



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 24, 2023 – 11:42 PM EDT

PDB ID : 3A2C
Title : Crystal structure of a pyrazolopyrimidine inhibitor complex bound to MAP-KAP Kinase-2 (MK2)
Authors : Fujino, A.; Takimoto-Kamimura, M.
Deposited on : 2009-05-12
Resolution : 2.90 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

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:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

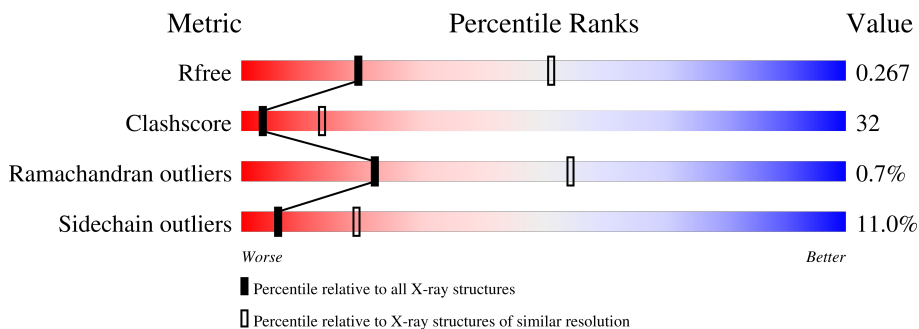
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	324	
1	B	324	
1	C	324	
1	D	324	
1	E	324	
1	F	324	
1	G	324	

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Mol	Chain	Length	Quality of chain			
1	H	324	45%	35%	6%	15%
1	I	324	43%	35%	6%	15%
1	J	324	39%	40%	7%	15%
1	K	324	37%	42%	5%	16%
1	L	324	42%	38%	6%	15%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	PDY	C	2	-	-	X	-
2	PDY	E	1	-	-	X	-
2	PDY	E	2	-	-	X	-
2	PDY	F	2	-	-	X	-
2	PDY	G	1	-	-	X	-
2	PDY	G	2	-	-	X	-
2	PDY	H	1	-	-	X	-
2	PDY	H	2	-	-	X	-
2	PDY	I	1	-	-	X	-
2	PDY	I	2	-	-	X	-
2	PDY	J	1	-	-	X	-
2	PDY	K	1	-	-	X	-
2	PDY	K	2	-	-	X	-
2	PDY	L	1	-	-	X	-
2	PDY	L	2	-	-	X	-

2 Entry composition

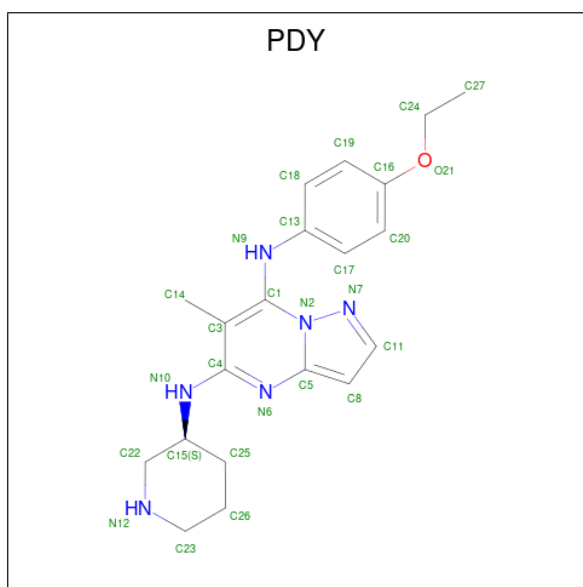
There are 3 unique types of molecules in this entry. The entry contains 27440 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 MAP kinase-activated protein kinase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	274	2218	1415	384	402	17	0	0	0
1	B	277	2240	1426	388	409	17	0	0	0
1	C	273	2207	1409	380	401	17	0	0	0
1	D	277	2244	1430	389	408	17	0	0	0
1	E	276	2234	1425	385	407	17	0	0	0
1	F	287	2316	1476	401	422	17	0	0	0
1	G	273	2210	1411	381	401	17	0	0	0
1	H	275	2226	1421	385	403	17	0	0	0
1	I	275	2225	1420	384	404	17	0	0	0
1	J	275	2225	1420	384	404	17	0	0	0
1	K	273	2208	1409	381	401	17	0	0	0
1	L	276	2234	1425	385	407	17	0	0	0

- Molecule 2 is N 7 -(4-ethoxyphenyl)-6-methyl-N 5 -[(3S)-piperidin-3-yl]pyrazolo[1,5-a]pyrimidine-5,7-diamine (three-letter code: PDY) (formula: C₂₀H₂₆N₆O).



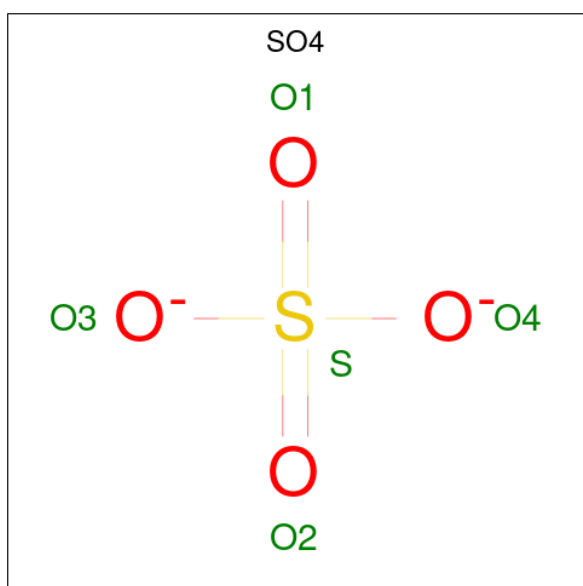
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	A	1	Total	C	N	O	0	0
			27	20	6	1		
2	A	1	Total	C	N	O	0	0
			27	20	6	1		
2	B	1	Total	C	N	O	0	0
			27	20	6	1		
2	B	1	Total	C	N	O	0	0
			27	20	6	1		
2	C	1	Total	C	N	O	0	0
			27	20	6	1		
2	C	1	Total	C	N	O	0	0
			27	20	6	1		
2	D	1	Total	C	N	O	0	0
			27	20	6	1		
2	D	1	Total	C	N	O	0	0
			27	20	6	1		
2	E	1	Total	C	N	O	0	0
			27	20	6	1		
2	E	1	Total	C	N	O	0	0
			27	20	6	1		
2	F	1	Total	C	N	O	0	0
			27	20	6	1		
2	F	1	Total	C	N	O	0	0
			27	20	6	1		
2	G	1	Total	C	N	O	0	0
			27	20	6	1		
2	G	1	Total	C	N	O	0	0
			27	20	6	1		

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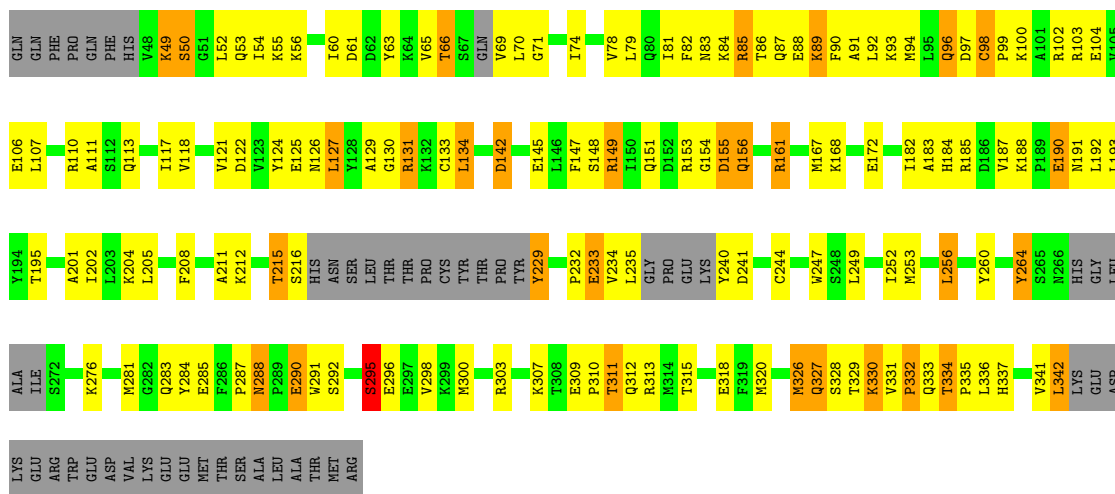
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	H	1	Total	C	N	O	0	0
			27	20	6	1		
2	H	1	Total	C	N	O	0	0
			27	20	6	1		
2	I	1	Total	C	N	O	0	0
			27	20	6	1		
2	I	1	Total	C	N	O	0	0
			27	20	6	1		
2	J	1	Total	C	N	O	0	0
			27	20	6	1		
2	J	1	Total	C	N	O	0	0
			27	20	6	1		
2	K	1	Total	C	N	O	0	0
			27	20	6	1		
2	K	1	Total	C	N	O	0	0
			27	20	6	1		
2	L	1	Total	C	N	O	0	0
			27	20	6	1		
2	L	1	Total	C	N	O	0	0
			27	20	6	1		

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



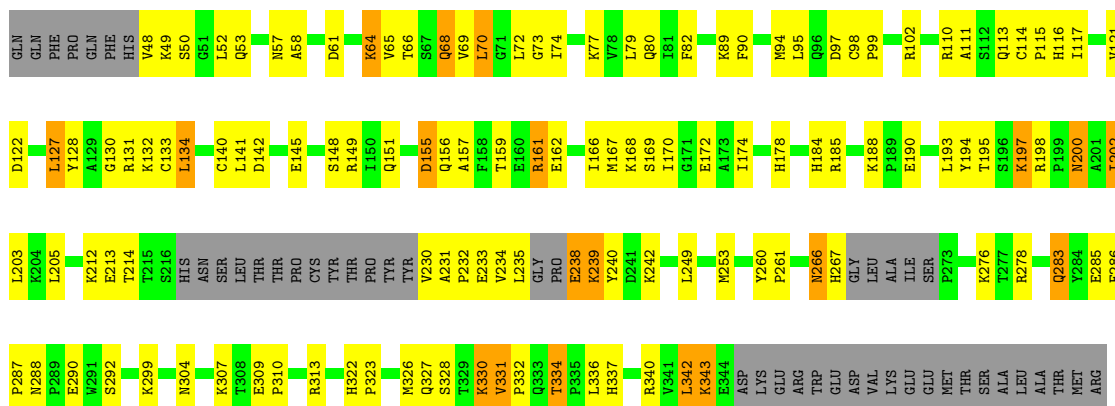
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	F	1	Total	O	S	0	0
			5	4	1		

Chain C:  40% 35% 9% 16%



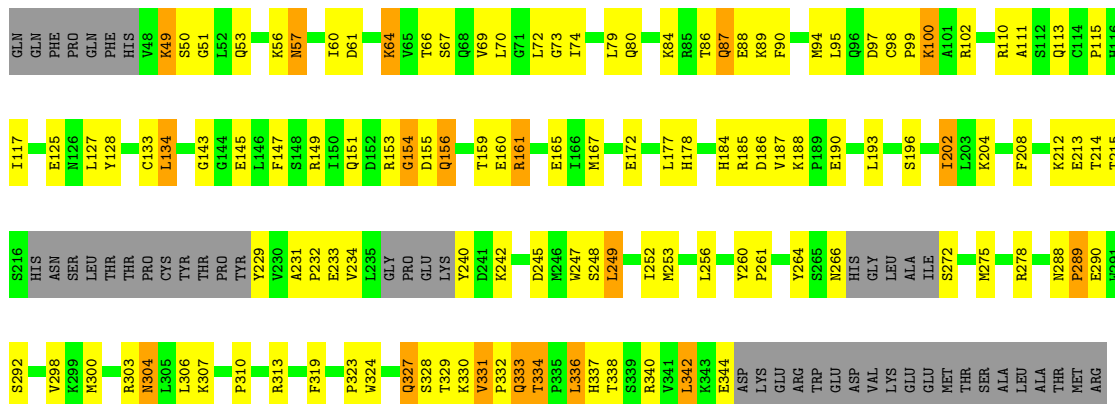
- Molecule 1: MAP kinase-activated protein kinase 2

Chain D:  46% 33% 6% 15%

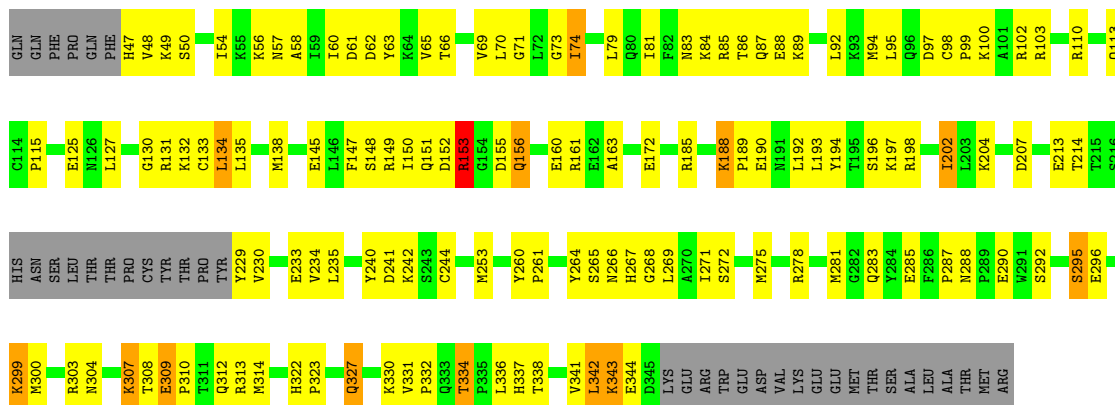


- Molecule 1: MAP kinase-activated protein kinase 2

Chain E:  47% 32% 6% 15%



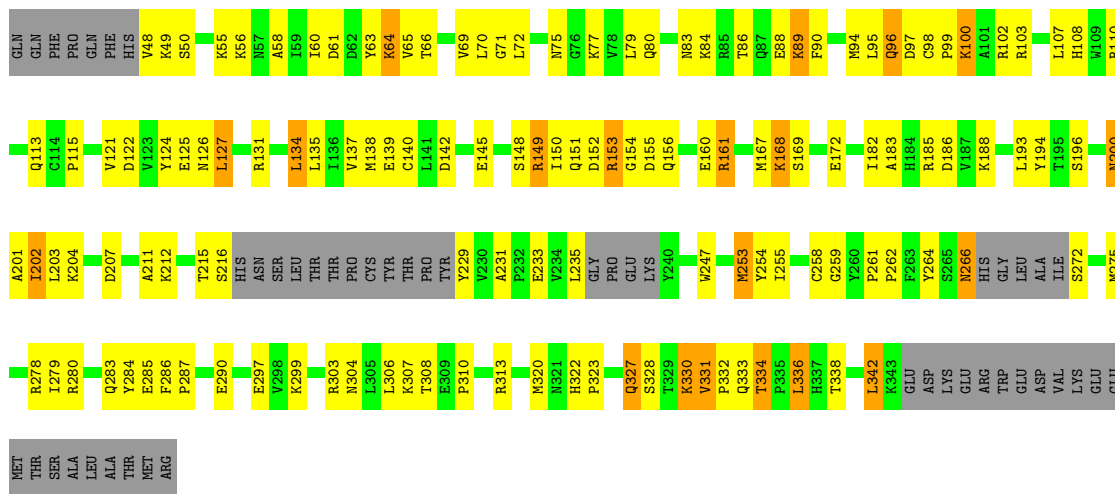
• Molecule 1: MAP kinase-activated protein kinase 2



ALA
LEU
PHE
THR
MET
ARG

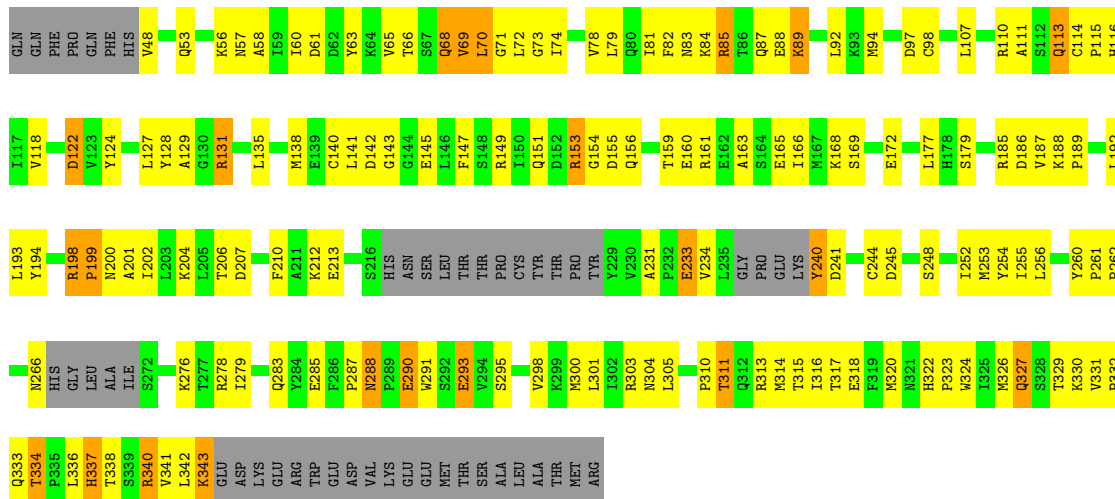
• Molecule 1: MAP kinase-activated protein kinase 2

Chain I: 43% 35% 6% 15%



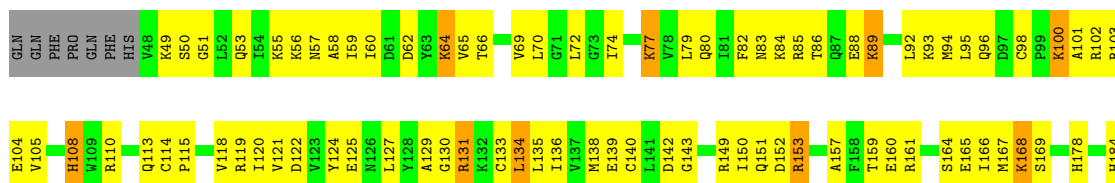
• Molecule 1: MAP kinase-activated protein kinase 2

Chain J: 39% 40% 7% 15%



• Molecule 1: MAP kinase-activated protein kinase 2

Chain K: 37% 42% 5% 16%



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	139.16Å 180.96Å 216.10Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.99 – 2.90 49.26 – 2.90	Depositor EDS
% Data completeness (in resolution range)	99.7 (19.99-2.90) 99.6 (49.26-2.90)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	4.84 (at 2.91Å)	Xtrriage
Refinement program	CNX 2005	Depositor
R, R_{free}	0.288 , 0.335 0.213 , 0.267	Depositor DCC
R_{free} test set	6091 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å ²)	55.2	Xtrriage
Anisotropy	0.012	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 70.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	27440	wwPDB-VP
Average B, all atoms (Å ²)	39.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.22% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

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: PDY, SO4

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	0.42	0/2262	0.58	0/3048
1	B	0.40	0/2284	0.57	1/3078 (0.0%)
1	C	0.36	0/2250	0.53	0/3032
1	D	0.40	0/2288	0.55	0/3081
1	E	0.42	0/2278	0.57	0/3070
1	F	0.44	0/2365	0.59	0/3191
1	G	0.36	0/2254	0.54	0/3038
1	H	0.38	0/2270	0.53	0/3058
1	I	0.41	0/2269	0.55	0/3058
1	J	0.31	0/2269	0.48	0/3058
1	K	0.33	0/2251	0.51	0/3033
1	L	0.33	0/2278	0.51	0/3070
All	All	0.38	0/27318	0.54	1/36815 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	342	LEU	CA-CB-CG	5.02	126.85	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2218	0	2255	134	0
1	B	2240	0	2270	153	0
1	C	2207	0	2240	156	0
1	D	2244	0	2281	113	0
1	E	2234	0	2268	127	0
1	F	2316	0	2347	123	0
1	G	2210	0	2245	119	0
1	H	2226	0	2260	160	0
1	I	2225	0	2262	147	0
1	J	2225	0	2262	173	0
1	K	2208	0	2248	160	0
1	L	2234	0	2268	149	0
2	A	54	0	52	7	0
2	B	54	0	52	16	0
2	C	54	0	52	16	0
2	D	54	0	52	13	0
2	E	54	0	52	19	0
2	F	54	0	52	18	0
2	G	54	0	52	18	0
2	H	54	0	51	39	0
2	I	54	0	52	34	0
2	J	54	0	52	18	0
2	K	54	0	52	24	0
2	L	54	0	52	20	0
3	F	5	0	0	1	0
All	All	27440	0	27829	1767	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 32.

