



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 04:46 AM UTC

PDB ID : 9K2C / pdb_00009k2c
Title : Structure of ClpP from Staphylococcus aureus in complex with ZY1
Authors : Li, J.H.; Wu, W.; Zhang, T.; Yang, C.-G.
Deposited on : 2024-10-17
Resolution : 1.98 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

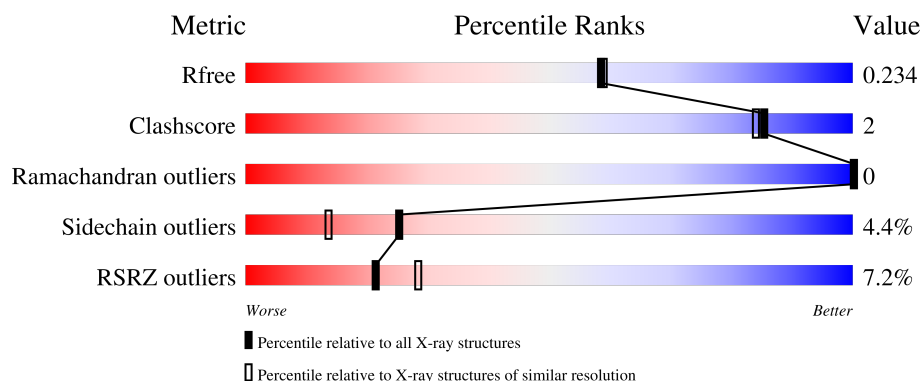
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.98 Å.

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



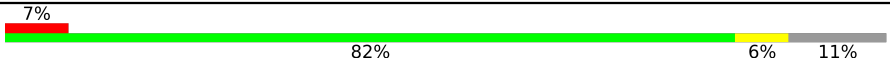
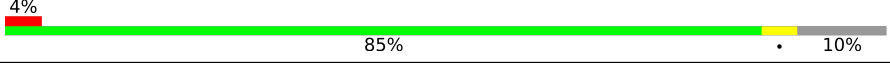
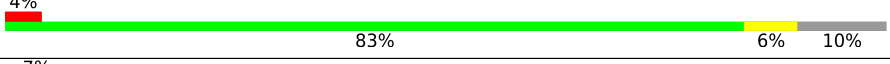
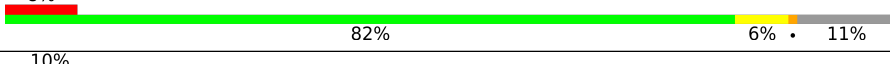
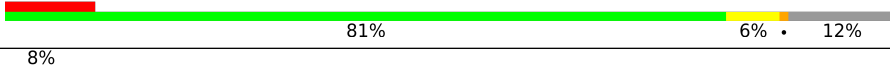
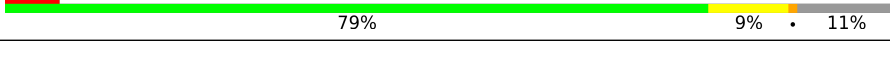
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1506 (1.98-1.98)
Clashscore	190562	1534 (1.98-1.98)
Ramachandran outliers	187476	1518 (1.98-1.98)
Sidechain outliers	187428	1518 (1.98-1.98)
RSRZ outliers	180081	1506 (1.98-1.98)

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	203	4% 83% 5% • 11%
1	B	203	6% 82% 9% 8%
1	C	203	6% 81% 8% • 10%
1	D	203	6% 83% • • 12%
1	E	203	6% 83% 5% • 11%

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Mol	Chain	Length	Quality of chain
1	F	203	
1	G	203	
1	H	203	
1	I	203	
1	J	203	
1	K	203	
1	L	203	
1	M	203	
1	N	203	

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 21198 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 ATP-dependent Clp protease proteolytic subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	181	Total	C	N	O	S	0	0	0
			1389	877	235	271	6			
1	B	186	Total	C	N	O	S	0	0	0
			1404	886	239	273	6			
1	C	183	Total	C	N	O	S	0	1	0
			1405	887	238	273	7			
1	D	179	Total	C	N	O	S	0	0	0
			1380	871	234	269	6			
1	E	180	Total	C	N	O	S	0	0	0
			1381	871	234	270	6			
1	F	180	Total	C	N	O	S	0	0	0
			1385	874	235	270	6			
1	G	179	Total	C	N	O	S	0	1	0
			1373	867	232	267	7			
1	H	182	Total	C	N	O	S	0	0	0
			1398	883	236	273	6			
1	I	182	Total	C	N	O	S	0	0	0
			1398	883	237	272	6			
1	J	187	Total	C	N	O	S	0	1	0
			1455	916	252	280	7			
1	K	181	Total	C	N	O	S	0	0	0
			1393	879	235	273	6			
1	L	179	Total	C	N	O	S	0	0	0
			1378	869	234	269	6			
1	M	180	Total	C	N	O	S	0	0	0
			1378	868	235	269	6			
1	N	180	Total	C	N	O	S	0	0	0
			1381	871	234	270	6			

There are 112 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	196	LEU	-	expression tag	UNP A7WZR9

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Chain	Residue	Modelled	Actual	Comment	Reference
A	197	GLU	-	expression tag	UNP A7WZR9
A	198	HIS	-	expression tag	UNP A7WZR9
A	199	HIS	-	expression tag	UNP A7WZR9
A	200	HIS	-	expression tag	UNP A7WZR9
A	201	HIS	-	expression tag	UNP A7WZR9
A	202	HIS	-	expression tag	UNP A7WZR9
A	203	HIS	-	expression tag	UNP A7WZR9
B	196	LEU	-	expression tag	UNP A7WZR9
B	197	GLU	-	expression tag	UNP A7WZR9
B	198	HIS	-	expression tag	UNP A7WZR9
B	199	HIS	-	expression tag	UNP A7WZR9
B	200	HIS	-	expression tag	UNP A7WZR9
B	201	HIS	-	expression tag	UNP A7WZR9
B	202	HIS	-	expression tag	UNP A7WZR9
B	203	HIS	-	expression tag	UNP A7WZR9
C	196	LEU	-	expression tag	UNP A7WZR9
C	197	GLU	-	expression tag	UNP A7WZR9
C	198	HIS	-	expression tag	UNP A7WZR9
C	199	HIS	-	expression tag	UNP A7WZR9
C	200	HIS	-	expression tag	UNP A7WZR9
C	201	HIS	-	expression tag	UNP A7WZR9
C	202	HIS	-	expression tag	UNP A7WZR9
C	203	HIS	-	expression tag	UNP A7WZR9
D	196	LEU	-	expression tag	UNP A7WZR9
D	197	GLU	-	expression tag	UNP A7WZR9
D	198	HIS	-	expression tag	UNP A7WZR9
D	199	HIS	-	expression tag	UNP A7WZR9
D	200	HIS	-	expression tag	UNP A7WZR9
D	201	HIS	-	expression tag	UNP A7WZR9
D	202	HIS	-	expression tag	UNP A7WZR9
D	203	HIS	-	expression tag	UNP A7WZR9
E	196	LEU	-	expression tag	UNP A7WZR9
E	197	GLU	-	expression tag	UNP A7WZR9
E	198	HIS	-	expression tag	UNP A7WZR9
E	199	HIS	-	expression tag	UNP A7WZR9
E	200	HIS	-	expression tag	UNP A7WZR9
E	201	HIS	-	expression tag	UNP A7WZR9
E	202	HIS	-	expression tag	UNP A7WZR9
E	203	HIS	-	expression tag	UNP A7WZR9
F	196	LEU	-	expression tag	UNP A7WZR9
F	197	GLU	-	expression tag	UNP A7WZR9
F	198	HIS	-	expression tag	UNP A7WZR9

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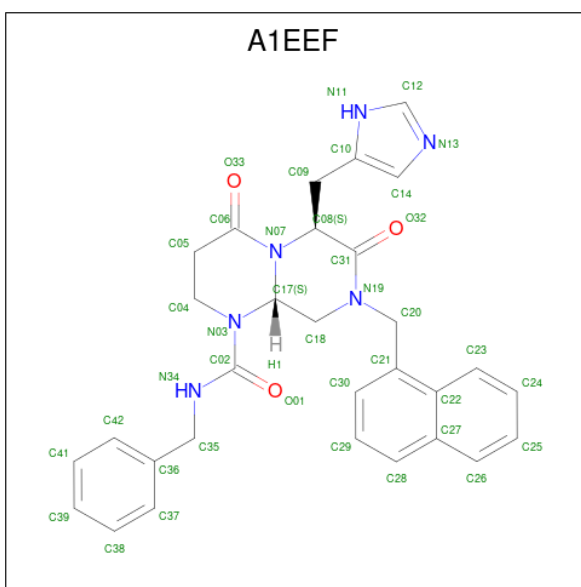
Chain	Residue	Modelled	Actual	Comment	Reference
F	199	HIS	-	expression tag	UNP A7WZR9
F	200	HIS	-	expression tag	UNP A7WZR9
F	201	HIS	-	expression tag	UNP A7WZR9
F	202	HIS	-	expression tag	UNP A7WZR9
F	203	HIS	-	expression tag	UNP A7WZR9
G	196	LEU	-	expression tag	UNP A7WZR9
G	197	GLU	-	expression tag	UNP A7WZR9
G	198	HIS	-	expression tag	UNP A7WZR9
G	199	HIS	-	expression tag	UNP A7WZR9
G	200	HIS	-	expression tag	UNP A7WZR9
G	201	HIS	-	expression tag	UNP A7WZR9
G	202	HIS	-	expression tag	UNP A7WZR9
G	203	HIS	-	expression tag	UNP A7WZR9
H	196	LEU	-	expression tag	UNP A7WZR9
H	197	GLU	-	expression tag	UNP A7WZR9
H	198	HIS	-	expression tag	UNP A7WZR9
H	199	HIS	-	expression tag	UNP A7WZR9
H	200	HIS	-	expression tag	UNP A7WZR9
H	201	HIS	-	expression tag	UNP A7WZR9
H	202	HIS	-	expression tag	UNP A7WZR9
H	203	HIS	-	expression tag	UNP A7WZR9
I	196	LEU	-	expression tag	UNP A7WZR9
I	197	GLU	-	expression tag	UNP A7WZR9
I	198	HIS	-	expression tag	UNP A7WZR9
I	199	HIS	-	expression tag	UNP A7WZR9
I	200	HIS	-	expression tag	UNP A7WZR9
I	201	HIS	-	expression tag	UNP A7WZR9
I	202	HIS	-	expression tag	UNP A7WZR9
I	203	HIS	-	expression tag	UNP A7WZR9
J	196	LEU	-	expression tag	UNP A7WZR9
J	197	GLU	-	expression tag	UNP A7WZR9
J	198	HIS	-	expression tag	UNP A7WZR9
J	199	HIS	-	expression tag	UNP A7WZR9
J	200	HIS	-	expression tag	UNP A7WZR9
J	201	HIS	-	expression tag	UNP A7WZR9
J	202	HIS	-	expression tag	UNP A7WZR9
J	203	HIS	-	expression tag	UNP A7WZR9
K	196	LEU	-	expression tag	UNP A7WZR9
K	197	GLU	-	expression tag	UNP A7WZR9
K	198	HIS	-	expression tag	UNP A7WZR9
K	199	HIS	-	expression tag	UNP A7WZR9
K	200	HIS	-	expression tag	UNP A7WZR9

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Chain	Residue	Modelled	Actual	Comment	Reference
K	201	HIS	-	expression tag	UNP A7WZR9
K	202	HIS	-	expression tag	UNP A7WZR9
K	203	HIS	-	expression tag	UNP A7WZR9
L	196	LEU	-	expression tag	UNP A7WZR9
L	197	GLU	-	expression tag	UNP A7WZR9
L	198	HIS	-	expression tag	UNP A7WZR9
L	199	HIS	-	expression tag	UNP A7WZR9
L	200	HIS	-	expression tag	UNP A7WZR9
L	201	HIS	-	expression tag	UNP A7WZR9
L	202	HIS	-	expression tag	UNP A7WZR9
L	203	HIS	-	expression tag	UNP A7WZR9
M	196	LEU	-	expression tag	UNP A7WZR9
M	197	GLU	-	expression tag	UNP A7WZR9
M	198	HIS	-	expression tag	UNP A7WZR9
M	199	HIS	-	expression tag	UNP A7WZR9
M	200	HIS	-	expression tag	UNP A7WZR9
M	201	HIS	-	expression tag	UNP A7WZR9
M	202	HIS	-	expression tag	UNP A7WZR9
M	203	HIS	-	expression tag	UNP A7WZR9
N	196	LEU	-	expression tag	UNP A7WZR9
N	197	GLU	-	expression tag	UNP A7WZR9
N	198	HIS	-	expression tag	UNP A7WZR9
N	199	HIS	-	expression tag	UNP A7WZR9
N	200	HIS	-	expression tag	UNP A7WZR9
N	201	HIS	-	expression tag	UNP A7WZR9
N	202	HIS	-	expression tag	UNP A7WZR9
N	203	HIS	-	expression tag	UNP A7WZR9

- Molecule 2 is (6 {S},9 {a} {S})-6-(1 {H}-imidazol-5-ylmethyl)-8-(naphthalen-1-ylmethyl)-4,7-bis(oxidanylidene)- {N}-(phenylmethyl)-3,6,9,9 {a}-tetrahydro-2 {H}-pyrazino[1,2-a]pyrimidine-1-carboxamide (CCD ID: A1EEF) (formula: C₃₀H₃₀N₆O₃) (labeled as "Ligand of Interest" by depositor).

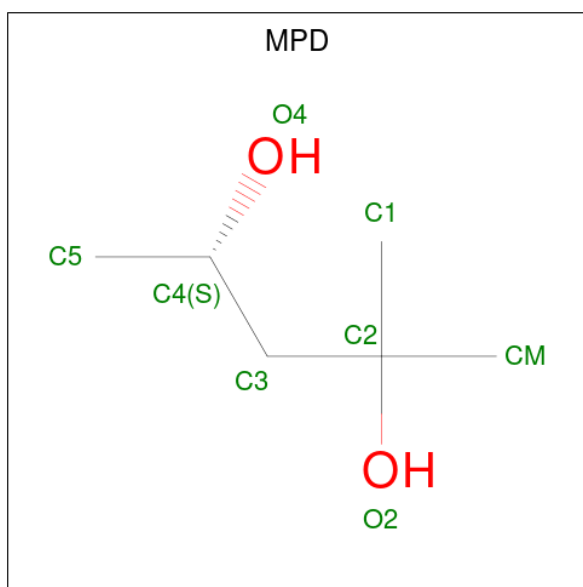


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total 39	C 30	N 6	O 3	0	0
2	B	1	Total 39	C 30	N 6	O 3	0	0
2	C	1	Total 39	C 30	N 6	O 3	0	0
2	D	1	Total 39	C 30	N 6	O 3	0	0
2	E	1	Total 39	C 30	N 6	O 3	0	0
2	F	1	Total 39	C 30	N 6	O 3	0	0
2	G	1	Total 39	C 30	N 6	O 3	0	0
2	H	1	Total 39	C 30	N 6	O 3	0	0
2	I	1	Total 39	C 30	N 6	O 3	0	0
2	J	1	Total 39	C 30	N 6	O 3	0	0
2	K	1	Total 39	C 30	N 6	O 3	0	0
2	L	1	Total 39	C 30	N 6	O 3	0	0
2	M	1	Total 39	C 30	N 6	O 3	0	0
2	N	1	Total 39	C 30	N 6	O 3	0	0

- Molecule 3 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 4 is (4S)-2-METHYL-2,4-PENTANEDIOL (CCD ID: MPD) (formula: C₆H₁₄O₂) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			8	6	2		
4	B	1	Total	C	O	0	0
			8	6	2		
4	B	1	Total	C	O	0	0
			8	6	2		
4	C	1	Total	C	O	0	0
			8	6	2		
4	D	1	Total	C	O	0	0
			8	6	2		
4	E	1	Total	C	O	0	0
			8	6	2		
4	F	1	Total	C	O	0	0
			8	6	2		
4	G	1	Total	C	O	0	0
			8	6	2		
4	H	1	Total	C	O	0	0
			8	6	2		
4	I	1	Total	C	O	0	0
			8	6	2		
4	J	1	Total	C	O	0	0
			8	6	2		
4	K	1	Total	C	O	0	0
			8	6	2		
4	L	1	Total	C	O	0	0
			8	6	2		
4	M	1	Total	C	O	0	0
			8	6	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	N	1	Total	C	O	0	0
			8	6	2		

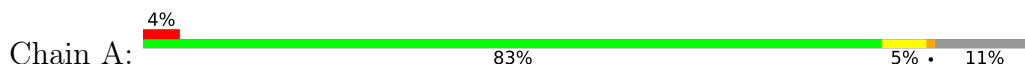
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	107	Total	O	0	0
			107	107		
5	B	99	Total	O	0	0
			99	99		
5	C	85	Total	O	0	0
			85	85		
5	D	58	Total	O	0	0
			58	58		
5	E	58	Total	O	0	0
			58	58		
5	F	62	Total	O	0	0
			62	62		
5	G	83	Total	O	0	0
			83	83		
5	H	78	Total	O	0	0
			78	78		
5	I	83	Total	O	0	0
			83	83		
5	J	79	Total	O	0	0
			79	79		
5	K	54	Total	O	0	0
			54	54		
5	L	49	Total	O	0	0
			49	49		
5	M	57	Total	O	0	0
			57	57		
5	N	68	Total	O	0	0
			68	68		

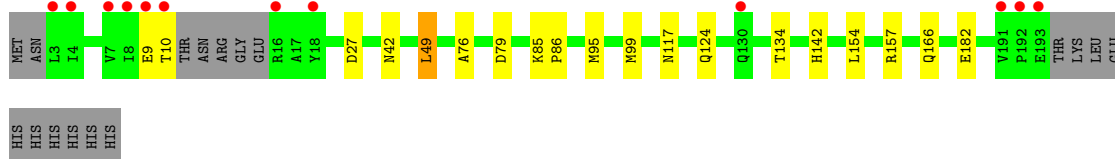
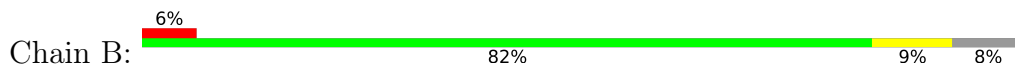
3 Residue-property plots [i](#)

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.

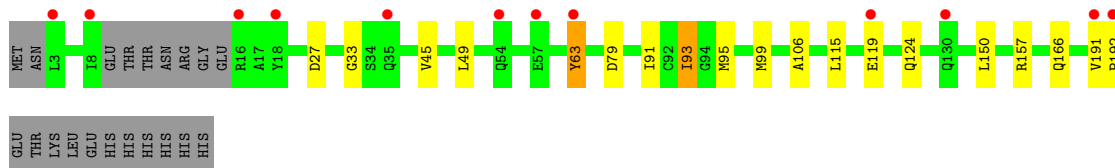
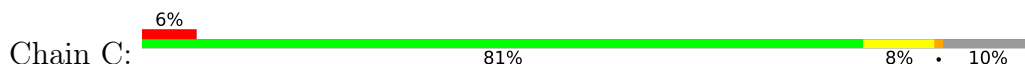
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



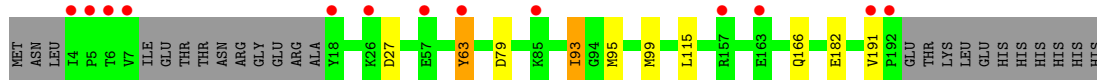
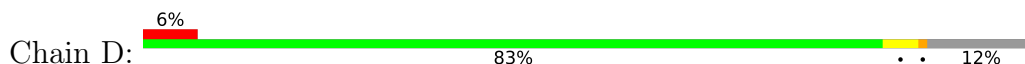
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



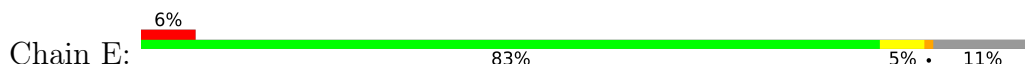
- Molecule 1: ATP-dependent Clp protease proteolytic subunit

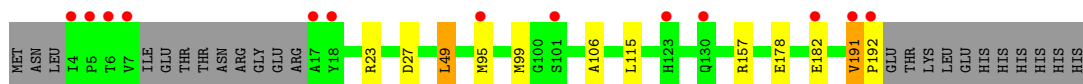


- Molecule 1: ATP-dependent Clp protease proteolytic subunit

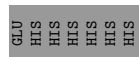
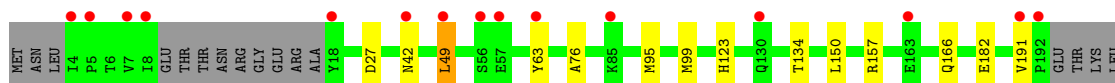
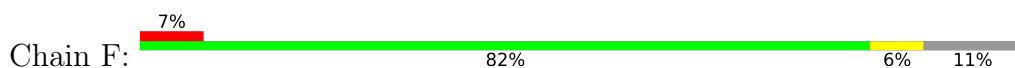


- Molecule 1: ATP-dependent Clp protease proteolytic subunit

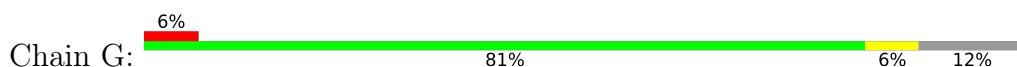




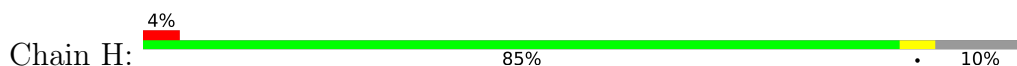
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



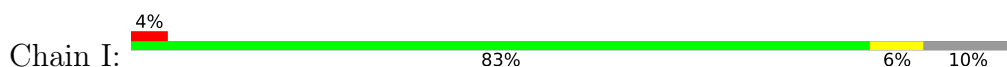
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



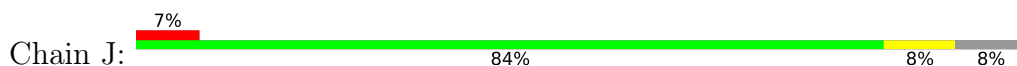
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



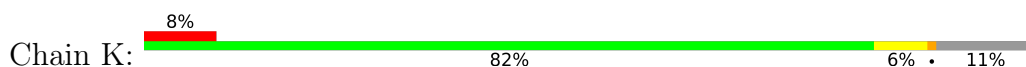
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



- Molecule 1: ATP-dependent Clp protease proteolytic subunit



- Molecule 1: ATP-dependent Clp protease proteolytic subunit



LYS
LEU
GLU
HIS
HIS
HIS
HIS
HIS

- Molecule 1: ATP-dependent Clp protease proteolytic subunit

Chain L: 

MET ASN LEU I4 P5 T6 V7 ILE GLU THR THR ASN ASN ARG GLY GLU ARG ALA Y18 R23 D27 M31 L49 A53 Q54 D55 S56 D79 K85 I91 M95 M99 A106 K109 L115 Q130 Y153 L154 R157 T158 I165 Q166 K167
E182 E188 V191 P192 GLU THR LYS LEU GLU THR HIS HIS HIS HIS HIS HIS

- Molecule 1: ATP-dependent Clp protease proteolytic subunit

Chain M: 

MET ASN L3 I4 P5 T6 V7 ILE GLU THR THR THR THR ASN ASN ARG GLY GLU ARG ALA Y18 D27 Q54 Y63 D79 K85 M95 M99 L115 Q130 T134 L154 R157 E163 Q166 K167 E182 Y189 M190 V191 P192 GLU THR LYS LEU HIS
HIS HIS HIS HIS

- Molecule 1: ATP-dependent Clp protease proteolytic subunit

Chain N: 

MET ASN LEU I4 P5 T6 V7 I8 L24 L25 K26 I29 I30 M31 E57 Y63 D79 K85 P86 M95 M99 G107 L115 Q124 Q130 T134 L150 I153 R157 Q166 E179
E182 V191 P192 GLU THR LYS LEU GLU HIS HIS HIS HIS HIS HIS HIS

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	94.70Å 126.01Å 145.80Å 90.00° 93.91° 90.00°	Depositor
Resolution (Å)	29.90 – 1.98 29.90 – 1.98	Depositor EDS
% Data completeness (in resolution range)	91.9 (29.90-1.98) 92.2 (29.90-1.98)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.95 (at 1.98Å)	Xtriage
Refinement program	REFMAC 5.8.0415	Depositor
R, R_{free}	0.205 , 0.227 0.212 , 0.234	Depositor DCC
R_{free} test set	10676 reflections (4.49%)	wwPDB-VP
Wilson B-factor (Å ²)	24.7	Xtriage
Anisotropy	0.269	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 37.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	21198	wwPDB-VP
Average B, all atoms (Å ²)	27.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.38% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: MPD, MG, A1EEF

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	0.46	0/1407	0.83	0/1901
1	B	0.46	0/1422	0.82	0/1925
1	C	0.45	0/1426	0.81	0/1925
1	D	0.44	0/1398	0.83	0/1887
1	E	0.45	0/1399	0.82	0/1890
1	F	0.45	0/1403	0.81	0/1894
1	G	0.46	0/1394	0.82	0/1884
1	H	0.45	0/1416	0.81	0/1912
1	I	0.45	0/1416	0.81	0/1912
1	J	0.46	0/1480	0.81	0/1995
1	K	0.45	0/1411	0.82	0/1906
1	L	0.44	0/1396	0.82	0/1884
1	M	0.44	0/1395	0.82	0/1883
1	N	0.46	0/1399	0.82	0/1890
All	All	0.45	0/19762	0.82	0/26688

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1389	0	1398	6	0
1	B	1404	0	1397	12	0
1	C	1405	0	1416	14	0
1	D	1380	0	1396	5	0
1	E	1381	0	1390	6	0
1	F	1385	0	1398	6	0
1	G	1373	0	1379	8	0
1	H	1398	0	1412	5	0
1	I	1398	0	1414	7	0
1	J	1455	0	1449	8	0
1	K	1393	0	1402	8	0
1	L	1378	0	1389	7	0
1	M	1378	0	1391	6	0
1	N	1381	0	1387	14	0
2	A	39	0	0	0	0
2	B	39	0	0	0	0
2	C	39	0	0	2	0
2	D	39	0	0	1	0
2	E	39	0	0	0	0
2	F	39	0	0	1	0
2	G	39	0	0	1	0
2	H	39	0	0	0	0
2	I	39	0	0	0	0
2	J	39	0	0	0	0
2	K	39	0	0	0	0
2	L	39	0	0	2	0
2	M	39	0	0	2	0
2	N	39	0	0	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
3	G	1	0	0	0	0
3	H	1	0	0	0	0
3	I	1	0	0	0	0
3	J	1	0	0	0	0
3	K	1	0	0	0	0
3	L	1	0	0	0	0
3	M	1	0	0	0	0
3	N	1	0	0	0	0
4	A	8	0	14	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	16	0	28	0	0
4	C	8	0	14	1	0
4	D	8	0	14	0	0
4	E	8	0	14	0	0
4	F	8	0	14	2	0
4	G	8	0	14	1	0
4	H	8	0	14	1	0
4	I	8	0	14	0	0
4	J	8	0	14	0	0
4	K	8	0	14	0	0
4	L	8	0	14	0	0
4	M	8	0	14	0	0
4	N	8	0	14	1	0
5	A	107	0	0	1	0
5	B	99	0	0	2	0
5	C	85	0	0	0	0
5	D	58	0	0	1	0
5	E	58	0	0	0	0
5	F	62	0	0	1	0
5	G	83	0	0	0	0
5	H	78	0	0	0	0
5	I	83	0	0	1	0
5	J	79	0	0	0	0
5	K	54	0	0	0	0
5	L	49	0	0	0	0
5	M	57	0	0	0	0
5	N	68	0	0	0	0
All	All	21198	0	19828	89	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

All (89) 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:N:29:ILE:HG22	1:N:31:MET:CE	2.18	0.73
1:N:29:ILE:HG22	1:N:31:MET:HE3	1.74	0.68
1:K:29:ILE:HG22	1:K:31:MET:CE	2.26	0.65
1:I:141:ASN:HB3	5:I:480:HOH:O	1.99	0.62
1:A:173:ASN:ND2	5:A:401:HOH:O	2.34	0.60
1:B:9:GLU:O	1:B:10:THR:C	2.46	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:191:VAL:HG12	1:I:192:PRO:HD2	1.86	0.58
1:C:91:ILE:HG22	1:C:93:ILE:HD12	1.86	0.57
1:N:107:GLY:O	1:N:157:ARG:NH2	2.37	0.57
1:G:150:LEU:HD13	4:G:303:MPD:H52	1.87	0.57
1:J:199:HIS:HD2	1:J:201:HIS:H	1.52	0.56
1:I:79:ASP:HB3	1:J:115:LEU:HD23	1.87	0.56
1:B:49:LEU:HD21	2:C:301:A1EEF:C26	2.35	0.56
1:B:42:ASN:HB3	5:B:467:HOH:O	2.05	0.55
1:A:191:VAL:HG12	1:A:192:PRO:HD2	1.87	0.55
1:A:115:LEU:HD23	1:G:79:ASP:HB3	1.90	0.54
1:I:178:GLU:O	1:I:182:GLU:HG3	2.08	0.54
1:C:45:VAL:HG21	1:D:93:ILE:HD11	1.90	0.54
1:F:42:ASN:HB3	5:F:459:HOH:O	2.09	0.53
1:G:124:GLN:HE22	1:I:134:THR:H	1.56	0.53
1:G:134:THR:H	1:I:124:GLN:HE22	1.56	0.53
1:E:178:GLU:O	1:E:182:GLU:HG3	2.10	0.52
1:K:191:VAL:HG12	1:K:192:PRO:HD2	1.92	0.52
1:C:79:ASP:HB3	1:D:115:LEU:HD23	1.92	0.51
1:L:191:VAL:HG12	1:L:192:PRO:HD2	1.91	0.51
1:A:149:LYS:HD2	1:B:117:ASN:HD22	1.76	0.51
1:J:106:ALA:HA	1:J:157:ARG:HD2	1.92	0.51
1:K:29:ILE:HG22	1:K:31:MET:HE3	1.92	0.50
1:F:150:LEU:HD13	4:F:303:MPD:H53	1.94	0.50
1:N:153:ILE:O	1:N:157:ARG:HG2	2.13	0.49
1:M:79:ASP:HB3	1:N:115:LEU:HD23	1.95	0.49
1:N:29:ILE:CG2	1:N:31:MET:CE	2.90	0.48
1:C:124:GLN:HE22	1:M:134:THR:H	1.62	0.48
1:K:79:ASP:HB3	1:L:115:LEU:HD23	1.96	0.47
1:F:49:LEU:HD11	2:G:301:A1EEF:C28	2.44	0.47
1:G:19:ASP:OD1	1:G:22:SER:OG	2.26	0.47
1:C:63:TYR:HB2	2:C:301:A1EEF:C29	2.45	0.47
1:F:123:HIS:O	4:F:303:MPD:H52	2.15	0.47
1:B:124:GLN:HE22	1:N:134:THR:H	1.63	0.47
1:H:79:ASP:HB3	1:I:115:LEU:HD23	1.96	0.47
1:L:79:ASP:HB3	1:M:115:LEU:HD23	1.97	0.46
1:M:191:VAL:HG12	1:M:192:PRO:HD2	1.97	0.46
1:D:79:ASP:HB3	1:E:115:LEU:HD23	1.98	0.45
1:K:49:LEU:HD11	2:L:301:A1EEF:C28	2.46	0.45
1:B:42:ASN:ND2	1:C:33:GLY:O	2.44	0.45
1:H:150:LEU:HD13	4:H:303:MPD:H52	1.99	0.45
1:K:49:LEU:HD11	2:L:301:A1EEF:C26	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:49:LEU:HD11	2:M:301:A1EEF:C28	2.48	0.44
1:D:63:TYR:CE2	1:D:93:ILE:HG12	2.52	0.44
1:G:93:ILE:HD11	1:G:115:LEU:HD22	2.00	0.44
1:B:134:THR:H	1:N:124:GLN:HE22	1.66	0.44
1:E:191:VAL:HG12	1:E:192:PRO:HD2	1.99	0.44
1:L:154:LEU:HB3	1:L:165:ILE:HD13	2.00	0.43
1:F:134:THR:H	1:J:124:GLN:HE22	1.65	0.43
5:B:401:HOH:O	1:C:192:PRO:C	2.61	0.43
1:B:142:HIS:HE1	1:C:119:GLU:OE1	2.02	0.43
1:J:91:ILE:HD11	1:J:115:LEU:CD1	2.48	0.43
1:C:106:ALA:HA	1:C:157:ARG:HD2	2.01	0.42
1:E:49:LEU:HD11	2:F:301:A1EEF:C28	2.48	0.42
1:J:79:ASP:HB3	1:K:115:LEU:HD23	2.01	0.42
1:L:106:ALA:HA	1:L:157:ARG:HD2	1.99	0.42
1:N:24:LEU:HG	2:N:301:A1EEF:C38	2.49	0.42
1:N:179:GLU:HA	1:N:182:GLU:HG3	2.01	0.42
1:B:79:ASP:HB3	1:C:115:LEU:HD23	2.01	0.42
1:J:154:LEU:HD23	1:J:154:LEU:HA	1.94	0.42
1:E:106:ALA:HA	1:E:157:ARG:HD2	2.01	0.42
1:H:74:GLY:HA3	1:H:99:MET:HE3	2.02	0.42
5:D:429:HOH:O	1:E:192:PRO:C	2.63	0.41
1:M:154:LEU:HD23	1:M:154:LEU:HA	1.90	0.41
1:M:4:ILE:H	1:M:4:ILE:HG13	1.73	0.41
1:C:49:LEU:HD21	2:D:301:A1EEF:C26	2.50	0.41
1:A:85:LYS:N	1:A:86:PRO:CD	2.84	0.41
1:K:154:LEU:HD23	1:K:154:LEU:HA	1.93	0.41
1:N:191:VAL:HG12	1:N:192:PRO:HD2	2.01	0.41
1:C:63:TYR:CD1	1:C:63:TYR:C	2.98	0.41
1:N:150:LEU:HD13	4:N:303:MPD:H52	2.03	0.41
1:B:76:ALA:HB1	1:C:93:ILE:CG2	2.50	0.41
1:C:150:LEU:HD13	4:C:303:MPD:H52	2.02	0.41
1:H:115:LEU:HD23	1:N:79:ASP:HB3	2.03	0.41
1:G:164:LYS:NZ	1:G:168:ASP:OD2	2.54	0.41
1:A:74:GLY:HA3	1:A:99:MET:HE3	2.03	0.40
1:B:85:LYS:N	1:B:86:PRO:CD	2.84	0.40
1:F:76:ALA:HB1	1:G:93:ILE:CG2	2.51	0.40
1:H:85:LYS:N	1:H:86:PRO:CD	2.84	0.40
1:B:154:LEU:HD23	1:B:154:LEU:HA	1.93	0.40
1:D:63:TYR:HE2	1:D:93:ILE:HD11	1.85	0.40
1:J:95[B]:MET:HE3	1:J:95[B]:MET:HB2	1.85	0.40
1:L:49:LEU:HD11	2:M:301:A1EEF:C26	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:85:LYS:N	1:N:86:PRO:CD	2.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	177/203 (87%)	175 (99%)	2 (1%)	0	100	100
1	B	182/203 (90%)	180 (99%)	2 (1%)	0	100	100
1	C	180/203 (89%)	178 (99%)	2 (1%)	0	100	100
1	D	175/203 (86%)	173 (99%)	2 (1%)	0	100	100
1	E	176/203 (87%)	174 (99%)	2 (1%)	0	100	100
1	F	176/203 (87%)	174 (99%)	2 (1%)	0	100	100
1	G	176/203 (87%)	174 (99%)	2 (1%)	0	100	100
1	H	178/203 (88%)	176 (99%)	2 (1%)	0	100	100
1	I	178/203 (88%)	175 (98%)	3 (2%)	0	100	100
1	J	182/203 (90%)	179 (98%)	3 (2%)	0	100	100
1	K	177/203 (87%)	174 (98%)	3 (2%)	0	100	100
1	L	175/203 (86%)	174 (99%)	1 (1%)	0	100	100
1	M	176/203 (87%)	174 (99%)	2 (1%)	0	100	100
1	N	176/203 (87%)	174 (99%)	2 (1%)	0	100	100
All	All	2484/2842 (87%)	2454 (99%)	30 (1%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	149/171 (87%)	144 (97%)	5 (3%)	32	22
1	B	147/171 (86%)	140 (95%)	7 (5%)	23	11
1	C	150/171 (88%)	142 (95%)	8 (5%)	20	9
1	D	149/171 (87%)	141 (95%)	8 (5%)	20	9
1	E	148/171 (86%)	142 (96%)	6 (4%)	27	16
1	F	149/171 (87%)	140 (94%)	9 (6%)	17	7
1	G	147/171 (86%)	142 (97%)	5 (3%)	32	22
1	H	150/171 (88%)	147 (98%)	3 (2%)	48	42
1	I	150/171 (88%)	145 (97%)	5 (3%)	33	23
1	J	156/171 (91%)	147 (94%)	9 (6%)	18	8
1	K	150/171 (88%)	142 (95%)	8 (5%)	20	9
1	L	148/171 (86%)	140 (95%)	8 (5%)	20	9
1	M	148/171 (86%)	141 (95%)	7 (5%)	23	12
1	N	148/171 (86%)	143 (97%)	5 (3%)	32	22
All	All	2089/2394 (87%)	1996 (96%)	93 (4%)	25	13

