



wwPDB EM Validation Summary Report ⓘ

Mar 23, 2026 – 10:35 PM JST

PDB ID : 9UAS / pdb_00009uas
EMDB ID : EMD-63994
Title : PSI-LHCE-LHCII from Euglena gracilis
Authors : Feng, Y.
Deposited on : 2025-04-01
Resolution : 2.35 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

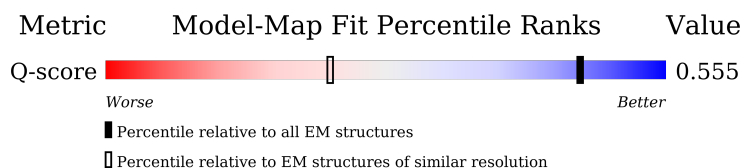
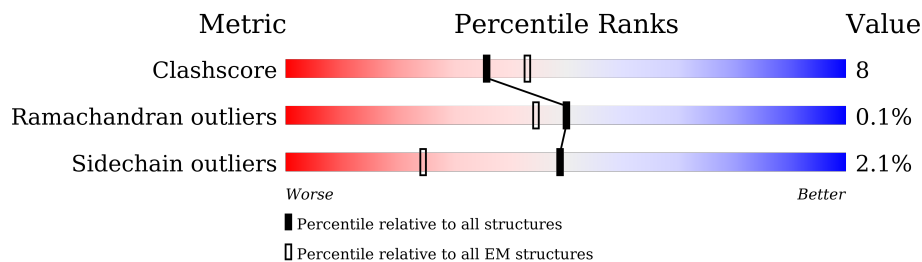
EMDB validation analysis : 0.0.1.dev132
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.48.1

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.35 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)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	4607 (1.85 - 2.85)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	B	734	86% (green), 13% (yellow), 1% (orange), 0% (red), 0% (grey)
2	C	81	89% (green), 10% (yellow), 1% (orange), 0% (red), 0% (grey)
3	D	193	90% (green), 9% (yellow), 1% (orange), 0% (red), 0% (grey)
4	E	158	33% (green), 7% (yellow), 60% (grey), 0% (orange), 0% (red)

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Mol	Chain	Length	Quality of chain
5	F	325	
6	G	184	
6	P	184	
7	H	185	
8	I	184	
8	N	184	
9	J	39	
10	K	184	
10	Q	184	
11	L	187	
11	R	187	
12	M	31	
13	O	177	
14	S	180	
15	T	173	
16	U	209	
17	V	196	
18	W	228	
19	X	223	
20	A	756	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	A	801	X	-	-	-
22	CLA	A	803	X	-	-	-
22	CLA	A	804	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	A	805	X	-	-	-
22	CLA	A	806	X	-	-	-
22	CLA	A	807	X	-	-	-
22	CLA	A	808	X	-	-	-
22	CLA	A	809	X	-	-	-
22	CLA	A	810	X	-	-	-
22	CLA	A	811	X	-	-	-
22	CLA	A	812	X	-	-	-
22	CLA	A	813	X	-	-	-
22	CLA	A	814	X	-	-	-
22	CLA	A	815	X	-	-	-
22	CLA	A	816	X	-	-	-
22	CLA	A	817	X	-	-	-
22	CLA	A	818	X	-	-	-
22	CLA	A	819	X	-	-	-
22	CLA	A	820	X	-	-	-
22	CLA	A	821	X	-	-	-
22	CLA	A	822	X	-	-	-
22	CLA	A	823	X	-	-	-
22	CLA	A	824	X	-	-	-
22	CLA	A	825	X	-	-	-
22	CLA	A	826	X	-	-	-
22	CLA	A	827	X	-	-	-
22	CLA	A	828	X	-	-	-
22	CLA	A	829	X	-	-	-
22	CLA	A	830	X	-	-	-
22	CLA	A	831	X	-	-	-
22	CLA	A	832	X	-	-	-
22	CLA	A	833	X	-	-	-
22	CLA	A	834	X	-	-	-
22	CLA	A	835	X	-	-	-
22	CLA	A	836	X	-	-	-
22	CLA	A	837	X	-	-	-
22	CLA	A	838	X	-	-	-
22	CLA	A	839	X	-	-	-
22	CLA	A	840	X	-	-	-
22	CLA	A	841	X	-	-	-
22	CLA	A	842	X	-	-	-
22	CLA	A	844	X	-	-	-
22	CLA	A	852	X	-	-	-
22	CLA	B	802	X	-	-	-
22	CLA	B	803	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	B	804	X	-	-	-
22	CLA	B	805	X	-	-	-
22	CLA	B	806	X	-	-	-
22	CLA	B	807	X	-	-	-
22	CLA	B	808	X	-	-	-
22	CLA	B	809	X	-	-	-
22	CLA	B	810	X	-	-	-
22	CLA	B	811	X	-	-	-
22	CLA	B	812	X	-	-	-
22	CLA	B	813	X	-	-	-
22	CLA	B	814	X	-	-	-
22	CLA	B	815	X	-	-	-
22	CLA	B	816	X	-	-	-
22	CLA	B	817	X	-	-	-
22	CLA	B	818	X	-	-	-
22	CLA	B	819	X	-	-	-
22	CLA	B	820	X	-	-	-
22	CLA	B	821	X	-	-	-
22	CLA	B	822	X	-	-	-
22	CLA	B	823	X	-	-	-
22	CLA	B	824	X	-	-	-
22	CLA	B	825	X	-	-	-
22	CLA	B	826	X	-	-	-
22	CLA	B	827	X	-	-	-
22	CLA	B	828	X	-	-	-
22	CLA	B	829	X	-	-	-
22	CLA	B	830	X	-	-	-
22	CLA	B	831	X	-	-	-
22	CLA	B	832	X	-	-	-
22	CLA	B	833	X	-	-	-
22	CLA	B	834	X	-	-	-
22	CLA	B	835	X	-	-	-
22	CLA	B	836	X	-	-	-
22	CLA	B	837	X	-	-	-
22	CLA	B	838	X	-	-	-
22	CLA	B	839	X	-	-	-
22	CLA	B	859	X	-	-	-
22	CLA	F	403	X	-	-	-
22	CLA	F	404	X	-	-	-
22	CLA	F	405	X	-	-	-
22	CLA	G	601	X	-	-	-
22	CLA	G	602	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	G	603	X	-	-	-
22	CLA	G	604	X	-	-	-
22	CLA	G	605	X	-	-	-
22	CLA	G	606	X	-	-	-
22	CLA	G	607	X	-	-	-
22	CLA	G	608	X	-	-	-
22	CLA	G	609	X	-	-	-
22	CLA	G	610	X	-	-	-
22	CLA	G	611	X	-	-	-
22	CLA	H	302	X	-	-	-
22	CLA	H	303	X	-	-	-
22	CLA	H	304	X	-	-	-
22	CLA	H	305	X	-	-	-
22	CLA	H	306	X	-	-	-
22	CLA	H	307	X	-	-	-
22	CLA	H	308	X	-	-	-
22	CLA	H	309	X	-	-	-
22	CLA	H	310	X	-	-	-
22	CLA	H	311	X	-	-	-
22	CLA	H	312	X	-	-	-
22	CLA	H	313	X	-	-	-
22	CLA	H	318	X	-	-	-
22	CLA	I	601	X	-	-	-
22	CLA	I	602	X	-	-	-
22	CLA	I	603	X	-	-	-
22	CLA	I	604	X	-	-	-
22	CLA	I	605	X	-	-	-
22	CLA	I	606	X	-	-	-
22	CLA	I	607	X	-	-	-
22	CLA	I	608	X	-	-	-
22	CLA	I	609	X	-	-	-
22	CLA	I	610	X	-	-	-
22	CLA	I	611	X	-	-	-
22	CLA	J	102	X	-	-	-
22	CLA	K	602	X	-	-	-
22	CLA	K	603	X	-	-	-
22	CLA	K	604	X	-	-	-
22	CLA	K	605	X	-	-	-
22	CLA	K	606	X	-	-	-
22	CLA	K	607	X	-	-	-
22	CLA	K	608	X	-	-	-
22	CLA	K	609	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	K	610	X	-	-	-
22	CLA	K	611	X	-	-	-
22	CLA	K	612	X	-	-	-
22	CLA	K	613	X	-	-	-
22	CLA	K	617	X	-	-	-
22	CLA	L	402	X	-	-	-
22	CLA	L	403	X	-	-	-
22	CLA	L	404	X	-	-	-
22	CLA	L	405	X	-	-	-
22	CLA	L	406	X	-	-	-
22	CLA	L	407	X	-	-	-
22	CLA	L	408	X	-	-	-
22	CLA	L	409	X	-	-	-
22	CLA	L	410	X	-	-	-
22	CLA	L	411	X	-	-	-
22	CLA	L	412	X	-	-	-
22	CLA	L	417	X	-	-	-
22	CLA	N	601	X	-	-	-
22	CLA	N	602	X	-	-	-
22	CLA	N	603	X	-	-	-
22	CLA	N	604	X	-	-	-
22	CLA	N	605	X	-	-	-
22	CLA	N	606	X	-	-	-
22	CLA	N	607	X	-	-	-
22	CLA	N	608	X	-	-	-
22	CLA	N	609	X	-	-	-
22	CLA	N	610	X	-	-	-
22	CLA	N	611	X	-	-	-
22	CLA	O	305	X	-	-	-
22	CLA	O	306	X	-	-	-
22	CLA	O	307	X	-	-	-
22	CLA	O	308	X	-	-	-
22	CLA	O	309	X	-	-	-
22	CLA	O	310	X	-	-	-
22	CLA	O	311	X	-	-	-
22	CLA	O	312	X	-	-	-
22	CLA	O	313	X	-	-	-
22	CLA	O	314	X	-	-	-
22	CLA	O	315	X	-	-	-
22	CLA	O	319	X	-	-	-
22	CLA	P	602	X	-	-	-
22	CLA	P	604	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	P	605	X	-	-	-
22	CLA	P	606	X	-	-	-
22	CLA	P	607	X	-	-	-
22	CLA	P	608	X	-	-	-
22	CLA	P	609	X	-	-	-
22	CLA	P	610	X	-	-	-
22	CLA	P	611	X	-	-	-
22	CLA	Q	601	X	-	-	-
22	CLA	Q	603	X	-	-	-
22	CLA	Q	604	X	-	-	-
22	CLA	Q	605	X	-	-	-
22	CLA	Q	606	X	-	-	-
22	CLA	Q	607	X	-	-	-
22	CLA	Q	608	X	-	-	-
22	CLA	Q	609	X	-	-	-
22	CLA	Q	610	X	-	-	-
22	CLA	Q	611	X	-	-	-
22	CLA	Q	612	X	-	-	-
22	CLA	Q	613	X	-	-	-
22	CLA	Q	617	X	-	-	-
22	CLA	Q	618	X	-	-	-
22	CLA	R	601	X	-	-	-
22	CLA	R	602	X	-	-	-
22	CLA	R	603	X	-	-	-
22	CLA	R	604	X	-	-	-
22	CLA	R	605	X	-	-	-
22	CLA	R	606	X	-	-	-
22	CLA	R	607	X	-	-	-
22	CLA	R	608	X	-	-	-
22	CLA	R	609	X	-	-	-
22	CLA	R	610	X	-	-	-
22	CLA	R	611	X	-	-	-
22	CLA	R	615	X	-	-	-
22	CLA	S	601	X	-	-	-
22	CLA	S	602	X	-	-	-
22	CLA	S	603	X	-	-	-
22	CLA	S	604	X	-	-	-
22	CLA	S	605	X	-	-	-
22	CLA	S	606	X	-	-	-
22	CLA	S	607	X	-	-	-
22	CLA	S	608	X	-	-	-
22	CLA	S	610	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	S	614	X	-	-	-
22	CLA	S	615	X	-	-	-
22	CLA	T	601	X	-	-	-
22	CLA	T	602	X	-	-	-
22	CLA	T	603	X	-	-	-
22	CLA	T	604	X	-	-	-
22	CLA	T	605	X	-	-	-
22	CLA	T	606	X	-	-	-
22	CLA	T	607	X	-	-	-
22	CLA	T	608	X	-	-	-
22	CLA	T	609	X	-	-	-
22	CLA	T	610	X	-	-	-
22	CLA	T	611	X	-	-	-
22	CLA	U	401	X	-	-	-
22	CLA	U	403	X	-	-	-
22	CLA	U	404	X	-	-	-
22	CLA	U	405	X	-	-	-
22	CLA	U	406	X	-	-	-
22	CLA	U	409	X	-	-	-
22	CLA	U	410	X	-	-	-
22	CLA	U	411	X	-	-	-
22	CLA	U	412	X	-	-	-
22	CLA	U	413	X	-	-	-
22	CLA	U	414	X	-	-	-
22	CLA	U	415	X	-	-	-
22	CLA	U	420	X	-	-	-
22	CLA	V	601	X	-	-	-
22	CLA	V	602	X	-	-	-
22	CLA	V	603	X	-	-	-
22	CLA	V	604	X	-	-	-
22	CLA	V	607	X	-	-	-
22	CLA	V	608	X	-	-	-
22	CLA	V	609	X	-	-	-
22	CLA	V	610	X	-	-	-
22	CLA	V	611	X	-	-	-
22	CLA	V	612	X	-	-	-
22	CLA	V	613	X	-	-	-
22	CLA	V	617	X	-	-	-
22	CLA	W	402	X	-	-	-
22	CLA	W	403	X	-	-	-
22	CLA	W	404	X	-	-	-
22	CLA	W	405	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	CLA	W	406	X	-	-	-
22	CLA	W	409	X	-	-	-
22	CLA	W	410	X	-	-	-
22	CLA	W	411	X	-	-	-
22	CLA	W	412	X	-	-	-
22	CLA	W	413	X	-	-	-
22	CLA	W	414	X	-	-	-
22	CLA	W	415	X	-	-	-
22	CLA	W	419	X	-	-	-
22	CLA	X	402	X	-	-	-
22	CLA	X	403	X	-	-	-
22	CLA	X	404	X	-	-	-
22	CLA	X	405	X	-	-	-
22	CLA	X	407	X	-	-	-
22	CLA	X	408	X	-	-	-
22	CLA	X	409	X	-	-	-
22	CLA	X	410	X	-	-	-
22	CLA	X	411	X	-	-	-
22	CLA	X	412	X	-	-	-
22	CLA	X	413	X	-	-	-
22	CLA	X	417	X	-	-	-
22	CLA	X	419	X	-	-	-
31	CHL	U	407	X	-	-	-
31	CHL	U	408	X	-	-	-
31	CHL	V	605	X	-	-	-
31	CHL	V	606	X	-	-	-
31	CHL	W	407	X	-	-	-
31	CHL	W	408	X	-	-	-
31	CHL	W	422	X	-	-	-
31	CHL	X	406	X	-	-	-
33	CLO	A	802	X	-	-	-

2 Entry composition [i](#)

There are 33 unique types of molecules in this entry. The entry contains 60137 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Photosystem I P700 chlorophyll a apoprotein A2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	732	5868	3859	985	1009	15	0	0

- Molecule 2 is a protein called Photosystem I iron-sulfur center.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	80	596	363	104	118	11	0	0

- Molecule 3 is a protein called PsaD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	190	1489	948	254	285	2	0	0

- Molecule 4 is a protein called PsaE.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	E	63	509	324	86	99	0	0

- Molecule 5 is a protein called PsaF.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	166	1262	811	210	239	2	0	0

- Molecule 6 is a protein called Lhce5.7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	G	175	1323	853	224	242	4	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
6	P	164	Total	C	N	O	S	0	0
			1243	803	209	227	4		

- Molecule 7 is a protein called Lhce7.3.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	173	Total	C	N	O	S	0	0
			1342	862	233	242	5		

- Molecule 8 is a protein called Lhce5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	165	Total	C	N	O	S	0	0
			1242	801	212	225	4		
8	N	170	Total	C	N	O	S	0	0
			1271	819	215	233	4		

- Molecule 9 is a protein called PsaJ.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	37	Total	C	N	O	S	0	0
			305	209	43	52	1		

- Molecule 10 is a protein called LhcE6.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	182	Total	C	N	O	S	0	0
			1444	939	246	253	6		
10	Q	182	Total	C	N	O	S	0	0
			1440	938	245	251	6		

- Molecule 11 is a protein called Lhce8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	178	Total	C	N	O	S	0	0
			1364	876	237	247	4		
11	R	174	Total	C	N	O	S	0	0
			1331	852	232	243	4		

- Molecule 12 is a protein called PsaM.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	31	Total	C	N	O	S	0	0
			242	162	37	42	1		

- Molecule 13 is a protein called LhcE7.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	O	175	Total	C	N	O	S	0	0
			1359	870	234	250	5		

- Molecule 14 is a protein called Lhce10.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	S	172	Total	C	N	O	S	0	0
			1327	858	219	246	4		

- Molecule 15 is a protein called Lhce11.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	T	167	Total	C	N	O	S	0	0
			1283	824	221	231	7		

- Molecule 16 is a protein called LhcbM4.6.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	U	199	Total	C	N	O	S	0	0
			1517	981	256	275	5		

- Molecule 17 is a protein called LhcbM4.10.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	V	196	Total	C	N	O	S	0	0
			1513	990	253	265	5		

- Molecule 18 is a protein called LhcbM2.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	W	220	Total	C	N	O	S	0	0
			1669	1088	275	302	4		

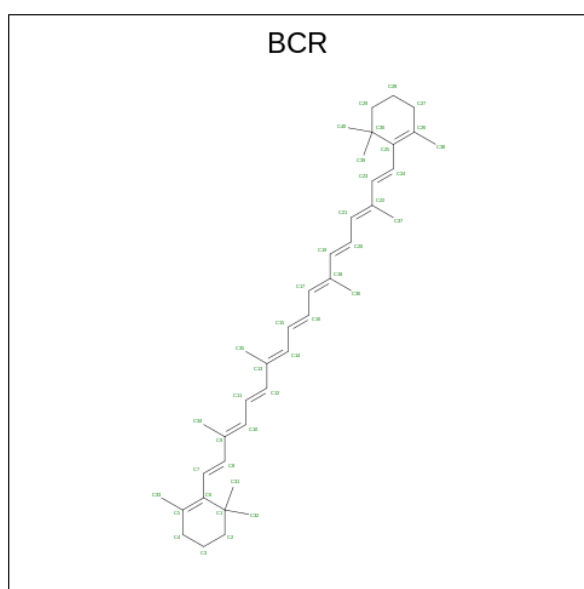
- Molecule 19 is a protein called LhcbM8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	X	223	1688	1093	284	306	5	0	0

- Molecule 20 is a protein called PsaA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	A	740	5872	3855	992	1004	21	0	0

- Molecule 21 is BETA-CAROTENE (CCD ID: BCR) (formula: C₄₀H₅₆) (labeled as "Ligand of Interest" by depositor).



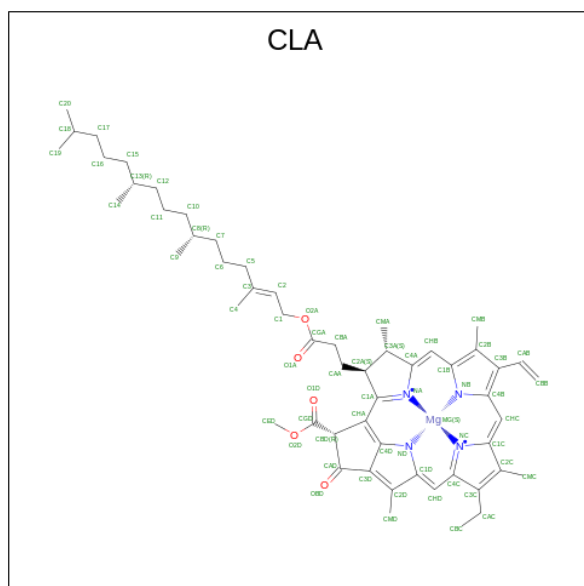
Mol	Chain	Residues	Atoms		AltConf
21	B	1	Total	C	0
			40	40	
21	B	1	Total	C	0
			40	40	
21	B	1	Total	C	0
			40	40	
21	B	1	Total	C	0
			40	40	
21	B	1	Total	C	0
			40	40	
21	J	1	Total	C	0
			40	40	

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Mol	Chain	Residues	Atoms	AltConf
21	M	1	Total C 40 40	0
21	A	1	Total C 40 40	0
21	A	1	Total C 40 40	0
21	A	1	Total C 40 40	0
21	A	1	Total C 40 40	0

- Molecule 22 is CHLOROPHYLL A (CCD ID: CLA) (formula: $C_{55}H_{72}MgN_4O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	AltConf
22	B	1	Total C Mg N O 65 55 1 4 5	0
22	B	1	Total C Mg N O 56 46 1 4 5	0
22	B	1	Total C Mg N O 65 55 1 4 5	0
22	B	1	Total C Mg N O 65 55 1 4 5	0
22	B	1	Total C Mg N O 65 55 1 4 5	0
22	B	1	Total C Mg N O 65 55 1 4 5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	B	1	55	45	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	56	46	1	4	5	0
22	B	1	45	35	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	45	35	1	4	5	0
22	B	1	52	42	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	53	43	1	4	5	0
22	B	1	53	43	1	4	5	0
22	B	1	60	50	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	58	48	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	B	1	45	35	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	62	52	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	51	41	1	4	5	0
22	B	1	45	35	1	4	5	0
22	B	1	45	35	1	4	5	0
22	B	1	65	55	1	4	5	0
22	B	1	65	55	1	4	5	0
22	F	1	65	55	1	4	5	0
22	F	1	55	45	1	4	5	0
22	F	1	45	35	1	4	5	0
22	G	1	45	35	1	4	5	0
22	G	1	60	50	1	4	5	0
22	G	1	56	46	1	4	5	0
22	G	1	45	35	1	4	5	0
22	G	1	45	35	1	4	5	0
22	G	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	G	1	60	50	1	4	5	0
22	G	1	60	50	1	4	5	0
22	G	1	45	35	1	4	5	0
22	G	1	45	35	1	4	5	0
22	G	1	45	35	1	4	5	0
22	H	1	45	35	1	4	5	0
22	H	1	60	50	1	4	5	0
22	H	1	45	35	1	4	5	0
22	H	1	60	50	1	4	5	0
22	H	1	55	45	1	4	5	0
22	H	1	60	50	1	4	5	0
22	H	1	60	50	1	4	5	0
22	H	1	55	45	1	4	5	0
22	H	1	45	35	1	4	5	0
22	H	1	65	55	1	4	5	0
22	H	1	45	35	1	4	5	0
22	H	1	58	48	1	4	5	0
22	H	1	45	35	1	4	5	0
22	I	1	65	55	1	4	5	0
22	I	1	60	50	1	4	5	0
22	I	1	56	46	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	I	1	45	35	1	4	5	0
22	I	1	45	35	1	4	5	0
22	I	1	61	51	1	4	5	0
22	I	1	55	45	1	4	5	0
22	I	1	45	35	1	4	5	0
22	I	1	45	35	1	4	5	0
22	I	1	45	35	1	4	5	0
22	I	1	45	35	1	4	5	0
22	J	1	50	40	1	4	5	0
22	K	1	60	50	1	4	5	0
22	K	1	60	50	1	4	5	0
22	K	1	64	55	1	4	4	0
22	K	1	65	55	1	4	5	0
22	K	1	50	40	1	4	5	0
22	K	1	57	47	1	4	5	0
22	K	1	65	55	1	4	5	0
22	K	1	60	50	1	4	5	0
22	K	1	56	46	1	4	5	0
22	K	1	65	55	1	4	5	0
22	K	1	45	35	1	4	5	0
22	K	1	53	43	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	K	1	65	55	1	4	5	0
22	L	1	65	55	1	4	5	0
22	L	1	60	50	1	4	5	0
22	L	1	56	46	1	4	5	0
22	L	1	45	35	1	4	5	0
22	L	1	65	55	1	4	5	0
22	L	1	57	47	1	4	5	0
22	L	1	60	50	1	4	5	0
22	L	1	60	50	1	4	5	0
22	L	1	60	50	1	4	5	0
22	L	1	65	55	1	4	5	0
22	L	1	45	35	1	4	5	0
22	L	1	65	55	1	4	5	0
22	N	1	45	35	1	4	5	0
22	N	1	60	50	1	4	5	0
22	N	1	65	55	1	4	5	0
22	N	1	45	35	1	4	5	0
22	N	1	45	35	1	4	5	0
22	N	1	65	55	1	4	5	0
22	N	1	60	50	1	4	5	0
22	N	1	45	35	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	N	1	45	35	1	4	5	0
22	N	1	55	45	1	4	5	0
22	N	1	40	32	1	4	3	0
22	O	1	50	40	1	4	5	0
22	O	1	60	50	1	4	5	0
22	O	1	45	35	1	4	5	0
22	O	1	61	51	1	4	5	0
22	O	1	50	40	1	4	5	0
22	O	1	60	50	1	4	5	0
22	O	1	60	50	1	4	5	0
22	O	1	60	50	1	4	5	0
22	O	1	65	55	1	4	5	0
22	O	1	45	35	1	4	5	0
22	O	1	50	40	1	4	5	0
22	O	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	P	1	45	35	1	4	5	0
22	P	1	45	35	1	4	5	0
22	P	1	41	33	1	4	3	0
22	P	1	45	35	1	4	5	0
22	Q	1	45	35	1	4	5	0
22	Q	1	45	35	1	4	5	0
22	Q	1	65	55	1	4	5	0
22	Q	1	56	46	1	4	5	0
22	Q	1	45	35	1	4	5	0
22	Q	1	45	35	1	4	5	0
22	Q	1	50	40	1	4	5	0
22	Q	1	60	50	1	4	5	0
22	Q	1	65	55	1	4	5	0
22	Q	1	55	45	1	4	5	0
22	Q	1	65	55	1	4	5	0
22	Q	1	45	35	1	4	5	0
22	Q	1	52	42	1	4	5	0
22	Q	1	45	35	1	4	5	0
22	R	1	65	55	1	4	5	0
22	R	1	60	50	1	4	5	0
22	R	1	56	46	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	R	1	45	35	1	4	5	0
22	R	1	65	55	1	4	5	0
22	R	1	57	47	1	4	5	0
22	R	1	60	50	1	4	5	0
22	R	1	54	44	1	4	5	0
22	R	1	41	33	1	4	3	0
22	R	1	65	55	1	4	5	0
22	R	1	45	35	1	4	5	0
22	R	1	65	55	1	4	5	0
22	S	1	45	35	1	4	5	0
22	S	1	60	50	1	4	5	0
22	S	1	45	35	1	4	5	0
22	S	1	60	50	1	4	5	0
22	S	1	60	50	1	4	5	0
22	S	1	50	40	1	4	5	0
22	S	1	60	50	1	4	5	0
22	S	1	45	35	1	4	5	0
22	S	1	55	45	1	4	5	0
22	S	1	45	35	1	4	5	0
22	S	1	45	35	1	4	5	0
22	S	1	51	41	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	T	1	45	35	1	4	5	0
22	T	1	65	55	1	4	5	0
22	T	1	60	50	1	4	5	0
22	T	1	65	55	1	4	5	0
22	T	1	65	55	1	4	5	0
22	T	1	50	40	1	4	5	0
22	T	1	60	50	1	4	5	0
22	T	1	60	50	1	4	5	0
22	T	1	45	35	1	4	5	0
22	T	1	45	35	1	4	5	0
22	T	1	65	55	1	4	5	0
22	U	1	55	45	1	4	5	0
22	U	1	45	35	1	4	5	0
22	U	1	65	55	1	4	5	0
22	U	1	57	47	1	4	5	0
22	U	1	56	46	1	4	5	0
22	U	1	45	35	1	4	5	0
22	U	1	55	45	1	4	5	0
22	U	1	57	47	1	4	5	0
22	U	1	45	35	1	4	5	0
22	U	1	45	35	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	U	1	61	51	1	4	5	0
22	U	1	45	35	1	4	5	0
22	U	1	45	35	1	4	5	0
22	V	1	45	35	1	4	5	0
22	V	1	65	55	1	4	5	0
22	V	1	57	47	1	4	5	0
22	V	1	56	46	1	4	5	0
22	V	1	45	35	1	4	5	0
22	V	1	55	45	1	4	5	0
22	V	1	57	47	1	4	5	0
22	V	1	45	35	1	4	5	0
22	V	1	45	35	1	4	5	0
22	V	1	65	55	1	4	5	0
22	V	1	45	35	1	4	5	0
22	V	1	45	35	1	4	5	0
22	W	1	55	45	1	4	5	0
22	W	1	52	42	1	4	5	0
22	W	1	65	55	1	4	5	0
22	W	1	60	50	1	4	5	0
22	W	1	56	46	1	4	5	0
22	W	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	W	1	60	50	1	4	5	0
22	W	1	60	50	1	4	5	0
22	W	1	60	50	1	4	5	0
22	W	1	45	35	1	4	5	0
22	W	1	65	55	1	4	5	0
22	W	1	45	35	1	4	5	0
22	W	1	45	35	1	4	5	0
22	X	1	55	45	1	4	5	0
22	X	1	65	55	1	4	5	0
22	X	1	60	50	1	4	5	0
22	X	1	56	46	1	4	5	0
22	X	1	65	55	1	4	5	0
22	X	1	65	55	1	4	5	0
22	X	1	65	55	1	4	5	0
22	X	1	60	50	1	4	5	0
22	X	1	45	35	1	4	5	0
22	X	1	65	55	1	4	5	0
22	X	1	45	35	1	4	5	0
22	X	1	50	40	1	4	5	0
22	X	1	45	35	1	4	5	0
22	A	1	65	55	1	4	5	0

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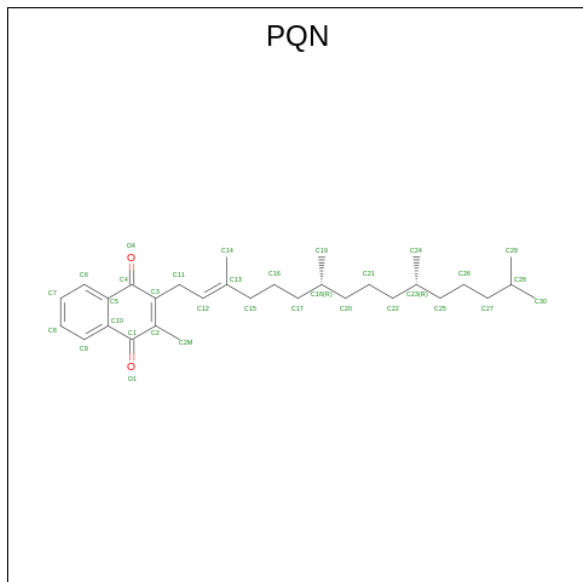
Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	61	51	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	53	43	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	57	47	1	4	5	0
22	A	1	57	47	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	61	51	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	53	43	1	4	5	0
22	A	1	58	48	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	45	35	1	4	5	0

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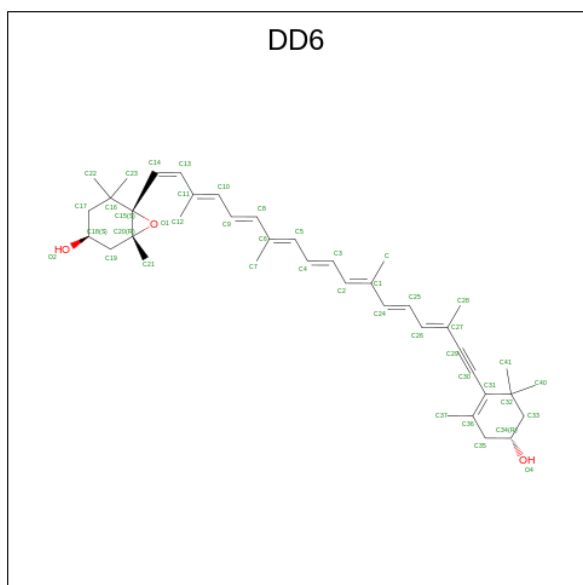
Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
22	A	1	65	55	1	4	5	0
22	A	1	61	51	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	62	52	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	52	42	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	45	35	1	4	5	0
22	A	1	61	51	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	50	40	1	4	5	0
22	A	1	52	42	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	65	55	1	4	5	0
22	A	1	55	45	1	4	5	0
22	A	1	65	55	1	4	5	0

- Molecule 23 is PHYLLOQUINONE (CCD ID: PQN) (formula: $C_{31}H_{46}O_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
23	B	1	Total	C	O	0
			33	31	2	
23	A	1	Total	C	O	0
			33	31	2	

- Molecule 24 is (3S,3'R,5R,6S,7cis)-7',8'-didehydro-5,6-dihydro-5,6-epoxy-beta,beta-carotene-3,3'-diol (CCD ID: DD6) (formula: $C_{40}H_{54}O_3$) (labeled as "Ligand of Interest" by depositor).



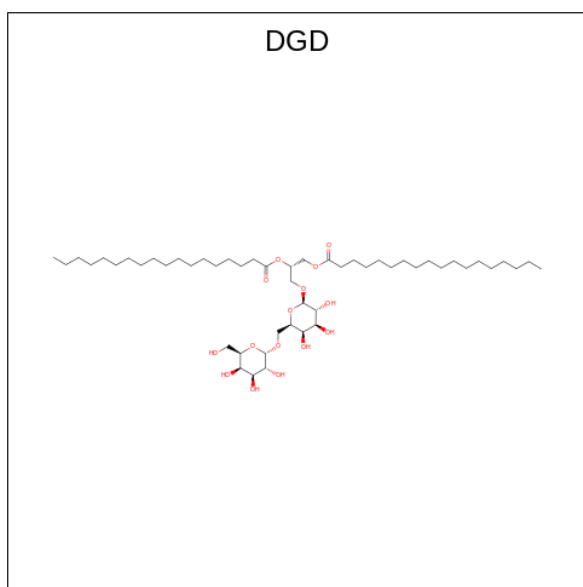
Mol	Chain	Residues	Atoms			AltConf
24	B	1	Total 43	C 40	O 3	0
24	F	1	Total 43	C 40	O 3	0
24	G	1	Total 43	C 40	O 3	0
24	G	1	Total 43	C 40	O 3	0
24	H	1	Total 43	C 40	O 3	0
24	H	1	Total 43	C 40	O 3	0
24	I	1	Total 43	C 40	O 3	0
24	I	1	Total 43	C 40	O 3	0
24	J	1	Total 43	C 40	O 3	0
24	K	1	Total 43	C 40	O 3	0
24	K	1	Total 43	C 40	O 3	0
24	L	1	Total 43	C 40	O 3	0
24	L	1	Total 43	C 40	O 3	0
24	L	1	Total 43	C 40	O 3	0
24	N	1	Total 43	C 40	O 3	0
24	N	1	Total 43	C 40	O 3	0
24	O	1	Total 43	C 40	O 3	0
24	O	1	Total 43	C 40	O 3	0
24	P	1	Total 43	C 40	O 3	0
24	P	1	Total 43	C 40	O 3	0
24	Q	1	Total 43	C 40	O 3	0
24	Q	1	Total 43	C 40	O 3	0

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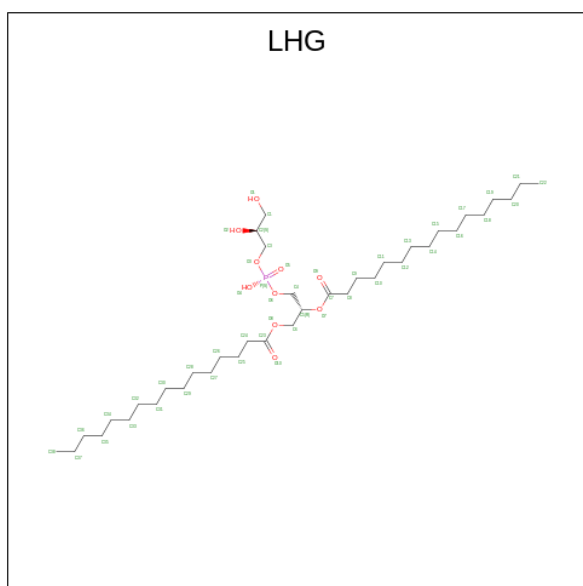
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
24	R	1	43	40	3	0
24	R	1	43	40	3	0
24	S	1	43	40	3	0
24	S	1	43	40	3	0
24	T	1	43	40	3	0
24	T	1	43	40	3	0
24	U	1	43	40	3	0
24	U	1	43	40	3	0
24	V	1	43	40	3	0
24	V	1	43	40	3	0
24	W	1	43	40	3	0
24	W	1	43	40	3	0
24	W	1	43	40	3	0
24	X	1	43	40	3	0
24	X	1	43	40	3	0
24	X	1	43	40	3	0
24	X	1	43	40	3	0
24	A	1	43	40	3	0
24	A	1	43	40	3	0
24	A	1	43	40	3	0

- Molecule 25 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (CCD ID: DGD) (formula: C₅₁H₉₆O₁₅) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
25	B	1	66	51	15	0
25	F	1	34	29	5	0
25	O	1	60	45	15	0

- Molecule 26 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula: $C_{38}H_{75}O_{10}P$) (labeled as "Ligand of Interest" by depositor).



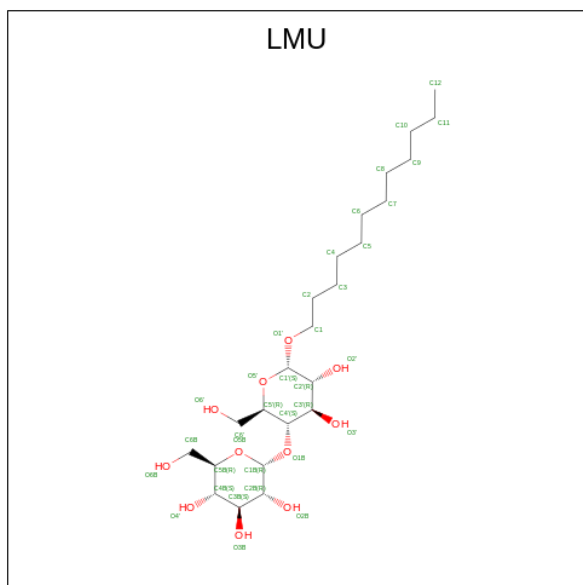
Mol	Chain	Residues	Atoms				AltConf
26	B	1	Total	C	O	P	0
			27	16	10	1	
26	B	1	Total	C	O	P	0
			42	31	10	1	
26	G	1	Total	C	O	P	0
			32	21	10	1	
26	H	1	Total	C	O	P	0
			27	16	10	1	
26	K	1	Total	C	O	P	0
			39	28	10	1	
26	K	1	Total	C	O	P	0
			33	22	10	1	
26	L	1	Total	C	O	P	0
			42	31	10	1	
26	N	1	Total	C	O	P	0
			28	17	10	1	
26	N	1	Total	C	O	P	0
			43	32	10	1	
26	O	1	Total	C	O	P	0
			34	23	10	1	
26	O	1	Total	C	O	P	0
			49	38	10	1	
26	O	1	Total	C	O	P	0
			43	32	10	1	
26	O	1	Total	C	O	P	0
			42	31	10	1	
26	P	1	Total	C	O	P	0
			40	29	10	1	
26	Q	1	Total	C	O	P	0
			44	33	10	1	
26	R	1	Total	C	O	P	0
			42	31	10	1	
26	S	1	Total	C	O	P	0
			32	21	10	1	
26	T	1	Total	C	O	P	0
			42	31	10	1	
26	U	1	Total	C	O	P	0
			25	16	8	1	
26	W	1	Total	C	O	P	0
			42	31	10	1	
26	X	1	Total	C	O	P	0
			42	31	10	1	
26	A	1	Total	C	O	P	0
			49	38	10	1	

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Mol	Chain	Residues	Atoms			AltConf	
			Total	C	O		P
26	A	1	49	38	10	1	0

- Molecule 27 is DODECYL-ALPHA-D-MALTOSE (CCD ID: LMU) (formula: $C_{24}H_{46}O_{11}$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
27	B	1	24	18	6	0
27	B	1	24	18	6	0
27	B	1	19	14	5	0
27	B	1	24	18	6	0
27	B	1	24	18	6	0
27	B	1	35	24	11	0
27	B	1	15	14	1	0
27	F	1	21	15	6	0
27	F	1	21	15	6	0
27	G	1	21	15	6	0

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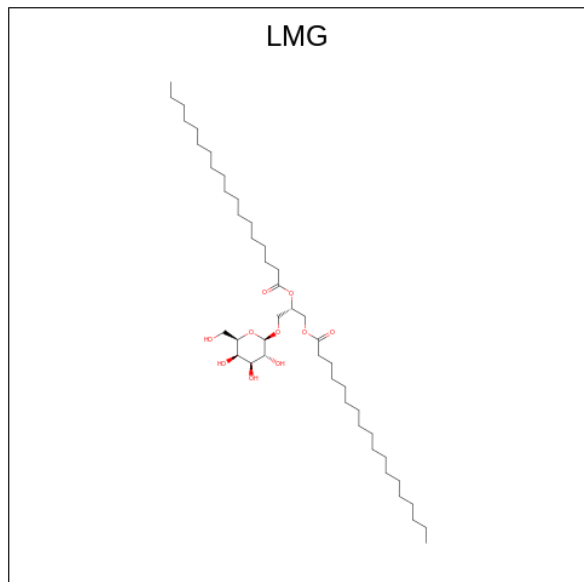
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
27	H	1	21	15	6	0
27	H	1	24	18	6	0
27	H	1	33	23	10	0
27	J	1	34	24	10	0
27	K	1	33	23	10	0
27	L	1	24	18	6	0
27	L	1	27	21	6	0
27	L	1	34	24	10	0
27	M	1	24	18	6	0
27	O	1	24	18	6	0
27	O	1	35	24	11	0
27	O	1	26	22	4	0
27	O	1	35	24	11	0
27	T	1	21	15	6	0
27	T	1	24	18	6	0
27	T	1	24	18	6	0
27	U	1	35	24	11	0
27	U	1	35	24	11	0
27	U	1	24	18	6	0
27	W	1	24	18	6	0
27	X	1	24	18	6	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
27	X	1	35	24	11	0
27	A	1	24	18	6	0
27	A	1	35	24	11	0
27	A	1	21	15	6	0
27	A	1	24	18	6	0

- Molecule 28 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula: $C_{45}H_{86}O_{10}$) (labeled as "Ligand of Interest" by depositor).



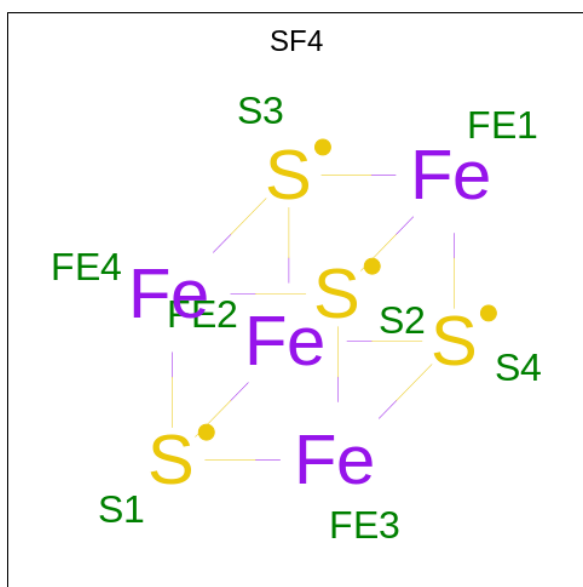
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
28	B	1	43	33	10	0
28	B	1	53	43	10	0
28	F	1	42	32	10	0
28	G	1	46	36	10	0
28	H	1	43	33	10	0
28	H	1	40	30	10	0

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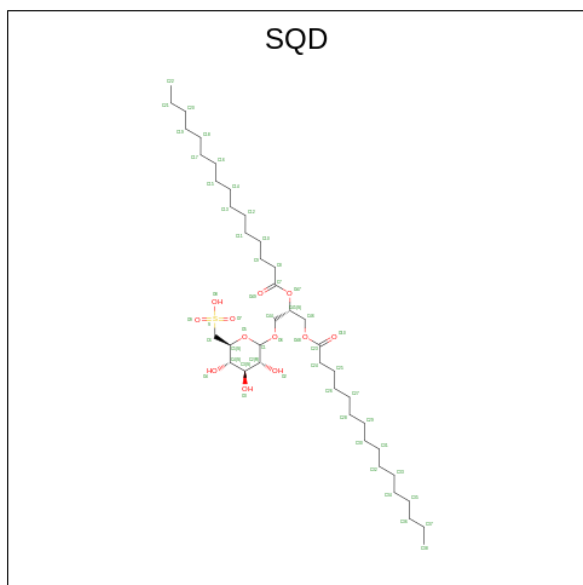
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
28	H	1	37	27	10	0
28	I	1	37	27	10	0
28	I	1	50	41	9	0
28	J	1	55	45	10	0
28	K	1	43	33	10	0
28	K	1	49	39	10	0
28	K	1	43	33	10	0
28	L	1	51	41	10	0
28	N	1	44	34	10	0
28	Q	1	37	27	10	0
28	T	1	41	31	10	0
28	U	1	53	43	10	0
28	U	1	49	39	10	0
28	W	1	48	38	10	0
28	A	1	41	31	10	0

- Molecule 29 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe₄S₄) (labeled as "Ligand of Interest" by depositor).



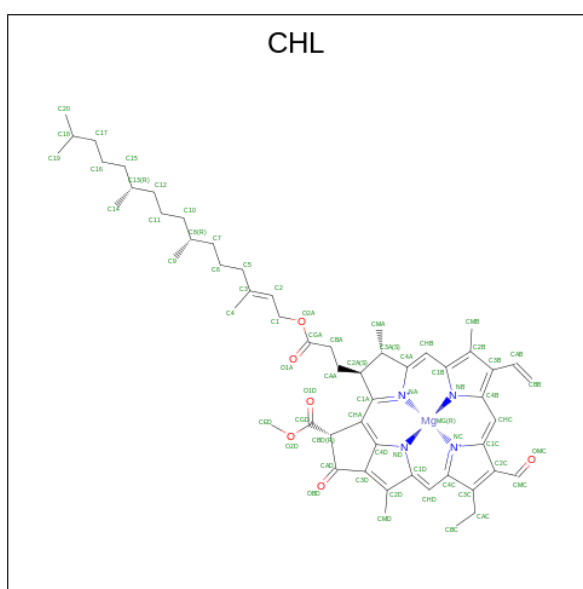
Mol	Chain	Residues	Atoms		AltConf
29	B	1	Total	Fe S	0
			8	4 4	
29	C	1	Total	Fe S	0
			8	4 4	
29	C	1	Total	Fe S	0
			8	4 4	

- Molecule 30 is 1,2-DI-O-ACYL-3-O-[6-DEOXY-6-SULFO-ALPHA-D-GLUCOPYRANOSYL]-SN-GLYCEROL (CCD ID: SQD) (formula: C₄₁H₇₈O₁₂S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
30	F	1	Total	C	O	S	0
			42	29	12	1	
30	K	1	Total	C	O	S	0
			43	30	12	1	
30	O	1	Total	C	O	S	0
			42	29	12	1	
30	V	1	Total	C	O	S	0
			27	16	10	1	

- Molecule 31 is CHLOROPHYLL B (CCD ID: CHL) (formula: $C_{55}H_{70}MgN_4O_6$) (labeled as "Ligand of Interest" by depositor).



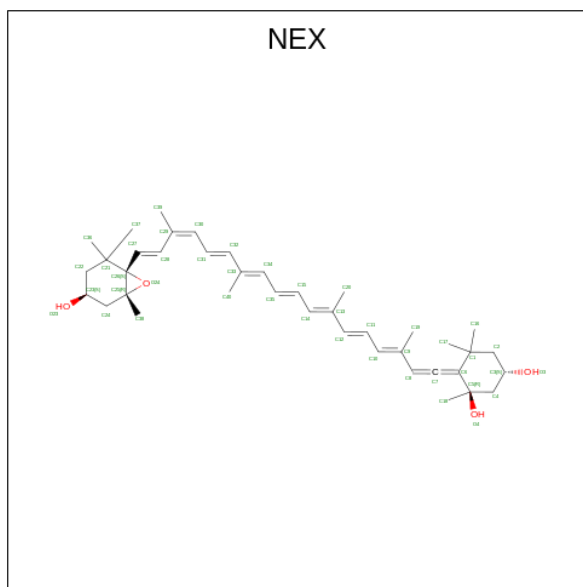
Mol	Chain	Residues	Atoms					AltConf
31	U	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
31	U	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
31	V	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
31	V	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
31	W	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
31	W	1	Total	C	Mg	N	O	0
			66	55	1	4	6	
31	W	1	Total	C	Mg	N	O	0
			66	55	1	4	6	

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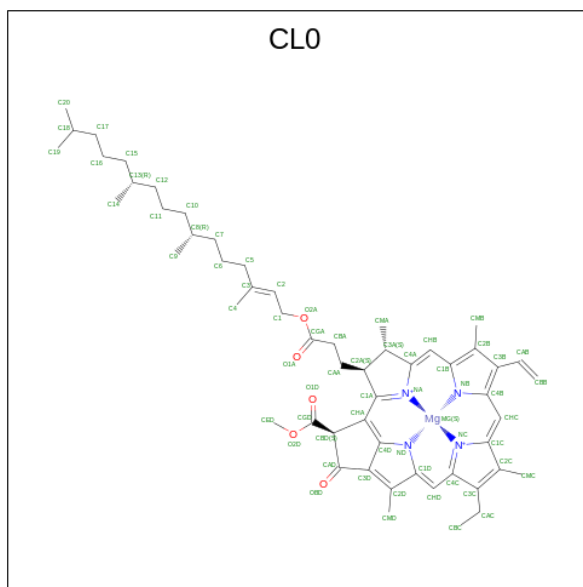
Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
31	X	1	46	35	1	4	6	0

- Molecule 32 is (1R,3R)-6-[(3E,5E,7E,9E,11E,13E,15E,17E)-18-[(1S,4R,6R)-4-HYDROXY-2,2,6-TRIMETHYL-7-OXABICYCLO[4.1.0]HEPT-1-YL]-3,7,12,16-TETRAMETHYLOCTADEC-1,3,5,7,9,11,13,15,17-NONAENYLIDENE]-1,5,5-TRIMETHYLCYCLOHEXANE-1,3-DIOL (CCD ID: NEX) (formula: C₄₀H₅₆O₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
32	U	1	44	40	4	0
32	V	1	44	40	4	0

- Molecule 33 is CHLOROPHYLL A ISOMER (CCD ID: CL0) (formula: C₅₅H₇₂MgN₄O₅) (labeled as "Ligand of Interest" by depositor).

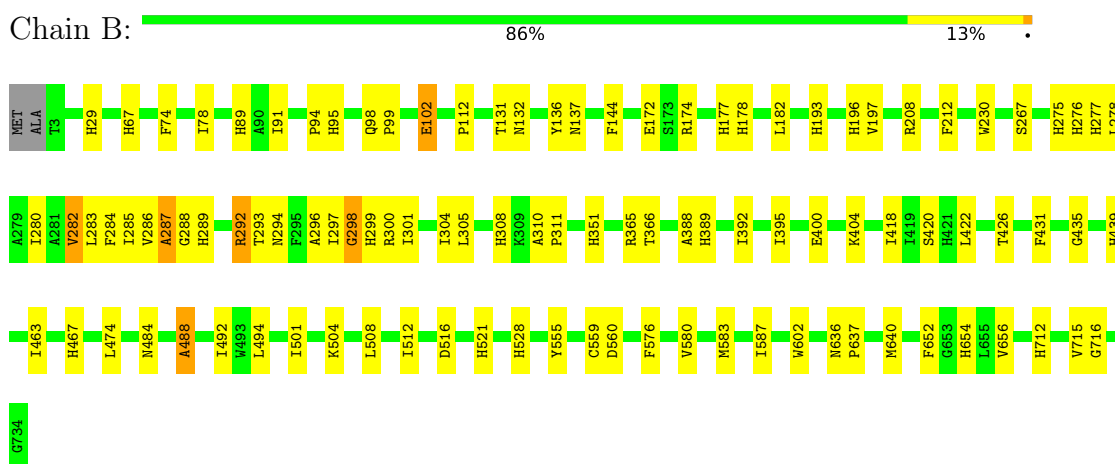


Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
33	A	1	65	55	1	4	5	0

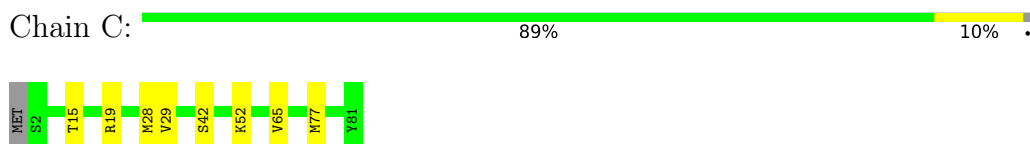
3 Residue-property plots [i](#)

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

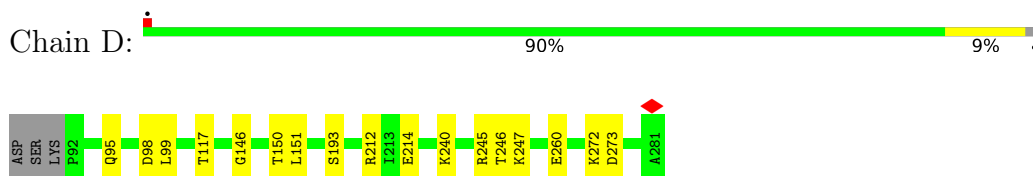
- Molecule 1: Photosystem I P700 chlorophyll a apoprotein A2



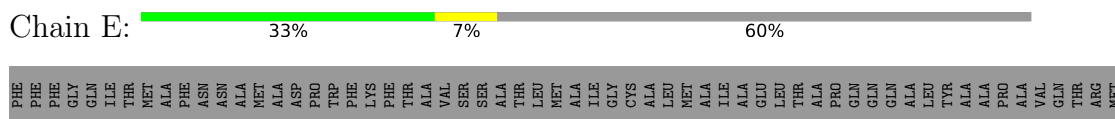
- Molecule 2: Photosystem I iron-sulfur center

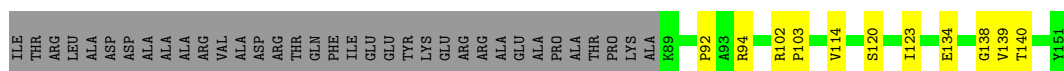


- Molecule 3: PsaD

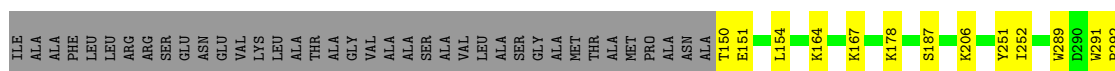
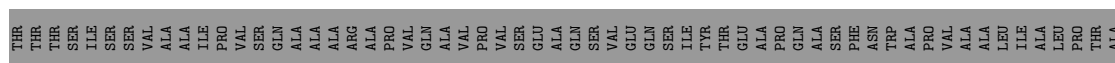
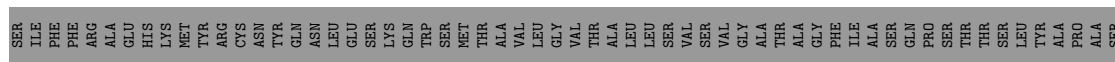


- Molecule 4: PsaE

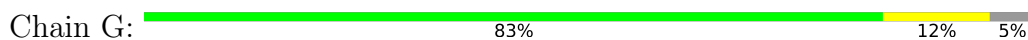




• Molecule 5: PsaF



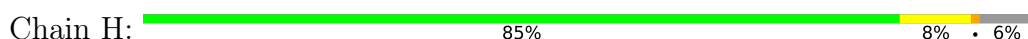
• Molecule 6: Lhce5.7



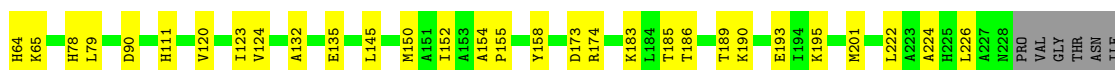
• Molecule 6: Lhce5.7



• Molecule 7: Lhce7.3

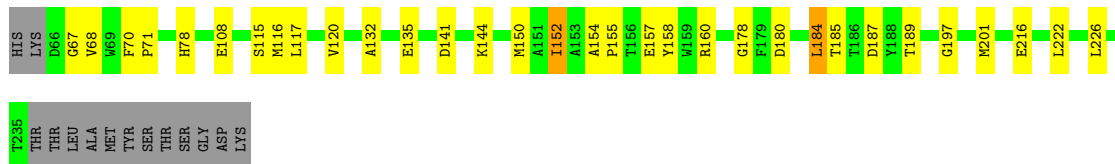


• Molecule 8: Lhce5

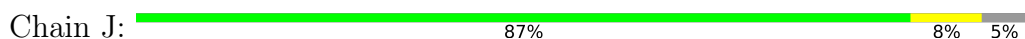


THR
THR
THR
LEU
ALA
MET
TVR
SER
SER
GLY
ASP
LYS

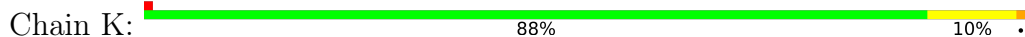
• Molecule 8: Lhce5



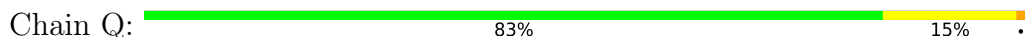
• Molecule 9: PsaJ



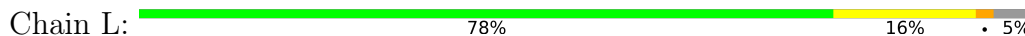
• Molecule 10: LhcE6



• Molecule 10: LhcE6

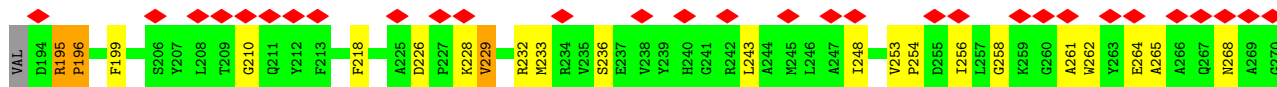
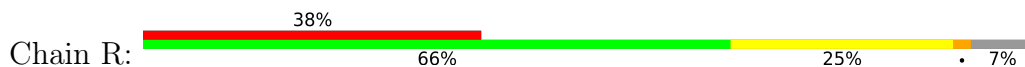


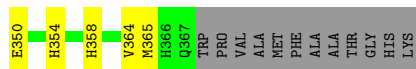
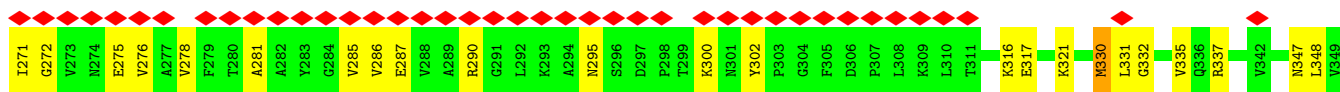
• Molecule 11: Lhce8



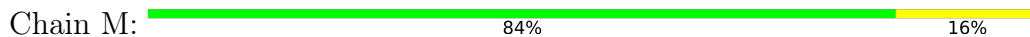
PHE
ALA
ALA
THR
GLY
HIS
LYS

• Molecule 11: Lhce8

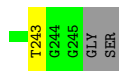
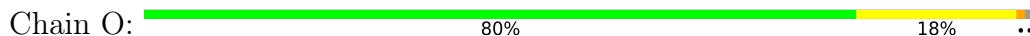




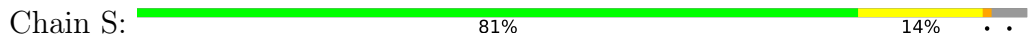
• Molecule 12: PsaM



• Molecule 13: LhcE7



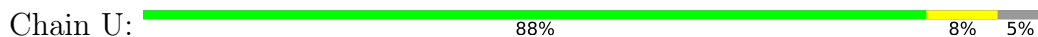
• Molecule 14: Lhce10



• Molecule 15: LhcE11

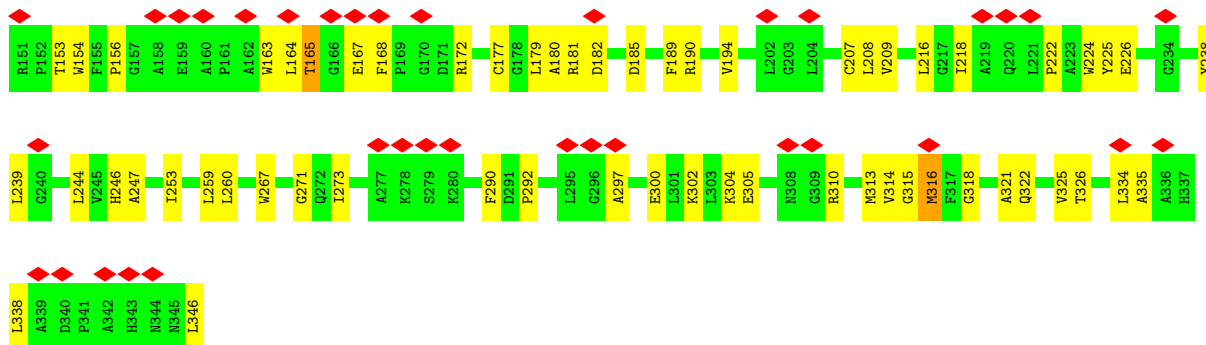


• Molecule 16: LhcbM4.6

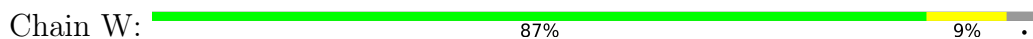


• Molecule 17: LhcbM4.10





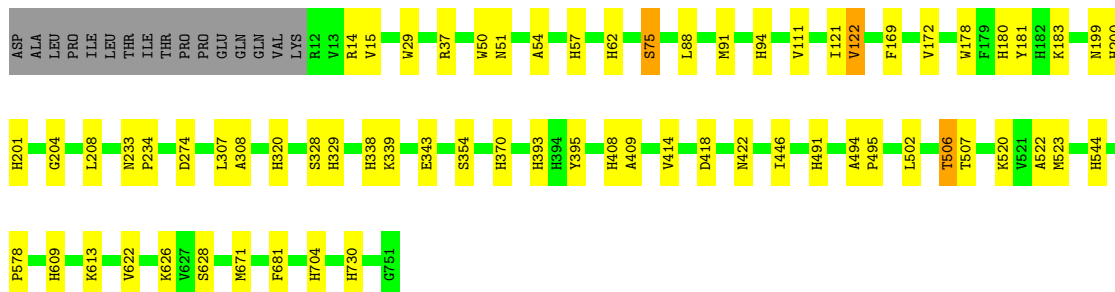
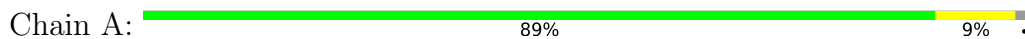
• Molecule 18: LhcbM2



• Molecule 19: LhcbM8



• Molecule 20: PsaA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	51871	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50.0	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.393	Depositor
Minimum map value	-0.080	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	496.64, 496.64, 496.64	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.97, 0.97, 0.97	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: DGD, NEX, CL0, LMU, SQD, SF4, CHL, LMG, BCR, CLA, PQN, LHG, DD6

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	B	0.35	1/6078 (0.0%)	0.49	4/8287 (0.0%)
2	C	0.33	0/606	0.53	0/819
3	D	0.14	0/1525	0.38	0/2065
4	E	0.13	0/521	0.31	0/707
5	F	0.17	0/1288	0.46	0/1747
6	G	0.17	0/1360	0.39	0/1855
6	P	0.41	0/1279	0.68	1/1744 (0.1%)
7	H	0.32	0/1381	0.52	3/1876 (0.2%)
8	I	0.31	0/1278	0.56	0/1741
8	N	0.24	0/1307	0.46	0/1784
9	J	0.14	0/314	0.32	0/429
10	K	0.21	0/1492	0.49	0/2035
10	Q	0.20	0/1489	0.48	0/2034
11	L	0.35	0/1401	0.58	2/1910 (0.1%)
11	R	0.16	0/1365	0.41	0/1858
12	M	0.13	0/246	0.32	0/332
13	O	0.20	0/1397	0.46	0/1898
14	S	0.26	0/1370	0.46	0/1865
15	T	0.16	0/1320	0.40	0/1784
16	U	0.15	0/1566	0.37	0/2141
17	V	0.14	0/1566	0.33	0/2141
18	W	0.16	0/1719	0.38	0/2343
19	X	0.17	0/1731	0.37	0/2351
20	A	0.35	0/6073	0.49	1/8279 (0.0%)
All	All	0.27	1/39672 (0.0%)	0.47	11/54025 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	287	ALA	CA-C	-6.82	1.46	1.53

The worst 5 of 11 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	P	395	GLY	N-CA-C	-9.42	102.67	114.92
1	B	298	GLY	N-CA-C	8.87	120.52	111.56
1	B	287	ALA	N-CA-C	-6.79	102.39	111.96
7	H	149	GLY	O-C-N	-6.78	115.67	122.18
7	H	152	VAL	CB-CA-C	-5.83	104.18	112.22

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	B	5868	0	5667	91	0
2	C	596	0	571	6	0
3	D	1489	0	1462	9	0
4	E	509	0	489	5	0
5	F	1262	0	1293	10	0
6	G	1323	0	1305	15	0
6	P	1243	0	1218	39	0
7	H	1342	0	1315	9	0
8	I	1242	0	1213	25	0
8	N	1271	0	1245	27	0
9	J	305	0	314	4	0
10	K	1444	0	1391	17	0
10	Q	1440	0	1388	26	0
11	L	1364	0	1346	27	0
11	R	1331	0	1315	45	0
12	M	242	0	258	8	0
13	O	1359	0	1328	29	0
14	S	1327	0	1271	18	0
15	T	1283	0	1238	6	0
16	U	1517	0	1466	14	0
17	V	1513	0	1467	56	0
18	W	1669	0	1647	15	0
19	X	1688	0	1693	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	A	5872	0	5735	55	0
21	A	160	0	224	8	0
21	B	240	0	336	21	0
21	J	40	0	56	1	0
21	M	40	0	56	3	0
22	A	2638	0	2742	77	0
22	B	2341	0	2395	78	0
22	F	165	0	154	6	0
22	G	571	0	498	10	0
22	H	698	0	626	10	0
22	I	567	0	490	17	0
22	J	50	0	39	1	0
22	K	765	0	758	33	0
22	L	703	0	694	30	0
22	N	570	0	504	19	0
22	O	651	0	585	20	0
22	P	446	0	326	10	0
22	Q	738	0	655	20	0
22	R	678	0	653	29	0
22	S	621	0	530	14	0
22	T	625	0	603	10	0
22	U	676	0	586	14	0
22	V	625	0	548	32	0
22	W	733	0	694	18	0
22	X	741	0	716	7	0
23	A	33	0	46	2	0
23	B	33	0	46	1	0
24	A	129	0	0	0	0
24	B	43	0	0	1	0
24	F	43	0	0	0	0
24	G	86	0	0	0	0
24	H	86	0	0	0	0
24	I	86	0	0	0	0
24	J	43	0	0	0	0
24	K	86	0	0	0	0
24	L	129	0	0	0	0
24	N	86	0	0	0	0
24	O	86	0	0	0	0
24	P	86	0	0	0	0
24	Q	86	0	0	1	0
24	R	86	0	0	0	0
24	S	86	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	T	86	0	0	0	0
24	U	86	0	0	0	0
24	V	86	0	0	0	0
24	W	129	0	0	0	0
24	X	172	0	0	0	0
25	B	66	0	96	6	0
25	F	34	0	50	2	0
25	O	60	0	81	3	0
26	A	98	0	148	3	0
26	B	69	0	81	8	0
26	G	32	0	34	0	0
26	H	27	0	24	0	0
26	K	72	0	84	3	0
26	L	42	0	57	3	0
26	N	71	0	82	2	0
26	O	168	0	228	4	0
26	P	40	0	53	1	0
26	Q	44	0	61	1	0
26	R	42	0	57	3	0
26	S	32	0	34	2	0
26	T	42	0	57	1	0
26	U	25	0	21	0	0
26	W	42	0	57	2	0
26	X	42	0	57	0	0
27	A	104	0	142	2	0
27	B	165	0	233	10	0
27	F	42	0	52	1	0
27	G	21	0	26	0	0
27	H	78	0	103	2	0
27	J	34	0	44	0	0
27	K	33	0	42	2	0
27	L	85	0	110	6	0
27	M	24	0	35	1	0
27	O	120	0	155	4	0
27	T	69	0	96	2	0
27	U	94	0	127	2	0
27	W	24	0	35	0	0
27	X	59	0	81	0	0
28	A	41	0	52	0	0
28	B	96	0	138	4	0
28	F	42	0	54	3	0
28	G	46	0	65	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	H	120	0	150	2	0
28	I	87	0	117	1	0
28	J	55	0	86	1	0
28	K	135	0	183	3	0
28	L	51	0	75	0	0
28	N	44	0	61	1	0
28	Q	37	0	44	2	0
28	T	41	0	52	2	0
28	U	102	0	150	4	0
28	W	48	0	69	3	0
29	B	8	0	0	0	0
29	C	16	0	0	0	0
30	F	42	0	48	2	0
30	K	43	0	50	1	0
30	O	42	0	48	8	0
30	V	27	0	25	1	0
31	U	92	0	62	7	0
31	V	92	0	62	14	0
31	W	178	0	171	10	0
31	X	46	0	31	0	0
32	U	44	0	56	4	0
32	V	44	0	56	9	0
33	A	65	0	72	6	0
All	All	60137	0	57815	901	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 8.

The worst 5 of 901 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)
23:B:840:PQN:H291	25:B:847:DGD:HBT1	1.23	1.10
31:V:605:CHL:HAB	31:V:606:CHL:OMC	1.50	1.08
8:N:184:LEU:HD12	22:N:607:CLA:H42	1.41	1.01
6:P:391:ALA:HB2	6:P:404:ASP:HB3	1.47	0.96
1:B:131:THR:HB	12:M:1:MET:HE1	1.46	0.94

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	B	730/734 (100%)	698 (96%)	29 (4%)	3 (0%)	30	34
2	C	78/81 (96%)	74 (95%)	4 (5%)	0	100	100
3	D	188/193 (97%)	182 (97%)	6 (3%)	0	100	100
4	E	61/158 (39%)	61 (100%)	0	0	100	100
5	F	164/325 (50%)	161 (98%)	3 (2%)	0	100	100
6	G	173/184 (94%)	169 (98%)	4 (2%)	0	100	100
6	P	162/184 (88%)	146 (90%)	16 (10%)	0	100	100
7	H	171/185 (92%)	165 (96%)	6 (4%)	0	100	100
8	I	163/184 (89%)	160 (98%)	3 (2%)	0	100	100
8	N	168/184 (91%)	155 (92%)	13 (8%)	0	100	100
9	J	35/39 (90%)	35 (100%)	0	0	100	100
10	K	180/184 (98%)	175 (97%)	5 (3%)	0	100	100
10	Q	180/184 (98%)	168 (93%)	12 (7%)	0	100	100
11	L	176/187 (94%)	167 (95%)	8 (4%)	1 (1%)	22	24
11	R	172/187 (92%)	163 (95%)	8 (5%)	1 (1%)	22	24
12	M	29/31 (94%)	29 (100%)	0	0	100	100
13	O	173/177 (98%)	160 (92%)	12 (7%)	1 (1%)	22	24
14	S	170/180 (94%)	166 (98%)	4 (2%)	0	100	100
15	T	165/173 (95%)	158 (96%)	7 (4%)	0	100	100
16	U	197/209 (94%)	186 (94%)	11 (6%)	0	100	100
17	V	194/196 (99%)	183 (94%)	11 (6%)	0	100	100
18	W	218/228 (96%)	209 (96%)	9 (4%)	0	100	100
19	X	221/223 (99%)	215 (97%)	6 (3%)	0	100	100
20	A	738/756 (98%)	715 (97%)	22 (3%)	1 (0%)	48	59
All	All	4906/5366 (91%)	4700 (96%)	199 (4%)	7 (0%)	50	59

5 of 7 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	R	196	PRO
1	B	288	GLY
1	B	284	PHE
11	L	367	GLN
1	B	488	ALA

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 PDB entries followed by that with respect to all EM entries.

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	B	608/609 (100%)	600 (99%)	8 (1%)	65 77
2	C	69/70 (99%)	67 (97%)	2 (3%)	37 48
3	D	157/160 (98%)	154 (98%)	3 (2%)	52 65
4	E	54/124 (44%)	52 (96%)	2 (4%)	29 38
5	F	132/251 (53%)	129 (98%)	3 (2%)	45 56
6	G	133/140 (95%)	132 (99%)	1 (1%)	79 88
6	P	124/140 (89%)	118 (95%)	6 (5%)	21 26
7	H	141/149 (95%)	139 (99%)	2 (1%)	62 75
8	I	120/136 (88%)	114 (95%)	6 (5%)	20 25
8	N	124/136 (91%)	120 (97%)	4 (3%)	34 43
9	J	34/36 (94%)	34 (100%)	0	100 100
10	K	144/146 (99%)	139 (96%)	5 (4%)	31 40
10	Q	144/146 (99%)	141 (98%)	3 (2%)	48 61
11	L	139/145 (96%)	134 (96%)	5 (4%)	30 39
11	R	136/145 (94%)	132 (97%)	4 (3%)	37 48
12	M	26/26 (100%)	26 (100%)	0	100 100
13	O	143/144 (99%)	138 (96%)	5 (4%)	31 40
14	S	133/137 (97%)	130 (98%)	3 (2%)	45 56
15	T	126/131 (96%)	125 (99%)	1 (1%)	79 88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	U	152/158 (96%)	150 (99%)	2 (1%)	65	77
17	V	151/151 (100%)	148 (98%)	3 (2%)	50	63
18	W	167/172 (97%)	165 (99%)	2 (1%)	67	80
19	X	173/173 (100%)	171 (99%)	2 (1%)	67	80
20	A	621/636 (98%)	612 (99%)	9 (1%)	62	75
All	All	3951/4261 (93%)	3870 (98%)	81 (2%)	49	61

5 of 81 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
11	R	278	VAL
19	X	320	ASP
14	S	78	THR
17	V	165	THR
20	A	328	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 35 such sidechains are listed below:

Mol	Chain	Res	Type
17	V	322	GLN
19	X	123	HIS
20	A	34	HIS
11	L	336	GLN
11	L	211	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](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry

436 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
24	DD6	G	612	-	39,45,45	2.00	3 (7%)	52,67,67	1.81	11 (21%)
31	CHL	V	606	-	46,54,74	2.45	10 (21%)	49,90,114	1.39	8 (16%)
26	LHG	P	601	-	39,39,48	1.20	6 (15%)	42,45,54	0.98	2 (4%)
22	CLA	N	601	8	45,53,73	1.78	6 (13%)	52,89,113	1.55	6 (11%)
28	LMG	A	855	-	41,41,55	0.84	0	49,49,63	1.26	5 (10%)
22	CLA	A	838	20	52,60,73	1.66	6 (11%)	60,97,113	1.55	9 (15%)
22	CLA	H	307	7	60,68,73	1.57	5 (8%)	70,107,113	1.40	6 (8%)
24	DD6	Q	614	-	39,45,45	1.97	3 (7%)	52,67,67	1.79	11 (21%)
22	CLA	R	608	26	54,62,73	1.66	6 (11%)	62,99,113	1.43	7 (11%)
21	BCR	A	849	-	41,41,41	0.73	0	56,56,56	1.89	13 (23%)
22	CLA	G	611	6	45,53,73	1.79	5 (11%)	52,89,113	1.58	7 (13%)
21	BCR	M	101	-	41,41,41	0.75	0	56,56,56	2.02	16 (28%)
22	CLA	Q	610	26	65,73,73	1.51	6 (9%)	76,113,113	1.34	7 (9%)
24	DD6	I	612	-	39,45,45	1.99	3 (7%)	52,67,67	1.72	10 (19%)
22	CLA	L	417	11	65,73,73	1.50	5 (7%)	76,113,113	1.40	7 (9%)
22	CLA	N	605	-	45,53,73	1.76	6 (13%)	52,89,113	1.64	6 (11%)
22	CLA	W	412	26	60,68,73	1.56	6 (10%)	70,107,113	1.41	8 (11%)
22	CLA	O	312	13	60,68,73	1.52	6 (10%)	70,107,113	1.46	8 (11%)
27	LMU	A	854	-	36,36,36	0.42	0	47,47,47	0.69	1 (2%)
28	LMG	J	101	-	55,55,55	0.70	0	63,63,63	1.35	7 (11%)
22	CLA	T	610	-	45,53,73	1.80	5 (11%)	52,89,113	1.54	6 (11%)
22	CLA	S	603	14	45,53,73	1.77	6 (13%)	52,89,113	1.60	6 (11%)
22	CLA	U	401	-	55,63,73	1.62	5 (9%)	64,101,113	1.45	8 (12%)
22	CLA	B	834	1	65,73,73	1.46	6 (9%)	76,113,113	1.42	6 (7%)
22	CLA	B	809	1	65,73,73	1.48	6 (9%)	76,113,113	1.40	7 (9%)
22	CLA	U	414	16	61,69,73	1.54	5 (8%)	71,108,113	1.42	7 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	A	828	20	65,73,73	1.47	5 (7%)	76,113,113	1.40	7 (9%)
22	CLA	K	608	10	65,73,73	1.44	8 (12%)	76,113,113	1.38	10 (13%)
22	CLA	K	605	-	65,73,73	1.48	5 (7%)	76,113,113	1.35	6 (7%)
22	CLA	O	319	13	45,53,73	1.77	5 (11%)	52,89,113	1.59	7 (13%)
22	CLA	Q	603	10	45,53,73	1.77	6 (13%)	52,89,113	1.65	7 (13%)
28	LMG	I	615	-	49,50,55	0.75	0	54,57,63	1.38	4 (7%)
22	CLA	X	403	19	65,73,73	1.48	6 (9%)	76,113,113	1.36	7 (9%)
22	CLA	X	413	19	45,53,73	1.79	5 (11%)	52,89,113	1.58	6 (11%)
26	LHG	O	323	-	42,42,48	1.18	6 (14%)	45,48,54	0.95	2 (4%)
22	CLA	F	403	-	65,73,73	1.50	6 (9%)	76,113,113	1.37	8 (10%)
24	DD6	N	612	-	39,45,45	1.99	3 (7%)	52,67,67	1.87	13 (25%)
24	DD6	F	406	-	39,45,45	2.01	3 (7%)	52,67,67	1.89	16 (30%)
22	CLA	F	404	-	55,63,73	1.61	6 (10%)	64,101,113	1.51	7 (10%)
22	CLA	G	607	-	60,68,73	1.53	6 (10%)	70,107,113	1.38	7 (10%)
22	CLA	R	605	-	65,73,73	1.50	6 (9%)	76,113,113	1.38	8 (10%)
24	DD6	I	613	-	39,45,45	2.05	3 (7%)	52,67,67	1.90	16 (30%)
22	CLA	K	606	-	50,58,73	1.68	6 (12%)	58,95,113	1.56	8 (13%)
22	CLA	B	829	-	45,53,73	1.70	10 (22%)	52,89,113	1.65	7 (13%)
27	LMU	T	617	-	24,24,36	0.42	0	29,29,47	0.66	0
22	CLA	K	603	10	60,68,73	1.54	5 (8%)	70,107,113	1.40	7 (10%)
22	CLA	G	609	-	45,53,73	1.78	6 (13%)	52,89,113	1.57	7 (13%)
22	CLA	L	404	-	56,64,73	1.59	6 (10%)	65,102,113	1.48	8 (12%)
22	CLA	N	603	8	65,73,73	1.49	6 (9%)	76,113,113	1.38	7 (9%)
23	PQN	A	843	-	34,34,34	1.59	2 (5%)	42,45,45	1.08	3 (7%)
22	CLA	X	417	19	50,58,73	1.70	5 (10%)	58,95,113	1.58	9 (15%)
22	CLA	A	824	20	65,73,73	1.51	6 (9%)	76,113,113	1.37	9 (11%)
22	CLA	L	407	-	57,65,73	1.58	6 (10%)	66,103,113	1.44	7 (10%)
31	CHL	W	407	-	46,54,74	2.40	9 (19%)	49,90,114	1.39	7 (14%)
22	CLA	H	304	7	45,53,73	1.77	6 (13%)	52,89,113	1.61	7 (13%)
24	DD6	X	414	-	39,45,45	1.97	3 (7%)	52,67,67	1.81	12 (23%)
26	LHG	G	614	22	31,31,48	1.32	6 (19%)	34,37,54	1.06	2 (5%)
22	CLA	T	607	15	60,68,73	1.53	5 (8%)	70,107,113	1.42	7 (10%)
24	DD6	K	614	-	39,45,45	1.98	3 (7%)	52,67,67	1.86	15 (28%)
22	CLA	A	833	20	65,73,73	1.47	6 (9%)	76,113,113	1.39	8 (10%)
24	DD6	B	841	-	39,45,45	1.99	3 (7%)	52,67,67	1.99	13 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	U	406	-	56,64,73	1.61	5 (8%)	65,102,113	1.43	7 (10%)
22	CLA	B	808	1	55,63,73	1.61	5 (9%)	64,101,113	1.46	6 (9%)
22	CLA	A	813	20	65,73,73	1.49	6 (9%)	76,113,113	1.29	7 (9%)
31	CHL	U	408	-	46,54,74	2.45	10 (21%)	49,90,114	1.38	7 (14%)
22	CLA	L	408	11	60,68,73	1.50	8 (13%)	70,107,113	1.52	12 (17%)
22	CLA	S	614	-	45,53,73	1.76	6 (13%)	52,89,113	1.61	6 (11%)
27	LMU	U	424	-	24,24,36	0.42	0	29,29,47	0.58	0
22	CLA	B	828	1	65,73,73	1.48	6 (9%)	76,113,113	1.40	8 (10%)
28	LMG	L	401	-	51,51,55	0.71	0	59,59,63	1.32	5 (8%)
22	CLA	A	841	20	65,73,73	1.48	6 (9%)	76,113,113	1.35	6 (7%)
24	DD6	A	859	-	39,45,45	2.07	3 (7%)	52,67,67	1.88	13 (25%)
22	CLA	Q	613	10	45,53,73	1.78	5 (11%)	52,89,113	1.59	9 (17%)
22	CLA	T	604	15	65,73,73	1.47	5 (7%)	76,113,113	1.40	8 (10%)
30	SQD	V	618	-	26,27,54	0.52	1 (3%)	33,36,65	0.45	0
22	CLA	B	820	1	53,61,73	1.69	6 (11%)	61,98,113	1.63	7 (11%)
22	CLA	R	615	11	65,73,73	1.50	5 (7%)	76,113,113	1.36	8 (10%)
22	CLA	I	611	8	45,53,73	1.82	5 (11%)	52,89,113	1.61	8 (15%)
22	CLA	V	611	-	45,53,73	1.82	6 (13%)	52,89,113	1.56	6 (11%)
22	CLA	B	838	1	45,53,73	1.83	7 (15%)	52,89,113	1.56	6 (11%)
22	CLA	P	610	6	41,49,73	1.88	6 (14%)	47,84,113	1.69	8 (17%)
22	CLA	B	837	-	45,53,73	1.79	6 (13%)	52,89,113	1.58	6 (11%)
27	LMU	B	855	-	24,24,36	0.45	0	29,29,47	0.67	0
22	CLA	U	410	16	55,63,73	1.61	6 (10%)	64,101,113	1.44	7 (10%)
22	CLA	B	830	1	65,73,73	1.42	8 (12%)	76,113,113	1.42	8 (10%)
22	CLA	B	814	1	45,53,73	1.77	6 (13%)	52,89,113	1.59	6 (11%)
26	LHG	N	614	22	27,27,48	1.38	6 (22%)	30,33,54	1.10	2 (6%)
22	CLA	S	606	14	50,58,73	1.71	6 (12%)	58,95,113	1.51	8 (13%)
22	CLA	U	405	16	57,65,73	1.60	6 (10%)	66,103,113	1.45	6 (9%)
32	NEX	V	616	-	38,46,46	0.37	1 (2%)	50,70,70	0.70	2 (4%)
27	LMU	L	418	-	24,24,36	0.48	0	29,29,47	0.74	0
22	CLA	P	608	-	45,53,73	1.83	6 (13%)	52,89,113	1.58	8 (15%)
26	LHG	A	846	22	48,48,48	1.11	6 (12%)	51,54,54	0.92	2 (3%)
22	CLA	N	606	8	65,73,73	1.53	6 (9%)	76,113,113	1.35	8 (10%)
28	LMG	H	317	-	43,43,55	0.79	1 (2%)	51,51,63	1.31	7 (13%)
27	LMU	T	618	-	24,24,36	0.44	0	29,29,47	0.66	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	B	832	1	62,70,73	1.51	6 (9%)	72,109,113	1.43	8 (11%)
22	CLA	H	302	7	45,53,73	1.80	5 (11%)	52,89,113	1.56	7 (13%)
22	CLA	L	412	11	45,53,73	1.79	6 (13%)	52,89,113	1.52	6 (11%)
22	CLA	B	821	1	60,68,73	1.56	5 (8%)	70,107,113	1.42	7 (10%)
22	CLA	X	408	19	65,73,73	1.47	6 (9%)	76,113,113	1.40	7 (9%)
28	LMG	Q	602	-	37,37,55	0.84	1 (2%)	45,45,63	1.28	5 (11%)
22	CLA	B	836	1	51,59,73	1.69	5 (9%)	59,96,113	1.50	7 (11%)
22	CLA	R	609	-	41,49,73	1.84	5 (12%)	47,84,113	1.70	7 (14%)
22	CLA	K	612	10	45,53,73	1.77	6 (13%)	52,89,113	1.56	7 (13%)
28	LMG	U	423	-	49,49,55	0.73	0	57,57,63	1.31	3 (5%)
22	CLA	W	419	18	45,53,73	1.78	5 (11%)	52,89,113	1.59	6 (11%)
22	CLA	B	807	1	65,73,73	1.49	7 (10%)	76,113,113	1.34	7 (9%)
22	CLA	S	604	-	60,68,73	1.55	6 (10%)	70,107,113	1.41	7 (10%)
22	CLA	B	813	1	65,73,73	1.49	5 (7%)	76,113,113	1.31	7 (9%)
22	CLA	B	815	1	52,60,73	1.67	6 (11%)	60,97,113	1.45	6 (10%)
22	CLA	Q	608	10	50,58,73	1.69	5 (10%)	58,95,113	1.50	8 (13%)
22	CLA	A	812	20	57,65,73	1.58	6 (10%)	66,103,113	1.43	8 (12%)
22	CLA	B	817	1	65,73,73	1.49	5 (7%)	76,113,113	1.39	7 (9%)
22	CLA	U	415	16	45,53,73	1.80	5 (11%)	52,89,113	1.53	6 (11%)
27	LMU	U	422	-	36,36,36	0.44	0	47,47,47	0.79	2 (4%)
26	LHG	K	619	-	32,32,48	1.31	6 (18%)	35,38,54	1.10	2 (5%)
24	DD6	G	613	-	39,45,45	2.03	3 (7%)	52,67,67	1.90	16 (30%)
22	CLA	A	829	20	65,73,73	1.49	6 (9%)	76,113,113	1.39	8 (10%)
28	LMG	B	852	-	43,43,55	0.84	0	51,51,63	1.27	4 (7%)
32	NEX	U	418	-	38,46,46	0.35	1 (2%)	50,70,70	0.67	2 (4%)
22	CLA	O	311	26	60,68,73	1.55	6 (10%)	70,107,113	1.38	8 (11%)
22	CLA	V	613	-	45,53,73	1.83	5 (11%)	52,89,113	1.63	6 (11%)
21	BCR	A	851	-	41,41,41	0.70	0	56,56,56	2.11	16 (28%)
22	CLA	S	608	26	45,53,73	1.81	5 (11%)	52,89,113	1.55	8 (15%)
22	CLA	K	604	-	64,72,73	1.50	6 (9%)	74,111,113	1.40	6 (8%)
31	CHL	W	408	-	66,74,74	2.00	10 (15%)	73,114,114	1.17	9 (12%)
22	CLA	K	611	10	65,73,73	1.48	5 (7%)	76,113,113	1.40	7 (9%)
25	DGD	B	847	-	67,67,67	0.83	2 (2%)	81,81,81	1.01	5 (6%)
26	LHG	X	420	22	41,41,48	1.19	6 (14%)	44,47,54	0.99	2 (4%)
27	LMU	B	853	-	19,19,36	0.46	0	23,23,47	0.44	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	O	313	13	65,73,73	1.49	6 (9%)	76,113,113	1.36	6 (7%)
22	CLA	B	833	1	65,73,73	1.50	6 (9%)	76,113,113	1.35	7 (9%)
22	CLA	L	410	11	60,68,73	1.54	5 (8%)	70,107,113	1.42	7 (10%)
21	BCR	J	103	-	41,41,41	0.68	0	56,56,56	1.78	12 (21%)
22	CLA	I	603	8	56,64,73	1.63	6 (10%)	65,102,113	1.42	7 (10%)
22	CLA	B	859	-	65,73,73	1.50	6 (9%)	76,113,113	1.40	8 (10%)
22	CLA	W	402	18	55,63,73	1.60	6 (10%)	64,101,113	1.44	7 (10%)
22	CLA	B	822	1	65,73,73	1.49	6 (9%)	76,113,113	1.38	7 (9%)
22	CLA	O	307	13	45,53,73	1.79	6 (13%)	52,89,113	1.58	6 (11%)
28	LMG	K	601	-	43,43,55	0.77	0	51,51,63	1.27	4 (7%)
27	LMU	K	620	-	34,34,36	0.50	0	44,44,47	1.04	5 (11%)
22	CLA	V	609	17	57,65,73	1.59	5 (8%)	66,103,113	1.45	8 (12%)
22	CLA	Q	612	10	65,73,73	1.46	6 (9%)	76,113,113	1.37	6 (7%)
27	LMU	B	857	-	36,36,36	0.41	0	47,47,47	0.73	1 (2%)
28	LMG	G	616	-	46,46,55	0.81	0	54,54,63	1.29	7 (12%)
22	CLA	T	609	15	45,53,73	1.76	6 (13%)	52,89,113	1.61	6 (11%)
22	CLA	A	805	20	61,69,73	1.53	6 (9%)	71,108,113	1.42	7 (9%)
22	CLA	A	852	-	65,73,73	1.49	5 (7%)	76,113,113	1.37	8 (10%)
22	CLA	Q	617	10	52,60,73	1.66	6 (11%)	60,97,113	1.51	7 (11%)
22	CLA	W	410	18	60,68,73	1.54	6 (10%)	70,107,113	1.42	7 (10%)
22	CLA	O	306	13	60,68,73	1.53	6 (10%)	70,107,113	1.40	7 (10%)
22	CLA	S	605	-	60,68,73	1.52	8 (13%)	70,107,113	1.53	8 (11%)
22	CLA	I	602	8	60,68,73	1.54	6 (10%)	70,107,113	1.44	8 (11%)
27	LMU	B	854	-	24,24,36	0.46	0	29,29,47	0.81	1 (3%)
22	CLA	B	819	1	53,61,73	1.73	5 (9%)	61,98,113	1.48	5 (8%)
24	DD6	K	615	-	39,45,45	1.95	2 (5%)	52,67,67	1.69	11 (21%)
22	CLA	Q	618	-	45,53,73	1.81	5 (11%)	52,89,113	1.55	6 (11%)
22	CLA	A	823	20	45,53,73	1.78	6 (13%)	52,89,113	1.61	7 (13%)
26	LHG	H	316	22	26,26,48	1.40	6 (23%)	29,32,54	1.16	2 (6%)
22	CLA	X	409	19	65,73,73	1.48	6 (9%)	76,113,113	1.38	8 (10%)
22	CLA	B	816	1	65,73,73	1.48	6 (9%)	76,113,113	1.38	7 (9%)
22	CLA	A	817	20	65,73,73	1.47	6 (9%)	76,113,113	1.39	7 (9%)
26	LHG	B	851	-	41,41,48	1.17	6 (14%)	44,47,54	0.99	3 (6%)
22	CLA	A	815	20	65,73,73	1.47	5 (7%)	76,113,113	1.41	7 (9%)
22	CLA	H	306	-	55,63,73	1.61	6 (10%)	64,101,113	1.43	6 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	K	617	10	65,73,73	1.47	6 (9%)	76,113,113	1.39	6 (7%)
27	LMU	H	320	-	24,24,36	0.44	0	29,29,47	0.59	0
22	CLA	A	804	-	65,73,73	1.50	5 (7%)	76,113,113	1.34	6 (7%)
22	CLA	G	603	6	56,64,73	1.61	6 (10%)	65,102,113	1.44	8 (12%)
27	LMU	O	322	-	36,36,36	0.49	0	47,47,47	1.09	5 (10%)
24	DD6	H	314	-	39,45,45	1.99	3 (7%)	52,67,67	1.88	12 (23%)
22	CLA	W	403	18	52,60,73	1.68	6 (11%)	60,97,113	1.50	8 (13%)
22	CLA	Q	605	-	56,64,73	1.60	6 (10%)	65,102,113	1.48	8 (12%)
22	CLA	H	303	7	60,68,73	1.54	6 (10%)	70,107,113	1.40	8 (11%)
24	DD6	P	613	-	39,45,45	2.03	3 (7%)	52,67,67	1.94	18 (34%)
24	DD6	L	414	-	39,45,45	2.01	3 (7%)	52,67,67	1.80	15 (28%)
22	CLA	Q	611	10	55,63,73	1.61	6 (10%)	64,101,113	1.47	7 (10%)
22	CLA	B	802	1	65,73,73	1.44	10 (15%)	76,113,113	1.37	8 (10%)
22	CLA	A	821	20	65,73,73	1.47	6 (9%)	76,113,113	1.41	8 (10%)
27	LMU	B	850	-	24,24,36	0.44	0	29,29,47	0.55	0
27	LMU	W	421	-	24,24,36	0.44	0	29,29,47	0.56	0
24	DD6	T	612	-	39,45,45	2.03	3 (7%)	52,67,67	1.84	13 (25%)
22	CLA	A	839	20	65,73,73	1.48	5 (7%)	76,113,113	1.53	8 (10%)
22	CLA	L	403	11	60,68,73	1.53	6 (10%)	70,107,113	1.44	7 (10%)
26	LHG	A	845	-	48,48,48	1.10	6 (12%)	51,54,54	0.94	3 (5%)
22	CLA	N	611	-	39,48,73	1.90	5 (12%)	45,82,113	1.66	8 (17%)
22	CLA	B	811	1	45,53,73	1.77	5 (11%)	52,89,113	1.65	6 (11%)
21	BCR	B	842	-	41,41,41	0.72	0	56,56,56	1.99	15 (26%)
24	DD6	T	613	-	39,45,45	1.98	3 (7%)	52,67,67	1.73	11 (21%)
24	DD6	X	416	-	39,45,45	2.01	2 (5%)	52,67,67	2.23	15 (28%)
22	CLA	B	835	1	65,73,73	1.48	6 (9%)	76,113,113	1.43	8 (10%)
22	CLA	V	612	-	65,73,73	1.51	5 (7%)	76,113,113	1.33	7 (9%)
29	SF4	C	102	2	0,12,12	-	-	-	-	-
22	CLA	N	608	26	45,53,73	1.79	6 (13%)	52,89,113	1.54	6 (11%)
24	DD6	O	316	-	39,45,45	1.96	3 (7%)	52,67,67	1.72	12 (23%)
22	CLA	A	809	20	53,61,73	1.65	6 (11%)	61,98,113	1.48	8 (13%)
22	CLA	W	404	18	65,73,73	1.47	5 (7%)	76,113,113	1.38	6 (7%)
24	DD6	W	418	-	39,45,45	2.02	3 (7%)	52,67,67	1.89	14 (26%)
22	CLA	X	410	26	60,68,73	1.55	5 (8%)	70,107,113	1.40	7 (10%)
30	SQD	O	302	-	41,42,54	0.43	1 (2%)	50,53,65	0.52	1 (2%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	H	318	7	45,53,73	1.78	5 (11%)	52,89,113	1.61	6 (11%)
22	CLA	P	607	6	45,53,73	1.79	7 (15%)	52,89,113	1.60	6 (11%)
22	CLA	Q	607	-	45,53,73	1.79	5 (11%)	52,89,113	1.53	6 (11%)
27	LMU	B	858	-	14,14,36	0.31	0	13,13,47	0.58	0
22	CLA	P	609	-	45,53,73	1.81	6 (13%)	52,89,113	1.58	7 (13%)
22	CLA	Q	609	10	60,68,73	1.53	6 (10%)	70,107,113	1.39	7 (10%)
24	DD6	V	614	-	39,45,45	2.00	3 (7%)	52,67,67	2.03	13 (25%)
27	LMU	O	301	-	24,24,36	0.44	0	29,29,47	0.57	0
22	CLA	X	405	-	56,64,73	1.59	5 (8%)	65,102,113	1.46	8 (12%)
22	CLA	R	611	11	45,53,73	1.80	5 (11%)	52,89,113	1.56	7 (13%)
22	CLA	B	827	1	65,73,73	1.47	6 (9%)	76,113,113	1.32	8 (10%)
21	BCR	B	844	-	41,41,41	0.71	0	56,56,56	1.80	13 (23%)
28	LMG	B	856	-	53,53,55	0.72	0	61,61,63	1.37	7 (11%)
25	DGD	F	401	-	33,33,67	1.08	2 (6%)	35,35,81	1.31	4 (11%)
22	CLA	K	602	10	60,68,73	1.54	6 (10%)	70,107,113	1.41	7 (10%)
22	CLA	H	310	7	45,53,73	1.78	6 (13%)	52,89,113	1.56	7 (13%)
22	CLA	V	608	17	55,63,73	1.62	5 (9%)	64,101,113	1.42	7 (10%)
22	CLA	U	412	26	45,53,73	1.78	5 (11%)	52,89,113	1.58	6 (11%)
24	DD6	R	612	-	39,45,45	1.99	3 (7%)	52,67,67	1.85	12 (23%)
22	CLA	Q	604	10	65,73,73	1.48	6 (9%)	76,113,113	1.37	7 (9%)
22	CLA	S	610	14	45,53,73	1.82	5 (11%)	52,89,113	1.65	7 (13%)
22	CLA	K	607	10	57,65,73	1.52	8 (14%)	66,103,113	1.55	10 (15%)
22	CLA	V	610	-	45,53,73	1.80	5 (11%)	52,89,113	1.54	8 (15%)
22	CLA	T	602	15	65,73,73	1.48	6 (9%)	76,113,113	1.36	8 (10%)
22	CLA	K	610	10	56,64,73	1.61	6 (10%)	65,102,113	1.44	6 (9%)
26	LHG	Q	616	22	43,43,48	1.16	6 (13%)	46,49,54	0.94	2 (4%)
22	CLA	K	609	26	60,68,73	1.53	6 (10%)	70,107,113	1.39	6 (8%)
24	DD6	R	613	-	39,45,45	2.01	3 (7%)	52,67,67	2.01	18 (34%)
24	DD6	A	858	-	39,45,45	1.97	2 (5%)	52,67,67	2.54	18 (34%)
22	CLA	W	411	18	60,68,73	1.53	6 (10%)	70,107,113	1.40	8 (11%)
26	LHG	N	616	-	42,42,48	1.17	6 (14%)	45,48,54	0.98	2 (4%)
22	CLA	T	601	15	45,53,73	1.78	6 (13%)	52,89,113	1.60	6 (11%)
22	CLA	O	309	13	50,58,73	1.68	6 (12%)	58,95,113	1.53	7 (12%)
22	CLA	W	413	-	45,53,73	1.77	6 (13%)	52,89,113	1.56	6 (11%)
22	CLA	O	310	13	60,68,73	1.53	6 (10%)	70,107,113	1.46	8 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	G	608	26	60,68,73	1.54	5 (8%)	70,107,113	1.45	7 (10%)
24	DD6	P	612	-	39,45,45	2.04	2 (5%)	52,67,67	2.96	18 (34%)
22	CLA	A	820	20	65,73,73	1.50	5 (7%)	76,113,113	1.39	9 (11%)
22	CLA	B	810	-	56,64,73	1.59	6 (10%)	65,102,113	1.44	7 (10%)
27	LMU	A	856	-	21,21,36	0.46	0	26,26,47	0.50	0
22	CLA	B	839	26	65,73,73	1.47	6 (9%)	76,113,113	1.39	7 (9%)
31	CHL	U	407	-	46,54,74	2.40	9 (19%)	49,90,114	1.39	8 (16%)
21	BCR	B	801	-	41,41,41	0.69	0	56,56,56	1.96	16 (28%)
27	LMU	H	301	-	21,21,36	0.49	0	26,26,47	0.72	0
22	CLA	A	836	20	65,73,73	1.49	5 (7%)	76,113,113	1.35	8 (10%)
22	CLA	F	405	5	45,53,73	1.81	6 (13%)	52,89,113	1.52	6 (11%)
27	LMU	L	420	-	35,35,36	0.37	0	43,45,47	0.81	2 (4%)
24	DD6	Q	615	-	39,45,45	2.03	3 (7%)	52,67,67	1.90	14 (26%)
29	SF4	C	101	2	0,12,12	-	-	-	-	-
22	CLA	G	606	6	65,73,73	1.49	6 (9%)	76,113,113	1.32	6 (7%)
22	CLA	G	604	-	45,53,73	1.78	6 (13%)	52,89,113	1.63	6 (11%)
26	LHG	L	416	22	41,41,48	1.17	6 (14%)	44,47,54	0.99	2 (4%)
22	CLA	U	403	16	45,53,73	1.80	6 (13%)	52,89,113	1.61	7 (13%)
22	CLA	A	807	20	65,73,73	1.48	5 (7%)	76,113,113	1.42	8 (10%)
22	CLA	H	313	7	58,66,73	1.60	6 (10%)	67,104,113	1.42	8 (11%)
22	CLA	A	814	20	65,73,73	1.48	6 (9%)	76,113,113	1.39	7 (9%)
22	CLA	U	404	16	65,73,73	1.47	6 (9%)	76,113,113	1.40	7 (9%)
27	LMU	L	419	-	27,27,36	0.41	0	30,30,47	0.75	0
21	BCR	B	846	-	41,41,41	0.71	0	56,56,56	1.82	17 (30%)
28	LMG	I	614	-	37,37,55	0.85	0	45,45,63	1.27	5 (11%)
22	CLA	R	604	-	45,53,73	1.79	5 (11%)	52,89,113	1.56	8 (15%)
22	CLA	L	409	26	60,68,73	1.55	6 (10%)	70,107,113	1.40	7 (10%)
28	LMG	K	618	-	49,49,55	0.76	0	57,57,63	1.31	7 (12%)
22	CLA	S	602	14	60,68,73	1.52	5 (8%)	70,107,113	1.46	9 (12%)
22	CLA	L	402	11	65,73,73	1.47	6 (9%)	76,113,113	1.37	6 (7%)
22	CLA	V	603	17	57,65,73	1.60	6 (10%)	66,103,113	1.46	6 (9%)
22	CLA	A	832	20	52,60,73	1.65	6 (11%)	60,97,113	1.52	6 (10%)
22	CLA	G	610	6	45,53,73	1.77	5 (11%)	52,89,113	1.57	6 (11%)
22	CLA	A	806	20	65,73,73	1.50	6 (9%)	76,113,113	1.36	7 (9%)
22	CLA	A	811	20	57,65,73	1.57	6 (10%)	66,103,113	1.54	9 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
28	LMG	T	616	-	41,41,55	0.84	0	49,49,63	1.24	3 (6%)
22	CLA	A	844	26	55,63,73	1.60	7 (12%)	64,101,113	1.53	8 (12%)
22	CLA	N	607	-	60,68,73	1.54	5 (8%)	70,107,113	1.39	7 (10%)
27	LMU	H	321	-	34,34,36	0.48	0	44,44,47	0.79	2 (4%)
22	CLA	P	602	6	45,53,73	1.75	7 (15%)	52,89,113	1.63	8 (15%)
22	CLA	W	414	18	65,73,73	1.50	6 (9%)	76,113,113	1.35	9 (11%)
27	LMU	O	303	-	36,36,36	0.42	0	47,47,47	0.71	1 (2%)
22	CLA	A	818	20	53,61,73	1.62	5 (9%)	61,98,113	1.50	7 (11%)
27	LMU	B	849	-	24,24,36	0.45	0	29,29,47	0.65	0
22	CLA	X	407	-	65,73,73	1.48	6 (9%)	76,113,113	1.37	8 (10%)
21	BCR	A	848	-	41,41,41	0.71	0	56,56,56	1.81	10 (17%)
22	CLA	A	830	20	65,73,73	1.49	6 (9%)	76,113,113	1.38	8 (10%)
22	CLA	A	801	-	65,73,73	1.40	9 (13%)	76,113,113	1.46	10 (13%)
22	CLA	R	602	-	60,68,73	1.55	6 (10%)	70,107,113	1.41	7 (10%)
22	CLA	G	601	6	45,53,73	1.77	5 (11%)	52,89,113	1.60	7 (13%)
24	DD6	X	401	-	39,45,45	1.98	3 (7%)	52,67,67	1.83	11 (21%)
22	CLA	I	606	8	61,69,73	1.55	6 (9%)	71,108,113	1.38	7 (9%)
26	LHG	U	419	22	24,24,48	1.42	5 (20%)	27,29,54	1.22	2 (7%)
22	CLA	A	842	20	65,73,73	1.51	5 (7%)	76,113,113	1.41	8 (10%)
22	CLA	G	605	-	45,53,73	1.77	5 (11%)	52,89,113	1.60	6 (11%)
22	CLA	W	415	18	45,53,73	1.84	6 (13%)	52,89,113	1.59	8 (15%)
22	CLA	J	102	9	50,58,73	1.68	6 (12%)	58,95,113	1.53	7 (12%)
22	CLA	N	610	8	55,63,73	1.62	5 (9%)	64,101,113	1.53	9 (14%)
22	CLA	A	827	-	62,70,73	1.50	5 (8%)	72,109,113	1.41	8 (11%)
22	CLA	X	402	19	55,63,73	1.61	5 (9%)	64,101,113	1.47	8 (12%)
26	LHG	K	616	22	38,38,48	1.22	5 (13%)	41,44,54	1.03	3 (7%)
22	CLA	U	409	-	45,53,73	1.78	6 (13%)	52,89,113	1.61	6 (11%)
22	CLA	I	610	8	45,53,73	1.77	6 (13%)	52,89,113	1.57	7 (13%)
22	CLA	G	602	6	60,68,73	1.52	6 (10%)	70,107,113	1.45	9 (12%)
22	CLA	T	605	-	65,73,73	1.50	6 (9%)	76,113,113	1.35	8 (10%)
22	CLA	A	822	-	65,73,73	1.47	5 (7%)	76,113,113	1.35	7 (9%)
22	CLA	O	308	-	61,69,73	1.52	6 (9%)	71,108,113	1.42	7 (9%)
22	CLA	A	803	-	65,73,73	1.51	6 (9%)	76,113,113	1.40	9 (11%)
24	DD6	S	612	-	39,45,45	1.99	3 (7%)	52,67,67	1.83	12 (23%)
26	LHG	T	614	22	41,41,48	1.19	6 (14%)	44,47,54	0.98	2 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	U	411	16	57,65,73	1.56	5 (8%)	66,103,113	1.43	7 (10%)
27	LMU	J	104	-	34,35,36	0.36	0	42,45,47	0.89	2 (4%)
22	CLA	V	604	-	56,64,73	1.60	5 (8%)	65,102,113	1.46	7 (10%)
27	LMU	F	409	-	21,21,36	0.49	0	26,26,47	0.57	0
26	LHG	S	613	22	31,31,48	1.32	6 (19%)	34,37,54	1.12	3 (8%)
21	BCR	B	843	-	41,41,41	0.71	0	56,56,56	3.38	24 (42%)
26	LHG	B	848	22	26,26,48	1.33	5 (19%)	29,32,54	1.15	2 (6%)
33	CL0	A	802	20	65,73,73	1.80	15 (23%)	76,113,113	1.80	21 (27%)
22	CLA	L	406	-	65,73,73	1.49	6 (9%)	76,113,113	1.36	7 (9%)
25	DGD	O	304	-	61,61,67	0.87	3 (4%)	75,75,81	1.14	8 (10%)
22	CLA	A	834	20	45,53,73	1.81	6 (13%)	52,89,113	1.55	7 (13%)
24	DD6	H	315	-	39,45,45	1.99	3 (7%)	52,67,67	1.78	13 (25%)
23	PQN	B	840	-	34,34,34	1.61	2 (5%)	42,45,45	1.07	3 (7%)
24	DD6	W	416	-	39,45,45	1.97	3 (7%)	52,67,67	1.80	11 (21%)
22	CLA	N	604	-	45,53,73	1.79	6 (13%)	52,89,113	1.58	6 (11%)
29	SF4	B	860	20,1	0,12,12	-	-	-	-	-
27	LMU	O	320	-	27,27,36	0.53	0	28,31,47	0.82	2 (7%)
22	CLA	A	819	20	58,66,73	1.58	8 (13%)	67,104,113	1.50	9 (13%)
28	LMG	H	319	-	40,40,55	0.81	0	48,48,63	1.21	3 (6%)
22	CLA	B	826	1	58,66,73	1.58	6 (10%)	67,104,113	1.46	7 (10%)
22	CLA	X	412	19	65,73,73	1.50	6 (9%)	76,113,113	1.36	7 (9%)
22	CLA	A	831	20	65,73,73	1.48	6 (9%)	76,113,113	1.40	8 (10%)
22	CLA	T	603	15	60,68,73	1.56	6 (10%)	70,107,113	1.41	7 (10%)
30	SQD	F	407	-	41,42,54	0.42	1 (2%)	50,53,65	0.49	1 (2%)
28	LMG	U	402	-	53,53,55	0.72	0	61,61,63	1.31	4 (6%)
31	CHL	W	422	-	66,74,74	2.00	9 (13%)	73,114,114	1.17	8 (10%)
22	CLA	I	607	8	55,63,73	1.60	6 (10%)	64,101,113	1.48	8 (12%)
24	DD6	J	105	-	39,45,45	1.96	2 (5%)	52,67,67	1.88	13 (25%)
24	DD6	V	615	-	39,45,45	1.94	3 (7%)	52,67,67	1.87	13 (25%)
22	CLA	I	609	8	45,53,73	1.78	6 (13%)	52,89,113	1.65	6 (11%)
22	CLA	S	607	14	60,68,73	1.56	5 (8%)	70,107,113	1.43	7 (10%)
22	CLA	H	311	7	65,73,73	1.52	5 (7%)	76,113,113	1.38	9 (11%)
22	CLA	O	305	13	50,58,73	1.68	6 (12%)	58,95,113	1.54	9 (15%)
22	CLA	A	825	20	61,69,73	1.52	5 (8%)	71,108,113	1.39	8 (11%)
24	DD6	U	417	-	39,45,45	1.93	3 (7%)	52,67,67	1.87	15 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	DD6	O	317	-	39,45,45	2.01	3 (7%)	52,67,67	1.79	14 (26%)
22	CLA	I	605	-	45,53,73	1.78	6 (13%)	52,89,113	1.62	7 (13%)
22	CLA	B	824	-	65,73,73	1.47	6 (9%)	76,113,113	1.44	8 (10%)
22	CLA	L	411	11	65,73,73	1.48	6 (9%)	76,113,113	1.37	8 (10%)
22	CLA	R	610	11	65,73,73	1.53	6 (9%)	76,113,113	1.33	8 (10%)
22	CLA	K	613	-	53,61,73	1.66	6 (11%)	61,98,113	1.46	7 (11%)
22	CLA	T	611	15	65,73,73	1.49	5 (7%)	76,113,113	1.37	7 (9%)
22	CLA	H	309	26	55,63,73	1.64	6 (10%)	64,101,113	1.44	7 (10%)
22	CLA	B	823	-	65,73,73	1.47	5 (7%)	76,113,113	1.38	6 (7%)
22	CLA	P	603	6	45,53,73	1.84	6 (13%)	52,89,113	1.47	6 (11%)
22	CLA	A	840	20	65,73,73	1.48	6 (9%)	76,113,113	1.37	8 (10%)
22	CLA	H	305	7	60,68,73	1.53	6 (10%)	70,107,113	1.44	7 (10%)
22	CLA	O	315	13	50,58,73	1.74	6 (12%)	58,95,113	1.49	9 (15%)
22	CLA	B	812	1	65,73,73	1.49	5 (7%)	76,113,113	1.39	8 (10%)
22	CLA	U	420	16	45,53,73	1.79	6 (13%)	52,89,113	1.56	6 (11%)
27	LMU	M	102	-	24,24,36	0.44	0	29,29,47	0.61	0
22	CLA	I	604	-	45,53,73	1.78	5 (11%)	52,89,113	1.59	6 (11%)
22	CLA	N	609	8	45,53,73	1.77	6 (13%)	52,89,113	1.55	6 (11%)
22	CLA	U	413	16	45,53,73	1.78	5 (11%)	52,89,113	1.64	6 (11%)
22	CLA	S	615	-	51,59,73	1.68	6 (11%)	59,96,113	1.50	7 (11%)
22	CLA	B	803	1	56,64,73	1.61	5 (8%)	65,102,113	1.44	8 (12%)
22	CLA	R	603	-	56,64,73	1.60	6 (10%)	65,102,113	1.46	7 (10%)
22	CLA	X	404	19	60,68,73	1.58	6 (10%)	70,107,113	1.37	7 (10%)
28	LMG	H	322	-	37,37,55	0.85	0	45,45,63	1.23	4 (8%)
22	CLA	A	816	20	61,69,73	1.48	9 (14%)	71,108,113	1.49	11 (15%)
22	CLA	B	818	-	65,73,73	1.48	6 (9%)	76,113,113	1.40	7 (9%)
24	DD6	X	415	-	39,45,45	1.94	2 (5%)	52,67,67	1.71	10 (19%)
22	CLA	B	825	1	65,73,73	1.51	5 (7%)	76,113,113	1.42	8 (10%)
22	CLA	N	602	8	60,68,73	1.53	6 (10%)	70,107,113	1.44	7 (10%)
24	DD6	A	847	-	39,45,45	1.98	3 (7%)	52,67,67	1.85	15 (28%)
27	LMU	F	402	-	21,21,36	0.46	0	26,26,47	0.69	0
22	CLA	P	611	6	45,53,73	1.78	5 (11%)	52,89,113	1.66	7 (13%)
22	CLA	H	312	7	45,53,73	1.79	5 (11%)	52,89,113	1.55	6 (11%)
22	CLA	V	617	-	45,53,73	1.80	5 (11%)	52,89,113	1.57	6 (11%)
22	CLA	Q	601	-	45,53,73	1.82	6 (13%)	52,89,113	1.55	7 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	T	606	15	50,58,73	1.70	5 (10%)	58,95,113	1.51	8 (13%)
22	CLA	V	601	17	45,53,73	1.84	5 (11%)	52,89,113	1.57	6 (11%)
22	CLA	I	608	-	45,53,73	1.78	6 (13%)	52,89,113	1.55	7 (13%)
22	CLA	P	604	-	45,53,73	1.78	5 (11%)	52,89,113	1.58	7 (13%)
26	LHG	O	318	22	33,33,48	1.29	6 (18%)	36,39,54	1.06	3 (8%)
26	LHG	O	321	-	48,48,48	1.11	6 (12%)	51,54,54	0.92	2 (3%)
22	CLA	Q	606	-	45,53,73	1.78	5 (11%)	52,89,113	1.58	6 (11%)
27	LMU	A	857	-	24,24,36	0.45	0	29,29,47	0.66	0
22	CLA	S	601	14	45,53,73	1.78	5 (11%)	52,89,113	1.61	6 (11%)
24	DD6	S	611	-	39,45,45	1.99	3 (7%)	52,67,67	1.78	13 (25%)
28	LMG	W	401	-	48,48,55	0.73	0	56,56,63	1.33	8 (14%)
26	LHG	W	420	22	41,41,48	1.19	6 (14%)	44,47,54	0.89	2 (4%)
22	CLA	H	308	7	60,68,73	1.52	5 (8%)	70,107,113	1.43	7 (10%)
22	CLA	A	835	20	61,69,73	1.53	6 (9%)	71,108,113	1.41	8 (11%)
27	LMU	X	418	-	24,24,36	0.43	0	29,29,47	0.55	0
27	LMU	U	421	-	36,36,36	0.41	0	47,47,47	0.65	1 (2%)
22	CLA	X	411	-	45,53,73	1.77	6 (13%)	52,89,113	1.63	7 (13%)
31	CHL	X	406	-	46,54,74	2.43	9 (19%)	49,90,114	1.40	7 (14%)
22	CLA	B	805	1	65,73,73	1.48	6 (9%)	76,113,113	1.41	7 (9%)
22	CLA	W	405	18	60,68,73	1.57	6 (10%)	70,107,113	1.40	7 (10%)
22	CLA	V	602	17	65,73,73	1.51	5 (7%)	76,113,113	1.36	8 (10%)
24	DD6	U	416	-	39,45,45	2.01	3 (7%)	52,67,67	1.80	11 (21%)
26	LHG	R	614	22	41,41,48	1.18	6 (14%)	44,47,54	0.96	2 (4%)
22	CLA	A	810	20	65,73,73	1.48	5 (7%)	76,113,113	1.36	8 (10%)
22	CLA	R	607	11	60,68,73	1.58	6 (10%)	70,107,113	1.39	8 (11%)
22	CLA	V	607	-	45,53,73	1.78	6 (13%)	52,89,113	1.61	7 (13%)
21	BCR	A	850	-	41,41,41	0.71	0	56,56,56	1.97	12 (21%)
22	CLA	B	804	1	65,73,73	1.47	6 (9%)	76,113,113	1.46	8 (10%)
22	CLA	A	808	20	65,73,73	1.46	6 (9%)	76,113,113	1.37	7 (9%)
22	CLA	L	405	-	45,53,73	1.79	6 (13%)	52,89,113	1.61	6 (11%)
22	CLA	T	608	26	60,68,73	1.54	5 (8%)	70,107,113	1.41	7 (10%)
26	LHG	O	324	-	41,41,48	1.18	5 (12%)	44,47,54	0.97	2 (4%)
27	LMU	X	421	-	36,36,36	0.40	0	47,47,47	0.67	1 (2%)
22	CLA	X	419	19	45,53,73	1.82	6 (13%)	52,89,113	1.55	6 (11%)
22	CLA	R	601	-	65,73,73	1.49	6 (9%)	76,113,113	1.36	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	CLA	O	314	13	45,53,73	1.77	6 (13%)	52,89,113	1.54	6 (11%)
24	DD6	W	417	-	39,45,45	1.96	3 (7%)	52,67,67	1.76	11 (21%)
22	CLA	R	606	11	57,65,73	1.60	5 (8%)	66,103,113	1.44	8 (12%)
22	CLA	B	806	1	65,73,73	1.49	6 (9%)	76,113,113	1.41	7 (9%)
22	CLA	B	831	1	65,73,73	1.48	5 (7%)	76,113,113	1.38	7 (9%)
22	CLA	P	605	-	45,53,73	1.76	6 (13%)	52,89,113	1.59	7 (13%)
22	CLA	W	406	-	56,64,73	1.60	5 (8%)	65,102,113	1.44	6 (9%)
27	LMU	G	615	-	21,21,36	0.46	0	26,26,47	0.51	0
21	BCR	B	845	-	41,41,41	0.68	0	56,56,56	1.90	15 (26%)
28	LMG	K	622	-	43,43,55	0.80	0	51,51,63	1.27	5 (9%)
22	CLA	A	826	-	65,73,73	1.47	6 (9%)	76,113,113	1.41	6 (7%)
28	LMG	F	408	-	42,42,55	0.85	1 (2%)	50,50,63	1.32	4 (8%)
24	DD6	L	415	-	39,45,45	2.01	2 (5%)	52,67,67	1.96	17 (32%)
24	DD6	L	413	-	39,45,45	2.00	3 (7%)	52,67,67	1.78	12 (23%)
27	LMU	T	615	-	21,21,36	0.47	0	26,26,47	0.59	0
22	CLA	I	601	8	65,73,73	1.52	6 (9%)	76,113,113	1.34	7 (9%)
22	CLA	W	409	-	65,73,73	1.48	6 (9%)	76,113,113	1.38	7 (9%)
30	SQD	K	621	-	42,43,54	0.42	1 (2%)	51,54,65	0.53	0
31	CHL	V	605	-	46,54,74	2.41	9 (19%)	49,90,114	1.38	7 (14%)
22	CLA	P	606	6	45,53,73	1.75	6 (13%)	52,89,113	1.60	6 (11%)
28	LMG	N	615	-	44,44,55	0.78	0	52,52,63	1.26	4 (7%)
24	DD6	N	613	-	39,45,45	2.00	3 (7%)	52,67,67	1.86	15 (28%)
22	CLA	A	837	20	50,58,73	1.70	6 (12%)	58,95,113	1.50	9 (15%)
22	CLA	S	609	14	55,63,73	1.64	5 (9%)	64,101,113	1.42	8 (12%)
27	LMU	A	853	-	24,24,36	0.43	0	29,29,47	0.57	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	DD6	G	612	-	-	0/26/80/80	0/3/3/3
31	CHL	V	606	-	3/3/16/26	1/15/113/137	-
26	LHG	P	601	-	-	23/44/44/53	-
22	CLA	N	601	8	1/1/11/20	4/13/91/115	-
28	LMG	A	855	-	-	12/36/56/70	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	A	838	20	1/1/12/20	7/22/100/115	-
22	CLA	H	307	7	1/1/14/20	11/31/109/115	-
24	DD6	Q	614	-	-	1/26/80/80	0/3/3/3
22	CLA	R	608	26	1/1/12/20	8/24/102/115	-
21	BCR	A	849	-	-	0/29/63/63	0/2/2/2
22	CLA	G	611	6	1/1/11/20	5/13/91/115	-
21	BCR	M	101	-	-	2/29/63/63	0/2/2/2
22	CLA	Q	610	26	1/1/15/20	14/37/115/115	-
24	DD6	I	612	-	-	0/26/80/80	0/3/3/3
22	CLA	L	417	11	1/1/15/20	8/37/115/115	-
22	CLA	N	605	-	1/1/11/20	1/13/91/115	-
22	CLA	W	412	26	1/1/14/20	3/31/109/115	-
22	CLA	O	312	13	1/1/14/20	8/31/109/115	-
27	LMU	A	854	-	-	3/21/61/61	0/2/2/2
28	LMG	J	101	-	-	23/50/70/70	0/1/1/1
22	CLA	T	610	-	1/1/11/20	5/13/91/115	-
22	CLA	S	603	14	1/1/11/20	3/13/91/115	-
22	CLA	U	401	-	1/1/13/20	9/25/103/115	-
22	CLA	B	834	1	1/1/15/20	7/37/115/115	-
22	CLA	B	809	1	1/1/15/20	3/37/115/115	-
22	CLA	U	414	16	1/1/14/20	14/33/111/115	-
22	CLA	A	828	20	1/1/15/20	8/37/115/115	-
22	CLA	K	608	10	1/1/15/20	11/37/115/115	-
22	CLA	K	605	-	1/1/15/20	17/37/115/115	-
22	CLA	O	319	13	1/1/11/20	1/13/91/115	-
22	CLA	Q	603	10	1/1/11/20	4/13/91/115	-
28	LMG	I	615	-	-	26/46/62/70	0/1/1/1
22	CLA	X	403	19	1/1/15/20	7/37/115/115	-
22	CLA	X	413	19	1/1/11/20	3/13/91/115	-
26	LHG	O	323	-	-	19/47/47/53	-
22	CLA	F	403	-	1/1/15/20	9/37/115/115	-
24	DD6	N	612	-	-	0/26/80/80	0/3/3/3
24	DD6	F	406	-	-	7/26/80/80	0/3/3/3
22	CLA	F	404	-	1/1/13/20	10/25/103/115	-
22	CLA	G	607	-	1/1/14/20	3/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	R	605	-	1/1/15/20	15/37/115/115	-
24	DD6	I	613	-	-	0/26/80/80	0/3/3/3
22	CLA	K	606	-	1/1/12/20	1/19/97/115	-
22	CLA	B	829	-	1/1/11/20	7/13/91/115	-
27	LMU	T	617	-	-	3/15/35/61	0/1/1/2
22	CLA	K	603	10	1/1/14/20	7/31/109/115	-
22	CLA	G	609	-	1/1/11/20	4/13/91/115	-
22	CLA	L	404	-	1/1/13/20	12/27/105/115	-
22	CLA	N	603	8	1/1/15/20	10/37/115/115	-
23	PQN	A	843	-	-	4/23/43/43	0/2/2/2
22	CLA	X	417	19	1/1/12/20	5/19/97/115	-
22	CLA	A	824	20	1/1/15/20	23/37/115/115	-
22	CLA	L	407	-	1/1/13/20	11/28/106/115	-
31	CHL	W	407	-	3/3/16/26	2/15/113/137	-
22	CLA	H	304	7	1/1/11/20	6/13/91/115	-
24	DD6	X	414	-	-	1/26/80/80	0/3/3/3
26	LHG	G	614	22	-	13/36/36/53	-
22	CLA	T	607	15	1/1/14/20	9/31/109/115	-
24	DD6	K	614	-	-	0/26/80/80	0/3/3/3
22	CLA	A	833	20	1/1/15/20	6/37/115/115	-
24	DD6	B	841	-	-	1/26/80/80	0/3/3/3
22	CLA	U	406	-	1/1/13/20	5/27/105/115	-
22	CLA	B	808	1	1/1/13/20	7/25/103/115	-
22	CLA	A	813	20	1/1/15/20	8/37/115/115	-
31	CHL	U	408	-	3/3/16/26	1/15/113/137	-
22	CLA	L	408	11	1/1/14/20	6/31/109/115	-
22	CLA	S	614	-	1/1/11/20	0/13/91/115	-
27	LMU	U	424	-	-	2/15/35/61	0/1/1/2
22	CLA	B	828	1	1/1/15/20	15/37/115/115	-
28	LMG	L	401	-	-	20/46/66/70	0/1/1/1
22	CLA	A	841	20	1/1/15/20	10/37/115/115	-
24	DD6	A	859	-	-	1/26/80/80	0/3/3/3
22	CLA	Q	613	10	1/1/11/20	4/13/91/115	-
22	CLA	T	604	15	1/1/15/20	18/37/115/115	-
30	SQD	V	618	-	-	4/19/39/69	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	B	820	1	1/1/12/20	8/23/101/115	-
22	CLA	R	615	11	1/1/15/20	12/37/115/115	-
22	CLA	I	611	8	1/1/11/20	6/13/91/115	-
22	CLA	V	611	-	1/1/11/20	3/13/91/115	-
22	CLA	B	838	1	1/1/11/20	5/13/91/115	-
22	CLA	P	610	6	1/1/10/20	3/8/86/115	-
22	CLA	B	837	-	1/1/11/20	1/13/91/115	-
27	LMU	B	855	-	-	2/15/35/61	0/1/1/2
22	CLA	U	410	16	1/1/13/20	7/25/103/115	-
22	CLA	B	830	1	1/1/15/20	9/37/115/115	-
22	CLA	B	814	1	1/1/11/20	6/13/91/115	-
26	LHG	N	614	22	-	9/32/32/53	-
22	CLA	S	606	14	1/1/12/20	2/19/97/115	-
22	CLA	U	405	16	1/1/13/20	5/28/106/115	-
32	NEX	V	616	-	-	4/27/83/83	0/3/3/3
27	LMU	L	418	-	-	0/15/35/61	0/1/1/2
22	CLA	P	608	-	1/1/11/20	7/13/91/115	-
26	LHG	A	846	22	-	27/53/53/53	-
22	CLA	N	606	8	1/1/15/20	13/37/115/115	-
28	LMG	H	317	-	-	13/38/58/70	0/1/1/1
27	LMU	T	618	-	-	1/15/35/61	0/1/1/2
22	CLA	B	832	1	1/1/14/20	12/34/112/115	-
22	CLA	H	302	7	1/1/11/20	2/13/91/115	-
22	CLA	L	412	11	1/1/11/20	5/13/91/115	-
22	CLA	B	821	1	1/1/14/20	11/31/109/115	-
22	CLA	X	408	19	1/1/15/20	12/37/115/115	-
28	LMG	Q	602	-	-	11/32/52/70	0/1/1/1
22	CLA	B	836	1	1/1/12/20	2/21/99/115	-
22	CLA	R	609	-	1/1/10/20	3/8/86/115	-
22	CLA	K	612	10	1/1/11/20	2/13/91/115	-
28	LMG	U	423	-	-	20/44/64/70	0/1/1/1
22	CLA	W	419	18	1/1/11/20	6/13/91/115	-
22	CLA	B	807	1	1/1/15/20	13/37/115/115	-
22	CLA	S	604	-	1/1/14/20	9/31/109/115	-
22	CLA	B	813	1	1/1/15/20	10/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	B	815	1	1/1/12/20	3/22/100/115	-
22	CLA	Q	608	10	1/1/12/20	3/19/97/115	-
22	CLA	A	812	20	1/1/13/20	10/28/106/115	-
22	CLA	B	817	1	1/1/15/20	15/37/115/115	-
22	CLA	U	415	16	1/1/11/20	5/13/91/115	-
27	LMU	U	422	-	-	5/21/61/61	0/2/2/2
26	LHG	K	619	-	-	19/37/37/53	-
24	DD6	G	613	-	-	1/26/80/80	0/3/3/3
22	CLA	A	829	20	1/1/15/20	15/37/115/115	-
28	LMG	B	852	-	-	15/38/58/70	0/1/1/1
32	NEX	U	418	-	-	4/27/83/83	0/3/3/3
22	CLA	O	311	26	1/1/14/20	7/31/109/115	-
22	CLA	V	613	-	1/1/11/20	9/13/91/115	-
21	BCR	A	851	-	-	4/29/63/63	0/2/2/2
22	CLA	S	608	26	1/1/11/20	7/13/91/115	-
22	CLA	K	604	-	1/1/14/20	19/35/113/115	-
31	CHL	W	408	-	3/3/20/26	5/39/137/137	-
22	CLA	K	611	10	1/1/15/20	11/37/115/115	-
25	DGD	B	847	-	-	33/55/95/95	0/2/2/2
26	LHG	X	420	22	-	28/46/46/53	-
27	LMU	B	853	-	-	0/10/27/61	0/1/1/2
22	CLA	O	313	13	1/1/15/20	14/37/115/115	-
22	CLA	B	833	1	1/1/15/20	7/37/115/115	-
22	CLA	L	410	11	1/1/14/20	8/31/109/115	-
21	BCR	J	103	-	-	2/29/63/63	0/2/2/2
22	CLA	I	603	8	1/1/13/20	9/27/105/115	-
22	CLA	B	859	-	1/1/15/20	10/37/115/115	-
22	CLA	W	402	18	1/1/13/20	2/25/103/115	-
22	CLA	B	822	1	1/1/15/20	10/37/115/115	-
22	CLA	O	307	13	1/1/11/20	3/13/91/115	-
28	LMG	K	601	-	-	24/38/58/70	0/1/1/1
27	LMU	K	620	-	-	6/19/56/61	0/2/2/2
22	CLA	V	609	17	1/1/13/20	8/28/106/115	-
22	CLA	Q	612	10	1/1/15/20	15/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	LMU	B	857	-	-	4/21/61/61	0/2/2/2
28	LMG	G	616	-	-	21/41/61/70	0/1/1/1
22	CLA	T	609	15	1/1/11/20	5/13/91/115	-
22	CLA	A	805	20	1/1/14/20	9/33/111/115	-
22	CLA	A	852	-	1/1/15/20	14/37/115/115	-
22	CLA	Q	617	10	1/1/12/20	5/22/100/115	-
22	CLA	W	410	18	1/1/14/20	10/31/109/115	-
22	CLA	O	306	13	1/1/14/20	7/31/109/115	-
22	CLA	S	605	-	1/1/14/20	14/31/109/115	-
22	CLA	I	602	8	1/1/14/20	3/31/109/115	-
27	LMU	B	854	-	-	3/15/35/61	0/1/1/2
22	CLA	B	819	1	1/1/12/20	7/23/101/115	-
24	DD6	K	615	-	-	0/26/80/80	0/3/3/3
22	CLA	Q	618	-	1/1/11/20	7/13/91/115	-
22	CLA	A	823	20	1/1/11/20	5/13/91/115	-
26	LHG	H	316	22	-	5/31/31/53	-
22	CLA	X	409	19	1/1/15/20	10/37/115/115	-
22	CLA	B	816	1	1/1/15/20	13/37/115/115	-
22	CLA	A	817	20	1/1/15/20	16/37/115/115	-
26	LHG	B	851	-	-	22/46/46/53	-
22	CLA	A	815	20	1/1/15/20	6/37/115/115	-
22	CLA	H	306	-	1/1/13/20	8/25/103/115	-
22	CLA	K	617	10	1/1/15/20	12/37/115/115	-
27	LMU	H	320	-	-	2/15/35/61	0/1/1/2
22	CLA	A	804	-	1/1/15/20	6/37/115/115	-
22	CLA	G	603	6	1/1/13/20	10/27/105/115	-
27	LMU	O	322	-	-	5/21/61/61	0/2/2/2
24	DD6	H	314	-	-	1/26/80/80	0/3/3/3
22	CLA	W	403	18	1/1/12/20	5/22/100/115	-
22	CLA	Q	605	-	1/1/13/20	3/27/105/115	-
22	CLA	H	303	7	1/1/14/20	11/31/109/115	-
24	DD6	P	613	-	-	4/26/80/80	0/3/3/3
24	DD6	L	414	-	-	2/26/80/80	0/3/3/3
22	CLA	Q	611	10	1/1/13/20	9/25/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	B	802	1	1/1/15/20	6/37/115/115	-
22	CLA	A	821	20	1/1/15/20	15/37/115/115	-
27	LMU	B	850	-	-	3/15/35/61	0/1/1/2
27	LMU	W	421	-	-	4/15/35/61	0/1/1/2
24	DD6	T	612	-	-	1/26/80/80	0/3/3/3
22	CLA	A	839	20	1/1/15/20	6/37/115/115	-
22	CLA	L	403	11	1/1/14/20	5/31/109/115	-
26	LHG	A	845	-	-	25/53/53/53	-
22	CLA	N	611	-	1/1/9/20	2/8/82/115	-
22	CLA	B	811	1	1/1/11/20	2/13/91/115	-
21	BCR	B	842	-	-	2/29/63/63	0/2/2/2
24	DD6	T	613	-	-	1/26/80/80	0/3/3/3
24	DD6	X	416	-	-	5/26/80/80	0/3/3/3
22	CLA	B	835	1	1/1/15/20	11/37/115/115	-
22	CLA	V	612	-	1/1/15/20	13/37/115/115	-
29	SF4	C	102	2	-	-	0/6/5/5
22	CLA	N	608	26	1/1/11/20	5/13/91/115	-
24	DD6	O	316	-	-	1/26/80/80	0/3/3/3
22	CLA	A	809	20	1/1/12/20	1/23/101/115	-
22	CLA	W	404	18	1/1/15/20	10/37/115/115	-
24	DD6	W	418	-	-	1/26/80/80	0/3/3/3
22	CLA	X	410	26	1/1/14/20	12/31/109/115	-
30	SQD	O	302	-	-	5/37/57/69	0/1/1/1
22	CLA	H	318	7	1/1/11/20	6/13/91/115	-
22	CLA	P	607	6	1/1/11/20	4/13/91/115	-
22	CLA	Q	607	-	1/1/11/20	3/13/91/115	-
27	LMU	B	858	-	-	2/12/12/61	-
22	CLA	P	609	-	1/1/11/20	8/13/91/115	-
22	CLA	Q	609	10	1/1/14/20	9/31/109/115	-
24	DD6	V	614	-	-	1/26/80/80	0/3/3/3
27	LMU	O	301	-	-	1/15/35/61	0/1/1/2
22	CLA	X	405	-	1/1/13/20	8/27/105/115	-
22	CLA	R	611	11	1/1/11/20	6/13/91/115	-
22	CLA	B	827	1	1/1/15/20	9/37/115/115	-
21	BCR	B	844	-	-	1/29/63/63	0/2/2/2
28	LMG	B	856	-	-	26/48/68/70	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	DGD	F	401	-	-	19/35/35/95	-
22	CLA	K	602	10	1/1/14/20	11/31/109/115	-
22	CLA	H	310	7	1/1/11/20	3/13/91/115	-
22	CLA	V	608	17	1/1/13/20	6/25/103/115	-
22	CLA	U	412	26	1/1/11/20	2/13/91/115	-
24	DD6	R	612	-	-	1/26/80/80	0/3/3/3
22	CLA	Q	604	10	1/1/15/20	14/37/115/115	-
22	CLA	S	610	14	1/1/11/20	2/13/91/115	-
22	CLA	K	607	10	1/1/13/20	9/28/106/115	-
22	CLA	V	610	-	1/1/11/20	2/13/91/115	-
22	CLA	T	602	15	1/1/15/20	9/37/115/115	-
22	CLA	K	610	10	1/1/13/20	8/27/105/115	-
26	LHG	Q	616	22	-	15/48/48/53	-
22	CLA	K	609	26	1/1/14/20	11/31/109/115	-
24	DD6	R	613	-	-	1/26/80/80	0/3/3/3
24	DD6	A	858	-	-	5/26/80/80	0/3/3/3
22	CLA	W	411	18	1/1/14/20	10/31/109/115	-
26	LHG	N	616	-	-	23/47/47/53	-
22	CLA	T	601	15	1/1/11/20	5/13/91/115	-
22	CLA	O	309	13	1/1/12/20	2/19/97/115	-
22	CLA	W	413	-	1/1/11/20	6/13/91/115	-
22	CLA	O	310	13	1/1/14/20	9/31/109/115	-
22	CLA	G	608	26	1/1/14/20	16/31/109/115	-
24	DD6	P	612	-	-	6/26/80/80	0/3/3/3
22	CLA	A	820	20	1/1/15/20	12/37/115/115	-
22	CLA	B	810	-	1/1/13/20	4/27/105/115	-
27	LMU	A	856	-	-	0/12/32/61	0/1/1/2
22	CLA	B	839	26	1/1/15/20	3/37/115/115	-
31	CHL	U	407	-	3/3/16/26	0/15/113/137	-
21	BCR	B	801	-	-	4/29/63/63	0/2/2/2
27	LMU	H	301	-	-	2/12/32/61	0/1/1/2
22	CLA	A	836	20	1/1/15/20	10/37/115/115	-
22	CLA	F	405	5	1/1/11/20	5/13/91/115	-
27	LMU	L	420	-	-	4/21/57/61	1/2/2/2
24	DD6	Q	615	-	-	0/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
29	SF4	C	101	2	-	-	0/6/5/5
22	CLA	G	606	6	1/1/15/20	12/37/115/115	-
22	CLA	G	604	-	1/1/11/20	0/13/91/115	-
26	LHG	L	416	22	-	20/46/46/53	-
22	CLA	U	403	16	1/1/11/20	8/13/91/115	-
22	CLA	A	807	20	1/1/15/20	13/37/115/115	-
22	CLA	H	313	7	1/1/13/20	8/29/107/115	-
22	CLA	A	814	20	1/1/15/20	9/37/115/115	-
22	CLA	U	404	16	1/1/15/20	14/37/115/115	-
27	LMU	L	419	-	-	6/21/34/61	1/1/1/2
21	BCR	B	846	-	-	6/29/63/63	0/2/2/2
28	LMG	I	614	-	-	10/32/52/70	0/1/1/1
22	CLA	R	604	-	1/1/11/20	5/13/91/115	-
22	CLA	L	409	26	1/1/14/20	4/31/109/115	-
28	LMG	K	618	-	-	24/44/64/70	0/1/1/1
22	CLA	S	602	14	1/1/14/20	9/31/109/115	-
22	CLA	L	402	11	1/1/15/20	17/37/115/115	-
22	CLA	V	603	17	1/1/13/20	11/28/106/115	-
22	CLA	A	832	20	1/1/12/20	5/22/100/115	-
22	CLA	G	610	6	1/1/11/20	5/13/91/115	-
22	CLA	A	806	20	1/1/15/20	10/37/115/115	-
22	CLA	A	811	20	1/1/13/20	10/28/106/115	-
28	LMG	T	616	-	-	16/36/56/70	0/1/1/1
22	CLA	A	844	26	1/1/13/20	12/25/103/115	-
22	CLA	N	607	-	1/1/14/20	14/31/109/115	-
27	LMU	H	321	-	-	1/19/56/61	0/2/2/2
22	CLA	P	602	6	1/1/11/20	10/13/91/115	-
22	CLA	W	414	18	1/1/15/20	8/37/115/115	-
27	LMU	O	303	-	-	2/21/61/61	0/2/2/2
22	CLA	A	818	20	1/1/12/20	4/23/101/115	-
27	LMU	B	849	-	-	2/15/35/61	0/1/1/2
22	CLA	X	407	-	1/1/15/20	4/37/115/115	-
21	BCR	A	848	-	-	0/29/63/63	0/2/2/2
22	CLA	A	830	20	1/1/15/20	13/37/115/115	-
22	CLA	A	801	-	1/1/15/20	15/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	R	602	-	1/1/14/20	12/31/109/115	-
22	CLA	G	601	6	1/1/11/20	6/13/91/115	-
24	DD6	X	401	-	-	0/26/80/80	0/3/3/3
22	CLA	I	606	8	1/1/14/20	10/33/111/115	-
26	LHG	U	419	22	-	15/28/28/53	-
22	CLA	A	842	20	1/1/15/20	12/37/115/115	-
22	CLA	G	605	-	1/1/11/20	3/13/91/115	-
22	CLA	W	415	18	1/1/11/20	6/13/91/115	-
22	CLA	J	102	9	1/1/12/20	7/19/97/115	-
22	CLA	N	610	8	1/1/13/20	16/25/103/115	-
22	CLA	A	827	-	1/1/14/20	5/34/112/115	-
22	CLA	X	402	19	1/1/13/20	11/25/103/115	-
26	LHG	K	616	22	-	18/43/43/53	-
22	CLA	U	409	-	1/1/11/20	6/13/91/115	-
22	CLA	I	610	8	1/1/11/20	7/13/91/115	-
22	CLA	G	602	6	1/1/14/20	4/31/109/115	-
22	CLA	T	605	-	1/1/15/20	13/37/115/115	-
22	CLA	A	822	-	1/1/15/20	8/37/115/115	-
22	CLA	O	308	-	1/1/14/20	14/33/111/115	-
22	CLA	A	803	-	1/1/15/20	12/37/115/115	-
24	DD6	S	612	-	-	1/26/80/80	0/3/3/3
26	LHG	T	614	22	-	27/46/46/53	-
22	CLA	U	411	16	1/1/13/20	7/28/106/115	-
27	LMU	J	104	-	-	9/21/57/61	0/2/2/2
22	CLA	V	604	-	1/1/13/20	9/27/105/115	-
27	LMU	F	409	-	-	4/12/32/61	0/1/1/2
26	LHG	S	613	22	-	13/36/36/53	-
21	BCR	B	843	-	-	4/29/63/63	0/2/2/2
33	CL0	A	802	20	3/3/20/25	6/37/135/135	-
26	LHG	B	848	22	-	10/31/31/53	-
22	CLA	L	406	-	1/1/15/20	10/37/115/115	-
25	DGD	O	304	-	-	31/49/89/95	0/2/2/2
22	CLA	A	834	20	1/1/11/20	3/13/91/115	-
24	DD6	H	315	-	-	1/26/80/80	0/3/3/3
23	PQN	B	840	-	-	0/23/43/43	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	DD6	W	416	-	-	1/26/80/80	0/3/3/3
22	CLA	N	604	-	1/1/11/20	6/13/91/115	-
29	SF4	B	860	20,1	-	-	0/6/5/5
27	LMU	O	320	-	-	1/17/35/61	0/2/2/2
22	CLA	A	819	20	1/1/13/20	11/29/107/115	-
28	LMG	H	319	-	-	19/35/55/70	0/1/1/1
22	CLA	B	826	1	1/1/13/20	10/29/107/115	-
22	CLA	X	412	19	1/1/15/20	11/37/115/115	-
22	CLA	A	831	20	1/1/15/20	6/37/115/115	-
22	CLA	T	603	15	1/1/14/20	8/31/109/115	-
30	SQD	F	407	-	-	2/37/57/69	0/1/1/1
28	LMG	U	402	-	-	25/48/68/70	0/1/1/1
31	CHL	W	422	-	3/3/20/26	9/39/137/137	-
22	CLA	I	607	8	1/1/13/20	4/25/103/115	-
24	DD6	J	105	-	-	3/26/80/80	0/3/3/3
24	DD6	V	615	-	-	3/26/80/80	0/3/3/3
22	CLA	I	609	8	1/1/11/20	4/13/91/115	-
22	CLA	S	607	14	1/1/14/20	9/31/109/115	-
22	CLA	H	311	7	1/1/15/20	15/37/115/115	-
22	CLA	O	305	13	1/1/12/20	4/19/97/115	-
22	CLA	A	825	20	1/1/14/20	15/33/111/115	-
24	DD6	U	417	-	-	1/26/80/80	0/3/3/3
24	DD6	O	317	-	-	0/26/80/80	0/3/3/3
22	CLA	I	605	-	1/1/11/20	2/13/91/115	-
22	CLA	B	824	-	1/1/15/20	11/37/115/115	-
22	CLA	L	411	11	1/1/15/20	14/37/115/115	-
22	CLA	R	610	11	1/1/15/20	10/37/115/115	-
22	CLA	K	613	-	1/1/12/20	3/23/101/115	-
22	CLA	T	611	15	1/1/15/20	14/37/115/115	-
22	CLA	H	309	26	1/1/13/20	8/25/103/115	-
22	CLA	B	823	-	1/1/15/20	10/37/115/115	-
22	CLA	P	603	6	-	3/13/91/115	-
22	CLA	A	840	20	1/1/15/20	16/37/115/115	-
22	CLA	H	305	7	1/1/14/20	11/31/109/115	-
22	CLA	O	315	13	1/1/12/20	2/19/97/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	B	812	1	1/1/15/20	18/37/115/115	-
22	CLA	U	420	16	1/1/11/20	7/13/91/115	-
27	LMU	M	102	-	-	4/15/35/61	0/1/1/2
22	CLA	I	604	-	1/1/11/20	1/13/91/115	-
22	CLA	N	609	8	1/1/11/20	4/13/91/115	-
22	CLA	U	413	16	1/1/11/20	5/13/91/115	-
22	CLA	S	615	-	1/1/12/20	2/21/99/115	-
22	CLA	B	803	1	1/1/13/20	5/27/105/115	-
22	CLA	R	603	-	1/1/13/20	10/27/105/115	-
22	CLA	X	404	19	1/1/14/20	8/31/109/115	-
28	LMG	H	322	-	-	15/32/52/70	0/1/1/1
22	CLA	A	816	20	1/1/14/20	14/33/111/115	-
22	CLA	B	818	-	1/1/15/20	12/37/115/115	-
24	DD6	X	415	-	-	1/26/80/80	0/3/3/3
22	CLA	B	825	1	1/1/15/20	10/37/115/115	-
22	CLA	N	602	8	1/1/14/20	5/31/109/115	-
24	DD6	A	847	-	-	1/26/80/80	0/3/3/3
27	LMU	F	402	-	-	1/12/32/61	0/1/1/2
22	CLA	P	611	6	1/1/11/20	6/13/91/115	-
22	CLA	H	312	7	1/1/11/20	3/13/91/115	-
22	CLA	V	617	-	1/1/11/20	8/13/91/115	-
22	CLA	Q	601	-	1/1/11/20	4/13/91/115	-
22	CLA	T	606	15	1/1/12/20	5/19/97/115	-
22	CLA	V	601	17	1/1/11/20	4/13/91/115	-
22	CLA	I	608	-	1/1/11/20	3/13/91/115	-
22	CLA	P	604	-	1/1/11/20	6/13/91/115	-
26	LHG	O	318	22	-	16/38/38/53	-
26	LHG	O	321	-	-	30/53/53/53	-
22	CLA	Q	606	-	1/1/11/20	7/13/91/115	-
27	LMU	A	857	-	-	3/15/35/61	0/1/1/2
22	CLA	S	601	14	1/1/11/20	6/13/91/115	-
24	DD6	S	611	-	-	1/26/80/80	0/3/3/3
28	LMG	W	401	-	-	19/43/63/70	0/1/1/1
26	LHG	W	420	22	-	22/46/46/53	-
22	CLA	H	308	7	1/1/14/20	6/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	CLA	A	835	20	1/1/14/20	9/33/111/115	-
27	LMU	X	418	-	-	1/15/35/61	0/1/1/2
27	LMU	U	421	-	-	7/21/61/61	0/2/2/2
22	CLA	X	411	-	1/1/11/20	3/13/91/115	-
31	CHL	X	406	-	3/3/16/26	0/15/113/137	-
22	CLA	B	805	1	1/1/15/20	7/37/115/115	-
22	CLA	W	405	18	1/1/14/20	3/31/109/115	-
22	CLA	V	602	17	1/1/15/20	6/37/115/115	-
24	DD6	U	416	-	-	1/26/80/80	0/3/3/3
26	LHG	R	614	22	-	20/46/46/53	-
22	CLA	A	810	20	1/1/15/20	9/37/115/115	-
22	CLA	R	607	11	1/1/14/20	15/31/109/115	-
22	CLA	V	607	-	1/1/11/20	3/13/91/115	-
22	CLA	B	804	1	1/1/15/20	15/37/115/115	-
21	BCR	A	850	-	-	4/29/63/63	0/2/2/2
22	CLA	A	808	20	1/1/15/20	12/37/115/115	-
22	CLA	L	405	-	1/1/11/20	3/13/91/115	-
22	CLA	T	608	26	1/1/14/20	4/31/109/115	-
26	LHG	O	324	-	-	25/46/46/53	-
27	LMU	X	421	-	-	3/21/61/61	0/2/2/2
22	CLA	X	419	19	1/1/11/20	7/13/91/115	-
22	CLA	R	601	-	1/1/15/20	17/37/115/115	-
22	CLA	O	314	13	1/1/11/20	1/13/91/115	-
24	DD6	W	417	-	-	1/26/80/80	0/3/3/3
22	CLA	R	606	11	1/1/13/20	12/28/106/115	-
22	CLA	B	806	1	1/1/15/20	13/37/115/115	-
22	CLA	B	831	1	1/1/15/20	7/37/115/115	-
22	CLA	P	605	-	1/1/11/20	8/13/91/115	-
22	CLA	W	406	-	1/1/13/20	2/27/105/115	-
27	LMU	G	615	-	-	0/12/32/61	0/1/1/2
21	BCR	B	845	-	-	2/29/63/63	0/2/2/2
28	LMG	K	622	-	-	15/38/58/70	0/1/1/1
22	CLA	A	826	-	1/1/15/20	8/37/115/115	-
28	LMG	F	408	-	-	18/37/57/70	0/1/1/1
24	DD6	L	415	-	-	3/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	DD6	L	413	-	-	1/26/80/80	0/3/3/3
27	LMU	T	615	-	-	0/12/32/61	0/1/1/2
22	CLA	I	601	8	1/1/15/20	13/37/115/115	-
22	CLA	W	409	-	1/1/15/20	10/37/115/115	-
31	CHL	V	605	-	3/3/16/26	0/15/113/137	-
30	SQD	K	621	-	-	5/38/58/69	0/1/1/1
22	CLA	P	606	6	1/1/11/20	6/13/91/115	-
28	LMG	N	615	-	-	24/39/59/70	0/1/1/1
24	DD6	N	613	-	-	4/26/80/80	0/3/3/3
22	CLA	A	837	20	1/1/12/20	4/19/97/115	-
22	CLA	S	609	14	-	7/25/103/115	-
27	LMU	A	853	-	-	0/15/35/61	0/1/1/2

