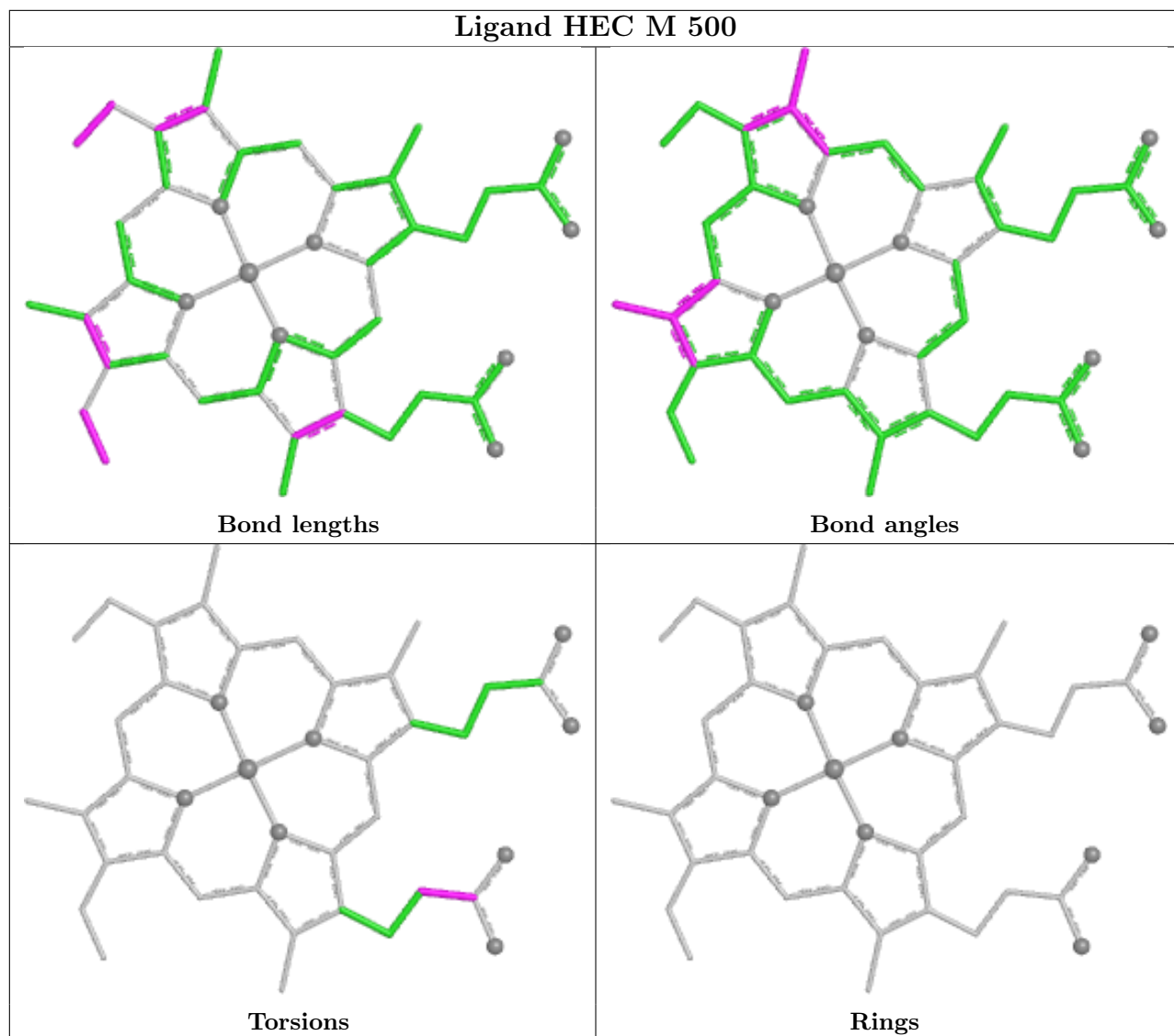


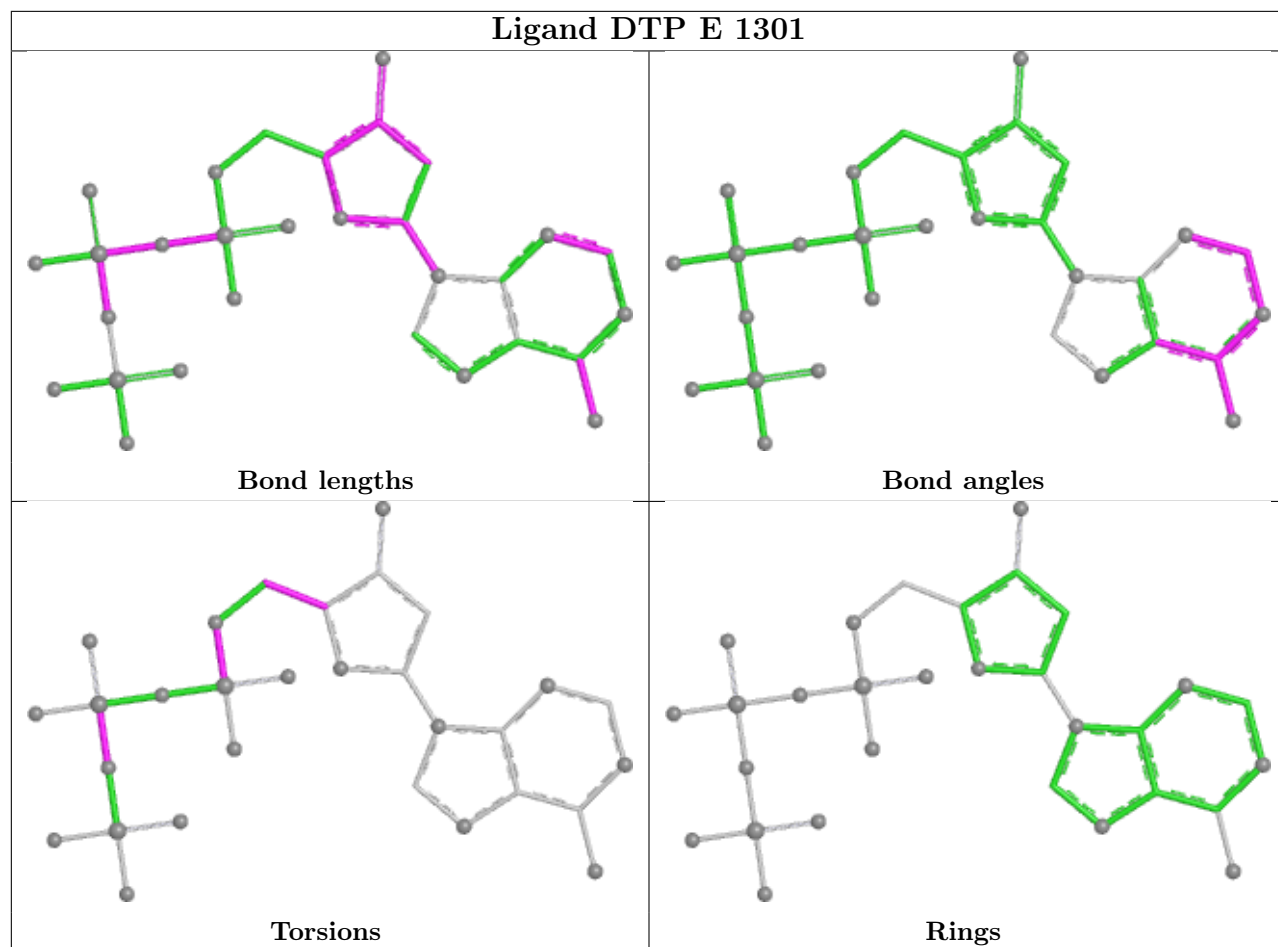


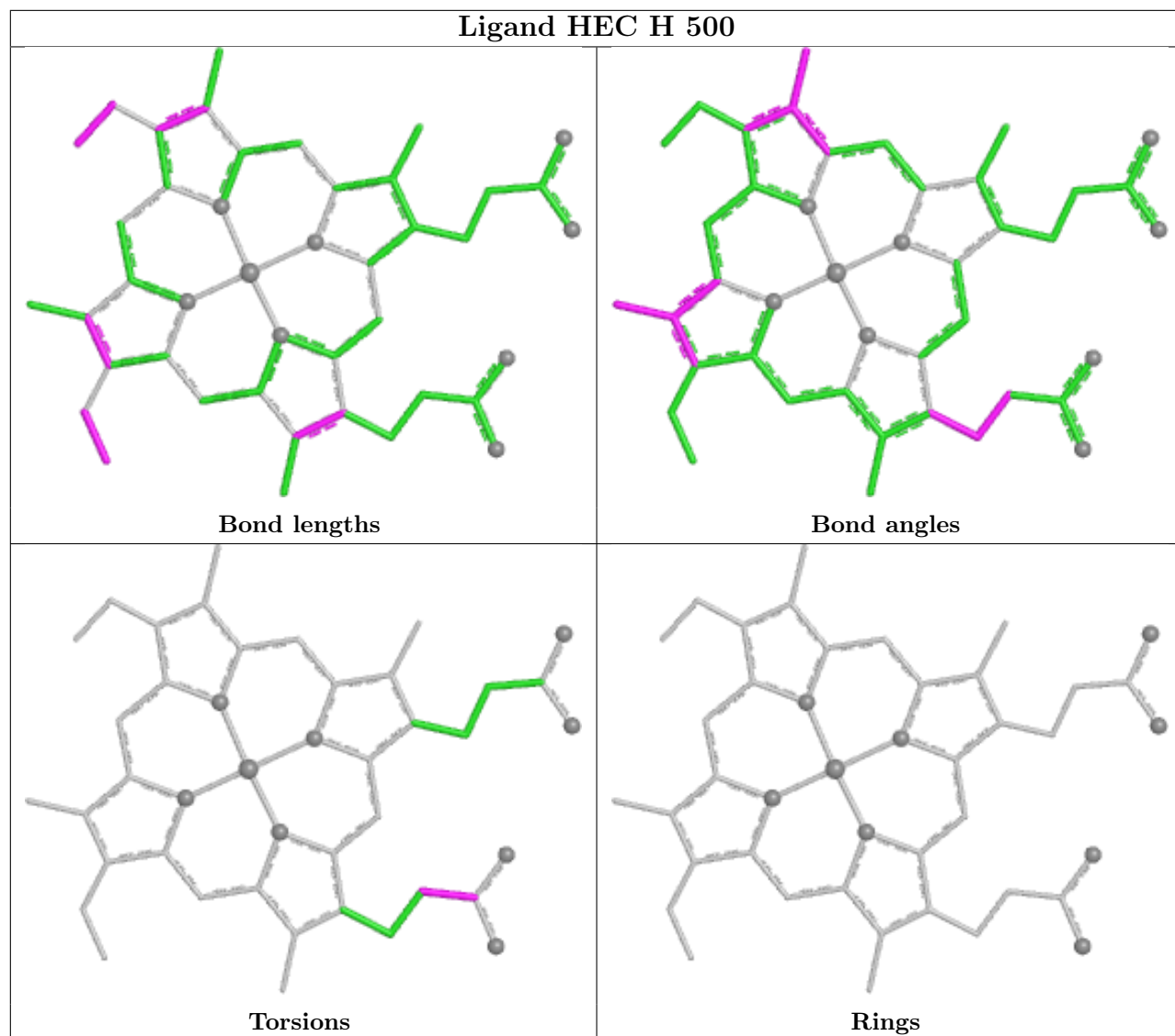


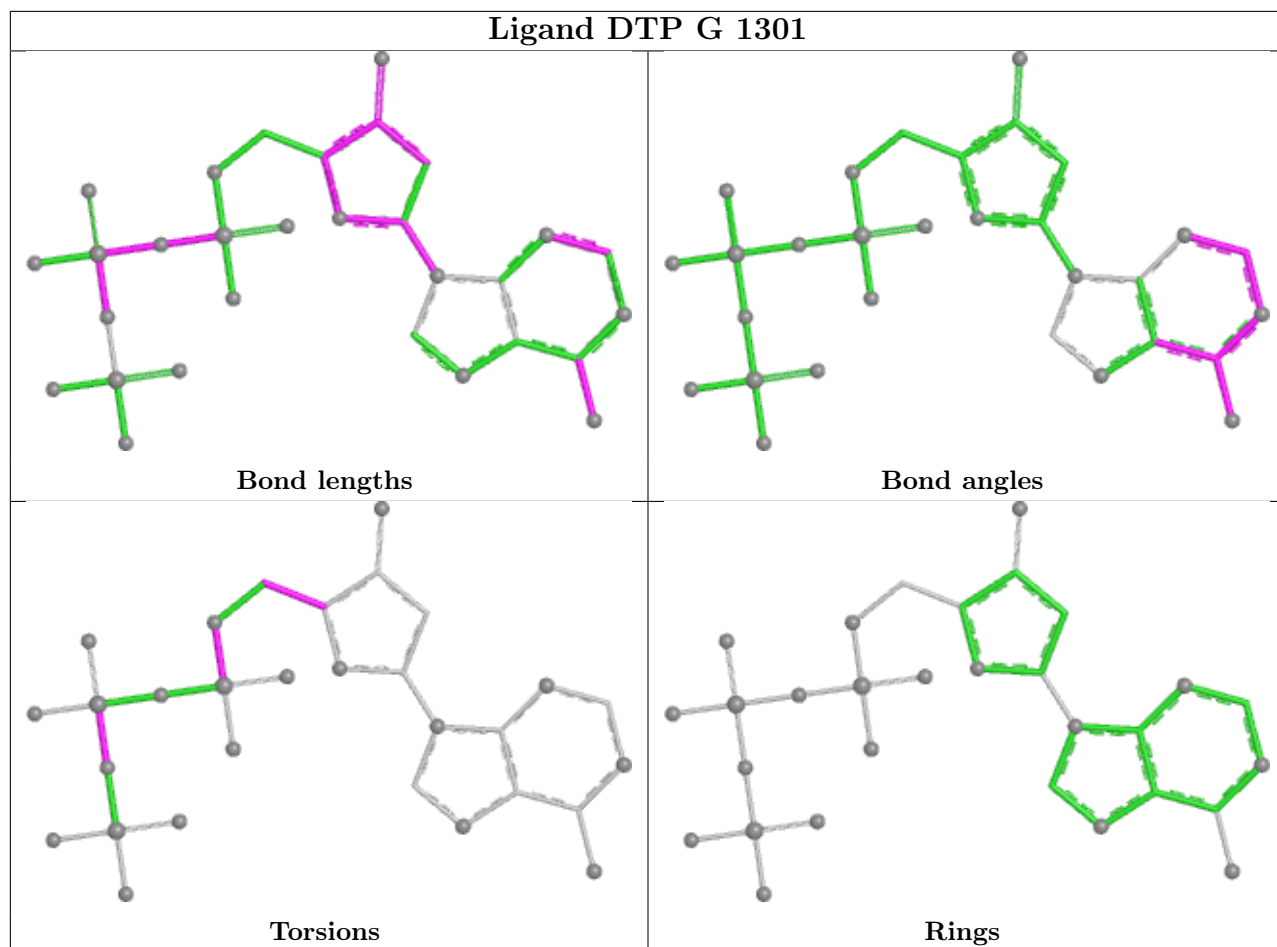


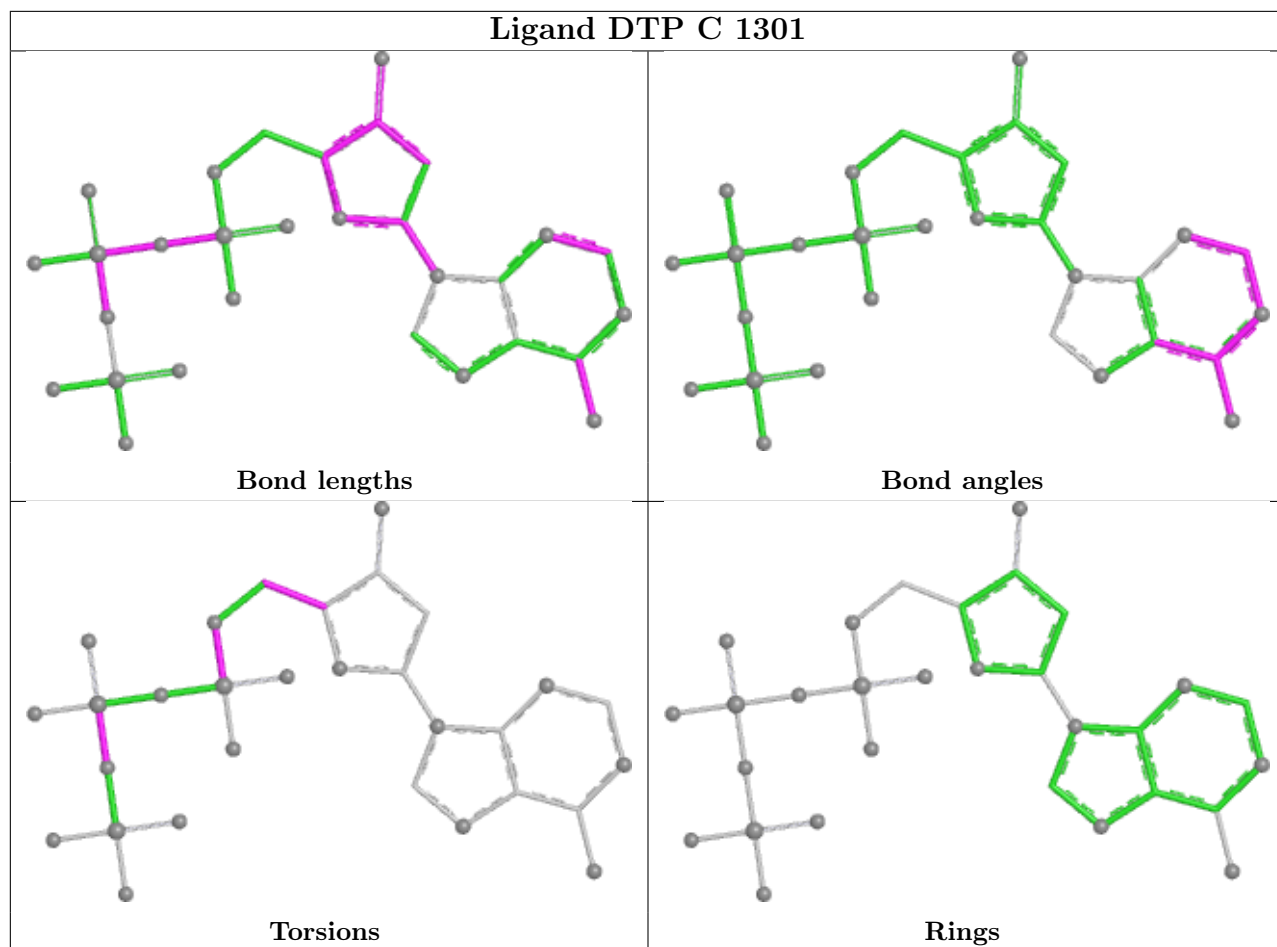


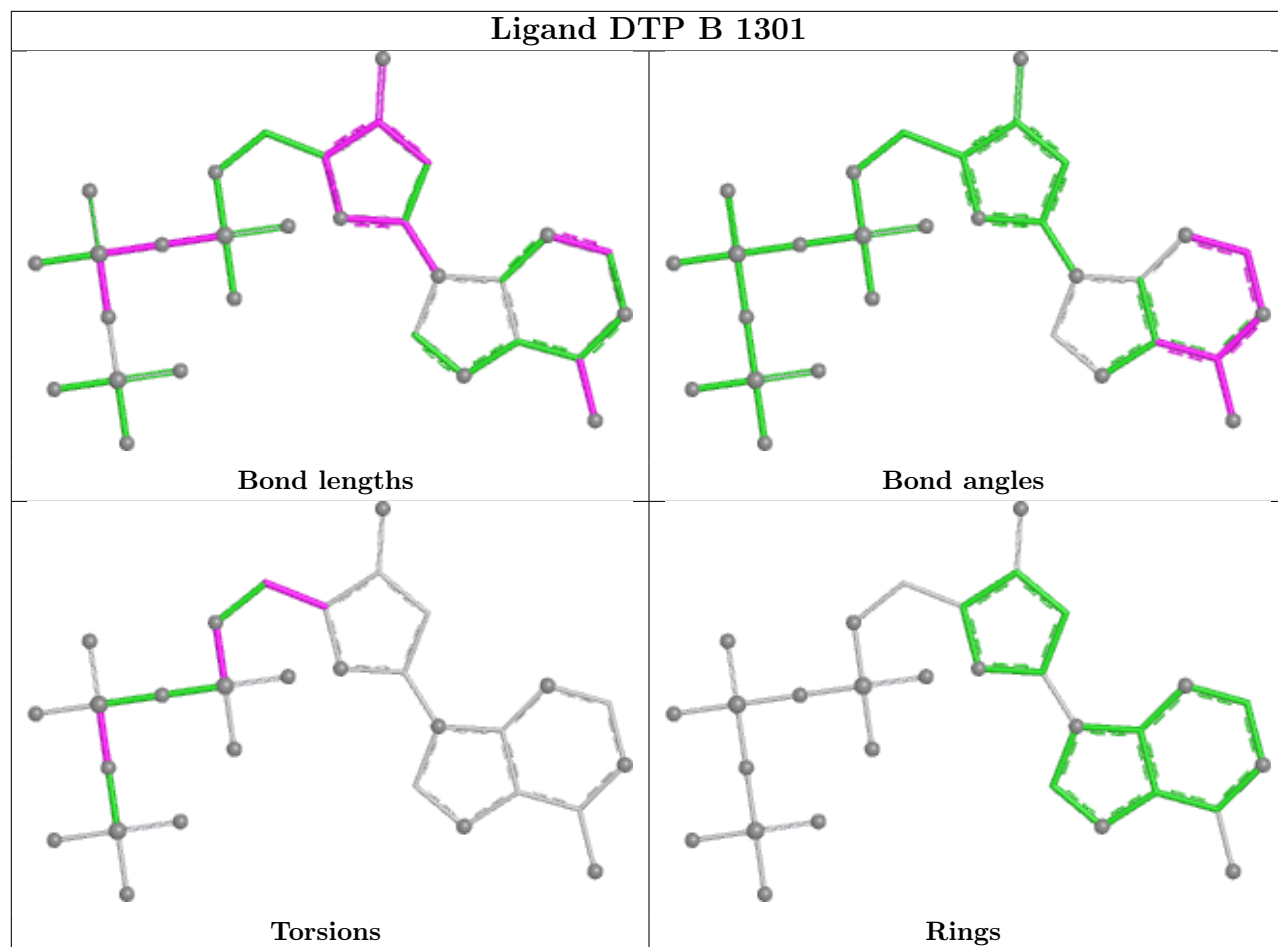


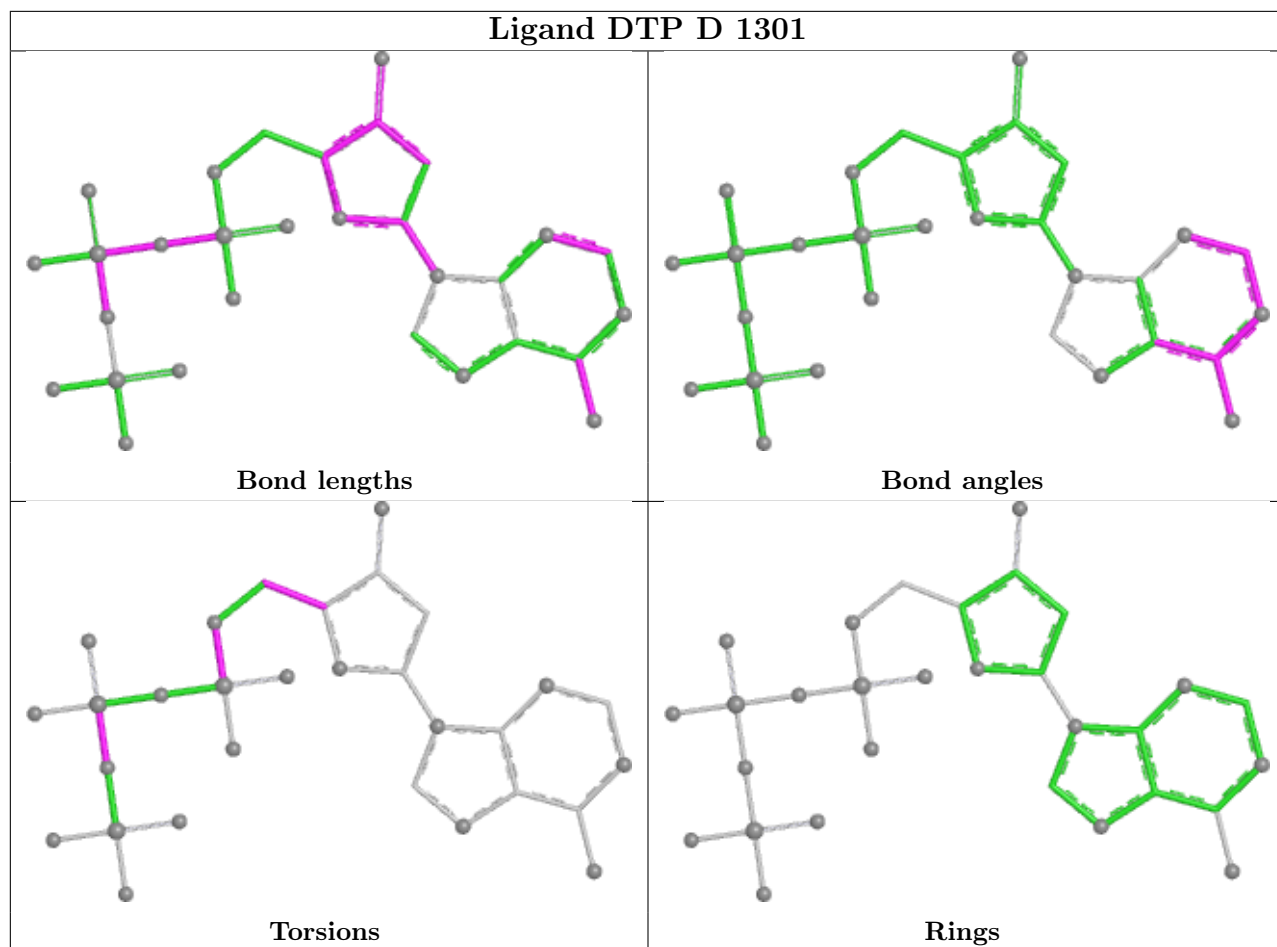


