



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 13, 2022 – 10:22 pm BST

PDB ID : 7Q6I
Title : *Vibrio maritimus* FtsA 1-396 ATP and FtsN 1-29, bent tetramers in double filament arrangement
Authors : Nierhaus, T.; Kureisaite-Ciziene, D.; Lowe, J.
Deposited on : 2021-11-07
Resolution : 3.60 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at <http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.30
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0267
CCP4 : 7.1.010 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.30

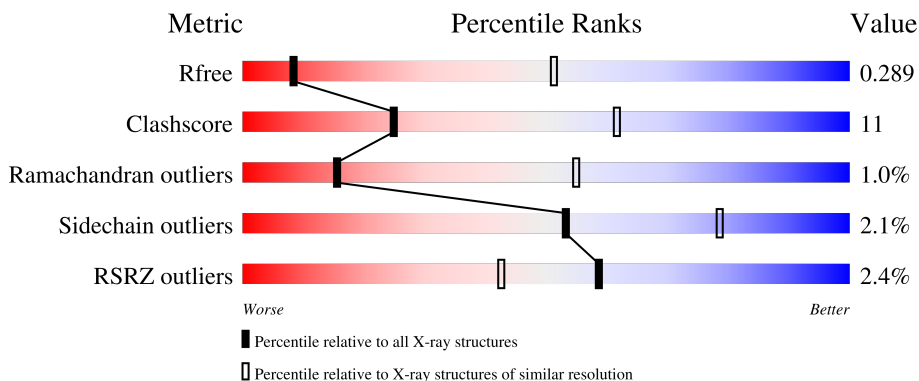
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.60 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1257 (3.70-3.50)
Clashscore	141614	1353 (3.70-3.50)
Ramachandran outliers	138981	1307 (3.70-3.50)
Sidechain outliers	138945	1307 (3.70-3.50)
RSRZ outliers	127900	1161 (3.70-3.50)

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	396	71% 25% ..
1	B	396	% 73% 23% ..
1	C	396	% 73% 23% ..
1	D	396	71% 19% 9%
1	E	396	73% 23%

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Mol	Chain	Length	Quality of chain
1	F	396	 4% 68% 28% . .
1	G	396	 4% 75% 21% .
1	H	396	 % 67% 28% . .
1	I	396	 2% 73% 22% . .
1	J	396	 % 64% 32% . .
1	K	396	 2% 70% 26% .
1	L	396	 % 67% 28% . .
1	M	396	 4% 71% 24% . .
1	N	396	 5% 66% 28% . .
1	O	396	 8% 71% 24% . .
1	P	396	 5% 69% 27% . .
2	X	37	 19% . 78%
2	Y	37	 22% 78%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 46262 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.

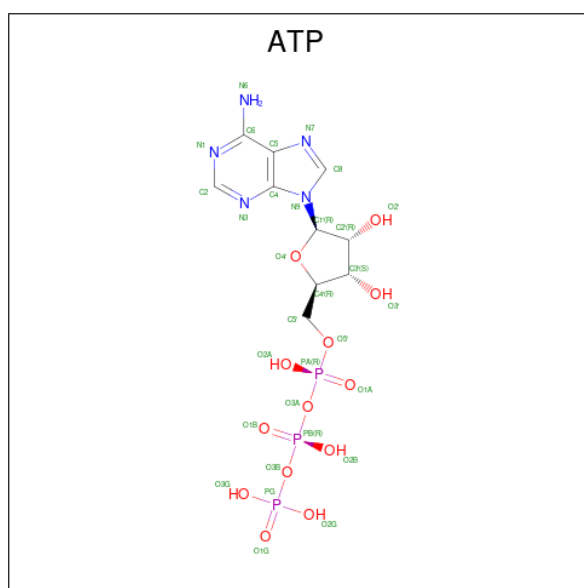
- Molecule 1 is a protein called Cell division protein FtsA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	382	2863	1776	504	569	14	0	0	0
1	B	383	2871	1780	505	572	14	0	0	0
1	C	382	2863	1776	504	569	14	0	0	0
1	D	362	2717	1690	475	538	14	0	0	0
1	E	382	2863	1776	504	569	14	0	0	0
1	F	382	2863	1776	504	569	14	0	0	0
1	G	382	2863	1776	504	569	14	0	0	0
1	H	382	2863	1776	504	569	14	0	0	0
1	I	382	2863	1776	504	569	14	0	0	0
1	J	382	2863	1776	504	569	14	0	0	0
1	K	382	2863	1776	504	569	14	0	0	0
1	L	382	2863	1776	504	569	14	0	0	0
1	M	382	2863	1776	504	569	14	0	0	0
1	N	382	2863	1776	504	569	14	0	0	0
1	O	382	2863	1776	504	569	14	0	0	0
1	P	382	2863	1776	504	569	14	0	0	0

- Molecule 2 is a protein called Cell division protein FtsN (polyAla model).

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
2	X	8	Total	C	N	O	0	0	0
			40	24	8	8			
2	Y	8	Total	C	N	O	0	0	0
			40	24	8	8			

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
3	A	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	B	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	C	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	D	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	E	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	F	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	G	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	H	1	Total	C	N	O	P	0	0
			31	10	5	13	3		

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	I	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	J	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	K	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	L	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	M	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	N	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	O	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	P	1	Total	C	N	O	P	0	0
			31	10	5	13	3		

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total	Mg	0	0
			1	1		
4	B	1	Total	Mg	0	0
			1	1		
4	C	1	Total	Mg	0	0
			1	1		
4	D	1	Total	Mg	0	0
			1	1		
4	E	1	Total	Mg	0	0
			1	1		
4	F	1	Total	Mg	0	0
			1	1		
4	G	1	Total	Mg	0	0
			1	1		
4	H	1	Total	Mg	0	0
			1	1		
4	I	1	Total	Mg	0	0
			1	1		
4	J	1	Total	Mg	0	0
			1	1		
4	K	1	Total	Mg	0	0
			1	1		

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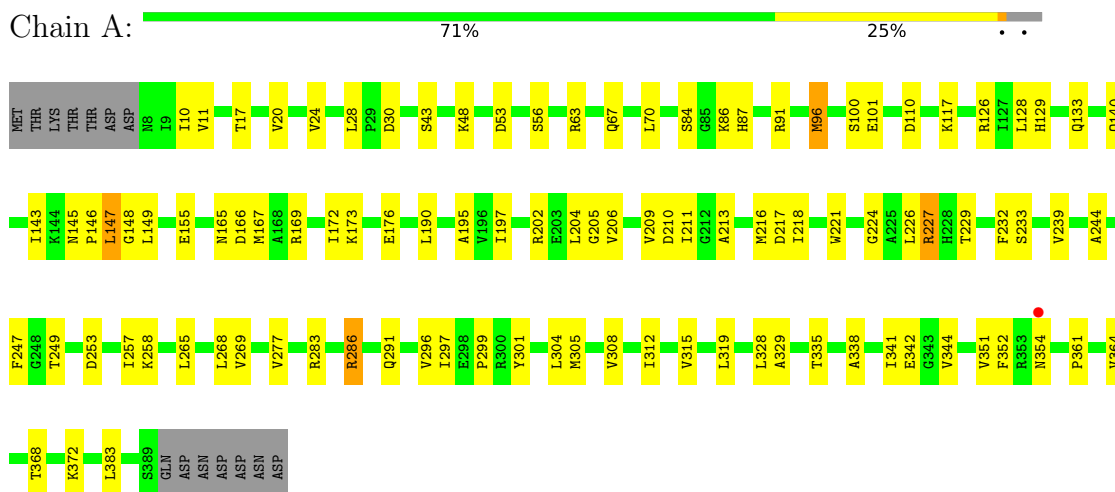
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	L	1	Total 1	Mg 1	0	0
4	M	1	Total 1	Mg 1	0	0
4	N	1	Total 1	Mg 1	0	0
4	O	1	Total 1	Mg 1	0	0
4	P	1	Total 1	Mg 1	0	0

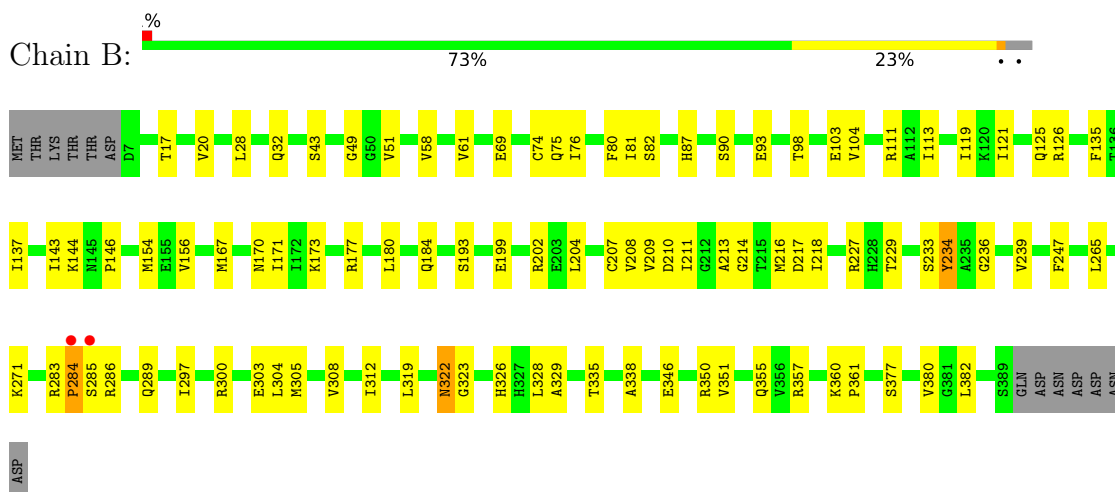
3 Residue-property plots [i](#)

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

- Molecule 1: Cell division protein FtsA

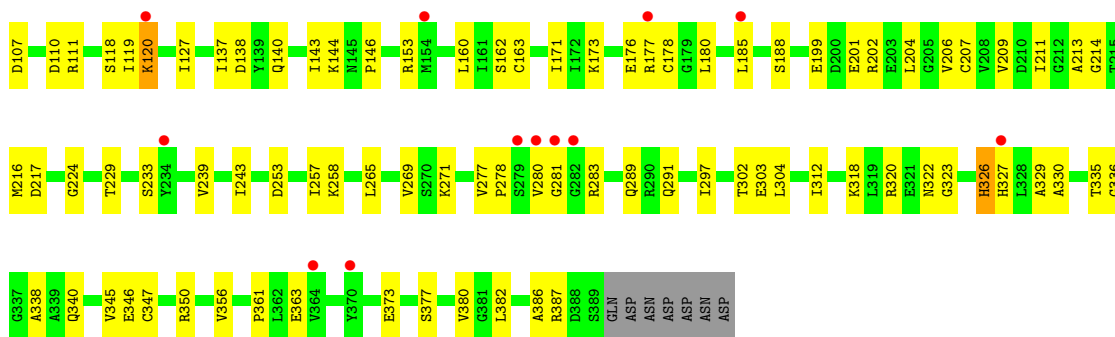


- Molecule 1: Cell division protein FtsA

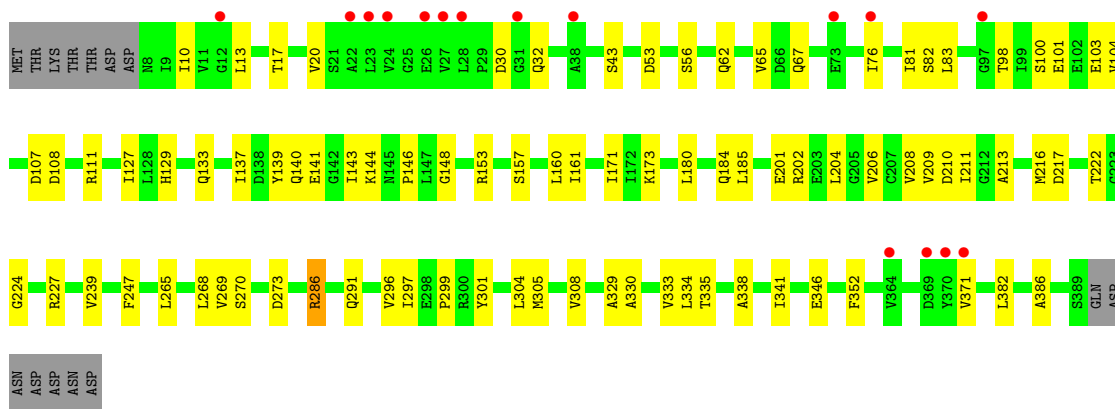
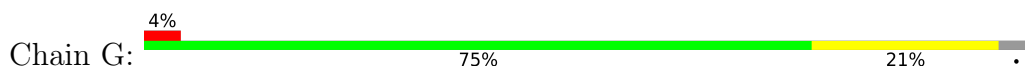


- Molecule 1: Cell division protein FtsA

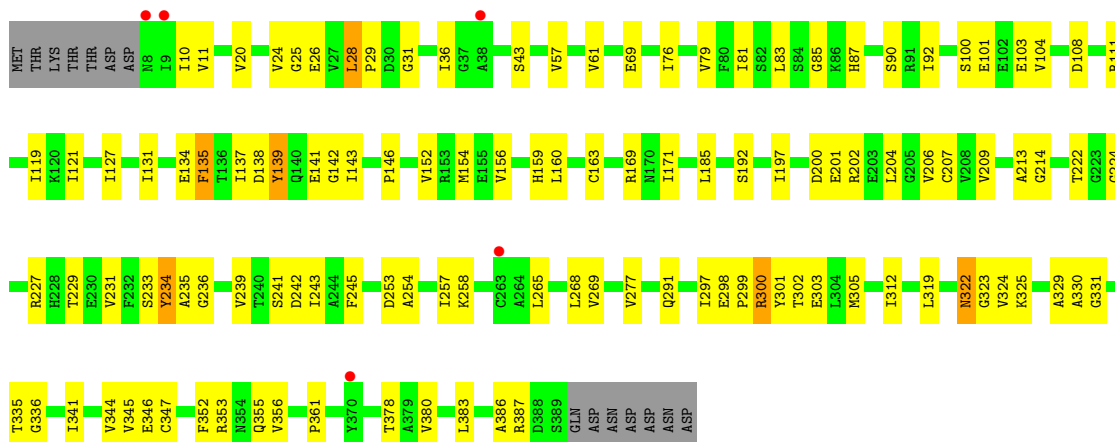




• Molecule 1: Cell division protein FtsA

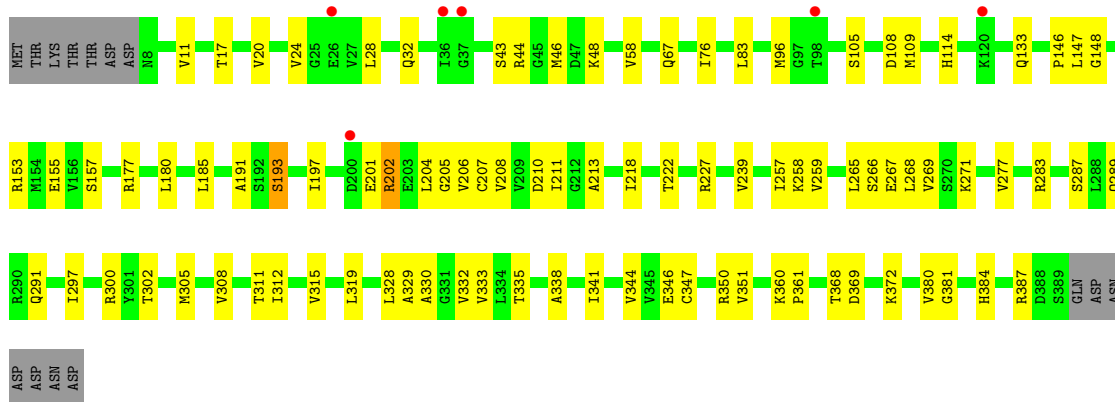


• Molecule 1: Cell division protein FtsA

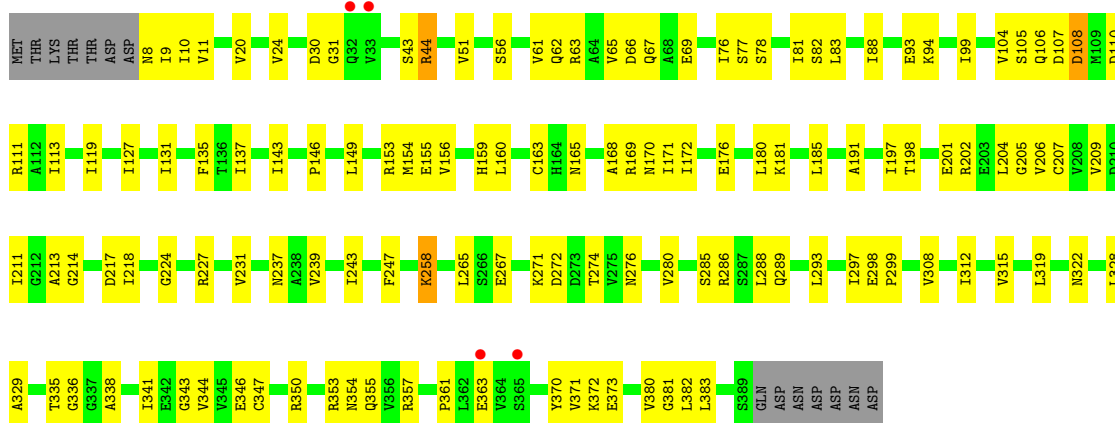


• Molecule 1: Cell division protein FtsA

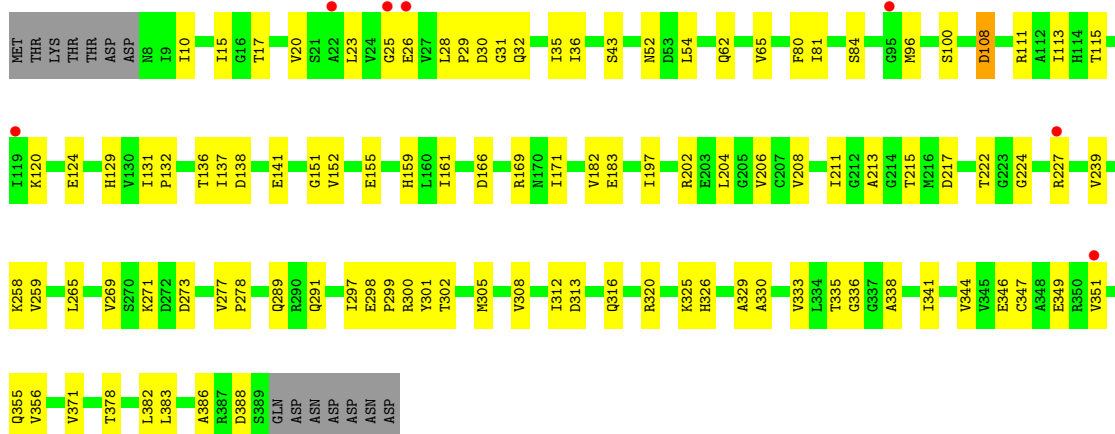




- Molecule 1: Cell division protein FtsA

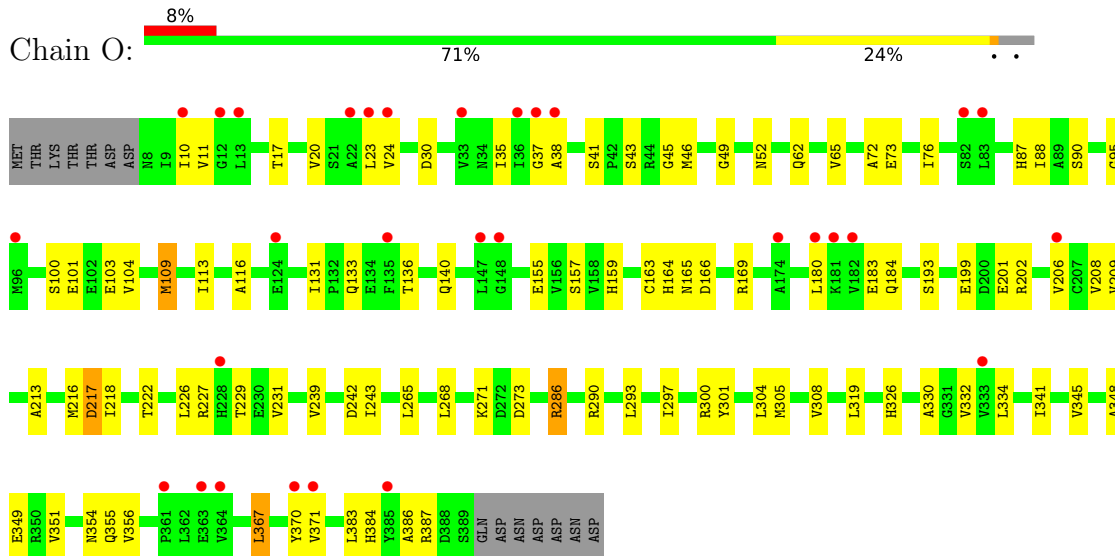


- Molecule 1: Cell division protein FtsA

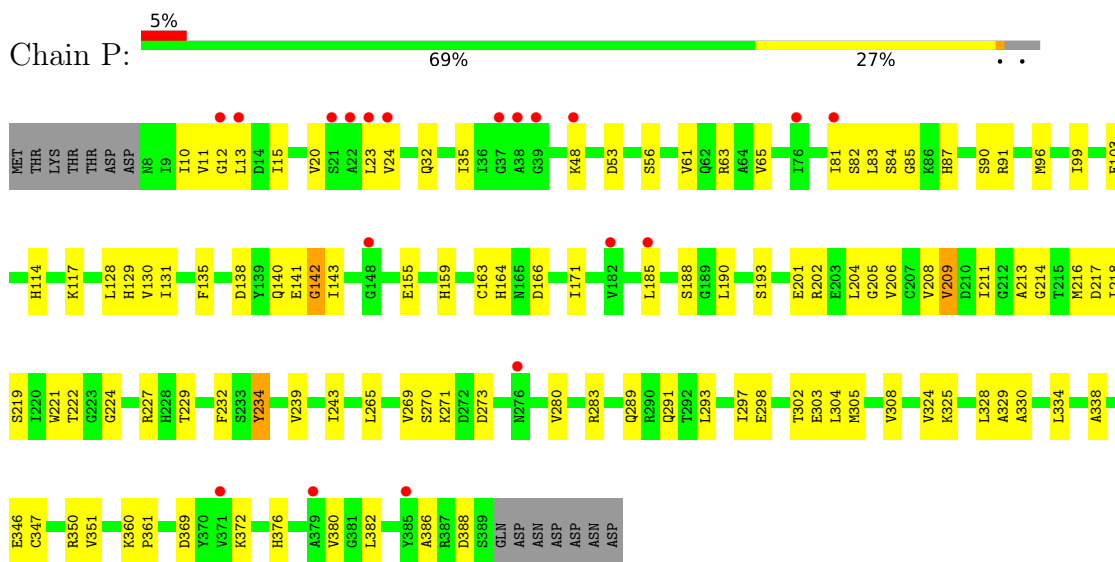


- Molecule 1: Cell division protein FtsA

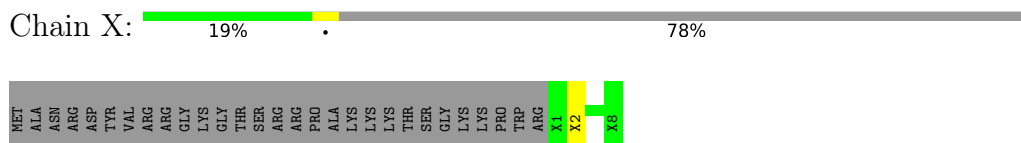
• Molecule 1: Cell division protein FtsA



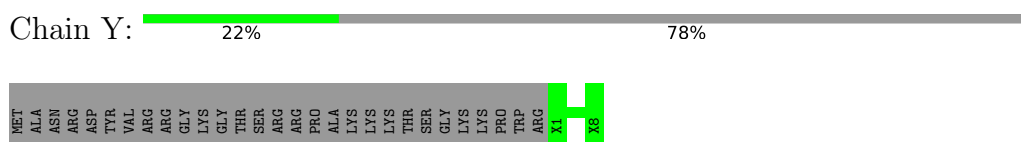
• Molecule 1: Cell division protein FtsA



• Molecule 2: Cell division protein FtsN (polyAla model)



• Molecule 2: Cell division protein FtsN (polyAla model)



4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	98.69Å 119.99Å 329.79Å 90.00° 93.76° 90.00°	Depositor
Resolution (Å)	49.88 – 3.60 73.35 – 3.56	Depositor EDS
% Data completeness (in resolution range)	99.7 (49.88-3.60) 99.2 (73.35-3.56)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.04 (at 3.58Å)	Xtrriage
Refinement program	PHENIX 1.20rc1_4392, REFMAC 5.8.0230	Depositor
R, R_{free}	0.241 , 0.287 0.242 , 0.289	Depositor DCC
R_{free} test set	4439 reflections (4.84%)	wwPDB-VP
Wilson B-factor (Å ²)	110.7	Xtrriage
Anisotropy	0.168	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	(Not available) , (Not available)	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	46262	wwPDB-VP
Average B, all atoms (Å ²)	115.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.00% 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: MG, ATP

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	0.25	0/2898	0.52	0/3921
1	B	0.25	0/2906	0.52	0/3932
1	C	0.25	0/2898	0.51	0/3921
1	D	0.26	0/2749	0.52	0/3717
1	E	0.25	0/2898	0.50	0/3921
1	F	0.25	0/2898	0.53	0/3921
1	G	0.25	0/2898	0.51	0/3921
1	H	0.27	0/2898	0.55	1/3921 (0.0%)
1	I	0.26	0/2898	0.54	0/3921
1	J	0.26	0/2898	0.53	0/3921
1	K	0.25	0/2898	0.51	0/3921
1	L	0.26	0/2898	0.52	0/3921
1	M	0.25	0/2898	0.53	1/3921 (0.0%)
1	N	0.26	0/2898	0.57	2/3921 (0.1%)
1	O	0.27	0/2898	0.55	1/3921 (0.0%)
1	P	0.27	0/2898	0.56	0/3921
All	All	0.26	0/46227	0.53	5/62543 (0.0%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	28	LEU	CA-CB-CG	8.49	134.84	115.30
1	N	367	LEU	CA-CB-CG	7.82	133.29	115.30
1	N	28	LEU	CA-CB-CG	6.69	130.68	115.30
1	O	367	LEU	CA-CB-CG	6.11	129.35	115.30
1	H	28	LEU	CA-CB-CG	5.78	128.59	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2863	0	2872	65	0
1	B	2871	0	2879	53	3
1	C	2863	0	2875	61	0
1	D	2717	0	2728	50	1
1	E	2863	0	2875	57	0
1	F	2863	0	2875	67	0
1	G	2863	0	2873	49	0
1	H	2863	0	2875	73	1
1	I	2863	0	2873	52	0
1	J	2863	0	2873	86	0
1	K	2863	0	2875	71	0
1	L	2863	0	2873	65	2
1	M	2863	0	2875	66	1
1	N	2863	0	2875	79	0
1	O	2863	0	2875	72	0
1	P	2863	0	2872	61	2
2	X	40	0	11	1	0
2	Y	40	0	11	0	0
3	A	31	0	11	1	0
3	B	31	0	12	1	0
3	C	31	0	12	0	0
3	D	31	0	12	2	0
3	E	31	0	12	0	0
3	F	31	0	12	2	0
3	G	31	0	11	2	0
3	H	31	0	12	2	0
3	I	31	0	11	1	0
3	J	31	0	11	2	0
3	K	31	0	12	1	0
3	L	31	0	11	1	0
3	M	31	0	12	3	0
3	N	31	0	12	1	0
3	O	31	0	12	2	0
3	P	31	0	11	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
4	G	1	0	0	0	0
4	H	1	0	0	0	0
4	I	1	0	0	0	0
4	J	1	0	0	0	0
4	K	1	0	0	0	0
4	L	1	0	0	0	0
4	M	1	0	0	0	0
4	N	1	0	0	0	0
4	O	1	0	0	0	0
4	P	1	0	0	0	0
All	All	46262	0	46051	995	5

