



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 22, 2024 – 04:01 AM EDT

PDB ID : 3H06
Title : Crystal structure of the binding domain of the AMPA subunit GluR2 bound to the willardiine antagonist, UBP282
Authors : Ahmed, A.H.; Oswald, R.E.
Deposited on : 2009-04-08
Resolution : 2.80 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 : 2022.3.0, CSD as543be (2022)
Xtrriage (Phenix) : 1.20.1
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.003 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

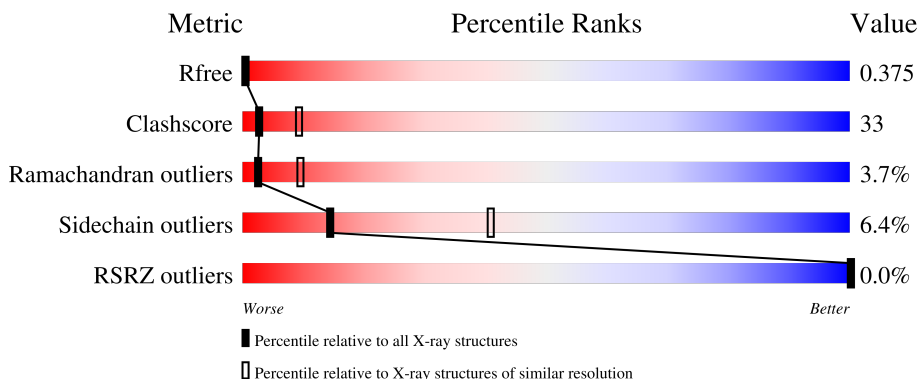
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.80 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}	164625	3657 (2.80-2.80)
Clashscore	180529	4123 (2.80-2.80)
Ramachandran outliers	177936	4071 (2.80-2.80)
Sidechain outliers	177891	4073 (2.80-2.80)
RSRZ outliers	164620	3659 (2.80-2.80)

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	B	258	53% 43% .
1	E	258	45% 48% 6%
1	G	258	57% 38% 5%
1	H	258	47% 45% 7%
1	J	258	51% 43% 5% .
1	L	258	48% 45% 6%

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Mol	Chain	Length	Quality of chain
1	N	258	
1	P	258	

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	VBP	B	807	X	-	-	-
2	VBP	E	808	X	X	-	-
2	VBP	G	803	X	-	-	-
2	VBP	H	806	X	X	-	-
2	VBP	J	804	X	X	-	-
2	VBP	L	801	X	-	-	-
2	VBP	N	802	X	-	-	-
2	VBP	P	805	X	X	-	-

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 16564 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 Glutamate receptor 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	G	257	2010	1280	334	382	14	0	0	0
1	B	257	2010	1280	334	382	14	0	0	0
1	E	257	2010	1280	334	382	14	0	0	0
1	H	257	2010	1280	334	382	14	0	0	0
1	J	257	2010	1280	334	382	14	0	0	0
1	L	257	2010	1280	334	382	14	0	0	0
1	N	257	2010	1280	334	382	14	0	0	0
1	P	257	2010	1280	334	382	14	0	0	0

There are 16 discrepancies between the modelled and reference sequences:

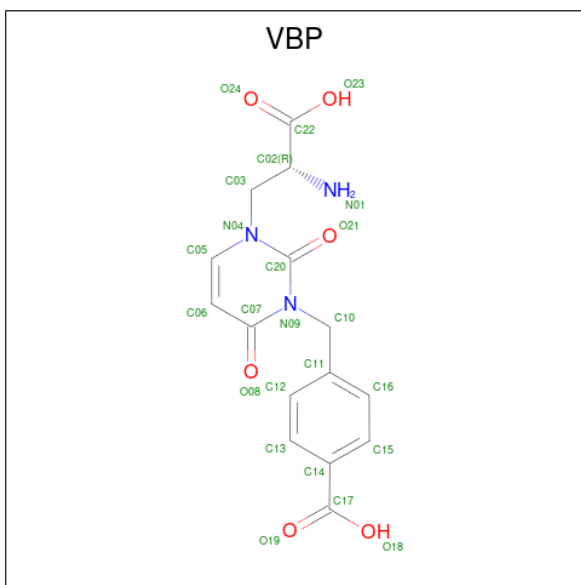
Chain	Residue	Modelled	Actual	Comment	Reference
G	118	GLY	-	linker	UNP P19491
G	119	THR	-	linker	UNP P19491
B	118	GLY	-	linker	UNP P19491
B	119	THR	-	linker	UNP P19491
E	118	GLY	-	linker	UNP P19491
E	119	THR	-	linker	UNP P19491
H	118	GLY	-	linker	UNP P19491
H	119	THR	-	linker	UNP P19491
J	118	GLY	-	linker	UNP P19491
J	119	THR	-	linker	UNP P19491
L	118	GLY	-	linker	UNP P19491
L	119	THR	-	linker	UNP P19491
N	118	GLY	-	linker	UNP P19491

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Chain	Residue	Modelled	Actual	Comment	Reference
N	119	THR	-	linker	UNP P19491
P	118	GLY	-	linker	UNP P19491
P	119	THR	-	linker	UNP P19491

- Molecule 2 is 4-({3-[(2R)-2-amino-2-carboxyethyl]-2,6-dioxo-3,6-dihydropyrimidin-1(2H)-yl} methyl)benzoic acid (three-letter code: VBP) (formula: C₁₅H₁₅N₃O₆).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	G	1	Total	C	N	O	0	0
			24	15	3	6		
2	B	1	Total	C	N	O	0	0
			24	15	3	6		
2	E	1	Total	C	N	O	0	0
			24	15	3	6		
2	H	1	Total	C	N	O	0	0
			24	15	3	6		
2	J	1	Total	C	N	O	0	0
			24	15	3	6		
2	L	1	Total	C	N	O	0	0
			24	15	3	6		
2	N	1	Total	C	N	O	0	0
			24	15	3	6		
2	P	1	Total	C	N	O	0	0
			24	15	3	6		

- Molecule 3 is water.

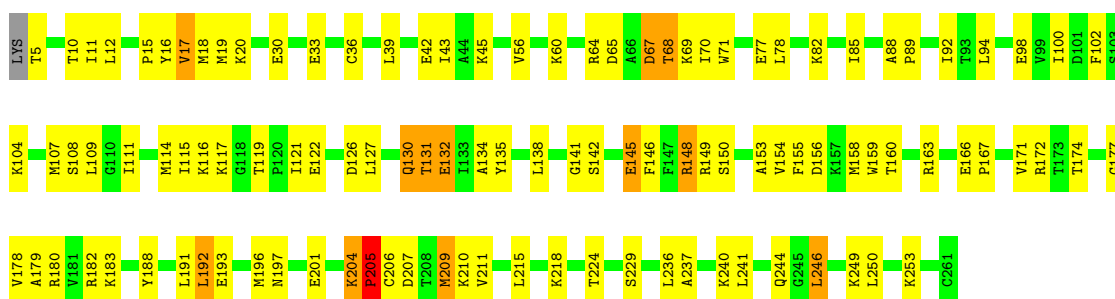
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	G	39	Total O 39 39	0	0
3	B	42	Total O 42 42	0	0
3	E	30	Total O 30 30	0	0
3	H	30	Total O 30 30	0	0
3	J	43	Total O 43 43	0	0
3	L	34	Total O 34 34	0	0
3	N	39	Total O 39 39	0	0
3	P	35	Total O 35 35	0	0

3 Residue-property plots

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

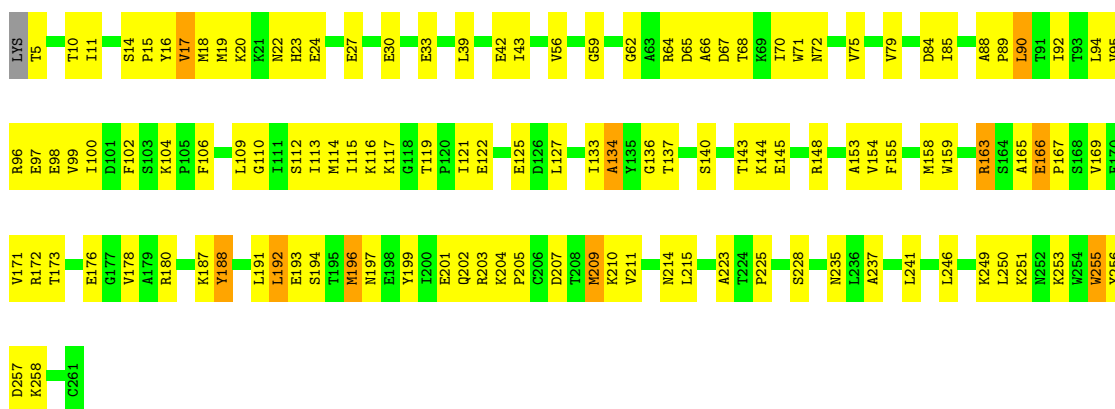
- Molecule 1: Glutamate receptor 2

Chain G: 



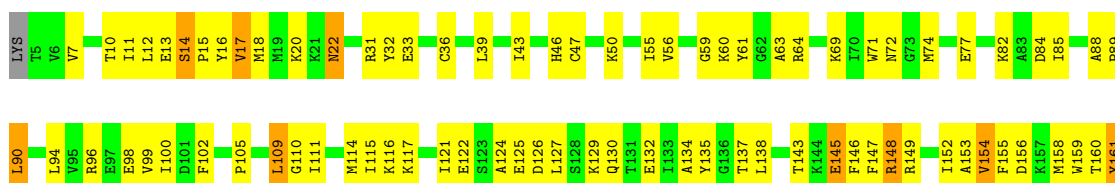
- Molecule 1: Glutamate receptor 2

Chain B: 



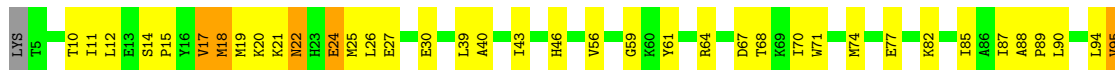
- Molecule 1: Glutamate receptor 2

Chain E: 

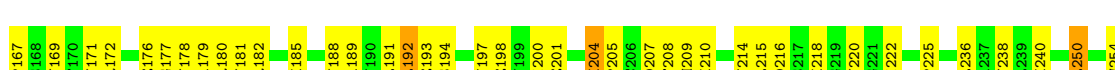




• Molecule 1: Glutamate receptor 2

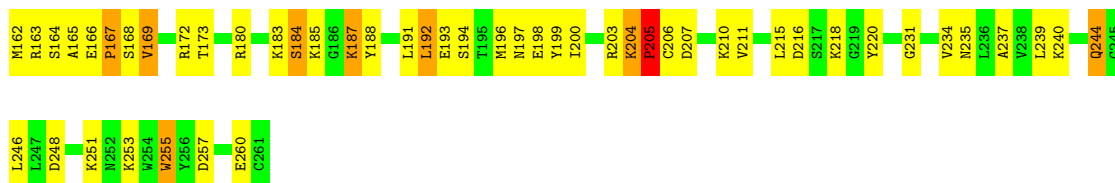


• Molecule 1: Glutamate receptor 2



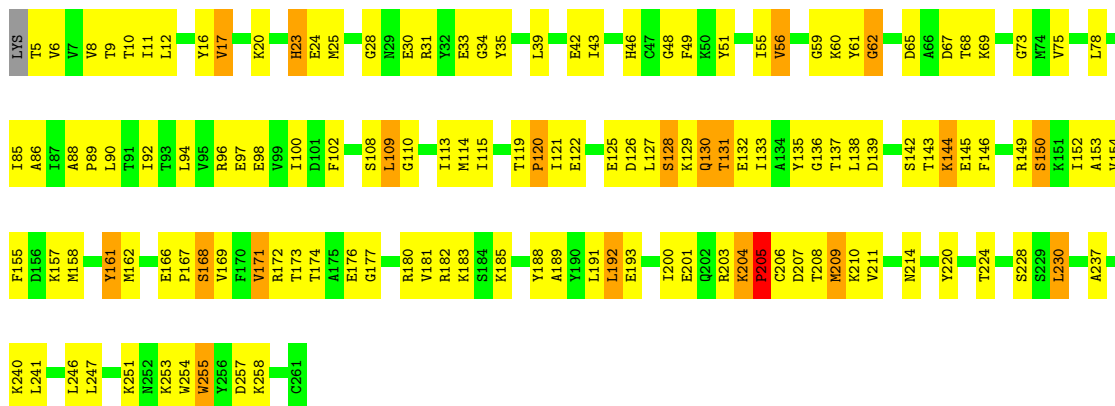
• Molecule 1: Glutamate receptor 2





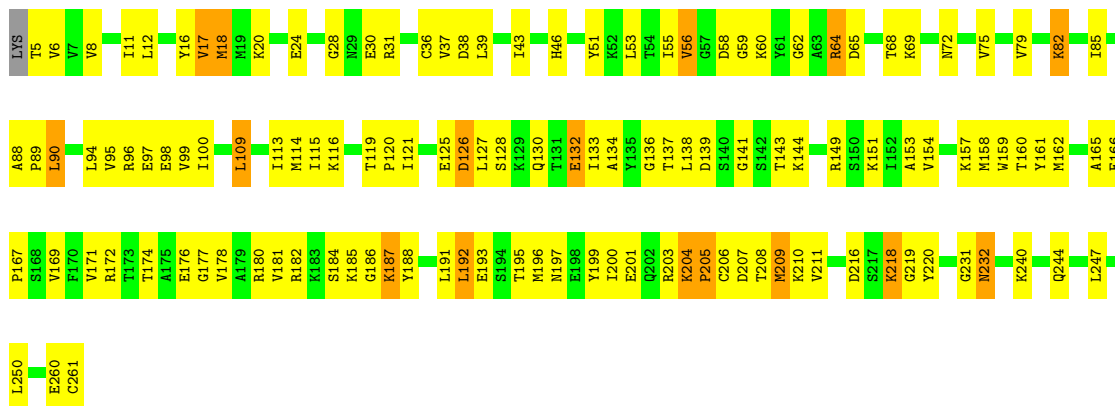
- Molecule 1: Glutamate receptor 2

Chain N: 47% 45% 7%



- Molecule 1: Glutamate receptor 2

Chain P: 50% 43% 6%



4 Data and refinement statistics i

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	91.01Å 90.92Å 92.51Å 85.61° 85.52° 72.40°	Depositor
Resolution (Å)	39.71 – 2.80 39.71 – 2.80	Depositor EDS
% Data completeness (in resolution range)	93.5 (39.71-2.80) 91.7 (39.71-2.80)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	64.73 (at 2.77Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.230 , 0.295 0.374 , 0.375	Depositor DCC
R_{free} test set	3243 reflections (5.11%)	wwPDB-VP
Wilson B-factor (Å ²)	39.5	Xtrriage
Anisotropy	0.035	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 29.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.62$, $\langle L^2 \rangle = 0.49$	Xtrriage
Estimated twinning fraction	0.349 for -k,-h,-l	Xtrriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	16564	wwPDB-VP
Average B, all atoms (Å ²)	38.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.87% 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: VBP

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	B	0.41	0/2046	0.64	0/2751
1	E	0.41	0/2046	0.63	0/2751
1	G	0.41	0/2046	0.65	0/2751
1	H	0.41	0/2046	0.61	0/2751
1	J	0.40	0/2046	0.62	0/2751
1	L	0.41	0/2046	0.62	0/2751
1	N	0.39	0/2046	0.62	0/2751
1	P	0.40	0/2046	0.64	0/2751
All	All	0.40	0/16368	0.63	0/22008

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2010	0	2037	133	0
1	E	2010	0	2037	140	0
1	G	2010	0	2037	116	0
1	H	2010	0	2037	139	0
1	J	2010	0	2037	134	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	L	2010	0	2037	137	0
1	N	2010	0	2037	129	0
1	P	2010	0	2037	155	0
2	B	24	0	13	3	0
2	E	24	0	13	4	0
2	G	24	0	13	5	0
2	H	24	0	13	3	0
2	J	24	0	13	4	0
2	L	24	0	13	2	0
2	N	24	0	13	3	0
2	P	24	0	13	5	0
3	B	42	0	0	8	0
3	E	30	0	0	6	0
3	G	39	0	0	4	0
3	H	30	0	0	6	0
3	J	43	0	0	9	0
3	L	34	0	0	1	0
3	N	39	0	0	7	0
3	P	35	0	0	10	0
All	All	16564	0	16400	1065	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 33.