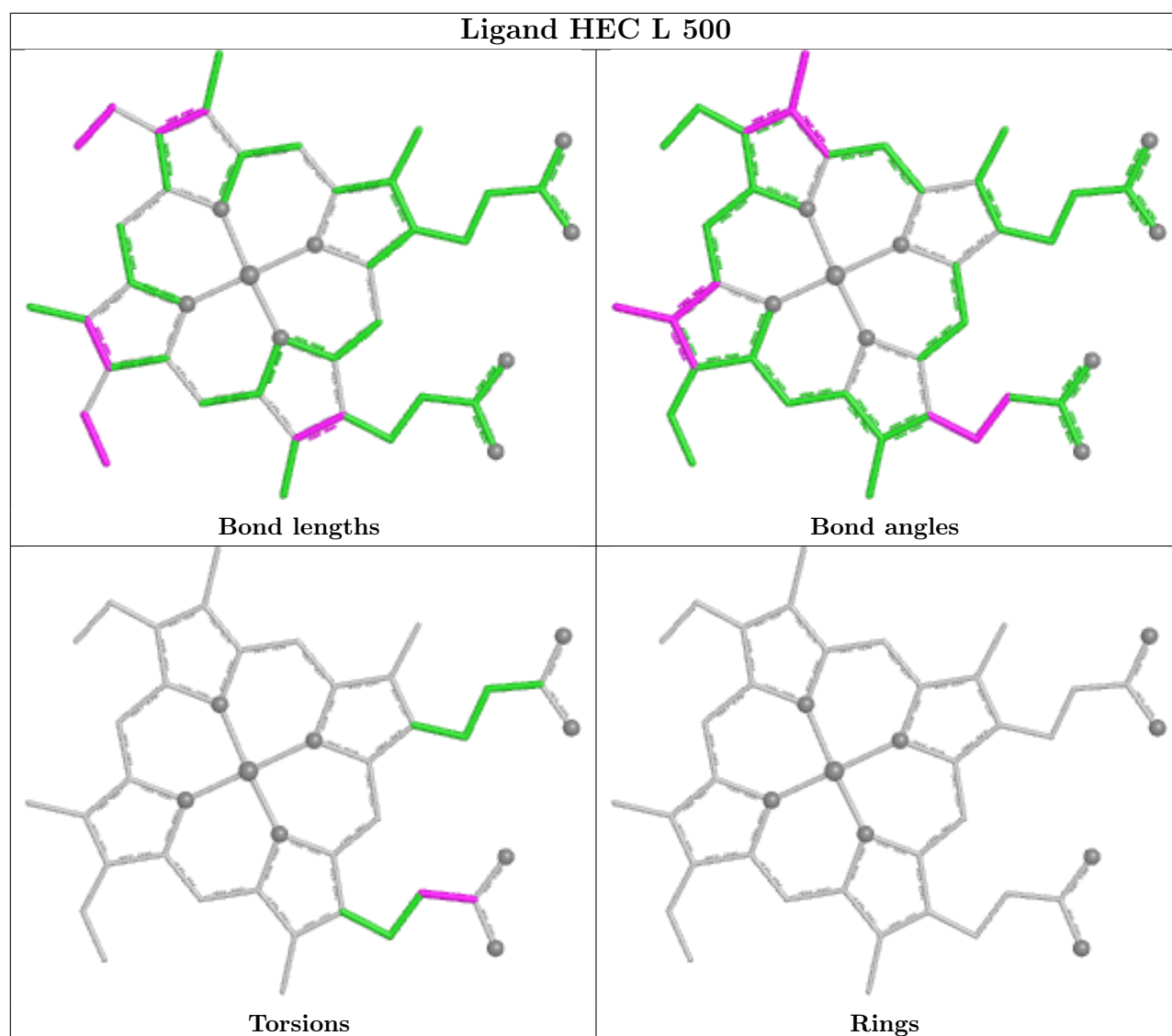












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

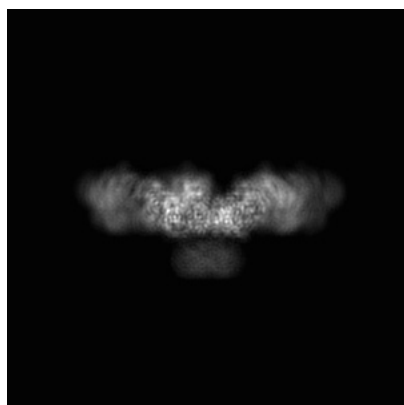
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8178. These allow visual inspection of the internal detail of the map and identification of artifacts.