The worst 5 of 1972 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	U	408	CHL	C4B-NB	12.20	1.46	1.35
31	V	606	CHL	C4B-NB	12.11	1.46	1.35
31	W	408	CHL	C4B-NB	12.03	1.45	1.35
31	V	605	CHL	C4B-NB	11.97	1.45	1.35
31	W	422	CHL	C4B-NB	11.92	1.45	1.35

The worst 5 of 3048 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	B	843	BCR	C40-C30-C25	-13.35	88.64	110.30
24	P	612	DD6	C9-C10-C11	-9.93	113.14	127.31
24	P	612	DD6	C4-C5-C6	-9.08	114.35	127.31
24	X	416	DD6	C4-C5-C6	-8.39	115.34	127.31
21	B	843	BCR	C40-C30-C39	-8.38	82.82	108.53

5 of 304 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
22	B	802	CLA	ND
22	B	803	CLA	ND
22	B	804	CLA	ND
22	B	805	CLA	ND
22	B	806	CLA	ND

5 of 3369 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
21	B	801	BCR	C7-C8-C9-C10
21	B	801	BCR	C7-C8-C9-C34
21	B	842	BCR	C21-C22-C23-C24
21	B	842	BCR	C37-C22-C23-C24
21	B	845	BCR	C21-C22-C23-C24

All (2) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
27	L	420	LMU	C1'-C2'-C3'-C4'-C5'-O5'
27	L	419	LMU	C1'-C2'-C3'-C4'-C5'-O5'

291 monomers are involved in 581 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	V	606	CHL	14	0
26	P	601	LHG	1	0
22	N	601	CLA	1	0
22	A	838	CLA	3	0
22	H	307	CLA	1	0
24	Q	614	DD6	1	0
21	A	849	BCR	3	0
22	G	611	CLA	1	0
21	M	101	BCR	3	0
22	Q	610	CLA	2	0
22	L	417	CLA	7	0
22	W	412	CLA	2	0
22	O	312	CLA	1	0
27	A	854	LMU	1	0
28	J	101	LMG	1	0
22	U	401	CLA	2	0
22	B	834	CLA	5	0
22	B	809	CLA	4	0
22	A	828	CLA	4	0
22	K	608	CLA	4	0
22	K	605	CLA	3	0
22	Q	603	CLA	1	0
28	I	615	LMG	1	0
22	X	403	CLA	1	0
22	X	413	CLA	1	0
22	F	403	CLA	2	0
22	F	404	CLA	4	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	R	605	CLA	5	0
22	K	606	CLA	2	0
22	B	829	CLA	3	0
22	K	603	CLA	2	0
22	G	609	CLA	3	0
22	L	404	CLA	6	0
22	N	603	CLA	2	0
23	A	843	PQN	2	0
22	A	824	CLA	4	0
31	W	407	CHL	6	0
22	T	607	CLA	1	0
22	A	833	CLA	1	0
24	B	841	DD6	1	0
22	U	406	CLA	1	0
22	A	813	CLA	2	0
31	U	408	CHL	4	0
22	L	408	CLA	12	0
27	U	424	LMU	1	0
22	B	828	CLA	2	0
22	A	841	CLA	3	0
22	Q	613	CLA	2	0
22	T	604	CLA	1	0
30	V	618	SQD	1	0
22	B	820	CLA	1	0
22	R	615	CLA	2	0
22	I	611	CLA	4	0
22	B	838	CLA	3	0
22	P	610	CLA	1	0
27	B	855	LMU	1	0
22	B	830	CLA	4	0
22	B	814	CLA	1	0
26	N	614	LHG	1	0
22	S	606	CLA	1	0
22	U	405	CLA	3	0
32	V	616	NEX	9	0
22	P	608	CLA	2	0
26	A	846	LHG	2	0
22	N	606	CLA	4	0
27	T	618	LMU	2	0
22	B	832	CLA	3	0
22	L	412	CLA	3	0
22	B	821	CLA	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	X	408	CLA	1	0
28	Q	602	LMG	2	0
22	B	836	CLA	2	0
28	U	423	LMG	2	0
22	B	807	CLA	2	0
22	S	604	CLA	1	0
22	B	813	CLA	3	0
22	B	815	CLA	3	0
22	Q	608	CLA	3	0
22	A	812	CLA	3	0
22	B	817	CLA	1	0
22	U	415	CLA	2	0
22	A	829	CLA	1	0
32	U	418	NEX	4	0
22	O	311	CLA	3	0
22	V	613	CLA	1	0
21	A	851	BCR	3	0
22	S	608	CLA	2	0
22	K	604	CLA	6	0
31	W	408	CHL	8	0
22	K	611	CLA	3	0
25	B	847	DGD	6	0
22	O	313	CLA	3	0
22	B	833	CLA	4	0
22	L	410	CLA	3	0
21	J	103	BCR	1	0
22	I	603	CLA	3	0
22	B	859	CLA	2	0
22	W	402	CLA	2	0
22	B	822	CLA	3	0
22	O	307	CLA	1	0
28	K	601	LMG	3	0
27	K	620	LMU	2	0
22	V	609	CLA	2	0
22	Q	612	CLA	1	0
22	A	805	CLA	2	0
22	A	852	CLA	4	0
22	W	410	CLA	3	0
22	S	605	CLA	4	0
22	I	602	CLA	1	0
27	B	854	LMU	8	0
22	B	819	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	823	CLA	1	0
22	X	409	CLA	1	0
22	B	816	CLA	2	0
22	A	817	CLA	2	0
26	B	851	LHG	7	0
22	A	815	CLA	2	0
22	K	617	CLA	2	0
22	A	804	CLA	3	0
22	G	603	CLA	2	0
22	Q	605	CLA	1	0
22	Q	611	CLA	1	0
22	B	802	CLA	2	0
22	A	821	CLA	1	0
22	A	839	CLA	1	0
26	A	845	LHG	1	0
22	B	811	CLA	1	0
21	B	842	BCR	2	0
22	B	835	CLA	2	0
22	V	612	CLA	7	0
22	A	809	CLA	1	0
22	W	404	CLA	2	0
30	O	302	SQD	8	0
22	P	607	CLA	1	0
22	Q	607	CLA	2	0
27	B	858	LMU	1	0
22	P	609	CLA	1	0
22	Q	609	CLA	1	0
27	O	301	LMU	4	0
22	R	611	CLA	2	0
22	B	827	CLA	1	0
21	B	844	BCR	5	0
28	B	856	LMG	4	0
25	F	401	DGD	2	0
22	H	310	CLA	1	0
22	V	608	CLA	1	0
22	U	412	CLA	1	0
22	Q	604	CLA	5	0
22	S	610	CLA	2	0
22	K	607	CLA	9	0
26	Q	616	LHG	1	0
22	K	609	CLA	2	0
22	W	411	CLA	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
26	N	616	LHG	1	0
22	O	309	CLA	3	0
22	W	413	CLA	2	0
22	O	310	CLA	1	0
22	G	608	CLA	4	0
22	A	820	CLA	1	0
22	B	810	CLA	1	0
22	B	839	CLA	2	0
31	U	407	CHL	3	0
21	B	801	BCR	8	0
27	H	301	LMU	1	0
22	A	836	CLA	2	0
27	L	420	LMU	2	0
26	L	416	LHG	3	0
22	A	807	CLA	1	0
22	H	313	CLA	1	0
22	A	814	CLA	4	0
22	U	404	CLA	2	0
27	L	419	LMU	4	0
21	B	846	BCR	1	0
22	R	604	CLA	5	0
22	L	409	CLA	2	0
22	S	602	CLA	1	0
22	L	402	CLA	2	0
22	V	603	CLA	2	0
22	A	832	CLA	3	0
22	G	610	CLA	1	0
22	A	806	CLA	4	0
22	A	811	CLA	1	0
28	T	616	LMG	2	0
22	A	844	CLA	4	0
22	N	607	CLA	7	0
27	H	321	LMU	1	0
22	P	602	CLA	2	0
22	W	414	CLA	1	0
21	A	848	BCR	2	0
22	A	830	CLA	1	0
22	A	801	CLA	1	0
22	R	602	CLA	4	0
22	G	601	CLA	1	0
22	I	606	CLA	2	0
22	A	842	CLA	4	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	W	415	CLA	1	0
22	J	102	CLA	1	0
22	N	610	CLA	3	0
22	A	827	CLA	2	0
26	K	616	LHG	3	0
22	U	409	CLA	1	0
22	G	602	CLA	1	0
22	T	605	CLA	4	0
22	A	822	CLA	3	0
22	O	308	CLA	4	0
22	A	803	CLA	1	0
26	T	614	LHG	1	0
22	U	411	CLA	1	0
22	V	604	CLA	7	0
27	F	409	LMU	1	0
26	S	613	LHG	2	0
21	B	843	BCR	3	0
26	B	848	LHG	1	0
33	A	802	CL0	6	0
22	L	406	CLA	1	0
25	O	304	DGD	3	0
22	A	834	CLA	1	0
23	B	840	PQN	1	0
22	N	604	CLA	1	0
22	A	819	CLA	1	0
28	H	319	LMG	1	0
22	A	831	CLA	2	0
30	F	407	SQD	2	0
28	U	402	LMG	2	0
31	W	422	CHL	2	0
22	I	607	CLA	3	0
22	S	607	CLA	1	0
22	H	311	CLA	2	0
22	O	305	CLA	1	0
22	A	825	CLA	2	0
22	B	824	CLA	3	0
22	L	411	CLA	1	0
22	R	610	CLA	3	0
22	K	613	CLA	4	0
22	T	611	CLA	1	0
22	B	823	CLA	3	0
22	P	603	CLA	1	0

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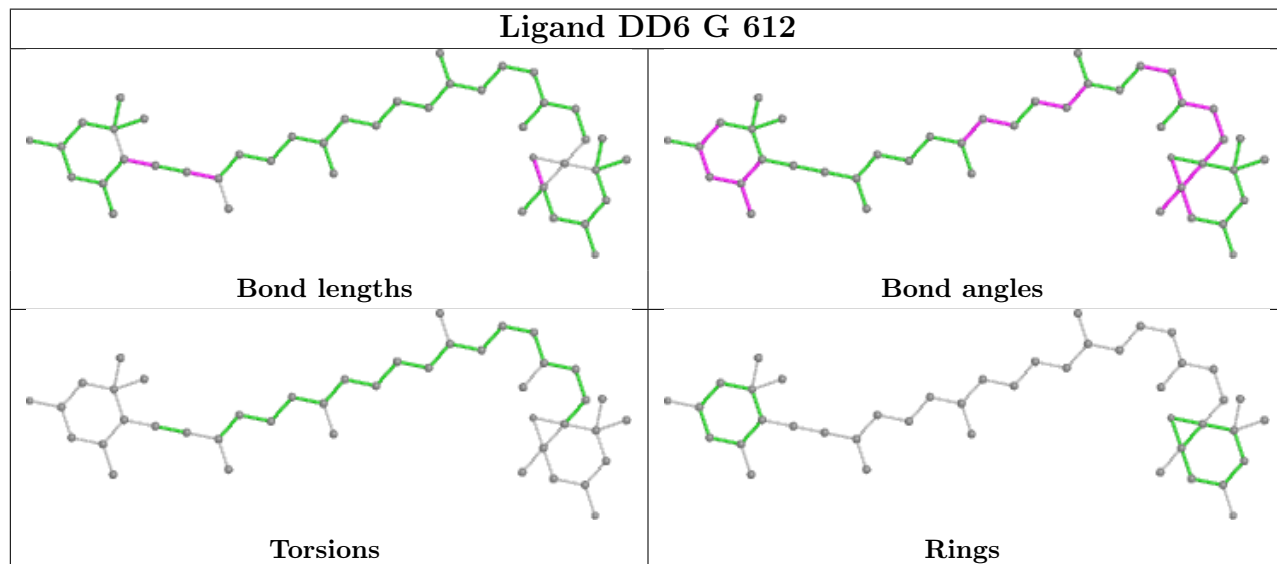
Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	840	CLA	3	0
22	H	305	CLA	1	0
22	O	315	CLA	2	0
22	B	812	CLA	1	0
22	U	420	CLA	1	0
27	M	102	LMU	1	0
22	B	803	CLA	2	0
22	X	404	CLA	1	0
28	H	322	LMG	1	0
22	A	816	CLA	2	0
22	B	818	CLA	1	0
22	B	825	CLA	3	0
22	N	602	CLA	1	0
22	H	312	CLA	3	0
22	V	617	CLA	1	0
22	Q	601	CLA	1	0
22	T	606	CLA	1	0
22	V	601	CLA	4	0
22	I	608	CLA	2	0
26	O	318	LHG	1	0
26	O	321	LHG	3	0
27	A	857	LMU	1	0
22	S	601	CLA	1	0
24	S	611	DD6	1	0
28	W	401	LMG	3	0
26	W	420	LHG	2	0
22	H	308	CLA	2	0
27	U	421	LMU	1	0
22	X	411	CLA	1	0
22	B	805	CLA	1	0
22	V	602	CLA	5	0
26	R	614	LHG	3	0
22	R	607	CLA	3	0
22	V	607	CLA	2	0
22	B	804	CLA	2	0
22	A	808	CLA	1	0
22	T	608	CLA	2	0
22	X	419	CLA	2	0
22	R	601	CLA	6	0
22	O	314	CLA	1	0
22	R	606	CLA	3	0
22	B	806	CLA	4	0

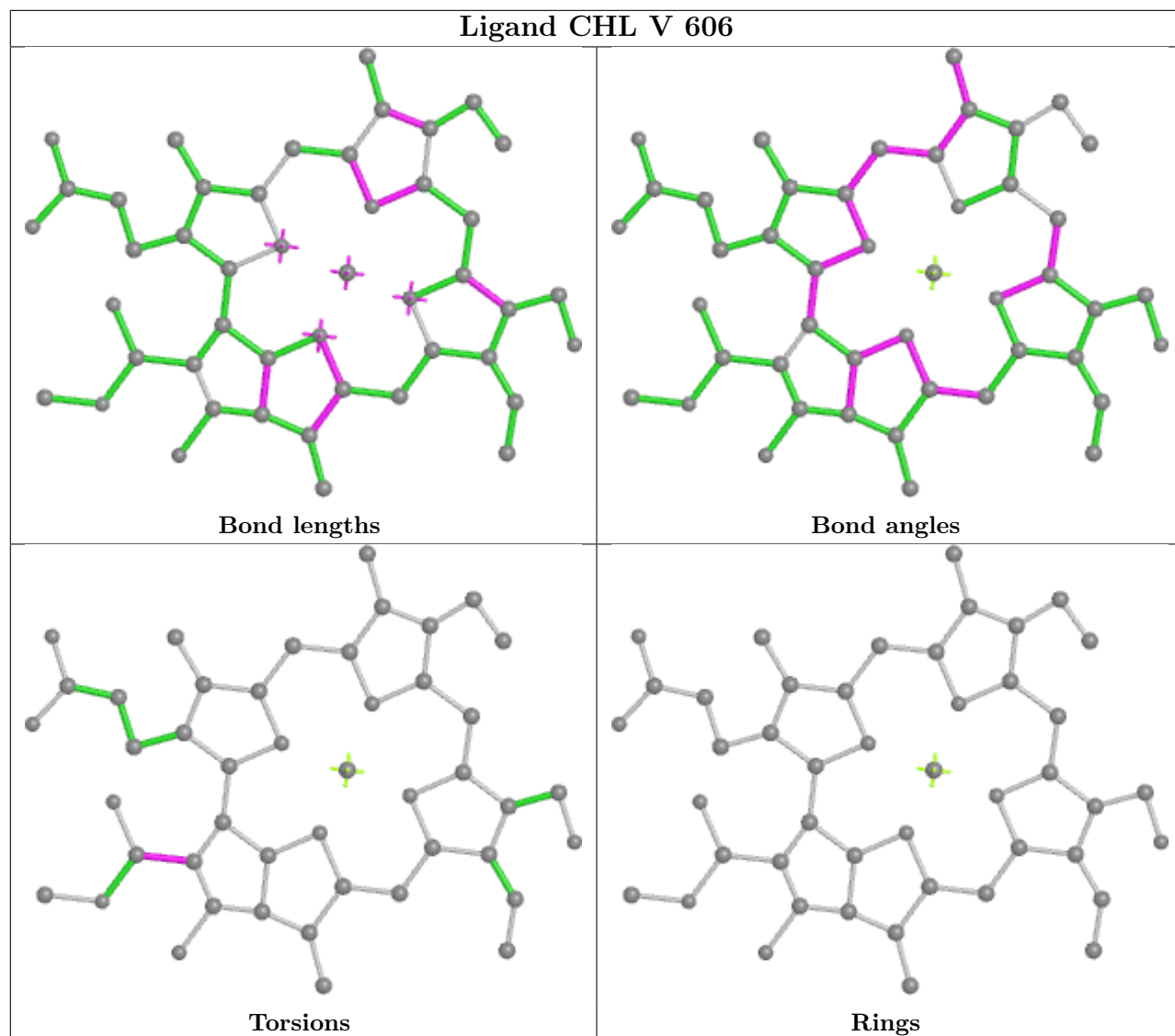
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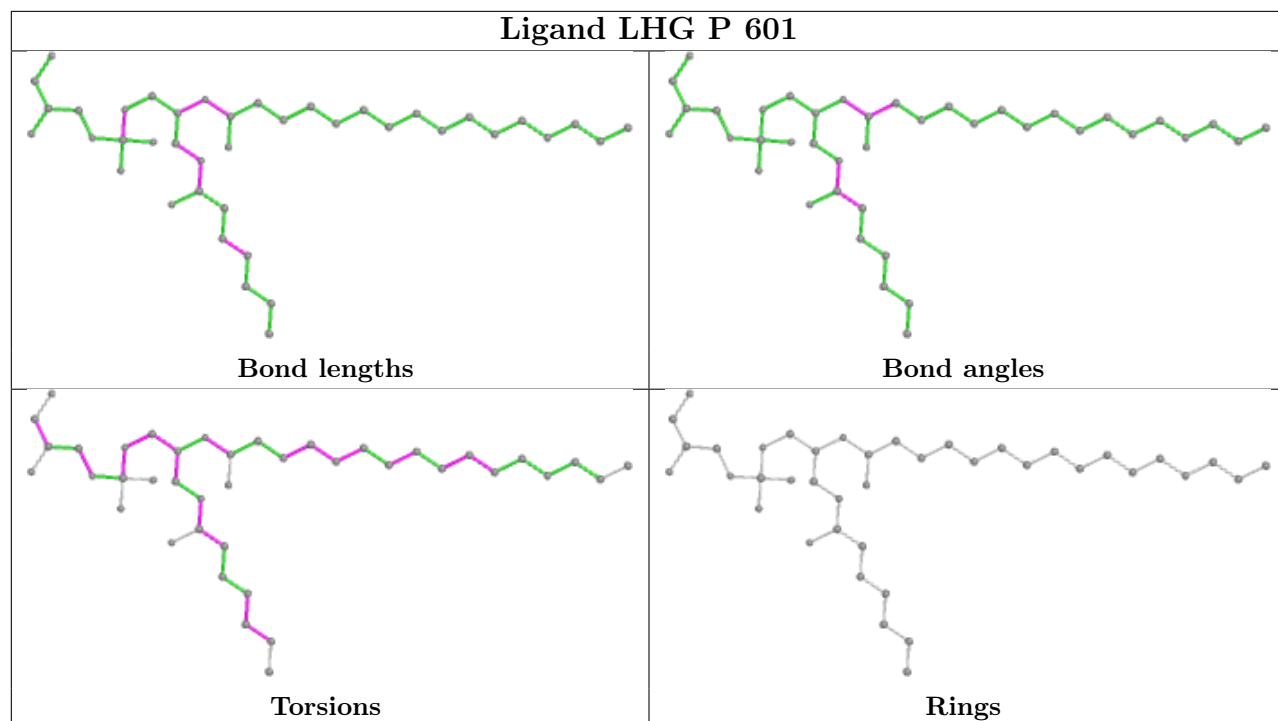
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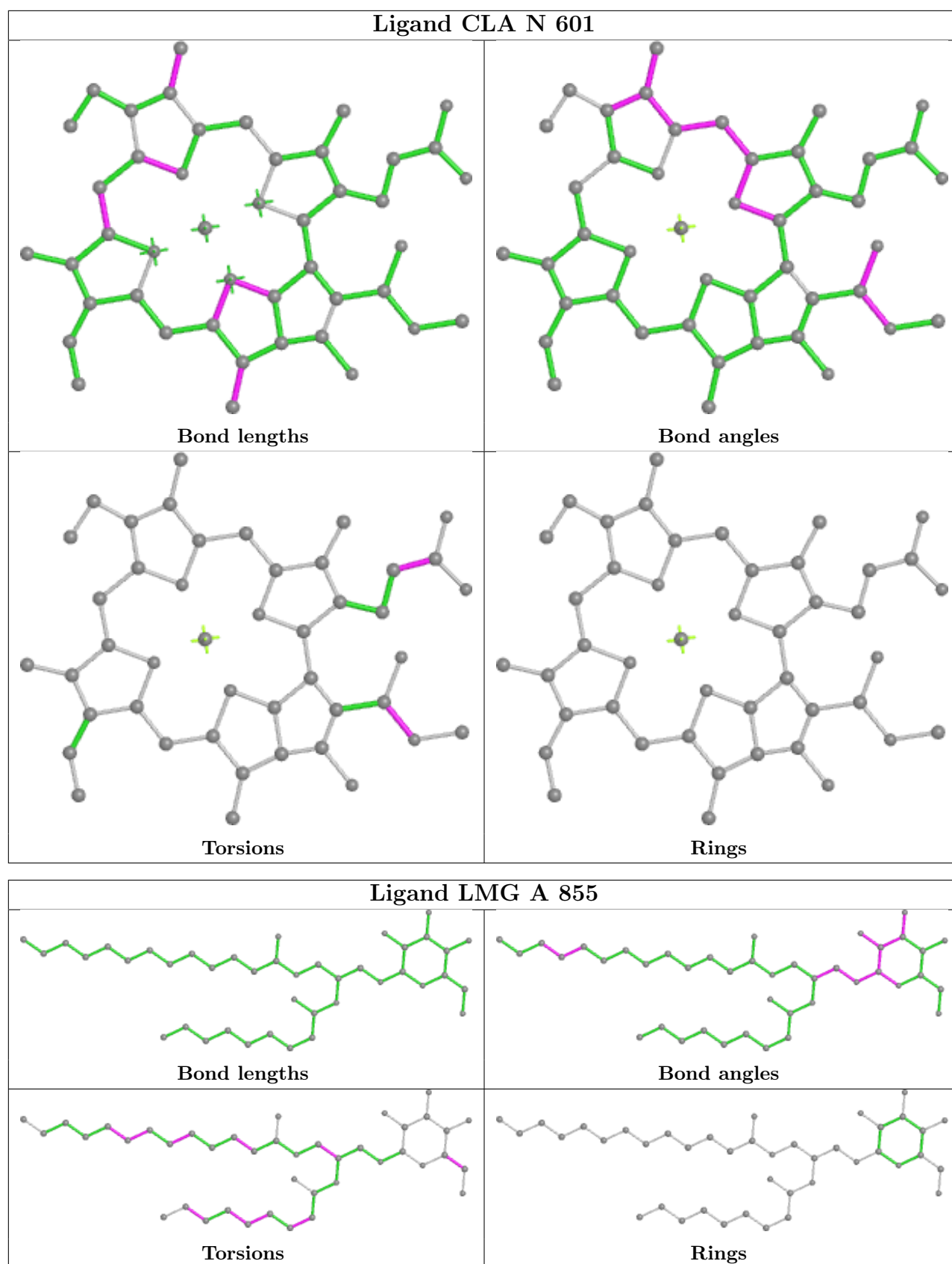
Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	B	831	CLA	2	0
22	P	605	CLA	1	0
22	W	406	CLA	3	0
21	B	845	BCR	2	0
28	F	408	LMG	3	0
22	I	601	CLA	2	0
22	W	409	CLA	4	0
30	K	621	SQD	1	0
31	V	605	CHL	12	0
22	P	606	CLA	3	0
28	N	615	LMG	1	0
22	S	609	CLA	1	0

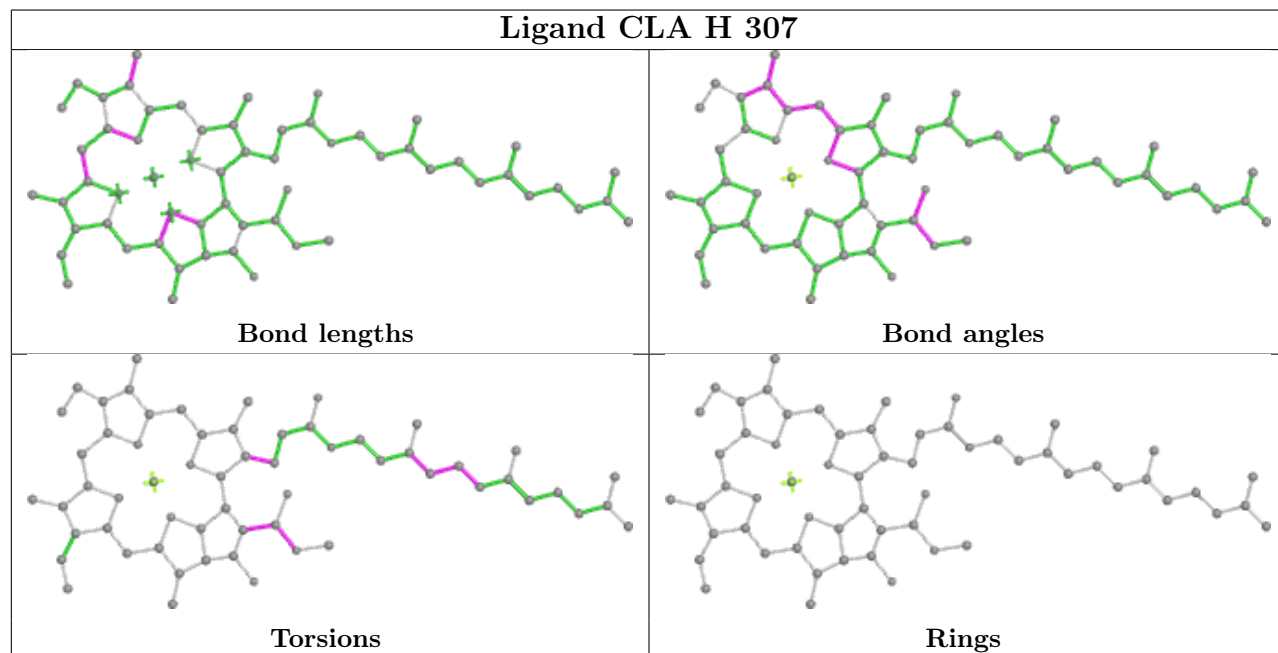
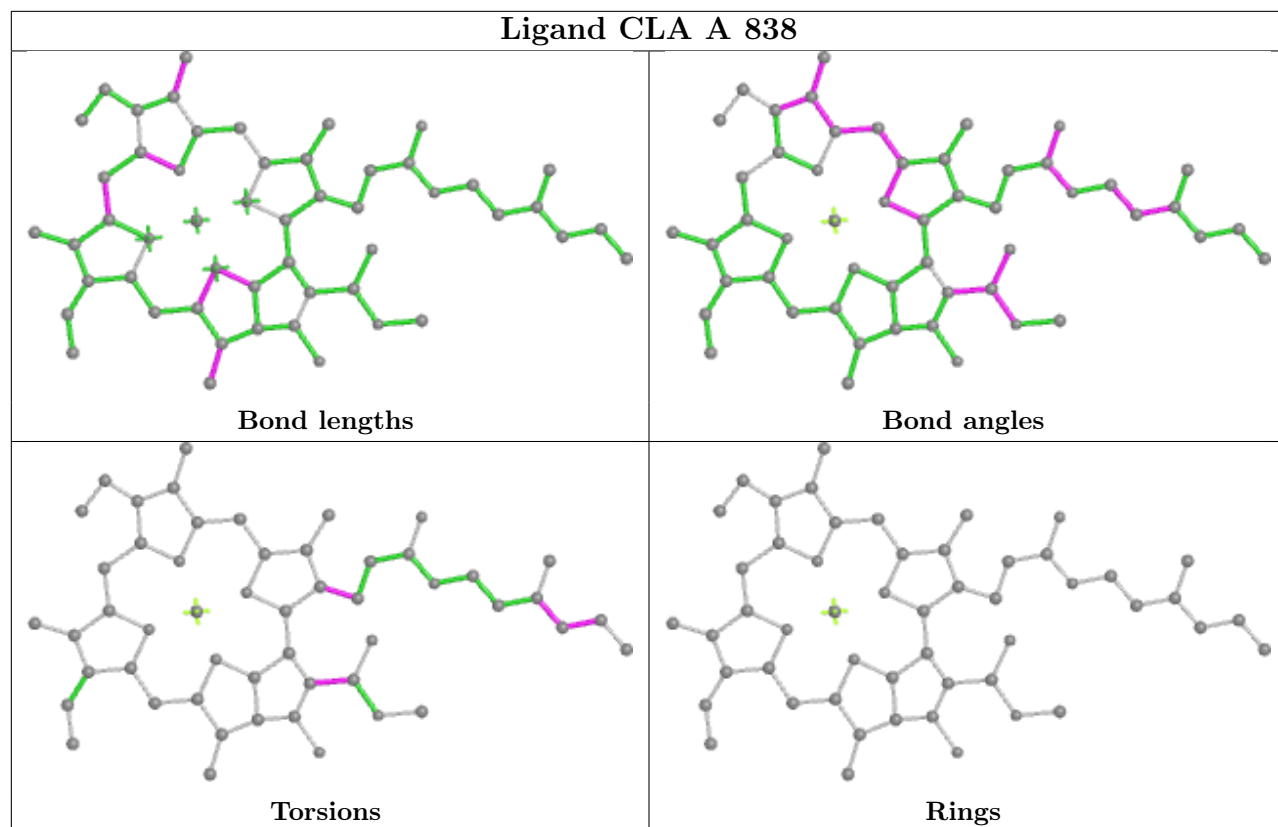
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

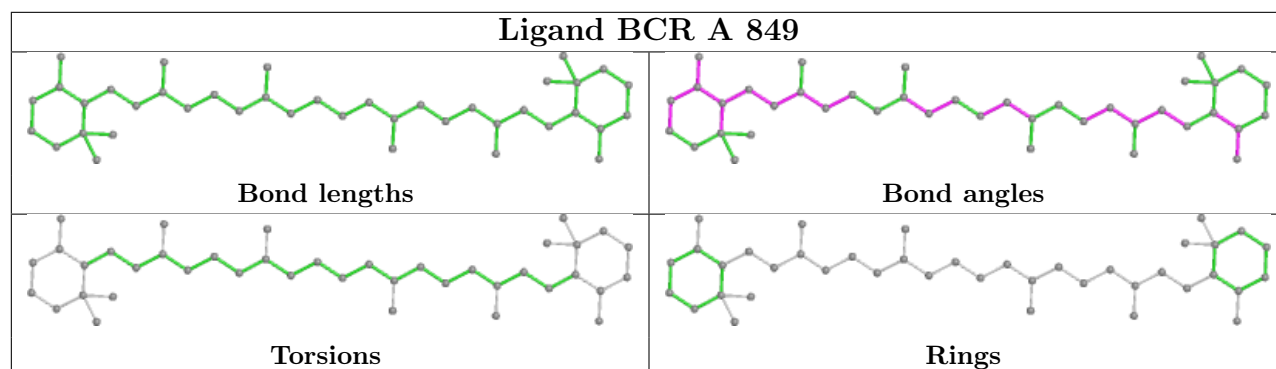
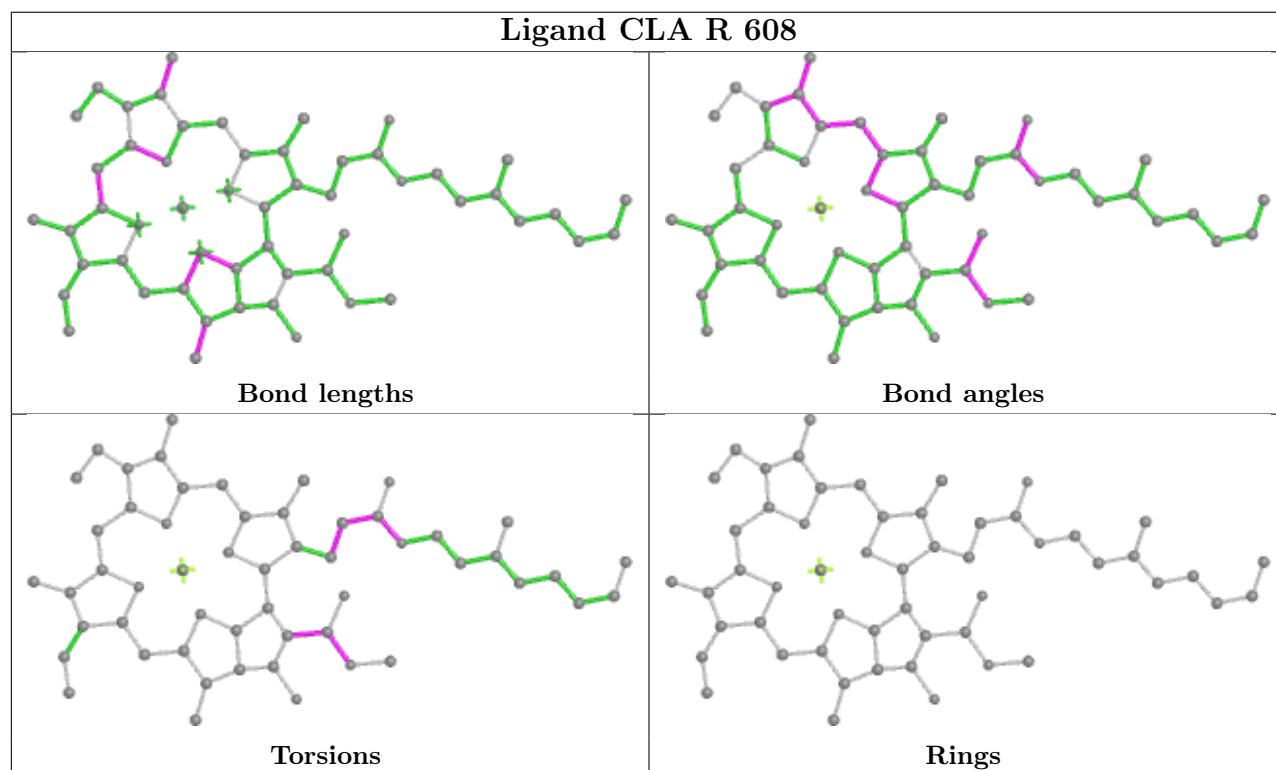
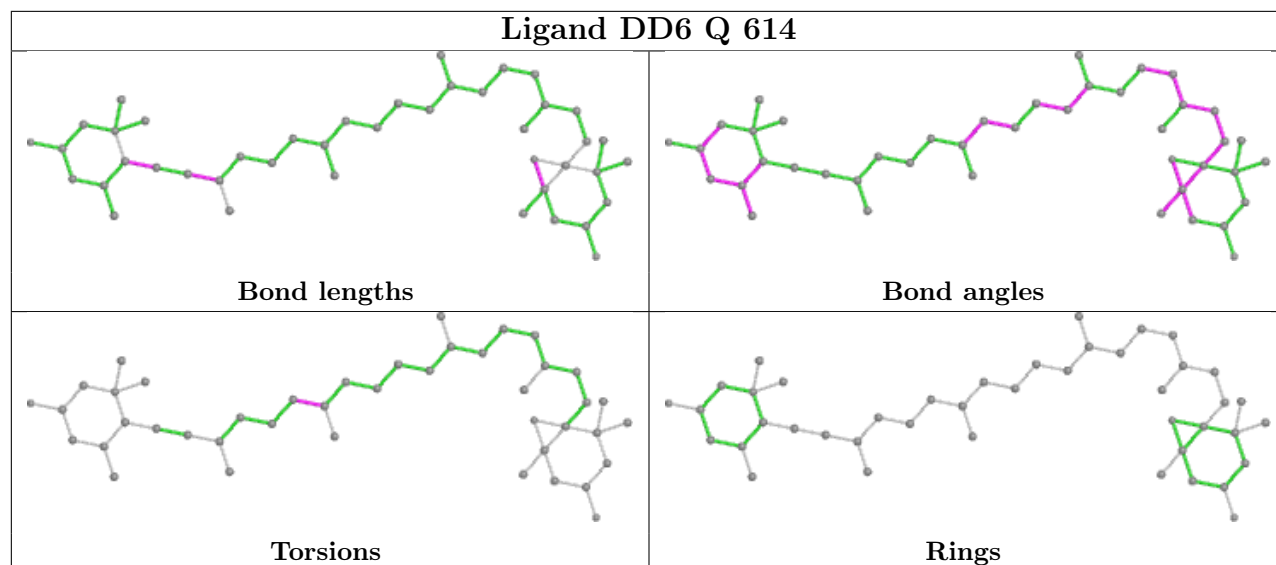


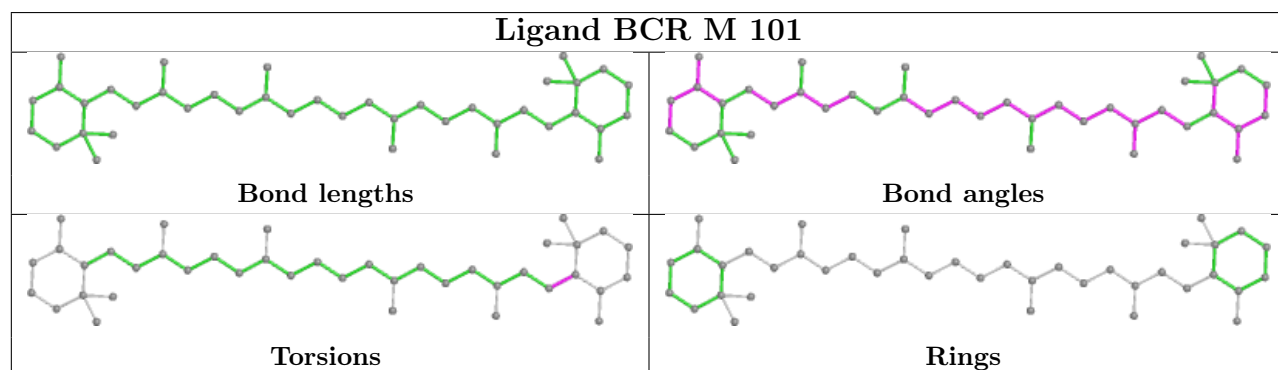
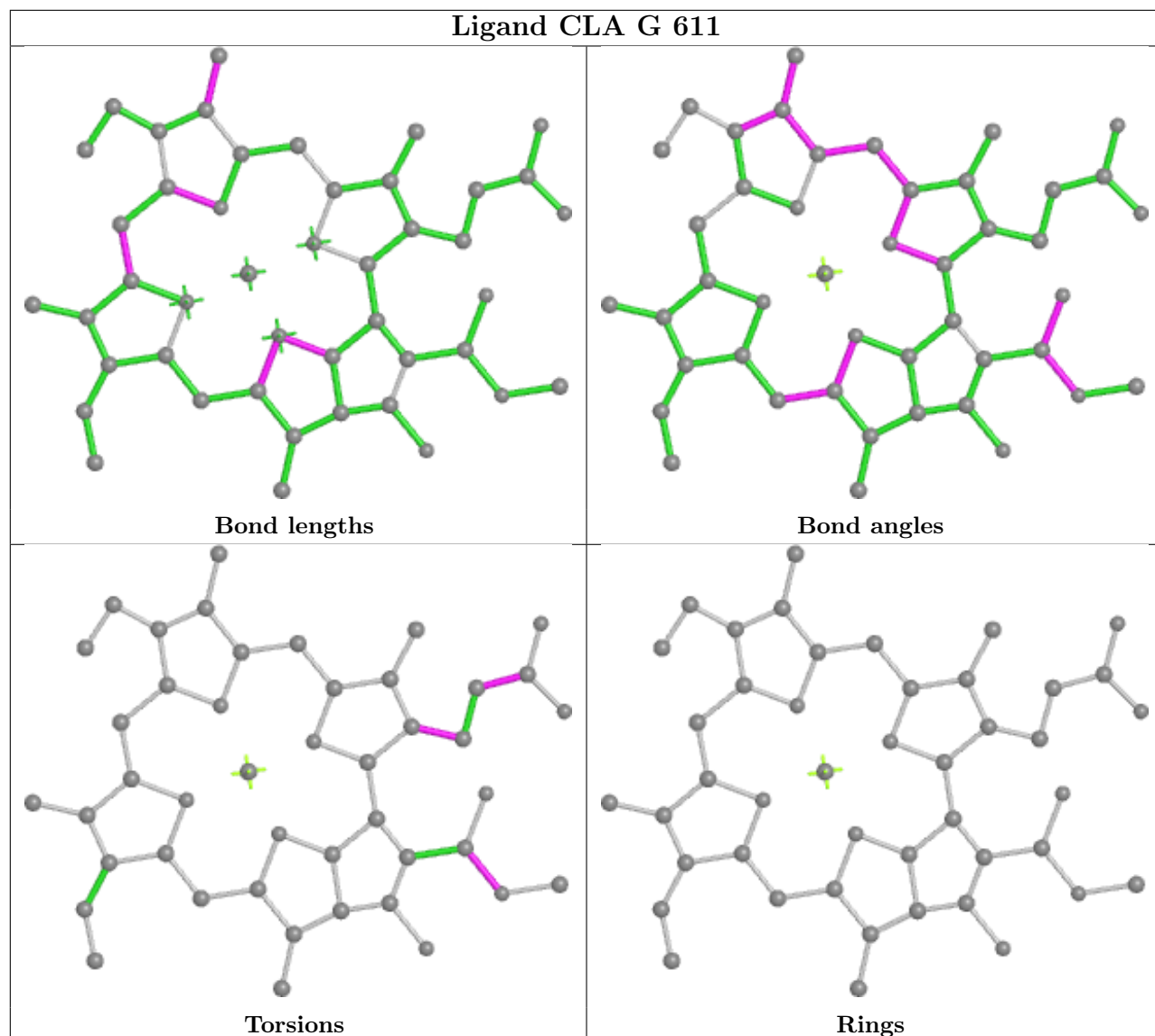


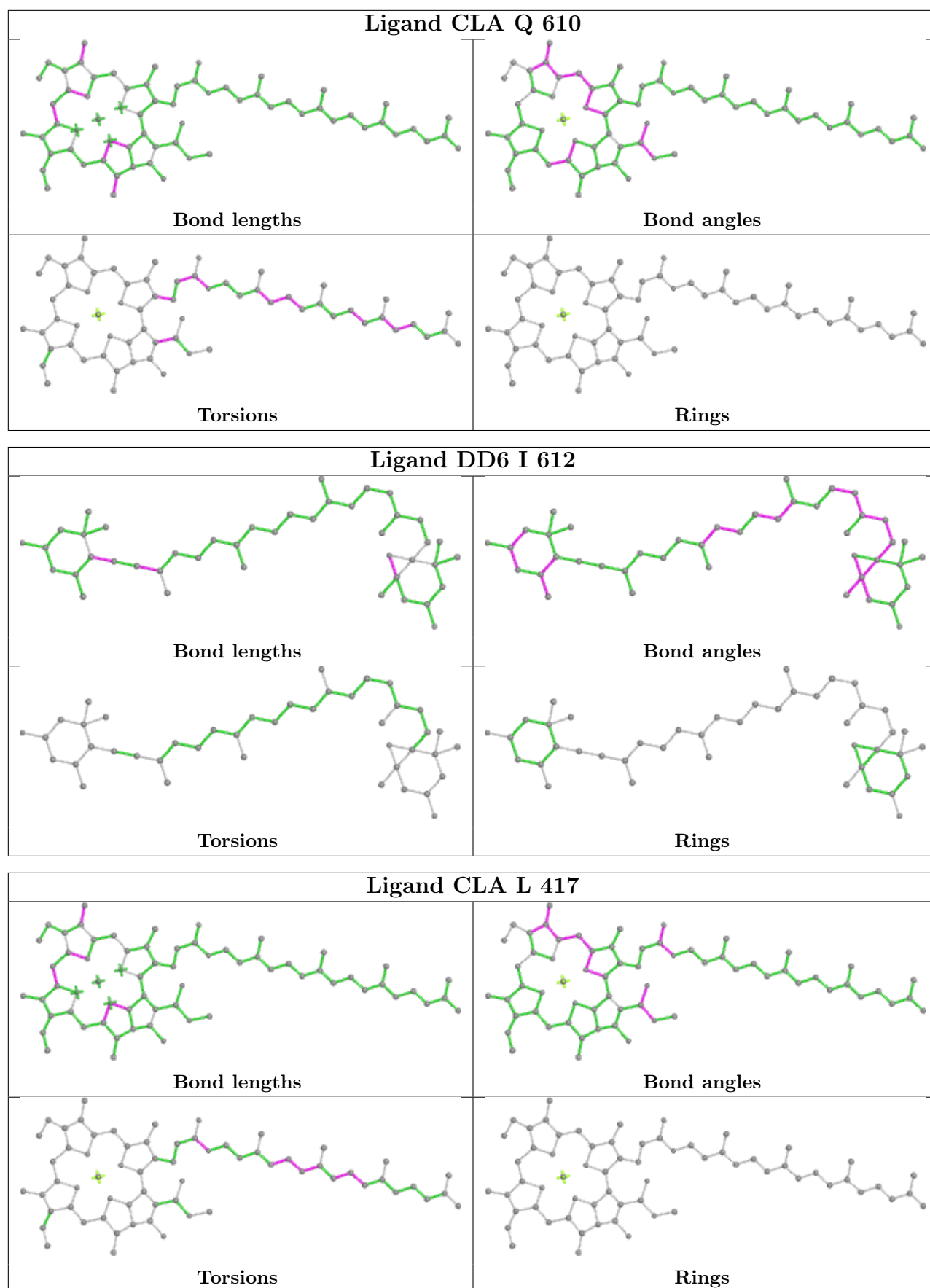


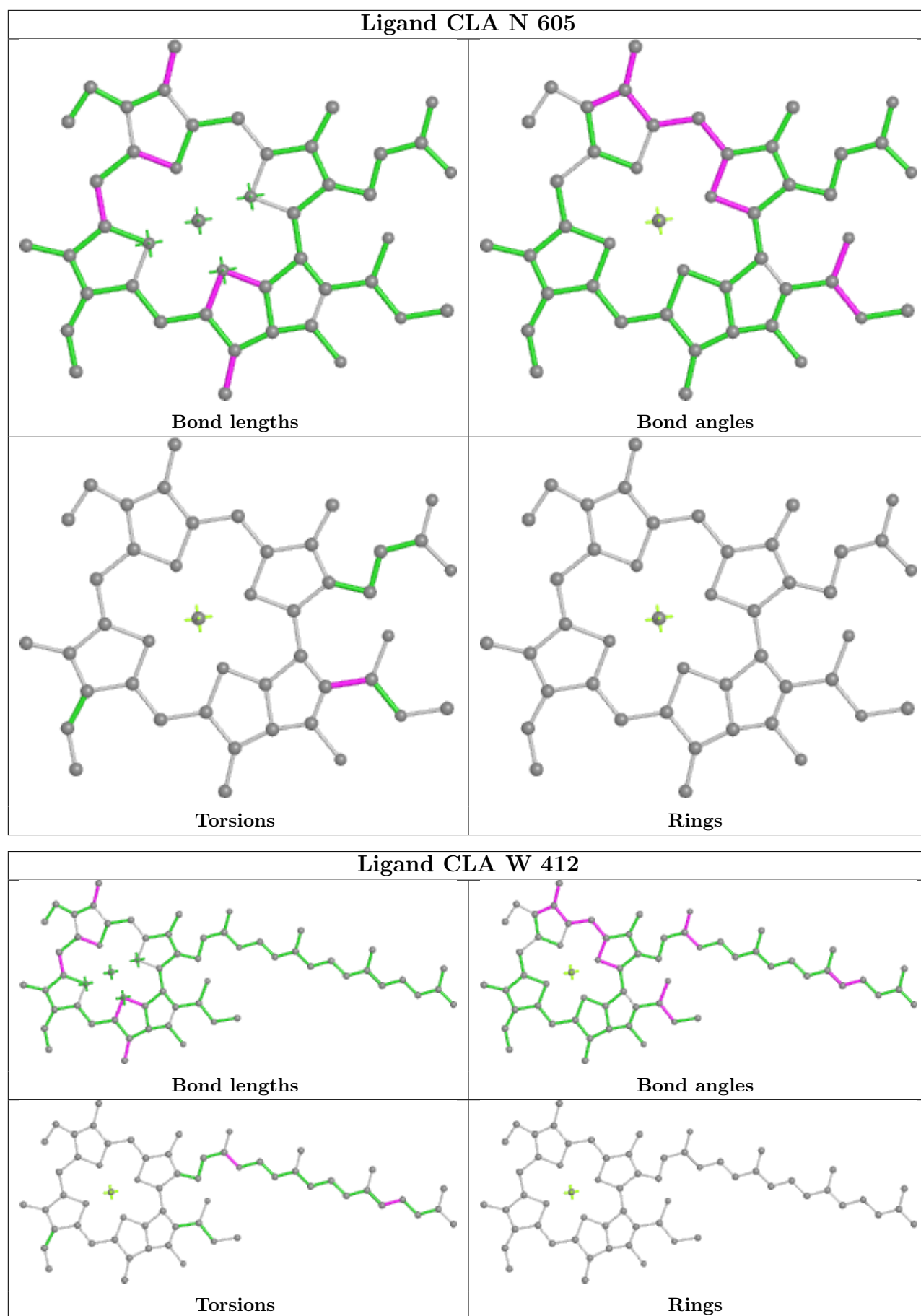


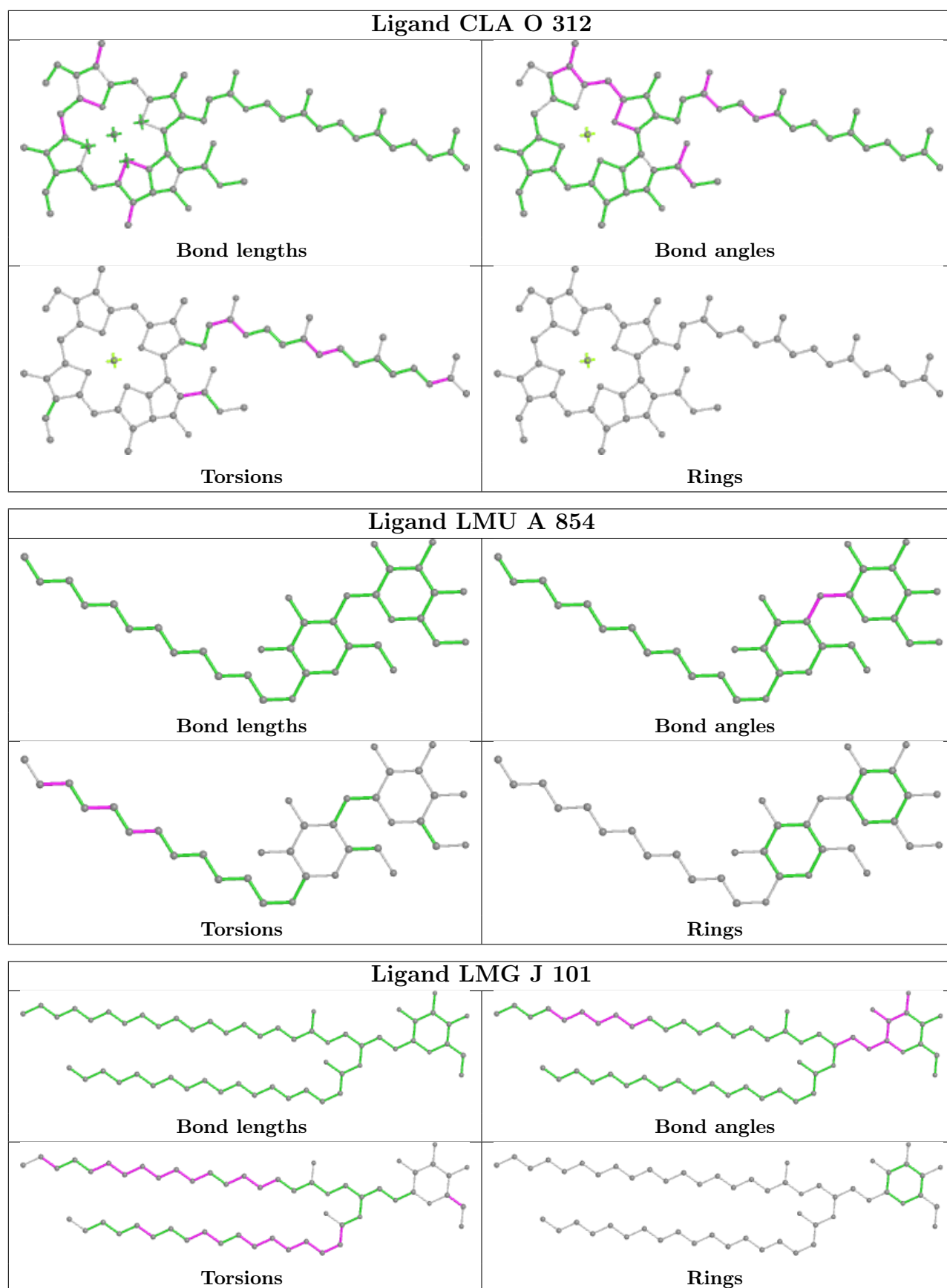


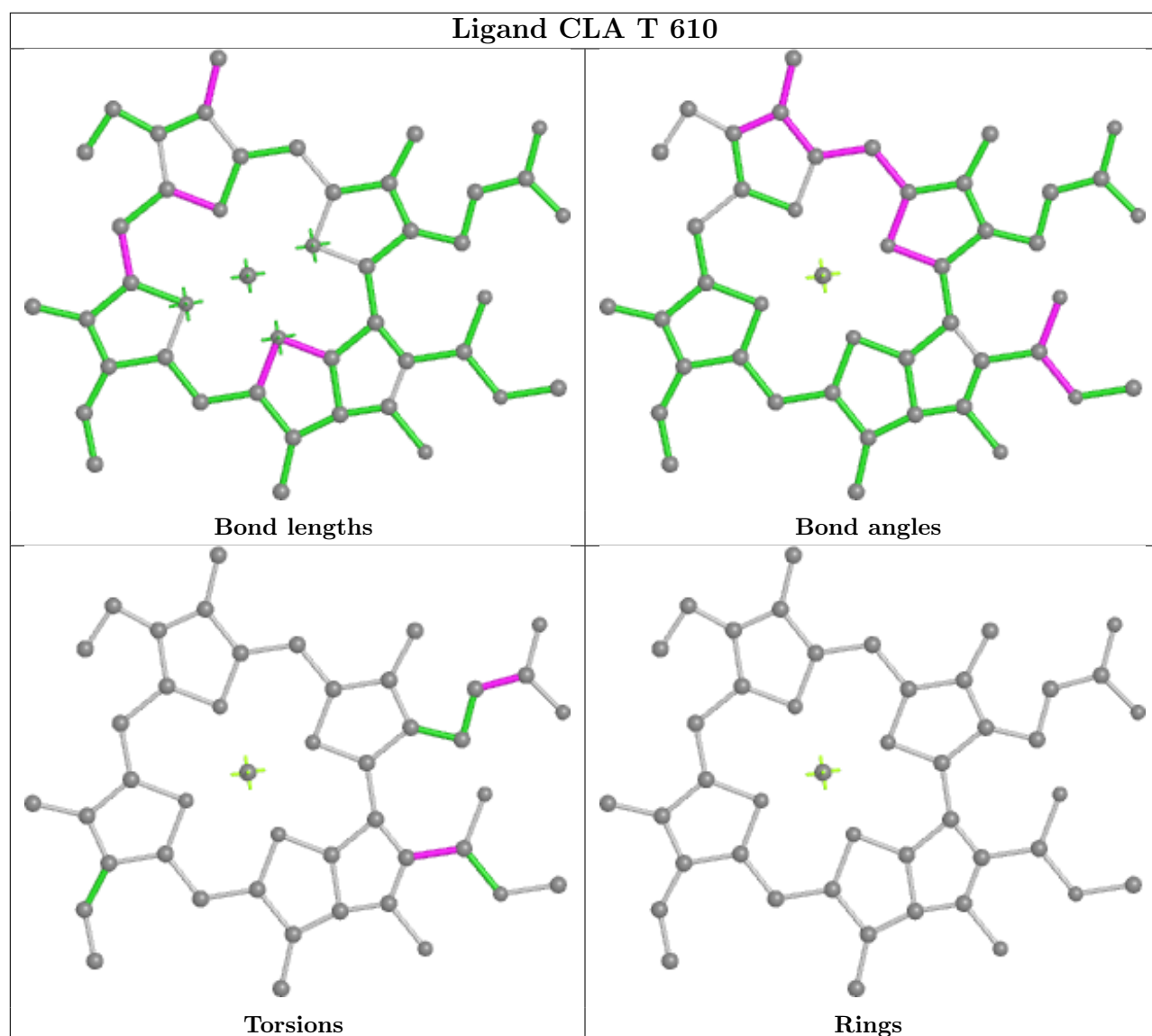


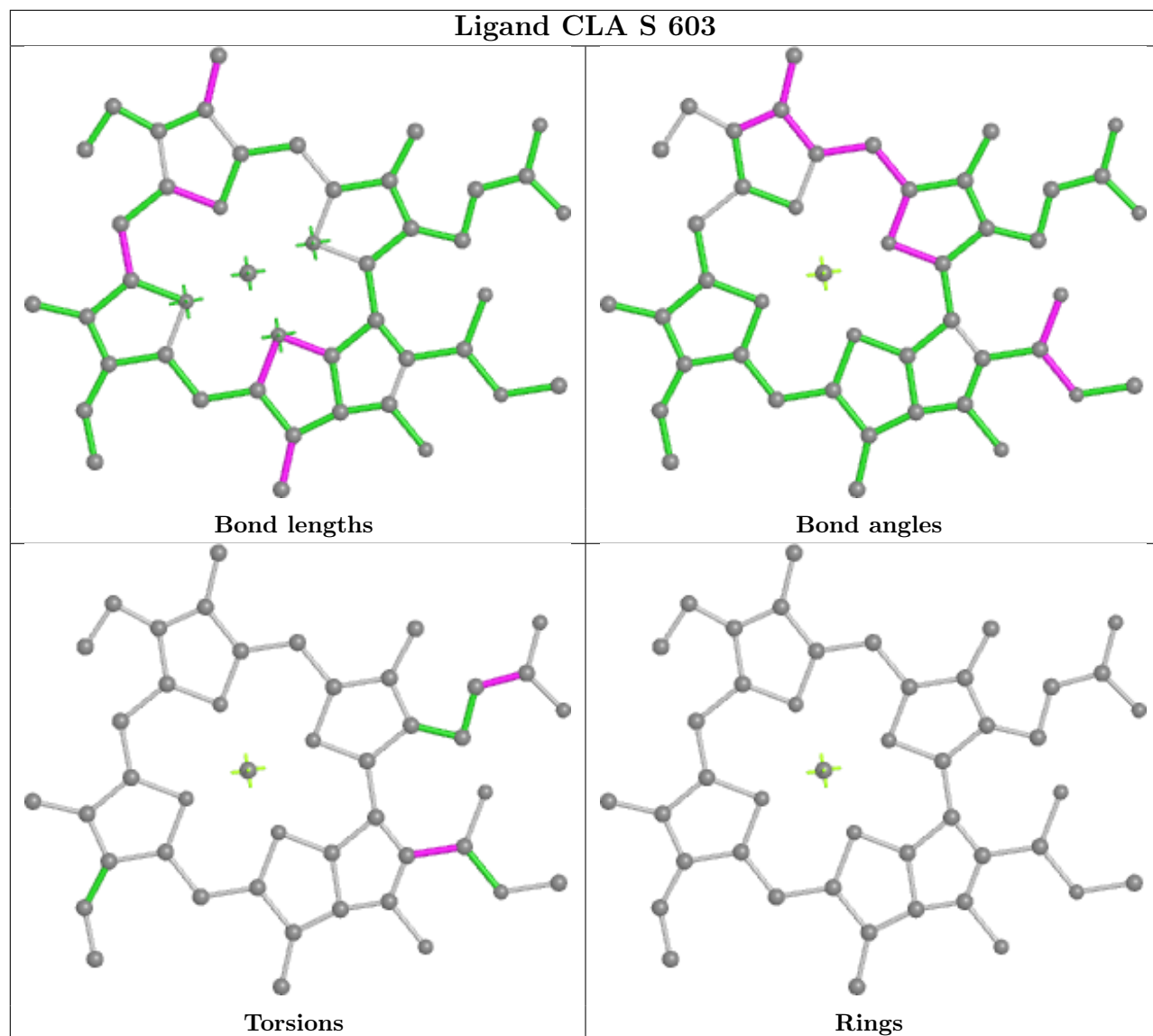


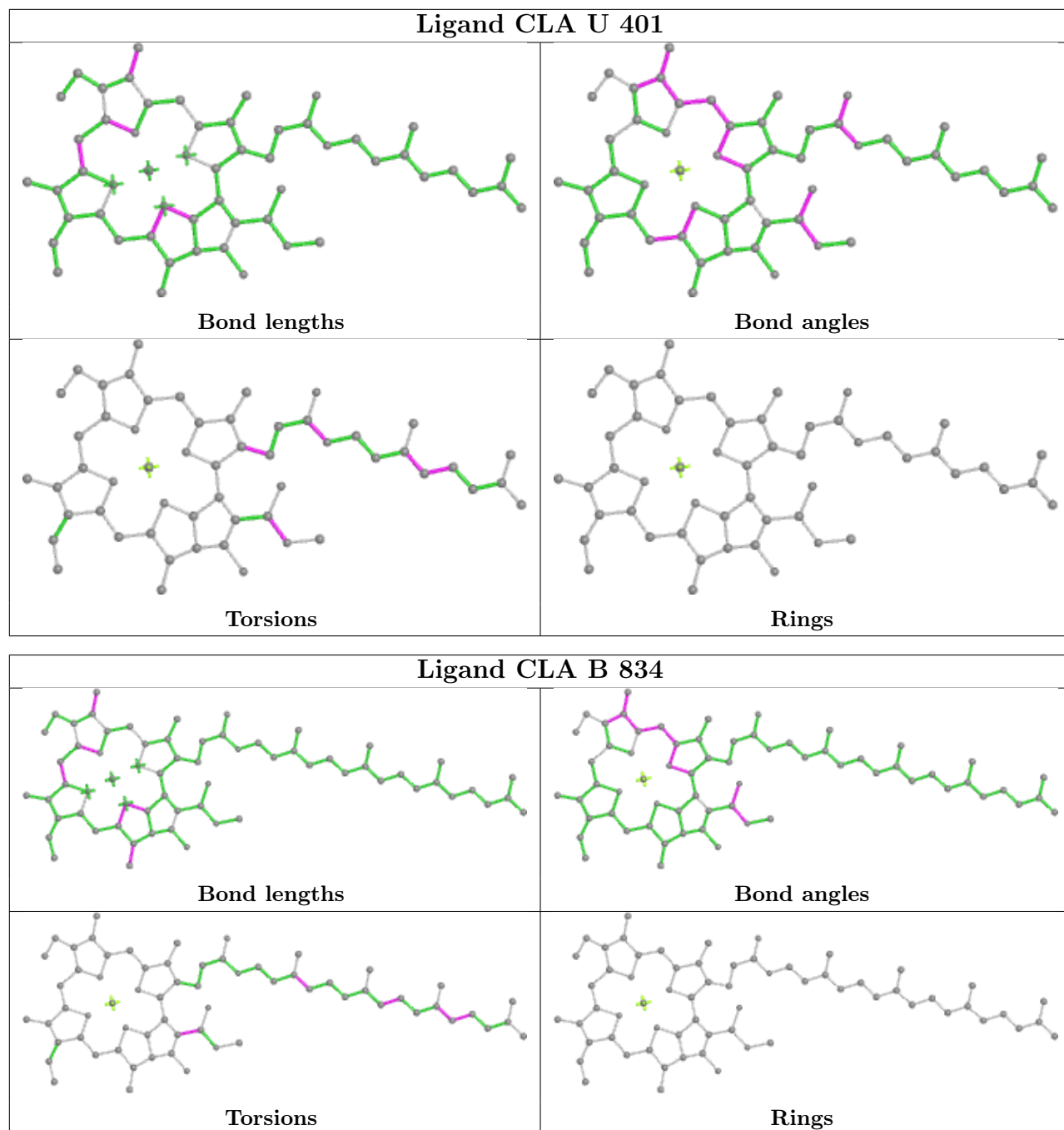


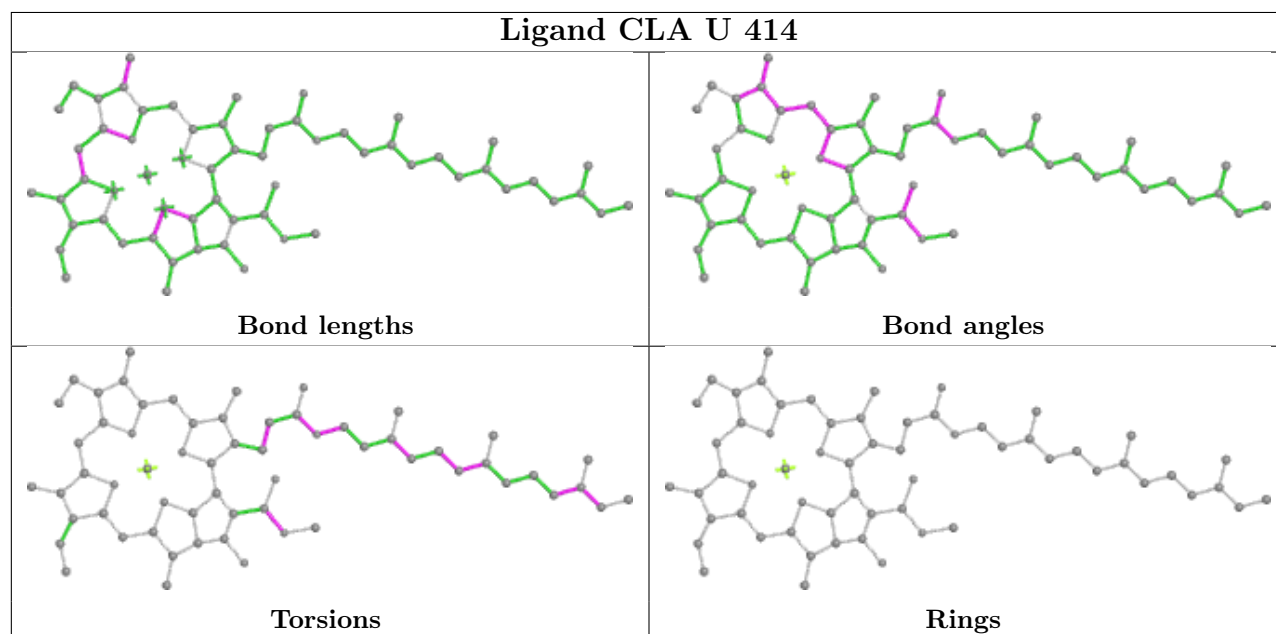
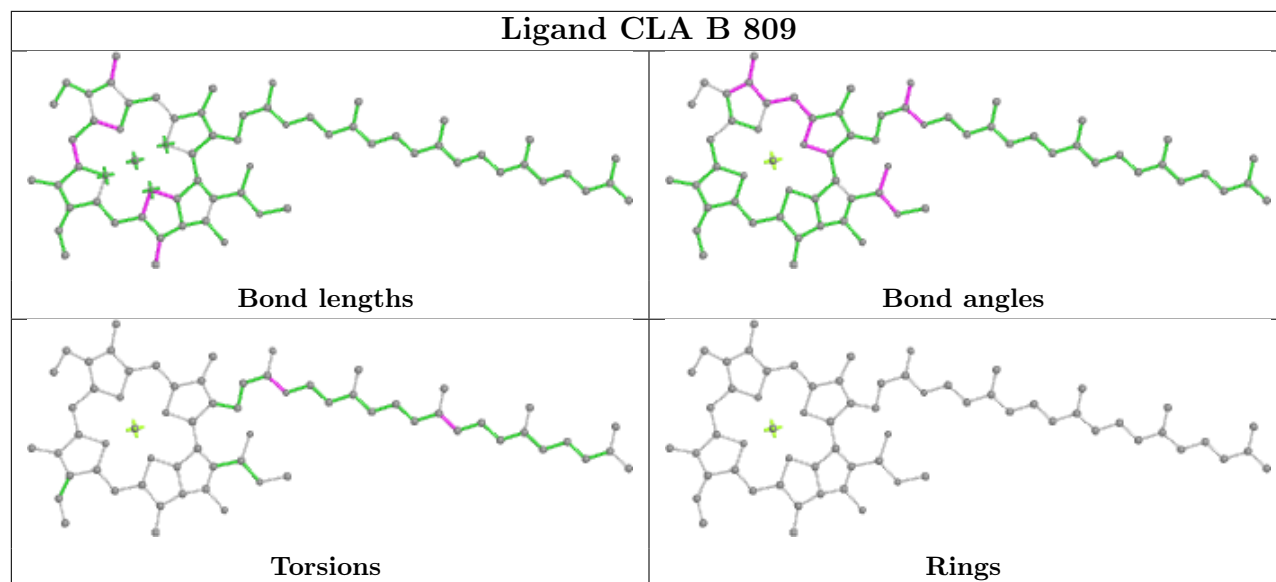


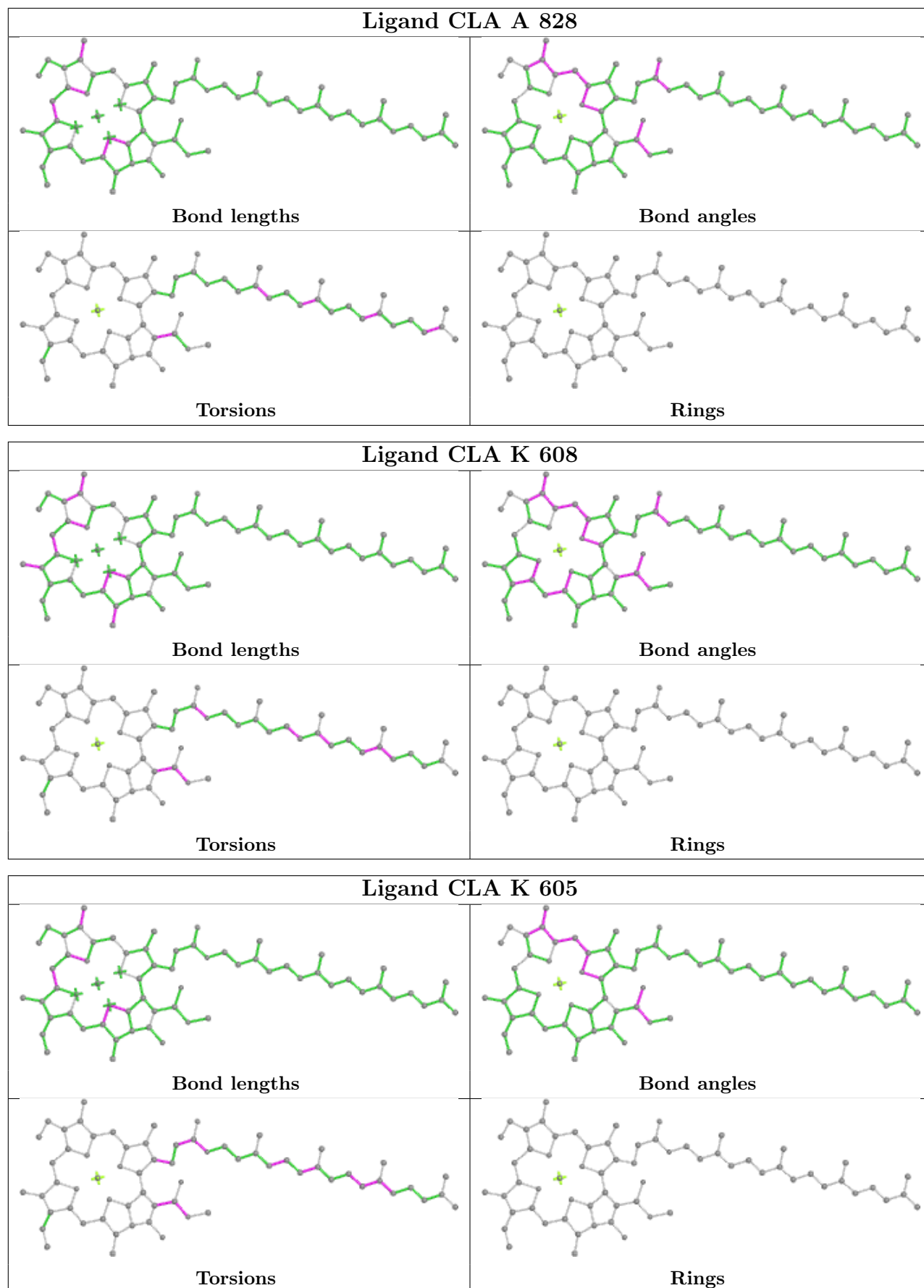


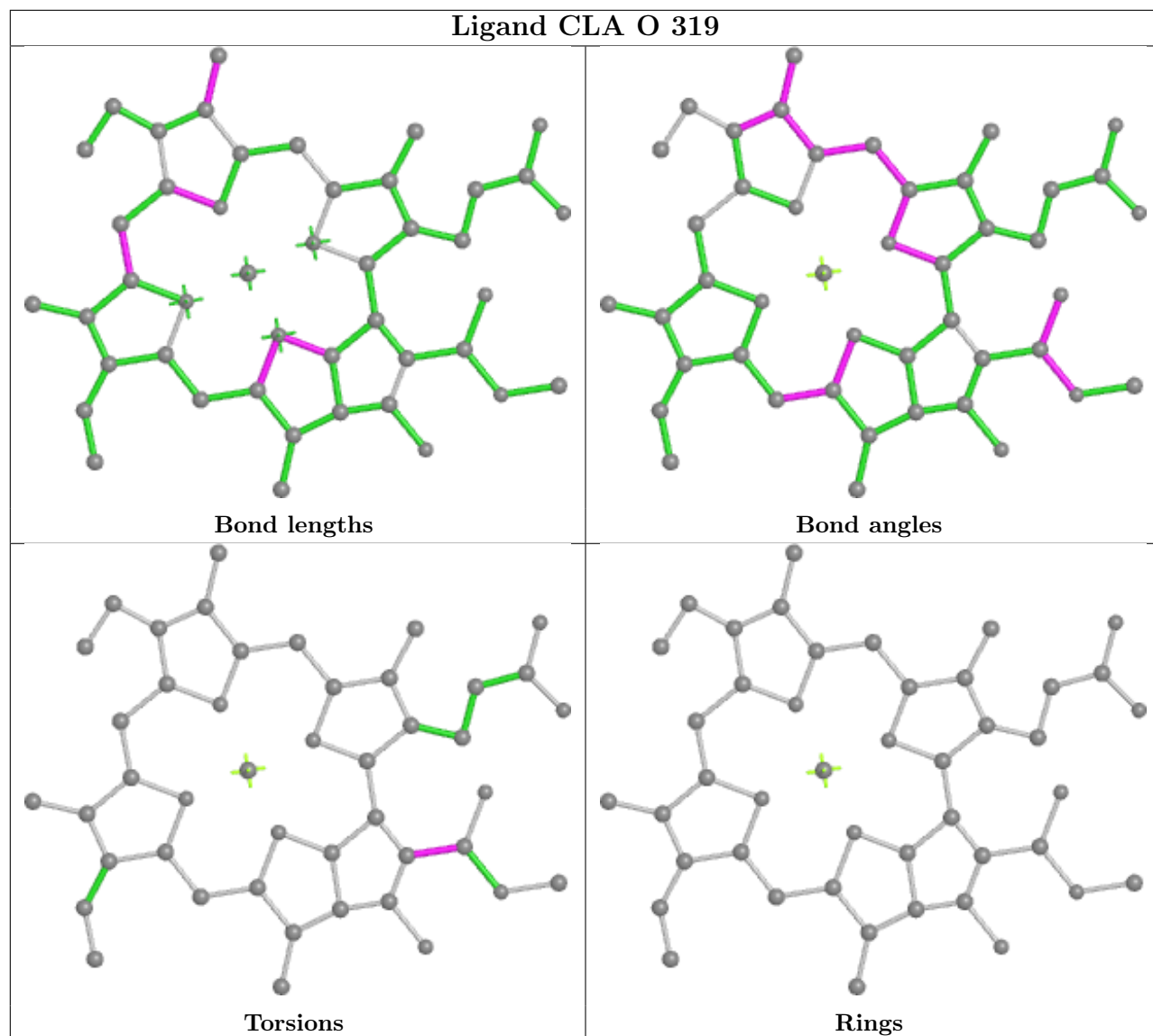


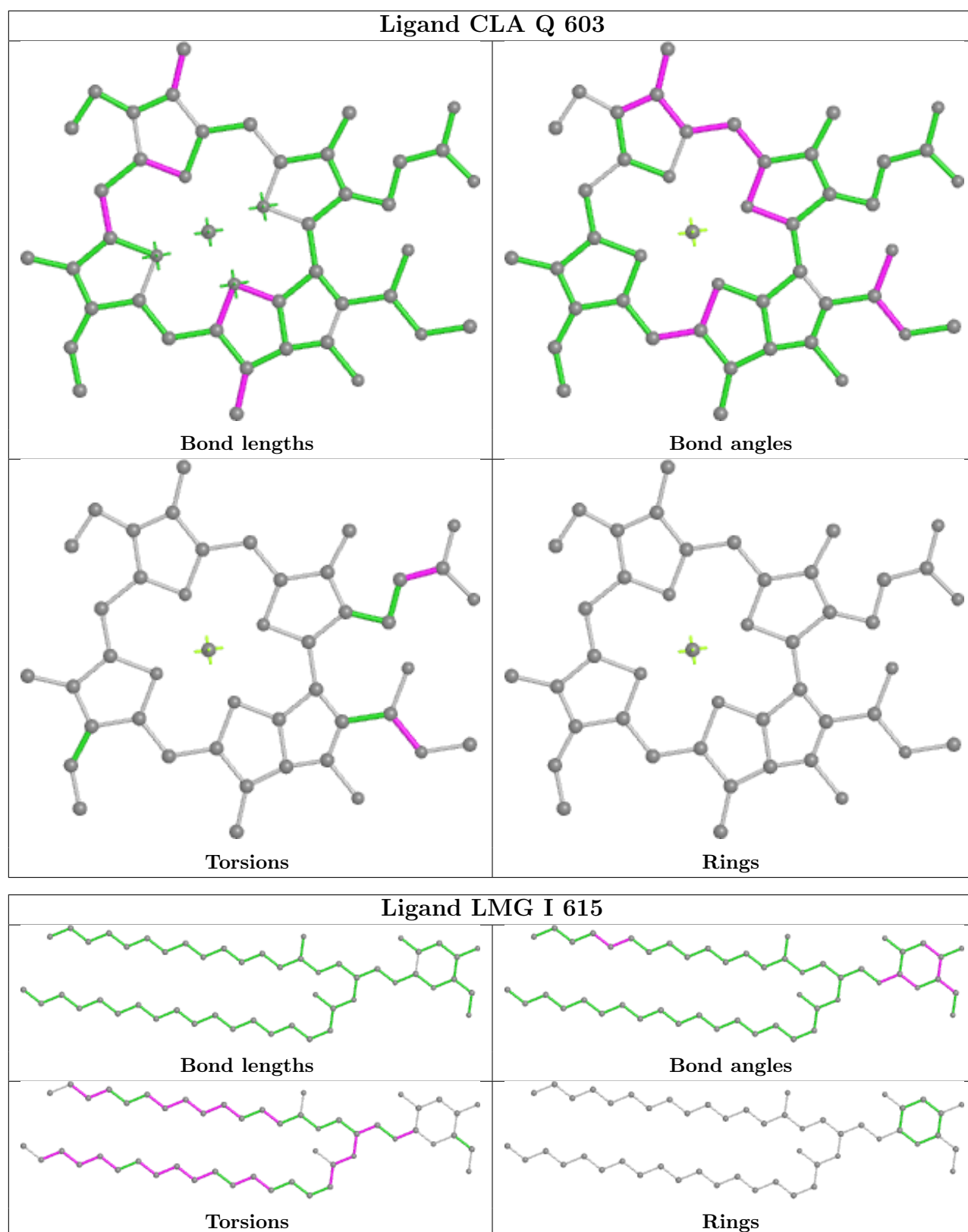


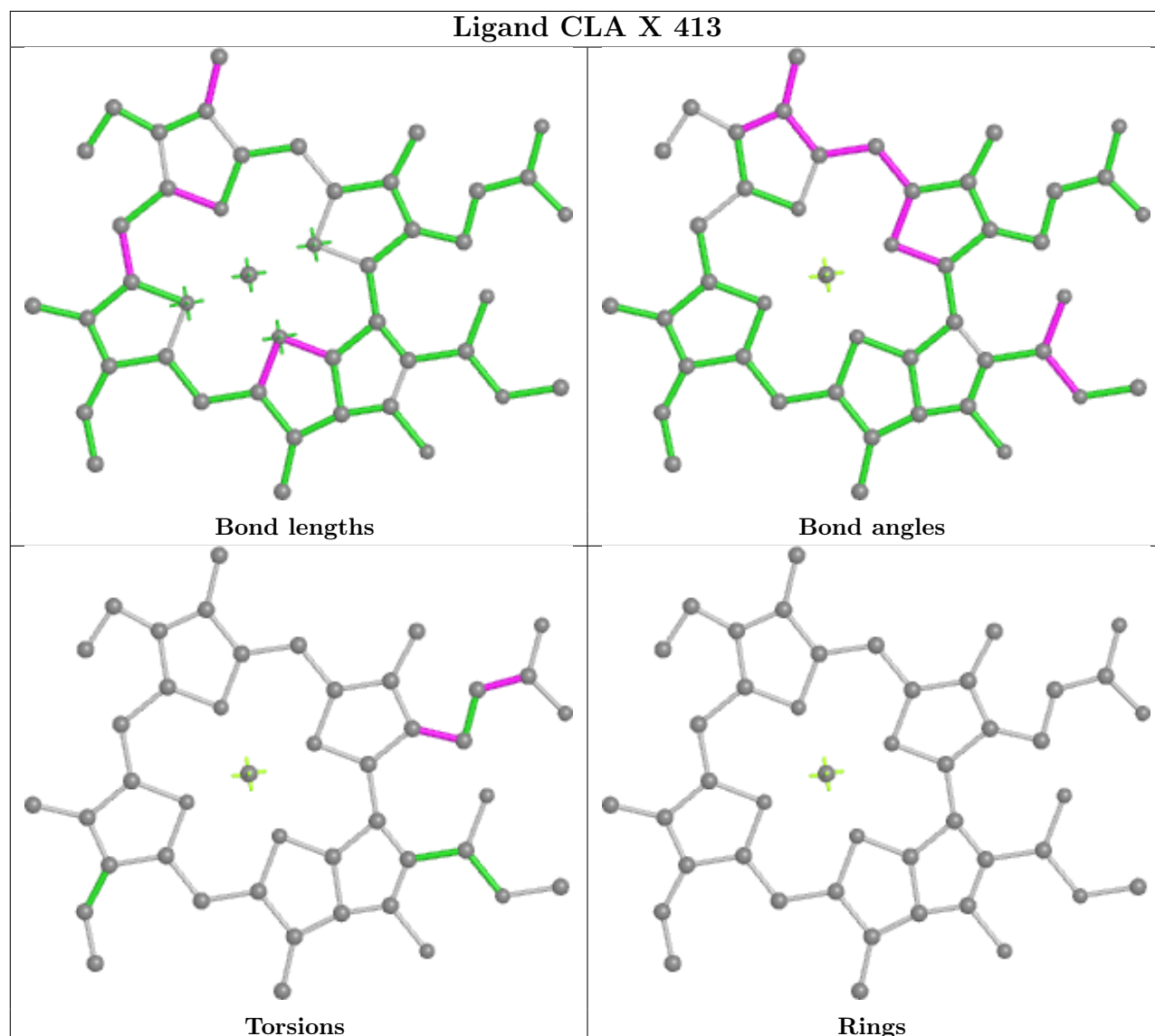
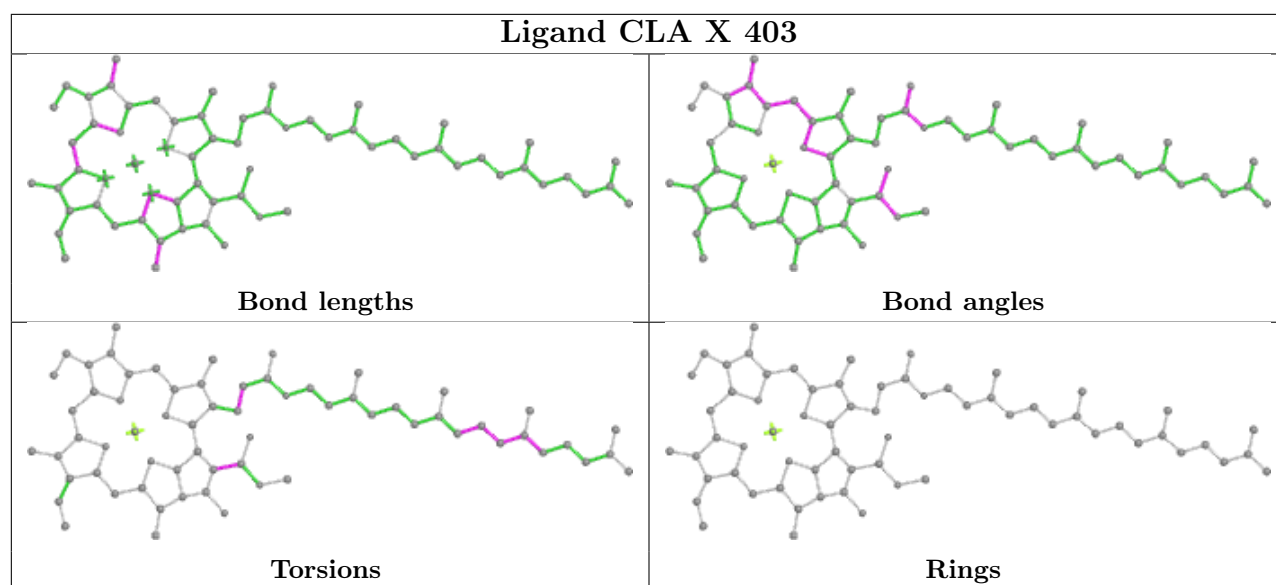


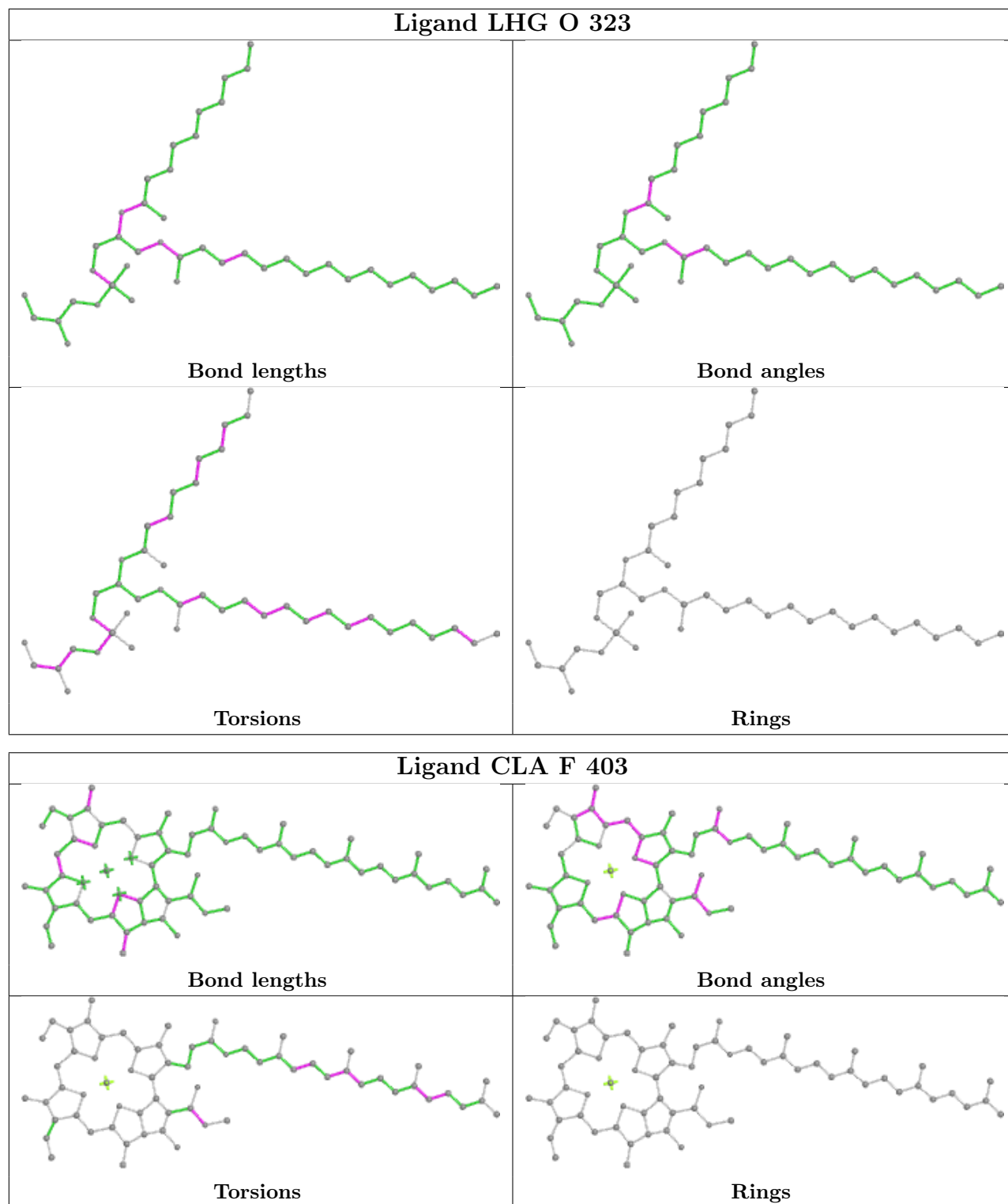


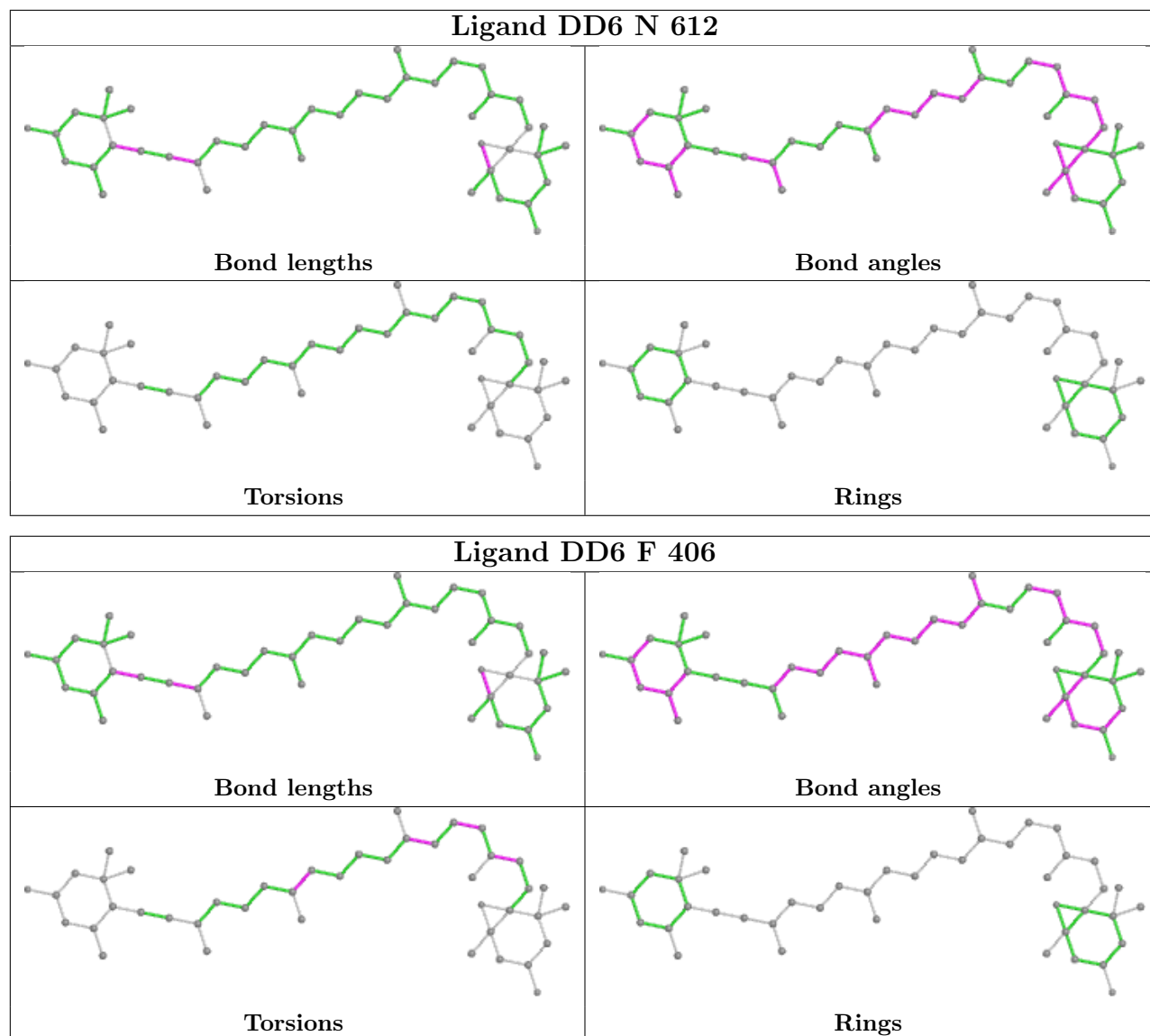


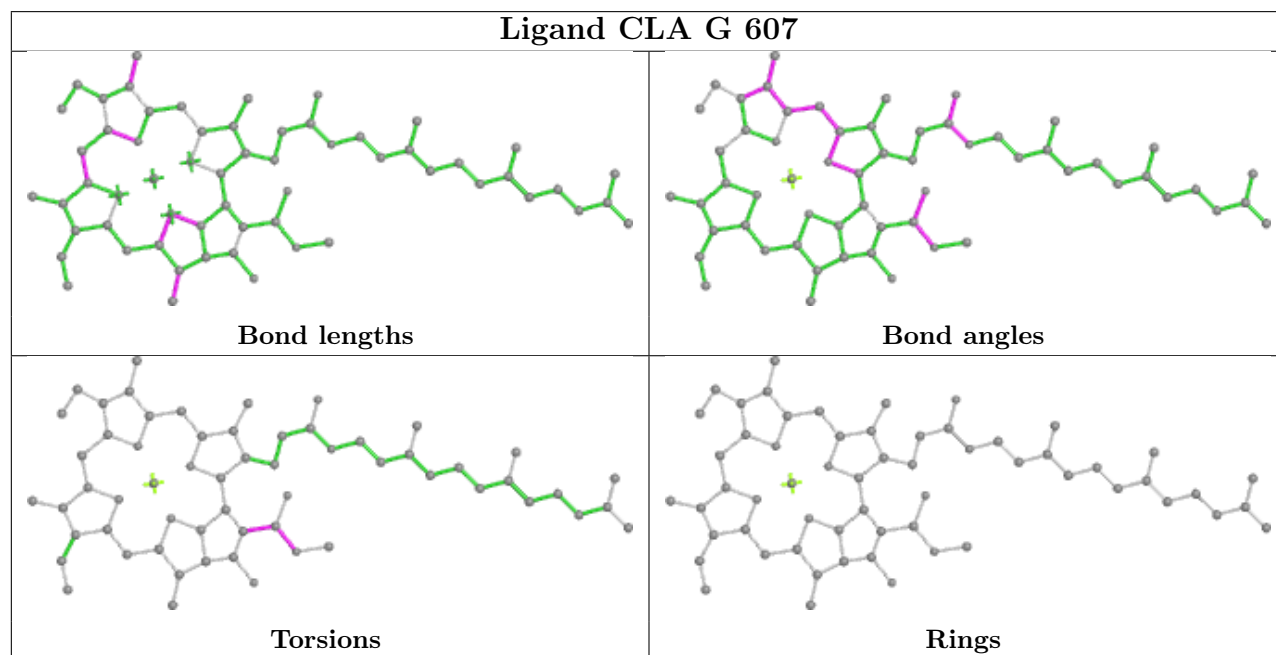
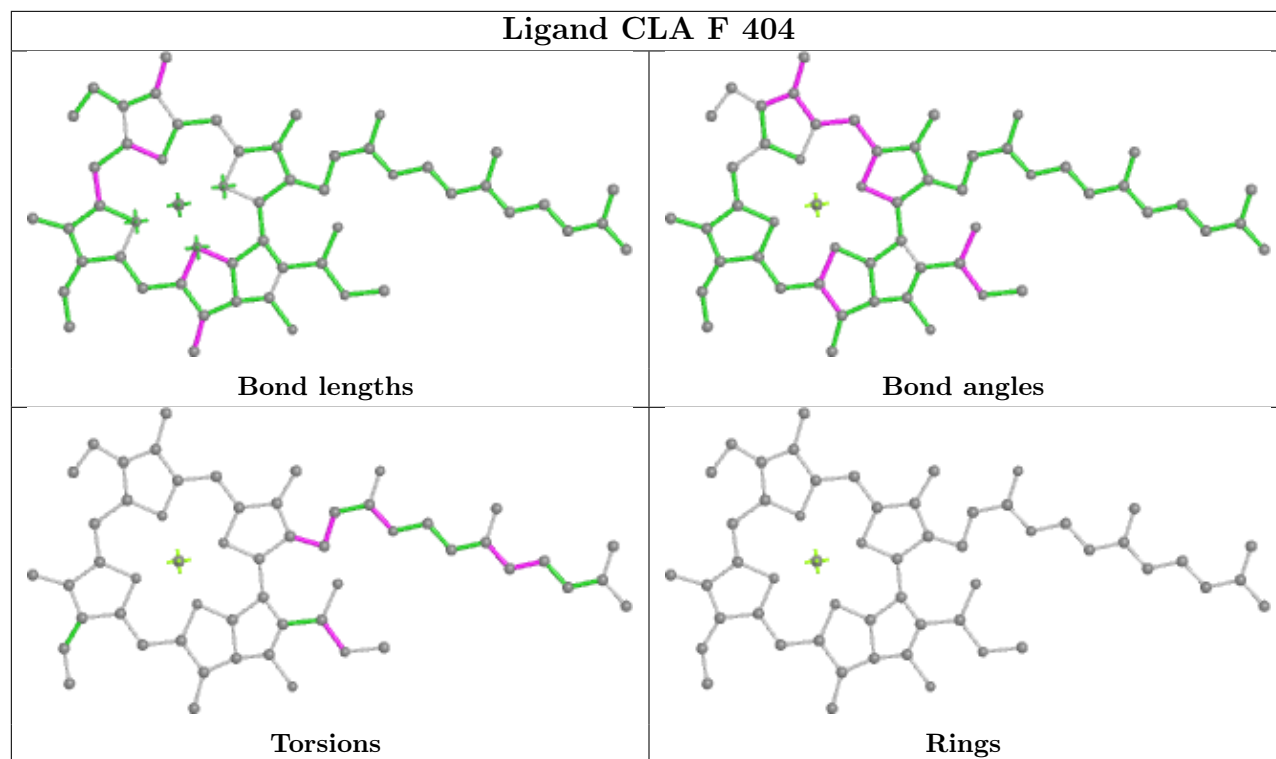


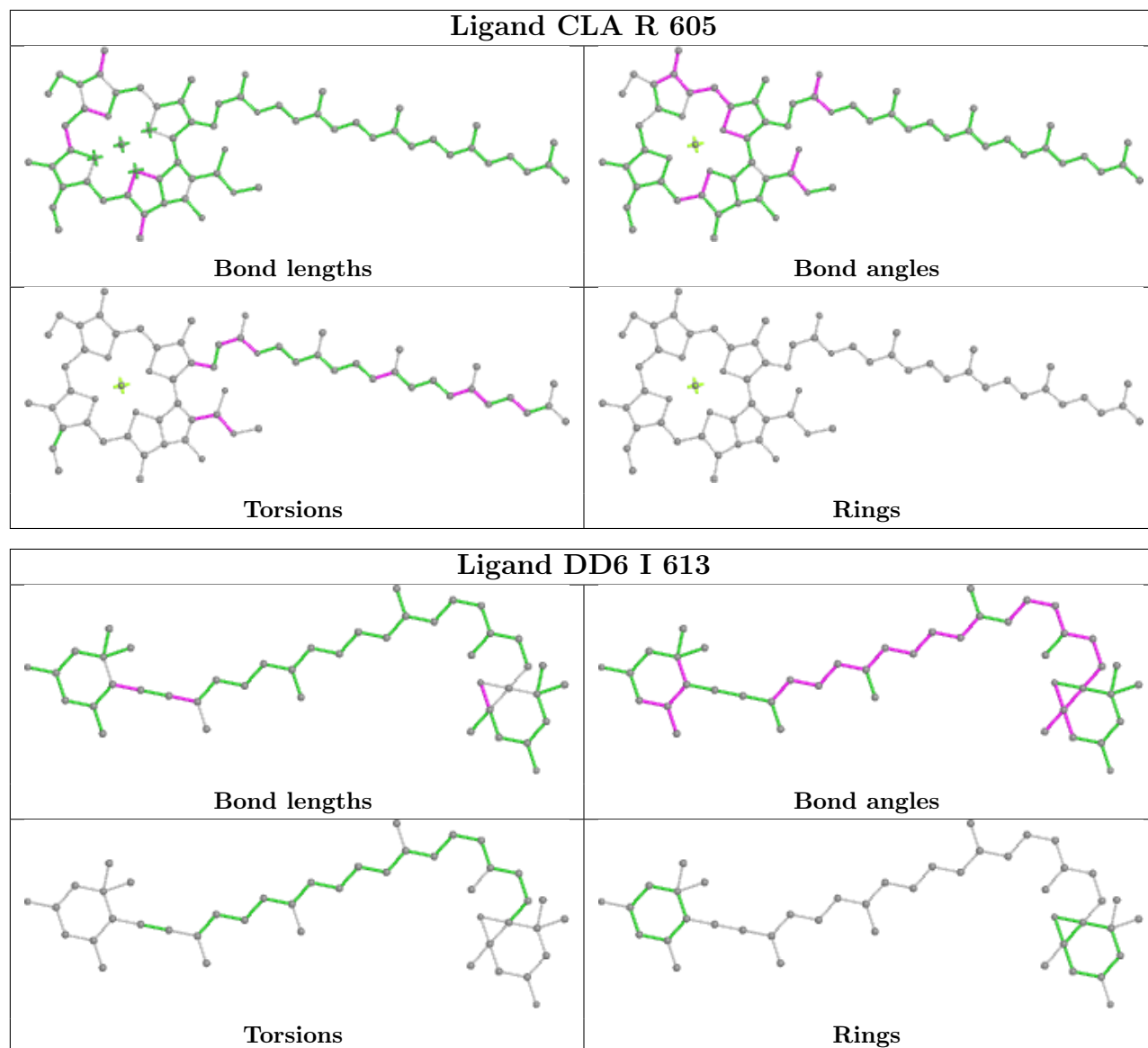


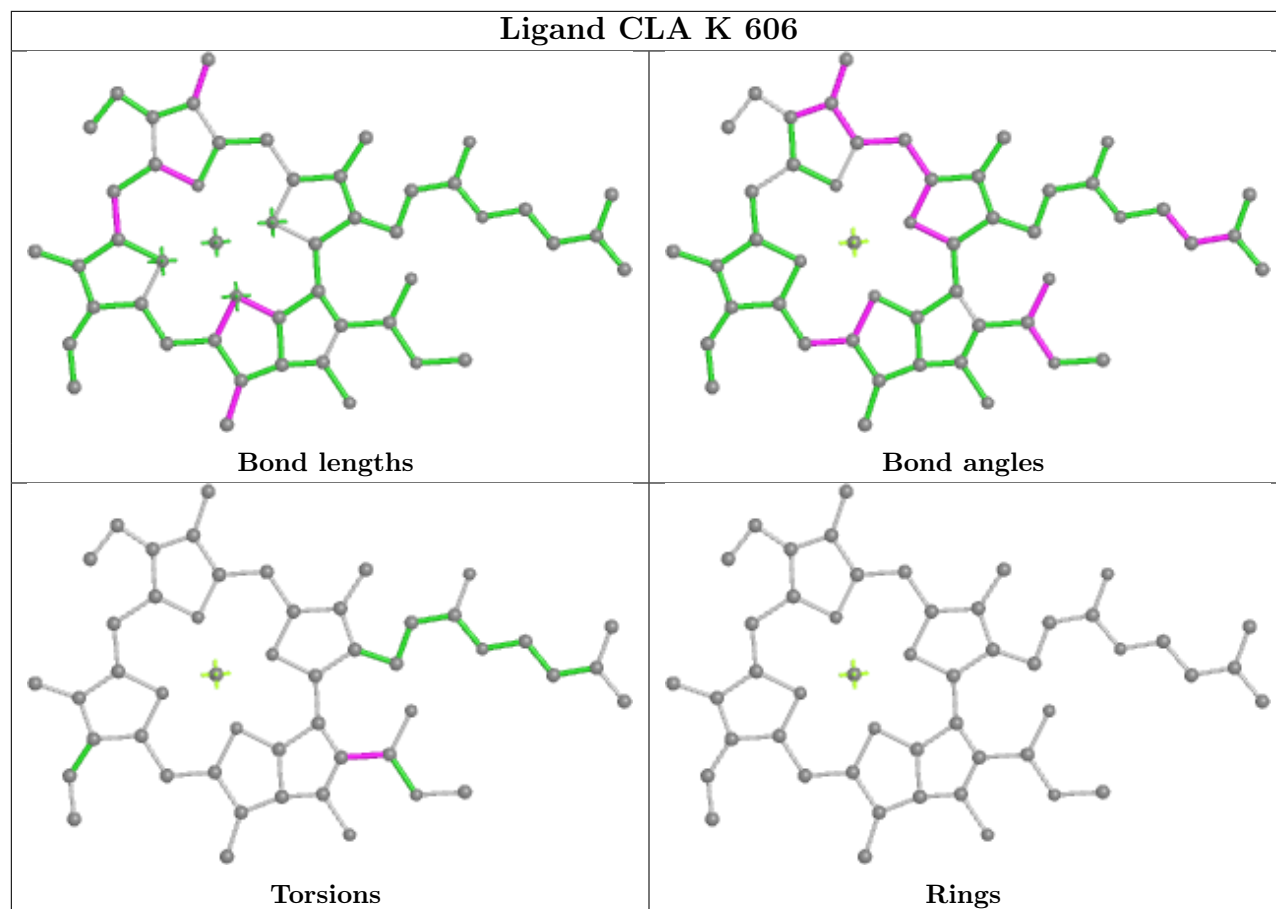


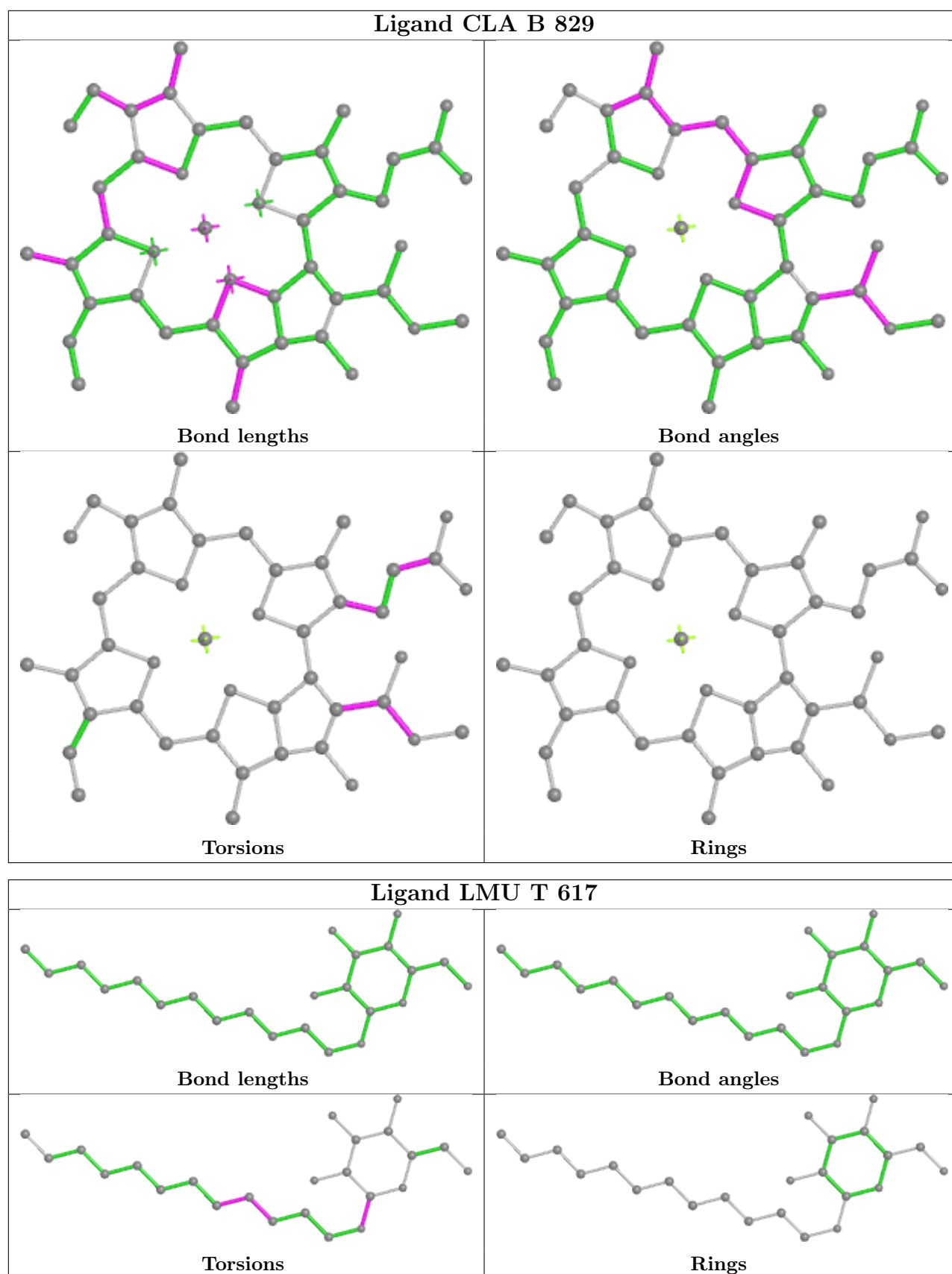


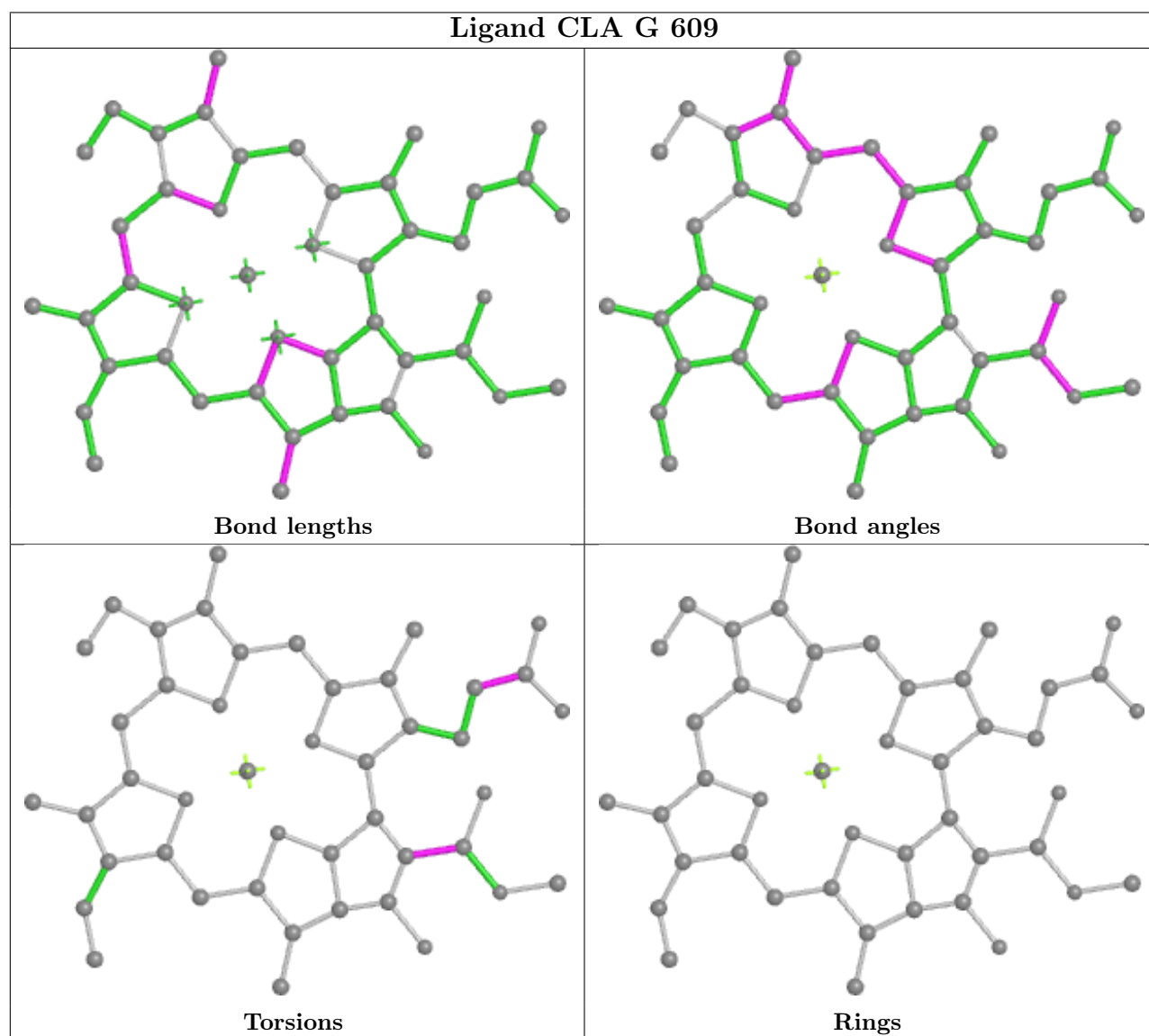
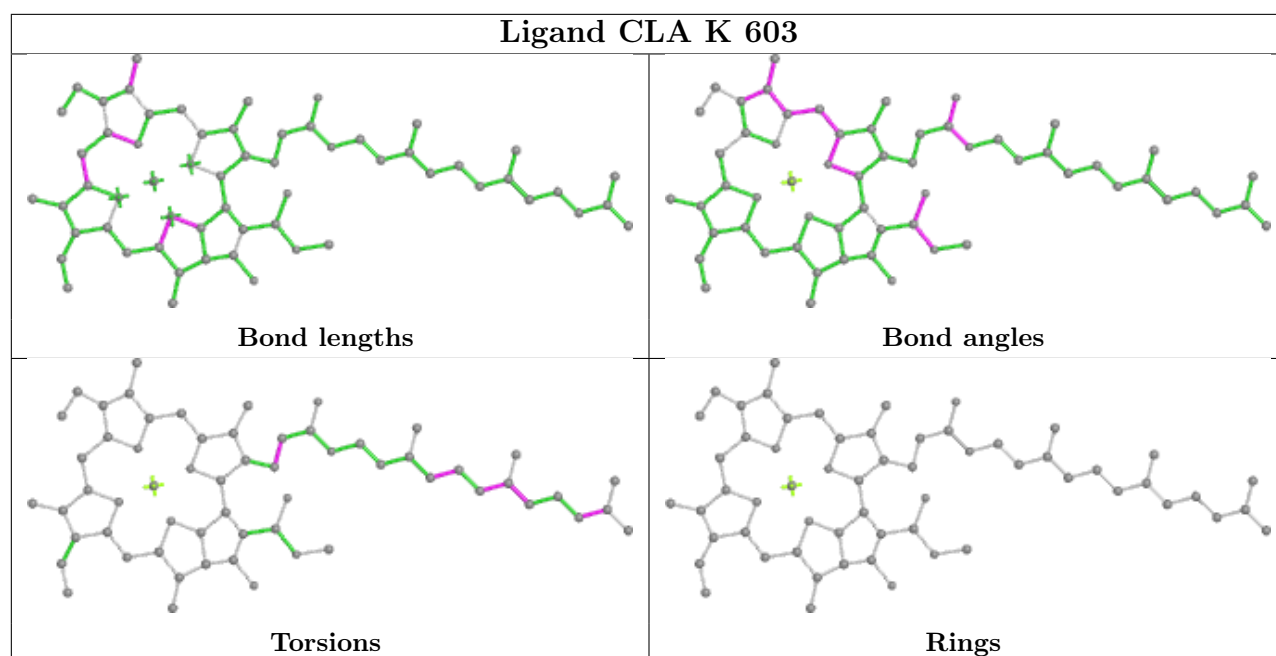


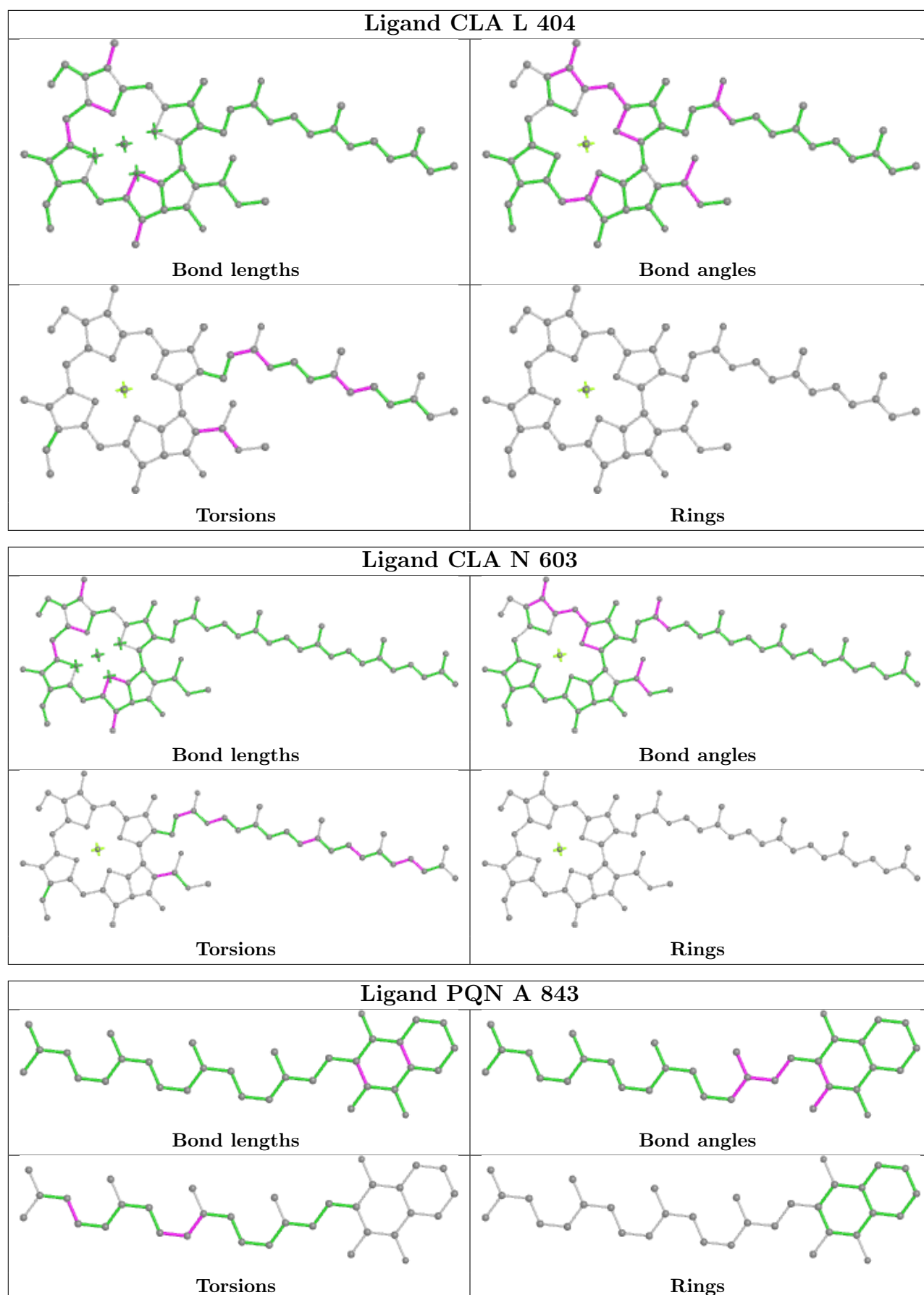


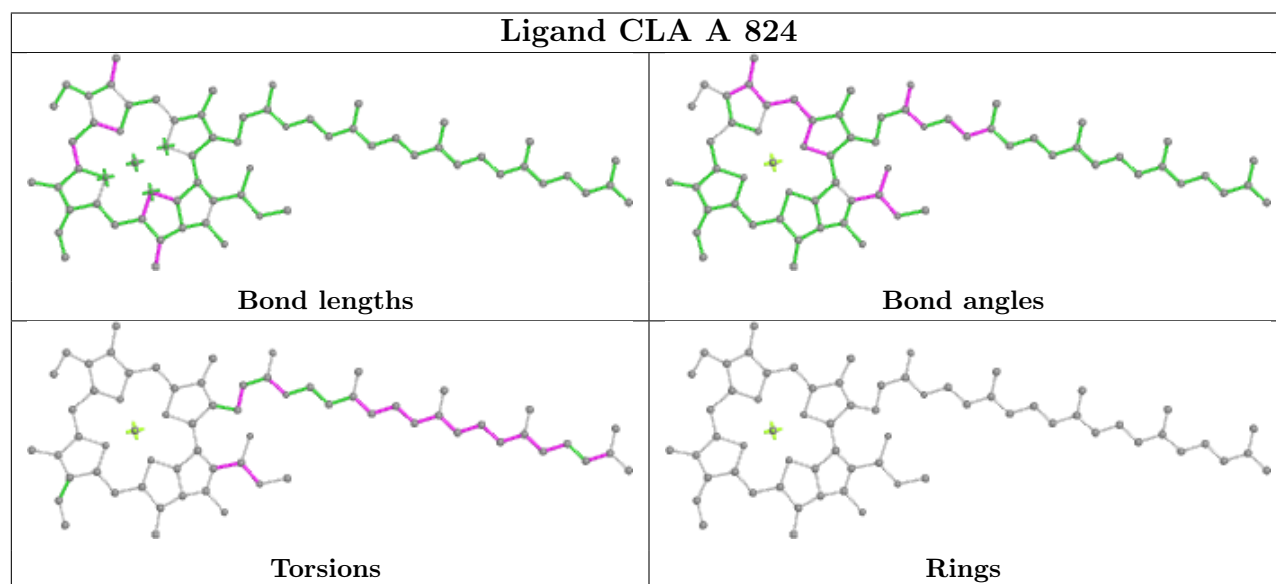
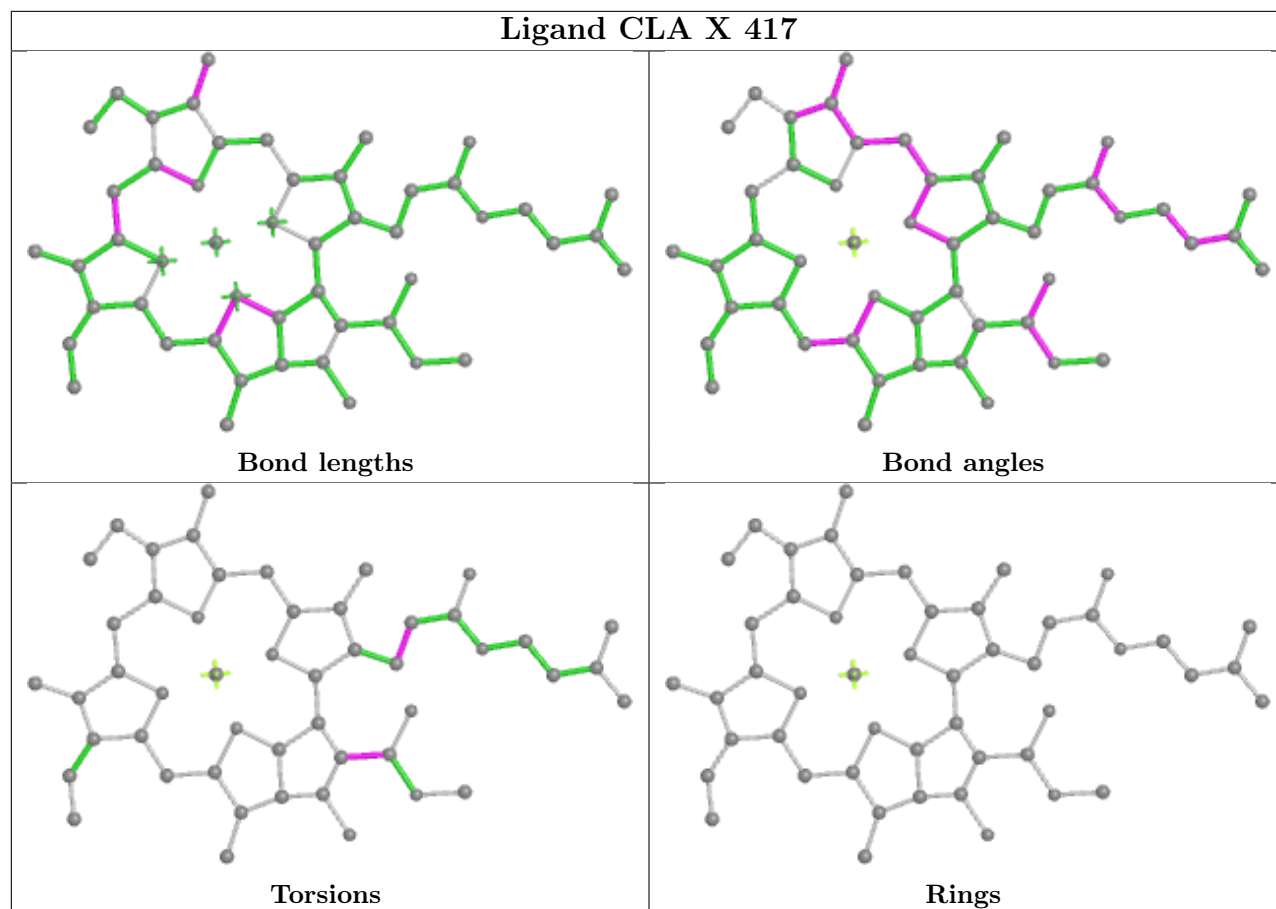