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

All (995) 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:M:28:LEU:HD12	1:M:29:PRO:HD2	1.51	0.92
1:L:11:VAL:HG12	1:L:24:VAL:HG12	1.52	0.91
1:M:11:VAL:HG11	1:M:76:ILE:HD11	1.58	0.84
1:H:302:THR:OG1	1:H:347:CYS:SG	2.36	0.83
1:H:239:VAL:HG13	1:H:258:LYS:HE2	1.59	0.82
1:B:204:LEU:HB3	1:B:329:ALA:HB3	1.61	0.82
1:H:234:TYR:OH	1:H:303:GLU:OE1	1.98	0.80
1:I:218:ILE:HD11	1:I:308:VAL:HG12	1.64	0.79
1:P:96:MET:HG2	1:P:155:GLU:HG2	1.62	0.79
1:E:204:LEU:HB3	1:E:329:ALA:HB3	1.64	0.79
1:P:204:LEU:HB3	1:P:329:ALA:HB3	1.63	0.79
1:M:309:ASN:HD22	1:M:351:VAL:HG22	1.48	0.78
1:N:105:SER:OG	1:N:107:ASP:OD1	2.01	0.78
1:K:96:MET:HG2	1:K:155:GLU:HG2	1.65	0.76
1:J:201:GLU:OE2	1:J:357:ARG:NH2	2.18	0.76
1:L:201:GLU:HB3	1:L:206:VAL:HG21	1.68	0.76
1:G:204:LEU:HB3	1:G:329:ALA:HB3	1.68	0.76
1:M:283:ARG:HH12	1:N:355:GLN:HG2	1.50	0.76
1:O:193:SER:HB3	1:O:208:VAL:HG21	1.68	0.76
1:P:211:ILE:HG22	1:P:338:ALA:HB3	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:213:ALA:HB2	3:J:501:ATP:H5'1	1.67	0.75
1:O:133:GLN:NE2	1:O:226:LEU:O	2.19	0.75
1:J:202:ARG:HB3	1:J:224:GLY:HA2	1.68	0.75
1:N:26:GLU:HG3	1:N:36:ILE:HD11	1.67	0.74
1:E:206:VAL:HG22	1:E:330:ALA:HB3	1.69	0.74
1:F:93:GLU:HG3	1:F:119:ILE:HG21	1.70	0.74
1:H:137:ILE:HD13	1:H:154:MET:HB3	1.70	0.74
1:O:23:LEU:HB3	1:O:35:ILE:HD11	1.69	0.74
1:P:193:SER:HB3	1:P:208:VAL:HG21	1.68	0.74
1:M:17:THR:HB	1:M:213:ALA:HB3	1.70	0.73
1:M:204:LEU:HB3	1:M:329:ALA:HB3	1.70	0.73
1:J:201:GLU:HB3	1:J:206:VAL:HG11	1.70	0.73
1:P:15:ILE:HA	1:P:20:VAL:HG23	1.69	0.73
1:H:28:LEU:HD22	1:H:31:GLY:H	1.53	0.73
1:L:204:LEU:HB3	1:L:329:ALA:HB3	1.70	0.73
1:D:201:GLU:HB3	1:D:206:VAL:HG21	1.71	0.72
1:D:265:LEU:HD22	1:D:346:GLU:HB3	1.70	0.72
1:G:270:SER:OG	1:G:273:ASP:OD2	2.08	0.72
1:K:202:ARG:HG2	1:K:224:GLY:HA2	1.71	0.72
1:F:206:VAL:HG22	1:F:330:ALA:HB3	1.71	0.72
1:L:206:VAL:HG22	1:L:330:ALA:HB3	1.72	0.72
1:F:204:LEU:HB3	1:F:329:ALA:HB3	1.72	0.71
1:A:211:ILE:HG22	1:A:338:ALA:HB3	1.71	0.71
1:B:20:VAL:HG23	1:B:43:SER:HB3	1.73	0.71
1:I:204:LEU:HB3	1:I:329:ALA:HB3	1.72	0.71
1:H:325:LYS:H	1:H:325:LYS:HD2	1.56	0.71
1:H:204:LEU:HB3	1:H:329:ALA:HB3	1.72	0.71
1:D:361:PRO:HB3	1:D:380:VAL:HG21	1.71	0.71
1:K:26:GLU:HB3	1:K:36:ILE:HD11	1.72	0.71
1:A:204:LEU:HB3	1:A:329:ALA:HB3	1.72	0.70
1:F:201:GLU:HB3	1:F:206:VAL:HG21	1.73	0.70
1:G:211:ILE:HG22	1:G:338:ALA:HB3	1.72	0.70
1:D:206:VAL:HG22	1:D:330:ALA:HB3	1.73	0.70
1:D:90:SER:HB3	1:D:229:THR:HB	1.74	0.70
1:C:20:VAL:HG23	1:C:43:SER:HB3	1.71	0.70
1:C:245:PHE:HD2	1:D:327:HIS:HE2	1.39	0.70
1:G:20:VAL:HG23	1:G:43:SER:HB3	1.74	0.70
1:A:11:VAL:HG22	1:A:24:VAL:HG12	1.72	0.70
1:D:299:PRO:HB2	1:F:48:LYS:HE3	1.73	0.69
1:A:247:PHE:O	1:A:286:ARG:NH2	2.24	0.69
1:A:283:ARG:NH1	1:B:355:GLN:OE1	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:209:VAL:HG12	1:A:218:ILE:HG12	1.73	0.69
1:G:17:THR:HB	1:G:213:ALA:HB3	1.72	0.69
1:H:213:ALA:HB2	3:H:501:ATP:H5'1	1.74	0.69
1:J:267:GLU:OE2	1:J:350:ARG:NH2	2.25	0.69
1:M:280:VAL:O	1:M:283:ARG:NE	2.24	0.69
1:D:131:ILE:HB	1:D:159:HIS:HB3	1.73	0.69
1:I:193:SER:OG	1:I:208:VAL:HG21	1.92	0.69
1:F:20:VAL:HG23	1:F:43:SER:HB3	1.75	0.69
1:N:13:LEU:H	1:N:382:LEU:HD13	1.57	0.69
1:E:201:GLU:HB3	1:E:206:VAL:HG21	1.75	0.69
1:K:80:PHE:HE1	1:K:183:GLU:HB2	1.57	0.69
1:M:196:VAL:HG21	1:M:335:THR:HG21	1.75	0.68
1:N:206:VAL:HG22	1:N:330:ALA:HB3	1.75	0.68
1:A:84:SER:OG	1:A:217:ASP:OD1	2.12	0.68
1:B:234:TYR:OH	1:B:300:ARG:NH1	2.27	0.68
1:M:90:SER:HG	1:M:229:THR:HG1	1.39	0.68
1:O:20:VAL:HG23	1:O:43:SER:HB3	1.74	0.68
1:L:20:VAL:HG23	1:L:43:SER:HB3	1.74	0.68
1:G:140:GLN:HG3	1:G:143:ILE:HD11	1.76	0.68
1:D:204:LEU:HB3	1:D:329:ALA:HB3	1.76	0.68
1:F:280:VAL:H	1:F:283:ARG:HH21	1.40	0.68
1:N:28:LEU:HD22	1:N:29:PRO:HD2	1.76	0.68
1:H:20:VAL:HG23	1:H:43:SER:HB3	1.75	0.68
1:H:201:GLU:HB3	1:H:206:VAL:HG21	1.75	0.68
1:E:17:THR:HB	1:E:213:ALA:HB3	1.76	0.67
1:E:84:SER:OG	1:E:217:ASP:OD1	2.11	0.67
1:G:206:VAL:HG22	1:G:330:ALA:HB3	1.76	0.67
1:N:204:LEU:HB3	1:N:329:ALA:HB3	1.76	0.67
1:F:91:ARG:NH1	1:F:162:SER:OG	2.27	0.67
1:M:58:VAL:HG11	1:M:177:ARG:HD3	1.74	0.67
1:L:213:ALA:HB2	3:L:501:ATP:H5'1	1.75	0.67
1:C:70:LEU:HB2	1:J:63:ARG:NH1	2.09	0.67
1:J:217:ASP:HA	1:J:231:VAL:HG22	1.76	0.67
1:H:206:VAL:HG22	1:H:330:ALA:HB3	1.77	0.67
1:I:283:ARG:HH12	1:J:355:GLN:HB3	1.59	0.67
1:K:17:THR:HB	1:K:213:ALA:HB3	1.77	0.66
1:L:280:VAL:HG23	1:L:283:ARG:HH21	1.58	0.66
1:J:197:ILE:HG23	1:J:201:GLU:HB2	1.77	0.66
1:L:316:GLN:NE2	1:L:326:HIS:O	2.28	0.66
1:M:193:SER:HB2	1:M:208:VAL:HG21	1.76	0.66
1:N:120:LYS:O	1:N:122:GLY:N	2.27	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:20:VAL:HG23	1:A:43:SER:HB3	1.78	0.66
1:D:325:LYS:H	1:D:325:LYS:HE2	1.61	0.66
1:F:271:LYS:O	1:F:289:GLN:NE2	2.28	0.66
1:B:193:SER:HB3	1:B:208:VAL:HG21	1.76	0.66
1:N:28:LEU:HB3	1:N:32:GLN:O	1.95	0.66
1:F:265:LEU:HD22	1:F:346:GLU:HB3	1.78	0.66
1:O:52:ASN:HA	1:P:143:ILE:HD11	1.78	0.66
1:O:201:GLU:HB3	1:O:206:VAL:HG21	1.79	0.65
1:G:201:GLU:HB3	1:G:206:VAL:HG21	1.78	0.65
1:K:325:LYS:HE2	1:K:325:LYS:H	1.62	0.65
1:C:70:LEU:HB2	1:J:63:ARG:HH12	1.62	0.65
1:B:143:ILE:HG21	1:B:146:PRO:HB3	1.78	0.65
1:H:242:ASP:OD2	1:H:300:ARG:NH1	2.29	0.65
1:I:361:PRO:HB3	1:I:380:VAL:HG21	1.79	0.65
1:N:120:LYS:C	1:N:122:GLY:H	2.01	0.65
1:J:44:ARG:HG2	1:J:56:SER:HB3	1.78	0.64
1:J:131:ILE:HG13	1:J:159:HIS:HB3	1.78	0.64
1:P:213:ALA:HB2	3:P:501:ATP:H5'1	1.78	0.64
1:C:11:VAL:HG12	1:C:24:VAL:HG22	1.79	0.64
1:P:128:LEU:HD11	1:P:163:CYS:SG	2.37	0.64
1:B:265:LEU:HD21	1:B:350:ARG:HH21	1.61	0.64
1:C:132:PRO:HB3	1:C:135:PHE:HE1	1.63	0.64
1:L:82:SER:HB3	1:L:382:LEU:HD11	1.79	0.64
1:N:239:VAL:HG13	1:N:258:LYS:HZ1	1.62	0.64
1:O:166:ASP:HA	1:O:169:ARG:HD3	1.78	0.64
1:O:217:ASP:HA	1:O:231:VAL:HG22	1.79	0.64
1:A:126:ARG:NH1	1:A:165:ASN:OD1	2.31	0.64
1:J:335:THR:HG22	1:J:336:GLY:H	1.63	0.64
1:E:104:VAL:HB	1:E:148:GLY:H	1.63	0.63
1:A:70:LEU:HD13	1:C:286:ARG:HG2	1.79	0.63
1:M:62:GLN:HA	1:M:65:VAL:HG12	1.80	0.63
1:H:127:ILE:HD11	1:H:160:LEU:HG	1.80	0.63
1:E:140:GLN:HG2	1:E:143:ILE:HD11	1.79	0.63
1:I:271:LYS:O	1:I:289:GLN:NE2	2.31	0.63
1:N:74:CYS:SG	1:N:75:GLN:N	2.71	0.63
1:B:213:ALA:HB2	3:B:501:ATP:H5'1	1.80	0.63
1:I:265:LEU:HD23	1:I:268:LEU:HD13	1.81	0.63
1:N:149:LEU:HD23	1:N:150:SER:H	1.63	0.63
1:E:20:VAL:HG23	1:E:43:SER:HB3	1.80	0.63
1:I:227:ARG:HD2	1:I:319:LEU:HD21	1.80	0.63
1:O:62:GLN:HA	1:O:65:VAL:HG12	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:261:TYR:O	1:D:290:ARG:NH1	2.30	0.62
1:K:265:LEU:HD22	1:K:346:GLU:HB3	1.81	0.62
1:L:35:ILE:HD12	1:L:371:VAL:HG21	1.82	0.62
1:D:258:LYS:NZ	3:D:501:ATP:O2'	2.33	0.62
1:N:20:VAL:HG23	1:N:43:SER:HB3	1.82	0.62
1:N:201:GLU:HB3	1:N:206:VAL:HG21	1.81	0.62
1:E:10:ILE:HD11	1:E:386:ALA:HB3	1.81	0.62
1:K:136:THR:HB	1:K:141:GLU:HG3	1.82	0.62
1:L:361:PRO:HB3	1:L:380:VAL:HG21	1.81	0.62
1:C:318:LYS:O	1:C:322:ASN:ND2	2.33	0.62
1:D:69:GLU:HG3	1:D:76:ILE:HG12	1.82	0.61
1:C:107:ASP:OD1	1:C:111:ARG:NH2	2.28	0.61
1:I:239:VAL:HG21	1:I:297:ILE:HG23	1.82	0.61
1:F:202:ARG:HB3	1:F:224:GLY:HA2	1.81	0.61
1:P:201:GLU:HB3	1:P:206:VAL:HG21	1.83	0.61
1:M:371:VAL:HG13	1:M:380:VAL:HG11	1.82	0.61
1:B:74:CYS:SG	1:B:75:GLN:N	2.73	0.61
1:C:201:GLU:HB3	1:C:206:VAL:HG21	1.83	0.60
1:C:341:ILE:HG22	1:C:344:VAL:HG13	1.83	0.60
1:L:257:ILE:HD13	1:L:277:VAL:HG12	1.82	0.60
1:D:233:SER:OG	1:F:303:GLU:OE1	2.19	0.60
1:I:146:PRO:O	1:I:148:GLY:N	2.34	0.60
1:M:258:LYS:NZ	3:M:501:ATP:O2'	2.34	0.60
1:N:143:ILE:HG21	1:N:146:PRO:HB3	1.82	0.60
1:K:80:PHE:CE1	1:K:183:GLU:HB2	2.36	0.60
1:N:240:THR:OG1	1:N:258:LYS:NZ	2.33	0.60
1:P:202:ARG:HB3	1:P:224:GLY:HA2	1.83	0.60
1:F:84:SER:OG	1:F:217:ASP:OD1	2.15	0.60
1:M:15:ILE:HA	1:M:20:VAL:HG23	1.84	0.60
1:A:202:ARG:HG2	1:A:224:GLY:HA2	1.82	0.60
1:P:83:LEU:HD22	1:P:185:LEU:HD23	1.82	0.60
1:O:213:ALA:N	3:O:501:ATP:O3G	2.34	0.60
1:K:349:GLU:HG3	1:K:356:VAL:HG12	1.82	0.60
1:F:257:ILE:HD13	1:F:277:VAL:HG12	1.84	0.59
1:L:104:VAL:HG21	1:L:146:PRO:O	2.02	0.59
1:J:20:VAL:HG23	1:J:43:SER:HB3	1.83	0.59
1:M:133:GLN:HB2	1:M:157:SER:O	2.02	0.59
1:O:271:LYS:H	1:O:271:LYS:HD2	1.67	0.59
1:O:305:MET:HB2	1:O:351:VAL:HG11	1.84	0.59
1:I:17:THR:HB	1:I:213:ALA:HB3	1.84	0.59
1:O:239:VAL:HG21	1:O:297:ILE:HG23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:258:LYS:NZ	3:H:501:ATP:O2'	2.35	0.59
1:H:345:VAL:HG13	1:H:356:VAL:HG13	1.84	0.59
1:I:201:GLU:HB3	1:I:206:VAL:HG21	1.84	0.59
1:I:341:ILE:HG22	1:I:344:VAL:HG13	1.84	0.59
1:L:313:ASP:OD1	1:L:353:ARG:NH2	2.35	0.59
1:P:48:LYS:O	1:P:48:LYS:HG2	2.01	0.59
1:L:81:ILE:HD12	1:L:171:ILE:HG22	1.85	0.59
1:O:10:ILE:HD11	1:O:386:ALA:HB3	1.84	0.59
1:A:17:THR:HB	1:A:213:ALA:HB3	1.83	0.59
1:J:211:ILE:HG22	1:J:338:ALA:HB3	1.85	0.59
1:O:30:ASP:OD1	1:O:30:ASP:N	2.36	0.59
1:C:227:ARG:HD2	1:C:319:LEU:HD21	1.83	0.59
1:F:239:VAL:HG21	1:F:297:ILE:HG23	1.85	0.59
1:J:135:PHE:HB2	1:J:143:ILE:O	2.03	0.59
1:M:201:GLU:HB3	1:M:206:VAL:HG21	1.84	0.58
1:O:11:VAL:HG12	1:O:24:VAL:HG12	1.85	0.58
1:A:257:ILE:HD13	1:A:277:VAL:HG12	1.83	0.58
1:J:77:SER:OG	1:J:78:SER:N	2.36	0.58
1:J:361:PRO:HB3	1:J:380:VAL:HG21	1.83	0.58
1:N:104:VAL:HG11	1:N:146:PRO:O	2.03	0.58
1:F:137:ILE:O	1:F:140:GLN:N	2.37	0.58
1:M:206:VAL:HG22	1:M:330:ALA:HB3	1.86	0.58
1:O:319:LEU:HD23	1:O:326:HIS:HA	1.84	0.58
1:E:134:GLU:OE2	1:E:227:ARG:NH2	2.36	0.58
1:F:335:THR:HG22	1:F:336:GLY:H	1.68	0.58
1:F:361:PRO:HB3	1:F:380:VAL:HG21	1.86	0.58
1:I:211:ILE:HG22	1:I:338:ALA:HB3	1.85	0.58
1:O:227:ARG:HD2	1:O:319:LEU:HD21	1.84	0.58
1:G:239:VAL:HG21	1:G:297:ILE:HG23	1.84	0.58
1:L:24:VAL:HG21	1:L:72:ALA:HB2	1.86	0.58
1:L:77:SER:OG	1:L:78:SER:N	2.36	0.57
1:E:247:PHE:O	1:E:286:ARG:NH2	2.36	0.57
1:P:218:ILE:HD12	1:P:308:VAL:HG13	1.86	0.57
1:C:10:ILE:HG23	1:C:383:LEU:HD22	1.86	0.57
1:D:84:SER:OG	1:D:217:ASP:OD1	2.20	0.57
1:I:206:VAL:HG22	1:I:330:ALA:HB3	1.84	0.57
1:K:20:VAL:HG23	1:K:43:SER:HB3	1.86	0.57
1:N:103:GLU:O	1:N:104:VAL:HG23	2.04	0.57
1:N:213:ALA:O	1:N:237:ASN:ND2	2.37	0.57
1:C:335:THR:HG22	1:C:336:GLY:H	1.70	0.57
1:J:271:LYS:H	1:J:271:LYS:HD2	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:335:THR:HG22	1:H:336:GLY:H	1.69	0.57
1:D:20:VAL:HG23	1:D:43:SER:HB3	1.87	0.57
1:G:62:GLN:HA	1:G:65:VAL:HG12	1.86	0.57
1:O:243:ILE:HD13	1:O:293:LEU:HD11	1.86	0.57
1:M:46:MET:HE2	1:M:57:VAL:HG23	1.87	0.57
1:P:206:VAL:HG22	1:P:330:ALA:HB3	1.85	0.57
1:E:99:ILE:HD11	1:E:104:VAL:HA	1.87	0.56
1:K:211:ILE:HG22	1:K:338:ALA:HB3	1.87	0.56
1:L:265:LEU:HD22	1:L:346:GLU:HB3	1.87	0.56
1:J:176:GLU:OE1	1:J:181:LYS:NZ	2.31	0.56
1:K:96:MET:CG	1:K:155:GLU:HG2	2.35	0.56
1:O:265:LEU:HB3	1:O:268:LEU:HD13	1.85	0.56
1:D:213:ALA:HB2	3:D:501:ATP:H5'1	1.87	0.56
1:I:20:VAL:HG23	1:I:43:SER:HB3	1.86	0.56
1:J:271:LYS:O	1:J:289:GLN:NE2	2.37	0.56
1:M:194:ASN:HA	1:M:202:ARG:HH22	1.69	0.56
1:N:11:VAL:HG11	1:N:76:ILE:HD12	1.87	0.56
1:C:217:ASP:HA	1:C:231:VAL:HG22	1.88	0.56
1:H:104:VAL:HG21	1:H:146:PRO:O	2.05	0.56
1:I:96:MET:HG2	1:I:155:GLU:HG2	1.88	0.56
1:M:44:ARG:O	1:M:56:SER:OG	2.19	0.56
1:N:256:GLU:HG2	1:N:260:LYS:HE3	1.86	0.56
1:B:137:ILE:HG12	1:B:154:MET:HB3	1.87	0.56
1:C:206:VAL:HG22	1:C:330:ALA:HB3	1.86	0.56
1:C:216:MET:HE1	1:C:304:LEU:HB3	1.86	0.56
1:E:83:LEU:HD22	1:E:185:LEU:HD23	1.88	0.56
1:I:239:VAL:HG13	1:I:258:LYS:HD2	1.88	0.56
1:K:239:VAL:HG21	1:K:297:ILE:HG23	1.88	0.56
1:B:361:PRO:HB3	1:B:380:VAL:HG21	1.88	0.56
1:H:25:GLY:HA2	1:H:36:ILE:HG13	1.88	0.56
1:K:52:ASN:HA	1:L:143:ILE:HD11	1.88	0.56
1:C:239:VAL:HG21	1:C:297:ILE:HG23	1.87	0.56
1:E:211:ILE:HG22	1:E:338:ALA:HB3	1.88	0.56
1:O:10:ILE:HG12	1:O:383:LEU:HD23	1.88	0.56
1:C:204:LEU:HB3	1:C:329:ALA:HB3	1.87	0.56
1:J:165:ASN:O	1:J:169:ARG:N	2.37	0.56
1:M:387:ARG:HD2	1:M:387:ARG:O	2.05	0.56
1:N:133:GLN:HE21	1:N:159:HIS:HB2	1.70	0.56
1:P:239:VAL:HG21	1:P:297:ILE:HG23	1.88	0.56
1:A:305:MET:HB2	1:A:351:VAL:HG11	1.88	0.55
1:C:35:ILE:HD12	1:C:371:VAL:HG21	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:319:LEU:HD22	1:N:326:HIS:HA	1.88	0.55
1:C:261:TYR:HB3	1:C:290:ARG:HD2	1.88	0.55
1:D:143:ILE:HG21	1:D:146:PRO:HB3	1.87	0.55
1:F:143:ILE:HG21	1:F:146:PRO:HB3	1.87	0.55
1:G:10:ILE:HD11	1:G:386:ALA:HB3	1.88	0.55
1:H:119:ILE:HG23	1:H:121:ILE:HD11	1.87	0.55
1:M:83:LEU:HD13	1:M:185:LEU:HD23	1.88	0.55
1:L:24:VAL:HG11	1:L:76:ILE:HD11	1.87	0.55
1:P:271:LYS:O	1:P:289:GLN:NE2	2.38	0.55
1:A:146:PRO:O	1:A:148:GLY:N	2.39	0.55
1:F:10:ILE:HD11	1:F:386:ALA:HB3	1.88	0.55
1:J:247:PHE:O	1:J:286:ARG:NH1	2.39	0.55
1:O:88:ILE:HD12	1:O:163:CYS:HB3	1.89	0.55
1:D:202:ARG:HB3	1:D:224:GLY:HA2	1.89	0.55
1:H:243:ILE:HB	1:H:254:ALA:HB1	1.89	0.55
1:A:63:ARG:NH2	1:C:272:ASP:OD1	2.39	0.55
1:I:222:THR:OG1	1:I:227:ARG:NE	2.28	0.55
1:I:283:ARG:NH1	1:J:355:GLN:HB3	2.20	0.55
1:P:265:LEU:HD22	1:P:346:GLU:HB3	1.88	0.55
1:K:222:THR:HG23	1:K:227:ARG:HG3	1.87	0.55
1:M:137:ILE:HD11	1:M:149:LEU:HD22	1.87	0.55
1:G:127:ILE:HD11	1:G:160:LEU:HG	1.89	0.55
1:H:361:PRO:HB3	1:H:380:VAL:HG21	1.88	0.55
1:O:165:ASN:O	1:O:169:ARG:HG3	2.07	0.55
1:L:211:ILE:HG22	1:L:338:ALA:HB3	1.87	0.55
1:E:280:VAL:O	1:E:283:ARG:NH1	2.40	0.55
1:E:335:THR:HG22	1:E:336:GLY:H	1.72	0.55
1:F:82:SER:HB3	1:F:382:LEU:HD11	1.89	0.55
1:O:24:VAL:HG21	1:O:72:ALA:HB2	1.89	0.55
1:H:222:THR:HG23	1:H:227:ARG:HH11	1.72	0.54
1:P:131:ILE:HB	1:P:159:HIS:HB3	1.89	0.54
1:F:127:ILE:HD11	1:F:160:LEU:HD22	1.90	0.54
1:P:23:LEU:HB3	1:P:35:ILE:HD11	1.89	0.54
1:H:81:ILE:HD12	1:H:171:ILE:HG22	1.89	0.54
1:C:260:LYS:HE2	1:J:276:ASN:HB2	1.89	0.54
1:D:153:ARG:HG3	1:D:153:ARG:HH11	1.72	0.54
1:B:218:ILE:HD11	1:B:308:VAL:HG22	1.90	0.54
1:G:100:SER:N	1:G:108:ASP:OD2	2.40	0.54
1:G:133:GLN:HB2	1:G:157:SER:O	2.07	0.54
1:M:239:VAL:HG21	1:M:297:ILE:HG23	1.89	0.54
1:E:30:ASP:OD1	1:E:30:ASP:N	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:10:ILE:HD11	1:H:386:ALA:HB3	1.90	0.54
1:H:135:PHE:HB2	1:H:143:ILE:O	2.07	0.54
1:I:259:VAL:HG12	3:I:501:ATP:C5	2.42	0.54
1:J:83:LEU:HD22	1:J:185:LEU:HD23	1.90	0.54
1:K:222:THR:OG1	1:K:227:ARG:NE	2.39	0.54
1:L:193:SER:HB2	1:L:208:VAL:HG21	1.90	0.54
1:I:83:LEU:HD22	1:I:185:LEU:HD23	1.89	0.54
1:K:137:ILE:HD11	1:K:151:GLY:HA3	1.89	0.54
1:G:32:GLN:OE1	1:G:32:GLN:N	2.23	0.54
1:J:104:VAL:HG11	1:J:146:PRO:O	2.08	0.54
1:G:141:GLU:N	1:G:141:GLU:OE1	2.38	0.53
1:G:208:VAL:HG12	1:G:333:VAL:HB	1.89	0.53
1:K:197:ILE:HD11	1:K:206:VAL:HG21	1.91	0.53
1:N:120:LYS:HG3	1:N:121:ILE:N	2.22	0.53
1:O:72:ALA:O	1:O:73:GLU:HG3	2.08	0.53
1:P:302:THR:OG1	1:P:347:CYS:SG	2.64	0.53
1:D:10:ILE:HD11	1:D:386:ALA:HB3	1.90	0.53
1:N:261:TYR:HD2	1:N:275:VAL:HG12	1.73	0.53
1:A:48:LYS:HD3	1:A:233:SER:HB2	1.91	0.53
1:C:17:THR:HB	1:C:213:ALA:HB3	1.90	0.53
1:K:320:ARG:HB2	1:K:326:HIS:CE1	2.42	0.53
1:I:11:VAL:HG22	1:I:24:VAL:HG13	1.89	0.53
1:L:109:MET:O	1:L:113:ILE:HG12	2.09	0.53
1:F:118:SER:HB3	1:K:152:VAL:HG12	1.91	0.53
1:N:127:ILE:HD11	1:N:160:LEU:HG	1.91	0.53
1:H:265:LEU:HA	1:H:298:GLU:HG3	1.90	0.53
1:I:207:CYS:SG	1:I:312:ILE:HD11	2.48	0.53
1:L:243:ILE:HD11	1:L:297:ILE:HG13	1.91	0.53
1:N:13:LEU:HG	1:N:15:ILE:HD11	1.91	0.53
1:G:371:VAL:HG12	1:G:371:VAL:O	2.09	0.53
1:H:26:GLU:HB3	1:H:36:ILE:HD11	1.90	0.53
1:M:202:ARG:HB3	1:M:224:GLY:HA2	1.90	0.53
1:C:48:LYS:HD3	1:C:233:SER:HB2	1.90	0.53
1:N:107:ASP:OD1	1:N:108:ASP:N	2.41	0.53
1:N:353:ARG:H	1:N:353:ARG:HD2	1.73	0.53
1:P:205:GLY:HA3	1:P:328:LEU:HA	1.90	0.53
1:E:93:GLU:HG3	1:E:119:ILE:HD13	1.91	0.52
1:N:28:LEU:HD12	1:N:32:GLN:H	1.74	0.52
1:O:367:LEU:HD23	1:O:367:LEU:O	2.10	0.52
1:C:276:ASN:ND2	1:J:272:ASP:OD2	2.42	0.52
1:I:384:HIS:O	1:I:387:ARG:HG2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:99:ILE:HD11	1:J:154:MET:HG2	1.91	0.52
1:L:127:ILE:HD11	1:L:160:LEU:HG	1.91	0.52
1:N:213:ALA:HB2	3:N:501:ATP:H5'1	1.91	0.52
1:N:367:LEU:O	1:N:367:LEU:HD23	2.08	0.52
1:G:53:ASP:OD2	1:G:56:SER:OG	2.26	0.52
1:G:104:VAL:HG23	1:G:148:GLY:H	1.75	0.52
1:B:312:ILE:HD12	1:B:328:LEU:HD11	1.91	0.52
1:D:378:THR:O	1:D:382:LEU:HD23	2.10	0.52
1:H:257:ILE:HD13	1:H:277:VAL:HG12	1.91	0.52
1:M:341:ILE:HB	3:M:501:ATP:H2	1.75	0.52
1:B:90:SER:HB3	1:B:229:THR:HB	1.92	0.52
1:K:137:ILE:HG23	1:K:138:ASP:H	1.74	0.52
1:A:145:ASN:OD1	2:X:2:UNK:N	2.42	0.52
1:K:305:MET:HB3	1:K:351:VAL:HG11	1.91	0.52
1:K:346:GLU:N	1:K:346:GLU:OE1	2.43	0.52
1:L:76:ILE:HG22	1:L:180:LEU:HD22	1.90	0.52
1:O:206:VAL:HG22	1:O:330:ALA:HB3	1.90	0.52
1:M:208:VAL:HG12	1:M:333:VAL:HB	1.91	0.52
1:P:53:ASP:OD2	1:P:56:SER:OG	2.28	0.52
1:A:239:VAL:HG21	1:A:297:ILE:HG23	1.91	0.51
1:K:341:ILE:HG22	1:K:344:VAL:HG13	1.91	0.51
1:N:131:ILE:HB	1:N:159:HIS:HB3	1.92	0.51
1:N:335:THR:HG22	1:N:336:GLY:H	1.75	0.51
1:B:199:GLU:OE1	1:B:202:ARG:NH1	2.43	0.51
1:J:239:VAL:HG21	1:J:297:ILE:HG23	1.92	0.51
1:K:124:GLU:OE1	1:K:124:GLU:N	2.43	0.51
1:P:11:VAL:HG13	1:P:24:VAL:HG22	1.93	0.51
1:A:197:ILE:CD1	1:A:206:VAL:HG11	2.40	0.51
1:B:135:PHE:CE1	1:B:156:VAL:HB	2.46	0.51
1:B:211:ILE:HG22	1:B:338:ALA:HB3	1.92	0.51
1:D:101:GLU:O	1:D:102:GLU:HG2	2.10	0.51
1:K:239:VAL:HB	1:K:300:ARG:HG2	1.91	0.51
1:O:100:SER:OG	1:O:101:GLU:OE1	2.09	0.51
1:C:105:SER:OG	1:C:108:ASP:OD1	2.19	0.51
1:C:298:GLU:O	1:C:302:THR:HG23	2.10	0.51
1:F:216:MET:HE1	1:F:304:LEU:HD22	1.93	0.51
1:K:81:ILE:HD12	1:K:171:ILE:HG22	1.92	0.51
1:L:312:ILE:HD12	1:L:328:LEU:HD11	1.91	0.51
1:D:83:LEU:HD22	1:D:185:LEU:HD23	1.91	0.51
1:E:222:THR:HG23	1:E:227:ARG:HG3	1.92	0.51
1:O:209:VAL:HG13	1:O:334:LEU:HD13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:58:VAL:HG21	1:I:177:ARG:HD2	1.92	0.51
1:J:81:ILE:HD12	1:J:171:ILE:HG22	1.93	0.51
1:J:168:ALA:O	1:J:172:ILE:HD12	2.11	0.51
1:K:320:ARG:HB2	1:K:326:HIS:ND1	2.26	0.51
1:H:57:VAL:O	1:H:61:VAL:HG23	2.11	0.51
1:L:202:ARG:HB3	1:L:224:GLY:HA2	1.93	0.51
1:F:258:LYS:NZ	3:F:501:ATP:O2'	2.44	0.51
1:H:138:ASP:O	1:H:139:TYR:HB2	2.11	0.51
1:K:208:VAL:HG12	1:K:333:VAL:HB	1.92	0.51
1:L:335:THR:HG22	1:L:336:GLY:H	1.75	0.51
1:H:202:ARG:HB3	1:H:224:GLY:HA2	1.93	0.51
1:L:34:ASN:HA	1:L:365:SER:O	2.10	0.51
1:M:384:HIS:O	1:M:387:ARG:HG3	2.11	0.51
1:N:283:ARG:HG2	1:N:284:PRO:HD2	1.93	0.51
1:L:10:ILE:HG23	1:L:383:LEU:HD22	1.93	0.50
1:C:205:GLY:HA3	1:C:328:LEU:HA	1.92	0.50
1:E:239:VAL:HG21	1:E:297:ILE:HG23	1.92	0.50
1:A:110:ASP:OD1	1:A:110:ASP:N	2.44	0.50
1:E:13:LEU:HB3	1:E:81:ILE:HG22	1.94	0.50
1:J:76:ILE:HG22	1:J:180:LEU:HD22	1.92	0.50
1:K:81:ILE:HD13	1:K:182:VAL:HG11	1.92	0.50
1:N:149:LEU:HD23	1:N:150:SER:N	2.27	0.50
1:M:372:LYS:HG3	1:M:373:GLU:HG2	1.93	0.50
1:N:265:LEU:HD22	1:N:346:GLU:HB3	1.92	0.50
1:N:319:LEU:CD2	1:N:324:VAL:HG23	2.41	0.50
1:O:371:VAL:O	1:O:371:VAL:HG12	2.12	0.50
1:B:207:CYS:SG	1:B:312:ILE:HD11	2.52	0.50
1:C:346:GLU:N	1:C:346:GLU:OE1	2.44	0.50
1:G:346:GLU:OE1	1:G:346:GLU:N	2.44	0.50
1:I:133:GLN:HB3	1:I:157:SER:O	2.12	0.50
1:N:81:ILE:HD12	1:N:171:ILE:HG22	1.92	0.50
1:D:36:ILE:HG22	1:D:72:ALA:HA	1.94	0.50
1:M:135:PHE:CD2	1:M:146:PRO:HD2	2.47	0.50
1:M:389:SER:O	1:M:389:SER:OG	2.26	0.50
1:O:199:GLU:HA	1:O:202:ARG:HG3	1.94	0.50
1:O:271:LYS:HD2	1:O:271:LYS:N	2.27	0.50
1:P:270:SER:OG	1:P:273:ASP:OD2	2.30	0.50
1:D:138:ASP:OD2	1:D:152:VAL:HG12	2.12	0.50
1:G:173:LYS:NZ	1:H:103:GLU:OE1	2.40	0.50
1:H:200:ASP:O	1:H:204:LEU:HD12	2.11	0.50
1:J:341:ILE:O	1:J:344:VAL:HG23	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:81:ILE:HD12	1:D:171:ILE:HG22	1.93	0.50
1:M:309:ASN:ND2	1:M:351:VAL:HG22	2.24	0.50
1:N:133:GLN:NE2	1:N:159:HIS:HB2	2.26	0.50
1:A:308:VAL:HB	1:A:352:PHE:HZ	1.77	0.49
1:K:204:LEU:HD13	1:K:329:ALA:HB3	1.94	0.49
1:K:298:GLU:HB3	1:K:299:PRO:HD3	1.93	0.49
1:N:261:TYR:CD2	1:N:275:VAL:HG12	2.47	0.49
1:B:81:ILE:HD12	1:B:171:ILE:HG22	1.93	0.49
1:K:111:ARG:O	1:K:115:THR:HG23	2.12	0.49
1:P:10:ILE:HD11	1:P:386:ALA:HB3	1.93	0.49
1:C:273:ASP:HB3	1:C:290:ARG:HB3	1.93	0.49
1:I:269:VAL:HG21	1:I:291:GLN:HA	1.94	0.49
1:M:209:VAL:HA	1:M:217:ASP:O	2.13	0.49
1:I:210:ASP:HA	1:I:335:THR:HG23	1.93	0.49
1:L:279:SER:HB2	1:L:286:ARG:HH21	1.77	0.49
1:O:140:GLN:OE1	1:O:140:GLN:HA	2.12	0.49
1:D:62:GLN:O	1:D:66:ASP:HB2	2.12	0.49
1:E:332:VAL:O	1:E:356:VAL:HA	2.12	0.49
1:E:346:GLU:N	1:E:346:GLU:OE1	2.45	0.49
1:I:257:ILE:HD13	1:I:277:VAL:HG12	1.94	0.49
1:N:197:ILE:HG21	1:N:202:ARG:HD3	1.95	0.49
1:D:303:GLU:OE2	1:F:233:SER:OG	2.31	0.49
1:H:69:GLU:HG3	1:H:76:ILE:HG12	1.95	0.49
1:I:346:GLU:OE1	1:I:346:GLU:N	2.46	0.49
1:J:107:ASP:OD2	1:J:111:ARG:NH2	2.46	0.49
1:D:108:ASP:OD1	1:D:111:ARG:NH2	2.45	0.49
1:E:99:ILE:HD11	1:E:103:GLU:O	2.13	0.49
1:J:30:ASP:OD1	1:J:30:ASP:N	2.45	0.49
1:K:28:LEU:HD22	1:K:29:PRO:HD2	1.95	0.49
1:P:85:GLY:HA3	1:P:87:HIS:CE1	2.48	0.49
1:P:346:GLU:N	1:P:346:GLU:OE1	2.45	0.49
1:F:120:LYS:H	1:F:120:LYS:HD3	1.77	0.49
1:F:387:ARG:HG3	1:F:387:ARG:HH11	1.78	0.49
1:G:269:VAL:HG21	1:G:291:GLN:HA	1.95	0.49
1:J:371:VAL:HG12	1:J:371:VAL:O	2.12	0.49
1:O:218:ILE:HD11	1:O:308:VAL:HG22	1.95	0.49
1:O:348:ALA:HB3	1:O:356:VAL:HG21	1.93	0.49
1:P:360:LYS:HD3	1:P:372:LYS:O	2.13	0.49
1:D:239:VAL:HG13	1:D:258:LYS:HE3	1.95	0.48
1:M:11:VAL:HG22	1:M:24:VAL:HG22	1.95	0.48
1:N:315:VAL:O	1:N:319:LEU:HB2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:ILE:HD12	1:A:206:VAL:HG11	1.95	0.48
1:J:227:ARG:HD2	1:J:319:LEU:HD11	1.95	0.48
1:P:216:MET:N	1:P:232:PHE:O	2.35	0.48
1:A:53:ASP:OD2	1:A:56:SER:OG	2.27	0.48
1:F:340:GLN:OE1	1:F:373:GLU:HB3	2.13	0.48
1:G:76:ILE:HG22	1:G:180:LEU:HD22	1.95	0.48
1:J:62:GLN:O	1:J:66:ASP:HB2	2.13	0.48
1:J:146:PRO:HB2	1:J:149:LEU:HD21	1.93	0.48
1:K:215:THR:OG1	1:K:217:ASP:OD1	2.27	0.48
1:M:137:ILE:HG22	1:M:154:MET:HB3	1.94	0.48
1:N:286:ARG:O	1:N:288:LEU:N	2.45	0.48
1:O:136:THR:HG23	1:O:155:GLU:HB3	1.95	0.48
1:E:345:VAL:HG13	1:E:356:VAL:HG23	1.94	0.48
1:A:100:SER:O	1:A:101:GLU:HG2	2.13	0.48
1:C:216:MET:CE	1:C:304:LEU:HB3	2.43	0.48
1:D:104:VAL:HG11	1:D:146:PRO:O	2.13	0.48
1:G:265:LEU:HD23	1:G:268:LEU:HD13	1.96	0.48
1:H:131:ILE:HB	1:H:159:HIS:HB3	1.95	0.48
1:H:387:ARG:O	1:H:387:ARG:NH1	2.45	0.48
1:K:335:THR:HG22	1:K:336:GLY:H	1.77	0.48
1:P:135:PHE:N	1:P:143:ILE:O	2.43	0.48
1:P:209:VAL:HA	1:P:217:ASP:O	2.13	0.48
1:A:210:ASP:HB3	1:A:217:ASP:HB2	1.96	0.48
1:A:221:TRP:CZ2	1:A:226:LEU:HD12	2.48	0.48
1:A:341:ILE:O	1:A:344:VAL:HG23	2.13	0.48
1:C:192:SER:HG	1:C:378:THR:HG1	1.59	0.48