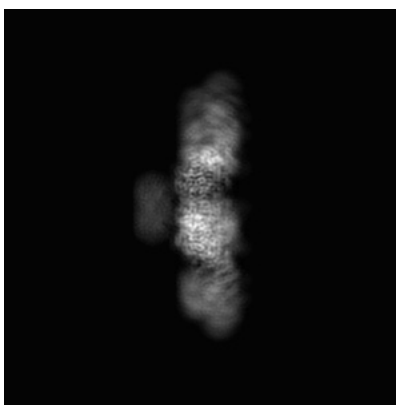
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

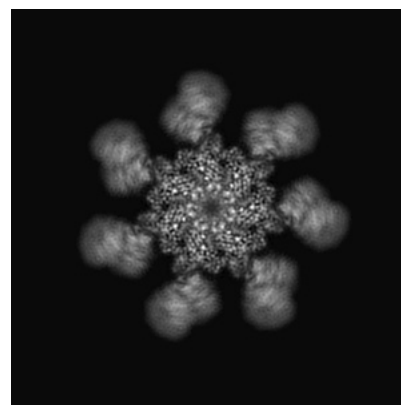
6.1.1 Primary map



X



Y

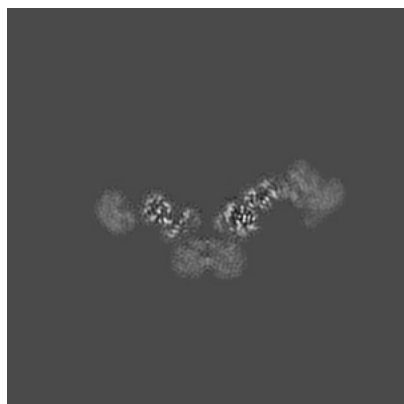


Z

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

