Full wwPDB X-ray Structure Validation Report ⓘ

Jul 28, 2021 – 05:29 PM EDT

PDB ID	:	1MCZ
Title	:	BENZOYLFORMATE DECARBOXYLASE FROM PSEUDOMONAS PUTIDA COMPLEXED WITH AN INHIBITOR, R-MANDELATE
Authors	:	Polovnikova, E.S.; Bera, A.K.; Hasson, M.S.
Deposited on	:	2002-08-06
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 following versions of software and data (see references ⓘ) were used in the production of this report:

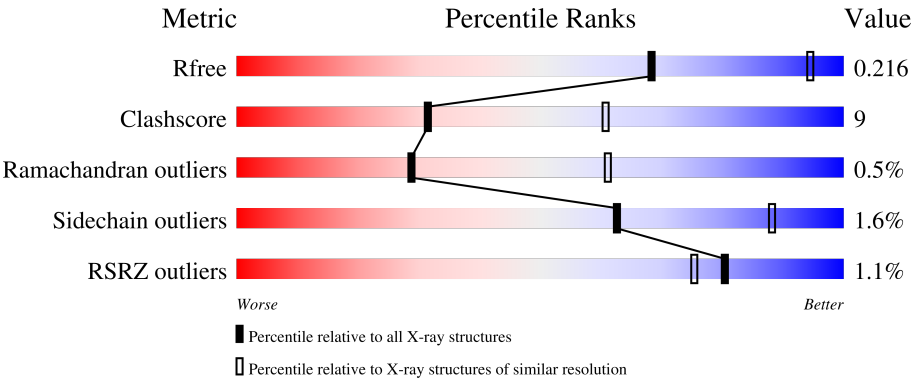
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.22
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.22

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 2.80 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}	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	528	82% 16%
1	B	528	78% 21%
1	C	528	81% 18%
1	D	528	81% 18%
1	E	528	81% 18%

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Mol	Chain	Length	Quality of chain
1	F	528	82% 16%
1	G	528	81% 18%
1	H	528	81% 17%
1	I	528	80% 18%
1	J	528	81% 18%
1	K	528	81% 18%
1	L	528	80% 18%
1	M	528	81% 17%
1	N	528	81% 17%
1	O	528	4% 80% 19%
1	P	528	81% 18%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 65200 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.

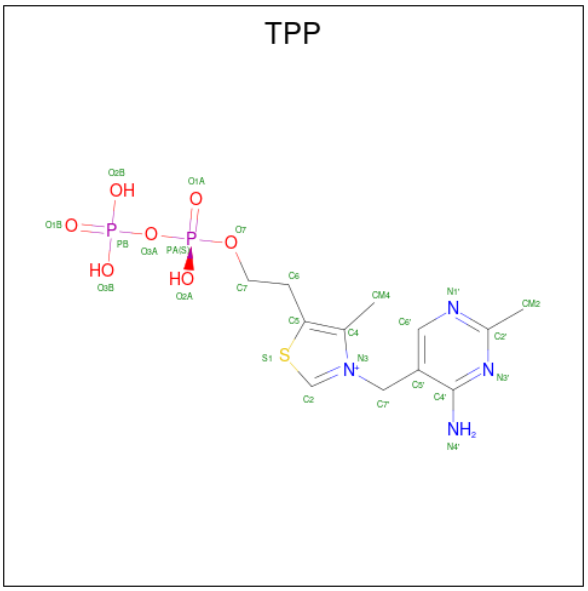
- Molecule 1 is a protein called BENZOYLFORMATE DECARBOXYLASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	B	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	C	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	D	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	E	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	F	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	G	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	H	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	I	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	J	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	K	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	L	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	M	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	N	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	O	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			
1	P	524	Total	C	N	O	S	0	0	0
			3933	2487	682	745	19			

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total Mg 2 2	0	0
2	B	1	Total Mg 1 1	0	0
2	C	1	Total Mg 1 1	0	0
2	D	2	Total Mg 2 2	0	0
2	E	2	Total Mg 2 2	0	0
2	F	1	Total Mg 1 1	0	0
2	G	1	Total Mg 1 1	0	0
2	H	2	Total Mg 2 2	0	0
2	I	2	Total Mg 2 2	0	0
2	J	1	Total Mg 1 1	0	0
2	K	1	Total Mg 1 1	0	0
2	L	2	Total Mg 2 2	0	0
2	M	1	Total Mg 1 1	0	0
2	N	2	Total Mg 2 2	0	0
2	O	1	Total Mg 1 1	0	0
2	P	2	Total Mg 2 2	0	0

- Molecule 3 is THIAMINE DIPHOSPHATE (three-letter code: TPP) (formula: $C_{12}H_{19}N_4O_7P_2S$).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	B	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	C	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	D	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	E	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	F	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	G	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	H	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	I	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	J	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	K	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	L	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	M	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	N	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		

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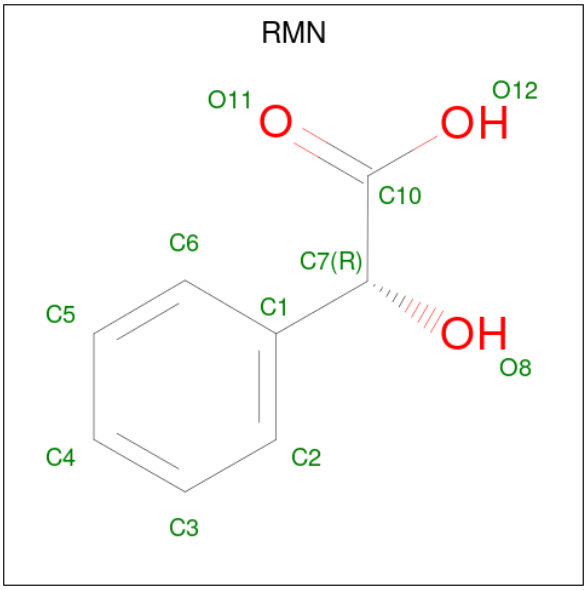
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
3	O	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		
3	P	1	Total	C	N	O	P	S	0	0
			26	12	4	7	2	1		

- Molecule 4 is (R)-MANDELIC ACID (three-letter code: RMN) (formula: $C_8H_8O_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	O		0	0
			11	8	3			
4	B	1	Total	C	O		0	0
			11	8	3			
4	C	1	Total	C	O		0	0
			11	8	3			
4	D	1	Total	C	O		0	0
			11	8	3			
4	E	1	Total	C	O		0	0
			11	8	3			
4	F	1	Total	C	O		0	0
			11	8	3			
4	G	1	Total	C	O		0	0
			11	8	3			
4	H	1	Total	C	O		0	0
			11	8	3			
4	I	1	Total	C	O		0	0
			11	8	3			

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	J	1	Total C O 11 8 3	0	0
4	K	1	Total C O 11 8 3	0	0
4	L	1	Total C O 11 8 3	0	0
4	M	1	Total C O 11 8 3	0	0
4	N	1	Total C O 11 8 3	0	0
4	O	1	Total C O 11 8 3	0	0
4	P	1	Total C O 11 8 3	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	105	Total O 105 105	0	0
5	B	99	Total O 99 99	0	0
5	C	103	Total O 103 103	0	0
5	D	103	Total O 103 103	0	0
5	E	101	Total O 101 101	0	0
5	F	106	Total O 106 106	0	0
5	G	104	Total O 104 104	0	0
5	H	104	Total O 104 104	0	0
5	I	104	Total O 104 104	0	0
5	J	102	Total O 102 102	0	0
5	K	104	Total O 104 104	0	0
5	L	106	Total O 106 106	0	0

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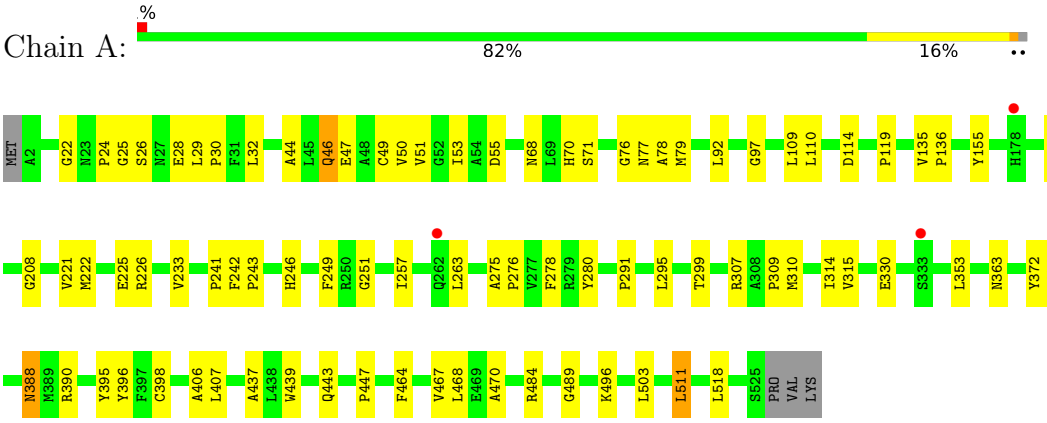
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	M	105	Total O 105 105	0	0
5	N	102	Total O 102 102	0	0
5	O	104	Total O 104 104	0	0
5	P	104	Total O 104 104	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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.

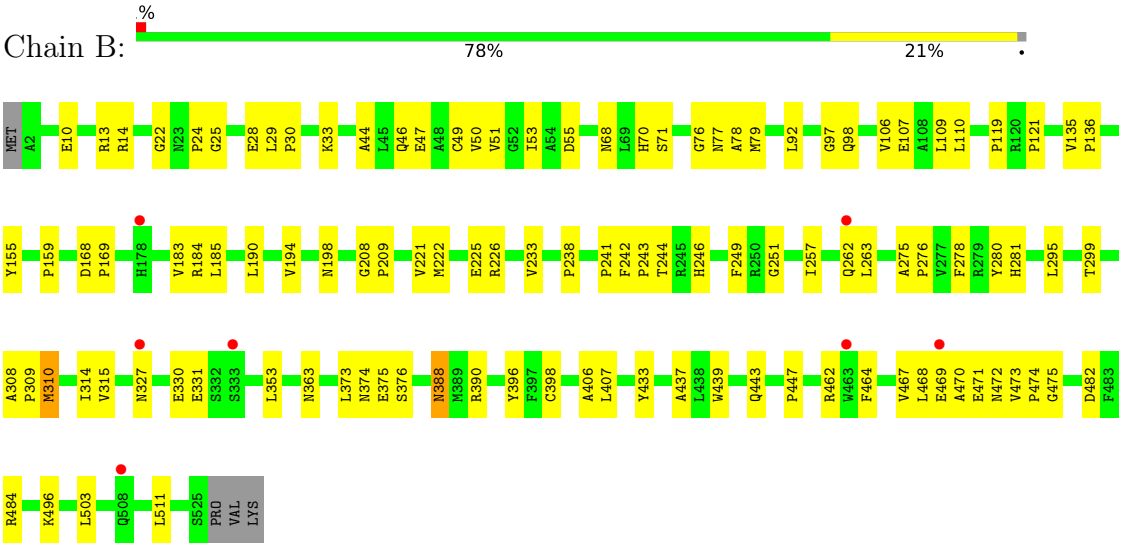
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain A:



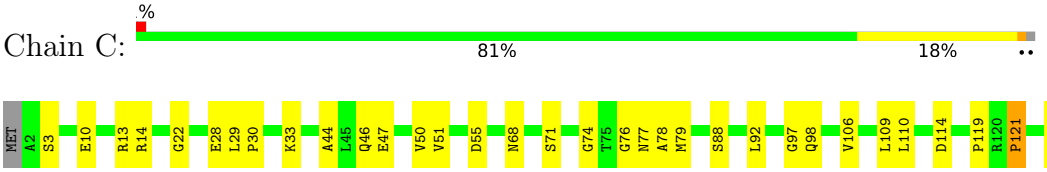
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

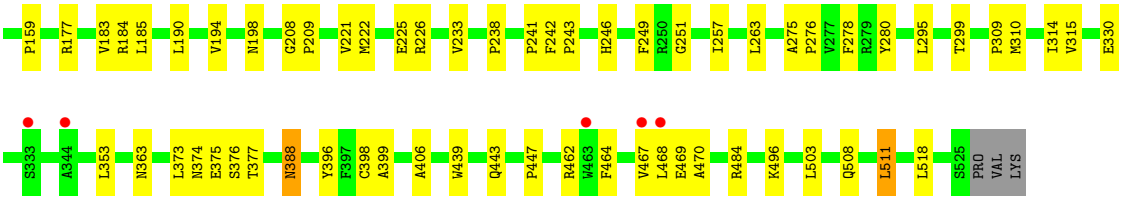
Chain B:



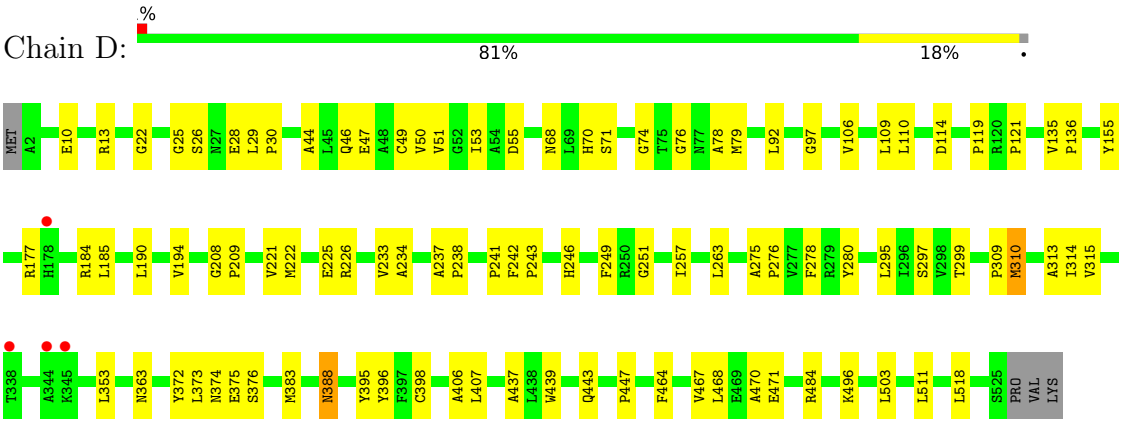
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain C:

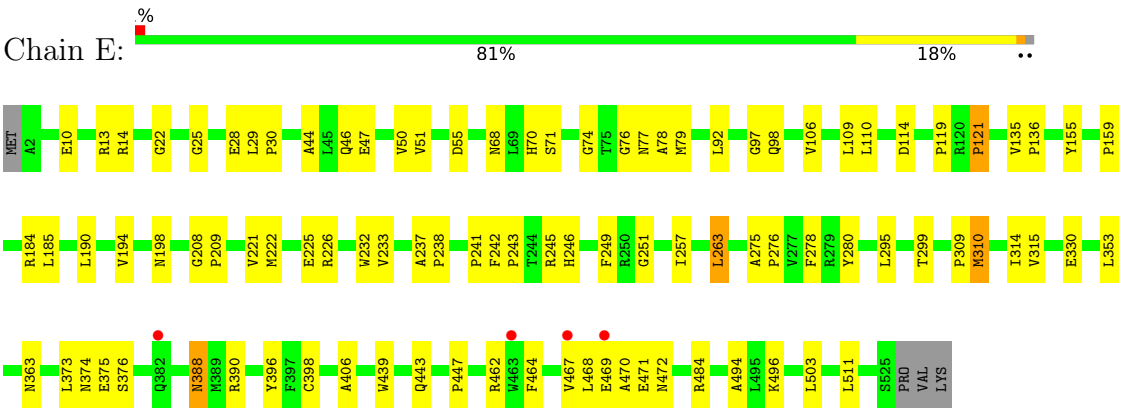




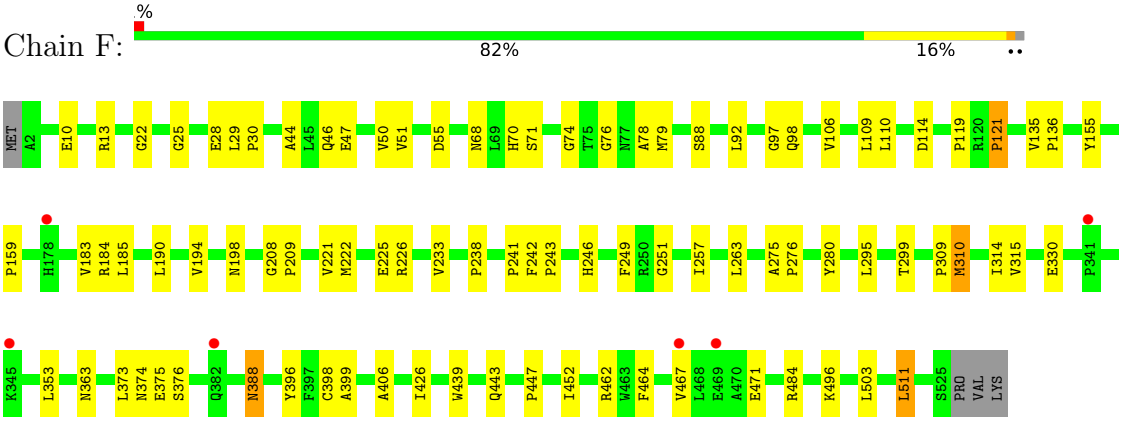
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE



• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

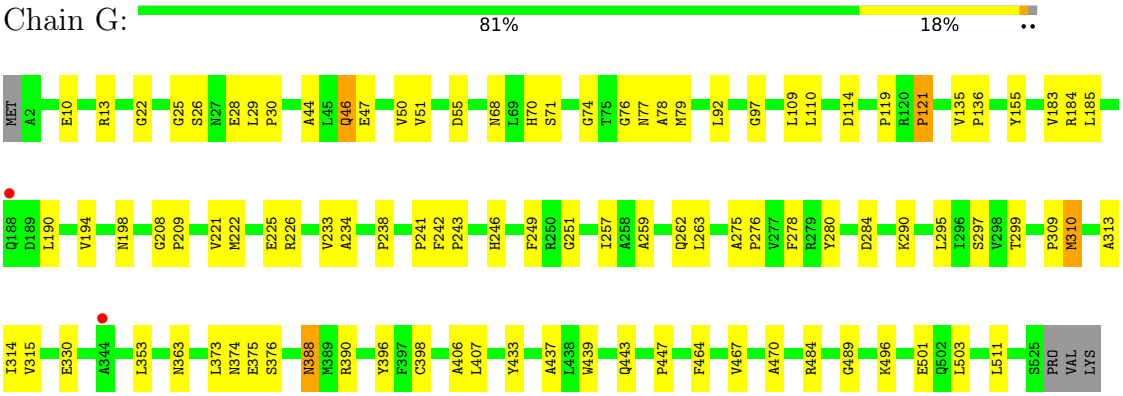


• Molecule 1: BENZOYLFORMATE DECARBOXYLASE



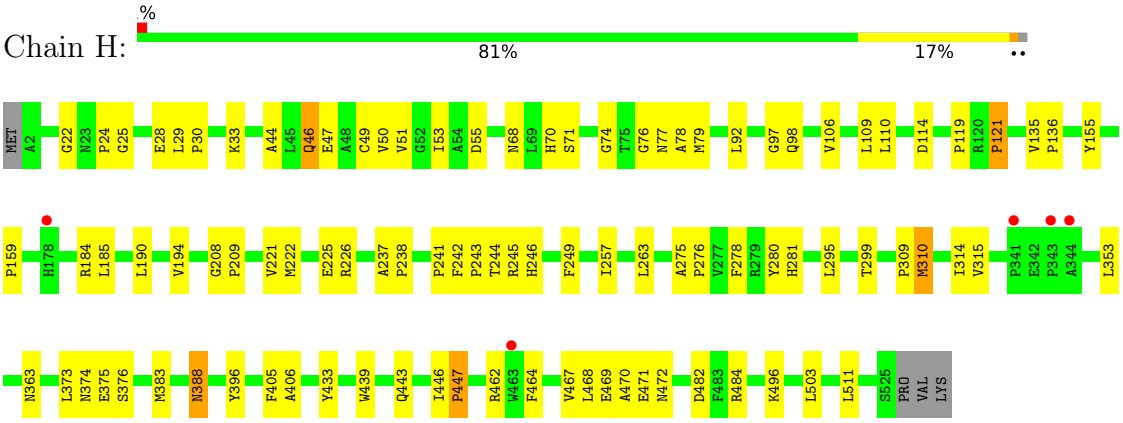
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain G:



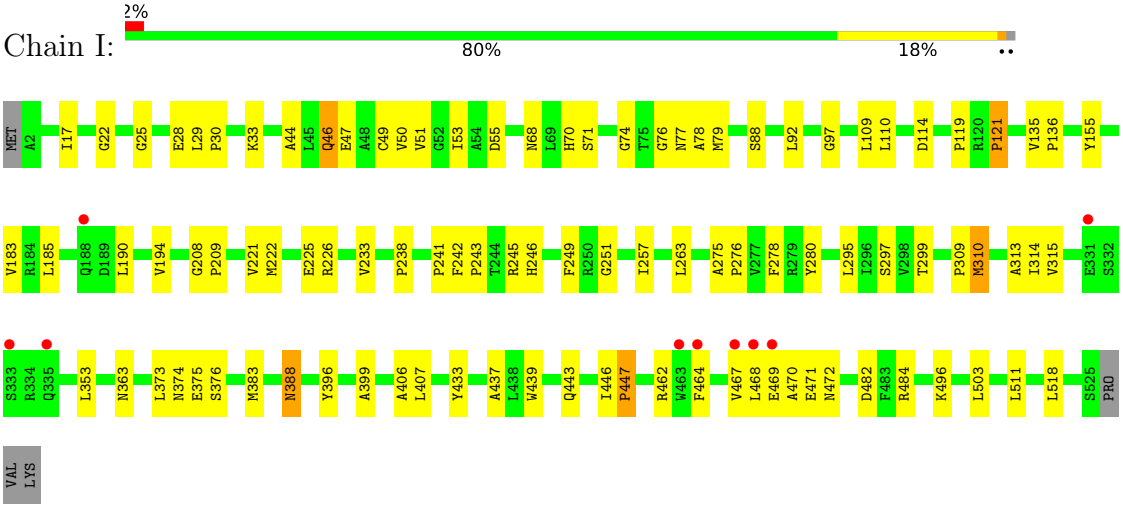
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain H:



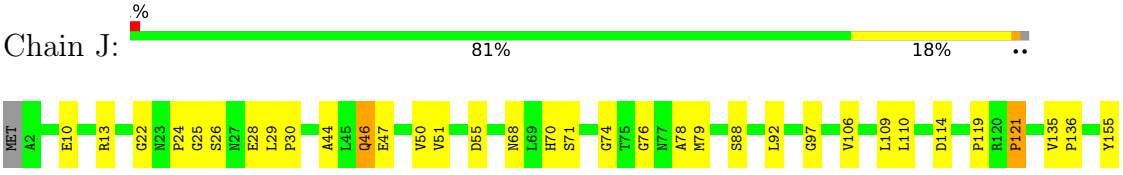
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

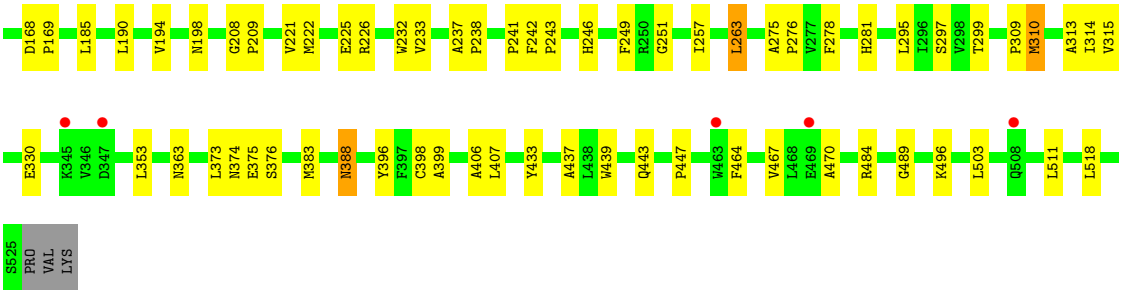
Chain I:



• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

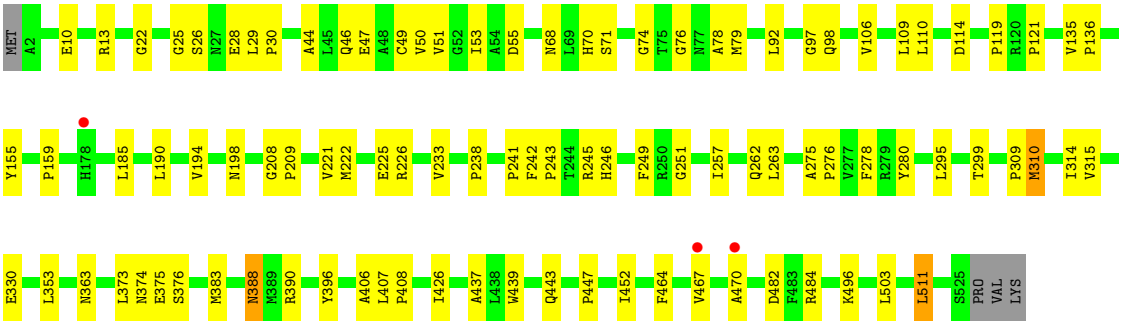
Chain J:





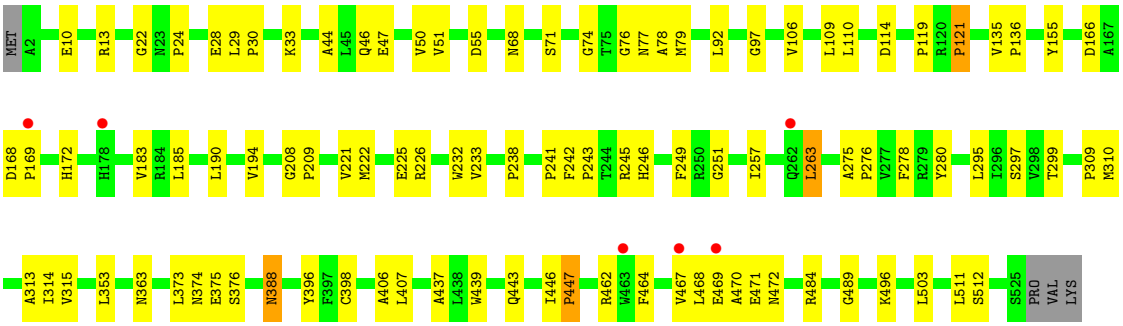
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain K:



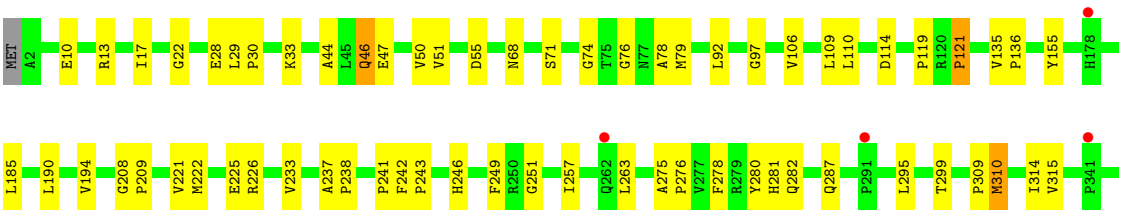
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

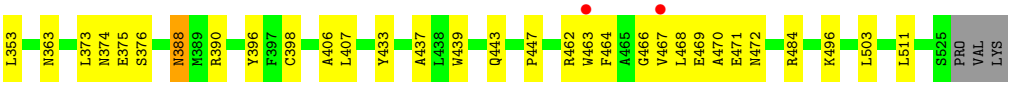
Chain L:



• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

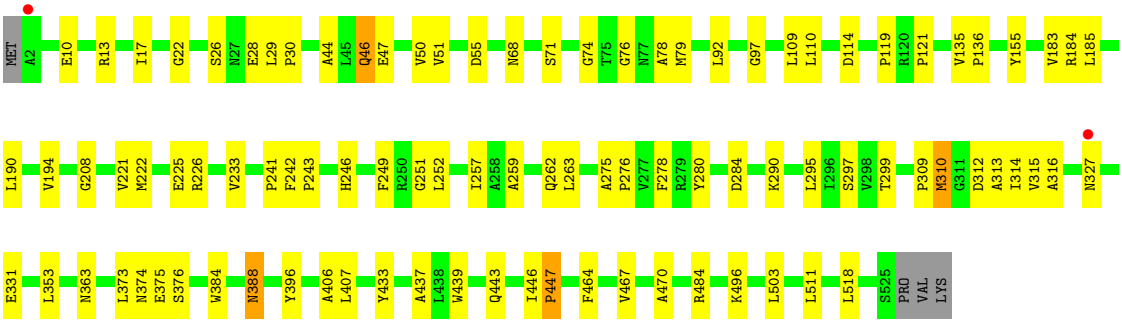
Chain M:





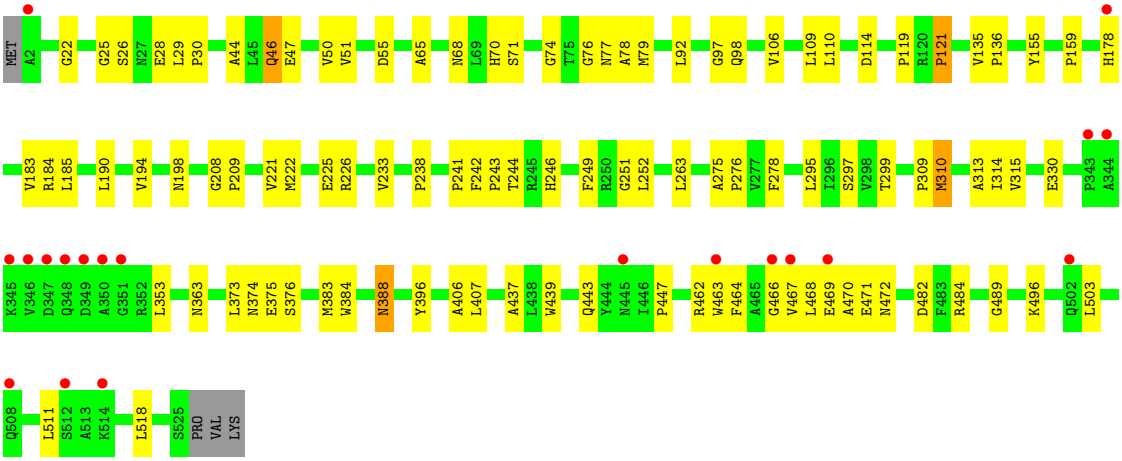
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain N:



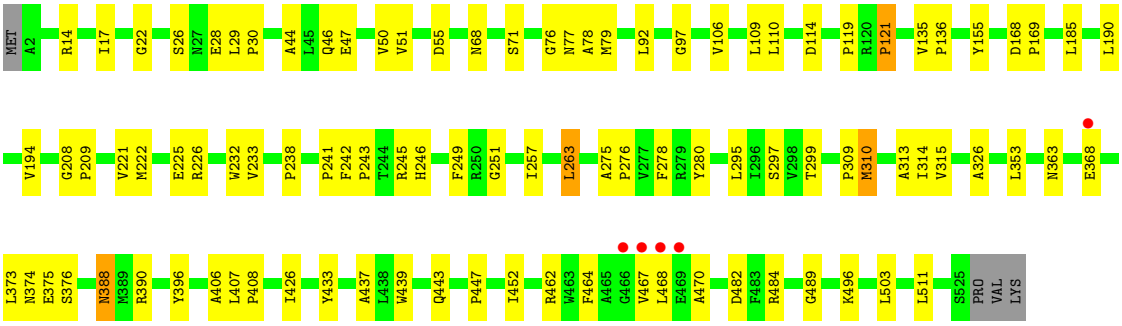
• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain O:



• Molecule 1: BENZOYLFORMATE DECARBOXYLASE

Chain P:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	134.80Å 209.60Å 163.40Å 90.00° 97.10° 90.00°	Depositor
Resolution (Å)	30.00 – 2.80 22.76 – 2.80	Depositor EDS
% Data completeness (in resolution range)	93.6 (30.00-2.80) 93.6 (22.76-2.80)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.64 (at 2.80Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.200 , 0.220 0.197 , 0.216	Depositor DCC
R_{free} test set	20500 reflections (9.91%)	wwPDB-VP
Wilson B-factor (Å^2)	23.6	Xtriage
Anisotropy	0.092	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 32.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	65200	wwPDB-VP
Average B, all atoms (Å^2)	19.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.16% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: RMN, TPP, MG

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	0.35	0/4028	0.59	0/5507
1	B	0.35	0/4028	0.60	0/5507
1	C	0.36	0/4028	0.60	0/5507
1	D	0.35	0/4028	0.59	0/5507
1	E	0.35	0/4028	0.60	0/5507
1	F	0.35	0/4028	0.60	0/5507
1	G	0.35	0/4028	0.60	0/5507
1	H	0.34	0/4028	0.59	0/5507
1	I	0.36	0/4028	0.60	0/5507
1	J	0.35	0/4028	0.60	0/5507
1	K	0.34	0/4028	0.59	0/5507
1	L	0.36	0/4028	0.60	0/5507
1	M	0.35	0/4028	0.60	0/5507
1	N	0.35	0/4028	0.60	0/5507
1	O	0.37	0/4028	0.60	0/5507
1	P	0.36	0/4028	0.60	0/5507
All	All	0.35	0/64448	0.60	0/88112

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3933	0	3860	75	1
1	B	3933	0	3860	114	0
1	C	3933	0	3860	79	2
1	D	3933	0	3860	74	0
1	E	3933	0	3860	79	1
1	F	3933	0	3860	65	1
1	G	3933	0	3860	83	0
1	H	3933	0	3860	80	0
1	I	3933	0	3860	82	0
1	J	3933	0	3860	73	1
1	K	3933	0	3860	76	0
1	L	3933	0	3860	83	1
1	M	3933	0	3860	77	1
1	N	3933	0	3860	87	0
1	O	3933	0	3860	90	0
1	P	3933	0	3860	80	2
2	A	2	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	2	0	0	0	0
2	E	2	0	0	0	0
2	F	1	0	0	0	0
2	G	1	0	0	0	0
2	H	2	0	0	0	0
2	I	2	0	0	0	0
2	J	1	0	0	0	0
2	K	1	0	0	0	0
2	L	2	0	0	0	0
2	M	1	0	0	0	0
2	N	2	0	0	0	0
2	O	1	0	0	0	0
2	P	2	0	0	0	0
3	A	26	0	16	1	0
3	B	26	0	16	0	0
3	C	26	0	16	0	0
3	D	26	0	16	0	0
3	E	26	0	16	0	0
3	F	26	0	16	0	0
3	G	26	0	16	1	0
3	H	26	0	16	0	0
3	I	26	0	16	1	0
3	J	26	0	16	0	0
3	K	26	0	16	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	L	26	0	16	0	0
3	M	26	0	16	0	0
3	N	26	0	16	0	0
3	O	26	0	16	0	0
3	P	26	0	16	0	0
4	A	11	0	7	1	0
4	B	11	0	7	3	0
4	C	11	0	7	3	0
4	D	11	0	7	1	0
4	E	11	0	7	2	0
4	F	11	0	7	2	0
4	G	11	0	7	1	0
4	H	11	0	7	2	0
4	I	11	0	7	2	0
4	J	11	0	7	3	0
4	K	11	0	7	1	0
4	L	11	0	7	2	0
4	M	11	0	7	2	0
4	N	11	0	7	2	0
4	O	11	0	7	1	0
4	P	11	0	7	1	0
5	A	105	0	0	3	0
5	B	99	0	0	2	0
5	C	103	0	0	3	0
5	D	103	0	0	3	0
5	E	101	0	0	5	0
5	F	106	0	0	1	0
5	G	104	0	0	2	0
5	H	104	0	0	3	0
5	I	104	0	0	2	0
5	J	102	0	0	2	0
5	K	104	0	0	3	0
5	L	106	0	0	3	0
5	M	105	0	0	2	0
5	N	102	0	0	1	0
5	O	104	0	0	2	0
5	P	104	0	0	3	0
All	All	65200	0	62128	1133	5

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 9.