All (1767) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2:PDY:C18	2:I:2:PDY:H14	1.44	1.48
2:L:2:PDY:H18	2:L:2:PDY:C14	1.53	1.38
1:H:264:TYR:CZ	2:H:2:PDY:H20	1.61	1.32
1:I:264:TYR:CG	2:I:2:PDY:H17	1.65	1.32
2:L:2:PDY:H14	2:L:2:PDY:C18	1.58	1.32
2:D:2:PDY:H18	2:D:2:PDY:C14	1.60	1.29
2:J:1:PDY:C14	2:J:1:PDY:H18	1.60	1.29
2:I:1:PDY:C18	2:I:1:PDY:H14	1.75	1.17
1:H:264:TYR:CE2	2:H:2:PDY:H20	1.79	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:1:PDY:H14	2:J:1:PDY:C18	1.74	1.16
1:D:66:THR:HG22	1:D:68:GLN:H	1.06	1.15
1:C:202:ILE:HD11	1:C:204:LYS:HE2	1.26	1.14
1:I:264:TYR:CB	2:I:2:PDY:H17	1.77	1.13
2:H:2:PDY:H14	2:H:2:PDY:C18	1.80	1.11
2:H:1:PDY:C14	2:H:1:PDY:H18	1.80	1.10
2:L:1:PDY:H27A	2:L:1:PDY:H19	1.13	1.08
2:D:2:PDY:C18	2:D:2:PDY:H14	1.83	1.07
1:L:66:THR:HG23	1:L:69:VAL:H	1.10	1.07
2:K:1:PDY:H18	2:K:1:PDY:C14	1.83	1.07
1:I:264:TYR:CG	2:I:2:PDY:C17	2.38	1.06
1:G:100:LYS:HA	1:G:100:LYS:HE3	1.36	1.05
1:H:264:TYR:CE1	2:H:2:PDY:H20	1.90	1.05
1:G:185:ARG:HH21	1:G:212:LYS:HG3	0.95	1.04
2:I:1:PDY:H18	2:I:1:PDY:C14	1.88	1.04
2:J:2:PDY:C14	2:J:2:PDY:H18	1.88	1.03
2:H:2:PDY:H14	2:H:2:PDY:H18	1.04	1.03
1:H:264:TYR:CG	2:H:2:PDY:C17	2.42	1.02
2:G:1:PDY:H14	2:G:1:PDY:C18	1.89	1.02
2:K:1:PDY:C14	2:K:1:PDY:C18	2.37	1.02
2:I:2:PDY:C18	2:I:2:PDY:C14	2.37	1.02
2:K:2:PDY:C14	2:K:2:PDY:C18	2.39	1.01
2:D:2:PDY:H18	2:D:2:PDY:H14	1.03	1.00
2:I:2:PDY:H14	2:I:2:PDY:H18	1.02	1.00
2:K:1:PDY:C18	2:K:1:PDY:H14	1.91	1.00
1:H:264:TYR:CD2	2:H:2:PDY:H17	1.95	1.00
1:K:332:PRO:HB2	1:K:334:THR:HG22	1.43	1.00
2:H:1:PDY:C14	2:H:1:PDY:C18	2.39	1.00
1:I:264:TYR:CD2	2:I:2:PDY:H17	1.97	1.00
1:L:69:VAL:HG13	1:L:79:LEU:HD13	1.44	1.00
1:H:264:TYR:CG	2:H:2:PDY:H17	1.97	0.99
2:H:1:PDY:C18	2:H:1:PDY:H14	1.92	0.99
1:K:230:VAL:HG22	1:K:231:ALA:H	1.27	0.98
1:L:111:ALA:HB1	1:L:117:ILE:HD13	1.42	0.98
2:E:1:PDY:H14	2:E:1:PDY:C18	1.94	0.98
1:I:264:TYR:HB2	2:I:2:PDY:H17	1.45	0.98
2:E:2:PDY:C14	2:E:2:PDY:C18	2.41	0.98
1:B:202:ILE:HD11	1:B:204:LYS:HE2	1.43	0.97
2:G:1:PDY:C18	2:G:1:PDY:C14	2.41	0.97
1:C:69:VAL:HB	1:C:79:LEU:HD13	1.47	0.97
2:E:1:PDY:C18	2:E:1:PDY:C14	2.43	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:328:SER:O	1:G:331:VAL:HG12	1.65	0.96
1:D:49:LYS:HD2	1:D:113:GLN:HG2	1.45	0.96
1:G:185:ARG:NH2	1:G:212:LYS:HG3	1.81	0.96
2:I:2:PDY:C14	2:I:2:PDY:H18	1.94	0.95
2:I:1:PDY:C18	2:I:1:PDY:C14	2.42	0.94
1:K:80:GLN:NE2	2:K:1:PDY:H24A	1.82	0.94
2:F:2:PDY:H18	2:F:2:PDY:C14	1.97	0.94
2:F:2:PDY:C14	2:F:2:PDY:C18	2.46	0.94
2:L:1:PDY:H27A	2:L:1:PDY:C19	1.98	0.94
2:J:1:PDY:C14	2:J:1:PDY:C18	2.36	0.94
1:L:70:LEU:HA	1:L:94:MET:HE3	1.47	0.94
2:H:2:PDY:H18	2:H:2:PDY:C14	1.97	0.94
2:C:1:PDY:C18	2:C:1:PDY:H14	1.98	0.93
2:E:2:PDY:C18	2:E:2:PDY:H14	1.98	0.93
1:H:264:TYR:CE1	2:H:2:PDY:C20	2.51	0.93
1:K:167:MET:HG3	1:K:253:MET:HE2	1.50	0.93
1:B:161:ARG:HH21	1:B:333:GLN:HE21	0.93	0.93
2:E:1:PDY:C14	2:E:1:PDY:H18	1.99	0.93
1:J:313:ARG:HH22	1:K:233:GLU:HG2	1.32	0.93
1:K:49:LYS:HD3	1:K:50:SER:H	1.31	0.93
2:F:1:PDY:C14	2:F:1:PDY:C18	2.47	0.92
2:K:2:PDY:C18	2:K:2:PDY:H14	1.97	0.91
1:D:266:ASN:HD22	1:D:266:ASN:H	1.10	0.91
2:L:1:PDY:H19	2:L:1:PDY:C27	2.00	0.91
2:G:2:PDY:C18	2:G:2:PDY:C14	2.49	0.91
2:D:1:PDY:C14	2:D:1:PDY:H18	2.01	0.91
1:A:332:PRO:HB2	1:A:334:THR:HG22	1.51	0.91
2:F:1:PDY:C18	2:F:1:PDY:H14	2.01	0.91
1:K:70:LEU:HA	1:K:94:MET:HE1	1.53	0.91
1:H:69:VAL:HG23	1:H:79:LEU:HD13	1.52	0.90
1:E:156:GLN:NE2	1:E:156:GLN:H	1.69	0.90
1:I:49:LYS:HG3	1:I:50:SER:H	1.37	0.90
2:D:1:PDY:C18	2:D:1:PDY:H14	2.02	0.89
1:J:156:GLN:HE21	1:J:340:ARG:HD2	1.37	0.89
1:H:264:TYR:CD1	2:H:2:PDY:C20	2.56	0.89
2:D:1:PDY:C14	2:D:1:PDY:C18	2.51	0.89
2:G:1:PDY:C14	2:G:1:PDY:H18	2.02	0.88
1:H:129:ALA:HB3	1:H:131:ARG:HD3	1.52	0.88
1:D:66:THR:HG22	1:D:68:GLN:N	1.87	0.88
2:J:1:PDY:H18	2:J:1:PDY:H14	1.37	0.88
1:L:264:TYR:HB2	2:L:2:PDY:H17	1.56	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2:PDY:C18	2:B:2:PDY:C14	2.52	0.87
1:H:264:TYR:CZ	2:H:2:PDY:C20	2.55	0.87
1:H:188:LYS:HG3	1:H:190:GLU:HG2	1.56	0.87
1:C:295:SER:HB2	1:C:298:VAL:HG23	1.54	0.86
1:B:85:ARG:HD2	1:B:86:THR:HG23	1.56	0.86
2:E:2:PDY:H14	2:E:2:PDY:C13	2.05	0.86
2:F:1:PDY:C14	2:F:1:PDY:H18	2.04	0.86
1:J:69:VAL:HG23	1:J:79:LEU:HD12	1.57	0.86
1:E:80:GLN:NE2	1:E:89:LYS:HD3	1.88	0.86
1:L:151:GLN:HB3	1:L:342:LEU:HD23	1.56	0.86
1:D:266:ASN:HD22	1:D:266:ASN:N	1.73	0.86
1:G:69:VAL:HB	1:G:79:LEU:HD13	1.58	0.86
1:B:161:ARG:NH2	1:B:333:GLN:HE21	1.73	0.86
1:H:264:TYR:CD2	2:H:2:PDY:C17	2.59	0.86
1:H:332:PRO:HB2	1:H:334:THR:HG23	1.56	0.86
2:J:2:PDY:C14	2:J:2:PDY:C18	2.53	0.86
1:F:74:ILE:HD13	1:F:74:ILE:H	1.39	0.85
1:B:94:MET:HG2	1:B:135:LEU:HD23	1.58	0.85
1:C:100:LYS:HE3	1:C:103:ARG:HH22	1.39	0.85
1:F:100:LYS:HG3	1:F:103:ARG:NH2	1.91	0.85
1:G:231:ALA:HB3	1:G:234:VAL:HG23	1.57	0.85
1:B:184:HIS:HD2	1:B:186:ASP:H	1.22	0.85
1:D:266:ASN:H	1:D:266:ASN:ND2	1.70	0.85
1:H:240:TYR:OH	1:H:242:LYS:HD2	1.77	0.84
2:H:1:PDY:H18	2:H:1:PDY:C3	2.05	0.84
1:E:49:LYS:HD2	1:E:50:SER:H	1.42	0.84
2:F:2:PDY:H18	2:F:2:PDY:C3	2.05	0.84
2:J:2:PDY:C18	2:J:2:PDY:H14	2.08	0.84
1:G:67:SER:HA	1:G:70:LEU:HD23	1.57	0.84
2:K:1:PDY:H18	2:K:1:PDY:C3	1.99	0.84
1:C:153:ARG:O	1:C:155:ASP:HA	1.77	0.84
1:I:266:ASN:ND2	1:I:266:ASN:H	1.72	0.84
1:H:80:GLN:HE21	1:H:89:LYS:HG3	1.43	0.84
1:F:65:VAL:HG11	1:F:70:LEU:HD13	1.59	0.84
2:G:2:PDY:C18	2:G:2:PDY:H14	2.08	0.83
1:J:159:THR:HG22	1:J:161:ARG:H	1.42	0.83
2:F:1:PDY:H18	2:F:1:PDY:C3	2.09	0.83
1:A:49:LYS:HG3	1:A:113:GLN:OE1	1.79	0.83
1:G:301:LEU:HD13	1:G:322:HIS:CD2	2.13	0.83
2:J:1:PDY:H18	2:J:1:PDY:C3	2.09	0.83
1:A:185:ARG:NH2	1:A:212:LYS:HE2	1.92	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:264:TYR:CD2	2:I:2:PDY:C17	2.62	0.82
1:L:159:THR:HG22	1:L:161:ARG:H	1.44	0.82
1:I:115:PRO:O	1:I:204:LYS:HE2	1.79	0.82
1:I:264:TYR:CE1	2:I:2:PDY:H20	2.14	0.82
2:F:2:PDY:C18	2:F:2:PDY:H14	2.07	0.82
2:C:1:PDY:C18	2:C:1:PDY:C14	2.58	0.82
1:I:264:TYR:CZ	2:I:2:PDY:H20	2.15	0.81
1:I:278:ARG:HG2	1:I:283:GLN:HB2	1.59	0.81
2:C:1:PDY:C14	2:C:1:PDY:H18	2.09	0.81
1:I:332:PRO:HB2	1:I:334:THR:HG22	1.61	0.81
1:L:66:THR:HG23	1:L:69:VAL:N	1.94	0.81
1:E:156:GLN:H	1:E:156:GLN:HE21	1.27	0.81
1:K:62:ASP:HA	1:K:85:ARG:HH21	1.46	0.81
1:F:95:LEU:O	1:F:133:CYS:HB2	1.80	0.81
1:K:80:GLN:NE2	2:K:1:PDY:C24	2.43	0.81
1:K:96:GLN:HE22	1:K:131:ARG:HE	1.28	0.80
2:B:2:PDY:C3	2:B:2:PDY:H18	2.10	0.80
1:B:161:ARG:HH21	1:B:333:GLN:NE2	1.78	0.80
2:J:1:PDY:H18	2:J:1:PDY:H14A	1.58	0.80
2:K:2:PDY:C3	2:K:2:PDY:H18	2.10	0.80
1:K:83:ASN:HB3	1:K:86:THR:HB	1.64	0.80
1:L:337:HIS:O	1:L:341:VAL:HG23	1.80	0.80
2:H:1:PDY:H18	2:H:1:PDY:H14A	1.63	0.79
1:C:83:ASN:HD21	1:C:85:ARG:HD2	1.47	0.79
1:I:69:VAL:HA	1:I:79:LEU:HD22	1.63	0.79
1:K:49:LYS:HD3	1:K:50:SER:N	1.95	0.79
1:I:70:LEU:HA	1:I:94:MET:HE1	1.62	0.79
1:J:276:LYS:HG3	1:K:235:LEU:HD12	1.64	0.79
2:L:1:PDY:C18	2:L:1:PDY:H14	2.12	0.79
1:K:115:PRO:O	1:K:204:LYS:HE2	1.82	0.79
1:H:80:GLN:NE2	1:H:89:LYS:HG3	1.97	0.79
1:A:156:GLN:NE2	1:A:156:GLN:H	1.80	0.78
1:F:86:THR:HG22	1:F:88:GLU:H	1.46	0.78
1:I:125:GLU:C	1:I:126:ASN:HD22	1.86	0.78
1:G:80:GLN:HB2	2:G:1:PDY:H24A	1.65	0.78
2:D:2:PDY:C14	2:D:2:PDY:C18	2.52	0.78
2:C:2:PDY:C14	2:C:2:PDY:C18	2.62	0.78
1:D:185:ARG:HH21	1:D:212:LYS:HG3	1.48	0.78
1:H:322:HIS:HD2	1:H:324:TRP:H	1.32	0.78
2:K:2:PDY:C14	2:K:2:PDY:H18	2.12	0.78
1:H:264:TYR:CD2	2:H:2:PDY:H20	2.19	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:100:LYS:HG3	1:F:103:ARG:HH21	1.48	0.78
2:J:2:PDY:H18	2:J:2:PDY:H14A	1.64	0.78
1:L:69:VAL:HG13	1:L:79:LEU:CD1	2.13	0.78
2:B:2:PDY:C14	2:B:2:PDY:H18	2.13	0.78
1:K:94:MET:HG2	1:K:135:LEU:HD23	1.67	0.77
1:F:73:GLY:HA3	1:F:94:MET:CE	2.15	0.77
2:B:1:PDY:H14	2:B:1:PDY:C18	2.14	0.77
1:E:69:VAL:HB	1:E:79:LEU:HD13	1.65	0.77
1:J:156:GLN:NE2	1:J:340:ARG:HD2	1.99	0.77
1:J:115:PRO:O	1:J:204:LYS:HE2	1.85	0.77
1:H:264:TYR:CG	2:H:2:PDY:C20	2.67	0.77
1:I:264:TYR:CB	2:I:2:PDY:C17	2.61	0.76
1:K:95:LEU:O	1:K:133:CYS:HB2	1.85	0.76
1:J:72:LEU:HB2	1:J:79:LEU:HD11	1.66	0.76
1:A:327:GLN:NE2	1:A:330:LYS:HD3	2.01	0.76
2:E:1:PDY:H18	2:E:1:PDY:C3	2.15	0.76
2:B:1:PDY:C18	2:B:1:PDY:C14	2.64	0.76
1:E:202:ILE:HD11	1:E:204:LYS:HE2	1.68	0.76
1:H:49:LYS:HG3	1:H:113:GLN:NE2	2.01	0.76
1:B:73:GLY:HA3	1:B:94:MET:SD	2.26	0.75
1:C:66:THR:OG1	1:C:69:VAL:HG13	1.86	0.75
1:H:128:TYR:O	1:H:131:ARG:HG2	1.85	0.75
1:C:327:GLN:HB2	1:C:330:LYS:HZ2	1.50	0.75
1:K:98:CYS:HB2	1:K:101:ALA:H	1.52	0.75
1:L:155:ASP:HA	1:L:156:GLN:C	2.07	0.75
1:B:77:LYS:HZ2	1:B:77:LYS:HB3	1.52	0.75
1:K:70:LEU:HD23	1:K:94:MET:CE	2.17	0.75
1:G:185:ARG:HH21	1:G:212:LYS:CG	1.89	0.75
1:L:66:THR:HG22	1:L:69:VAL:HG23	1.69	0.75
1:B:48:VAL:HB	1:L:70:LEU:HD21	1.69	0.74
1:E:80:GLN:HE21	1:E:89:LYS:HD3	1.47	0.74
2:G:2:PDY:C3	2:G:2:PDY:H18	2.16	0.74
1:J:198:ARG:NH1	1:J:200:ASN:H	1.85	0.74
1:A:156:GLN:H	1:A:156:GLN:HE21	1.33	0.74
1:J:161:ARG:HD2	1:J:329:THR:HA	1.69	0.74
1:D:66:THR:CG2	1:D:68:GLN:H	1.95	0.74
1:E:188:LYS:HZ2	1:E:190:GLU:HG2	1.52	0.74
1:G:304:ASN:O	1:G:307:LYS:HG2	1.88	0.74
1:G:80:GLN:OE1	1:G:89:LYS:HD2	1.87	0.74
1:I:49:LYS:HG3	1:I:50:SER:N	2.01	0.74
1:H:188:LYS:HE2	1:H:190:GLU:HG3	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:185:ARG:HH21	1:K:212:LYS:HG3	1.50	0.74
1:C:100:LYS:HE3	1:C:103:ARG:NH2	2.03	0.73
1:L:49:LYS:HD2	1:L:50:SER:H	1.53	0.73
1:D:337:HIS:HA	1:D:340:ARG:NH1	2.02	0.73
1:A:49:LYS:HE2	1:A:113:GLN:HG2	1.71	0.73
1:G:100:LYS:HE2	1:G:103:ARG:CZ	2.18	0.73
2:K:1:PDY:H18	2:K:1:PDY:H14A	1.70	0.73
1:L:95:LEU:O	1:L:133:CYS:HB2	1.88	0.73
1:I:98:CYS:HB2	1:I:99:PRO:HD2	1.70	0.73
1:F:81:ILE:HD13	1:F:92:LEU:HB2	1.69	0.73
1:I:100:LYS:HD2	1:I:103:ARG:HH21	1.53	0.73
1:G:161:ARG:O	1:G:165:GLU:HG3	1.88	0.73
2:A:1:PDY:C18	2:A:1:PDY:H14	2.19	0.72
1:F:47:HIS:CD2	1:G:67:SER:HB3	2.24	0.72
1:H:264:TYR:CE2	2:H:2:PDY:C20	2.67	0.72
1:B:285:GLU:HG3	1:B:287:PRO:HD3	1.70	0.72
1:D:49:LYS:CD	1:D:113:GLN:HG2	2.19	0.72
1:B:72:LEU:HB3	1:B:77:LYS:HG3	1.71	0.72
2:B:2:PDY:C18	2:B:2:PDY:H14	2.18	0.72
1:G:66:THR:O	1:G:69:VAL:HG22	1.90	0.72
1:I:264:TYR:CG	2:I:2:PDY:C20	2.72	0.72
1:F:278:ARG:HG2	1:F:283:GLN:HB2	1.68	0.72
1:G:190:GLU:OE1	1:G:190:GLU:N	2.22	0.72
1:G:260:TYR:HB2	2:G:2:PDY:H19	1.72	0.72
1:K:328:SER:O	1:K:331:VAL:HG22	1.89	0.72
1:J:159:THR:CG2	1:J:333:GLN:HA	2.20	0.72
1:J:327:GLN:HG2	1:J:330:LYS:HD3	1.70	0.72
2:L:2:PDY:C14	2:L:2:PDY:C18	2.35	0.72
1:E:70:LEU:HD23	1:E:94:MET:HE2	1.71	0.72
1:H:61:ASP:O	1:H:84:LYS:HD2	1.90	0.72
1:D:167:MET:HG3	1:D:253:MET:HE2	1.72	0.71
1:H:261:PRO:HD3	2:H:2:PDY:H25	1.71	0.71
2:K:2:PDY:H14	2:K:2:PDY:C13	2.18	0.71
2:C:2:PDY:C18	2:C:2:PDY:H14	2.21	0.71
1:H:264:TYR:CD2	2:H:2:PDY:C20	2.72	0.71
1:F:71:GLY:HA2	1:F:74:ILE:HD11	1.72	0.71
1:F:185:ARG:HD3	1:F:241:ASP:HB3	1.71	0.71
1:E:70:LEU:HA	1:E:94:MET:CE	2.20	0.71
1:B:185:ARG:HD3	1:B:241:ASP:HB3	1.72	0.71
1:J:231:ALA:O	1:J:234:VAL:HG12	1.90	0.71
2:D:1:PDY:H18	2:D:1:PDY:C3	2.19	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:264:TYR:O	1:A:275:MET:HG3	1.91	0.71
1:D:66:THR:HB	1:D:69:VAL:HG23	1.71	0.70
1:I:70:LEU:HD23	1:I:94:MET:HE2	1.72	0.70
1:I:97:ASP:OD2	1:I:102:ARG:NH2	2.22	0.70
1:I:264:TYR:CD1	2:I:2:PDY:H20	2.25	0.70
1:B:266:ASN:CG	1:B:278:ARG:HH22	1.94	0.70
1:D:69:VAL:HG13	1:D:79:LEU:HD13	1.72	0.70
1:F:196:SER:OG	1:F:198:ARG:HB2	1.92	0.70
1:I:140:CYS:SG	2:I:1:PDY:H17	2.32	0.70
1:L:159:THR:HG21	1:L:161:ARG:HB3	1.73	0.70
1:K:288:ASN:OD1	1:K:292:SER:HB3	1.91	0.70
1:A:71:GLY:O	1:A:74:ILE:HG22	1.91	0.70
1:A:70:LEU:HD13	1:G:48:VAL:HG23	1.73	0.70
2:H:2:PDY:C18	2:H:2:PDY:C14	2.62	0.70
1:F:327:GLN:HE21	1:F:330:LYS:HD2	1.57	0.70
1:K:96:GLN:HE22	1:K:131:ARG:NE	1.90	0.70
1:B:97:ASP:H	1:B:133:CYS:HA	1.56	0.69
1:E:185:ARG:HE	1:E:212:LYS:HG3	1.55	0.69
1:E:327:GLN:HB2	1:E:330:LYS:NZ	2.06	0.69
2:I:1:PDY:H14	2:I:1:PDY:C13	2.22	0.69
2:I:1:PDY:H18	2:I:1:PDY:H14A	1.73	0.69
1:I:264:TYR:CE2	2:I:2:PDY:H20	2.28	0.69
1:A:66:THR:H	1:A:69:VAL:CG2	2.06	0.69
1:F:150:ILE:O	1:F:153:ARG:HG2	1.92	0.69
1:C:185:ARG:CZ	1:C:212:LYS:HD2	2.21	0.69
1:F:97:ASP:H	1:F:133:CYS:HA	1.58	0.69
1:G:49:LYS:HD2	1:G:113:GLN:OE1	1.92	0.69
1:K:89:LYS:HD2	1:K:89:LYS:H	1.55	0.69
1:E:327:GLN:HB2	1:E:330:LYS:HZ2	1.57	0.69
1:A:66:THR:H	1:A:69:VAL:HG22	1.57	0.69
1:A:304:ASN:O	1:A:307:LYS:HG2	1.93	0.69
1:B:68:GLN:NE2	1:F:267:HIS:HB3	2.08	0.69
1:E:70:LEU:HA	1:E:94:MET:HE1	1.75	0.68
1:L:257:LEU:HD11	1:L:298:VAL:HG11	1.74	0.68
1:B:141:LEU:HD13	1:B:193:LEU:HB2	1.74	0.68
1:E:145:GLU:HG2	1:E:193:LEU:CD2	2.23	0.68
1:A:145:GLU:HG3	1:A:193:LEU:CD2	2.24	0.68
1:C:88:GLU:HG2	1:C:89:LYS:N	2.07	0.68
1:I:328:SER:O	1:I:331:VAL:HG13	1.94	0.68
1:E:333:GLN:HE21	1:E:333:GLN:HA	1.58	0.68
1:H:322:HIS:CD2	1:H:324:TRP:H	2.12	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:70:LEU:HD23	1:K:94:MET:HE2	1.74	0.68
1:C:161:ARG:NH1	1:C:331:VAL:O	2.27	0.68
1:D:190:GLU:CD	1:D:190:GLU:H	1.97	0.68
2:G:2:PDY:H14	2:G:2:PDY:C13	2.24	0.68
1:J:145:GLU:HG2	1:J:193:LEU:CD2	2.24	0.67
1:J:332:PRO:HB2	1:J:334:THR:HG22	1.75	0.67
1:K:80:GLN:HE21	2:K:1:PDY:C24	2.05	0.67
2:G:1:PDY:H14	2:G:1:PDY:C13	2.23	0.67
1:H:231:ALA:HB3	1:H:234:VAL:HG23	1.75	0.67
1:I:327:GLN:HE21	1:I:330:LYS:NZ	1.92	0.67
1:L:66:THR:CG2	1:L:69:VAL:H	1.99	0.67
2:G:1:PDY:H18	2:G:1:PDY:C3	2.22	0.67
1:F:272:SER:HB3	1:F:275:MET:HB2	1.77	0.67
1:H:65:VAL:HG11	1:H:70:LEU:HD13	1.75	0.67
1:E:60:ILE:HD12	1:E:61:ASP:N	2.10	0.67
1:E:188:LYS:NZ	1:E:190:GLU:HG2	2.09	0.67
1:K:166:ILE:O	1:K:169:SER:HB3	1.94	0.67
1:L:129:ALA:O	1:L:131:ARG:HG3	1.94	0.67
1:B:231:ALA:HB1	1:B:233:GLU:HG3	1.77	0.67
1:I:284:TYR:OH	1:I:303:ARG:HG2	1.94	0.67
1:G:69:VAL:HB	1:G:79:LEU:CD1	2.24	0.67
1:G:80:GLN:CB	2:G:1:PDY:H24A	2.24	0.67
1:G:260:TYR:CB	2:G:2:PDY:H19	2.25	0.67
1:J:145:GLU:HG2	1:J:193:LEU:HD21	1.77	0.67
1:L:153:ARG:HB2	1:L:156:GLN:HG2	1.76	0.67
1:L:202:ILE:HD11	1:L:204:LYS:HE2	1.76	0.67
1:A:49:LYS:HE2	1:A:113:GLN:CG	2.24	0.67
1:F:202:ILE:HD11	1:F:204:LYS:HE2	1.76	0.67
1:C:327:GLN:CB	1:C:330:LYS:HZ2	2.06	0.67
1:G:66:THR:HG23	1:G:69:VAL:HG13	1.76	0.67
1:C:188:LYS:HG3	1:C:190:GLU:HG2	1.76	0.66
1:K:89:LYS:H	1:K:89:LYS:CD	2.08	0.66
1:A:328:SER:O	1:A:331:VAL:HG13	1.95	0.66
2:F:2:PDY:H18	2:F:2:PDY:H14A	1.77	0.66
1:I:186:ASP:OD1	1:I:188:LYS:HE3	1.95	0.66
2:J:2:PDY:H18	2:J:2:PDY:C3	2.23	0.66
1:J:198:ARG:HH11	1:J:198:ARG:HG3	1.60	0.66
1:L:167:MET:HG3	1:L:253:MET:HG3	1.77	0.66
1:G:71:GLY:O	1:G:74:ILE:HG22	1.95	0.66
1:C:55:LYS:HD3	1:C:124:TYR:CE2	2.30	0.66
1:C:287:PRO:O	1:C:291:TRP:HB2	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2:PDY:C3	2:E:2:PDY:H18	2.25	0.66
1:I:148:SER:HA	1:I:151:GLN:HG2	1.76	0.66
1:G:161:ARG:HD3	1:G:331:VAL:O	1.95	0.66
1:J:72:LEU:HB2	1:J:79:LEU:CD1	2.26	0.66
1:J:198:ARG:HH11	1:J:200:ASN:H	1.42	0.66
1:J:337:HIS:O	1:J:341:VAL:HG23	1.96	0.66
1:C:147:PHE:HE2	1:C:256:LEU:HD23	1.60	0.66
1:D:233:GLU:HG2	1:E:310:PRO:HG3	1.76	0.66
1:L:66:THR:CG2	1:L:69:VAL:HG23	2.24	0.66
1:B:81:ILE:HD13	1:B:92:LEU:HB2	1.77	0.66
1:G:229:TYR:HD1	1:H:251:VAL:HG11	1.61	0.66
2:G:2:PDY:C14	2:G:2:PDY:H18	2.23	0.66
1:I:72:LEU:HB2	1:I:79:LEU:HD21	1.77	0.66
1:K:105:VAL:HG22	1:K:136:ILE:HD11	1.77	0.65
1:L:97:ASP:H	1:L:133:CYS:HA	1.60	0.65
1:L:161:ARG:HD3	1:L:331:VAL:O	1.95	0.65
1:A:49:LYS:HE2	1:A:113:GLN:CD	2.16	0.65
1:F:73:GLY:HA3	1:F:94:MET:HE1	1.78	0.65
1:F:230:VAL:HG21	1:F:235:LEU:HD21	1.78	0.65
2:G:2:PDY:C18	2:G:2:PDY:C3	2.73	0.65
1:H:56:LYS:HE2	1:H:125:GLU:HB3	1.77	0.65
1:K:121:VAL:HG12	1:K:122:ASP:OD1	1.96	0.65
1:E:110:ARG:O	1:E:113:GLN:HG3	1.97	0.65
1:J:185:ARG:NE	1:J:212:LYS:HG3	2.11	0.65
1:F:296:GLU:OE2	1:F:300:MET:HG2	1.96	0.65
1:A:102:ARG:NH2	1:A:125:GLU:OE1	2.29	0.65
1:B:107:LEU:HD21	1:B:213:GLU:HG3	1.79	0.65
1:E:86:THR:HG21	1:E:88:GLU:CD	2.17	0.65
1:E:161:ARG:HA	1:E:331:VAL:CG2	2.27	0.65
1:I:94:MET:O	1:I:95:LEU:HD23	1.97	0.65
1:K:83:ASN:CB	1:K:86:THR:HB	2.27	0.65
1:L:264:TYR:HB2	2:L:2:PDY:C17	2.26	0.65
1:L:314:MET:HG3	1:L:318:GLU:HB2	1.78	0.65
2:L:1:PDY:C18	2:L:1:PDY:C14	2.75	0.65
1:I:307:LYS:HB2	1:I:313:ARG:HG3	1.79	0.65
1:K:72:LEU:HD12	1:K:77:LYS:HD2	1.78	0.65
1:D:327:GLN:HB3	1:D:330:LYS:HD2	1.78	0.64
1:J:83:ASN:HD21	1:J:85:ARG:HH11	1.43	0.64
1:J:168:LYS:O	1:J:172:GLU:HG3	1.97	0.64
1:K:62:ASP:HA	1:K:85:ARG:NH2	2.10	0.64
1:K:114:CYS:SG	1:K:115:PRO:HD2	2.36	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:296:GLU:OE2	1:F:303:ARG:NH2	2.30	0.64
1:H:83:ASN:HB3	1:H:86:THR:HB	1.80	0.64
1:A:153:ARG:O	1:A:154:GLY:O	2.15	0.64
2:C:2:PDY:C3	2:C:2:PDY:H18	2.26	0.64
1:B:188:LYS:HD2	1:B:190:GLU:HB2	1.80	0.64
2:E:2:PDY:C14	2:E:2:PDY:H18	2.28	0.64
1:I:60:ILE:HG22	1:I:65:VAL:HB	1.79	0.64
1:J:329:THR:C	1:J:331:VAL:H	2.00	0.64
1:I:150:ILE:O	1:I:153:ARG:HG3	1.98	0.64
1:B:69:VAL:O	1:B:73:GLY:N	2.28	0.64
1:L:70:LEU:HA	1:L:94:MET:CE	2.23	0.64
1:A:310:PRO:HG3	1:C:233:GLU:HG2	1.80	0.64
1:B:98:CYS:HB2	1:B:99:PRO:HD2	1.78	0.64
1:F:49:LYS:HG3	1:G:127:LEU:HD23	1.79	0.64
1:H:161:ARG:HD3	1:H:331:VAL:O	1.98	0.64
1:I:264:TYR:CD2	2:I:2:PDY:C20	2.81	0.64
1:J:118:VAL:HG21	1:J:138:MET:HE2	1.77	0.64
1:K:96:GLN:NE2	1:K:131:ARG:HE	1.94	0.64
1:J:83:ASN:ND2	1:J:85:ARG:HH11	1.96	0.64
1:D:195:THR:HG23	1:D:202:ILE:O	1.98	0.64
1:H:188:LYS:HE2	1:H:190:GLU:CG	2.26	0.64
1:H:264:TYR:CB	2:H:2:PDY:H17	2.27	0.64
1:A:309:GLU:CD	1:C:311:THR:HG22	2.17	0.64
1:D:330:LYS:O	1:D:330:LYS:HG2	1.97	0.64
1:H:86:THR:HG22	1:H:88:GLU:HB2	1.80	0.64
1:H:315:THR:OG1	1:H:318:GLU:HG3	1.98	0.64
1:J:310:PRO:HB3	1:K:233:GLU:OE1	1.98	0.64
2:E:1:PDY:H14	2:E:1:PDY:C13	2.28	0.63
1:H:107:LEU:HD21	1:H:213:GLU:HG3	1.79	0.63
1:G:276:LYS:HG3	1:I:235:LEU:HD22	1.80	0.63
1:H:74:ILE:O	1:H:74:ILE:HD13	1.97	0.63
1:I:280:ARG:NH2	1:J:131:ARG:HH12	1.95	0.63
1:D:230:VAL:HG11	1:D:235:LEU:HD21	1.80	0.63
2:D:2:PDY:H18	2:D:2:PDY:H14A	1.69	0.63
1:J:69:VAL:HG23	1:J:79:LEU:CD1	2.28	0.63
1:J:143:GLY:O	1:J:149:ARG:HD3	1.98	0.63
1:K:230:VAL:HG22	1:K:231:ALA:N	2.07	0.63
1:B:188:LYS:HD2	1:B:190:GLU:OE1	1.98	0.63
1:C:315:THR:OG1	1:C:318:GLU:HG3	1.99	0.63
1:A:333:GLN:HA	1:A:333:GLN:HE21	1.63	0.63
1:J:149:ARG:HG3	1:J:194:TYR:CD2	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:69:VAL:HG23	1:B:70:LEU:N	2.12	0.63
1:C:185:ARG:NH2	1:C:212:LYS:HD2	2.14	0.63
1:D:64:LYS:HA	1:D:64:LYS:HE3	1.79	0.63
1:F:65:VAL:CG1	1:F:70:LEU:HD13	2.28	0.63
1:G:337:HIS:O	1:G:341:VAL:HG23	1.99	0.63
1:H:159:THR:OG1	1:H:162:GLU:HG3	1.99	0.63
1:L:72:LEU:HD23	1:L:77:LYS:HD3	1.81	0.63
1:L:114:CYS:HB2	1:L:176:TYR:CD2	2.34	0.63
1:L:266:ASN:HB2	1:L:278:ARG:NH2	2.14	0.63
1:G:290:GLU:HA	1:G:337:HIS:CD2	2.34	0.63
1:J:304:ASN:OD1	1:J:314:MET:HB2	1.99	0.63
1:I:83:ASN:HB3	1:I:86:THR:O	1.99	0.62
1:J:288:ASN:HD22	1:J:288:ASN:N	1.96	0.62
1:A:151:GLN:O	1:A:343:LYS:HE2	2.00	0.62
2:A:1:PDY:C18	2:A:1:PDY:C14	2.77	0.62
1:E:88:GLU:HG3	1:E:90:PHE:HE1	1.63	0.62
1:A:66:THR:HG23	1:A:68:GLN:H	1.64	0.62
2:C:2:PDY:H14	2:C:2:PDY:C13	2.29	0.62
1:F:156:GLN:HA	1:F:156:GLN:HE21	1.64	0.62
1:L:246:MET:HA	1:L:246:MET:HE3	1.81	0.62
1:A:307:LYS:HB2	1:A:313:ARG:HG3	1.81	0.62
1:F:100:LYS:HZ2	1:F:103:ARG:HH22	1.47	0.62
1:G:153:ARG:HG3	1:G:157:ALA:HB3	1.81	0.62
1:B:109:TRP:O	1:B:112:SER:HB2	1.99	0.62
1:I:264:TYR:CD1	2:I:2:PDY:C20	2.83	0.62
1:B:74:ILE:HG23	1:B:94:MET:HE2	1.82	0.62
1:F:271:ILE:HG23	1:F:275:MET:HE2	1.80	0.62
1:G:97:ASP:HB2	1:G:133:CYS:HA	1.81	0.62
1:J:198:ARG:NH1	1:J:198:ARG:HG3	2.14	0.62
1:D:161:ARG:HD3	1:D:331:VAL:O	1.99	0.62
1:E:161:ARG:HA	1:E:331:VAL:HG21	1.82	0.62
1:L:258:CYS:O	1:L:341:VAL:HG21	1.99	0.62
1:C:85:ARG:O	1:C:85:ARG:HG2	2.00	0.61
1:H:70:LEU:HD12	1:H:94:MET:SD	2.39	0.61
1:I:100:LYS:HD2	1:I:103:ARG:NH2	2.14	0.61
1:C:290:GLU:HA	1:C:337:HIS:CD2	2.35	0.61
1:E:49:LYS:HD2	1:E:50:SER:N	2.15	0.61
1:E:214:THR:HG21	1:E:242:LYS:HG3	1.82	0.61
1:H:304:ASN:OD1	1:H:314:MET:HB2	1.97	0.61
1:L:69:VAL:CG1	1:L:79:LEU:HD13	2.27	0.61
1:J:233:GLU:HG2	1:L:310:PRO:HG3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:92:LEU:HD12	1:K:93:LYS:N	2.15	0.61
1:J:60:ILE:HD12	1:J:61:ASP:N	2.16	0.61
1:L:77:LYS:HE3	1:L:79:LEU:HD23	1.81	0.61
1:I:49:LYS:CG	1:I:50:SER:H	2.11	0.61
1:I:266:ASN:HD21	1:I:272:SER:CB	2.14	0.61
1:E:66:THR:HG23	1:E:69:VAL:H	1.66	0.61
1:E:338:THR:HG22	1:E:342:LEU:HD23	1.83	0.61
1:H:229:TYR:HD1	1:H:230:VAL:H	1.49	0.61
1:I:196:SER:O	1:I:201:ALA:HB2	2.01	0.61
1:L:85:ARG:O	1:L:85:ARG:HD2	2.01	0.61
1:D:231:ALA:HB1	1:D:233:GLU:OE2	2.00	0.61
1:H:69:VAL:CG2	1:H:79:LEU:HD13	2.29	0.61
1:I:231:ALA:HB1	1:I:233:GLU:OE2	2.00	0.61
1:C:264:TYR:CZ	2:C:2:PDY:H24	2.36	0.61
1:D:327:GLN:CB	1:D:330:LYS:HD2	2.29	0.61
1:C:65:VAL:CG1	1:C:70:LEU:HD11	2.31	0.61
1:E:80:GLN:OE1	2:E:1:PDY:H24A	2.01	0.61
2:E:1:PDY:H18	2:E:1:PDY:H14A	1.83	0.61
1:F:156:GLN:HE21	1:F:156:GLN:CA	2.13	0.61
1:J:288:ASN:HD22	1:J:288:ASN:H	1.47	0.61
1:D:69:VAL:CG1	1:D:79:LEU:HD13	2.31	0.60
1:G:278:ARG:HG2	1:G:283:GLN:HG3	1.82	0.60
1:G:289:PRO:HG2	1:G:290:GLU:OE2	2.01	0.60
1:J:276:LYS:HG3	1:K:235:LEU:CD1	2.31	0.60
1:J:310:PRO:HA	1:J:313:ARG:HG3	1.80	0.60
1:K:66:THR:O	1:K:69:VAL:HG22	2.01	0.60
1:K:143:GLY:HA3	1:K:194:TYR:HB2	1.82	0.60
1:L:235:LEU:N	1:L:235:LEU:HD12	2.16	0.60
1:D:77:LYS:NZ	1:D:77:LYS:HB3	2.16	0.60
1:H:154:GLY:HA2	1:H:156:GLN:N	2.15	0.60
1:H:264:TYR:HB2	2:H:2:PDY:H17	1.83	0.60
1:H:342:LEU:O	1:H:343:LYS:HD2	2.01	0.60
1:C:49:LYS:HD2	1:C:50:SER:N	2.15	0.60
1:D:82:PHE:CE1	1:D:89:LYS:HB3	2.36	0.60
1:F:161:ARG:HA	1:F:331:VAL:CG2	2.32	0.60
1:A:127:LEU:HD23	1:G:113:GLN:OE1	2.02	0.60
1:A:327:GLN:HG2	1:A:330:LYS:HG2	1.82	0.60
1:B:48:VAL:HG11	1:L:60:ILE:HG23	1.84	0.60
1:I:264:TYR:HB2	2:I:2:PDY:C17	2.25	0.60
1:J:278:ARG:HG2	1:J:283:GLN:HB2	1.83	0.60
1:K:80:GLN:HE21	2:K:1:PDY:H24A	1.63	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:70:LEU:HD12	1:F:94:MET:HE2	1.82	0.60
1:K:188:LYS:HG3	1:K:190:GLU:HG2	1.84	0.60
2:K:1:PDY:H14	2:K:1:PDY:C13	2.31	0.60
1:L:187:VAL:O	1:L:187:VAL:HG12	2.02	0.60
1:B:160:GLU:HB3	1:B:334:THR:HG23	1.83	0.60
1:B:266:ASN:OD1	1:B:266:ASN:O	2.19	0.60
1:C:327:GLN:HE21	1:C:330:LYS:CE	2.14	0.60
1:H:140:CYS:SG	2:H:1:PDY:H17	2.42	0.60
2:D:1:PDY:H18	2:D:1:PDY:H14A	1.83	0.60
1:J:66:THR:O	1:J:69:VAL:HG13	2.02	0.60
1:K:202:ILE:HD12	1:K:203:LEU:N	2.16	0.60
1:A:233:GLU:OE2	1:B:313:ARG:NH1	2.34	0.59
1:C:60:ILE:C	1:C:60:ILE:HD12	2.23	0.59
1:C:81:ILE:HD13	1:C:92:LEU:HB2	1.84	0.59
1:E:64:LYS:HD2	1:E:84:LYS:HE2	1.84	0.59
1:E:153:ARG:O	1:E:154:GLY:O	2.19	0.59
1:K:92:LEU:HD12	1:K:93:LYS:H	1.66	0.59
1:K:298:VAL:HG22	1:K:324:TRP:CD1	2.37	0.59
2:L:1:PDY:H14	2:L:1:PDY:C13	2.31	0.59
1:D:266:ASN:N	1:D:266:ASN:ND2	2.40	0.59
1:F:188:LYS:HD3	1:F:190:GLU:OE1	2.01	0.59
1:H:143:GLY:HA2	1:H:197:LYS:HD2	1.84	0.59
1:I:280:ARG:HH22	1:J:131:ARG:HH12	1.49	0.59
1:B:49:LYS:HD3	1:B:113:GLN:HG2	1.84	0.59
1:E:161:ARG:HD2	1:E:328:SER:O	2.01	0.59
1:I:80:GLN:OE1	1:I:89:LYS:HG3	2.02	0.59
1:J:66:THR:HG23	1:J:68:GLN:HB2	1.83	0.59
1:J:124:TYR:HB2	1:J:135:LEU:HB2	1.84	0.59
1:L:257:LEU:CD1	1:L:298:VAL:HG11	2.31	0.59
1:A:66:THR:HG23	1:A:68:GLN:N	2.17	0.59
1:A:280:ARG:HH11	1:C:235:LEU:HD13	1.67	0.59
1:L:202:ILE:CD1	1:L:204:LYS:HE2	2.31	0.59
1:A:161:ARG:HD3	1:A:331:VAL:O	2.02	0.59
1:L:155:ASP:CA	1:L:156:GLN:C	2.70	0.59
2:B:2:PDY:H14	2:B:2:PDY:C13	2.32	0.59
1:E:128:TYR:HD1	1:L:48:VAL:HG23	1.67	0.59
1:K:284:TYR:OH	1:K:303:ARG:HA	2.03	0.59
1:L:151:GLN:HB3	1:L:342:LEU:CD2	2.30	0.59
1:A:52:LEU:O	1:F:56:LYS:HD2	2.02	0.59
1:A:70:LEU:HD13	1:G:48:VAL:CG2	2.32	0.59
1:B:70:LEU:HD23	1:B:128:TYR:CE1	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:86:THR:HB	1:E:88:GLU:HG2	1.85	0.59
1:F:234:VAL:HG12	1:F:235:LEU:HD23	1.85	0.59
1:I:55:LYS:HD3	1:I:124:TYR:CZ	2.38	0.59
1:I:327:GLN:HB3	1:I:330:LYS:HG2	1.85	0.59
1:K:200:ASN:N	1:K:200:ASN:OD1	2.34	0.59
1:K:281:MET:HB2	1:K:283:GLN:HG3	1.85	0.59
1:L:168:LYS:O	1:L:172:GLU:HG3	2.02	0.59
1:D:72:LEU:HD22	1:D:77:LYS:HE3	1.85	0.59
1:H:200:ASN:HD22	1:H:200:ASN:N	2.00	0.59
2:F:1:PDY:H14	2:F:1:PDY:C13	2.33	0.59
1:G:77:LYS:HB3	1:G:79:LEU:HD21	1.85	0.59
1:K:309:GLU:HB3	1:K:312:GLN:HG3	1.85	0.59
2:C:1:PDY:H14	2:C:1:PDY:C13	2.32	0.59
2:E:2:PDY:C18	2:E:2:PDY:C3	2.75	0.59
1:F:87:GLN:HA	1:F:87:GLN:OE1	2.03	0.59
1:F:295:SER:O	1:F:299:LYS:HD3	2.03	0.59
1:G:100:LYS:HA	1:G:100:LYS:CE	2.20	0.59
1:H:337:HIS:HA	1:H:340:ARG:NH1	2.17	0.59
1:L:159:THR:HG22	1:L:161:ARG:N	2.16	0.59
1:A:50:SER:HB2	1:F:57:ASN:HA	1.85	0.58
1:E:49:LYS:CD	1:E:50:SER:H	2.12	0.58
1:E:111:ALA:HB1	1:E:117:ILE:HD13	1.85	0.58
1:F:151:GLN:HG3	1:F:152:ASP:N	2.18	0.58
1:I:264:TYR:HB2	2:I:2:PDY:HN9	1.68	0.58
1:A:188:LYS:HD2	1:A:191:ASN:ND2	2.18	0.58
2:B:1:PDY:H14	2:B:1:PDY:C13	2.33	0.58
1:C:55:LYS:HD3	1:C:124:TYR:CZ	2.38	0.58
1:I:58:ALA:HA	1:I:126:ASN:OD1	2.03	0.58
1:B:49:LYS:CD	1:B:113:GLN:HG2	2.33	0.58
1:B:66:THR:OG1	1:B:69:VAL:HG13	2.02	0.58
1:B:74:ILE:HD12	1:B:75:ASN:N	2.18	0.58
1:C:129:ALA:HB3	1:C:131:ARG:HE	1.68	0.58
1:G:90:PHE:CE2	1:G:121:VAL:HG21	2.39	0.58
1:A:278:ARG:HA	1:A:283:GLN:HG2	1.85	0.58
1:B:70:LEU:HD23	1:B:128:TYR:HE1	1.68	0.58
2:B:1:PDY:C3	2:B:1:PDY:H18	2.33	0.58
1:C:88:GLU:HG2	1:C:89:LYS:H	1.69	0.58
1:E:88:GLU:HG3	1:E:90:PHE:CE1	2.38	0.58
1:F:151:GLN:O	1:F:343:LYS:HE3	2.03	0.58
1:J:97:ASP:O	1:J:98:CYS:HB3	2.03	0.58
1:K:66:THR:H	1:K:69:VAL:CG2	2.16	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:93:LYS:HG2	1:L:136:ILE:HB	1.84	0.58
1:H:202:ILE:HD11	1:H:204:LYS:NZ	2.18	0.58
1:I:64:LYS:HD2	1:I:84:LYS:HE3	1.86	0.58
1:I:264:TYR:CD2	2:I:2:PDY:H20	2.39	0.58
1:J:159:THR:HG22	1:J:161:ARG:N	2.16	0.58
1:A:285:GLU:C	1:A:287:PRO:HD3	2.24	0.58
1:B:328:SER:O	1:B:331:VAL:HG13	2.03	0.58
1:E:57:ASN:H	1:E:57:ASN:HD22	1.51	0.58
1:K:290:GLU:HA	1:K:337:HIS:HD2	1.68	0.58
1:K:295:SER:OG	1:K:298:VAL:HG23	2.04	0.58
1:B:77:LYS:HB3	1:B:77:LYS:NZ	2.18	0.58
1:C:161:ARG:NH1	1:C:333:GLN:HG2	2.18	0.58
1:D:77:LYS:NZ	1:D:79:LEU:HD21	2.17	0.58
1:F:66:THR:O	1:F:70:LEU:HB2	2.04	0.58
1:H:264:TYR:CD1	2:H:2:PDY:H20	2.27	0.58
1:K:190:GLU:H	1:K:190:GLU:CD	2.06	0.58
1:B:184:HIS:HD2	1:B:186:ASP:N	1.98	0.58
1:G:264:TYR:O	1:G:275:MET:HG3	2.04	0.58
1:I:140:CYS:SG	2:I:1:PDY:C17	2.92	0.58
1:G:307:LYS:HB2	1:G:313:ARG:HG2	1.86	0.58
1:A:85:ARG:HH11	1:A:85:ARG:HG2	1.68	0.57
1:I:58:ALA:O	1:I:61:ASP:HB2	2.04	0.57
1:J:288:ASN:N	1:J:288:ASN:ND2	2.52	0.57
1:J:322:HIS:ND1	1:J:323:PRO:HD2	2.19	0.57
1:A:195:THR:HG23	1:A:202:ILE:O	2.04	0.57
1:B:49:LYS:HD3	1:B:113:GLN:CG	2.34	0.57
1:D:214:THR:O	1:D:238:GLU:HB3	2.04	0.57
1:E:156:GLN:HE21	1:E:156:GLN:N	2.01	0.57
1:E:229:TYR:OH	1:F:188:LYS:HE2	2.03	0.57
1:F:70:LEU:HD12	1:F:94:MET:CE	2.34	0.57
1:E:60:ILE:HD12	1:E:60:ILE:C	2.25	0.57
1:I:215:THR:OG1	1:I:216:SER:N	2.37	0.57
1:J:74:ILE:N	1:J:94:MET:HE3	2.19	0.57
1:L:48:VAL:O	1:L:48:VAL:HG12	2.02	0.57
1:A:295:SER:OG	1:A:298:VAL:HG23	2.04	0.57
1:B:108:HIS:CG	1:B:120:ILE:HD11	2.40	0.57
2:C:2:PDY:C14	2:C:2:PDY:H18	2.33	0.57
1:J:300:MET:SD	1:J:303:ARG:HD2	2.44	0.57
1:C:54:ILE:HG21	1:C:125:GLU:HB2	1.85	0.57
1:C:65:VAL:HG12	1:C:70:LEU:HD11	1.87	0.57
1:J:66:THR:CG2	1:J:68:GLN:HB2	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:73:GLY:C	1:J:94:MET:HE3	2.25	0.57
1:C:97:ASP:H	1:C:133:CYS:HA	1.70	0.57
1:G:300:MET:SD	1:G:303:ARG:NH2	2.75	0.57
1:I:275:MET:O	1:I:279:ILE:HG13	2.05	0.57
1:J:147:PHE:HB3	1:J:342:LEU:HD21	1.86	0.57
1:J:156:GLN:HG3	1:J:340:ARG:HH11	1.69	0.57
1:B:108:HIS:HE1	1:B:138:MET:CE	2.16	0.57
1:F:264:TYR:CZ	2:F:2:PDY:H24	2.40	0.57
1:H:240:TYR:CE1	1:H:242:LYS:HB2	2.40	0.57
1:I:200:ASN:HD22	1:I:200:ASN:N	2.03	0.57
1:K:288:ASN:H	1:K:288:ASN:HD22	1.52	0.57
1:D:49:LYS:HD2	1:D:113:GLN:CG	2.28	0.57
1:D:58:ALA:O	1:D:61:ASP:HB2	2.05	0.57
1:F:260:TYR:OH	1:F:287:PRO:HG2	2.05	0.57
1:J:140:CYS:SG	2:J:1:PDY:H17	2.45	0.57
1:J:187:VAL:HG12	1:J:187:VAL:O	2.04	0.57
1:K:102:ARG:HG3	1:K:134:LEU:HD21	1.87	0.57
1:D:278:ARG:HA	1:D:283:GLN:HG3	1.86	0.57
1:G:189:PRO:HG2	1:G:190:GLU:OE1	2.04	0.57
1:I:264:TYR:CG	2:I:2:PDY:H20	2.39	0.57
1:K:66:THR:H	1:K:69:VAL:HG22	1.69	0.57
1:L:49:LYS:CD	1:L:50:SER:H	2.18	0.56
1:C:264:TYR:OH	2:C:2:PDY:H24	2.04	0.56
1:C:295:SER:CB	1:C:298:VAL:HG23	2.29	0.56
1:E:202:ILE:CD1	1:E:204:LYS:HE2	2.34	0.56
1:J:278:ARG:CG	1:J:283:GLN:HE21	2.18	0.56
1:A:327:GLN:CD	1:A:330:LYS:HD3	2.25	0.56
2:B:1:PDY:C14	2:B:1:PDY:H18	2.35	0.56
1:C:63:TYR:O	1:C:65:VAL:HG23	2.04	0.56
1:E:66:THR:HG22	1:E:69:VAL:HG13	1.85	0.56
1:E:161:ARG:HB3	1:E:333:GLN:NE2	2.20	0.56
1:E:184:HIS:HD2	1:E:186:ASP:H	1.53	0.56
1:G:310:PRO:HG3	1:I:233:GLU:HG2	1.87	0.56
1:I:121:VAL:HB	1:I:137:VAL:HG12	1.87	0.56
1:K:129:ALA:C	1:K:131:ARG:H	2.09	0.56
1:L:155:ASP:HA	1:L:157:ALA:N	2.20	0.56
1:D:202:ILE:HD12	1:D:203:LEU:N	2.20	0.56
1:E:304:ASN:C	1:E:304:ASN:OD1	2.43	0.56
1:F:110:ARG:HH22	1:F:213:GLU:CD	2.09	0.56
2:F:2:PDY:H14	2:F:2:PDY:C13	2.35	0.56
1:F:288:ASN:OD1	1:F:292:SER:HB3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:188:LYS:HB2	1:G:189:PRO:HD2	1.87	0.56
1:K:56:LYS:HZ1	1:K:125:GLU:CD	2.08	0.56
1:E:110:ARG:HH22	1:E:213:GLU:CD	2.09	0.56
1:F:100:LYS:NZ	1:F:103:ARG:HH22	2.04	0.56
1:F:281:MET:HB2	1:F:283:GLN:HG3	1.88	0.56
1:K:119:ARG:HB3	1:K:139:GLU:OE1	2.06	0.56
1:A:276:LYS:HD3	1:A:280:ARG:HH12	1.70	0.56
1:B:60:ILE:HD12	1:B:61:ASP:N	2.21	0.56
1:F:69:VAL:HB	1:F:79:LEU:HD13	1.87	0.56
1:H:328:SER:O	1:H:331:VAL:HG22	2.05	0.56
1:G:196:SER:OG	1:G:198:ARG:HG2	2.06	0.56
2:H:1:PDY:H14	2:H:1:PDY:C13	2.34	0.56
1:I:69:VAL:CA	1:I:79:LEU:HD22	2.34	0.56
1:B:232:PRO:HD3	1:C:247:TRP:CZ2	2.41	0.56
1:B:233:GLU:HB3	1:C:310:PRO:HG3	1.88	0.56
1:C:188:LYS:HE3	1:C:191:ASN:HD21	1.70	0.56
1:E:260:TYR:HE2	1:E:290:GLU:OE1	1.88	0.56
1:F:338:THR:O	1:F:342:LEU:HB2	2.05	0.56
1:I:107:LEU:HD22	1:I:182:ILE:CD1	2.36	0.56
1:I:266:ASN:H	1:I:266:ASN:HD22	1.53	0.56
1:J:66:THR:CG2	1:J:69:VAL:HG12	2.36	0.56
1:J:71:GLY:O	1:J:74:ILE:HG22	2.06	0.56
2:A:2:PDY:C13	2:A:2:PDY:H14	2.36	0.56
1:H:66:THR:O	1:H:70:LEU:HB2	2.06	0.56
1:E:300:MET:SD	1:E:303:ARG:NE	2.70	0.55
1:H:295:SER:OG	1:H:298:VAL:HG23	2.07	0.55
1:I:185:ARG:HH21	1:I:212:LYS:HG3	1.72	0.55
1:L:49:LYS:HD2	1:L:50:SER:N	2.20	0.55
1:L:327:GLN:NE2	1:L:330:LYS:HD3	2.21	0.55
2:A:1:PDY:H14	2:A:1:PDY:C13	2.37	0.55
1:D:290:GLU:CD	1:D:290:GLU:H	2.10	0.55
1:F:261:PRO:HD3	2:F:2:PDY:H25	1.87	0.55
1:H:300:MET:SD	1:H:303:ARG:NE	2.77	0.55
1:J:118:VAL:HG21	2:J:1:PDY:H11	1.88	0.55
1:A:175:GLN:NE2	1:A:320:MET:HG3	2.20	0.55
1:B:184:HIS:HE1	1:B:206:THR:O	1.89	0.55
1:C:83:ASN:ND2	1:C:86:THR:HB	2.22	0.55
1:E:97:ASP:HB2	1:E:134:LEU:HD13	1.87	0.55
1:E:327:GLN:CB	1:E:330:LYS:HZ2	2.18	0.55
1:G:338:THR:O	1:G:342:LEU:HB2	2.06	0.55
1:H:257:LEU:HD11	1:H:298:VAL:HG11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:322:HIS:ND1	1:I:323:PRO:HD2	2.20	0.55
1:L:97:ASP:O	1:L:98:CYS:HB3	2.05	0.55
1:C:82:PHE:HA	1:C:88:GLU:O	2.06	0.55
1:E:66:THR:O	1:E:69:VAL:HG22	2.05	0.55
1:F:304:ASN:OD1	1:F:314:MET:HB2	2.06	0.55
1:H:48:VAL:HG13	1:H:48:VAL:O	2.07	0.55
1:L:300:MET:SD	1:L:303:ARG:NH2	2.75	0.55
1:A:280:ARG:HH11	1:C:235:LEU:CD1	2.20	0.55
1:G:97:ASP:OD2	1:G:102:ARG:NH2	2.37	0.55
1:L:70:LEU:HG	1:L:94:MET:HE1	1.88	0.55
1:B:296:GLU:OE2	1:B:303:ARG:NH2	2.39	0.55
1:C:66:THR:HG1	1:C:69:VAL:N	2.05	0.55
1:C:252:ILE:O	1:C:256:LEU:HB2	2.07	0.55
1:G:195:THR:HG23	1:G:202:ILE:O	2.06	0.55
1:J:254:TYR:CG	1:J:262:PRO:HG3	2.42	0.55
2:D:1:PDY:H14	2:D:1:PDY:C13	2.35	0.55
2:E:2:PDY:C18	2:E:2:PDY:H14A	2.36	0.55
1:C:307:LYS:HD2	1:C:312:GLN:OE1	2.06	0.55
1:J:60:ILE:HD12	1:J:60:ILE:C	2.26	0.55
1:K:82:PHE:HA	1:K:88:GLU:O	2.07	0.55
1:K:258:CYS:HB3	1:K:291:TRP:NE1	2.22	0.55
1:A:69:VAL:HB	1:A:79:LEU:CD1	2.37	0.55
1:D:184:HIS:CD2	1:D:205:LEU:HD21	2.42	0.55
1:F:304:ASN:CG	1:F:314:MET:HB2	2.26	0.55
1:L:147:PHE:HE2	1:L:256:LEU:HD23	1.71	0.55
1:C:264:TYR:CE1	2:C:2:PDY:H24A	2.42	0.55
2:C:2:PDY:C18	2:C:2:PDY:C3	2.84	0.55
1:J:159:THR:HG23	1:J:333:GLN:HA	1.89	0.55
1:J:329:THR:C	1:J:331:VAL:N	2.60	0.55
2:K:2:PDY:C18	2:K:2:PDY:H14A	2.35	0.55
1:L:94:MET:O	1:L:95:LEU:HD23	2.06	0.55
1:E:111:ALA:HB1	1:E:117:ILE:CD1	2.38	0.54
1:F:202:ILE:CD1	1:F:204:LYS:HE2	2.37	0.54
1:C:153:ARG:HB2	1:C:156:GLN:HE22	1.72	0.54
1:J:116:HIS:CE1	1:J:169:SER:OG	2.60	0.54
1:J:287:PRO:O	1:J:291:TRP:HB2	2.06	0.54
1:B:58:ALA:O	1:B:61:ASP:HB2	2.08	0.54
1:B:155:ASP:HA	1:B:343:LYS:NZ	2.22	0.54
1:B:158:PHE:CE1	1:B:162:GLU:HB3	2.43	0.54
1:C:130:GLY:O	1:J:110:ARG:HD3	2.06	0.54
1:H:264:TYR:CD1	2:H:2:PDY:C17	2.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:202:ILE:HD11	1:L:204:LYS:CE	2.36	0.54
1:C:167:MET:HG3	1:C:253:MET:HE2	1.90	0.54
1:L:142:ASP:N	1:L:195:THR:O	2.41	0.54
1:E:178:HIS:HE1	1:E:245:ASP:OD2	1.91	0.54
1:G:190:GLU:H	1:G:190:GLU:CD	2.10	0.54
1:H:233:GLU:HG2	1:I:310:PRO:HG3	1.90	0.54
1:I:327:GLN:HE21	1:I:330:LYS:HZ1	1.54	0.54
1:J:327:GLN:HB3	1:J:330:LYS:HG2	1.90	0.54
1:K:150:ILE:O	1:K:153:ARG:HG3	2.07	0.54
1:A:190:GLU:CD	1:A:190:GLU:H	2.11	0.54
1:A:332:PRO:CB	1:A:334:THR:HG22	2.30	0.54
1:C:300:MET:SD	1:C:303:ARG:NE	2.80	0.54
1:E:145:GLU:HG2	1:E:193:LEU:HD21	1.90	0.54
1:I:72:LEU:CB	1:I:79:LEU:HD21	2.37	0.54
1:K:260:TYR:HB2	2:K:2:PDY:H19	1.90	0.54
1:A:66:THR:O	1:A:69:VAL:HG22	2.07	0.54
1:A:159:THR:OG1	1:A:333:GLN:NE2	2.41	0.54
1:C:161:ARG:HD3	1:C:331:VAL:HG13	1.90	0.54
1:C:327:GLN:HB3	1:C:330:LYS:HG3	1.90	0.54
1:F:214:THR:HG21	1:F:242:LYS:HE3	1.88	0.54
1:H:90:PHE:HE2	1:H:121:VAL:HG21	1.71	0.54
1:H:198:ARG:HG2	1:H:199:PRO:HD2	1.89	0.54
1:H:264:TYR:CB	2:H:2:PDY:C17	2.85	0.54
1:J:298:VAL:HG22	1:J:324:TRP:CD1	2.42	0.54
1:K:260:TYR:OH	1:K:287:PRO:HG2	2.07	0.54
1:L:235:LEU:HD12	1:L:235:LEU:H	1.73	0.54
1:I:202:ILE:HD11	1:I:204:LYS:HG2	1.89	0.54
1:K:261:PRO:HD3	2:K:2:PDY:H25	1.90	0.54
1:A:188:LYS:HE2	1:A:190:GLU:HB2	1.90	0.54
1:B:192:LEU:C	1:B:193:LEU:HD23	2.28	0.54
1:H:81:ILE:HD13	1:H:92:LEU:HB2	1.89	0.54
1:J:66:THR:HG22	1:J:69:VAL:HG12	1.89	0.54
1:K:49:LYS:HB3	1:K:113:GLN:NE2	2.23	0.54
1:L:147:PHE:CE2	1:L:256:LEU:HD23	2.43	0.54
1:H:97:ASP:OD1	1:H:98:CYS:N	2.41	0.53
1:B:60:ILE:HD12	1:B:60:ILE:C	2.28	0.53
1:B:146:LEU:HD11	1:B:166:ILE:HD13	1.89	0.53
1:D:188:LYS:HG3	1:D:190:GLU:HG2	1.91	0.53
1:J:63:TYR:O	1:J:84:LYS:HE3	2.08	0.53
1:J:159:THR:HG21	1:J:333:GLN:HG2	1.90	0.53
1:L:146:LEU:HD11	1:L:166:ILE:HD13	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:ARG:HD2	1:A:328:SER:O	2.09	0.53
2:C:1:PDY:H18	2:C:1:PDY:C3	2.39	0.53
1:J:278:ARG:HG3	1:J:283:GLN:HE21	1.73	0.53
1:E:69:VAL:CB	1:E:79:LEU:HD13	2.38	0.53
1:H:150:ILE:O	1:H:153:ARG:HG2	2.08	0.53
1:K:80:GLN:NE2	2:K:1:PDY:H24	2.22	0.53
1:K:309:GLU:OE2	1:K:310:PRO:HD2	2.07	0.53
1:D:98:CYS:HB2	1:D:99:PRO:CD	2.39	0.53
1:G:285:GLU:C	1:G:287:PRO:HD3	2.29	0.53
1:H:151:GLN:NE2	1:H:342:LEU:O	2.42	0.53
1:I:154:GLY:C	1:I:156:GLN:H	2.12	0.53
1:K:332:PRO:HB2	1:K:334:THR:CG2	2.26	0.53
1:L:159:THR:HB	1:L:162:GLU:HG3	1.90	0.53
1:A:288:ASN:HB3	1:A:289:PRO:HA	1.90	0.53
1:G:264:TYR:C	1:G:264:TYR:CD2	2.82	0.53
1:H:69:VAL:HG13	1:H:70:LEU:H	1.74	0.53
1:A:214:THR:HG21	1:A:242:LYS:HE3	1.90	0.53
1:B:155:ASP:N	1:B:156:GLN:OE1	2.41	0.53
1:C:60:ILE:HD12	1:C:61:ASP:N	2.24	0.53
1:K:234:VAL:HG12	1:K:234:VAL:O	2.09	0.53
1:B:247:TRP:HB2	1:B:313:ARG:NH1	2.24	0.53
1:E:275:MET:HA	1:E:278:ARG:HH11	1.74	0.53
1:E:332:PRO:HB2	1:E:334:THR:HG22	1.89	0.53
1:H:110:ARG:HH22	1:H:213:GLU:CD	2.12	0.53
1:J:276:LYS:CG	1:K:235:LEU:HD12	2.38	0.53
1:K:89:LYS:CD	1:K:89:LYS:N	2.72	0.53
1:L:260:TYR:OH	1:L:287:PRO:HG2	2.09	0.53
1:C:185:ARG:HD3	1:C:241:ASP:CG	2.29	0.53
1:E:87:GLN:N	1:E:87:GLN:NE2	2.57	0.53
1:H:212:LYS:HD3	1:H:213:GLU:N	2.23	0.53
1:J:185:ARG:CZ	1:J:212:LYS:HG3	2.38	0.53
1:J:198:ARG:HH11	1:J:198:ARG:CG	2.22	0.53
1:K:95:LEU:O	1:K:133:CYS:CB	2.56	0.53
1:C:148:SER:HA	1:C:151:GLN:HB3	1.91	0.52
1:J:156:GLN:HG3	1:J:340:ARG:NH1	2.23	0.52
1:J:255:ILE:HG12	1:J:261:PRO:HA	1.91	0.52
1:A:107:LEU:HD21	1:A:213:GLU:HG3	1.90	0.52
1:D:328:SER:O	1:D:331:VAL:HG13	2.08	0.52
1:D:332:PRO:HB2	1:D:334:THR:HG22	1.91	0.52
1:H:115:PRO:O	1:H:204:LYS:NZ	2.40	0.52
1:H:154:GLY:HA2	1:H:156:GLN:H	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:78:VAL:CG1	1:C:91:ALA:HB1	2.38	0.52
1:K:178:HIS:CE1	1:K:242:LYS:HG2	2.45	0.52
1:C:129:ALA:HB3	1:C:131:ARG:NE	2.25	0.52
1:E:80:GLN:OE1	2:E:1:PDY:C24	2.58	0.52
1:I:338:THR:O	1:I:342:LEU:HB2	2.09	0.52
1:J:241:ASP:O	1:J:244:CYS:HB3	2.10	0.52
1:L:241:ASP:O	1:L:244:CYS:HB3	2.09	0.52
1:A:278:ARG:O	1:A:282:GLY:N	2.43	0.52
1:A:285:GLU:O	1:A:287:PRO:HD3	2.09	0.52
1:C:260:TYR:OH	1:C:290:GLU:HG3	2.09	0.52
2:F:1:PDY:H18	2:F:1:PDY:H14A	1.91	0.52
1:I:160:GLU:HA	1:I:336:LEU:HD21	1.91	0.52
1:J:198:ARG:HH11	1:J:200:ASN:N	2.07	0.52
1:K:129:ALA:O	1:K:131:ARG:N	2.42	0.52
1:D:110:ARG:HH22	1:D:213:GLU:CD	2.12	0.52
1:E:161:ARG:HD3	1:E:331:VAL:O	2.09	0.52
1:I:70:LEU:HD23	1:I:94:MET:CE	2.38	0.52
1:J:276:LYS:HA	1:J:279:ILE:HD12	1.92	0.52
1:K:104:GLU:HG3	1:K:208:PHE:O	2.10	0.52
1:K:140:CYS:SG	2:K:1:PDY:H17	2.50	0.52
1:E:160:GLU:HA	1:E:336:LEU:HD21	1.91	0.52
1:L:110:ARG:HH22	1:L:213:GLU:CD	2.12	0.52
1:B:290:GLU:HB2	1:B:291:TRP:CD1	2.44	0.52
1:H:154:GLY:CA	1:H:156:GLN:H	2.23	0.52
1:C:149:ARG:NH2	1:C:201:ALA:HB3	2.25	0.52
1:D:73:GLY:HA3	1:D:94:MET:SD	2.50	0.52
1:D:155:ASP:CG	1:D:156:GLN:H	2.12	0.52
1:D:286:PHE:CD1	1:D:299:LYS:HG2	2.44	0.52
1:I:108:HIS:HE1	1:I:138:MET:CE	2.23	0.52
1:D:49:LYS:HG2	1:D:50:SER:N	2.25	0.52
1:F:70:LEU:HD12	1:F:94:MET:SD	2.50	0.52
2:G:1:PDY:H18	2:G:1:PDY:H14A	1.85	0.52
1:K:332:PRO:CB	1:K:334:THR:HG22	2.27	0.52
1:B:47:HIS:HD2	1:L:70:LEU:HD22	1.73	0.51
1:D:130:GLY:O	1:I:110:ARG:NH1	2.41	0.51
1:E:185:ARG:NE	1:E:212:LYS:HG3	2.25	0.51
1:G:69:VAL:CB	1:G:79:LEU:HD13	2.34	0.51
1:G:214:THR:HG21	1:G:242:LYS:HG3	1.91	0.51
1:K:60:ILE:C	1:K:60:ILE:HD12	2.30	0.51
1:L:159:THR:HG22	1:L:160:GLU:N	2.25	0.51
1:C:183:ALA:O	1:C:211:ALA:HA	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1:PDY:H18	2:I:1:PDY:C3	2.38	0.51
1:K:108:HIS:CG	1:K:120:ILE:HD11	2.45	0.51
1:B:189:PRO:HD2	1:B:190:GLU:OE1	2.10	0.51
1:B:339:SER:O	1:B:343:LYS:HG3	2.10	0.51
1:D:195:THR:HG21	1:D:202:ILE:HG23	1.92	0.51
1:E:98:CYS:HB2	1:E:99:PRO:HD2	1.91	0.51
1:J:332:PRO:HB2	1:J:334:THR:CG2	2.41	0.51
1:F:260:TYR:HB2	2:F:2:PDY:H19	1.92	0.51
1:K:337:HIS:O	1:K:341:VAL:HG23	2.10	0.51
2:B:2:PDY:H18	2:B:2:PDY:H14A	1.92	0.51
1:I:202:ILE:HD11	1:I:204:LYS:CG	2.40	0.51
1:J:141:LEU:CD1	1:J:193:LEU:HB2	2.40	0.51
1:J:331:VAL:HG23	1:J:332:PRO:HD2	1.91	0.51
1:G:73:GLY:CA	1:G:79:LEU:HD11	2.40	0.51
1:G:156:GLN:HE22	1:G:340:ARG:NH1	2.09	0.51
1:J:293:GLU:OE2	1:J:293:GLU:HA	2.10	0.51