6.2 Central slices [i](#)

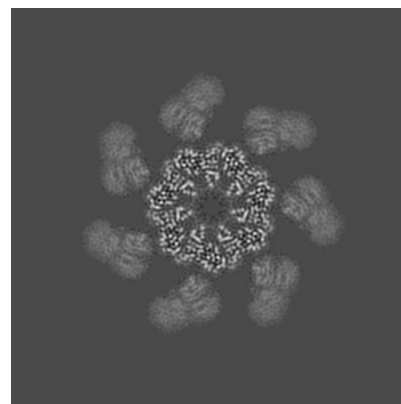
6.2.1 Primary map



X Index: 160



Y Index: 160



Z Index: 160

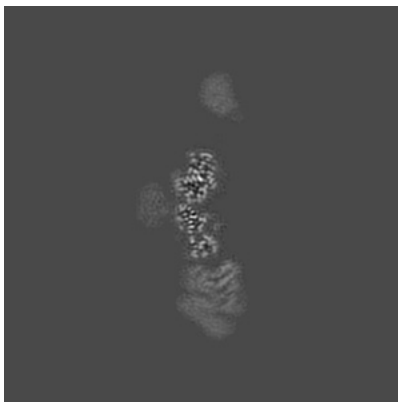
The images above show central slices of the map in three orthogonal directions.

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