All (1133) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:14:ARG:NE	1:G:501:GLU:HG3	1.64	1.12
1:C:3:SER:HB3	1:L:166:ASP:OD2	1.52	1.10
1:B:327:ASN:OD1	1:N:331:GLU:CB	2.02	1.07
1:B:327:ASN:OD1	1:N:331:GLU:HB2	1.56	1.05
1:B:262:GLN:NE2	1:K:262:GLN:HE21	1.56	1.02
1:E:208:GLY:HA3	1:E:275:ALA:HB2	1.43	0.99
1:D:208:GLY:HA3	1:D:275:ALA:HB2	1.44	0.99
1:O:208:GLY:HA3	1:O:275:ALA:HB2	1.45	0.99
1:F:208:GLY:HA3	1:F:275:ALA:HB2	1.45	0.98
1:P:208:GLY:HA3	1:P:275:ALA:HB2	1.45	0.98
1:L:208:GLY:HA3	1:L:275:ALA:HB2	1.43	0.98
1:J:208:GLY:HA3	1:J:275:ALA:HB2	1.46	0.97
1:B:208:GLY:HA3	1:B:275:ALA:HB2	1.47	0.96
1:B:327:ASN:CG	1:N:331:GLU:HB3	1.85	0.96
1:I:208:GLY:HA3	1:I:275:ALA:HB2	1.47	0.96
1:M:208:GLY:HA3	1:M:275:ALA:HB2	1.47	0.96
1:C:208:GLY:HA3	1:C:275:ALA:HB2	1.48	0.96
1:K:208:GLY:HA3	1:K:275:ALA:HB2	1.48	0.96
1:N:208:GLY:HA3	1:N:275:ALA:HB2	1.47	0.96
1:A:208:GLY:HA3	1:A:275:ALA:HB2	1.45	0.95
1:G:208:GLY:HA3	1:G:275:ALA:HB2	1.46	0.94
1:K:79:MET:HG3	1:L:79:MET:HG3	1.46	0.94
1:E:79:MET:HG3	1:F:79:MET:HG3	1.49	0.93
1:H:208:GLY:HA3	1:H:275:ALA:HB2	1.46	0.93
1:B:14:ARG:CD	1:G:501:GLU:HG3	2.00	0.92
1:O:79:MET:HG3	1:P:79:MET:HG3	1.52	0.92
1:C:79:MET:HG3	1:D:79:MET:HG3	1.49	0.91
1:A:79:MET:HG3	1:B:79:MET:HG3	1.54	0.89
1:M:79:MET:HG3	1:N:79:MET:HG3	1.55	0.89
1:G:79:MET:HG3	1:H:79:MET:HG3	1.55	0.88
1:I:79:MET:HG3	1:J:79:MET:HG3	1.55	0.88
1:B:222:MET:HE3	1:N:331:GLU:OE2	1.74	0.88
1:E:464:PHE:CZ	1:E:468:LEU:HD21	2.11	0.86
1:C:3:SER:CB	1:L:166:ASP:OD2	2.25	0.85
1:H:464:PHE:CZ	1:H:468:LEU:HD21	2.11	0.85
1:I:464:PHE:CZ	1:I:468:LEU:HD21	2.11	0.85
1:L:464:PHE:CZ	1:L:468:LEU:HD21	2.11	0.84
1:P:464:PHE:CZ	1:P:468:LEU:HD21	2.12	0.84
1:B:262:GLN:HE21	1:K:262:GLN:HE21	1.24	0.83
1:O:464:PHE:CZ	1:O:468:LEU:HD21	2.13	0.83
1:M:464:PHE:CZ	1:M:468:LEU:HD21	2.14	0.82
1:I:464:PHE:CD1	1:J:29:LEU:HD12	2.16	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:222:MET:CE	1:N:331:GLU:OE2	2.31	0.79
1:E:208:GLY:CA	1:E:275:ALA:HB2	2.17	0.74
1:O:208:GLY:CA	1:O:275:ALA:HB2	2.18	0.74
1:K:29:LEU:HD12	1:L:464:PHE:CD1	2.24	0.73
1:H:208:GLY:CA	1:H:275:ALA:HB2	2.19	0.73
1:M:208:GLY:CA	1:M:275:ALA:HB2	2.19	0.73
1:I:222:MET:O	1:I:226:ARG:HG2	1.89	0.72
1:D:208:GLY:CA	1:D:275:ALA:HB2	2.19	0.72
1:E:464:PHE:CD1	1:F:29:LEU:HD12	2.25	0.72
1:O:29:LEU:HD12	1:P:464:PHE:CD1	2.25	0.71
1:A:208:GLY:CA	1:A:275:ALA:HB2	2.20	0.71
1:K:222:MET:O	1:K:226:ARG:HG2	1.91	0.71
1:G:208:GLY:CA	1:G:275:ALA:HB2	2.19	0.71
1:P:208:GLY:CA	1:P:275:ALA:HB2	2.19	0.71
1:L:208:GLY:CA	1:L:275:ALA:HB2	2.18	0.71
1:B:208:GLY:CA	1:B:275:ALA:HB2	2.20	0.71
1:P:245:ARG:HB2	5:P:1578:HOH:O	1.90	0.71
1:B:262:GLN:NE2	1:K:262:GLN:NE2	2.35	0.71
1:E:222:MET:O	1:E:226:ARG:HG2	1.91	0.71
1:J:208:GLY:CA	1:J:275:ALA:HB2	2.19	0.71
1:F:208:GLY:CA	1:F:275:ALA:HB2	2.19	0.71
1:L:464:PHE:O	1:L:467:VAL:HG22	1.90	0.71
1:F:222:MET:O	1:F:226:ARG:HG2	1.90	0.71
1:I:208:GLY:CA	1:I:275:ALA:HB2	2.20	0.70
1:M:390:ARG:HG3	5:M:1257:HOH:O	1.91	0.70
1:D:222:MET:O	1:D:226:ARG:HG2	1.92	0.70
4:E:534:RMN:H7	1:F:110:LEU:HD11	1.73	0.70
1:B:464:PHE:O	1:B:467:VAL:HG22	1.92	0.70
1:O:222:MET:O	1:O:226:ARG:HG2	1.91	0.70
1:N:208:GLY:CA	1:N:275:ALA:HB2	2.20	0.69
1:L:222:MET:O	1:L:226:ARG:HG2	1.92	0.69
1:O:464:PHE:CD1	1:P:29:LEU:HD12	2.27	0.69
1:C:208:GLY:CA	1:C:275:ALA:HB2	2.21	0.69
1:M:464:PHE:CD1	1:N:29:LEU:HD12	2.28	0.69
1:G:290:LYS:HE2	1:N:284:ASP:OD1	1.93	0.69
1:H:222:MET:O	1:H:226:ARG:HG2	1.92	0.68
1:B:14:ARG:CD	1:G:501:GLU:CG	2.71	0.68
1:A:222:MET:O	1:A:226:ARG:HG2	1.94	0.68
1:A:29:LEU:HD12	1:B:464:PHE:CD1	2.29	0.68
1:C:464:PHE:CD1	1:D:29:LEU:HD12	2.29	0.68
1:A:110:LEU:HD11	4:B:534:RMN:H7	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:208:GLY:CA	1:K:275:ALA:HB2	2.21	0.68
1:C:222:MET:O	1:C:226:ARG:HG2	1.93	0.68
1:G:222:MET:O	1:G:226:ARG:HG2	1.93	0.67
1:J:222:MET:O	1:J:226:ARG:HG2	1.93	0.67
1:B:222:MET:O	1:B:226:ARG:HG2	1.93	0.67
4:M:534:RMN:H7	1:N:110:LEU:HD11	1.75	0.67
1:N:222:MET:O	1:N:226:ARG:HG2	1.93	0.67
1:P:464:PHE:O	1:P:467:VAL:HG22	1.94	0.67
1:E:464:PHE:O	1:E:467:VAL:HG22	1.94	0.67
1:M:222:MET:O	1:M:226:ARG:HG2	1.95	0.67
1:O:464:PHE:O	1:O:467:VAL:HG22	1.95	0.67
1:C:464:PHE:O	1:C:467:VAL:HG22	1.95	0.66
1:C:464:PHE:CE1	1:D:26:SER:HB2	2.30	0.66
1:M:110:LEU:HD11	4:N:534:RMN:H7	1.76	0.66
4:K:534:RMN:H7	1:L:110:LEU:HD11	1.78	0.66
1:H:464:PHE:O	1:H:467:VAL:HG22	1.95	0.66
1:M:464:PHE:O	1:M:467:VAL:HG22	1.95	0.66
1:A:309:PRO:HD3	1:B:106:VAL:HG12	1.78	0.65
1:C:3:SER:HB3	1:L:166:ASP:CG	2.17	0.65
1:J:185:LEU:HD22	1:J:314:ILE:HD13	1.78	0.65
1:H:44:ALA:HB3	1:H:50:VAL:HG22	1.77	0.65
1:G:44:ALA:HB3	1:G:50:VAL:HG22	1.79	0.65
1:P:222:MET:O	1:P:226:ARG:HG2	1.95	0.65
1:G:374:ASN:ND2	1:G:376:SER:H	1.95	0.65
1:J:44:ALA:HB3	1:J:50:VAL:HG22	1.79	0.65
1:K:110:LEU:HD11	4:L:534:RMN:H7	1.79	0.65
1:A:374:ASN:ND2	1:A:376:SER:H	1.95	0.64
1:I:464:PHE:O	1:I:467:VAL:HG22	1.97	0.64
1:K:185:LEU:HD22	1:K:314:ILE:HD13	1.79	0.64
4:C:534:RMN:H7	1:D:110:LEU:HD11	1.79	0.64
1:A:79:MET:HB2	1:B:76:GLY:O	1.98	0.64
1:B:14:ARG:HD3	1:G:501:GLU:OE1	1.98	0.64
1:C:464:PHE:CD1	1:D:26:SER:HB2	2.33	0.64
1:H:374:ASN:ND2	1:H:376:SER:H	1.96	0.64
4:G:534:RMN:H7	1:H:110:LEU:HD11	1.80	0.64
1:I:44:ALA:HB3	1:I:50:VAL:HG22	1.79	0.64
1:L:374:ASN:ND2	1:L:376:SER:H	1.96	0.64
1:P:374:ASN:ND2	1:P:376:SER:H	1.96	0.64
1:D:471:GLU:OE2	1:L:172:HIS:CE1	2.51	0.63
1:G:29:LEU:HD12	1:H:464:PHE:CD1	2.33	0.63
1:N:44:ALA:HB3	1:N:50:VAL:HG22	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:327:ASN:CG	1:N:331:GLU:CB	2.52	0.63
1:E:44:ALA:HB3	1:E:50:VAL:HG22	1.79	0.63
1:M:374:ASN:ND2	1:M:376:SER:H	1.97	0.63
1:E:374:ASN:ND2	1:E:376:SER:H	1.96	0.63
1:C:110:LEU:HD11	4:D:534:RMN:H7	1.81	0.63
1:D:185:LEU:HD22	1:D:314:ILE:HD13	1.81	0.63
1:P:44:ALA:HB3	1:P:50:VAL:HG22	1.80	0.63
1:D:374:ASN:ND2	1:D:376:SER:H	1.97	0.63
1:O:44:ALA:HB3	1:O:50:VAL:HG22	1.80	0.62
1:C:44:ALA:HB3	1:C:50:VAL:HG22	1.80	0.62
1:L:185:LEU:HD22	1:L:314:ILE:HD13	1.80	0.62
1:E:110:LEU:HD11	4:F:534:RMN:H7	1.82	0.62
1:K:374:ASN:ND2	1:K:376:SER:H	1.96	0.62
1:N:374:ASN:ND2	1:N:376:SER:H	1.96	0.62
1:B:374:ASN:ND2	1:B:376:SER:H	1.96	0.62
4:I:534:RMN:H7	1:J:110:LEU:HD11	1.82	0.62
1:F:44:ALA:HB3	1:F:50:VAL:HG22	1.81	0.62
1:O:374:ASN:ND2	1:O:376:SER:H	1.96	0.62
1:C:374:ASN:ND2	1:C:376:SER:H	1.97	0.62
1:B:44:ALA:HB3	1:B:50:VAL:HG22	1.80	0.62
1:I:464:PHE:HD1	1:J:29:LEU:HD12	1.64	0.62
1:A:185:LEU:HD22	1:A:314:ILE:HD13	1.82	0.62
1:I:110:LEU:HD11	4:J:534:RMN:H7	1.81	0.62
1:J:374:ASN:ND2	1:J:376:SER:H	1.97	0.61
1:P:467:VAL:HG23	1:P:468:LEU:N	2.15	0.61
1:B:467:VAL:HG23	1:B:468:LEU:N	2.16	0.61
1:G:262:GLN:HG2	1:N:262:GLN:HG2	1.80	0.61
1:I:374:ASN:ND2	1:I:376:SER:H	1.98	0.61
1:A:44:ALA:HB3	1:A:50:VAL:HG22	1.83	0.61
1:O:110:LEU:HD11	4:P:534:RMN:H7	1.82	0.61
1:D:44:ALA:HB3	1:D:50:VAL:HG22	1.82	0.61
1:K:44:ALA:HB3	1:K:50:VAL:HG22	1.83	0.61
1:M:44:ALA:HB3	1:M:50:VAL:HG22	1.81	0.61
1:F:185:LEU:HD22	1:F:314:ILE:HD13	1.82	0.61
1:B:467:VAL:CG2	1:B:468:LEU:N	2.64	0.61
1:P:467:VAL:CG2	1:P:468:LEU:N	2.64	0.61
1:G:110:LEU:HD11	4:H:534:RMN:H7	1.83	0.60
1:E:79:MET:CG	1:F:79:MET:HG3	2.29	0.60
1:B:464:PHE:CZ	1:B:468:LEU:HD21	2.36	0.60
1:C:185:LEU:HD22	1:C:314:ILE:HD13	1.84	0.60
1:E:76:GLY:O	1:F:79:MET:HB2	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:374:ASN:ND2	1:F:376:SER:H	1.99	0.60
1:I:464:PHE:CE2	1:I:468:LEU:HD21	2.36	0.60
1:D:221:VAL:O	1:D:225:GLU:HG3	2.02	0.60
1:L:467:VAL:HG23	1:L:468:LEU:N	2.16	0.60
1:H:464:PHE:CE2	1:H:468:LEU:HD21	2.37	0.60
1:L:467:VAL:CG2	1:L:468:LEU:N	2.64	0.60
1:H:185:LEU:HD22	1:H:314:ILE:HD13	1.83	0.60
1:O:467:VAL:CG2	1:O:468:LEU:N	2.64	0.60
1:O:467:VAL:HG23	1:O:468:LEU:N	2.17	0.60
1:K:79:MET:HG3	1:L:79:MET:CG	2.28	0.59
1:A:79:MET:HG3	1:B:79:MET:CG	2.31	0.59
1:B:185:LEU:HD22	1:B:314:ILE:HD13	1.82	0.59
1:E:467:VAL:HG23	1:E:468:LEU:N	2.17	0.59
1:K:79:MET:CG	1:L:79:MET:HG3	2.28	0.59
1:N:185:LEU:HD22	1:N:314:ILE:HD13	1.84	0.59
1:O:185:LEU:HD22	1:O:314:ILE:HD13	1.83	0.59
1:G:221:VAL:O	1:G:225:GLU:HG3	2.02	0.59
1:H:44:ALA:HB3	1:H:50:VAL:CG2	2.32	0.59
1:I:221:VAL:O	1:I:225:GLU:HG3	2.02	0.59
1:E:464:PHE:CE2	1:E:468:LEU:HD21	2.37	0.59
1:L:44:ALA:HB3	1:L:50:VAL:HG22	1.83	0.59
1:P:464:PHE:CE2	1:P:468:LEU:HD21	2.37	0.59
1:P:185:LEU:HD22	1:P:314:ILE:HD13	1.84	0.59
1:A:221:VAL:O	1:A:225:GLU:HG3	2.03	0.59
1:B:468:LEU:C	1:B:470:ALA:N	2.53	0.59
1:E:467:VAL:CG2	1:E:468:LEU:N	2.65	0.59
1:L:464:PHE:CE2	1:L:468:LEU:HD21	2.37	0.59
1:M:185:LEU:HD22	1:M:314:ILE:HD13	1.84	0.59
1:K:79:MET:HB2	1:L:76:GLY:O	2.03	0.59
1:N:221:VAL:O	1:N:225:GLU:HG3	2.02	0.59
1:G:79:MET:HB2	1:H:76:GLY:O	2.02	0.58
1:G:185:LEU:HD22	1:G:314:ILE:HD13	1.84	0.58
1:P:221:VAL:O	1:P:225:GLU:HG3	2.03	0.58
1:G:44:ALA:HB3	1:G:50:VAL:CG2	2.33	0.58
1:H:221:VAL:O	1:H:225:GLU:HG3	2.02	0.58
1:H:467:VAL:CG2	1:H:468:LEU:N	2.66	0.58
1:I:185:LEU:HD22	1:I:314:ILE:HD13	1.85	0.58
1:C:467:VAL:HG23	1:C:468:LEU:N	2.18	0.58
1:H:467:VAL:HG23	1:H:468:LEU:N	2.18	0.58
1:J:221:VAL:O	1:J:225:GLU:HG3	2.02	0.58
1:B:221:VAL:O	1:B:225:GLU:HG3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:468:LEU:C	1:C:470:ALA:N	2.56	0.58
1:A:110:LEU:HD21	4:B:534:RMN:H7	1.85	0.58
1:H:468:LEU:C	1:H:470:ALA:N	2.57	0.58
1:M:468:LEU:C	1:M:470:ALA:N	2.56	0.58
1:B:262:GLN:HE21	1:K:262:GLN:NE2	1.99	0.58
1:C:79:MET:CG	1:D:79:MET:HG3	2.29	0.58
1:C:76:GLY:O	1:D:79:MET:HB2	2.04	0.57
1:G:262:GLN:NE2	1:N:259:ALA:HA	2.19	0.57
1:K:221:VAL:O	1:K:225:GLU:HG3	2.03	0.57
1:O:44:ALA:HB3	1:O:50:VAL:CG2	2.34	0.57
1:A:470:ALA:HB1	1:B:33:LYS:HB3	1.86	0.57
1:E:185:LEU:HD22	1:E:314:ILE:HD13	1.86	0.57
4:A:534:RMN:H7	1:B:110:LEU:HD11	1.86	0.57
1:C:467:VAL:CG2	1:C:468:LEU:N	2.68	0.57
1:G:79:MET:HG3	1:H:79:MET:CG	2.33	0.57
1:I:44:ALA:HB3	1:I:50:VAL:CG2	2.35	0.57
1:C:221:VAL:O	1:C:225:GLU:HG3	2.05	0.57
1:E:44:ALA:HB3	1:E:50:VAL:CG2	2.34	0.57
1:M:467:VAL:CG2	1:M:468:LEU:N	2.67	0.57
1:E:468:LEU:C	1:E:470:ALA:N	2.58	0.57
1:A:114:ASP:HB3	1:B:121:PRO:HG3	1.86	0.57
1:C:79:MET:HG3	1:D:79:MET:CG	2.30	0.56
1:C:464:PHE:CZ	1:C:468:LEU:HD21	2.39	0.56
1:B:14:ARG:HD3	1:G:501:GLU:CD	2.26	0.56
1:E:79:MET:HG3	1:F:79:MET:CG	2.30	0.56
1:I:79:MET:HB2	1:J:76:GLY:O	2.04	0.56
1:I:467:VAL:CG2	1:I:468:LEU:N	2.69	0.56
1:K:29:LEU:HD12	1:L:464:PHE:HD1	1.70	0.56
1:M:464:PHE:CE2	1:M:468:LEU:HD21	2.39	0.56
1:O:464:PHE:CE2	1:O:468:LEU:HD21	2.39	0.56
1:B:44:ALA:HB3	1:B:50:VAL:CG2	2.35	0.56
1:G:309:PRO:HD3	1:H:106:VAL:HG12	1.87	0.56
1:O:468:LEU:C	1:O:470:ALA:N	2.56	0.56
1:P:468:LEU:C	1:P:470:ALA:N	2.58	0.56
1:L:221:VAL:O	1:L:225:GLU:HG3	2.06	0.56
1:N:44:ALA:HB3	1:N:50:VAL:CG2	2.35	0.56
4:O:534:RMN:H7	1:P:110:LEU:HD11	1.85	0.56
1:O:79:MET:CG	1:P:79:MET:HG3	2.33	0.56
1:C:44:ALA:HB3	1:C:50:VAL:CG2	2.36	0.56
1:K:76:GLY:O	1:L:79:MET:HB2	2.06	0.56
1:M:221:VAL:O	1:M:225:GLU:HG3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:44:ALA:HB3	1:J:50:VAL:CG2	2.36	0.55
1:M:467:VAL:HG23	1:M:468:LEU:N	2.19	0.55
1:A:26:SER:HB2	1:B:464:PHE:CE1	2.41	0.55
1:O:65:ALA:HA	5:O:1516:HOH:O	2.07	0.55
1:I:468:LEU:C	1:I:470:ALA:N	2.56	0.55
1:B:14:ARG:CD	1:G:501:GLU:CD	2.74	0.55
1:F:221:VAL:O	1:F:225:GLU:HG3	2.06	0.55
1:F:363:ASN:ND2	1:F:388:ASN:H	2.04	0.55
1:C:79:MET:HB2	1:D:76:GLY:O	2.06	0.55
1:A:363:ASN:ND2	1:A:388:ASN:H	2.05	0.55
1:P:44:ALA:HB3	1:P:50:VAL:CG2	2.37	0.55
1:B:22:GLY:HA2	1:B:50:VAL:HG11	1.89	0.55
1:I:467:VAL:HG23	1:I:468:LEU:N	2.21	0.55
1:E:221:VAL:O	1:E:225:GLU:HG3	2.07	0.55
1:G:76:GLY:O	1:H:79:MET:HB2	2.06	0.55
1:G:284:ASP:OD1	1:N:290:LYS:HE2	2.07	0.55
1:H:276:PRO:HD3	5:H:565:HOH:O	2.07	0.55
1:N:17:ILE:HA	5:N:620:HOH:O	2.05	0.55
1:I:76:GLY:O	1:J:79:MET:HB2	2.07	0.54
1:O:79:MET:HB2	1:P:76:GLY:O	2.07	0.54
1:P:22:GLY:HA2	1:P:50:VAL:HG11	1.90	0.54
1:B:14:ARG:CZ	1:G:501:GLU:HG3	2.36	0.54
1:E:484:ARG:HD2	1:E:496:LYS:HB2	1.89	0.54
1:I:22:GLY:HA2	1:I:50:VAL:HG11	1.88	0.54
1:B:327:ASN:ND2	1:N:331:GLU:HB3	2.21	0.54
1:G:79:MET:CG	1:H:79:MET:HG3	2.34	0.54
1:P:222:MET:HG2	1:P:326:ALA:HB1	1.89	0.54
1:I:183:VAL:HG21	1:L:183:VAL:HG21	1.90	0.54
1:L:439:TRP:CH2	1:L:443:GLN:HG3	2.43	0.54
1:M:44:ALA:HB3	1:M:50:VAL:CG2	2.37	0.54
1:M:76:GLY:O	1:N:79:MET:HB2	2.06	0.54
1:A:44:ALA:HB3	1:A:50:VAL:CG2	2.38	0.54
1:D:22:GLY:HA2	1:D:50:VAL:HG11	1.88	0.54
1:E:79:MET:HB2	1:F:76:GLY:O	2.08	0.54
1:F:44:ALA:HB3	1:F:50:VAL:CG2	2.38	0.54
1:L:468:LEU:C	1:L:470:ALA:N	2.57	0.54
1:M:79:MET:HG3	1:N:79:MET:CG	2.35	0.54
1:K:121:PRO:HG3	1:L:114:ASP:HB3	1.90	0.54
1:J:22:GLY:HA2	1:J:50:VAL:HG11	1.90	0.54
1:E:22:GLY:HA2	1:E:50:VAL:HG11	1.90	0.53
1:M:79:MET:CG	1:N:79:MET:HG3	2.35	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:28:GLU:OE2	1:D:97:GLY:HA3	2.09	0.53
1:K:135:VAL:HB	1:K:136:PRO:HD3	1.91	0.53
1:B:222:MET:SD	1:N:226:ARG:NH1	2.73	0.53
1:I:79:MET:CG	1:J:79:MET:HG3	2.33	0.53
1:B:327:ASN:HD21	1:N:331:GLU:HG2	1.74	0.53
1:G:119:PRO:HG3	1:G:155:TYR:CG	2.43	0.53
1:C:135:VAL:HB	1:C:136:PRO:HD3	1.91	0.53
1:K:44:ALA:HB3	1:K:50:VAL:CG2	2.39	0.53
1:O:29:LEU:HD12	1:P:464:PHE:HD1	1.72	0.53
1:O:76:GLY:O	1:P:79:MET:HB2	2.08	0.53
1:A:46:GLN:HG3	1:B:433:TYR:HA	1.91	0.53
1:I:135:VAL:HB	1:I:136:PRO:HD3	1.91	0.53
1:E:28:GLU:OE2	1:E:97:GLY:HA3	2.09	0.53
1:F:363:ASN:HD21	1:F:388:ASN:H	1.55	0.53
1:K:114:ASP:HB3	1:L:121:PRO:HG3	1.89	0.53
1:M:363:ASN:ND2	1:M:388:ASN:H	2.07	0.53
1:D:44:ALA:HB3	1:D:50:VAL:CG2	2.39	0.53
1:E:464:PHE:HD1	1:F:29:LEU:HD12	1.70	0.53
1:O:119:PRO:HG3	1:O:155:TYR:CG	2.44	0.53
1:O:221:VAL:O	1:O:225:GLU:HG3	2.09	0.53
1:D:135:VAL:HB	1:D:136:PRO:HD3	1.90	0.52
1:A:79:MET:CG	1:B:79:MET:HG3	2.35	0.52
1:B:471:GLU:O	1:B:472:ASN:HB2	2.10	0.52
1:K:309:PRO:HD3	1:L:106:VAL:HG12	1.92	0.52
1:N:28:GLU:OE2	1:N:97:GLY:HA3	2.09	0.52
1:L:363:ASN:ND2	1:L:388:ASN:H	2.06	0.52
1:P:17:ILE:HA	5:P:1639:HOH:O	2.09	0.52
1:L:44:ALA:HB3	1:L:50:VAL:CG2	2.39	0.52
1:F:22:GLY:HA2	1:F:50:VAL:HG11	1.92	0.52
1:E:121:PRO:HG3	1:F:114:ASP:HB3	1.92	0.52
1:L:135:VAL:HB	1:L:136:PRO:HD3	1.92	0.52
1:H:363:ASN:ND2	1:H:388:ASN:H	2.08	0.52
1:L:119:PRO:HG3	1:L:155:TYR:CG	2.45	0.52
1:M:135:VAL:HB	1:M:136:PRO:HD3	1.91	0.52
1:I:17:ILE:HA	5:I:915:HOH:O	2.09	0.52
1:M:464:PHE:HD1	1:N:29:LEU:HD12	1.73	0.52
1:N:135:VAL:HB	1:N:136:PRO:HD3	1.91	0.52
1:D:119:PRO:HG3	1:D:155:TYR:CG	2.45	0.52
1:E:363:ASN:ND2	1:E:388:ASN:H	2.08	0.52
1:I:119:PRO:HG3	1:I:155:TYR:CG	2.45	0.52
1:P:439:TRP:CH2	1:P:443:GLN:HG3	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:135:VAL:HB	1:A:136:PRO:HD3	1.92	0.51
1:P:363:ASN:ND2	1:P:388:ASN:H	2.09	0.51
1:A:109:LEU:HD23	1:B:281:HIS:CD2	2.46	0.51
1:H:439:TRP:CH2	1:H:443:GLN:HG3	2.45	0.51
1:N:109:LEU:O	1:N:110:LEU:HB2	2.11	0.51
1:B:119:PRO:HG3	1:B:155:TYR:CG	2.46	0.51
1:E:28:GLU:HB3	1:E:68:ASN:HD21	1.75	0.51
1:G:109:LEU:O	1:G:110:LEU:HB2	2.11	0.51
1:M:363:ASN:HD21	1:M:388:ASN:H	1.58	0.51
1:O:28:GLU:HB3	1:O:68:ASN:HD21	1.76	0.51
1:C:22:GLY:HA2	1:C:50:VAL:HG11	1.91	0.51
1:G:363:ASN:ND2	1:G:388:ASN:H	2.09	0.51
1:K:119:PRO:HG3	1:K:155:TYR:CG	2.46	0.51
1:L:276:PRO:HD3	5:L:570:HOH:O	2.09	0.51
1:M:119:PRO:HG3	1:M:155:TYR:CG	2.46	0.51
1:N:363:ASN:ND2	1:N:388:ASN:H	2.09	0.51
1:J:119:PRO:HG3	1:J:155:TYR:CG	2.46	0.51
1:O:114:ASP:HB3	1:P:121:PRO:HG3	1.92	0.51
1:A:363:ASN:HD21	1:A:388:ASN:H	1.57	0.51
1:C:121:PRO:HG3	1:D:114:ASP:HB3	1.93	0.51
1:D:388:ASN:C	1:D:388:ASN:HD22	2.13	0.51
1:E:135:VAL:HB	1:E:136:PRO:HD3	1.93	0.51
1:K:439:TRP:CH2	1:K:443:GLN:HG3	2.46	0.51
1:E:363:ASN:HD21	1:E:388:ASN:H	1.59	0.51
1:E:439:TRP:CH2	1:E:443:GLN:HG3	2.46	0.51
1:K:363:ASN:ND2	1:K:388:ASN:H	2.09	0.51
1:M:439:TRP:CH2	1:M:443:GLN:HG3	2.45	0.51
1:O:79:MET:HG3	1:P:79:MET:CG	2.33	0.51
1:G:110:LEU:HD21	4:H:534:RMN:H7	1.92	0.51
1:H:22:GLY:HA2	1:H:50:VAL:HG11	1.92	0.51
1:I:79:MET:HG3	1:J:79:MET:CG	2.34	0.51
1:J:363:ASN:ND2	1:J:388:ASN:H	2.09	0.51
1:M:79:MET:HB2	1:N:76:GLY:O	2.10	0.51
1:C:119:PRO:HG3	1:C:155:TYR:CG	2.46	0.51
1:A:119:PRO:HG3	1:A:155:TYR:CG	2.46	0.50
1:D:439:TRP:CH2	1:D:443:GLN:HG3	2.45	0.50
1:G:22:GLY:HA2	1:G:50:VAL:HG11	1.92	0.50
1:I:309:PRO:HD3	1:J:106:VAL:HG12	1.92	0.50
1:O:22:GLY:HA2	1:O:50:VAL:HG11	1.93	0.50
1:P:28:GLU:OE2	1:P:97:GLY:HA3	2.11	0.50
1:B:135:VAL:HB	1:B:136:PRO:HD3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:51:VAL:HG21	1:J:78:ALA:HB1	1.93	0.50
1:O:135:VAL:HB	1:O:136:PRO:HD3	1.92	0.50
1:I:110:LEU:HD21	4:J:534:RMN:H7	1.92	0.50
1:M:22:GLY:HA2	1:M:50:VAL:HG11	1.93	0.50
1:N:119:PRO:HG3	1:N:155:TYR:CG	2.46	0.50
1:I:439:TRP:CH2	1:I:443:GLN:HG3	2.45	0.50
1:K:22:GLY:HA2	1:K:50:VAL:HG11	1.94	0.50
1:K:28:GLU:OE2	1:K:97:GLY:HA3	2.11	0.50
1:K:484:ARG:HD2	1:K:496:LYS:HB2	1.93	0.50
1:E:119:PRO:HG3	1:E:155:TYR:CG	2.46	0.50
1:F:119:PRO:HG3	1:F:155:TYR:CG	2.46	0.50
1:N:22:GLY:HA2	1:N:50:VAL:HG11	1.94	0.50
1:P:135:VAL:HB	1:P:136:PRO:HD3	1.93	0.50
1:A:243:PRO:HG2	1:A:246:HIS:HB2	1.94	0.50
1:C:28:GLU:OE2	1:C:97:GLY:HA3	2.11	0.50
1:G:470:ALA:HB1	1:H:33:LYS:HB3	1.94	0.50
1:J:135:VAL:HB	1:J:136:PRO:HD3	1.93	0.50
1:L:22:GLY:HA2	1:L:50:VAL:HG11	1.93	0.50
1:L:439:TRP:CZ2	1:L:443:GLN:HG3	2.46	0.50
1:F:439:TRP:CH2	1:F:443:GLN:HG3	2.46	0.50
1:H:28:GLU:OE2	1:H:97:GLY:HA3	2.12	0.50
1:L:28:GLU:OE2	1:L:97:GLY:HA3	2.11	0.50
1:O:363:ASN:ND2	1:O:388:ASN:H	2.10	0.50
1:C:439:TRP:CH2	1:C:443:GLN:HG3	2.47	0.50
1:D:353:LEU:HD22	1:D:503:LEU:HD22	1.94	0.50
1:F:135:VAL:HB	1:F:136:PRO:HD3	1.93	0.50
1:I:51:VAL:HG21	1:I:78:ALA:HB1	1.93	0.50
1:O:375:GLU:HB2	1:O:406:ALA:CB	2.42	0.50
1:G:28:GLU:OE2	1:G:97:GLY:HA3	2.11	0.50
1:K:353:LEU:HD22	1:K:503:LEU:HD22	1.94	0.50
1:A:439:TRP:CH2	1:A:443:GLN:HG3	2.47	0.49
1:B:28:GLU:OE2	1:B:97:GLY:HA3	2.12	0.49
1:M:439:TRP:CZ2	1:M:443:GLN:HG3	2.47	0.49
1:M:484:ARG:HD2	1:M:496:LYS:HB2	1.94	0.49
1:I:28:GLU:OE2	1:I:97:GLY:HA3	2.12	0.49
1:L:109:LEU:O	1:L:110:LEU:HB2	2.12	0.49
1:O:388:ASN:C	1:O:388:ASN:HD22	2.15	0.49
1:D:484:ARG:HD2	1:D:496:LYS:HB2	1.94	0.49
1:F:109:LEU:O	1:F:110:LEU:HB2	2.12	0.49
1:G:28:GLU:HB3	1:G:68:ASN:HD21	1.77	0.49
1:H:28:GLU:HB3	1:H:68:ASN:HD21	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:363:ASN:HD21	1:H:388:ASN:H	1.61	0.49
1:M:28:GLU:OE2	1:M:97:GLY:HA3	2.12	0.49
1:G:439:TRP:CH2	1:G:443:GLN:HG3	2.47	0.49
1:I:363:ASN:ND2	1:I:388:ASN:H	2.10	0.49
1:C:28:GLU:HB3	1:C:68:ASN:HD21	1.77	0.49
1:I:353:LEU:HD22	1:I:503:LEU:HD22	1.95	0.49
1:J:28:GLU:OE2	1:J:97:GLY:HA3	2.12	0.49
1:K:109:LEU:O	1:K:110:LEU:HB2	2.11	0.49
1:O:243:PRO:HG2	1:O:246:HIS:HB2	1.94	0.49
1:I:109:LEU:O	1:I:110:LEU:HB2	2.12	0.49
1:N:243:PRO:HG2	1:N:246:HIS:HB2	1.94	0.49
1:F:276:PRO:HD3	5:F:566:HOH:O	2.12	0.49
1:G:135:VAL:HB	1:G:136:PRO:HD3	1.94	0.49
1:H:51:VAL:HG21	1:H:78:ALA:HB1	1.94	0.49
1:O:109:LEU:O	1:O:110:LEU:HB2	2.12	0.49
1:B:467:VAL:CG2	1:B:468:LEU:H	2.26	0.49
1:G:51:VAL:HG21	1:G:78:ALA:HB1	1.95	0.49
1:L:243:PRO:HG2	1:L:246:HIS:HB2	1.93	0.49
1:N:439:TRP:CH2	1:N:443:GLN:HG3	2.48	0.49
1:B:439:TRP:CH2	1:B:443:GLN:HG3	2.48	0.49
1:L:28:GLU:HB3	1:L:68:ASN:HD21	1.78	0.49
1:M:121:PRO:HG3	1:N:114:ASP:HB3	1.95	0.49
1:P:28:GLU:HB3	1:P:68:ASN:HD21	1.78	0.49
1:C:243:PRO:HG2	1:C:246:HIS:HB2	1.94	0.48
1:F:28:GLU:OE2	1:F:97:GLY:HA3	2.12	0.48
1:I:28:GLU:HB3	1:I:68:ASN:HD21	1.77	0.48
1:J:439:TRP:CH2	1:J:443:GLN:HG3	2.48	0.48
1:N:184:ARG:NH2	1:O:184:ARG:NH2	2.61	0.48
1:O:276:PRO:HD3	5:O:1476:HOH:O	2.12	0.48
1:B:468:LEU:C	1:B:470:ALA:H	2.15	0.48
1:D:388:ASN:C	1:D:388:ASN:ND2	2.66	0.48
1:I:245:ARG:HB2	5:I:853:HOH:O	2.12	0.48
1:I:439:TRP:CZ2	1:I:443:GLN:HG3	2.48	0.48
1:I:484:ARG:HD2	1:I:496:LYS:HB2	1.94	0.48
1:M:114:ASP:HB3	1:N:121:PRO:HG3	1.95	0.48
1:O:464:PHE:CE1	1:P:26:SER:HB2	2.49	0.48
1:D:28:GLU:HB3	1:D:68:ASN:HD21	1.78	0.48
1:E:114:ASP:HB3	1:F:121:PRO:HG3	1.95	0.48
1:E:439:TRP:CZ2	1:E:443:GLN:HG3	2.48	0.48
1:J:28:GLU:HB3	1:J:68:ASN:HD21	1.78	0.48
1:L:363:ASN:HD21	1:L:388:ASN:H	1.59	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:462:ARG:NH1	1:M:462:ARG:HG2	2.28	0.48
1:P:243:PRO:HG2	1:P:246:HIS:HB2	1.94	0.48
1:B:28:GLU:HB3	1:B:68:ASN:HD21	1.77	0.48
1:B:388:ASN:C	1:B:388:ASN:HD22	2.16	0.48
1:G:353:LEU:HD22	1:G:503:LEU:HD22	1.95	0.48
1:O:353:LEU:HD22	1:O:503:LEU:HD22	1.96	0.48
1:P:119:PRO:HG3	1:P:155:TYR:CG	2.48	0.48
1:E:238:PRO:HD2	5:E:538:HOH:O	2.13	0.48
1:F:243:PRO:HG2	1:F:246:HIS:HB2	1.96	0.48
1:H:439:TRP:CZ2	1:H:443:GLN:HG3	2.49	0.48
1:O:121:PRO:HG3	1:P:114:ASP:HB3	1.95	0.48
1:P:363:ASN:HD21	1:P:388:ASN:H	1.61	0.48
1:A:29:LEU:HD12	1:B:464:PHE:HD1	1.77	0.48
1:A:353:LEU:HD22	1:A:503:LEU:HD22	1.95	0.48
1:B:243:PRO:HG2	1:B:246:HIS:HB2	1.95	0.48
1:H:243:PRO:HG2	1:H:246:HIS:HB2	1.96	0.48
1:I:363:ASN:HD21	1:I:388:ASN:H	1.60	0.48
1:K:28:GLU:HB3	1:K:68:ASN:HD21	1.78	0.48
1:O:484:ARG:HD2	1:O:496:LYS:HB2	1.95	0.48
1:A:484:ARG:HD2	1:A:496:LYS:HB2	1.96	0.48
3:A:533:TPP:H7'1	1:B:24:PRO:O	2.13	0.48
1:B:327:ASN:OD1	1:N:331:GLU:CG	2.61	0.48
1:I:243:PRO:HG2	1:I:246:HIS:HB2	1.95	0.48
1:P:51:VAL:HG21	1:P:78:ALA:HB1	1.96	0.48
1:C:198:ASN:ND2	1:C:330:GLU:HG3	2.28	0.48
1:C:375:GLU:HB2	1:C:406:ALA:CB	2.44	0.48
1:E:109:LEU:O	1:E:110:LEU:HB2	2.14	0.48
1:H:135:VAL:HB	1:H:136:PRO:HD3	1.94	0.48
1:M:243:PRO:HG2	1:M:246:HIS:HB2	1.96	0.48
1:P:375:GLU:HB2	1:P:406:ALA:CB	2.44	0.48
1:G:243:PRO:HG2	1:G:246:HIS:HB2	1.96	0.48
1:J:363:ASN:HD21	1:J:388:ASN:H	1.61	0.48
1:J:484:ARG:HD2	1:J:496:LYS:HB2	1.94	0.48
1:L:353:LEU:HD22	1:L:503:LEU:HD22	1.95	0.48
1:O:439:TRP:CH2	1:O:443:GLN:HG3	2.48	0.48
1:H:119:PRO:HG3	1:H:155:TYR:CG	2.48	0.48
1:J:243:PRO:HG2	1:J:246:HIS:HB2	1.95	0.48
1:A:51:VAL:HG21	1:A:78:ALA:HB1	1.96	0.47
1:G:439:TRP:CZ2	1:G:443:GLN:HG3	2.49	0.47
1:M:375:GLU:HB2	1:M:406:ALA:CB	2.44	0.47
1:N:363:ASN:HD21	1:N:388:ASN:H	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:484:ARG:HD2	1:P:496:LYS:HB2	1.95	0.47
1:G:26:SER:HB2	1:H:464:PHE:CE1	2.48	0.47
1:G:114:ASP:HB3	1:H:121:PRO:HG3	1.95	0.47
1:J:109:LEU:O	1:J:110:LEU:HB2	2.13	0.47
1:L:375:GLU:HB2	1:L:406:ALA:CB	2.43	0.47
1:L:468:LEU:C	1:L:470:ALA:H	2.18	0.47
1:O:26:SER:HB2	1:P:464:PHE:CE1	2.49	0.47
1:O:28:GLU:OE2	1:O:97:GLY:HA3	2.13	0.47
1:B:222:MET:CE	1:N:226:ARG:HH11	2.27	0.47
1:D:243:PRO:HG2	1:D:246:HIS:HB2	1.96	0.47
1:K:375:GLU:HB2	1:K:406:ALA:CB	2.44	0.47
1:L:51:VAL:HG21	1:L:78:ALA:HB1	1.96	0.47
1:M:471:GLU:O	1:M:472:ASN:HB2	2.14	0.47
1:B:484:ARG:HD2	1:B:496:LYS:HB2	1.95	0.47
1:F:464:PHE:HA	1:F:467:VAL:HG22	1.97	0.47
1:A:32:LEU:HB3	1:B:474:PRO:HD2	1.97	0.47
1:A:375:GLU:HB2	1:A:406:ALA:CB	2.45	0.47
1:G:109:LEU:HD23	1:H:281:HIS:CD2	2.50	0.47
1:G:363:ASN:HD21	1:G:388:ASN:H	1.61	0.47
1:K:276:PRO:HD3	5:K:562:HOH:O	2.15	0.47
1:K:363:ASN:HD21	1:K:388:ASN:H	1.61	0.47
1:M:28:GLU:HB3	1:M:68:ASN:HD21	1.80	0.47
1:M:388:ASN:HD22	1:M:388:ASN:C	2.17	0.47
1:O:55:ASP:HA	1:O:92:LEU:HD21	1.97	0.47
1:I:55:ASP:HA	1:I:92:LEU:HD21	1.97	0.47
1:N:375:GLU:HB2	1:N:406:ALA:CB	2.45	0.47
1:N:439:TRP:CZ2	1:N:443:GLN:HG3	2.48	0.47
1:O:299:THR:O	1:O:315:VAL:HA	2.14	0.47
1:B:109:LEU:O	1:B:110:LEU:HB2	2.14	0.47
1:B:439:TRP:CZ2	1:B:443:GLN:HG3	2.49	0.47
1:C:114:ASP:HB3	1:D:121:PRO:HG3	1.96	0.47
1:D:439:TRP:CZ2	1:D:443:GLN:HG3	2.50	0.47
1:E:309:PRO:HD3	1:F:106:VAL:HG12	1.95	0.47
1:K:243:PRO:HG2	1:K:246:HIS:HB2	1.95	0.47
1:L:388:ASN:C	1:L:388:ASN:HD22	2.18	0.47
1:O:249:PHE:CE2	1:O:251:GLY:HA2	2.50	0.47
1:A:184:ARG:NH2	1:D:184:ARG:NH2	2.63	0.47
1:B:353:LEU:HD22	1:B:503:LEU:HD22	1.96	0.47
1:C:109:LEU:O	1:C:110:LEU:HB2	2.15	0.47
1:D:375:GLU:HB2	1:D:406:ALA:CB	2.45	0.47
1:G:388:ASN:C	1:G:388:ASN:HD22	2.18	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:468:LEU:C	1:H:470:ALA:H	2.17	0.47
1:I:114:ASP:HB3	1:J:121:PRO:HG3	1.97	0.47
1:K:439:TRP:CZ2	1:K:443:GLN:HG3	2.50	0.47
1:M:276:PRO:O	1:M:278:PHE:HA	2.15	0.47
1:O:51:VAL:HG21	1:O:78:ALA:HB1	1.97	0.47
1:O:468:LEU:C	1:O:470:ALA:H	2.17	0.47
1:C:363:ASN:ND2	1:C:388:ASN:H	2.11	0.47
1:C:468:LEU:C	1:C:470:ALA:H	2.17	0.47
1:F:353:LEU:HD22	1:F:503:LEU:HD22	1.97	0.47
1:P:439:TRP:CZ2	1:P:443:GLN:HG3	2.49	0.47
1:A:373:LEU:HG	1:A:396:TYR:HB2	1.97	0.47
1:C:106:VAL:HG12	1:D:309:PRO:HD3	1.97	0.47
1:E:190:LEU:O	1:E:194:VAL:HG23	2.15	0.47
1:F:388:ASN:C	1:F:388:ASN:HD22	2.17	0.47
1:G:46:GLN:HG3	1:H:433:TYR:HA	1.97	0.47
1:H:375:GLU:HB2	1:H:406:ALA:CB	2.45	0.47
1:H:388:ASN:HD22	1:H:388:ASN:C	2.17	0.47
1:I:373:LEU:HG	1:I:396:TYR:HB2	1.96	0.47
1:A:55:ASP:HA	1:A:92:LEU:HD21	1.97	0.46
1:B:331:GLU:HB2	1:N:327:ASN:OD1	2.15	0.46
4:E:534:RMN:H4	5:E:599:HOH:O	2.15	0.46
1:F:373:LEU:HG	1:F:396:TYR:HB2	1.97	0.46
3:G:533:TPP:H7'1	1:H:24:PRO:O	2.15	0.46
1:M:51:VAL:HG21	1:M:78:ALA:HB1	1.97	0.46
1:M:109:LEU:O	1:M:110:LEU:HB2	2.14	0.46
1:N:28:GLU:HB3	1:N:68:ASN:HD21	1.79	0.46
1:O:363:ASN:HD21	1:O:388:ASN:H	1.63	0.46
1:A:299:THR:O	1:A:315:VAL:HA	2.16	0.46
1:F:183:VAL:HG21	1:G:183:VAL:HG21	1.96	0.46
1:F:309:PRO:HG2	1:F:310:MET:SD	2.55	0.46
1:F:439:TRP:CZ2	1:F:443:GLN:HG3	2.50	0.46
