



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 05:59 PM UTC

PDB ID : 2QL6 / pdb_00002ql6
Title : human nicotinamide riboside kinase (NRK1)
Authors : Khan, J.A.; Xiang, S.; Tong, L.
Deposited on : 2007-07-12
Resolution : 2.70 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

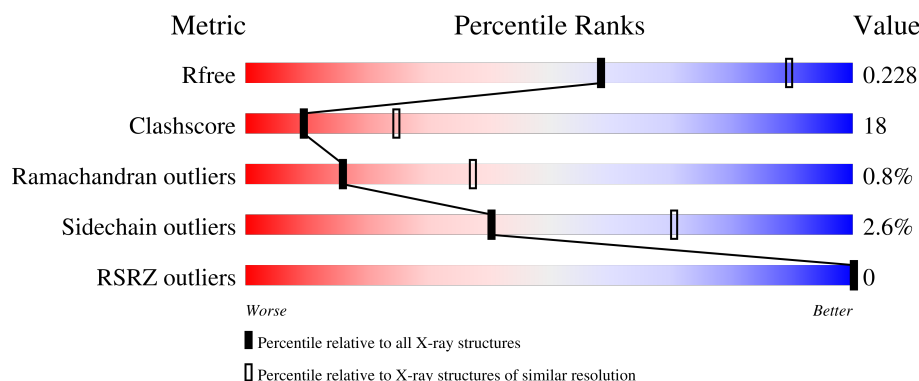
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 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	3538 (2.70-2.70)
Clashscore	190562	3843 (2.70-2.70)
Ramachandran outliers	187476	3778 (2.70-2.70)
Sidechain outliers	187428	3778 (2.70-2.70)
RSRZ outliers	180081	3538 (2.70-2.70)

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	199	
1	B	199	
1	C	199	
1	D	199	
1	E	199	

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Mol	Chain	Length	Quality of chain
1	F	199	 57% 30% • 10%
1	G	199	 62% 25% • 10%
1	H	199	 58% 30% • 10%
1	I	199	 57% 29% • • 10%
1	J	199	 59% 29% • 10%
1	K	199	 51% 34% 5% 10%
1	L	199	 56% 32% • 10%
1	M	199	 55% 33% • 10%
1	N	199	 56% 30% • 10%
1	O	199	 54% 34% • 10%
1	P	199	 54% 34% • 10%

2 Entry composition

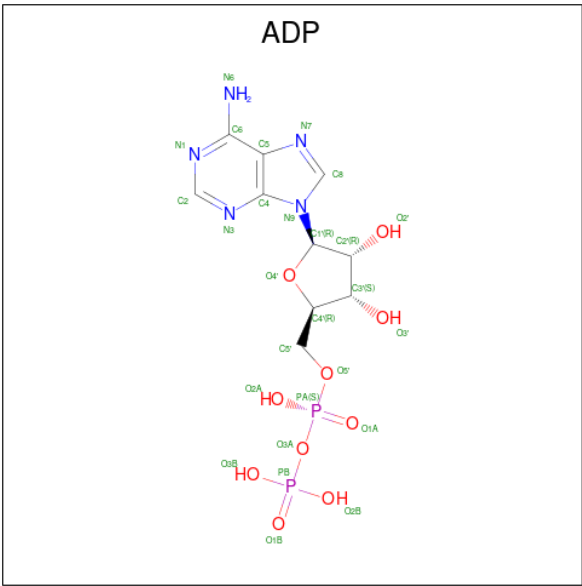
There are 3 unique types of molecules in this entry. The entry contains 24416 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 nicotinamide riboside kinase 1.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	B	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	C	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	D	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	E	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	F	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	G	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	H	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	I	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	J	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	K	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	L	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	M	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	N	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	O	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			
1	P	179	Total	C	N	O	S	Se	0	0	0
			1482	956	238	279	3	6			

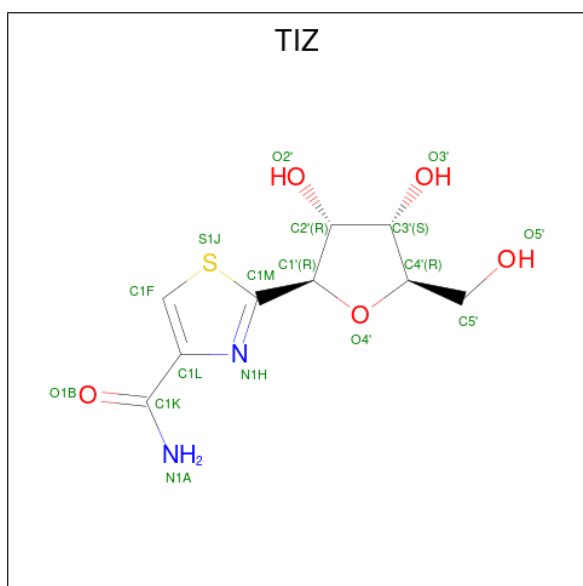
- Molecule 2 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: C₁₀H₁₅N₅O₁₀P₂).



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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	N	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	O	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	P	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

- Molecule 3 is (1R)-1-[4-(AMINOCARBONYL)-1,3-THIAZOL-2-YL]-1,4-ANHYDRO-D-RIBITOL (CCD ID: TIZ) (formula: C₉H₁₂N₂O₅S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	B	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	C	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	D	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	E	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	F	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	G	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	H	1	Total	C	N	O	S	0	0
			17	9	2	5	1		

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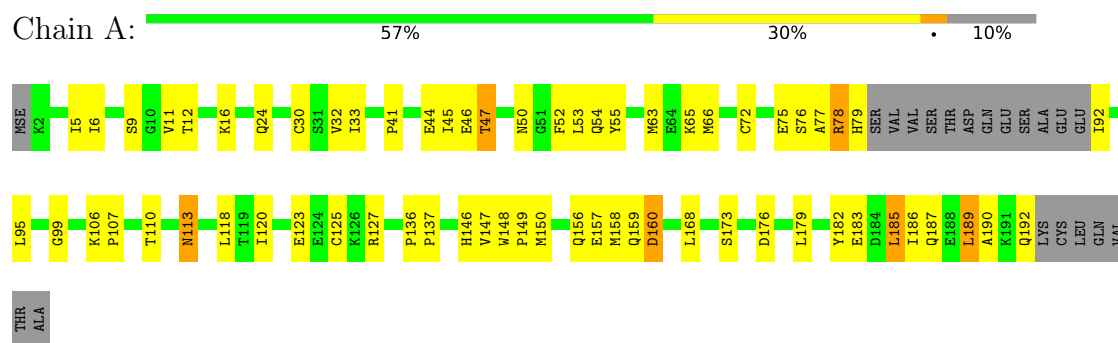
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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	I	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	J	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	K	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	L	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	M	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	N	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	O	1	Total	C	N	O	S	0	0
			17	9	2	5	1		
3	P	1	Total	C	N	O	S	0	0
			17	9	2	5	1		

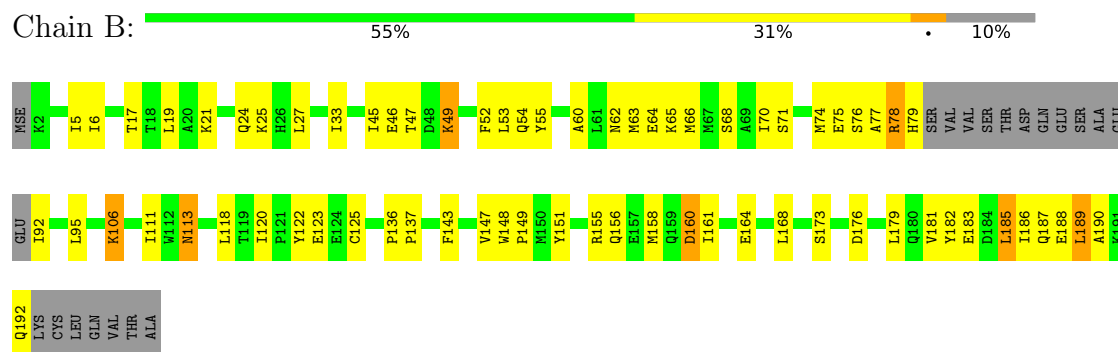
3 Residue-property plots

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: nicotinamide riboside kinase 1



- Molecule 1: nicotinamide riboside kinase 1

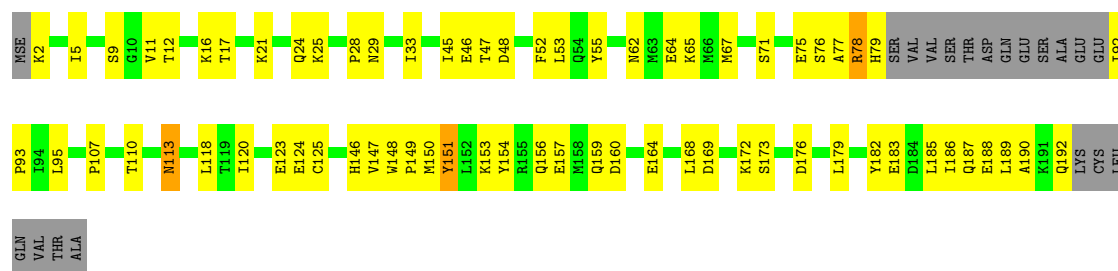


- Molecule 1: nicotinamide riboside kinase 1



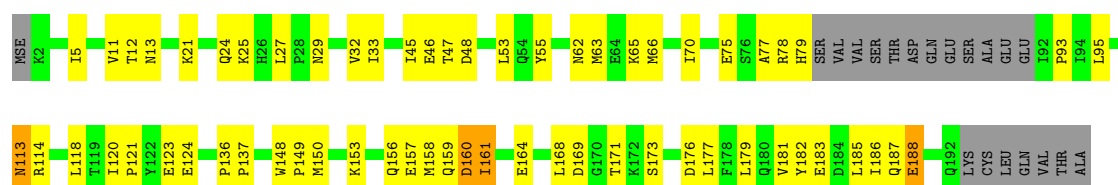
- Molecule 1: nicotinamide riboside kinase 1

Chain D:  55% 33% 10%



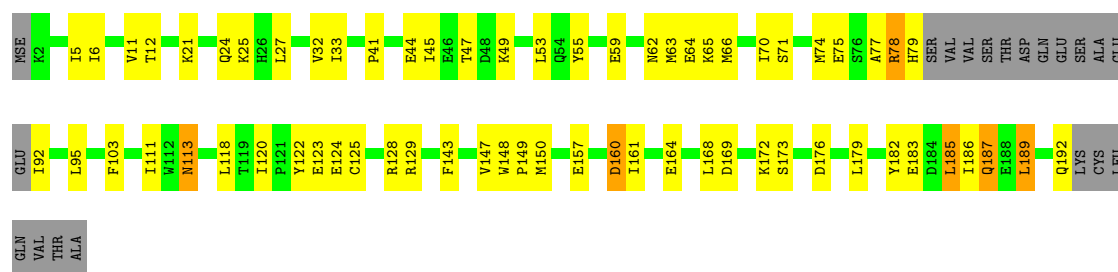
- Molecule 1: nicotinamide riboside kinase 1

Chain E:  59% 29% 10%



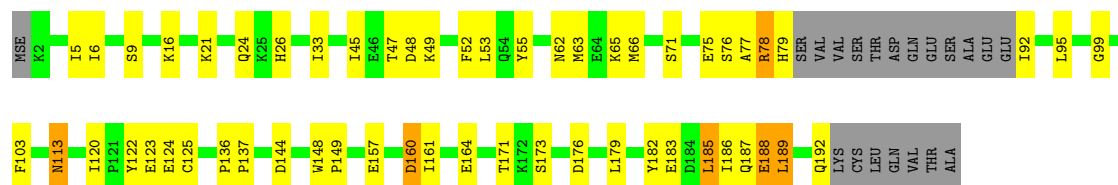
- Molecule 1: nicotinamide riboside kinase 1

Chain F:  57% 30% 10%



- Molecule 1: nicotinamide riboside kinase 1

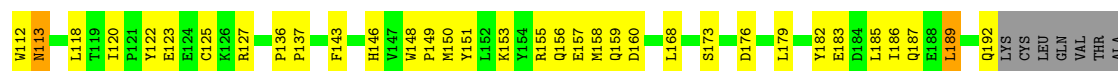
Chain G:  62% 25% 10%



- Molecule 1: nicotinamide riboside kinase 1

Chain H:  58% 30% 10%





- Molecule 1: nicotinamide riboside kinase 1



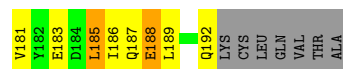
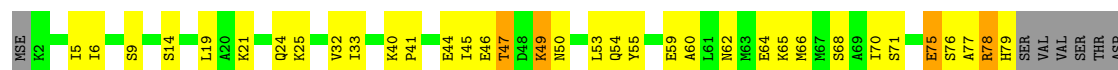
VAL
THR
ALA

- Molecule 1: nicotinamide riboside kinase 1



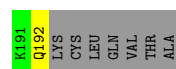
ALA

- Molecule 1: nicotinamide riboside kinase 1



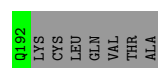
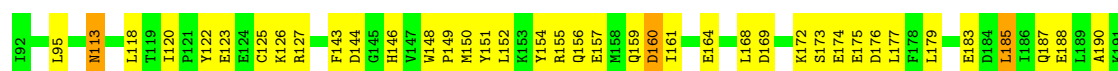
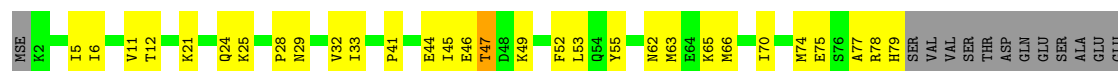
- Molecule 1: nicotinamide riboside kinase 1





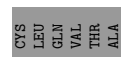
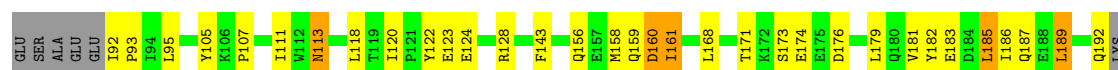
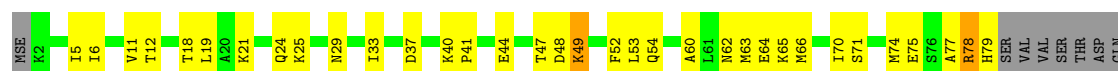
- Molecule 1: nicotinamide riboside kinase 1

Chain M: 55% 33% 10%



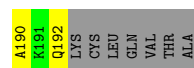
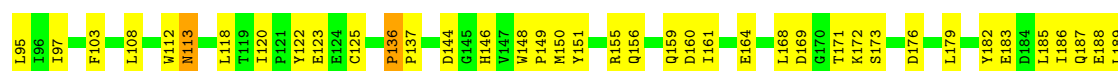
- Molecule 1: nicotinamide riboside kinase 1

Chain N: 56% 30% 10%



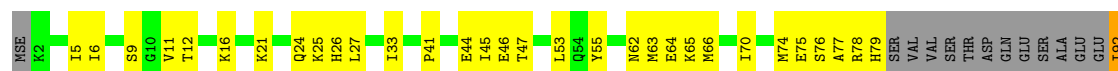
- Molecule 1: nicotinamide riboside kinase 1

Chain O: 54% 34% 10%



- Molecule 1: nicotinamide riboside kinase 1

Chain P: 54% 34% 10%



LEU
GLN
VAL
THR
ALA

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	145.71Å 99.96Å 145.59Å 90.00° 91.57° 90.00°	Depositor
Resolution (Å)	30.00 – 2.70 30.00 – 2.70	Depositor EDS
% Data completeness (in resolution range)	94.1 (30.00-2.70) 96.5 (30.00-2.70)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.66 (at 2.61Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.207 , 0.235 0.202 , 0.228	Depositor DCC
R_{free} test set	10338 reflections (8.87%)	wwPDB-VP
Wilson B-factor (Å ²)	28.7	Xtriage
Anisotropy	0.431	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.28 , 0.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.37$, $\langle L^2 \rangle = 0.19$	Xtriage
Estimated twinning fraction	0.196 for -l,k,h 0.199 for -h,-k,l 0.420 for l,-k,h	Xtriage
Reported twinning fraction	0.370 for l,-k,h	Depositor
Outliers	0 of 116523 reflections	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	24416	wwPDB-VP
Average B, all atoms (Å ²)	21.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 9.41% 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: TIZ, ADP

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	0.61	0/1513	1.00	6/2037 (0.3%)
1	B	0.66	0/1513	1.02	7/2037 (0.3%)
1	C	0.61	0/1513	1.01	6/2037 (0.3%)
1	D	0.62	0/1513	0.98	6/2037 (0.3%)
1	E	0.64	0/1513	0.99	5/2037 (0.2%)
1	F	0.60	0/1513	0.97	5/2037 (0.2%)
1	G	0.65	0/1513	0.99	5/2037 (0.2%)
1	H	0.62	0/1513	0.97	2/2037 (0.1%)
1	I	0.67	1/1513 (0.1%)	1.27	11/2037 (0.5%)
1	J	0.61	0/1513	0.98	4/2037 (0.2%)
1	K	0.66	0/1513	1.06	10/2037 (0.5%)
1	L	0.61	0/1513	1.01	7/2037 (0.3%)
1	M	0.63	0/1513	0.98	5/2037 (0.2%)
1	N	0.60	0/1513	1.01	5/2037 (0.2%)
1	O	0.60	0/1513	0.97	8/2037 (0.4%)
1	P	0.61	0/1513	1.00	7/2037 (0.3%)
All	All	0.62	1/24208 (0.0%)	1.02	99/32592 (0.3%)

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	I	0	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	I	135	GLN	C-O	-5.24	1.17	1.24

All (99) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	I	135	GLN	CA-C-N	-22.63	97.07	120.38
1	I	135	GLN	C-N-CA	-22.63	97.07	120.38
1	L	113	ASN	N-CA-C	-9.56	102.19	114.04
1	K	188	GLU	N-CA-C	-9.16	104.17	114.62
1	O	113	ASN	N-CA-C	-8.68	103.27	114.04
1	G	188	GLU	N-CA-C	-8.56	104.86	114.62
1	F	113	ASN	N-CA-C	-8.52	103.39	113.88
1	I	136	PRO	N-CA-C	8.44	120.99	110.70
1	M	113	ASN	N-CA-C	-8.43	103.59	114.04
1	A	113	ASN	N-CA-C	-8.34	103.70	114.04
1	B	113	ASN	N-CA-C	-7.95	103.53	113.55
1	P	113	ASN	N-CA-C	-7.88	104.19	113.88
1	G	113	ASN	N-CA-C	-7.83	104.25	113.88
1	B	188	GLU	N-CA-C	-7.79	104.93	114.75
1	D	113	ASN	N-CA-C	-7.76	104.34	113.88
1	I	135	GLN	CA-C-O	-7.63	109.70	120.16
1	J	113	ASN	N-CA-C	-7.62	104.51	113.88
1	D	188	GLU	N-CA-C	-7.51	103.97	113.43
1	C	113	ASN	N-CA-C	-7.49	104.67	113.88
1	E	113	ASN	N-CA-C	-7.48	104.68	113.88
1	I	113	ASN	N-CA-C	-7.36	104.83	113.88
1	M	188	GLU	N-CA-C	-7.20	105.11	114.04
1	H	113	ASN	N-CA-C	-6.97	105.30	113.88
1	N	113	ASN	N-CA-C	-6.95	104.93	113.41
1	E	188	GLU	N-CA-C	-6.92	105.46	114.04
1	D	190	ALA	N-CA-C	-6.85	103.89	111.36
1	D	147	VAL	N-CA-C	6.73	116.88	110.42
1	E	164	GLU	N-CA-C	6.69	119.64	108.73
1	K	113	ASN	N-CA-C	-6.69	105.25	113.41
1	O	188	GLU	N-CA-C	-6.67	104.31	113.18
1	P	190	ALA	N-CA-C	-6.63	103.98	111.14
1	C	136	PRO	CA-C-N	6.52	126.43	119.85
1	C	136	PRO	C-N-CA	6.52	126.43	119.85
1	J	136	PRO	CA-C-N	6.43	126.38	119.76
1	J	136	PRO	C-N-CA	6.43	126.38	119.76
1	B	189	LEU	N-CA-C	-6.42	105.27	113.23
1	P	188	GLU	N-CA-C	-6.34	106.18	114.04
1	I	190	ALA	N-CA-C	-6.29	104.42	111.28
1	N	189	LEU	N-CA-C	-6.26	105.47	113.23
1	D	164	GLU	N-CA-C	6.21	118.85	108.73
1	B	164	GLU	N-CA-C	6.17	118.78	108.73
1	B	190	ALA	N-CA-C	-6.14	104.67	111.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	P	147	VAL	N-CA-C	5.97	116.09	110.30
1	G	164	GLU	N-CA-C	5.94	118.40	108.96
1	O	136	PRO	CA-C-N	5.88	125.84	119.78
1	O	136	PRO	C-N-CA	5.88	125.84	119.78
1	L	164	GLU	N-CA-C	5.88	118.31	108.96
1	D	151	TYR	N-CA-C	-5.85	104.59	110.97
1	I	188	GLU	N-CA-C	-5.83	106.08	113.43
1	C	109	ASP	N-CA-C	5.81	118.36	111.33
1	I	164	GLU	N-CA-C	5.74	118.08	108.96
1	M	164	GLU	N-CA-C	5.72	118.06	108.96
1	K	147	VAL	N-CA-C	5.71	115.84	110.30
1	L	189	LEU	N-CA-C	-5.69	106.34	113.28
1	L	64	GLU	N-CA-C	-5.69	105.84	112.89
1	J	16	LYS	N-CA-C	5.65	117.12	111.07
1	H	189	LEU	N-CA-C	-5.64	105.89	112.89
1	L	190	ALA	N-CA-C	-5.64	105.21	111.36
1	K	92	ILE	CA-C-N	5.62	125.90	119.83
1	K	92	ILE	C-N-CA	5.62	125.90	119.83
1	I	37	ASP	N-CA-C	-5.60	106.42	113.20
1	F	164	GLU	N-CA-C	5.50	117.70	108.73
1	P	189	LEU	N-CA-C	-5.50	106.57	113.28
1	M	32	VAL	N-CA-C	5.44	115.95	108.12
1	L	171	THR	N-CA-C	-5.41	106.52	113.23
1	C	164	GLU	N-CA-C	5.35	117.44	108.73
1	A	189	LEU	N-CA-C	-5.32	106.29	112.89
1	B	147	VAL	N-CA-C	5.31	115.52	110.42
1	G	189	LEU	N-CA-C	-5.29	106.67	113.23
1	C	16	LYS	N-CA-C	5.28	116.72	111.07
1	N	171	THR	N-CA-C	-5.27	106.69	113.23
1	A	147	VAL	N-CA-C	5.24	115.39	110.30
1	O	164	GLU	N-CA-C	5.24	117.27	108.73
1	A	30	CYS	N-CA-C	5.17	117.39	109.07
1	K	164	GLU	N-CA-C	5.16	117.13	108.73
1	M	190	ALA	N-CA-C	-5.15	105.56	111.07
1	F	189	LEU	N-CA-C	-5.14	105.75	112.23
1	G	171	THR	N-CA-C	-5.14	107.01	113.28
1	P	92	ILE	CA-C-N	5.14	125.38	119.83
1	P	92	ILE	C-N-CA	5.14	125.38	119.83
1	A	65	LYS	N-CA-C	-5.13	105.76	111.36
1	I	189	LEU	N-CA-C	-5.13	106.53	112.89
1	F	187	GLN	N-CA-C	-5.12	107.20	112.93
1	K	14	SER	N-CA-C	-5.12	107.04	113.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	O	171	THR	N-CA-C	-5.11	106.90	113.23
1	E	32	VAL	N-CA-C	5.09	115.61	108.17
1	F	32	VAL	N-CA-C	5.08	115.58	108.17
1	O	64	GLU	N-CA-C	-5.08	106.59	112.89
1	A	32	VAL	N-CA-C	5.07	115.42	108.12
1	I	136	PRO	CA-N-CD	-5.07	104.90	112.00
1	E	171	THR	N-CA-C	-5.06	106.95	113.23
1	N	120	ILE	N-CA-C	-5.06	105.04	109.19
1	K	136	PRO	CA-C-N	5.05	124.81	119.76
1	K	136	PRO	C-N-CA	5.05	124.81	119.76
1	N	37	ASP	N-CA-C	-5.05	107.09	113.20
1	L	67	MSE	N-CA-C	-5.04	105.86	111.36
1	O	190	ALA	N-CA-C	-5.04	105.79	111.28
1	K	109	ASP	N-CA-C	5.04	117.42	111.33
1	B	106	LYS	N-CA-C	5.04	119.80	113.25

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	I	135	GLN	Mainchain

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	1482	0	1449	64	0
1	B	1482	0	1449	59	0
1	C	1482	0	1449	58	0
1	D	1482	0	1449	61	0
1	E	1482	0	1449	49	0
1	F	1482	0	1449	55	0
1	G	1482	0	1449	44	0
1	H	1482	0	1449	51	0
1	I	1482	0	1449	75	0
1	J	1482	0	1449	60	0
1	K	1482	0	1449	65	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	L	1482	0	1449	53	0
1	M	1482	0	1449	51	0
1	N	1482	0	1449	58	0
1	O	1482	0	1449	50	0
1	P	1482	0	1449	58	0
2	A	27	0	12	1	0
2	B	27	0	12	0	0
2	C	27	0	12	1	0
2	D	27	0	12	1	0
2	E	27	0	12	1	0
2	F	27	0	12	1	0
2	G	27	0	12	0	0
2	H	27	0	12	1	0
2	I	27	0	12	1	0
2	J	27	0	12	0	0
2	K	27	0	12	0	0
2	L	27	0	12	0	0
2	M	27	0	12	0	0
2	N	27	0	12	0	0
2	O	27	0	12	0	0
2	P	27	0	12	0	0
3	A	17	0	12	0	0
3	B	17	0	12	0	0
3	C	17	0	12	0	0
3	D	17	0	12	0	0
3	E	17	0	12	0	0
3	F	17	0	12	1	0
3	G	17	0	12	0	0
3	H	17	0	12	0	0
3	I	17	0	12	1	0
3	J	17	0	12	0	0
3	K	17	0	12	0	0
3	L	17	0	12	0	0
3	M	17	0	12	0	0
3	N	17	0	12	0	0
3	O	17	0	12	0	0
3	P	17	0	12	0	0
All	All	24416	0	23568	853	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 18.