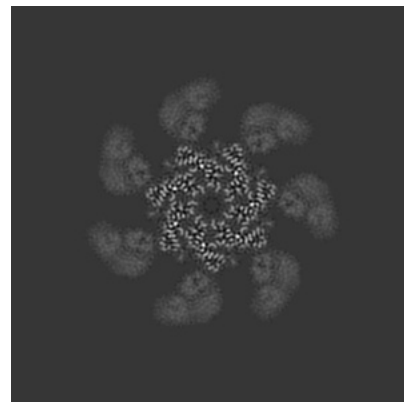
6.3.1 Primary map



X Index: 146



Y Index: 135

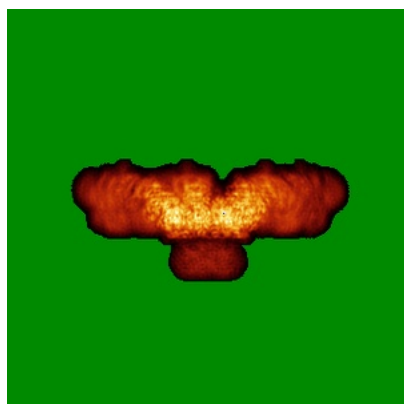


Z Index: 157

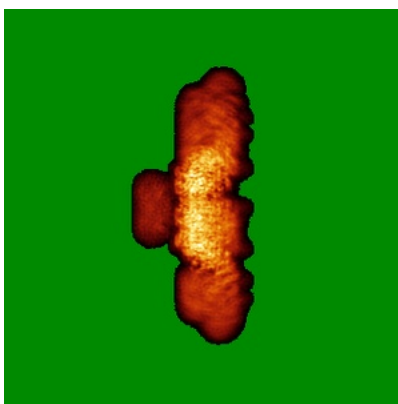
The images above show the largest variance slices of the map in three orthogonal directions.

