



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 09:31 PM UTC

PDB ID : 7TED / pdb_00007ted
Title : Human Ornithine Aminotransferase cocrystallized with its inhibitor, (S,E)-3-amino-4-(fluoromethylene)cyclopent-1-ene-1-carboxylate
Authors : Butrin, A.; Zhu, W.; Silverman, R.; Liu, D.
Deposited on : 2022-01-04
Resolution : 2.63 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

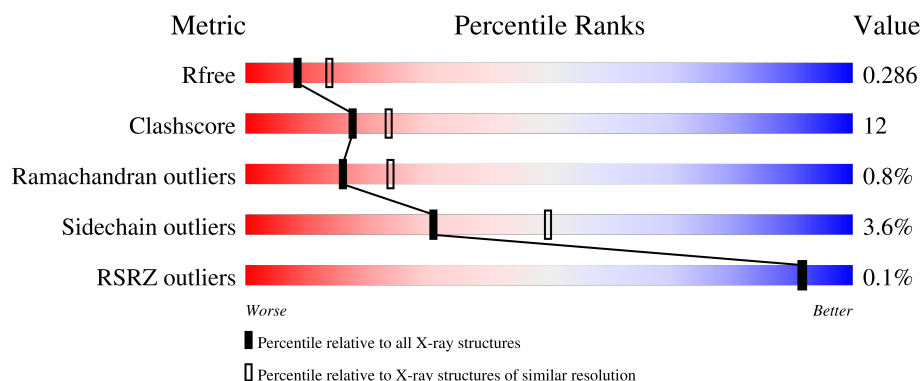
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.63 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}	180053	2053 (2.66-2.62)
Clashscore	190562	2097 (2.66-2.62)
Ramachandran outliers	187476	2066 (2.66-2.62)
Sidechain outliers	187428	2066 (2.66-2.62)
RSRZ outliers	180081	2052 (2.66-2.62)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	404	81% 17% .
1	B	404	79% 19% .
1	C	404	78% 20% .
1	D	404	81% 17% .
1	E	404	82% 16% .

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Mol	Chain	Length	Quality of chain
1	F	404	 77% 20% .
1	G	404	 73% 23% .
1	H	404	 79% 20% .
1	I	404	 79% 19% .

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	I1T	B	501	X	-	-	-
2	I1T	C	501	X	-	-	-
2	I1T	D	501	X	-	-	-
2	I1T	E	501	X	-	-	-
2	I1T	F	501	X	-	-	-
2	I1T	G	501	X	-	-	-
2	I1T	H	501	X	-	-	-

2 Entry composition

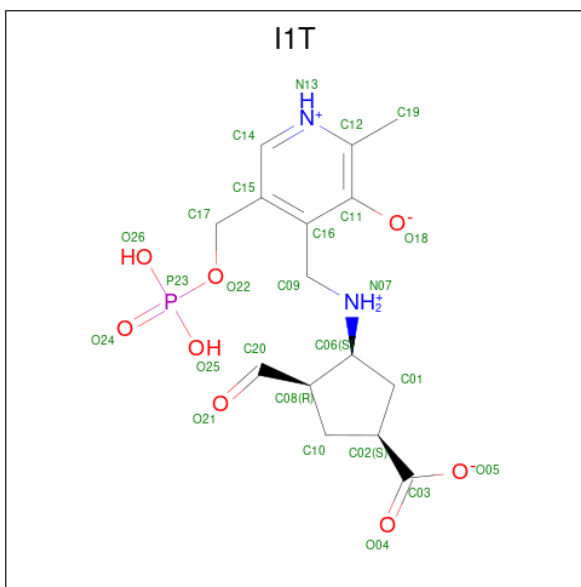
There are 4 unique types of molecules in this entry. The entry contains 29008 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Ornithine aminotransferase, mitochondrial.

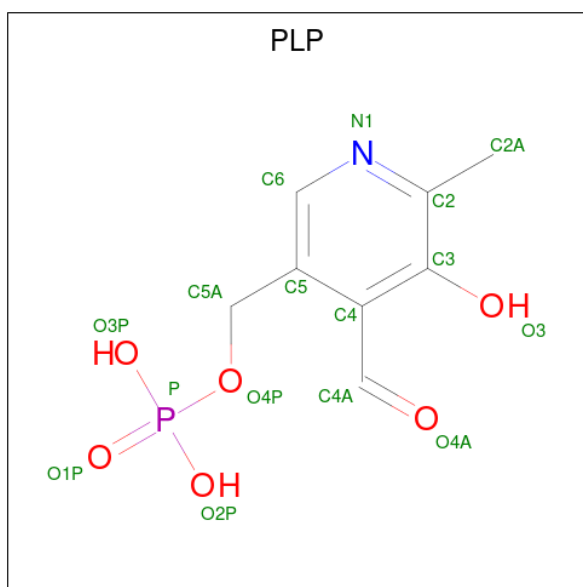
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	B	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	C	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	D	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	E	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	F	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	G	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	H	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			
1	I	404	Total	C	N	O	S	0	0	0
			3161	2030	533	586	12			

- Molecule 2 is (1S,3R,4S)-3-formyl-4-[(3-hydroxy-2-methyl-5-[(phosphonoxy)methyl]pyridin-4-yl)methyl)amino]cyclopentane-1-carboxylic acid (CCD ID: I1T) (formula: C₁₅H₂₁N₂O₈P) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	B	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	C	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	D	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	E	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	F	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	G	1	Total	C	N	O	P	0	0
			26	15	2	8	1		
2	H	1	Total	C	N	O	P	0	0
			26	15	2	8	1		

- Molecule 3 is PYRIDOXAL-5'-PHOSPHATE (CCD ID: PLP) (formula: C₈H₁₀NO₆P) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	I	1	Total	C	N	O	P	0	0
			16	8	1	6	1		

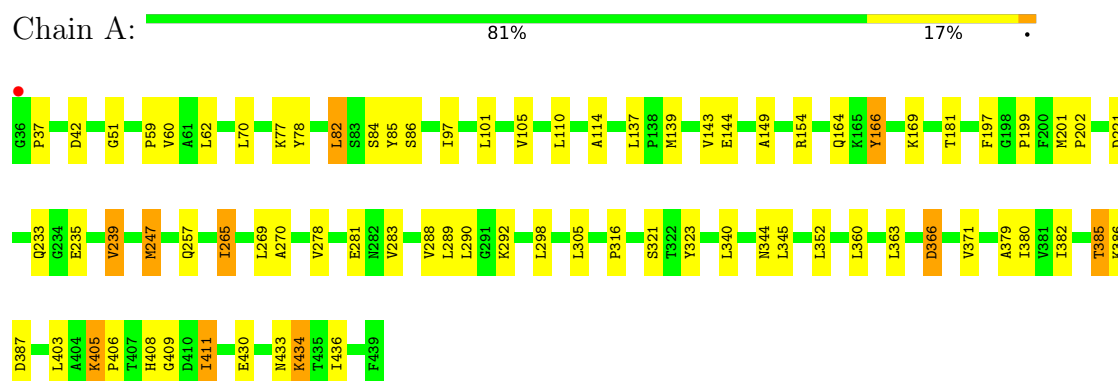
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	52	Total	O	0	0
			52	52		
4	B	46	Total	O	0	0
			46	46		
4	C	45	Total	O	0	0
			45	45		
4	D	35	Total	O	0	0
			35	35		
4	E	44	Total	O	0	0
			44	44		
4	F	27	Total	O	0	0
			27	27		
4	G	21	Total	O	0	0
			21	21		
4	H	38	Total	O	0	0
			38	38		
4	I	27	Total	O	0	0
			27	27		

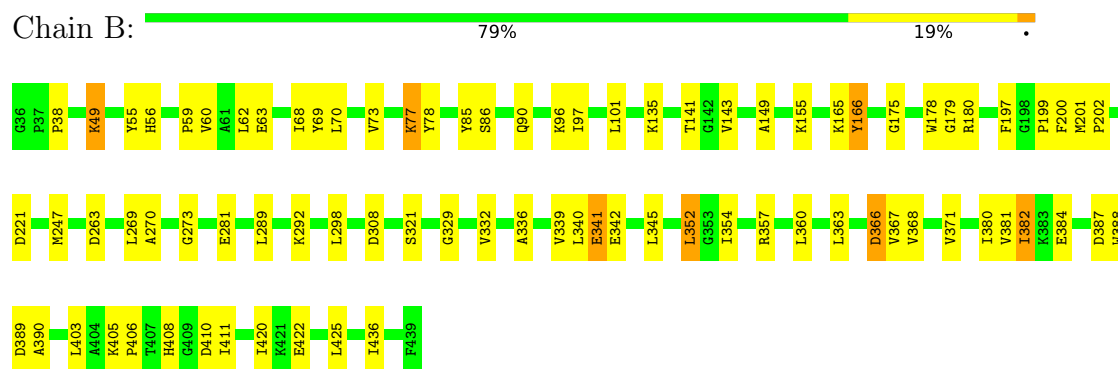
3 Residue-property plots

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

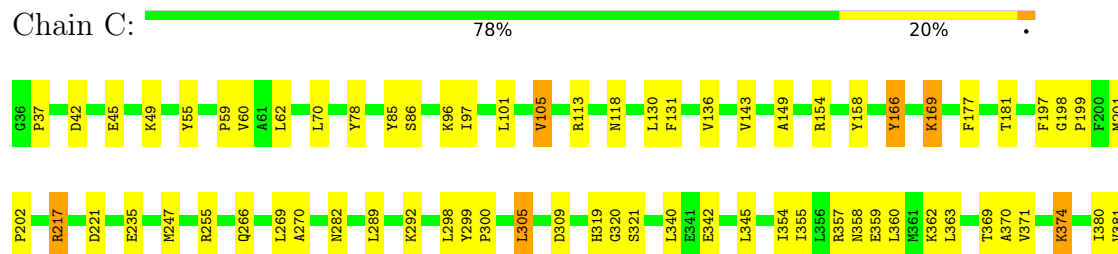
- Molecule 1: Ornithine aminotransferase, mitochondrial

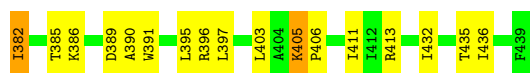


- Molecule 1: Ornithine aminotransferase, mitochondrial



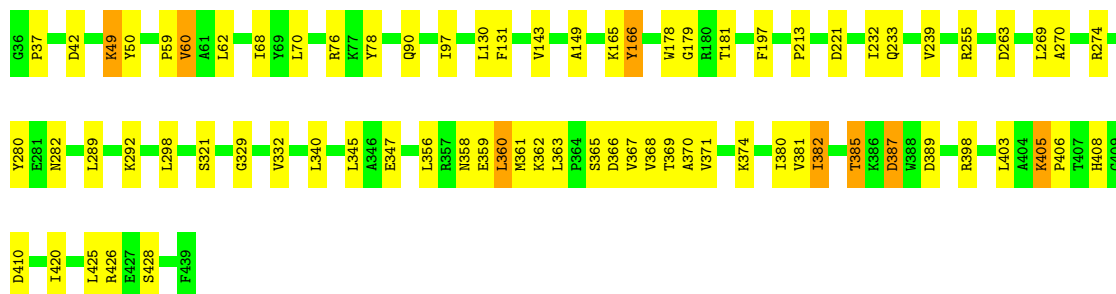
- Molecule 1: Ornithine aminotransferase, mitochondrial





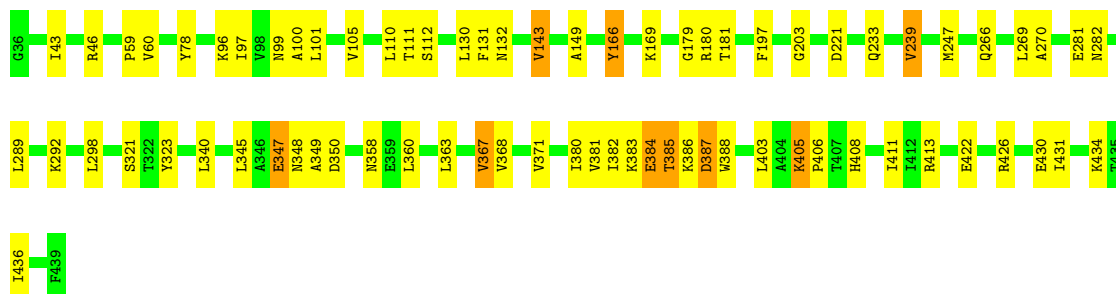
- Molecule 1: Ornithine aminotransferase, mitochondrial

Chain D: 81% 17%



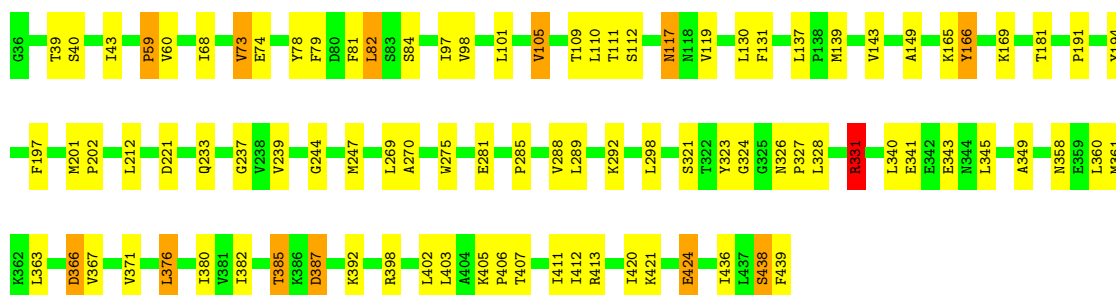
- Molecule 1: Ornithine aminotransferase, mitochondrial

Chain E: 82% 16%



- Molecule 1: Ornithine aminotransferase, mitochondrial

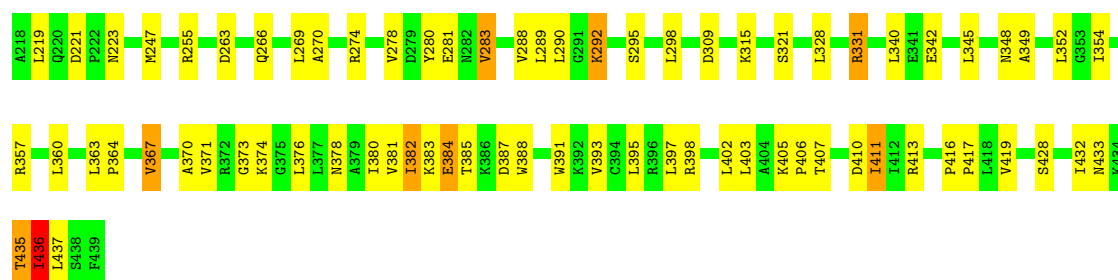
Chain F: 77% 20%



- Molecule 1: Ornithine aminotransferase, mitochondrial

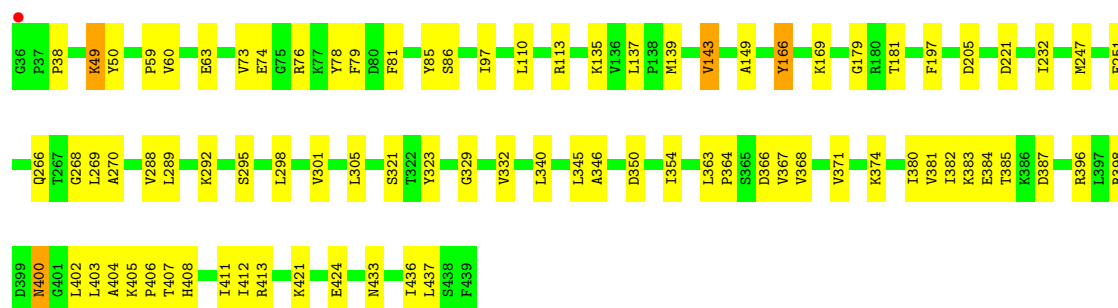
Chain G: 73% 23%





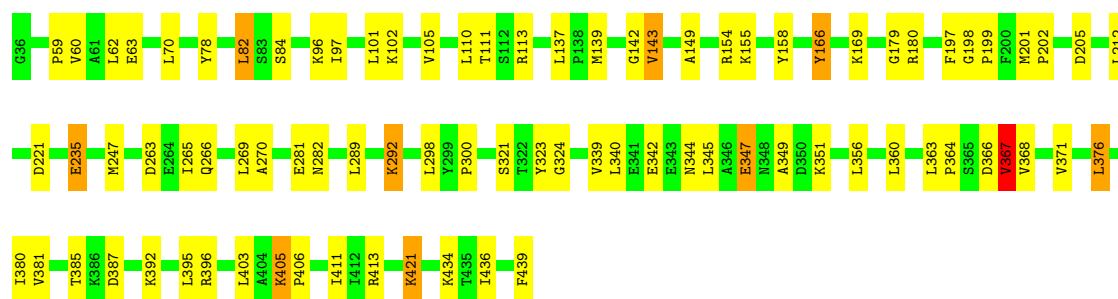
- Molecule 1: Ornithine aminotransferase, mitochondrial

Chain H: 79% 20% .



- Molecule 1: Ornithine aminotransferase, mitochondrial

Chain I: 79% 19% .



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	200.11Å 115.43Å 185.76Å 90.00° 94.85° 90.00°	Depositor
Resolution (Å)	43.40 – 2.63 43.40 – 2.63	Depositor EDS
% Data completeness (in resolution range)	98.8 (43.40-2.63) 79.4 (43.40-2.63)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.58 (at 2.61Å)	Xtriage
Refinement program	PHENIX 1.19.2_4158	Depositor
R, R_{free}	0.281 , 0.288 0.280 , 0.286	Depositor DCC
R_{free} test set	6093 reflections (4.87%)	wwPDB-VP
Wilson B-factor (Å ²)	46.5	Xtriage
Anisotropy	0.197	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 23.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.38$, $\langle L^2 \rangle = 0.20$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	29008	wwPDB-VP
Average B, all atoms (Å ²)	18.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.50% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: I1T, PLP

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	0.73	0/3235	1.03	2/4393 (0.0%)
1	B	0.72	0/3235	1.04	1/4393 (0.0%)
1	C	0.74	0/3235	1.06	3/4393 (0.1%)
1	D	0.69	0/3235	1.05	3/4393 (0.1%)
1	E	0.73	1/3235 (0.0%)	1.05	1/4393 (0.0%)
1	F	0.72	2/3235 (0.1%)	1.07	6/4393 (0.1%)
1	G	0.67	0/3235	1.06	2/4393 (0.0%)
1	H	0.69	0/3235	1.03	1/4393 (0.0%)
1	I	0.67	0/3235	1.05	4/4393 (0.1%)
All	All	0.71	3/29115 (0.0%)	1.05	23/39537 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	1
1	C	0	1
1	D	0	1
1	E	0	1
1	F	0	1
1	G	0	1
1	H	0	1
1	I	0	1
All	All	0	9

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	117	ASN	CG-ND2	-6.23	1.20	1.33
1	F	326	ASN	CG-ND2	-5.87	1.21	1.33
1	E	387	ASP	CA-CB	5.02	1.60	1.53

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	I	366	ASP	N-CA-C	-11.36	90.89	108.96
1	F	438	SER	N-CA-C	-9.07	97.83	110.35
1	C	49	LYS	CB-CG-CD	7.43	128.40	111.30
1	F	73	VAL	N-CA-C	-7.09	100.44	109.30
1	C	374	LYS	CB-CG-CD	6.28	125.75	111.30
1	I	154	ARG	CB-CG-CD	5.84	124.74	111.30
1	B	166	TYR	CB-CA-C	5.71	121.78	110.42
1	A	247	MET	CB-CG-SD	5.70	129.79	112.70
1	G	436	ILE	CB-CG1-CD1	5.52	125.39	113.80
1	D	166	TYR	CB-CA-C	5.30	120.97	110.42
1	G	166	TYR	CB-CA-C	5.30	120.96	110.42
1	F	166	TYR	CB-CA-C	5.28	120.93	110.42
1	F	331	ARG	CB-CG-CD	5.28	123.44	111.30
1	A	166	TYR	CB-CA-C	5.27	120.91	110.42
1	I	166	TYR	CB-CA-C	5.23	120.83	110.42
1	I	143	VAL	CB-CA-C	-5.20	105.23	112.04
1	H	166	TYR	CB-CA-C	5.14	120.64	110.42
1	E	166	TYR	CB-CA-C	5.13	120.63	110.42
1	D	165	LYS	CA-C-N	5.07	131.22	121.54
1	D	165	LYS	C-N-CA	5.07	131.22	121.54
1	C	166	TYR	CB-CA-C	5.01	120.39	110.42
1	F	165	LYS	CA-C-N	5.00	131.10	121.54
1	F	165	LYS	C-N-CA	5.00	131.10	121.54

There are no chirality outliers.

