



# wwPDB X-ray Structure Validation Summary Report ⓘ

Nov 22, 2023 – 09:12 PM JST

PDB ID : 7F86  
Title : Crystal structure of Phycoerythrin from Halomicronema Sp. R31DM  
Authors : Patel, S.N.; Gupta, G.D.; Sonani, R.R.; Singh, N.K.; Kumar, V.; Madamwar, D.  
Deposited on : 2021-07-01  
Resolution : 2.21 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtrriage (Phenix) : 1.13  
EDS : 2.36  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

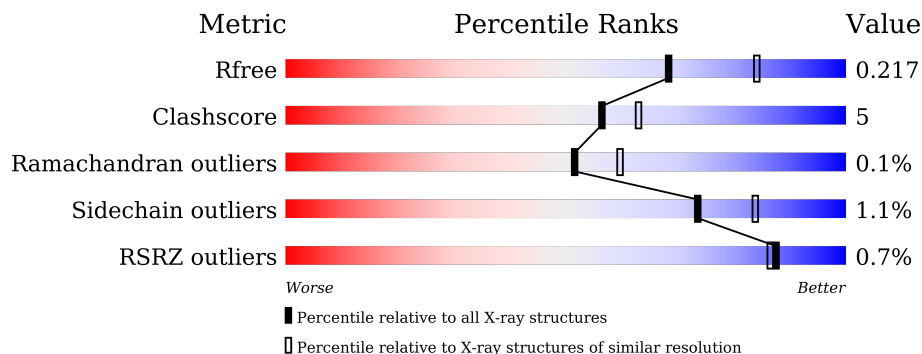
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.21 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.



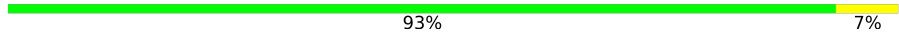

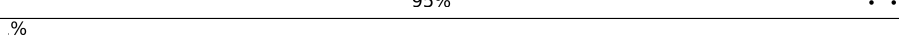
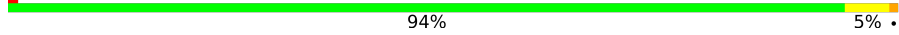

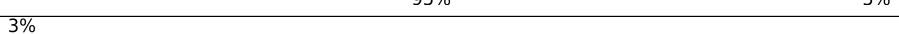


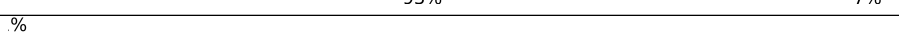
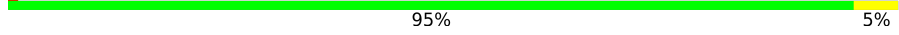

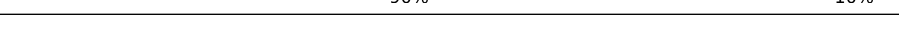
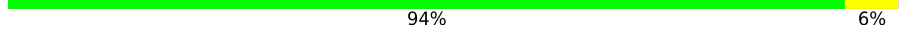

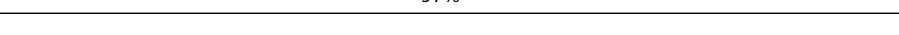
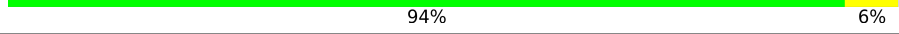

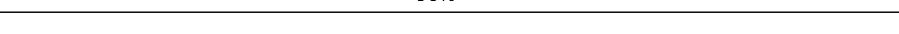
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	5912 (2.24-2.20)
Clashscore	141614	6646 (2.24-2.20)
Ramachandran outliers	138981	6543 (2.24-2.20)
Sidechain outliers	138945	6544 (2.24-2.20)
RSRZ outliers	127900	5797 (2.24-2.20)

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  $\geq 3$ , 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	C	184	 95% 5%
1	E	184	 91% 9%
1	G	184	 95% 5%
1	I	184	 92% 8%
1	K	184	 95% 5%
1	M	184	 91% 9%

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Mol	Chain	Length	Quality of chain
1	N	184	 93% 7%
1	P	184	 3% 95% . .
1	R	184	 % 94% 5% .
1	T	184	 2% 95% 5%
1	V	184	 3% 91% 7% .
1	X	184	 % 93% 7%
2	A	164	 % 95% 5%
2	B	164	 90% 10%
2	D	164	 94% 6%
2	F	164	 % 97% .
2	H	164	 94% 6%
2	J	164	 96% .
2	L	164	 95% 5%
2	O	164	 % 90% 10%
2	Q	164	 91% 9%
2	U	164	 93% 7%
2	W	164	 % 90% 10%
2	Y	164	 94% 6%

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 36454 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 Phycoerythrin beta subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	M	184	1348	828	245	263	12	0	0	0
1	C	184	1348	828	245	263	12	0	0	0
1	E	184	1348	828	245	263	12	0	0	0
1	G	184	1344	826	245	261	12	0	0	0
1	I	184	1348	828	245	263	12	0	0	0
1	K	184	1348	828	245	263	12	0	0	0
1	N	184	1344	826	245	261	12	0	0	0
1	P	184	1348	828	245	263	12	0	0	0
1	R	184	1348	828	245	263	12	0	0	0
1	T	184	1344	826	245	261	12	0	0	0
1	V	184	1348	828	245	263	12	0	0	0
1	X	184	1348	828	245	263	12	0	0	0

- Molecule 2 is a protein called Phycoerythrin alpha subunit.

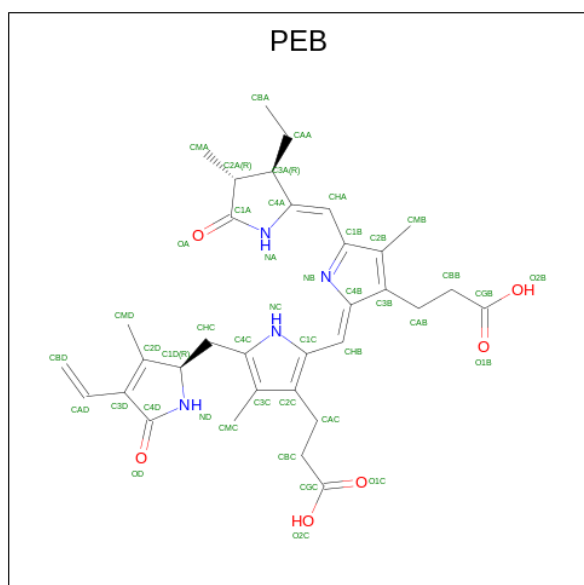
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	A	164	1245	774	220	244	7	0	0	0
2	D	164	1245	774	220	244	7	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0
2	F	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0
2	H	164	Total 1245	C 774	N 218	O 246	S 7	0	1	0
2	J	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0
2	L	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0
2	O	164	Total 1239	C 771	N 217	O 244	S 7	0	0	0
2	Q	164	Total 1245	C 774	N 218	O 246	S 7	0	1	0
2	U	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0
2	W	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0
2	Y	164	Total 1245	C 774	N 220	O 244	S 7	0	0	0

- Molecule 3 is PHYCOERYTHROBILIN (three-letter code: PEB) (formula: C<sub>33</sub>H<sub>40</sub>N<sub>4</sub>O<sub>6</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
3	M	1	Total 43	C 33	N 4	O 6	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	M	1	Total 43	C 33	N 4	O 6	0	0
3	M	1	Total 43	C 33	N 4	O 6	0	0
3	A	1	Total 43	C 33	N 4	O 6	0	0
3	A	1	Total 43	C 33	N 4	O 6	0	0
3	D	1	Total 43	C 33	N 4	O 6	0	0
3	D	1	Total 43	C 33	N 4	O 6	0	0
3	B	1	Total 43	C 33	N 4	O 6	0	0
3	B	1	Total 43	C 33	N 4	O 6	0	0
3	F	1	Total 43	C 33	N 4	O 6	0	0
3	F	1	Total 43	C 33	N 4	O 6	0	0
3	H	1	Total 43	C 33	N 4	O 6	0	0
3	H	1	Total 43	C 33	N 4	O 6	0	0
3	J	1	Total 43	C 33	N 4	O 6	0	0
3	J	1	Total 43	C 33	N 4	O 6	0	0
3	L	1	Total 43	C 33	N 4	O 6	0	0
3	L	1	Total 43	C 33	N 4	O 6	0	0
3	O	1	Total 43	C 33	N 4	O 6	0	0
3	O	1	Total 43	C 33	N 4	O 6	0	0
3	Q	1	Total 43	C 33	N 4	O 6	0	0
3	Q	1	Total 43	C 33	N 4	O 6	0	0
3	U	1	Total 43	C 33	N 4	O 6	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
3	U	1	43	33	4	6	0	0
3	W	1	43	33	4	6	0	0
3	W	1	43	33	4	6	0	0
3	C	1	43	33	4	6	0	0
3	C	1	43	33	4	6	0	0
3	C	1	43	33	4	6	0	0
3	E	1	43	33	4	6	0	0
3	E	1	43	33	4	6	0	0
3	E	1	43	33	4	6	0	0
3	G	1	43	33	4	6	0	0
3	G	1	43	33	4	6	0	0
3	G	1	43	33	4	6	0	0
3	I	1	43	33	4	6	0	0
3	I	1	43	33	4	6	0	0
3	I	1	43	33	4	6	0	0
3	K	1	43	33	4	6	0	0
3	K	1	43	33	4	6	0	0
3	K	1	43	33	4	6	0	0
3	N	1	43	33	4	6	0	0
3	N	1	43	33	4	6	0	0
3	N	1	43	33	4	6	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	P	1	Total	C	N	O	0	0
			43	33	4	6		
3	P	1	Total	C	N	O	0	0
			43	33	4	6		
3	P	1	Total	C	N	O	0	0
			43	33	4	6		
3	R	1	Total	C	N	O	0	0
			43	33	4	6		
3	R	1	Total	C	N	O	0	0
			43	33	4	6		
3	R	1	Total	C	N	O	0	0
			43	33	4	6		
3	T	1	Total	C	N	O	0	0
			43	33	4	6		
3	T	1	Total	C	N	O	0	0
			43	33	4	6		
3	T	1	Total	C	N	O	0	0
			43	33	4	6		
3	V	1	Total	C	N	O	0	0
			43	33	4	6		
3	V	1	Total	C	N	O	0	0
			43	33	4	6		
3	V	1	Total	C	N	O	0	0
			43	33	4	6		
3	X	1	Total	C	N	O	0	0
			43	33	4	6		
3	X	1	Total	C	N	O	0	0
			43	33	4	6		
3	X	1	Total	C	N	O	0	0
			43	33	4	6		
3	Y	1	Total	C	N	O	0	0
			43	33	4	6		
3	Y	1	Total	C	N	O	0	0
			43	33	4	6		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	M	122	Total	O	0	0
			122	122		
4	A	128	Total	O	0	0
			128	128		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	D	116	Total O 116 116	0	0
4	B	154	Total O 154 154	0	0
4	F	128	Total O 128 128	0	0
4	H	111	Total O 111 111	0	0
4	J	129	Total O 129 129	0	0
4	L	117	Total O 117 117	0	0
4	O	102	Total O 102 102	0	0
4	Q	133	Total O 133 133	0	0
4	U	118	Total O 118 118	0	0
4	W	108	Total O 108 108	0	0
4	C	120	Total O 120 120	0	0
4	E	139	Total O 139 139	0	0
4	G	111	Total O 111 111	0	0
4	I	82	Total O 82 82	0	0
4	K	108	Total O 108 108	0	0
4	N	123	Total O 123 123	0	0
4	P	119	Total O 119 119	0	0
4	R	122	Total O 122 122	0	0
4	T	95	Total O 95 95	0	0
4	V	80	Total O 80 80	0	0
4	X	90	Total O 90 90	0	0

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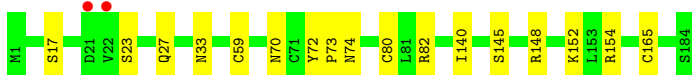
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
4	Y	121	Total 121	O 121	0	0

### 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.

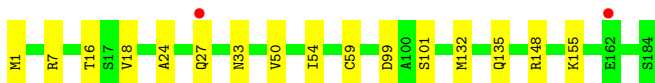
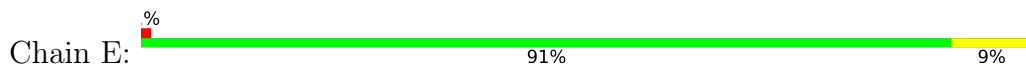
- Molecule 1: Phycoerythrin beta subunit



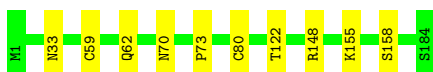
- Molecule 1: Phycoerythrin beta subunit



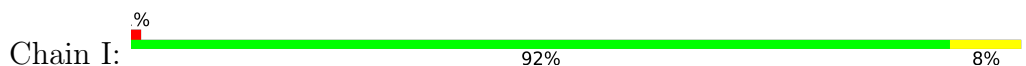
- Molecule 1: Phycoerythrin beta subunit



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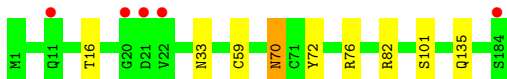
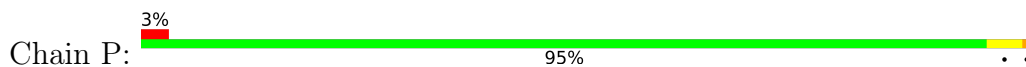
- Molecule 1: Phycoerythrin beta subunit



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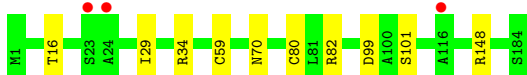
- Molecule 1: Phycoerythrin beta subunit



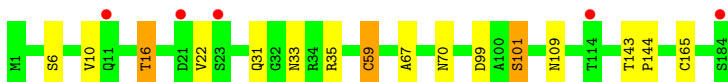
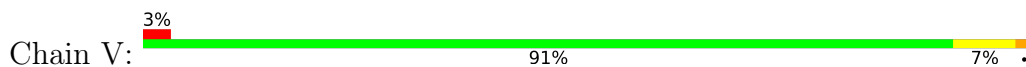
- Molecule 1: Phycoerythrin beta subunit



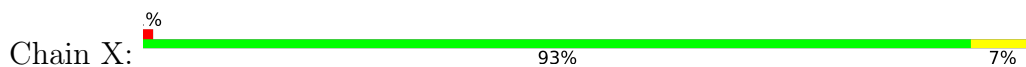
- Molecule 1: Phycoerythrin beta subunit



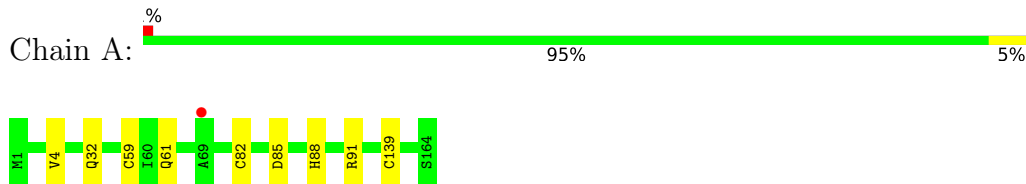
- Molecule 1: Phycoerythrin beta subunit



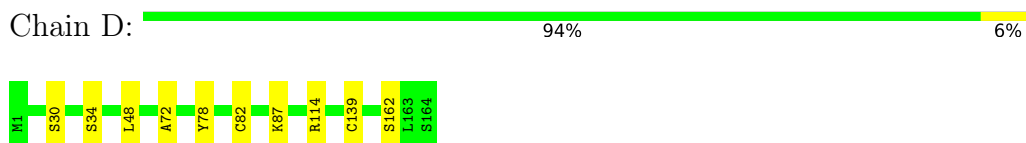
- Molecule 1: Phycoerythrin beta subunit



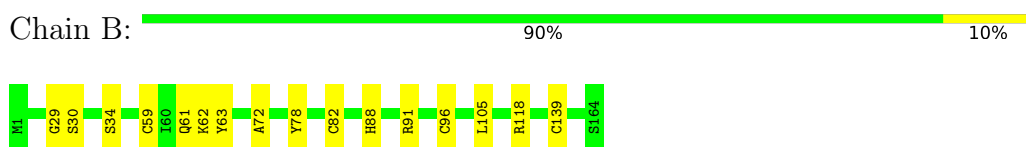
- Molecule 2: Phycoerythrin alpha subunit



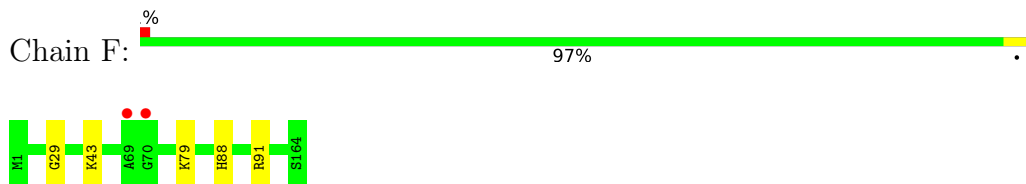
- Molecule 2: Phycoerythrin alpha subunit



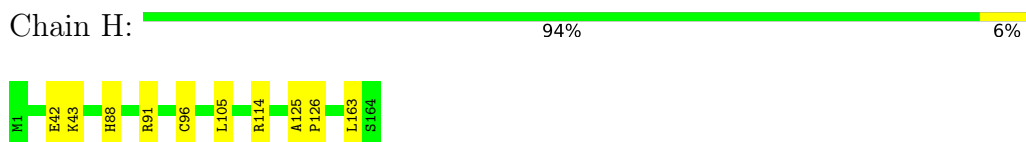
- Molecule 2: Phycoerythrin alpha subunit



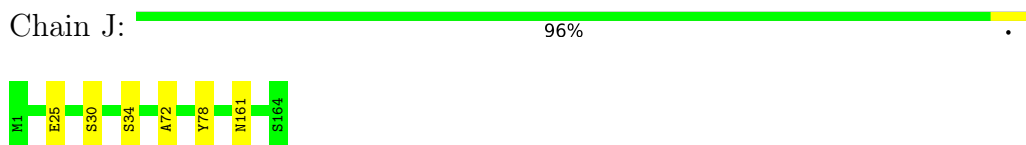
- Molecule 2: Phycoerythrin alpha subunit



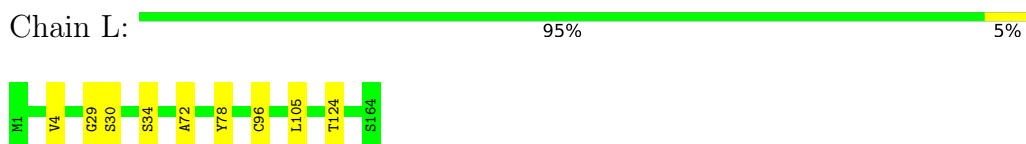
- Molecule 2: Phycoerythrin alpha subunit



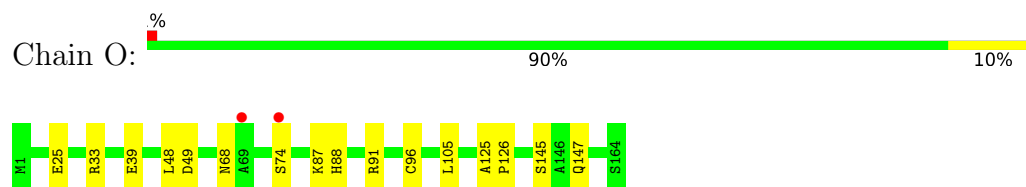
- Molecule 2: Phycoerythrin alpha subunit



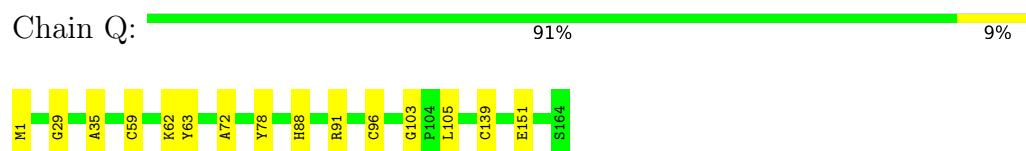
- Molecule 2: Phycoerythrin alpha subunit



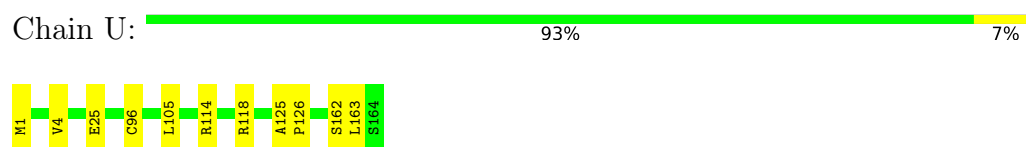
- Molecule 2: Phycoerythrin alpha subunit



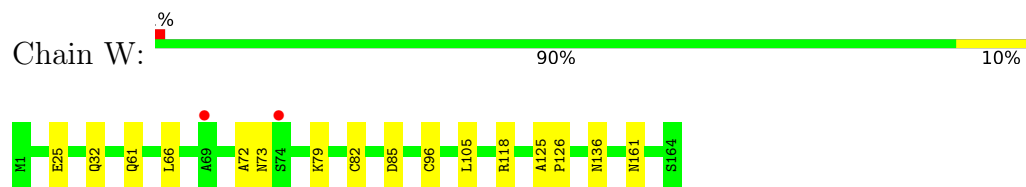
- Molecule 2: Phycoerythrin alpha subunit



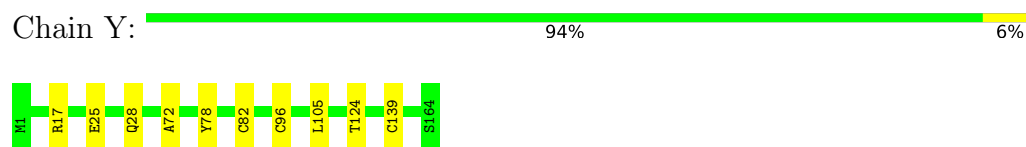
- Molecule 2: Phycoerythrin alpha subunit



- Molecule 2: Phycoerythrin alpha subunit



- Molecule 2: Phycoerythrin alpha subunit



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	108.59Å 108.63Å 116.93Å 78.37° 82.53° 62.11°	Depositor
Resolution (Å)	42.17 – 2.21 42.17 – 2.21	Depositor EDS
% Data completeness (in resolution range)	97.2 (42.17-2.21) 97.3 (42.17-2.21)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	7.63 (at 2.20Å)	Xtrriage
Refinement program	REFMAC 5.8.0258	Depositor
R, $R_{free}$	0.163 , 0.210 0.173 , 0.217	Depositor DCC
$R_{free}$ test set	11103 reflections (4.93%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	15.2	Xtrriage
Anisotropy	0.331	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.39 , 57.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	36454	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	19.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 11.94% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: PEB, MEN

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	C	0.73	0/1350	0.86	0/1822
1	E	0.73	0/1350	0.85	0/1822
1	G	0.76	0/1346	0.88	0/1817
1	I	0.73	0/1350	0.84	0/1822
1	K	0.77	0/1350	0.83	0/1822
1	M	0.76	0/1350	0.85	0/1822
1	N	0.77	0/1346	0.87	0/1817
1	P	0.78	0/1350	0.84	0/1822
1	R	0.72	0/1350	0.84	0/1822
1	T	0.74	0/1346	0.84	0/1817
1	V	0.74	0/1350	0.83	0/1822
1	X	0.76	0/1350	0.85	0/1822
2	A	0.73	0/1265	0.83	0/1715
2	B	0.74	0/1265	0.85	0/1715
2	D	0.78	0/1265	0.84	0/1715
2	F	0.74	0/1265	0.86	0/1715
2	H	0.76	0/1265	0.82	0/1716
2	J	0.76	0/1265	0.85	0/1715
2	L	0.75	0/1265	0.87	0/1715
2	O	0.75	0/1259	0.84	0/1708
2	Q	0.76	0/1265	0.86	0/1716
2	U	0.74	0/1265	0.83	0/1715
2	W	0.75	0/1265	0.86	0/1715
2	Y	0.75	0/1265	0.86	0/1715
All	All	0.75	0/31362	0.85	0/42424

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	C	1348	0	1364	10	0
1	E	1348	0	1364	12	0
1	G	1344	0	1359	7	0
1	I	1348	0	1364	16	0
1	K	1348	0	1364	11	0
1	M	1348	0	1365	21	0
1	N	1344	0	1360	14	0
1	P	1348	0	1363	8	0
1	R	1348	0	1364	10	0
1	T	1344	0	1360	10	0
1	V	1348	0	1365	17	0
1	X	1348	0	1364	11	0
2	A	1245	0	1227	19	0
2	B	1245	0	1227	23	0
2	D	1245	0	1227	13	0
2	F	1245	0	1225	8	0
2	H	1245	0	1218	7	0
2	J	1245	0	1225	4	0
2	L	1245	0	1225	5	0
2	O	1239	0	1214	10	0
2	Q	1245	0	1219	14	0
2	U	1245	0	1225	11	0
2	W	1245	0	1225	16	0
2	Y	1245	0	1227	13	0
3	A	86	0	76	12	0
3	B	86	0	76	13	0
3	C	129	0	111	9	0
3	D	86	0	76	7	0
3	E	129	0	111	8	0
3	F	86	0	74	1	0
3	G	129	0	110	8	0
3	H	86	0	74	1	0
3	I	129	0	111	16	0
3	J	86	0	74	2	0
3	K	129	0	111	14	0
3	L	86	0	73	1	0
3	M	129	0	112	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	N	129	0	111	13	0
3	O	86	0	74	0	0
3	P	129	0	110	9	0
3	Q	86	0	75	5	0
3	R	129	0	111	10	0
3	T	129	0	111	16	0
3	U	86	0	74	2	0
3	V	129	0	112	15	0
3	W	86	0	74	4	0
3	X	129	0	111	12	0
3	Y	86	0	76	11	0
4	A	128	0	0	0	0
4	B	154	0	0	1	0
4	C	120	0	0	2	0
4	D	116	0	0	1	0
4	E	139	0	0	0	0
4	F	128	0	0	4	0
4	G	111	0	0	2	0
4	H	111	0	0	1	0
4	I	82	0	0	0	0
4	J	129	0	0	1	0
4	K	108	0	0	1	0
4	L	117	0	0	1	0
4	M	122	0	0	2	0
4	N	123	0	0	2	0
4	O	102	0	0	0	0
4	P	119	0	0	1	0
4	Q	133	0	0	3	0
4	R	122	0	0	3	0
4	T	95	0	0	2	0
4	U	118	0	0	0	0
4	V	80	0	0	1	0
4	W	108	0	0	1	0
4	X	90	0	0	1	0
4	Y	121	0	0	1	0
All	All	36454	0	33268	334	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 5.

The worst 5 of 334 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)
2:B:82:CYS:SG	3:B:201:PEB:HAA2	1.17	1.75
1:M:165:CYS:SG	3:M:301:PEB:HAA1	1.28	1.73
1:M:80:CYS:SG	3:M:303:PEB:HAA2	1.14	1.71
2:Y:82:CYS:SG	3:Y:201:PEB:HAA2	1.27	1.70
2:D:139:CYS:SG	3:D:202:PEB:HAA2	1.25	1.67

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	C	181/184 (98%)	174 (96%)	7 (4%)	0	100	100
1	E	181/184 (98%)	175 (97%)	6 (3%)	0	100	100
1	G	181/184 (98%)	173 (96%)	8 (4%)	0	100	100
1	I	181/184 (98%)	174 (96%)	6 (3%)	1 (1%)	25	25
1	K	181/184 (98%)	176 (97%)	5 (3%)	0	100	100
1	M	181/184 (98%)	177 (98%)	3 (2%)	1 (1%)	25	25
1	N	181/184 (98%)	175 (97%)	6 (3%)	0	100	100
1	P	181/184 (98%)	175 (97%)	6 (3%)	0	100	100
1	R	181/184 (98%)	177 (98%)	3 (2%)	1 (1%)	25	25
1	T	181/184 (98%)	176 (97%)	5 (3%)	0	100	100
1	V	181/184 (98%)	172 (95%)	8 (4%)	1 (1%)	25	25
1	X	181/184 (98%)	174 (96%)	7 (4%)	0	100	100
2	A	162/164 (99%)	159 (98%)	3 (2%)	0	100	100
2	B	162/164 (99%)	160 (99%)	2 (1%)	0	100	100
2	D	162/164 (99%)	159 (98%)	3 (2%)	0	100	100
2	F	162/164 (99%)	159 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	H	163/164 (99%)	159 (98%)	4 (2%)	0	100	100
2	J	162/164 (99%)	161 (99%)	1 (1%)	0	100	100
2	L	162/164 (99%)	158 (98%)	4 (2%)	0	100	100
2	O	162/164 (99%)	157 (97%)	5 (3%)	0	100	100
2	Q	163/164 (99%)	160 (98%)	3 (2%)	0	100	100
2	U	162/164 (99%)	160 (99%)	2 (1%)	0	100	100
2	W	162/164 (99%)	161 (99%)	1 (1%)	0	100	100
2	Y	162/164 (99%)	159 (98%)	3 (2%)	0	100	100
All	All	4118/4176 (99%)	4010 (97%)	104 (2%)	4 (0%)	51	60

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	V	16	THR
1	M	73	PRO
1	I	73	PRO
1	R	73	PRO

### 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	C	139/139 (100%)	137 (99%)	2 (1%)	67	78
1	E	139/139 (100%)	136 (98%)	3 (2%)	52	64
1	G	138/139 (99%)	135 (98%)	3 (2%)	52	64
1	I	139/139 (100%)	137 (99%)	2 (1%)	67	78
1	K	139/139 (100%)	137 (99%)	2 (1%)	67	78
1	M	139/139 (100%)	137 (99%)	2 (1%)	67	78
1	N	138/139 (99%)	138 (100%)	0	100	100
1	P	139/139 (100%)	138 (99%)	1 (1%)	84	91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	R	139/139 (100%)	136 (98%)	3 (2%)	52	64
1	T	138/139 (99%)	136 (99%)	2 (1%)	67	78
1	V	139/139 (100%)	135 (97%)	4 (3%)	42	53
1	X	139/139 (100%)	138 (99%)	1 (1%)	84	91
2	A	128/128 (100%)	126 (98%)	2 (2%)	62	75
2	B	128/128 (100%)	127 (99%)	1 (1%)	81	89
2	D	128/128 (100%)	128 (100%)	0	100	100
2	F	128/128 (100%)	128 (100%)	0	100	100
2	H	128/128 (100%)	128 (100%)	0	100	100
2	J	128/128 (100%)	128 (100%)	0	100	100
2	L	128/128 (100%)	127 (99%)	1 (1%)	81	89
2	O	127/128 (99%)	126 (99%)	1 (1%)	81	89
2	Q	128/128 (100%)	127 (99%)	1 (1%)	81	89
2	U	128/128 (100%)	127 (99%)	1 (1%)	81	89
2	W	128/128 (100%)	127 (99%)	1 (1%)	81	89
2	Y	128/128 (100%)	127 (99%)	1 (1%)	81	89
All	All	3200/3204 (100%)	3166 (99%)	34 (1%)	73	84

5 of 34 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	V	22	VAL
1	V	59	CYS
1	X	158	SER
1	E	1	MET
1	C	73	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 14 such sidechains are listed below:

Mol	Chain	Res	Type
2	O	88	HIS
2	Q	88	HIS
1	X	109	ASN
1	T	11	GLN
1	V	31	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

12 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
1	MEN	N	70	1	7,8,9	0.69	0	6,9,11	0.75	0
1	MEN	X	70	1	7,8,9	0.57	0	6,9,11	1.60	2 (33%)
1	MEN	P	70	1	7,8,9	0.75	0	6,9,11	1.66	1 (16%)
1	MEN	K	70	1	7,8,9	0.56	0	6,9,11	1.08	0
1	MEN	V	70	1	7,8,9	0.61	0	6,9,11	1.15	1 (16%)
1	MEN	I	70	1	7,8,9	0.78	0	6,9,11	0.71	0
1	MEN	C	70	1	7,8,9	0.95	0	6,9,11	1.36	1 (16%)
1	MEN	T	70	1	7,8,9	0.65	0	6,9,11	1.10	0
1	MEN	R	70	1	7,8,9	0.59	0	6,9,11	0.74	0
1	MEN	E	70	1	7,8,9	0.65	0	6,9,11	0.66	0
1	MEN	M	70	1	7,8,9	0.73	0	6,9,11	1.19	1 (16%)
1	MEN	G	70	1	7,8,9	0.72	0	6,9,11	0.98	1 (16%)

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
1	MEN	N	70	1	-	4/7/8/10	-
1	MEN	X	70	1	-	2/7/8/10	-
1	MEN	P	70	1	-	4/7/8/10	-
1	MEN	K	70	1	-	3/7/8/10	-
1	MEN	V	70	1	-	3/7/8/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	MEN	I	70	1	-	3/7/8/10	-
1	MEN	C	70	1	-	2/7/8/10	-
1	MEN	T	70	1	-	4/7/8/10	-
1	MEN	R	70	1	-	3/7/8/10	-
1	MEN	E	70	1	-	3/7/8/10	-
1	MEN	M	70	1	-	3/7/8/10	-
1	MEN	G	70	1	-	3/7/8/10	-

There are no bond length outliers.

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	P	70	MEN	OD1-CG-CB	3.81	127.07	121.50
1	X	70	MEN	CB-CA-C	2.91	116.92	111.47
1	M	70	MEN	CB-CA-C	2.64	116.42	111.47
1	C	70	MEN	CB-CG-ND2	-2.58	112.01	115.48
1	V	70	MEN	CB-CA-C	2.56	116.27	111.47

There are no chirality outliers.

5 of 37 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	N	70	MEN	C-CA-CB-CG
1	T	70	MEN	C-CA-CB-CG
1	N	70	MEN	N-CA-CB-CG
1	P	70	MEN	N-CA-CB-CG
1	T	70	MEN	N-CA-CB-CG

There are no ring outliers.

4 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	N	70	MEN	1	0
1	P	70	MEN	2	0
1	K	70	MEN	1	0
1	T	70	MEN	1	0

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

60 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	PEB	M	301	-	43,46,46	1.38	3 (6%)	45,67,67	1.14	5 (11%)
3	PEB	G	302	1	43,46,46	1.54	3 (6%)	45,67,67	1.31	6 (13%)
3	PEB	O	202	2	43,46,46	1.27	3 (6%)	45,67,67	1.24	4 (8%)
3	PEB	E	301	1	43,46,46	1.79	2 (4%)	45,67,67	1.08	3 (6%)
3	PEB	R	301	1	43,46,46	1.22	2 (4%)	45,67,67	1.27	4 (8%)
3	PEB	K	303	1	43,46,46	1.47	3 (6%)	45,67,67	1.21	4 (8%)
3	PEB	V	303	1	43,46,46	1.59	3 (6%)	45,67,67	1.33	7 (15%)
3	PEB	L	201	2	43,46,46	1.25	2 (4%)	45,67,67	1.77	9 (20%)
3	PEB	N	302	1	43,46,46	1.60	4 (9%)	45,67,67	1.12	4 (8%)
3	PEB	Q	202	-	43,46,46	1.54	3 (6%)	45,67,67	1.24	6 (13%)
3	PEB	U	201	2	43,46,46	1.40	3 (6%)	45,67,67	1.41	7 (15%)
3	PEB	X	302	1	43,46,46	1.78	2 (4%)	45,67,67	1.31	7 (15%)
3	PEB	V	301	-	43,46,46	1.44	2 (4%)	45,67,67	0.94	1 (2%)
3	PEB	D	202	-	43,46,46	1.69	3 (6%)	45,67,67	1.36	7 (15%)
3	PEB	L	202	2	43,46,46	1.49	4 (9%)	45,67,67	1.24	5 (11%)
3	PEB	U	202	2	43,46,46	1.38	2 (4%)	45,67,67	1.15	6 (13%)
3	PEB	K	302	1	43,46,46	1.34	4 (9%)	45,67,67	1.00	2 (4%)
3	PEB	R	303	1	43,46,46	1.28	4 (9%)	45,67,67	1.32	5 (11%)
3	PEB	J	201	2	43,46,46	1.13	3 (6%)	45,67,67	1.58	6 (13%)
3	PEB	F	201	2	43,46,46	1.46	3 (6%)	45,67,67	1.64	3 (6%)
3	PEB	B	201	-	43,46,46	1.37	2 (4%)	45,67,67	1.49	7 (15%)
3	PEB	M	303	-	43,46,46	1.60	2 (4%)	45,67,67	1.33	6 (13%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	PEB	I	301	1	43,46,46	1.32	3 (6%)	45,67,67	0.98	3 (6%)
3	PEB	C	303	1	43,46,46	1.57	3 (6%)	45,67,67	1.23	4 (8%)
3	PEB	X	301	1	43,46,46	1.35	2 (4%)	45,67,67	0.99	3 (6%)
3	PEB	G	301	1	43,46,46	1.31	4 (9%)	45,67,67	1.00	2 (4%)
3	PEB	P	303	1	43,46,46	1.62	5 (11%)	45,67,67	1.42	8 (17%)
3	PEB	B	202	-	43,46,46	1.49	3 (6%)	45,67,67	1.13	6 (13%)
3	PEB	O	201	2	43,46,46	1.52	4 (9%)	45,67,67	1.30	5 (11%)
3	PEB	T	301	1	43,46,46	1.61	3 (6%)	45,67,67	1.15	5 (11%)
3	PEB	K	301	1	43,46,46	1.63	3 (6%)	45,67,67	1.17	4 (8%)
3	PEB	N	301	1	43,46,46	1.57	2 (4%)	45,67,67	0.97	3 (6%)
3	PEB	D	201	-	43,46,46	1.23	3 (6%)	45,67,67	1.60	8 (17%)
3	PEB	H	201	2	43,46,46	1.37	3 (6%)	45,67,67	1.43	8 (17%)
3	PEB	P	301	1	43,46,46	1.46	2 (4%)	45,67,67	1.07	3 (6%)
3	PEB	F	202	2	43,46,46	1.28	3 (6%)	45,67,67	1.23	3 (6%)
3	PEB	Q	201	2	43,46,46	1.68	2 (4%)	45,67,67	1.45	5 (11%)
3	PEB	J	202	2	43,46,46	1.29	2 (4%)	45,67,67	1.23	5 (11%)
3	PEB	I	302	-	43,46,46	1.85	2 (4%)	45,67,67	1.18	5 (11%)
3	PEB	A	201	-	43,46,46	1.31	3 (6%)	45,67,67	1.39	5 (11%)
3	PEB	Y	202	-	43,46,46	1.60	3 (6%)	45,67,67	1.60	8 (17%)
3	PEB	C	302	1	43,46,46	1.48	3 (6%)	45,67,67	1.08	5 (11%)
3	PEB	I	303	1	43,46,46	1.36	3 (6%)	45,67,67	1.37	8 (17%)
3	PEB	V	302	1	43,46,46	1.86	2 (4%)	45,67,67	1.23	7 (15%)
3	PEB	M	302	1	43,46,46	1.48	3 (6%)	45,67,67	1.51	5 (11%)
3	PEB	W	201	2	43,46,46	1.41	3 (6%)	45,67,67	1.30	6 (13%)
3	PEB	H	202	2	43,46,46	1.70	2 (4%)	45,67,67	1.13	4 (8%)
3	PEB	G	303	1	43,46,46	1.53	3 (6%)	45,67,67	1.49	4 (8%)
3	PEB	T	302	1	43,46,46	1.61	4 (9%)	45,67,67	1.12	5 (11%)
3	PEB	P	302	1	43,46,46	1.71	3 (6%)	45,67,67	1.23	7 (15%)
3	PEB	R	302	1	43,46,46	1.27	4 (9%)	45,67,67	1.27	6 (13%)
3	PEB	C	301	1	43,46,46	1.34	3 (6%)	45,67,67	1.18	3 (6%)
3	PEB	Y	201	-	43,46,46	1.25	3 (6%)	45,67,67	1.55	9 (20%)
3	PEB	N	303	1	43,46,46	1.45	4 (9%)	45,67,67	1.39	5 (11%)
3	PEB	X	303	1	43,46,46	1.74	3 (6%)	45,67,67	1.50	8 (17%)
3	PEB	W	202	2	43,46,46	1.31	3 (6%)	45,67,67	1.22	6 (13%)
3	PEB	T	303	1	43,46,46	1.36	2 (4%)	45,67,67	1.32	5 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	PEB	E	303	1	43,46,46	1.52	4 (9%)	45,67,67	1.43	5 (11%)
3	PEB	E	302	1	43,46,46	1.79	3 (6%)	45,67,67	1.02	3 (6%)
3	PEB	A	202	-	43,46,46	1.28	4 (9%)	45,67,67	1.40	6 (13%)

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	PEB	M	301	-	-	6/24/74/74	0/4/4/4
3	PEB	G	302	1	-	4/24/74/74	0/4/4/4
3	PEB	O	202	2	-	7/24/74/74	0/4/4/4
3	PEB	E	301	1	-	8/24/74/74	0/4/4/4
3	PEB	R	301	1	-	8/24/74/74	0/4/4/4
3	PEB	K	303	1	-	11/24/74/74	0/4/4/4
3	PEB	V	303	1	-	10/24/74/74	0/4/4/4
3	PEB	L	201	2	-	6/24/74/74	0/4/4/4
3	PEB	N	302	1	-	5/24/74/74	0/4/4/4
3	PEB	Q	202	-	-	10/24/74/74	0/4/4/4
3	PEB	U	201	2	-	8/24/74/74	0/4/4/4
3	PEB	X	302	1	-	6/24/74/74	0/4/4/4
3	PEB	V	301	-	-	8/24/74/74	0/4/4/4
3	PEB	D	202	-	-	7/24/74/74	0/4/4/4
3	PEB	L	202	2	-	6/24/74/74	0/4/4/4
3	PEB	U	202	2	-	8/24/74/74	0/4/4/4
3	PEB	K	302	1	-	4/24/74/74	0/4/4/4
3	PEB	R	303	1	-	10/24/74/74	0/4/4/4
3	PEB	J	201	2	-	6/24/74/74	0/4/4/4
3	PEB	F	201	2	-	8/24/74/74	0/4/4/4
3	PEB	B	201	-	-	6/24/74/74	0/4/4/4
3	PEB	M	303	-	-	12/24/74/74	0/4/4/4
3	PEB	I	301	1	-	8/24/74/74	0/4/4/4
3	PEB	C	303	1	-	11/24/74/74	0/4/4/4
3	PEB	X	301	1	-	9/24/74/74	0/4/4/4
3	PEB	G	301	1	-	8/24/74/74	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PEB	P	303	1	-	8/24/74/74	0/4/4/4
3	PEB	B	202	-	-	10/24/74/74	0/4/4/4
3	PEB	O	201	2	-	7/24/74/74	0/4/4/4
3	PEB	T	301	1	-	9/24/74/74	0/4/4/4
3	PEB	K	301	1	-	8/24/74/74	0/4/4/4
3	PEB	N	301	1	-	8/24/74/74	0/4/4/4
3	PEB	D	201	-	-	7/24/74/74	0/4/4/4
3	PEB	H	201	2	-	6/24/74/74	0/4/4/4
3	PEB	P	301	1	-	7/24/74/74	0/4/4/4
3	PEB	F	202	2	-	7/24/74/74	0/4/4/4
3	PEB	Q	201	2	-	7/24/74/74	0/4/4/4
3	PEB	J	202	2	-	8/24/74/74	0/4/4/4
3	PEB	I	302	-	-	2/24/74/74	0/4/4/4
3	PEB	A	201	-	-	8/24/74/74	0/4/4/4
3	PEB	Y	202	-	-	9/24/74/74	0/4/4/4
3	PEB	C	302	1	-	3/24/74/74	0/4/4/4
3	PEB	I	303	1	-	10/24/74/74	0/4/4/4
3	PEB	V	302	1	-	3/24/74/74	0/4/4/4
3	PEB	M	302	1	-	4/24/74/74	0/4/4/4
3	PEB	W	201	2	-	8/24/74/74	0/4/4/4
3	PEB	H	202	2	-	7/24/74/74	0/4/4/4
3	PEB	G	303	1	-	12/24/74/74	0/4/4/4
3	PEB	T	302	1	-	5/24/74/74	0/4/4/4
3	PEB	P	302	1	-	6/24/74/74	0/4/4/4
3	PEB	R	302	1	-	6/24/74/74	0/4/4/4
3	PEB	C	301	1	-	8/24/74/74	0/4/4/4
3	PEB	Y	201	-	-	7/24/74/74	0/4/4/4
3	PEB	N	303	1	-	10/24/74/74	0/4/4/4
3	PEB	X	303	1	-	6/24/74/74	0/4/4/4
3	PEB	W	202	2	-	8/24/74/74	0/4/4/4
3	PEB	T	303	1	-	10/24/74/74	0/4/4/4
3	PEB	E	303	1	-	7/24/74/74	0/4/4/4
3	PEB	E	302	1	-	4/24/74/74	0/4/4/4
3	PEB	A	202	-	-	8/24/74/74	0/4/4/4

The worst 5 of 176 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	V	302	PEB	CHB-C4B	10.81	1.44	1.35
3	I	302	PEB	CHB-C4B	10.80	1.44	1.35
3	X	302	PEB	CHB-C4B	10.46	1.43	1.35
3	E	302	PEB	CHB-C4B	10.27	1.43	1.35
3	E	301	PEB	CHB-C4B	10.20	1.43	1.35

The worst 5 of 314 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	201	PEB	CHA-C4A-NA	7.19	133.75	125.20
3	L	201	PEB	CHA-C4A-NA	6.96	133.49	125.20
3	M	302	PEB	CHC-C1D-ND	-6.36	106.56	113.95
3	Y	201	PEB	CHA-C4A-NA	6.12	132.48	125.20
3	E	303	PEB	CHA-C4A-NA	5.95	132.28	125.20

There are no chirality outliers.

5 of 443 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	M	301	PEB	NB-C1B-CHA-C4A
3	M	301	PEB	C2B-C1B-CHA-C4A
3	M	302	PEB	NB-C1B-CHA-C4A
3	M	302	PEB	C2B-C1B-CHA-C4A
3	M	303	PEB	NC-C1C-CHB-C4B

There are no ring outliers.