All (853) 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:D:110:THR:HG21	1:F:111:ILE:HD11	1.21	1.10
1:I:78:ARG:CZ	1:J:160:ASP:HB3	1.81	1.09
1:A:110:THR:HG21	1:B:111:ILE:HD11	1.28	1.08
1:P:47:THR:HG22	1:P:53:LEU:HD23	1.36	1.07
1:G:5:ILE:H	1:G:113:ASN:HD22	1.03	1.00
1:E:5:ILE:H	1:E:113:ASN:HD22	1.04	0.98
1:A:5:ILE:H	1:A:113:ASN:HD22	1.06	0.98
1:D:78:ARG:CZ	1:F:160:ASP:HB3	1.93	0.98
1:K:5:ILE:H	1:K:113:ASN:ND2	1.61	0.98
1:A:50:ASN:HD22	1:C:49:LYS:HE2	1.30	0.97
1:K:5:ILE:N	1:K:113:ASN:HD22	1.62	0.96
1:J:173:SER:HB3	1:J:176:ASP:HB2	1.49	0.95
1:O:5:ILE:H	1:O:113:ASN:HD22	0.97	0.94
1:C:5:ILE:N	1:C:113:ASN:HD22	1.64	0.93
1:P:5:ILE:H	1:P:113:ASN:ND2	1.66	0.93
1:I:135:GLN:O	1:I:136:PRO:C	2.06	0.92
1:B:5:ILE:H	1:B:113:ASN:HD22	1.08	0.92
1:L:5:ILE:H	1:L:113:ASN:ND2	1.68	0.92
1:L:5:ILE:H	1:L:113:ASN:HD22	0.93	0.92
1:C:5:ILE:H	1:C:113:ASN:ND2	1.66	0.92
1:N:5:ILE:H	1:N:113:ASN:HD22	0.93	0.92
1:I:64:GLU:OE2	1:J:40:LYS:NZ	2.04	0.91
1:I:5:ILE:H	1:I:113:ASN:HD22	0.93	0.91
1:N:47:THR:HG22	1:N:53:LEU:HD23	1.52	0.91
1:D:5:ILE:H	1:D:113:ASN:HD22	0.94	0.91
1:A:47:THR:HG22	1:A:53:LEU:HD23	1.51	0.90
1:L:110:THR:HG21	1:N:111:ILE:HD11	1.52	0.90
1:H:5:ILE:H	1:H:113:ASN:HD22	0.97	0.90
1:M:5:ILE:H	1:M:113:ASN:ND2	1.69	0.90
1:F:5:ILE:H	1:F:113:ASN:HD22	0.92	0.89
1:M:5:ILE:H	1:M:113:ASN:HD22	0.96	0.88
1:P:5:ILE:N	1:P:113:ASN:HD22	1.70	0.88
1:J:5:ILE:H	1:J:113:ASN:ND2	1.69	0.87
1:L:173:SER:HB3	1:L:176:ASP:HB2	1.57	0.87
1:D:5:ILE:H	1:D:113:ASN:ND2	1.73	0.87
1:K:111:ILE:HD11	1:P:110:THR:HG21	1.57	0.87
1:L:78:ARG:CZ	1:N:160:ASP:HB3	2.05	0.86
1:A:173:SER:HB3	1:A:176:ASP:HB2	1.58	0.86
1:L:64:GLU:OE2	1:N:40:LYS:NZ	2.09	0.86
1:J:5:ILE:H	1:J:113:ASN:HD22	0.87	0.85
1:F:5:ILE:N	1:F:113:ASN:HD22	1.73	0.85
1:G:47:THR:HG22	1:G:53:LEU:HD23	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:5:ILE:H	1:F:113:ASN:ND2	1.75	0.85
1:G:173:SER:HB3	1:G:176:ASP:HB2	1.59	0.85
1:J:5:ILE:N	1:J:113:ASN:HD22	1.73	0.84
1:N:5:ILE:H	1:N:113:ASN:ND2	1.75	0.84
1:H:5:ILE:H	1:H:113:ASN:ND2	1.75	0.84
1:N:173:SER:HB3	1:N:176:ASP:HB2	1.59	0.83
1:N:5:ILE:N	1:N:113:ASN:HD22	1.76	0.83
1:P:5:ILE:H	1:P:113:ASN:HD22	0.85	0.83
1:I:110:THR:HG21	1:J:111:ILE:HD11	1.59	0.83
1:E:5:ILE:H	1:E:113:ASN:ND2	1.77	0.82
1:L:5:ILE:N	1:L:113:ASN:HD22	1.76	0.81
1:F:47:THR:HG22	1:F:53:LEU:HD23	1.61	0.81
1:O:183:GLU:HB3	1:O:187:GLN:NE2	1.96	0.80
1:O:5:ILE:H	1:O:113:ASN:ND2	1.77	0.80
1:J:47:THR:HG22	1:J:53:LEU:HD23	1.62	0.80
1:A:52:PHE:HD1	1:C:49:LYS:HE3	1.46	0.80
1:N:33:ILE:HG13	1:N:95:LEU:HD11	1.62	0.80
1:E:173:SER:HB3	1:E:176:ASP:HB2	1.63	0.79
1:I:5:ILE:N	1:I:113:ASN:HD22	1.76	0.79
1:M:156:GLN:HG3	1:M:159:GLN:NE2	1.98	0.79
1:B:5:ILE:H	1:B:113:ASN:ND2	1.81	0.79
1:K:179:LEU:O	1:K:183:GLU:HG3	1.82	0.78
1:O:5:ILE:N	1:O:113:ASN:HD22	1.79	0.78
1:I:5:ILE:H	1:I:113:ASN:ND2	1.77	0.77
1:I:47:THR:HG22	1:I:53:LEU:HD23	1.64	0.77
1:F:173:SER:HB3	1:F:176:ASP:HB2	1.66	0.77
1:M:173:SER:HB3	1:M:176:ASP:HB2	1.66	0.77
1:K:33:ILE:HG13	1:K:95:LEU:HD11	1.66	0.77
1:D:5:ILE:N	1:D:113:ASN:HD22	1.79	0.76
1:M:5:ILE:N	1:M:113:ASN:HD22	1.79	0.76
1:D:173:SER:HB3	1:D:176:ASP:HB2	1.67	0.76
1:N:156:GLN:HG3	1:N:159:GLN:NE2	2.01	0.76
1:B:173:SER:HB3	1:B:176:ASP:HB2	1.68	0.75
1:I:183:GLU:HB3	1:I:187:GLN:NE2	2.01	0.75
1:H:33:ILE:HG13	1:H:95:LEU:HD11	1.68	0.75
1:C:47:THR:HG22	1:C:53:LEU:HD23	1.69	0.74
1:I:135:GLN:O	1:I:136:PRO:O	2.04	0.74
1:L:33:ILE:HG13	1:L:95:LEU:HD11	1.70	0.74
1:A:156:GLN:HG3	1:A:159:GLN:NE2	2.03	0.73
1:H:173:SER:HB3	1:H:176:ASP:HB2	1.68	0.73
1:H:5:ILE:N	1:H:113:ASN:HD22	1.81	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:173:SER:HB3	1:P:176:ASP:HB2	1.71	0.73
1:J:33:ILE:HG13	1:J:95:LEU:HD11	1.69	0.73
1:K:47:THR:HG22	1:K:53:LEU:HD23	1.70	0.73
1:C:5:ILE:H	1:C:113:ASN:HD22	0.82	0.72
1:A:50:ASN:ND2	1:C:49:LYS:HE2	2.04	0.72
1:C:183:GLU:HB3	1:C:187:GLN:NE2	2.04	0.72
1:B:47:THR:HG22	1:B:53:LEU:HD23	1.72	0.72
1:C:123:GLU:CD	1:C:123:GLU:H	1.95	0.72
1:G:33:ILE:HG13	1:G:95:LEU:HD11	1.69	0.72
1:M:118:LEU:HD23	1:M:168:LEU:HB2	1.70	0.72
1:D:78:ARG:NH2	1:F:160:ASP:HB3	2.05	0.72
1:D:156:GLN:HG3	1:D:159:GLN:NE2	2.06	0.71
1:B:179:LEU:O	1:B:183:GLU:HG3	1.91	0.71
1:P:47:THR:HG22	1:P:53:LEU:CD2	2.18	0.71
1:A:110:THR:HG21	1:B:111:ILE:CD1	2.16	0.70
1:I:149:PRO:HB3	1:K:50:ASN:CG	2.16	0.70
1:D:118:LEU:HD23	1:D:168:LEU:HB2	1.74	0.69
1:C:173:SER:HB3	1:C:176:ASP:HB2	1.74	0.69
1:D:33:ILE:HG13	1:D:95:LEU:HD11	1.75	0.69
1:H:21:LYS:O	1:H:25:LYS:HG3	1.90	0.69
1:D:110:THR:CG2	1:F:111:ILE:HD11	2.12	0.69
1:K:77:ALA:C	1:K:79:HIS:H	2.01	0.69
1:A:118:LEU:HD23	1:A:168:LEU:HB2	1.75	0.69
1:N:123:GLU:H	1:N:123:GLU:CD	2.01	0.69
1:G:5:ILE:H	1:G:113:ASN:ND2	1.85	0.68
1:E:5:ILE:O	1:E:113:ASN:HB2	1.92	0.68
1:I:77:ALA:C	1:I:79:HIS:H	2.00	0.68
1:L:183:GLU:HB3	1:L:187:GLN:NE2	2.08	0.68
1:H:156:GLN:HG3	1:H:159:GLN:NE2	2.08	0.68
1:I:33:ILE:HG13	1:I:95:LEU:HD11	1.76	0.68
1:O:173:SER:HB3	1:O:176:ASP:HB2	1.75	0.68
1:N:62:ASN:HB3	1:N:65:LYS:HG3	1.75	0.67
1:O:156:GLN:HG3	1:O:159:GLN:NE2	2.09	0.67
1:E:33:ILE:HG13	1:E:95:LEU:HD11	1.77	0.67
1:B:33:ILE:HG13	1:B:95:LEU:HD11	1.77	0.67
1:B:77:ALA:C	1:B:79:HIS:H	2.02	0.67
1:P:156:GLN:HG3	1:P:159:GLN:NE2	2.10	0.67
1:L:77:ALA:C	1:L:79:HIS:H	2.01	0.67
1:D:77:ALA:C	1:D:79:HIS:H	2.02	0.67
1:E:123:GLU:H	1:E:123:GLU:CD	2.03	0.67
1:H:189:LEU:HA	1:H:192:GLN:HG2	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:173:SER:HB3	1:K:176:ASP:HB2	1.76	0.67
1:G:77:ALA:C	1:G:79:HIS:H	2.03	0.67
1:A:179:LEU:O	1:A:183:GLU:HG3	1.95	0.66
1:E:47:THR:HG22	1:E:53:LEU:HD23	1.77	0.66
1:A:77:ALA:C	1:A:79:HIS:H	2.02	0.66
1:H:183:GLU:HB3	1:H:187:GLN:NE2	2.10	0.66
1:P:33:ILE:HG13	1:P:95:LEU:HD11	1.76	0.66
1:A:50:ASN:ND2	1:C:49:LYS:HG2	2.11	0.66
1:A:52:PHE:CD1	1:C:49:LYS:HE3	2.29	0.66
1:I:173:SER:HB3	1:I:176:ASP:HB2	1.76	0.66
1:J:77:ALA:C	1:J:79:HIS:H	2.04	0.65
1:K:59:GLU:HG3	1:P:64:GLU:OE1	1.96	0.65
1:A:156:GLN:HG3	1:A:159:GLN:HE22	1.62	0.65
1:K:183:GLU:HB3	1:K:187:GLN:NE2	2.11	0.65
1:E:77:ALA:C	1:E:79:HIS:H	2.05	0.64
1:N:47:THR:HG22	1:N:53:LEU:CD2	2.27	0.64
1:F:179:LEU:O	1:F:183:GLU:HG3	1.97	0.64
1:A:33:ILE:HG13	1:A:95:LEU:HD11	1.78	0.64
1:B:183:GLU:HB3	1:B:187:GLN:NE2	2.12	0.64
1:G:183:GLU:HB3	1:G:187:GLN:NE2	2.12	0.64
1:A:5:ILE:H	1:A:113:ASN:ND2	1.88	0.64
1:D:47:THR:HG22	1:D:53:LEU:HD23	1.79	0.64
1:J:5:ILE:O	1:J:113:ASN:HB2	1.98	0.64
1:O:62:ASN:HB3	1:O:65:LYS:HG3	1.79	0.64
1:F:77:ALA:C	1:F:79:HIS:H	2.06	0.64
1:I:118:LEU:HD23	1:I:168:LEU:HB2	1.79	0.63
1:J:62:ASN:HB3	1:J:65:LYS:HG3	1.80	0.63
1:L:47:THR:HG22	1:L:53:LEU:HD23	1.79	0.63
1:L:107:PRO:HG3	1:N:64:GLU:HA	1.79	0.63
1:O:77:ALA:C	1:O:79:HIS:H	2.07	0.63
1:K:78:ARG:O	1:K:79:HIS:ND1	2.31	0.63
1:M:47:THR:HG22	1:M:53:LEU:HD23	1.81	0.62
1:I:50:ASN:HD22	1:K:49:LYS:HE2	1.65	0.62
1:I:189:LEU:HA	1:I:192:GLN:HG2	1.81	0.62
1:C:33:ILE:HG13	1:C:95:LEU:HD11	1.80	0.62
1:L:156:GLN:HG3	1:L:159:GLN:NE2	2.15	0.62
1:F:183:GLU:HB3	1:F:187:GLN:NE2	2.13	0.62
1:H:123:GLU:CD	1:H:123:GLU:H	2.07	0.62
1:C:179:LEU:O	1:C:183:GLU:HG3	2.00	0.61
1:D:5:ILE:O	1:D:113:ASN:HB2	2.00	0.61
1:L:62:ASN:HB3	1:L:65:LYS:HG3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:179:LEU:O	1:D:183:GLU:HG3	2.00	0.61
1:L:182:TYR:O	1:L:186:ILE:HG13	2.00	0.61
1:H:77:ALA:C	1:H:79:HIS:H	2.07	0.61
1:J:123:GLU:CD	1:J:123:GLU:H	2.08	0.61
1:F:189:LEU:HA	1:F:192:GLN:HG2	1.83	0.61
1:J:6:ILE:HD13	1:J:185:LEU:HD21	1.81	0.61
1:H:29:ASN:HD21	1:H:93:PRO:HG3	1.64	0.61
1:K:62:ASN:HB3	1:K:65:LYS:HG3	1.81	0.61
1:K:40:LYS:NZ	1:P:64:GLU:OE2	2.34	0.61
1:M:179:LEU:O	1:M:183:GLU:HG3	2.01	0.61
1:C:21:LYS:O	1:C:25:LYS:HG3	2.01	0.61
1:I:135:GLN:HB3	1:I:136:PRO:HD2	1.83	0.61
1:N:77:ALA:C	1:N:79:HIS:H	2.07	0.61
1:P:77:ALA:C	1:P:79:HIS:H	2.09	0.61
1:J:78:ARG:O	1:J:79:HIS:ND1	2.34	0.60
1:M:146:HIS:O	1:M:150:MSE:HG2	2.02	0.60
1:O:183:GLU:HB3	1:O:187:GLN:HE21	1.64	0.60
1:F:33:ILE:HG13	1:F:95:LEU:HD11	1.82	0.60
1:J:173:SER:HB3	1:J:176:ASP:CB	2.28	0.60
1:M:183:GLU:HB3	1:M:187:GLN:NE2	2.15	0.60
1:I:78:ARG:NH1	1:J:160:ASP:HB3	2.16	0.60
1:M:33:ILE:HG13	1:M:95:LEU:HD11	1.83	0.60
1:O:63:MSE:HE1	1:O:66:MSE:HE1	1.84	0.60
1:I:135:GLN:NE2	1:I:135:GLN:HA	2.16	0.60
1:A:47:THR:HA	1:A:52:PHE:O	2.02	0.60
1:A:63:MSE:HE1	1:A:66:MSE:HE1	1.83	0.60
1:O:47:THR:HG22	1:O:53:LEU:HD23	1.82	0.60
1:E:179:LEU:O	1:E:183:GLU:HG3	2.01	0.59
1:H:5:ILE:O	1:H:113:ASN:HB2	2.02	0.59
1:E:173:SER:HB3	1:E:176:ASP:CB	2.32	0.59
1:H:47:THR:HG22	1:H:53:LEU:HD23	1.85	0.59
1:L:29:ASN:HD21	1:L:93:PRO:HG3	1.67	0.59
1:M:63:MSE:HE1	1:M:66:MSE:HE1	1.85	0.59
1:F:71:SER:O	1:F:75:GLU:HG3	2.02	0.59
1:O:33:ILE:HG13	1:O:95:LEU:HD11	1.83	0.59
1:O:122:TYR:OH	1:O:144:ASP:OD1	2.17	0.59
1:A:148:TRP:HB3	1:A:149:PRO:HD3	1.84	0.59
1:C:77:ALA:C	1:C:79:HIS:H	2.10	0.59
1:K:64:GLU:HA	1:P:107:PRO:HG3	1.84	0.59
1:I:11:VAL:HG22	1:I:12:THR:N	2.18	0.58
1:L:118:LEU:HD23	1:L:168:LEU:HB2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:173:SER:HB3	1:L:176:ASP:CB	2.31	0.58
1:L:148:TRP:HB3	1:L:149:PRO:HD3	1.84	0.58
1:A:47:THR:HG22	1:A:53:LEU:CD2	2.27	0.58
1:D:123:GLU:CD	1:D:123:GLU:H	2.11	0.58
1:G:123:GLU:H	1:G:123:GLU:CD	2.11	0.58
1:H:63:MSE:HE1	1:H:66:MSE:HE1	1.85	0.58
1:M:123:GLU:CD	1:M:123:GLU:H	2.10	0.58
1:O:78:ARG:O	1:O:79:HIS:ND1	2.37	0.57
1:P:41:PRO:HG2	1:P:44:GLU:HG3	1.84	0.57
1:B:5:ILE:N	1:B:113:ASN:HD22	1.90	0.57
1:D:148:TRP:HB3	1:D:149:PRO:HD3	1.86	0.57
1:G:179:LEU:HD13	1:O:26:HIS:CD2	2.39	0.57
1:I:35:GLN:HE21	1:I:63:MSE:SE	2.38	0.57
1:O:118:LEU:HD23	1:O:168:LEU:HB2	1.87	0.57
1:A:5:ILE:N	1:A:113:ASN:HD22	1.89	0.57
1:C:62:ASN:HB3	1:C:65:LYS:HG3	1.87	0.57
1:I:77:ALA:O	1:I:79:HIS:N	2.38	0.57
1:K:68:SER:HB2	1:P:106:LYS:HG3	1.85	0.57
1:C:41:PRO:HG2	1:C:44:GLU:HG3	1.86	0.57
1:M:62:ASN:HB3	1:M:65:LYS:HG3	1.87	0.57
1:E:118:LEU:HD23	1:E:168:LEU:HB2	1.85	0.57
1:A:92:ILE:HG23	1:A:92:ILE:O	2.05	0.56
1:A:173:SER:HB3	1:A:176:ASP:CB	2.33	0.56
1:C:5:ILE:O	1:C:113:ASN:HB2	2.05	0.56
1:K:41:PRO:HD2	1:K:44:GLU:OE2	2.05	0.56
1:N:183:GLU:HB3	1:N:187:GLN:NE2	2.20	0.56
1:B:62:ASN:HB3	1:B:65:LYS:HG3	1.88	0.56
1:E:62:ASN:HB3	1:E:65:LYS:HG3	1.88	0.56
1:I:78:ARG:CZ	1:J:160:ASP:CB	2.72	0.56
1:N:48:ASP:OD2	1:N:52:PHE:HB2	2.06	0.56
1:N:118:LEU:HD23	1:N:168:LEU:HB2	1.88	0.56
1:K:156:GLN:HG3	1:K:159:GLN:NE2	2.20	0.56
1:N:6:ILE:HD13	1:N:185:LEU:HD21	1.86	0.56
2:A:301:ADP:H3'	1:E:21:LYS:HD2	1.88	0.56
1:K:59:GLU:HA	1:P:64:GLU:OE1	2.05	0.56
1:E:183:GLU:HB3	1:E:187:GLN:NE2	2.20	0.56
1:L:179:LEU:O	1:L:183:GLU:HG3	2.05	0.56
1:B:70:ILE:O	1:B:74:MSE:HG3	2.06	0.56
1:D:78:ARG:NH2	1:F:160:ASP:HA	2.21	0.56
1:D:75:GLU:O	1:D:78:ARG:NH1	2.39	0.56
1:J:182:TYR:O	1:J:186:ILE:HG13	2.07	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:123:GLU:CD	1:P:123:GLU:H	2.14	0.56
1:C:24:GLN:HA	1:C:30:CYS:SG	2.47	0.55
1:C:118:LEU:HD23	1:C:168:LEU:HB2	1.88	0.55
1:F:157:GLU:O	1:F:160:ASP:OD2	2.23	0.55
1:M:41:PRO:HG2	1:M:44:GLU:HG3	1.89	0.55
1:H:146:HIS:O	1:H:150:MSE:HG2	2.07	0.55
1:M:77:ALA:C	1:M:79:HIS:H	2.14	0.55
1:N:33:ILE:CG1	1:N:95:LEU:HD11	2.36	0.55
1:B:75:GLU:OE2	1:B:76:SER:HB3	2.05	0.55
1:N:33:ILE:HD12	1:N:95:LEU:HD21	1.88	0.55
1:M:6:ILE:HD13	1:M:185:LEU:HD21	1.89	0.55
1:P:182:TYR:O	1:P:186:ILE:HG13	2.07	0.55
1:G:182:TYR:O	1:G:186:ILE:HG13	2.07	0.55
1:H:75:GLU:OE2	1:H:76:SER:HB3	2.06	0.55
1:A:107:PRO:HG3	1:B:64:GLU:HA	1.89	0.55
1:M:156:GLN:HG3	1:M:159:GLN:HE22	1.72	0.55
1:H:182:TYR:O	1:H:186:ILE:HG13	2.07	0.55
1:I:120:ILE:HG23	1:I:125:CYS:HB2	1.89	0.55
1:J:156:GLN:C	1:J:158:MSE:H	2.14	0.55
1:D:110:THR:HG21	1:F:111:ILE:CD1	2.15	0.55
1:A:50:ASN:HD21	1:C:49:LYS:HG2	1.71	0.54
1:K:33:ILE:CG1	1:K:95:LEU:HD11	2.35	0.54
1:E:160:ASP:O	1:E:161:ILE:C	2.51	0.54
1:G:148:TRP:HB3	1:G:149:PRO:HD3	1.89	0.54
1:L:35:GLN:HE21	1:L:63:MSE:SE	2.41	0.54
1:D:78:ARG:NH1	1:F:160:ASP:HB3	2.20	0.54
1:F:182:TYR:O	1:F:186:ILE:HG13	2.07	0.54
1:M:148:TRP:HB3	1:M:149:PRO:HD3	1.89	0.54
1:A:78:ARG:CZ	1:B:160:ASP:HB3	2.38	0.54
1:B:63:MSE:HE1	1:B:66:MSE:HE1	1.89	0.54
1:A:110:THR:CG2	1:B:111:ILE:HD11	2.20	0.54
1:I:64:GLU:OE1	1:J:59:GLU:HA	2.08	0.54
1:D:62:ASN:HB3	1:D:65:LYS:HG3	1.89	0.54
1:H:183:GLU:HB3	1:H:187:GLN:HE21	1.73	0.54
1:P:124:GLU:OE1	1:P:124:GLU:HA	2.08	0.54
1:P:183:GLU:HB3	1:P:187:GLN:NE2	2.23	0.54
1:C:189:LEU:HA	1:C:192:GLN:HG2	1.90	0.53
1:L:78:ARG:NH2	1:L:79:HIS:HE1	2.06	0.53
1:I:77:ALA:C	1:I:79:HIS:N	2.66	0.53
1:M:5:ILE:O	1:M:113:ASN:HB2	2.08	0.53
1:G:179:LEU:O	1:G:183:GLU:HG3	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:182:TYR:O	1:B:186:ILE:HG13	2.08	0.53
1:E:11:VAL:HG22	1:E:12:THR:N	2.23	0.53
1:I:183:GLU:HB3	1:I:187:GLN:HE21	1.73	0.53
1:N:156:GLN:C	1:N:158:MSE:H	2.16	0.53
1:E:5:ILE:N	1:E:113:ASN:HD22	1.88	0.53
1:J:70:ILE:O	1:J:74:MSE:HG3	2.08	0.53
1:L:77:ALA:C	1:L:79:HIS:N	2.66	0.53
1:P:122:TYR:OH	1:P:144:ASP:OD1	2.23	0.53
1:K:5:ILE:H	1:K:113:ASN:HD22	0.78	0.53
1:N:179:LEU:O	1:N:183:GLU:HG3	2.08	0.53
1:K:118:LEU:HD23	1:K:168:LEU:HB2	1.91	0.53
1:L:78:ARG:NH2	1:L:79:HIS:CE1	2.77	0.53
1:G:120:ILE:HG23	1:G:125:CYS:HB2	1.91	0.52
1:O:189:LEU:HA	1:O:192:GLN:HG2	1.90	0.52
1:B:173:SER:HB3	1:B:176:ASP:CB	2.38	0.52
1:J:183:GLU:HB3	1:J:187:GLN:NE2	2.24	0.52
1:F:62:ASN:HB3	1:F:65:LYS:HG3	1.92	0.52
1:F:189:LEU:HA	1:F:192:GLN:CG	2.38	0.52
1:H:156:GLN:C	1:H:158:MSE:H	2.17	0.52
1:I:78:ARG:NE	1:J:160:ASP:HB3	2.24	0.52
1:O:123:GLU:CD	1:O:123:GLU:H	2.17	0.52
1:A:77:ALA:C	1:A:79:HIS:N	2.67	0.52
1:P:70:ILE:O	1:P:74:MSE:HG3	2.08	0.52
1:L:29:ASN:ND2	1:L:93:PRO:HA	2.24	0.52
1:I:179:LEU:O	1:I:183:GLU:HG3	2.10	0.52
1:K:66:MSE:O	1:K:70:ILE:HG13	2.09	0.52
1:K:169:ASP:HB3	1:K:172:LYS:HG3	1.91	0.52
1:P:173:SER:HB3	1:P:176:ASP:CB	2.40	0.52
1:C:11:VAL:HG22	1:C:12:THR:N	2.24	0.52
1:K:64:GLU:HA	1:P:107:PRO:CG	2.40	0.52
1:C:182:TYR:O	1:C:186:ILE:HG13	2.10	0.52
1:H:63:MSE:HE1	1:H:66:MSE:CE	2.40	0.52
1:H:66:MSE:O	1:H:70:ILE:HG13	2.09	0.51
1:J:47:THR:HG22	1:J:53:LEU:CD2	2.37	0.51
1:N:182:TYR:O	1:N:186:ILE:HG13	2.10	0.51
1:P:62:ASN:HB3	1:P:65:LYS:HG3	1.92	0.51
1:G:173:SER:HB3	1:G:176:ASP:CB	2.37	0.51
1:A:75:GLU:OE2	1:A:76:SER:N	2.44	0.51
1:F:123:GLU:CD	1:F:123:GLU:H	2.18	0.51
1:G:6:ILE:HD13	1:G:185:LEU:HD21	1.92	0.51
1:J:33:ILE:CG1	1:J:95:LEU:HD11	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:120:ILE:HG23	1:J:125:CYS:HB2	1.93	0.51
1:A:41:PRO:HG2	1:A:44:GLU:HG3	1.92	0.51
1:B:158:MSE:HE3	1:B:161:ILE:CD1	2.40	0.51
1:L:5:ILE:O	1:L:113:ASN:HB2	2.10	0.51
1:N:63:MSE:SE	1:N:66:MSE:HE2	2.61	0.51
1:B:120:ILE:HG23	1:B:125:CYS:HB2	1.92	0.51
1:E:63:MSE:HE1	1:E:66:MSE:HE1	1.93	0.51
1:I:62:ASN:O	1:I:65:LYS:HB2	2.11	0.51
1:M:127:ARG:HH11	1:M:127:ARG:HG2	1.74	0.51
1:I:78:ARG:NH2	1:I:79:HIS:CE1	2.78	0.51
1:H:29:ASN:ND2	1:H:93:PRO:HA	2.25	0.51
1:I:78:ARG:NH2	1:I:79:HIS:HE1	2.07	0.51
1:K:148:TRP:HB3	1:K:149:PRO:HD3	1.92	0.51
1:K:189:LEU:HA	1:K:192:GLN:HG2	1.92	0.51
1:L:189:LEU:HA	1:L:192:GLN:HG2	1.92	0.51
1:L:66:MSE:O	1:L:70:ILE:HG13	2.11	0.51
1:M:173:SER:HB3	1:M:176:ASP:CB	2.40	0.51
1:O:21:LYS:O	1:O:25:LYS:HG3	2.10	0.51
1:J:46:GLU:O	1:J:54:GLN:HG2	2.11	0.51
1:K:41:PRO:HB3	1:N:41:PRO:HB3	1.93	0.51
1:I:50:ASN:ND2	1:K:49:LYS:HE2	2.25	0.50
1:L:123:GLU:H	1:L:123:GLU:CD	2.20	0.50
1:N:63:MSE:HE1	1:N:66:MSE:HE1	1.92	0.50
1:K:75:GLU:O	1:K:78:ARG:NH1	2.44	0.50
1:N:21:LYS:O	1:N:25:LYS:HG3	2.11	0.50
1:P:6:ILE:HD13	1:P:185:LEU:HD21	1.92	0.50
1:P:63:MSE:HB3	1:P:105:TYR:CZ	2.46	0.50
1:E:150:MSE:HA	1:E:150:MSE:HE2	1.93	0.50
1:F:122:TYR:CE1	1:F:143:PHE:HE2	2.29	0.50
1:L:33:ILE:CG1	1:L:95:LEU:HD11	2.40	0.50
1:M:127:ARG:HG2	1:M:127:ARG:NH1	2.25	0.50
1:G:16:LYS:HE3	1:G:99:GLY:C	2.37	0.50
1:B:17:THR:O	1:B:21:LYS:HG2	2.12	0.50
1:H:33:ILE:CG1	1:H:95:LEU:HD11	2.40	0.50
1:I:148:TRP:HB3	1:I:149:PRO:HD3	1.93	0.50
1:O:45:ILE:HG13	1:O:55:TYR:CZ	2.46	0.50
1:D:182:TYR:O	1:D:186:ILE:HG13	2.11	0.50
1:N:105:TYR:CD2	1:N:107:PRO:HD2	2.47	0.50
1:N:173:SER:HB3	1:N:176:ASP:CB	2.37	0.50
1:A:45:ILE:HG13	1:A:55:TYR:CZ	2.47	0.50
1:I:11:VAL:HG22	1:I:12:THR:H	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:63:MSE:HE1	1:P:66:MSE:HE1	1.94	0.50
1:F:47:THR:HG22	1:F:53:LEU:CD2	2.39	0.50
1:I:47:THR:HG22	1:I:53:LEU:CD2	2.40	0.50
1:M:47:THR:HA	1:M:52:PHE:O	2.12	0.50
1:O:11:VAL:HG22	1:O:12:THR:N	2.27	0.50
1:P:118:LEU:HD23	1:P:168:LEU:HB2	1.94	0.50
1:A:182:TYR:O	1:A:186:ILE:HG13	2.11	0.49
1:B:78:ARG:O	1:B:79:HIS:ND1	2.45	0.49
1:B:123:GLU:H	1:B:123:GLU:CD	2.20	0.49
1:B:156:GLN:C	1:B:158:MSE:H	2.19	0.49
1:E:11:VAL:HG22	1:E:12:THR:H	1.77	0.49
1:H:62:ASN:HB3	1:H:65:LYS:HG3	1.94	0.49
1:C:71:SER:O	1:C:75:GLU:HG3	2.12	0.49
1:D:9:SER:C	1:D:16:LYS:HD3	2.37	0.49
1:D:28:PRO:O	1:D:29:ASN:C	2.54	0.49
1:G:189:LEU:HA	1:G:192:GLN:HG2	1.94	0.49
1:I:156:GLN:HG3	1:I:159:GLN:NE2	2.27	0.49
1:I:189:LEU:HA	1:I:192:GLN:CG	2.41	0.49
1:I:42:GLU:OE1	1:I:136:PRO:HD3	2.12	0.49
1:L:63:MSE:HE1	1:L:66:MSE:HE1	1.94	0.49
1:A:123:GLU:CD	1:A:123:GLU:H	2.20	0.49
1:B:6:ILE:HD13	1:B:185:LEU:HD21	1.94	0.49
1:F:103:PHE:HB3	1:F:161:ILE:HD11	1.95	0.49
1:O:120:ILE:HG23	1:O:125:CYS:HB2	1.95	0.49
2:I:301:ADP:H3'	1:M:21:LYS:HD2	1.94	0.49
1:I:135:GLN:HA	1:I:135:GLN:HE21	1.77	0.49
1:O:182:TYR:O	1:O:186:ILE:HG13	2.12	0.49
1:A:78:ARG:NH2	1:B:160:ASP:HB3	2.28	0.49
1:C:160:ASP:O	1:C:161:ILE:C	2.56	0.49
1:E:157:GLU:O	1:E:160:ASP:OD2	2.31	0.49
1:I:5:ILE:O	1:I:113:ASN:HB2	2.13	0.49
1:N:156:GLN:HG3	1:N:159:GLN:HE22	1.77	0.49
1:J:158:MSE:HE3	1:J:161:ILE:CD1	2.43	0.49
1:A:75:GLU:CD	1:A:76:SER:N	2.70	0.48
1:H:189:LEU:HA	1:H:192:GLN:CG	2.42	0.48
1:I:62:ASN:HB3	1:I:65:LYS:HG3	1.94	0.48
1:M:122:TYR:OH	1:M:144:ASP:OD1	2.24	0.48
1:K:77:ALA:C	1:K:79:HIS:N	2.67	0.48
1:L:183:GLU:HB3	1:L:187:GLN:HE21	1.78	0.48
1:A:75:GLU:OE2	1:A:76:SER:HB3	2.13	0.48
1:A:146:HIS:O	1:A:150:MSE:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:123:GLU:CD	1:C:123:GLU:N	2.68	0.48
1:E:182:TYR:O	1:E:186:ILE:HG13	2.13	0.48
1:N:18:THR:HG21	1:N:174:GLU:CD	2.38	0.48
1:P:75:GLU:OE2	1:P:76:SER:HB3	2.13	0.48
1:C:63:MSE:HE1	1:C:66:MSE:HE1	1.96	0.48
1:G:5:ILE:O	1:G:113:ASN:HB2	2.13	0.48
1:K:77:ALA:O	1:K:79:HIS:N	2.46	0.48
1:N:62:ASN:O	1:N:65:LYS:HB2	2.12	0.48
1:A:156:GLN:HA	1:A:159:GLN:HE21	1.78	0.48
1:D:173:SER:HB3	1:D:176:ASP:CB	2.41	0.48
1:E:148:TRP:HB3	1:E:149:PRO:HD3	1.95	0.48
1:H:26:HIS:CD2	1:P:179:LEU:HD13	2.48	0.48
1:P:148:TRP:HB3	1:P:149:PRO:HD3	1.94	0.48
1:D:146:HIS:O	1:D:150:MSE:HG2	2.13	0.48
1:F:11:VAL:HG22	1:F:12:THR:N	2.28	0.48
1:B:77:ALA:C	1:B:79:HIS:N	2.68	0.48
1:I:64:GLU:CD	1:J:40:LYS:NZ	2.70	0.48
1:M:11:VAL:HG22	1:M:12:THR:N	2.27	0.48
1:N:78:ARG:O	1:N:79:HIS:ND1	2.46	0.48
1:O:77:ALA:C	1:O:79:HIS:N	2.70	0.48
1:B:47:THR:HG22	1:B:53:LEU:CD2	2.42	0.48
1:H:118:LEU:HD23	1:H:168:LEU:HB2	1.96	0.48
1:M:169:ASP:HB3	1:M:172:LYS:HG3	1.95	0.48
1:O:103:PHE:HB3	1:O:161:ILE:HD11	1.96	0.48
1:C:173:SER:HB3	1:C:176:ASP:CB	2.41	0.48
1:J:33:ILE:CD1	1:J:95:LEU:HD21	2.43	0.48
1:F:75:GLU:O	1:F:78:ARG:NH1	2.47	0.48
1:K:120:ILE:CG2	1:K:125:CYS:HB2	2.44	0.48
1:J:77:ALA:C	1:J:79:HIS:N	2.72	0.47
1:C:183:GLU:HB3	1:C:187:GLN:HE21	1.77	0.47
1:J:92:ILE:HG23	1:J:92:ILE:O	2.14	0.47
1:P:66:MSE:O	1:P:70:ILE:HG13	2.14	0.47
1:E:156:GLN:HG3	1:E:159:GLN:NE2	2.29	0.47
1:K:45:ILE:HG13	1:K:55:TYR:CZ	2.49	0.47
1:I:124:GLU:O	1:I:128:ARG:HG3	2.14	0.47
1:K:160:ASP:O	1:K:161:ILE:C	2.57	0.47
1:O:41:PRO:HG2	1:O:44:GLU:HG3	1.95	0.47
1:P:45:ILE:HG13	1:P:55:TYR:CZ	2.50	0.47
1:O:169:ASP:HB3	1:O:172:LYS:HG3	1.96	0.47
1:C:156:GLN:C	1:C:158:MSE:H	2.21	0.47
1:G:75:GLU:CD	1:G:76:SER:N	2.72	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:62:ASN:HB3	1:K:65:LYS:CG	2.45	0.47
1:B:77:ALA:O	1:B:79:HIS:N	2.48	0.47
1:C:156:GLN:HG3	1:C:159:GLN:NE2	2.30	0.47
1:D:77:ALA:C	1:D:79:HIS:N	2.67	0.47
1:D:151:TYR:O	1:D:154:TYR:N	2.44	0.47
1:G:62:ASN:HB3	1:G:65:LYS:HG3	1.96	0.47
1:J:126:LYS:HB2	1:J:143:PHE:CE2	2.50	0.47
1:L:77:ALA:O	1:L:79:HIS:N	2.47	0.47
1:M:63:MSE:HE1	1:M:66:MSE:CE	2.45	0.47
1:J:156:GLN:C	1:J:158:MSE:N	2.72	0.47
1:M:120:ILE:HG23	1:M:125:CYS:HB2	1.96	0.47
1:N:160:ASP:O	1:N:161:ILE:C	2.58	0.47
1:E:45:ILE:HG13	1:E:55:TYR:CZ	2.50	0.47
1:I:154:TYR:O	1:I:158:MSE:HG3	2.15	0.47
1:N:189:LEU:HA	1:N:192:GLN:HG2	1.96	0.47
1:B:5:ILE:O	1:B:113:ASN:HB2	2.14	0.47
1:D:78:ARG:O	1:D:79:HIS:ND1	2.48	0.47
1:F:92:ILE:HG23	1:F:92:ILE:O	2.15	0.47
1:G:120:ILE:CG2	1:G:125:CYS:HB2	2.45	0.47
1:B:92:ILE:O	1:B:92:ILE:HG23	2.15	0.46
1:H:148:TRP:HB3	1:H:149:PRO:HD3	1.97	0.46
1:M:21:LYS:O	1:M:25:LYS:HG3	2.16	0.46
1:P:78:ARG:O	1:P:79:HIS:ND1	2.48	0.46
1:G:26:HIS:CD2	1:O:179:LEU:HD13	2.50	0.46
1:I:129:ARG:NH1	3:I:302:TIZ:O3'	2.44	0.46
1:J:160:ASP:O	1:J:161:ILE:C	2.55	0.46
1:K:123:GLU:CD	1:K:123:GLU:H	2.22	0.46
1:N:62:ASN:HB3	1:N:65:LYS:CG	2.43	0.46
1:N:77:ALA:C	1:N:79:HIS:N	2.74	0.46
1:O:5:ILE:O	1:O:113:ASN:HB2	2.15	0.46
1:E:21:LYS:O	1:E:25:LYS:HG3	2.15	0.46
1:L:156:GLN:C	1:L:158:MSE:H	2.23	0.46
1:N:156:GLN:CG	1:N:159:GLN:NE2	2.76	0.46
1:O:183:GLU:HB3	1:O:187:GLN:HE22	1.77	0.46
1:A:11:VAL:HG22	1:A:12:THR:N	2.31	0.46
1:C:4:PHE:HA	1:C:113:ASN:ND2	2.30	0.46
1:I:129:ARG:O	1:I:129:ARG:HG3	2.14	0.46
1:I:156:GLN:C	1:I:158:MSE:H	2.23	0.46
1:L:64:GLU:CD	1:N:40:LYS:NZ	2.72	0.46
1:N:63:MSE:HE1	1:N:66:MSE:CE	2.45	0.46
1:O:29:ASN:HD21	1:O:93:PRO:HG3	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:146:HIS:O	1:C:150:MSE:HG2	2.15	0.46
1:E:124:GLU:HA	1:E:124:GLU:OE1	2.15	0.46
1:F:183:GLU:HB3	1:F:187:GLN:HE21	1.79	0.46
1:L:146:HIS:O	1:L:150:MSE:HG2	2.14	0.46
1:P:75:GLU:O	1:P:78:ARG:NH1	2.49	0.46
1:F:41:PRO:HG2	1:F:44:GLU:HG3	1.98	0.46
1:G:75:GLU:OE2	1:G:76:SER:HB3	2.15	0.46
1:J:122:TYR:CE1	1:J:143:PHE:HE2	2.33	0.46
1:O:45:ILE:HG13	1:O:55:TYR:CE2	2.50	0.46
1:B:118:LEU:HD23	1:B:168:LEU:HB2	1.97	0.46
1:M:151:TYR:OH	1:M:155:ARG:HD3	2.16	0.46
1:N:11:VAL:HG22	1:N:12:THR:N	2.31	0.46
1:A:33:ILE:CD1	1:A:95:LEU:HD11	2.46	0.46
1:D:2:LYS:O	1:D:92:ILE:HG13	2.14	0.46
1:D:11:VAL:HG22	1:D:12:THR:N	2.31	0.46
1:G:77:ALA:C	1:G:79:HIS:N	2.69	0.46
1:I:92:ILE:HG23	1:I:92:ILE:O	2.16	0.46
1:K:71:SER:O	1:K:75:GLU:HB3	2.16	0.46
1:A:183:GLU:HB3	1:A:187:GLN:NE2	2.31	0.46
1:D:107:PRO:HG3	1:F:64:GLU:HA	1.96	0.46
1:E:62:ASN:O	1:E:65:LYS:HB2	2.15	0.46
1:F:77:ALA:C	1:F:79:HIS:N	2.70	0.46
1:A:78:ARG:NH2	1:A:79:HIS:CE1	2.84	0.46
1:B:19:LEU:HD21	1:B:181:VAL:HG21	1.97	0.46
1:B:148:TRP:HB3	1:B:149:PRO:HD3	1.96	0.46
1:E:29:ASN:ND2	1:E:93:PRO:HA	2.31	0.46
1:N:123:GLU:CD	1:N:123:GLU:N	2.71	0.46
1:A:156:GLN:CG	1:A:159:GLN:NE2	2.77	0.45
1:E:158:MSE:HE3	1:E:161:ILE:CD1	2.46	0.45
1:G:33:ILE:HD12	1:G:95:LEU:HD21	1.98	0.45
1:G:47:THR:HG22	1:G:53:LEU:CD2	2.36	0.45
1:A:63:MSE:HE1	1:A:66:MSE:CE	2.46	0.45
1:D:47:THR:HA	1:D:52:PHE:O	2.16	0.45
1:D:189:LEU:HA	1:D:192:GLN:HG2	1.97	0.45
1:C:53:LEU:HD13	1:C:55:TYR:HE1	1.82	0.45
1:D:151:TYR:O	1:D:154:TYR:HB3	2.15	0.45
1:G:157:GLU:O	1:G:160:ASP:OD2	2.35	0.45
1:A:149:PRO:HB3	1:C:50:ASN:CG	2.42	0.45
1:E:21:LYS:HA	1:E:21:LYS:HD3	1.83	0.45
1:L:103:PHE:HB3	1:L:161:ILE:HD11	1.97	0.45
1:B:66:MSE:O	1:B:70:ILE:HG13	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:66:MSE:O	1:E:70:ILE:HG13	2.17	0.45
1:J:118:LEU:HD23	1:J:168:LEU:HB2	1.99	0.45
1:K:156:GLN:C	1:K:158:MSE:H	2.24	0.45
1:A:16:LYS:HE3	1:A:99:GLY:C	2.41	0.45
1:F:77:ALA:O	1:F:79:HIS:N	2.49	0.45
1:I:186:ILE:C	1:I:188:GLU:H	2.25	0.45
1:O:146:HIS:O	1:O:150:MSE:HG2	2.17	0.45
1:O:173:SER:HB3	1:O:176:ASP:CB	2.46	0.45
1:D:48:ASP:OD2	1:D:52:PHE:HB2	2.16	0.45
1:G:62:ASN:O	1:G:65:LYS:HB2	2.17	0.45
1:N:5:ILE:O	1:N:113:ASN:HB2	2.17	0.45
1:P:146:HIS:O	1:P:150:MSE:HG2	2.16	0.45
1:P:156:GLN:C	1:P:158:MSE:H	2.24	0.45
1:C:11:VAL:HG22	1:C:12:THR:H	1.80	0.45
1:D:169:ASP:HB3	1:D:172:LYS:HG3	1.98	0.45
1:H:120:ILE:HG23	1:H:125:CYS:HB2	1.99	0.45
1:M:45:ILE:HG22	1:M:46:GLU:N	2.31	0.45
1:O:148:TRP:HB3	1:O:149:PRO:HD3	1.97	0.45
1:P:21:LYS:HA	1:P:21:LYS:HD3	1.86	0.45
1:P:21:LYS:O	1:P:25:LYS:HG3	2.17	0.45
1:C:63:MSE:O	1:C:67:MSE:HG2	2.16	0.45
1:E:12:THR:O	1:E:13:ASN:HB2	2.17	0.45
1:F:74:MSE:O	1:F:77:ALA:HB3	2.16	0.45
1:G:9:SER:HA	1:G:99:GLY:O	2.16	0.45
1:L:129:ARG:O	1:L:129:ARG:HG3	2.16	0.45
1:M:62:ASN:HB3	1:M:65:LYS:CG	2.46	0.45
1:P:33:ILE:CG1	1:P:95:LEU:HD11	2.45	0.45
1:F:129:ARG:NH1	3:F:302:TIZ:O3'	2.42	0.45
1:I:160:ASP:O	1:I:161:ILE:C	2.59	0.45
1:K:33:ILE:CD1	1:K:95:LEU:HD11	2.47	0.45
1:A:33:ILE:CG1	1:A:95:LEU:HD11	2.45	0.44
1:C:19:LEU:HD21	1:C:181:VAL:HG21	1.99	0.44
1:D:77:ALA:O	1:D:79:HIS:N	2.49	0.44
1:H:77:ALA:C	1:H:79:HIS:N	2.73	0.44
1:I:52:PHE:CD1	1:K:49:LYS:HE3	2.52	0.44
1:K:146:HIS:O	1:K:150:MSE:HG2	2.18	0.44
1:L:11:VAL:HG22	1:L:12:THR:N	2.31	0.44
1:B:189:LEU:HA	1:B:192:GLN:HG2	1.98	0.44
1:F:185:LEU:O	1:F:189:LEU:HG	2.17	0.44
1:I:47:THR:HA	1:I:52:PHE:O	2.17	0.44
1:K:6:ILE:HD13	1:K:185:LEU:HD21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:70:ILE:O	1:M:74:MSE:HG3	2.18	0.44
1:P:11:VAL:HG22	1:P:12:THR:N	2.31	0.44
1:D:47:THR:HG22	1:D:53:LEU:CD2	2.46	0.44
1:F:6:ILE:HD13	1:F:185:LEU:HD21	1.99	0.44
1:H:179:LEU:O	1:H:183:GLU:HG3	2.17	0.44
1:I:75:GLU:O	1:I:78:ARG:NH1	2.50	0.44
1:E:77:ALA:C	1:E:79:HIS:N	2.69	0.44
1:E:177:LEU:O	1:E:181:VAL:HG23	2.17	0.44
1:E:183:GLU:HB3	1:E:187:GLN:HE21	1.81	0.44
1:L:75:GLU:OE2	1:L:76:SER:HB3	2.18	0.44
1:M:77:ALA:C	1:M:79:HIS:N	2.75	0.44
1:A:127:ARG:HG2	1:A:127:ARG:HH11	1.83	0.44
1:G:136:PRO:HA	1:G:137:PRO:HD3	1.86	0.44
1:J:48:ASP:OD2	1:J:52:PHE:HB2	2.17	0.44
1:J:71:SER:O	1:J:75:GLU:HG3	2.16	0.44
1:K:32:VAL:HG22	1:K:96:ILE:HB	1.99	0.44
1:C:77:ALA:C	1:C:79:HIS:N	2.74	0.44
1:E:156:GLN:C	1:E:158:MSE:H	2.25	0.44
1:H:75:GLU:CD	1:H:76:SER:N	2.75	0.44
1:I:33:ILE:CG1	1:I:95:LEU:HD11	2.45	0.44
1:L:122:TYR:CE1	1:L:143:PHE:HE2	2.36	0.44
1:C:92:ILE:HG23	1:C:92:ILE:O	2.18	0.44
1:C:183:GLU:HB3	1:C:187:GLN:HE22	1.82	0.44
1:D:45:ILE:HG22	1:D:46:GLU:N	2.32	0.44
1:J:78:ARG:C	1:J:79:HIS:ND1	2.76	0.44
1:C:108:LEU:HD13	1:C:112:TRP:CZ2	2.53	0.44
1:C:186:ILE:O	1:C:190:ALA:HB2	2.17	0.44
1:F:120:ILE:HG23	1:F:125:CYS:HB2	2.00	0.44
1:H:17:THR:O	1:H:21:LYS:HG2	2.18	0.44
1:K:9:SER:HA	1:K:99:GLY:O	2.18	0.44
1:L:17:THR:O	1:L:21:LYS:HG2	2.18	0.44
1:L:62:ASN:O	1:L:65:LYS:HB2	2.17	0.44
1:M:148:TRP:CD1	1:M:152:LEU:HD11	2.52	0.44
1:M:157:GLU:O	1:M:160:ASP:OD2	2.36	0.44
1:N:19:LEU:HD21	1:N:181:VAL:HG21	1.99	0.44
1:N:71:SER:O	1:N:75:GLU:HG3	2.17	0.44
1:A:120:ILE:HG23	1:A:125:CYS:HB2	1.99	0.44
1:F:45:ILE:HG13	1:F:55:TYR:CZ	2.53	0.44
1:I:169:ASP:HB3	1:I:172:LYS:HG3	2.00	0.44
1:J:75:GLU:OE2	1:J:76:SER:HB3	2.18	0.44
1:O:151:TYR:OH	1:O:155:ARG:HD3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:179:LEU:O	1:P:183:GLU:HG3	2.17	0.44
1:B:71:SER:O	1:B:75:GLU:HG3	2.17	0.43
1:F:21:LYS:O	1:F:25:LYS:HG3	2.18	0.43
1:G:21:LYS:HD2	2:H:301:ADP:H3'	2.00	0.43
1:H:153:LYS:O	1:H:157:GLU:HG3	2.17	0.43
1:J:49:LYS:H	1:J:49:LYS:HG3	1.61	0.43
1:J:62:ASN:HB3	1:J:65:LYS:CG	2.46	0.43
1:K:75:GLU:C	1:K:75:GLU:CD	2.86	0.43
1:P:178:PHE:O	1:P:182:TYR:HB2	2.18	0.43
1:B:183:GLU:HB3	1:B:187:GLN:HE21	1.80	0.43
1:G:48:ASP:OD2	1:G:52:PHE:HB2	2.19	0.43
1:G:78:ARG:O	1:G:79:HIS:ND1	2.51	0.43
1:H:106:LYS:HB2	1:H:107:PRO:HD3	2.00	0.43
1:M:45:ILE:HG13	1:M:55:TYR:CZ	2.53	0.43
1:I:78:ARG:NH2	1:J:160:ASP:HA	2.33	0.43
1:K:186:ILE:C	1:K:188:GLU:H	2.27	0.43
1:M:151:TYR:O	1:M:154:TYR:HB3	2.19	0.43
1:N:92:ILE:HG23	1:N:92:ILE:O	2.18	0.43
1:P:77:ALA:C	1:P:79:HIS:N	2.73	0.43
1:D:33:ILE:CG1	1:D:95:LEU:HD11	2.46	0.43
1:D:71:SER:O	1:D:75:GLU:HG3	2.17	0.43
1:E:153:LYS:O	1:E:157:GLU:HG3	2.18	0.43
1:F:63:MSE:HE1	1:F:66:MSE:HE1	2.01	0.43
1:F:118:LEU:HD23	1:F:168:LEU:HB2	2.00	0.43
1:F:143:PHE:HA	1:F:147:VAL:HB	2.01	0.43
1:A:190:ALA:C	1:A:192:GLN:H	2.27	0.43
1:E:173:SER:HB3	1:E:176:ASP:CG	2.44	0.43
1:J:146:HIS:O	1:J:150:MSE:HG2	2.18	0.43
1:B:27:LEU:HD23	1:B:27:LEU:HA	1.91	0.43
1:B:151:TYR:OH	1:B:155:ARG:HD3	2.18	0.43
1:H:127:ARG:NH1	1:H:127:ARG:HG2	2.33	0.43
1:K:19:LEU:HD21	1:K:181:VAL:HG21	1.99	0.43
1:L:116:TYR:CD2	1:L:166:VAL:HB	2.53	0.43
1:P:27:LEU:HD11	1:P:185:LEU:HD23	2.01	0.43
1:F:150:MSE:HE2	1:F:150:MSE:HA	2.00	0.43
1:H:127:ARG:HG2	1:H:127:ARG:HH11	1.82	0.43
1:I:11:VAL:HG11	1:I:120:ILE:HG22	2.01	0.43
1:K:92:ILE:HG23	1:K:92:ILE:O	2.19	0.43
1:M:75:GLU:O	1:M:78:ARG:NH1	2.52	0.43
1:B:122:TYR:CE1	1:B:143:PHE:HE2	2.36	0.43
1:C:189:LEU:HA	1:C:192:GLN:CG	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:123:GLU:CD	1:I:123:GLU:H	2.26	0.43
1:K:54:GLN:O	1:K:60:ALA:HB2	2.19	0.43
1:D:78:ARG:NH2	1:D:79:HIS:HE1	2.17	0.43
1:G:182:TYR:OH	1:O:183:GLU:CD	2.62	0.43
1:H:45:ILE:HG22	1:H:46:GLU:N	2.33	0.43
1:H:136:PRO:HA	1:H:137:PRO:HD3	1.88	0.43
1:H:179:LEU:HD13	1:P:26:HIS:CD2	2.54	0.43
1:I:173:SER:HB3	1:I:176:ASP:CB	2.44	0.43
1:K:41:PRO:HG2	1:K:44:GLU:HG3	2.01	0.43
1:C:75:GLU:OE2	1:C:76:SER:HB3	2.19	0.43
1:C:106:LYS:HB2	1:C:107:PRO:HD3	2.01	0.43
1:E:47:THR:HG22	1:E:53:LEU:CD2	2.47	0.43
1:G:124:GLU:OE1	1:G:124:GLU:HA	2.19	0.43
1:J:75:GLU:O	1:J:78:ARG:NH1	2.52	0.43
1:K:62:ASN:O	1:K:65:LYS:HB2	2.19	0.43
1:N:54:GLN:O	1:N:60:ALA:HB2	2.19	0.43
1:A:106:LYS:HG3	1:B:68:SER:HB2	2.00	0.42
1:B:33:ILE:CG1	1:B:95:LEU:HD11	2.47	0.42
1:D:183:GLU:HB3	1:D:187:GLN:NE2	2.34	0.42
1:F:148:TRP:HB3	1:F:149:PRO:HD3	2.00	0.42
1:O:97:ILE:HD12	1:O:112:TRP:HZ3	1.84	0.42
1:O:179:LEU:O	1:O:183:GLU:HG3	2.19	0.42
1:P:78:ARG:C	1:P:79:HIS:ND1	2.77	0.42
1:E:63:MSE:HE1	1:E:66:MSE:CE	2.49	0.42
1:L:29:ASN:ND2	1:L:93:PRO:CA	2.82	0.42
1:P:92:ILE:HG23	1:P:92:ILE:O	2.19	0.42
1:A:46:GLU:O	1:A:54:GLN:N	2.40	0.42
1:B:47:THR:HA	1:B:52:PHE:O	2.20	0.42
1:D:17:THR:O	1:D:21:LYS:HG2	2.20	0.42
1:G:71:SER:O	1:G:75:GLU:HG3	2.19	0.42
1:G:160:ASP:O	1:G:161:ILE:C	2.62	0.42
1:J:47:THR:HA	1:J:52:PHE:O	2.19	0.42
1:K:21:LYS:O	1:K:25:LYS:HG3	2.19	0.42
1:L:78:ARG:CZ	1:L:78:ARG:HB2	2.49	0.42
1:M:120:ILE:HD12	1:M:120:ILE:HA	1.92	0.42
1:M:175:GLU:HG3	1:M:176:ASP:N	2.33	0.42
1:O:17:THR:O	1:O:21:LYS:HG2	2.19	0.42
1:B:136:PRO:HA	1:B:137:PRO:HD3	1.84	0.42
1:C:75:GLU:CD	1:C:76:SER:N	2.78	0.42
1:D:21:LYS:O	1:D:25:LYS:HG3	2.18	0.42
1:G:33:ILE:CG1	1:G:95:LEU:HD11	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:158:MSE:HE3	1:J:161:ILE:HD11	2.00	0.42
1:K:78:ARG:C	1:K:79:HIS:ND1	2.77	0.42
1:N:124:GLU:O	1:N:128:ARG:HG3	2.18	0.42
1:A:72:CYS:O	1:A:75:GLU:OE2	2.37	0.42
1:F:27:LEU:HD11	1:F:185:LEU:HD23	2.01	0.42
1:L:41:PRO:HG2	1:L:44:GLU:HG3	2.01	0.42
1:N:49:LYS:H	1:N:49:LYS:HG3	1.69	0.42
1:P:9:SER:C	1:P:16:LYS:HD3	2.44	0.42
1:A:189:LEU:HA	1:A:192:GLN:CG	2.50	0.42
1:E:48:ASP:OD1	1:E:48:ASP:C	2.63	0.42
1:J:41:PRO:HG2	1:J:44:GLU:HG3	2.02	0.42
1:K:127:ARG:HG2	1:K:127:ARG:HH11	1.84	0.42
1:K:183:GLU:HB3	1:K:187:GLN:HE21	1.81	0.42
1:O:97:ILE:HD12	1:O:112:TRP:CZ3	2.54	0.42
1:P:75:GLU:CD	1:P:76:SER:N	2.78	0.42
1:B:49:LYS:H	1:B:49:LYS:HG3	1.64	0.42
1:D:64:GLU:OE1	1:F:59:GLU:HG3	2.19	0.42
1:I:45:ILE:HG22	1:I:46:GLU:N	2.35	0.42
1:J:33:ILE:HD12	1:J:95:LEU:HD21	2.01	0.42
1:A:9:SER:HA	1:A:99:GLY:O	2.19	0.42
1:D:153:LYS:O	1:D:157:GLU:HG3	2.20	0.42
1:H:29:ASN:ND2	1:H:93:PRO:CA	2.83	0.42
1:H:78:ARG:O	1:H:79:HIS:ND1	2.53	0.42
1:H:173:SER:HB3	1:H:176:ASP:CB	2.44	0.42
1:F:173:SER:HB3	1:F:176:ASP:CB	2.44	0.42
1:N:33:ILE:CD1	1:N:95:LEU:HD21	2.50	0.42
1:O:108:LEU:HD13	1:O:112:TRP:CZ2	2.55	0.42
1:B:54:GLN:O	1:B:60:ALA:HB2	2.20	0.42
1:D:120:ILE:HG23	1:D:125:CYS:HB2	2.01	0.42
1:G:103:PHE:HB3	1:G:161:ILE:HD11	2.02	0.42
1:O:75:GLU:O	1:O:78:ARG:NH1	2.53	0.42
1:C:21:LYS:HD2	2:F:301:ADP:H3'	2.00	0.41
2:D:301:ADP:H2'	2:D:301:ADP:O5'	2.20	0.41
1:J:27:LEU:HD23	1:J:27:LEU:HA	1.89	0.41
1:J:75:GLU:CD	1:J:75:GLU:C	2.88	0.41
1:K:75:GLU:OE2	1:K:76:SER:N	2.53	0.41
1:L:169:ASP:HB3	1:L:172:LYS:HG3	2.02	0.41
1:N:41:PRO:HG2	1:N:44:GLU:HG3	2.02	0.41
1:A:127:ARG:HG2	1:A:127:ARG:NH1	2.36	0.41
1:D:124:GLU:OE1	1:D:124:GLU:HA	2.20	0.41
1:E:169:ASP:O	1:E:177:LEU:HD21	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:97:ILE:HD12	1:H:112:TRP:CZ3	2.55	0.41
1:H:156:GLN:C	1:H:158:MSE:N	2.74	0.41
1:L:169:ASP:O	1:L:177:LEU:HD21	2.19	0.41
1:N:122:TYR:CE1	1:N:143:PHE:HE2	2.37	0.41
1:P:5:ILE:O	1:P:113:ASN:HB2	2.19	0.41
1:A:75:GLU:CD	1:A:75:GLU:C	2.88	0.41
1:A:123:GLU:OE2	1:C:148:TRP:NE1	2.53	0.41
1:D:78:ARG:CZ	1:F:160:ASP:CB	2.82	0.41
1:F:66:MSE:O	1:F:70:ILE:HG13	2.20	0.41
1:I:124:GLU:OE2	1:I:128:ARG:NE	2.46	0.41
1:K:92:ILE:HA	1:K:93:PRO:HD3	1.85	0.41
1:O:136:PRO:HA	1:O:137:PRO:HD3	1.79	0.41
1:A:136:PRO:HA	1:A:137:PRO:HD3	1.85	0.41
1:C:45:ILE:HG13	1:C:55:TYR:CZ	2.56	0.41
1:D:78:ARG:NH2	1:F:160:ASP:CB	2.78	0.41
1:F:124:GLU:O	1:F:128:ARG:HG3	2.21	0.41
1:I:78:ARG:O	1:I:79:HIS:ND1	2.53	0.41
1:J:11:VAL:CG1	1:J:120:ILE:HG22	2.50	0.41
1:J:21:LYS:HD3	1:J:21:LYS:HA	1.84	0.41
1:L:29:ASN:HD22	1:L:92:ILE:C	2.27	0.41
1:L:92:ILE:HA	1:L:93:PRO:HD3	1.93	0.41
1:M:169:ASP:O	1:M:177:LEU:HD21	2.20	0.41
1:C:47:THR:HG22	1:C:53:LEU:CD2	2.44	0.41
1:I:52:PHE:HD1	1:K:49:LYS:HE3	1.84	0.41
1:I:174:GLU:OE1	1:M:25:LYS:NZ	2.47	0.41
1:M:148:TRP:NE1	1:M:152:LEU:HD11	2.35	0.41
1:O:53:LEU:HD13	1:O:55:TYR:HE1	1.84	0.41
1:B:160:ASP:O	1:B:161:ILE:C	2.64	0.41
1:C:120:ILE:HG23	1:C:125:CYS:HB2	2.03	0.41
1:H:122:TYR:CE1	1:H:143:PHE:HE2	2.37	0.41
1:I:135:GLN:CD	1:I:136:PRO:N	2.78	0.41
1:J:108:LEU:HD13	1:J:112:TRP:CZ2	2.54	0.41
1:K:120:ILE:HG23	1:K:125:CYS:HB2	2.01	0.41
1:K:158:MSE:HE3	1:K:161:ILE:CD1	2.51	0.41
1:B:45:ILE:HG13	1:B:55:TYR:CZ	2.56	0.41
1:D:33:ILE:HD12	1:D:95:LEU:HD21	2.02	0.41
1:D:75:GLU:OE2	1:D:76:SER:HB3	2.21	0.41
1:N:70:ILE:O	1:N:74:MSE:HG3	2.21	0.41
1:P:136:PRO:HA	1:P:137:PRO:HD3	1.88	0.41
1:A:157:GLU:O	1:A:160:ASP:OD2	2.39	0.41
1:C:33:ILE:CG1	1:C:95:LEU:HD11	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:158:MSE:HE3	1:E:161:ILE:HD11	2.02	0.41
1:J:19:LEU:HD21	1:J:181:VAL:HG21	2.01	0.41
1:O:49:LYS:H	1:O:49:LYS:HG3	1.68	0.41
1:P:175:GLU:HG3	1:P:176:ASP:N	2.36	0.41
1:A:156:GLN:C	1:A:158:MSE:H	2.29	0.41
1:B:120:ILE:CG2	1:B:125:CYS:HB2	2.51	0.41
1:D:48:ASP:C	1:D:48:ASP:OD1	2.64	0.41
1:E:27:LEU:HD23	1:E:27:LEU:HA	1.94	0.41
1:E:136:PRO:HA	1:E:137:PRO:HD3	1.87	0.41
2:E:301:ADP:O5'	2:E:301:ADP:H2'	2.21	0.41
1:F:45:ILE:HG13	1:F:55:TYR:CE2	2.55	0.41
1:F:169:ASP:HB3	1:F:172:LYS:HG3	2.03	0.41
1:G:122:TYR:OH	1:G:144:ASP:OD1	2.30	0.41
1:G:186:ILE:C	1:G:188:GLU:H	2.29	0.41
1:I:9:SER:C	1:I:16:LYS:HD3	2.46	0.41
1:I:29:ASN:ND2	1:I:93:PRO:HA	2.36	0.41
1:I:42:GLU:CD	1:I:136:PRO:HD3	2.45	0.41
1:J:186:ILE:C	1:J:188:GLU:H	2.29	0.41
1:K:46:GLU:O	1:K:54:GLN:HG2	2.21	0.41
1:M:28:PRO:O	1:M:29:ASN:C	2.64	0.41
1:M:160:ASP:O	1:M:161:ILE:C	2.63	0.41
1:P:11:VAL:HB	1:P:151:TYR:CE1	2.56	0.41
1:B:21:LYS:O	1:B:25:LYS:HG3	2.20	0.41
1:B:46:GLU:O	1:B:54:GLN:HG2	2.20	0.41
1:E:45:ILE:HG22	1:E:46:GLU:N	2.36	0.41
1:I:25:LYS:NZ	1:M:174:GLU:OE1	2.49	0.41
1:J:158:MSE:CE	1:J:161:ILE:HD12	2.51	0.41
1:N:62:ASN:CB	1:N:65:LYS:HG3	2.48	0.41
1:O:46:GLU:O	1:O:54:GLN:HG2	2.21	0.41
1:B:33:ILE:CD1	1:B:95:LEU:HD11	2.51	0.40
2:C:301:ADP:O5'	2:C:301:ADP:H2'	2.21	0.40
1:D:11:VAL:HG22	1:D:12:THR:H	1.86	0.40
1:H:62:ASN:O	1:H:65:LYS:HB2	2.20	0.40
1:I:183:GLU:HB3	1:I:187:GLN:HE22	1.81	0.40
1:L:175:GLU:HG3	1:L:176:ASP:N	2.37	0.40
1:P:45:ILE:HG22	1:P:46:GLU:N	2.37	0.40
1:A:77:ALA:O	1:A:79:HIS:N	2.55	0.40
1:B:106:LYS:HA	1:B:106:LYS:HD3	1.95	0.40
1:C:155:ARG:O	1:C:158:MSE:HB2	2.21	0.40
1:D:92:ILE:HG23	1:D:92:ILE:O	2.21	0.40
1:E:114:ARG:HD3	1:E:188:GLU:HG3	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:120:ILE:HA	1:E:121:PRO:HD3	1.96	0.40
1:I:182:TYR:O	1:I:186:ILE:HG13	2.21	0.40
1:K:122:TYR:CE1	1:K:143:PHE:HE2	2.39	0.40
1:L:136:PRO:HA	1:L:137:PRO:HD3	1.83	0.40
1:N:189:LEU:HA	1:N:192:GLN:CG	2.52	0.40
1:O:120:ILE:HD12	1:O:120:ILE:HA	1.95	0.40
1:P:92:ILE:HA	1:P:93:PRO:HD3	1.82	0.40
1:B:62:ASN:HB3	1:B:65:LYS:CG	2.49	0.40
1:B:75:GLU:O	1:B:78:ARG:NH1	2.54	0.40
1:C:153:LYS:O	1:C:157:GLU:HG3	2.20	0.40
1:G:45:ILE:HG13	1:G:55:TYR:CZ	2.57	0.40
1:H:92:ILE:O	1:H:92:ILE:HG23	2.22	0.40
1:H:97:ILE:HD12	1:H:112:TRP:HZ3	1.85	0.40
1:I:11:VAL:CG2	1:I:12:THR:N	2.85	0.40
1:I:110:THR:OG1	1:J:107:PRO:O	2.37	0.40
1:M:126:LYS:HB2	1:M:143:PHE:CE2	2.56	0.40
1:N:29:ASN:HD21	1:N:93:PRO:HG3	1.86	0.40
1:O:63:MSE:HE1	1:O:66:MSE:CE	2.50	0.40
1:C:45:ILE:HG22	1:C:46:GLU:N	2.36	0.40
1:D:45:ILE:HG13	1:D:55:TYR:CZ	2.56	0.40
1:D:150:MSE:HE2	1:D:150:MSE:HA	2.03	0.40
1:M:183:GLU:HB3	1:M:187:GLN:HE21	1.84	0.40
1:N:48:ASP:CG	1:N:52:PHE:HB2	2.46	0.40
1:A:6:ILE:HD13	1:A:185:LEU:HD21	2.03	0.40
1:B:158:MSE:HE3	1:B:161:ILE:HD12	2.02	0.40
1:D:29:ASN:ND2	1:D:93:PRO:HA	2.36	0.40
1:G:63:MSE:HE1	1:G:66:MSE:CE	2.52	0.40
1:G:92:ILE:O	1:G:92:ILE:HG23	2.22	0.40
1:H:151:TYR:OH	1:H:155:ARG:HD3	2.22	0.40
1:K:120:ILE:HA	1:K:121:PRO:HD3	1.94	0.40
1:O:189:LEU:HA	1:O:192:GLN:CG	2.51	0.40
1:P:78:ARG:NH2	1:P:79:HIS:CE1	2.89	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	175/199 (88%)	163 (93%)	11 (6%)	1 (1%)	21	44
1	B	175/199 (88%)	162 (93%)	12 (7%)	1 (1%)	21	44
1	C	175/199 (88%)	161 (92%)	13 (7%)	1 (1%)	21	44
1	D	175/199 (88%)	163 (93%)	11 (6%)	1 (1%)	21	44
1	E	175/199 (88%)	162 (93%)	11 (6%)	2 (1%)	11	29
1	F	175/199 (88%)	162 (93%)	12 (7%)	1 (1%)	21	44
1	G	175/199 (88%)	164 (94%)	10 (6%)	1 (1%)	21	44
1	H	175/199 (88%)	168 (96%)	6 (3%)	1 (1%)	21	44
1	I	175/199 (88%)	161 (92%)	9 (5%)	5 (3%)	3	9
1	J	175/199 (88%)	159 (91%)	15 (9%)	1 (1%)	21	44
1	K	175/199 (88%)	161 (92%)	12 (7%)	2 (1%)	11	29
1	L	175/199 (88%)	163 (93%)	11 (6%)	1 (1%)	21	44
1	M	175/199 (88%)	163 (93%)	12 (7%)	0	100	100
1	N	175/199 (88%)	164 (94%)	9 (5%)	2 (1%)	11	29
1	O	175/199 (88%)	165 (94%)	9 (5%)	1 (1%)	21	44
1	P	175/199 (88%)	161 (92%)	13 (7%)	1 (1%)	21	44
All	All	2800/3184 (88%)	2602 (93%)	176 (6%)	22 (1%)	16	37