1:K:164:SER:HB2	1:K:324:TRP:CZ2	2.46	0.51
1:L:261:PRO:HB2	1:L:263:PHE:O	2.11	0.51
1:C:284:TYR:O	1:C:285:GLU:HG2	2.11	0.51
1:D:48:VAL:O	1:D:48:VAL:HG13	2.09	0.51
1:F:161:ARG:HD3	1:F:331:VAL:O	2.09	0.51
1:F:214:THR:HG21	1:F:242:LYS:HG3	1.93	0.51
1:I:168:LYS:O	1:I:172:GLU:HG3	2.10	0.51
1:J:73:GLY:O	1:J:94:MET:HB2	2.10	0.51
1:J:110:ARG:HH22	1:J:213:GLU:CD	2.14	0.51
1:J:185:ARG:NH2	1:J:212:LYS:HE2	2.26	0.51
1:K:188:LYS:NZ	1:K:190:GLU:HG3	2.25	0.51
1:A:168:LYS:HB2	1:A:325:ILE:HG23	1.93	0.51
1:B:66:THR:O	1:B:69:VAL:HG22	2.10	0.51
1:B:69:VAL:HG23	1:B:70:LEU:H	1.74	0.51
1:C:102:ARG:NH2	1:C:134:LEU:HD11	2.26	0.51
1:D:110:ARG:O	1:D:113:GLN:HG3	2.11	0.51
1:E:115:PRO:O	1:E:202:ILE:HD11	2.11	0.51
1:E:260:TYR:HB2	2:E:2:PDY:H19	1.92	0.51
1:G:284:TYR:OH	1:G:303:ARG:HG2	2.11	0.51
1:H:341:VAL:C	1:H:343:LYS:H	2.14	0.51
1:I:100:LYS:CD	1:I:103:ARG:HH21	2.22	0.51
1:J:110:ARG:O	1:J:113:GLN:HG2	2.11	0.51
1:A:185:ARG:NE	1:A:212:LYS:HG3	2.26	0.51
1:B:155:ASP:HA	1:B:343:LYS:HZ1	1.76	0.51
1:C:234:VAL:O	1:C:234:VAL:HG22	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:307:LYS:HG2	1:F:312:GLN:HB3	1.92	0.51
1:G:231:ALA:HB1	1:G:233:GLU:OE2	2.11	0.51
1:B:77:LYS:HZ2	1:B:79:LEU:CD2	2.24	0.50
1:B:184:HIS:CD2	1:B:186:ASP:H	2.14	0.50
1:F:60:ILE:HD12	1:F:60:ILE:C	2.31	0.50
1:F:149:ARG:HG3	1:F:194:TYR:CD2	2.46	0.50
1:H:200:ASN:N	1:H:200:ASN:ND2	2.59	0.50
1:A:50:SER:HB2	1:F:56:LYS:O	2.11	0.50
1:A:111:ALA:HB1	1:A:117:ILE:HD13	1.93	0.50
1:A:235:LEU:HD11	1:B:276:LYS:HE2	1.92	0.50
1:G:86:THR:C	1:G:88:GLU:H	2.14	0.50
1:J:81:ILE:HD13	1:J:92:LEU:HB2	1.92	0.50
1:J:202:ILE:HD11	1:J:204:LYS:HE3	1.92	0.50
1:L:80:GLN:HB2	2:L:1:PDY:H24A	1.92	0.50
1:L:97:ASP:N	1:L:133:CYS:HA	2.26	0.50
1:L:159:THR:CG2	1:L:161:ARG:HB3	2.40	0.50
1:B:69:VAL:CG2	1:B:70:LEU:N	2.73	0.50
1:D:239:LYS:O	1:D:240:TYR:HB2	2.11	0.50
1:E:260:TYR:HB2	1:E:261:PRO:HD2	1.92	0.50
1:G:234:VAL:O	1:G:234:VAL:HG12	2.11	0.50
1:J:185:ARG:CZ	1:J:212:LYS:HE2	2.41	0.50
1:L:264:TYR:CD2	2:L:2:PDY:H20	2.47	0.50
1:B:111:ALA:HB1	1:B:117:ILE:HD12	1.93	0.50
1:B:161:ARG:HD3	1:B:331:VAL:O	2.11	0.50
1:C:107:LEU:HD22	1:C:182:ILE:HG12	1.93	0.50
1:H:264:TYR:CG	2:H:2:PDY:H20	2.42	0.50
1:L:190:GLU:OE1	1:L:190:GLU:N	2.38	0.50
1:D:97:ASP:H	1:D:133:CYS:HA	1.76	0.50
1:J:114:CYS:SG	1:J:116:HIS:HB2	2.52	0.50
1:J:147:PHE:HE2	1:J:256:LEU:HD23	1.76	0.50
1:K:110:ARG:HH22	1:K:213:GLU:CD	2.15	0.50
1:K:164:SER:HA	1:K:324:TRP:CH2	2.46	0.50
1:L:66:THR:HG22	1:L:69:VAL:CG2	2.38	0.50
1:B:52:LEU:HD22	1:B:105:VAL:HG12	1.93	0.50
1:C:202:ILE:CD1	1:C:204:LYS:HE2	2.18	0.50
1:J:192:LEU:O	1:J:193:LEU:HD23	2.11	0.50
1:J:287:PRO:HD2	1:J:291:TRP:CD1	2.46	0.50
1:K:288:ASN:N	1:K:288:ASN:ND2	2.59	0.50
1:F:69:VAL:HG23	1:F:70:LEU:N	2.26	0.50
1:K:108:HIS:CD2	1:K:120:ILE:HD11	2.47	0.50
1:L:264:TYR:CB	2:L:2:PDY:C17	2.88	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:150:ILE:O	1:B:153:ARG:HG2	2.12	0.50
1:C:330:LYS:HZ3	1:C:330:LYS:HB2	1.77	0.50
1:D:116:HIS:CE1	1:D:169:SER:HB2	2.47	0.50
1:G:161:ARG:NH1	1:G:333:GLN:HG3	2.26	0.50
1:H:341:VAL:O	1:H:343:LYS:N	2.37	0.50
1:J:198:ARG:HG3	1:J:199:PRO:N	2.27	0.50
1:L:161:ARG:NH1	1:L:333:GLN:HG2	2.27	0.50
1:B:66:THR:O	1:B:70:LEU:HD13	2.12	0.50
1:B:125:GLU:C	1:B:126:ASN:HD22	2.15	0.50
1:D:232:PRO:HD2	1:D:233:GLU:OE2	2.11	0.50
1:G:80:GLN:CD	1:G:89:LYS:HD2	2.31	0.50
1:A:313:ARG:NH1	1:C:233:GLU:OE1	2.44	0.49
1:B:145:GLU:O	1:B:148:SER:HB3	2.12	0.49
1:K:62:ASP:CA	1:K:85:ARG:HH21	2.22	0.49
1:L:247:TRP:HZ3	1:L:306:LEU:O	1.95	0.49
1:A:276:LYS:HG3	1:C:235:LEU:HD11	1.94	0.49
2:B:1:PDY:C18	2:B:1:PDY:C3	2.88	0.49
1:C:127:LEU:O	1:J:48:VAL:HA	2.11	0.49
1:D:151:GLN:HB3	1:D:342:LEU:HB3	1.94	0.49
1:G:180:ILE:HD11	1:G:182:ILE:HD12	1.94	0.49
1:L:260:TYR:OH	1:L:290:GLU:HG3	2.12	0.49
1:E:214:THR:O	1:E:215:THR:HB	2.11	0.49
1:F:332:PRO:HB2	1:F:334:THR:HG22	1.93	0.49
1:G:49:LYS:HD2	1:G:113:GLN:CD	2.33	0.49
1:G:235:LEU:HD12	1:H:280:ARG:HG3	1.93	0.49
2:H:1:PDY:C18	2:H:1:PDY:C3	2.73	0.49
1:K:188:LYS:HZ1	1:K:190:GLU:CG	2.25	0.49
2:L:1:PDY:C14	2:L:1:PDY:H18	2.40	0.49
1:A:161:ARG:O	1:A:165:GLU:HG3	2.12	0.49
1:A:328:SER:O	1:A:331:VAL:CG1	2.61	0.49
1:B:57:ASN:ND2	1:B:57:ASN:H	2.08	0.49
1:B:232:PRO:HD3	1:C:247:TRP:CH2	2.47	0.49
1:C:168:LYS:O	1:C:172:GLU:HG3	2.12	0.49
1:C:296:GLU:OE2	1:C:303:ARG:NH2	2.42	0.49
1:D:145:GLU:HG2	1:D:193:LEU:CD2	2.43	0.49
1:E:73:GLY:HA3	1:E:94:MET:CE	2.42	0.49
1:C:184:HIS:CD2	1:C:205:LEU:HD21	2.47	0.49
1:H:337:HIS:O	1:H:340:ARG:HG3	2.12	0.49
2:J:1:PDY:C18	2:J:1:PDY:C3	2.81	0.49
1:K:178:HIS:ND1	1:K:242:LYS:HG2	2.28	0.49
1:B:234:VAL:O	1:B:234:VAL:HG12	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:159:THR:OG1	1:E:333:GLN:NE2	2.46	0.49
1:I:66:THR:OG1	1:I:69:VAL:HG23	2.12	0.49
1:I:161:ARG:HD3	1:I:331:VAL:O	2.13	0.49
2:L:2:PDY:H18	2:L:2:PDY:H14	0.64	0.49
1:A:309:GLU:CG	1:C:311:THR:HG22	2.43	0.49
1:A:338:THR:HG22	1:A:342:LEU:CD2	2.42	0.49
1:D:66:THR:HB	1:D:69:VAL:CG2	2.40	0.49
1:I:330:LYS:HG3	1:I:330:LYS:O	2.13	0.49
1:A:235:LEU:CD1	1:B:276:LYS:HE2	2.42	0.49
1:B:69:VAL:CG2	1:B:70:LEU:H	2.26	0.49
1:C:327:GLN:NE2	1:C:330:LYS:NZ	2.61	0.49
1:D:239:LYS:HG2	1:D:240:TYR:CD1	2.48	0.49
1:G:124:TYR:HB2	1:G:135:LEU:HB2	1.95	0.49
1:I:107:LEU:HD22	1:I:182:ILE:HD13	1.93	0.49
1:J:198:ARG:HG2	1:J:201:ALA:N	2.27	0.49
1:K:247:TRP:HB2	1:K:313:ARG:NH1	2.28	0.49
1:L:266:ASN:HB2	1:L:278:ARG:HH22	1.77	0.49
1:A:97:ASP:HB3	1:A:132:LYS:O	2.13	0.49
1:A:280:ARG:NH1	1:C:235:LEU:HD13	2.28	0.49
1:B:202:ILE:CD1	1:B:204:LYS:HE2	2.30	0.49
1:C:110:ARG:HD2	1:H:130:GLY:O	2.13	0.49
1:F:145:GLU:HG2	1:F:193:LEU:HD22	1.95	0.49
1:F:156:GLN:CA	1:F:156:GLN:NE2	2.76	0.49
2:J:2:PDY:H14	2:J:2:PDY:C13	2.42	0.49
1:K:66:THR:OG1	1:K:69:VAL:HG13	2.12	0.49
1:K:160:GLU:HB3	1:K:336:LEU:HD11	1.95	0.49
1:C:264:TYR:CE1	2:C:2:PDY:C24	2.96	0.49
1:D:65:VAL:CG1	1:D:70:LEU:HD13	2.42	0.49
1:F:83:ASN:OD1	1:F:84:LYS:N	2.46	0.49
1:G:58:ALA:HB1	1:G:60:ILE:HG13	1.94	0.49
1:K:118:VAL:HG11	1:K:206:THR:HG22	1.94	0.49
1:K:274:GLY:O	1:K:278:ARG:HG3	2.12	0.49
1:A:116:HIS:O	1:A:204:LYS:HA	2.12	0.48
1:A:290:GLU:CD	1:A:290:GLU:H	2.16	0.48
1:C:161:ARG:HB2	1:C:332:PRO:O	2.13	0.48
1:D:77:LYS:HZ2	1:D:79:LEU:HD21	1.75	0.48
1:G:153:ARG:HB3	1:G:339:SER:OG	2.13	0.48
1:H:129:ALA:CB	1:H:131:ARG:HD3	2.34	0.48
1:I:264:TYR:CZ	2:I:2:PDY:H24	2.48	0.48
1:K:188:LYS:NZ	1:K:190:GLU:CG	2.75	0.48
1:K:188:LYS:HZ1	1:K:190:GLU:HG3	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:116:HIS:O	1:L:204:LYS:HA	2.12	0.48
1:D:162:GLU:O	1:D:166:ILE:HG13	2.13	0.48
1:E:332:PRO:HG2	1:E:334:THR:CG2	2.43	0.48
1:F:148:SER:HA	1:F:151:GLN:HG2	1.96	0.48
1:G:66:THR:HG23	1:G:68:GLN:HG2	1.95	0.48
1:G:188:LYS:HD3	1:I:229:TYR:CE1	2.48	0.48
1:I:69:VAL:HG13	1:I:79:LEU:CB	2.43	0.48
1:K:105:VAL:HG21	1:K:134:LEU:HD23	1.95	0.48
1:L:77:LYS:HE3	1:L:79:LEU:CD2	2.42	0.48
1:L:331:VAL:HG23	1:L:332:PRO:HD2	1.95	0.48
1:A:49:LYS:HG3	1:A:113:GLN:CD	2.33	0.48
1:B:52:LEU:CD2	1:B:105:VAL:HG12	2.43	0.48
1:B:65:VAL:HG12	1:B:70:LEU:CD1	2.43	0.48
1:D:74:ILE:HG13	1:D:128:TYR:CE2	2.48	0.48
1:D:151:GLN:HE21	1:D:343:LYS:HA	1.77	0.48
1:F:70:LEU:O	1:F:74:ILE:HD13	2.14	0.48
1:G:66:THR:HG21	1:G:68:GLN:OE1	2.13	0.48
1:H:69:VAL:HG13	1:H:70:LEU:N	2.28	0.48
1:J:73:GLY:N	1:J:79:LEU:HD11	2.29	0.48
1:K:56:LYS:NZ	1:K:125:GLU:OE1	2.46	0.48
1:L:295:SER:OG	1:L:298:VAL:HG23	2.13	0.48
1:L:301:LEU:HD13	1:L:322:HIS:CD2	2.48	0.48
1:A:233:GLU:HG2	1:B:310:PRO:HD3	1.95	0.48
1:B:48:VAL:HB	1:L:70:LEU:CD2	2.42	0.48
1:C:52:LEU:HG	1:C:53:GLN:N	2.28	0.48
1:E:298:VAL:HG22	1:E:324:TRP:NE1	2.28	0.48
1:G:290:GLU:OE2	1:G:337:HIS:HD2	1.96	0.48
1:G:295:SER:O	1:G:299:LYS:HG3	2.13	0.48
1:J:83:ASN:O	1:J:87:GLN:HA	2.13	0.48
1:E:66:THR:CG2	1:E:69:VAL:HG13	2.44	0.48
1:G:215:THR:HG23	1:G:216:SER:N	2.29	0.48
2:J:1:PDY:H14	2:J:1:PDY:C13	2.38	0.48
1:K:70:LEU:O	1:K:74:ILE:HG12	2.13	0.48
1:A:230:VAL:O	1:A:230:VAL:HG13	2.14	0.48
1:B:260:TYR:OH	1:B:290:GLU:HG3	2.13	0.48
1:G:145:GLU:HG2	1:G:193:LEU:HD21	1.94	0.48
1:H:116:HIS:HB3	1:H:173:ALA:HB2	1.95	0.48
1:J:69:VAL:HA	1:J:79:LEU:HD13	1.95	0.48
1:B:49:LYS:HG3	1:B:50:SER:N	2.28	0.48
1:B:114:CYS:HB2	1:B:176:TYR:CD2	2.49	0.48
1:C:284:TYR:C	1:C:285:GLU:HG2	2.34	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:260:TYR:HB2	1:D:261:PRO:HD2	1.96	0.48
1:J:340:ARG:O	1:J:343:LYS:HD3	2.14	0.48
1:A:52:LEU:C	1:F:56:LYS:HD2	2.34	0.48
1:A:85:ARG:HG2	1:A:85:ARG:NH1	2.28	0.48
1:B:242:LYS:O	1:B:245:ASP:HB2	2.13	0.48
1:D:157:ALA:O	1:D:159:THR:HG23	2.13	0.48
1:E:323:PRO:HA	1:E:327:GLN:NE2	2.28	0.48
1:F:73:GLY:HA3	1:F:94:MET:HE3	1.94	0.48
1:F:86:THR:HG22	1:F:87:GLN:N	2.29	0.48
1:F:149:ARG:NH1	1:F:196:SER:O	2.44	0.48
1:H:66:THR:H	1:H:69:VAL:CG1	2.26	0.48
1:H:77:LYS:HD3	1:H:79:LEU:HD21	1.96	0.48
1:H:110:ARG:HD3	1:J:127:LEU:HD11	1.96	0.48
1:H:164:SER:HB3	1:H:328:SER:HB3	1.95	0.48
1:H:337:HIS:CG	1:H:340:ARG:NH1	2.82	0.48
1:I:83:ASN:OD1	1:I:84:LYS:N	2.47	0.48
1:J:65:VAL:HG12	1:J:70:LEU:HD22	1.96	0.48
1:J:159:THR:HG23	1:J:333:GLN:CA	2.42	0.48
1:K:327:GLN:HG2	1:K:330:LYS:NZ	2.29	0.48
1:B:85:ARG:HD2	1:B:86:THR:CG2	2.38	0.48
1:B:110:ARG:NH2	1:B:213:GLU:OE2	2.47	0.48
1:C:125:GLU:C	1:C:126:ASN:HD22	2.17	0.48
1:F:70:LEU:HA	1:F:94:MET:CE	2.44	0.48
1:I:56:LYS:O	1:K:51:GLY:N	2.44	0.48
1:J:57:ASN:H	1:J:57:ASN:HD22	1.61	0.48
1:K:161:ARG:NH2	1:K:333:GLN:HG3	2.29	0.48
1:L:82:PHE:CE1	1:L:89:LYS:HB2	2.49	0.48
1:B:231:ALA:HB1	1:B:233:GLU:CG	2.43	0.48
1:G:156:GLN:HG3	1:G:335:PRO:CB	2.44	0.48
1:I:172:GLU:HG2	1:I:320:MET:CE	2.44	0.48
1:J:311:THR:O	1:L:312:GLN:NE2	2.47	0.48
1:H:55:LYS:HD3	1:H:124:TYR:CE2	2.49	0.47
1:I:261:PRO:HG3	2:I:2:PDY:H25	1.95	0.47
1:B:64:LYS:HE3	1:B:84:LYS:HE3	1.96	0.47
1:C:106:GLU:OE2	1:H:132:LYS:HE2	2.13	0.47
1:C:300:MET:SD	1:C:303:ARG:NH2	2.86	0.47
1:E:97:ASP:H	1:E:133:CYS:HA	1.80	0.47
1:H:67:SER:C	1:H:69:VAL:N	2.67	0.47
1:H:125:GLU:OE2	1:H:132:LYS:HE3	2.14	0.47
1:I:149:ARG:HG3	1:I:194:TYR:CD2	2.49	0.47
1:I:207:ASP:OD2	2:I:1:PDY:N12	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:59:ILE:HG13	1:B:124:TYR:CE1	2.50	0.47
1:B:330:LYS:HG3	1:B:330:LYS:O	2.14	0.47
1:L:296:GLU:O	1:L:300:MET:HB2	2.14	0.47
1:B:326:MET:HG3	1:B:326:MET:O	2.14	0.47
1:D:70:LEU:HD21	1:I:48:VAL:HG11	1.95	0.47
1:F:48:VAL:O	1:F:48:VAL:HG13	2.13	0.47
1:G:73:GLY:N	1:G:79:LEU:HD11	2.29	0.47
1:G:118:VAL:HG23	1:G:139:GLU:HG2	1.96	0.47
1:G:185:ARG:HD3	1:G:241:ASP:OD2	2.14	0.47
1:J:83:ASN:OD1	1:J:85:ARG:N	2.46	0.47
2:K:1:PDY:H24	2:K:1:PDY:H20	1.43	0.47
1:B:278:ARG:HG2	1:B:283:GLN:HG3	1.95	0.47
1:E:56:LYS:O	1:L:50:SER:HB2	2.15	0.47
1:F:160:GLU:O	1:F:163:ALA:HB3	2.14	0.47
1:F:235:LEU:HD23	1:F:235:LEU:N	2.29	0.47
1:G:90:PHE:HE2	1:G:121:VAL:HG21	1.77	0.47
1:G:231:ALA:HB3	1:G:234:VAL:CG2	2.35	0.47
1:H:162:GLU:O	1:H:166:ILE:HG13	2.15	0.47
1:I:254:TYR:CD1	1:I:262:PRO:HD3	2.48	0.47
1:I:266:ASN:ND2	1:I:266:ASN:N	2.49	0.47
1:A:66:THR:HG22	1:A:69:VAL:HG13	1.96	0.47
1:B:82:PHE:HA	1:B:88:GLU:O	2.15	0.47
1:C:60:ILE:O	1:C:84:LYS:HE3	2.15	0.47
1:D:276:LYS:HB2	1:D:276:LYS:HE3	1.45	0.47
1:F:272:SER:HB3	1:F:275:MET:H	1.79	0.47
1:F:304:ASN:OD1	1:F:304:ASN:C	2.53	0.47
1:G:49:LYS:HG2	1:G:50:SER:N	2.30	0.47
1:G:69:VAL:HG23	1:G:70:LEU:N	2.30	0.47
1:G:198:ARG:HG3	1:G:201:ALA:N	2.30	0.47
1:H:340:ARG:HG3	1:H:341:VAL:H	1.80	0.47
1:I:168:LYS:O	1:I:168:LYS:HG3	2.14	0.47
1:A:185:ARG:HE	1:A:212:LYS:HG3	1.79	0.47
1:C:327:GLN:HG2	1:C:330:LYS:HD3	1.97	0.47
1:D:266:ASN:ND2	1:D:267:HIS:HD2	2.11	0.47
1:E:86:THR:O	1:E:87:GLN:HB2	2.13	0.47
1:F:86:THR:HG22	1:F:88:GLU:N	2.23	0.47
1:G:145:GLU:HG2	1:G:193:LEU:CD2	2.45	0.47
1:I:89:LYS:NZ	1:I:142:ASP:OD2	2.48	0.47
1:A:90:PHE:CE2	1:A:121:VAL:HG21	2.50	0.47
1:F:322:HIS:ND1	1:F:323:PRO:HD2	2.30	0.47
1:K:288:ASN:H	1:K:288:ASN:ND2	2.11	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:161:ARG:O	1:L:165:GLU:HG3	2.15	0.47
1:A:185:ARG:HD3	1:A:241:ASP:HB3	1.97	0.47
1:C:129:ALA:O	1:C:131:ARG:HD3	2.14	0.47
1:C:154:GLY:HA2	1:C:155:ASP:HB3	1.97	0.47
1:C:330:LYS:HB2	1:C:330:LYS:NZ	2.28	0.47
1:D:307:LYS:HB2	1:D:313:ARG:HG3	1.97	0.47
1:I:151:GLN:C	1:I:153:ARG:H	2.18	0.47
1:I:307:LYS:HB2	1:I:313:ARG:CG	2.45	0.47
1:J:70:LEU:HA	1:J:94:MET:CE	2.44	0.47
1:A:276:LYS:CG	1:C:235:LEU:HD11	2.45	0.47
1:B:166:ILE:O	1:B:170:ILE:HG13	2.15	0.47
1:D:140:CYS:SG	2:D:1:PDY:H17	2.55	0.47
1:E:70:LEU:HD23	1:E:94:MET:CE	2.43	0.47
1:E:310:PRO:O	1:E:313:ARG:HB2	2.15	0.47
1:G:229:TYR:CD1	1:H:251:VAL:HG11	2.47	0.47
1:L:89:LYS:HE2	1:L:142:ASP:OD2	2.15	0.47
1:L:215:THR:HG23	1:L:216:SER:N	2.29	0.47
1:E:261:PRO:HD3	2:E:2:PDY:H22A	1.97	0.46
1:E:328:SER:C	1:E:330:LYS:H	2.18	0.46
1:F:190:GLU:CD	1:F:190:GLU:H	2.18	0.46
1:H:199:PRO:HG2	1:H:200:ASN:HD22	1.80	0.46
1:I:124:TYR:HB2	1:I:135:LEU:HB2	1.97	0.46
1:J:116:HIS:HE1	1:J:169:SER:OG	1.97	0.46
1:J:327:GLN:HG2	1:J:330:LYS:CD	2.41	0.46
2:K:2:PDY:H18	2:K:2:PDY:H14A	1.96	0.46
1:B:233:GLU:OE2	1:C:313:ARG:NH1	2.44	0.46
1:D:151:GLN:NE2	1:D:343:LYS:HA	2.31	0.46
1:E:72:LEU:HB3	1:E:79:LEU:HD11	1.98	0.46
1:E:102:ARG:NH2	1:E:125:GLU:OE1	2.49	0.46
1:G:154:GLY:O	1:G:155:ASP:C	2.54	0.46
1:G:262:PRO:HG2	1:G:263:PHE:CD1	2.50	0.46
1:L:183:ALA:O	1:L:211:ALA:HA	2.15	0.46
1:A:86:THR:O	1:A:86:THR:HG22	2.14	0.46
1:A:327:GLN:HG2	1:A:330:LYS:HD3	1.97	0.46
2:A:2:PDY:C17	2:A:2:PDY:C14	2.93	0.46
1:I:55:LYS:HD3	1:I:124:TYR:CE2	2.49	0.46
1:I:108:HIS:HE1	1:I:138:MET:HE3	1.79	0.46
1:I:167:MET:HG3	1:I:253:MET:HG2	1.97	0.46
1:K:59:ILE:HA	1:K:124:TYR:CE2	2.51	0.46
1:K:185:ARG:NH2	1:K:212:LYS:HG3	2.25	0.46
1:C:327:GLN:C	1:C:329:THR:H	2.17	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:80:GLN:HB2	2:D:1:PDY:H24A	1.97	0.46
1:E:187:VAL:HG12	1:E:252:ILE:HD11	1.97	0.46
1:H:322:HIS:HD2	1:H:324:TRP:N	2.06	0.46
1:I:202:ILE:HD12	1:I:203:LEU:N	2.30	0.46
1:K:72:LEU:HB3	1:K:77:LYS:HB3	1.96	0.46
1:K:77:LYS:HB3	1:K:79:LEU:HD21	1.98	0.46
1:K:232:PRO:C	1:K:234:VAL:H	2.17	0.46
1:K:257:LEU:HD11	1:K:298:VAL:HG11	1.98	0.46
1:K:281:MET:CB	1:K:283:GLN:HG3	2.45	0.46
1:A:180:ILE:HG22	1:F:130:GLY:HA3	1.97	0.46
1:A:331:VAL:HG23	1:A:332:PRO:HD2	1.97	0.46
1:F:98:CYS:HB2	1:F:99:PRO:CD	2.45	0.46
1:H:135:LEU:HD12	1:H:135:LEU:N	2.30	0.46
1:J:57:ASN:H	1:J:57:ASN:ND2	2.13	0.46
1:L:286:PHE:CE1	1:L:299:LYS:HB3	2.51	0.46
1:C:70:LEU:HD12	1:C:70:LEU:N	2.30	0.46
1:C:153:ARG:HD3	1:C:156:GLN:NE2	2.30	0.46
1:H:160:GLU:O	1:H:163:ALA:HB3	2.16	0.46
1:H:337:HIS:HA	1:H:340:ARG:HH11	1.79	0.46
1:I:286:PHE:CB	1:I:299:LYS:HE2	2.46	0.46
1:B:74:ILE:HG23	1:B:94:MET:CE	2.46	0.46
1:C:187:VAL:HG22	1:C:205:LEU:HD11	1.98	0.46
1:D:288:ASN:OD1	1:D:292:SER:HB3	2.16	0.46
1:E:161:ARG:O	1:E:165:GLU:HG3	2.15	0.46
1:G:65:VAL:HG12	1:G:70:LEU:CD2	2.46	0.46
1:J:314:MET:CG	1:J:318:GLU:HB2	2.46	0.46
1:K:197:LYS:HD2	1:K:197:LYS:HA	1.77	0.46
1:L:79:LEU:O	1:L:91:ALA:HA	2.16	0.46
1:C:70:LEU:N	1:C:70:LEU:CD1	2.79	0.46
1:F:147:PHE:HE1	1:F:189:PRO:HG3	1.80	0.46
1:F:192:LEU:C	1:F:193:LEU:HD23	2.35	0.46
1:H:118:VAL:HG21	2:H:1:PDY:H11	1.97	0.46
1:H:251:VAL:HG13	1:H:262:PRO:HD2	1.97	0.46
1:A:202:ILE:HD12	1:A:203:LEU:N	2.31	0.46
1:B:95:LEU:O	1:B:133:CYS:HB2	2.16	0.46
1:B:188:LYS:NZ	1:B:190:GLU:HB2	2.31	0.46
1:D:66:THR:HG21	1:D:68:GLN:CG	2.46	0.46
1:D:233:GLU:HG2	1:E:310:PRO:CG	2.43	0.46
1:J:122:ASP:N	1:J:122:ASP:OD1	2.47	0.46
1:J:166:ILE:O	1:J:169:SER:HB3	2.15	0.46
1:L:264:TYR:CB	2:L:2:PDY:H17	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:153:ARG:O	1:B:154:GLY:C	2.54	0.46
1:C:241:ASP:O	1:C:244:CYS:HB3	2.16	0.46
1:F:147:PHE:CD1	1:F:189:PRO:HB3	2.51	0.46
1:F:310:PRO:O	1:F:313:ARG:HB2	2.16	0.46
1:J:155:ASP:OD2	1:J:340:ARG:HG3	2.16	0.46
1:K:55:LYS:HE2	1:K:57:ASN:HD21	1.81	0.46
1:A:332:PRO:HG2	1:A:334:THR:CG2	2.47	0.45
1:B:156:GLN:OE1	1:B:156:GLN:N	2.49	0.45
1:C:121:VAL:O	1:C:122:ASP:HB3	2.16	0.45
1:C:215:THR:HG23	1:C:216:SER:N	2.30	0.45
1:F:56:LYS:HE3	1:F:125:GLU:CD	2.36	0.45
1:G:125:GLU:O	1:G:126:ASN:ND2	2.43	0.45
1:I:97:ASP:HB2	1:I:134:LEU:HD13	1.98	0.45
1:J:48:VAL:O	1:J:48:VAL:HG13	2.16	0.45
1:J:70:LEU:O	1:J:94:MET:HE1	2.15	0.45
1:A:153:ARG:O	1:A:154:GLY:C	2.54	0.45
1:A:188:LYS:HB2	1:A:189:PRO:CD	2.46	0.45
1:C:145:GLU:HG2	1:C:193:LEU:CD2	2.47	0.45
1:C:327:GLN:O	1:C:329:THR:N	2.43	0.45
1:E:128:TYR:CD1	1:L:48:VAL:HG23	2.49	0.45
1:I:183:ALA:O	1:I:211:ALA:HA	2.16	0.45
1:K:80:GLN:HE21	2:K:1:PDY:H24	1.80	0.45
1:B:266:ASN:CG	1:B:278:ARG:NH2	2.68	0.45
1:C:83:ASN:HD22	1:C:86:THR:HB	1.82	0.45
1:C:188:LYS:HE3	1:C:191:ASN:ND2	2.31	0.45
1:E:338:THR:HG22	1:E:342:LEU:CD2	2.46	0.45
1:H:202:ILE:HD11	1:H:204:LYS:HE2	1.98	0.45
1:I:185:ARG:NH2	1:I:212:LYS:HG3	2.32	0.45
1:I:286:PHE:HB3	1:I:299:LYS:HE2	1.98	0.45
1:B:160:GLU:O	1:B:163:ALA:HB3	2.17	0.45
1:D:66:THR:HG21	1:D:68:GLN:HG3	1.97	0.45
1:D:322:HIS:ND1	1:D:323:PRO:HD2	2.31	0.45
1:E:66:THR:HG22	1:E:69:VAL:HG22	1.99	0.45
1:G:264:TYR:CE1	2:G:2:PDY:H24A	2.52	0.45
1:I:77:LYS:HD3	1:I:77:LYS:HA	1.79	0.45
1:J:186:ASP:OD1	1:J:188:LYS:HE3	2.16	0.45
1:J:278:ARG:HG3	1:J:283:GLN:NE2	2.31	0.45
1:A:52:LEU:HD21	1:A:105:VAL:HG12	1.98	0.45
1:A:185:ARG:NH2	1:A:212:LYS:HG3	2.31	0.45
1:A:298:VAL:O	1:A:302:ILE:HG13	2.16	0.45
1:B:151:GLN:HB2	1:B:342:LEU:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:309:GLU:HB3	1:C:312:GLN:HG3	1.98	0.45
1:D:97:ASP:HA	1:D:134:LEU:HD22	1.99	0.45
1:D:97:ASP:OD1	1:D:102:ARG:NE	2.42	0.45
1:D:111:ALA:HB1	1:D:117:ILE:HD13	1.98	0.45
1:E:288:ASN:HA	1:E:289:PRO:C	2.36	0.45
1:H:67:SER:O	1:H:69:VAL:N	2.49	0.45
1:H:290:GLU:H	1:H:290:GLU:CD	2.20	0.45
1:L:188:LYS:HE2	1:L:190:GLU:HG2	1.98	0.45
1:A:52:LEU:HD21	1:A:105:VAL:CG1	2.46	0.45
1:A:69:VAL:HB	1:A:79:LEU:HD12	1.98	0.45
1:E:188:LYS:NZ	1:E:190:GLU:CG	2.79	0.45
1:H:94:MET:O	1:H:95:LEU:HD23	2.17	0.45
1:I:69:VAL:HG13	1:I:79:LEU:HD22	1.98	0.45
1:K:160:GLU:O	1:K:160:GLU:HG3	2.17	0.45
1:L:100:LYS:O	1:L:103:ARG:HB3	2.17	0.45
1:L:159:THR:HB	1:L:162:GLU:H	1.81	0.45
1:L:161:ARG:HD2	1:L:328:SER:O	2.16	0.45
1:L:231:ALA:HB1	1:L:233:GLU:OE2	2.17	0.45
1:L:298:VAL:HG22	1:L:324:TRP:CD1	2.52	0.45
1:A:65:VAL:HG12	1:A:70:LEU:HG	1.97	0.45
1:D:188:LYS:NZ	1:D:190:GLU:HG3	2.32	0.45
1:F:260:TYR:CB	2:F:2:PDY:H19	2.47	0.45
1:H:233:GLU:H	1:H:233:GLU:HG3	1.35	0.45
1:J:240:TYR:HD2	1:J:240:TYR:HA	1.68	0.45
1:J:316:ILE:HG23	1:J:317:THR:N	2.31	0.45
1:K:310:PRO:HB3	1:L:233:GLU:OE1	2.17	0.45
1:L:249:LEU:HD12	1:L:249:LEU:HA	1.76	0.45
1:A:300:MET:SD	1:A:303:ARG:NH2	2.79	0.45
1:B:124:TYR:HB2	1:B:135:LEU:HB2	1.98	0.45
1:C:49:LYS:HB2	1:C:113:GLN:NE2	2.32	0.45
1:C:161:ARG:NH1	1:C:333:GLN:CG	2.80	0.45
1:E:73:GLY:HA3	1:E:94:MET:HE3	1.98	0.45
1:G:118:VAL:HG21	2:G:1:PDY:H11	1.99	0.45
1:G:188:LYS:HB3	1:I:229:TYR:CD1	2.52	0.45
1:H:49:LYS:HB2	1:J:127:LEU:HB2	1.97	0.45
1:B:70:LEU:O	1:B:74:ILE:HG13	2.16	0.45
1:B:190:GLU:CD	1:B:190:GLU:N	2.70	0.45
1:B:327:GLN:NE2	1:B:330:LYS:NZ	2.65	0.45
1:F:265:SER:HB3	1:F:268:GLY:HA2	1.98	0.45
1:H:158:PHE:HZ	1:H:166:ILE:HD12	1.82	0.45
1:H:190:GLU:CD	1:H:190:GLU:H	2.21	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:298:VAL:HG22	1:H:324:TRP:CD1	2.52	0.45
1:A:309:GLU:HG2	1:C:311:THR:HG22	1.98	0.45
1:B:108:HIS:HE1	1:B:138:MET:HE2	1.82	0.45
1:C:229:TYR:N	1:C:229:TYR:CD2	2.85	0.45
2:C:1:PDY:H18	2:C:1:PDY:H14A	1.95	0.45
1:D:57:ASN:ND2	1:D:57:ASN:H	2.14	0.45
1:D:178:HIS:CG	1:D:242:LYS:HG2	2.52	0.45
1:F:230:VAL:HG23	1:F:234:VAL:HG11	1.97	0.45
1:G:215:THR:OG1	1:G:216:SER:N	2.50	0.45
1:G:264:TYR:C	1:G:275:MET:HG3	2.38	0.45
1:G:305:LEU:O	1:G:313:ARG:HD3	2.16	0.45
1:H:90:PHE:CE2	1:H:121:VAL:HG21	2.51	0.45
1:J:160:GLU:O	1:J:163:ALA:HB3	2.16	0.45
1:L:344:GLU:OE1	1:L:344:GLU:N	2.50	0.45
1:C:145:GLU:HG2	1:C:193:LEU:HD22	1.99	0.44
1:E:95:LEU:O	1:E:133:CYS:HB2	2.16	0.44
1:F:125:GLU:OE2	1:F:132:LYS:HD2	2.17	0.44
1:I:167:MET:HE2	1:I:253:MET:HG3	1.99	0.44
1:A:88:GLU:HG2	1:A:89:LYS:N	2.31	0.44
1:C:233:GLU:H	1:C:233:GLU:HG3	1.47	0.44
1:E:100:LYS:HE2	1:E:100:LYS:HB2	1.84	0.44
1:E:155:ASP:OD2	1:E:155:ASP:N	2.49	0.44
1:E:213:GLU:HB3	1:E:215:THR:HG22	2.00	0.44
1:F:49:LYS:HD3	1:F:113:GLN:HG2	1.99	0.44
1:H:202:ILE:HD11	1:H:204:LYS:CE	2.47	0.44
1:H:342:LEU:HD12	1:H:342:LEU:HA	1.84	0.44
1:H:342:LEU:C	1:H:343:LYS:HD2	2.37	0.44
1:I:145:GLU:HG2	1:I:193:LEU:CD2	2.47	0.44
1:J:338:THR:O	1:J:342:LEU:HB2	2.17	0.44
1:L:259:GLY:HA3	1:L:341:VAL:HG11	1.98	0.44
1:A:69:VAL:HB	1:A:79:LEU:HD13	1.98	0.44
1:A:161:ARG:HB3	1:A:333:GLN:NE2	2.31	0.44
1:A:253:MET:HE1	1:A:319:PHE:HE1	1.82	0.44
2:A:2:PDY:H17	2:A:2:PDY:C3	2.47	0.44
1:C:104:GLU:HG3	1:C:208:PHE:C	2.37	0.44
1:E:275:MET:HA	1:E:278:ARG:NH1	2.31	0.44
1:L:154:GLY:C	1:L:156:GLN:HB3	2.37	0.44
1:L:258:CYS:HB3	1:L:291:TRP:CZ2	2.52	0.44
2:L:2:PDY:H20	2:L:2:PDY:H24A	1.72	0.44
1:A:327:GLN:CD	1:A:330:LYS:HZ2	2.20	0.44
1:C:71:GLY:O	1:C:74:ILE:HG22	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:331:VAL:HG23	1:C:332:PRO:HD2	2.00	0.44
1:D:113:GLN:O	1:D:115:PRO:HD3	2.17	0.44
1:G:161:ARG:NH1	1:G:331:VAL:O	2.46	0.44
1:H:332:PRO:HB2	1:H:334:THR:CG2	2.38	0.44
1:J:188:LYS:HB2	1:J:189:PRO:CD	2.48	0.44
1:J:254:TYR:CD1	1:J:262:PRO:HG3	2.52	0.44
1:K:161:ARG:O	1:K:165:GLU:HG3	2.18	0.44
1:K:188:LYS:HB2	1:K:189:PRO:HD2	1.99	0.44
1:A:134:LEU:HD12	1:A:134:LEU:HA	1.85	0.44
1:A:188:LYS:HB2	1:A:189:PRO:HD2	1.99	0.44
1:A:311:THR:O	1:B:312:GLN:NE2	2.50	0.44
1:C:147:PHE:O	1:C:151:GLN:N	2.50	0.44
1:D:198:ARG:HB3	1:D:200:ASN:OD1	2.18	0.44
1:G:111:ALA:O	1:G:117:ILE:HG13	2.17	0.44
1:H:97:ASP:H	1:H:133:CYS:HA	1.81	0.44
1:H:233:GLU:OE2	1:I:313:ARG:NH1	2.41	0.44
1:J:58:ALA:O	1:J:61:ASP:OD2	2.36	0.44
1:K:202:ILE:HD12	1:K:203:LEU:H	1.82	0.44
1:A:304:ASN:C	1:A:304:ASN:OD1	2.56	0.44
1:J:311:THR:HG22	1:L:309:GLU:CG	2.48	0.44
1:J:313:ARG:NH2	1:K:233:GLU:HG2	2.14	0.44
1:K:96:GLN:HE22	1:K:131:ARG:CD	2.30	0.44
1:A:97:ASP:H	1:A:133:CYS:HA	1.80	0.44
1:B:190:GLU:CD	1:B:190:GLU:H	2.20	0.44
1:D:185:ARG:HH21	1:D:212:LYS:CG	2.24	0.44
1:E:145:GLU:HG2	1:E:193:LEU:HD23	1.99	0.44
1:F:49:LYS:HB2	1:F:113:GLN:NE2	2.32	0.44
1:H:65:VAL:CG1	1:H:70:LEU:HD13	2.45	0.44
1:K:258:CYS:HG	1:K:291:TRP:HZ2	1.62	0.44
1:K:276:LYS:HE3	1:K:276:LYS:HB2	1.73	0.44
1:A:97:ASP:OD2	1:A:102:ARG:NH2	2.33	0.44
1:B:58:ALA:HB1	1:B:60:ILE:HG13	2.00	0.44
1:C:94:MET:HE3	1:C:94:MET:HB3	1.90	0.44
1:D:148:SER:HA	1:D:151:GLN:HG2	2.00	0.44
1:D:309:GLU:OE2	1:D:310:PRO:HD2	2.18	0.44
1:F:233:GLU:HG2	1:F:234:VAL:N	2.33	0.44
1:G:81:ILE:HD13	1:G:92:LEU:HB2	1.99	0.44
1:H:158:PHE:O	1:H:336:LEU:HB2	2.17	0.44
1:H:200:ASN:HD22	1:H:200:ASN:H	1.63	0.44
1:I:285:GLU:O	1:I:287:PRO:HD3	2.17	0.44
1:I:304:ASN:O	1:I:307:LYS:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:103:ARG:NH1	1:K:212:LYS:HE2	2.33	0.44
1:K:165:GLU:O	1:K:168:LYS:HB3	2.17	0.44
1:L:336:LEU:HD22	1:L:336:LEU:N	2.32	0.44
1:B:80:GLN:NE2	2:B:1:PDY:H24A	2.32	0.44
2:B:2:PDY:C18	2:B:2:PDY:H14A	2.42	0.44
1:E:229:TYR:CE1	1:F:188:LYS:HG2	2.53	0.44
1:E:253:MET:HE1	1:E:319:PHE:HE1	1.83	0.44
1:F:97:ASP:HA	1:F:134:LEU:HD22	2.00	0.44
1:G:185:ARG:NH2	1:G:212:LYS:HE2	2.32	0.44
1:G:264:TYR:C	1:G:264:TYR:HD2	2.21	0.44
1:H:86:THR:C	1:H:88:GLU:H	2.19	0.44
1:H:161:ARG:O	1:H:165:GLU:HG3	2.17	0.44
1:H:264:TYR:HB2	2:H:2:PDY:C17	2.47	0.44
1:I:121:VAL:HB	1:I:137:VAL:O	2.17	0.44
1:L:145:GLU:HG2	1:L:193:LEU:CD2	2.48	0.44
1:A:233:GLU:H	1:A:233:GLU:HG3	1.50	0.43
1:C:65:VAL:HG12	1:C:70:LEU:CD1	2.48	0.43
1:C:90:PHE:CE2	1:C:121:VAL:HG21	2.53	0.43
1:C:288:ASN:N	1:C:288:ASN:ND2	2.66	0.43
1:D:70:LEU:HD21	1:I:48:VAL:CG1	2.48	0.43
1:D:161:ARG:HA	1:D:331:VAL:CG2	2.48	0.43
1:D:230:VAL:CG2	1:D:234:VAL:HB	2.47	0.43
1:E:232:PRO:C	1:E:234:VAL:H	2.21	0.43
1:F:308:THR:HG22	1:F:309:GLU:N	2.33	0.43
1:G:288:ASN:HB3	1:G:289:PRO:HA	1.99	0.43
1:K:167:MET:SD	1:K:256:LEU:HD12	2.58	0.43
1:K:334:THR:HA	1:K:335:PRO:HD3	1.76	0.43
1:L:108:HIS:HE1	1:L:138:MET:HE3	1.83	0.43
1:B:266:ASN:OD1	1:B:266:ASN:C	2.56	0.43
1:C:190:GLU:CD	1:C:190:GLU:H	2.21	0.43
1:C:192:LEU:C	1:C:193:LEU:HD23	2.38	0.43
1:J:192:LEU:HD11	1:J:252:ILE:HD13	1.99	0.43
1:B:327:GLN:HE22	1:B:330:LYS:HZ2	1.66	0.43
1:D:155:ASP:OD1	1:D:156:GLN:HG2	2.18	0.43
1:E:337:HIS:CG	1:E:340:ARG:NH2	2.86	0.43
1:G:70:LEU:H	1:G:70:LEU:HD22	1.83	0.43
1:I:126:ASN:HD22	1:I:126:ASN:N	2.11	0.43
1:L:215:THR:OG1	1:L:216:SER:N	2.50	0.43
1:A:83:ASN:O	1:A:87:GLN:N	2.51	0.43
1:A:130:GLY:O	1:G:110:ARG:HD2	2.17	0.43
1:C:235:LEU:HD13	1:C:235:LEU:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:95:LEU:O	1:D:133:CYS:HB2	2.18	0.43
1:D:95:LEU:O	1:D:134:LEU:N	2.48	0.43
1:D:260:TYR:OH	1:D:287:PRO:HG2	2.17	0.43
1:G:337:HIS:ND1	1:G:340:ARG:NH1	2.66	0.43
1:H:129:ALA:C	1:H:131:ARG:H	2.20	0.43
1:I:70:LEU:HA	1:I:94:MET:CE	2.43	0.43
1:I:98:CYS:HB2	1:I:99:PRO:CD	2.45	0.43
1:J:311:THR:HG22	1:L:309:GLU:CD	2.38	0.43
1:L:93:LYS:HB2	1:L:93:LYS:HE3	1.76	0.43
1:A:135:LEU:HD12	1:A:135:LEU:N	2.33	0.43
1:B:56:LYS:O	1:E:50:SER:HB2	2.19	0.43
1:C:96:GLN:HE21	1:C:96:GLN:HB3	1.59	0.43
1:C:260:TYR:HD2	1:C:341:VAL:HG11	1.83	0.43
1:D:57:ASN:H	1:D:57:ASN:HD22	1.66	0.43
1:E:149:ARG:NH1	1:E:196:SER:O	2.51	0.43
1:G:98:CYS:HB2	1:G:99:PRO:CD	2.48	0.43
1:G:278:ARG:HA	1:G:283:GLN:HG2	1.99	0.43
1:I:285:GLU:C	1:I:287:PRO:HD3	2.39	0.43
1:J:89:LYS:HZ2	1:J:140:CYS:HB3	1.83	0.43
1:J:141:LEU:HD13	1:J:193:LEU:HB2	2.00	0.43
1:B:80:GLN:CD	2:B:1:PDY:H24A	2.39	0.43
1:B:264:TYR:CZ	2:B:2:PDY:H24	2.53	0.43
1:D:167:MET:HE3	1:D:249:LEU:HG	2.00	0.43
1:D:230:VAL:HG22	1:D:234:VAL:HB	1.99	0.43
1:E:249:LEU:HD12	1:E:249:LEU:HA	1.71	0.43
1:J:48:VAL:O	1:J:48:VAL:HG22	2.18	0.43
1:K:58:ALA:HB1	1:K:60:ILE:HG13	2.00	0.43
1:L:342:LEU:N	1:L:342:LEU:CD1	2.82	0.43
1:A:301:LEU:HD13	1:A:322:HIS:CD2	2.54	0.43
1:A:337:HIS:ND1	1:A:340:ARG:NH2	2.67	0.43
1:B:289:PRO:O	1:B:290:GLU:C	2.57	0.43
1:E:337:HIS:CD2	1:E:340:ARG:HH21	2.36	0.43
2:E:1:PDY:H24	2:E:1:PDY:H20	1.57	0.43
1:F:81:ILE:CD1	1:F:92:LEU:HB2	2.45	0.43
1:G:60:ILE:C	1:G:60:ILE:HD12	2.39	0.43
1:H:149:ARG:HG3	1:H:194:TYR:CD2	2.54	0.43
1:I:255:ILE:O	1:I:259:GLY:N	2.46	0.43
1:J:107:LEU:HD21	1:J:213:GLU:HG2	2.00	0.43
1:K:159:THR:C	1:K:161:ARG:H	2.22	0.43
1:K:230:VAL:HG13	1:K:231:ALA:N	2.33	0.43
1:K:344:GLU:O	1:K:344:GLU:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:63:TYR:HE1	1:A:124:TYR:OH	2.02	0.43
1:B:180:ILE:HG21	1:L:130:GLY:HA3	2.01	0.43
1:B:215:THR:HG22	1:B:216:SER:N	2.33	0.43
1:B:246:MET:CE	1:B:316:ILE:HA	2.49	0.43
1:D:198:ARG:HD2	1:D:200:ASN:OD1	2.19	0.43
1:F:54:ILE:HD13	1:F:102:ARG:NH1	2.34	0.43
1:G:298:VAL:HG22	1:G:324:TRP:CD1	2.54	0.43
1:H:154:GLY:C	1:H:156:GLN:H	2.22	0.43
1:I:80:GLN:HE21	1:I:80:GLN:HB3	1.61	0.43
1:J:78:VAL:O	1:J:79:LEU:HD23	2.19	0.43
1:J:111:ALA:HB2	1:J:177:LEU:HD21	2.01	0.43
1:J:160:GLU:HG2	1:J:331:VAL:CG2	2.49	0.43
1:J:341:VAL:O	1:J:343:LYS:N	2.47	0.43
1:K:56:LYS:NZ	1:K:125:GLU:CD	2.71	0.43
1:K:184:HIS:CD2	1:K:205:LEU:HD21	2.54	0.43
1:K:230:VAL:CG2	1:K:231:ALA:H	2.09	0.43
1:A:156:GLN:NE2	1:A:156:GLN:N	2.58	0.43
1:C:111:ALA:HB1	1:C:117:ILE:HD13	2.01	0.43
1:C:121:VAL:O	1:C:122:ASP:CB	2.67	0.43
1:C:172:GLU:HG2	1:C:320:MET:CE	2.49	0.43
1:C:307:LYS:O	1:C:313:ARG:NE	2.50	0.43
1:C:307:LYS:O	1:C:313:ARG:NH2	2.46	0.43
1:D:134:LEU:HD12	1:D:134:LEU:HA	1.87	0.43
1:E:70:LEU:HD23	1:E:70:LEU:HA	1.89	0.43
1:H:337:HIS:CG	1:H:340:ARG:HH11	2.37	0.43
1:H:340:ARG:O	1:H:343:LYS:HD3	2.19	0.43
1:I:86:THR:C	1:I:88:GLU:H	2.22	0.43
1:I:160:GLU:CA	1:I:336:LEU:HD21	2.49	0.43
1:J:336:LEU:HD22	1:J:336:LEU:N	2.34	0.43
1:C:88:GLU:CG	1:C:89:LYS:N	2.79	0.43
1:D:114:CYS:HB3	1:D:117:ILE:HD12	2.01	0.43
1:E:156:GLN:NE2	1:E:156:GLN:N	2.51	0.43
1:G:156:GLN:O	1:G:335:PRO:HB3	2.19	0.43
1:I:96:GLN:OE1	1:I:131:ARG:HD2	2.19	0.43
1:I:247:TRP:HZ3	1:I:306:LEU:O	2.02	0.43
1:K:102:ARG:NH2	1:K:125:GLU:OE1	2.51	0.43
1:A:185:ARG:CZ	1:A:212:LYS:HE2	2.49	0.42
1:D:90:PHE:CE2	1:D:121:VAL:HG21	2.53	0.42
1:D:285:GLU:HB2	1:D:287:PRO:HD3	2.01	0.42
1:E:340:ARG:O	1:E:344:GLU:HG3	2.19	0.42
1:G:156:GLN:HG3	1:G:335:PRO:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:189:PRO:HD2	1:H:190:GLU:OE1	2.19	0.42
1:I:69:VAL:HA	1:I:79:LEU:CD2	2.42	0.42
1:J:186:ASP:HB2	1:J:210:PHE:HD2	1.83	0.42
1:L:80:GLN:CB	2:L:1:PDY:H24A	2.49	0.42
1:L:80:GLN:HA	1:L:90:PHE:O	2.19	0.42
1:L:127:LEU:HD12	1:L:127:LEU:HA	1.85	0.42
1:D:149:ARG:NH1	1:D:197:LYS:HA	2.34	0.42
1:F:49:LYS:NZ	1:F:113:GLN:HG3	2.34	0.42
1:H:66:THR:OG1	1:H:69:VAL:HG12	2.20	0.42
1:H:140:CYS:SG	2:H:1:PDY:C17	3.07	0.42
1:K:157:ALA:HB1	1:K:335:PRO:HB3	2.01	0.42
1:A:247:TRP:CZ2	1:C:232:PRO:HD3	2.54	0.42
1:B:77:LYS:HZ2	1:B:79:LEU:HD21	1.83	0.42
1:B:188:LYS:HE3	1:B:191:ASN:ND2	2.35	0.42
1:E:97:ASP:OD2	1:E:102:ARG:NH2	2.34	0.42
1:E:187:VAL:HG12	1:E:252:ILE:CD1	2.49	0.42
1:E:231:ALA:HB1	1:E:233:GLU:CD	2.39	0.42
1:E:332:PRO:HG2	1:E:334:THR:HG22	2.00	0.42
1:H:331:VAL:HB	1:H:332:PRO:HD2	2.01	0.42
2:H:1:PDY:H20	2:H:1:PDY:H24	1.40	0.42
1:J:305:LEU:O	1:J:313:ARG:HD3	2.20	0.42
1:J:336:LEU:C	1:J:338:THR:H	2.23	0.42
1:L:68:GLN:O	1:L:72:LEU:HD13	2.19	0.42
1:A:234:VAL:O	1:A:234:VAL:HG12	2.19	0.42
1:A:287:PRO:O	1:A:291:TRP:HB2	2.18	0.42
1:A:327:GLN:CG	1:A:330:LYS:HD3	2.50	0.42
1:B:77:LYS:NZ	1:B:79:LEU:HD23	2.33	0.42
1:F:115:PRO:O	1:F:202:ILE:HD11	2.19	0.42
1:H:151:GLN:HA	1:H:339:SER:OG	2.19	0.42
1:K:72:LEU:HB2	1:K:79:LEU:HD11	2.01	0.42
1:L:176:TYR:O	1:L:180:ILE:HG12	2.20	0.42
1:L:259:GLY:HA3	1:L:341:VAL:CG1	2.49	0.42
1:B:56:LYS:O	1:E:51:GLY:N	2.46	0.42
1:C:98:CYS:SG	1:C:99:PRO:HD2	2.60	0.42
1:C:125:GLU:O	1:C:126:ASN:ND2	2.42	0.42
1:D:77:LYS:HB3	1:D:77:LYS:HZ2	1.84	0.42
1:F:278:ARG:NH2	3:F:3:SO4:O2	2.53	0.42
1:H:50:SER:O	1:J:127:LEU:HD23	2.19	0.42
1:H:89:LYS:HG2	1:H:90:PHE:N	2.35	0.42
1:J:66:THR:HG23	1:J:69:VAL:H	1.84	0.42
1:B:108:HIS:HD2	1:B:108:HIS:O	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:154:GLY:HA2	1:E:155:ASP:HA	1.72	0.42
1:F:49:LYS:CG	1:G:127:LEU:HB2	2.49	0.42
1:F:307:LYS:HG2	1:F:312:GLN:CB	2.49	0.42
1:H:161:ARG:HA	1:H:331:VAL:CG2	2.50	0.42
1:K:310:PRO:HG3	1:L:233:GLU:HG2	2.02	0.42
1:B:65:VAL:HG12	1:B:69:VAL:CG2	2.49	0.42
1:D:52:LEU:O	1:K:56:LYS:HE3	2.19	0.42
1:G:102:ARG:HH22	1:G:125:GLU:CD	2.23	0.42
1:I:60:ILE:HA	1:I:63:TYR:O	2.19	0.42
1:J:161:ARG:CZ	1:J:333:GLN:HG3	2.50	0.42
1:L:343:LYS:N	1:L:344:GLU:OE1	2.53	0.42
1:C:153:ARG:O	1:C:153:ARG:HG3	2.19	0.42
1:C:327:GLN:HE21	1:C:330:LYS:HE3	1.82	0.42
1:F:304:ASN:ND2	1:F:314:MET:HB2	2.35	0.42
1:G:145:GLU:O	1:G:146:LEU:C	2.57	0.42
1:H:116:HIS:CE1	1:H:169:SER:HB2	2.55	0.42
1:J:233:GLU:OE2	1:L:313:ARG:NH1	2.53	0.42
1:K:77:LYS:HG2	1:K:79:LEU:CD2	2.49	0.42
1:B:116:HIS:O	1:B:204:LYS:HA	2.20	0.42
1:C:142:ASP:N	1:C:195:THR:O	2.49	0.42
1:E:143:GLY:O	1:E:149:ARG:HD3	2.19	0.42
1:F:49:LYS:O	1:G:127:LEU:N	2.52	0.42
1:F:300:MET:SD	1:F:303:ARG:NE	2.91	0.42
1:J:128:TYR:O	1:J:129:ALA:HB3	2.19	0.42
1:J:261:PRO:HD3	2:J:2:PDY:H25	2.02	0.42
1:J:327:GLN:HG2	1:J:330:LYS:CG	2.50	0.42
1:K:65:VAL:HG12	1:K:70:LEU:HG	2.00	0.42
1:B:62:ASP:OD2	1:B:62:ASP:N	2.53	0.42
1:B:113:GLN:HE21	1:B:113:GLN:HB3	1.55	0.42
1:D:127:LEU:HD12	1:D:127:LEU:HA	1.91	0.42
1:D:240:TYR:CD1	1:D:240:TYR:N	2.88	0.42
1:F:58:ALA:O	1:F:61:ASP:HB2	2.20	0.42
1:F:266:ASN:C	1:F:268:GLY:N	2.73	0.42
1:G:97:ASP:HA	1:G:134:LEU:HD22	2.02	0.42
1:H:75:ASN:HD22	1:H:75:ASN:HA	1.66	0.42
1:H:260:TYR:OH	1:H:287:PRO:HG2	2.20	0.42
1:J:233:GLU:CG	1:L:310:PRO:HG3	2.50	0.42
1:K:69:VAL:HG23	1:K:70:LEU:N	2.35	0.42
1:A:52:LEU:HB2	1:A:109:TRP:CD1	2.55	0.41
1:B:241:ASP:O	1:B:244:CYS:HB3	2.19	0.41
1:B:327:GLN:NE2	1:B:330:LYS:HZ2	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:147:PHE:CE2	1:C:256:LEU:HD23	2.47	0.41
1:C:229:TYR:N	1:C:229:TYR:HD2	2.17	0.41
1:E:247:TRP:HZ3	1:E:306:LEU:O	2.03	0.41
1:F:156:GLN:NE2	1:F:156:GLN:N	2.67	0.41
2:F:2:PDY:C18	2:F:2:PDY:H14A	2.38	0.41
1:J:143:GLY:CA	1:J:149:ARG:NH1	2.83	0.41
1:J:252:ILE:C	1:J:254:TYR:H	2.23	0.41
1:K:66:THR:N	1:K:69:VAL:HG22	2.33	0.41
1:K:194:TYR:CZ	1:K:203:LEU:HD13	2.55	0.41
1:K:232:PRO:C	1:K:234:VAL:N	2.73	0.41
1:L:195:THR:OG1	1:L:196:SER:N	2.53	0.41
1:A:113:GLN:HE21	1:A:113:GLN:HB3	1.62	0.41
1:B:105:VAL:HG22	1:B:136:ILE:HD11	2.02	0.41
1:C:50:SER:HB2	1:H:58:ALA:N	2.35	0.41
1:E:304:ASN:HA	1:E:307:LYS:HG3	2.01	0.41
1:H:142:ASP:O	1:H:197:LYS:HE3	2.20	0.41
1:I:148:SER:O	1:I:152:ASP:HB2	2.20	0.41
1:I:322:HIS:HA	1:I:323:PRO:HD3	1.94	0.41
1:C:92:LEU:HD12	1:C:93:LYS:H	1.86	0.41
1:E:245:ASP:O	1:E:248:SER:HB2	2.21	0.41
1:F:268:GLY:HA2	1:F:269:LEU:HA	1.70	0.41
1:H:154:GLY:O	1:H:156:GLN:NE2	2.53	0.41
1:J:141:LEU:HD12	1:J:193:LEU:HB2	2.00	0.41
1:J:188:LYS:HB2	1:J:189:PRO:HD2	2.03	0.41
1:C:104:GLU:HG3	1:C:208:PHE:O	2.21	0.41
1:D:65:VAL:HG12	1:D:70:LEU:HD13	2.00	0.41
1:E:147:PHE:HE2	1:E:256:LEU:HD23	1.85	0.41
1:J:172:GLU:HG2	1:J:320:MET:CE	2.51	0.41
1:J:337:HIS:ND1	1:J:337:HIS:N	2.68	0.41
1:K:143:GLY:HA3	1:K:194:TYR:CB	2.49	0.41
1:K:192:LEU:HD11	1:K:252:ILE:HD13	2.02	0.41
1:L:108:HIS:HE1	1:L:138:MET:CE	2.33	0.41
1:B:115:PRO:O	1:B:204:LYS:HD3	2.21	0.41
1:C:127:LEU:HD12	1:C:127:LEU:HA	1.87	0.41
1:C:185:ARG:HH21	1:C:212:LYS:HG3	1.85	0.41
1:I:167:MET:HG3	1:I:253:MET:CG	2.49	0.41
1:I:258:CYS:HB2	1:I:290:GLU:HG3	2.03	0.41
1:K:260:TYR:CB	2:K:2:PDY:H19	2.50	0.41
1:K:275:MET:O	1:K:278:ARG:N	2.53	0.41
1:L:95:LEU:O	1:L:133:CYS:CB	2.63	0.41
1:L:114:CYS:HB3	1:L:117:ILE:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:85:ARG:HH11	1:B:86:THR:HG21	1.84	0.41
1:B:307:LYS:HD3	1:B:307:LYS:HA	1.83	0.41
1:C:188:LYS:HG2	1:C:191:ASN:ND2	2.35	0.41
1:F:49:LYS:HB3	1:G:127:LEU:HB2	2.01	0.41
1:F:60:ILE:HA	1:F:63:TYR:O	2.21	0.41
1:F:337:HIS:O	1:F:341:VAL:HG23	2.20	0.41
1:H:133:CYS:SG	1:H:135:LEU:HD11	2.60	0.41
1:H:143:GLY:HA2	1:H:197:LYS:CD	2.50	0.41
1:H:340:ARG:O	1:H:343:LYS:HG2	2.20	0.41
1:I:71:GLY:O	1:I:75:ASN:HB2	2.20	0.41
1:J:260:TYR:OH	1:J:290:GLU:HG3	2.20	0.41
1:J:322:HIS:ND1	1:J:323:PRO:CD	2.83	0.41
1:K:118:VAL:CG1	1:K:206:THR:HG22	2.51	0.41
1:A:107:LEU:HD22	1:A:182:ILE:HG12	2.02	0.41
1:B:188:LYS:CD	1:B:190:GLU:HB2	2.50	0.41
1:D:141:LEU:HD13	1:D:193:LEU:HB2	2.03	0.41
1:D:170:ILE:O	1:D:174:ILE:HG12	2.20	0.41
1:E:167:MET:SD	1:E:256:LEU:HD12	2.61	0.41
1:H:314:MET:HG3	1:H:318:GLU:HB2	2.03	0.41
1:I:65:VAL:HG11	1:I:70:LEU:HD21	2.03	0.41
1:I:127:LEU:HD12	1:I:127:LEU:HA	1.87	0.41
1:J:245:ASP:O	1:J:248:SER:HB2	2.21	0.41
1:L:70:LEU:HD12	1:L:94:MET:CE	2.51	0.41
1:L:161:ARG:CZ	1:L:333:GLN:NE2	2.84	0.41
1:L:185:ARG:HD3	1:L:241:ASP:OD2	2.20	0.41
1:C:83:ASN:OD1	1:C:84:LYS:N	2.53	0.41
1:D:167:MET:HE1	1:D:253:MET:HB2	2.03	0.41
1:H:231:ALA:HB1	1:H:232:PRO:HD2	2.02	0.41
1:H:337:HIS:CB	1:H:340:ARG:HH11	2.34	0.41
1:I:100:LYS:HG3	1:I:103:ARG:HH21	1.85	0.41
1:J:107:LEU:HD21	1:J:213:GLU:CG	2.50	0.41
1:J:315:THR:OG1	1:J:318:GLU:HG3	2.20	0.41
1:K:121:VAL:C	1:K:122:ASP:OD1	2.59	0.41
1:K:129:ALA:C	1:K:131:ARG:N	2.74	0.41
1:K:151:GLN:HG3	1:K:152:ASP:N	2.36	0.41
1:A:66:THR:HG22	1:A:69:VAL:H	1.86	0.41
1:A:233:GLU:OE2	1:B:313:ARG:CZ	2.69	0.41
1:B:90:PHE:CE2	1:B:121:VAL:HG21	2.56	0.41
1:B:301:LEU:HD22	1:B:322:HIS:CE1	2.56	0.41
1:C:65:VAL:HG11	1:C:70:LEU:HD11	2.00	0.41
1:E:177:LEU:HD21	1:E:208:PHE:HE2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:212:LYS:HB3	1:E:212:LYS:HE3	1.83	0.41
1:E:328:SER:HA	1:E:331:VAL:HG13	2.03	0.41
1:F:70:LEU:HA	1:F:94:MET:HE1	2.03	0.41
1:F:185:ARG:HD3	1:F:241:ASP:CB	2.47	0.41
1:F:304:ASN:OD1	1:F:304:ASN:O	2.37	0.41
2:F:2:PDY:C14	2:F:2:PDY:C13	2.98	0.41
1:H:107:LEU:HD22	1:H:182:ILE:CD1	2.51	0.41
1:H:145:GLU:HG2	1:H:193:LEU:HD22	2.03	0.41
1:H:233:GLU:CG	1:I:310:PRO:HG3	2.51	0.41
1:H:281:MET:HB2	1:H:283:GLN:HG3	2.02	0.41
1:I:90:PHE:CE2	1:I:121:VAL:HG21	2.55	0.41
1:I:139:GLU:O	1:I:139:GLU:HG3	2.20	0.41
1:I:172:GLU:HG2	1:I:320:MET:HE1	2.02	0.41
1:J:111:ALA:CB	1:J:177:LEU:HD21	2.51	0.41
1:J:153:ARG:O	1:J:154:GLY:C	2.59	0.41
1:J:301:LEU:HD12	1:J:301:LEU:O	2.20	0.41
1:K:70:LEU:HD23	1:K:94:MET:HE1	2.00	0.41
1:L:309:GLU:OE2	1:L:310:PRO:HD2	2.21	0.41
1:L:336:LEU:C	1:L:338:THR:H	2.23	0.41
1:A:233:GLU:OE2	1:B:310:PRO:HB3	2.21	0.41
1:B:52:LEU:HB2	1:B:109:TRP:CG	2.57	0.41
1:C:332:PRO:HB2	1:C:334:THR:HG22	2.03	0.41
1:G:74:ILE:HG12	1:G:74:ILE:O	2.21	0.41
1:I:327:GLN:HE21	1:I:330:LYS:HZ2	1.67	0.41
1:J:82:PHE:HA	1:J:88:GLU:O	2.21	0.41
1:K:49:LYS:CD	1:K:50:SER:N	2.78	0.41
1:L:264:TYR:CG	2:L:2:PDY:C17	3.04	0.41
1:L:266:ASN:CB	1:L:278:ARG:NH2	2.82	0.41
1:A:233:GLU:OE2	1:B:313:ARG:NH2	2.54	0.40
1:A:313:ARG:HH22	1:C:233:GLU:CG	2.33	0.40
1:C:86:THR:O	1:C:87:GLN:CB	2.68	0.40
1:C:118:VAL:O	1:C:118:VAL:HG13	2.20	0.40
1:C:151:GLN:NE2	1:C:342:LEU:O	2.54	0.40
1:E:69:VAL:HB	1:E:79:LEU:CD1	2.45	0.40
1:F:281:MET:CB	1:F:283:GLN:HG3	2.51	0.40
1:F:327:GLN:HG2	1:F:330:LYS:HD2	2.02	0.40
1:K:151:GLN:HB3	1:K:342:LEU:HB3	2.02	0.40
1:L:186:ASP:O	1:L:191:ASN:ND2	2.53	0.40
1:A:95:LEU:O	1:A:133:CYS:HB2	2.21	0.40
1:A:145:GLU:HG3	1:A:193:LEU:HD23	2.02	0.40
1:C:334:THR:HA	1:C:335:PRO:HD3	1.92	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:85:ARG:O	1:H:87:GLN:N	2.55	0.40
1:I:264:TYR:CE2	2:I:2:PDY:C20	2.99	0.40
1:J:155:ASP:CG	1:J:156:GLN:HE22	2.25	0.40
1:K:98:CYS:C	1:K:100:LYS:N	2.74	0.40
1:L:97:ASP:CG	1:L:102:ARG:HH21	2.24	0.40
2:A:1:PDY:C14	2:A:1:PDY:H18	2.49	0.40
1:B:64:LYS:CE	1:B:84:LYS:HE3	2.51	0.40
1:D:149:ARG:HG3	1:D:194:TYR:CD2	2.57	0.40
2:E:1:PDY:C18	2:E:1:PDY:C3	2.78	0.40
1:F:156:GLN:HE21	1:F:156:GLN:N	2.20	0.40
1:J:331:VAL:CG2	1:J:332:PRO:HD2	2.51	0.40
2:J:2:PDY:C18	2:J:2:PDY:C3	2.90	0.40
1:K:196:SER:H	1:K:201:ALA:HB1	1.86	0.40
1:L:334:THR:HA	1:L:335:PRO:HD3	1.87	0.40
1:A:77:LYS:HB3	1:A:79:LEU:HD21	2.04	0.40
1:B:65:VAL:HG12	1:B:69:VAL:HG21	2.03	0.40
1:B:92:LEU:HD12	1:B:93:LYS:N	2.35	0.40
1:D:48:VAL:O	1:D:48:VAL:CG1	2.68	0.40
1:H:80:GLN:OE1	2:H:1:PDY:H24A	2.21	0.40
1:J:179:SER:HA	1:L:281:MET:SD	2.61	0.40
1:J:314:MET:HG3	1:J:318:GLU:OE1	2.21	0.40
1:K:330:LYS:HG3	1:K:330:LYS:O	2.21	0.40
1:L:277:THR:O	1:L:281:MET:HG2	2.21	0.40
1:A:247:TRP:HZ3	1:A:306:LEU:O	2.05	0.40
1:B:85:ARG:HH11	1:B:86:THR:CG2	2.34	0.40
1:B:253:MET:CE	1:B:305:LEU:HD12	2.52	0.40
1:B:301:LEU:HD13	1:B:322:HIS:CD2	2.56	0.40
1:C:281:MET:HB3	1:C:283:GLN:HG3	2.03	0.40
1:E:127:LEU:HD23	1:L:50:SER:O	2.22	0.40
1:E:327:GLN:CD	1:E:330:LYS:HZ2	2.24	0.40
1:H:167:MET:HB3	1:H:167:MET:HE3	2.00	0.40
1:H:193:LEU:HD11	2:H:1:PDY:H22A	2.04	0.40
1:J:206:THR:OG1	1:J:207:ASP:OD2	2.33	0.40
1:K:64:LYS:HZ1	1:K:84:LYS:HE3	1.85	0.40
1:L:86:THR:O	1:L:86:THR:HG22	2.21	0.40
1:L:331:VAL:CG2	1:L:332:PRO:HD2	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 X-ray entries followed by that with respect to entries of similar resolution.