50 monomers are involved in 207 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	M	301	PEB	10	0
3	G	302	PEB	3	0
3	E	301	PEB	1	0
3	R	301	PEB	2	0
3	K	303	PEB	3	0
3	V	303	PEB	2	0
3	N	302	PEB	9	0
3	Q	202	PEB	5	0
3	U	201	PEB	2	0
3	X	302	PEB	8	0
3	V	301	PEB	8	0

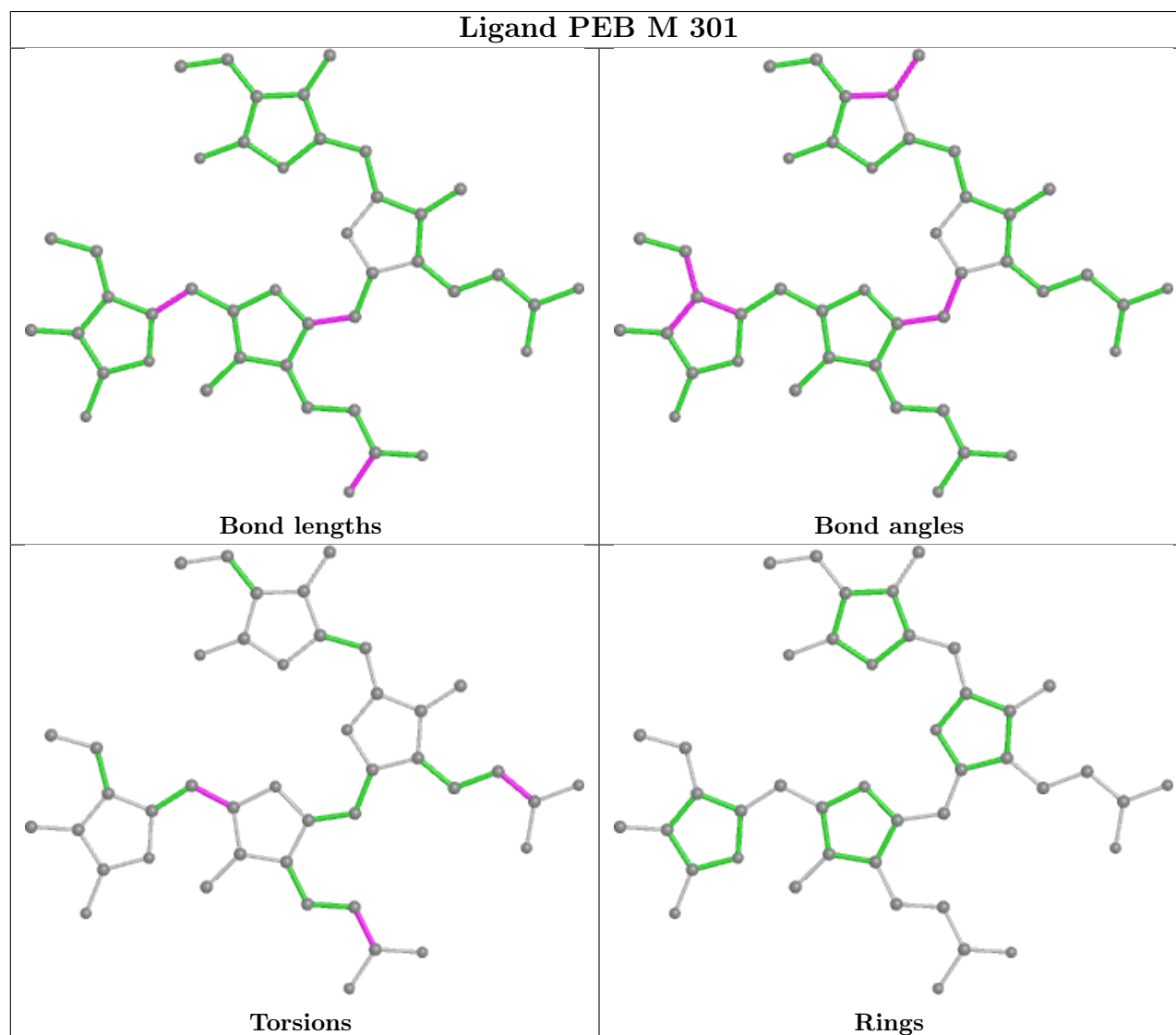
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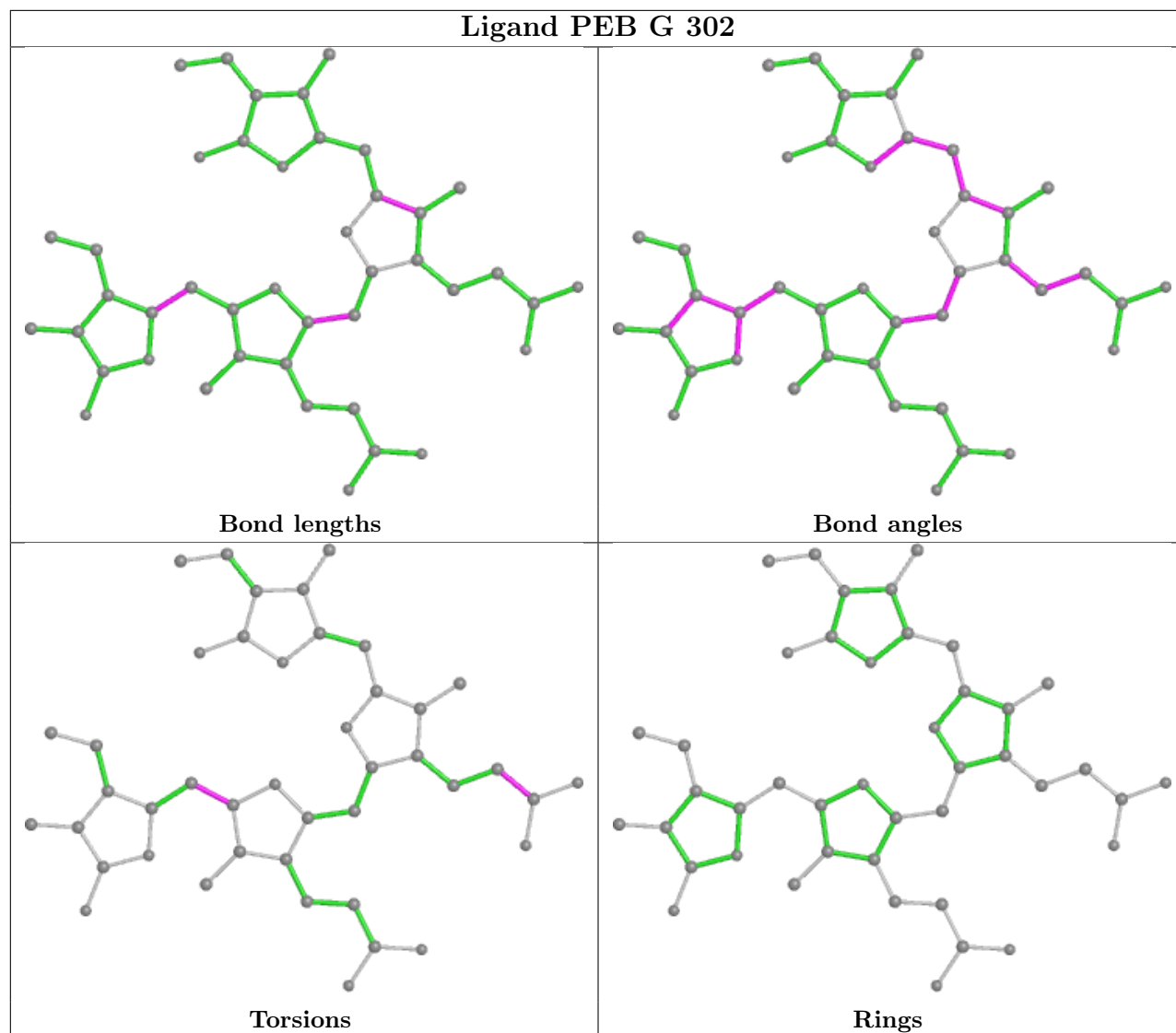
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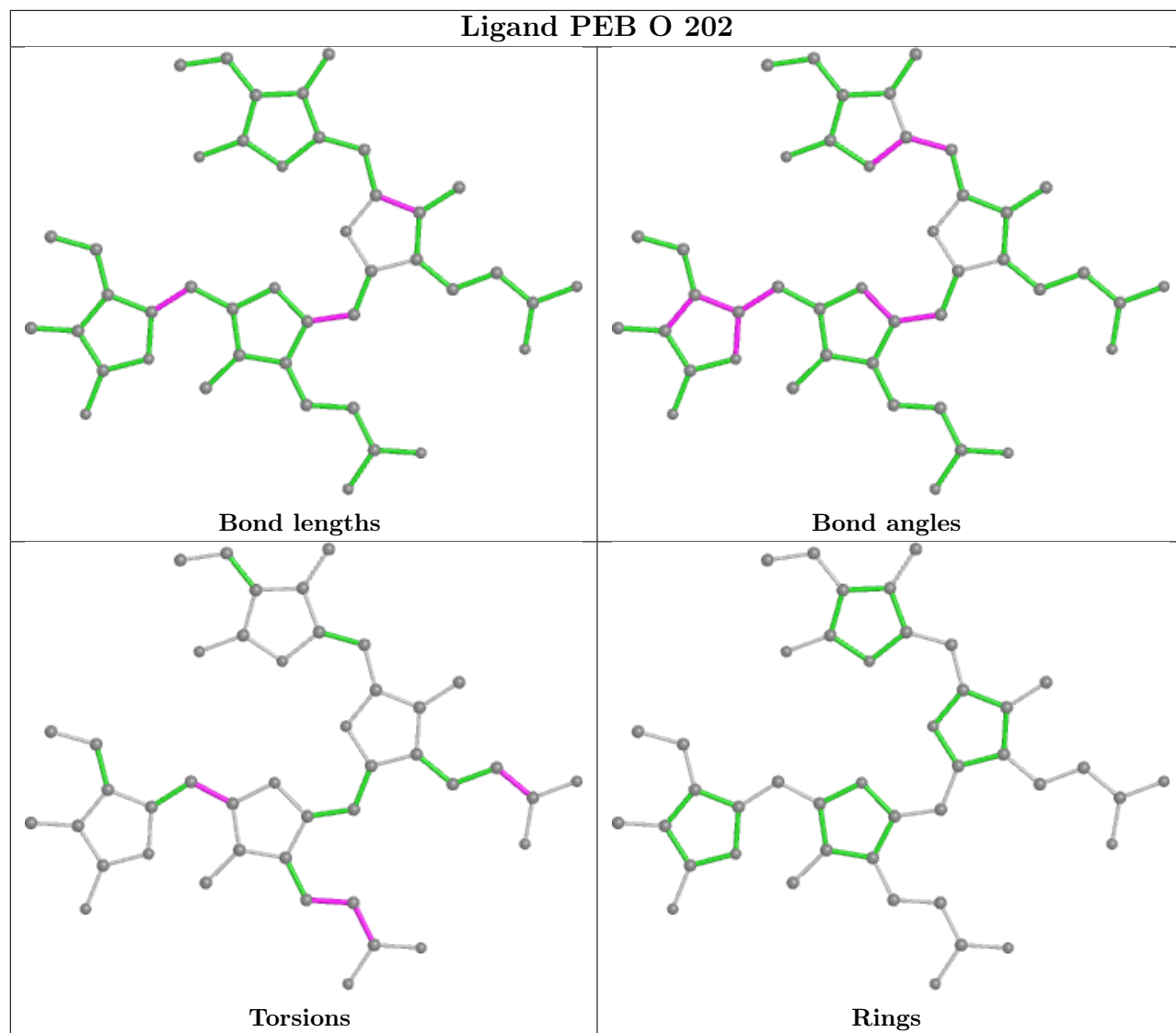
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	202	PEB	2	0
3	L	202	PEB	1	0
3	K	302	PEB	8	0
3	R	303	PEB	2	0
3	F	201	PEB	1	0
3	B	201	PEB	6	0
3	M	303	PEB	6	0
3	I	301	PEB	4	0
3	C	303	PEB	2	0
3	X	301	PEB	2	0
3	G	301	PEB	3	0
3	P	303	PEB	3	0
3	B	202	PEB	7	0
3	T	301	PEB	4	0
3	K	301	PEB	3	0
3	N	301	PEB	2	0
3	D	201	PEB	5	0
3	P	301	PEB	2	0
3	J	202	PEB	2	0
3	I	302	PEB	11	0
3	A	201	PEB	6	0
3	Y	202	PEB	7	0
3	C	302	PEB	7	0
3	I	303	PEB	1	0
3	V	302	PEB	5	0
3	M	302	PEB	2	0
3	W	201	PEB	4	0
3	H	202	PEB	1	0
3	G	303	PEB	2	0
3	T	302	PEB	7	0
3	P	302	PEB	4	0
3	R	302	PEB	6	0
3	Y	201	PEB	4	0
3	N	303	PEB	2	0
3	X	303	PEB	2	0
3	T	303	PEB	5	0
3	E	303	PEB	1	0
3	E	302	PEB	6	0
3	A	202	PEB	6	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

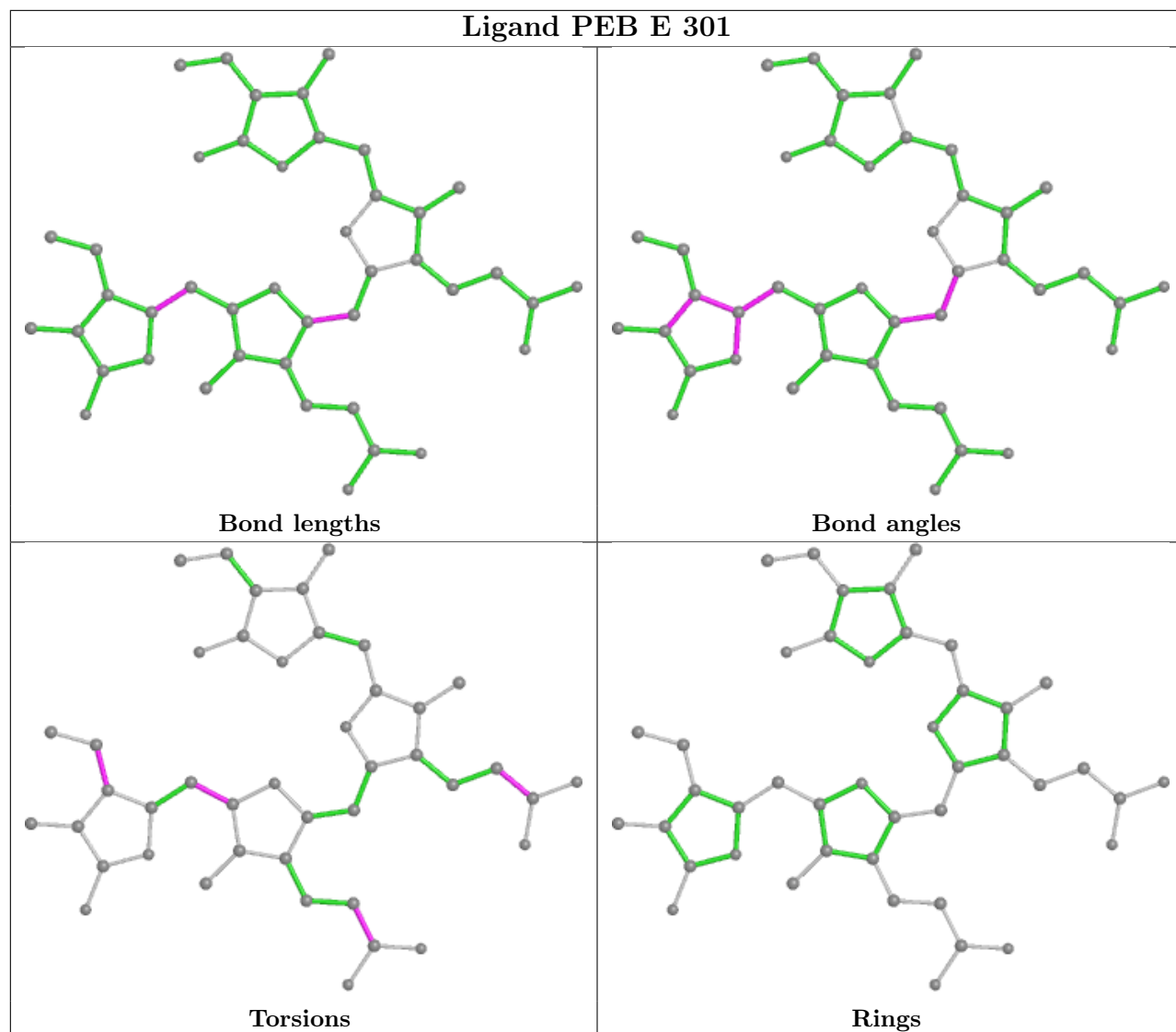
also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted 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.