All (1065) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:204:LYS:HB3	1:E:205:PRO:HD2	1.12	1.11
1:L:204:LYS:HB3	1:L:205:PRO:HD2	1.09	1.09
1:P:204:LYS:HB3	1:P:205:PRO:HD2	1.31	1.09
1:H:173:THR:HG23	1:H:176:GLU:HB2	1.36	1.07
1:G:204:LYS:HB3	1:G:205:PRO:HD2	1.11	1.06
1:N:204:LYS:HB3	1:N:205:PRO:HD2	1.07	1.04
1:N:204:LYS:HB3	1:N:205:PRO:CD	1.91	1.01
1:J:21:LYS:H	1:J:21:LYS:HD3	1.28	0.99
1:B:95:VAL:HG11	1:E:69:LYS:HD3	1.42	0.99
1:L:104:LYS:NZ	1:L:104:LYS:H	1.61	0.97
1:L:104:LYS:H	1:L:104:LYS:HZ3	1.01	0.96
1:L:104:LYS:HZ3	1:L:104:LYS:N	1.62	0.96
1:G:117:LYS:HE2	1:G:209:MET:HE3	1.49	0.94
1:E:185:LYS:HB2	1:E:187:LYS:HE2	1.50	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:204:LYS:HB3	1:E:205:PRO:CD	1.99	0.92
1:L:204:LYS:HB3	1:L:205:PRO:CD	1.98	0.91
1:L:130:GLN:HE21	1:L:132:GLU:HB3	1.36	0.91
1:G:114:MET:HE1	1:G:178:VAL:HG13	1.52	0.90
1:H:116:LYS:HE2	1:N:25:MET:O	1.72	0.89
1:L:204:LYS:CB	1:L:205:PRO:HD2	2.01	0.89
1:J:21:LYS:H	1:J:21:LYS:CD	1.83	0.89
1:B:121:ILE:HD13	1:B:127:LEU:HD21	1.56	0.88
1:J:117:LYS:HA	1:J:209:MET:HE3	1.53	0.88
1:L:187:LYS:HE3	1:L:188:TYR:N	1.89	0.87
1:G:204:LYS:HB3	1:G:205:PRO:CD	2.01	0.87
1:N:150:SER:HA	3:N:285:HOH:O	1.75	0.86
1:E:204:LYS:CB	1:E:205:PRO:HD2	2.01	0.85
1:N:130:GLN:NE2	1:N:132:GLU:HB3	1.89	0.85
1:P:116:LYS:HE3	1:P:207:ASP:HB2	1.56	0.84
1:G:89:PRO:HB2	2:G:803:VBP:H05	1.56	0.83
1:E:172:ARG:HB3	1:E:176:GLU:OE1	1.78	0.83
1:P:204:LYS:CB	1:P:205:PRO:HD2	2.08	0.82
1:G:204:LYS:CB	1:G:205:PRO:HD2	2.03	0.82
1:B:39:LEU:O	1:B:43:ILE:HG12	1.78	0.82
1:H:64:ARG:NH1	1:H:71:TRP:HE1	1.78	0.81
1:J:204:LYS:HB3	1:J:205:PRO:HD3	1.63	0.81
1:B:89:PRO:HB2	2:B:807:VBP:H05	1.63	0.80
1:B:122:GLU:HA	1:B:211:VAL:HG21	1.63	0.80
1:E:99:VAL:HG23	1:E:100:ILE:HG23	1.63	0.80
1:G:130:GLN:OE1	1:G:132:GLU:HB3	1.82	0.79
1:P:204:LYS:HB3	1:P:205:PRO:CD	2.12	0.79
1:E:88:ALA:HB1	1:E:89:PRO:HD2	1.62	0.79
1:H:160:THR:HA	1:H:163:ARG:NH1	1.97	0.79
1:E:152:ILE:HG22	1:E:154:VAL:HG23	1.63	0.78
1:E:10:THR:HA	1:E:74:MET:HE1	1.64	0.78
1:N:130:GLN:HE21	1:N:132:GLU:HB3	1.48	0.78
1:B:159:TRP:O	1:B:163:ARG:HB2	1.83	0.78
1:J:182:ARG:HH12	1:J:205:PRO:HB2	1.48	0.77
1:J:89:PRO:HB2	2:J:804:VBP:H05	1.66	0.76
1:P:82:LYS:HA	1:P:82:LYS:NZ	2.00	0.76
1:L:100:ILE:O	1:L:100:ILE:HD12	1.86	0.76
1:P:94:LEU:O	1:P:98:GLU:HG3	1.85	0.76
1:H:153:ALA:HA	3:H:289:HOH:O	1.85	0.76
1:E:22:ASN:HD22	1:E:22:ASN:H	1.31	0.75
1:L:22:ASN:HB2	1:L:25:MET:HG3	1.66	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:166:GLU:HA	1:J:167:PRO:C	2.07	0.75
1:G:122:GLU:HA	1:G:211:VAL:HG21	1.65	0.75
1:N:128:SER:OG	1:N:154:VAL:HG13	1.86	0.75
1:H:64:ARG:HH11	1:H:71:TRP:HE1	1.35	0.75
1:G:122:GLU:HG2	1:G:126:ASP:OD2	1.87	0.74
1:N:56:VAL:HG13	1:N:59:GLY:HA2	1.69	0.74
1:H:15:PRO:HA	1:H:18:MET:HE3	1.70	0.74
1:H:130:GLN:HE21	1:H:132:GLU:N	1.85	0.74
1:P:232:ASN:N	1:P:232:ASN:HD22	1.82	0.74
1:P:58:ASP:O	1:P:60:LYS:HG3	1.88	0.73
1:E:39:LEU:O	1:E:43:ILE:HG12	1.89	0.73
1:H:56:VAL:HG13	1:H:59:GLY:HA2	1.70	0.73
1:B:114:MET:HE1	1:B:178:VAL:HG13	1.70	0.73
1:N:115:ILE:HD13	1:N:211:VAL:HG11	1.71	0.73
1:B:140:SER:HA	1:B:144:LYS:NZ	2.03	0.73
1:H:88:ALA:HB1	1:H:89:PRO:HD2	1.69	0.73
1:L:46:HIS:CD2	1:L:240:LYS:HD2	2.24	0.73
1:P:46:HIS:CD2	1:P:240:LYS:HD2	2.24	0.73
1:B:166:GLU:HA	1:B:167:PRO:C	2.08	0.72
1:L:154:VAL:O	1:L:158:MET:HG3	1.88	0.72
1:E:224:THR:HG23	3:E:268:HOH:O	1.89	0.72
1:N:204:LYS:CB	1:N:205:PRO:HD2	2.02	0.72
1:J:148:ARG:HG3	1:J:149:ARG:N	2.04	0.72
1:B:144:LYS:HE3	1:B:148:ARG:HH22	1.54	0.71
1:L:160:THR:HA	1:L:163:ARG:NH1	2.05	0.71
1:G:68:THR:OG1	1:G:70:ILE:HB	1.91	0.71
1:H:181:VAL:HG12	1:H:181:VAL:O	1.90	0.71
1:L:111:ILE:HD11	1:L:143:THR:HA	1.73	0.71
1:G:138:LEU:HD22	2:G:803:VBP:H15	1.73	0.71
1:G:159:TRP:O	1:G:163:ARG:HB2	1.90	0.71
1:E:216:ASP:OD1	1:E:218:LYS:HE3	1.91	0.71
1:H:135:TYR:HB3	1:H:189:ALA:HB3	1.72	0.71
1:L:156:ASP:O	1:L:160:THR:HG23	1.90	0.71
1:B:241:LEU:HD22	1:B:246:LEU:CD2	2.21	0.70
1:L:21:LYS:HD3	1:L:21:LYS:H	1.56	0.70
1:B:241:LEU:HD22	1:B:246:LEU:HD23	1.74	0.70
1:E:20:LYS:HG2	1:E:31:ARG:O	1.91	0.70
1:B:20:LYS:HG2	1:B:33:GLU:CD	2.12	0.70
1:N:154:VAL:O	1:N:158:MET:HG3	1.91	0.70
1:G:145:GLU:HA	1:G:148:ARG:HG2	1.73	0.70
1:H:141:GLY:O	1:H:145:GLU:HG2	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:166:GLU:HA	1:L:167:PRO:C	2.12	0.70
1:L:192:LEU:HD12	1:L:192:LEU:H	1.57	0.70
1:P:134:ALA:N	1:P:187:LYS:O	2.25	0.70
1:E:50:LYS:HE2	1:E:50:LYS:HA	1.73	0.70
1:E:230:LEU:O	1:E:234:VAL:HG23	1.91	0.70
1:N:162:MET:HE1	1:N:191:LEU:HD12	1.73	0.70
1:J:261:CYS:HB3	3:J:300:HOH:O	1.92	0.70
1:N:135:TYR:HB3	1:N:189:ALA:HB3	1.74	0.69
1:H:10:THR:HA	1:H:74:MET:HE1	1.74	0.69
1:L:184:SER:O	1:L:187:LYS:HE2	1.92	0.69
1:P:121:ILE:HG22	1:P:126:ASP:HB3	1.73	0.69
1:E:193:GLU:HG3	3:E:279:HOH:O	1.92	0.69
1:H:39:LEU:O	1:H:43:ILE:HG12	1.93	0.69
1:L:187:LYS:NZ	1:L:188:TYR:HB3	2.08	0.69
1:N:137:THR:HG22	1:N:191:LEU:HB2	1.75	0.69
1:B:204:LYS:HB2	3:B:300:HOH:O	1.92	0.69
1:B:210:LYS:HD2	3:B:298:HOH:O	1.93	0.69
1:B:251:LYS:HE3	3:B:293:HOH:O	1.93	0.69
1:L:104:LYS:H	1:L:104:LYS:CE	2.04	0.68
1:J:134:ALA:O	1:J:188:TYR:HA	1.94	0.68
1:P:64:ARG:HD3	1:P:69:LYS:HA	1.76	0.68
1:G:130:GLN:HA	1:G:130:GLN:HE21	1.58	0.68
1:E:172:ARG:HG2	1:E:173:THR:HG23	1.76	0.68
1:L:130:GLN:NE2	1:L:133:ILE:HG13	2.07	0.68
1:H:230:LEU:O	1:H:234:VAL:HG23	1.94	0.68
1:J:185:LYS:HD2	1:J:185:LYS:N	2.09	0.67
1:L:125:GLU:OE2	1:L:154:VAL:HG21	1.93	0.67
1:N:89:PRO:HB2	2:N:802:VBP:H05	1.76	0.67
1:P:16:TYR:CD1	1:P:89:PRO:HG3	2.28	0.67
1:J:46:HIS:CD2	1:J:240:LYS:HD2	2.29	0.67
1:G:16:TYR:CD1	1:G:89:PRO:HG3	2.29	0.67
1:E:205:PRO:O	1:E:207:ASP:N	2.26	0.67
1:J:129:LYS:O	1:J:131:THR:N	2.28	0.67
1:G:193:GLU:HG3	3:G:264:HOH:O	1.94	0.66
1:E:156:ASP:O	1:E:160:THR:HG23	1.96	0.66
1:E:203:ARG:O	1:E:204:LYS:O	2.13	0.66
1:L:115:ILE:HG21	1:L:121:ILE:CD1	2.26	0.66
1:H:117:LYS:HA	1:H:209:MET:HE2	1.78	0.66
1:J:69:LYS:HB2	1:J:69:LYS:NZ	2.10	0.66
1:P:114:MET:HE1	1:P:178:VAL:HA	1.77	0.66
1:B:145:GLU:HG2	1:B:148:ARG:HH21	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:121:ILE:HG23	1:H:133:ILE:HD12	1.77	0.66
1:J:149:ARG:HG2	3:J:265:HOH:O	1.95	0.66
1:P:169:VAL:HA	1:P:180:ARG:HH12	1.61	0.66
1:P:193:GLU:H	2:P:805:VBP:H13	1.61	0.66
1:J:152:ILE:HB	1:J:155:PHE:HD2	1.60	0.66
1:E:14:SER:O	1:E:18:MET:SD	2.54	0.65
1:G:166:GLU:HA	1:G:167:PRO:C	2.17	0.65
1:G:180:ARG:HD2	1:G:188:TYR:CZ	2.31	0.65
1:L:203:ARG:O	1:L:204:LYS:O	2.15	0.65
1:L:244:GLN:HB3	1:L:246:LEU:HD13	1.79	0.65
1:N:110:GLY:HA3	1:N:214:ASN:HB3	1.78	0.65
1:N:152:ILE:HG22	3:N:280:HOH:O	1.95	0.65
1:J:35:TYR:CE1	1:J:250:LEU:HB3	2.30	0.65
1:B:251:LYS:O	1:B:255:TRP:HB2	1.97	0.65
1:N:121:ILE:HD13	1:N:127:LEU:CD2	2.27	0.65
1:B:95:VAL:HG11	1:E:69:LYS:CD	2.25	0.65
1:J:64:ARG:HD3	1:J:69:LYS:HA	1.78	0.65
1:L:164:SER:O	1:L:165:ALA:HB3	1.97	0.65
1:H:11:ILE:HG13	3:H:268:HOH:O	1.97	0.65
1:J:6:VAL:O	1:J:51:TYR:HA	1.97	0.65
1:B:154:VAL:O	1:B:158:MET:HG3	1.97	0.65
1:L:89:PRO:HB2	2:L:801:VBP:H05	1.79	0.65
1:H:197:ASN:ND2	1:H:210:LYS:HG3	2.12	0.64
1:E:154:VAL:O	1:E:158:MET:HG3	1.97	0.64
1:H:130:GLN:HG2	1:H:131:THR:N	2.11	0.64
1:H:144:LYS:HE3	1:H:148:ARG:NH2	2.13	0.64
1:J:148:ARG:HA	1:J:159:TRP:CD1	2.31	0.64
1:G:193:GLU:OE1	1:G:218:LYS:NZ	2.29	0.64
1:G:205:PRO:O	1:G:207:ASP:N	2.30	0.64
1:B:172:ARG:HB3	1:B:172:ARG:NH1	2.12	0.64
1:J:178:VAL:HG12	1:J:182:ARG:HE	1.61	0.64
1:P:138:LEU:HD11	1:P:172:ARG:O	1.97	0.64
1:G:193:GLU:HG2	2:G:803:VBP:H13	1.80	0.64
1:N:20:LYS:HG2	1:N:31:ARG:O	1.97	0.64
1:H:224:THR:HG23	3:H:287:HOH:O	1.98	0.64
1:L:10:THR:OG1	1:L:17:VAL:HG11	1.97	0.64
1:N:158:MET:O	1:N:162:MET:HG3	1.98	0.64
1:H:166:GLU:HA	1:H:167:PRO:C	2.18	0.63
1:P:116:LYS:HG3	1:P:207:ASP:O	1.98	0.63
1:B:92:ILE:HG23	1:B:102:PHE:CD2	2.32	0.63
1:J:90:LEU:O	1:J:220:TYR:HA	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:177:GLY:O	1:J:181:VAL:HG23	1.97	0.63
1:G:197:ASN:ND2	1:G:210:LYS:HG3	2.14	0.63
1:B:16:TYR:CD1	1:B:89:PRO:HG3	2.34	0.63
1:E:64:ARG:NH1	1:E:71:TRP:HE1	1.96	0.63
1:P:115:ILE:HB	1:P:119:THR:HB	1.81	0.63
1:B:19:MET:HG3	3:J:289:HOH:O	1.98	0.63
1:H:134:ALA:HB3	1:H:187:LYS:O	1.99	0.63
1:N:157:LYS:HE3	1:N:161:TYR:CE1	2.34	0.63
1:N:180:ARG:O	1:N:188:TYR:HD2	1.82	0.63
1:G:183:LYS:H	1:G:183:LYS:HD2	1.64	0.62
1:E:166:GLU:HA	1:E:167:PRO:C	2.20	0.62
1:L:103:SER:HB2	1:L:104:LYS:HZ1	1.64	0.62
1:N:16:TYR:CD1	1:N:89:PRO:HG3	2.34	0.62
1:P:199:TYR:HE1	1:P:203:ARG:NH1	1.96	0.62
1:H:163:ARG:HH11	1:H:163:ARG:CB	2.12	0.62
1:L:8:VAL:HG22	1:L:85:ILE:CG2	2.29	0.62
1:L:104:LYS:HE3	1:L:239:LEU:HG	1.81	0.62
1:H:180:ARG:HG2	1:H:188:TYR:CD2	2.34	0.62
1:L:192:LEU:HD13	1:L:197:ASN:HB2	1.82	0.62
1:B:191:LEU:HD12	1:B:191:LEU:N	2.15	0.62
1:L:137:THR:HG22	1:L:191:LEU:HB2	1.82	0.62
1:N:144:LYS:HB3	1:N:144:LYS:NZ	2.15	0.62
1:B:42:GLU:HG3	1:B:246:LEU:HD21	1.81	0.62
1:B:100:ILE:HD12	1:B:223:ALA:HB1	1.80	0.62
1:L:16:TYR:CD1	1:L:89:PRO:HG3	2.34	0.62
1:P:201:GLU:HG3	1:P:209:MET:HA	1.82	0.62
1:E:100:ILE:HD13	1:E:223:ALA:HB1	1.82	0.62
1:H:117:LYS:HG3	1:H:209:MET:HE2	1.82	0.62
1:J:110:GLY:HA3	1:J:214:ASN:HB3	1.82	0.62
1:N:251:LYS:HD2	1:N:255:TRP:CE3	2.34	0.62
1:E:138:LEU:HD22	2:E:808:VBP:H15	1.81	0.62
1:J:20:LYS:HB2	1:J:31:ARG:O	1.99	0.62
1:L:24:GLU:CD	1:L:24:GLU:H	2.04	0.62
1:L:58:ASP:O	1:L:60:LYS:HG3	2.00	0.62
1:L:172:ARG:HG2	1:L:173:THR:HG23	1.81	0.62
1:N:152:ILE:HB	1:N:155:PHE:CD2	2.35	0.62
1:P:171:VAL:HB	1:P:176:GLU:HB3	1.81	0.62
1:H:137:THR:HG22	1:H:191:LEU:HB2	1.80	0.61
1:L:104:LYS:HD2	1:L:239:LEU:HD21	1.81	0.61
1:G:159:TRP:HE1	1:G:163:ARG:NH1	1.97	0.61
1:E:183:LYS:HB2	1:E:183:LYS:NZ	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:204:LYS:O	1:E:205:PRO:C	2.39	0.61
1:H:157:LYS:HE2	1:H:161:TYR:CE1	2.35	0.61
1:B:144:LYS:HE3	1:B:148:ARG:HH12	1.65	0.61
1:E:125:GLU:OE1	1:E:125:GLU:N	2.25	0.61
1:E:169:VAL:HA	1:E:180:ARG:HH12	1.65	0.61
1:B:92:ILE:HA	1:B:102:PHE:CE2	2.35	0.61
1:H:172:ARG:HB3	1:H:176:GLU:OE1	2.00	0.61
1:N:130:GLN:HG3	1:N:133:ILE:H	1.64	0.61
1:G:240:LYS:O	1:G:244:GLN:HG3	1.99	0.61
1:P:232:ASN:N	1:P:232:ASN:ND2	2.48	0.61
1:J:148:ARG:HH11	1:J:148:ARG:HB2	1.66	0.61
1:P:79:VAL:HG22	1:P:99:VAL:HG12	1.82	0.61
1:G:172:ARG:HB3	1:G:172:ARG:NH1	2.16	0.61
1:J:222:ILE:HD13	1:J:238:VAL:HG21	1.83	0.61
1:H:10:THR:HA	1:H:74:MET:CE	2.30	0.60
1:J:121:ILE:HG13	1:J:126:ASP:HB3	1.83	0.60
1:E:155:PHE:CE1	1:E:215:LEU:HD13	2.37	0.60
1:H:147:PHE:CE2	1:H:191:LEU:HD13	2.37	0.60
1:N:166:GLU:HA	1:N:167:PRO:C	2.22	0.60
1:B:144:LYS:NZ	3:B:273:HOH:O	2.32	0.60
1:P:125:GLU:OE1	1:P:154:VAL:HG11	2.02	0.60
1:J:152:ILE:HB	1:J:155:PHE:CD2	2.36	0.60
1:P:154:VAL:O	1:P:158:MET:HG3	2.02	0.60
1:B:11:ILE:O	1:B:17:VAL:HG13	2.02	0.60
1:H:130:GLN:NE2	1:H:132:GLU:N	2.49	0.59
1:P:203:ARG:O	1:P:204:LYS:O	2.19	0.59
1:H:134:ALA:O	1:H:188:TYR:HA	2.03	0.59
1:J:114:MET:HE1	1:J:178:VAL:HA	1.84	0.59
1:L:192:LEU:HD12	1:L:192:LEU:N	2.15	0.59
1:N:130:GLN:HE21	1:N:133:ILE:H	1.50	0.59
1:B:42:GLU:CG	1:B:246:LEU:HD21	2.33	0.59
1:E:11:ILE:O	1:E:17:VAL:CG1	2.50	0.59
1:H:26:LEU:HD22	1:H:30:GLU:OE2	2.03	0.59
1:L:78:LEU:HD23	1:L:83:ALA:HB3	1.84	0.59
1:P:172:ARG:NH1	1:P:172:ARG:HB2	2.18	0.59
1:E:147:PHE:CE2	1:E:191:LEU:HD13	2.37	0.59
1:H:133:ILE:HG23	1:H:186:GLY:O	2.02	0.59
1:G:109:LEU:HD12	1:G:193:GLU:HB3	1.83	0.59
1:B:62:GLY:HA3	1:B:75:VAL:HG23	1.84	0.59
1:L:163:ARG:HG3	1:L:164:SER:N	2.17	0.59
1:L:199:TYR:O	1:L:203:ARG:HG2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:99:VAL:HG23	1:H:100:ILE:HG23	1.84	0.59
1:L:21:LYS:HG2	1:L:22:ASN:H	1.67	0.59
1:J:121:ILE:HD13	1:J:133:ILE:HD12	1.85	0.59
1:J:125:GLU:HA	1:J:128:SER:OG	2.03	0.59
1:J:194:SER:O	1:J:198:GLU:HG3	2.01	0.59
1:L:20:LYS:HD2	1:L:26:LEU:HD12	1.85	0.59
1:L:183:LYS:O	1:L:184:SER:HB3	2.02	0.59
1:E:10:THR:HA	1:E:74:MET:CE	2.31	0.59
1:E:121:ILE:HD13	1:E:127:LEU:HD21	1.85	0.59
1:L:121:ILE:HG22	1:L:126:ASP:HB3	1.85	0.59
1:N:253:LYS:HE2	1:N:258:LYS:NZ	2.18	0.59
1:P:11:ILE:O	1:P:17:VAL:HG13	2.02	0.59
1:G:171:VAL:HG11	1:G:177:GLY:HA2	1.83	0.59
1:B:115:ILE:CG2	1:B:121:ILE:HD11	2.33	0.59
1:B:144:LYS:HE3	1:B:148:ARG:NH2	2.17	0.59
1:L:155:PHE:CE1	1:L:215:LEU:HD13	2.37	0.59
1:P:46:HIS:HD2	1:P:240:LYS:HD2	1.67	0.59
1:J:117:LYS:HG2	1:J:209:MET:CE	2.33	0.58
1:N:136:GLY:HA3	1:N:169:VAL:O	2.02	0.58
1:P:53:LEU:HD11	3:P:292:HOH:O	2.02	0.58
1:G:100:ILE:C	1:G:100:ILE:HD12	2.23	0.58
1:B:137:THR:HG22	1:B:191:LEU:HB2	1.85	0.58
1:B:20:LYS:HD3	1:B:33:GLU:HB3	1.85	0.58
1:H:130:GLN:NE2	1:H:133:ILE:N	2.51	0.58
1:H:163:ARG:HH11	1:H:163:ARG:HB2	1.67	0.58
1:P:37:VAL:HG13	3:P:292:HOH:O	2.02	0.58
1:P:56:VAL:HG13	1:P:59:GLY:HA2	1.85	0.58
1:P:203:ARG:HD3	1:P:260:GLU:HG2	1.85	0.58
1:B:134:ALA:O	1:B:188:TYR:HA	2.03	0.58
1:B:225:PRO:HD2	1:B:228:SER:HB2	1.84	0.58
1:H:77:GLU:HG2	1:H:82:LYS:HB2	1.84	0.58
1:L:172:ARG:HH11	1:L:172:ARG:HB2	1.66	0.58
1:L:197:ASN:HD21	1:L:210:LYS:HA	1.69	0.58
1:N:152:ILE:HB	1:N:155:PHE:HD2	1.69	0.58
1:G:130:GLN:HG3	1:G:131:THR:N	2.18	0.58
1:G:154:VAL:O	1:G:158:MET:HG3	2.04	0.58
1:G:172:ARG:HB3	1:G:172:ARG:CZ	2.31	0.58
1:E:134:ALA:HA	1:E:161:TYR:OH	2.04	0.58
1:E:152:ILE:O	1:E:156:ASP:N	2.34	0.58
1:L:21:LYS:H	1:L:21:LYS:CD	2.17	0.58
1:L:104:LYS:HB3	1:L:105:PRO:HD2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:141:GLY:O	1:L:145:GLU:HG2	2.03	0.58
1:G:109:LEU:N	1:G:109:LEU:HD23	2.19	0.58
1:B:196:MET:HA	1:B:196:MET:CE	2.34	0.58
1:N:46:HIS:CD2	1:N:240:LYS:HD2	2.38	0.58
1:E:22:ASN:H	1:E:22:ASN:ND2	2.02	0.58
1:E:56:VAL:HG13	1:E:59:GLY:HA2	1.86	0.58
1:P:121:ILE:CG2	1:P:126:ASP:HB3	2.34	0.58
1:P:166:GLU:HA	1:P:167:PRO:C	2.23	0.58
1:G:119:THR:HG22	1:G:121:ILE:HG12	1.85	0.57
1:P:180:ARG:HD2	1:P:188:TYR:CD2	2.38	0.57
1:E:31:ARG:HH21	1:E:32:TYR:HE2	1.51	0.57
1:L:29:ASN:HB2	3:L:282:HOH:O	2.05	0.57
1:J:135:TYR:HB3	1:J:189:ALA:HB3	1.87	0.57
1:J:216:ASP:OD2	1:J:218:LYS:HE2	2.05	0.57
1:G:160:THR:O	1:G:163:ARG:HB3	2.04	0.57
1:L:11:ILE:O	1:L:17:VAL:HG13	2.04	0.57
1:N:20:LYS:HG3	1:N:30:GLU:O	2.04	0.57
1:B:192:LEU:HD12	1:B:192:LEU:H	1.69	0.57
1:E:153:ALA:HA	1:E:156:ASP:HB3	1.87	0.57
1:H:162:MET:HA	1:H:169:VAL:HG21	1.86	0.57
1:L:121:ILE:HG22	1:L:126:ASP:O	2.05	0.57
1:P:125:GLU:HA	1:P:128:SER:OG	2.04	0.57
1:P:193:GLU:OE1	1:P:218:LYS:HE2	2.04	0.57
1:E:125:GLU:O	1:E:129:LYS:HG2	2.04	0.57
1:E:192:LEU:HD13	1:E:197:ASN:HB2	1.85	0.57
1:H:160:THR:HA	1:H:163:ARG:HH11	1.67	0.57
1:N:180:ARG:HG2	1:N:188:TYR:CD2	2.40	0.57
1:N:204:LYS:O	1:N:205:PRO:C	2.42	0.57
1:N:172:ARG:HG2	1:N:173:THR:HG23	1.86	0.57
1:P:210:LYS:HE3	3:P:290:HOH:O	2.04	0.57
1:E:20:LYS:HD3	1:E:33:GLU:HB3	1.87	0.57
1:J:90:LEU:HD22	1:J:96:ARG:NH1	2.19	0.57
1:J:182:ARG:HH12	1:J:205:PRO:CB	2.16	0.56
1:N:130:GLN:HG3	1:N:130:GLN:O	2.05	0.56
1:G:246:LEU:O	1:G:250:LEU:HG	2.05	0.56
1:E:152:ILE:CG2	1:E:154:VAL:HG23	2.34	0.56
1:L:16:TYR:CG	1:L:89:PRO:HG3	2.39	0.56
1:H:130:GLN:HG2	1:H:131:THR:H	1.69	0.56
1:H:203:ARG:O	1:H:260:GLU:HB2	2.05	0.56
1:H:243:GLU:O	1:L:149:ARG:HD2	2.05	0.56
1:J:8:VAL:HG23	1:J:51:TYR:HB2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:182:ARG:HG2	1:J:207:ASP:OD2	2.05	0.56
1:P:119:THR:HG22	1:P:121:ILE:HG12	1.87	0.56
1:G:92:ILE:HG23	1:G:102:PHE:CD2	2.40	0.56
1:G:179:ALA:O	1:G:183:LYS:HD3	2.06	0.56
1:L:21:LYS:HD3	1:L:21:LYS:N	2.20	0.56
1:P:121:ILE:HD12	1:P:127:LEU:CD2	2.35	0.56
1:P:157:LYS:O	1:P:157:LYS:HD3	2.05	0.56
1:B:155:PHE:CE1	1:B:215:LEU:HD13	2.40	0.56
1:P:182:ARG:HH21	1:P:200:ILE:CG2	2.18	0.56
1:N:139:ASP:HB2	1:N:171:VAL:O	2.06	0.56
1:P:28:GLY:HA2	1:P:31:ARG:HH21	1.69	0.56
1:J:58:ASP:OD1	1:J:73:GLY:HA2	2.05	0.56
1:P:141:GLY:HA3	3:P:262:HOH:O	2.06	0.56
1:P:151:LYS:HE2	1:P:151:LYS:HA	1.88	0.56
1:L:155:PHE:HE1	1:L:215:LEU:HD13	1.68	0.56
1:L:166:GLU:CA	1:L:167:PRO:C	2.73	0.56
1:P:109:LEU:CD2	1:P:219:GLY:HA2	2.36	0.56
1:J:138:LEU:HD22	2:J:804:VBP:H15	1.87	0.56
1:N:144:LYS:C	1:N:144:LYS:HE2	2.27	0.56
1:B:20:LYS:HE2	1:B:30:GLU:O	2.06	0.55
1:G:156:ASP:O	1:G:160:THR:HG23	2.05	0.55
1:B:115:ILE:C	1:B:115:ILE:HD12	2.27	0.55
1:H:196:MET:HE2	2:H:806:VBP:H10	1.87	0.55
1:G:148:ARG:HG3	1:G:149:ARG:HG3	1.88	0.55
1:H:148:ARG:NH2	3:H:269:HOH:O	2.32	0.55
1:J:155:PHE:HE1	1:J:215:LEU:HD22	1.70	0.55
1:J:192:LEU:N	1:J:192:LEU:HD12	2.20	0.55
1:P:82:LYS:HA	1:P:82:LYS:HZ2	1.71	0.55
1:G:183:LYS:HD2	1:G:183:LYS:N	2.21	0.55
1:N:24:GLU:CD	1:N:24:GLU:H	2.10	0.55
1:G:122:GLU:O	1:G:211:VAL:HG22	2.06	0.55
1:B:193:GLU:H	2:B:807:VBP:H13	1.71	0.55
1:B:16:TYR:CG	1:B:89:PRO:HG3	2.42	0.55
1:B:140:SER:HA	1:B:144:LYS:CE	2.36	0.55
1:L:172:ARG:HB2	1:L:172:ARG:NH1	2.22	0.55
1:H:19:MET:HG3	3:P:281:HOH:O	2.05	0.55
1:L:100:ILE:HD11	1:L:102:PHE:CE2	2.42	0.55
1:L:166:GLU:HB2	1:L:168:SER:N	2.22	0.55
1:P:125:GLU:C	1:P:127:LEU:H	2.09	0.55
1:B:136:GLY:O	1:B:191:LEU:HD13	2.06	0.55
1:H:138:LEU:HD22	2:H:806:VBP:H15	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:136:GLY:HA3	1:J:169:VAL:O	2.06	0.55
1:L:147:PHE:CZ	1:L:191:LEU:HD13	2.41	0.55
1:N:247:LEU:HB2	3:N:276:HOH:O	2.07	0.55
1:P:121:ILE:HD12	1:P:127:LEU:HD23	1.88	0.55
1:P:192:LEU:N	1:P:192:LEU:HD12	2.20	0.55
1:P:195:THR:HG21	1:P:220:TYR:HE2	1.71	0.55
1:B:122:GLU:HA	1:B:211:VAL:CG2	2.35	0.55
1:B:192:LEU:HD13	1:B:197:ASN:HB2	1.89	0.55
1:H:115:ILE:HD12	1:H:115:ILE:O	2.07	0.55
1:L:205:PRO:O	1:L:207:ASP:N	2.40	0.55
1:P:208:THR:O	1:P:209:MET:HB2	2.06	0.55
1:H:193:GLU:H	2:H:806:VBP:H13	1.72	0.55
1:H:201:GLU:HG3	1:H:209:MET:HA	1.89	0.55
1:B:95:VAL:HB	1:E:64:ARG:HH21	1.71	0.54
1:N:115:ILE:CD1	1:N:211:VAL:HG11	2.36	0.54
1:G:180:ARG:HD2	1:G:188:TYR:CE2	2.41	0.54
1:N:16:TYR:HA	1:N:35:TYR:HB3	1.89	0.54
1:G:39:LEU:O	1:G:43:ILE:HG12	2.07	0.54
1:E:226:LYS:HE3	3:P:285:HOH:O	2.08	0.54
1:L:121:ILE:O	1:L:121:ILE:HD12	2.08	0.54
1:L:194:SER:O	1:L:198:GLU:HG3	2.08	0.54
1:P:182:ARG:NH1	1:P:205:PRO:HB2	2.23	0.54
1:G:148:ARG:NH1	1:G:148:ARG:HB2	2.22	0.54
1:N:185:LYS:N	1:N:185:LYS:HD2	2.23	0.54
1:H:109:LEU:N	1:H:109:LEU:HD23	2.23	0.54
1:P:192:LEU:HD13	1:P:197:ASN:HB2	1.89	0.54
1:B:180:ARG:HG2	1:B:188:TYR:CD2	2.42	0.54
1:N:88:ALA:HB1	1:N:89:PRO:CD	2.38	0.54
1:P:115:ILE:HB	1:P:119:THR:CB	2.38	0.54
1:H:27:GLU:HG2	3:H:285:HOH:O	2.07	0.54
1:N:203:ARG:O	1:N:204:LYS:O	2.26	0.54
1:N:205:PRO:O	1:N:207:ASP:N	2.33	0.54
1:N:208:THR:O	1:N:209:MET:HB3	2.07	0.54
1:B:159:TRP:NE1	1:B:163:ARG:NH1	2.56	0.54
1:L:115:ILE:HG21	1:L:121:ILE:HD13	1.89	0.54
1:N:8:VAL:HG22	1:N:85:ILE:CG2	2.38	0.54
1:H:64:ARG:NH1	1:H:71:TRP:NE1	2.49	0.53
1:J:20:LYS:HG2	1:J:26:LEU:CD1	2.37	0.53
1:B:166:GLU:CD	1:B:166:GLU:H	2.11	0.53
1:H:156:ASP:HB3	3:H:289:HOH:O	2.07	0.53
1:L:97:GLU:OE2	1:L:102:PHE:HB2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:82:LYS:HA	1:P:82:LYS:HZ3	1.72	0.53
1:G:18:MET:N	1:G:33:GLU:O	2.32	0.53
1:N:121:ILE:HD13	1:N:127:LEU:HD21	1.91	0.53
1:G:159:TRP:HE1	1:G:163:ARG:HH11	1.57	0.53
1:L:187:LYS:HZ2	1:L:188:TYR:HB3	1.72	0.53
1:G:92:ILE:HG12	1:G:102:PHE:CG	2.44	0.53
1:B:90:LEU:HD22	1:B:96:ARG:NH1	2.23	0.53
1:J:65:ASP:O	1:J:69:LYS:HA	2.09	0.53
1:N:119:THR:HG23	1:N:133:ILE:HD13	1.90	0.53
1:P:62:GLY:HA3	1:P:75:VAL:HG23	1.91	0.53
1:P:125:GLU:C	1:P:127:LEU:N	2.62	0.53
1:E:100:ILE:HD11	1:E:102:PHE:CE2	2.44	0.53
1:H:118:GLY:HA2	1:N:30:GLU:CG	2.39	0.53
1:H:192:LEU:HD13	1:H:197:ASN:HB2	1.91	0.53
1:N:20:LYS:O	1:N:23:HIS:HB3	2.07	0.53
1:G:94:LEU:HD12	1:J:236:LEU:HD22	1.91	0.53
1:N:237:ALA:O	1:N:241:LEU:HG	2.09	0.53
1:G:197:ASN:HD22	1:G:210:LYS:HG3	1.73	0.52
1:E:246:LEU:O	1:E:250:LEU:HG	2.09	0.52
1:B:62:GLY:HA2	1:B:72:ASN:O	2.09	0.52
1:E:64:ARG:NH1	1:E:71:TRP:NE1	2.57	0.52
1:E:127:LEU:HB3	1:E:135:TYR:CE2	2.44	0.52
1:J:21:LYS:HD3	1:J:21:LYS:N	2.10	0.52
1:P:89:PRO:HB2	2:P:805:VBP:H05	1.91	0.52
1:H:17:VAL:C	1:H:18:MET:HG3	2.28	0.52
1:L:36:CYS:SG	1:L:88:ALA:HA	2.49	0.52
1:B:20:LYS:CE	1:B:30:GLU:O	2.57	0.52
1:N:125:GLU:HA	1:N:125:GLU:OE1	2.09	0.52
1:J:115:ILE:HD13	1:J:121:ILE:O	2.10	0.52
1:J:148:ARG:HG3	1:J:149:ARG:H	1.74	0.52
1:L:134:ALA:O	1:L:188:TYR:HA	2.10	0.52
1:N:20:LYS:HD3	1:N:33:GLU:HB3	1.90	0.52
1:H:115:ILE:HD12	1:H:115:ILE:C	2.30	0.52
1:G:20:LYS:NZ	1:G:30:GLU:HG2	2.25	0.52
1:B:110:GLY:HA3	1:B:214:ASN:HB3	1.91	0.52
1:H:144:LYS:HE3	1:H:148:ARG:HH21	1.73	0.52
1:L:46:HIS:HD2	1:L:240:LYS:HD2	1.75	0.52
1:P:180:ARG:O	1:P:180:ARG:HG2	2.10	0.52
1:P:199:TYR:CE1	1:P:203:ARG:NH1	2.77	0.52
1:P:232:ASN:HA	3:P:289:HOH:O	2.09	0.52
1:G:114:MET:HE2	1:G:178:VAL:HA	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:122:GLU:HG3	1:J:126:ASP:OD2	2.10	0.52
1:P:6:VAL:O	1:P:51:TYR:HA	2.09	0.52
1:G:201:GLU:HG2	1:G:201:GLU:O	2.09	0.52
1:P:109:LEU:HD23	1:P:219:GLY:HA2	1.91	0.52
1:B:112:SER:OG	1:B:194:SER:HA	2.10	0.52
1:H:173:THR:O	1:H:176:GLU:HB3	2.10	0.52
1:J:68:THR:HB	1:J:70:ILE:HG12	1.91	0.52
1:P:193:GLU:HG2	2:P:805:VBP:H13	1.92	0.52
1:H:24:GLU:HG2	1:H:25:MET:N	2.25	0.51
1:H:252:ASN:ND2	1:H:256:TYR:HB2	2.25	0.51
1:H:21:LYS:O	1:H:22:ASN:HB3	2.10	0.51
1:J:154:VAL:O	1:J:158:MET:HG3	2.11	0.51
1:N:200:ILE:HG22	1:N:208:THR:OG1	2.09	0.51
1:P:134:ALA:O	1:P:188:TYR:HA	2.11	0.51
1:E:11:ILE:HG12	1:E:12:LEU:N	2.25	0.51
1:P:113:ILE:HG12	1:P:191:LEU:HD21	1.92	0.51
1:G:191:LEU:HD12	1:G:191:LEU:N	2.25	0.51
1:L:134:ALA:N	1:L:187:LYS:O	2.41	0.51
1:N:16:TYR:CG	1:N:89:PRO:HG3	2.45	0.51
1:B:114:MET:HE2	1:B:178:VAL:HA	1.91	0.51
1:B:140:SER:HA	1:B:144:LYS:HZ3	1.73	0.51
1:H:109:LEU:HB2	1:H:194:SER:OG	2.10	0.51
1:N:171:VAL:HG22	1:N:176:GLU:HB3	1.93	0.51
1:N:121:ILE:HD13	1:N:127:LEU:HD23	1.92	0.51
1:E:22:ASN:ND2	1:E:22:ASN:N	2.59	0.51
1:E:130:GLN:OE1	1:E:132:GLU:N	2.44	0.51
1:H:234:VAL:O	1:H:238:VAL:HG23	2.11	0.51
1:P:196:MET:HE2	2:P:805:VBP:H10	1.93	0.51
1:B:19:MET:HB3	1:B:23:HIS:CD2	2.46	0.51
1:E:135:TYR:HB3	1:E:189:ALA:HB3	1.93	0.51
1:E:225:PRO:HD2	1:E:228:SER:HB2	1.93	0.51
1:J:56:VAL:HG13	1:J:59:GLY:HA2	1.92	0.51
1:J:117:LYS:HE3	3:J:279:HOH:O	2.11	0.51
1:L:111:ILE:CD1	1:L:143:THR:HA	2.40	0.51
1:B:89:PRO:HB2	2:B:807:VBP:C05	2.38	0.50
1:J:210:LYS:HE2	3:J:267:HOH:O	2.10	0.50
1:L:79:VAL:HG12	1:L:80:TYR:CD1	2.45	0.50
1:N:142:SER:HA	1:N:145:GLU:HB2	1.93	0.50
1:P:24:GLU:CD	1:P:24:GLU:H	2.14	0.50
1:B:159:TRP:HE1	1:B:163:ARG:NH1	2.08	0.50
1:E:153:ALA:O	1:E:154:VAL:C	2.49	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:130:GLN:HE21	1:H:131:THR:C	2.13	0.50
1:J:46:HIS:NE2	1:J:240:LYS:HD2	2.26	0.50
1:J:166:GLU:HA	1:J:167:PRO:O	2.12	0.50
1:J:180:ARG:HG2	1:J:188:TYR:CD2	2.46	0.50
1:B:95:VAL:HG13	3:B:270:HOH:O	2.11	0.50
1:B:144:LYS:HE3	1:B:148:ARG:NH1	2.25	0.50
1:J:114:MET:CE	1:J:178:VAL:HA	2.42	0.50
1:P:39:LEU:O	1:P:43:ILE:HG12	2.12	0.50
1:P:209:MET:HG2	1:P:210:LYS:O	2.11	0.50
1:B:92:ILE:HA	1:B:102:PHE:CZ	2.47	0.50
1:E:11:ILE:O	1:E:17:VAL:HG11	2.10	0.50
1:E:125:GLU:H	1:E:125:GLU:CD	2.13	0.50
1:G:127:LEU:HD22	1:G:135:TYR:CD2	2.47	0.50
1:E:64:ARG:HH12	1:E:71:TRP:HE1	1.59	0.50
1:L:180:ARG:HG2	1:L:188:TYR:CD2	2.46	0.50
1:N:129:LYS:O	1:N:131:THR:N	2.44	0.50
1:G:42:GLU:OE2	1:G:246:LEU:HD22	2.12	0.50
1:E:18:MET:HG2	1:E:33:GLU:O	2.11	0.50
1:E:90:LEU:HD23	1:E:96:ARG:NH1	2.27	0.50
1:E:161:TYR:CD1	1:E:161:TYR:C	2.85	0.50
1:G:88:ALA:HB1	1:G:89:PRO:CD	2.42	0.50
1:E:218:LYS:HD3	3:E:280:HOH:O	2.12	0.50
1:H:117:LYS:HG3	1:H:209:MET:CE	2.42	0.50
1:H:144:LYS:HD2	1:H:144:LYS:O	2.11	0.50
1:H:253:LYS:O	1:H:257:ASP:HB2	2.12	0.50
1:L:110:GLY:HA3	1:L:216:ASP:O	2.11	0.50
1:L:123:SER:HB3	1:L:126:ASP:OD1	2.12	0.50
1:L:204:LYS:O	1:L:205:PRO:C	2.50	0.50
1:E:32:TYR:HE2	3:E:287:HOH:O	1.94	0.50