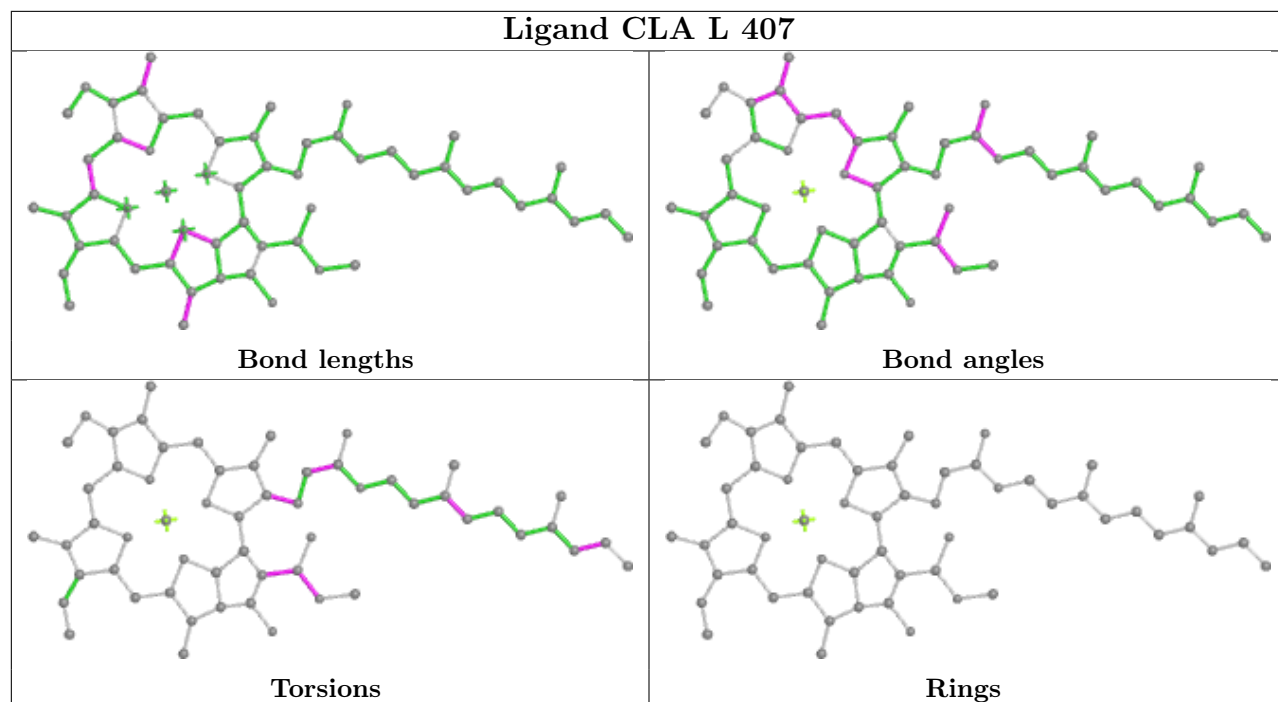


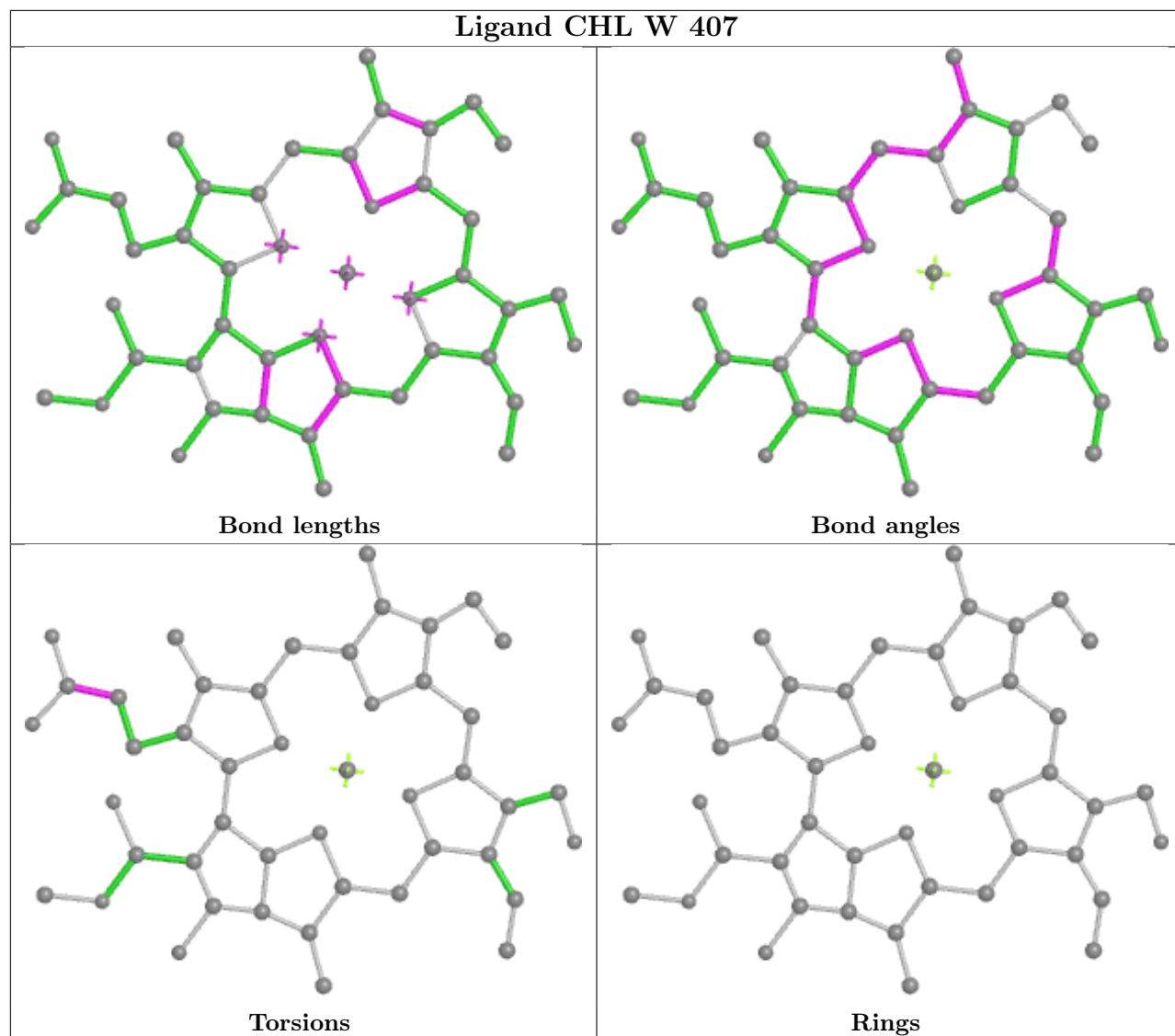


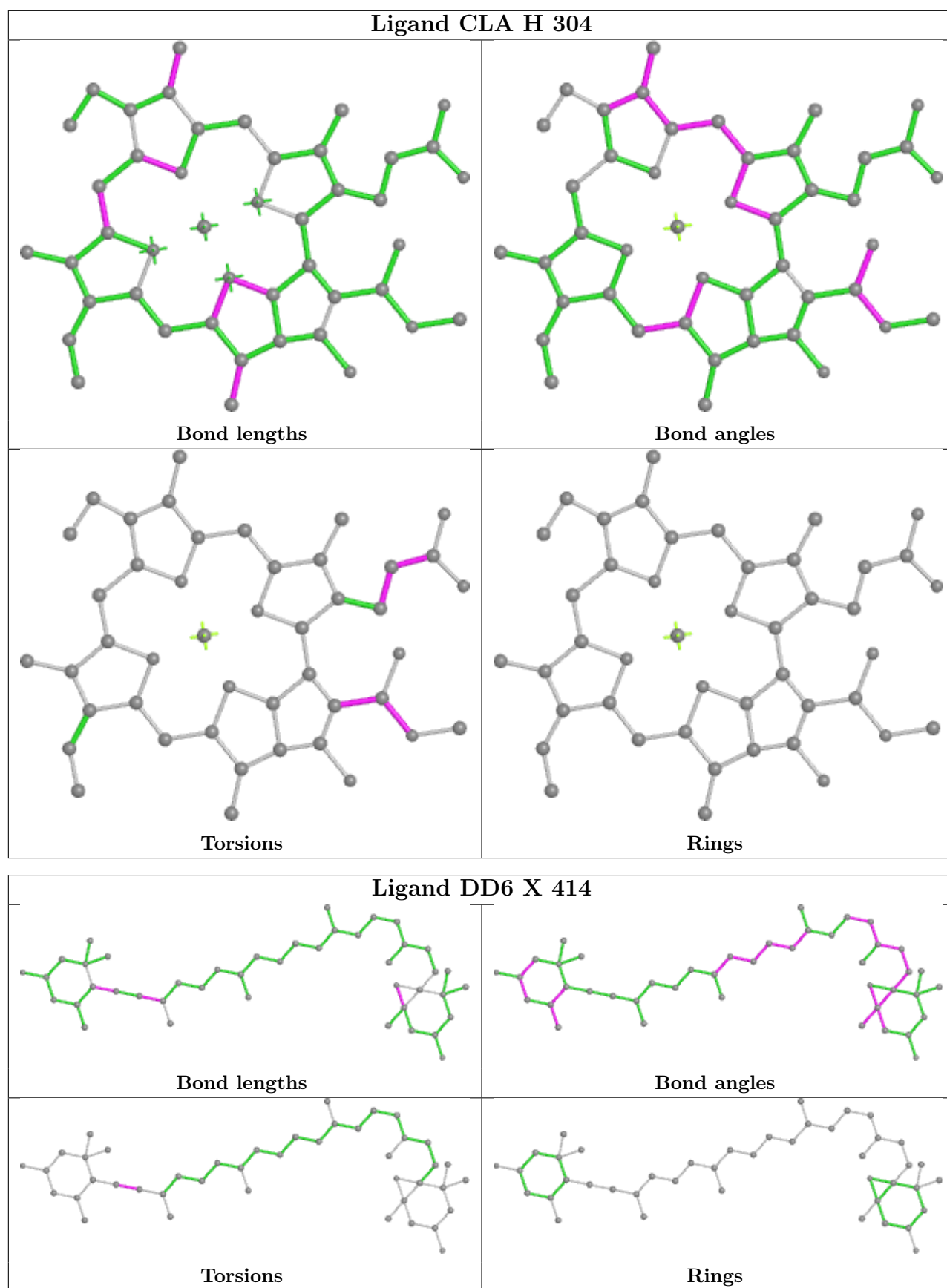


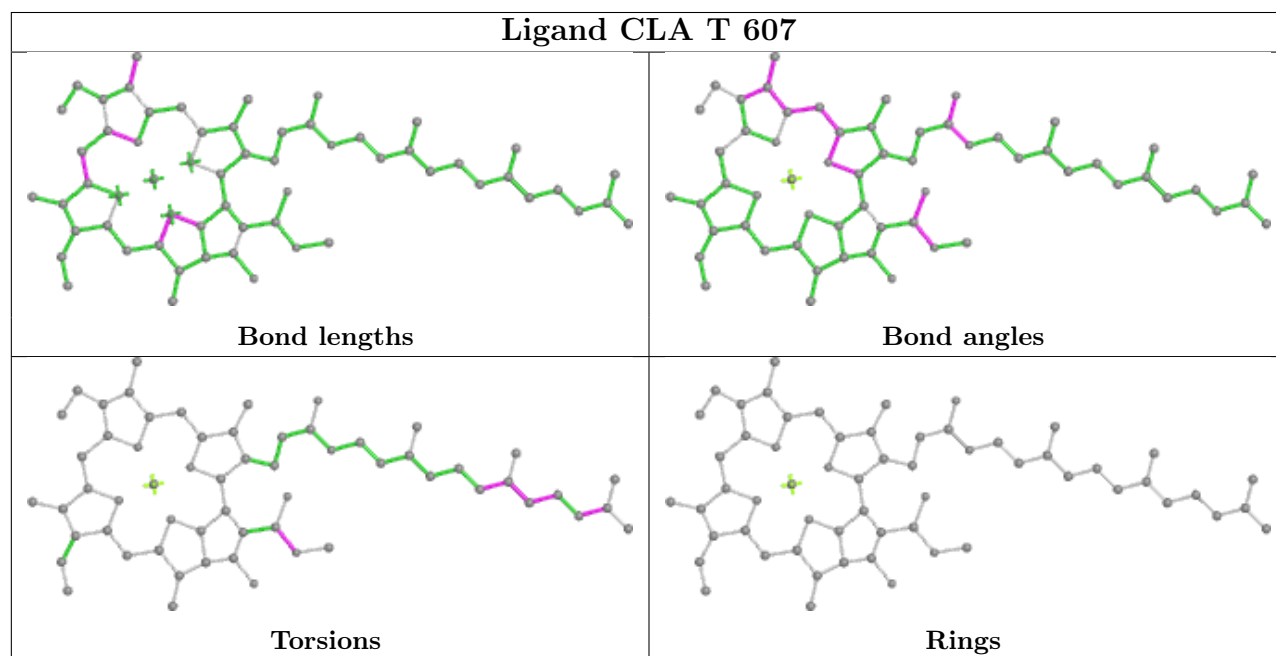
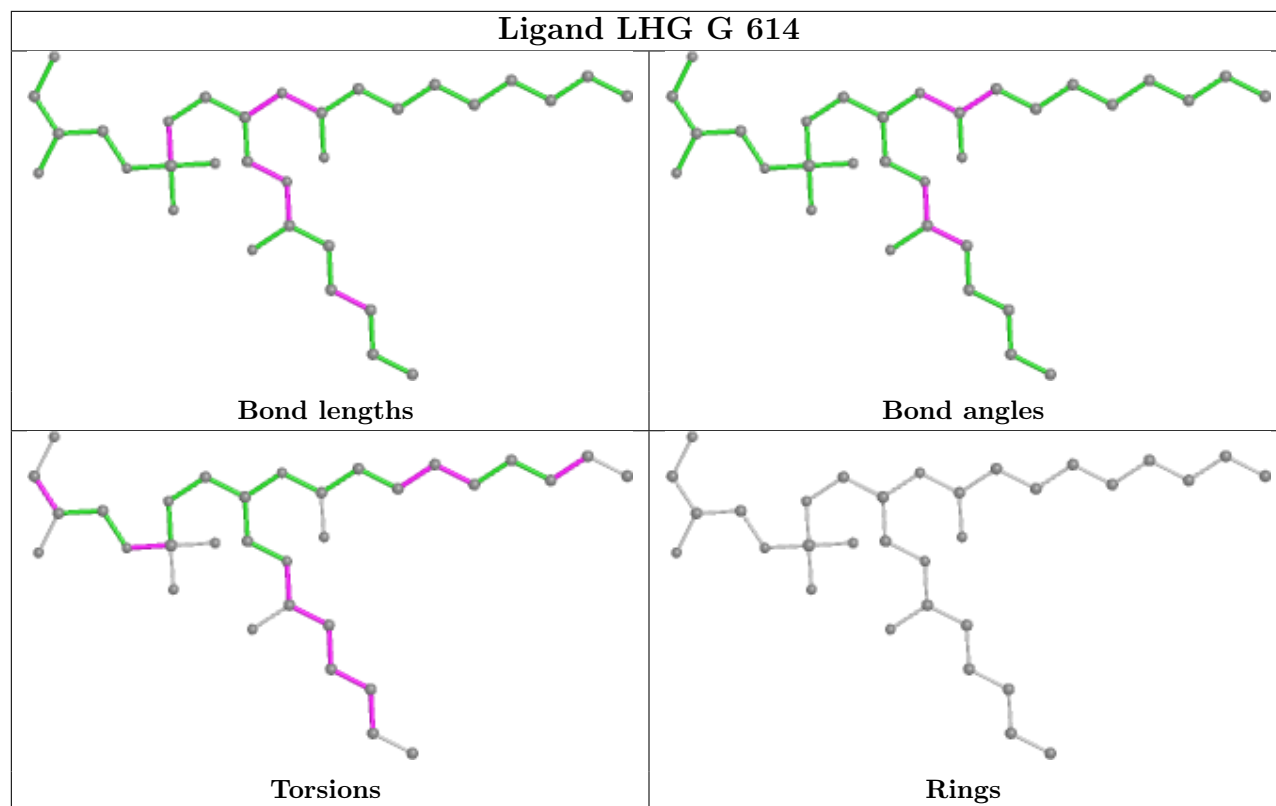


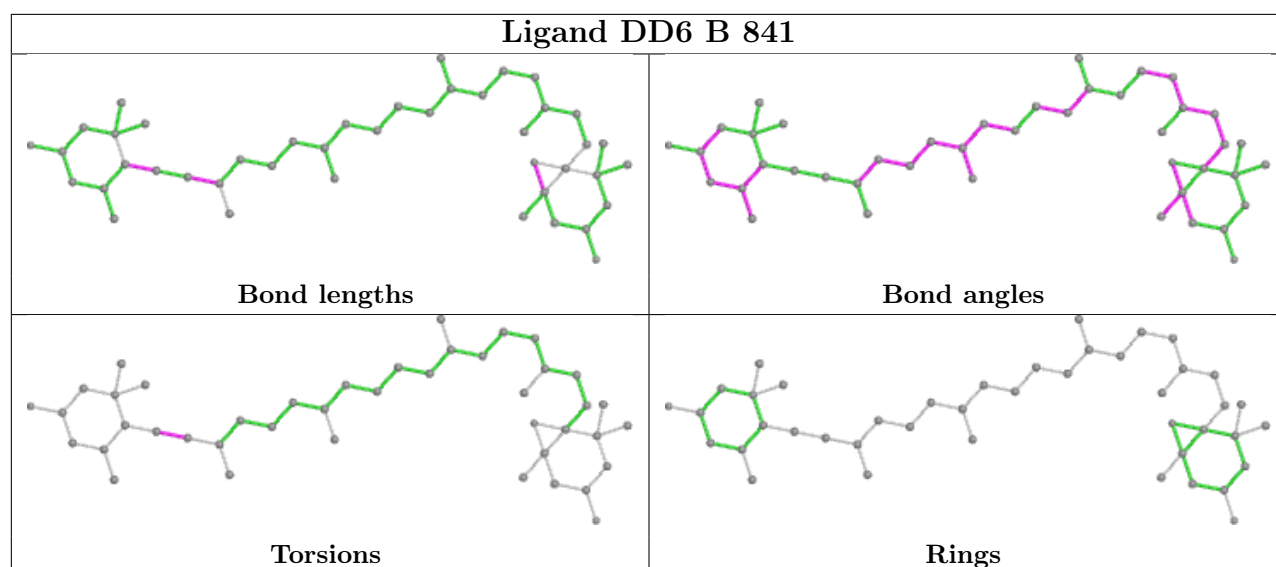
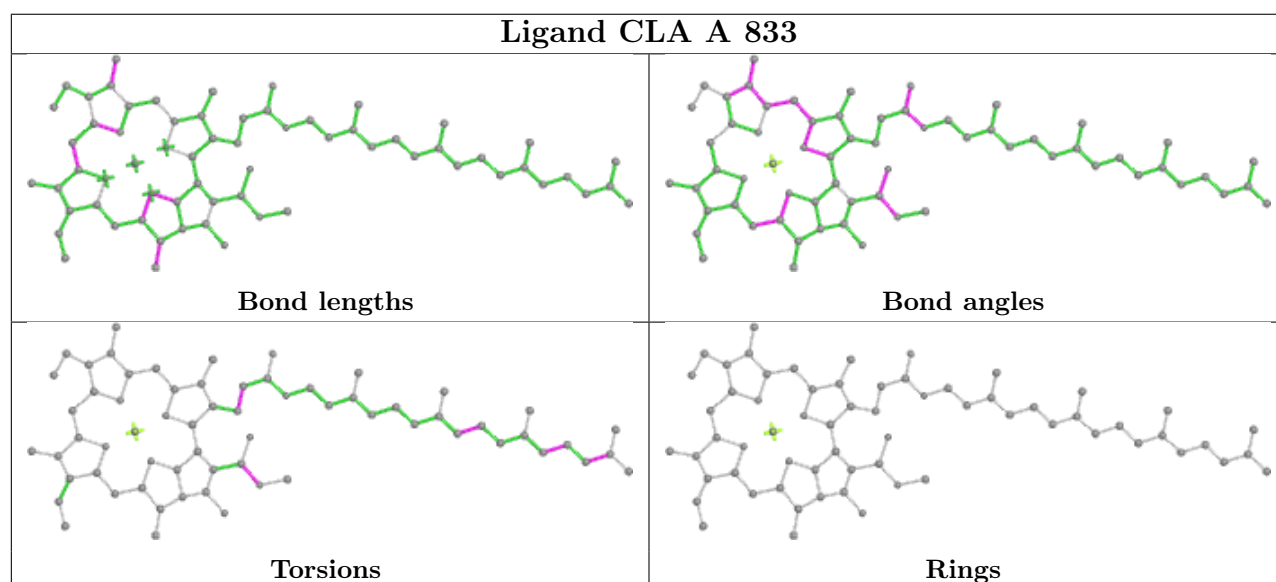
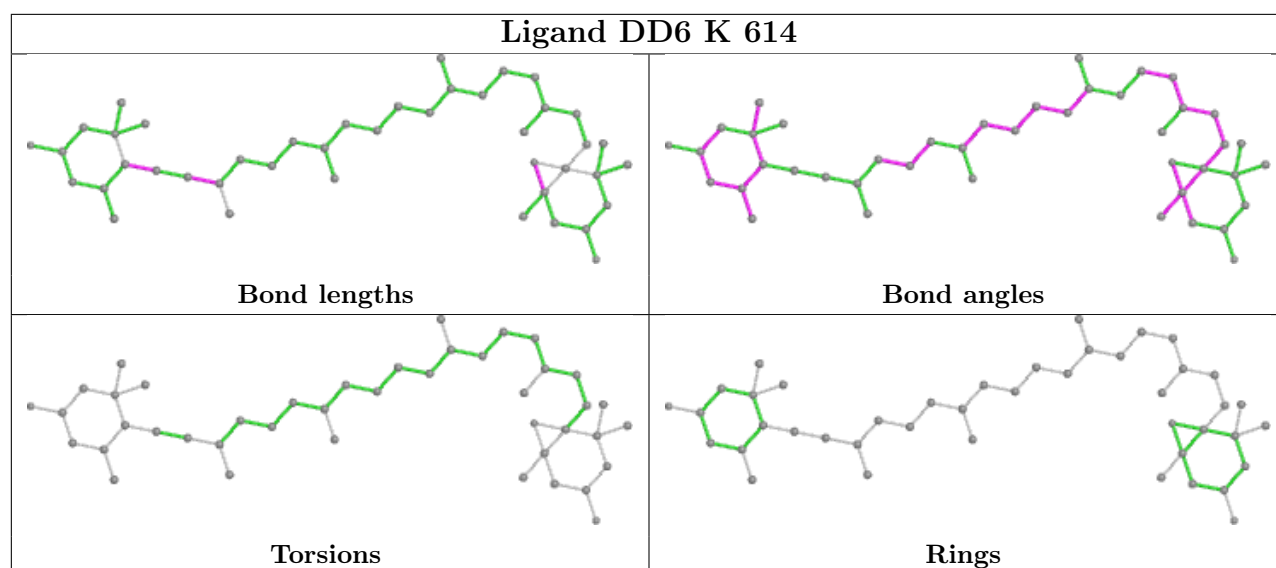


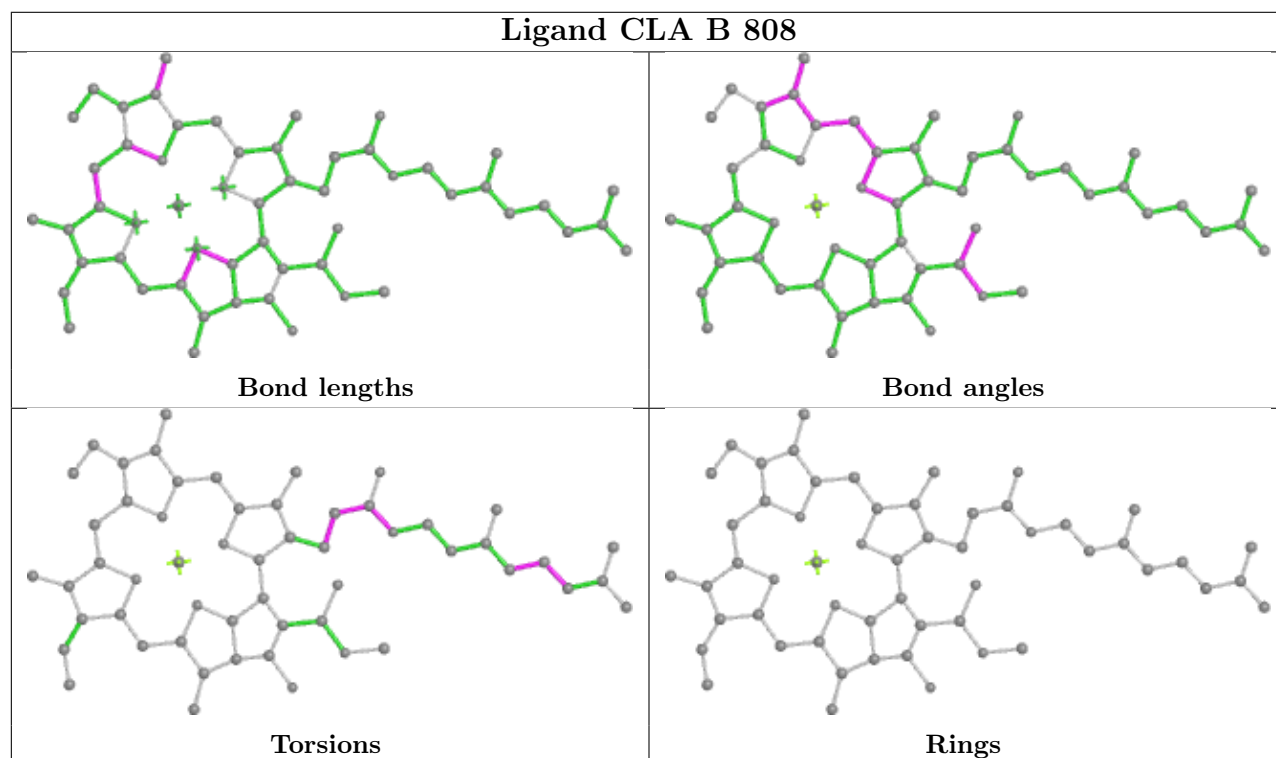
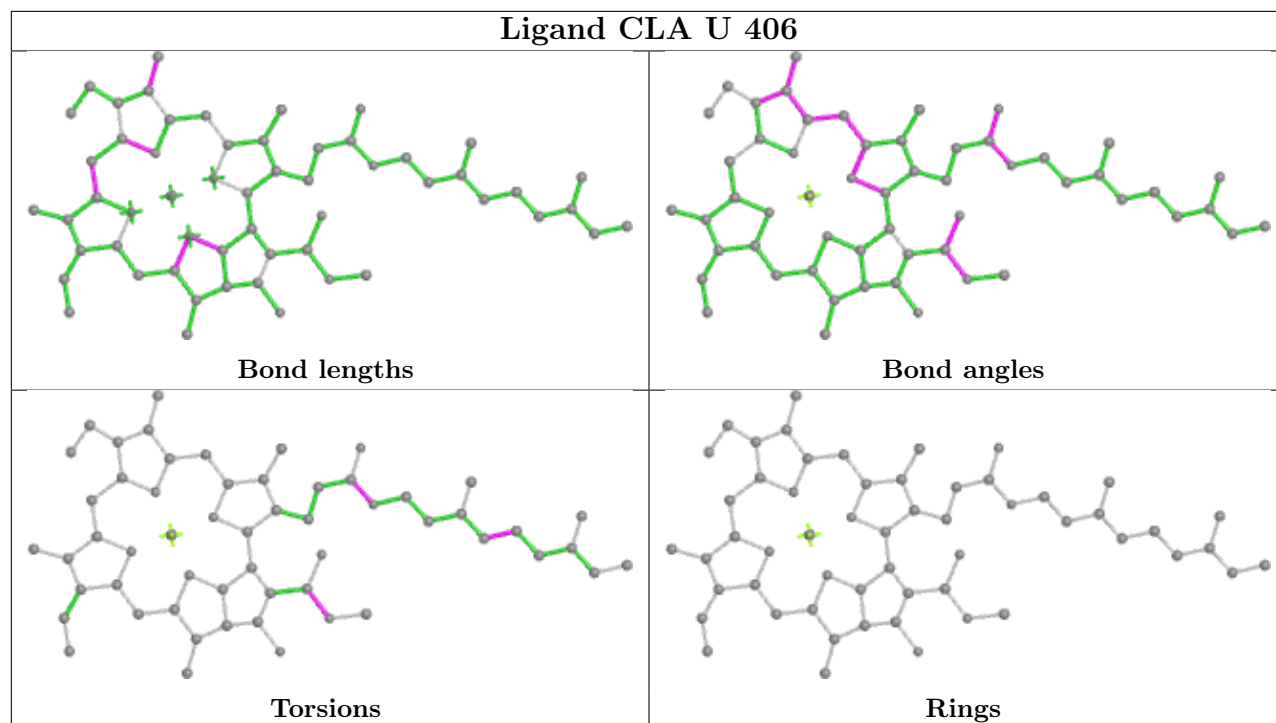


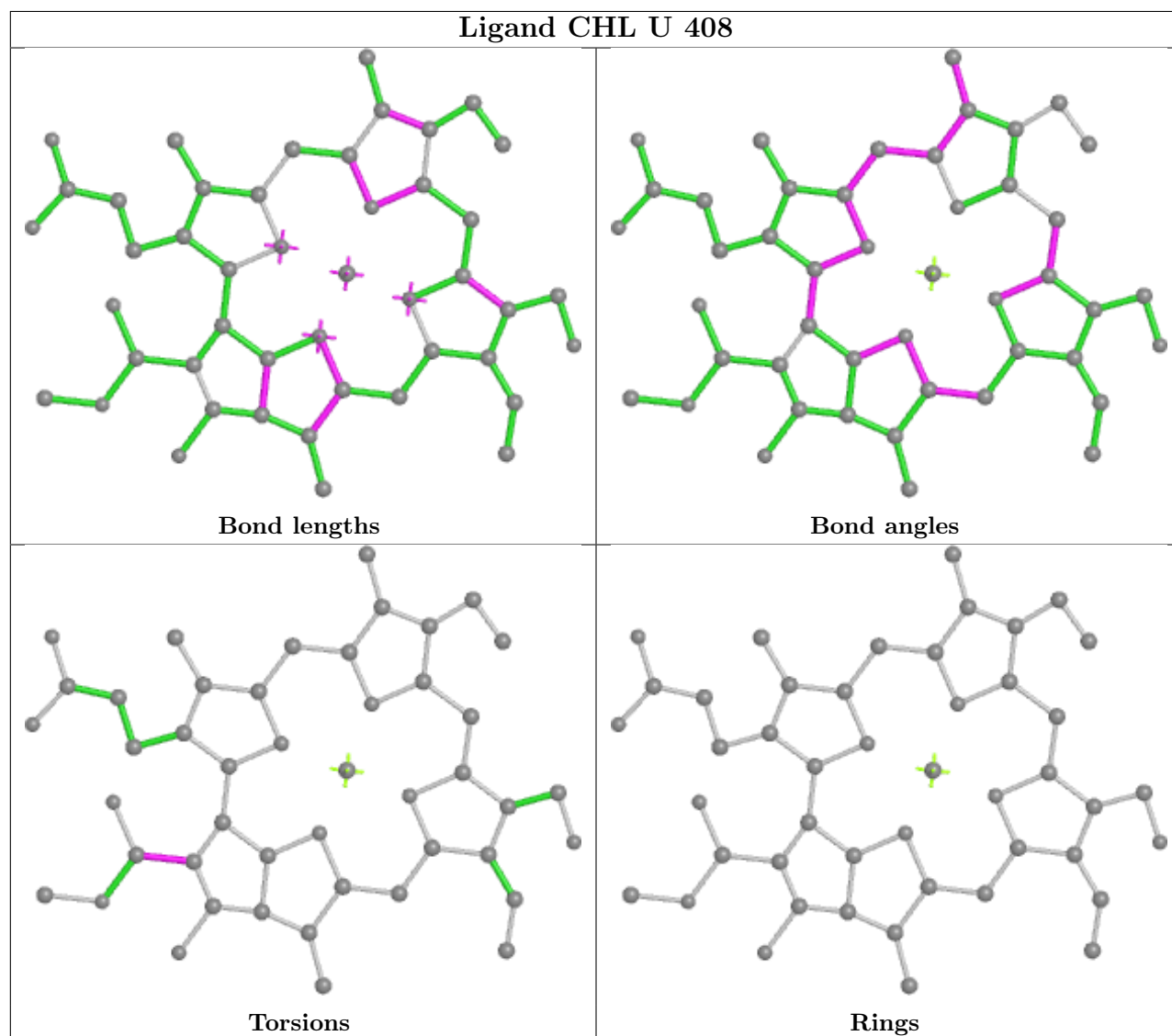
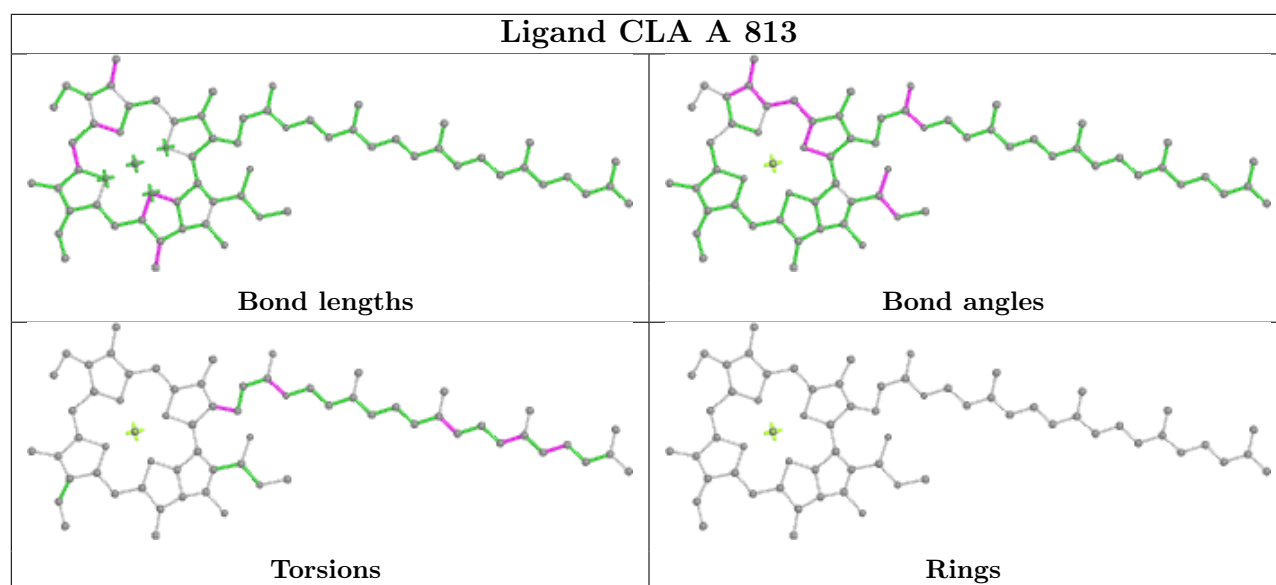


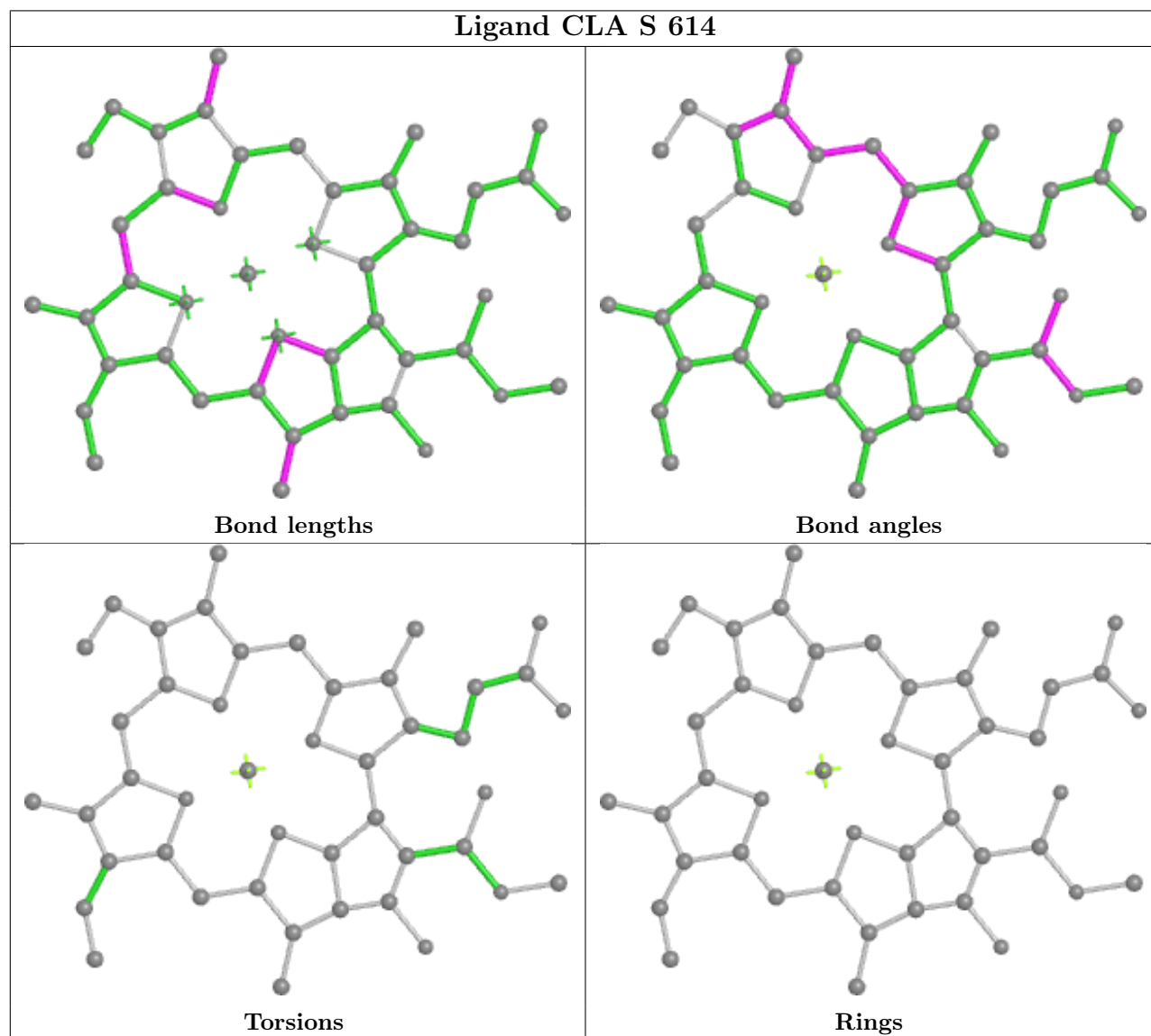
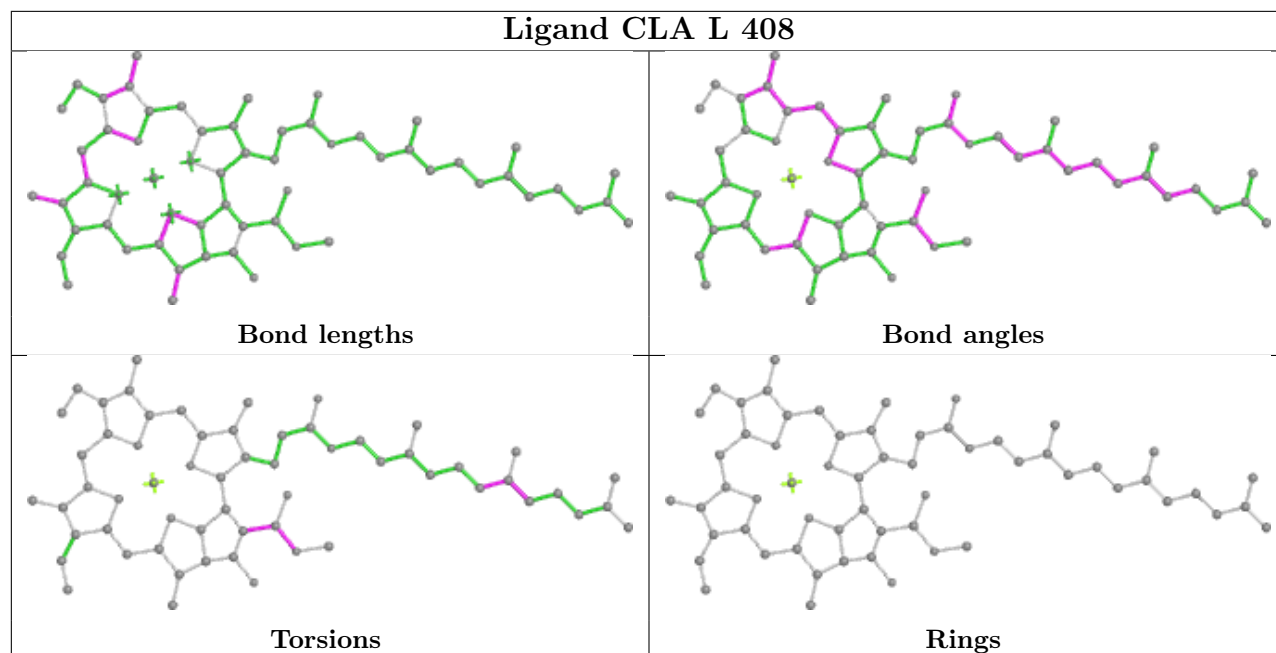


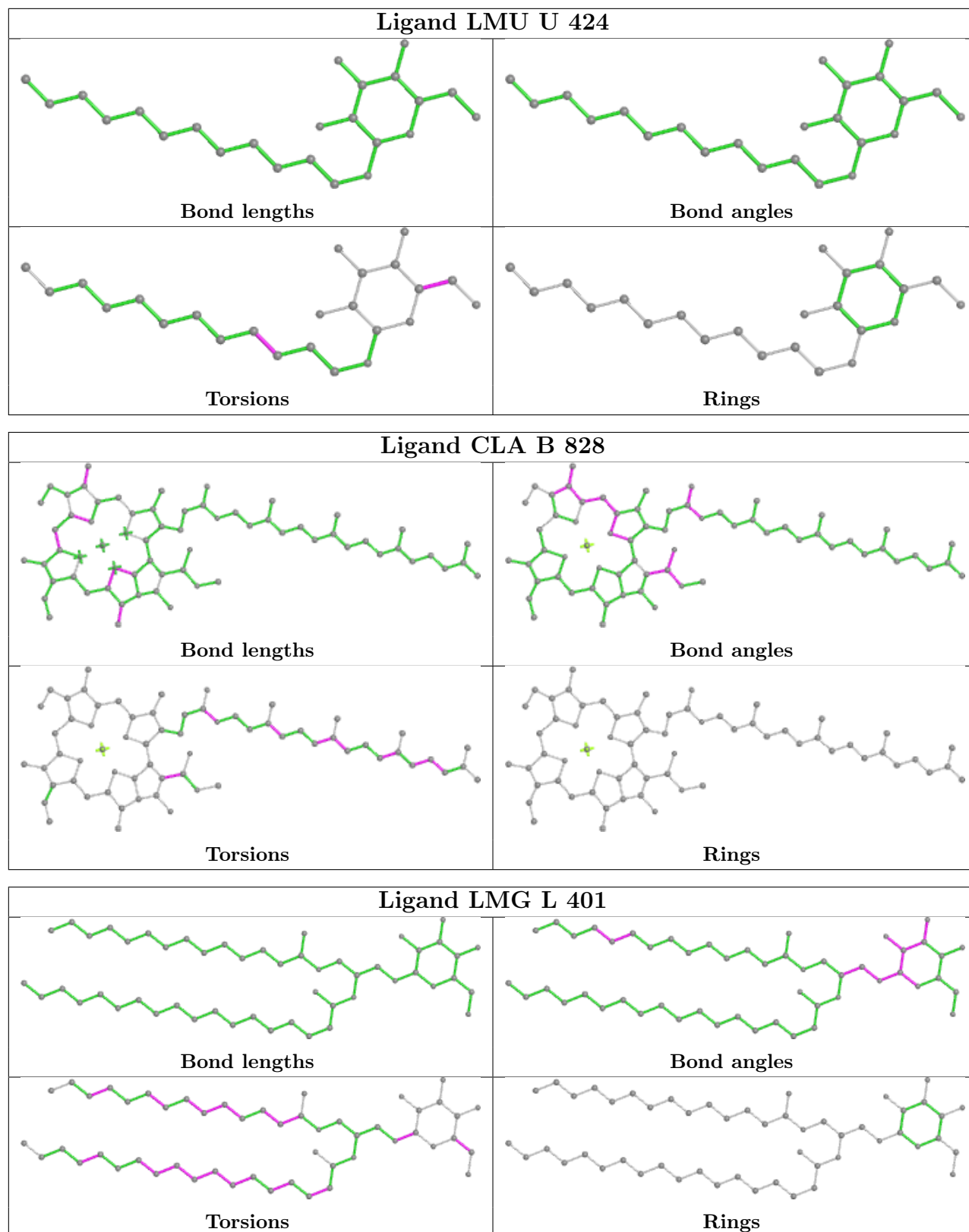


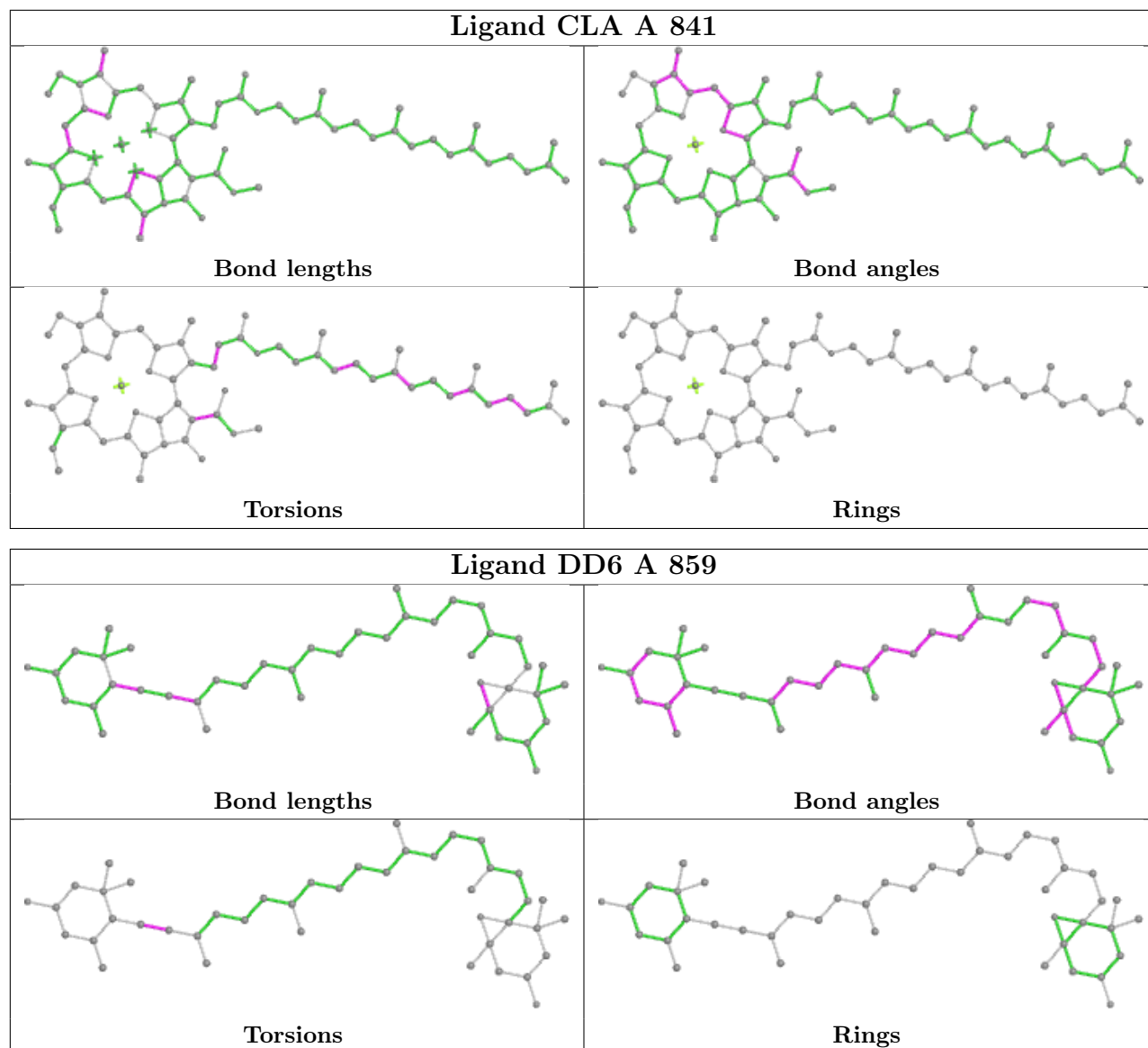


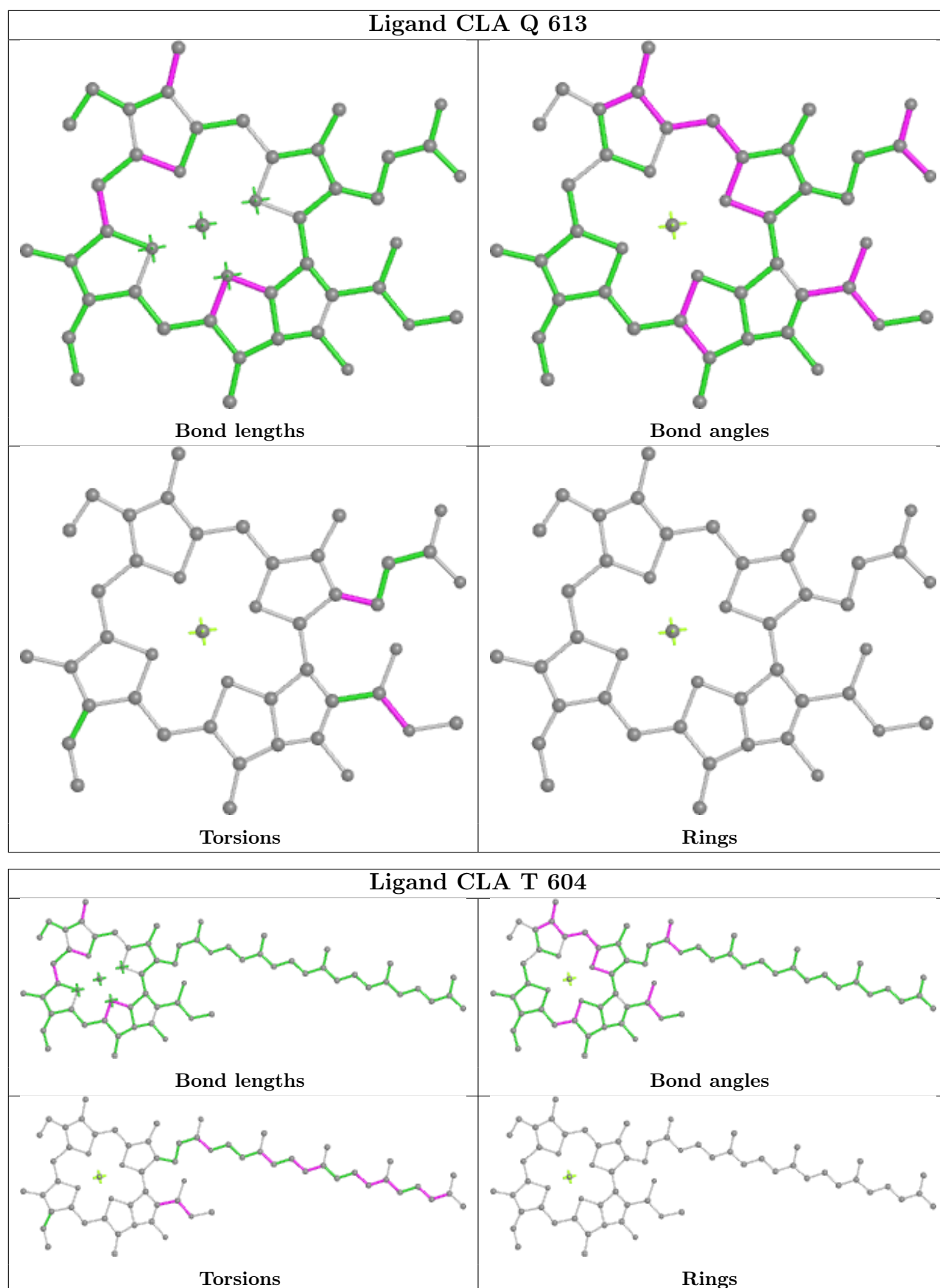


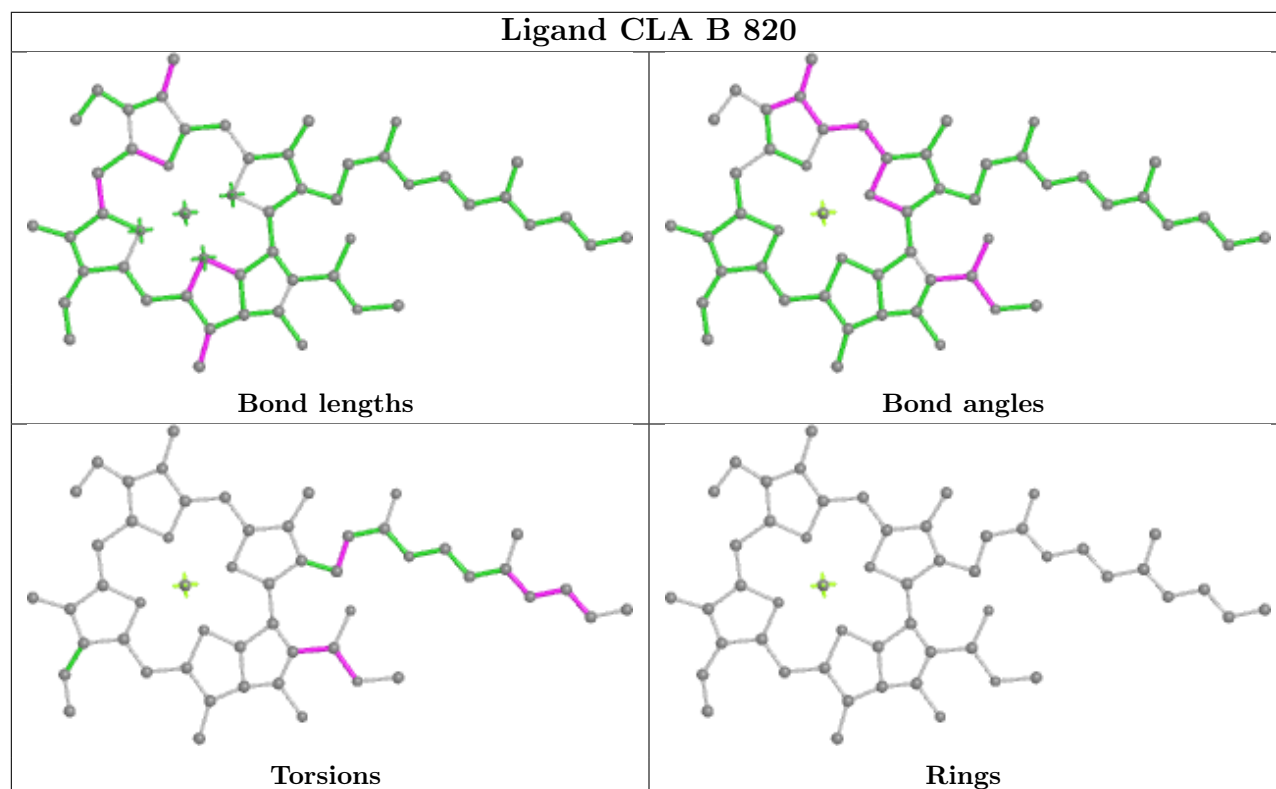
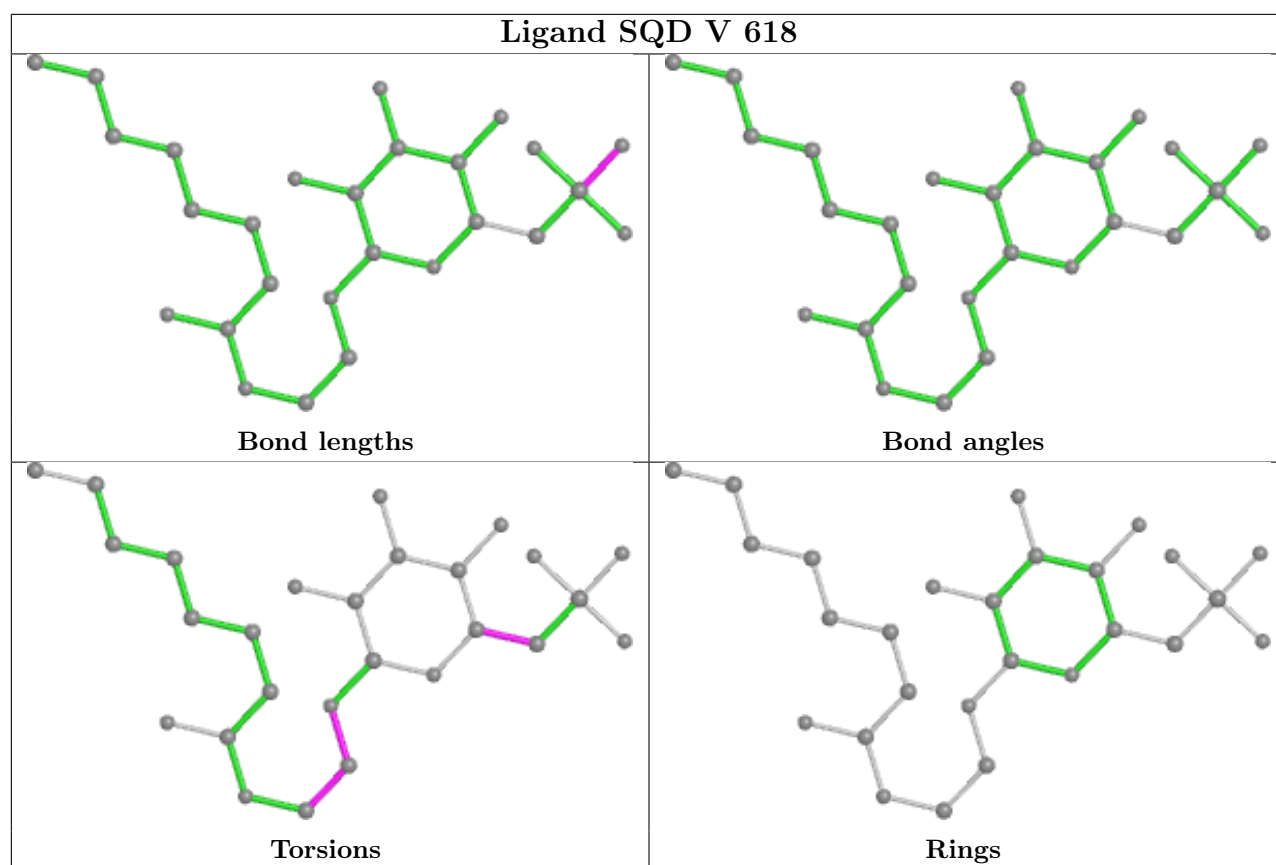


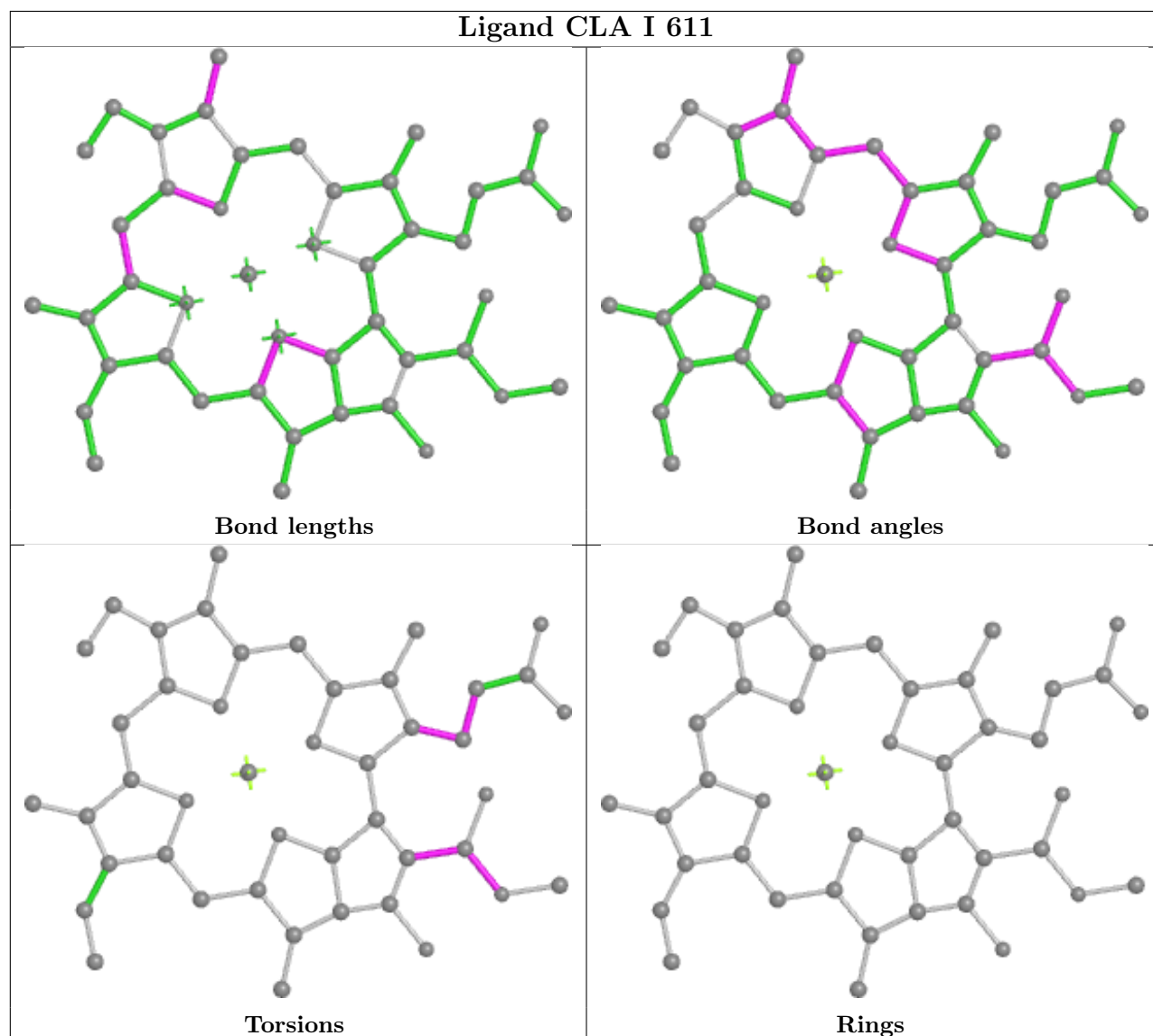
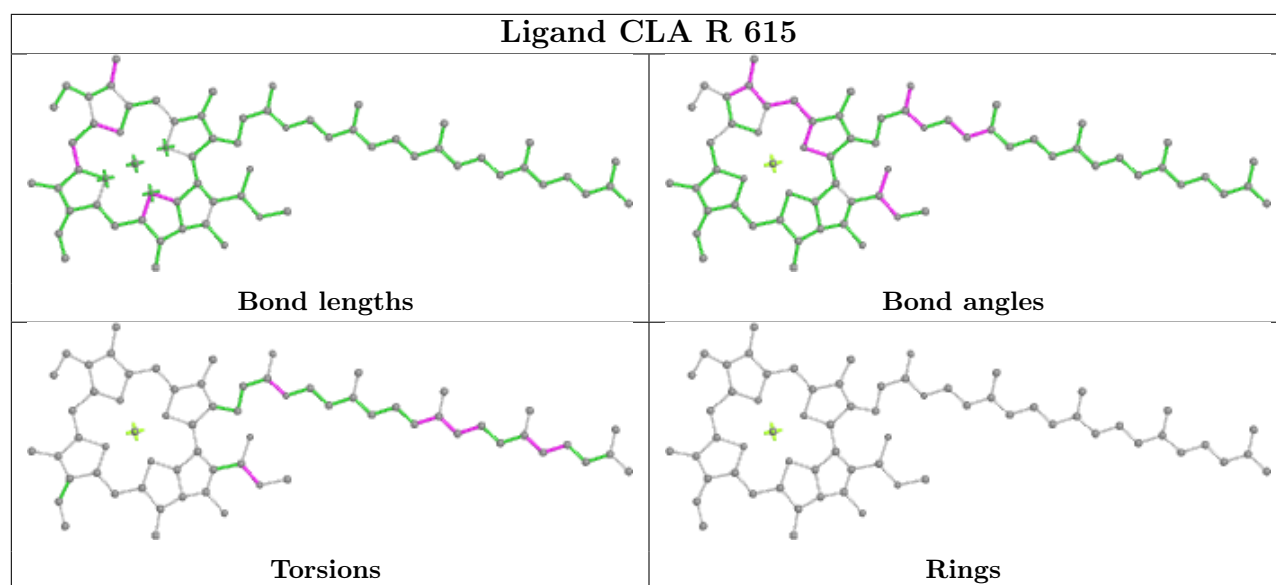


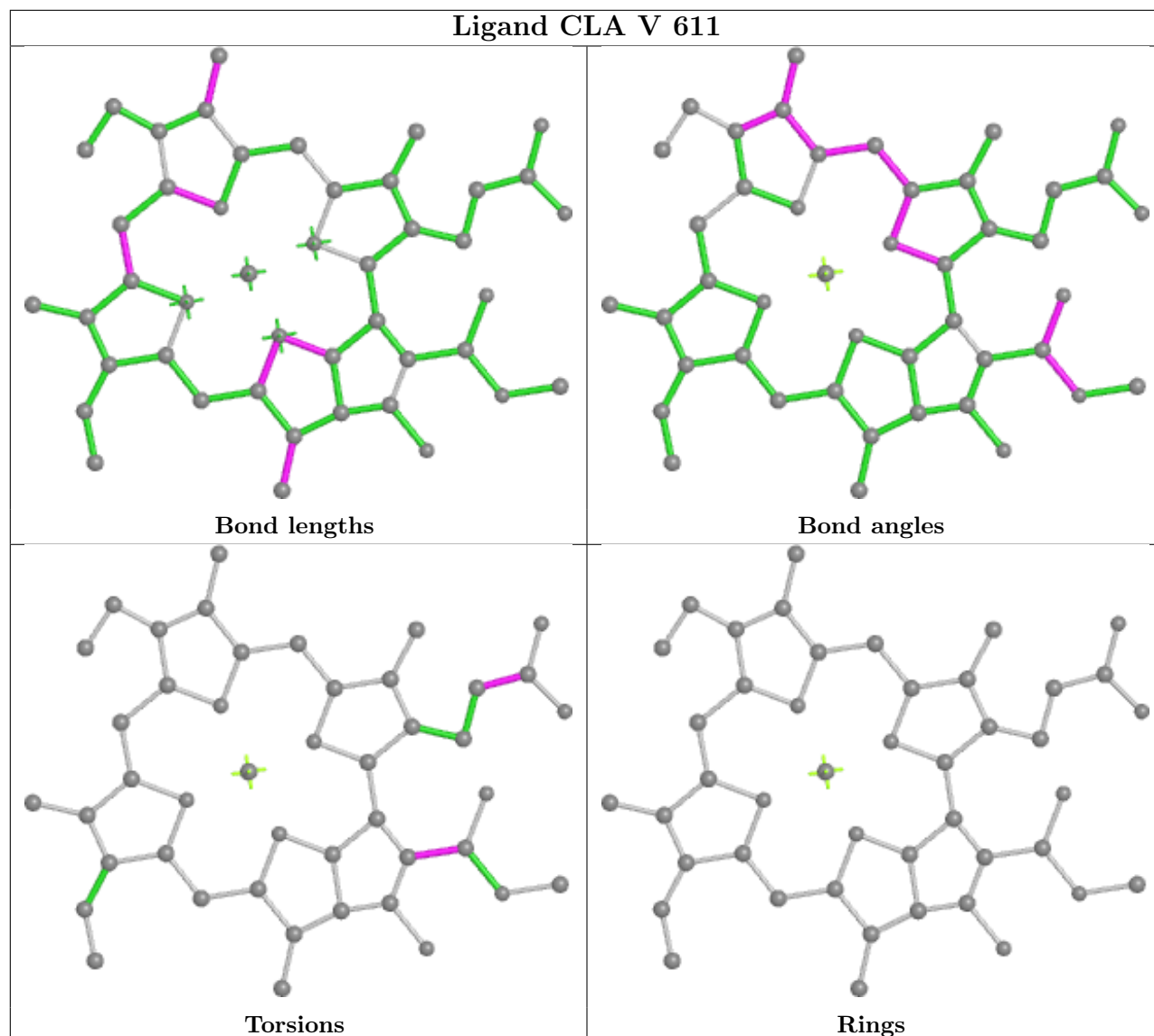


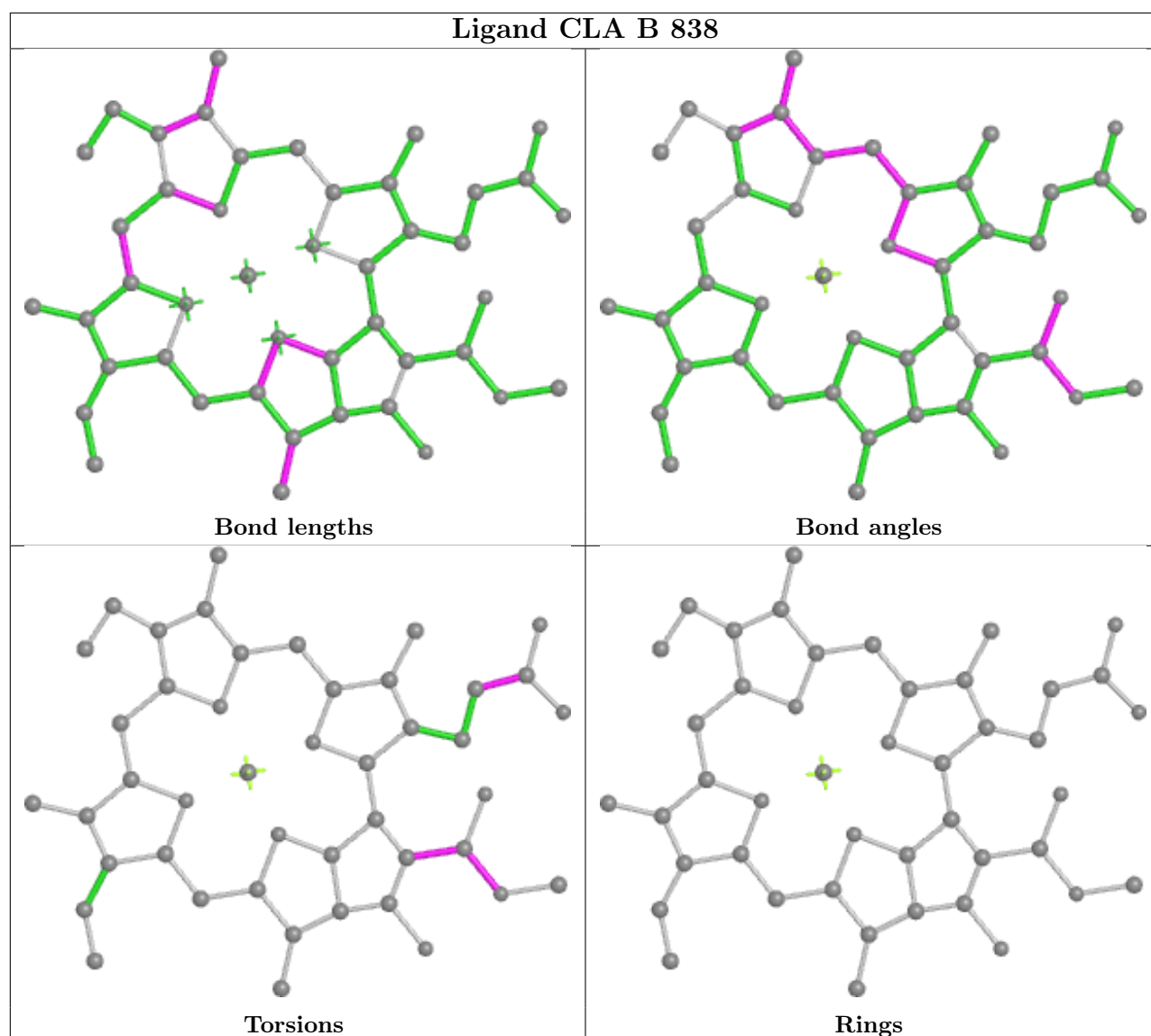


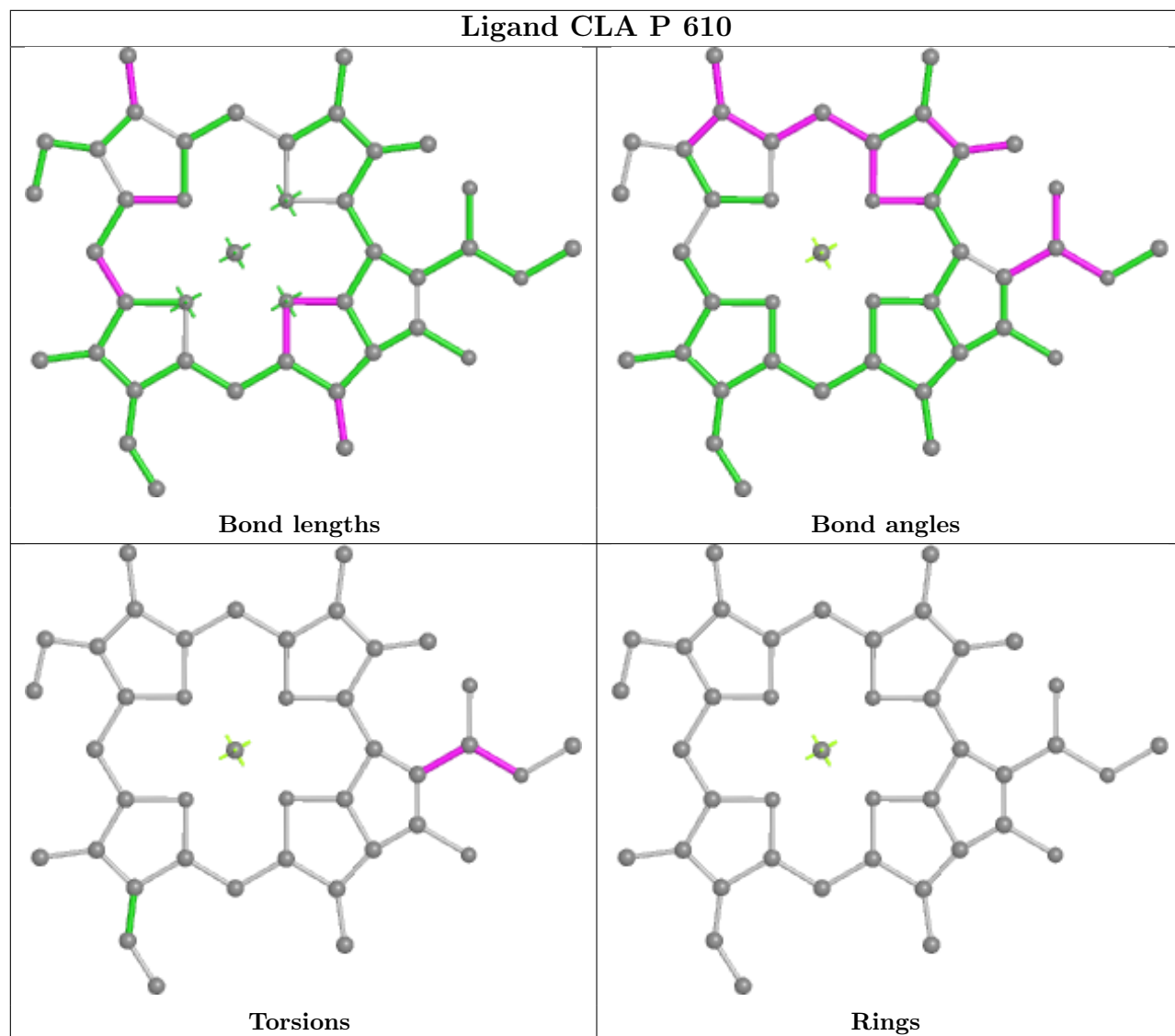


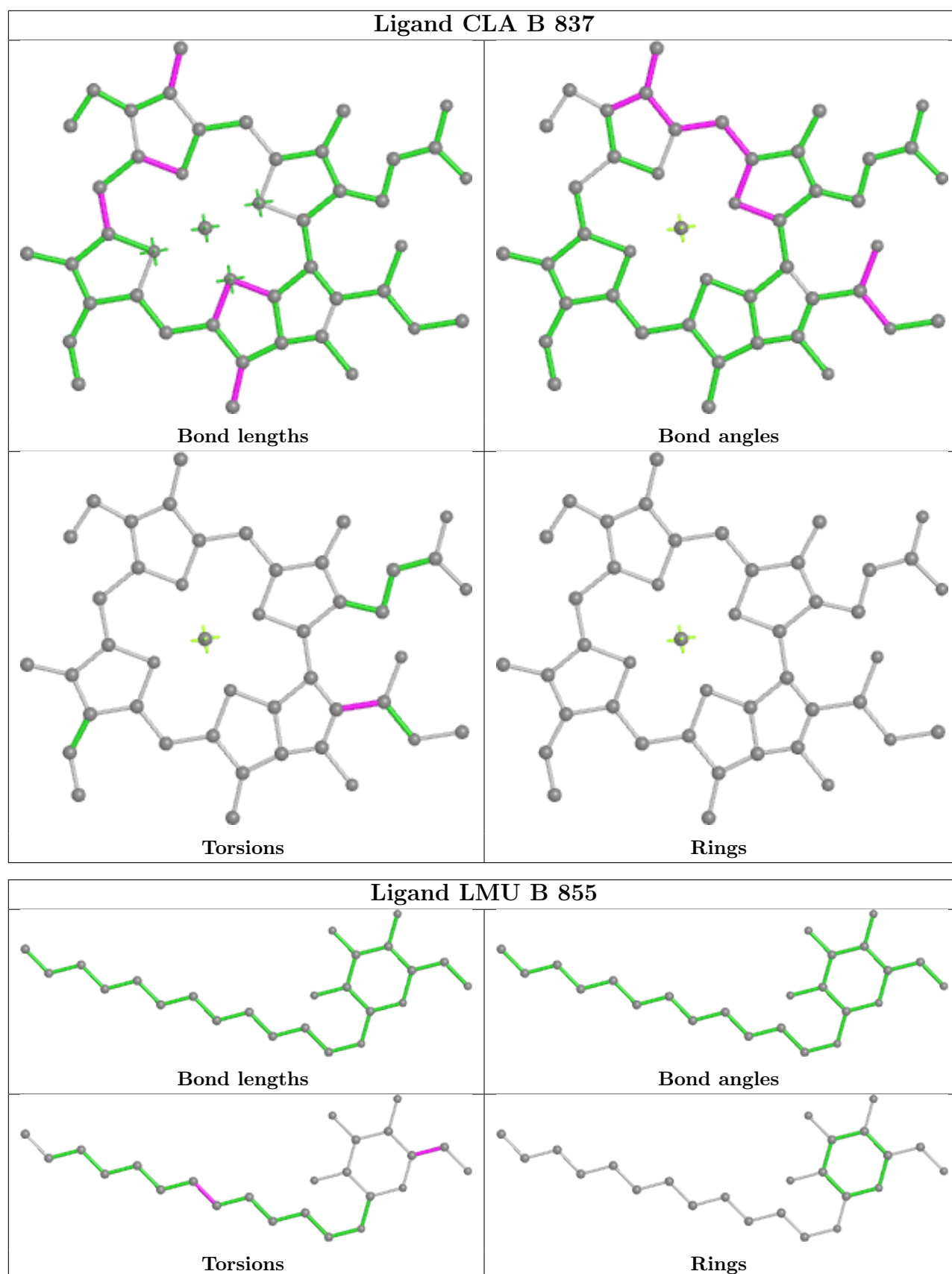


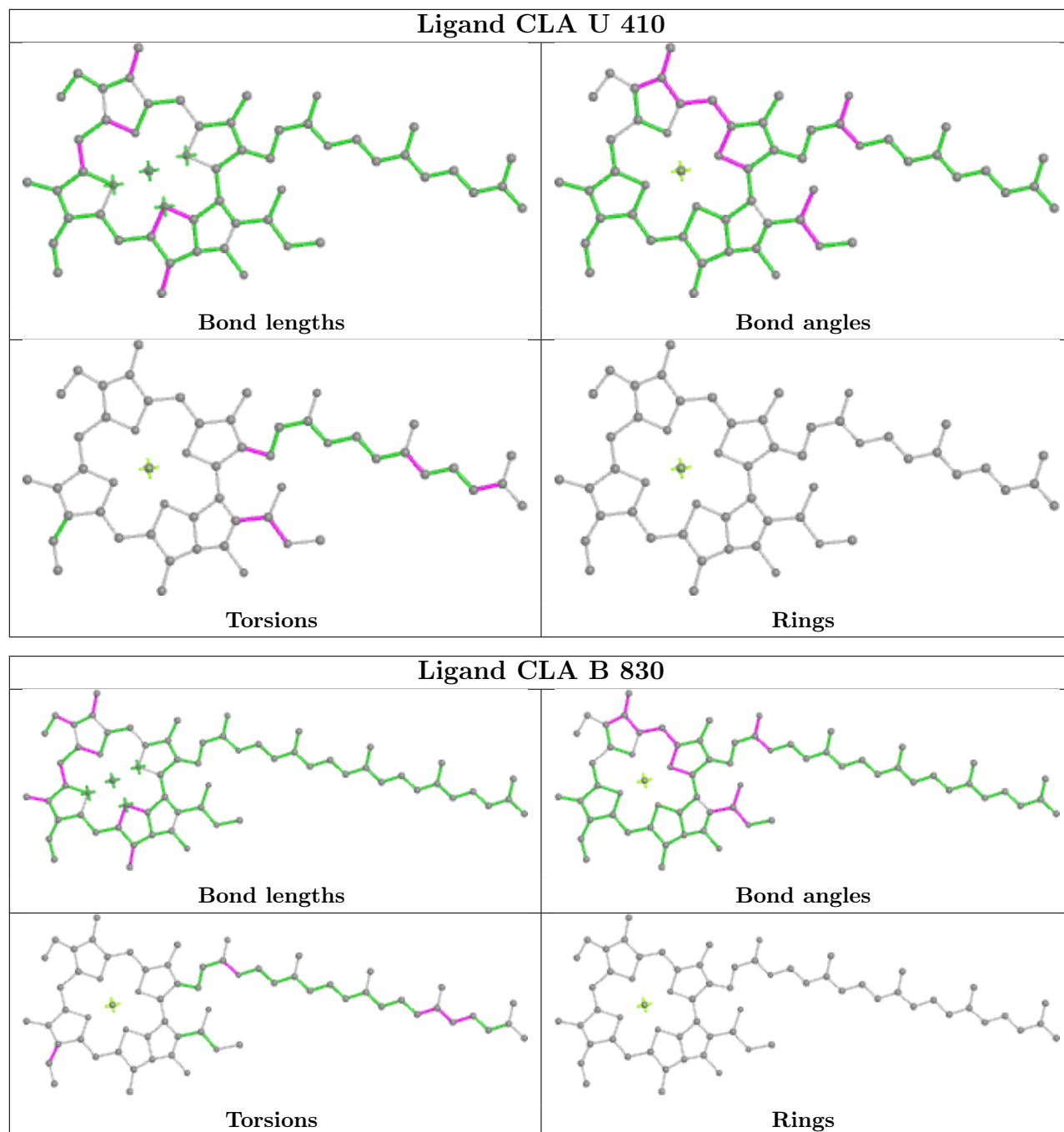


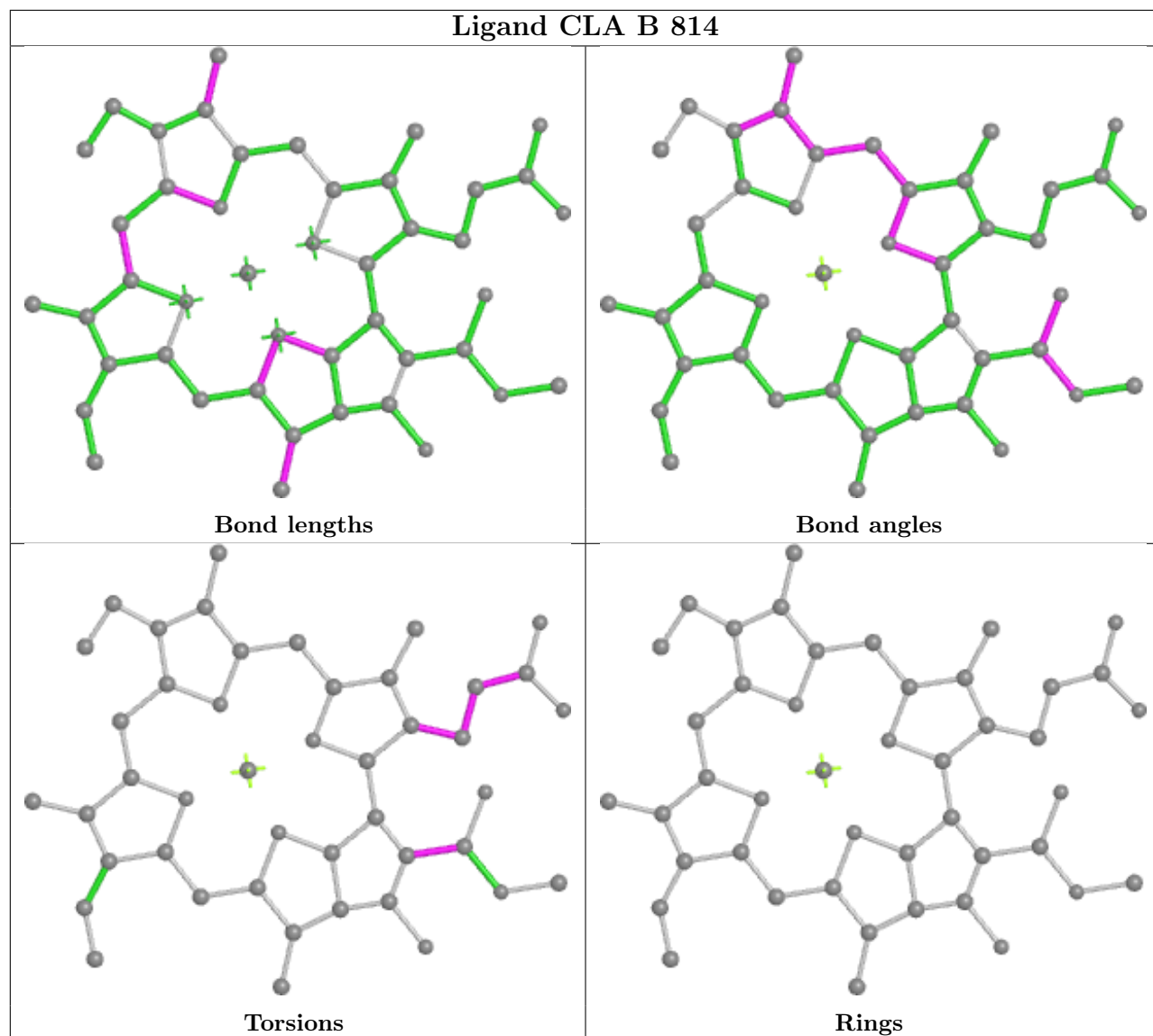


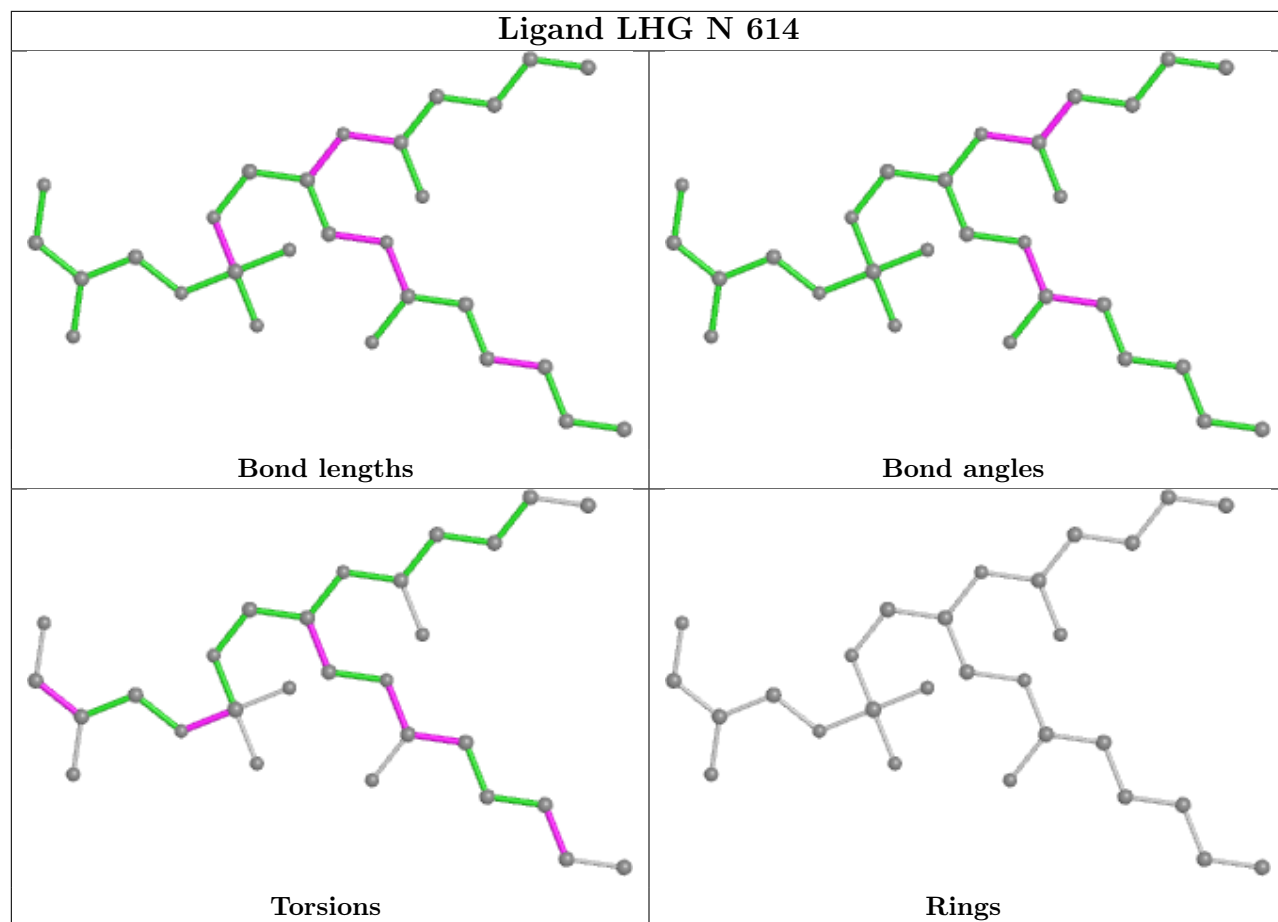


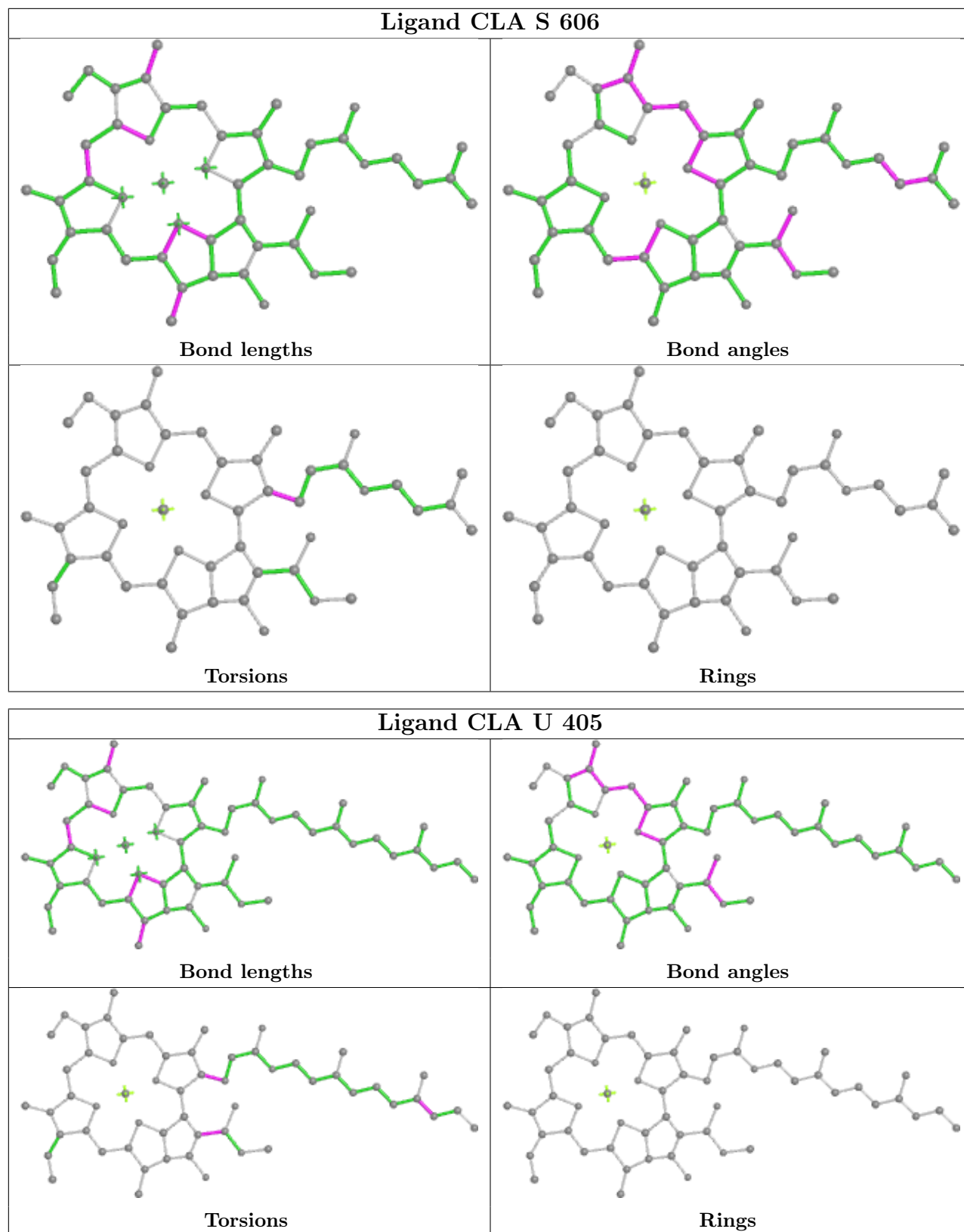


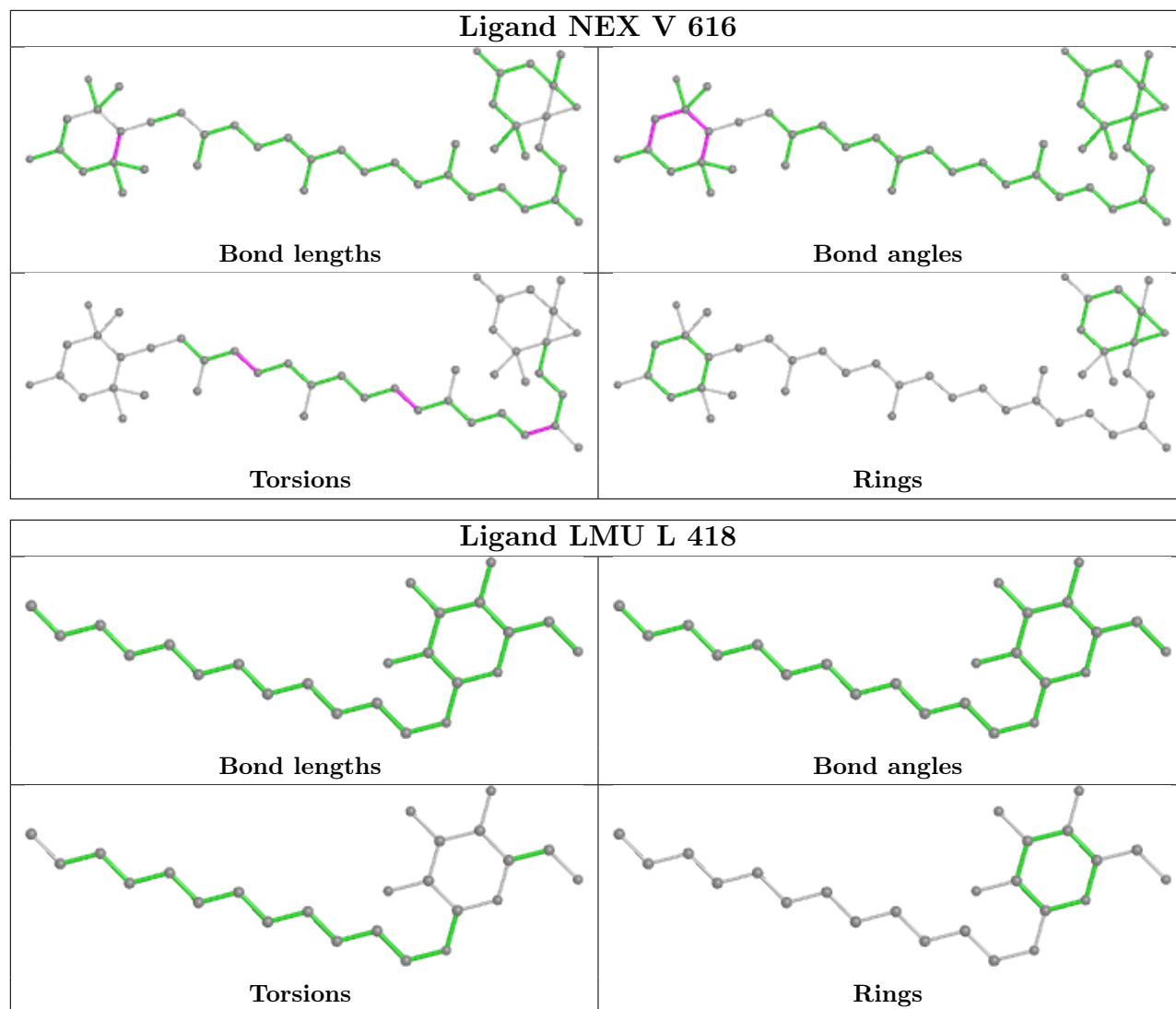


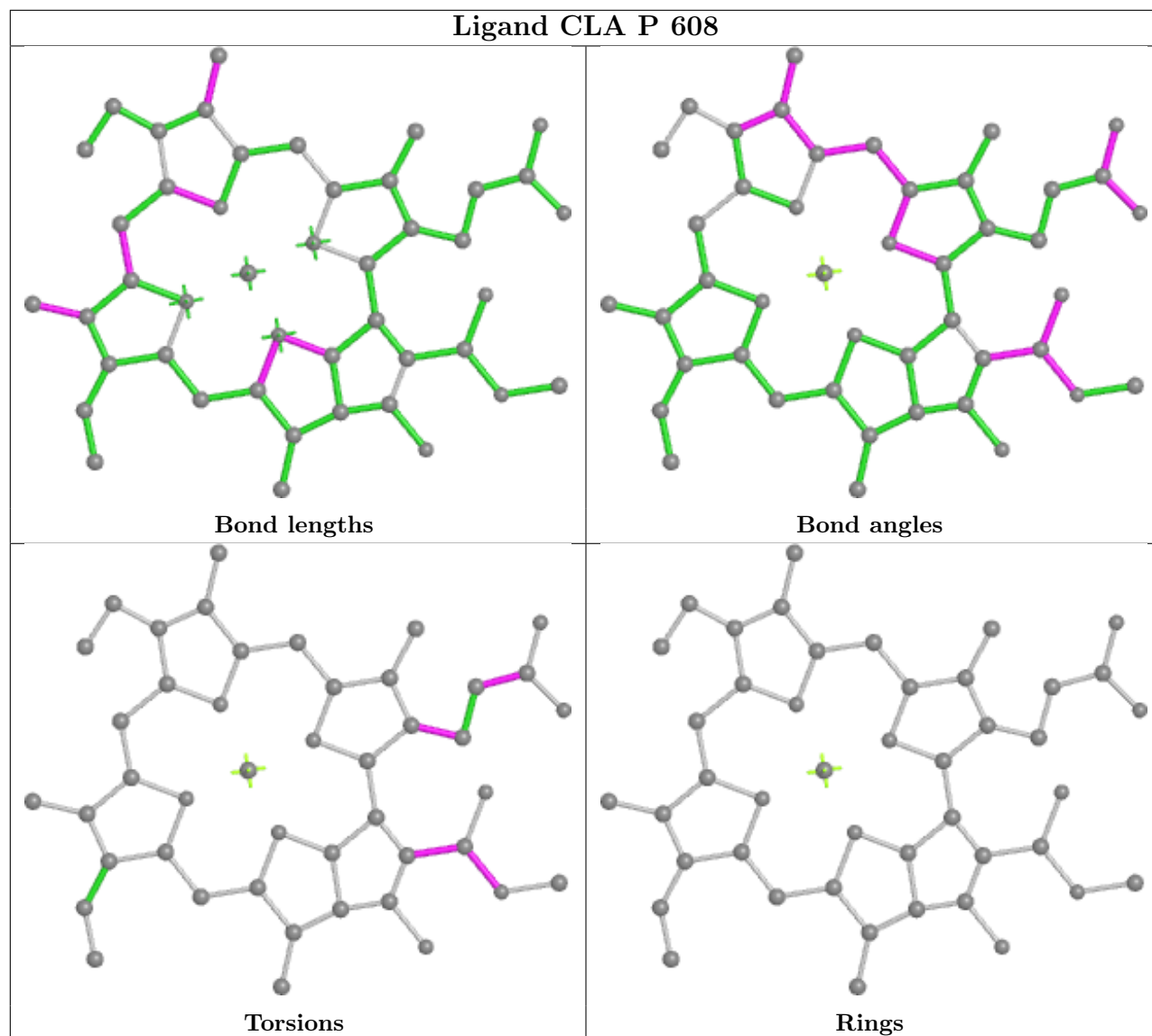


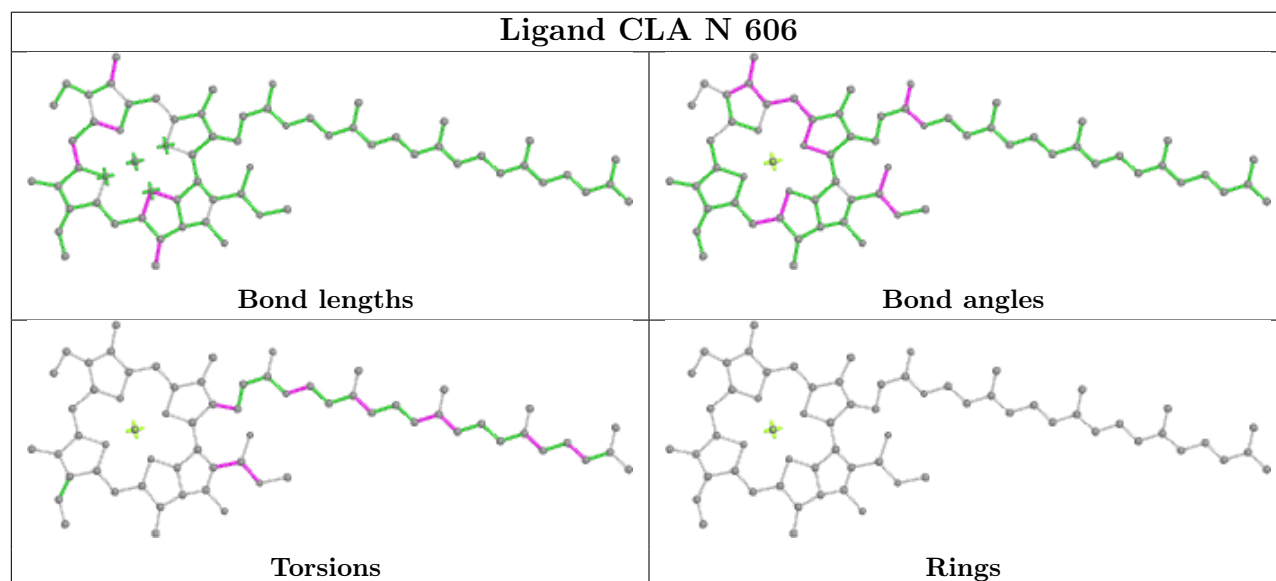
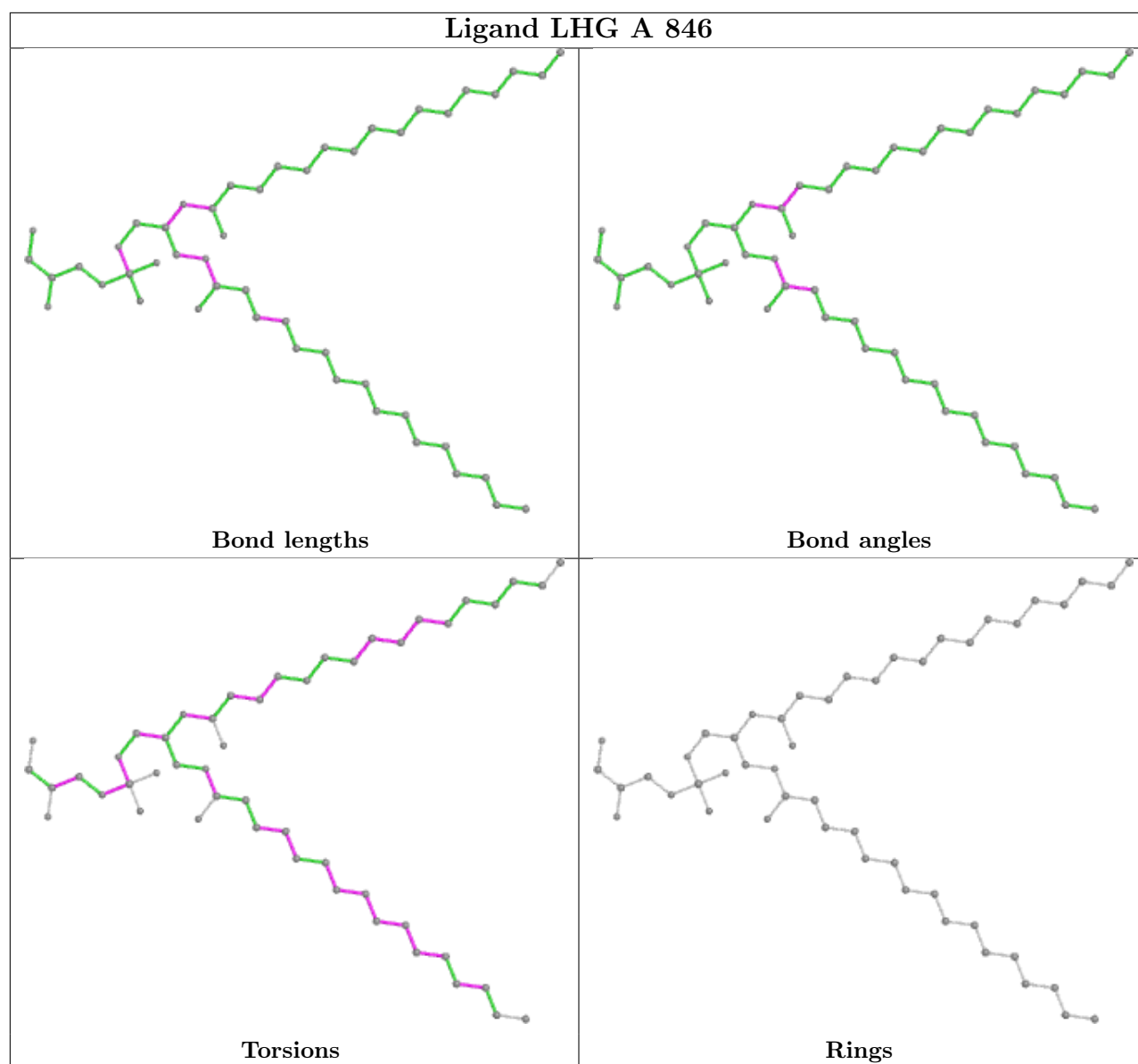


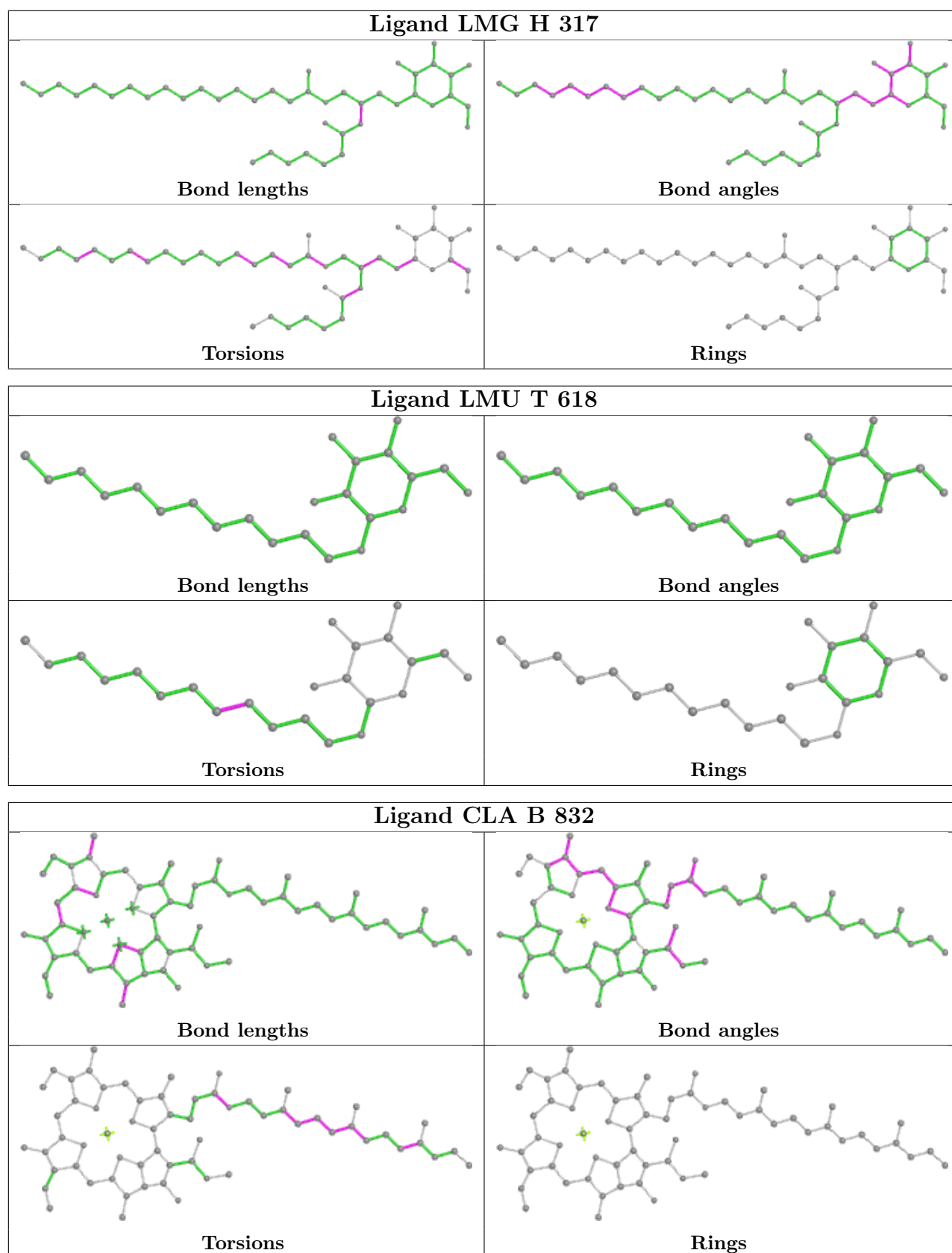


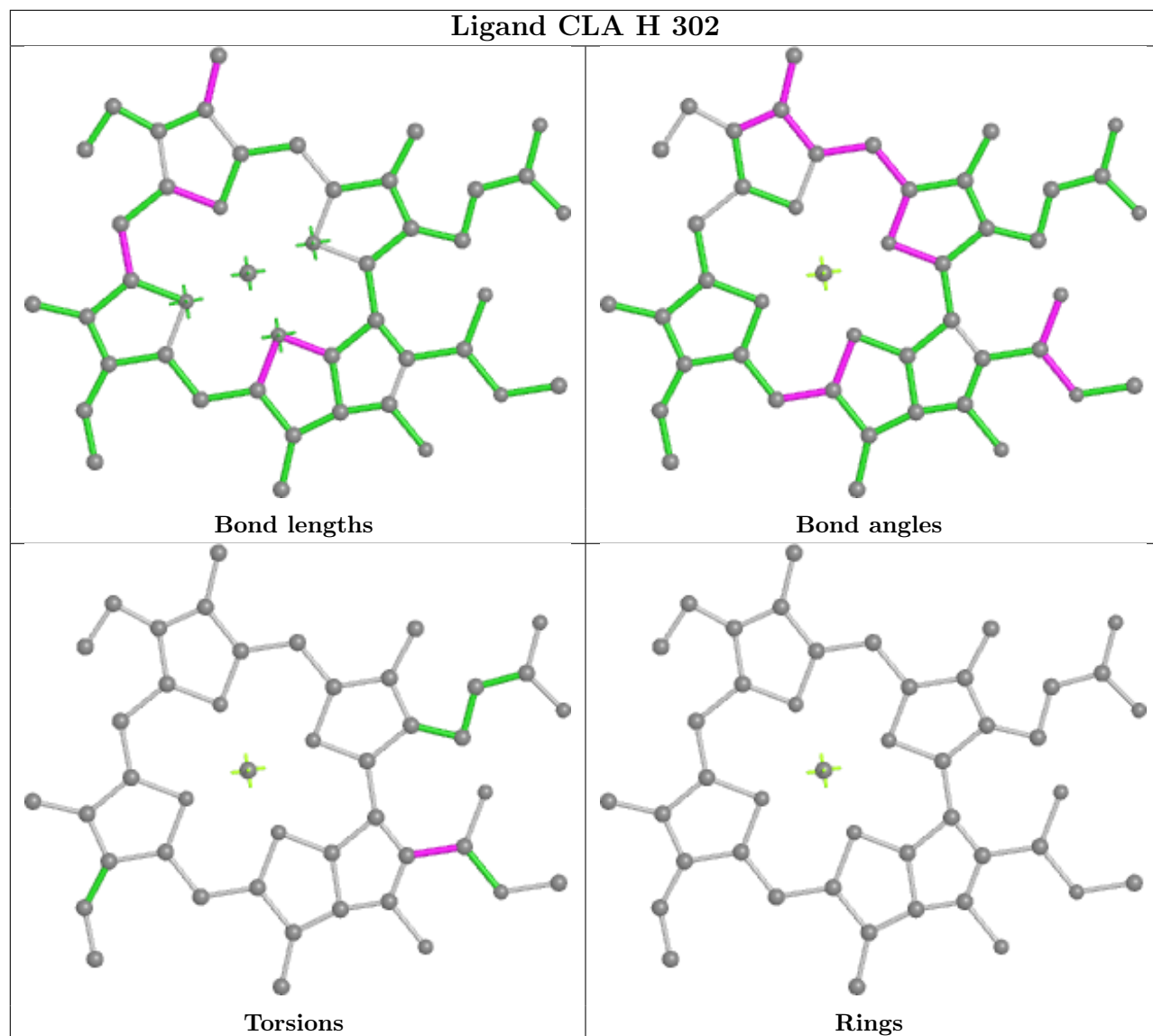


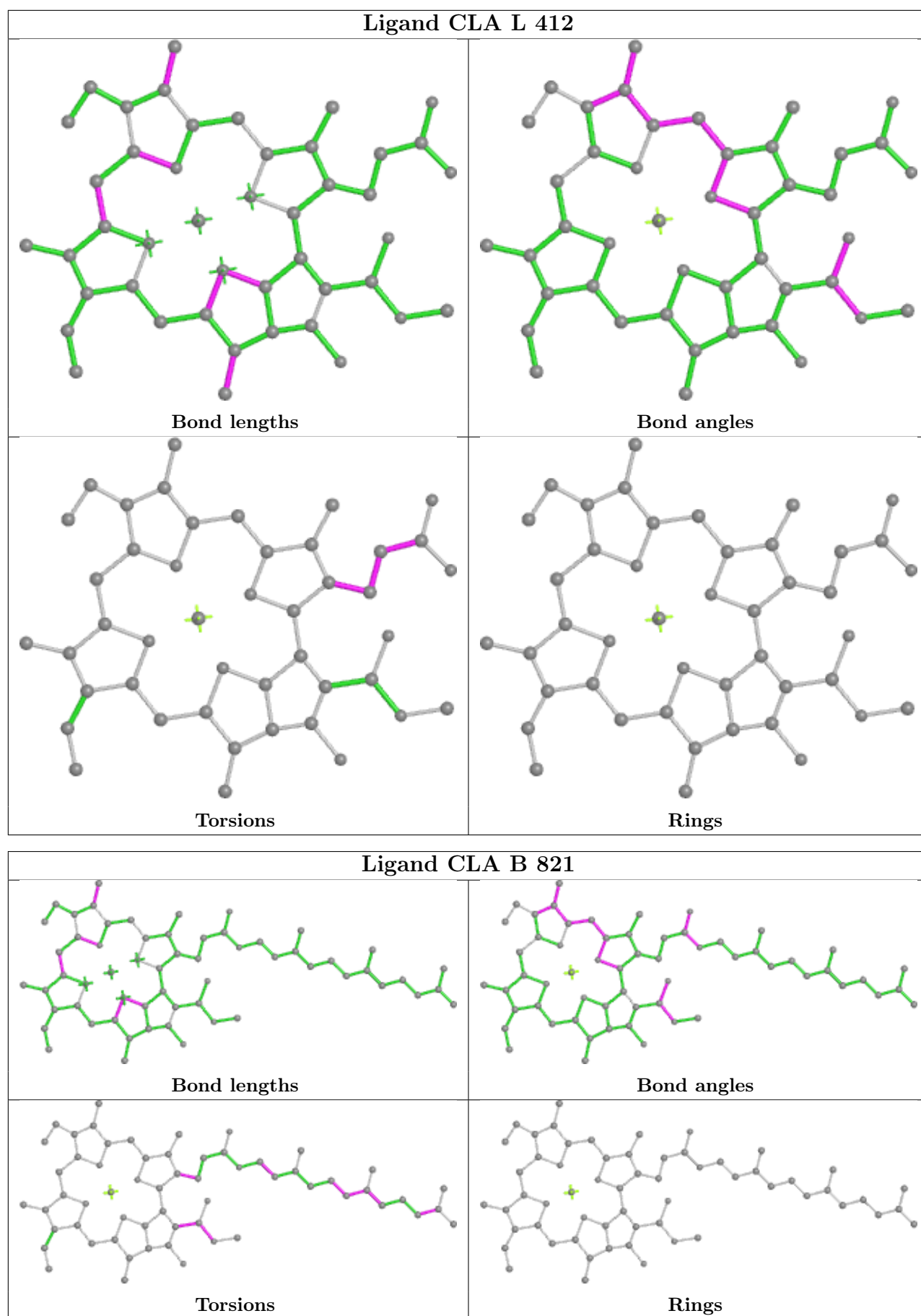


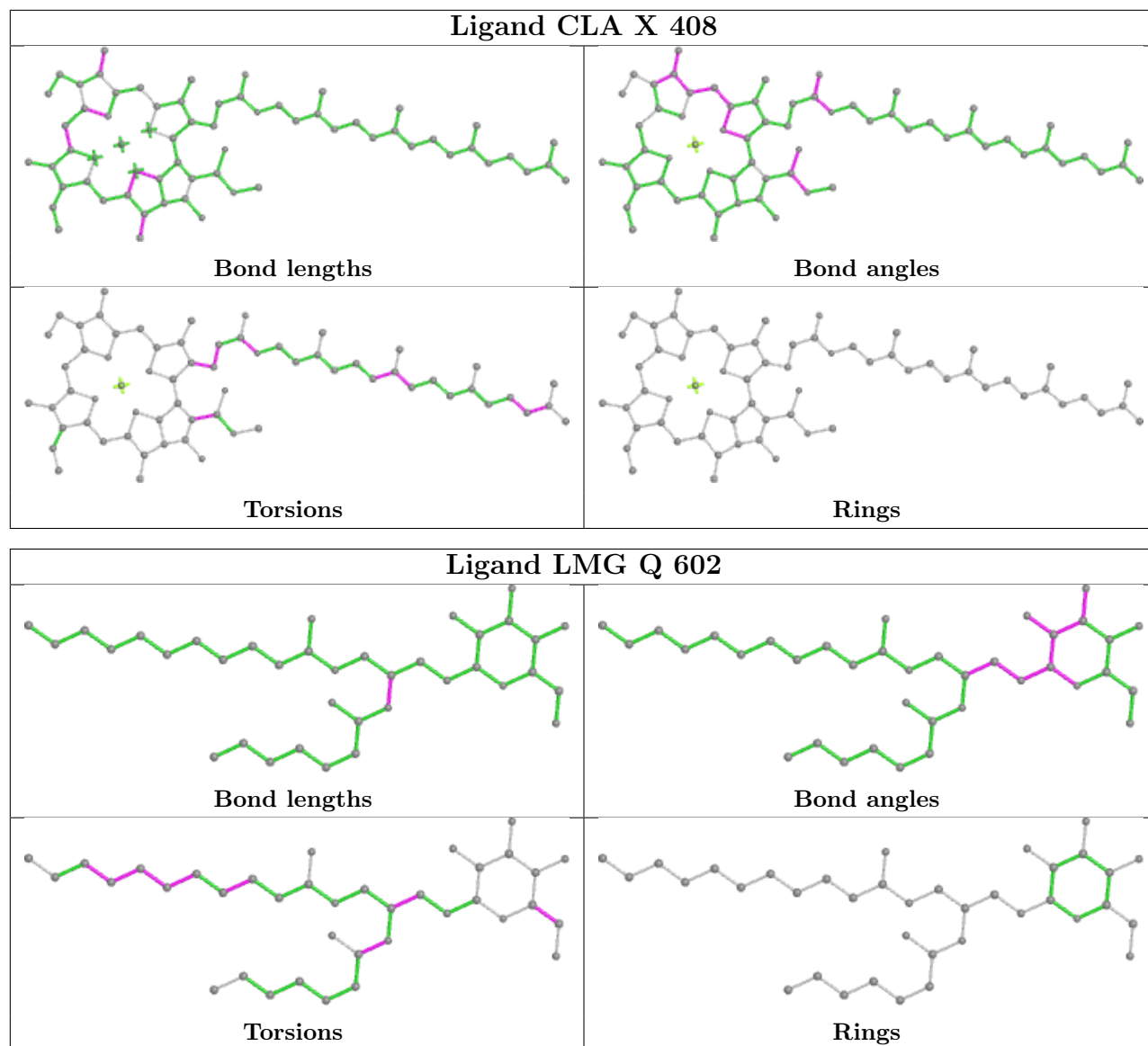


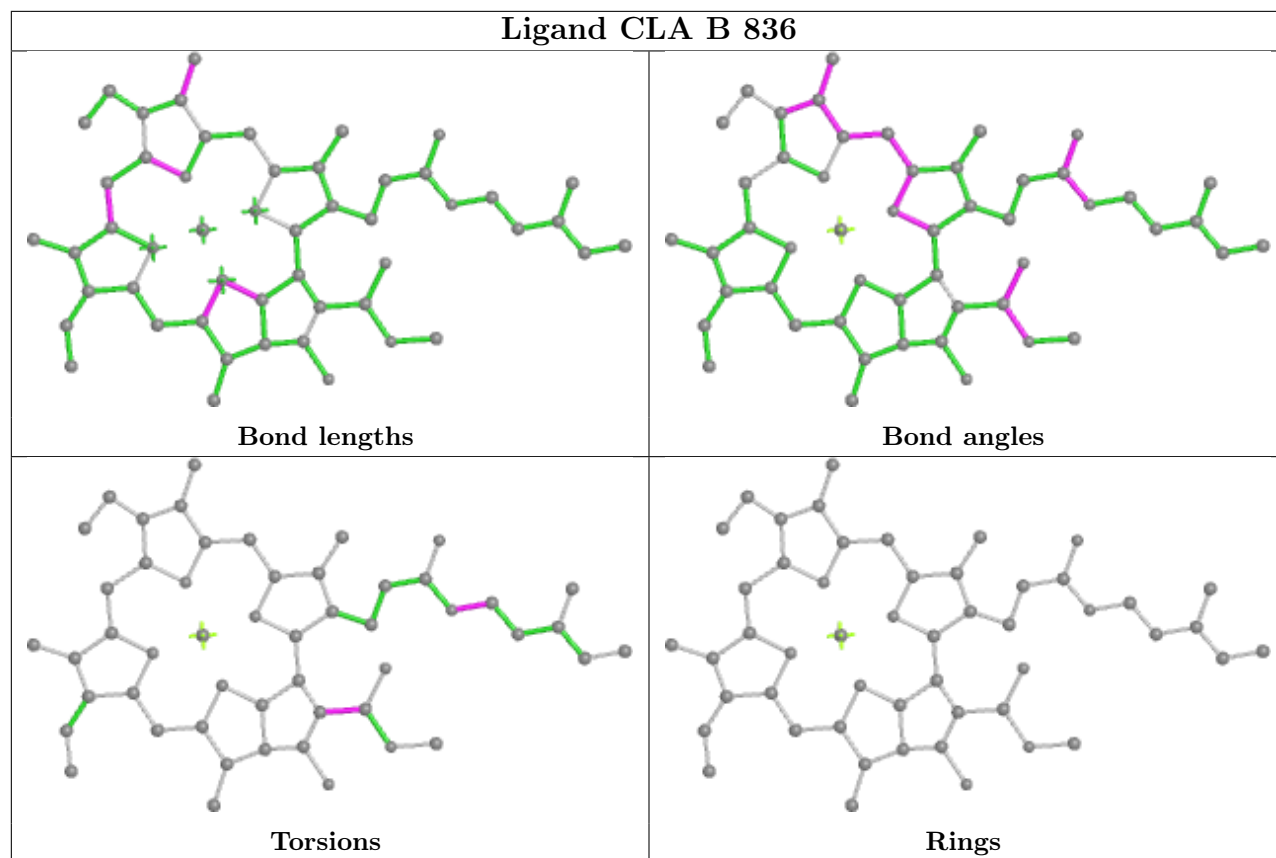


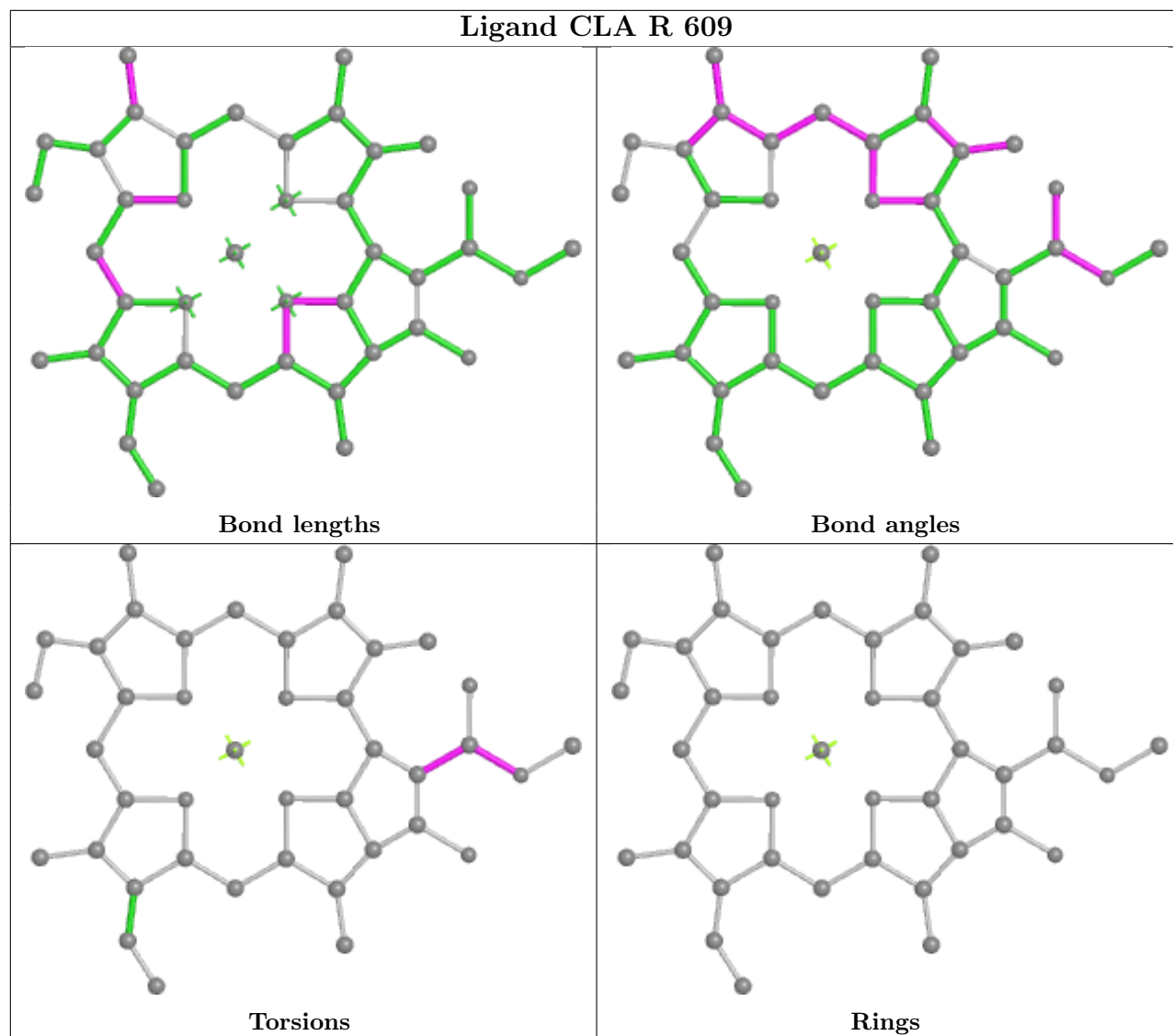


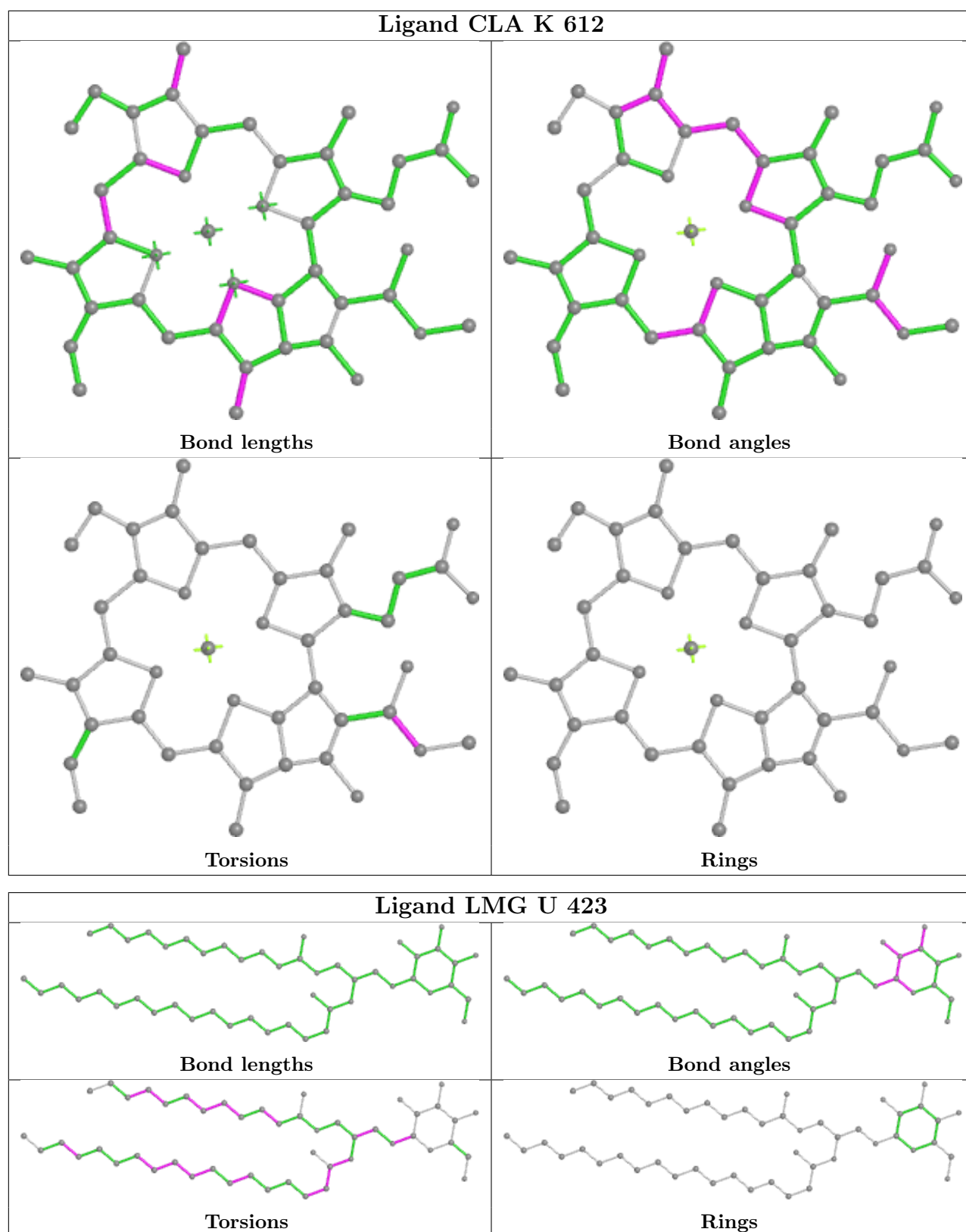


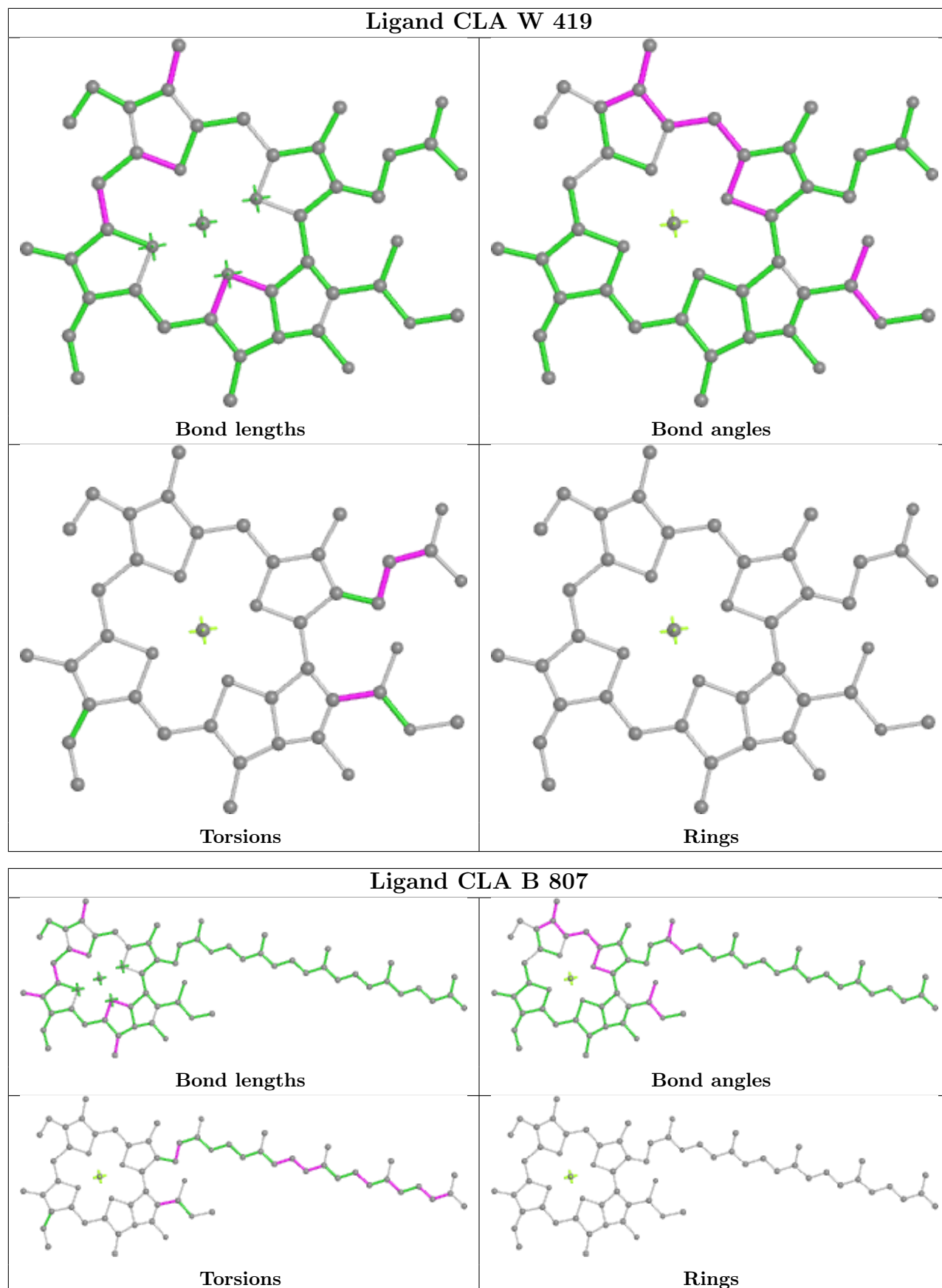


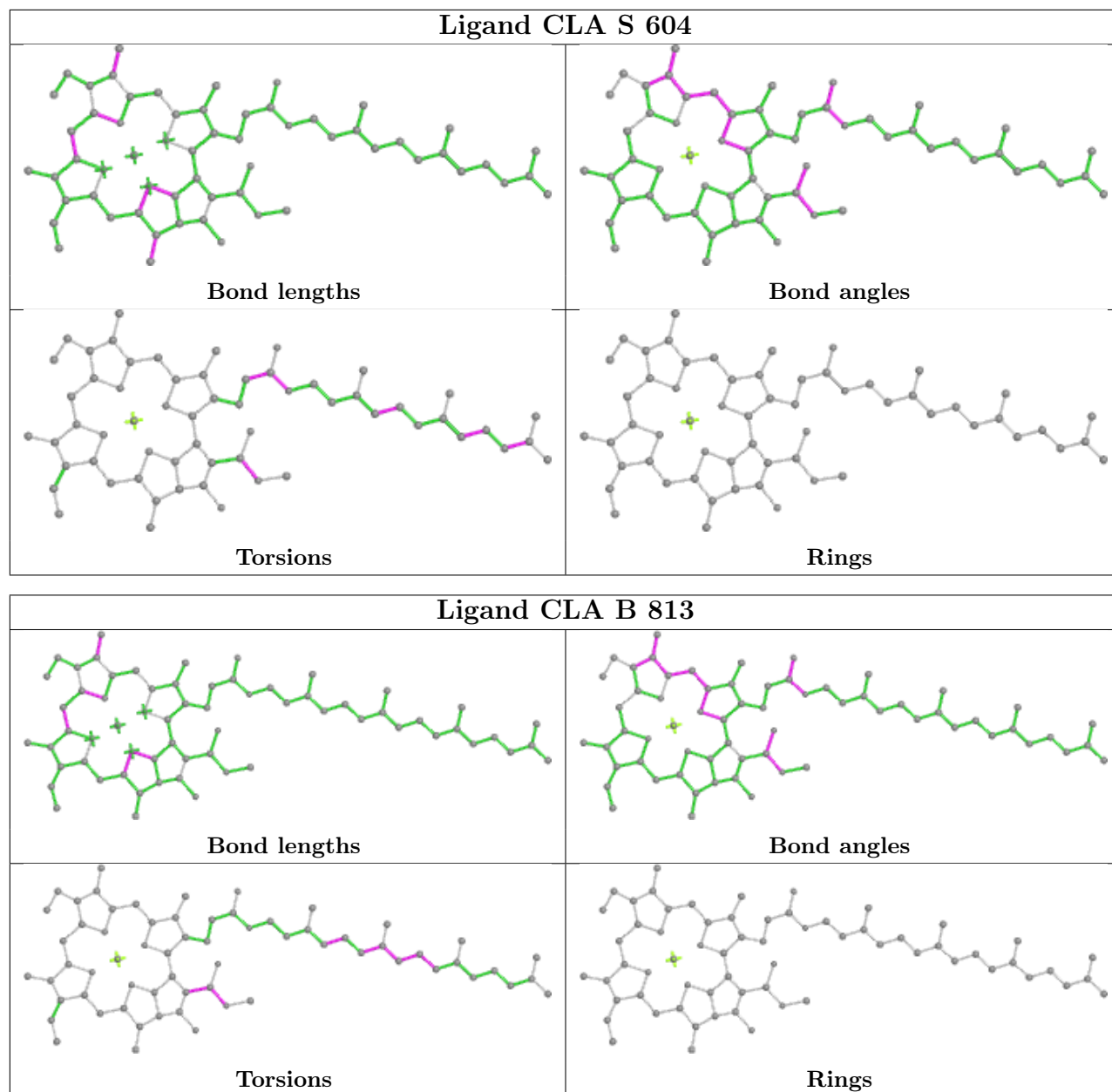


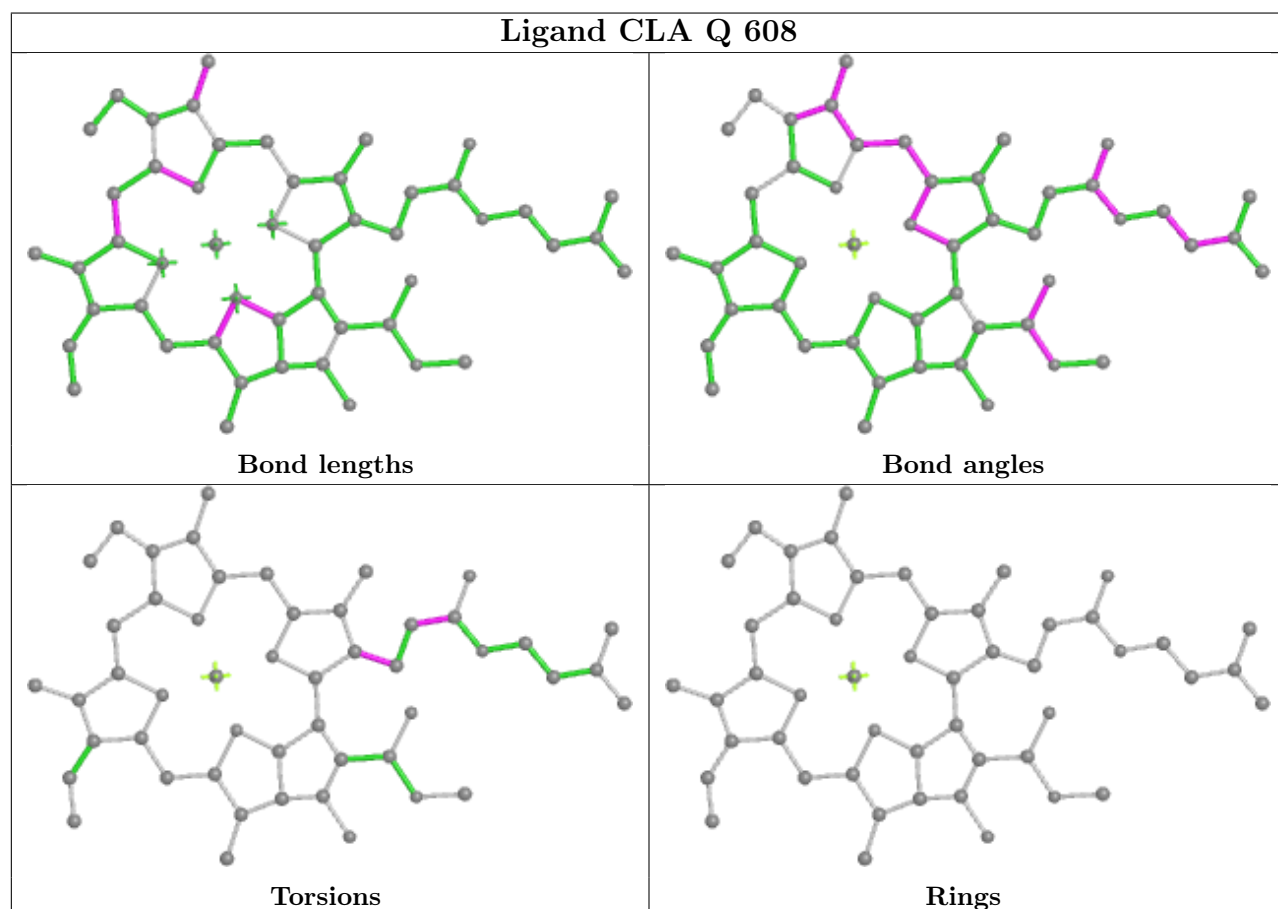
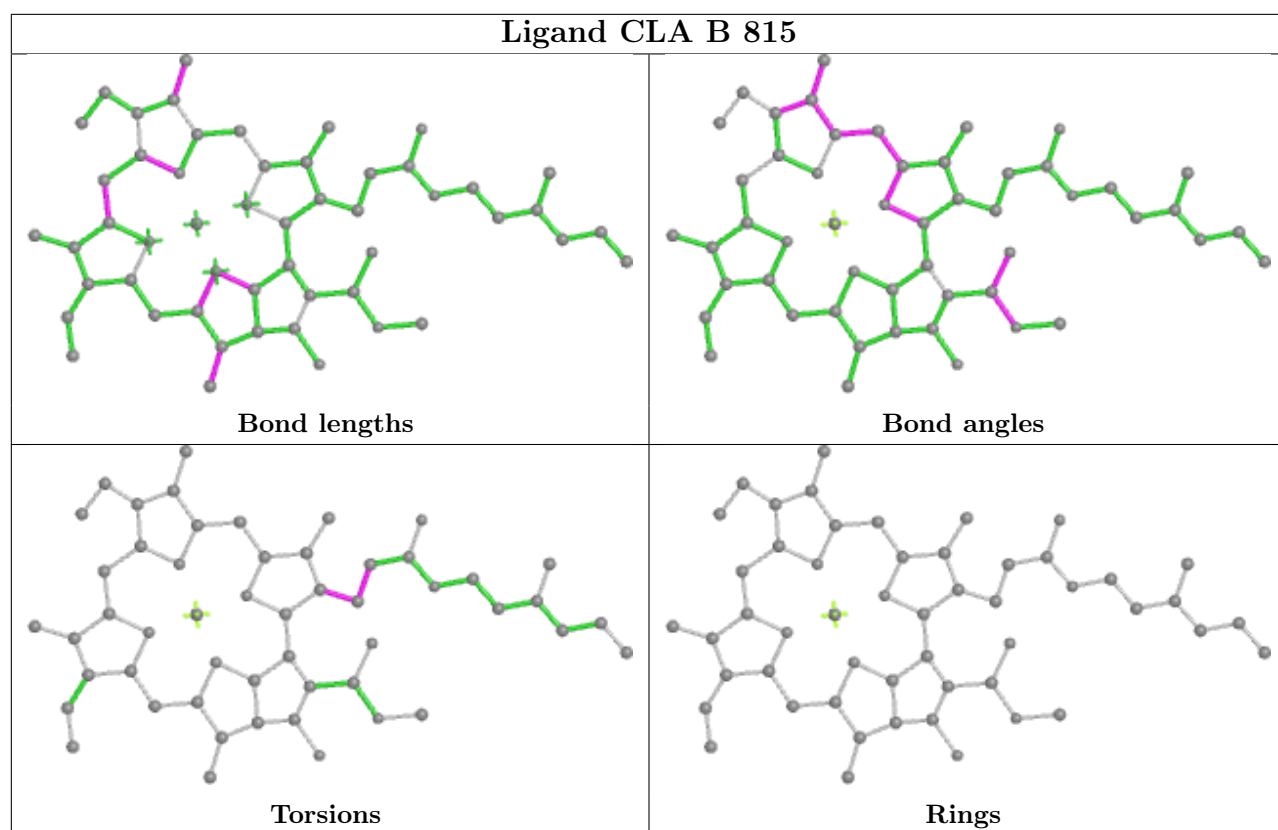