All (93) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	ILE
1	A	27	ASP
1	A	95	MET
1	A	99	MET
1	A	191	VAL
1	B	27	ASP
1	B	49	LEU
1	B	95	MET
1	B	99	MET
1	B	157	ARG
1	B	166	GLN

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Mol	Chain	Res	Type
1	B	182	GLU
1	C	27	ASP
1	C	63	TYR
1	C	93	ILE
1	C	95[A]	MET
1	C	95[B]	MET
1	C	99	MET
1	C	166	GLN
1	C	191	VAL
1	D	27	ASP
1	D	63	TYR
1	D	93	ILE
1	D	95	MET
1	D	99	MET
1	D	166	GLN
1	D	182	GLU
1	D	191	VAL
1	E	23	ARG
1	E	27	ASP
1	E	49	LEU
1	E	95	MET
1	E	99	MET
1	E	191	VAL
1	F	27	ASP
1	F	49	LEU
1	F	63	TYR
1	F	95	MET
1	F	99	MET
1	F	157	ARG
1	F	166	GLN
1	F	182	GLU
1	F	191	VAL
1	G	4	ILE
1	G	63	TYR
1	G	93	ILE
1	G	99	MET
1	G	191	VAL
1	H	27	ASP
1	H	95	MET
1	H	99	MET
1	I	27	ASP
1	I	63	TYR

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Mol	Chain	Res	Type
1	I	95	MET
1	I	99	MET
1	I	191	VAL
1	J	27	ASP
1	J	95[A]	MET
1	J	95[B]	MET
1	J	99	MET
1	J	166	GLN
1	J	182	GLU
1	J	190	MET
1	J	191	VAL
1	J	197	GLU
1	K	23	ARG
1	K	27	ASP
1	K	49	LEU
1	K	95	MET
1	K	99	MET
1	K	166	GLN
1	K	182	GLU
1	K	191	VAL
1	L	23	ARG
1	L	27	ASP
1	L	49	LEU
1	L	95	MET
1	L	99	MET
1	L	166	GLN
1	L	182	GLU
1	L	191	VAL
1	M	4	ILE
1	M	27	ASP
1	M	95	MET
1	M	99	MET
1	M	166	GLN
1	M	182	GLU
1	M	191	VAL
1	N	95	MET
1	N	99	MET
1	N	166	GLN
1	N	182	GLU
1	N	191	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (75) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	52	GLN
1	A	82	GLN
1	A	124	GLN
1	A	173	ASN
1	B	82	GLN
1	B	117	ASN
1	B	124	GLN
1	B	142	HIS
1	B	151	ASN
1	B	173	ASN
1	C	52	GLN
1	C	65	ASN
1	C	82	GLN
1	C	117	ASN
1	C	124	GLN
1	C	166	GLN
1	C	173	ASN
1	D	52	GLN
1	D	82	GLN
1	D	124	GLN
1	D	142	HIS
1	D	151	ASN
1	D	173	ASN
1	E	52	GLN
1	E	82	GLN
1	E	124	GLN
1	E	142	HIS
1	E	173	ASN
1	F	82	GLN
1	F	117	ASN
1	F	124	GLN
1	F	142	HIS
1	F	151	ASN
1	F	173	ASN
1	G	82	GLN
1	G	117	ASN
1	G	124	GLN
1	G	173	ASN
1	H	52	GLN
1	H	82	GLN
1	H	124	GLN
1	H	142	HIS
1	H	173	ASN

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Mol	Chain	Res	Type
1	I	82	GLN
1	I	117	ASN
1	I	124	GLN
1	I	173	ASN
1	J	82	GLN
1	J	117	ASN
1	J	124	GLN
1	J	142	HIS
1	J	151	ASN
1	J	173	ASN
1	K	42	ASN
1	K	82	GLN
1	K	151	ASN
1	K	173	ASN
1	L	82	GLN
1	L	117	ASN
1	L	124	GLN
1	L	142	HIS
1	L	166	GLN
1	L	173	ASN
1	M	82	GLN
1	M	124	GLN
1	M	142	HIS
1	M	166	GLN
1	M	173	ASN
1	N	52	GLN
1	N	82	GLN
1	N	117	ASN
1	N	124	GLN
1	N	151	ASN
1	N	166	GLN
1	N	173	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 43 ligands modelled in this entry, 14 are monoatomic - leaving 29 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	$\# Z > 2$
2	A1EEF	D	301	-	43,44,44	0.21	0	50,62,62	0.45	0
2	A1EEF	E	301	-	43,44,44	0.23	0	50,62,62	0.48	0
2	A1EEF	A	301	-	43,44,44	0.21	0	50,62,62	0.47	0
4	MPD	F	303	-	7,7,7	0.14	0	9,10,10	0.45	0
4	MPD	D	303	-	7,7,7	0.14	0	9,10,10	0.37	0
4	MPD	E	303	-	7,7,7	0.13	0	9,10,10	0.35	0
4	MPD	C	303	-	7,7,7	0.14	0	9,10,10	0.35	0
2	A1EEF	K	301	-	43,44,44	0.24	0	50,62,62	0.50	0
4	MPD	H	303	-	7,7,7	0.12	0	9,10,10	0.39	0
2	A1EEF	G	301	-	43,44,44	0.24	0	50,62,62	0.48	0
4	MPD	K	303	-	7,7,7	0.12	0	9,10,10	0.37	0
4	MPD	B	304	-	7,7,7	0.14	0	9,10,10	0.42	0
4	MPD	N	303	-	7,7,7	0.11	0	9,10,10	0.35	0
2	A1EEF	J	301	-	43,44,44	0.22	0	50,62,62	0.49	0
4	MPD	G	303	-	7,7,7	0.11	0	9,10,10	0.38	0
2	A1EEF	C	301	-	43,44,44	0.21	0	50,62,62	0.44	0
2	A1EEF	M	301	-	43,44,44	0.22	0	50,62,62	0.50	0
2	A1EEF	B	301	-	43,44,44	0.24	0	50,62,62	0.53	0
2	A1EEF	I	301	-	43,44,44	0.25	0	50,62,62	0.53	0
2	A1EEF	H	301	-	43,44,44	0.24	0	50,62,62	0.52	0
2	A1EEF	N	301	-	43,44,44	0.21	0	50,62,62	0.49	0
4	MPD	L	303	-	7,7,7	0.13	0	9,10,10	0.33	0
2	A1EEF	L	301	-	43,44,44	0.21	0	50,62,62	0.45	0
4	MPD	J	303	-	7,7,7	0.11	0	9,10,10	0.25	0
4	MPD	A	303	-	7,7,7	0.13	0	9,10,10	0.36	0
4	MPD	I	303	-	7,7,7	0.12	0	9,10,10	0.38	0
2	A1EEF	F	301	-	43,44,44	0.21	0	50,62,62	0.46	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	MPD	M	303	-	7,7,7	0.11	0	9,10,10	0.30	0
4	MPD	B	303	-	7,7,7	0.15	0	9,10,10	0.44	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	A1EEF	D	301	-	-	0/17/50/50	0/6/6/6
2	A1EEF	E	301	-	-	2/17/50/50	0/6/6/6
2	A1EEF	A	301	-	-	1/17/50/50	0/6/6/6
4	MPD	F	303	-	-	4/5/5/5	-
4	MPD	D	303	-	-	0/5/5/5	-
4	MPD	E	303	-	-	0/5/5/5	-
4	MPD	C	303	-	-	0/5/5/5	-
2	A1EEF	K	301	-	-	0/17/50/50	0/6/6/6
4	MPD	H	303	-	-	0/5/5/5	-
2	A1EEF	G	301	-	-	2/17/50/50	0/6/6/6
4	MPD	K	303	-	-	0/5/5/5	-
4	MPD	B	304	-	-	0/5/5/5	-
4	MPD	N	303	-	-	0/5/5/5	-
2	A1EEF	J	301	-	-	0/17/50/50	0/6/6/6
4	MPD	G	303	-	-	0/5/5/5	-
2	A1EEF	C	301	-	-	2/17/50/50	0/6/6/6
2	A1EEF	M	301	-	-	1/17/50/50	0/6/6/6
2	A1EEF	B	301	-	-	2/17/50/50	0/6/6/6
2	A1EEF	I	301	-	-	0/17/50/50	0/6/6/6
2	A1EEF	H	301	-	-	0/17/50/50	0/6/6/6
2	A1EEF	N	301	-	-	2/17/50/50	0/6/6/6
4	MPD	L	303	-	-	0/5/5/5	-
2	A1EEF	L	301	-	-	0/17/50/50	0/6/6/6
4	MPD	J	303	-	-	0/5/5/5	-
4	MPD	A	303	-	-	0/5/5/5	-
4	MPD	I	303	-	-	0/5/5/5	-
2	A1EEF	F	301	-	-	0/17/50/50	0/6/6/6
4	MPD	M	303	-	-	0/5/5/5	-
4	MPD	B	303	-	-	1/5/5/5	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	301	A1EEF	N07-C08-C09-C10
2	B	301	A1EEF	N07-C08-C09-C10
2	C	301	A1EEF	N07-C08-C09-C10
2	C	301	A1EEF	C31-C08-C09-C10
2	E	301	A1EEF	N07-C08-C09-C10
2	G	301	A1EEF	N07-C08-C09-C10
2	N	301	A1EEF	N07-C08-C09-C10
4	F	303	MPD	C2-C3-C4-O4
4	F	303	MPD	C2-C3-C4-C5
2	M	301	A1EEF	N07-C08-C09-C10
4	F	303	MPD	C1-C2-C3-C4
4	B	303	MPD	O2-C2-C3-C4
4	F	303	MPD	CM-C2-C3-C4
2	B	301	A1EEF	C31-C08-C09-C10
2	E	301	A1EEF	C31-C08-C09-C10
2	G	301	A1EEF	C31-C08-C09-C10
2	N	301	A1EEF	C31-C08-C09-C10

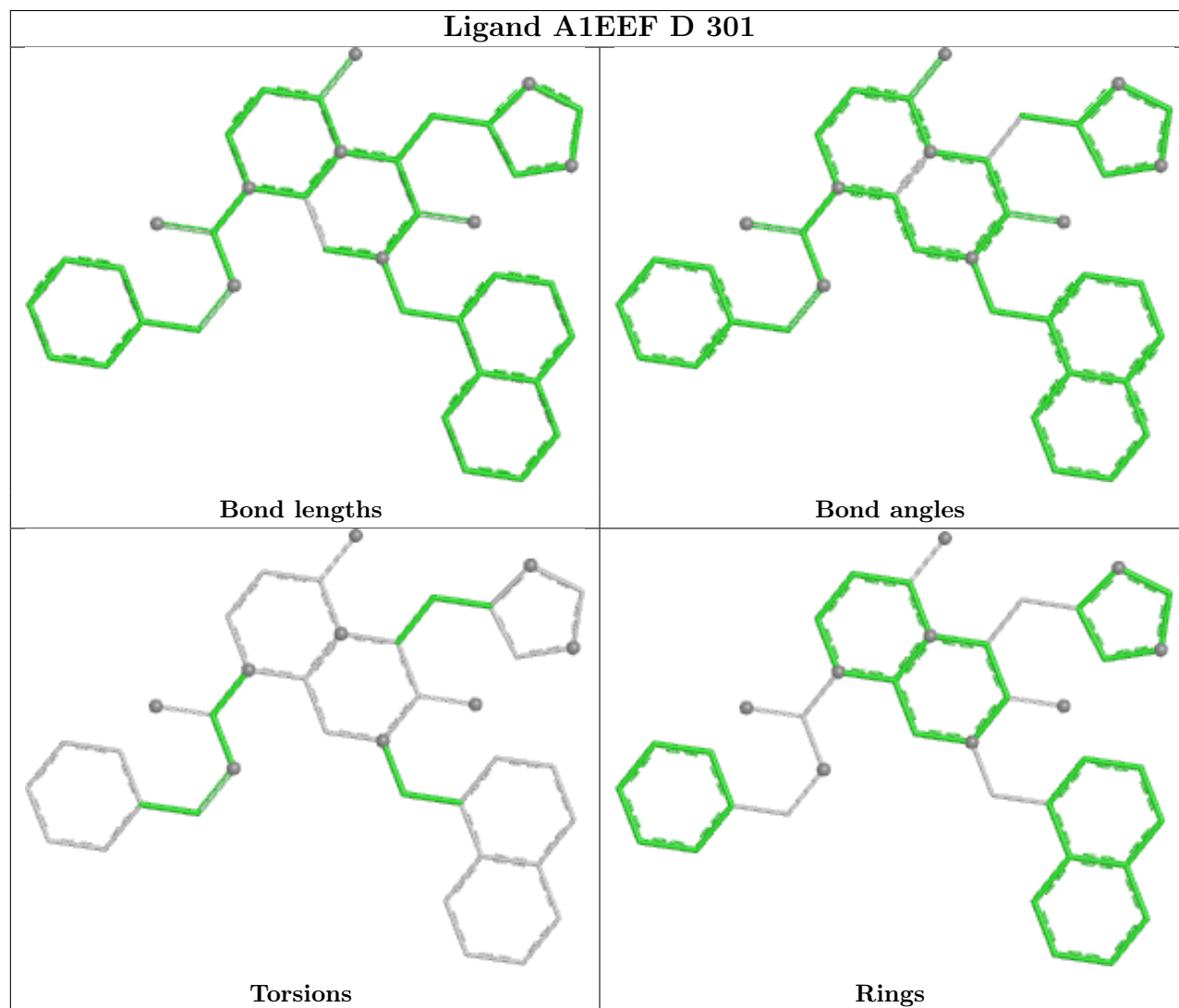
There are no ring outliers.

12 monomers are involved in 16 short contacts:

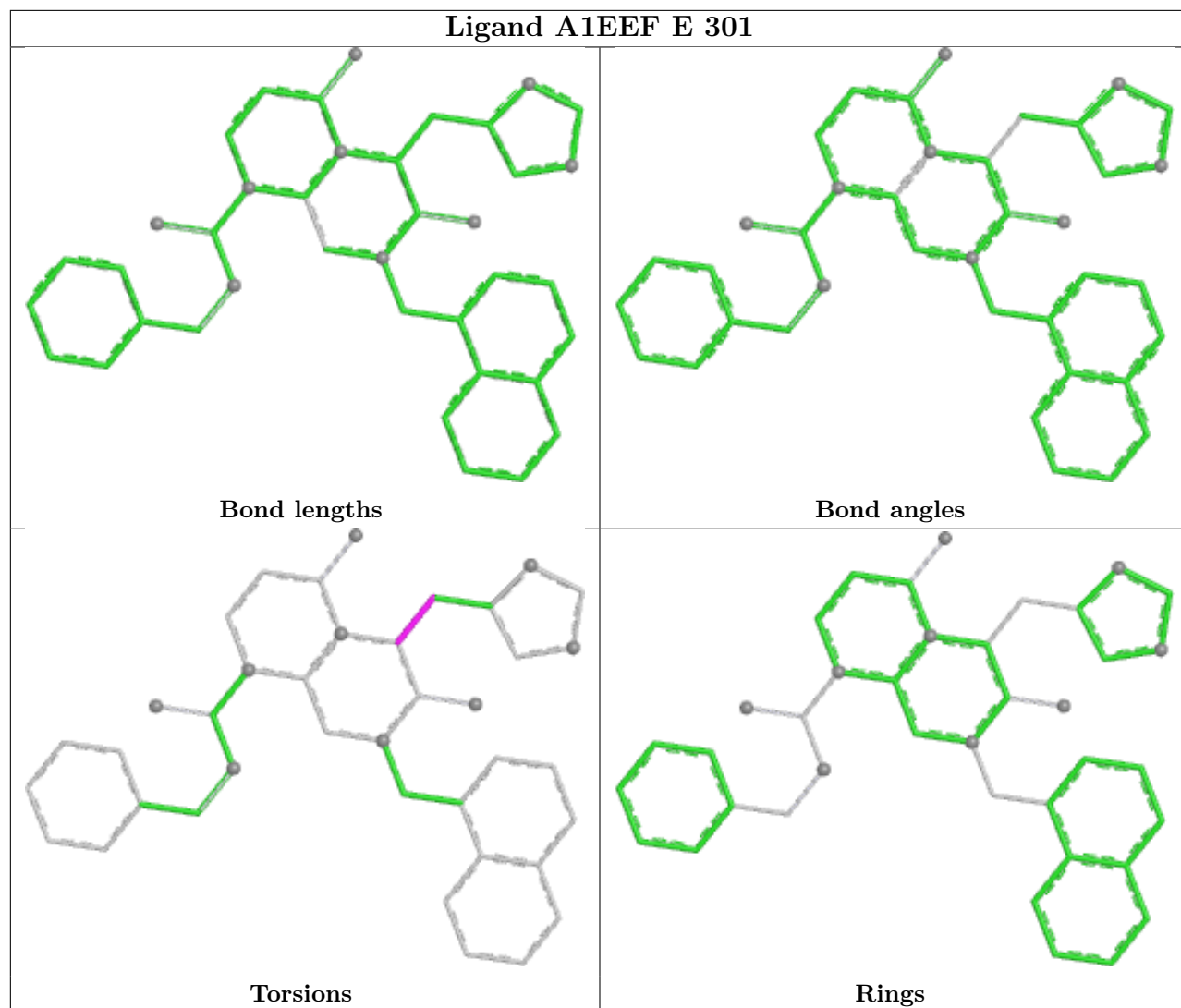
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	301	A1EEF	1	0
4	F	303	MPD	2	0
4	C	303	MPD	1	0
4	H	303	MPD	1	0
2	G	301	A1EEF	1	0
4	N	303	MPD	1	0
4	G	303	MPD	1	0
2	C	301	A1EEF	2	0
2	M	301	A1EEF	2	0
2	N	301	A1EEF	1	0
2	L	301	A1EEF	2	0
2	F	301	A1EEF	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier.

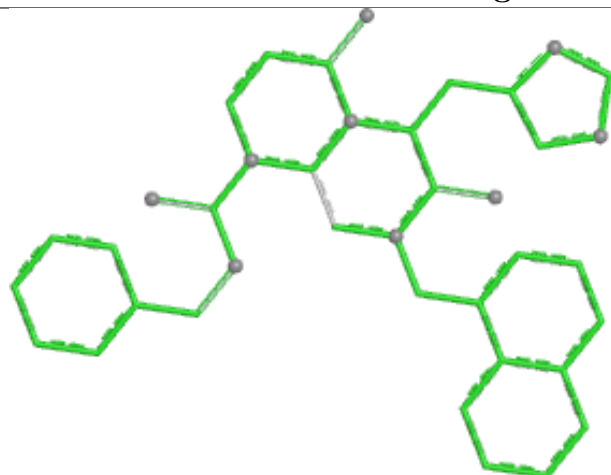
Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD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



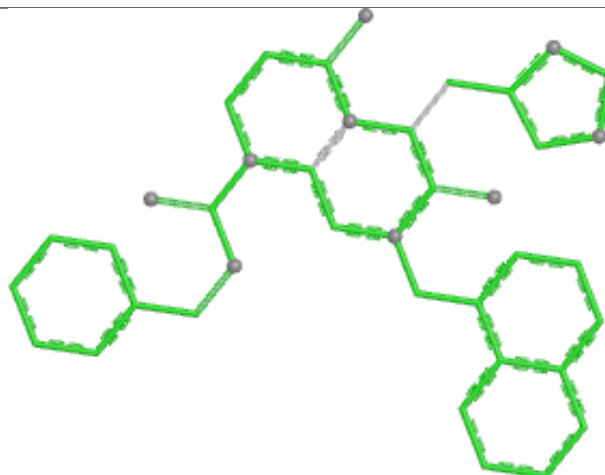
Ligand A1EEF E 301



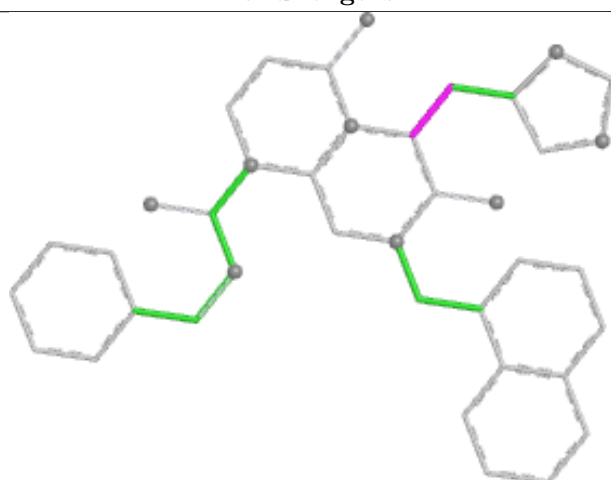
Ligand A1EEF A 301



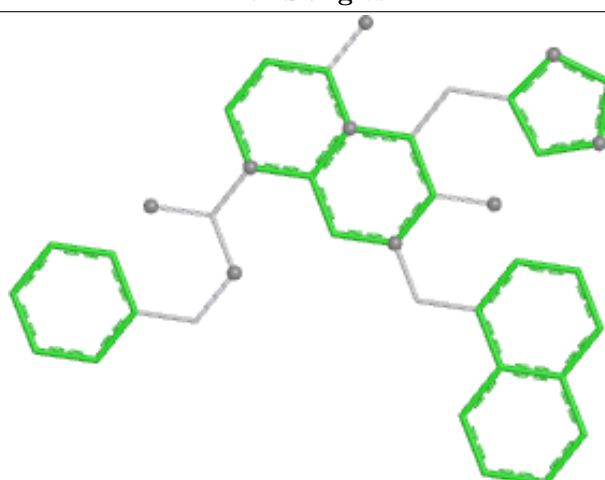
Bond lengths



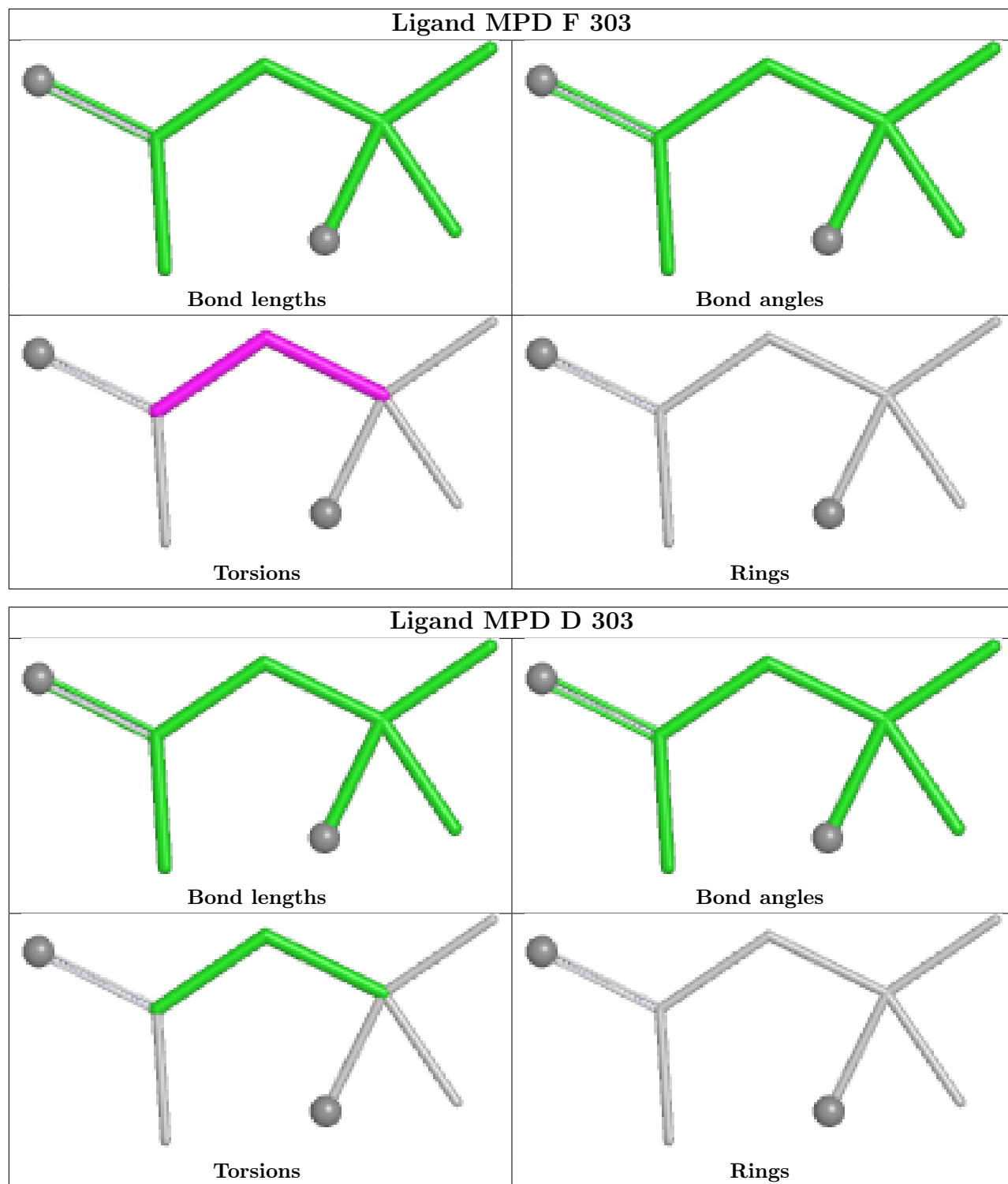
Bond angles

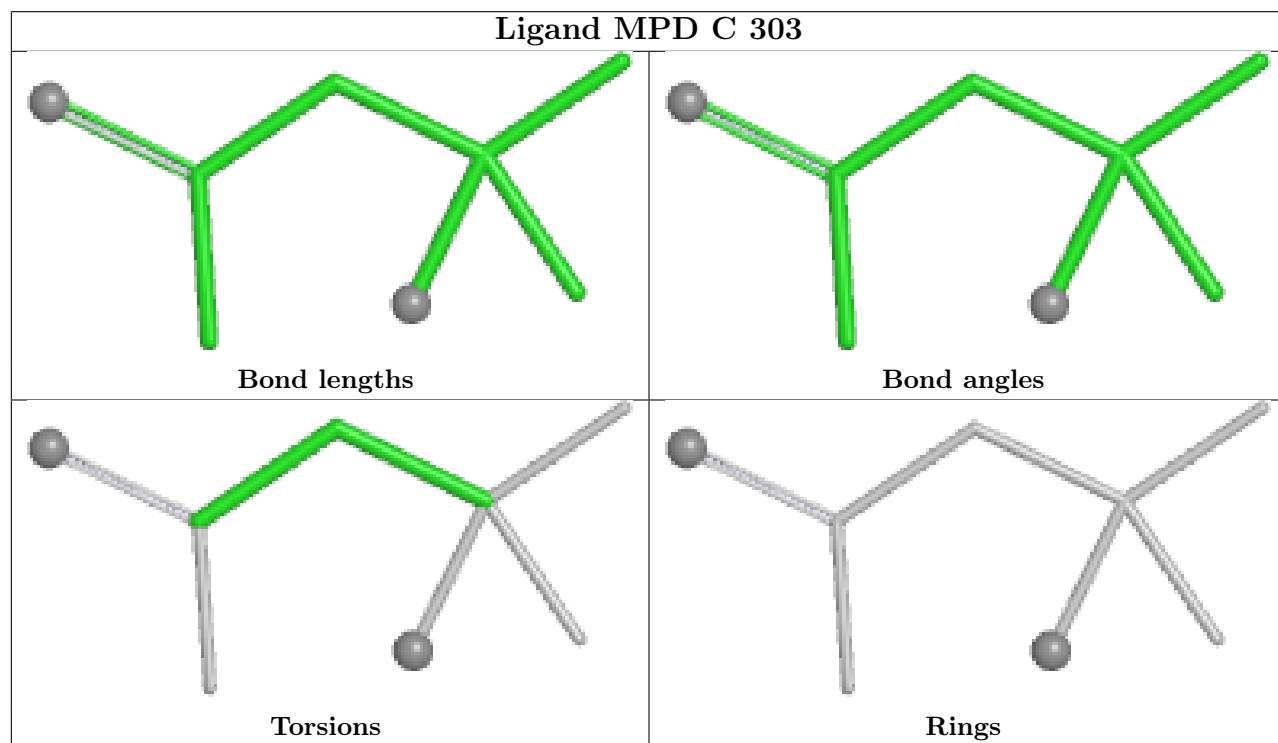
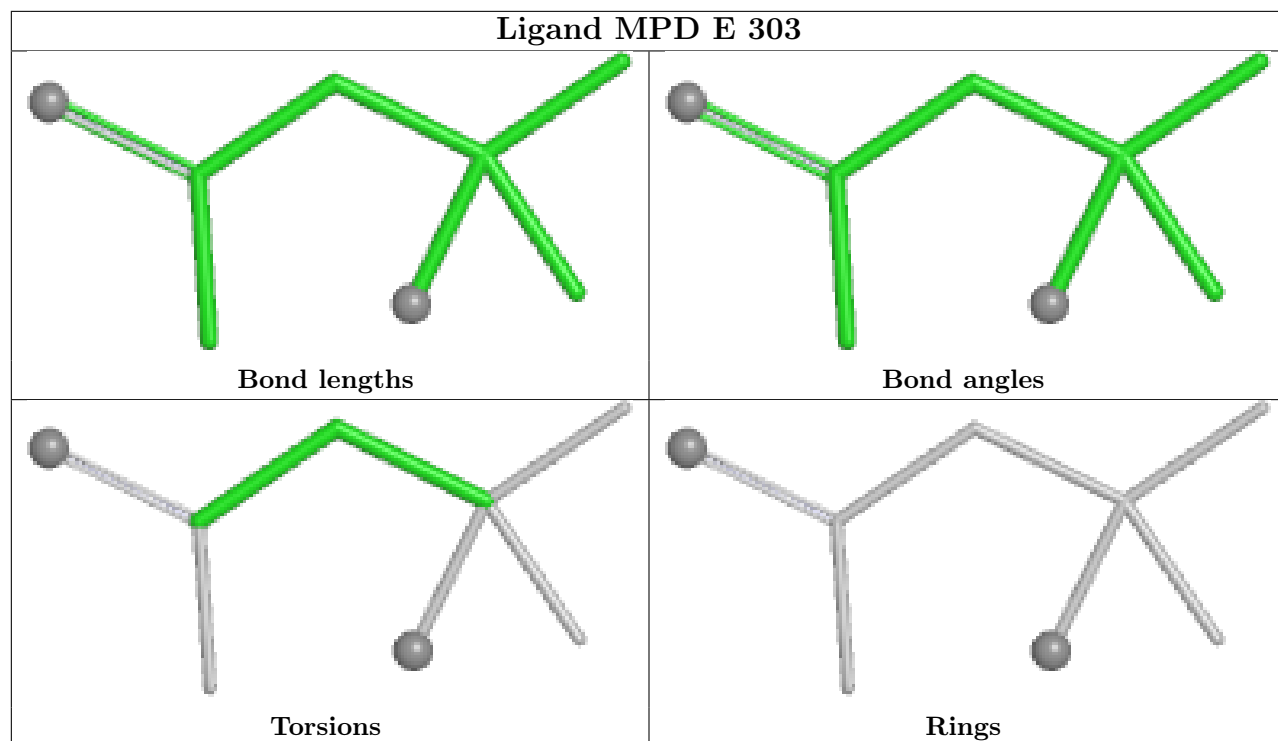