1:O:439:TRP:CZ2	1:O:443:GLN:HG3	2.50	0.46
1:B:222:MET:HE1	1:N:331:GLU:OE2	2.11	0.46
1:B:388:ASN:C	1:B:388:ASN:ND2	2.69	0.46
1:C:462:ARG:NH1	1:C:462:ARG:HG2	2.29	0.46
1:D:109:LEU:O	1:D:110:LEU:HB2	2.15	0.46
1:G:29:LEU:HB2	1:G:30:PRO:HD3	1.97	0.46
1:H:309:PRO:HG2	1:H:310:MET:SD	2.55	0.46
1:I:468:LEU:C	1:I:470:ALA:H	2.18	0.46
1:K:51:VAL:HG21	1:K:78:ALA:HB1	1.96	0.46
1:P:55:ASP:HA	1:P:92:LEU:HD21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:484:ARG:HD2	1:F:496:LYS:HB2	1.98	0.46
1:H:353:LEU:HD22	1:H:503:LEU:HD22	1.97	0.46
1:J:299:THR:O	1:J:315:VAL:HA	2.15	0.46
1:A:28:GLU:HB3	1:A:68:ASN:HD21	1.81	0.46
1:C:51:VAL:HG21	1:C:78:ALA:HB1	1.96	0.46
1:D:363:ASN:ND2	1:D:388:ASN:H	2.12	0.46
1:E:375:GLU:HB2	1:E:406:ALA:CB	2.45	0.46
1:E:390:ARG:HG3	5:E:548:HOH:O	2.13	0.46
1:G:190:LEU:O	1:G:194:VAL:HG23	2.14	0.46
1:O:388:ASN:C	1:O:388:ASN:ND2	2.68	0.46
1:O:462:ARG:NH1	1:O:462:ARG:HG2	2.31	0.46
1:P:14:ARG:HD3	5:P:1636:HOH:O	2.15	0.46
1:C:484:ARG:HD2	1:C:496:LYS:HB2	1.98	0.46
1:E:373:LEU:HG	1:E:396:TYR:HB2	1.98	0.46
1:F:375:GLU:HB2	1:F:406:ALA:CB	2.45	0.46
1:J:373:LEU:HG	1:J:396:TYR:HB2	1.97	0.46
1:L:276:PRO:O	1:L:278:PHE:HA	2.15	0.46
1:O:464:PHE:HD1	1:P:29:LEU:HD12	1.76	0.46
1:A:439:TRP:CZ2	1:A:443:GLN:HG3	2.51	0.46
1:B:276:PRO:O	1:B:278:PHE:HA	2.16	0.46
1:E:353:LEU:HD22	1:E:503:LEU:HD22	1.97	0.46
1:K:464:PHE:HA	1:K:467:VAL:HG22	1.97	0.46
1:N:309:PRO:HG2	1:N:310:MET:SD	2.56	0.46
1:P:353:LEU:HD22	1:P:503:LEU:HD22	1.97	0.46
1:B:249:PHE:CE2	1:B:251:GLY:HA2	2.51	0.46
1:M:353:LEU:HD22	1:M:503:LEU:HD22	1.98	0.46
1:A:22:GLY:HA2	1:A:50:VAL:HG11	1.97	0.46
1:F:299:THR:O	1:F:315:VAL:HA	2.16	0.46
1:J:388:ASN:C	1:J:388:ASN:HD22	2.18	0.46
4:J:534:RMN:H4	5:J:1002:HOH:O	2.16	0.46
1:K:47:GLU:HG2	1:K:74:GLY:O	2.16	0.46
1:K:276:PRO:O	1:K:278:PHE:HA	2.16	0.46
1:L:249:PHE:CE2	1:L:251:GLY:HA2	2.50	0.46
1:N:373:LEU:HG	1:N:396:TYR:HB2	1.97	0.46
1:A:109:LEU:O	1:A:110:LEU:HB2	2.15	0.46
1:D:299:THR:O	1:D:315:VAL:HA	2.16	0.46
1:E:51:VAL:HG21	1:E:78:ALA:HB1	1.97	0.46
1:F:28:GLU:HB3	1:F:68:ASN:HD21	1.81	0.46
1:K:55:ASP:HA	1:K:92:LEU:HD21	1.97	0.46
1:L:484:ARG:HD2	1:L:496:LYS:HB2	1.98	0.46
1:N:51:VAL:HG21	1:N:78:ALA:HB1	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:464:PHE:HA	1:N:467:VAL:HG22	1.98	0.46
1:O:106:VAL:HG12	1:P:309:PRO:HD3	1.98	0.46
1:P:468:LEU:C	1:P:470:ALA:H	2.18	0.46
1:H:109:LEU:O	1:H:110:LEU:HB2	2.16	0.45
1:H:462:ARG:NH1	1:H:462:ARG:HG2	2.31	0.45
1:I:388:ASN:C	1:I:388:ASN:HD22	2.18	0.45
1:B:51:VAL:HG21	1:B:78:ALA:HB1	1.97	0.45
1:G:390:ARG:HG3	5:G:551:HOH:O	2.15	0.45
1:K:390:ARG:HG3	5:K:551:HOH:O	2.17	0.45
1:M:468:LEU:C	1:M:470:ALA:H	2.18	0.45
1:N:276:PRO:O	1:N:278:PHE:HA	2.15	0.45
1:P:109:LEU:O	1:P:110:LEU:HB2	2.16	0.45
1:B:363:ASN:ND2	1:B:388:ASN:H	2.14	0.45
1:C:257:ILE:HG13	5:C:635:HOH:O	2.15	0.45
1:F:55:ASP:HA	1:F:92:LEU:HD21	1.98	0.45
1:G:375:GLU:HB2	1:G:406:ALA:CB	2.46	0.45
1:I:407:LEU:HD22	1:I:437:ALA:HB3	1.99	0.45
1:J:249:PHE:CE2	1:J:251:GLY:HA2	2.51	0.45
1:L:471:GLU:O	1:L:472:ASN:HB2	2.16	0.45
1:M:464:PHE:CE1	1:N:26:SER:HB2	2.51	0.45
1:O:374:ASN:HB2	1:O:383:MET:SD	2.56	0.45
1:C:299:THR:O	1:C:315:VAL:HA	2.16	0.45
1:D:464:PHE:HA	1:D:467:VAL:HG22	1.98	0.45
1:E:243:PRO:HG2	1:E:246:HIS:HB2	1.97	0.45
1:G:121:PRO:HG3	1:H:114:ASP:HB3	1.99	0.45
1:H:299:THR:O	1:H:315:VAL:HA	2.17	0.45
1:I:464:PHE:CE1	1:J:26:SER:HB2	2.52	0.45
1:L:29:LEU:HB2	1:L:30:PRO:HD3	1.98	0.45
4:M:534:RMN:H7	1:N:110:LEU:HD21	1.97	0.45
1:O:79:MET:HE1	1:O:119:PRO:HA	1.99	0.45
1:P:249:PHE:CE2	1:P:251:GLY:HA2	2.51	0.45
1:B:262:GLN:HG2	1:K:262:GLN:NE2	2.32	0.45
1:B:299:THR:O	1:B:315:VAL:HA	2.15	0.45
1:C:373:LEU:HG	1:C:396:TYR:HB2	1.97	0.45
1:C:439:TRP:CZ2	1:C:443:GLN:HG3	2.52	0.45
1:J:295:LEU:C	1:J:295:LEU:HD23	2.36	0.45
1:J:439:TRP:CZ2	1:J:443:GLN:HG3	2.51	0.45
1:K:26:SER:HB2	1:L:464:PHE:CE1	2.51	0.45
1:A:76:GLY:O	1:B:79:MET:HB2	2.16	0.45
1:F:51:VAL:HG21	1:F:78:ALA:HB1	1.97	0.45
1:G:249:PHE:CE2	1:G:251:GLY:HA2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:388:ASN:C	1:G:388:ASN:ND2	2.70	0.45
1:J:198:ASN:ND2	1:J:330:GLU:HG3	2.32	0.45
1:L:55:ASP:HA	1:L:92:LEU:HD21	1.99	0.45
1:M:55:ASP:HA	1:M:92:LEU:HD21	1.99	0.45
1:N:257:ILE:HA	1:N:280:TYR:CE2	2.52	0.45
1:O:221:VAL:HA	1:O:242:PHE:CE1	2.51	0.45
1:A:489:GLY:HA2	1:B:482:ASP:HB3	1.98	0.45
1:J:276:PRO:O	1:J:278:PHE:HA	2.16	0.45
1:J:353:LEU:HD22	1:J:503:LEU:HD22	1.97	0.45
1:N:353:LEU:HD22	1:N:503:LEU:HD22	1.98	0.45
1:C:363:ASN:HD21	1:C:388:ASN:H	1.63	0.45
1:F:249:PHE:CE2	1:F:251:GLY:HA2	2.52	0.45
1:J:464:PHE:HA	1:J:467:VAL:HG22	1.99	0.45
1:M:373:LEU:HG	1:M:396:TYR:HB2	1.97	0.45
1:N:249:PHE:CE2	1:N:251:GLY:HA2	2.52	0.45
1:A:390:ARG:HG3	5:A:549:HOH:O	2.16	0.45
1:B:375:GLU:HB2	1:B:406:ALA:CB	2.47	0.45
1:H:276:PRO:O	1:H:278:PHE:HA	2.17	0.45
1:J:47:GLU:HG2	1:J:74:GLY:O	2.17	0.45
1:M:17:ILE:HA	5:M:1329:HOH:O	2.17	0.45
1:M:388:ASN:C	1:M:388:ASN:ND2	2.70	0.45
1:N:388:ASN:C	1:N:388:ASN:HD22	2.20	0.45
1:A:374:ASN:ND2	1:A:374:ASN:C	2.70	0.45
1:E:14:ARG:HD3	5:E:612:HOH:O	2.17	0.45
1:E:468:LEU:C	1:E:470:ALA:H	2.19	0.45
1:F:29:LEU:HB2	1:F:30:PRO:HD3	1.99	0.45
1:F:388:ASN:C	1:F:388:ASN:ND2	2.70	0.45
1:I:29:LEU:HB2	1:I:30:PRO:HD3	1.98	0.45
1:I:276:PRO:O	1:I:278:PHE:HA	2.16	0.45
1:K:388:ASN:C	1:K:388:ASN:HD22	2.18	0.45
1:O:25:GLY:HA3	1:O:70:HIS:ND1	2.31	0.45
1:E:198:ASN:ND2	1:E:330:GLU:HG3	2.32	0.44
1:I:121:PRO:HG3	1:J:114:ASP:HB3	1.99	0.44
1:K:29:LEU:HB2	1:K:30:PRO:HD3	1.98	0.44
1:K:388:ASN:C	1:K:388:ASN:ND2	2.71	0.44
1:O:309:PRO:HG2	1:O:310:MET:SD	2.57	0.44
1:P:388:ASN:C	1:P:388:ASN:HD22	2.18	0.44
1:A:26:SER:HB2	1:B:464:PHE:CD1	2.52	0.44
1:A:295:LEU:HD23	1:A:295:LEU:C	2.37	0.44
1:B:374:ASN:ND2	1:B:374:ASN:C	2.70	0.44
1:D:221:VAL:HA	1:D:242:PHE:CE1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:98:GLN:HB3	1:F:159:PRO:HA	2.00	0.44
1:I:433:TYR:HA	1:J:46:GLN:HG3	1.99	0.44
1:K:198:ASN:ND2	1:K:330:GLU:HG3	2.33	0.44
1:L:221:VAL:HA	1:L:242:PHE:CE1	2.53	0.44
1:D:374:ASN:ND2	1:D:374:ASN:C	2.69	0.44
1:E:388:ASN:C	1:E:388:ASN:HD22	2.19	0.44
1:F:25:GLY:HA3	1:F:70:HIS:ND1	2.32	0.44
1:I:109:LEU:HD23	1:J:281:HIS:CD2	2.51	0.44
1:I:299:THR:O	1:I:315:VAL:HA	2.18	0.44
1:J:209:PRO:HB3	1:J:238:PRO:HD2	1.99	0.44
1:J:407:LEU:HD22	1:J:437:ALA:HB3	1.99	0.44
1:L:79:MET:HE1	1:L:119:PRO:HA	2.00	0.44
1:N:190:LEU:O	1:N:194:VAL:HG23	2.16	0.44
1:O:47:GLU:HG2	1:O:74:GLY:O	2.17	0.44
1:B:363:ASN:HD21	1:B:388:ASN:H	1.66	0.44
1:B:462:ARG:HG2	1:B:462:ARG:NH1	2.31	0.44
1:C:33:LYS:HB3	1:D:470:ALA:HB1	1.97	0.44
1:D:276:PRO:O	1:D:278:PHE:HA	2.18	0.44
1:E:119:PRO:HG3	1:E:155:TYR:CD2	2.53	0.44
1:G:299:THR:O	1:G:315:VAL:HA	2.17	0.44
1:H:25:GLY:HA3	1:H:70:HIS:ND1	2.32	0.44
1:H:374:ASN:HB2	1:H:383:MET:SD	2.58	0.44
1:I:375:GLU:HB2	1:I:406:ALA:CB	2.48	0.44
1:J:375:GLU:HB2	1:J:406:ALA:CB	2.47	0.44
1:P:467:VAL:CG2	1:P:468:LEU:H	2.29	0.44
1:C:257:ILE:HA	1:C:280:TYR:CE2	2.53	0.44
1:E:47:GLU:HG2	1:E:74:GLY:O	2.18	0.44
1:E:55:ASP:HA	1:E:92:LEU:HD21	2.00	0.44
1:F:209:PRO:HB3	1:F:238:PRO:HD2	1.98	0.44
1:N:295:LEU:C	1:N:295:LEU:HD23	2.38	0.44
1:P:373:LEU:HG	1:P:396:TYR:HB2	1.99	0.44
1:C:276:PRO:O	1:C:278:PHE:HA	2.17	0.44
1:D:373:LEU:HG	1:D:396:TYR:HB2	1.99	0.44
1:E:10:GLU:HA	1:E:13:ARG:HH11	1.83	0.44
1:G:209:PRO:HB3	1:G:238:PRO:HD2	1.99	0.44
1:I:309:PRO:HG2	1:I:310:MET:SD	2.57	0.44
1:I:388:ASN:C	1:I:388:ASN:ND2	2.71	0.44
1:J:55:ASP:HA	1:J:92:LEU:HD21	1.99	0.44
1:J:190:LEU:O	1:J:194:VAL:HG23	2.17	0.44
1:K:299:THR:O	1:K:315:VAL:HA	2.18	0.44
1:L:10:GLU:HA	1:L:13:ARG:HH11	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:257:ILE:HA	1:A:280:TYR:CE2	2.53	0.44
1:D:295:LEU:C	1:D:295:LEU:HD23	2.38	0.44
1:G:259:ALA:HA	1:N:262:GLN:NE2	2.32	0.44
1:I:33:LYS:HB3	1:J:470:ALA:HB1	2.00	0.44
1:K:221:VAL:HA	1:K:242:PHE:CE1	2.53	0.44
1:M:79:MET:HE1	1:M:119:PRO:HA	2.00	0.44
1:N:375:GLU:HB2	1:N:406:ALA:HB2	2.00	0.44
1:A:119:PRO:HG3	1:A:155:TYR:CD2	2.53	0.44
1:B:29:LEU:HB2	1:B:30:PRO:HD3	2.00	0.44
1:B:79:MET:HE1	1:B:119:PRO:HA	2.00	0.44
1:G:276:PRO:O	1:G:278:PHE:HA	2.18	0.44
1:G:484:ARG:HD2	1:G:496:LYS:HB2	2.00	0.44
1:H:373:LEU:HG	1:H:396:TYR:HB2	1.99	0.44
1:J:374:ASN:HB2	1:J:383:MET:SD	2.58	0.44
1:A:29:LEU:HD22	1:B:473:VAL:HG11	1.99	0.44
1:A:518:LEU:C	1:A:518:LEU:HD23	2.38	0.44
1:C:467:VAL:CG2	1:C:468:LEU:H	2.30	0.44
1:D:29:LEU:HB2	1:D:30:PRO:HD3	2.00	0.44
1:D:363:ASN:HD21	1:D:388:ASN:H	1.65	0.44
1:H:190:LEU:O	1:H:194:VAL:HG23	2.18	0.44
1:K:209:PRO:HB3	1:K:238:PRO:HD2	1.99	0.44
1:M:375:GLU:HB2	1:M:406:ALA:HB2	2.00	0.44
1:B:25:GLY:HA3	1:B:70:HIS:ND1	2.32	0.43
1:C:249:PHE:CE2	1:C:251:GLY:HA2	2.53	0.43
4:C:534:RMN:H4	5:C:603:HOH:O	2.17	0.43
1:E:29:LEU:HB2	1:E:30:PRO:HD3	2.00	0.43
1:G:55:ASP:HA	1:G:92:LEU:HD21	2.00	0.43
1:M:29:LEU:HB2	1:M:30:PRO:HD3	2.00	0.43
1:O:375:GLU:HB2	1:O:406:ALA:HB2	2.00	0.43
1:A:464:PHE:HA	1:A:467:VAL:HG22	1.99	0.43
1:L:245:ARG:HB2	5:L:568:HOH:O	2.17	0.43
1:L:388:ASN:C	1:L:388:ASN:ND2	2.71	0.43
1:B:407:LEU:HD22	1:B:437:ALA:HB3	1.99	0.43
1:D:51:VAL:HG21	1:D:78:ALA:HB1	2.00	0.43
1:I:233:VAL:HG23	1:I:249:PHE:CE1	2.53	0.43
1:I:249:PHE:CE2	1:I:251:GLY:HA2	2.54	0.43
1:J:388:ASN:C	1:J:388:ASN:ND2	2.70	0.43
1:K:190:LEU:O	1:K:194:VAL:HG23	2.18	0.43
1:K:511:LEU:HD12	1:K:511:LEU:HA	1.89	0.43
1:L:119:PRO:HG3	1:L:155:TYR:CD2	2.52	0.43
1:L:467:VAL:CG2	1:L:468:LEU:H	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:249:PHE:CE2	1:M:251:GLY:HA2	2.53	0.43
1:O:209:PRO:HB3	1:O:238:PRO:HD2	2.01	0.43
1:P:388:ASN:C	1:P:388:ASN:ND2	2.71	0.43
1:B:190:LEU:O	1:B:194:VAL:HG23	2.19	0.43
1:D:119:PRO:HG3	1:D:155:TYR:CD2	2.53	0.43
1:G:464:PHE:HA	1:G:467:VAL:HG22	1.99	0.43
1:H:47:GLU:HB2	1:H:77:ASN:HB2	2.01	0.43
1:I:46:GLN:HG3	1:J:433:TYR:HA	1.99	0.43
1:I:446:ILE:HA	1:I:447:PRO:HD2	1.86	0.43
1:K:245:ARG:HB2	5:K:561:HOH:O	2.18	0.43
1:K:309:PRO:HG2	1:K:310:MET:SD	2.57	0.43
1:K:373:LEU:HG	1:K:396:TYR:HB2	1.99	0.43
1:N:29:LEU:HB2	1:N:30:PRO:HD3	2.00	0.43
1:O:373:LEU:HG	1:O:396:TYR:HB2	2.00	0.43
1:P:276:PRO:O	1:P:278:PHE:HA	2.17	0.43
1:A:28:GLU:OE2	1:A:97:GLY:HA3	2.18	0.43
1:C:388:ASN:C	1:C:388:ASN:HD22	2.21	0.43
1:F:190:LEU:O	1:F:194:VAL:HG23	2.19	0.43
1:F:257:ILE:HA	1:F:280:TYR:CE2	2.53	0.43
4:I:534:RMN:H7	1:J:110:LEU:HD21	2.01	0.43
1:J:518:LEU:HD23	1:J:518:LEU:C	2.39	0.43
1:L:407:LEU:HD22	1:L:437:ALA:HB3	2.01	0.43
1:M:309:PRO:HG2	1:M:310:MET:SD	2.59	0.43
1:O:407:LEU:HD22	1:O:437:ALA:HB3	2.01	0.43
1:B:221:VAL:HA	1:B:242:PHE:CE1	2.54	0.43
1:E:374:ASN:ND2	1:E:374:ASN:C	2.70	0.43
1:E:388:ASN:C	1:E:388:ASN:ND2	2.72	0.43
1:K:119:PRO:HG3	1:K:155:TYR:CD2	2.54	0.43
1:O:29:LEU:HB2	1:O:30:PRO:HD3	2.00	0.43
1:O:471:GLU:O	1:O:472:ASN:HB2	2.19	0.43
1:B:198:ASN:ND2	1:B:330:GLU:HG3	2.34	0.43
1:B:373:LEU:HG	1:B:396:TYR:HB2	2.00	0.43
1:F:119:PRO:HG3	1:F:155:TYR:CD2	2.53	0.43
1:H:388:ASN:C	1:H:388:ASN:ND2	2.71	0.43
1:I:47:GLU:HB2	1:I:77:ASN:HB2	1.99	0.43
1:I:190:LEU:O	1:I:194:VAL:HG23	2.18	0.43
1:K:249:PHE:CE2	1:K:251:GLY:HA2	2.53	0.43
1:K:295:LEU:HD23	1:K:295:LEU:C	2.39	0.43
1:M:106:VAL:HG12	1:N:309:PRO:HD3	2.00	0.43
1:N:484:ARG:HD2	1:N:496:LYS:HB2	2.00	0.43
1:O:98:GLN:HB3	1:O:159:PRO:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:25:GLY:HA3	1:D:70:HIS:ND1	2.33	0.43
1:D:47:GLU:HG2	1:D:74:GLY:O	2.18	0.43
1:D:374:ASN:HD22	1:D:375:GLU:N	2.17	0.43
1:E:209:PRO:HB3	1:E:238:PRO:HD2	2.01	0.43
1:E:245:ARG:HB2	5:E:557:HOH:O	2.18	0.43
1:F:221:VAL:HA	1:F:242:PHE:CE1	2.53	0.43
1:G:407:LEU:HD22	1:G:437:ALA:HB3	1.99	0.43
1:K:470:ALA:HB1	1:L:33:LYS:HB3	2.01	0.43
1:L:233:VAL:HG23	1:L:249:PHE:CE1	2.54	0.43
1:N:316:ALA:HB2	1:O:183:VAL:HG11	2.01	0.43
1:A:233:VAL:HG23	1:A:249:PHE:CE1	2.54	0.43
1:A:467:VAL:HG23	1:A:468:LEU:N	2.34	0.43
1:D:407:LEU:HD22	1:D:437:ALA:HB3	2.00	0.43
1:E:467:VAL:CG2	1:E:468:LEU:H	2.31	0.43
1:F:295:LEU:HD23	1:F:295:LEU:C	2.39	0.43
1:F:374:ASN:ND2	1:F:374:ASN:C	2.73	0.43
1:H:47:GLU:HG2	1:H:74:GLY:O	2.18	0.43
1:I:467:VAL:C	1:I:469:GLU:H	2.22	0.43
1:K:407:LEU:HD22	1:K:437:ALA:HB3	2.01	0.43
1:M:119:PRO:HG3	1:M:155:TYR:CD2	2.53	0.43
1:N:119:PRO:HG3	1:N:155:TYR:CD2	2.53	0.43
1:O:233:VAL:HG23	1:O:249:PHE:CE1	2.54	0.43
1:A:25:GLY:HA3	1:A:70:HIS:ND1	2.33	0.43
1:A:29:LEU:CD2	1:B:473:VAL:HG11	2.48	0.43
1:B:168:ASP:OD2	1:B:169:PRO:HD2	2.19	0.43
1:C:14:ARG:HD3	5:C:616:HOH:O	2.18	0.43
1:H:209:PRO:HB3	1:H:238:PRO:HD2	2.00	0.43
1:J:221:VAL:HA	1:J:242:PHE:CE1	2.54	0.43
1:M:295:LEU:C	1:M:295:LEU:HD23	2.38	0.43
1:N:55:ASP:HA	1:N:92:LEU:HD21	2.01	0.43
1:P:190:LEU:O	1:P:194:VAL:HG23	2.19	0.43
1:A:221:VAL:HA	1:A:242:PHE:CE1	2.54	0.42
1:C:47:GLU:HB2	1:C:77:ASN:HB2	2.01	0.42
1:G:119:PRO:HG3	1:G:155:TYR:CD2	2.54	0.42
1:H:295:LEU:C	1:H:295:LEU:HD23	2.39	0.42
1:H:471:GLU:O	1:H:472:ASN:HB2	2.18	0.42
1:H:484:ARG:HD2	1:H:496:LYS:HB2	2.00	0.42
1:K:482:ASP:HB3	1:L:489:GLY:HA2	2.01	0.42
1:L:373:LEU:HG	1:L:396:TYR:HB2	2.00	0.42
1:M:299:THR:O	1:M:315:VAL:HA	2.19	0.42
1:B:119:PRO:HG3	1:B:155:TYR:CD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:183:VAL:HG21	1:C:183:VAL:HG21	2.00	0.42
1:B:331:GLU:CB	1:N:327:ASN:OD1	2.67	0.42
1:C:353:LEU:HD22	1:C:503:LEU:HD22	2.00	0.42
1:F:198:ASN:ND2	1:F:330:GLU:HG3	2.34	0.42
1:G:309:PRO:HG2	1:G:310:MET:SD	2.59	0.42
1:G:489:GLY:HA2	1:H:482:ASP:HB3	2.00	0.42
1:H:55:ASP:HA	1:H:92:LEU:HD21	2.01	0.42
1:N:47:GLU:HG2	1:N:74:GLY:O	2.19	0.42
1:N:388:ASN:C	1:N:388:ASN:ND2	2.72	0.42
1:O:276:PRO:O	1:O:278:PHE:HA	2.18	0.42
1:P:295:LEU:HD23	1:P:295:LEU:C	2.40	0.42
1:P:299:THR:O	1:P:315:VAL:HA	2.19	0.42
1:P:374:ASN:ND2	1:P:374:ASN:C	2.71	0.42
4:C:534:RMN:H7	1:D:110:LEU:HD21	2.01	0.42
1:G:433:TYR:HA	1:H:46:GLN:HG3	2.01	0.42
1:N:407:LEU:HD22	1:N:437:ALA:HB3	2.01	0.42
1:A:407:LEU:HD22	1:A:437:ALA:HB3	2.01	0.42
1:B:209:PRO:HB3	1:B:238:PRO:HD2	2.01	0.42
1:B:233:VAL:HG23	1:B:249:PHE:CE1	2.54	0.42
1:C:375:GLU:HB2	1:C:406:ALA:HB2	2.00	0.42
1:E:374:ASN:HD22	1:E:375:GLU:N	2.17	0.42
1:G:295:LEU:C	1:G:295:LEU:HD23	2.39	0.42
1:H:245:ARG:HB2	5:H:564:HOH:O	2.18	0.42
1:I:49:CYS:O	1:I:53:ILE:HG13	2.20	0.42
1:L:257:ILE:HA	1:L:280:TYR:CE2	2.54	0.42
1:L:299:THR:O	1:L:315:VAL:HA	2.19	0.42
1:M:462:ARG:HG2	1:M:462:ARG:HH11	1.84	0.42
1:O:374:ASN:ND2	1:O:374:ASN:C	2.71	0.42
1:A:249:PHE:CE2	1:A:251:GLY:HA2	2.55	0.42
1:C:467:VAL:C	1:C:469:GLU:H	2.23	0.42
1:D:55:ASP:HA	1:D:92:LEU:HD21	2.00	0.42
1:G:233:VAL:HG23	1:G:249:PHE:CE1	2.54	0.42
1:H:221:VAL:HA	1:H:242:PHE:CE1	2.55	0.42
1:H:375:GLU:HB2	1:H:406:ALA:HB2	2.02	0.42
1:H:405:PHE:HD2	5:H:541:HOH:O	2.02	0.42
1:K:10:GLU:HA	1:K:13:ARG:HH11	1.84	0.42
1:L:190:LEU:O	1:L:194:VAL:HG23	2.19	0.42
1:L:374:ASN:ND2	1:L:374:ASN:C	2.73	0.42
1:M:407:LEU:HD22	1:M:437:ALA:HB3	2.02	0.42
1:O:119:PRO:HG3	1:O:155:TYR:CD2	2.53	0.42
1:P:462:ARG:NH1	1:P:462:ARG:HG2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:24:PRO:HG3	1:B:475:GLY:O	2.20	0.42
1:B:55:ASP:HA	1:B:92:LEU:HD21	2.00	0.42
1:B:295:LEU:C	1:B:295:LEU:HD23	2.40	0.42
1:D:233:VAL:HG23	1:D:249:PHE:CE1	2.54	0.42
1:I:471:GLU:O	1:I:472:ASN:HB2	2.20	0.42
1:K:374:ASN:ND2	1:K:374:ASN:C	2.71	0.42
1:M:47:GLU:HG2	1:M:74:GLY:O	2.19	0.42
1:E:47:GLU:HB2	1:E:77:ASN:HB2	2.02	0.42
1:E:276:PRO:O	1:E:278:PHE:HA	2.18	0.42
1:G:373:LEU:HG	1:G:396:TYR:HB2	2.01	0.42
1:I:295:LEU:C	1:I:295:LEU:HD23	2.40	0.42
1:I:374:ASN:ND2	1:I:374:ASN:C	2.73	0.42
1:I:374:ASN:HB2	1:I:383:MET:SD	2.59	0.42
1:I:462:ARG:NH1	1:I:462:ARG:HG2	2.35	0.42
1:J:29:LEU:HB2	1:J:30:PRO:HD3	2.01	0.42
1:M:374:ASN:ND2	1:M:374:ASN:C	2.72	0.42
1:B:308:ALA:HB3	1:C:177:ARG:NH2	2.34	0.42
1:C:10:GLU:HA	1:C:13:ARG:HH11	1.84	0.42
1:C:309:PRO:HD3	1:D:106:VAL:HG12	2.02	0.42
1:C:511:LEU:HD12	1:C:511:LEU:HA	1.90	0.42
1:D:237:ALA:HA	1:D:238:PRO:HD3	1.90	0.42
1:E:233:VAL:HG23	1:E:249:PHE:CE1	2.54	0.42
1:G:198:ASN:ND2	1:G:330:GLU:HG3	2.35	0.42
1:I:257:ILE:HA	1:I:280:TYR:CE2	2.55	0.42
1:J:119:PRO:HG3	1:J:155:TYR:CD2	2.55	0.42
1:M:233:VAL:HG23	1:M:249:PHE:CE1	2.54	0.42
1:N:10:GLU:HA	1:N:13:ARG:HH11	1.85	0.42
1:P:233:VAL:HG23	1:P:249:PHE:CE1	2.54	0.42
1:A:29:LEU:HB2	1:A:30:PRO:HD3	2.00	0.42
1:D:49:CYS:O	1:D:53:ILE:HG13	2.19	0.42
1:G:221:VAL:HA	1:G:242:PHE:CE1	2.54	0.42
1:L:168:ASP:OD2	1:L:169:PRO:HD2	2.20	0.42
1:M:221:VAL:HA	1:M:242:PHE:CE1	2.54	0.42
1:M:237:ALA:HA	1:M:238:PRO:HD3	1.88	0.42
1:M:257:ILE:HA	1:M:280:TYR:CE2	2.54	0.42
1:M:463:TRP:O	1:M:466:GLY:N	2.52	0.42
1:N:233:VAL:HG23	1:N:249:PHE:CE1	2.55	0.42
1:N:299:THR:O	1:N:315:VAL:HA	2.19	0.42
1:A:374:ASN:HD22	1:A:375:GLU:N	2.17	0.42
1:B:233:VAL:HG23	1:B:249:PHE:HE1	1.85	0.42
1:B:374:ASN:HD22	1:B:375:GLU:N	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:390:ARG:HG3	5:B:552:HOH:O	2.20	0.42
1:D:106:VAL:HG22	5:D:579:HOH:O	2.18	0.42
1:H:237:ALA:HA	1:H:238:PRO:HD3	1.89	0.42
1:I:119:PRO:HG3	1:I:155:TYR:CD2	2.54	0.42
1:J:233:VAL:HG23	1:J:249:PHE:CE1	2.54	0.42
1:K:375:GLU:HB2	1:K:406:ALA:HB2	2.02	0.42
1:M:110:LEU:HD21	4:N:534:RMN:H7	2.02	0.42
1:P:29:LEU:HB2	1:P:30:PRO:HD3	2.01	0.42
1:B:98:GLN:HB3	1:B:159:PRO:HA	2.01	0.41
1:B:309:PRO:HG2	1:B:310:MET:SD	2.60	0.41
1:C:29:LEU:HB2	1:C:30:PRO:HD3	2.01	0.41
1:E:106:VAL:HG12	1:F:309:PRO:HD3	2.01	0.41
1:J:257:ILE:HG13	5:J:887:HOH:O	2.20	0.41
1:K:98:GLN:HB3	1:K:159:PRO:HA	2.01	0.41
1:K:233:VAL:HG23	1:K:249:PHE:CE1	2.55	0.41
1:L:462:ARG:NH1	1:L:462:ARG:HG2	2.34	0.41
1:O:467:VAL:CG2	1:O:468:LEU:H	2.32	0.41
1:C:88:SER:HB3	1:C:399:ALA:HB2	2.03	0.41
1:D:234:ALA:HB1	5:D:571:HOH:O	2.21	0.41
1:F:462:ARG:NH1	1:F:462:ARG:HG2	2.35	0.41
1:G:29:LEU:HD12	1:H:464:PHE:HD1	1.80	0.41
1:H:257:ILE:HA	1:H:280:TYR:CE2	2.55	0.41
1:J:233:VAL:HG23	1:J:249:PHE:HE1	1.86	0.41
1:J:237:ALA:HA	1:J:238:PRO:HD3	1.89	0.41
1:J:309:PRO:HG2	1:J:310:MET:SD	2.61	0.41
1:K:374:ASN:HB2	1:K:383:MET:SD	2.61	0.41
1:L:467:VAL:C	1:L:469:GLU:H	2.23	0.41
1:N:183:VAL:HG21	1:O:183:VAL:HG21	2.01	0.41
1:P:168:ASP:OD2	1:P:169:PRO:HD2	2.20	0.41
1:A:372:TYR:O	1:A:395:TYR:HA	2.21	0.41
1:C:209:PRO:HB3	1:C:238:PRO:HD2	2.02	0.41
1:D:10:GLU:HA	1:D:13:ARG:HH11	1.85	0.41
1:D:209:PRO:HB3	1:D:238:PRO:HD2	2.01	0.41
1:E:184:ARG:NH2	1:H:184:ARG:NH2	2.68	0.41
1:L:232:TRP:CH2	1:L:263:LEU:HG	2.56	0.41
1:M:433:TYR:HA	1:N:46:GLN:HG3	2.02	0.41
1:M:467:VAL:C	1:M:469:GLU:H	2.24	0.41
1:P:257:ILE:HA	1:P:280:TYR:CE2	2.55	0.41
1:C:190:LEU:O	1:C:194:VAL:HG23	2.20	0.41
1:C:374:ASN:ND2	1:C:374:ASN:C	2.74	0.41
1:D:257:ILE:HA	1:D:280:TYR:CE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:309:PRO:HG2	1:D:310:MET:SD	2.60	0.41
1:E:25:GLY:HA3	1:E:70:HIS:ND1	2.35	0.41
1:E:221:VAL:HA	1:E:242:PHE:CE1	2.55	0.41
1:E:299:THR:O	1:E:315:VAL:HA	2.20	0.41
1:I:221:VAL:HA	1:I:242:PHE:CE1	2.54	0.41
1:J:10:GLU:HA	1:J:13:ARG:HH11	1.84	0.41
1:L:47:GLU:HB2	1:L:77:ASN:HB2	2.03	0.41
1:O:47:GLU:HB2	1:O:77:ASN:HB2	2.01	0.41
1:P:209:PRO:HB3	1:P:238:PRO:HD2	2.02	0.41
1:P:221:VAL:HA	1:P:242:PHE:CE1	2.55	0.41
1:A:276:PRO:O	1:A:278:PHE:HA	2.20	0.41
1:B:184:ARG:NH2	1:C:184:ARG:NH2	2.68	0.41
1:E:295:LEU:C	1:E:295:LEU:HD23	2.40	0.41
1:E:462:ARG:NH1	1:E:462:ARG:HG2	2.35	0.41
1:H:446:ILE:HA	1:H:447:PRO:HD2	1.88	0.41
1:I:25:GLY:HA3	1:I:70:HIS:ND1	2.35	0.41
1:I:209:PRO:HB3	1:I:238:PRO:HD2	2.02	0.41
1:J:232:TRP:CH2	1:J:263:LEU:HG	2.55	0.41
1:K:407:LEU:HB3	1:K:408:PRO:CD	2.51	0.41
1:M:10:GLU:HA	1:M:13:ARG:HH11	1.85	0.41
1:O:198:ASN:ND2	1:O:330:GLU:HG3	2.35	0.41
1:A:49:CYS:O	1:A:53:ILE:HG13	2.20	0.41
1:C:233:VAL:HG23	1:C:249:PHE:CE1	2.56	0.41
1:E:110:LEU:HD21	4:F:534:RMN:H7	2.02	0.41
1:E:375:GLU:HB2	1:E:406:ALA:HB2	2.03	0.41
1:E:467:VAL:C	1:E:469:GLU:H	2.23	0.41
1:F:47:GLU:HG2	1:F:74:GLY:O	2.21	0.41
1:G:375:GLU:HB2	1:G:406:ALA:HB2	2.03	0.41
1:H:49:CYS:O	1:H:53:ILE:HG13	2.21	0.41
1:I:47:GLU:HG2	1:I:74:GLY:O	2.21	0.41
1:L:233:VAL:HG23	1:L:249:PHE:HE1	1.85	0.41
1:M:209:PRO:HB3	1:M:238:PRO:HD2	2.03	0.41
1:N:221:VAL:HA	1:N:242:PHE:CE1	2.54	0.41
1:O:190:LEU:O	1:O:194:VAL:HG23	2.21	0.41
1:O:295:LEU:C	1:O:295:LEU:HD23	2.40	0.41
1:O:309:PRO:HD3	1:P:106:VAL:HG12	2.02	0.41
1:A:222:MET:HB2	5:A:603:HOH:O	2.20	0.41
1:C:79:MET:HE1	1:C:119:PRO:HA	2.03	0.41
1:C:518:LEU:HD23	1:C:518:LEU:C	2.41	0.41
1:D:372:TYR:O	1:D:395:TYR:HA	2.20	0.41
1:D:375:GLU:HB2	1:D:406:ALA:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:257:ILE:HA	1:E:280:TYR:CE2	2.56	0.41
1:H:119:PRO:HG3	1:H:155:TYR:CD2	2.56	0.41
3:K:533:TPP:H7'1	1:L:24:PRO:O	2.20	0.41
1:M:33:LYS:HB3	1:N:470:ALA:HB1	2.02	0.41
1:P:375:GLU:HB2	1:P:406:ALA:HB2	2.02	0.41
1:P:407:LEU:HB3	1:P:408:PRO:CD	2.51	0.41
1:A:198:ASN:ND2	1:A:330:GLU:HG3	2.35	0.41
1:A:307:ARG:NE	1:B:107:GLU:HB2	2.36	0.41
1:B:10:GLU:HA	1:B:13:ARG:HH11	1.85	0.41
1:D:374:ASN:HB2	1:D:383:MET:SD	2.60	0.41
1:K:25:GLY:HA3	1:K:70:HIS:ND1	2.36	0.41
1:O:46:GLN:HG3	1:P:433:TYR:HA	2.02	0.41
1:O:233:VAL:HG23	1:O:249:PHE:HE1	1.85	0.41
1:A:233:VAL:HG23	1:A:249:PHE:HE1	1.86	0.41
1:A:388:ASN:C	1:A:388:ASN:HD22	2.23	0.41
1:B:49:CYS:O	1:B:53:ILE:HG13	2.21	0.41
1:B:467:VAL:C	1:B:469:GLU:H	2.23	0.41
1:C:55:ASP:HA	1:C:92:LEU:HD21	2.02	0.41
1:D:177:ARG:HB2	5:D:547:HOH:O	2.21	0.41
1:D:297:SER:O	1:D:313:ALA:HA	2.21	0.41
1:E:98:GLN:HB3	1:E:159:PRO:HA	2.03	0.41
1:F:184:ARG:NH2	1:G:184:ARG:NH2	2.68	0.41
1:F:426:ILE:O	1:F:452:ILE:HA	2.21	0.41
1:G:47:GLU:HG2	1:G:74:GLY:O	2.21	0.41
1:G:234:ALA:HB1	5:G:567:HOH:O	2.20	0.41
1:H:29:LEU:HB2	1:H:30:PRO:HD3	2.03	0.41
1:H:79:MET:HE1	1:H:119:PRO:HA	2.02	0.41
1:I:518:LEU:C	1:I:518:LEU:HD23	2.41	0.41
1:J:25:GLY:HA3	1:J:70:HIS:ND1	2.36	0.41
1:J:297:SER:O	1:J:313:ALA:HA	2.20	0.41
1:J:375:GLU:HB2	1:J:406:ALA:HB2	2.03	0.41
1:L:295:LEU:C	1:L:295:LEU:HD23	2.40	0.41
4:L:534:RMN:H4	5:L:610:HOH:O	2.20	0.41
1:N:518:LEU:HD23	1:N:518:LEU:C	2.41	0.41
1:O:482:ASP:HB3	1:P:489:GLY:HA2	2.03	0.41
1:P:297:SER:O	1:P:313:ALA:HA	2.20	0.41
1:P:309:PRO:HG2	1:P:310:MET:SD	2.61	0.41
1:A:47:GLU:HB2	1:A:77:ASN:HB2	2.03	0.41
1:A:68:ASN:ND2	5:A:537:HOH:O	2.53	0.41
1:A:511:LEU:HD12	1:A:511:LEU:HA	1.89	0.41
1:B:257:ILE:HA	1:B:280:TYR:CE2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:471:GLU:O	1:E:472:ASN:HB2	2.21	0.41
1:G:297:SER:O	1:G:313:ALA:HA	2.21	0.41
1:I:297:SER:O	1:I:313:ALA:HA	2.21	0.41
1:J:88:SER:HB3	1:J:399:ALA:HB2	2.03	0.41
1:L:446:ILE:HA	1:L:447:PRO:HD2	1.88	0.41
1:M:46:GLN:HG3	1:N:433:TYR:HA	2.03	0.41
1:O:244:THR:HA	1:O:249:PHE:CD2	2.56	0.41
1:O:297:SER:O	1:O:313:ALA:HA	2.21	0.41
1:O:518:LEU:C	1:O:518:LEU:HD23	2.42	0.41
1:P:407:LEU:HD22	1:P:437:ALA:HB3	2.03	0.41
1:D:467:VAL:HG23	1:D:468:LEU:N	2.36	0.40
1:E:232:TRP:CH2	1:E:263:LEU:HG	2.55	0.40
1:F:10:GLU:HA	1:F:13:ARG:HH11	1.85	0.40
1:G:47:GLU:HB2	1:G:77:ASN:HB2	2.03	0.40
1:K:49:CYS:O	1:K:53:ILE:HG13	2.21	0.40
1:L:297:SER:O	1:L:313:ALA:HA	2.21	0.40
1:M:190:LEU:O	1:M:194:VAL:HG23	2.21	0.40
1:N:252:LEU:HD22	1:N:384:TRP:CD1	2.57	0.40
1:N:297:SER:O	1:N:313:ALA:HA	2.22	0.40
1:N:446:ILE:HA	1:N:447:PRO:HD2	1.87	0.40
1:O:252:LEU:HD22	1:O:384:TRP:CD1	2.55	0.40
1:P:374:ASN:HD22	1:P:375:GLU:N	2.19	0.40
1:C:98:GLN:HB3	1:C:159:PRO:HA	2.03	0.40
1:C:119:PRO:HG3	1:C:155:TYR:CD2	2.56	0.40
1:C:295:LEU:HD23	1:C:295:LEU:C	2.42	0.40
1:D:249:PHE:CE2	1:D:251:GLY:HA2	2.57	0.40
1:G:374:ASN:ND2	1:G:374:ASN:C	2.74	0.40
1:I:482:ASP:HB3	1:J:489:GLY:HA2	2.03	0.40
3:I:533:TPP:H7'1	1:J:24:PRO:O	2.21	0.40
1:K:257:ILE:HA	1:K:280:TYR:CE2	2.56	0.40
1:L:47:GLU:HG2	1:L:74:GLY:O	2.21	0.40
1:O:463:TRP:O	1:O:466:GLY:N	2.54	0.40
1:B:244:THR:HA	1:B:249:PHE:CD2	2.57	0.40
4:B:534:RMN:H4	5:B:602:HOH:O	2.20	0.40
1:C:221:VAL:HA	1:C:242:PHE:CE1	2.56	0.40
1:E:237:ALA:HA	1:E:238:PRO:HD3	1.89	0.40
1:H:98:GLN:HB3	1:H:159:PRO:HA	2.02	0.40
1:H:467:VAL:C	1:H:469:GLU:H	2.24	0.40
1:L:209:PRO:HB3	1:L:238:PRO:HD2	2.02	0.40
1:N:312:ASP:OD1	1:O:178:HIS:N	2.51	0.40
1:O:467:VAL:C	1:O:469:GLU:H	2.25	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:47:GLU:HB2	1:B:77:ASN:HB2	2.03	0.40
1:E:309:PRO:HG2	1:E:310:MET:SD	2.61	0.40
1:F:88:SER:HB3	1:F:399:ALA:HB2	2.03	0.40
1:F:233:VAL:HG23	1:F:249:PHE:CE1	2.56	0.40
1:G:25:GLY:HA3	1:G:70:HIS:ND1	2.36	0.40
1:G:257:ILE:HA	1:G:280:TYR:CE2	2.56	0.40
1:I:79:MET:HE1	1:I:119:PRO:HA	2.04	0.40
1:I:88:SER:HB3	1:I:399:ALA:HB2	2.02	0.40
1:K:426:ILE:O	1:K:452:ILE:HA	2.22	0.40
1:M:281:HIS:HB3	1:M:282:GLN:OE1	2.22	0.40
1:P:47:GLU:HB2	1:P:77:ASN:HB2	2.04	0.40
1:P:426:ILE:O	1:P:452:ILE:HA	2.21	0.40
1:A:388:ASN:C	1:A:388:ASN:ND2	2.75	0.40
1:C:47:GLU:HG2	1:C:74:GLY:O	2.21	0.40
1:D:190:LEU:O	1:D:194:VAL:HG23	2.22	0.40
1:D:518:LEU:HD23	1:D:518:LEU:C	2.41	0.40
1:E:249:PHE:CE2	1:E:251:GLY:HA2	2.56	0.40
1:F:375:GLU:HB2	1:F:406:ALA:HB2	2.02	0.40
1:F:511:LEU:HD12	1:F:511:LEU:HA	1.92	0.40
1:G:10:GLU:HA	1:G:13:ARG:HH11	1.87	0.40
1:H:244:THR:HA	1:H:249:PHE:CD2	2.56	0.40
1:J:168:ASP:OD2	1:J:169:PRO:HD2	2.21	0.40
1:K:106:VAL:HG12	1:L:309:PRO:HD3	2.03	0.40
1:O:489:GLY:HA2	1:P:482:ASP:HB3	2.03	0.40
1:P:232:TRP:CH2	1:P:263:LEU:HG	2.57	0.40