1:H:143:THR:O	1:H:146:PHE:HB3	2.12	0.50
1:J:88:ALA:HB1	1:J:89:PRO:CD	2.42	0.50
1:E:196:MET:HG2	2:E:808:VBP:O08	2.12	0.49
1:H:130:GLN:OE1	1:H:133:ILE:HB	2.11	0.49
1:H:197:ASN:HD22	1:H:210:LYS:HG3	1.77	0.49
1:N:5:THR:HG22	1:N:5:THR:O	2.12	0.49
1:J:117:LYS:HG2	1:J:209:MET:HE3	1.93	0.49
1:L:103:SER:HB2	1:L:104:LYS:NZ	2.27	0.49
1:L:192:LEU:CD1	1:L:197:ASN:HB2	2.41	0.49
1:N:12:LEU:HD23	1:N:17:VAL:O	2.12	0.49
1:P:121:ILE:HG21	1:P:126:ASP:O	2.12	0.49
1:E:94:LEU:O	1:E:98:GLU:HG3	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:157:LYS:HE2	1:H:161:TYR:HE1	1.74	0.49
1:L:28:GLY:HA2	1:L:31:ARG:HH21	1.77	0.49
1:L:88:ALA:HB1	1:L:89:PRO:CD	2.43	0.49
1:L:216:ASP:OD2	1:L:218:LYS:HE3	2.12	0.49
1:P:172:ARG:HB2	1:P:172:ARG:HH11	1.78	0.49
1:P:210:LYS:NZ	1:P:210:LYS:HB3	2.28	0.49
1:B:117:LYS:HD3	1:B:209:MET:HE3	1.93	0.49
1:B:148:ARG:HG3	1:B:159:TRP:CZ2	2.47	0.49
1:J:222:ILE:HD12	1:J:222:ILE:N	2.28	0.49
1:L:160:THR:O	1:L:163:ARG:HG2	2.13	0.49
1:H:135:TYR:CB	1:H:189:ALA:HB3	2.42	0.49
1:J:185:LYS:N	1:J:185:LYS:CD	2.74	0.49
1:P:115:ILE:HG12	1:P:211:VAL:HG11	1.94	0.49
1:N:6:VAL:O	1:N:51:TYR:HA	2.13	0.49
1:N:65:ASP:O	1:N:69:LYS:HA	2.12	0.49
1:B:75:VAL:O	1:B:79:VAL:HG23	2.13	0.49
1:J:159:TRP:O	1:J:163:ARG:HB2	2.13	0.49
1:J:204:LYS:HB3	1:J:205:PRO:CD	2.38	0.49
1:B:171:VAL:HB	1:B:176:GLU:HG2	1.94	0.49
1:E:182:ARG:HG2	1:E:207:ASP:OD2	2.13	0.49
1:E:197:ASN:HD22	1:E:210:LYS:HG3	1.77	0.49
1:H:121:ILE:HD13	1:H:127:LEU:HG	1.94	0.49
1:N:94:LEU:O	1:N:98:GLU:HG3	2.13	0.49
1:N:108:SER:C	1:N:109:LEU:HD23	2.33	0.49
1:N:253:LYS:O	1:N:257:ASP:HB2	2.13	0.49
1:P:158:MET:O	1:P:162:MET:HG3	2.13	0.49
1:E:105:PRO:HA	1:E:220:TYR:O	2.13	0.49
1:E:244:GLN:HA	1:P:149:ARG:CD	2.43	0.49
1:H:99:VAL:O	1:H:226:LYS:HD3	2.13	0.49
1:H:122:GLU:OE1	1:H:126:ASP:OD2	2.31	0.49
1:J:148:ARG:HB2	1:J:148:ARG:NH1	2.26	0.49
1:B:95:VAL:CB	1:E:64:ARG:HH21	2.25	0.48
1:B:122:GLU:O	1:B:211:VAL:HG22	2.13	0.48
1:B:241:LEU:HD22	1:B:246:LEU:HD22	1.95	0.48
1:E:159:TRP:O	1:E:163:ARG:HB2	2.13	0.48
1:N:143:THR:HG21	3:N:266:HOH:O	2.13	0.48
1:P:114:MET:CE	1:P:208:THR:HG21	2.43	0.48
1:G:11:ILE:HG13	3:G:290:HOH:O	2.12	0.48
1:E:77:GLU:HG2	1:E:82:LYS:HB2	1.95	0.48
1:E:148:ARG:O	1:E:148:ARG:CG	2.61	0.48
1:L:100:ILE:HD12	1:L:100:ILE:C	2.33	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:97:GLU:HG3	1:P:97:GLU:O	2.13	0.48
1:P:125:GLU:O	1:P:127:LEU:N	2.46	0.48
1:G:36:CYS:SG	1:G:88:ALA:HA	2.53	0.48
1:E:137:THR:HG22	1:E:191:LEU:HB2	1.95	0.48
1:H:144:LYS:CE	1:H:148:ARG:NH2	2.76	0.48
1:J:27:GLU:OE1	1:J:27:GLU:HA	2.14	0.48
1:P:143:THR:HB	3:P:262:HOH:O	2.13	0.48
1:B:88:ALA:HB1	1:B:89:PRO:CD	2.43	0.48
1:H:163:ARG:NH1	1:H:163:ARG:HB2	2.27	0.48
1:H:249:LYS:HD3	1:L:151:LYS:HB3	1.95	0.48
1:J:200:ILE:HG22	1:J:208:THR:OG1	2.14	0.48
1:N:182:ARG:NH1	1:N:208:THR:HG23	2.29	0.48
1:N:193:GLU:H	2:N:802:VBP:H13	1.79	0.48
1:P:177:GLY:O	1:P:181:VAL:HG23	2.13	0.48
1:B:250:LEU:O	1:B:253:LYS:HB3	2.14	0.48
1:E:159:TRP:HA	1:E:159:TRP:CE3	2.49	0.48
1:H:162:MET:HB3	1:H:170:PHE:CZ	2.49	0.48
1:N:60:LYS:HB2	1:N:73:GLY:CA	2.44	0.48
1:P:203:ARG:HA	1:P:260:GLU:CG	2.43	0.48
1:G:237:ALA:O	1:G:241:LEU:HG	2.14	0.48
1:H:100:ILE:HD11	1:H:102:PHE:CE2	2.49	0.48
1:L:160:THR:HG22	1:L:163:ARG:HH12	1.78	0.48
1:B:199:TYR:O	1:B:203:ARG:HG2	2.14	0.48
1:B:237:ALA:O	1:B:241:LEU:HG	2.14	0.48
1:H:147:PHE:CZ	1:H:191:LEU:HD13	2.49	0.48
1:J:182:ARG:NH1	1:J:207:ASP:OD1	2.46	0.48
1:G:115:ILE:HD12	1:G:119:THR:HB	1.95	0.48
1:G:180:ARG:HD2	1:G:188:TYR:CE1	2.49	0.48
1:J:192:LEU:HD12	1:J:192:LEU:H	1.78	0.48
1:P:65:ASP:HB3	1:P:68:THR:OG1	2.14	0.48
1:J:197:ASN:ND2	1:J:210:LYS:HG3	2.29	0.48
1:P:182:ARG:HH12	1:P:205:PRO:HB2	1.79	0.48
1:B:68:THR:OG1	1:B:70:ILE:HB	2.13	0.47
1:E:234:VAL:O	1:E:237:ALA:HB3	2.14	0.47
1:E:247:LEU:HB2	3:E:286:HOH:O	2.14	0.47
1:H:181:VAL:O	1:H:181:VAL:CG1	2.62	0.47
1:H:196:MET:O	1:H:200:ILE:HG12	2.13	0.47
1:J:138:LEU:O	1:J:144:LYS:HB2	2.14	0.47
1:L:15:PRO:HD3	1:L:199:TYR:CD1	2.49	0.47
1:L:164:SER:O	1:L:165:ALA:CB	2.60	0.47
1:P:247:LEU:HB2	3:P:273:HOH:O	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:114:MET:CE	1:B:178:VAL:HA	2.44	0.47
1:E:127:LEU:HD22	1:E:135:TYR:CD2	2.49	0.47
1:L:147:PHE:CE2	1:L:191:LEU:HD13	2.49	0.47
1:P:113:ILE:HG12	1:P:191:LEU:CD2	2.44	0.47
1:P:133:ILE:HG23	1:P:187:LYS:C	2.34	0.47
1:H:192:LEU:CD1	1:H:197:ASN:HB2	2.45	0.47
1:H:249:LYS:HD3	1:L:151:LYS:CB	2.43	0.47
1:L:166:GLU:HA	1:L:167:PRO:O	2.13	0.47
1:N:144:LYS:HD3	3:N:262:HOH:O	2.15	0.47
1:B:62:GLY:HA3	1:B:75:VAL:CG2	2.43	0.47
1:H:115:ILE:HD13	1:H:119:THR:HB	1.95	0.47
1:G:182:ARG:NH1	1:G:205:PRO:HB2	2.29	0.47
1:E:13:GLU:HB3	1:E:16:TYR:HD2	1.79	0.47
1:J:16:TYR:HA	1:J:35:TYR:HB3	1.95	0.47
1:J:145:GLU:OE1	1:J:148:ARG:HD2	2.14	0.47
1:L:251:LYS:O	1:L:255:TRP:HB2	2.14	0.47
1:N:130:GLN:NE2	1:N:133:ILE:HG13	2.28	0.47
1:P:192:LEU:HD12	1:P:192:LEU:H	1.80	0.47
1:P:203:ARG:HA	1:P:260:GLU:HG3	1.96	0.47
1:G:77:GLU:HG2	1:G:82:LYS:HB2	1.97	0.47
1:B:11:ILE:O	1:B:17:VAL:CG1	2.62	0.47
1:B:97:GLU:O	1:B:97:GLU:HG3	2.13	0.47
1:E:7:VAL:HB	1:E:84:ASP:OD2	2.14	0.47
1:P:204:LYS:O	1:P:205:PRO:C	2.49	0.47
1:P:205:PRO:O	1:P:207:ASP:N	2.48	0.47
1:G:114:MET:CE	1:G:178:VAL:HA	2.44	0.47
1:G:117:LYS:HE2	1:G:209:MET:CE	2.34	0.47
1:G:130:GLN:HA	1:G:130:GLN:NE2	2.25	0.47
1:E:11:ILE:HG21	1:E:61:TYR:CE1	2.49	0.47
1:E:88:ALA:HB1	1:E:89:PRO:CD	2.39	0.47
1:J:5:THR:O	1:J:5:THR:HG23	2.15	0.47
1:J:105:PRO:HA	1:J:220:TYR:O	2.15	0.47
1:J:114:MET:HE3	1:J:178:VAL:HG13	1.96	0.47
1:J:171:VAL:HB	1:J:176:GLU:HB3	1.96	0.47
1:P:240:LYS:O	1:P:244:GLN:HG3	2.14	0.47
1:B:42:GLU:CD	1:B:246:LEU:HD21	2.35	0.47
1:E:63:ALA:N	1:E:72:ASN:OD1	2.43	0.47
1:E:147:PHE:CZ	1:E:191:LEU:HD13	2.49	0.47
1:J:113:ILE:HG22	1:J:115:ILE:HG23	1.97	0.47
1:J:137:THR:HG22	1:J:191:LEU:HB2	1.96	0.47
1:L:115:ILE:HG21	1:L:121:ILE:HD11	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:193:GLU:H	2:L:801:VBP:H13	1.80	0.47
1:N:11:ILE:O	1:N:17:VAL:HG13	2.15	0.47
1:N:130:GLN:HG2	1:N:133:ILE:HB	1.96	0.47
1:P:65:ASP:O	1:P:69:LYS:N	2.47	0.47
1:P:65:ASP:O	1:P:69:LYS:HA	2.15	0.47
1:P:100:ILE:HD12	1:P:100:ILE:O	2.15	0.47
1:P:130:GLN:HE21	1:P:132:GLU:HB3	1.80	0.47
1:B:172:ARG:NH1	1:B:172:ARG:CB	2.78	0.47
1:P:203:ARG:HD3	1:P:203:ARG:HA	1.70	0.47
1:J:62:GLY:HA3	1:J:75:VAL:HG23	1.97	0.47
1:J:99:VAL:HG23	1:J:100:ILE:HG23	1.96	0.47
1:G:115:ILE:HG22	1:G:121:ILE:HD11	1.98	0.46
1:G:182:ARG:HH12	1:G:205:PRO:HB2	1.80	0.46
1:N:113:ILE:HG22	1:N:115:ILE:HG23	1.96	0.46
1:N:182:ARG:NH1	1:N:207:ASP:OD1	2.48	0.46
1:P:75:VAL:O	1:P:79:VAL:HG23	2.14	0.46
1:B:172:ARG:CB	1:B:172:ARG:HH11	2.28	0.46
1:J:185:LYS:HD2	1:J:185:LYS:H	1.77	0.46
1:P:180:ARG:O	1:P:184:SER:HB3	2.15	0.46
1:B:155:PHE:CZ	1:B:215:LEU:HD22	2.50	0.46
1:E:22:ASN:HD22	1:E:22:ASN:N	1.96	0.46
1:E:241:LEU:HD22	1:E:246:LEU:HD22	1.98	0.46
1:N:51:TYR:CD2	1:N:51:TYR:N	2.83	0.46
1:B:133:ILE:HG23	1:B:187:LYS:HA	1.97	0.46
1:J:97:GLU:OE2	1:J:97:GLU:HA	2.16	0.46
1:N:42:GLU:HG3	1:N:246:LEU:CD2	2.45	0.46
1:P:130:GLN:HE21	1:P:130:GLN:HB3	1.57	0.46
1:N:61:TYR:CE1	2:N:802:VBP:H03A	2.50	0.46
1:G:68:THR:C	1:G:70:ILE:H	2.17	0.46
1:N:180:ARG:O	1:N:180:ARG:HG2	2.16	0.46
1:G:148:ARG:HB2	1:G:148:ARG:HH11	1.80	0.46
1:G:192:LEU:HD13	1:G:197:ASN:HB2	1.98	0.46
1:B:115:ILE:HD12	1:B:115:ILE:O	2.16	0.46
1:E:148:ARG:HA	1:E:159:TRP:CD1	2.51	0.46
1:E:169:VAL:CA	1:E:180:ARG:HH12	2.29	0.46
1:J:147:PHE:CE2	1:J:191:LEU:HD13	2.51	0.46
1:J:182:ARG:NH1	1:J:205:PRO:CB	2.78	0.46
1:P:96:ARG:C	1:P:98:GLU:H	2.19	0.46
1:H:118:GLY:HA2	1:N:30:GLU:HG3	1.96	0.46
1:P:36:CYS:SG	1:P:88:ALA:HA	2.56	0.46
1:P:184:SER:O	1:P:186:GLY:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:67:ASP:O	1:G:69:LYS:HD3	2.16	0.46
1:J:64:ARG:NH1	1:J:64:ARG:HG3	2.30	0.46
1:L:136:GLY:HA3	1:L:169:VAL:O	2.16	0.46
1:L:144:LYS:NZ	1:L:148:ARG:NH2	2.64	0.46
1:N:92:ILE:HG12	1:N:102:PHE:CD1	2.51	0.46
1:N:144:LYS:HB3	1:N:144:LYS:HZ3	1.80	0.46
1:P:138:LEU:HD12	1:P:139:ASP:H	1.81	0.46
1:G:111:ILE:HD12	1:G:146:PHE:CD2	2.51	0.46
1:H:14:SER:CB	1:H:18:MET:HE3	2.46	0.46
1:N:60:LYS:HB2	1:N:73:GLY:HA2	1.97	0.46
1:P:100:ILE:HD12	1:P:100:ILE:C	2.36	0.46
1:H:121:ILE:HD12	1:H:122:GLU:N	2.31	0.45
1:N:137:THR:HB	3:N:266:HOH:O	2.16	0.45
1:P:62:GLY:HA3	1:P:75:VAL:CG2	2.46	0.45
1:P:137:THR:HG22	1:P:191:LEU:HB2	1.97	0.45
1:G:5:THR:N	3:G:262:HOH:O	2.49	0.45
1:B:211:VAL:O	1:B:211:VAL:HG13	2.16	0.45
1:E:111:ILE:O	1:E:214:ASN:HA	2.16	0.45
1:H:11:ILE:O	1:H:17:VAL:HG13	2.15	0.45
1:L:121:ILE:HA	1:L:126:ASP:HB3	1.98	0.45
1:B:125:GLU:OE1	1:B:125:GLU:N	2.39	0.45
1:B:173:THR:O	1:B:176:GLU:HB3	2.16	0.45
1:H:155:PHE:CE1	1:H:215:LEU:HD13	2.51	0.45
1:J:21:LYS:H	1:J:21:LYS:CE	2.26	0.45
1:L:172:ARG:NH1	1:L:172:ARG:CB	2.80	0.45
1:N:171:VAL:CG2	1:N:176:GLU:HB3	2.46	0.45
1:N:180:ARG:O	1:N:188:TYR:CD2	2.66	0.45
1:P:180:ARG:O	1:P:184:SER:CB	2.64	0.45
1:P:197:ASN:ND2	1:P:210:LYS:HA	2.31	0.45
1:G:229:SER:HB2	3:G:282:HOH:O	2.17	0.45
1:B:99:VAL:HG23	1:B:100:ILE:HG23	1.98	0.45
1:B:106:PHE:CD1	1:B:106:PHE:C	2.90	0.45
1:L:90:LEU:O	1:L:220:TYR:HA	2.15	0.45
1:P:8:VAL:HG22	1:P:85:ILE:CG2	2.47	0.45
1:B:196:MET:HA	1:B:196:MET:HE3	1.98	0.45
1:B:205:PRO:HG2	1:B:207:ASP:OD1	2.16	0.45
1:E:11:ILE:O	1:E:17:VAL:HG13	2.15	0.45
1:H:121:ILE:CG2	1:H:133:ILE:HD12	2.46	0.45
1:J:222:ILE:HD13	1:J:238:VAL:CG2	2.46	0.45
1:L:205:PRO:O	1:L:207:ASP:OD1	2.34	0.45
1:N:172:ARG:HB3	1:N:176:GLU:OE1	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:207:ASP:OD1	1:N:208:THR:HG23	2.17	0.45
1:E:147:PHE:C	1:E:149:ARG:H	2.20	0.45
1:E:171:VAL:HB	1:E:176:GLU:HB2	1.99	0.45
1:J:51:TYR:N	1:J:51:TYR:CD2	2.84	0.45
1:J:182:ARG:NH1	1:J:205:PRO:HB2	2.24	0.45
1:P:64:ARG:HG3	1:P:64:ARG:HH11	1.82	0.45
1:B:155:PHE:HE1	1:B:215:LEU:HD13	1.82	0.45
1:J:84:ASP:O	1:J:225:PRO:HD3	2.17	0.45
1:L:64:ARG:HB2	1:L:71:TRP:CE2	2.51	0.45
1:N:10:THR:O	1:N:55:ILE:HA	2.17	0.45
1:N:109:LEU:HD23	1:N:109:LEU:N	2.31	0.45
1:P:121:ILE:CB	1:P:126:ASP:HB3	2.47	0.45
1:G:159:TRP:O	1:G:163:ARG:CB	2.63	0.45
1:H:115:ILE:HB	1:H:119:THR:HB	1.98	0.45
1:J:117:LYS:HG2	1:J:209:MET:HE2	1.98	0.45
1:L:16:TYR:HA	1:L:35:TYR:HB3	1.99	0.45
1:P:64:ARG:HG3	1:P:64:ARG:NH1	2.30	0.45
1:G:19:MET:HG3	3:N:272:HOH:O	2.17	0.45
1:B:159:TRP:HE1	1:B:163:ARG:HH12	1.64	0.45
1:E:251:LYS:HD3	1:E:255:TRP:CE3	2.52	0.45
1:J:100:ILE:HD12	1:J:100:ILE:C	2.37	0.45
1:L:187:LYS:HZ2	1:L:188:TYR:CB	2.29	0.45
1:B:42:GLU:OE2	1:B:246:LEU:HD21	2.18	0.44
1:B:201:GLU:OE1	1:B:209:MET:HB2	2.16	0.44
1:E:124:ALA:O	1:E:127:LEU:N	2.50	0.44
1:H:180:ARG:C	1:H:182:ARG:H	2.20	0.44
1:L:116:LYS:HE3	1:L:207:ASP:HB2	1.98	0.44
1:L:122:GLU:HA	1:L:211:VAL:HG21	2.00	0.44
1:P:161:TYR:CD2	1:P:162:MET:N	2.86	0.44
1:P:195:THR:HG21	1:P:220:TYR:CE2	2.50	0.44
1:G:20:LYS:HZ2	1:G:30:GLU:HG2	1.81	0.44
1:G:85:ILE:HG13	1:G:224:THR:HG22	1.99	0.44
1:E:109:LEU:HD12	1:E:193:GLU:OE1	2.18	0.44
1:E:114:MET:CE	1:E:192:LEU:HD21	2.47	0.44
1:E:197:ASN:ND2	1:E:210:LYS:HA	2.32	0.44
1:J:11:ILE:HD11	1:J:59:GLY:O	2.17	0.44
1:J:34:GLY:HA2	1:J:254:TRP:CZ3	2.52	0.44
1:J:121:ILE:CD1	1:J:133:ILE:HD12	2.47	0.44
1:J:150:SER:HA	3:J:276:HOH:O	2.17	0.44
1:N:28:GLY:O	1:N:31:ARG:HG3	2.17	0.44
1:N:201:GLU:OE1	1:N:210:LYS:N	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:65:ASP:O	1:N:69:LYS:N	2.50	0.44
1:E:14:SER:HA	3:E:278:HOH:O	2.17	0.44
1:J:24:GLU:H	1:J:24:GLU:CD	2.20	0.44
1:J:137:THR:HB	1:J:143:THR:HG22	1.98	0.44
1:N:129:LYS:O	1:N:130:GLN:C	2.54	0.44
1:B:155:PHE:CZ	1:B:215:LEU:HB3	2.53	0.44
1:E:241:LEU:CD2	1:E:246:LEU:HD22	2.48	0.44
1:H:96:ARG:O	1:H:100:ILE:HG13	2.17	0.44
1:H:106:PHE:C	1:H:106:PHE:CD1	2.91	0.44
1:J:115:ILE:CD1	1:J:121:ILE:O	2.64	0.44
1:J:178:VAL:CG1	1:J:182:ARG:HE	2.28	0.44
1:P:113:ILE:HD13	1:P:127:LEU:CD1	2.47	0.44
1:P:169:VAL:HA	1:P:180:ARG:NH1	2.31	0.44
1:B:104:LYS:HG2	1:B:235:ASN:OD1	2.18	0.44
1:E:234:VAL:O	1:E:238:VAL:HG23	2.17	0.44
1:H:68:THR:O	1:H:70:ILE:HG13	2.18	0.44
1:J:121:ILE:HG12	1:J:127:LEU:HD23	1.98	0.44
1:J:179:ALA:HA	1:J:182:ARG:HD2	1.99	0.44
1:J:69:LYS:HB2	1:J:69:LYS:HZ3	1.80	0.44
1:J:73:GLY:O	1:J:77:GLU:HG2	2.17	0.44
1:L:161:TYR:HD2	1:L:162:MET:HG3	1.83	0.44
1:P:109:LEU:HD23	1:P:109:LEU:N	2.32	0.44
1:P:130:GLN:NE2	1:P:132:GLU:HB3	2.32	0.44
1:P:204:LYS:CB	1:P:205:PRO:CD	2.87	0.44
1:E:162:MET:HB3	1:E:170:PHE:CZ	2.53	0.44
1:E:197:ASN:ND2	1:E:210:LYS:HG3	2.33	0.44
1:H:122:GLU:HB3	1:H:211:VAL:HG21	1.99	0.44
1:J:74:MET:O	1:J:77:GLU:HB2	2.18	0.44
1:J:152:ILE:N	1:J:152:ILE:HD12	2.32	0.44
1:N:183:LYS:O	1:N:185:LYS:HD2	2.18	0.44
1:P:38:ASP:HB3	1:P:250:LEU:HD11	1.99	0.44
1:H:20:LYS:CE	1:H:30:GLU:O	2.66	0.44
1:H:107:MET:HE1	1:H:251:LYS:HG2	2.00	0.44
1:L:196:MET:HE2	1:L:200:ILE:HG12	1.99	0.44
1:P:136:GLY:HA2	1:P:162:MET:SD	2.58	0.44
1:G:179:ALA:O	1:G:183:LYS:CD	2.66	0.43
1:B:165:ALA:HB2	3:B:290:HOH:O	2.17	0.43
1:E:185:LYS:HB3	1:E:186:GLY:H	1.68	0.43
1:E:193:GLU:H	2:E:808:VBP:H13	1.82	0.43
1:N:9:THR:O	1:N:86:ALA:HA	2.18	0.43
1:G:68:THR:C	1:G:70:ILE:N	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:155:PHE:CZ	1:G:215:LEU:HD22	2.52	0.43
1:B:136:GLY:HA3	1:B:169:VAL:O	2.18	0.43
1:N:114:MET:CE	1:N:192:LEU:HD21	2.48	0.43
1:P:60:LYS:HD3	1:P:72:ASN:ND2	2.33	0.43
1:P:260:GLU:O	1:P:261:CYS:SG	2.76	0.43
1:G:11:ILE:HG12	1:G:12:LEU:N	2.33	0.43
1:B:14:SER:HB2	3:B:279:HOH:O	2.17	0.43
1:B:56:VAL:HG13	1:B:59:GLY:HA2	2.01	0.43
1:B:115:ILE:HG22	1:B:121:ILE:HD11	2.00	0.43
1:E:12:LEU:HD13	1:E:55:ILE:CD1	2.48	0.43
1:H:94:LEU:O	1:H:98:GLU:HG3	2.17	0.43
1:H:201:GLU:CG	1:H:209:MET:HA	2.48	0.43
1:J:143:THR:HB	3:J:288:HOH:O	2.19	0.43
1:P:137:THR:HB	1:P:143:THR:HG22	2.00	0.43
1:L:125:GLU:C	1:L:127:LEU:N	2.70	0.43
1:G:121:ILE:HD13	1:G:127:LEU:HD21	1.99	0.43
1:B:67:ASP:OD2	1:B:68:THR:HG23	2.18	0.43
1:H:121:ILE:HG23	1:H:133:ILE:CD1	2.46	0.43
1:H:153:ALA:O	1:H:154:VAL:C	2.57	0.43
1:J:113:ILE:N	3:J:287:HOH:O	2.48	0.43
1:G:16:TYR:CG	1:G:89:PRO:HG3	2.53	0.43
1:G:193:GLU:CD	1:G:218:LYS:HZ2	2.18	0.43
1:E:47:CYS:SG	1:E:233:ALA:HB1	2.58	0.43
1:H:11:ILE:HG12	1:H:12:LEU:N	2.33	0.43
1:H:100:ILE:HD13	1:H:223:ALA:HB1	1.99	0.43
1:J:119:THR:HA	1:J:120:PRO:HD3	1.84	0.43
1:L:159:TRP:CE3	1:L:159:TRP:HA	2.54	0.43
1:G:11:ILE:CG1	1:G:12:LEU:N	2.82	0.43
1:B:94:LEU:O	1:B:98:GLU:HG3	2.17	0.43
1:B:143:THR:HG21	1:B:191:LEU:O	2.19	0.43
1:E:115:ILE:CG2	1:E:121:ILE:HD11	2.49	0.43
1:E:183:LYS:HB2	1:E:183:LYS:HZ2	1.83	0.43
1:J:20:LYS:HB2	1:J:31:ARG:C	2.39	0.43
1:L:184:SER:HB2	1:L:187:LYS:NZ	2.33	0.43
1:N:143:THR:O	1:N:146:PHE:HB3	2.18	0.43
1:N:253:LYS:HE2	1:N:258:LYS:HZ3	1.84	0.43
1:G:236:LEU:HD22	1:J:94:LEU:CD1	2.49	0.43
1:E:116:LYS:NZ	1:E:185:LYS:HA	2.32	0.43
1:E:159:TRP:HA	1:E:159:TRP:HE3	1.82	0.43
1:H:20:LYS:HZ2	1:H:30:GLU:HG2	1.84	0.43
1:H:144:LYS:NZ	1:H:148:ARG:NH2	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:5:THR:N	3:J:291:HOH:O	2.51	0.43
1:N:130:GLN:HE21	1:N:132:GLU:CB	2.25	0.43
1:P:193:GLU:HG2	2:P:805:VBP:C13	2.48	0.43
1:G:64:ARG:HG3	1:G:71:TRP:CE2	2.54	0.43
1:G:122:GLU:HA	1:G:211:VAL:CG2	2.41	0.43
1:B:10:THR:OG1	1:B:11:ILE:N	2.48	0.43
1:B:84:ASP:O	1:B:85:ILE:HB	2.18	0.43
1:L:37:VAL:HG13	1:L:53:LEU:HD11	2.00	0.43
1:N:130:GLN:HE21	1:N:133:ILE:N	2.16	0.43
1:P:197:ASN:HD21	1:P:210:LYS:HA	1.84	0.43
1:B:92:ILE:HG12	1:B:102:PHE:CG	2.54	0.42
1:E:115:ILE:HG22	1:E:121:ILE:HD11	2.00	0.42
1:E:161:TYR:O	1:E:165:ALA:HB2	2.18	0.42
1:E:180:ARG:HD3	1:E:188:TYR:CE2	2.54	0.42
1:H:40:ALA:HA	1:H:87:ILE:HD13	2.01	0.42
1:H:172:ARG:HG2	1:H:173:THR:N	2.34	0.42
1:H:250:LEU:O	1:H:253:LYS:HB3	2.19	0.42
1:L:55:ILE:O	1:L:56:VAL:C	2.58	0.42
1:N:65:ASP:HB3	1:N:68:THR:OG1	2.18	0.42
1:N:100:ILE:C	1:N:100:ILE:HD12	2.40	0.42
1:P:12:LEU:HD22	1:P:18:MET:HA	2.00	0.42
1:B:171:VAL:HB	1:B:176:GLU:CG	2.48	0.42
1:H:118:GLY:HA2	1:N:30:GLU:HG2	2.01	0.42
1:H:184:SER:O	1:H:186:GLY:N	2.53	0.42
1:P:250:LEU:HD23	1:P:250:LEU:HA	1.78	0.42
1:J:12:LEU:HD12	1:J:17:VAL:O	2.20	0.42
1:J:16:TYR:CE1	1:J:255:TRP:HH2	2.37	0.42
1:J:116:LYS:HG3	1:J:207:ASP:O	2.19	0.42
1:P:16:TYR:CE1	1:P:89:PRO:HG3	2.54	0.42
1:P:96:ARG:C	1:P:98:GLU:N	2.73	0.42
1:P:181:VAL:HG22	1:P:188:TYR:O	2.18	0.42
1:E:145:GLU:O	1:E:146:PHE:C	2.58	0.42
1:J:60:LYS:HB2	1:J:73:GLY:CA	2.50	0.42
1:L:21:LYS:HG2	1:L:22:ASN:N	2.33	0.42
1:P:88:ALA:HB1	1:P:89:PRO:CD	2.49	0.42
1:P:114:MET:HE2	1:P:208:THR:HG21	2.01	0.42
1:G:130:GLN:HG3	1:G:131:THR:H	1.84	0.42
1:B:203:ARG:NH1	1:B:258:LYS:O	2.52	0.42
1:L:11:ILE:HG21	1:L:61:TYR:CE1	2.54	0.42
1:E:100:ILE:HD13	1:E:223:ALA:CB	2.50	0.42
1:H:11:ILE:HG21	1:H:61:TYR:CE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:100:ILE:HD12	1:H:100:ILE:C	2.39	0.42
1:J:68:THR:CB	1:J:70:ILE:HG12	2.49	0.42
1:N:122:GLU:HA	1:N:211:VAL:CG2	2.49	0.42
1:P:125:GLU:N	1:P:125:GLU:OE2	2.52	0.42
1:P:159:TRP:O	1:P:160:THR:C	2.57	0.42
1:P:216:ASP:OD2	1:P:218:LYS:HD2	2.20	0.42
1:B:24:GLU:OE1	1:B:24:GLU:N	2.43	0.42
1:E:172:ARG:N	1:E:176:GLU:OE2	2.42	0.42
1:E:210:LYS:NZ	1:E:210:LYS:HB3	2.34	0.42
1:G:196:MET:HA	1:G:196:MET:CE	2.50	0.42
1:B:116:LYS:O	1:B:117:LYS:C	2.58	0.42
1:L:8:VAL:HG13	1:L:85:ILE:HG23	2.02	0.42
1:G:104:LYS:NZ	1:J:102:PHE:O	2.36	0.42
1:E:192:LEU:CD1	1:E:197:ASN:HB2	2.48	0.42
1:H:11:ILE:O	1:H:17:VAL:CG1	2.68	0.42
1:J:64:ARG:HG3	1:J:64:ARG:HH11	1.83	0.42
1:L:119:THR:HA	1:L:120:PRO:HD3	1.86	0.42
1:L:144:LYS:NZ	1:L:148:ARG:HH21	2.18	0.42
1:N:90:LEU:O	1:N:220:TYR:HA	2.19	0.42
1:P:16:TYR:CG	1:P:89:PRO:HG3	2.55	0.42
1:P:79:VAL:HG22	1:P:99:VAL:CG1	2.50	0.42
1:G:94:LEU:O	1:G:98:GLU:HG3	2.19	0.42
1:G:246:LEU:O	1:G:249:LYS:HB3	2.19	0.42
1:B:119:THR:HG22	1:B:121:ILE:H	1.85	0.42
1:E:110:GLY:O	1:E:194:SER:N	2.38	0.42
1:H:20:LYS:C	1:H:22:ASN:H	2.22	0.42
1:H:116:LYS:HG3	1:H:185:LYS:O	2.18	0.42
1:H:201:GLU:O	1:H:201:GLU:HG2	2.20	0.42
1:J:193:GLU:H	2:J:804:VBP:H13	1.84	0.42
1:G:10:THR:O	1:G:56:VAL:HG12	2.20	0.41
1:B:246:LEU:O	1:B:249:LYS:HB3	2.21	0.41
1:E:116:LYS:O	1:E:117:LYS:C	2.58	0.41
1:H:46:HIS:CE1	1:H:241:LEU:HD21	2.54	0.41
1:H:88:ALA:O	1:H:90:LEU:N	2.52	0.41
1:H:171:VAL:HB	1:H:176:GLU:OE2	2.20	0.41
1:L:234:VAL:O	1:L:237:ALA:HB3	2.20	0.41
1:G:11:ILE:O	1:G:17:VAL:HG13	2.21	0.41
1:G:116:LYS:O	1:G:117:LYS:C	2.58	0.41
1:G:134:ALA:O	1:G:188:TYR:HA	2.20	0.41
1:G:141:GLY:O	1:G:142:SER:C	2.58	0.41
1:B:19:MET:HE3	1:B:19:MET:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:20:LYS:HB3	1:E:22:ASN:ND2	2.35	0.41
1:H:121:ILE:C	1:H:122:GLU:HG3	2.41	0.41
1:H:214:ASN:N	1:H:214:ASN:HD22	2.17	0.41
1:J:93:THR:OG1	1:J:96:ARG:HD2	2.20	0.41
1:N:119:THR:HA	1:N:120:PRO:HD3	1.82	0.41
1:N:127:LEU:O	1:N:128:SER:C	2.58	0.41
1:N:167:PRO:O	1:N:168:SER:C	2.58	0.41
1:B:92:ILE:HG12	1:B:102:PHE:CD1	2.56	0.41
1:B:166:GLU:CD	1:B:166:GLU:N	2.73	0.41
1:E:190:TYR:CD2	1:E:192:LEU:HG	2.55	0.41
1:L:21:LYS:CD	1:L:21:LYS:N	2.82	0.41
1:N:97:GLU:O	1:N:97:GLU:HG3	2.19	0.41
1:G:121:ILE:CD1	1:G:127:LEU:HD21	2.50	0.41
1:G:127:LEU:O	1:G:130:GLN:HB3	2.21	0.41
1:G:193:GLU:H	2:G:803:VBP:H13	1.84	0.41
1:N:122:GLU:HA	1:N:211:VAL:HG21	2.02	0.41
1:P:137:THR:HB	1:P:143:THR:CG2	2.50	0.41
1:B:15:PRO:HB3	1:B:199:TYR:CE1	2.55	0.41
1:B:113:ILE:C	1:B:197:ASN:HD21	2.23	0.41
1:L:121:ILE:HG22	1:L:126:ASP:C	2.41	0.41
1:N:62:GLY:HA3	1:N:75:VAL:CG2	2.51	0.41
1:P:20:LYS:NZ	1:P:30:GLU:O	2.45	0.41
1:B:109:LEU:HB2	1:B:194:SER:OG	2.20	0.41
1:E:60:LYS:HD2	1:E:72:ASN:ND2	2.36	0.41
1:E:143:THR:O	1:E:146:PHE:HB3	2.20	0.41
1:H:15:PRO:HA	1:H:18:MET:CE	2.43	0.41
1:H:125:GLU:OE1	1:H:125:GLU:N	2.38	0.41
1:L:204:LYS:HG2	1:L:260:GLU:OE1	2.21	0.41
1:N:138:LEU:HD12	1:N:138:LEU:HA	1.95	0.41
1:G:15:PRO:HA	1:G:18:MET:SD	2.60	0.41
1:G:65:ASP:HB3	1:G:68:THR:HG23	2.03	0.41
1:G:119:THR:CG2	1:G:121:ILE:HG12	2.50	0.41
1:G:209:MET:HE3	1:G:209:MET:HB3	1.93	0.41
1:B:65:ASP:HB3	1:B:68:THR:OG1	2.20	0.41
1:B:95:VAL:HG12	1:E:69:LYS:HB3	2.03	0.41
1:E:148:ARG:O	1:E:148:ARG:HG3	2.21	0.41
1:H:85:ILE:HD11	1:H:222:ILE:HG21	2.02	0.41
1:H:169:VAL:HA	1:H:180:ARG:HH22	1.85	0.41
1:P:55:ILE:O	1:P:56:VAL:C	2.59	0.41
1:P:171:VAL:HB	1:P:176:GLU:CB	2.46	0.41
1:B:95:VAL:CG1	1:E:69:LYS:HB3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:109:LEU:N	1:J:109:LEU:HD23	2.35	0.41
1:L:62:GLY:HA3	1:L:75:VAL:HG23	2.03	0.41
1:N:136:GLY:HA2	1:N:162:MET:HE2	2.03	0.41
1:N:177:GLY:O	1:N:181:VAL:HG23	2.21	0.41
1:G:130:GLN:CG	1:G:131:THR:N	2.83	0.41
1:G:204:LYS:O	1:G:205:PRO:C	2.56	0.41
1:G:205:PRO:O	1:G:207:ASP:OD1	2.39	0.41
1:B:256:TYR:O	1:B:257:ASP:C	2.59	0.41
1:E:16:TYR:HB3	1:E:36:CYS:SG	2.61	0.41
1:E:148:ARG:HB2	1:E:159:TRP:CE2	2.55	0.41
1:E:192:LEU:N	1:E:192:LEU:HD12	2.36	0.41
1:H:88:ALA:HB1	1:H:89:PRO:CD	2.45	0.41
1:H:211:VAL:O	1:H:211:VAL:HG13	2.20	0.41
1:J:21:LYS:CD	1:J:21:LYS:N	2.63	0.41
1:J:155:PHE:O	1:J:158:MET:HB2	2.21	0.41
1:L:130:GLN:NE2	1:L:132:GLU:HB3	2.19	0.41
1:L:161:TYR:O	1:L:164:SER:O	2.38	0.41
1:L:187:LYS:HE3	1:L:187:LYS:C	2.39	0.41
1:N:96:ARG:O	1:N:100:ILE:HG13	2.20	0.41
1:P:115:ILE:HD12	1:P:119:THR:HB	2.03	0.41
1:G:148:ARG:HB3	1:G:159:TRP:CZ2	2.55	0.41
1:E:110:GLY:HA3	1:E:214:ASN:HB3	2.03	0.41
1:E:199:TYR:CE1	1:E:203:ARG:NE	2.89	0.41
1:J:68:THR:O	1:J:69:LYS:HB3	2.20	0.41
1:J:201:GLU:HG3	1:J:209:MET:HA	2.02	0.41
1:L:159:TRP:O	1:L:160:THR:C	2.60	0.41
1:N:34:GLY:HA2	1:N:254:TRP:CZ3	2.56	0.41
1:N:204:LYS:CB	1:N:205:PRO:CD	2.77	0.41
1:P:144:LYS:HZ2	1:P:159:TRP:HH2	1.69	0.41
1:G:250:LEU:O	1:G:253:LYS:HB3	2.22	0.40
1:E:85:ILE:HD11	1:E:222:ILE:CG2	2.51	0.40
1:E:164:SER:O	1:E:165:ALA:HB2	2.21	0.40
1:H:198:GLU:O	1:H:199:TYR:C	2.59	0.40
1:H:203:ARG:HB3	1:H:204:LYS:H	1.65	0.40
1:L:8:VAL:HG23	1:L:51:TYR:HB2	2.02	0.40
1:L:79:VAL:HG12	1:L:80:TYR:CE1	2.56	0.40
1:L:119:THR:HG22	1:L:121:ILE:HG13	2.03	0.40
1:L:131:THR:O	1:L:132:GLU:C	2.59	0.40
1:P:90:LEU:O	1:P:220:TYR:HA	2.21	0.40
1:P:119:THR:HG22	1:P:121:ILE:CG1	2.51	0.40
1:P:192:LEU:CD1	1:P:197:ASN:HB2	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:201:GLU:CG	1:P:209:MET:HA	2.50	0.40
1:B:67:ASP:OD2	1:B:67:ASP:N	2.53	0.40
1:J:89:PRO:HB2	2:J:804:VBP:C05	2.44	0.40
1:P:180:ARG:HD2	1:P:188:TYR:CE2	2.55	0.40
1:G:146:PHE:O	1:G:150:SER:HB2	2.22	0.40
1:B:5:THR:N	3:B:262:HOH:O	2.54	0.40
1:B:201:GLU:HG2	1:B:202:GLN:NE2	2.36	0.40
1:J:201:GLU:OE1	1:J:210:LYS:N	2.48	0.40
1:L:253:LYS:HA	1:L:257:ASP:HB2	2.02	0.40
1:P:133:ILE:HG23	1:P:187:LYS:O	2.21	0.40
1:B:64:ARG:HG3	1:B:71:TRP:CZ2	2.56	0.40
1:H:244:GLN:O	1:L:149:ARG:HG2	2.20	0.40
1:J:20:LYS:HG2	1:J:26:LEU:HD12	2.04	0.40
1:J:204:LYS:O	1:J:205:PRO:C	2.60	0.40
1:L:166:GLU:HB2	1:L:167:PRO:CA	2.52	0.40
1:N:11:ILE:O	1:N:17:VAL:CG1	2.69	0.40
1:N:228:SER:OG	1:N:230:LEU:HD12	2.21	0.40
1:G:107:MET:HG2	1:G:108:SER:N	2.36	0.40
1:G:193:GLU:HG2	2:G:803:VBP:C13	2.51	0.40
1:E:89:PRO:HB2	2:E:808:VBP:H05	2.04	0.40
1:H:130:GLN:HE22	1:H:133:ILE:N	2.17	0.40
1:N:39:LEU:O	1:N:43:ILE:HG12	2.20	0.40
1:N:49:PHE:CD1	1:N:49:PHE:C	2.95	0.40
1:N:127:LEU:O	1:N:129:LYS:N	2.55	0.40
1:N:136:GLY:HA2	1:N:162:MET:CE	2.51	0.40
1:P:5:THR:N	3:P:283:HOH:O	2.54	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	B	255/258 (99%)	227 (89%)	23 (9%)	5 (2%)	6	21
1	E	255/258 (99%)	222 (87%)	20 (8%)	13 (5%)	1	5
1	G	255/258 (99%)	223 (88%)	27 (11%)	5 (2%)	6	21
1	H	255/258 (99%)	211 (83%)	35 (14%)	9 (4%)	3	10
1	J	255/258 (99%)	228 (89%)	19 (8%)	8 (3%)	3	12
1	L	255/258 (99%)	212 (83%)	32 (12%)	11 (4%)	2	7
1	N	255/258 (99%)	220 (86%)	23 (9%)	12 (5%)	2	6
1	P	255/258 (99%)	206 (81%)	37 (14%)	12 (5%)	2	6
All	All	2040/2064 (99%)	1749 (86%)	216 (11%)	75 (4%)	2	9