All (9) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	197	PHE	Peptide
1	B	197	PHE	Peptide
1	C	197	PHE	Peptide
1	D	197	PHE	Peptide
1	E	197	PHE	Peptide
1	F	197	PHE	Peptide
1	G	197	PHE	Peptide

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Mol	Chain	Res	Type	Group
1	H	197	PHE	Peptide
1	I	197	PHE	Peptide

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	3161	0	3165	61	0
1	B	3161	0	3165	84	0
1	C	3161	0	3165	87	0
1	D	3161	0	3165	69	0
1	E	3161	0	3165	64	0
1	F	3161	0	3165	85	0
1	G	3161	0	3165	141	1
1	H	3161	0	3165	74	1
1	I	3161	0	3165	92	0
2	A	26	0	0	0	0
2	B	26	0	0	5	0
2	C	26	0	0	3	0
2	D	26	0	0	2	0
2	E	26	0	0	3	0
2	F	26	0	0	0	0
2	G	26	0	0	2	0
2	H	26	0	0	3	0
3	I	16	0	7	2	0
4	A	52	0	0	7	0
4	B	46	0	0	9	0
4	C	45	0	0	4	0
4	D	35	0	0	8	0
4	E	44	0	0	11	0
4	F	27	0	0	6	0
4	G	21	0	0	18	0
4	H	38	0	0	8	0
4	I	27	0	0	1	0
All	All	29008	0	28492	711	1

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 12.