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	266/324 (82%)	251 (94%)	14 (5%)	1 (0%)	34	66
1	B	269/324 (83%)	252 (94%)	15 (6%)	2 (1%)	22	54
1	C	263/324 (81%)	237 (90%)	21 (8%)	5 (2%)	8	28
1	D	269/324 (83%)	249 (93%)	19 (7%)	1 (0%)	34	66
1	E	268/324 (83%)	249 (93%)	16 (6%)	3 (1%)	14	42
1	F	283/324 (87%)	262 (93%)	19 (7%)	2 (1%)	22	54
1	G	265/324 (82%)	240 (91%)	24 (9%)	1 (0%)	34	66
1	H	265/324 (82%)	242 (91%)	23 (9%)	0	100	100
1	I	267/324 (82%)	251 (94%)	16 (6%)	0	100	100
1	J	267/324 (82%)	231 (86%)	34 (13%)	2 (1%)	22	54
1	K	265/324 (82%)	238 (90%)	24 (9%)	3 (1%)	14	42
1	L	268/324 (83%)	241 (90%)	24 (9%)	3 (1%)	14	42
All	All	3215/3888 (83%)	2943 (92%)	249 (8%)	23 (1%)	22	54

All (23) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	154	GLY
1	A	154	GLY
1	C	328	SER
1	G	295	SER
1	L	156	GLN
1	C	66	THR
1	C	295	SER
1	C	332	PRO
1	F	153	ARG
1	J	85	ARG
1	J	199	PRO
1	K	207	ASP