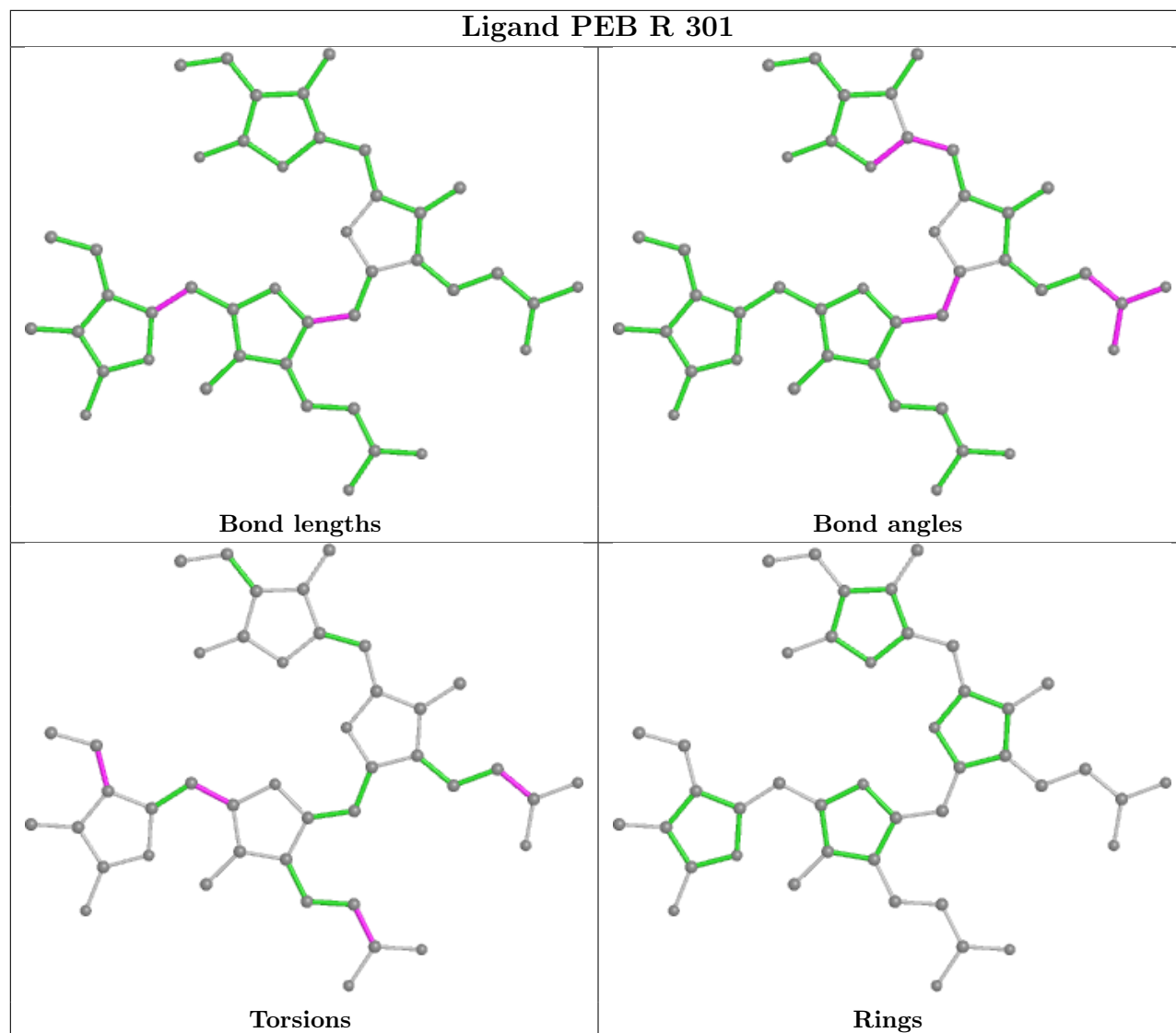


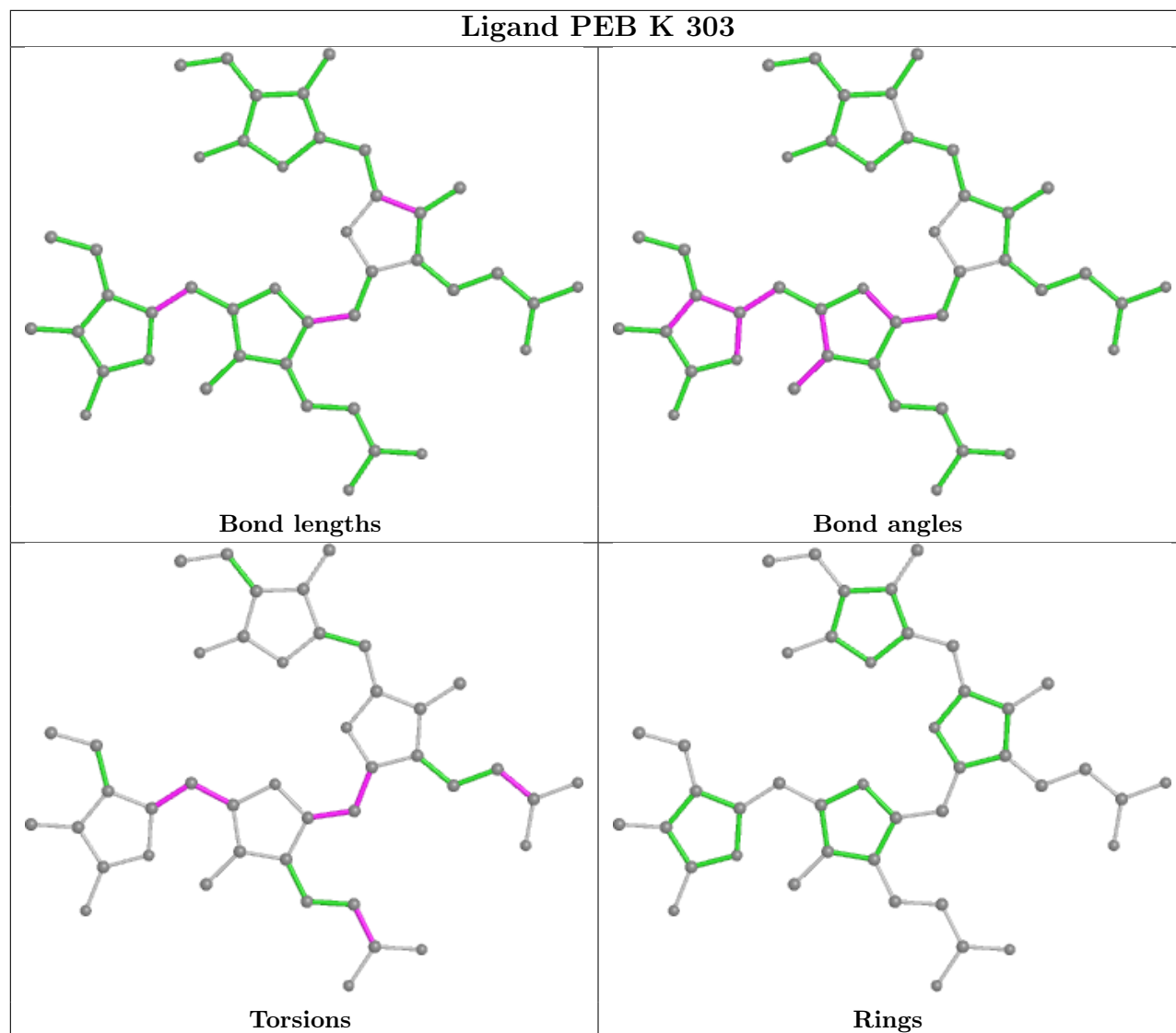


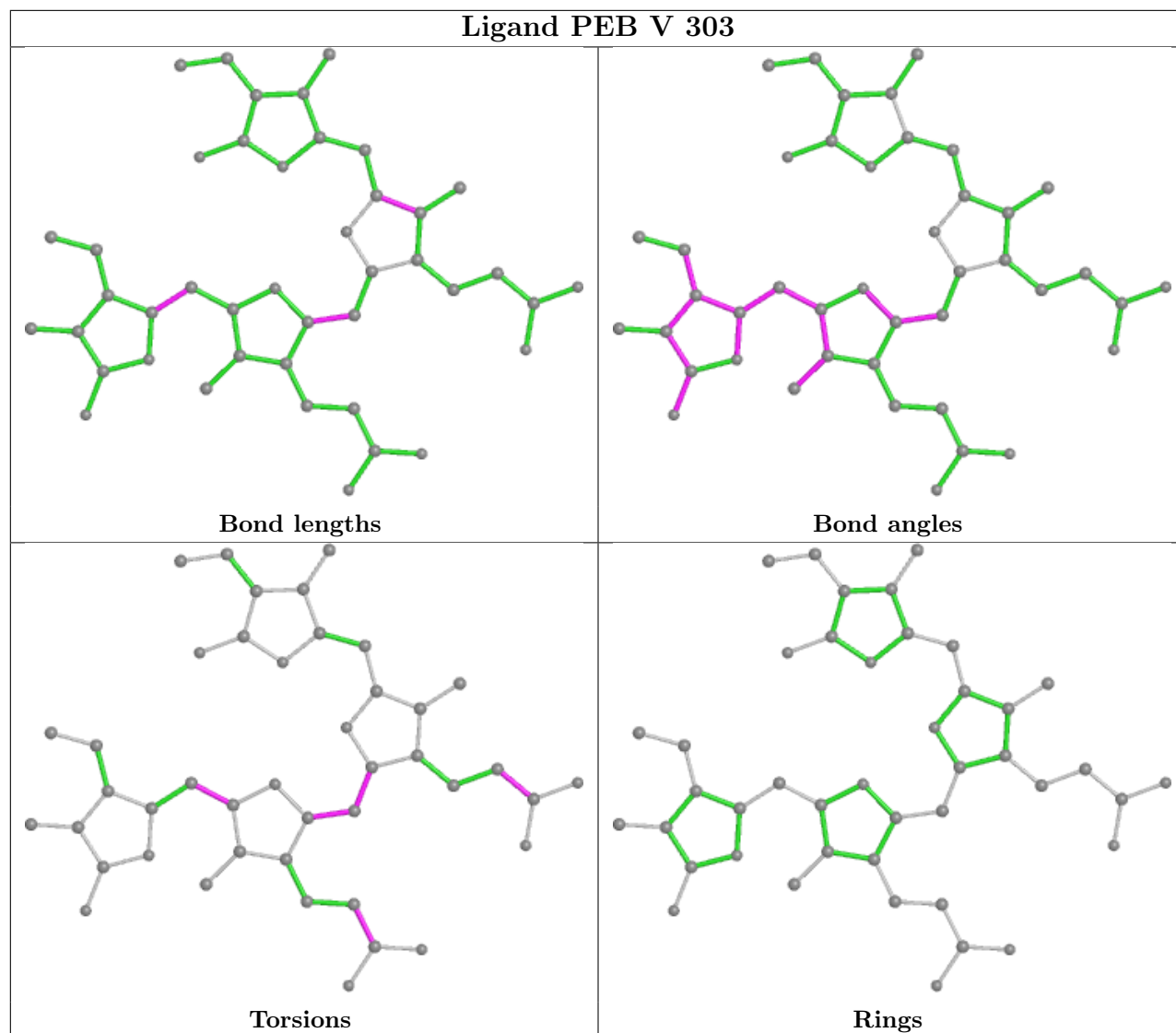


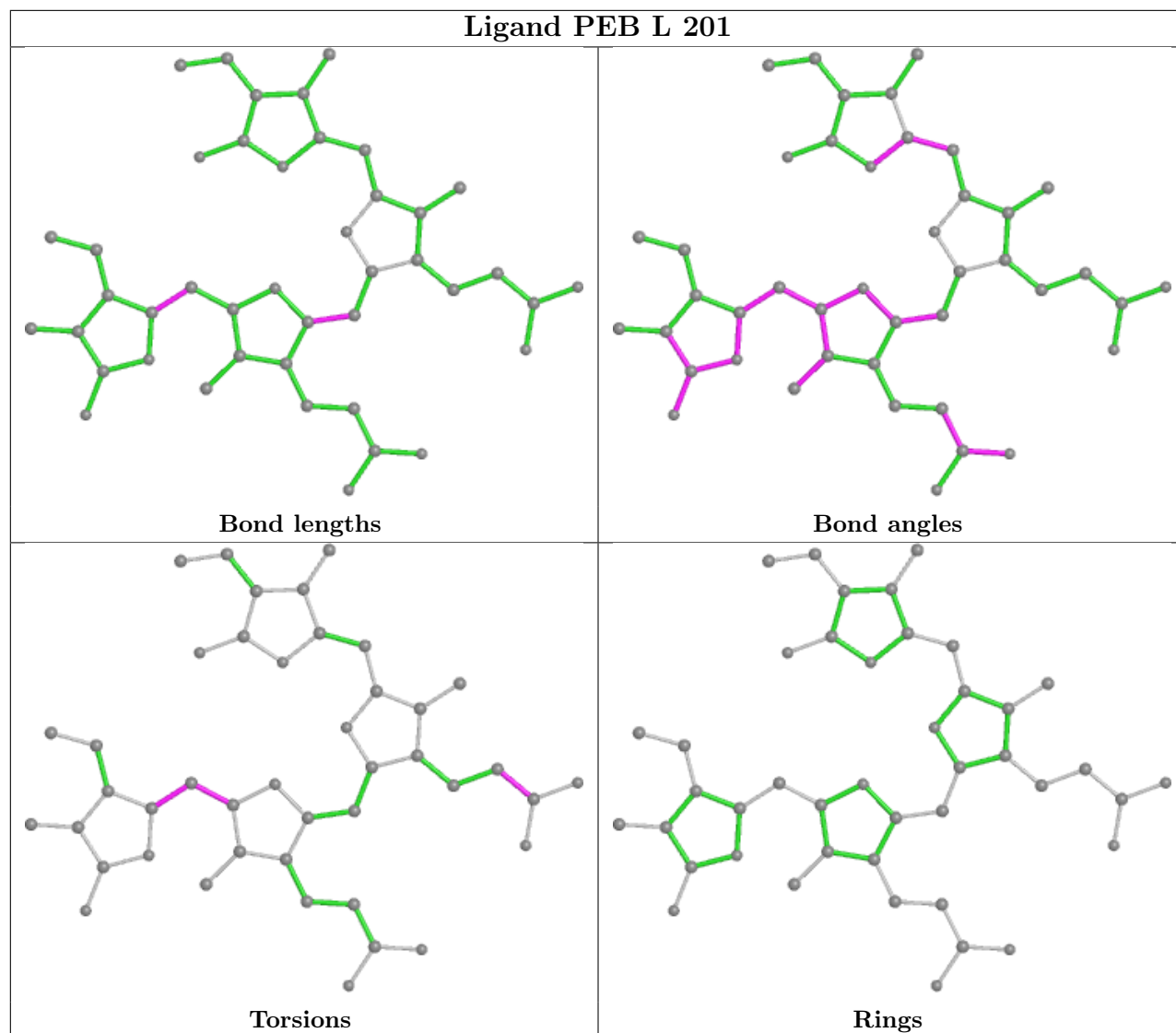


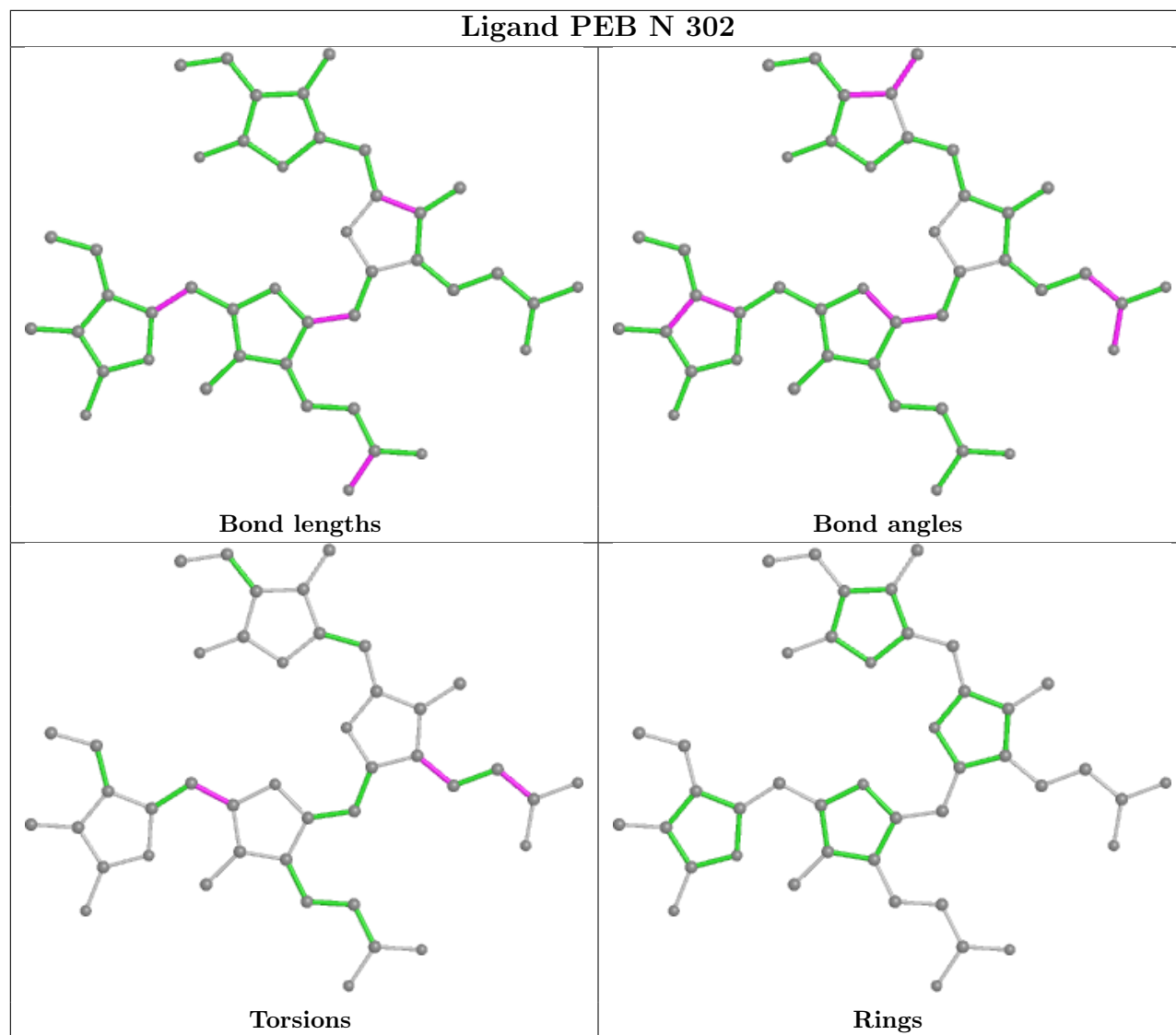


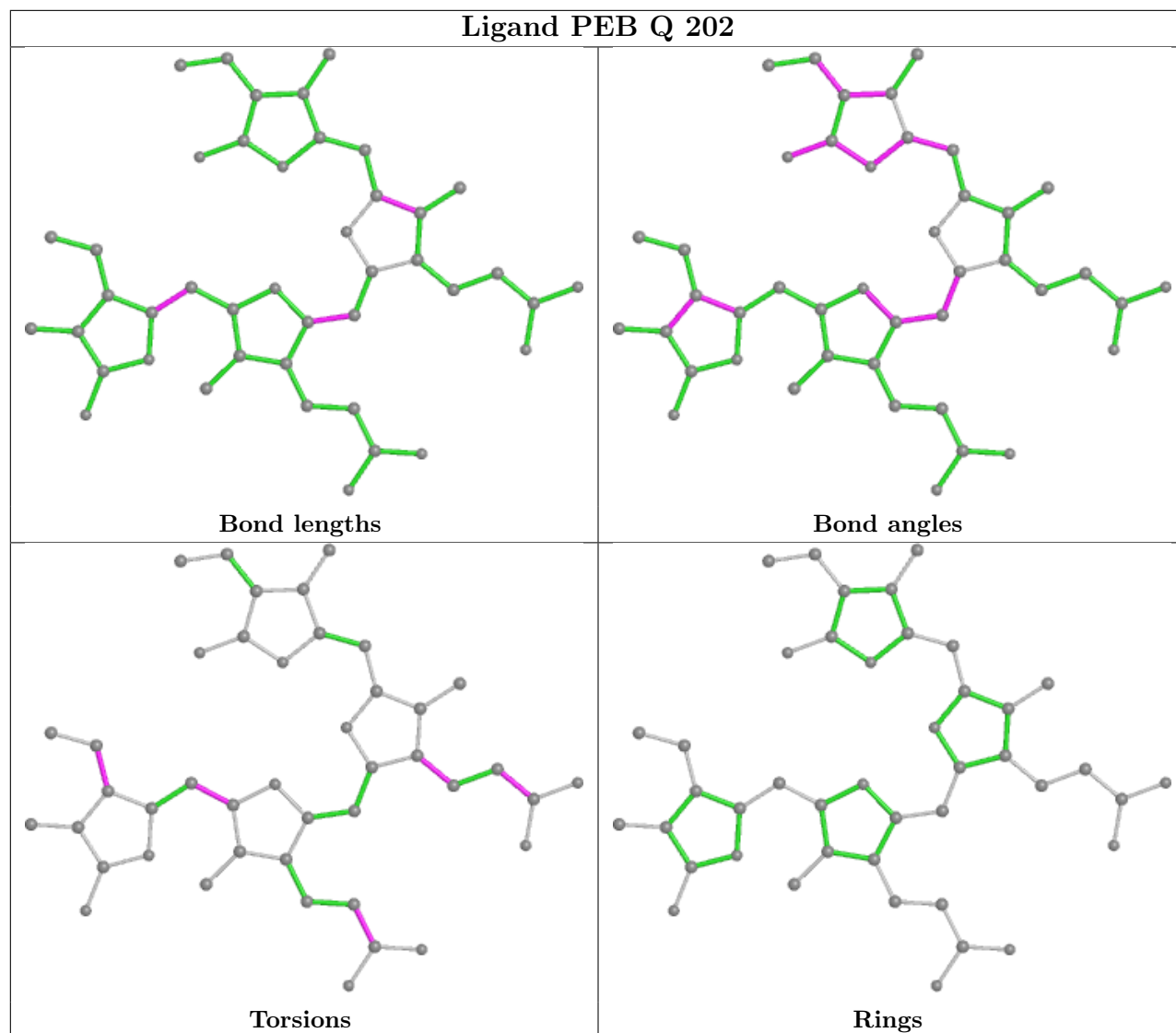


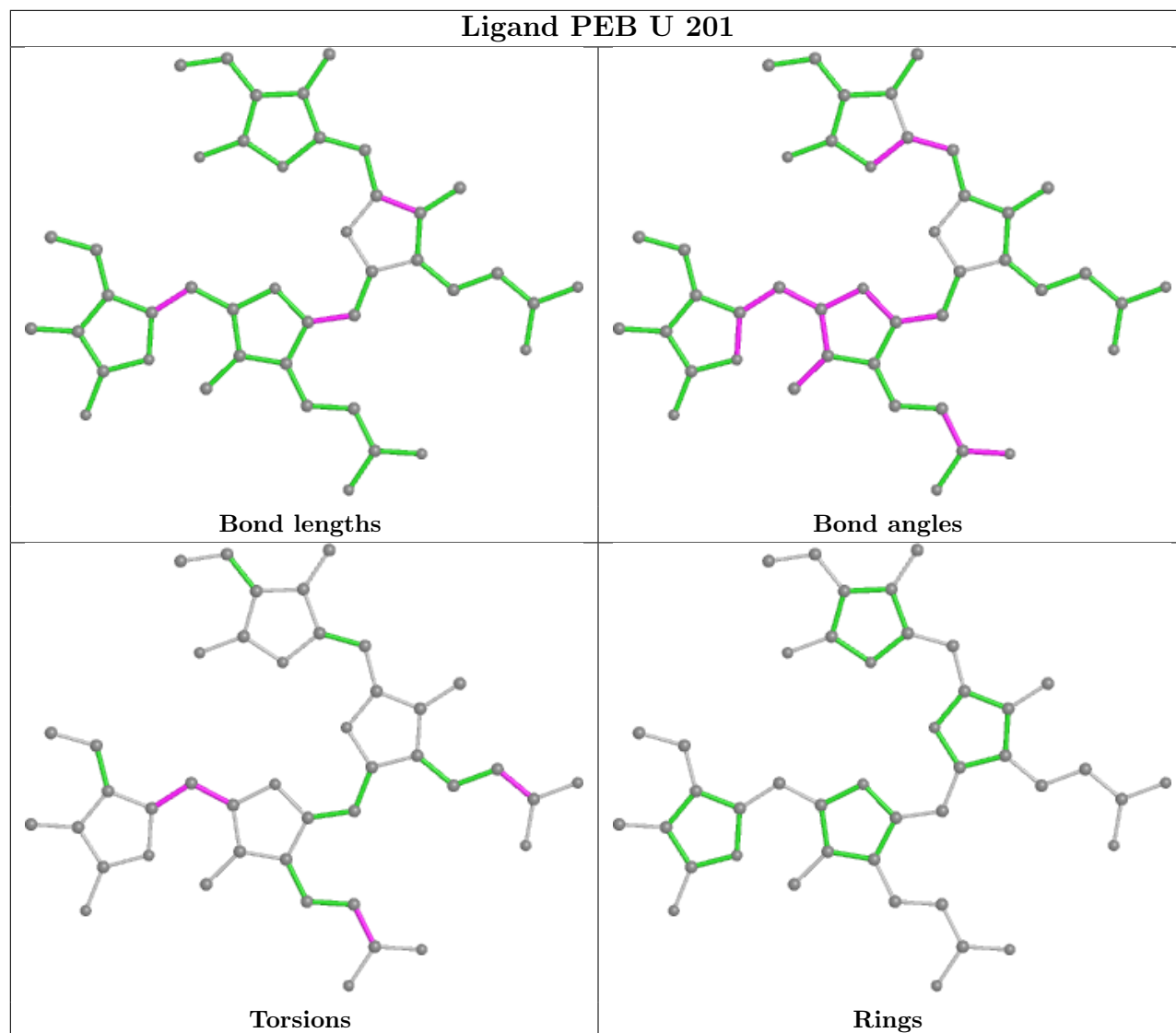




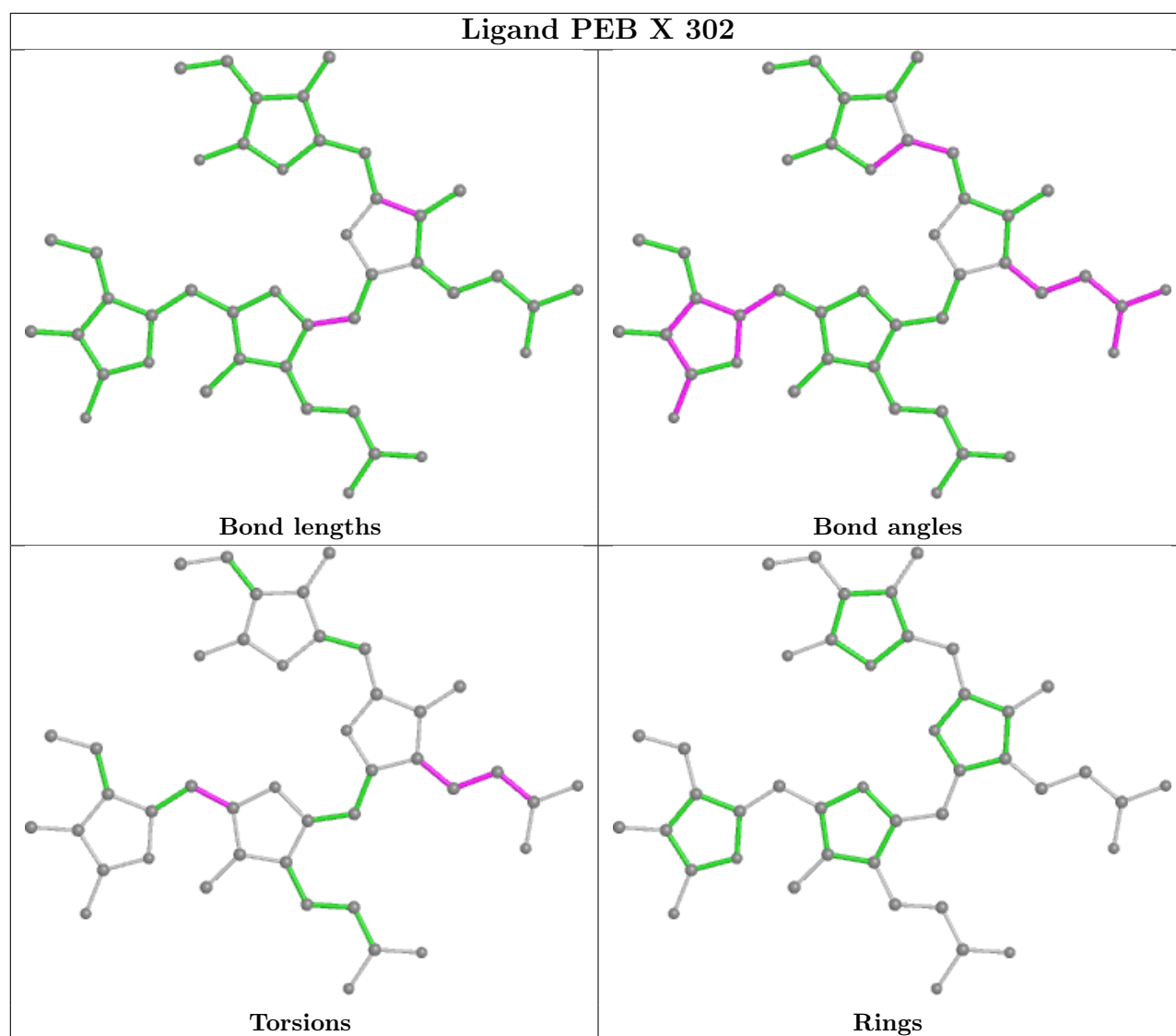


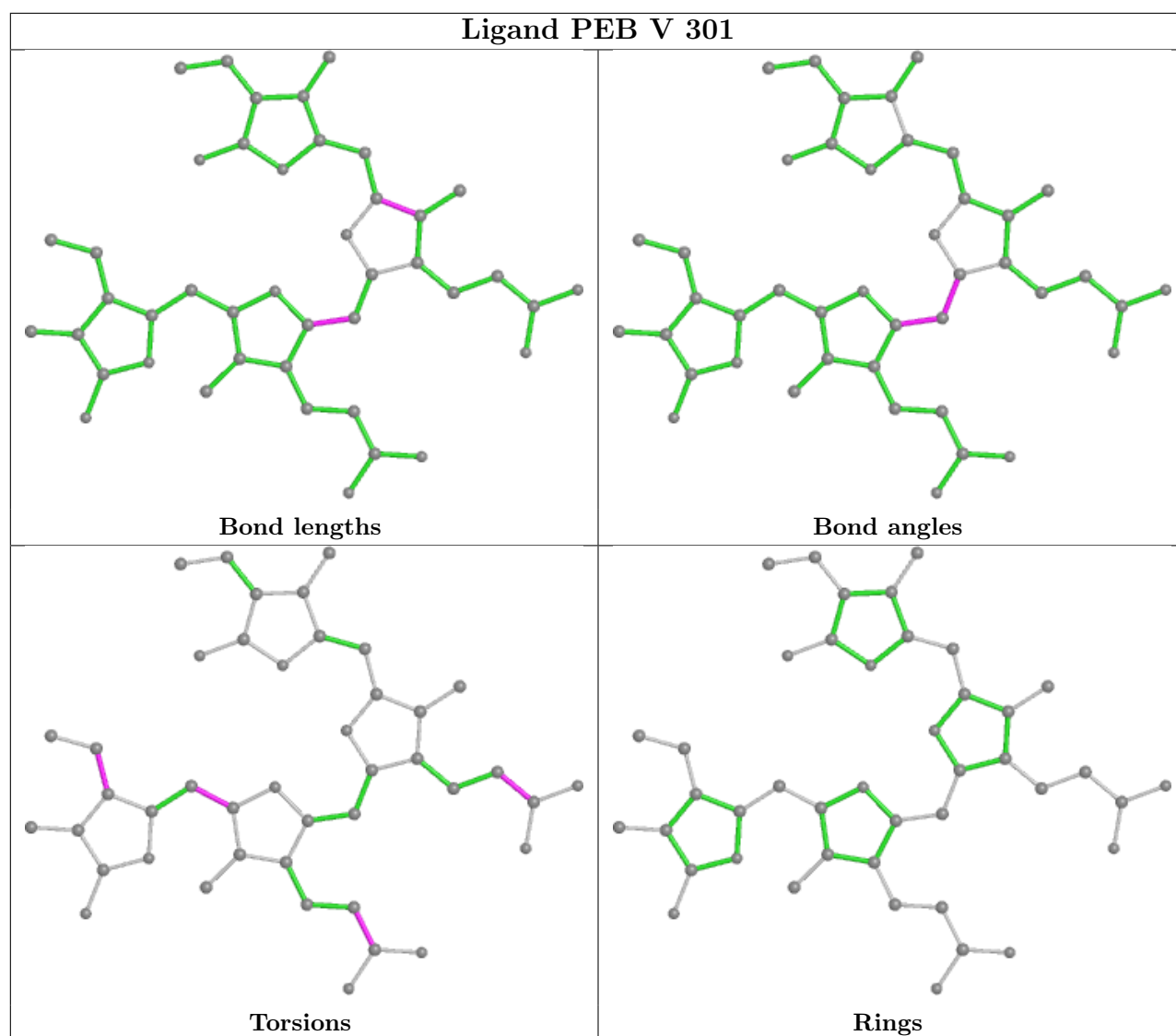


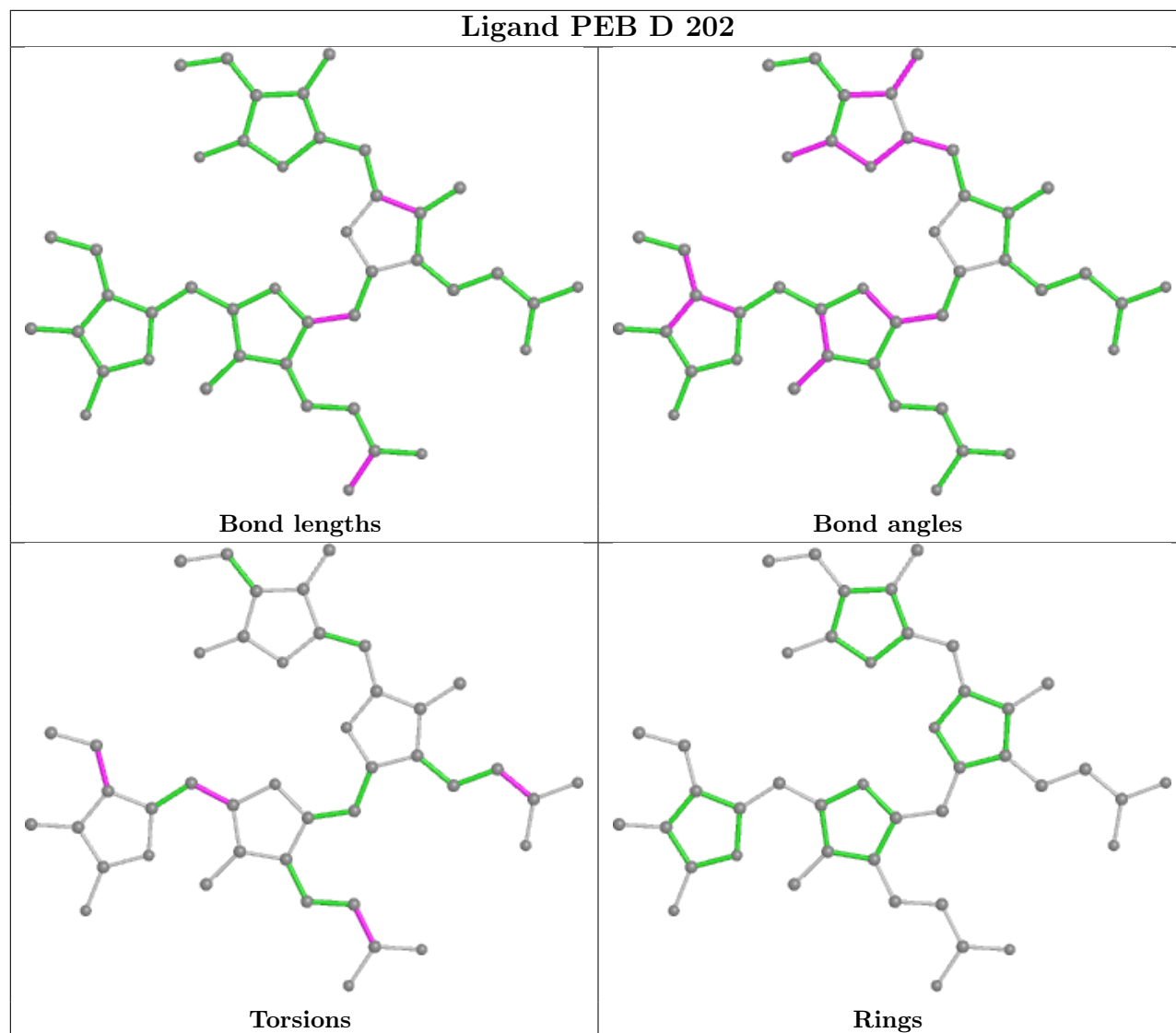


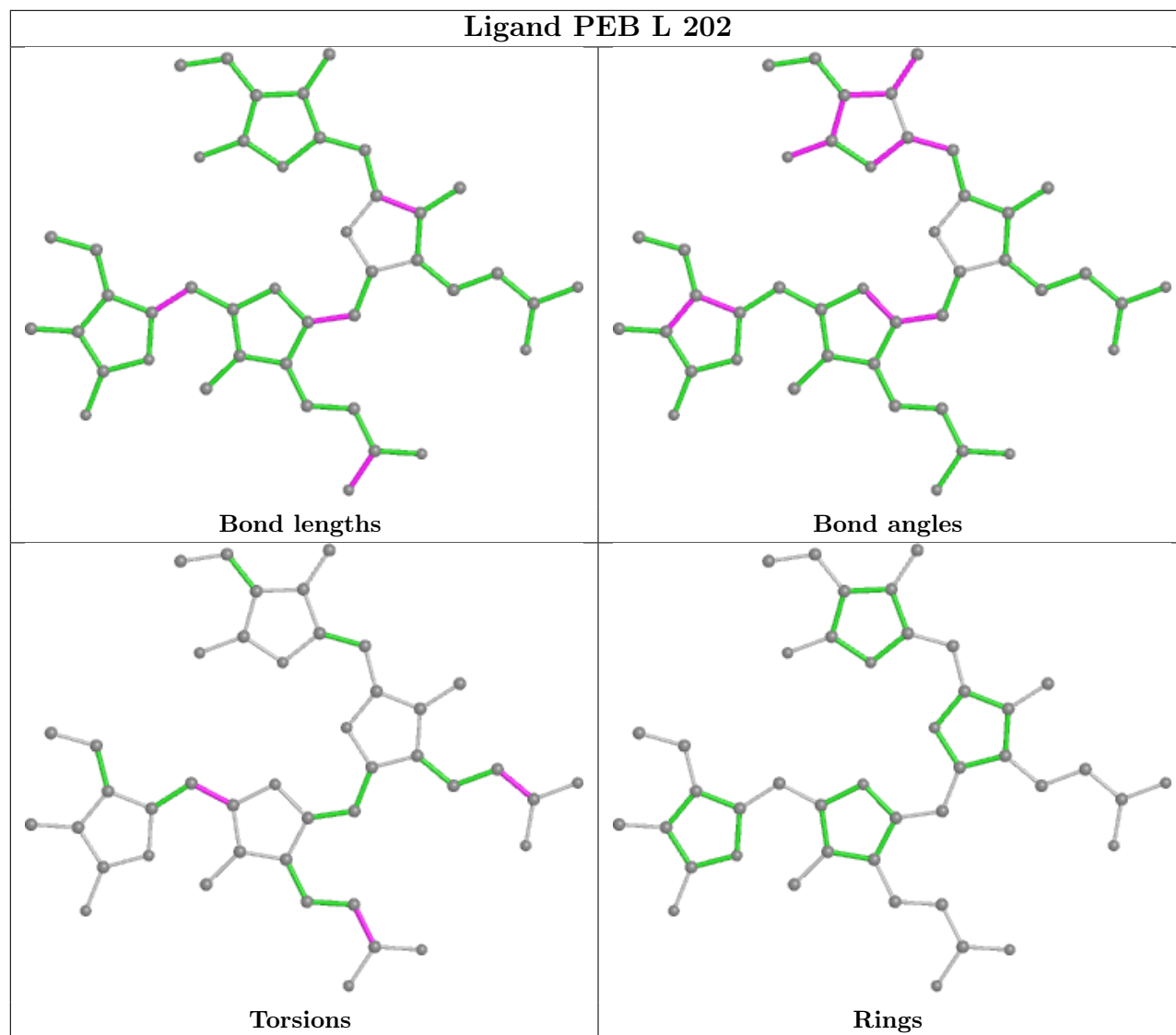


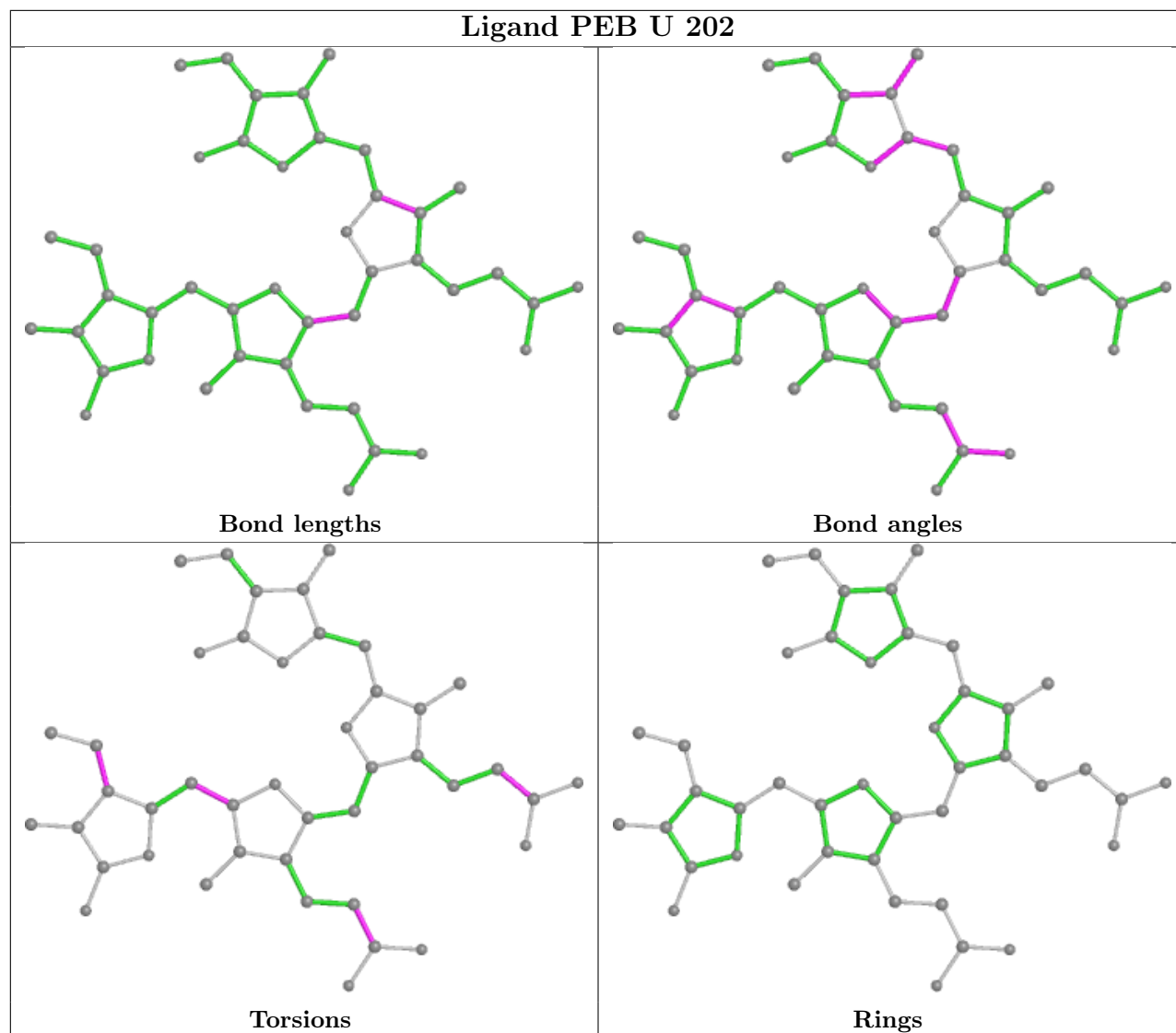


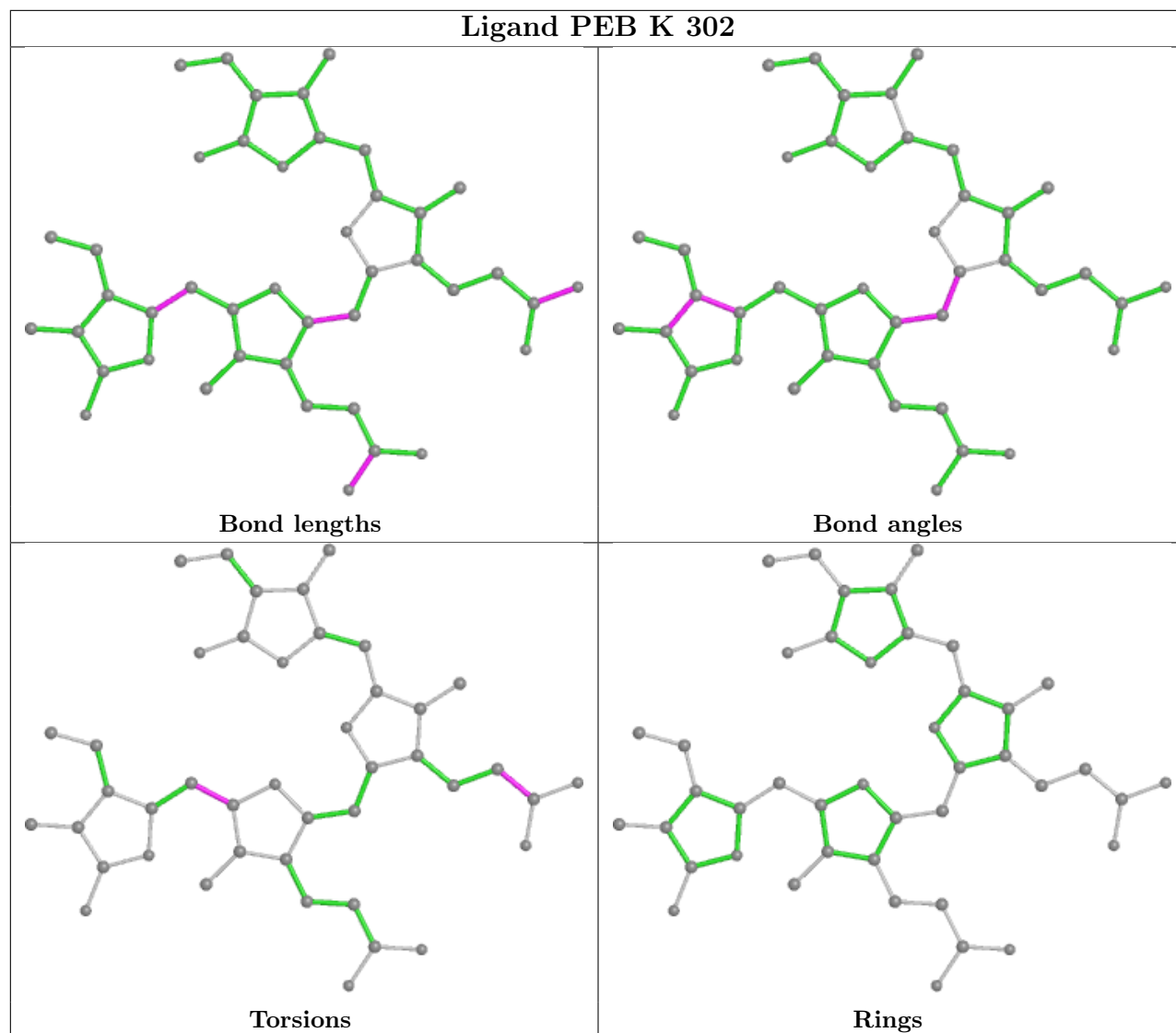


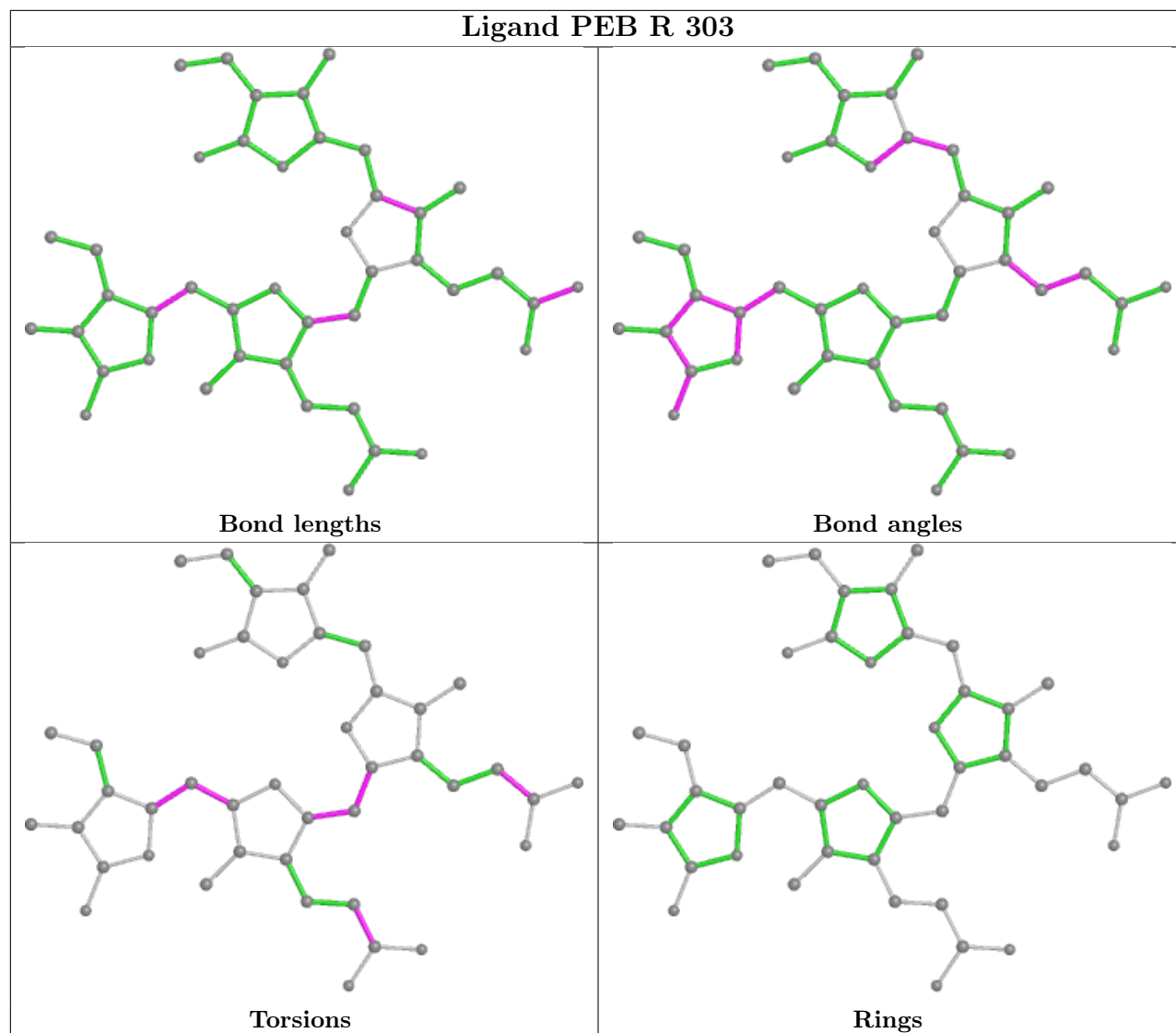


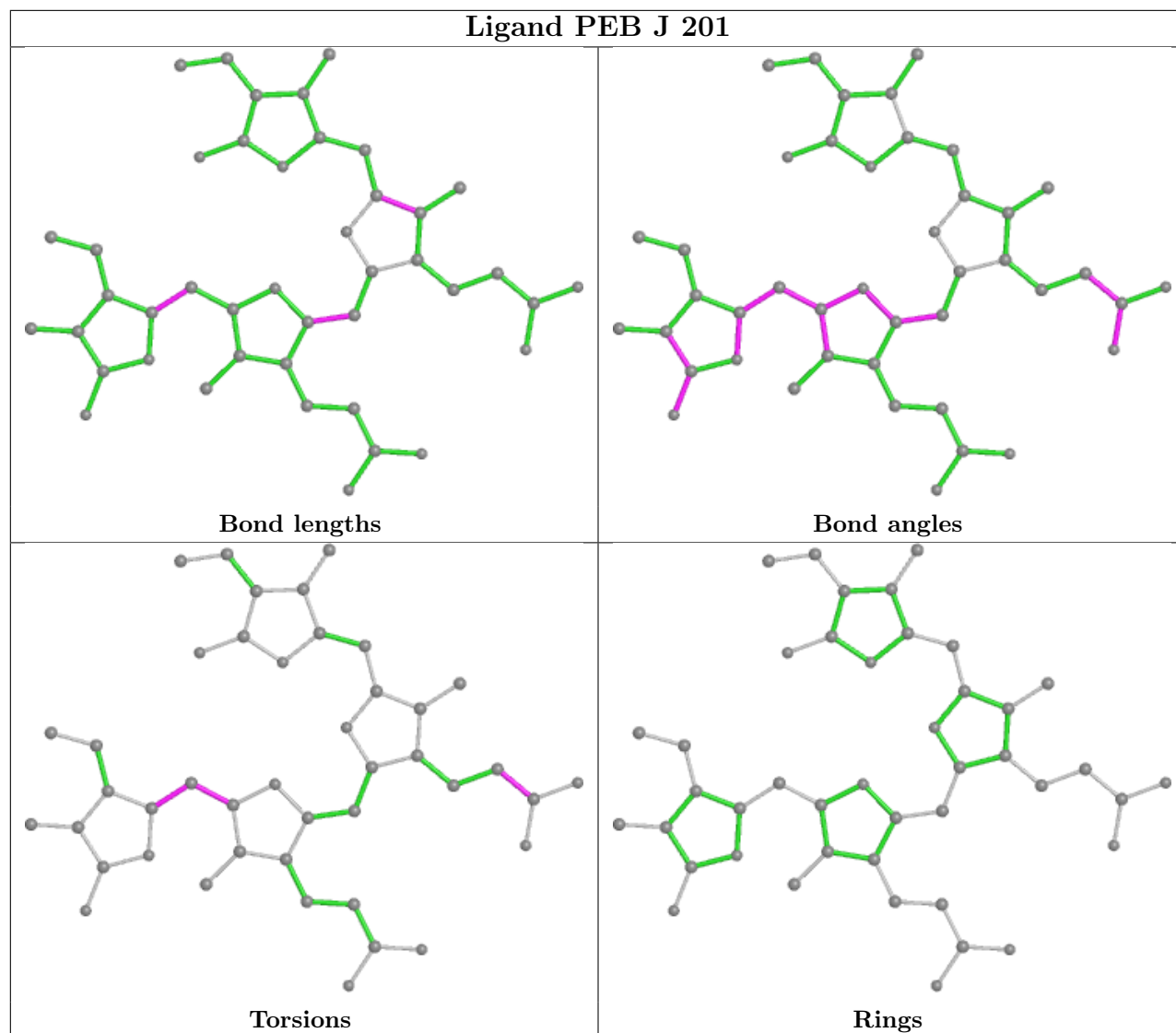




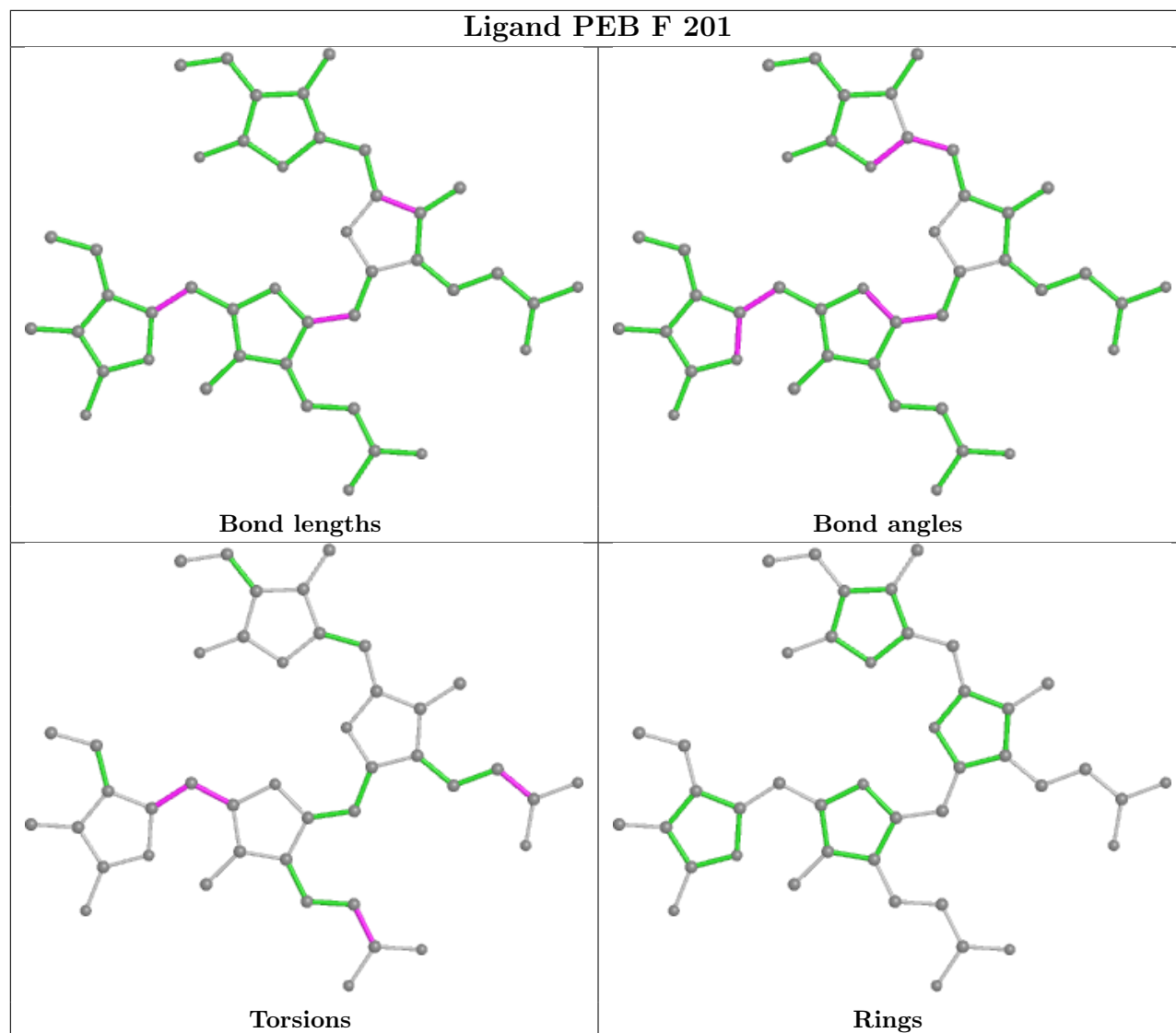


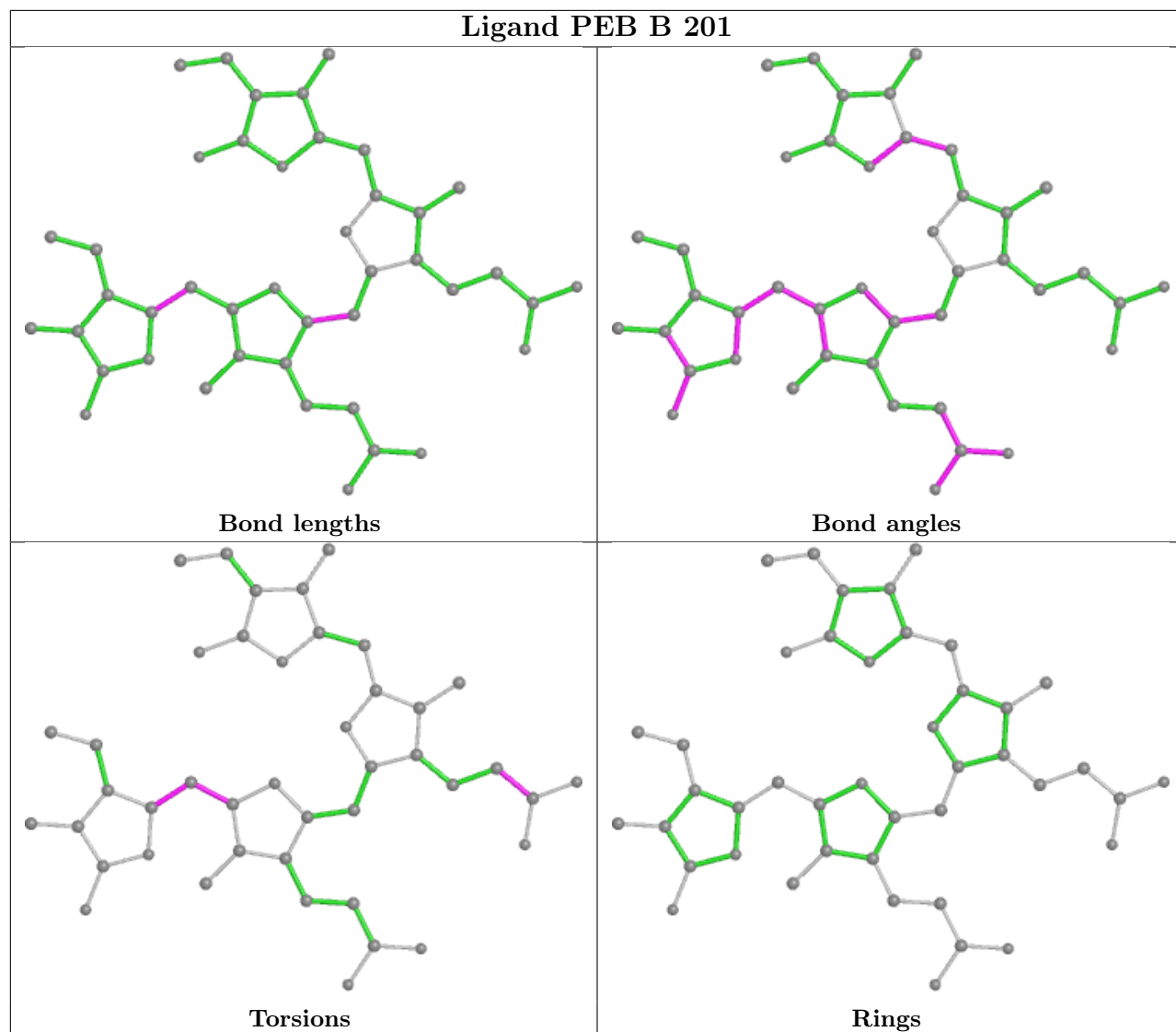


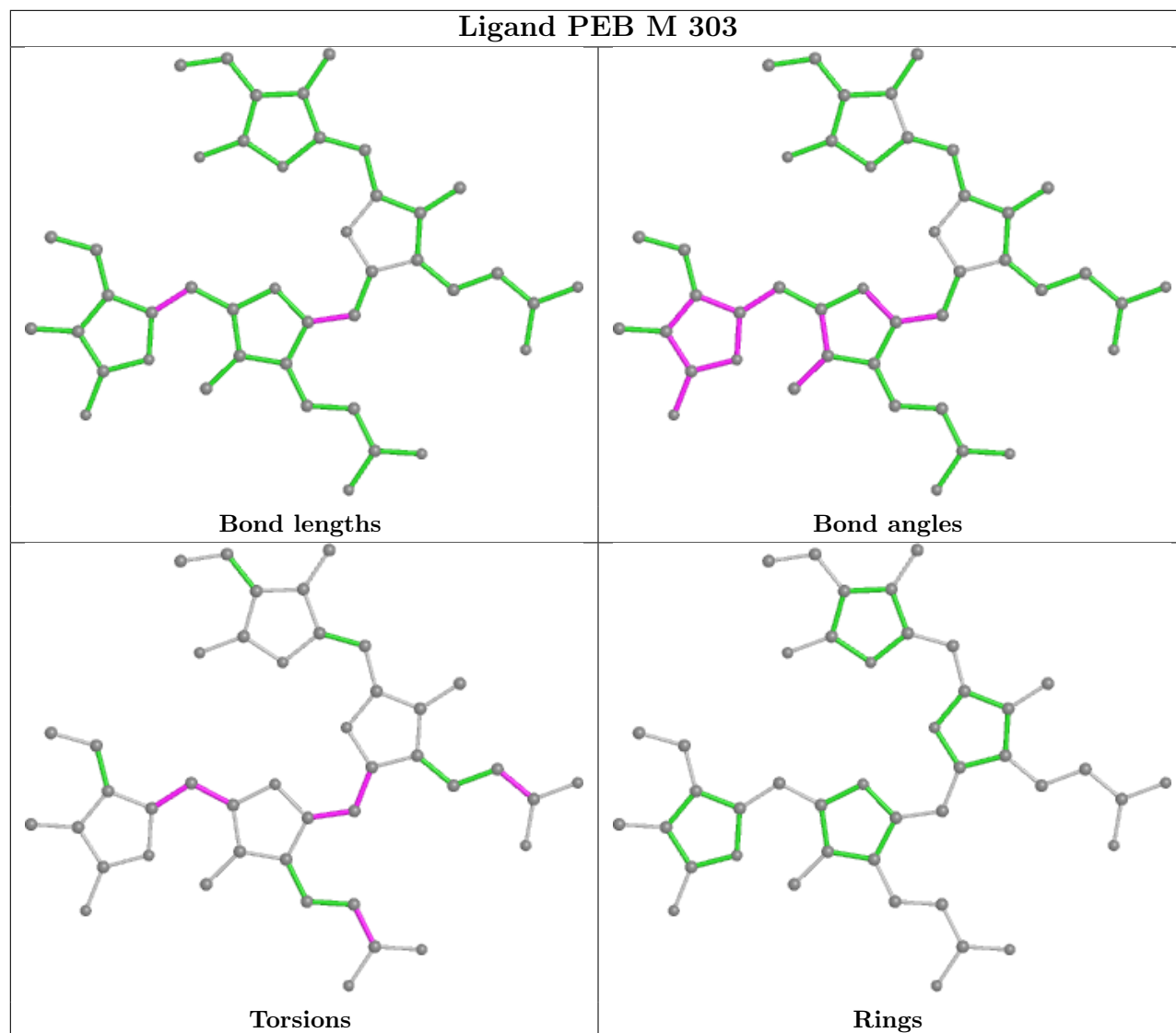


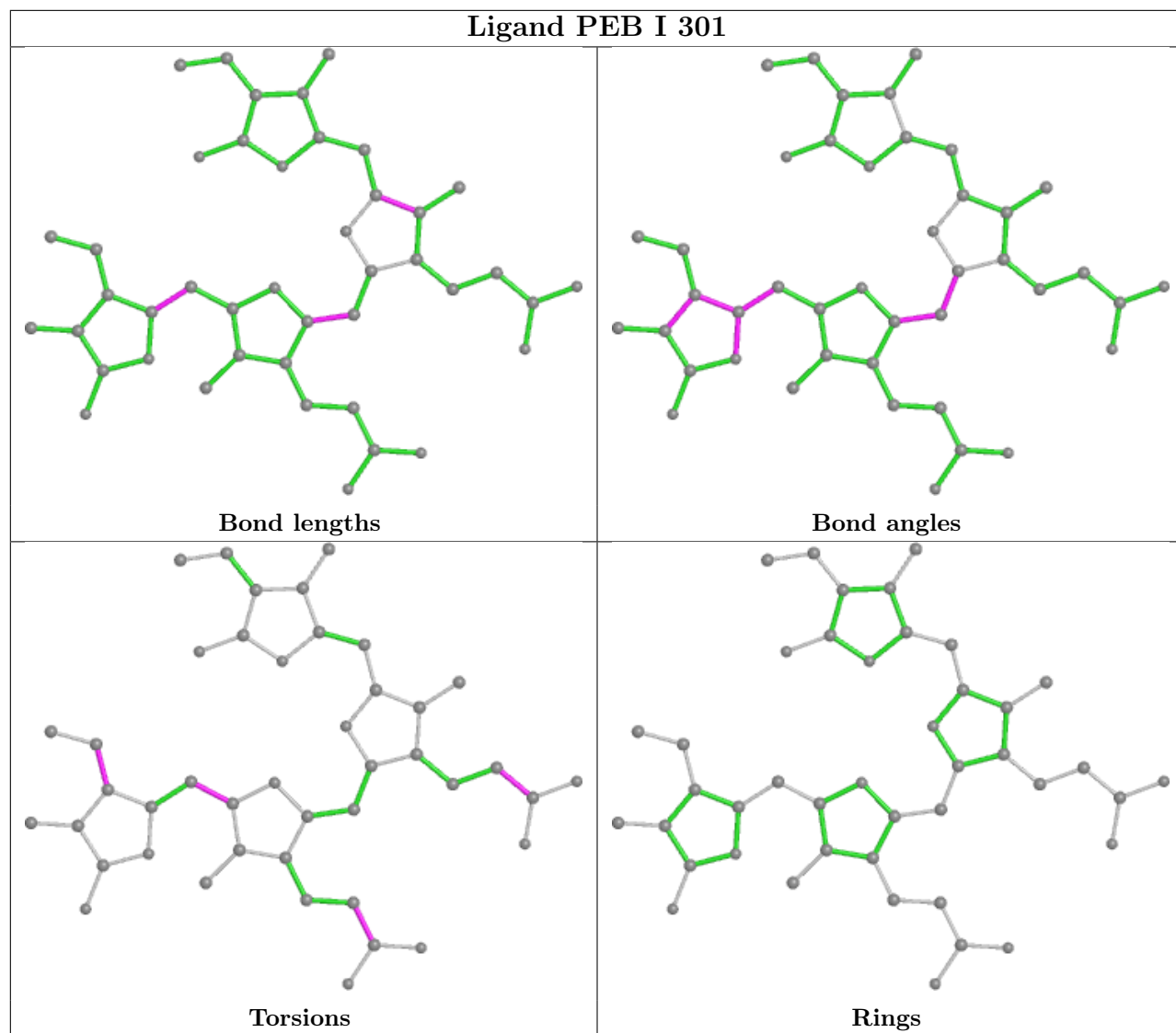


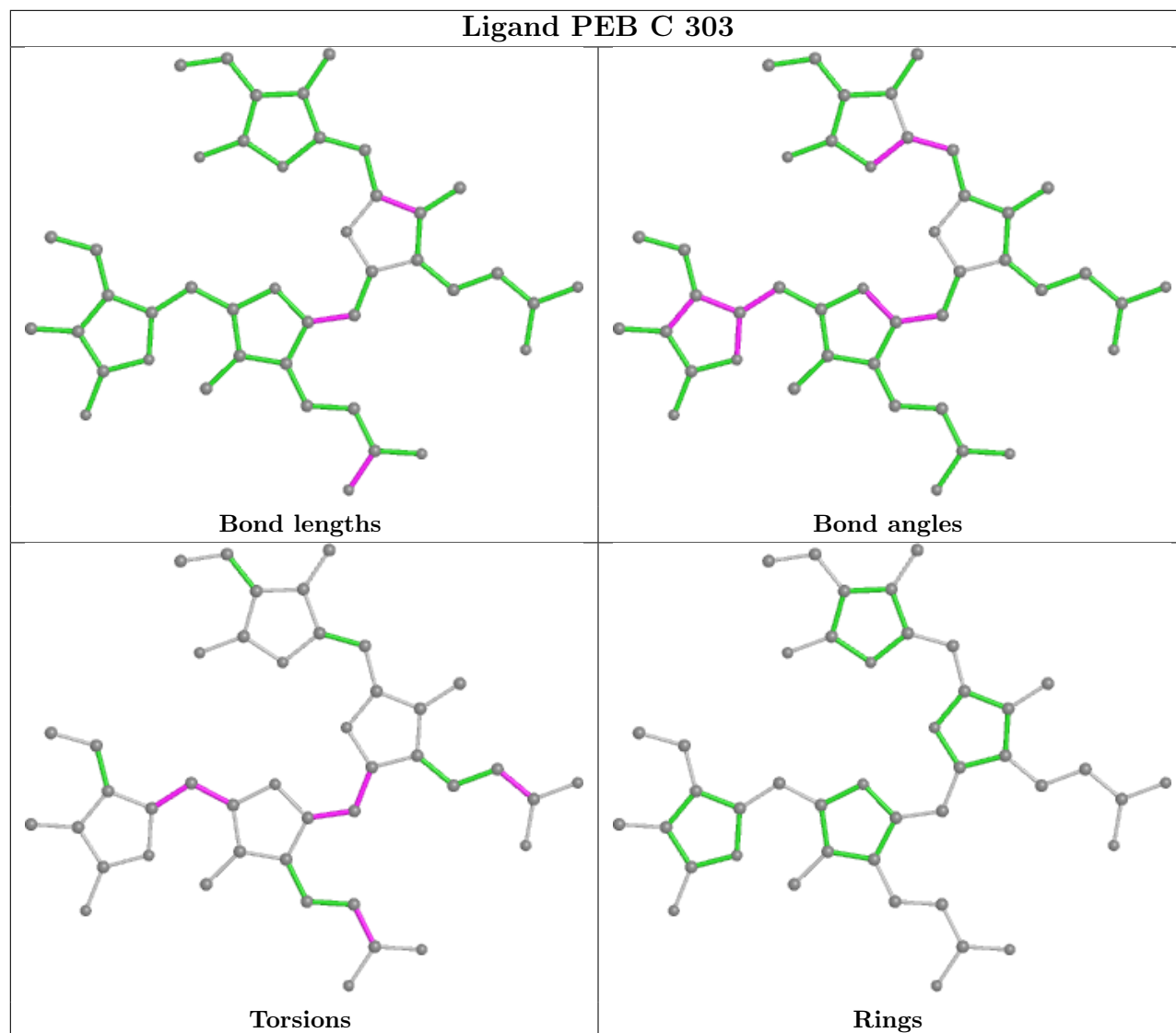


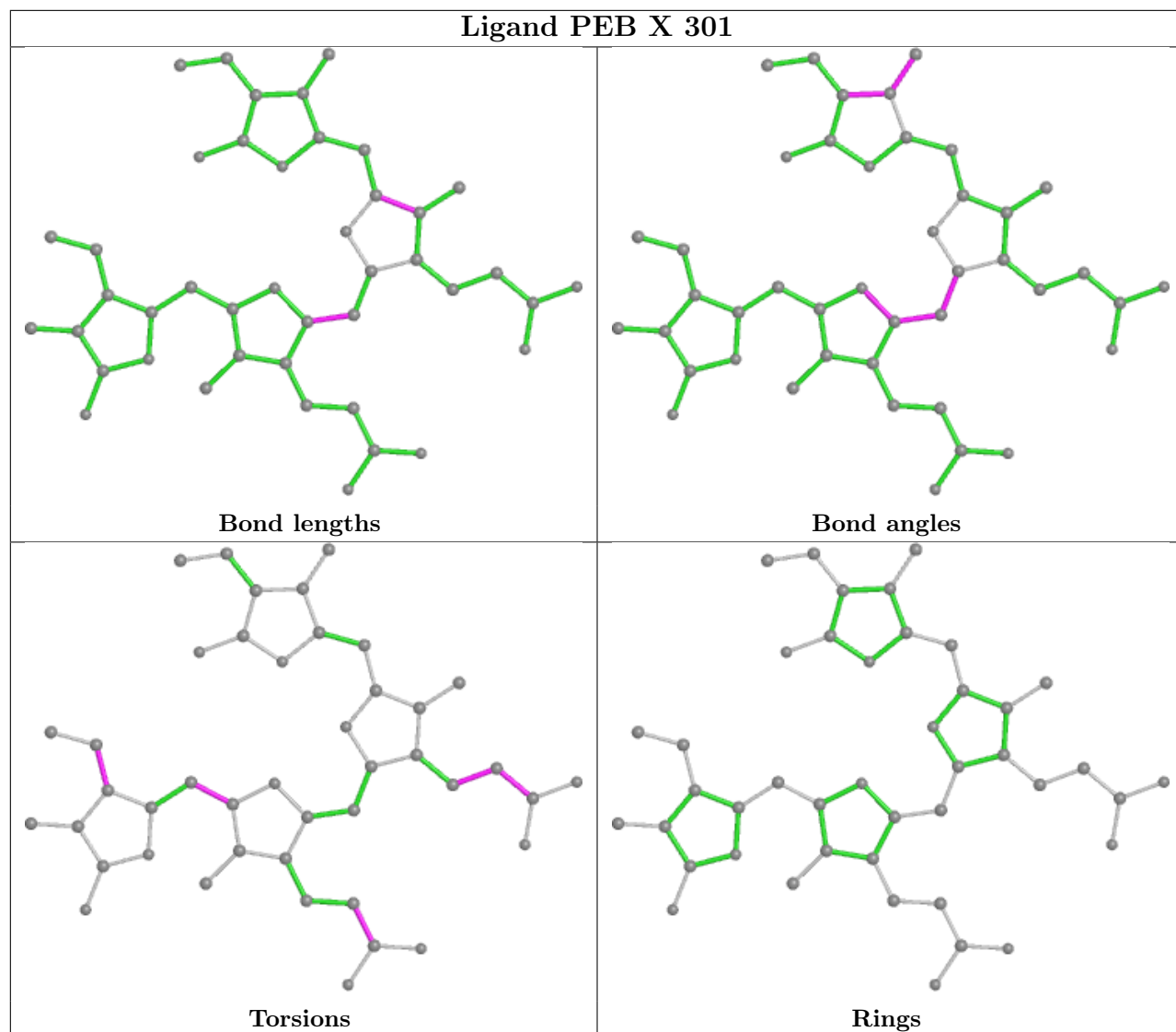


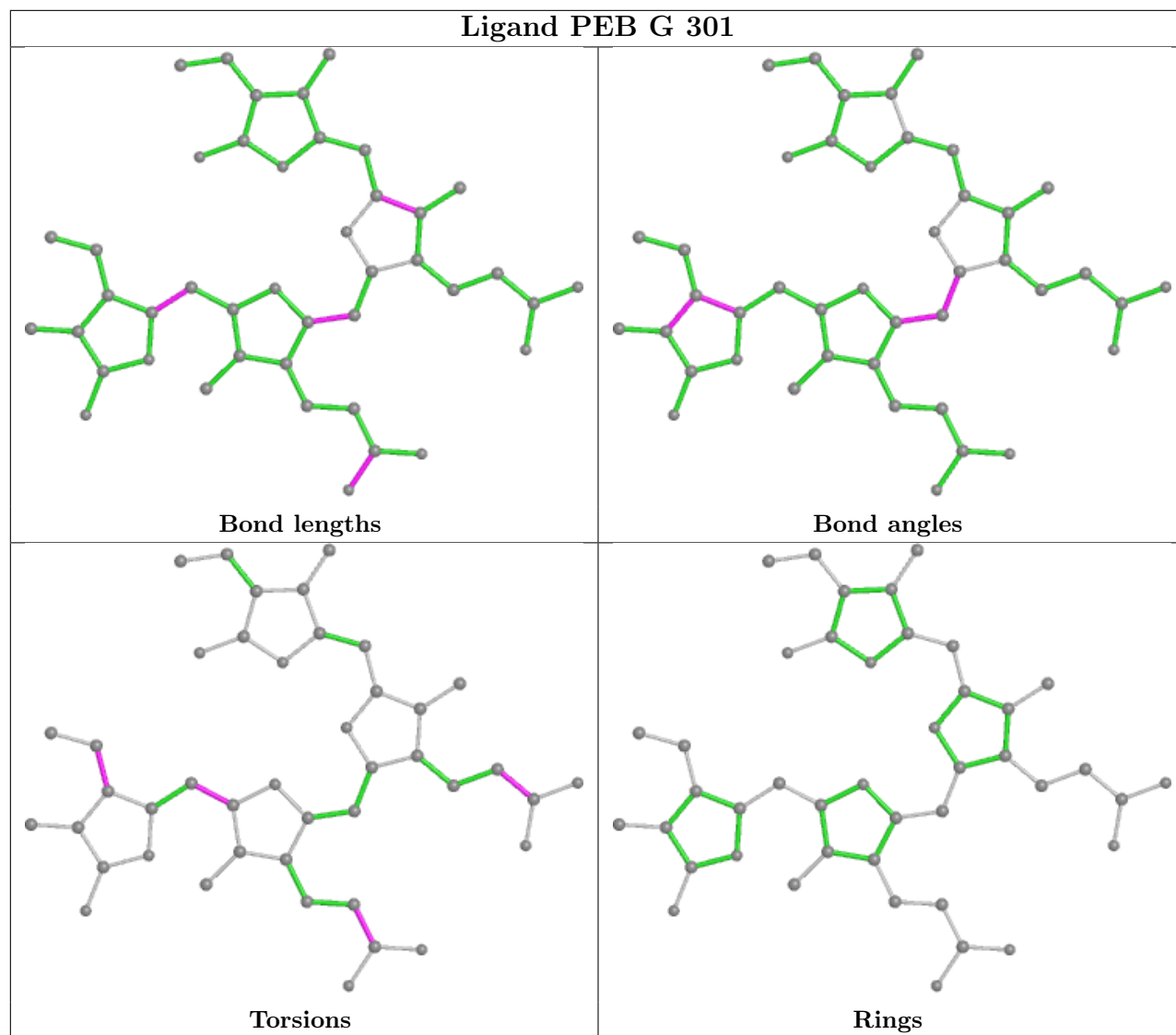


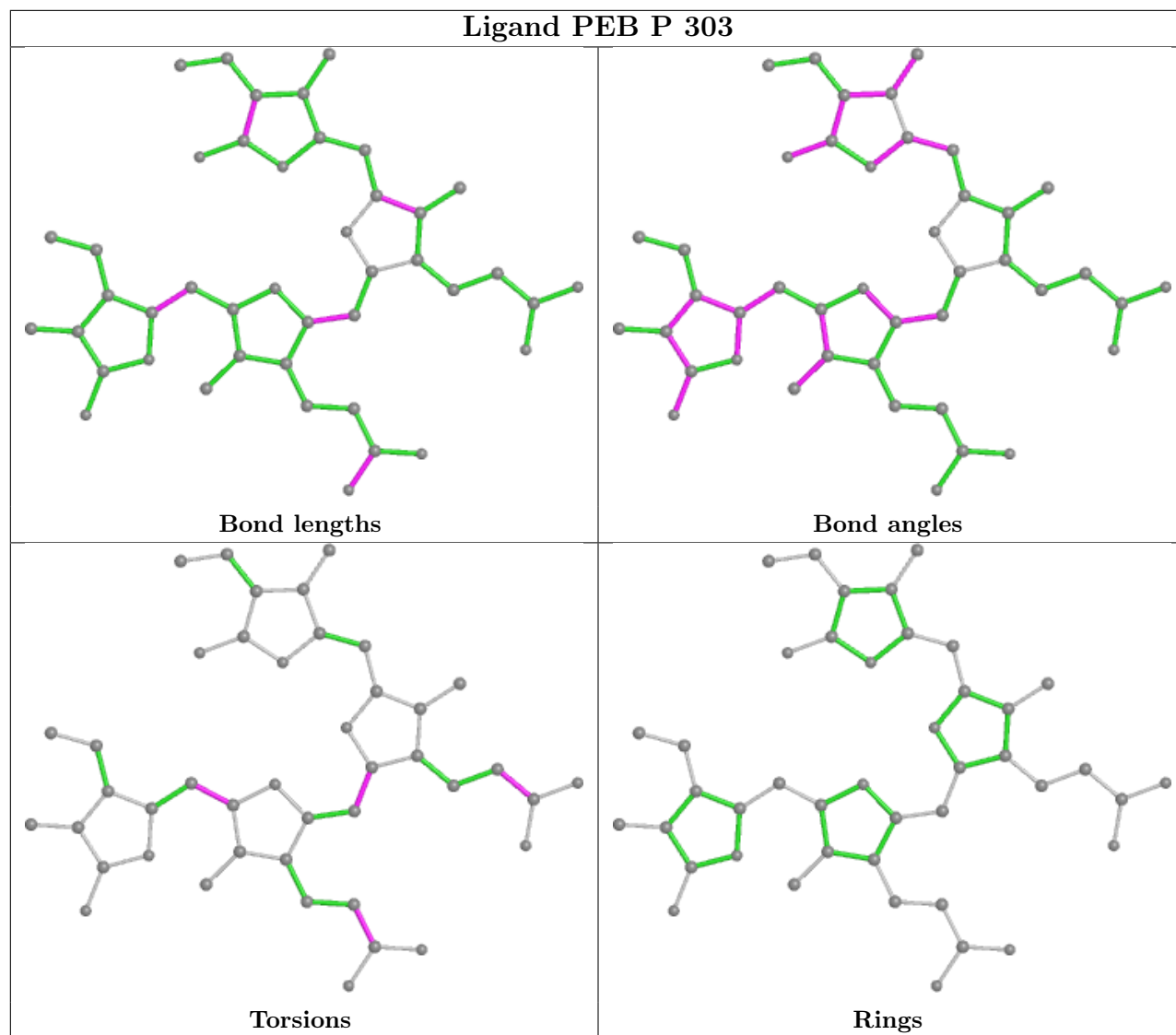




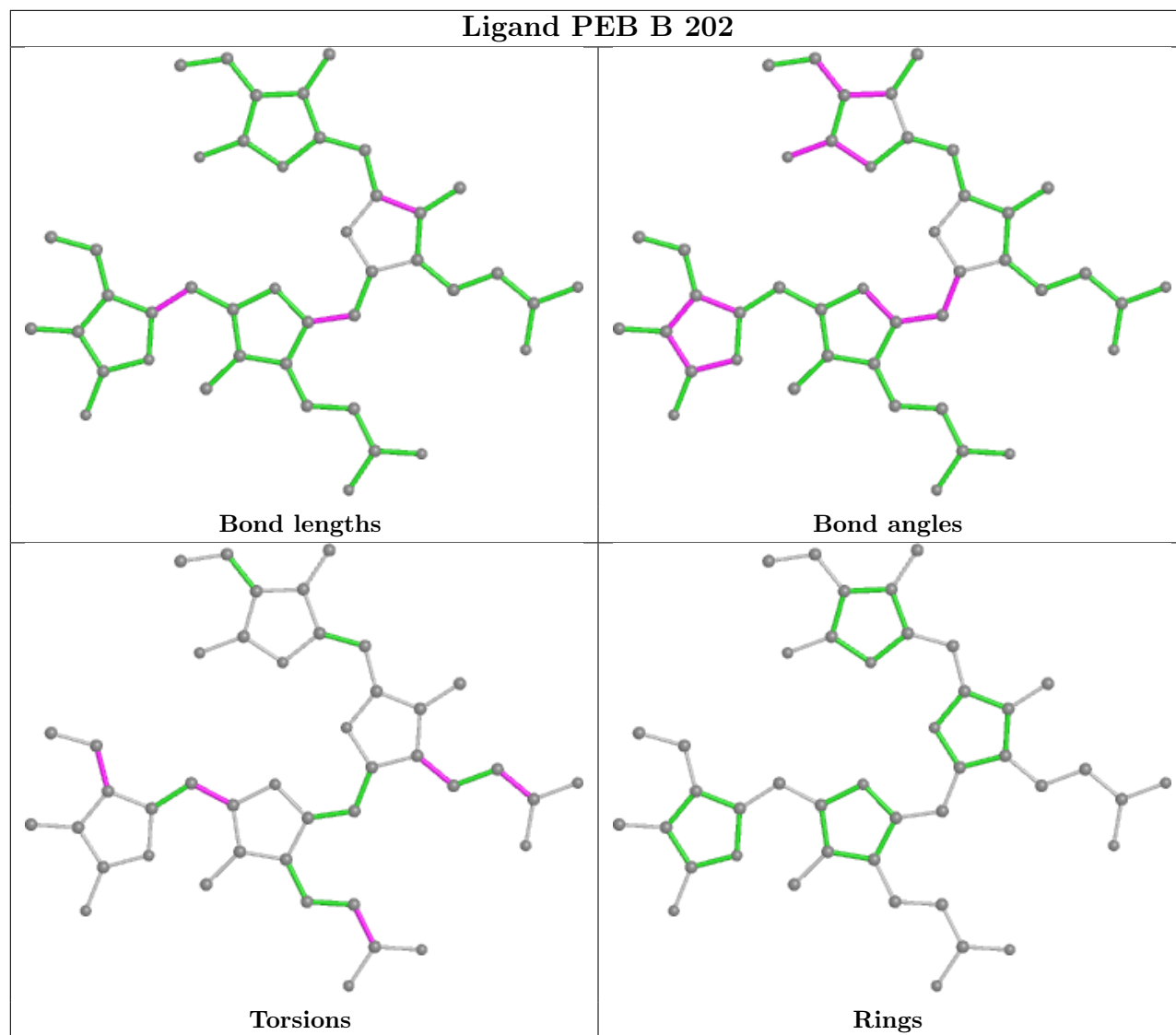


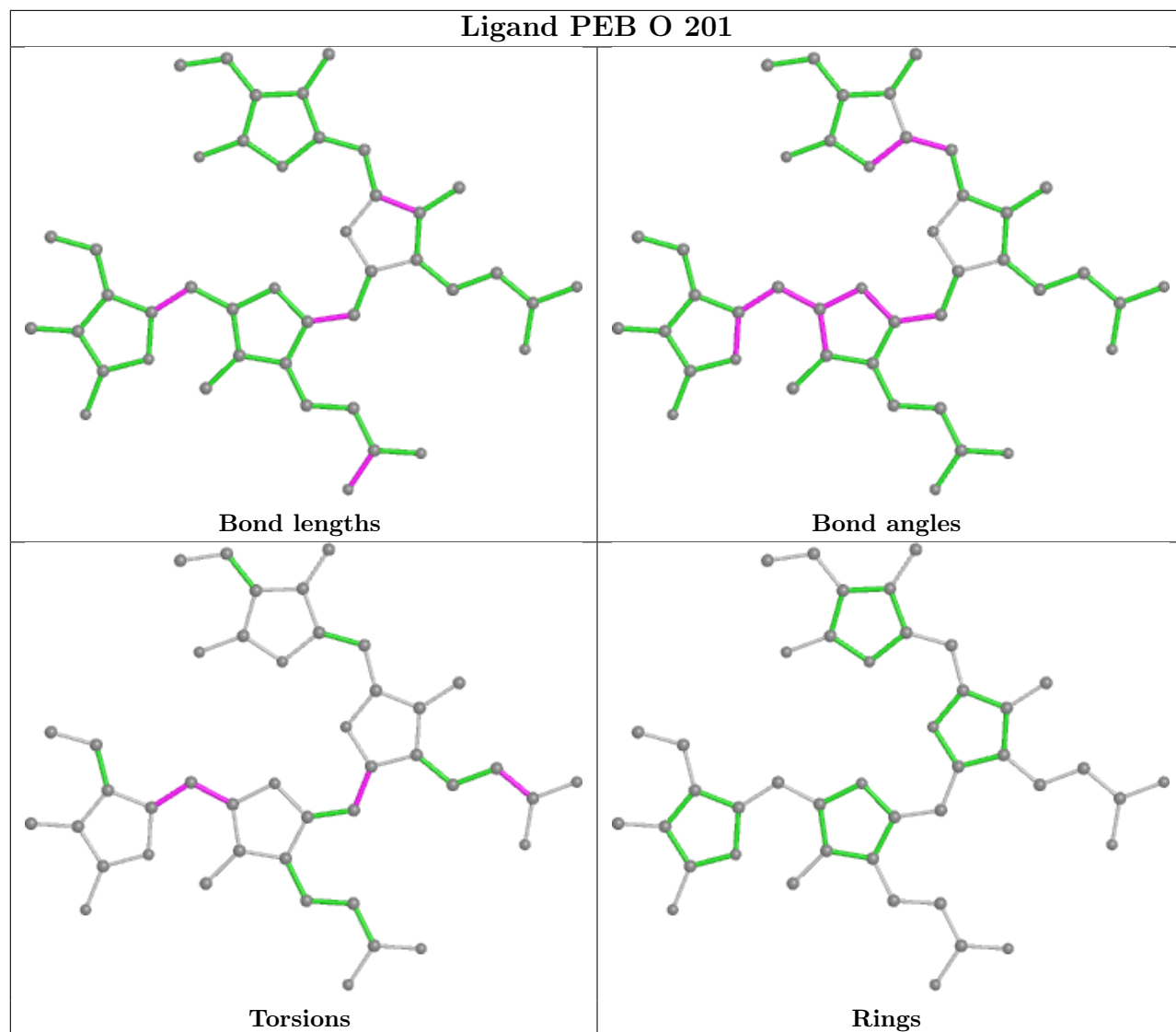


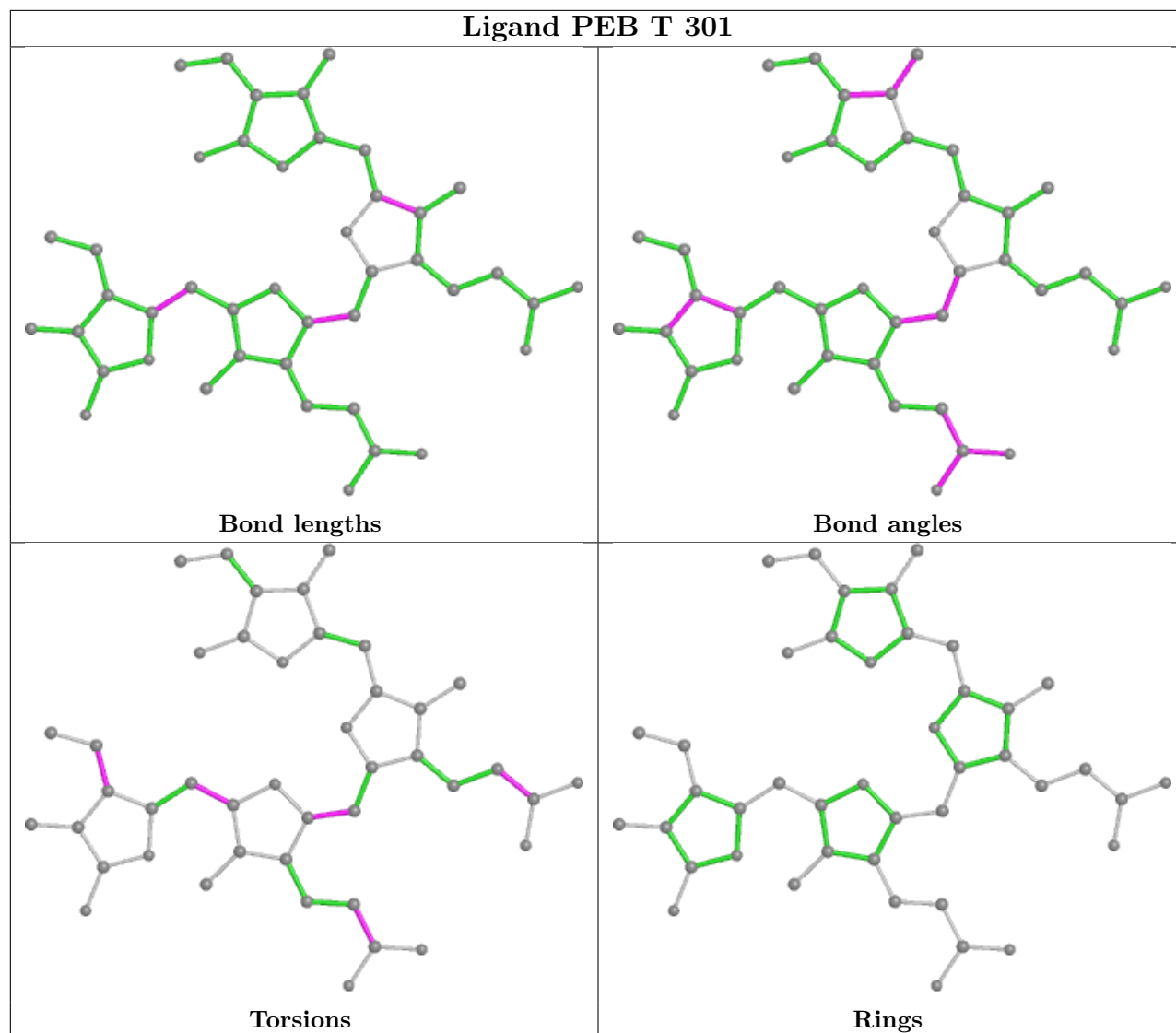


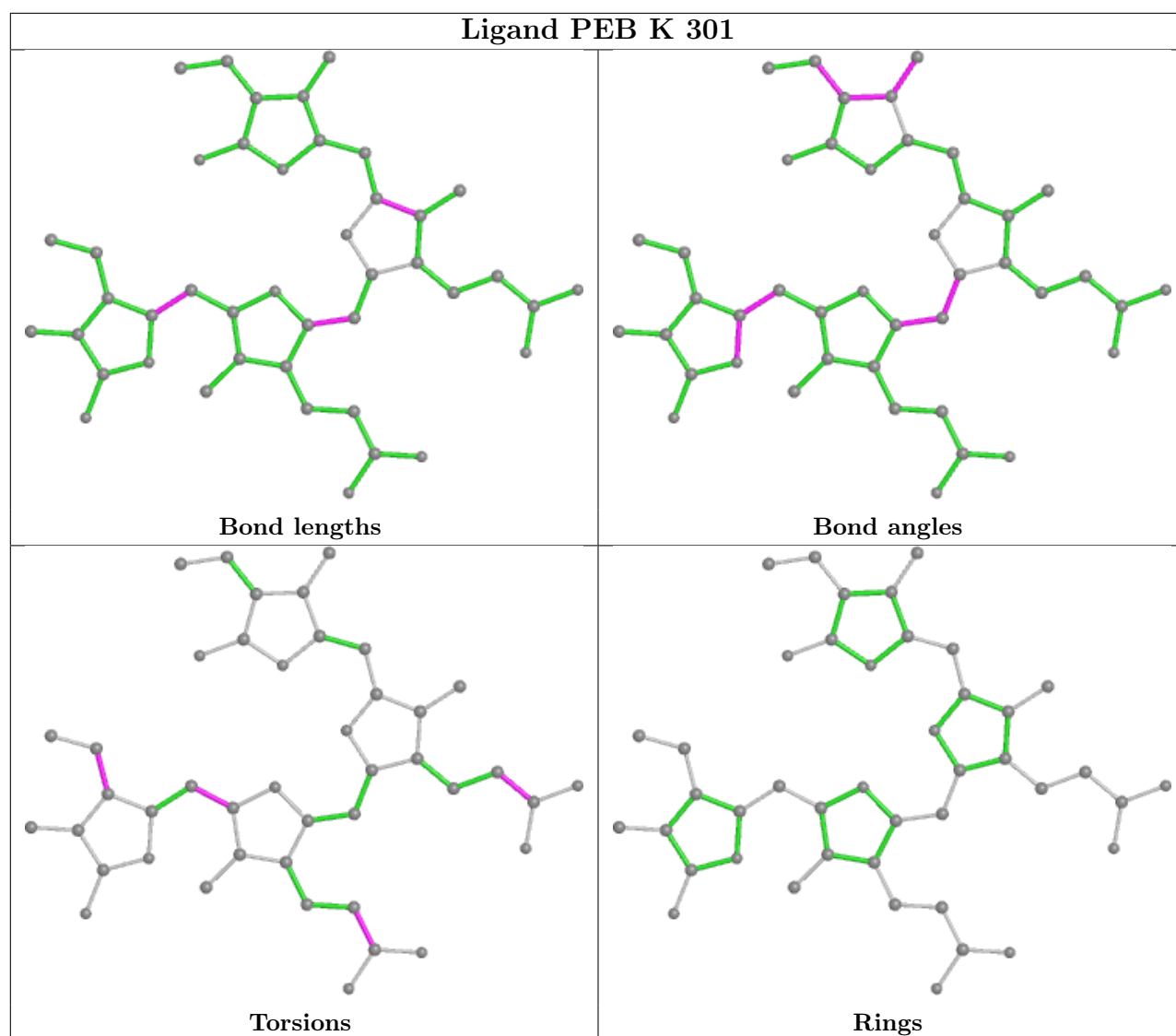


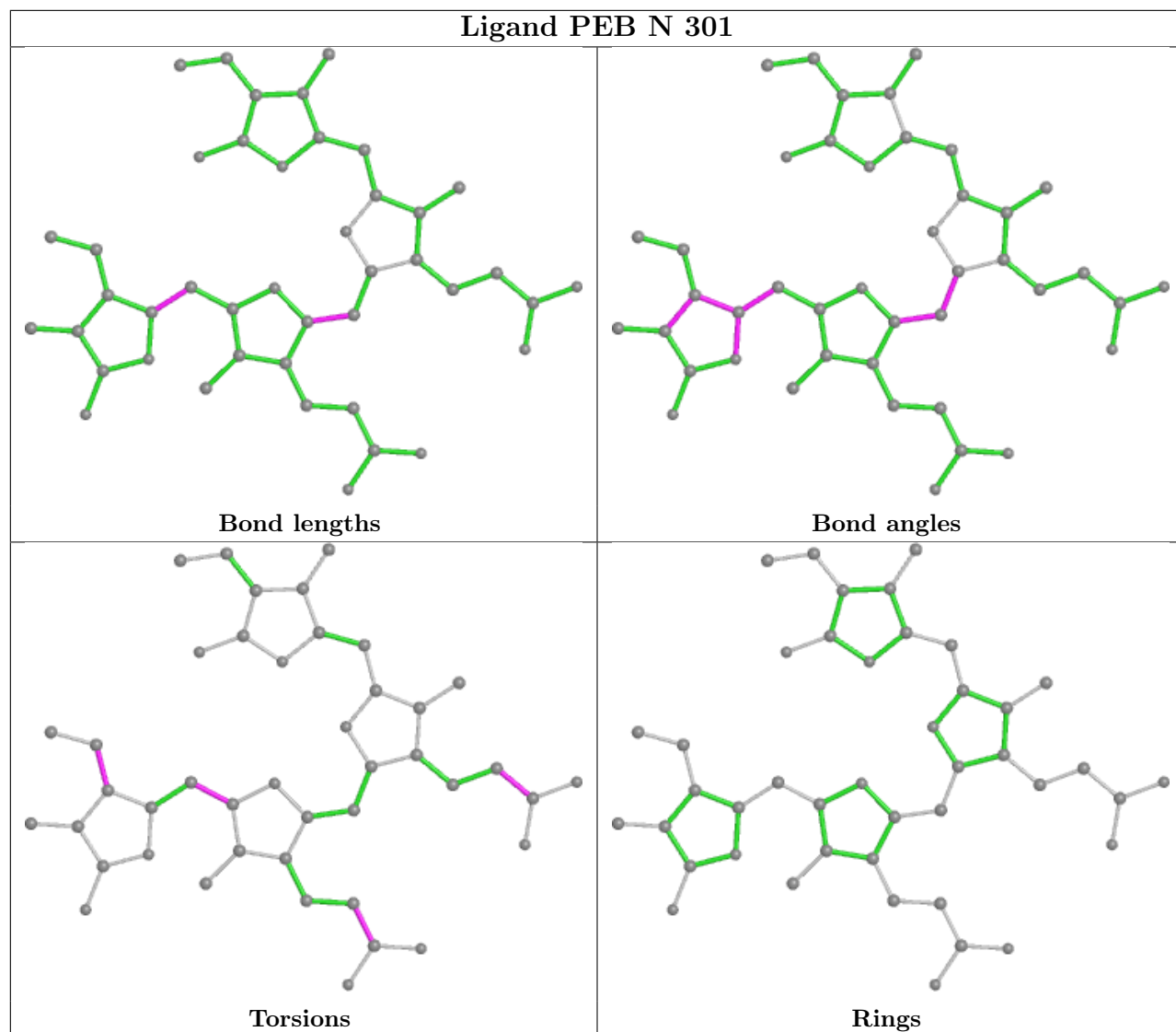


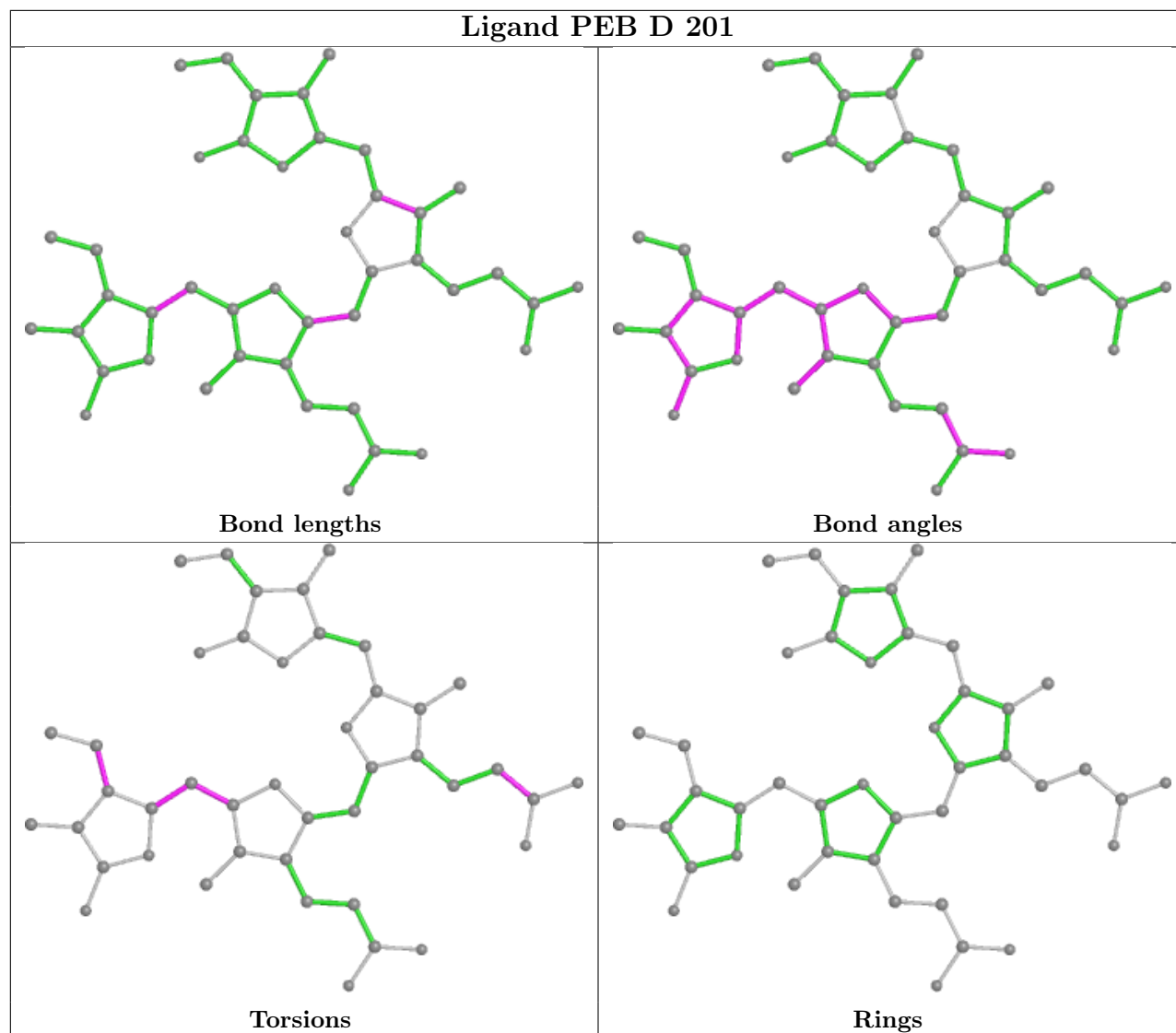


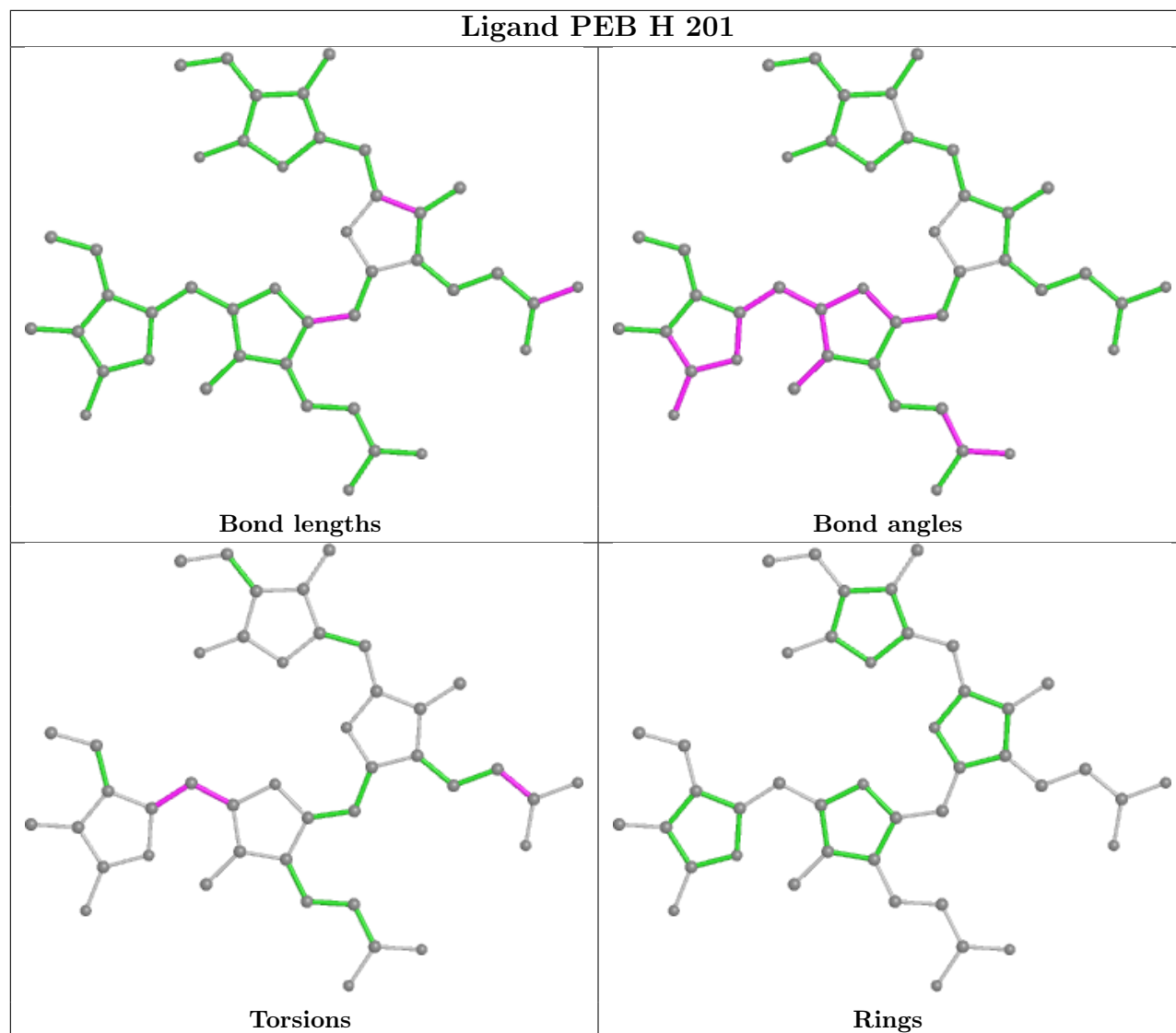


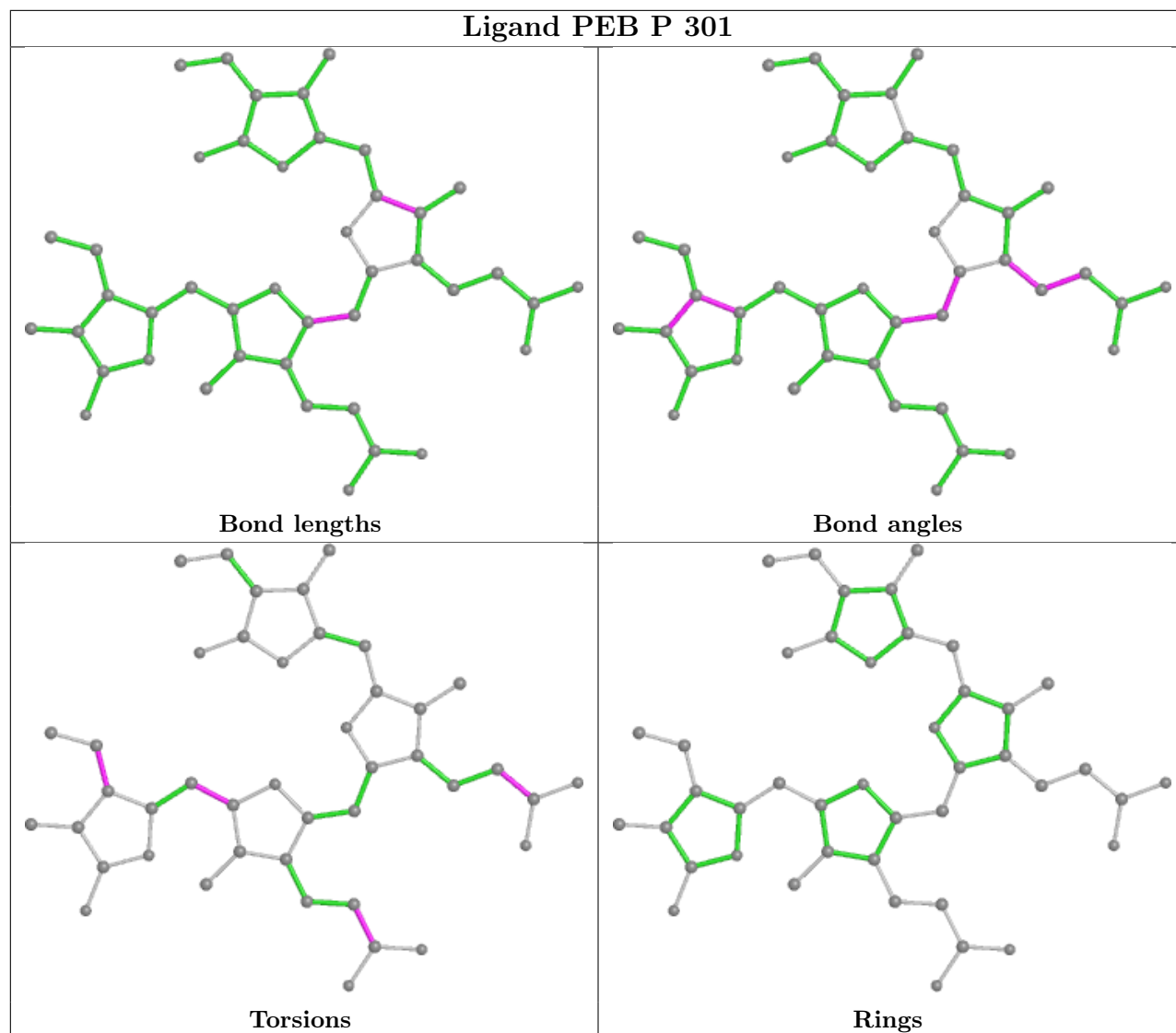




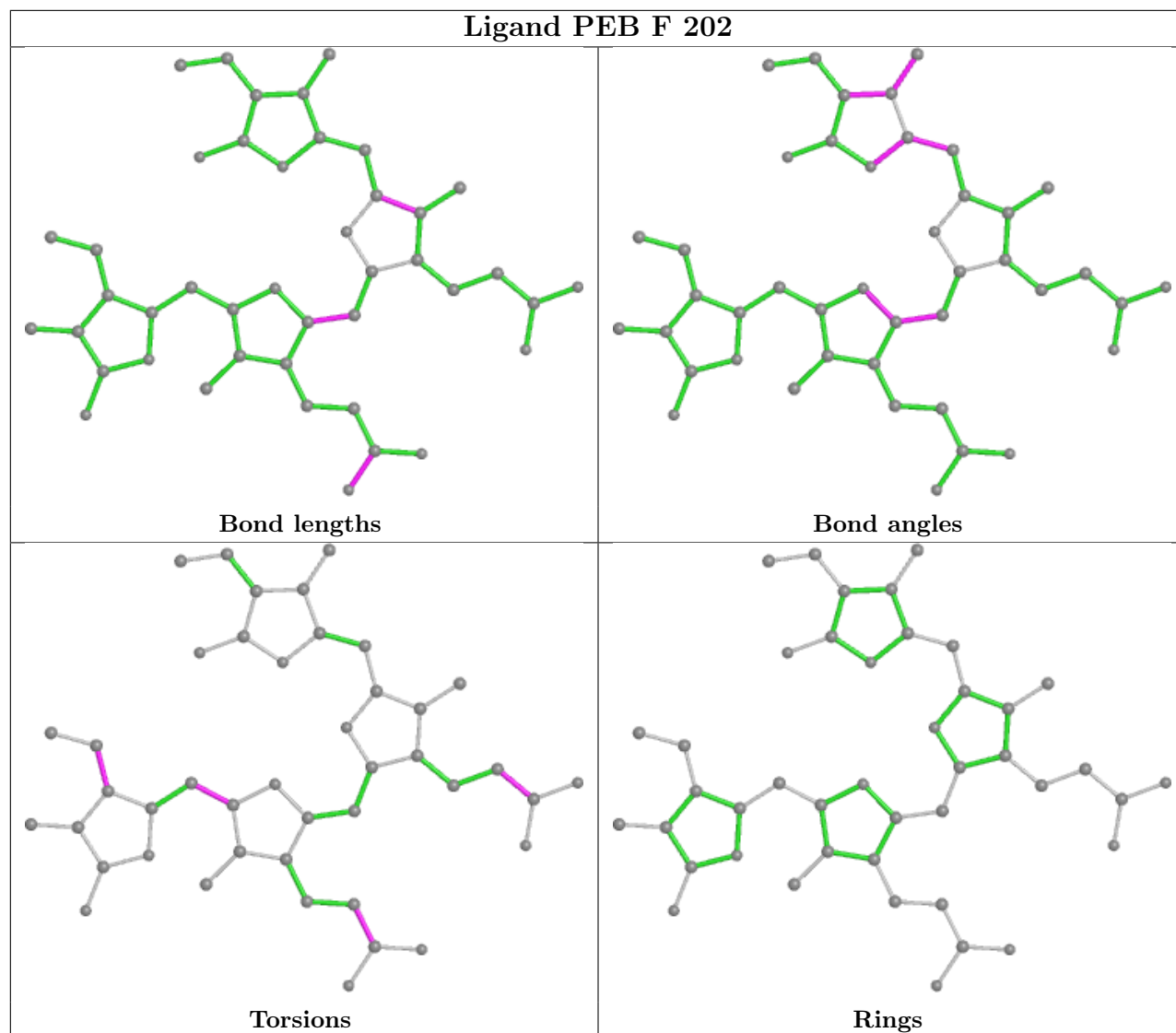


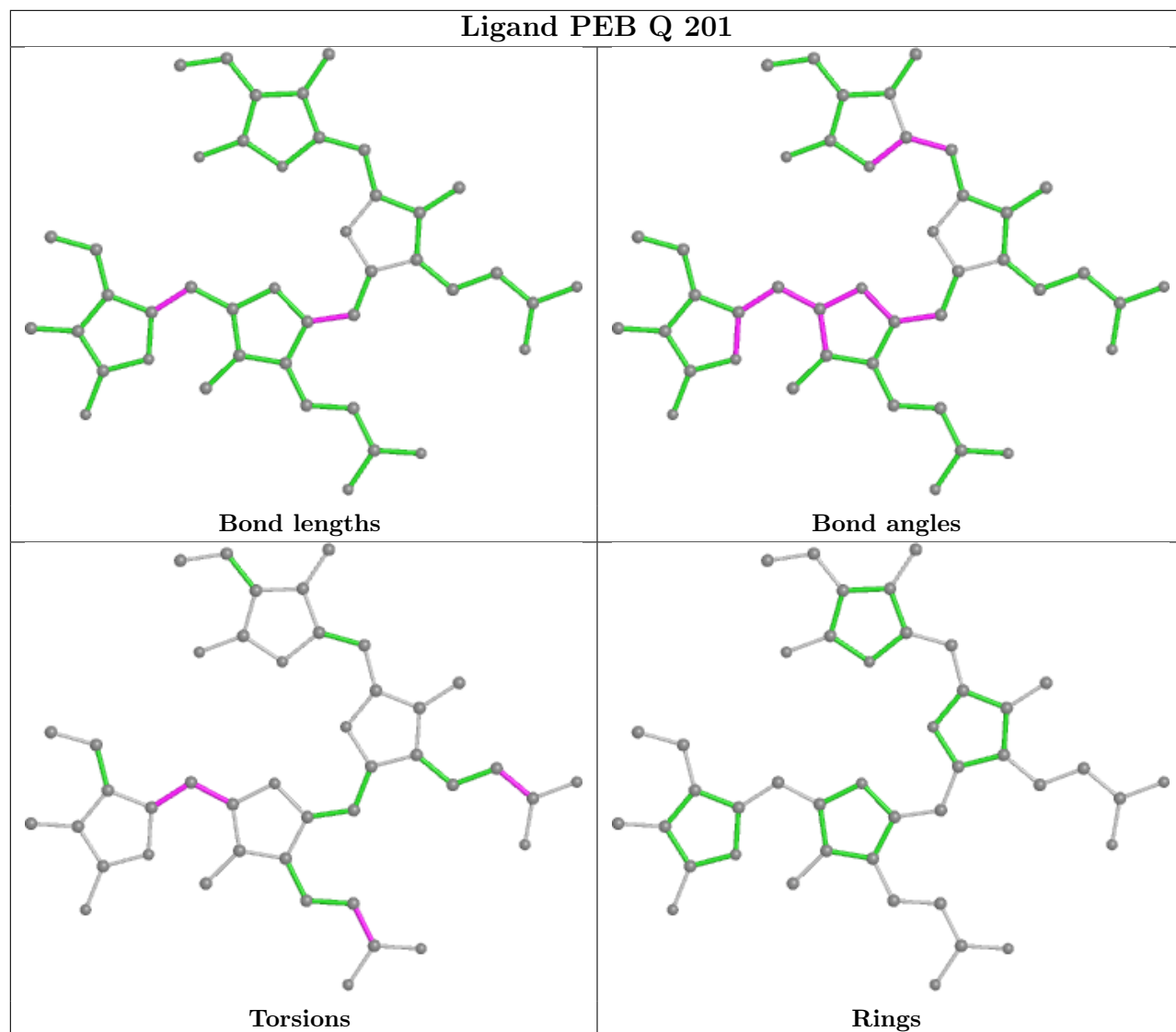


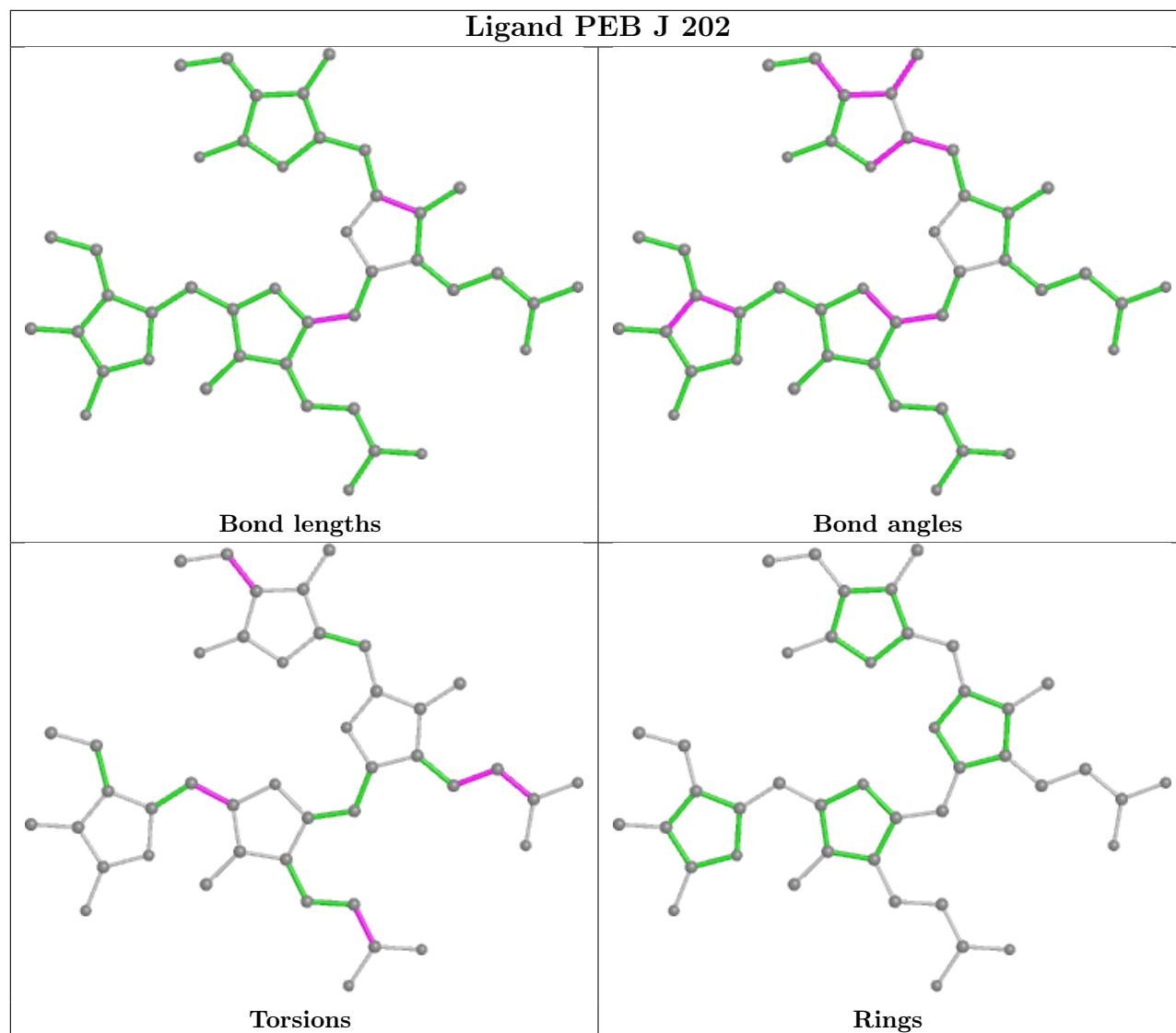


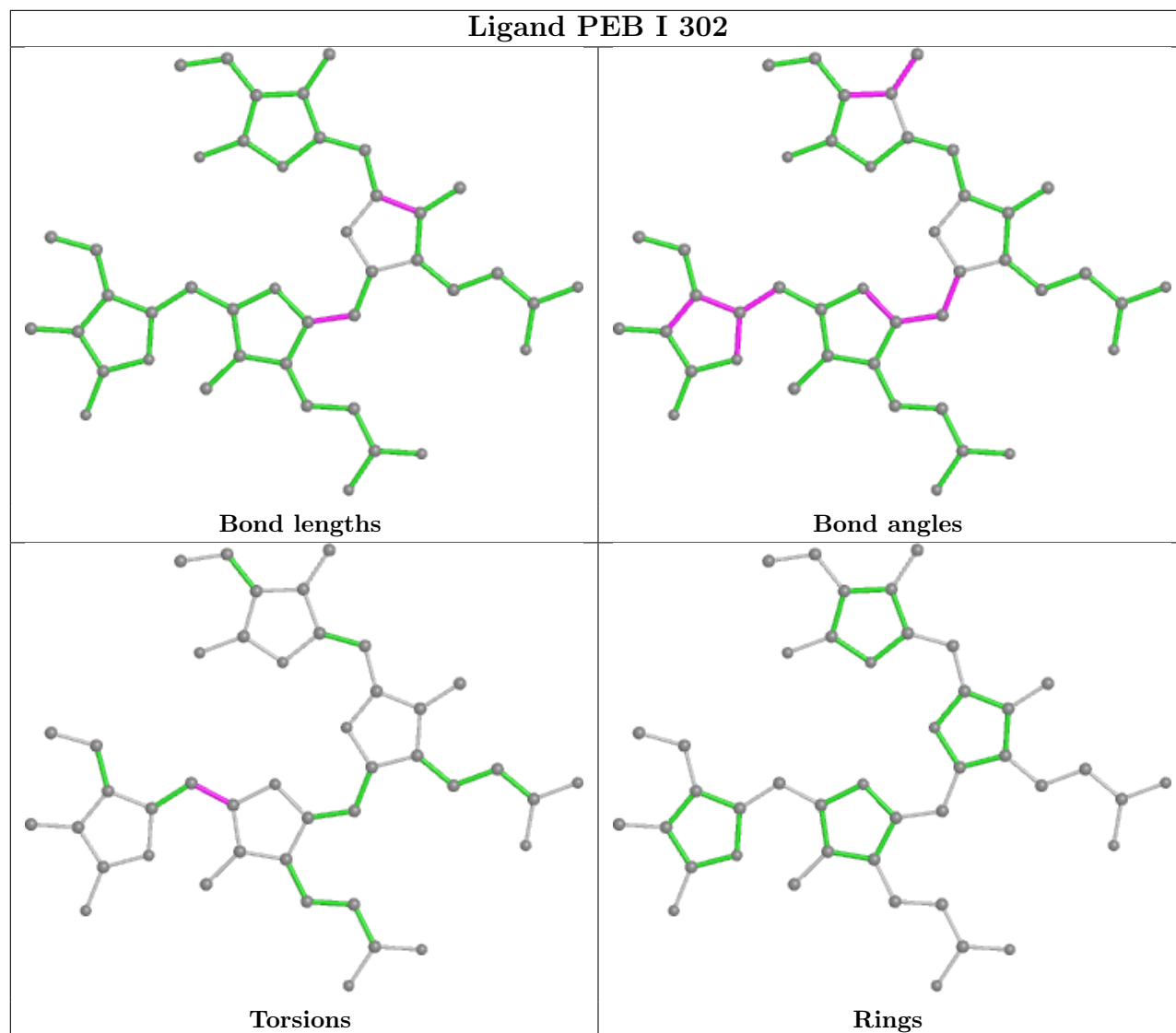


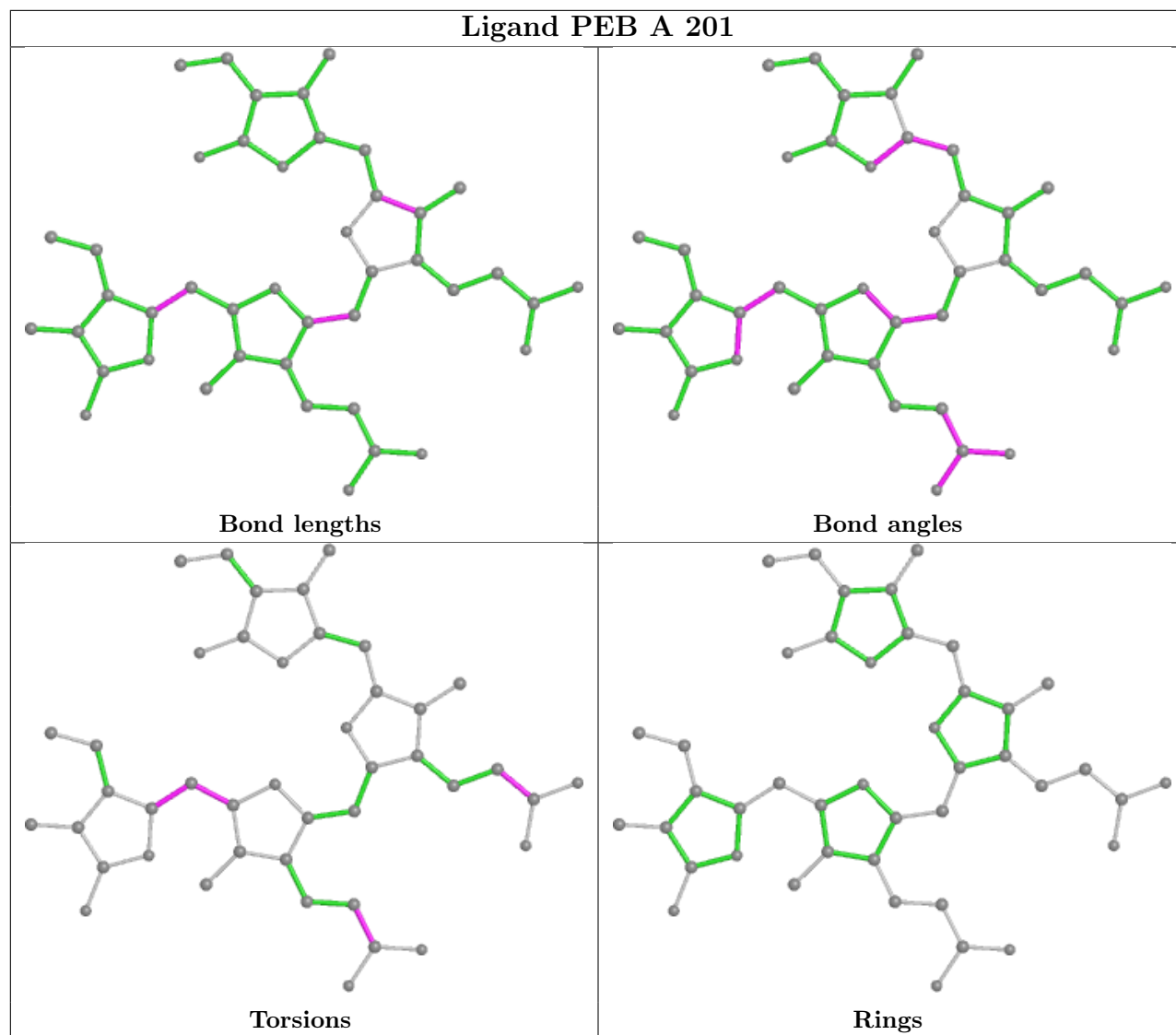


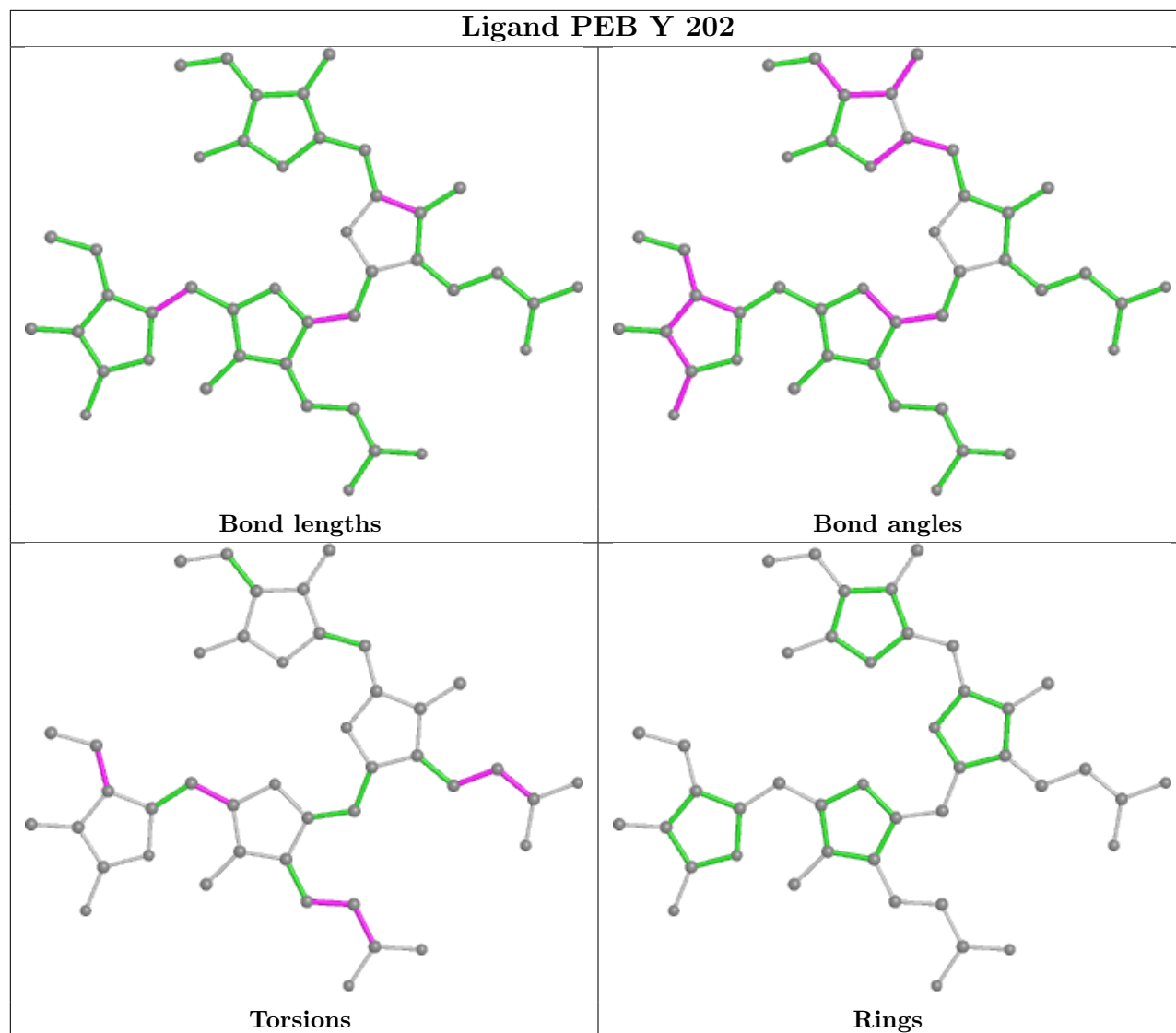


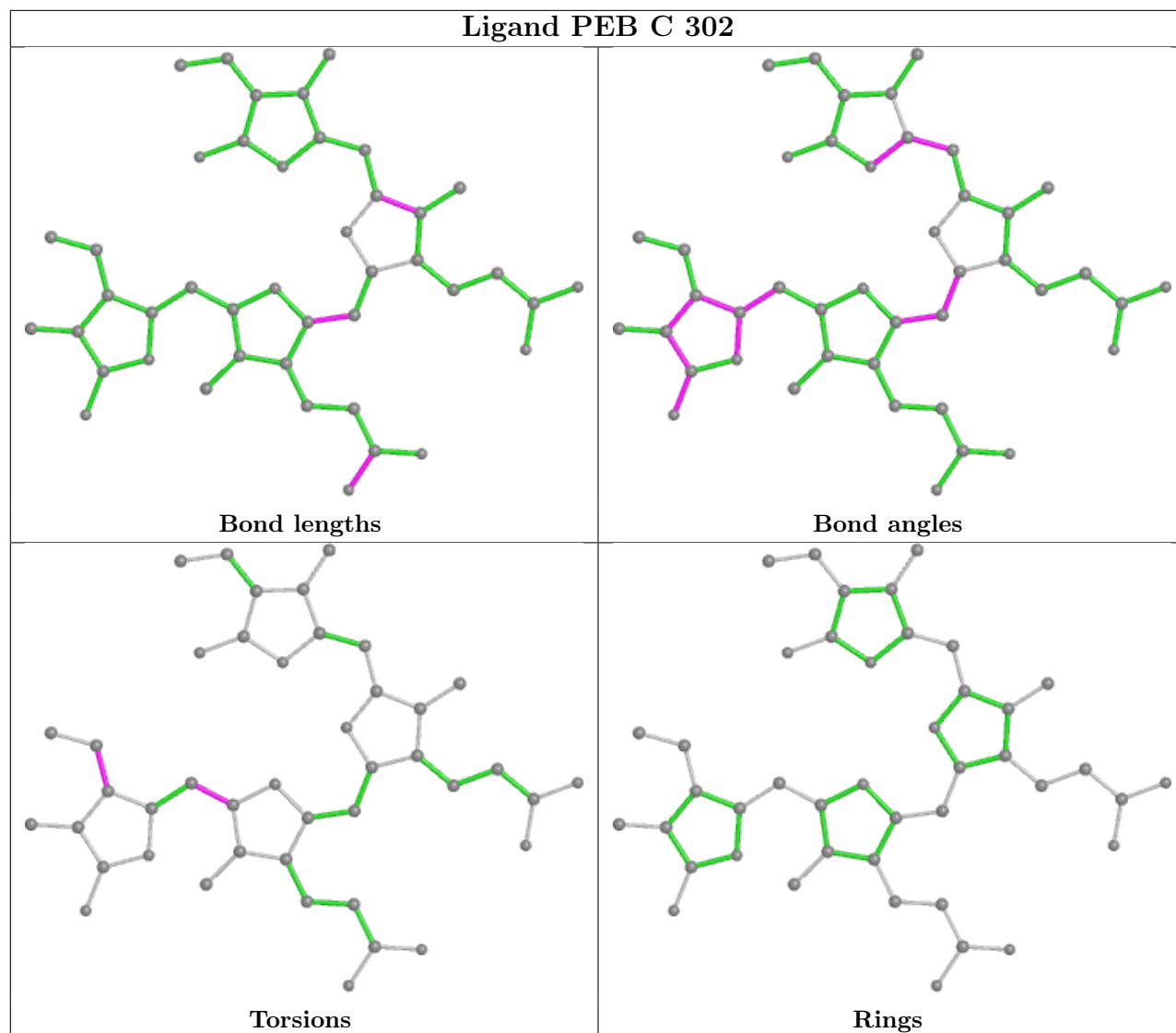


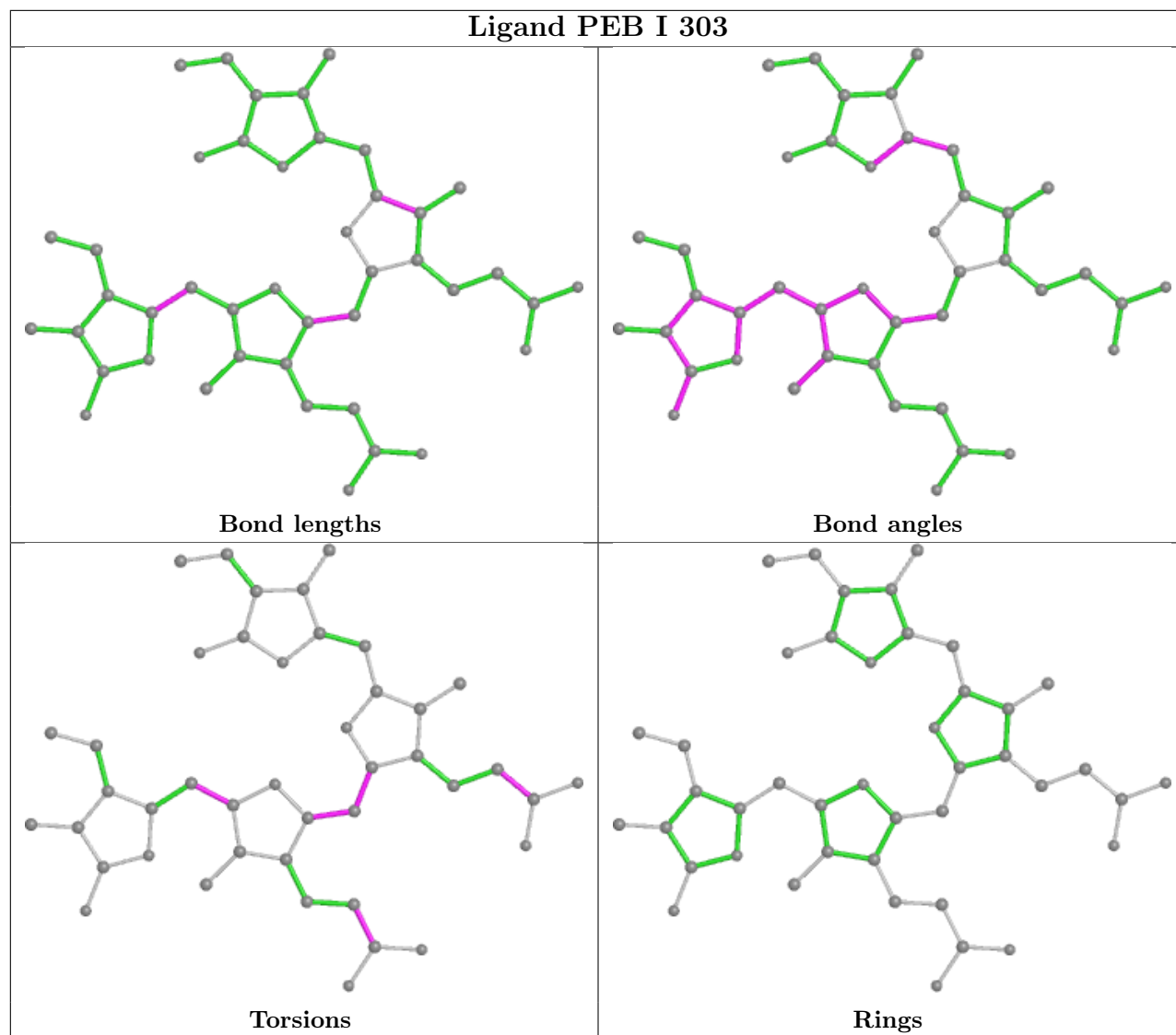




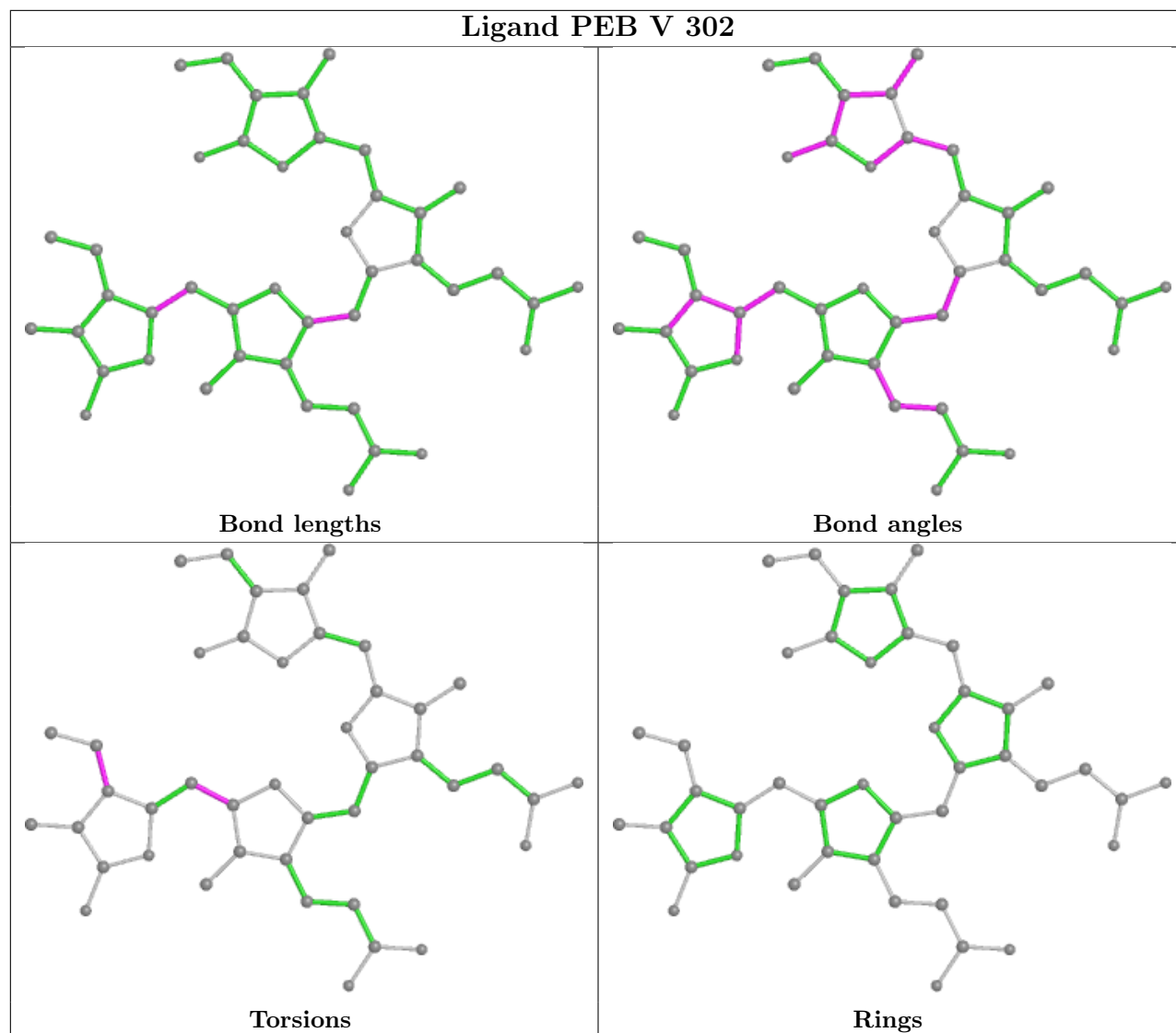


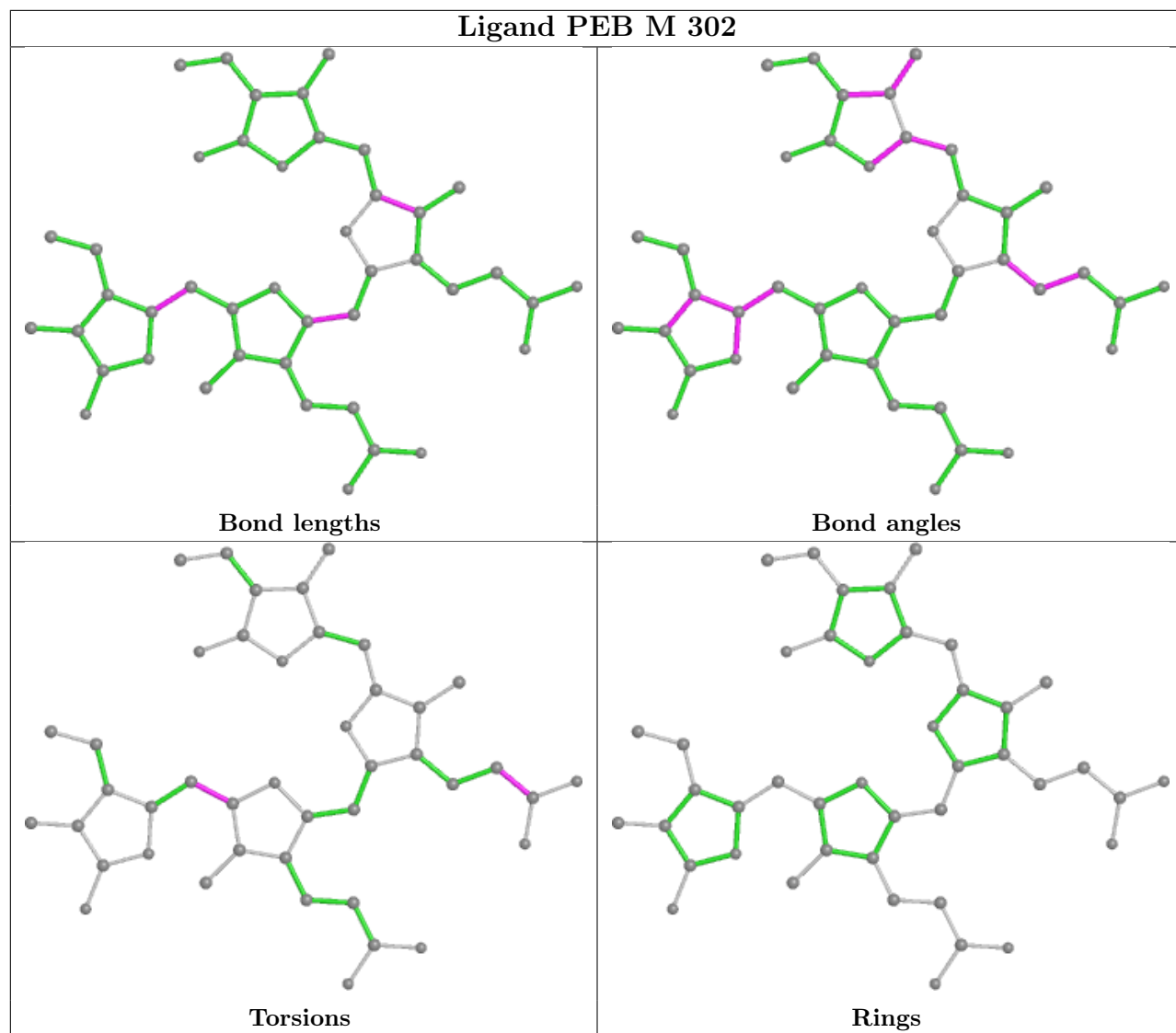


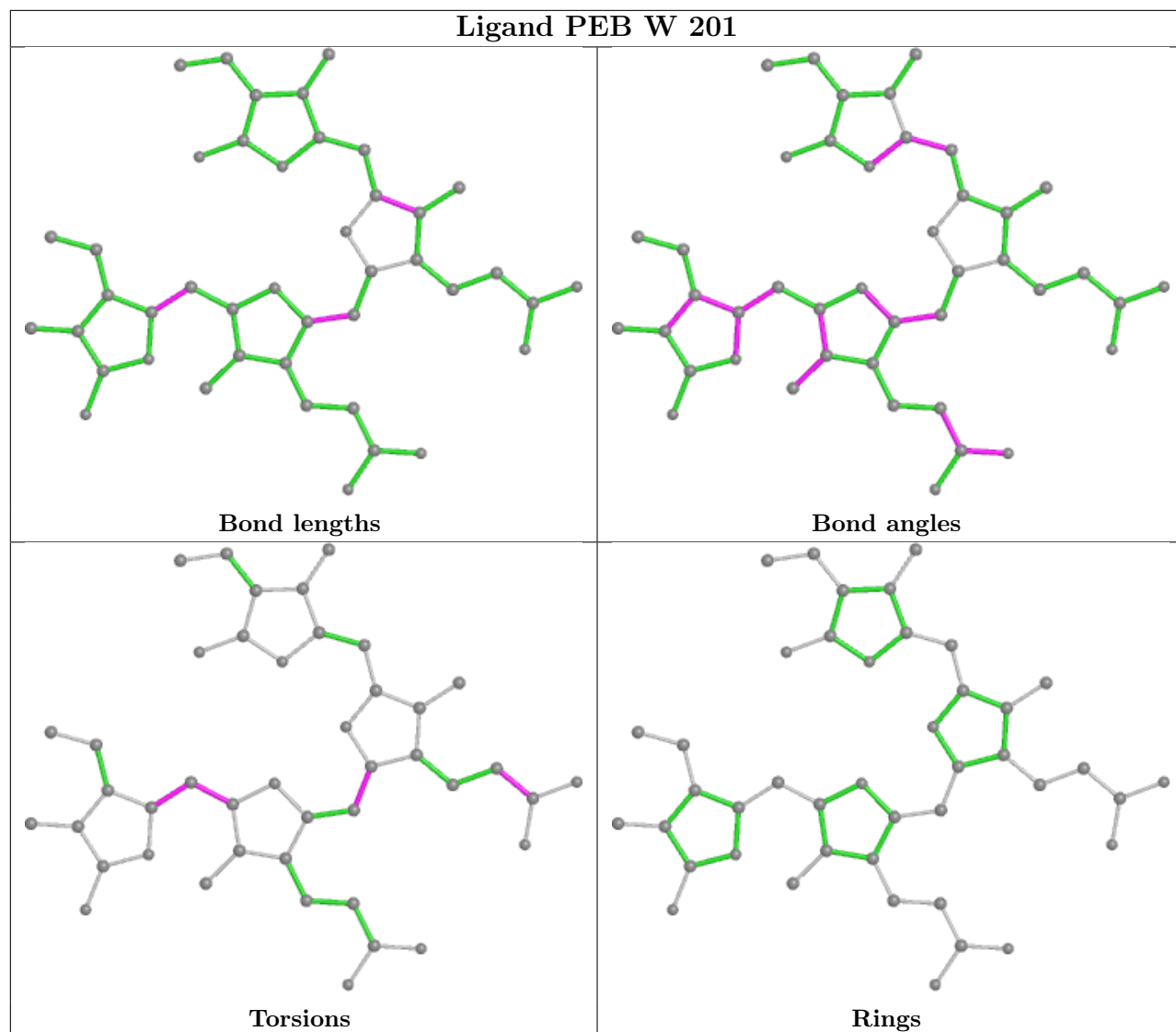


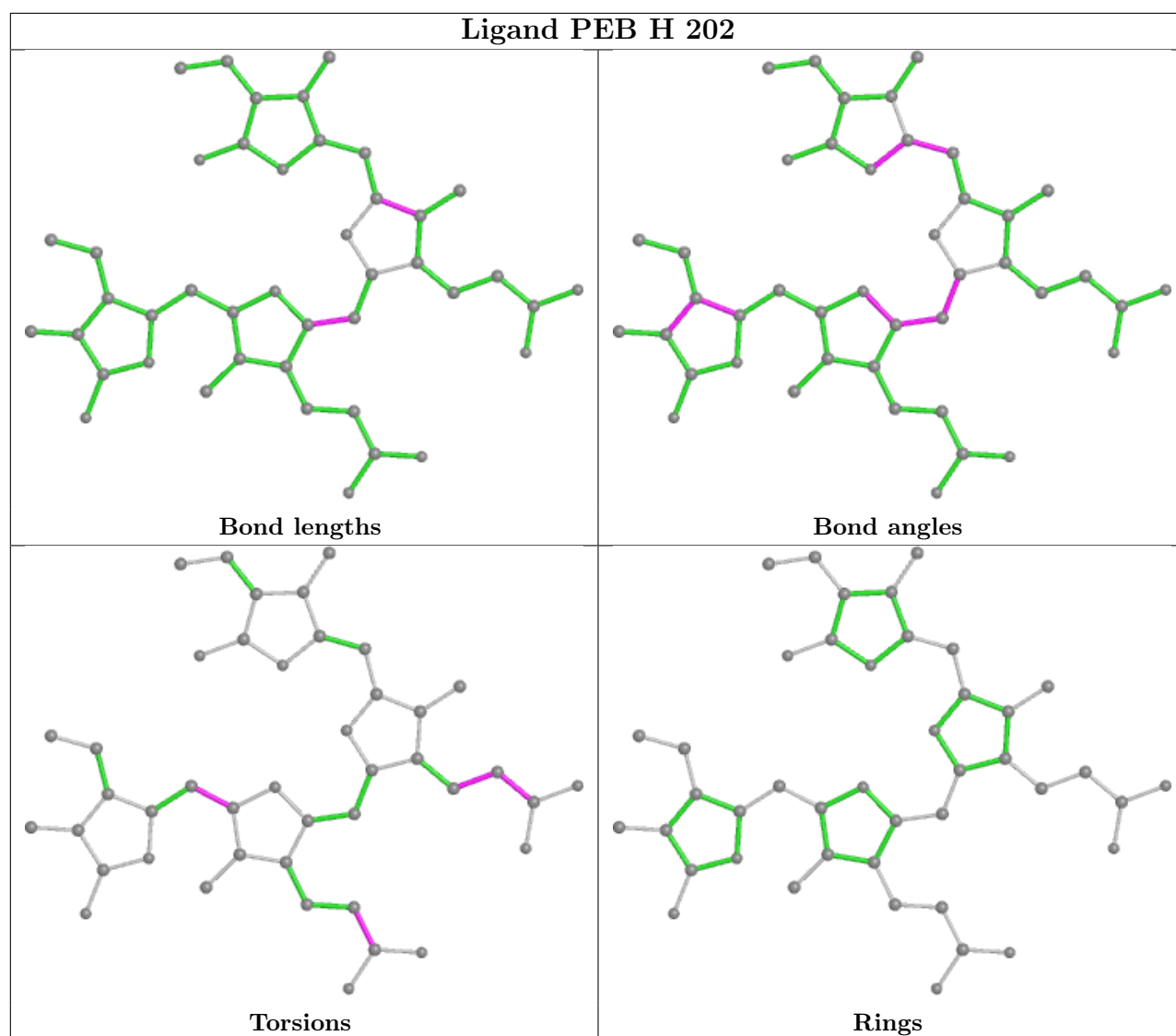


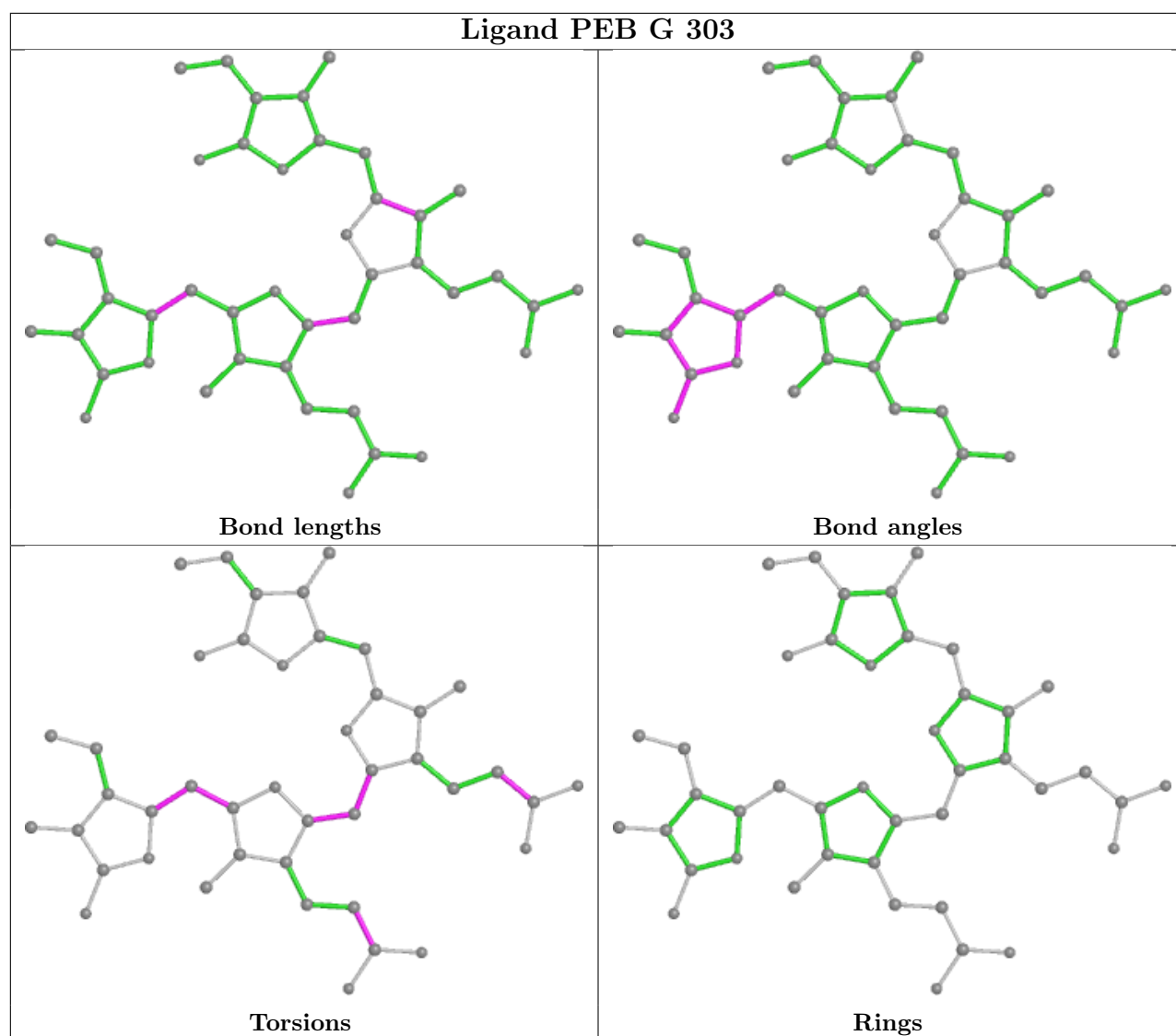


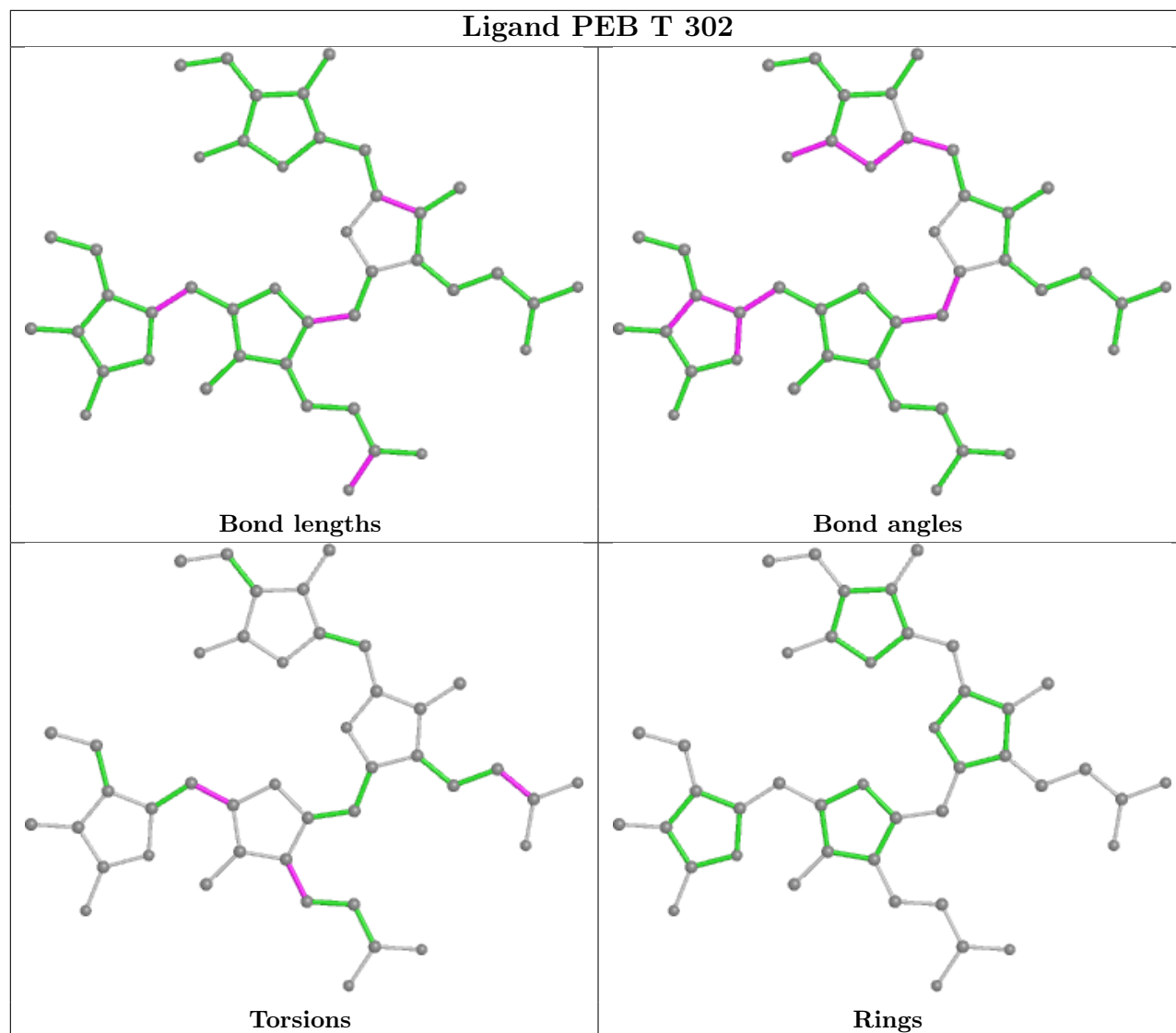


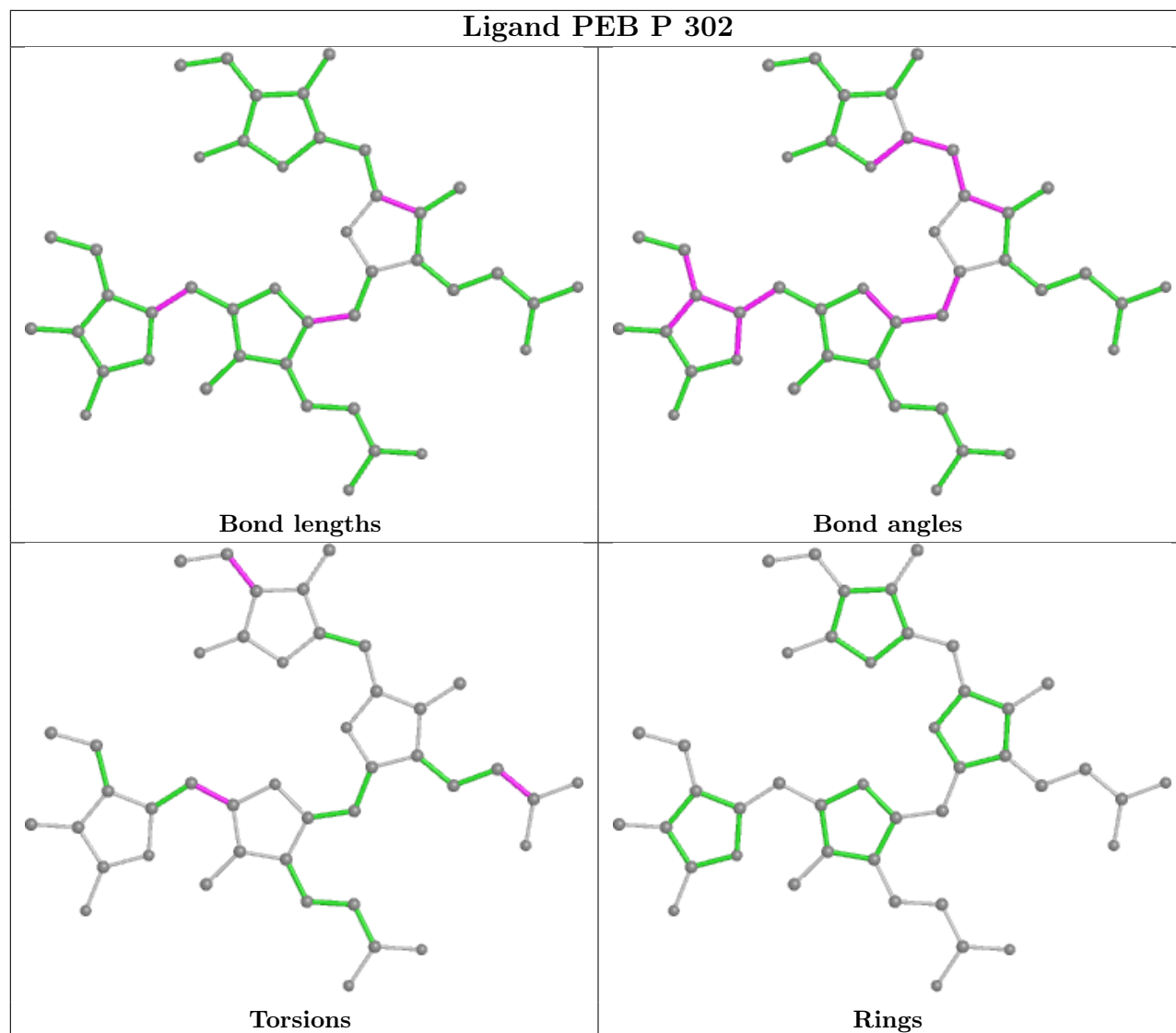


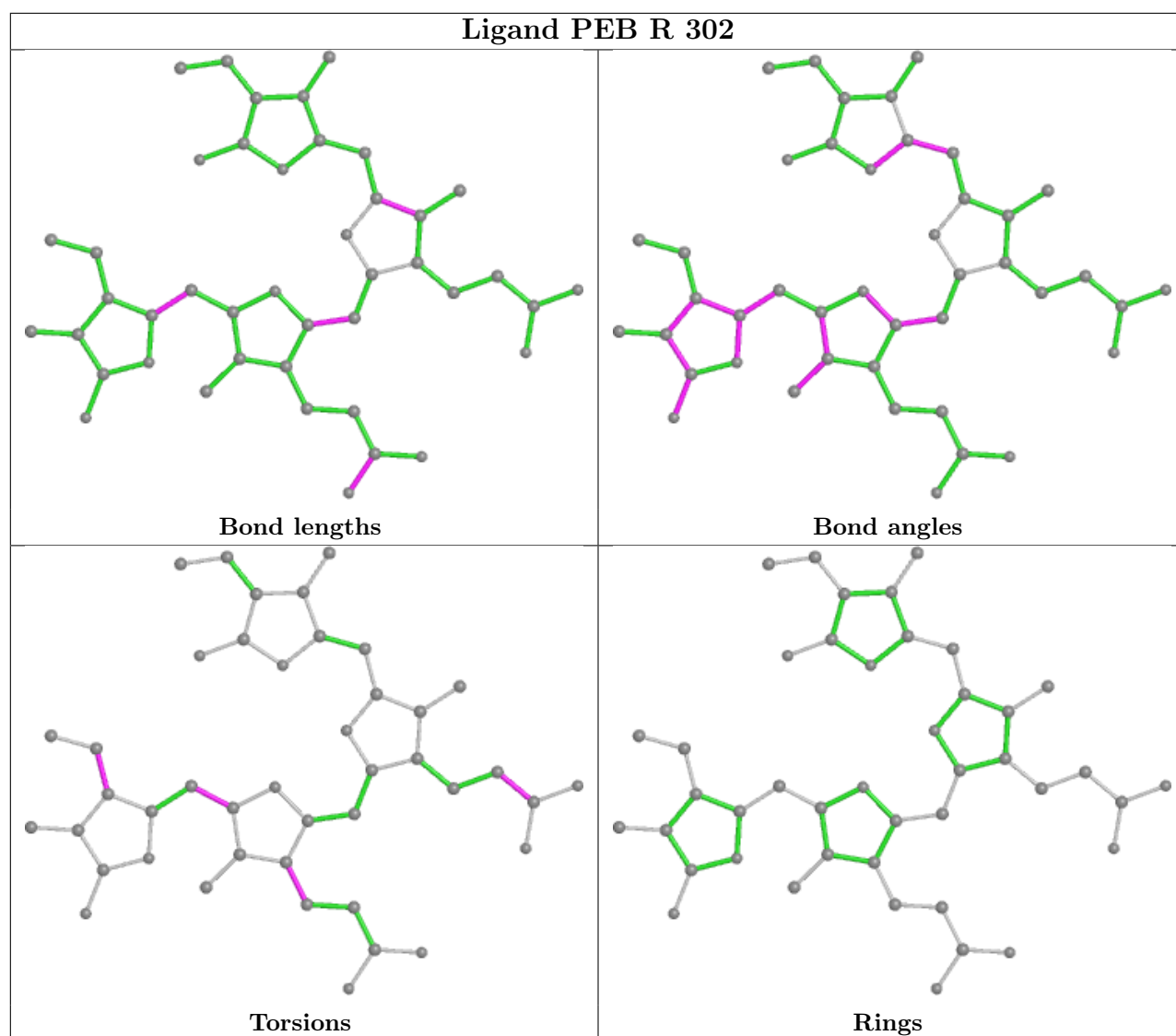




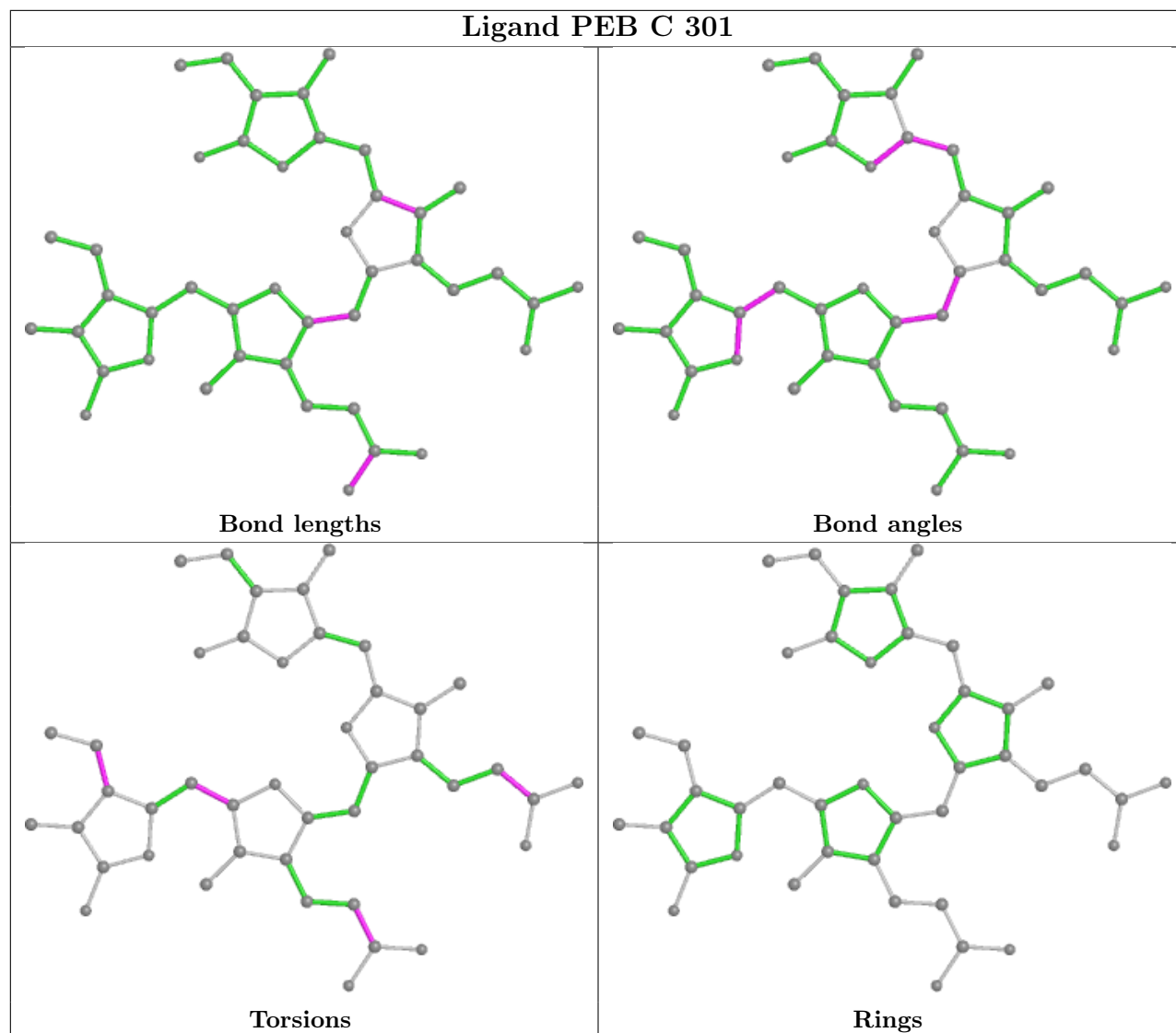


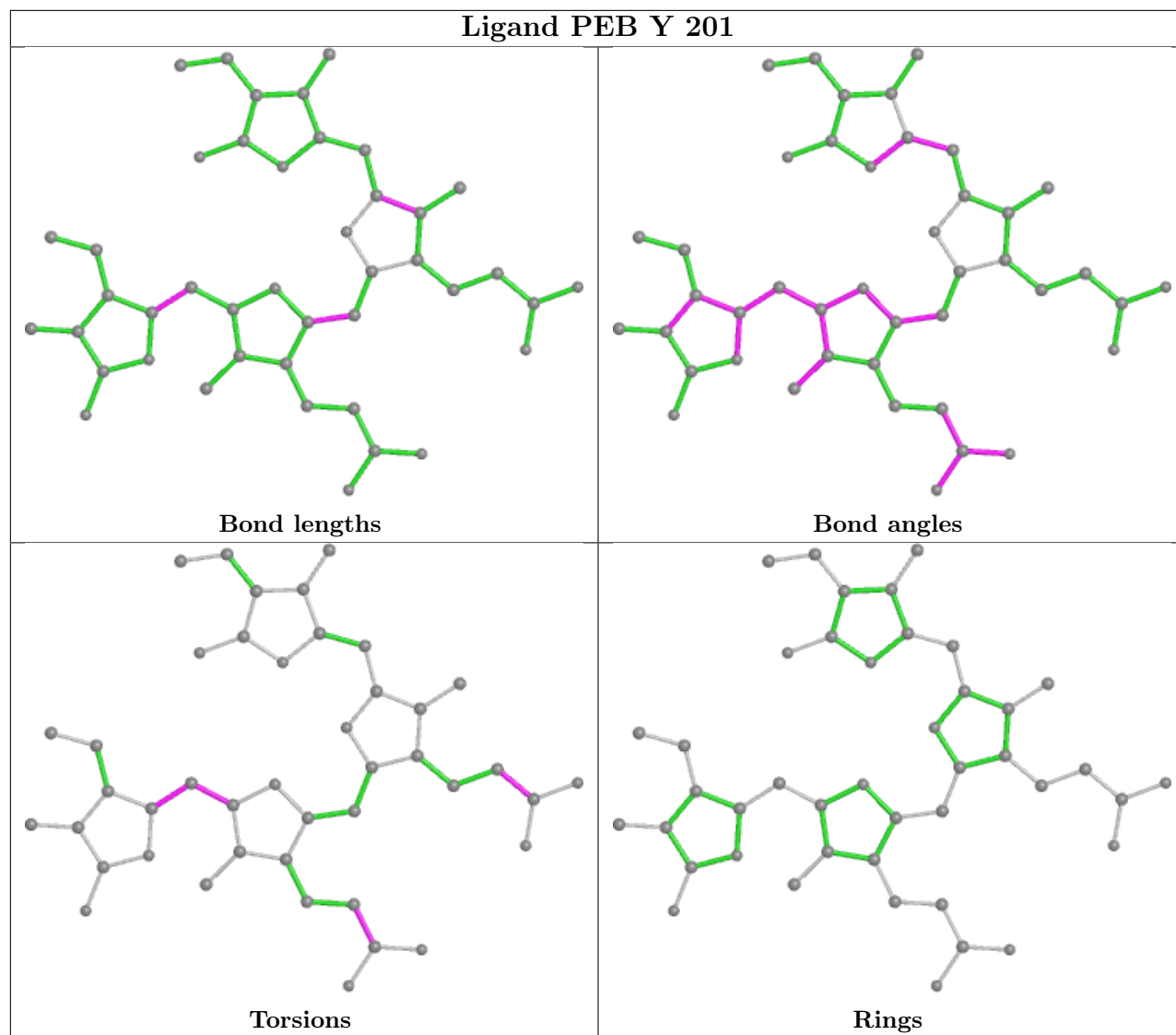


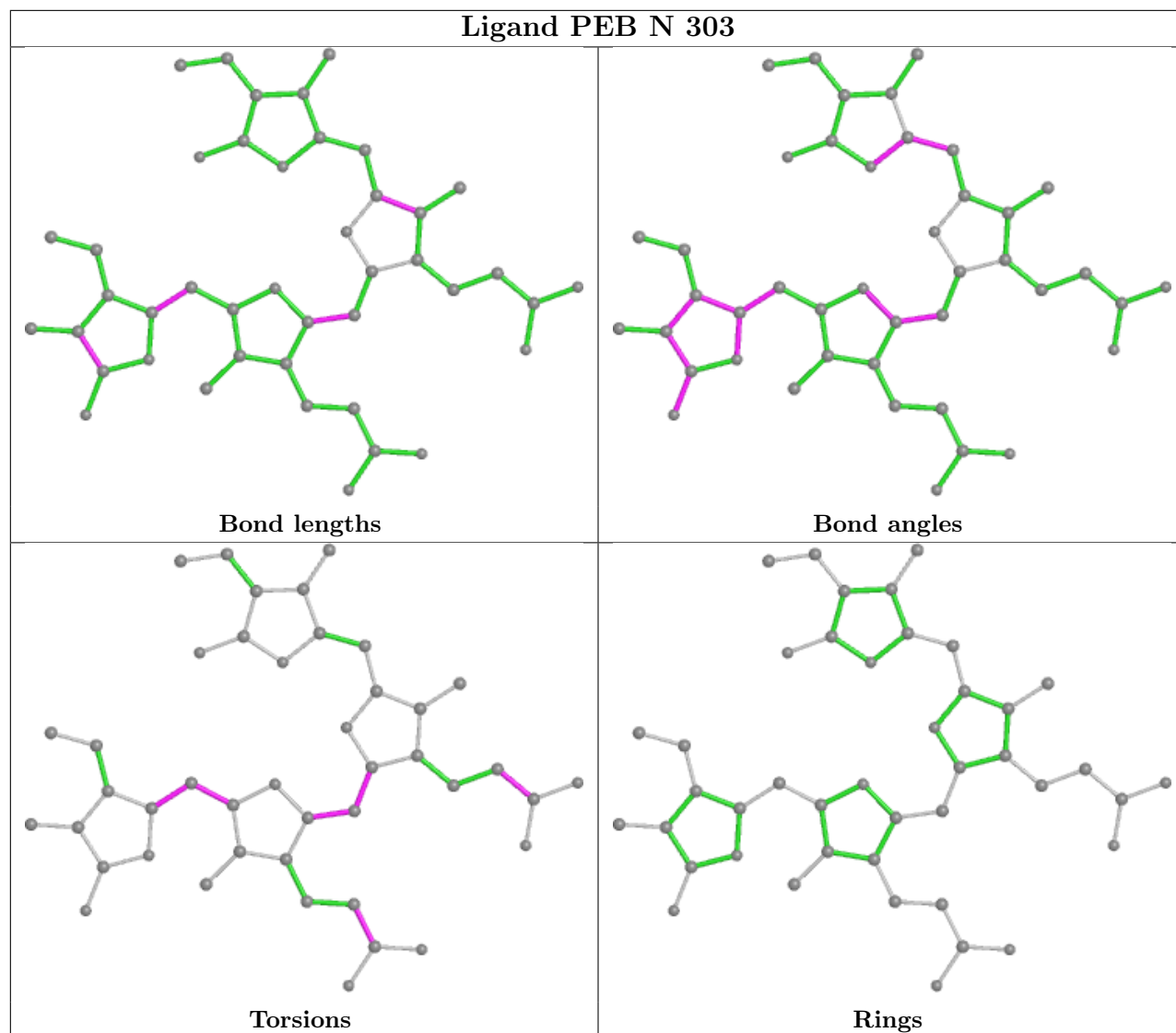


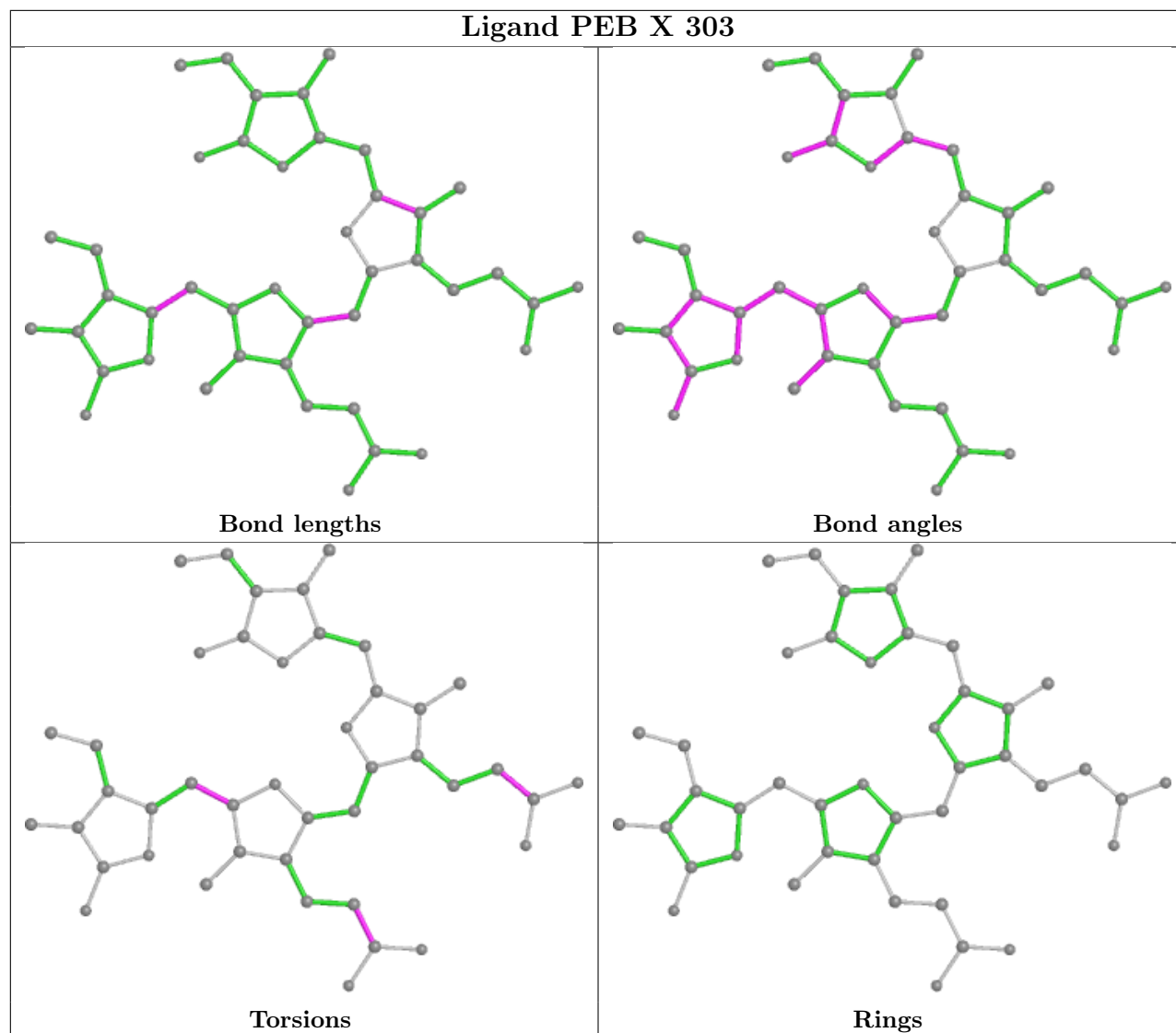


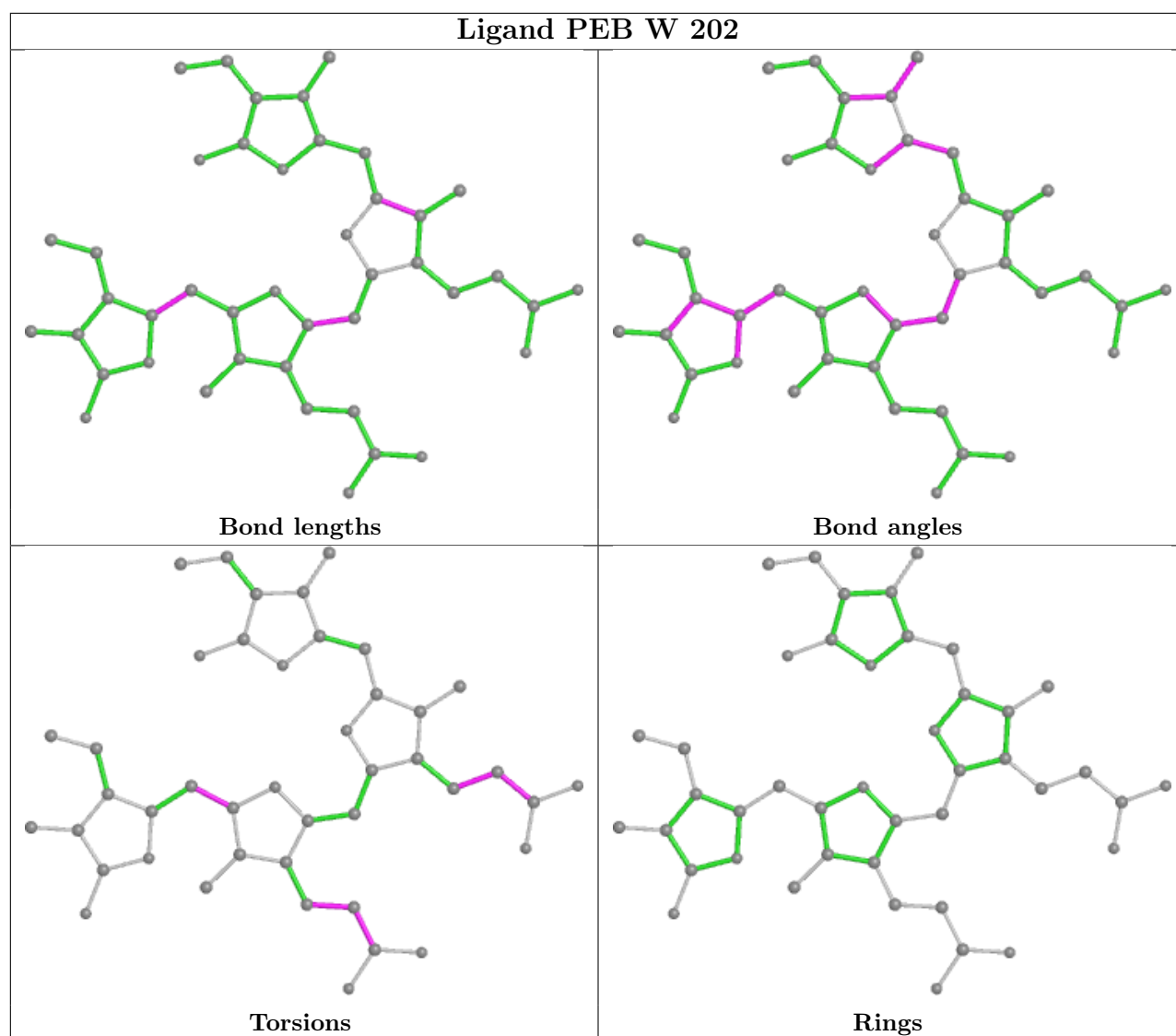


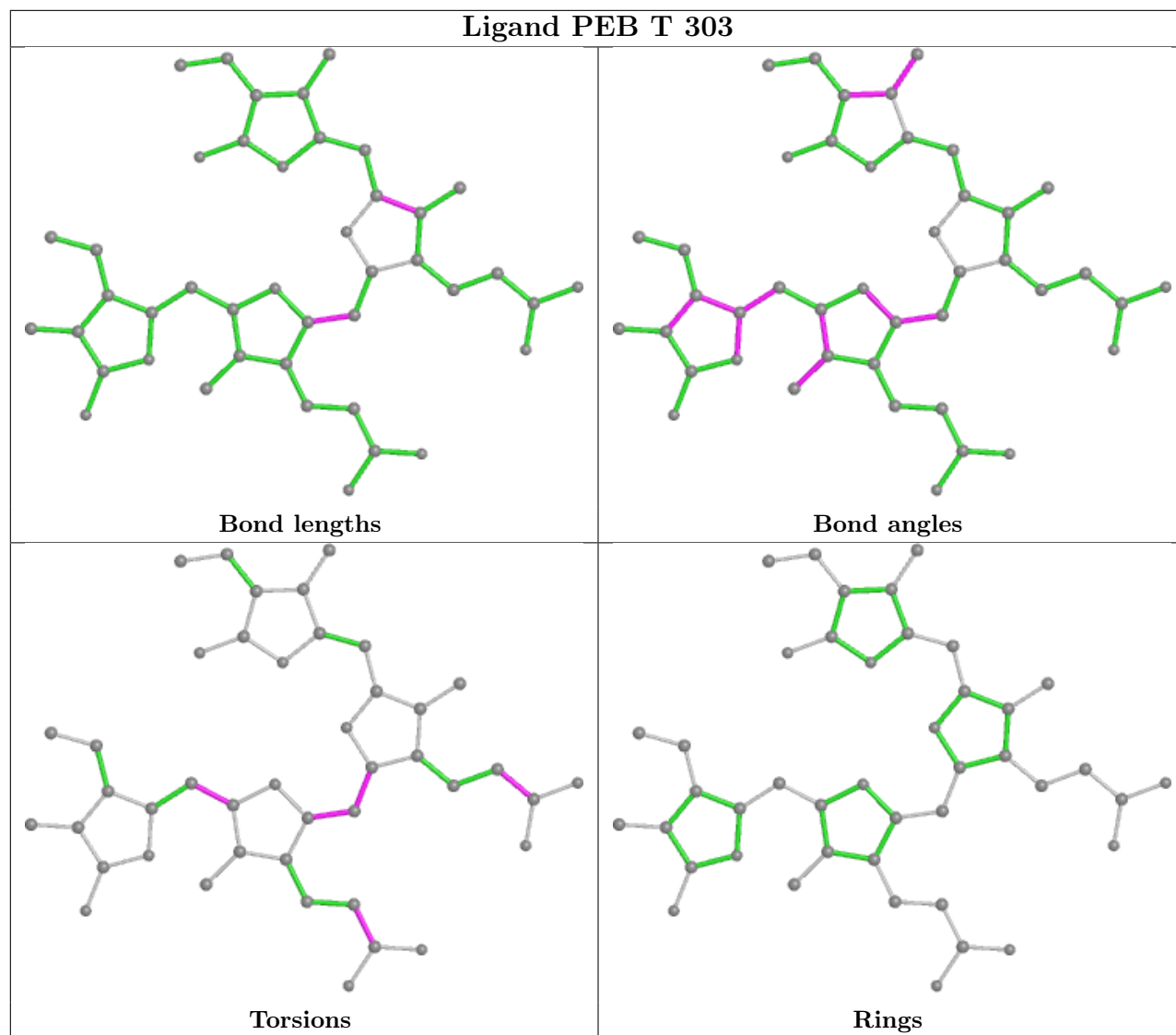


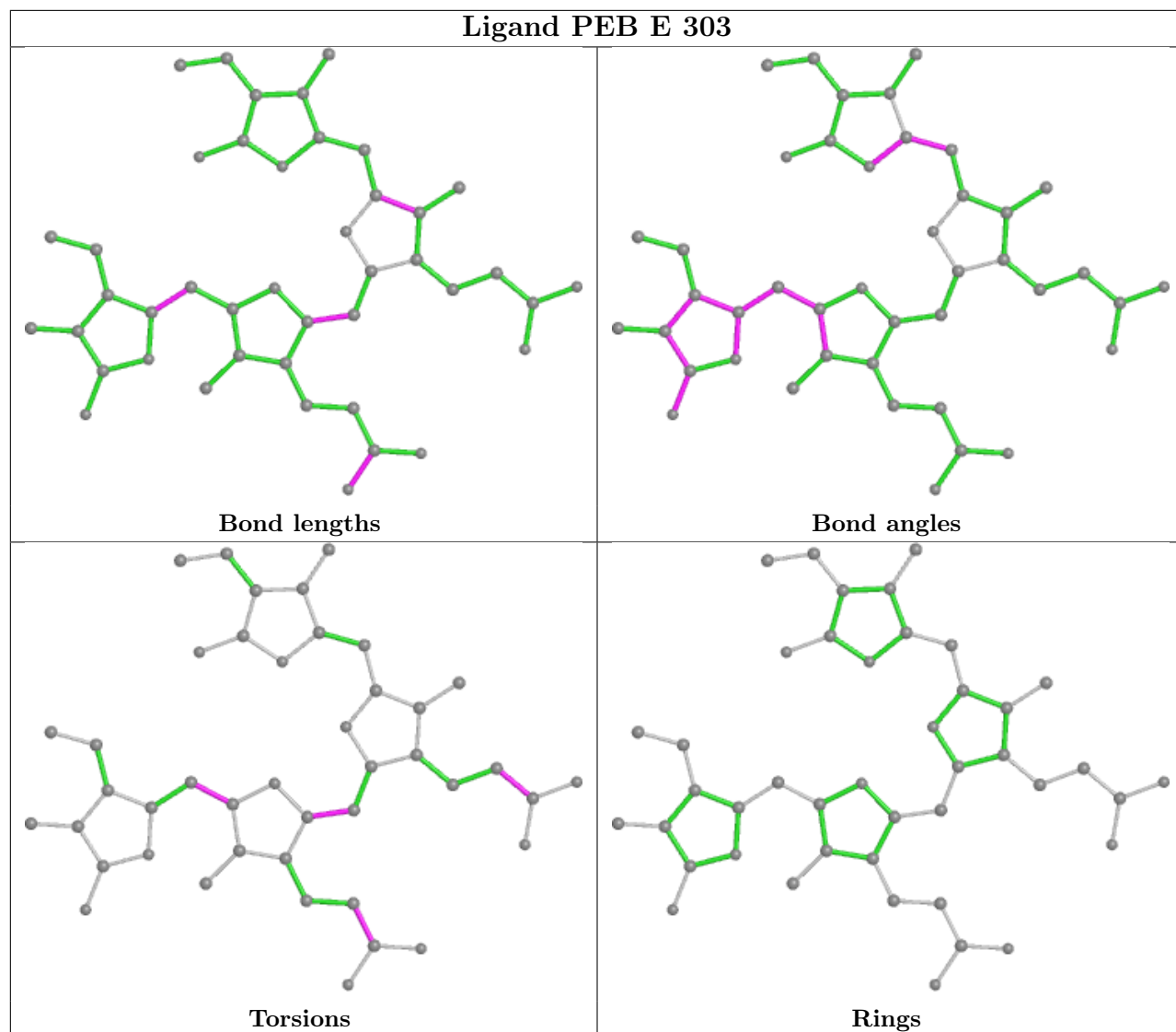


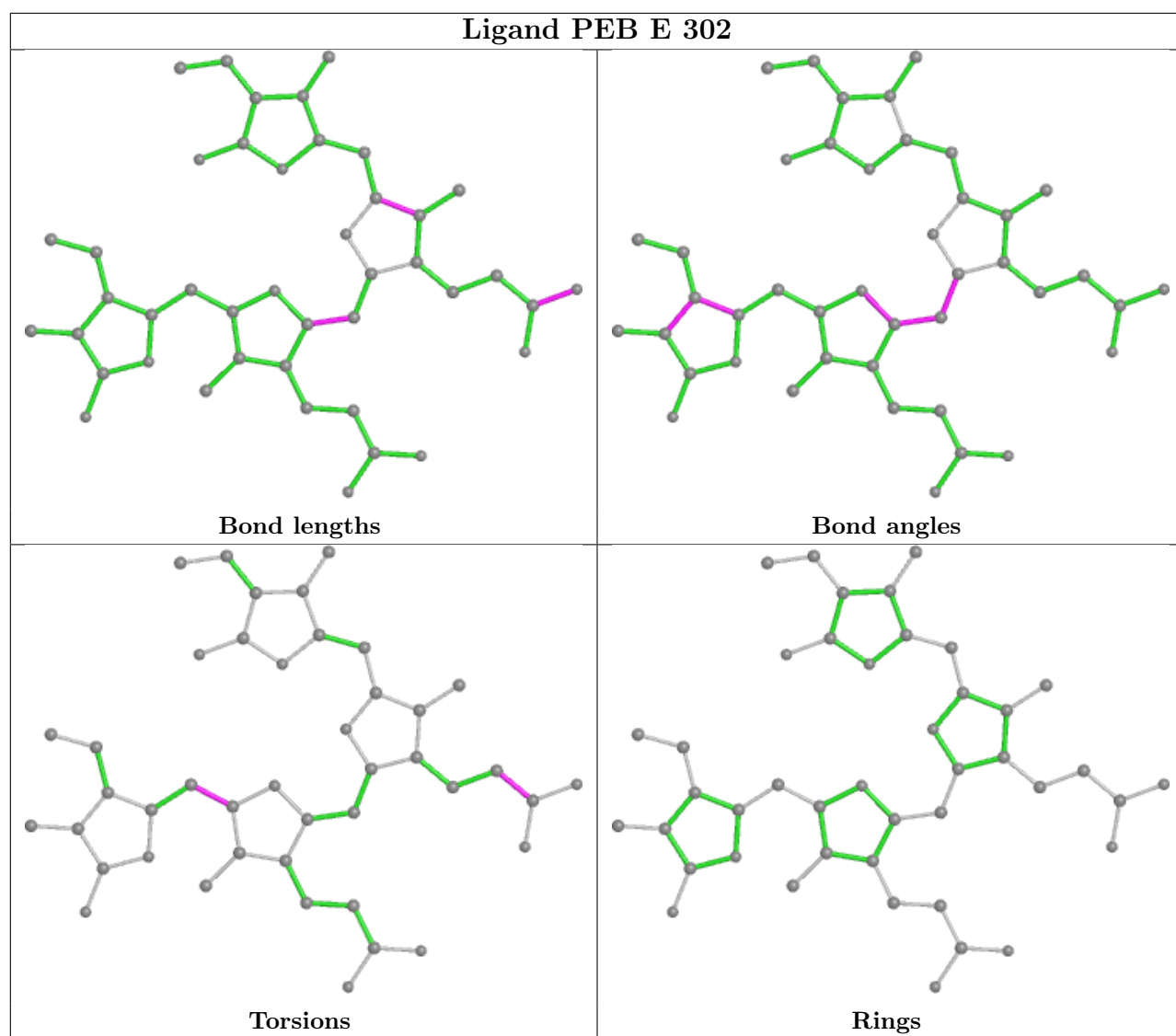




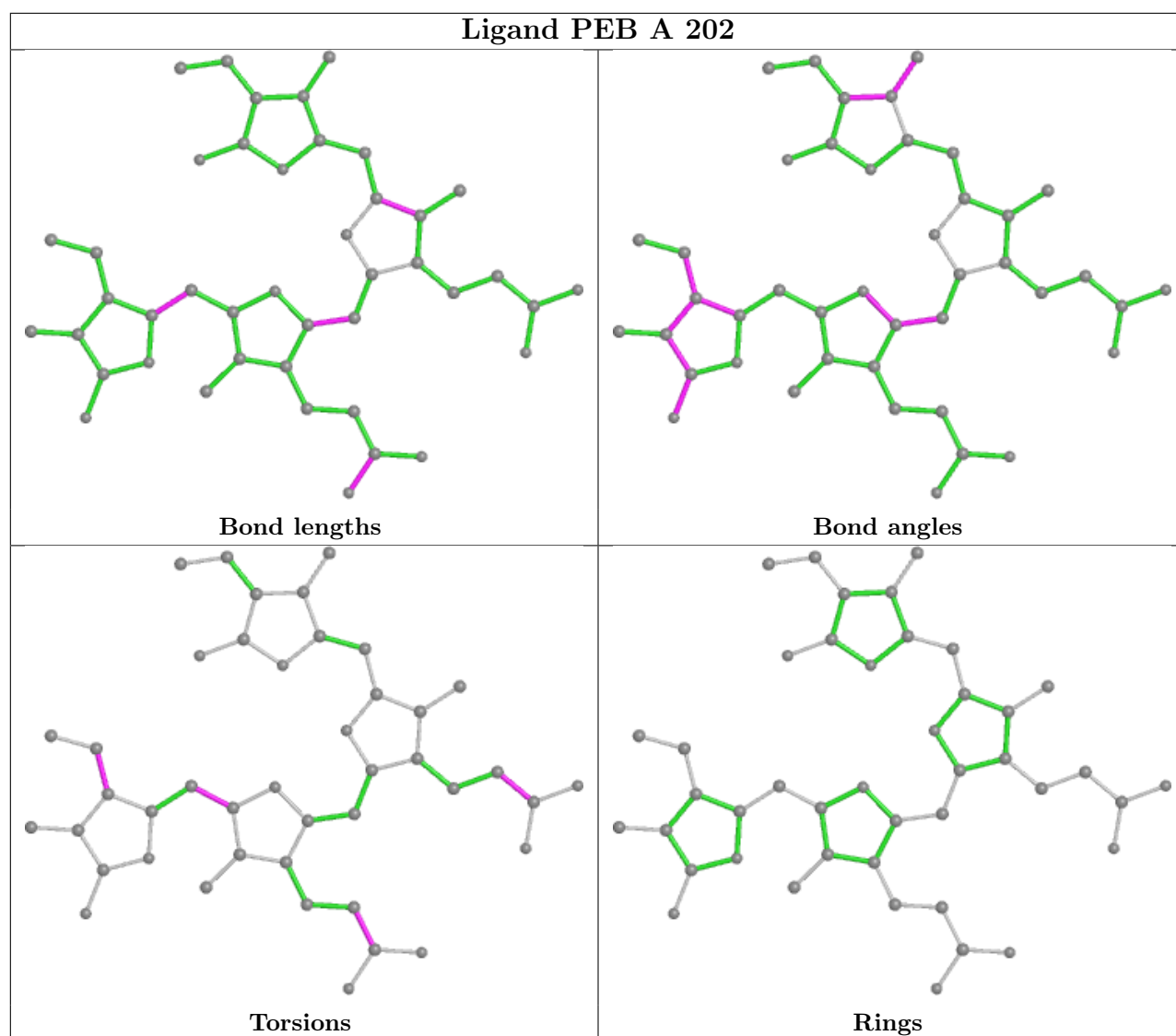