All (711) 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:G:352:LEU:HB2	4:G:602:HOH:O	1.25	1.27
1:G:360:LEU:HB2	4:G:601:HOH:O	1.30	1.25
1:G:357:ARG:O	4:G:601:HOH:O	1.61	1.18
1:G:278:VAL:CG2	1:G:283:VAL:CG2	2.22	1.16
1:I:143:VAL:HG12	1:I:179:GLY:HA3	1.19	1.14
1:B:143:VAL:HG12	1:B:179:GLY:HA3	1.28	1.13
1:I:169:LYS:HE3	1:I:205:ASP:OD2	1.49	1.11
1:G:278:VAL:HG22	1:G:283:VAL:CG2	1.78	1.11
1:G:278:VAL:HG22	1:G:283:VAL:HG22	1.12	1.10
1:A:233:GLN:HB2	1:A:239:VAL:HG22	1.32	1.10
1:C:355:ILE:O	1:C:358:ASN:OD1	1.69	1.08
1:D:358:ASN:O	4:D:601:HOH:O	1.72	1.07
1:G:407:THR:HG22	1:G:411:ILE:HD12	1.30	1.05
1:G:278:VAL:CG2	1:G:283:VAL:HG22	1.84	1.04
1:B:367:VAL:HG13	1:B:388:TRP:CZ2	1.94	1.03
1:E:348:ASN:C	4:E:601:HOH:O	2.01	1.03
1:F:233:GLN:HB2	1:F:239:VAL:HG22	1.37	1.03
1:D:233:GLN:HB2	1:D:239:VAL:HG22	1.33	1.02
1:A:379:ALA:HB1	1:A:411:ILE:HD11	1.42	1.01
1:E:347:GLU:O	4:E:601:HOH:O	1.75	1.01
1:H:74:GLU:OE2	1:H:76:ARG:NH2	1.91	1.01
1:F:343:GLU:HB2	1:F:345:LEU:HD21	1.44	1.00
1:G:81:PHE:HD2	1:G:402:LEU:HD21	1.26	0.99
1:G:407:THR:CG2	1:G:411:ILE:HD12	1.91	0.99
1:H:295:SER:HB3	1:H:301:VAL:HG12	1.49	0.94
1:F:288:VAL:HG23	4:F:601:HOH:O	1.69	0.92
1:B:143:VAL:CG1	1:B:179:GLY:HA3	2.00	0.91
1:G:349:ALA:HA	1:G:376:LEU:CD1	2.01	0.91
1:I:235:GLU:OE1	1:I:235:GLU:HA	1.67	0.90
1:G:433:ASN:O	1:G:437:LEU:HD23	1.72	0.90
1:G:81:PHE:CD2	1:G:402:LEU:HD21	2.08	0.88
1:H:169:LYS:CE	1:H:205:ASP:OD2	2.22	0.87
1:E:233:GLN:HB2	1:E:239:VAL:HG13	1.54	0.87
1:G:349:ALA:HA	1:G:376:LEU:HD11	1.54	0.87
1:E:97:ILE:HG22	1:E:298:LEU:HD12	1.56	0.87
1:G:215:LEU:O	1:G:219:LEU:HD13	1.74	0.86
1:I:143:VAL:CG1	1:I:179:GLY:HA3	2.04	0.86
1:E:96:LYS:O	1:E:99:ASN:OD1	1.93	0.86
1:G:68:ILE:HD11	1:G:419:VAL:HG23	1.57	0.85
1:E:382:ILE:HG23	1:E:388:TRP:CZ3	2.12	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:180:ARG:NH1	4:B:602:HOH:O	2.10	0.84
1:G:348:ASN:O	4:G:602:HOH:O	1.93	0.84
1:F:97:ILE:HG22	1:F:298:LEU:HD12	1.58	0.83
1:I:169:LYS:CE	1:I:205:ASP:OD2	2.27	0.83
1:C:397:LEU:CD2	1:C:435:THR:HG21	2.09	0.83
1:B:367:VAL:HG13	1:B:388:TRP:CH2	2.13	0.83
1:B:200:PHE:CE2	1:C:217:ARG:HG2	2.14	0.83
1:G:97:ILE:HG22	1:G:298:LEU:HD12	1.58	0.82
1:F:117:ASN:OD1	1:F:117:ASN:C	2.20	0.82
1:C:282:ASN:ND2	4:C:601:HOH:O	2.06	0.82
1:I:143:VAL:HG12	1:I:179:GLY:CA	2.08	0.82
1:D:362:LYS:N	4:D:601:HOH:O	2.10	0.82
1:G:278:VAL:CG2	1:G:283:VAL:HG23	2.08	0.81
1:A:233:GLN:HB2	1:A:239:VAL:CG2	2.10	0.81
1:E:143:VAL:HG23	2:E:501:I1T:O26	1.80	0.81
1:H:433:ASN:O	1:H:437:LEU:HD13	1.80	0.81
1:D:97:ILE:HG22	1:D:298:LEU:HD12	1.62	0.80
1:F:340:LEU:HA	1:F:345:LEU:HD23	1.64	0.80
1:D:143:VAL:HG23	2:D:501:I1T:O26	1.82	0.79
1:G:215:LEU:CD1	1:G:219:LEU:HD11	2.12	0.79
1:G:391:TRP:O	1:G:395:LEU:HD13	1.81	0.79
1:G:393:VAL:O	1:G:397:LEU:HD13	1.83	0.79
1:H:413:ARG:O	4:H:601:HOH:O	1.98	0.79
1:D:233:GLN:HB2	1:D:239:VAL:CG2	2.11	0.79
1:A:408:HIS:NE2	4:A:602:HOH:O	2.16	0.79
1:C:382:ILE:HD11	1:C:389:ASP:C	2.07	0.78
1:H:354:ILE:HG13	4:H:602:HOH:O	1.84	0.78
1:A:379:ALA:CB	1:A:411:ILE:HD11	2.14	0.78
1:H:169:LYS:HE2	1:H:205:ASP:OD2	1.82	0.78
1:F:233:GLN:HB2	1:F:239:VAL:CG2	2.13	0.77
1:C:105:VAL:HG11	1:I:101:LEU:HD22	1.66	0.77
1:C:432:ILE:O	1:C:435:THR:HG22	1.82	0.77
1:C:105:VAL:HG11	1:I:101:LEU:CD2	2.15	0.77
1:H:49:LYS:HD2	1:H:50:TYR:CE1	2.20	0.77
1:I:396:ARG:HG3	1:I:439:PHE:CZ	2.20	0.76
1:C:354:ILE:HD11	1:D:255:ARG:CZ	2.15	0.76
1:C:354:ILE:HG13	1:D:255:ARG:HD3	1.67	0.76
1:G:376:LEU:HD23	1:G:416:PRO:HG2	1.67	0.76
1:C:391:TRP:O	1:C:395:LEU:HD23	1.85	0.76
1:H:79:PHE:HB2	1:H:402:LEU:CD1	2.16	0.76
1:E:233:GLN:HB2	1:E:239:VAL:CG1	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:379:ALA:HB1	1:A:411:ILE:CD1	2.15	0.75
1:F:79:PHE:HB2	1:F:402:LEU:CD1	2.16	0.75
1:G:407:THR:HG22	1:G:411:ILE:CD1	2.15	0.75
1:C:136:VAL:HG23	1:C:305:LEU:HD12	1.67	0.75
1:E:169:LYS:CE	1:E:203:GLY:HA2	2.17	0.75
1:I:349:ALA:HA	1:I:376:LEU:CD2	2.16	0.75
1:A:105:VAL:HG21	1:B:101:LEU:CD2	2.17	0.75
1:F:117:ASN:HD22	1:F:327:PRO:HG3	1.52	0.74
1:B:175:GLY:O	4:B:601:HOH:O	2.06	0.74
1:I:265:ILE:HG22	1:I:292:LYS:HE2	1.68	0.74
1:C:201:MET:HE2	1:I:201:MET:HE2	1.69	0.74
1:G:364:PRO:HG2	1:G:367:VAL:HG23	1.68	0.73
1:H:247:MET:CE	1:I:247:MET:HB3	2.19	0.73
1:I:62:LEU:CD2	1:I:70:LEU:HD13	2.18	0.73
1:C:381:VAL:HG12	1:C:411:ILE:HG12	1.71	0.73
1:C:118:ASN:ND2	1:I:63:GLU:HA	2.04	0.73
1:B:382:ILE:HD11	1:B:389:ASP:C	2.14	0.72
1:D:385:THR:OG1	1:D:387:ASP:OD1	2.06	0.72
1:H:79:PHE:HB2	1:H:402:LEU:HD12	1.71	0.72
1:G:215:LEU:HD12	1:G:219:LEU:HD11	1.69	0.72
1:G:298:LEU:N	4:G:603:HOH:O	1.96	0.72
1:C:300:PRO:HG2	1:I:300:PRO:HG2	1.70	0.72
1:G:215:LEU:HD12	1:G:219:LEU:CD1	2.19	0.72
1:H:169:LYS:HE3	1:H:205:ASP:OD2	1.89	0.72
1:C:354:ILE:HD11	1:D:255:ARG:NH1	2.03	0.71
1:G:62:LEU:CD2	1:G:70:LEU:HD13	2.20	0.71
1:E:347:GLU:C	4:E:601:HOH:O	2.27	0.71
1:B:62:LEU:HD23	1:B:70:LEU:HB3	1.72	0.71
1:C:101:LEU:HD22	1:I:105:VAL:HG11	1.73	0.71
1:D:360:LEU:HA	1:D:363:LEU:HD12	1.72	0.71
1:A:409:GLY:O	4:A:601:HOH:O	2.08	0.71
1:D:62:LEU:CD2	1:D:70:LEU:HD13	2.21	0.71
1:D:60:VAL:HG13	1:D:398:ARG:HD2	1.71	0.71
1:B:62:LEU:CD2	1:B:70:LEU:HD13	2.21	0.71
1:F:101:LEU:O	1:F:105:VAL:HG23	1.91	0.70
1:G:62:LEU:HD23	1:G:70:LEU:HB3	1.73	0.70
1:D:370:ALA:HB3	1:D:381:VAL:HG12	1.73	0.70
1:E:350:ASP:N	4:E:601:HOH:O	2.24	0.70
1:F:143:VAL:HG21	1:F:181:THR:HG23	1.73	0.70
1:D:62:LEU:HD23	1:D:70:LEU:HB3	1.73	0.70
1:C:370:ALA:HB3	1:C:381:VAL:HG22	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:62:LEU:HD23	1:I:70:LEU:HB3	1.72	0.70
1:C:397:LEU:HD21	1:C:435:THR:HG21	1.72	0.70
1:F:382:ILE:HD11	1:F:412:ILE:HD12	1.74	0.69
1:G:68:ILE:HD11	1:G:419:VAL:CG2	2.22	0.69
1:B:90:GLN:HG2	1:B:339:VAL:HG21	1.73	0.69
1:G:278:VAL:HG21	1:G:283:VAL:HG23	1.73	0.69
1:A:143:VAL:HG21	1:A:181:THR:HG23	1.75	0.69
1:H:247:MET:HE3	1:I:247:MET:HB3	1.74	0.69
1:I:349:ALA:HA	1:I:376:LEU:HD21	1.72	0.69
1:F:349:ALA:HA	1:F:376:LEU:HD22	1.74	0.69
1:F:40:SER:HB3	4:F:612:HOH:O	1.91	0.69
1:F:39:THR:O	1:F:43:ILE:HD12	1.93	0.69
1:F:79:PHE:HB2	1:F:402:LEU:HD12	1.73	0.69
1:H:63:GLU:OE2	1:H:73:VAL:HG23	1.92	0.69
1:F:331:ARG:NH2	4:F:602:HOH:O	2.26	0.68
1:H:350:ASP:O	4:H:602:HOH:O	2.11	0.68
1:G:79:PHE:HB2	1:G:402:LEU:CD2	2.22	0.68
1:I:396:ARG:HG3	1:I:439:PHE:HZ	1.57	0.68
1:E:381:VAL:HG22	1:E:411:ILE:HG12	1.76	0.68
1:C:143:VAL:HG21	1:C:181:THR:HG23	1.74	0.68
1:G:215:LEU:O	1:G:219:LEU:CD1	2.42	0.68
1:H:266:GLN:OE1	2:H:501:I1T:O18	2.12	0.67
1:B:273:GLY:O	4:B:603:HOH:O	2.12	0.67
1:F:39:THR:O	1:F:43:ILE:CD1	2.43	0.67
1:G:370:ALA:HB3	1:G:381:VAL:HG12	1.76	0.67
1:H:288:VAL:CG1	1:H:305:LEU:HB2	2.25	0.67
1:F:111:THR:HG23	1:F:112:SER:O	1.95	0.67
1:G:110:LEU:HD22	1:G:112:SER:H	1.60	0.67
1:C:369:THR:OG1	1:C:381:VAL:HG23	1.95	0.67
1:B:381:VAL:HG22	1:B:411:ILE:HG12	1.77	0.66
1:B:352:LEU:HD13	1:B:425:LEU:HD22	1.78	0.66
1:H:268:GLY:O	4:H:603:HOH:O	2.14	0.66
1:A:137:LEU:HD21	1:A:139:MET:HE3	1.76	0.66
1:B:367:VAL:HG13	1:B:388:TRP:HZ2	1.57	0.66
1:F:360:LEU:HA	1:F:363:LEU:HD12	1.76	0.66
1:C:391:TRP:O	1:C:395:LEU:CD2	2.43	0.66
1:C:101:LEU:CD2	1:I:105:VAL:HG11	2.26	0.65
1:B:367:VAL:CG1	1:B:388:TRP:CH2	2.78	0.65
1:D:356:LEU:O	1:D:360:LEU:HD23	1.96	0.65
1:G:360:LEU:HA	1:G:363:LEU:HD12	1.77	0.65
1:I:137:LEU:HD21	1:I:139:MET:HE3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:345:LEU:N	1:F:345:LEU:HD22	2.12	0.65
1:B:180:ARG:NE	4:B:605:HOH:O	2.30	0.65
1:F:385:THR:OG1	1:F:387:ASP:OD1	2.14	0.65
1:G:349:ALA:CA	1:G:376:LEU:CD1	2.74	0.65
1:C:169:LYS:HE2	1:C:221:ASP:OD2	1.96	0.65
1:H:295:SER:HB3	1:H:301:VAL:CG1	2.27	0.65
1:B:388:TRP:CD1	4:B:604:HOH:O	2.50	0.65
1:E:347:GLU:OE1	4:E:602:HOH:O	2.12	0.65
1:E:367:VAL:O	1:E:382:ILE:O	2.14	0.65
1:E:111:THR:HG23	1:E:112:SER:O	1.96	0.64
1:E:367:VAL:CG2	1:E:368:VAL:N	2.60	0.64
1:H:288:VAL:HG12	1:H:305:LEU:HB2	1.78	0.64
1:G:288:VAL:HG12	1:G:290:LEU:CD1	2.27	0.64
1:C:202:PRO:HG2	1:I:199:PRO:HB2	1.80	0.64
1:G:143:VAL:HG23	2:G:501:IIT:O25	1.98	0.64
1:H:81:PHE:CD1	1:H:402:LEU:HD11	2.32	0.64
1:D:369:THR:OG1	1:D:381:VAL:HG13	1.97	0.64
1:A:288:VAL:CG1	1:A:305:LEU:HB2	2.28	0.64
1:G:289:LEU:C	1:G:290:LEU:HD12	2.23	0.64
1:H:60:VAL:HG22	1:H:398:ARG:HD2	1.78	0.64
1:H:329:GLY:O	1:H:332:VAL:HG22	1.97	0.64
1:I:266:GLN:NE2	1:I:413:ARG:HH22	1.96	0.64
1:F:237:GLY:HA3	1:F:411:ILE:HD13	1.79	0.64
1:H:38:PRO:O	1:H:73:VAL:HG21	1.97	0.64
1:A:288:VAL:HG12	1:A:305:LEU:HB2	1.80	0.63
1:C:309:ASP:OD2	4:C:603:HOH:O	2.15	0.63
1:F:81:PHE:CD1	1:F:402:LEU:HD11	2.32	0.63
1:G:143:VAL:HG11	1:G:181:THR:HG23	1.81	0.63
1:F:101:LEU:O	1:F:105:VAL:CG2	2.47	0.63
1:H:247:MET:HE1	1:I:247:MET:O	1.98	0.63
1:D:143:VAL:HG11	1:D:181:THR:HG23	1.81	0.63
1:F:137:LEU:HD21	1:F:139:MET:HE3	1.79	0.63
1:B:336:ALA:O	1:B:339:VAL:CG2	2.46	0.63
1:A:408:HIS:CE1	4:A:602:HOH:O	2.52	0.63
1:G:364:PRO:HG2	1:G:367:VAL:CG2	2.29	0.62
1:C:320:GLY:N	1:I:180:ARG:HD2	2.13	0.62
1:G:357:ARG:C	4:G:601:HOH:O	2.27	0.62
1:H:381:VAL:HG22	1:H:411:ILE:HG12	1.81	0.62
1:D:329:GLY:O	1:D:332:VAL:HG22	2.00	0.62
1:I:235:GLU:OE1	1:I:235:GLU:CA	2.40	0.62
1:B:368:VAL:O	1:B:368:VAL:HG13	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:381:VAL:HG22	1:I:411:ILE:HG12	1.80	0.62
1:G:68:ILE:CD1	1:G:419:VAL:HG23	2.28	0.62
1:A:265:ILE:HD13	1:A:265:ILE:N	2.13	0.62
1:F:239:VAL:HG23	1:F:239:VAL:O	1.99	0.62
1:C:382:ILE:HD11	1:C:390:ALA:N	2.15	0.62
1:B:329:GLY:O	1:B:332:VAL:HG22	2.00	0.61
1:G:402:LEU:HD13	1:G:403:LEU:N	2.15	0.61
1:H:143:VAL:HG11	1:H:181:THR:HG23	1.81	0.61
1:D:382:ILE:HD13	1:D:382:ILE:O	2.00	0.61
1:D:239:VAL:O	1:D:239:VAL:HG23	2.00	0.61
1:E:411:ILE:HD11	4:E:641:HOH:O	1.99	0.61
1:F:349:ALA:HA	1:F:376:LEU:CD2	2.29	0.61
1:F:201:MET:HE3	1:F:202:PRO:CD	2.31	0.61
1:C:397:LEU:HD23	1:C:435:THR:HG21	1.81	0.61
1:D:425:LEU:O	1:D:428:SER:OG	2.18	0.61
1:H:137:LEU:HD21	1:H:139:MET:HE3	1.81	0.61
1:G:357:ARG:HH11	1:G:378:ASN:ND2	1.98	0.61
1:A:265:ILE:HD12	1:A:290:LEU:C	2.25	0.60
1:G:215:LEU:CD1	1:G:219:LEU:CD1	2.78	0.60
1:E:143:VAL:HG11	1:E:181:THR:HG23	1.83	0.60
1:G:63:GLU:OE1	1:G:63:GLU:O	2.19	0.60
1:C:199:PRO:HB2	1:I:202:PRO:HG2	1.82	0.60
1:F:288:VAL:CG2	4:F:601:HOH:O	2.37	0.60
1:H:266:GLN:HE22	1:H:413:ARG:NH1	1.99	0.60
1:B:90:GLN:HG2	1:B:339:VAL:CG2	2.31	0.60
1:B:382:ILE:HD11	1:B:390:ALA:N	2.16	0.60
1:A:201:MET:HE2	1:B:201:MET:HE2	1.83	0.59
1:A:385:THR:OG1	1:A:386:LYS:N	2.33	0.59
1:B:336:ALA:O	1:B:339:VAL:HG23	2.02	0.59
1:E:367:VAL:HG23	1:E:368:VAL:N	2.18	0.59
1:G:180:ARG:NH2	4:G:607:HOH:O	2.36	0.59
1:B:38:PRO:O	1:B:73:VAL:HG21	2.02	0.59
1:F:438:SER:O	1:F:439:PHE:HB2	2.01	0.59
1:F:40:SER:CB	4:F:612:HOH:O	2.50	0.59
1:F:233:GLN:OE1	1:F:239:VAL:HG21	2.03	0.59
1:I:96:LYS:NZ	1:I:342:GLU:CD	2.61	0.59
1:F:117:ASN:HD22	1:F:327:PRO:CG	2.15	0.58
1:F:367:VAL:HG11	1:F:436:ILE:HG23	1.85	0.58
1:A:233:GLN:OE1	1:A:239:VAL:HG21	2.03	0.58
1:G:357:ARG:HA	4:G:601:HOH:O	2.02	0.58
1:E:169:LYS:HD3	1:E:203:GLY:HA2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:82:LEU:HD13	1:G:84:SER:H	1.69	0.58
1:H:247:MET:HE1	1:I:247:MET:C	2.28	0.58
1:A:137:LEU:CD2	1:A:139:MET:HE3	2.33	0.58
1:I:137:LEU:CD2	1:I:139:MET:HE3	2.33	0.58
1:A:344:ASN:OD1	1:A:344:ASN:O	2.21	0.58
1:D:213:PRO:HB2	4:D:605:HOH:O	2.02	0.58
1:F:285:PRO:HB2	4:F:601:HOH:O	2.03	0.58
1:H:49:LYS:HD3	1:H:49:LYS:C	2.28	0.58
1:A:239:VAL:HG23	1:A:239:VAL:O	2.02	0.58
1:G:373:GLY:HA3	1:G:378:ASN:HD22	1.67	0.58
1:I:349:ALA:CA	1:I:376:LEU:CD2	2.82	0.58
1:D:60:VAL:HG13	1:D:398:ARG:CD	2.34	0.58
1:E:431:ILE:HA	1:E:434:LYS:HG2	1.86	0.58
1:C:45:GLU:OE2	4:C:604:HOH:O	2.17	0.57
1:C:382:ILE:HD11	1:C:389:ASP:HA	1.86	0.57
1:C:62:LEU:HD12	1:I:111:THR:HG21	1.85	0.57
1:C:118:ASN:HD22	1:I:63:GLU:HA	1.67	0.57
1:F:237:GLY:CA	1:F:411:ILE:HD13	2.34	0.57
1:C:177:PHE:CD2	1:C:235:GLU:HG2	2.39	0.57
1:F:191:PRO:HA	1:F:194:TYR:CE1	2.39	0.57
1:H:396:ARG:NH1	4:H:606:HOH:O	2.38	0.57
1:C:382:ILE:HD11	1:C:389:ASP:CA	2.34	0.57
1:G:397:LEU:HD12	1:G:435:THR:HG21	1.86	0.57
1:G:295:SER:C	4:G:603:HOH:O	2.48	0.57
1:F:137:LEU:CD2	1:F:139:MET:HE3	2.35	0.57
1:F:407:THR:CG2	1:F:413:ARG:HE	2.18	0.57
1:G:163:ILE:HG23	1:G:223:ASN:HD22	1.69	0.57
1:G:278:VAL:HG23	1:G:283:VAL:CG2	2.30	0.57
1:B:55:TYR:OH	2:B:501:I1T:O04	2.22	0.56
1:G:357:ARG:HH11	1:G:378:ASN:HD21	1.53	0.56
1:F:201:MET:HE3	1:F:202:PRO:HD2	1.87	0.56
1:G:81:PHE:HE2	1:G:428:SER:HB3	1.70	0.56
1:C:97:ILE:CG2	1:C:298:LEU:HD13	2.36	0.56
1:H:137:LEU:CD2	1:H:139:MET:HE3	2.36	0.56
1:F:343:GLU:HB2	1:F:345:LEU:CD2	2.26	0.56
1:A:278:VAL:HG22	1:A:283:VAL:HB	1.87	0.56
1:D:233:GLN:OE1	1:D:239:VAL:HG21	2.05	0.56
1:F:382:ILE:HD11	1:F:412:ILE:CD1	2.35	0.56
1:B:97:ILE:CG2	1:B:298:LEU:HD13	2.35	0.56
1:G:215:LEU:HD11	1:G:219:LEU:HD11	1.88	0.56
1:A:97:ILE:CG2	1:A:298:LEU:HD13	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:142:GLY:N	3:I:501:PLP:O1P	2.39	0.56
1:A:265:ILE:CD1	1:A:289:LEU:C	2.78	0.55
1:I:96:LYS:HE2	1:I:339:VAL:HG22	1.88	0.55
1:G:81:PHE:CD1	1:G:416:PRO:HD3	2.41	0.55
1:G:340:LEU:HD23	1:G:345:LEU:HD12	1.89	0.55
1:A:430:GLU:O	1:A:434:LYS:HG2	2.07	0.55
1:G:80:ASP:OD1	1:G:82:LEU:HD12	2.07	0.55
1:G:382:ILE:HG23	1:G:410:ASP:O	2.07	0.55
1:C:405:LYS:HG2	1:C:406:PRO:HD2	1.88	0.55
1:H:97:ILE:CG2	1:H:298:LEU:HD13	2.37	0.55
1:G:357:ARG:CA	4:G:601:HOH:O	2.53	0.55
1:D:340:LEU:HD23	1:D:345:LEU:HD12	1.89	0.55
1:E:282:ASN:HD22	1:G:132:ASN:ND2	2.05	0.55
1:F:405:LYS:HG2	1:F:406:PRO:HD2	1.89	0.55
1:I:97:ILE:HG21	1:I:298:LEU:HD13	1.89	0.55
1:I:340:LEU:HD23	1:I:345:LEU:HD12	1.88	0.55
1:C:97:ILE:HG21	1:C:298:LEU:HD13	1.89	0.55
1:G:81:PHE:CE2	1:G:428:SER:HB3	2.42	0.55
1:H:329:GLY:O	1:H:332:VAL:CG2	2.55	0.55
1:I:143:VAL:CG1	1:I:179:GLY:CA	2.78	0.55
1:A:62:LEU:HD22	1:A:70:LEU:HB3	1.89	0.54
1:G:68:ILE:HD12	1:G:417:PRO:HB2	1.89	0.54
1:A:199:PRO:HB2	1:B:202:PRO:HG2	1.90	0.54
1:I:97:ILE:CG2	1:I:298:LEU:HD13	2.37	0.54
1:C:101:LEU:HD21	1:I:101:LEU:HD21	1.88	0.54
1:G:295:SER:CB	4:G:603:HOH:O	2.54	0.54
1:B:143:VAL:CG1	1:B:179:GLY:CA	2.80	0.54
1:D:49:LYS:HD2	1:D:50:TYR:CE1	2.43	0.54
1:H:340:LEU:HD23	1:H:345:LEU:HD12	1.89	0.54
1:A:340:LEU:HD23	1:A:345:LEU:HD12	1.89	0.54
1:B:340:LEU:HD23	1:B:345:LEU:HD12	1.90	0.54
1:G:393:VAL:HG12	1:G:397:LEU:HD13	1.90	0.54
1:B:408:HIS:CE1	4:B:621:HOH:O	2.59	0.54
1:D:143:VAL:HG22	1:D:179:GLY:HA3	1.89	0.54
1:G:143:VAL:HG22	1:G:179:GLY:HA3	1.88	0.54
1:G:295:SER:HB2	4:G:603:HOH:O	2.08	0.54
1:G:212:LEU:N	1:G:212:LEU:HD22	2.23	0.54
1:F:345:LEU:HD22	1:F:345:LEU:H	1.72	0.54
1:D:382:ILE:HG23	1:D:410:ASP:O	2.07	0.54
1:I:212:LEU:N	1:I:212:LEU:HD22	2.23	0.54
1:C:113:ARG:NH1	4:C:602:HOH:O	2.13	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:212:LEU:HD22	1:G:212:LEU:H	1.72	0.53
1:A:97:ILE:HG21	1:A:298:LEU:HD13	1.89	0.53
1:F:60:VAL:CG1	1:F:398:ARG:HD2	2.38	0.53
1:I:212:LEU:HD22	1:I:212:LEU:H	1.73	0.53
1:C:136:VAL:HG23	1:C:305:LEU:CD1	2.37	0.53
1:E:340:LEU:HD23	1:E:345:LEU:HD12	1.89	0.53
1:B:97:ILE:HG21	1:B:298:LEU:HD13	1.90	0.53
1:C:382:ILE:CD1	1:C:389:ASP:C	2.79	0.53
1:G:397:LEU:CD1	1:G:435:THR:HG21	2.38	0.53
1:A:105:VAL:HG21	1:B:101:LEU:HD22	1.90	0.53
1:I:356:LEU:C	1:I:356:LEU:HD23	2.33	0.53
1:H:143:VAL:HG23	2:H:501:I1T:O26	2.08	0.52
1:I:62:LEU:HD12	1:I:62:LEU:N	2.25	0.52
1:A:235:GLU:OE1	4:A:602:HOH:O	2.18	0.52
1:C:340:LEU:HD23	1:C:345:LEU:HD12	1.90	0.52
1:A:265:ILE:HD13	1:A:289:LEU:O	2.10	0.52
1:H:382:ILE:HD11	1:H:412:ILE:HD12	1.91	0.52
2:H:501:I1T:O18	2:H:501:I1T:N07	2.42	0.52
1:D:329:GLY:O	1:D:332:VAL:CG2	2.57	0.52
1:H:97:ILE:HG21	1:H:298:LEU:HD13	1.90	0.52
1:I:405:LYS:HG2	1:I:406:PRO:HD2	1.91	0.52
1:B:329:GLY:O	1:B:332:VAL:CG2	2.57	0.52
1:F:79:PHE:HE1	1:F:424:GLU:HG2	1.73	0.52
1:B:49:LYS:HD2	1:B:49:LYS:O	2.10	0.52
1:B:68:ILE:O	1:B:68:ILE:HG22	2.10	0.52
2:C:501:I1T:N07	2:C:501:I1T:O18	2.42	0.52