All (75) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	205	PRO
1	G	206	CYS
1	B	163	ARG
1	E	14	SER
1	E	185	LYS
1	E	204	LYS
1	E	205	PRO
1	E	206	CYS
1	H	22	ASN
1	H	122	GLU
1	H	153	ALA
1	J	130	GLN
1	J	204	LYS
1	L	184	SER
1	L	204	LYS
1	L	205	PRO
1	L	206	CYS
1	N	130	GLN
1	N	204	LYS
1	N	205	PRO
1	N	206	CYS
1	P	153	ALA
1	P	165	ALA
1	P	204	LYS
1	P	205	PRO
1	G	204	LYS
1	B	66	ALA

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Mol	Chain	Res	Type
1	E	148	ARG
1	E	184	SER
1	J	120	PRO
1	J	128	SER
1	L	153	ALA
1	N	153	ALA
1	N	168	SER
1	P	206	CYS
1	G	153	ALA
1	B	153	ALA
1	E	15	PRO
1	H	172	ARG
1	H	185	LYS
1	J	21	LYS
1	N	128	SER
1	P	132	GLU
1	B	134	ALA
1	E	46	HIS
1	E	122	GLU
1	E	168	SER
1	H	132	GLU
1	H	168	SER
1	L	117	LYS
1	L	167	PRO
1	L	185	LYS
1	P	120	PRO
1	P	185	LYS
1	P	209	MET
1	G	131	THR
1	L	122	GLU
1	L	231	GLY
1	N	209	MET
1	P	126	ASP
1	B	188	TYR
1	J	172	ARG
1	L	56	VAL
1	N	120	PRO
1	H	181	VAL
1	J	17	VAL
1	J	62	GLY
1	P	56	VAL
1	E	154	VAL