Torsions

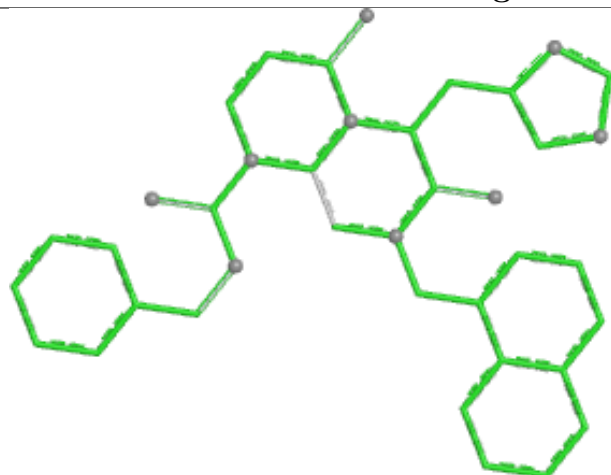


Rings

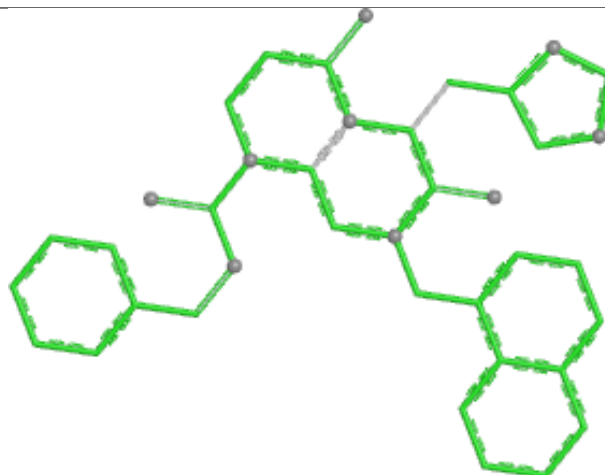




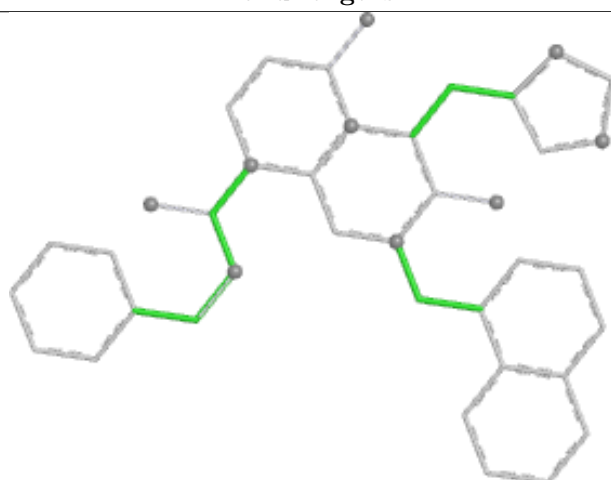
Ligand A1EEF K 301



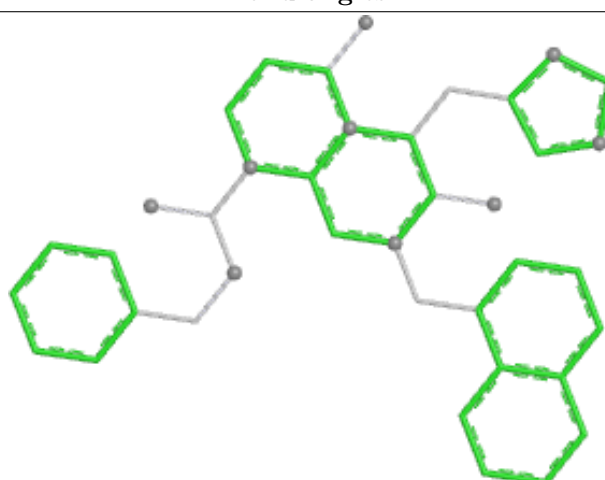
Bond lengths



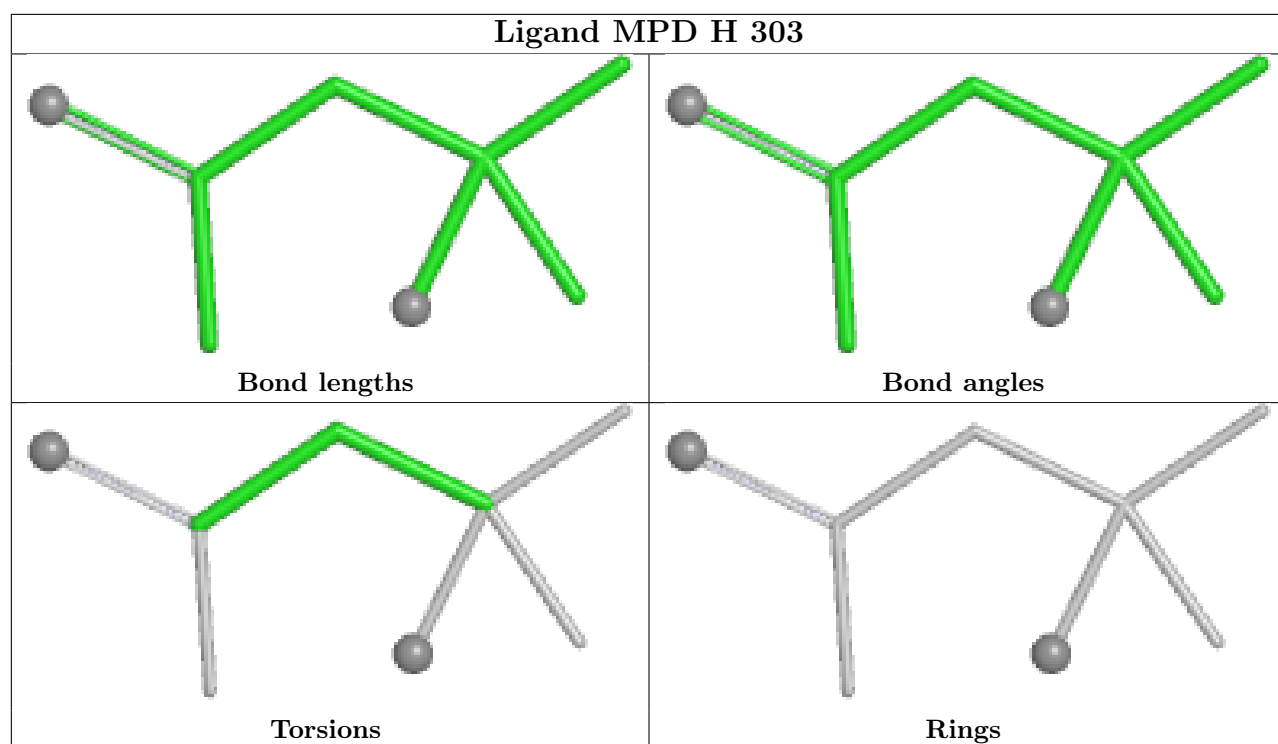
Bond angles



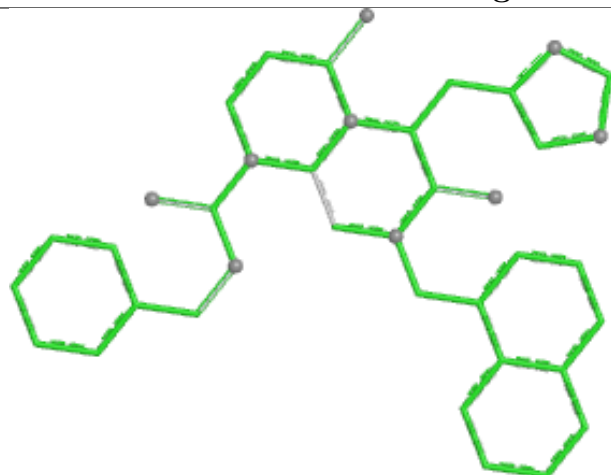
Torsions



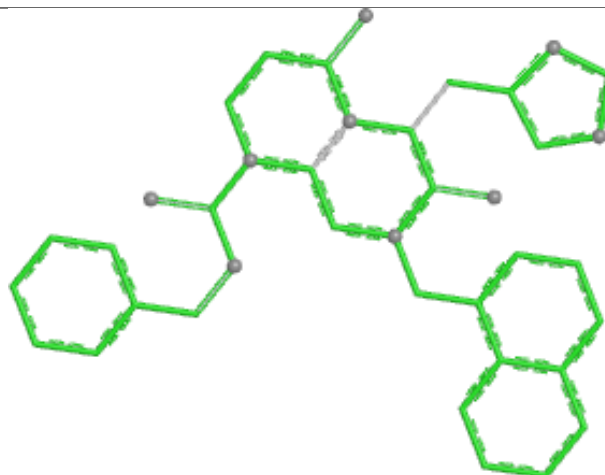
Rings



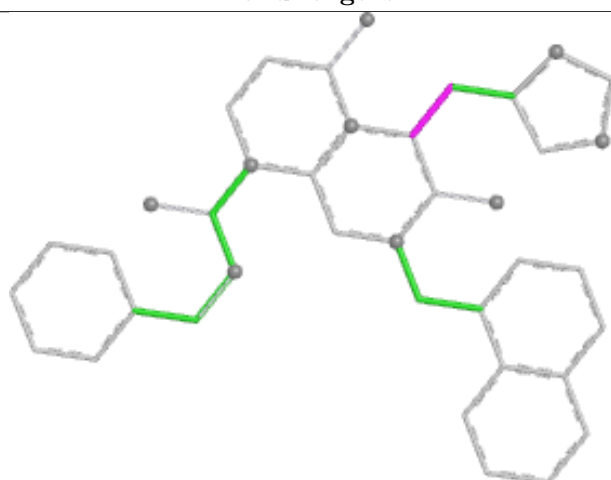
Ligand A1EEF G 301



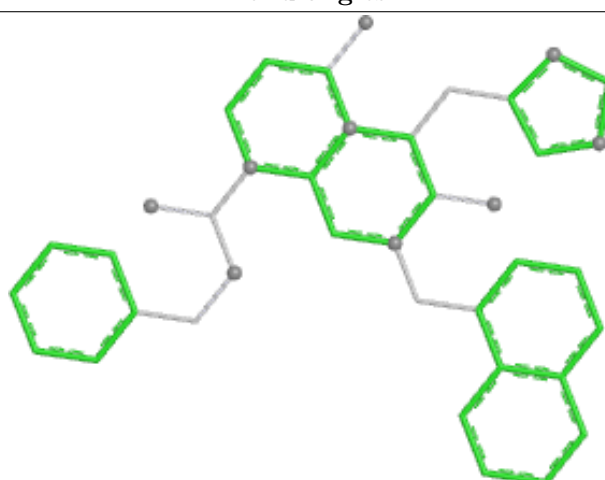
Bond lengths



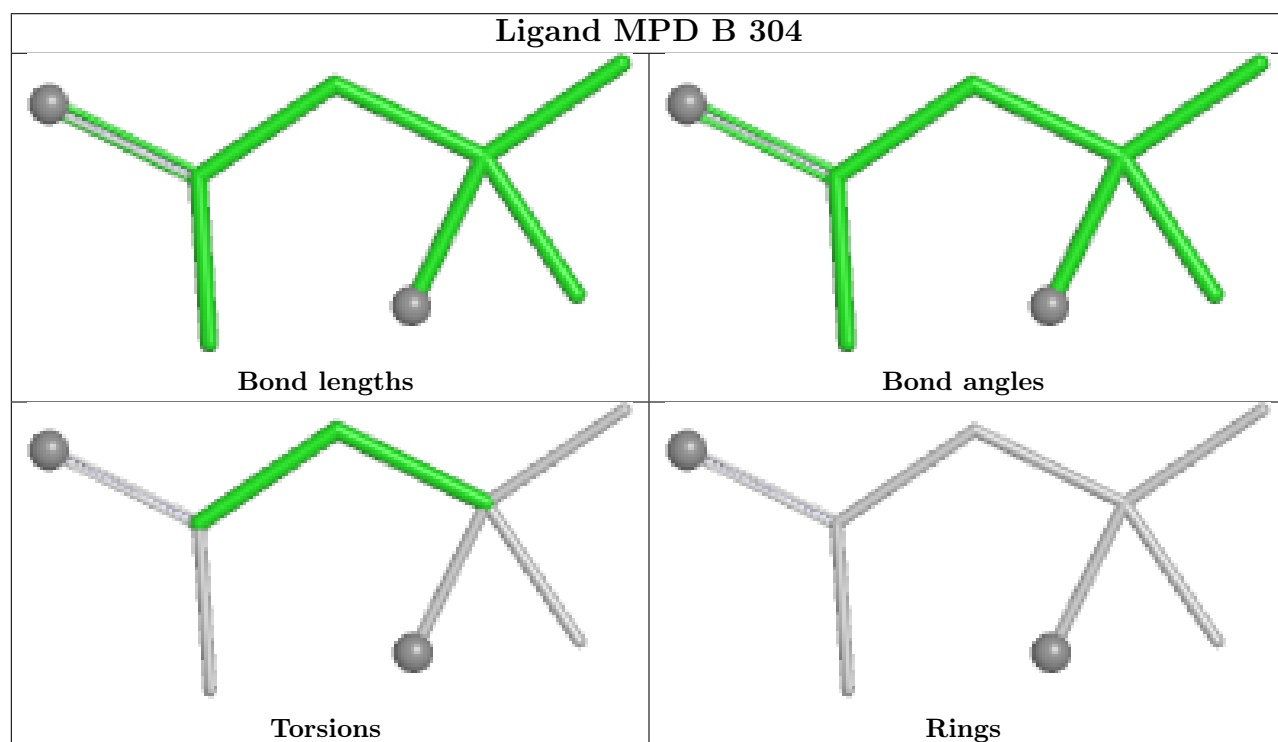
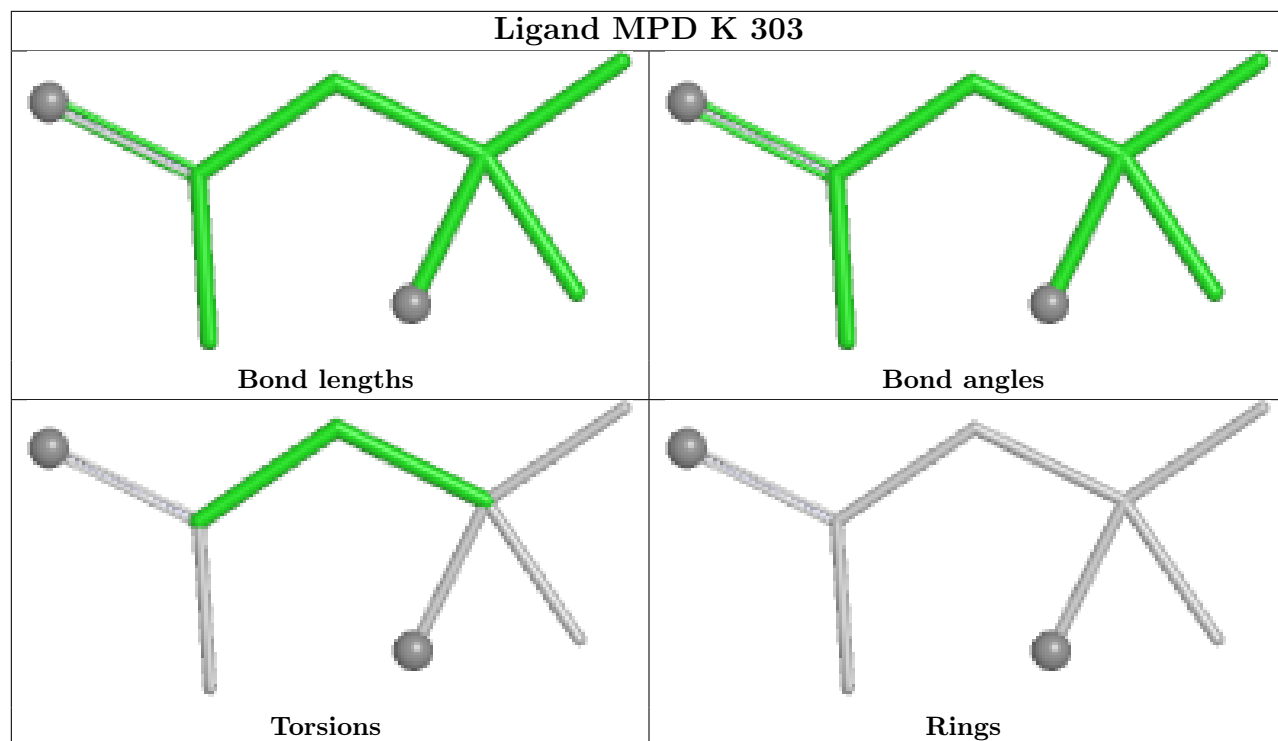
Bond angles

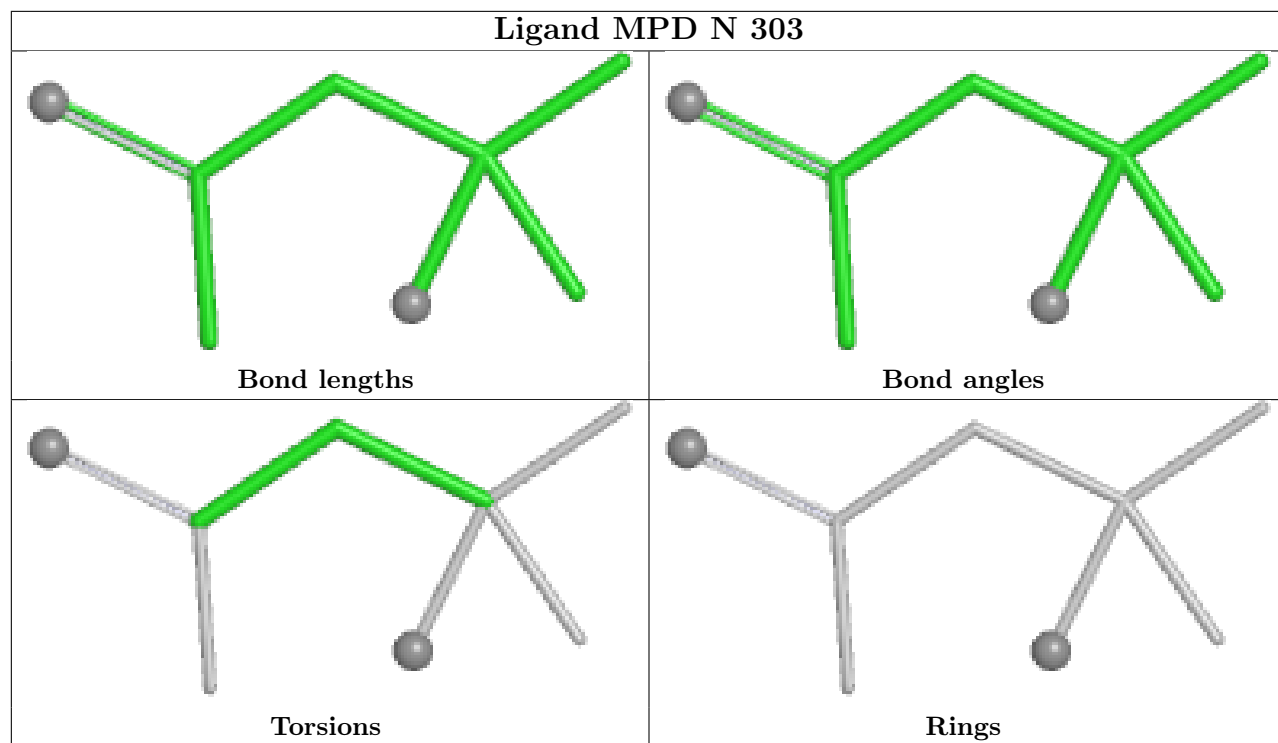


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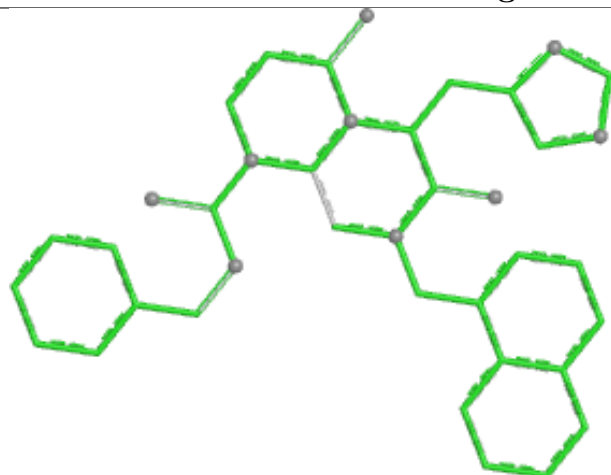


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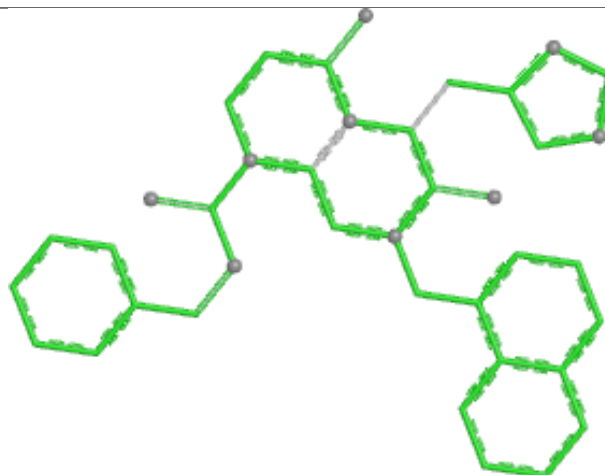




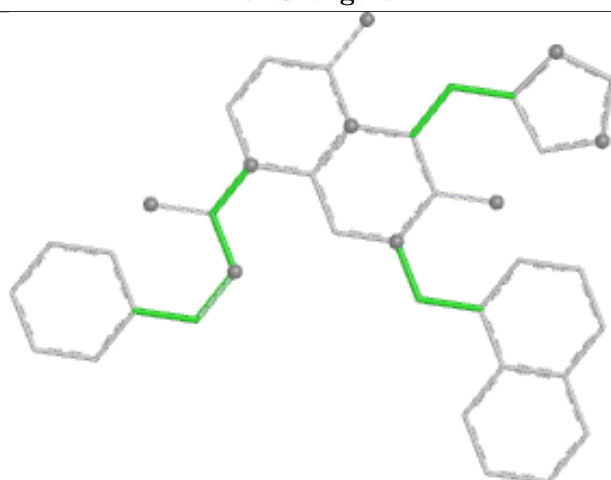
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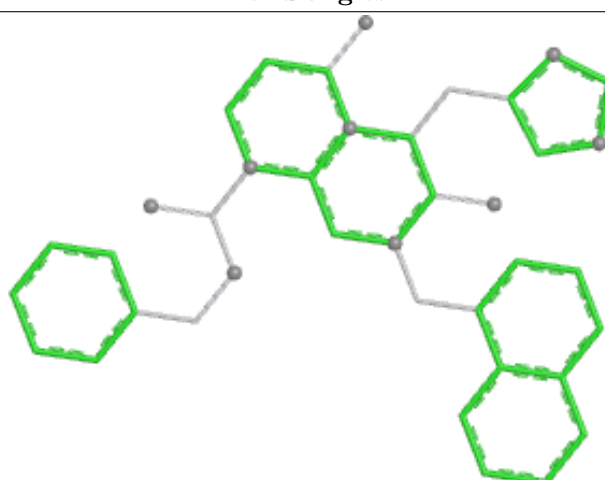
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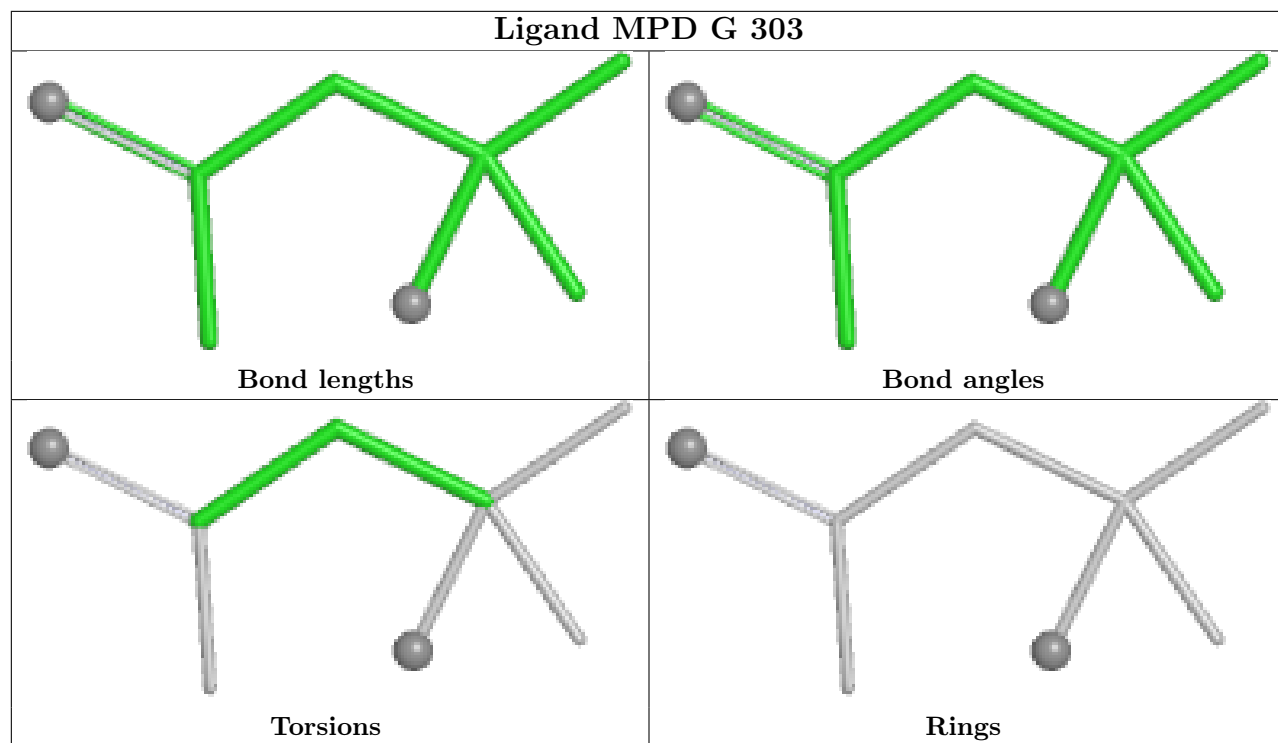
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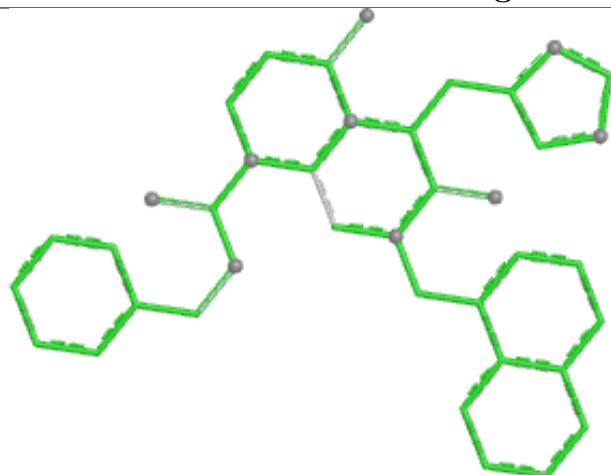
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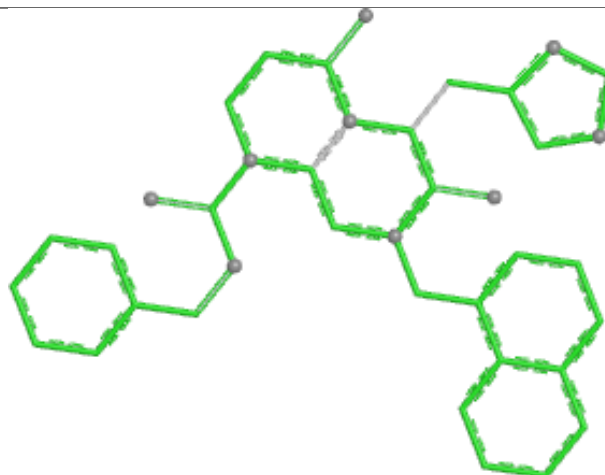
Rings



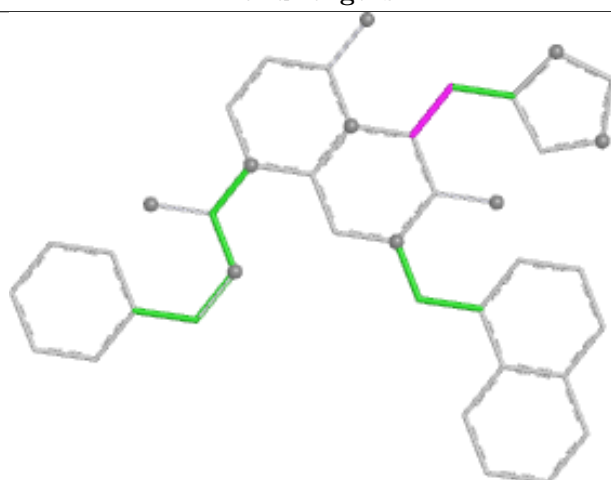
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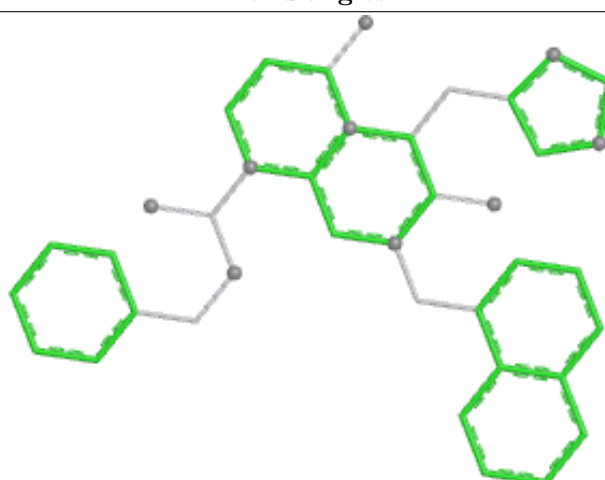
Bond lengths