1:G:433:ASN:O	1:G:437:LEU:CD2	2.52	0.52
1:G:435:THR:HG22	1:G:436:ILE:HD13	1.92	0.52
1:B:143:VAL:HG12	1:B:179:GLY:CA	2.20	0.52
1:G:288:VAL:HG12	1:G:290:LEU:HD12	1.91	0.52
1:G:393:VAL:HG12	1:G:397:LEU:CD1	2.40	0.52
1:F:275:TRP:CH2	1:F:341:GLU:HG2	2.44	0.51
1:B:62:LEU:N	1:B:62:LEU:HD12	2.25	0.51
1:E:363:LEU:HD22	1:E:436:ILE:HG21	1.92	0.51
1:E:169:LYS:CD	1:E:203:GLY:HA2	2.39	0.51
1:F:101:LEU:CD1	1:F:328:LEU:HD21	2.40	0.51
1:F:407:THR:HG23	1:F:413:ARG:HE	1.74	0.51
1:H:404:ALA:HB1	4:H:601:HOH:O	2.11	0.51
1:I:356:LEU:HD21	1:I:360:LEU:HD11	1.92	0.51
1:G:405:LYS:HG2	1:G:406:PRO:HD2	1.92	0.51
1:H:400:ASN:N	1:H:400:ASN:HD22	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:68:ILE:HG22	1:F:68:ILE:O	2.10	0.51
1:H:363:LEU:HD22	1:H:436:ILE:HG21	1.93	0.51
1:H:143:VAL:HG22	1:H:179:GLY:HA3	1.91	0.51
1:I:363:LEU:HD22	1:I:436:ILE:HG21	1.92	0.51
1:A:405:LYS:HG2	1:A:406:PRO:HD2	1.92	0.51
1:B:363:LEU:HD22	1:B:436:ILE:HG21	1.92	0.51
1:H:232:ILE:HD11	1:H:374:LYS:HD3	1.92	0.51
1:G:411:ILE:C	1:G:411:ILE:HD13	2.36	0.50
1:B:69:TYR:CE1	1:B:77:LYS:HE3	2.46	0.50
1:F:212:LEU:N	1:F:212:LEU:HD22	2.27	0.50
1:G:247:MET:HG3	1:G:281:GLU:OE1	2.11	0.50
1:A:265:ILE:HD11	1:A:289:LEU:C	2.36	0.50
1:G:342:GLU:HA	1:G:342:GLU:OE1	2.11	0.50
2:G:501:I1T:O18	2:G:501:I1T:N07	2.45	0.50
1:G:105:VAL:HG22	1:G:328:LEU:HD11	1.93	0.50
1:C:62:LEU:HD12	1:I:111:THR:CG2	2.41	0.50
1:D:405:LYS:HG2	1:D:406:PRO:HD2	1.93	0.50
1:H:247:MET:HE1	1:I:247:MET:HB3	1.93	0.50
1:D:178:TRP:HA	2:D:501:I1T:C14	2.42	0.50
1:E:422:GLU:HG2	1:E:426:ARG:HH11	1.76	0.50
1:G:360:LEU:N	4:G:601:HOH:O	2.44	0.50
1:B:55:TYR:OH	2:B:501:I1T:C03	2.60	0.50
1:G:407:THR:HG21	1:G:411:ILE:HD12	1.87	0.50
1:H:251:GLU:HG3	1:I:282:ASN:ND2	2.27	0.50
1:G:68:ILE:O	1:G:68:ILE:HG22	2.11	0.50
1:B:368:VAL:O	1:B:368:VAL:CG1	2.60	0.49
1:B:405:LYS:HG2	1:B:406:PRO:HD2	1.94	0.49
1:E:349:ALA:N	4:E:601:HOH:O	2.33	0.49
1:E:405:LYS:HG2	1:E:406:PRO:HD2	1.94	0.49
1:A:202:PRO:HG2	1:B:199:PRO:HB2	1.92	0.49
1:B:200:PHE:CE2	1:C:217:ARG:CG	2.91	0.49
1:D:426:ARG:NH2	4:D:602:HOH:O	2.06	0.49
1:F:59:PRO:O	1:F:60:VAL:HG13	2.13	0.49
1:F:73:VAL:O	1:F:74:GLU:HB2	2.12	0.49
1:A:363:LEU:HD22	1:A:436:ILE:HG21	1.94	0.49
1:I:344:ASN:CG	1:I:347:GLU:HB2	2.37	0.49
1:G:68:ILE:CD1	1:G:68:ILE:N	2.75	0.49
1:I:392:LYS:O	1:I:396:ARG:HG2	2.11	0.49
1:C:130:LEU:HD23	1:C:131:PHE:CE1	2.48	0.49
1:A:114:ALA:HB1	1:B:405:LYS:HD2	1.93	0.49
1:B:366:ASP:OD1	1:B:366:ASP:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:266:GLN:NE2	1:E:413:ARG:NH2	2.61	0.49
1:G:68:ILE:N	1:G:68:ILE:HD13	2.28	0.49
1:C:282:ASN:HB2	1:D:282:ASN:O	2.13	0.49
1:C:319:HIS:HA	1:I:180:ARG:HD3	1.95	0.49
1:E:371:VAL:HG22	1:E:380:ILE:HG22	1.94	0.49
1:H:63:GLU:CD	1:H:73:VAL:HG23	2.38	0.49
1:B:180:ARG:CZ	4:B:605:HOH:O	2.60	0.49
1:C:247:MET:SD	1:D:282:ASN:ND2	2.84	0.49
1:E:358:ASN:OD1	1:G:255:ARG:HG3	2.12	0.49
1:G:309:ASP:O	4:G:604:HOH:O	2.19	0.49
1:A:433:ASN:ND2	4:A:609:HOH:O	2.43	0.49
1:F:101:LEU:HD12	1:F:328:LEU:HD21	1.94	0.49
1:G:266:GLN:NE2	1:G:413:ARG:NH1	2.60	0.49
1:D:68:ILE:O	1:D:68:ILE:HG22	2.12	0.49
1:D:68:ILE:HD11	1:D:420:ILE:HA	1.94	0.49
1:H:408:HIS:O	1:H:408:HIS:ND1	2.45	0.49
1:G:101:LEU:CD1	1:G:328:LEU:HD21	2.43	0.48
1:B:38:PRO:O	1:B:73:VAL:CG2	2.62	0.48
1:C:363:LEU:HD22	1:C:436:ILE:HG21	1.94	0.48
1:I:344:ASN:ND2	1:I:347:GLU:CB	2.77	0.48
1:C:62:LEU:HD13	1:C:70:LEU:HD13	1.95	0.48
1:G:62:LEU:N	1:G:62:LEU:HD12	2.28	0.48
1:I:349:ALA:HA	1:I:376:LEU:HD23	1.95	0.48
1:H:49:LYS:HD3	1:H:49:LYS:O	2.14	0.48
1:B:55:TYR:OH	2:B:501:I1T:O05	2.32	0.48
1:E:247:MET:HG3	1:E:281:GLU:OE1	2.14	0.48
1:G:57:PRO:O	4:G:605:HOH:O	2.20	0.48
1:I:344:ASN:HD21	1:I:347:GLU:CB	2.26	0.48
1:F:371:VAL:HG22	1:F:380:ILE:HG22	1.96	0.48
1:G:101:LEU:HD12	1:G:328:LEU:HD21	1.95	0.48
1:G:393:VAL:C	1:G:397:LEU:HD13	2.38	0.48
1:G:402:LEU:HD13	1:G:402:LEU:C	2.39	0.48
1:H:266:GLN:NE2	1:H:413:ARG:NH1	2.61	0.48
1:I:344:ASN:ND2	1:I:347:GLU:HB2	2.28	0.48
1:E:43:ILE:HD13	1:E:46:ARG:NH2	2.29	0.48
1:E:143:VAL:HG22	1:E:179:GLY:HA3	1.95	0.48
1:D:370:ALA:HB3	1:D:381:VAL:CG1	2.42	0.48
1:H:346:ALA:HB2	4:H:610:HOH:O	2.14	0.48
1:H:366:ASP:OD1	1:H:383:LYS:NZ	2.47	0.48
1:B:382:ILE:CD1	1:B:389:ASP:C	2.85	0.48
1:D:130:LEU:HD23	1:D:131:PHE:CE1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:382:ILE:CD1	1:G:388:TRP:CD1	2.97	0.48
1:A:51:GLY:O	1:B:135:LYS:HD3	2.14	0.47
1:B:336:ALA:O	1:B:339:VAL:HG22	2.14	0.47
1:D:367:VAL:HG13	1:D:368:VAL:N	2.29	0.47
1:F:68:ILE:HD11	1:F:420:ILE:HA	1.96	0.47
1:H:405:LYS:HG2	1:H:406:PRO:HD2	1.96	0.47
1:I:434:LYS:NZ	4:I:605:HOH:O	2.44	0.47
1:A:257:GLN:NE2	4:A:611:HOH:O	2.47	0.47
1:G:435:THR:CG2	1:G:436:ILE:HD13	2.44	0.47
1:H:371:VAL:HG22	1:H:380:ILE:HG22	1.96	0.47
1:G:85:TYR:HB2	1:G:292:LYS:NZ	2.30	0.47
1:B:341:GLU:OE1	1:B:341:GLU:HA	2.14	0.47
1:C:370:ALA:HB3	1:C:381:VAL:CG2	2.43	0.47
1:A:371:VAL:HG22	1:A:380:ILE:HG22	1.96	0.47
1:B:200:PHE:HE2	1:C:217:ARG:HG2	1.73	0.47
1:D:37:PRO:HB2	1:D:42:ASP:HB3	1.97	0.47
1:D:371:VAL:HG22	1:D:380:ILE:HG22	1.95	0.47
1:F:60:VAL:HG11	1:F:398:ARG:HG3	1.96	0.47
1:G:68:ILE:CD1	1:G:419:VAL:CG2	2.89	0.47
2:B:501:I1T:O18	2:B:501:I1T:N07	2.48	0.47
1:C:382:ILE:O	1:C:382:ILE:HG13	2.11	0.47
1:B:247:MET:HG3	1:B:281:GLU:OE1	2.14	0.47
1:C:371:VAL:HG22	1:C:380:ILE:HG22	1.96	0.47
1:D:232:ILE:HD11	1:D:374:LYS:HD3	1.96	0.47
1:F:130:LEU:HD23	1:F:131:PHE:CE1	2.50	0.47
1:H:60:VAL:CG2	1:H:398:ARG:HD2	2.42	0.47
1:I:371:VAL:HG22	1:I:380:ILE:HG22	1.96	0.47
1:G:370:ALA:HB3	1:G:381:VAL:CG1	2.43	0.47
1:H:38:PRO:O	1:H:73:VAL:CG2	2.62	0.47
1:D:62:LEU:HD12	1:D:62:LEU:N	2.29	0.47
1:H:60:VAL:CG2	1:H:398:ARG:CD	2.93	0.47
1:C:55:TYR:OH	2:C:501:I1T:O05	2.32	0.47
1:G:371:VAL:HG22	1:G:380:ILE:HG22	1.96	0.47
1:G:109:THR:HG22	1:G:328:LEU:HD12	1.95	0.46
1:H:363:LEU:HB2	1:H:368:VAL:HG21	1.95	0.46
1:E:130:LEU:HD23	1:E:131:PHE:CE1	2.50	0.46
1:F:340:LEU:CA	1:F:345:LEU:HD23	2.42	0.46
1:H:367:VAL:HG13	1:H:368:VAL:N	2.30	0.46
1:H:433:ASN:O	1:H:437:LEU:CD1	2.60	0.46
1:G:85:TYR:CB	1:G:292:LYS:NZ	2.78	0.46
1:G:432:ILE:O	1:G:435:THR:HG22	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:49:LYS:HD3	1:D:50:TYR:CD1	2.50	0.46
1:D:359:GLU:C	4:D:601:HOH:O	2.58	0.46
1:G:79:PHE:HB2	1:G:402:LEU:HD23	1.97	0.46
1:C:269:LEU:O	1:C:270:ALA:HB3	2.16	0.46
1:E:169:LYS:HE2	1:E:203:GLY:HA2	1.95	0.46
1:G:266:GLN:NE2	1:G:413:ARG:HH12	2.14	0.46
1:B:96:LYS:NZ	1:B:342:GLU:OE2	2.47	0.46
1:G:278:VAL:HG21	1:G:283:VAL:CG2	2.27	0.46
1:I:421:LYS:HD3	1:I:421:LYS:HA	1.57	0.46
1:C:154:ARG:NH2	1:I:199:PRO:O	2.48	0.46
1:E:382:ILE:CG2	1:E:388:TRP:CZ3	2.94	0.46
4:H:613:HOH:O	1:I:281:GLU:HA	2.15	0.46
1:G:79:PHE:HB2	1:G:402:LEU:HD22	1.96	0.46
1:A:37:PRO:HB2	1:A:42:ASP:HB3	1.97	0.45
1:B:178:TRP:HA	2:B:501:I1T:C14	2.46	0.45
1:D:239:VAL:CG2	1:D:239:VAL:O	2.65	0.45
1:D:269:LEU:O	1:D:270:ALA:HB3	2.16	0.45
1:E:60:VAL:HG13	1:E:60:VAL:O	2.16	0.45
1:E:97:ILE:HD12	4:E:629:HOH:O	2.16	0.45
1:A:366:ASP:OD1	1:A:366:ASP:N	2.49	0.45
1:B:68:ILE:HD11	4:B:608:HOH:O	2.16	0.45
1:F:149:ALA:HB2	1:F:289:LEU:HD21	1.98	0.45
1:C:60:VAL:O	1:C:60:VAL:HG13	2.16	0.45
1:D:60:VAL:CG1	1:D:398:ARG:HD2	2.41	0.45
1:F:244:GLY:HA2	1:F:247:MET:HE2	1.98	0.45
1:I:60:VAL:O	1:I:60:VAL:HG13	2.17	0.45
1:A:85:TYR:O	1:A:86:SER:HB2	2.16	0.45
1:B:68:ILE:HD11	1:B:420:ILE:HA	1.98	0.45
1:B:371:VAL:HG22	1:B:380:ILE:HG22	1.97	0.45
1:F:366:ASP:OD1	1:F:366:ASP:N	2.49	0.45
1:G:360:LEU:CA	4:G:601:HOH:O	2.59	0.45
1:B:68:ILE:CD1	4:B:608:HOH:O	2.65	0.45
1:B:382:ILE:HD11	1:B:389:ASP:HA	1.98	0.45
1:H:74:GLU:OE2	1:H:76:ARG:CZ	2.62	0.45
1:B:60:VAL:O	1:B:60:VAL:HG13	2.17	0.45
1:C:221:ASP:OD1	1:C:221:ASP:C	2.60	0.45
1:D:60:VAL:HG11	1:D:398:ARG:HG3	1.99	0.45
1:D:76:ARG:NH1	4:D:610:HOH:O	2.49	0.45
1:F:247:MET:HG3	1:F:281:GLU:OE1	2.17	0.45
1:H:149:ALA:HB2	1:H:289:LEU:HD21	1.99	0.45
1:I:269:LEU:O	1:I:270:ALA:HB3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:367:VAL:HG13	1:I:368:VAL:HG23	1.98	0.45
1:A:269:LEU:O	1:A:270:ALA:HB3	2.17	0.45
1:F:239:VAL:CG2	1:F:239:VAL:O	2.65	0.45
1:F:438:SER:O	1:F:439:PHE:CB	2.65	0.45
1:G:60:VAL:HG13	1:G:60:VAL:O	2.17	0.45
1:C:154:ARG:CZ	1:I:199:PRO:HD2	2.47	0.45
1:E:169:LYS:HE3	1:E:203:GLY:HA2	1.96	0.44
1:E:269:LEU:O	1:E:270:ALA:HB3	2.17	0.44
1:E:422:GLU:HG2	1:E:426:ARG:NH1	2.32	0.44
1:B:382:ILE:HD11	1:B:389:ASP:CA	2.47	0.44
1:E:367:VAL:HG22	1:E:368:VAL:H	1.82	0.44
1:F:109:THR:HG22	1:F:328:LEU:HD12	1.99	0.44
1:C:198:GLY:HA2	1:I:158:TYR:OH	2.18	0.44
1:E:101:LEU:O	1:E:105:VAL:HG23	2.17	0.44
1:F:119:VAL:HG22	1:F:331:ARG:HH21	1.83	0.44
1:I:247:MET:HG3	1:I:281:GLU:OE1	2.16	0.44
1:A:144:GLU:OE2	1:B:141:THR:HG21	2.18	0.44
1:A:235:GLU:CD	4:A:602:HOH:O	2.60	0.44
1:C:149:ALA:HB2	1:C:289:LEU:HD21	1.99	0.44
1:G:101:LEU:O	1:G:105:VAL:HG23	2.16	0.44
1:G:269:LEU:O	1:G:270:ALA:HB3	2.16	0.44
1:H:269:LEU:O	1:H:270:ALA:HB3	2.17	0.44
1:H:384:GLU:O	1:H:384:GLU:HG2	2.17	0.44
1:I:356:LEU:CD2	1:I:360:LEU:CD1	2.95	0.44
1:D:347:GLU:OE2	4:D:603:HOH:O	2.21	0.44
1:C:320:GLY:H	1:I:180:ARG:HD2	1.82	0.44
1:E:132:ASN:ND2	4:E:610:HOH:O	2.51	0.44
1:A:60:VAL:O	1:A:60:VAL:HG13	2.18	0.44
1:A:149:ALA:HB2	1:A:289:LEU:HD21	2.00	0.44
1:B:60:VAL:HG13	1:B:62:LEU:HD11	1.98	0.44
1:B:354:ILE:HD13	1:B:357:ARG:NH2	2.32	0.44
1:B:367:VAL:CG1	1:B:388:TRP:HH2	2.26	0.44
1:E:363:LEU:HB2	1:E:368:VAL:HG21	1.99	0.44
1:F:269:LEU:O	1:F:270:ALA:HB3	2.17	0.44
1:G:354:ILE:HD13	1:G:357:ARG:HH21	1.83	0.44
1:C:435:THR:HG23	1:C:436:ILE:N	2.33	0.44
1:D:49:LYS:HD3	1:D:49:LYS:C	2.43	0.44
1:B:269:LEU:O	1:B:270:ALA:HB3	2.16	0.43
1:C:391:TRP:NE1	1:C:395:LEU:HD21	2.33	0.43
1:E:99:ASN:OD1	1:E:100:ALA:N	2.51	0.43
1:F:39:THR:O	1:F:43:ILE:HD13	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:213:PRO:O	1:G:217:ARG:HG3	2.18	0.43
2:E:501:I1T:O05	4:E:604:HOH:O	2.20	0.43
1:E:221:ASP:OD1	1:E:221:ASP:C	2.61	0.43
1:E:431:ILE:CA	1:E:434:LYS:HG2	2.47	0.43
1:G:393:VAL:O	1:G:397:LEU:CD1	2.61	0.43
1:C:381:VAL:HG12	1:C:411:ILE:CG1	2.46	0.43
1:C:391:TRP:CD1	1:C:395:LEU:HD21	2.53	0.43
1:E:282:ASN:ND2	1:G:132:ASN:ND2	2.66	0.43
1:I:113:ARG:HD2	1:I:324:GLY:O	2.18	0.43
1:A:82:LEU:HD23	1:A:84:SER:HA	2.01	0.43
1:A:101:LEU:O	1:A:105:VAL:HG23	2.18	0.43
1:D:78:TYR:HB3	1:D:403:LEU:HG	2.01	0.43
1:I:364:PRO:O	1:I:367:VAL:HG12	2.18	0.43
1:B:135:LYS:HE3	1:B:308:ASP:OD1	2.19	0.43
1:E:143:VAL:CG2	2:E:501:I1T:O26	2.58	0.43
1:H:367:VAL:CG1	1:H:368:VAL:N	2.82	0.43
1:I:96:LYS:NZ	1:I:342:GLU:OE2	2.52	0.43
1:D:362:LYS:HG3	4:D:601:HOH:O	2.17	0.43
1:E:149:ALA:HB2	1:E:289:LEU:HD21	2.01	0.43
1:G:266:GLN:HE22	1:G:413:ARG:NH1	2.17	0.43
1:B:382:ILE:O	1:B:382:ILE:HG13	2.12	0.43
1:D:130:LEU:HD23	1:D:131:PHE:HE1	1.83	0.43
1:F:382:ILE:CD1	1:F:412:ILE:CD1	2.95	0.43
1:G:382:ILE:HD12	1:G:383:LYS:N	2.33	0.43
1:C:85:TYR:O	1:C:86:SER:HB2	2.19	0.43
1:I:60:VAL:HG13	1:I:62:LEU:HD11	2.00	0.43
1:B:149:ALA:HB2	1:B:289:LEU:HD21	2.01	0.42
1:I:349:ALA:CB	1:I:376:LEU:HD23	2.49	0.42
1:I:367:VAL:CG1	1:I:368:VAL:N	2.82	0.42
1:D:367:VAL:CG1	1:D:368:VAL:N	2.82	0.42
1:E:78:TYR:HB3	1:E:403:LEU:HG	2.01	0.42
1:F:78:TYR:HB3	1:F:403:LEU:HG	2.01	0.42
1:G:149:ALA:HB2	1:G:289:LEU:HD21	2.00	0.42
1:H:221:ASP:OD1	1:H:221:ASP:C	2.61	0.42
1:B:352:LEU:CD2	1:B:422:GLU:HG2	2.49	0.42
1:E:383:LYS:HD3	1:E:385:THR:HG23	2.02	0.42
1:E:384:GLU:O	1:E:384:GLU:OE1	2.37	0.42
1:F:221:ASP:C	1:F:221:ASP:OD1	2.62	0.42
1:E:180:ARG:NH1	4:E:604:HOH:O	2.51	0.42
1:G:78:TYR:HB3	1:G:403:LEU:HG	2.02	0.42
1:G:274:ARG:HG2	1:G:280:TYR:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:357:ARG:NH1	1:G:378:ASN:HD21	2.18	0.42
1:H:78:TYR:HB3	1:H:403:LEU:HG	2.02	0.42
1:E:110:LEU:HD22	1:E:323:TYR:CE2	2.55	0.42
1:G:85:TYR:HB2	1:G:292:LYS:HZ3	1.84	0.42
1:I:149:ALA:HB2	1:I:289:LEU:HD21	2.00	0.42
1:A:221:ASP:OD1	1:A:221:ASP:C	2.62	0.42
1:G:82:LEU:CD1	1:G:84:SER:H	2.32	0.42
1:G:382:ILE:HD13	1:G:388:TRP:CD1	2.54	0.42
1:H:49:LYS:HD2	1:H:50:TYR:CD1	2.55	0.42
1:H:402:LEU:HD12	1:H:402:LEU:HA	1.84	0.42
1:I:110:LEU:HD22	1:I:323:TYR:CE2	2.54	0.42
1:B:221:ASP:OD1	1:B:221:ASP:C	2.63	0.42
1:B:384:GLU:CD	1:B:410:ASP:HB3	2.45	0.42
1:C:299:TYR:CZ	1:I:300:PRO:HD3	2.54	0.42
1:C:382:ILE:CD1	1:C:390:ALA:N	2.82	0.42
1:D:149:ALA:HB2	1:D:289:LEU:HD21	2.01	0.42
1:E:266:GLN:NE2	1:E:413:ARG:HH22	2.18	0.42
1:F:101:LEU:HD12	1:F:328:LEU:CD2	2.50	0.42
1:G:406:PRO:HB2	4:G:606:HOH:O	2.20	0.42
1:A:247:MET:HG3	1:A:281:GLU:OE1	2.20	0.42
1:A:352:LEU:N	1:A:352:LEU:CD1	2.82	0.42
1:C:266:GLN:NE2	2:C:501:I1T:O18	2.53	0.42
1:F:201:MET:HE3	1:F:202:PRO:HG2	2.02	0.42
1:F:275:TRP:CZ2	1:F:341:GLU:HG2	2.54	0.42
1:I:96:LYS:HE2	1:I:339:VAL:CG2	2.49	0.42
1:A:239:VAL:CG2	1:A:239:VAL:O	2.65	0.42
1:D:62:LEU:HD21	1:D:70:LEU:HD13	2.01	0.42
1:E:422:GLU:CG	1:E:426:ARG:NH1	2.83	0.42
1:G:143:VAL:HG22	1:G:179:GLY:CA	2.49	0.42
1:G:354:ILE:HD13	1:G:357:ARG:NH2	2.34	0.42
1:H:421:LYS:HD2	1:H:424:GLU:OE2	2.20	0.42
1:C:354:ILE:HD13	1:C:357:ARG:HH21	1.84	0.42
1:C:355:ILE:C	1:C:358:ASN:OD1	2.56	0.42
1:D:358:ASN:HA	1:D:361:MET:HE3	2.01	0.42
1:F:60:VAL:CG1	1:F:398:ARG:CD	2.98	0.42
1:I:367:VAL:HG13	1:I:368:VAL:N	2.35	0.42
1:B:78:TYR:HB3	1:B:403:LEU:HG	2.02	0.41
1:C:96:LYS:HZ1	1:C:342:GLU:CD	2.28	0.41
1:D:363:LEU:HB2	1:D:368:VAL:HG21	2.01	0.41
1:F:73:VAL:O	1:F:74:GLU:CB	2.68	0.41
1:H:85:TYR:O	1:H:86:SER:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:275:TRP:HH2	1:F:341:GLU:HG2	1.85	0.41
1:C:96:LYS:NZ	1:C:342:GLU:CD	2.79	0.41
1:D:382:ILE:HD11	1:D:389:ASP:HA	2.02	0.41
1:E:130:LEU:HD23	1:E:131:PHE:HE1	1.85	0.41
1:H:247:MET:HE1	1:I:247:MET:CA	2.50	0.41
1:A:110:LEU:HD22	1:A:323:TYR:CE2	2.55	0.41
1:H:364:PRO:O	1:H:367:VAL:HG12	2.20	0.41
1:G:349:ALA:CA	1:G:376:LEU:HD12	2.48	0.41
1:G:382:ILE:HD12	1:G:383:LYS:O	2.21	0.41
1:I:221:ASP:C	1:I:221:ASP:OD1	2.62	0.41
1:D:221:ASP:C	1:D:221:ASP:OD1	2.62	0.41
1:E:233:GLN:OE1	1:E:239:VAL:HG11	2.21	0.41
1:G:221:ASP:OD1	1:G:221:ASP:C	2.62	0.41
1:I:82:LEU:HD23	1:I:84:SER:HA	2.02	0.41
1:I:360:LEU:O	1:I:363:LEU:HD12	2.20	0.41
1:C:158:TYR:OH	1:I:198:GLY:HA2	2.21	0.41
1:C:282:ASN:ND2	1:D:282:ASN:O	2.41	0.41
1:D:274:ARG:HD3	1:D:280:TYR:CD2	2.56	0.41
1:G:263:ASP:OD1	1:G:263:ASP:C	2.64	0.41
1:C:360:LEU:O	1:C:363:LEU:HD12	2.21	0.41
1:D:360:LEU:HA	1:D:363:LEU:CD1	2.47	0.41
1:H:110:LEU:HD22	1:H:323:TYR:CE1	2.56	0.41
1:I:78:TYR:HB3	1:I:403:LEU:HG	2.02	0.41
1:A:164:GLN:NE2	1:C:255:ARG:HD3	2.35	0.41
1:C:37:PRO:HB2	1:C:42:ASP:HB3	2.02	0.41
1:C:130:LEU:HD23	1:C:131:PHE:HE1	1.86	0.41
1:D:143:VAL:HG22	1:D:179:GLY:CA	2.50	0.41
1:F:130:LEU:HD23	1:F:131:PHE:HE1	1.86	0.41
1:G:85:TYR:O	1:G:86:SER:HB2	2.21	0.41
1:G:384:GLU:HG3	1:G:384:GLU:O	2.20	0.41
1:A:154:ARG:CZ	1:B:199:PRO:HD2	2.51	0.41
1:A:360:LEU:O	1:A:363:LEU:HD12	2.21	0.41
1:B:360:LEU:O	1:B:363:LEU:HD12	2.21	0.41
1:C:359:GLU:OE1	1:C:362:LYS:HE2	2.20	0.41
1:D:263:ASP:OD1	1:D:263:ASP:C	2.64	0.41
1:G:101:LEU:HD12	1:G:328:LEU:CD2	2.51	0.41
1:G:376:LEU:HD11	4:G:602:HOH:O	2.22	0.41
1:I:143:VAL:N	3:I:501:PLP:O1P	2.48	0.41
1:A:316:PRO:HB3	1:B:56:HIS:HB2	2.03	0.40
1:E:360:LEU:O	1:E:363:LEU:HD12	2.21	0.40
1:F:110:LEU:HD22	1:F:323:TYR:CE1	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:117:ASN:OD1	1:F:117:ASN:O	2.39	0.40
1:B:85:TYR:O	1:B:86:SER:HB2	2.20	0.40
1:C:78:TYR:HB3	1:C:403:LEU:HG	2.04	0.40
1:F:82:LEU:HD23	1:F:84:SER:HA	2.02	0.40
1:G:85:TYR:CB	1:G:292:LYS:HZ2	2.34	0.40
1:A:78:TYR:HB3	1:A:403:LEU:HG	2.03	0.40
1:B:263:ASP:OD1	1:B:263:ASP:C	2.65	0.40
1:E:430:GLU:O	1:E:434:LYS:HG2	2.21	0.40
1:F:328:LEU:O	1:F:328:LEU:HD23	2.22	0.40
1:I:263:ASP:C	1:I:263:ASP:OD1	2.64	0.40
1:C:354:ILE:HD13	1:C:357:ARG:NH2	2.37	0.40
1:D:90:GLN:OE1	1:D:90:GLN:N	2.53	0.40
1:E:408:HIS:ND1	1:E:408:HIS:O	2.55	0.40
1:F:358:ASN:HA	1:F:361:MET:HE3	2.03	0.40
1:G:104:GLN:NE2	1:G:331:ARG:HG3	2.36	0.40