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:508:GLN:NE2	1:P:390:ARG:CD[2_646]	2.05	0.15
1:C:508:GLN:OE1	1:P:368:GLU:OE1[2_646]	2.05	0.15
1:F:471:GLU:OE2	1:M:287:GLN:NE2[1_455]	2.10	0.10
1:E:494:ALA:O	1:L:512:SER:CB[2_656]	2.16	0.04
1:A:291:PRO:CB	1:J:467:VAL:O[1_455]	2.18	0.02

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	522/528 (99%)	505 (97%)	14 (3%)	3 (1%)	25	56
1	B	522/528 (99%)	501 (96%)	18 (3%)	3 (1%)	25	56
1	C	522/528 (99%)	502 (96%)	16 (3%)	4 (1%)	19	49
1	D	522/528 (99%)	505 (97%)	14 (3%)	3 (1%)	25	56
1	E	522/528 (99%)	502 (96%)	17 (3%)	3 (1%)	25	56
1	F	522/528 (99%)	505 (97%)	14 (3%)	3 (1%)	25	56
1	G	522/528 (99%)	505 (97%)	14 (3%)	3 (1%)	25	56
1	H	522/528 (99%)	501 (96%)	19 (4%)	2 (0%)	34	66
1	I	522/528 (99%)	501 (96%)	19 (4%)	2 (0%)	34	66
1	J	522/528 (99%)	505 (97%)	14 (3%)	3 (1%)	25	56
1	K	522/528 (99%)	505 (97%)	15 (3%)	2 (0%)	34	66
1	L	522/528 (99%)	501 (96%)	18 (3%)	3 (1%)	25	56
1	M	522/528 (99%)	502 (96%)	17 (3%)	3 (1%)	25	56
1	N	522/528 (99%)	505 (97%)	15 (3%)	2 (0%)	34	66
1	O	522/528 (99%)	503 (96%)	17 (3%)	2 (0%)	34	66
1	P	522/528 (99%)	501 (96%)	19 (4%)	2 (0%)	34	66
All	All	8352/8448 (99%)	8049 (96%)	260 (3%)	43 (0%)	29	61