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	I	78	ARG
1	I	136	PRO
1	D	78	ARG
1	F	78	ARG
1	I	135	GLN
1	K	78	ARG
1	A	78	ARG
1	B	78	ARG
1	J	78	ARG
1	L	78	ARG
1	N	78	ARG
1	O	78	ARG

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Mol	Chain	Res	Type
1	P	172	LYS
1	G	78	ARG
1	H	78	ARG
1	C	78	ARG
1	E	78	ARG
1	E	161	ILE
1	K	161	ILE
1	N	161	ILE
1	I	11	VAL
1	I	161	ILE

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	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	B	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	C	166/177 (94%)	161 (97%)	5 (3%)	36	66
1	D	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	E	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	F	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	G	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	H	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	I	166/177 (94%)	161 (97%)	5 (3%)	36	66
1	J	166/177 (94%)	161 (97%)	5 (3%)	36	66
1	K	166/177 (94%)	160 (96%)	6 (4%)	31	60
1	L	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	M	166/177 (94%)	161 (97%)	5 (3%)	36	66
1	N	166/177 (94%)	162 (98%)	4 (2%)	43	72
1	O	166/177 (94%)	161 (97%)	5 (3%)	36	66
1	P	166/177 (94%)	163 (98%)	3 (2%)	51	78

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2656/2832 (94%)	2586 (97%)	70 (3%)	40 70

All (70) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	GLN
1	A	47	THR
1	A	160	ASP
1	A	185	LEU
1	B	24	GLN
1	B	49	LYS
1	B	160	ASP
1	B	185	LEU
1	C	24	GLN
1	C	49	LYS
1	C	160	ASP
1	C	175	GLU
1	C	185	LEU
1	D	24	GLN
1	D	67	MSE
1	D	160	ASP
1	D	185	LEU
1	E	24	GLN
1	E	75	GLU
1	E	160	ASP
1	E	185	LEU
1	F	24	GLN
1	F	49	LYS
1	F	160	ASP
1	F	185	LEU
1	G	24	GLN
1	G	49	LYS
1	G	160	ASP
1	G	185	LEU
1	H	24	GLN
1	H	49	LYS
1	H	160	ASP
1	H	185	LEU
1	I	24	GLN
1	I	49	LYS
1	I	135	GLN
1	I	160	ASP

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Mol	Chain	Res	Type
1	I	185	LEU
1	J	24	GLN
1	J	49	LYS
1	J	160	ASP
1	J	175	GLU
1	J	185	LEU
1	K	24	GLN
1	K	47	THR
1	K	49	LYS
1	K	75	GLU
1	K	160	ASP
1	K	185	LEU
1	L	24	GLN
1	L	67	MSE
1	L	160	ASP
1	L	185	LEU
1	M	24	GLN
1	M	47	THR
1	M	49	LYS
1	M	160	ASP
1	M	185	LEU
1	N	24	GLN
1	N	49	LYS
1	N	160	ASP
1	N	185	LEU
1	O	24	GLN
1	O	49	LYS
1	O	67	MSE
1	O	160	ASP
1	O	185	LEU
1	P	24	GLN
1	P	160	ASP
1	P	185	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (136) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	13	ASN
1	A	26	HIS
1	A	29	ASN
1	A	50	ASN
1	A	54	GLN

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Mol	Chain	Res	Type
1	A	113	ASN
1	A	135	GLN
1	A	156	GLN
1	A	159	GLN
1	A	180	GLN
1	A	187	GLN
1	B	13	ASN
1	B	24	GLN
1	B	26	HIS
1	B	113	ASN
1	B	135	GLN
1	B	156	GLN
1	B	180	GLN
1	B	187	GLN
1	C	13	ASN
1	C	29	ASN
1	C	35	GLN
1	C	54	GLN
1	C	113	ASN
1	C	156	GLN
1	C	159	GLN
1	C	180	GLN
1	C	187	GLN
1	D	13	ASN
1	D	29	ASN
1	D	113	ASN
1	D	135	GLN
1	D	156	GLN
1	D	159	GLN
1	D	180	GLN
1	D	187	GLN
1	E	13	ASN
1	E	26	HIS
1	E	29	ASN
1	E	35	GLN
1	E	54	GLN
1	E	113	ASN
1	E	135	GLN
1	E	156	GLN
1	E	159	GLN
1	E	180	GLN
1	E	187	GLN

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Mol	Chain	Res	Type
1	F	13	ASN
1	F	26	HIS
1	F	113	ASN
1	F	135	GLN
1	F	159	GLN
1	F	180	GLN
1	F	187	GLN
1	G	54	GLN
1	G	113	ASN
1	G	156	GLN
1	G	159	GLN
1	G	180	GLN
1	G	187	GLN
1	H	13	ASN
1	H	26	HIS
1	H	29	ASN
1	H	35	GLN
1	H	113	ASN
1	H	156	GLN
1	H	159	GLN
1	H	180	GLN
1	H	187	GLN
1	I	13	ASN
1	I	26	HIS
1	I	29	ASN
1	I	35	GLN
1	I	50	ASN
1	I	54	GLN
1	I	113	ASN
1	I	135	GLN
1	I	159	GLN
1	I	180	GLN
1	I	187	GLN
1	J	26	HIS
1	J	54	GLN
1	J	113	ASN
1	J	156	GLN
1	J	180	GLN
1	J	187	GLN
1	K	13	ASN
1	K	24	GLN
1	K	26	HIS

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Mol	Chain	Res	Type
1	K	54	GLN
1	K	113	ASN
1	K	156	GLN
1	K	180	GLN
1	K	187	GLN
1	L	13	ASN
1	L	26	HIS
1	L	29	ASN
1	L	35	GLN
1	L	113	ASN
1	L	135	GLN
1	L	159	GLN
1	L	180	GLN
1	L	187	GLN
1	M	13	ASN
1	M	26	HIS
1	M	62	ASN
1	M	113	ASN
1	M	156	GLN
1	M	159	GLN
1	M	180	GLN
1	M	187	GLN
1	N	24	GLN
1	N	26	HIS
1	N	29	ASN
1	N	113	ASN
1	N	156	GLN
1	N	159	GLN
1	N	180	GLN
1	N	187	GLN
1	O	13	ASN
1	O	29	ASN
1	O	113	ASN
1	O	156	GLN
1	O	159	GLN
1	O	180	GLN
1	O	187	GLN
1	P	29	ASN
1	P	35	GLN
1	P	54	GLN
1	P	62	ASN
1	P	113	ASN

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Mol	Chain	Res	Type
1	P	135	GLN
1	P	156	GLN
1	P	159	GLN
1	P	180	GLN
1	P	187	GLN

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 ⓘ

32 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	ADP	E	301	-	28,29,29	1.16	4 (14%)	43,45,45	1.76	9 (20%)
3	TIZ	M	302	-	17,18,18	1.18	2 (11%)	25,26,26	1.99	7 (28%)
2	ADP	D	301	-	28,29,29	1.18	4 (14%)	43,45,45	1.84	10 (23%)
2	ADP	K	301	-	28,29,29	1.16	3 (10%)	43,45,45	1.69	7 (16%)
3	TIZ	D	302	-	17,18,18	1.17	2 (11%)	25,26,26	2.06	9 (36%)
2	ADP	P	301	-	28,29,29	1.16	3 (10%)	43,45,45	1.75	8 (18%)
3	TIZ	E	302	-	17,18,18	1.20	2 (11%)	25,26,26	1.97	8 (32%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	TIZ	I	302	-	17,18,18	1.18	2 (11%)	25,26,26	2.01	8 (32%)
3	TIZ	F	302	-	17,18,18	1.19	2 (11%)	25,26,26	1.90	7 (28%)
2	ADP	F	301	-	28,29,29	1.17	3 (10%)	43,45,45	1.69	7 (16%)
2	ADP	B	301	-	28,29,29	1.16	3 (10%)	43,45,45	1.76	9 (20%)
3	TIZ	K	302	-	17,18,18	1.19	2 (11%)	25,26,26	1.92	7 (28%)
3	TIZ	H	302	-	17,18,18	1.20	2 (11%)	25,26,26	2.02	8 (32%)
3	TIZ	G	302	-	17,18,18	1.19	2 (11%)	25,26,26	2.06	7 (28%)
2	ADP	J	301	-	28,29,29	1.16	3 (10%)	43,45,45	1.70	7 (16%)
2	ADP	N	301	-	28,29,29	1.16	3 (10%)	43,45,45	1.75	7 (16%)
3	TIZ	O	302	-	17,18,18	1.17	2 (11%)	25,26,26	1.96	8 (32%)
2	ADP	I	301	-	28,29,29	1.17	4 (14%)	43,45,45	1.79	9 (20%)
3	TIZ	L	302	-	17,18,18	1.20	2 (11%)	25,26,26	2.10	9 (36%)
3	TIZ	C	302	-	17,18,18	1.20	2 (11%)	25,26,26	1.90	7 (28%)
2	ADP	A	301	-	28,29,29	1.17	4 (14%)	43,45,45	1.76	9 (20%)
3	TIZ	B	302	-	17,18,18	1.18	2 (11%)	25,26,26	1.91	7 (28%)
3	TIZ	P	302	-	17,18,18	1.23	2 (11%)	25,26,26	2.08	11 (44%)
2	ADP	H	301	-	28,29,29	1.17	3 (10%)	43,45,45	1.78	8 (18%)
2	ADP	G	301	-	28,29,29	1.15	3 (10%)	43,45,45	1.73	9 (20%)
2	ADP	M	301	-	28,29,29	1.17	4 (14%)	43,45,45	1.74	8 (18%)
3	TIZ	A	302	-	17,18,18	1.20	2 (11%)	25,26,26	2.07	8 (32%)
2	ADP	C	301	-	28,29,29	1.17	3 (10%)	43,45,45	1.76	9 (20%)
2	ADP	O	301	-	28,29,29	1.17	3 (10%)	43,45,45	1.75	9 (20%)
2	ADP	L	301	-	28,29,29	1.17	2 (7%)	43,45,45	1.78	9 (20%)
3	TIZ	J	302	-	17,18,18	1.21	2 (11%)	25,26,26	1.94	7 (28%)
3	TIZ	N	302	-	17,18,18	1.20	2 (11%)	25,26,26	1.98	7 (28%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ADP	E	301	-	-	1/16/32/32	0/3/3/3
3	TIZ	M	302	-	-	3/10/26/26	0/2/2/2
2	ADP	D	301	-	-	0/16/32/32	0/3/3/3
2	ADP	K	301	-	-	1/16/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	TIZ	D	302	-	-	3/10/26/26	0/2/2/2
2	ADP	P	301	-	-	0/16/32/32	0/3/3/3
3	TIZ	E	302	-	-	5/10/26/26	0/2/2/2
3	TIZ	I	302	-	-	4/10/26/26	0/2/2/2
3	TIZ	F	302	-	-	3/10/26/26	0/2/2/2
2	ADP	F	301	-	-	0/16/32/32	0/3/3/3
2	ADP	B	301	-	-	0/16/32/32	0/3/3/3
3	TIZ	K	302	-	-	4/10/26/26	0/2/2/2
3	TIZ	H	302	-	-	3/10/26/26	0/2/2/2
3	TIZ	G	302	-	-	3/10/26/26	0/2/2/2
2	ADP	J	301	-	-	0/16/32/32	0/3/3/3
2	ADP	N	301	-	-	0/16/32/32	0/3/3/3
3	TIZ	O	302	-	-	3/10/26/26	0/2/2/2
2	ADP	I	301	-	-	0/16/32/32	0/3/3/3
3	TIZ	L	302	-	-	4/10/26/26	0/2/2/2
3	TIZ	C	302	-	-	4/10/26/26	0/2/2/2
2	ADP	A	301	-	-	0/16/32/32	0/3/3/3
3	TIZ	B	302	-	-	4/10/26/26	0/2/2/2
3	TIZ	P	302	-	-	3/10/26/26	0/2/2/2
2	ADP	H	301	-	-	1/16/32/32	0/3/3/3
2	ADP	G	301	-	-	0/16/32/32	0/3/3/3
2	ADP	M	301	-	-	1/16/32/32	0/3/3/3
3	TIZ	A	302	-	-	3/10/26/26	0/2/2/2
2	ADP	C	301	-	-	0/16/32/32	0/3/3/3
2	ADP	O	301	-	-	0/16/32/32	0/3/3/3
2	ADP	L	301	-	-	0/16/32/32	0/3/3/3
3	TIZ	J	302	-	-	3/10/26/26	0/2/2/2
3	TIZ	N	302	-	-	3/10/26/26	0/2/2/2