All (1) 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:G:49:LYS:O	1:H:135:LYS:NZ[4_455]	2.14	0.06

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	402/404 (100%)	379 (94%)	20 (5%)	3 (1%)	18	27
1	B	402/404 (100%)	377 (94%)	22 (6%)	3 (1%)	18	27
1	C	402/404 (100%)	376 (94%)	23 (6%)	3 (1%)	18	27
1	D	402/404 (100%)	376 (94%)	23 (6%)	3 (1%)	18	27

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	E	402/404 (100%)	377 (94%)	21 (5%)	4 (1%)	12	18
1	F	402/404 (100%)	374 (93%)	24 (6%)	4 (1%)	12	18
1	G	402/404 (100%)	377 (94%)	22 (6%)	3 (1%)	18	27
1	H	402/404 (100%)	378 (94%)	21 (5%)	3 (1%)	18	27
1	I	402/404 (100%)	378 (94%)	20 (5%)	4 (1%)	12	18
All	All	3618/3636 (100%)	3392 (94%)	196 (5%)	30 (1%)	16	24

All (30) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	292	LYS
1	B	292	LYS
1	C	292	LYS
1	D	292	LYS
1	E	292	LYS
1	F	292	LYS
1	G	292	LYS
1	H	292	LYS
1	I	292	LYS
1	I	367	VAL
1	A	166	TYR
1	B	166	TYR
1	C	166	TYR
1	D	166	TYR
1	E	166	TYR
1	F	166	TYR
1	F	324	GLY
1	G	166	TYR
1	H	166	TYR
1	I	166	TYR
1	E	386	LYS
1	C	59	PRO
1	H	59	PRO
1	B	59	PRO
1	E	59	PRO
1	F	59	PRO
1	I	59	PRO
1	A	59	PRO
1	D	59	PRO
1	G	59	PRO

5.3.2 Protein sidechains ⓘ

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	337/337 (100%)	324 (96%)	13 (4%)	28	47
1	B	337/337 (100%)	326 (97%)	11 (3%)	33	53
1	C	337/337 (100%)	325 (96%)	12 (4%)	31	50
1	D	337/337 (100%)	326 (97%)	11 (3%)	33	53
1	E	337/337 (100%)	328 (97%)	9 (3%)	39	60
1	F	337/337 (100%)	324 (96%)	13 (4%)	28	47
1	G	337/337 (100%)	318 (94%)	19 (6%)	19	31
1	H	337/337 (100%)	329 (98%)	8 (2%)	43	64
1	I	337/337 (100%)	323 (96%)	14 (4%)	26	44
All	All	3033/3033 (100%)	2923 (96%)	110 (4%)	31	50

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

Mol	Chain	Res	Type
1	A	77	LYS
1	A	82	LEU
1	A	169	LYS
1	A	239	VAL
1	A	265	ILE
1	A	321	SER
1	A	366	ASP
1	A	382	ILE
1	A	385	THR
1	A	387	ASP
1	A	405	LYS
1	A	411	ILE
1	A	434	LYS
1	B	49	LYS
1	B	63	GLU
1	B	77	LYS
1	B	155	LYS
1	B	165	LYS

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Mol	Chain	Res	Type
1	B	321	SER
1	B	341	GLU
1	B	352	LEU
1	B	366	ASP
1	B	382	ILE
1	B	387	ASP
1	C	105	VAL
1	C	169	LYS
1	C	217	ARG
1	C	305	LEU
1	C	321	SER
1	C	374	LYS
1	C	382	ILE
1	C	385	THR
1	C	386	LYS
1	C	396	ARG
1	C	405	LYS
1	C	413	ARG
1	D	49	LYS
1	D	60	VAL
1	D	321	SER
1	D	360	LEU
1	D	365	SER
1	D	366	ASP
1	D	382	ILE
1	D	385	THR
1	D	387	ASP
1	D	405	LYS
1	D	408	HIS
1	E	143	VAL
1	E	239	VAL
1	E	321	SER
1	E	347	GLU
1	E	367	VAL
1	E	384	GLU
1	E	385	THR
1	E	387	ASP
1	E	405	LYS
1	F	82	LEU
1	F	98	VAL
1	F	105	VAL
1	F	169	LYS

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Mol	Chain	Res	Type
1	F	321	SER
1	F	331	ARG
1	F	366	ASP
1	F	376	LEU
1	F	385	THR
1	F	387	ASP
1	F	392	LYS
1	F	421	LYS
1	F	424	GLU
1	G	49	LYS
1	G	63	GLU
1	G	68	ILE
1	G	110	LEU
1	G	143	VAL
1	G	283	VAL
1	G	315	LYS
1	G	321	SER
1	G	331	ARG
1	G	367	VAL
1	G	374	LYS
1	G	382	ILE
1	G	384	GLU
1	G	385	THR
1	G	387	ASP
1	G	398	ARG
1	G	411	ILE
1	G	435	THR
1	G	436	ILE
1	H	49	LYS
1	H	113	ARG
1	H	143	VAL
1	H	321	SER
1	H	385	THR
1	H	387	ASP
1	H	400	ASN
1	H	407	THR
1	I	82	LEU
1	I	102	LYS
1	I	155	LYS
1	I	235	GLU
1	I	321	SER
1	I	347	GLU

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Mol	Chain	Res	Type
1	I	351	LYS
1	I	367	VAL
1	I	376	LEU
1	I	385	THR
1	I	387	ASP
1	I	395	LEU
1	I	405	LYS
1	I	421	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (53) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	92	HIS
1	A	164	GLN
1	A	326	ASN
1	A	344	ASN
1	A	348	ASN
1	A	433	ASN
1	B	92	HIS
1	B	326	ASN
1	B	348	ASN
1	B	358	ASN
1	B	433	ASN
1	C	92	HIS
1	C	118	ASN
1	C	433	ASN
1	D	92	HIS
1	D	220	GLN
1	D	256	HIS
1	D	326	ASN
1	D	348	ASN
1	E	92	HIS
1	E	117	ASN
1	E	132	ASN
1	E	282	ASN
1	E	344	ASN
1	E	348	ASN
1	E	433	ASN
1	F	92	HIS
1	F	104	GLN
1	F	358	ASN
1	G	92	HIS

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Mol	Chain	Res	Type
1	G	99	ASN
1	G	104	GLN
1	G	117	ASN
1	G	132	ASN
1	G	223	ASN
1	G	266	GLN
1	G	378	ASN
1	H	92	HIS
1	H	117	ASN
1	H	266	GLN
1	H	282	ASN
1	H	344	ASN
1	H	358	ASN
1	H	400	ASN
1	H	433	ASN
1	I	92	HIS
1	I	99	ASN
1	I	266	GLN
1	I	282	ASN
1	I	326	ASN
1	I	348	ASN
1	I	358	ASN
1	I	433	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

9 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	I1T	C	501	-	25,27,27	3.48	14 (56%)	24,39,39	2.70	12 (50%)
2	I1T	H	501	-	25,27,27	3.32	14 (56%)	24,39,39	2.53	9 (37%)
2	I1T	E	501	-	25,27,27	3.27	14 (56%)	24,39,39	2.81	10 (41%)
2	I1T	D	501	-	25,27,27	3.33	12 (48%)	24,39,39	2.54	9 (37%)
2	I1T	A	501	-	25,27,27	3.42	13 (52%)	24,39,39	2.64	10 (41%)
3	PLP	I	501	-	16,16,16	0.44	0	20,23,23	0.60	0
2	I1T	G	501	-	25,27,27	3.18	13 (52%)	24,39,39	2.48	8 (33%)
2	I1T	F	501	-	25,27,27	3.36	13 (52%)	24,39,39	2.62	10 (41%)
2	I1T	B	501	-	25,27,27	3.48	14 (56%)	24,39,39	2.53	7 (29%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	I1T	C	501	-	1/1/5/6	5/13/29/29	0/2/2/2
2	I1T	H	501	-	2/2/5/6	7/13/29/29	0/2/2/2
2	I1T	E	501	-	1/1/5/6	2/13/29/29	0/2/2/2
2	I1T	D	501	-	2/2/5/6	5/13/29/29	0/2/2/2
2	I1T	A	501	-	-	1/13/29/29	0/2/2/2
3	PLP	I	501	-	-	2/8/8/8	0/1/1/1
2	I1T	G	501	-	2/2/5/6	5/13/29/29	0/2/2/2
2	I1T	F	501	-	2/2/5/6	1/13/29/29	0/2/2/2
2	I1T	B	501	-	2/2/5/6	4/13/29/29	0/2/2/2

All (107) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	501	I1T	C14-N13	8.93	1.48	1.32
2	F	501	I1T	C14-N13	8.83	1.47	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	501	I1T	C14-N13	8.79	1.47	1.32
2	B	501	I1T	C14-N13	8.64	1.47	1.32
2	D	501	I1T	C14-N13	8.53	1.47	1.32
2	H	501	I1T	C14-N13	8.11	1.46	1.32
2	B	501	I1T	C11-C16	-8.01	1.34	1.43
2	E	501	I1T	C14-N13	7.88	1.46	1.32
2	G	501	I1T	C14-N13	7.86	1.46	1.32
2	C	501	I1T	C11-C16	-7.73	1.35	1.43
2	H	501	I1T	C11-C16	-7.42	1.35	1.43
2	G	501	I1T	C11-C16	-7.20	1.35	1.43
2	D	501	I1T	C11-C16	-7.17	1.35	1.43
2	E	501	I1T	C11-C16	-6.90	1.35	1.43
2	A	501	I1T	C11-C16	-6.67	1.36	1.43
2	A	501	I1T	C11-C12	6.36	1.54	1.38
2	F	501	I1T	C11-C12	6.27	1.54	1.38
2	A	501	I1T	C17-C15	6.26	1.58	1.50
2	C	501	I1T	C11-C12	6.10	1.53	1.38
2	H	501	I1T	C11-C12	6.08	1.53	1.38
2	D	501	I1T	C11-C12	6.06	1.53	1.38
2	E	501	I1T	C11-C12	6.04	1.53	1.38
2	B	501	I1T	C11-C12	5.87	1.53	1.38
2	F	501	I1T	C11-C16	-5.78	1.37	1.43
2	F	501	I1T	C17-C15	5.67	1.57	1.50
2	E	501	I1T	C17-C15	5.44	1.57	1.50
2	G	501	I1T	C11-C12	5.31	1.51	1.38
2	D	501	I1T	C17-C15	5.23	1.57	1.50
2	C	501	I1T	C17-C15	5.23	1.57	1.50
2	H	501	I1T	C17-C15	5.22	1.57	1.50
2	G	501	I1T	C17-C15	4.72	1.56	1.50
2	B	501	I1T	O22-C17	-4.64	1.38	1.43
2	B	501	I1T	C17-C15	4.40	1.55	1.50
2	F	501	I1T	C09-N07	4.38	1.51	1.46
2	B	501	I1T	C09-N07	4.19	1.51	1.46
2	B	501	I1T	C08-C20	3.98	1.56	1.50
2	G	501	I1T	C09-N07	3.86	1.51	1.46
2	F	501	I1T	C08-C20	3.80	1.56	1.50
2	C	501	I1T	C09-N07	3.76	1.50	1.46
2	D	501	I1T	C08-C20	3.76	1.56	1.50
2	H	501	I1T	C09-N07	3.61	1.50	1.46
2	A	501	I1T	O22-C17	-3.57	1.39	1.43
2	H	501	I1T	C08-C20	3.47	1.55	1.50
2	C	501	I1T	C08-C20	3.46	1.55	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	501	I1T	C08-C20	3.44	1.55	1.50
2	A	501	I1T	C08-C20	3.43	1.55	1.50
2	D	501	I1T	O18-C11	3.41	1.45	1.33
2	C	501	I1T	O22-C17	-3.40	1.40	1.43
2	G	501	I1T	O18-C11	3.37	1.45	1.33
2	G	501	I1T	O22-C17	-3.36	1.40	1.43
2	E	501	I1T	C01-C06	-3.35	1.48	1.54
2	E	501	I1T	O18-C11	3.21	1.44	1.33
2	A	501	I1T	C06-N07	3.16	1.54	1.47
2	F	501	I1T	O22-C17	-3.13	1.40	1.43
2	D	501	I1T	C09-N07	3.09	1.50	1.46
2	C	501	I1T	O18-C11	3.05	1.43	1.33
2	F	501	I1T	O18-C11	2.99	1.43	1.33
2	E	501	I1T	C09-N07	2.97	1.50	1.46
2	H	501	I1T	C02-C03	2.97	1.56	1.51
2	B	501	I1T	O18-C11	2.97	1.43	1.33
2	C	501	I1T	C06-N07	2.93	1.53	1.47
2	B	501	I1T	C06-N07	2.93	1.53	1.47
2	A	501	I1T	O18-C11	2.93	1.43	1.33
2	G	501	I1T	C14-C15	-2.92	1.34	1.41
2	C	501	I1T	C14-C15	-2.91	1.34	1.41
2	H	501	I1T	O18-C11	2.86	1.43	1.33
2	E	501	I1T	P23-O22	2.86	1.69	1.60
2	A	501	I1T	C09-N07	2.81	1.49	1.46
2	F	501	I1T	C06-N07	2.80	1.53	1.47
2	H	501	I1T	P23-O22	2.77	1.69	1.60
2	D	501	I1T	C06-N07	2.76	1.53	1.47
2	G	501	I1T	C08-C20	2.68	1.54	1.50
2	A	501	I1T	C02-C03	2.61	1.56	1.51
2	E	501	I1T	C14-C15	-2.58	1.34	1.41
2	D	501	I1T	O22-C17	-2.51	1.40	1.43
2	G	501	I1T	C12-N13	-2.50	1.33	1.39
2	D	501	I1T	C02-C03	2.47	1.55	1.51
2	B	501	I1T	C14-C15	-2.47	1.35	1.41
2	G	501	I1T	C06-N07	2.46	1.52	1.47
2	A	501	I1T	P23-O22	2.43	1.68	1.60
2	C	501	I1T	C02-C03	2.42	1.55	1.51
2	H	501	I1T	C06-N07	2.42	1.52	1.47
2	H	501	I1T	C01-C06	-2.40	1.50	1.54
2	B	501	I1T	C01-C06	-2.40	1.50	1.54
2	H	501	I1T	C14-C15	-2.38	1.35	1.41
2	D	501	I1T	C14-C15	-2.37	1.35	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	501	I1T	C12-N13	-2.35	1.34	1.39
2	F	501	I1T	C14-C15	-2.35	1.35	1.41
2	G	501	I1T	C01-C06	-2.34	1.50	1.54
2	F	501	I1T	C02-C03	2.33	1.55	1.51
2	C	501	I1T	C01-C06	-2.32	1.50	1.54
2	D	501	I1T	C01-C06	-2.30	1.50	1.54
2	G	501	I1T	P23-O22	2.29	1.67	1.60
2	H	501	I1T	C12-N13	-2.28	1.34	1.39
2	E	501	I1T	C06-N07	2.24	1.52	1.47
2	E	501	I1T	O22-C17	-2.23	1.41	1.43
2	C	501	I1T	P23-O22	2.22	1.67	1.60
2	B	501	I1T	P23-O24	2.22	1.57	1.50
2	F	501	I1T	C12-N13	-2.20	1.34	1.39
2	H	501	I1T	O22-C17	-2.18	1.41	1.43
2	E	501	I1T	C02-C03	2.13	1.55	1.51
2	B	501	I1T	C02-C03	2.11	1.55	1.51
2	F	501	I1T	C01-C06	-2.10	1.50	1.54
2	B	501	I1T	P23-O22	2.06	1.66	1.60
2	A	501	I1T	P23-O24	2.05	1.56	1.50
2	A	501	I1T	C14-C15	-2.02	1.36	1.41
2	E	501	I1T	C12-N13	-2.01	1.34	1.39