All (43) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	71	SER
1	E	71	SER
1	F	71	SER
1	G	71	SER
1	H	71	SER
1	K	71	SER

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Mol	Chain	Res	Type
1	N	71	SER
1	O	71	SER
1	P	71	SER
1	A	71	SER
1	B	71	SER
1	C	71	SER
1	I	71	SER
1	J	71	SER
1	J	447	PRO
1	L	71	SER
1	L	447	PRO
1	M	71	SER
1	M	398	CYS
1	A	398	CYS
1	A	447	PRO
1	B	398	CYS
1	B	447	PRO
1	C	447	PRO
1	D	398	CYS
1	D	447	PRO
1	E	398	CYS
1	E	447	PRO
1	F	398	CYS
1	F	447	PRO
1	G	398	CYS
1	G	447	PRO
1	H	447	PRO
1	I	447	PRO
1	J	398	CYS
1	K	447	PRO
1	M	447	PRO
1	N	447	PRO
1	O	447	PRO
1	P	447	PRO
1	C	377	THR
1	C	398	CYS
1	L	398	CYS

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	409/414 (99%)	403 (98%)	6 (2%)	65	89
1	B	409/414 (99%)	403 (98%)	6 (2%)	65	89
1	C	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	D	409/414 (99%)	403 (98%)	6 (2%)	65	89
1	E	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	F	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	G	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	H	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	I	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	J	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	K	409/414 (99%)	403 (98%)	6 (2%)	65	89
1	L	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	M	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	N	409/414 (99%)	403 (98%)	6 (2%)	65	89
1	O	409/414 (99%)	402 (98%)	7 (2%)	60	87
1	P	409/414 (99%)	402 (98%)	7 (2%)	60	87
All	All	6544/6624 (99%)	6437 (98%)	107 (2%)	62	88

All (107) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	46	GLN
1	A	241	PRO
1	A	263	LEU
1	A	310	MET
1	A	388	ASN
1	A	511	LEU
1	B	46	GLN
1	B	241	PRO
1	B	263	LEU
1	B	310	MET
1	B	388	ASN
1	B	511	LEU

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Mol	Chain	Res	Type
1	C	46	GLN
1	C	121	PRO
1	C	241	PRO
1	C	263	LEU
1	C	310	MET
1	C	388	ASN
1	C	511	LEU
1	D	46	GLN
1	D	241	PRO
1	D	263	LEU
1	D	310	MET
1	D	388	ASN
1	D	511	LEU
1	E	46	GLN
1	E	121	PRO
1	E	241	PRO
1	E	263	LEU
1	E	310	MET
1	E	388	ASN
1	E	511	LEU
1	F	46	GLN
1	F	121	PRO
1	F	241	PRO
1	F	263	LEU
1	F	310	MET
1	F	388	ASN
1	F	511	LEU
1	G	46	GLN
1	G	121	PRO
1	G	241	PRO
1	G	263	LEU
1	G	310	MET
1	G	388	ASN
1	G	511	LEU
1	H	46	GLN
1	H	121	PRO
1	H	241	PRO
1	H	263	LEU
1	H	310	MET
1	H	388	ASN
1	H	511	LEU
1	I	46	GLN

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Mol	Chain	Res	Type
1	I	121	PRO
1	I	241	PRO
1	I	263	LEU
1	I	310	MET
1	I	388	ASN
1	I	511	LEU
1	J	46	GLN
1	J	121	PRO
1	J	241	PRO
1	J	263	LEU
1	J	310	MET
1	J	388	ASN
1	J	511	LEU
1	K	46	GLN
1	K	241	PRO
1	K	263	LEU
1	K	310	MET
1	K	388	ASN
1	K	511	LEU
1	L	46	GLN
1	L	121	PRO
1	L	241	PRO
1	L	263	LEU
1	L	310	MET
1	L	388	ASN
1	L	511	LEU
1	M	46	GLN
1	M	121	PRO
1	M	241	PRO
1	M	263	LEU
1	M	310	MET
1	M	388	ASN
1	M	511	LEU
1	N	46	GLN
1	N	241	PRO
1	N	263	LEU
1	N	310	MET
1	N	388	ASN
1	N	511	LEU
1	O	46	GLN
1	O	121	PRO
1	O	241	PRO

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Mol	Chain	Res	Type
1	O	263	LEU
1	O	310	MET
1	O	388	ASN
1	O	511	LEU
1	P	46	GLN
1	P	121	PRO
1	P	241	PRO
1	P	263	LEU
1	P	310	MET
1	P	388	ASN
1	P	511	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	68	ASN
1	A	327	ASN
1	A	363	ASN
1	A	374	ASN
1	A	388	ASN
1	B	68	ASN
1	B	262	GLN
1	B	363	ASN
1	B	374	ASN
1	B	388	ASN
1	C	68	ASN
1	C	327	ASN
1	C	363	ASN
1	C	374	ASN
1	C	388	ASN
1	D	68	ASN
1	D	327	ASN
1	D	363	ASN
1	D	374	ASN
1	D	388	ASN
1	E	68	ASN
1	E	327	ASN
1	E	363	ASN
1	E	374	ASN
1	E	388	ASN
1	E	421	GLN
1	F	68	ASN

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Mol	Chain	Res	Type
1	F	327	ASN
1	F	363	ASN
1	F	374	ASN
1	F	388	ASN
1	G	68	ASN
1	G	262	GLN
1	G	327	ASN
1	G	363	ASN
1	G	374	ASN
1	G	388	ASN
1	H	68	ASN
1	H	363	ASN
1	H	374	ASN
1	H	388	ASN
1	I	68	ASN
1	I	363	ASN
1	I	374	ASN
1	I	388	ASN
1	J	68	ASN
1	J	363	ASN
1	J	374	ASN
1	J	388	ASN
1	K	68	ASN
1	K	327	ASN
1	K	363	ASN
1	K	374	ASN
1	K	388	ASN
1	L	68	ASN
1	L	363	ASN
1	L	374	ASN
1	L	388	ASN
1	M	68	ASN
1	M	327	ASN
1	M	363	ASN
1	M	374	ASN
1	M	388	ASN
1	N	68	ASN
1	N	262	GLN
1	N	363	ASN
1	N	374	ASN
1	N	388	ASN
1	N	421	GLN

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Mol	Chain	Res	Type
1	O	68	ASN
1	O	327	ASN
1	O	363	ASN
1	O	374	ASN
1	O	388	ASN
1	P	68	ASN
1	P	363	ASN
1	P	374	ASN
1	P	388	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 monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 56 ligands modelled in this entry, 24 are monoatomic - leaving 32 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	TPP	P	533	2	22,27,27	1.74	6 (27%)	29,40,40	1.88	7 (24%)
4	RMN	L	534	-	8,11,11	2.11	2 (25%)	9,14,14	0.44	0
4	RMN	C	534	-	8,11,11	2.28	3 (37%)	9,14,14	0.43	0
3	TPP	G	533	2	22,27,27	1.79	6 (27%)	29,40,40	1.84	6 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	TPP	M	533	2	22,27,27	1.71	5 (22%)	29,40,40	1.73	7 (24%)
4	RMN	E	534	-	8,11,11	1.91	2 (25%)	9,14,14	0.45	0
3	TPP	C	533	2	22,27,27	1.64	4 (18%)	29,40,40	1.81	7 (24%)
3	TPP	N	533	2	22,27,27	1.93	5 (22%)	29,40,40	1.73	7 (24%)
3	TPP	D	533	2	22,27,27	1.63	5 (22%)	29,40,40	1.78	7 (24%)
4	RMN	M	534	-	8,11,11	2.10	2 (25%)	9,14,14	0.50	0
4	RMN	P	534	-	8,11,11	2.26	3 (37%)	9,14,14	0.49	0
3	TPP	E	533	2	22,27,27	1.86	6 (27%)	29,40,40	1.82	7 (24%)
4	RMN	A	534	-	8,11,11	2.08	3 (37%)	9,14,14	0.45	0
4	RMN	H	534	-	8,11,11	2.00	2 (25%)	9,14,14	0.39	0
4	RMN	F	534	-	8,11,11	2.10	3 (37%)	9,14,14	0.43	0
4	RMN	K	534	-	8,11,11	2.05	2 (25%)	9,14,14	0.46	0
4	RMN	O	534	-	8,11,11	2.04	2 (25%)	9,14,14	0.42	0
4	RMN	N	534	-	8,11,11	2.06	3 (37%)	9,14,14	0.40	0
3	TPP	L	533	2	22,27,27	1.88	6 (27%)	29,40,40	1.80	7 (24%)
3	TPP	H	533	2	22,27,27	1.78	5 (22%)	29,40,40	1.77	7 (24%)
4	RMN	G	534	-	8,11,11	1.95	2 (25%)	9,14,14	0.42	0
4	RMN	J	534	-	8,11,11	2.18	3 (37%)	9,14,14	0.45	0
3	TPP	A	533	2	22,27,27	1.64	6 (27%)	29,40,40	1.77	7 (24%)
3	TPP	F	533	2	22,27,27	1.70	5 (22%)	29,40,40	1.73	7 (24%)
4	RMN	I	534	-	8,11,11	2.08	2 (25%)	9,14,14	0.50	0
3	TPP	K	533	2	22,27,27	1.61	6 (27%)	29,40,40	1.79	6 (20%)
3	TPP	O	533	2	22,27,27	1.74	4 (18%)	29,40,40	1.80	7 (24%)
3	TPP	B	533	2	22,27,27	1.92	6 (27%)	29,40,40	1.80	7 (24%)
4	RMN	D	534	-	8,11,11	2.02	3 (37%)	9,14,14	0.36	0
3	TPP	J	533	2	22,27,27	1.83	5 (22%)	29,40,40	1.73	7 (24%)
4	RMN	B	534	-	8,11,11	2.03	2 (25%)	9,14,14	0.47	0
3	TPP	I	533	2	22,27,27	1.91	5 (22%)	29,40,40	1.83	7 (24%)

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
3	TPP	P	533	2	-	7/16/17/17	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	RMN	L	534	-	-	2/4/8/8	0/1/1/1
4	RMN	C	534	-	-	2/4/8/8	0/1/1/1
3	TPP	G	533	2	-	6/16/17/17	0/2/2/2
3	TPP	M	533	2	-	7/16/17/17	0/2/2/2
4	RMN	E	534	-	-	2/4/8/8	0/1/1/1
3	TPP	C	533	2	-	6/16/17/17	0/2/2/2
3	TPP	N	533	2	-	5/16/17/17	0/2/2/2
3	TPP	D	533	2	-	7/16/17/17	0/2/2/2
4	RMN	M	534	-	-	2/4/8/8	0/1/1/1
4	RMN	P	534	-	-	2/4/8/8	0/1/1/1
3	TPP	E	533	2	-	6/16/17/17	0/2/2/2
4	RMN	A	534	-	-	2/4/8/8	0/1/1/1
4	RMN	H	534	-	-	2/4/8/8	0/1/1/1
4	RMN	F	534	-	-	2/4/8/8	0/1/1/1
4	RMN	K	534	-	-	2/4/8/8	0/1/1/1
4	RMN	O	534	-	-	2/4/8/8	0/1/1/1
4	RMN	N	534	-	-	2/4/8/8	0/1/1/1
3	TPP	L	533	2	-	7/16/17/17	0/2/2/2
3	TPP	H	533	2	-	7/16/17/17	0/2/2/2
4	RMN	G	534	-	-	2/4/8/8	0/1/1/1
4	RMN	J	534	-	-	2/4/8/8	0/1/1/1
3	TPP	A	533	2	-	7/16/17/17	0/2/2/2
3	TPP	F	533	2	-	7/16/17/17	0/2/2/2
4	RMN	I	534	-	-	2/4/8/8	0/1/1/1
3	TPP	K	533	2	-	7/16/17/17	0/2/2/2
3	TPP	O	533	2	-	6/16/17/17	0/2/2/2
3	TPP	B	533	2	-	7/16/17/17	0/2/2/2
4	RMN	D	534	-	-	2/4/8/8	0/1/1/1
3	TPP	J	533	2	-	7/16/17/17	0/2/2/2
4	RMN	B	534	-	-	2/4/8/8	0/1/1/1
3	TPP	I	533	2	-	7/16/17/17	0/2/2/2

All (124) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	N	533	TPP	C6-C5	-5.27	1.48	1.50
3	B	533	TPP	C6-C5	-4.90	1.48	1.50
3	I	533	TPP	C6-C5	-4.53	1.48	1.50
3	E	533	TPP	C6-C5	-4.41	1.49	1.50
3	L	533	TPP	C6-C5	-4.37	1.49	1.50
3	G	533	TPP	C6-C5	-4.35	1.49	1.50
3	O	533	TPP	C4'-N3'	4.05	1.40	1.35
3	L	533	TPP	C4'-N3'	4.00	1.40	1.35
3	C	533	TPP	C4'-N3'	3.98	1.40	1.35
3	I	533	TPP	C4'-N3'	3.98	1.40	1.35
3	D	533	TPP	C7'-N3	3.86	1.55	1.48
3	J	533	TPP	C6-C5	-3.83	1.49	1.50
3	M	533	TPP	C4'-N3'	3.82	1.40	1.35
3	B	533	TPP	C4'-N3'	3.78	1.40	1.35
4	C	534	RMN	C1-C7	3.78	1.58	1.52
4	J	534	RMN	C1-C7	3.73	1.58	1.52
3	H	533	TPP	C6-C5	-3.72	1.49	1.50
3	I	533	TPP	C7'-N3	3.71	1.55	1.48
3	N	533	TPP	C4'-N3'	3.69	1.40	1.35
3	F	533	TPP	C2'-N1'	3.69	1.40	1.34
4	P	534	RMN	C6-C1	3.66	1.45	1.39
3	J	533	TPP	C4'-N3'	3.64	1.40	1.35
3	A	533	TPP	C4'-N3'	3.62	1.40	1.35
3	P	533	TPP	C2'-N1'	3.61	1.40	1.34
4	C	534	RMN	C6-C1	3.60	1.44	1.39
4	L	534	RMN	C1-C7	3.59	1.58	1.52
3	E	533	TPP	C4'-N3'	3.59	1.40	1.35
4	I	534	RMN	C1-C7	3.57	1.58	1.52
3	H	533	TPP	C4'-N3'	3.55	1.40	1.35
3	P	533	TPP	C4'-N3'	3.55	1.40	1.35
3	O	533	TPP	C6-C5	-3.54	1.49	1.50
3	O	533	TPP	C7'-N3	3.53	1.55	1.48
4	O	534	RMN	C1-C7	3.53	1.58	1.52
3	L	533	TPP	C7'-N3	3.51	1.55	1.48
3	J	533	TPP	C2'-N1'	3.51	1.40	1.34
4	A	534	RMN	C1-C7	3.50	1.58	1.52
3	J	533	TPP	C7'-N3	3.50	1.55	1.48
3	F	533	TPP	C7'-N3	3.50	1.55	1.48
3	G	533	TPP	C7'-N3	3.50	1.55	1.48
3	F	533	TPP	C4'-N3'	3.48	1.40	1.35
4	P	534	RMN	C1-C7	3.42	1.58	1.52
4	F	534	RMN	C1-C7	3.38	1.58	1.52
4	H	534	RMN	C1-C7	3.37	1.58	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	K	534	RMN	C6-C1	3.37	1.44	1.39
4	M	534	RMN	C1-C7	3.34	1.58	1.52
3	G	533	TPP	C4'-N3'	3.34	1.39	1.35
4	G	534	RMN	C1-C7	3.33	1.57	1.52
3	N	533	TPP	C7'-N3	3.32	1.54	1.48
4	M	534	RMN	C6-C1	3.32	1.44	1.39
3	K	533	TPP	C4'-N3'	3.31	1.39	1.35
4	N	534	RMN	C1-C7	3.30	1.57	1.52
4	L	534	RMN	C6-C1	3.30	1.44	1.39
3	H	533	TPP	C7'-N3	3.29	1.54	1.48
4	I	534	RMN	C6-C1	3.27	1.44	1.39
3	A	533	TPP	C6-C5	-3.26	1.49	1.50
4	K	534	RMN	C1-C7	3.26	1.57	1.52
4	D	534	RMN	C1-C7	3.24	1.57	1.52
4	B	534	RMN	C6-C1	3.23	1.44	1.39
4	J	534	RMN	C6-C1	3.21	1.44	1.39
4	B	534	RMN	C1-C7	3.21	1.57	1.52
3	P	533	TPP	C7'-N3	3.21	1.54	1.48
4	F	534	RMN	C6-C1	3.21	1.44	1.39
4	A	534	RMN	C6-C1	3.20	1.44	1.39
3	K	533	TPP	C2'-N1'	3.17	1.39	1.34
3	D	533	TPP	C4'-N3'	3.16	1.39	1.35
3	E	533	TPP	C2'-N1'	3.15	1.39	1.34
3	C	533	TPP	C7'-N3	3.15	1.54	1.48
3	B	533	TPP	C2'-N1'	3.13	1.39	1.34
3	M	533	TPP	C7'-N3	3.13	1.54	1.48
3	H	533	TPP	C2'-N1'	3.12	1.39	1.34
4	E	534	RMN	C6-C1	3.12	1.44	1.39
3	A	533	TPP	C7'-N3	3.11	1.54	1.48
3	B	533	TPP	C7'-N3	3.09	1.54	1.48
4	D	534	RMN	C6-C1	3.06	1.44	1.39
4	N	534	RMN	C6-C1	3.04	1.44	1.39
4	G	534	RMN	C6-C1	3.03	1.43	1.39
3	K	533	TPP	C7'-N3	3.02	1.54	1.48
4	O	534	RMN	C6-C1	3.01	1.43	1.39
3	P	533	TPP	C6-C5	-2.99	1.49	1.50
3	D	533	TPP	C6-C5	-2.99	1.49	1.50
3	O	533	TPP	C2'-N1'	2.98	1.39	1.34
4	H	534	RMN	C6-C1	2.97	1.43	1.39
3	M	533	TPP	C2'-N1'	2.97	1.39	1.34
3	L	533	TPP	C2'-N1'	2.95	1.39	1.34
4	E	534	RMN	C1-C7	2.94	1.57	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	533	TPP	C2'-N1'	2.89	1.39	1.34
3	F	533	TPP	C6-C5	-2.85	1.49	1.50
3	C	533	TPP	PB-O3B	-2.82	1.44	1.54
3	N	533	TPP	C2'-N1'	2.81	1.38	1.34
3	M	533	TPP	C6-C5	-2.77	1.49	1.50
3	M	533	TPP	PB-O2B	-2.77	1.44	1.54
3	E	533	TPP	C7'-N3	2.75	1.53	1.48
3	L	533	TPP	PB-O3B	-2.70	1.44	1.54
3	P	533	TPP	PB-O3B	-2.70	1.44	1.54
3	H	533	TPP	PB-O2B	-2.69	1.44	1.54
3	I	533	TPP	C2'-N1'	2.66	1.38	1.34
3	I	533	TPP	PB-O2B	-2.64	1.44	1.54
3	J	533	TPP	PB-O2B	-2.64	1.44	1.54
3	D	533	TPP	C2'-N1'	2.63	1.38	1.34
3	B	533	TPP	PB-O2B	-2.62	1.44	1.54
3	K	533	TPP	PB-O3B	-2.59	1.44	1.54
3	A	533	TPP	C2'-N1'	2.59	1.38	1.34
3	E	533	TPP	PB-O3B	-2.58	1.44	1.54
3	G	533	TPP	C2'-N1'	2.52	1.38	1.34
4	P	534	RMN	C2-C1	2.41	1.42	1.39
4	N	534	RMN	C2-C1	2.35	1.42	1.39
4	J	534	RMN	C2-C1	2.32	1.42	1.39
3	K	533	TPP	C6-C5	-2.31	1.49	1.50
3	A	533	TPP	PB-O1B	-2.28	1.43	1.50
4	C	534	RMN	C2-C1	2.24	1.42	1.39
4	A	534	RMN	C2-C1	2.23	1.42	1.39
3	L	533	TPP	PA-O2A	-2.23	1.44	1.55
3	D	533	TPP	PA-O2A	-2.21	1.45	1.55
3	K	533	TPP	PA-O2A	-2.20	1.45	1.55
3	G	533	TPP	PA-O2A	-2.20	1.45	1.55
4	F	534	RMN	C2-C1	2.16	1.42	1.39
3	N	533	TPP	PB-O1B	-2.14	1.43	1.50
4	D	534	RMN	C2-C1	2.14	1.42	1.39
3	F	533	TPP	PA-O2A	-2.06	1.45	1.55
3	G	533	TPP	PB-O1B	-2.06	1.43	1.50
3	P	533	TPP	PA-O2A	-2.05	1.45	1.55
3	A	533	TPP	PA-O2A	-2.04	1.45	1.55
3	E	533	TPP	C2-N3	-2.01	1.31	1.36
3	B	533	TPP	PA-O1A	-2.01	1.43	1.50

All (110) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	G	533	TPP	C6-C5-C4	4.77	131.26	127.43
3	O	533	TPP	C6-C5-C4	4.61	131.14	127.43
3	P	533	TPP	C6-C5-C4	4.48	131.03	127.43
3	I	533	TPP	C6-C5-C4	4.39	130.96	127.43
3	B	533	TPP	C6-C5-C4	4.37	130.94	127.43
3	A	533	TPP	C6-C5-C4	4.29	130.88	127.43
3	E	533	TPP	C6-C5-C4	4.14	130.76	127.43
3	D	533	TPP	C7'-N3-C2	-4.13	117.88	125.35
3	K	533	TPP	C7'-N3-C2	-4.12	117.90	125.35
3	G	533	TPP	C7'-N3-C2	-4.06	118.01	125.35
3	L	533	TPP	O3B-PB-O2B	4.06	123.16	107.64
3	P	533	TPP	O3B-PB-O2B	4.05	123.13	107.64
3	C	533	TPP	C6-C5-C4	4.00	130.64	127.43
3	E	533	TPP	C7'-N3-C2	-4.00	118.13	125.35
3	P	533	TPP	C7'-N3-C2	-3.99	118.15	125.35
3	N	533	TPP	C6-C5-C4	3.99	130.63	127.43
3	C	533	TPP	C7'-N3-C2	-3.99	118.15	125.35
3	C	533	TPP	O3B-PB-O2B	3.98	122.85	107.64
3	N	533	TPP	C7'-N3-C2	-3.96	118.19	125.35
3	J	533	TPP	C6-C5-C4	3.95	130.60	127.43
3	J	533	TPP	C7'-N3-C2	-3.94	118.23	125.35
3	A	533	TPP	C7'-N3-C2	-3.94	118.23	125.35
3	K	533	TPP	C6-C5-C4	3.92	130.58	127.43
3	E	533	TPP	O3B-PB-O2B	3.92	122.63	107.64
3	D	533	TPP	C6-C5-C4	3.89	130.55	127.43
3	O	533	TPP	C7'-N3-C2	-3.88	118.34	125.35
3	K	533	TPP	O3B-PB-O2B	3.87	122.44	107.64
3	F	533	TPP	C6-C5-C4	3.87	130.54	127.43
3	H	533	TPP	C7'-N3-C2	-3.83	118.43	125.35
3	L	533	TPP	C6-C5-C4	3.80	130.48	127.43
3	M	533	TPP	C7'-N3-C2	-3.80	118.48	125.35
3	F	533	TPP	C7'-N3-C2	-3.79	118.51	125.35
3	B	533	TPP	C7'-N3-C2	-3.76	118.57	125.35
3	I	533	TPP	C7'-N3-C2	-3.73	118.60	125.35
3	L	533	TPP	C7'-N3-C2	-3.70	118.67	125.35
3	H	533	TPP	C6-C5-C4	3.67	130.38	127.43
3	I	533	TPP	CM2-C2'-N1'	3.64	121.14	117.14
3	A	533	TPP	CM2-C2'-N1'	3.59	121.09	117.14
3	P	533	TPP	CM2-C2'-N1'	3.59	121.09	117.14
3	G	533	TPP	CM2-C2'-N1'	3.56	121.06	117.14
3	M	533	TPP	C6-C5-C4	3.55	130.28	127.43
3	L	533	TPP	CM2-C2'-N1'	3.54	121.04	117.14
3	D	533	TPP	CM2-C2'-N1'	3.50	120.98	117.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	O	533	TPP	CM2-C2'-N1'	3.43	120.91	117.14
3	E	533	TPP	CM2-C2'-N1'	3.42	120.90	117.14
3	B	533	TPP	CM2-C2'-N1'	3.39	120.86	117.14
3	H	533	TPP	CM2-C2'-N1'	3.38	120.86	117.14
3	C	533	TPP	CM2-C2'-N1'	3.36	120.83	117.14
3	F	533	TPP	CM2-C2'-N1'	3.33	120.80	117.14
3	M	533	TPP	CM2-C2'-N1'	3.26	120.73	117.14
3	H	533	TPP	O2B-PB-O1B	3.26	123.45	110.68
3	B	533	TPP	O2B-PB-O1B	3.24	123.36	110.68
3	I	533	TPP	O2B-PB-O1B	3.19	123.16	110.68
3	J	533	TPP	CM2-C2'-N1'	3.18	120.64	117.14
3	M	533	TPP	O2B-PB-O1B	3.17	123.09	110.68
3	N	533	TPP	CM2-C2'-N1'	3.15	120.61	117.14
3	G	533	TPP	O2B-PB-O1B	3.11	122.85	110.68
3	F	533	TPP	O2B-PB-O1B	3.09	122.76	110.68
3	O	533	TPP	O2B-PB-O1B	3.04	122.59	110.68
3	D	533	TPP	O2B-PB-O1B	3.04	122.57	110.68
3	A	533	TPP	O2B-PB-O1B	3.03	122.53	110.68
3	K	533	TPP	CM2-C2'-N1'	3.02	120.46	117.14
3	N	533	TPP	O2B-PB-O1B	2.99	122.37	110.68
3	J	533	TPP	O2B-PB-O1B	2.95	122.23	110.68
3	E	533	TPP	PA-O7-C7	2.82	135.46	121.59
3	H	533	TPP	PA-O7-C7	2.82	135.45	121.59
3	B	533	TPP	PA-O7-C7	2.81	135.42	121.59
3	C	533	TPP	PA-O7-C7	2.77	135.21	121.59
3	J	533	TPP	PA-O7-C7	2.76	135.20	121.59
3	M	533	TPP	PA-O7-C7	2.75	135.13	121.59
3	F	533	TPP	PA-O7-C7	2.73	135.04	121.59
3	N	533	TPP	PA-O7-C7	2.73	135.03	121.59
3	A	533	TPP	PA-O7-C7	2.72	134.99	121.59
3	K	533	TPP	PA-O7-C7	2.71	134.94	121.59
3	L	533	TPP	PA-O7-C7	2.71	134.91	121.59
3	G	533	TPP	PA-O7-C7	2.69	134.85	121.59
3	P	533	TPP	PA-O7-C7	2.68	134.80	121.59
3	I	533	TPP	PA-O7-C7	2.66	134.69	121.59
3	D	533	TPP	PA-O7-C7	2.65	134.65	121.59
3	H	533	TPP	N1'-C2'-N3'	-2.63	121.01	125.54
3	O	533	TPP	N1'-C2'-N3'	-2.62	121.03	125.54
3	I	533	TPP	N1'-C2'-N3'	-2.61	121.05	125.54
3	P	533	TPP	N1'-C2'-N3'	-2.60	121.06	125.54
3	D	533	TPP	N1'-C2'-N3'	-2.60	121.06	125.54
3	O	533	TPP	PA-O7-C7	2.60	134.37	121.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	533	TPP	N1'-C2'-N3'	-2.57	121.11	125.54
3	N	533	TPP	N1'-C2'-N3'	-2.51	121.22	125.54
3	M	533	TPP	N1'-C2'-N3'	-2.50	121.24	125.54
3	E	533	TPP	N1'-C2'-N3'	-2.49	121.25	125.54
3	G	533	TPP	N1'-C2'-N3'	-2.48	121.27	125.54
3	B	533	TPP	N1'-C2'-N3'	-2.45	121.33	125.54
3	C	533	TPP	N1'-C2'-N3'	-2.43	121.35	125.54
3	L	533	TPP	N1'-C2'-N3'	-2.43	121.36	125.54
3	F	533	TPP	N1'-C2'-N3'	-2.38	121.44	125.54
3	J	533	TPP	N1'-C2'-N3'	-2.38	121.44	125.54
3	I	533	TPP	C5-C4-N3	2.30	112.17	107.57
3	K	533	TPP	N1'-C2'-N3'	-2.25	121.67	125.54
3	M	533	TPP	C5-C4-N3	2.24	112.06	107.57
3	B	533	TPP	C5-C4-N3	2.23	112.03	107.57
3	L	533	TPP	C5-C4-N3	2.22	112.01	107.57
3	H	533	TPP	C5-C4-N3	2.15	111.88	107.57
3	O	533	TPP	C5-C4-N3	2.12	111.82	107.57
3	E	533	TPP	C5-C4-N3	2.10	111.78	107.57
3	P	533	TPP	C5-C4-N3	2.10	111.77	107.57
3	J	533	TPP	C5-C4-N3	2.08	111.73	107.57
3	C	533	TPP	C5-C4-N3	2.07	111.72	107.57
3	N	533	TPP	C5-C4-N3	2.06	111.69	107.57
3	A	533	TPP	C5-C4-N3	2.05	111.67	107.57
3	F	533	TPP	C5-C4-N3	2.04	111.66	107.57
3	D	533	TPP	C5-C4-N3	2.01	111.58	107.57

There are no chirality outliers.