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

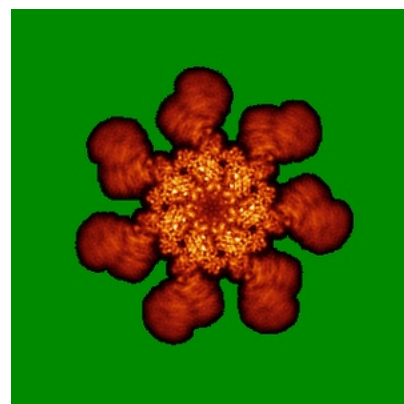
6.4.1 Primary map



X



Y

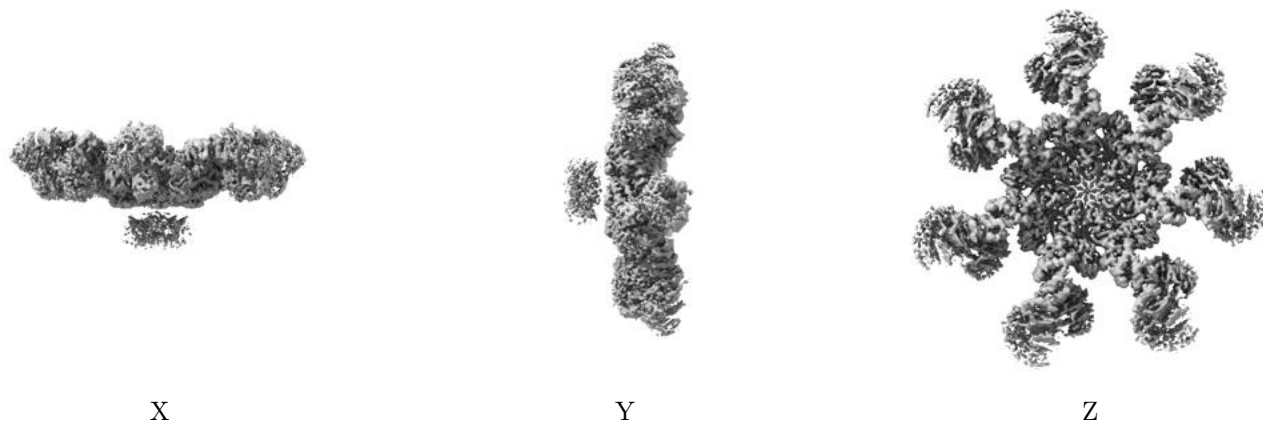


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

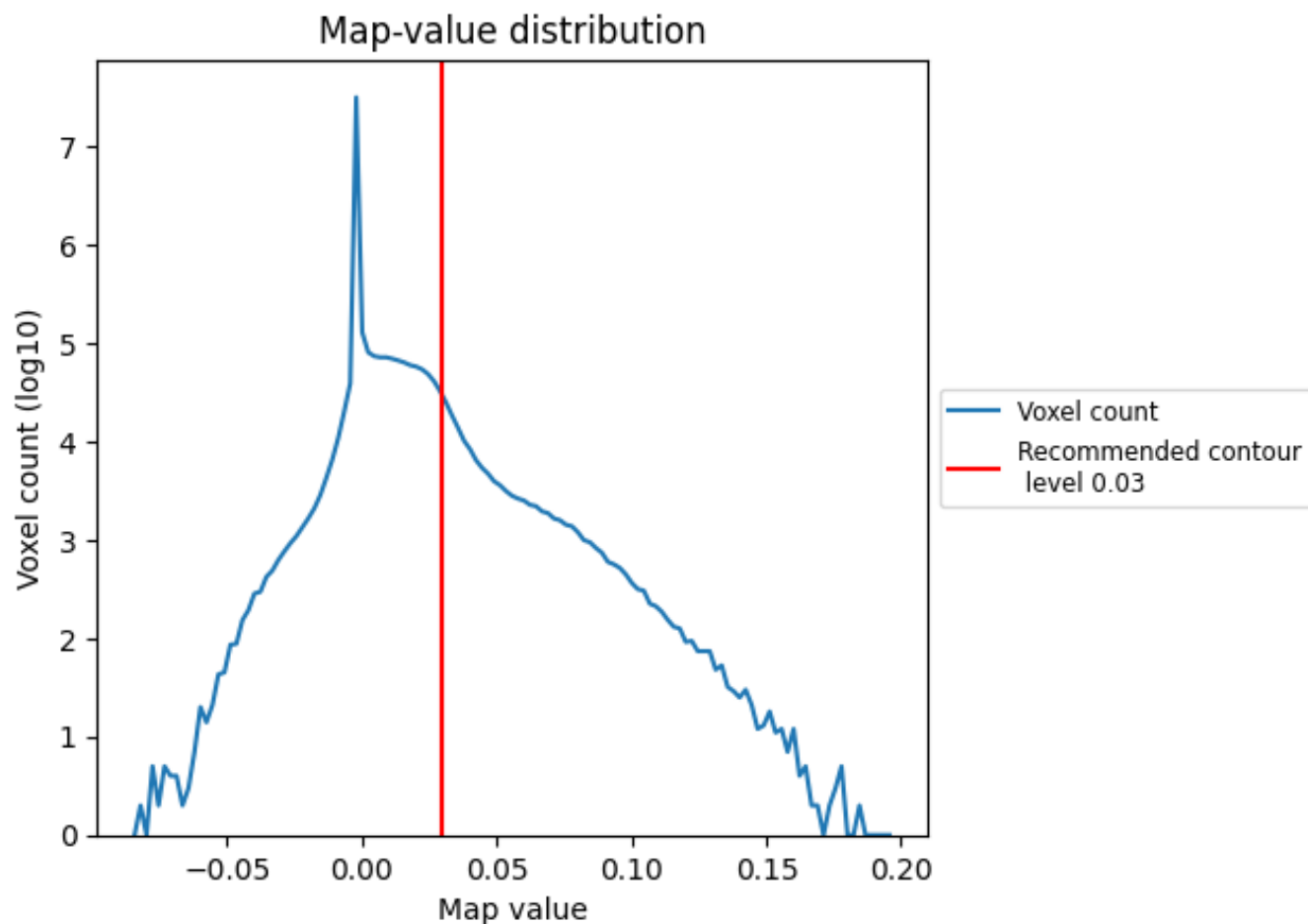
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

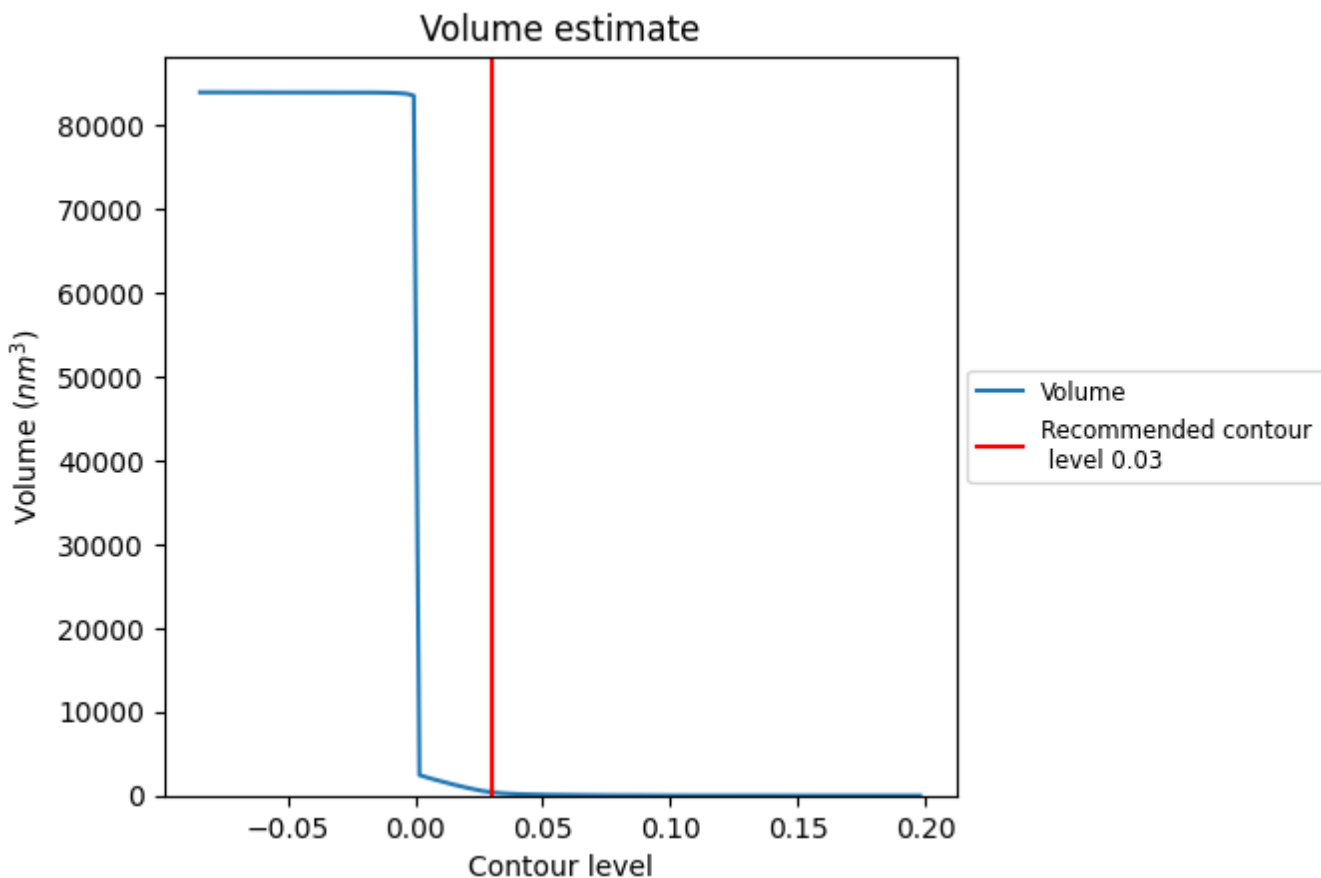
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