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Mol	Chain	Res	Type
1	P	231	GLY
1	N	48	GLY
1	N	56	VAL
1	N	62	GLY
1	H	95	VAL
1	E	167	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	B	216/217 (100%)	206 (95%)	10 (5%)	23	55
1	E	216/217 (100%)	207 (96%)	9 (4%)	25	58
1	G	216/217 (100%)	201 (93%)	15 (7%)	13	37
1	H	216/217 (100%)	199 (92%)	17 (8%)	10	30
1	J	216/217 (100%)	203 (94%)	13 (6%)	16	44
1	L	216/217 (100%)	200 (93%)	16 (7%)	11	33
1	N	216/217 (100%)	198 (92%)	18 (8%)	9	28
1	P	216/217 (100%)	204 (94%)	12 (6%)	17	47
All	All	1728/1736 (100%)	1618 (94%)	110 (6%)	14	41

All (110) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	17	VAL
1	G	45	LYS
1	G	60	LYS
1	G	67	ASP
1	G	68	THR
1	G	78	LEU
1	G	130	GLN
1	G	132	GLU
1	G	145	GLU

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Mol	Chain	Res	Type
1	G	148	ARG
1	G	174	THR
1	G	192	LEU
1	G	205	PRO
1	G	209	MET
1	G	246	LEU
1	B	17	VAL
1	B	18	MET
1	B	22	ASN
1	B	27	GLU
1	B	90	LEU
1	B	166	GLU
1	B	192	LEU
1	B	196	MET
1	B	209	MET
1	B	255	TRP
1	E	17	VAL
1	E	22	ASN
1	E	90	LEU
1	E	109	LEU
1	E	126	ASP
1	E	145	GLU
1	E	161	TYR
1	E	192	LEU
1	E	246	LEU
1	H	17	VAL
1	H	18	MET
1	H	24	GLU
1	H	67	ASP
1	H	95	VAL
1	H	122	GLU
1	H	126	ASP
1	H	130	GLN
1	H	144	LYS
1	H	163	ARG
1	H	173	THR
1	H	174	THR
1	H	192	LEU
1	H	204	LYS
1	H	226	LYS
1	H	246	LEU
1	H	252	ASN

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Mol	Chain	Res	Type
1	J	12	LEU
1	J	17	VAL
1	J	21	LYS
1	J	64	ARG
1	J	69	LYS
1	J	78	LEU
1	J	125	GLU
1	J	144	LYS
1	J	148	ARG
1	J	156	ASP
1	J	192	LEU
1	J	250	LEU
1	J	255	TRP
1	L	15	PRO
1	L	17	VAL
1	L	21	LYS
1	L	25	MET
1	L	104	LYS
1	L	109	LEU
1	L	129	LYS
1	L	144	LYS
1	L	169	VAL
1	L	187	LYS
1	L	192	LEU
1	L	205	PRO
1	L	235	ASN
1	L	244	GLN
1	L	248	ASP
1	L	255	TRP
1	N	17	VAL
1	N	23	HIS
1	N	67	ASP
1	N	78	LEU
1	N	109	LEU
1	N	126	ASP
1	N	131	THR
1	N	144	LYS
1	N	149	ARG
1	N	150	SER
1	N	161	TYR
1	N	171	VAL
1	N	174	THR

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Mol	Chain	Res	Type
1	N	192	LEU
1	N	205	PRO
1	N	224	THR
1	N	230	LEU
1	N	255	TRP
1	P	17	VAL
1	P	18	MET
1	P	64	ARG
1	P	82	LYS
1	P	90	LEU
1	P	95	VAL
1	P	109	LEU
1	P	174	THR
1	P	187	LYS
1	P	192	LEU
1	P	218	LYS
1	P	232	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	G	46	HIS
1	B	46	HIS
1	B	130	GLN
1	B	244	GLN
1	E	22	ASN
1	E	46	HIS
1	E	197	ASN
1	E	244	GLN
1	H	130	GLN
1	H	197	ASN
1	H	214	ASN
1	H	244	GLN
1	H	252	ASN
1	J	130	GLN
1	J	244	GLN
1	L	46	HIS
1	L	130	GLN
1	L	197	ASN
1	L	252	ASN
1	N	46	HIS
1	N	130	GLN

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Mol	Chain	Res	Type
1	N	197	ASN
1	N	244	GLN
1	P	46	HIS
1	P	130	GLN
1	P	197	ASN
1	P	232	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

8 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	VBP	L	801	-	24,25,25	6.69	19 (79%)	28,35,35	2.51	8 (28%)
2	VBP	N	802	-	24,25,25	6.52	19 (79%)	28,35,35	2.29	8 (28%)
2	VBP	P	805	-	24,25,25	6.85	20 (83%)	28,35,35	2.38	8 (28%)
2	VBP	J	804	-	24,25,25	6.69	19 (79%)	28,35,35	2.39	8 (28%)
2	VBP	E	808	-	24,25,25	6.81	19 (79%)	28,35,35	2.58	8 (28%)
2	VBP	H	806	-	24,25,25	6.53	19 (79%)	28,35,35	2.57	10 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	VBP	G	803	-	24,25,25	6.73	19 (79%)	28,35,35	2.49	8 (28%)
2	VBP	B	807	-	24,25,25	6.68	19 (79%)	28,35,35	2.41	8 (28%)

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	VBP	L	801	-	1/1/3/3	4/16/16/16	0/2/2/2
2	VBP	N	802	-	1/1/3/3	4/16/16/16	0/2/2/2
2	VBP	P	805	-	1/1/3/3	4/16/16/16	0/2/2/2
2	VBP	J	804	-	1/1/3/3	6/16/16/16	0/2/2/2
2	VBP	E	808	-	1/1/3/3	5/16/16/16	0/2/2/2
2	VBP	H	806	-	1/1/3/3	4/16/16/16	0/2/2/2
2	VBP	G	803	-	1/1/3/3	4/16/16/16	0/2/2/2
2	VBP	B	807	-	1/1/3/3	4/16/16/16	0/2/2/2