## 5.7 Other polymers [i](#)

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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	C	183/184 (99%)	-0.50	0 <b>100</b> <b>100</b>	10, 16, 31, 40	0
1	E	183/184 (99%)	-0.43	2 (1%) 80 79	11, 16, 31, 42	0
1	G	183/184 (99%)	-0.44	0 <b>100</b> <b>100</b>	10, 16, 32, 47	0
1	I	183/184 (99%)	-0.43	1 (0%) 91 90	11, 21, 35, 58	0
1	K	183/184 (99%)	-0.39	1 (0%) 91 90	10, 19, 32, 43	0
1	M	183/184 (99%)	-0.39	2 (1%) 80 79	9, 16, 31, 47	0
1	N	183/184 (99%)	-0.42	0 <b>100</b> <b>100</b>	10, 17, 31, 45	0
1	P	183/184 (99%)	-0.26	5 (2%) 54 52	10, 18, 37, 51	0
1	R	183/184 (99%)	-0.52	1 (0%) 91 90	10, 17, 31, 45	0
1	T	183/184 (99%)	-0.28	3 (1%) 72 70	12, 21, 34, 46	0
1	V	183/184 (99%)	-0.15	5 (2%) 54 52	13, 26, 42, 71	0
1	X	183/184 (99%)	-0.38	1 (0%) 91 90	10, 18, 36, 50	0
2	A	164/164 (100%)	-0.49	1 (0%) 89 88	9, 13, 28, 46	0
2	B	164/164 (100%)	-0.68	0 <b>100</b> <b>100</b>	9, 13, 24, 36	0
2	D	164/164 (100%)	-0.53	0 <b>100</b> <b>100</b>	8, 14, 29, 37	0
2	F	164/164 (100%)	-0.49	2 (1%) 79 77	9, 14, 27, 47	0
2	H	164/164 (100%)	-0.52	0 <b>100</b> <b>100</b>	9, 16, 29, 38	0
2	J	164/164 (100%)	-0.58	0 <b>100</b> <b>100</b>	9, 15, 25, 34	0
2	L	164/164 (100%)	-0.41	0 <b>100</b> <b>100</b>	9, 15, 29, 38	0
2	O	164/164 (100%)	-0.28	2 (1%) 79 77	10, 22, 38, 49	0
2	Q	164/164 (100%)	-0.60	0 <b>100</b> <b>100</b>	9, 14, 22, 33	0
2	U	164/164 (100%)	-0.47	0 <b>100</b> <b>100</b>	11, 18, 29, 40	0
2	W	164/164 (100%)	-0.34	2 (1%) 79 77	10, 20, 36, 48	0
2	Y	164/164 (100%)	-0.55	0 <b>100</b> <b>100</b>	10, 15, 24, 31	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
All	All	4164/4176 (99%)	-0.44	28 (0%) 87 86	8, 17, 33, 71	0

The worst 5 of 28 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	V	23	SER	3.8
1	I	23	SER	3.7
1	T	23	SER	3.6
2	F	69	ALA	3.6
1	P	184	SER	3.3

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	MEN	V	70	9/10	0.92	0.14	27,30,32,34	0
1	MEN	P	70	9/10	0.94	0.11	13,14,14,16	0
1	MEN	K	70	9/10	0.94	0.16	21,23,26,26	0
1	MEN	T	70	9/10	0.95	0.15	20,22,24,24	0
1	MEN	I	70	9/10	0.95	0.11	20,22,23,23	0
1	MEN	C	70	9/10	0.96	0.10	16,18,18,19	0
1	MEN	E	70	9/10	0.96	0.09	14,15,17,18	0
1	MEN	N	70	9/10	0.96	0.09	12,12,13,13	0
1	MEN	M	70	9/10	0.97	0.09	11,14,17,18	0
1	MEN	R	70	9/10	0.97	0.10	15,15,17,18	0
1	MEN	G	70	9/10	0.98	0.10	13,14,15,15	0
1	MEN	X	70	9/10	0.98	0.10	13,14,16,18	0

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