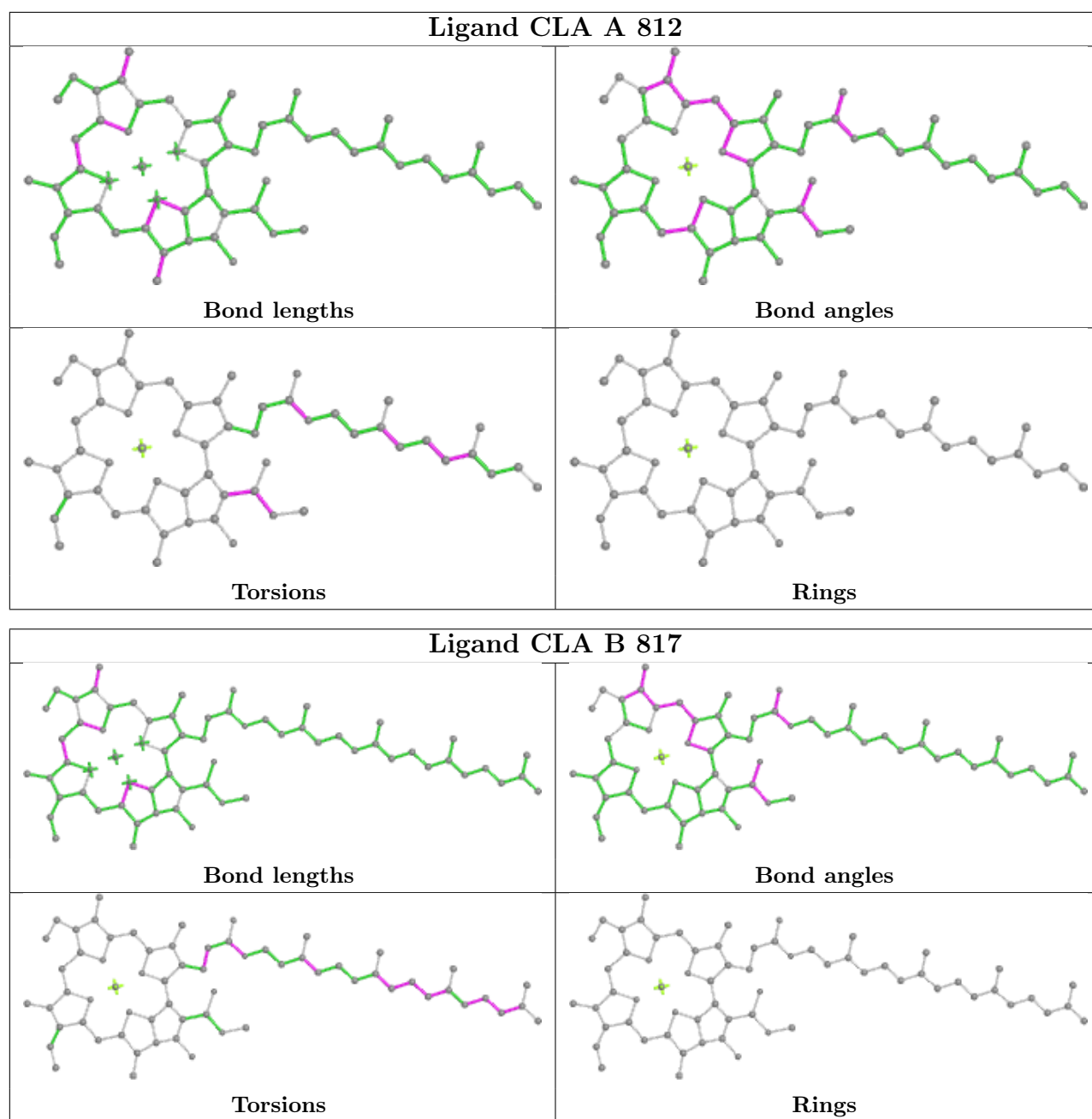


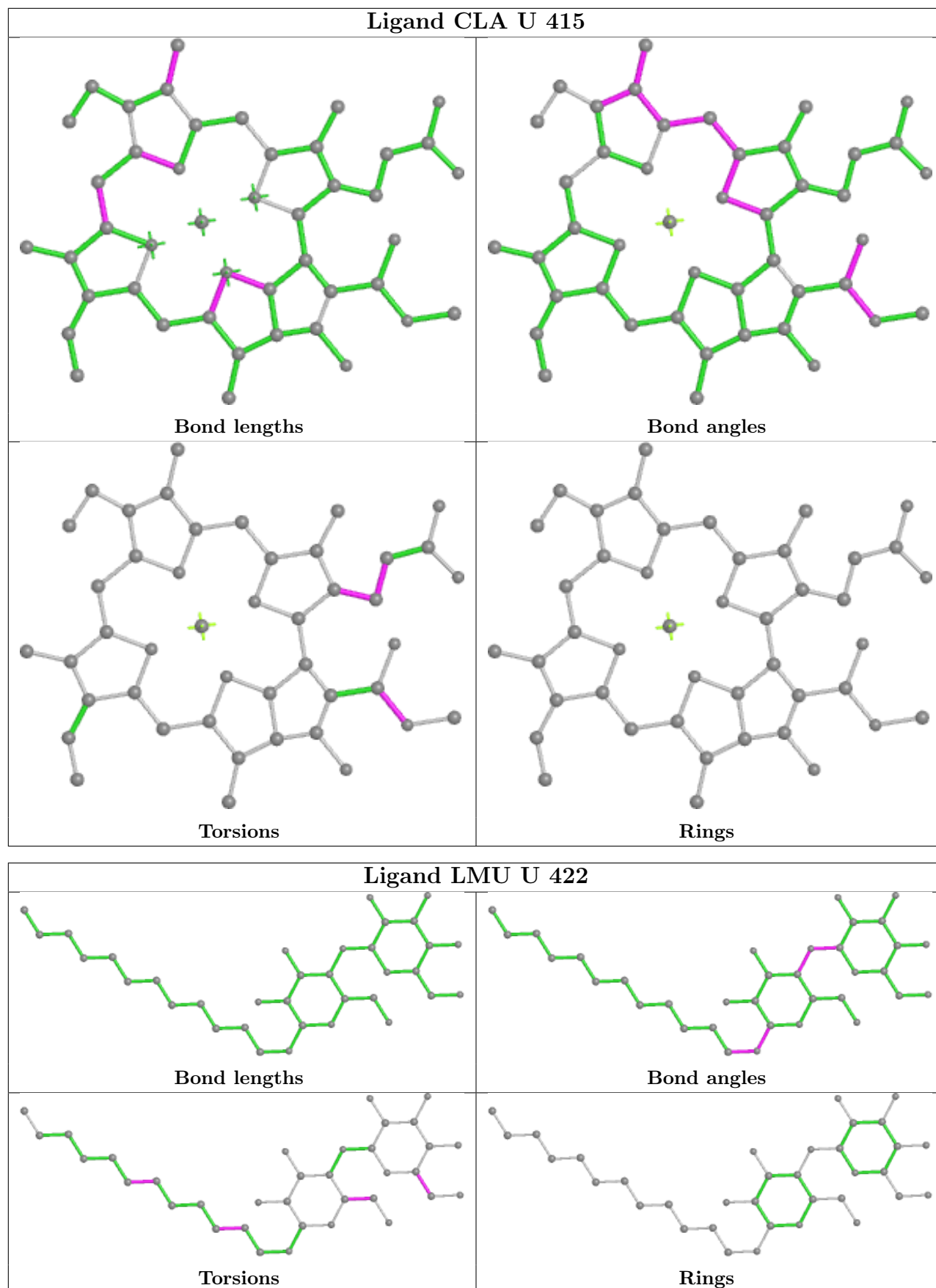


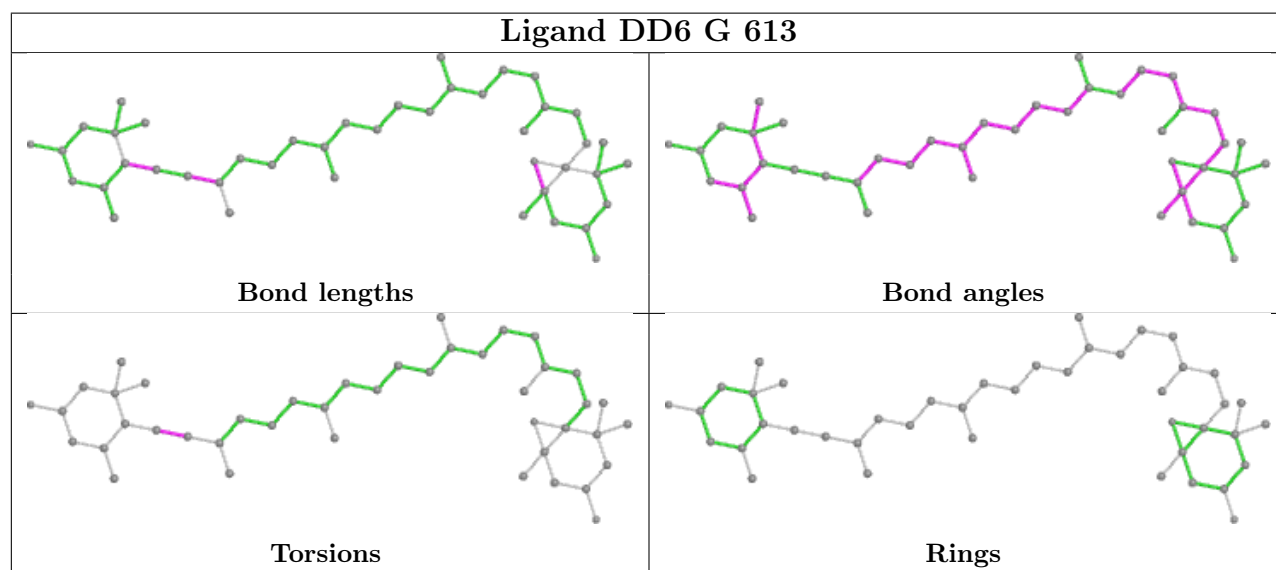
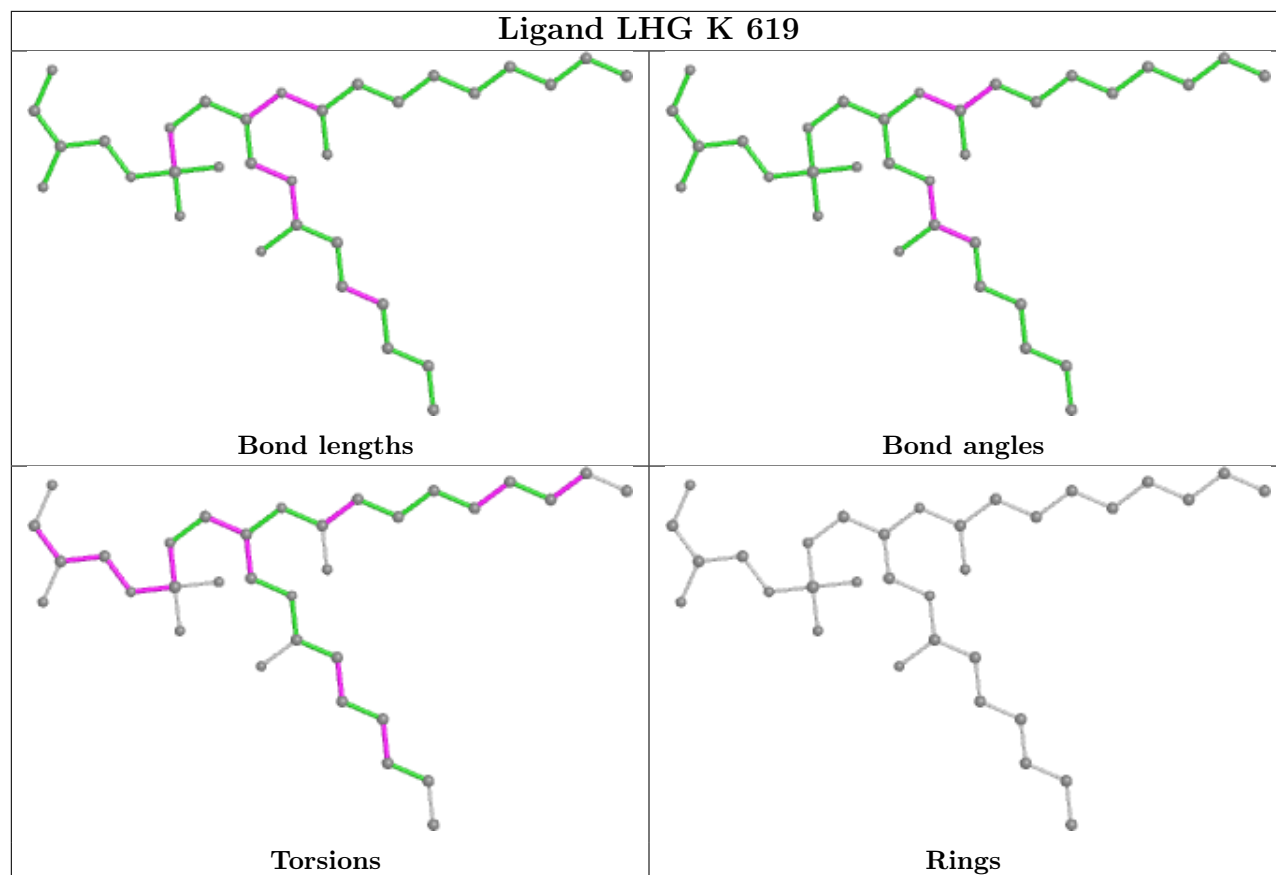


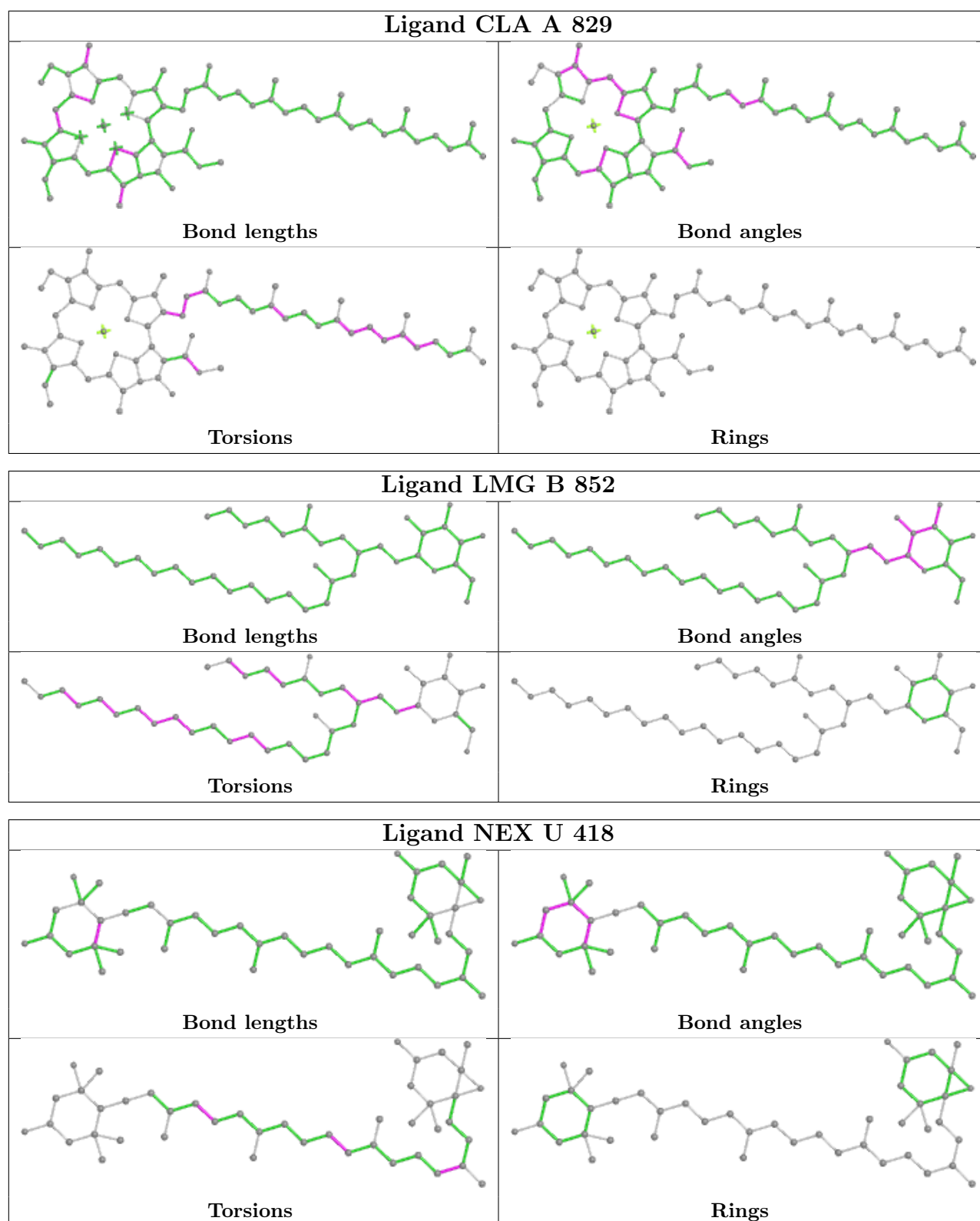


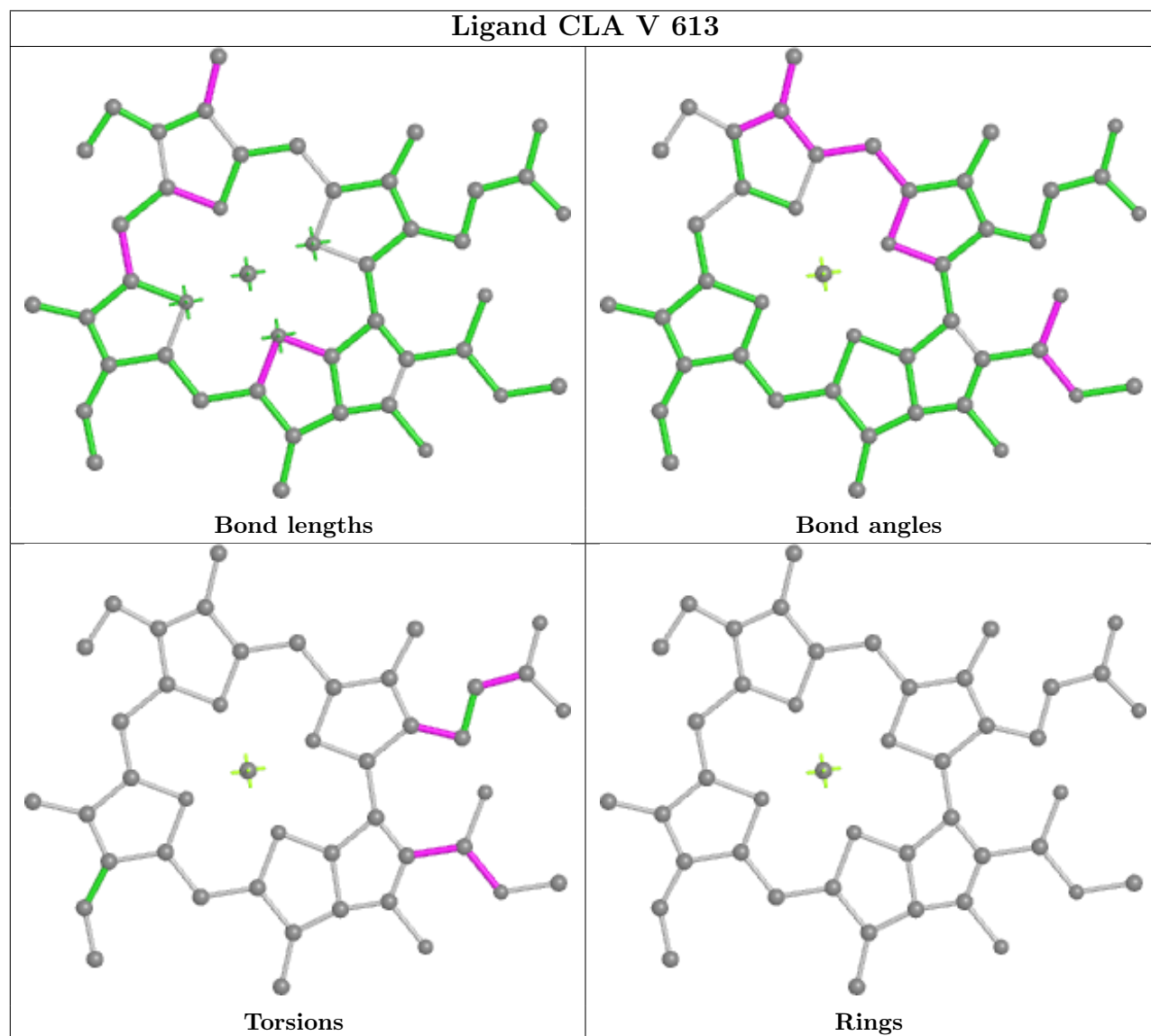
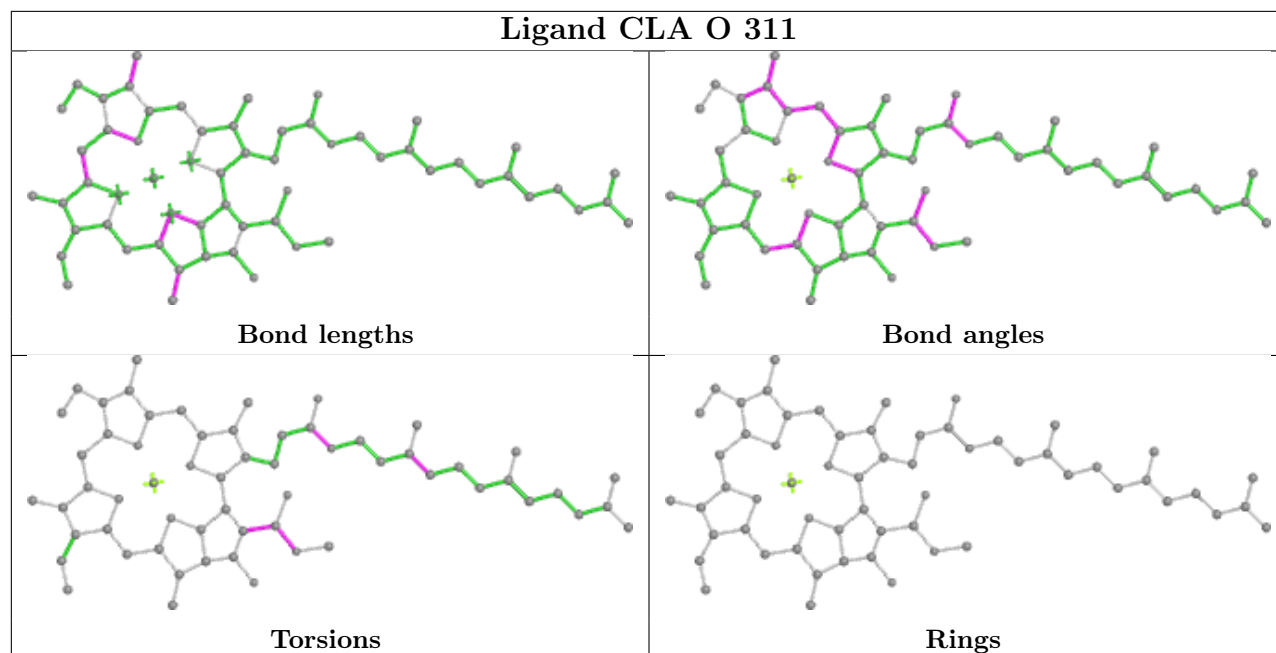


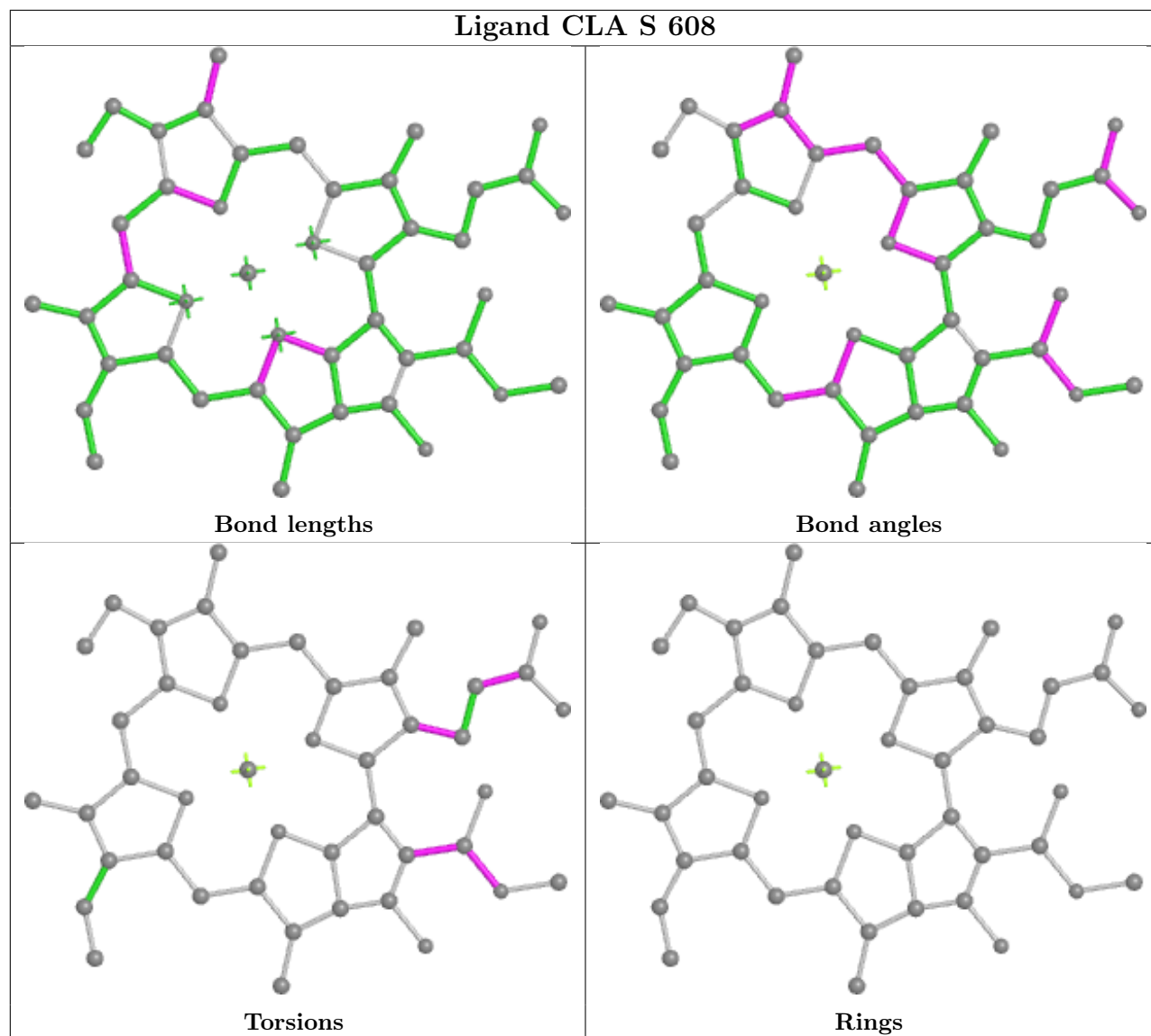
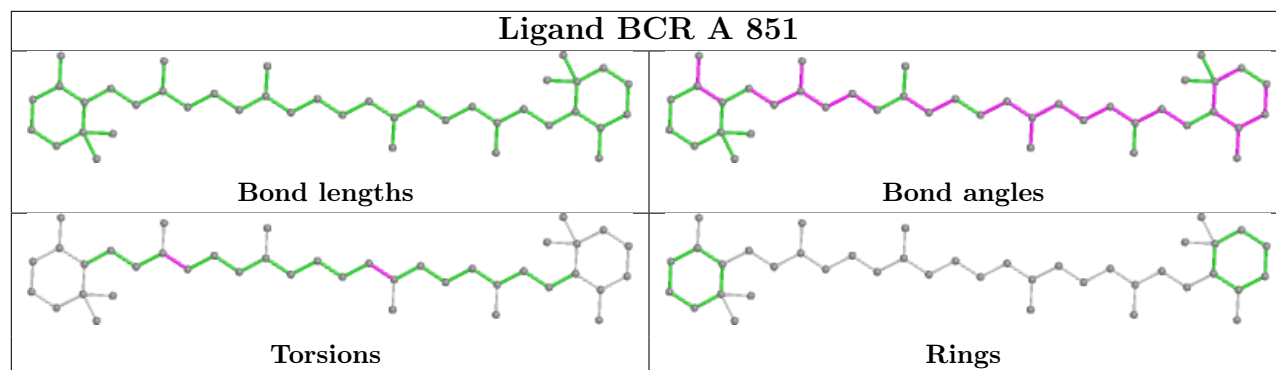


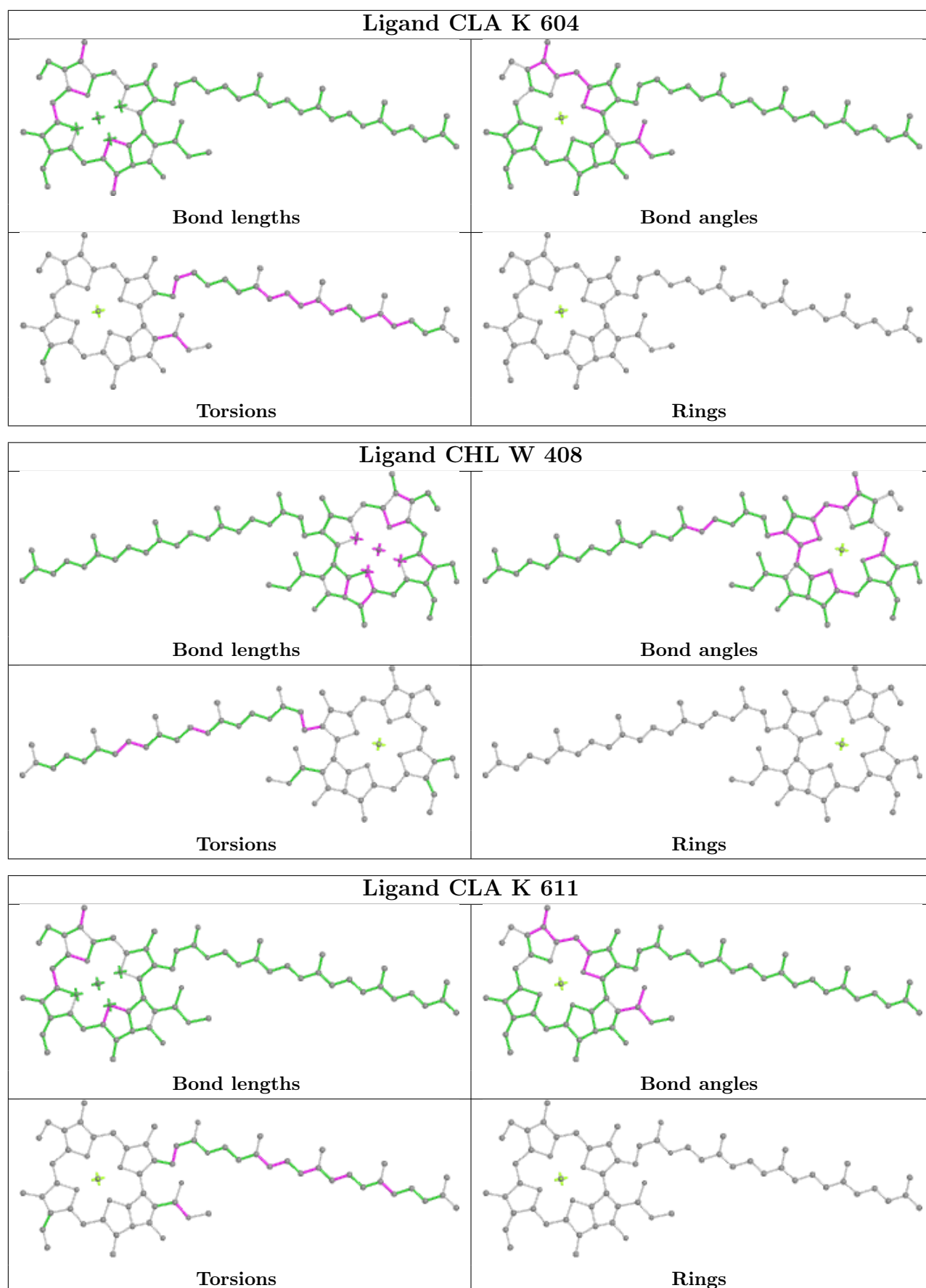


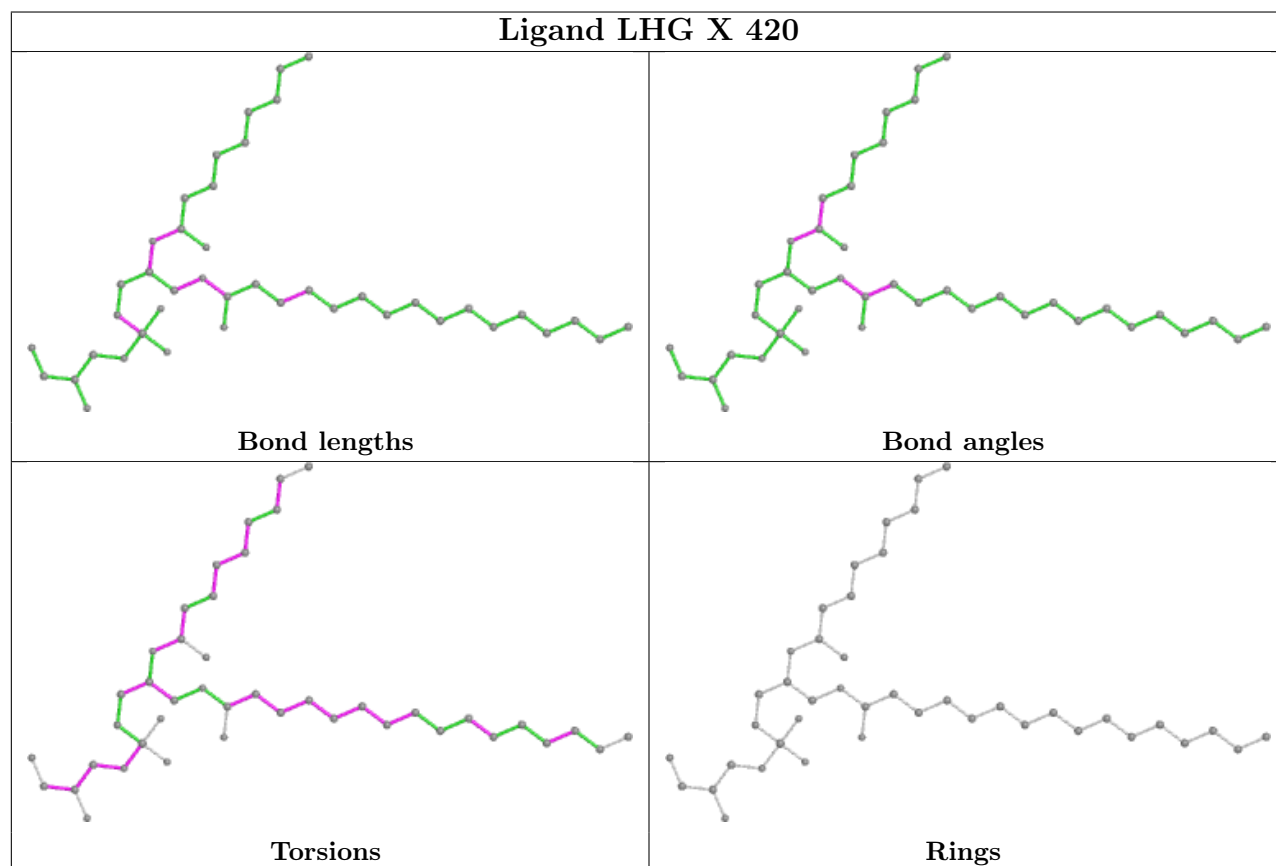
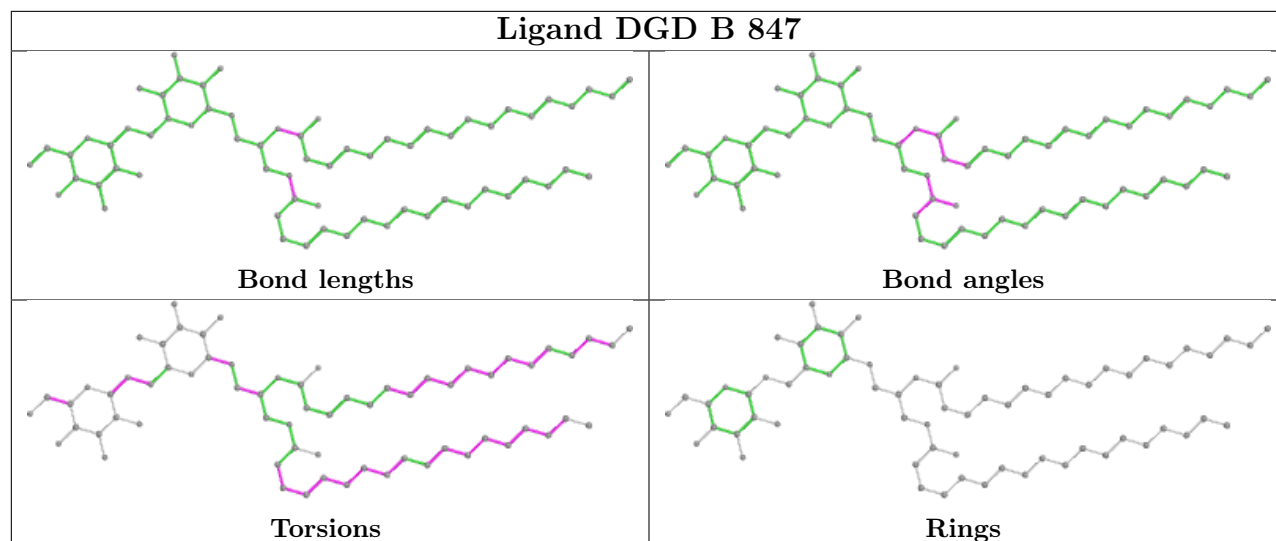


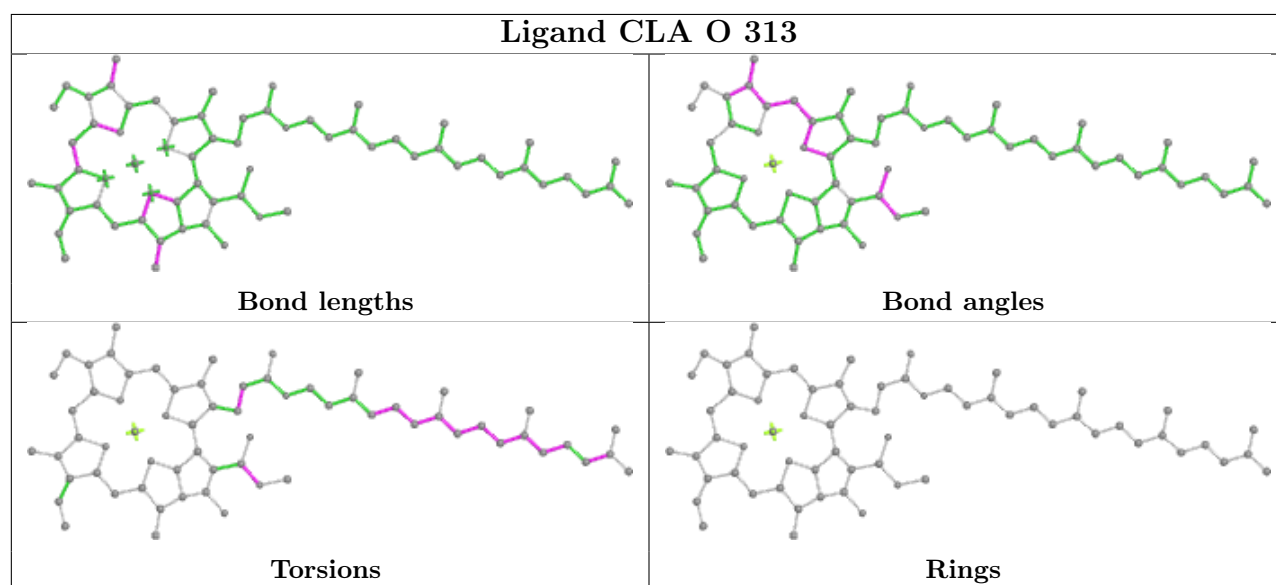
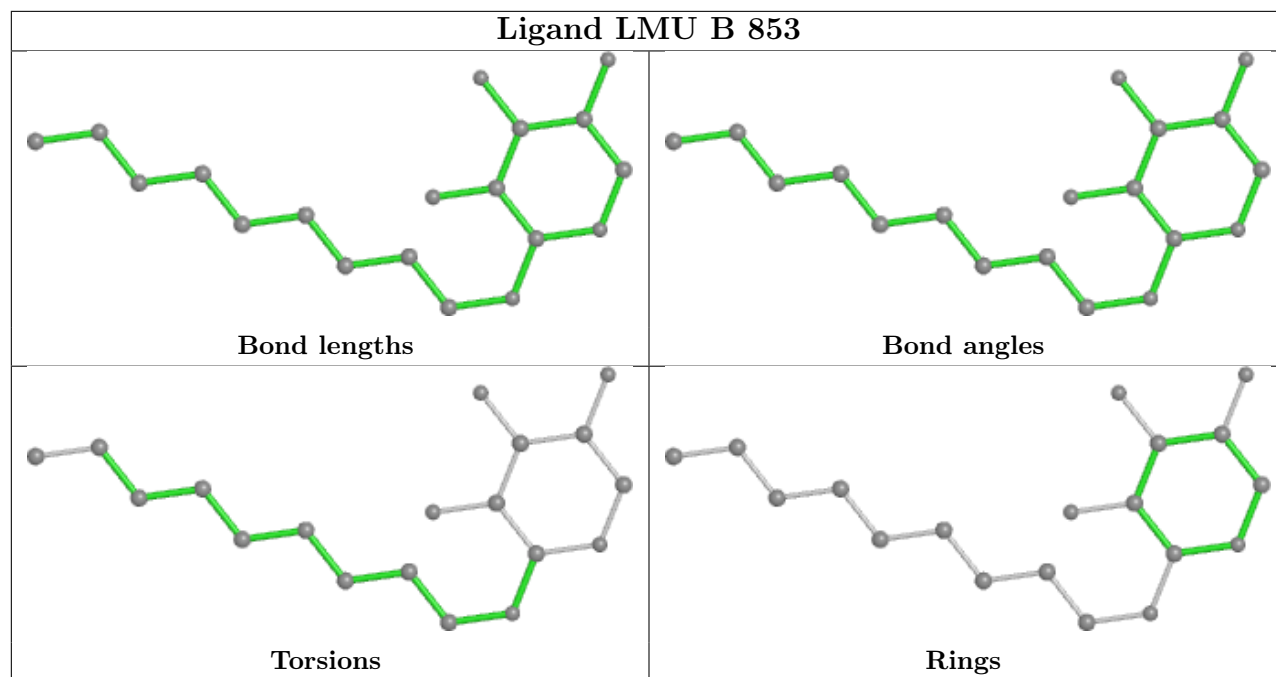


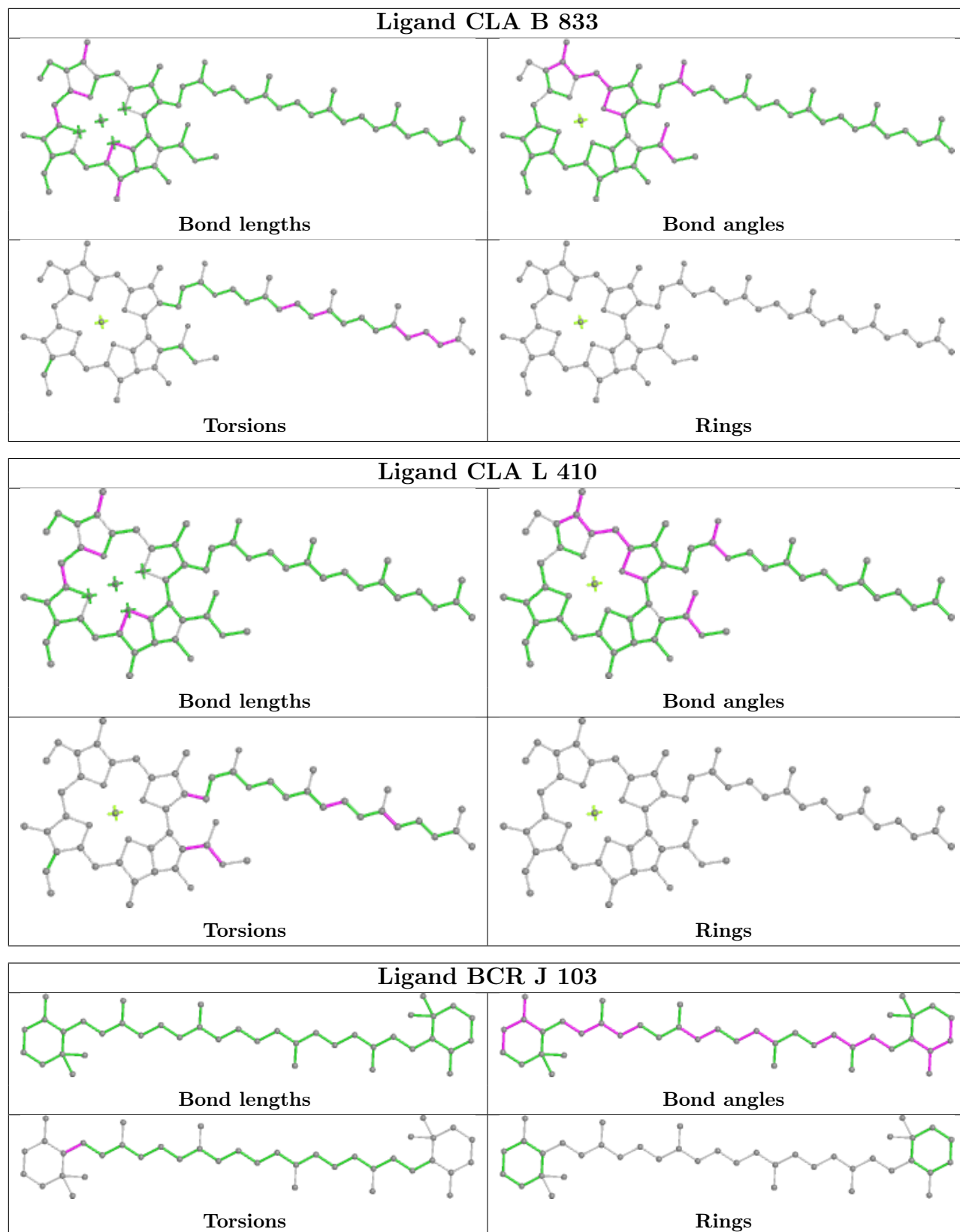


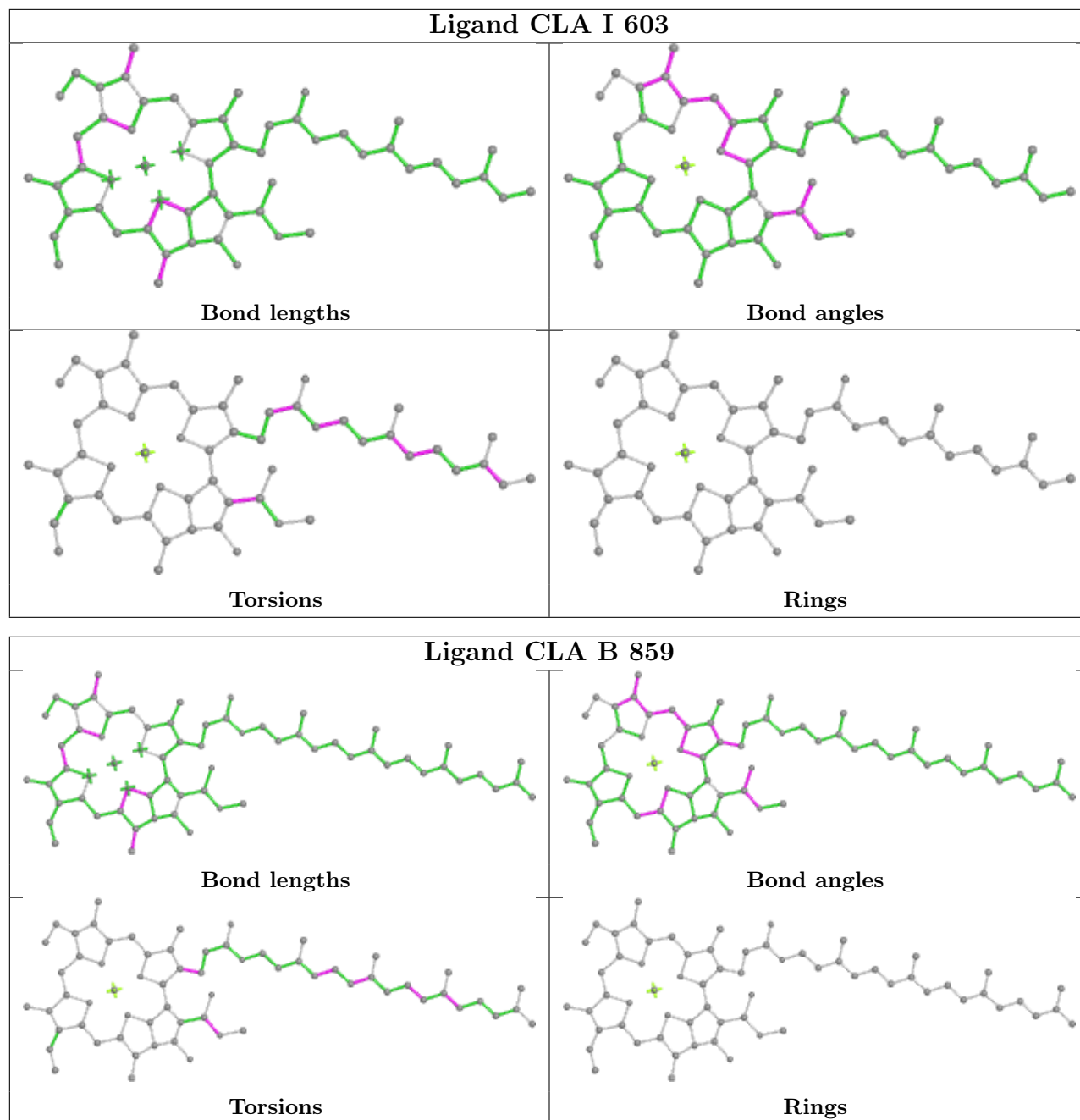


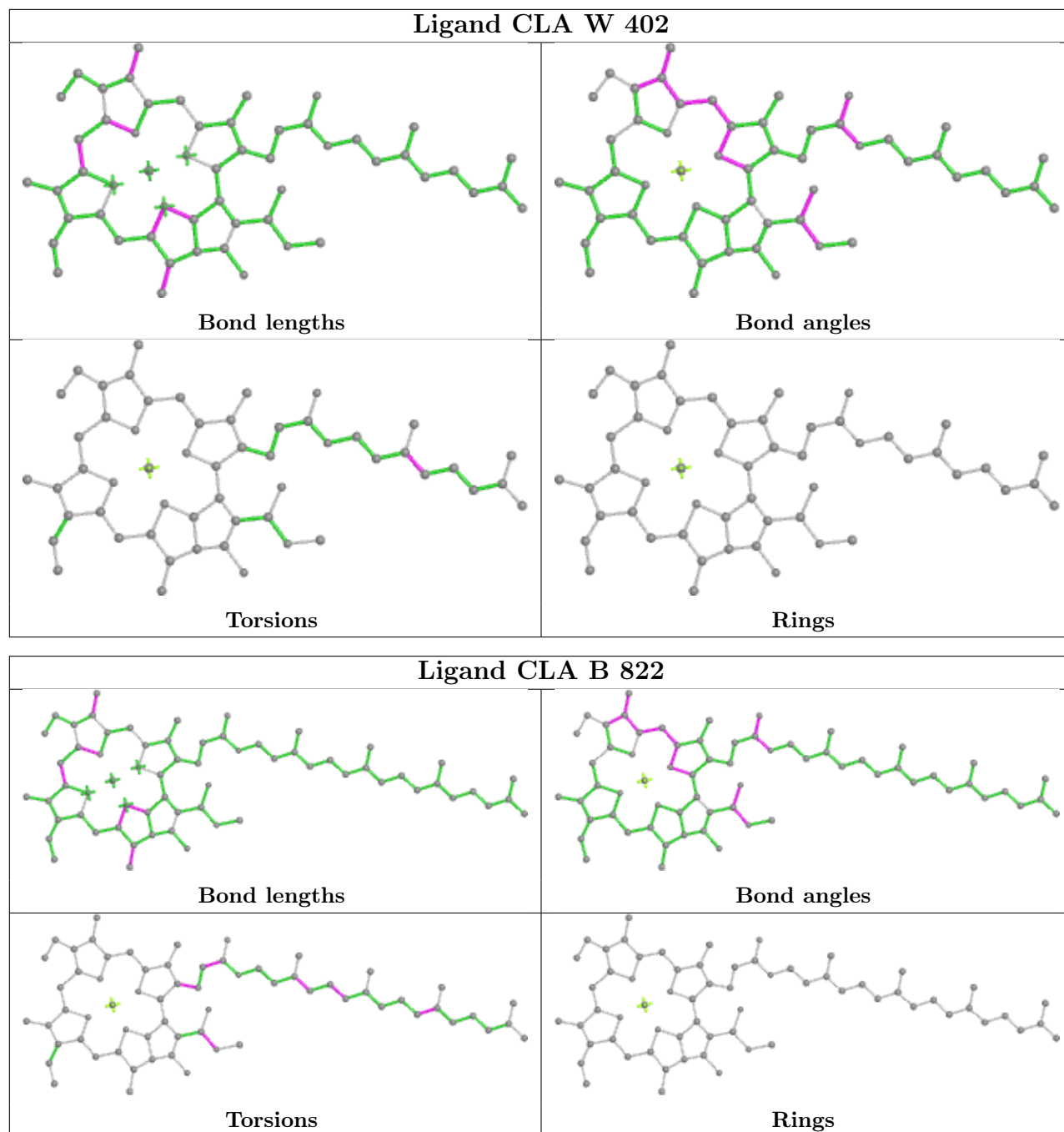


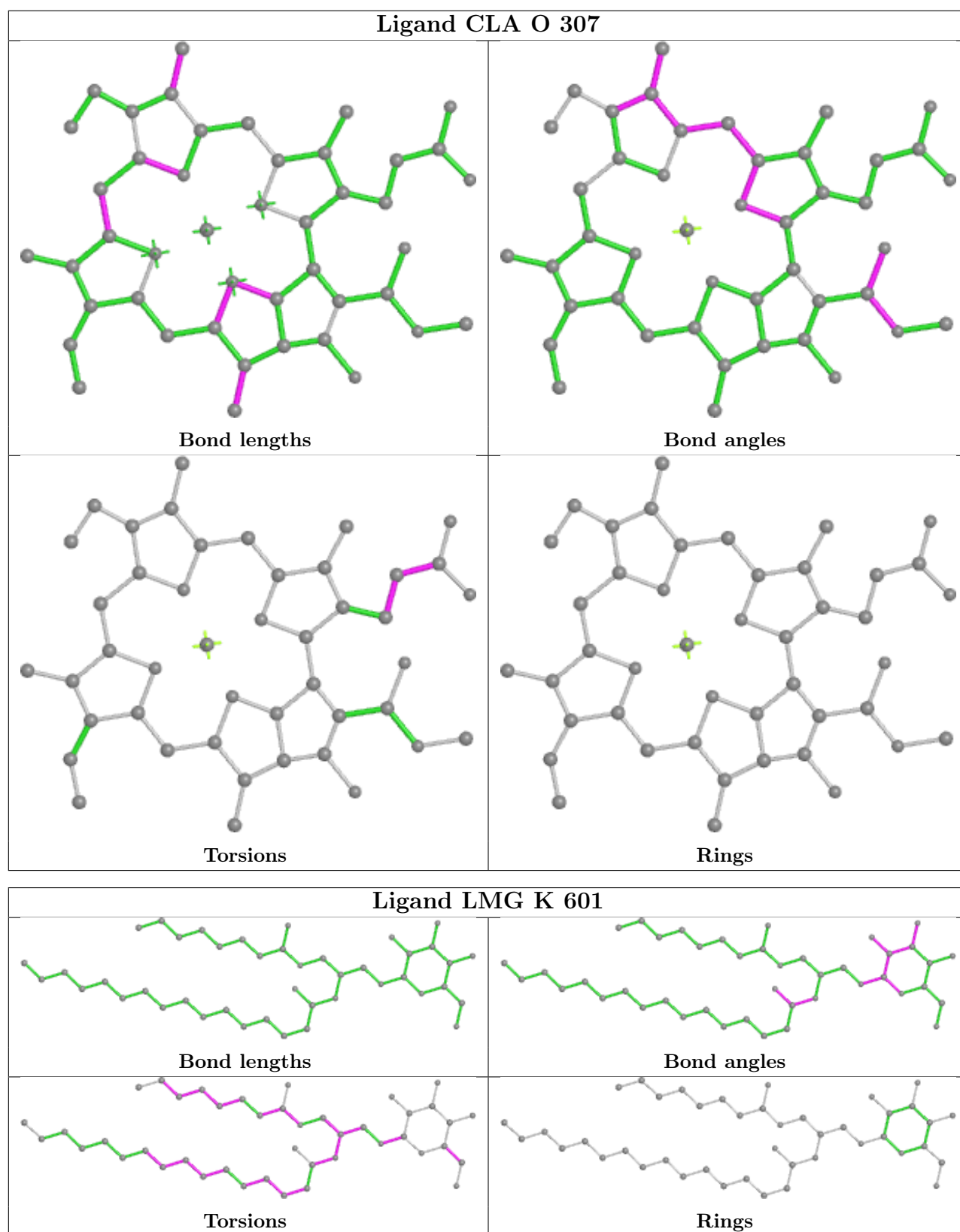


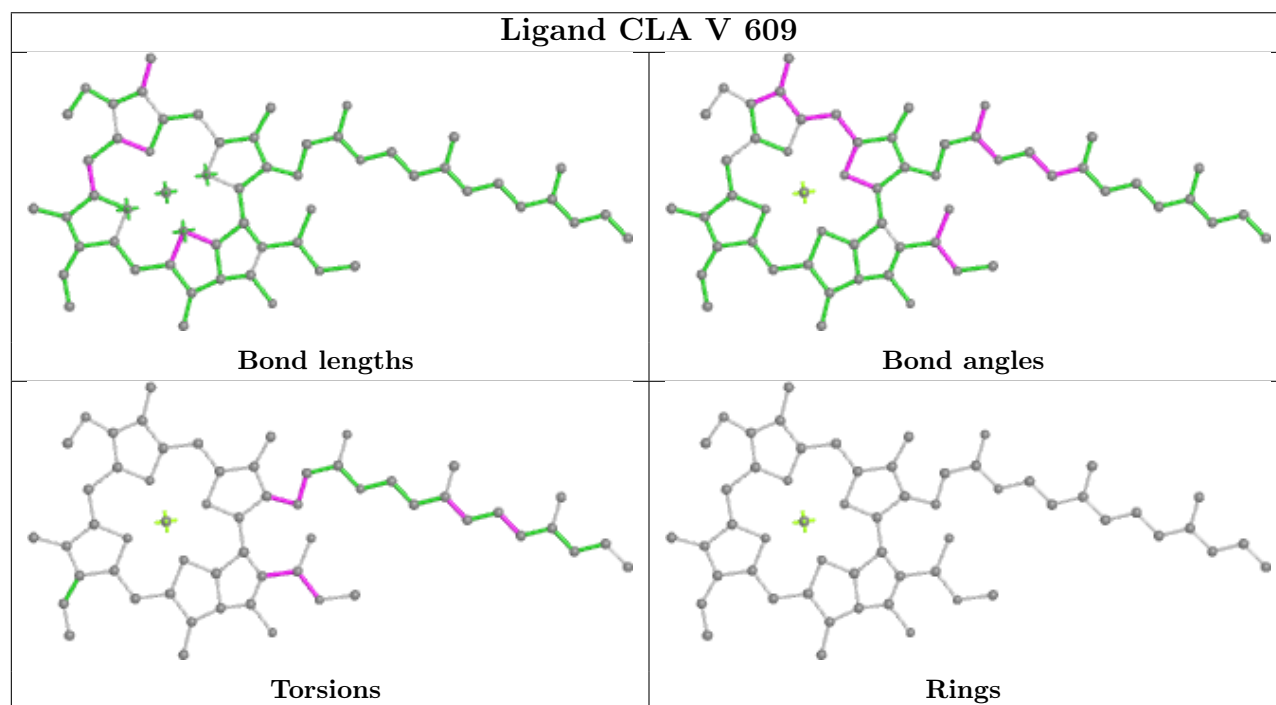
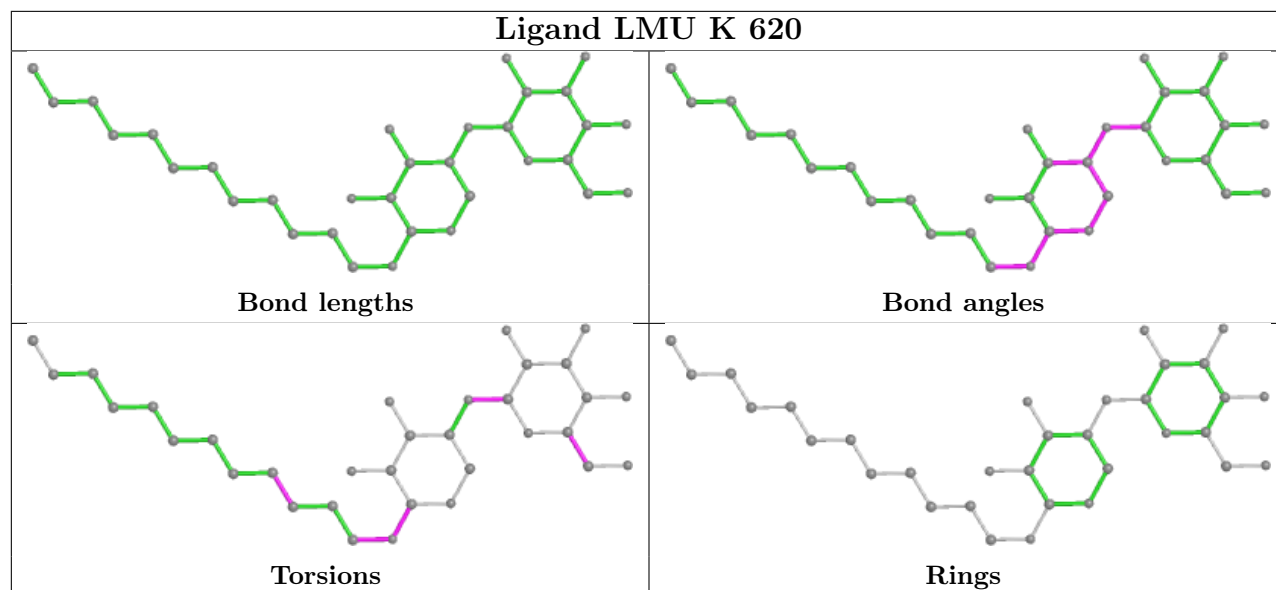


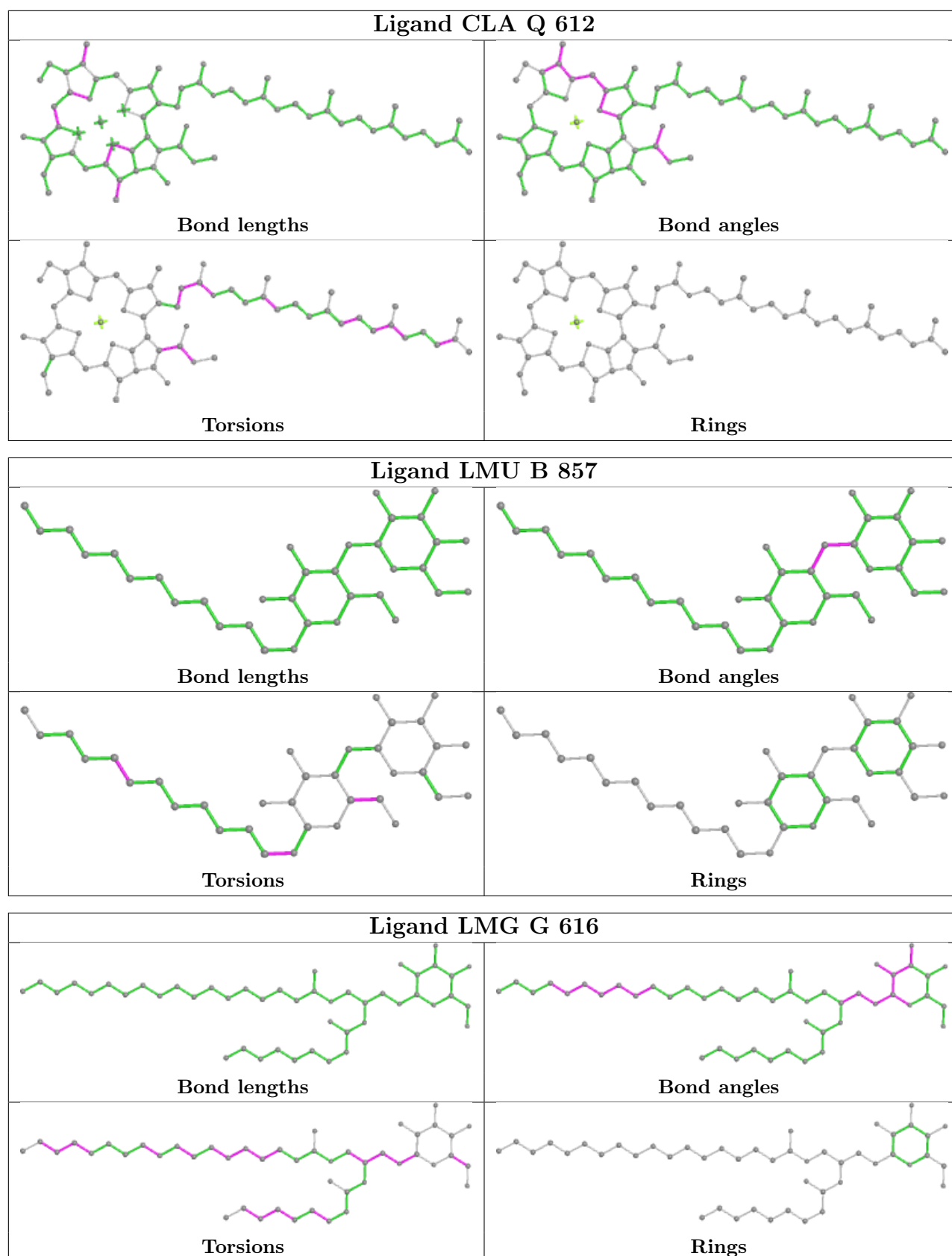


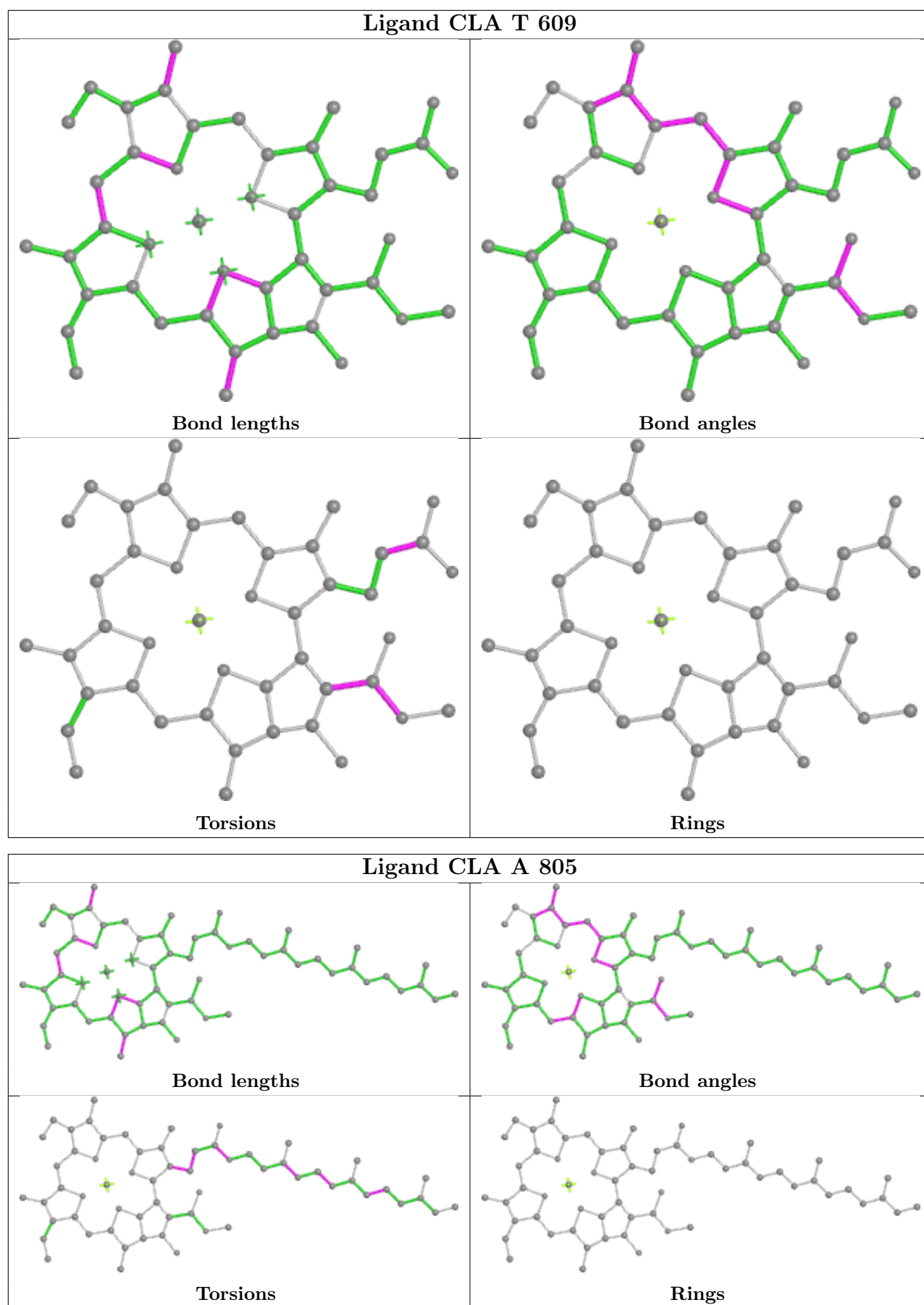


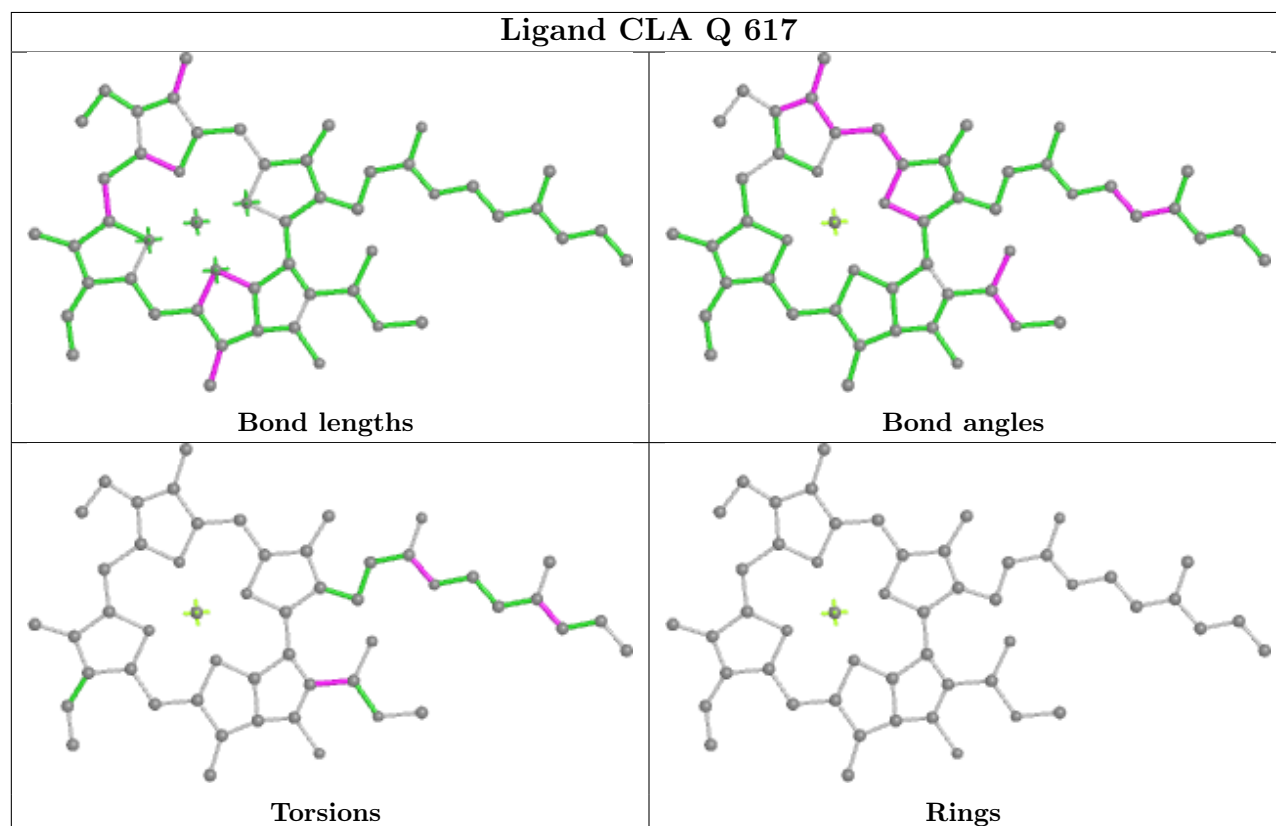
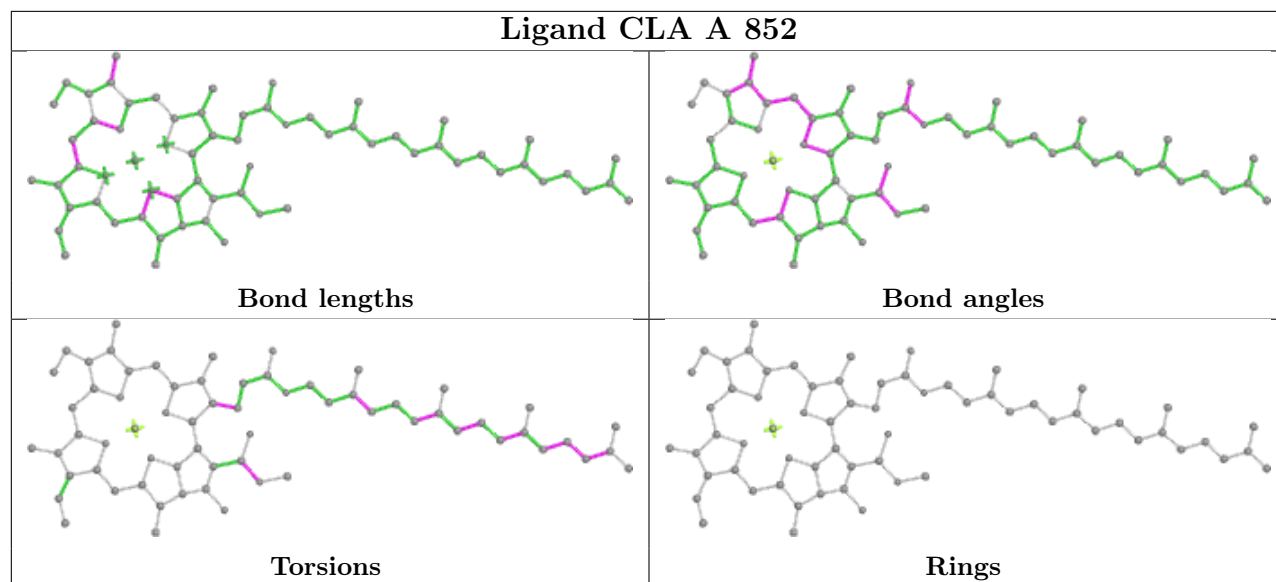


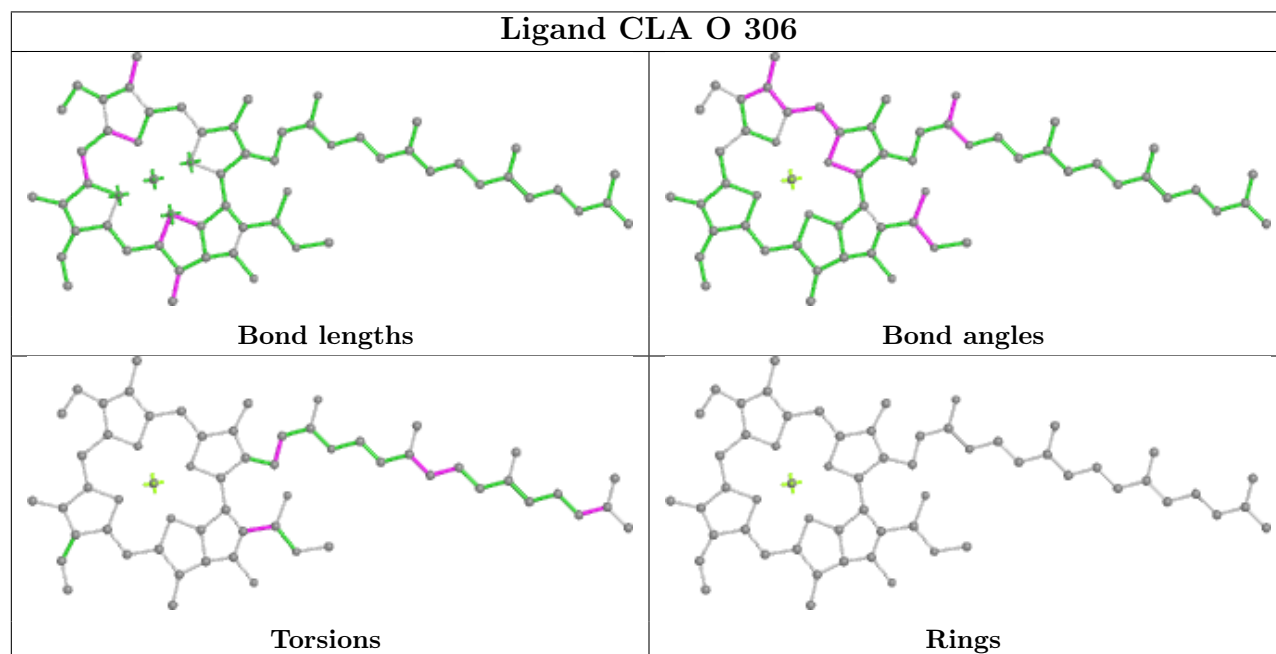
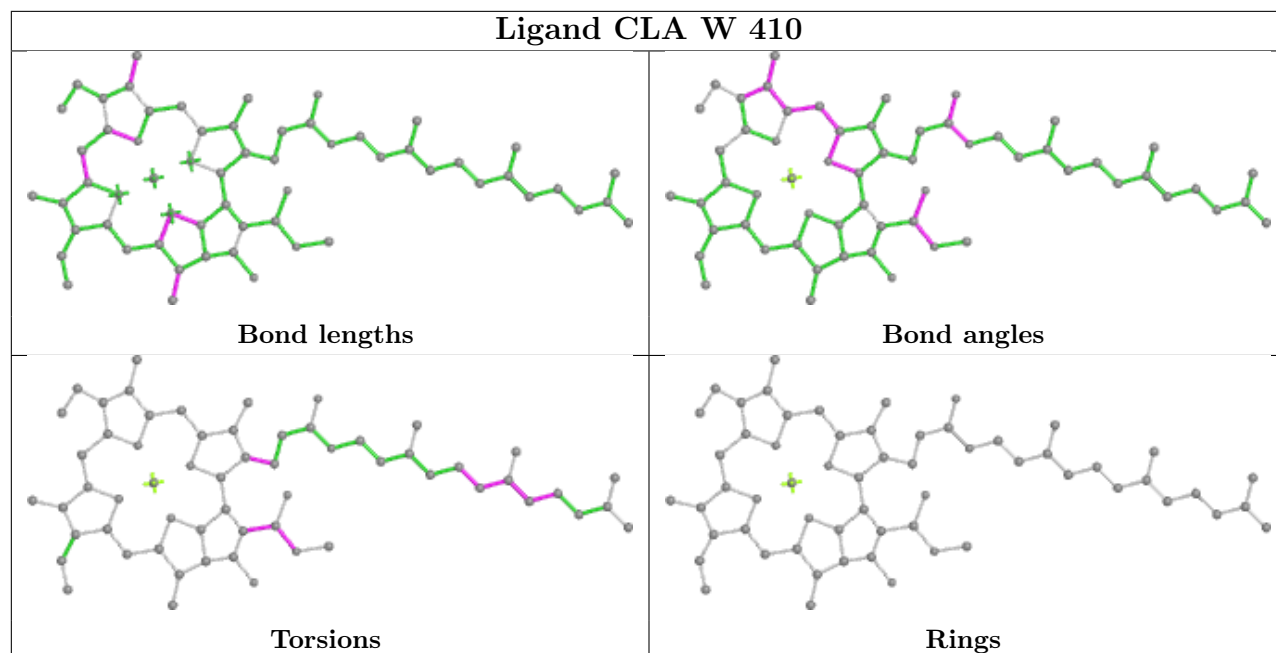


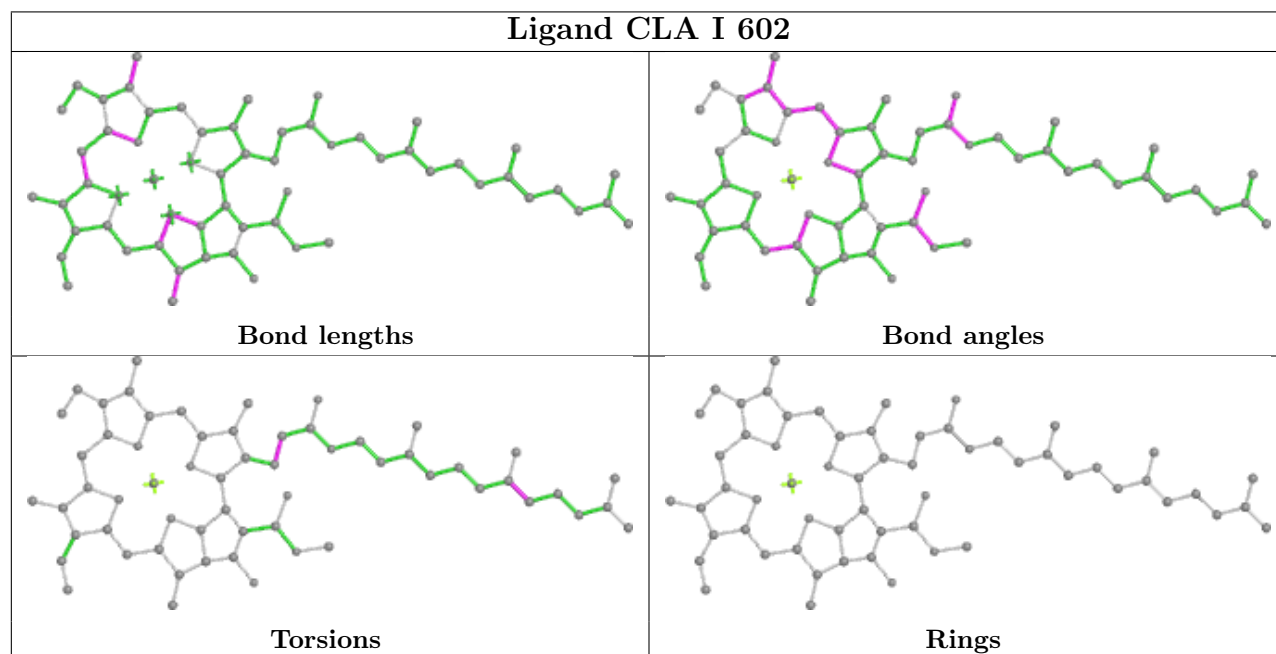
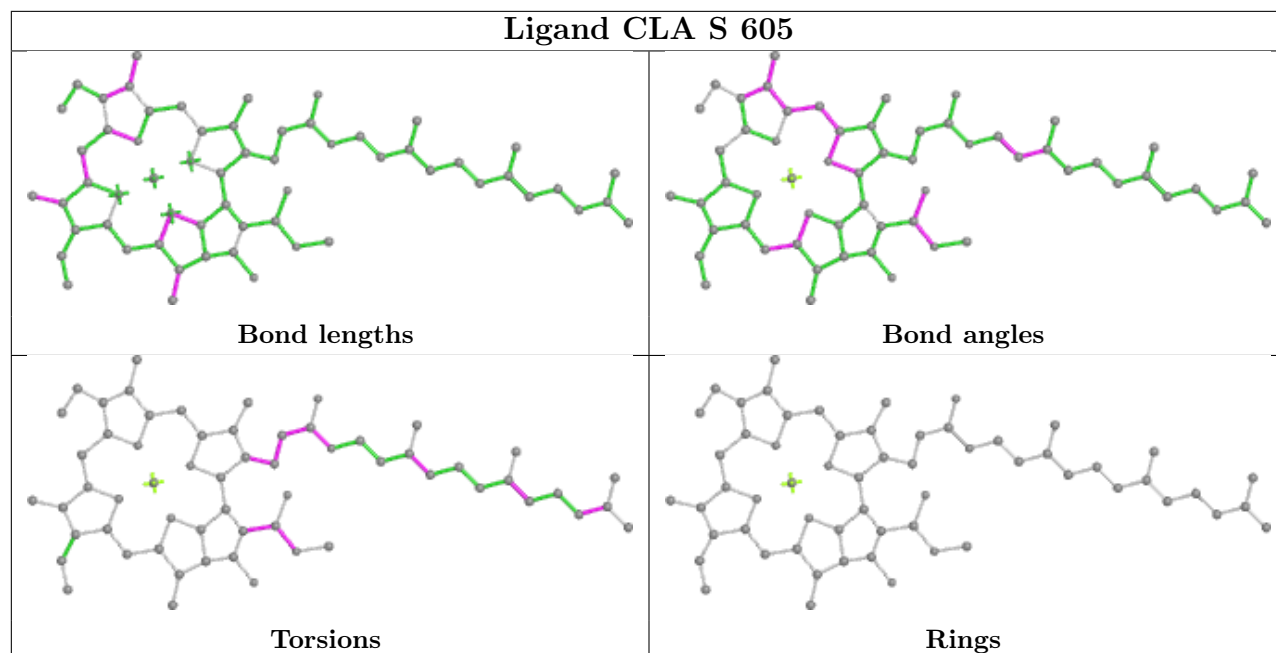


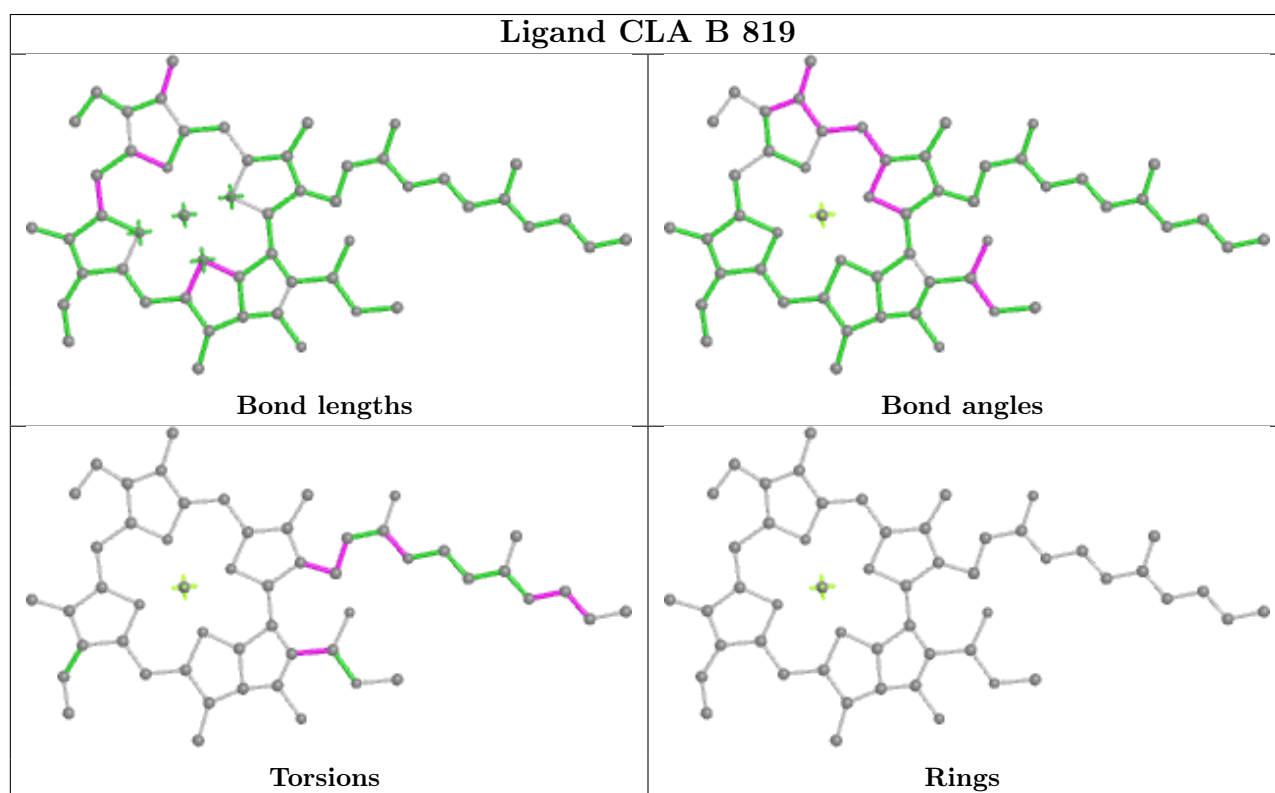
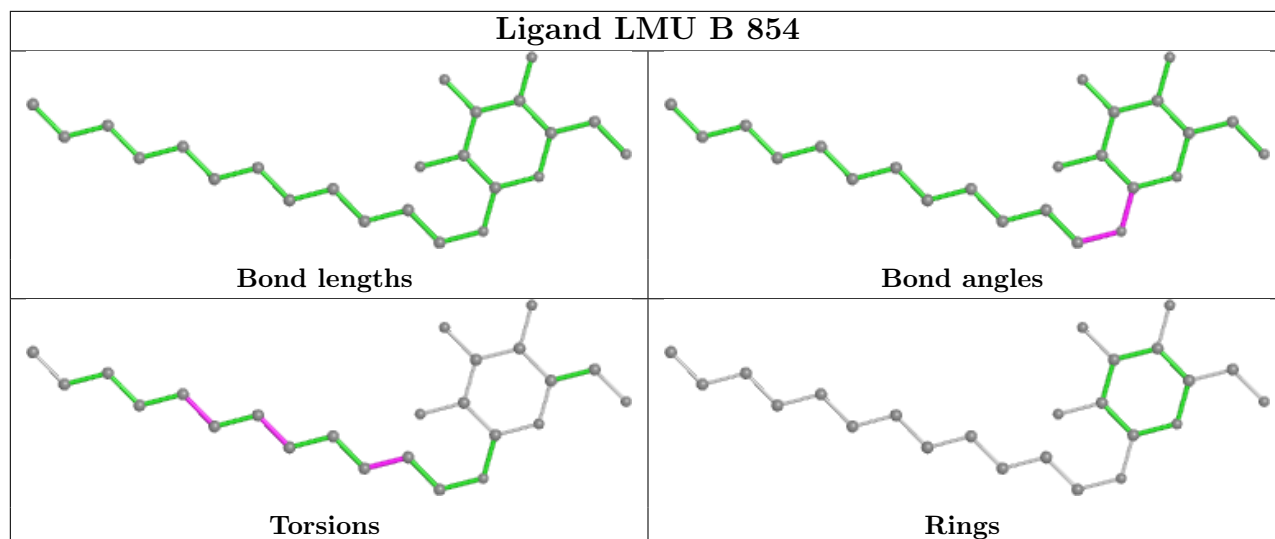


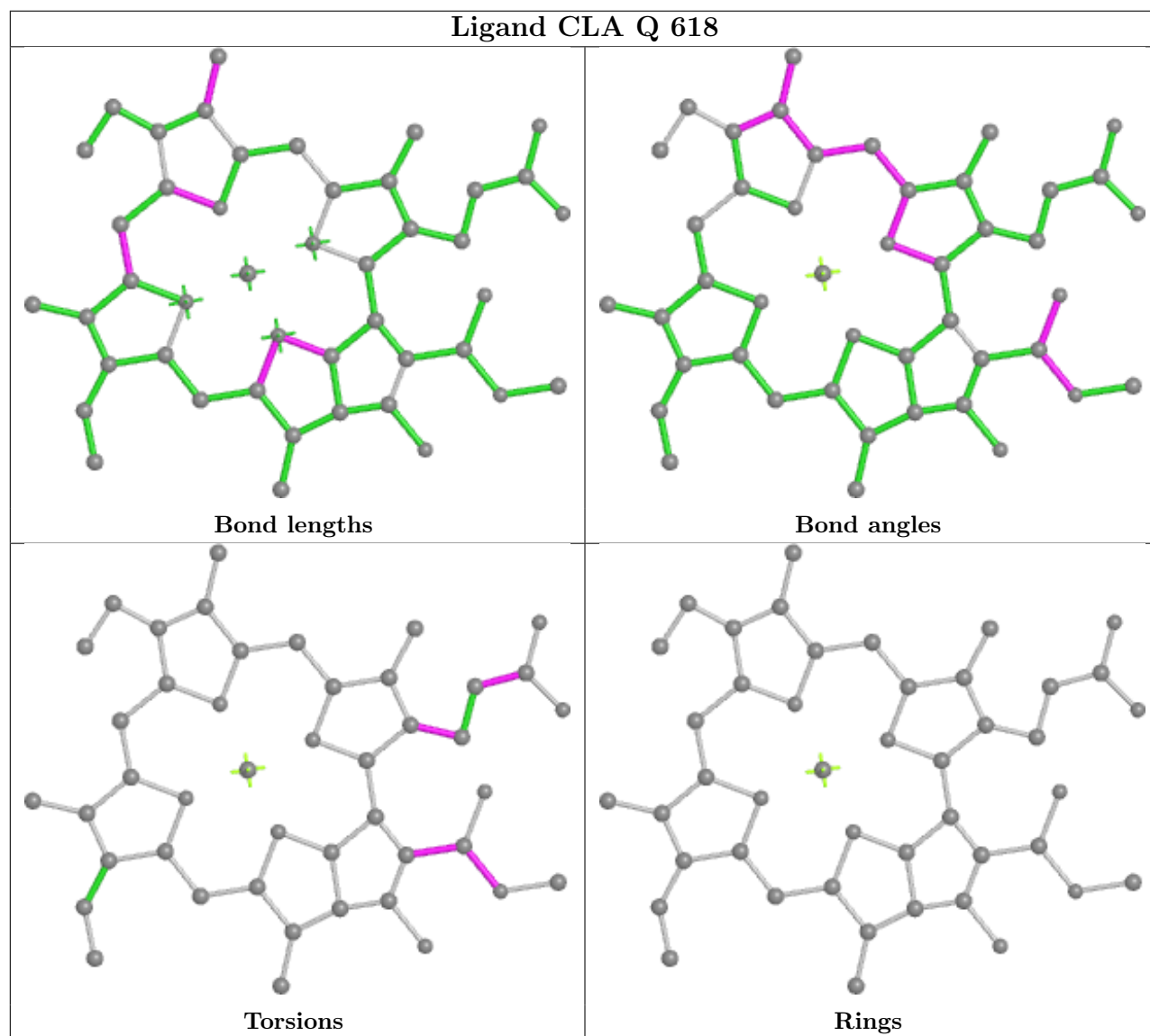
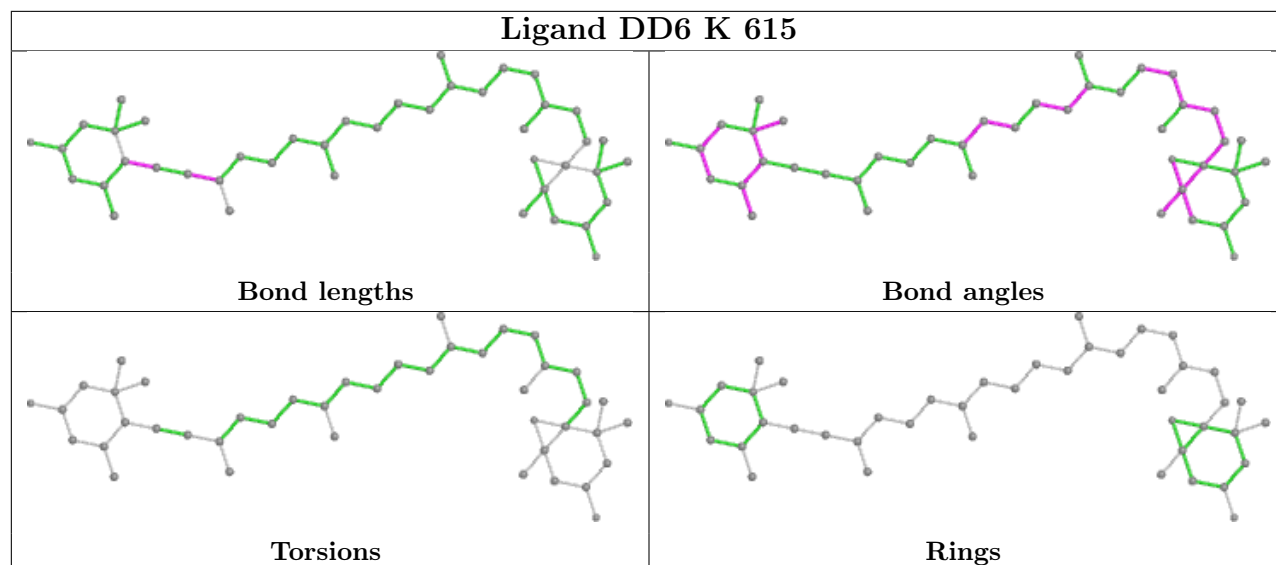


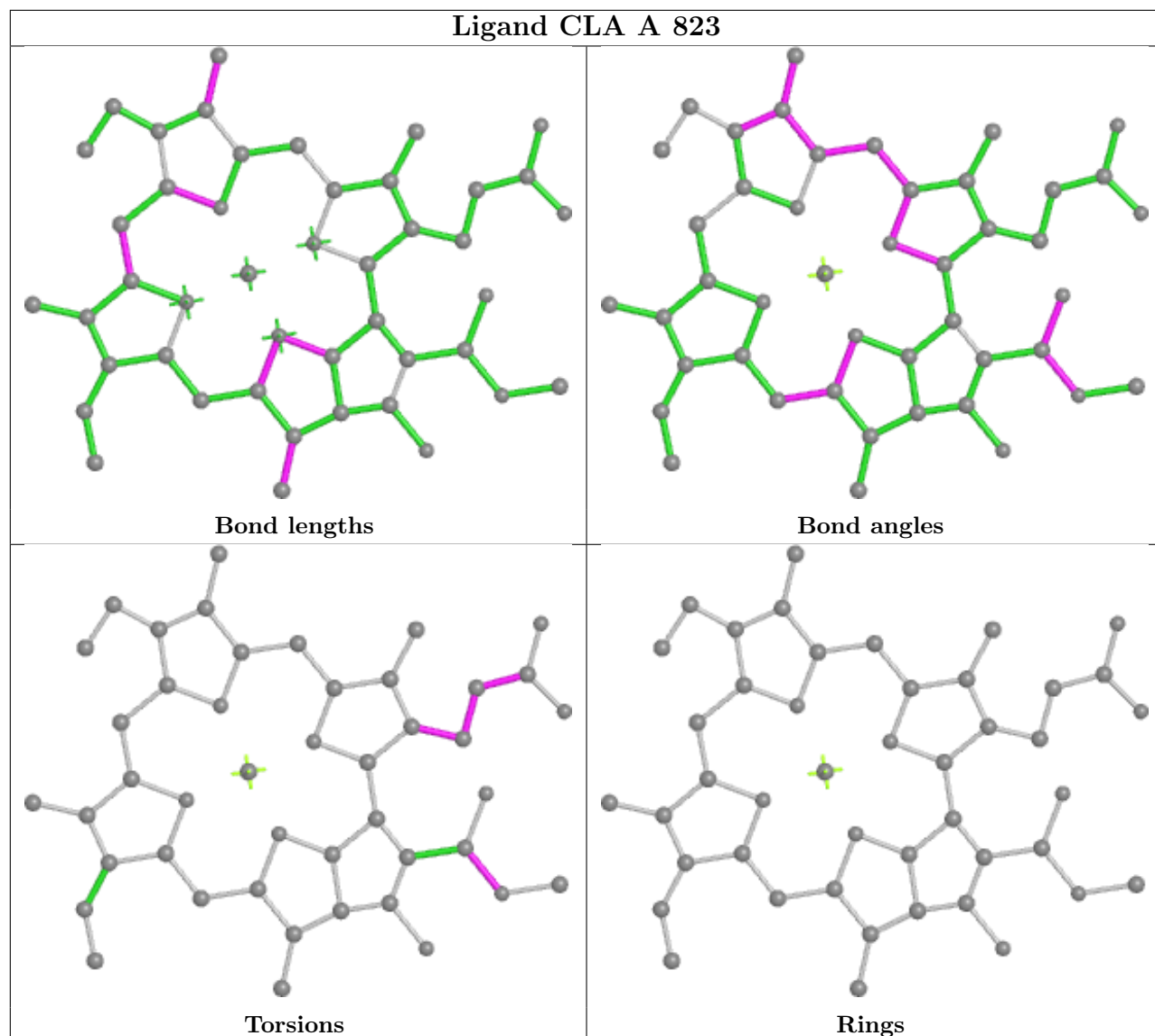


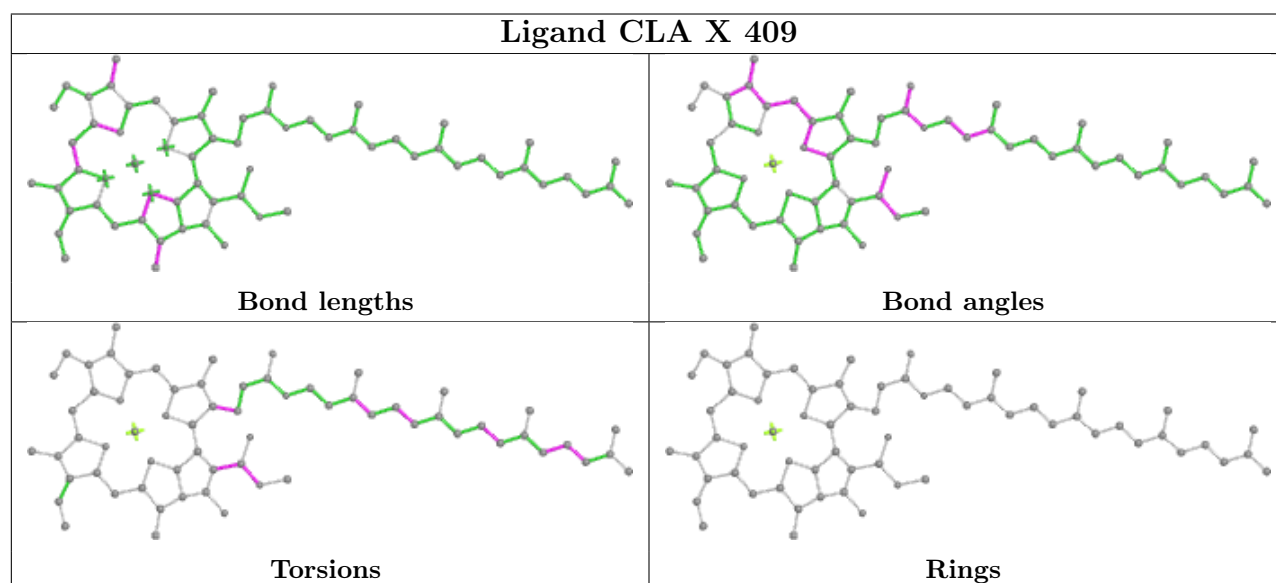
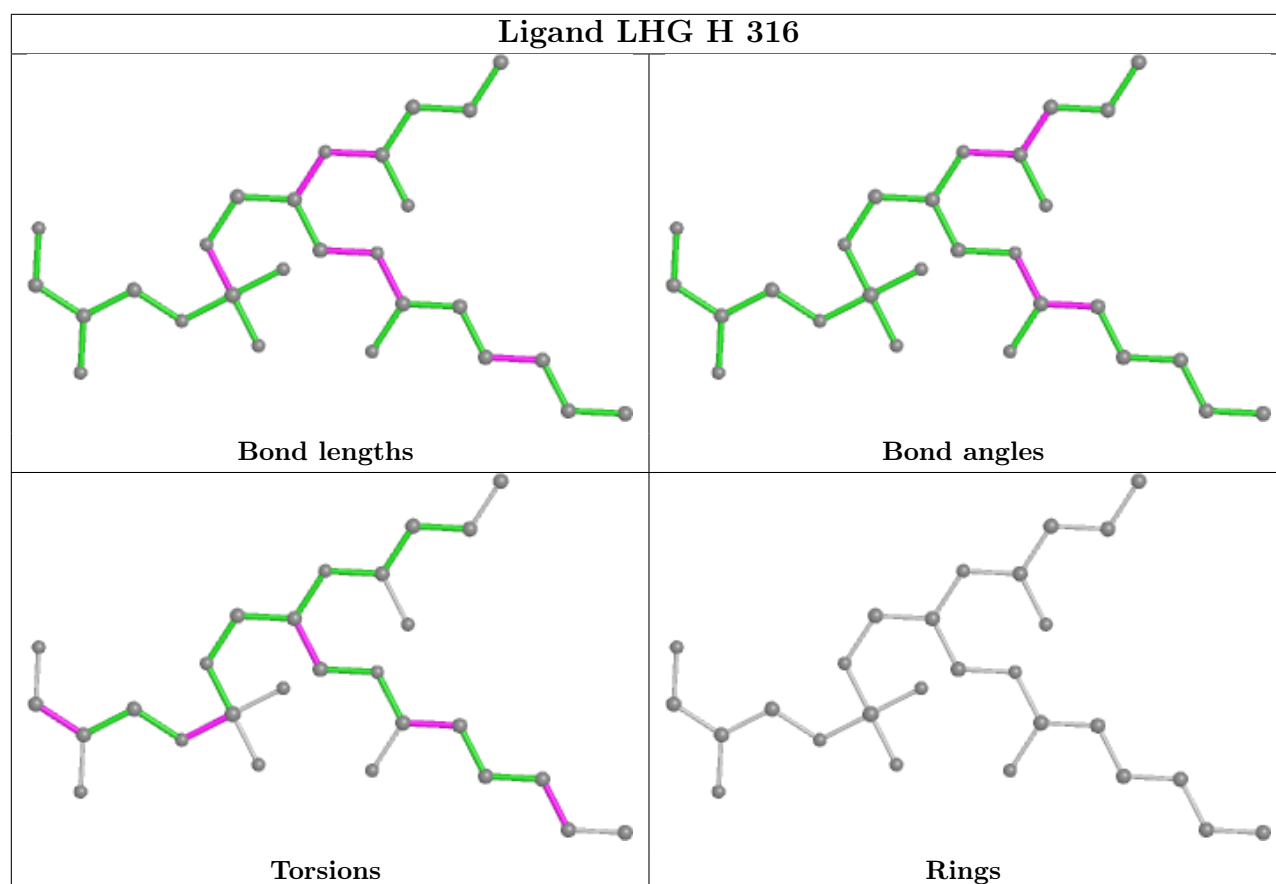


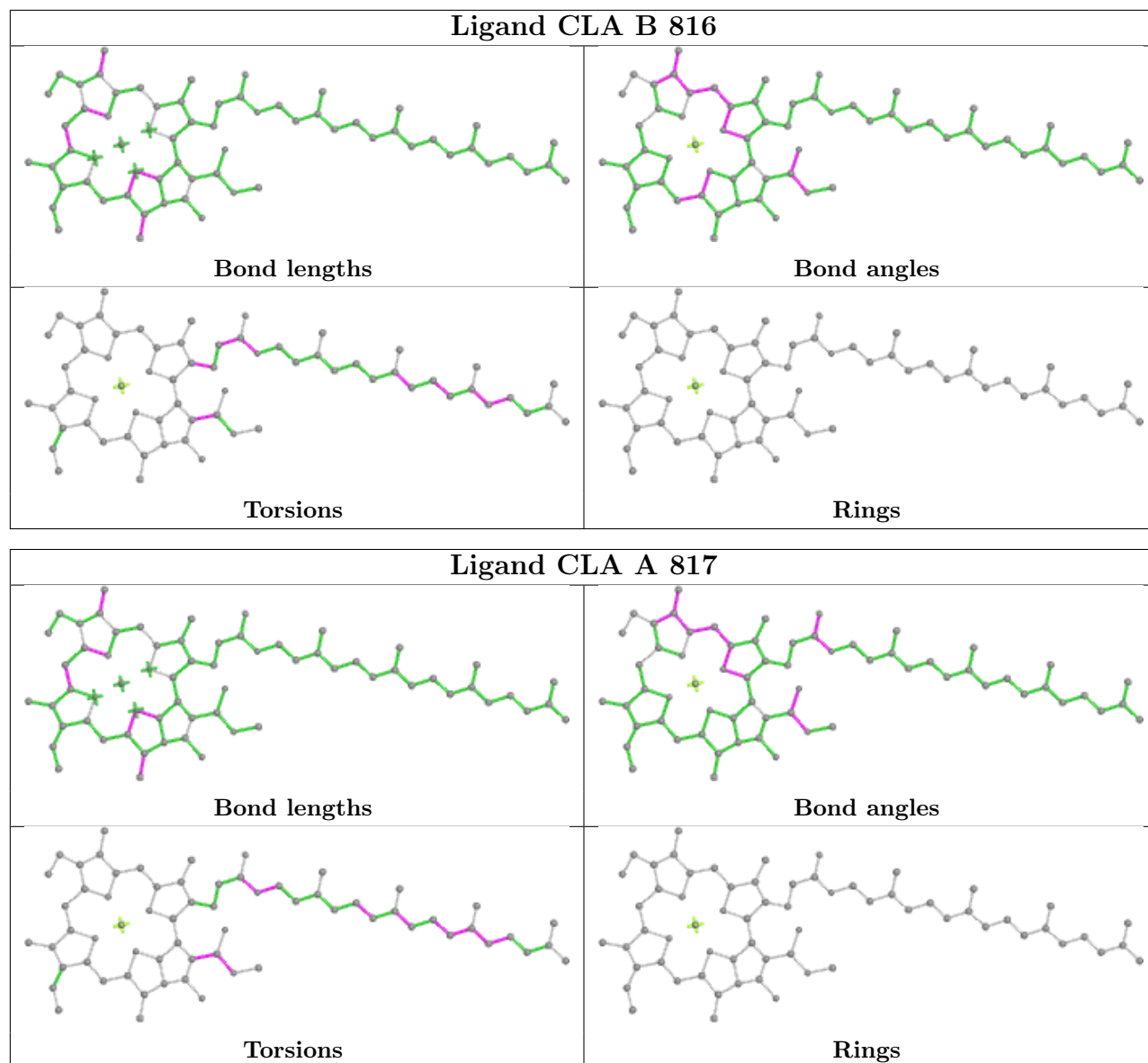


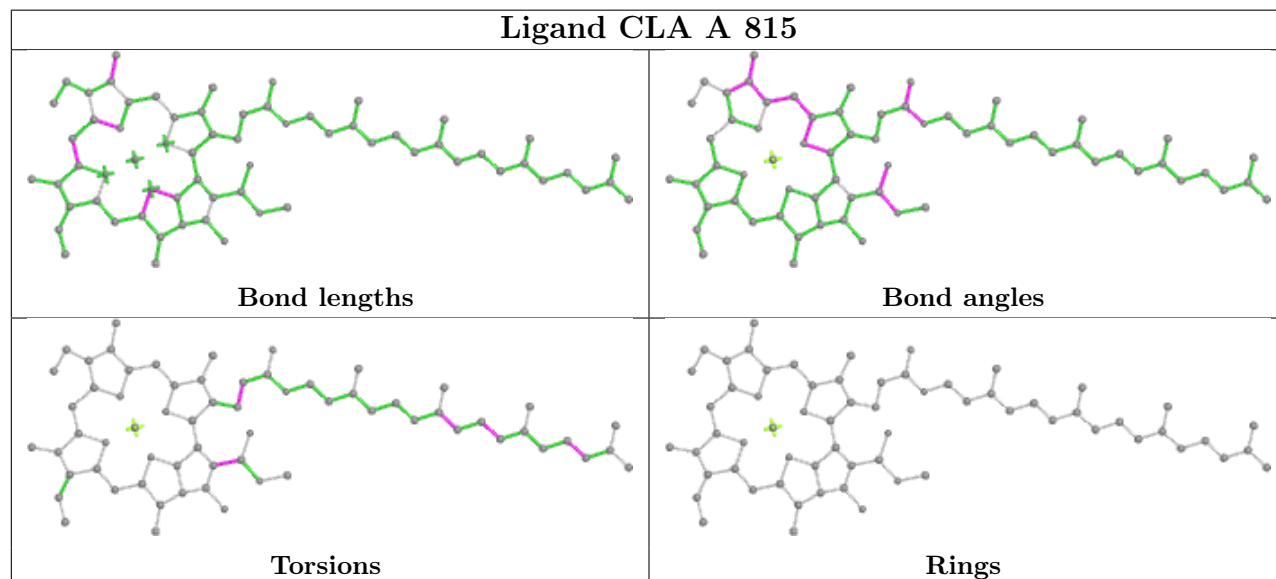
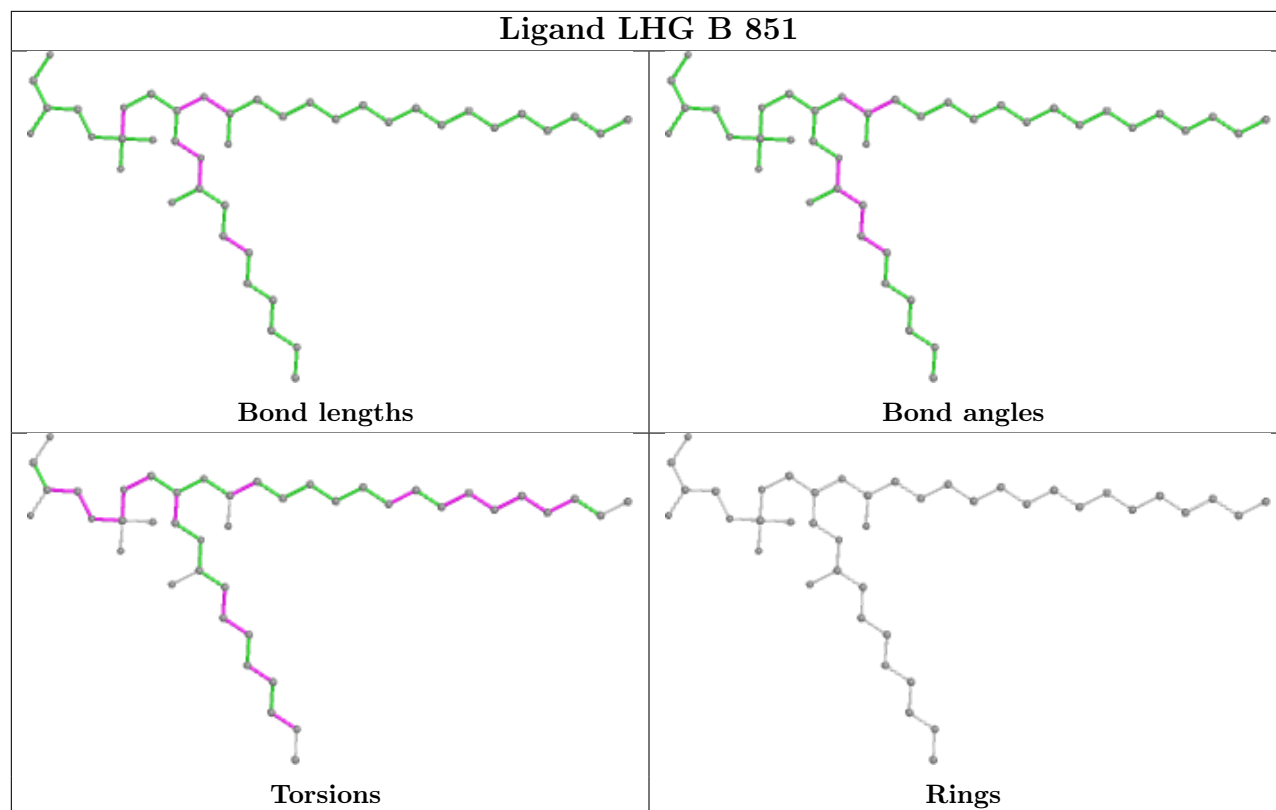


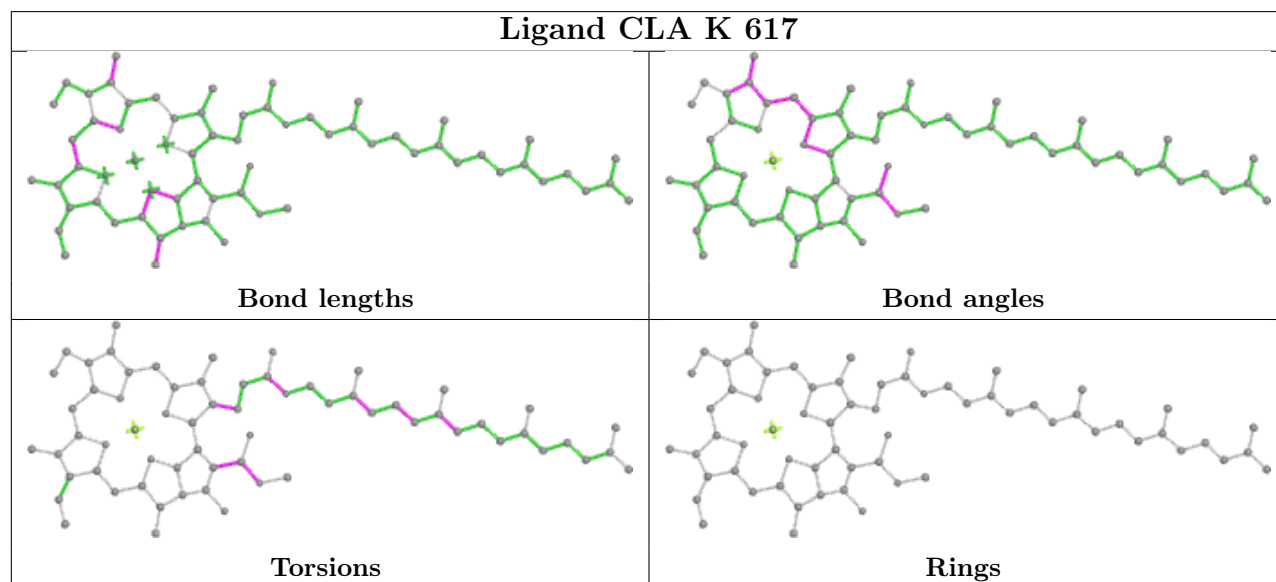
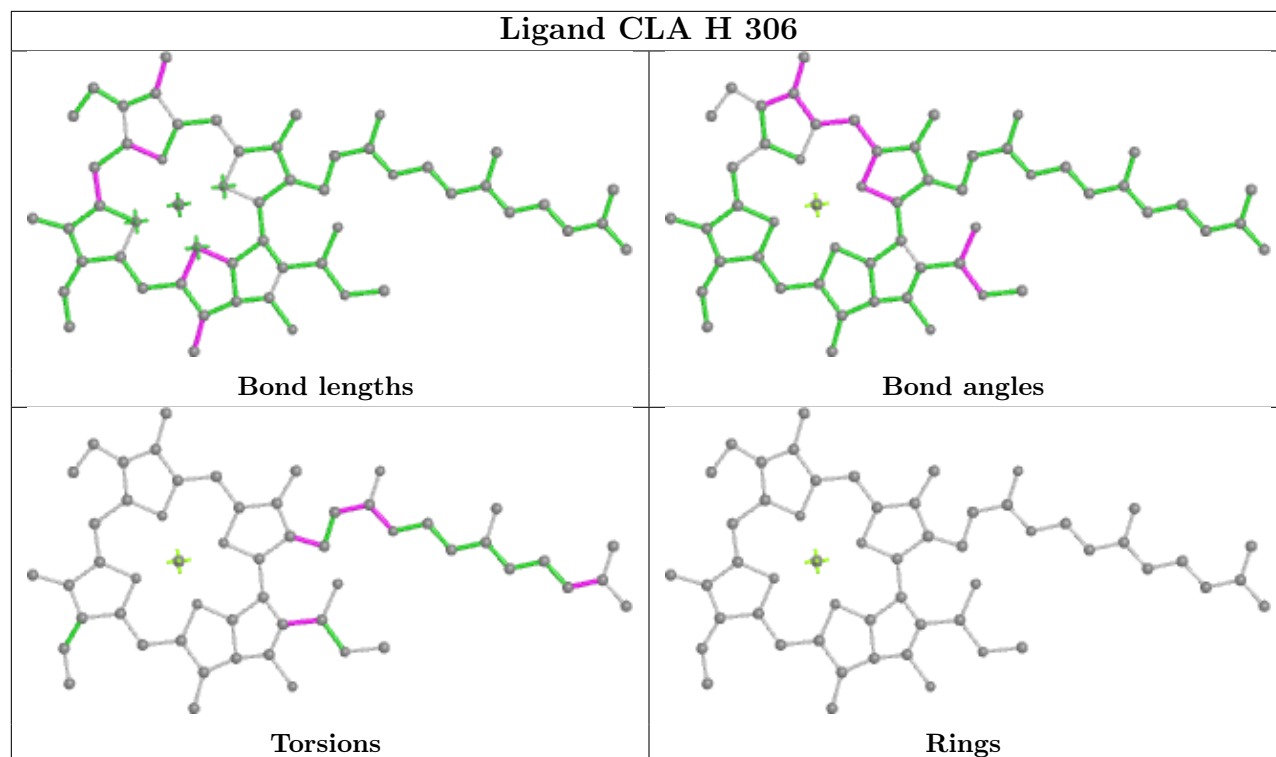


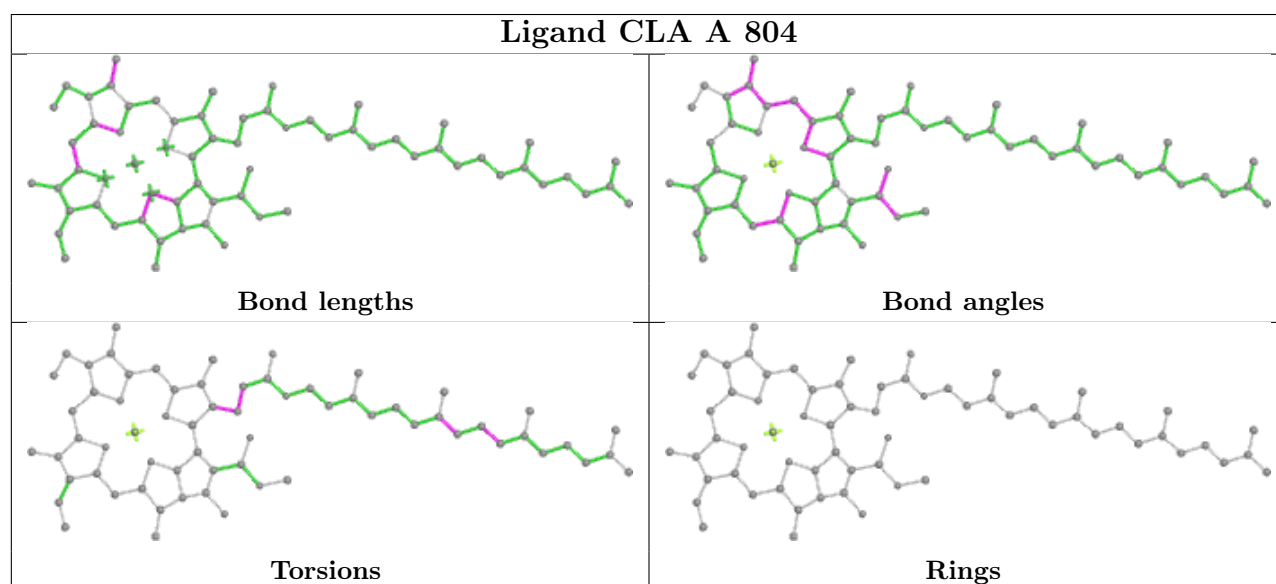
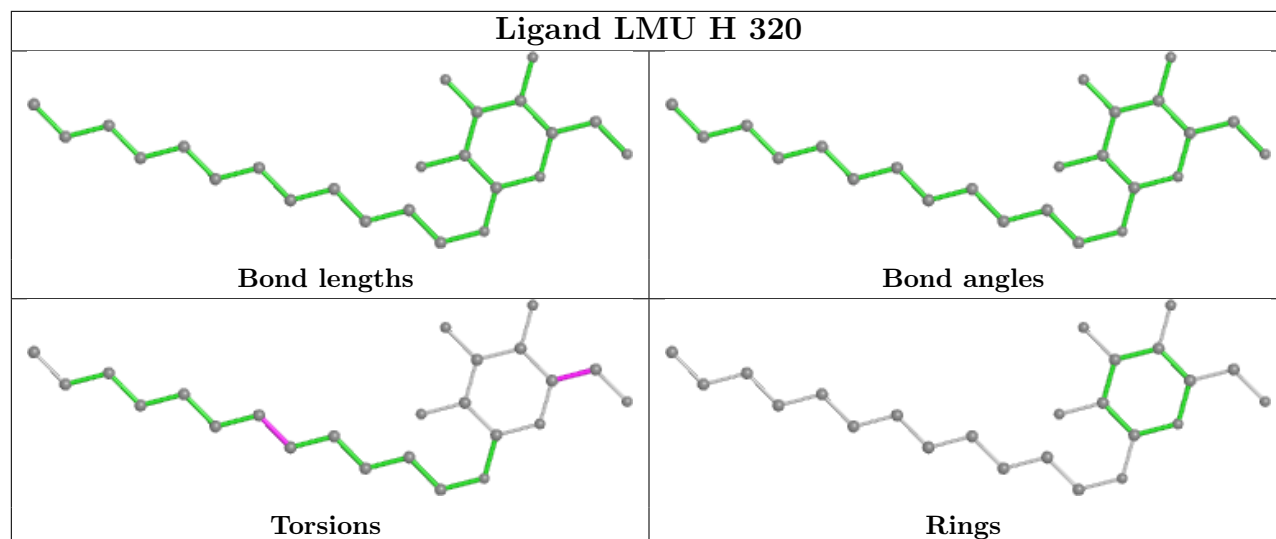


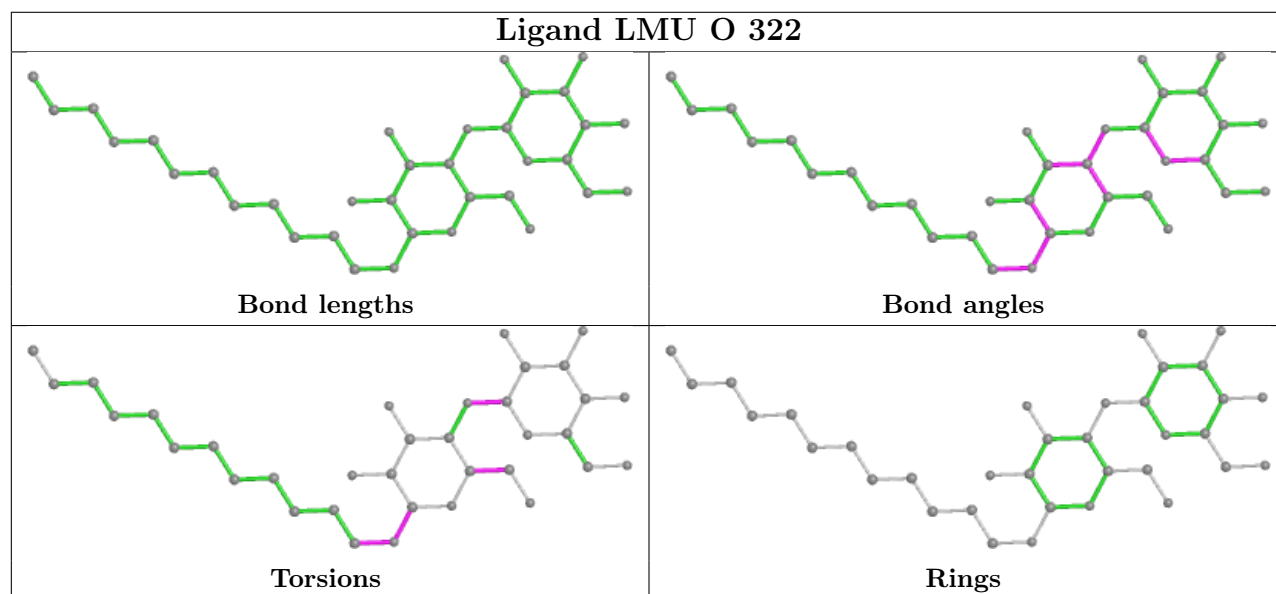
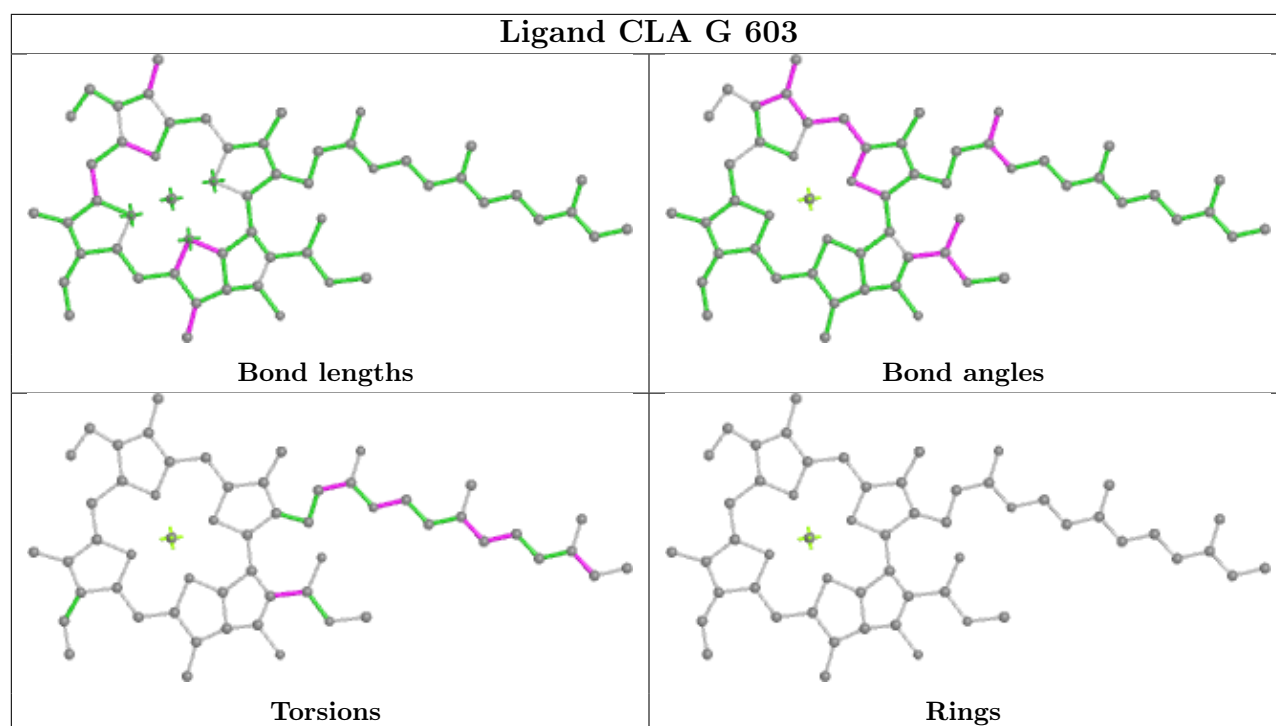


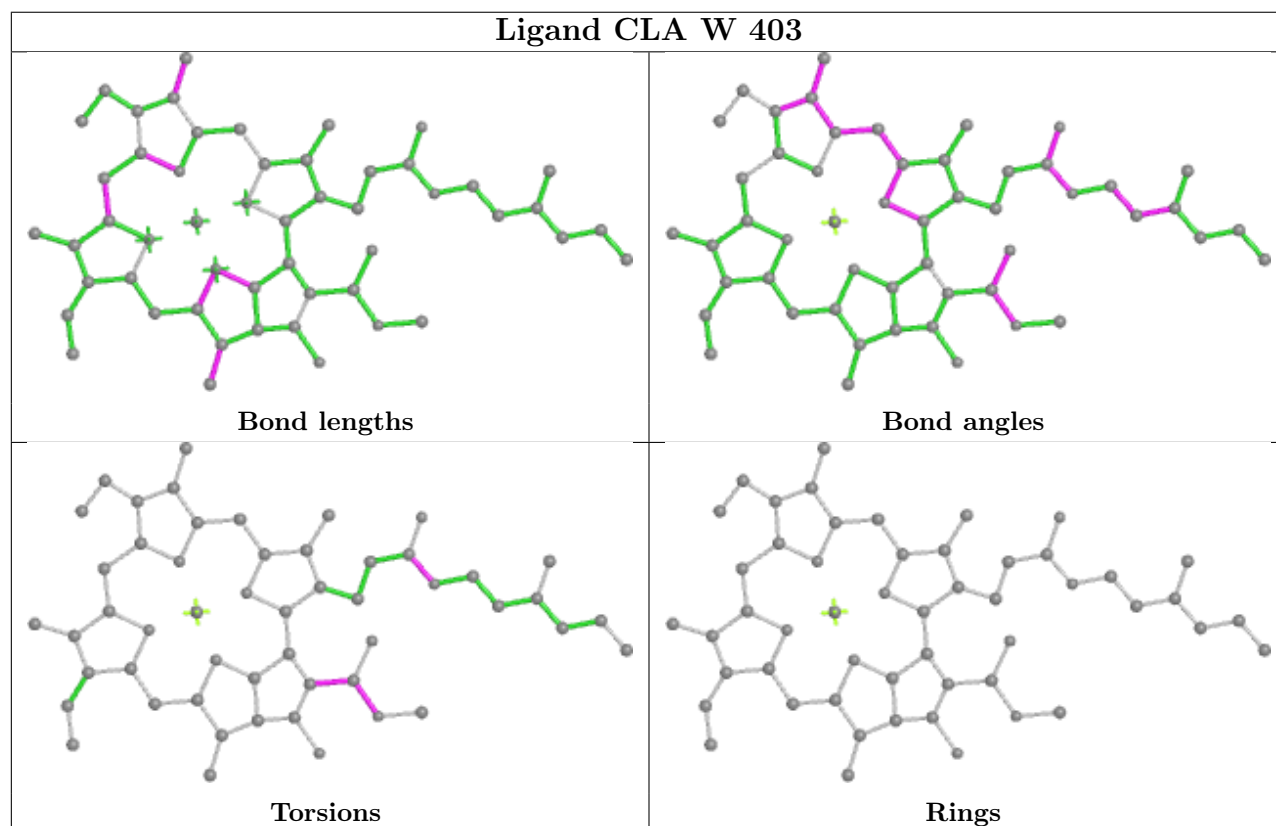
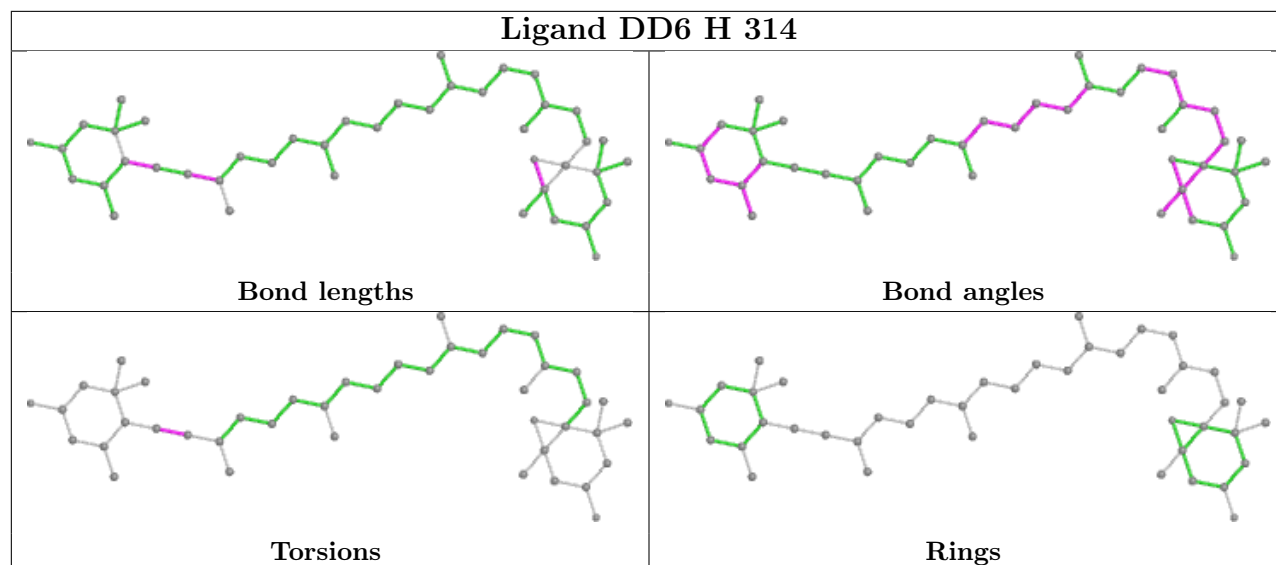