1:E:332:VAL:HB	1:E:356:VAL:HG12	1.95	0.48
1:I:387:ARG:O	1:I:387:ARG:HG3	2.14	0.48
1:J:204:LEU:HB3	1:J:329:ALA:HB3	1.96	0.48
1:L:331:GLY:HA2	1:L:354:ASN:ND2	2.29	0.48
1:N:111:ARG:O	1:N:115:THR:HG23	2.14	0.48
1:O:76:ILE:HG22	1:O:180:LEU:HD22	1.94	0.48
1:F:69:GLU:HG3	1:F:74:CYS:O	2.14	0.48
1:G:222:THR:HG23	1:G:227:ARG:HG3	1.96	0.48
1:O:332:VAL:HB	1:O:356:VAL:HG12	1.94	0.48
1:A:10:ILE:HG13	1:A:383:LEU:HD22	1.96	0.48
1:A:315:VAL:O	1:A:319:LEU:HB2	2.13	0.48
1:D:227:ARG:HD2	1:D:319:LEU:HD21	1.96	0.48
1:G:209:VAL:HA	1:G:217:ASP:O	2.14	0.48
1:M:346:GLU:N	1:M:346:GLU:OE1	2.47	0.48
1:N:11:VAL:HG12	1:N:24:VAL:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:209:VAL:HA	1:N:217:ASP:O	2.14	0.48
1:O:131:ILE:HB	1:O:159:HIS:HB3	1.95	0.48
1:P:87:HIS:HB2	1:P:164:HIS:H	1.77	0.48
1:D:207:CYS:SG	1:D:312:ILE:HD11	2.53	0.47
1:E:208:VAL:HG12	1:E:333:VAL:HB	1.95	0.47
1:K:222:THR:HG1	1:K:227:ARG:HE	1.62	0.47
1:M:164:HIS:HD2	1:M:166:ASP:H	1.61	0.47
1:N:239:VAL:HG13	1:N:258:LYS:NZ	2.27	0.47
1:B:173:LYS:O	1:B:177:ARG:HG2	2.14	0.47
1:C:216:MET:HE1	1:C:304:LEU:HD22	1.96	0.47
1:H:319:LEU:O	1:H:324:VAL:HG12	2.14	0.47
1:D:353:ARG:HD2	1:D:353:ARG:N	2.30	0.47
1:E:113:ILE:HG23	1:E:158:VAL:HG11	1.96	0.47
1:E:349:GLU:HG3	1:E:356:VAL:HG22	1.95	0.47
1:F:83:LEU:HD22	1:F:185:LEU:HD23	1.96	0.47
1:F:213:ALA:HB2	3:F:501:ATP:H5'1	1.94	0.47
1:J:110:ASP:HA	1:J:113:ILE:HG22	1.96	0.47
1:J:271:LYS:HD2	1:J:271:LYS:N	2.28	0.47
1:K:166:ASP:HA	1:K:169:ARG:HD3	1.95	0.47
1:O:104:VAL:O	1:O:104:VAL:HG23	2.13	0.47
1:P:82:SER:HB3	1:P:382:LEU:HD11	1.96	0.47
1:C:87:HIS:HB2	1:C:164:HIS:HB2	1.97	0.47
1:E:88:ILE:HD13	1:E:163:CYS:HB3	1.97	0.47
1:G:143:ILE:HG22	1:G:146:PRO:HD3	1.97	0.47
1:J:61:VAL:O	1:J:65:VAL:HG12	2.14	0.47
1:O:87:HIS:HB2	1:O:164:HIS:HB2	1.96	0.47
1:P:216:MET:HE1	1:P:304:LEU:HB3	1.97	0.47
1:A:244:ALA:HA	1:A:249:THR:HG23	1.95	0.47
1:C:23:LEU:HD11	1:C:379:ALA:HB1	1.95	0.47
1:E:245:PHE:CE2	1:F:327:HIS:HB3	2.49	0.47
1:N:271:LYS:H	1:N:271:LYS:HD2	1.79	0.47
1:N:361:PRO:HB3	1:N:380:VAL:HG21	1.96	0.47
1:K:113:ILE:HD11	1:K:132:PRO:HB3	1.96	0.47
1:L:315:VAL:O	1:L:319:LEU:HB2	2.14	0.47
1:P:84:SER:OG	1:P:188:SER:HB2	2.14	0.47
1:C:81:ILE:HD12	1:C:171:ILE:HG22	1.96	0.47
1:C:93:GLU:HG3	1:C:119:ILE:HD13	1.96	0.47
1:C:387:ARG:HG2	1:C:387:ARG:O	2.14	0.47
1:E:59:LYS:HB3	1:E:59:LYS:HE2	1.73	0.47
1:E:245:PHE:HE2	1:F:327:HIS:HB3	1.79	0.47
1:G:98:THR:OG1	1:G:111:ARG:NH1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:241:SER:HG	1:H:245:PHE:HD2	1.63	0.47
1:I:76:ILE:HG22	1:I:180:LEU:HD22	1.97	0.47
1:J:11:VAL:HG12	1:J:24:VAL:HG22	1.97	0.47
1:J:265:LEU:HG	1:J:347:CYS:HB2	1.97	0.47
1:J:328:LEU:O	1:J:354:ASN:ND2	2.47	0.47
1:L:11:VAL:HG23	1:L:79:VAL:HA	1.95	0.47
1:L:218:ILE:HD11	1:L:308:VAL:HG22	1.95	0.47
1:M:10:ILE:HD11	1:M:33:VAL:HG11	1.95	0.47
1:N:216:MET:HE1	1:N:304:LEU:HB3	1.95	0.47
1:N:309:ASN:HB2	1:N:352:PHE:HE1	1.78	0.47
1:O:133:GLN:HB2	1:O:157:SER:O	2.15	0.47
1:O:239:VAL:HB	1:O:300:ARG:HG2	1.96	0.47
1:F:81:ILE:HD12	1:F:171:ILE:HG22	1.97	0.47
1:G:202:ARG:HB3	1:G:224:GLY:HA2	1.97	0.47
1:K:15:ILE:HA	1:K:20:VAL:HG22	1.97	0.47
1:K:341:ILE:HB	3:K:501:ATP:H2	1.79	0.47
1:K:371:VAL:HG12	1:K:371:VAL:O	2.15	0.47
1:P:61:VAL:O	1:P:65:VAL:HG12	2.15	0.47
1:B:80:PHE:HB3	1:B:382:LEU:HD12	1.97	0.47
1:C:15:ILE:HA	1:C:20:VAL:HG22	1.97	0.47
1:H:222:THR:HG23	1:H:227:ARG:NH1	2.29	0.47
1:M:63:ARG:NE	1:M:63:ARG:HA	2.29	0.47
1:M:369:ASP:O	1:M:372:LYS:HE3	2.14	0.47
1:P:216:MET:HB3	1:P:232:PHE:HB2	1.96	0.47
1:D:239:VAL:HG21	1:D:297:ILE:HG23	1.96	0.47
1:H:92:ILE:HD13	1:H:159:HIS:HA	1.96	0.47
1:H:100:SER:O	1:H:101:GLU:HG2	2.15	0.47
1:I:205:GLY:HA3	1:I:328:LEU:HA	1.96	0.47
1:L:209:VAL:HG13	1:L:334:LEU:HD13	1.96	0.47
1:A:96:MET:HG3	1:A:155:GLU:HG2	1.97	0.46
1:A:173:LYS:NZ	1:B:103:GLU:OE2	2.39	0.46
1:G:30:ASP:N	1:G:30:ASP:OD1	2.43	0.46
1:G:83:LEU:HD22	1:G:185:LEU:HD23	1.95	0.46
1:O:17:THR:OG1	1:O:213:ALA:HB3	2.15	0.46
1:O:345:VAL:O	1:O:349:GLU:HG2	2.14	0.46
1:C:70:LEU:HD12	1:J:63:ARG:HH12	1.80	0.46
1:E:62:GLN:HA	1:E:65:VAL:HG12	1.97	0.46
1:F:173:LYS:HA	1:F:173:LYS:HD2	1.68	0.46
1:G:100:SER:O	1:G:101:GLU:HG2	2.16	0.46
1:J:276:ASN:OD1	1:J:285:SER:OG	2.29	0.46
1:A:87:HIS:HE2	1:A:167:MET:HG2	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:24:VAL:HG21	1:O:72:ALA:CB	2.45	0.46
1:O:38:ALA:HB3	1:O:370:TYR:HD2	1.81	0.46
1:I:105:SER:O	1:I:109:MET:HG3	2.16	0.46
1:M:113:ILE:HD11	1:M:132:PRO:HB3	1.98	0.46
1:M:113:ILE:HG12	1:M:156:VAL:HG11	1.97	0.46
1:M:325:LYS:H	1:M:325:LYS:HD2	1.81	0.46
1:H:143:ILE:HG21	1:H:146:PRO:HB3	1.97	0.46
1:L:69:GLU:HG2	1:L:74:CYS:O	2.15	0.46
1:L:131:ILE:HB	1:L:159:HIS:HB3	1.97	0.46
1:N:43:SER:HA	1:N:60:SER:OG	2.15	0.46
1:A:28:LEU:HD11	1:D:268:LEU:HD12	1.97	0.46
1:G:247:PHE:O	1:G:286:ARG:NH2	2.36	0.46
1:H:253:ASP:O	1:H:257:ILE:HG13	2.16	0.46
1:K:269:VAL:HG21	1:K:291:GLN:HA	1.98	0.46
1:O:133:GLN:OE1	1:O:227:ARG:NH1	2.49	0.46
1:A:205:GLY:HA3	1:A:328:LEU:HA	1.96	0.46
1:E:172:ILE:O	1:E:176:GLU:HG3	2.15	0.46
1:B:51:VAL:HG21	1:B:170:ASN:HB3	1.97	0.46
1:B:104:VAL:HG21	1:B:146:PRO:O	2.16	0.46
1:F:62:GLN:HA	1:F:65:VAL:HG12	1.98	0.46
1:I:350:ARG:HE	1:I:350:ARG:HB2	1.53	0.46
1:L:10:ILE:HD11	1:L:386:ALA:HB1	1.97	0.46
1:M:386:ALA:O	1:M:388:ASP:N	2.46	0.46
1:O:11:VAL:HG12	1:O:24:VAL:HA	1.96	0.46
1:P:305:MET:HB3	1:P:351:VAL:HG11	1.97	0.46
1:B:93:GLU:HG2	1:B:119:ILE:HG21	1.97	0.46
1:C:62:GLN:HA	1:C:65:VAL:HG12	1.98	0.46
1:E:202:ARG:HB3	1:E:224:GLY:HA2	1.96	0.46
1:K:23:LEU:HB3	1:K:35:ILE:HD11	1.98	0.46
1:O:24:VAL:HG22	1:O:37:GLY:O	2.15	0.46
1:A:211:ILE:HD13	1:A:216:MET:HG3	1.97	0.45
1:L:28:LEU:HD13	1:L:29:PRO:HD2	1.97	0.45
1:N:42:PRO:O	1:N:60:SER:OG	2.34	0.45
1:A:149:LEU:HD23	1:A:149:LEU:HA	1.85	0.45
1:A:226:LEU:HD21	1:A:229:THR:HG23	1.98	0.45
1:D:218:ILE:HD11	1:D:308:VAL:HG22	1.98	0.45
1:H:301:TYR:O	1:H:305:MET:HG2	2.15	0.45
1:L:194:ASN:HA	1:L:202:ARG:HH22	1.81	0.45
1:N:301:TYR:O	1:N:305:MET:HG2	2.17	0.45
1:P:117:LYS:HG3	1:P:130:VAL:HG21	1.97	0.45
1:A:249:THR:O	1:B:204:LEU:HD21	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:305:MET:HB2	1:B:351:VAL:HG11	1.98	0.45
1:D:332:VAL:HG11	1:D:352:PHE:HE2	1.82	0.45
1:H:135:PHE:CE1	1:H:156:VAL:HG13	2.51	0.45
1:J:207:CYS:SG	1:J:312:ILE:HD11	2.56	0.45
1:F:345:VAL:HG13	1:F:356:VAL:HG12	1.99	0.45
1:I:369:ASP:HA	1:I:372:LYS:HE3	1.97	0.45
1:K:30:ASP:OD1	1:K:31:GLY:N	2.49	0.45
1:M:9:ILE:HD12	1:M:25:GLY:O	2.16	0.45
1:P:361:PRO:HB3	1:P:380:VAL:HG21	1.97	0.45
1:B:58:VAL:HA	1:B:61:VAL:HG12	1.98	0.45
1:B:239:VAL:HG21	1:B:297:ILE:HG23	1.99	0.45
1:F:253:ASP:O	1:F:257:ILE:HG13	2.15	0.45
1:G:210:ASP:HA	1:G:335:THR:HG23	1.98	0.45
1:P:87:HIS:CD2	1:P:163:CYS:HB2	2.51	0.45
1:P:265:LEU:HA	1:P:298:GLU:HG3	1.98	0.45
1:F:207:CYS:SG	1:F:312:ILE:HD11	2.57	0.45
1:H:265:LEU:HD23	1:H:268:LEU:HD13	1.98	0.45
1:K:10:ILE:HG23	1:K:383:LEU:HD22	1.98	0.45
1:K:330:ALA:O	1:K:355:GLN:HG2	2.17	0.45
1:L:376:HIS:O	1:L:380:VAL:HG13	2.16	0.45
1:N:120:LYS:C	1:N:122:GLY:N	2.68	0.45
1:G:341:ILE:HB	3:G:501:ATP:C2	2.52	0.45
1:J:363:GLU:HG3	1:J:363:GLU:O	2.16	0.45
1:M:306:GLY:O	1:M:310:GLN:HG3	2.17	0.45
1:N:253:ASP:O	1:N:257:ILE:HG13	2.16	0.45
1:F:320:ARG:HD3	1:F:326:HIS:NE2	2.31	0.45
1:H:268:LEU:HD21	1:H:346:GLU:HG3	1.99	0.45
1:I:368:THR:O	1:I:372:LYS:HG3	2.17	0.45
1:O:222:THR:HG23	1:O:227:ARG:HG3	1.98	0.45
1:B:247:PHE:O	1:B:286:ARG:NH2	2.48	0.45
1:C:70:LEU:HD11	1:J:44:ARG:HB3	1.98	0.45
1:H:298:GLU:HB3	1:H:299:PRO:HD3	1.98	0.45
1:J:127:ILE:HD11	1:J:160:LEU:HG	1.99	0.45
1:K:129:HIS:HB2	1:K:161:ILE:HG13	1.99	0.45
1:L:168:ALA:O	1:L:172:ILE:HG13	2.17	0.45
1:L:350:ARG:HE	1:L:350:ARG:HB2	1.58	0.45
1:M:111:ARG:HD2	1:M:111:ARG:HA	1.81	0.45
1:B:98:THR:O	1:B:111:ARG:NH2	2.50	0.45
1:F:76:ILE:HG22	1:F:180:LEU:HD22	1.99	0.45
1:I:17:THR:HA	1:I:46:MET:HB3	1.99	0.45
1:L:234:TYR:OH	1:L:300:ARG:NH1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:354:ASN:OD1	1:L:354:ASN:N	2.48	0.45
1:B:113:ILE:HD13	1:B:156:VAL:HG21	1.98	0.44
1:H:239:VAL:HG21	1:H:297:ILE:HG23	1.99	0.44
1:L:207:CYS:SG	1:L:312:ILE:HD11	2.57	0.44
1:M:28:LEU:HG	1:M:30:ASP:OD1	2.16	0.44
1:M:105:SER:OG	1:M:108:ASP:OD1	2.28	0.44
1:A:216:MET:HE1	1:A:304:LEU:O	2.16	0.44
1:D:262:GLY:HA2	1:D:293:LEU:HD21	1.99	0.44
1:G:137:ILE:HD11	1:G:146:PRO:HG3	1.98	0.44
1:H:87:HIS:CE1	1:H:163:CYS:HB2	2.52	0.44
1:B:227:ARG:HD2	1:B:319:LEU:HD21	2.00	0.44
1:F:173:LYS:HE3	1:F:177:ARG:HG3	2.00	0.44
1:I:48:LYS:HD2	1:I:48:LYS:N	2.33	0.44
1:I:191:ALA:O	1:I:381:GLY:HA3	2.17	0.44
1:M:100:SER:N	1:M:108:ASP:OD2	2.43	0.44
1:O:341:ILE:HB	3:O:501:ATP:C2	2.52	0.44
1:P:81:ILE:HD12	1:P:171:ILE:HG22	1.99	0.44
1:A:206:VAL:HG12	1:A:221:TRP:HB2	1.98	0.44
1:H:325:LYS:H	1:H:325:LYS:CD	2.26	0.44
1:H:331:GLY:HA3	1:H:355:GLN:O	2.18	0.44
1:I:302:THR:OG1	1:I:347:CYS:SG	2.72	0.44
1:K:239:VAL:HG13	1:K:258:LYS:HE3	1.99	0.44
1:A:227:ARG:HD2	1:A:319:LEU:HD21	1.99	0.44
1:F:363:GLU:O	1:F:363:GLU:HG3	2.17	0.44
1:F:377:SER:HA	1:F:380:VAL:HG22	2.00	0.44
1:H:28:LEU:HD23	1:H:29:PRO:CD	2.48	0.44
1:J:205:GLY:HA3	1:J:328:LEU:HA	1.98	0.44
1:K:136:THR:CG2	1:K:155:GLU:HB2	2.47	0.44
1:C:302:THR:HG22	1:C:347:CYS:SG	2.58	0.44
1:D:346:GLU:OE1	1:D:346:GLU:N	2.51	0.44
1:F:211:ILE:HG22	1:F:338:ALA:HB3	1.99	0.44
1:P:90:SER:HB3	1:P:229:THR:HB	2.00	0.44
1:F:120:LYS:HD2	1:K:138:ASP:OD1	2.17	0.44
1:F:269:VAL:HG21	1:F:291:GLN:HA	2.00	0.44
1:J:108:ASP:OD1	1:J:108:ASP:N	2.51	0.44
1:K:197:ILE:HD11	1:K:206:VAL:CG2	2.47	0.44
1:B:28:LEU:HB2	1:B:32:GLN:O	2.18	0.44
1:H:197:ILE:HG21	1:H:202:ARG:HG3	2.00	0.44
1:L:87:HIS:HB2	1:L:164:HIS:H	1.81	0.44
1:E:131:ILE:HB	1:E:159:HIS:HB3	2.00	0.44
1:G:209:VAL:HG13	1:G:334:LEU:HD13	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:269:VAL:HG21	1:H:291:GLN:HA	2.00	0.44
1:M:265:LEU:HD23	1:M:268:LEU:HD13	2.00	0.44
1:N:346:GLU:OE1	1:N:346:GLU:N	2.51	0.44
1:P:140:GLN:O	1:P:142:GLY:N	2.51	0.44
1:A:283:ARG:NH2	1:B:357:ARG:HB3	2.33	0.43
1:E:104:VAL:HB	1:E:148:GLY:N	2.33	0.43
1:K:80:PHE:HE1	1:K:183:GLU:CB	2.27	0.43
1:L:387:ARG:O	1:L:387:ARG:HG2	2.18	0.43
1:O:109:MET:O	1:O:113:ILE:HG13	2.18	0.43
1:O:384:HIS:O	1:O:387:ARG:HG2	2.18	0.43
1:P:129:HIS:CD2	1:P:190:LEU:HD13	2.53	0.43
1:A:258:LYS:HE2	3:A:501:ATP:N3	2.34	0.43
1:E:136:THR:HB	1:E:155:GLU:HG3	2.00	0.43
1:F:44:ARG:HB3	1:F:56:SER:HB3	2.00	0.43
1:H:192:SER:OG	1:H:378:THR:OG1	2.34	0.43
1:I:28:LEU:HB2	1:I:32:GLN:O	2.18	0.43
1:I:328:LEU:HD23	1:I:328:LEU:H	1.82	0.43
1:J:93:GLU:HG3	1:J:119:ILE:HD13	1.99	0.43
1:J:94:LYS:HA	1:J:156:VAL:O	2.18	0.43
1:O:354:ASN:OD1	1:O:355:GLN:N	2.50	0.43
1:A:265:LEU:HD23	1:A:268:LEU:HD13	1.99	0.43
1:F:84:SER:HB2	1:F:188:SER:HB2	2.00	0.43
1:F:90:SER:HB3	1:F:229:THR:HB	2.00	0.43
1:I:44:ARG:HD2	1:I:44:ARG:HA	1.62	0.43
1:K:100:SER:N	1:K:108:ASP:OD2	2.51	0.43
1:L:90:SER:HB3	1:L:229:THR:HB	2.01	0.43
1:L:113:ILE:HD11	1:L:135:PHE:CZ	2.53	0.43
1:A:195:ALA:O	1:A:361:PRO:HA	2.19	0.43
1:E:319:LEU:HD22	1:E:324:VAL:HG11	1.99	0.43
1:J:312:ILE:HD12	1:J:328:LEU:HD21	2.01	0.43
1:J:372:LYS:HG3	1:J:373:GLU:OE2	2.17	0.43
1:L:133:GLN:NE2	1:L:159:HIS:HB2	2.32	0.43
1:O:239:VAL:O	1:O:243:ILE:HG13	2.19	0.43
1:P:222:THR:OG1	1:P:227:ARG:NE	2.42	0.43
1:A:210:ASP:HA	1:A:335:THR:HG23	1.99	0.43
1:B:121:ILE:HG13	1:B:125:GLN:HB2	2.01	0.43
1:F:59:LYS:HB3	1:F:59:LYS:HE2	1.80	0.43
1:F:350:ARG:HE	1:F:350:ARG:HB2	1.59	0.43
1:H:138:ASP:OD2	1:H:152:VAL:N	2.51	0.43
1:H:141:GLU:O	1:H:143:ILE:N	2.52	0.43
1:O:87:HIS:CD2	1:O:87:HIS:H	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:172:ILE:HD11	1:C:185:LEU:HD11	1.99	0.43
1:C:207:CYS:SG	1:C:312:ILE:HD11	2.58	0.43
1:D:62:GLN:HA	1:D:65:VAL:HG12	2.01	0.43
1:J:315:VAL:O	1:J:319:LEU:HB2	2.19	0.43
1:M:28:LEU:HD12	1:M:29:PRO:CD	2.37	0.43
1:C:172:ILE:HG23	1:C:182:VAL:HG21	2.01	0.43
1:A:133:GLN:NE2	1:A:226:LEU:O	2.45	0.43
1:D:261:TYR:HB3	1:D:290:ARG:NH1	2.34	0.43
1:H:11:VAL:HG13	1:H:24:VAL:HG22	2.00	0.43
1:J:172:ILE:HD11	1:J:185:LEU:HD21	2.01	0.43
1:K:28:LEU:HB2	1:K:32:GLN:O	2.19	0.43
1:K:378:THR:O	1:K:382:LEU:HD23	2.19	0.43
1:L:227:ARG:HD2	1:L:319:LEU:HD11	2.01	0.43
1:N:376:HIS:O	1:N:380:VAL:HG13	2.18	0.43
1:D:265:LEU:HB3	1:D:268:LEU:HD23	2.00	0.43
1:G:216:MET:HE3	1:G:304:LEU:O	2.19	0.43
1:O:286:ARG:H	1:O:286:ARG:HE	1.66	0.43
1:P:280:VAL:O	1:P:283:ARG:HG3	2.19	0.43
1:A:30:ASP:OD1	1:A:30:ASP:N	2.50	0.43
1:A:253:ASP:O	1:A:257:ILE:HG13	2.18	0.43
1:C:17:THR:HA	1:C:46:MET:HB3	2.00	0.43
1:C:328:LEU:O	1:C:328:LEU:HD12	2.19	0.43
1:E:95:GLY:HA3	1:E:116:ALA:HB2	2.01	0.43
1:E:372:LYS:HG2	1:E:373:GLU:HG2	2.00	0.43
1:G:81:ILE:HD12	1:G:171:ILE:HG22	1.99	0.43
1:K:271:LYS:O	1:K:289:GLN:NE2	2.52	0.43
1:N:207:CYS:SG	1:N:312:ILE:HD11	2.59	0.43
1:O:157:SER:O	1:O:157:SER:OG	2.36	0.43
1:O:367:LEU:HD21	1:O:370:TYR:CD2	2.54	0.43
1:P:376:HIS:O	1:P:380:VAL:HG13	2.19	0.43
1:B:210:ASP:HB3	1:B:217:ASP:HB2	2.01	0.42
1:E:209:VAL:HA	1:E:217:ASP:O	2.19	0.42
1:K:316:GLN:HG3	1:K:326:HIS:CE1	2.54	0.42
1:N:119:ILE:HD12	1:N:121:ILE:HG23	2.01	0.42
1:O:216:MET:HE1	1:O:304:LEU:HD22	2.00	0.42
1:P:219:SER:OG	1:P:221:TRP:NE1	2.52	0.42
1:B:216:MET:CE	1:B:304:LEU:HG	2.49	0.42
1:D:96:MET:HG2	1:D:155:GLU:HG2	2.01	0.42
1:E:76:ILE:HG22	1:E:180:LEU:HD22	2.01	0.42
1:E:265:LEU:HD23	1:E:268:LEU:HD13	2.01	0.42
1:F:41:SER:HB3	1:F:64:ALA:HB2	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:207:CYS:O	1:I:332:VAL:HA	2.19	0.42
1:L:201:GLU:HB3	1:L:206:VAL:CG2	2.44	0.42
1:M:13:LEU:HD12	1:M:13:LEU:HA	1.90	0.42
1:O:95:GLY:HA3	1:O:116:ALA:HB2	2.01	0.42
1:P:99:ILE:HG23	1:P:103:GLU:O	2.19	0.42
1:C:305:MET:HB2	1:C:351:VAL:HG11	2.01	0.42
1:D:153:ARG:HG3	1:D:153:ARG:NH1	2.34	0.42
1:G:129:HIS:HB2	1:G:161:ILE:HG13	2.00	0.42
1:H:11:VAL:HB	1:H:79:VAL:HG12	2.01	0.42
1:H:83:LEU:HD22	1:H:185:LEU:HD23	2.02	0.42
1:I:265:LEU:HG	1:I:267:GLU:HG2	2.01	0.42
1:J:93:GLU:HA	1:J:93:GLU:OE1	2.18	0.42
1:J:105:SER:OG	1:J:106:GLN:N	2.52	0.42
1:M:30:ASP:OD1	1:M:30:ASP:N	2.51	0.42
1:P:234:TYR:HD1	1:P:234:TYR:HA	1.62	0.42
1:B:69:GLU:HG3	1:B:76:ILE:HG12	2.02	0.42
1:E:318:LYS:O	1:E:318:LYS:HG2	2.19	0.42
1:H:28:LEU:HD22	1:H:31:GLY:N	2.28	0.42
1:I:197:ILE:HG21	1:I:202:ARG:HG3	2.01	0.42
1:J:88:ILE:HD12	1:J:163:CYS:HB3	2.01	0.42
1:O:17:THR:CG2	1:O:49:GLY:H	2.32	0.42
1:F:257:ILE:HD11	1:F:278:PRO:HD2	2.00	0.42
1:I:208:VAL:HG12	1:I:333:VAL:HB	2.02	0.42
1:I:265:LEU:HD22	1:I:346:GLU:HB3	2.01	0.42
1:J:201:GLU:HB3	1:J:206:VAL:CG1	2.47	0.42
1:K:302:THR:OG1	1:K:347:CYS:SG	2.71	0.42
1:L:32:GLN:OE1	1:L:365:SER:HB2	2.19	0.42
1:L:269:VAL:HG21	1:L:291:GLN:HA	2.01	0.42
1:N:94:LYS:HA	1:N:156:VAL:O	2.20	0.42
1:N:242:ASP:OD2	1:N:300:ARG:NH1	2.52	0.42
1:O:201:GLU:HB3	1:O:206:VAL:CG2	2.49	0.42
1:A:86:LYS:HE2	1:A:232:PHE:HA	2.02	0.42
1:A:166:ASP:HA	1:A:169:ARG:HG3	2.00	0.42
1:A:269:VAL:HG21	1:A:291:GLN:HA	2.00	0.42
1:B:361:PRO:HG3	1:B:377:SER:HA	2.01	0.42
1:E:288:LEU:HD12	1:E:288:LEU:HA	1.83	0.42
1:H:90:SER:HB3	1:H:229:THR:HB	1.99	0.42
1:H:341:ILE:O	1:H:344:VAL:HG23	2.20	0.42
1:J:218:ILE:HD11	1:J:308:VAL:HG22	2.01	0.42
1:A:147:LEU:HD12	1:A:147:LEU:H	1.85	0.42
1:F:8:ASN:HB3	1:F:9:ILE:H	1.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:107:ASP:OD1	1:F:111:ARG:NE	2.37	0.42
1:J:10:ILE:HG23	1:J:383:LEU:HD22	2.00	0.42
1:L:240:THR:OG1	1:L:258:LYS:HE2	2.20	0.42
1:M:14:ASP:HA	1:M:82:SER:OG	2.18	0.42
1:P:12:GLY:O	1:P:13:LEU:HD12	2.19	0.42
1:C:211:ILE:HG22	1:C:216:MET:HG2	2.02	0.42
1:E:146:PRO:HB2	1:E:149:LEU:HD13	2.02	0.42
1:J:65:VAL:O	1:J:69:GLU:HB2	2.19	0.42
1:J:258:LYS:HD3	3:J:501:ATP:C2	2.55	0.42
1:M:360:LYS:O	1:M:362:LEU:HD12	2.20	0.42
1:P:325:LYS:H	1:P:325:LYS:HG2	1.58	0.42
1:C:361:PRO:HB3	1:C:380:VAL:HG21	2.01	0.42
1:F:62:GLN:HG2	1:F:178:CYS:SG	2.60	0.42
1:H:207:CYS:SG	1:H:312:ILE:HD11	2.59	0.42
1:I:311:THR:O	1:I:315:VAL:HG23	2.20	0.42
1:P:227:ARG:HH11	1:P:227:ARG:HG2	1.84	0.42
1:C:137:ILE:HD11	1:C:143:ILE:HD13	2.01	0.42
1:E:99:ILE:CD1	1:E:104:VAL:HA	2.49	0.42
1:J:65:VAL:O	1:J:69:GLU:N	2.47	0.42
1:K:84:SER:OG	1:K:217:ASP:OD1	2.37	0.42
1:O:136:THR:CG2	1:O:155:GLU:HB3	2.50	0.42
1:H:85:GLY:O	1:H:231:VAL:HG11	2.20	0.41
1:J:51:VAL:HG21	1:J:170:ASN:CB	2.50	0.41
1:N:331:GLY:HA2	1:N:354:ASN:ND2	2.34	0.41
1:E:269:VAL:HG21	1:E:291:GLN:HA	2.02	0.41
1:F:302:THR:HG1	1:F:347:CYS:HG	1.65	0.41
1:M:138:ASP:OD2	1:M:152:VAL:HG22	2.20	0.41
1:O:183:GLU:O	1:O:184:GLN:HG3	2.20	0.41
1:P:209:VAL:HG13	1:P:334:LEU:HD13	2.02	0.41
1:B:69:GLU:HG2	1:B:75:GLN:HA	2.01	0.41
1:E:166:ASP:OD2	1:K:120:LYS:NZ	2.39	0.41
1:E:361:PRO:HB3	1:E:380:VAL:HG11	2.02	0.41
1:H:10:ILE:HD11	1:H:383:LEU:HA	2.01	0.41
1:K:62:GLN:O	1:K:65:VAL:HG12	2.21	0.41
1:P:164:HIS:CE1	1:P:166:ASP:HB2	2.55	0.41
1:A:129:HIS:CD2	1:A:190:LEU:HD13	2.56	0.41
1:A:296:VAL:O	1:A:299:PRO:HD2	2.20	0.41
1:A:312:ILE:HD12	1:A:328:LEU:HD21	2.02	0.41
1:E:218:ILE:HD11	1:E:308:VAL:HG22	2.02	0.41
1:J:343:GLY:HA2	1:J:346:GLU:OE1	2.20	0.41
1:K:10:ILE:N	1:K:25:GLY:O	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:80:PHE:CD2	1:K:386:ALA:HB2	2.55	0.41
1:K:131:ILE:HB	1:K:159:HIS:HB3	2.02	0.41
1:N:132:PRO:HA	1:N:158:VAL:HG12	2.01	0.41
1:N:218:ILE:HD11	1:N:308:VAL:HG22	2.03	0.41
1:N:353:ARG:HD2	1:N:353:ARG:N	2.34	0.41
1:B:284:PRO:HB2	1:B:285:SER:H	1.68	0.41
1:B:360:LYS:HE2	1:B:360:LYS:HB3	1.85	0.41
1:E:137:ILE:HG23	1:E:137:ILE:O	2.20	0.41
1:H:83:LEU:HD13	1:H:171:ILE:HG13	2.02	0.41
1:L:129:HIS:HB2	1:L:161:ILE:HD12	2.02	0.41
1:L:172:ILE:HG22	1:L:176:GLU:HG3	2.02	0.41
1:N:11:VAL:HG12	1:N:24:VAL:HA	2.02	0.41
1:N:371:VAL:HG12	1:N:371:VAL:O	2.20	0.41
1:O:45:GLY:C	1:O:52:ASN:HB3	2.40	0.41
1:A:319:LEU:HD12	1:A:319:LEU:HA	1.86	0.41
1:A:364:VAL:HG13	1:A:368:THR:HG23	2.02	0.41
1:B:213:ALA:HA	1:B:236:GLY:HA3	2.03	0.41
1:F:144:LYS:HD3	1:F:144:LYS:HA	1.90	0.41
1:F:199:GLU:OE1	1:F:199:GLU:N	2.40	0.41
1:N:191:ALA:O	1:N:381:GLY:HA3	2.21	0.41
1:O:301:TYR:O	1:O:305:MET:HG2	2.21	0.41
1:B:17:THR:HG22	1:B:49:GLY:H	1.86	0.41
1:B:184:GLN:HE21	1:B:184:GLN:HB2	1.70	0.41
1:G:98:THR:H	1:G:111:ARG:HH12	1.69	0.41
1:H:28:LEU:HD23	1:H:29:PRO:HD2	2.01	0.41
1:H:108:ASP:HA	1:H:111:ARG:NH1	2.35	0.41
1:H:135:PHE:HE1	1:H:156:VAL:HG22	1.85	0.41
1:J:51:VAL:H	1:J:51:VAL:HG22	1.65	0.41
1:J:298:GLU:HB3	1:J:299:PRO:HD3	2.01	0.41
1:K:308:VAL:O	1:K:312:ILE:HG22	2.20	0.41
1:M:48:LYS:HD3	1:M:233:SER:HB2	2.01	0.41
1:N:76:ILE:HG22	1:N:180:LEU:HD11	2.02	0.41
1:A:172:ILE:O	1:A:176:GLU:HG3	2.20	0.41
1:D:54:LEU:O	1:D:58:VAL:HG23	2.21	0.41
1:D:299:PRO:HA	1:D:302:THR:HG22	2.03	0.41
1:F:176:GLU:HA	1:F:180:LEU:O	2.21	0.41
1:M:216:MET:HE1	1:M:304:LEU:O	2.21	0.41
1:N:242:ASP:HA	1:N:245:PHE:HB2	2.03	0.41
1:A:341:ILE:HG22	1:A:344:VAL:HG22	2.03	0.41
1:B:82:SER:HB2	1:B:382:LEU:HD21	2.03	0.41
1:B:271:LYS:O	1:B:289:GLN:NE2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:104:VAL:CG2	1:C:148:GLY:H	2.34	0.41
1:C:147:LEU:HA	1:C:147:LEU:HD23	1.78	0.41
1:C:351:VAL:HG13	1:C:352:PHE:H	1.86	0.41
1:D:265:LEU:HB3	1:D:268:LEU:CD2	2.51	0.41
1:G:82:SER:HB3	1:G:382:LEU:HD11	2.02	0.41
1:G:107:ASP:O	1:G:111:ARG:HG3	2.20	0.41
1:H:242:ASP:OD1	1:H:300:ARG:NH2	2.54	0.41
1:I:305:MET:CB	1:I:351:VAL:HG11	2.51	0.41
1:J:62:GLN:HA	1:J:65:VAL:HG12	2.03	0.41
1:K:96:MET:HE2	1:K:96:MET:HB2	1.93	0.41
1:L:17:THR:HA	1:L:46:MET:CG	2.51	0.41
1:M:152:VAL:O	1:M:153:ARG:HG3	2.21	0.41
1:O:17:THR:HA	1:O:46:MET:HG2	2.03	0.41
1:O:209:VAL:HA	1:O:217:ASP:O	2.21	0.41
1:C:70:LEU:CD1	1:J:63:ARG:HH12	2.33	0.41
1:F:239:VAL:O	1:F:243:ILE:HG13	2.20	0.41
1:H:325:LYS:HD2	1:H:325:LYS:N	2.29	0.41
1:J:82:SER:HB3	1:J:382:LEU:HD11	2.03	0.41
1:N:58:VAL:HG13	1:N:178:CYS:SG	2.61	0.41
1:N:87:HIS:HB2	1:N:164:HIS:HB2	2.03	0.41
1:N:377:SER:HA	1:N:380:VAL:HG22	2.02	0.41
1:O:273:ASP:HB3	1:O:290:ARG:HB3	2.03	0.41
1:P:269:VAL:HG21	1:P:291:GLN:HA	2.03	0.41
1:B:304:LEU:HD12	1:B:304:LEU:HA	1.95	0.40
1:C:135:PHE:CD2	1:C:146:PRO:HG3	2.56	0.40
1:E:351:VAL:HG13	1:E:352:PHE:H	1.86	0.40
1:F:96:MET:HG3	1:K:96:MET:HE2	2.02	0.40
1:J:191:ALA:O	1:J:381:GLY:HA3	2.21	0.40
1:M:228:HIS:CD2	1:M:230:GLU:HG2	2.55	0.40
1:A:140:GLN:HB3	1:A:143:ILE:HD11	2.03	0.40
1:B:87:HIS:CD2	1:B:87:HIS:H	2.38	0.40
1:B:210:ASP:HA	1:B:335:THR:HG23	2.03	0.40
1:B:346:GLU:OE1	1:B:346:GLU:N	2.54	0.40
1:D:34:ASN:ND2	1:D:366:GLY:HA3	2.36	0.40
1:F:25:GLY:HA2	1:F:36:ILE:HG13	2.03	0.40
1:F:120:LYS:O	1:F:120:LYS:HG2	2.21	0.40
1:G:296:VAL:O	1:G:299:PRO:HD2	2.21	0.40
1:J:198:THR:HG22	1:J:201:GLU:HG3	2.02	0.40
1:J:274:THR:OG1	1:J:288:LEU:O	2.29	0.40
1:L:279:SER:OG	1:L:280:VAL:N	2.53	0.40
1:M:45:GLY:HA3	1:M:56:SER:OG	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:265:LEU:HD22	1:M:346:GLU:HB3	2.03	0.40
1:P:219:SER:HG	1:P:221:TRP:HE1	1.69	0.40
1:A:128:LEU:O	1:A:129:HIS:ND1	2.54	0.40
1:B:76:ILE:HG22	1:B:180:LEU:HD22	2.03	0.40
1:C:59:LYS:NZ	1:J:370:TYR:HE1	2.20	0.40
1:C:376:HIS:O	1:C:380:VAL:HG13	2.20	0.40
1:E:8:ASN:HB3	1:E:9:ILE:H	1.60	0.40
1:G:301:TYR:O	1:G:305:MET:HG2	2.21	0.40
1:J:8:ASN:HB3	1:J:9:ILE:H	1.60	0.40
1:J:243:ILE:HD13	1:J:293:LEU:HD11	2.02	0.40
1:K:54:LEU:HD23	1:L:148:GLY:HA3	2.04	0.40
1:L:84:SER:HB3	1:L:188:SER:HB2	2.03	0.40
1:L:234:TYR:CD2	1:L:304:LEU:HD23	2.56	0.40
1:M:341:ILE:HB	3:M:501:ATP:C2	2.55	0.40
1:M:371:VAL:CG1	1:M:380:VAL:HG11	2.50	0.40
1:N:265:LEU:HD23	1:N:268:LEU:HD13	2.02	0.40
1:A:301:TYR:O	1:A:305:MET:HG2	2.21	0.40
1:C:301:TYR:O	1:C:305:MET:HG2	2.21	0.40
1:E:253:ASP:O	1:E:257:ILE:HG13	2.21	0.40
1:F:88:ILE:HD13	1:F:163:CYS:HB3	2.04	0.40
1:G:13:LEU:HD12	1:G:13:LEU:HA	1.91	0.40
1:G:308:VAL:HB	1:G:352:PHE:HZ	1.86	0.40
1:K:277:VAL:HA	1:K:278:PRO:HD3	1.94	0.40
1:G:17:THR:N	3:G:501:ATP:O2B	2.55	0.40
1:J:176:GLU:HA	1:J:180:LEU:O	2.22	0.40
1:J:213:ALA:O	1:J:237:ASN:ND2	2.55	0.40
1:J:328:LEU:O	1:J:328:LEU:HD12	2.21	0.40
1:N:197:ILE:CG2	1:N:202:ARG:HD3	2.51	0.40
1:N:243:ILE:HD11	1:N:297:ILE:HG12	2.03	0.40
1:O:90:SER:HB3	1:O:229:THR:HB	2.03	0.40
1:P:243:ILE:HD13	1:P:293:LEU:HD11	2.04	0.40
1:P:350:ARG:HE	1:P:350:ARG:HB2	1.59	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:153:ARG:NH2	1:P:114:HIS:O[1_465]	1.98	0.22
1:B:303:GLU:OE1	1:L:233:SER:OG[1_455]	2.11	0.09
1:B:233:SER:OG	1:L:303:GLU:OE1[1_455]	2.14	0.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:285:SER:OG	1:D:253:ASP:OD2[1_545]	2.14	0.06
1:H:233:SER:OG	1:P:303:GLU:OE1[1_455]	2.19	0.01