3	PEB	O	201	43/43	0.89	0.15	25,31,36,45	0
3	PEB	K	303	43/43	0.89	0.16	15,18,34,56	0
3	PEB	V	303	43/43	0.89	0.16	21,26,36,49	0
3	PEB	V	301	43/43	0.90	0.15	15,22,31,41	0
3	PEB	W	201	43/43	0.90	0.14	21,26,32,39	0
3	PEB	X	302	43/43	0.90	0.14	13,18,28,30	0
3	PEB	O	202	43/43	0.91	0.16	22,35,38,43	0
3	PEB	N	302	43/43	0.91	0.14	16,19,26,32	0
3	PEB	T	301	43/43	0.91	0.12	13,19,24,31	0
3	PEB	U	202	43/43	0.91	0.14	18,25,39,41	0
3	PEB	M	303	43/43	0.91	0.14	11,16,23,33	0
3	PEB	E	301	43/43	0.91	0.14	12,20,26,29	0
3	PEB	J	202	43/43	0.92	0.14	22,26,28,31	0
3	PEB	C	301	43/43	0.92	0.12	14,17,28,40	0
3	PEB	N	303	43/43	0.92	0.13	14,18,28,37	0
3	PEB	P	303	43/43	0.92	0.15	12,18,31,49	0
3	PEB	M	301	43/43	0.92	0.11	11,16,22,27	0
3	PEB	T	302	43/43	0.92	0.11	15,22,30,33	0
3	PEB	T	303	43/43	0.92	0.15	17,20,32,51	0
3	PEB	E	303	43/43	0.92	0.12	13,16,25,40	0
3	PEB	V	302	43/43	0.92	0.13	21,26,30,33	0
3	PEB	I	301	43/43	0.92	0.13	11,18,34,40	0
3	PEB	I	303	43/43	0.92	0.14	17,20,33,46	0
3	PEB	B	201	43/43	0.93	0.12	12,15,20,21	0
3	PEB	K	301	43/43	0.93	0.12	12,18,23,30	0
3	PEB	B	202	43/43	0.93	0.15	14,19,28,35	0
3	PEB	N	301	43/43	0.93	0.13	14,20,24,30	0
3	PEB	F	202	43/43	0.93	0.13	13,16,27,33	0
3	PEB	W	202	43/43	0.93	0.13	21,32,35,50	0
3	PEB	P	301	43/43	0.93	0.12	11,18,25,35	0
3	PEB	H	201	43/43	0.93	0.13	18,21,26,28	0
3	PEB	R	301	43/43	0.93	0.11	13,18,26,37	0
3	PEB	R	302	43/43	0.93	0.13	15,21,27,32	0
3	PEB	R	303	43/43	0.93	0.13	14,16,27,37	0
3	PEB	C	303	43/43	0.93	0.12	13,16,26,37	0
3	PEB	H	202	43/43	0.93	0.13	20,23,29,39	0
3	PEB	E	302	43/43	0.93	0.13	16,20,24,31	0
3	PEB	M	302	43/43	0.93	0.12	13,18,31,38	0
3	PEB	G	301	43/43	0.93	0.12	14,18,23,29	0
3	PEB	D	201	43/43	0.93	0.12	12,14,18,19	0
3	PEB	I	302	43/43	0.93	0.12	14,20,24,32	0

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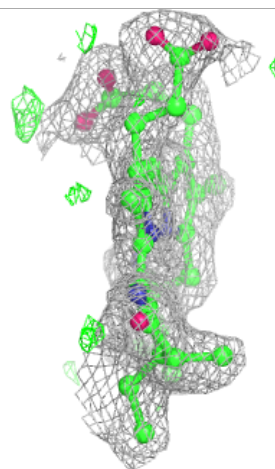
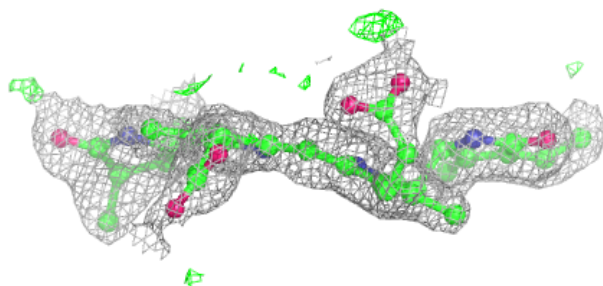
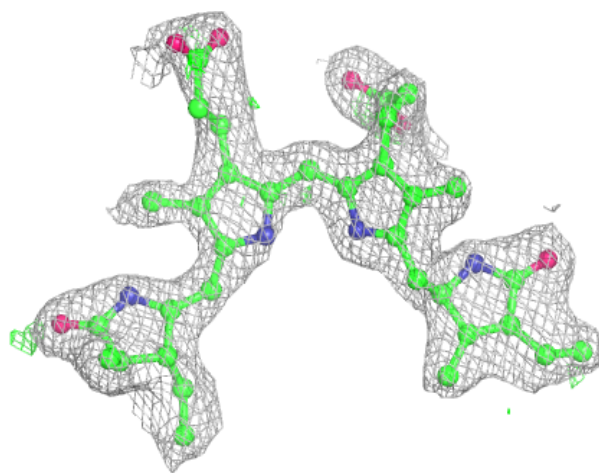
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	PEB	A	201	43/43	0.94	0.11	14,16,24,28	0
3	PEB	P	302	43/43	0.94	0.12	12,17,22,27	0
3	PEB	G	302	43/43	0.94	0.11	12,18,30,47	0
3	PEB	G	303	43/43	0.94	0.15	13,18,27,43	0
3	PEB	F	201	43/43	0.94	0.11	13,15,22,29	0
3	PEB	L	202	43/43	0.94	0.11	15,20,26,26	0
3	PEB	D	202	43/43	0.94	0.11	15,19,28,30	0
3	PEB	C	302	43/43	0.94	0.13	15,21,27,28	0
3	PEB	K	302	43/43	0.94	0.10	12,18,24,26	0
3	PEB	A	202	43/43	0.94	0.11	12,16,21,26	0
3	PEB	Q	201	43/43	0.94	0.12	10,14,18,20	0