All (84) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	P	302	TIZ	C1L-C1K	3.90	1.53	1.48
3	L	302	TIZ	C1L-C1K	3.83	1.53	1.48
3	A	302	TIZ	C1L-C1K	3.82	1.53	1.48
3	H	302	TIZ	C1L-C1K	3.82	1.53	1.48
3	C	302	TIZ	C1L-C1K	3.82	1.53	1.48
3	J	302	TIZ	C1L-C1K	3.82	1.53	1.48
3	N	302	TIZ	C1L-C1K	3.78	1.53	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	302	TIZ	C1L-C1K	3.76	1.53	1.48
3	G	302	TIZ	C1L-C1K	3.72	1.53	1.48
3	K	302	TIZ	C1L-C1K	3.71	1.53	1.48
3	M	302	TIZ	C1L-C1K	3.71	1.53	1.48
3	B	302	TIZ	C1L-C1K	3.71	1.53	1.48
3	F	302	TIZ	C1L-C1K	3.69	1.53	1.48
3	I	302	TIZ	C1L-C1K	3.68	1.53	1.48
3	O	302	TIZ	C1L-C1K	3.64	1.53	1.48
3	D	302	TIZ	C1L-C1K	3.63	1.53	1.48
2	F	301	ADP	C5-N7	-3.19	1.33	1.39
2	K	301	ADP	C5-N7	-3.16	1.33	1.39
2	I	301	ADP	C5-N7	-3.15	1.33	1.39
2	H	301	ADP	C5-N7	-3.14	1.33	1.39
2	E	301	ADP	C5-N7	-3.13	1.33	1.39
2	D	301	ADP	C5-N7	-3.12	1.33	1.39
2	C	301	ADP	C5-N7	-3.12	1.33	1.39
2	M	301	ADP	C5-N7	-3.11	1.33	1.39
2	A	301	ADP	C5-N7	-3.11	1.33	1.39
2	L	301	ADP	C5-N7	-3.10	1.33	1.39
2	N	301	ADP	C5-N7	-3.10	1.33	1.39
2	O	301	ADP	C5-N7	-3.09	1.33	1.39
2	G	301	ADP	C5-N7	-3.09	1.33	1.39
2	P	301	ADP	C5-N7	-3.09	1.33	1.39
2	J	301	ADP	C5-N7	-3.09	1.33	1.39
2	B	301	ADP	C5-N7	-3.08	1.33	1.39
2	A	301	ADP	C8-N9	-2.37	1.33	1.37
2	D	301	ADP	C8-N9	-2.36	1.33	1.37
2	L	301	ADP	C8-N9	-2.36	1.33	1.37
2	B	301	ADP	C8-N9	-2.35	1.33	1.37
2	I	301	ADP	C8-N9	-2.35	1.33	1.37
2	P	301	ADP	C8-N9	-2.34	1.33	1.37
2	N	301	ADP	C8-N9	-2.33	1.33	1.37
2	C	301	ADP	C8-N9	-2.32	1.33	1.37
2	H	301	ADP	C8-N9	-2.31	1.33	1.37
2	J	301	ADP	C8-N9	-2.30	1.33	1.37
2	K	301	ADP	C8-N9	-2.30	1.33	1.37
2	G	301	ADP	C8-N9	-2.30	1.33	1.37
2	M	301	ADP	C8-N9	-2.30	1.33	1.37
2	O	301	ADP	C8-N9	-2.29	1.33	1.37
2	F	301	ADP	C8-N9	-2.29	1.33	1.37
2	E	301	ADP	C8-N9	-2.26	1.33	1.37
2	D	301	ADP	PA-O3A	2.15	1.61	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	K	302	TIZ	C1L-N1H	-2.15	1.34	1.38
3	F	302	TIZ	C1L-N1H	-2.14	1.34	1.38
3	I	302	TIZ	C1L-N1H	-2.12	1.34	1.38
2	M	301	ADP	PA-O3A	2.11	1.61	1.59
3	E	302	TIZ	C1L-N1H	-2.09	1.34	1.38
3	B	302	TIZ	C1L-N1H	-2.09	1.34	1.38
2	J	301	ADP	C4-N9	-2.09	1.33	1.37
3	J	302	TIZ	C1L-N1H	-2.08	1.34	1.38
2	G	301	ADP	C4-N9	-2.08	1.33	1.37
3	G	302	TIZ	C1L-N1H	-2.08	1.34	1.38
2	A	301	ADP	PA-O3A	2.08	1.61	1.59
3	M	302	TIZ	C1L-N1H	-2.07	1.34	1.38
2	O	301	ADP	C4-N9	-2.07	1.33	1.37
2	F	301	ADP	C4-N9	-2.07	1.33	1.37
2	B	301	ADP	C4-N9	-2.07	1.33	1.37
3	A	302	TIZ	C1L-N1H	-2.06	1.34	1.38
3	P	302	TIZ	C1L-N1H	-2.06	1.34	1.38
3	N	302	TIZ	C1L-N1H	-2.06	1.34	1.38
2	H	301	ADP	PA-O3A	2.06	1.61	1.59
2	D	301	ADP	C4-N9	-2.05	1.33	1.37
3	D	302	TIZ	C1L-N1H	-2.05	1.34	1.38
2	K	301	ADP	C4-N9	-2.05	1.33	1.37
2	M	301	ADP	C4-N9	-2.05	1.33	1.37
2	E	301	ADP	PA-O3A	2.05	1.61	1.59
3	O	302	TIZ	C1L-N1H	-2.04	1.34	1.38
3	H	302	TIZ	C1L-N1H	-2.04	1.34	1.38
2	I	301	ADP	C4-N9	-2.03	1.33	1.37
3	C	302	TIZ	C1L-N1H	-2.02	1.34	1.38
2	P	301	ADP	C4-N9	-2.02	1.33	1.37
2	A	301	ADP	C4-N9	-2.01	1.33	1.37
2	I	301	ADP	PA-O3A	2.01	1.61	1.59
2	E	301	ADP	C4-N9	-2.01	1.33	1.37
2	C	301	ADP	PA-O3A	2.01	1.61	1.59
2	N	301	ADP	C4-N9	-2.01	1.33	1.37
3	L	302	TIZ	C1L-N1H	-2.00	1.34	1.38

All (259) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	301	ADP	C5-C4-N3	-5.52	119.11	126.72
2	H	301	ADP	C5-C4-N3	-5.45	119.21	126.72
2	N	301	ADP	C5-C4-N3	-5.45	119.22	126.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L	301	ADP	C5-C4-N3	-5.44	119.23	126.72
2	D	301	ADP	C5-C4-N3	-5.41	119.26	126.72
2	C	301	ADP	C5-C4-N3	-5.41	119.27	126.72
2	J	301	ADP	C5-C4-N3	-5.38	119.31	126.72
2	P	301	ADP	C5-C4-N3	-5.38	119.31	126.72
2	E	301	ADP	C5-C4-N3	-5.37	119.33	126.72
2	B	301	ADP	C5-C4-N3	-5.35	119.35	126.72
2	F	301	ADP	C5-C4-N3	-5.32	119.39	126.72
2	O	301	ADP	C5-C4-N3	-5.23	119.52	126.72
2	A	301	ADP	C5-C4-N3	-5.22	119.52	126.72
2	M	301	ADP	C5-C4-N3	-5.18	119.58	126.72
2	K	301	ADP	C5-C4-N3	-5.17	119.59	126.72
2	G	301	ADP	C5-C4-N3	-5.03	119.80	126.72
3	L	302	TIZ	S1J-C1M-N1H	-4.78	107.94	114.19
3	A	302	TIZ	S1J-C1M-N1H	-4.75	107.99	114.19
3	G	302	TIZ	S1J-C1M-N1H	-4.62	108.15	114.19
2	E	301	ADP	N3-C2-N1	-4.61	121.61	128.58
3	J	302	TIZ	S1J-C1M-N1H	-4.58	108.20	114.19
3	P	302	TIZ	S1J-C1M-N1H	-4.57	108.21	114.19
2	O	301	ADP	N3-C2-N1	-4.56	121.68	128.58
2	H	301	ADP	N3-C2-N1	-4.56	121.68	128.58
3	D	302	TIZ	S1J-C1M-N1H	-4.56	108.24	114.19
3	N	302	TIZ	S1J-C1M-N1H	-4.55	108.24	114.19
2	D	301	ADP	N3-C2-N1	-4.54	121.70	128.58
2	M	301	ADP	N3-C2-N1	-4.53	121.72	128.58
2	L	301	ADP	N3-C2-N1	-4.53	121.72	128.58
3	M	302	TIZ	S1J-C1M-N1H	-4.50	108.31	114.19
2	A	301	ADP	N3-C2-N1	-4.50	121.78	128.58
2	N	301	ADP	N3-C2-N1	-4.49	121.78	128.58
3	H	302	TIZ	S1J-C1M-N1H	-4.49	108.32	114.19
2	P	301	ADP	N3-C2-N1	-4.46	121.84	128.58
3	I	302	TIZ	S1J-C1M-N1H	-4.44	108.39	114.19
3	O	302	TIZ	S1J-C1M-N1H	-4.43	108.39	114.19
2	I	301	ADP	N3-C2-N1	-4.43	121.87	128.58
2	K	301	ADP	N3-C2-N1	-4.41	121.90	128.58
2	B	301	ADP	N3-C2-N1	-4.40	121.92	128.58
2	C	301	ADP	N3-C2-N1	-4.37	121.97	128.58
3	A	302	TIZ	C1'-C1M-S1J	4.36	126.49	120.79
3	F	302	TIZ	S1J-C1M-N1H	-4.35	108.50	114.19
3	C	302	TIZ	S1J-C1M-N1H	-4.34	108.52	114.19
2	G	301	ADP	N3-C2-N1	-4.33	122.03	128.58
3	B	302	TIZ	S1J-C1M-N1H	-4.28	108.59	114.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	302	TIZ	S1J-C1M-N1H	-4.26	108.62	114.19
2	F	301	ADP	N3-C2-N1	-4.23	122.18	128.58
2	J	301	ADP	N3-C2-N1	-4.20	122.22	128.58
3	E	302	TIZ	S1J-C1M-N1H	-4.17	108.74	114.19
3	G	302	TIZ	C1'-C1M-S1J	4.11	126.16	120.79
3	F	302	TIZ	C1'-C1M-S1J	4.06	126.10	120.79
3	I	302	TIZ	C1'-C1M-S1J	4.03	126.05	120.79
2	I	301	ADP	N3-C4-N9	3.97	133.91	127.17
2	D	301	ADP	N3-C4-N9	3.90	133.80	127.17
2	E	301	ADP	N3-C4-N9	3.87	133.74	127.17
3	M	302	TIZ	C1'-C1M-S1J	3.84	125.80	120.79
3	C	302	TIZ	C1'-C1M-S1J	3.83	125.79	120.79
2	L	301	ADP	N3-C4-N9	3.83	133.68	127.17
3	H	302	TIZ	C1'-C1M-S1J	3.81	125.76	120.79
3	N	302	TIZ	C1'-C1M-S1J	3.79	125.74	120.79
2	H	301	ADP	N3-C4-N9	3.77	133.58	127.17
2	M	301	ADP	N3-C4-N9	3.77	133.57	127.17
2	C	301	ADP	N3-C4-N9	3.76	133.56	127.17
3	L	302	TIZ	C1'-C1M-S1J	3.76	125.69	120.79
2	O	301	ADP	N3-C4-N9	3.75	133.54	127.17
2	A	301	ADP	N3-C4-N9	3.74	133.53	127.17
2	N	301	ADP	N3-C4-N9	3.73	133.51	127.17
2	F	301	ADP	N3-C4-N9	3.72	133.50	127.17
3	L	302	TIZ	C1F-S1J-C1M	3.72	93.92	89.52
2	B	301	ADP	N3-C4-N9	3.71	133.48	127.17
2	J	301	ADP	N3-C4-N9	3.71	133.47	127.17
3	D	302	TIZ	C1F-S1J-C1M	3.69	93.89	89.52
2	P	301	ADP	N3-C4-N9	3.69	133.44	127.17
2	K	301	ADP	N3-C4-N9	3.68	133.42	127.17
3	J	302	TIZ	C1L-N1H-C1M	3.67	114.44	110.65
3	L	302	TIZ	C1L-N1H-C1M	3.66	114.43	110.65
2	H	301	ADP	C2-N3-C4	3.65	120.74	111.83
3	A	302	TIZ	C1F-S1J-C1M	3.64	93.83	89.52
3	B	302	TIZ	C1'-C1M-S1J	3.64	125.54	120.79
3	G	302	TIZ	C1F-S1J-C1M	3.60	93.78	89.52
2	G	301	ADP	N3-C4-N9	3.60	133.29	127.17
2	D	301	ADP	C2-N3-C4	3.60	120.62	111.83
2	I	301	ADP	C2-N3-C4	3.59	120.60	111.83
3	M	302	TIZ	C1F-S1J-C1M	3.59	93.77	89.52
2	L	301	ADP	C2-N3-C4	3.59	120.60	111.83
3	P	302	TIZ	C1F-S1J-C1M	3.59	93.77	89.52
2	E	301	ADP	C2-N3-C4	3.59	120.59	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	N	301	ADP	C2-N3-C4	3.57	120.56	111.83
2	P	301	ADP	C2-N3-C4	3.55	120.50	111.83
2	C	301	ADP	C2-N3-C4	3.53	120.46	111.83
2	O	301	ADP	C2-N3-C4	3.52	120.44	111.83
3	F	302	TIZ	C1L-N1H-C1M	3.52	114.29	110.65
2	B	301	ADP	C2-N3-C4	3.52	120.43	111.83
3	H	302	TIZ	C1F-S1J-C1M	3.51	93.67	89.52
2	M	301	ADP	C2-N3-C4	3.50	120.38	111.83
3	A	302	TIZ	C1L-N1H-C1M	3.47	114.23	110.65
3	O	302	TIZ	C1F-S1J-C1M	3.47	93.63	89.52
3	N	302	TIZ	C1L-N1H-C1M	3.46	114.22	110.65
2	A	301	ADP	C2-N3-C4	3.46	120.27	111.83
2	K	301	ADP	C2-N3-C4	3.45	120.26	111.83
3	K	302	TIZ	C1'-C1M-S1J	3.45	125.29	120.79
2	J	301	ADP	C2-N3-C4	3.44	120.24	111.83
3	J	302	TIZ	C1F-S1J-C1M	3.43	93.58	89.52
2	F	301	ADP	C2-N3-C4	3.43	120.21	111.83
3	N	302	TIZ	C1F-S1J-C1M	3.42	93.57	89.52
3	D	302	TIZ	C1L-C1F-S1J	-3.41	106.30	110.24
3	J	302	TIZ	C1'-C1M-S1J	3.39	125.22	120.79
3	I	302	TIZ	C1F-S1J-C1M	3.38	93.52	89.52
3	G	302	TIZ	C1L-N1H-C1M	3.34	114.10	110.65
3	O	302	TIZ	C1'-C1M-S1J	3.34	125.14	120.79
3	B	302	TIZ	C1F-S1J-C1M	3.33	93.47	89.52
2	G	301	ADP	C2-N3-C4	3.33	119.95	111.83
3	M	302	TIZ	C1L-C1F-S1J	-3.32	106.41	110.24
3	E	302	TIZ	C1'-C1M-S1J	3.29	125.09	120.79
3	P	302	TIZ	C1L-N1H-C1M	3.28	114.04	110.65
2	D	301	ADP	N9-C8-N7	-3.28	109.28	113.94
3	C	302	TIZ	C1F-S1J-C1M	3.28	93.41	89.52
3	D	302	TIZ	C1'-C1M-S1J	3.27	125.05	120.79
3	C	302	TIZ	C1L-N1H-C1M	3.25	114.00	110.65
3	H	302	TIZ	C1L-N1H-C1M	3.24	114.00	110.65
2	G	301	ADP	N9-C8-N7	-3.23	109.35	113.94
3	G	302	TIZ	C1L-C1F-S1J	-3.22	106.52	110.24
3	K	302	TIZ	C1F-S1J-C1M	3.22	93.34	89.52
3	A	302	TIZ	C1L-C1F-S1J	-3.22	106.52	110.24
3	E	302	TIZ	C2'-C1'-C1M	-3.22	108.85	114.94
3	I	302	TIZ	C1L-N1H-C1M	3.18	113.93	110.65
3	M	302	TIZ	C1L-N1H-C1M	3.17	113.93	110.65
3	O	302	TIZ	C1L-N1H-C1M	3.17	113.93	110.65
3	O	302	TIZ	C1L-C1F-S1J	-3.17	106.58	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	302	TIZ	C1L-C1F-S1J	-3.17	106.58	110.24
3	H	302	TIZ	C1L-C1F-S1J	-3.15	106.61	110.24
3	E	302	TIZ	C1L-N1H-C1M	3.14	113.89	110.65
3	D	302	TIZ	C1L-N1H-C1M	3.13	113.88	110.65
3	B	302	TIZ	C1L-C1F-S1J	-3.12	106.64	110.24
3	E	302	TIZ	C1F-S1J-C1M	3.11	93.21	89.52
3	G	302	TIZ	C5'-C4'-C3'	-3.11	107.76	115.10
3	F	302	TIZ	C1F-S1J-C1M	3.10	93.19	89.52
3	K	302	TIZ	C1L-N1H-C1M	3.10	113.85	110.65
3	I	302	TIZ	O4'-C1'-C2'	-3.10	100.86	105.15
3	P	302	TIZ	C1L-C1F-S1J	-3.10	106.66	110.24
2	B	301	ADP	N9-C8-N7	-3.09	109.56	113.94
3	I	302	TIZ	C1L-C1F-S1J	-3.08	106.68	110.24
2	C	301	ADP	N9-C8-N7	-3.06	109.59	113.94
2	M	301	ADP	N9-C8-N7	-3.06	109.59	113.94
2	L	301	ADP	N9-C8-N7	-3.03	109.64	113.94
3	F	302	TIZ	C4'-O4'-C1'	-3.03	100.85	108.44
2	A	301	ADP	N9-C8-N7	-2.99	109.69	113.94
2	O	301	ADP	N9-C8-N7	-2.99	109.69	113.94
3	B	302	TIZ	C1L-N1H-C1M	2.98	113.73	110.65
2	D	301	ADP	C5-N7-C8	2.97	108.12	103.45
3	N	302	TIZ	C1L-C1F-S1J	-2.97	106.82	110.24
2	P	301	ADP	N9-C8-N7	-2.95	109.75	113.94
3	C	302	TIZ	C4'-O4'-C1'	-2.95	101.05	108.44
3	P	302	TIZ	C5'-C4'-C3'	-2.95	108.14	115.10
2	I	301	ADP	N9-C8-N7	-2.94	109.76	113.94
3	K	302	TIZ	C1L-C1F-S1J	-2.93	106.85	110.24
3	E	302	TIZ	C5'-C4'-C3'	-2.92	108.20	115.10
2	H	301	ADP	N9-C8-N7	-2.92	109.79	113.94
2	C	301	ADP	C5-N7-C8	2.92	108.04	103.45
2	C	301	ADP	C4-C5-N7	-2.91	107.25	110.58
2	N	301	ADP	C4-C5-N7	-2.91	107.25	110.58
3	K	302	TIZ	C4'-O4'-C1'	-2.91	101.15	108.44
2	B	301	ADP	C4-C5-N7	-2.90	107.26	110.58
2	P	301	ADP	C4-C5-N7	-2.90	107.27	110.58
2	N	301	ADP	N9-C8-N7	-2.90	109.83	113.94
2	G	301	ADP	C5-N7-C8	2.90	108.00	103.45
3	M	302	TIZ	C4'-O4'-C1'	-2.89	101.20	108.44
2	J	301	ADP	N9-C8-N7	-2.88	109.86	113.94
3	J	302	TIZ	C1L-C1F-S1J	-2.87	106.93	110.24
2	B	301	ADP	C5-N7-C8	2.87	107.96	103.45
3	C	302	TIZ	C1L-C1F-S1J	-2.86	106.94	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	301	ADP	C4-C5-N7	-2.85	107.32	110.58
2	E	301	ADP	N9-C8-N7	-2.83	109.91	113.94
2	J	301	ADP	C4-C5-N7	-2.83	107.35	110.58
2	P	301	ADP	C5-N7-C8	2.82	107.88	103.45
2	F	301	ADP	N9-C8-N7	-2.82	109.94	113.94
2	N	301	ADP	C5-N7-C8	2.81	107.87	103.45
2	L	301	ADP	C5-N7-C8	2.81	107.86	103.45
3	B	302	TIZ	C5'-C4'-C3'	-2.80	108.48	115.10
3	A	302	TIZ	C4'-O4'-C1'	-2.79	101.45	108.44
2	H	301	ADP	C4-C5-N7	-2.79	107.39	110.58
2	L	301	ADP	C4-C5-N7	-2.78	107.40	110.58
2	H	301	ADP	C5-N7-C8	2.78	107.81	103.45
2	G	301	ADP	C4-C5-N7	-2.78	107.41	110.58
2	K	301	ADP	N9-C8-N7	-2.77	110.01	113.94
2	A	301	ADP	C5-N7-C8	2.76	107.79	103.45
2	M	301	ADP	C5-N7-C8	2.75	107.77	103.45
3	E	302	TIZ	C1L-C1F-S1J	-2.74	107.07	110.24
3	L	302	TIZ	C4'-O4'-C1'	-2.74	101.58	108.44
2	J	301	ADP	C5-N7-C8	2.73	107.74	103.45
3	D	302	TIZ	C5'-C4'-C3'	-2.73	108.65	115.10
3	H	302	TIZ	C5'-C4'-C3'	-2.72	108.67	115.10
3	P	302	TIZ	C1'-C1M-S1J	2.72	124.34	120.79
2	I	301	ADP	C5-N7-C8	2.71	107.71	103.45
2	O	301	ADP	C5-N7-C8	2.71	107.70	103.45
2	A	301	ADP	C4-C5-N7	-2.71	107.49	110.58
3	D	302	TIZ	C2'-C1'-C1M	-2.69	109.84	114.94
2	D	301	ADP	C3'-C2'-C1'	-2.69	96.37	101.46
3	O	302	TIZ	C5'-C4'-C3'	-2.67	108.80	115.10
3	N	302	TIZ	C5'-C4'-C3'	-2.65	108.84	115.10
3	F	302	TIZ	C1L-C1F-S1J	-2.65	107.18	110.24
2	I	301	ADP	C4-C5-N7	-2.65	107.56	110.58
2	O	301	ADP	C3'-C2'-C1'	-2.64	96.46	101.46
2	F	301	ADP	C4-C5-N7	-2.64	107.56	110.58
2	F	301	ADP	C5-N7-C8	2.64	107.60	103.45
2	O	301	ADP	C4-C5-N7	-2.64	107.57	110.58
3	H	302	TIZ	C4'-O4'-C1'	-2.62	101.87	108.44
2	E	301	ADP	C5-N7-C8	2.61	107.55	103.45
2	M	301	ADP	C4-C5-N7	-2.60	107.60	110.58
3	G	302	TIZ	C4'-O4'-C1'	-2.58	101.98	108.44
3	I	302	TIZ	C5'-C4'-C3'	-2.57	109.03	115.10
3	C	302	TIZ	O4'-C1'-C2'	-2.57	101.60	105.15
2	K	301	ADP	C5-N7-C8	2.56	107.48	103.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	P	302	TIZ	C1F-C1L-C1K	-2.55	119.73	123.90
2	H	301	ADP	C3'-C2'-C1'	-2.54	96.66	101.46
2	E	301	ADP	C4-C5-N7	-2.53	107.69	110.58
2	K	301	ADP	C4-C5-N7	-2.53	107.69	110.58
3	J	302	TIZ	C4'-O4'-C1'	-2.52	102.12	108.44
2	D	301	ADP	C4-N9-C8	2.48	108.35	105.74
2	C	301	ADP	C3'-C2'-C1'	-2.47	96.78	101.46
2	G	301	ADP	C4-N9-C8	2.47	108.33	105.74
3	P	302	TIZ	C4'-O4'-C1'	-2.46	102.27	108.44
2	B	301	ADP	C3'-C2'-C1'	-2.45	96.82	101.46
2	G	301	ADP	C3'-C2'-C1'	-2.43	96.86	101.46
3	I	302	TIZ	C4'-O4'-C1'	-2.43	102.36	108.44
3	P	302	TIZ	O4'-C1'-C2'	-2.41	101.82	105.15
3	N	302	TIZ	C4'-O4'-C1'	-2.40	102.43	108.44
3	O	302	TIZ	C4'-O4'-C1'	-2.39	102.46	108.44
3	B	302	TIZ	C4'-O4'-C1'	-2.38	102.47	108.44
3	D	302	TIZ	C4'-O4'-C1'	-2.37	102.50	108.44
3	J	302	TIZ	C5'-C4'-C3'	-2.35	109.54	115.10
3	K	302	TIZ	C5'-C4'-C3'	-2.33	109.59	115.10
2	A	301	ADP	C3'-C2'-C1'	-2.33	97.05	101.46
2	M	301	ADP	C4-N9-C8	2.33	108.19	105.74
3	E	302	TIZ	C4'-O4'-C1'	-2.31	102.65	108.44
3	L	302	TIZ	C5'-C4'-C3'	-2.27	109.73	115.10
3	M	302	TIZ	O4'-C1'-C2'	-2.26	102.02	105.15
2	A	301	ADP	C4-N9-C8	2.24	108.09	105.74
2	O	301	ADP	C4-N9-C8	2.24	108.09	105.74
3	H	302	TIZ	O4'-C1'-C2'	-2.23	102.06	105.15
2	L	301	ADP	C3'-C2'-C1'	-2.21	97.28	101.46
2	B	301	ADP	C4-N9-C8	2.20	108.05	105.74
3	P	302	TIZ	C1'-C1M-N1H	2.18	127.42	124.48
3	A	302	TIZ	O4'-C1'-C2'	-2.17	102.14	105.15
2	L	301	ADP	C4-N9-C8	2.17	108.01	105.74
2	I	301	ADP	C4-N9-C8	2.15	108.00	105.74
3	L	302	TIZ	C1F-C1L-C1K	-2.13	120.43	123.90
3	D	302	TIZ	C1F-C1L-C1K	-2.13	120.43	123.90
3	A	302	TIZ	C5'-C4'-C3'	-2.12	110.08	115.10
3	P	302	TIZ	C2'-C1'-C1M	-2.11	110.94	114.94
2	E	301	ADP	C3'-C2'-C1'	-2.11	97.46	101.46
2	D	301	ADP	O4'-C1'-N9	2.10	112.13	108.09
2	C	301	ADP	C4-N9-C8	2.09	107.94	105.74
3	F	302	TIZ	O4'-C1'-C2'	-2.08	102.27	105.15
3	O	302	TIZ	O4'-C1'-C2'	-2.08	102.27	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	301	ADP	C4-N9-C8	2.08	107.92	105.74
2	I	301	ADP	C3'-C2'-C1'	-2.06	97.57	101.46
2	P	301	ADP	C4-N9-C8	2.03	107.87	105.74
3	L	302	TIZ	O4'-C1'-C2'	-2.01	102.37	105.15

There are no chirality outliers.

All (59) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	302	TIZ	O4'-C1'-C1M-N1H
3	A	302	TIZ	O4'-C1'-C1M-S1J
3	A	302	TIZ	O1B-C1K-C1L-C1F
3	B	302	TIZ	O4'-C1'-C1M-N1H
3	B	302	TIZ	O4'-C1'-C1M-S1J
3	B	302	TIZ	O1B-C1K-C1L-C1F
3	C	302	TIZ	O4'-C1'-C1M-N1H
3	C	302	TIZ	O4'-C1'-C1M-S1J
3	C	302	TIZ	O1B-C1K-C1L-C1F
3	D	302	TIZ	O4'-C1'-C1M-N1H
3	D	302	TIZ	O4'-C1'-C1M-S1J
3	D	302	TIZ	O1B-C1K-C1L-C1F
3	E	302	TIZ	O4'-C1'-C1M-N1H
3	E	302	TIZ	O4'-C1'-C1M-S1J
3	E	302	TIZ	O1B-C1K-C1L-C1F
3	F	302	TIZ	O4'-C1'-C1M-N1H
3	F	302	TIZ	O4'-C1'-C1M-S1J
3	F	302	TIZ	O1B-C1K-C1L-C1F
3	G	302	TIZ	O4'-C1'-C1M-N1H
3	G	302	TIZ	O4'-C1'-C1M-S1J
3	G	302	TIZ	O1B-C1K-C1L-C1F
3	H	302	TIZ	O4'-C1'-C1M-N1H
3	H	302	TIZ	O4'-C1'-C1M-S1J
3	H	302	TIZ	O1B-C1K-C1L-C1F
3	I	302	TIZ	O4'-C1'-C1M-N1H
3	I	302	TIZ	O4'-C1'-C1M-S1J
3	I	302	TIZ	O1B-C1K-C1L-C1F
3	J	302	TIZ	O4'-C1'-C1M-N1H
3	J	302	TIZ	O4'-C1'-C1M-S1J
3	J	302	TIZ	O1B-C1K-C1L-C1F
3	K	302	TIZ	O4'-C1'-C1M-N1H
3	K	302	TIZ	O4'-C1'-C1M-S1J
3	K	302	TIZ	O1B-C1K-C1L-C1F

Continued on next page...

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Mol	Chain	Res	Type	Atoms
3	L	302	TIZ	O4'-C1'-C1M-N1H
3	L	302	TIZ	O4'-C1'-C1M-S1J
3	L	302	TIZ	O1B-C1K-C1L-C1F
3	M	302	TIZ	O4'-C1'-C1M-N1H
3	M	302	TIZ	O4'-C1'-C1M-S1J
3	M	302	TIZ	O1B-C1K-C1L-C1F
3	N	302	TIZ	O4'-C1'-C1M-N1H
3	N	302	TIZ	O4'-C1'-C1M-S1J
3	N	302	TIZ	O1B-C1K-C1L-C1F
3	O	302	TIZ	O4'-C1'-C1M-N1H
3	O	302	TIZ	O4'-C1'-C1M-S1J
3	O	302	TIZ	O1B-C1K-C1L-C1F
3	P	302	TIZ	O4'-C1'-C1M-N1H
3	P	302	TIZ	O4'-C1'-C1M-S1J
3	P	302	TIZ	O1B-C1K-C1L-C1F
3	E	302	TIZ	O1B-C1K-C1L-N1H
3	E	302	TIZ	N1A-C1K-C1L-N1H
3	B	302	TIZ	C2'-C1'-C1M-N1H
3	C	302	TIZ	C2'-C1'-C1M-N1H
3	I	302	TIZ	C2'-C1'-C1M-N1H
3	K	302	TIZ	C2'-C1'-C1M-N1H
3	L	302	TIZ	C2'-C1'-C1M-N1H
2	E	301	ADP	C2'-C1'-N9-C8
2	K	301	ADP	C2'-C1'-N9-C8
2	H	301	ADP	C2'-C1'-N9-C8
2	M	301	ADP	C2'-C1'-N9-C8

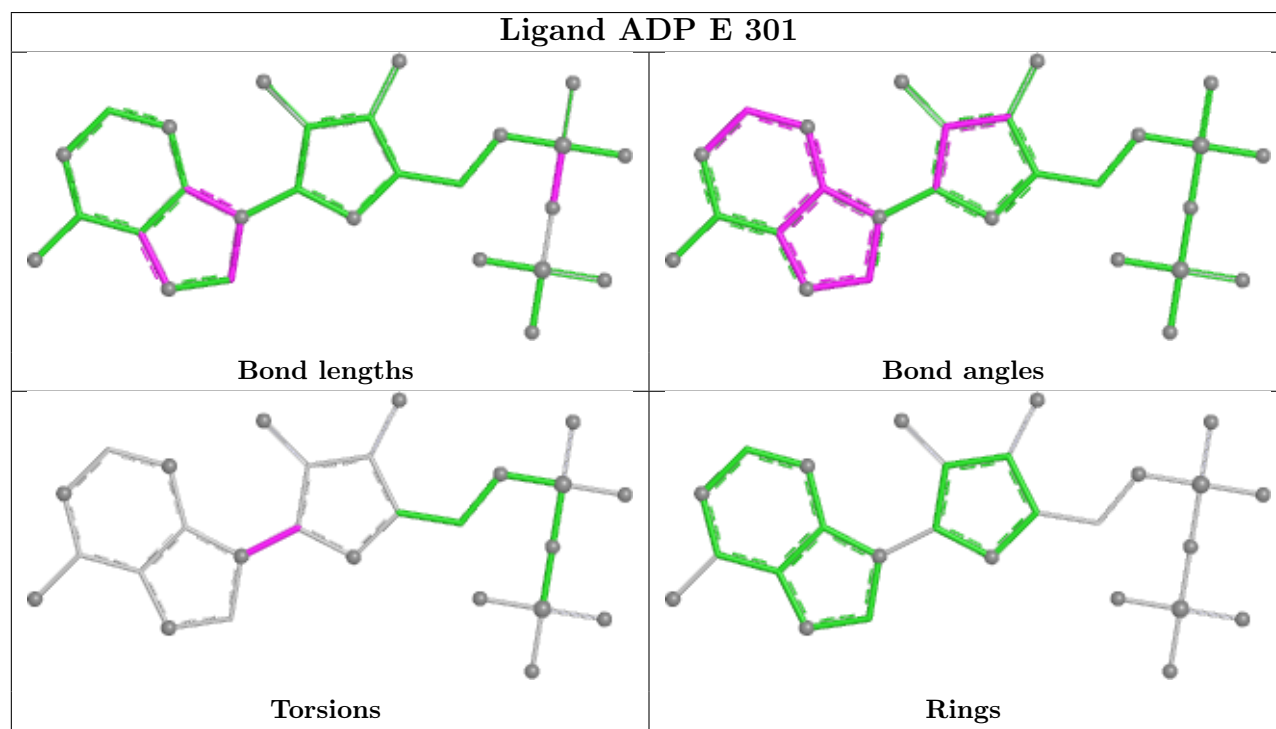
There are no ring outliers.

9 monomers are involved in 9 short contacts:

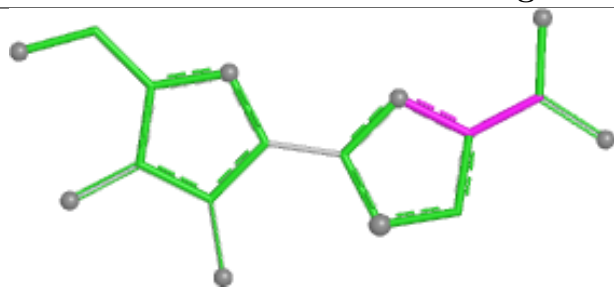
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	301	ADP	1	0
2	D	301	ADP	1	0
3	I	302	TIZ	1	0
3	F	302	TIZ	1	0
2	F	301	ADP	1	0
2	I	301	ADP	1	0
2	A	301	ADP	1	0
2	H	301	ADP	1	0
2	C	301	ADP	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

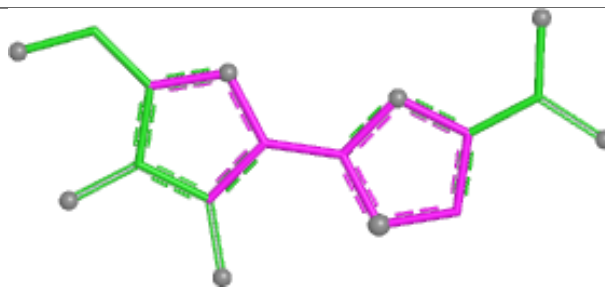
bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 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.