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	380/396 (96%)	355 (93%)	24 (6%)	1 (0%)	41 75
1	B	381/396 (96%)	352 (92%)	24 (6%)	5 (1%)	12 50
1	C	380/396 (96%)	354 (93%)	24 (6%)	2 (0%)	29 68
1	D	358/396 (90%)	333 (93%)	21 (6%)	4 (1%)	14 53
1	E	380/396 (96%)	355 (93%)	25 (7%)	0	100 100
1	F	380/396 (96%)	352 (93%)	22 (6%)	6 (2%)	9 46
1	G	380/396 (96%)	356 (94%)	24 (6%)	0	100 100
1	H	380/396 (96%)	344 (90%)	27 (7%)	9 (2%)	6 37
1	I	380/396 (96%)	359 (94%)	20 (5%)	1 (0%)	41 75
1	J	380/396 (96%)	350 (92%)	24 (6%)	6 (2%)	9 46
1	K	380/396 (96%)	355 (93%)	24 (6%)	1 (0%)	41 75
1	L	380/396 (96%)	348 (92%)	26 (7%)	6 (2%)	9 46
1	M	380/396 (96%)	353 (93%)	23 (6%)	4 (1%)	14 53
1	N	380/396 (96%)	347 (91%)	25 (7%)	8 (2%)	7 40
1	O	380/396 (96%)	356 (94%)	24 (6%)	0	100 100
1	P	380/396 (96%)	351 (92%)	21 (6%)	8 (2%)	7 40
All	All	6059/6336 (96%)	5620 (93%)	378 (6%)	61 (1%)	15 55