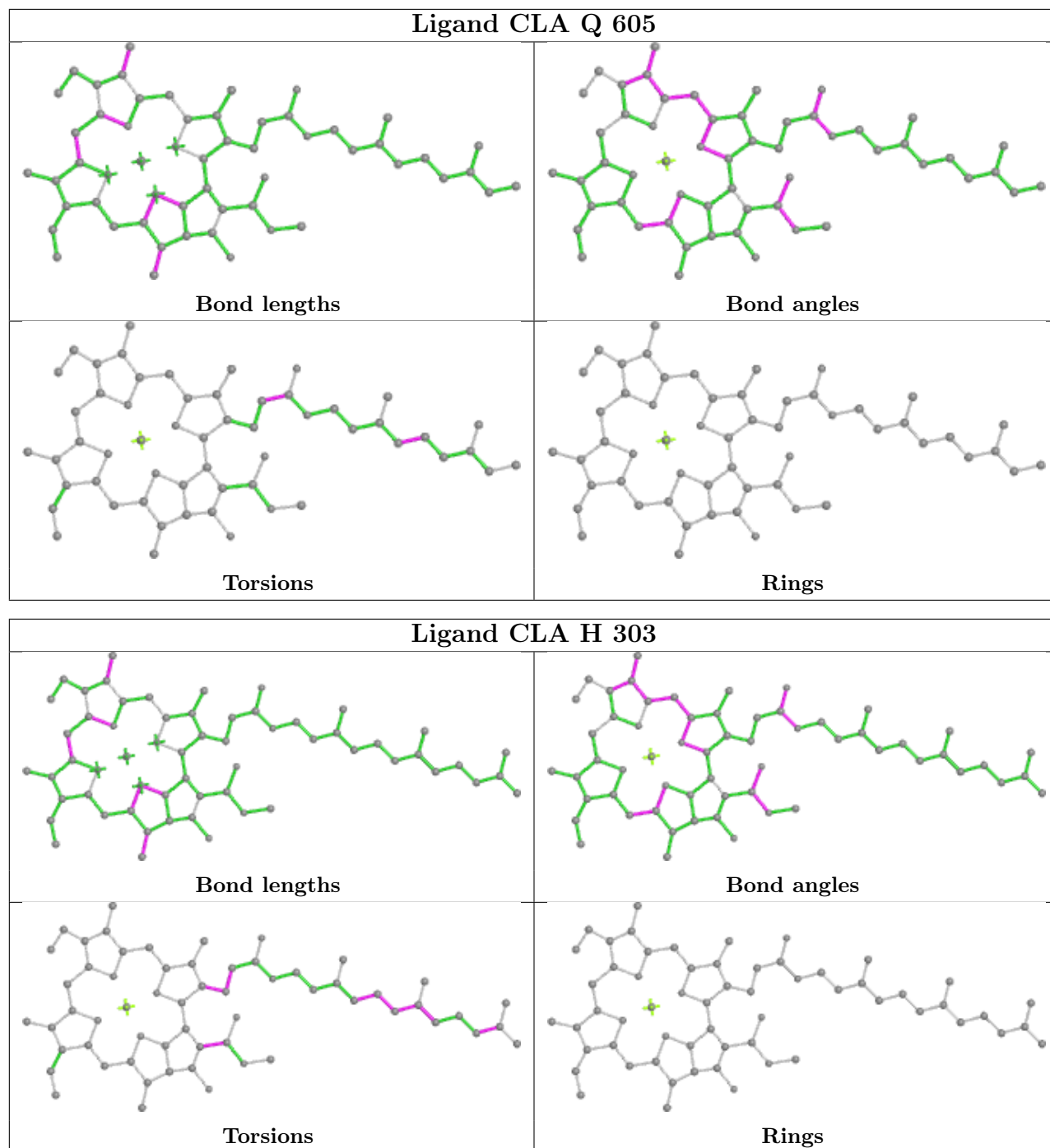


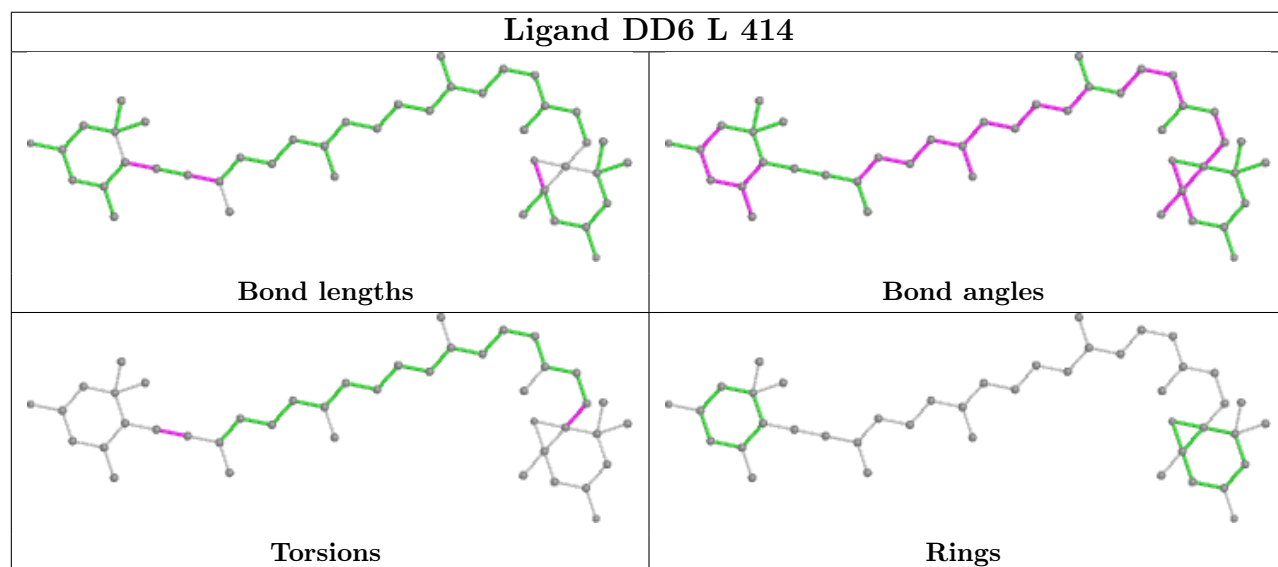
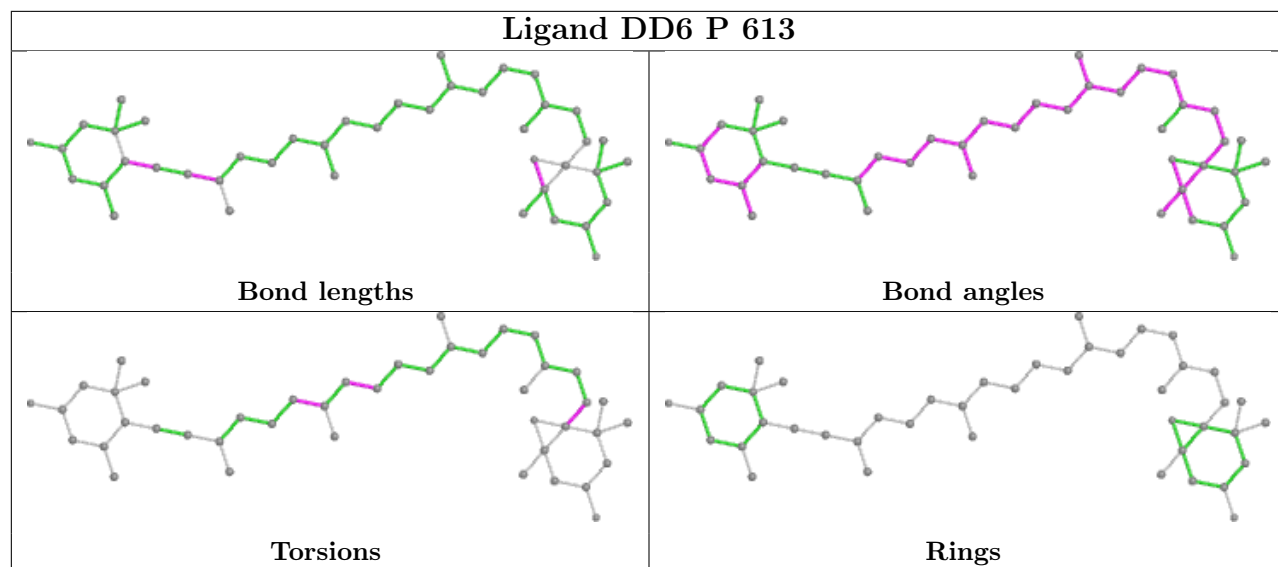


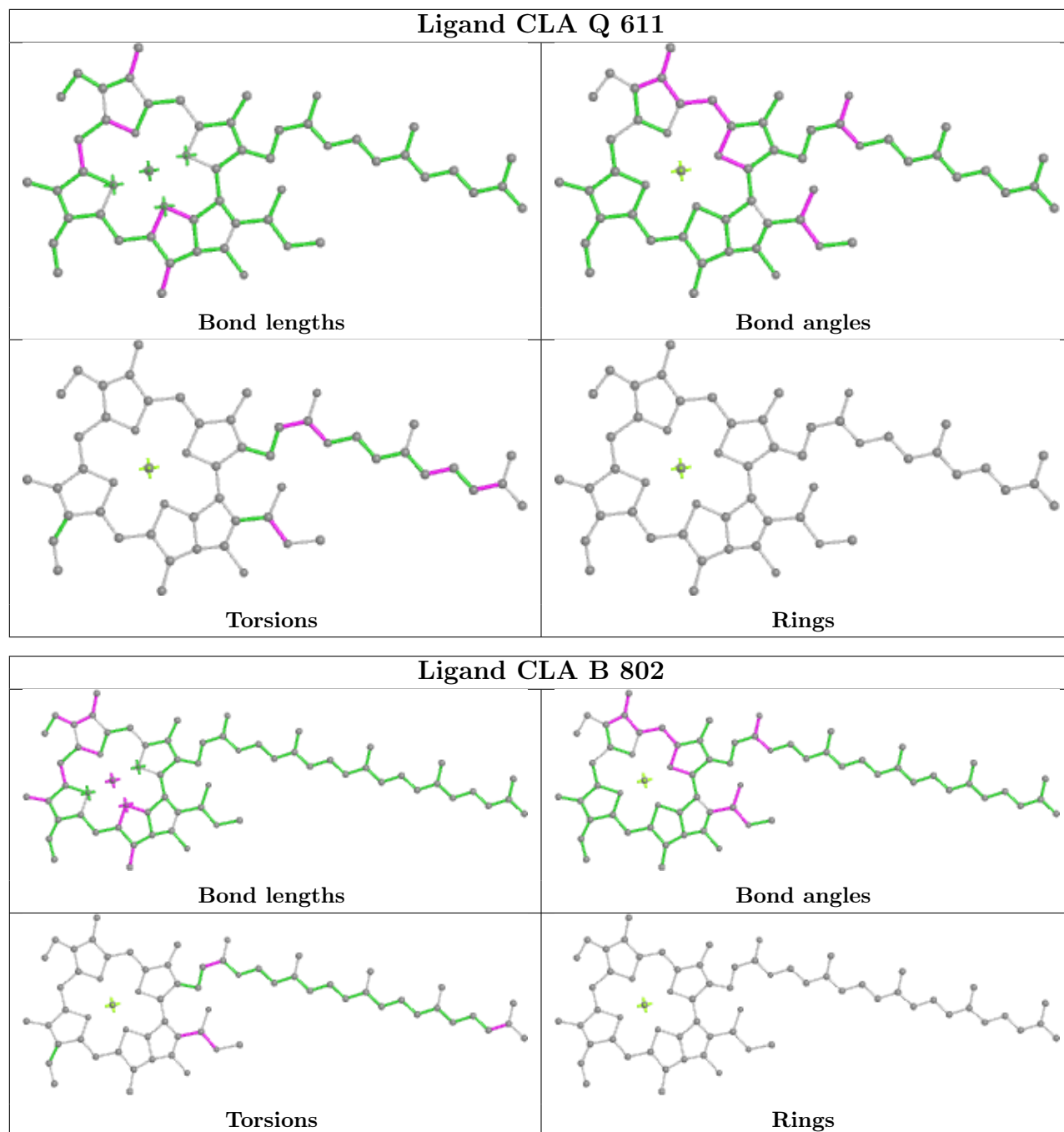


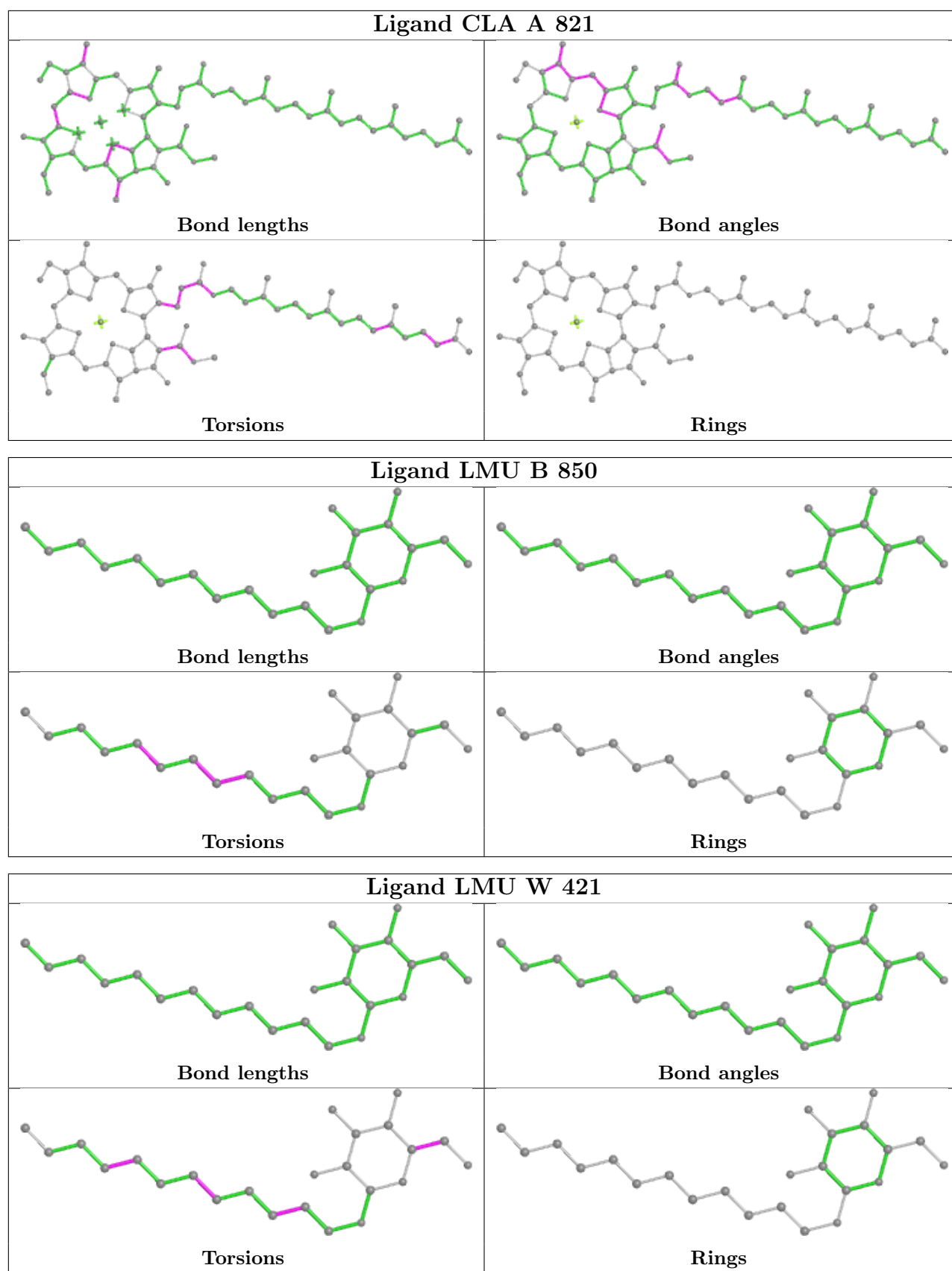


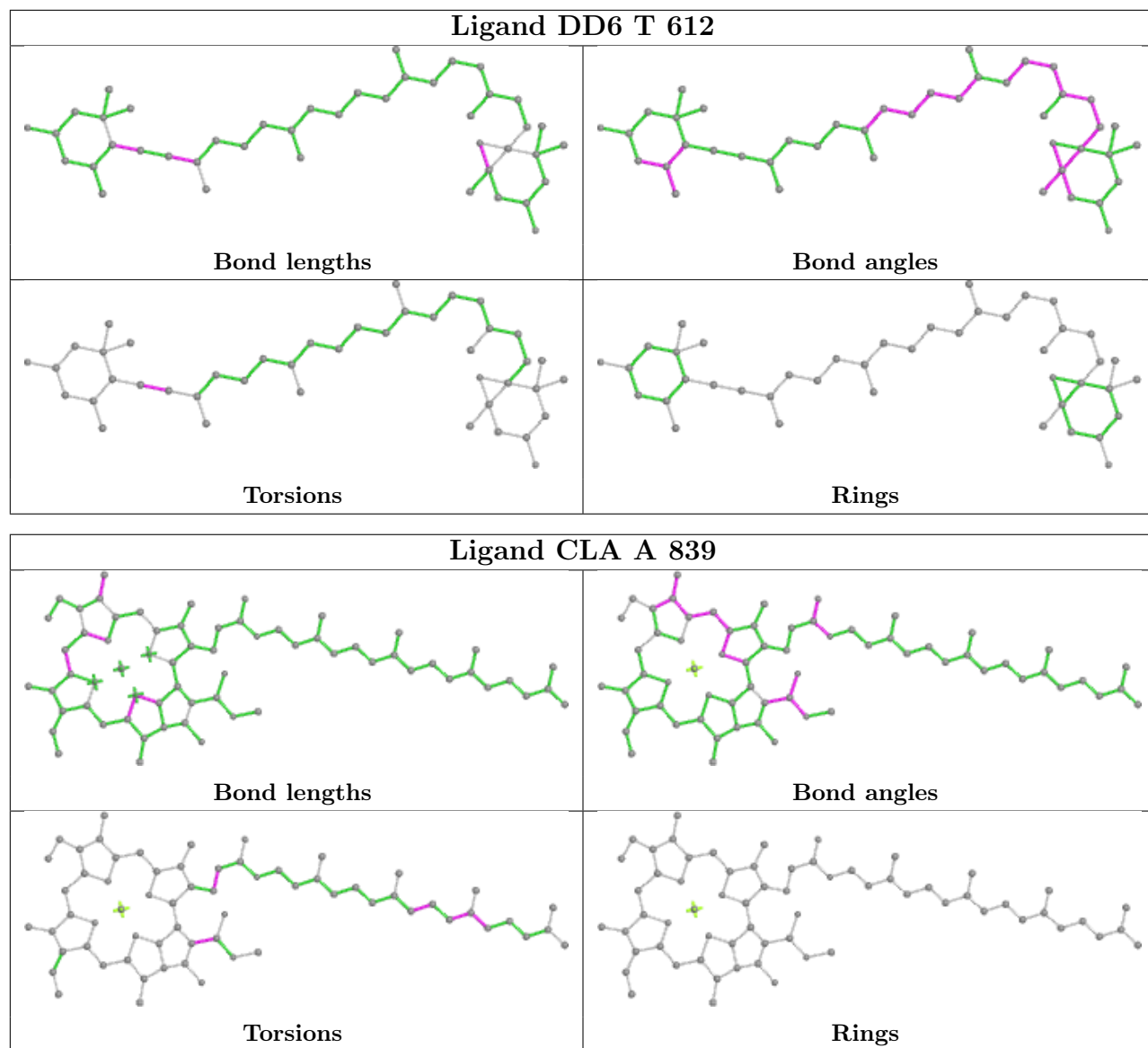


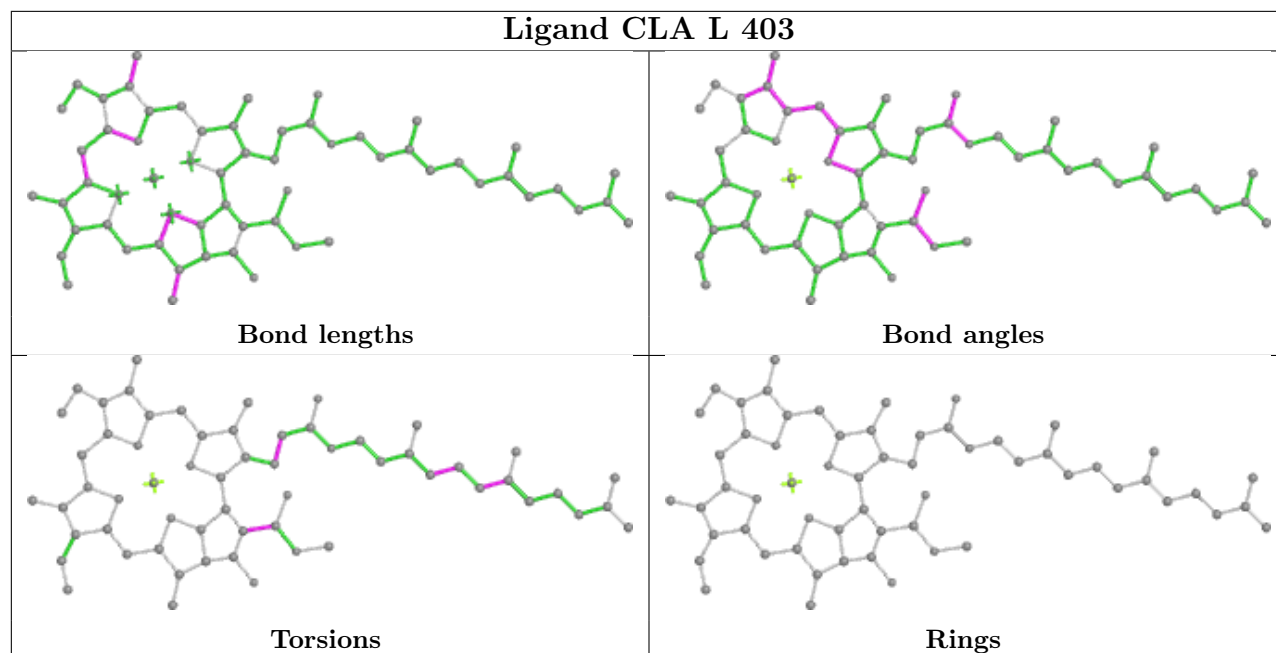


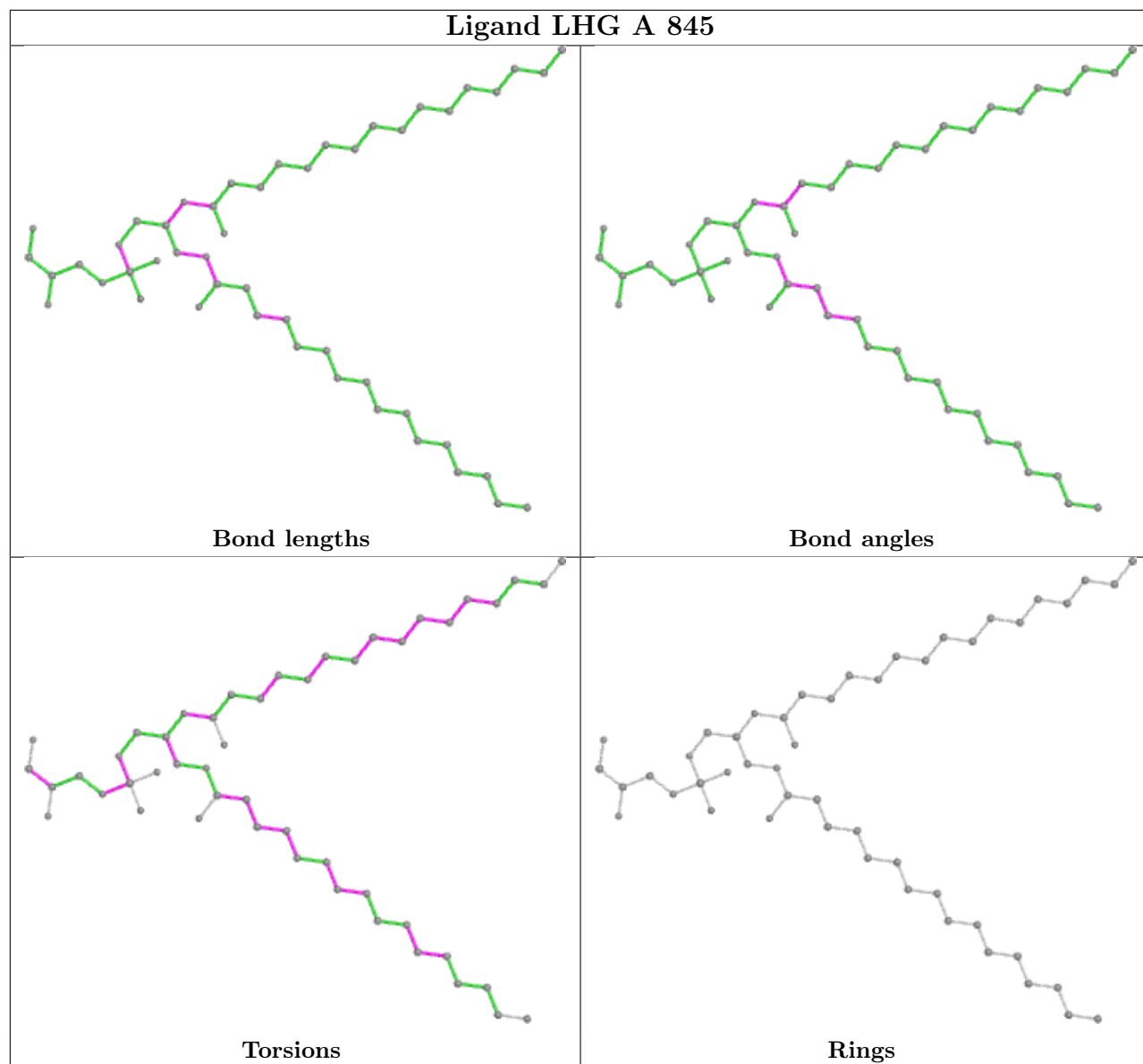


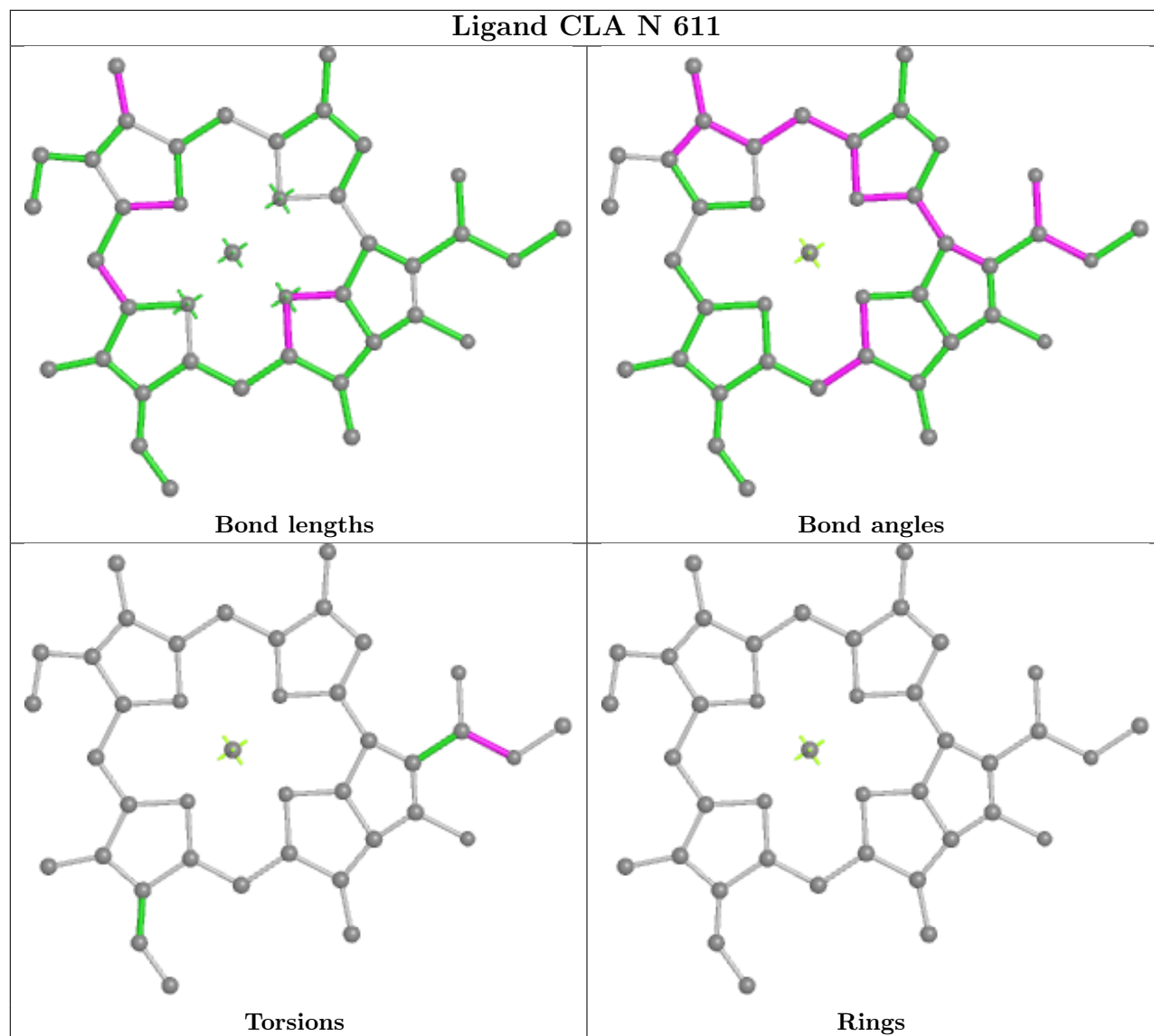


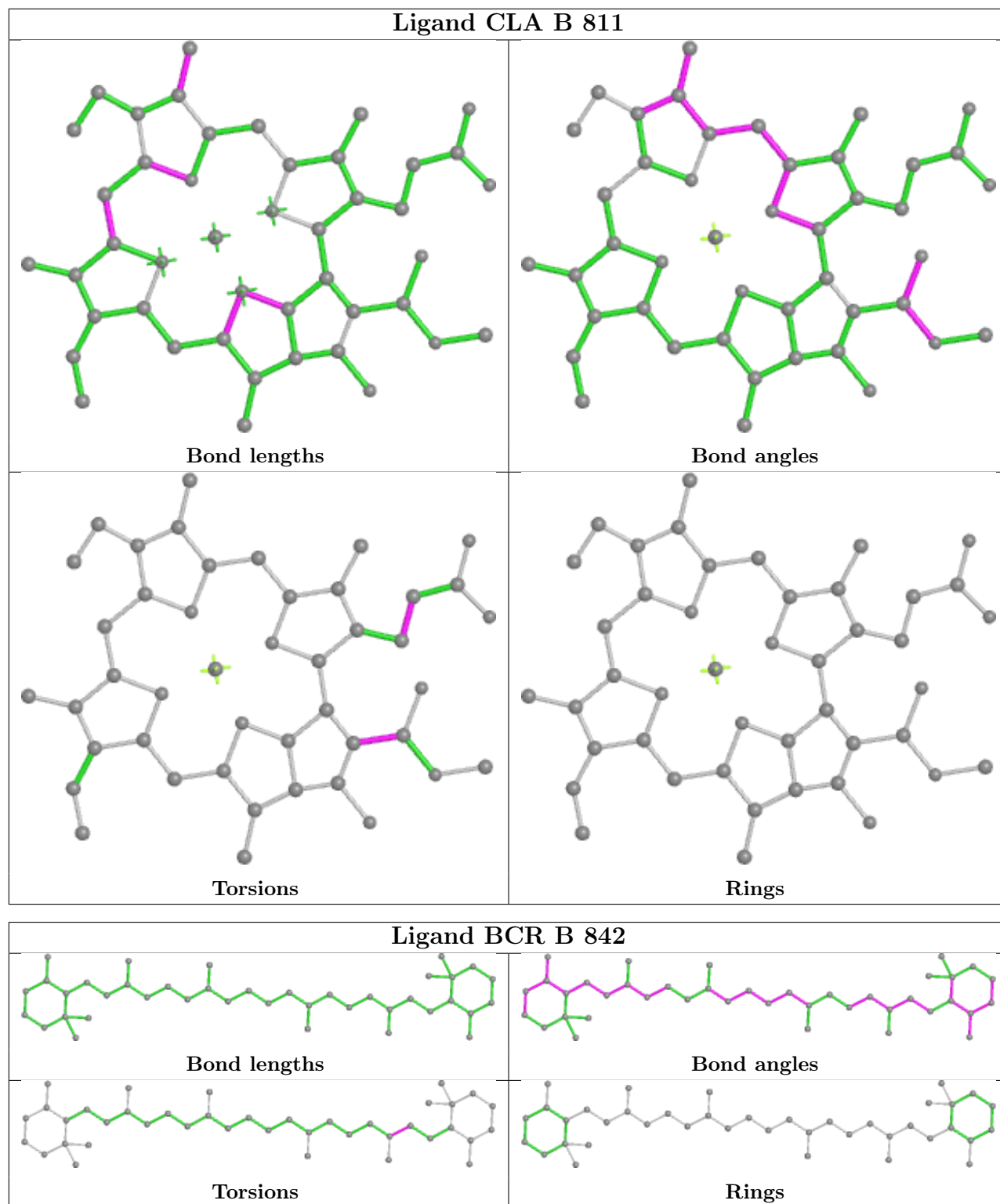


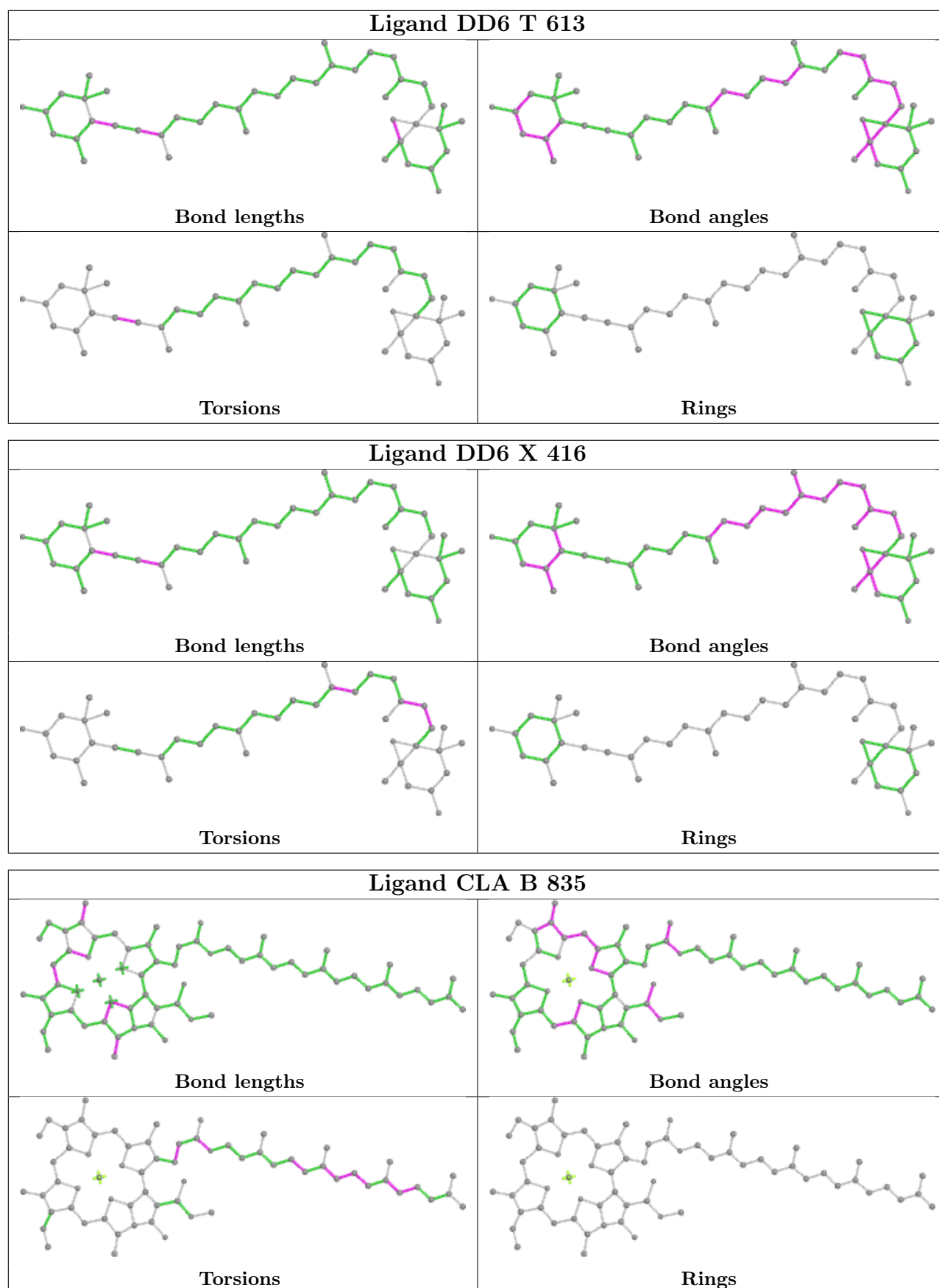


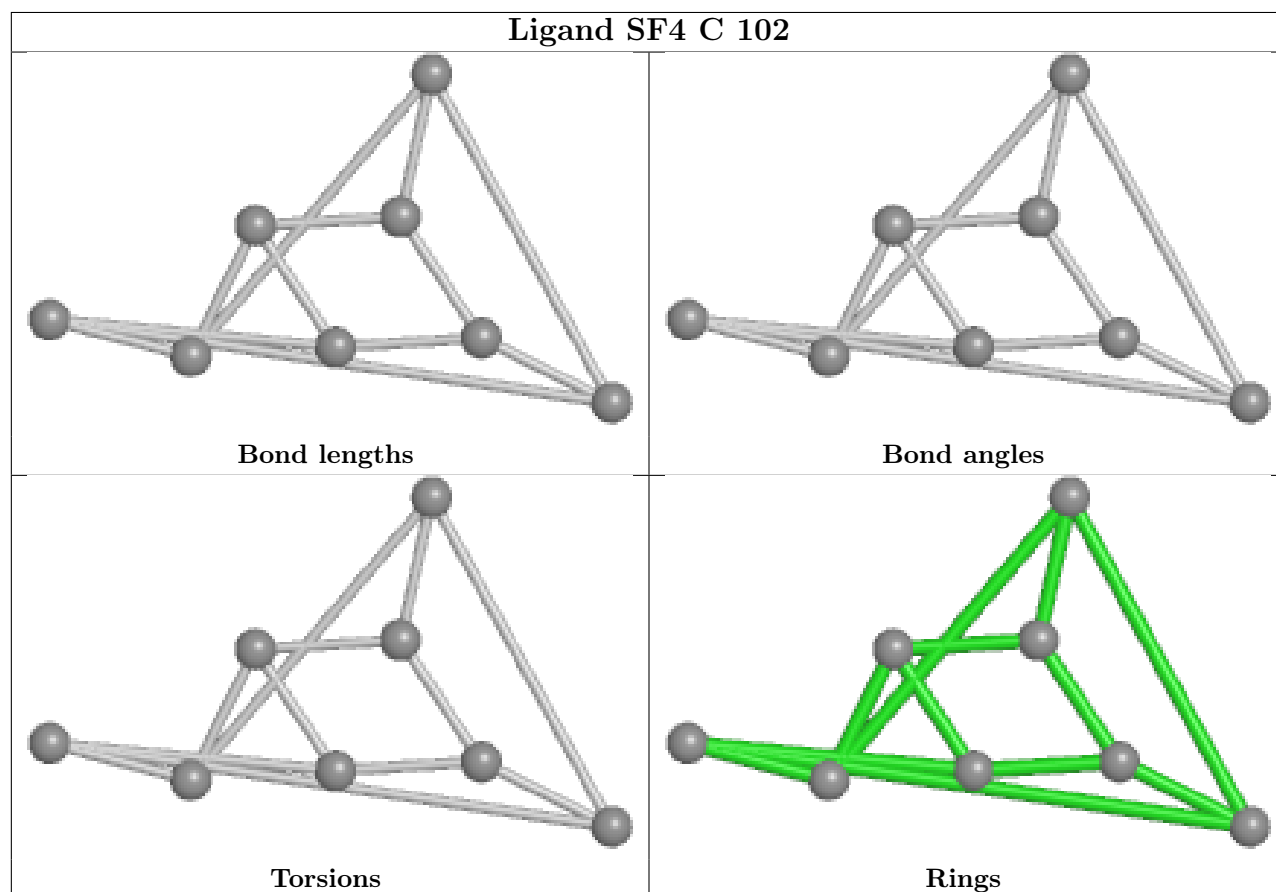
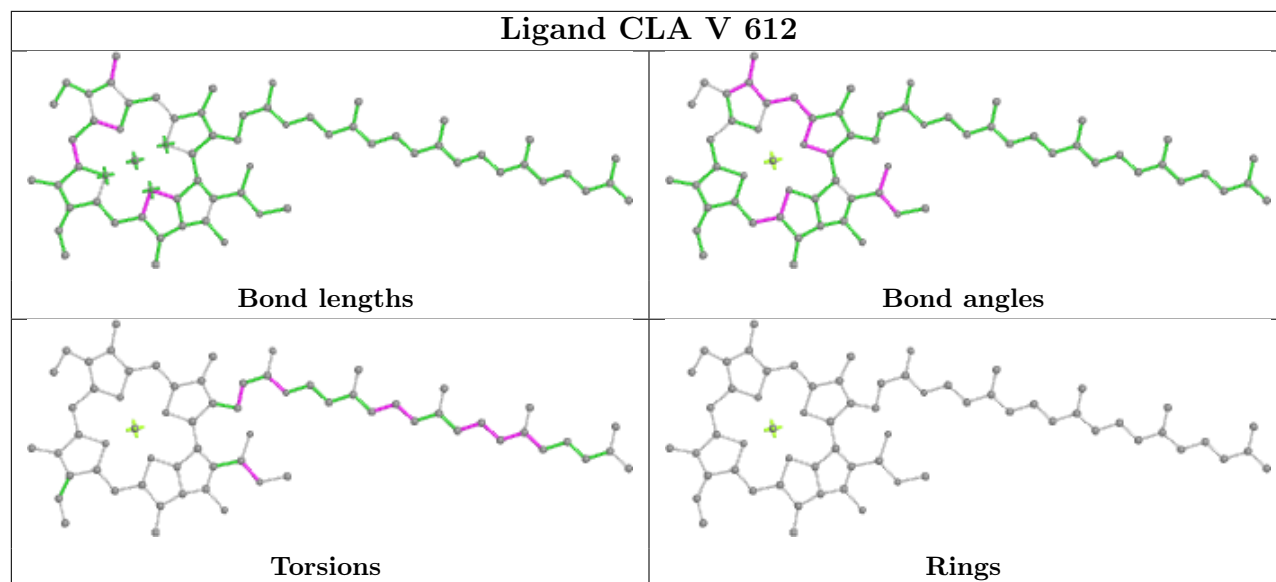


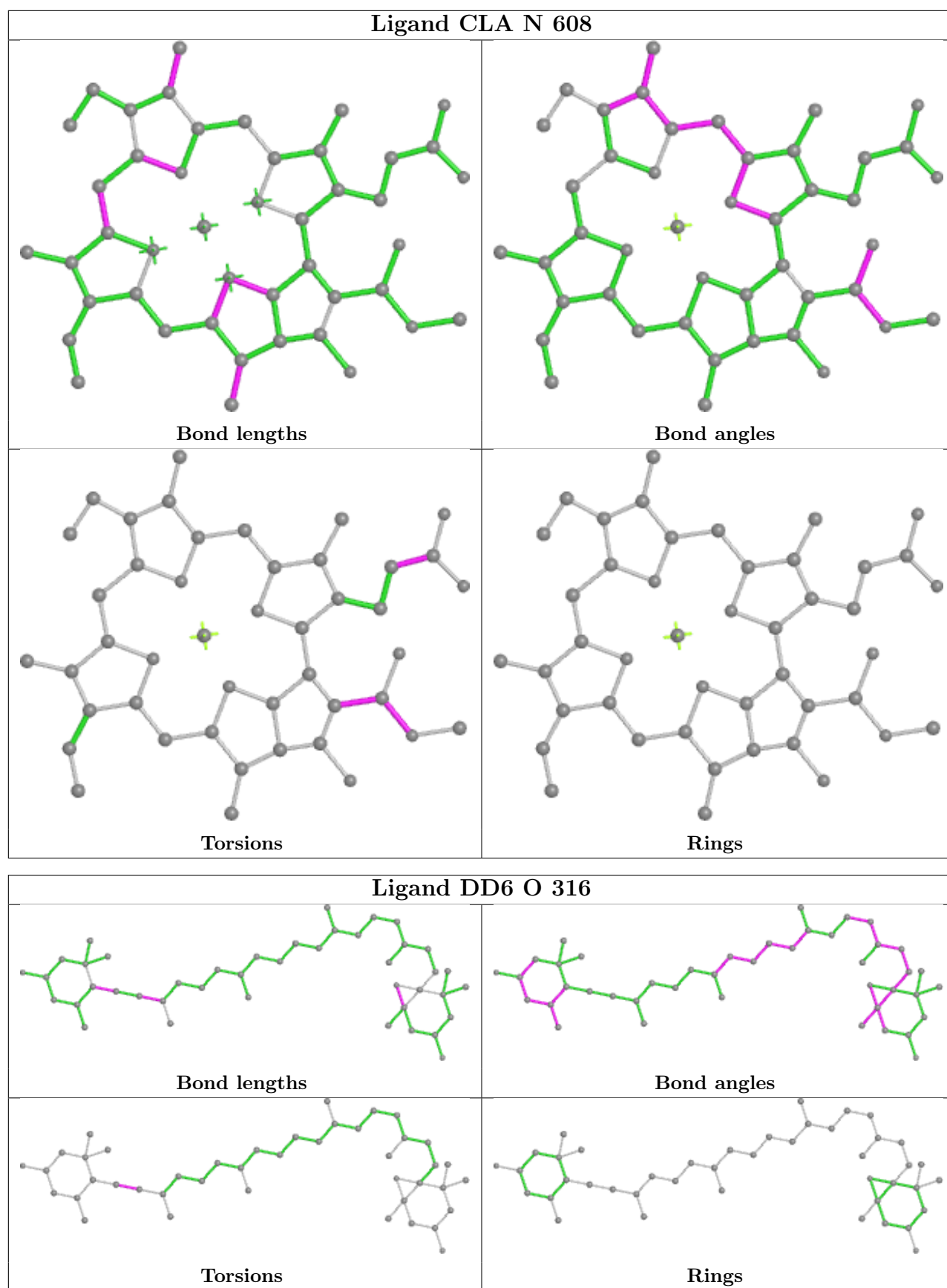


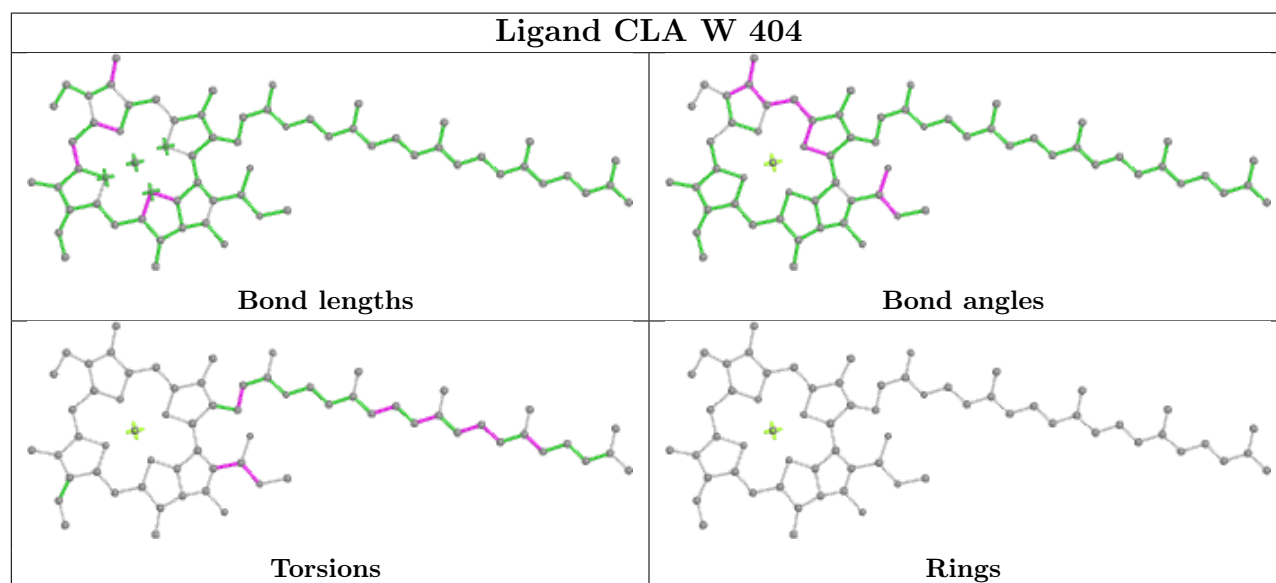
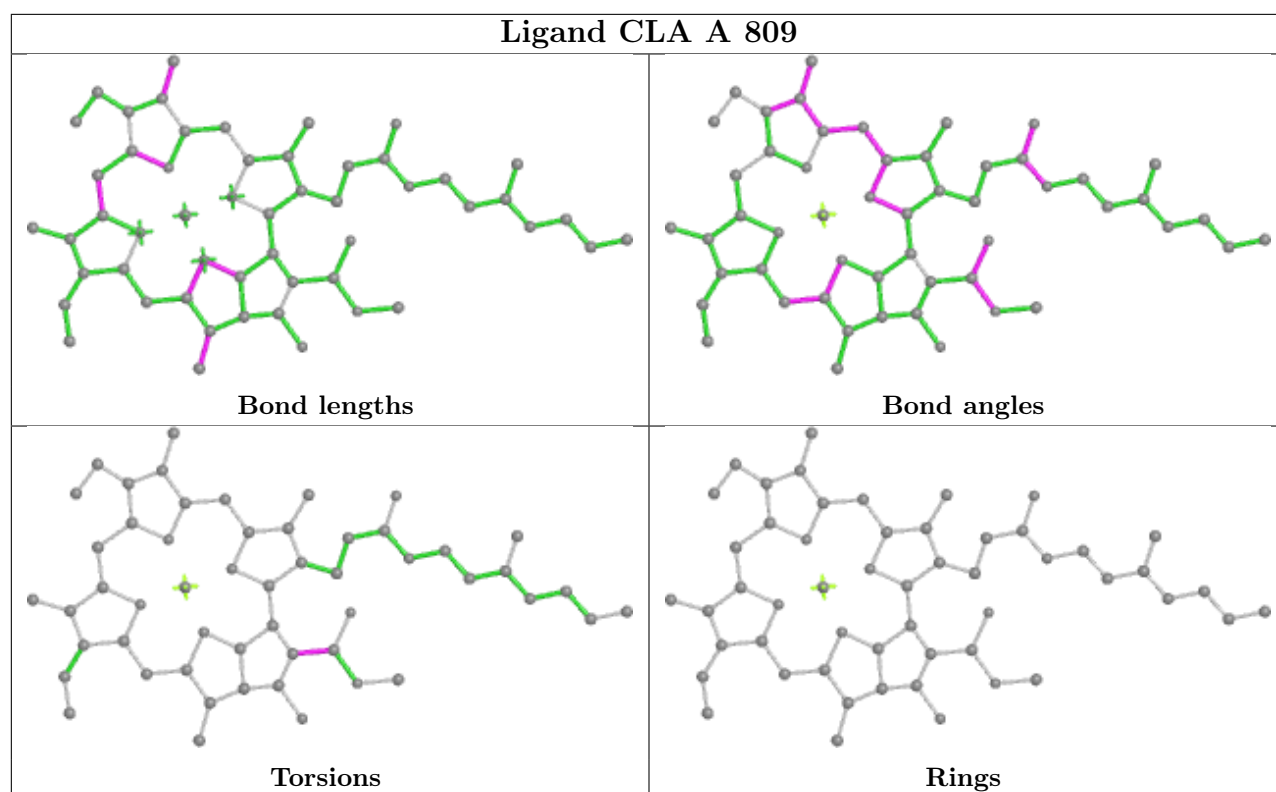


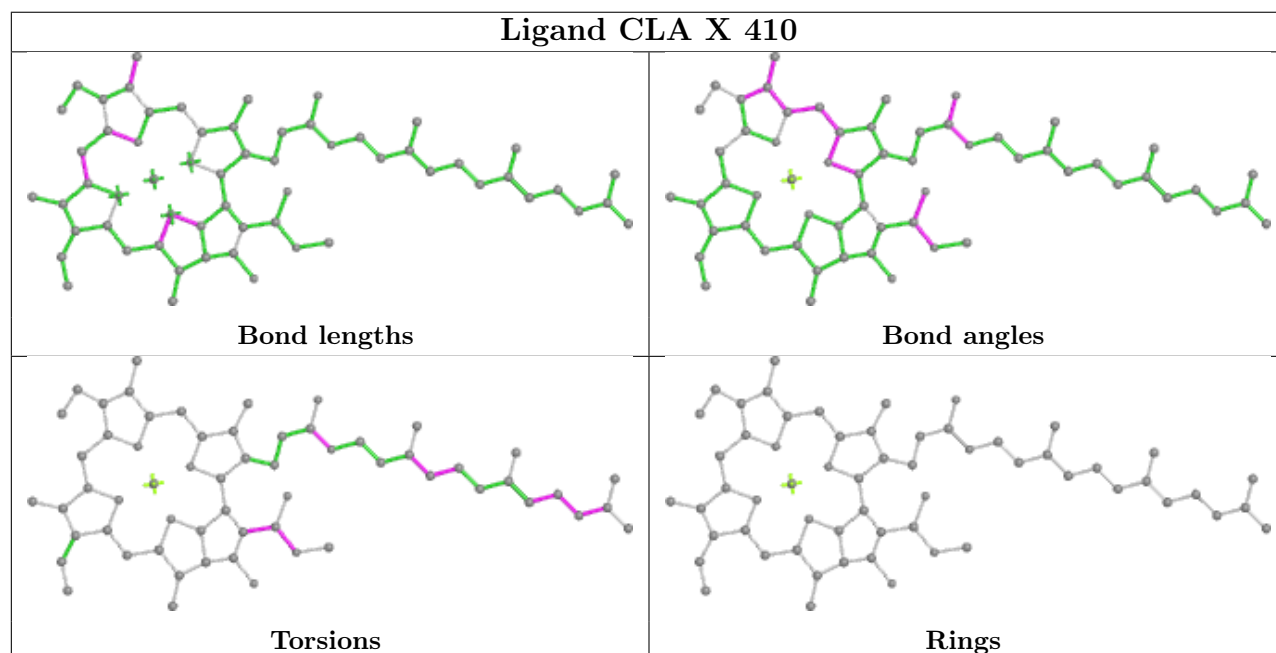
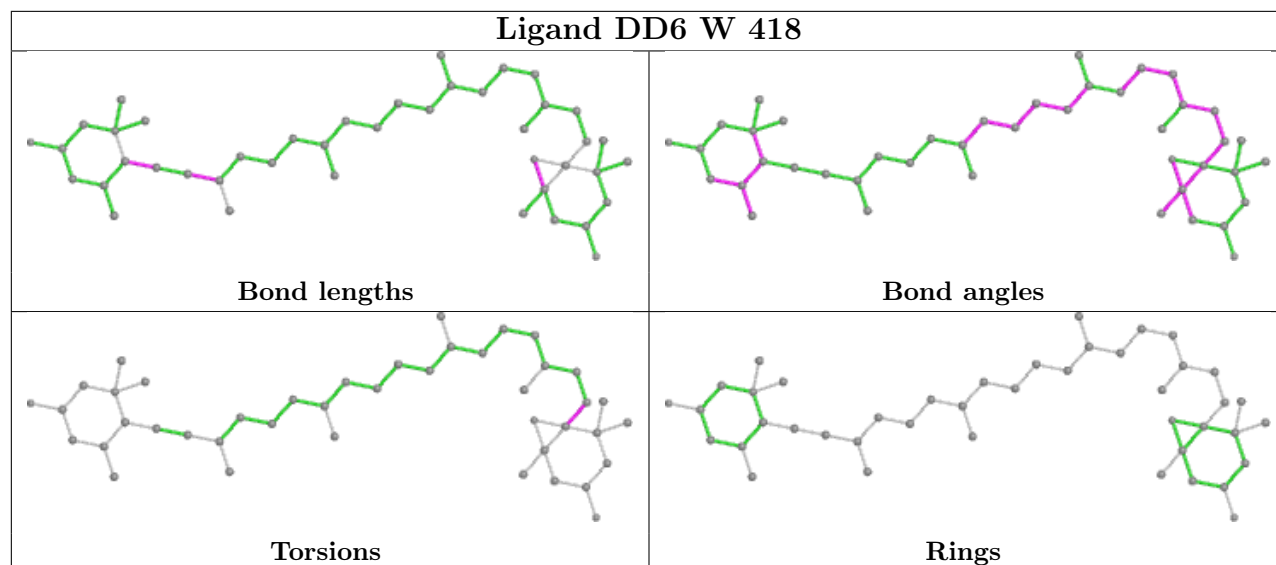


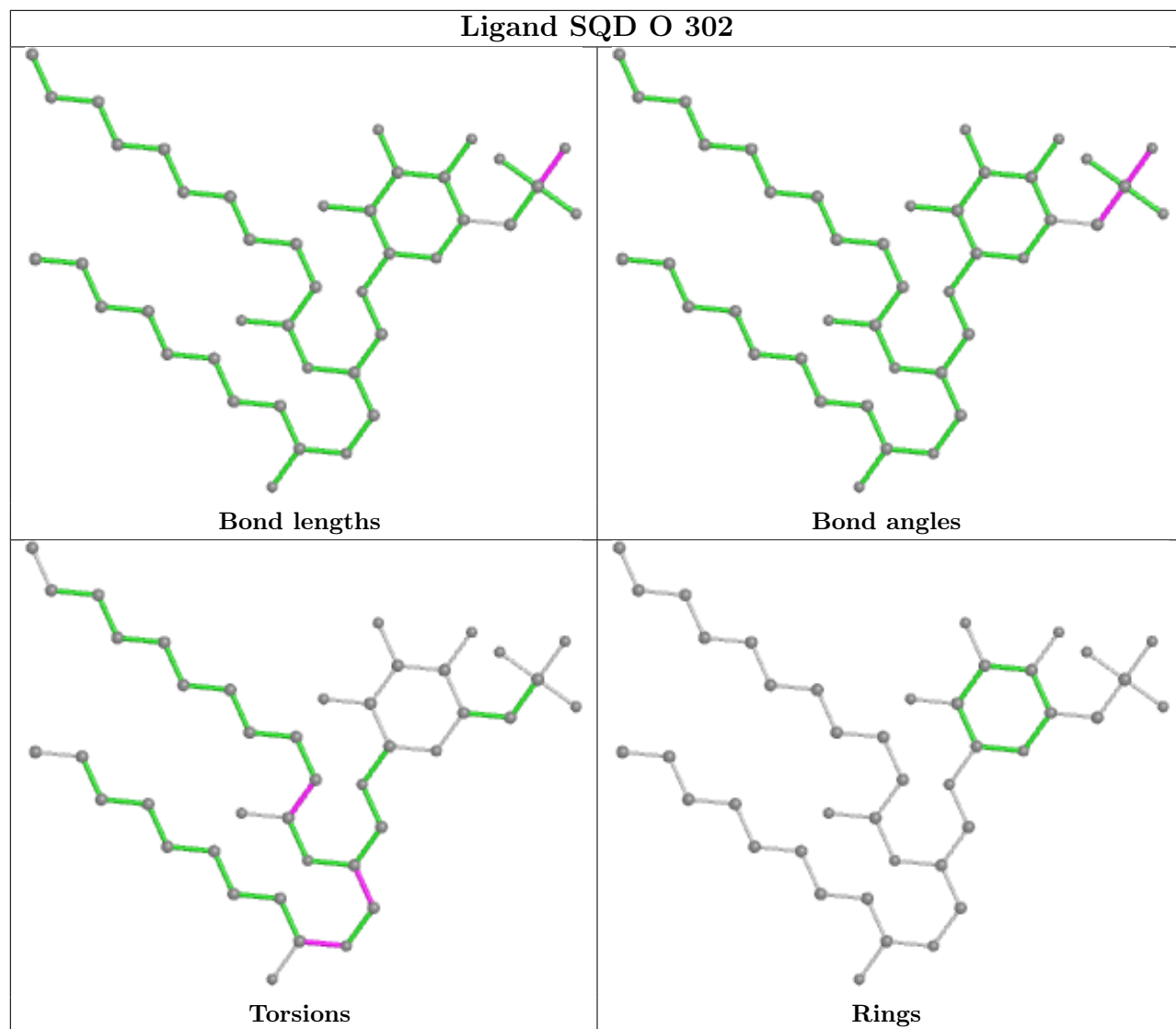


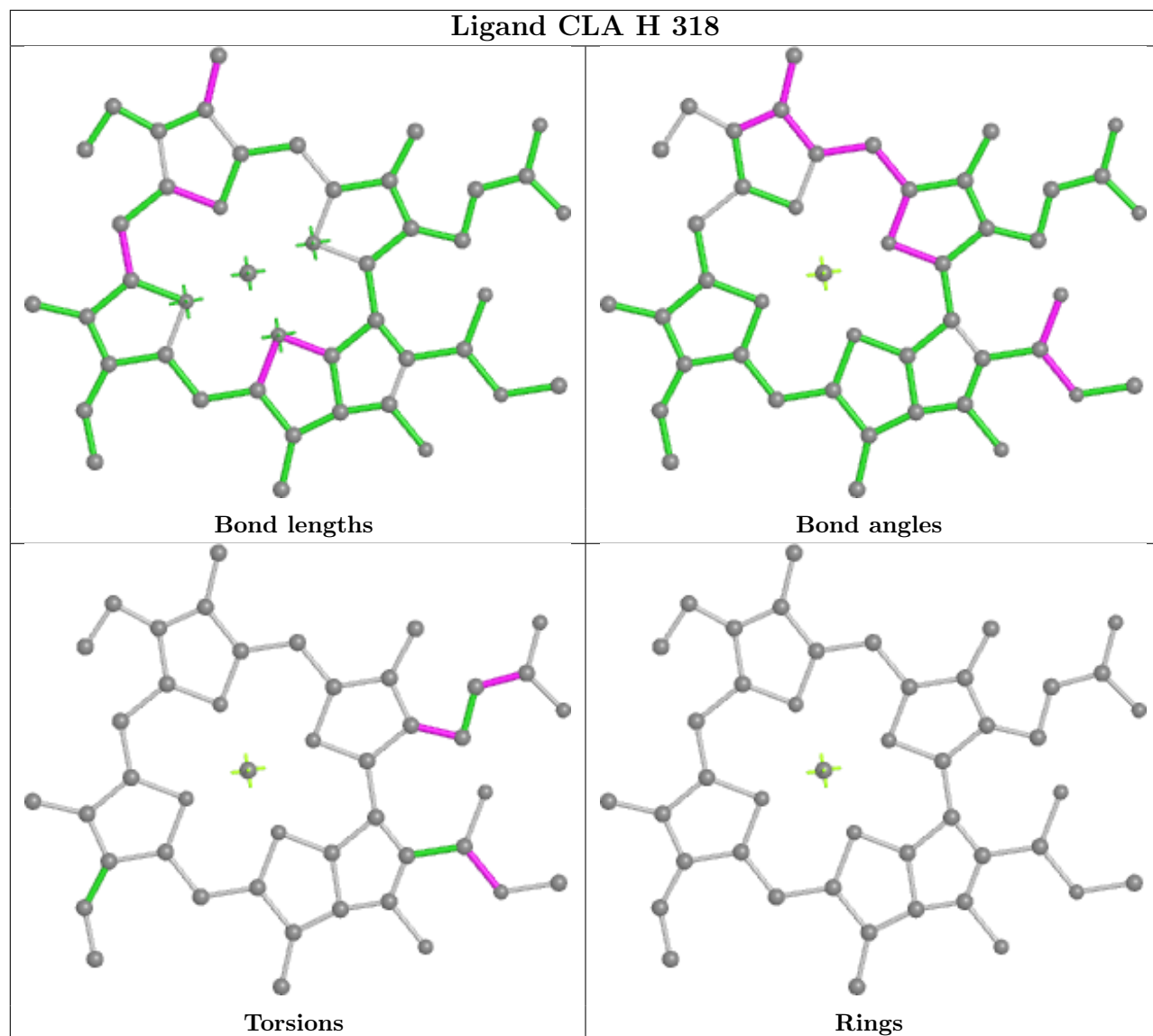


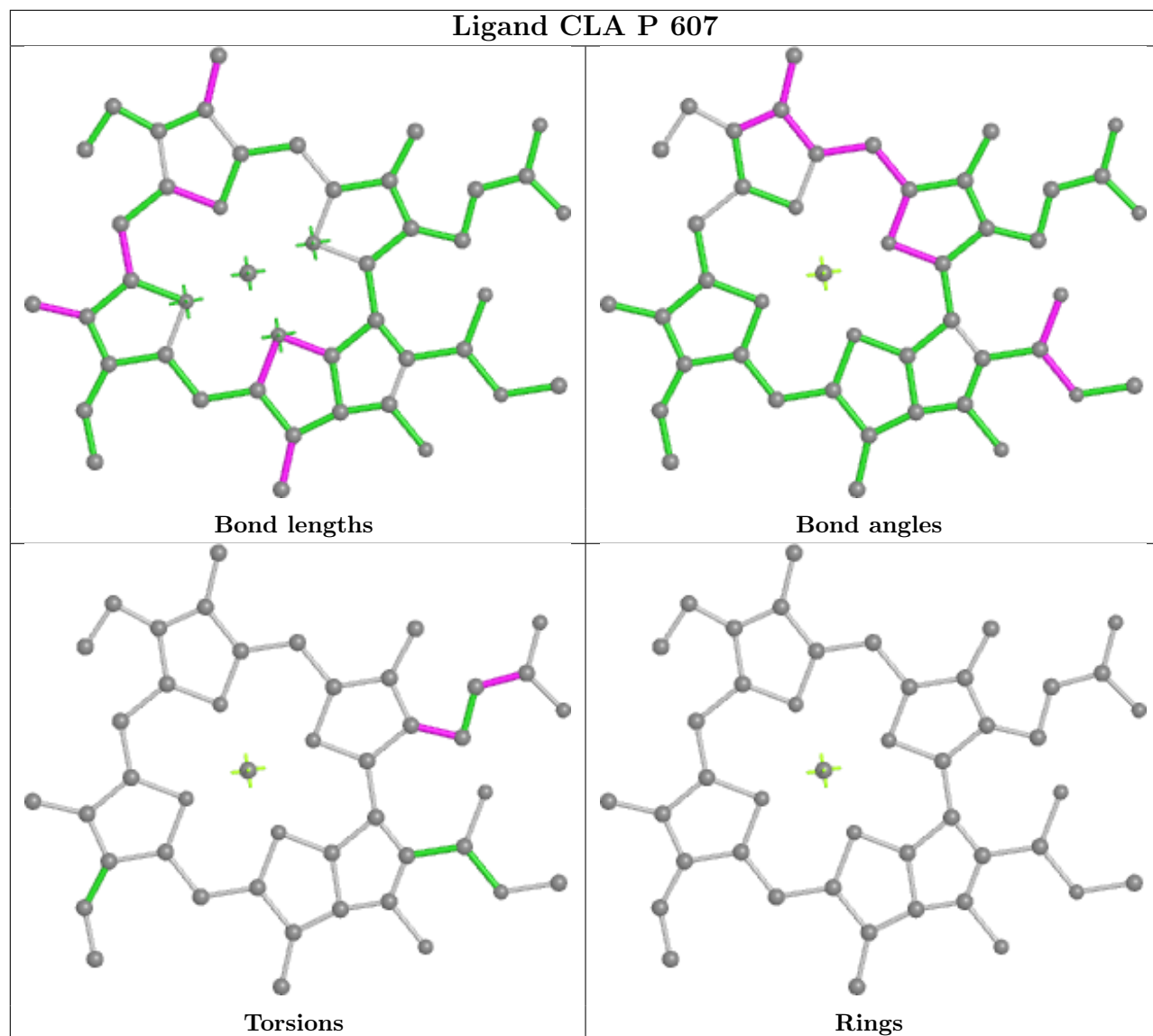


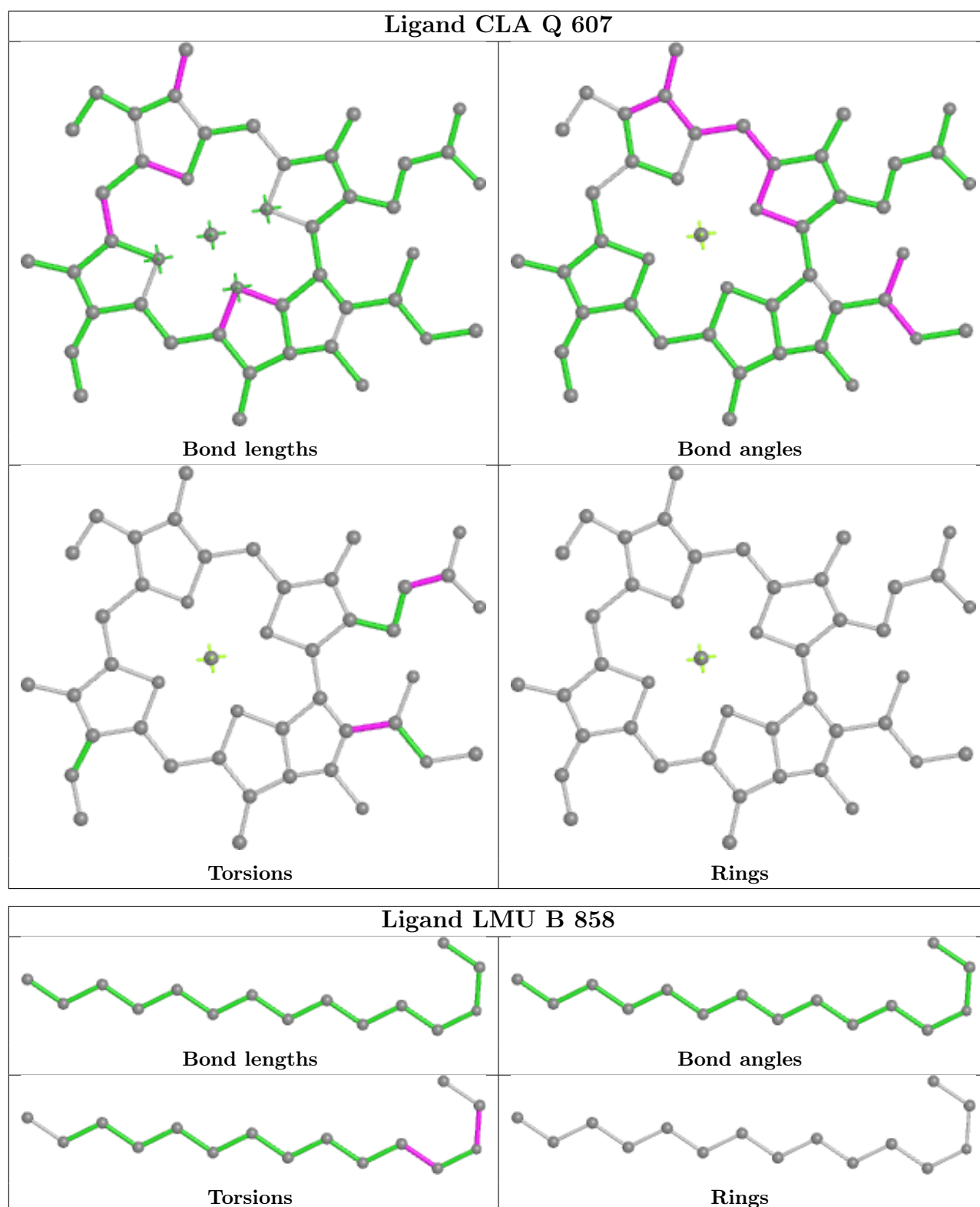


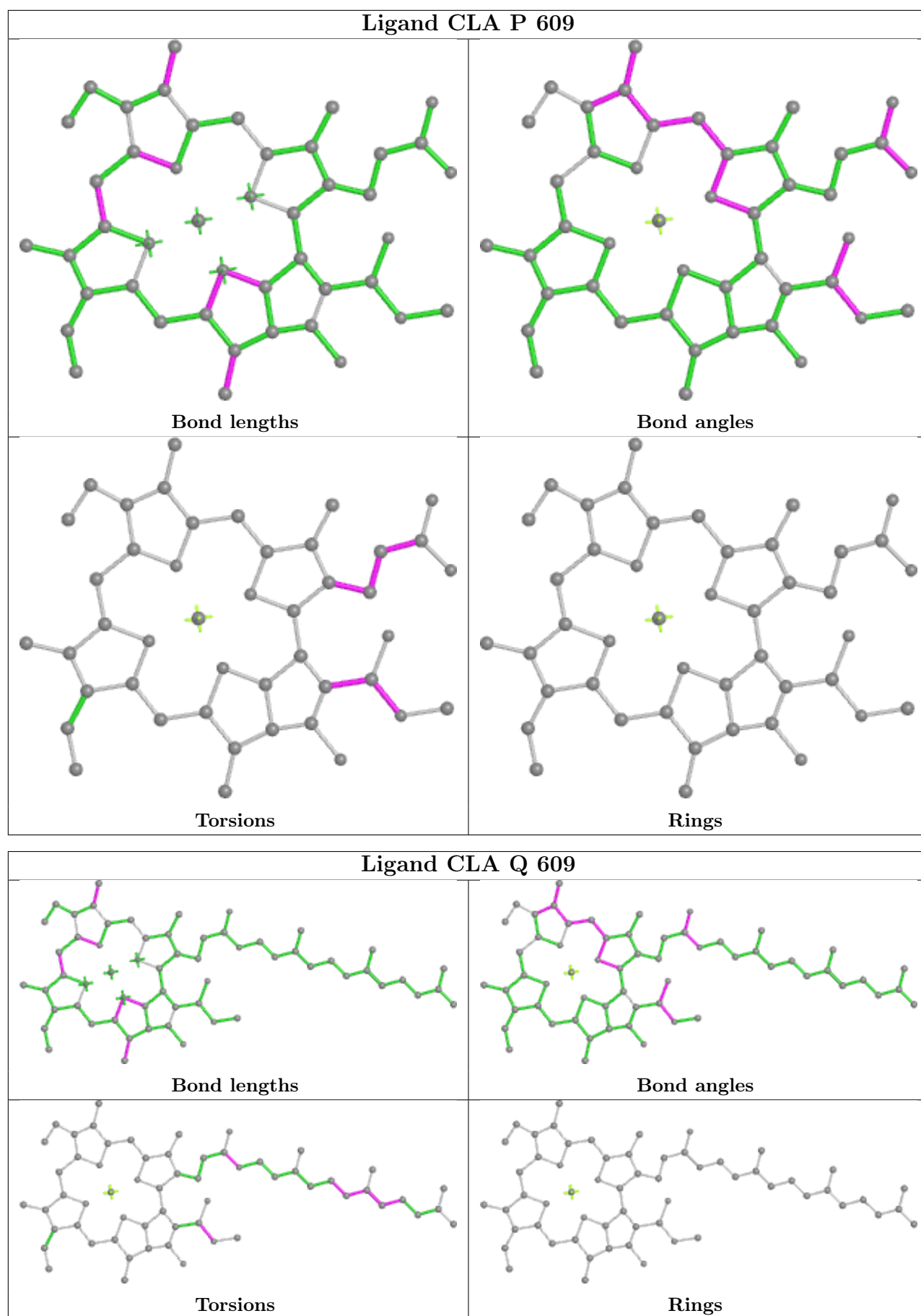


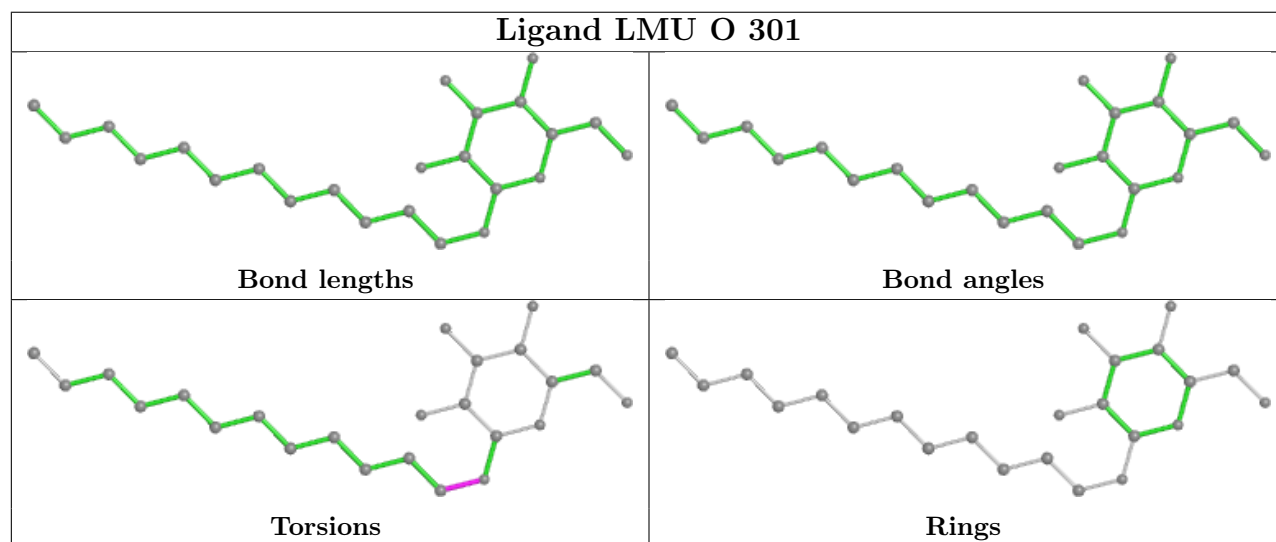
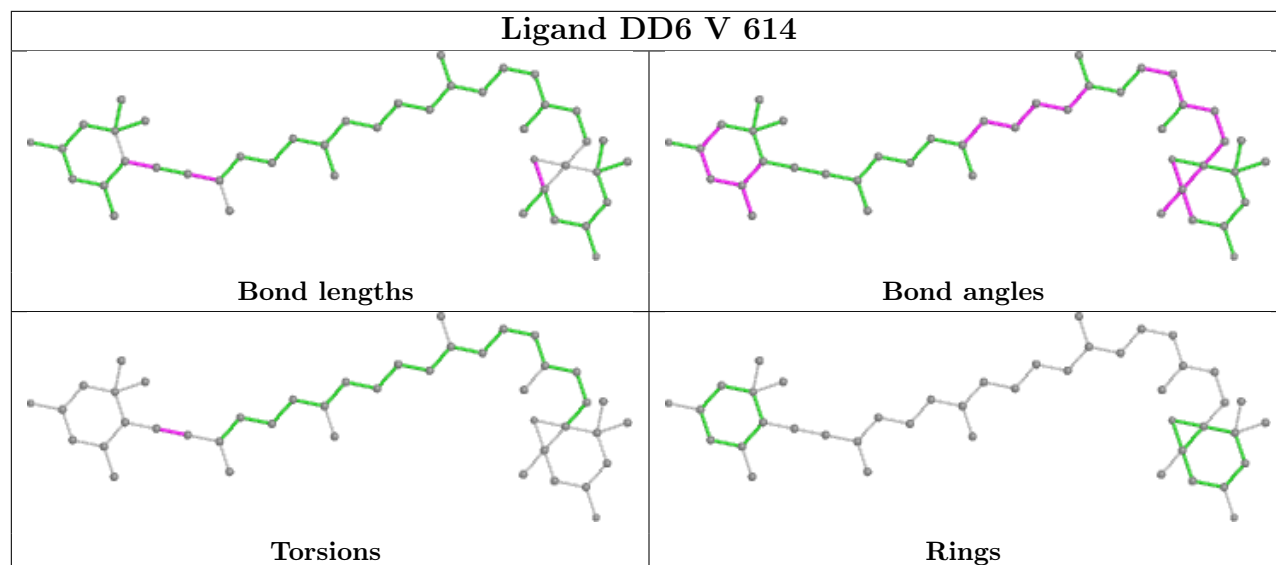


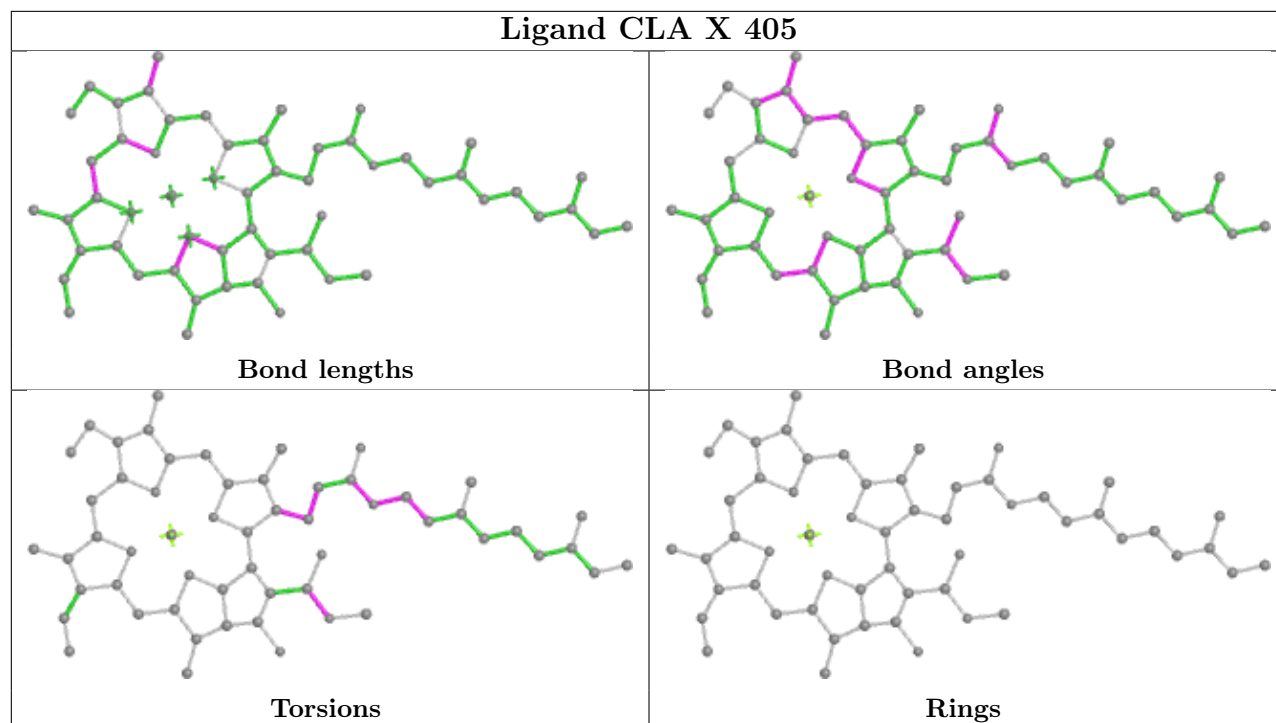


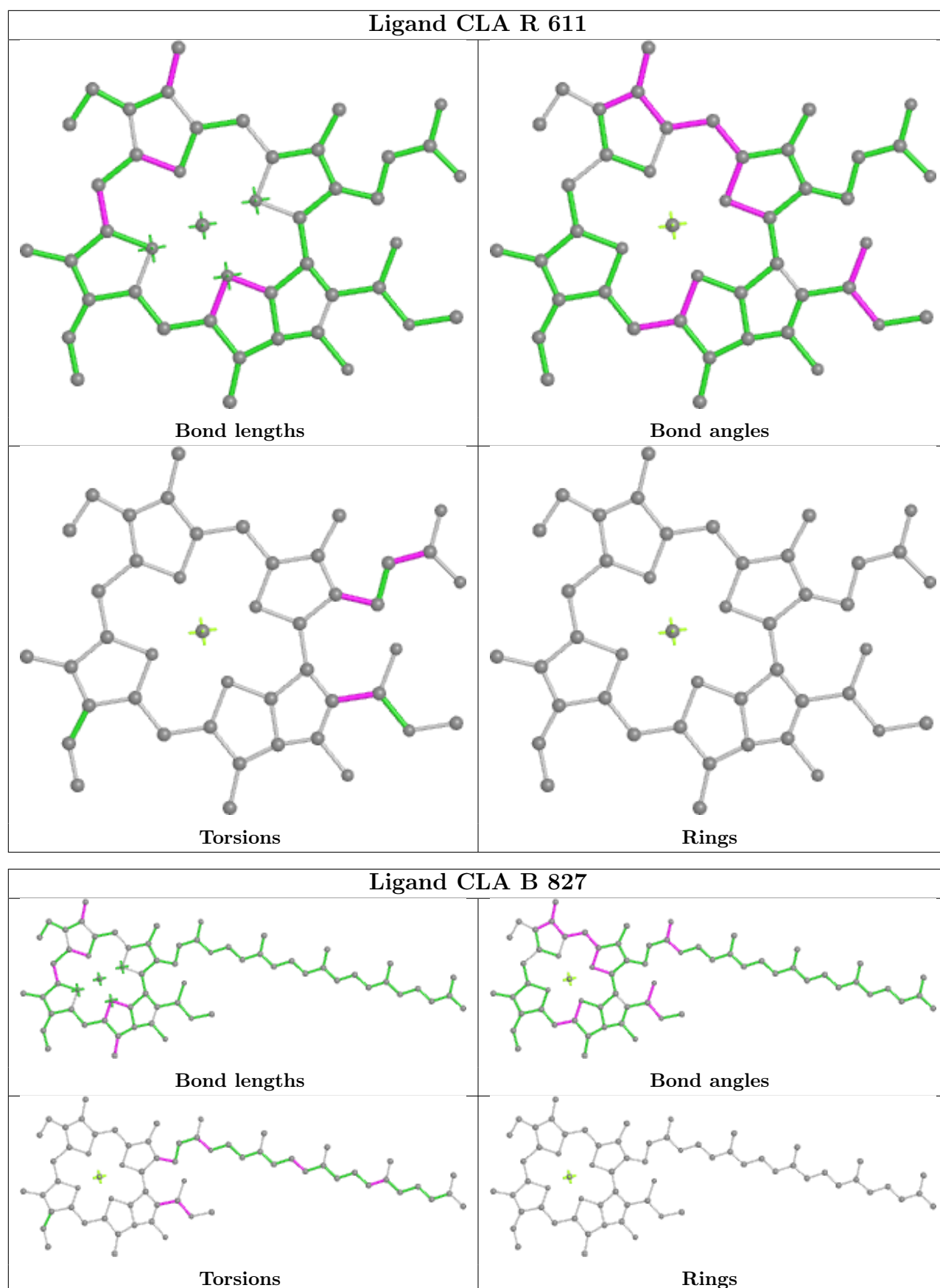


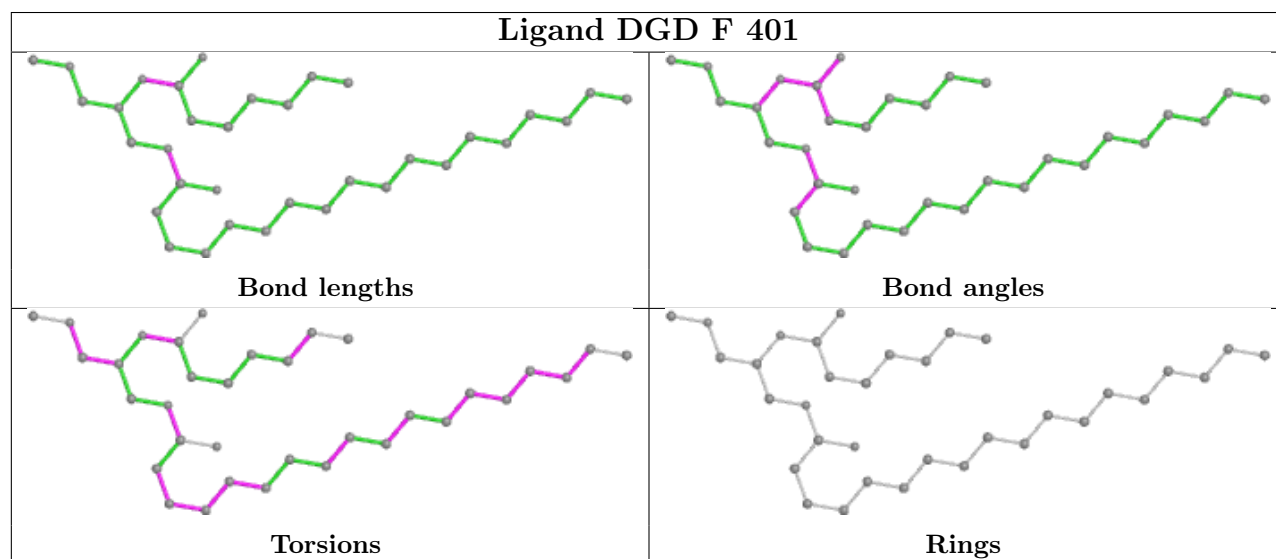
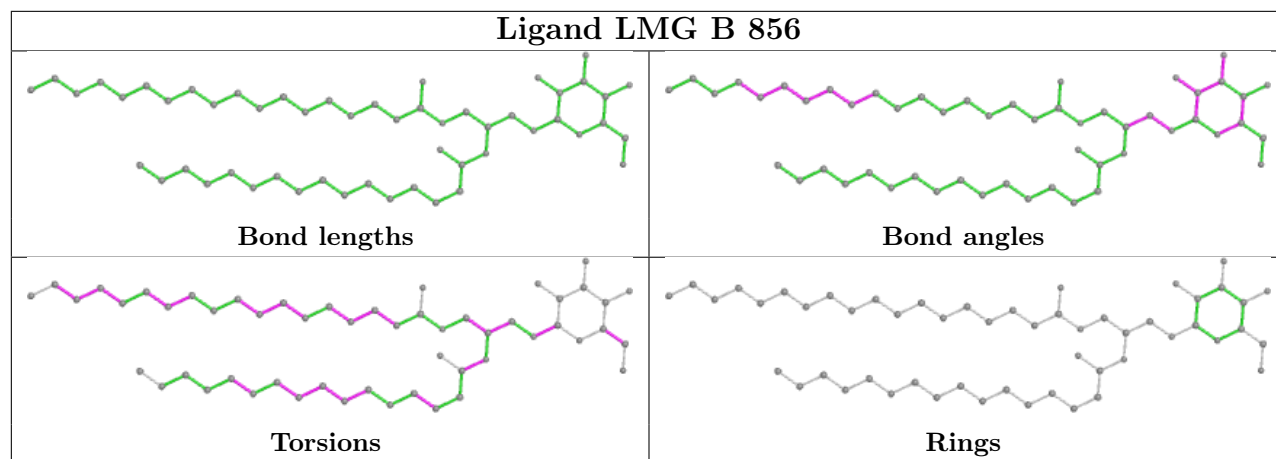
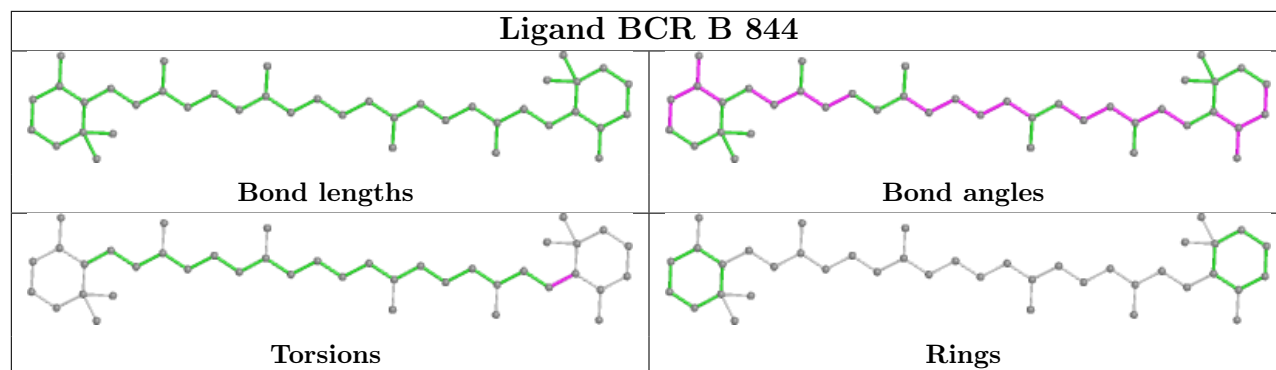


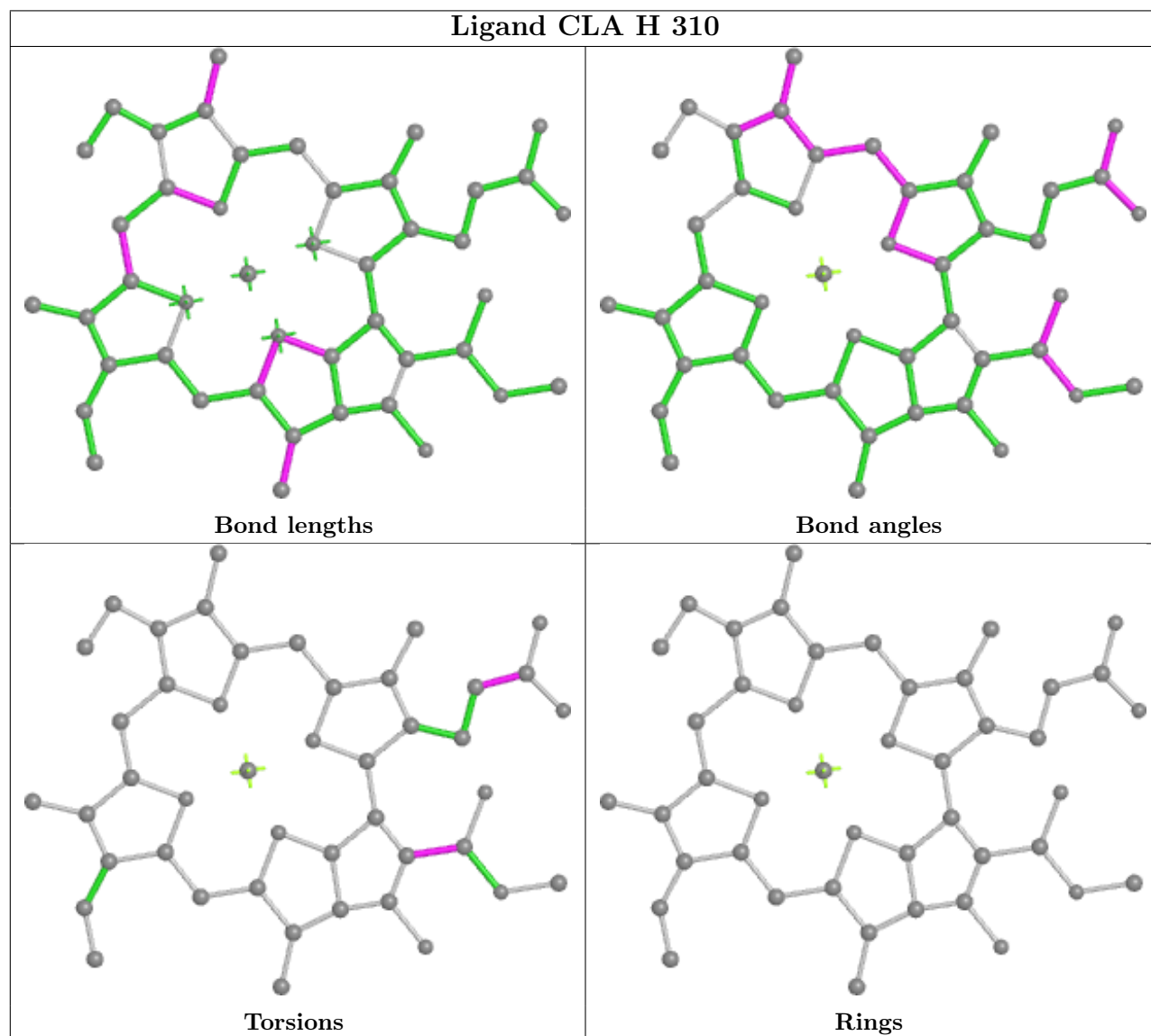
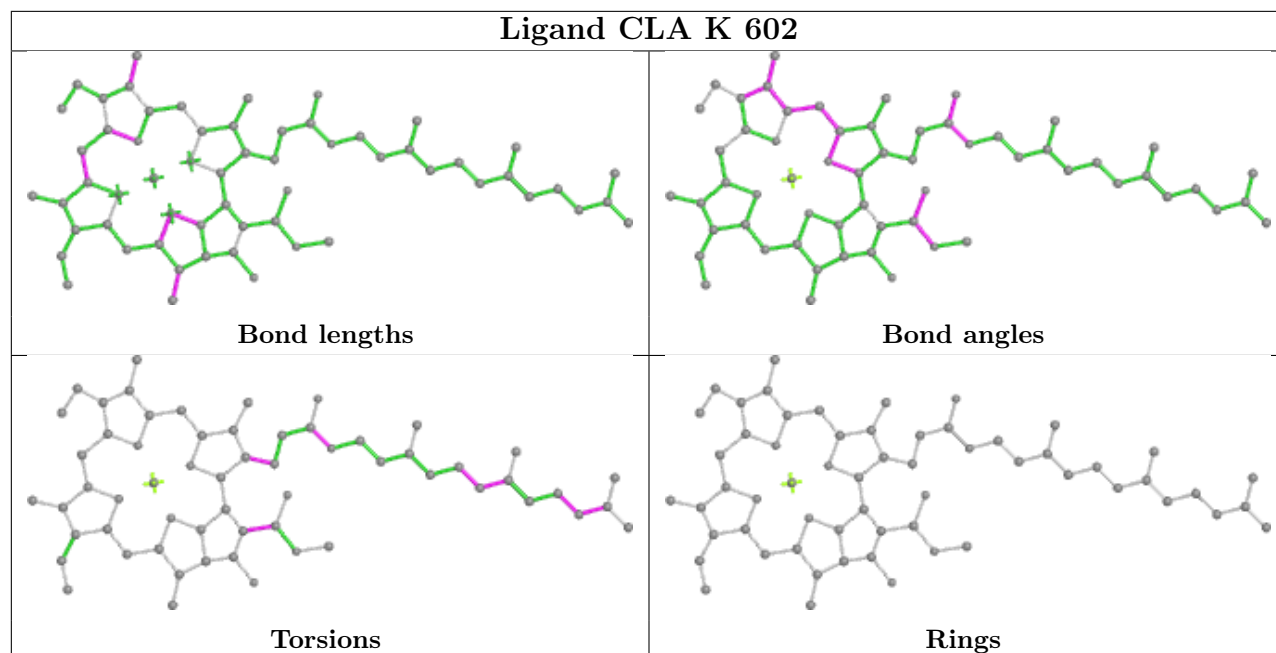


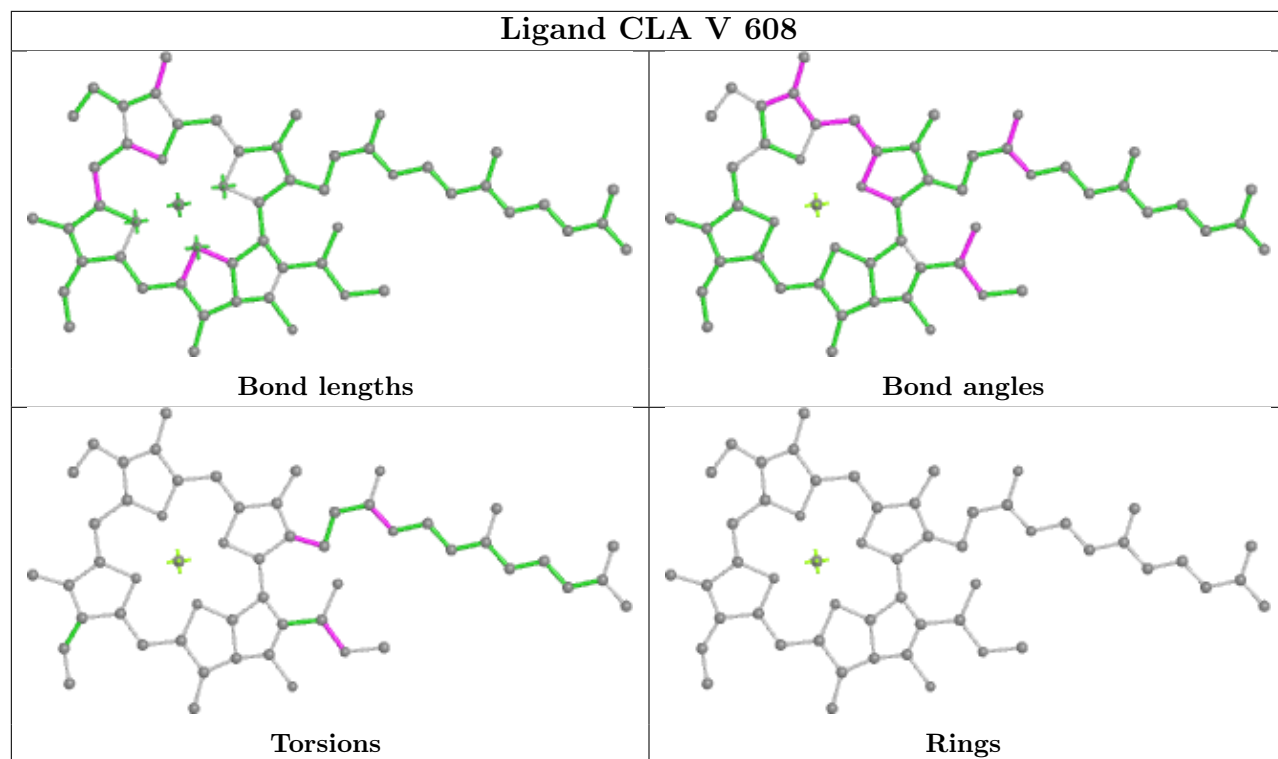


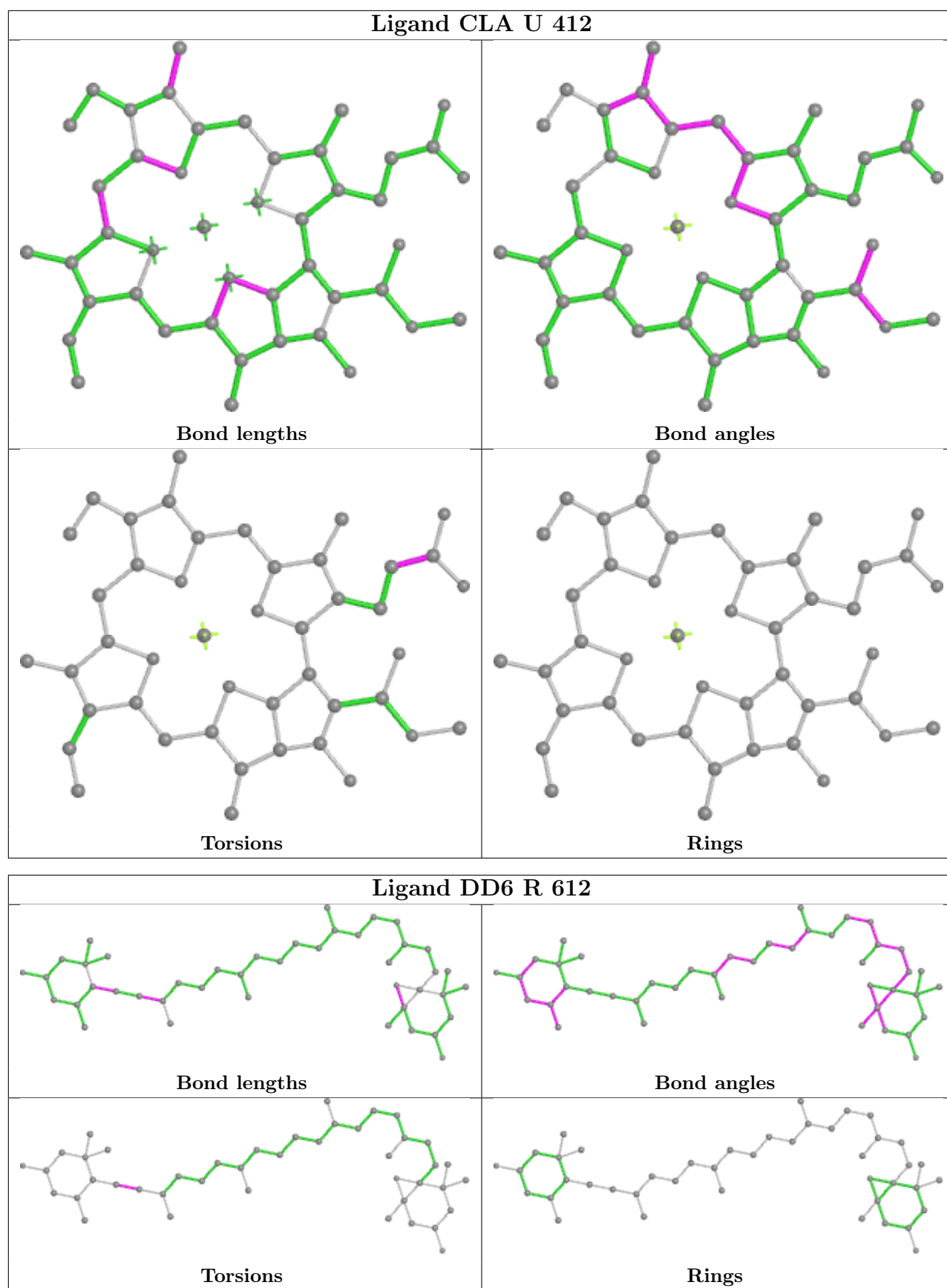


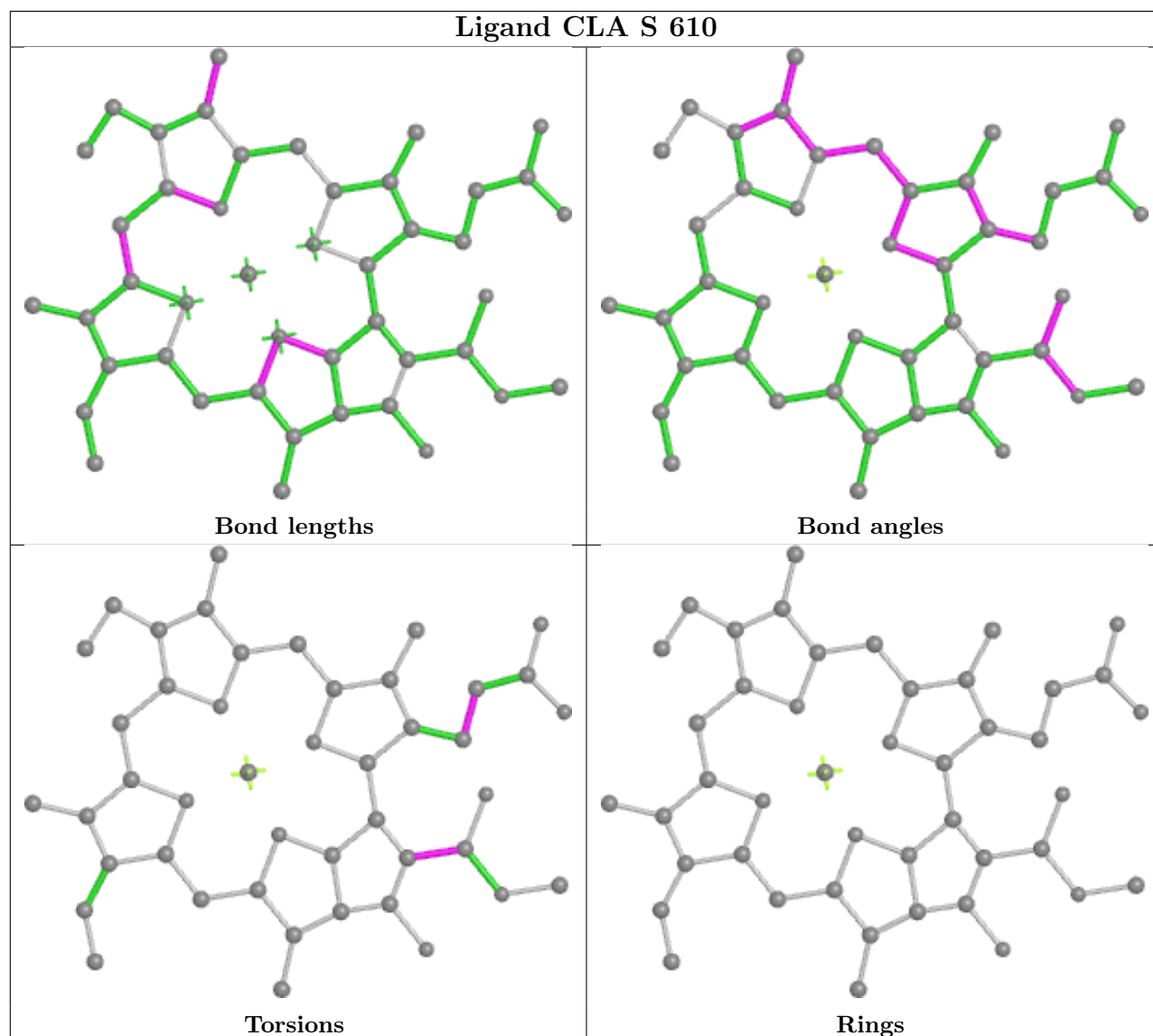
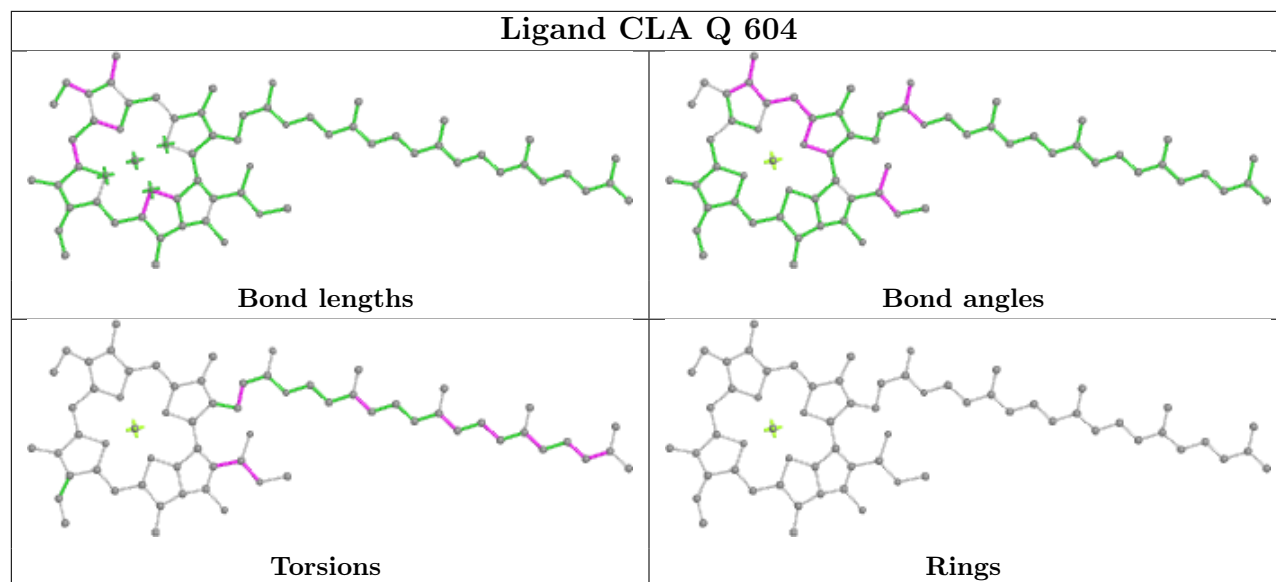


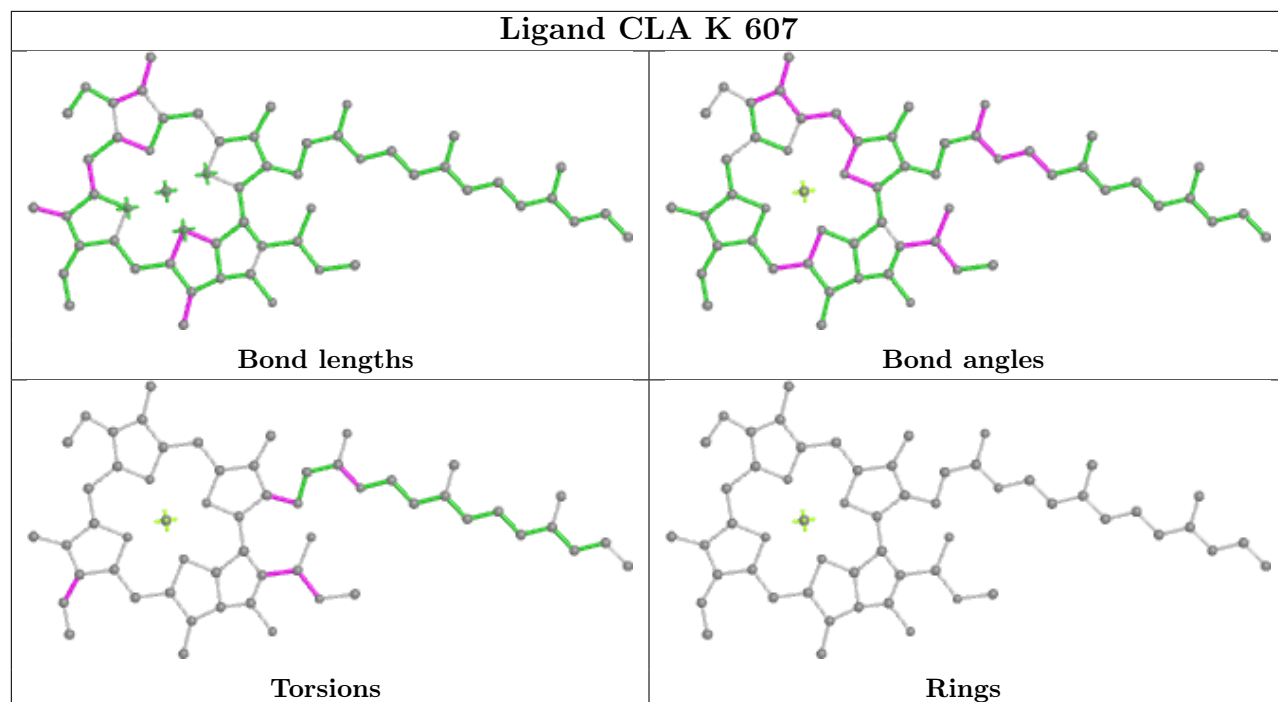


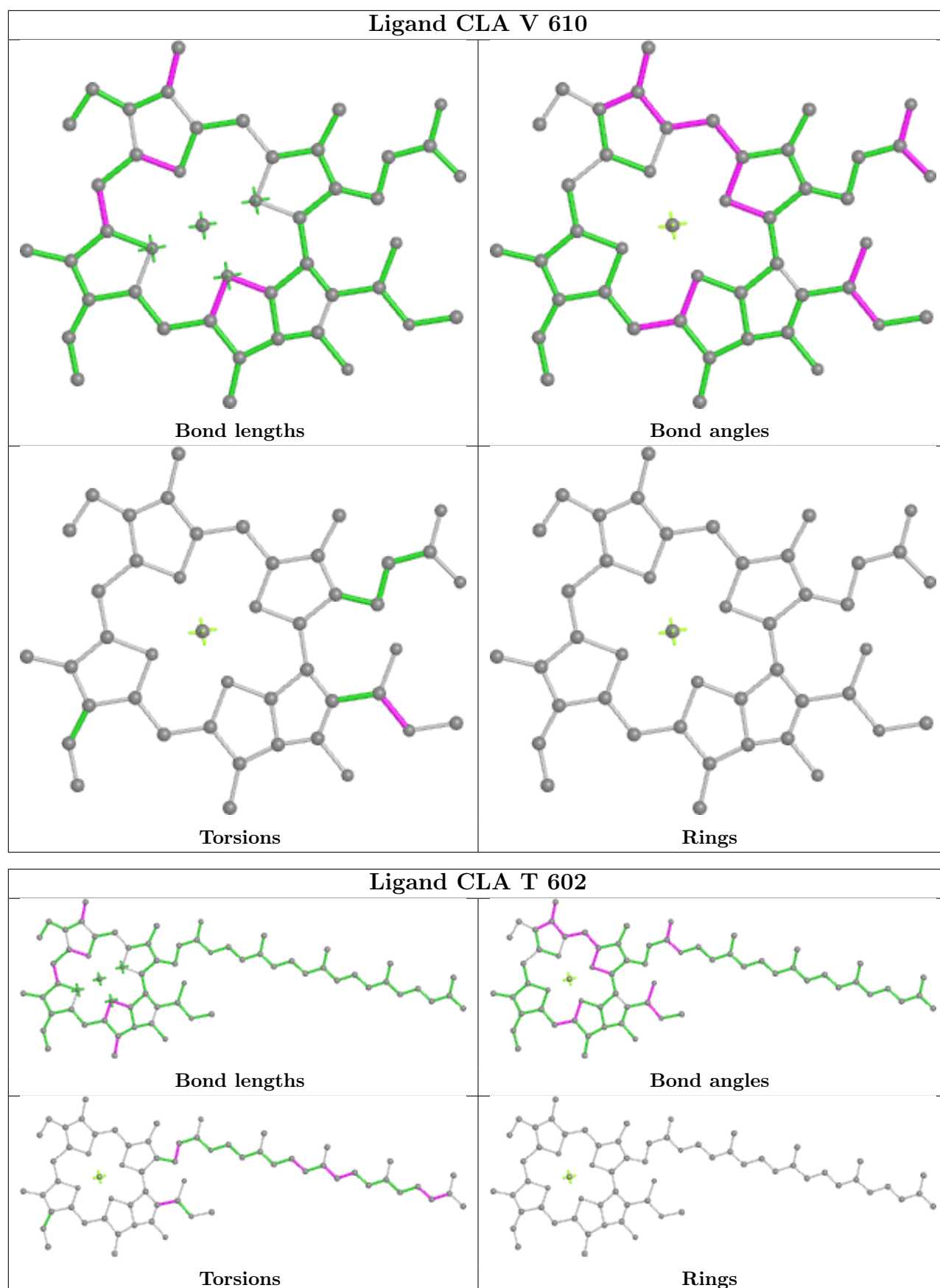


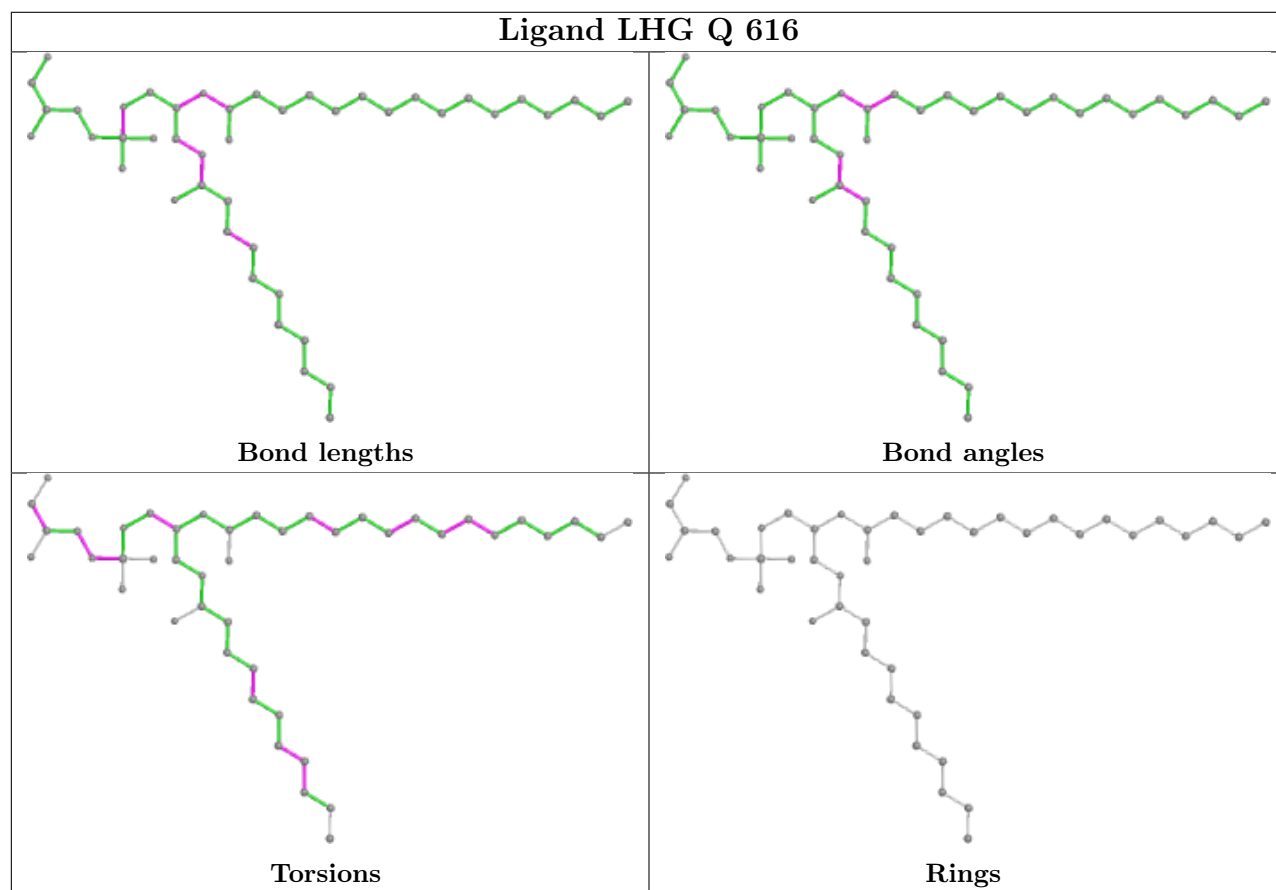
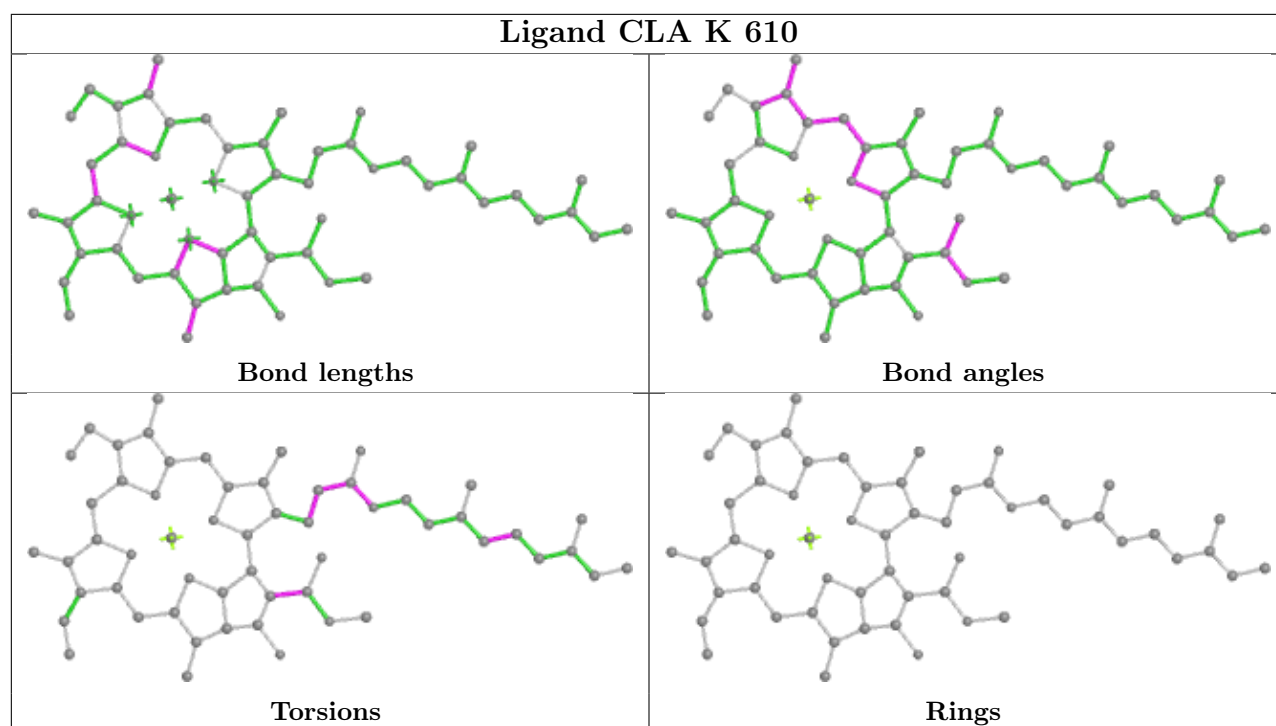


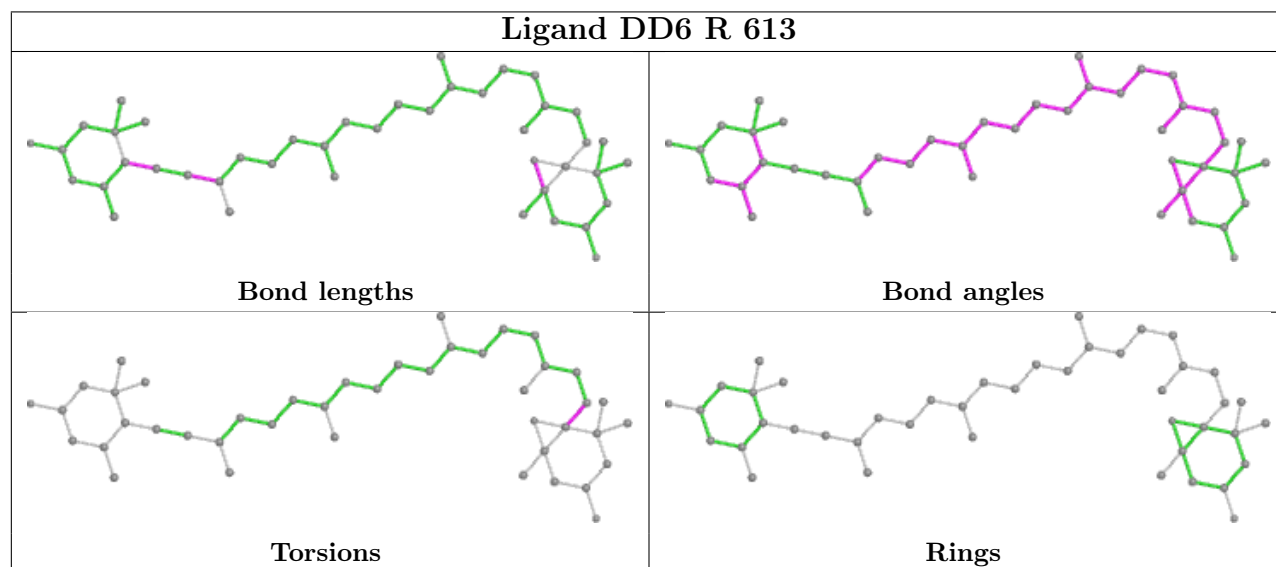
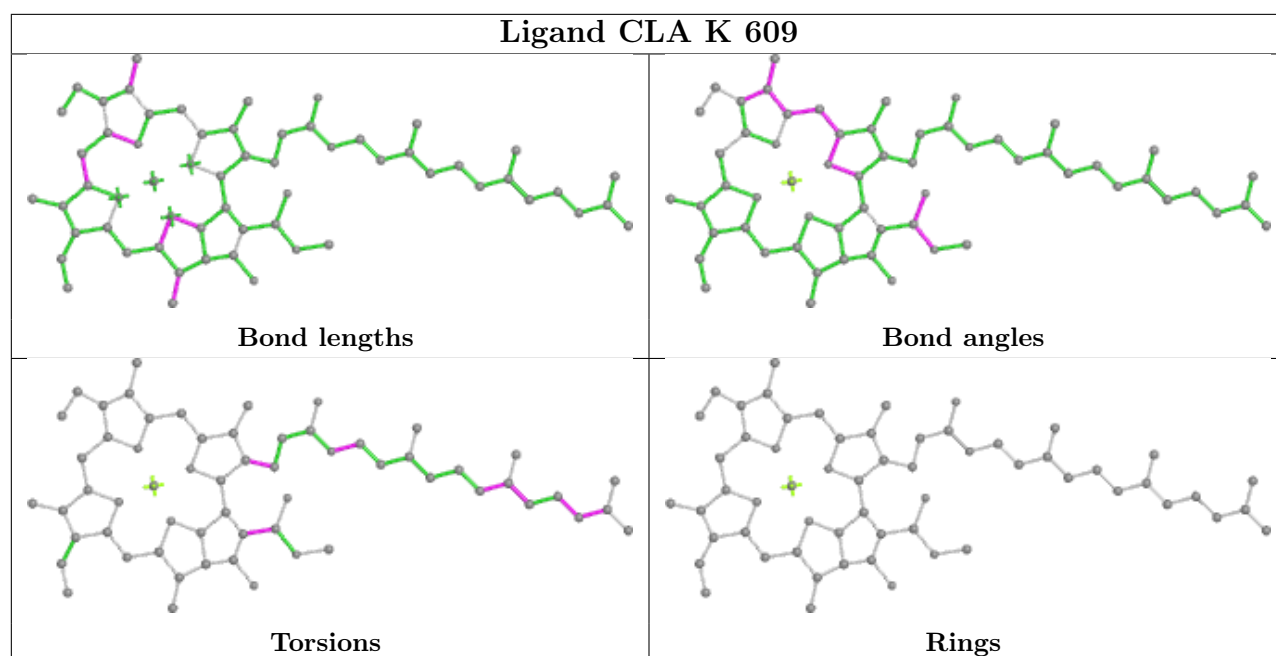


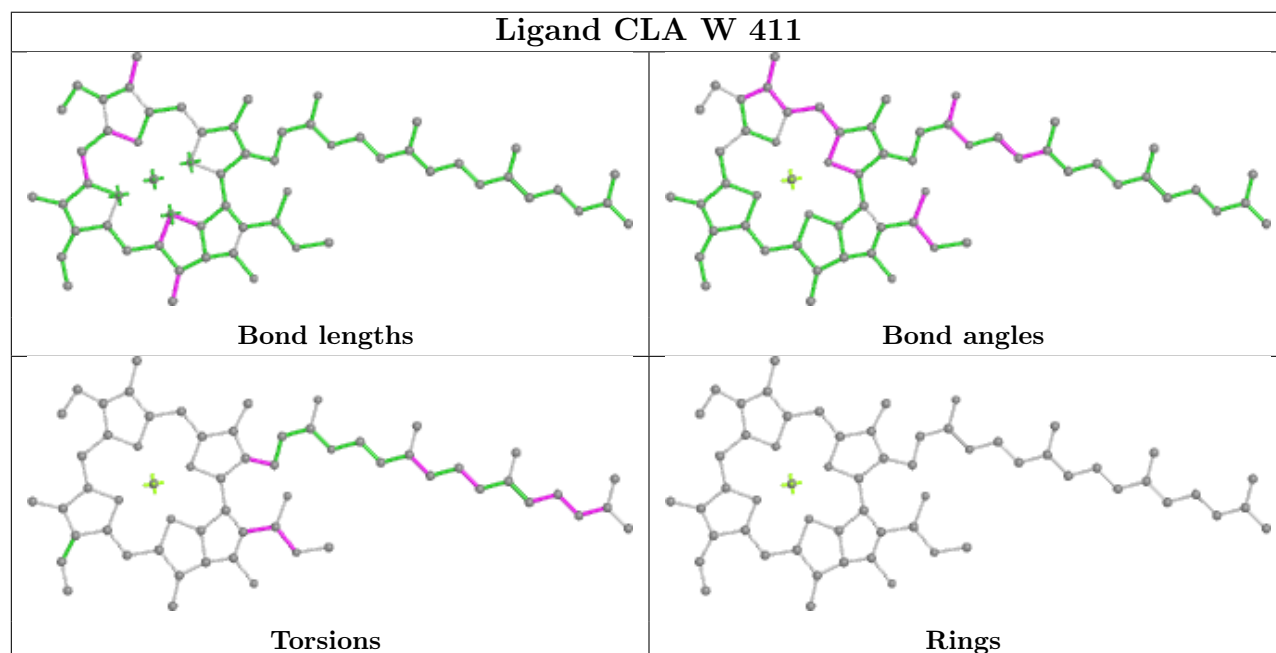
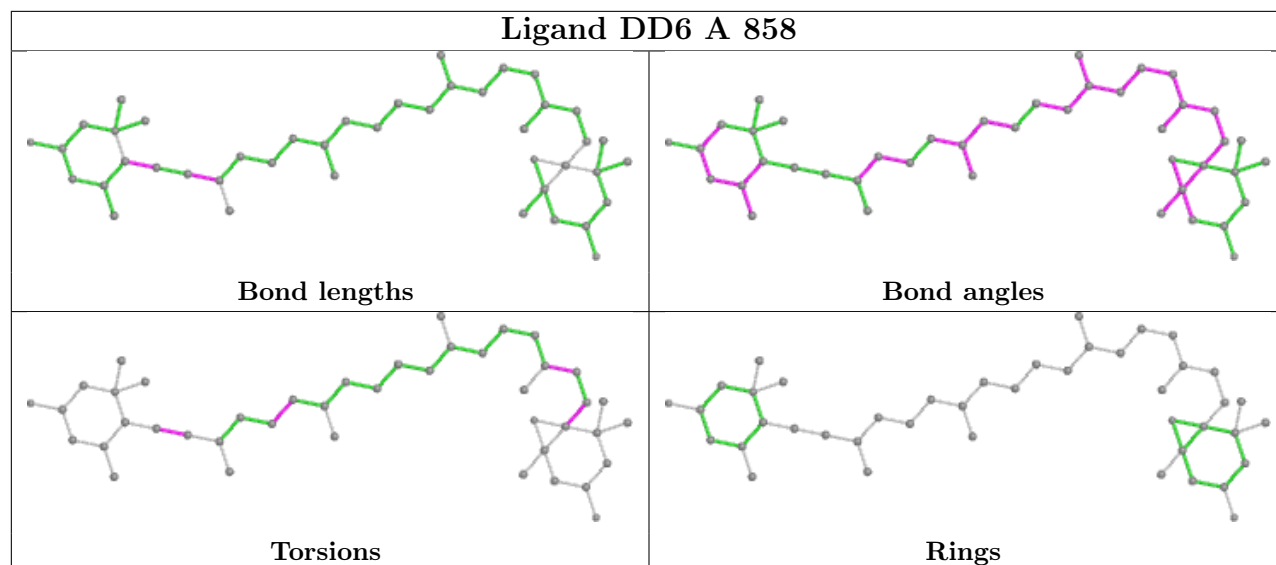