3	PEB	Q	202	43/43	0.94	0.14	16,21,31,47	0
3	PEB	X	301	43/43	0.94	0.11	12,18,26,41	0
3	PEB	U	201	43/43	0.94	0.12	17,20,27,28	0
3	PEB	X	303	43/43	0.94	0.12	13,16,28,46	0
3	PEB	Y	201	43/43	0.94	0.11	12,15,18,24	0
3	PEB	Y	202	43/43	0.94	0.14	18,23,30,31	0
3	PEB	J	201	43/43	0.95	0.10	14,17,23,27	0
3	PEB	L	201	43/43	0.95	0.11	13,16,20,22	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.

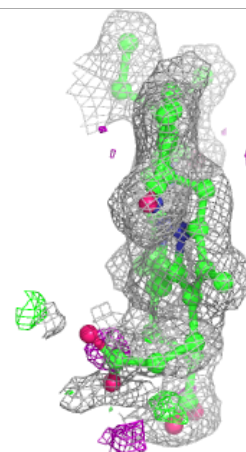
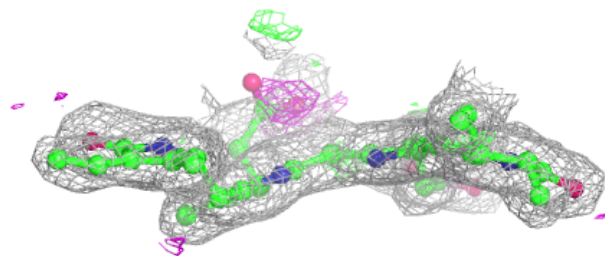
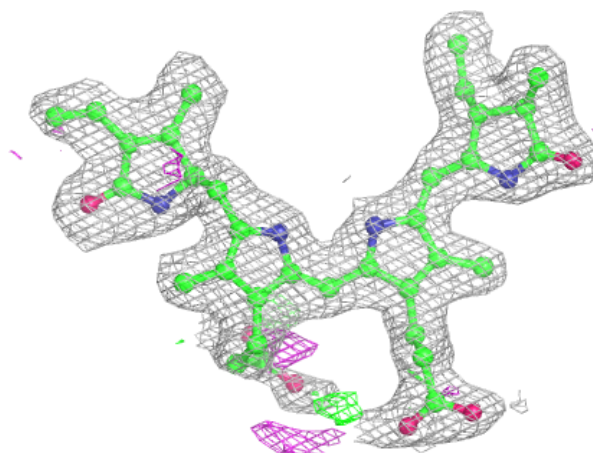
**Electron density around PEB O 201:**

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



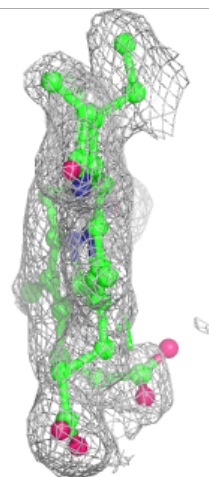
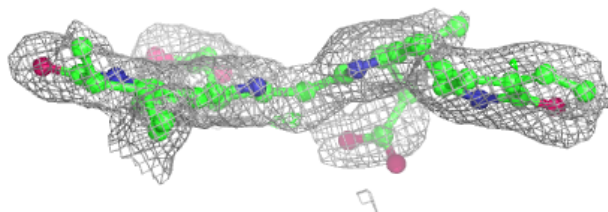
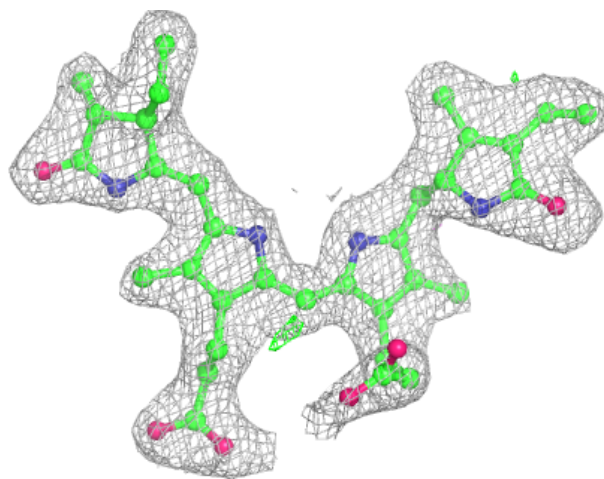
**Electron density around PEB K 303:**

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

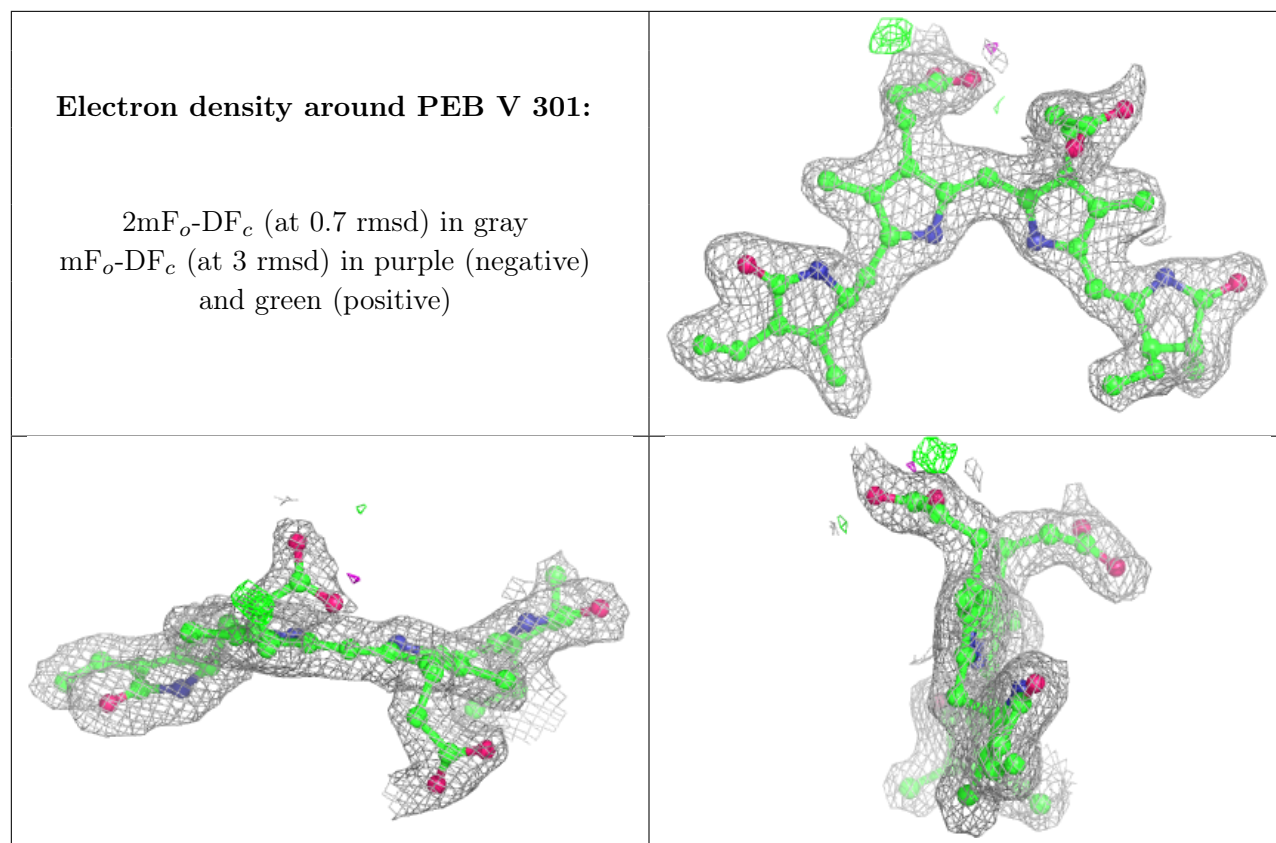


**Electron density around PEB V 303:**

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

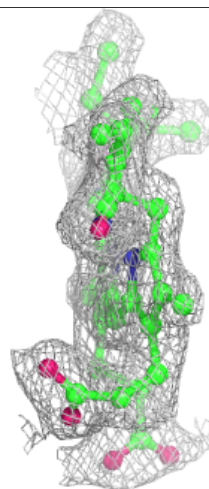
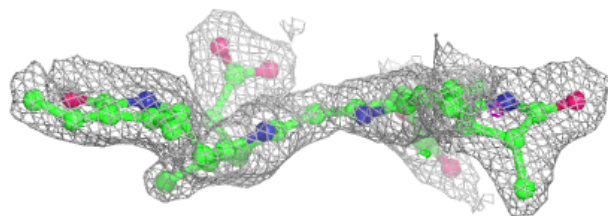
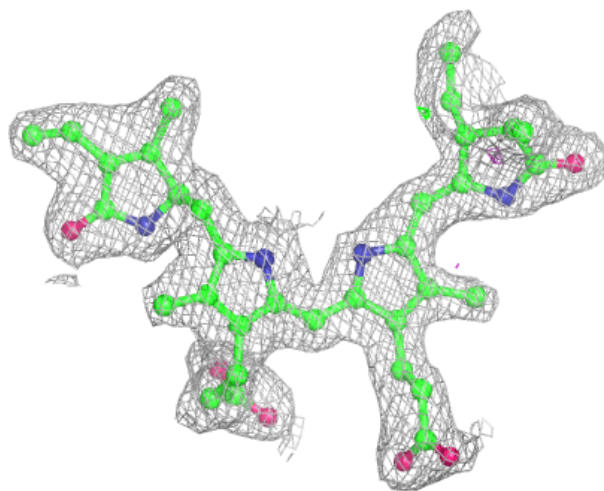






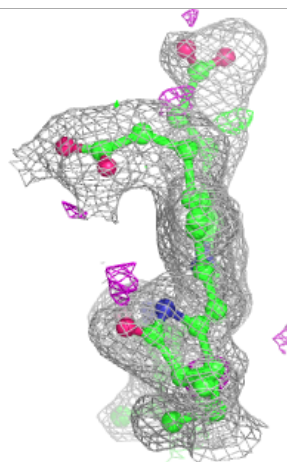
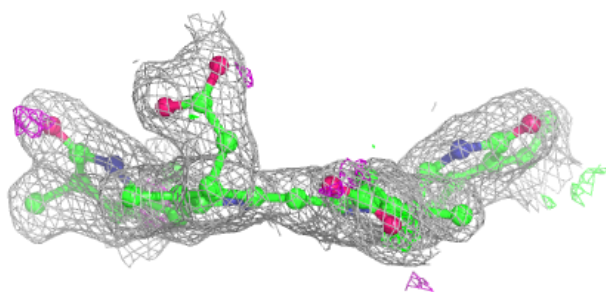
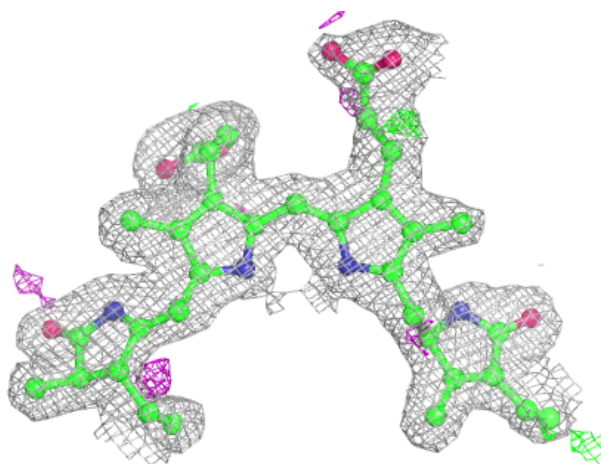
**Electron density around PEB W 201:**

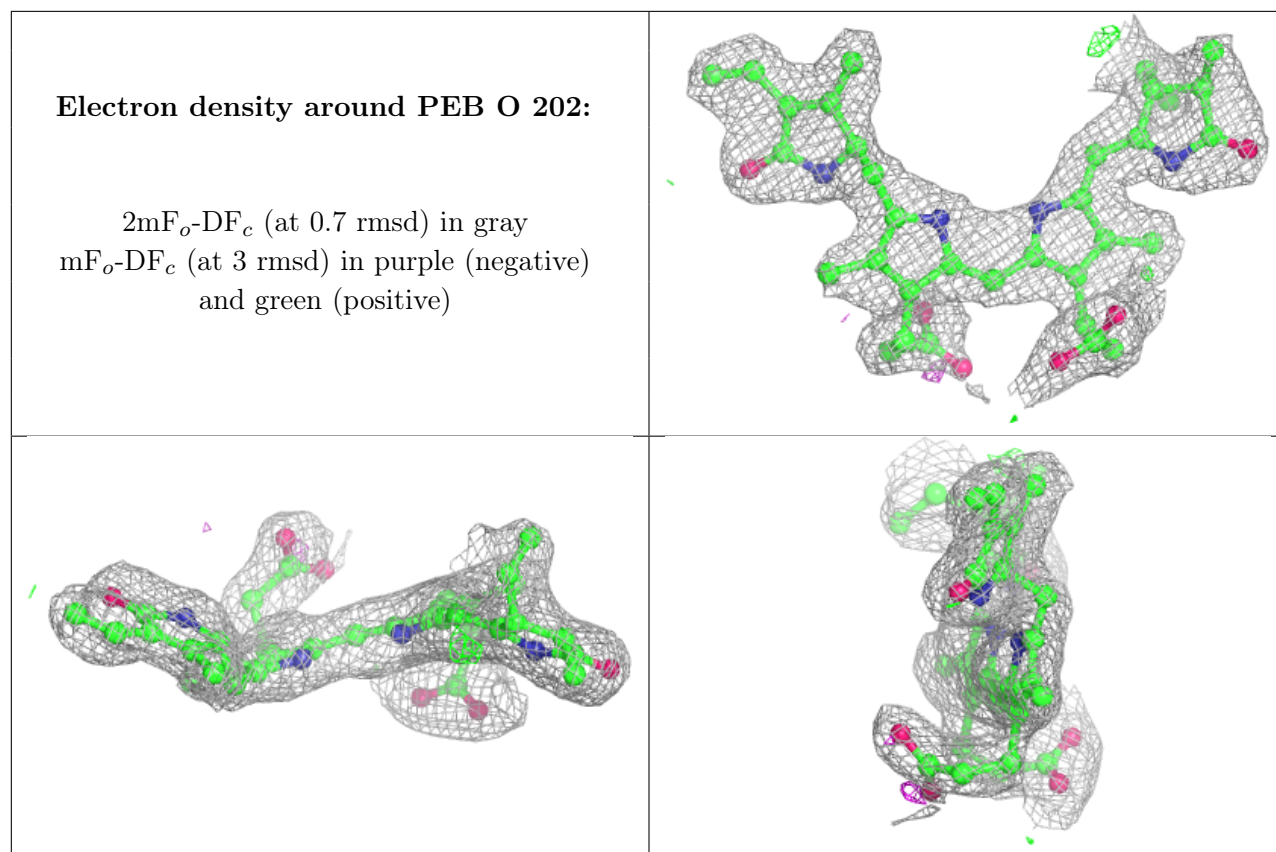
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

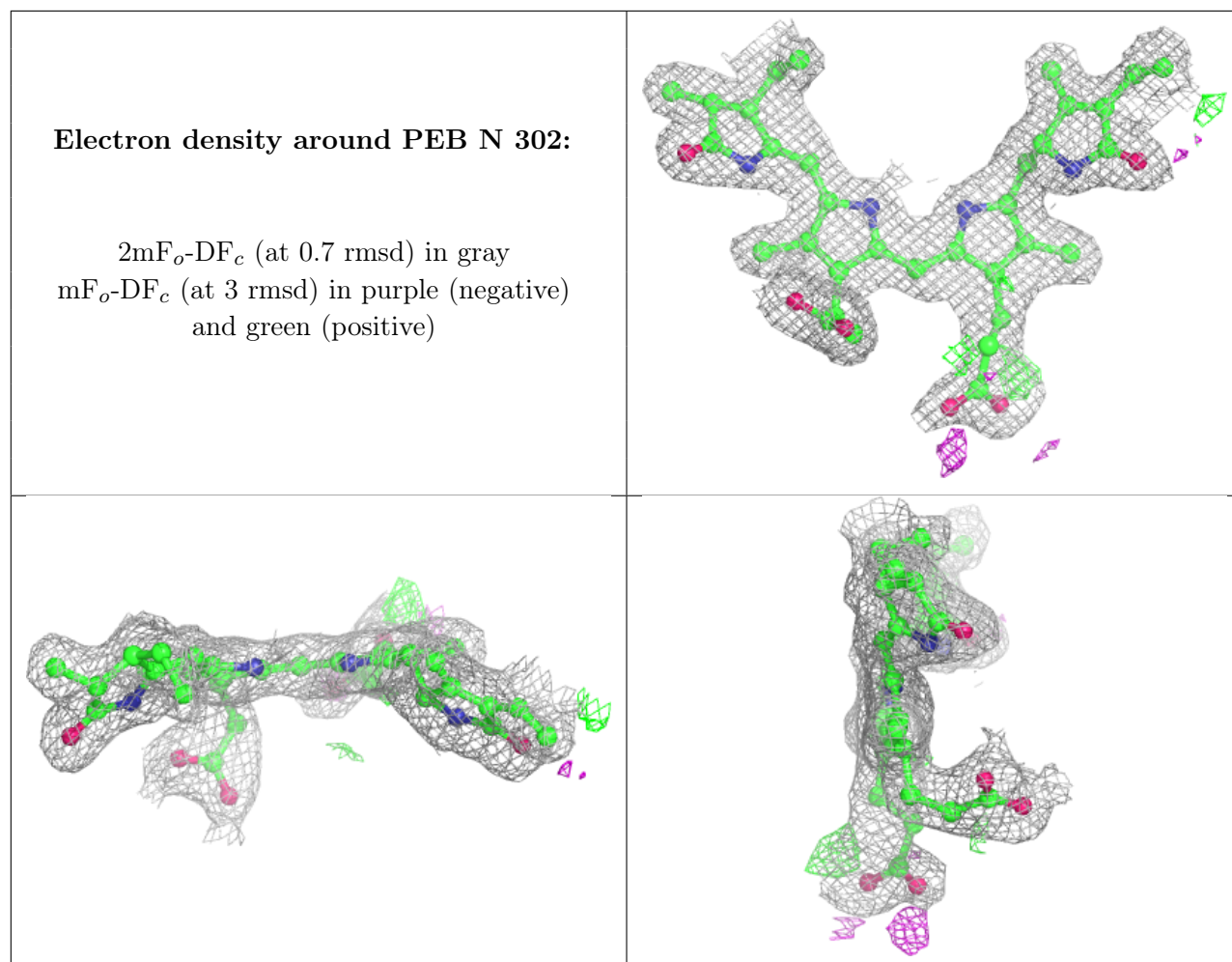


**Electron density around PEB X 302:**

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and green (positive)

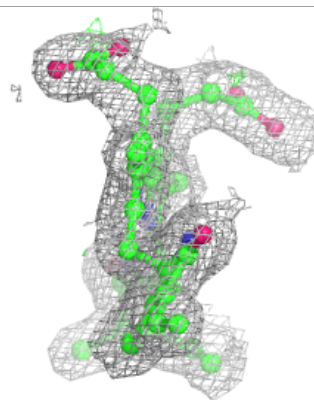
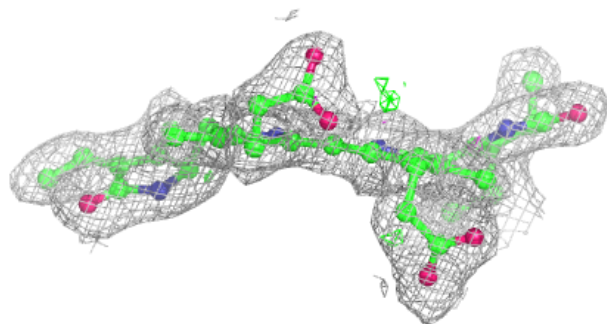
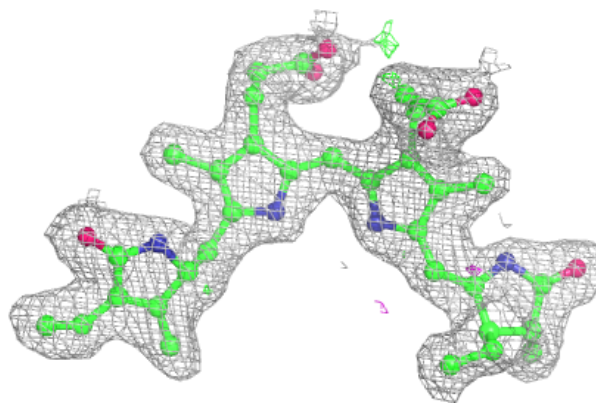




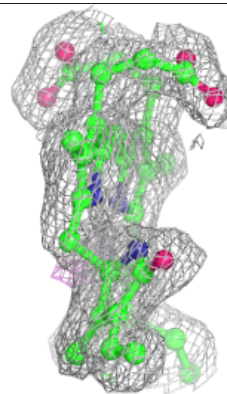
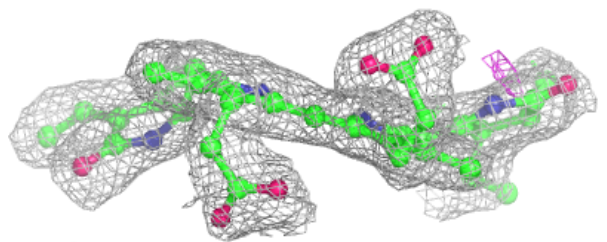
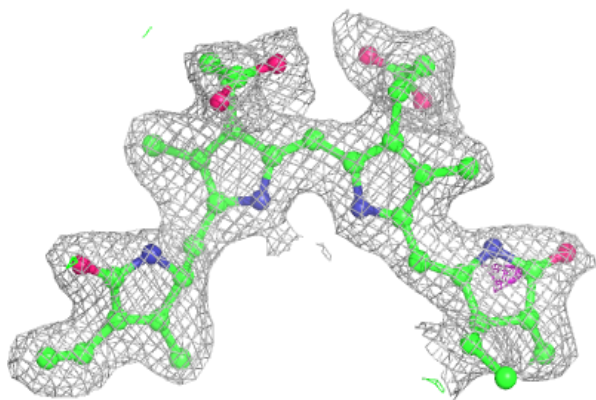


**Electron density around PEB T 301:**

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

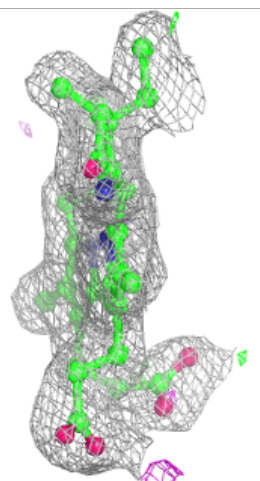
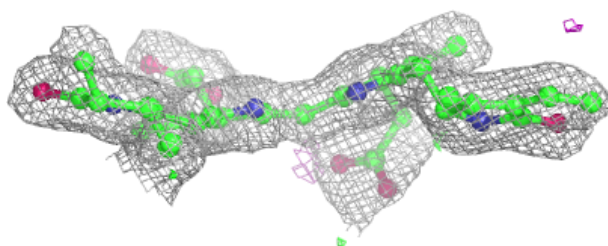
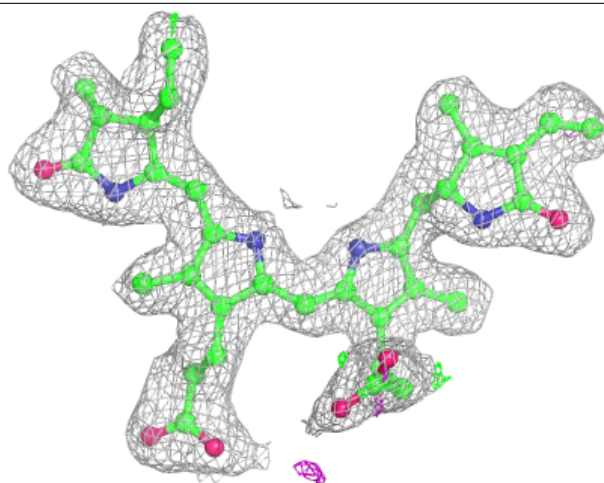
**Electron density around PEB U 202:**

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



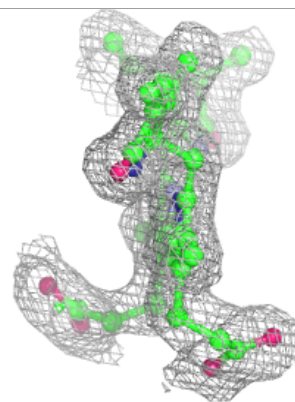
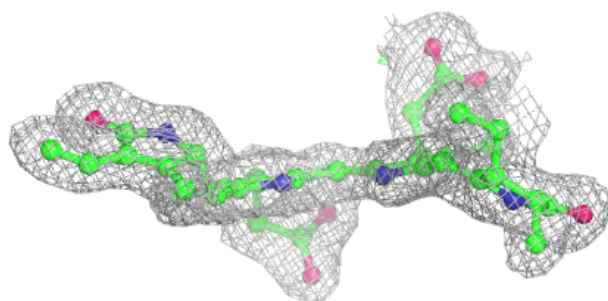
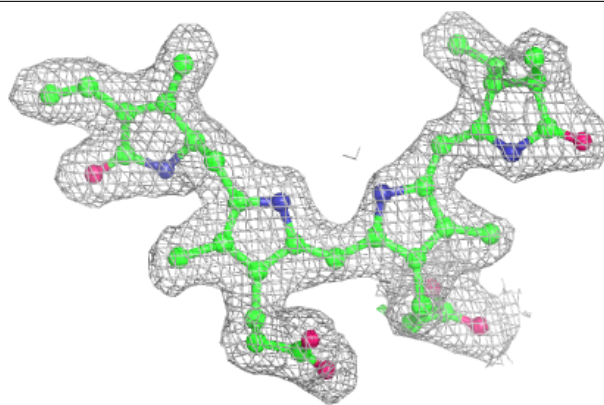
**Electron density around PEB M 303:**

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

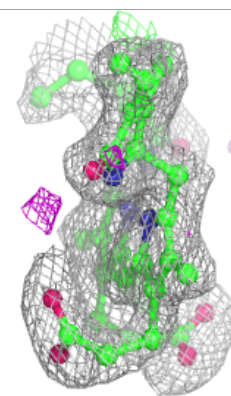
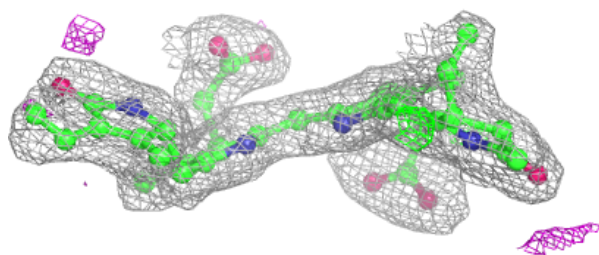
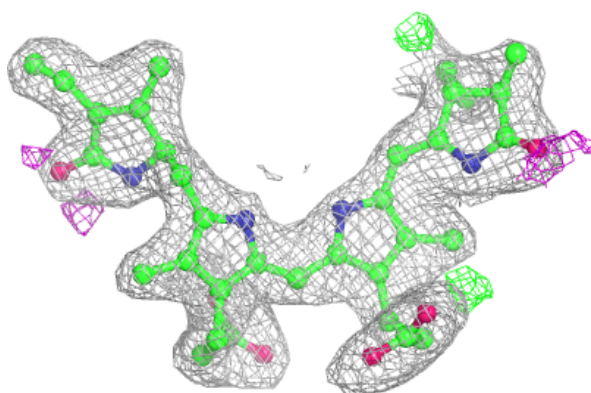