All (75) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	501	I1T	C08-C06-N07	7.66	124.94	112.81
2	C	501	I1T	C08-C06-N07	7.64	124.91	112.81
2	F	501	I1T	C08-C06-N07	7.58	124.81	112.81
2	D	501	I1T	C08-C06-N07	6.47	123.06	112.81
2	H	501	I1T	C08-C06-N07	6.40	122.96	112.81
2	B	501	I1T	C08-C06-N07	6.23	122.69	112.81
2	A	501	I1T	C19-C12-N13	5.92	121.35	112.46
2	B	501	I1T	C19-C12-N13	5.86	121.26	112.46
2	E	501	I1T	C19-C12-N13	5.55	120.80	112.46
2	G	501	I1T	C19-C12-N13	5.51	120.74	112.46
2	A	501	I1T	C08-C06-N07	5.46	121.47	112.81
2	H	501	I1T	C19-C12-N13	5.34	120.47	112.46
2	C	501	I1T	C19-C12-N13	5.32	120.44	112.46
2	F	501	I1T	C19-C12-N13	5.21	120.29	112.46
2	D	501	I1T	C19-C12-N13	5.13	120.17	112.46
2	G	501	I1T	C08-C06-N07	5.02	120.77	112.81
2	B	501	I1T	C19-C12-C11	-4.69	118.19	125.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	501	I1T	C19-C12-C11	-4.68	118.21	125.54
2	A	501	I1T	C09-C16-C15	-4.50	116.89	124.08
2	A	501	I1T	C19-C12-C11	-4.50	118.49	125.54
2	D	501	I1T	C19-C12-C11	-4.43	118.60	125.54
2	G	501	I1T	C19-C12-C11	-4.24	118.89	125.54
2	F	501	I1T	C10-C08-C06	4.00	107.45	100.54
2	H	501	I1T	C19-C12-C11	-3.98	119.31	125.54
2	B	501	I1T	C10-C08-C06	3.83	107.16	100.54
2	G	501	I1T	C10-C02-C01	3.83	110.44	102.31
2	C	501	I1T	C19-C12-C11	-3.76	119.64	125.54
2	G	501	I1T	C10-C08-C06	3.75	107.01	100.54
2	H	501	I1T	C10-C08-C06	3.67	106.88	100.54
2	F	501	I1T	C19-C12-C11	-3.65	119.81	125.54
2	E	501	I1T	C09-C16-C15	-3.63	118.28	124.08
2	C	501	I1T	C10-C08-C06	3.61	106.77	100.54
2	D	501	I1T	C09-C16-C15	-3.57	118.37	124.08
2	G	501	I1T	O21-C20-C08	-3.48	117.36	125.19
2	D	501	I1T	C10-C08-C06	3.40	106.41	100.54
2	E	501	I1T	O21-C20-C08	-3.30	117.76	125.19
2	C	501	I1T	O22-P23-O24	3.19	115.07	106.44
2	H	501	I1T	C09-N07-C06	-3.06	108.58	114.83
2	H	501	I1T	O21-C20-C08	-2.94	118.57	125.19
2	E	501	I1T	C09-N07-C06	-2.94	108.84	114.83
2	F	501	I1T	C10-C02-C01	2.88	108.43	102.31
2	G	501	I1T	O22-P23-O24	2.83	114.10	106.44
2	E	501	I1T	O18-C11-C16	2.83	123.27	116.93
2	D	501	I1T	O21-C20-C08	-2.81	118.87	125.19
2	A	501	I1T	O21-C20-C08	-2.78	118.93	125.19
2	C	501	I1T	C09-N07-C06	-2.77	109.19	114.83
2	E	501	I1T	C10-C08-C06	2.75	105.30	100.54
2	H	501	I1T	O05-C03-C02	2.64	121.01	114.16
2	G	501	I1T	C01-C06-C08	2.64	108.44	104.33
2	A	501	I1T	C09-N07-C06	-2.62	109.48	114.83
2	E	501	I1T	C10-C02-C01	2.54	107.72	102.31
2	A	501	I1T	O05-C03-C02	2.54	120.74	114.16
2	A	501	I1T	O22-P23-O24	2.50	113.19	106.44
2	F	501	I1T	O21-C20-C08	-2.45	119.67	125.19
2	B	501	I1T	C01-C06-C08	2.43	108.12	104.33
2	E	501	I1T	O05-C03-C02	2.43	120.45	114.16
2	A	501	I1T	O05-C03-O04	-2.40	118.64	124.08
2	F	501	I1T	O26-P23-O22	2.39	112.91	106.67
2	C	501	I1T	O21-C20-C08	-2.36	119.89	125.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	H	501	I1T	O05-C03-O04	-2.34	118.78	124.08
2	H	501	I1T	O26-P23-O22	2.29	112.65	106.67
2	C	501	I1T	O18-C11-C12	2.29	120.55	118.29
2	F	501	I1T	C09-C16-C15	-2.28	120.44	124.08
2	C	501	I1T	C01-C06-C08	2.24	107.82	104.33
2	D	501	I1T	O05-C03-C02	2.21	119.89	114.16
2	B	501	I1T	O21-C20-C08	-2.17	120.32	125.19
2	F	501	I1T	O18-C11-C16	2.14	121.72	116.93
2	B	501	I1T	C10-C02-C01	2.11	106.79	102.31
2	D	501	I1T	O18-C11-C16	2.10	121.64	116.93
2	C	501	I1T	O05-C03-C02	2.07	119.53	114.16
2	D	501	I1T	C01-C06-C08	2.07	107.55	104.33
2	C	501	I1T	C08-C10-C02	2.06	107.49	96.85
2	A	501	I1T	C10-C08-C06	2.03	104.04	100.54
2	F	501	I1T	C11-C12-N13	-2.03	119.90	122.58
2	C	501	I1T	C11-C12-N13	-2.01	119.92	122.58

All (12) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	B	501	I1T	C08
2	B	501	I1T	C06
2	C	501	I1T	C06
2	D	501	I1T	C02
2	D	501	I1T	C06
2	E	501	I1T	C02
2	F	501	I1T	C06
2	F	501	I1T	C02
2	G	501	I1T	C06
2	G	501	I1T	C02
2	H	501	I1T	C02
2	H	501	I1T	C08

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	I1T	C01-C06-N07-C09
2	B	501	I1T	C01-C06-N07-C09
2	B	501	I1T	C17-O22-P23-O25
2	C	501	I1T	C01-C06-N07-C09
2	D	501	I1T	C01-C06-N07-C09
2	E	501	I1T	C01-C06-N07-C09

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Mol	Chain	Res	Type	Atoms
2	E	501	I1T	C08-C06-N07-C09
2	F	501	I1T	C01-C06-N07-C09
2	G	501	I1T	C01-C06-N07-C09
2	G	501	I1T	C08-C06-N07-C09
2	H	501	I1T	C17-O22-P23-O24
2	H	501	I1T	C17-O22-P23-O25
2	H	501	I1T	C17-O22-P23-O26
3	I	501	PLP	C5A-O4P-P-O1P
2	D	501	I1T	C16-C09-N07-C06
2	B	501	I1T	C17-O22-P23-O26
2	C	501	I1T	C10-C02-C03-O04
2	G	501	I1T	C01-C02-C03-O04
2	H	501	I1T	C01-C06-N07-C09
2	B	501	I1T	C17-O22-P23-O24
2	C	501	I1T	C06-C08-C20-O21
2	D	501	I1T	C06-C08-C20-O21
2	C	501	I1T	C17-O22-P23-O26
3	I	501	PLP	C5A-O4P-P-O2P
2	G	501	I1T	C16-C15-C17-O22
2	C	501	I1T	C10-C02-C03-O05
2	D	501	I1T	C10-C02-C03-O04
2	D	501	I1T	C10-C02-C03-O05
2	G	501	I1T	C01-C02-C03-O05
2	H	501	I1T	C08-C06-N07-C09
2	H	501	I1T	C01-C02-C03-O05
2	H	501	I1T	C10-C02-C03-O05

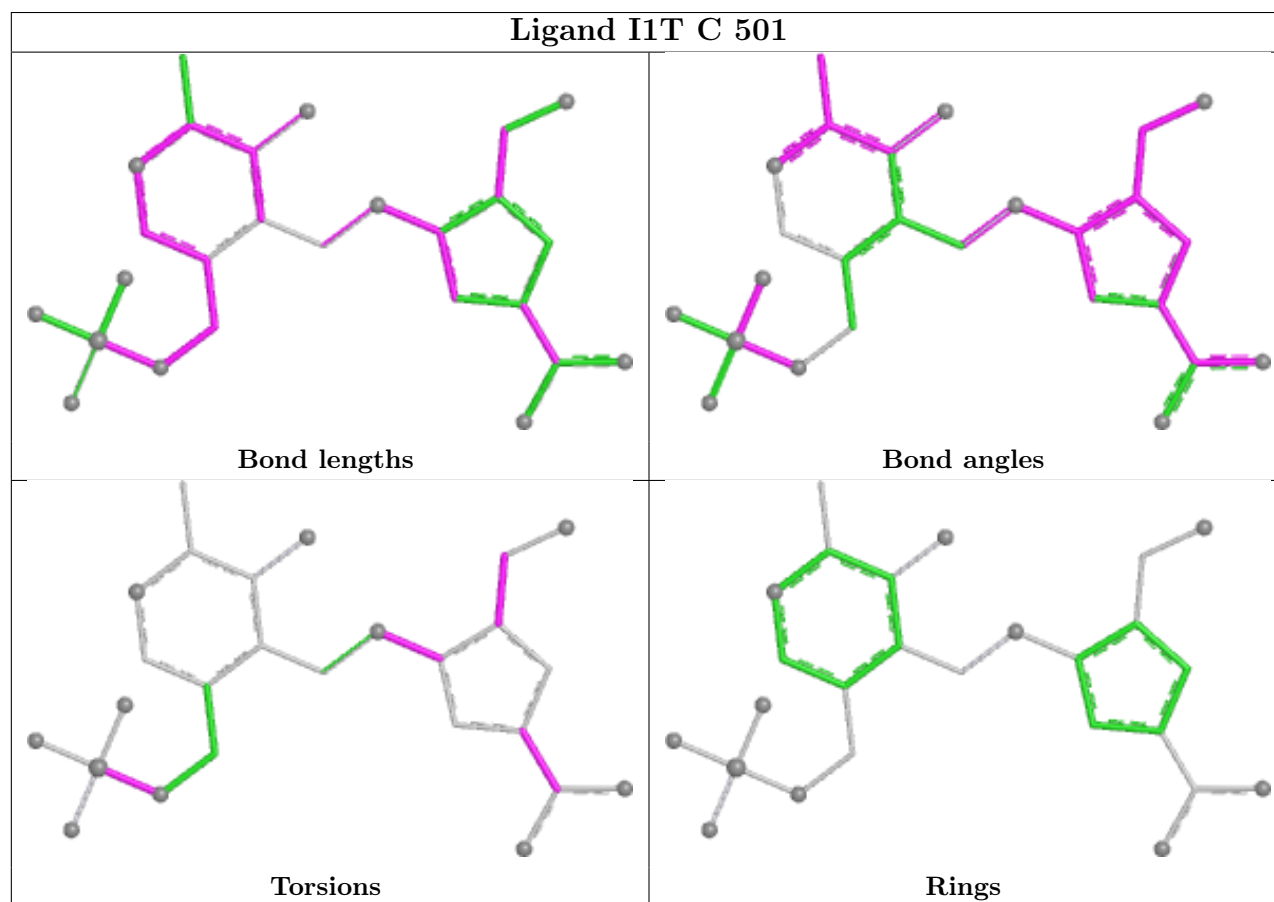
There are no ring outliers.

7 monomers are involved in 20 short contacts:

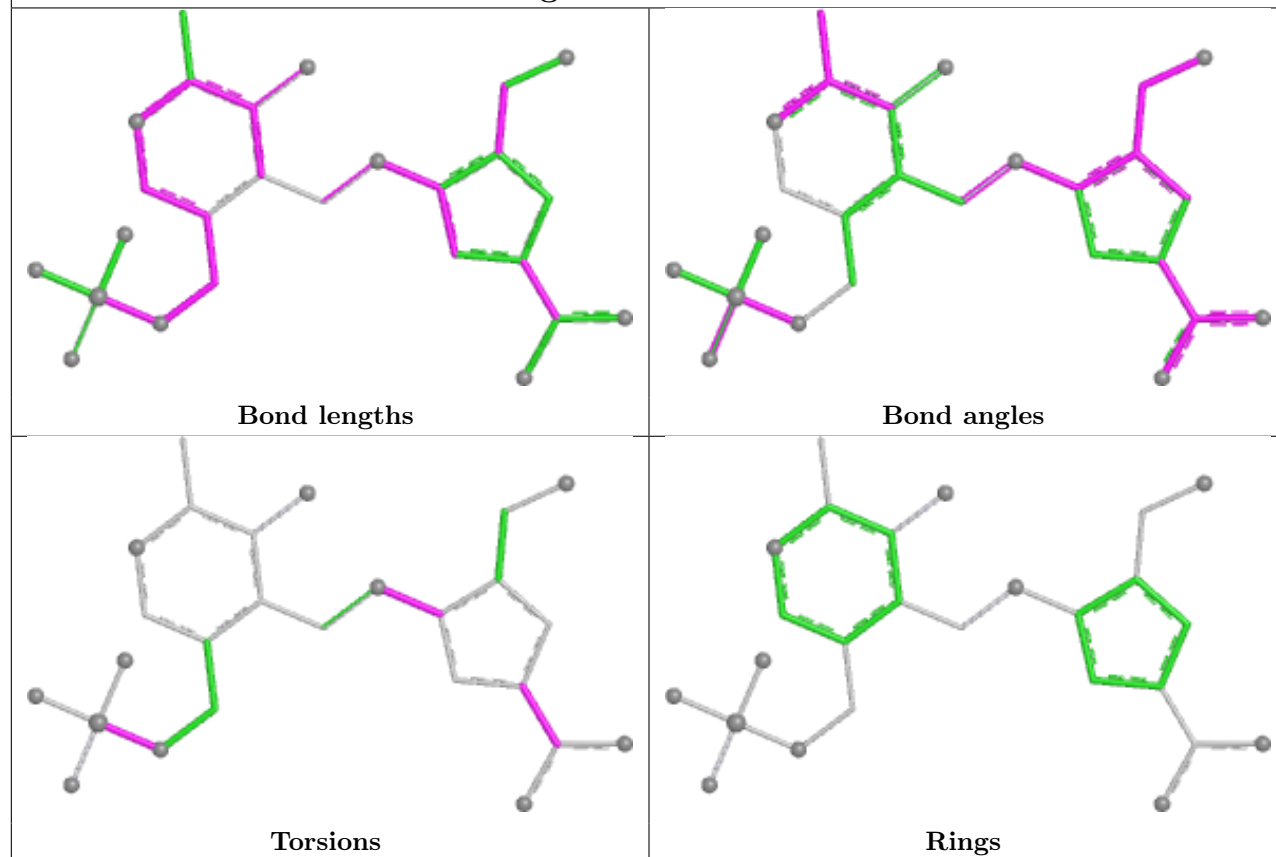
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	501	I1T	3	0
2	H	501	I1T	3	0
2	E	501	I1T	3	0
2	D	501	I1T	2	0
3	I	501	PLP	2	0
2	G	501	I1T	2	0
2	B	501	I1T	5	0

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

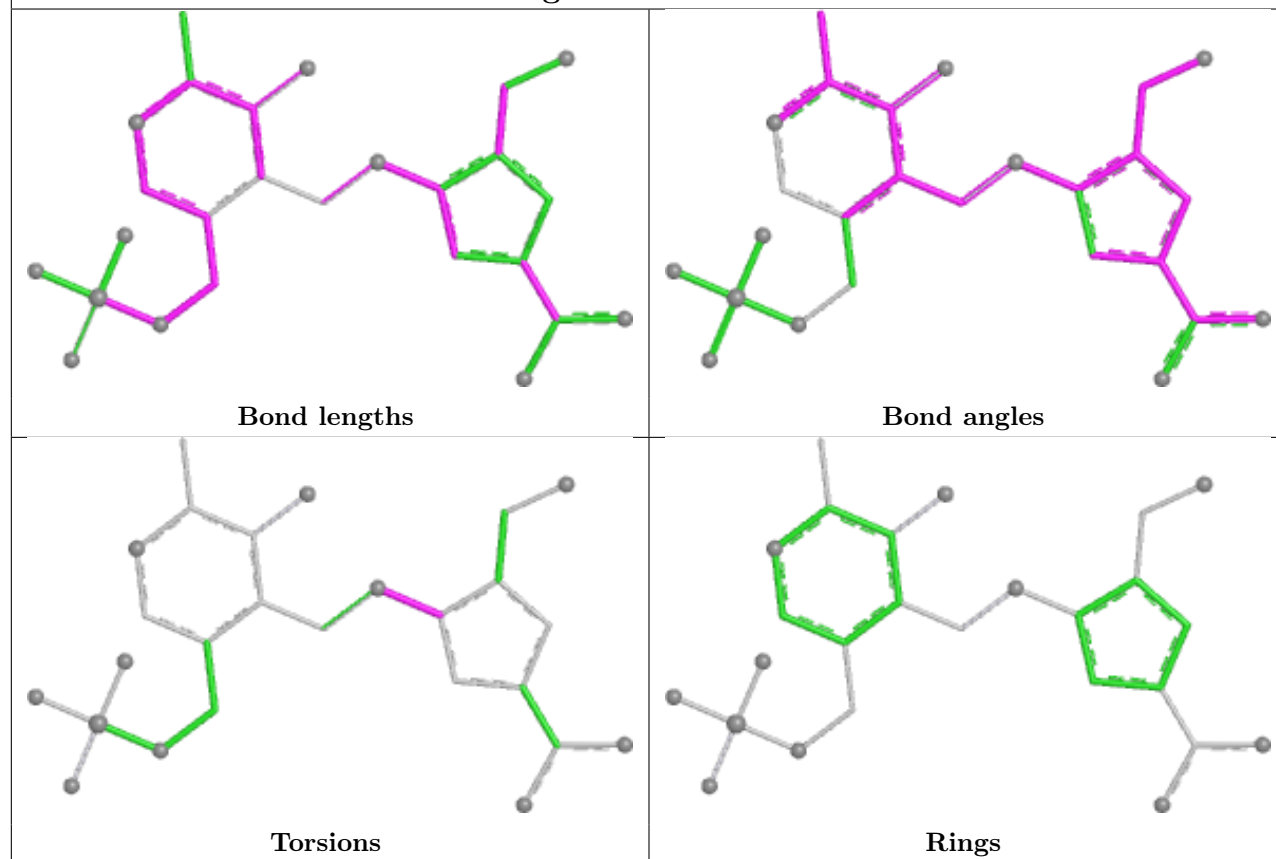
also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