All (153) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	P	805	VBP	C16-C15	11.12	1.56	1.38
2	P	805	VBP	C15-C14	10.96	1.56	1.39
2	E	808	VBP	C15-C14	10.88	1.55	1.39
2	G	803	VBP	C15-C14	10.56	1.55	1.39
2	H	806	VBP	C15-C14	10.51	1.55	1.39
2	B	807	VBP	C15-C14	10.44	1.55	1.39
2	J	804	VBP	C15-C14	10.41	1.55	1.39
2	G	803	VBP	C13-C12	10.34	1.55	1.38
2	E	808	VBP	C16-C15	10.30	1.55	1.38
2	J	804	VBP	C16-C15	10.26	1.55	1.38
2	P	805	VBP	C13-C12	10.24	1.55	1.38
2	L	801	VBP	C13-C12	10.18	1.55	1.38
2	N	802	VBP	C16-C15	10.14	1.55	1.38
2	G	803	VBP	C16-C15	10.11	1.55	1.38
2	B	807	VBP	C16-C15	10.08	1.55	1.38
2	L	801	VBP	C15-C14	10.07	1.54	1.39
2	L	801	VBP	C16-C15	10.01	1.55	1.38
2	E	808	VBP	C13-C14	9.92	1.54	1.39
2	N	802	VBP	C15-C14	9.82	1.54	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	806	VBP	C16-C15	9.81	1.54	1.38
2	J	804	VBP	C13-C12	9.72	1.54	1.38
2	B	807	VBP	C13-C12	9.70	1.54	1.38
2	E	808	VBP	C13-C12	9.65	1.54	1.38
2	B	807	VBP	C13-C14	9.54	1.53	1.39
2	L	801	VBP	C13-C14	9.52	1.53	1.39
2	H	806	VBP	C13-C12	9.40	1.54	1.38
2	P	805	VBP	C13-C14	9.40	1.53	1.39
2	N	802	VBP	C13-C12	9.40	1.54	1.38
2	N	802	VBP	C13-C14	9.29	1.53	1.39
2	G	803	VBP	C13-C14	9.28	1.53	1.39
2	H	806	VBP	C13-C14	9.22	1.53	1.39
2	J	804	VBP	C13-C14	9.20	1.53	1.39
2	N	802	VBP	C05-N04	8.92	1.50	1.37
2	P	805	VBP	C05-N04	8.87	1.49	1.37
2	E	808	VBP	C20-N04	8.77	1.52	1.38
2	G	803	VBP	C05-N04	8.69	1.49	1.37
2	B	807	VBP	C20-N09	8.65	1.53	1.38
2	J	804	VBP	C05-N04	8.53	1.49	1.37
2	L	801	VBP	C05-N04	8.48	1.49	1.37
2	E	808	VBP	O21-C20	8.43	1.38	1.22
2	N	802	VBP	O21-C20	8.36	1.38	1.22
2	J	804	VBP	O21-C20	8.34	1.38	1.22
2	B	807	VBP	O21-C20	8.31	1.38	1.22
2	P	805	VBP	O21-C20	8.28	1.38	1.22
2	L	801	VBP	O08-C07	8.28	1.41	1.23
2	E	808	VBP	C20-N09	8.25	1.53	1.38
2	B	807	VBP	C05-N04	8.21	1.49	1.37
2	H	806	VBP	C20-N09	8.18	1.52	1.38
2	H	806	VBP	O21-C20	8.17	1.37	1.22
2	E	808	VBP	O08-C07	8.06	1.40	1.23
2	G	803	VBP	C20-N04	8.04	1.51	1.38
2	E	808	VBP	C16-C11	8.04	1.54	1.38
2	B	807	VBP	C20-N04	8.03	1.51	1.38
2	P	805	VBP	O08-C07	8.02	1.40	1.23
2	H	806	VBP	C05-N04	8.01	1.48	1.37
2	J	804	VBP	O08-C07	7.99	1.40	1.23
2	P	805	VBP	C16-C11	7.98	1.54	1.38
2	G	803	VBP	O21-C20	7.96	1.37	1.22
2	G	803	VBP	O08-C07	7.94	1.40	1.23
2	J	804	VBP	C20-N09	7.92	1.52	1.38
2	L	801	VBP	O19-C17	7.91	1.45	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L	801	VBP	C20-N04	7.86	1.50	1.38
2	P	805	VBP	O19-C17	7.82	1.45	1.22
2	J	804	VBP	C20-N04	7.80	1.50	1.38
2	L	801	VBP	C20-N09	7.80	1.52	1.38
2	G	803	VBP	C20-N09	7.77	1.52	1.38
2	G	803	VBP	C16-C11	7.75	1.54	1.38
2	L	801	VBP	O21-C20	7.75	1.37	1.22
2	H	806	VBP	C16-C11	7.73	1.54	1.38
2	B	807	VBP	C16-C11	7.67	1.54	1.38
2	J	804	VBP	O19-C17	7.66	1.44	1.22
2	N	802	VBP	O08-C07	7.63	1.39	1.23
2	B	807	VBP	O19-C17	7.62	1.44	1.22
2	E	808	VBP	O19-C17	7.61	1.44	1.22
2	N	802	VBP	O19-C17	7.61	1.44	1.22
2	E	808	VBP	C05-N04	7.58	1.48	1.37
2	N	802	VBP	C16-C11	7.57	1.53	1.38
2	B	807	VBP	O08-C07	7.52	1.39	1.23
2	H	806	VBP	O08-C07	7.51	1.39	1.23
2	G	803	VBP	O19-C17	7.50	1.44	1.22
2	G	803	VBP	C12-C11	7.49	1.53	1.38
2	J	804	VBP	C16-C11	7.49	1.53	1.38
2	N	802	VBP	C20-N09	7.48	1.51	1.38
2	E	808	VBP	C12-C11	7.47	1.53	1.38
2	P	805	VBP	C20-N04	7.43	1.50	1.38
2	H	806	VBP	O19-C17	7.37	1.43	1.22
2	L	801	VBP	C16-C11	7.33	1.53	1.38
2	P	805	VBP	C12-C11	7.31	1.53	1.38
2	L	801	VBP	C12-C11	7.21	1.53	1.38
2	P	805	VBP	C20-N09	7.21	1.51	1.38
2	H	806	VBP	C20-N04	7.15	1.49	1.38
2	J	804	VBP	C12-C11	7.14	1.53	1.38
2	B	807	VBP	C12-C11	7.12	1.53	1.38
2	P	805	VBP	C07-N09	6.96	1.51	1.40
2	H	806	VBP	C12-C11	6.93	1.52	1.38
2	N	802	VBP	C12-C11	6.93	1.52	1.38
2	H	806	VBP	O24-C22	6.64	1.41	1.22
2	E	808	VBP	C05-C06	6.64	1.50	1.35
2	L	801	VBP	C05-C06	6.63	1.50	1.35
2	L	801	VBP	O24-C22	6.58	1.41	1.22
2	P	805	VBP	O24-C22	6.55	1.41	1.22
2	B	807	VBP	C05-C06	6.55	1.50	1.35
2	J	804	VBP	O24-C22	6.54	1.41	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	N	802	VBP	C20-N04	6.51	1.48	1.38
2	G	803	VBP	C05-C06	6.42	1.50	1.35
2	P	805	VBP	C05-C06	6.42	1.49	1.35
2	H	806	VBP	C05-C06	6.41	1.49	1.35
2	J	804	VBP	C05-C06	6.38	1.49	1.35
2	L	801	VBP	C07-N09	6.32	1.50	1.40
2	E	808	VBP	O24-C22	6.32	1.40	1.22
2	N	802	VBP	C05-C06	6.29	1.49	1.35
2	G	803	VBP	O24-C22	6.20	1.40	1.22
2	N	802	VBP	O24-C22	6.15	1.40	1.22
2	G	803	VBP	C07-N09	6.14	1.50	1.40
2	B	807	VBP	C07-N09	6.11	1.50	1.40
2	B	807	VBP	O24-C22	6.01	1.39	1.22
2	E	808	VBP	C07-N09	5.86	1.50	1.40
2	J	804	VBP	C07-N09	5.83	1.50	1.40
2	N	802	VBP	C07-N09	5.60	1.49	1.40
2	J	804	VBP	O23-C22	-5.12	1.14	1.30
2	H	806	VBP	C07-N09	4.95	1.48	1.40
2	P	805	VBP	O23-C22	-4.64	1.15	1.30
2	L	801	VBP	O23-C22	-4.62	1.15	1.30
2	E	808	VBP	O23-C22	-4.60	1.16	1.30
2	N	802	VBP	O23-C22	-4.53	1.16	1.30
2	H	806	VBP	O23-C22	-4.52	1.16	1.30
2	B	807	VBP	O23-C22	-4.44	1.16	1.30
2	H	806	VBP	C03-N04	-4.31	1.42	1.47
2	N	802	VBP	C03-N04	-4.21	1.42	1.47
2	G	803	VBP	O23-C22	-4.20	1.17	1.30
2	J	804	VBP	O18-C17	-3.91	1.18	1.30
2	G	803	VBP	C03-N04	-3.88	1.42	1.47
2	B	807	VBP	C03-N04	-3.65	1.42	1.47
2	E	808	VBP	C06-C07	3.62	1.52	1.43
2	N	802	VBP	O18-C17	-3.61	1.19	1.30
2	B	807	VBP	O18-C17	-3.57	1.19	1.30
2	E	808	VBP	C03-N04	-3.57	1.43	1.47
2	L	801	VBP	C06-C07	3.56	1.52	1.43
2	H	806	VBP	O18-C17	-3.55	1.20	1.30
2	G	803	VBP	O18-C17	-3.54	1.20	1.30
2	E	808	VBP	O18-C17	-3.50	1.20	1.30
2	G	803	VBP	C06-C07	3.37	1.52	1.43
2	P	805	VBP	C06-C07	3.35	1.52	1.43
2	H	806	VBP	C06-C07	3.35	1.52	1.43
2	J	804	VBP	C06-C07	3.30	1.52	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	N	802	VBP	C06-C07	3.22	1.51	1.43
2	J	804	VBP	C03-N04	-3.22	1.43	1.47
2	B	807	VBP	C06-C07	3.16	1.51	1.43
2	P	805	VBP	O18-C17	-3.14	1.21	1.30
2	L	801	VBP	C03-N04	-3.13	1.43	1.47
2	L	801	VBP	O18-C17	-3.05	1.21	1.30
2	P	805	VBP	C03-N04	-3.00	1.43	1.47
2	P	805	VBP	C14-C17	2.25	1.54	1.49

All (66) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	808	VBP	O23-C22-O24	-6.38	109.61	124.08
2	H	806	VBP	O23-C22-O24	-6.32	109.73	124.08
2	J	804	VBP	O23-C22-O24	-6.25	109.90	124.08
2	G	803	VBP	O23-C22-O24	-6.22	109.97	124.08
2	B	807	VBP	O23-C22-O24	-6.19	110.04	124.08
2	L	801	VBP	O23-C22-O24	-6.14	110.14	124.08
2	P	805	VBP	O23-C22-O24	-6.11	110.22	124.08
2	N	802	VBP	O23-C22-O24	-5.88	110.73	124.08
2	H	806	VBP	C10-N09-C20	5.43	124.50	116.92
2	G	803	VBP	C10-N09-C20	5.11	124.05	116.92
2	E	808	VBP	C10-N09-C20	4.97	123.87	116.92
2	B	807	VBP	C10-N09-C20	4.80	123.63	116.92
2	E	808	VBP	C03-N04-C20	4.78	123.02	118.41
2	L	801	VBP	C10-N09-C20	4.78	123.59	116.92
2	J	804	VBP	C10-N09-C20	4.61	123.35	116.92
2	E	808	VBP	C07-N09-C20	-4.55	119.32	124.66
2	L	801	VBP	C03-N04-C20	4.42	122.67	118.41
2	B	807	VBP	C07-N09-C20	-4.33	119.58	124.66
2	H	806	VBP	C07-N09-C20	-4.32	119.58	124.66
2	L	801	VBP	O19-C17-C14	-4.32	110.13	121.46
2	N	802	VBP	C10-N09-C20	4.26	122.88	116.92
2	G	803	VBP	C07-N09-C20	-4.16	119.78	124.66
2	P	805	VBP	C07-N09-C20	-4.10	119.85	124.66
2	P	805	VBP	C10-N09-C20	4.09	122.63	116.92
2	G	803	VBP	C03-N04-C20	4.09	122.35	118.41
2	H	806	VBP	O18-C17-O19	4.05	132.06	123.35
2	L	801	VBP	O18-C17-O19	3.97	131.89	123.35
2	J	804	VBP	C07-N09-C20	-3.96	120.01	124.66
2	L	801	VBP	C07-N09-C20	-3.95	120.02	124.66
2	P	805	VBP	C03-N04-C20	3.94	122.21	118.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	807	VBP	C03-N04-C20	3.90	122.17	118.41
2	H	806	VBP	O19-C17-C14	-3.86	111.33	121.46
2	E	808	VBP	O18-C17-O19	3.85	131.62	123.35
2	N	802	VBP	O18-C17-O19	3.82	131.57	123.35
2	G	803	VBP	O19-C17-C14	-3.81	111.48	121.46
2	J	804	VBP	C03-N04-C20	3.80	122.07	118.41
2	J	804	VBP	O18-C17-O19	3.77	131.47	123.35
2	N	802	VBP	O19-C17-C14	-3.77	111.57	121.46
2	N	802	VBP	C07-N09-C20	-3.74	120.27	124.66
2	P	805	VBP	O19-C17-C14	-3.74	111.65	121.46
2	E	808	VBP	O19-C17-C14	-3.71	111.74	121.46
2	G	803	VBP	O18-C17-O19	3.67	131.25	123.35
2	E	808	VBP	N04-C20-N09	3.66	119.95	115.52
2	H	806	VBP	C03-N04-C20	3.64	121.92	118.41
2	P	805	VBP	O18-C17-O19	3.63	131.16	123.35
2	B	807	VBP	O18-C17-O19	3.62	131.13	123.35
2	P	805	VBP	N04-C20-N09	3.59	119.86	115.52
2	L	801	VBP	N04-C20-N09	3.55	119.82	115.52
2	B	807	VBP	O19-C17-C14	-3.53	112.22	121.46
2	J	804	VBP	O19-C17-C14	-3.50	112.28	121.46
2	H	806	VBP	N04-C20-N09	3.49	119.75	115.52
2	G	803	VBP	C06-C07-N09	3.39	120.32	115.64
2	G	803	VBP	N04-C20-N09	3.36	119.59	115.52
2	H	806	VBP	C06-C07-N09	3.33	120.23	115.64
2	N	802	VBP	N04-C20-N09	3.31	119.52	115.52
2	B	807	VBP	N04-C20-N09	3.28	119.48	115.52
2	J	804	VBP	N04-C20-N09	3.25	119.45	115.52
2	B	807	VBP	C06-C07-N09	3.21	120.07	115.64
2	J	804	VBP	C06-C07-N09	3.17	120.02	115.64
2	E	808	VBP	C06-C07-N09	3.15	120.00	115.64
2	P	805	VBP	C06-C07-N09	3.14	119.98	115.64
2	N	802	VBP	C06-C07-N09	3.12	119.96	115.64
2	N	802	VBP	C03-N04-C20	2.93	121.24	118.41
2	L	801	VBP	C06-C07-N09	2.93	119.68	115.64
2	H	806	VBP	C16-C11-C12	2.26	121.59	118.23
2	H	806	VBP	C15-C16-C11	-2.07	118.28	121.00

All (8) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	G	803	VBP	C02
2	B	807	VBP	C02

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Mol	Chain	Res	Type	Atom
2	E	808	VBP	C02
2	H	806	VBP	C02
2	J	804	VBP	C02
2	L	801	VBP	C02
2	N	802	VBP	C02
2	P	805	VBP	C02

All (35) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	G	803	VBP	C13-C14-C17-O18
2	G	803	VBP	C15-C14-C17-O19
2	G	803	VBP	C15-C14-C17-O18
2	G	803	VBP	C13-C14-C17-O19
2	E	808	VBP	C13-C14-C17-O19
2	H	806	VBP	C13-C14-C17-O19
2	N	802	VBP	C13-C14-C17-O19
2	E	808	VBP	C15-C14-C17-O19
2	H	806	VBP	C15-C14-C17-O19
2	N	802	VBP	C15-C14-C17-O19
2	E	808	VBP	C15-C14-C17-O18
2	N	802	VBP	C15-C14-C17-O18
2	H	806	VBP	C15-C14-C17-O18
2	J	804	VBP	C13-C14-C17-O19
2	L	801	VBP	C13-C14-C17-O19
2	J	804	VBP	C15-C14-C17-O19
2	L	801	VBP	C15-C14-C17-O19
2	P	805	VBP	C13-C14-C17-O19
2	E	808	VBP	C13-C14-C17-O18
2	J	804	VBP	C15-C14-C17-O18
2	N	802	VBP	C13-C14-C17-O18
2	P	805	VBP	C15-C14-C17-O19
2	L	801	VBP	C15-C14-C17-O18
2	H	806	VBP	C13-C14-C17-O18
2	P	805	VBP	C15-C14-C17-O18
2	J	804	VBP	C13-C14-C17-O18
2	L	801	VBP	C13-C14-C17-O18
2	P	805	VBP	C13-C14-C17-O18
2	J	804	VBP	N01-C02-C22-O23
2	E	808	VBP	N01-C02-C22-O23
2	B	807	VBP	C15-C14-C17-O18
2	B	807	VBP	C13-C14-C17-O18

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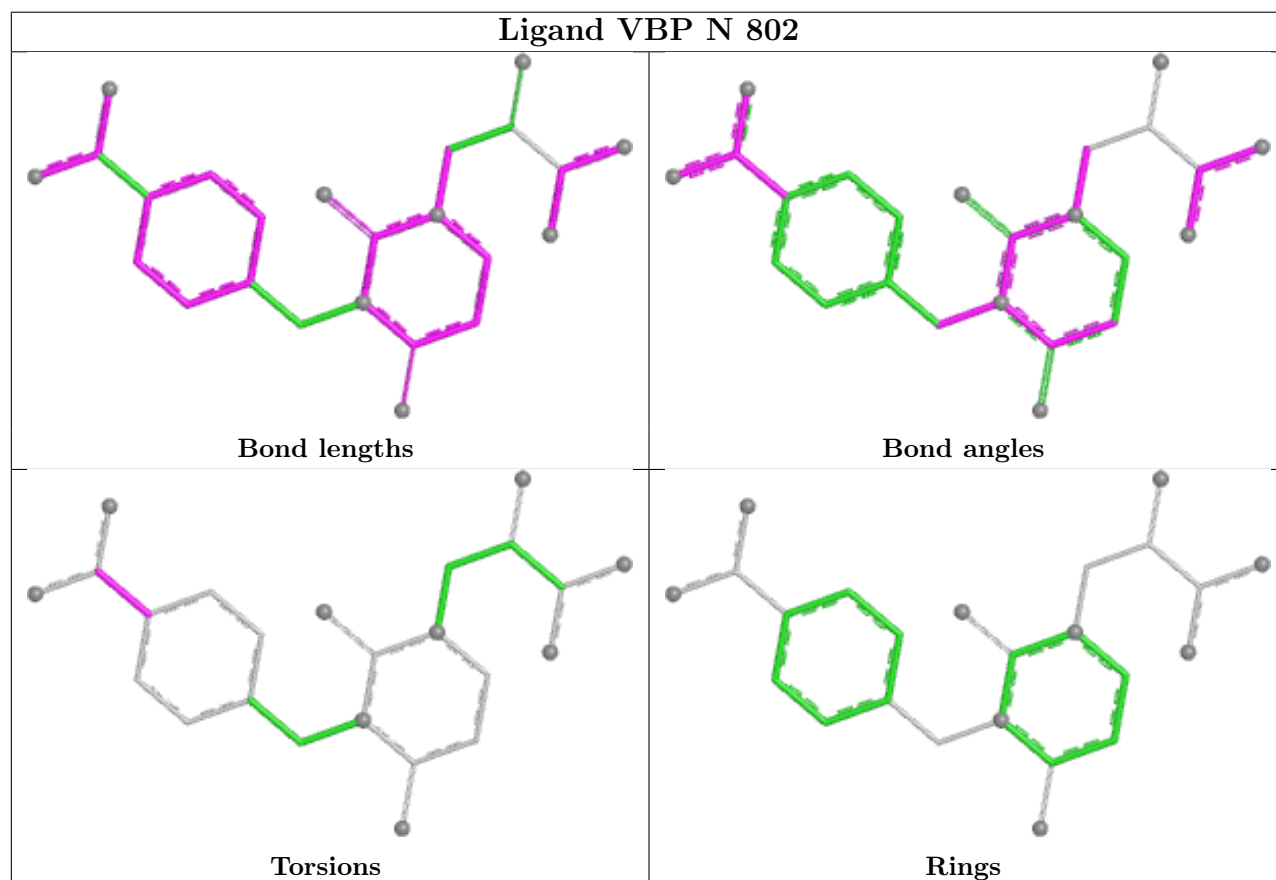
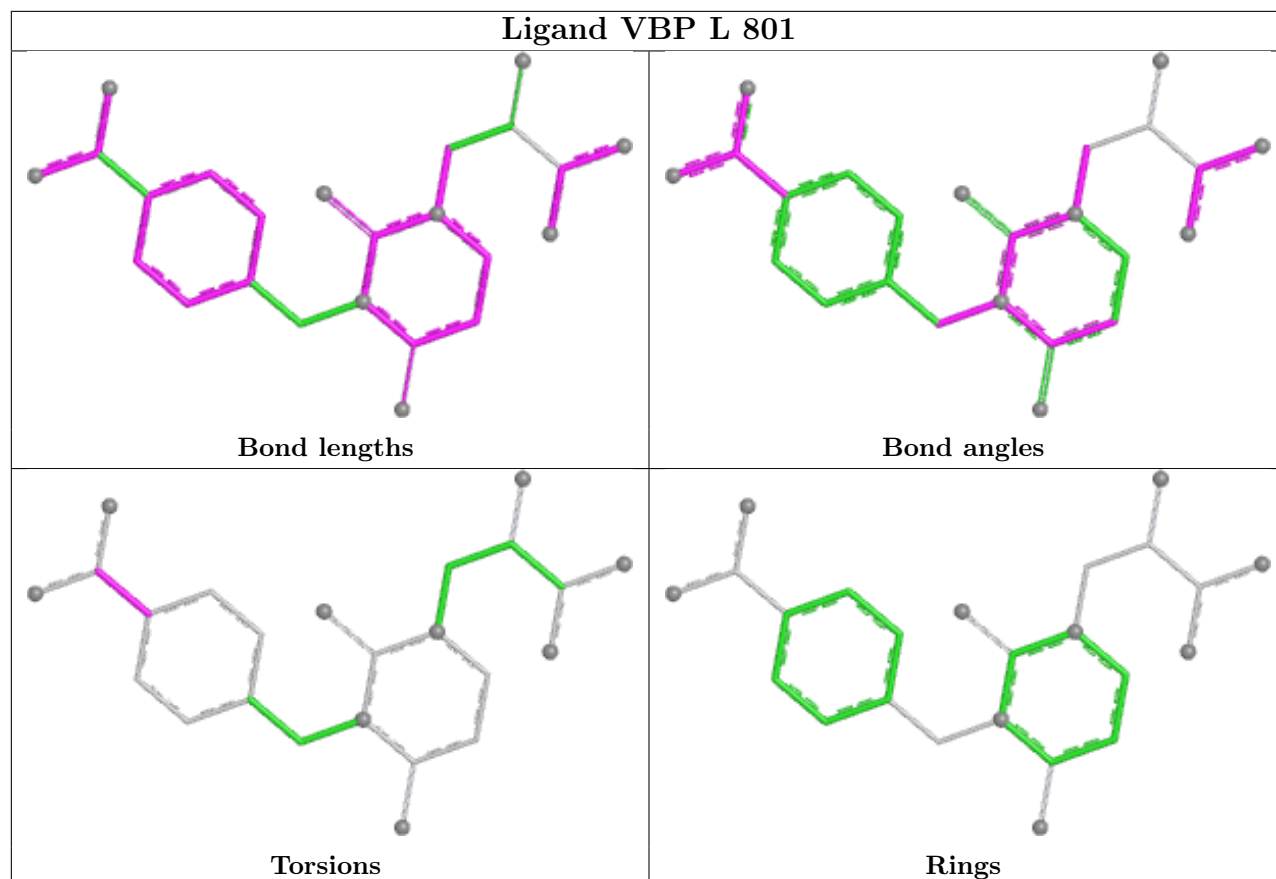
Mol	Chain	Res	Type	Atoms
2	B	807	VBP	C15-C14-C17-O19
2	J	804	VBP	C03-C02-C22-O23
2	B	807	VBP	C13-C14-C17-O19