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Mol	Chain	Res	Type
1	D	155	ASP
1	E	329	THR
1	F	207	ASP
1	K	233	GLU
1	L	195	THR
1	B	154	GLY
1	B	207	ASP
1	C	326	MET
1	K	130	GLY
1	L	98	CYS
1	E	289	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	248/293 (85%)	217 (88%)	31 (12%)	4	14
1	B	251/293 (86%)	228 (91%)	23 (9%)	9	27
1	C	247/293 (84%)	212 (86%)	35 (14%)	3	10
1	D	251/293 (86%)	223 (89%)	28 (11%)	6	18
1	E	250/293 (85%)	223 (89%)	27 (11%)	6	20
1	F	258/293 (88%)	225 (87%)	33 (13%)	4	13
1	G	247/293 (84%)	228 (92%)	19 (8%)	13	35
1	H	249/293 (85%)	224 (90%)	25 (10%)	7	23
1	I	249/293 (85%)	222 (89%)	27 (11%)	6	20
1	J	249/293 (85%)	219 (88%)	30 (12%)	5	15
1	K	247/293 (84%)	219 (89%)	28 (11%)	6	18
1	L	250/293 (85%)	226 (90%)	24 (10%)	8	25
All	All	2996/3516 (85%)	2666 (89%)	330 (11%)	6	19

All (330) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	47	HIS
1	A	53	GLN
1	A	56	LYS
1	A	66	THR
1	A	89	LYS
1	A	96	GLN
1	A	100	LYS
1	A	106	GLU
1	A	127	LEU
1	A	131	ARG
1	A	134	LEU
1	A	138	MET
1	A	142	ASP
1	A	145	GLU
1	A	148	SER
1	A	155	ASP
1	A	156	GLN
1	A	161	ARG
1	A	172	GLU
1	A	188	LYS
1	A	202	ILE
1	A	233	GLU
1	A	240	TYR
1	A	285	GLU
1	A	293	GLU
1	A	326	MET
1	A	331	VAL
1	A	333	GLN
1	A	334	THR
1	A	336	LEU
1	A	342	LEU
1	B	50	SER
1	B	62	ASP
1	B	64	LYS
1	B	65	VAL
1	B	72	LEU
1	B	77	LYS
1	B	80	GLN
1	B	127	LEU
1	B	131	ARG
1	B	155	ASP
1	B	162	GLU
1	B	193	LEU

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Mol	Chain	Res	Type
1	B	233	GLU
1	B	240	TYR
1	B	249	LEU
1	B	276	LYS
1	B	292	SER
1	B	308	THR
1	B	326	MET
1	B	334	THR
1	B	336	LEU
1	B	342	LEU
1	B	344	GLU
1	C	49	LYS
1	C	50	SER
1	C	56	LYS
1	C	85	ARG
1	C	89	LYS
1	C	96	GLN
1	C	98	CYS
1	C	127	LEU
1	C	131	ARG
1	C	134	LEU
1	C	142	ASP
1	C	149	ARG
1	C	155	ASP
1	C	156	GLN
1	C	161	ARG
1	C	190	GLU
1	C	215	THR
1	C	229	TYR
1	C	233	GLU
1	C	240	TYR
1	C	249	LEU
1	C	256	LEU
1	C	264	TYR
1	C	276	LYS
1	C	288	ASN
1	C	290	GLU
1	C	292	SER
1	C	295	SER
1	C	311	THR
1	C	326	MET
1	C	327	GLN

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Mol	Chain	Res	Type
1	C	330	LYS
1	C	334	THR
1	C	336	LEU
1	C	342	LEU
1	D	53	GLN
1	D	64	LYS
1	D	68	GLN
1	D	70	LEU
1	D	122	ASP
1	D	127	LEU
1	D	131	ARG
1	D	132	LYS
1	D	134	LEU
1	D	142	ASP
1	D	161	ARG
1	D	168	LYS
1	D	172	GLU
1	D	197	LYS
1	D	200	ASN
1	D	202	ILE
1	D	238	GLU
1	D	239	LYS
1	D	266	ASN
1	D	283	GLN
1	D	304	ASN
1	D	326	MET
1	D	330	LYS
1	D	331	VAL
1	D	334	THR
1	D	336	LEU
1	D	342	LEU
1	D	343	LYS
1	E	49	LYS
1	E	53	GLN
1	E	57	ASN
1	E	64	LYS
1	E	67	SER
1	E	74	ILE
1	E	87	GLN
1	E	100	LYS
1	E	134	LEU
1	E	151	GLN

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Mol	Chain	Res	Type
1	E	156	GLN
1	E	161	ARG
1	E	172	GLU
1	E	202	ILE
1	E	240	TYR
1	E	249	LEU
1	E	264	TYR
1	E	266	ASN
1	E	272	SER
1	E	292	SER
1	E	304	ASN
1	E	327	GLN
1	E	331	VAL
1	E	333	GLN
1	E	334	THR
1	E	336	LEU
1	E	342	LEU
1	F	50	SER
1	F	62	ASP
1	F	74	ILE
1	F	85	ARG
1	F	89	LYS
1	F	127	LEU
1	F	131	ARG
1	F	134	LEU
1	F	135	LEU
1	F	138	MET
1	F	153	ARG
1	F	155	ASP
1	F	156	GLN
1	F	172	GLU
1	F	188	LYS
1	F	197	LYS
1	F	202	ILE
1	F	229	TYR
1	F	240	TYR
1	F	244	CYS
1	F	253	MET
1	F	285	GLU
1	F	290	GLU
1	F	295	SER
1	F	299	LYS

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Mol	Chain	Res	Type
1	F	307	LYS
1	F	309	GLU
1	F	327	GLN
1	F	334	THR
1	F	336	LEU
1	F	342	LEU
1	F	343	LYS
1	F	344	GLU
1	G	53	GLN
1	G	77	LYS
1	G	100	LYS
1	G	122	ASP
1	G	133	CYS
1	G	153	ARG
1	G	156	GLN
1	G	161	ARG
1	G	198	ARG
1	G	202	ILE
1	G	212	LYS
1	G	248	SER
1	G	264	TYR
1	G	266	ASN
1	G	280	ARG
1	G	290	GLU
1	G	304	ASN
1	G	334	THR
1	G	336	LEU
1	H	47	HIS
1	H	53	GLN
1	H	56	LYS
1	H	70	LEU
1	H	74	ILE
1	H	75	ASN
1	H	77	LYS
1	H	89	LYS
1	H	127	LEU
1	H	131	ARG
1	H	161	ARG
1	H	172	GLU
1	H	193	LEU
1	H	197	LYS
1	H	200	ASN

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Mol	Chain	Res	Type
1	H	229	TYR
1	H	233	GLU
1	H	249	LEU
1	H	275	MET
1	H	328	SER
1	H	330	LYS
1	H	336	LEU
1	H	337	HIS
1	H	340	ARG
1	H	343	LYS
1	I	64	LYS
1	I	89	LYS
1	I	96	GLN
1	I	100	LYS
1	I	113	GLN
1	I	122	ASP
1	I	127	LEU
1	I	134	LEU
1	I	149	ARG
1	I	153	ARG
1	I	155	ASP
1	I	161	ARG
1	I	168	LYS
1	I	169	SER
1	I	200	ASN
1	I	202	ILE
1	I	253	MET
1	I	266	ASN
1	I	297	GLU
1	I	308	THR
1	I	327	GLN
1	I	330	LYS
1	I	331	VAL
1	I	333	GLN
1	I	334	THR
1	I	336	LEU
1	I	342	LEU
1	J	53	GLN
1	J	56	LYS
1	J	68	GLN
1	J	69	VAL
1	J	70	LEU

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Mol	Chain	Res	Type
1	J	89	LYS
1	J	113	GLN
1	J	122	ASP
1	J	131	ARG
1	J	142	ASP
1	J	151	GLN
1	J	153	ARG
1	J	165	GLU
1	J	198	ARG
1	J	233	GLU
1	J	240	TYR
1	J	253	MET
1	J	266	ASN
1	J	285	GLU
1	J	288	ASN
1	J	290	GLU
1	J	293	GLU
1	J	295	SER
1	J	311	THR
1	J	326	MET
1	J	327	GLN
1	J	334	THR
1	J	337	HIS
1	J	340	ARG
1	J	343	LYS
1	K	53	GLN
1	K	64	LYS
1	K	77	LYS
1	K	89	LYS
1	K	100	LYS
1	K	108	HIS
1	K	127	LEU
1	K	131	ARG
1	K	134	LEU
1	K	138	MET
1	K	142	ASP
1	K	149	ARG
1	K	153	ARG
1	K	168	LYS
1	K	193	LEU
1	K	200	ASN
1	K	202	ILE

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Mol	Chain	Res	Type
1	K	233	GLU
1	K	249	LEU
1	K	285	GLU
1	K	288	ASN
1	K	301	LEU
1	K	314	MET
1	K	330	LYS
1	K	333	GLN
1	K	334	THR
1	K	336	LEU
1	K	342	LEU
1	L	56	LYS
1	L	65	VAL
1	L	67	SER
1	L	89	LYS
1	L	96	GLN
1	L	100	LYS
1	L	122	ASP
1	L	127	LEU
1	L	134	LEU
1	L	142	ASP
1	L	151	GLN
1	L	161	ARG
1	L	235	LEU
1	L	240	TYR
1	L	249	LEU
1	L	258	CYS
1	L	266	ASN
1	L	275	MET
1	L	314	MET
1	L	320	MET
1	L	333	GLN
1	L	334	THR
1	L	337	HIS
1	L	342	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (113) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	47	HIS
1	A	57	ASN
1	A	68	GLN

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Mol	Chain	Res	Type
1	A	80	GLN
1	A	87	GLN
1	A	113	GLN
1	A	116	HIS
1	A	151	GLN
1	A	156	GLN
1	A	175	GLN
1	A	333	GLN
1	B	47	HIS
1	B	57	ASN
1	B	108	HIS
1	B	181	ASN
1	B	184	HIS
1	B	283	GLN
1	B	327	GLN
1	B	333	GLN
1	C	53	GLN
1	C	57	ASN
1	C	113	GLN
1	C	116	HIS
1	C	151	GLN
1	C	156	GLN
1	C	175	GLN
1	C	200	ASN
1	C	288	ASN
1	C	327	GLN
1	C	337	HIS
1	D	57	ASN
1	D	68	GLN
1	D	87	GLN
1	D	96	GLN
1	D	151	GLN
1	D	266	ASN
1	D	267	HIS
1	D	283	GLN
1	E	53	GLN
1	E	57	ASN
1	E	87	GLN
1	E	116	HIS
1	E	151	GLN
1	E	156	GLN
1	E	178	HIS

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Mol	Chain	Res	Type
1	E	181	ASN
1	E	184	HIS
1	E	321	ASN
1	E	327	GLN
1	E	333	GLN
1	F	68	GLN
1	F	108	HIS
1	F	116	HIS
1	F	156	GLN
1	F	175	GLN
1	F	181	ASN
1	F	283	GLN
1	F	327	GLN
1	G	53	GLN
1	G	57	ASN
1	G	87	GLN
1	G	96	GLN
1	G	108	HIS
1	G	116	HIS
1	G	156	GLN
1	G	175	GLN
1	G	266	ASN
1	G	283	GLN
1	G	337	HIS
1	H	75	ASN
1	H	80	GLN
1	H	113	GLN
1	H	116	HIS
1	H	151	GLN
1	H	175	GLN
1	H	200	ASN
1	H	322	HIS
1	I	108	HIS
1	I	113	GLN
1	I	126	ASN
1	I	151	GLN
1	I	181	ASN
1	I	200	ASN
1	I	266	ASN
1	I	321	ASN
1	I	327	GLN
1	I	333	GLN

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Mol	Chain	Res	Type
1	J	57	ASN
1	J	68	GLN
1	J	87	GLN
1	J	116	HIS
1	J	151	GLN
1	J	156	GLN
1	J	191	ASN
1	J	283	GLN
1	J	288	ASN
1	K	53	GLN
1	K	57	ASN
1	K	80	GLN
1	K	87	GLN
1	K	96	GLN
1	K	113	GLN
1	K	116	HIS
1	K	151	GLN
1	K	337	HIS
1	L	57	ASN
1	L	68	GLN
1	L	80	GLN
1	L	96	GLN
1	L	108	HIS
1	L	113	GLN
1	L	327	GLN
1	L	333	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry

25 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
2	PDY	K	1	-	24,30,30	1.72	3 (12%)	27,41,41	2.66	7 (25%)
3	SO4	F	3	-	4,4,4	0.22	0	6,6,6	0.15	0
2	PDY	K	2	-	24,30,30	1.72	3 (12%)	27,41,41	2.74	6 (22%)
2	PDY	A	1	-	24,30,30	1.75	3 (12%)	27,41,41	2.81	5 (18%)
2	PDY	G	2	-	24,30,30	1.72	3 (12%)	27,41,41	2.60	5 (18%)
2	PDY	B	2	-	24,30,30	1.72	3 (12%)	27,41,41	2.77	6 (22%)
2	PDY	G	1	-	24,30,30	1.74	3 (12%)	27,41,41	2.83	6 (22%)
2	PDY	H	1	-	24,30,30	1.76	3 (12%)	27,41,41	2.81	8 (29%)
2	PDY	J	1	-	24,30,30	1.70	3 (12%)	27,41,41	2.57	5 (18%)
2	PDY	J	2	-	24,30,30	1.72	3 (12%)	27,41,41	2.61	6 (22%)
2	PDY	L	2	-	24,30,30	1.70	3 (12%)	27,41,41	2.34	8 (29%)
2	PDY	I	2	-	24,30,30	1.70	3 (12%)	27,41,41	2.70	14 (51%)
2	PDY	F	2	-	24,30,30	1.72	3 (12%)	27,41,41	2.79	6 (22%)
2	PDY	L	1	-	24,30,30	1.75	3 (12%)	27,41,41	2.73	5 (18%)
2	PDY	E	2	-	24,30,30	1.71	3 (12%)	27,41,41	2.61	5 (18%)
2	PDY	C	1	-	24,30,30	1.73	3 (12%)	27,41,41	2.77	6 (22%)
2	PDY	F	1	-	24,30,30	1.74	3 (12%)	27,41,41	2.85	7 (25%)
2	PDY	B	1	-	24,30,30	1.73	3 (12%)	27,41,41	2.75	5 (18%)
2	PDY	C	2	-	24,30,30	1.71	3 (12%)	27,41,41	2.69	5 (18%)
2	PDY	H	2	-	24,30,30	1.77	3 (12%)	27,41,41	2.88	15 (55%)
2	PDY	D	2	-	24,30,30	1.68	3 (12%)	27,41,41	2.46	6 (22%)
2	PDY	A	2	-	24,30,30	1.68	3 (12%)	27,41,41	2.59	8 (29%)
2	PDY	I	1	-	24,30,30	1.74	3 (12%)	27,41,41	2.76	6 (22%)
2	PDY	D	1	-	24,30,30	1.73	3 (12%)	27,41,41	2.77	6 (22%)
2	PDY	E	1	-	24,30,30	1.74	3 (12%)	27,41,41	2.69	7 (25%)

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
2	PDY	K	1	-	-	2/11/19/19	0/4/4/4
2	PDY	K	2	-	-	4/11/19/19	0/4/4/4
2	PDY	A	1	-	-	3/11/19/19	0/4/4/4
2	PDY	G	2	-	-	3/11/19/19	0/4/4/4
2	PDY	B	2	-	-	3/11/19/19	0/4/4/4
2	PDY	G	1	-	-	4/11/19/19	0/4/4/4
2	PDY	H	1	-	-	2/11/19/19	0/4/4/4
2	PDY	J	1	-	-	1/11/19/19	0/4/4/4
2	PDY	J	2	-	-	3/11/19/19	0/4/4/4
2	PDY	L	2	-	-	2/11/19/19	0/4/4/4
2	PDY	I	2	-	-	2/11/19/19	0/4/4/4
2	PDY	F	2	-	-	3/11/19/19	0/4/4/4
2	PDY	L	1	-	-	4/11/19/19	0/4/4/4
2	PDY	E	2	-	-	4/11/19/19	0/4/4/4
2	PDY	C	1	-	-	1/11/19/19	0/4/4/4
2	PDY	F	1	-	-	3/11/19/19	0/4/4/4
2	PDY	B	1	-	-	1/11/19/19	0/4/4/4
2	PDY	C	2	-	-	3/11/19/19	0/4/4/4
2	PDY	H	2	-	-	1/11/19/19	0/4/4/4
2	PDY	D	2	-	-	2/11/19/19	0/4/4/4
2	PDY	A	2	-	-	3/11/19/19	0/4/4/4
2	PDY	I	1	-	-	1/11/19/19	0/4/4/4
2	PDY	D	1	-	-	2/11/19/19	0/4/4/4
2	PDY	E	1	-	-	4/11/19/19	0/4/4/4