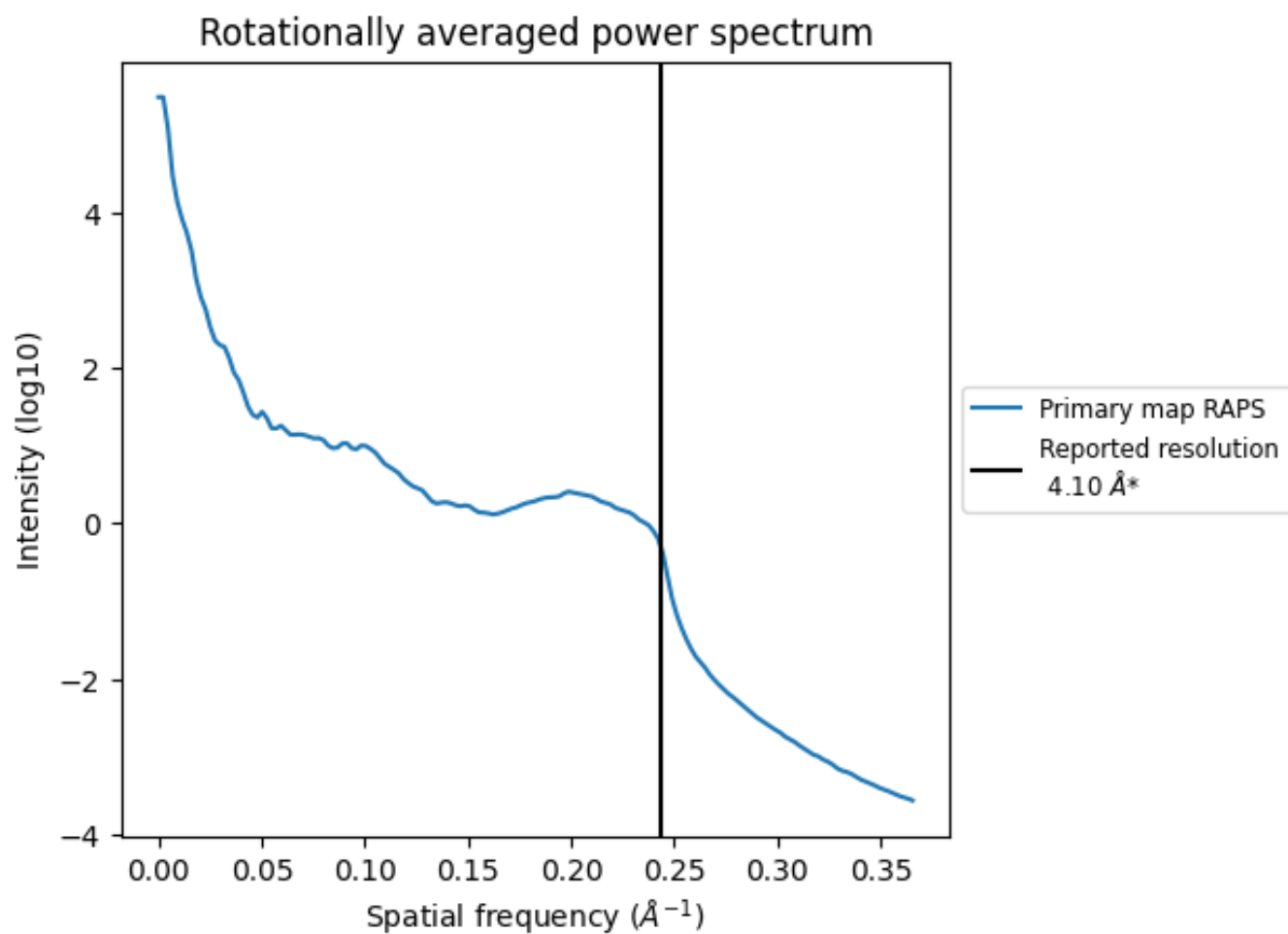
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 389 nm^3 ; this corresponds to an approximate mass of 352 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.244 Å⁻¹

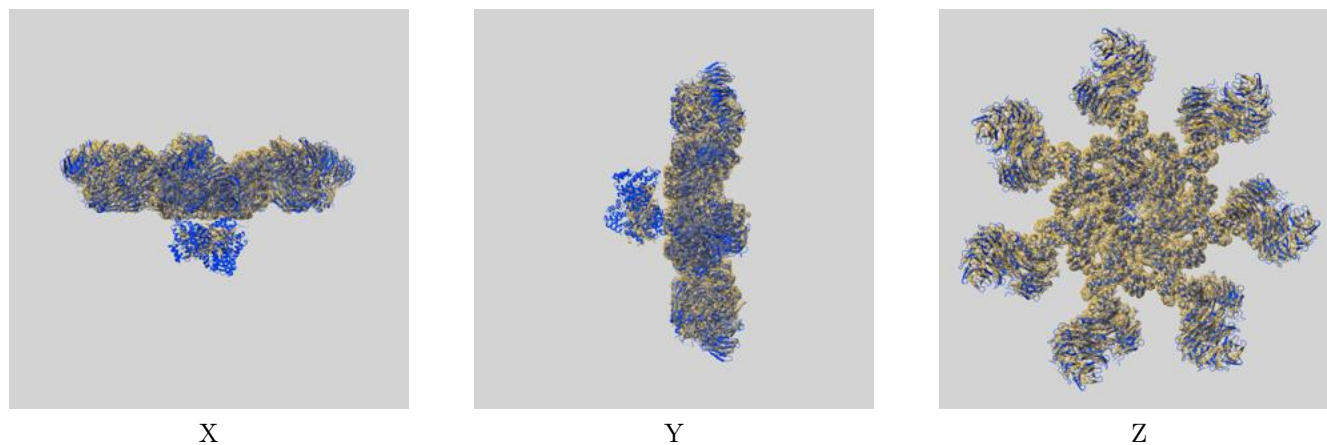
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