**Electron density around PEB E 301:**

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

**Electron density around PEB J 202:**

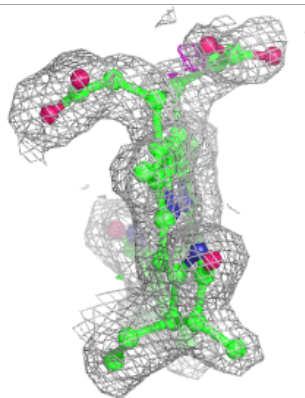
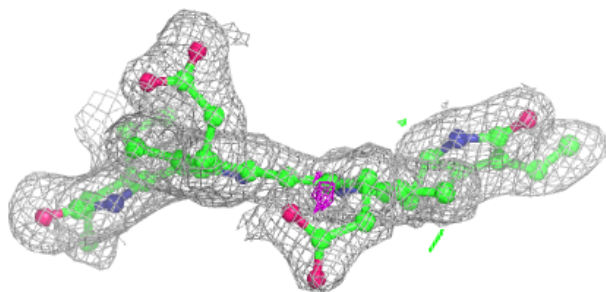
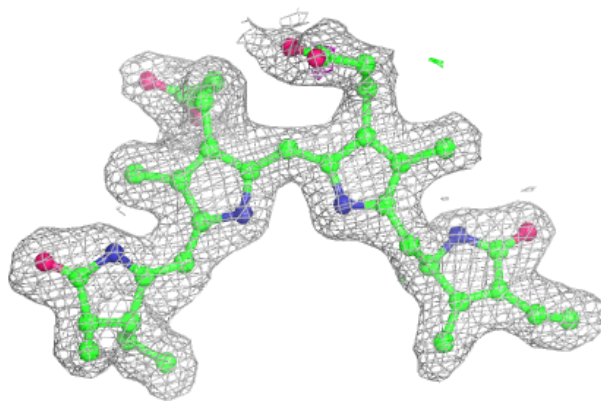
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





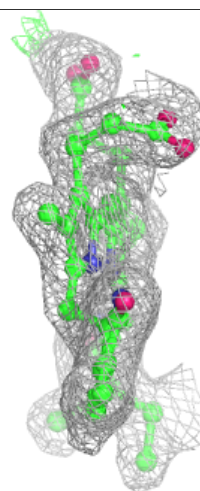
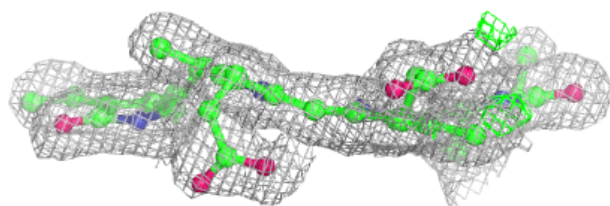
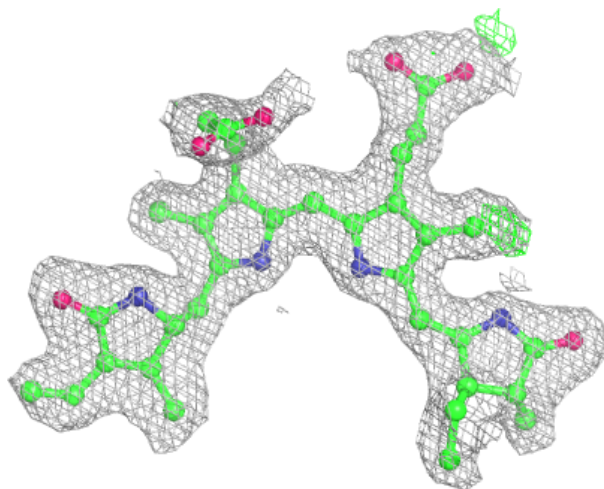
**Electron density around PEB C 301:**

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



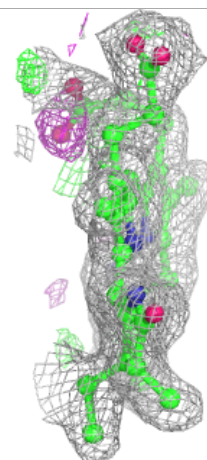
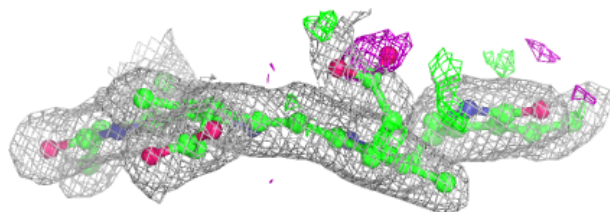
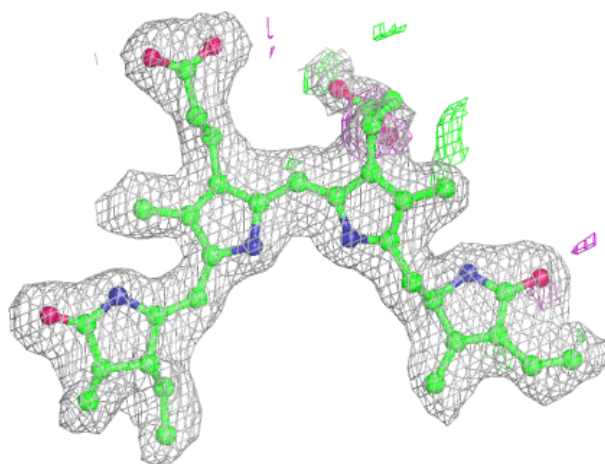
**Electron density around PEB N 303:**

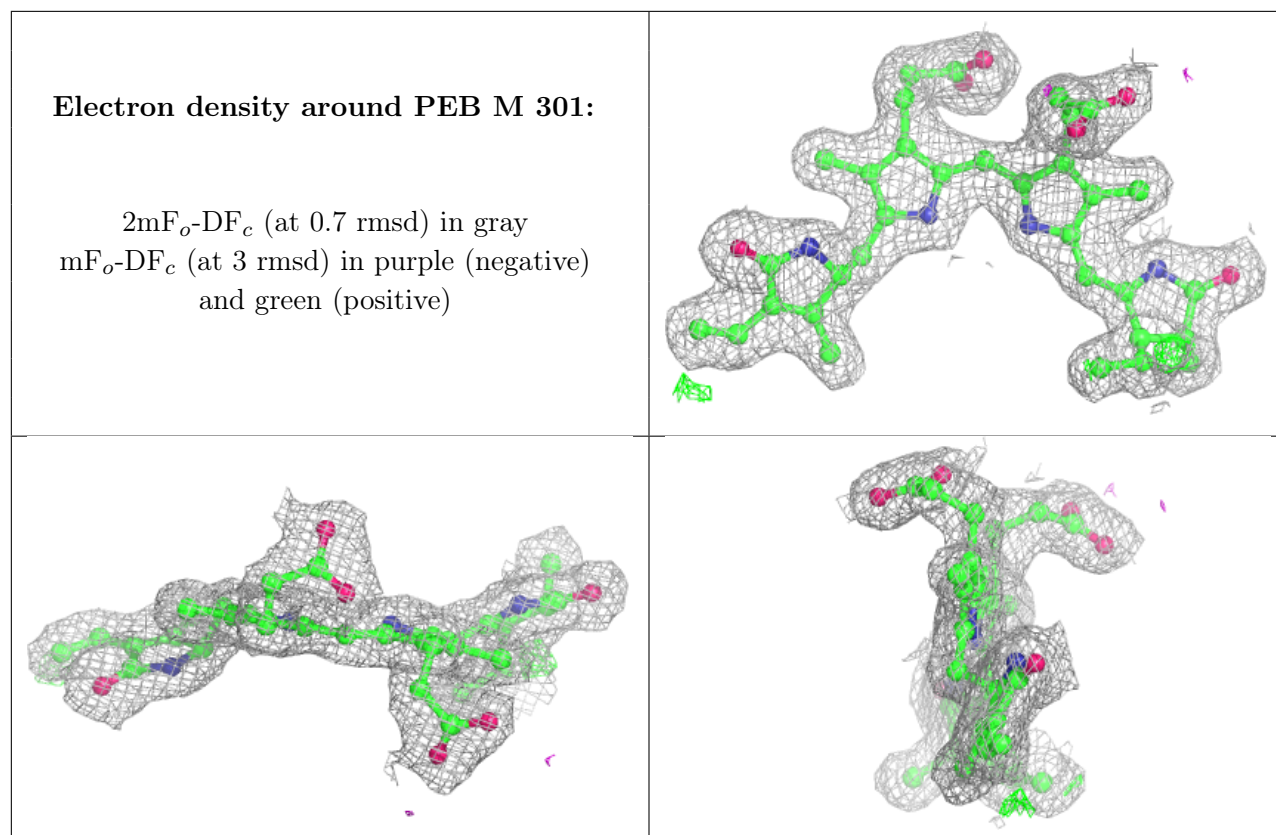
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around PEB P 303:**

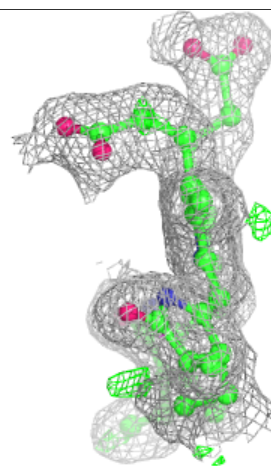
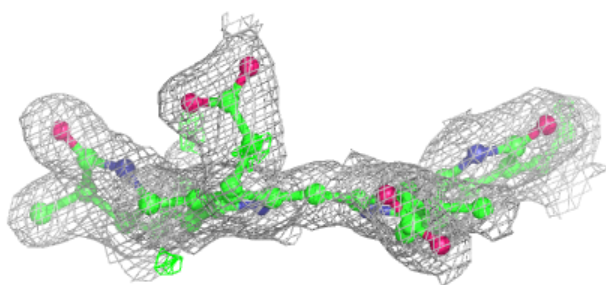
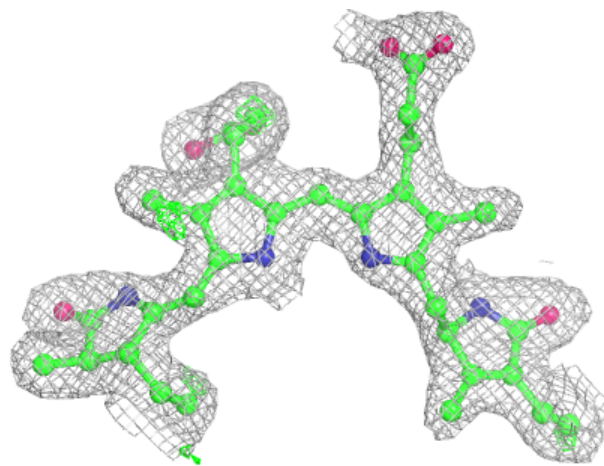
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





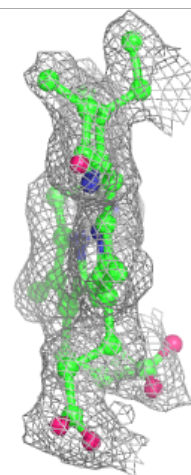
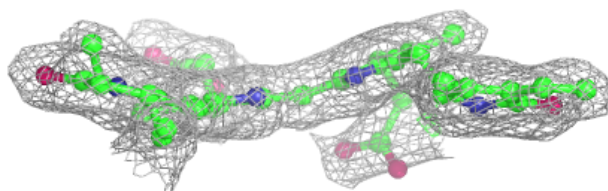
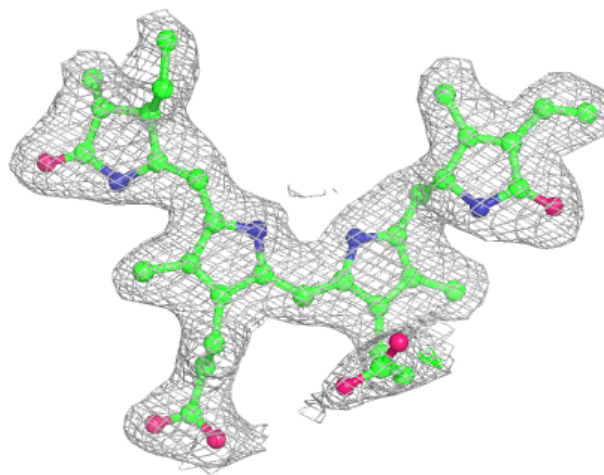
**Electron density around PEB T 302:**

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



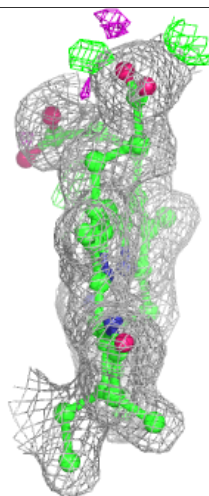
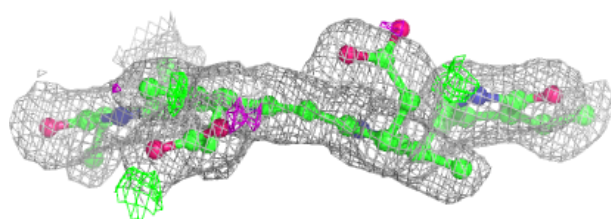
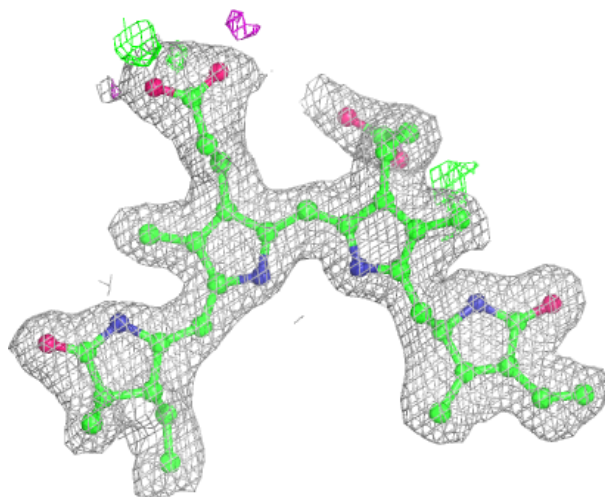
**Electron density around PEB T 303:**

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



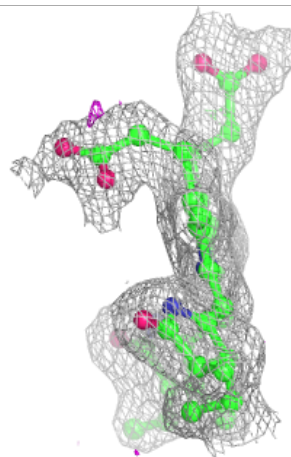
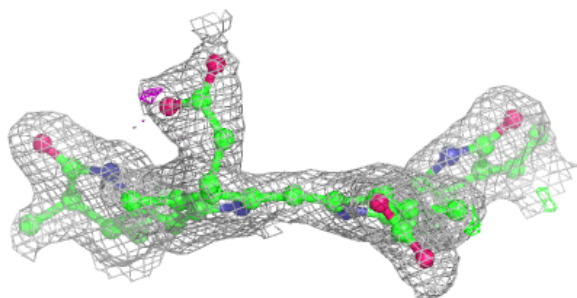
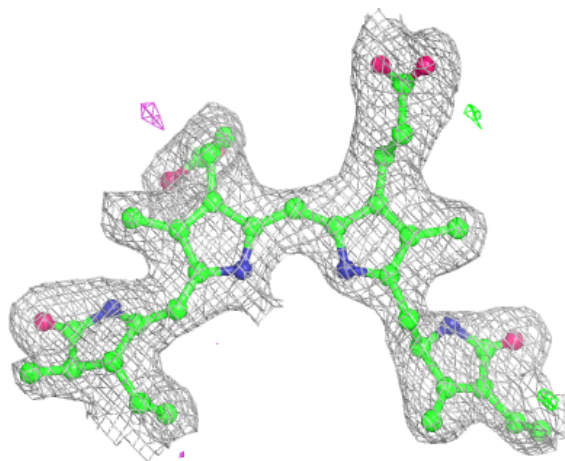
**Electron density around PEB E 303:**

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



**Electron density around PEB V 302:**

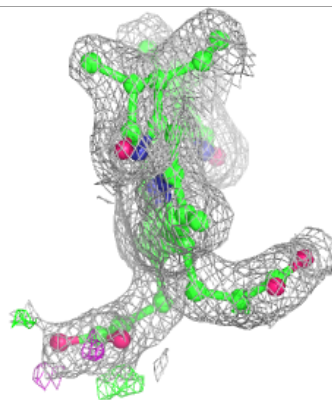
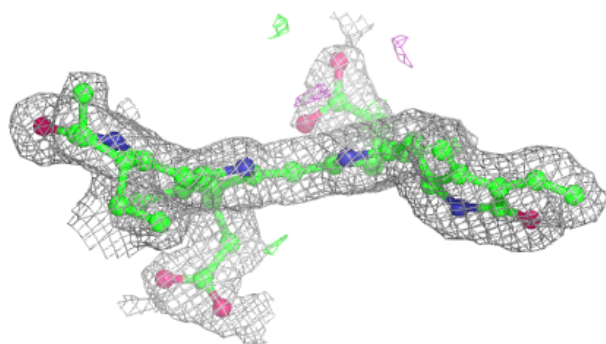
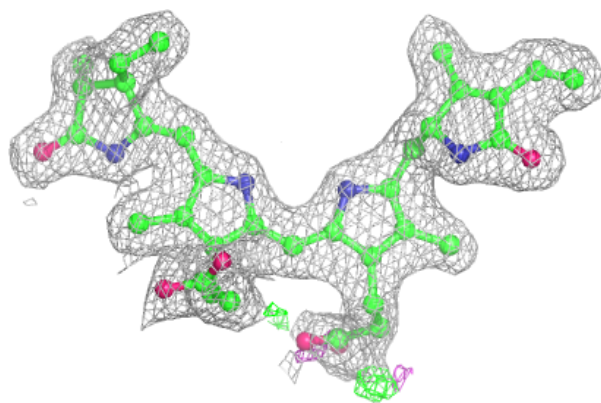
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





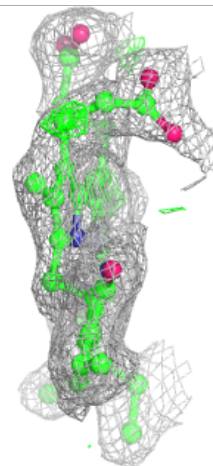
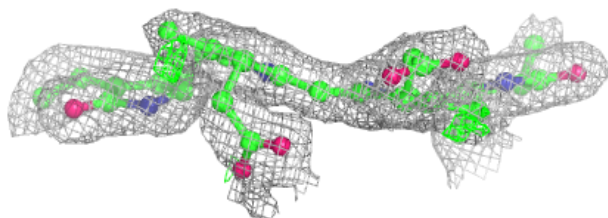
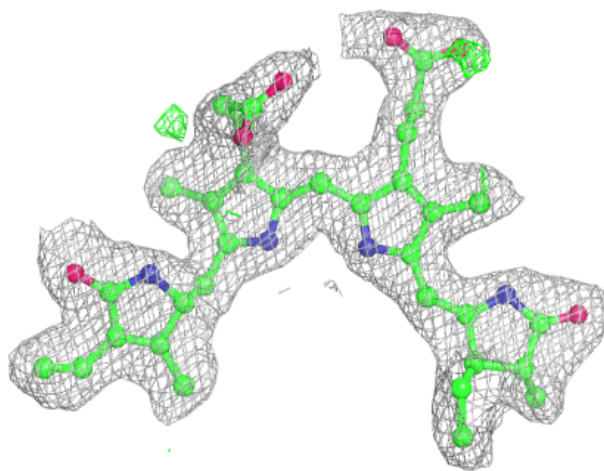
**Electron density around PEB I 301:**

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



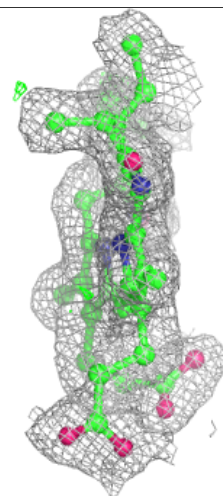
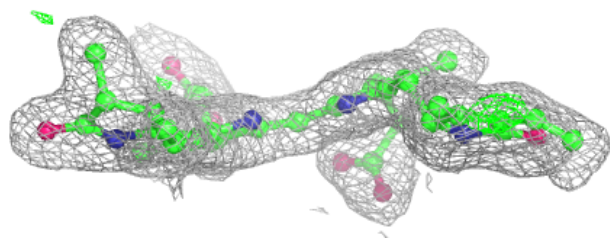
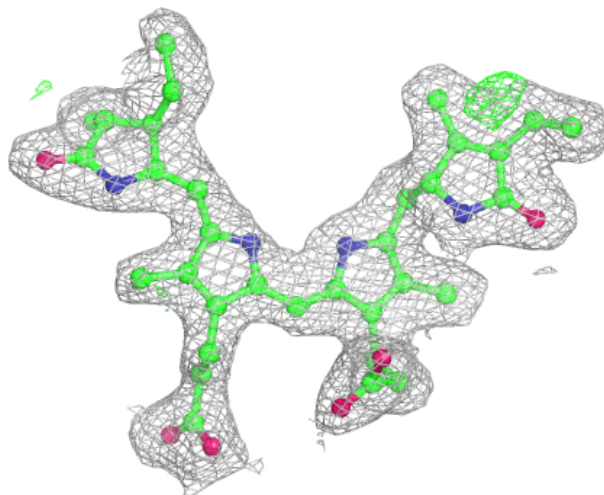
**Electron density around PEB I 303:**

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



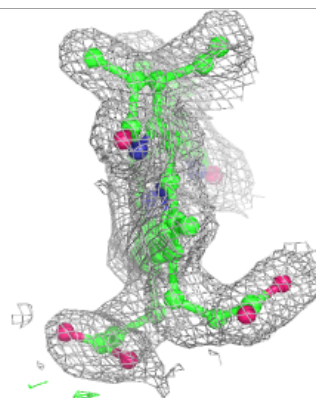
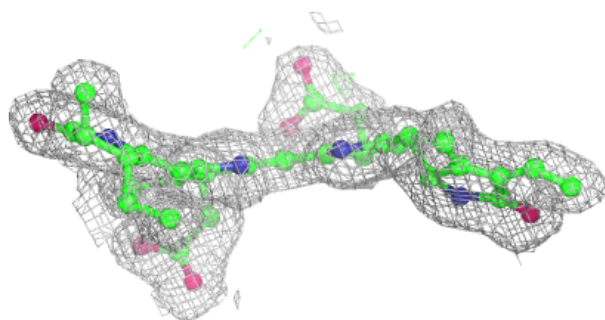
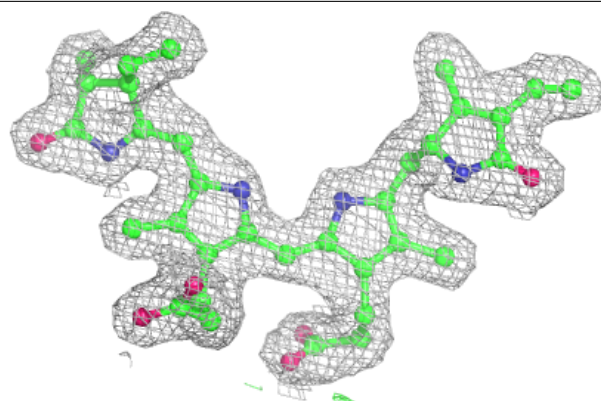
**Electron density around PEB B 201:**

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

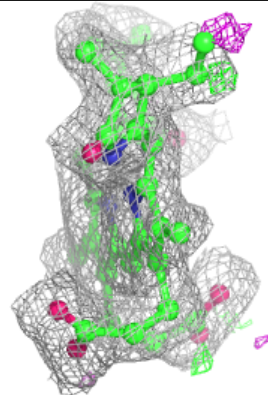
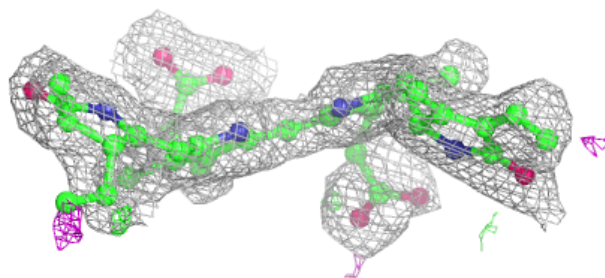
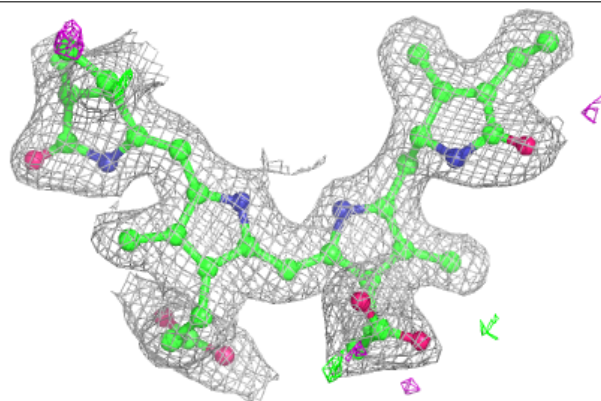


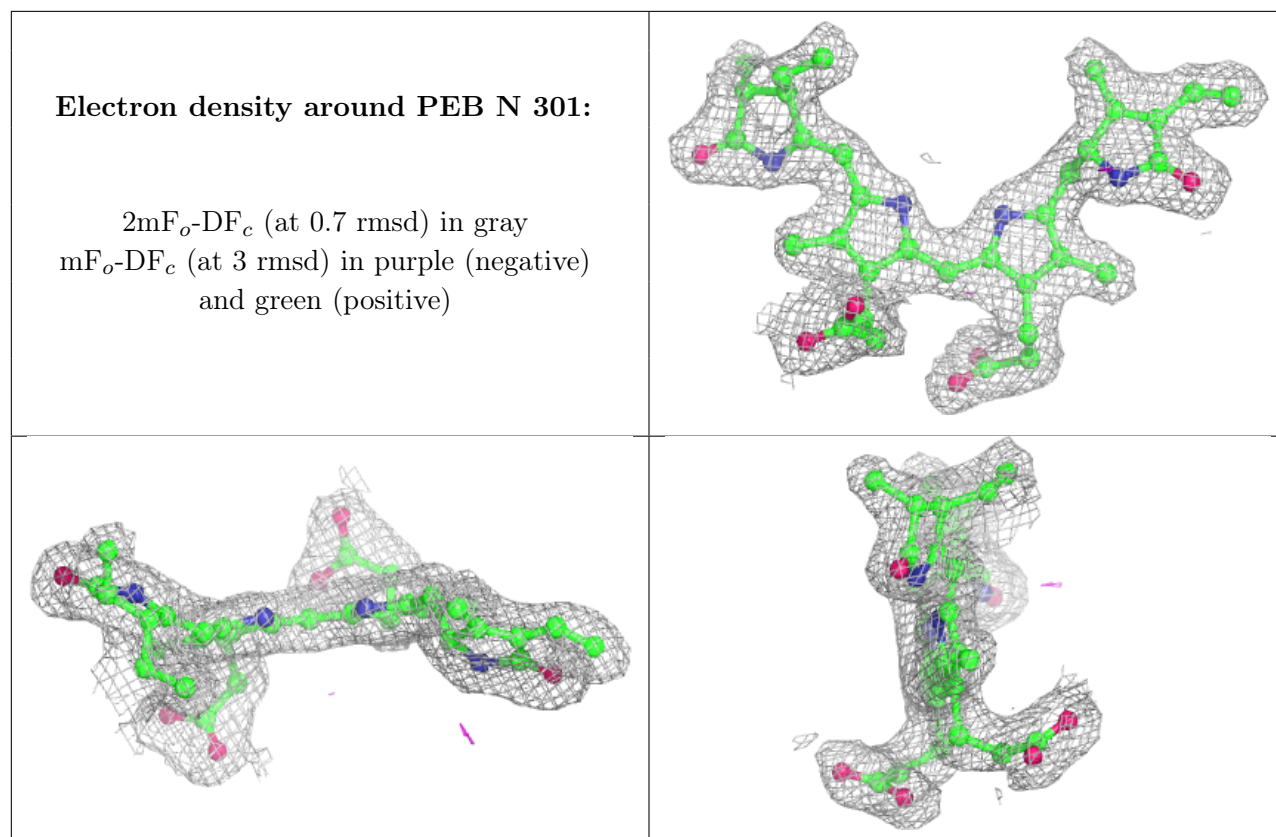
**Electron density around PEB K 301:**

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

**Electron density around PEB B 202:**

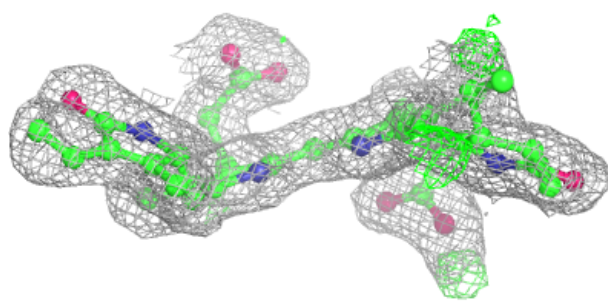
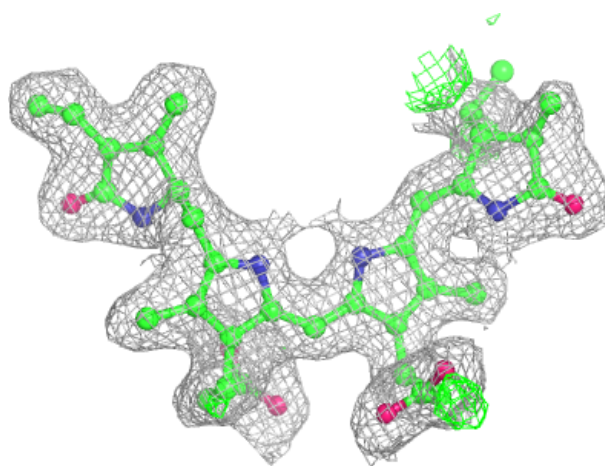
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





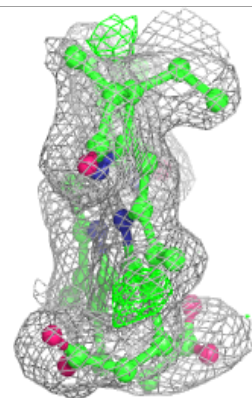
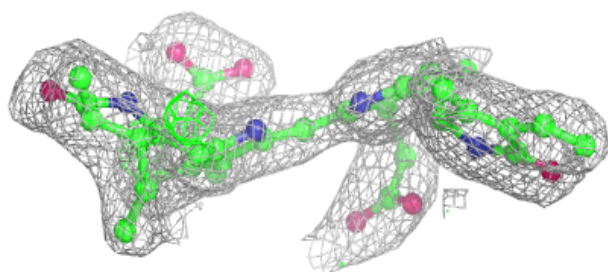
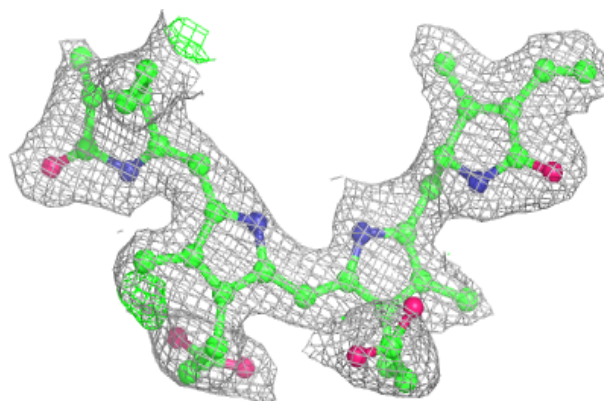
**Electron density around PEB F 202:**

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

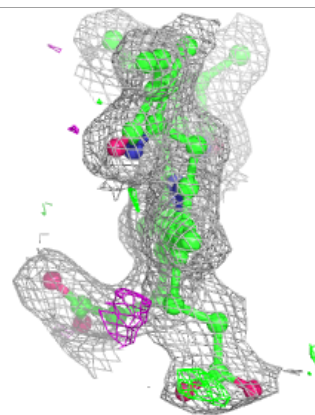
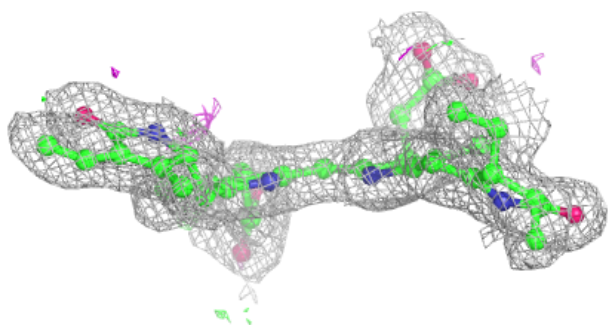
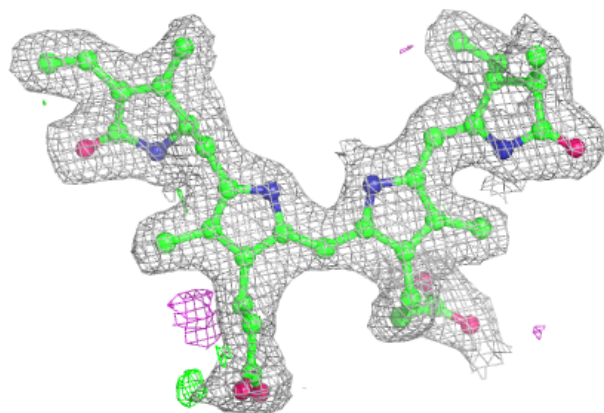


**Electron density around PEB W 202:**

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

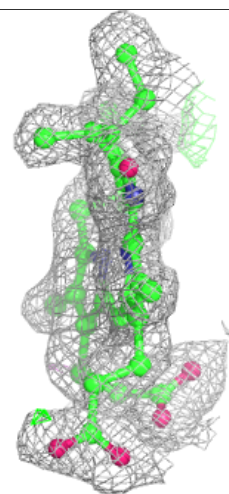
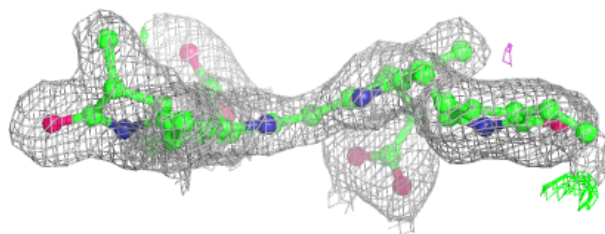
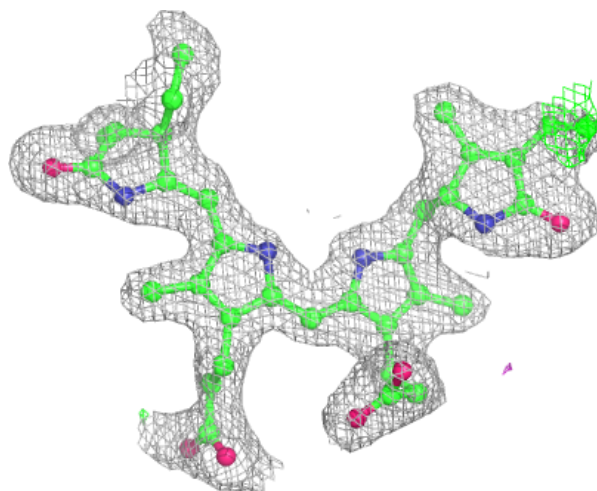
**Electron density around PEB P 301:**

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

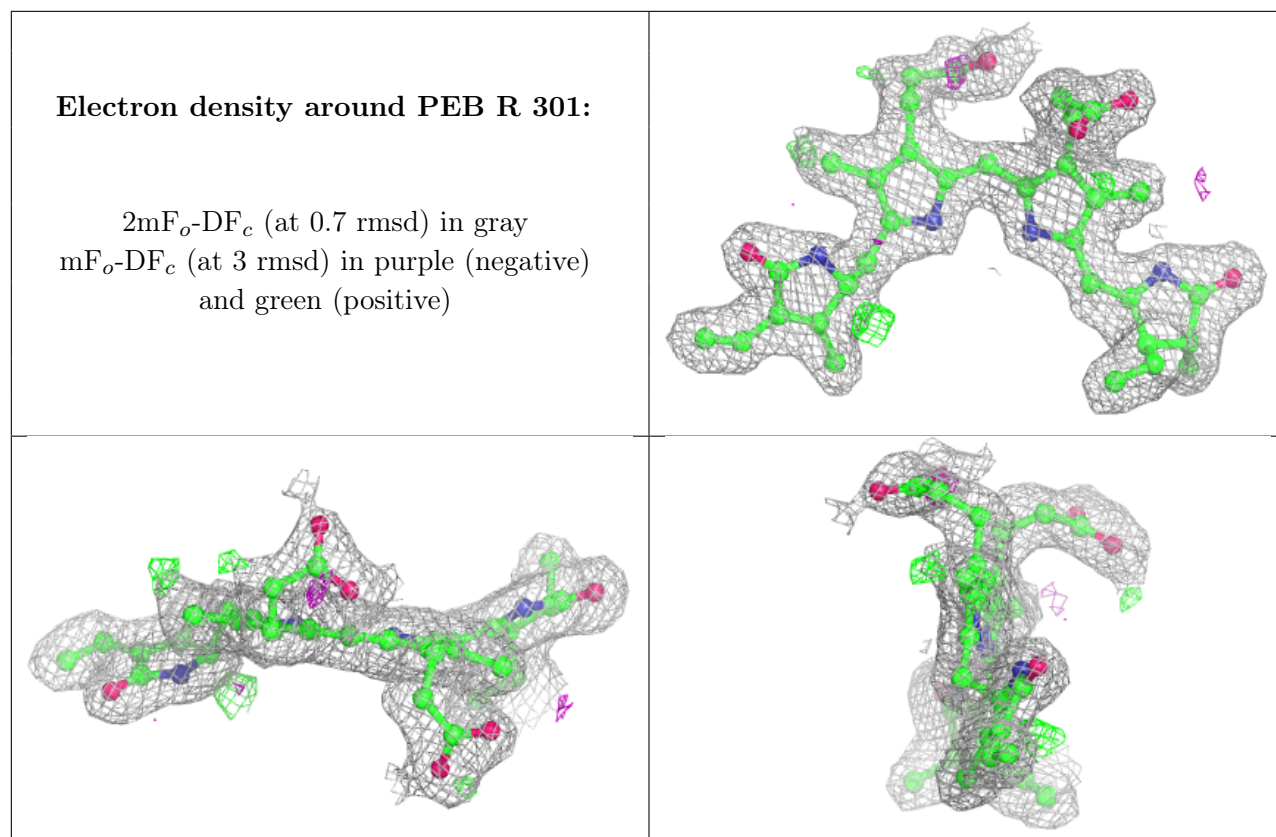


**Electron density around PEB H 201:**

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

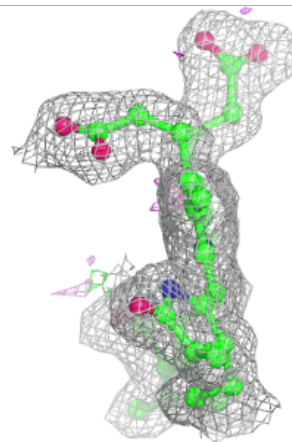
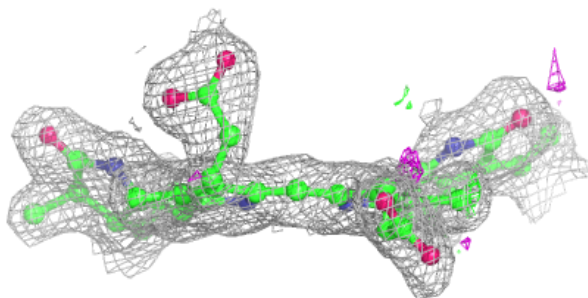
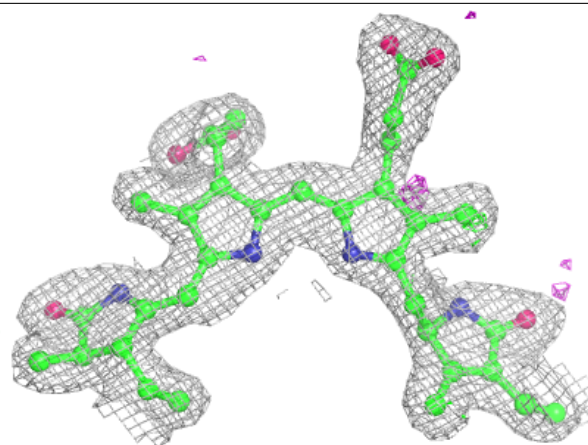






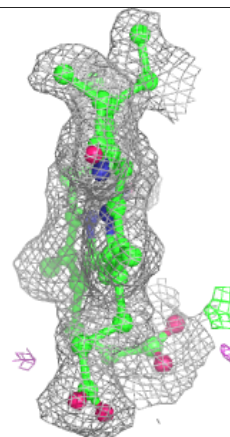
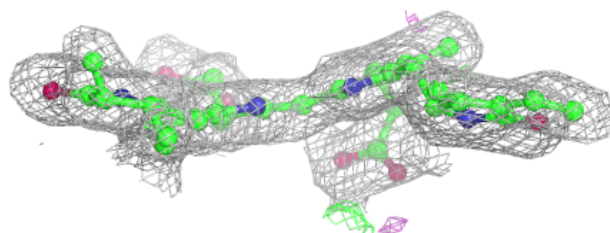
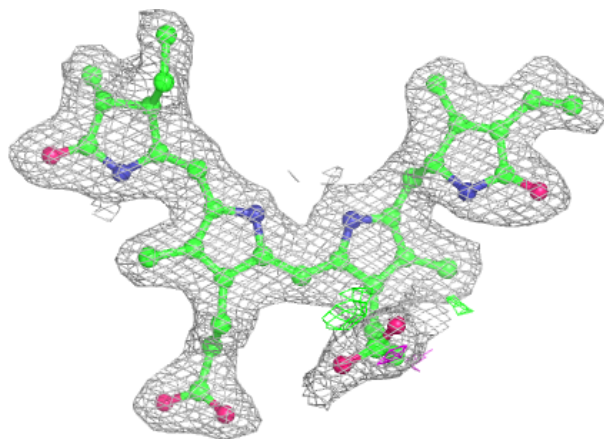
**Electron density around PEB R 302:**

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



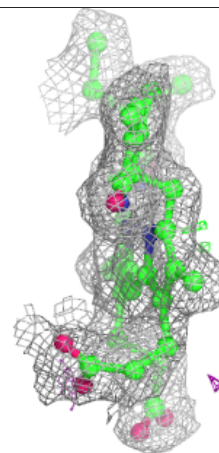
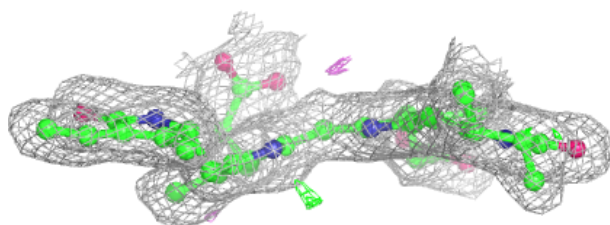
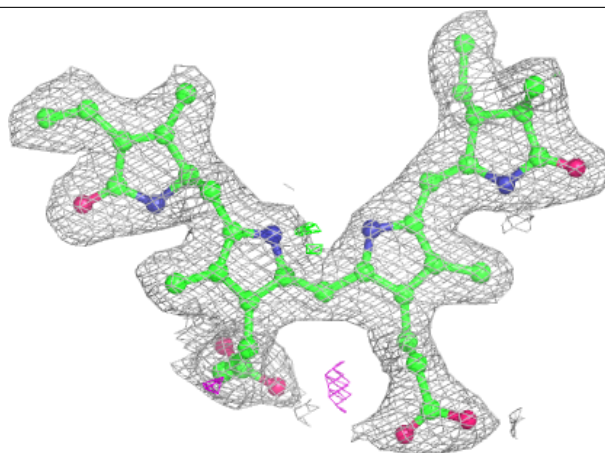
**Electron density around PEB R 303:**

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

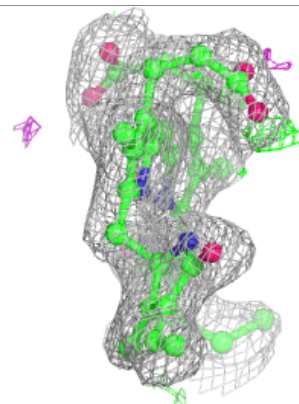
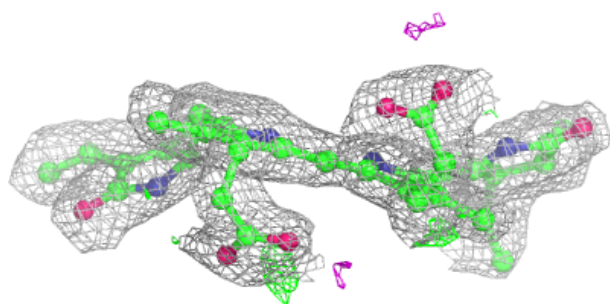
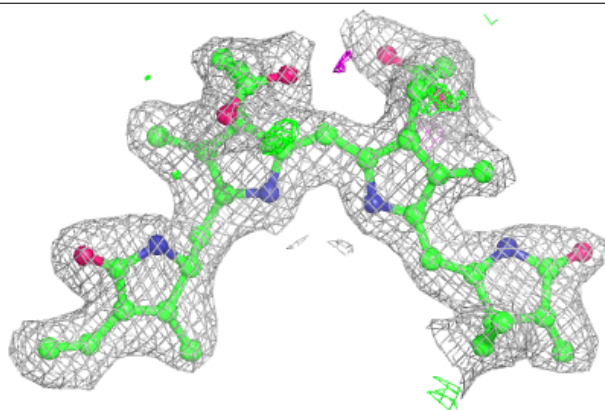


**Electron density around PEB C 303:**

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

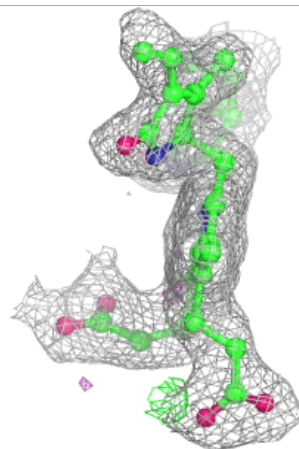
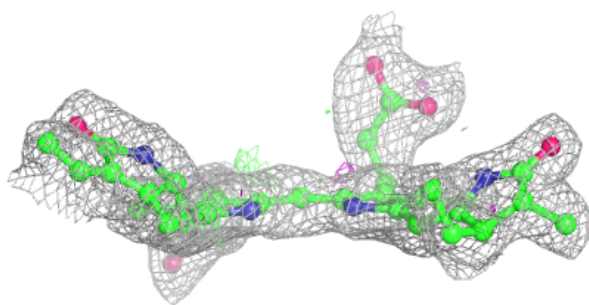
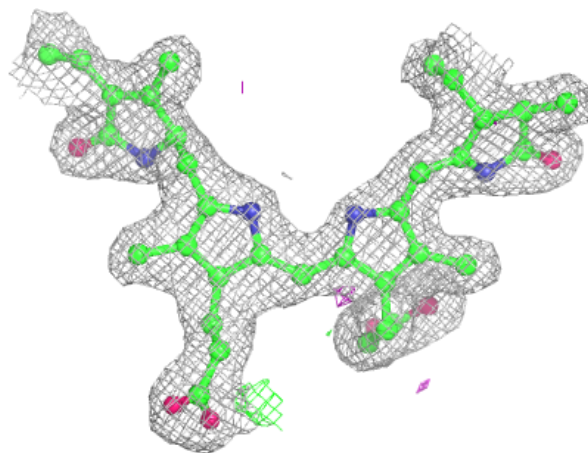
**Electron density around PEB H 202:**

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



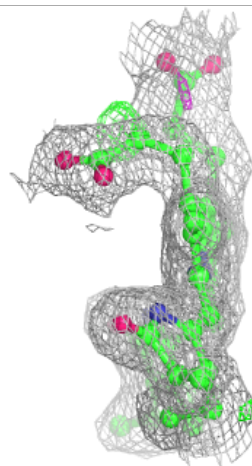
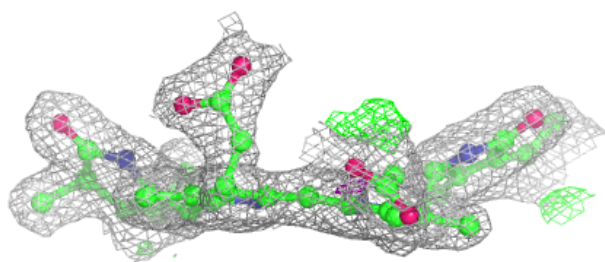
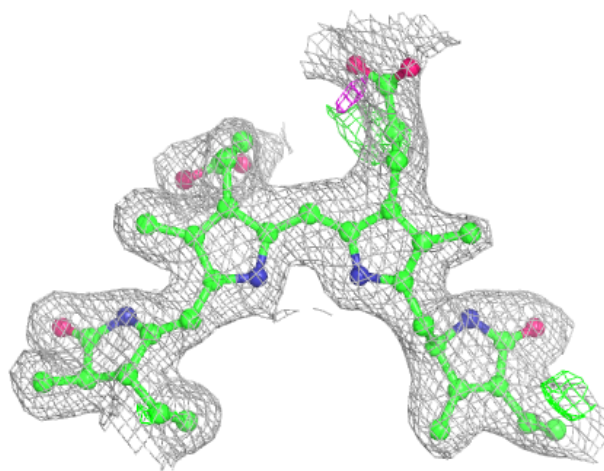
**Electron density around PEB E 302:**