All (72) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	2	PDY	C11-N7	6.56	1.47	1.34
2	K	2	PDY	C11-N7	6.53	1.47	1.34
2	L	1	PDY	C11-N7	6.52	1.47	1.34
2	H	2	PDY	C11-N7	6.52	1.47	1.34
2	G	1	PDY	C11-N7	6.51	1.47	1.34
2	C	2	PDY	C11-N7	6.50	1.47	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	2	PDY	C11-N7	6.49	1.47	1.34
2	B	1	PDY	C11-N7	6.48	1.47	1.34
2	B	2	PDY	C11-N7	6.47	1.47	1.34
2	F	2	PDY	C11-N7	6.47	1.47	1.34
2	A	1	PDY	C11-N7	6.47	1.47	1.34
2	E	1	PDY	C11-N7	6.46	1.47	1.34
2	D	1	PDY	C11-N7	6.46	1.47	1.34
2	F	1	PDY	C11-N7	6.45	1.47	1.34
2	J	2	PDY	C11-N7	6.45	1.47	1.34
2	C	1	PDY	C11-N7	6.45	1.47	1.34
2	I	1	PDY	C11-N7	6.44	1.47	1.34
2	I	2	PDY	C11-N7	6.41	1.47	1.34
2	J	1	PDY	C11-N7	6.41	1.47	1.34
2	K	1	PDY	C11-N7	6.40	1.47	1.34
2	D	2	PDY	C11-N7	6.40	1.47	1.34
2	L	2	PDY	C11-N7	6.40	1.47	1.34
2	H	1	PDY	C11-N7	6.40	1.47	1.34
2	A	2	PDY	C11-N7	6.35	1.47	1.34
2	H	1	PDY	C13-N9	-3.63	1.32	1.40
2	F	1	PDY	C13-N9	-3.53	1.32	1.40
2	K	1	PDY	C13-N9	-3.51	1.33	1.40
2	E	1	PDY	C13-N9	-3.51	1.33	1.40
2	A	1	PDY	C13-N9	-3.48	1.33	1.40
2	B	1	PDY	C13-N9	-3.43	1.33	1.40
2	I	1	PDY	C13-N9	-3.43	1.33	1.40
2	F	2	PDY	C13-N9	-3.43	1.33	1.40
2	D	1	PDY	C13-N9	-3.42	1.33	1.40
2	L	1	PDY	C13-N9	-3.41	1.33	1.40
2	G	1	PDY	C13-N9	-3.40	1.33	1.40
2	B	2	PDY	C13-N9	-3.39	1.33	1.40
2	J	1	PDY	C13-N9	-3.39	1.33	1.40
2	J	2	PDY	C13-N9	-3.38	1.33	1.40
2	C	1	PDY	C13-N9	-3.38	1.33	1.40
2	G	2	PDY	C13-N9	-3.32	1.33	1.40
2	A	2	PDY	C13-N9	-3.30	1.33	1.40
2	K	2	PDY	C13-N9	-3.26	1.33	1.40
2	C	2	PDY	C13-N9	-3.24	1.33	1.40
2	L	2	PDY	C13-N9	-3.19	1.33	1.40
2	H	2	PDY	C13-N9	-3.19	1.33	1.40
2	E	2	PDY	C13-N9	-3.08	1.33	1.40
2	D	2	PDY	C13-N9	-3.08	1.33	1.40
2	I	2	PDY	C13-N9	-3.05	1.34	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	2	PDY	C4-N6	2.75	1.35	1.31
2	D	2	PDY	C4-N6	2.67	1.35	1.31
2	G	2	PDY	C4-N6	2.65	1.35	1.31
2	L	1	PDY	C4-N6	2.62	1.34	1.31
2	E	2	PDY	C4-N6	2.58	1.34	1.31
2	H	1	PDY	C4-N6	2.57	1.34	1.31
2	J	1	PDY	C4-N6	2.56	1.34	1.31
2	A	1	PDY	C4-N6	2.55	1.34	1.31
2	C	1	PDY	C4-N6	2.55	1.34	1.31
2	C	2	PDY	C4-N6	2.55	1.34	1.31
2	K	2	PDY	C4-N6	2.54	1.34	1.31
2	K	1	PDY	C4-N6	2.52	1.34	1.31
2	B	1	PDY	C4-N6	2.51	1.34	1.31
2	E	1	PDY	C4-N6	2.49	1.34	1.31
2	I	1	PDY	C4-N6	2.49	1.34	1.31
2	F	1	PDY	C4-N6	2.48	1.34	1.31
2	H	2	PDY	C4-N6	2.47	1.34	1.31
2	I	2	PDY	C4-N6	2.44	1.34	1.31
2	L	2	PDY	C4-N6	2.43	1.34	1.31
2	J	2	PDY	C4-N6	2.43	1.34	1.31
2	D	1	PDY	C4-N6	2.43	1.34	1.31
2	G	1	PDY	C4-N6	2.41	1.34	1.31
2	B	2	PDY	C4-N6	2.37	1.34	1.31
2	F	2	PDY	C4-N6	2.34	1.34	1.31

All (163) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1	PDY	C11-N7-N2	11.67	112.20	103.70
2	C	2	PDY	C11-N7-N2	11.57	112.12	103.70
2	A	1	PDY	C11-N7-N2	11.55	112.11	103.70
2	D	1	PDY	C11-N7-N2	11.38	111.98	103.70
2	F	1	PDY	C11-N7-N2	11.36	111.97	103.70
2	C	1	PDY	C11-N7-N2	11.28	111.91	103.70
2	G	1	PDY	C11-N7-N2	11.25	111.89	103.70
2	B	2	PDY	C11-N7-N2	11.22	111.87	103.70
2	F	2	PDY	C11-N7-N2	11.21	111.86	103.70
2	L	1	PDY	C11-N7-N2	11.15	111.81	103.70
2	K	2	PDY	C11-N7-N2	10.67	111.47	103.70
2	E	1	PDY	C11-N7-N2	10.66	111.46	103.70
2	I	1	PDY	C11-N7-N2	10.66	111.45	103.70
2	E	2	PDY	C11-N7-N2	10.51	111.35	103.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	J	2	PDY	C11-N7-N2	10.48	111.33	103.70
2	J	1	PDY	C11-N7-N2	10.46	111.31	103.70
2	G	2	PDY	C11-N7-N2	10.44	111.30	103.70
2	K	1	PDY	C11-N7-N2	10.39	111.27	103.70
2	H	1	PDY	C11-N7-N2	10.27	111.17	103.70
2	A	2	PDY	C11-N7-N2	9.79	110.83	103.70
2	D	2	PDY	C11-N7-N2	8.89	110.17	103.70
2	L	2	PDY	C11-N7-N2	7.76	109.35	103.70
2	I	2	PDY	C11-N7-N2	7.57	109.21	103.70
2	H	2	PDY	C11-N7-N2	6.61	108.51	103.70
2	I	2	PDY	C4-N6-C5	5.89	122.67	117.58
2	I	1	PDY	C4-N6-C5	5.67	122.47	117.58
2	L	1	PDY	C4-N6-C5	5.53	122.35	117.58
2	H	2	PDY	C4-N6-C5	5.28	122.14	117.58
2	K	1	PDY	C4-N6-C5	5.27	122.13	117.58
2	H	2	PDY	C17-C20-C16	5.09	125.96	119.73
2	E	1	PDY	C4-N6-C5	5.08	121.96	117.58
2	H	1	PDY	C4-N6-C5	5.06	121.94	117.58
2	H	1	PDY	C24-O21-C16	-4.93	105.36	117.99
2	G	1	PDY	C4-N6-C5	4.91	121.82	117.58
2	C	1	PDY	C4-N6-C5	4.87	121.78	117.58
2	B	1	PDY	C4-N6-C5	4.83	121.75	117.58
2	A	1	PDY	C4-N6-C5	4.69	121.63	117.58
2	F	1	PDY	C4-N6-C5	4.66	121.60	117.58
2	E	2	PDY	C4-N6-C5	4.65	121.59	117.58
2	A	2	PDY	C4-N6-C5	4.55	121.51	117.58
2	J	1	PDY	C4-N6-C5	4.51	121.48	117.58
2	F	1	PDY	C8-C11-N7	-4.47	100.08	111.33
2	B	1	PDY	C8-C11-N7	-4.43	100.18	111.33
2	L	1	PDY	C8-C11-N7	-4.41	100.25	111.33
2	G	2	PDY	C4-N6-C5	4.40	121.38	117.58
2	K	2	PDY	C4-N6-C5	4.40	121.38	117.58
2	J	2	PDY	C4-N6-C5	4.39	121.37	117.58
2	C	1	PDY	C8-C11-N7	-4.39	100.30	111.33
2	B	2	PDY	C4-N6-C5	4.37	121.36	117.58
2	A	1	PDY	C8-C11-N7	-4.36	100.37	111.33
2	D	1	PDY	C4-N6-C5	4.35	121.34	117.58
2	B	2	PDY	C4-N10-C15	-4.34	116.16	124.26
2	L	2	PDY	C4-N6-C5	4.34	121.32	117.58
2	D	1	PDY	C8-C11-N7	-4.31	100.50	111.33
2	H	1	PDY	C8-C11-N7	-4.29	100.53	111.33
2	D	2	PDY	C4-N6-C5	4.28	121.27	117.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	2	PDY	C8-C11-N7	-4.28	100.57	111.33
2	G	1	PDY	C8-C11-N7	-4.26	100.62	111.33
2	C	2	PDY	C8-C11-N7	-4.25	100.65	111.33
2	J	1	PDY	C8-C11-N7	-4.24	100.67	111.33
2	K	1	PDY	C8-C11-N7	-4.23	100.69	111.33
2	B	2	PDY	C8-C11-N7	-4.21	100.73	111.33
2	F	2	PDY	C8-C11-N7	-4.21	100.74	111.33
2	F	2	PDY	C4-N10-C15	-4.21	116.42	124.26
2	E	1	PDY	C8-C11-N7	-4.20	100.75	111.33
2	F	2	PDY	C4-N6-C5	4.20	121.21	117.58
2	I	1	PDY	C8-C11-N7	-4.20	100.76	111.33
2	J	2	PDY	C8-C11-N7	-4.12	100.97	111.33
2	K	2	PDY	C8-C11-N7	-4.11	100.99	111.33
2	E	2	PDY	C8-C11-N7	-4.10	101.01	111.33
2	G	2	PDY	C8-C11-N7	-4.09	101.03	111.33
2	K	2	PDY	C4-N10-C15	-4.08	116.66	124.26
2	H	2	PDY	C19-C16-C20	-4.07	113.91	120.18
2	H	2	PDY	C13-N9-C1	3.99	137.48	126.74
2	C	2	PDY	C4-N6-C5	3.92	120.97	117.58
2	D	2	PDY	C8-C11-N7	-3.90	101.51	111.33
2	A	1	PDY	C25-C15-N10	-3.83	104.63	110.60
2	D	2	PDY	C25-C15-C22	-3.75	105.19	109.81
2	L	2	PDY	C8-C11-N7	-3.74	101.91	111.33
2	I	2	PDY	C8-C11-N7	-3.74	101.93	111.33
2	F	1	PDY	C24-O21-C16	-3.73	108.44	117.99
2	I	2	PDY	C22-C15-N10	3.73	114.67	109.88
2	G	1	PDY	C25-C15-N10	-3.72	104.79	110.60
2	J	1	PDY	C14-C3-C4	-3.72	116.33	121.38
2	H	2	PDY	C8-C11-N7	-3.69	102.05	111.33
2	L	2	PDY	C14-C3-C4	-3.63	116.45	121.38
2	A	2	PDY	C22-C15-N10	3.56	114.46	109.88
2	H	2	PDY	C17-C13-N9	-3.36	109.38	120.64
2	G	1	PDY	C4-N10-C15	-3.35	118.00	124.26
2	E	2	PDY	C25-C15-N10	3.23	115.63	110.60
2	F	1	PDY	C14-C3-C4	-3.21	117.03	121.38
2	C	1	PDY	C22-C15-N10	-3.20	105.76	109.88
2	I	2	PDY	C4-N10-C15	-3.19	118.31	124.26
2	D	1	PDY	C24-O21-C16	-3.18	109.85	117.99
2	L	2	PDY	C14-C3-C1	3.17	125.88	121.35
2	D	1	PDY	C25-C15-N10	-3.16	105.67	110.60
2	K	1	PDY	C24-O21-C16	-3.16	109.90	117.99
2	H	2	PDY	C22-C15-N10	3.14	113.92	109.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	2	PDY	C14-C3-C4	-3.13	117.12	121.38
2	F	2	PDY	C14-C3-C4	-3.13	117.12	121.38
2	H	1	PDY	C14-C3-C4	-3.08	117.20	121.38
2	E	1	PDY	C24-O21-C16	-2.96	110.40	117.99
2	I	2	PDY	C13-N9-C1	2.96	134.72	126.74
2	G	2	PDY	C4-N10-C15	-2.96	118.74	124.26
2	K	1	PDY	C14-C3-C4	-2.94	117.38	121.38
2	D	1	PDY	C14-C3-C4	-2.94	117.38	121.38
2	C	2	PDY	C4-N10-C15	-2.93	118.80	124.26
2	H	2	PDY	C4-N10-C15	-2.91	118.84	124.26
2	H	2	PDY	C24-O21-C16	-2.85	110.69	117.99
2	G	2	PDY	C14-C3-C4	-2.82	117.55	121.38
2	K	2	PDY	C14-C3-C4	-2.79	117.59	121.38
2	H	2	PDY	N10-C4-N6	-2.78	113.10	118.88
2	I	2	PDY	C25-C15-C22	-2.77	106.40	109.81
2	C	1	PDY	C4-N10-C15	-2.75	119.12	124.26
2	J	2	PDY	C4-N10-C15	-2.75	119.13	124.26
2	H	2	PDY	C14-C3-C1	2.74	125.26	121.35
2	E	1	PDY	C25-C15-N10	-2.72	106.36	110.60
2	B	1	PDY	C14-C3-C4	-2.70	117.72	121.38
2	D	2	PDY	C13-N9-C1	2.69	133.98	126.74
2	G	1	PDY	C14-C3-C4	-2.68	117.73	121.38
2	H	2	PDY	C18-C13-N9	2.66	129.56	120.64
2	F	2	PDY	C25-C15-N10	-2.65	106.46	110.60
2	L	1	PDY	C4-N10-C15	-2.65	119.32	124.26
2	E	1	PDY	C4-N10-C15	-2.62	119.38	124.26
2	H	1	PDY	C20-C17-C13	-2.62	117.28	120.30
2	A	2	PDY	C25-C15-C22	-2.61	106.59	109.81
2	L	1	PDY	C13-N9-C1	2.61	133.77	126.74
2	I	1	PDY	C4-N10-C15	-2.57	119.46	124.26
2	I	2	PDY	C14-C3-C1	2.56	125.01	121.35
2	I	2	PDY	C14-C3-C4	-2.53	117.94	121.38
2	C	2	PDY	C14-C3-C4	-2.49	118.00	121.38
2	L	2	PDY	C13-N9-C1	2.46	133.36	126.74
2	I	2	PDY	C20-C17-C13	2.45	123.13	120.30
2	H	2	PDY	C25-C15-C22	-2.44	106.80	109.81
2	K	2	PDY	C24-O21-C16	-2.42	111.78	117.99
2	F	1	PDY	C4-N10-C15	-2.42	119.76	124.26
2	I	2	PDY	C17-C13-N9	-2.41	112.57	120.64
2	H	1	PDY	C4-N10-C15	-2.38	119.82	124.26
2	A	2	PDY	C14-C3-C4	-2.37	118.15	121.38
2	E	2	PDY	C14-C3-C4	-2.37	118.15	121.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	J	2	PDY	C14-C3-C4	-2.34	118.20	121.38
2	L	2	PDY	C22-C15-N10	2.33	112.88	109.88
2	I	1	PDY	C25-C15-N10	-2.33	106.97	110.60
2	I	2	PDY	C19-C16-C20	-2.31	116.62	120.18
2	H	1	PDY	C18-C13-C17	2.30	122.17	119.03
2	K	1	PDY	C4-N10-C15	-2.29	119.98	124.26
2	A	1	PDY	C13-N9-C1	2.26	132.81	126.74
2	C	1	PDY	C14-C3-C4	-2.25	118.32	121.38
2	F	1	PDY	C22-C15-N10	-2.24	107.00	109.88
2	B	2	PDY	C14-C3-C4	-2.24	118.33	121.38
2	B	1	PDY	C4-N10-C15	-2.23	120.10	124.26
2	L	2	PDY	C25-C15-C22	-2.21	107.09	109.81
2	I	1	PDY	C14-C3-C4	-2.21	118.38	121.38
2	I	2	PDY	C18-C19-C16	2.14	122.35	119.73
2	I	2	PDY	C18-C13-C17	-2.11	116.15	119.03
2	J	1	PDY	C24-O21-C16	-2.09	112.64	117.99
2	H	2	PDY	C14-C3-C4	-2.07	118.56	121.38
2	E	1	PDY	C14-C3-C4	-2.07	118.57	121.38
2	A	2	PDY	C18-C13-C17	-2.07	116.20	119.03
2	A	2	PDY	C19-C18-C13	2.04	122.65	120.30
2	J	2	PDY	C25-C15-N10	-2.02	107.44	110.60
2	B	2	PDY	C25-C15-N10	-2.02	107.45	110.60
2	K	1	PDY	C20-C17-C13	-2.00	117.98	120.30

There are no chirality outliers.

All (61) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1	PDY	C3-C1-N9-C13
2	A	2	PDY	C3-C1-N9-C13
2	B	1	PDY	C3-C1-N9-C13
2	B	2	PDY	C3-C1-N9-C13
2	C	1	PDY	C3-C1-N9-C13
2	C	2	PDY	C3-C1-N9-C13
2	D	1	PDY	C3-C1-N9-C13
2	D	2	PDY	C3-C1-N9-C13
2	E	1	PDY	C3-C1-N9-C13
2	E	2	PDY	C3-C1-N9-C13
2	F	1	PDY	C3-C1-N9-C13
2	F	2	PDY	C3-C1-N9-C13
2	G	1	PDY	C3-C1-N9-C13
2	G	2	PDY	C3-C1-N9-C13

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Mol	Chain	Res	Type	Atoms
2	H	1	PDY	C3-C1-N9-C13
2	H	2	PDY	C3-C1-N9-C13
2	I	1	PDY	C3-C1-N9-C13
2	I	2	PDY	C3-C1-N9-C13
2	J	1	PDY	C3-C1-N9-C13
2	J	2	PDY	C3-C1-N9-C13
2	K	1	PDY	C3-C1-N9-C13
2	K	2	PDY	C3-C1-N9-C13
2	L	1	PDY	C3-C1-N9-C13
2	L	2	PDY	C3-C1-N9-C13
2	K	2	PDY	C27-C24-O21-C16
2	B	2	PDY	C19-C16-O21-C24
2	F	2	PDY	C20-C16-O21-C24
2	E	2	PDY	C20-C16-O21-C24
2	E	2	PDY	C19-C16-O21-C24
2	G	1	PDY	C19-C16-O21-C24
2	A	2	PDY	C20-C16-O21-C24
2	B	2	PDY	C20-C16-O21-C24
2	G	1	PDY	C20-C16-O21-C24
2	F	2	PDY	C19-C16-O21-C24
2	G	2	PDY	C20-C16-O21-C24
2	G	2	PDY	C19-C16-O21-C24
2	A	2	PDY	C19-C16-O21-C24
2	C	2	PDY	C20-C16-O21-C24
2	C	2	PDY	C19-C16-O21-C24
2	F	1	PDY	C19-C16-O21-C24
2	K	2	PDY	C19-C16-O21-C24
2	F	1	PDY	C20-C16-O21-C24
2	K	2	PDY	C20-C16-O21-C24
2	J	2	PDY	C20-C16-O21-C24
2	G	1	PDY	C27-C24-O21-C16
2	J	2	PDY	C19-C16-O21-C24
2	A	1	PDY	C19-C16-O21-C24
2	K	1	PDY	C27-C24-O21-C16
2	A	1	PDY	C20-C16-O21-C24
2	D	1	PDY	C27-C24-O21-C16
2	L	1	PDY	C20-C16-O21-C24
2	L	1	PDY	C19-C16-O21-C24
2	L	2	PDY	C27-C24-O21-C16
2	D	2	PDY	C27-C24-O21-C16
2	H	1	PDY	C27-C24-O21-C16
2	L	1	PDY	C27-C24-O21-C16

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Mol	Chain	Res	Type	Atoms
2	E	2	PDY	C25-C15-N10-C4
2	E	1	PDY	C27-C24-O21-C16
2	I	2	PDY	C20-C16-O21-C24
2	E	1	PDY	C19-C16-O21-C24
2	E	1	PDY	C20-C16-O21-C24

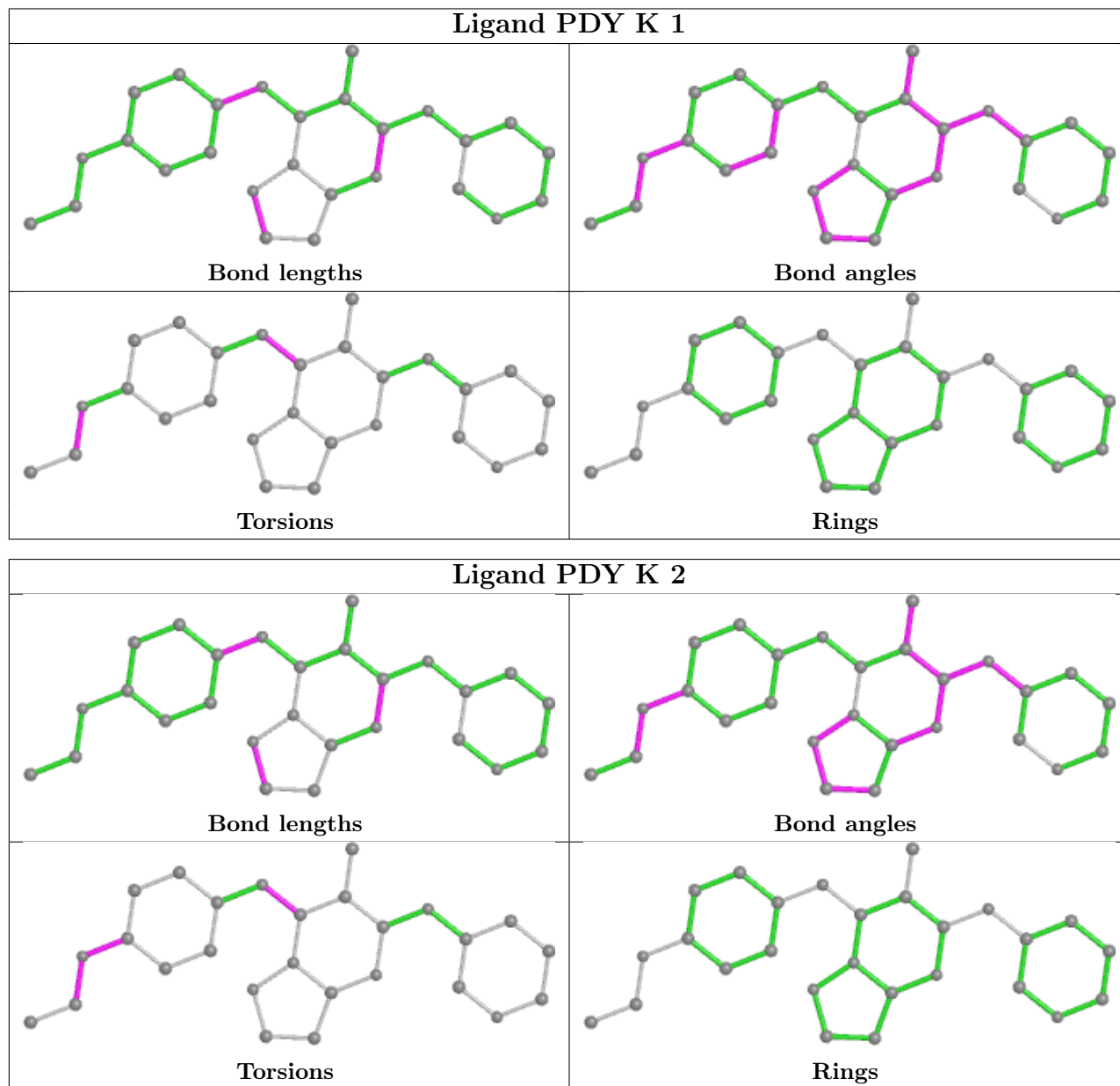
There are no ring outliers.

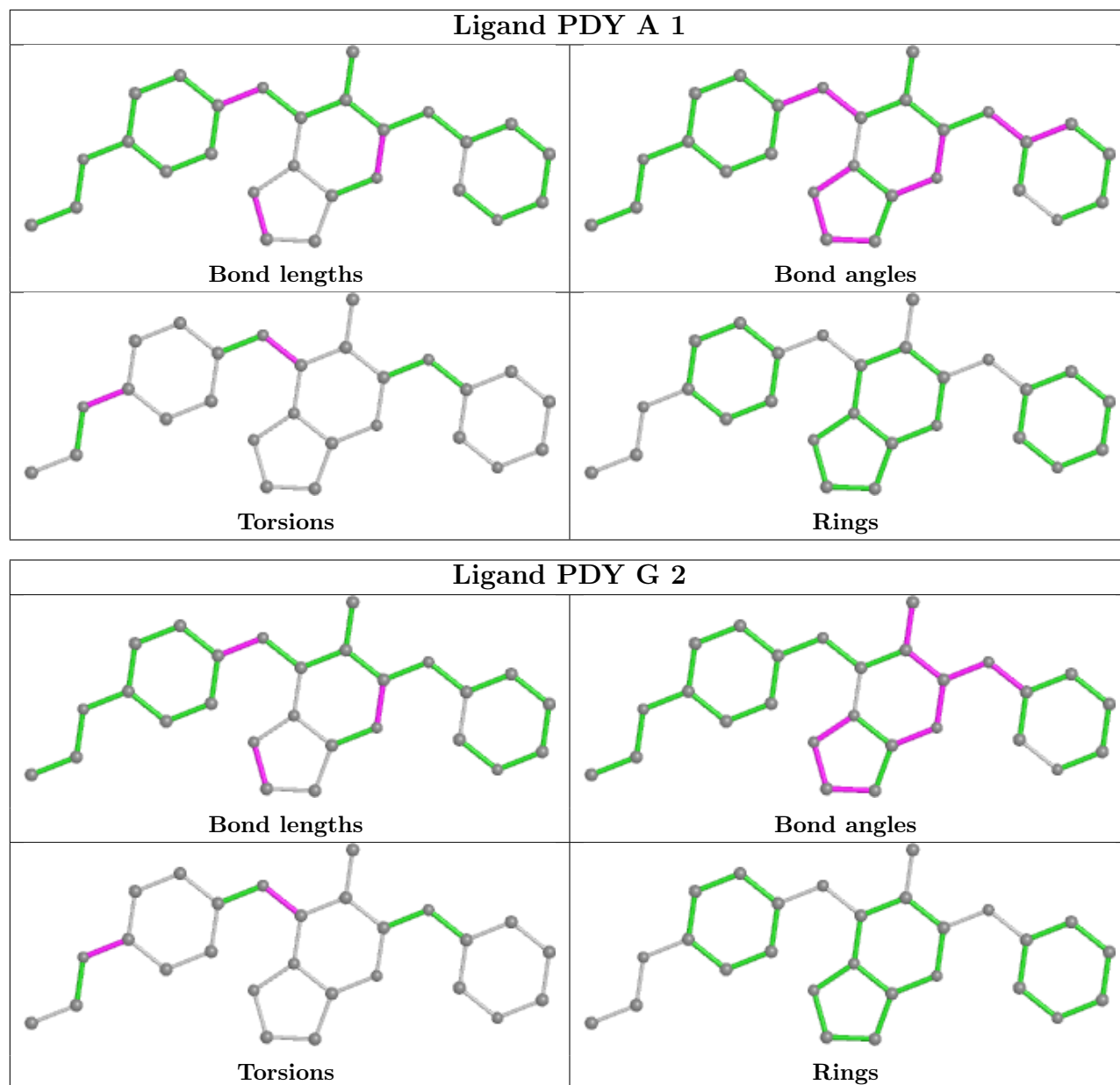
25 monomers are involved in 243 short contacts:

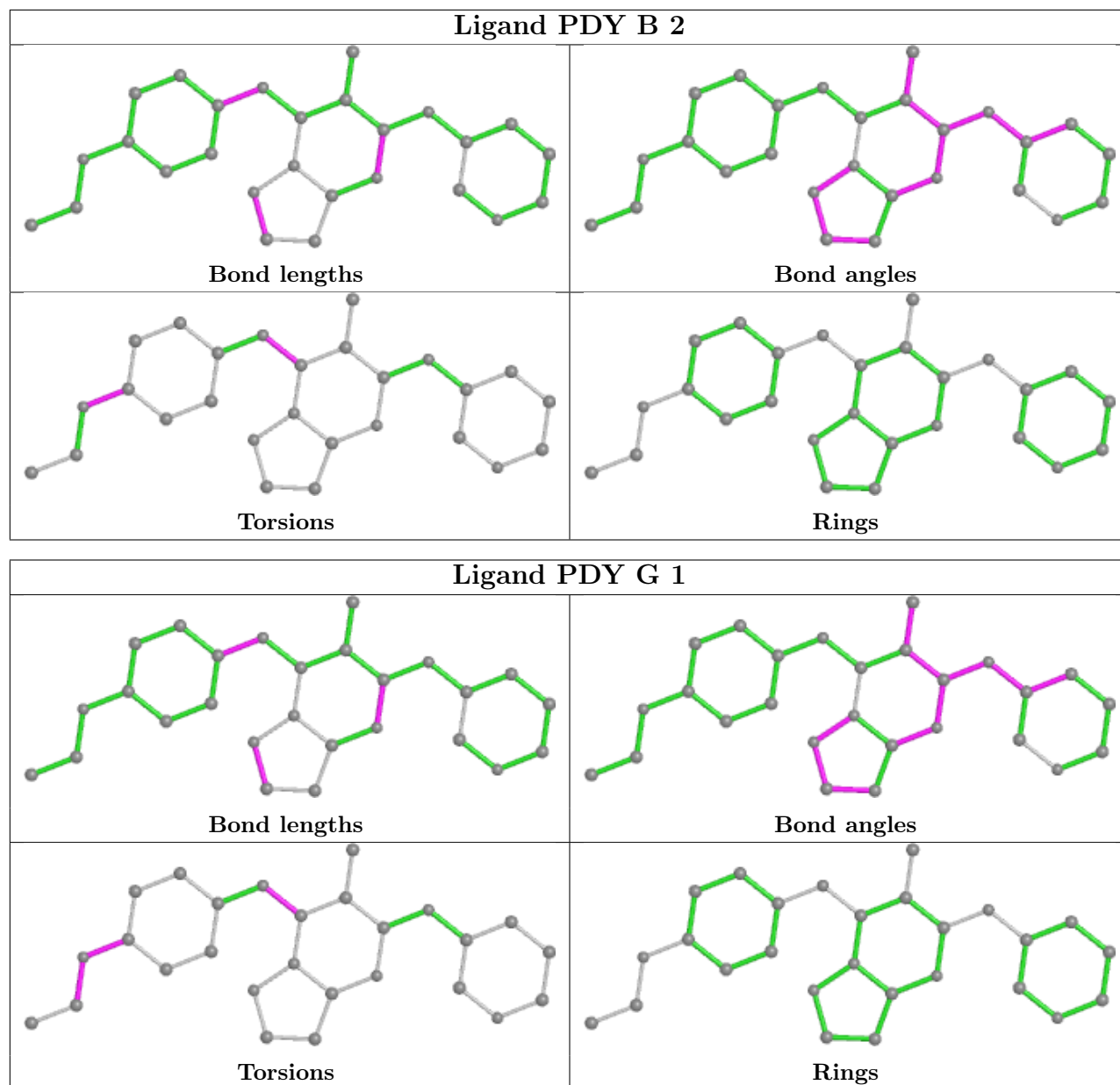
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	K	1	PDY	14	0
3	F	3	SO4	1	0
2	K	2	PDY	10	0
2	A	1	PDY	4	0
2	G	2	PDY	9	0
2	B	2	PDY	8	0
2	G	1	PDY	9	0
2	H	1	PDY	13	0
2	J	1	PDY	10	0
2	J	2	PDY	8	0
2	L	2	PDY	11	0
2	I	2	PDY	25	0
2	F	2	PDY	12	0
2	L	1	PDY	9	0
2	E	2	PDY	9	0
2	C	1	PDY	6	0
2	F	1	PDY	6	0
2	B	1	PDY	8	0
2	C	2	PDY	10	0
2	H	2	PDY	26	0
2	D	2	PDY	5	0
2	A	2	PDY	3	0
2	I	1	PDY	9	0
2	D	1	PDY	8	0
2	E	1	PDY	10	0

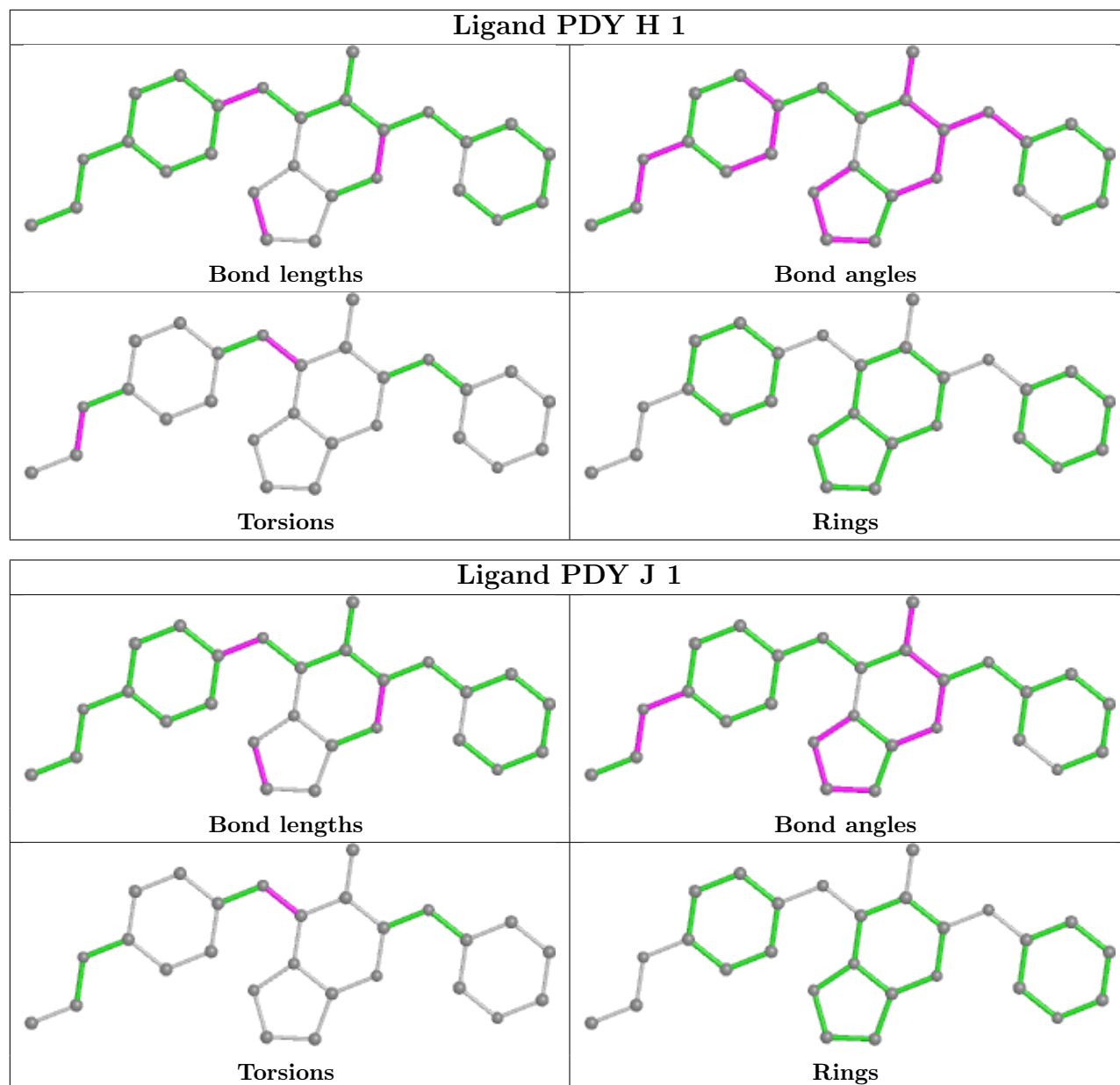
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

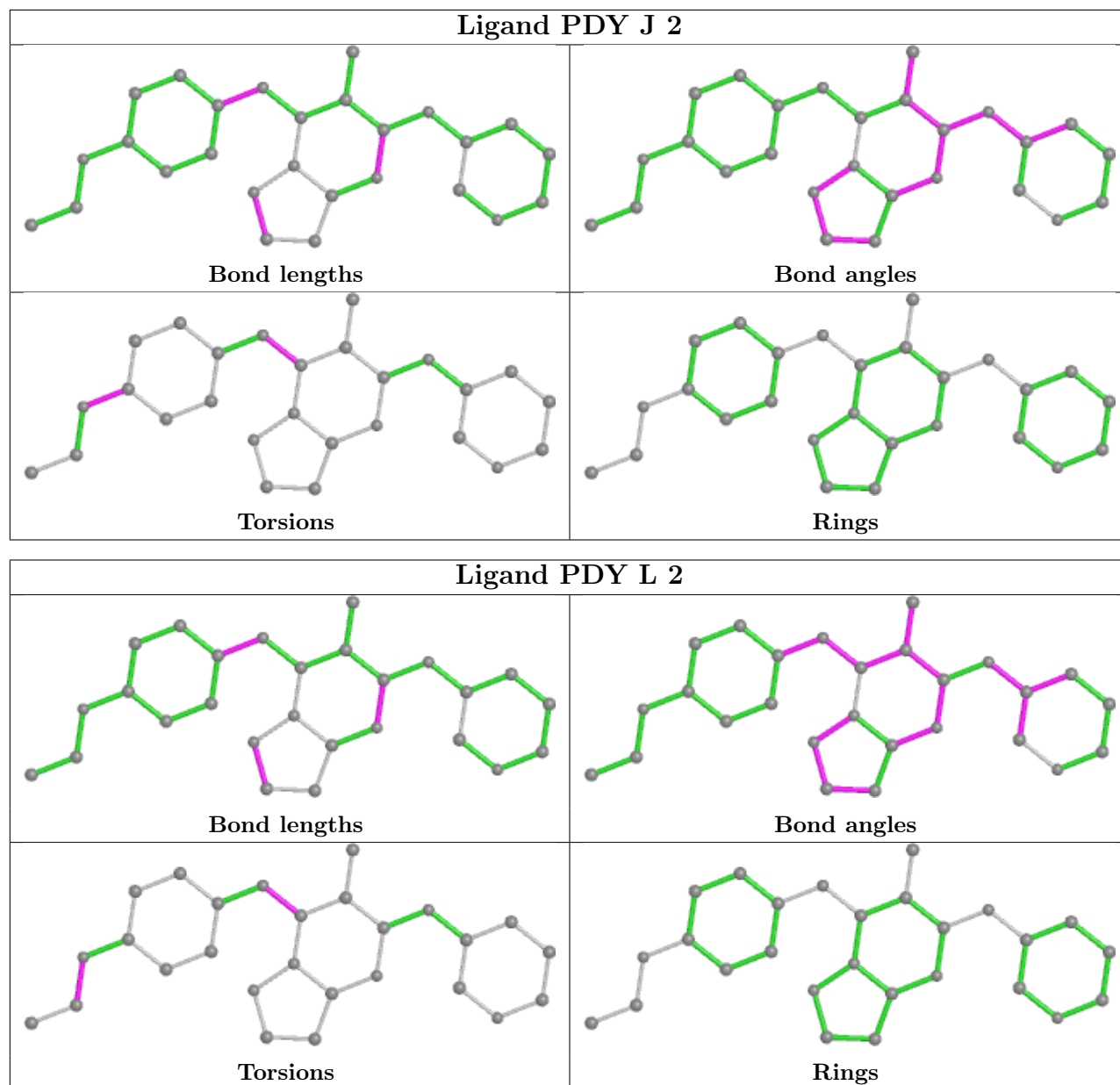
highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified 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.