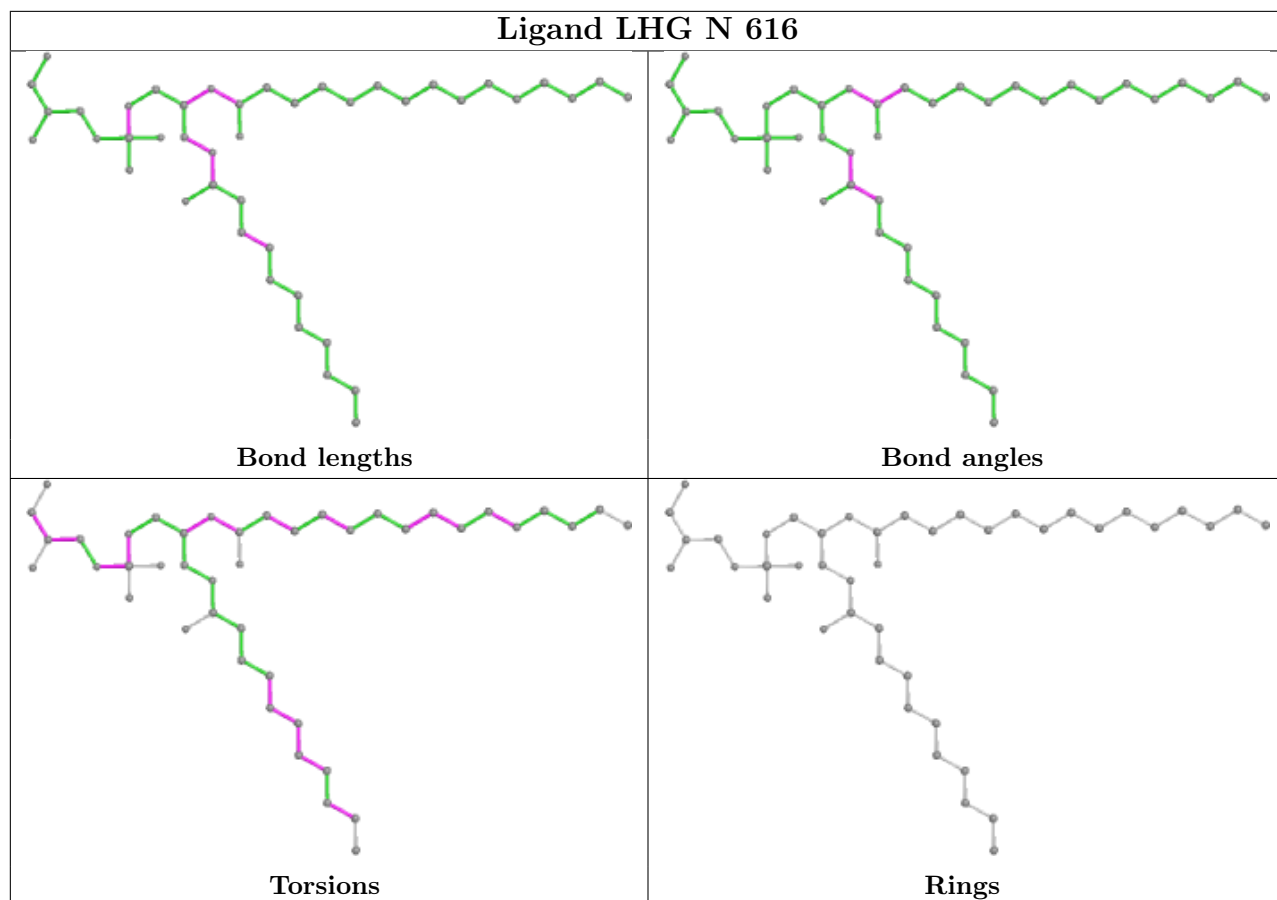


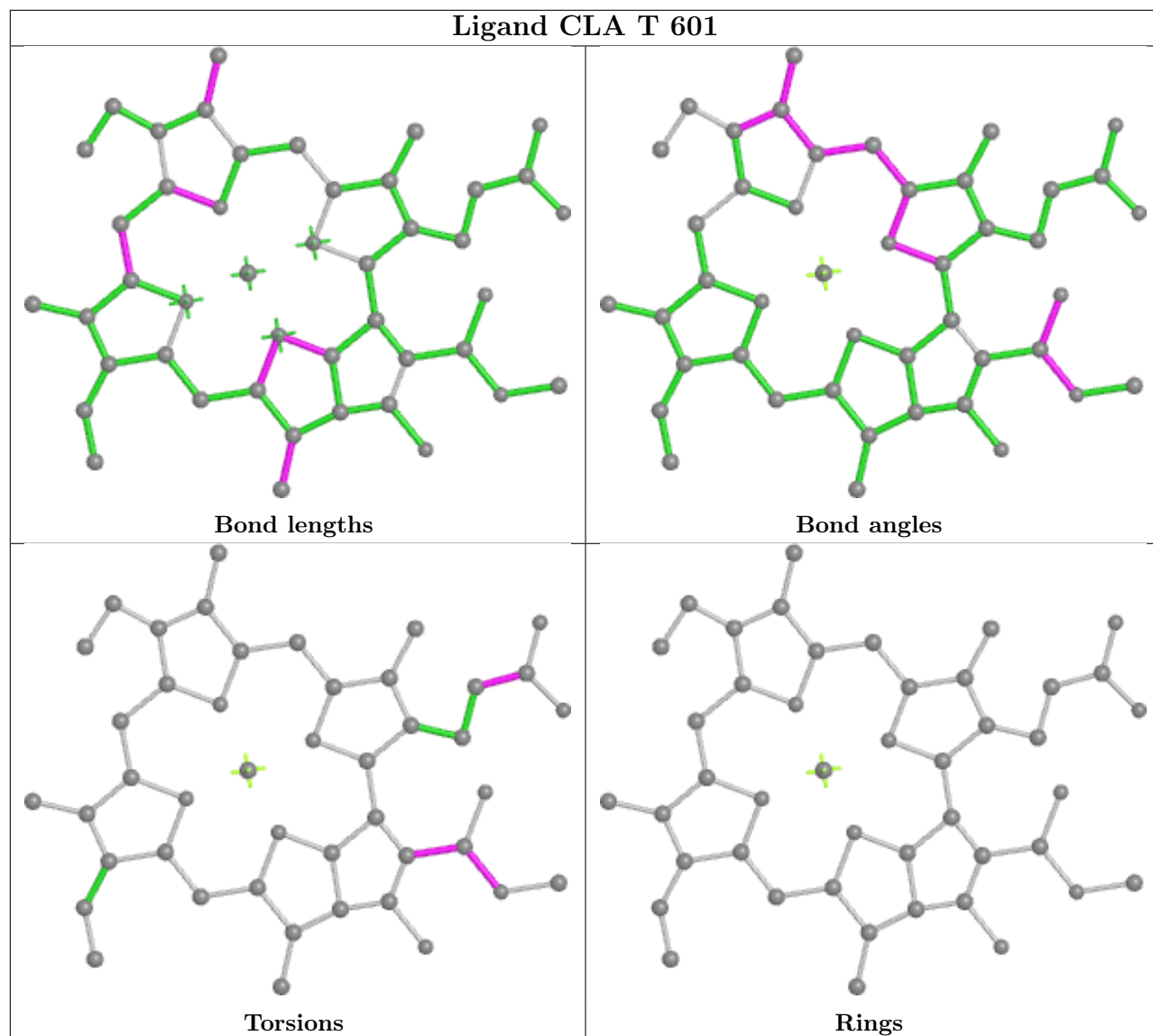


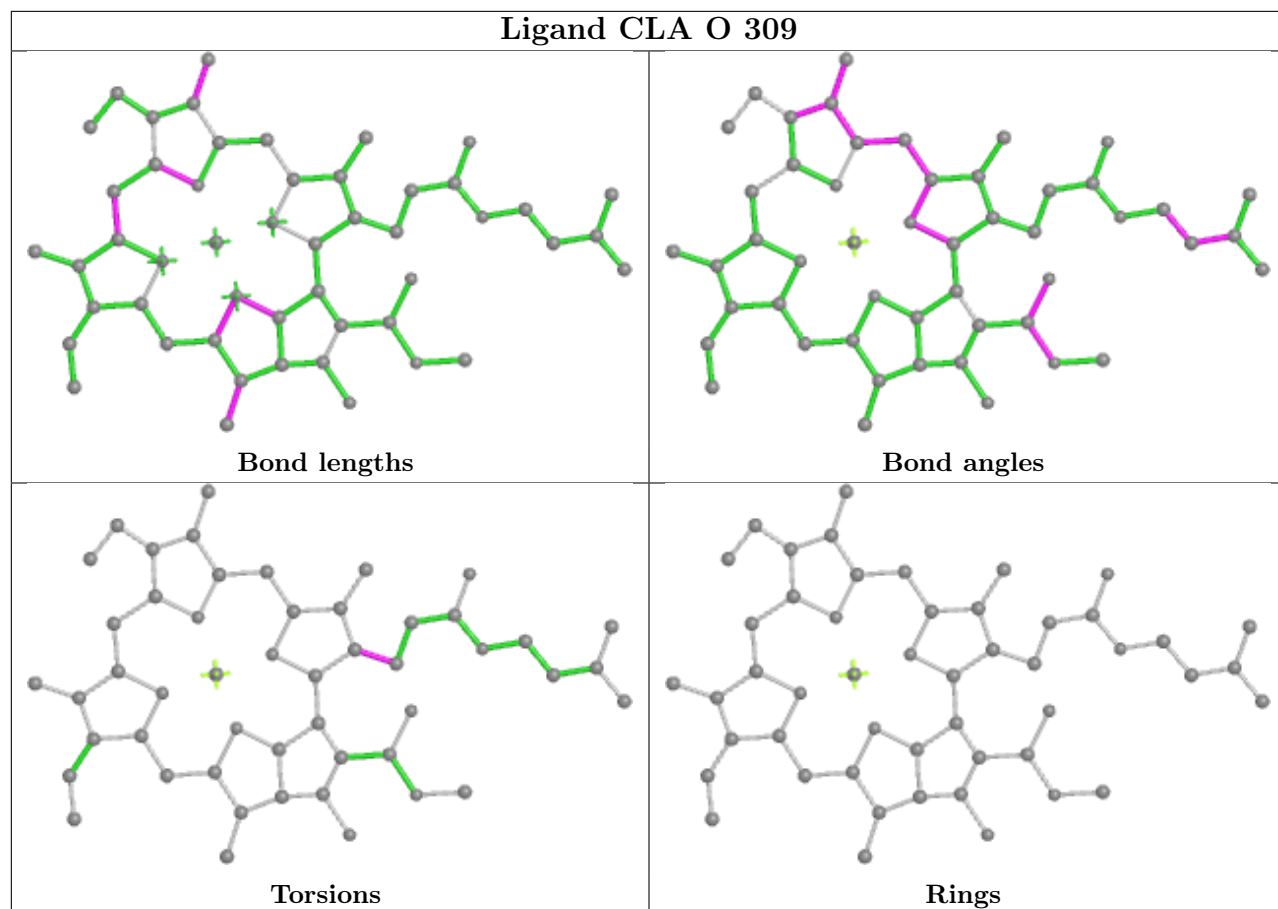


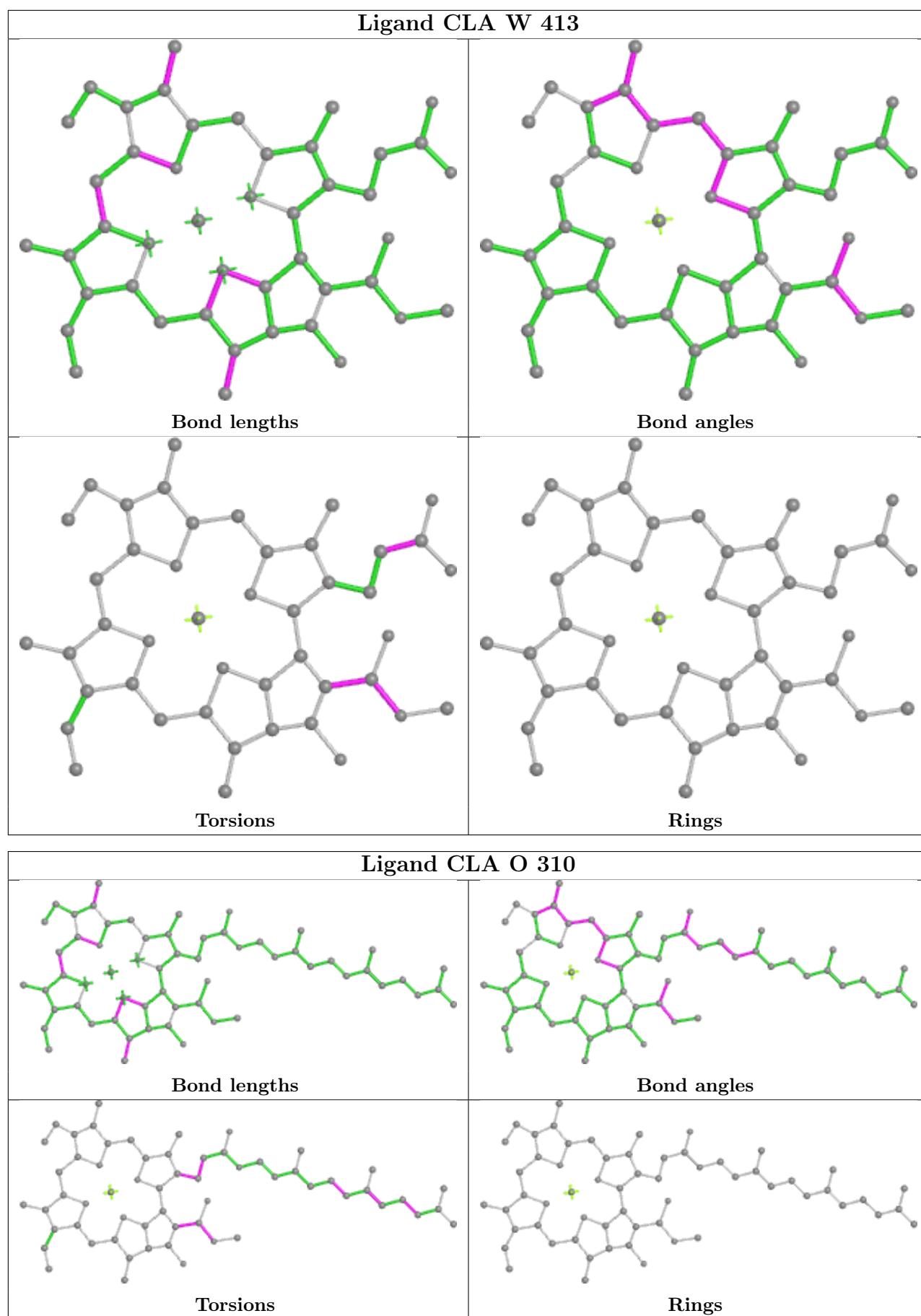


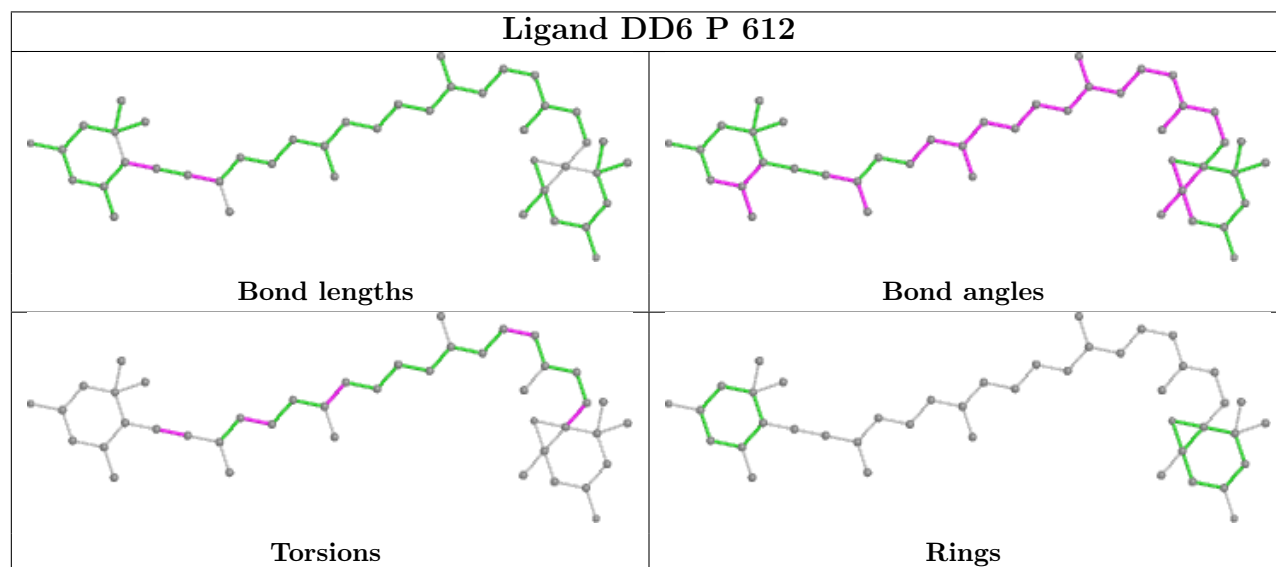
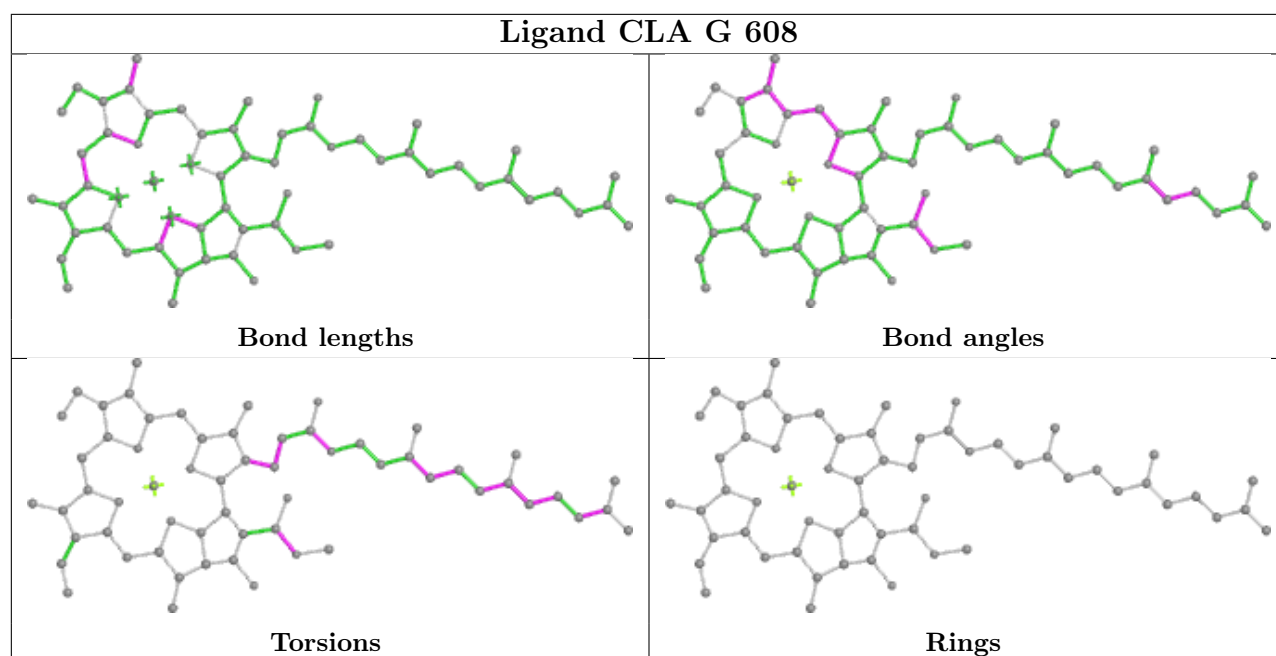


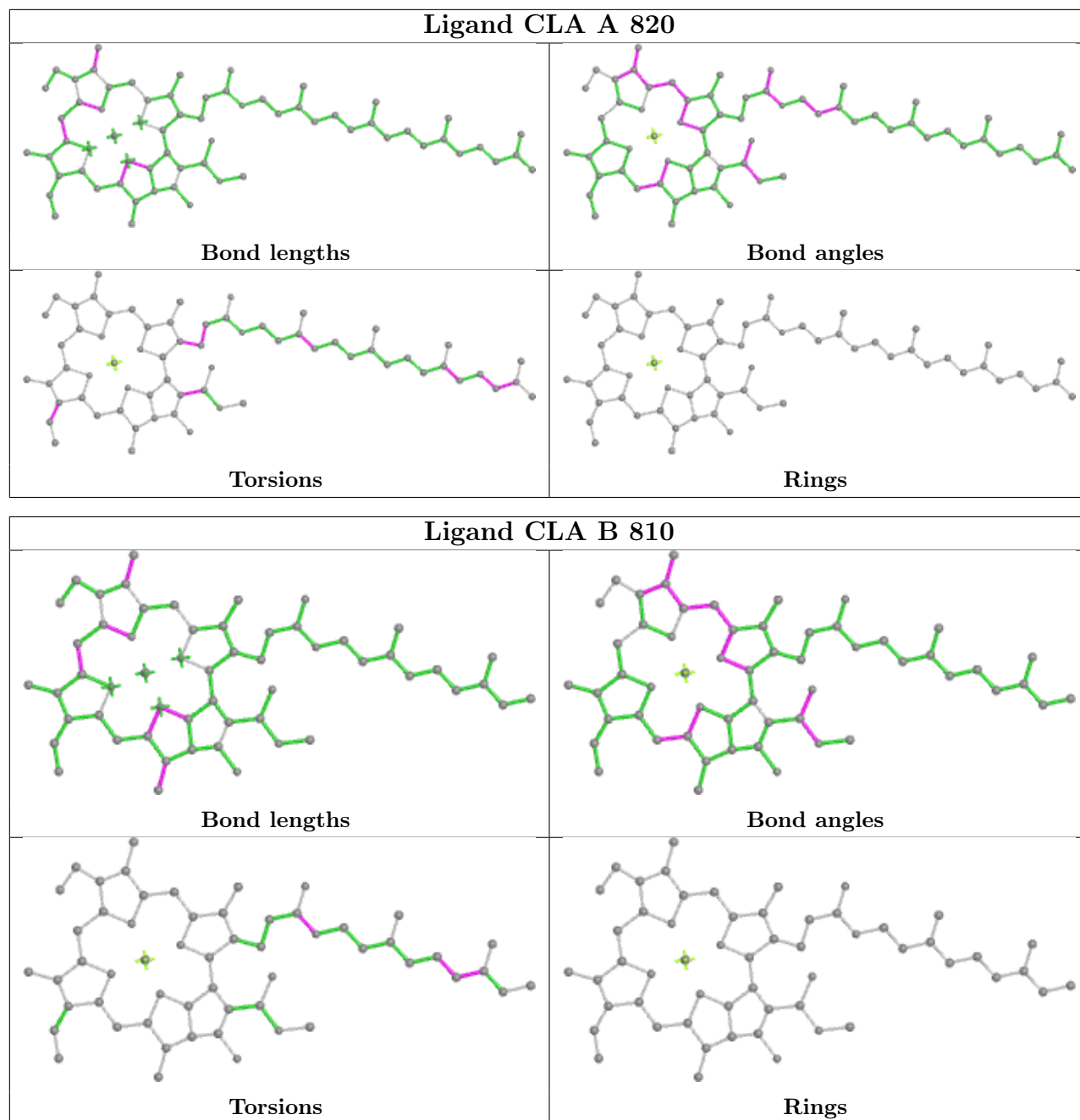


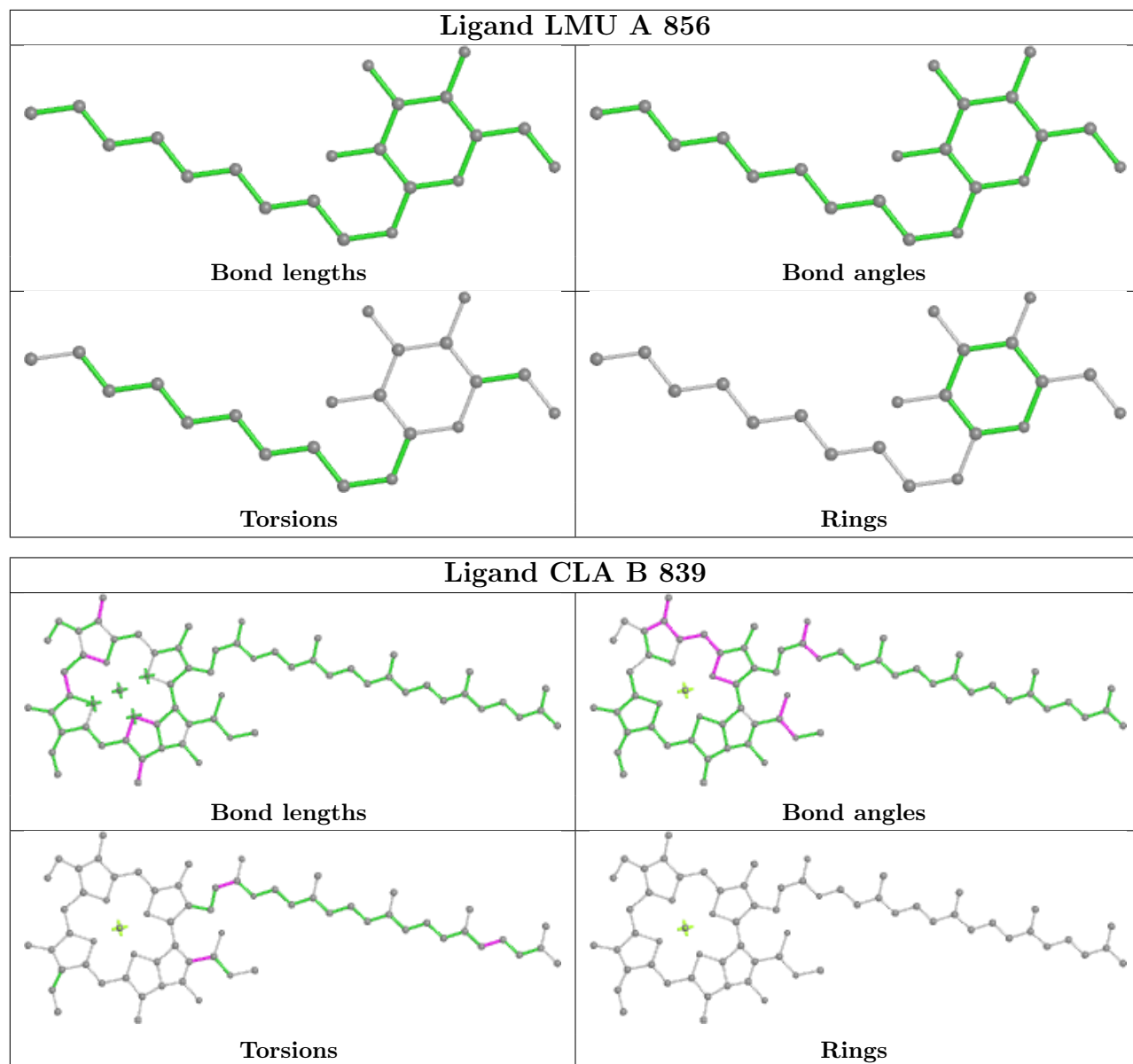


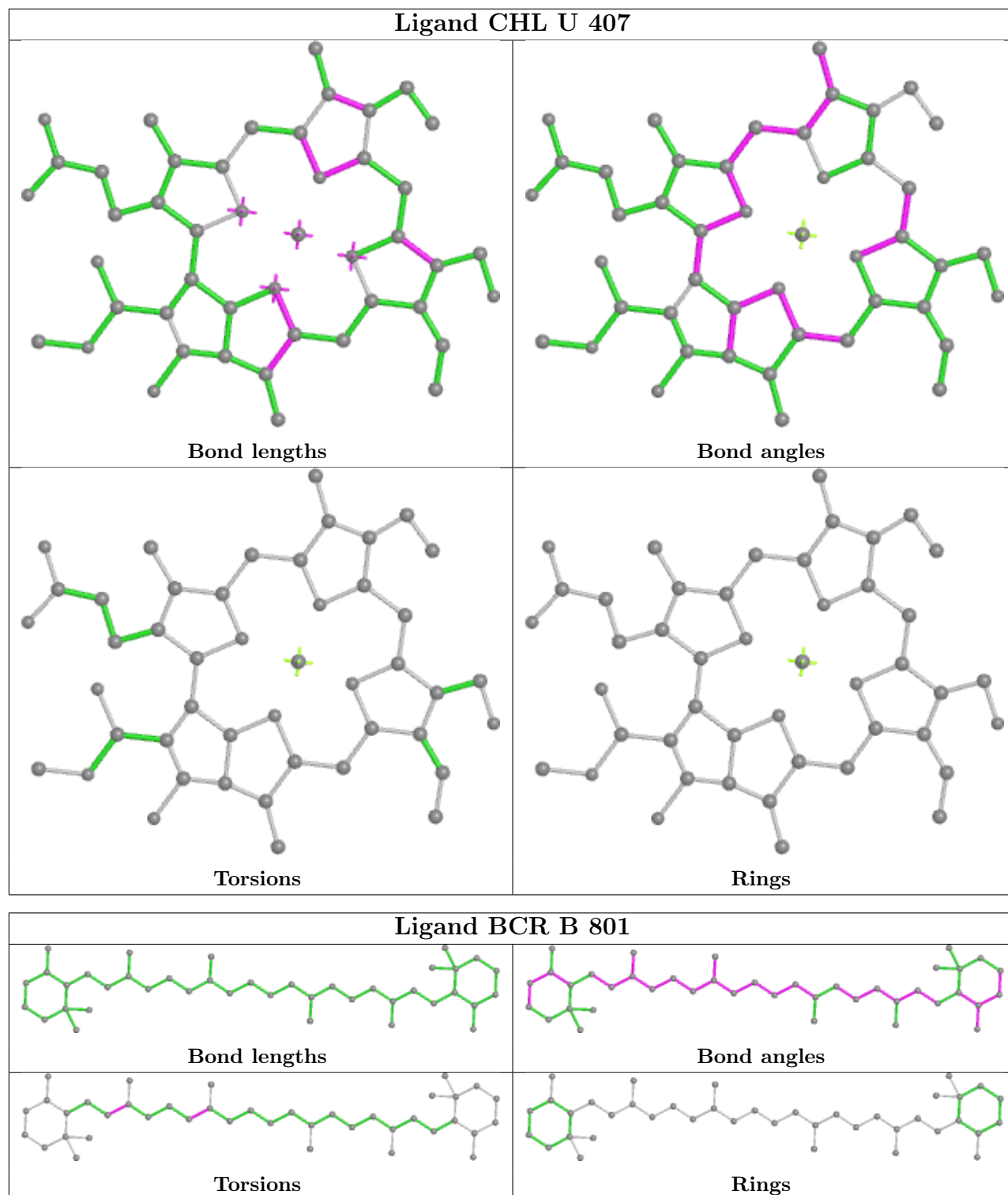


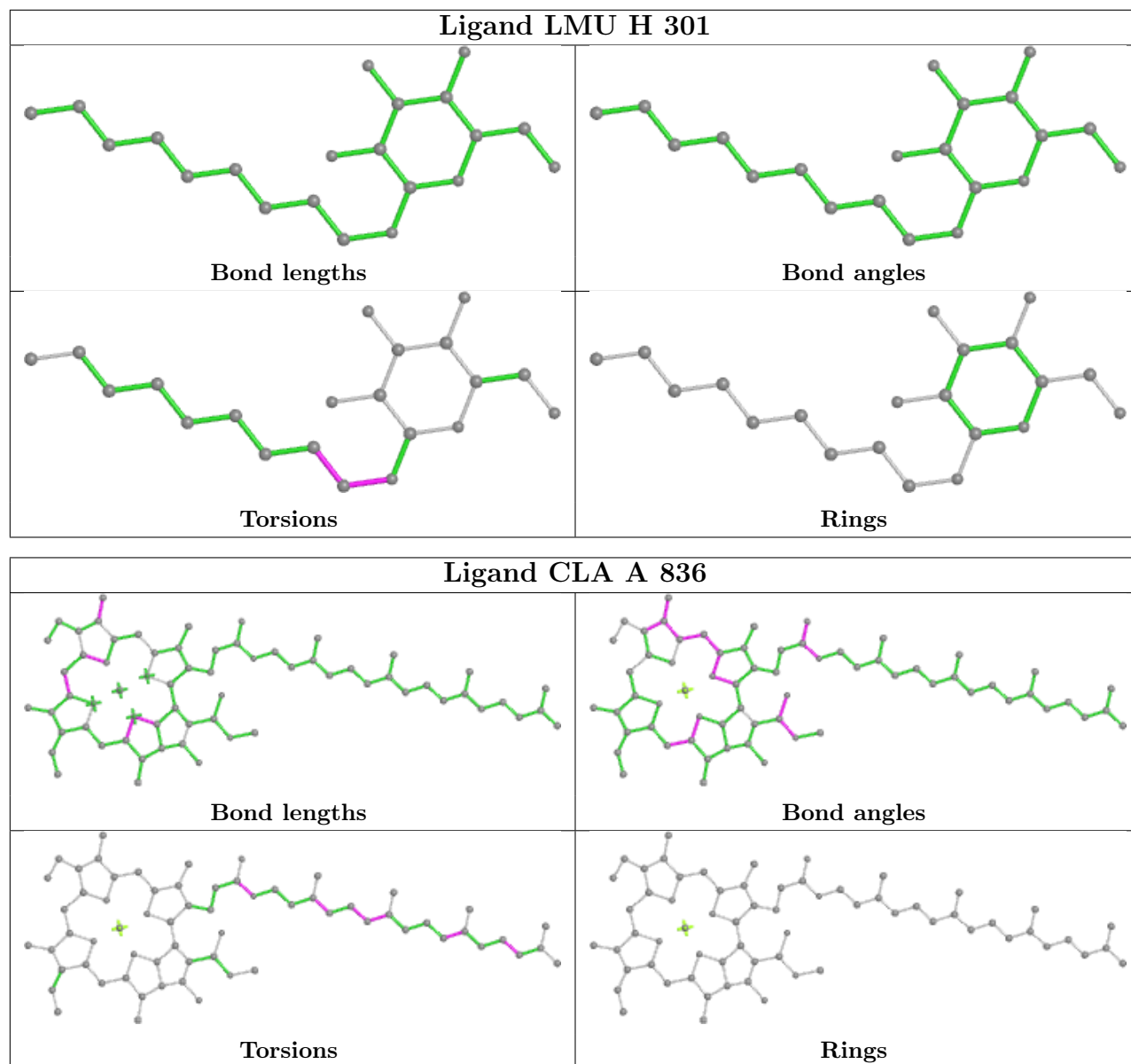


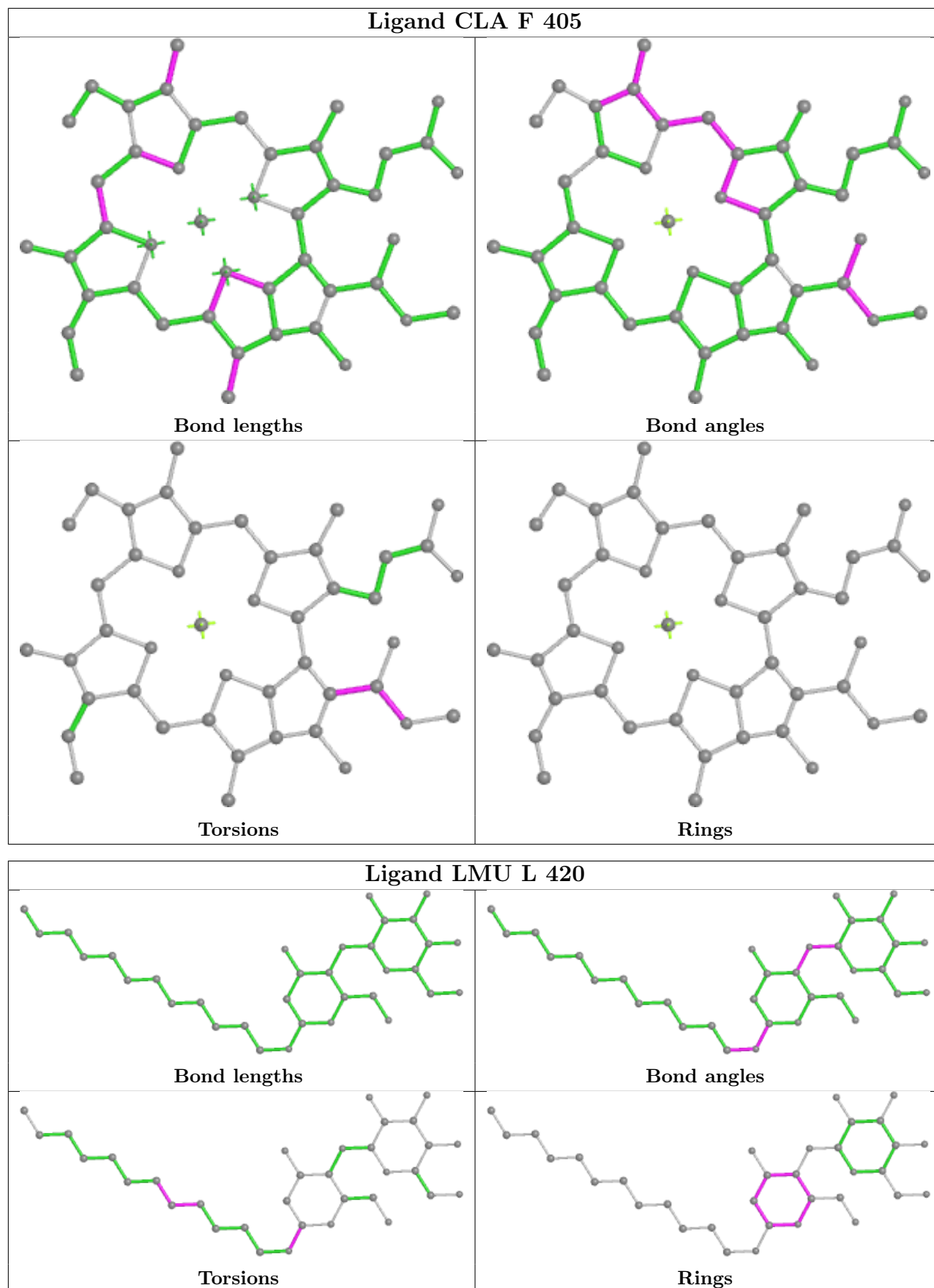


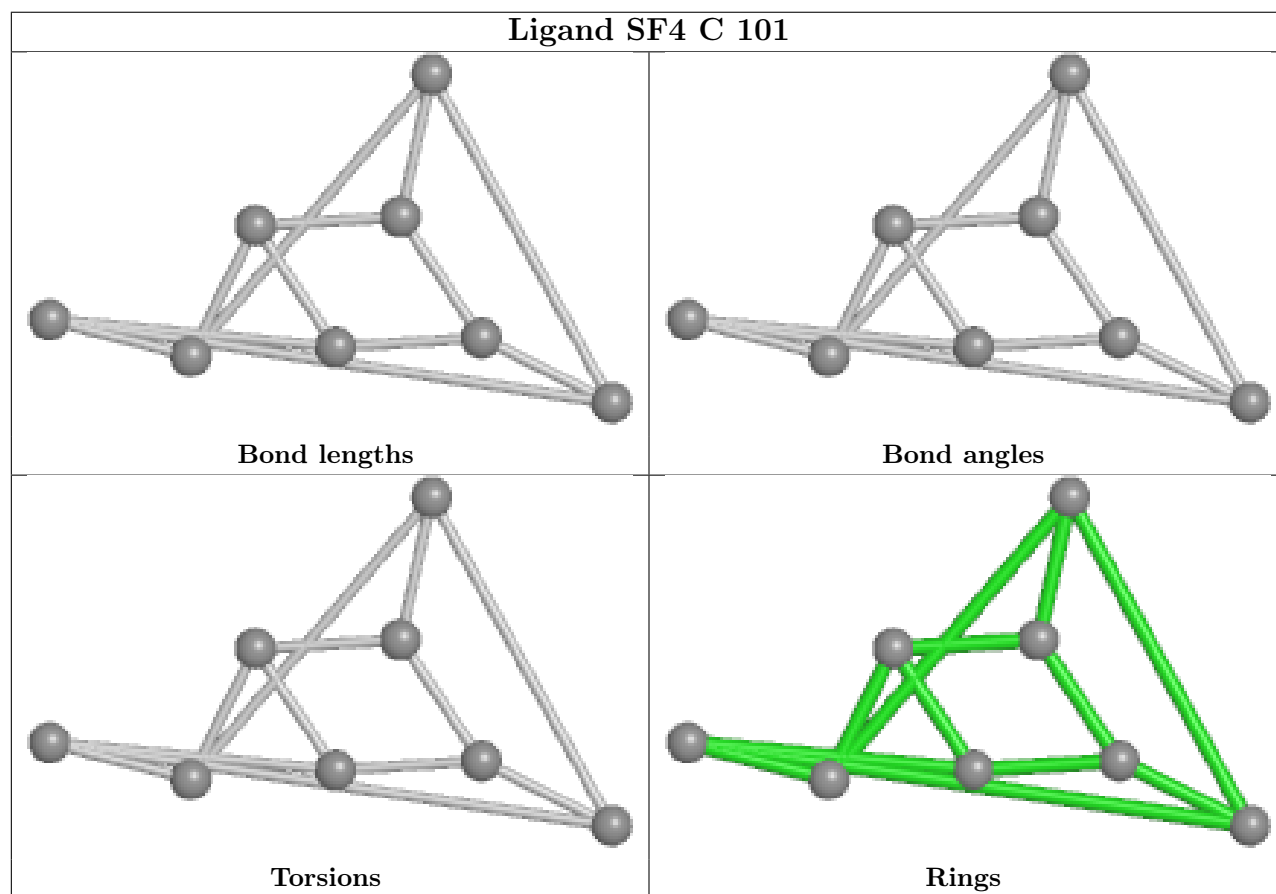
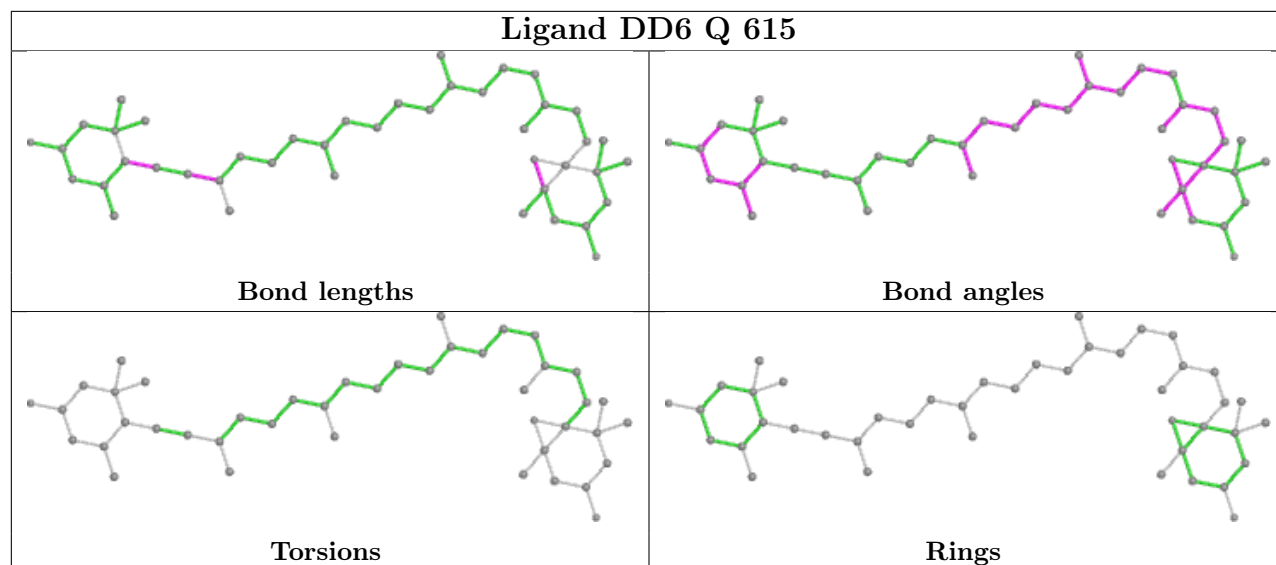


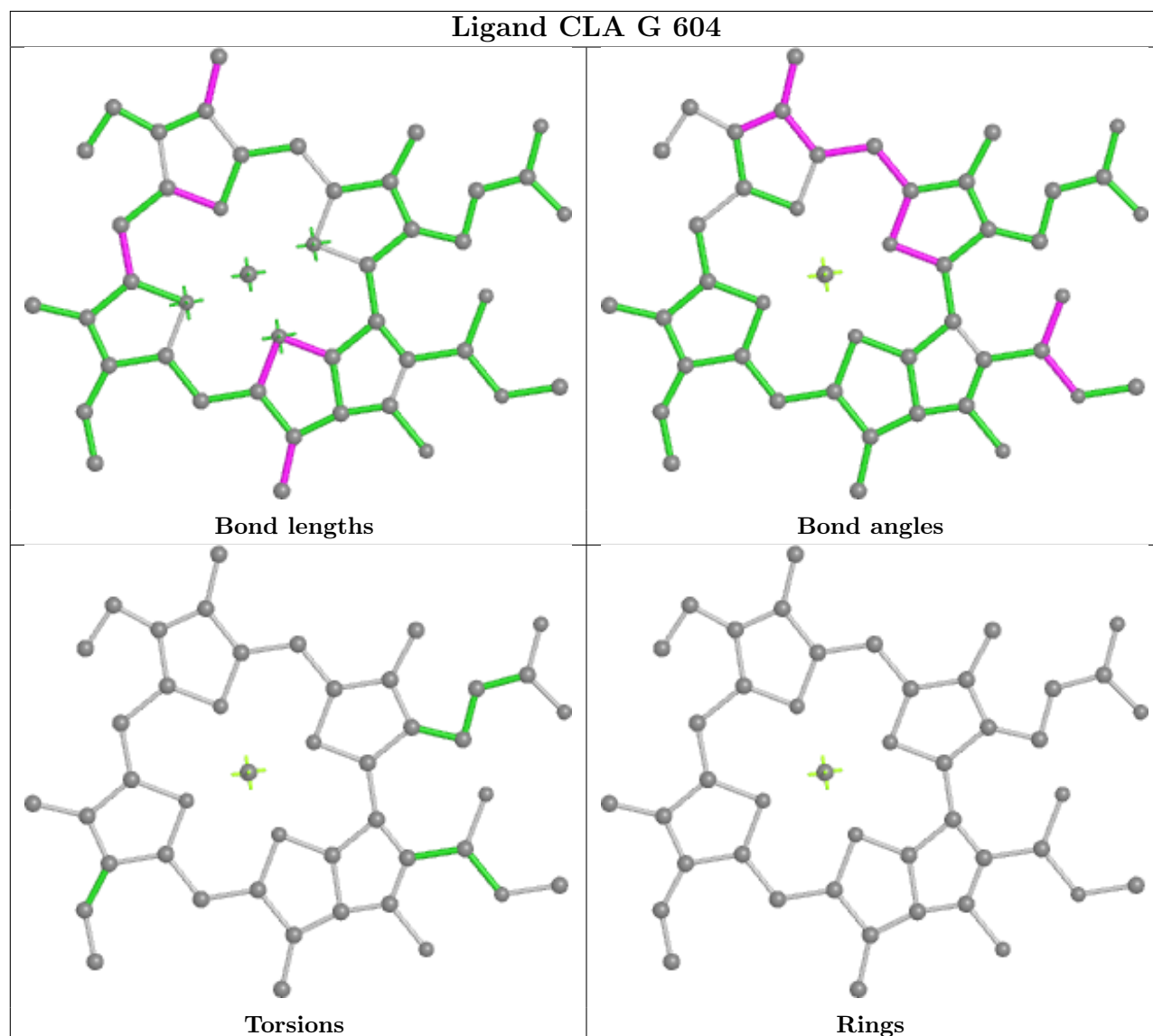
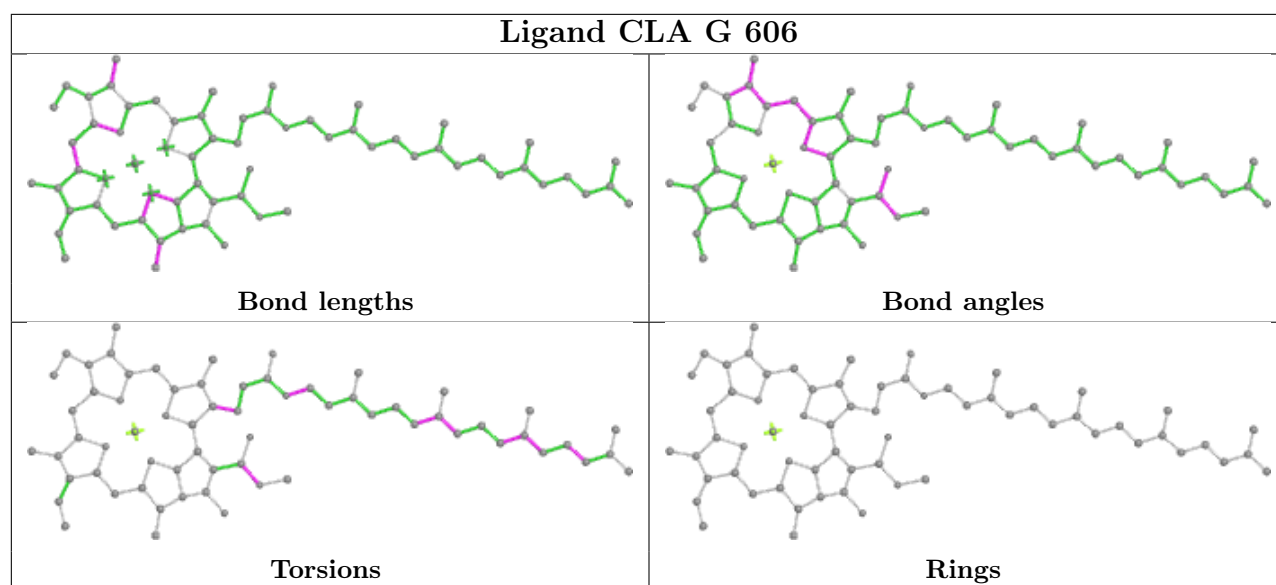


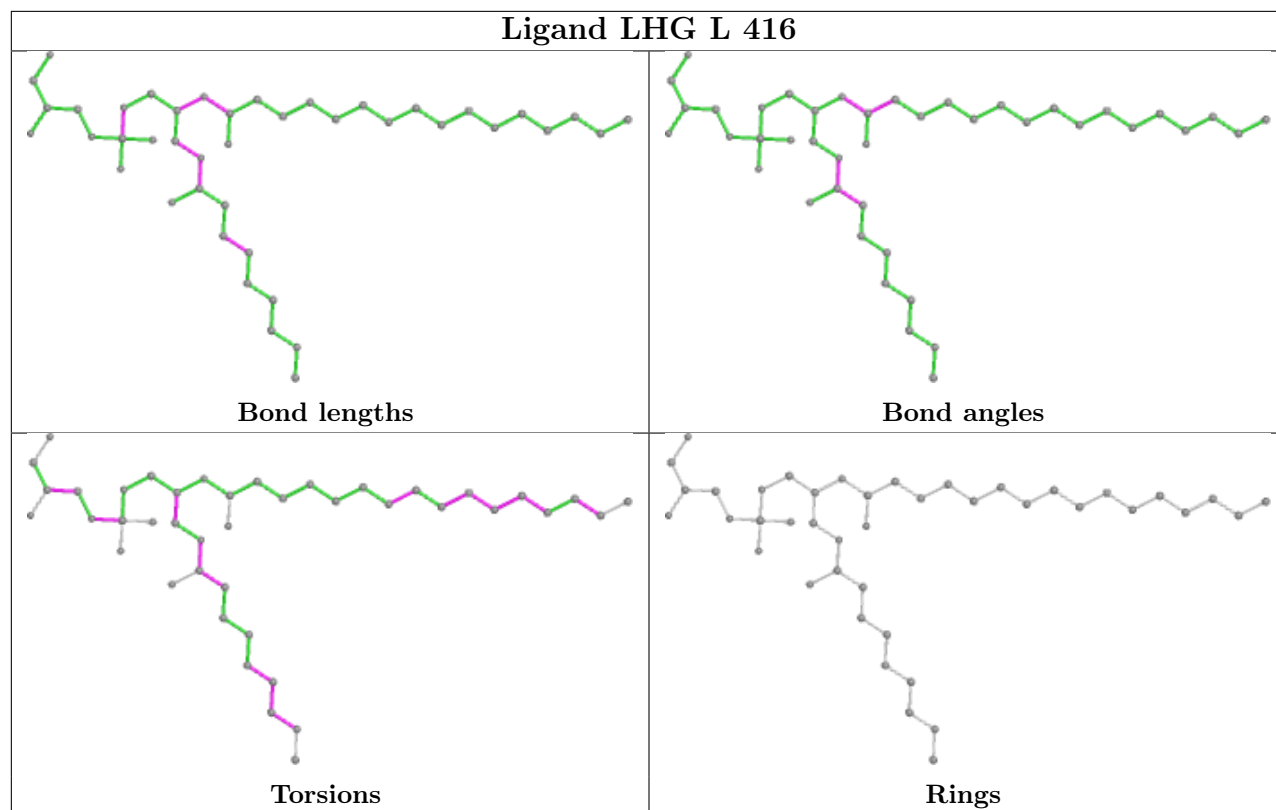


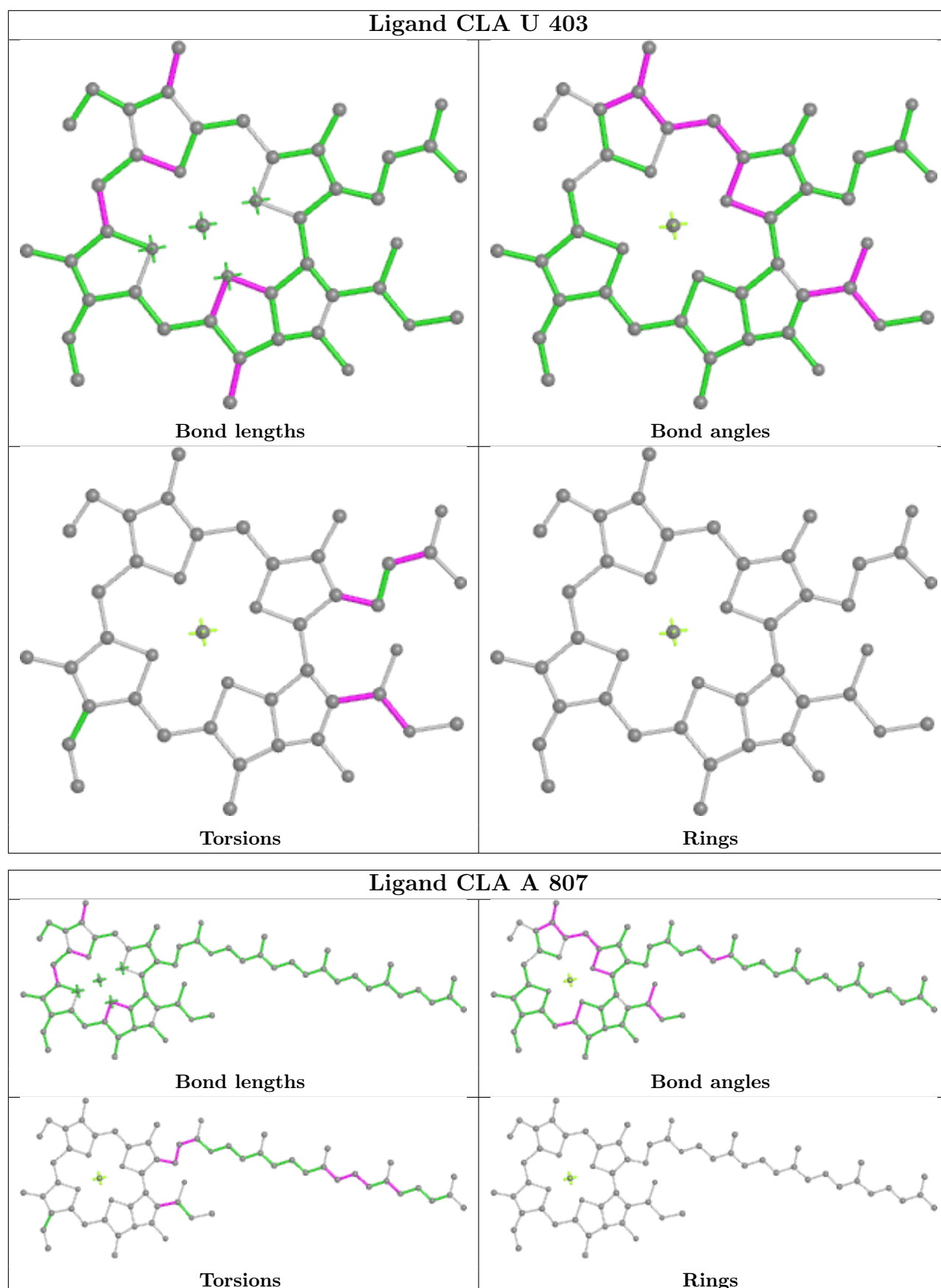


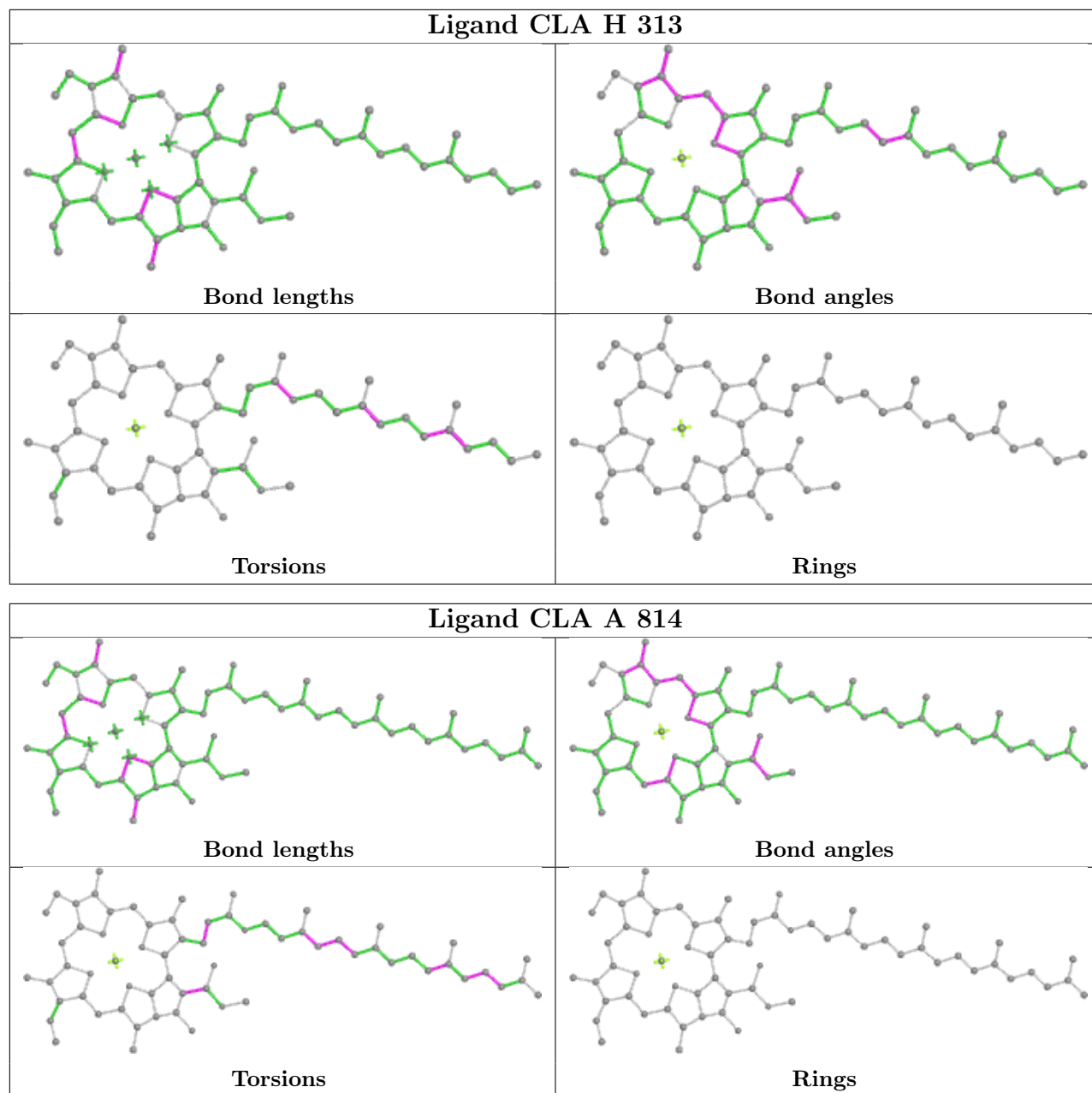


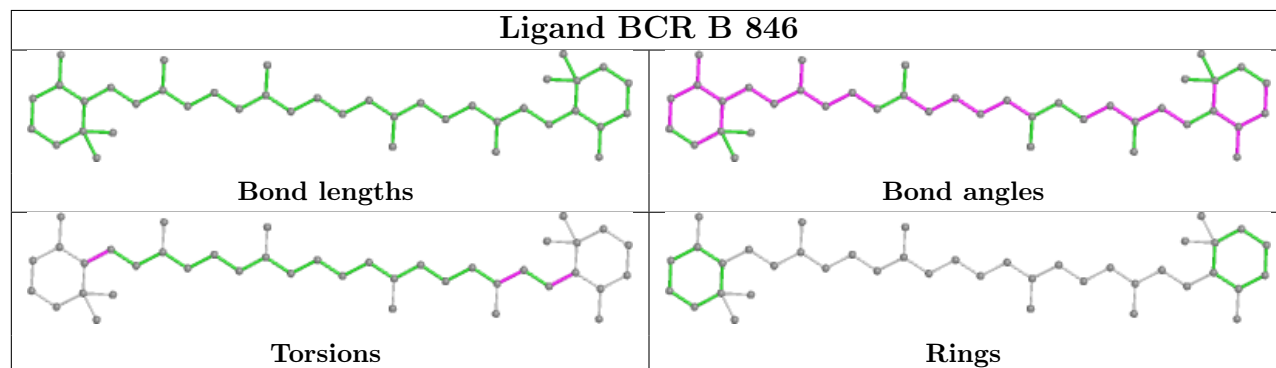
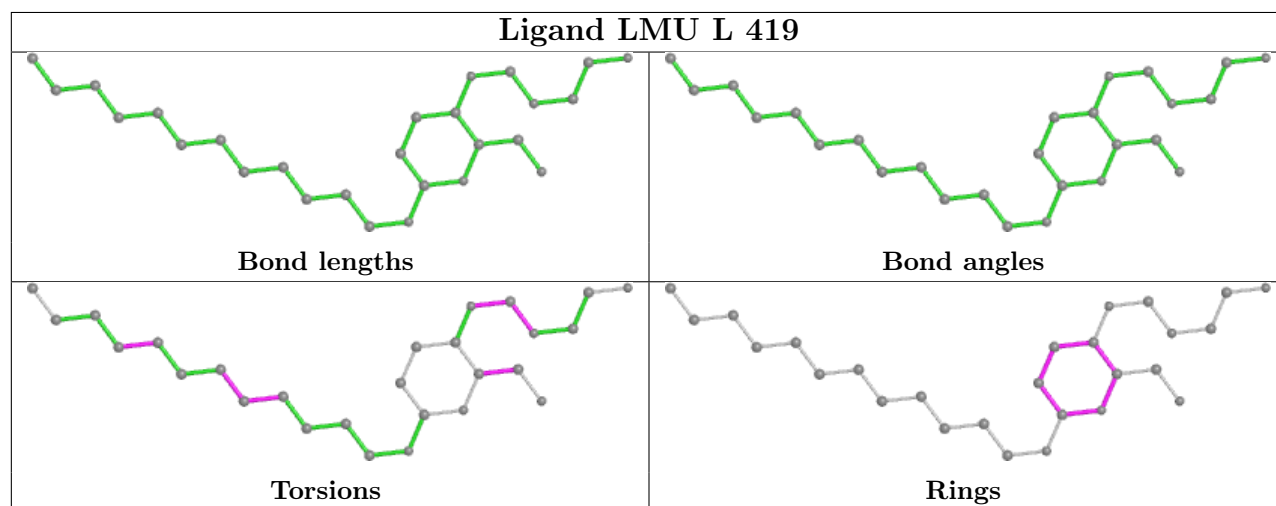
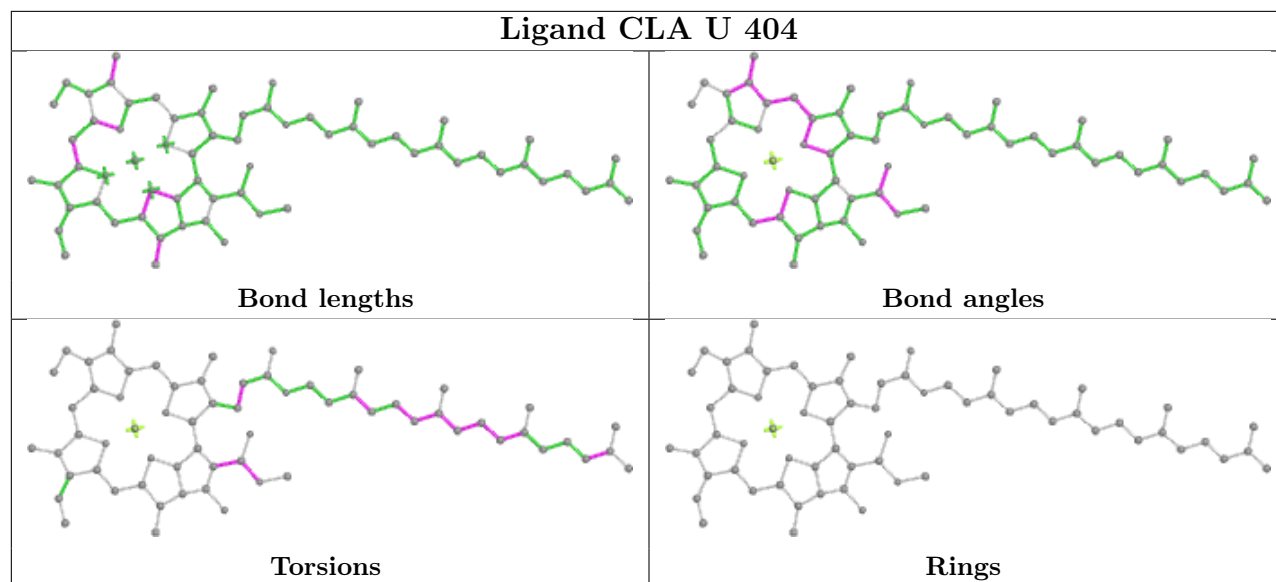


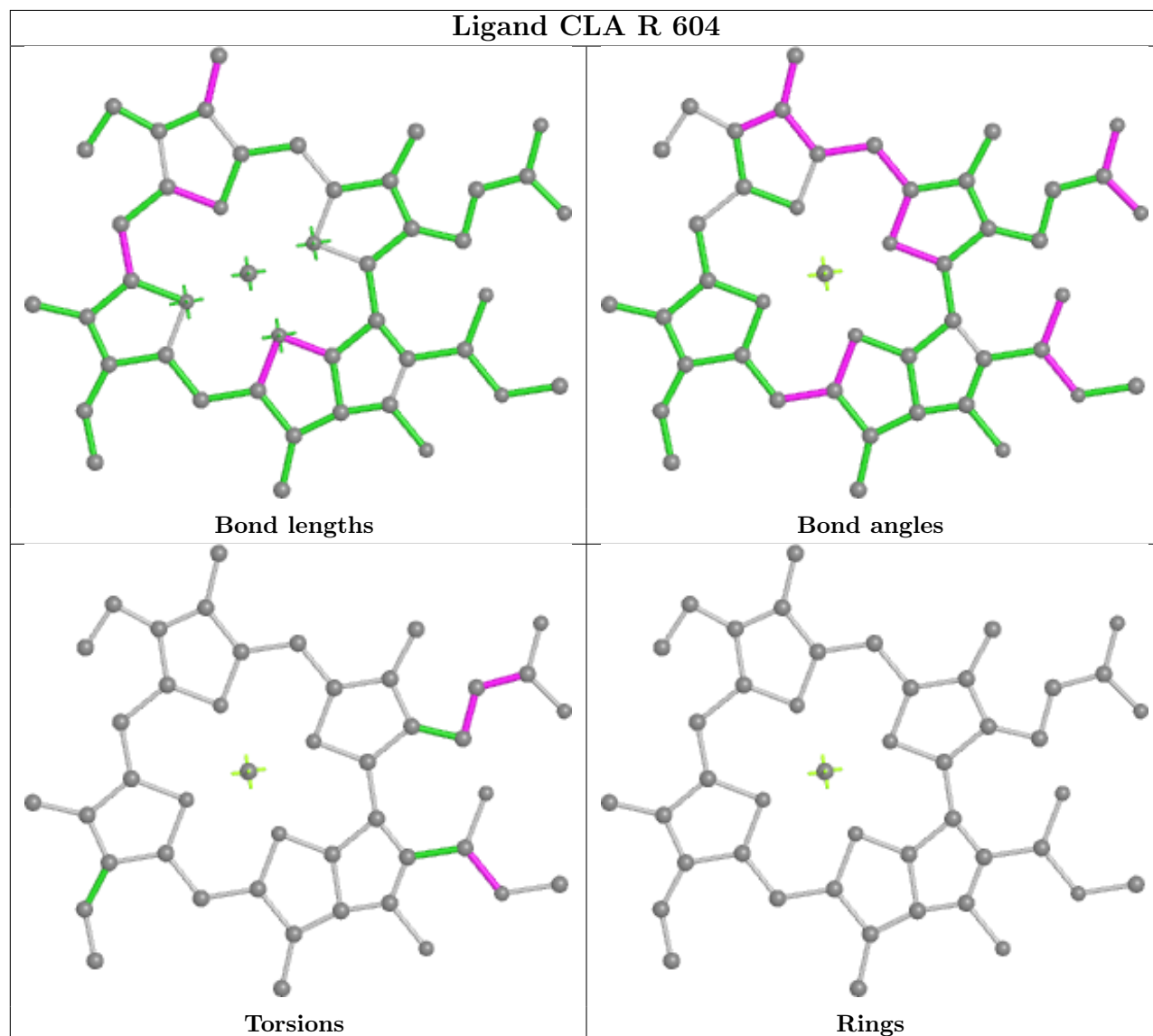
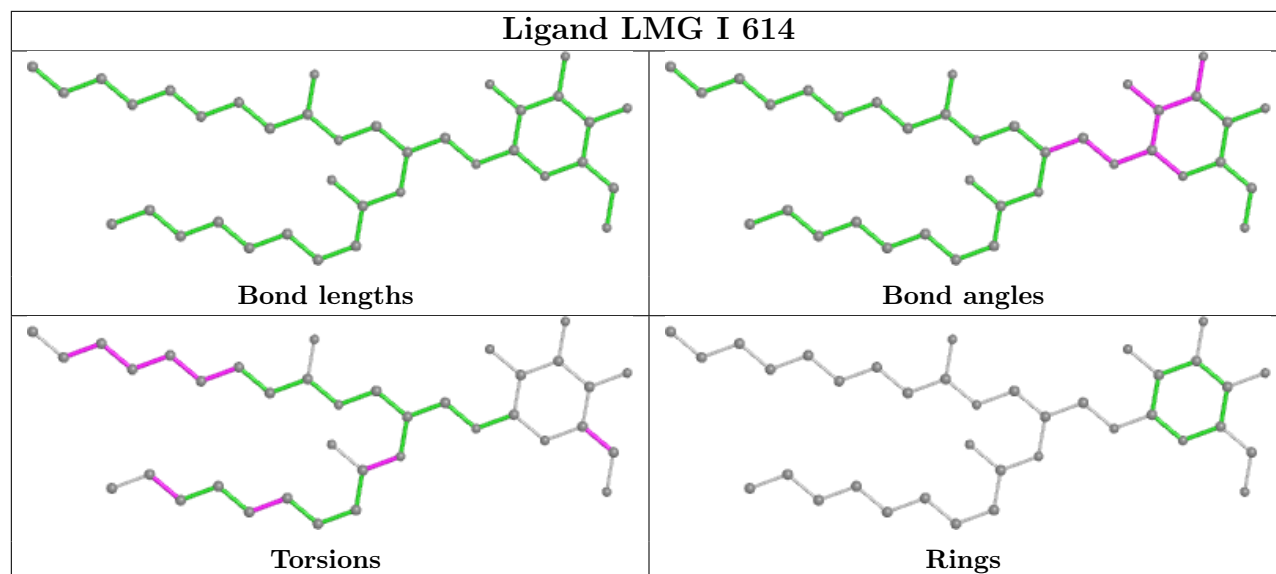


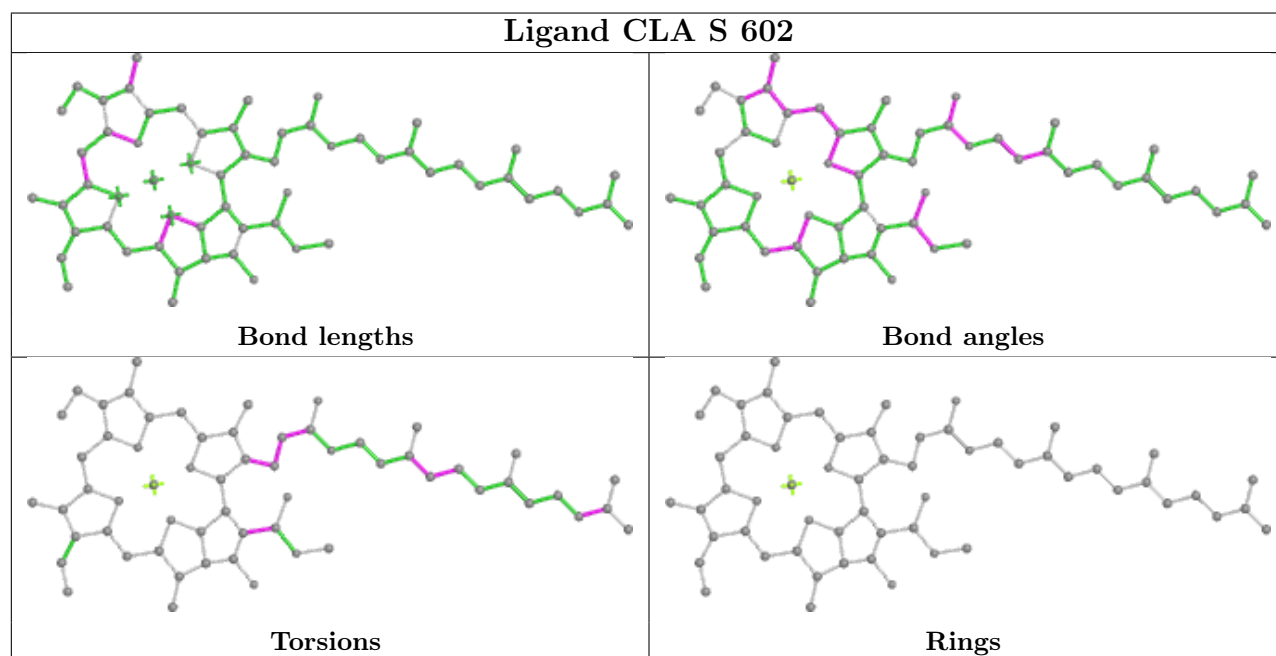
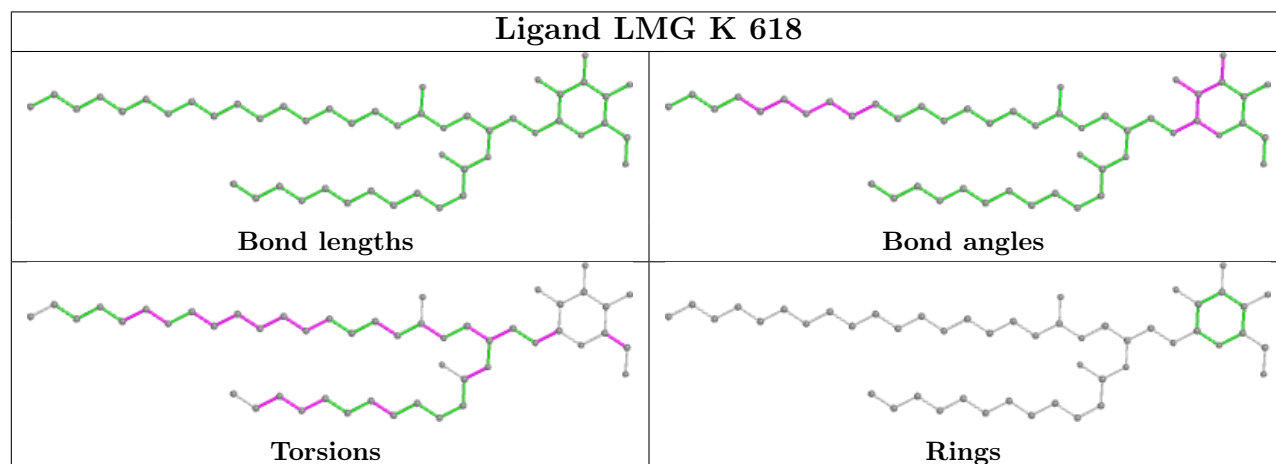
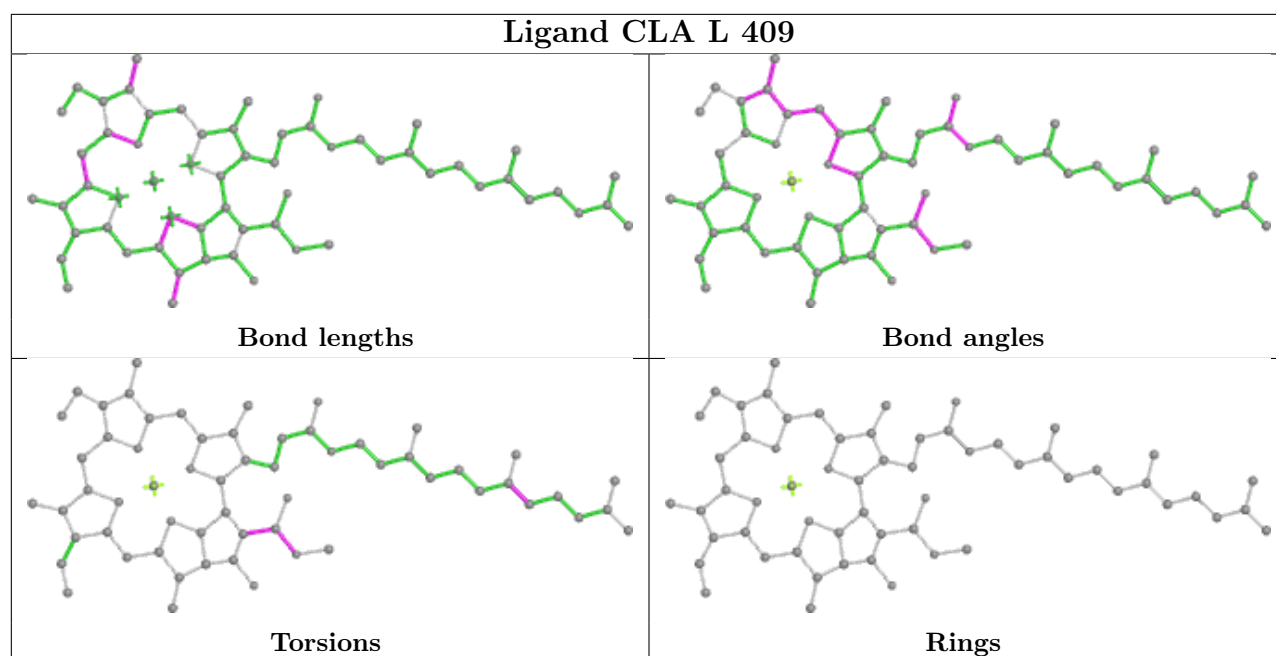


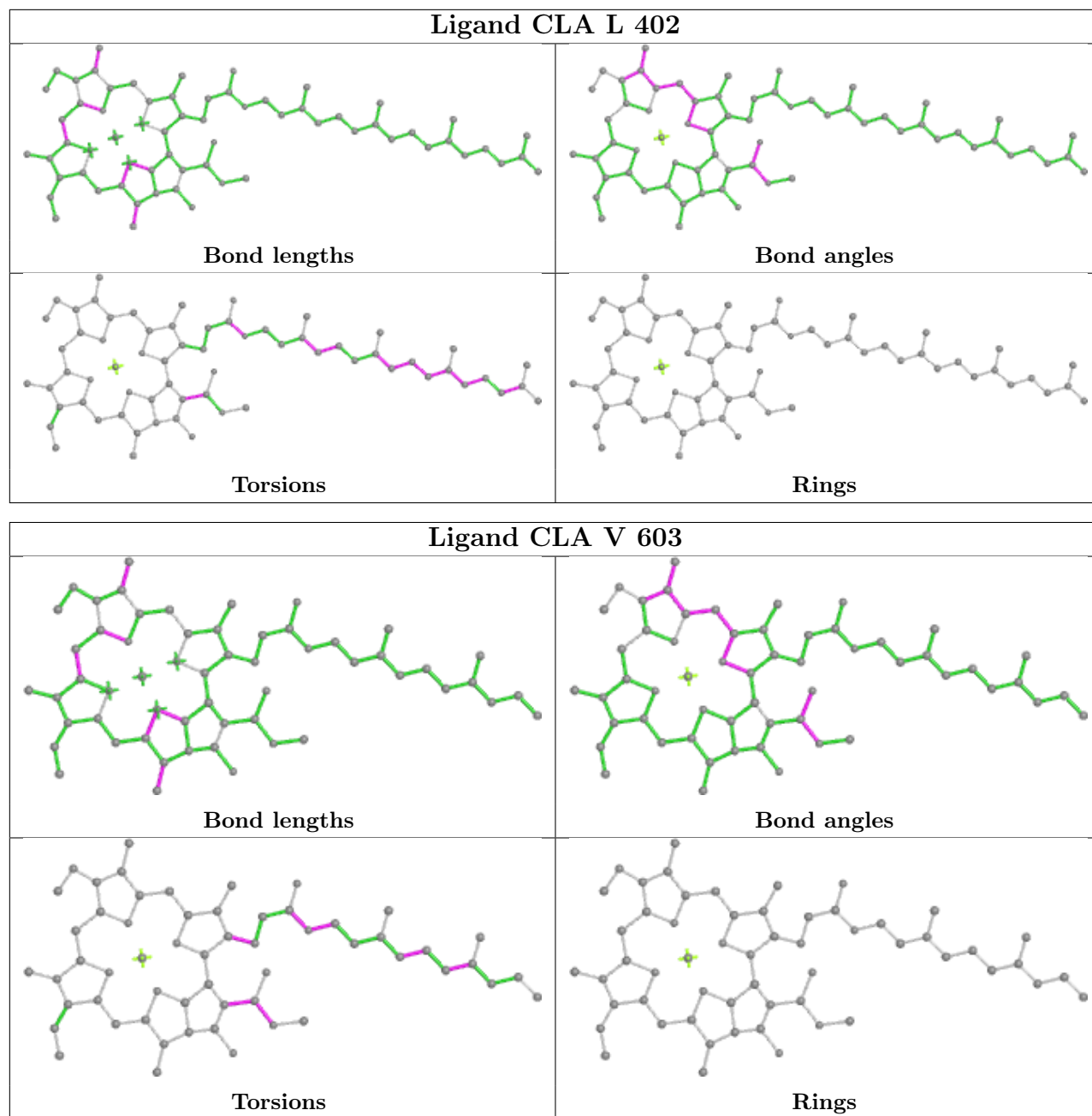


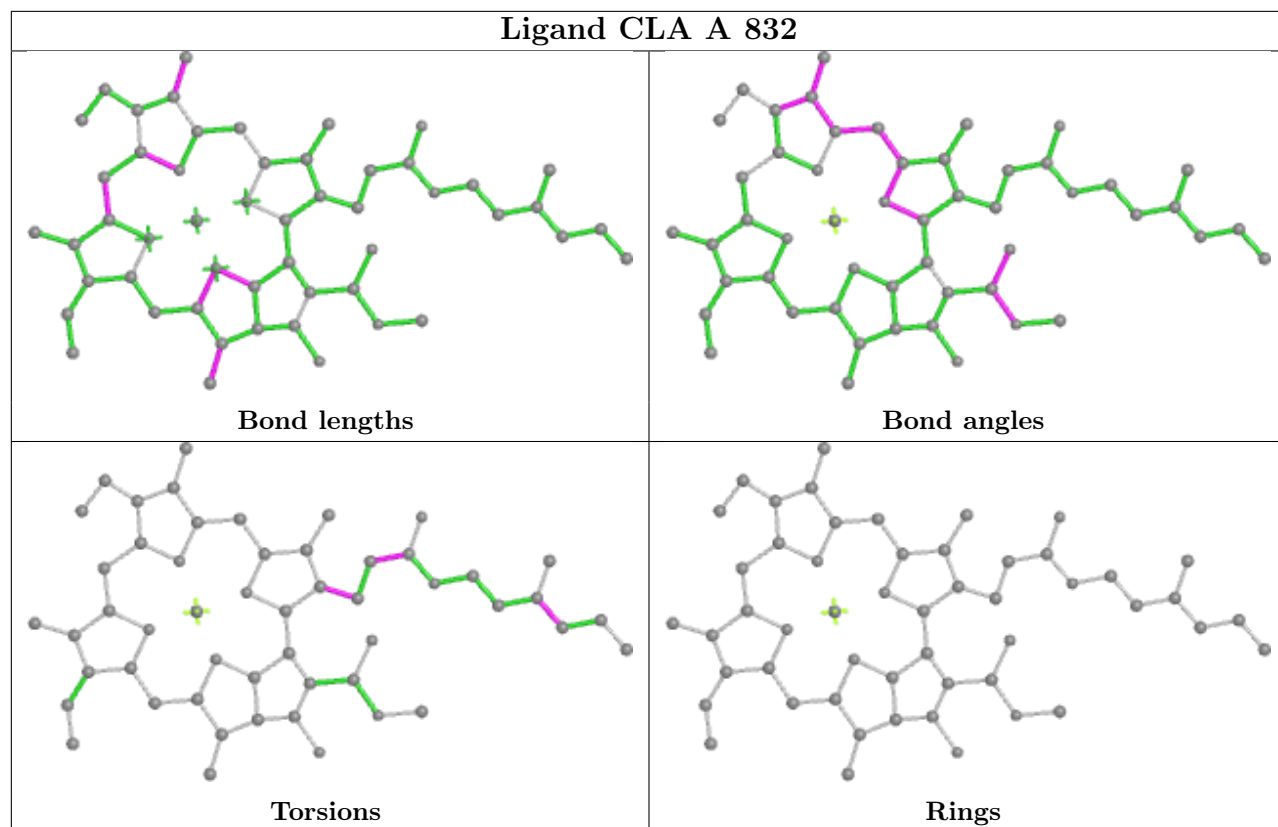


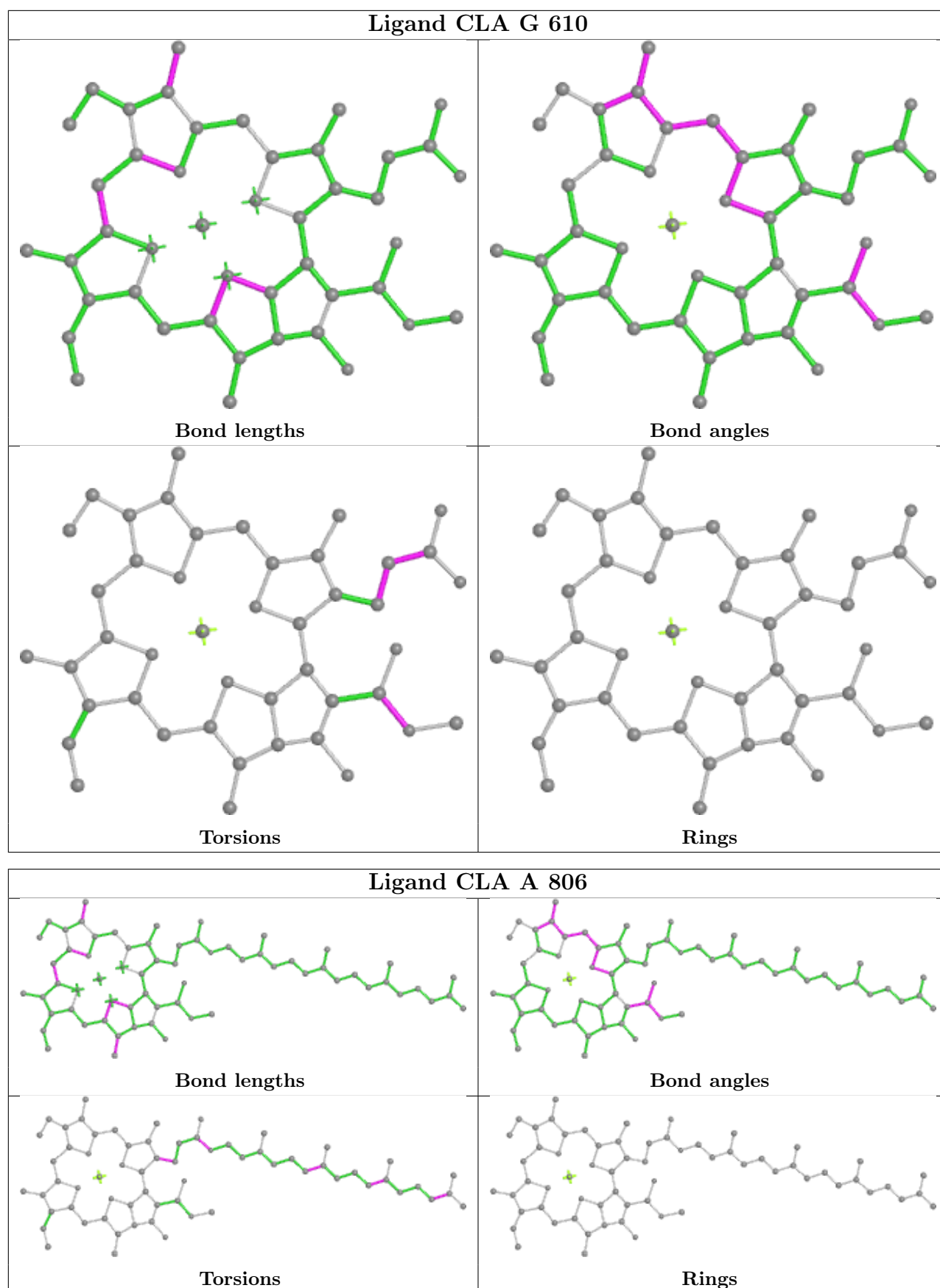


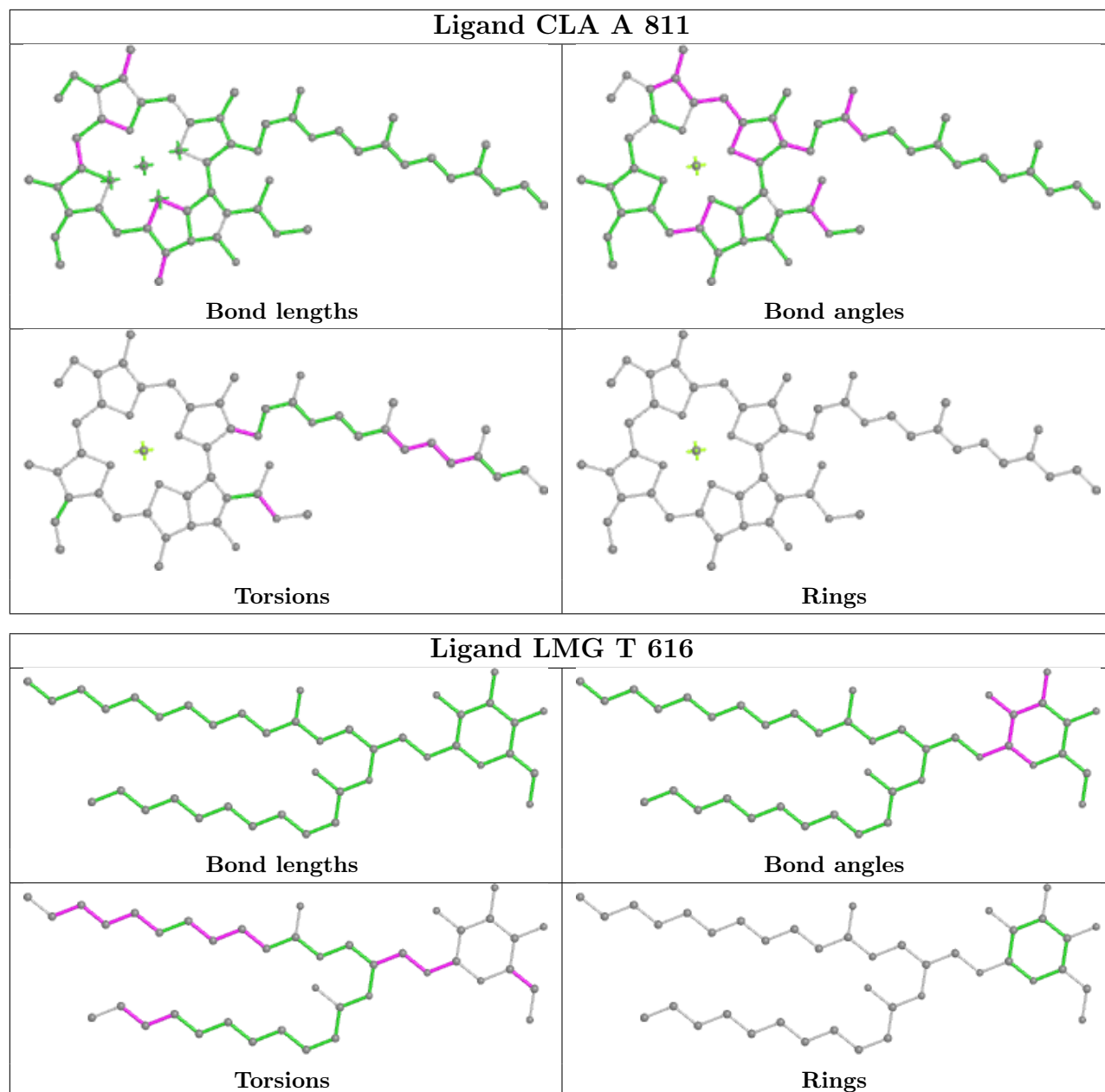


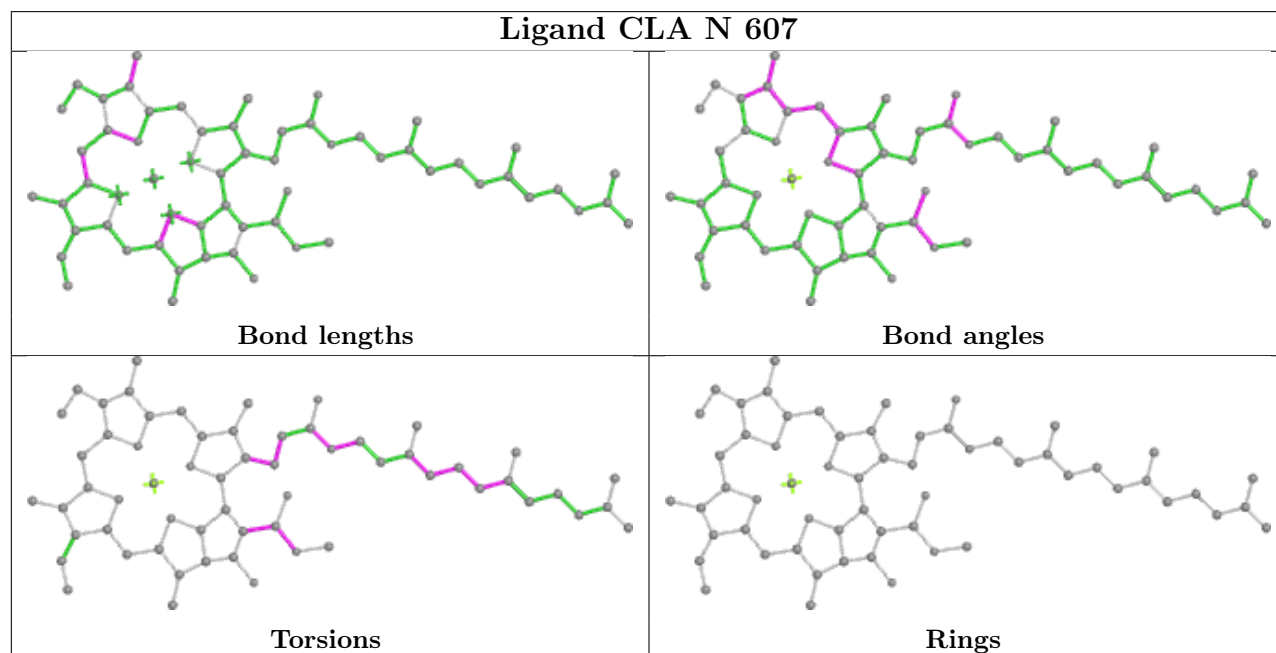
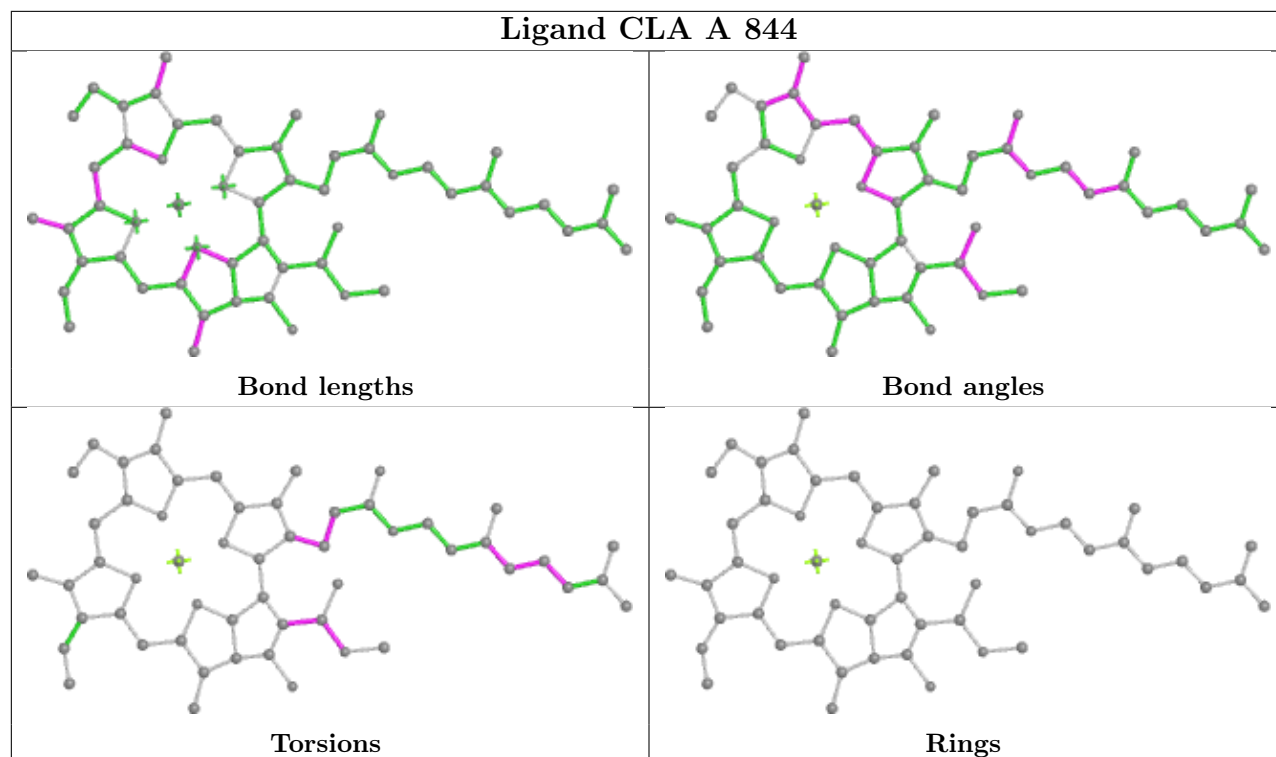


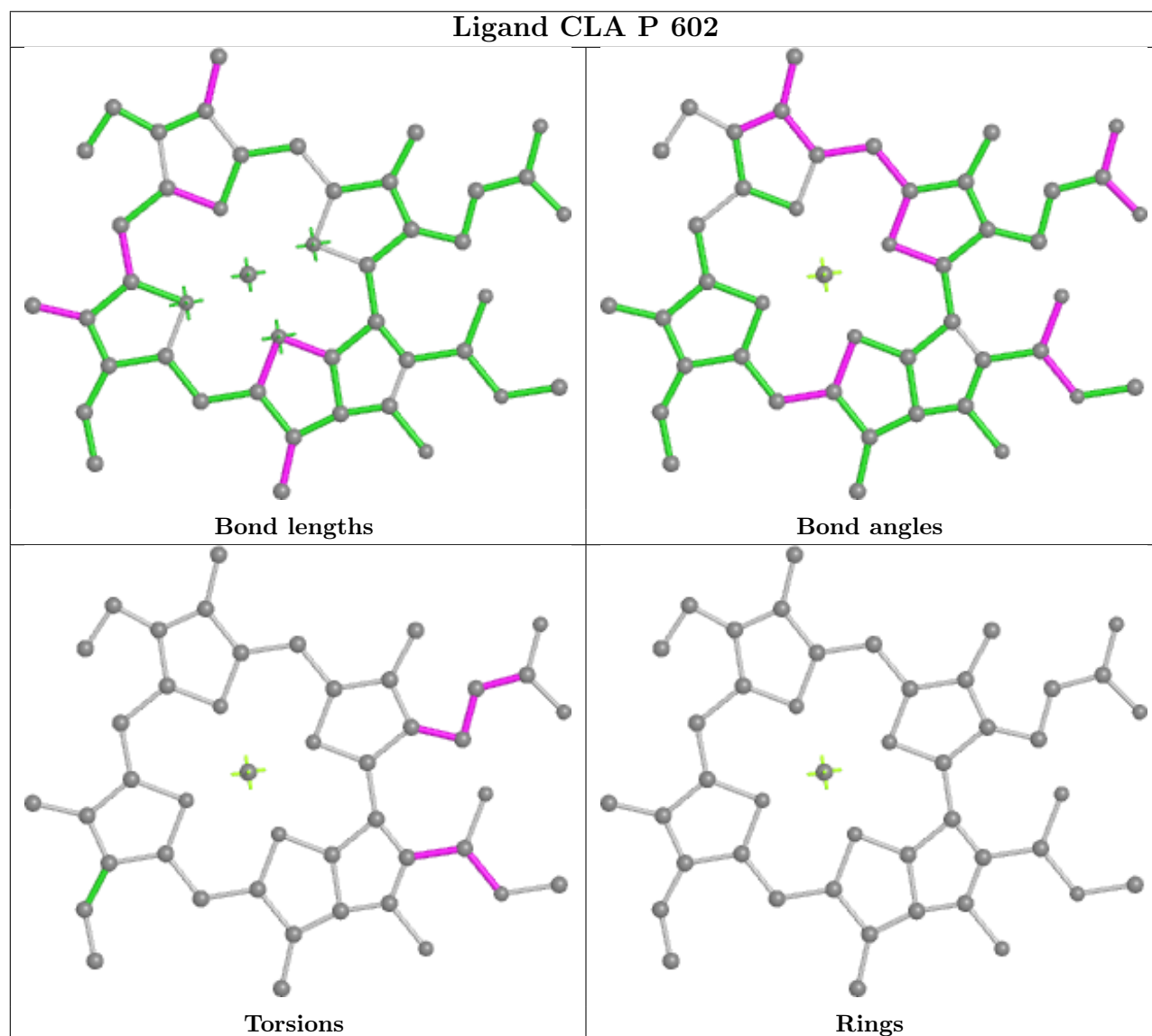
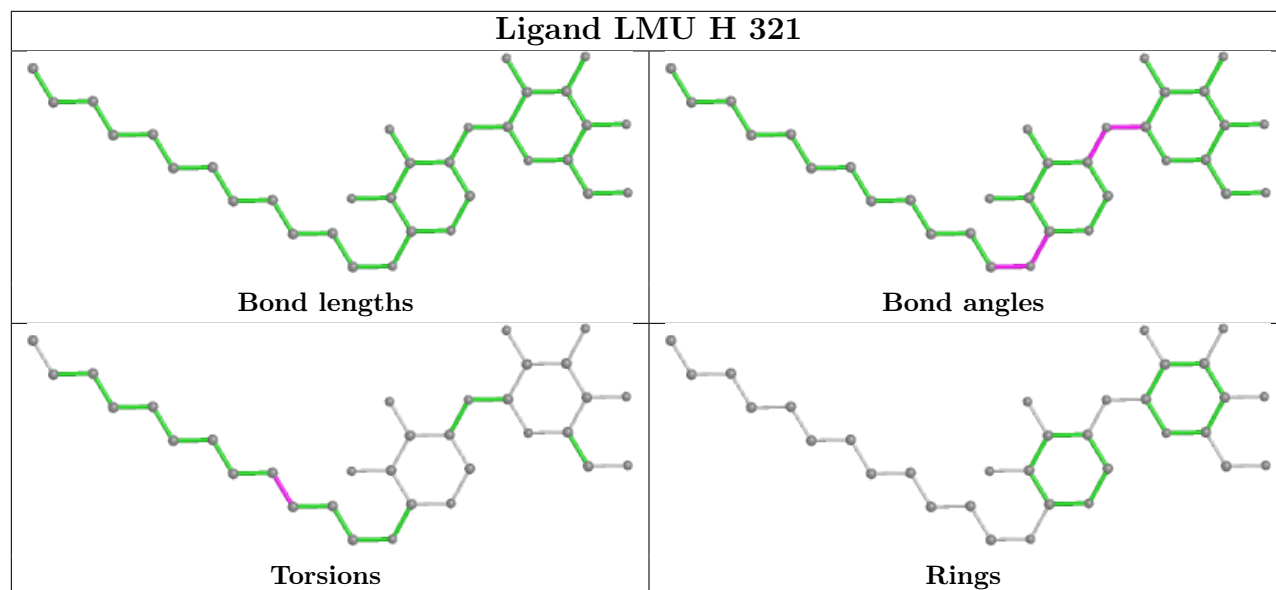


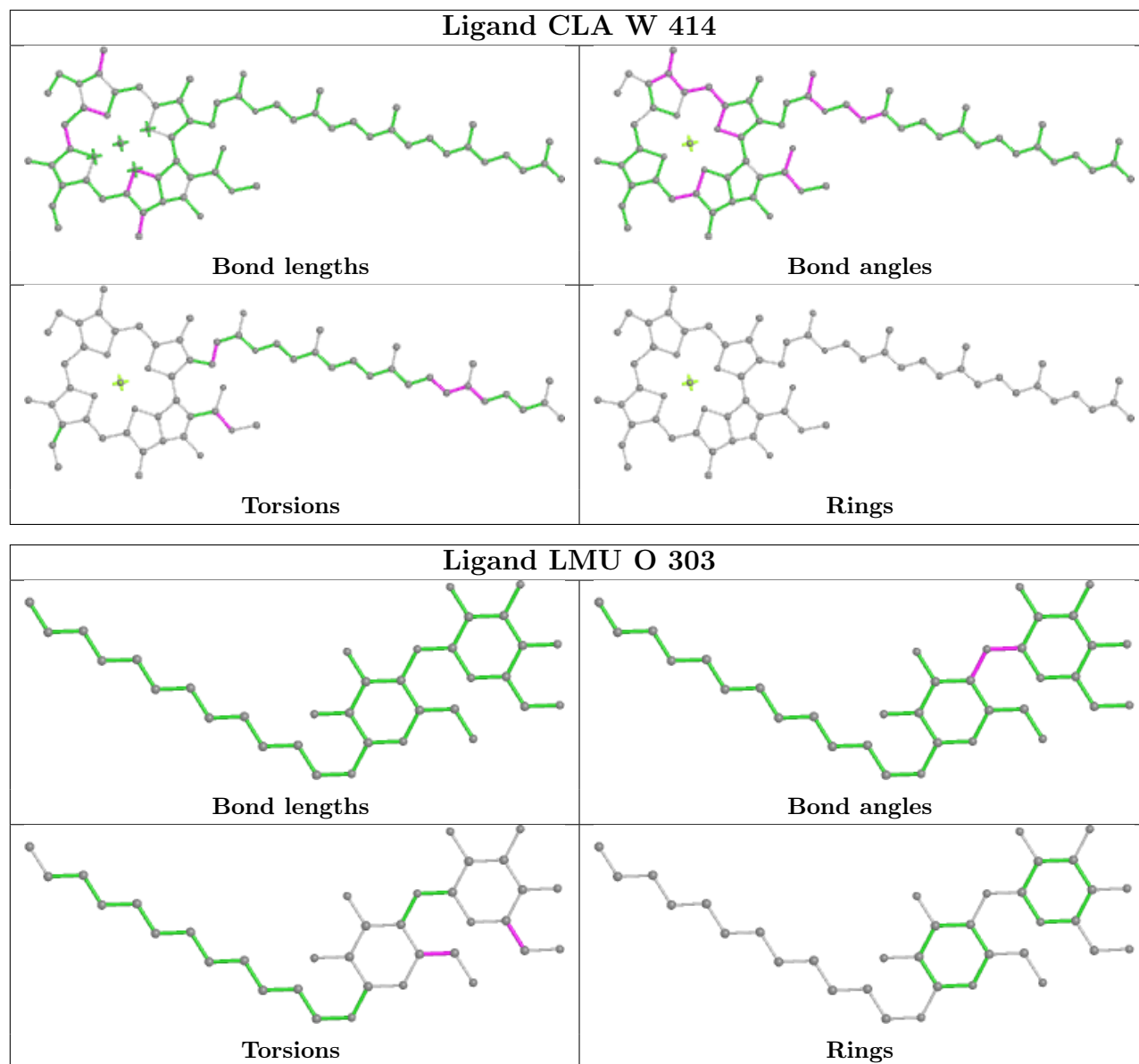


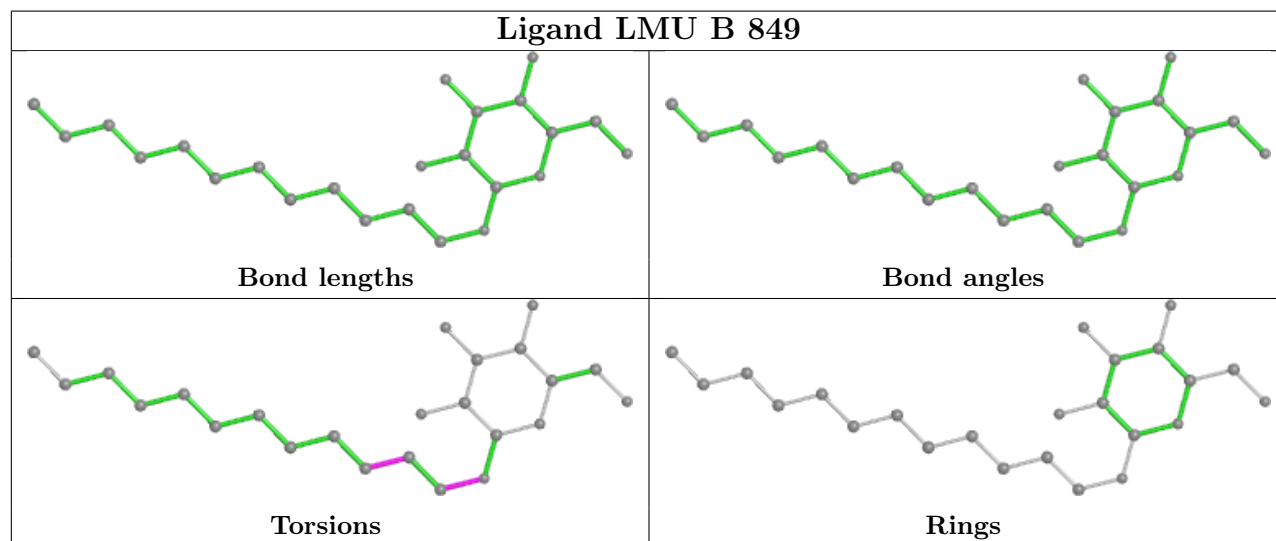
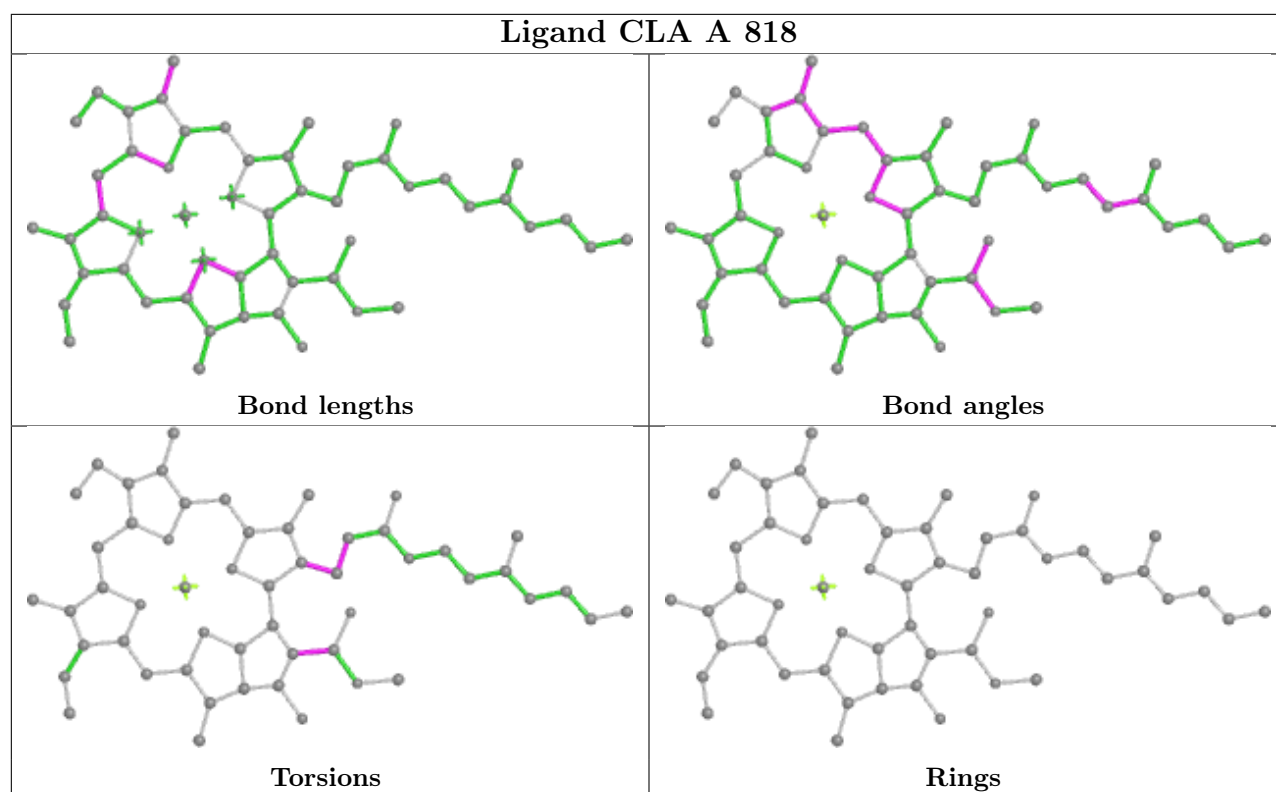


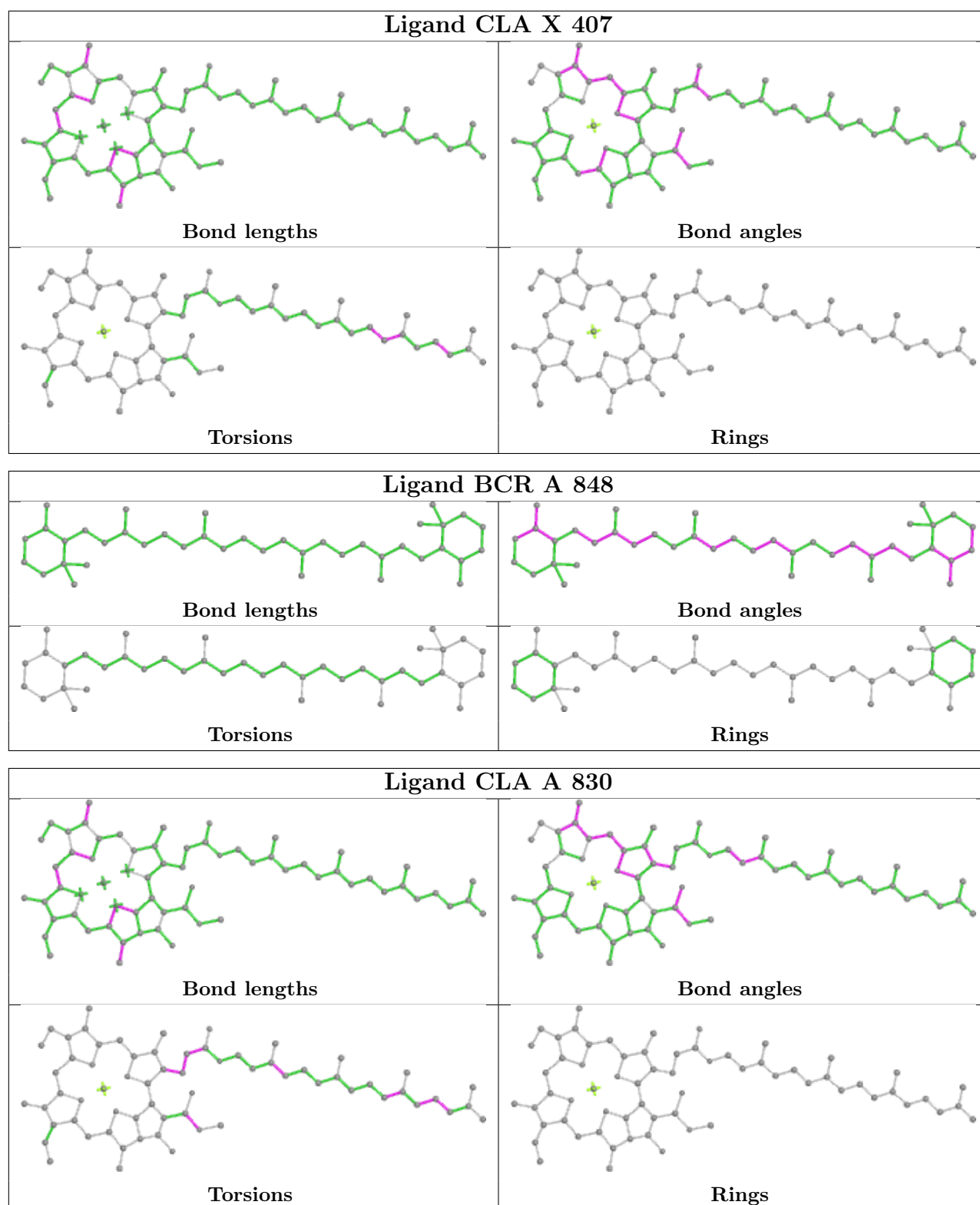


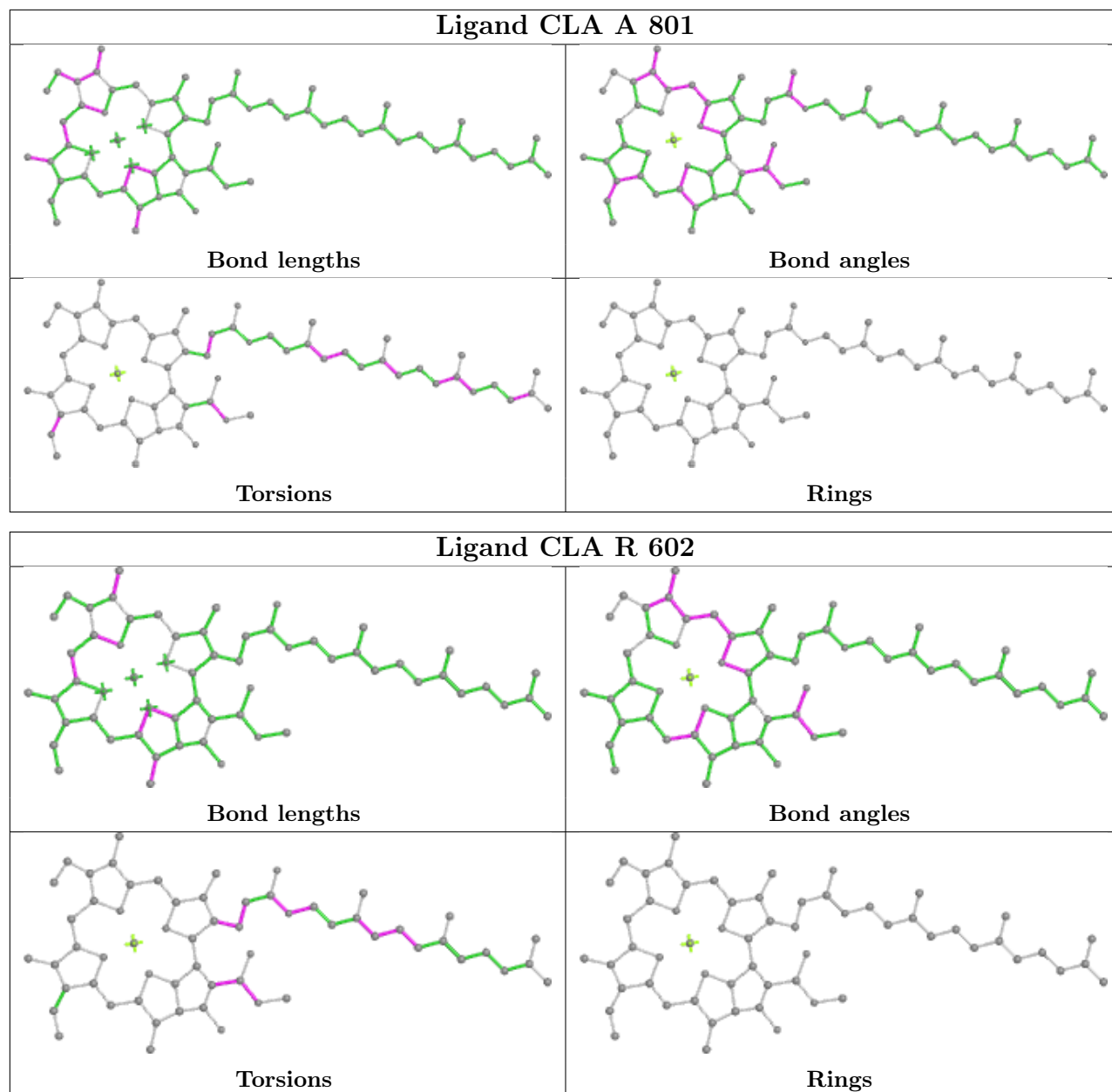


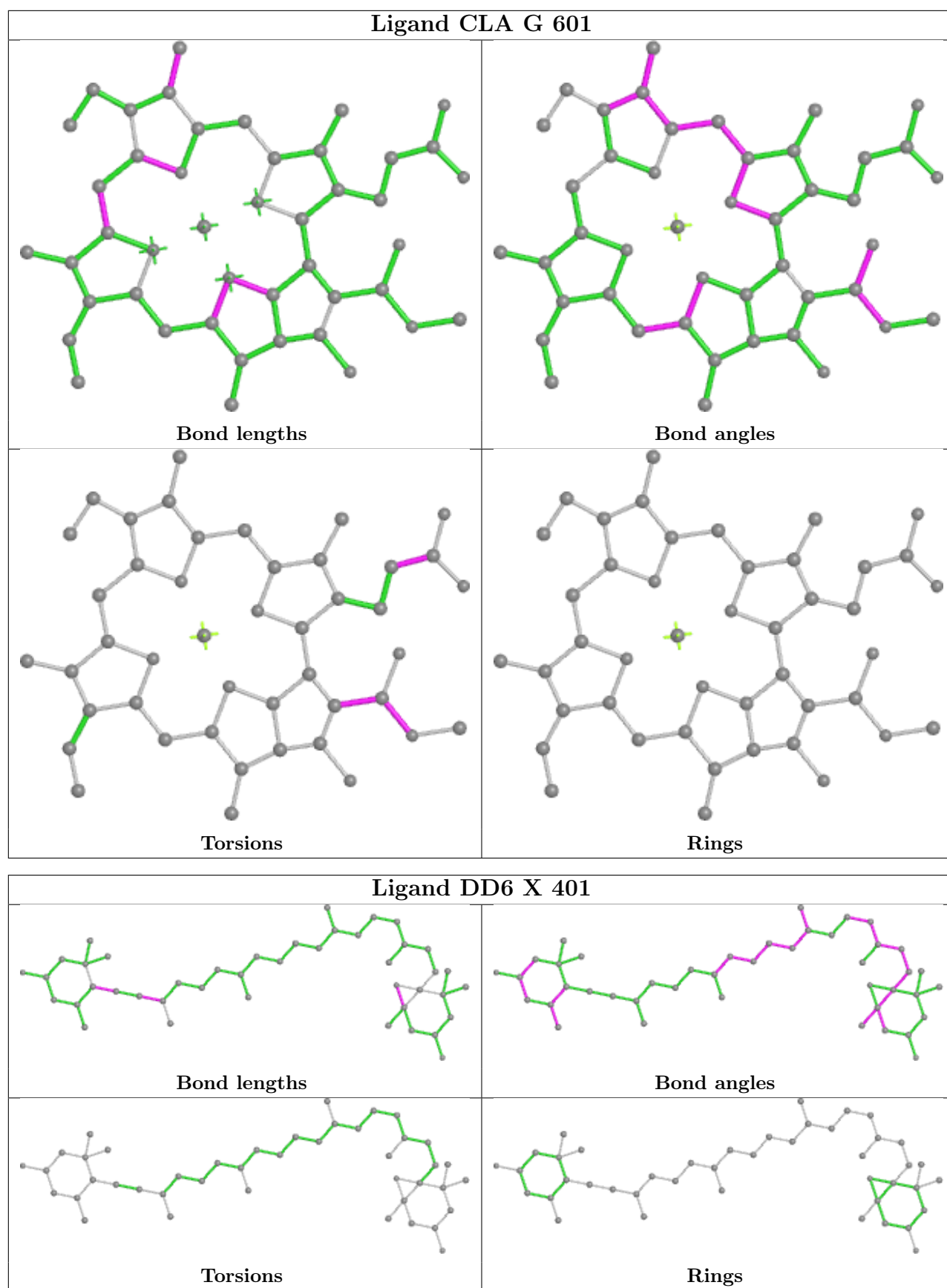


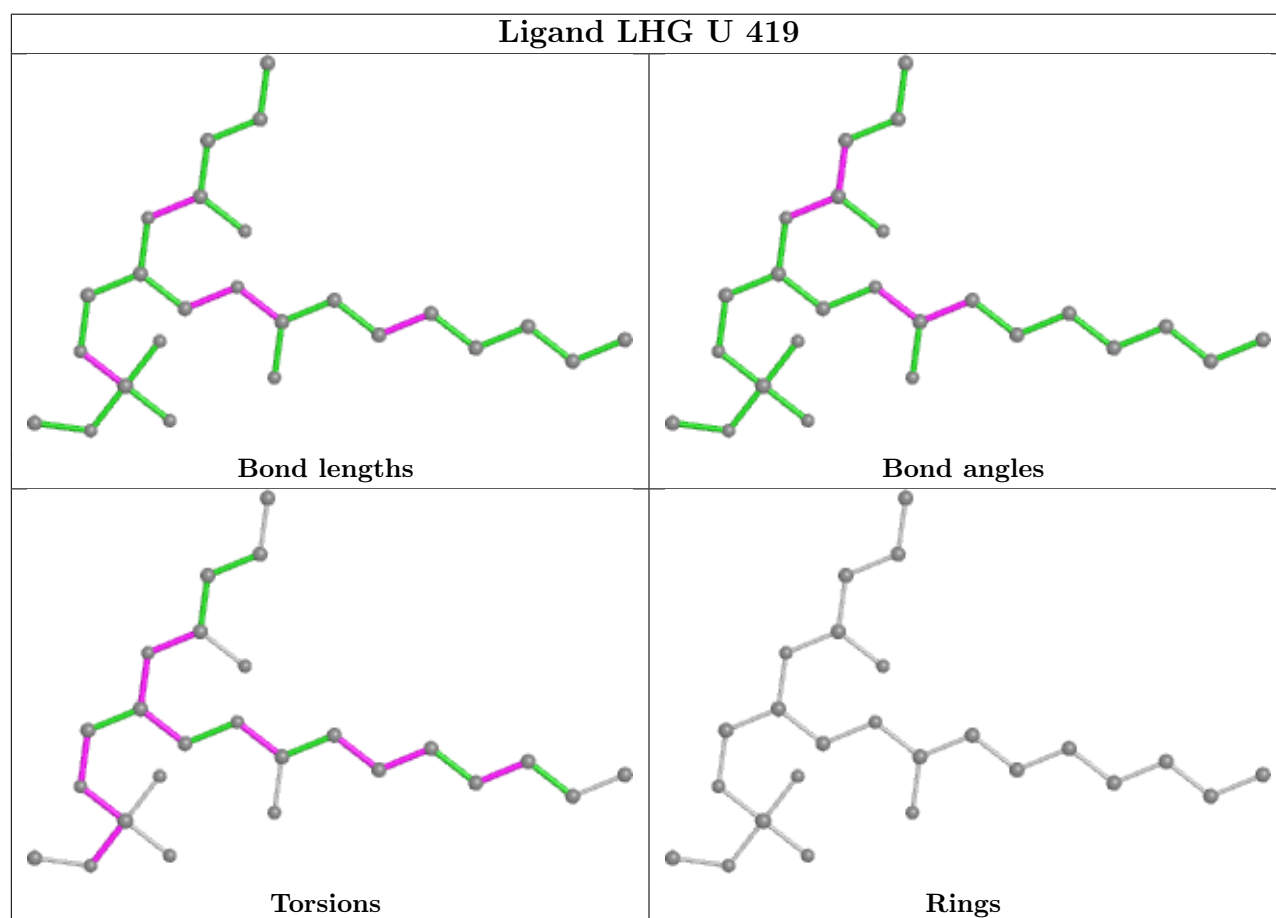
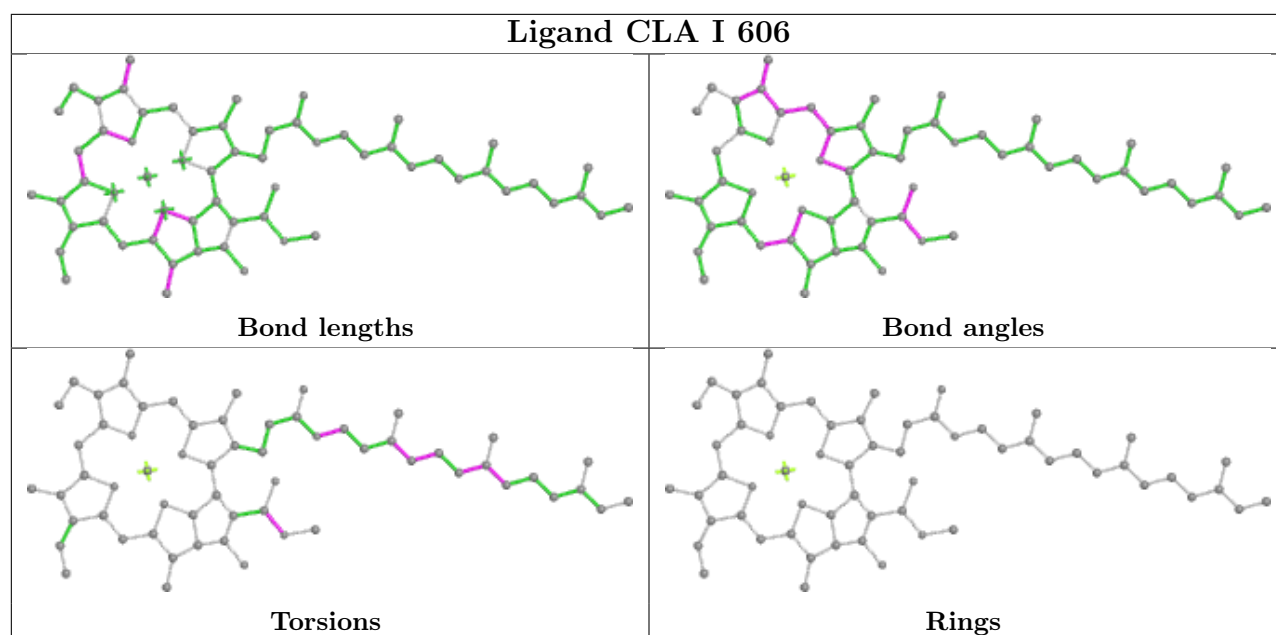


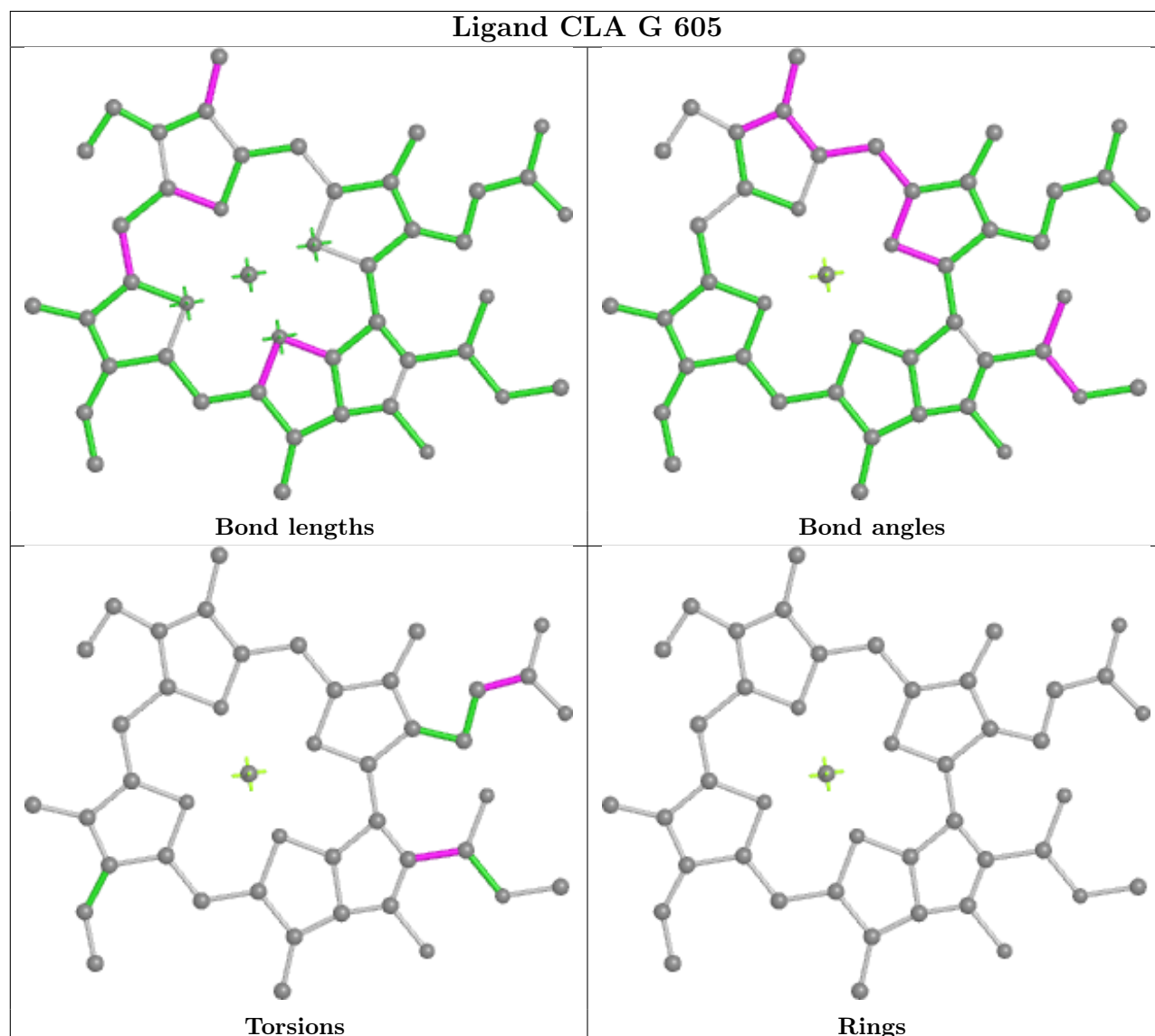
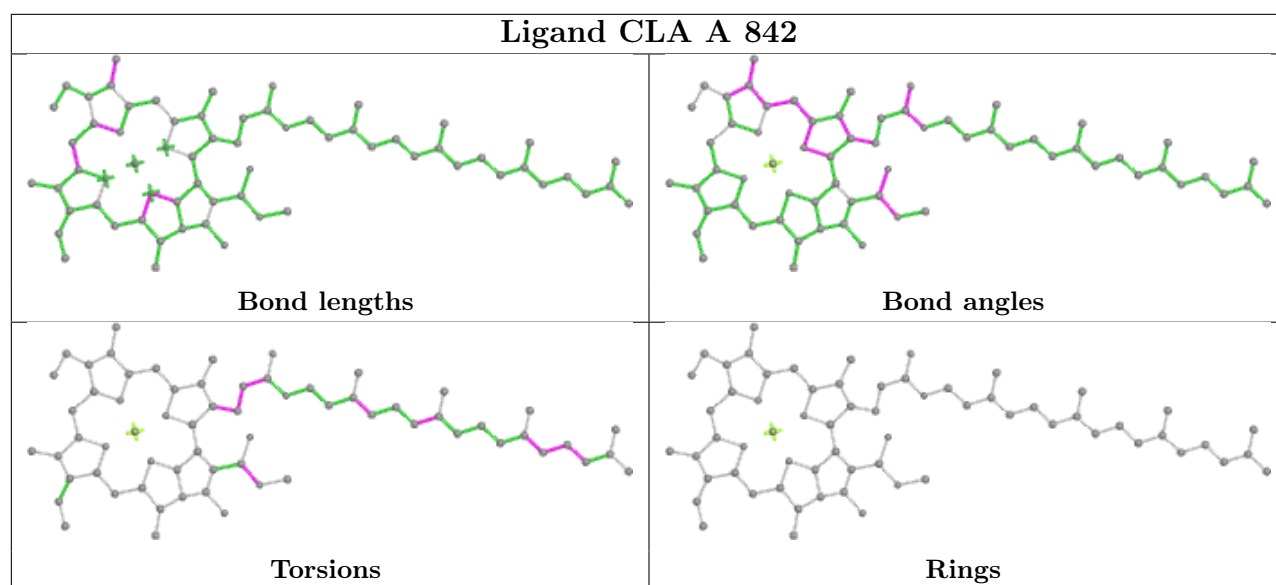


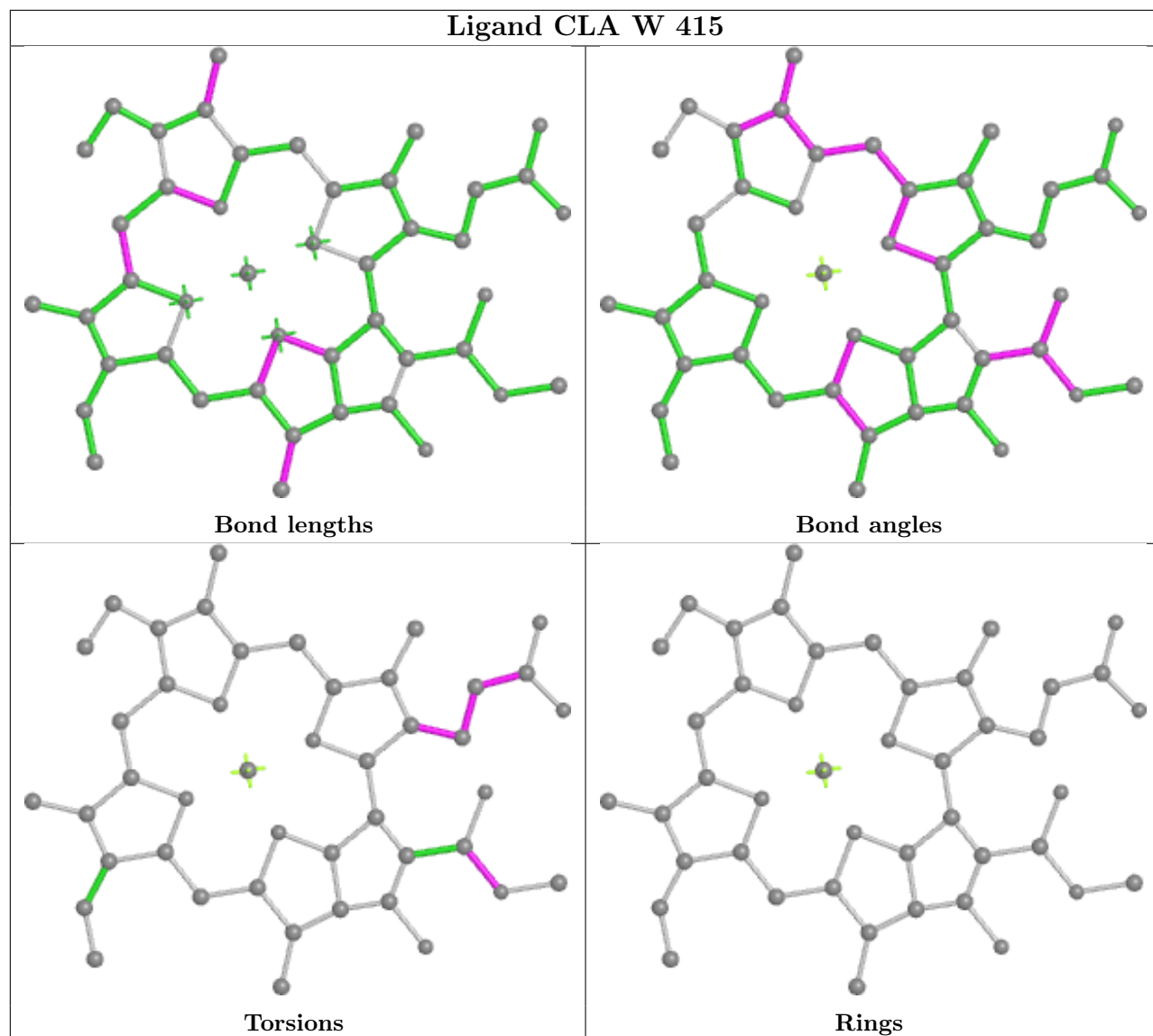


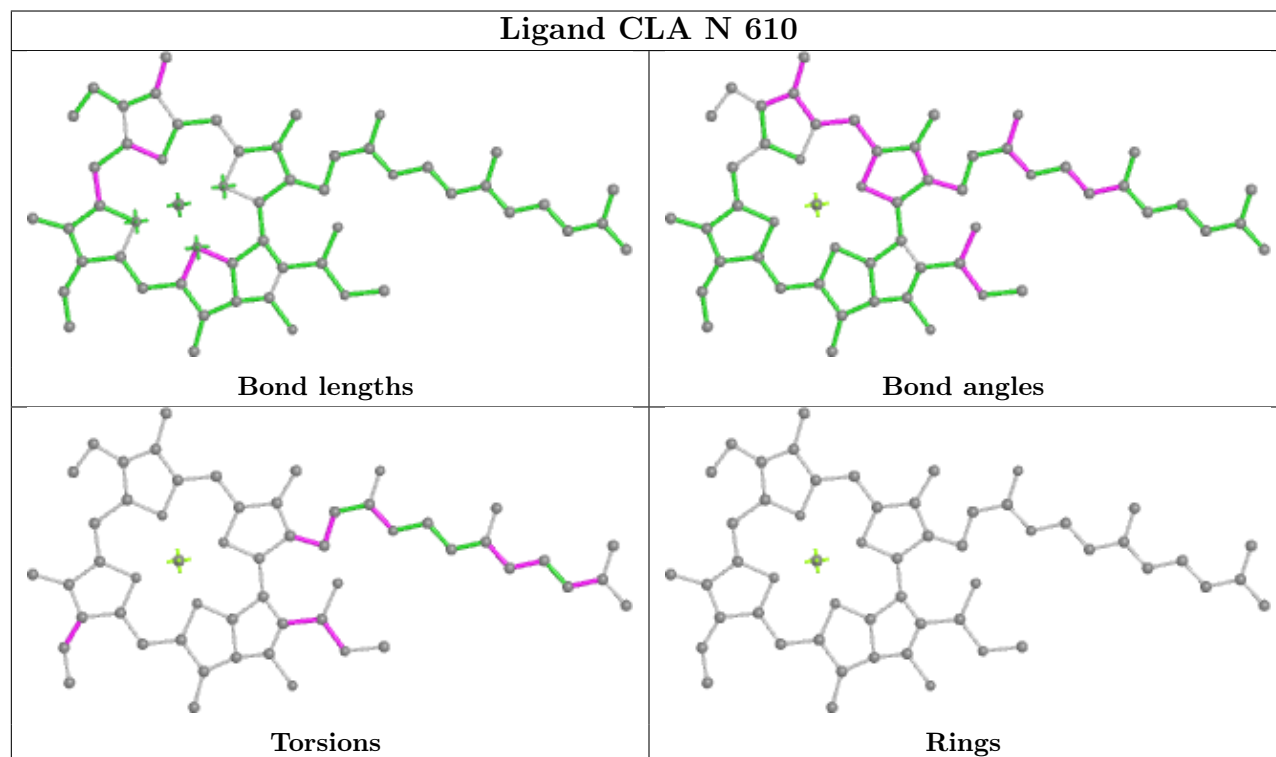
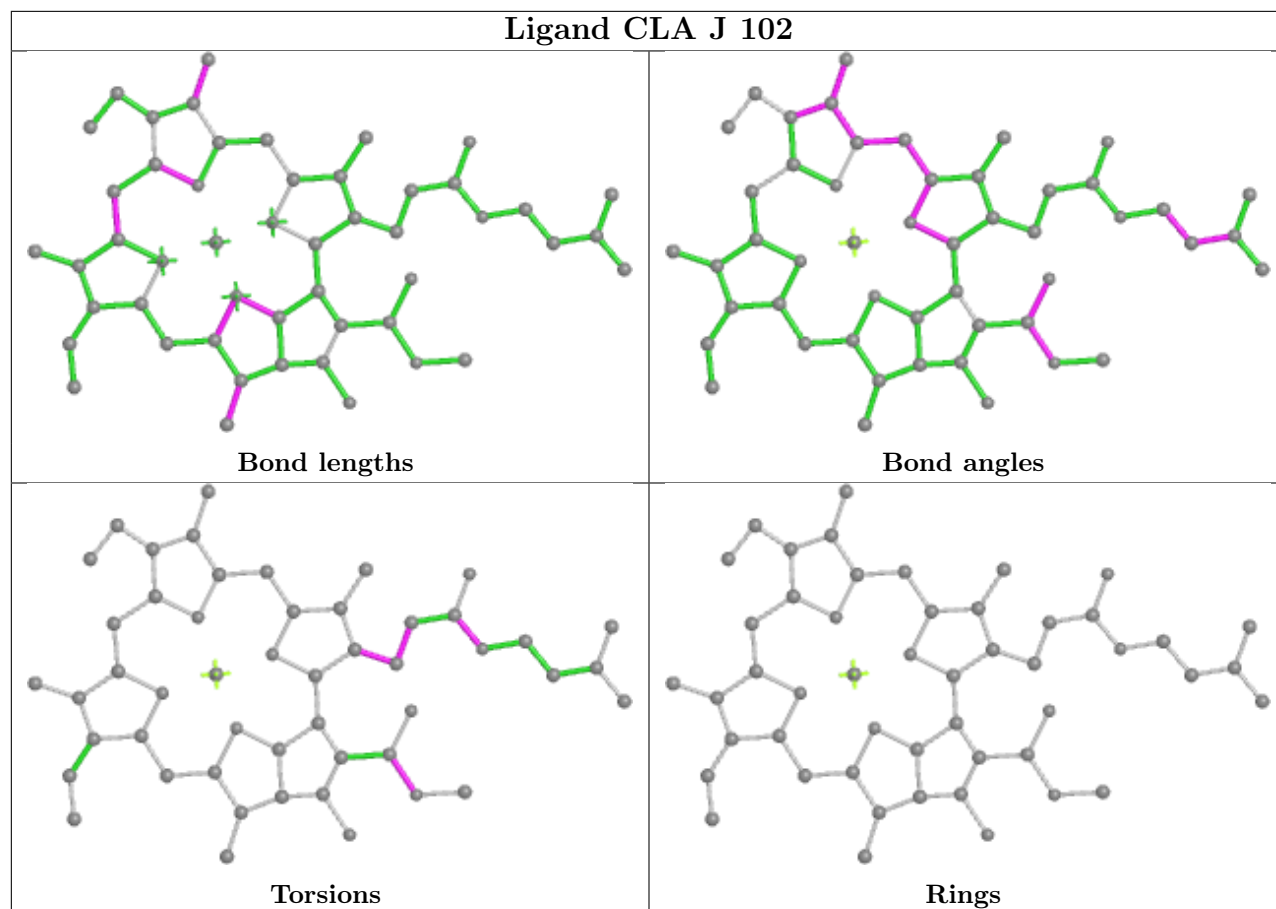