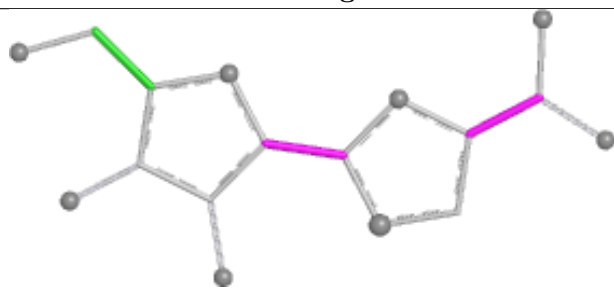
Ligand TIZ M 302



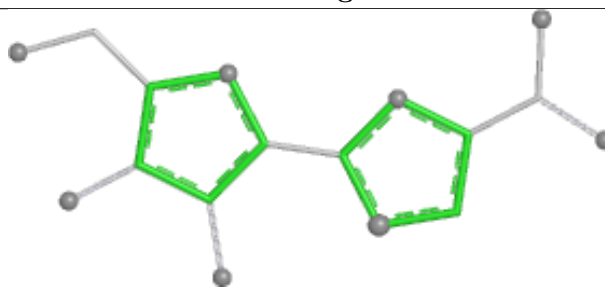
Bond lengths



Bond angles

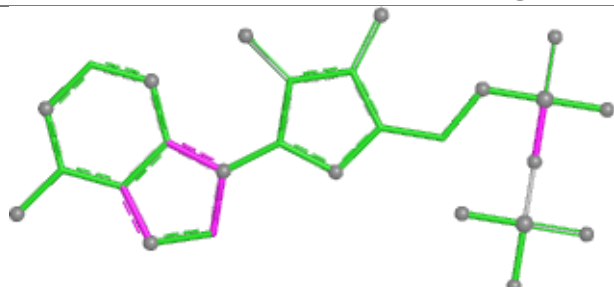


Torsions

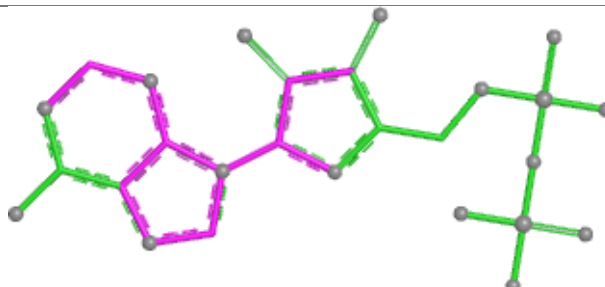


Rings

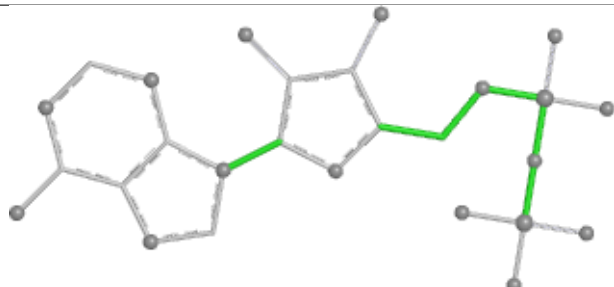
Ligand ADP D 301



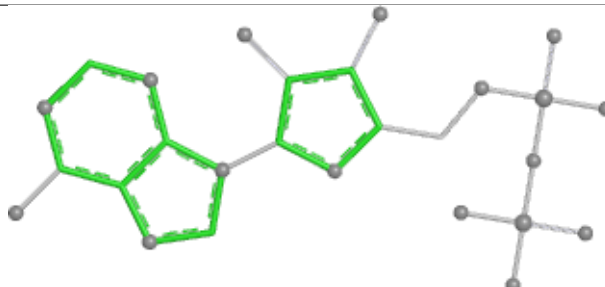
Bond lengths



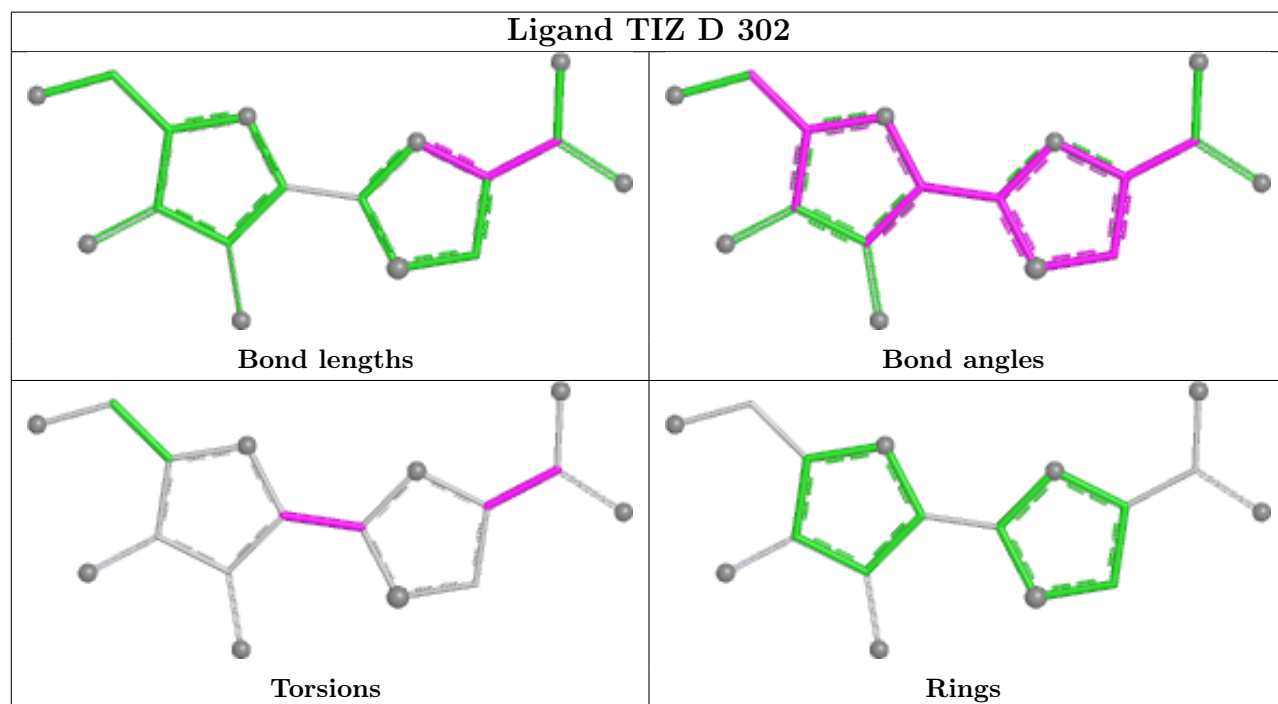
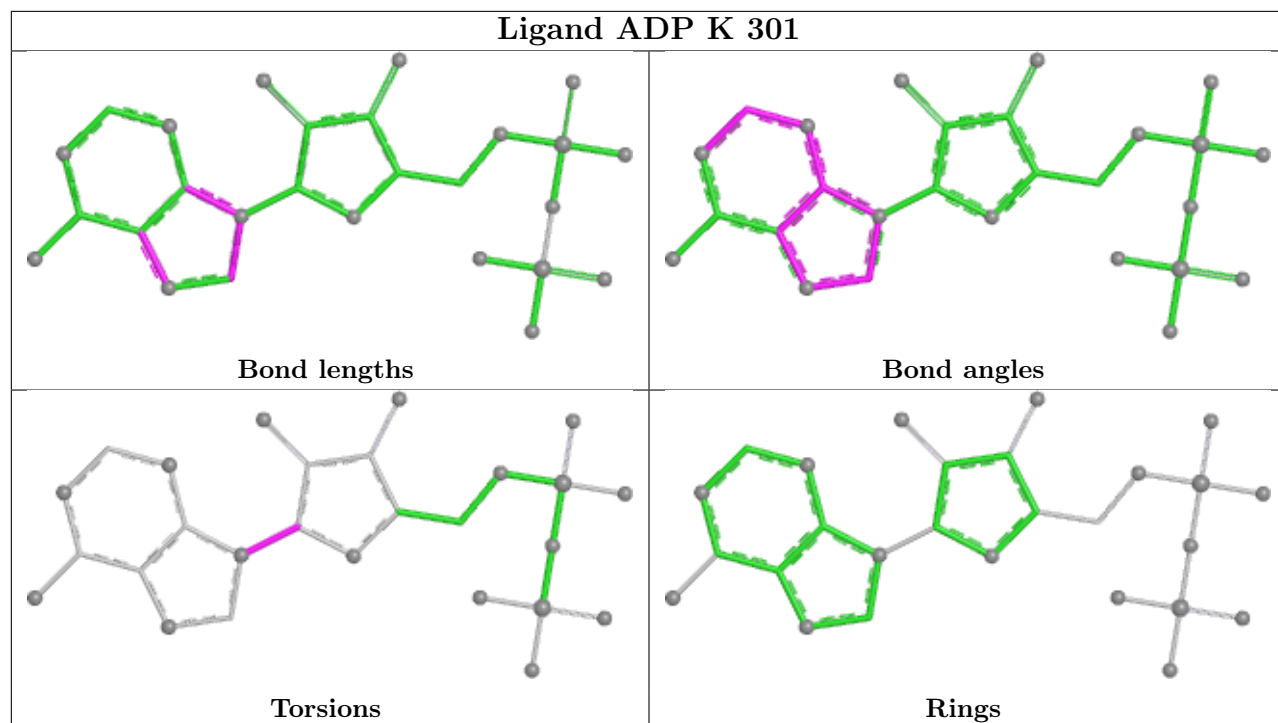
Bond angles

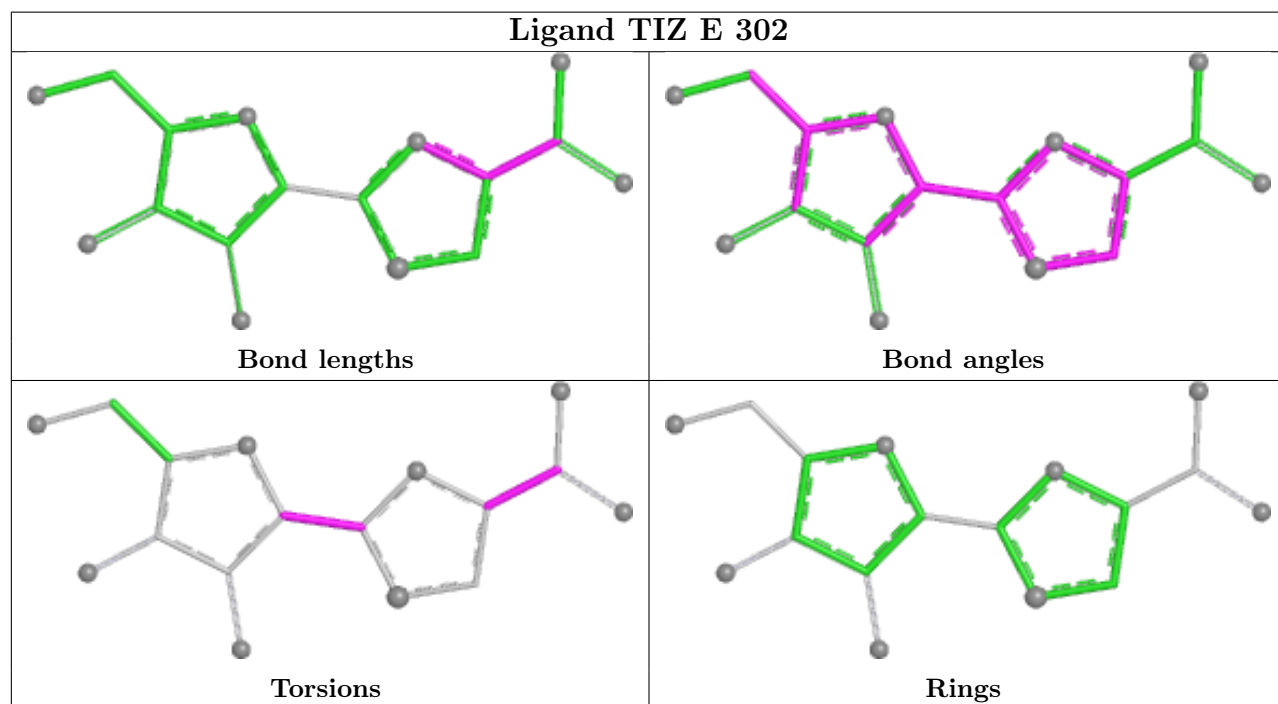
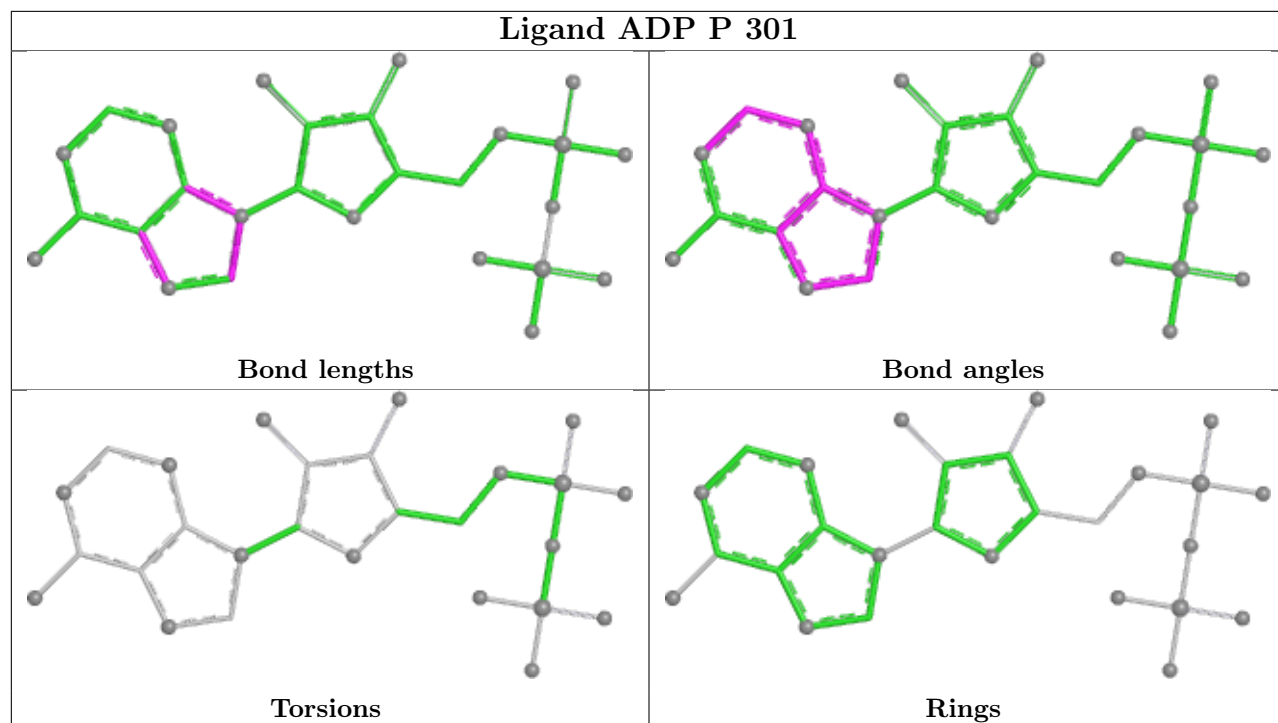


Torsions

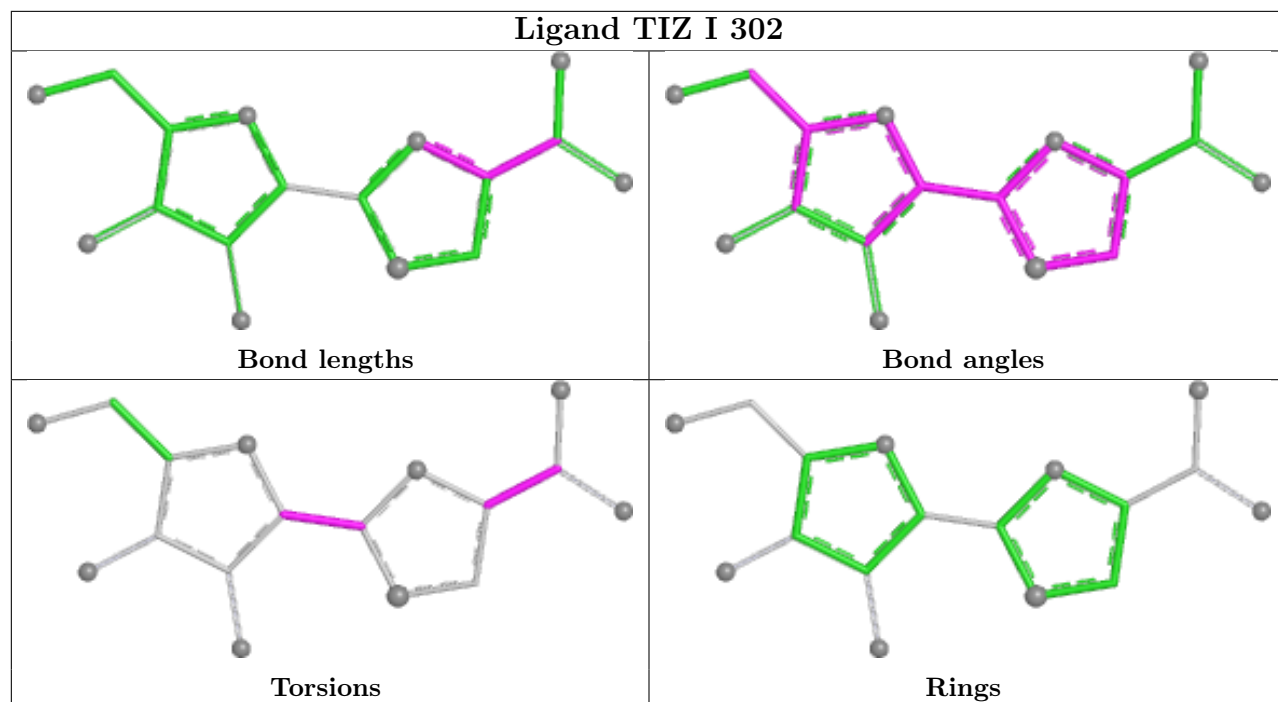


Rings

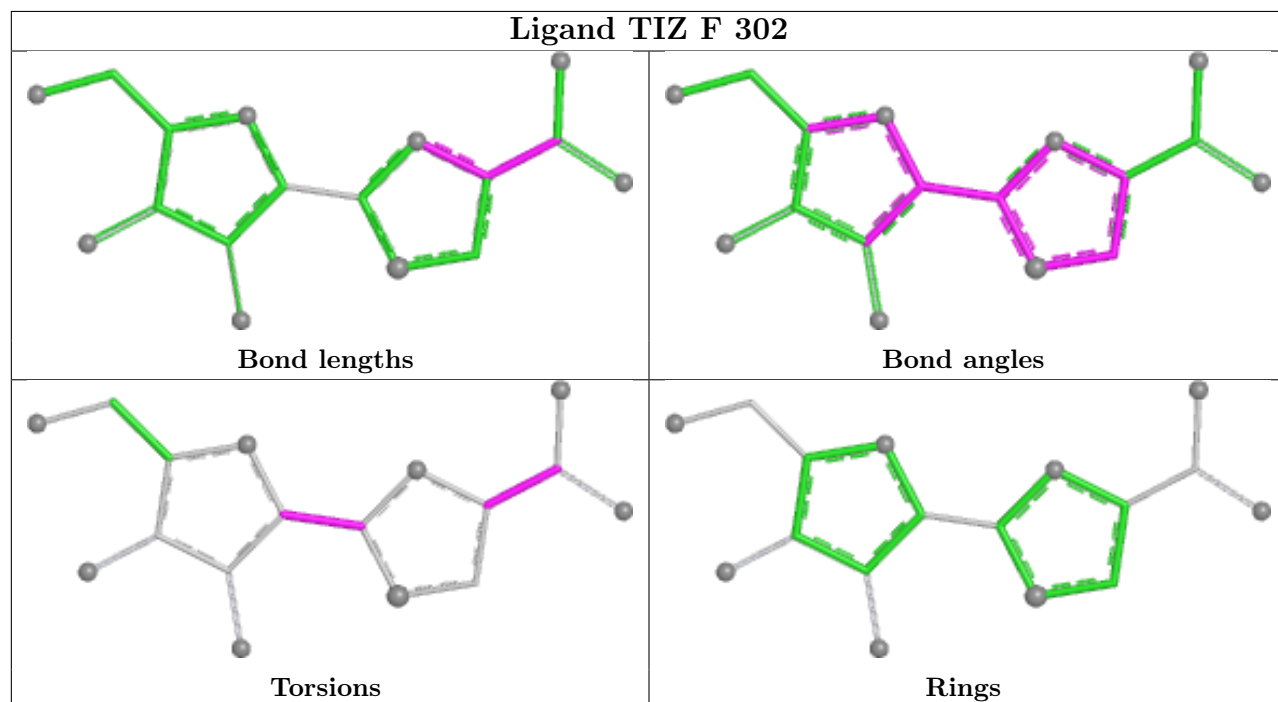




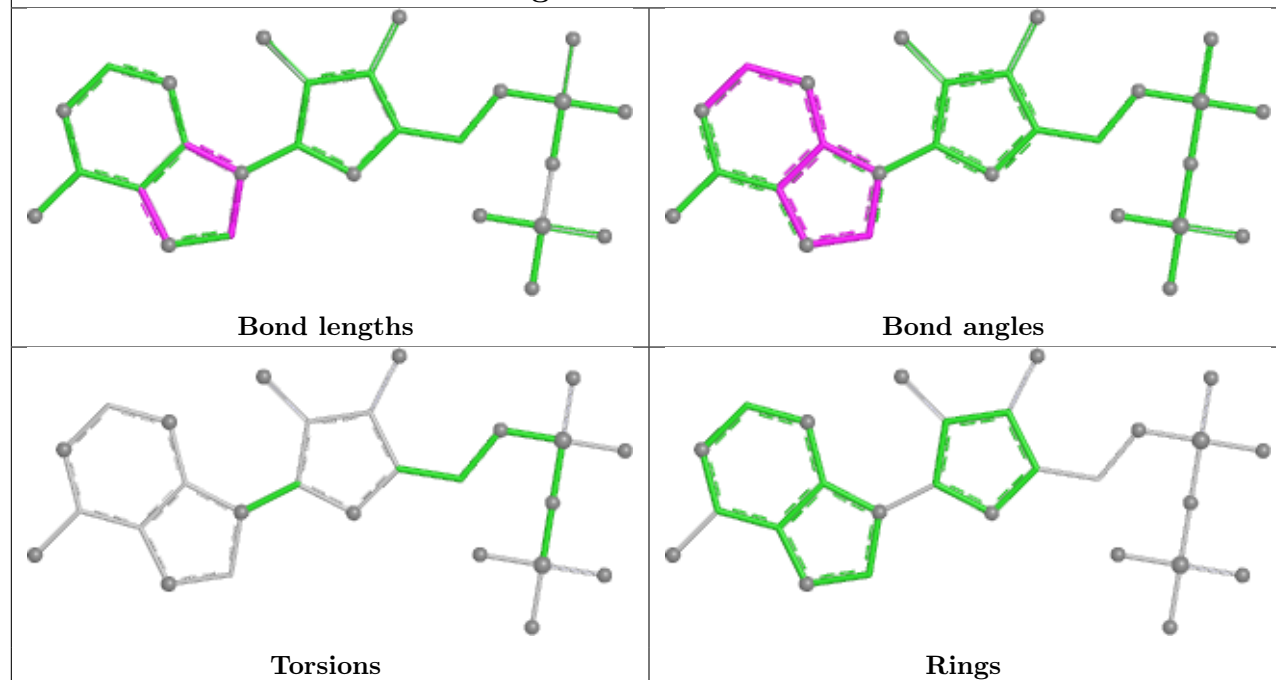
Ligand TIZ I 302



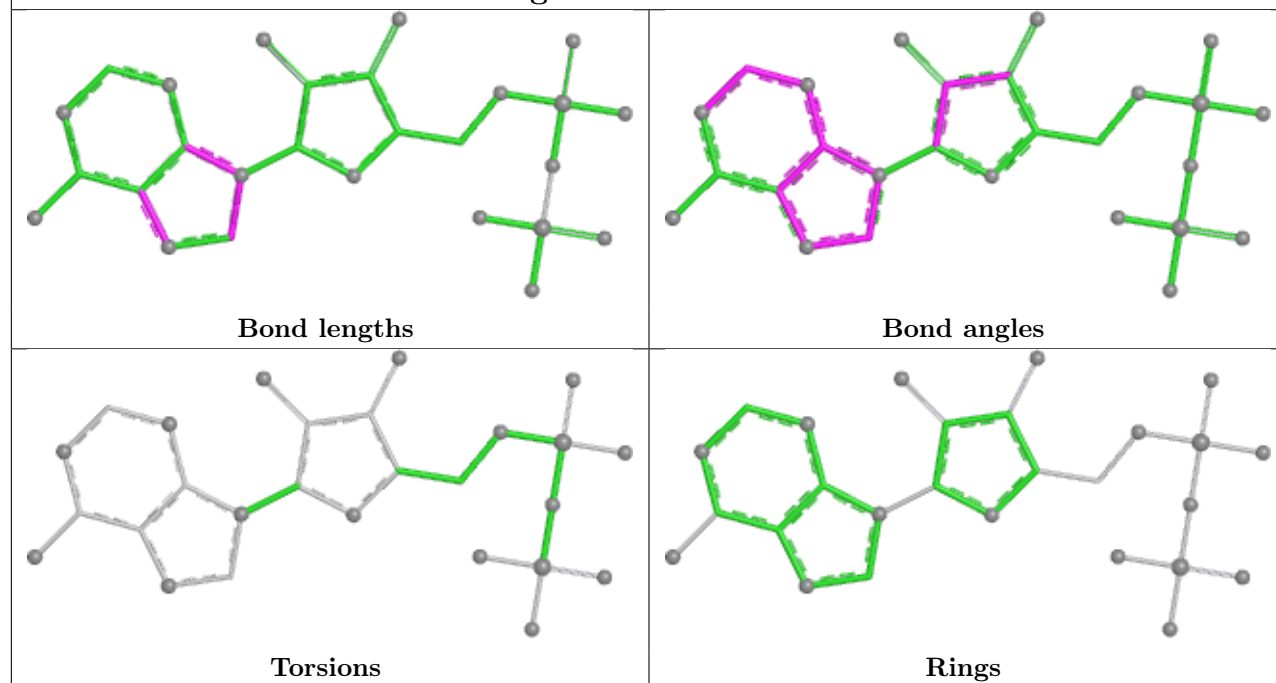
Ligand TIZ F 302



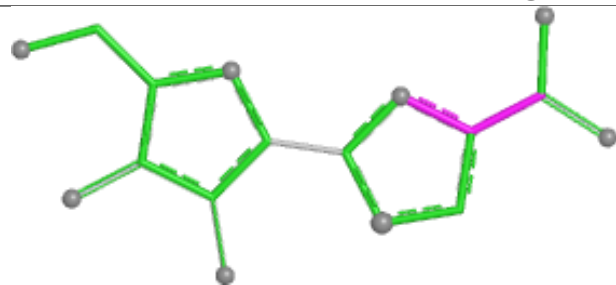
Ligand ADP F 301



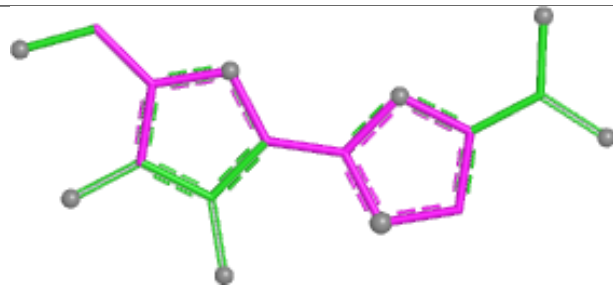
Ligand ADP B 301



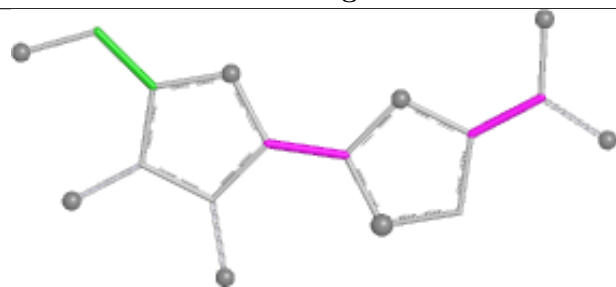
Ligand TIZ K 302



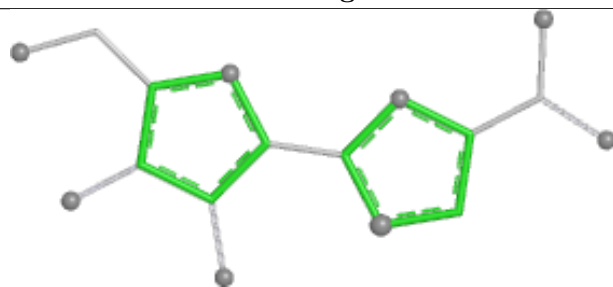
Bond lengths



Bond angles

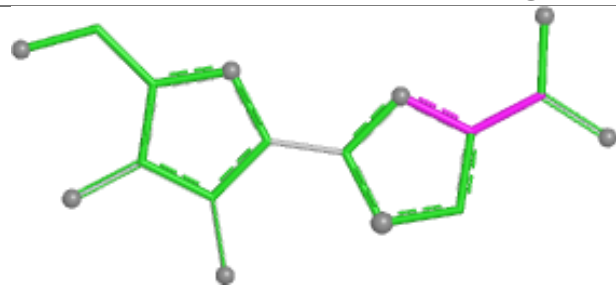


Torsions

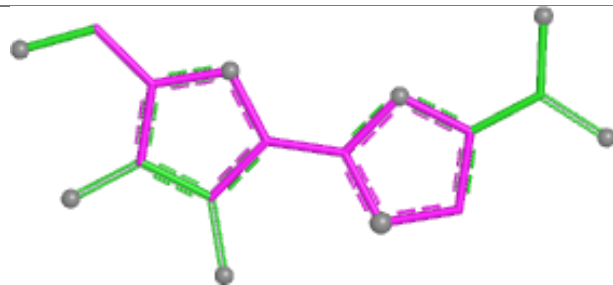


Rings

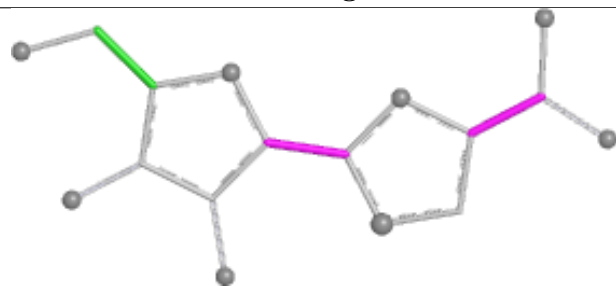
Ligand TIZ H 302



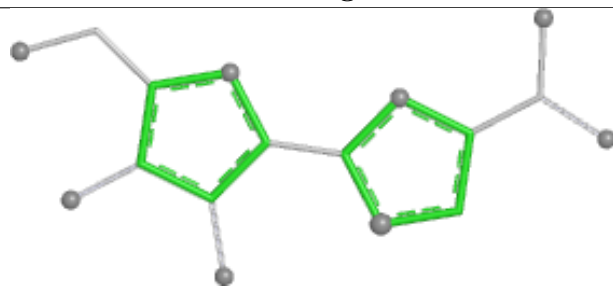
Bond lengths



Bond angles

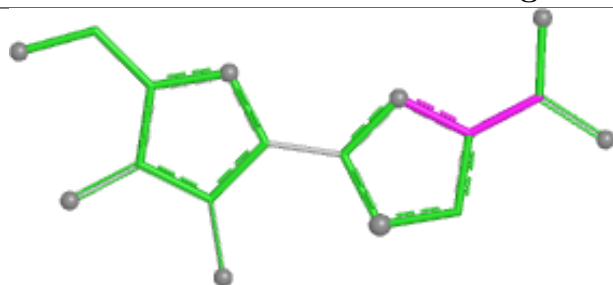


Torsions

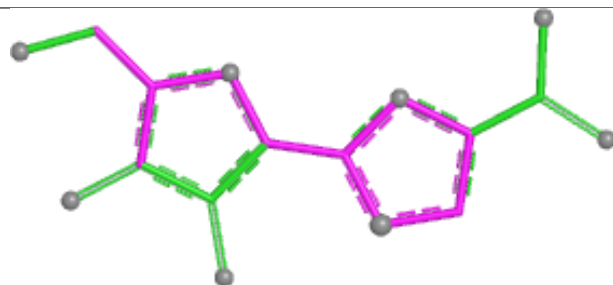


Rings

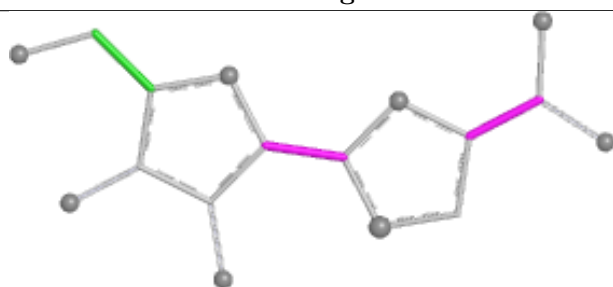
Ligand TIZ G 302



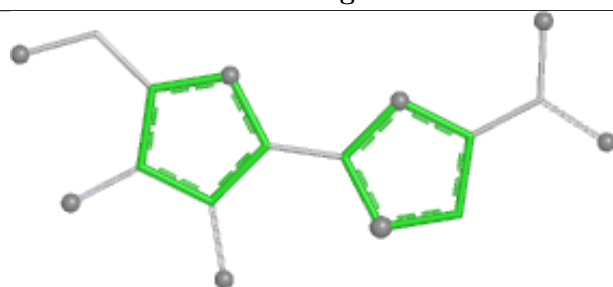
Bond lengths



Bond angles

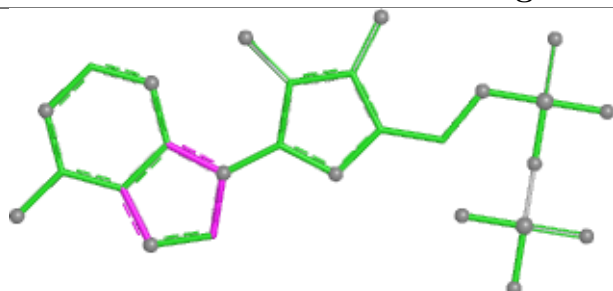


Torsions

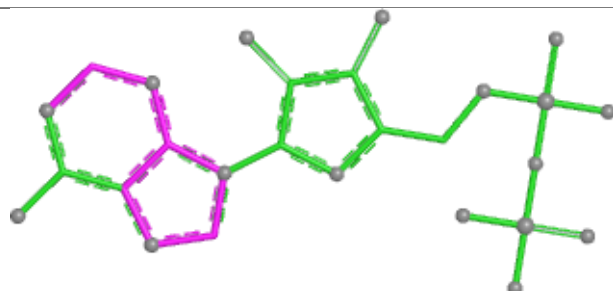


Rings

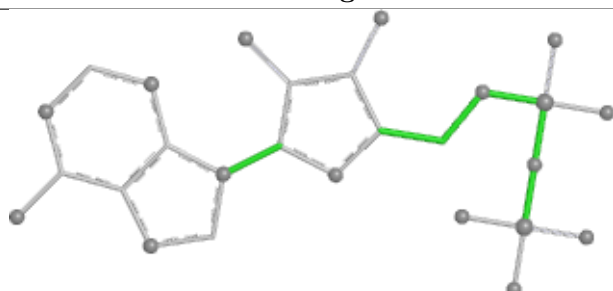
Ligand ADP J 301



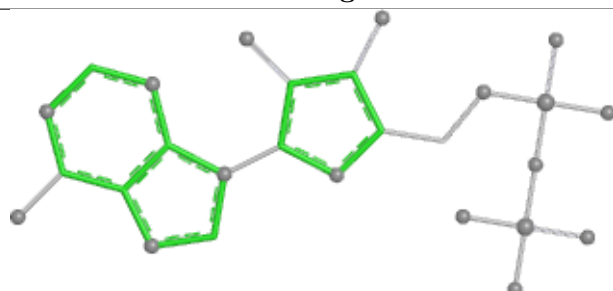
Bond lengths



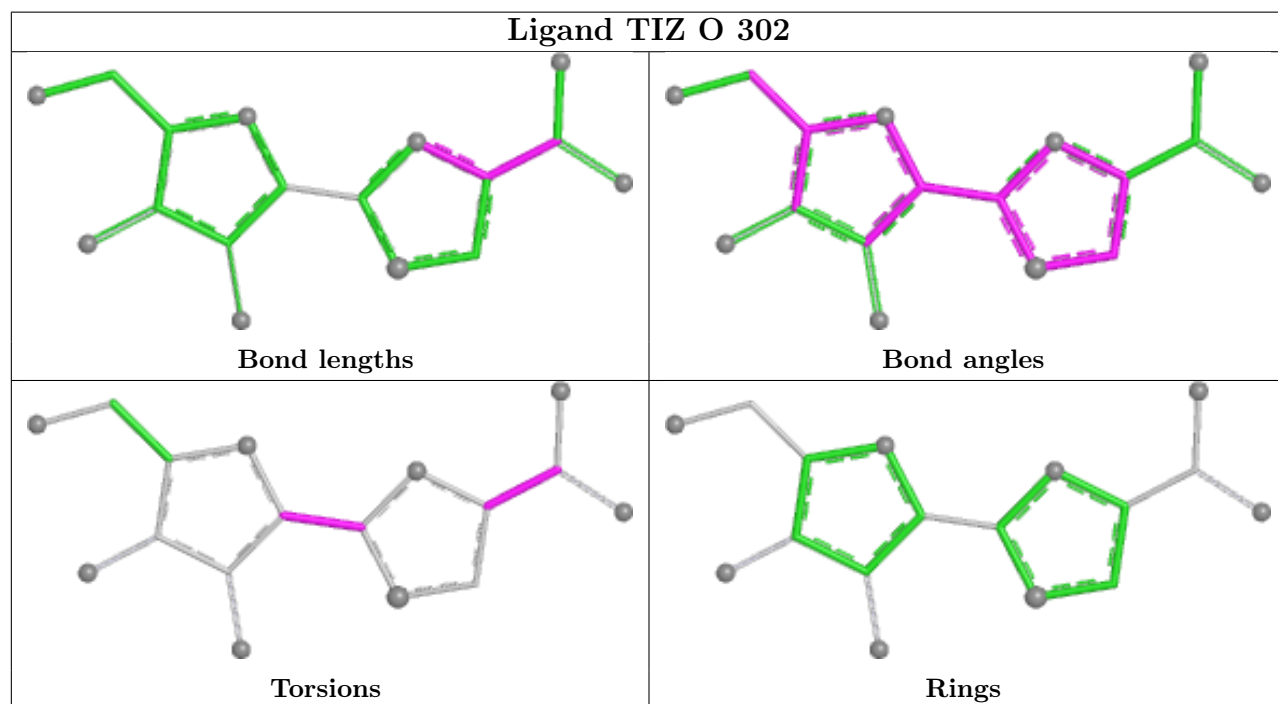
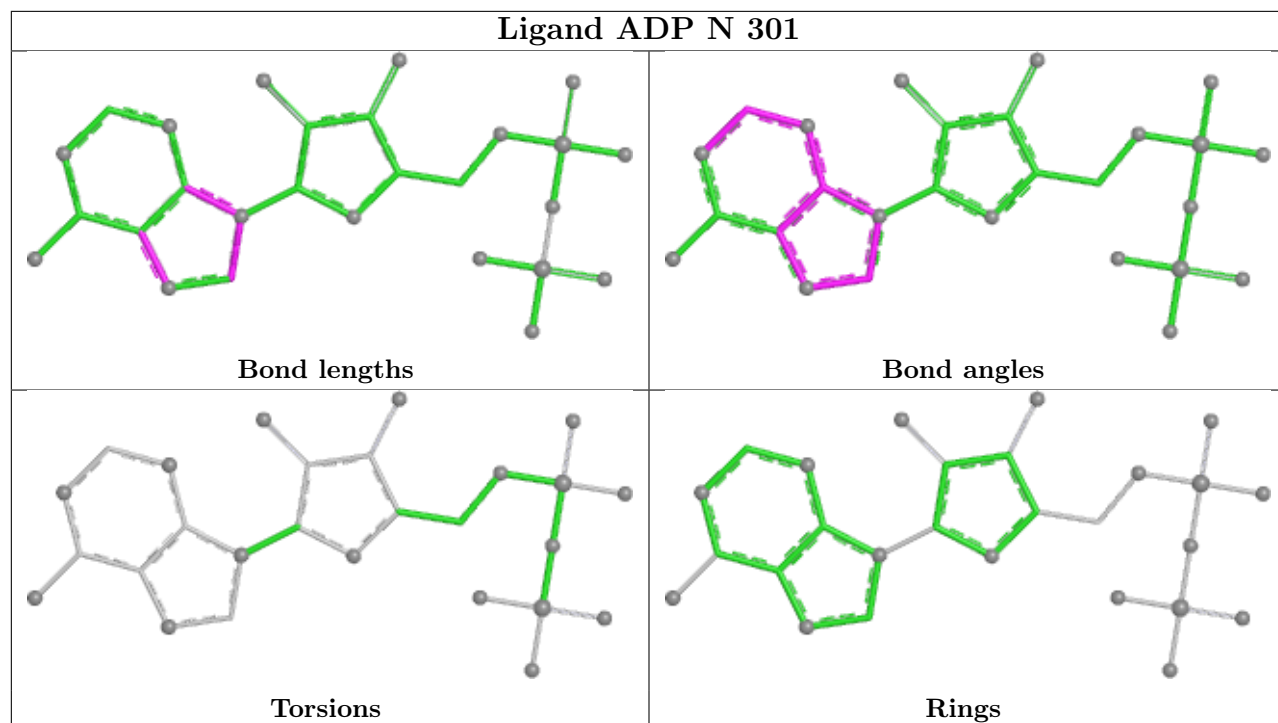
Bond angles