All (61) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	147	LEU
1	B	322	ASN
1	D	322	ASN
1	F	138	ASP
1	F	322	ASN
1	H	142	GLY
1	H	322	ASN
1	I	147	LEU
1	N	30	ASP
1	N	121	ILE
1	N	287	SER
1	P	32	GLN
1	B	284	PRO
1	B	323	GLY
1	D	323	GLY
1	F	323	GLY
1	H	323	GLY
1	H	353	ARG
1	J	137	ILE
1	L	138	ASP
1	N	142	GLY
1	N	323	GLY
1	P	142	GLY
1	B	214	GLY
1	C	282	GLY
1	F	214	GLY
1	F	281	GLY
1	H	139	TYR
1	H	214	GLY
1	H	236	GLY
1	J	214	GLY
1	L	142	GLY
1	L	322	ASN
1	N	214	GLY
1	P	138	ASP
1	P	141	GLU
1	P	214	GLY
1	P	324	VAL
1	D	138	ASP
1	H	235	ALA
1	J	31	GLY
1	J	209	VAL
1	K	388	ASP

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Mol	Chain	Res	Type
1	M	148	GLY
1	M	387	ARG
1	P	234	TYR
1	C	137	ILE
1	H	209	VAL
1	J	322	ASN
1	L	102	GLU
1	N	104	VAL
1	D	209	VAL
1	L	323	GLY
1	M	101	GLU
1	M	146	PRO
1	N	209	VAL
1	F	209	VAL
1	L	209	VAL
1	B	209	VAL
1	P	209	VAL
1	J	280	VAL

5.3.2 Protein sidechains [i](#)

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

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	315/329 (96%)	306 (97%)	9 (3%)	42	72
1	B	316/329 (96%)	309 (98%)	7 (2%)	52	77
1	C	315/329 (96%)	307 (98%)	8 (2%)	47	75
1	D	297/329 (90%)	291 (98%)	6 (2%)	55	79
1	E	315/329 (96%)	313 (99%)	2 (1%)	86	94
1	F	315/329 (96%)	310 (98%)	5 (2%)	62	83
1	G	315/329 (96%)	308 (98%)	7 (2%)	52	77
1	H	315/329 (96%)	308 (98%)	7 (2%)	52	77
1	I	315/329 (96%)	305 (97%)	10 (3%)	39	70
1	J	315/329 (96%)	308 (98%)	7 (2%)	52	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	K	315/329 (96%)	310 (98%)	5 (2%)	62	83
1	L	315/329 (96%)	307 (98%)	8 (2%)	47	75
1	M	315/329 (96%)	310 (98%)	5 (2%)	62	83
1	N	315/329 (96%)	308 (98%)	7 (2%)	52	77
1	O	315/329 (96%)	309 (98%)	6 (2%)	57	80
1	P	315/329 (96%)	311 (99%)	4 (1%)	69	86
All	All	5023/5264 (95%)	4920 (98%)	103 (2%)	53	78

All (103) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	67	GLN
1	A	91	ARG
1	A	96	MET
1	A	117	LYS
1	A	227	ARG
1	A	286	ARG
1	A	342	GLU
1	A	354	ASN
1	A	372	LYS
1	B	126	ARG
1	B	144	LYS
1	B	167	MET
1	B	234	TYR
1	B	283	ARG
1	B	322	ASN
1	B	326	HIS
1	C	46	MET
1	C	74	CYS
1	C	124	GLU
1	C	198	THR
1	C	273	ASP
1	C	287	SER
1	C	320	ARG
1	C	389	SER
1	D	66	ASP
1	D	86	LYS
1	D	91	ARG
1	D	153	ARG
1	D	350	ARG

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Mol	Chain	Res	Type
1	D	353	ARG
1	E	245	PHE
1	E	252	SER
1	F	110	ASP
1	F	120	LYS
1	F	153	ARG
1	F	318	LYS
1	F	326	HIS
1	G	67	GLN
1	G	103	GLU
1	G	139	TYR
1	G	144	LYS
1	G	153	ARG
1	G	184	GLN
1	G	286	ARG
1	H	134	GLU
1	H	135	PHE
1	H	169	ARG
1	H	234	TYR
1	H	300	ARG
1	H	322	ASN
1	H	352	PHE
1	I	67	GLN
1	I	108	ASP
1	I	114	HIS
1	I	153	ARG
1	I	193	SER
1	I	202	ARG
1	I	266	SER
1	I	287	SER
1	I	300	ARG
1	I	360	LYS
1	J	44	ARG
1	J	67	GLN
1	J	108	ASP
1	J	153	ARG
1	J	155	GLU
1	J	258	LYS
1	J	353	ARG
1	K	108	ASP
1	K	259	VAL
1	K	273	ASP

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Mol	Chain	Res	Type
1	K	301	TYR
1	K	313	ASP
1	L	8	ASN
1	L	67	GLN
1	L	153	ARG
1	L	283	ARG
1	L	286	ARG
1	L	318	LYS
1	L	346	GLU
1	L	375	TYR
1	M	67	GLN
1	M	108	ASP
1	M	111	ARG
1	M	283	ARG
1	M	287	SER
1	N	59	LYS
1	N	67	GLN
1	N	74	CYS
1	N	91	ARG
1	N	261	TYR
1	N	272	ASP
1	N	291	GLN
1	O	41	SER
1	O	103	GLU
1	O	109	MET
1	O	217	ASP
1	O	242	ASP
1	O	286	ARG
1	P	63	ARG
1	P	91	ARG
1	P	369	ASP
1	P	388	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	140	GLN
1	G	62	GLN
1	M	309	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 32 ligands modelled in this entry, 16 are monoatomic - leaving 16 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	ATP	F	501	4	26,33,33	0.58	0	31,52,52	0.78	2 (6%)
3	ATP	M	501	4	26,33,33	0.58	0	31,52,52	0.81	2 (6%)
3	ATP	L	501	4	26,33,33	0.59	0	31,52,52	0.83	2 (6%)
3	ATP	J	501	4	26,33,33	0.58	0	31,52,52	0.85	3 (9%)
3	ATP	C	501	4	26,33,33	0.58	0	31,52,52	0.76	2 (6%)
3	ATP	A	501	4	26,33,33	0.57	0	31,52,52	0.79	2 (6%)
3	ATP	G	501	4	26,33,33	0.58	0	31,52,52	0.81	2 (6%)
3	ATP	P	501	4	26,33,33	0.59	0	31,52,52	0.83	2 (6%)
3	ATP	D	501	4	26,33,33	0.59	0	31,52,52	0.79	2 (6%)
3	ATP	E	501	4	26,33,33	0.57	0	31,52,52	0.78	2 (6%)
3	ATP	N	501	4	26,33,33	0.59	0	31,52,52	0.79	2 (6%)
3	ATP	I	501	4	26,33,33	0.59	0	31,52,52	0.82	2 (6%)
3	ATP	K	501	4	26,33,33	0.57	0	31,52,52	0.78	2 (6%)
3	ATP	O	501	4	26,33,33	0.58	0	31,52,52	0.80	2 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	ATP	B	501	4	26,33,33	0.58	0	31,52,52	0.84	2 (6%)
3	ATP	H	501	4	26,33,33	0.59	0	31,52,52	0.82	2 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ATP	F	501	4	-	0/18/38/38	0/3/3/3
3	ATP	M	501	4	-	4/18/38/38	0/3/3/3
3	ATP	L	501	4	-	3/18/38/38	0/3/3/3
3	ATP	J	501	4	-	2/18/38/38	0/3/3/3
3	ATP	C	501	4	-	4/18/38/38	0/3/3/3
3	ATP	A	501	4	-	5/18/38/38	0/3/3/3
3	ATP	G	501	4	-	3/18/38/38	0/3/3/3
3	ATP	P	501	4	-	2/18/38/38	0/3/3/3
3	ATP	D	501	4	-	3/18/38/38	0/3/3/3
3	ATP	E	501	4	-	8/18/38/38	0/3/3/3
3	ATP	N	501	4	-	0/18/38/38	0/3/3/3
3	ATP	I	501	4	-	1/18/38/38	0/3/3/3
3	ATP	K	501	4	-	8/18/38/38	0/3/3/3
3	ATP	O	501	4	-	3/18/38/38	0/3/3/3
3	ATP	B	501	4	-	1/18/38/38	0/3/3/3
3	ATP	H	501	4	-	3/18/38/38	0/3/3/3

There are no bond length outliers.

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	501	ATP	C5-C6-N6	2.41	124.01	120.35
3	O	501	ATP	C5-C6-N6	2.34	123.92	120.35
3	I	501	ATP	C5-C6-N6	2.32	123.88	120.35
3	F	501	ATP	C5-C6-N6	2.32	123.87	120.35
3	N	501	ATP	C5-C6-N6	2.32	123.87	120.35
3	E	501	ATP	C5-C6-N6	2.31	123.86	120.35
3	M	501	ATP	C5-C6-N6	2.31	123.86	120.35
3	J	501	ATP	C5-C6-N6	2.31	123.86	120.35
3	H	501	ATP	C5-C6-N6	2.31	123.86	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	G	501	ATP	C5-C6-N6	2.31	123.86	120.35
3	P	501	ATP	C5-C6-N6	2.29	123.83	120.35
3	C	501	ATP	C5-C6-N6	2.29	123.83	120.35
3	A	501	ATP	C5-C6-N6	2.28	123.82	120.35
3	B	501	ATP	C5-C6-N6	2.28	123.82	120.35
3	D	501	ATP	C5-C6-N6	2.27	123.81	120.35
3	L	501	ATP	C5-C6-N6	2.27	123.81	120.35
3	B	501	ATP	PB-O3B-PG	2.10	140.05	132.83
3	H	501	ATP	PB-O3B-PG	2.10	140.03	132.83
3	E	501	ATP	PB-O3B-PG	2.10	140.02	132.83
3	L	501	ATP	PB-O3B-PG	2.09	140.00	132.83
3	A	501	ATP	PB-O3B-PG	2.08	139.97	132.83
3	K	501	ATP	PB-O3B-PG	2.06	139.91	132.83
3	I	501	ATP	PB-O3B-PG	2.05	139.87	132.83
3	N	501	ATP	PB-O3B-PG	2.05	139.87	132.83
3	P	501	ATP	PB-O3B-PG	2.05	139.85	132.83
3	G	501	ATP	PB-O3B-PG	2.04	139.83	132.83
3	O	501	ATP	PB-O3B-PG	2.04	139.83	132.83
3	C	501	ATP	PB-O3B-PG	2.04	139.82	132.83
3	F	501	ATP	PB-O3B-PG	2.04	139.82	132.83
3	J	501	ATP	PB-O3B-PG	2.04	139.81	132.83
3	D	501	ATP	PB-O3B-PG	2.03	139.78	132.83
3	M	501	ATP	PB-O3B-PG	2.03	139.78	132.83
3	J	501	ATP	C3'-C2'-C1'	2.01	104.01	100.98

There are no chirality outliers.

All (50) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	501	ATP	C5'-O5'-PA-O1A
3	C	501	ATP	C5'-O5'-PA-O2A
3	D	501	ATP	PB-O3B-PG-O2G
3	E	501	ATP	PB-O3B-PG-O3G
3	E	501	ATP	C5'-O5'-PA-O1A
3	E	501	ATP	C5'-O5'-PA-O2A
3	G	501	ATP	PB-O3B-PG-O3G
3	H	501	ATP	PB-O3B-PG-O2G
3	K	501	ATP	PB-O3B-PG-O3G
3	K	501	ATP	C5'-O5'-PA-O1A
3	K	501	ATP	C5'-O5'-PA-O2A
3	K	501	ATP	C3'-C4'-C5'-O5'
3	L	501	ATP	PB-O3B-PG-O2G

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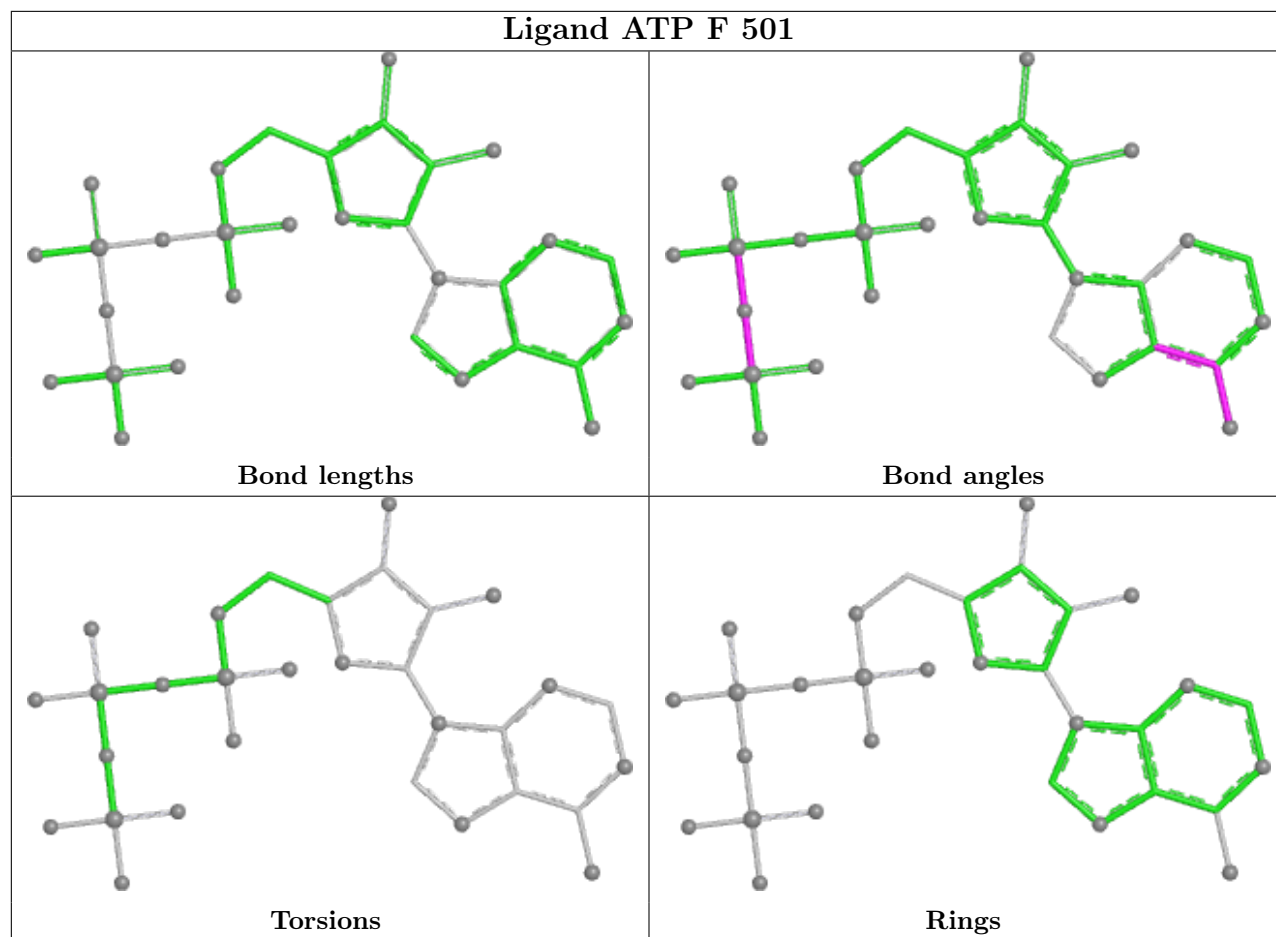
Mol	Chain	Res	Type	Atoms
3	E	501	ATP	C3'-C4'-C5'-O5'
3	K	501	ATP	O4'-C4'-C5'-O5'
3	C	501	ATP	C3'-C4'-C5'-O5'
3	O	501	ATP	C3'-C4'-C5'-O5'
3	I	501	ATP	PG-O3B-PB-O3A
3	O	501	ATP	PG-O3B-PB-O3A
3	C	501	ATP	C5'-O5'-PA-O3A
3	E	501	ATP	C5'-O5'-PA-O3A
3	E	501	ATP	O4'-C4'-C5'-O5'
3	G	501	ATP	PA-O3A-PB-O1B
3	J	501	ATP	PA-O3A-PB-O1B
3	P	501	ATP	PG-O3B-PB-O2B
3	A	501	ATP	C3'-C4'-C5'-O5'
3	J	501	ATP	PG-O3B-PB-O2B
3	A	501	ATP	PB-O3B-PG-O1G
3	M	501	ATP	PB-O3B-PG-O1G
3	D	501	ATP	PB-O3B-PG-O1G
3	E	501	ATP	PB-O3B-PG-O1G
3	H	501	ATP	PB-O3B-PG-O1G
3	L	501	ATP	PB-O3B-PG-O1G
3	M	501	ATP	C3'-C4'-C5'-O5'
3	A	501	ATP	PB-O3B-PG-O2G
3	A	501	ATP	PB-O3B-PG-O3G
3	B	501	ATP	PB-O3B-PG-O3G
3	E	501	ATP	PB-O3B-PG-O2G
3	G	501	ATP	PB-O3B-PG-O2G
3	H	501	ATP	PB-O3B-PG-O3G
3	K	501	ATP	PB-O3B-PG-O2G
3	L	501	ATP	PB-O3B-PG-O3G
3	M	501	ATP	PB-O3B-PG-O2G
3	M	501	ATP	PB-O3B-PG-O3G
3	K	501	ATP	C5'-O5'-PA-O3A
3	D	501	ATP	PG-O3B-PB-O2B
3	P	501	ATP	PG-O3B-PB-O1B
3	A	501	ATP	C5'-O5'-PA-O1A
3	O	501	ATP	C5'-O5'-PA-O1A
3	K	501	ATP	PB-O3B-PG-O1G

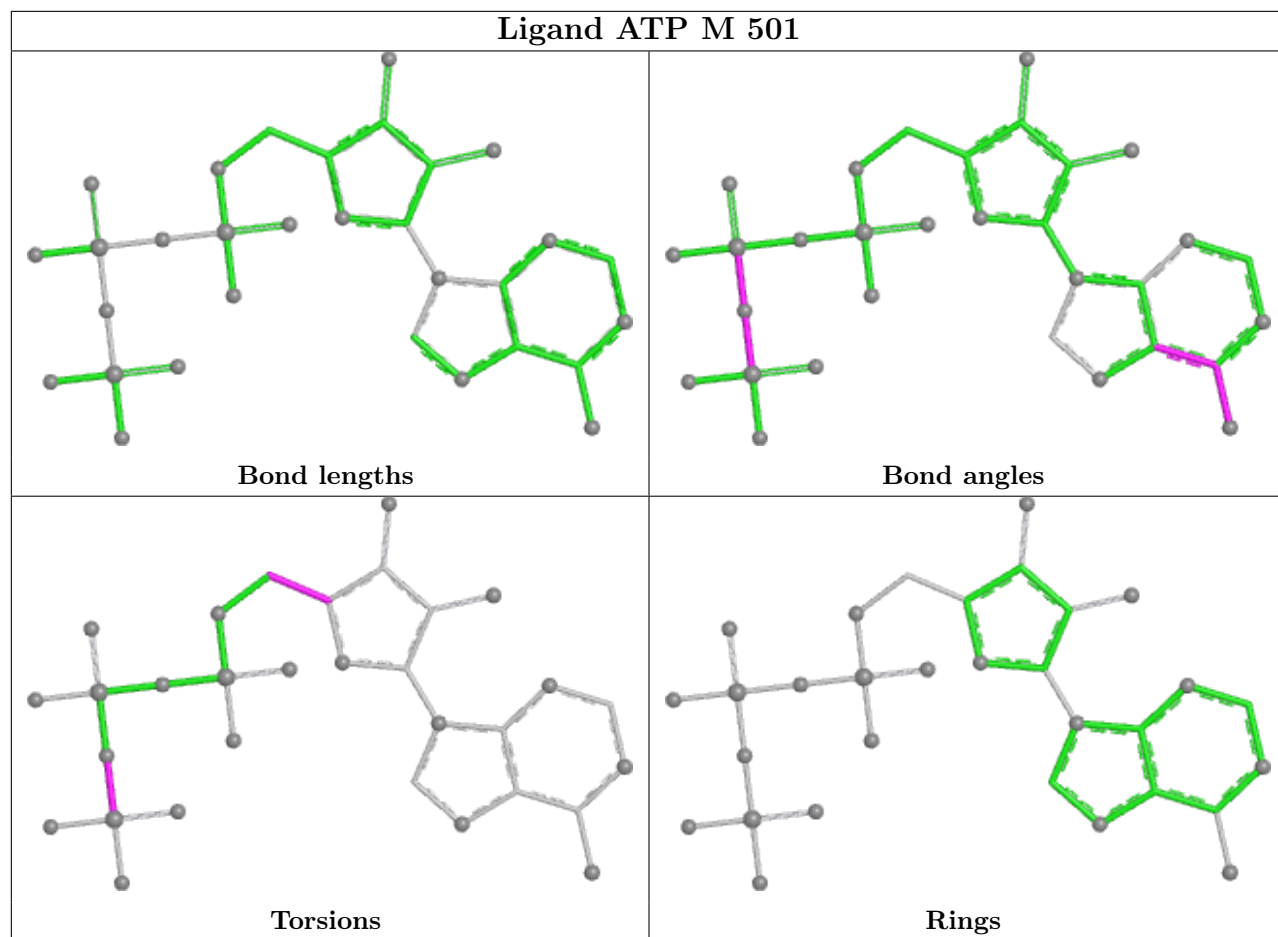
There are no ring outliers.

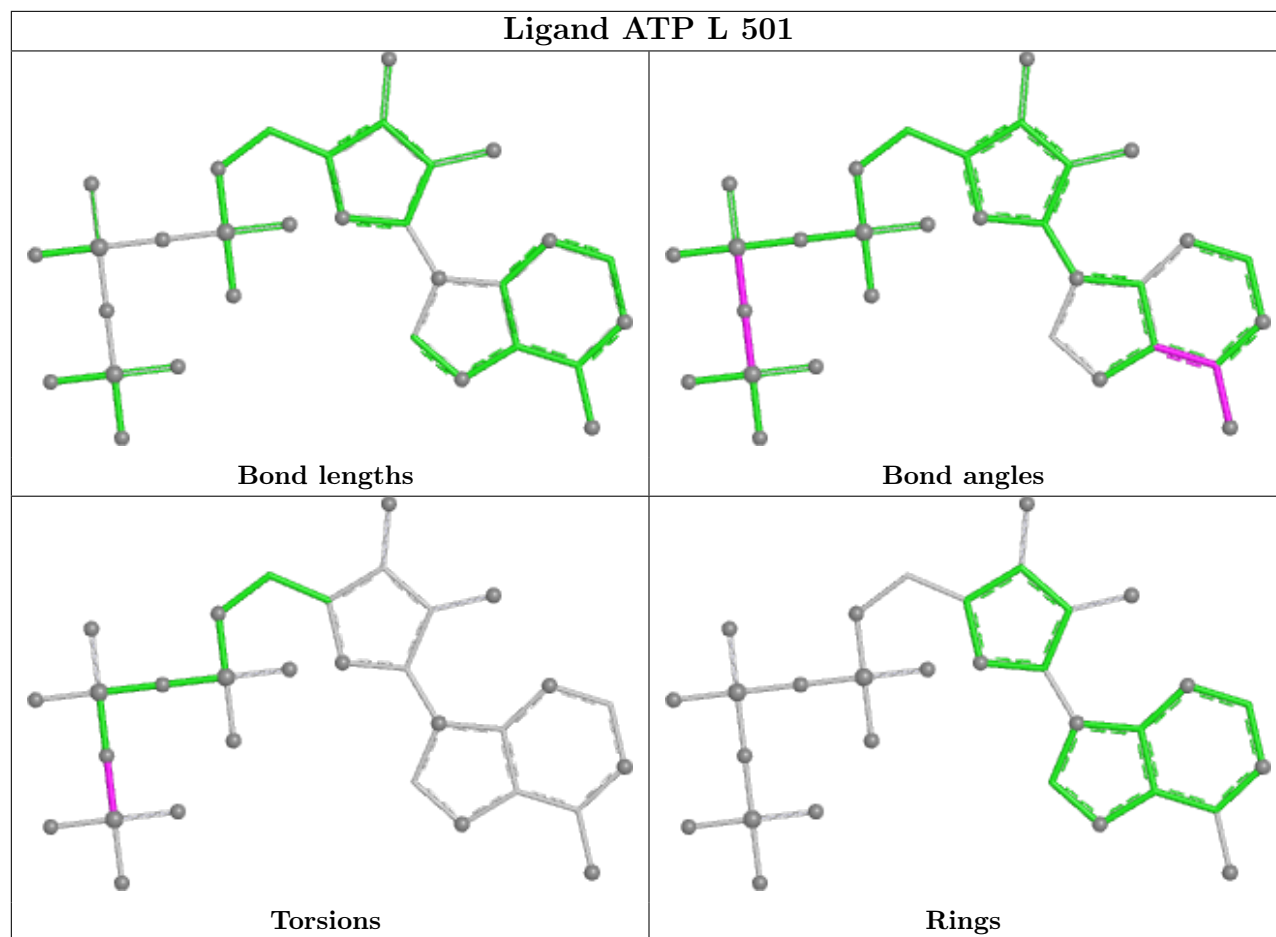
14 monomers are involved in 22 short contacts:

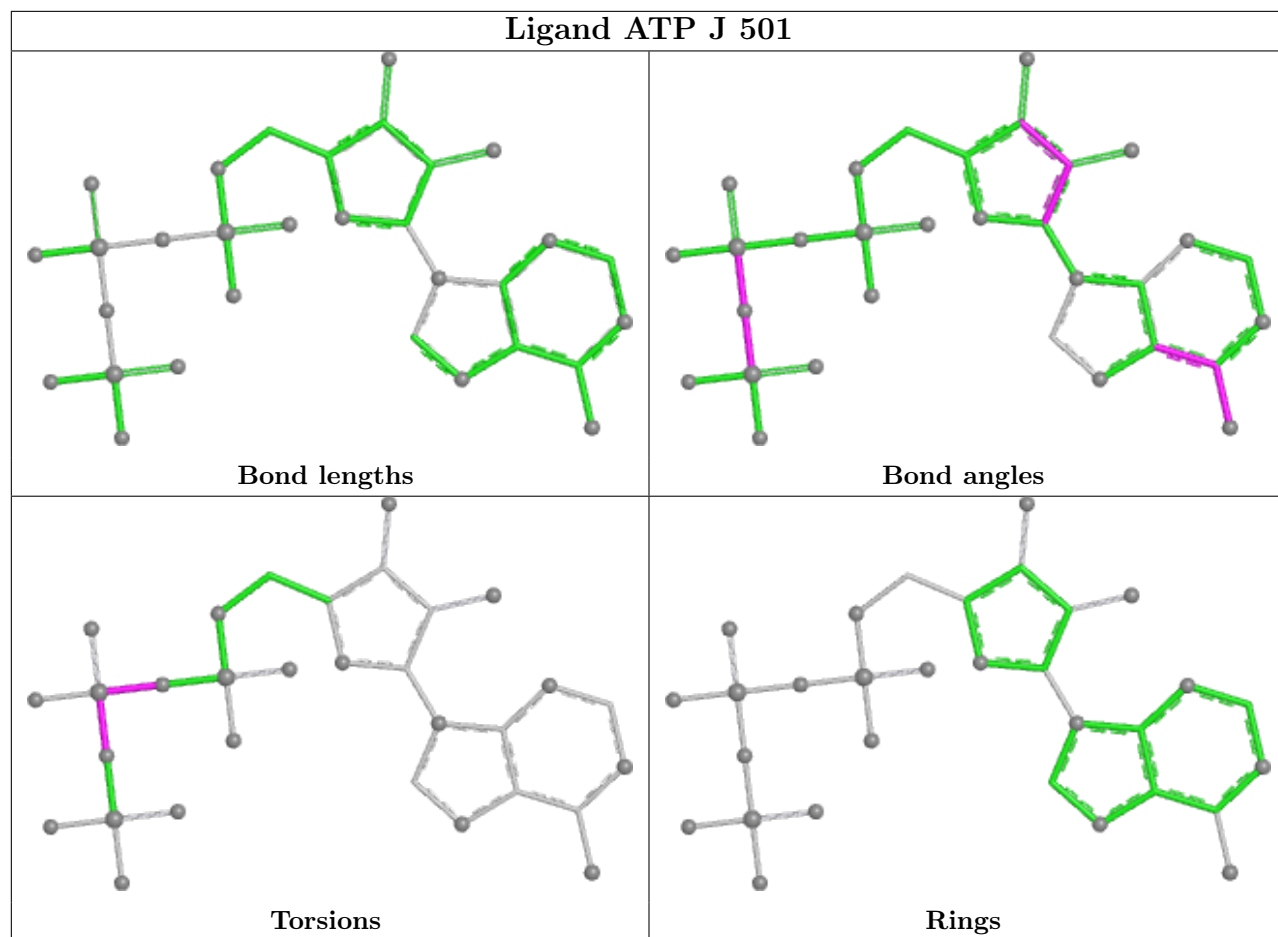
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	F	501	ATP	2	0
3	M	501	ATP	3	0
3	L	501	ATP	1	0
3	J	501	ATP	2	0
3	A	501	ATP	1	0
3	G	501	ATP	2	0
3	P	501	ATP	1	0
3	D	501	ATP	2	0
3	N	501	ATP	1	0
3	I	501	ATP	1	0
3	K	501	ATP	1	0
3	O	501	ATP	2	0
3	B	501	ATP	1	0
3	H	501	ATP	2	0