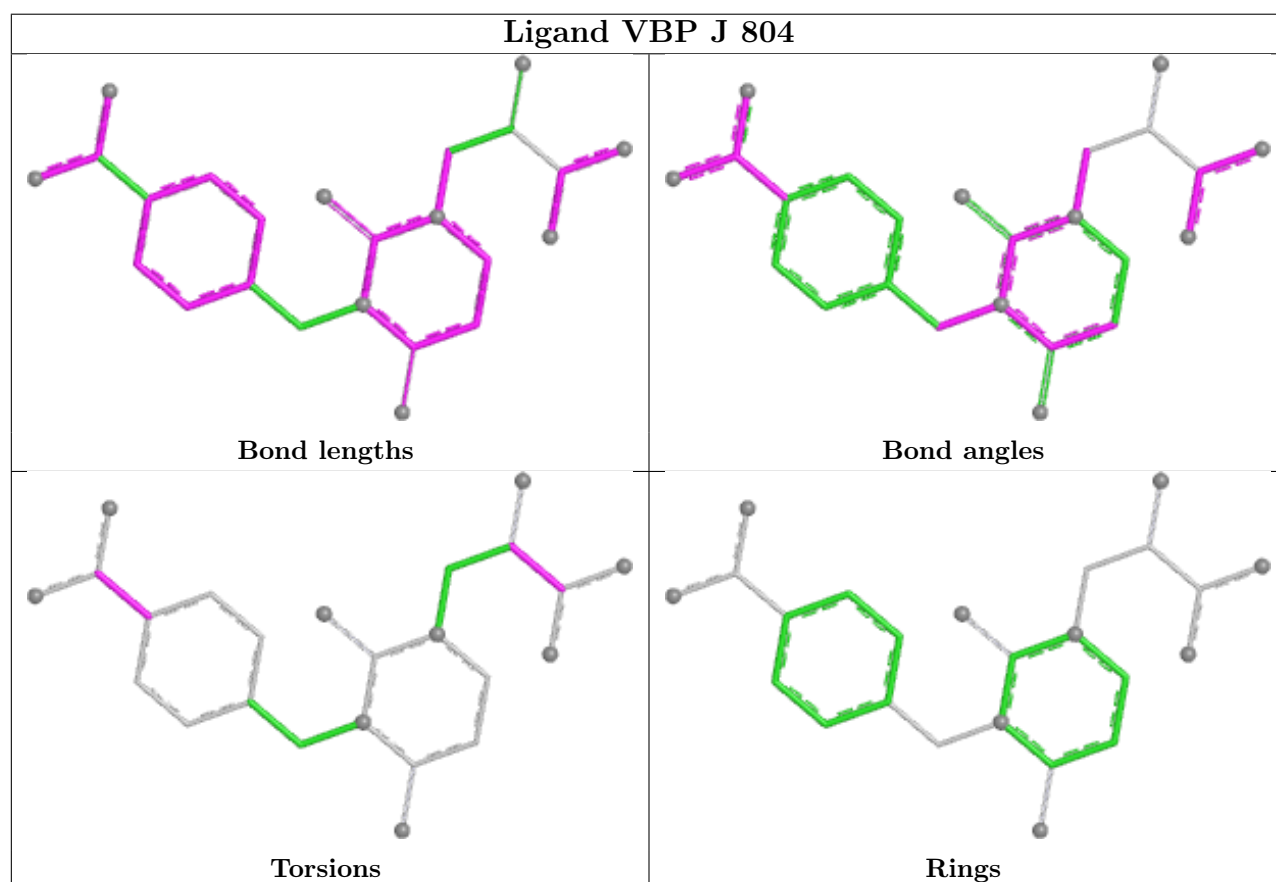
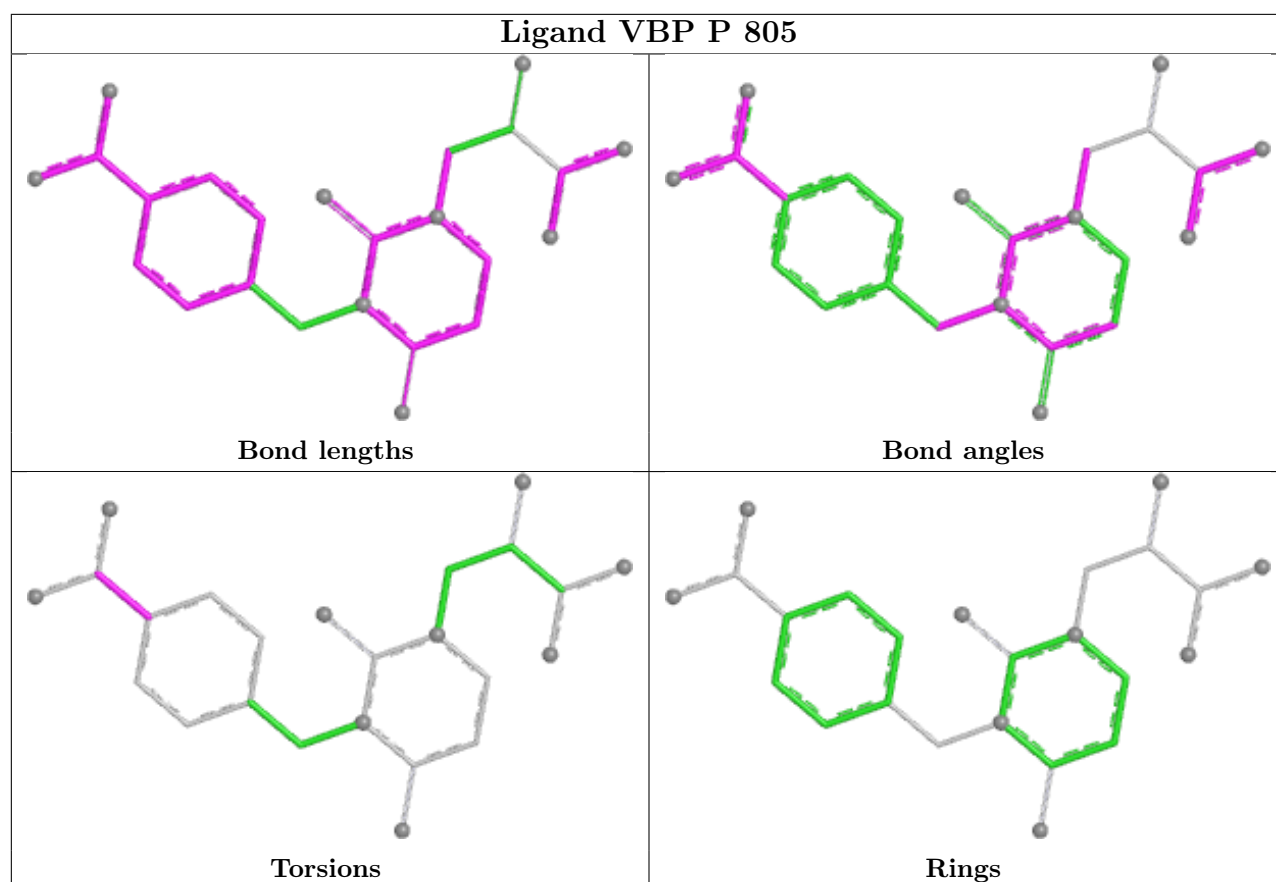
There are no ring outliers.

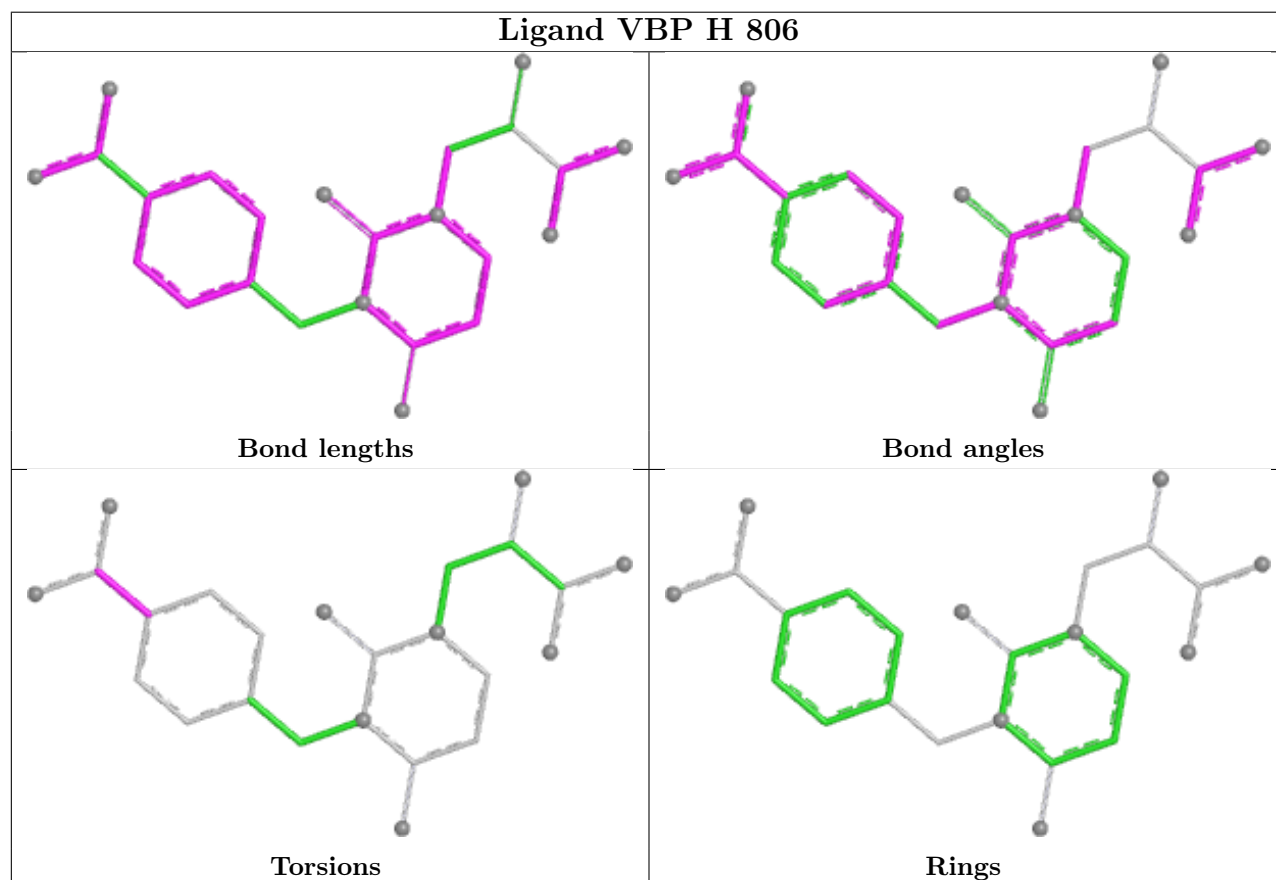
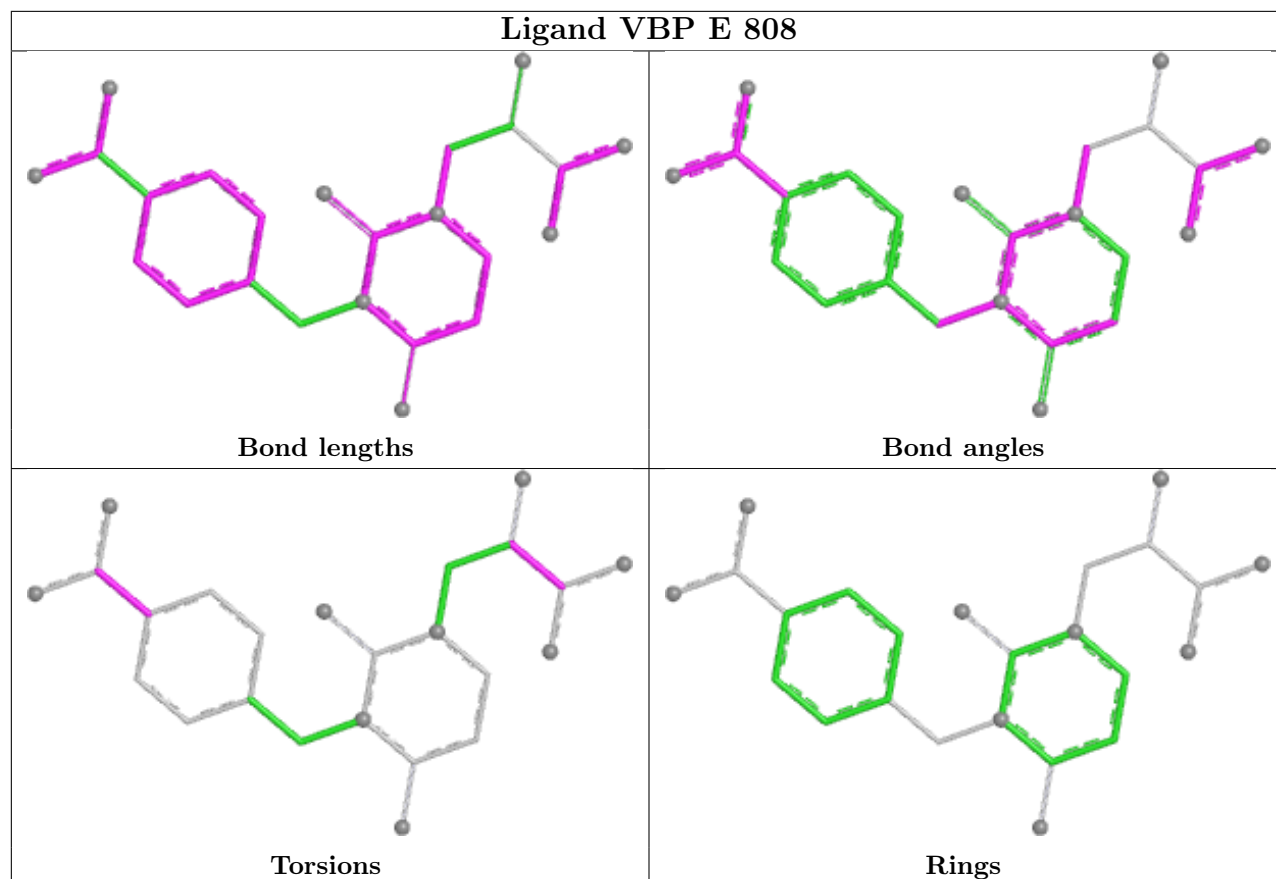
8 monomers are involved in 29 short contacts:

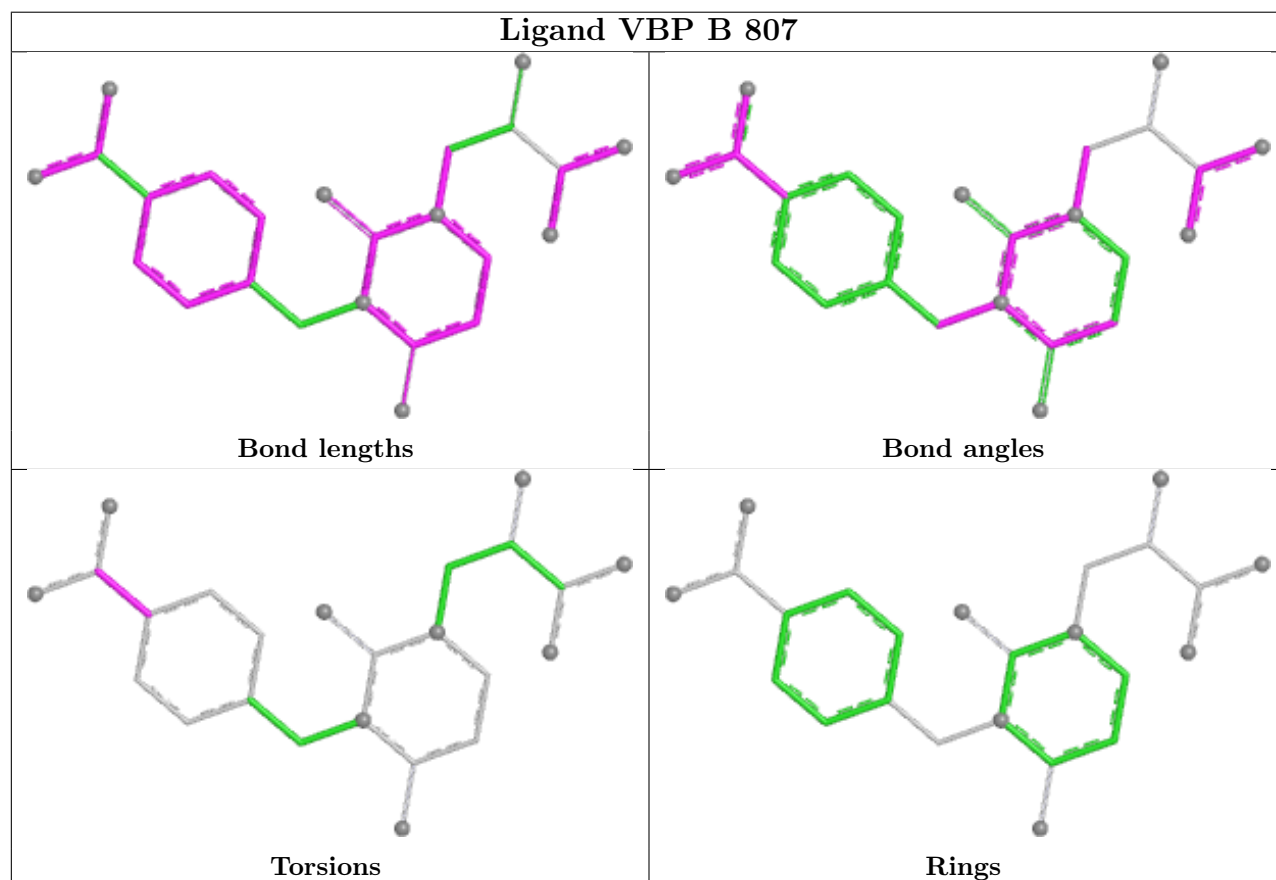
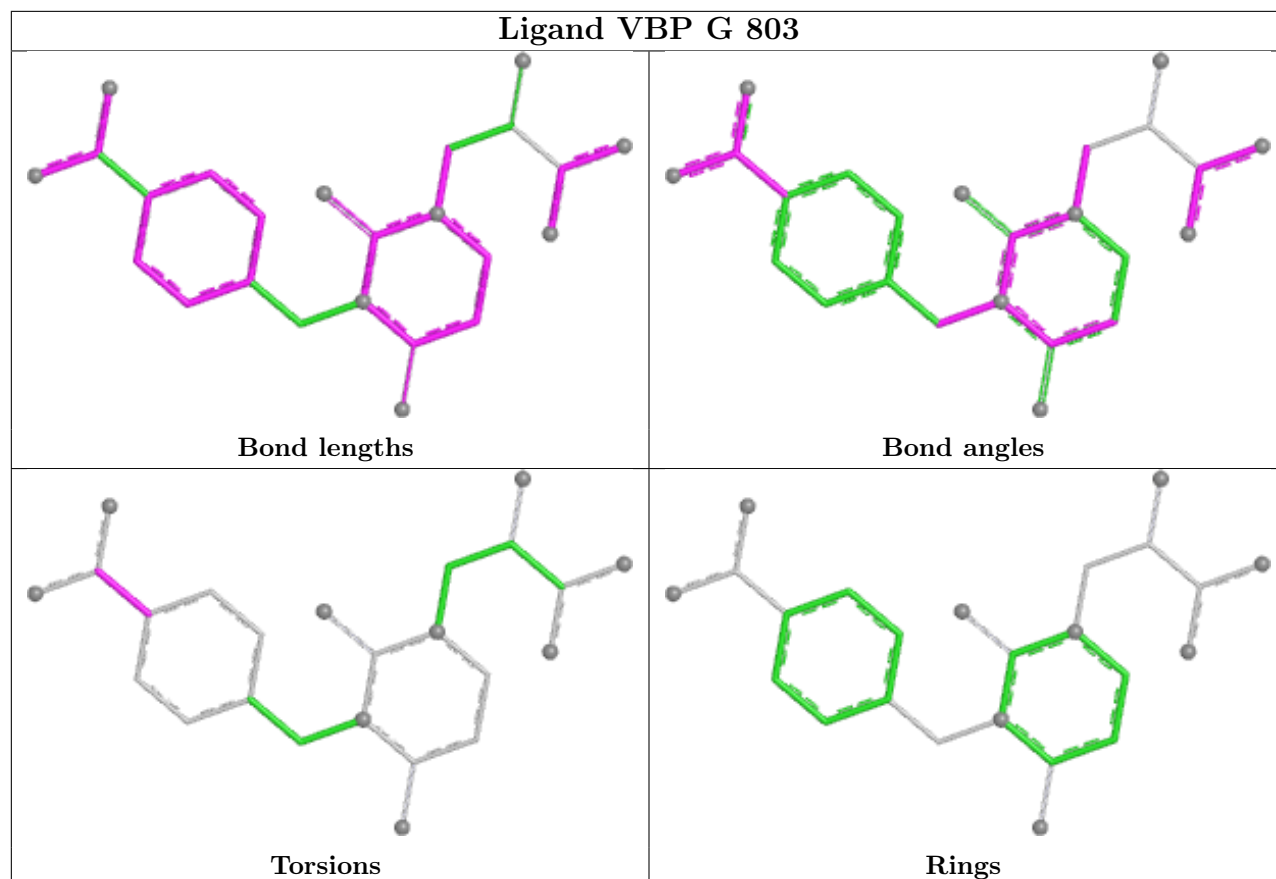
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	L	801	VBP	2	0
2	N	802	VBP	3	0
2	P	805	VBP	5	0
2	J	804	VBP	4	0
2	E	808	VBP	4	0
2	H	806	VBP	3	0
2	G	803	VBP	5	0
2	B	807	VBP	3	0

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

Warning: The R factor obtained from EDS is 0.2884, which does not match the depositor's R factor of 0.2295. Please interpret the results in this section carefully.