All (138) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	533	TPP	C5-C6-C7-O7
3	A	533	TPP	C7-O7-PA-O3A
3	A	533	TPP	PB-O3A-PA-O7
3	A	533	TPP	PA-O3A-PB-O3B
3	B	533	TPP	C5-C6-C7-O7
3	B	533	TPP	C7-O7-PA-O3A
3	B	533	TPP	PB-O3A-PA-O7
3	B	533	TPP	PA-O3A-PB-O3B
3	C	533	TPP	C5-C6-C7-O7
3	C	533	TPP	C7-O7-PA-O3A
3	C	533	TPP	PB-O3A-PA-O7
3	D	533	TPP	C5-C6-C7-O7

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Mol	Chain	Res	Type	Atoms
3	D	533	TPP	C7-O7-PA-O3A
3	D	533	TPP	PB-O3A-PA-O7
3	D	533	TPP	PA-O3A-PB-O3B
3	E	533	TPP	C5-C6-C7-O7
3	E	533	TPP	C7-O7-PA-O3A
3	E	533	TPP	PB-O3A-PA-O7
3	F	533	TPP	C5-C6-C7-O7
3	F	533	TPP	C7-O7-PA-O3A
3	F	533	TPP	PB-O3A-PA-O7
3	F	533	TPP	PA-O3A-PB-O3B
3	G	533	TPP	C5-C6-C7-O7
3	G	533	TPP	C7-O7-PA-O3A
3	G	533	TPP	PB-O3A-PA-O7
3	G	533	TPP	PA-O3A-PB-O3B
3	H	533	TPP	C5-C6-C7-O7
3	H	533	TPP	C7-O7-PA-O1A
3	H	533	TPP	C7-O7-PA-O3A
3	H	533	TPP	PB-O3A-PA-O7
3	H	533	TPP	PA-O3A-PB-O3B
3	I	533	TPP	C5-C6-C7-O7
3	I	533	TPP	C7-O7-PA-O1A
3	I	533	TPP	C7-O7-PA-O3A
3	I	533	TPP	PB-O3A-PA-O7
3	I	533	TPP	PA-O3A-PB-O3B
3	J	533	TPP	C5-C6-C7-O7
3	J	533	TPP	C7-O7-PA-O1A
3	J	533	TPP	C7-O7-PA-O3A
3	J	533	TPP	PB-O3A-PA-O7
3	J	533	TPP	PA-O3A-PB-O3B
3	K	533	TPP	C5-C6-C7-O7
3	K	533	TPP	C7-O7-PA-O3A
3	K	533	TPP	PB-O3A-PA-O7
3	L	533	TPP	C5-C6-C7-O7
3	L	533	TPP	C7-O7-PA-O3A
3	L	533	TPP	PB-O3A-PA-O7
3	M	533	TPP	C5-C6-C7-O7
3	M	533	TPP	C7-O7-PA-O3A
3	M	533	TPP	PB-O3A-PA-O7
3	M	533	TPP	PA-O3A-PB-O3B
3	N	533	TPP	C5-C6-C7-O7
3	N	533	TPP	C7-O7-PA-O3A
3	N	533	TPP	PB-O3A-PA-O7

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Mol	Chain	Res	Type	Atoms
3	N	533	TPP	PA-O3A-PB-O3B
3	O	533	TPP	C5-C6-C7-O7
3	O	533	TPP	C7-O7-PA-O3A
3	O	533	TPP	PB-O3A-PA-O7
3	O	533	TPP	PA-O3A-PB-O3B
3	P	533	TPP	C5-C6-C7-O7
3	P	533	TPP	C7-O7-PA-O3A
3	P	533	TPP	PB-O3A-PA-O7
4	A	534	RMN	C2-C1-C7-C10
4	A	534	RMN	C6-C1-C7-C10
4	B	534	RMN	C2-C1-C7-C10
4	B	534	RMN	C6-C1-C7-C10
4	C	534	RMN	C2-C1-C7-C10
4	C	534	RMN	C6-C1-C7-C10
4	D	534	RMN	C2-C1-C7-C10
4	D	534	RMN	C6-C1-C7-C10
4	E	534	RMN	C2-C1-C7-C10
4	E	534	RMN	C6-C1-C7-C10
4	F	534	RMN	C2-C1-C7-C10
4	F	534	RMN	C6-C1-C7-C10
4	G	534	RMN	C2-C1-C7-C10
4	G	534	RMN	C6-C1-C7-C10
4	H	534	RMN	C2-C1-C7-C10
4	H	534	RMN	C6-C1-C7-C10
4	I	534	RMN	C2-C1-C7-C10
4	I	534	RMN	C6-C1-C7-C10
4	J	534	RMN	C2-C1-C7-C10
4	J	534	RMN	C6-C1-C7-C10
4	K	534	RMN	C2-C1-C7-C10
4	K	534	RMN	C6-C1-C7-C10
4	L	534	RMN	C2-C1-C7-C10
4	L	534	RMN	C6-C1-C7-C10
4	M	534	RMN	C2-C1-C7-C10
4	M	534	RMN	C6-C1-C7-C10
4	N	534	RMN	C2-C1-C7-C10
4	N	534	RMN	C6-C1-C7-C10
4	O	534	RMN	C2-C1-C7-C10
4	O	534	RMN	C6-C1-C7-C10
4	P	534	RMN	C2-C1-C7-C10
4	P	534	RMN	C6-C1-C7-C10
3	C	533	TPP	PA-O3A-PB-O1B
3	E	533	TPP	PA-O3A-PB-O1B

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Mol	Chain	Res	Type	Atoms
3	K	533	TPP	PA-O3A-PB-O1B
3	L	533	TPP	PA-O3A-PB-O1B
3	P	533	TPP	PA-O3A-PB-O1B
3	A	533	TPP	C7-O7-PA-O2A
3	B	533	TPP	C7-O7-PA-O1A
3	C	533	TPP	C7-O7-PA-O1A
3	D	533	TPP	C7-O7-PA-O2A
3	E	533	TPP	C7-O7-PA-O1A
3	F	533	TPP	C7-O7-PA-O2A
3	G	533	TPP	C7-O7-PA-O2A
3	K	533	TPP	C7-O7-PA-O2A
3	L	533	TPP	C7-O7-PA-O2A
3	M	533	TPP	C7-O7-PA-O1A
3	N	533	TPP	C7-O7-PA-O1A
3	O	533	TPP	C7-O7-PA-O2A
3	P	533	TPP	C7-O7-PA-O2A
3	A	533	TPP	PB-O3A-PA-O1A
3	B	533	TPP	PA-O3A-PB-O1B
3	H	533	TPP	PA-O3A-PB-O1B
3	I	533	TPP	PA-O3A-PB-O1B
3	J	533	TPP	PA-O3A-PB-O1B
3	M	533	TPP	PA-O3A-PB-O1B
3	B	533	TPP	PA-O3A-PB-O2B
3	C	533	TPP	PA-O3A-PB-O3B
3	E	533	TPP	PA-O3A-PB-O3B
3	H	533	TPP	PA-O3A-PB-O2B
3	I	533	TPP	PA-O3A-PB-O2B
3	J	533	TPP	PA-O3A-PB-O2B
3	K	533	TPP	PA-O3A-PB-O3B
3	L	533	TPP	PA-O3A-PB-O3B
3	M	533	TPP	PA-O3A-PB-O2B
3	P	533	TPP	PA-O3A-PB-O3B
3	A	533	TPP	PB-O3A-PA-O2A
3	D	533	TPP	PB-O3A-PA-O1A
3	D	533	TPP	PB-O3A-PA-O2A
3	F	533	TPP	PB-O3A-PA-O1A
3	F	533	TPP	PB-O3A-PA-O2A
3	G	533	TPP	PB-O3A-PA-O1A
3	K	533	TPP	PB-O3A-PA-O1A
3	L	533	TPP	PB-O3A-PA-O1A
3	O	533	TPP	PB-O3A-PA-O1A
3	P	533	TPP	PB-O3A-PA-O1A

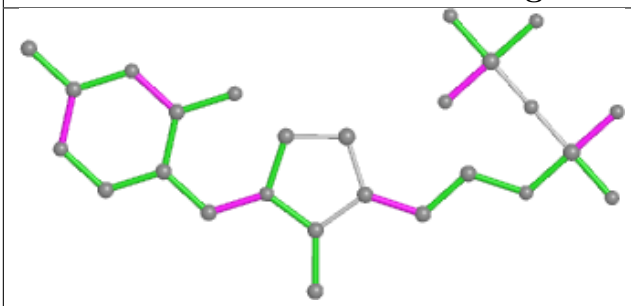
There are no ring outliers.

20 monomers are involved in 33 short contacts:

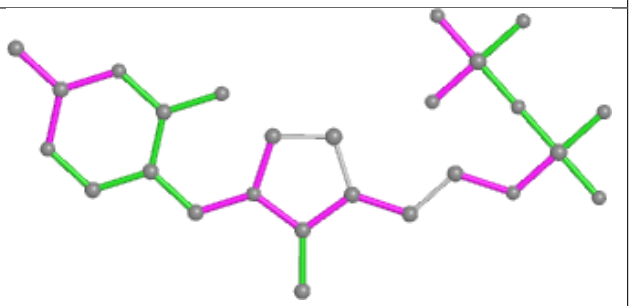
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	L	534	RMN	2	0
4	C	534	RMN	3	0
3	G	533	TPP	1	0
4	E	534	RMN	2	0
4	M	534	RMN	2	0
4	P	534	RMN	1	0
4	A	534	RMN	1	0
4	H	534	RMN	2	0
4	F	534	RMN	2	0
4	K	534	RMN	1	0
4	O	534	RMN	1	0
4	N	534	RMN	2	0
4	G	534	RMN	1	0
4	J	534	RMN	3	0
3	A	533	TPP	1	0
4	I	534	RMN	2	0
3	K	533	TPP	1	0
4	D	534	RMN	1	0
4	B	534	RMN	3	0
3	I	533	TPP	1	0

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

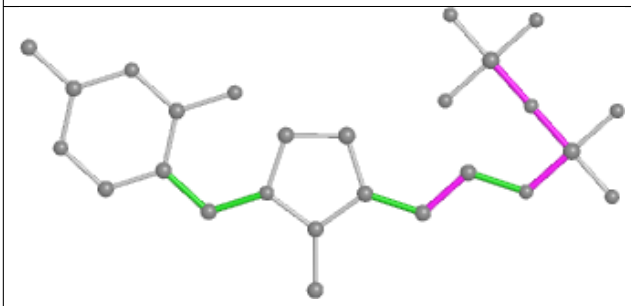
Ligand TPP P 533



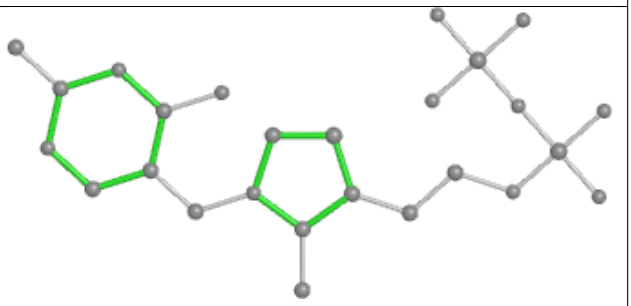
Bond lengths



Bond angles

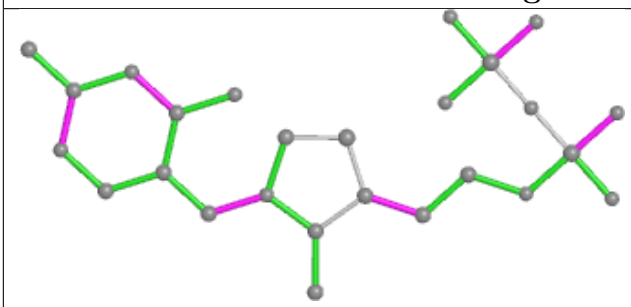


Torsions

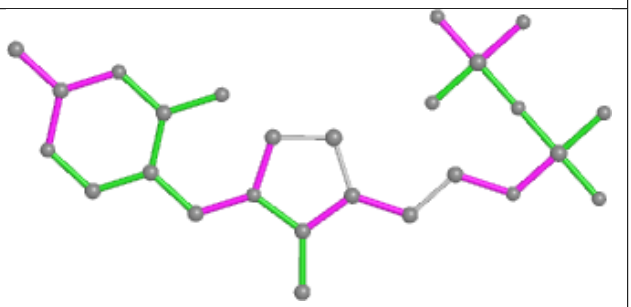


Rings

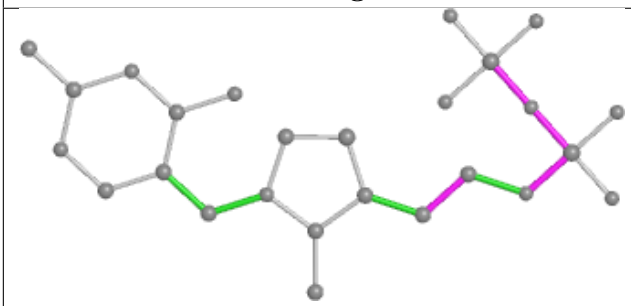
Ligand TPP G 533



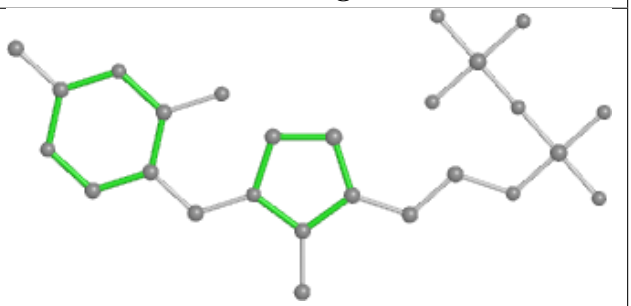
Bond lengths



Bond angles

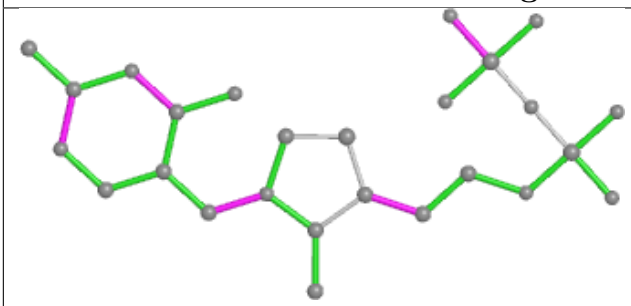


Torsions



Rings

Ligand TPP M 533



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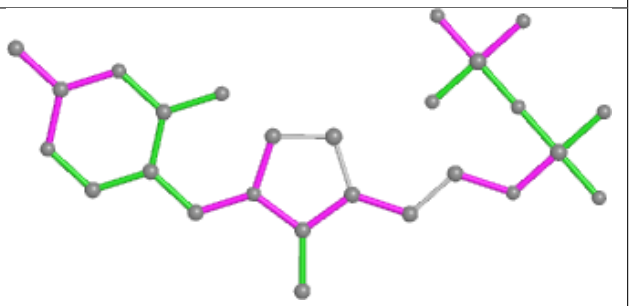
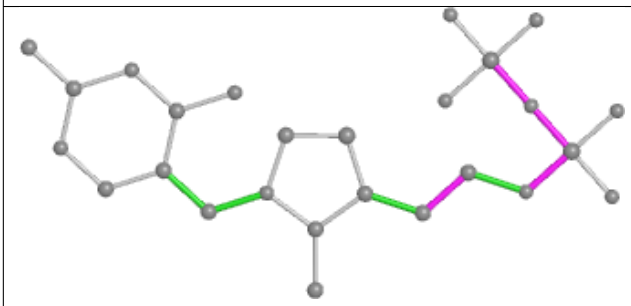


Bond angles



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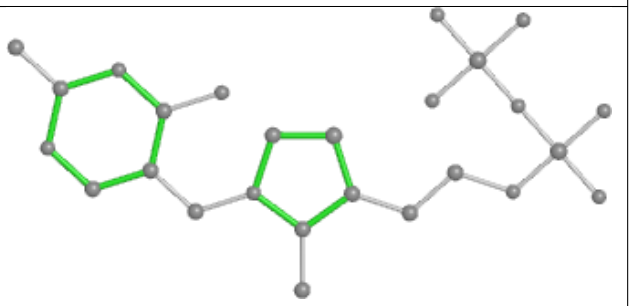
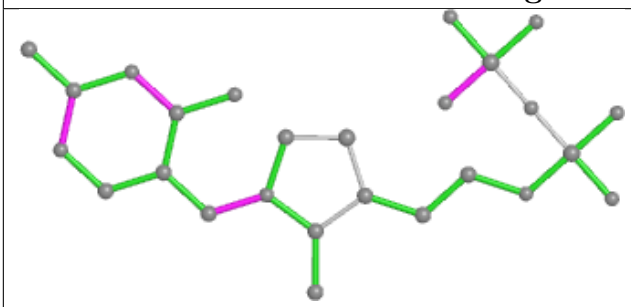
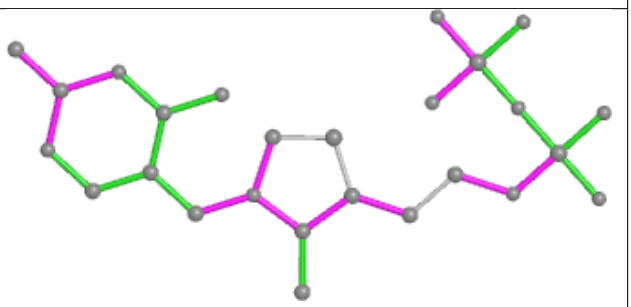


Rings

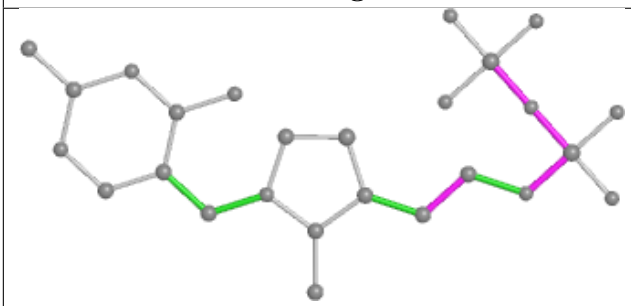
Ligand TPP C 533



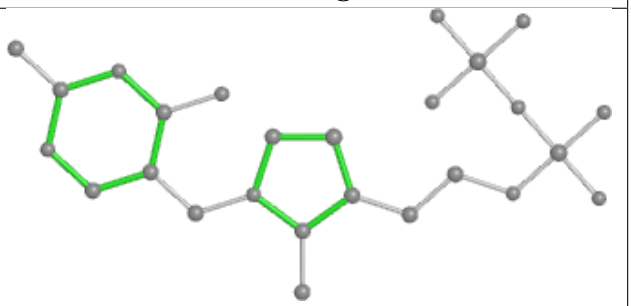
Bond lengths



Bond angles

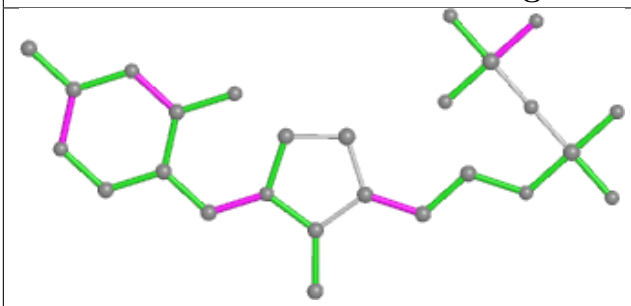


Torsions



Rings

Ligand TPP N 533



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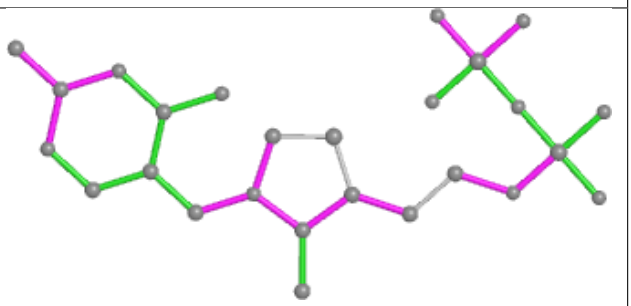
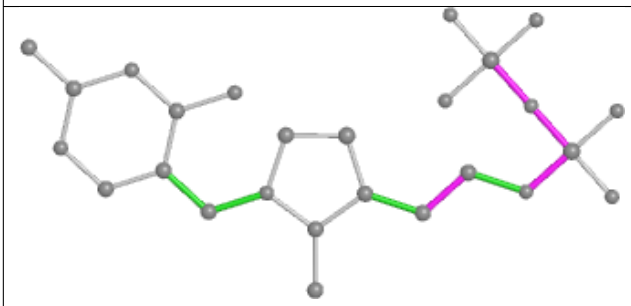
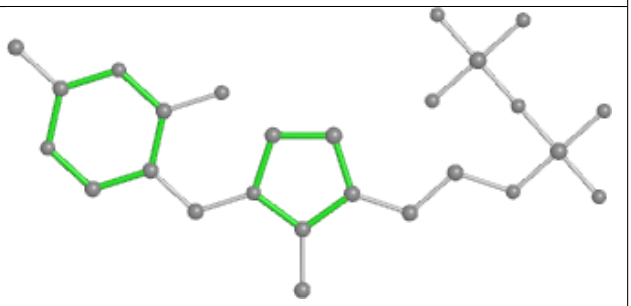


Bond angles

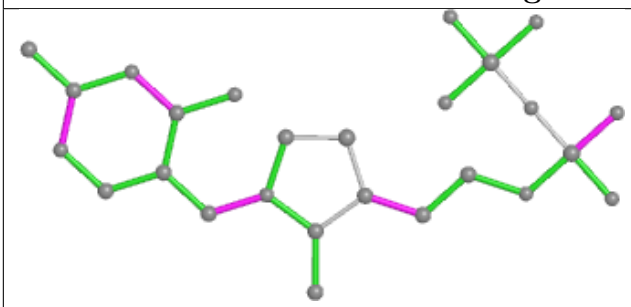


Torsions

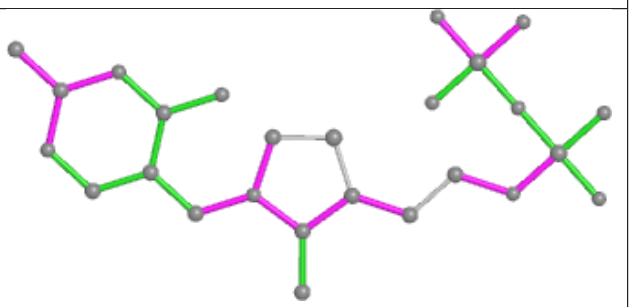


Rings

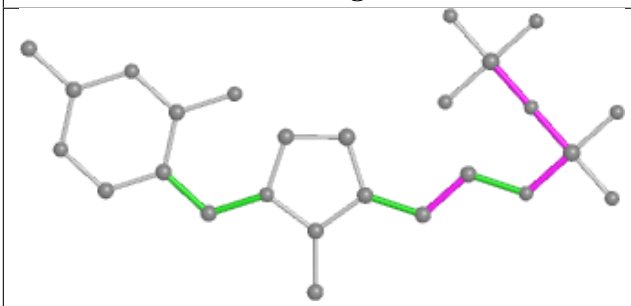
Ligand TPP D 533



Bond lengths



Bond angles



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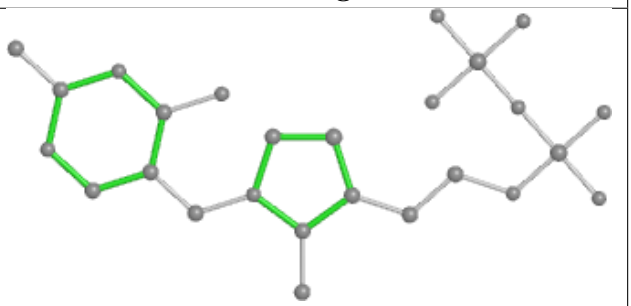
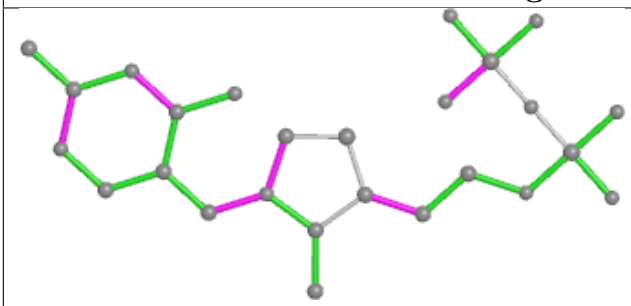
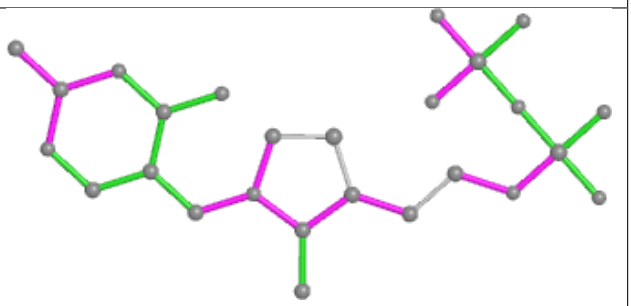


Rings

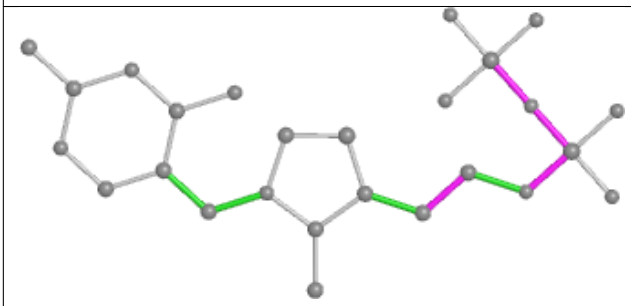
Ligand TPP E 533



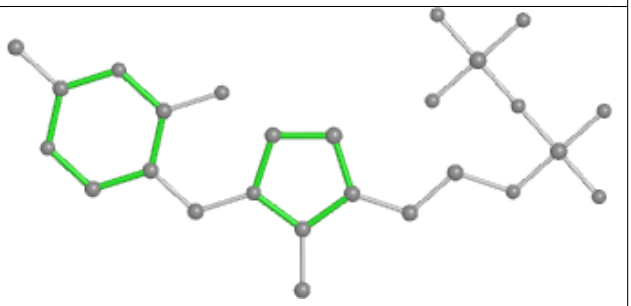
Bond lengths



Bond angles

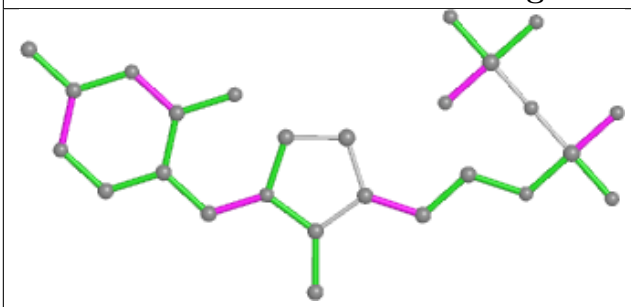


Torsions



Rings

Ligand TPP L 533



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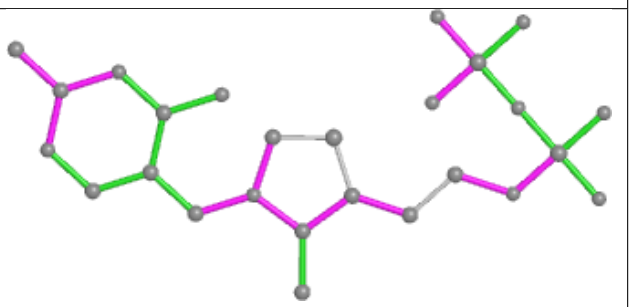
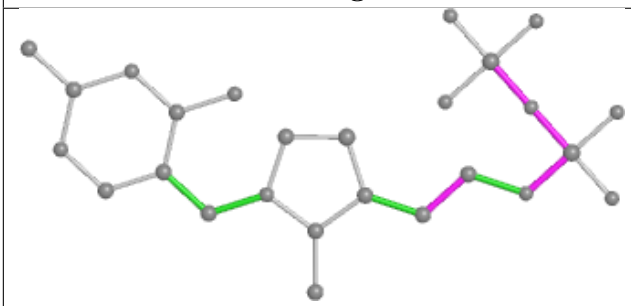
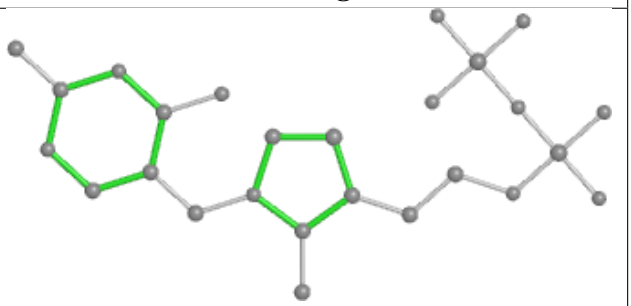