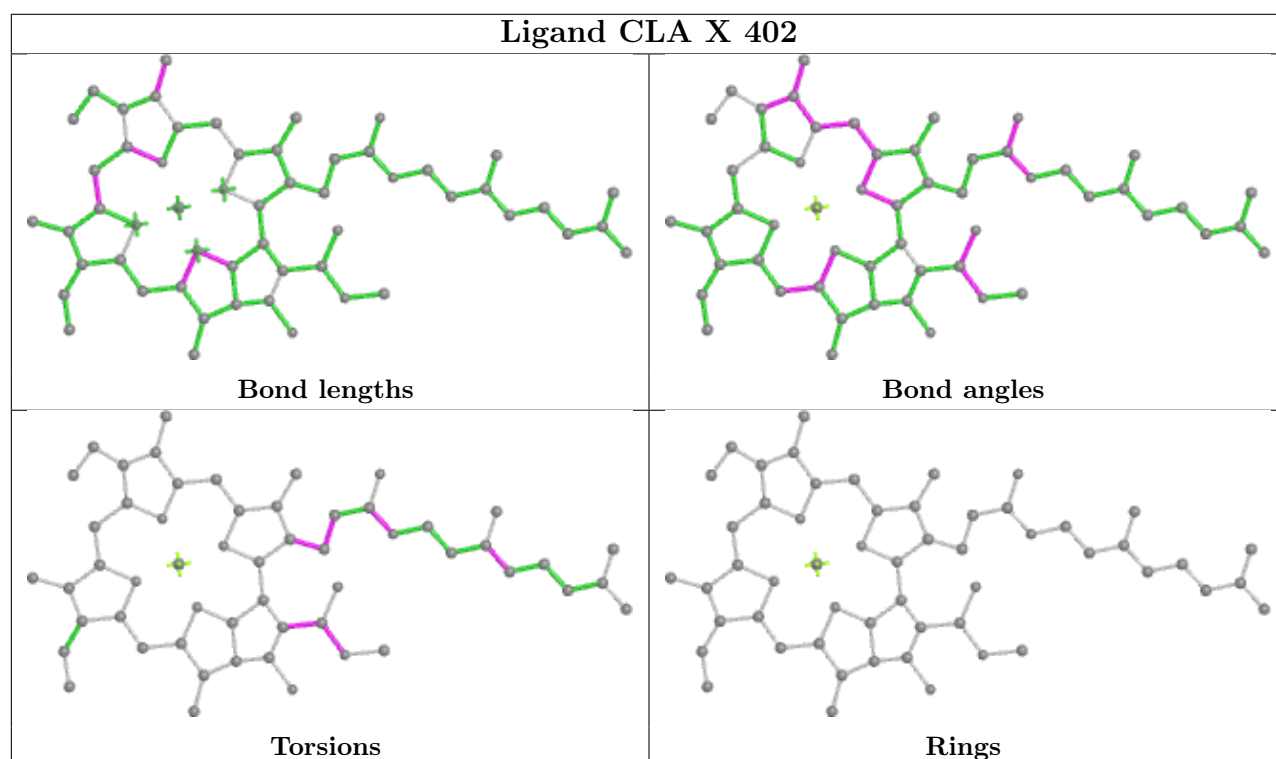
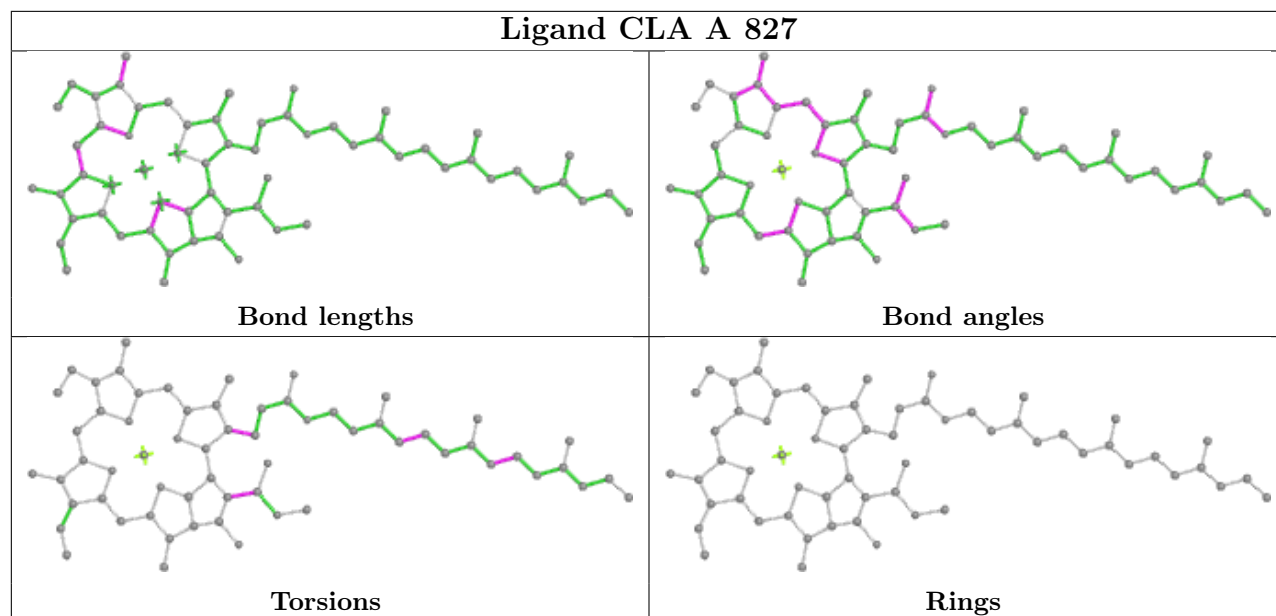


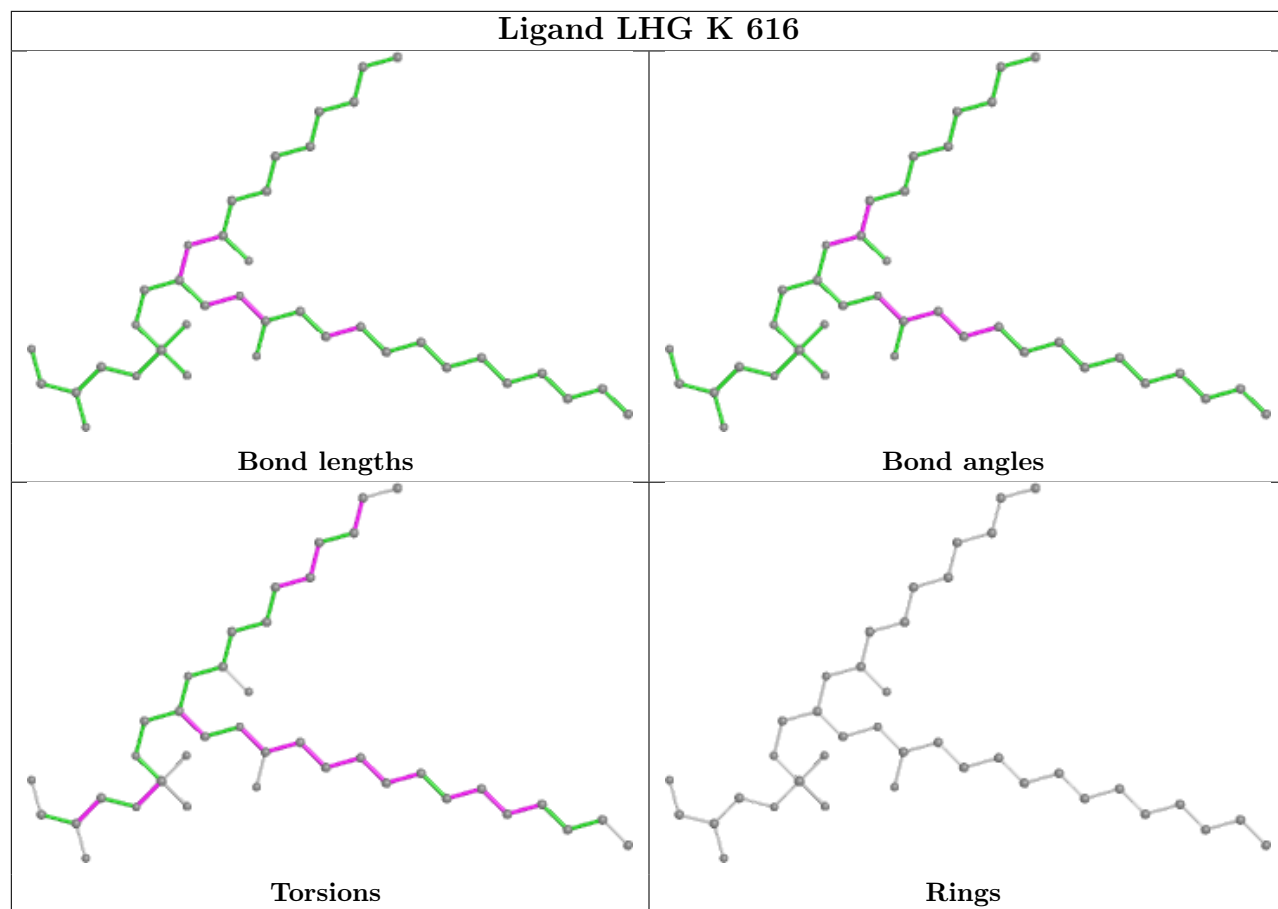


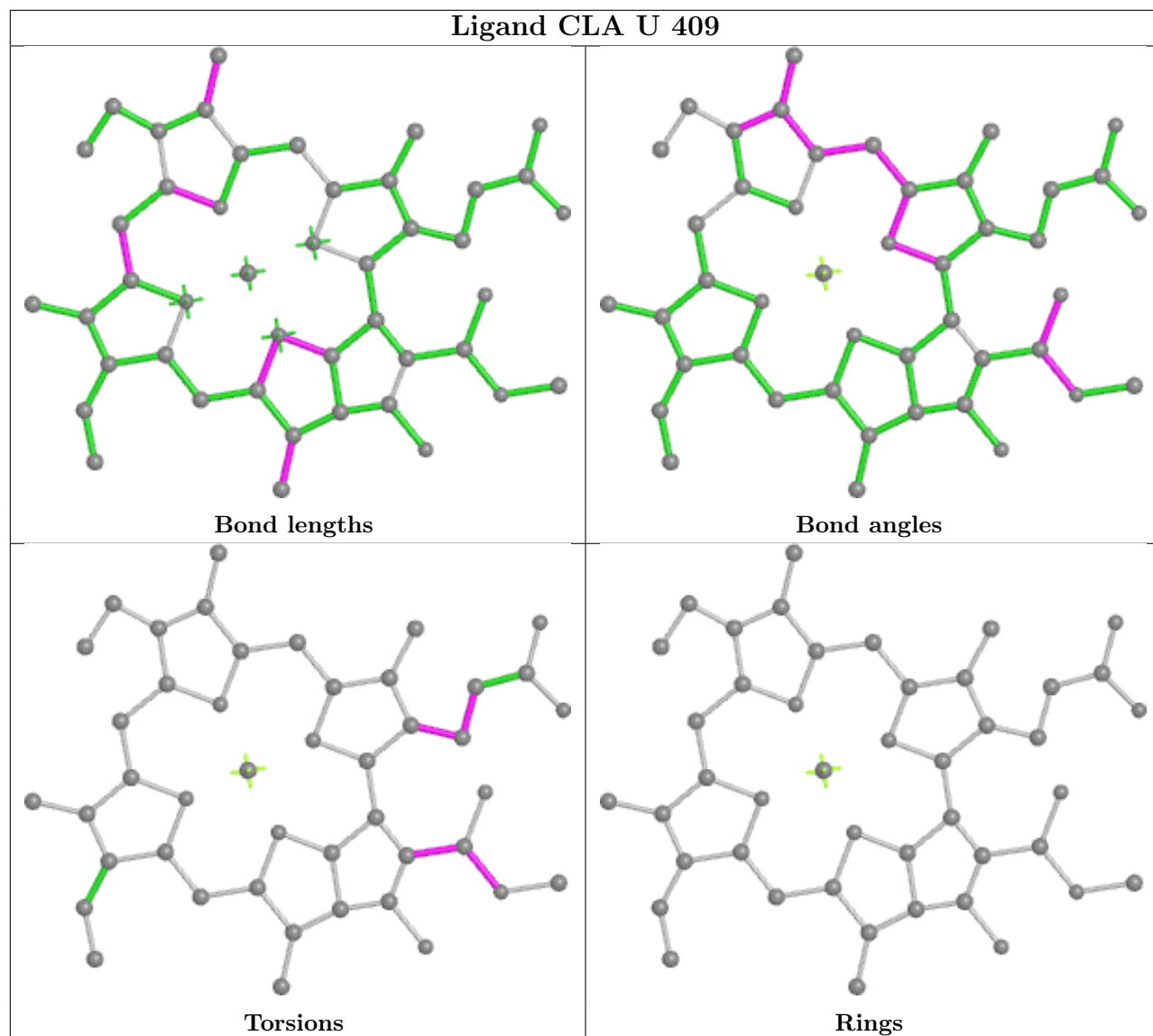


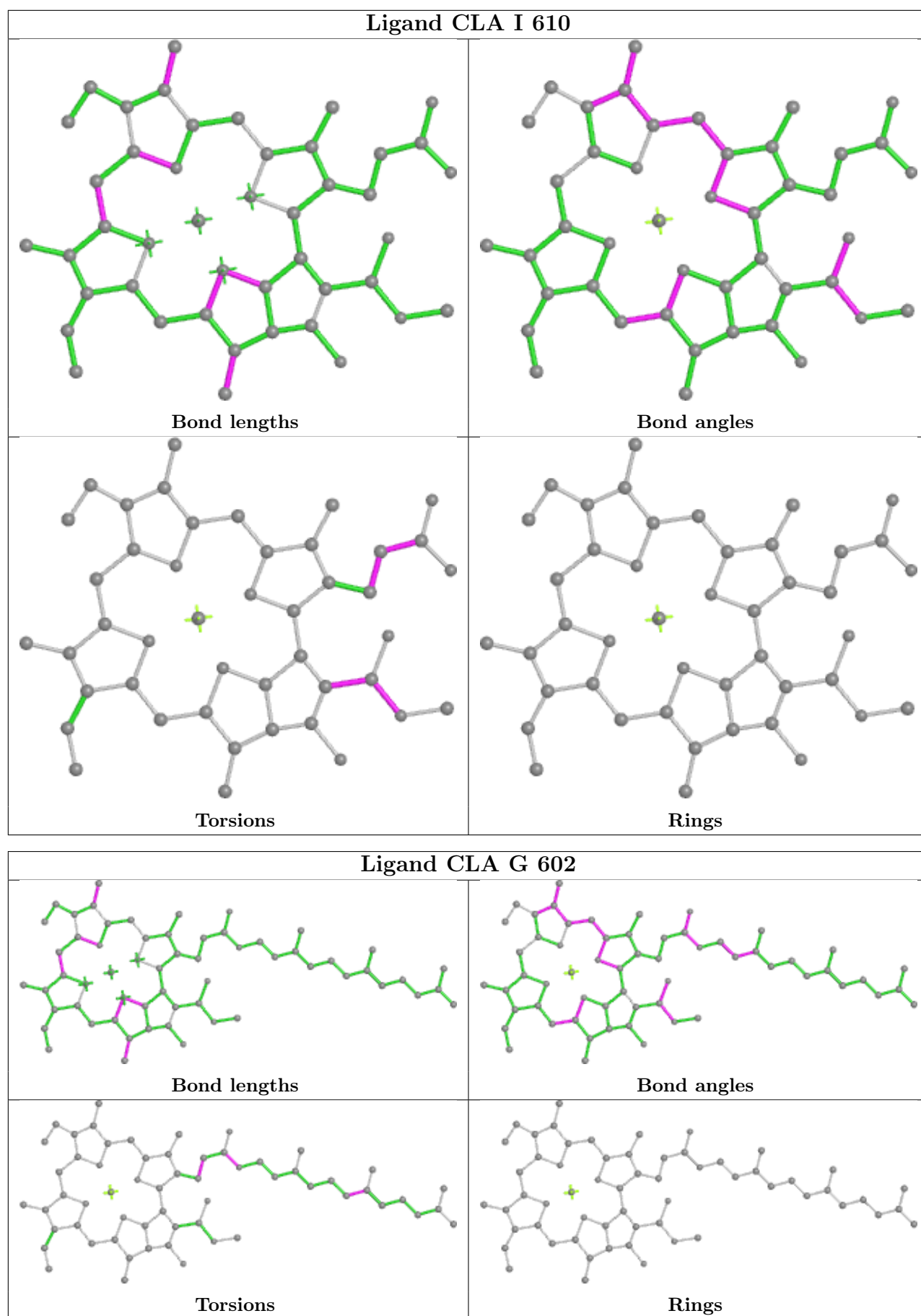


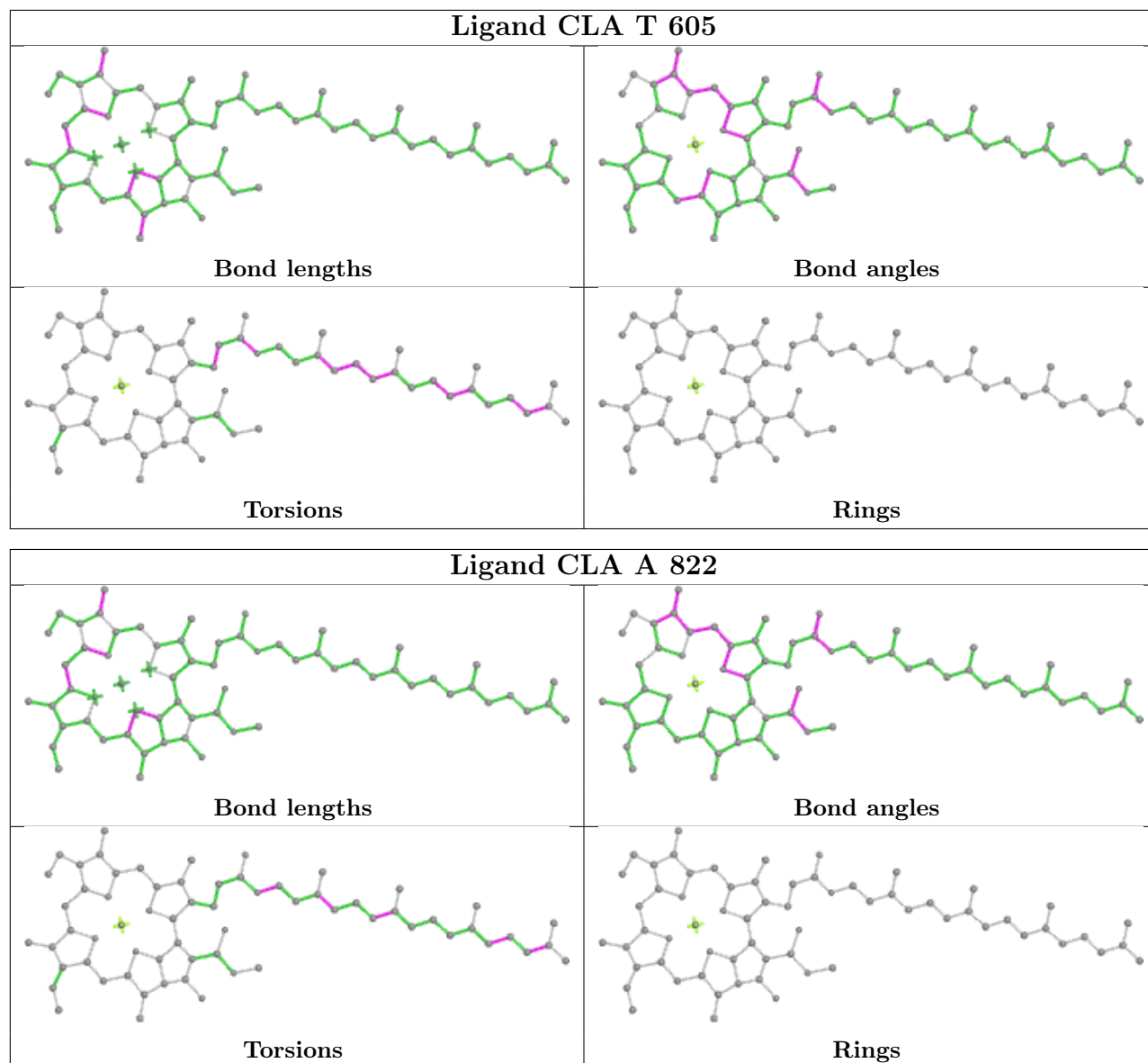


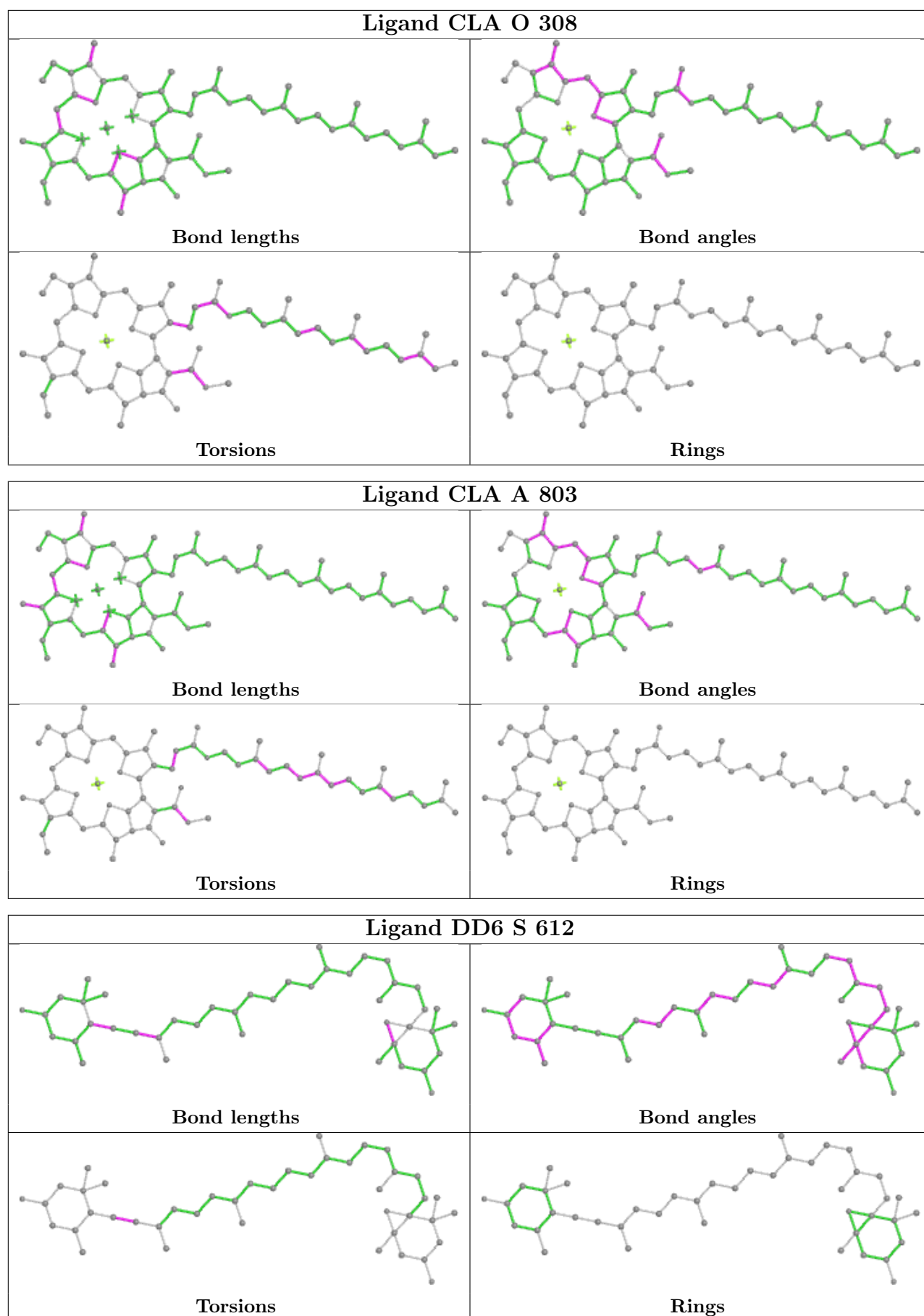


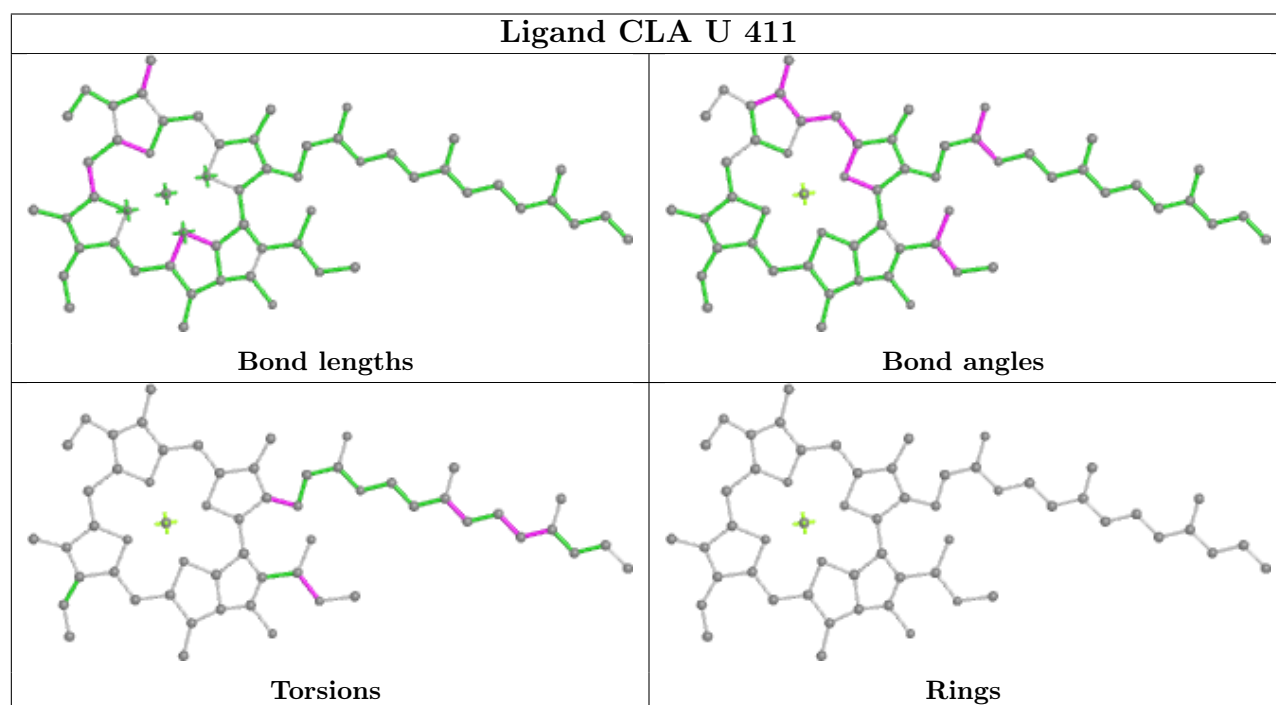
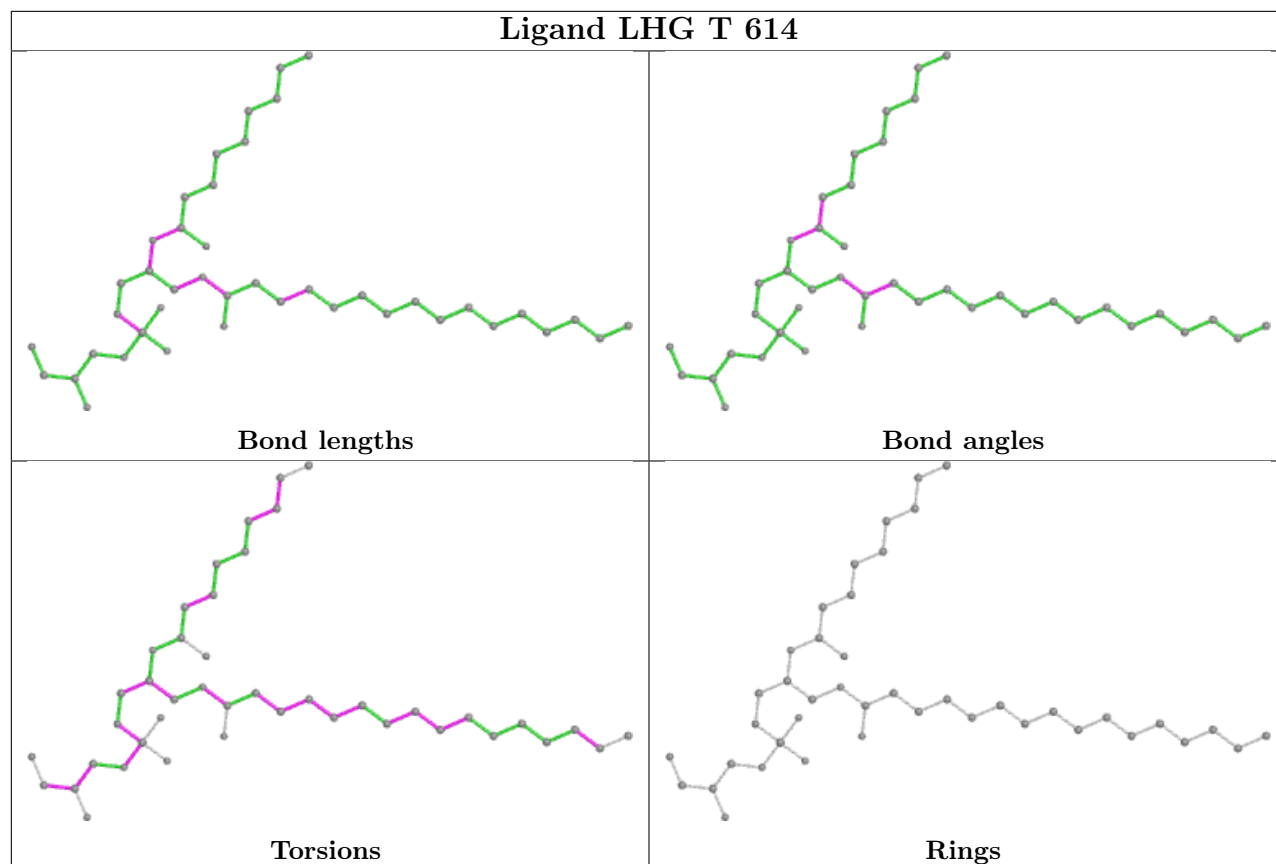


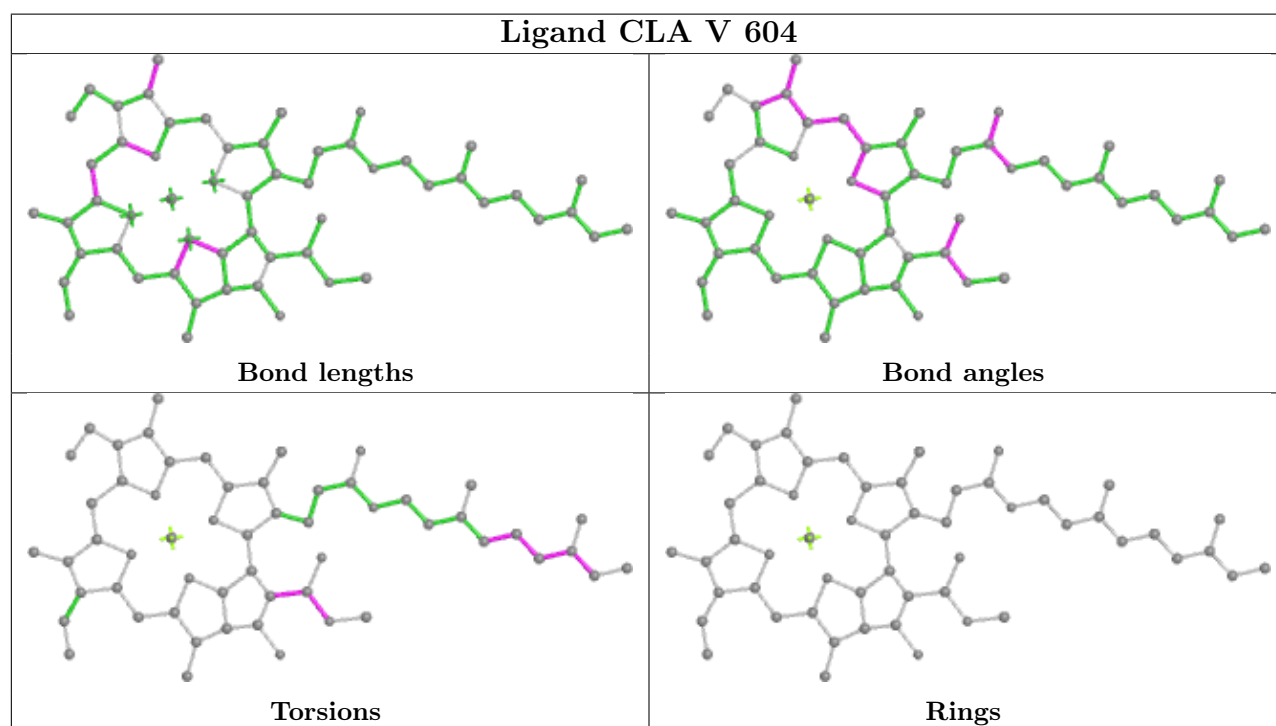
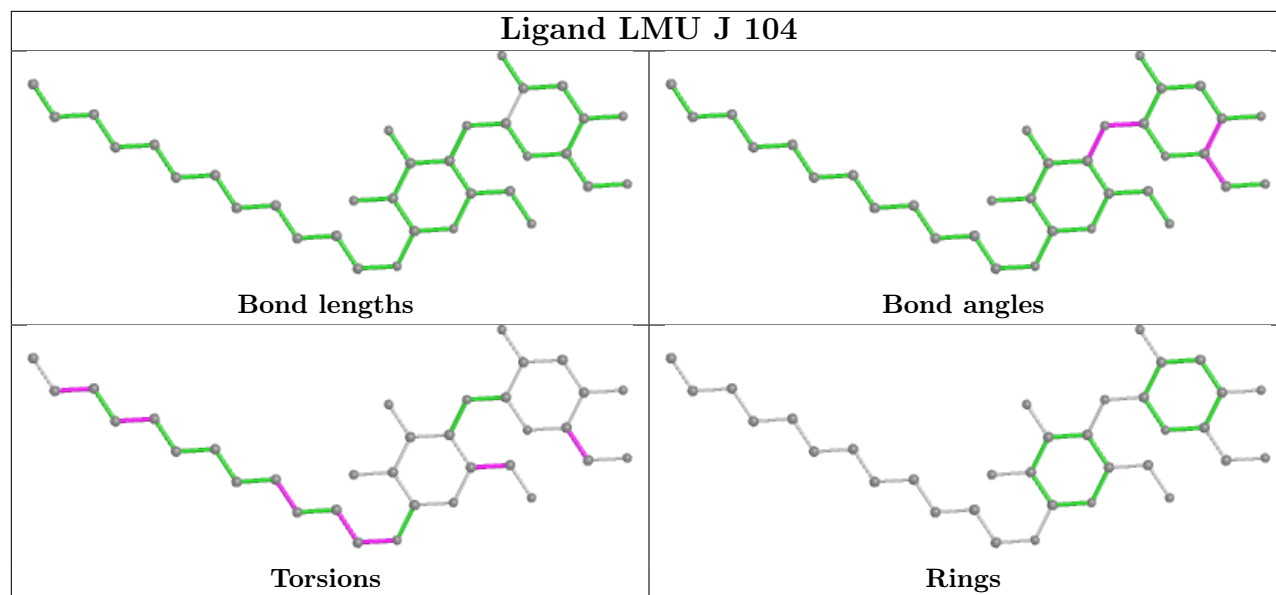


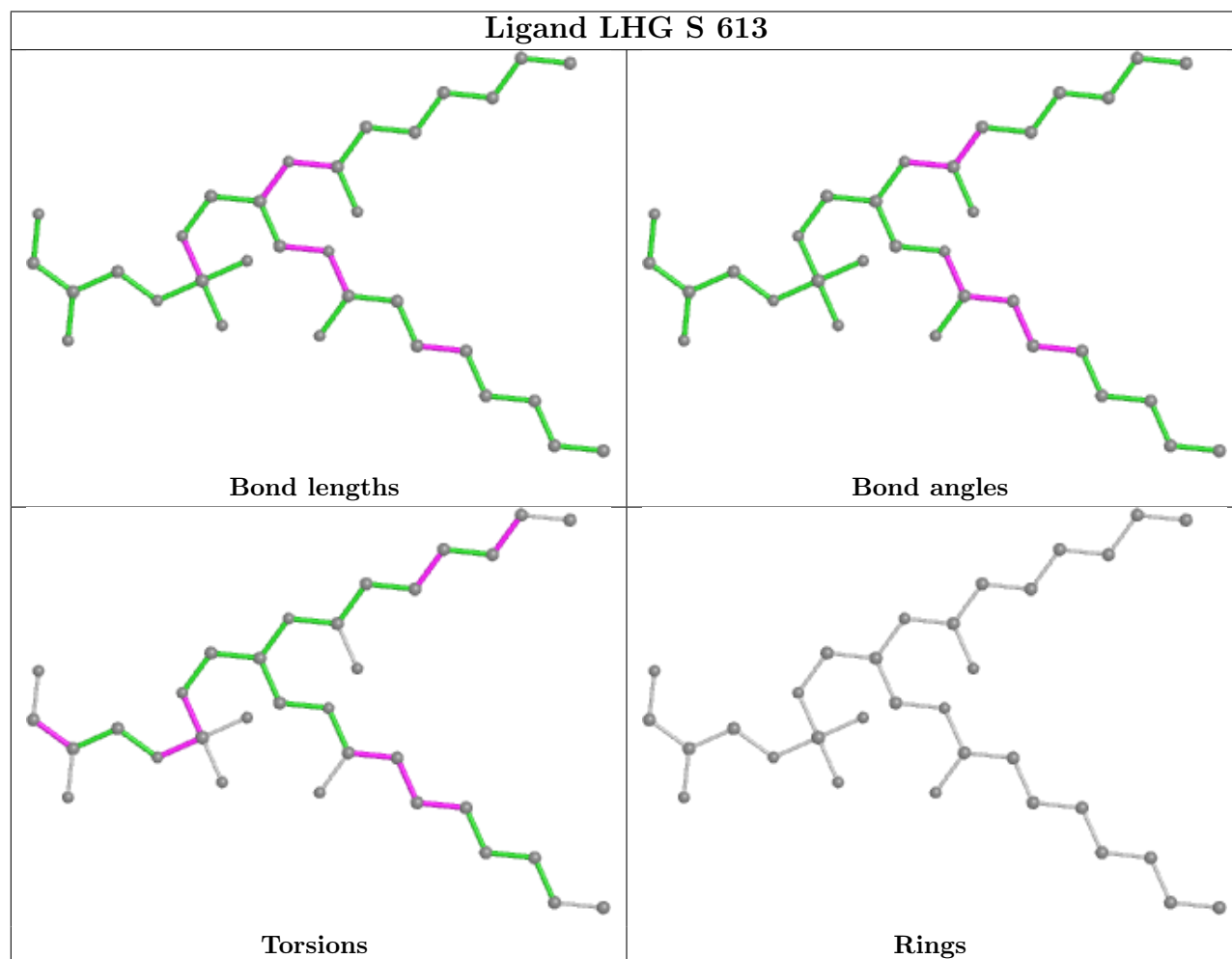
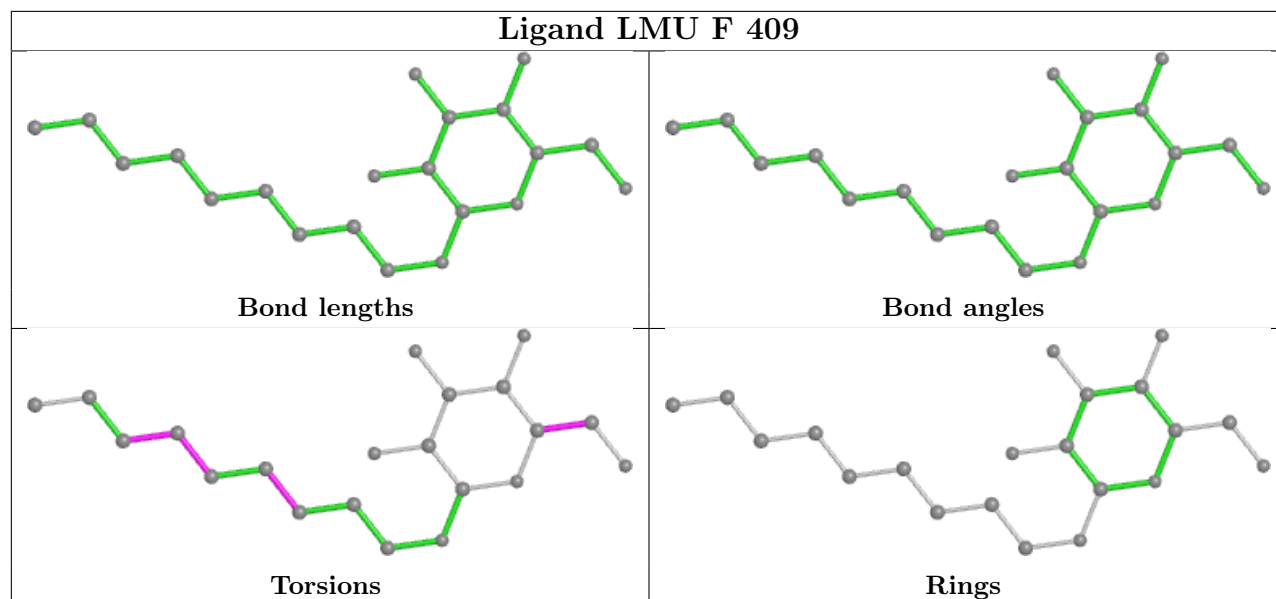


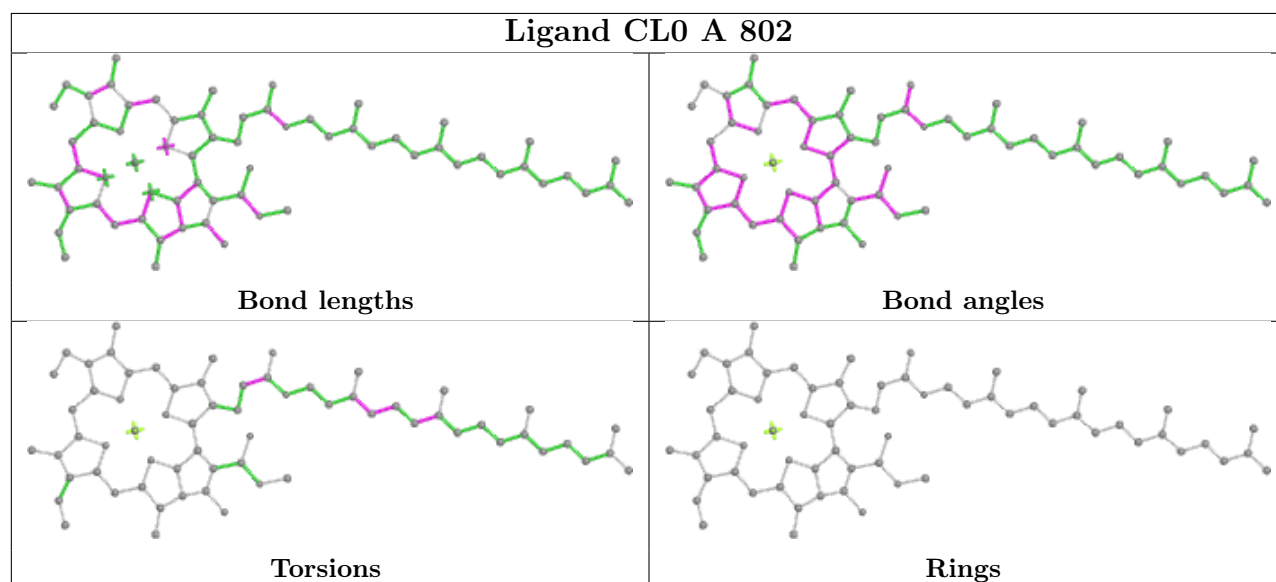
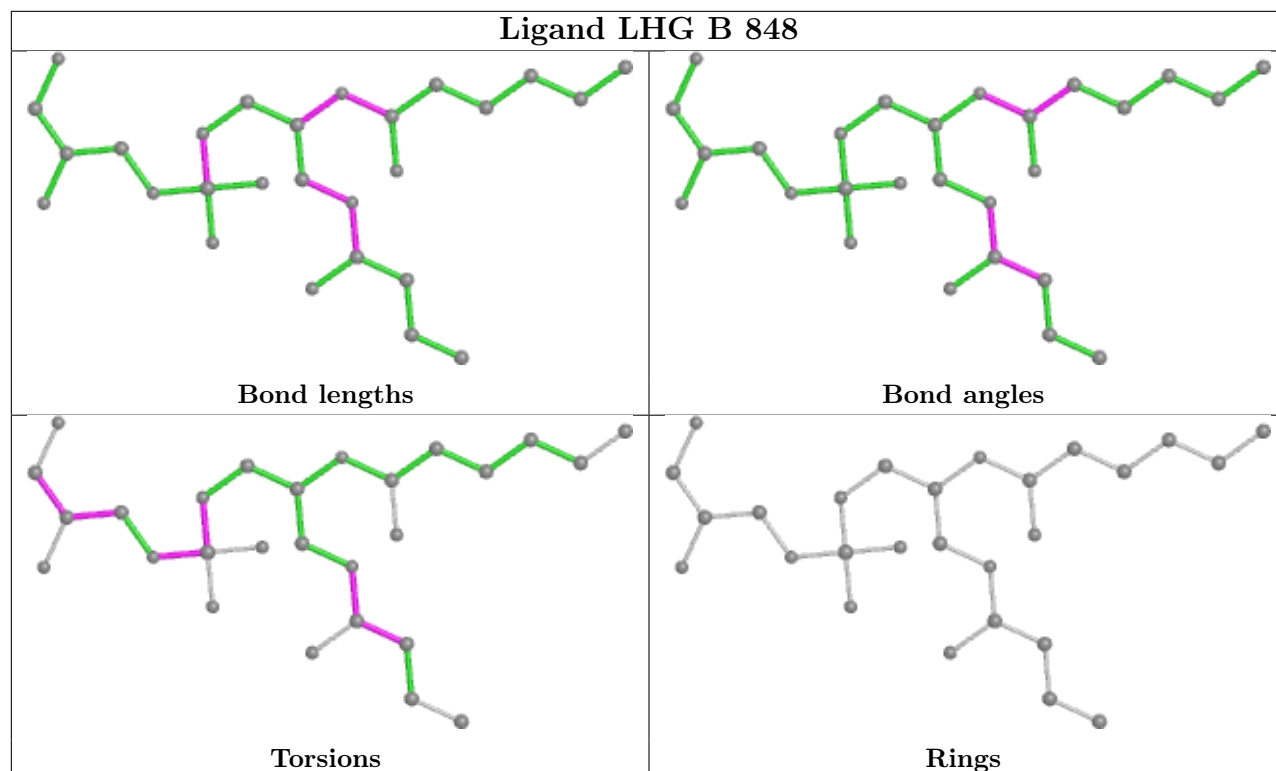
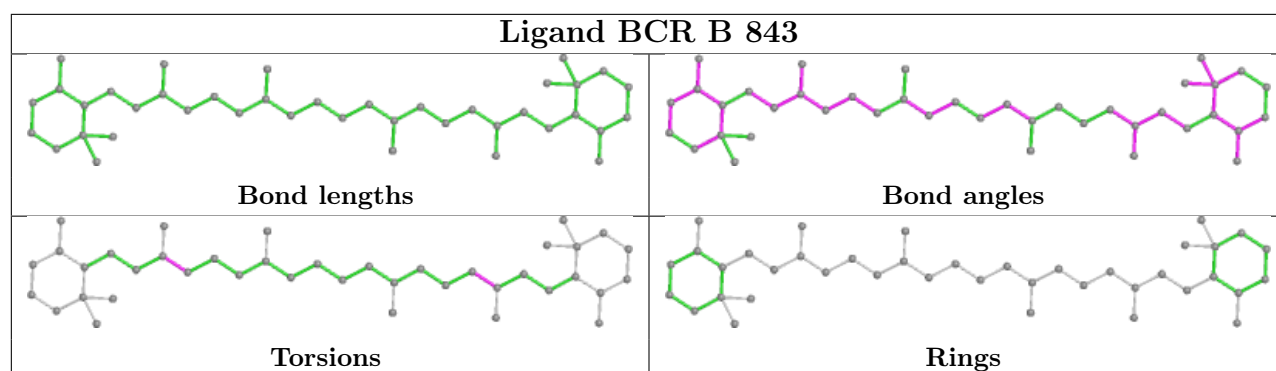


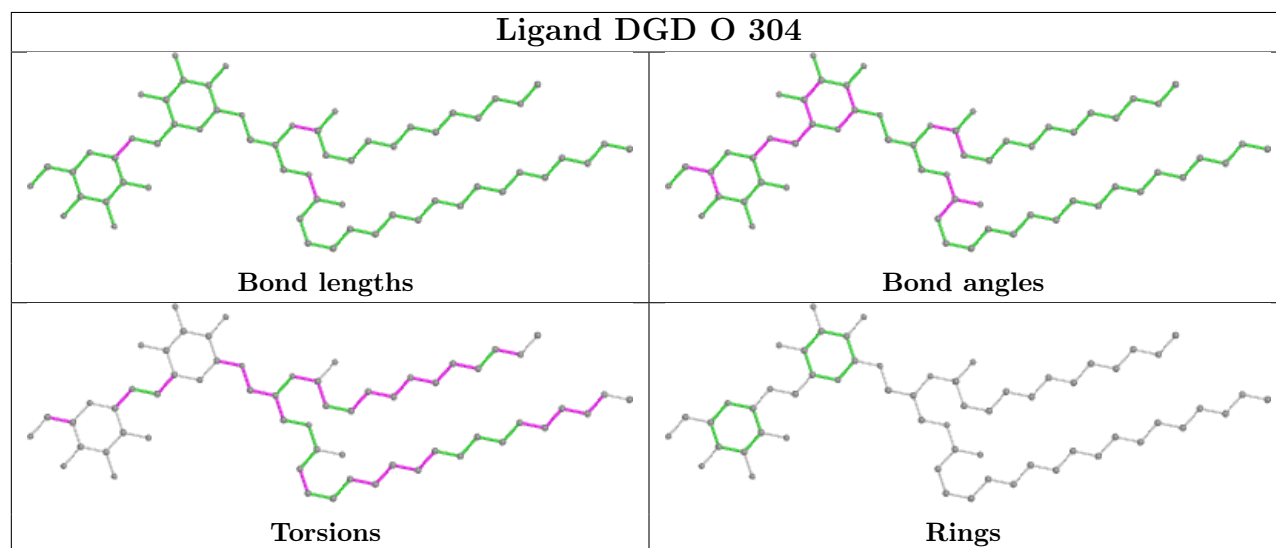
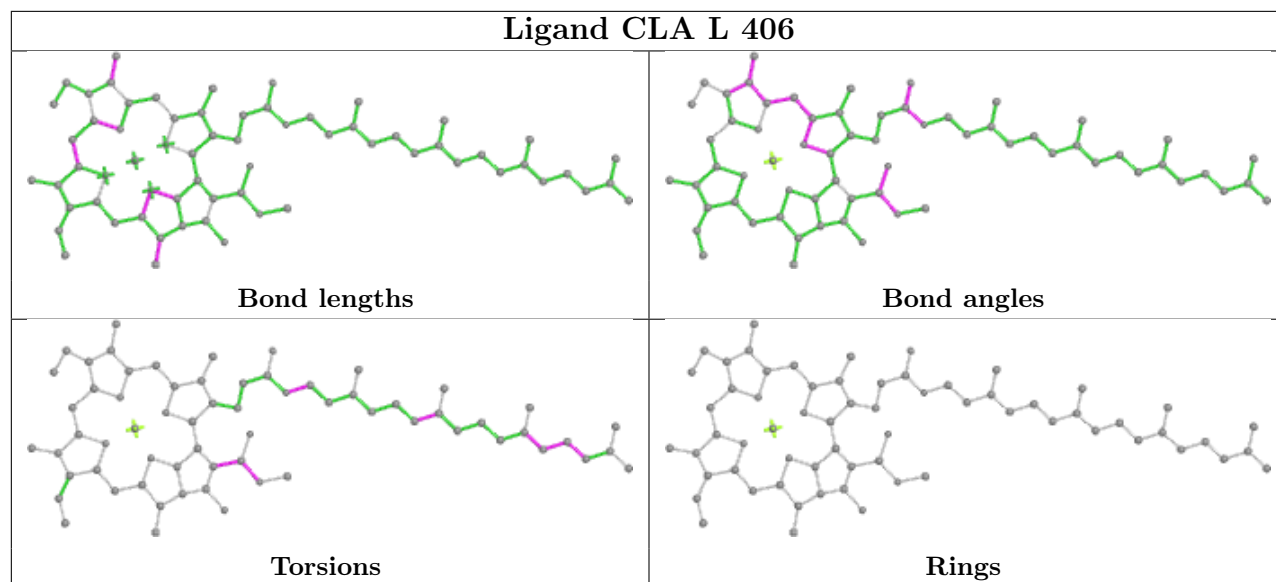


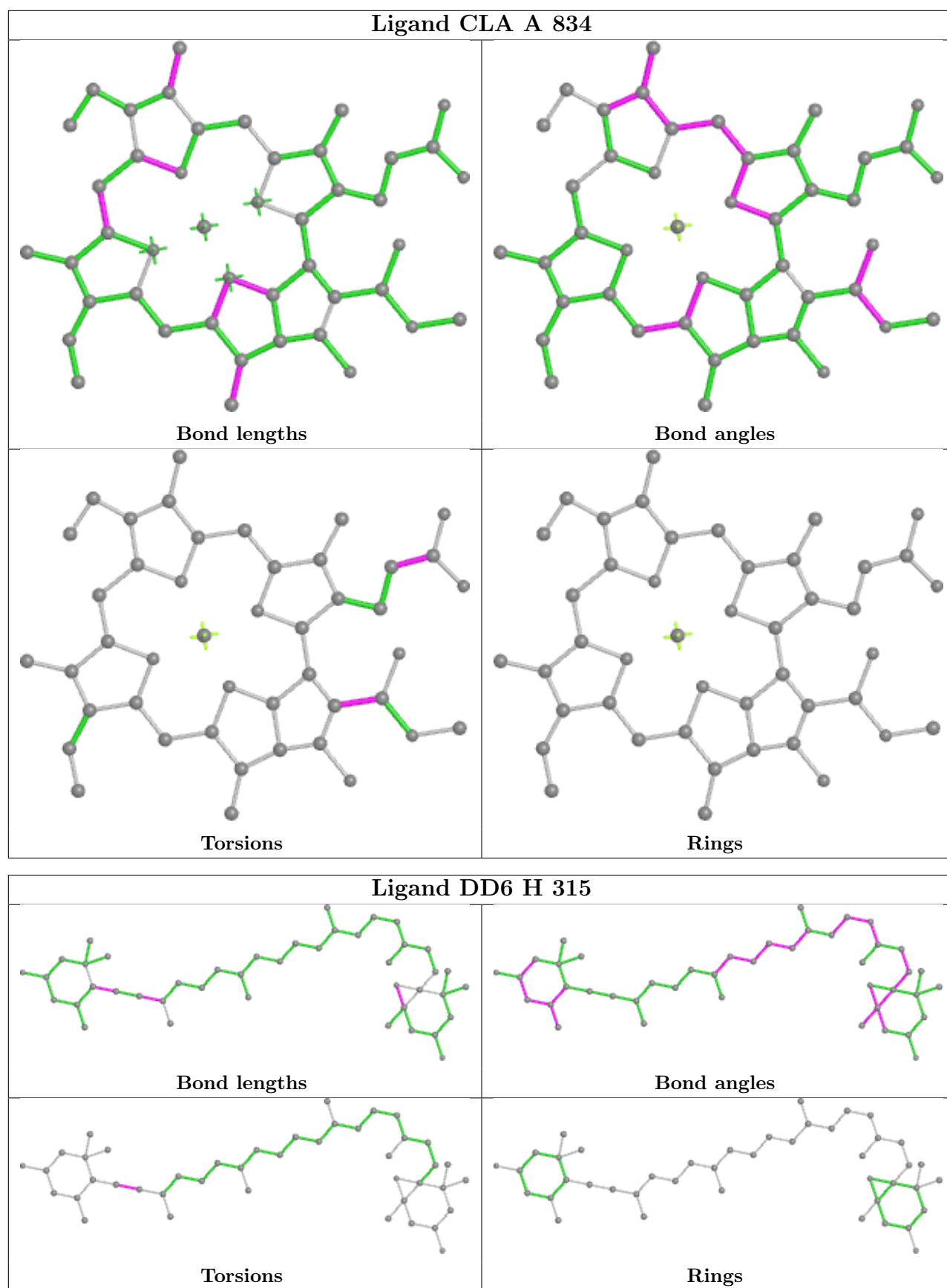


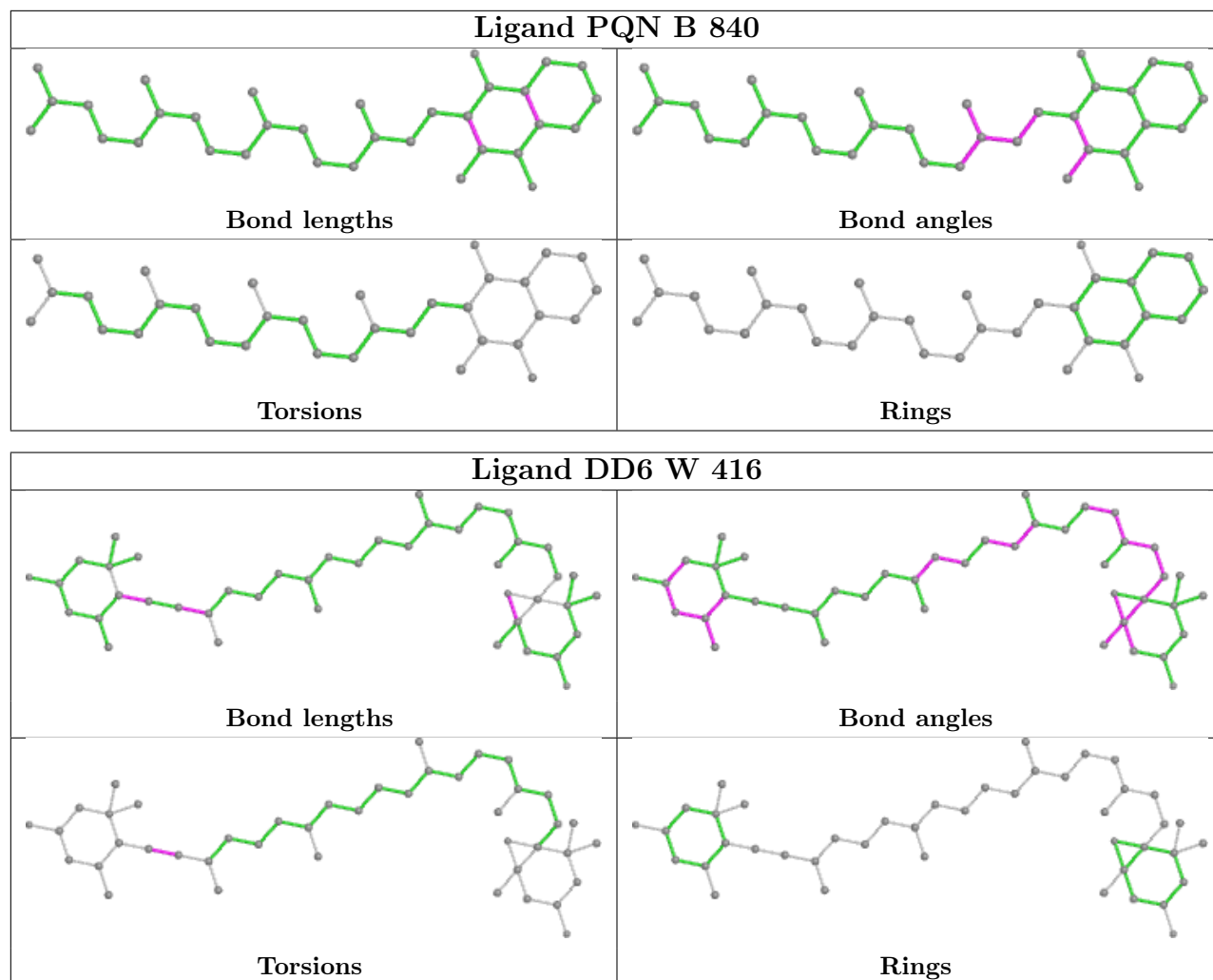


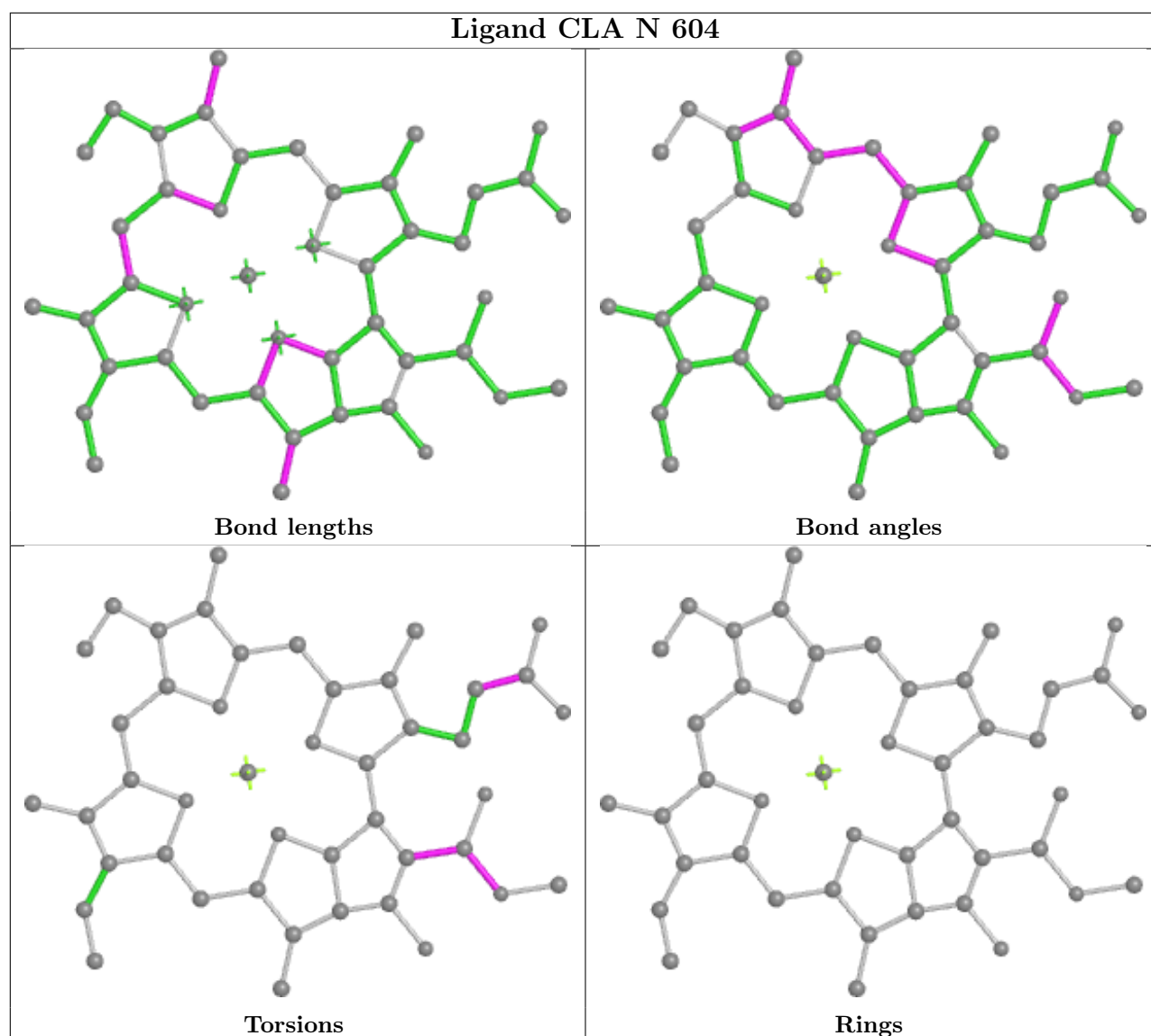


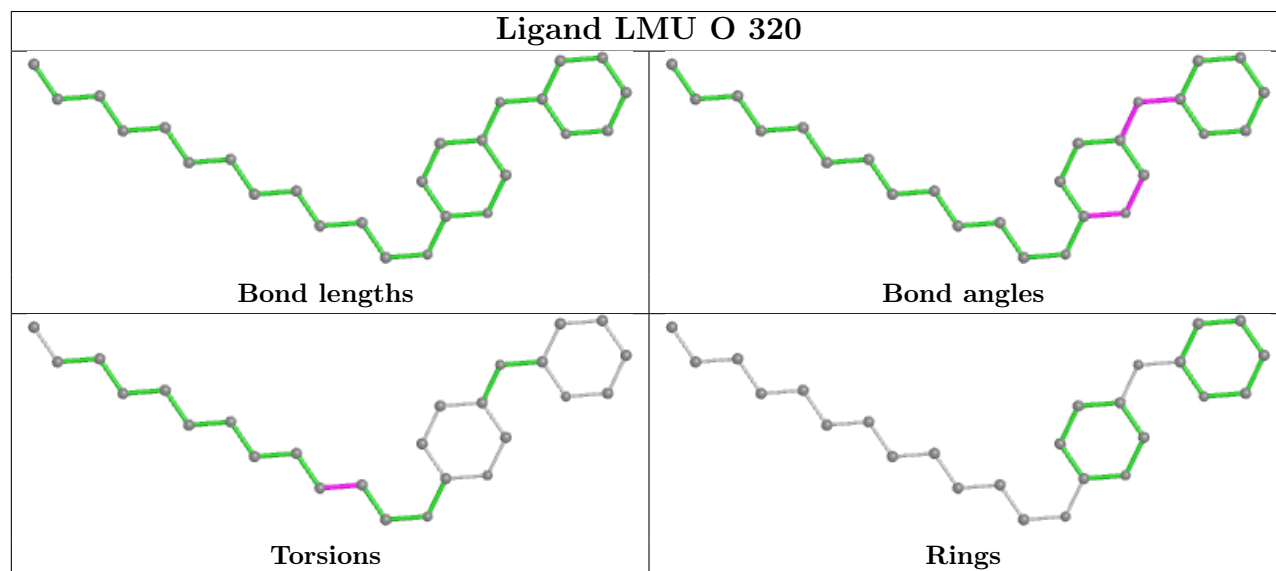
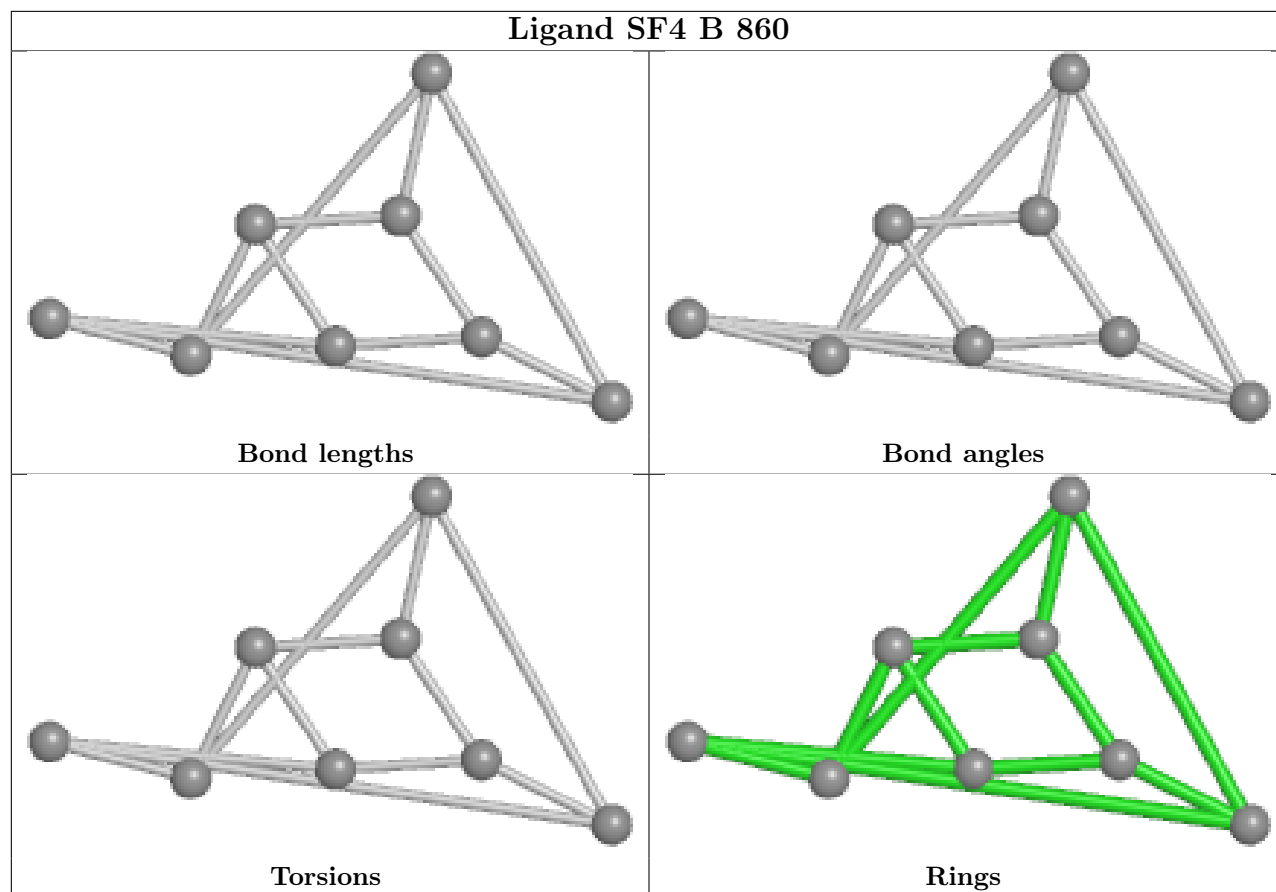


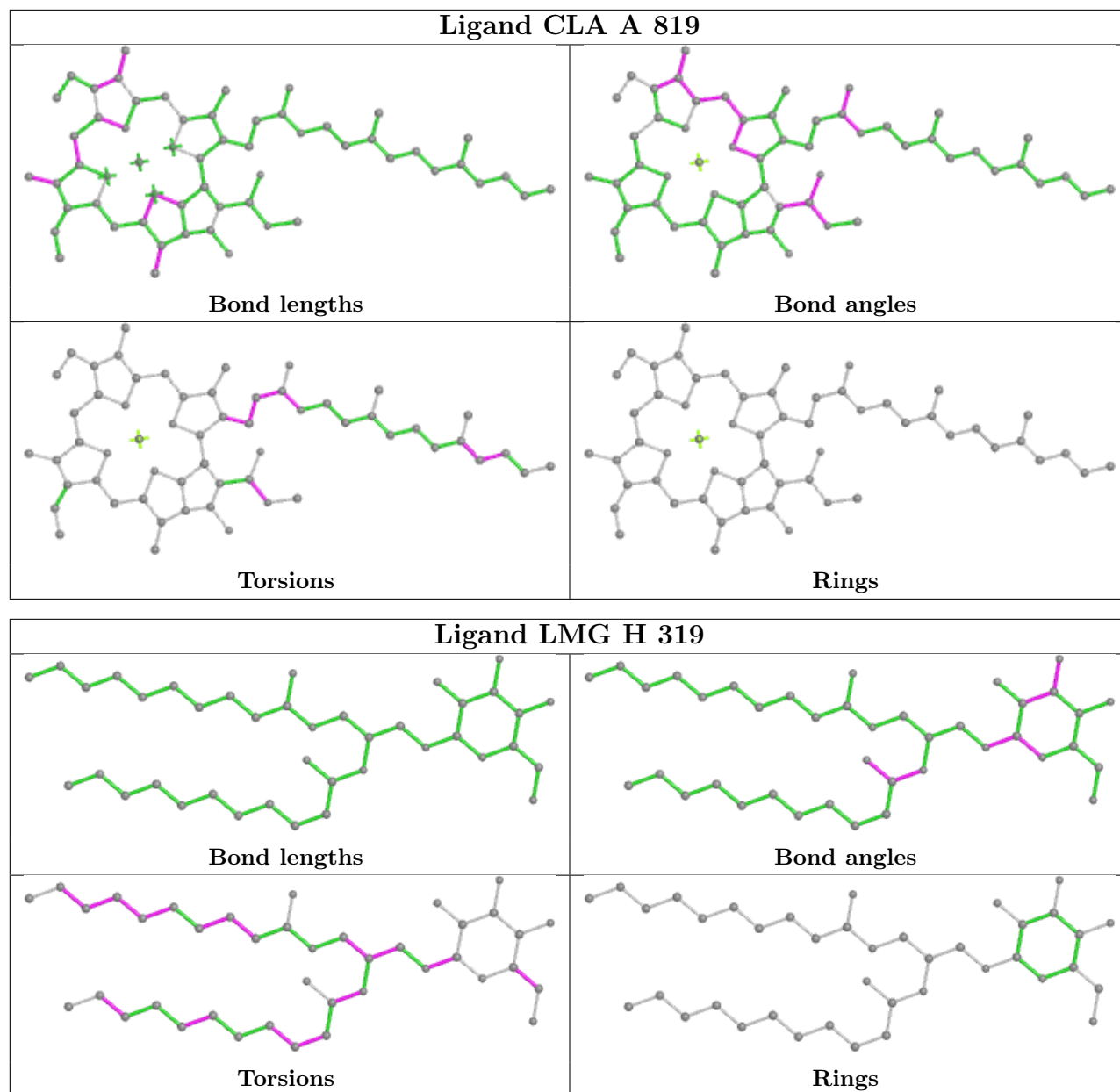


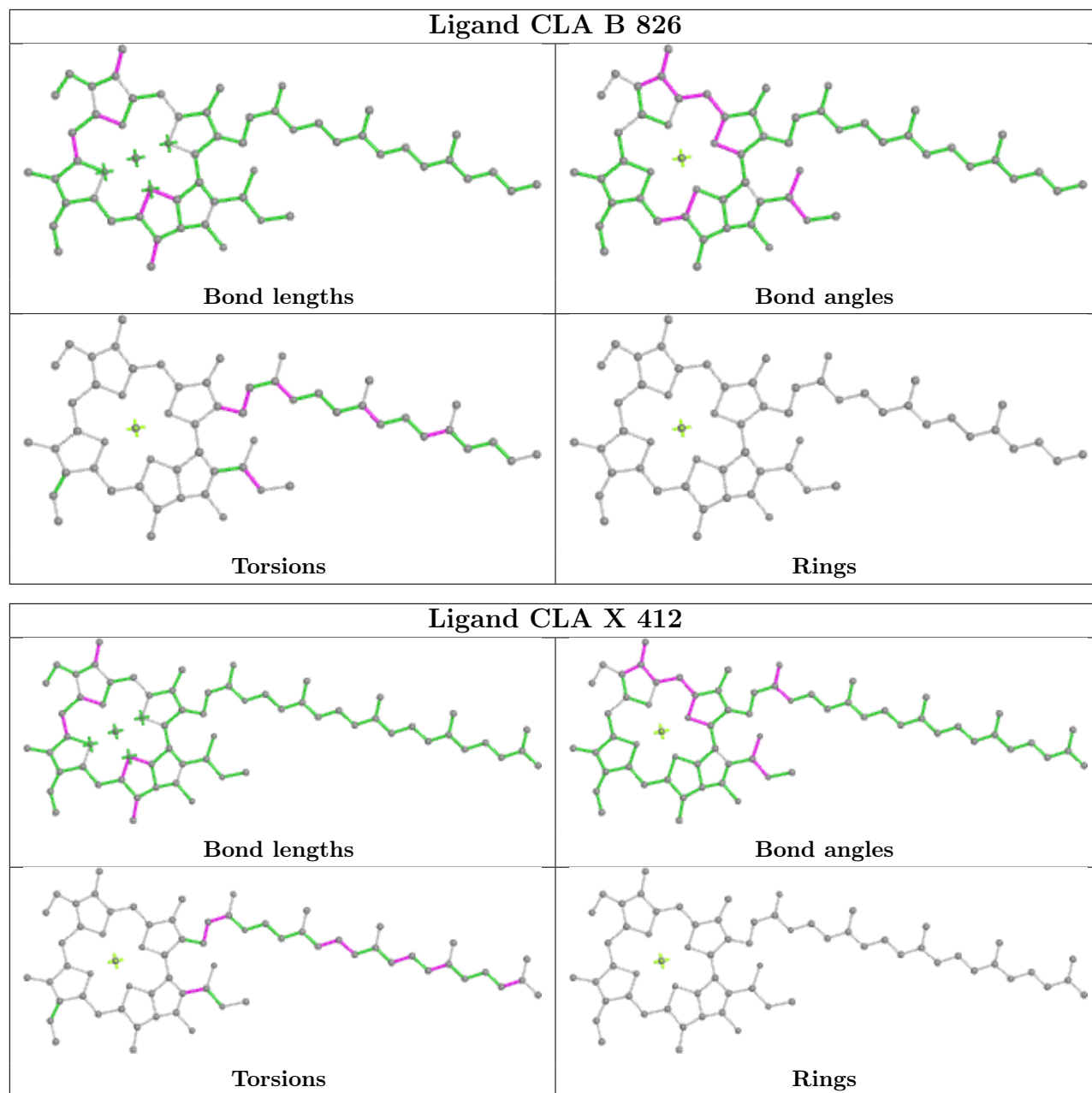


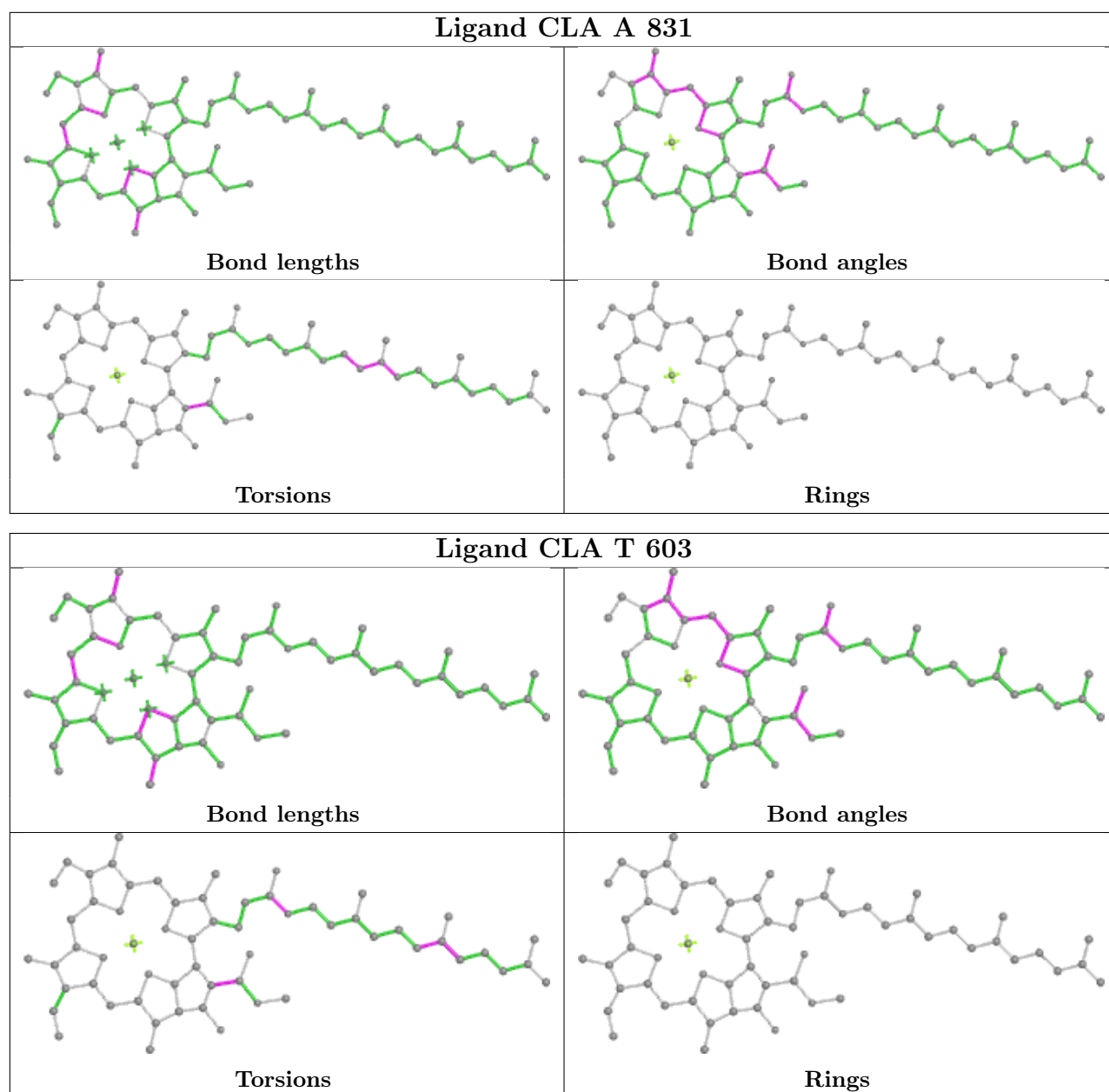


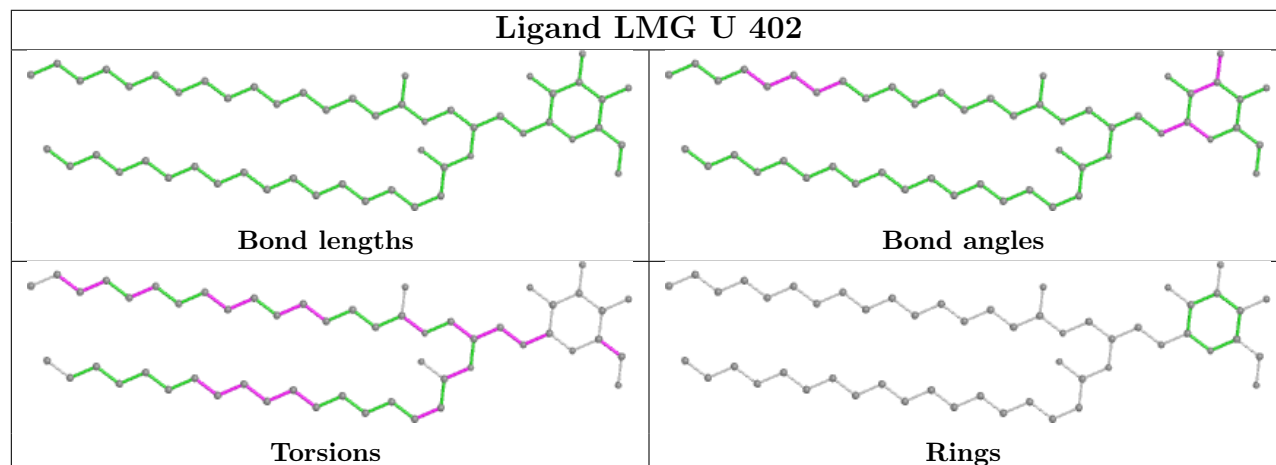
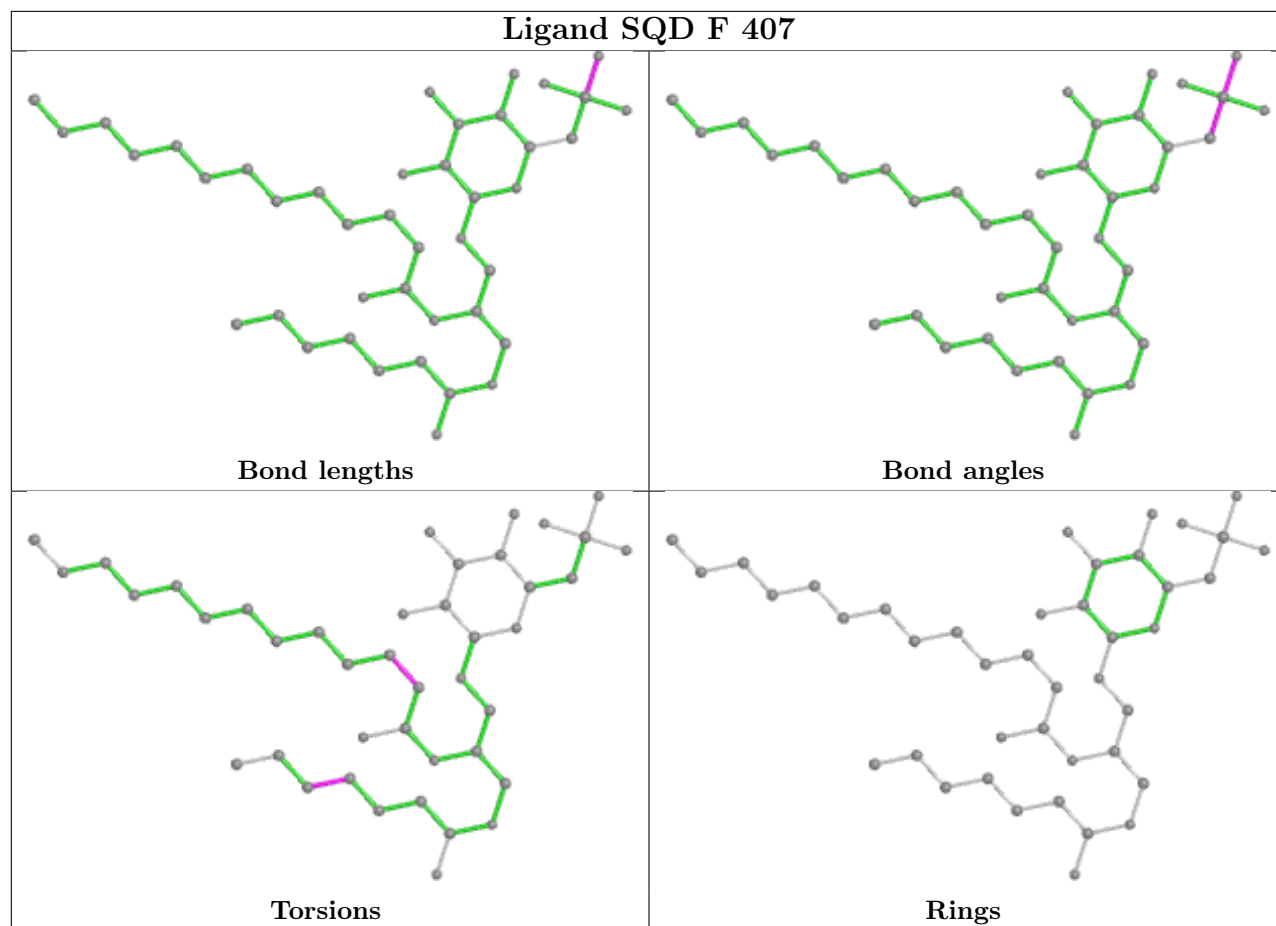


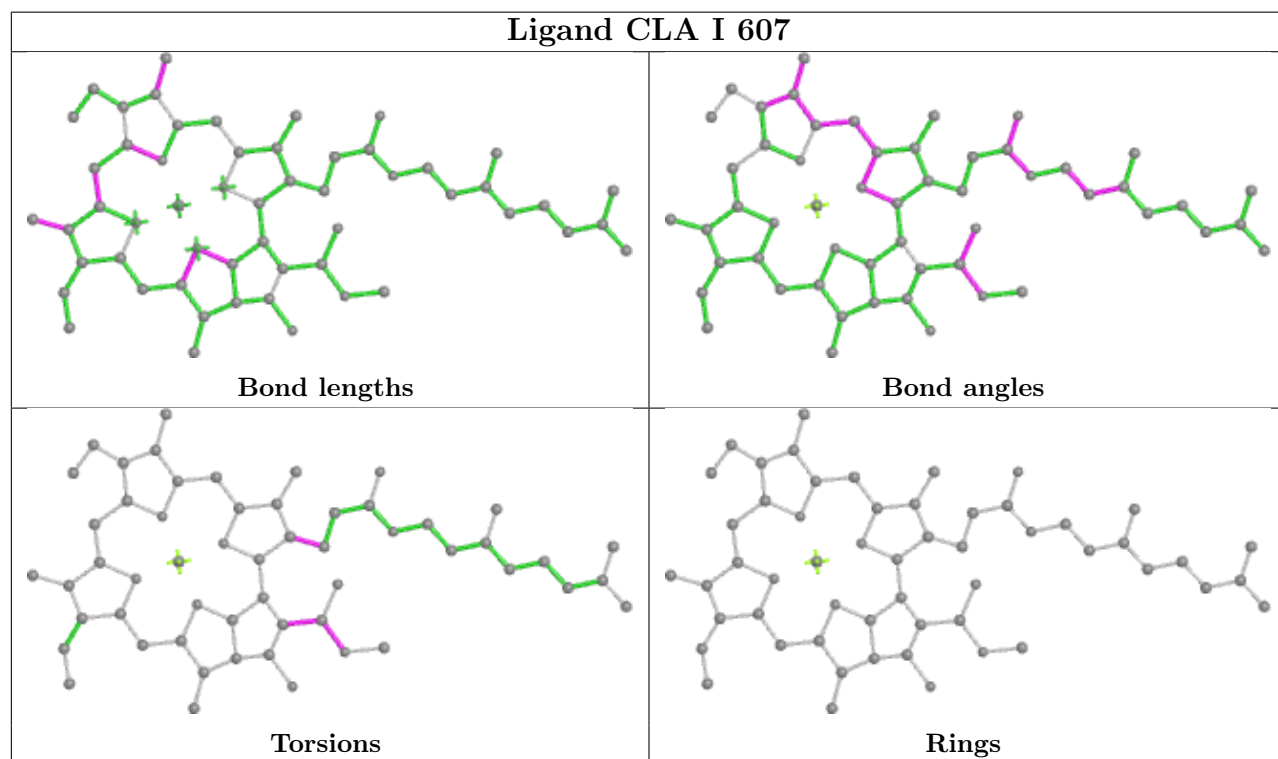
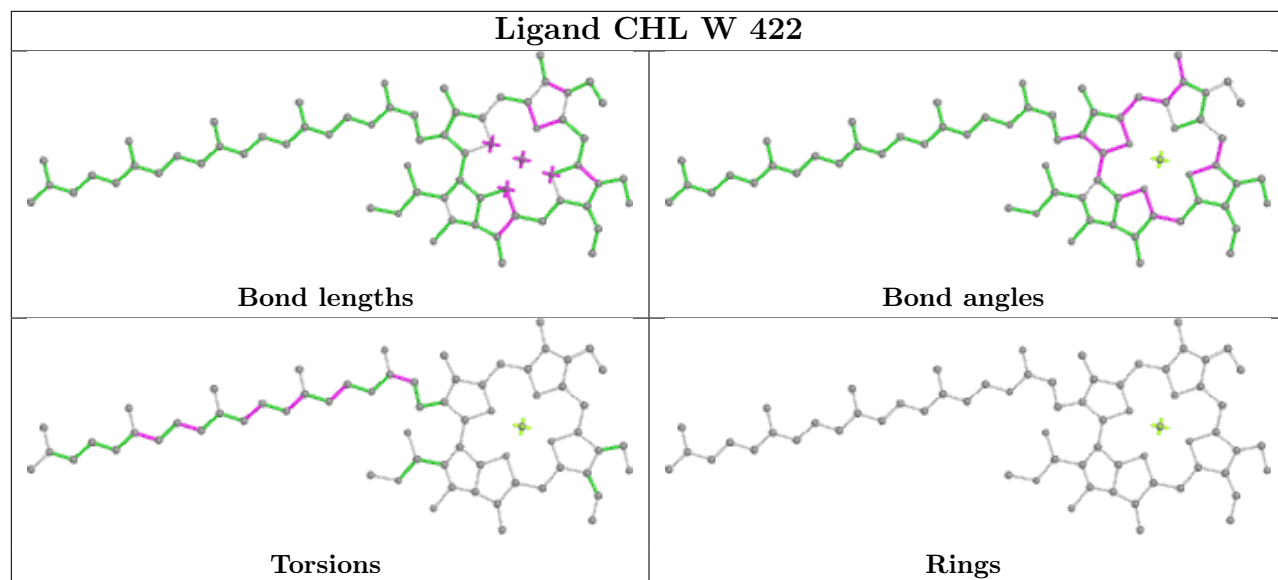


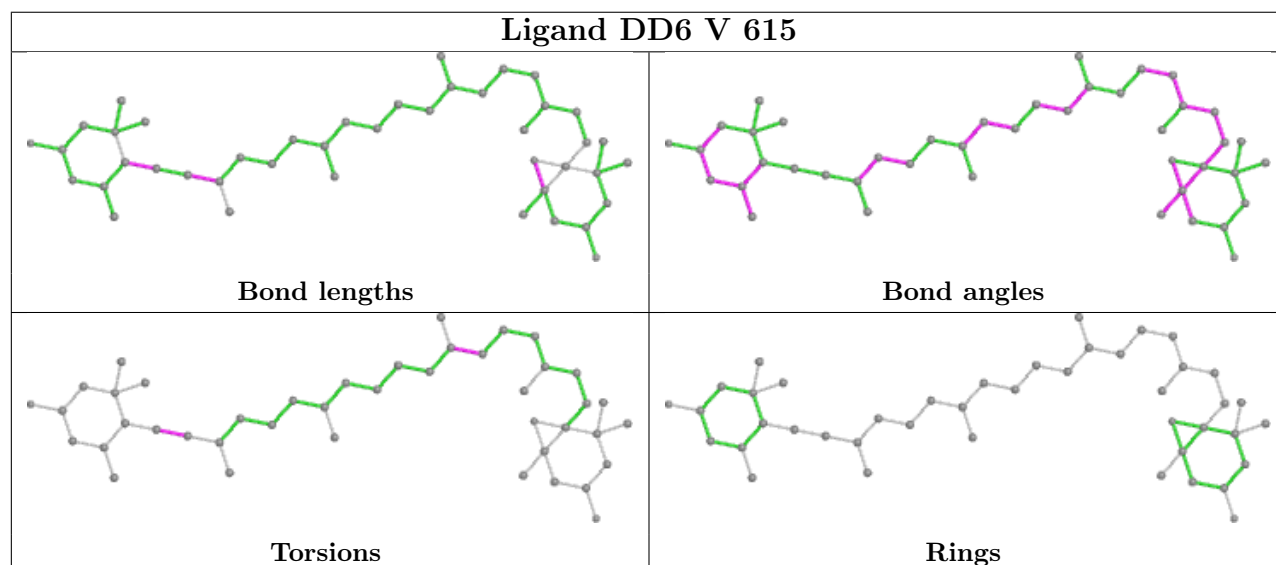
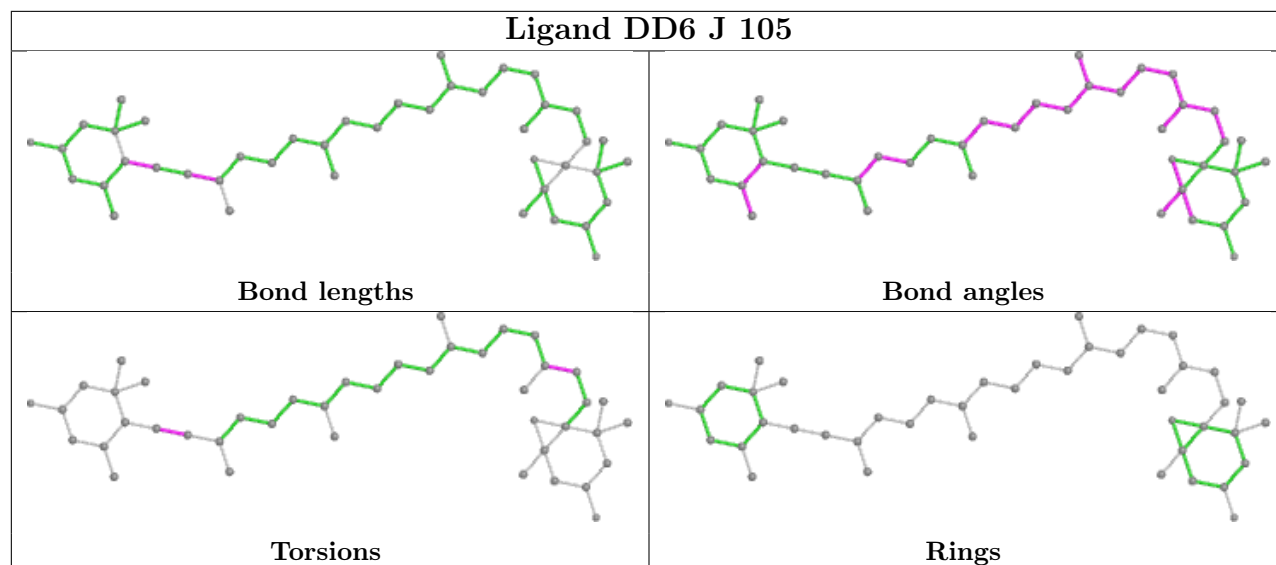


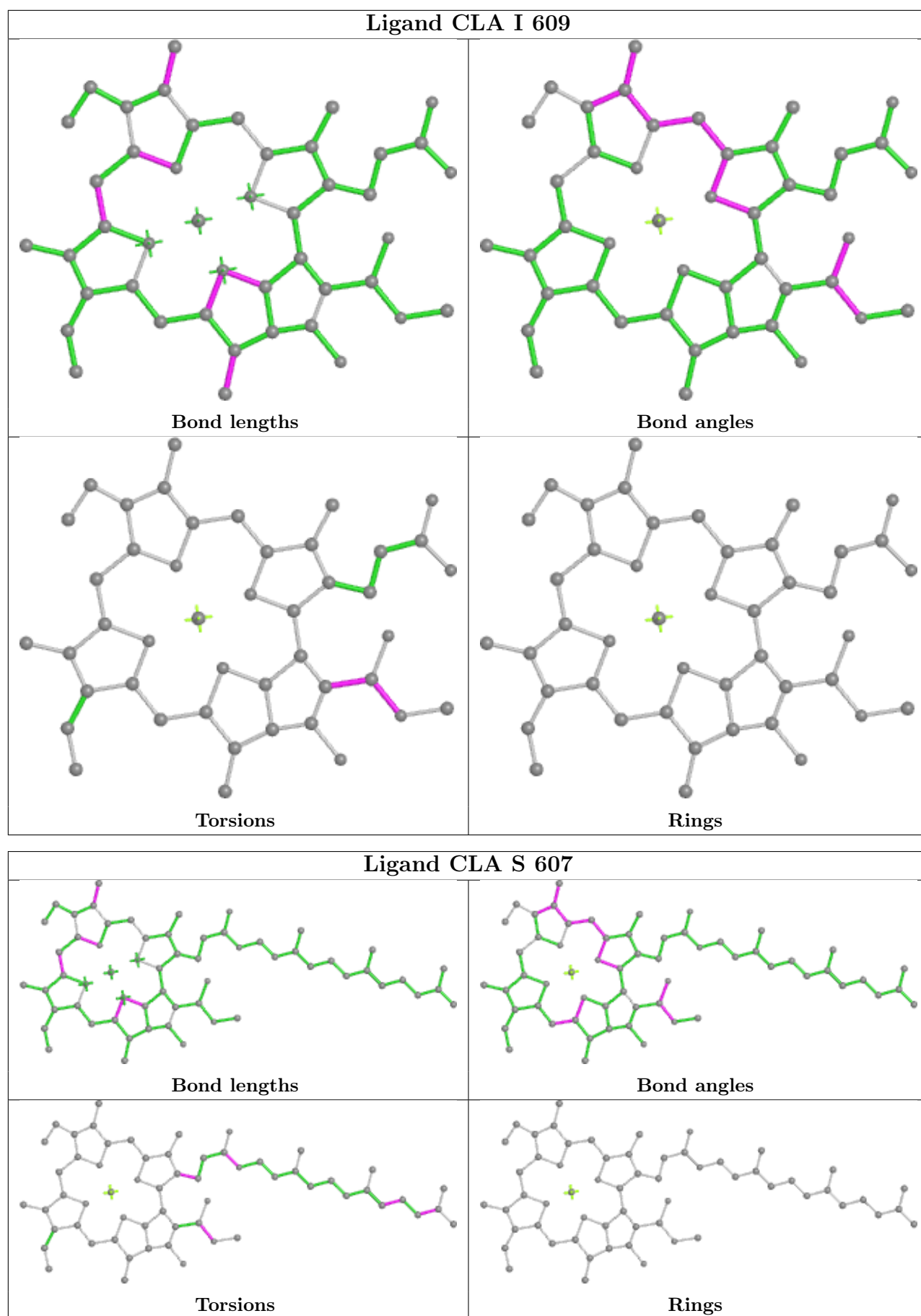


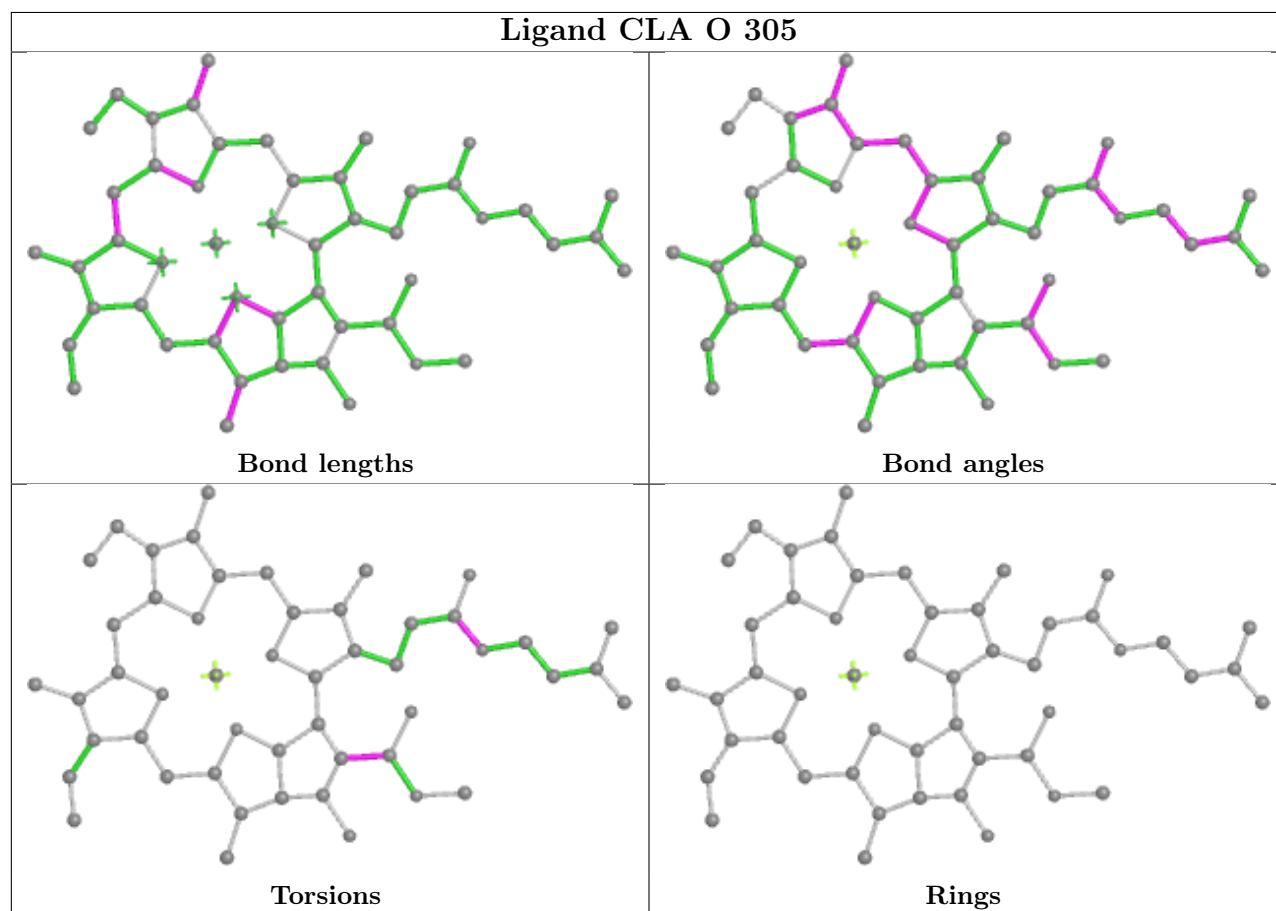
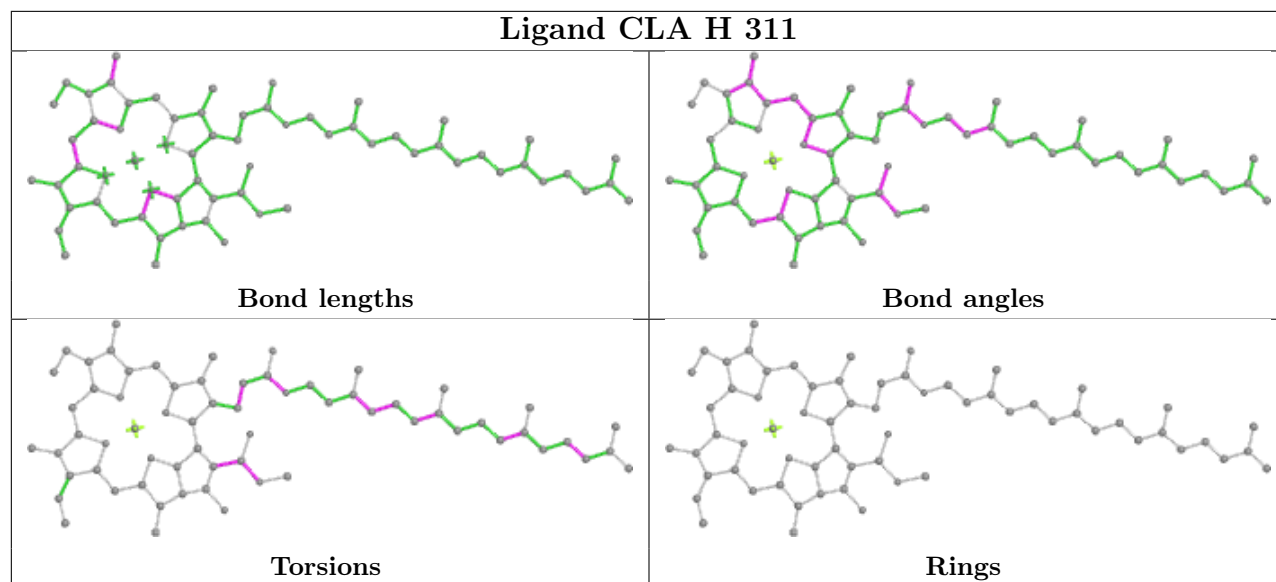


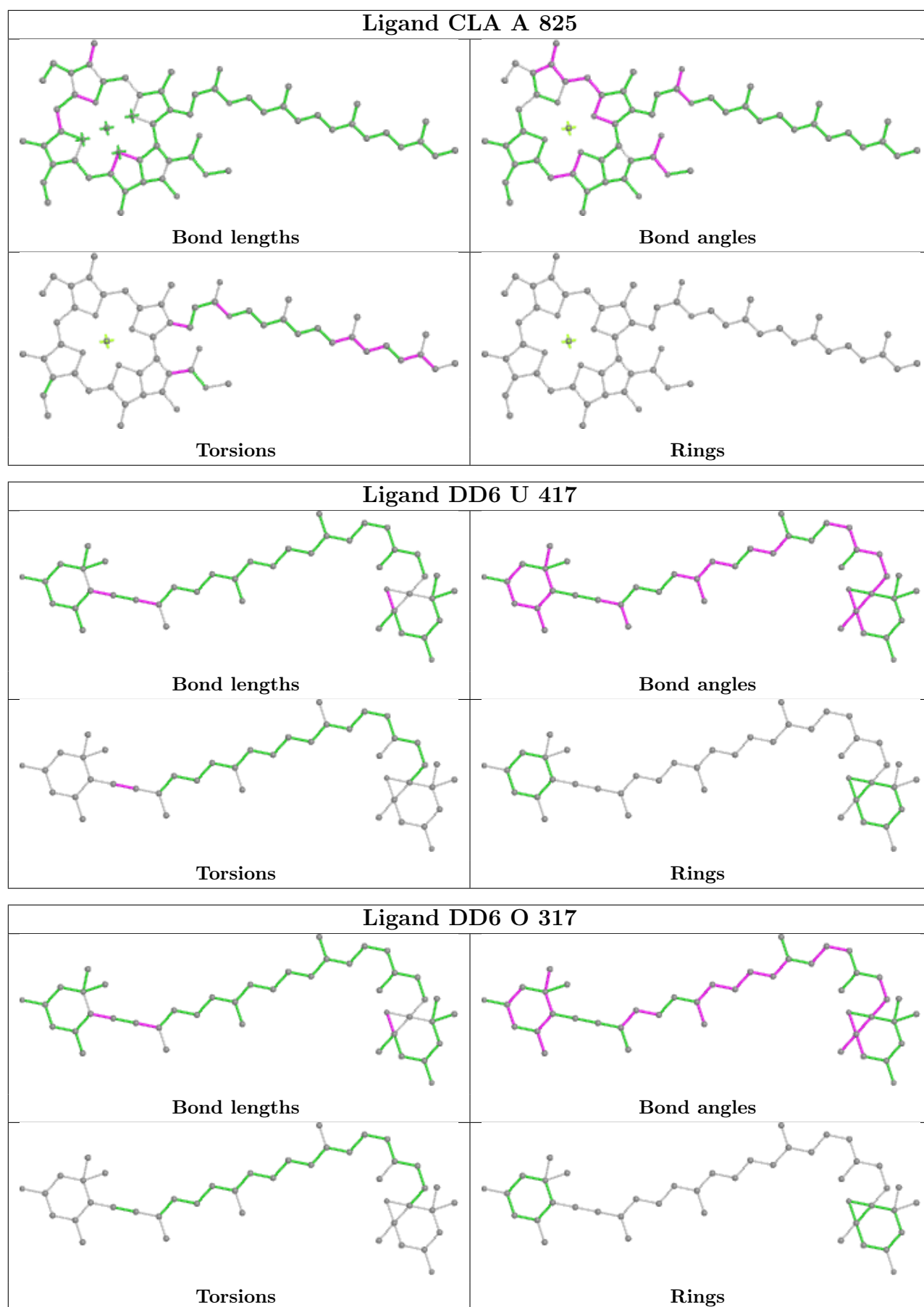


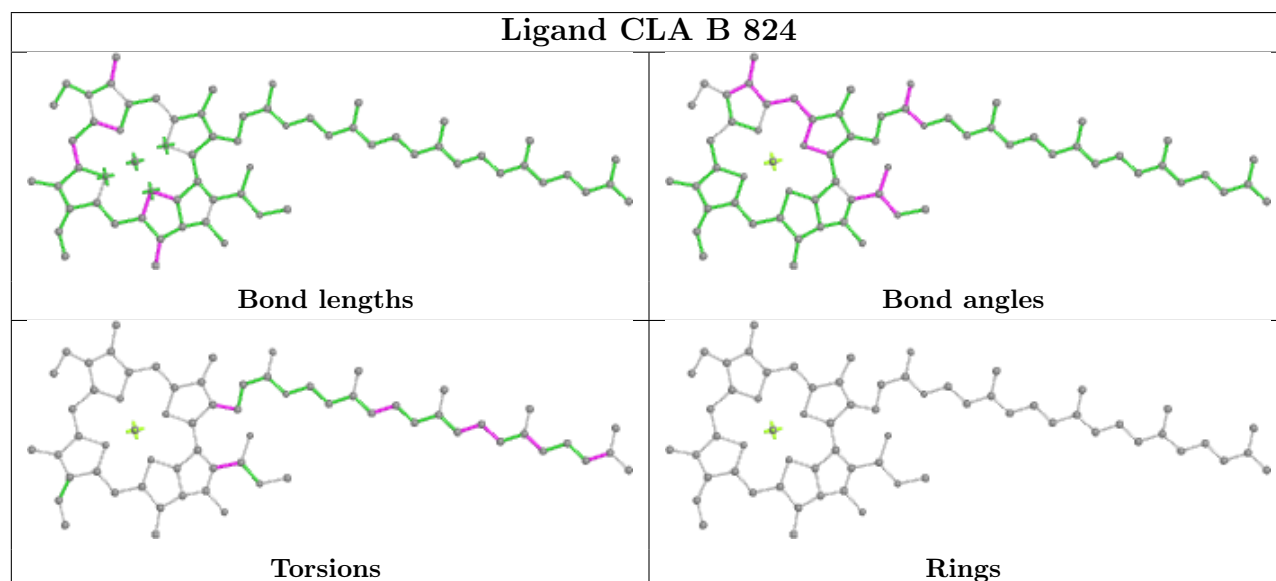
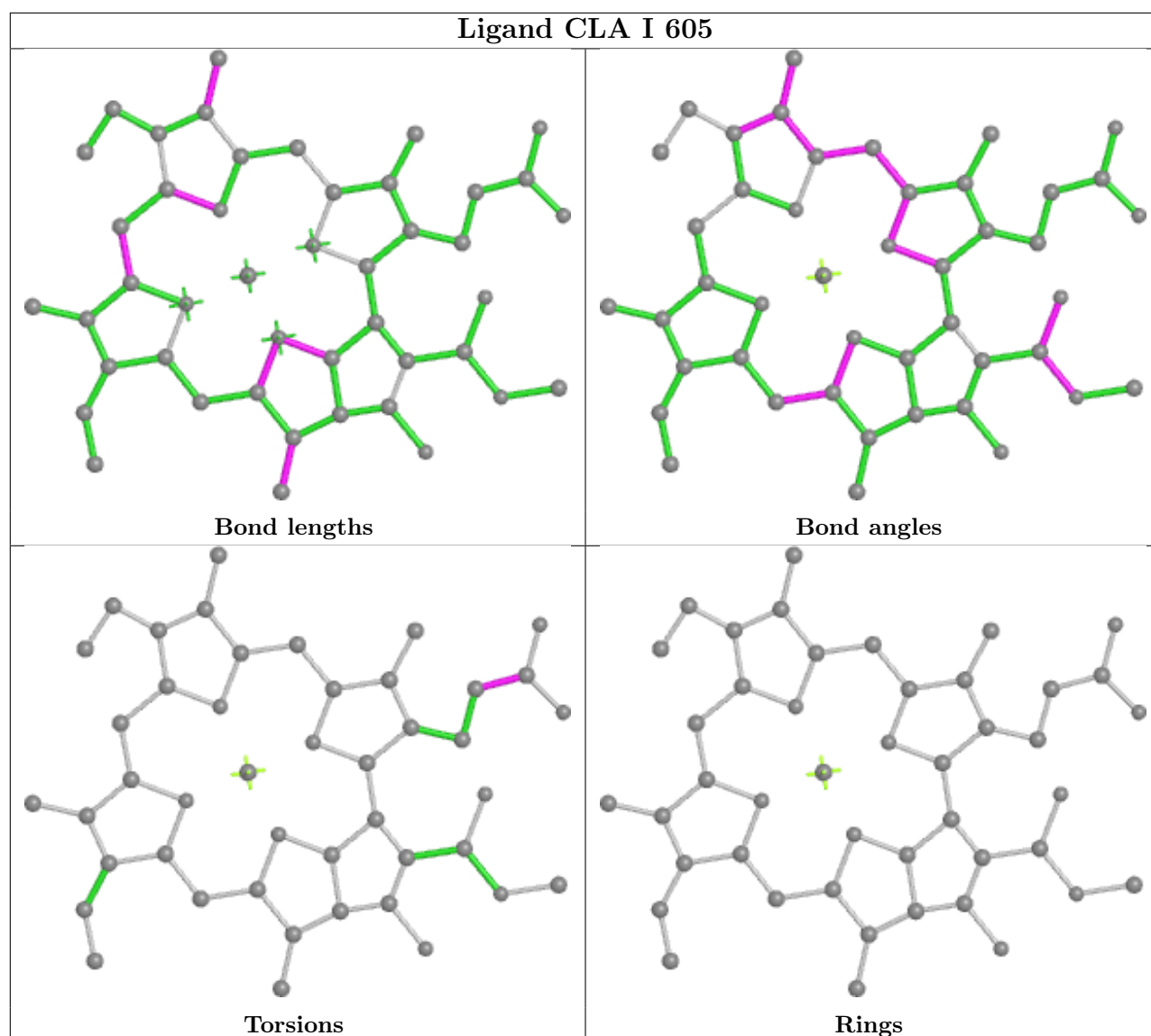


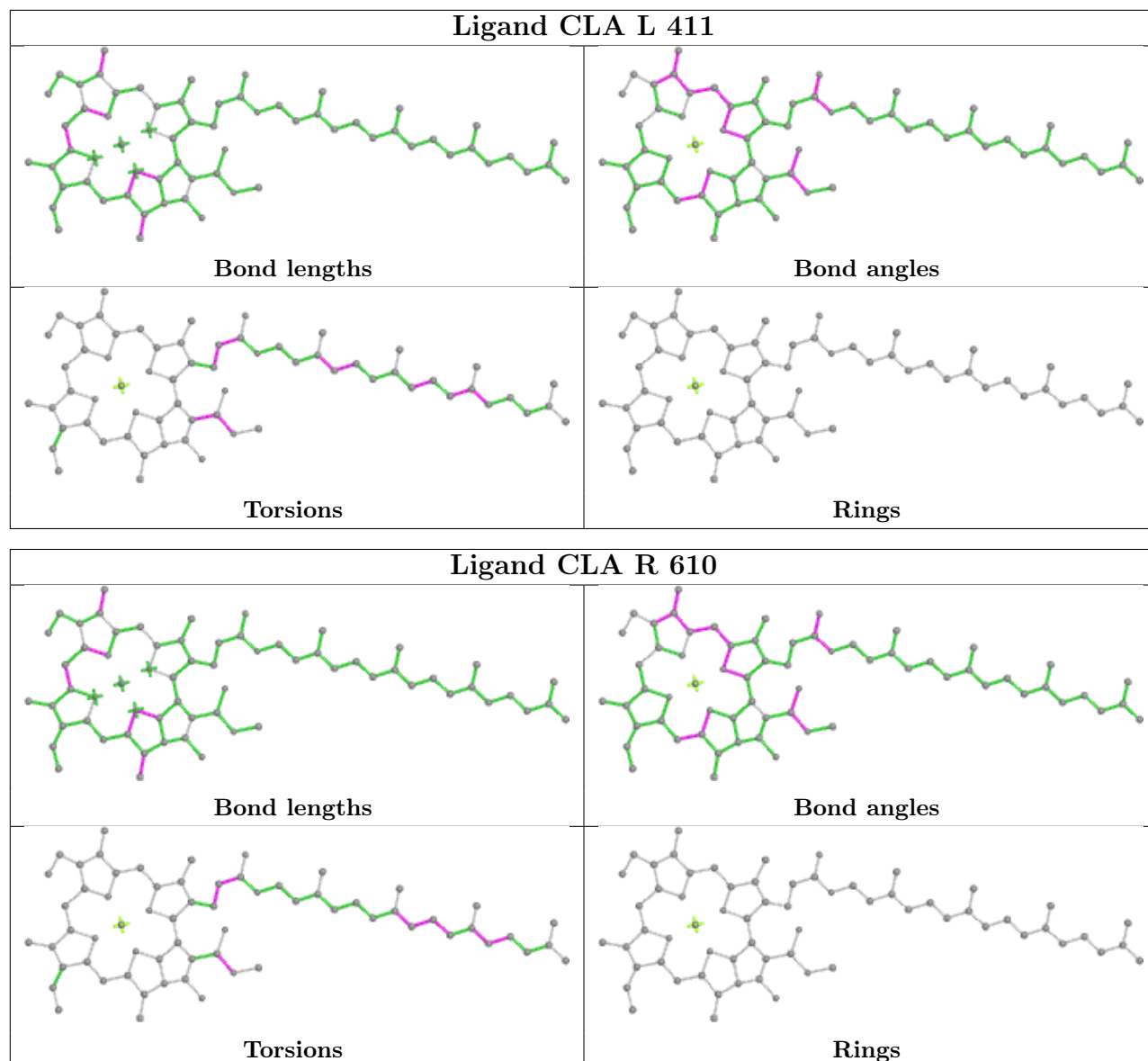


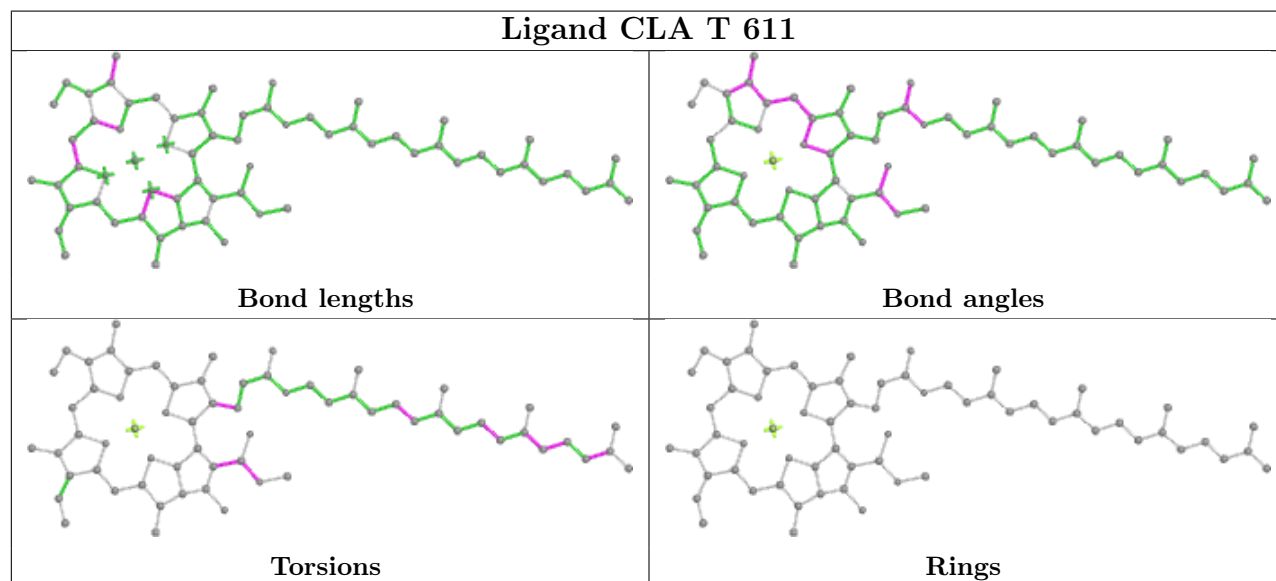
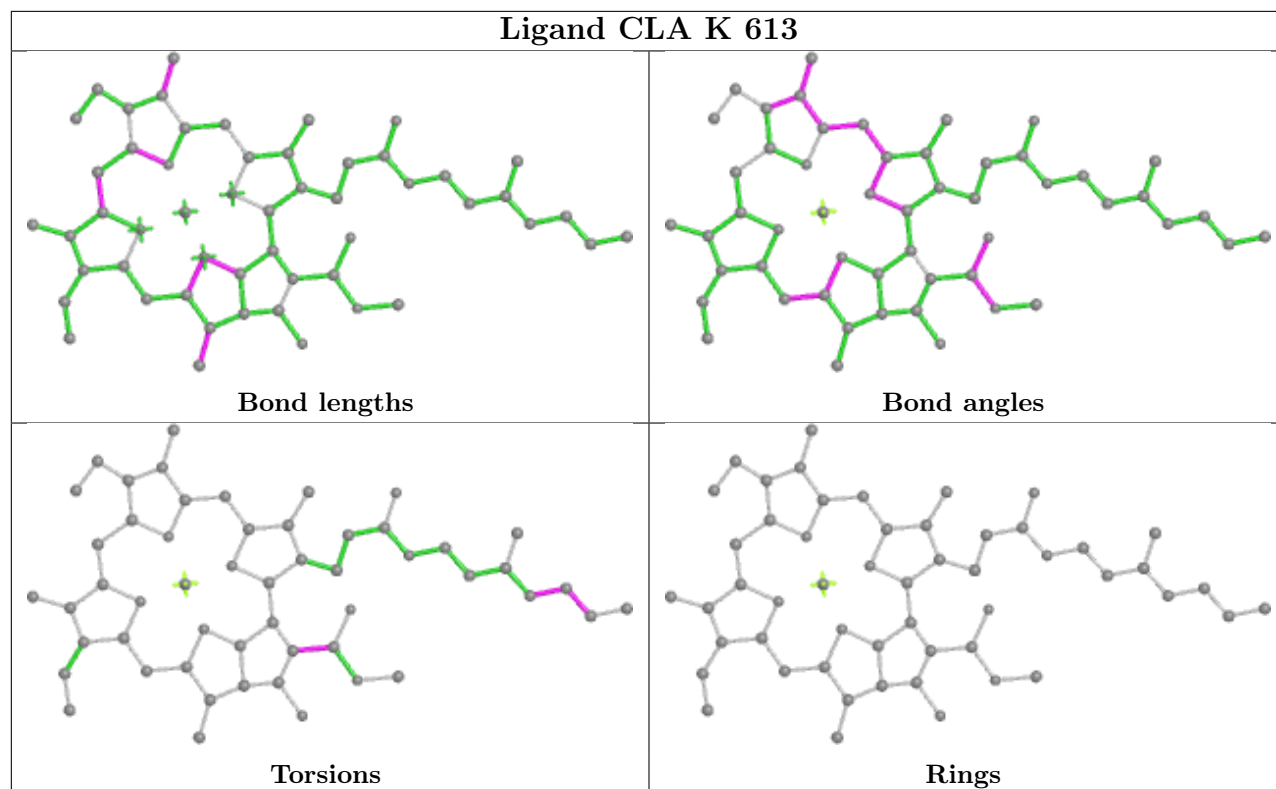


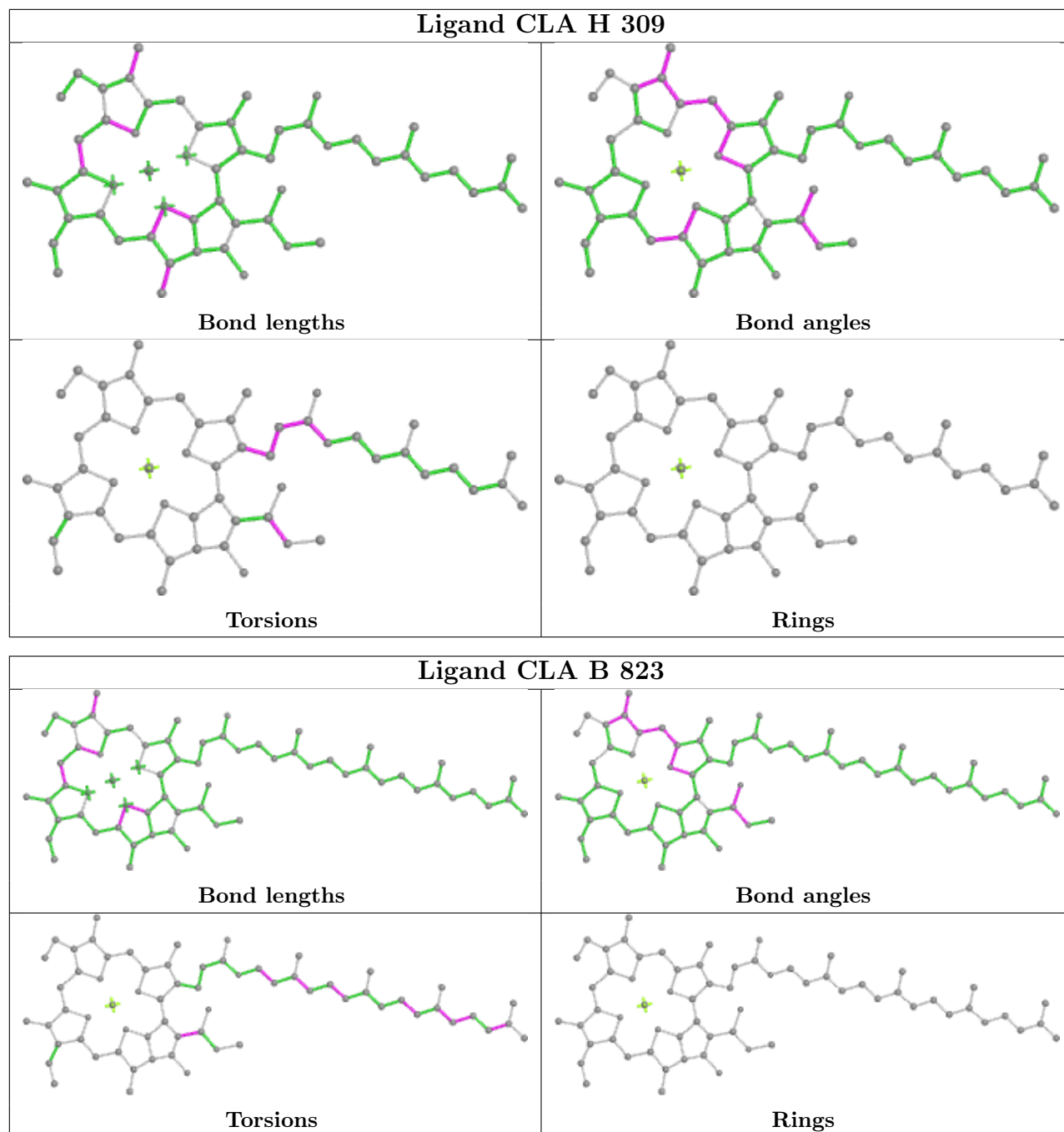


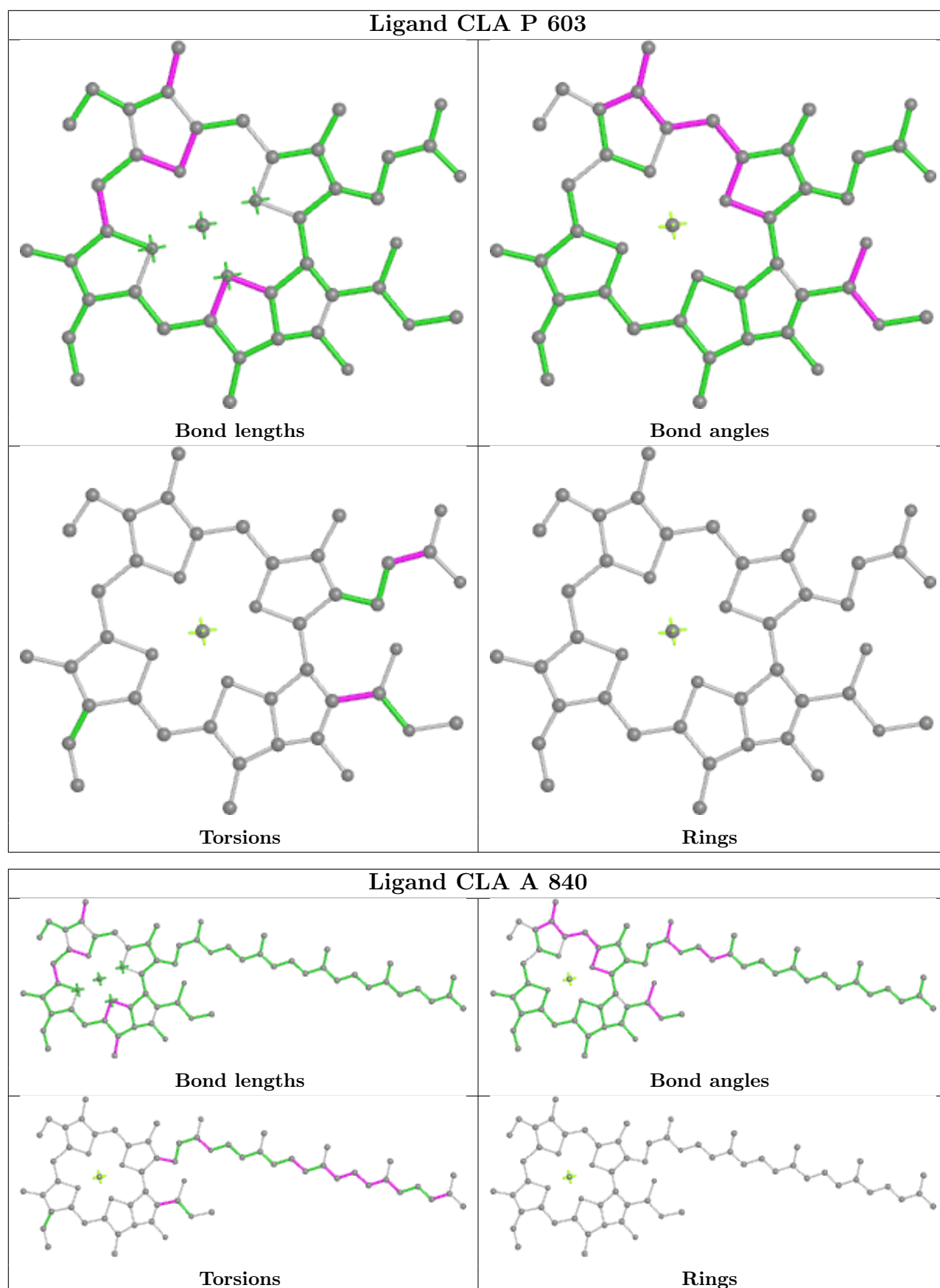


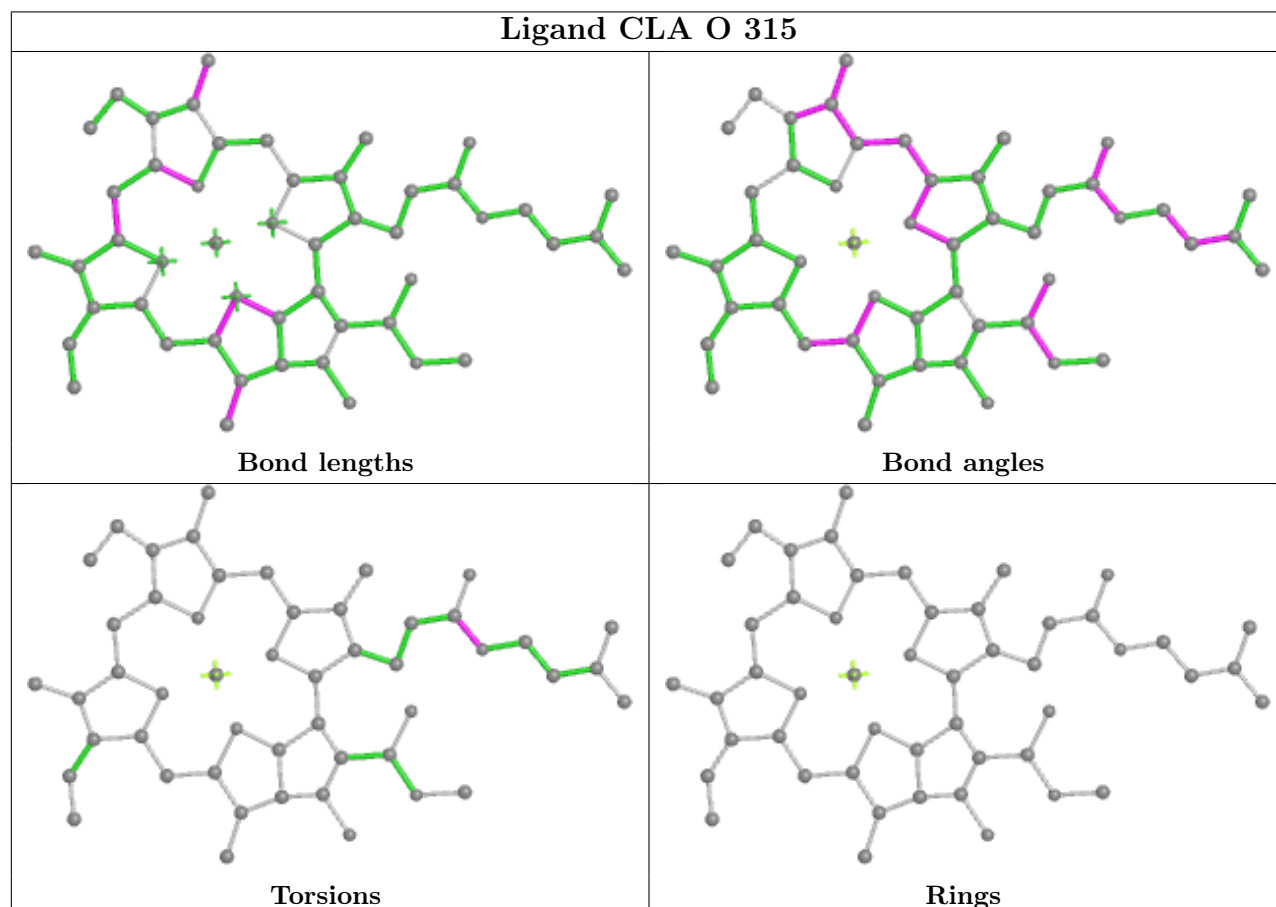
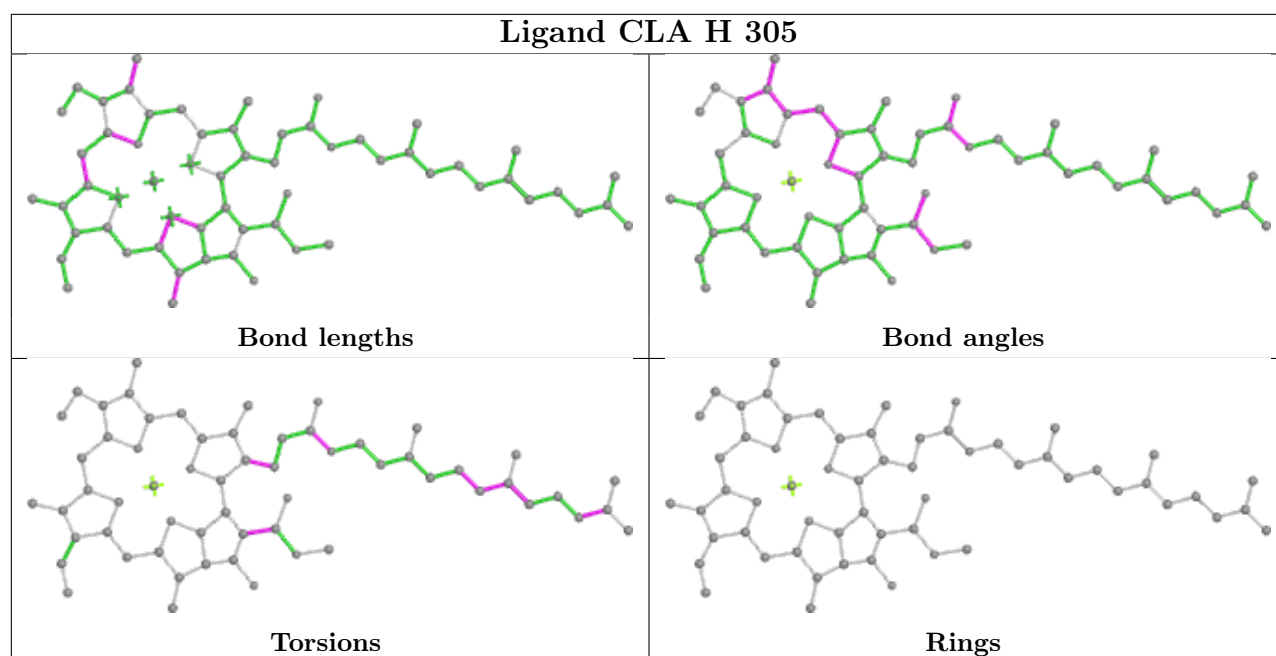


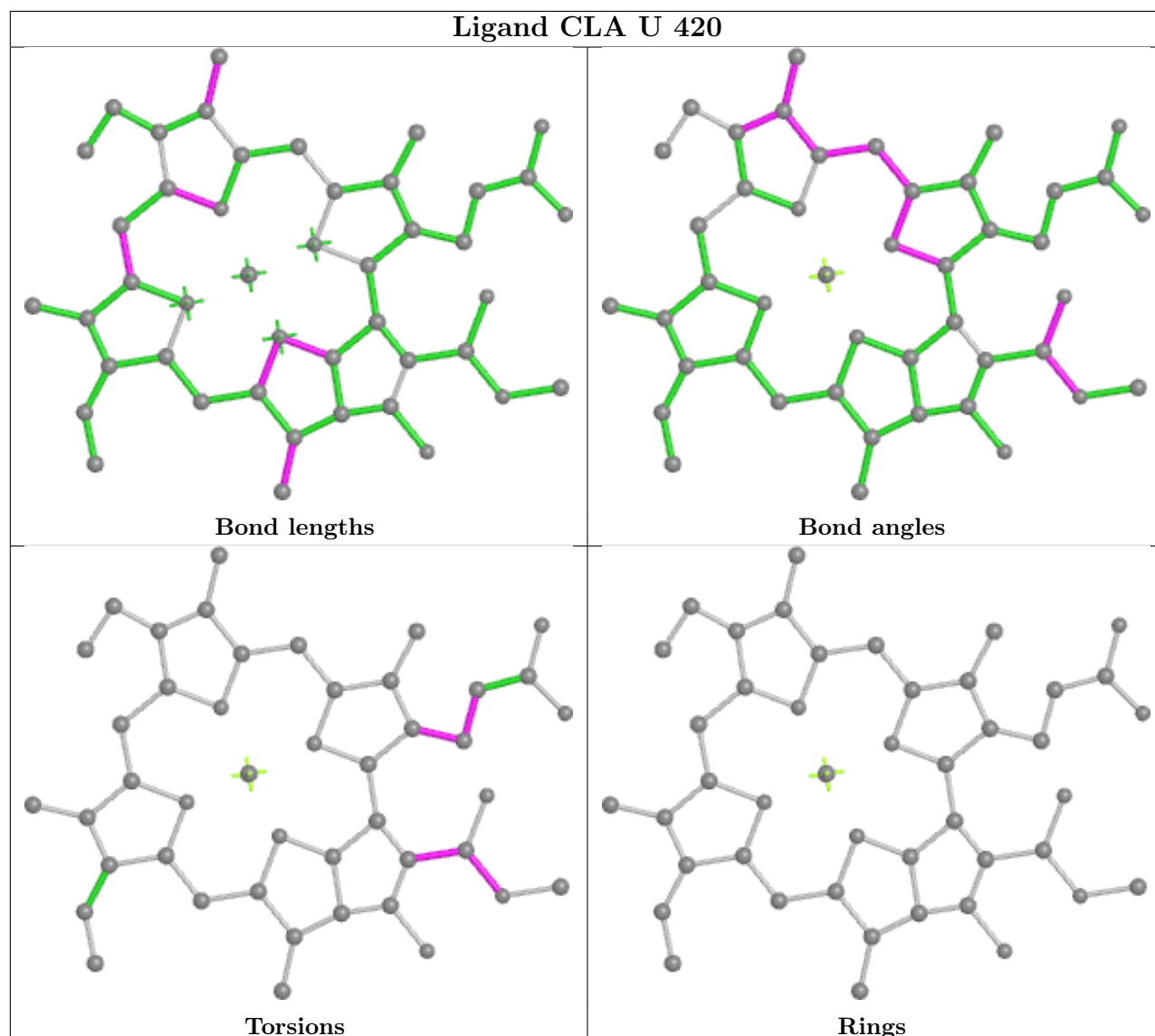
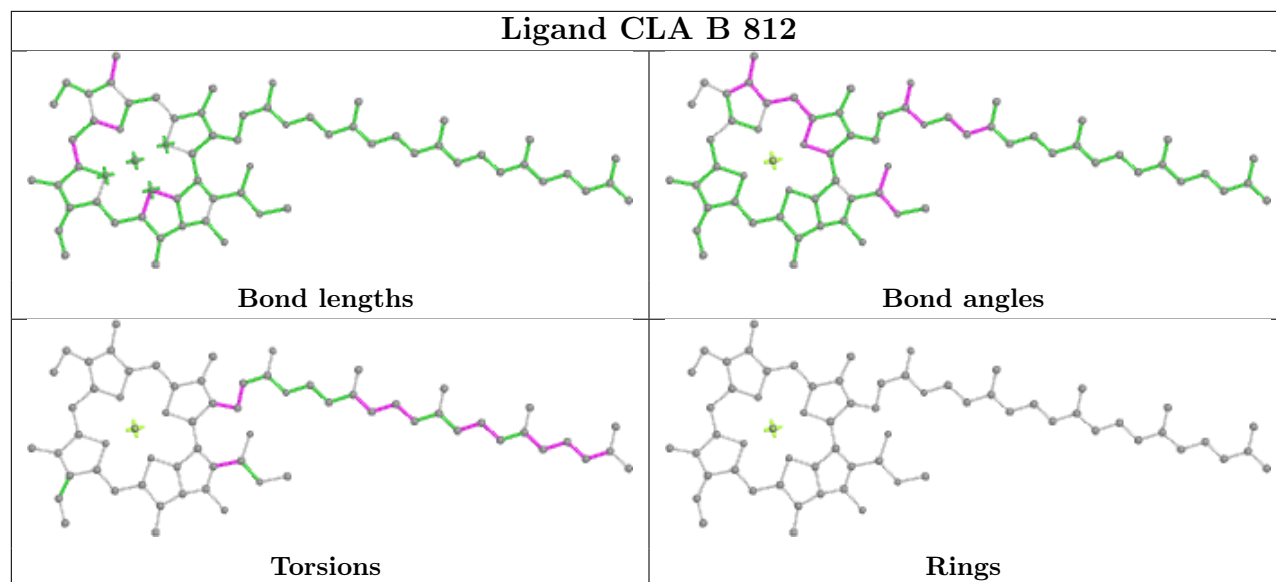