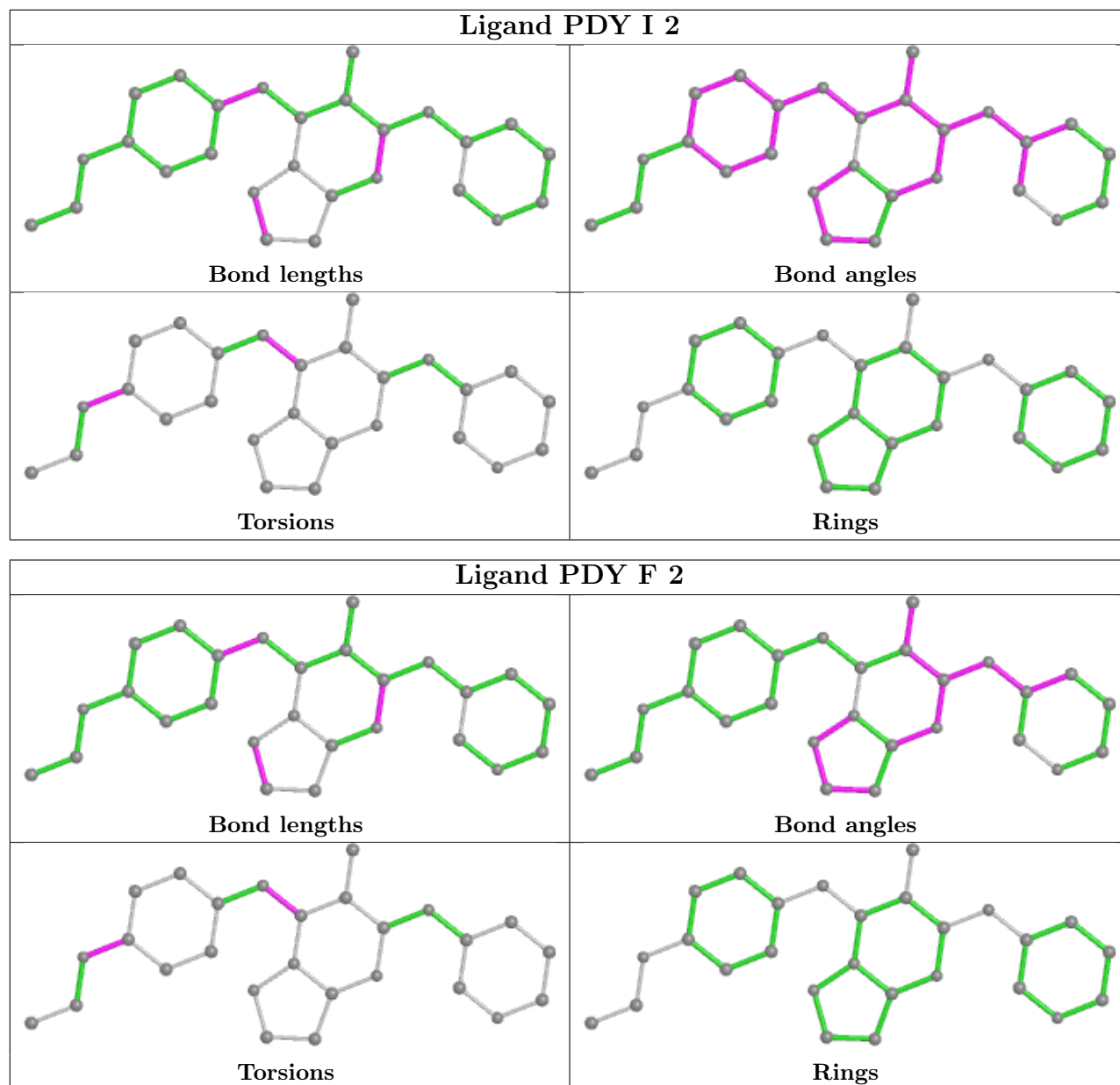


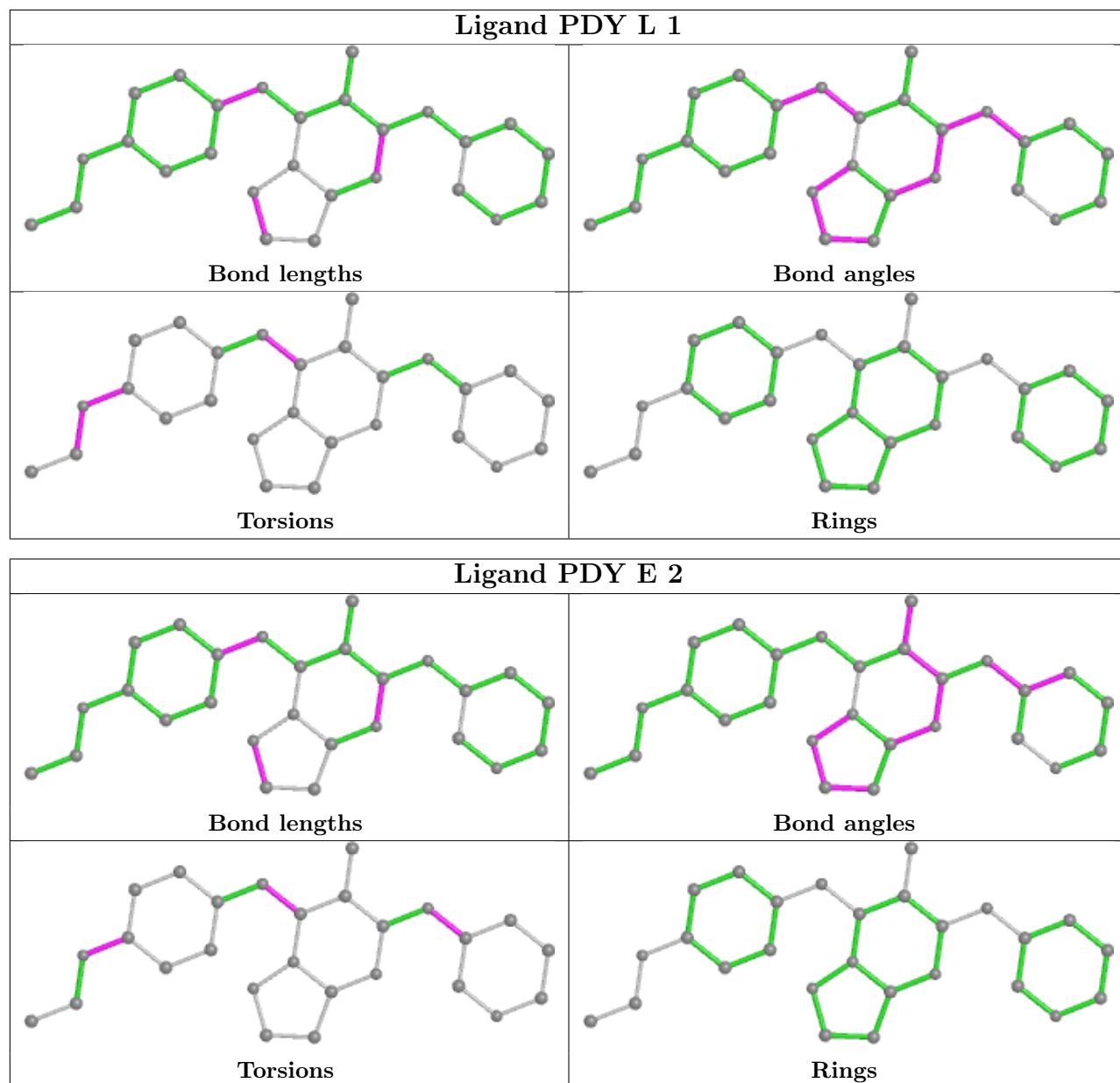


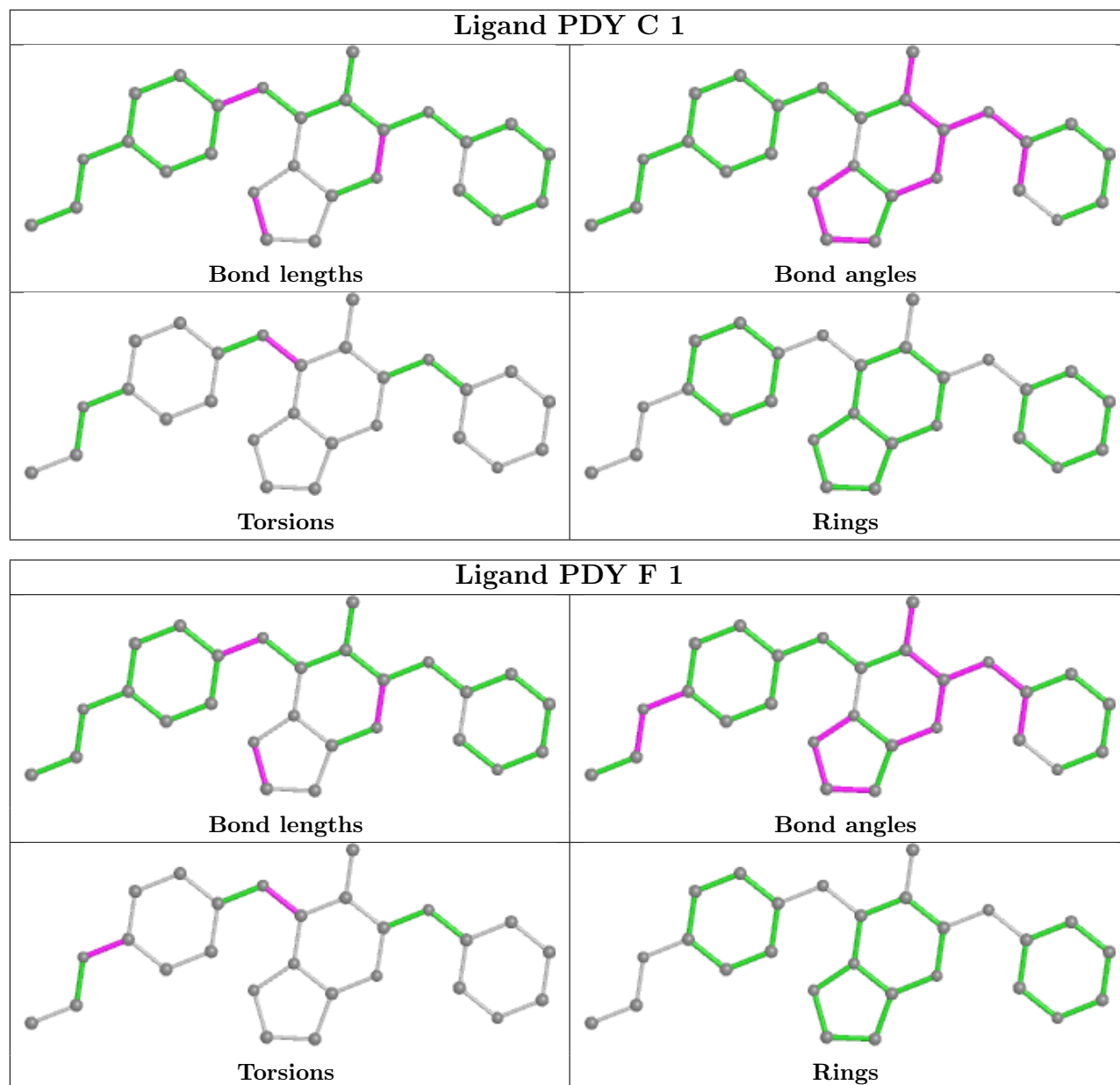


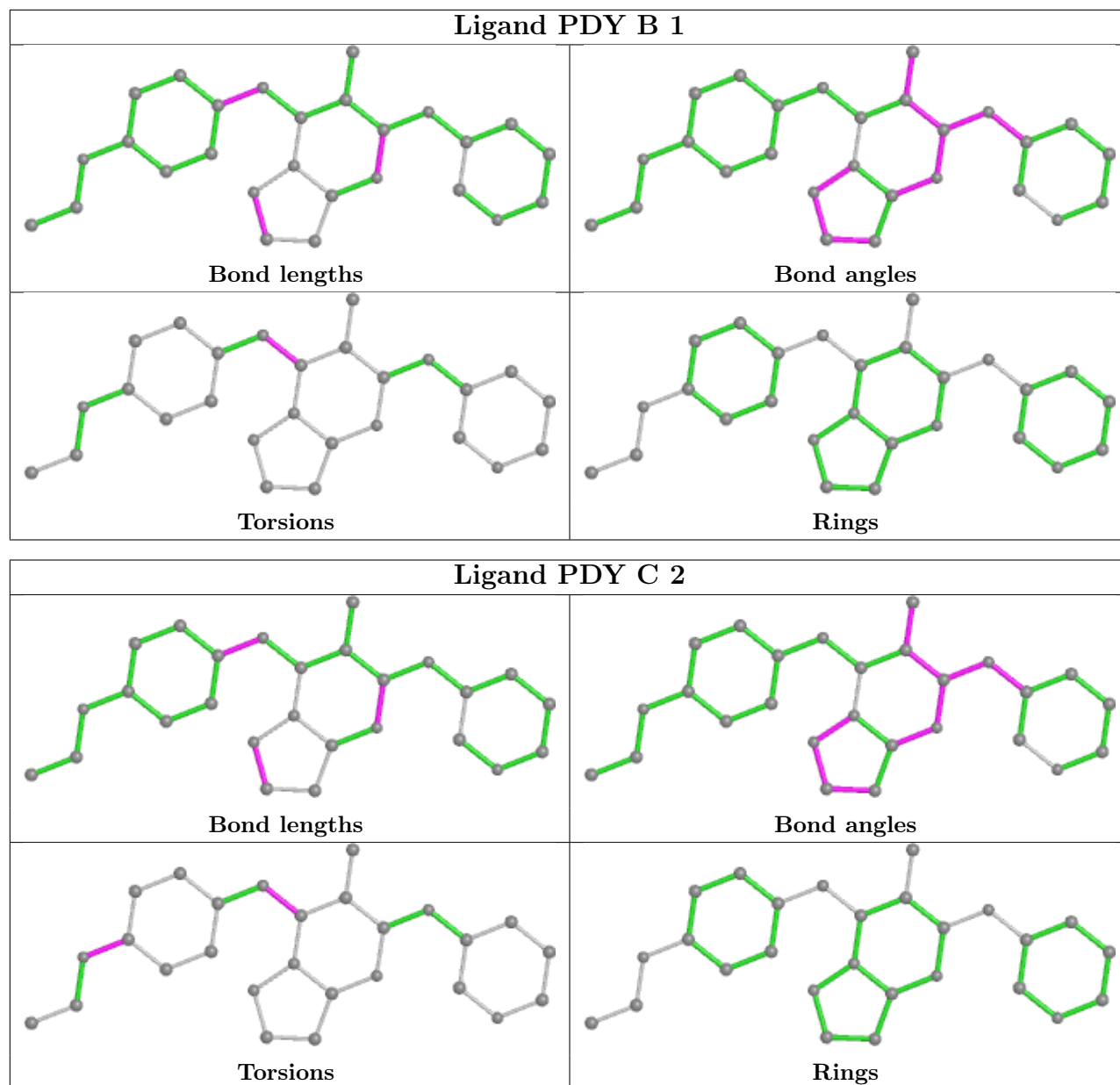


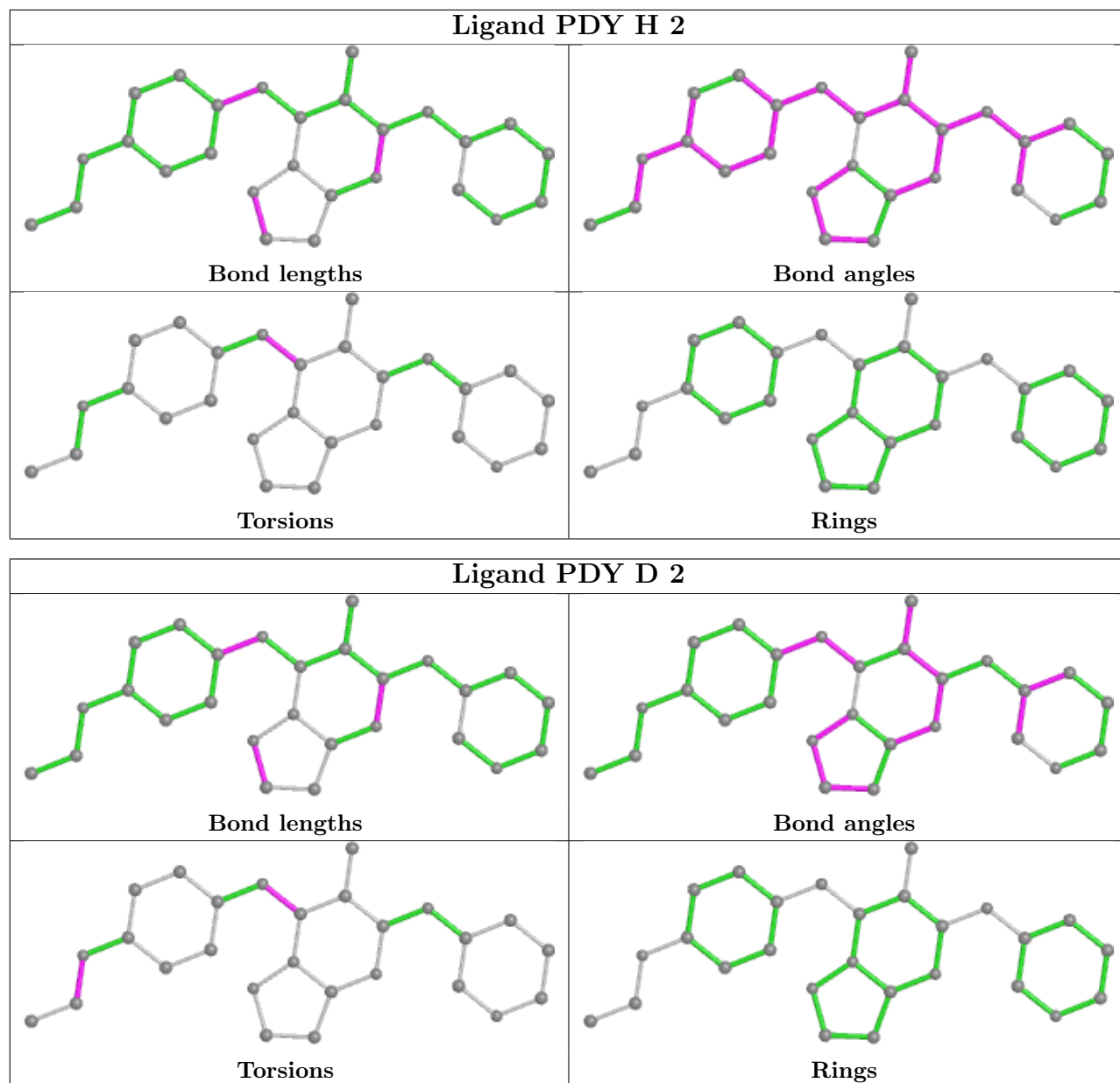


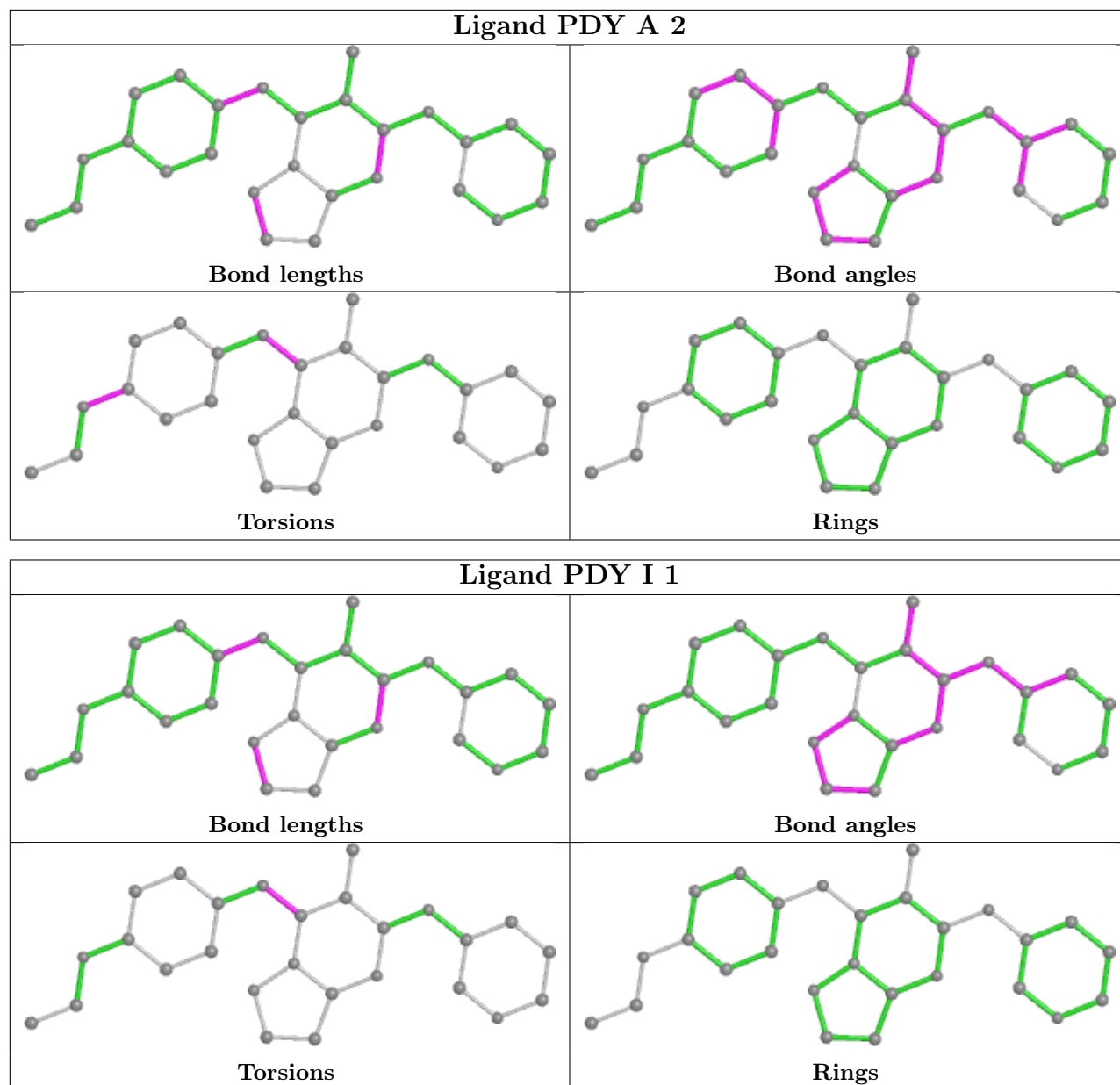


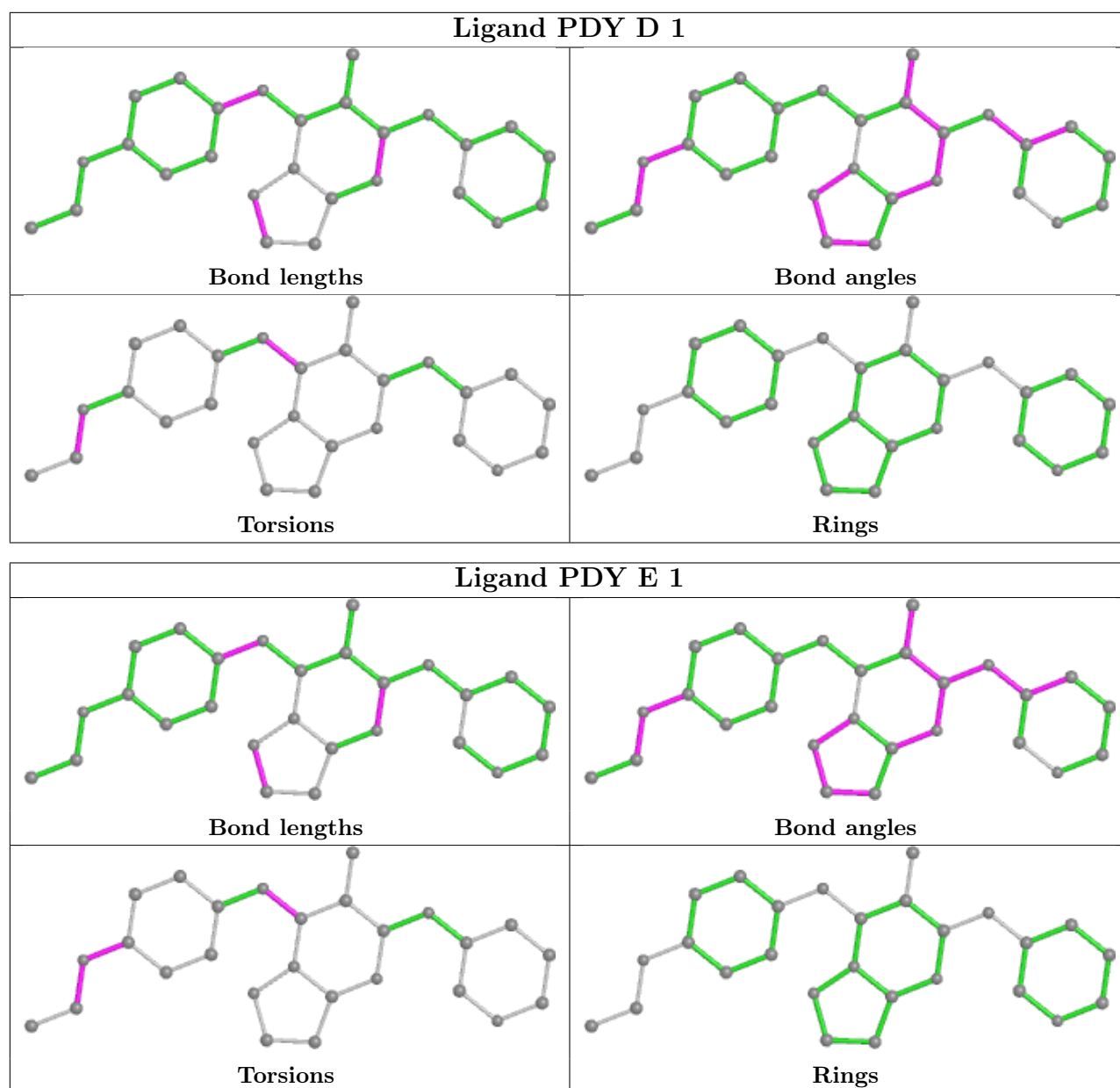












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

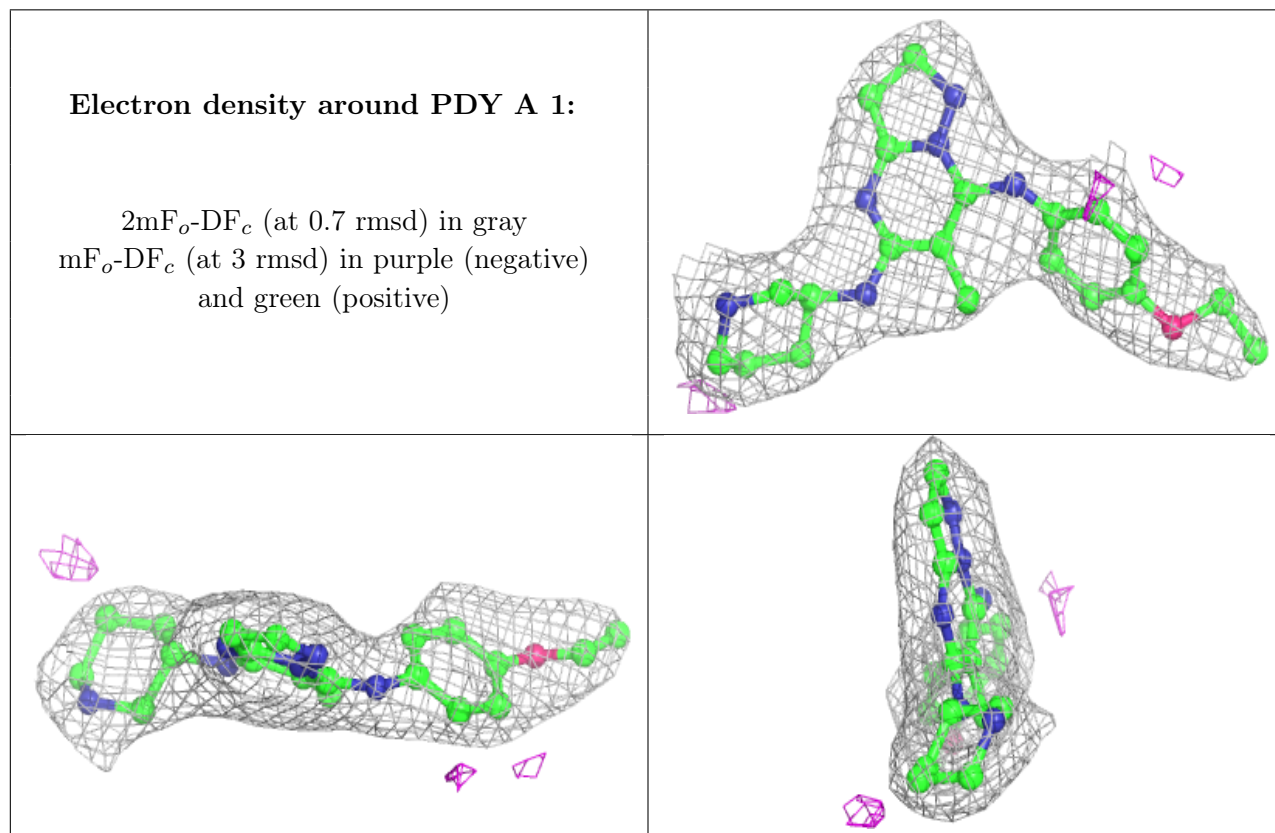
6.3 Carbohydrates [i](#)

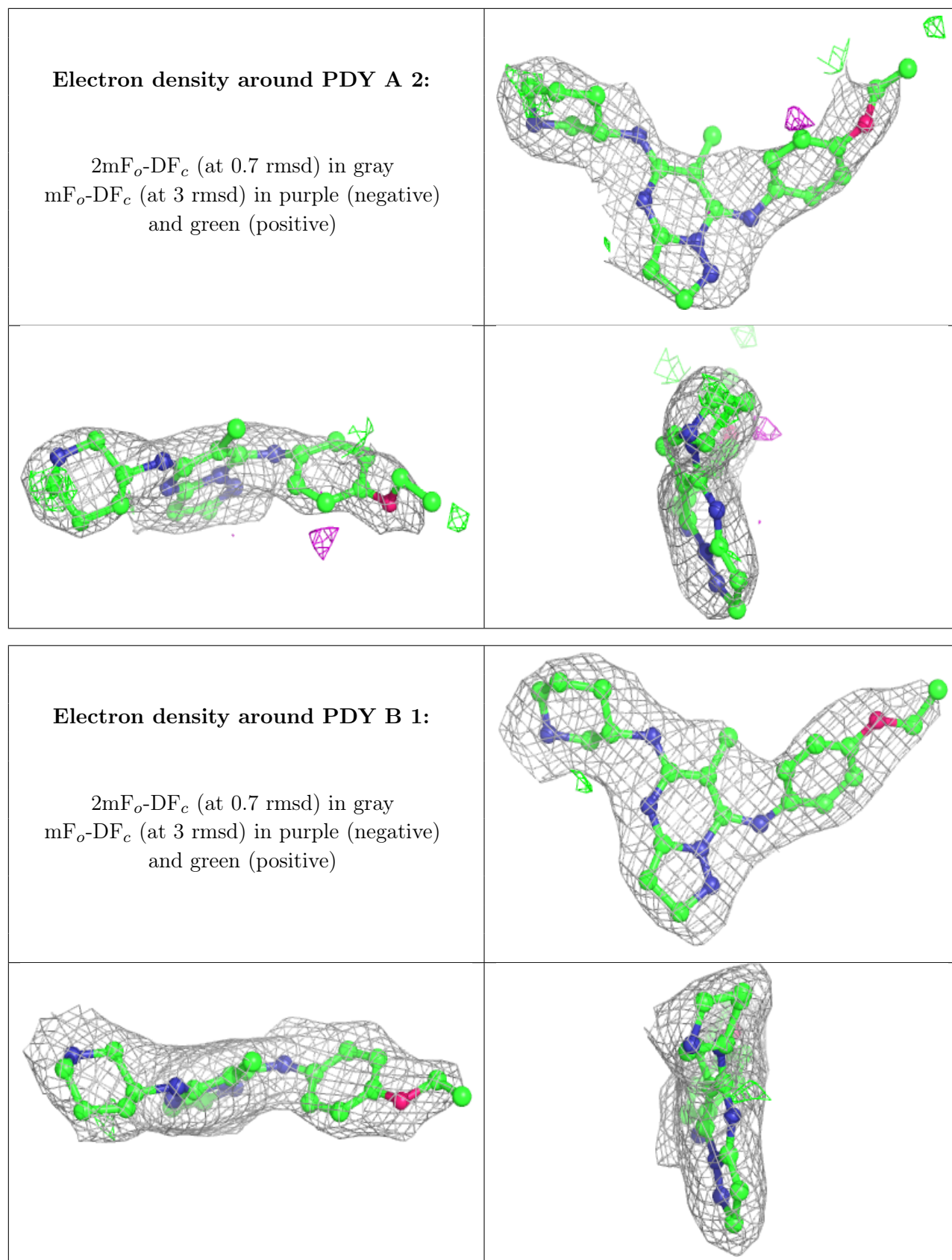
Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