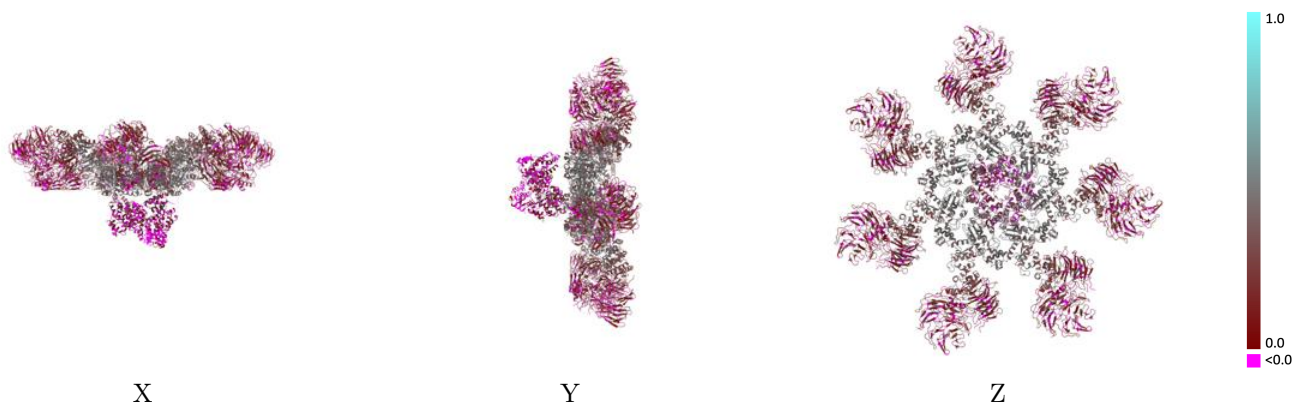
This section contains information regarding the fit between EMDB map EMD-8178 and PDB model 5JUY. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



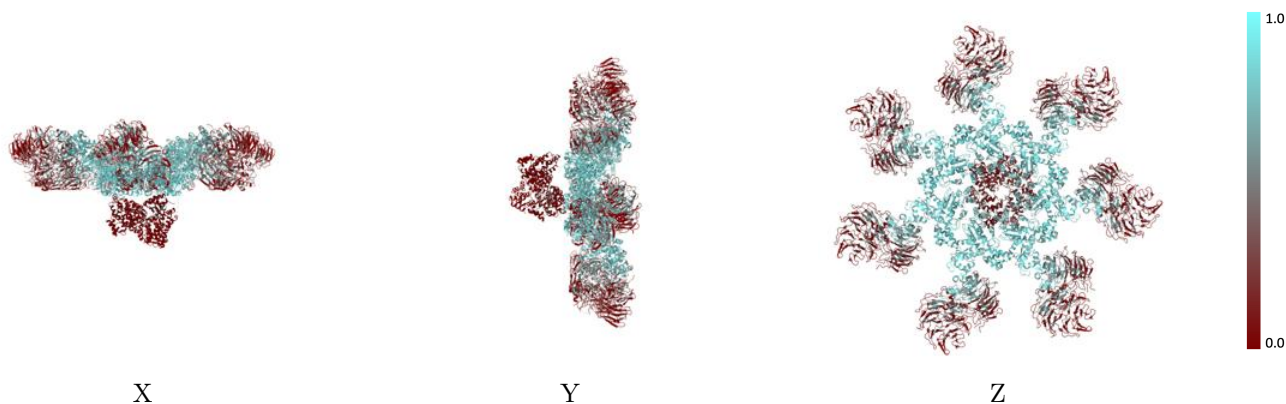
The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



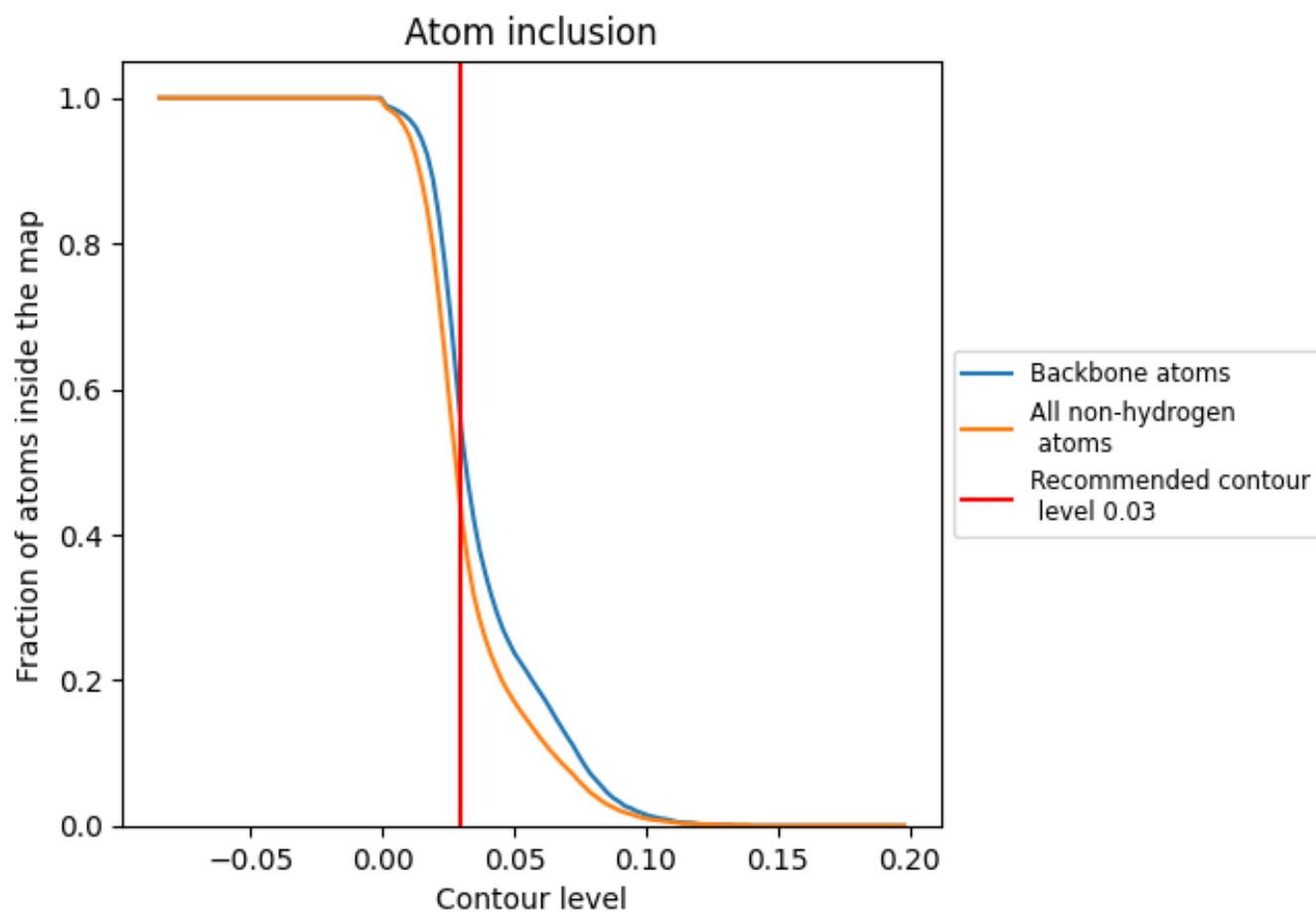
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.03).







































9.4 Atom inclusion [i](#)



At the recommended contour level, 55% of all backbone atoms, 43% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4290	 0.2300
A	 0.4830	 0.2610
B	 0.4490	 0.2420
C	 0.4820	 0.2620
D	 0.4510	 0.2410
E	 0.4490	 0.2460
F	 0.4810	 0.2590
G	 0.4510	 0.2500
H	 0.2400	 0.1010
I	 0.2420	 0.1010
J	 0.2360	 0.1010
K	 0.2460	 0.1060
L	 0.2400	 0.1040
M	 0.2380	 0.1050
N	 0.2360	 0.1030
O	 0.1050	 0.0880
P	 0.0350	 0.0600
Q	 0.0040	 -0.0130
R	 0.0040	 -0.0470