Bond angles

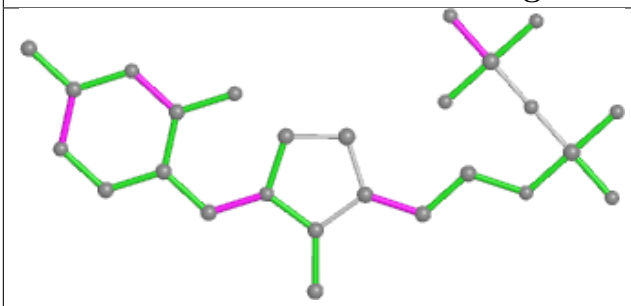


Torsions

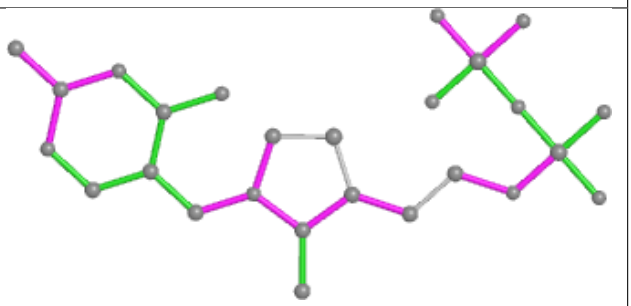


Rings

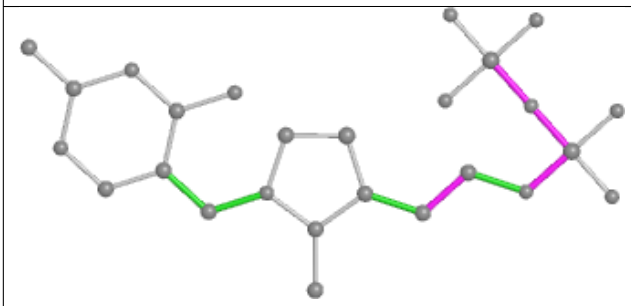
Ligand TPP H 533



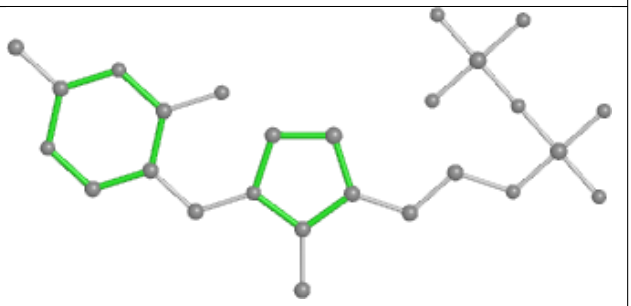
Bond lengths



Bond angles

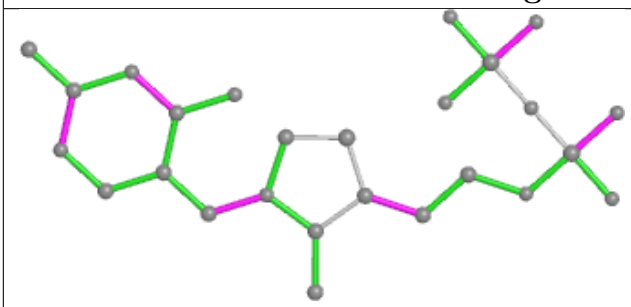


Torsions



Rings

Ligand TPP A 533



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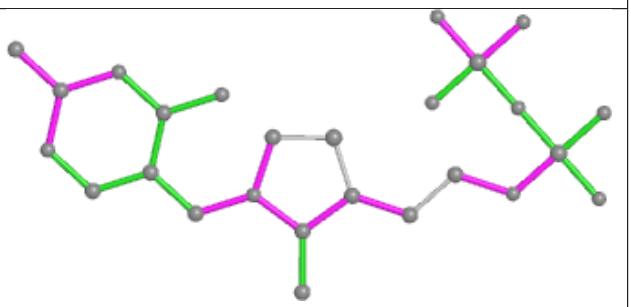
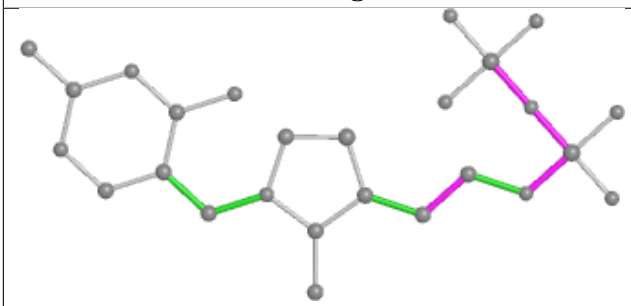


Bond angles



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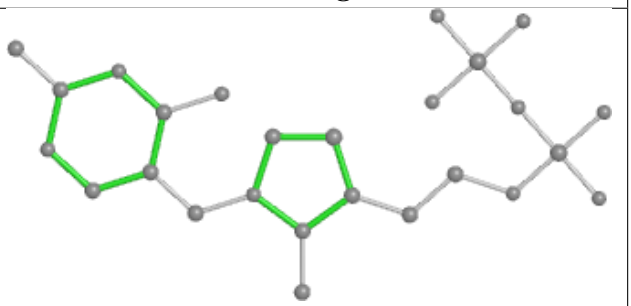
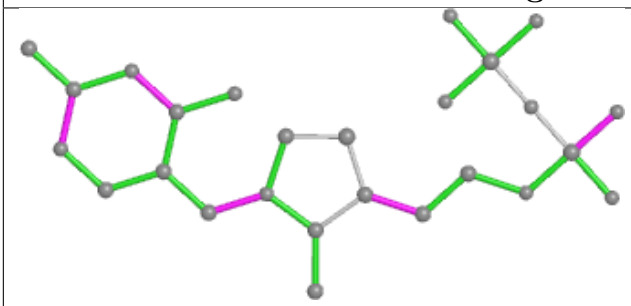
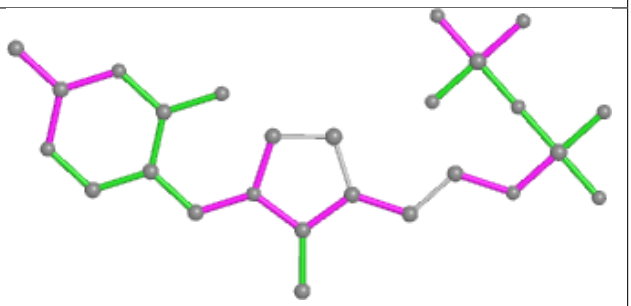


Rings

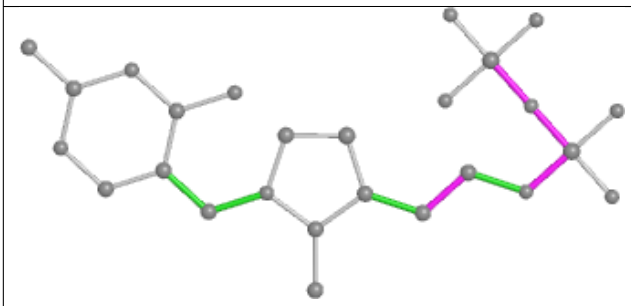
Ligand TPP F 533



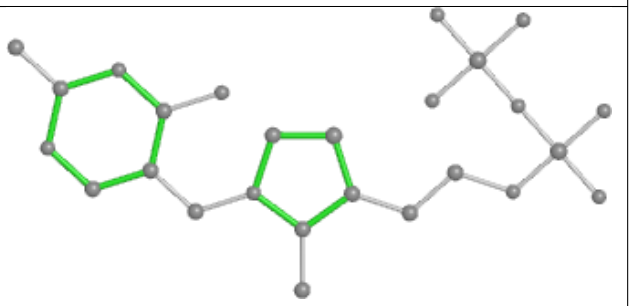
Bond lengths



Bond angles

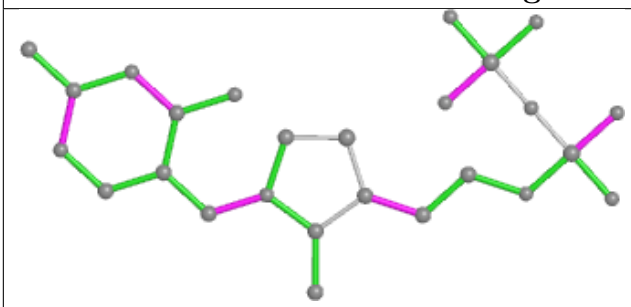


Torsions

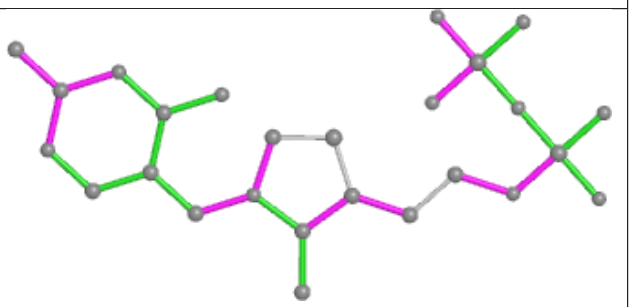


Rings

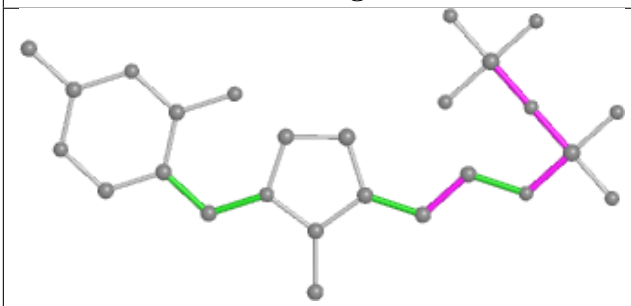
Ligand TPP K 533



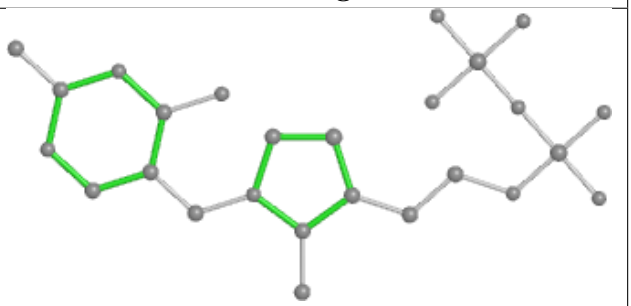
Bond lengths



Bond angles

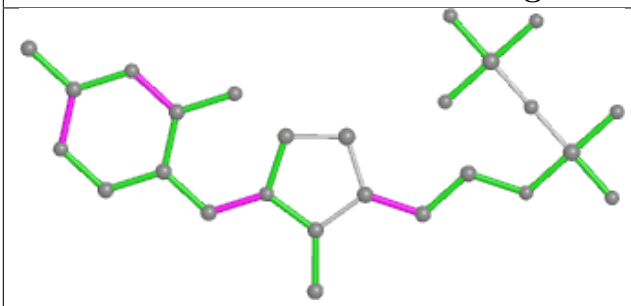


Torsions

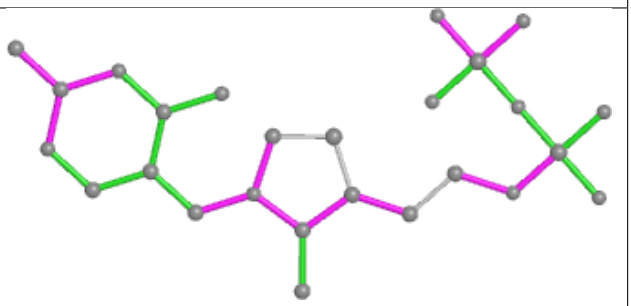


Rings

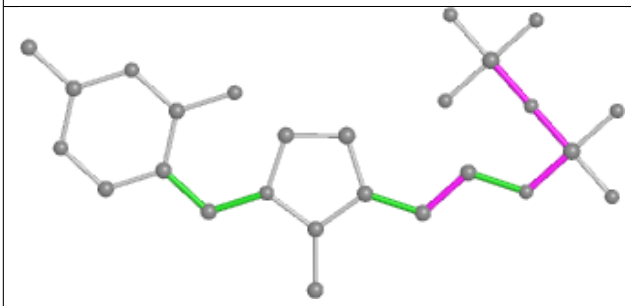
Ligand TPP O 533



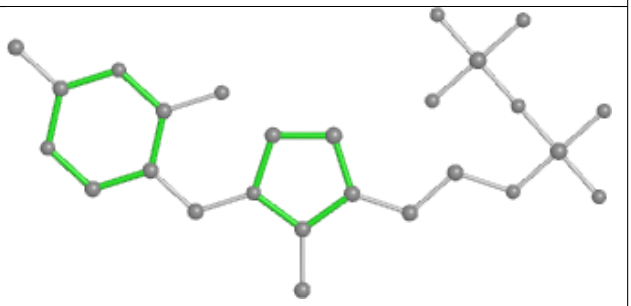
Bond lengths



Bond angles

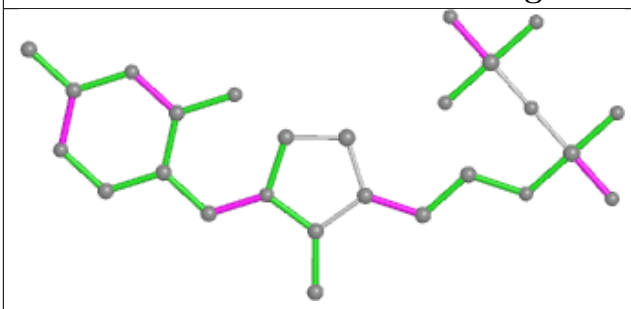


Torsions

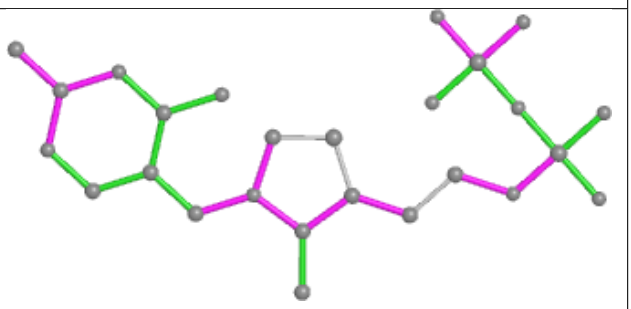


Rings

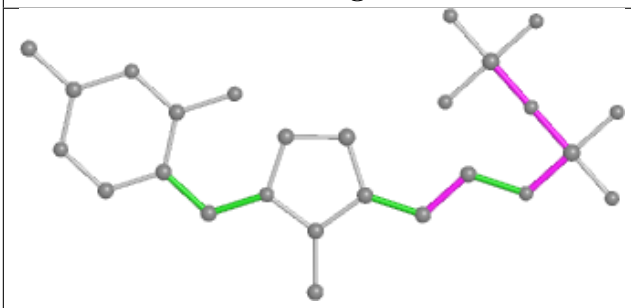
Ligand TPP B 533



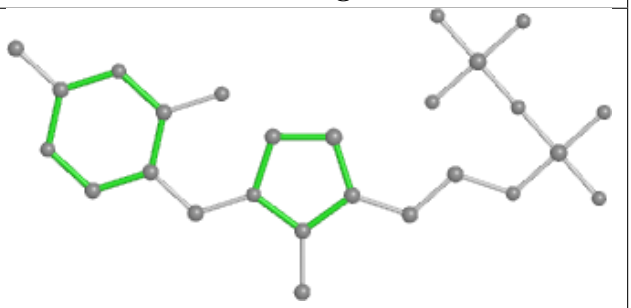
Bond lengths



Bond angles

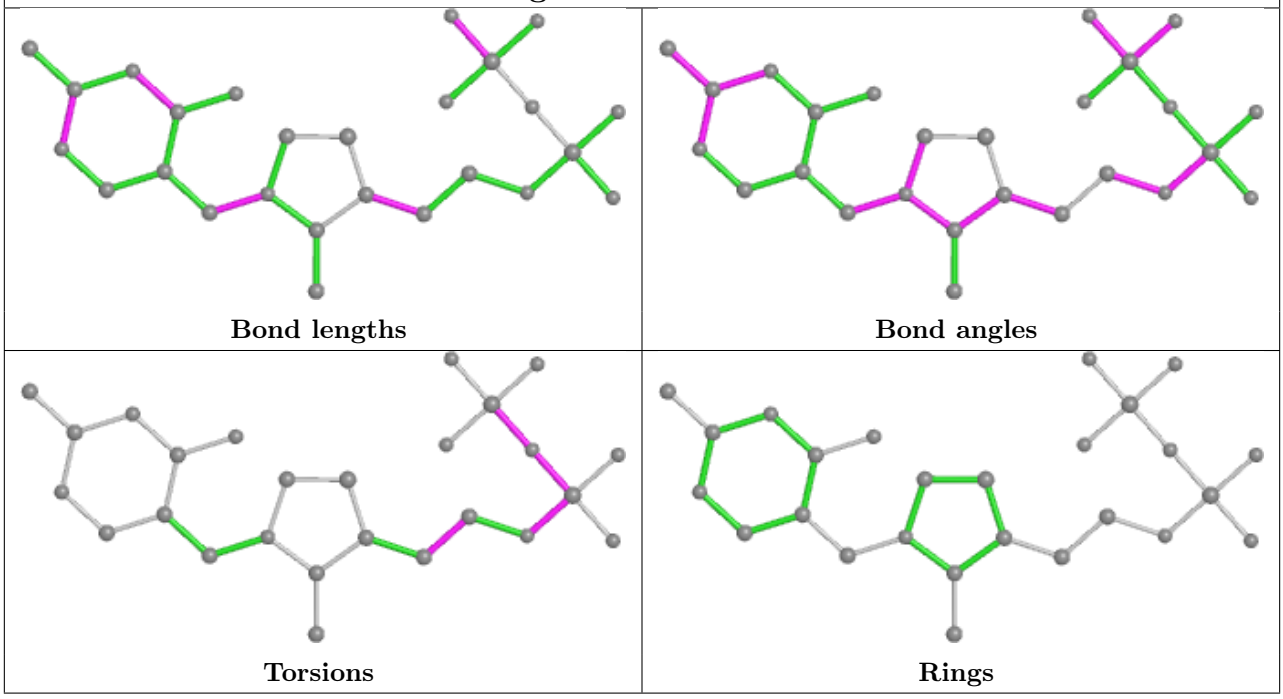


Torsions

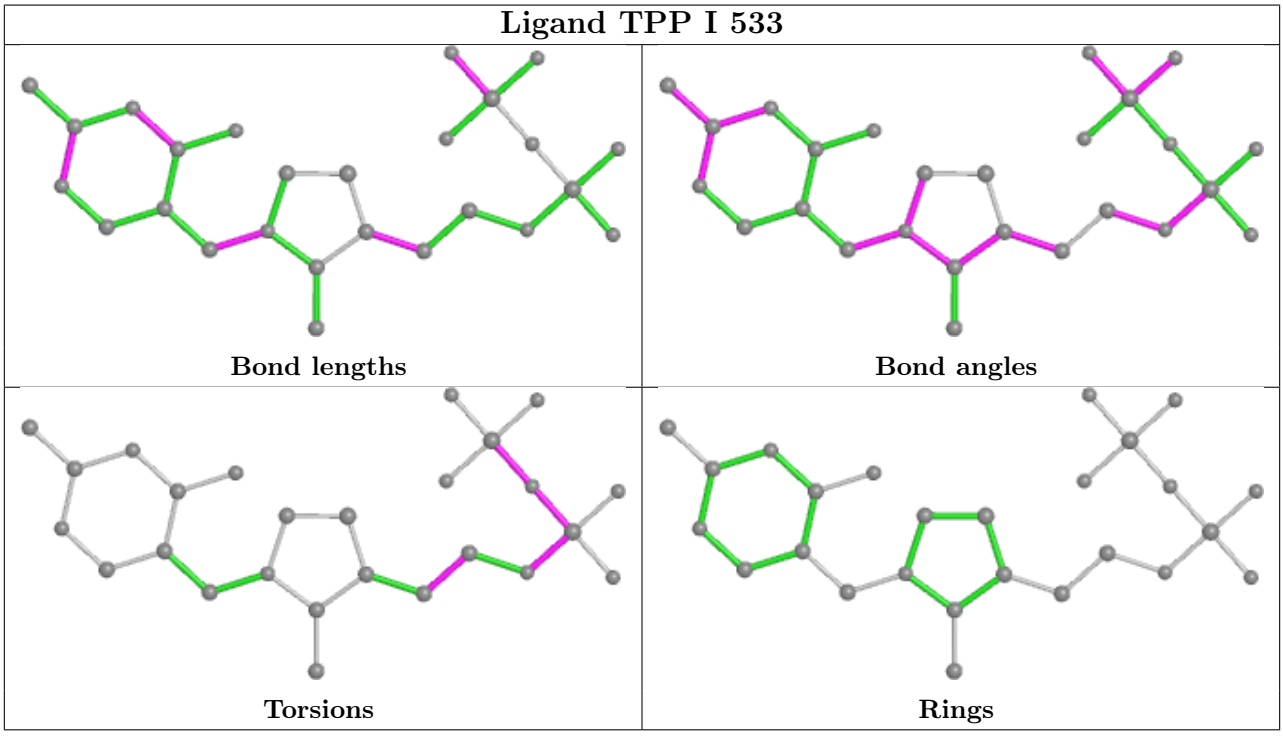


Rings

Ligand TPP J 533



Ligand TPP I 533



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

6.1 Protein, DNA and RNA chains

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, 95^{th} 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	A	524/528 (99%)	-0.48	3 (0%)	89	86	10, 17, 30, 46	8 (1%)
1	B	524/528 (99%)	-0.50	7 (1%)	77	72	10, 17, 30, 46	8 (1%)
1	C	524/528 (99%)	-0.47	5 (0%)	82	77	8, 17, 30, 46	8 (1%)
1	D	524/528 (99%)	-0.50	4 (0%)	86	81	10, 17, 30, 46	8 (1%)
1	E	524/528 (99%)	-0.51	4 (0%)	86	81	10, 17, 30, 46	8 (1%)
1	F	524/528 (99%)	-0.47	6 (1%)	80	75	10, 18, 31, 46	8 (1%)
1	G	524/528 (99%)	-0.48	2 (0%)	92	91	10, 18, 30, 45	8 (1%)
1	H	524/528 (99%)	-0.51	5 (0%)	82	77	9, 17, 30, 46	8 (1%)
1	I	524/528 (99%)	-0.36	9 (1%)	70	63	11, 19, 31, 46	8 (1%)
1	J	524/528 (99%)	-0.42	5 (0%)	82	77	10, 18, 31, 44	8 (1%)
1	K	524/528 (99%)	-0.50	3 (0%)	89	86	10, 18, 30, 46	8 (1%)
1	L	524/528 (99%)	-0.42	6 (1%)	80	75	10, 18, 31, 46	8 (1%)
1	M	524/528 (99%)	-0.46	6 (1%)	80	75	9, 18, 30, 46	8 (1%)
1	N	524/528 (99%)	-0.47	2 (0%)	92	91	10, 17, 30, 44	8 (1%)
1	O	524/528 (99%)	-0.23	20 (3%)	40	30	11, 19, 32, 46	8 (1%)
1	P	524/528 (99%)	-0.48	5 (0%)	82	77	10, 19, 30, 46	8 (1%)
All	All	8384/8448 (99%)	-0.45	92 (1%)	80	75	8, 18, 31, 46	128 (1%)

All (92) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	O	350	ALA	7.2
1	O	347	ASP	6.7
1	I	333	SER	4.7
1	O	351	GLY	4.6
1	O	344	ALA	4.6

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Mol	Chain	Res	Type	RSRZ
1	O	346	VAL	4.1
1	O	463	TRP	4.0
1	I	467	VAL	3.9
1	P	469	GLU	3.7
1	I	463	TRP	3.6
1	F	469	GLU	3.6
1	C	467	VAL	3.6
1	L	169	PRO	3.5
1	M	178	HIS	3.3
1	P	467	VAL	3.3
1	C	463	TRP	3.2
1	J	347	ASP	3.1
1	E	469	GLU	3.1
1	O	467	VAL	3.1
1	I	188	GLN	3.0
1	E	463	TRP	3.0
1	K	467	VAL	2.9
1	O	469	GLU	2.9
1	B	327	ASN	2.8
1	N	327	ASN	2.8
1	M	291	PRO	2.8
1	H	463	TRP	2.8
1	O	349	ASP	2.8
1	C	333	SER	2.7
1	L	467	VAL	2.7
1	O	348	GLN	2.7
1	D	338	THR	2.6
1	E	467	VAL	2.6
1	I	331	GLU	2.6
1	L	463	TRP	2.6
1	P	466	GLY	2.5
1	F	467	VAL	2.5
1	M	467	VAL	2.5
1	H	344	ALA	2.5
1	H	343	PRO	2.4
1	I	469	GLU	2.4
1	F	345	LYS	2.4
1	F	178	HIS	2.4
1	J	469	GLU	2.4
1	O	514	LYS	2.4
1	O	345	LYS	2.4
1	J	463	TRP	2.3

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Mol	Chain	Res	Type	RSRZ
1	O	512	SER	2.3
1	D	178	HIS	2.3
1	B	333	SER	2.3
1	B	463	TRP	2.3
1	B	508	GLN	2.3
1	O	178	HIS	2.3
1	F	341	PRO	2.3
1	P	368	GLU	2.3
1	A	333	SER	2.3
1	O	508	GLN	2.3
1	L	469	GLU	2.3
1	L	178	HIS	2.3
1	O	466	GLY	2.3
1	I	464	PHE	2.3
1	A	262	GLN	2.2
1	A	178	HIS	2.2
1	C	344	ALA	2.2
1	O	502	GLN	2.2
1	F	382	GLN	2.2
1	G	188	GLN	2.2
1	M	262	GLN	2.2
1	B	262	GLN	2.2
1	H	341	PRO	2.2
1	K	178	HIS	2.2
1	M	463	TRP	2.1
1	E	382	GLN	2.1
1	O	343	PRO	2.1
1	J	508	GLN	2.1
1	H	178	HIS	2.1
1	C	468	LEU	2.1
1	G	344	ALA	2.1
1	O	2	ALA	2.1
1	B	469	GLU	2.1
1	M	341	PRO	2.1
1	B	178	HIS	2.1
1	L	262	GLN	2.1
1	D	344	ALA	2.1
1	N	2	ALA	2.1
1	J	345	LYS	2.1
1	D	345	LYS	2.1
1	I	468	LEU	2.1
1	P	468	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
1	O	445	ASN	2.0
1	I	335	GLN	2.0
1	K	470	ALA	2.0

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, 95^{th} 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	MG	E	530	1/1	0.49	0.25	31,31,31,31	0
2	MG	H	530	1/1	0.58	0.30	48,48,48,48	0
4	RMN	B	534	11/11	0.78	0.29	21,26,27,28	11
2	MG	D	530	1/1	0.80	0.17	17,17,17,17	0
4	RMN	M	534	11/11	0.83	0.28	26,27,29,30	11
4	RMN	L	534	11/11	0.86	0.24	24,26,27,28	11
4	RMN	I	534	11/11	0.89	0.22	25,26,27,28	11
4	RMN	O	534	11/11	0.89	0.24	24,26,28,28	11
4	RMN	N	534	11/11	0.90	0.23	23,24,26,26	11
4	RMN	E	534	11/11	0.90	0.23	24,25,27,29	11
4	RMN	P	534	11/11	0.91	0.20	22,27,28,28	11
4	RMN	J	534	11/11	0.92	0.21	21,24,26,27	11
4	RMN	H	534	11/11	0.92	0.20	25,26,27,27	11
4	RMN	A	534	11/11	0.92	0.23	21,22,25,25	11
2	MG	P	530	1/1	0.93	0.78	71,71,71,71	0
2	MG	A	530	1/1	0.93	0.15	25,25,25,25	0
4	RMN	F	534	11/11	0.94	0.17	23,24,25,26	11
4	RMN	G	534	11/11	0.94	0.20	22,23,24,26	11
2	MG	L	529	1/1	0.94	0.22	1,1,1,1	0
2	MG	O	529	1/1	0.94	0.14	1,1,1,1	0

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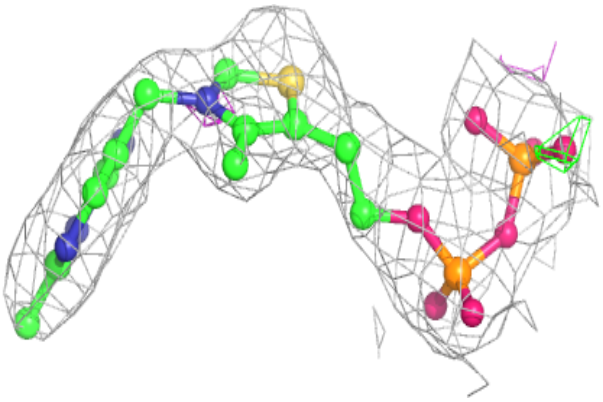
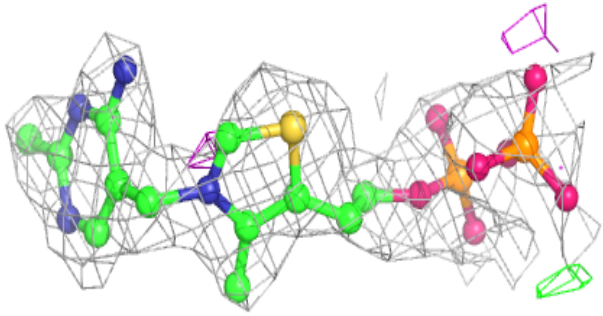
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	MG	B	529	1/1	0.94	0.15	1,1,1,1	0
3	TPP	O	533	26/26	0.95	0.14	19,21,25,26	0
4	RMN	C	534	11/11	0.95	0.15	24,27,28,29	11
4	RMN	K	534	11/11	0.95	0.15	21,24,24,26	11
2	MG	P	529	1/1	0.95	0.10	1,1,1,1	0
3	TPP	P	533	26/26	0.96	0.12	17,19,22,22	0
2	MG	C	529	1/1	0.96	0.17	1,1,1,1	0
4	RMN	D	534	11/11	0.96	0.21	22,24,24,25	11
3	TPP	D	533	26/26	0.97	0.13	14,17,19,21	0
3	TPP	E	533	26/26	0.97	0.12	15,17,19,20	0
3	TPP	G	533	26/26	0.97	0.12	14,17,18,19	0
3	TPP	I	533	26/26	0.97	0.12	15,18,20,20	0
3	TPP	J	533	26/26	0.97	0.12	16,19,22,22	0
3	TPP	L	533	26/26	0.97	0.12	17,18,21,22	0
2	MG	L	530	1/1	0.97	0.09	11,11,11,11	0
2	MG	N	530	1/1	0.97	0.35	30,30,30,30	0
2	MG	H	529	1/1	0.97	0.22	1,1,1,1	0
2	MG	E	529	1/1	0.97	0.14	1,1,1,1	0
2	MG	D	529	1/1	0.97	0.16	1,1,1,1	0
3	TPP	A	533	26/26	0.97	0.13	15,17,18,21	0
2	MG	N	529	1/1	0.98	0.23	1,1,1,1	0
3	TPP	F	533	26/26	0.98	0.11	18,19,22,23	0
2	MG	F	529	1/1	0.98	0.10	1,1,1,1	0
3	TPP	H	533	26/26	0.98	0.11	17,18,20,21	0
2	MG	I	529	1/1	0.98	0.11	1,1,1,1	0
2	MG	I	530	1/1	0.98	0.06	22,22,22,22	0
3	TPP	K	533	26/26	0.98	0.12	16,17,18,18	0
2	MG	J	529	1/1	0.98	0.13	1,1,1,1	0
3	TPP	M	533	26/26	0.98	0.10	16,19,20,21	0
3	TPP	N	533	26/26	0.98	0.12	15,17,18,20	0
2	MG	G	529	1/1	0.98	0.22	1,1,1,1	0
3	TPP	B	533	26/26	0.98	0.11	14,16,17,17	0
3	TPP	C	533	26/26	0.98	0.12	15,17,19,19	0
2	MG	A	529	1/1	0.98	0.16	1,1,1,1	0
2	MG	M	529	1/1	0.99	0.20	1,1,1,1	0
2	MG	K	529	1/1	0.99	0.17	1,1,1,1	0

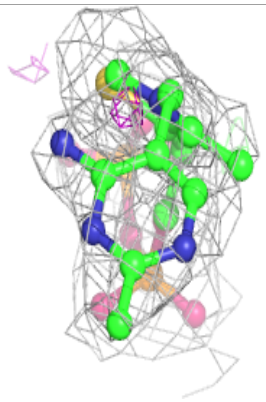
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around TPP O 533:

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

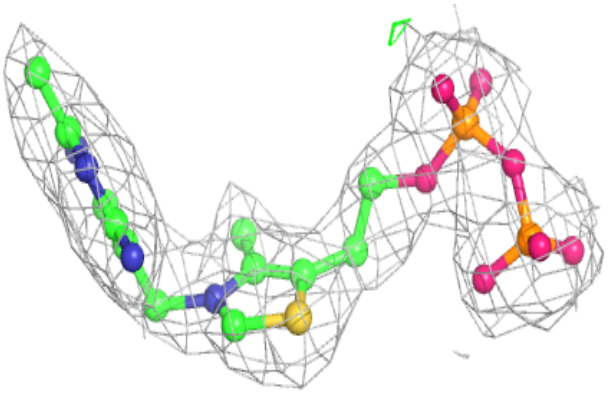


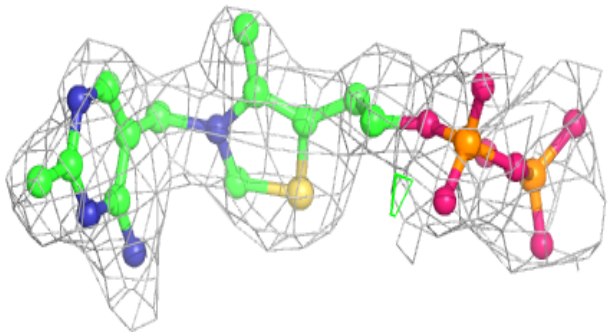


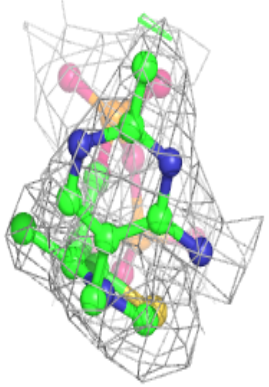


Electron density around TPP P 533:

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

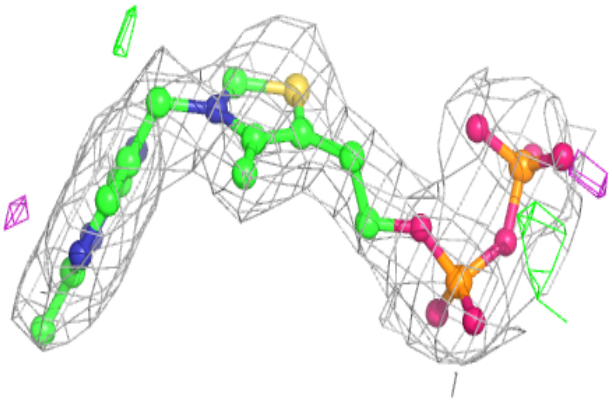


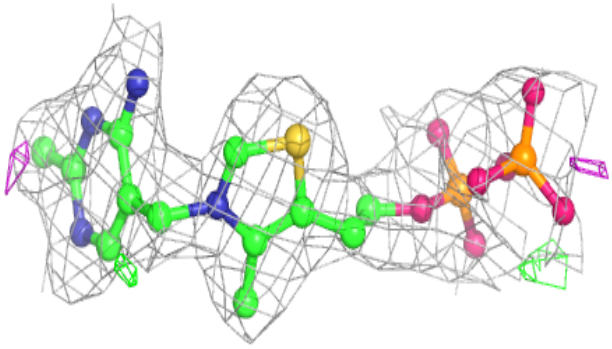


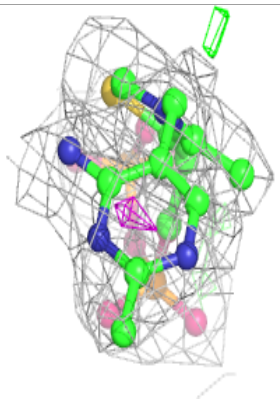


Electron density around TPP D 533:

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

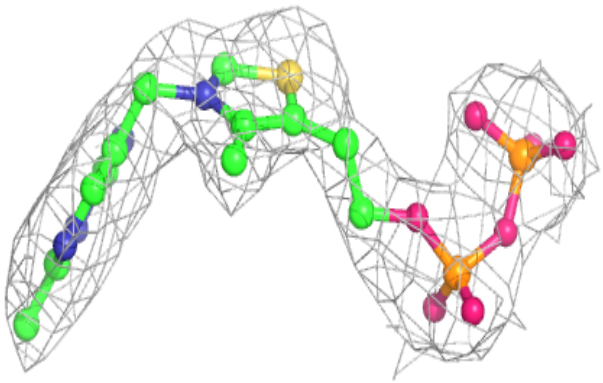


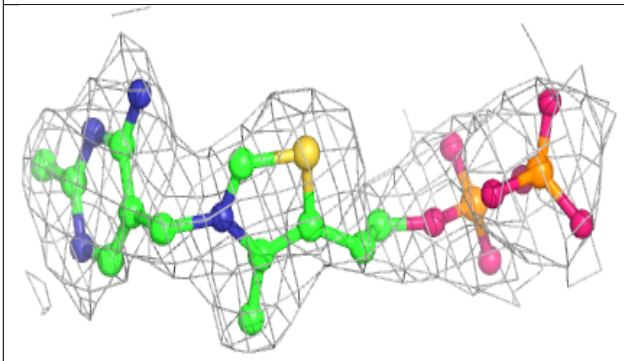


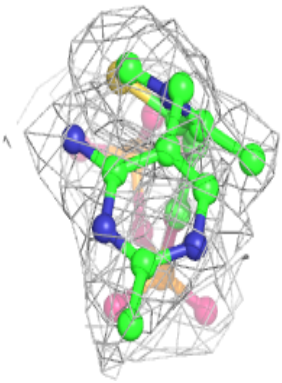


Electron density around TPP E 533:

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

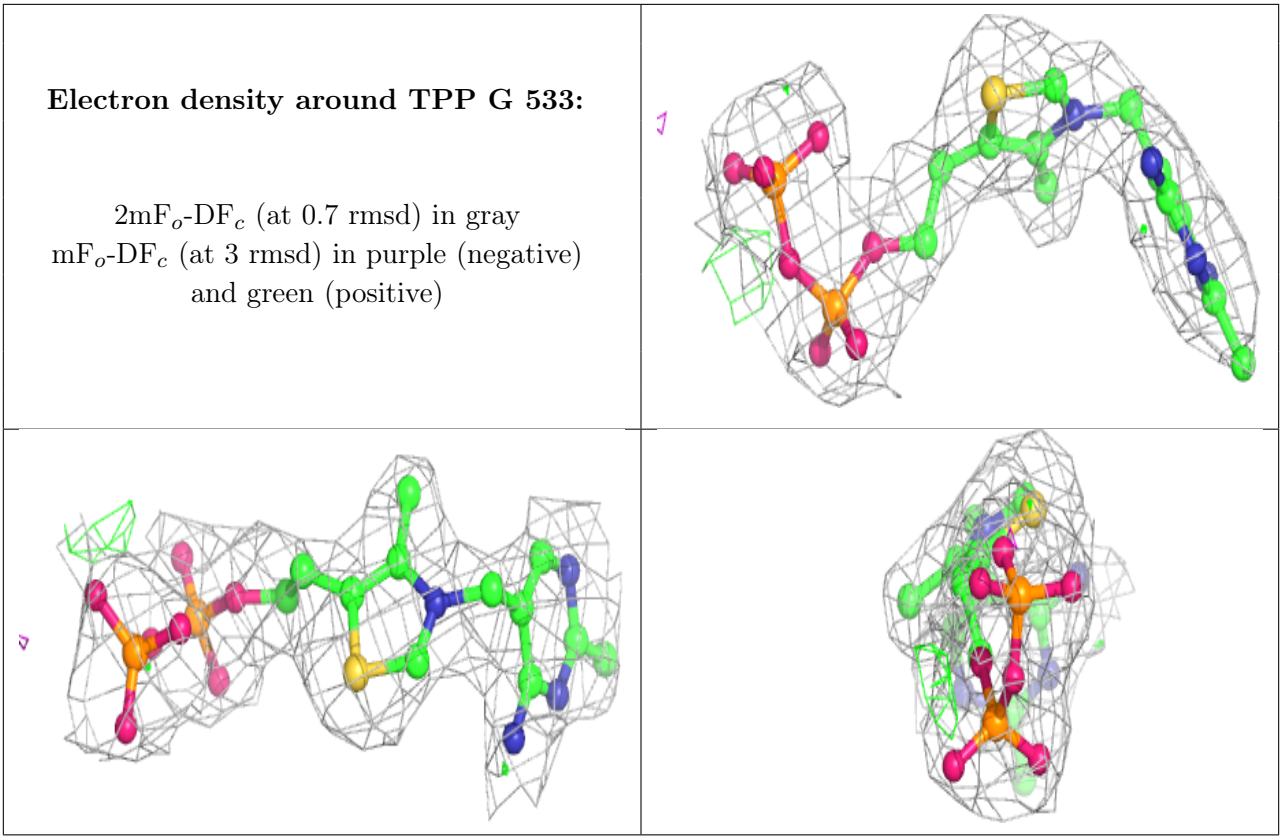






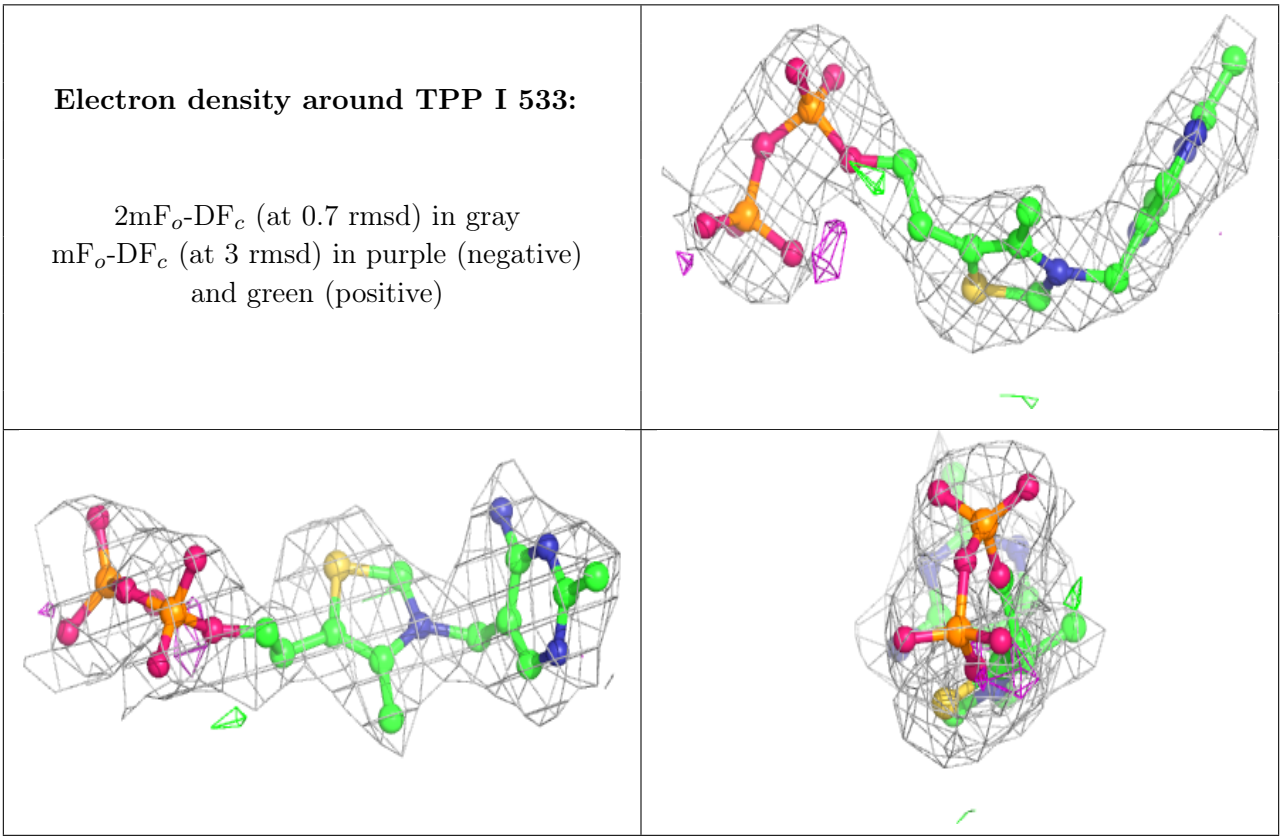
Electron density around TPP G 533:

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



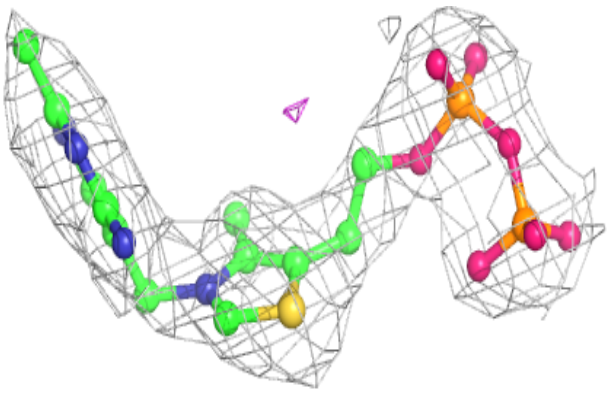
Electron density around TPP I 533:

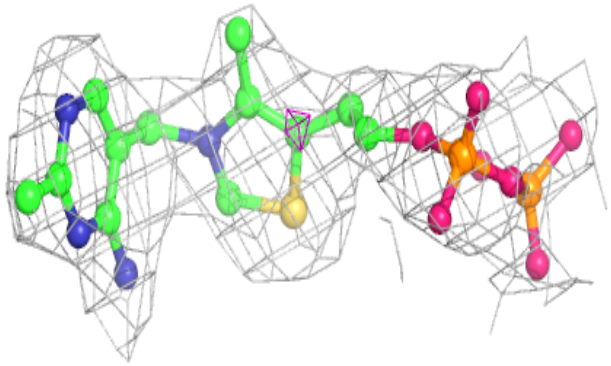
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

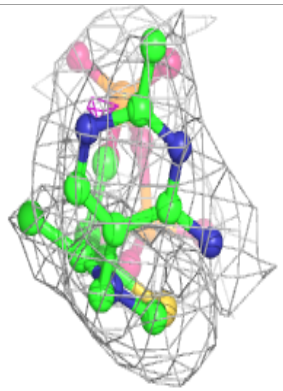


Electron density around TPP J 533:

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

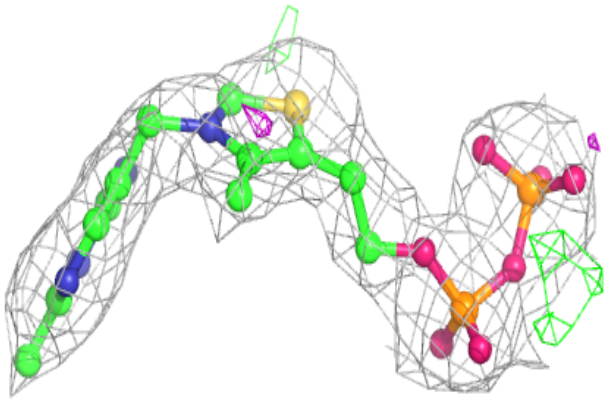


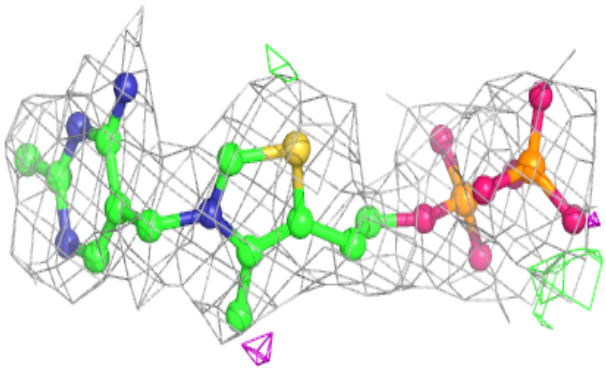


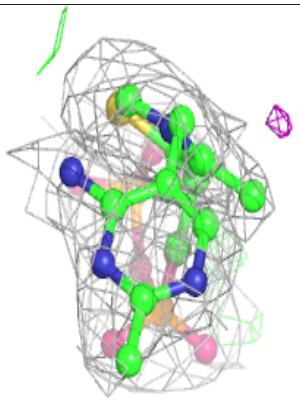


Electron density around TPP L 533:

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

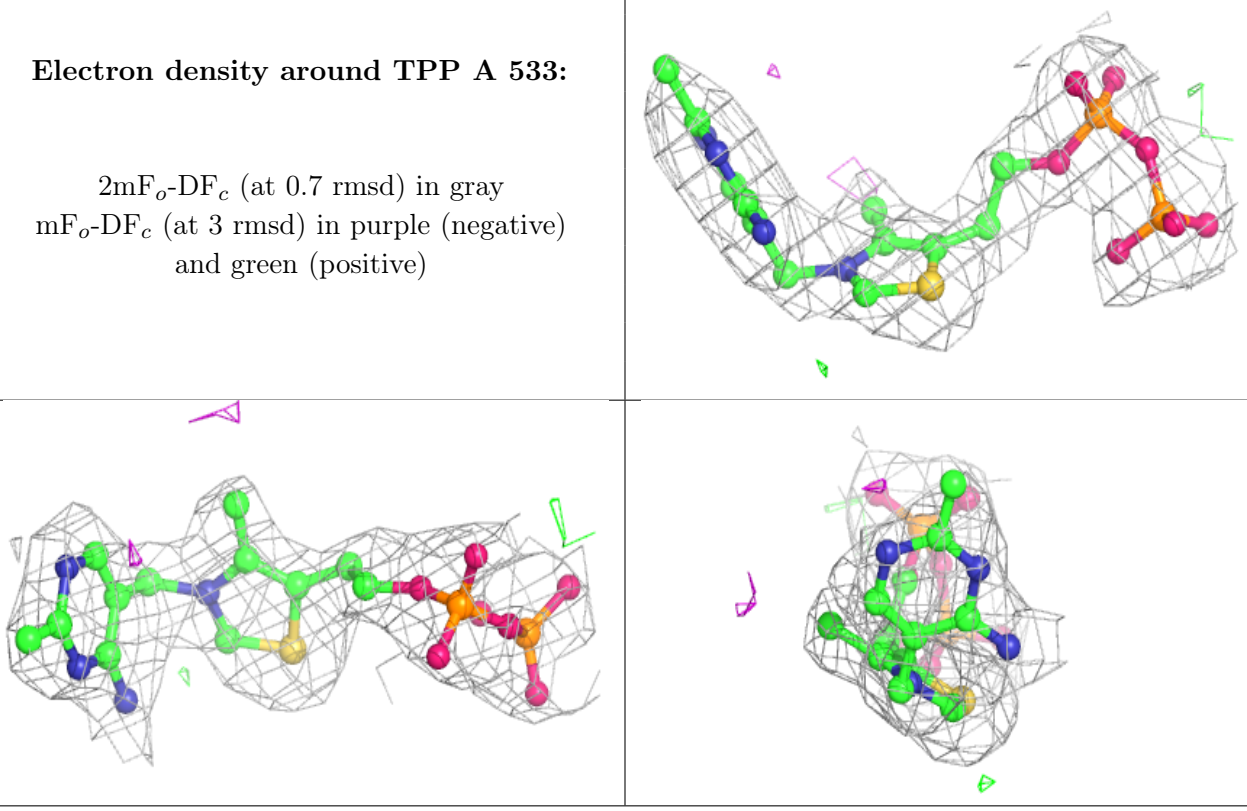






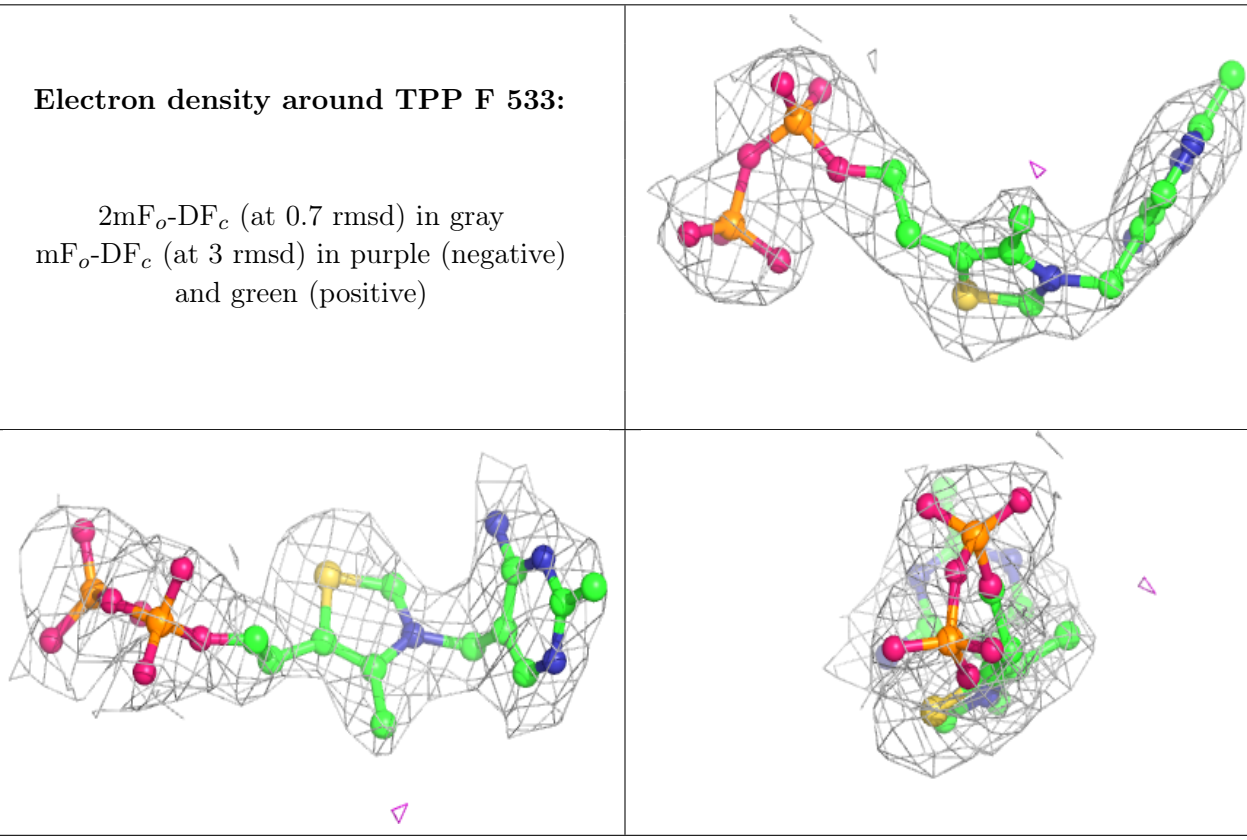
Electron density around TPP A 533:

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



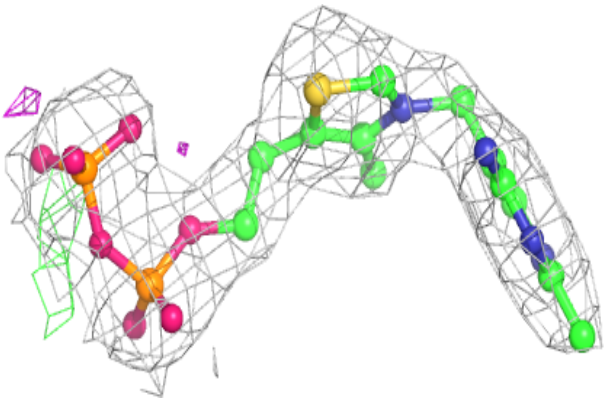
Electron density around TPP F 533:

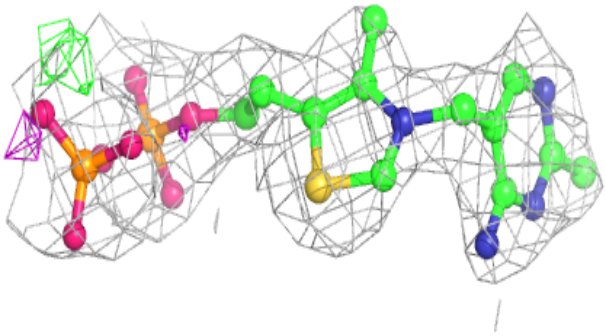
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around TPP H 533:

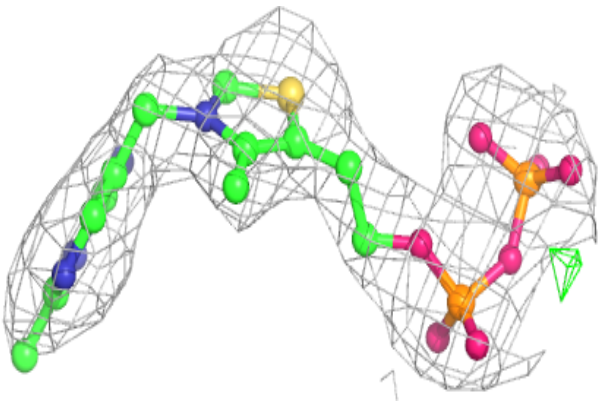
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

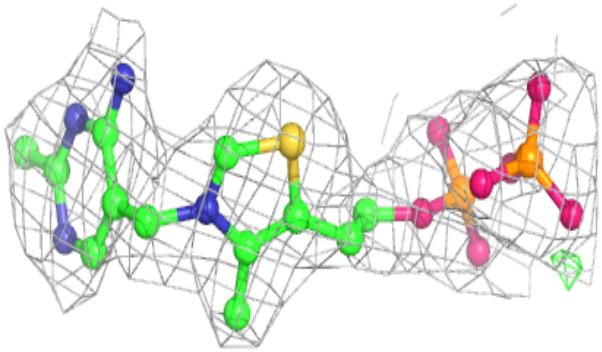


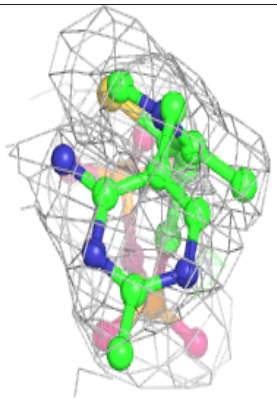


Electron density around TPP K 533:

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

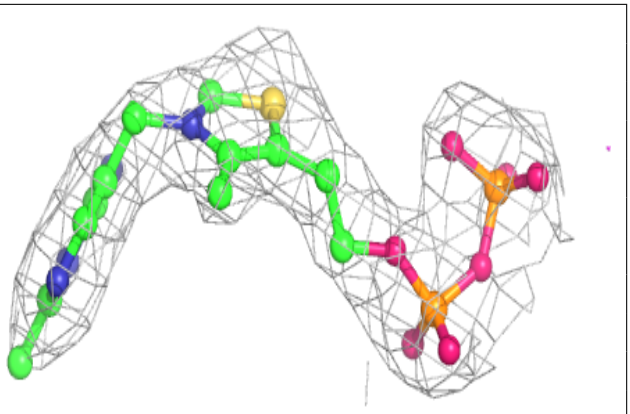


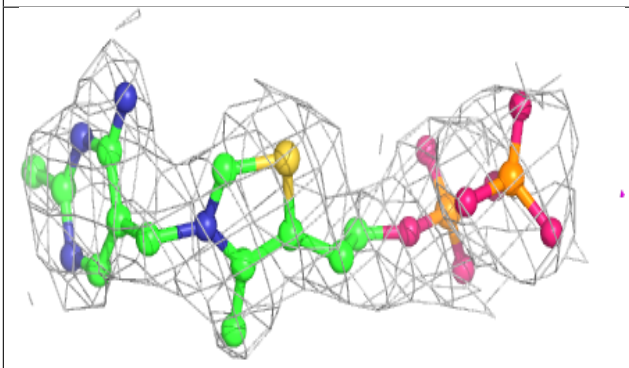


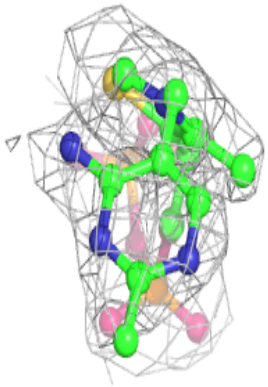


Electron density around TPP M 533:

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

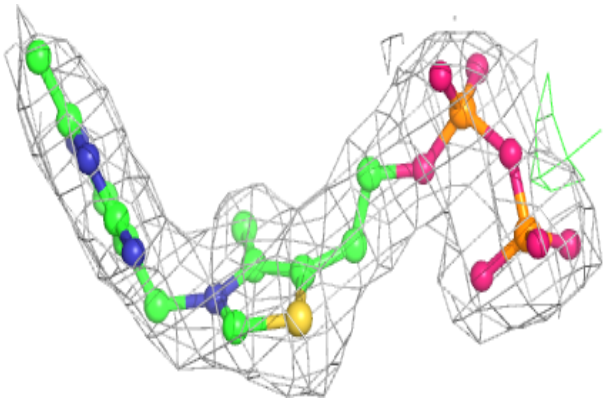


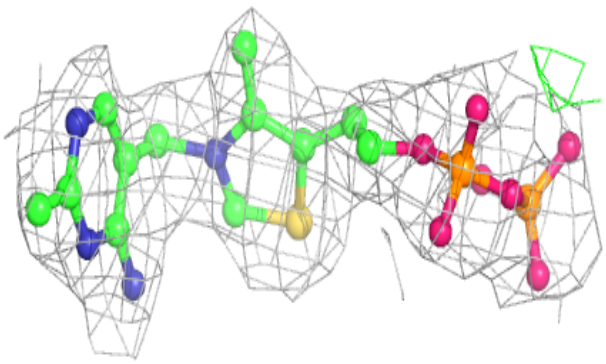


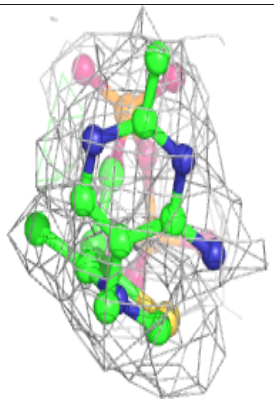


Electron density around TPP N 533:

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

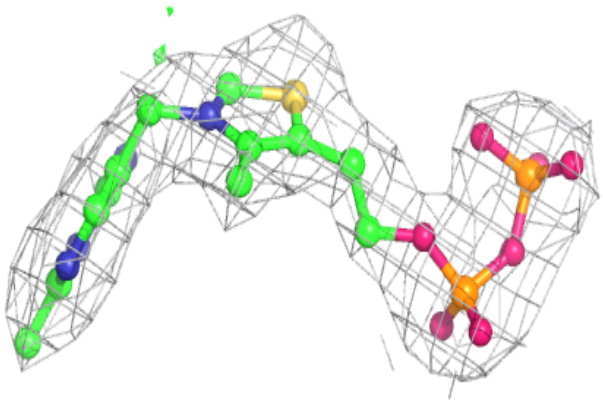


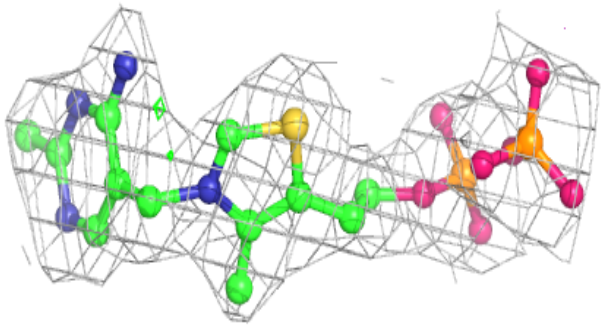


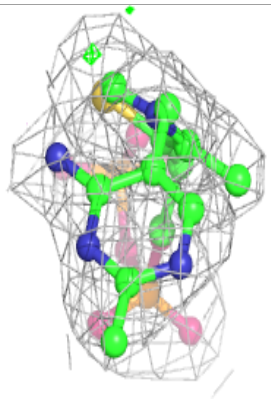


Electron density around TPP B 533:

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

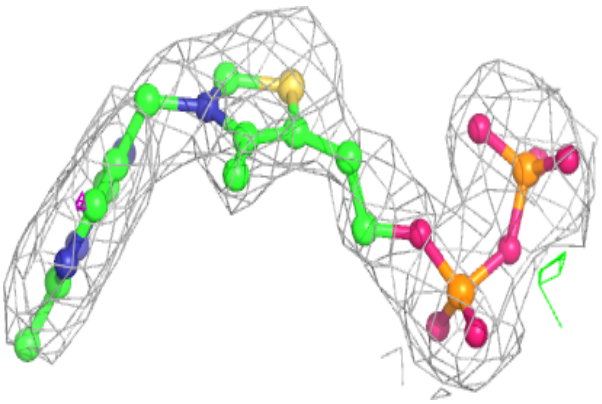


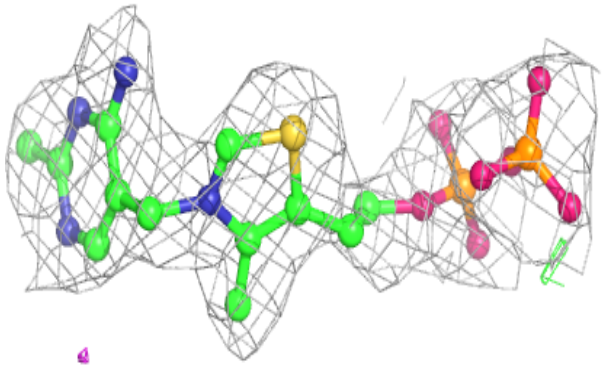


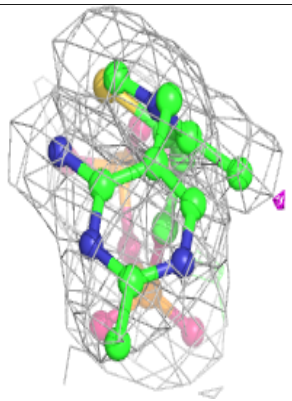


Electron density around TPP C 533:

$2mF_o$-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.