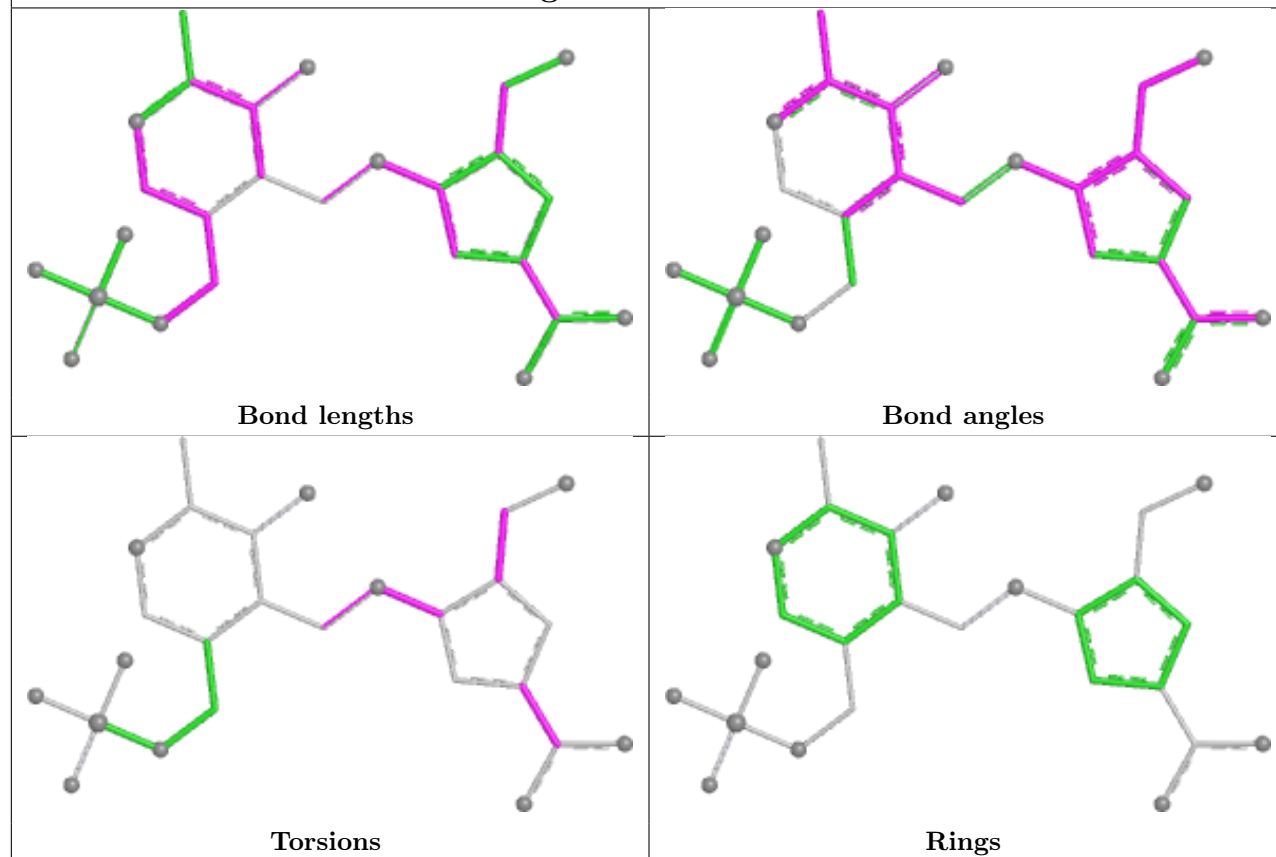
Ligand I1T H 501



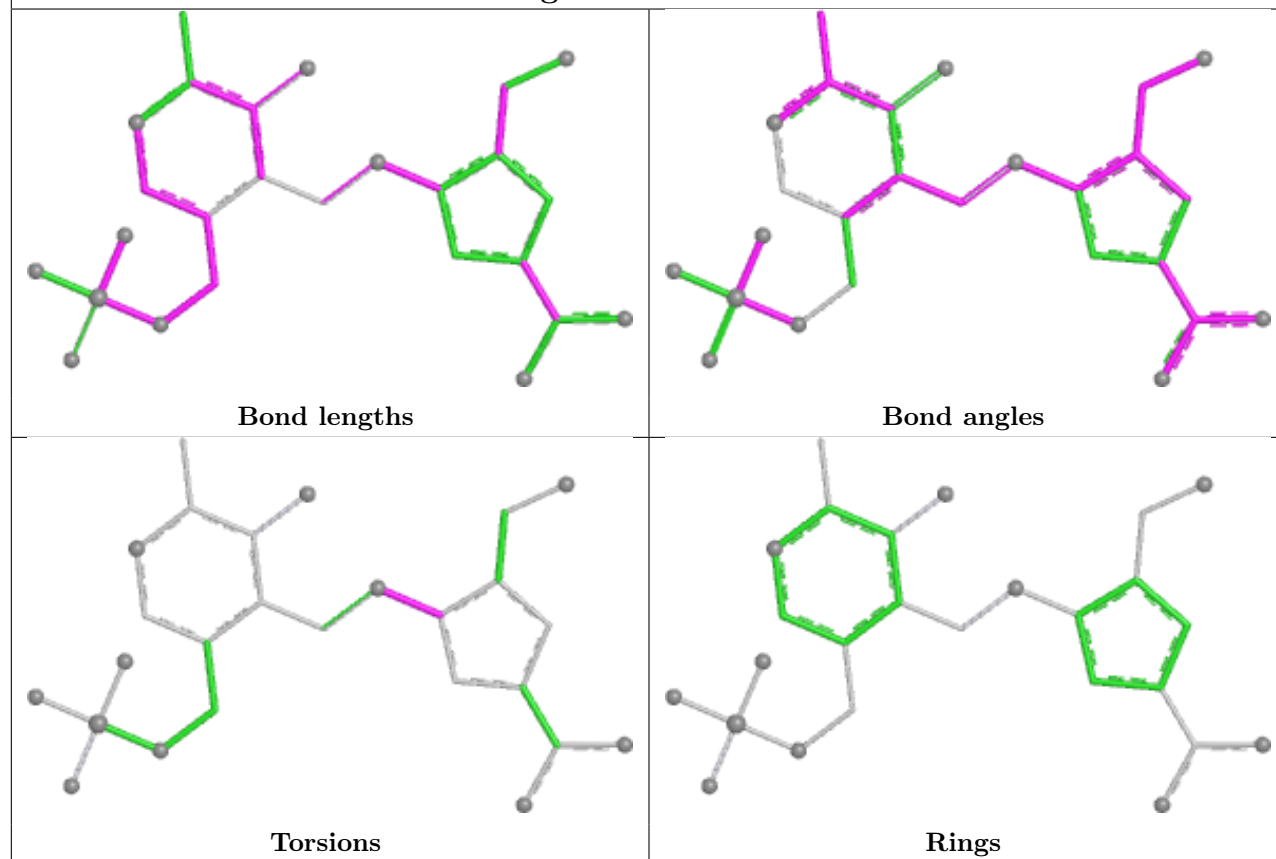
Ligand I1T E 501



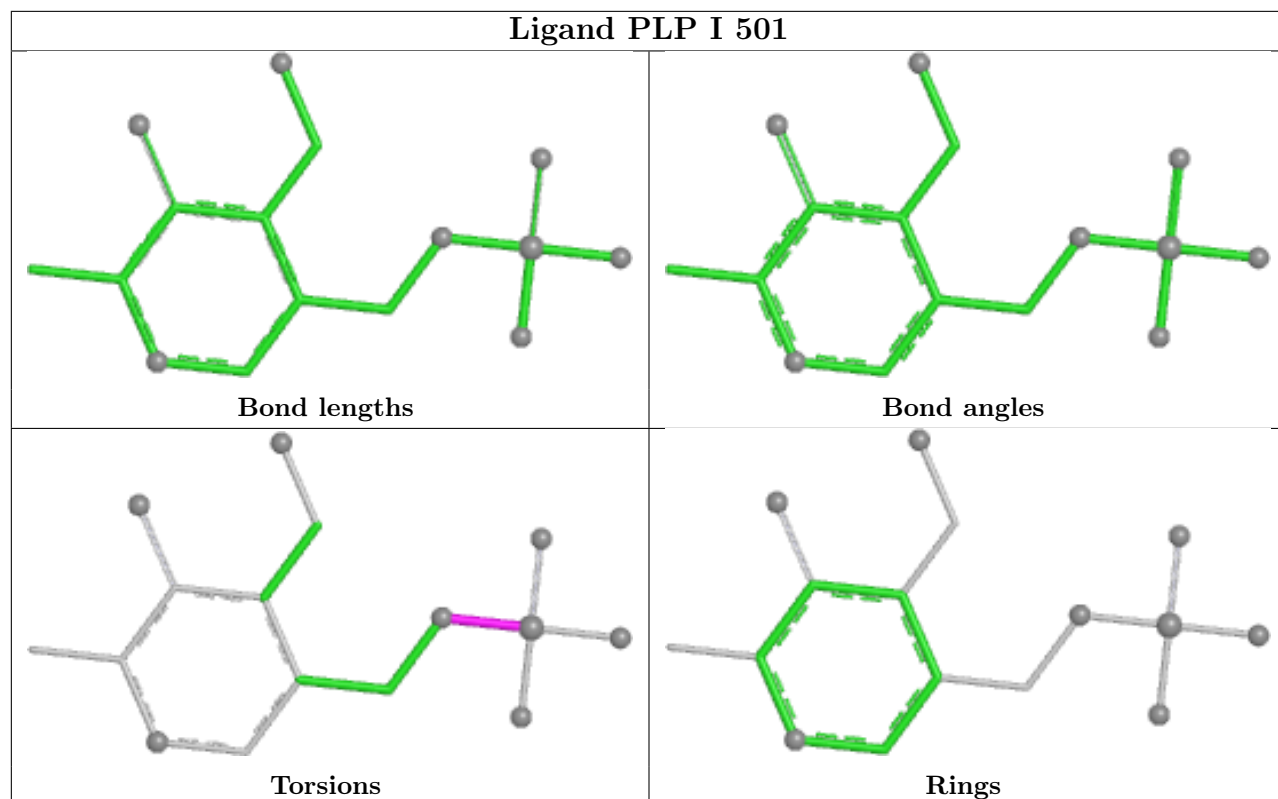
Ligand I1T D 501



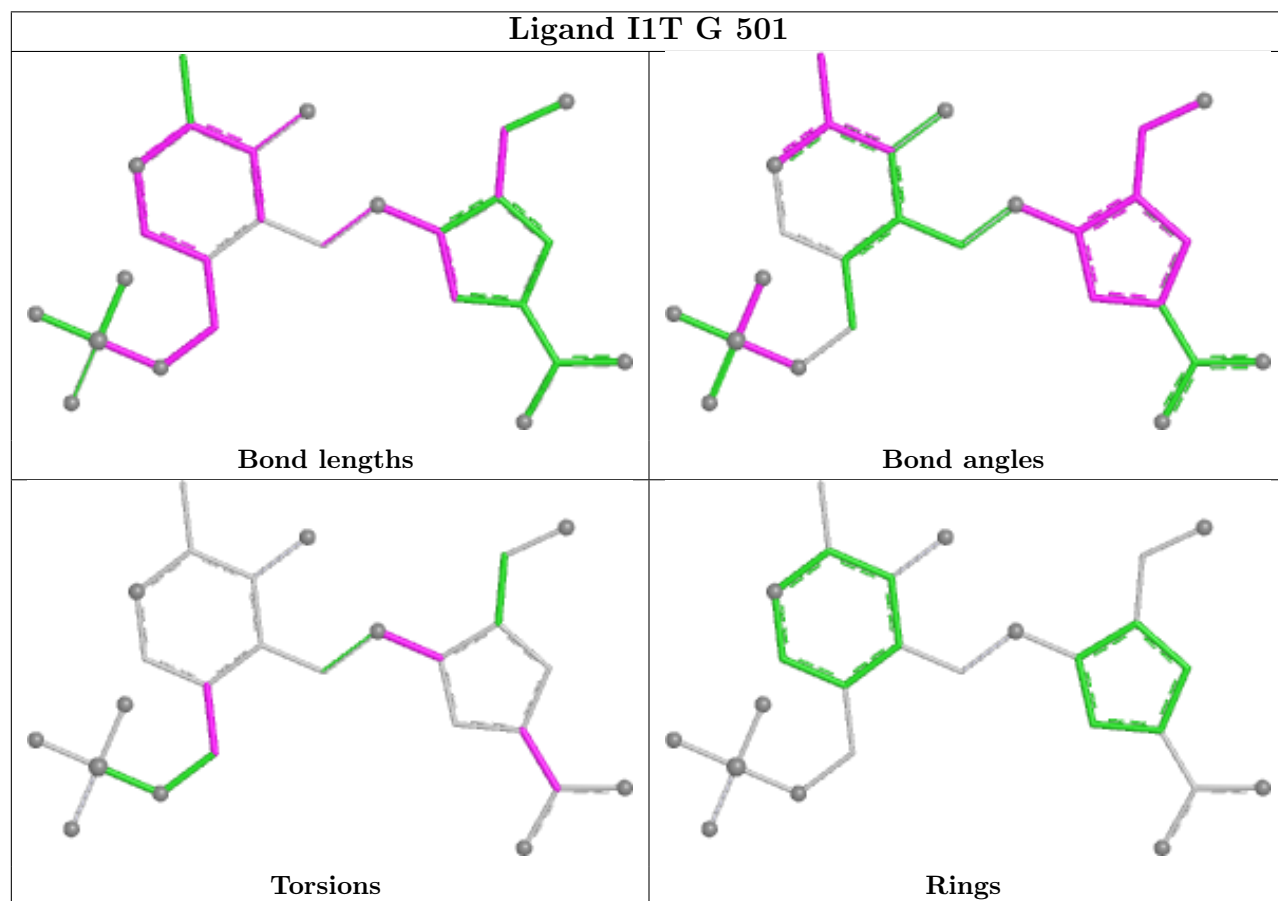
Ligand I1T A 501



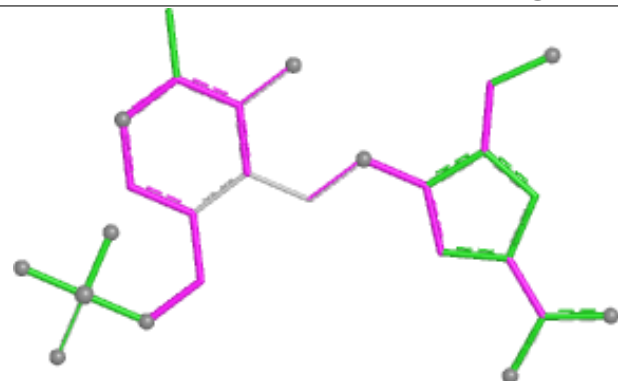
Ligand PLP I 501



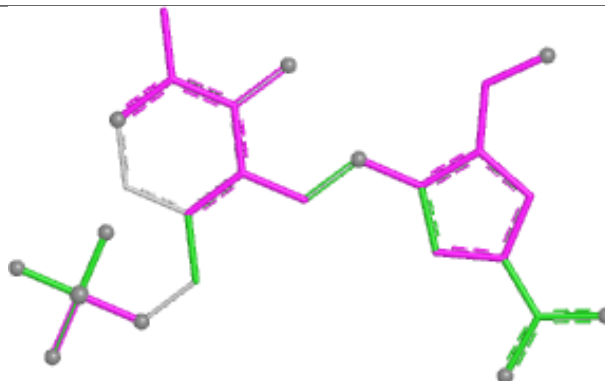
Ligand I1T G 501



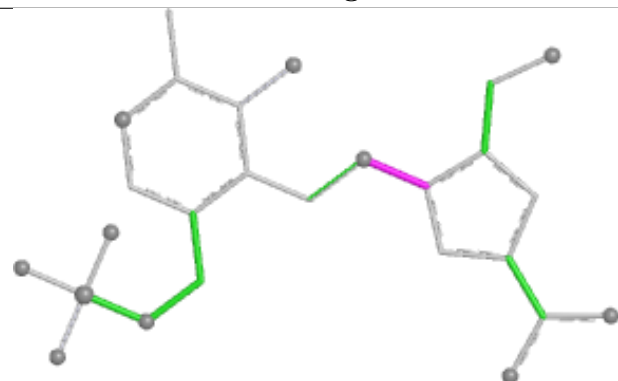
Ligand I1T F 501



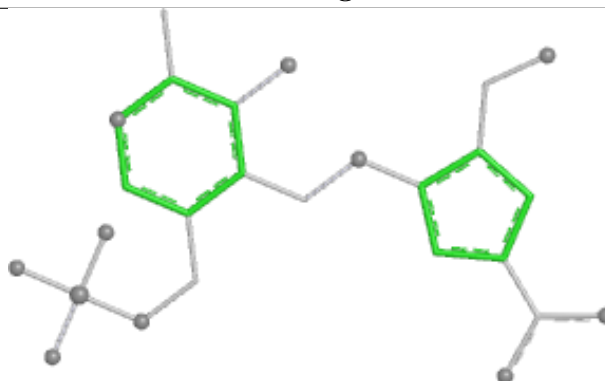
Bond lengths



Bond angles

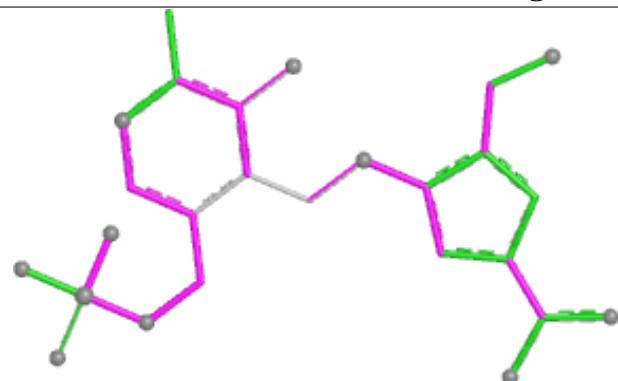


Torsions

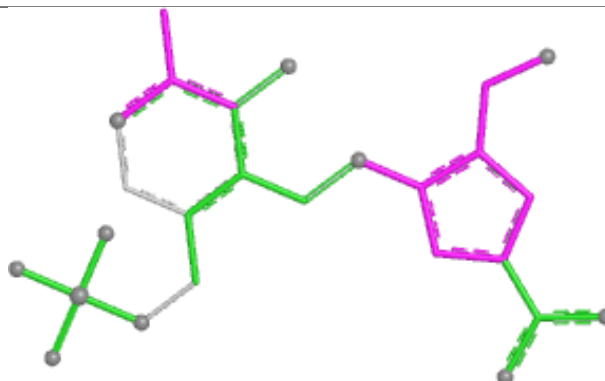


Rings

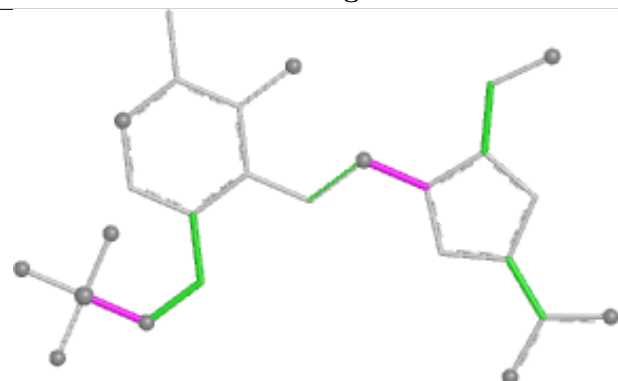
Ligand I1T B 501



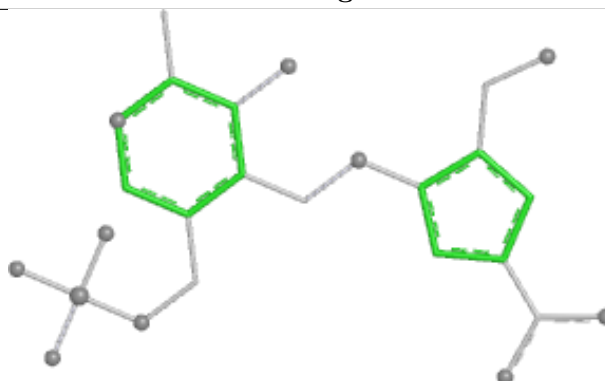
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	404/404 (100%)	-1.42	1 (0%) 91 90	7, 17, 29, 71	0
1	B	404/404 (100%)	-1.44	0 100 100	7, 14, 28, 44	0
1	C	404/404 (100%)	-1.45	0 100 100	9, 16, 27, 42	0
1	D	404/404 (100%)	-1.39	0 100 100	10, 19, 38, 60	0
1	E	404/404 (100%)	-1.40	0 100 100	8, 16, 36, 66	0
1	F	404/404 (100%)	-1.39	0 100 100	2, 14, 26, 41	0
1	G	404/404 (100%)	-1.36	0 100 100	7, 19, 39, 51	0
1	H	404/404 (100%)	-1.36	1 (0%) 91 90	9, 19, 32, 82	0
1	I	404/404 (100%)	-1.41	0 100 100	11, 19, 34, 49	0
All	All	3636/3636 (100%)	-1.40	2 (0%) 92 91	2, 17, 33, 82	0

All (2) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	H	36	GLY	3.9
1	A	36	GLY	2.9

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

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

6.3 Carbohydrates

There are no oligosaccharides in this entry.