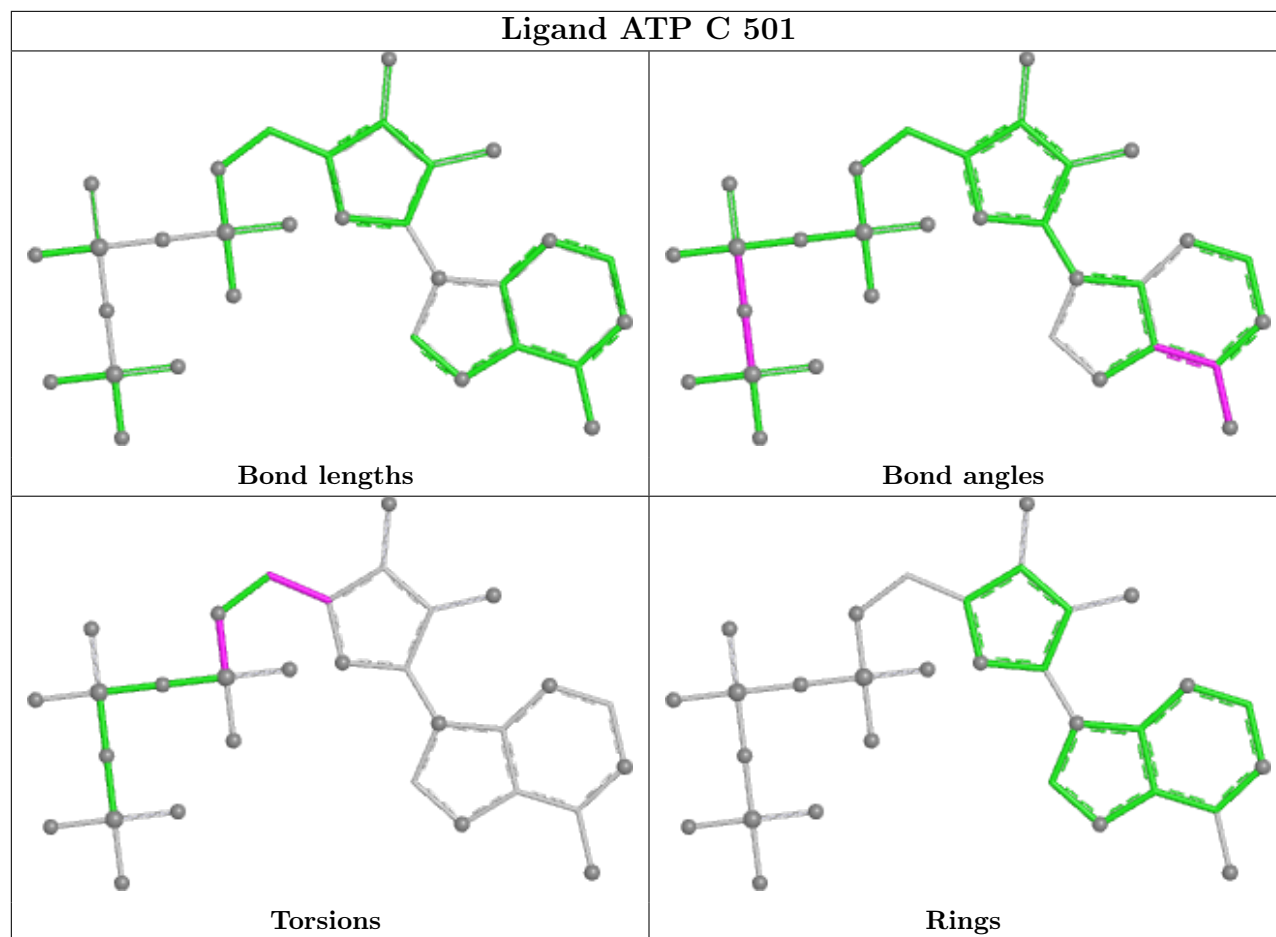
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