Bond angles

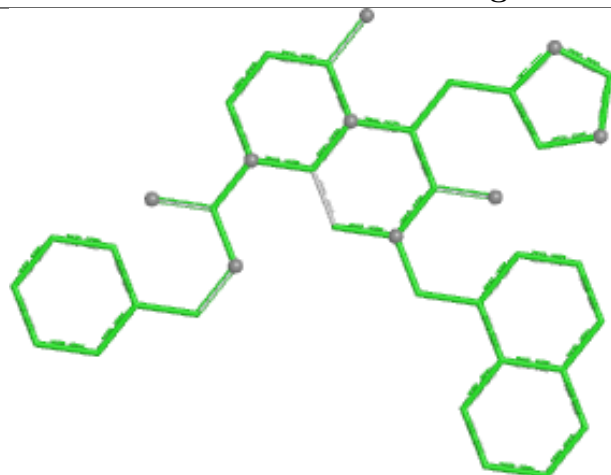


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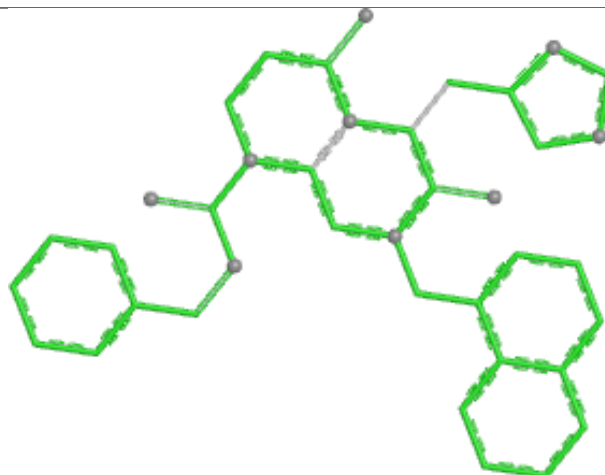


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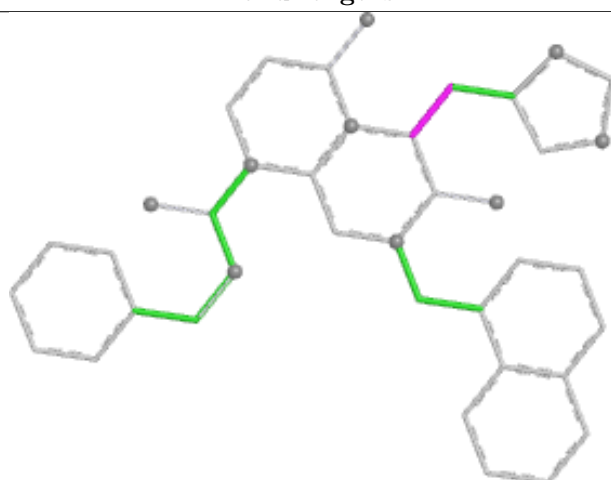
Ligand A1EEF M 301



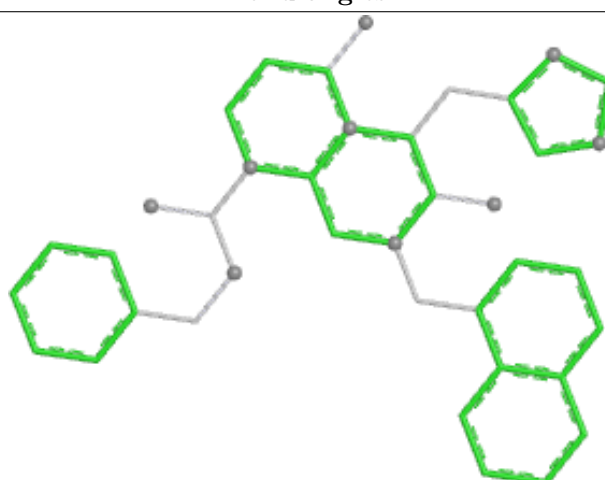
Bond lengths



Bond angles

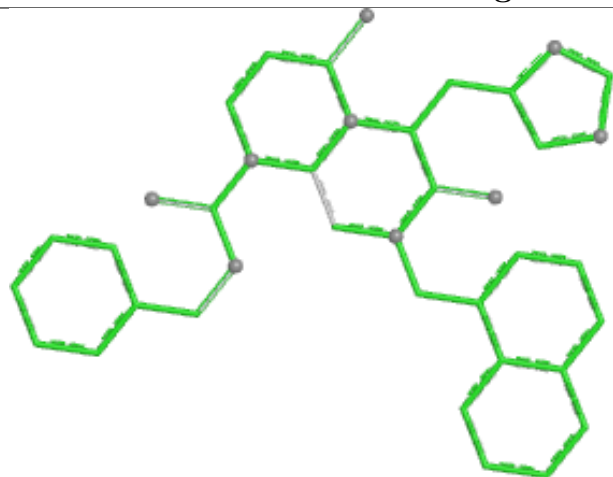


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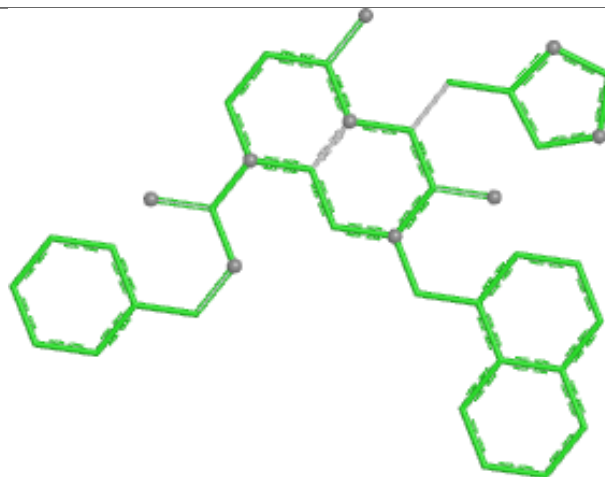


Rings

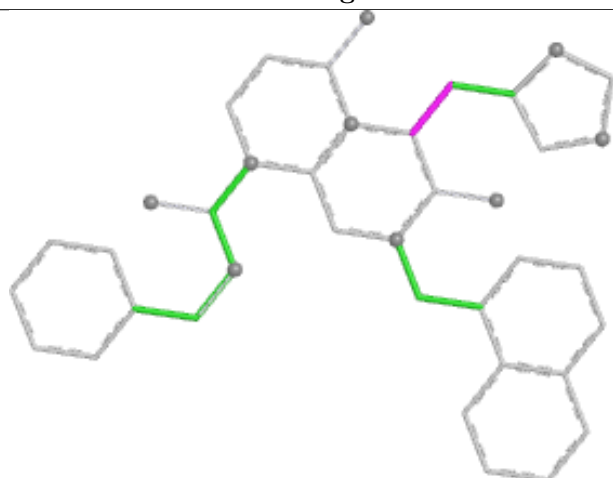
Ligand A1EEF B 301



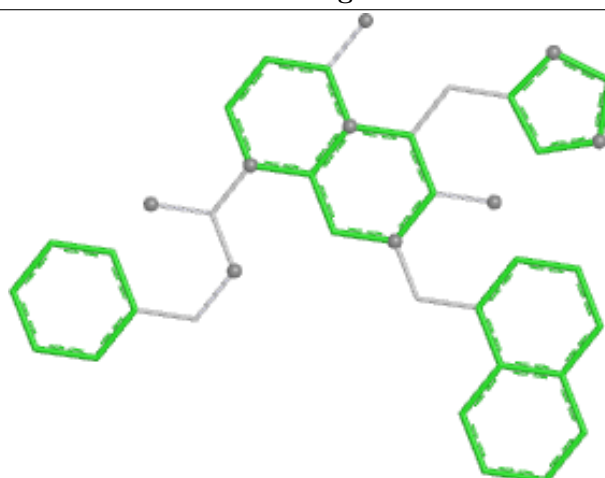
Bond lengths



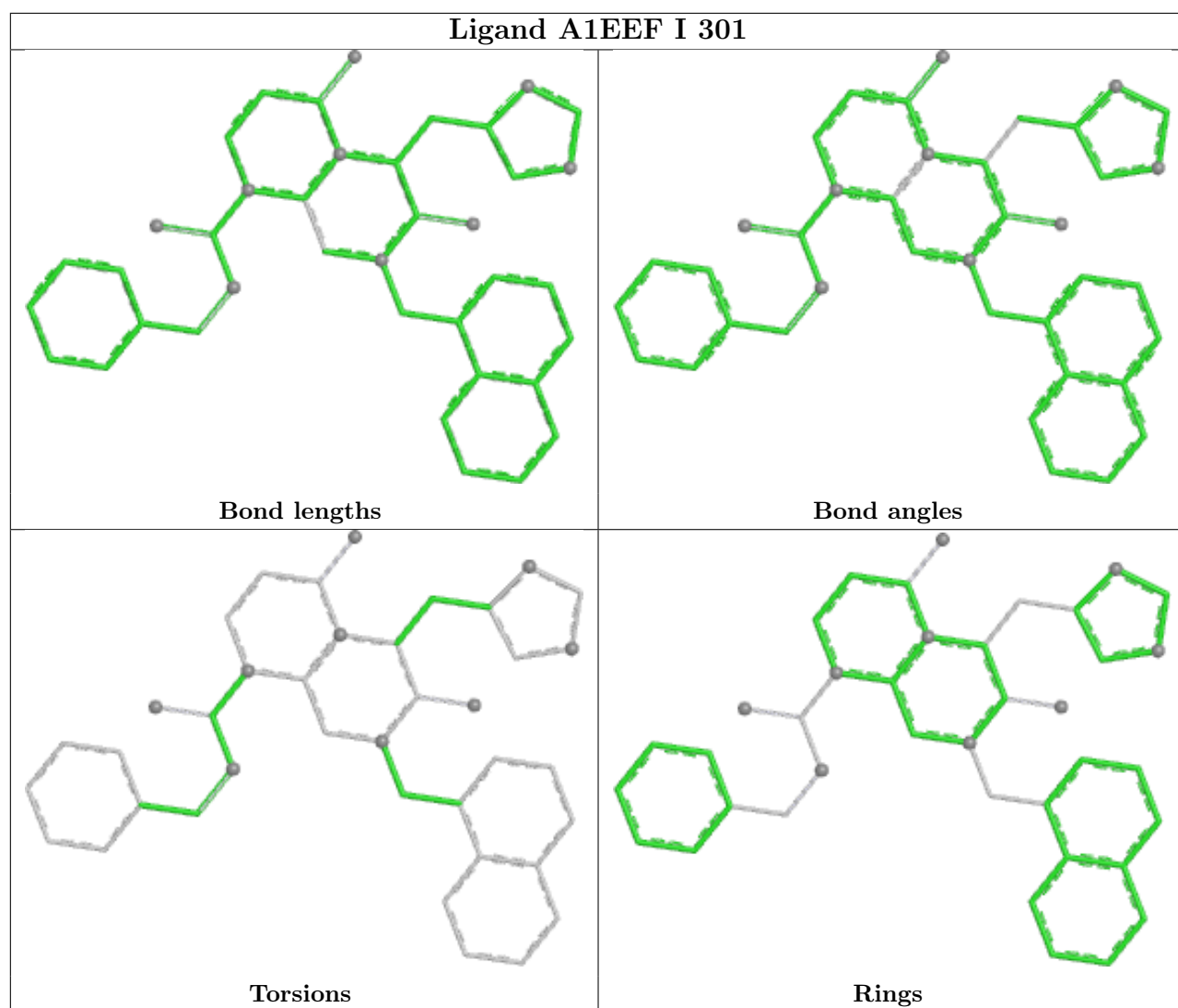
Bond angles

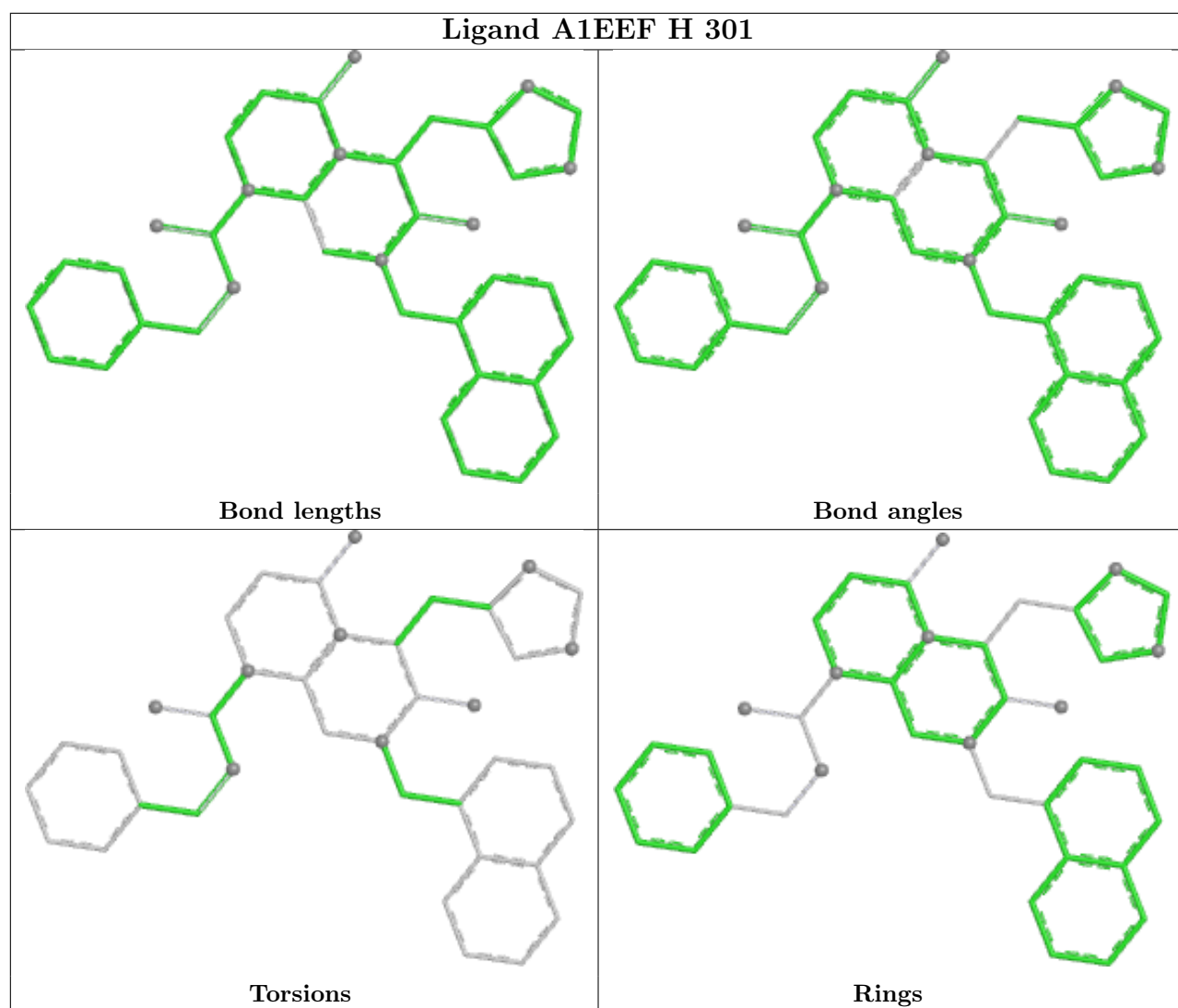


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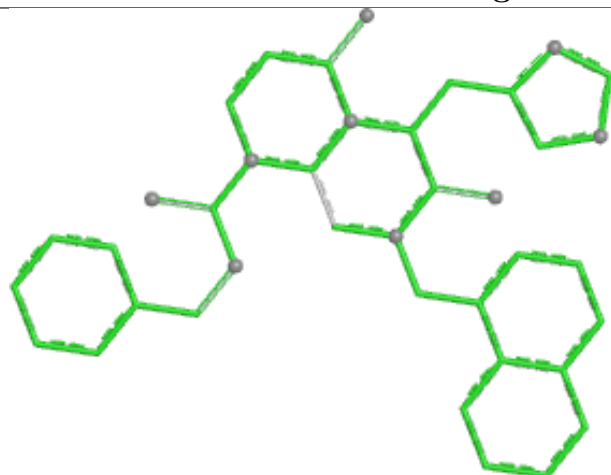


Rings

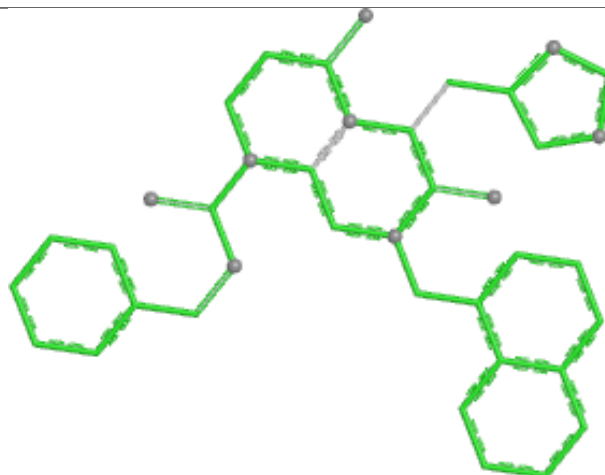




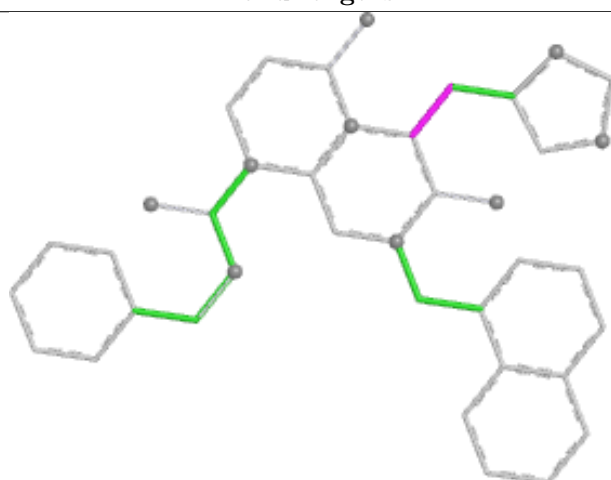
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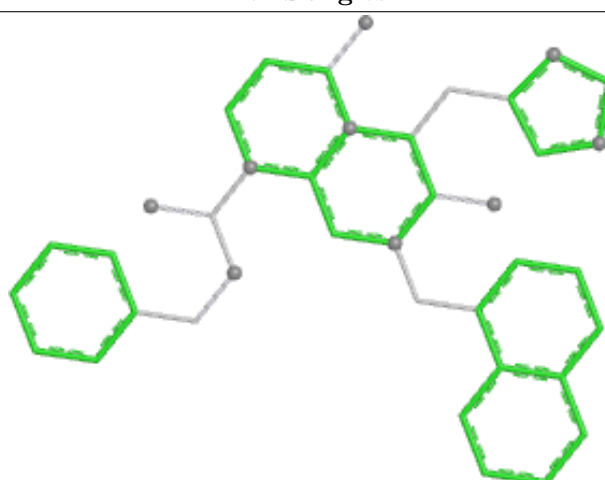
Bond lengths



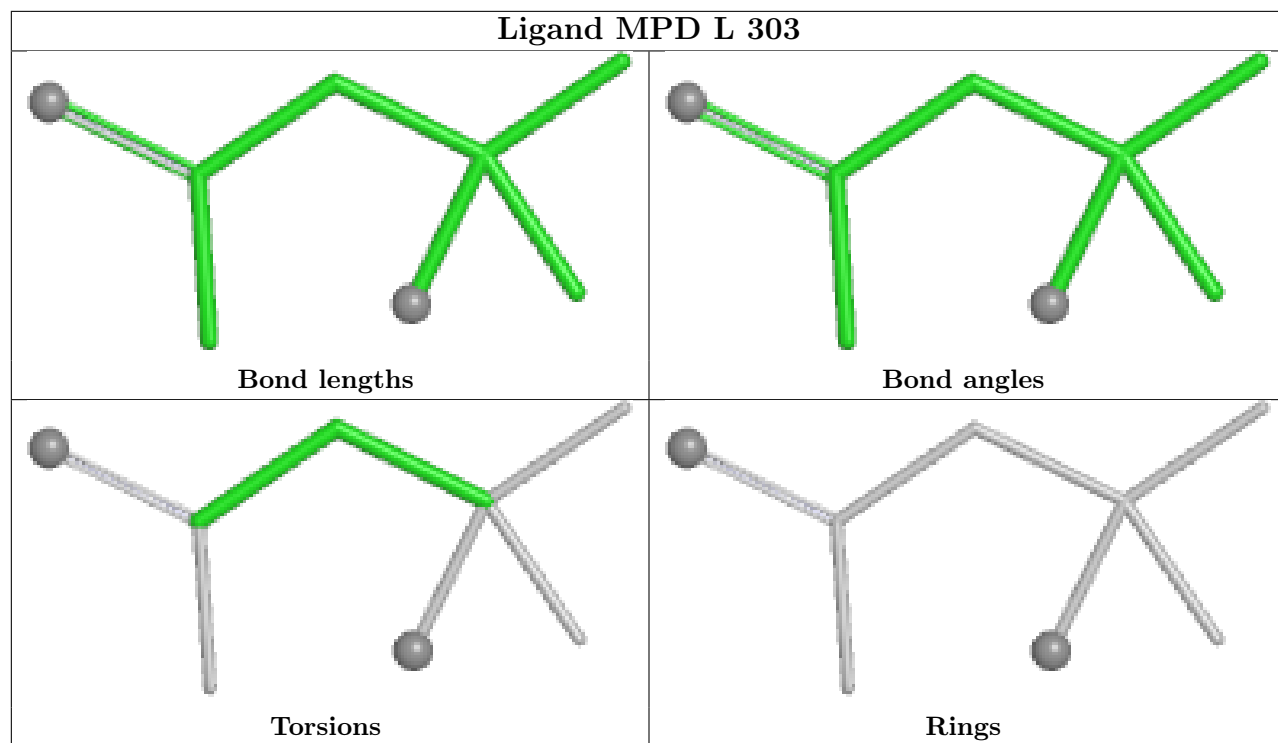
Bond angles



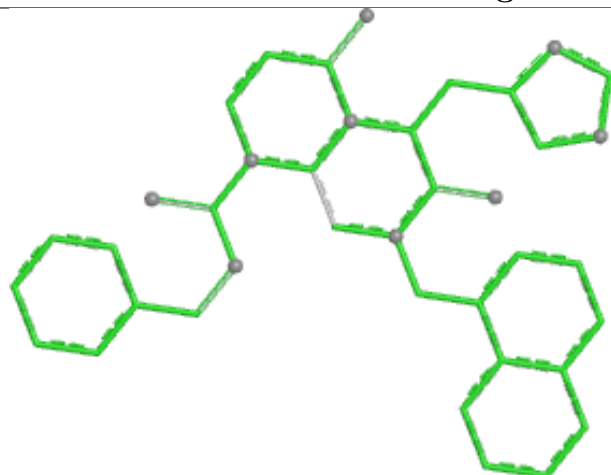
Torsions



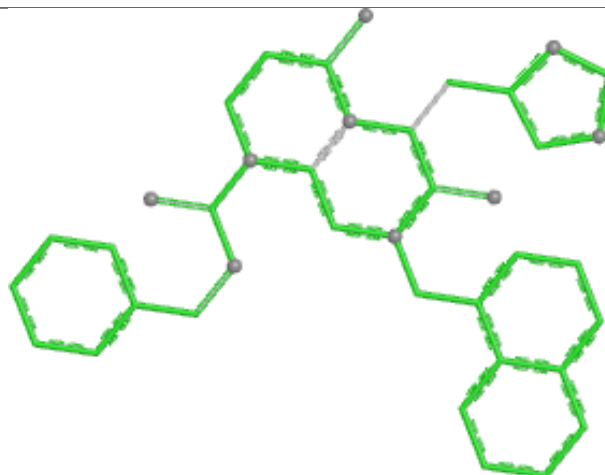
Rings



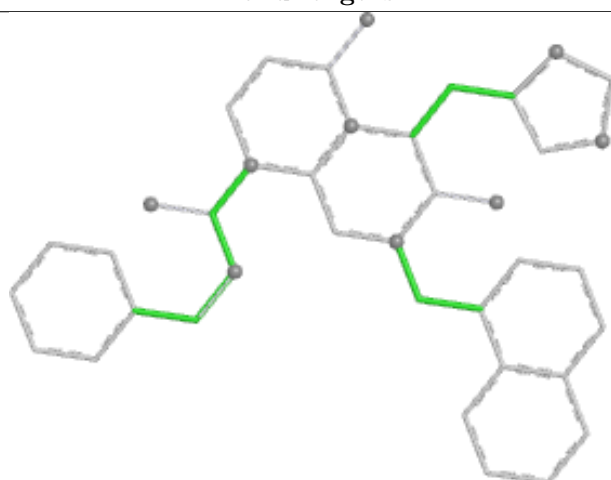
Ligand A1EEF L 301



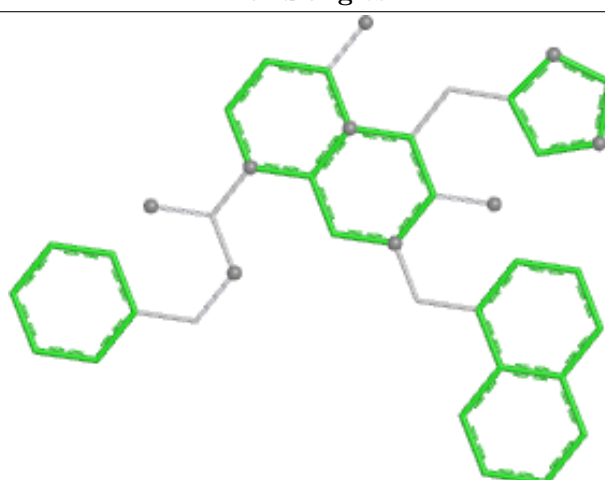
Bond lengths



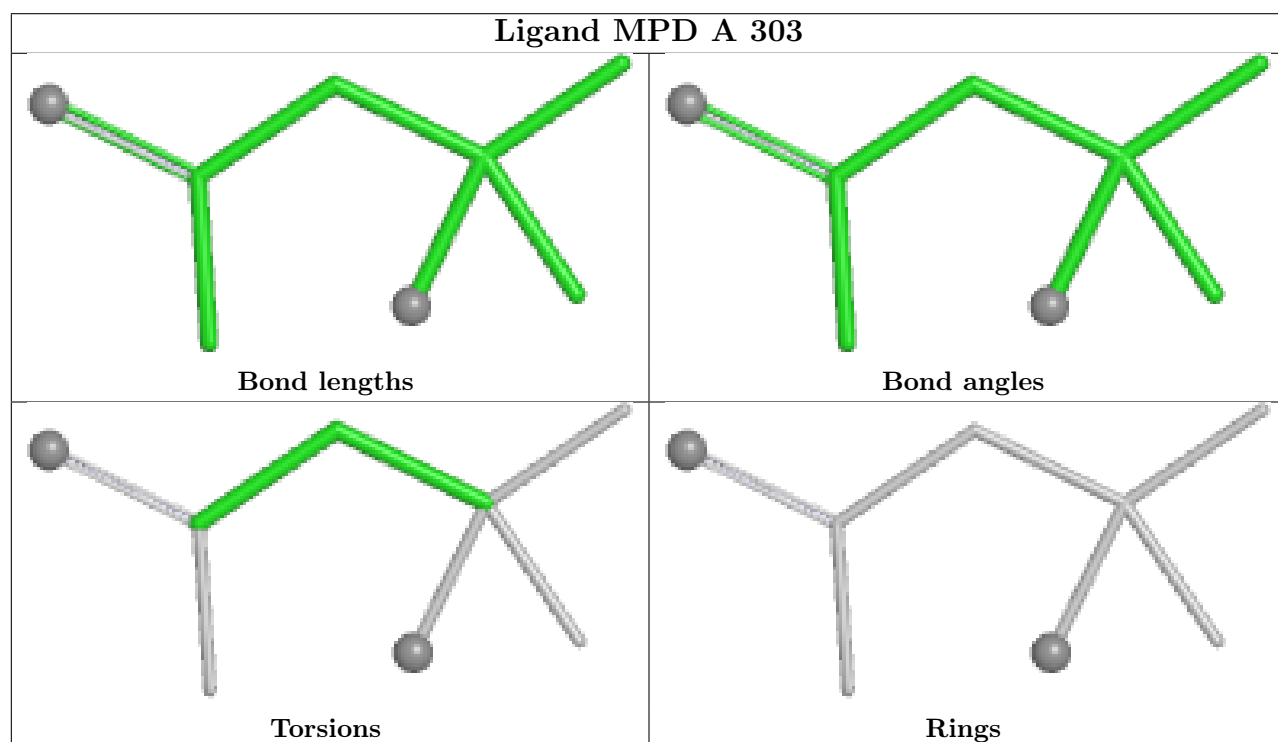
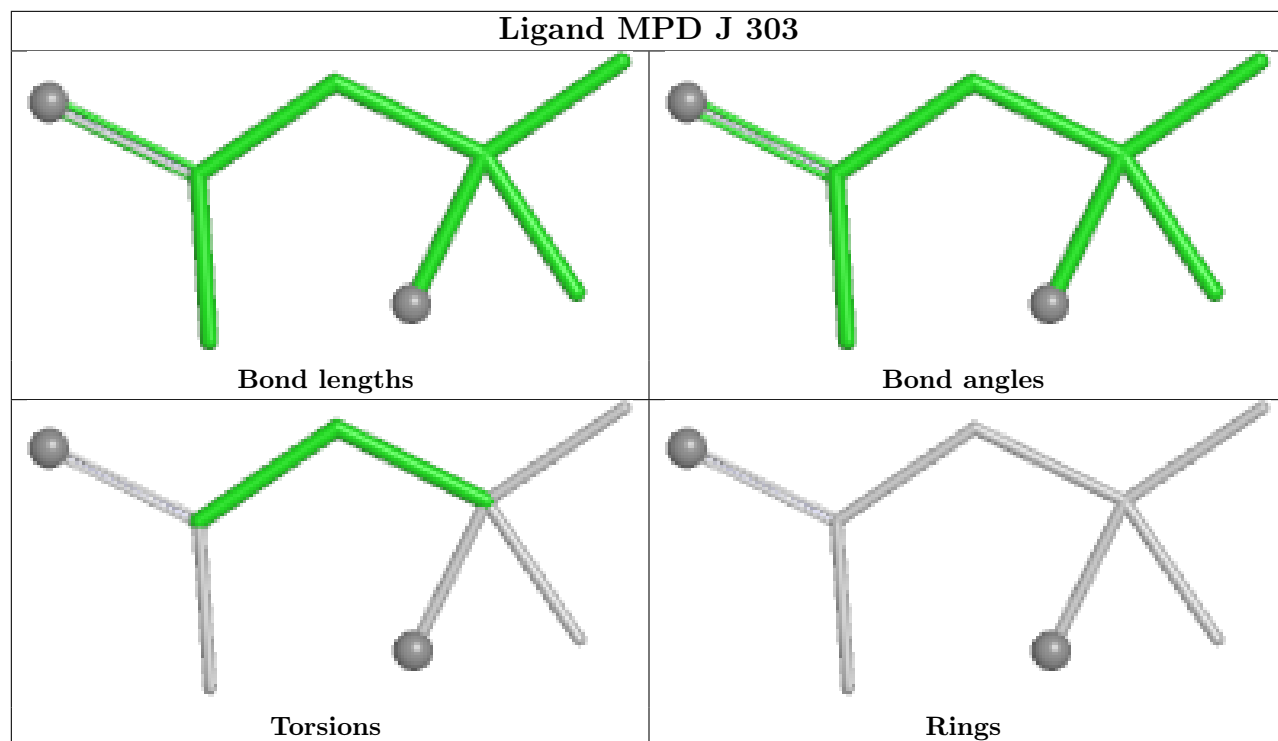
Bond angles