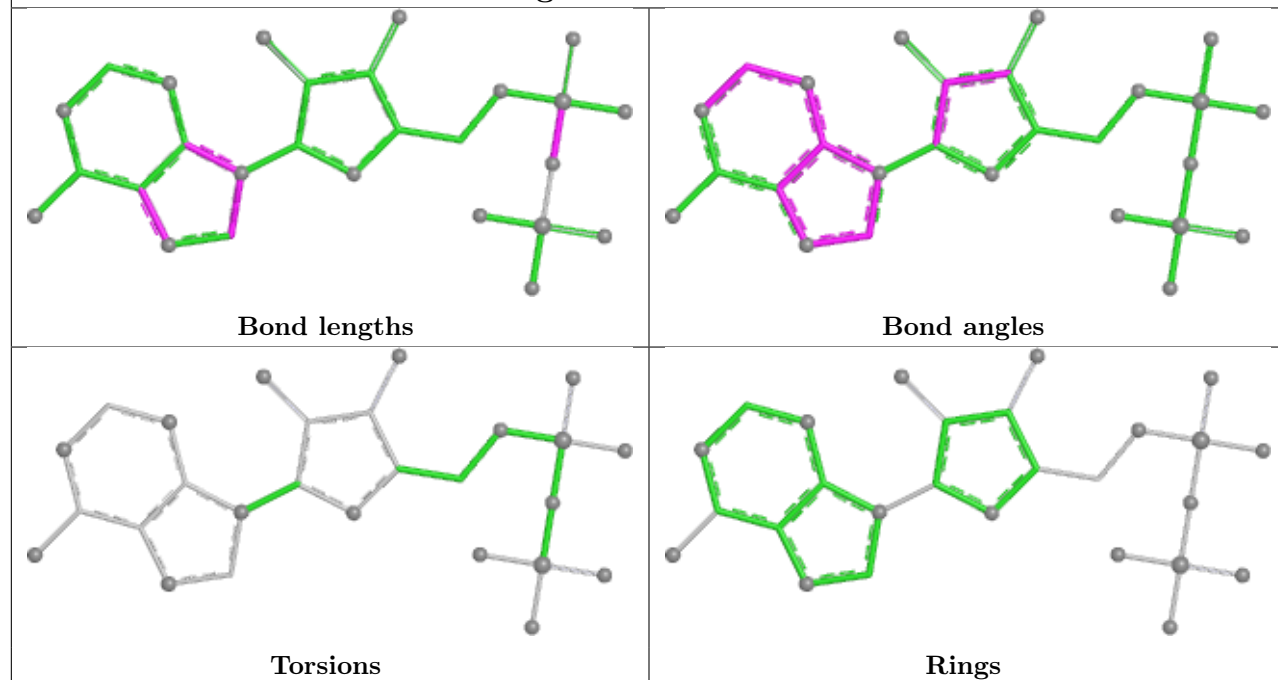
Torsions



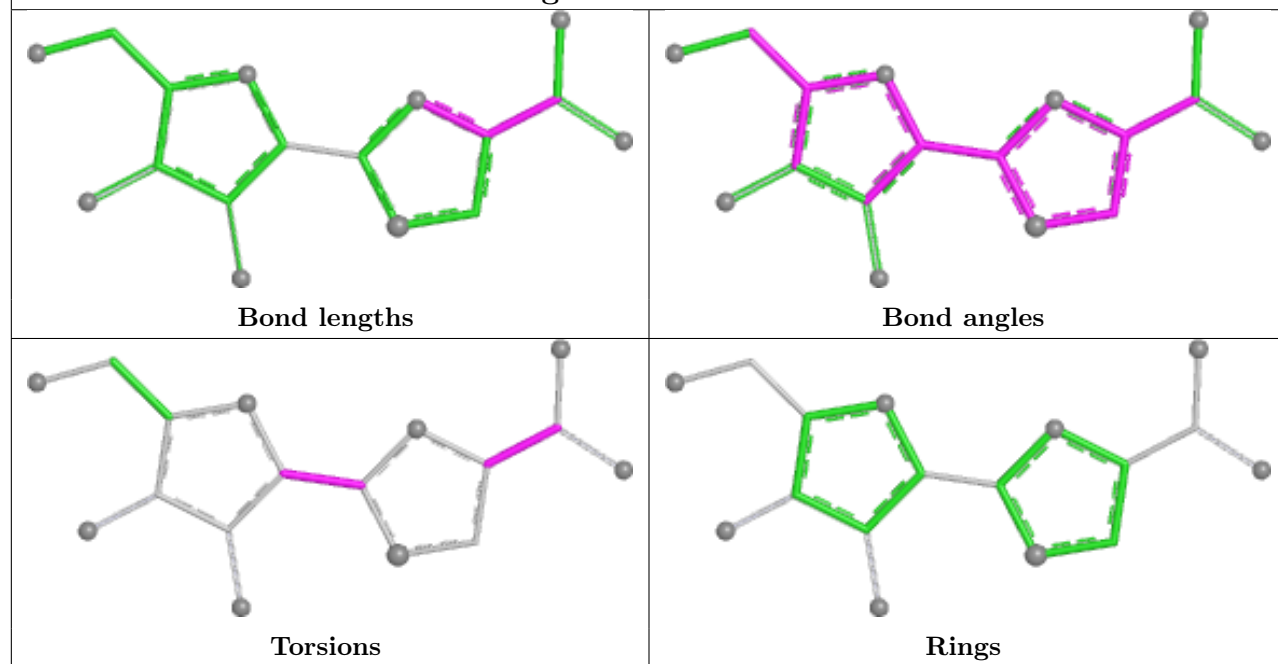
Rings



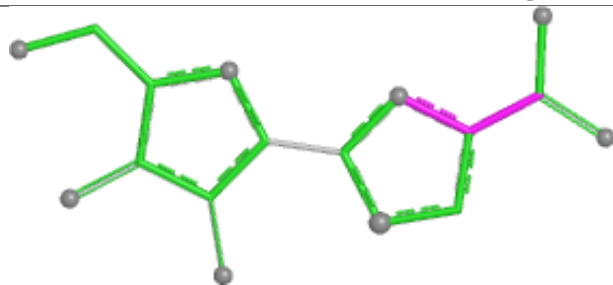
Ligand ADP I 301



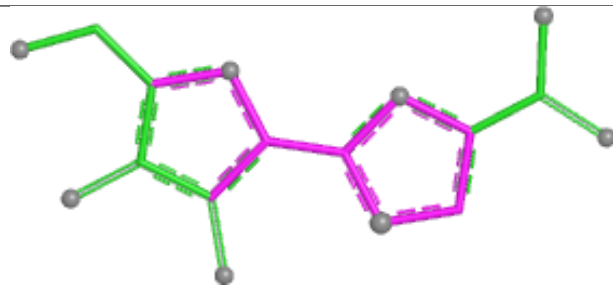
Ligand TIZ L 302



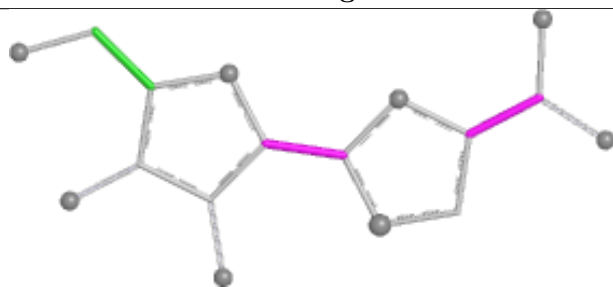
Ligand TIZ C 302



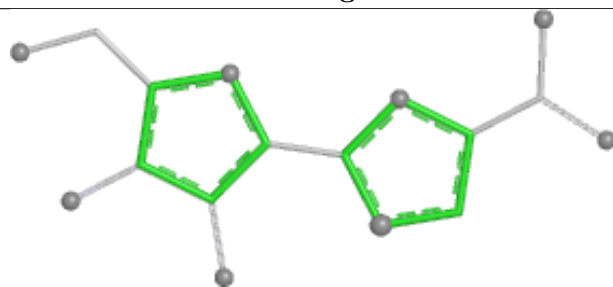
Bond lengths



Bond angles

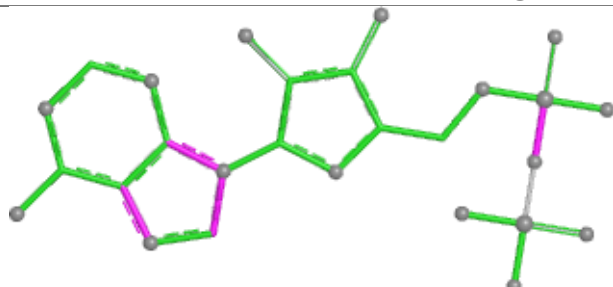


Torsions

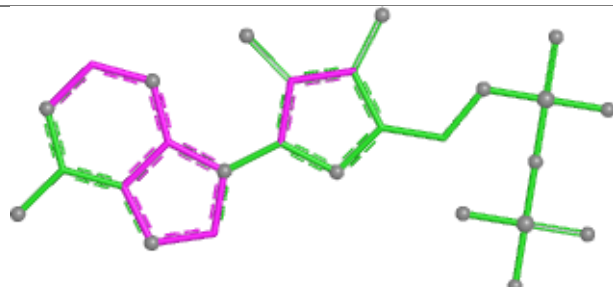


Rings

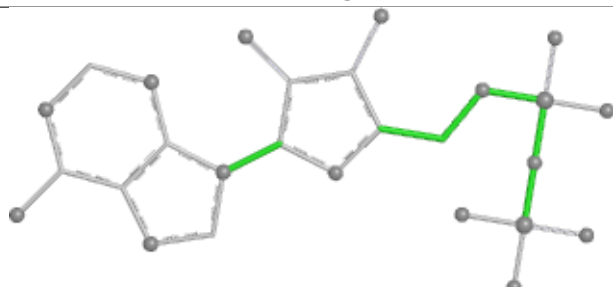
Ligand ADP A 301



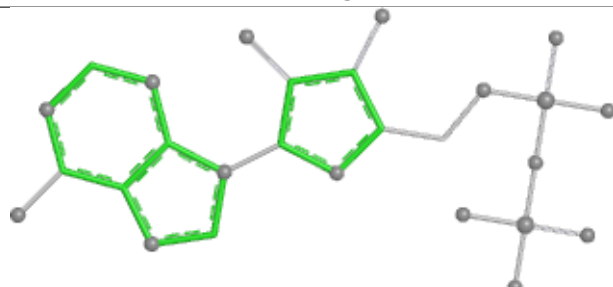
Bond lengths



Bond angles

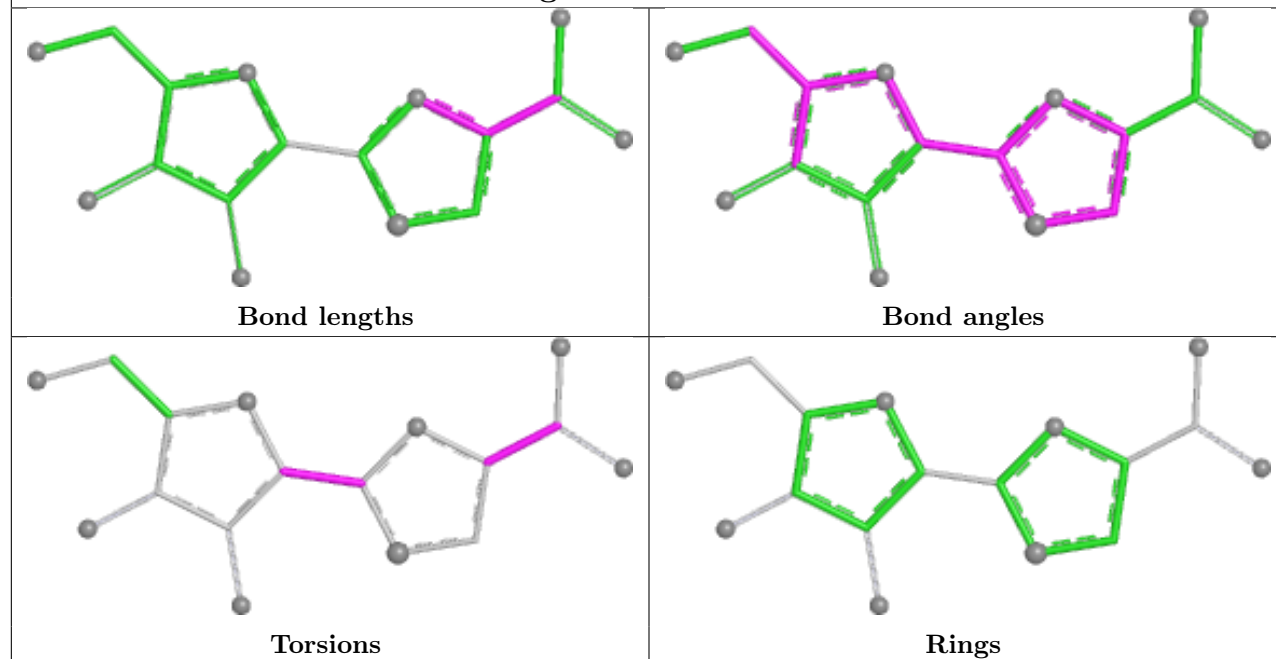


Torsions

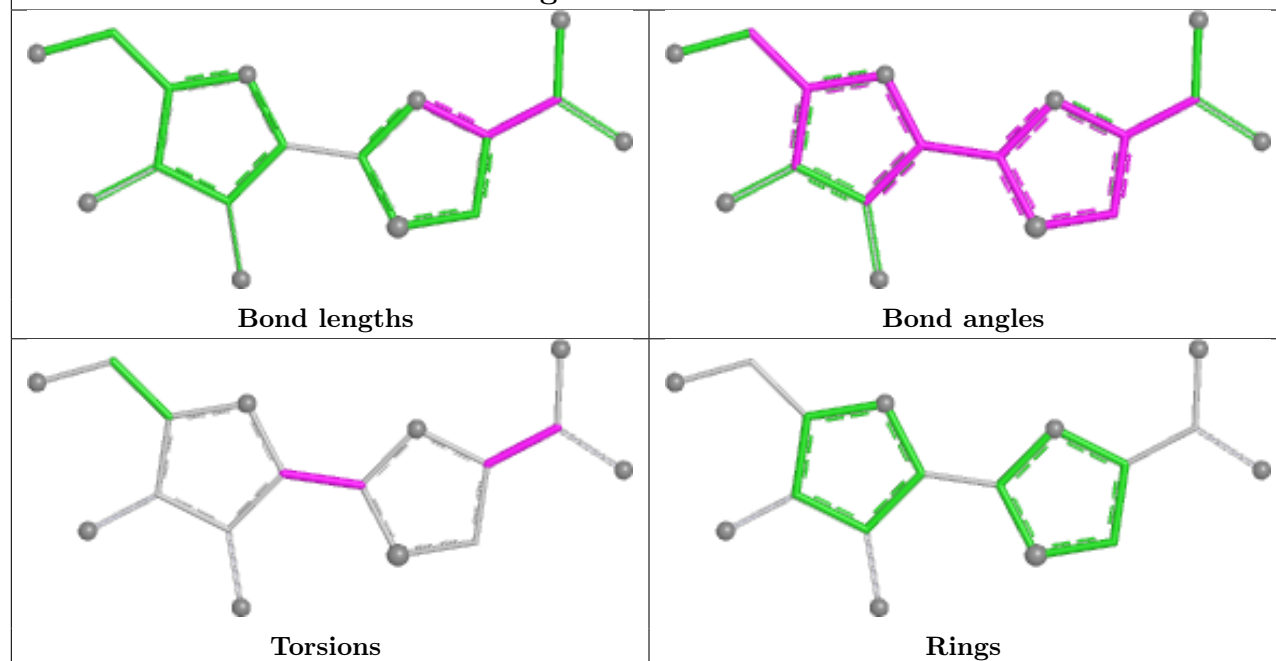


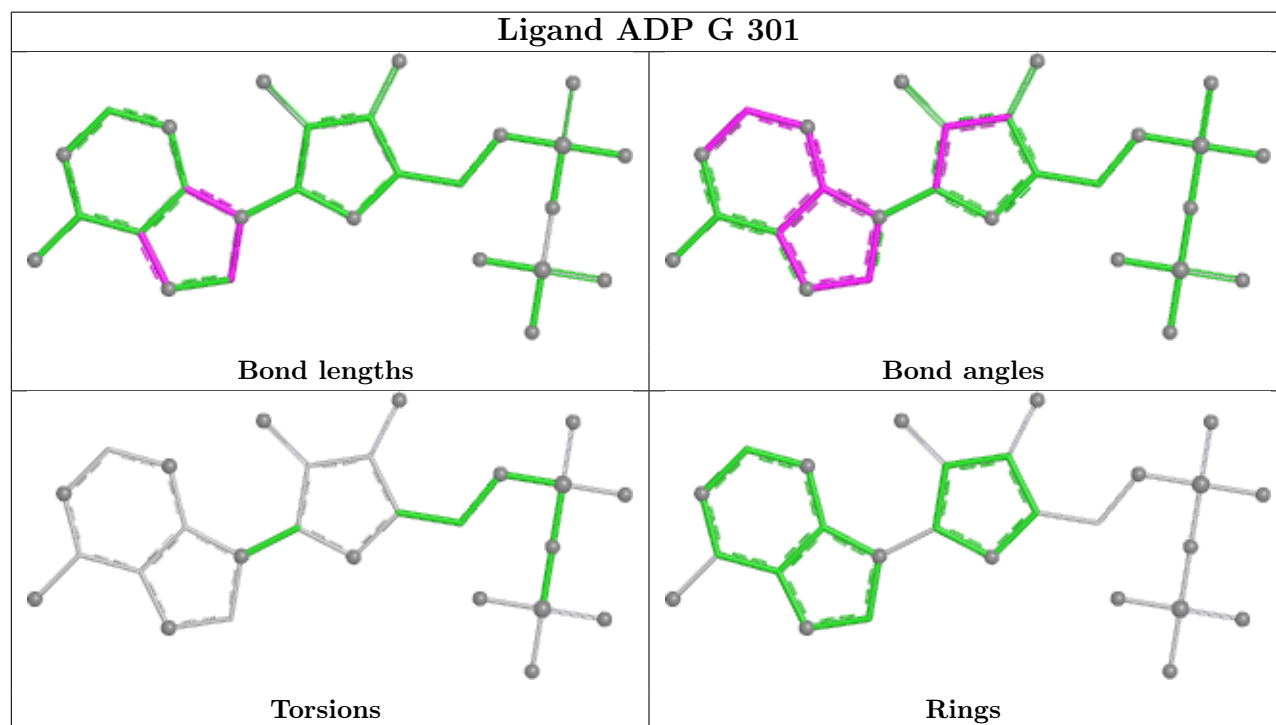
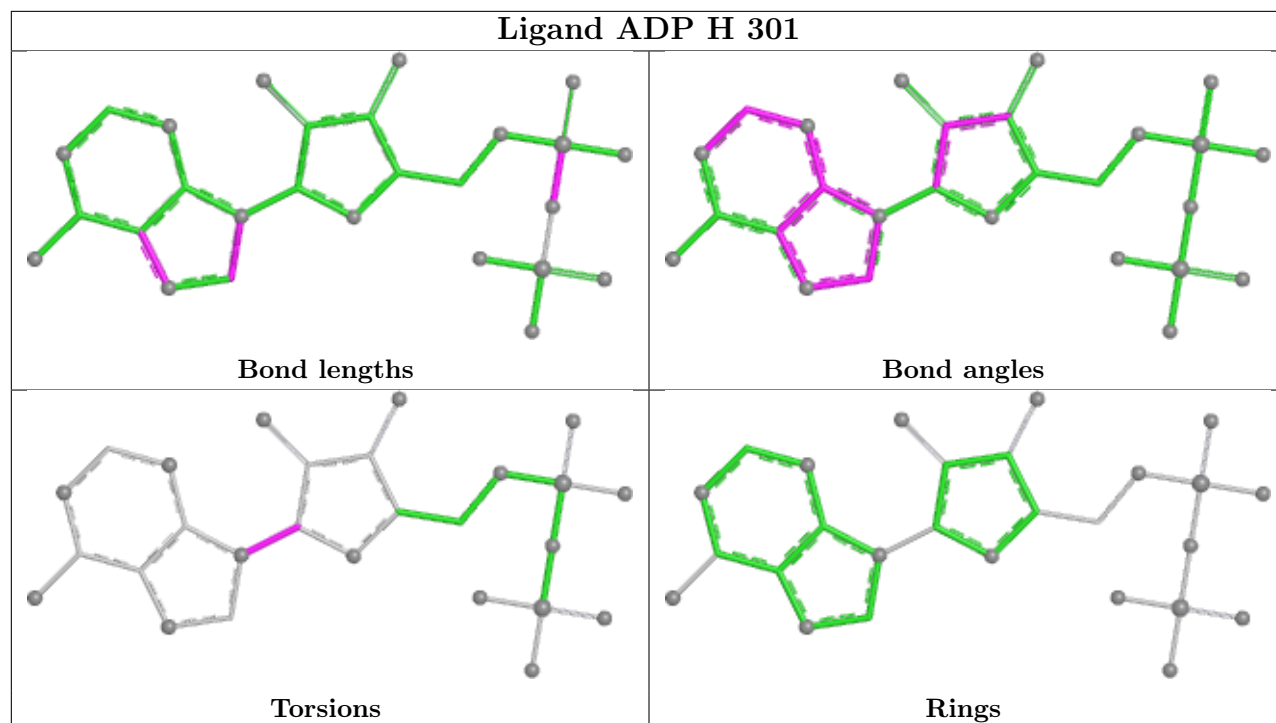
Rings

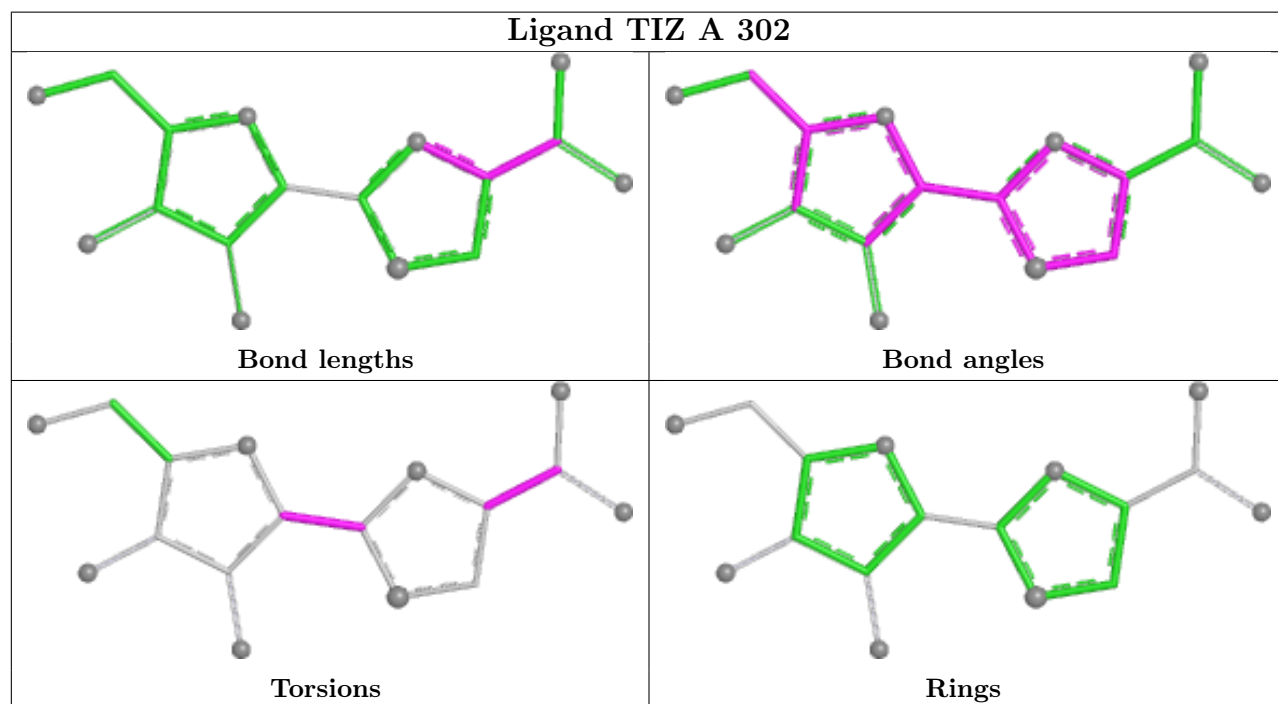
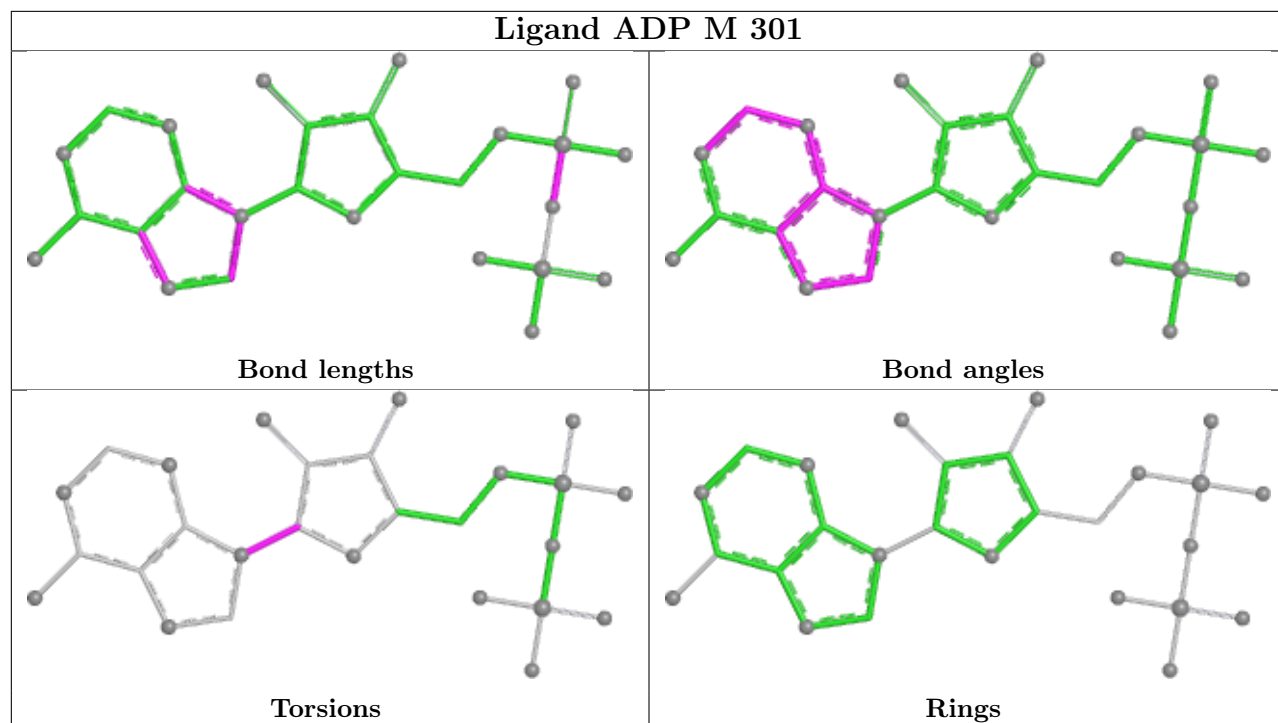
Ligand TIZ B 302

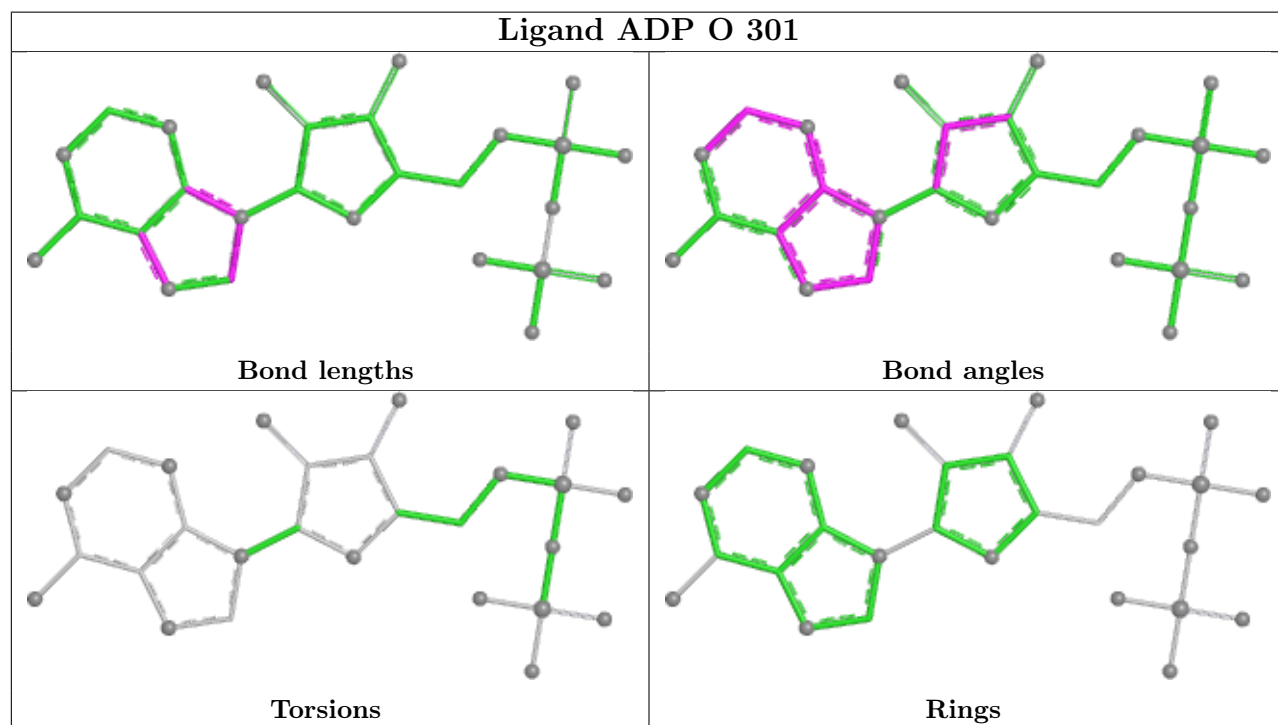
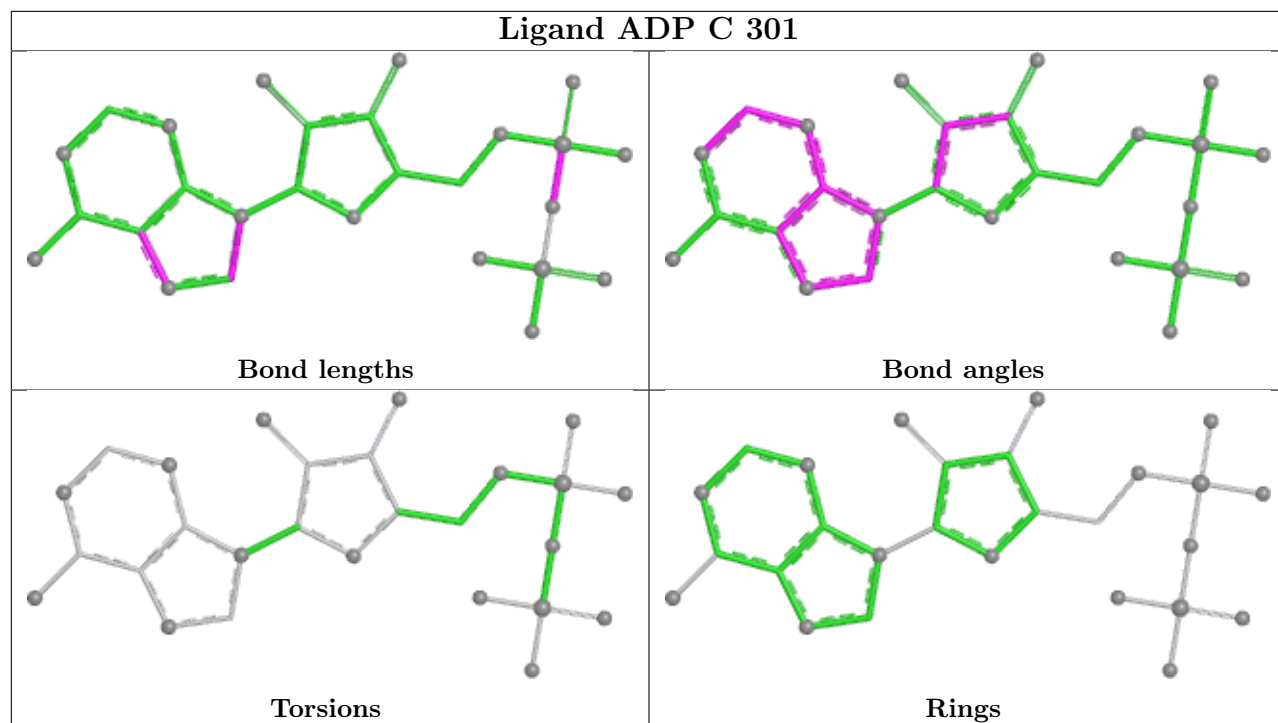