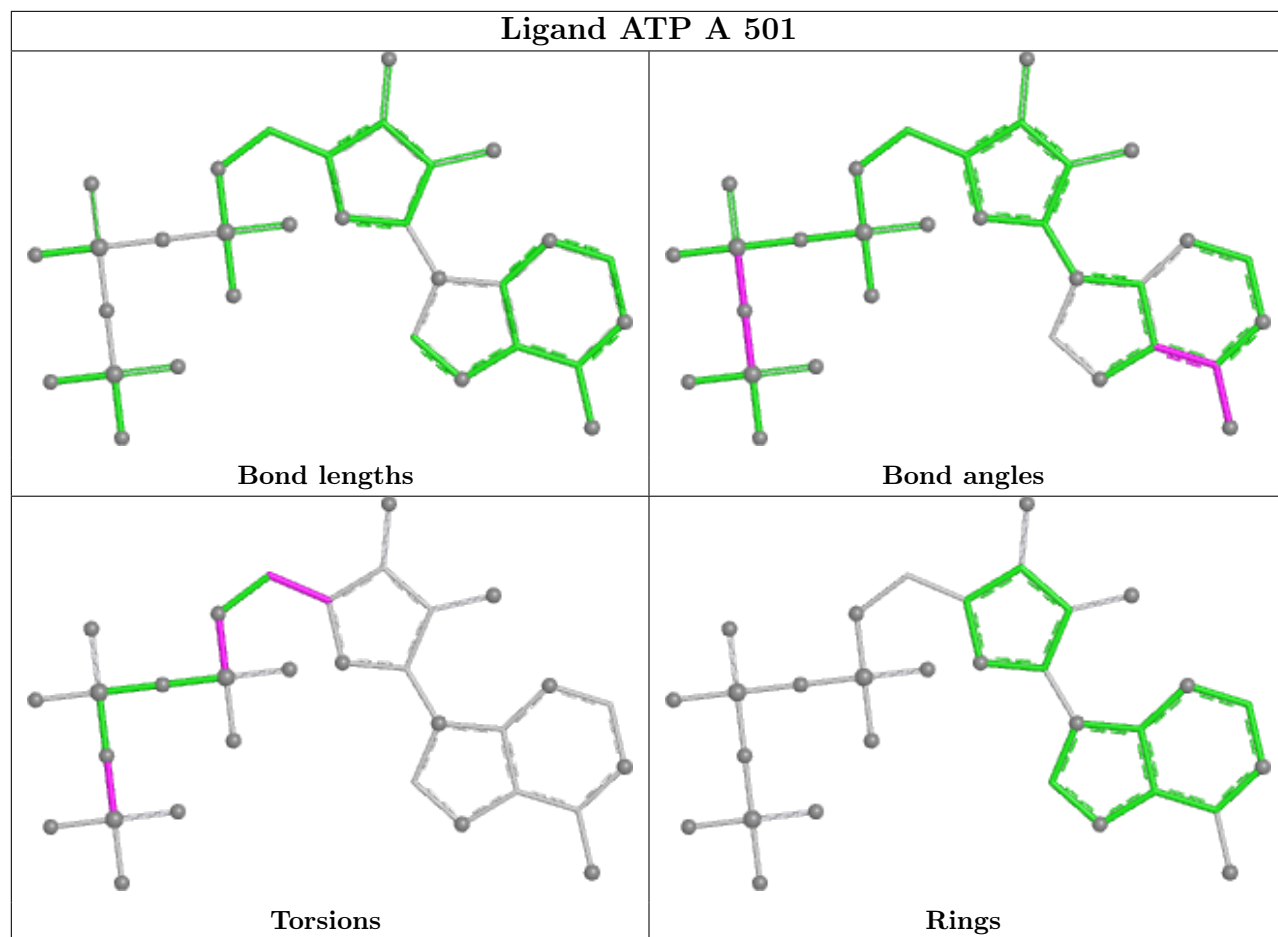


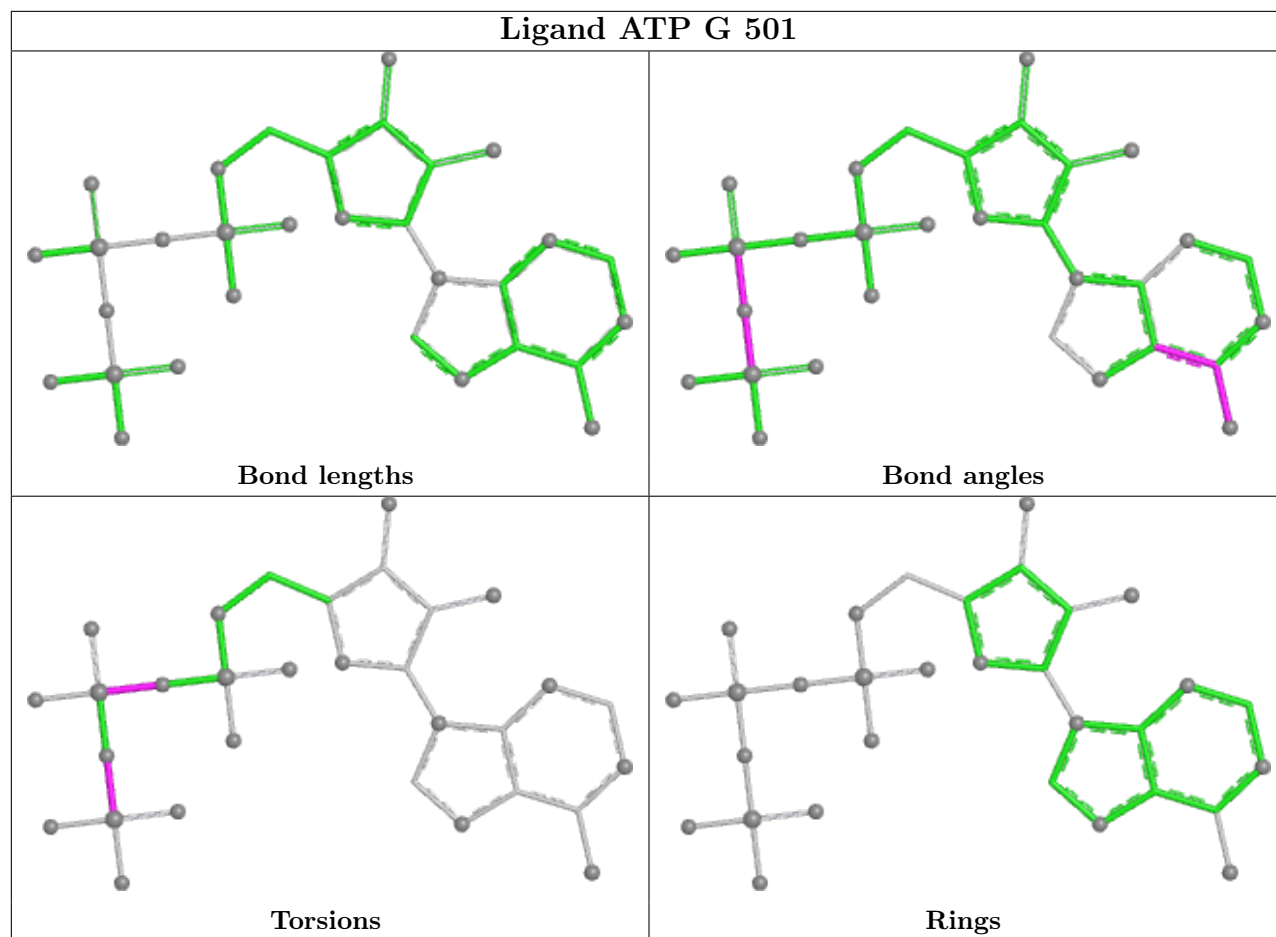


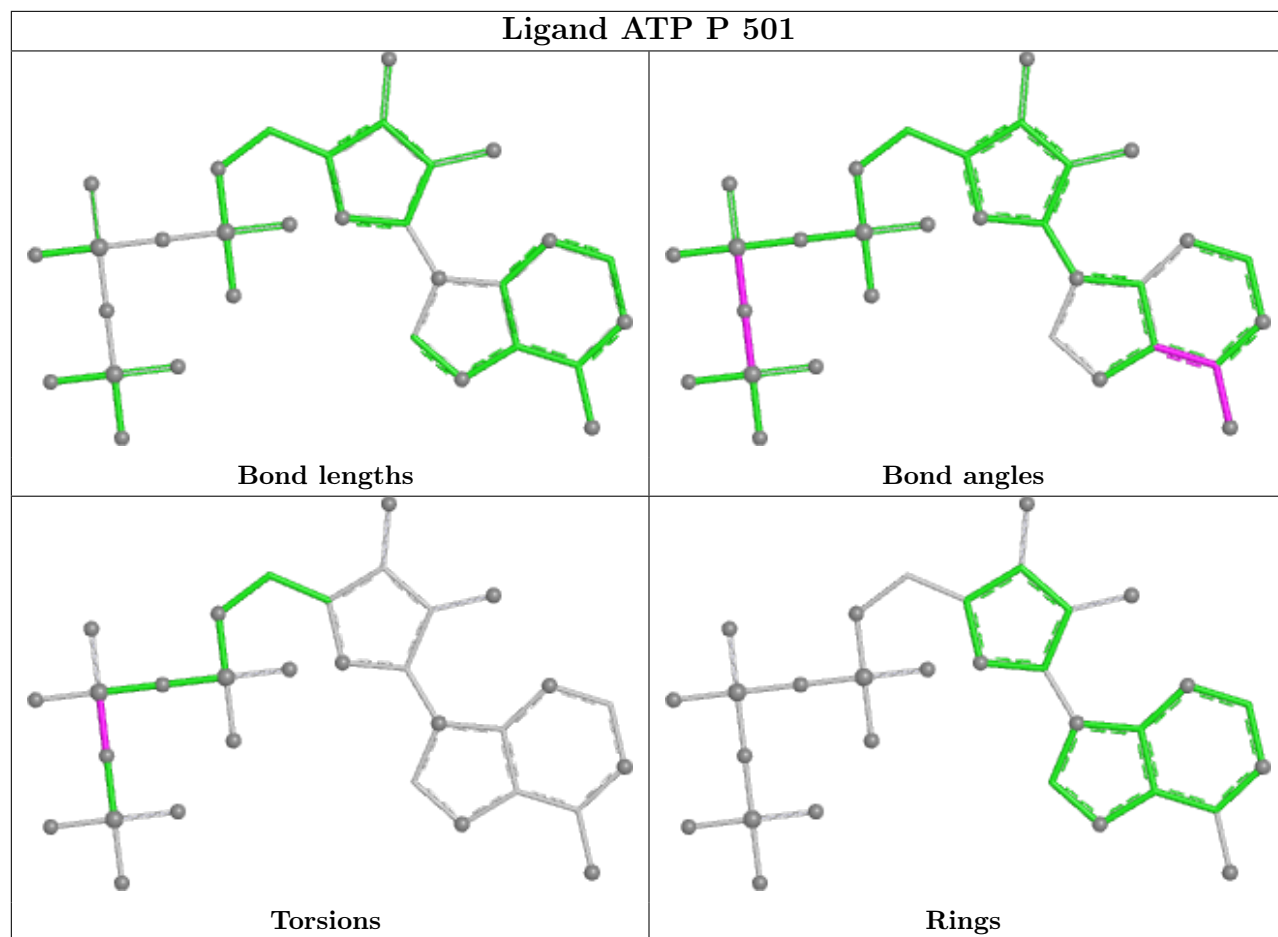


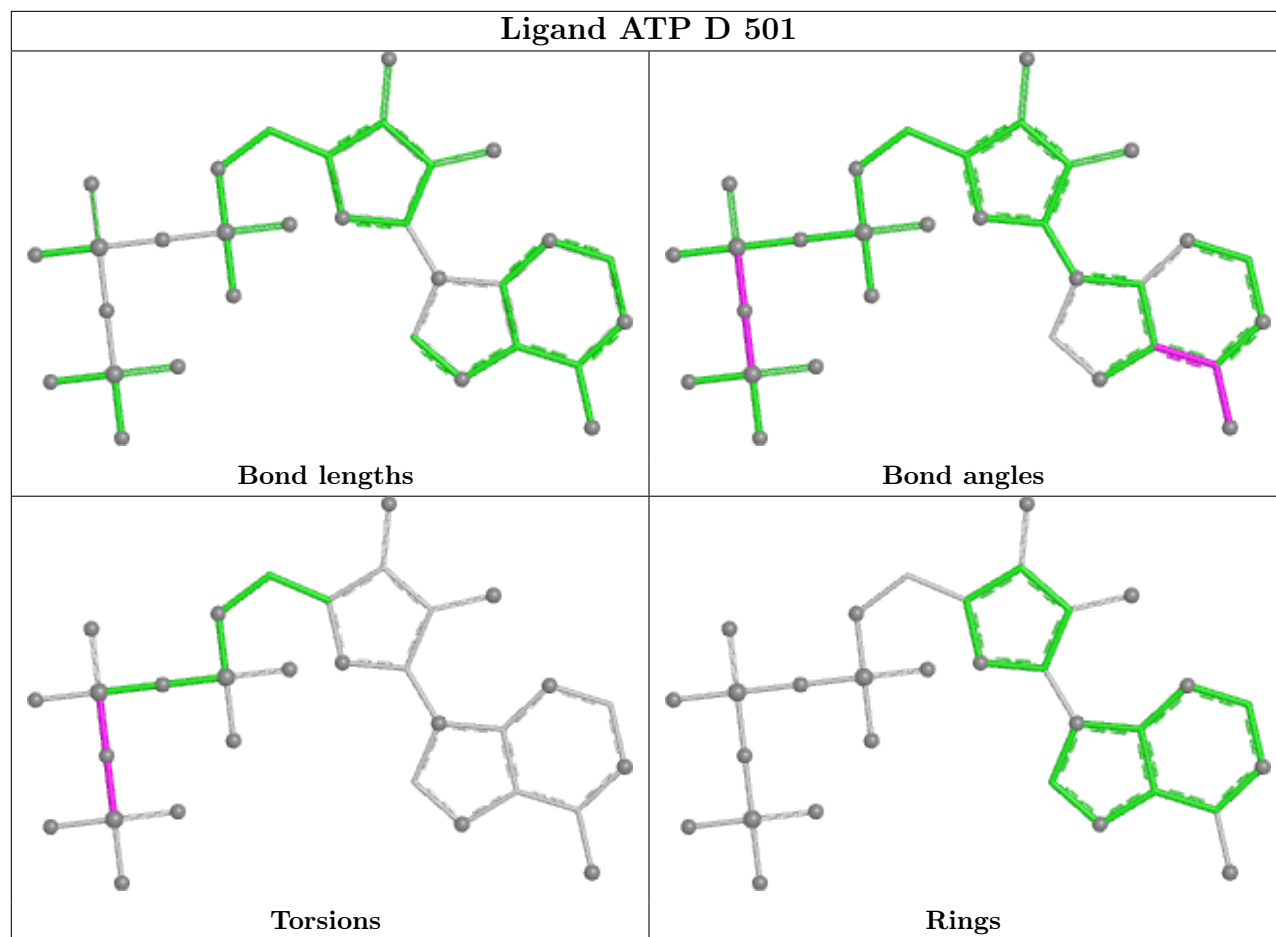


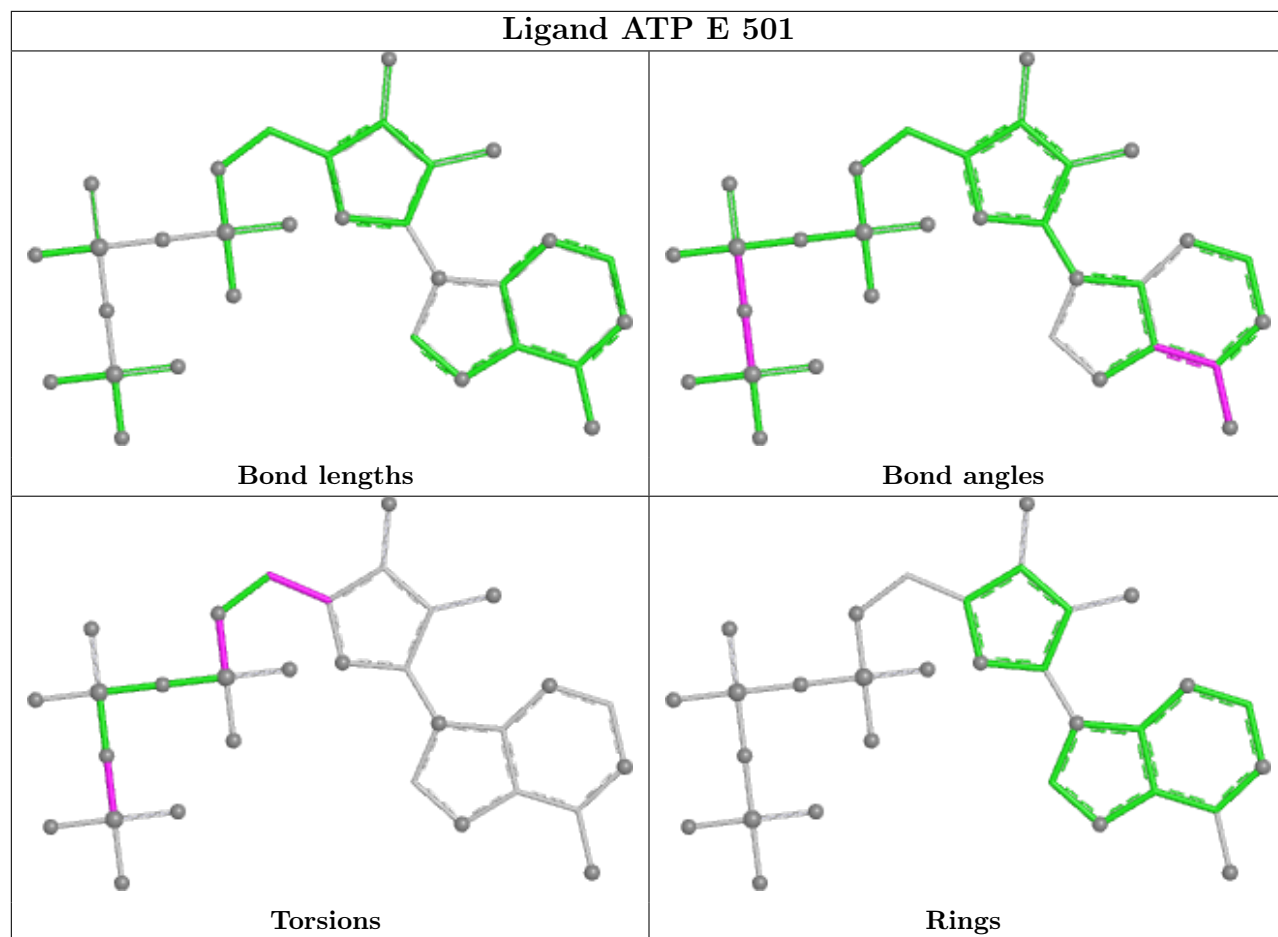


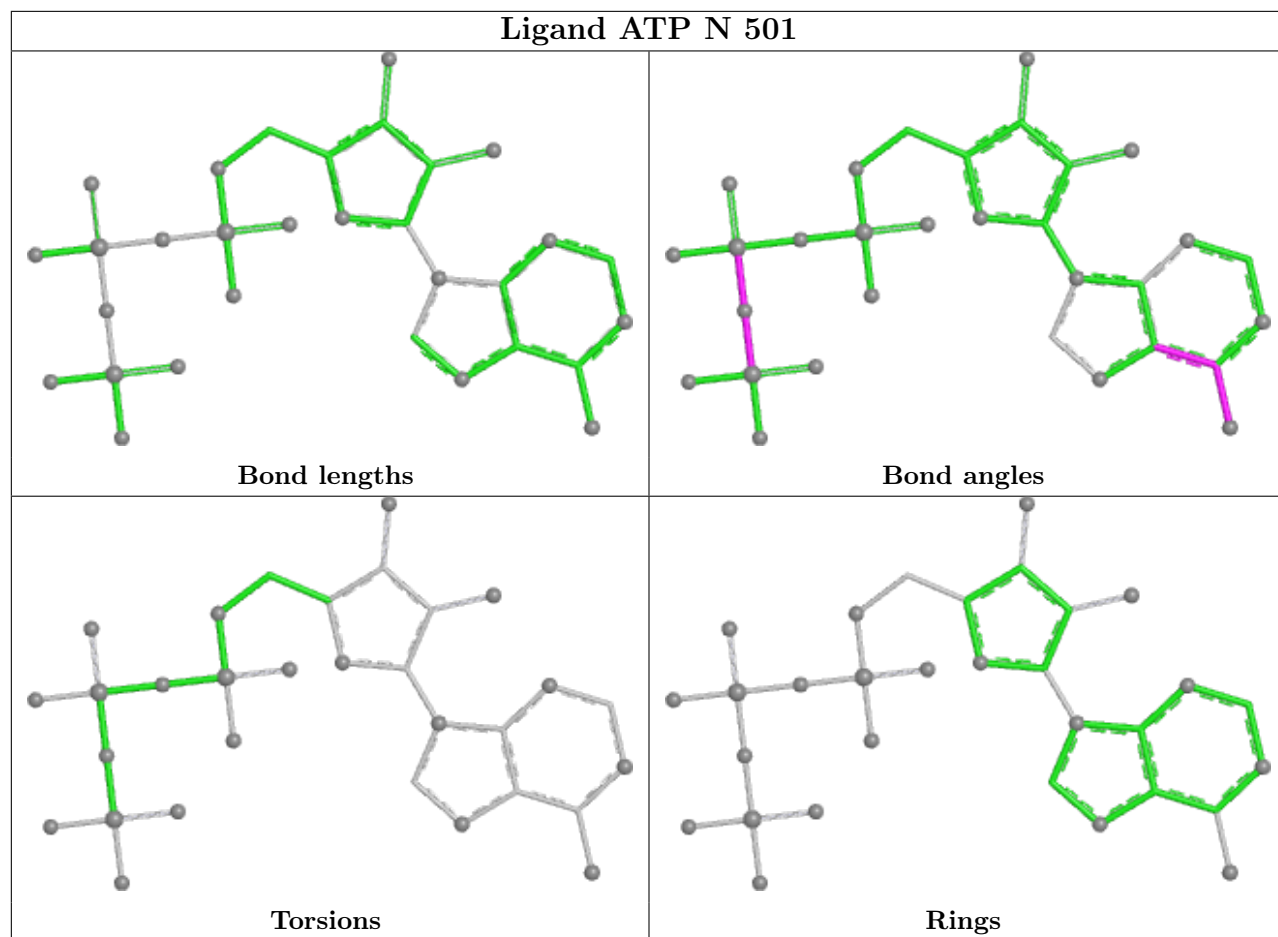


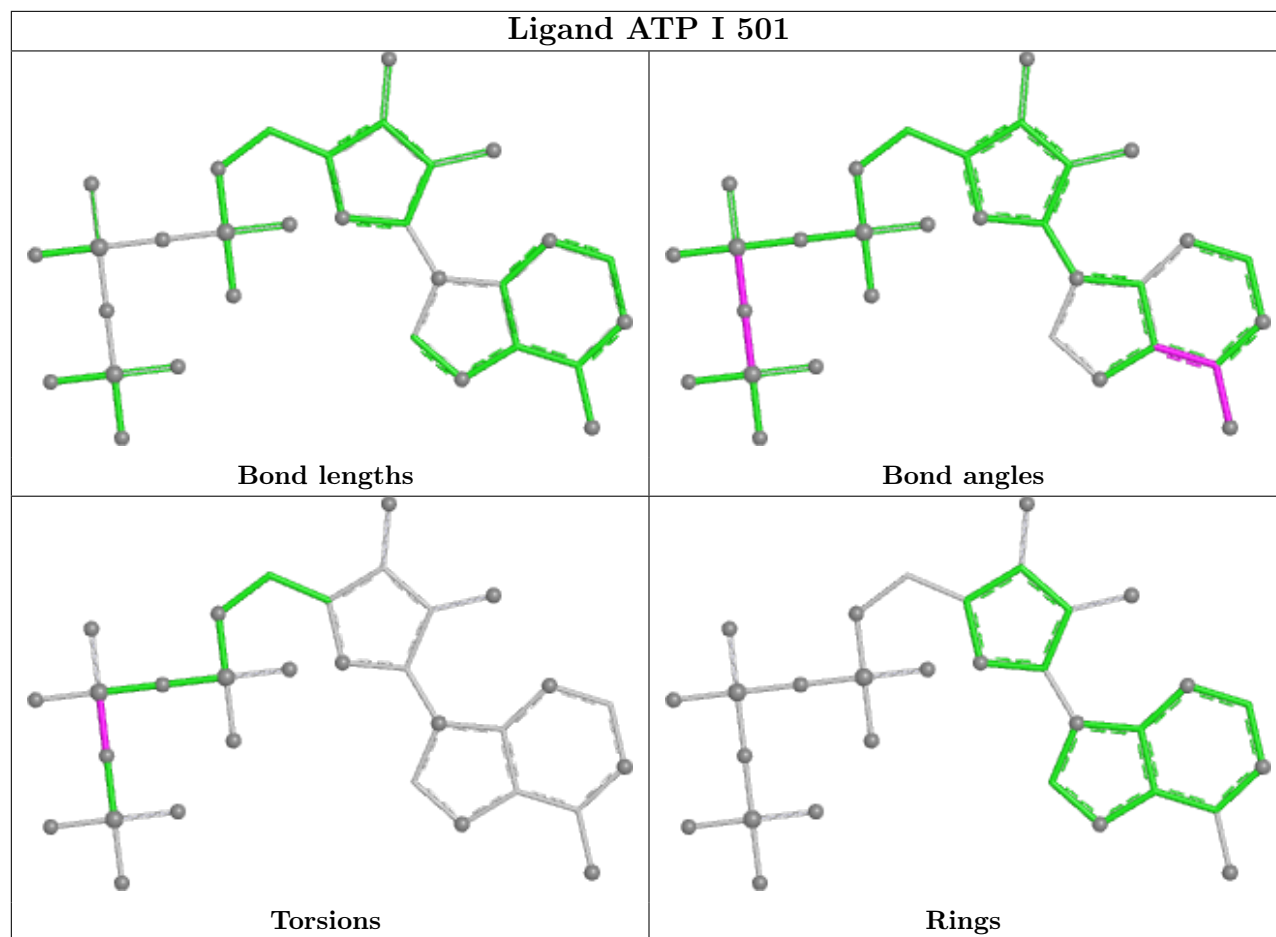


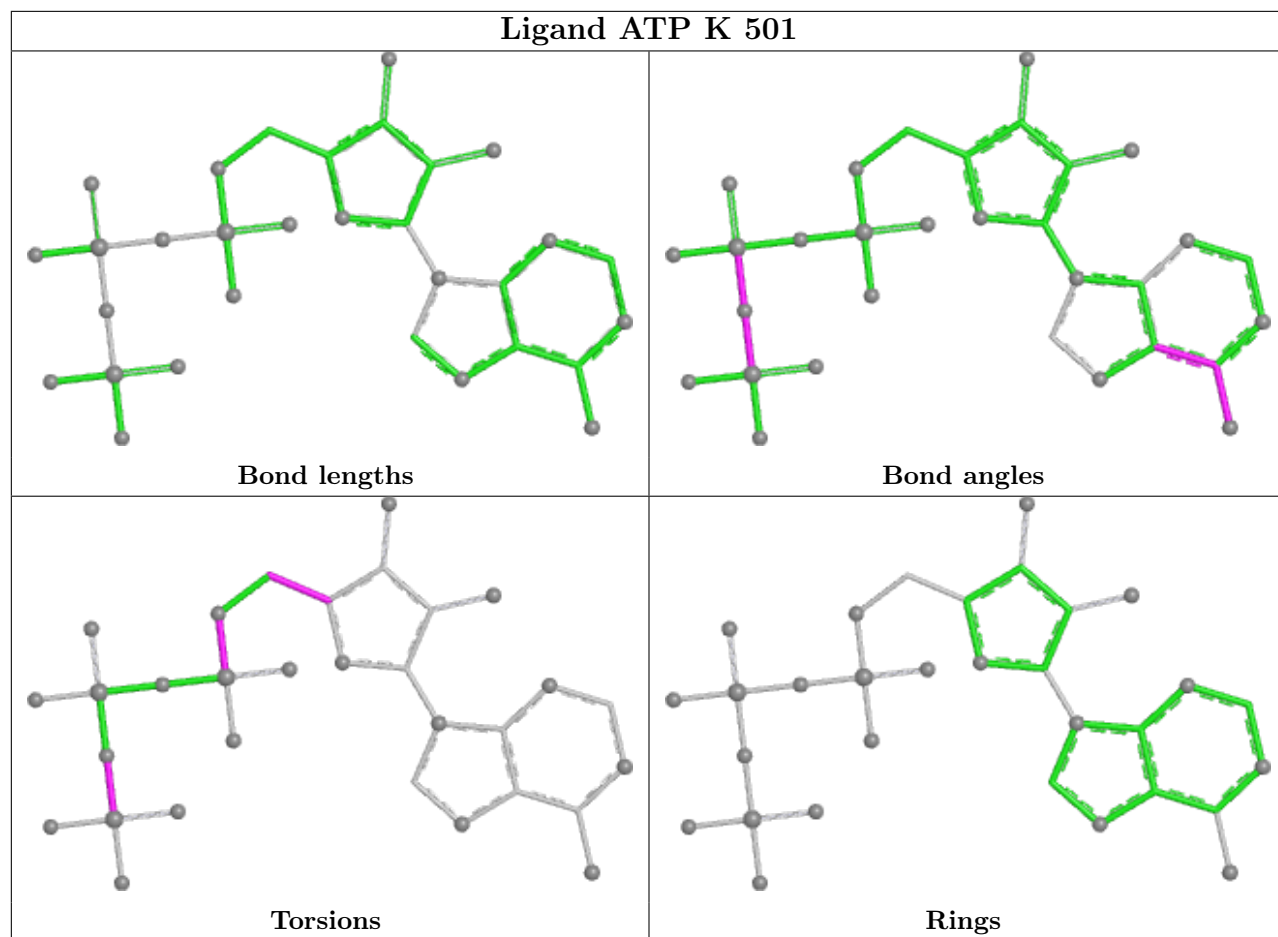


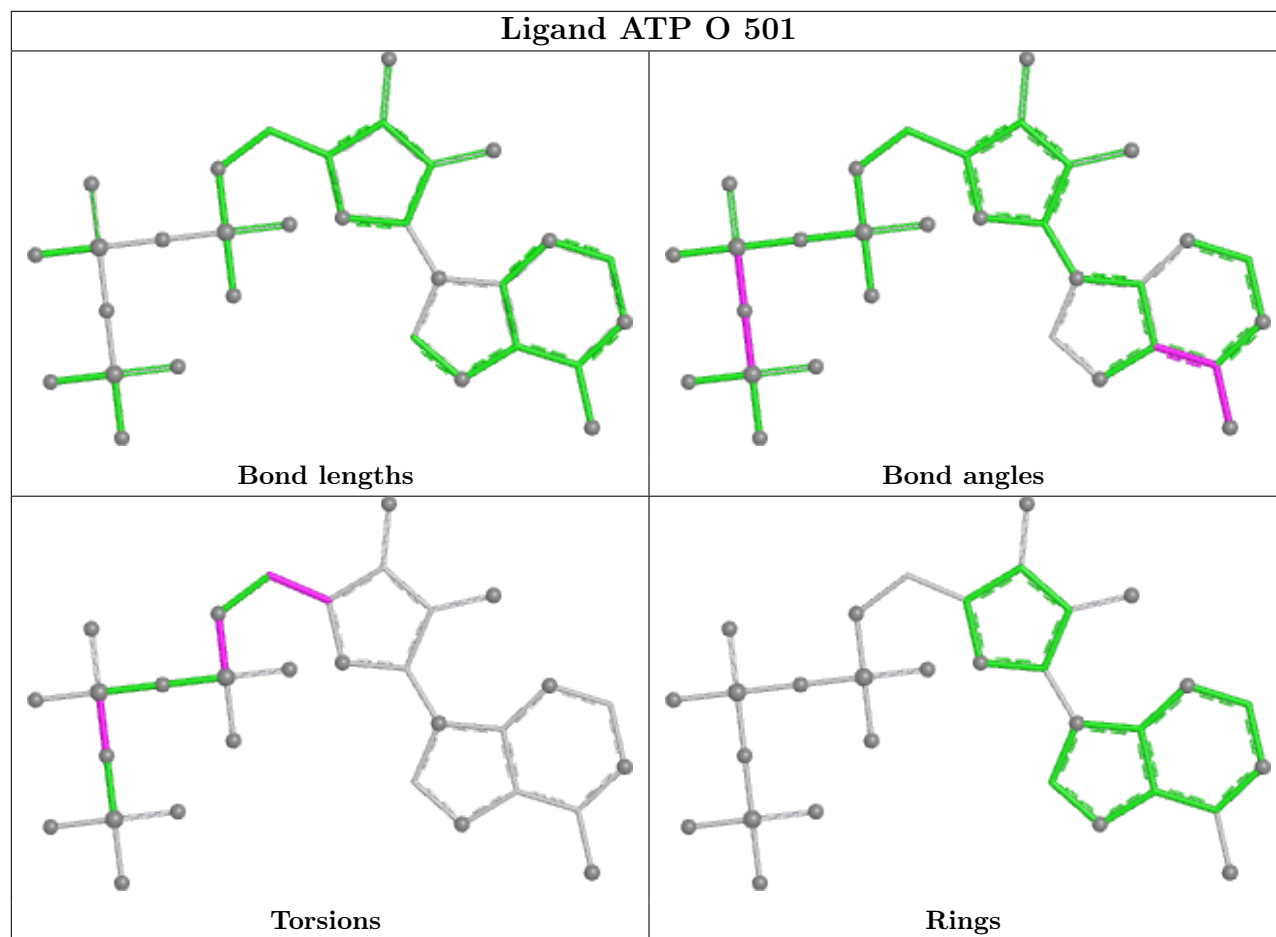


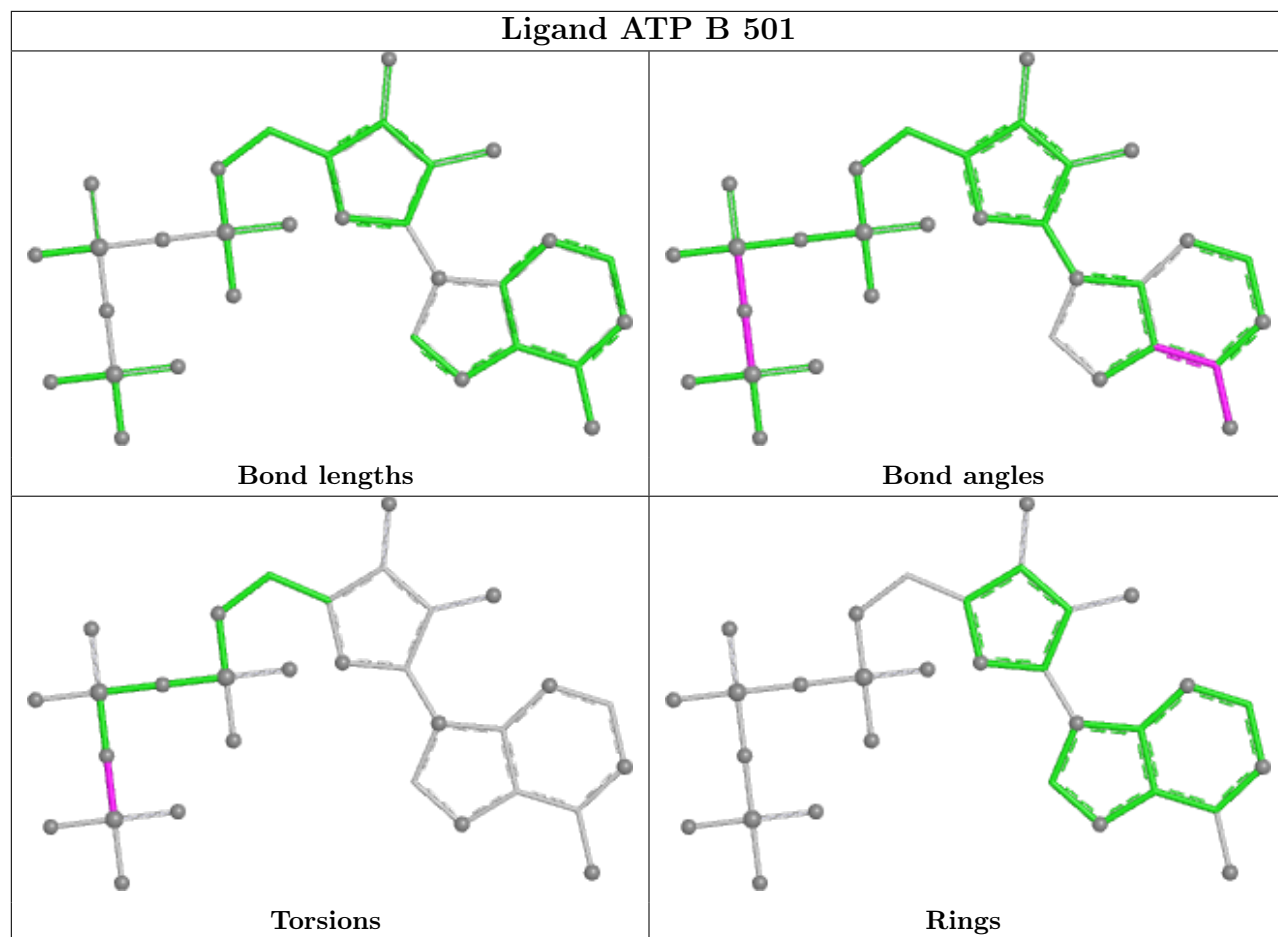


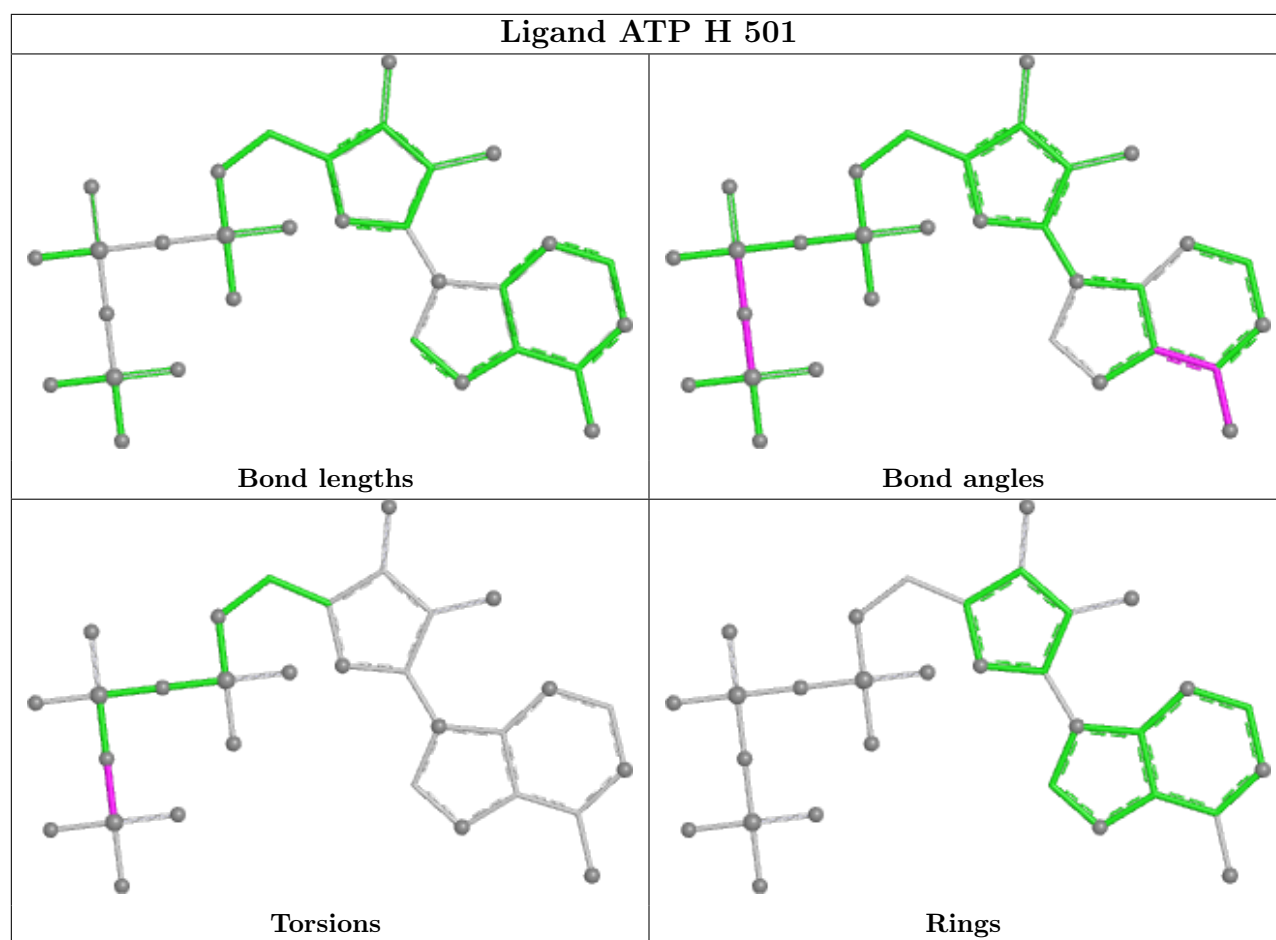












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data i

6.1 Protein, DNA and RNA chains i

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	382/396 (96%)	0.00	1 (0%) 94 88	56, 83, 116, 143	0
1	B	383/396 (96%)	0.09	2 (0%) 91 83	64, 90, 148, 712	0
1	C	382/396 (96%)	0.06	2 (0%) 91 83	56, 87, 122, 165	0
1	D	362/396 (91%)	0.01	0 100 100	51, 86, 125, 157	0
1	E	382/396 (96%)	0.17	1 (0%) 94 88	70, 102, 142, 176	0
1	F	382/396 (96%)	0.38	17 (4%) 33 21	71, 112, 157, 189	0
1	G	382/396 (96%)	0.31	16 (4%) 36 23	78, 117, 163, 213	0
1	H	382/396 (96%)	0.23	5 (1%) 77 63	72, 109, 147, 187	0
1	I	382/396 (96%)	0.18	6 (1%) 72 57	73, 113, 146, 169	0
1	J	382/396 (96%)	0.19	4 (1%) 82 70	74, 110, 147, 175	0
1	K	382/396 (96%)	0.23	7 (1%) 68 53	74, 116, 162, 194	0
1	L	382/396 (96%)	0.18	3 (0%) 86 75	71, 105, 150, 189	0
1	M	382/396 (96%)	0.34	15 (3%) 39 25	105, 150, 180, 194	0
1	N	382/396 (96%)	0.47	18 (4%) 31 19	97, 133, 164, 184	0
1	O	382/396 (96%)	0.57	30 (7%) 12 7	103, 142, 170, 198	0
1	P	382/396 (96%)	0.34	19 (4%) 28 18	99, 134, 173, 190	0
2	X	0/37	-	-	-	-
2	Y	0/37	-	-	-	-
All	All	6093/6410 (95%)	0.24	146 (2%) 59 42	51, 113, 162, 712	0

All (146) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	O	22	ALA	7.5
1	P	38	ALA	6.7
1	O	38	ALA	6.1

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Mol	Chain	Res	Type	RSRZ
1	B	285	SER	5.1
1	P	148	GLY	4.8
1	F	279	SER	4.4
1	O	37	GLY	4.4
1	N	134	GLU	4.4
1	O	13	LEU	4.2
1	O	370	TYR	4.2
1	P	12	GLY	4.2
1	P	22	ALA	4.0
1	O	12	GLY	3.9
1	M	330	ALA	3.8
1	O	228	HIS	3.8
1	G	24	VAL	3.7
1	P	182	VAL	3.7
1	K	22	ALA	3.6
1	B	284	PRO	3.6
1	G	26	GLU	3.6
1	G	23	LEU	3.6
1	N	354	ASN	3.6
1	O	96	MET	3.5
1	M	331	GLY	3.5
1	P	13	LEU	3.3
1	P	76	ILE	3.3
1	G	28	LEU	3.2
1	G	371	VAL	3.2
1	N	94	LYS	3.2
1	P	37	GLY	3.2
1	O	182	VAL	3.1
1	M	370	TYR	3.1
1	H	38	ALA	3.1
1	P	23	LEU	3.1
1	J	363	GLU	3.1
1	G	370	TYR	3.0
1	P	379	ALA	3.0
1	O	83	LEU	3.0
1	F	280	VAL	3.0
1	N	280	VAL	3.0
1	F	364	VAL	3.0
1	F	282	GLY	3.0
1	G	27	VAL	2.9
1	N	26	GLU	2.9
1	I	120	LYS	2.9

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Mol	Chain	Res	Type	RSRZ
1	M	367	LEU	2.9
1	N	96	MET	2.9
1	O	36	ILE	2.9
1	O	23	LEU	2.8
1	M	305	MET	2.8
1	O	10	ILE	2.8
1	N	121	ILE	2.8
1	G	31	GLY	2.8
1	K	26	GLU	2.8
1	O	33	VAL	2.7
1	M	207	CYS	2.7
1	O	24	VAL	2.7
1	O	333	VAL	2.7
1	J	32	GLN	2.7
1	O	206	VAL	2.7
1	M	339	ALA	2.6
1	K	25	GLY	2.6
1	L	235	ALA	2.6
1	H	8	ASN	2.6
1	F	177	ARG	2.6
1	G	369	ASP	2.6
1	F	26	GLU	2.6
1	M	13	LEU	2.6
1	N	230	GLU	2.6
1	P	21	SER	2.6
1	G	76	ILE	2.5
1	M	243	ILE	2.5
1	F	327	HIS	2.5
1	O	124	GLU	2.5
1	G	73	GLU	2.4
1	H	370	TYR	2.4
1	M	25	GLY	2.4
1	L	29	PRO	2.4
1	N	197	ILE	2.4
1	O	363	GLU	2.4
1	O	135	PHE	2.4
1	G	22	ALA	2.4
1	O	361	PRO	2.4
1	G	364	VAL	2.4
1	O	180	LEU	2.4
1	L	76	ILE	2.4
1	F	185	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	O	174	ALA	2.4
1	F	370	TYR	2.4
1	O	371	VAL	2.3
1	J	33	VAL	2.3
1	F	120	LYS	2.3
1	H	9	ILE	2.3
1	N	76	ILE	2.3
1	I	26	GLU	2.3
1	P	371	VAL	2.3
1	I	36	ILE	2.3
1	N	196	VAL	2.3
1	K	119	ILE	2.3
1	P	24	VAL	2.3
1	K	351	VAL	2.3
1	N	385	TYR	2.3
1	O	82	SER	2.3
1	F	24	VAL	2.3
1	N	38	ALA	2.3
1	O	148	GLY	2.2
1	N	297	ILE	2.2
1	P	81	ILE	2.2
1	G	38	ALA	2.2
1	F	281	GLY	2.2
1	P	185	LEU	2.2
1	K	227	ARG	2.2
1	A	354	ASN	2.2
1	J	365	SER	2.2
1	F	31	GLY	2.2
1	G	12	GLY	2.2
1	G	97	GLY	2.2
1	I	200	ASP	2.2
1	N	339	ALA	2.2
1	M	20	VAL	2.1
1	N	277	VAL	2.1
1	N	10	ILE	2.1
1	F	34	ASN	2.1
1	K	95	GLY	2.1
1	M	262	GLY	2.1
1	F	33	VAL	2.1
1	O	147	LEU	2.1
1	M	263	CYS	2.1
1	O	385	TYR	2.1

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Mol	Chain	Res	Type	RSRZ
1	I	37	GLY	2.1
1	F	234	TYR	2.1
1	P	39	GLY	2.1
1	C	133	GLN	2.1
1	E	266	SER	2.1
1	N	247	PHE	2.1
1	O	181	LYS	2.1
1	P	48	LYS	2.1
1	M	51	VAL	2.0
1	M	128	LEU	2.0
1	H	263	CYS	2.0
1	O	364	VAL	2.0
1	F	154	MET	2.0
1	P	385	TYR	2.0
1	P	276	ASN	2.0
1	C	32	GLN	2.0
1	I	98	THR	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	MG	P	502	1/1	0.77	0.32	86,86,86,86	0
4	MG	O	502	1/1	0.79	0.21	94,94,94,94	0
3	ATP	M	501	31/31	0.85	0.27	125,154,159,164	0
3	ATP	K	501	31/31	0.87	0.25	80,106,113,123	0
3	ATP	O	501	31/31	0.87	0.22	115,141,149,149	0
4	MG	I	502	1/1	0.88	0.33	57,57,57,57	0

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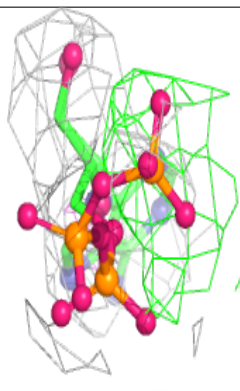
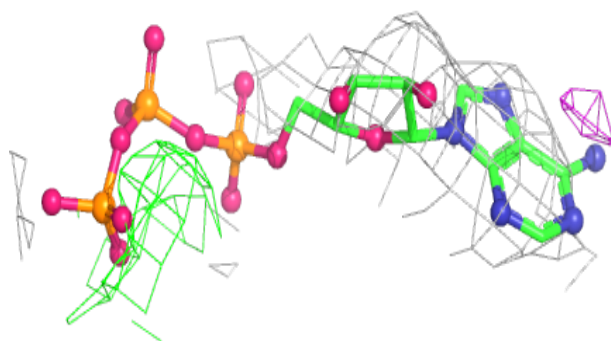
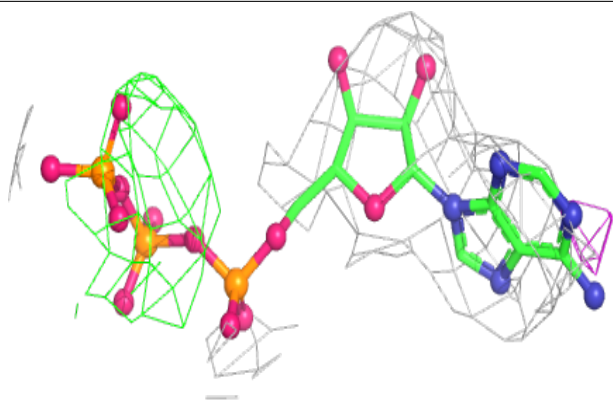
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
4	MG	C	502	1/1	0.89	0.33	56,56,56,56	0
4	MG	J	502	1/1	0.89	0.30	55,55,55,55	0
3	ATP	F	501	31/31	0.90	0.25	69,91,109,111	0
4	MG	E	502	1/1	0.90	0.24	52,52,52,52	0
3	ATP	P	501	31/31	0.90	0.21	97,109,132,149	0
4	MG	F	502	1/1	0.91	0.32	56,56,56,56	0
3	ATP	H	501	31/31	0.91	0.24	76,90,99,106	0
3	ATP	I	501	31/31	0.91	0.23	81,102,118,129	0
3	ATP	E	501	31/31	0.91	0.24	62,92,105,121	0
3	ATP	C	501	31/31	0.91	0.27	57,66,86,92	0
3	ATP	L	501	31/31	0.92	0.21	60,87,109,115	0
3	ATP	J	501	31/31	0.92	0.26	71,85,102,116	0
3	ATP	N	501	31/31	0.92	0.20	87,107,118,122	0
3	ATP	B	501	31/31	0.92	0.29	63,74,91,95	0
3	ATP	A	501	31/31	0.93	0.24	56,68,86,87	0
4	MG	K	502	1/1	0.93	0.38	83,83,83,83	0
4	MG	L	502	1/1	0.93	0.33	43,43,43,43	0
3	ATP	G	501	31/31	0.93	0.18	80,106,118,122	0
4	MG	D	502	1/1	0.93	0.43	58,58,58,58	0
4	MG	N	502	1/1	0.94	0.25	81,81,81,81	0
3	ATP	D	501	31/31	0.94	0.27	53,71,88,92	0
4	MG	M	502	1/1	0.94	0.29	92,92,92,92	0
4	MG	A	502	1/1	0.96	0.32	41,41,41,41	0
4	MG	H	502	1/1	0.97	0.29	67,67,67,67	0
4	MG	B	502	1/1	0.97	0.42	39,39,39,39	0
4	MG	G	502	1/1	0.97	0.24	80,80,80,80	0