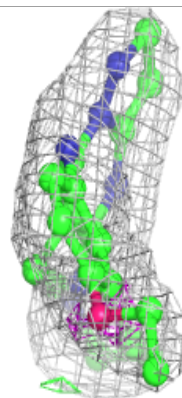
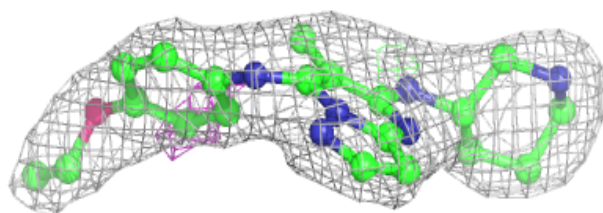
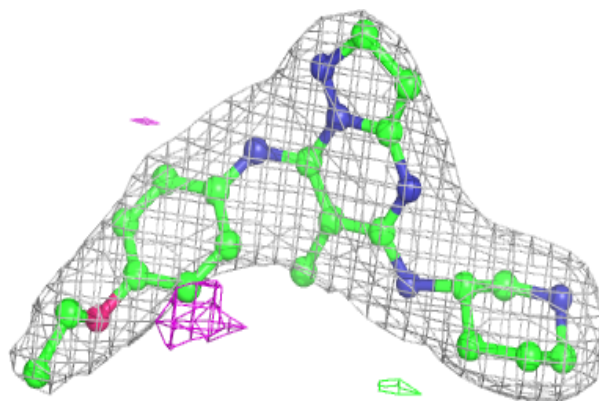
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



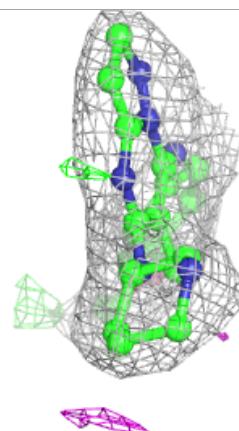
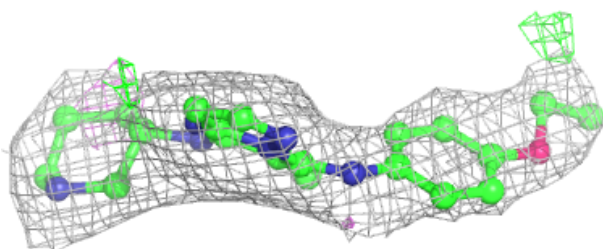
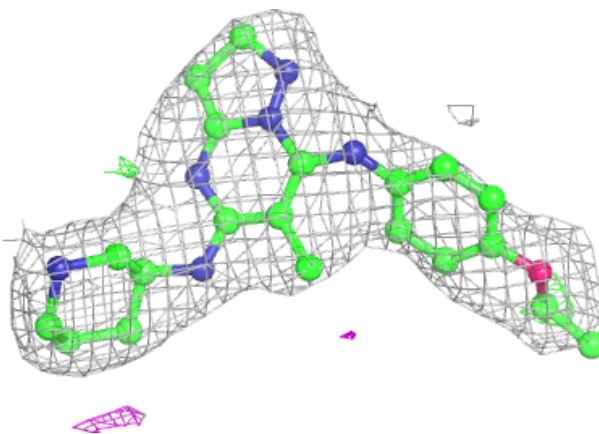


Electron density around PDY B 2:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

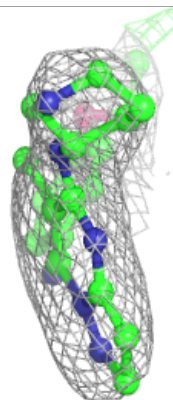
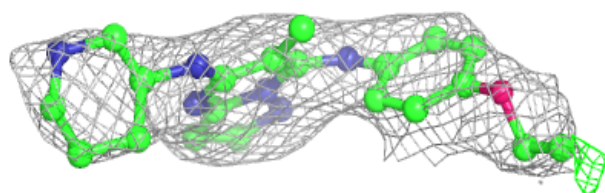
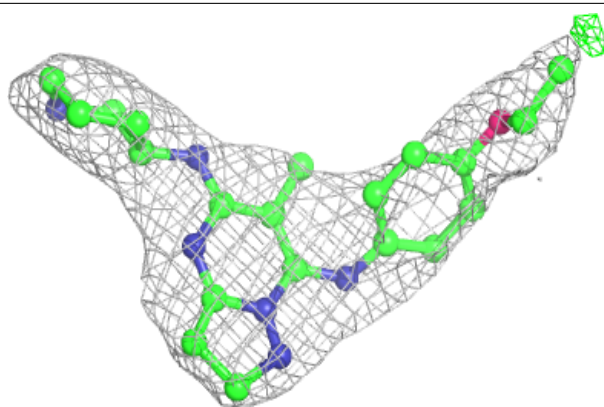
**Electron density around PDY C 1:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

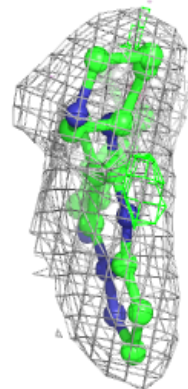
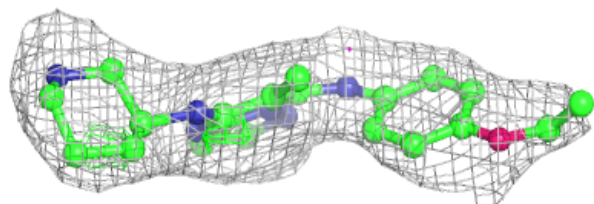
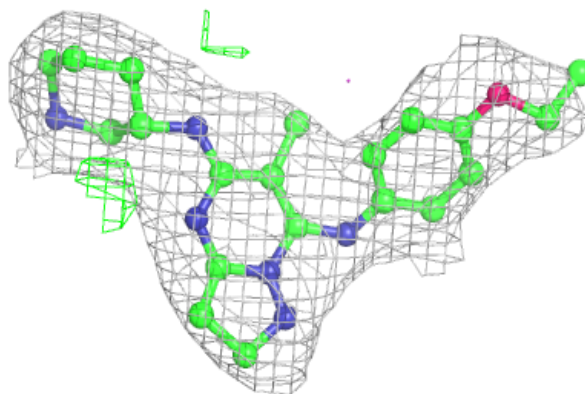


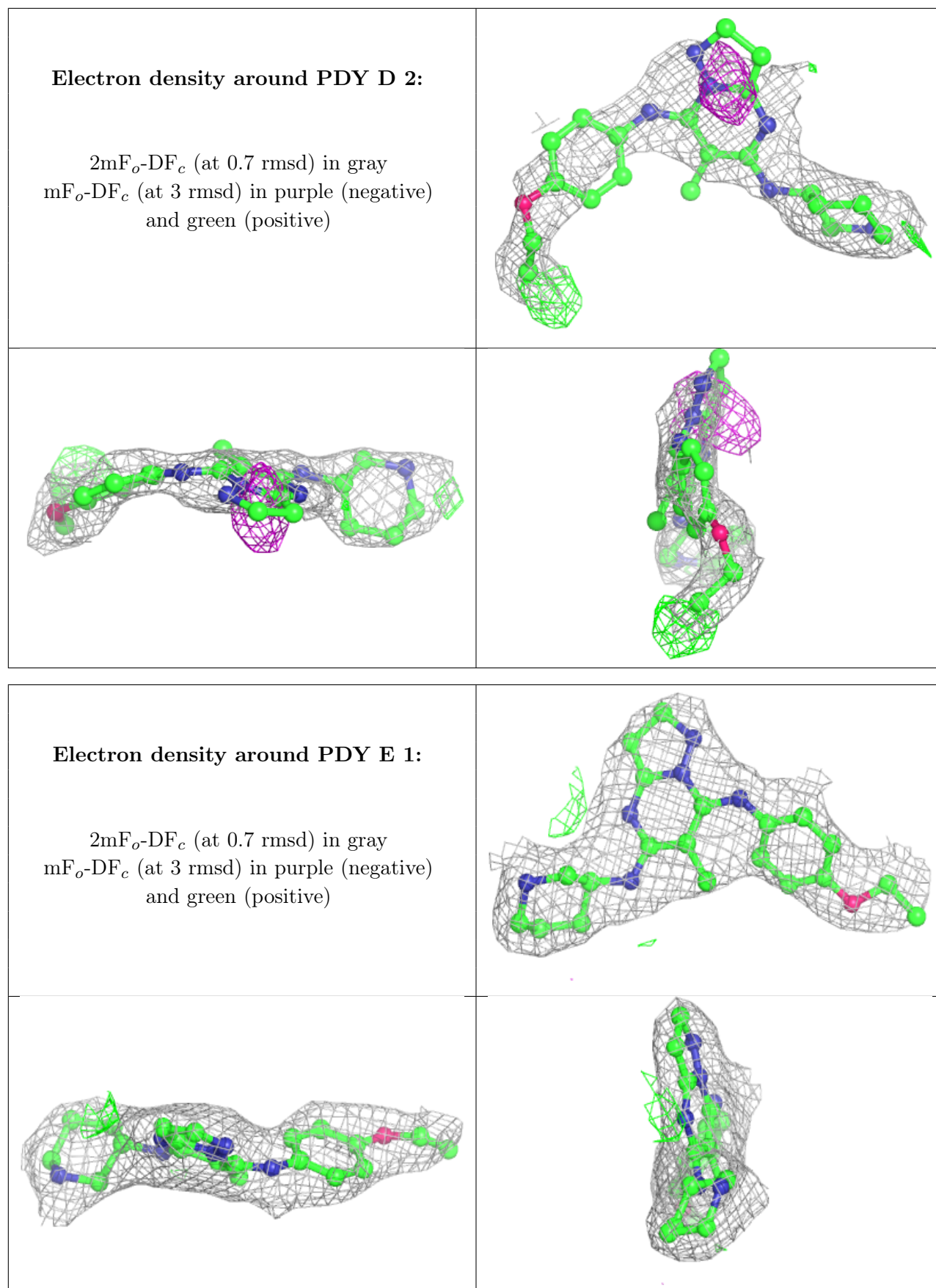
Electron density around PDY C 2:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around PDY D 1:**

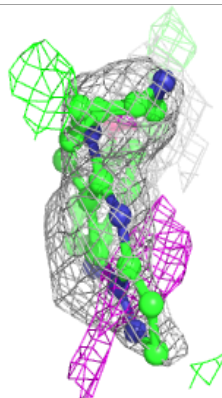
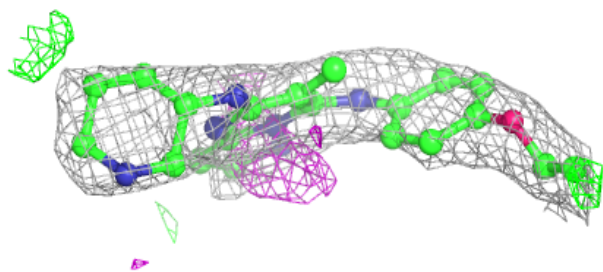
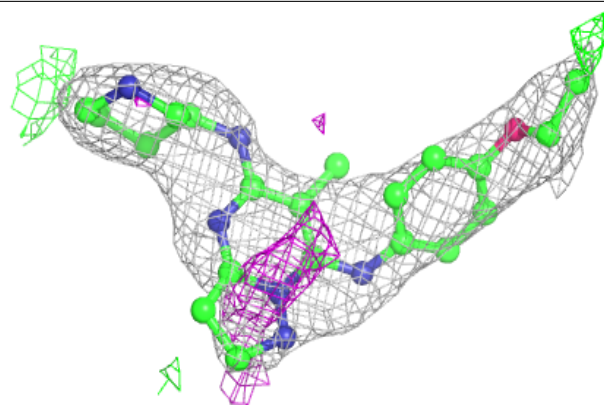
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



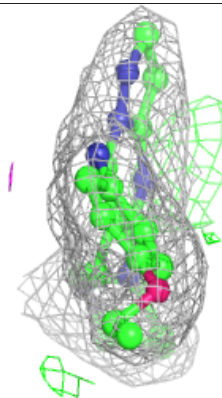
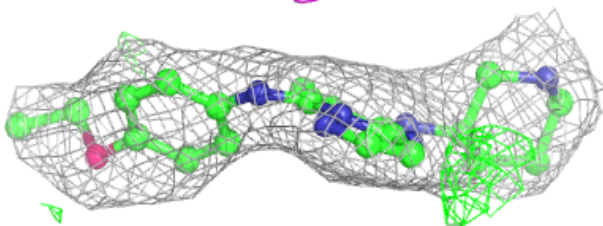
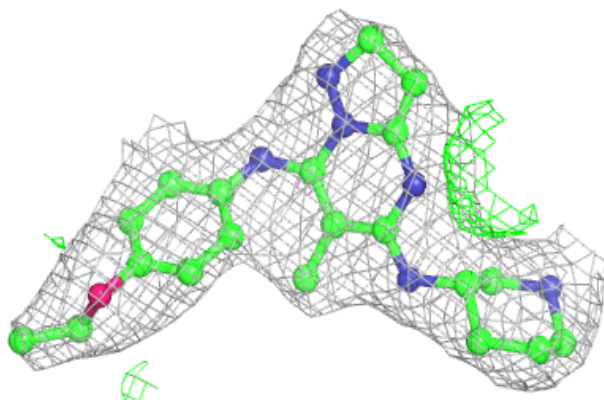


Electron density around PDY E 2:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

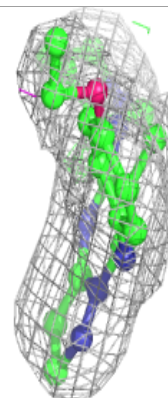
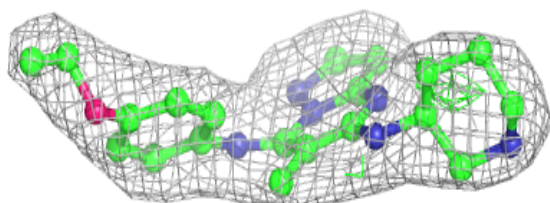
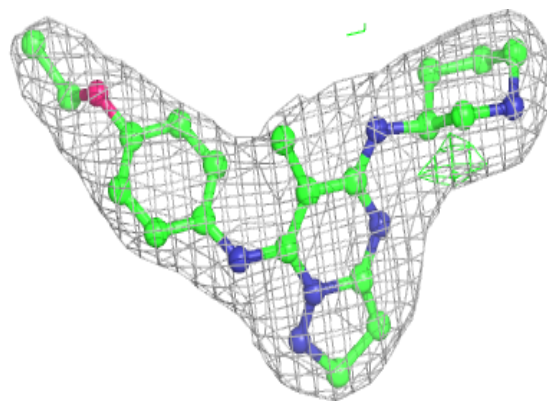
**Electron density around PDY F 1:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

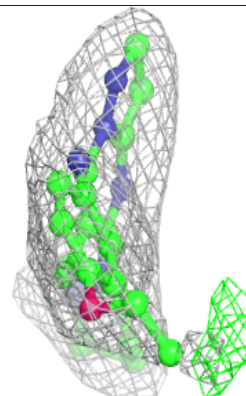
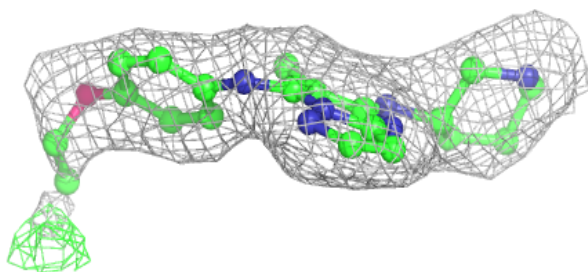
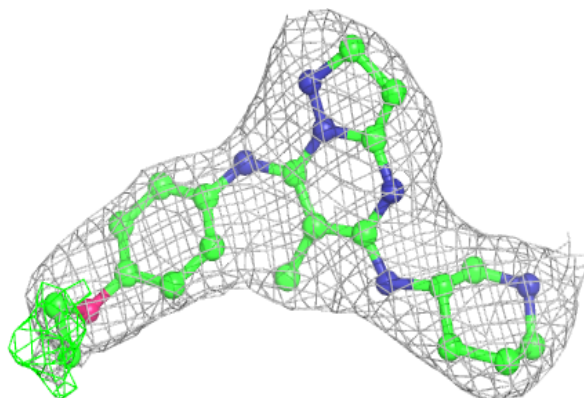


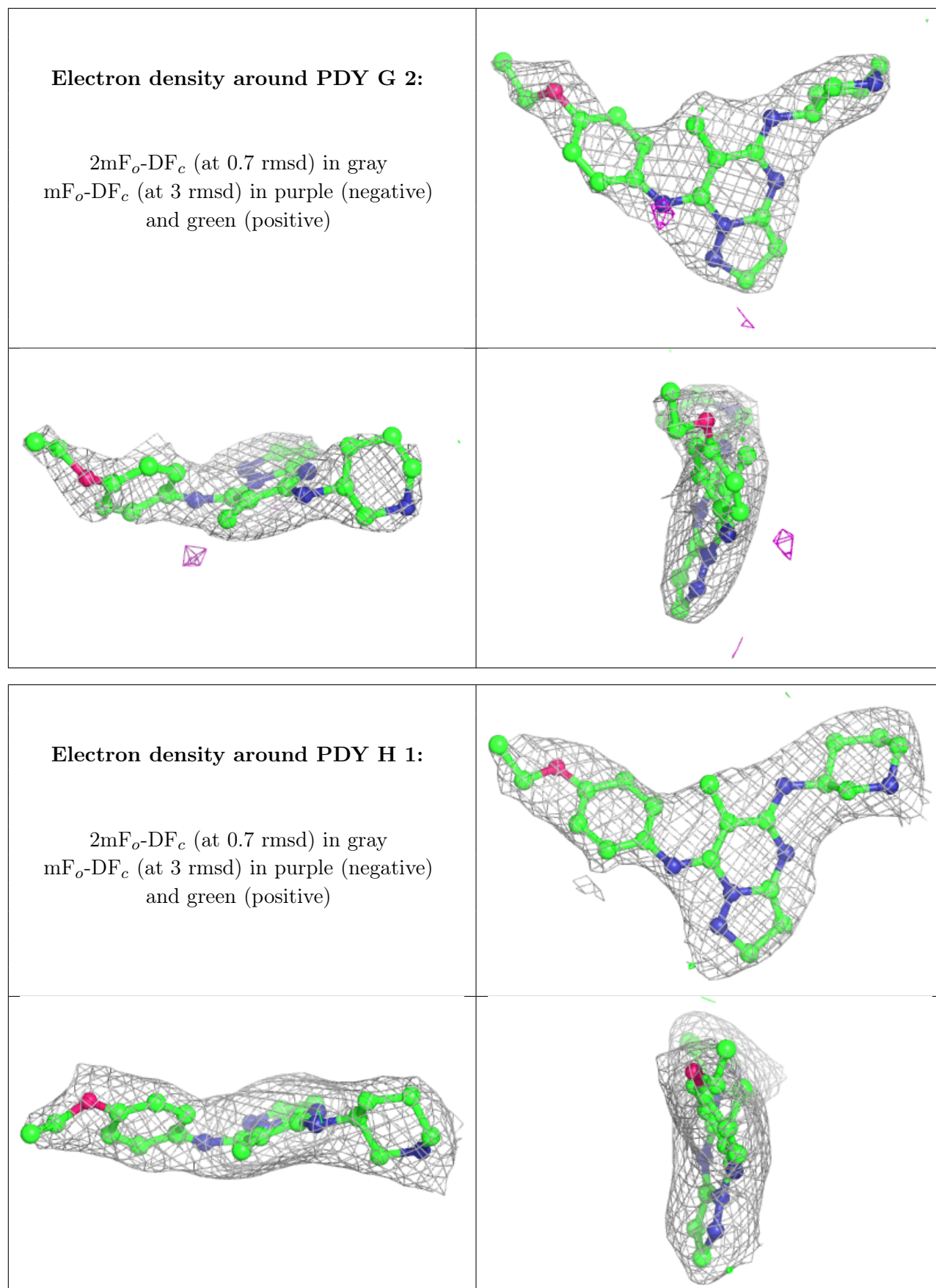
Electron density around PDY F 2:

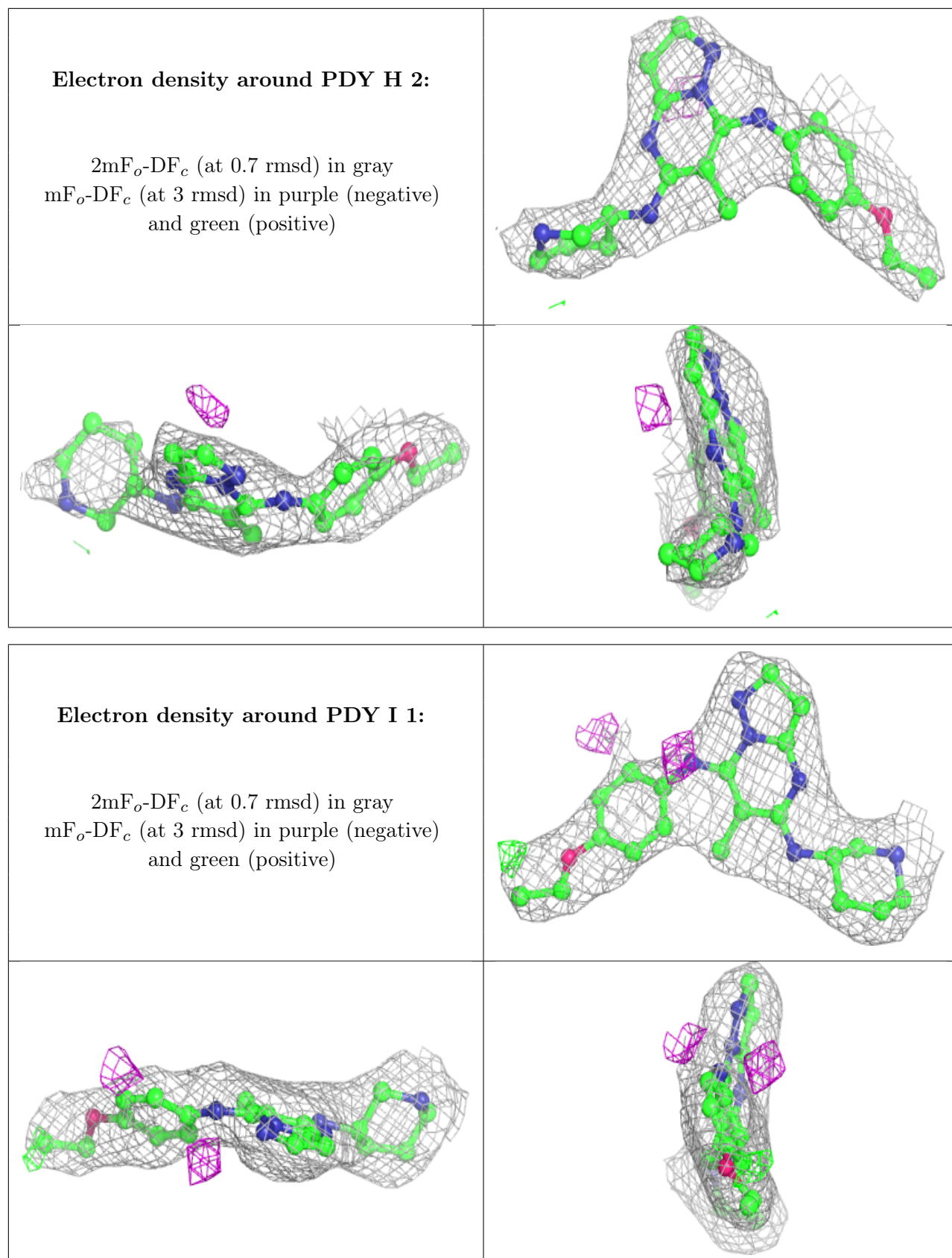
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around PDY G 1:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

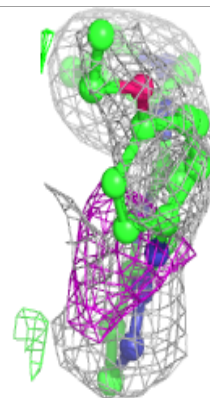
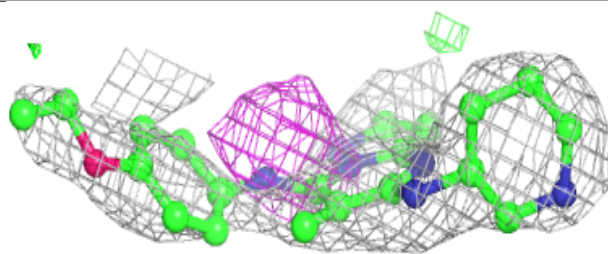
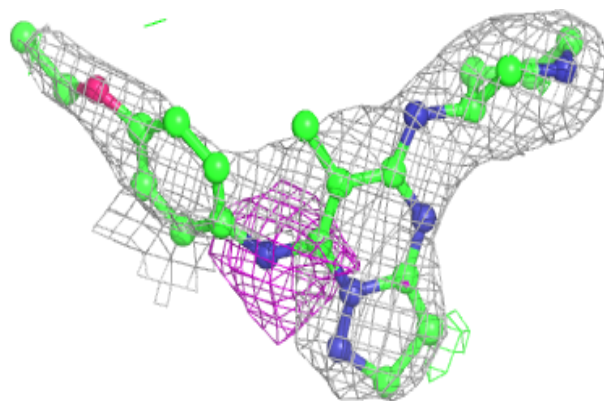




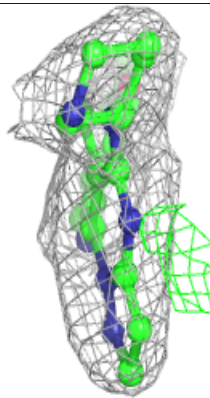
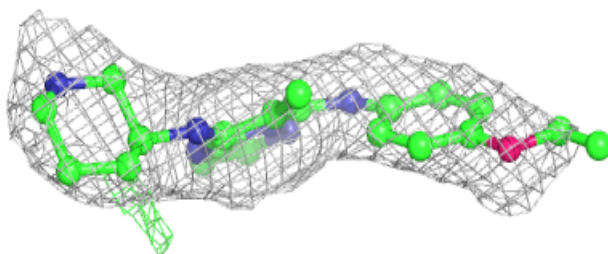
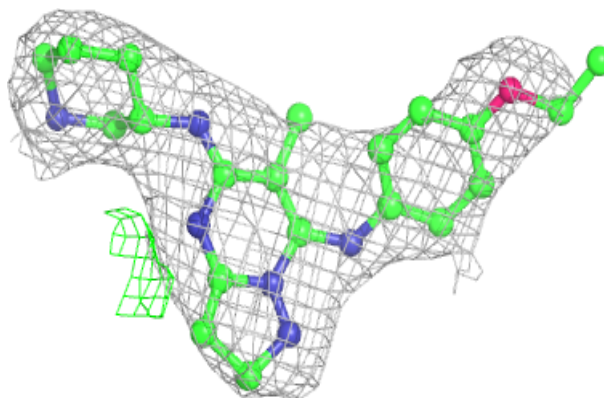


Electron density around PDY I 2:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

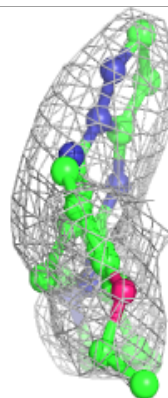
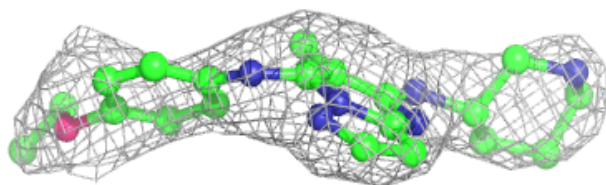
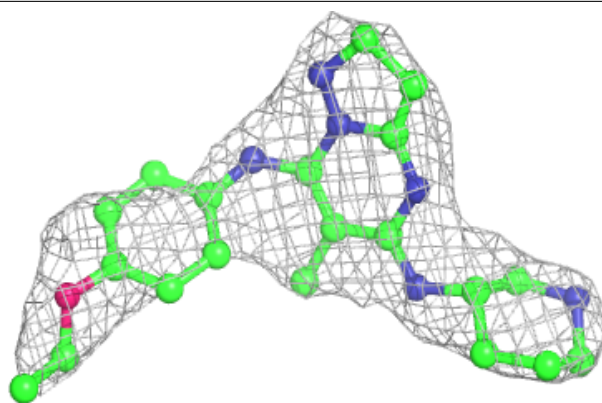
**Electron density around PDY J 1:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

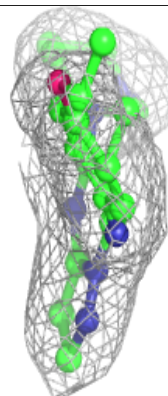
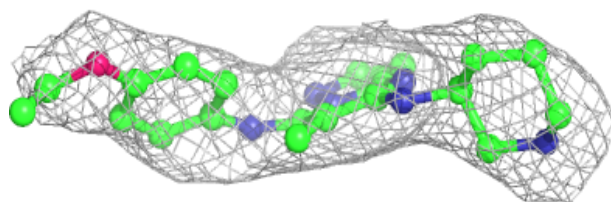
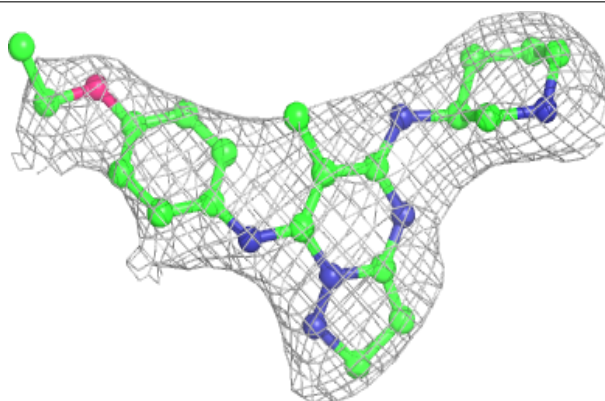


Electron density around PDY J 2:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

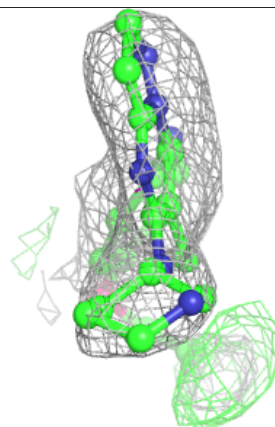
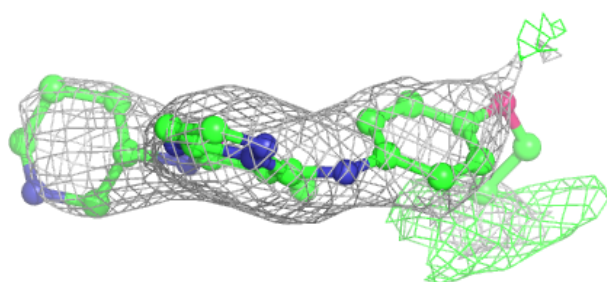
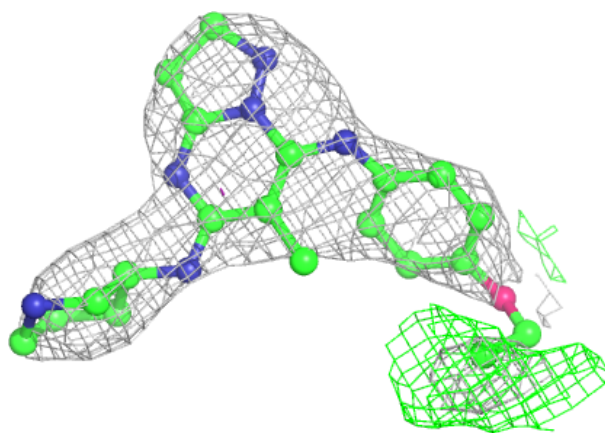
**Electron density around PDY K 1:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

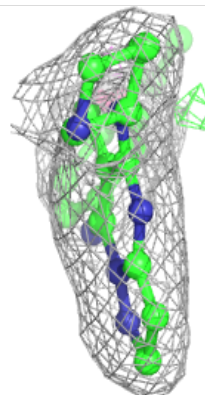
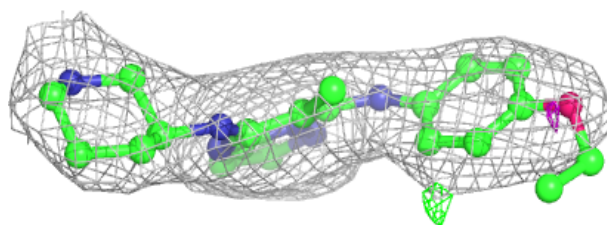
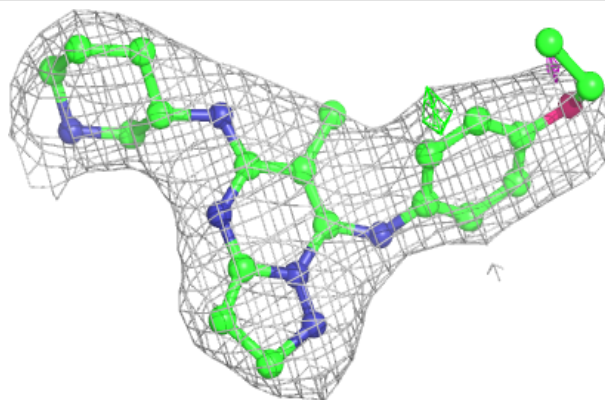


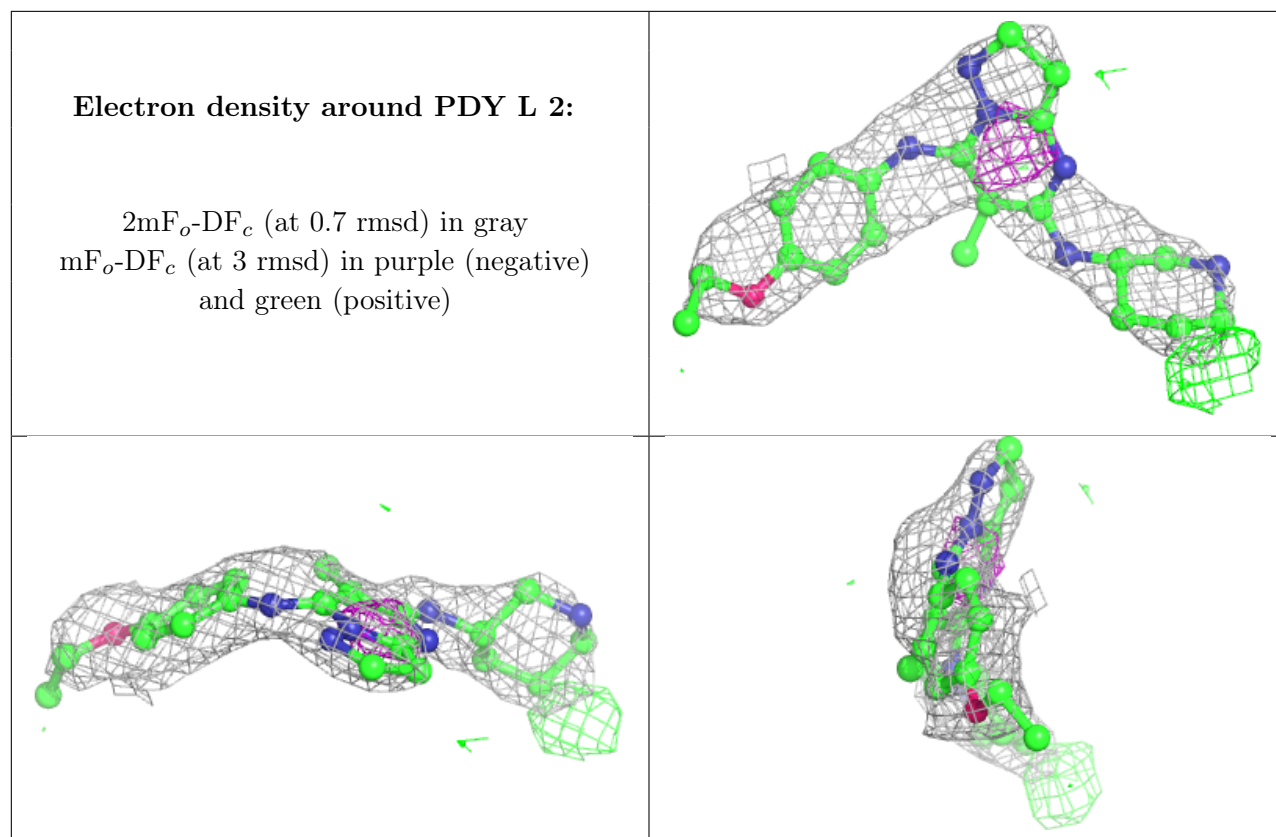
Electron density around PDY K 2:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around PDY L 1:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





6.5 Other polymers [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.