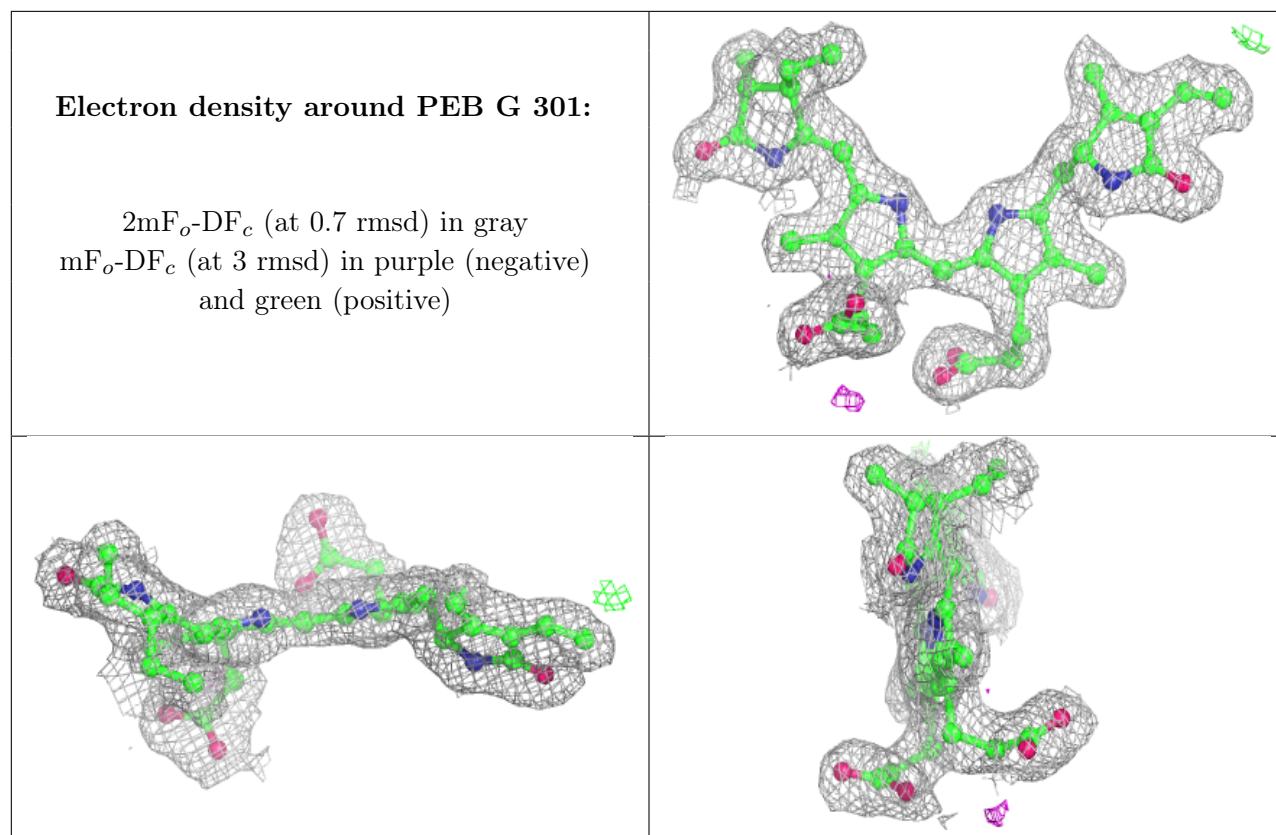
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around PEB M 302:**

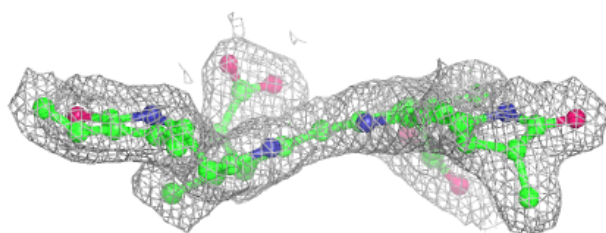
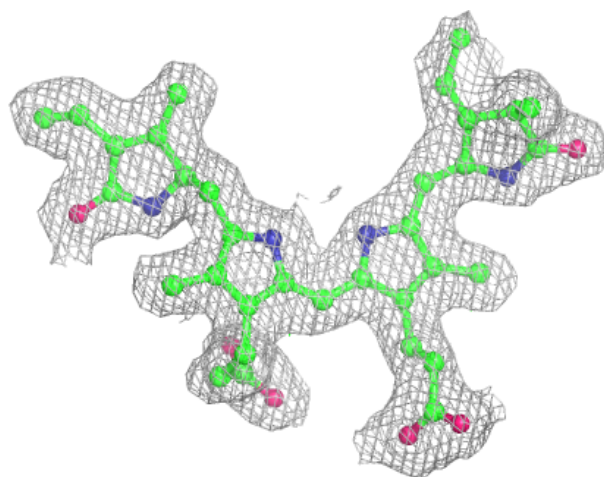
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





**Electron density around PEB D 201:**

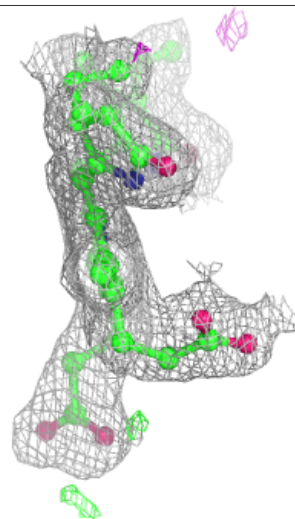
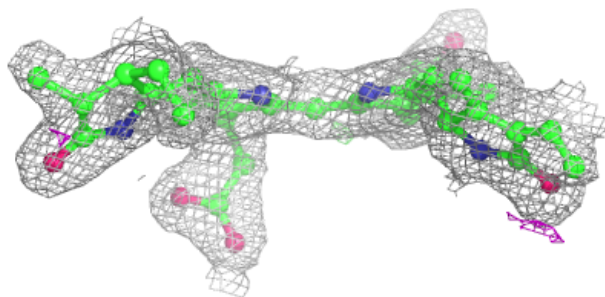
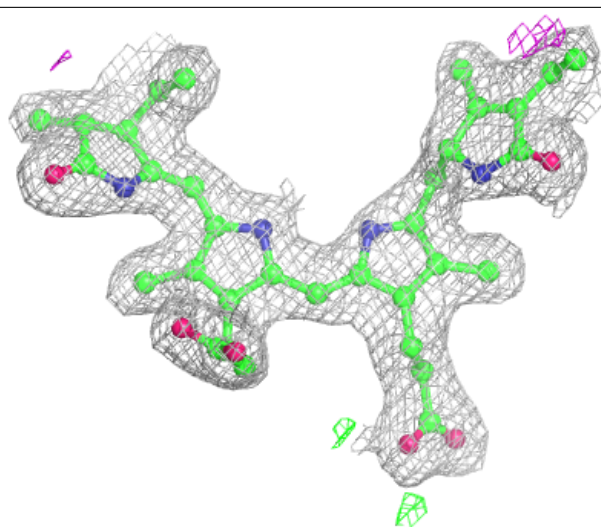
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





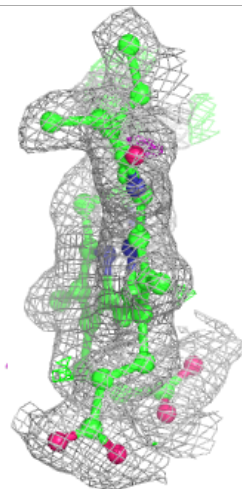
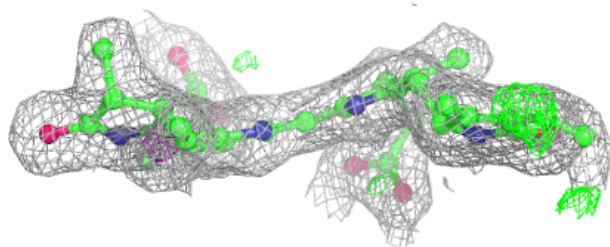
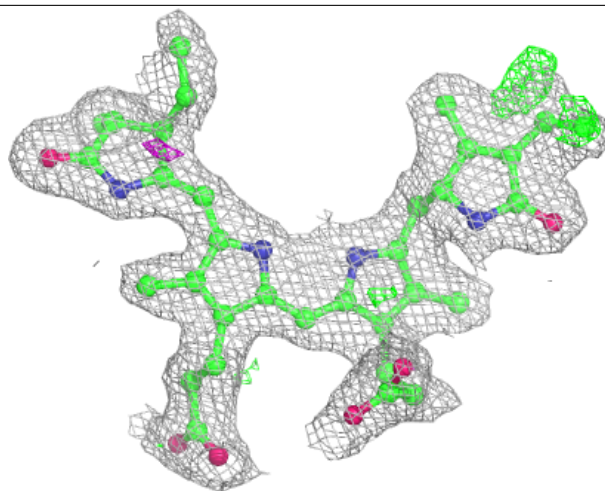
**Electron density around PEB I 302:**

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



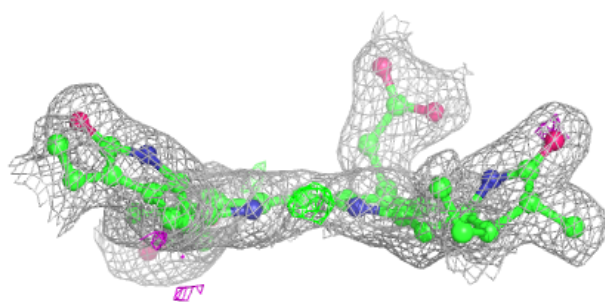
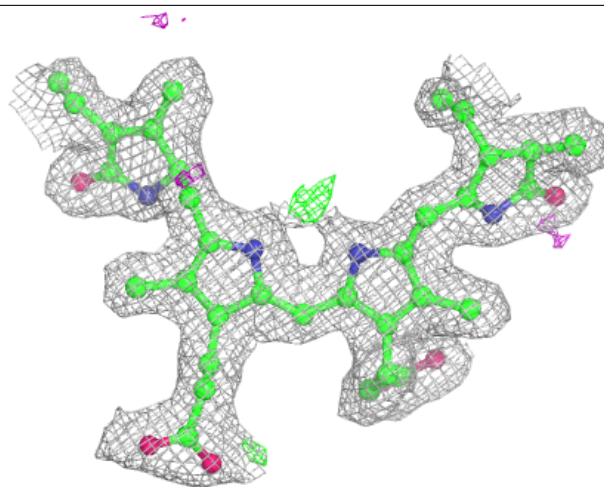
**Electron density around PEB A 201:**

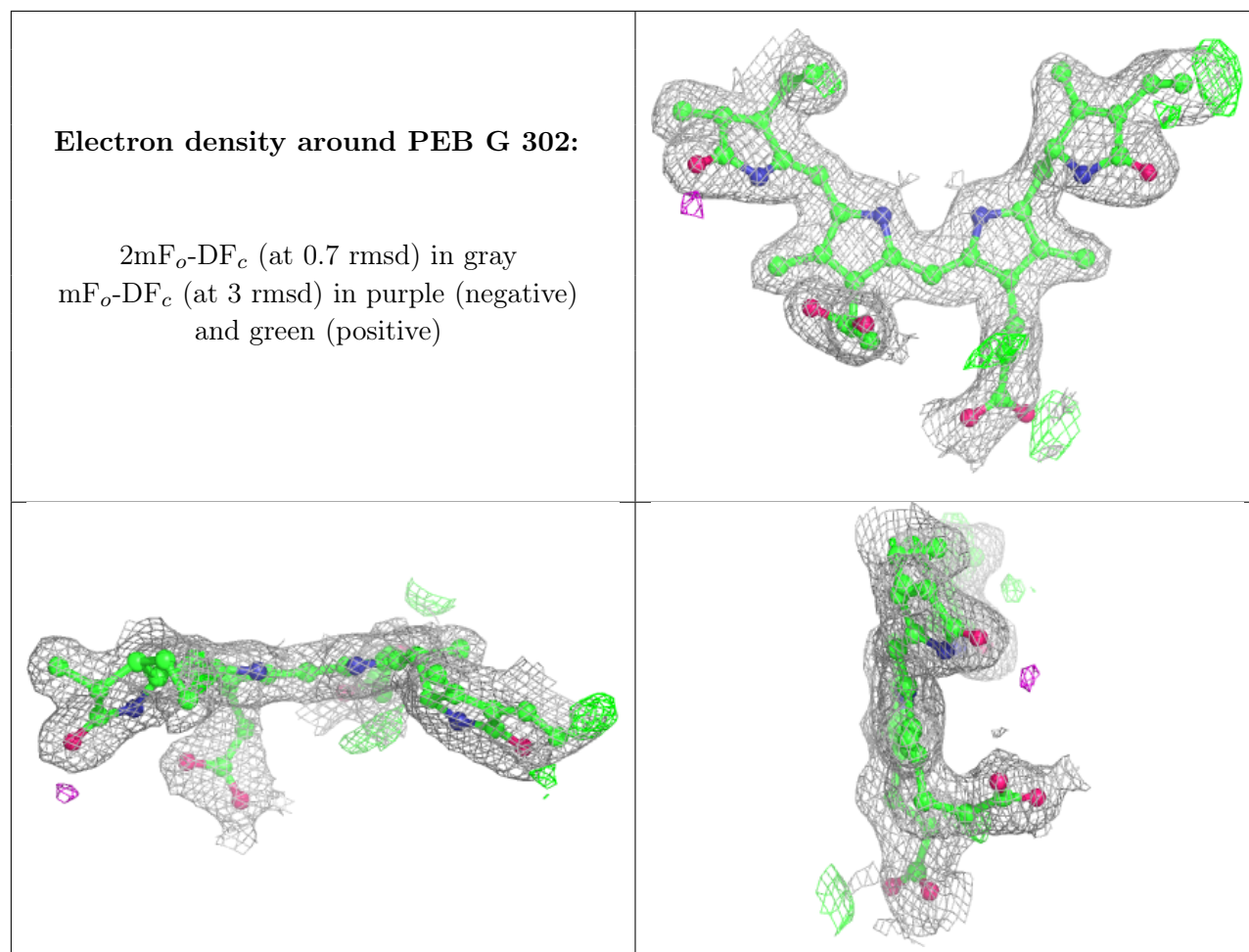
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

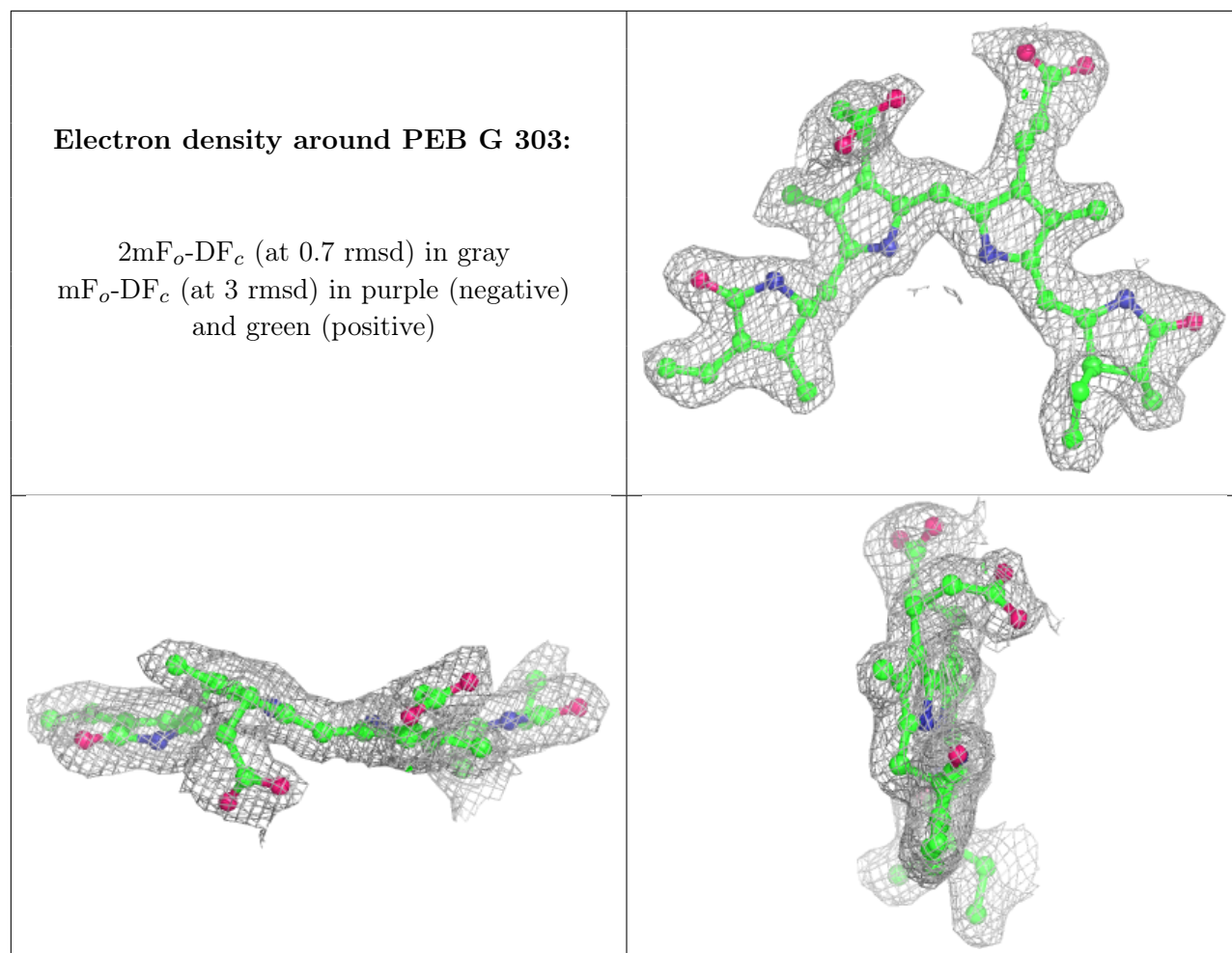


**Electron density around PEB P 302:**

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

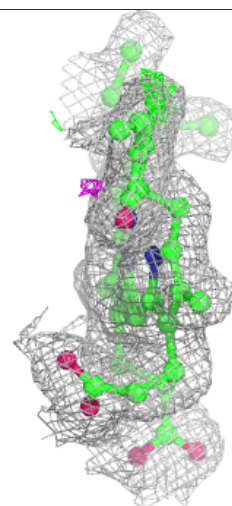
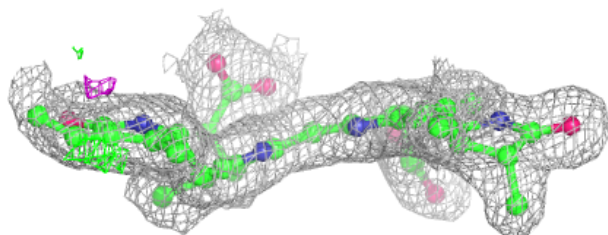
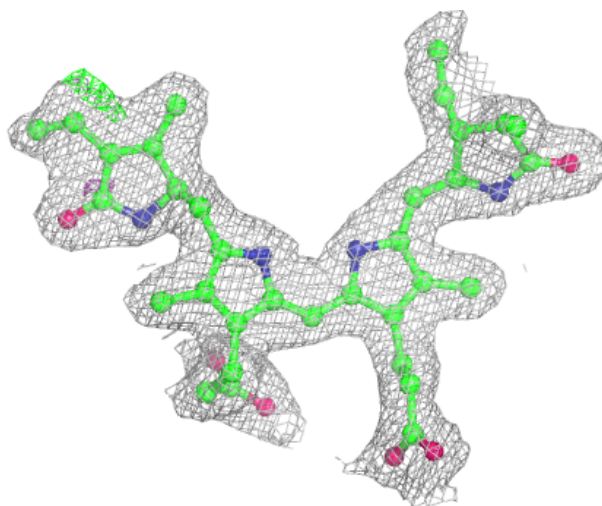






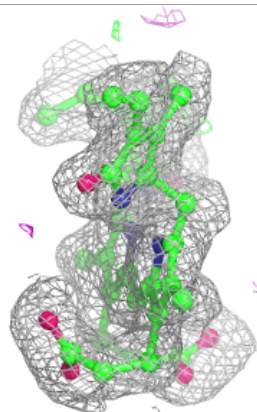
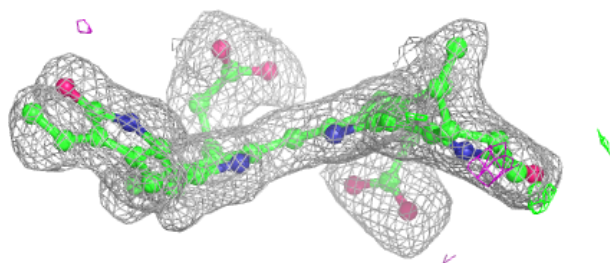
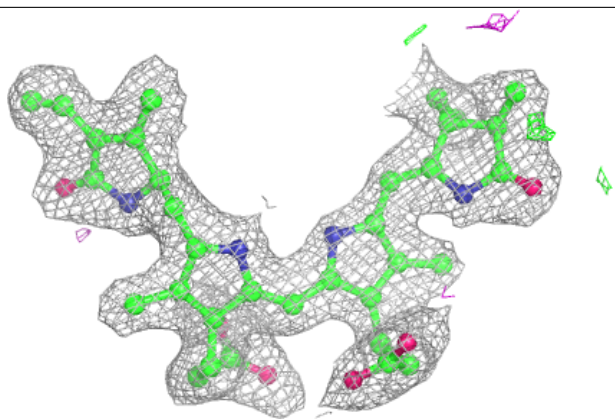
**Electron density around PEB F 201:**

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

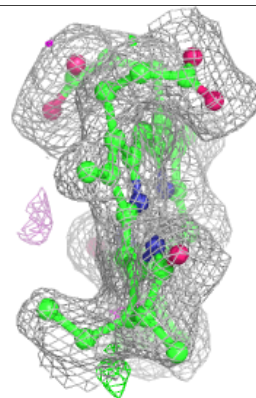
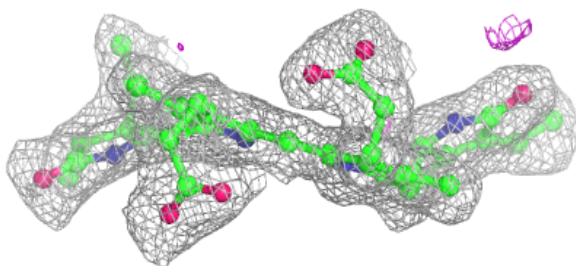
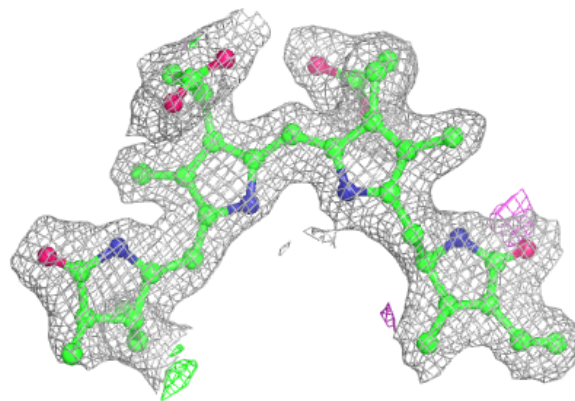


**Electron density around PEB L 202:**

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

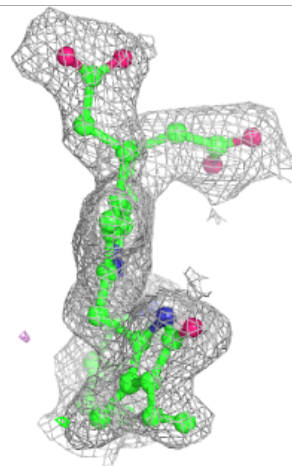
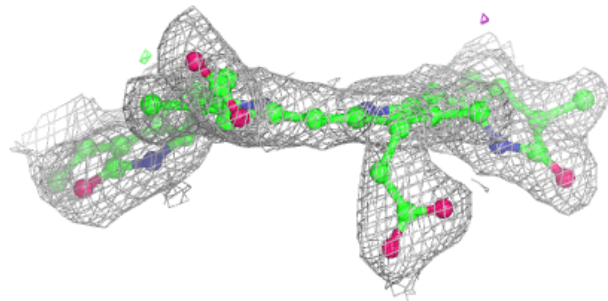
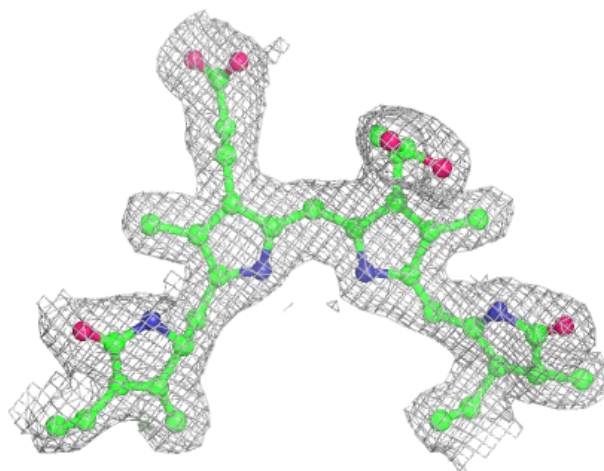
**Electron density around PEB D 202:**

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

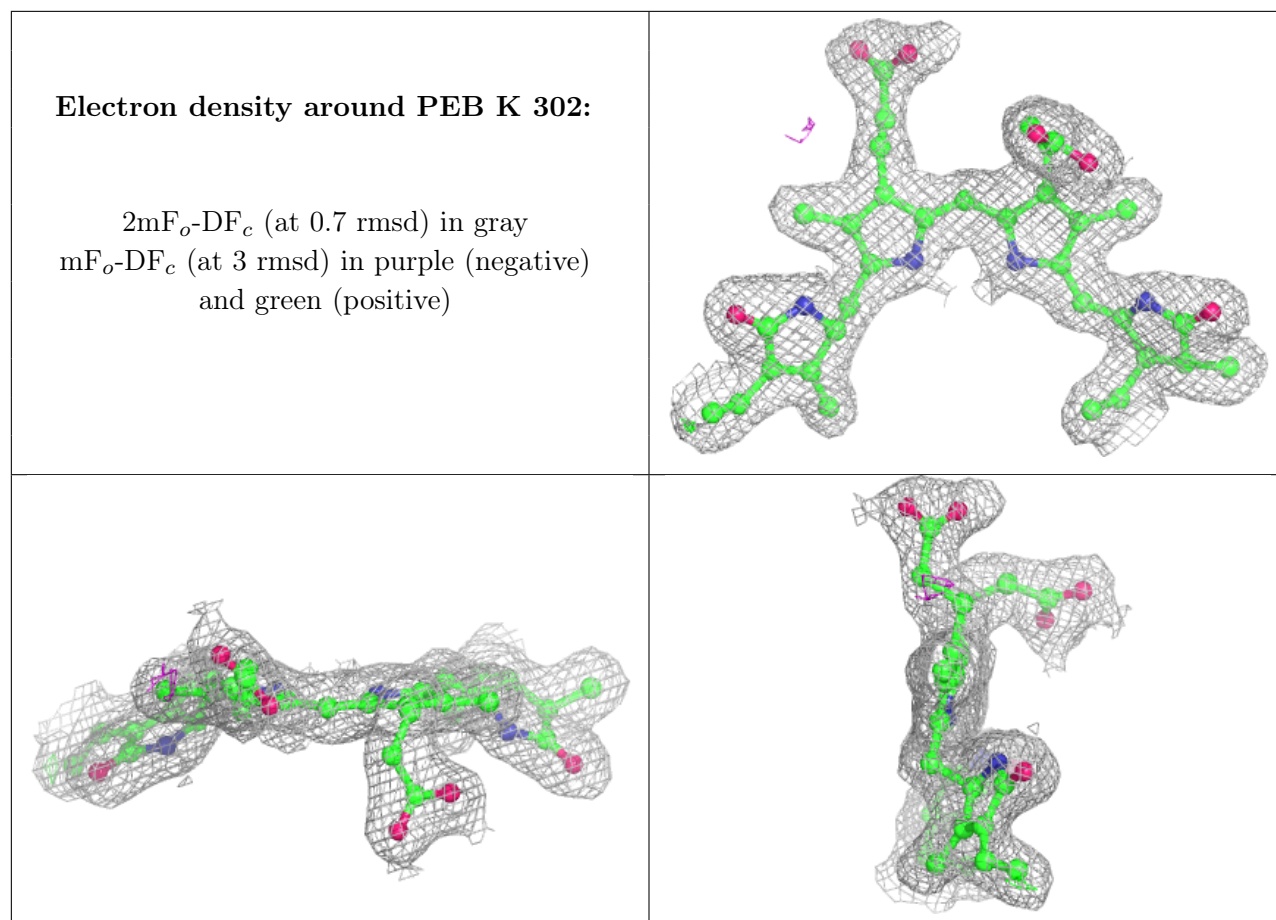


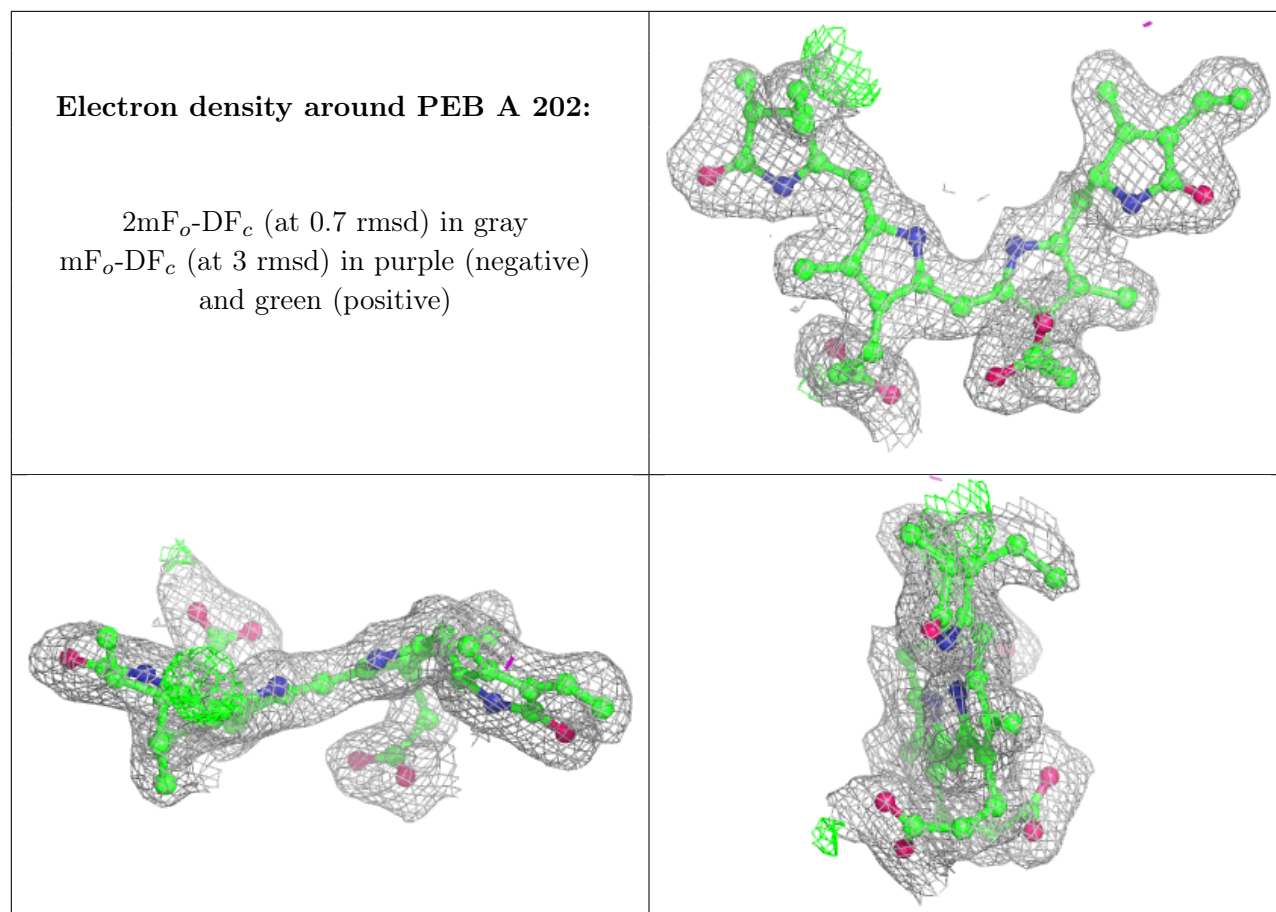
**Electron density around PEB C 302:**

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



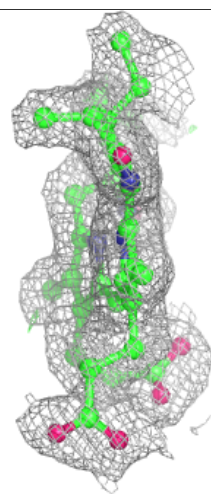
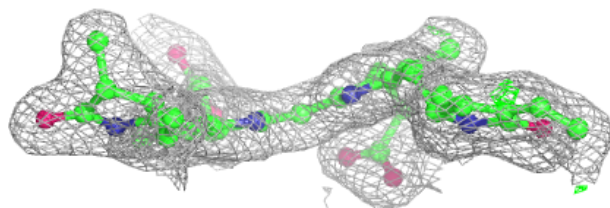
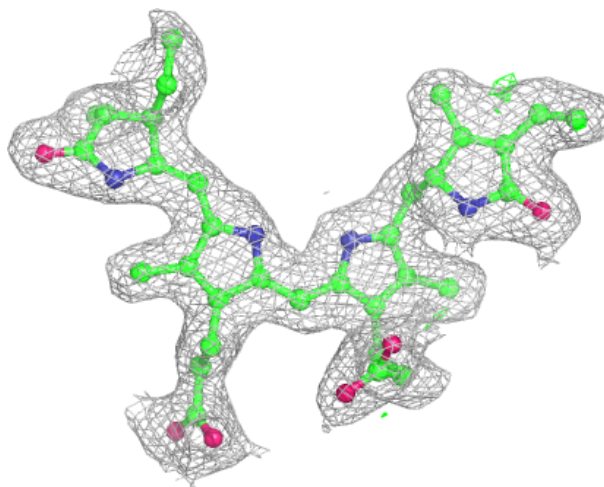






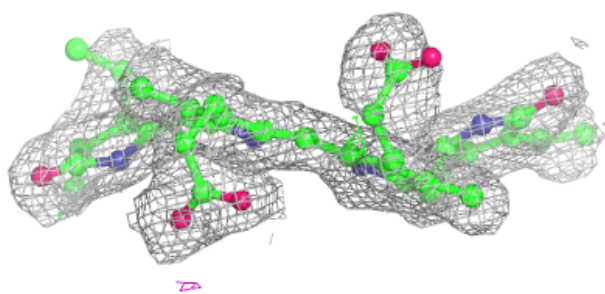
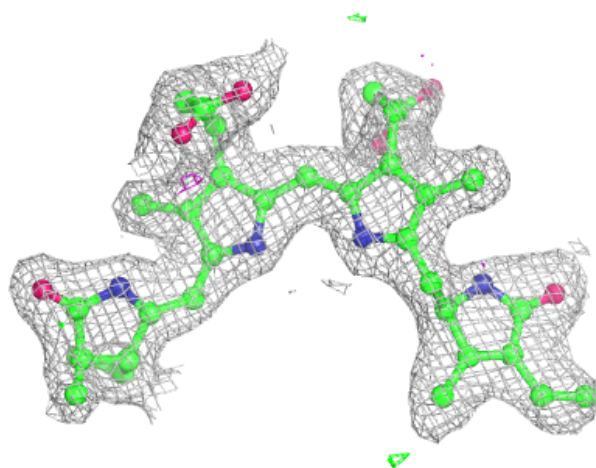
**Electron density around PEB Q 201:**

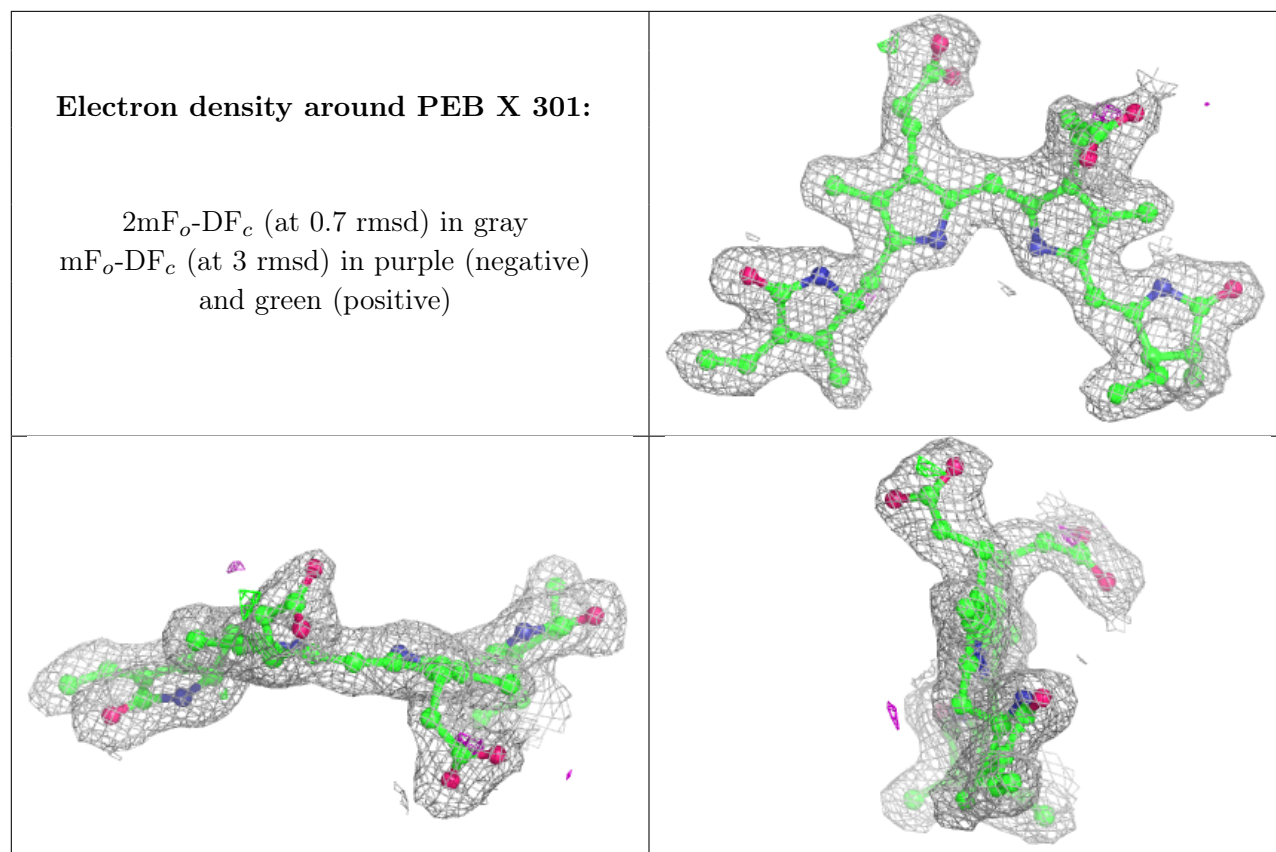
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around PEB Q 202:**

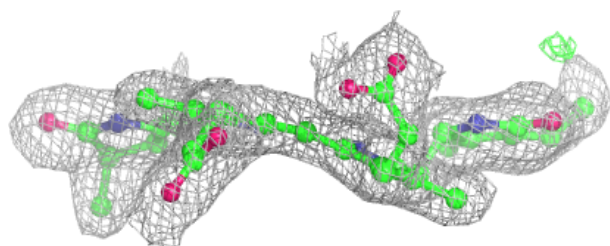
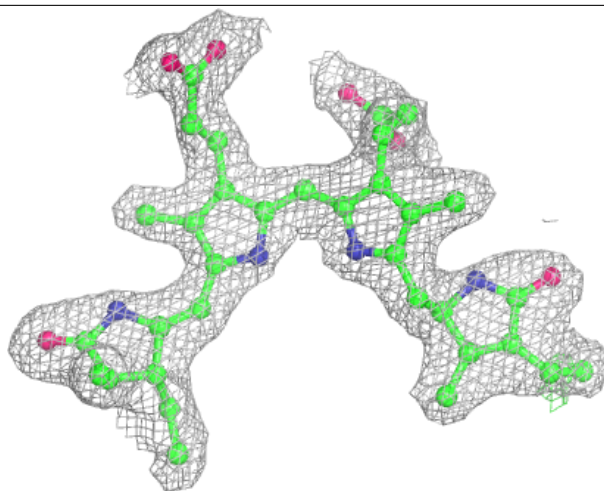
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





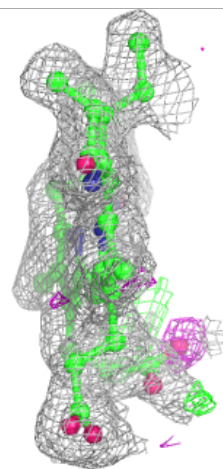
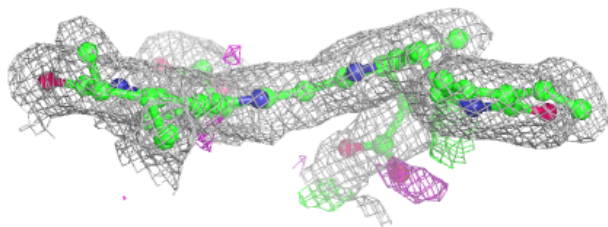
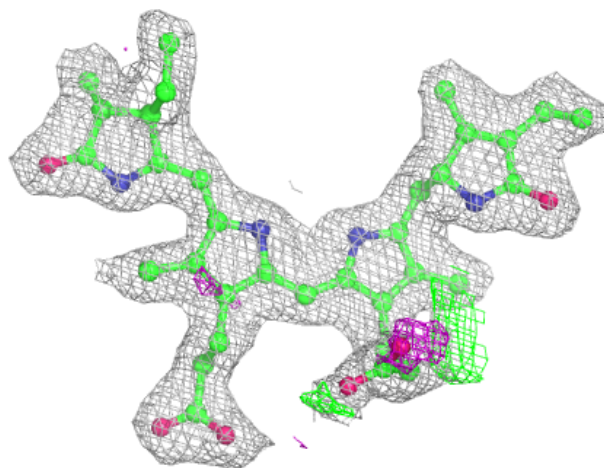
**Electron density around PEB U 201:**

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



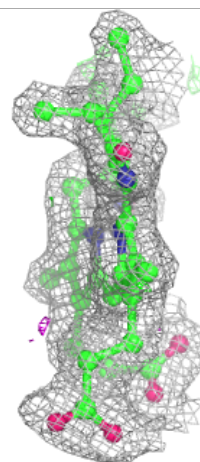
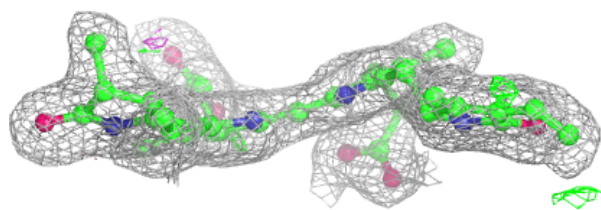
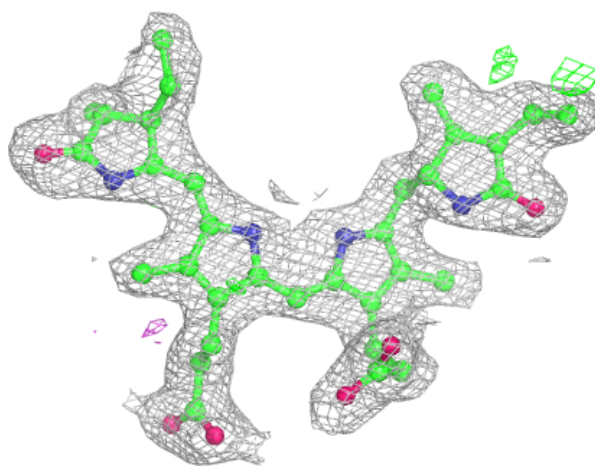
**Electron density around PEB X 303:**

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

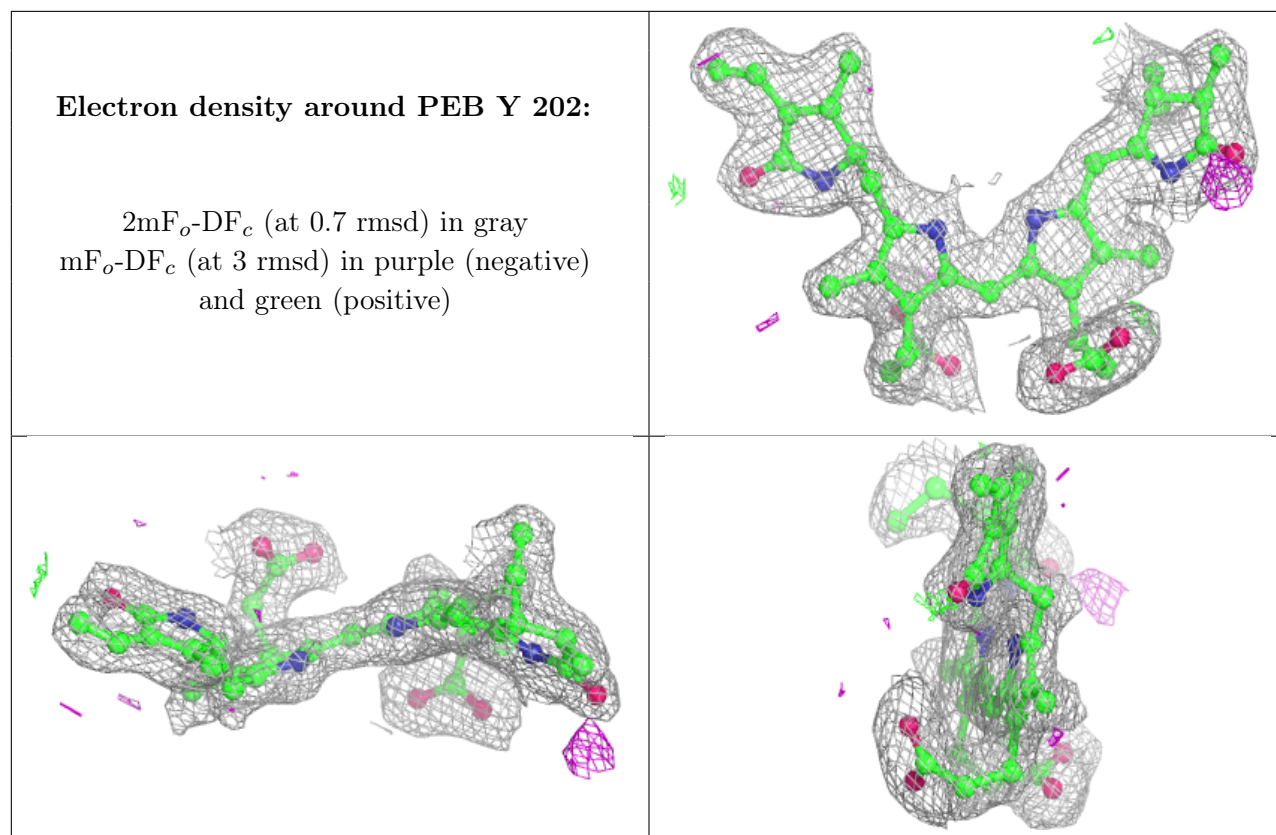


**Electron density around PEB Y 201:**

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

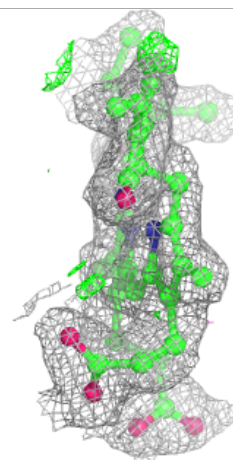
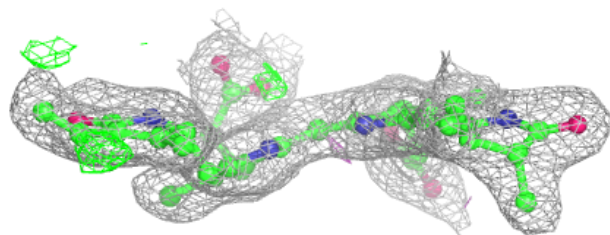
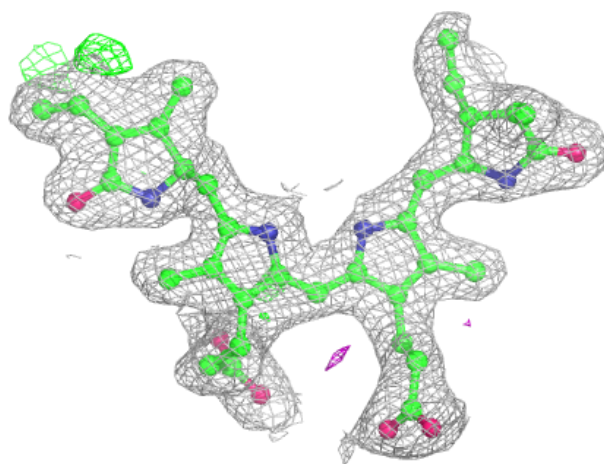


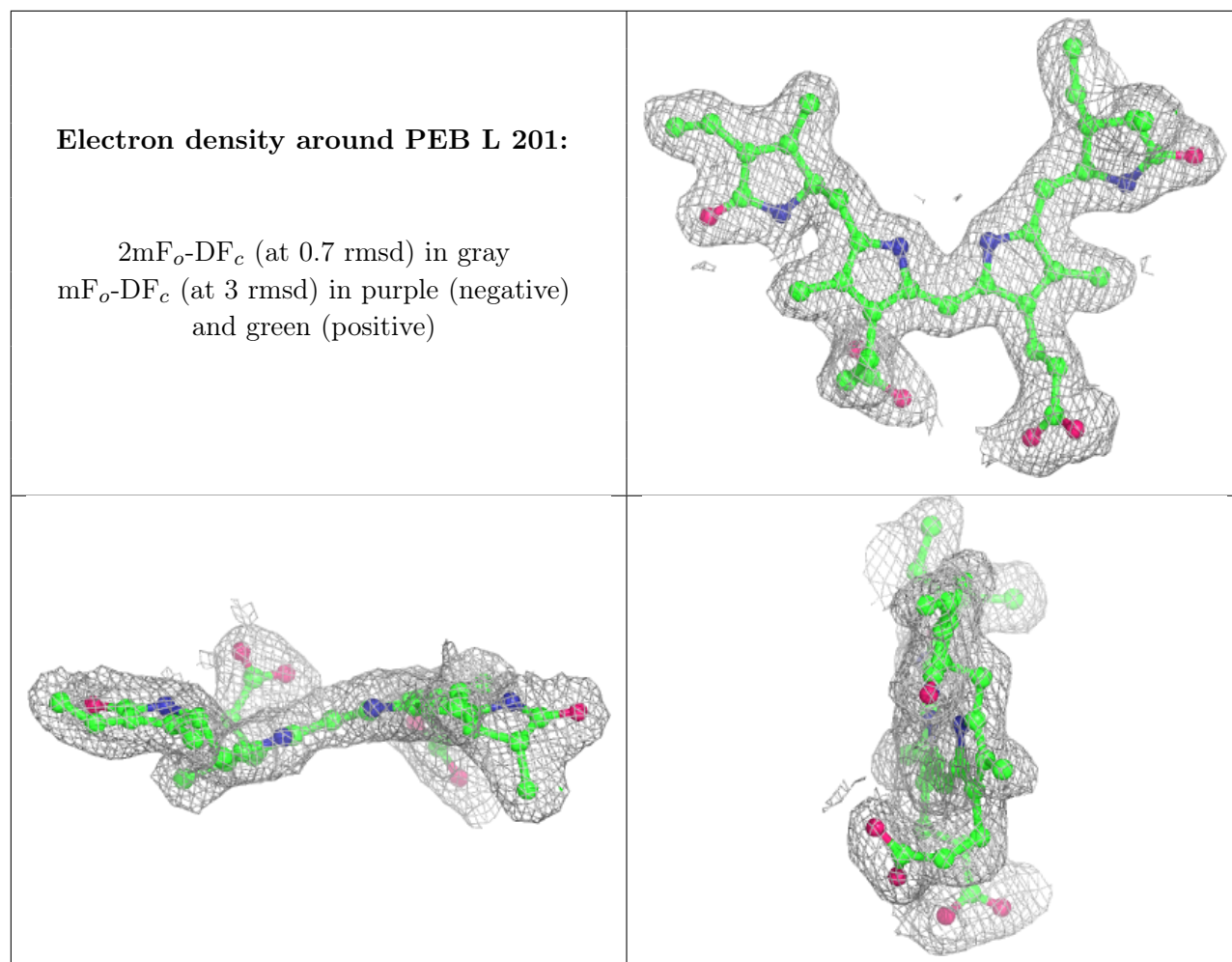




**Electron density around PEB J 201:**

$2mF_o-DF_c$  (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.