Ligand TIZ P 302

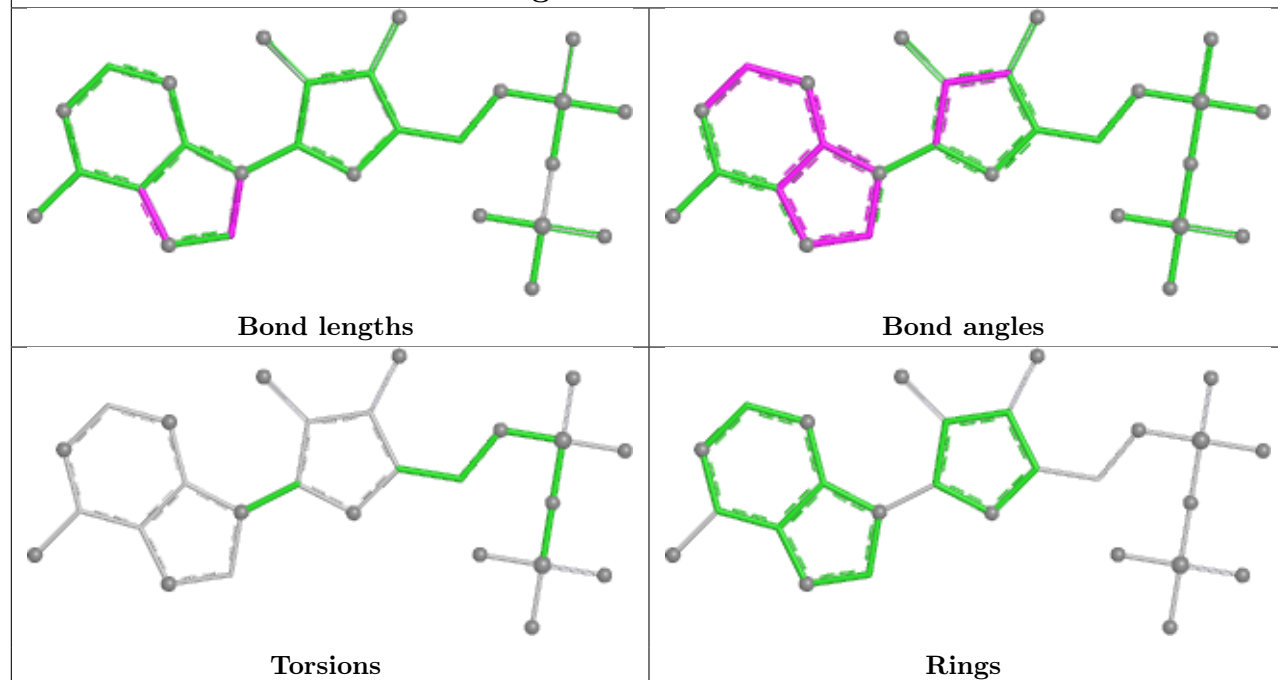




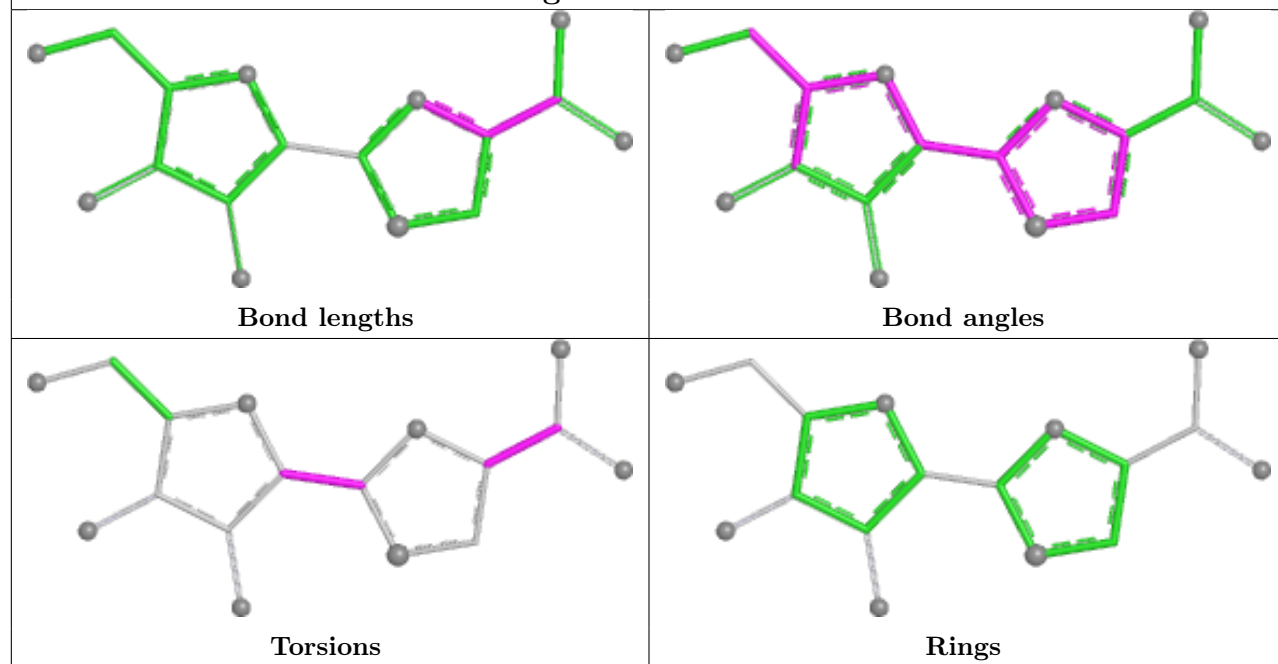


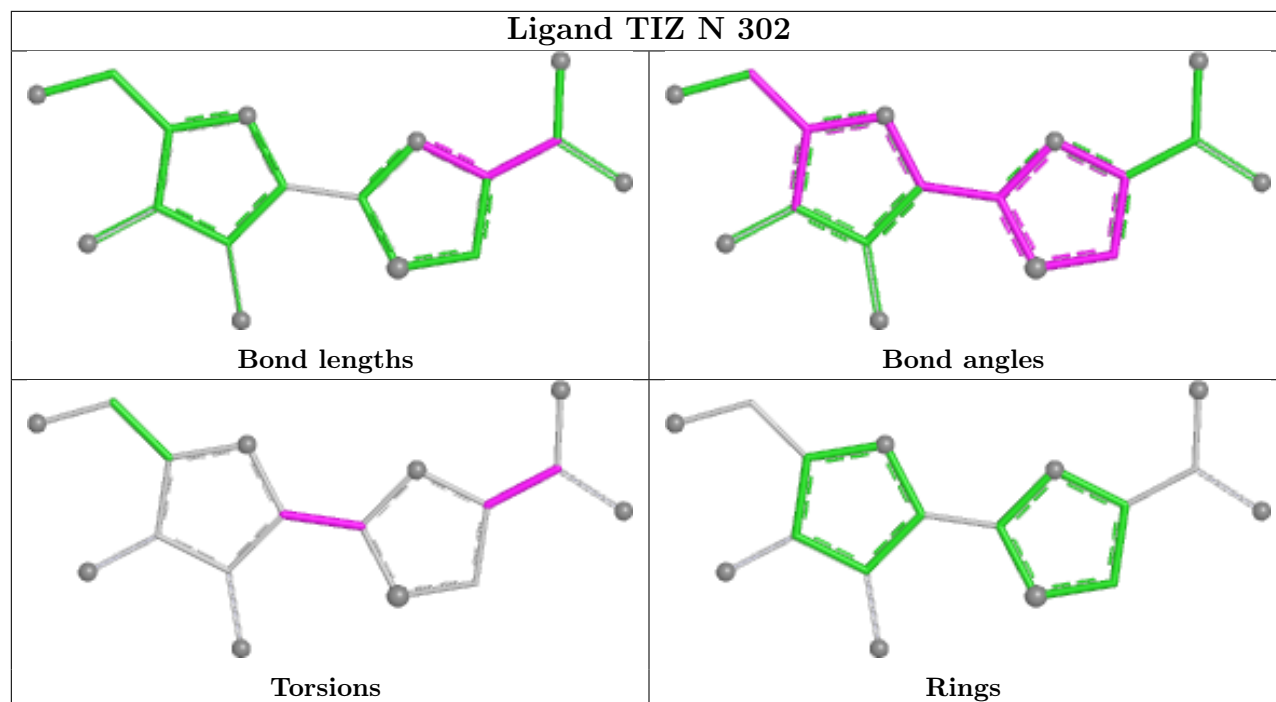


Ligand ADP L 301



Ligand TIZ J 302





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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

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

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	173/199 (86%)	-1.32	0 100 100	22, 22, 22, 22	0
1	B	173/199 (86%)	-1.34	0 100 100	22, 22, 22, 22	0
1	C	173/199 (86%)	-1.36	0 100 100	22, 22, 22, 22	0
1	D	173/199 (86%)	-1.35	0 100 100	22, 22, 22, 22	0
1	E	173/199 (86%)	-1.39	0 100 100	22, 22, 22, 22	0
1	F	173/199 (86%)	-1.36	0 100 100	22, 22, 22, 22	0
1	G	173/199 (86%)	-1.36	0 100 100	22, 22, 22, 22	0
1	H	173/199 (86%)	-1.33	0 100 100	22, 22, 22, 22	0
1	I	173/199 (86%)	-1.31	0 100 100	22, 22, 22, 22	0
1	J	173/199 (86%)	-1.30	0 100 100	22, 22, 22, 22	0
1	K	173/199 (86%)	-1.29	0 100 100	22, 22, 22, 22	0
1	L	173/199 (86%)	-1.34	0 100 100	22, 22, 22, 22	0
1	M	173/199 (86%)	-1.36	0 100 100	22, 22, 22, 22	0
1	N	173/199 (86%)	-1.26	0 100 100	22, 22, 22, 22	0
1	O	173/199 (86%)	-1.38	0 100 100	22, 22, 22, 22	0
1	P	173/199 (86%)	-1.33	0 100 100	22, 22, 22, 22	0
All	All	2768/3184 (86%)	-1.34	0 100 100	22, 22, 22, 22	0

There are no RSRZ outliers to report.

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 ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

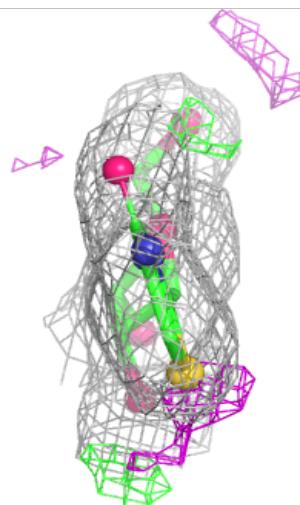
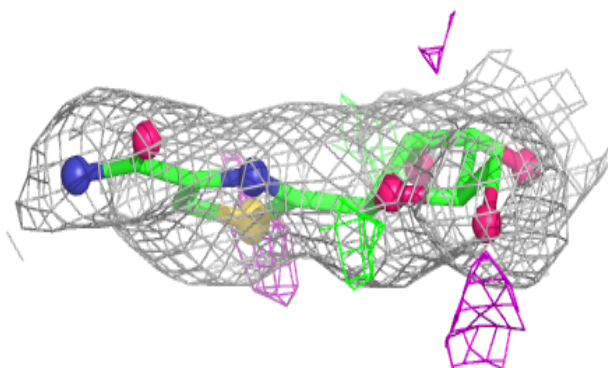
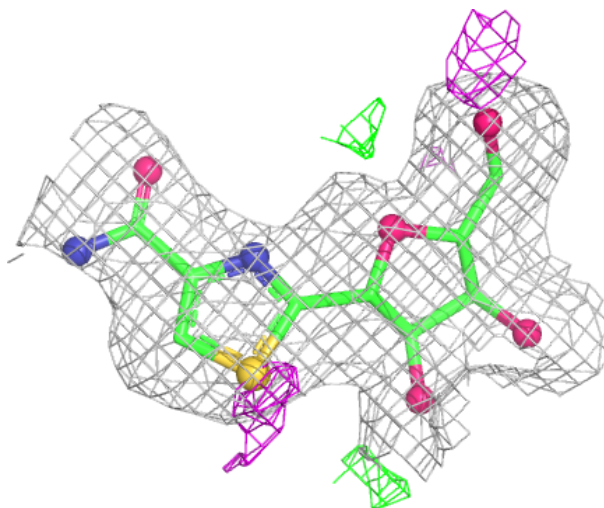
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	TIZ	A	302	17/17	0.98	0.04	16,16,16,16	0
3	TIZ	H	302	17/17	0.98	0.09	16,16,16,16	0
3	TIZ	J	302	17/17	0.98	0.06	16,16,16,16	0
3	TIZ	K	302	17/17	0.98	0.07	16,16,16,16	0
3	TIZ	L	302	17/17	0.98	0.08	16,16,16,16	0
3	TIZ	N	302	17/17	0.98	0.06	16,16,16,16	0
3	TIZ	O	302	17/17	0.98	0.07	16,16,16,16	0
2	ADP	H	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	I	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	J	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	K	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	L	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	N	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	O	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	P	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	A	301	27/27	0.99	0.04	16,16,16,16	0
3	TIZ	B	302	17/17	0.99	0.05	16,16,16,16	0
3	TIZ	C	302	17/17	0.99	0.06	16,16,16,16	0
3	TIZ	D	302	17/17	0.99	0.04	16,16,16,16	0
3	TIZ	E	302	17/17	0.99	0.05	16,16,16,16	0
3	TIZ	F	302	17/17	0.99	0.05	16,16,16,16	0
3	TIZ	G	302	17/17	0.99	0.04	16,16,16,16	0
2	ADP	B	301	27/27	0.99	0.04	16,16,16,16	0
3	TIZ	I	302	17/17	0.99	0.05	16,16,16,16	0
2	ADP	C	301	27/27	0.99	0.04	16,16,16,16	0
2	ADP	D	301	27/27	0.99	0.03	16,16,16,16	0
2	ADP	E	301	27/27	0.99	0.04	16,16,16,16	0
3	TIZ	M	302	17/17	0.99	0.04	16,16,16,16	0
2	ADP	F	301	27/27	0.99	0.03	16,16,16,16	0
2	ADP	G	301	27/27	0.99	0.04	16,16,16,16	0
3	TIZ	P	302	17/17	0.99	0.04	16,16,16,16	0
2	ADP	M	301	27/27	1.00	0.03	16,16,16,16	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.

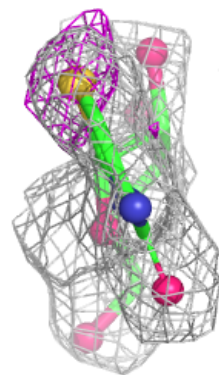
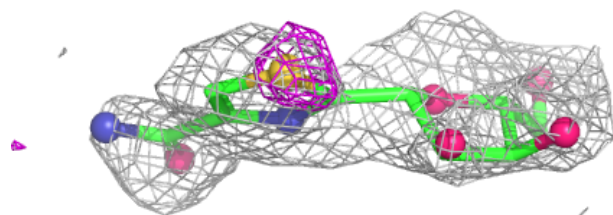
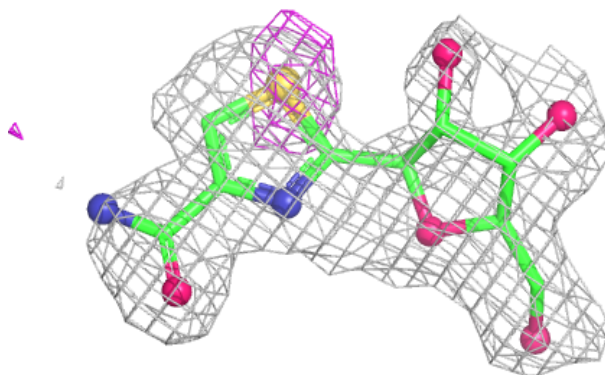
Electron density around TIZ A 302:

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



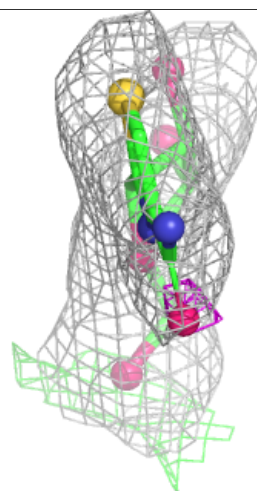
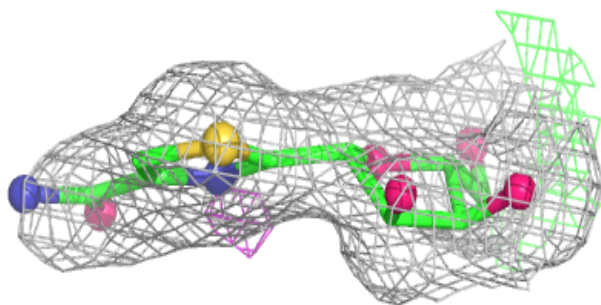
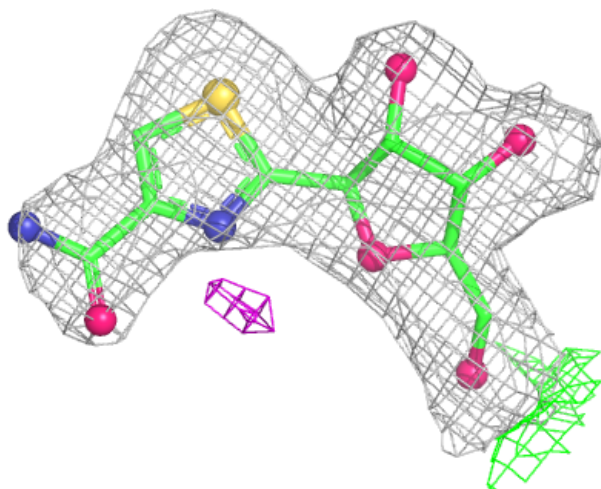
Electron density around TIZ H 302:

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



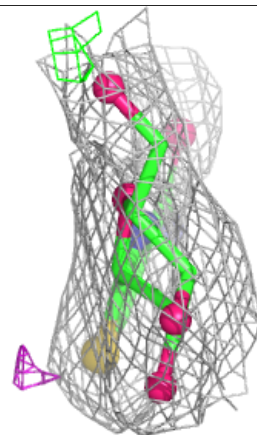
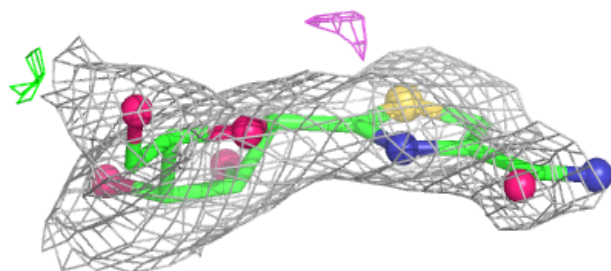
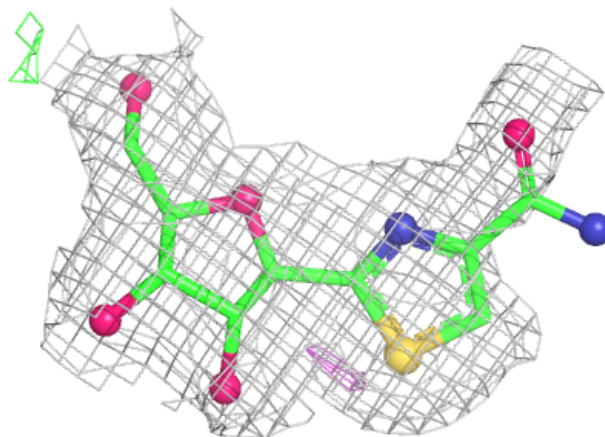
Electron density around TIZ J 302:

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



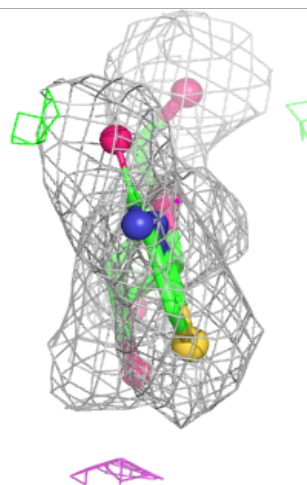
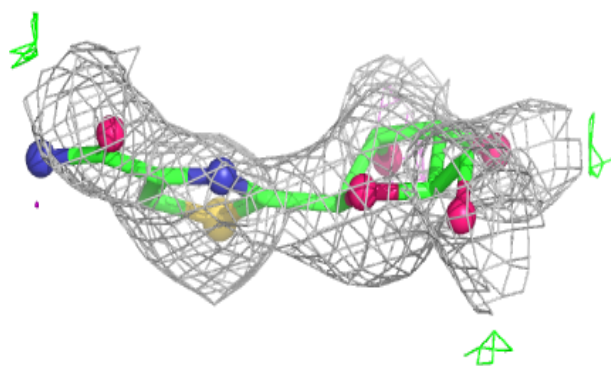
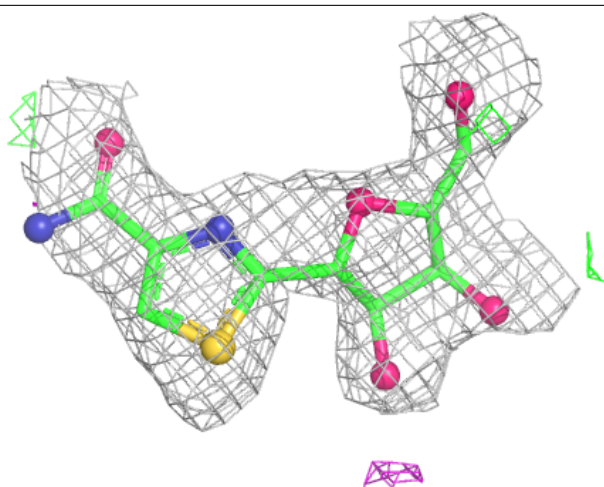
Electron density around TIZ K 302:

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and green (positive)



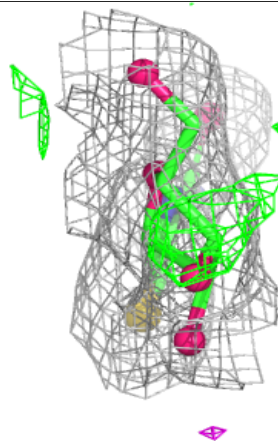
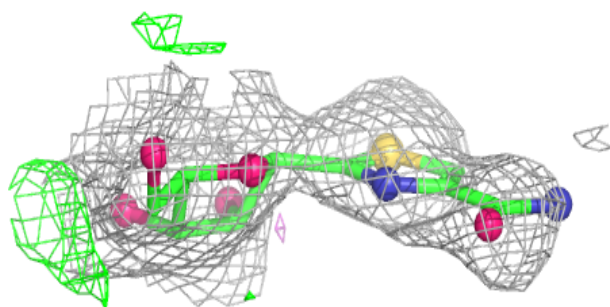
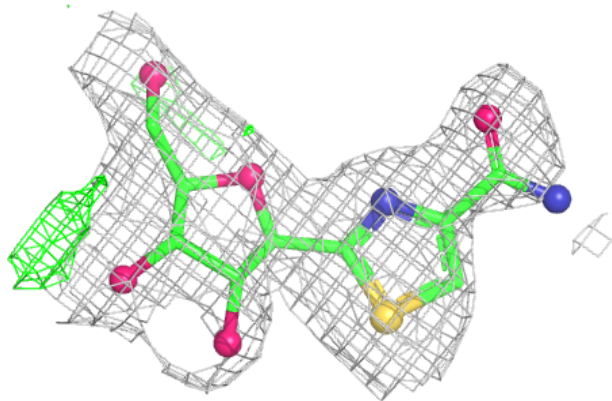
Electron density around TIZ L 302:

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

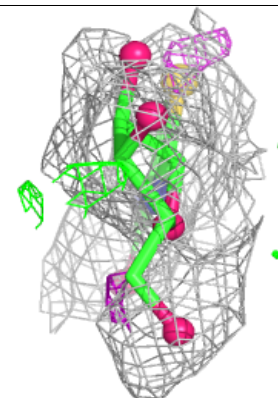
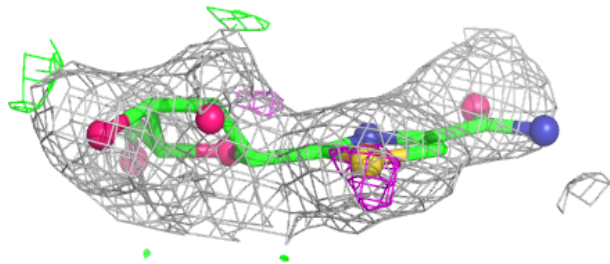
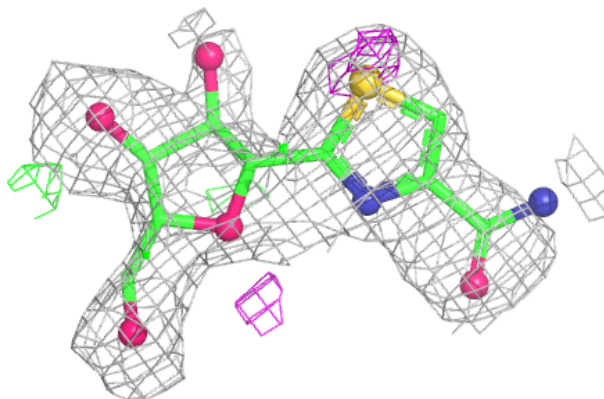


Electron density around TIZ N 302:

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

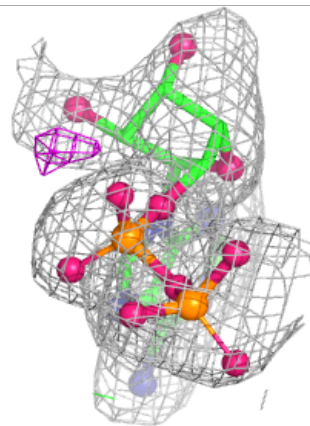
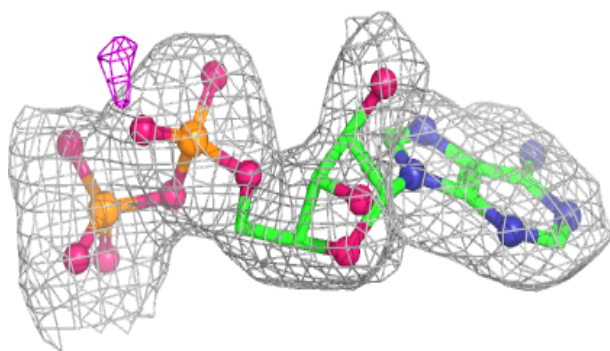
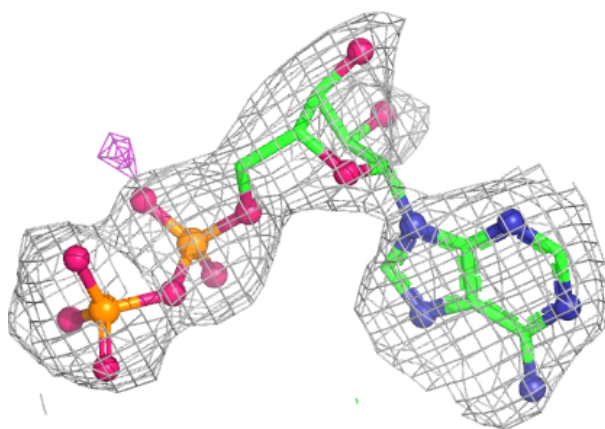
**Electron density around TIZ O 302:**

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



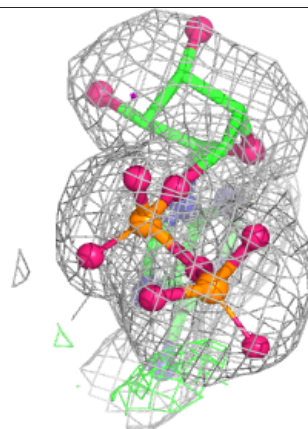
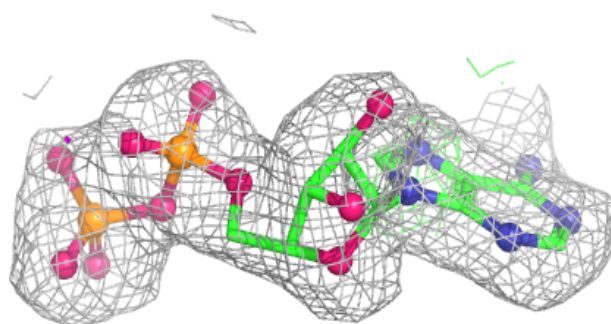
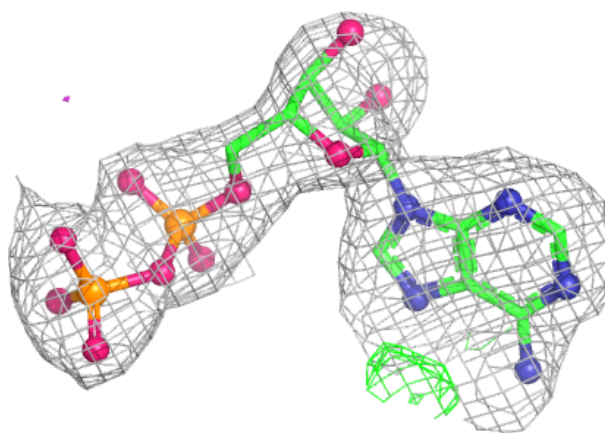
Electron density around ADP H 301:

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



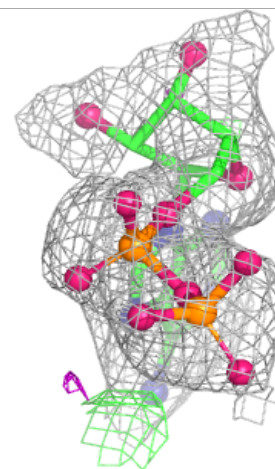
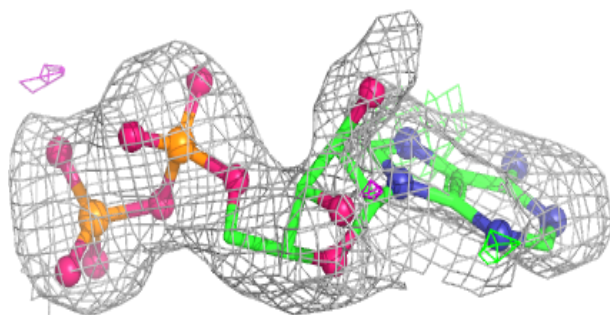
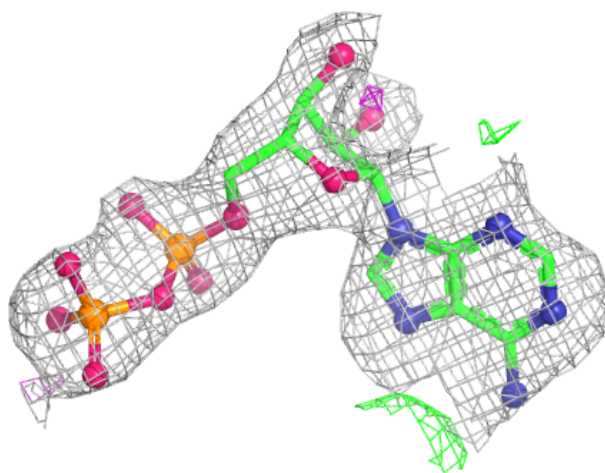
Electron density around ADP I 301:

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



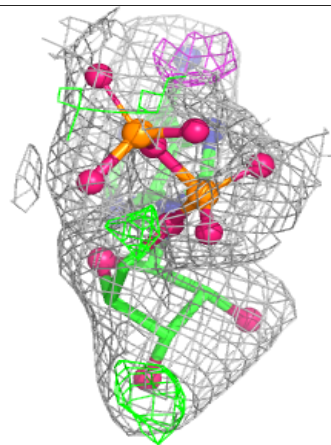
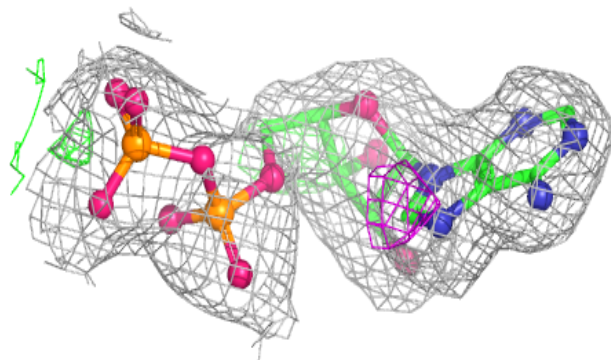
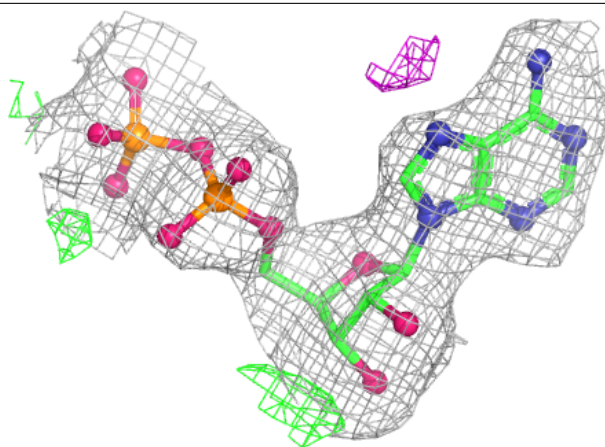
Electron density around ADP J 301:

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



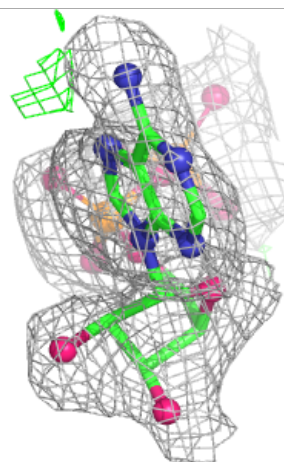
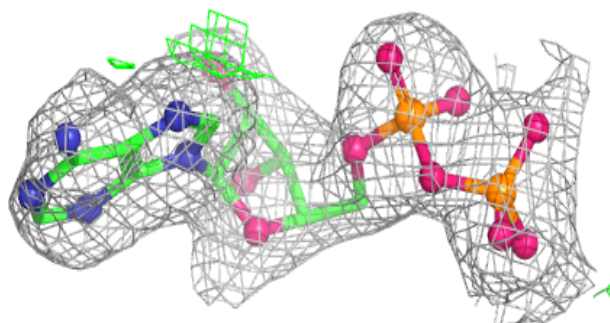
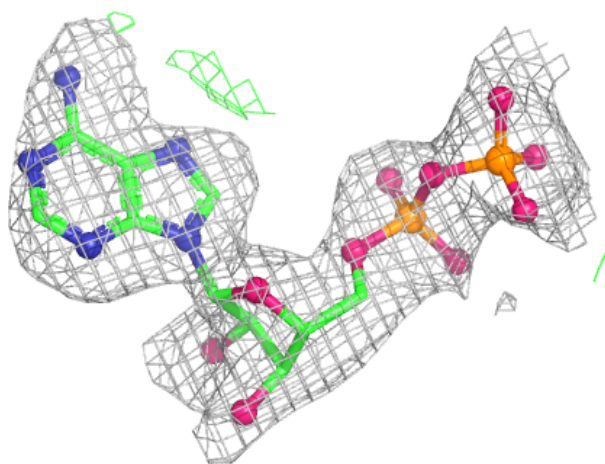
Electron density around ADP K 301:

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



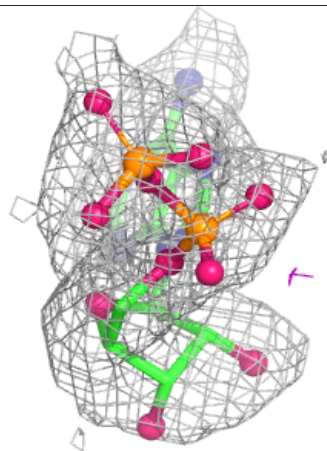
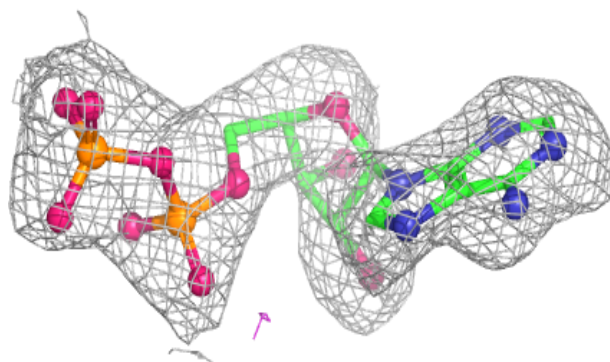
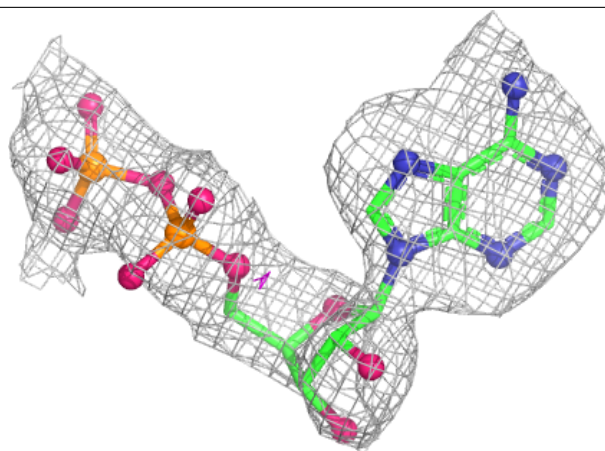
Electron density around ADP L 301:

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

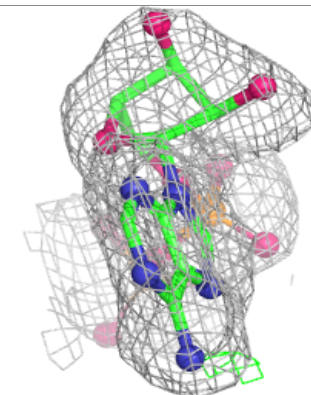
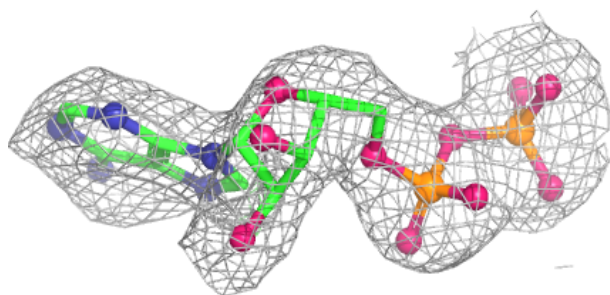
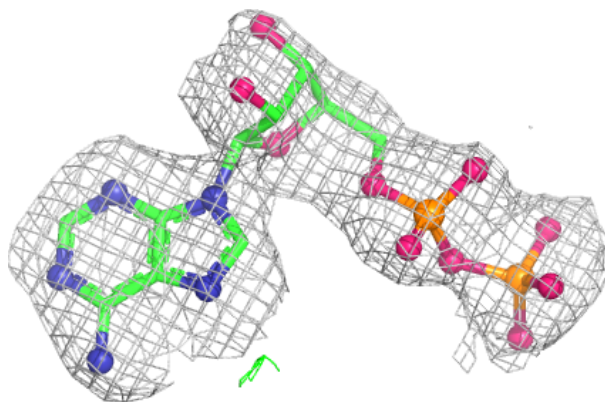