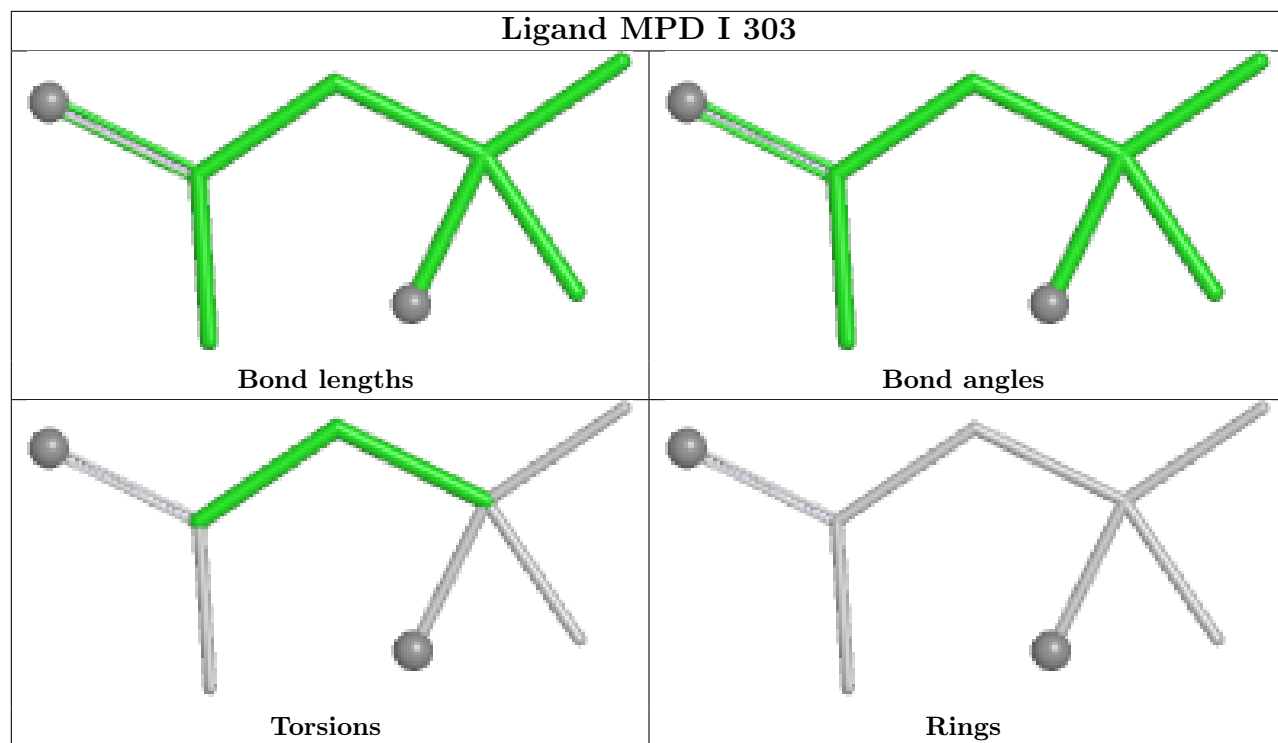


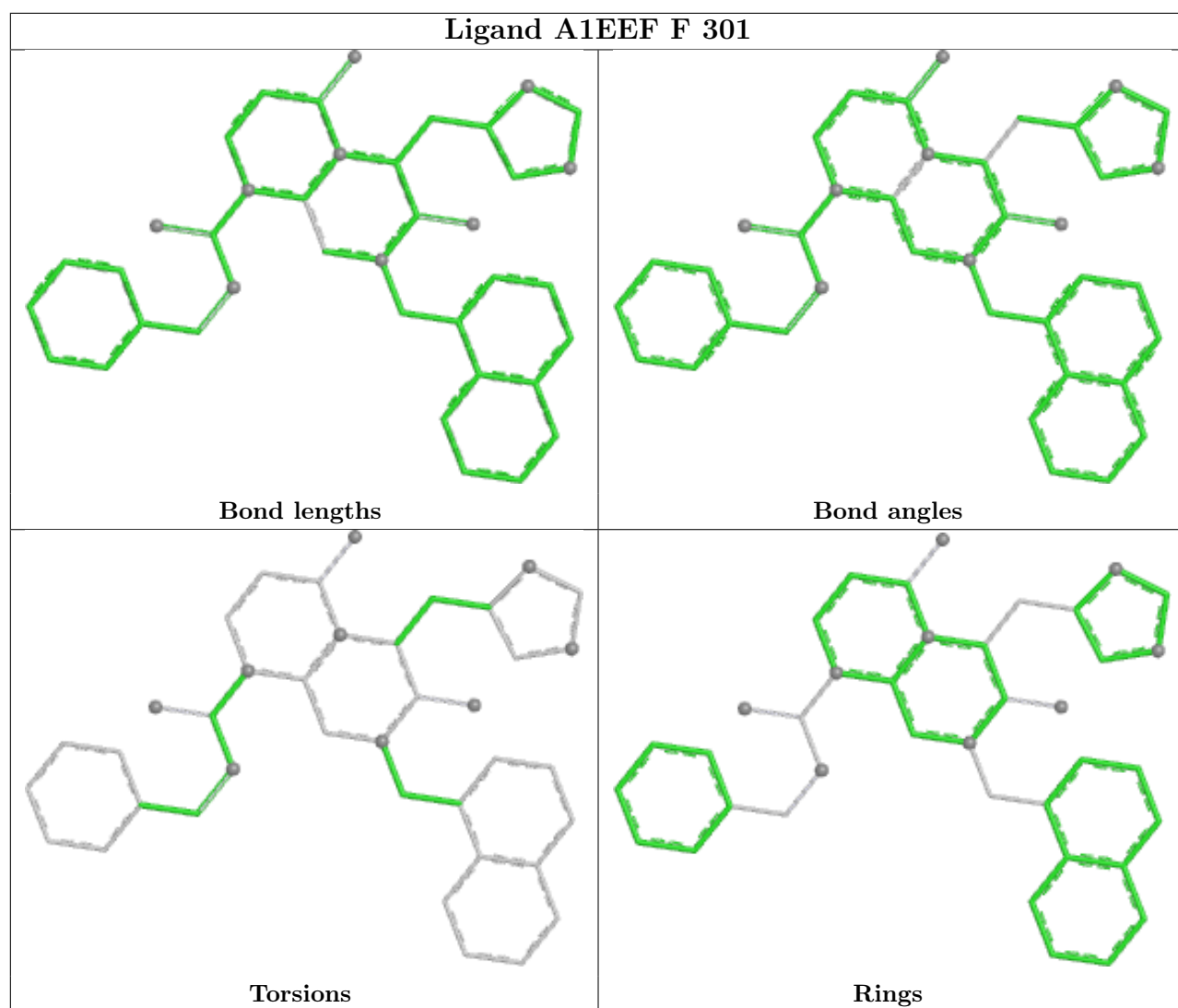
Torsions

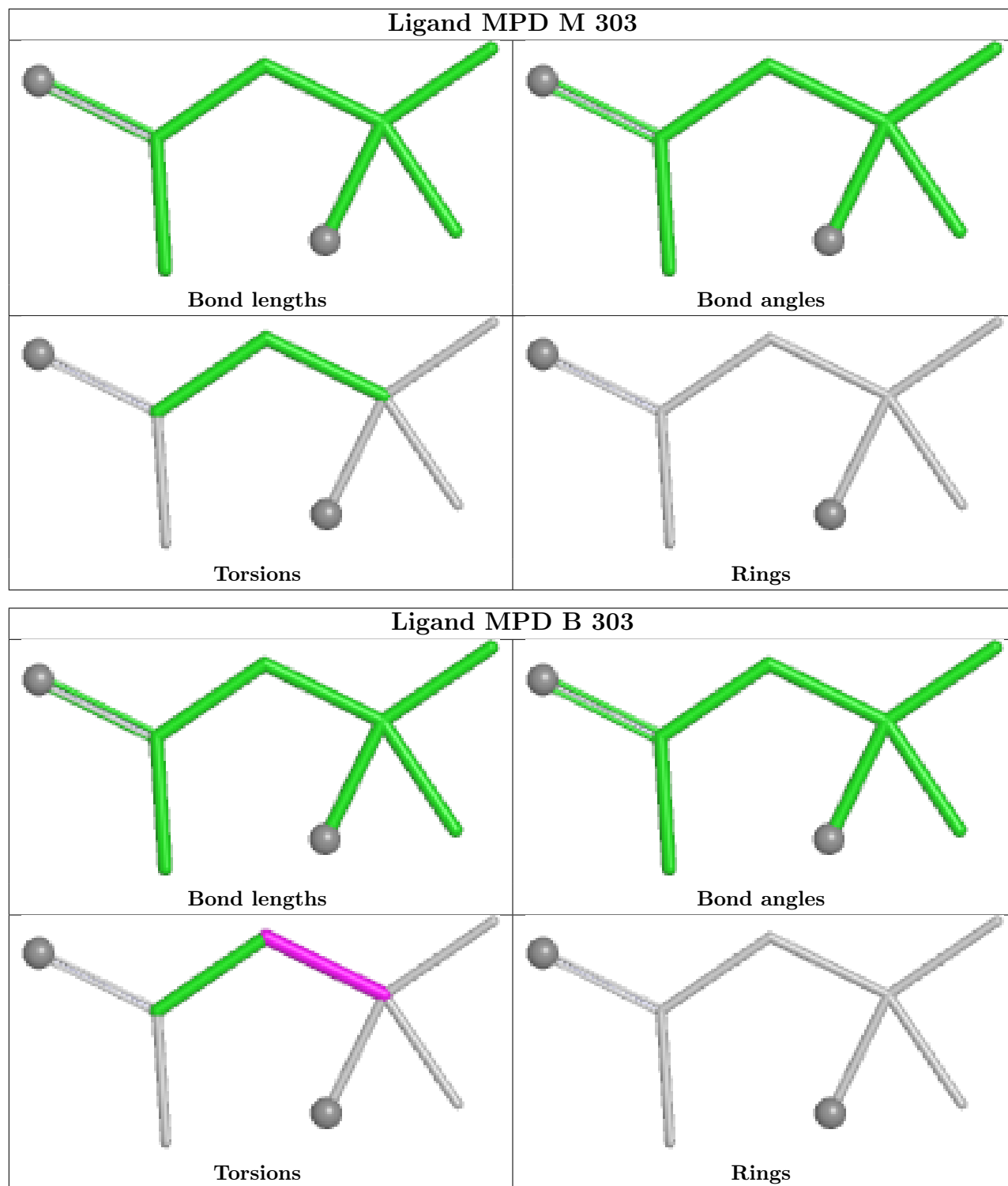


Rings









5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	181/203 (89%)	0.24	9 (4%) 34 44	15, 20, 32, 50	0
1	B	186/203 (91%)	0.28	12 (6%) 25 33	16, 20, 34, 54	0
1	C	183/203 (90%)	0.46	12 (6%) 24 32	16, 23, 35, 44	1 (0%)
1	D	179/203 (88%)	0.69	13 (7%) 21 28	23, 28, 41, 51	0
1	E	180/203 (88%)	0.73	13 (7%) 21 28	23, 29, 42, 56	0
1	F	180/203 (88%)	0.60	15 (8%) 17 24	21, 28, 41, 54	0
1	G	179/203 (88%)	0.43	12 (6%) 24 31	15, 22, 36, 56	2 (1%)
1	H	182/203 (89%)	0.31	8 (4%) 39 49	17, 20, 32, 58	0
1	I	182/203 (89%)	0.23	9 (4%) 35 44	16, 20, 32, 47	0
1	J	187/203 (92%)	0.56	14 (7%) 20 27	18, 24, 40, 50	1 (0%)
1	K	181/203 (89%)	0.92	16 (8%) 15 22	25, 31, 44, 56	0
1	L	179/203 (88%)	1.02	21 (11%) 9 13	24, 31, 42, 50	0
1	M	180/203 (88%)	0.79	16 (8%) 15 22	20, 30, 41, 63	0
1	N	180/203 (88%)	0.47	12 (6%) 24 31	18, 24, 37, 53	0
All	All	2539/2842 (89%)	0.55	182 (7%) 21 28	15, 26, 39, 63	4 (0%)

All (182) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	6	THR	5.8
1	J	8	ILE	5.7
1	D	18	TYR	5.7
1	M	3	LEU	5.5
1	H	8	ILE	5.4
1	E	17	ALA	5.3
1	D	4	ILE	5.3
1	N	8	ILE	5.1

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Mol	Chain	Res	Type	RSRZ
1	B	10	THR	5.0
1	C	191	VAL	5.0
1	H	193	GLU	4.9
1	G	4	ILE	4.9
1	F	8	ILE	4.9
1	G	18	TYR	4.9
1	A	6	THR	4.8
1	A	4	ILE	4.8
1	K	3	LEU	4.8
1	L	6	THR	4.8
1	B	3	LEU	4.7
1	I	192	PRO	4.6
1	A	8	ILE	4.6
1	G	7	VAL	4.6
1	H	17	ALA	4.6
1	L	191	VAL	4.6
1	K	7	VAL	4.5
1	N	18	TYR	4.5
1	M	7	VAL	4.5
1	L	49	LEU	4.4
1	D	191	VAL	4.2
1	G	57	GLU	4.2
1	E	7	VAL	4.1
1	L	4	ILE	4.1
1	M	4	ILE	4.1
1	F	191	VAL	4.0
1	J	191	VAL	4.0
1	K	191	VAL	4.0
1	H	54	GLN	4.0
1	E	18	TYR	4.0
1	D	7	VAL	4.0
1	J	4	ILE	3.9
1	C	63	TYR	3.9
1	C	8	ILE	3.9
1	C	3	LEU	3.8
1	B	130	GLN	3.8
1	E	130	GLN	3.6
1	I	163	GLU	3.5
1	D	5	PRO	3.5
1	M	6	THR	3.5
1	J	197	GLU	3.5
1	G	191	VAL	3.5

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Mol	Chain	Res	Type	RSRZ
1	E	191	VAL	3.4
1	N	7	VAL	3.4
1	A	18	TYR	3.4
1	L	7	VAL	3.4
1	C	130	GLN	3.3
1	E	192	PRO	3.3
1	M	163	GLU	3.3
1	C	119	GLU	3.3
1	L	182	GLU	3.3
1	N	4	ILE	3.3
1	G	130	GLN	3.2
1	J	201	HIS	3.2
1	C	16	ARG	3.2
1	N	191	VAL	3.2
1	D	163	GLU	3.2
1	M	18	TYR	3.2
1	B	193	GLU	3.1
1	G	192	PRO	3.1
1	A	193	GLU	3.1
1	J	199	HIS	3.0
1	G	5	PRO	3.0
1	M	130	GLN	3.0
1	A	191	VAL	3.0
1	F	18	TYR	3.0
1	G	63	TYR	3.0
1	N	182	GLU	3.0
1	E	4	ILE	3.0
1	H	4	ILE	3.0
1	F	7	VAL	2.9
1	L	95	MET	2.9
1	K	4	ILE	2.9
1	J	95[A]	MET	2.9
1	A	192	PRO	2.9
1	B	9	GLU	2.9
1	B	191	VAL	2.8
1	I	191	VAL	2.8
1	J	18	TYR	2.8
1	K	18	TYR	2.8
1	L	18	TYR	2.8
1	J	200	HIS	2.8
1	K	54	GLN	2.8
1	B	8	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
1	K	49	LEU	2.8
1	L	192	PRO	2.8
1	A	130	GLN	2.8
1	D	192	PRO	2.8
1	K	193	GLU	2.8
1	G	19	ASP	2.8
1	H	130	GLN	2.8
1	C	192	PRO	2.8
1	I	16	ARG	2.7
1	I	17	ALA	2.7
1	J	63	TYR	2.7
1	J	198	HIS	2.7
1	J	203	HIS	2.7
1	D	6	THR	2.7
1	H	192	PRO	2.7
1	M	192	PRO	2.7
1	I	141	ASN	2.7
1	L	53	ALA	2.6
1	N	6	THR	2.6
1	E	182	GLU	2.6
1	E	101	SER	2.6
1	K	192	PRO	2.6
1	I	130	GLN	2.6
1	N	26	LYS	2.6
1	F	49	LEU	2.6
1	H	191	VAL	2.6
1	N	130	GLN	2.6
1	N	63	TYR	2.5
1	K	163	GLU	2.5
1	C	18	TYR	2.5
1	F	63	TYR	2.5
1	M	85	LYS	2.5
1	E	95	MET	2.5
1	F	192	PRO	2.5
1	B	16	ARG	2.4
1	D	63	TYR	2.4
1	K	39	ASN	2.4
1	F	4	ILE	2.4
1	L	153	ILE	2.4
1	B	7	VAL	2.4
1	B	192	PRO	2.4
1	C	54	GLN	2.4

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Mol	Chain	Res	Type	RSRZ
1	L	56	SER	2.4
1	G	93	ILE	2.4
1	L	109	LYS	2.4
1	K	53	ALA	2.4
1	D	57	GLU	2.4
1	K	57	GLU	2.4
1	E	6	THR	2.3
1	K	130	GLN	2.3
1	B	4	ILE	2.3
1	I	4	ILE	2.3
1	M	5	PRO	2.3
1	L	85	LYS	2.3
1	C	57	GLU	2.3
1	B	18	TYR	2.3
1	F	85	LYS	2.3
1	M	54	GLN	2.2
1	N	192	PRO	2.2
1	I	8	ILE	2.2
1	L	31	MET	2.2
1	A	7	VAL	2.2
1	L	158	THR	2.2
1	M	63	TYR	2.2
1	N	57	GLU	2.2
1	F	130	GLN	2.2
1	L	54	GLN	2.2
1	K	105	ALA	2.2
1	F	163	GLU	2.1
1	L	91	ILE	2.1
1	M	189	VAL	2.1
1	F	56	SER	2.1
1	D	157	ARG	2.1
1	F	42	ASN	2.1
1	J	7	VAL	2.1
1	D	26	LYS	2.1
1	F	57	GLU	2.1
1	E	123	HIS	2.1
1	J	130	GLN	2.1
1	M	157	ARG	2.1
1	K	26	LYS	2.1
1	L	188	GLU	2.1
1	C	35	GLN	2.1
1	D	85	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
1	L	167	LYS	2.0
1	L	130	GLN	2.0
1	E	5	PRO	2.0
1	F	5	PRO	2.0
1	M	182	GLU	2.0
1	M	167	LYS	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	A1EEF	G	301	39/39	0.67	0.21	48,53,72,73	0
2	A1EEF	C	301	39/39	0.75	0.18	46,49,70,70	0
2	A1EEF	F	301	39/39	0.78	0.16	47,53,68,69	0
2	A1EEF	N	301	39/39	0.78	0.18	43,49,69,71	0
2	A1EEF	M	301	39/39	0.79	0.16	52,56,71,72	0
2	A1EEF	J	301	39/39	0.80	0.16	39,45,66,67	0
2	A1EEF	D	301	39/39	0.81	0.16	47,50,64,65	0
4	MPD	G	303	8/8	0.81	0.14	35,36,38,40	0
4	MPD	B	303	8/8	0.82	0.17	41,42,43,44	0
2	A1EEF	L	301	39/39	0.82	0.16	51,55,65,66	0
2	A1EEF	I	301	39/39	0.84	0.14	31,34,52,53	0
2	A1EEF	K	301	39/39	0.85	0.14	41,48,60,61	0
4	MPD	H	303	8/8	0.85	0.14	31,32,34,35	0
2	A1EEF	A	301	39/39	0.86	0.12	33,37,57,60	0
4	MPD	B	304	8/8	0.86	0.12	32,34,35,36	0
4	MPD	E	303	8/8	0.86	0.16	45,47,48,50	0
2	A1EEF	H	301	39/39	0.86	0.12	34,36,51,53	0

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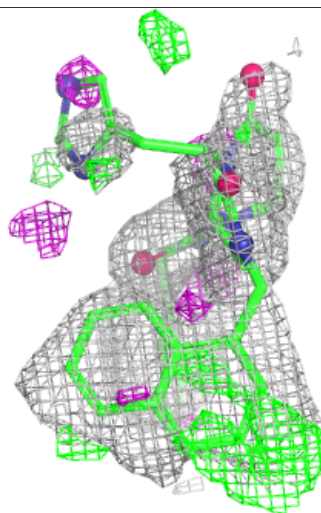
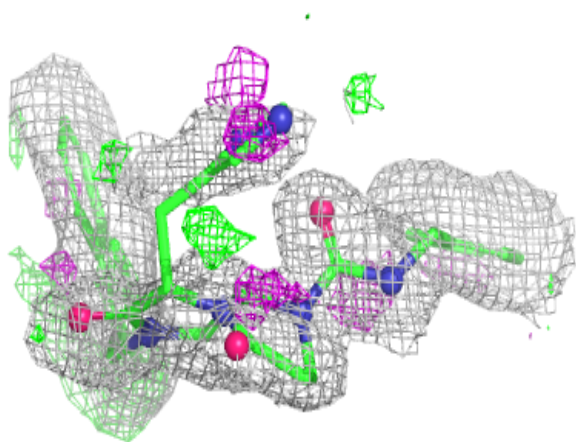
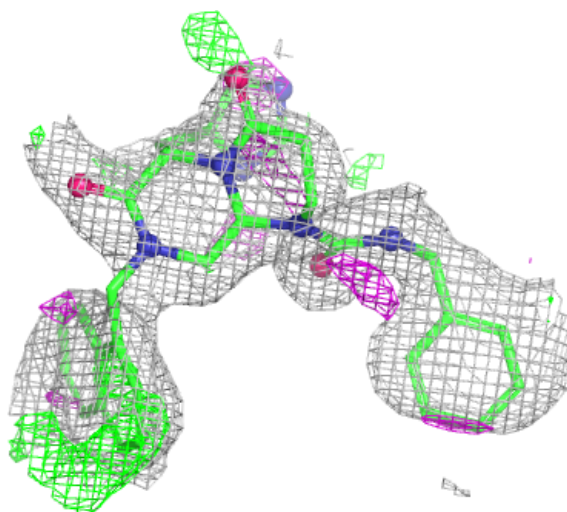
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	MG	E	302	1/1	0.86	0.22	50,50,50,50	0
4	MPD	I	303	8/8	0.86	0.15	30,33,34,35	0
4	MPD	K	303	8/8	0.86	0.15	41,43,44,45	0
4	MPD	D	303	8/8	0.87	0.14	37,39,41,44	0
2	A1EEF	E	301	39/39	0.87	0.12	43,44,57,57	0
4	MPD	J	303	8/8	0.88	0.12	33,35,37,37	0
4	MPD	F	303	8/8	0.88	0.15	42,43,46,48	0
4	MPD	L	303	8/8	0.88	0.15	43,45,46,46	0
4	MPD	C	303	8/8	0.89	0.11	35,38,39,39	0
3	MG	L	302	1/1	0.90	0.21	51,51,51,51	0
4	MPD	A	303	8/8	0.90	0.11	32,33,33,34	0
4	MPD	N	303	8/8	0.90	0.12	34,35,38,39	0
2	A1EEF	B	301	39/39	0.91	0.10	26,28,45,46	0
4	MPD	M	303	8/8	0.92	0.11	37,39,41,41	0
3	MG	F	302	1/1	0.93	0.10	42,42,42,42	0
3	MG	M	302	1/1	0.94	0.08	47,47,47,47	0
3	MG	D	302	1/1	0.94	0.09	44,44,44,44	0
3	MG	C	302	1/1	0.95	0.07	36,36,36,36	0
3	MG	N	302	1/1	0.96	0.07	41,41,41,41	0
3	MG	J	302	1/1	0.96	0.10	43,43,43,43	0
3	MG	B	302	1/1	0.96	0.12	36,36,36,36	0
3	MG	H	302	1/1	0.96	0.06	35,35,35,35	0
3	MG	K	302	1/1	0.97	0.10	48,48,48,48	0
3	MG	I	302	1/1	0.98	0.05	29,29,29,29	0
3	MG	G	302	1/1	0.98	0.07	36,36,36,36	0
3	MG	A	302	1/1	0.98	0.06	31,31,31,31	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.

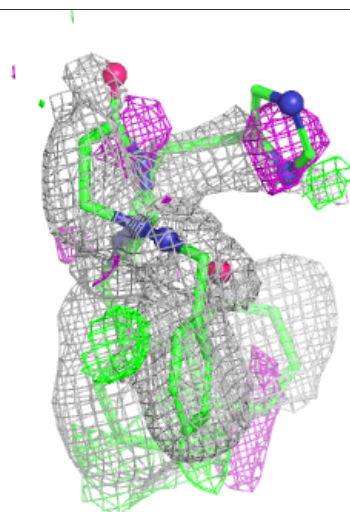
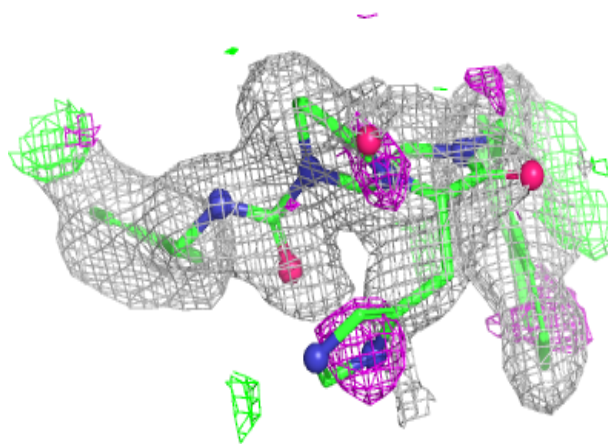
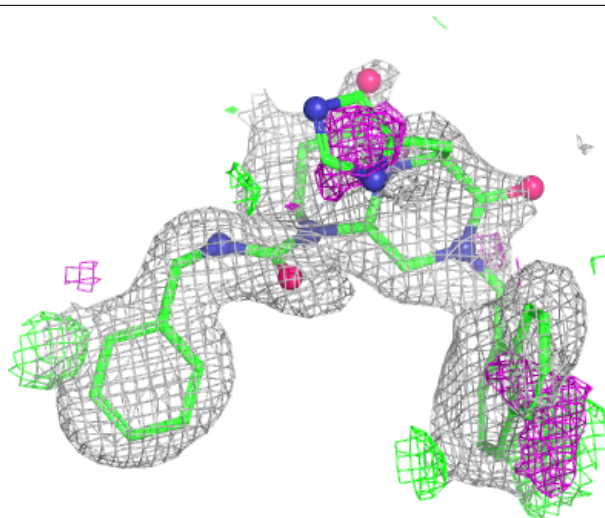
Electron density around A1EEF G 301:

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



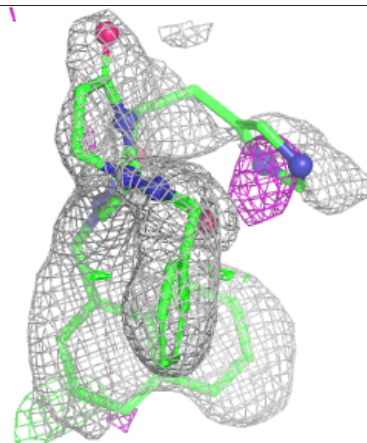
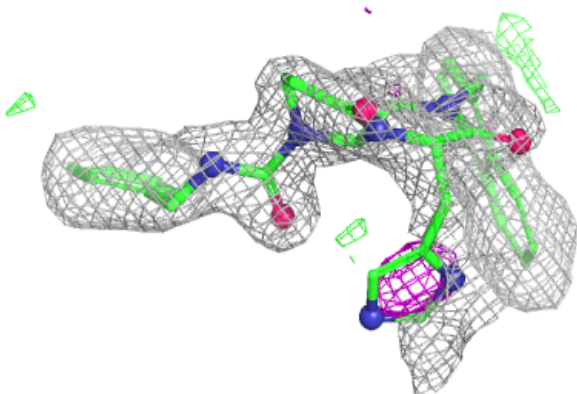
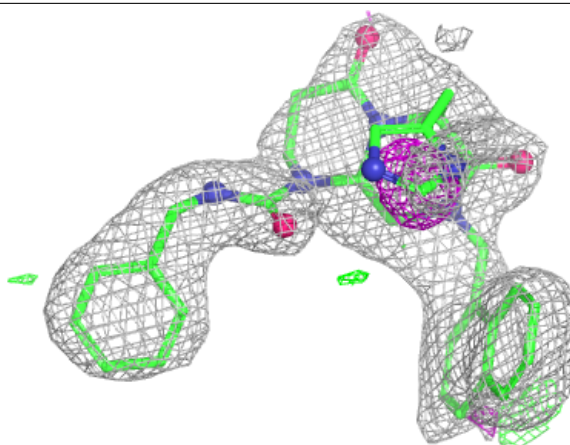
Electron density around A1EEF C 301:

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



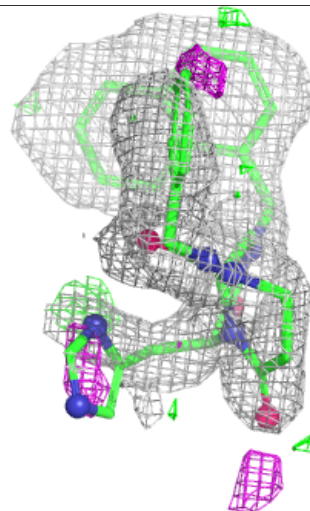
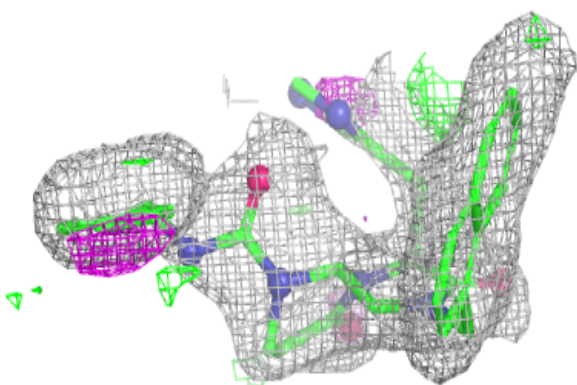
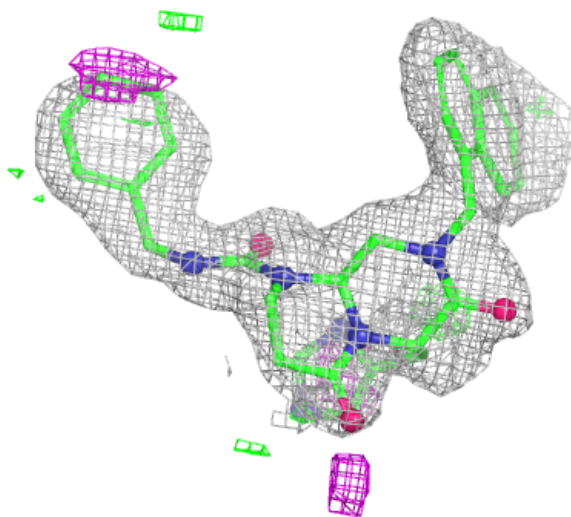
Electron density around A1EEF F 301:

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



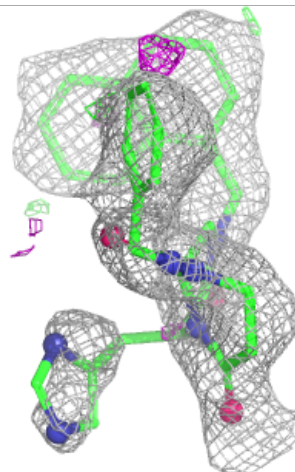
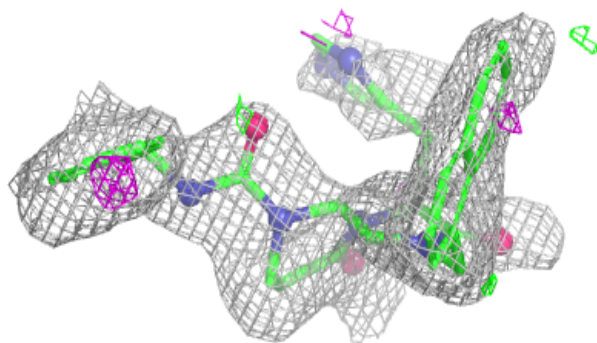
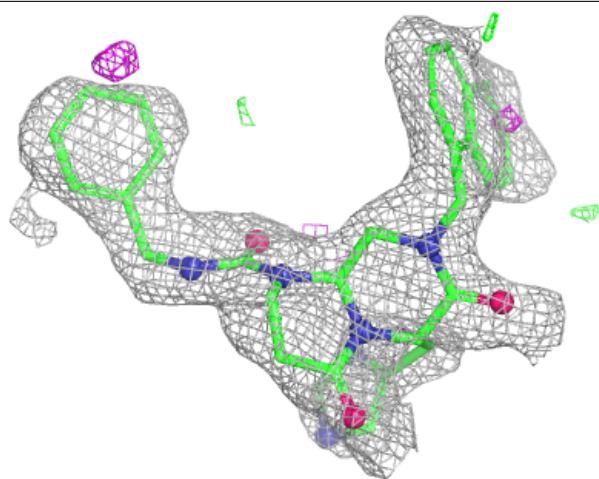
Electron density around A1EEF N 301:

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



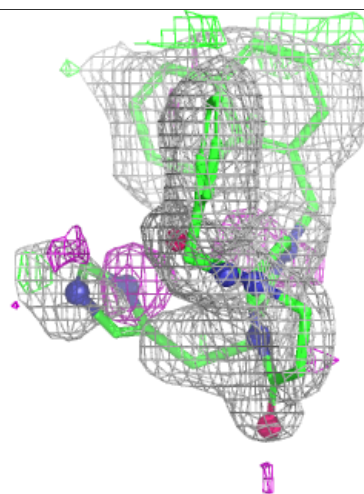
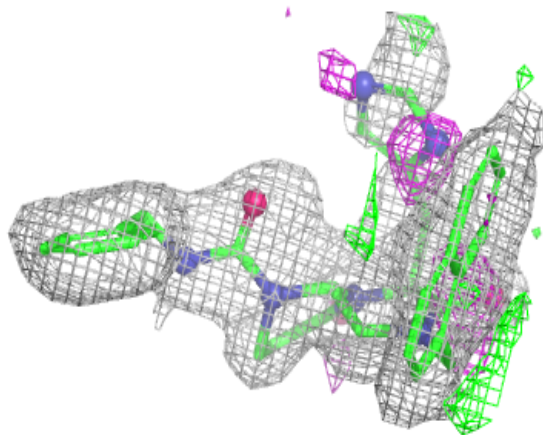
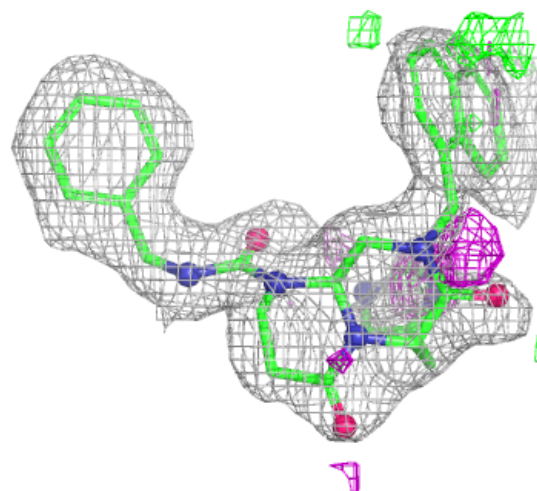
Electron density around A1EEF M 301:

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



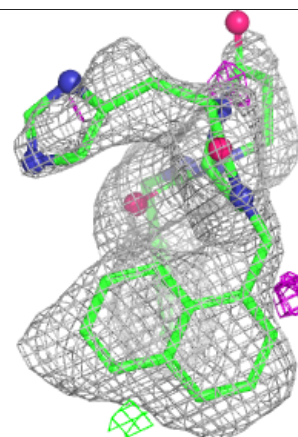
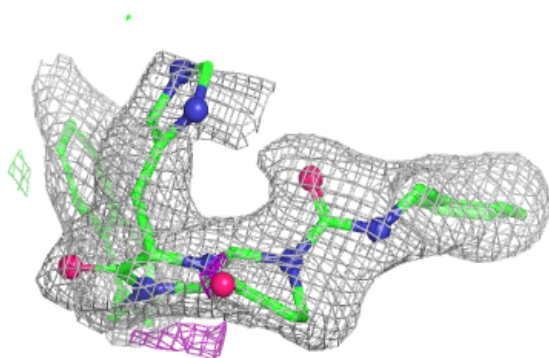
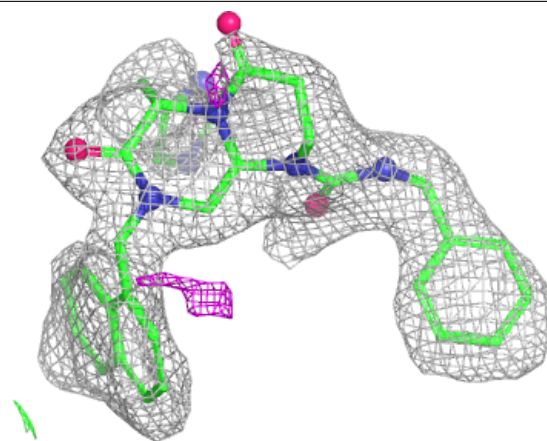
Electron density around A1EEF J 301:

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



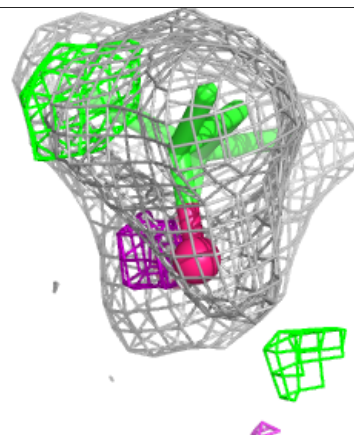
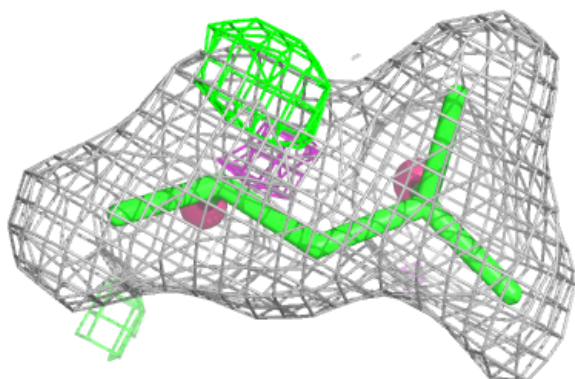
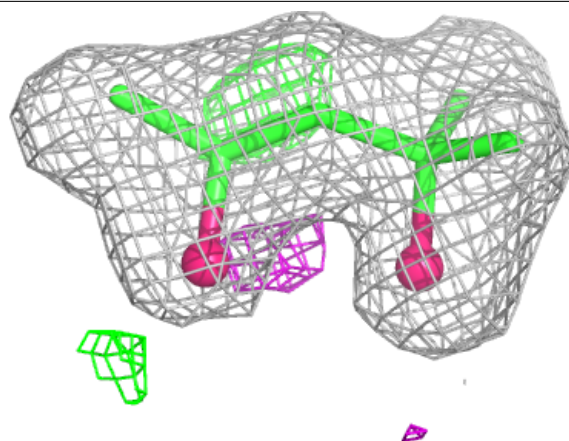
Electron density around A1EEF D 301:

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

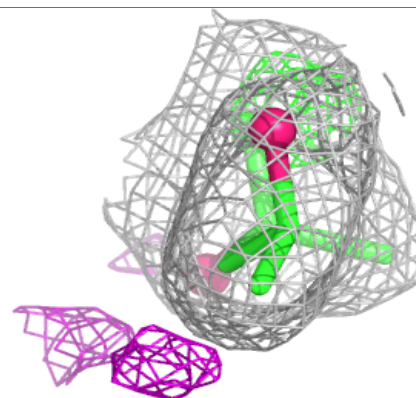
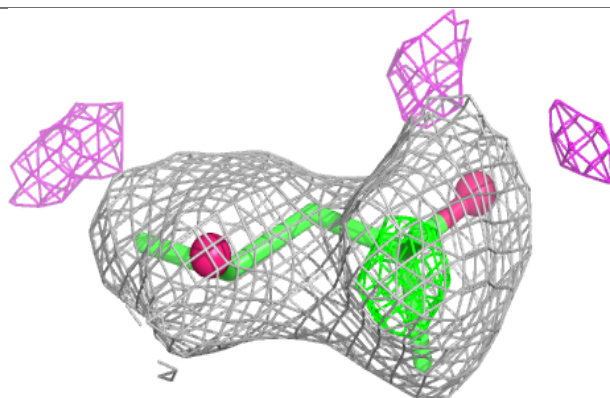
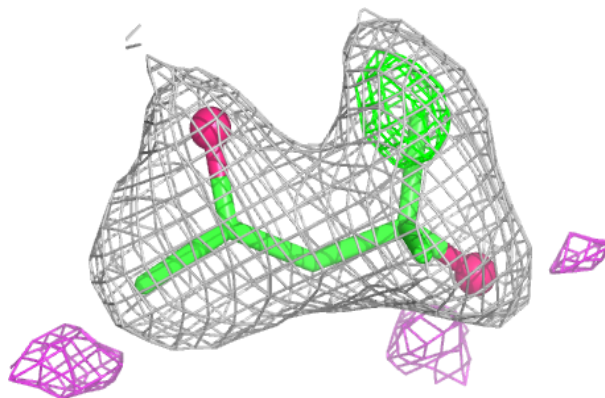


Electron density around MPD G 303:

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

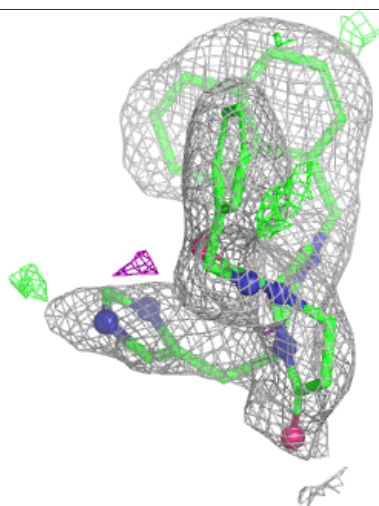
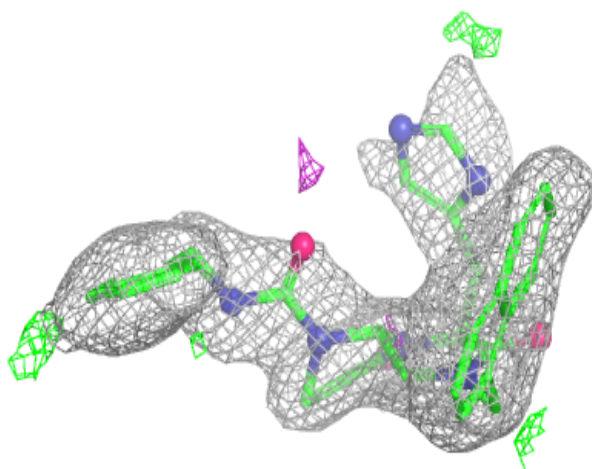
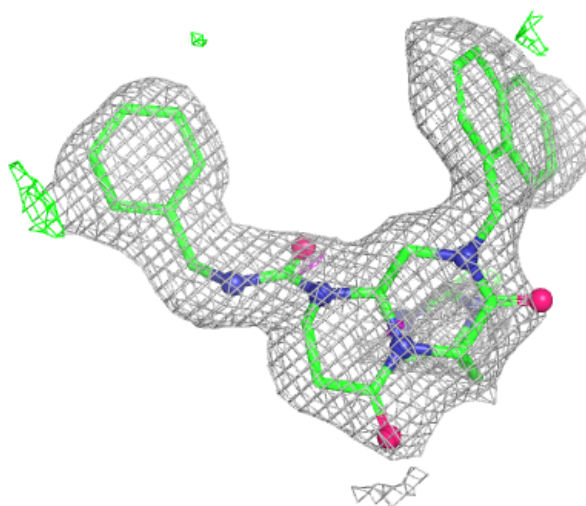
**Electron density around MPD B 303:**

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



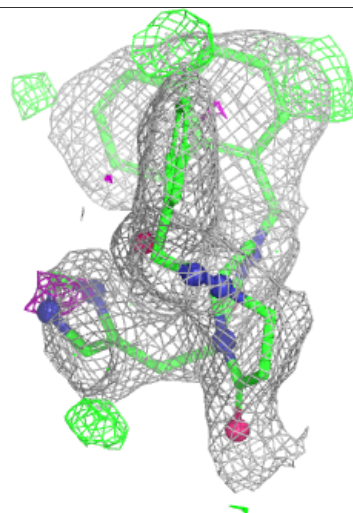
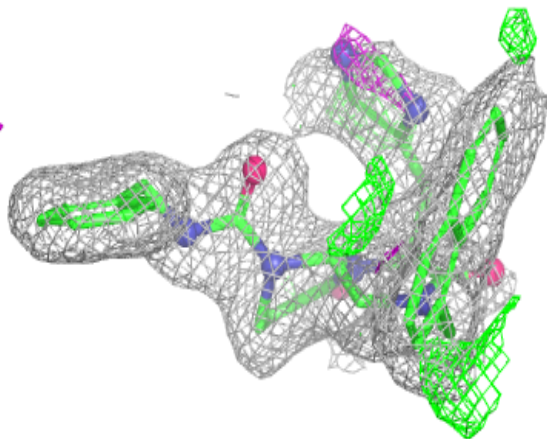
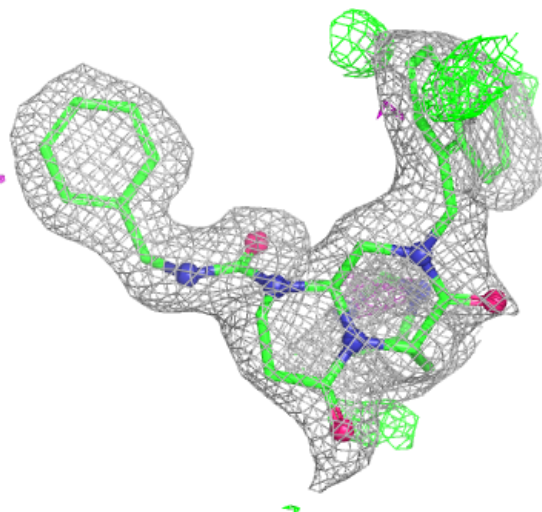
Electron density around A1EEF L 301:

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



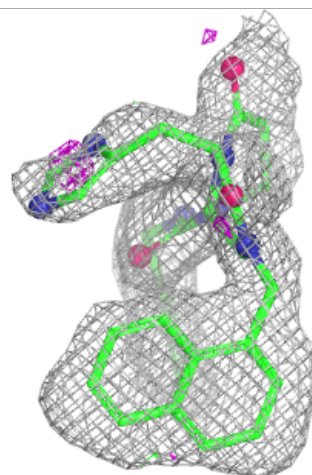
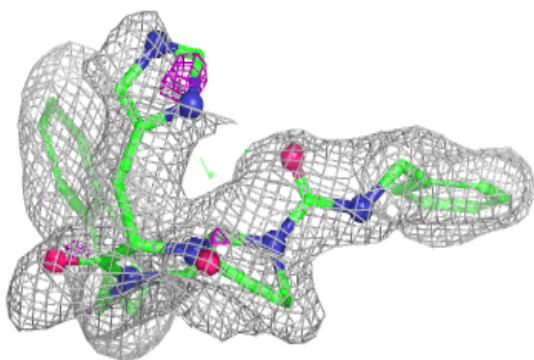
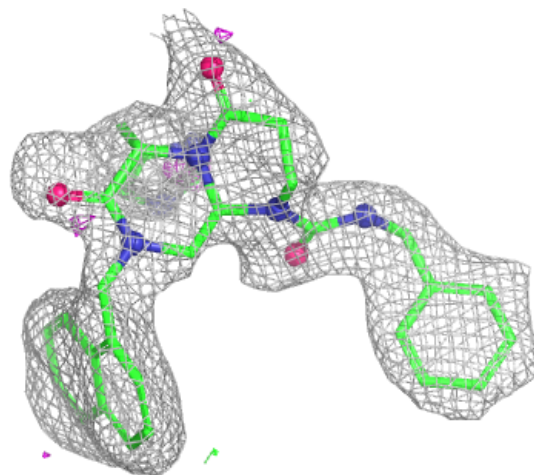
Electron density around A1EEF I 301:

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



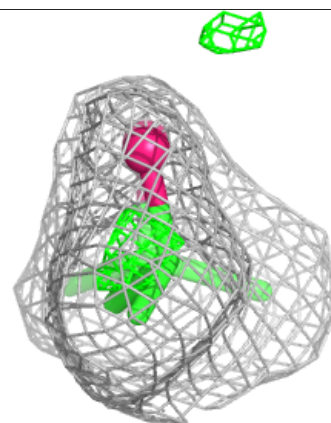
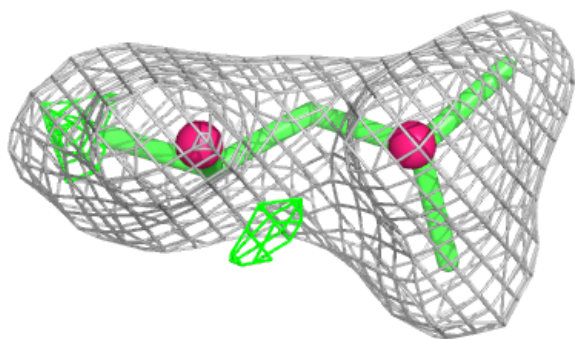
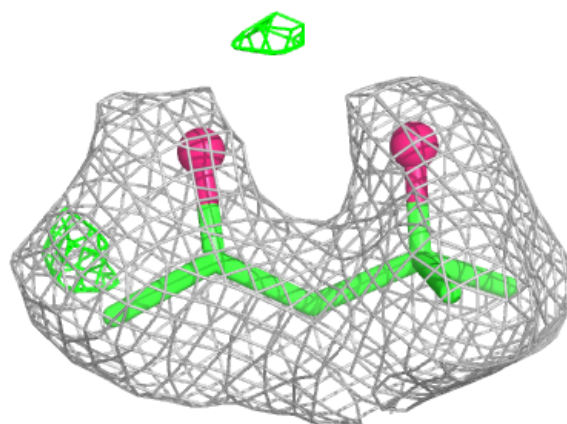
Electron density around A1EEF K 301:

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



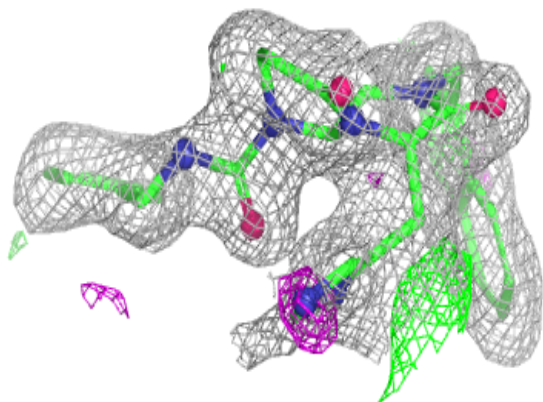
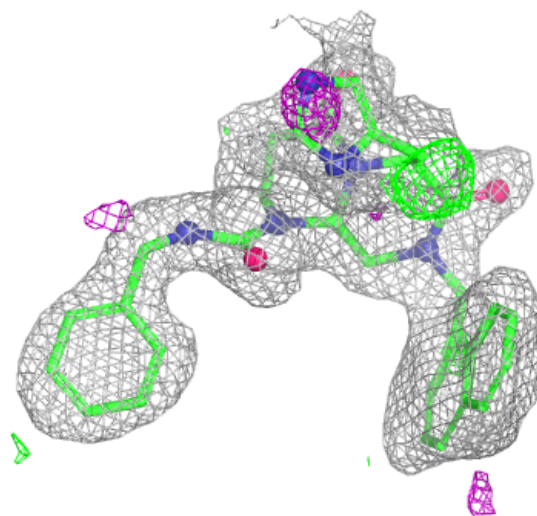
Electron density around MPD H 303:

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



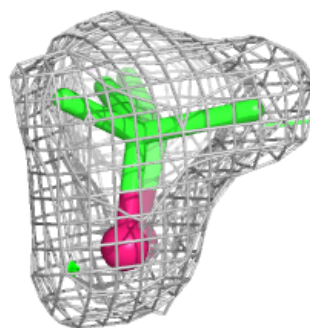
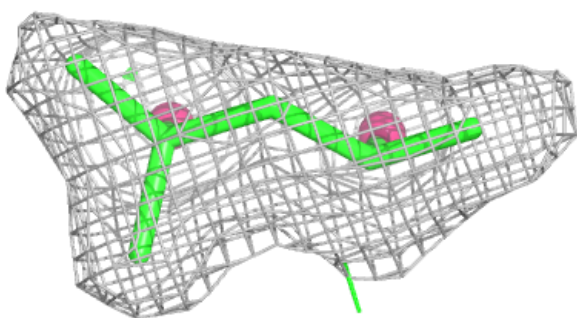
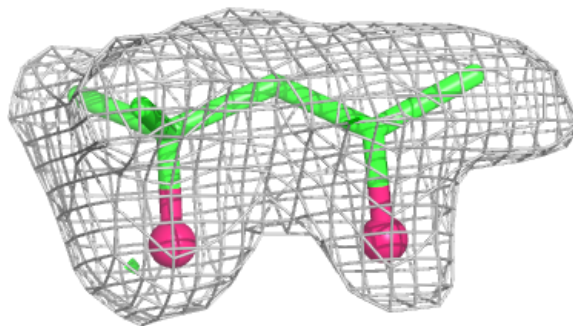
Electron density around A1EEF A 301:

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



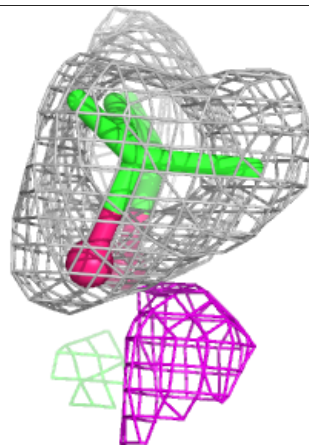
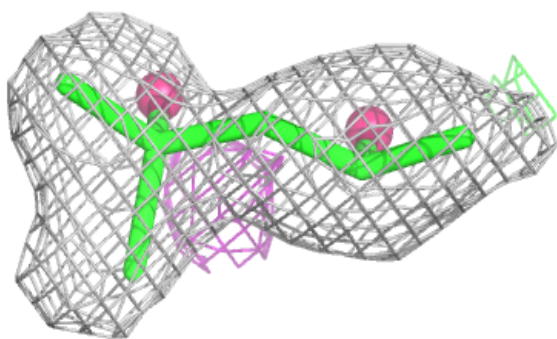
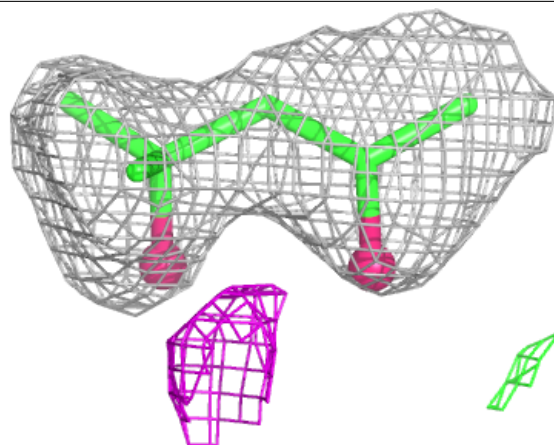
Electron density around MPD B 304:

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



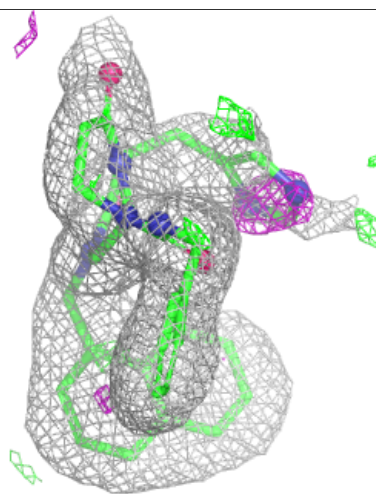
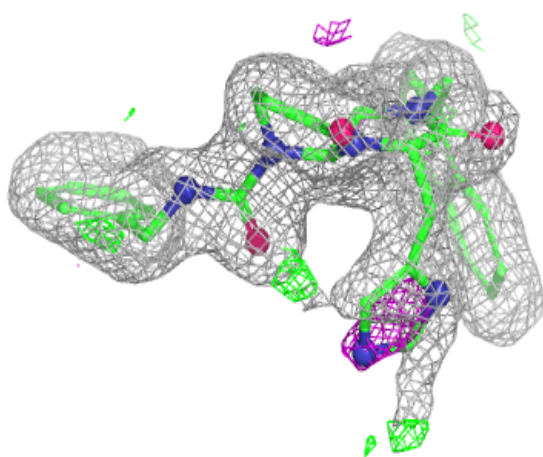
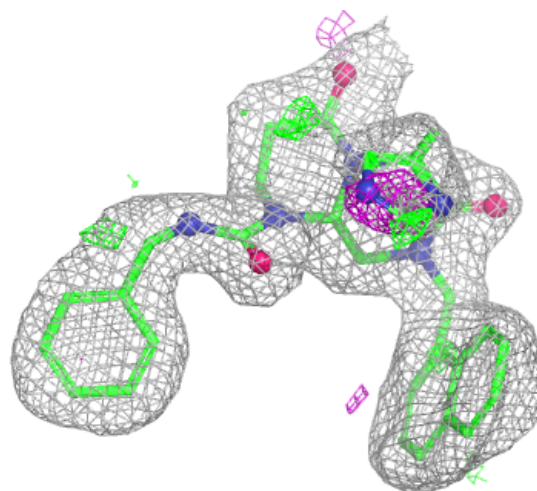
Electron density around MPD E 303:

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



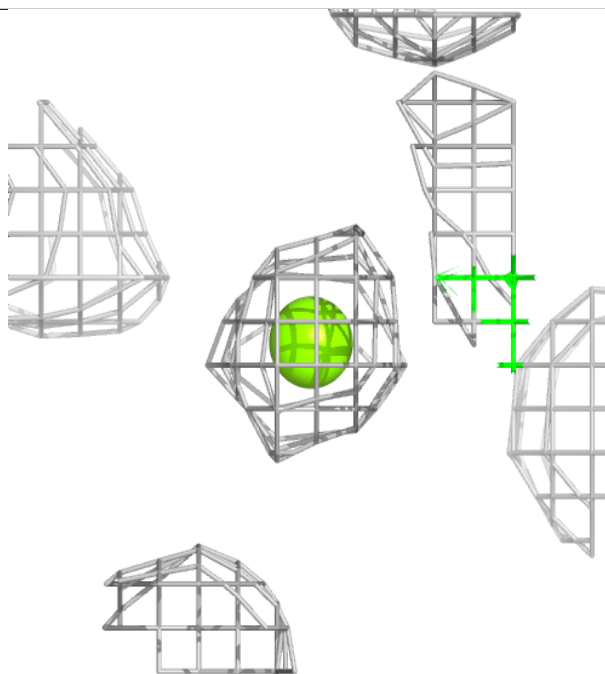
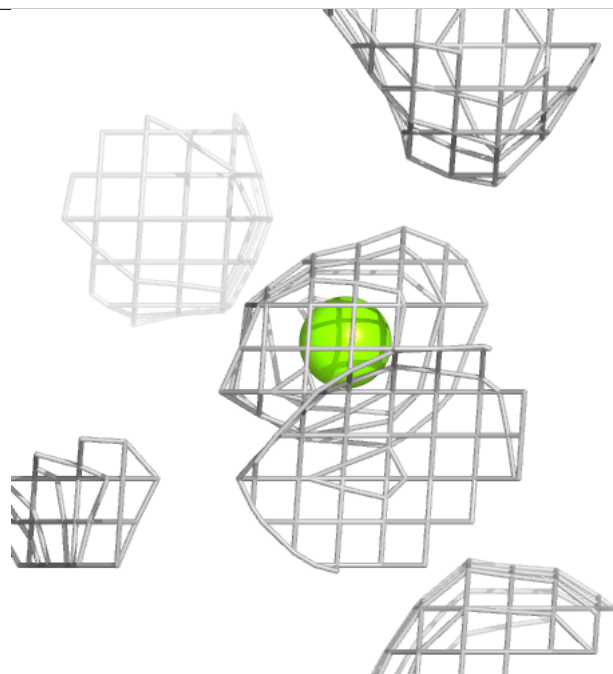
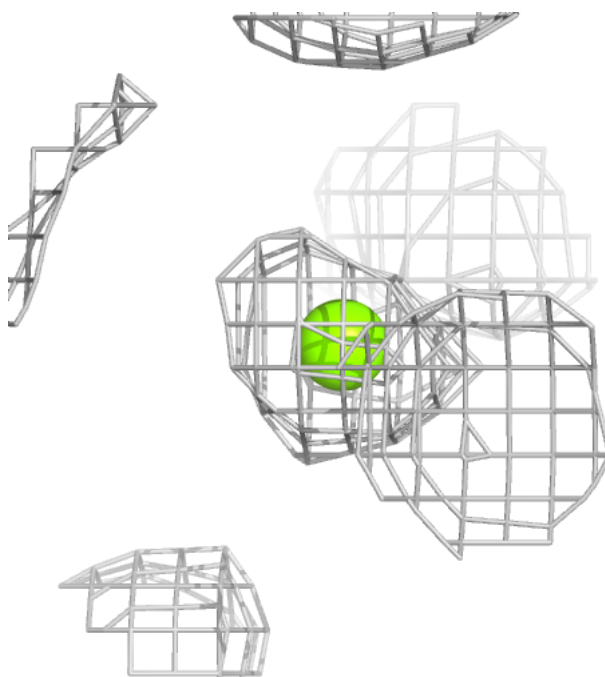
Electron density around A1EEF H 301:

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



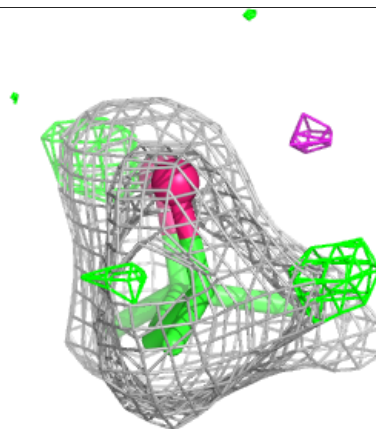
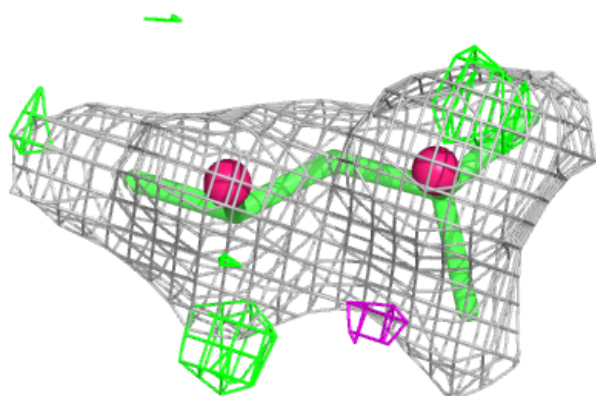
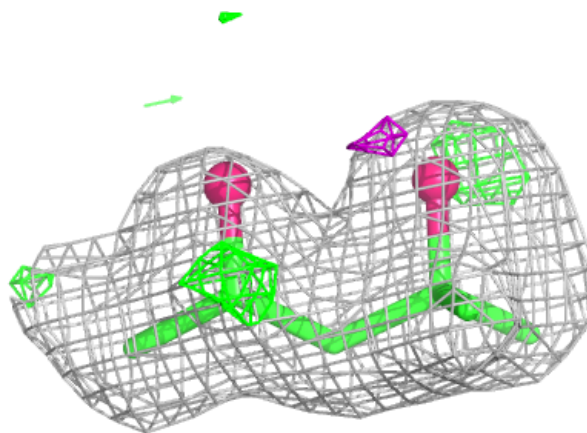
Electron density around MG E 302:

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

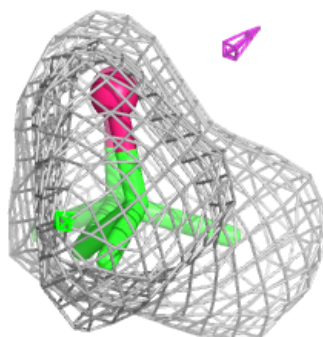
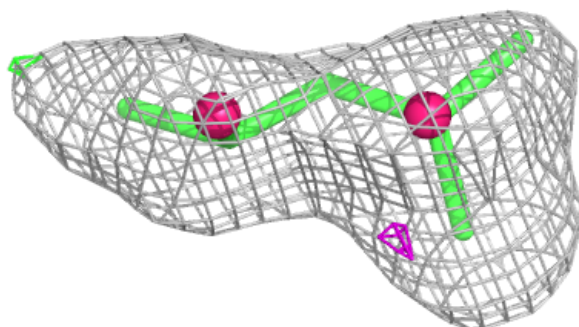
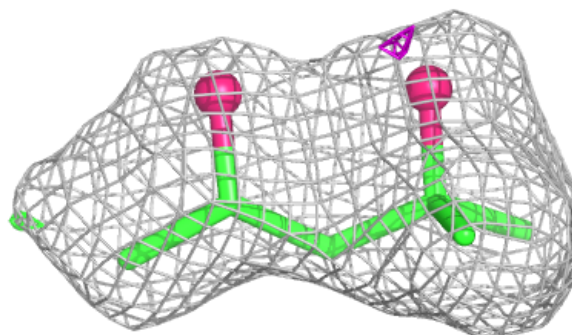


Electron density around MPD I 303:

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

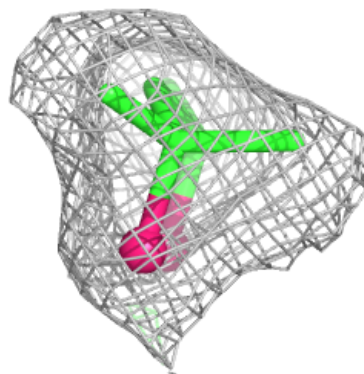
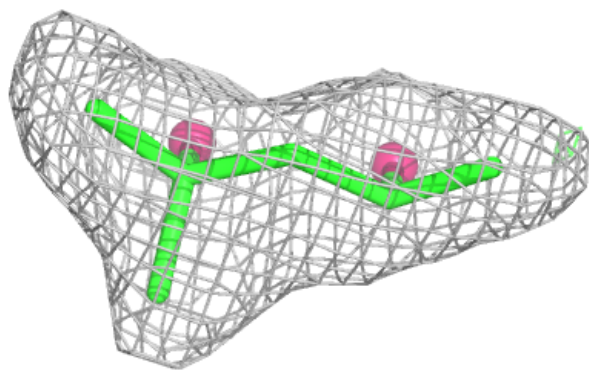
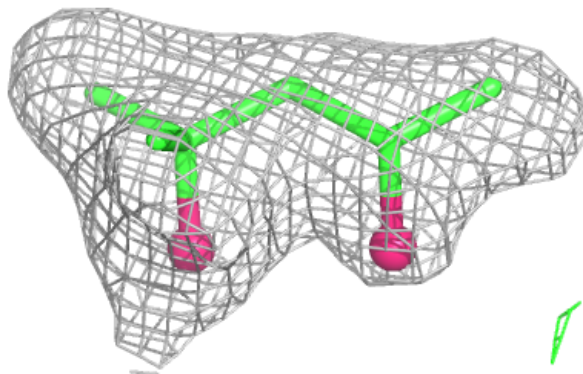
**Electron density around MPD K 303:**

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



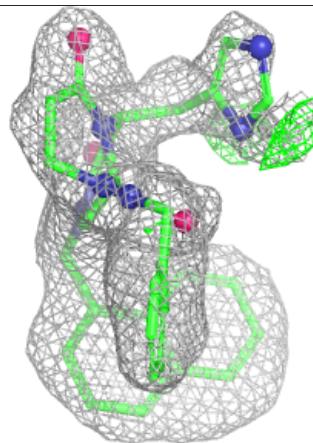
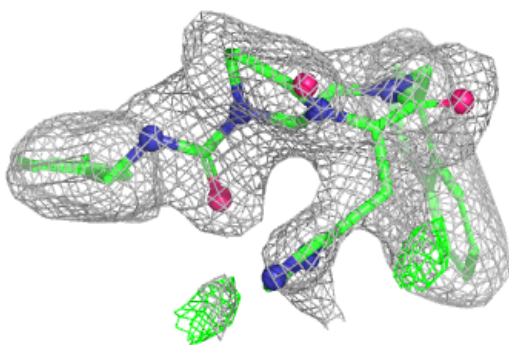
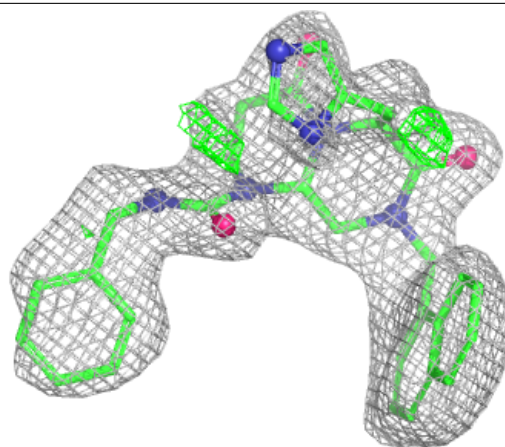
Electron density around MPD D 303:

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



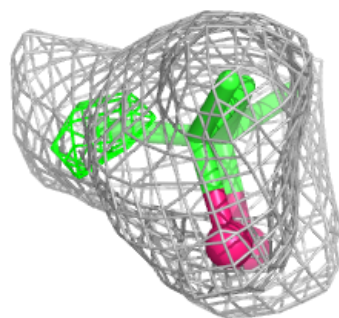
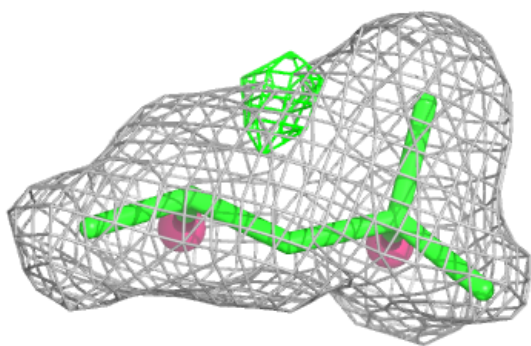
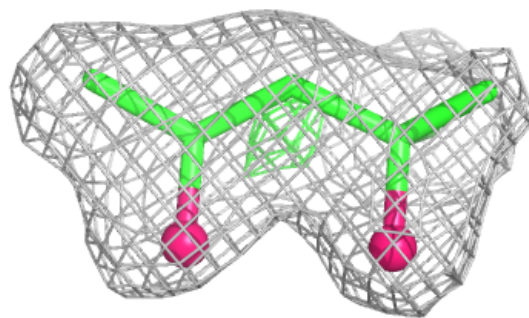
Electron density around A1EEF E 301:

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



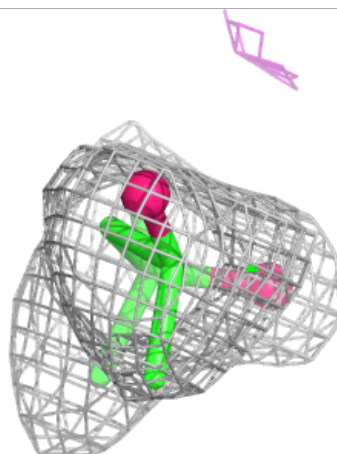
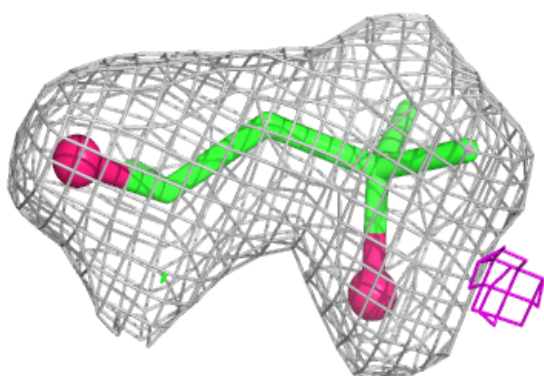
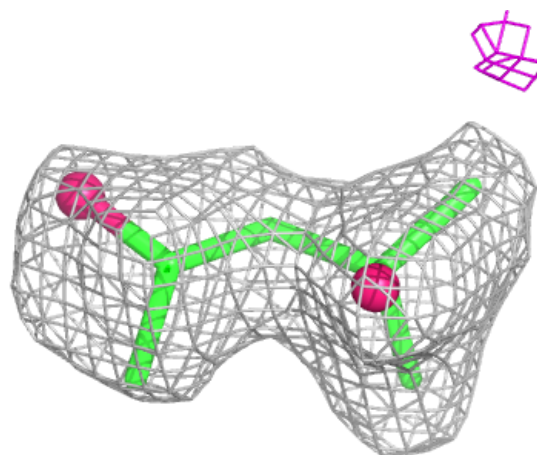
Electron density around MPD J 303:

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



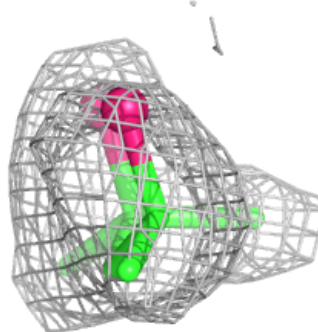
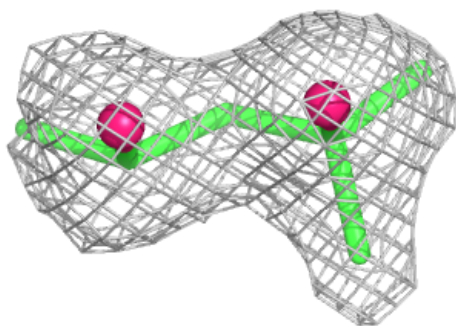
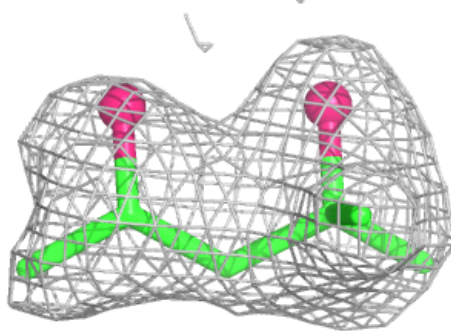
Electron density around MPD F 303:

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



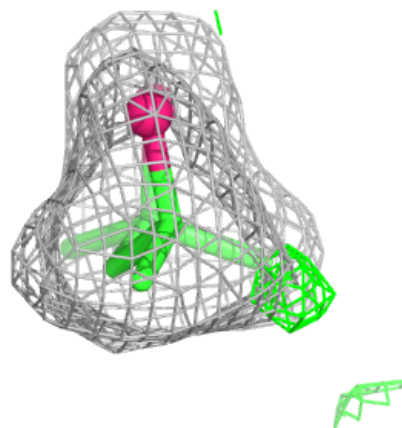
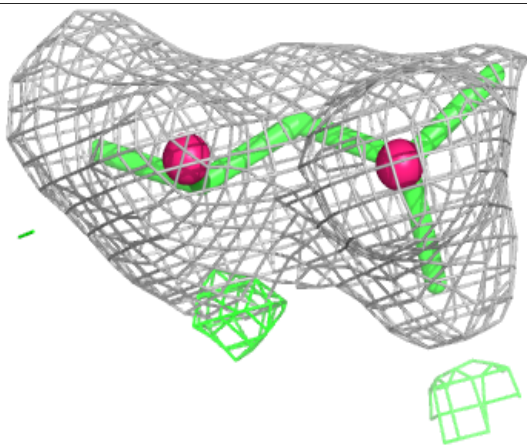
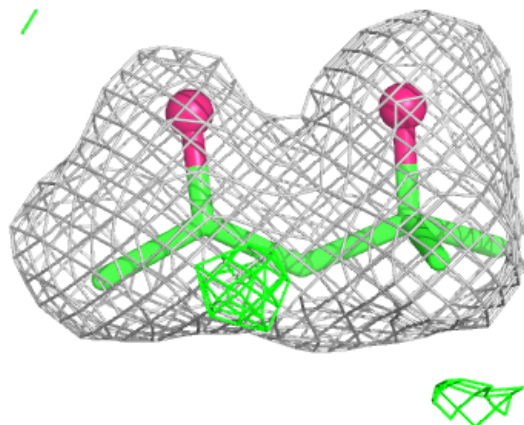
Electron density around MPD L 303:

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



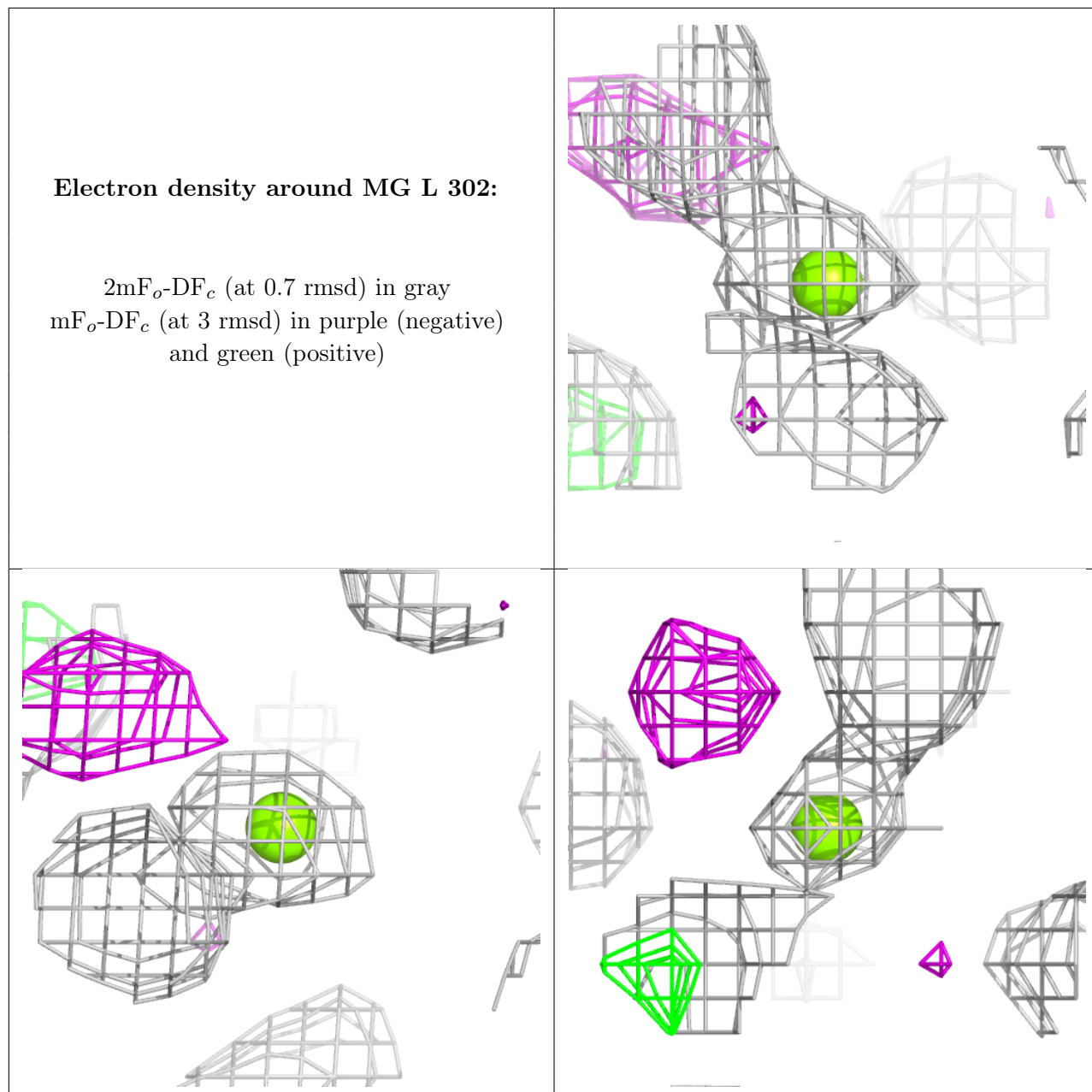
Electron density around MPD C 303:

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



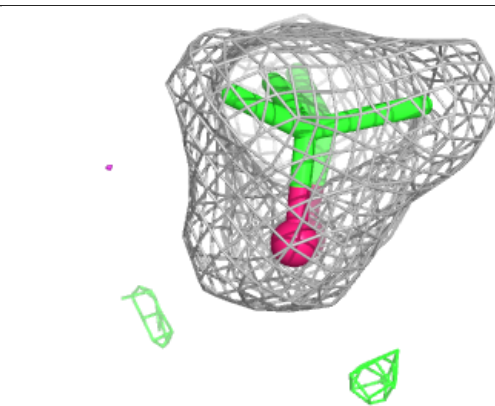
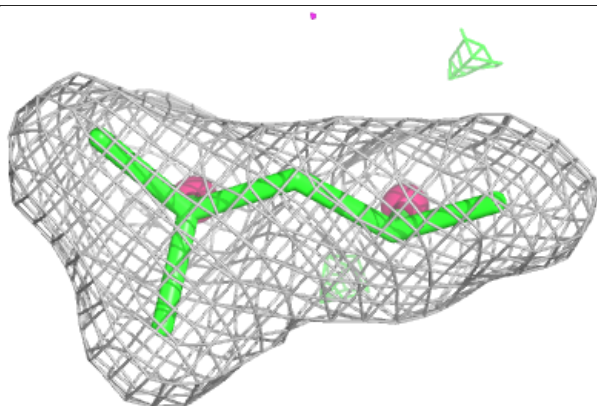
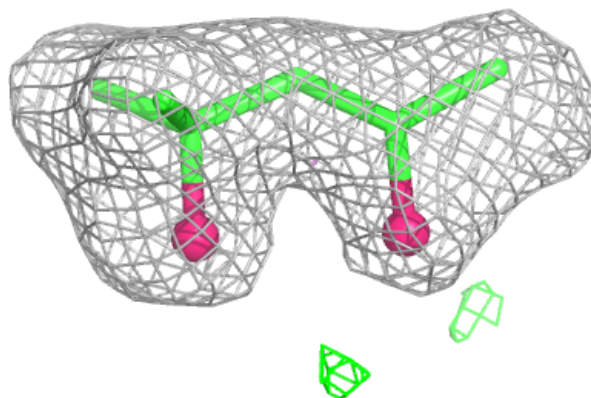
Electron density around MG L 302:

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

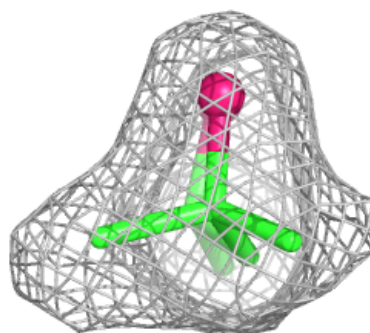
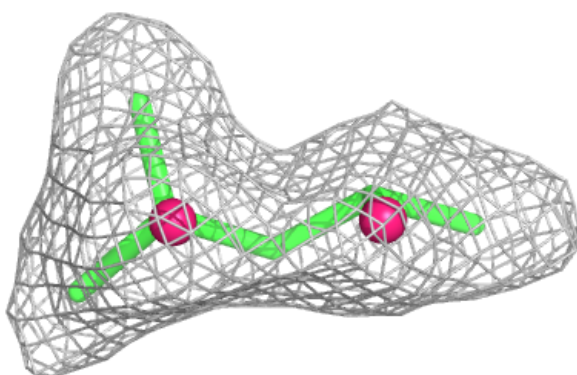
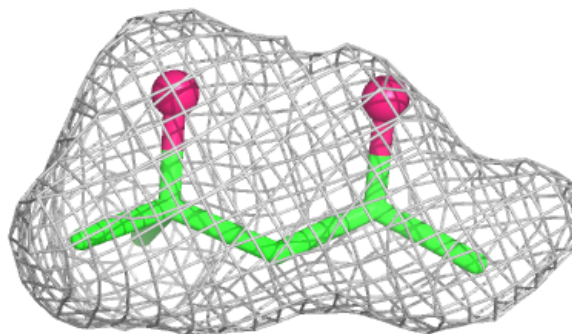


Electron density around MPD A 303:

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

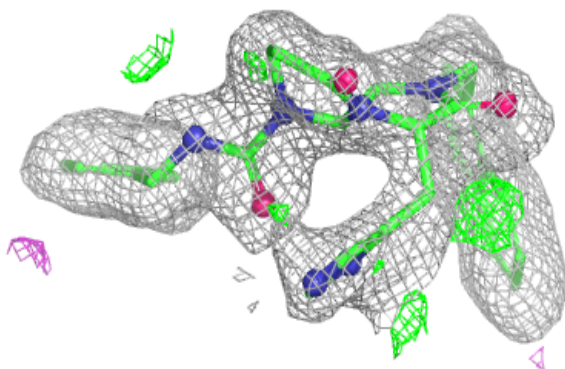
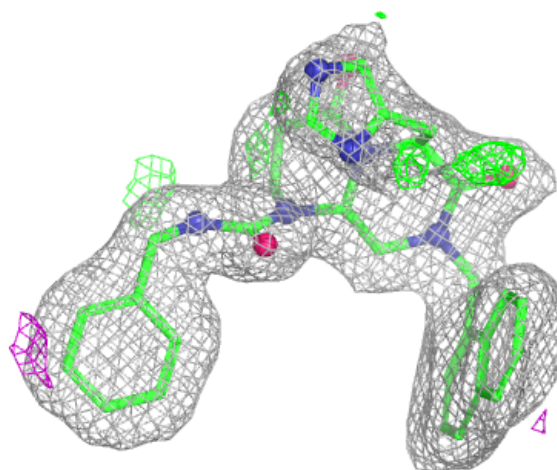
**Electron density around MPD N 303:**

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



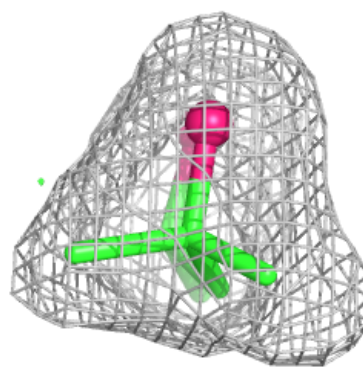
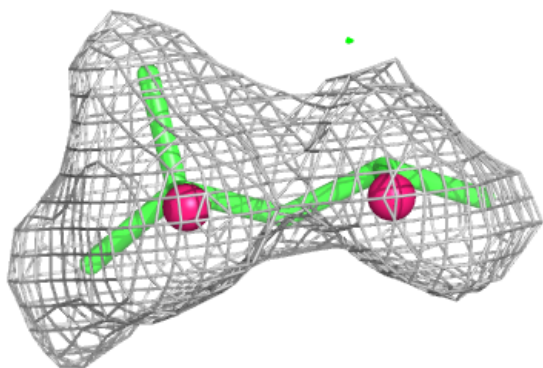
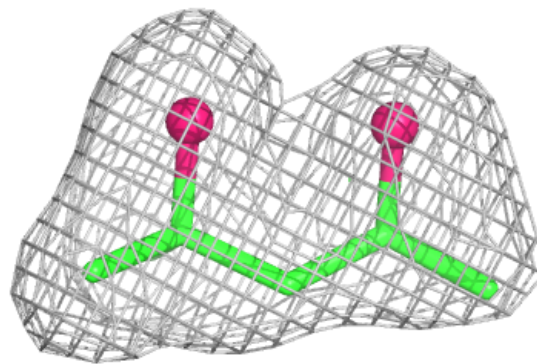
Electron density around A1EEF B 301:

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



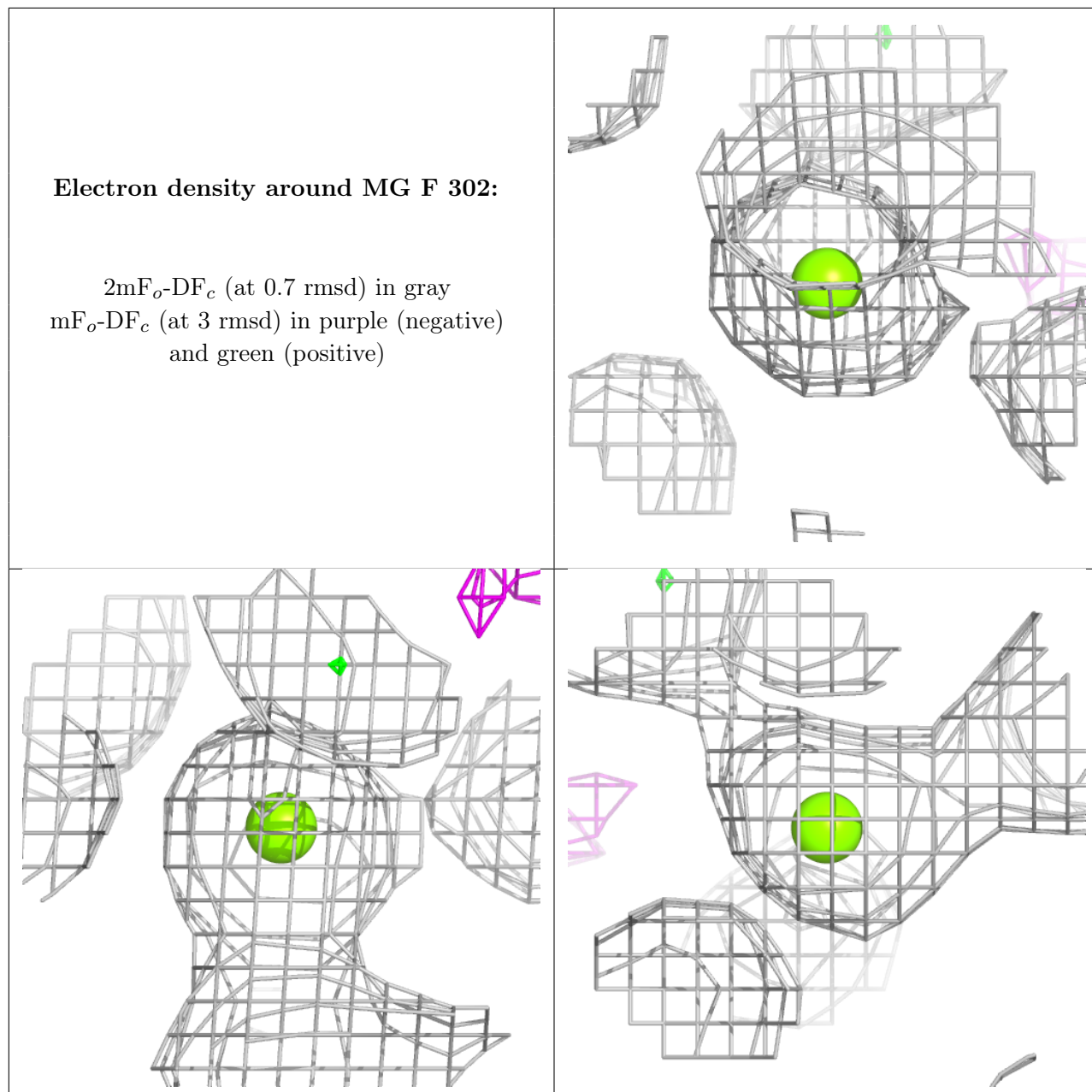
Electron density around MPD M 303:

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



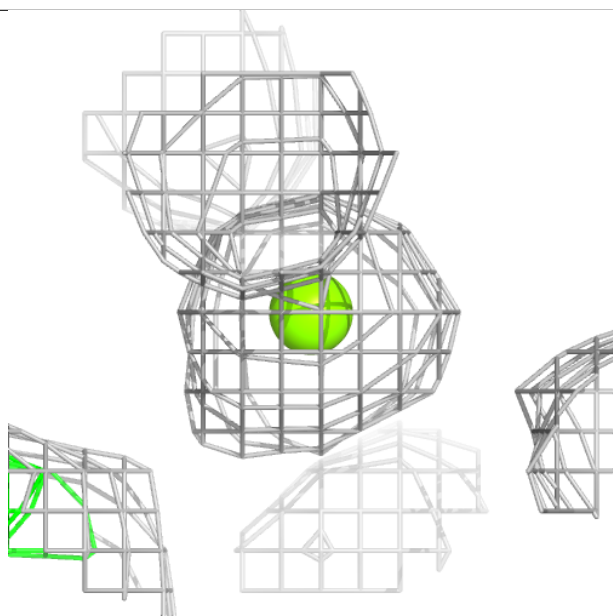
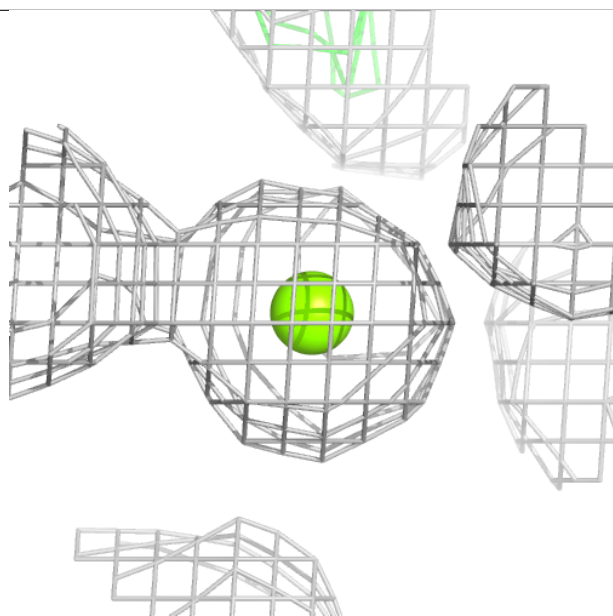
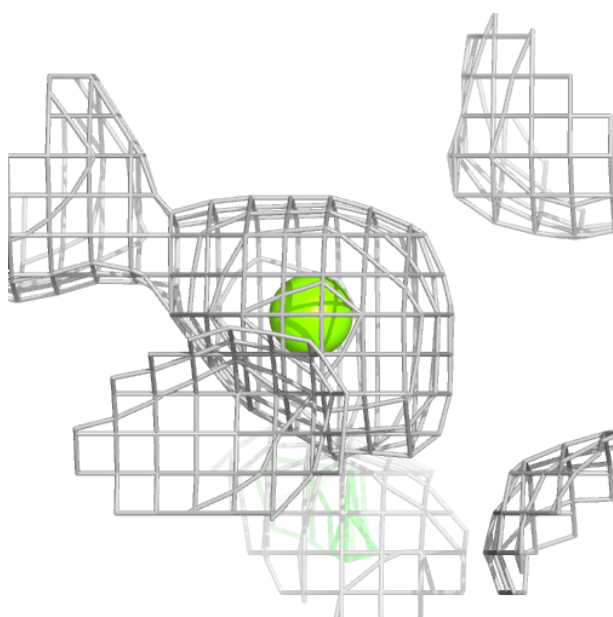
Electron density around MG F 302:

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



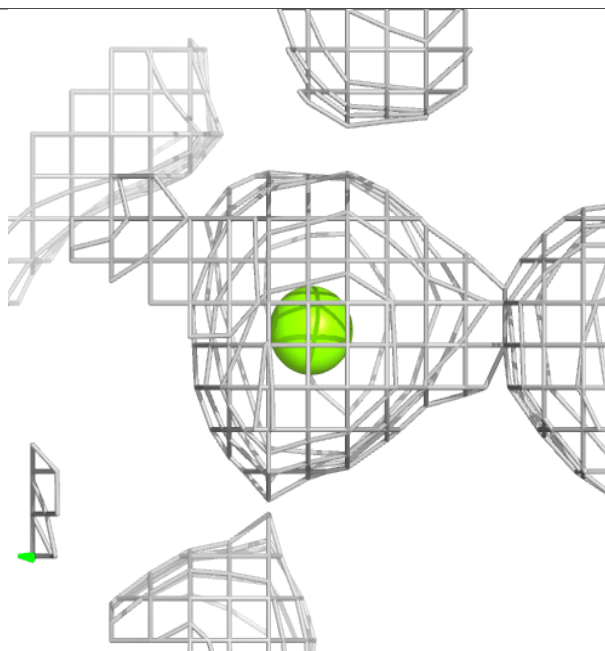
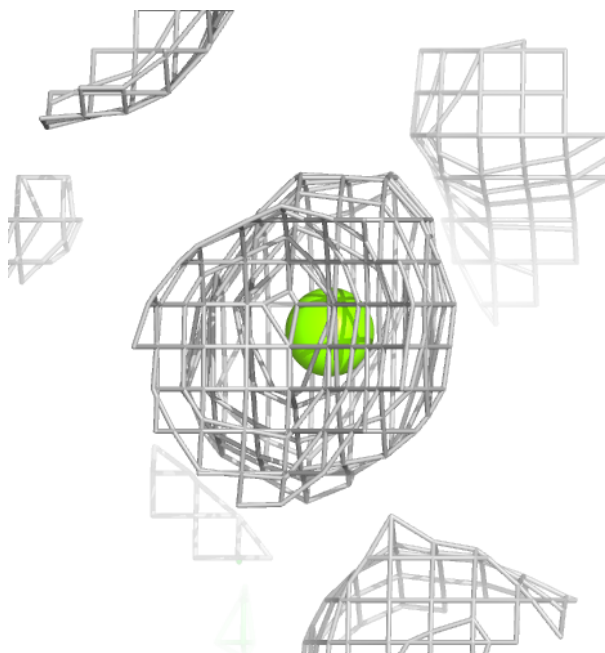
Electron density around MG M 302:

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



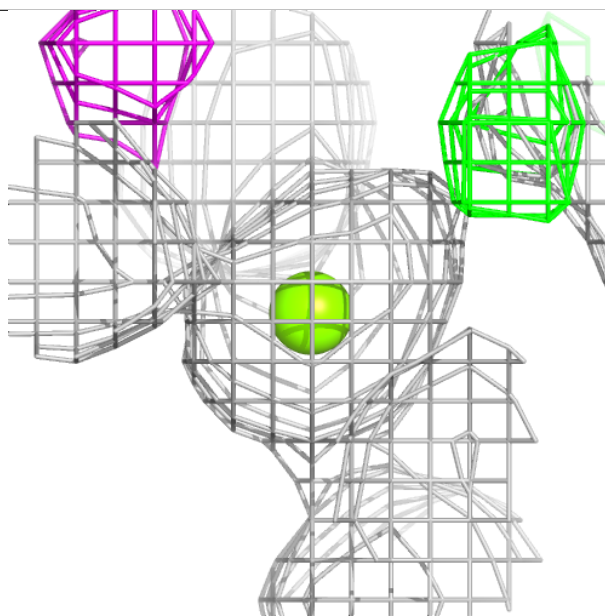
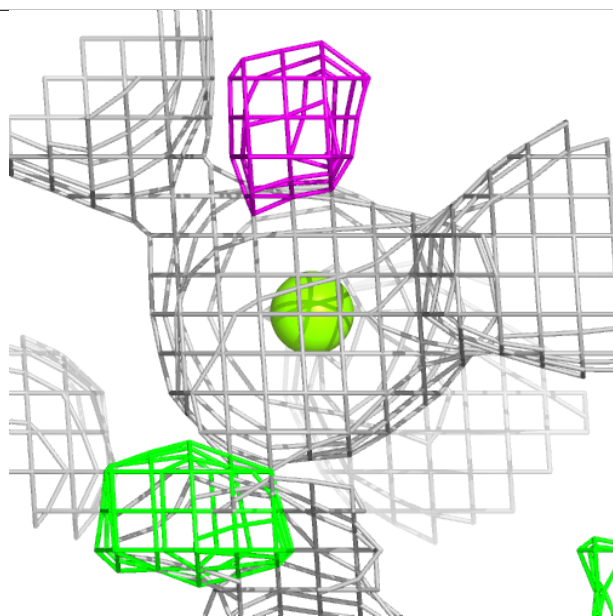
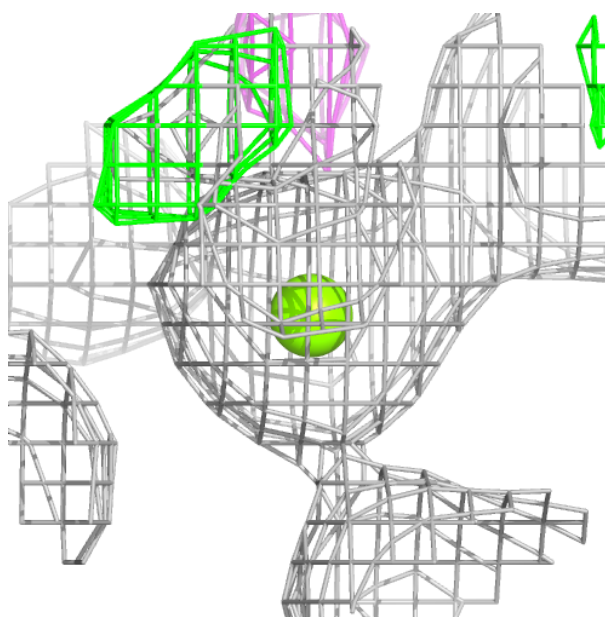
Electron density around MG D 302:

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



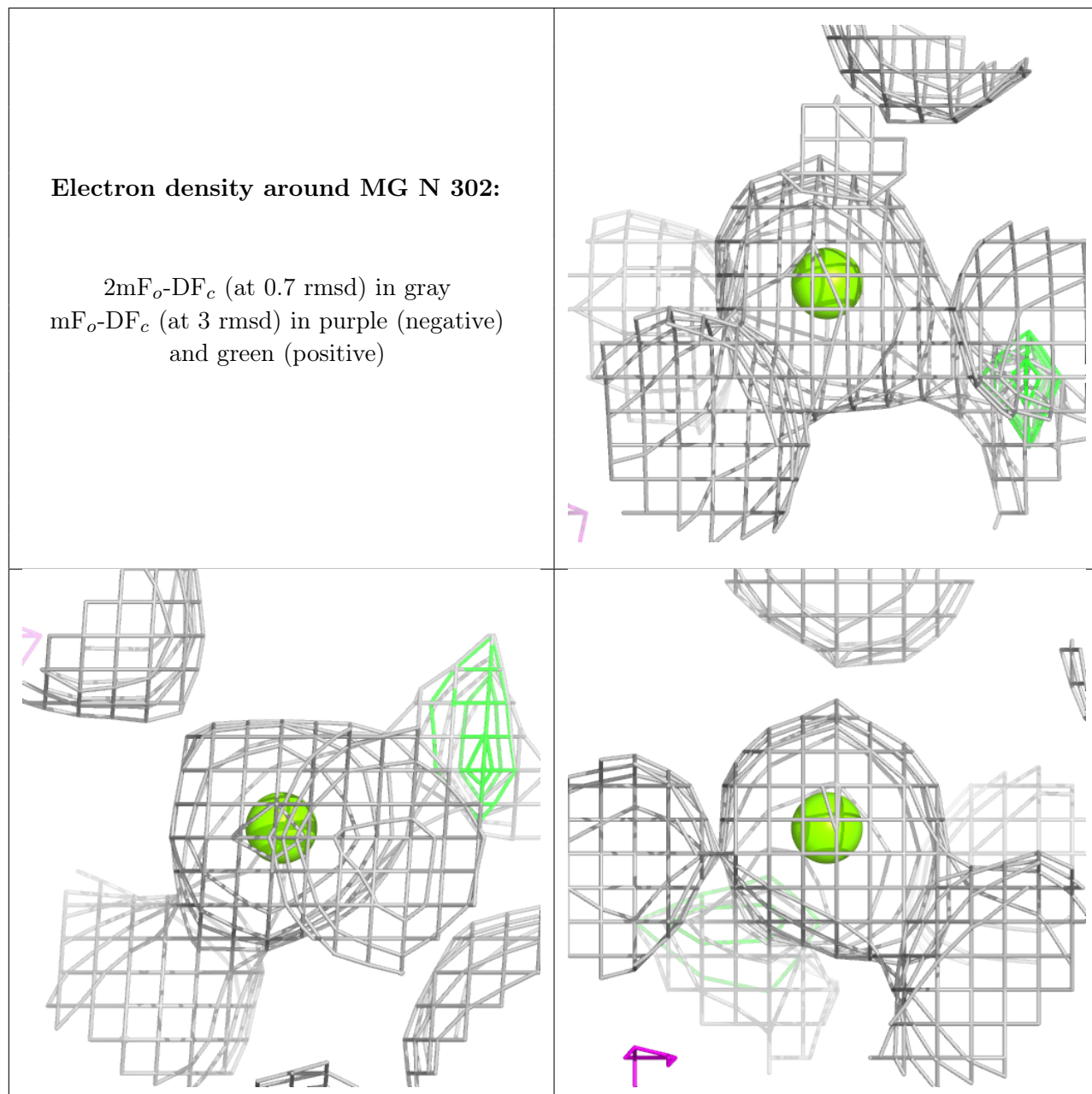
Electron density around MG C 302:

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



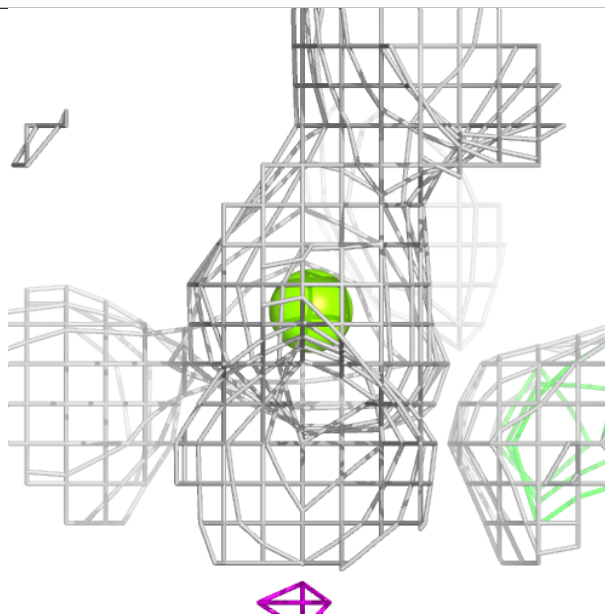
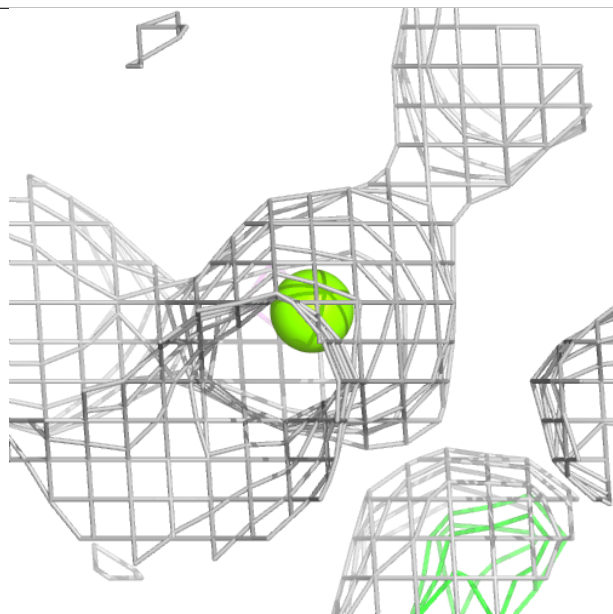
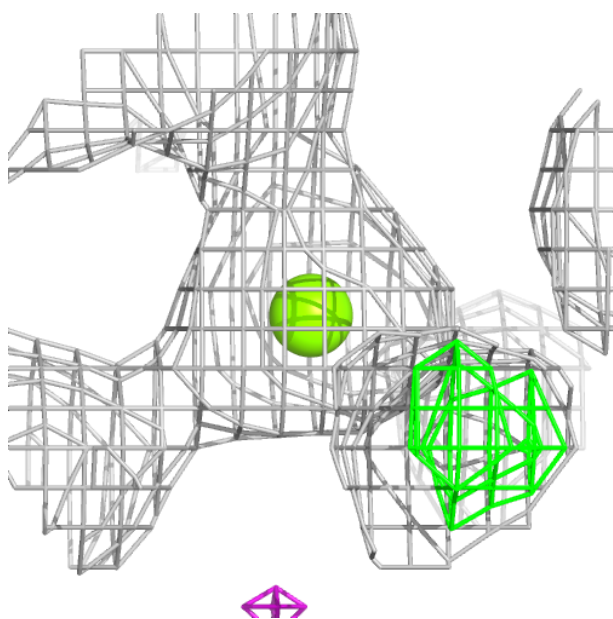
Electron density around MG N 302:

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



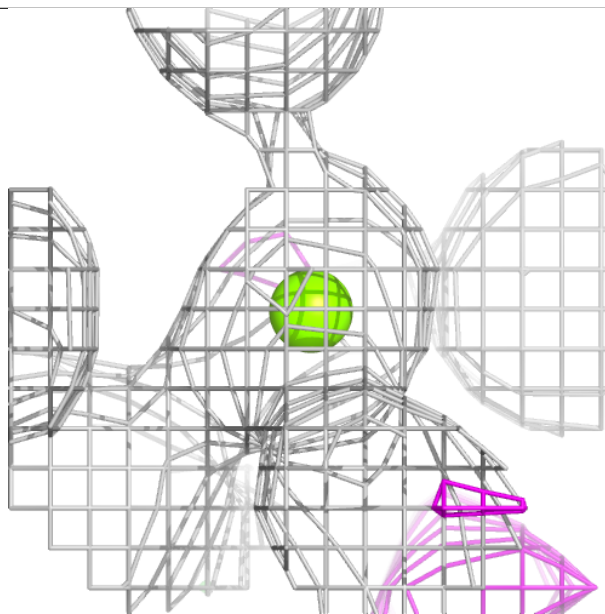
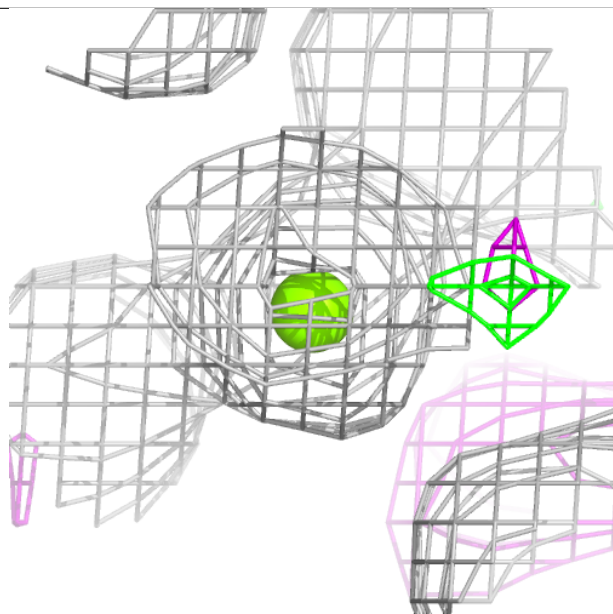
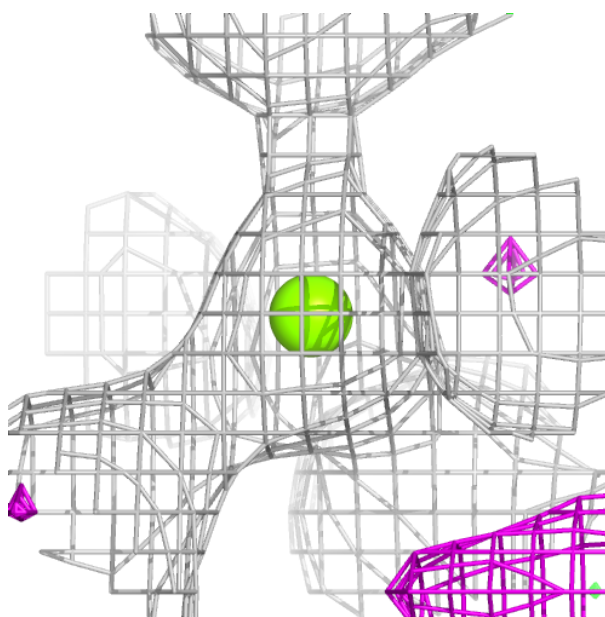
Electron density around MG J 302:

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



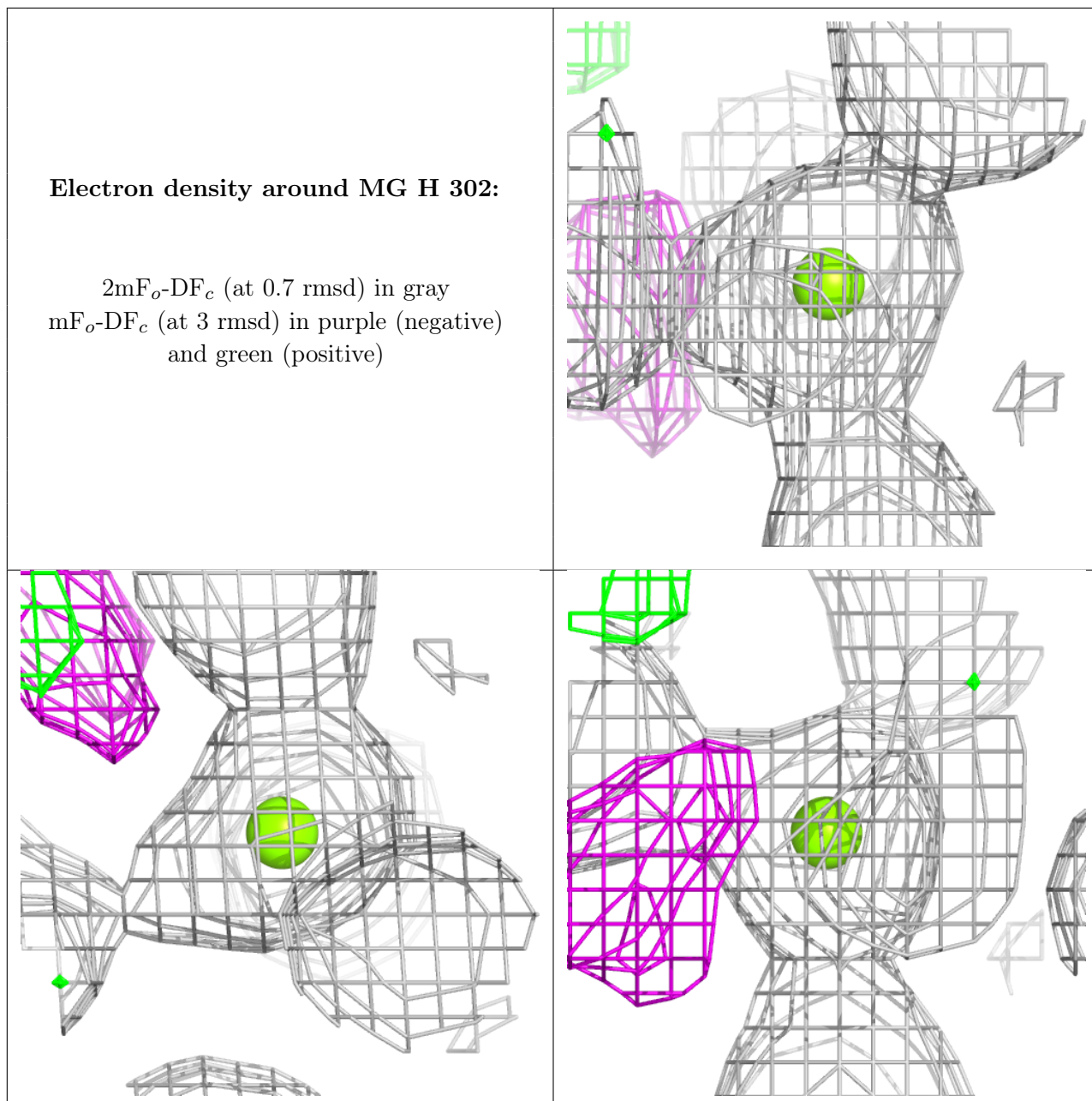
Electron density around MG B 302:

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



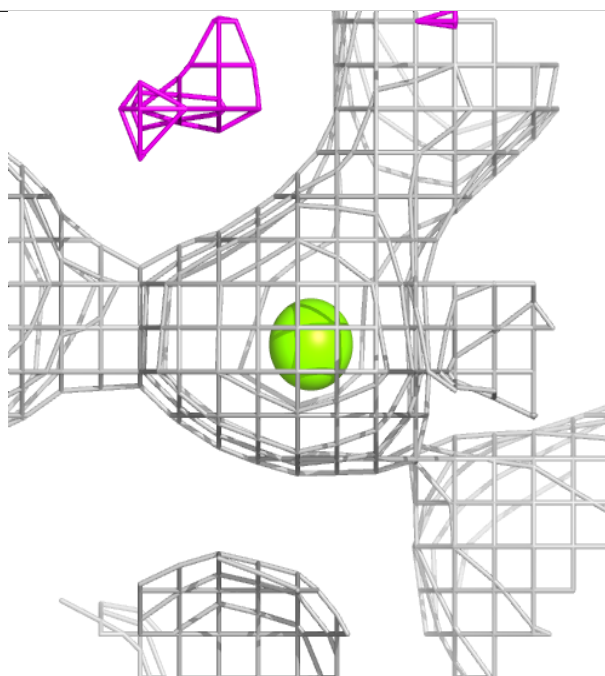
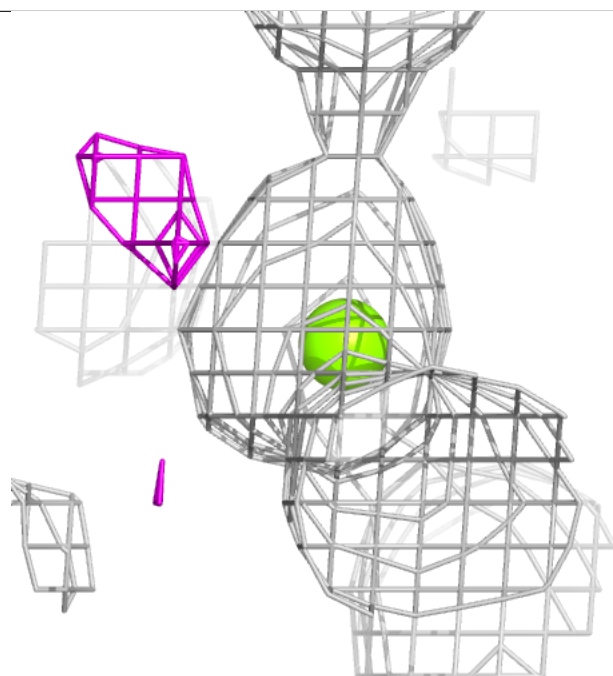
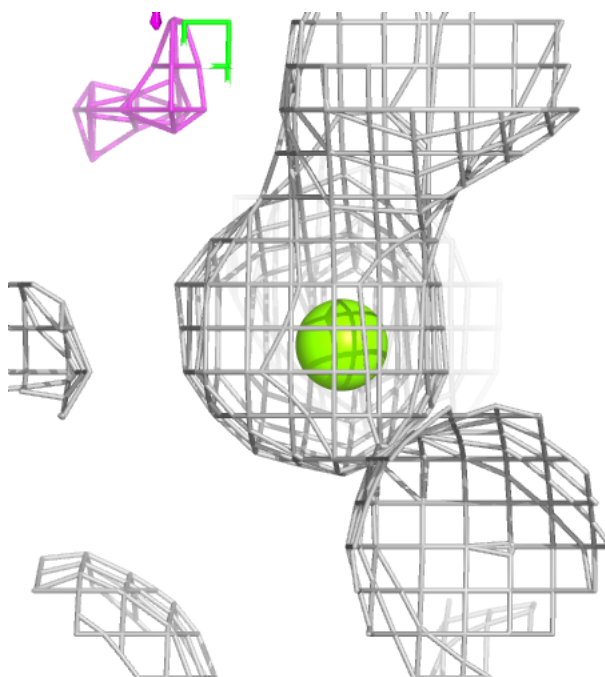
Electron density around MG H 302:

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



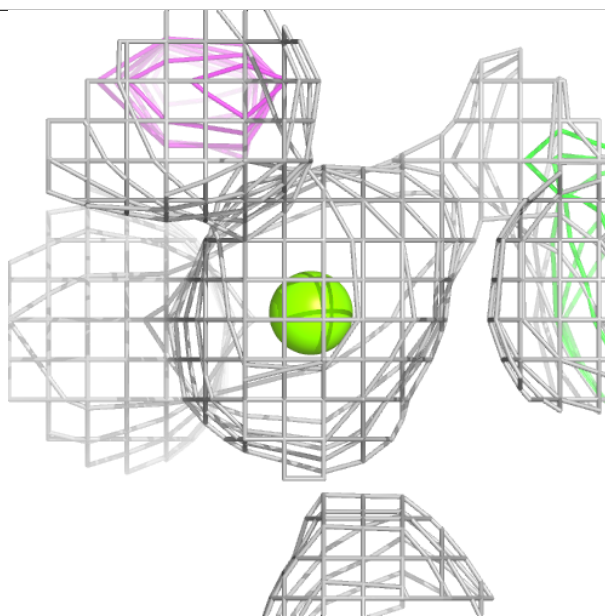
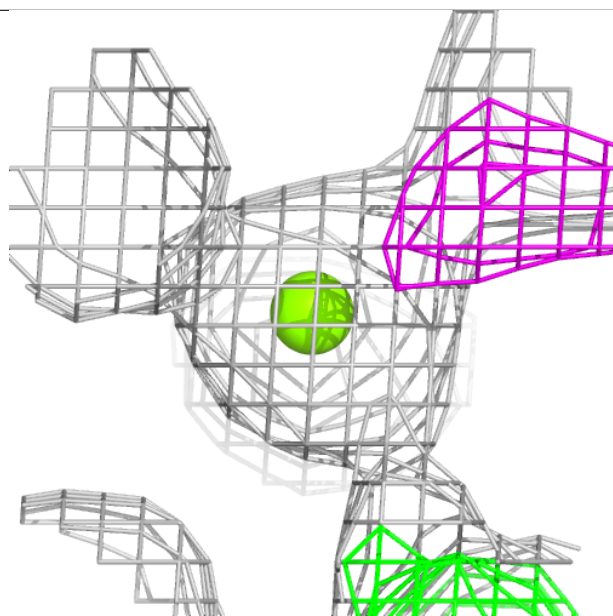
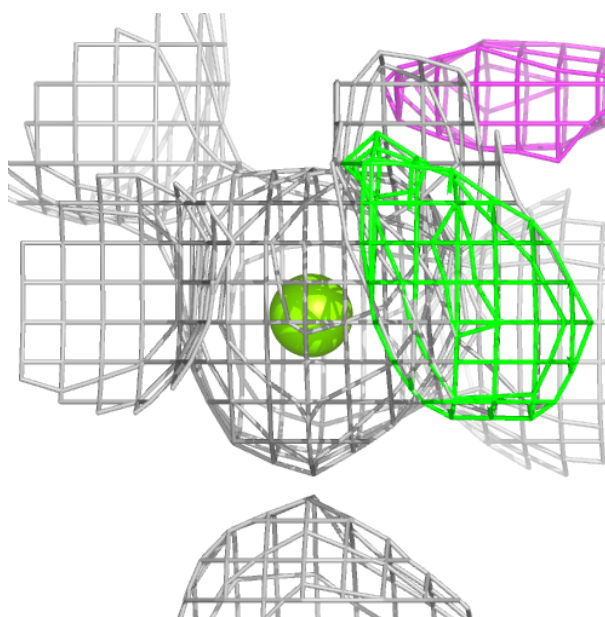
Electron density around MG K 302:

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



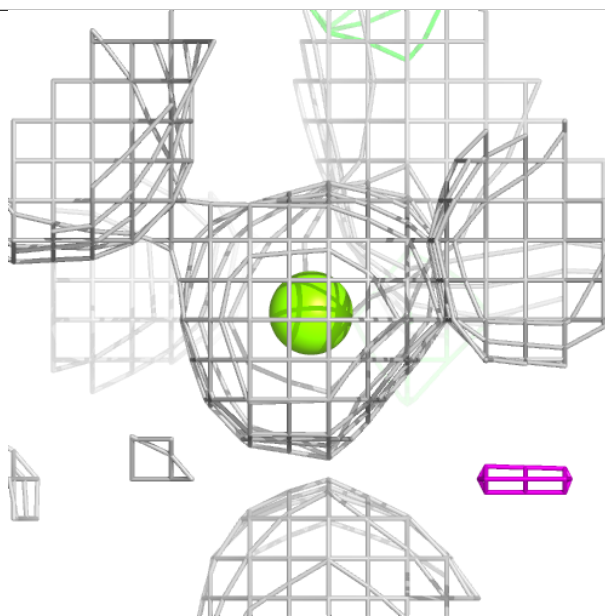
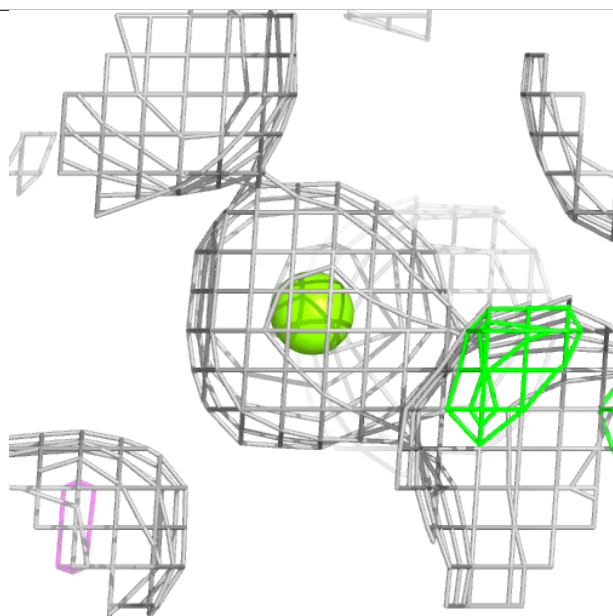
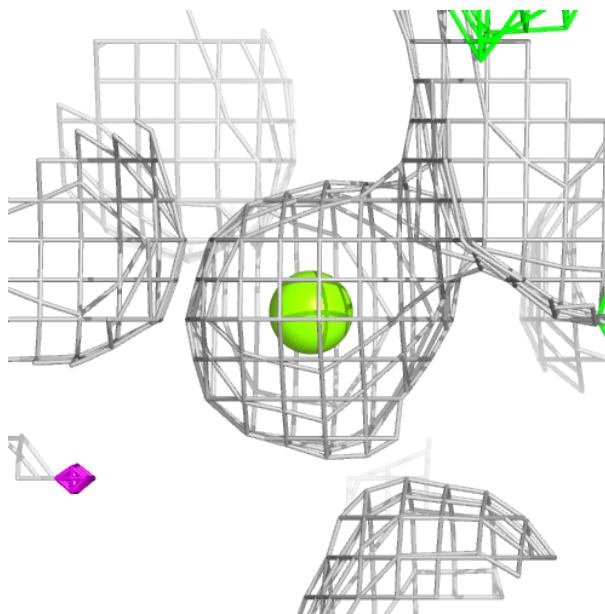
Electron density around MG I 302:

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



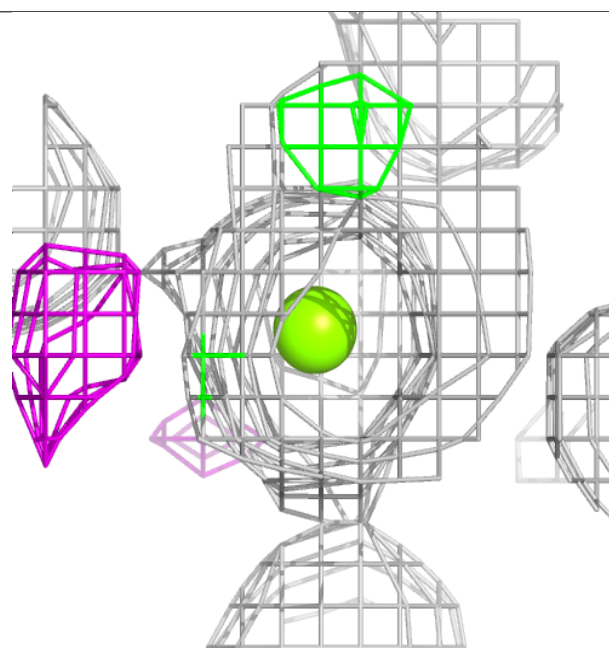
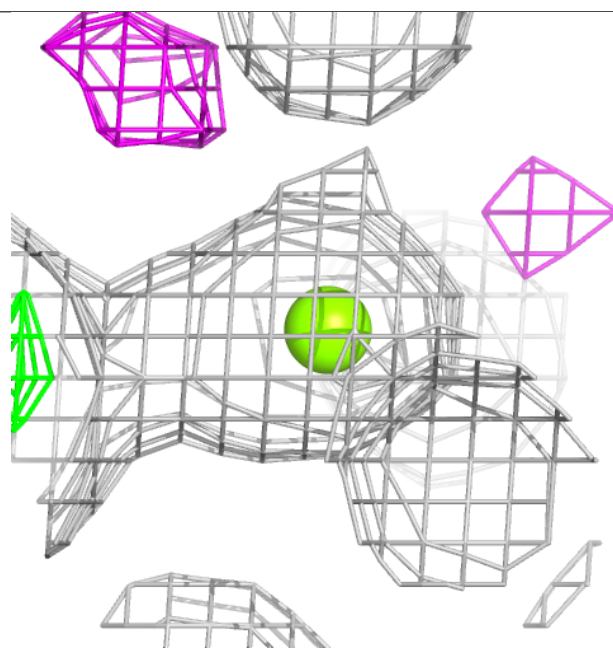
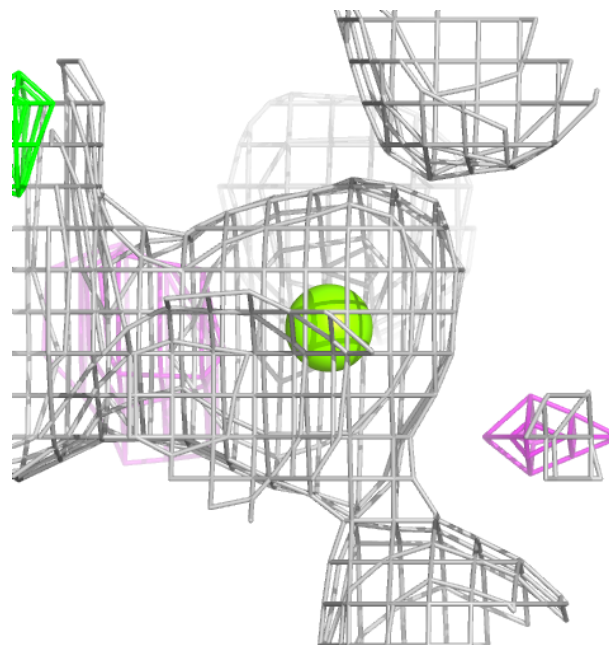
Electron density around MG G 302:

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



Electron density around MG A 302:

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



6.5 Other polymers [i](#)

There are no such residues in this entry.