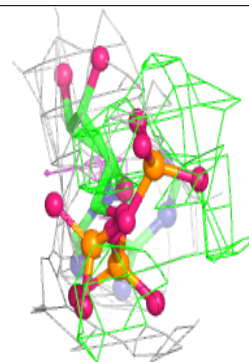
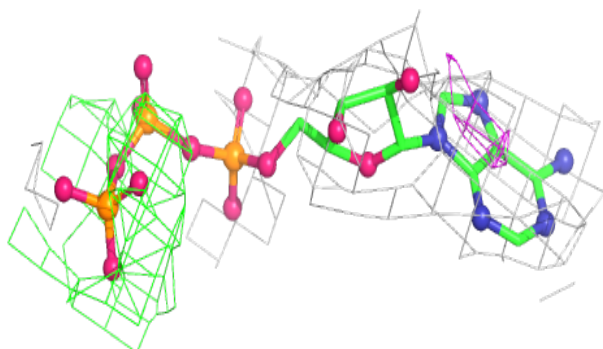
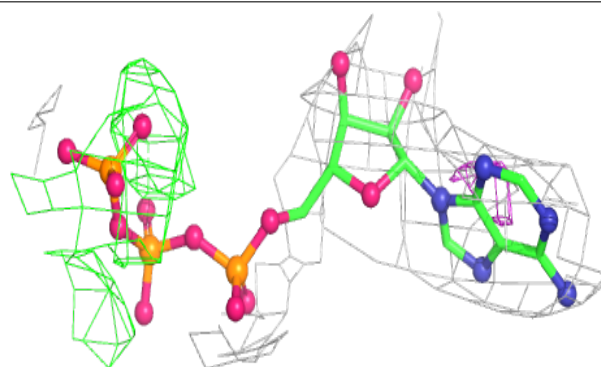
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around ATP M 501:

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

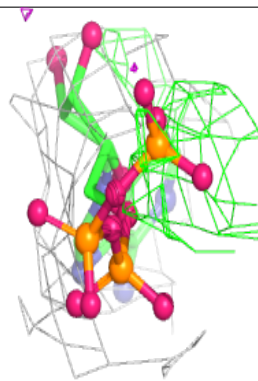
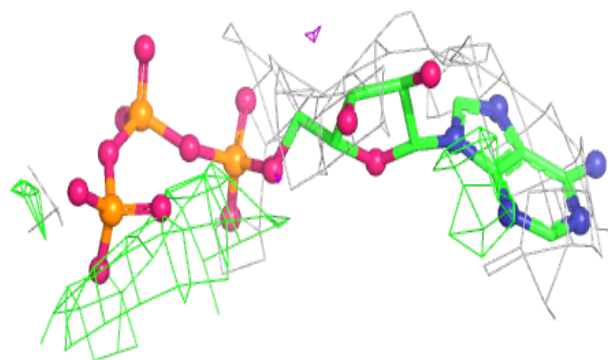
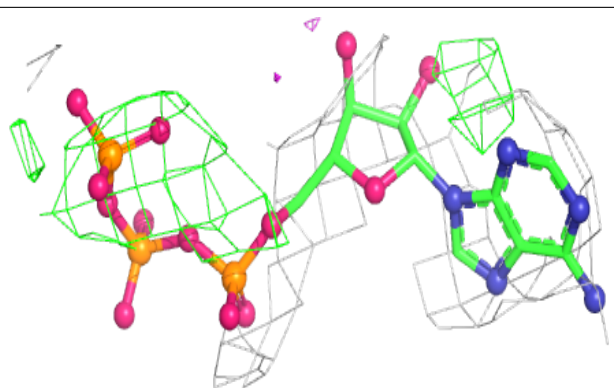
**Electron density around ATP K 501:**

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

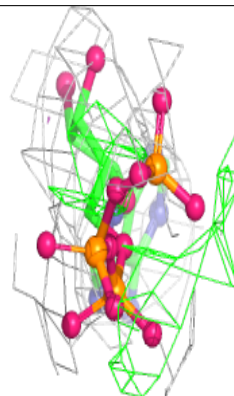
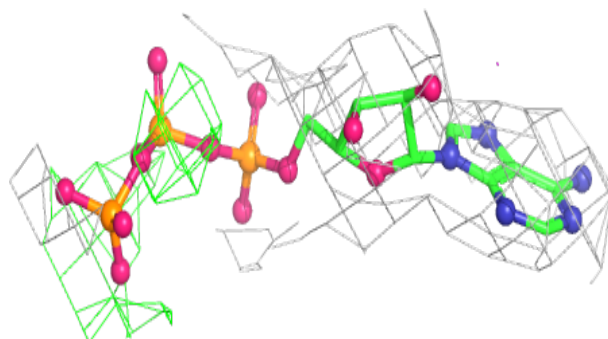
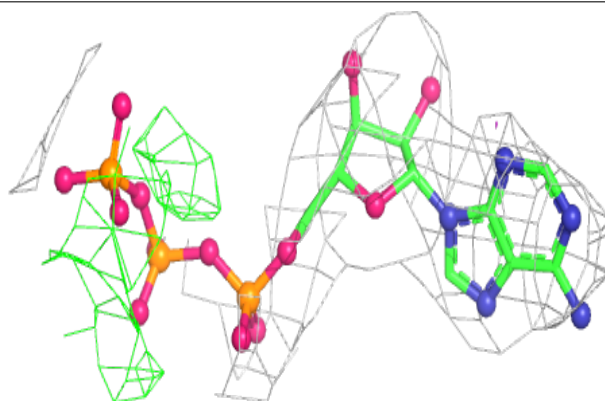


Electron density around ATP O 501:

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

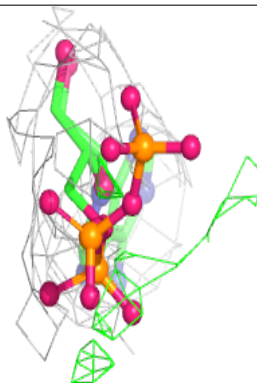
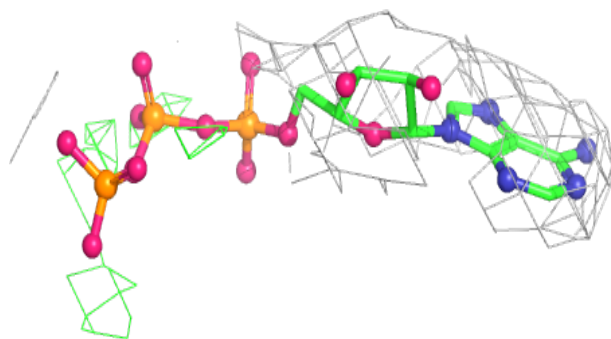
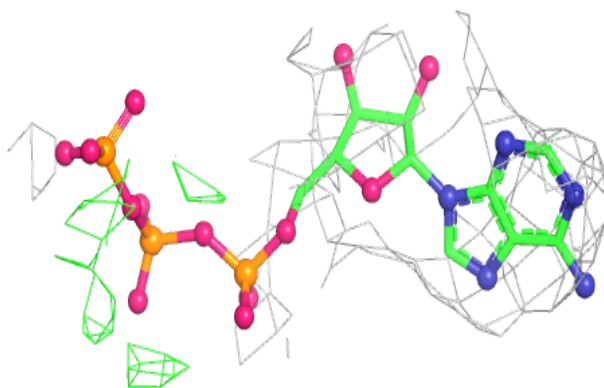
**Electron density around ATP F 501:**

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

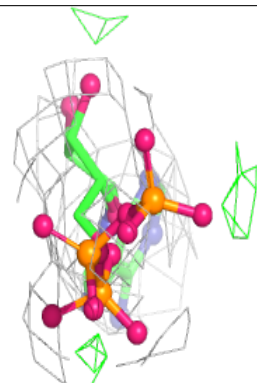
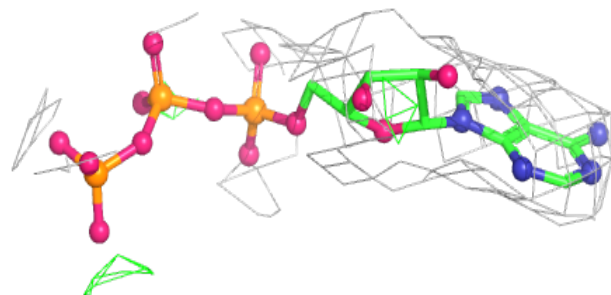
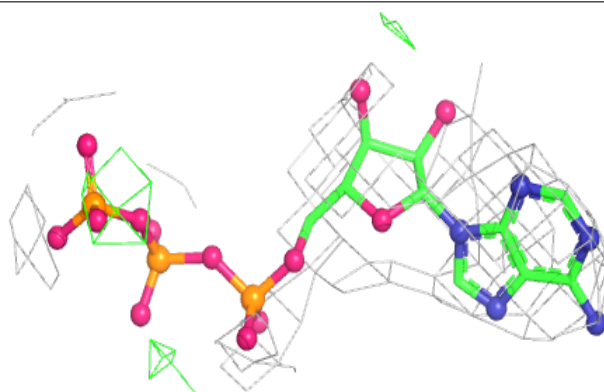


Electron density around ATP P 501:

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

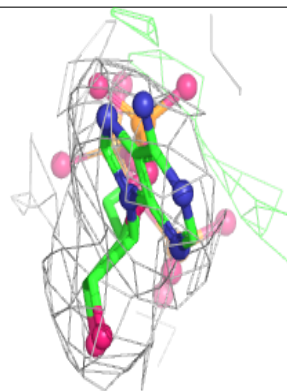
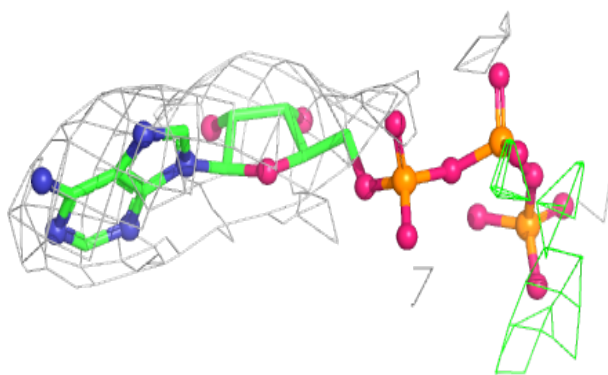
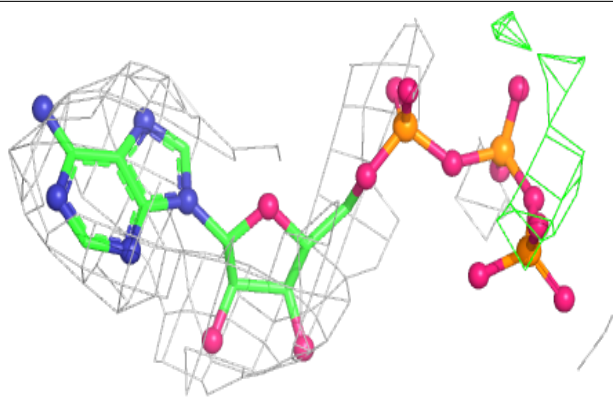
**Electron density around ATP H 501:**

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

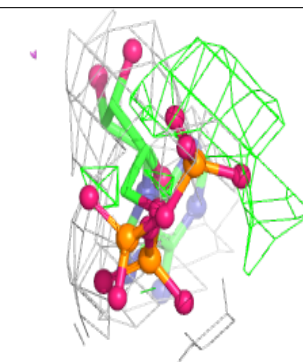
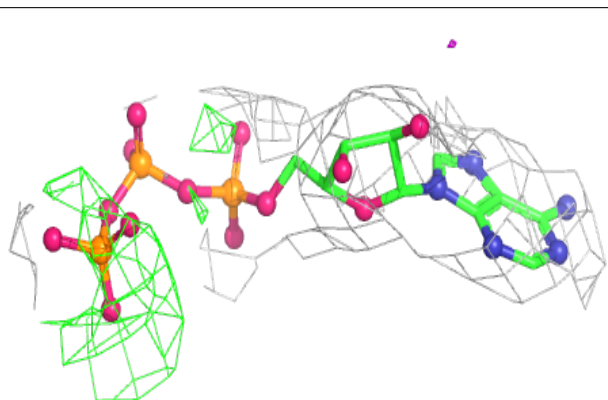
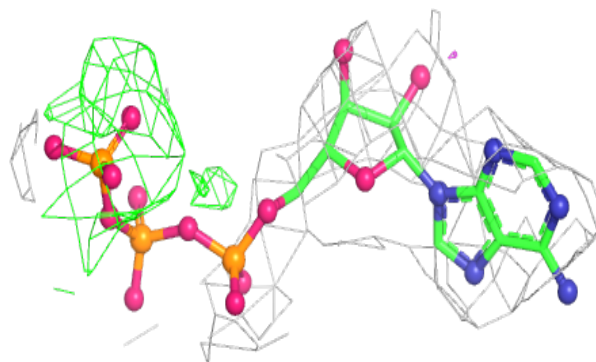


Electron density around ATP I 501:

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

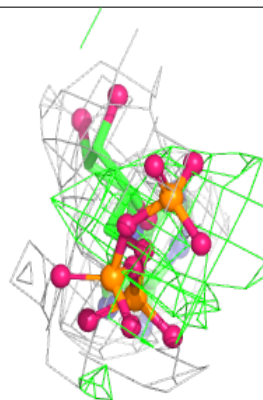
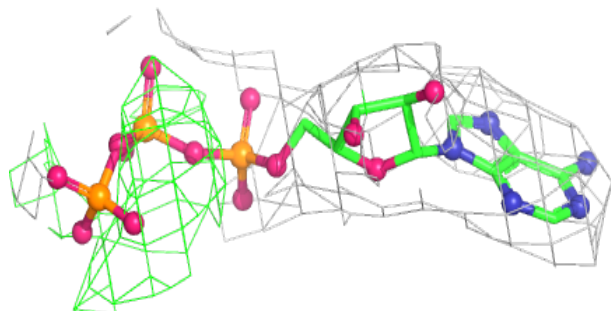
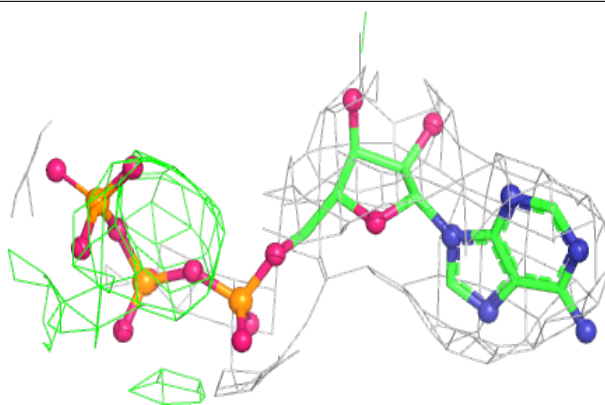
**Electron density around ATP E 501:**

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

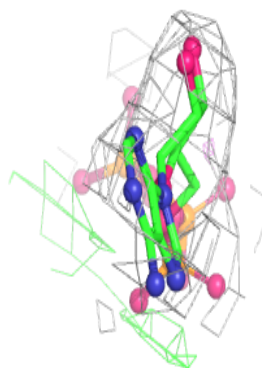
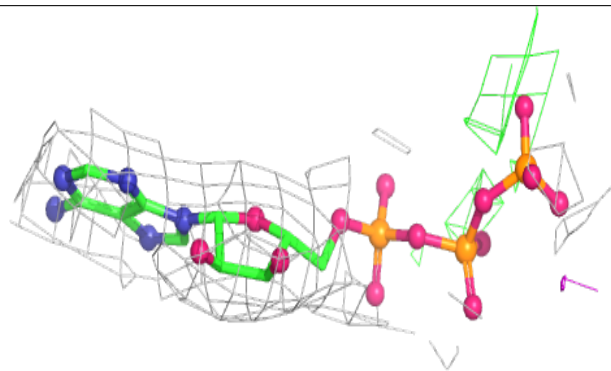
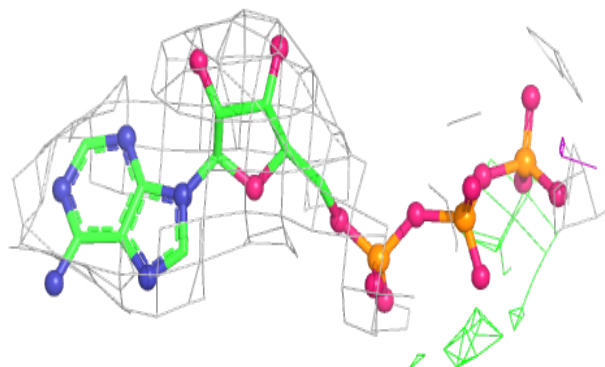


Electron density around ATP C 501:

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

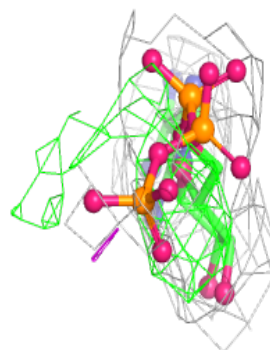
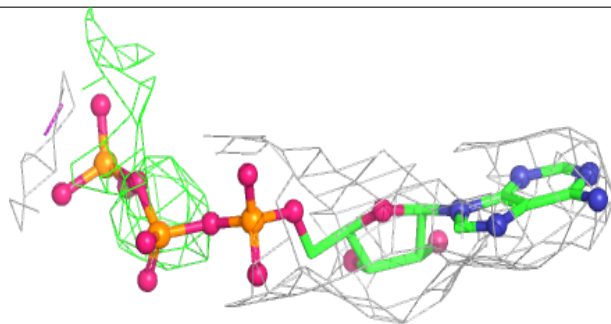
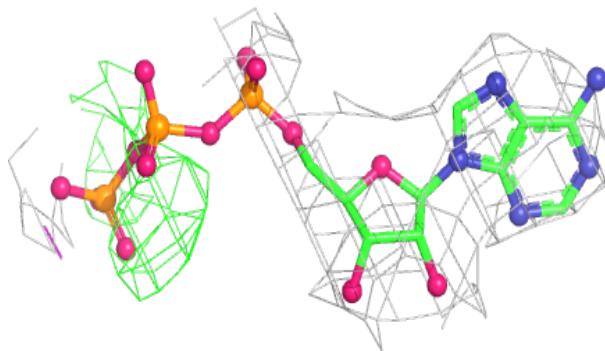
**Electron density around ATP L 501:**

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

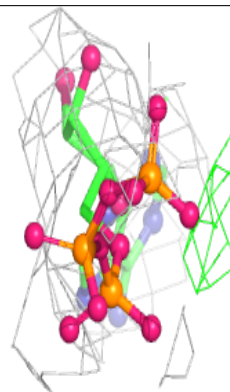
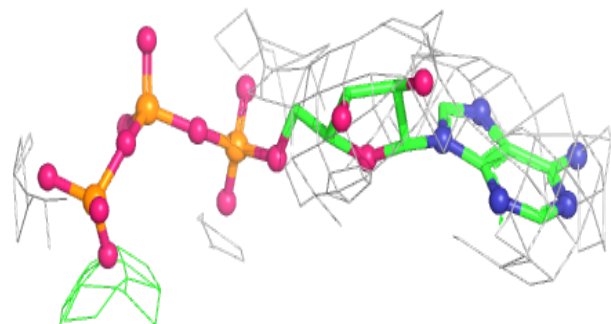
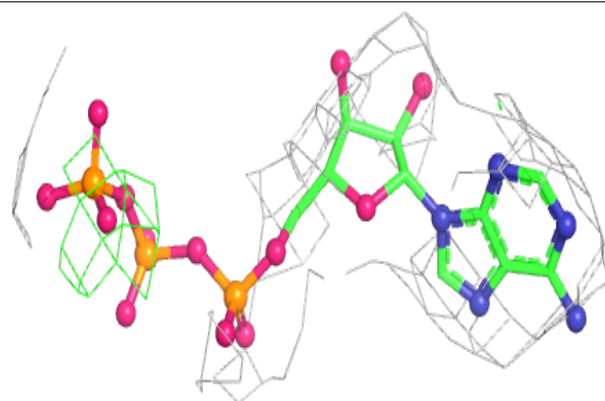


Electron density around ATP J 501:

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and green (positive)

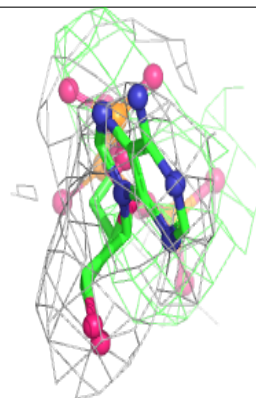
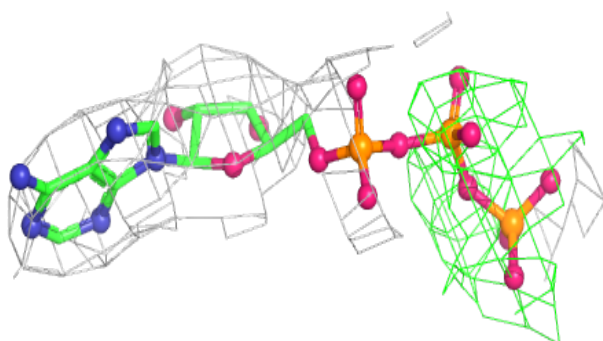
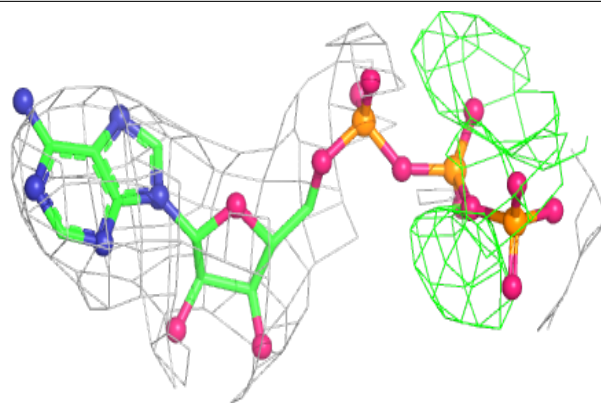
**Electron density around ATP N 501:**

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

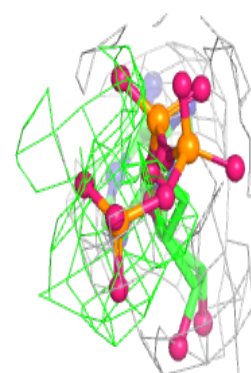
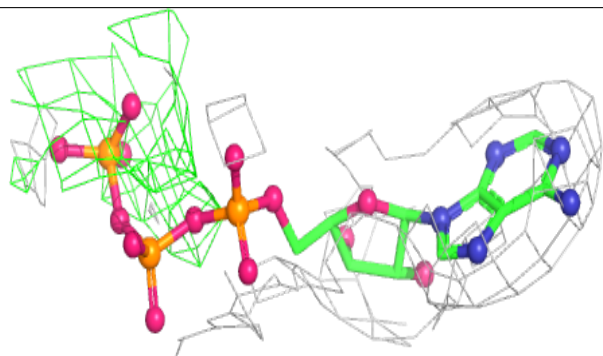
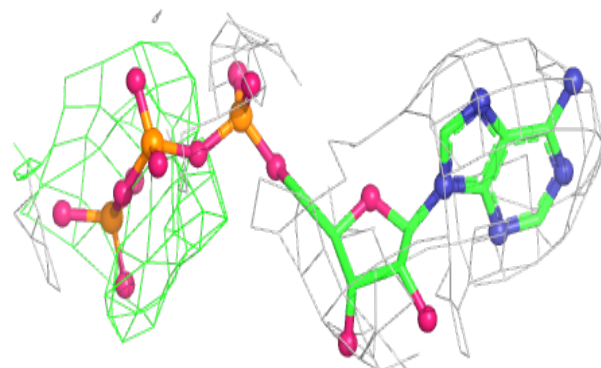


Electron density around ATP B 501:

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

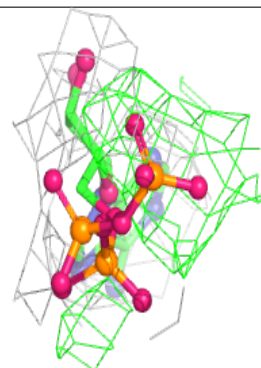
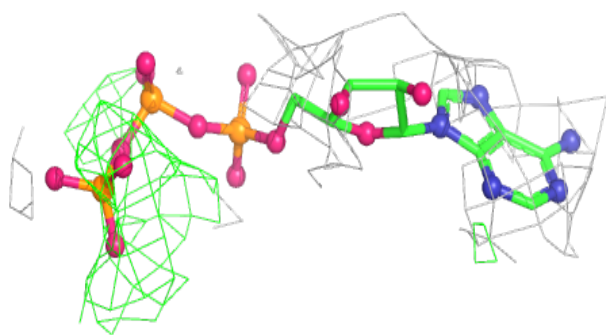
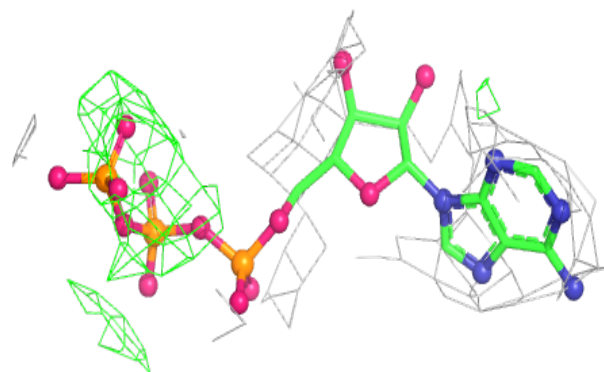
**Electron density around ATP A 501:**

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

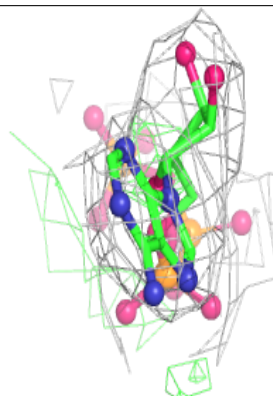
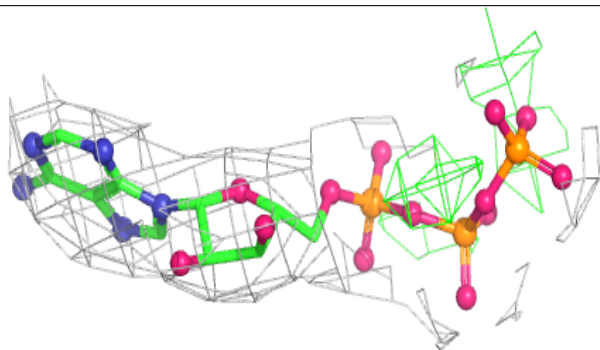
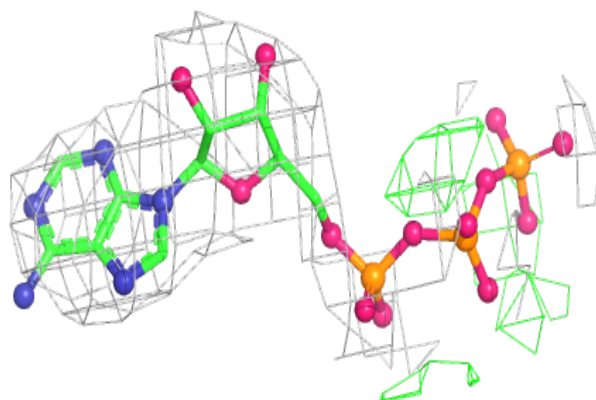


Electron density around ATP G 501:

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

**Electron density around ATP D 501:**

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



6.5 Other polymers [i](#)

There are no such residues in this entry.