Electron density around ADP N 301:

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

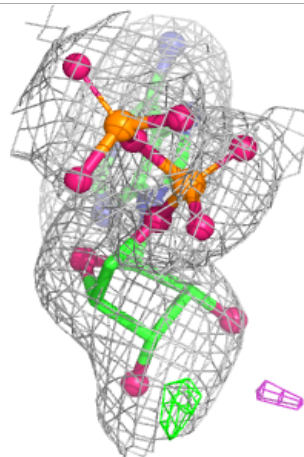
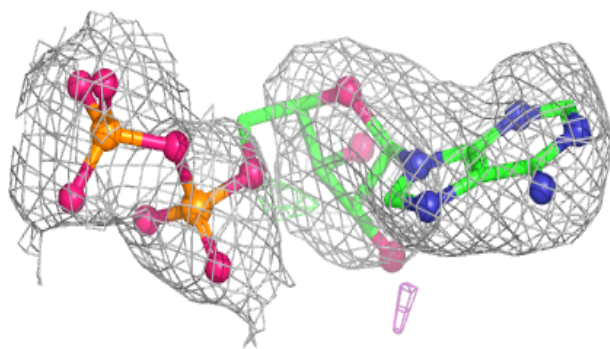
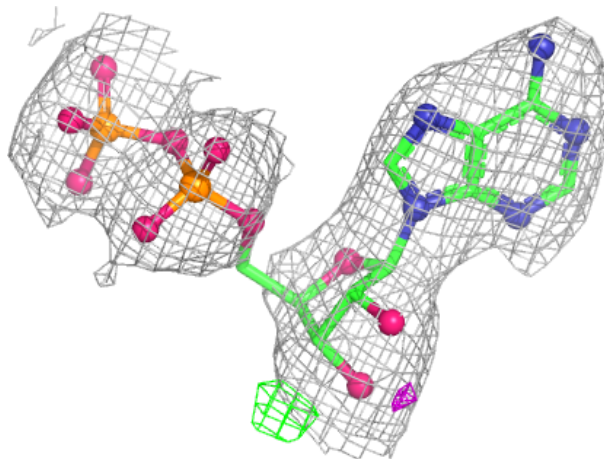
**Electron density around ADP O 301:**

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



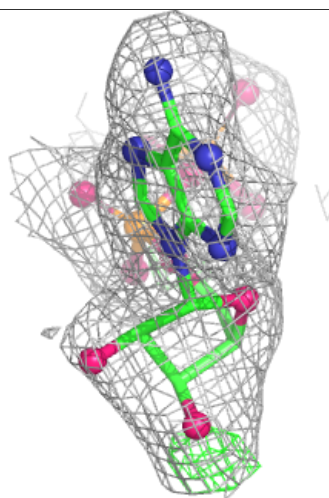
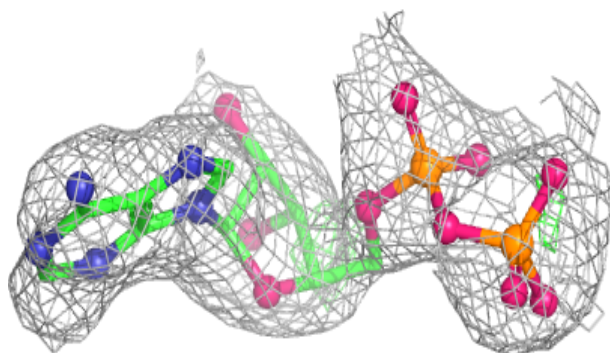
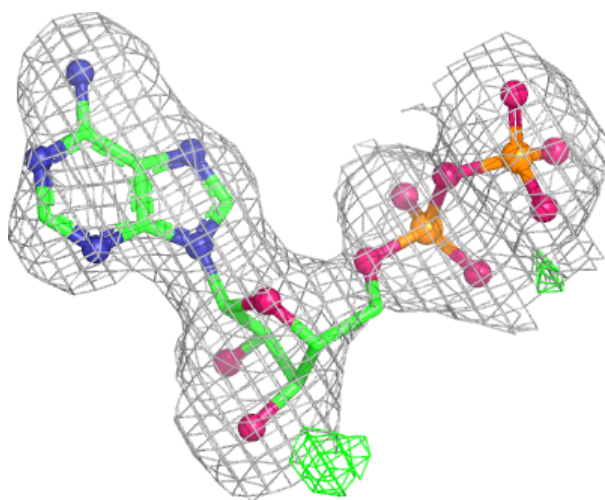
Electron density around ADP P 301:

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



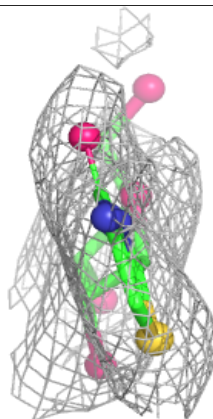
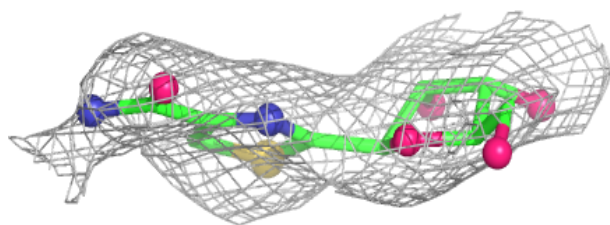
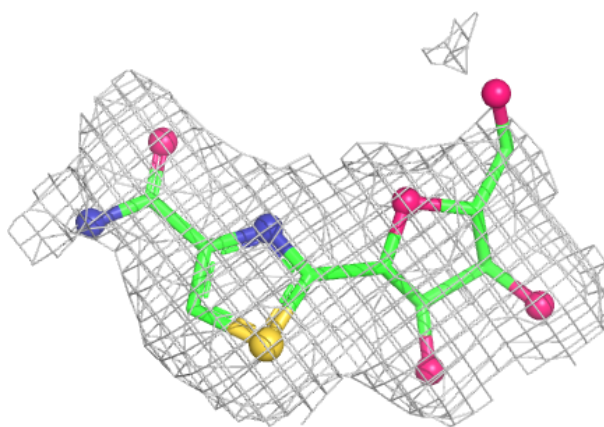
Electron density around ADP A 301:

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



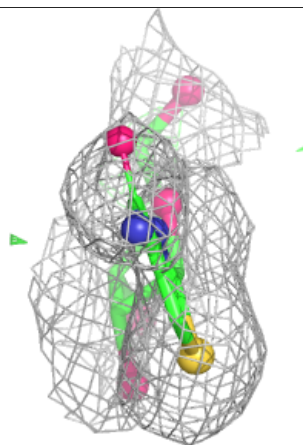
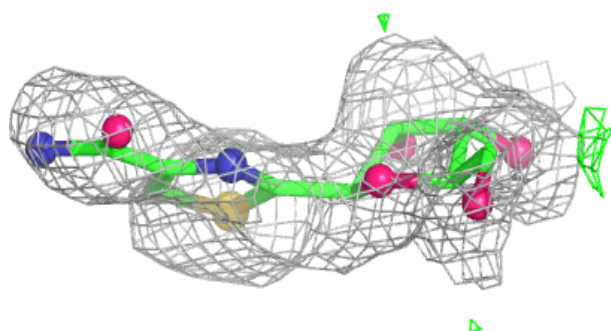
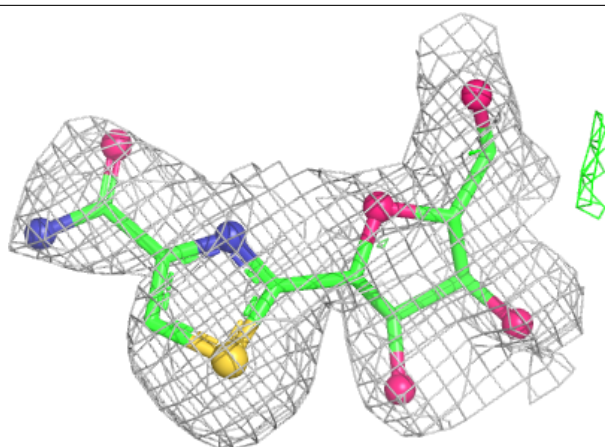
Electron density around TIZ B 302:

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



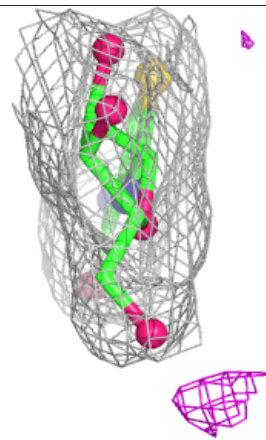
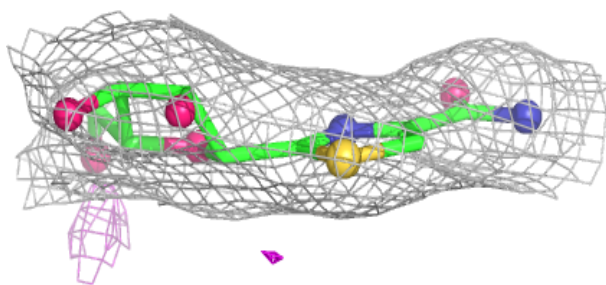
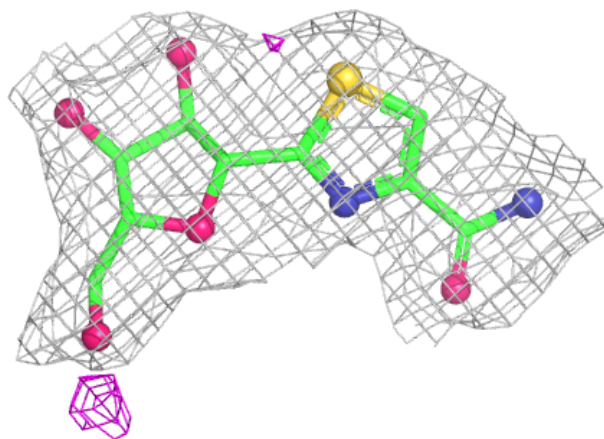
Electron density around TIZ C 302:

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



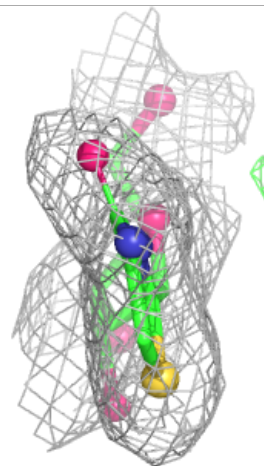
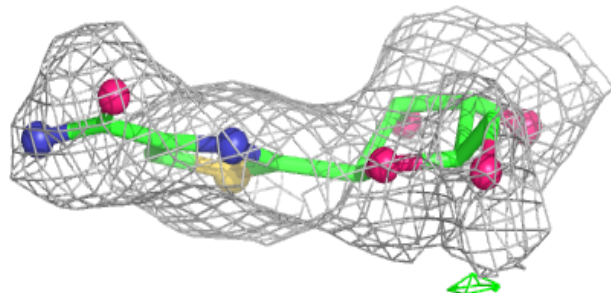
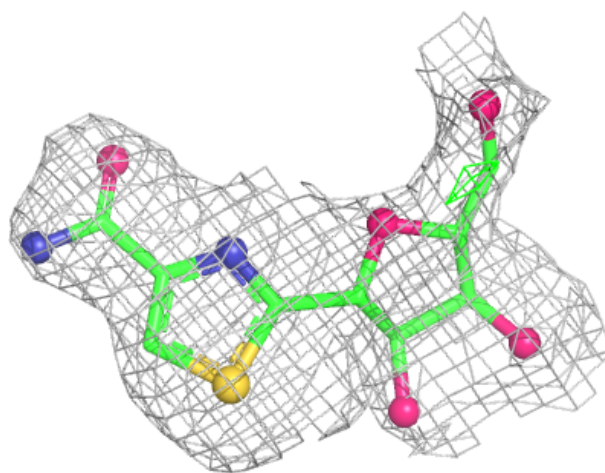
Electron density around TIZ D 302:

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and green (positive)



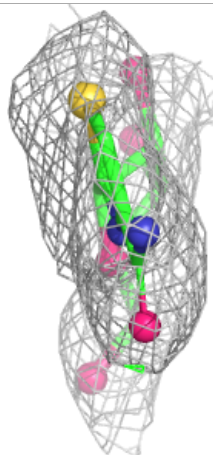
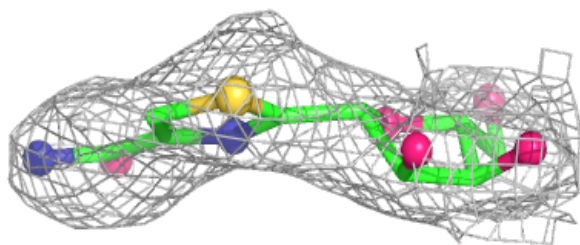
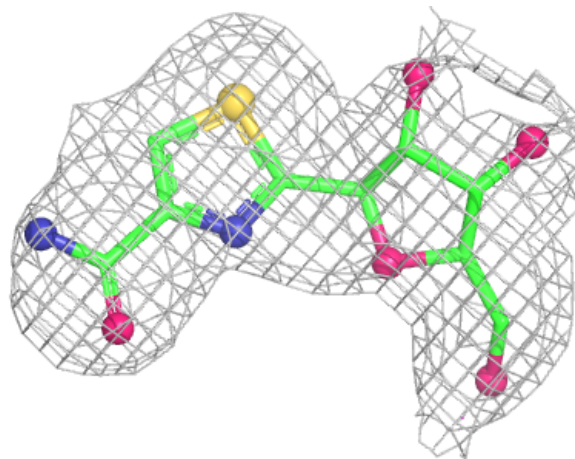
Electron density around TIZ E 302:

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



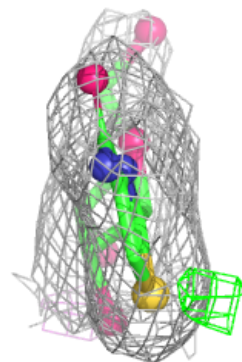
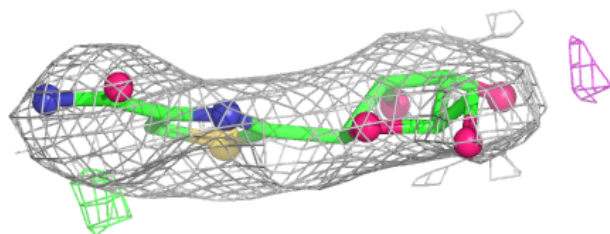
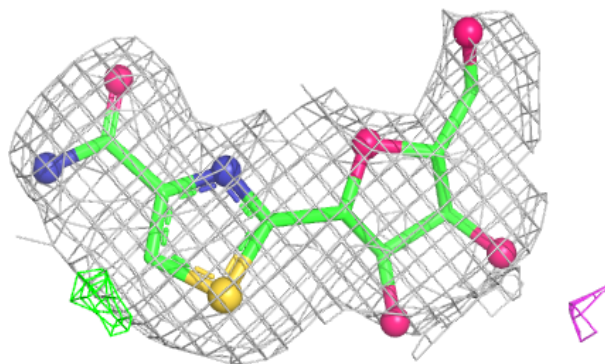
Electron density around TIZ F 302:

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

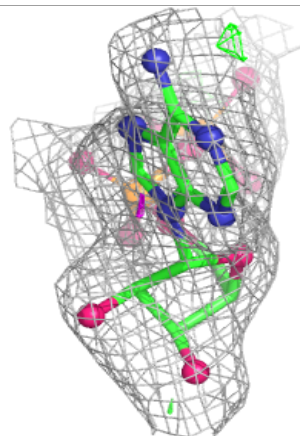
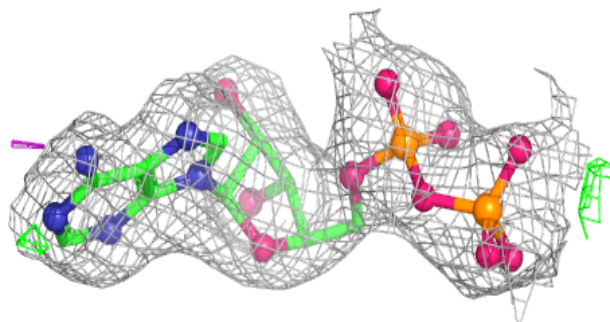
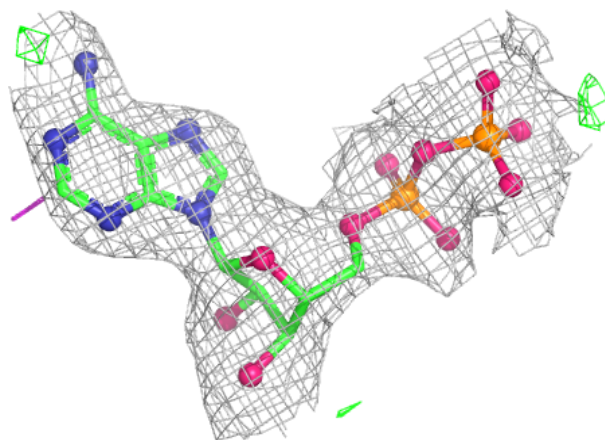


Electron density around TIZ G 302:

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

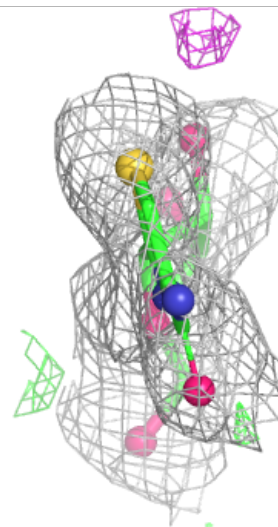
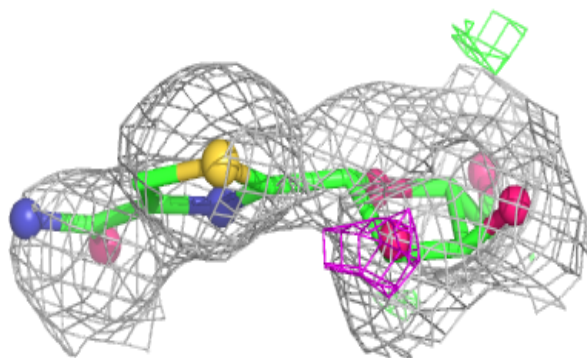
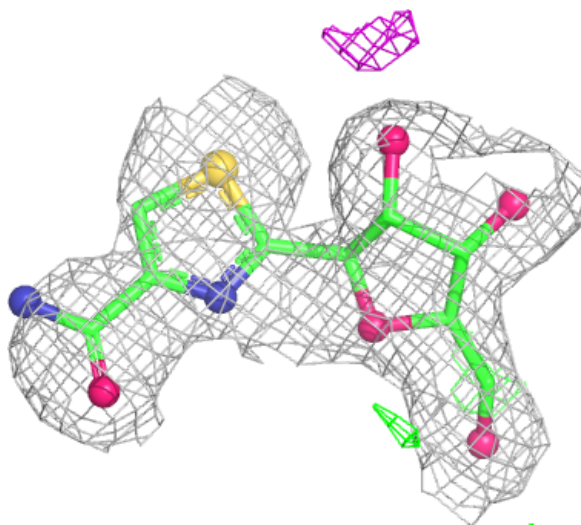
**Electron density around ADP B 301:**

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



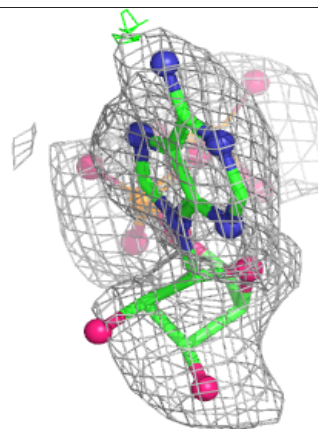
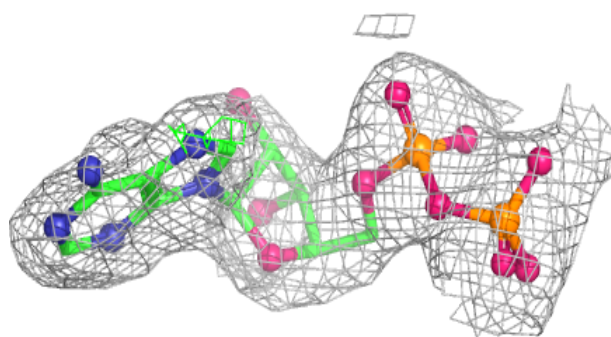
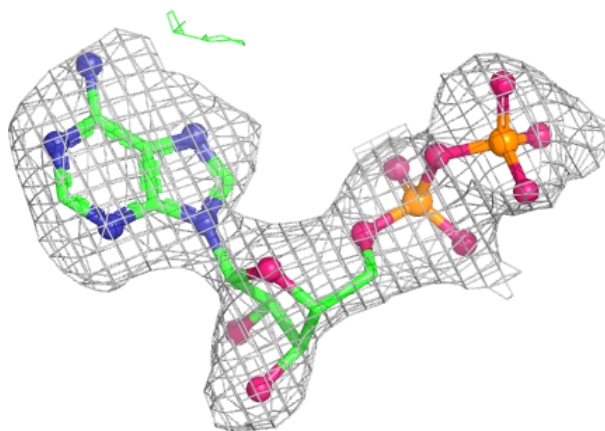
Electron density around TIZ I 302:

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



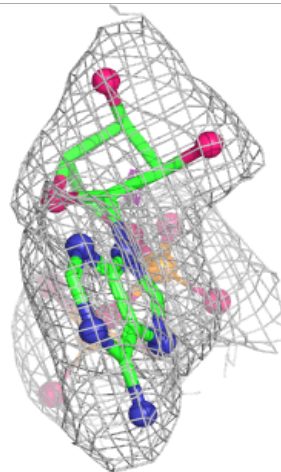
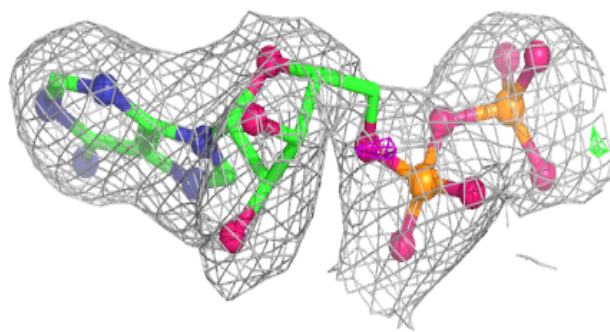
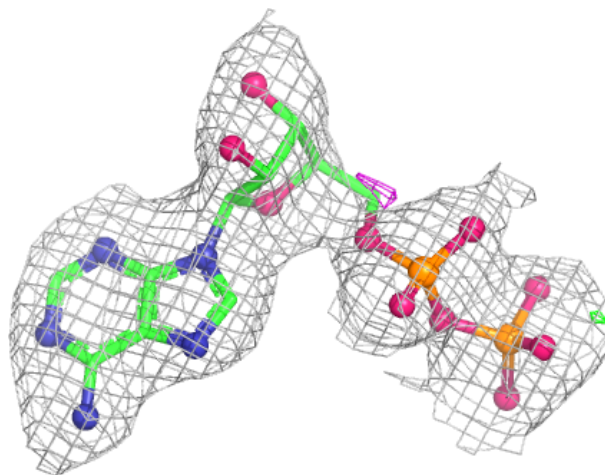
Electron density around ADP C 301:

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



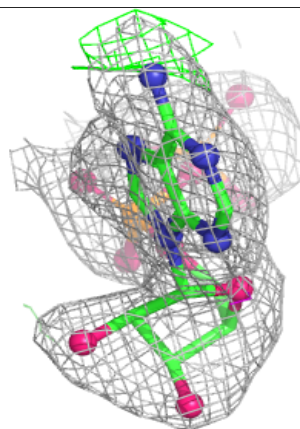
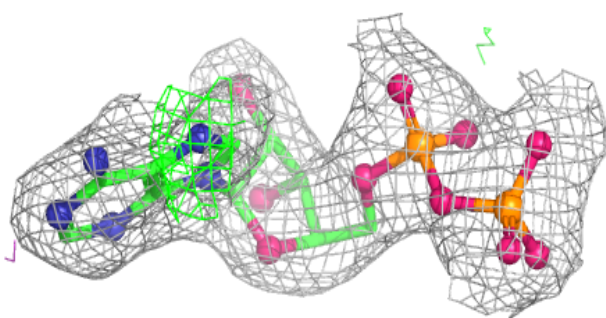
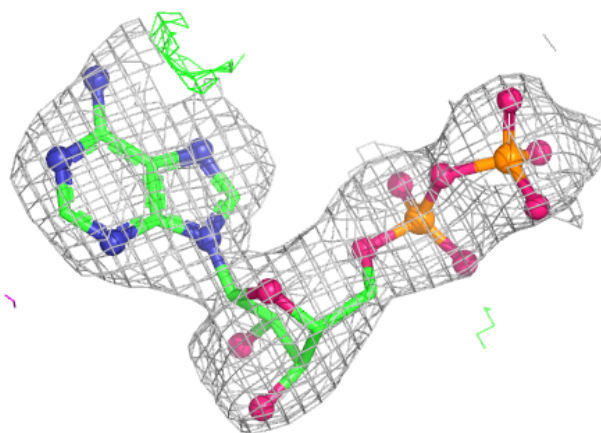
Electron density around ADP D 301:

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

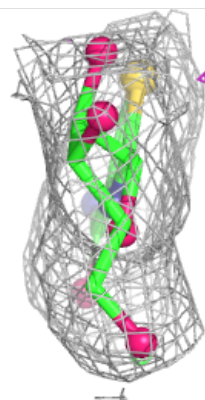
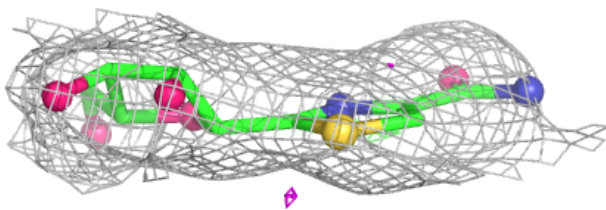
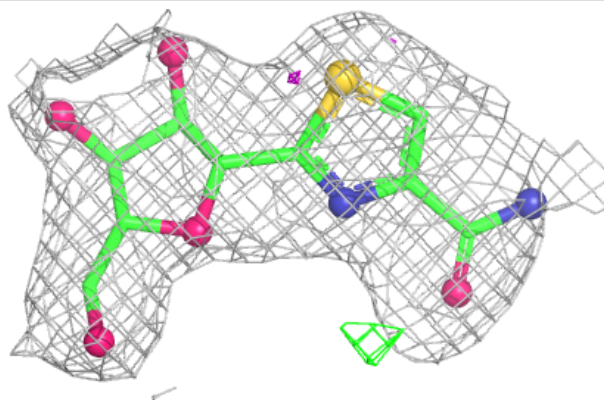


Electron density around ADP E 301:

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

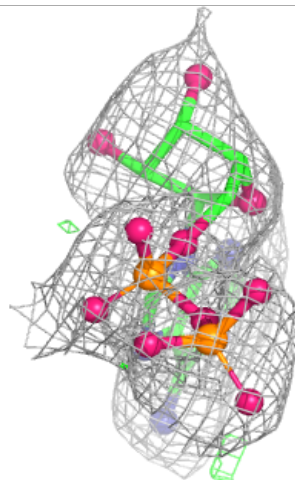
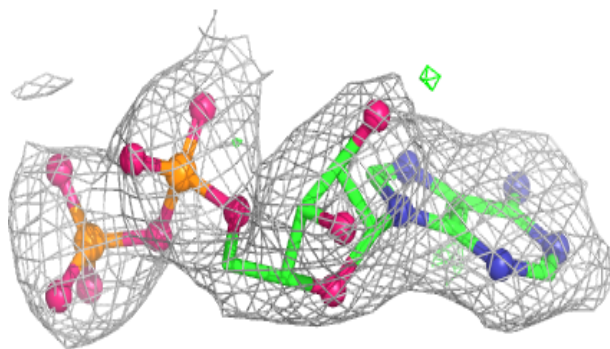
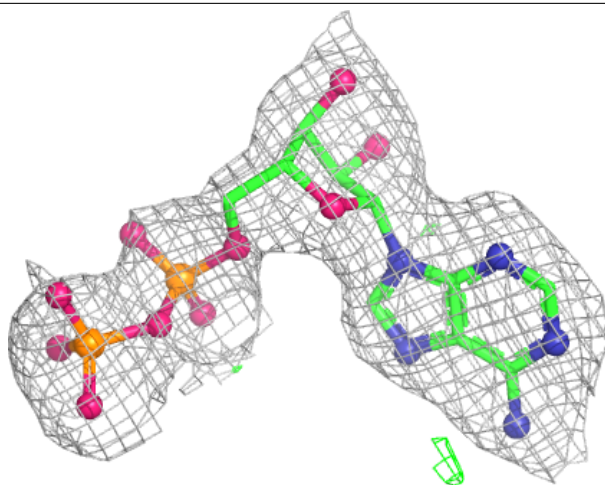
**Electron density around TIZ M 302:**

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



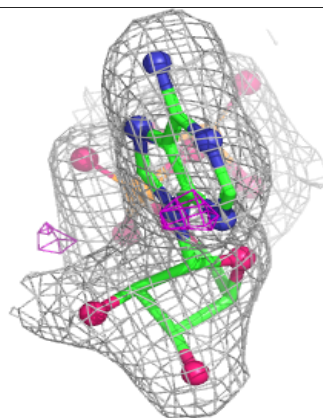
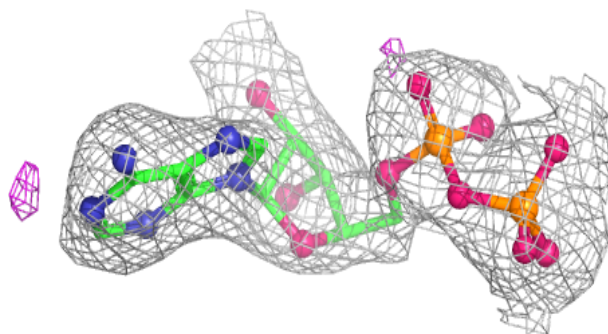
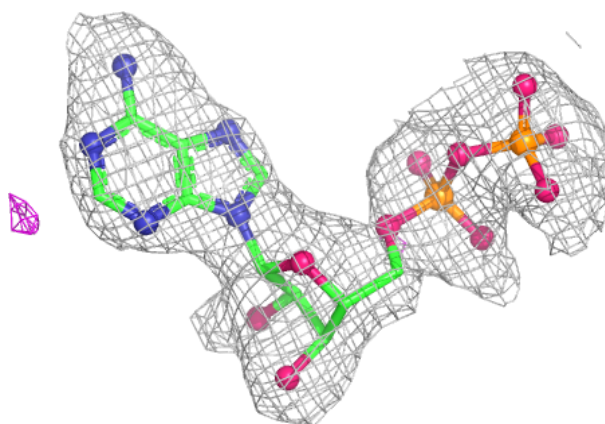
Electron density around ADP F 301:

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

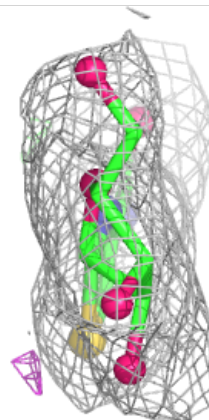
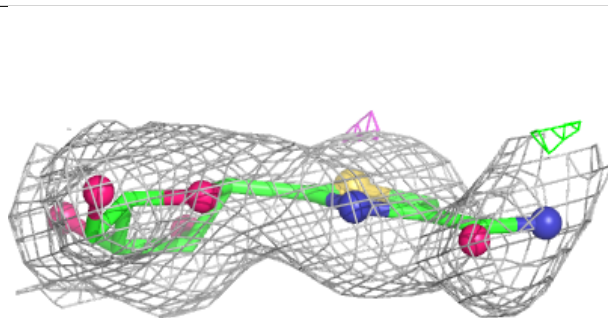
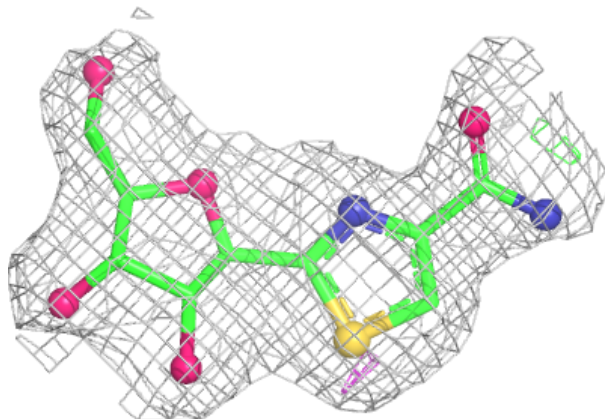


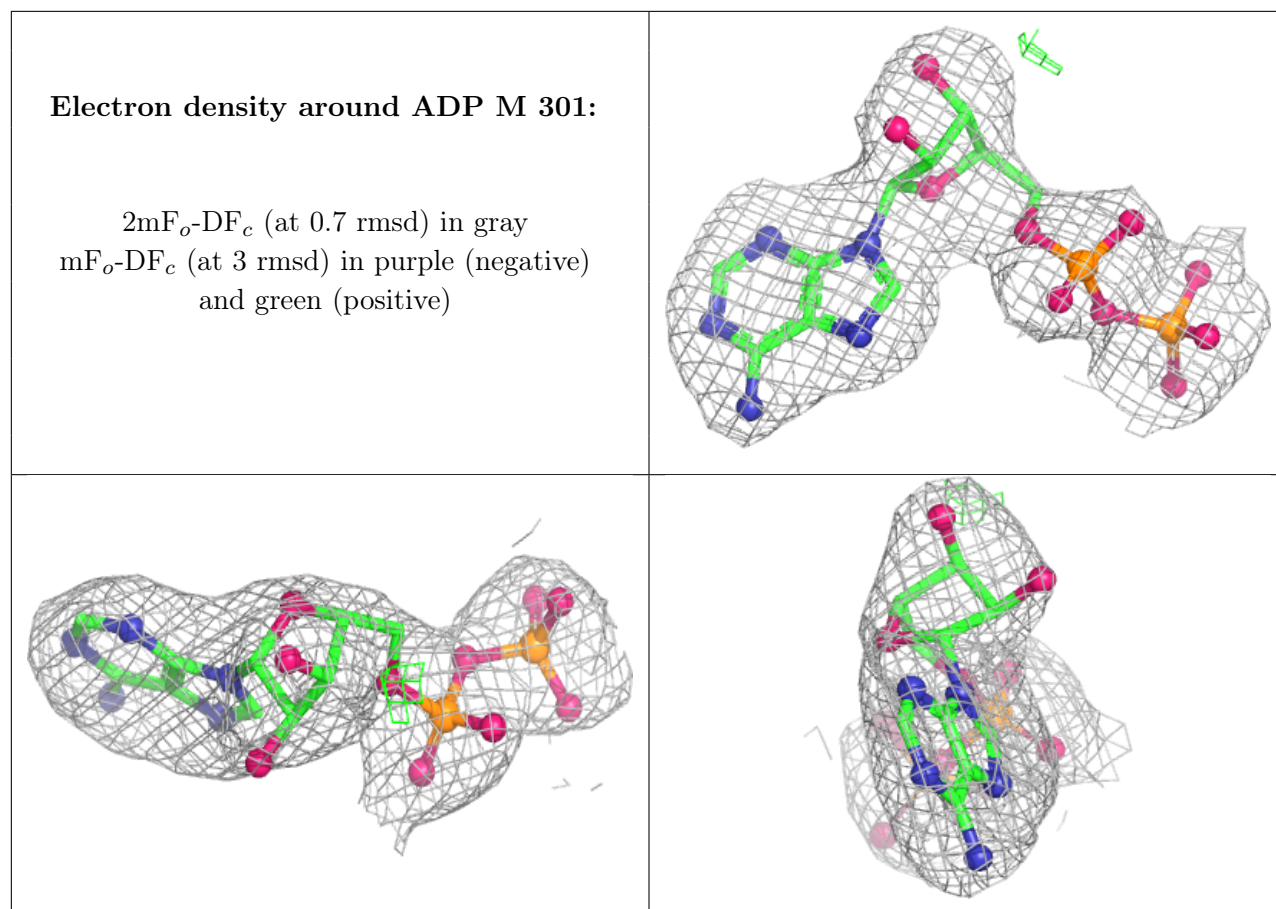
Electron density around ADP G 301:

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

**Electron density around TIZ P 302:**

$2mF_o-DF_c$ (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.