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q < 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	B	257/258 (99%)	-1.17	0 100 100	12, 32, 65, 76	0
1	E	257/258 (99%)	-1.09	0 100 100	17, 37, 70, 91	0
1	G	257/258 (99%)	-1.16	0 100 100	14, 34, 61, 71	0
1	H	257/258 (99%)	-1.12	0 100 100	13, 36, 72, 89	0
1	J	257/258 (99%)	-1.11	1 (0%) 89 85	18, 35, 60, 68	0
1	L	257/258 (99%)	-1.14	0 100 100	18, 36, 64, 74	0
1	N	257/258 (99%)	-1.15	0 100 100	16, 35, 64, 74	0
1	P	257/258 (99%)	-1.11	0 100 100	17, 36, 63, 73	0
All	All	2056/2064 (99%)	-1.13	1 (0%) 100 100	12, 35, 65, 91	0

All (1) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	J	109	LEU	2.5

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

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

6.3 Carbohydrates [i](#)

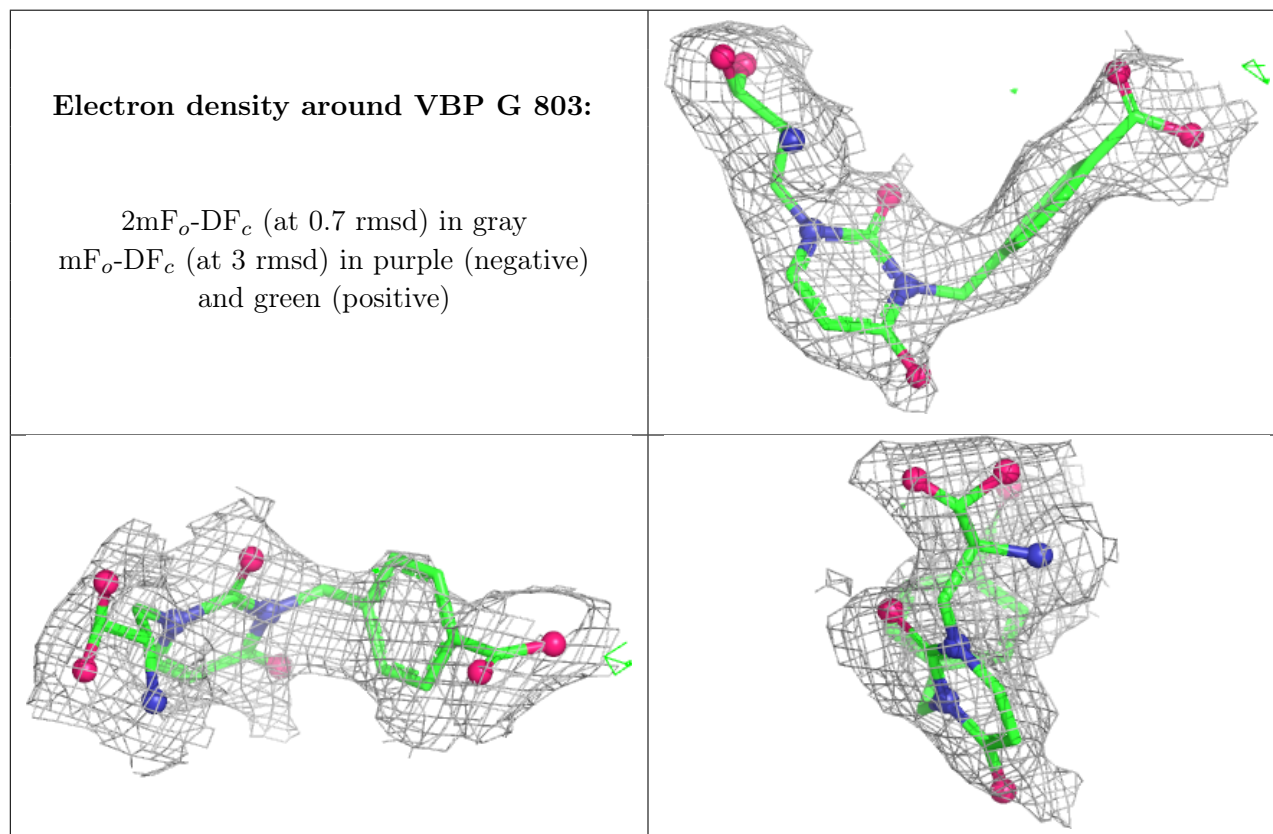
There are no monosaccharides in this entry.

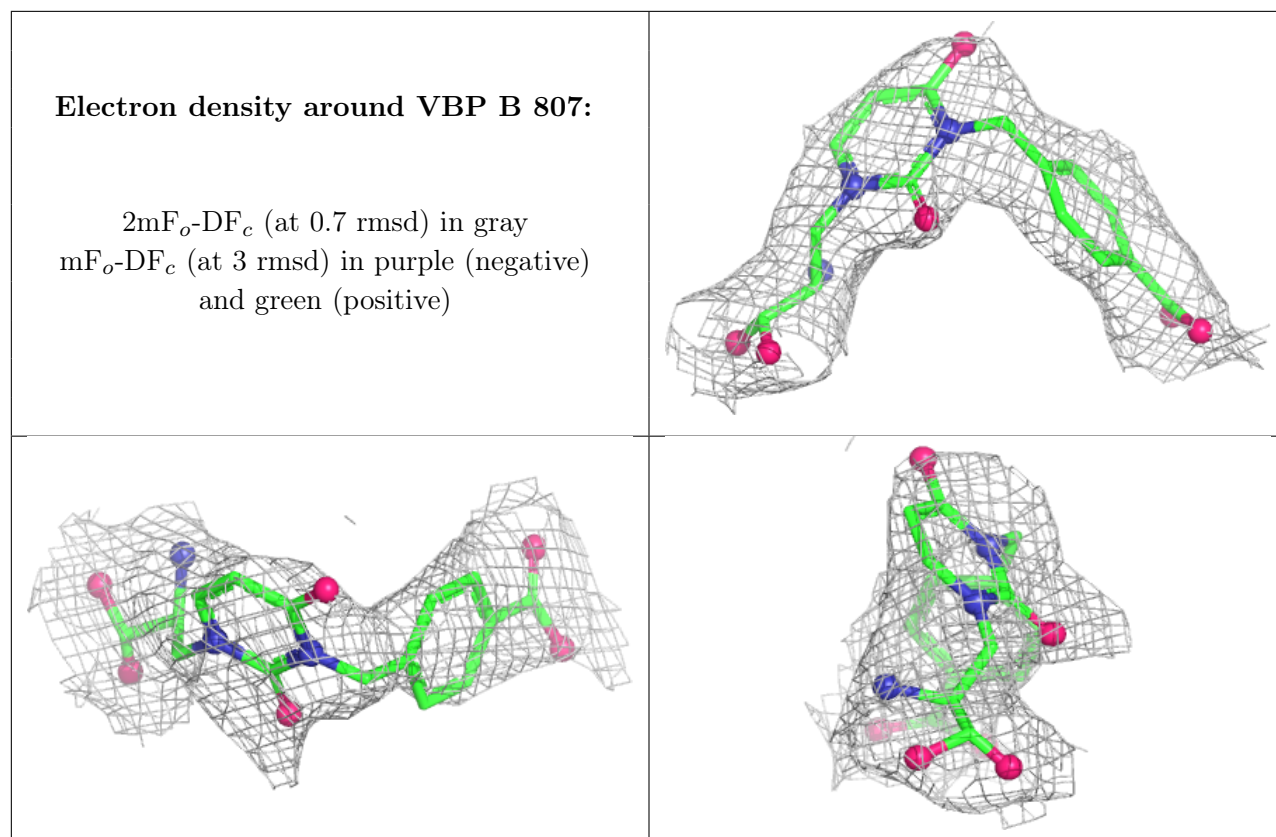
6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	VBP	G	803	24/24	0.98	0.06	18,28,38,43	0
2	VBP	B	807	24/24	0.98	0.06	22,26,35,38	0
2	VBP	E	808	24/24	0.98	0.07	25,30,38,42	0
2	VBP	H	806	24/24	0.98	0.05	25,30,35,38	0
2	VBP	J	804	24/24	0.98	0.06	27,30,34,38	0
2	VBP	N	802	24/24	0.98	0.06	21,25,38,38	0
2	VBP	L	801	24/24	0.99	0.05	22,25,31,38	0
2	VBP	P	805	24/24	0.99	0.06	18,27,38,40	0

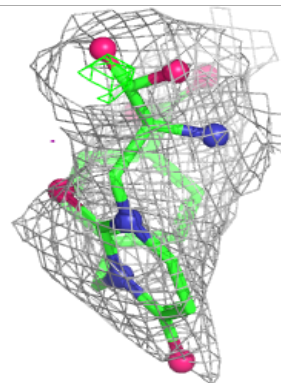
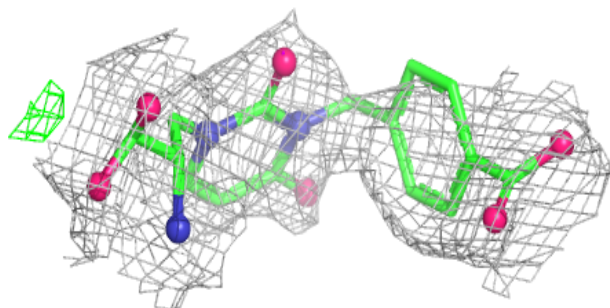
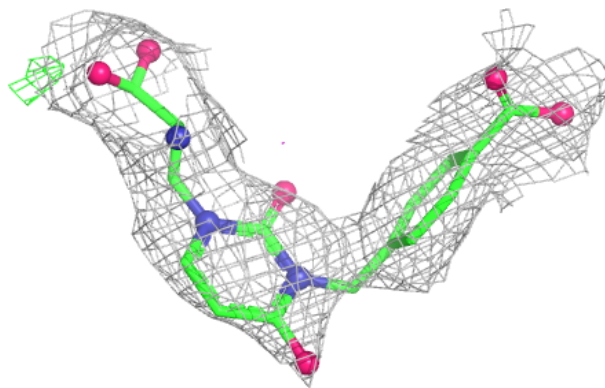
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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





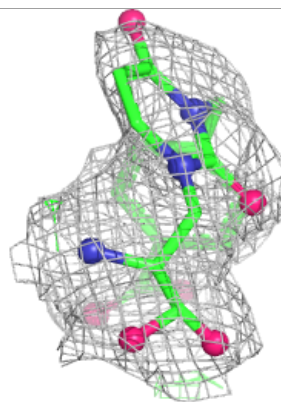
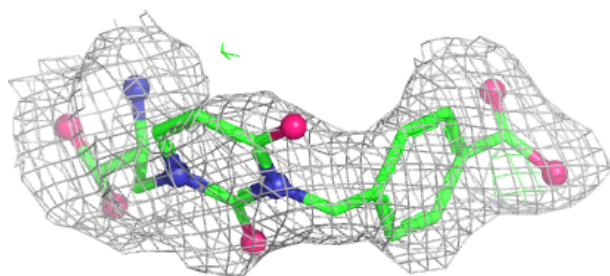
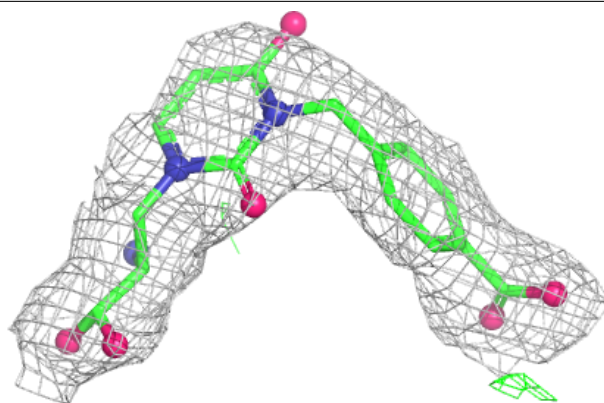
Electron density around VBP E 808:

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

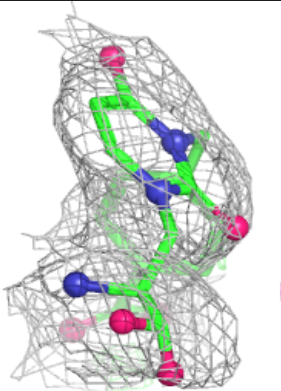
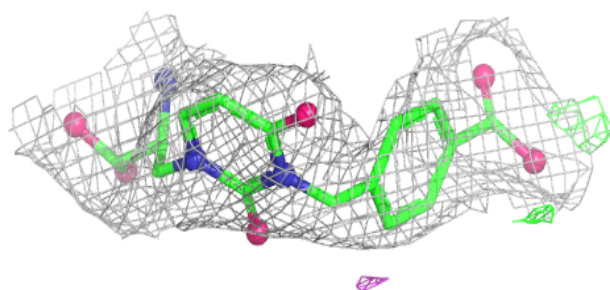
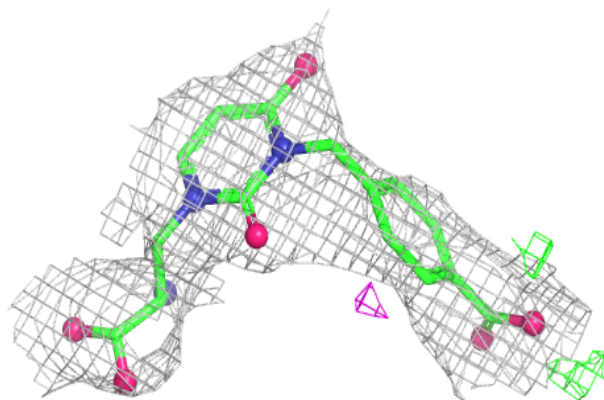


Electron density around VBP H 806:

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

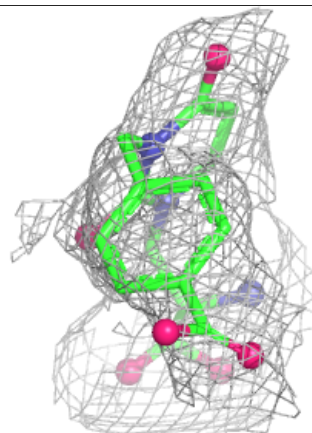
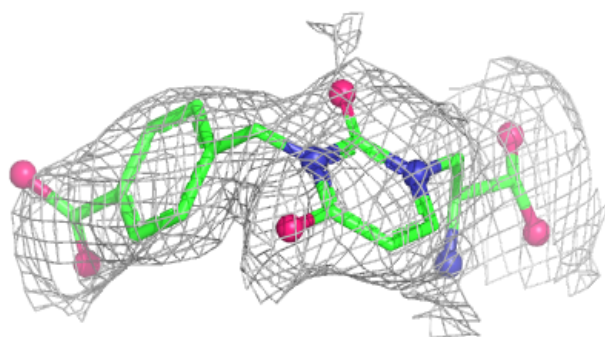
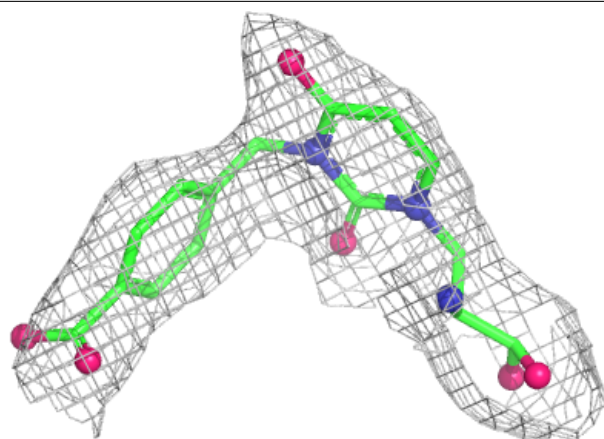
**Electron density around VBP J 804:**

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

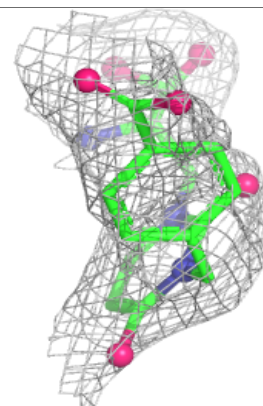
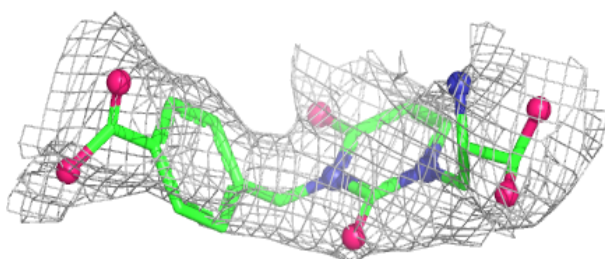
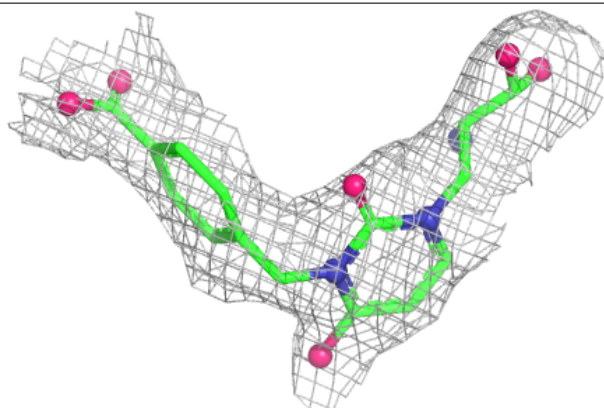


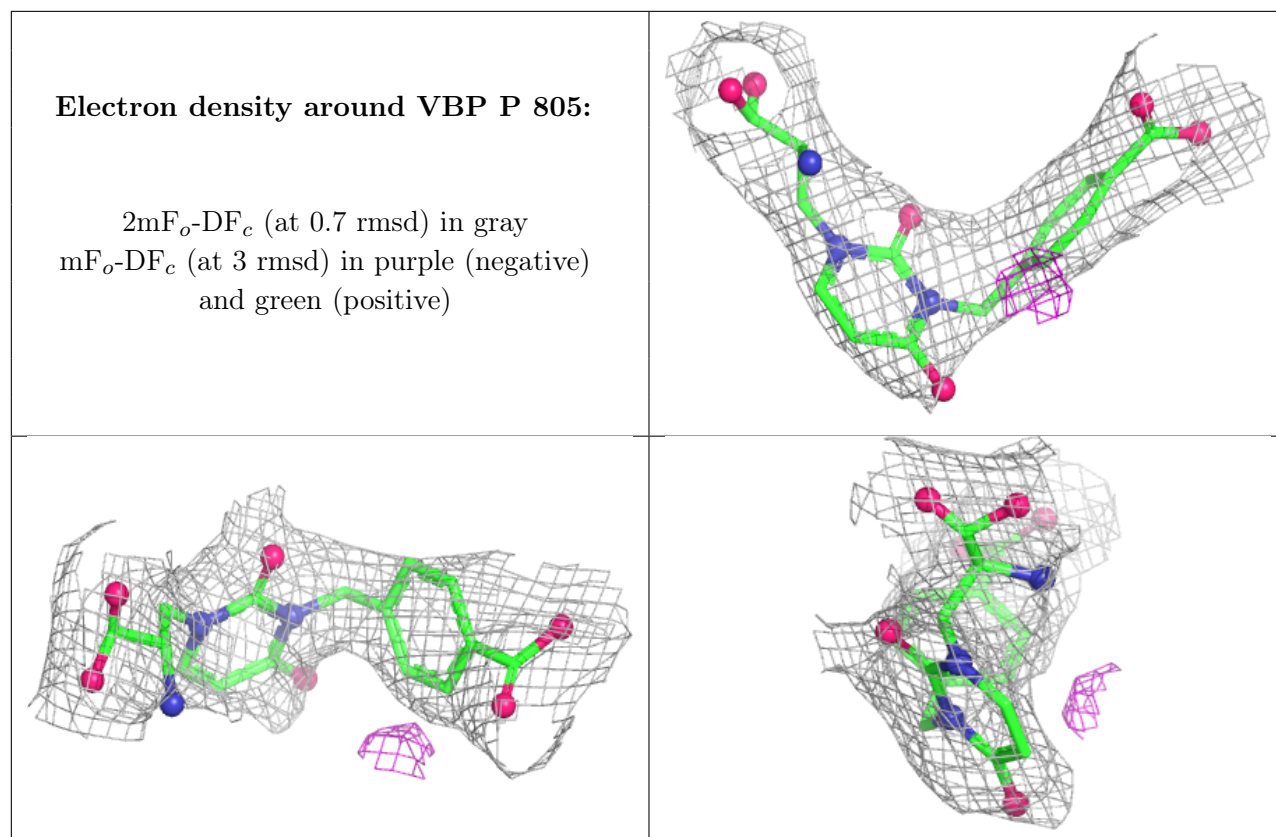
Electron density around VBP N 802:

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

**Electron density around VBP L 801:**

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





6.5 Other polymers [i](#)

There are no such residues in this entry.