6.4 Ligands

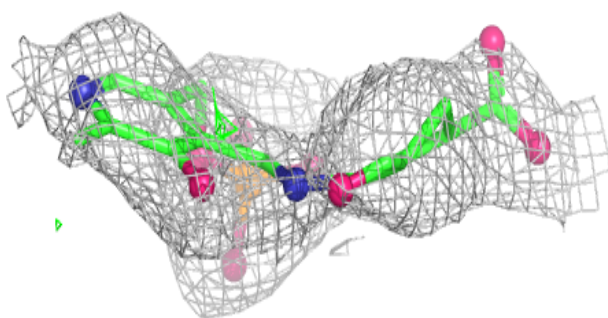
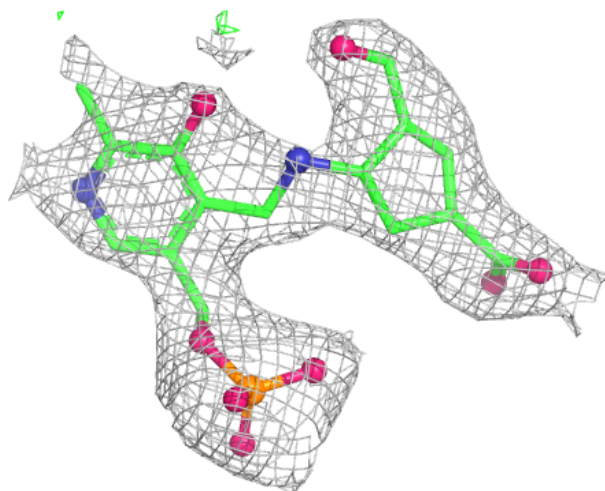
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	I1T	A	501	26/26	0.99	0.04	21,38,44,54	0
2	I1T	B	501	26/26	0.99	0.05	25,31,40,45	0
2	I1T	C	501	26/26	0.99	0.04	28,35,51,61	0
2	I1T	D	501	26/26	0.99	0.04	25,38,47,52	0
2	I1T	E	501	26/26	0.99	0.04	25,40,45,47	0
2	I1T	F	501	26/26	0.99	0.04	31,45,51,53	0
2	I1T	G	501	26/26	0.99	0.04	28,32,42,42	0
2	I1T	H	501	26/26	0.99	0.05	31,43,61,63	0
3	PLP	I	501	16/16	0.99	0.05	46,53,56,58	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.

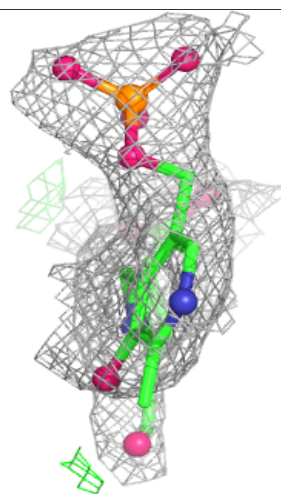
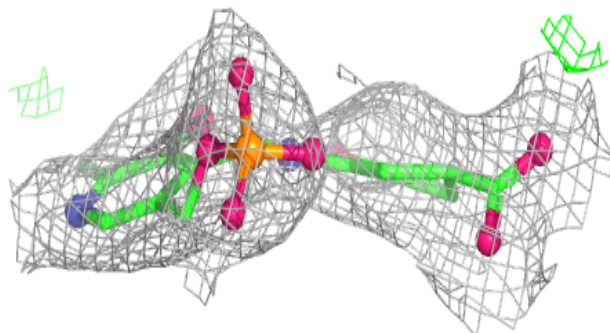
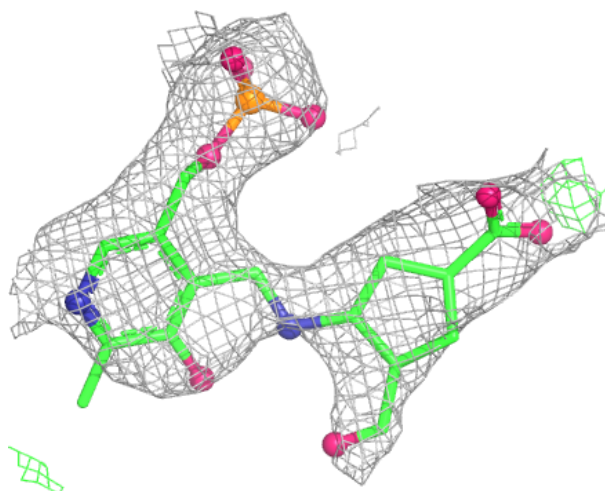
Electron density around I1T A 501:

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



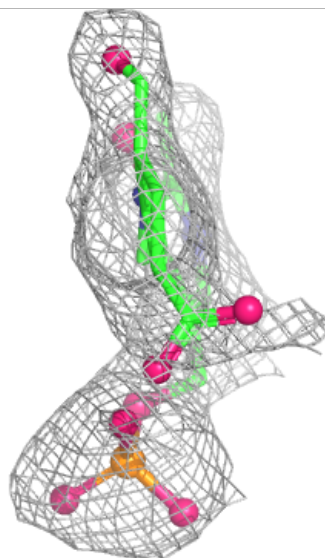
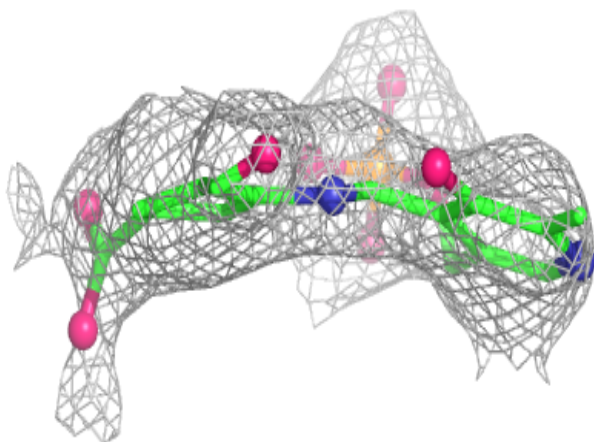
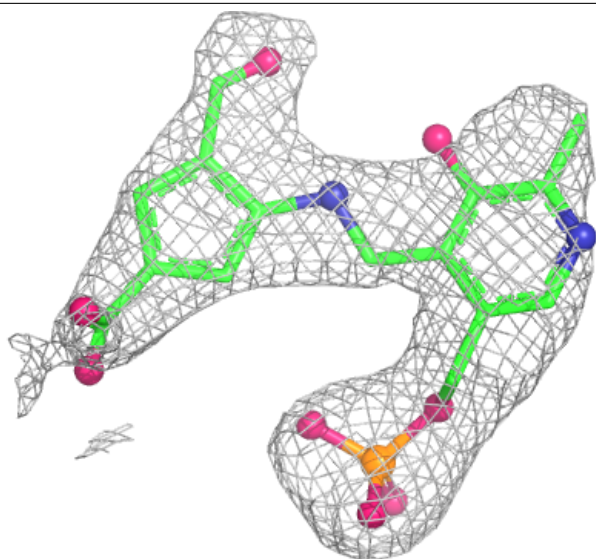
Electron density around I1T B 501:

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



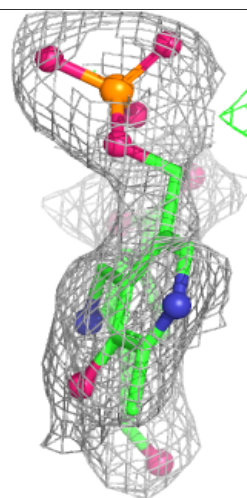
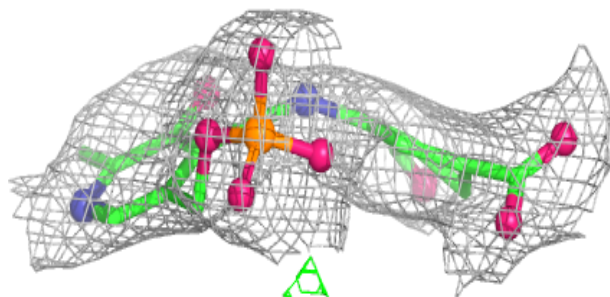
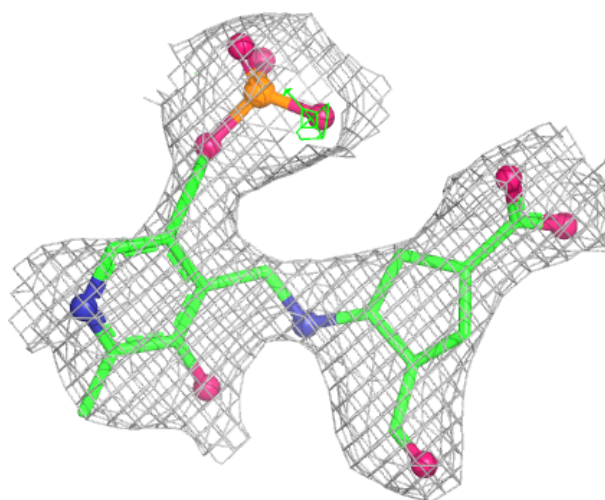
Electron density around I1T C 501:

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



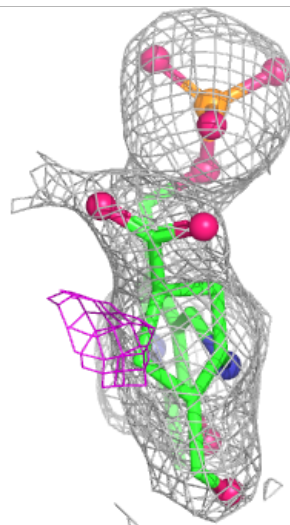
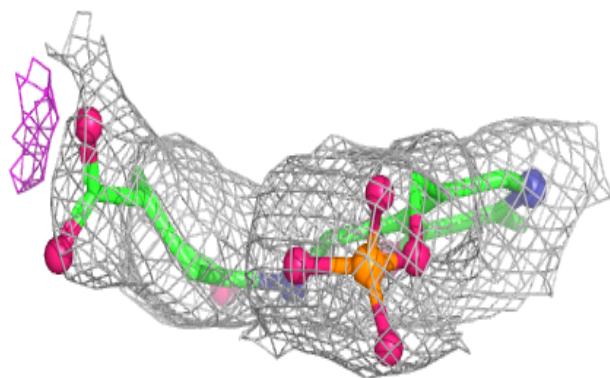
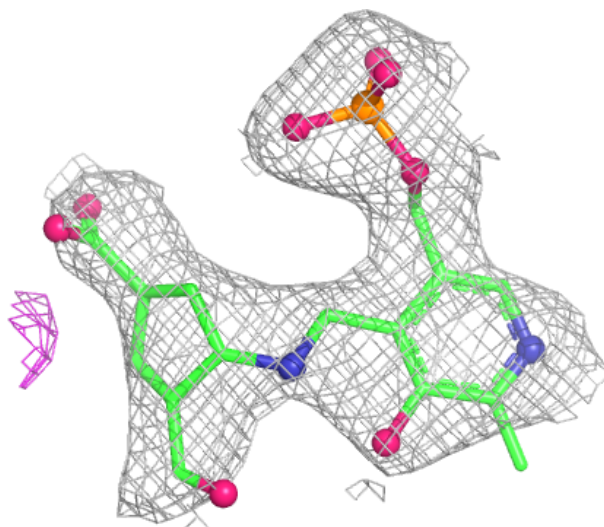
Electron density around I1T D 501:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



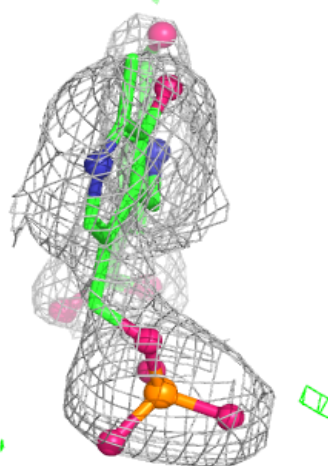
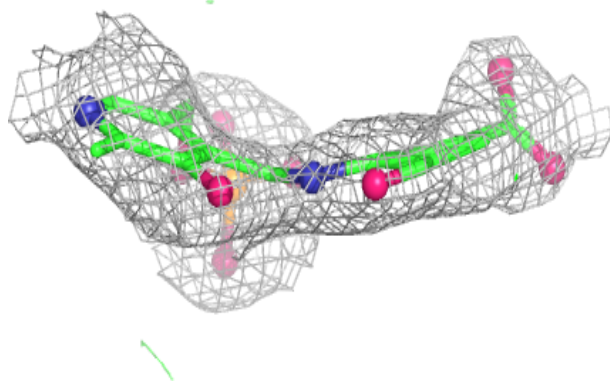
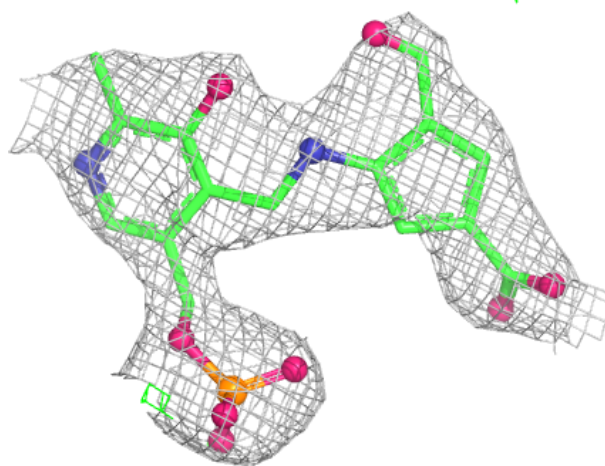
Electron density around I1T E 501:

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



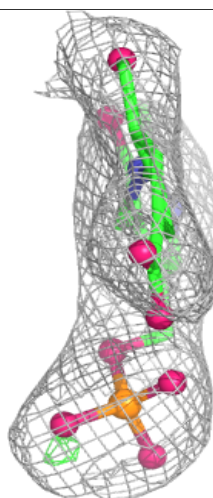
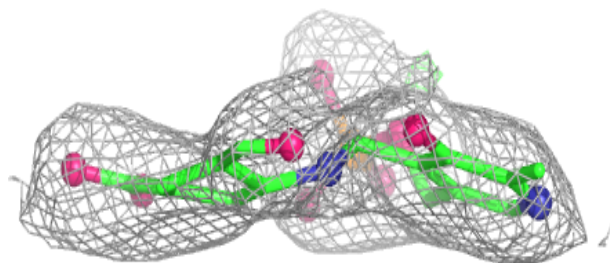
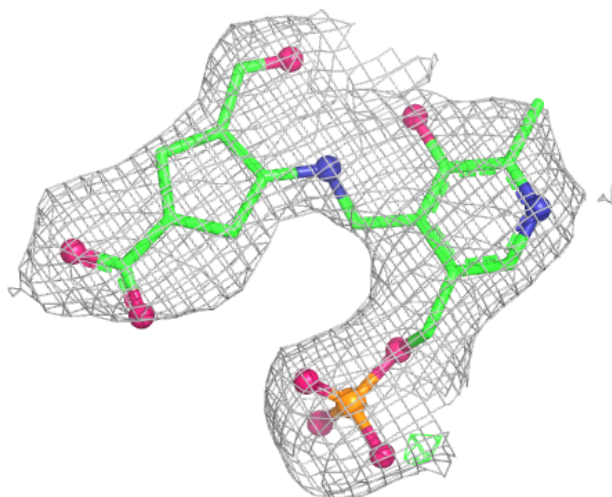
Electron density around I1T F 501:

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



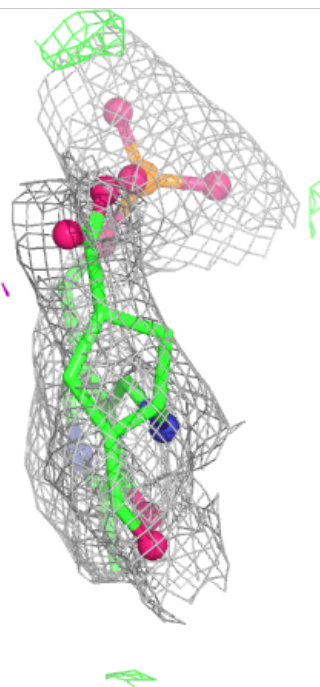
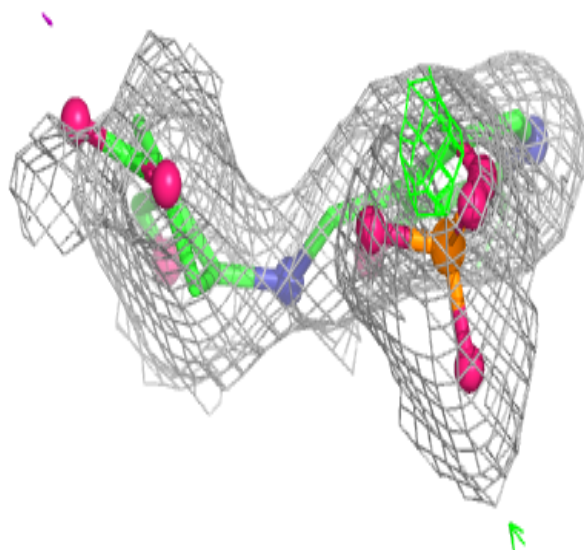
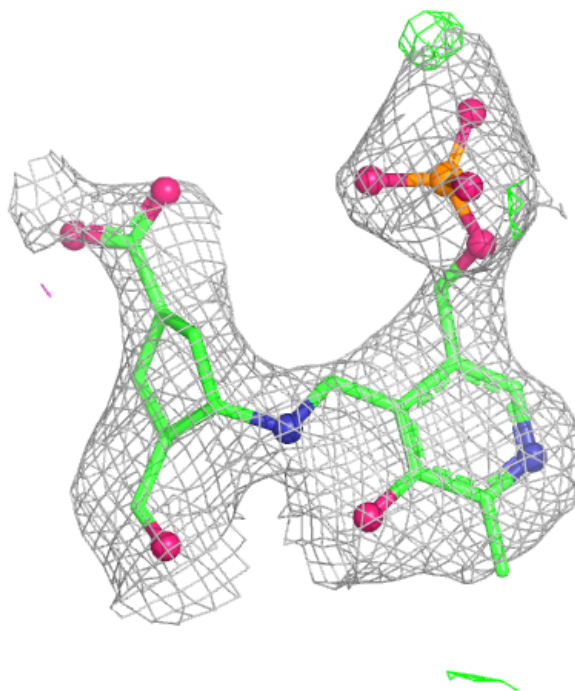
Electron density around I1T G 501:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



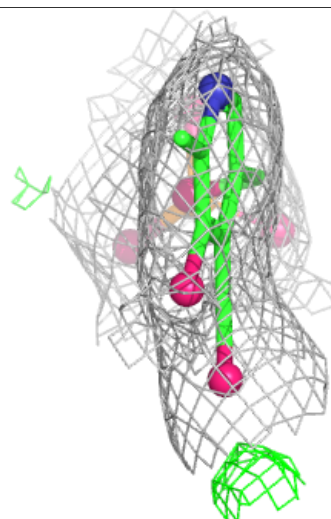
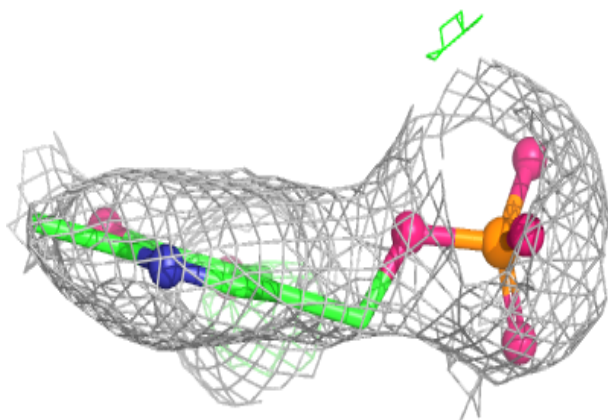
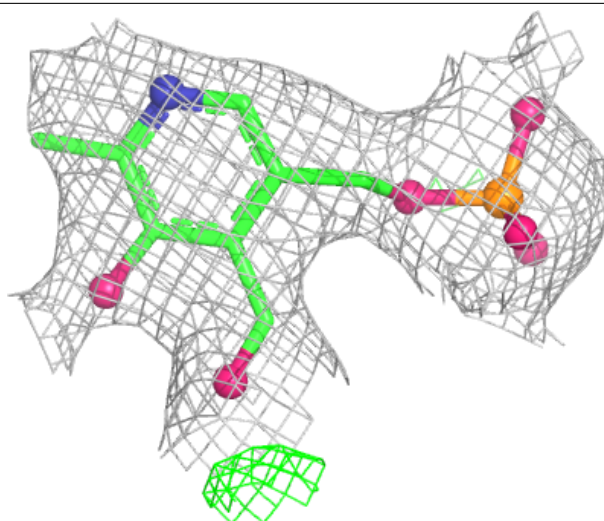
Electron density around I1T H 501:

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



Electron density around PLP I 501:

$2mF_o-DF_c$ (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.