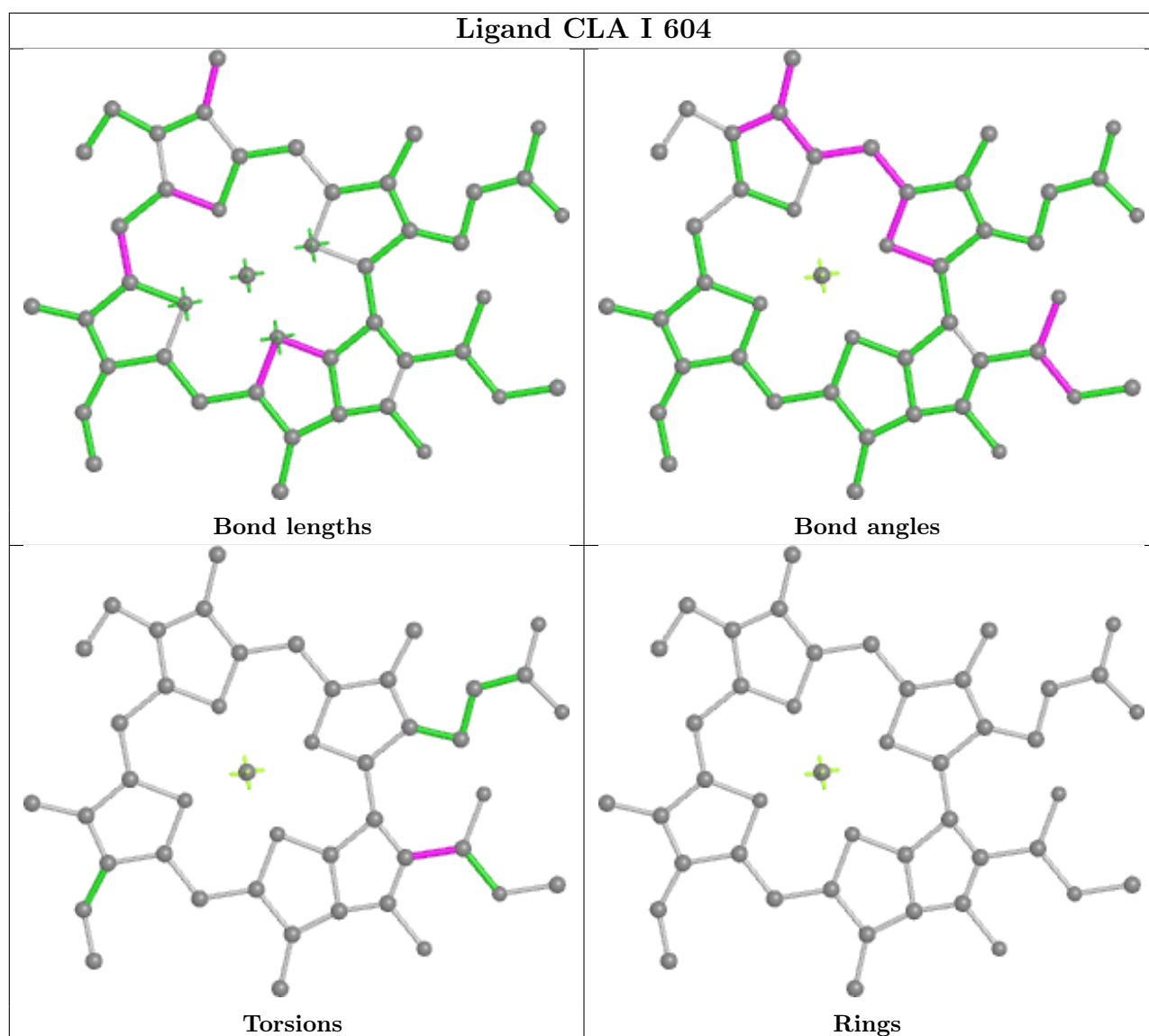
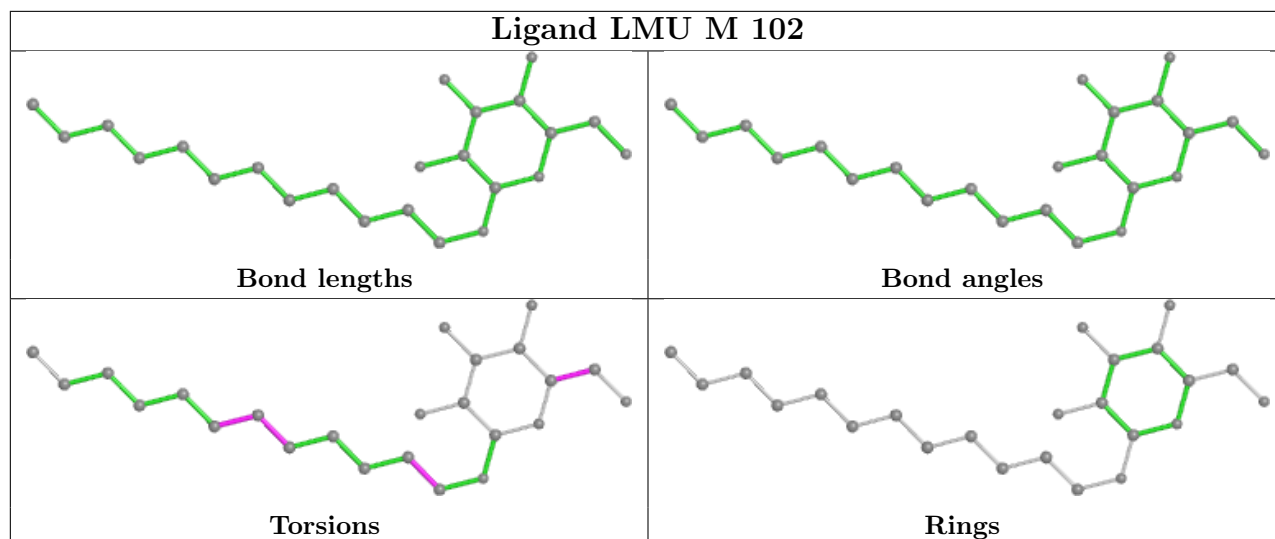


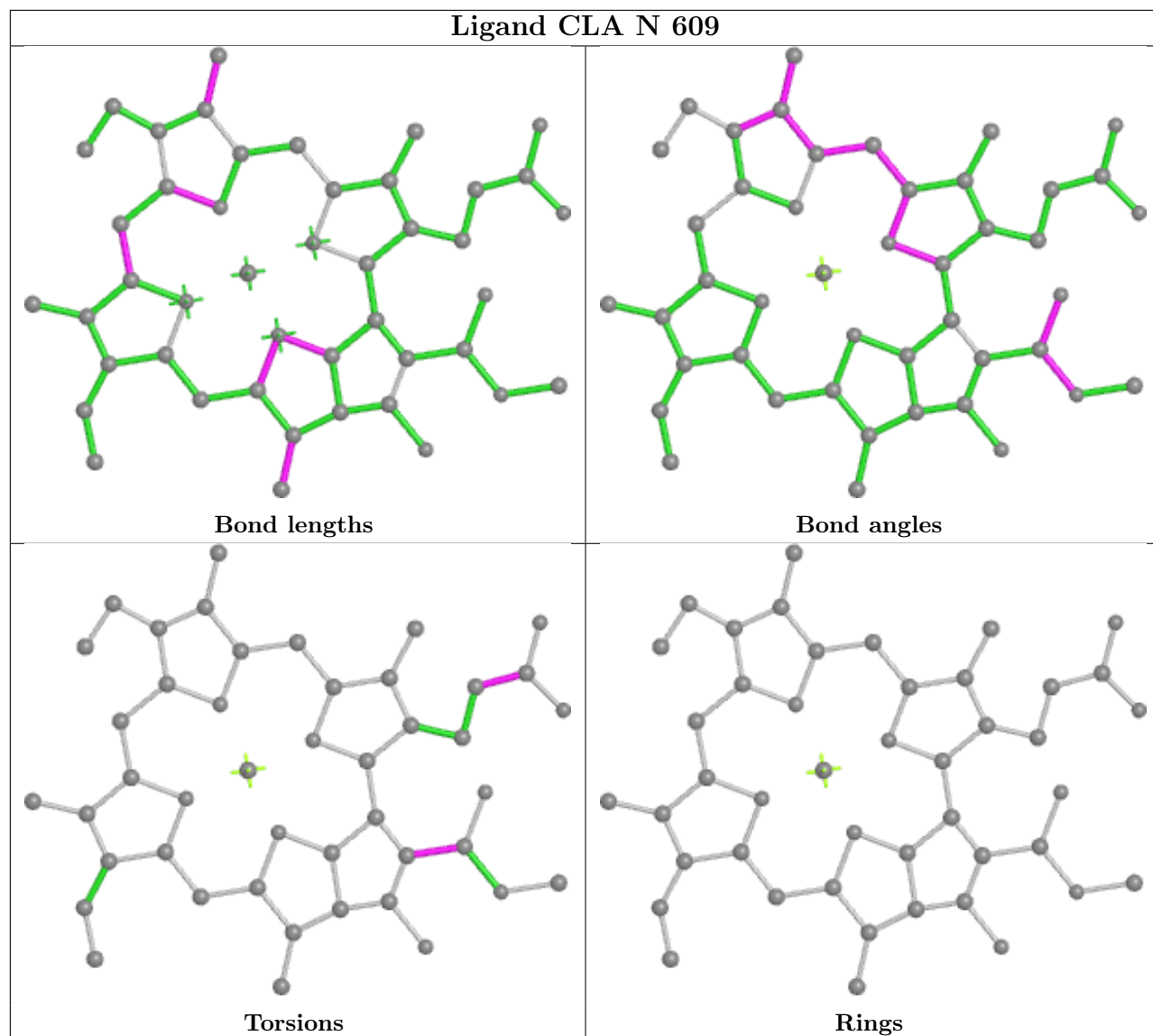


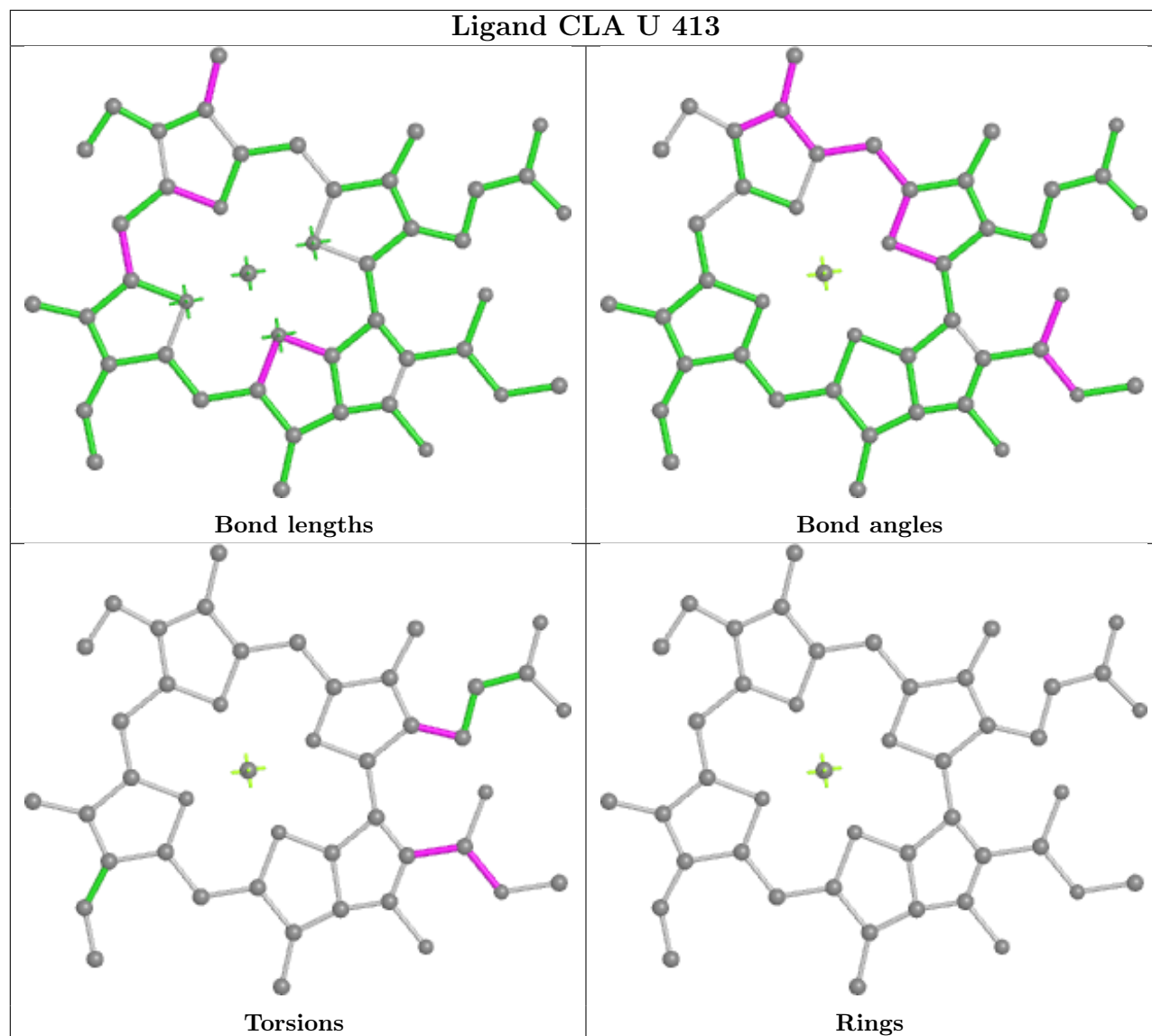


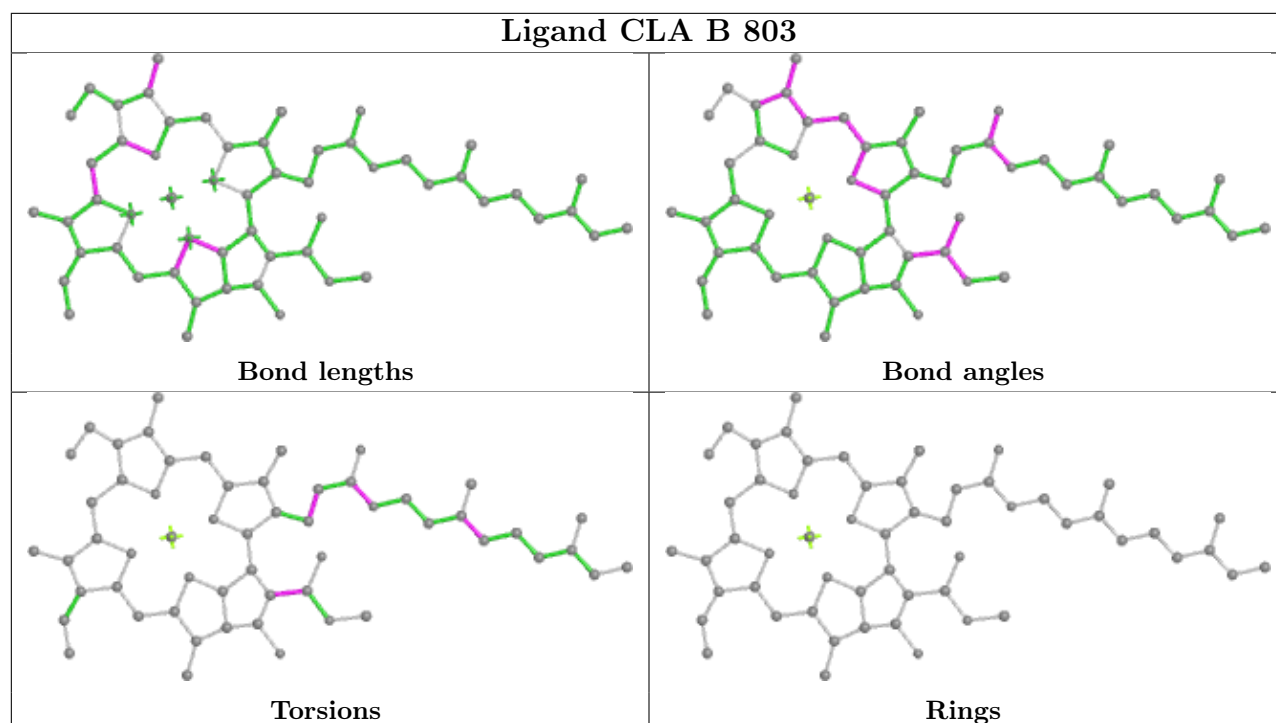
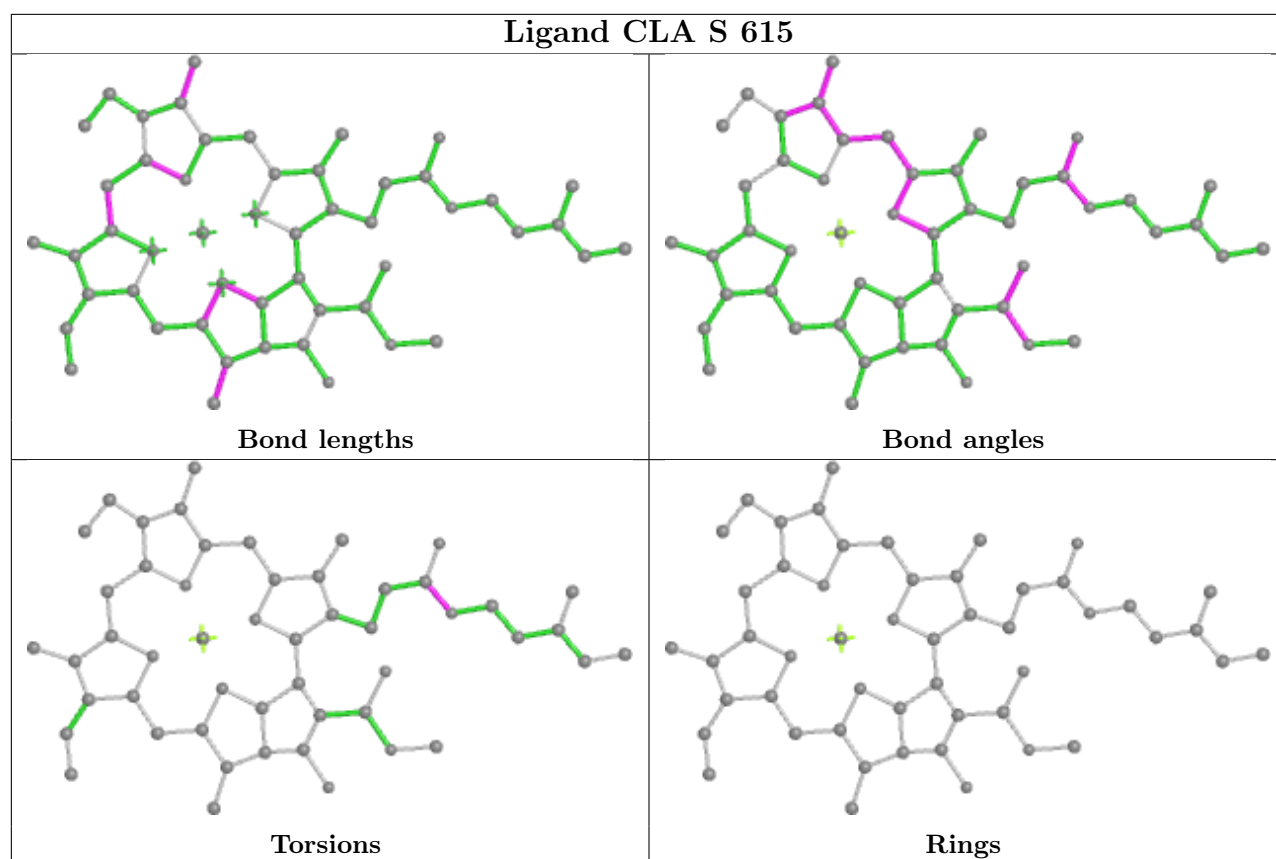


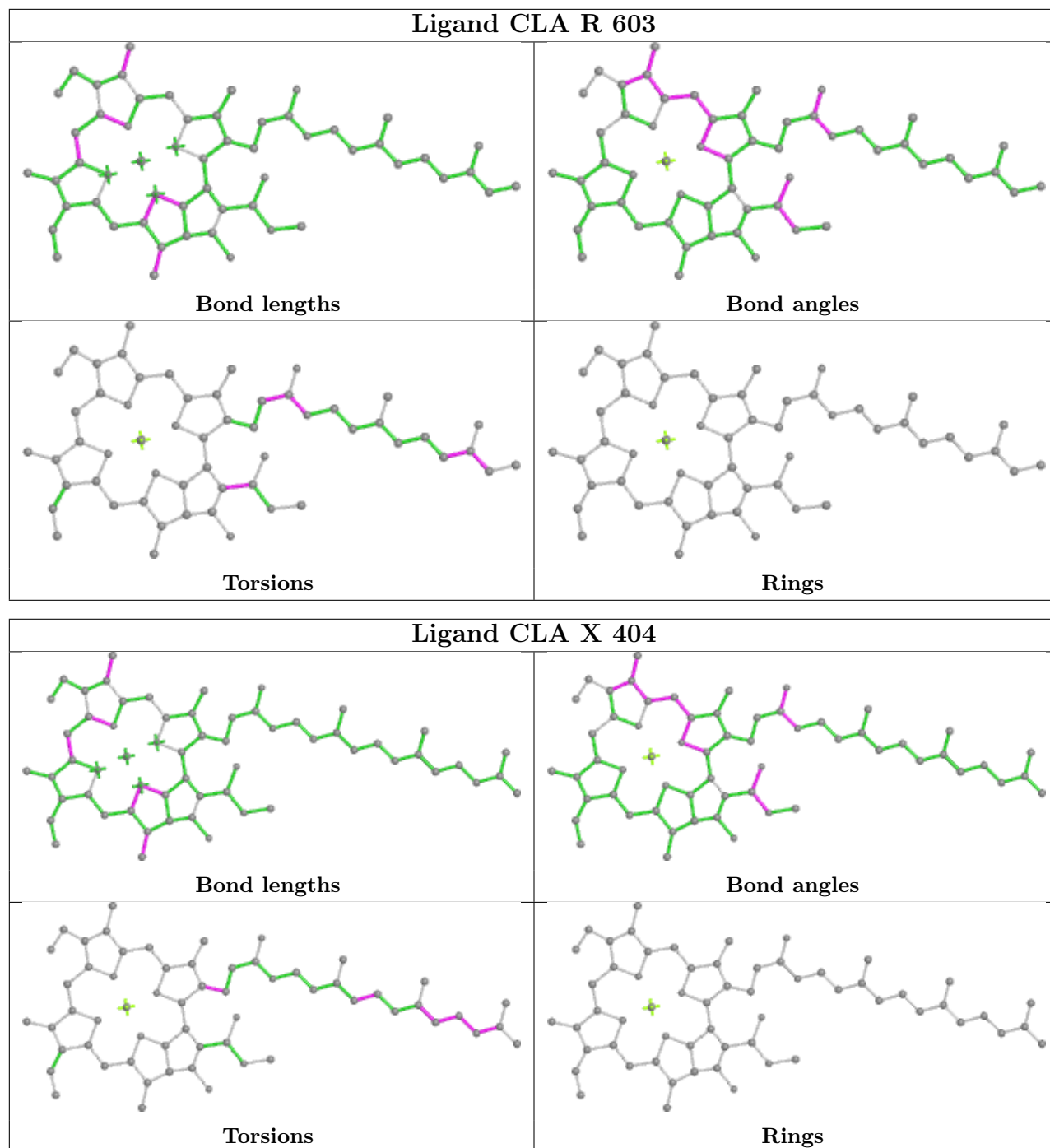


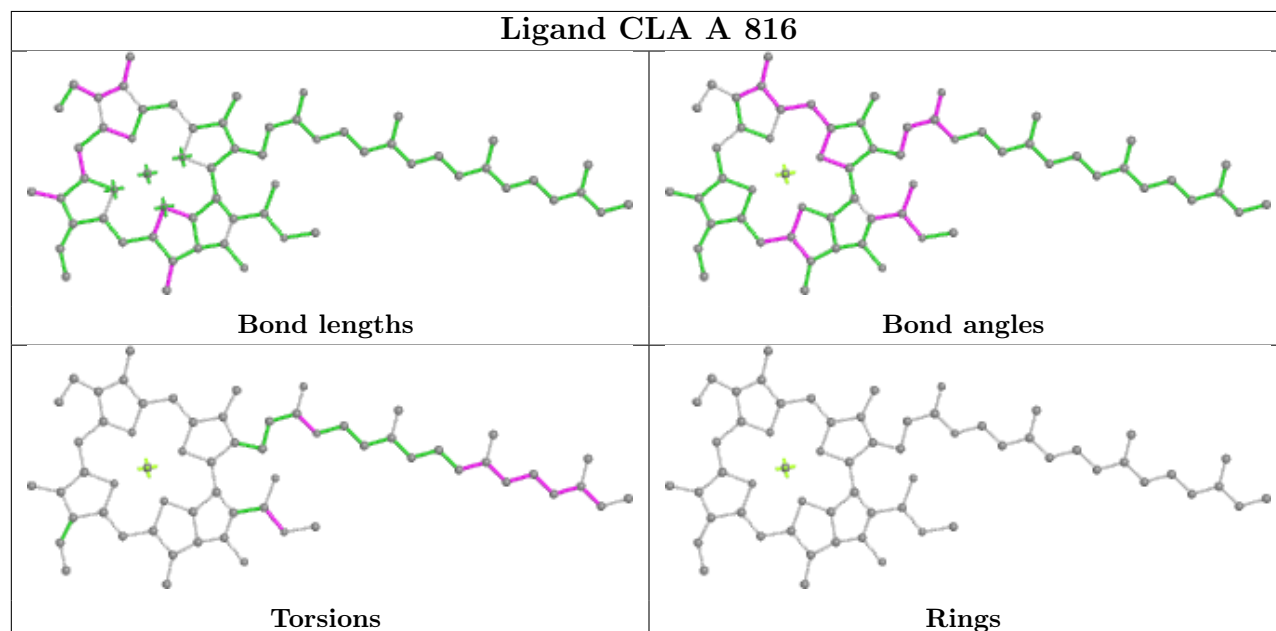
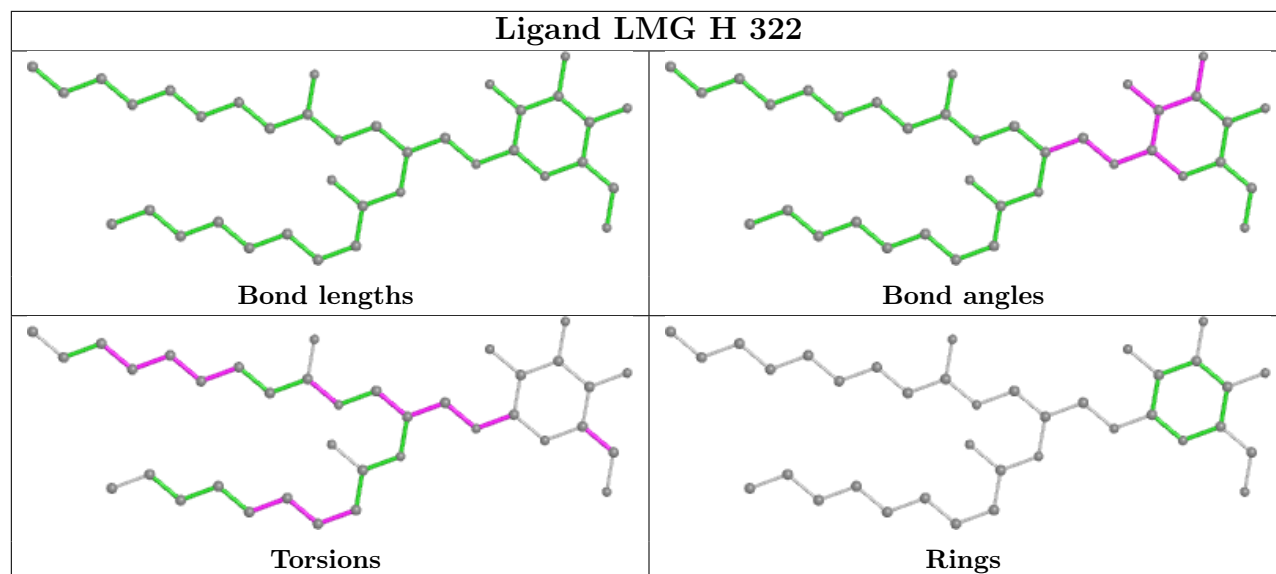


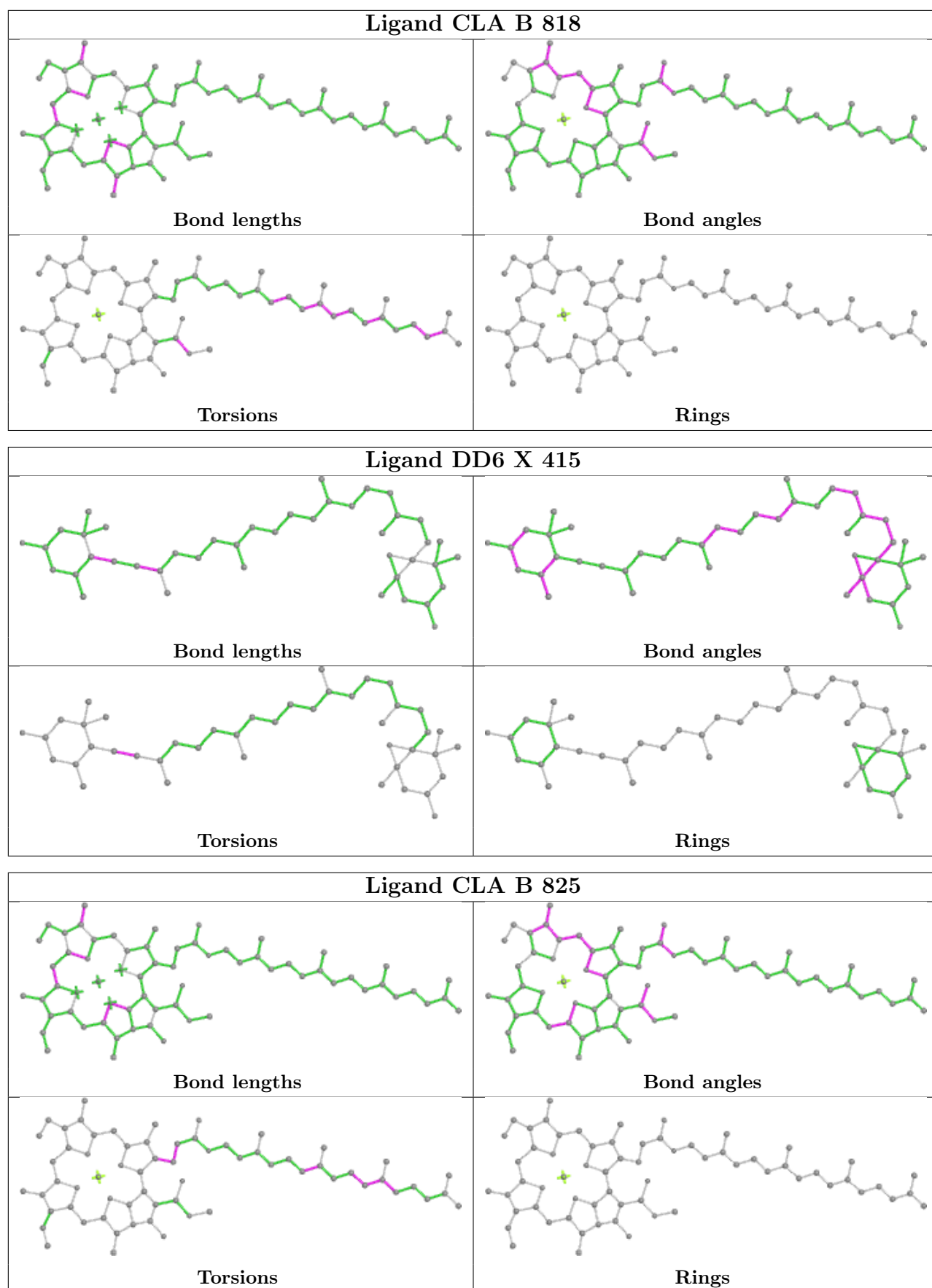


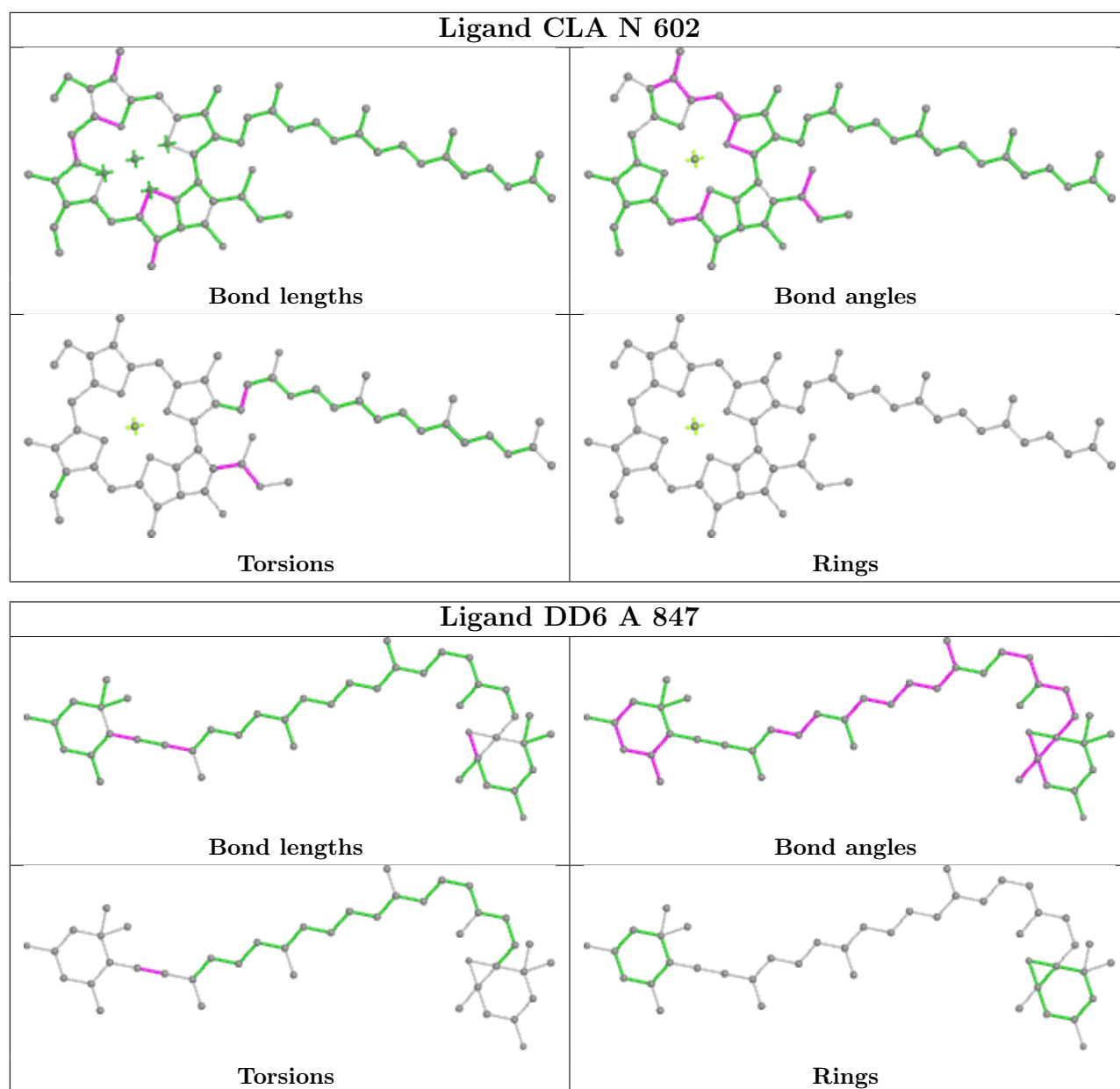


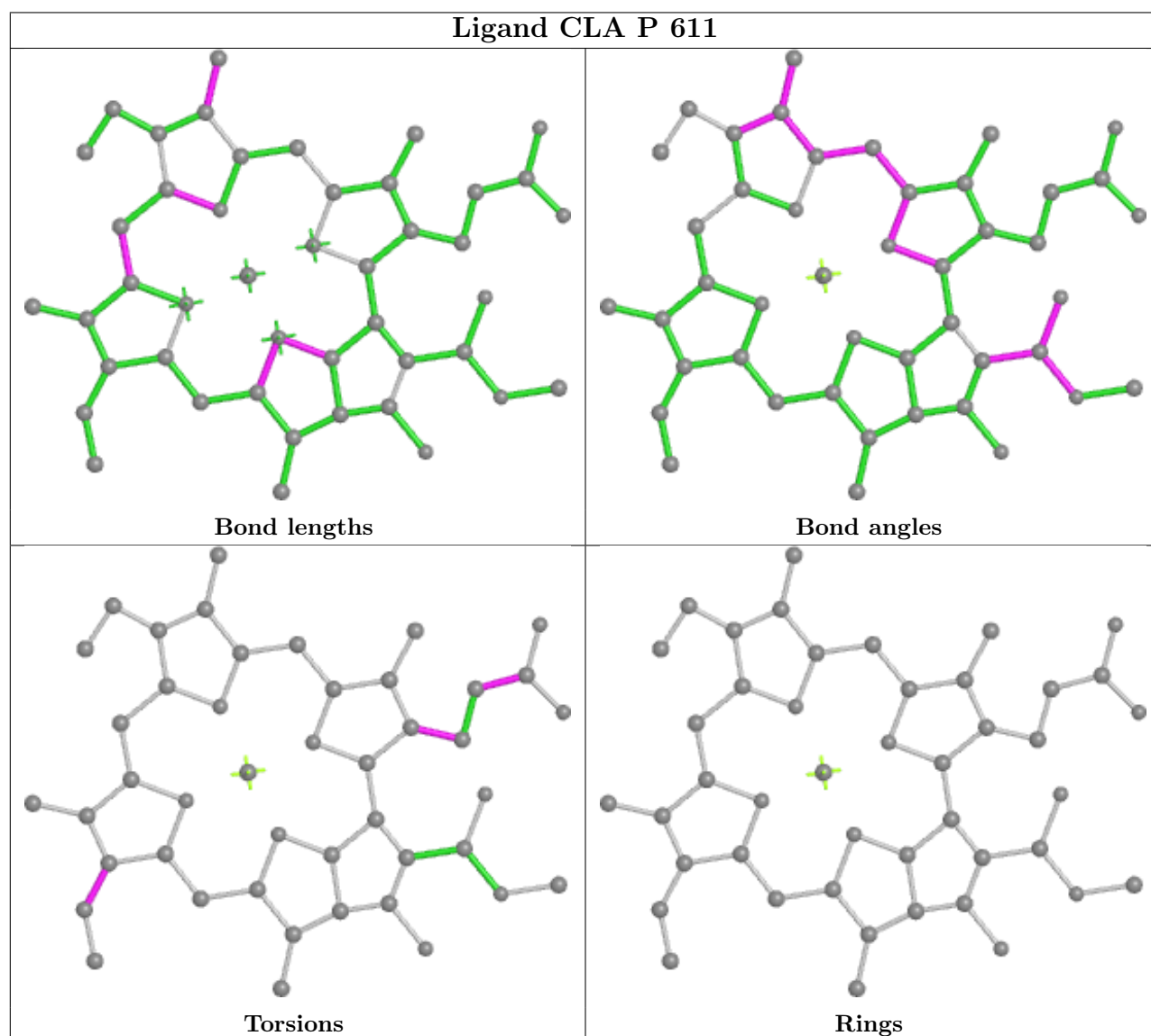
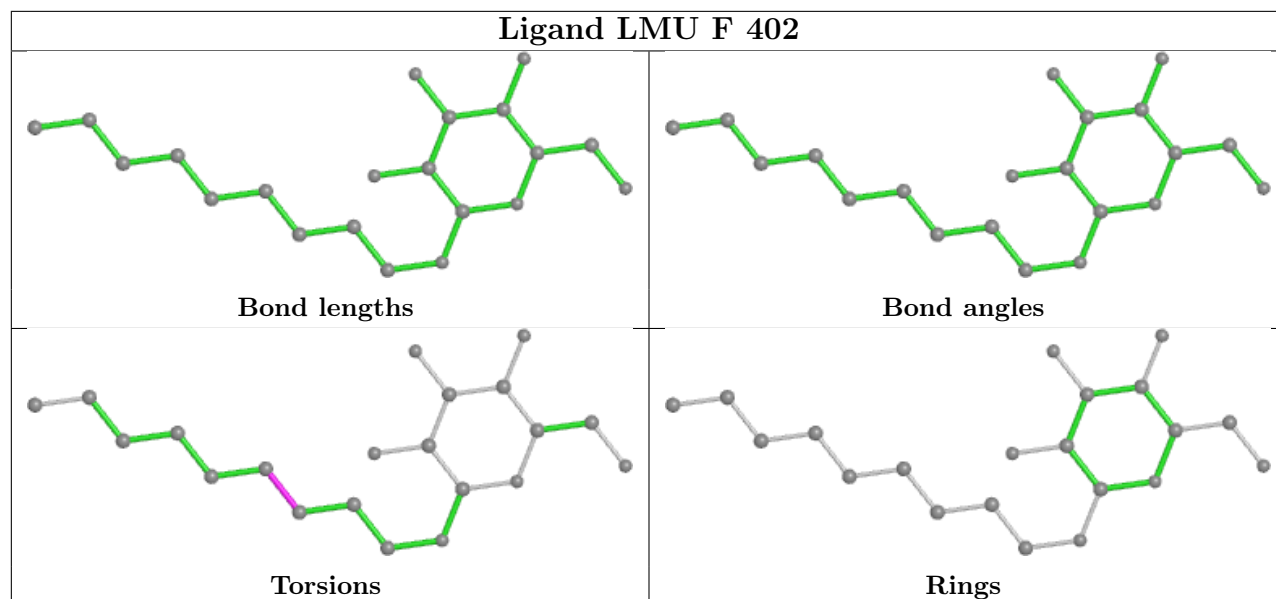


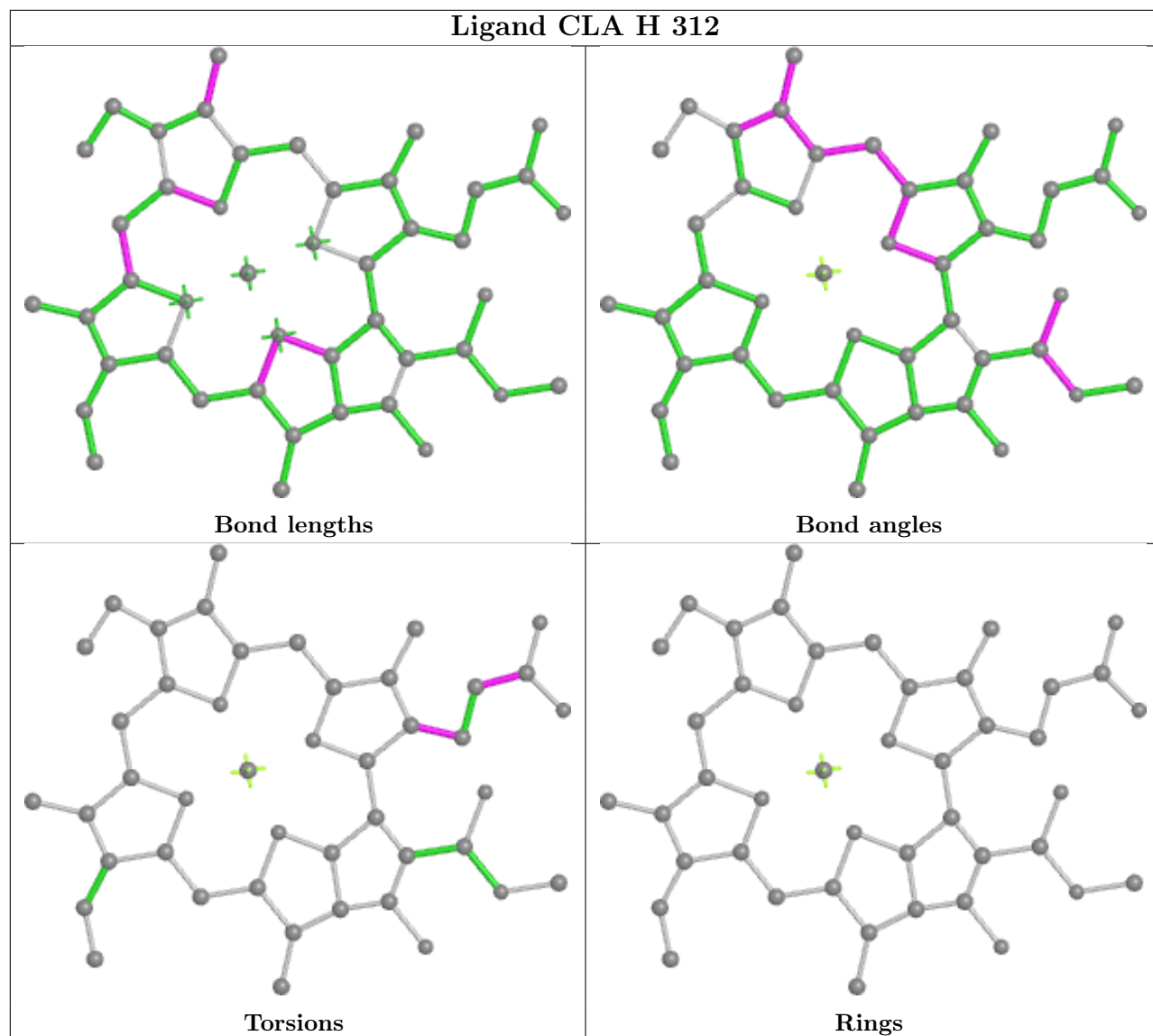


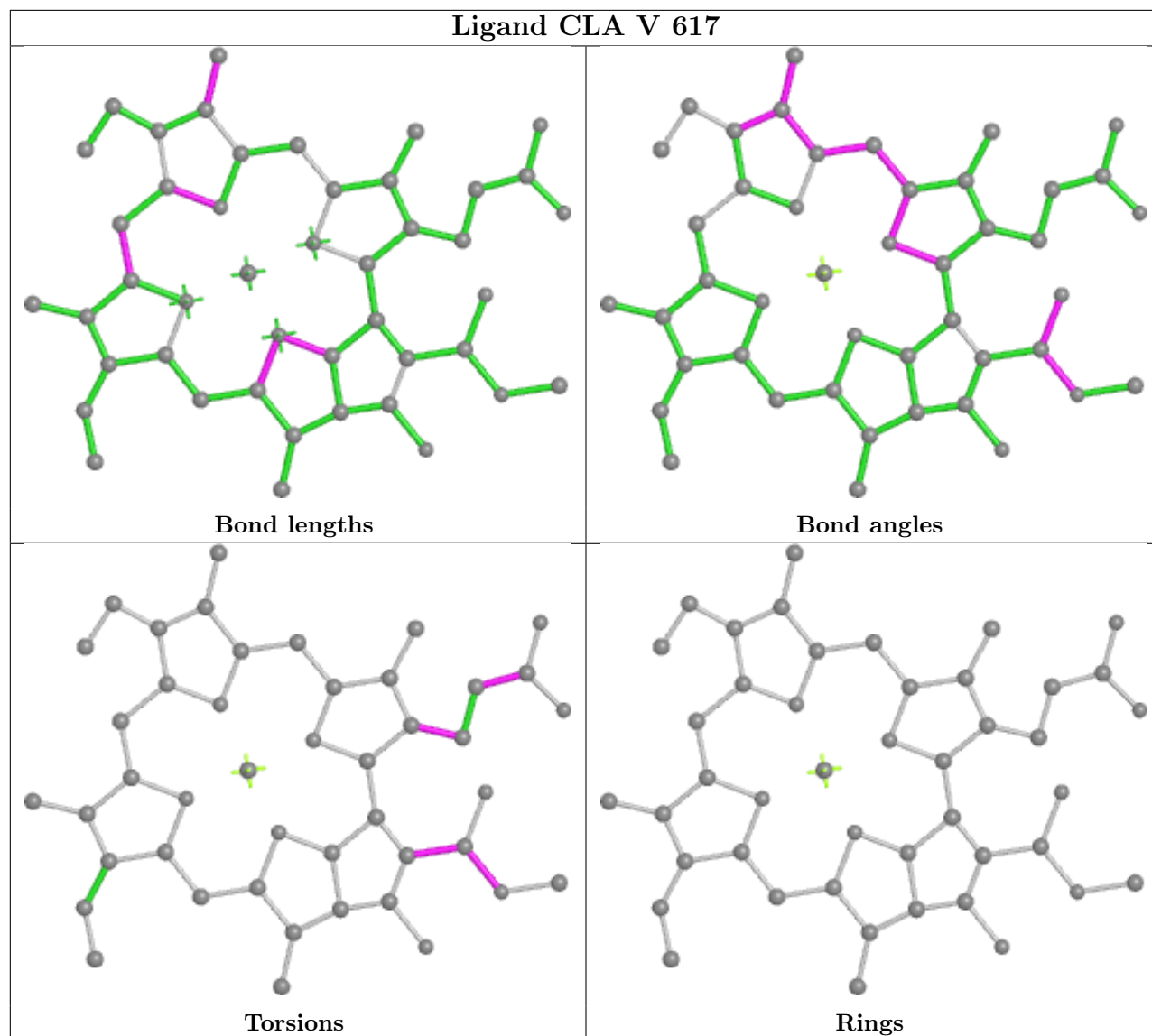


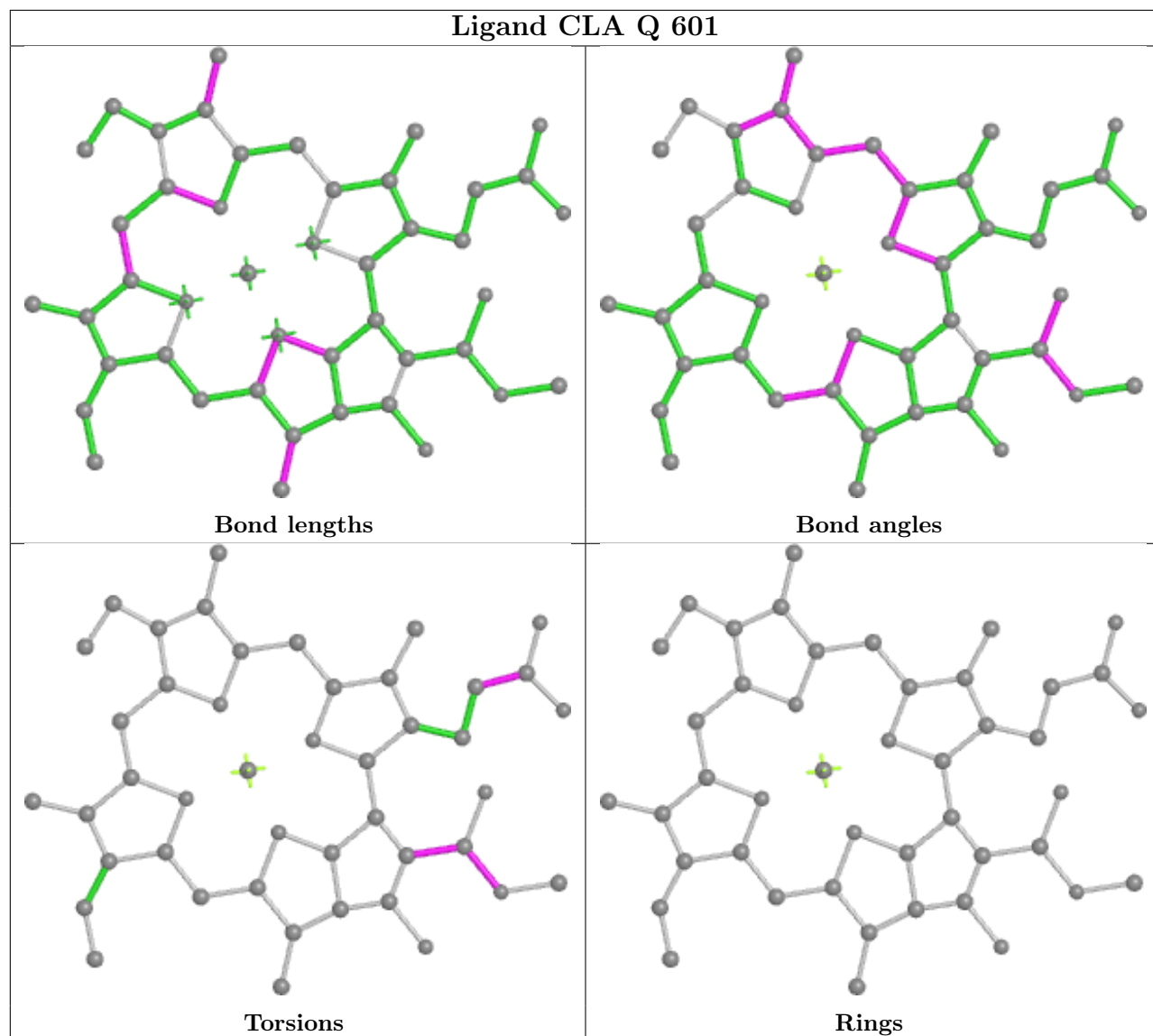


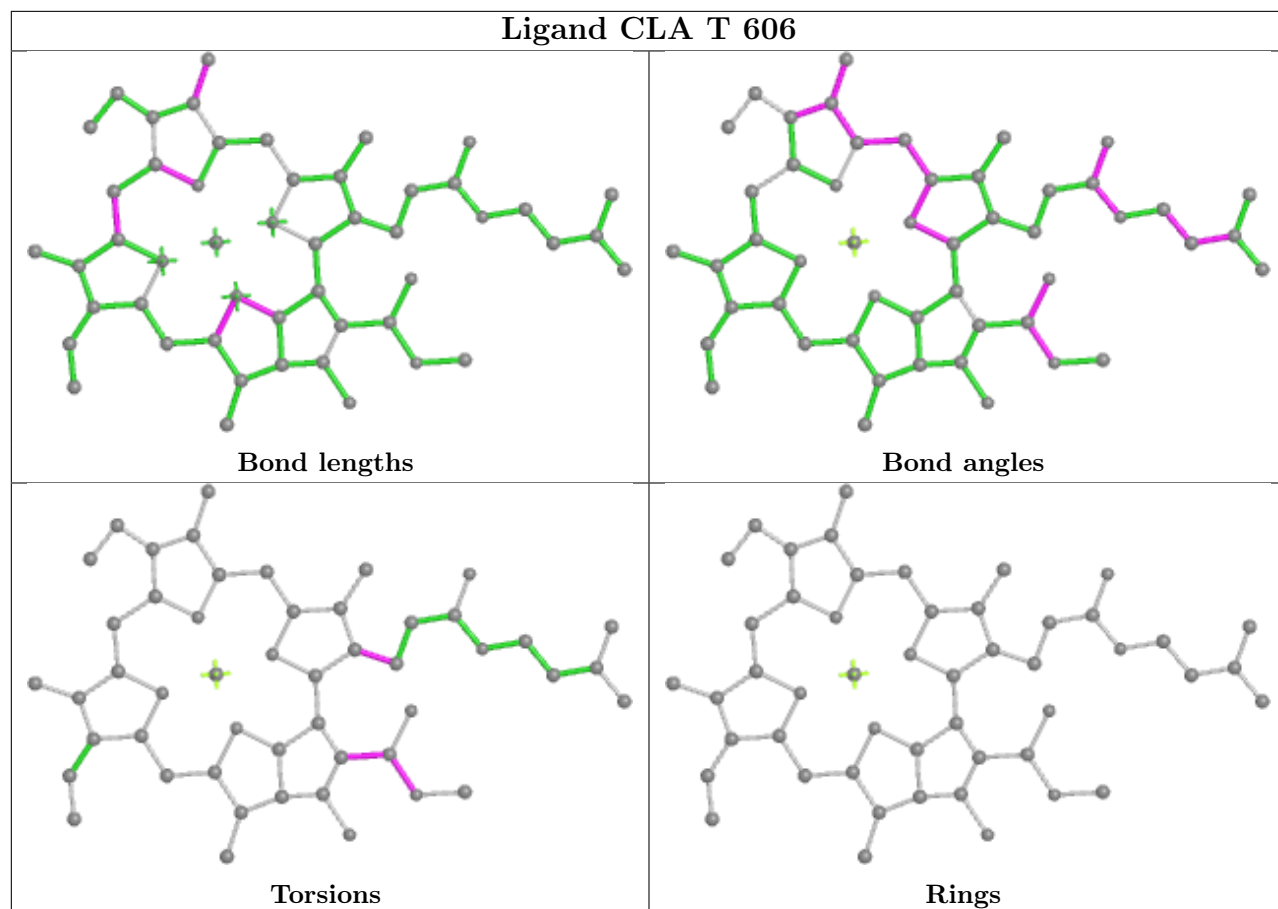


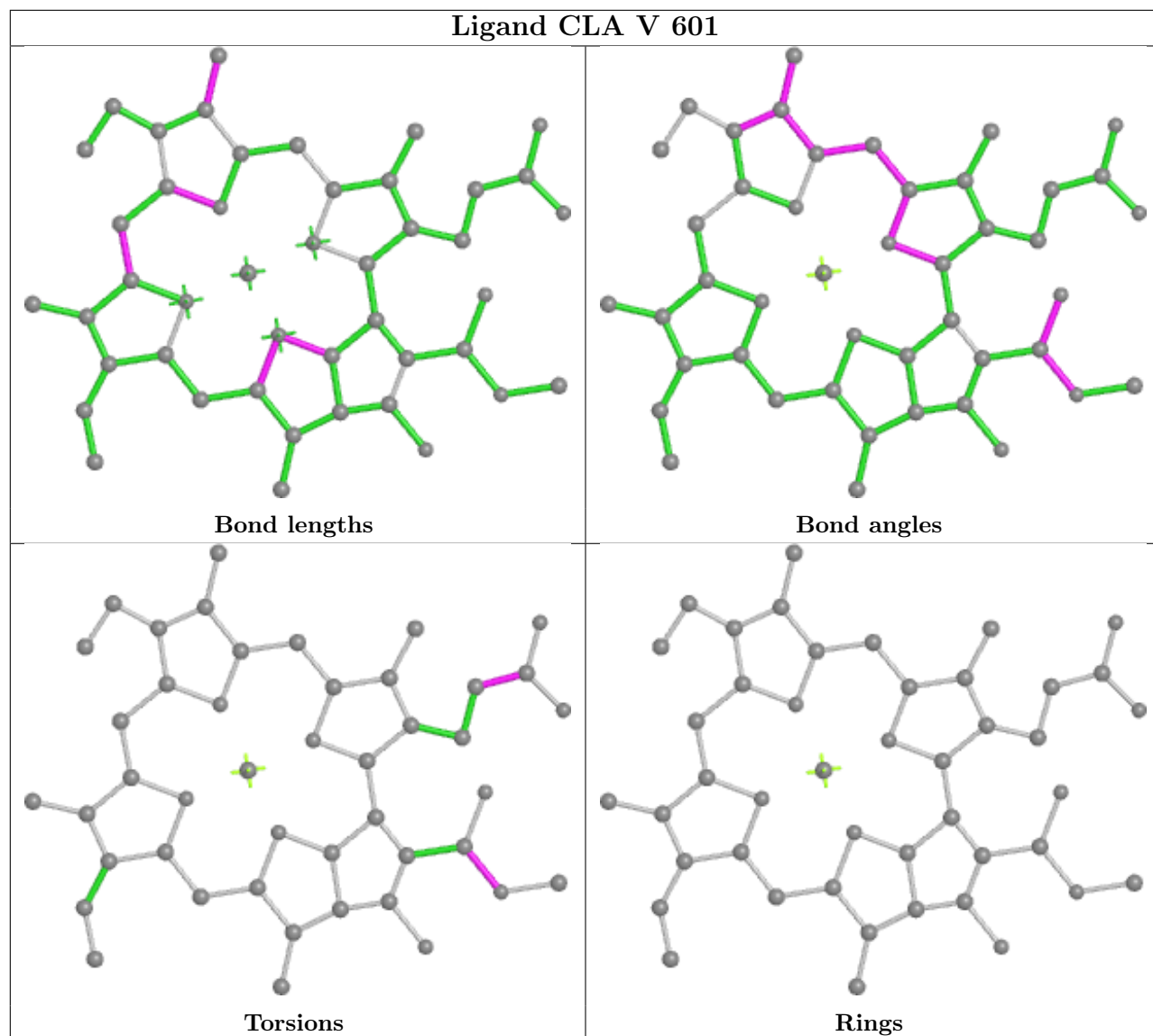


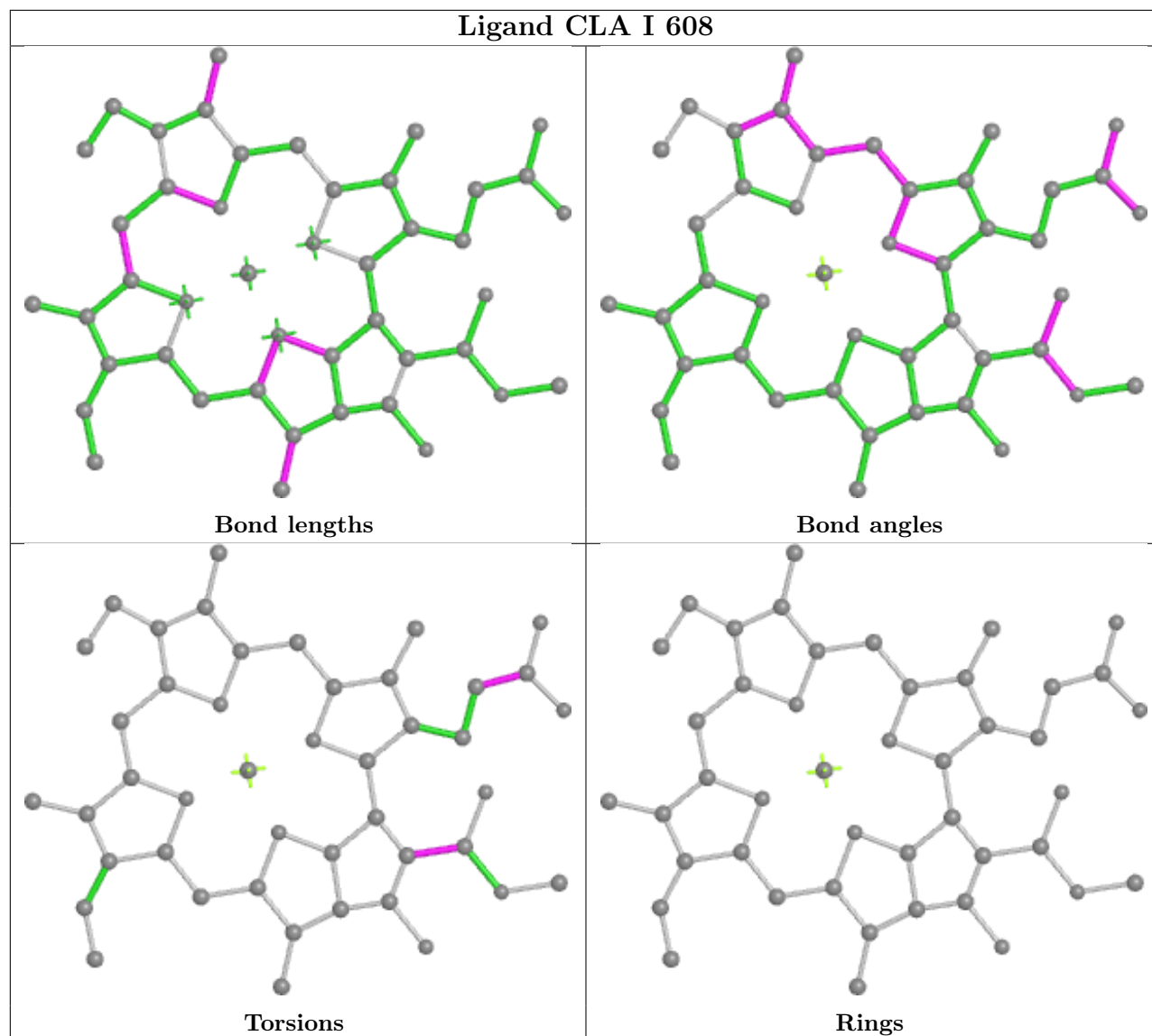


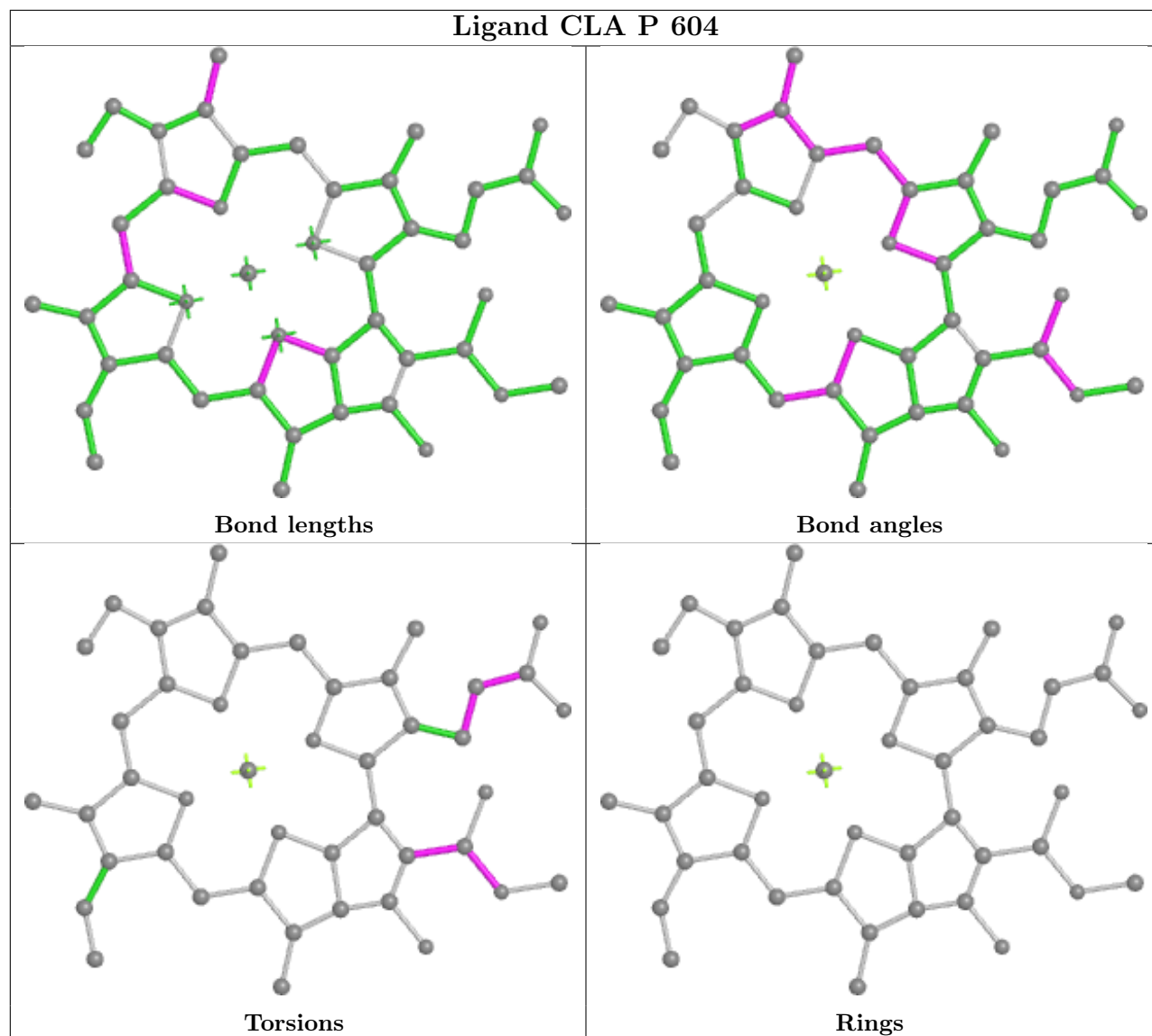


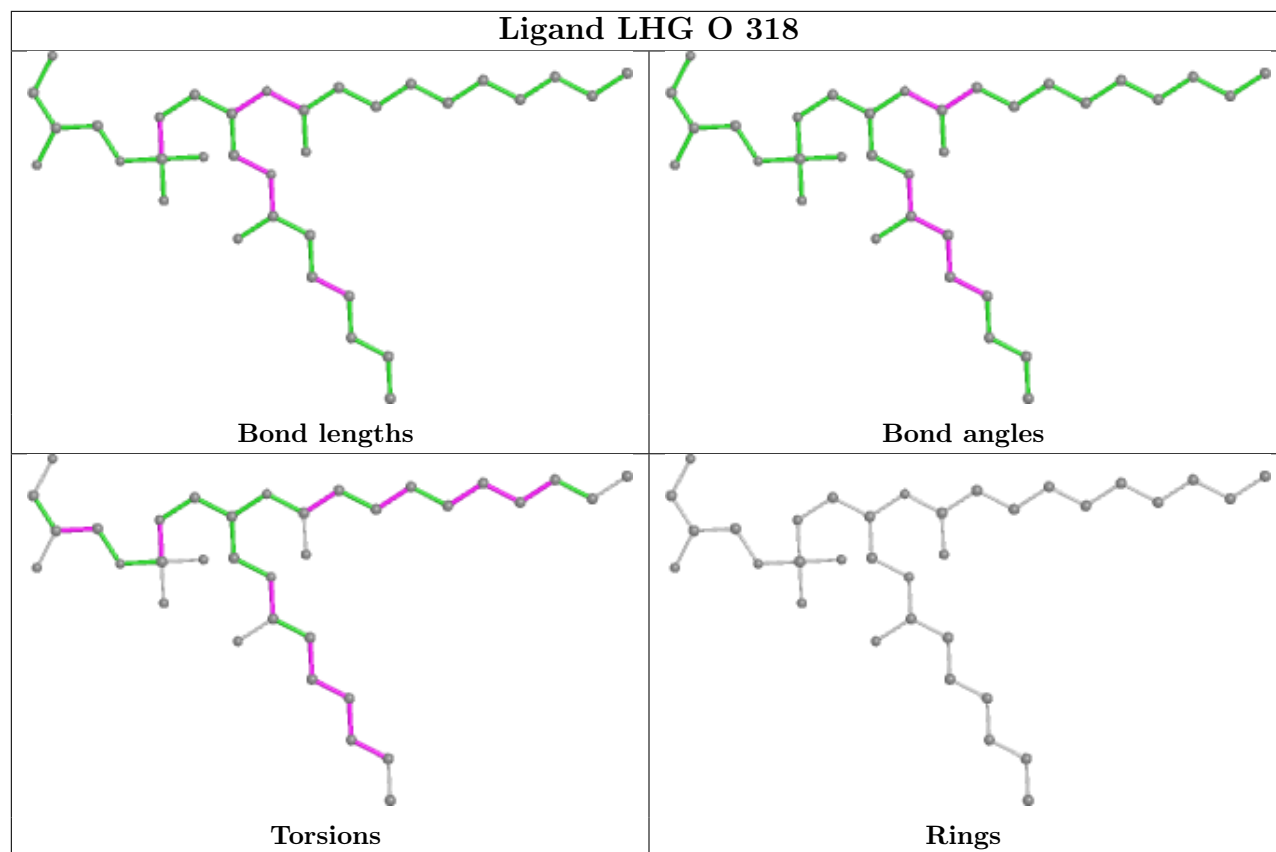


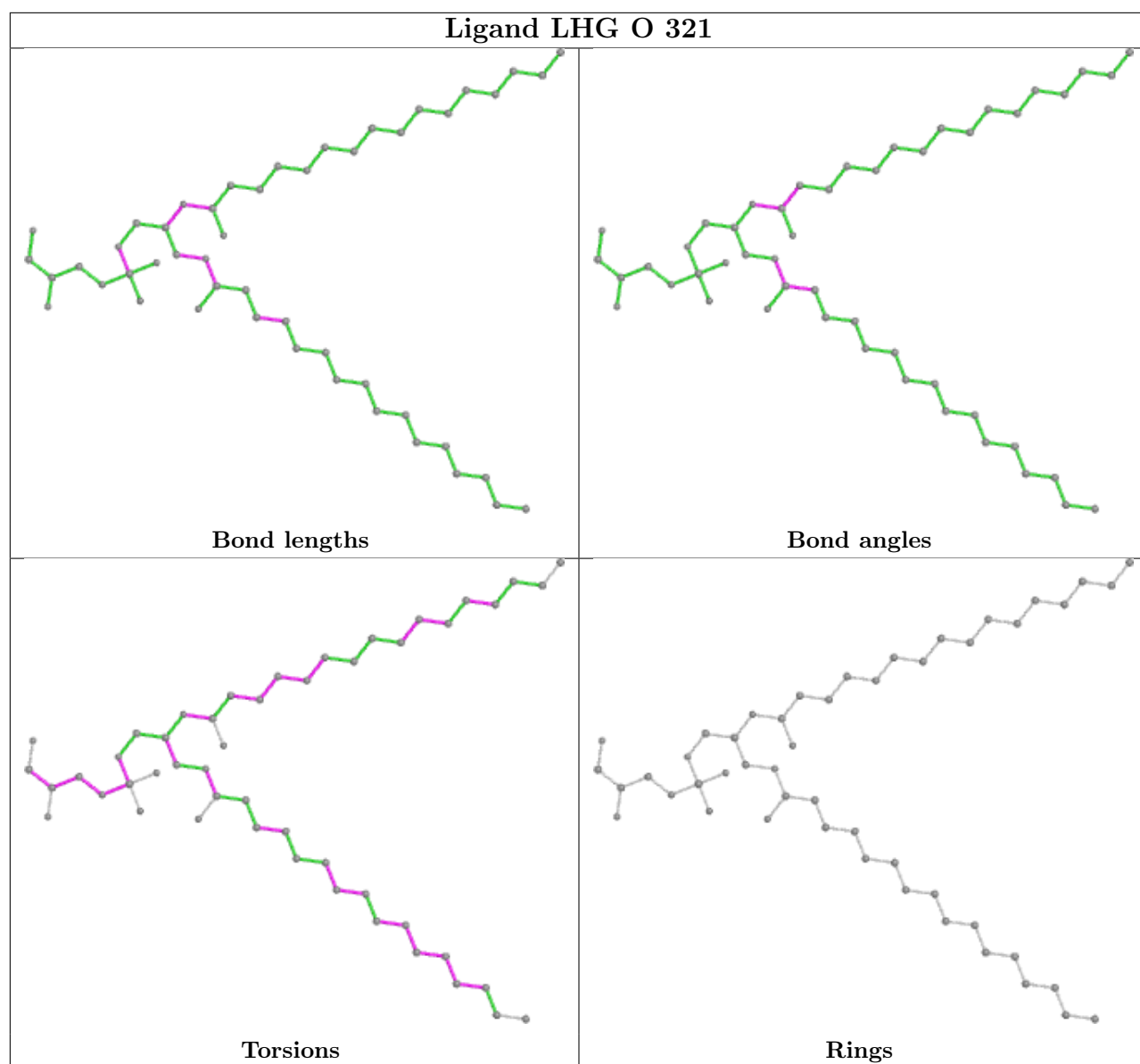


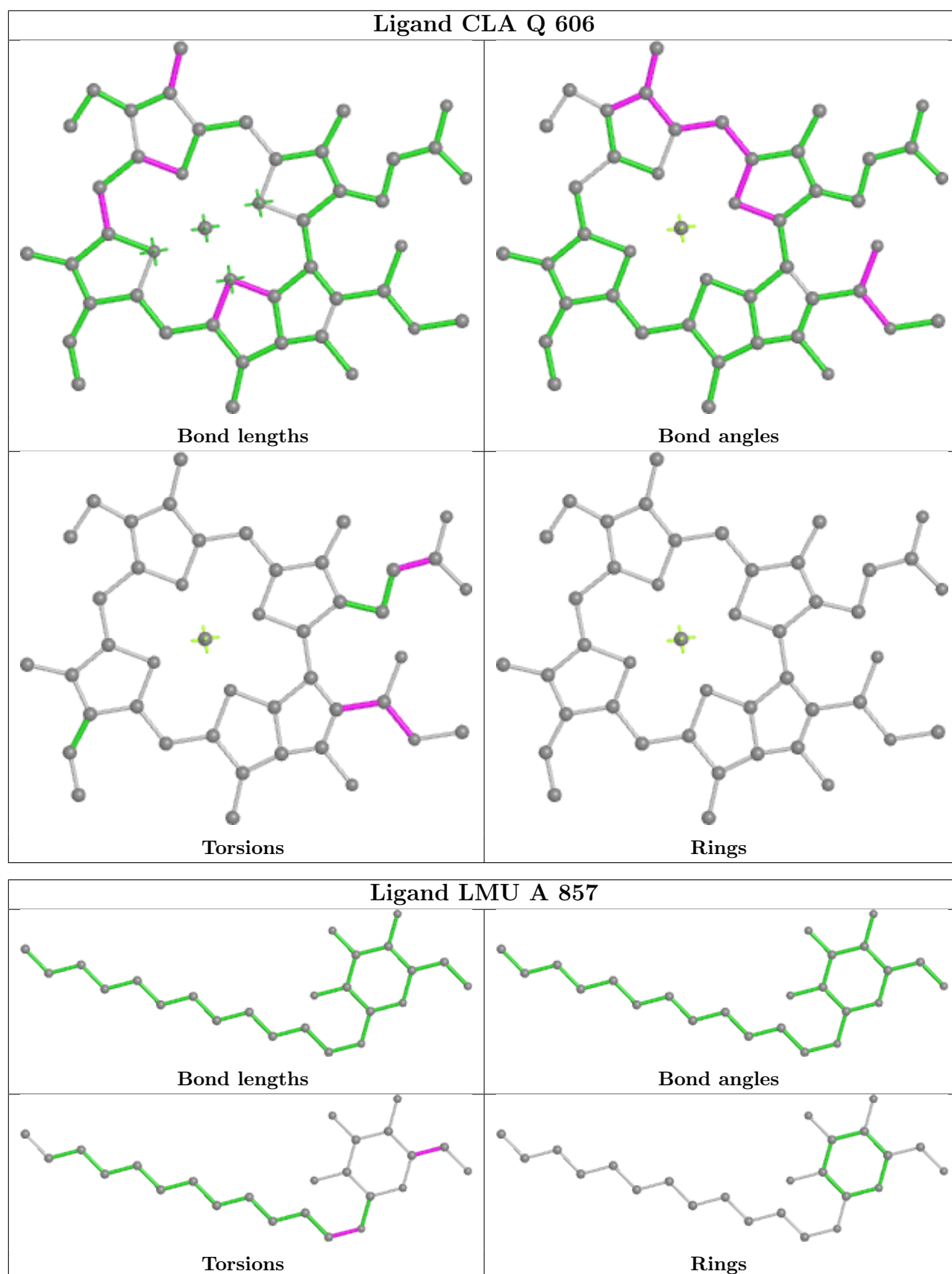


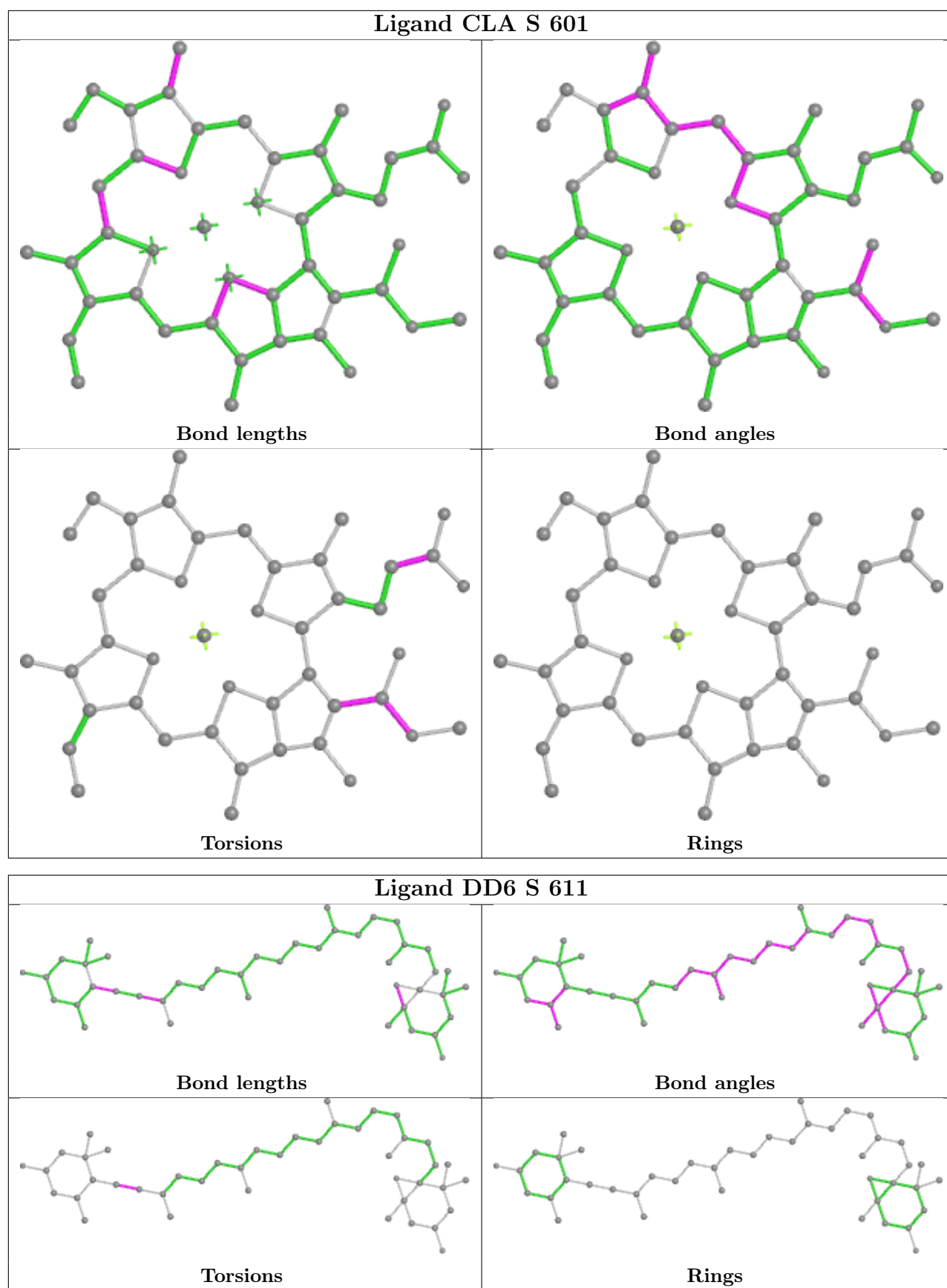


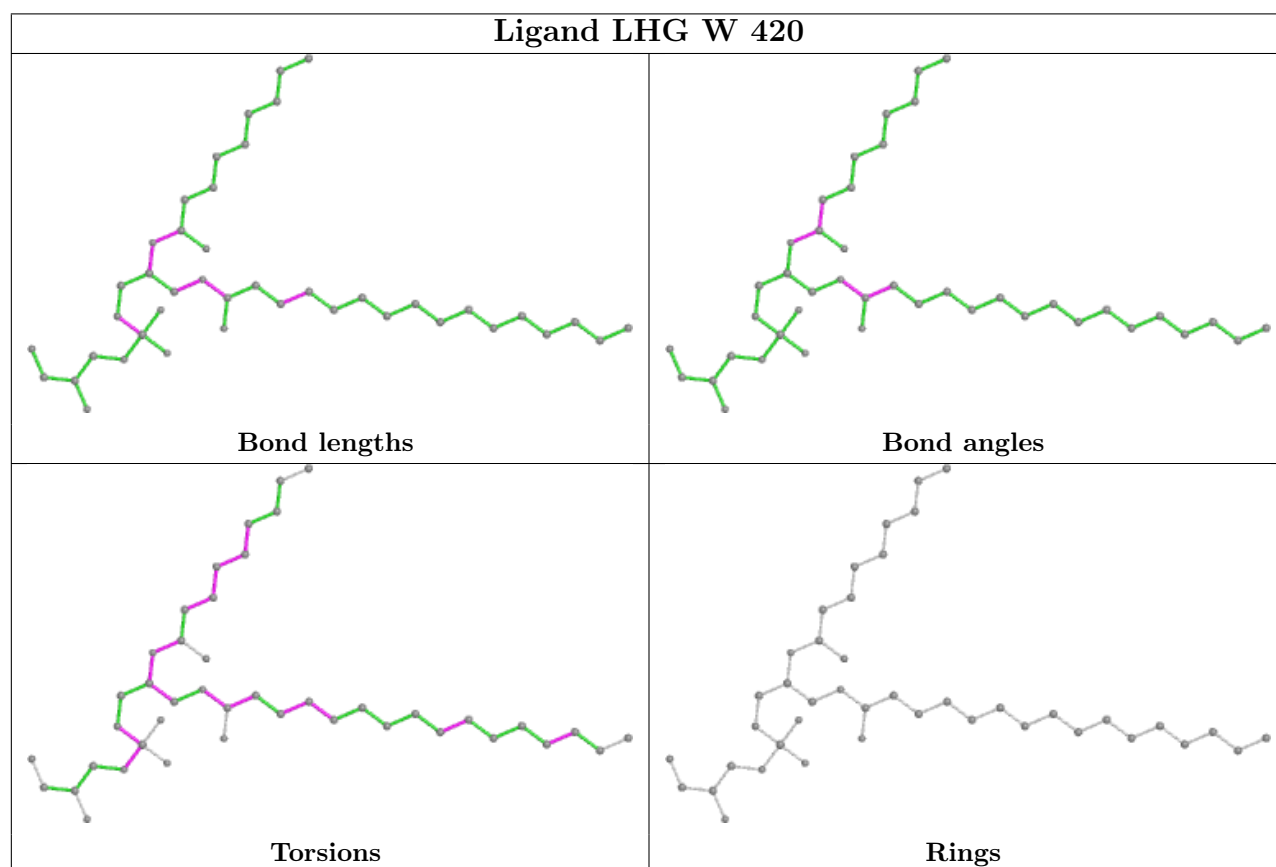
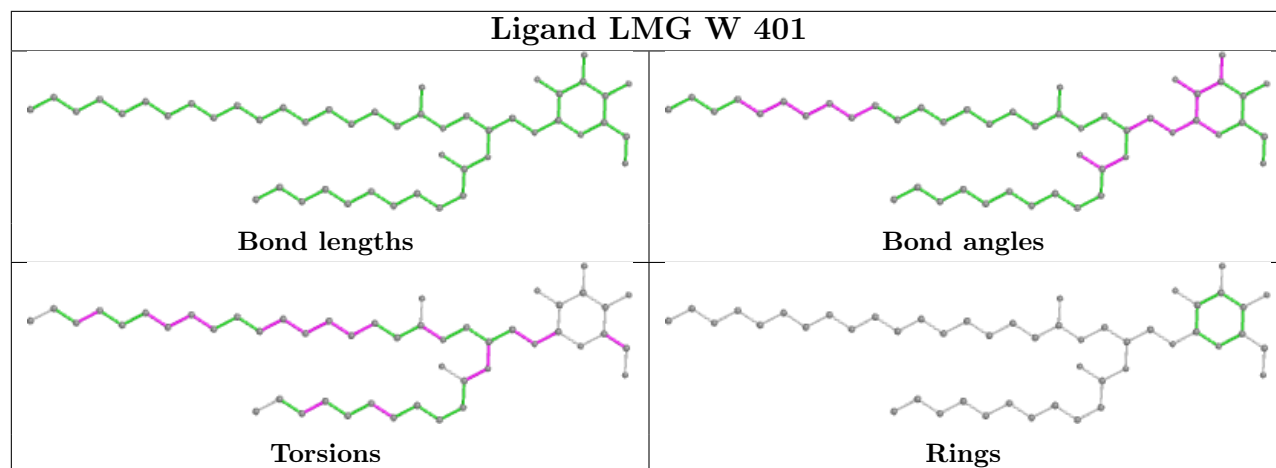


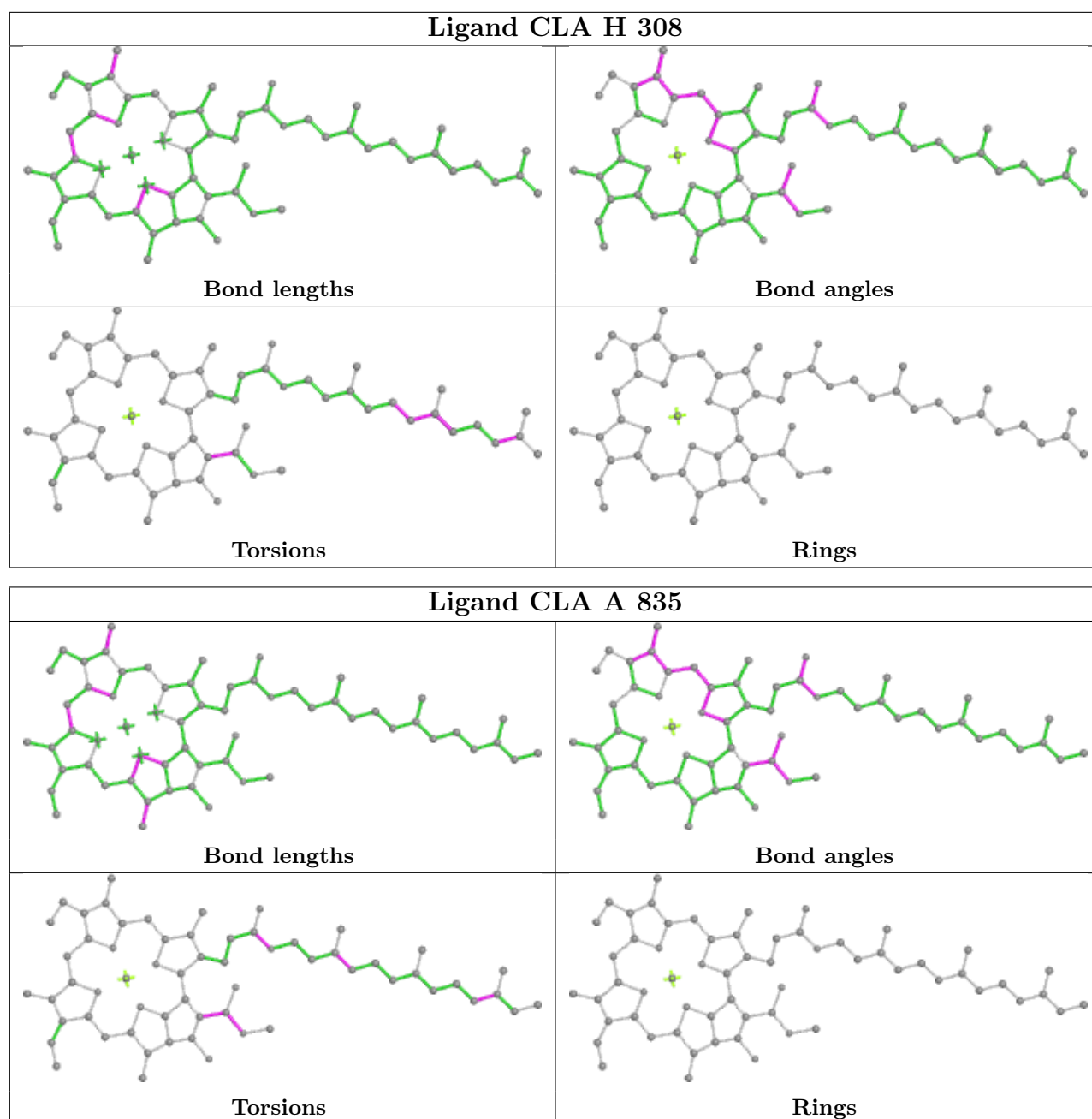


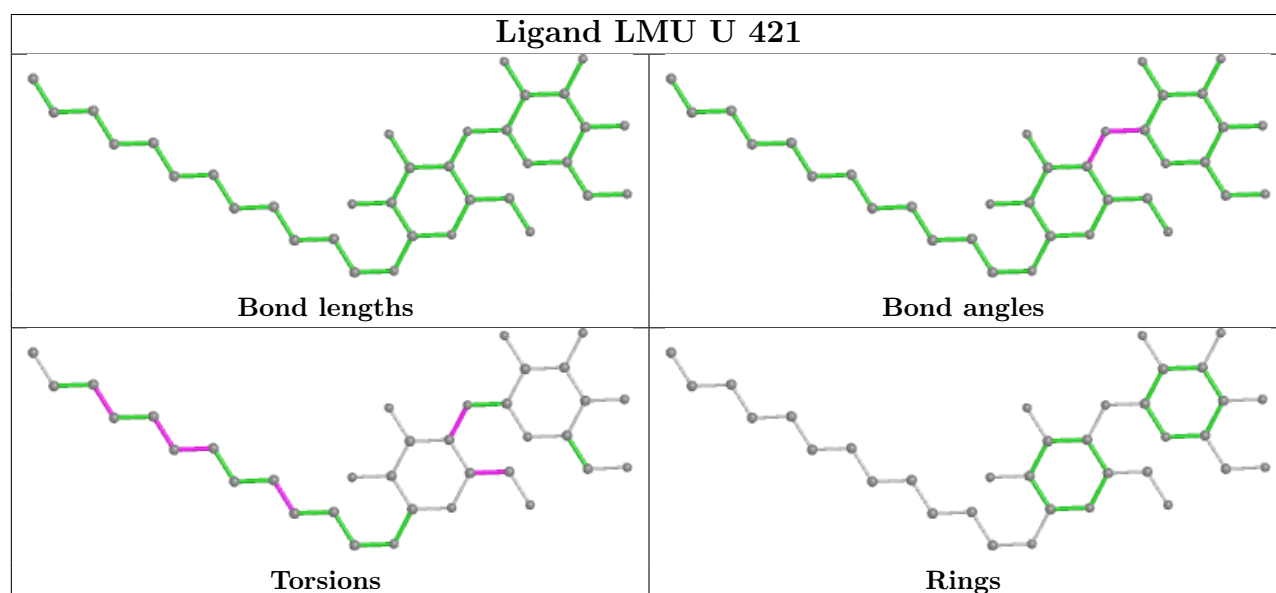
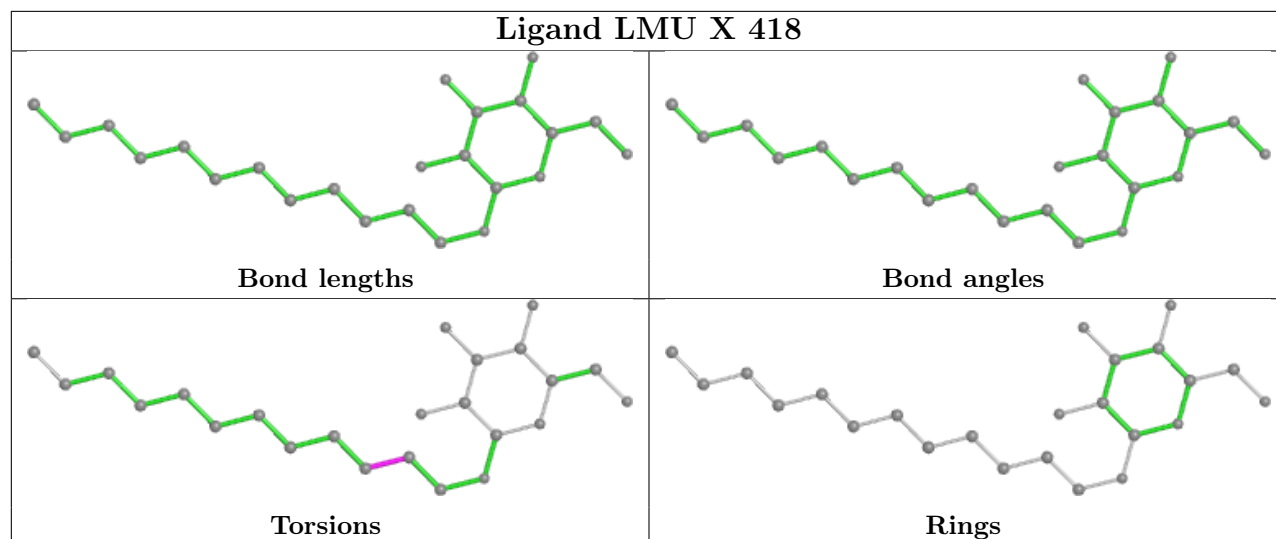


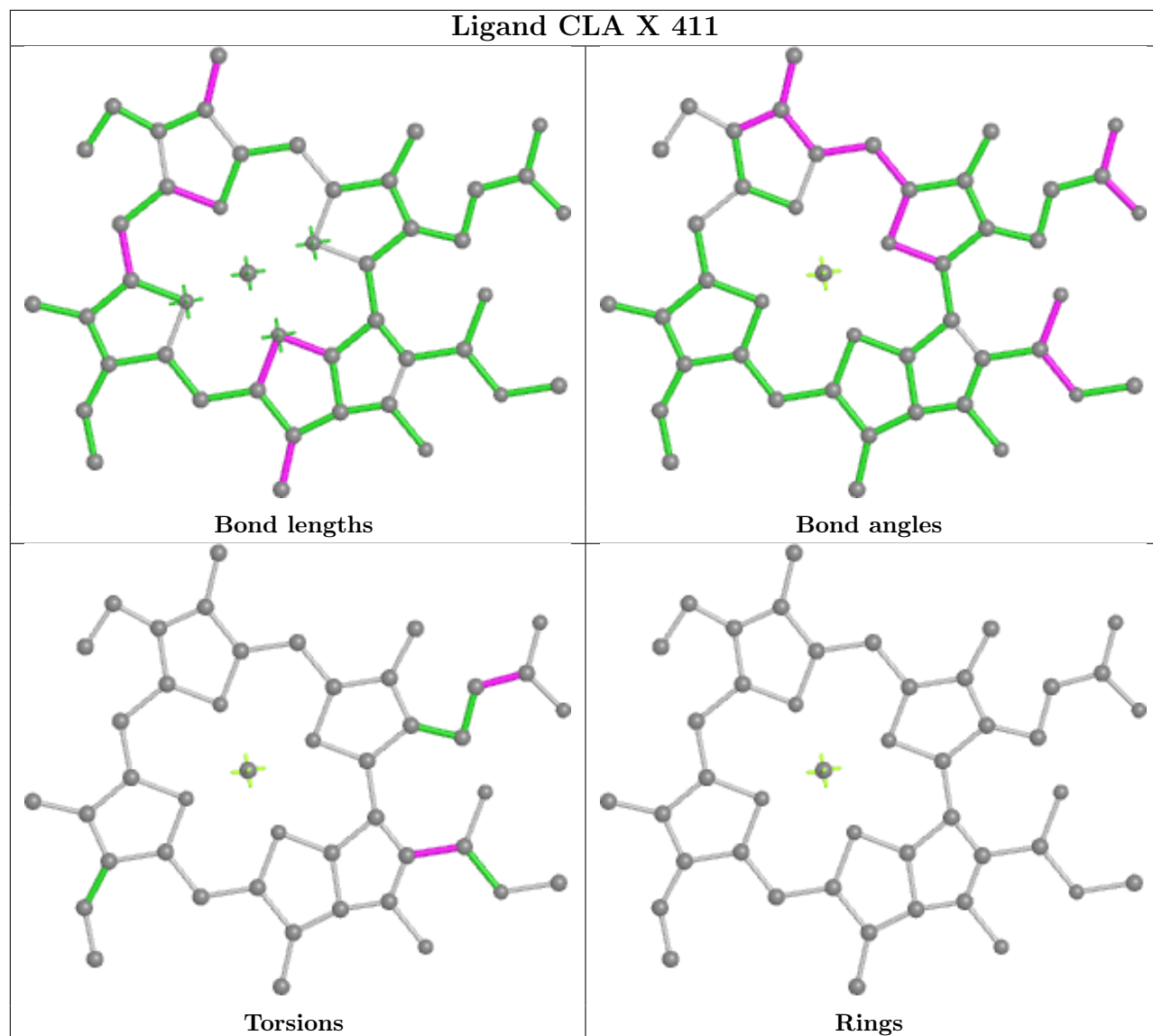


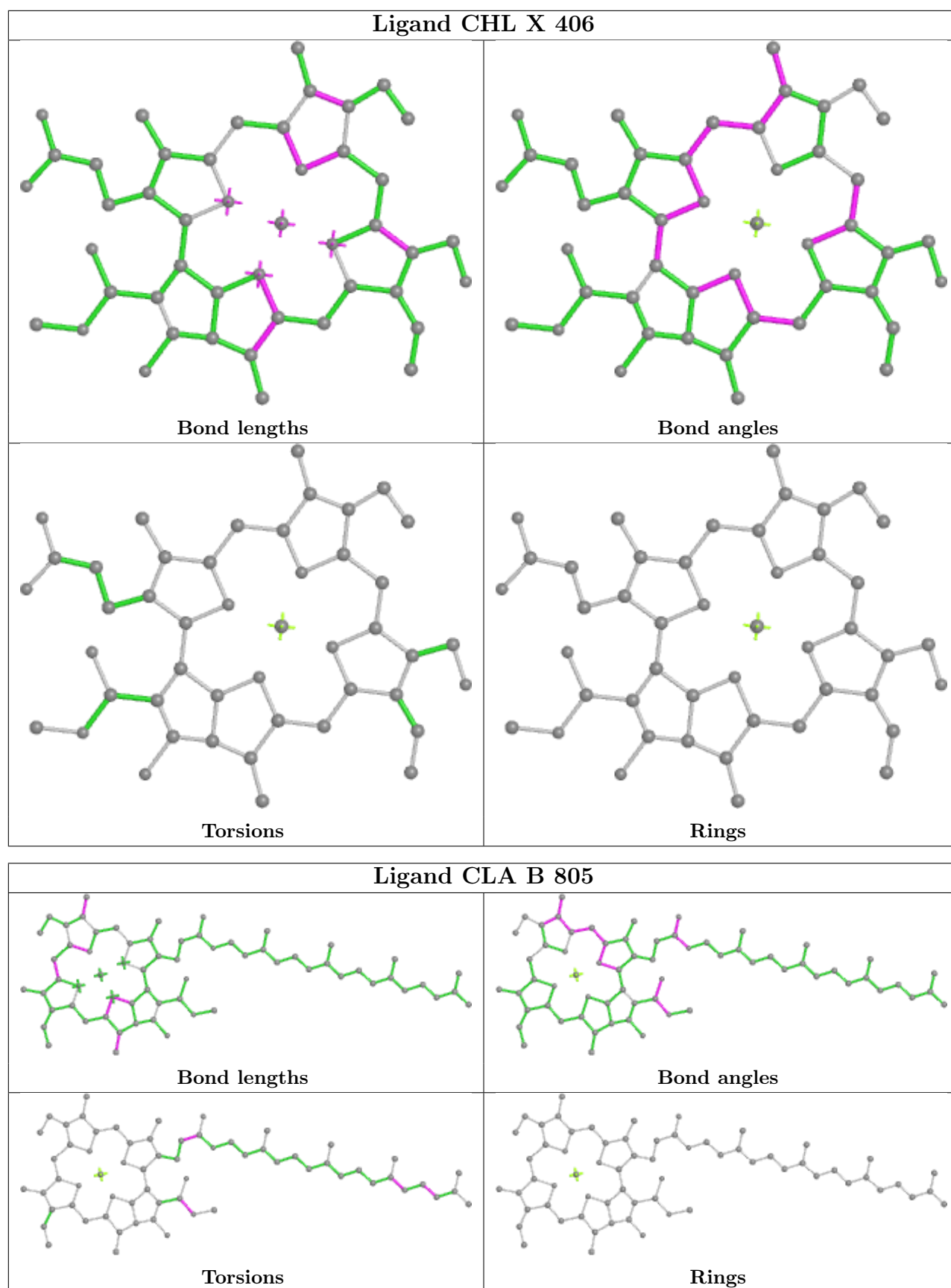


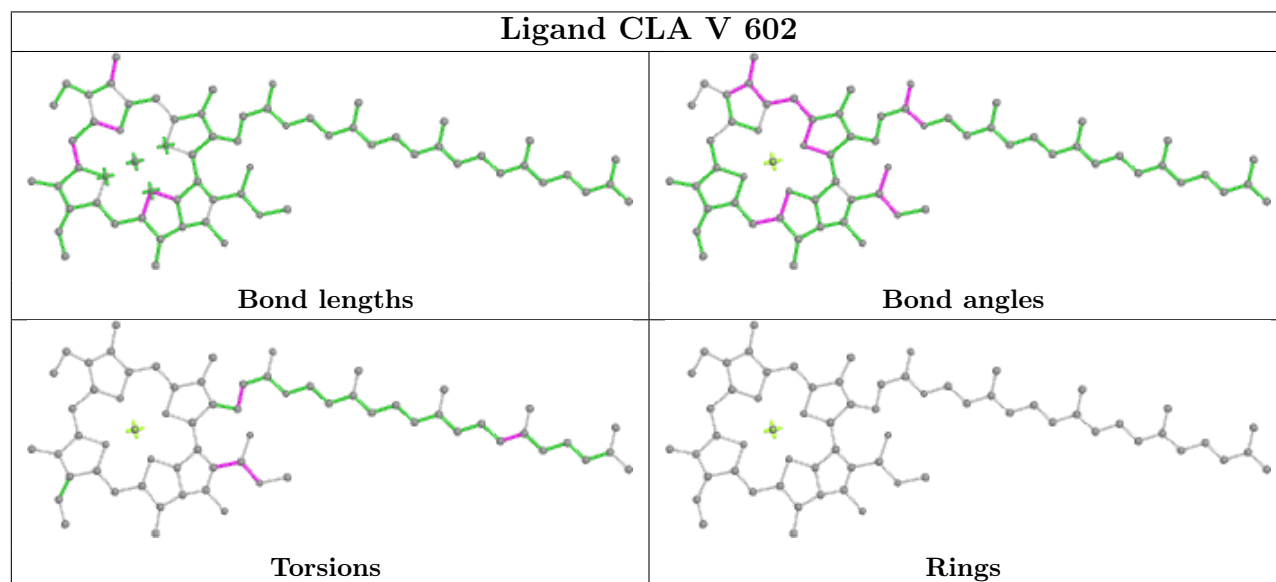
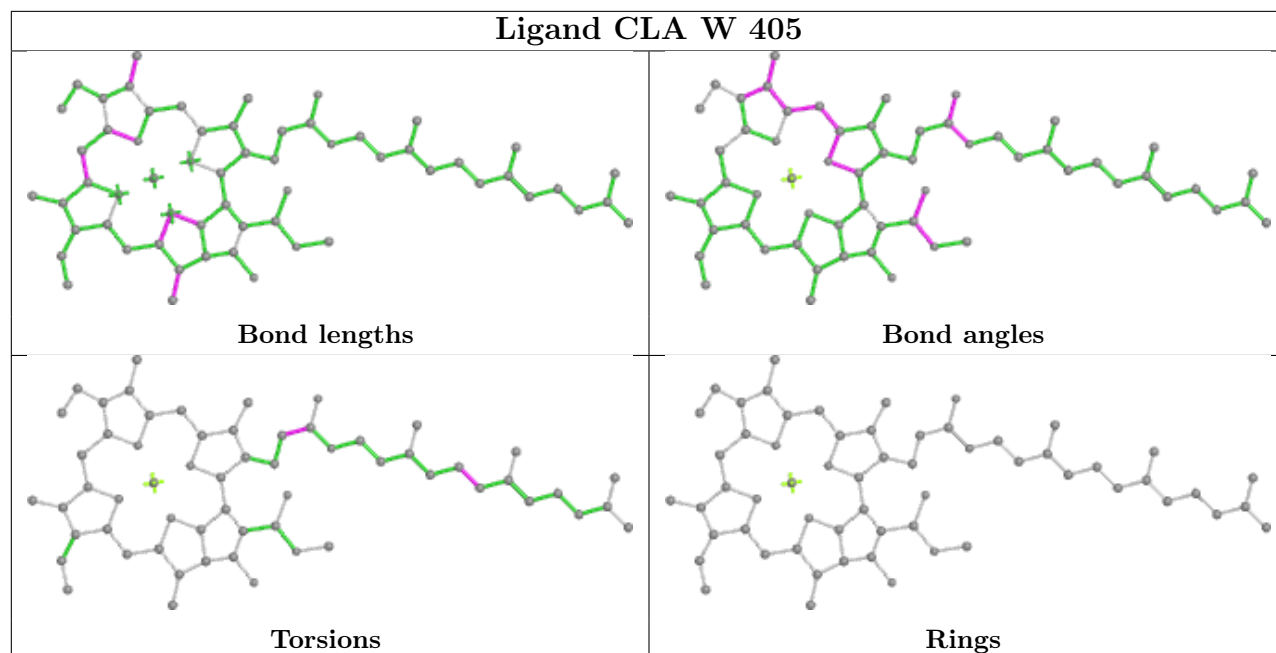


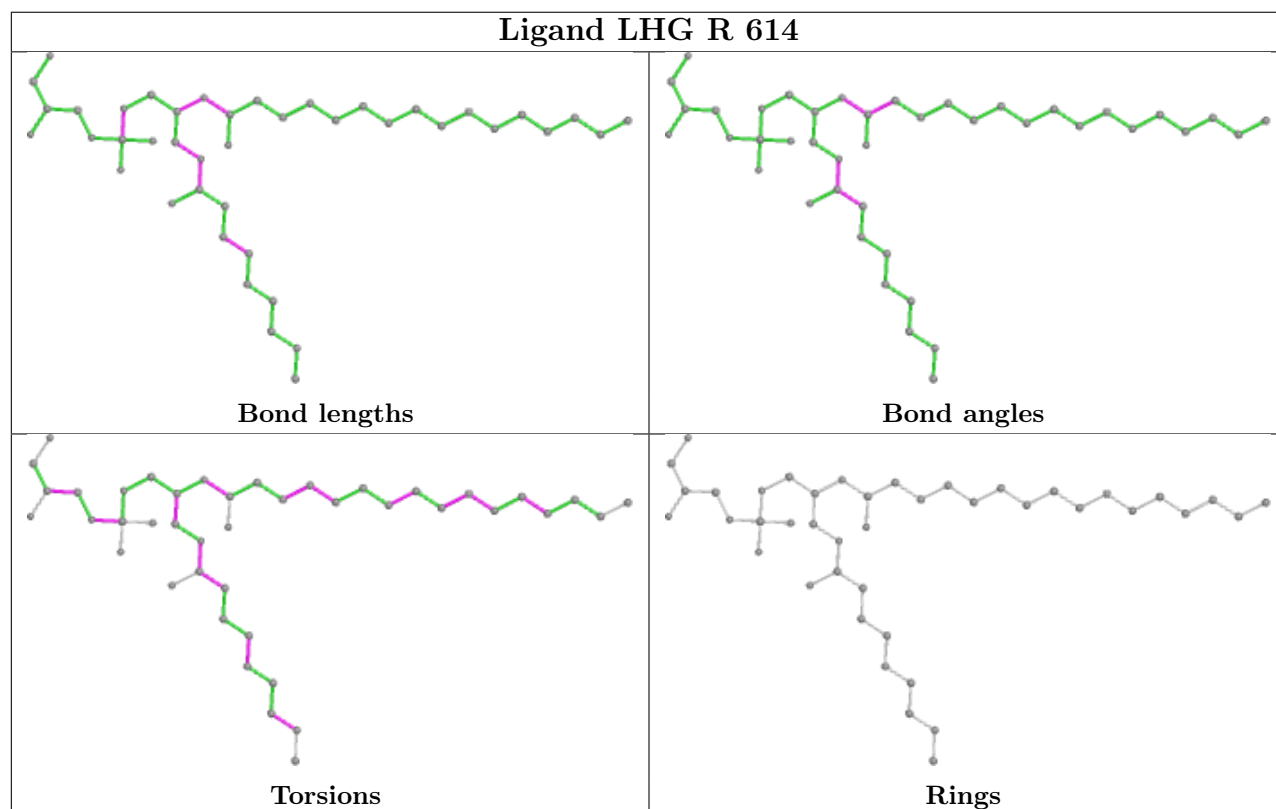
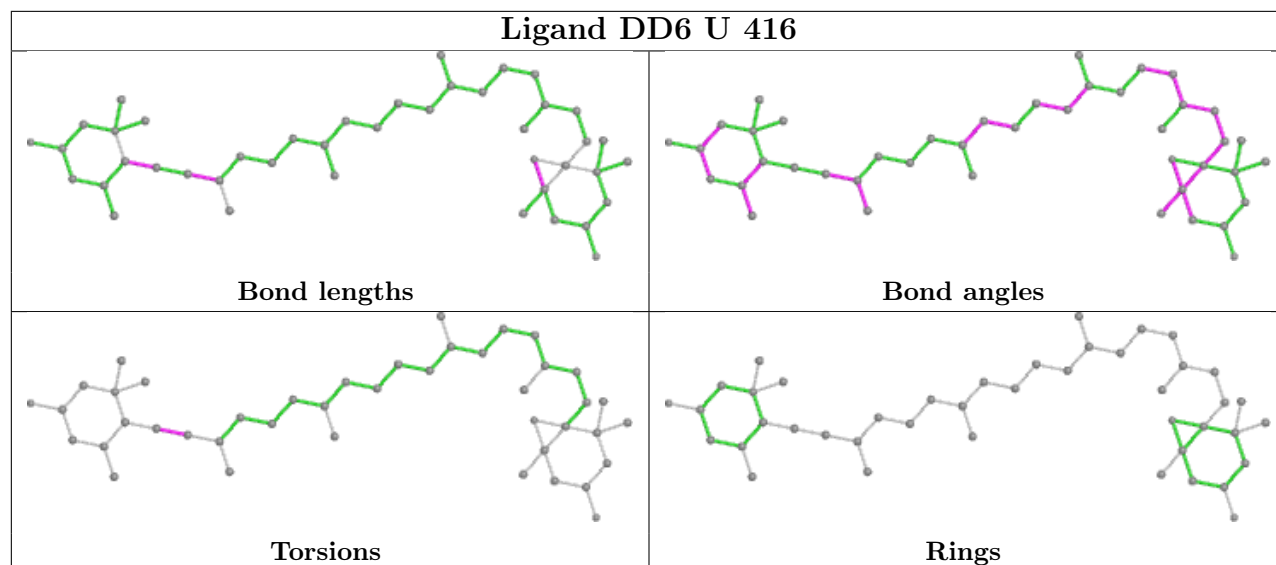


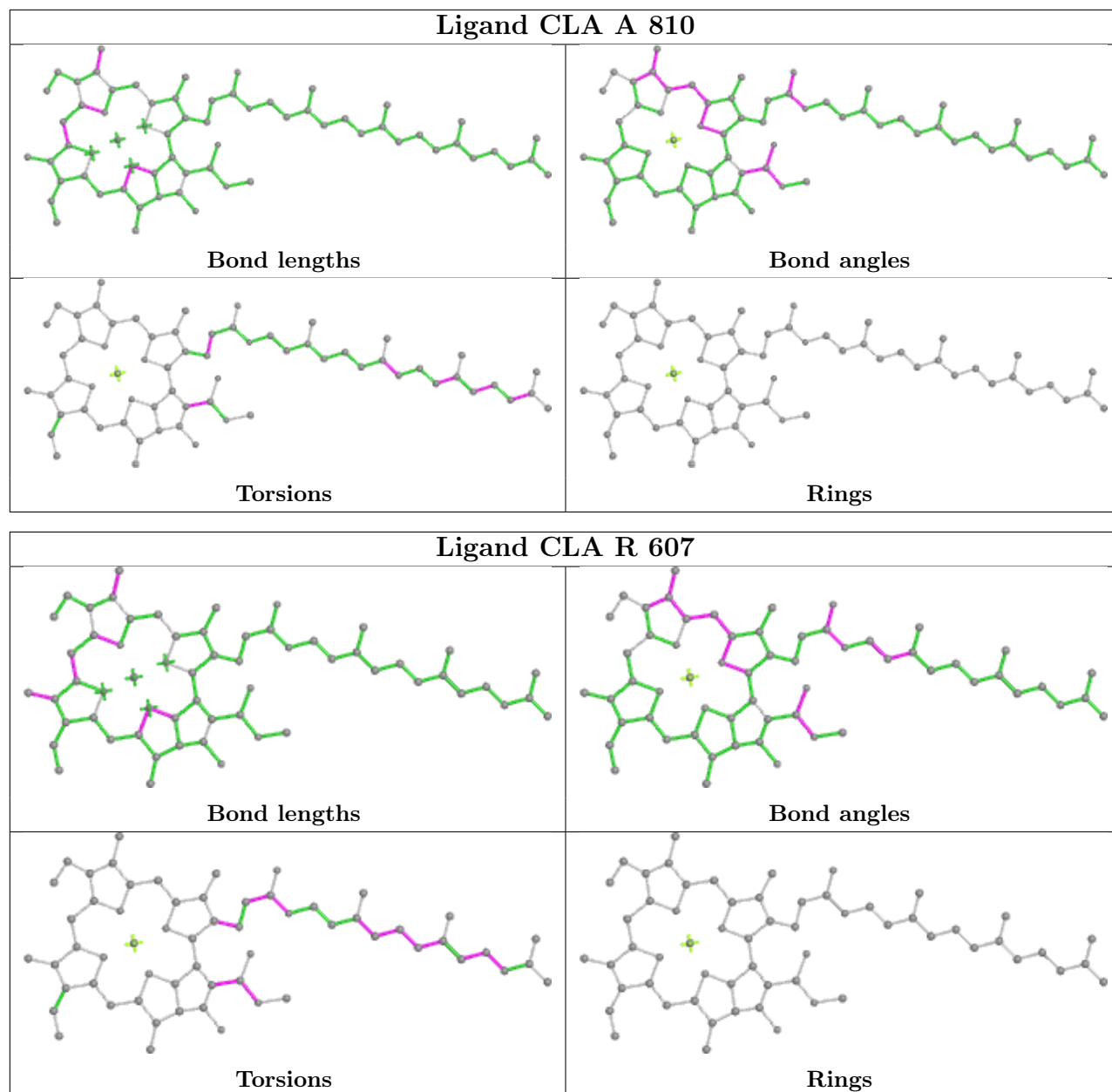


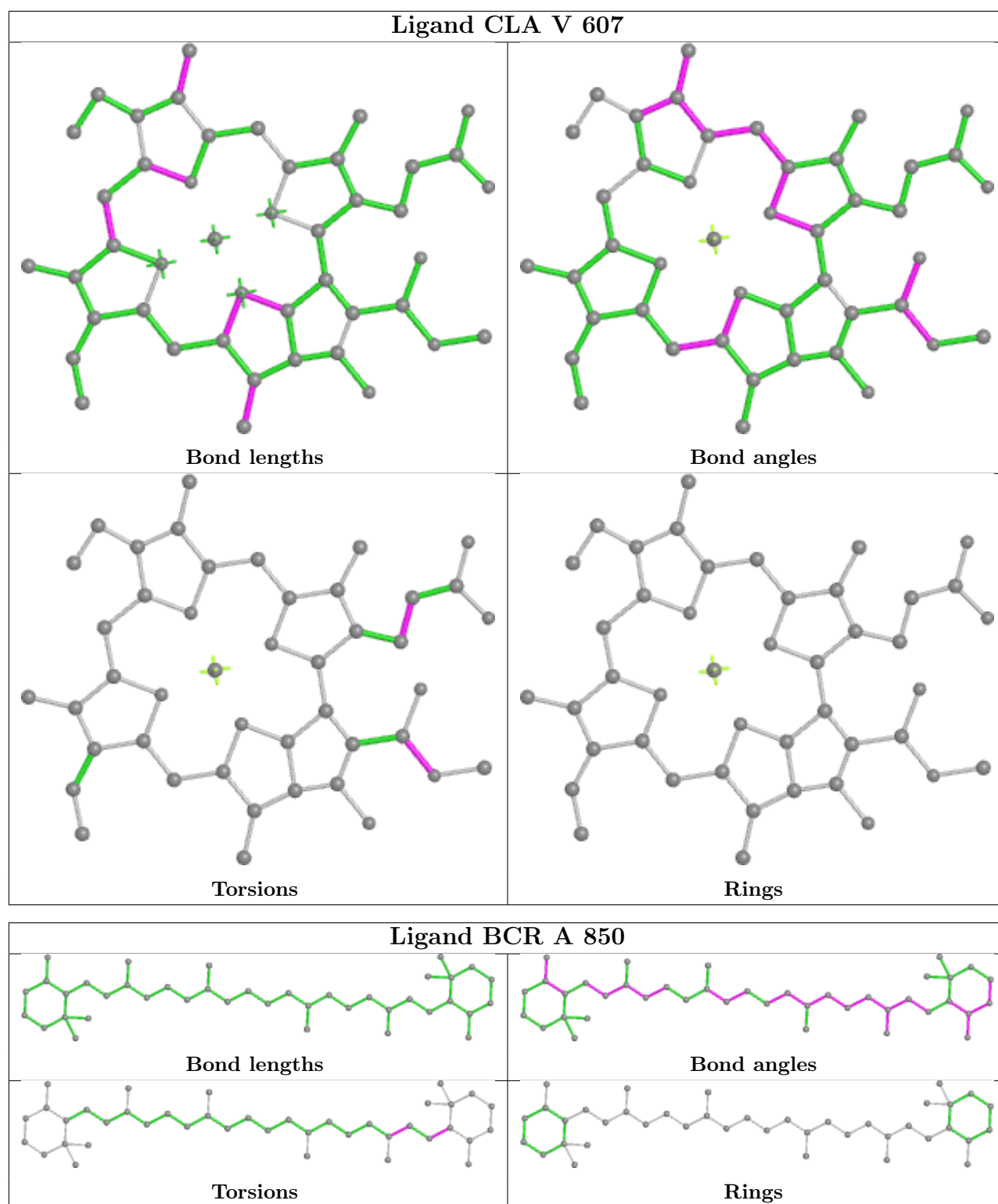


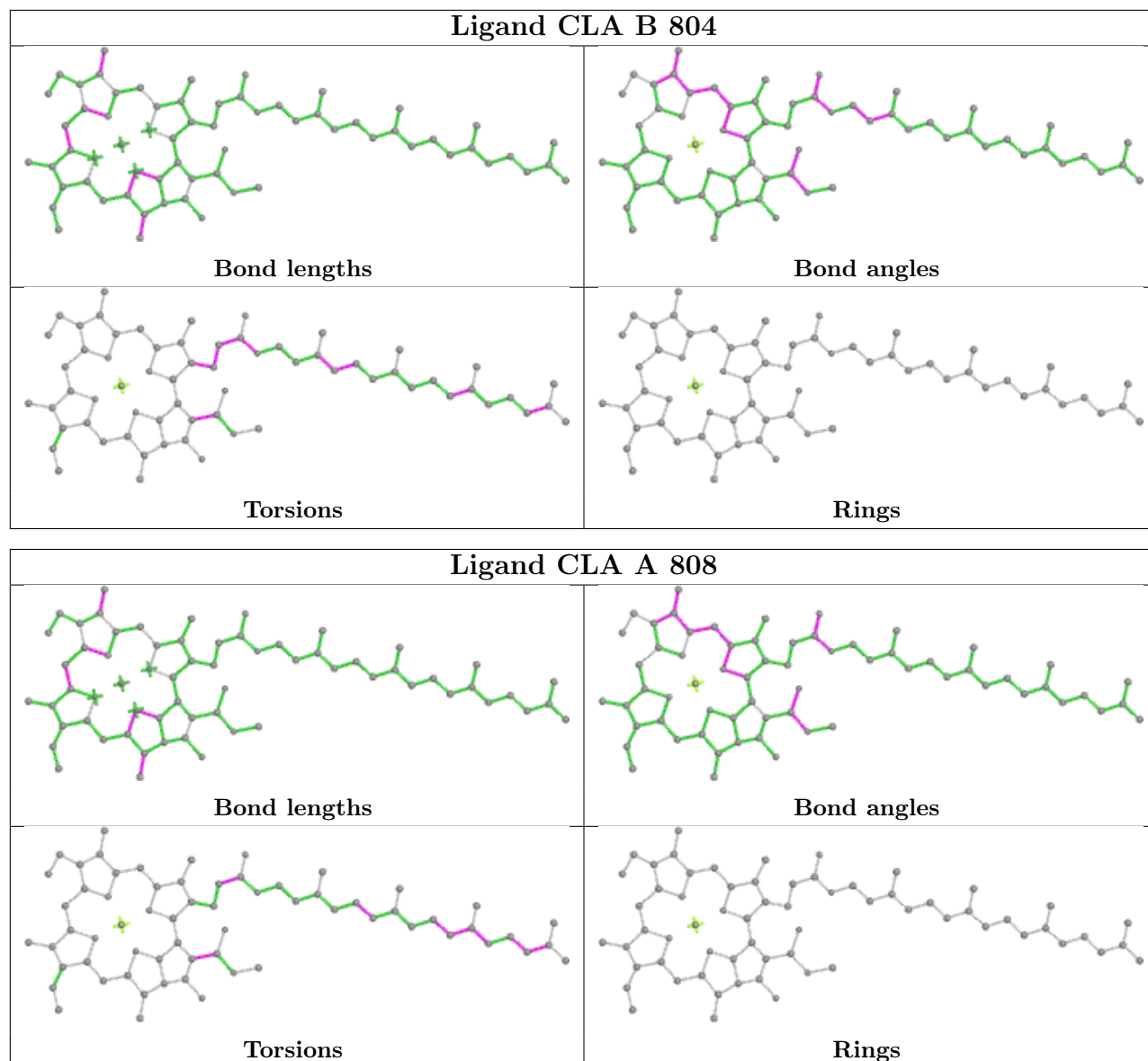


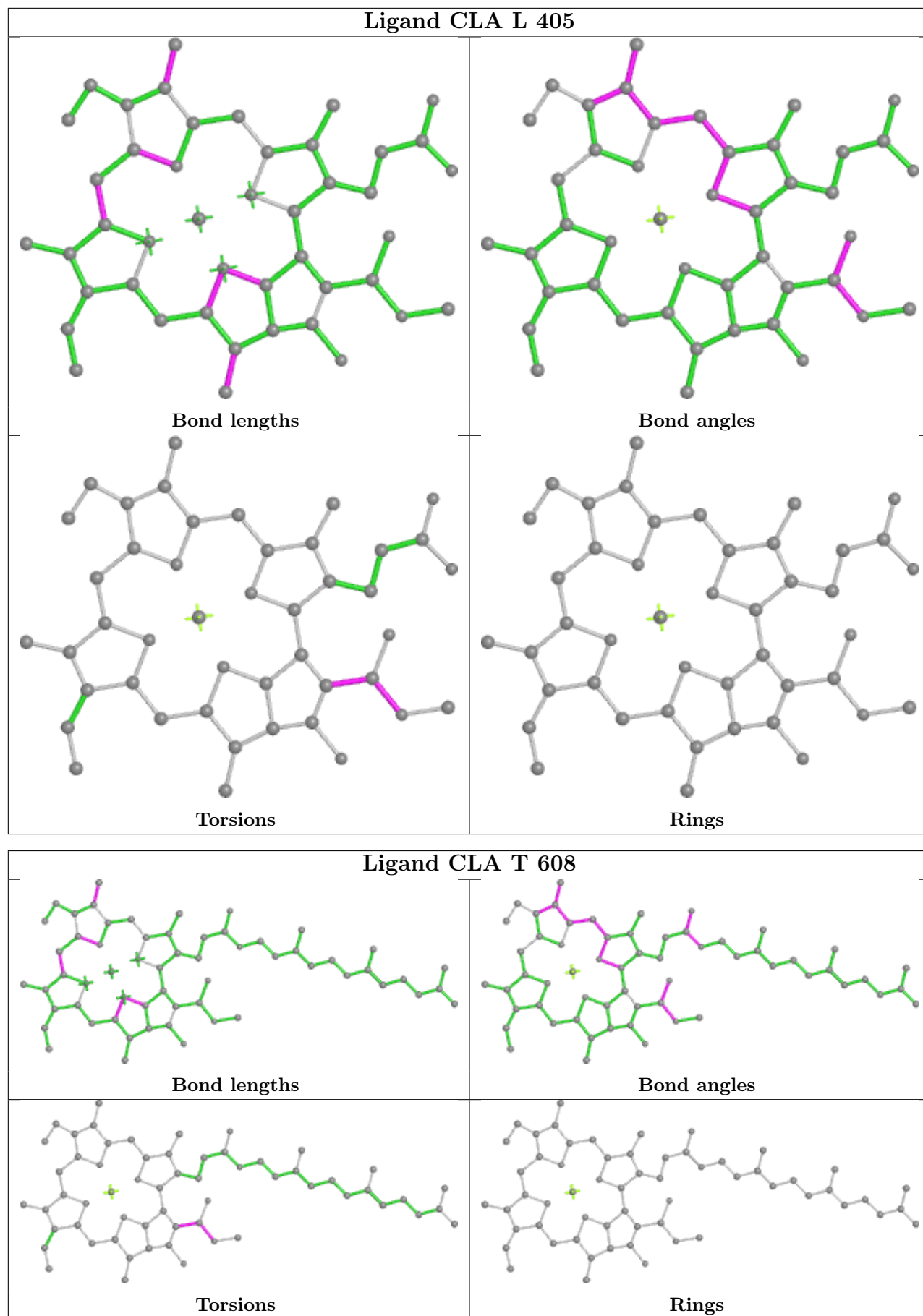


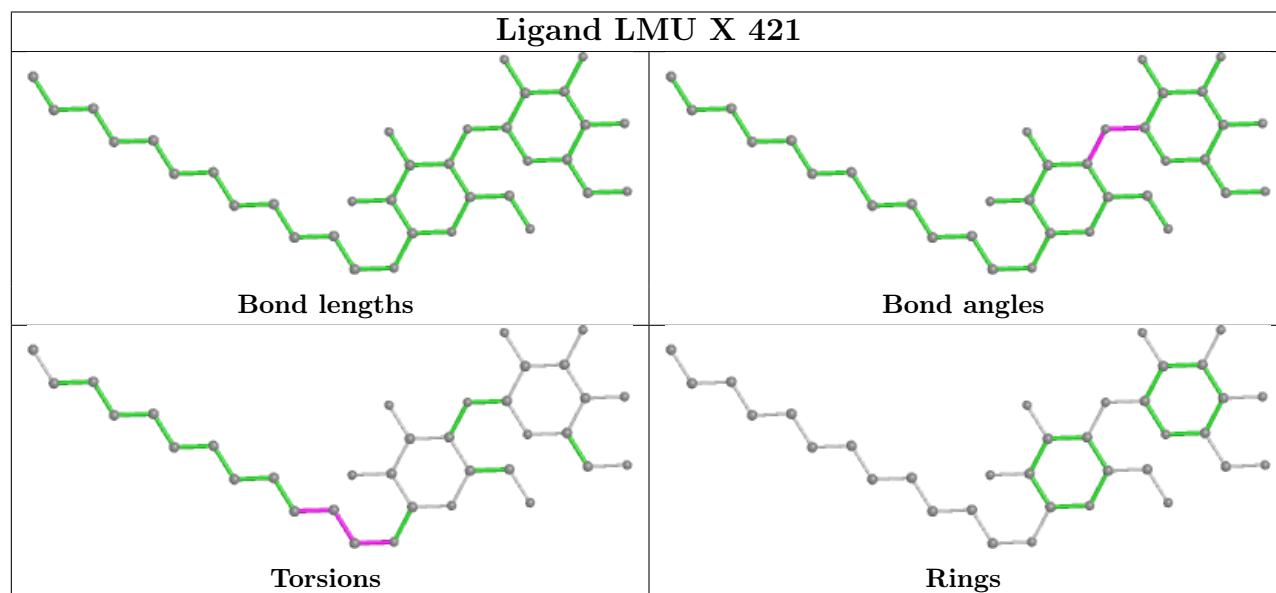
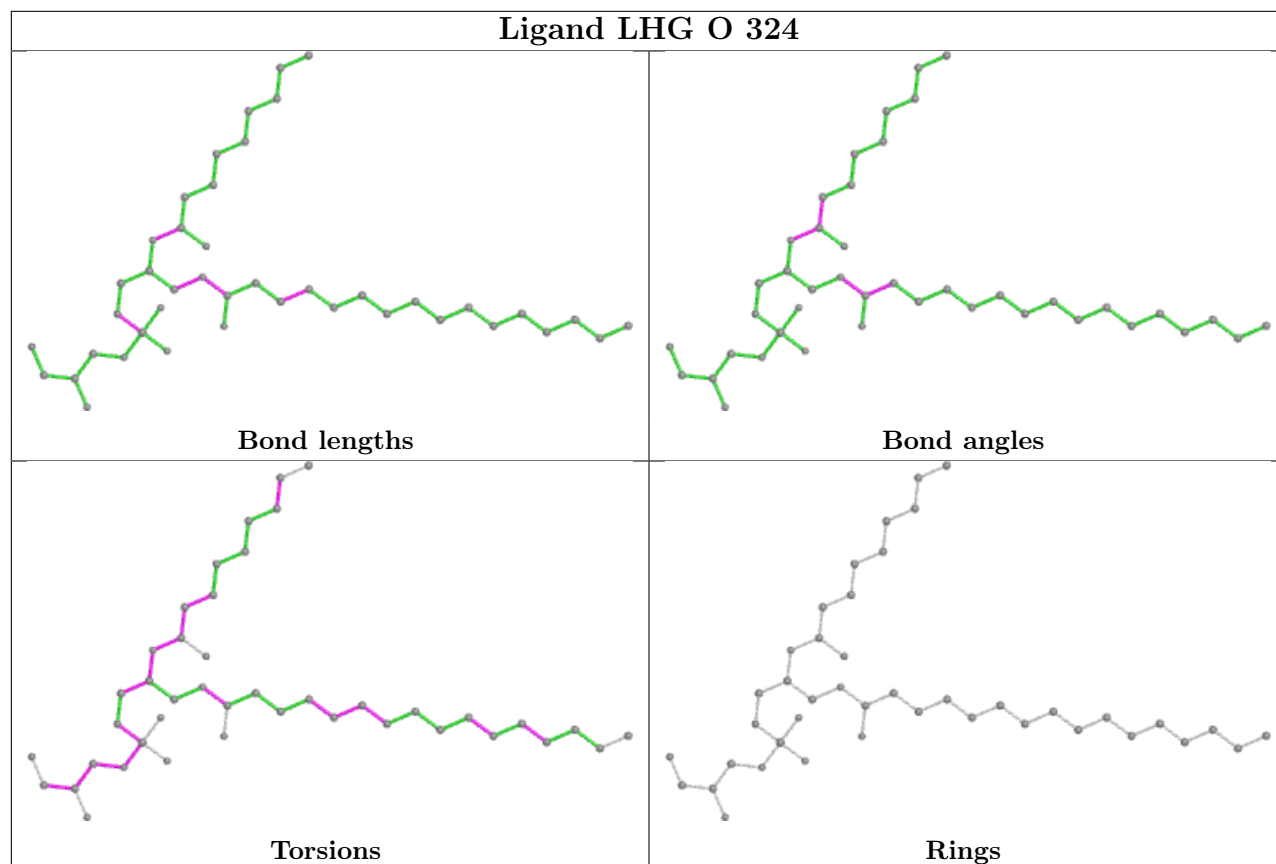


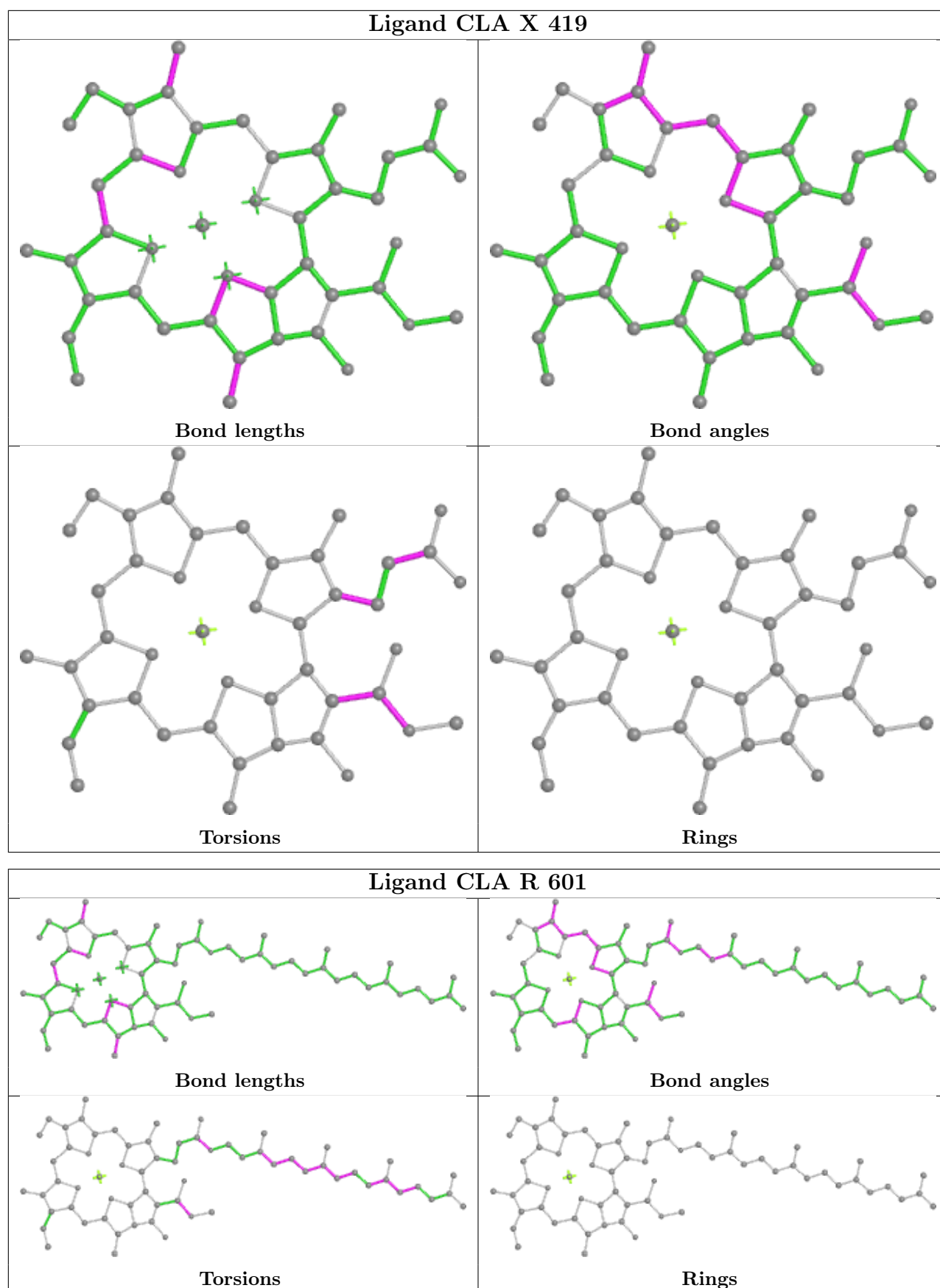


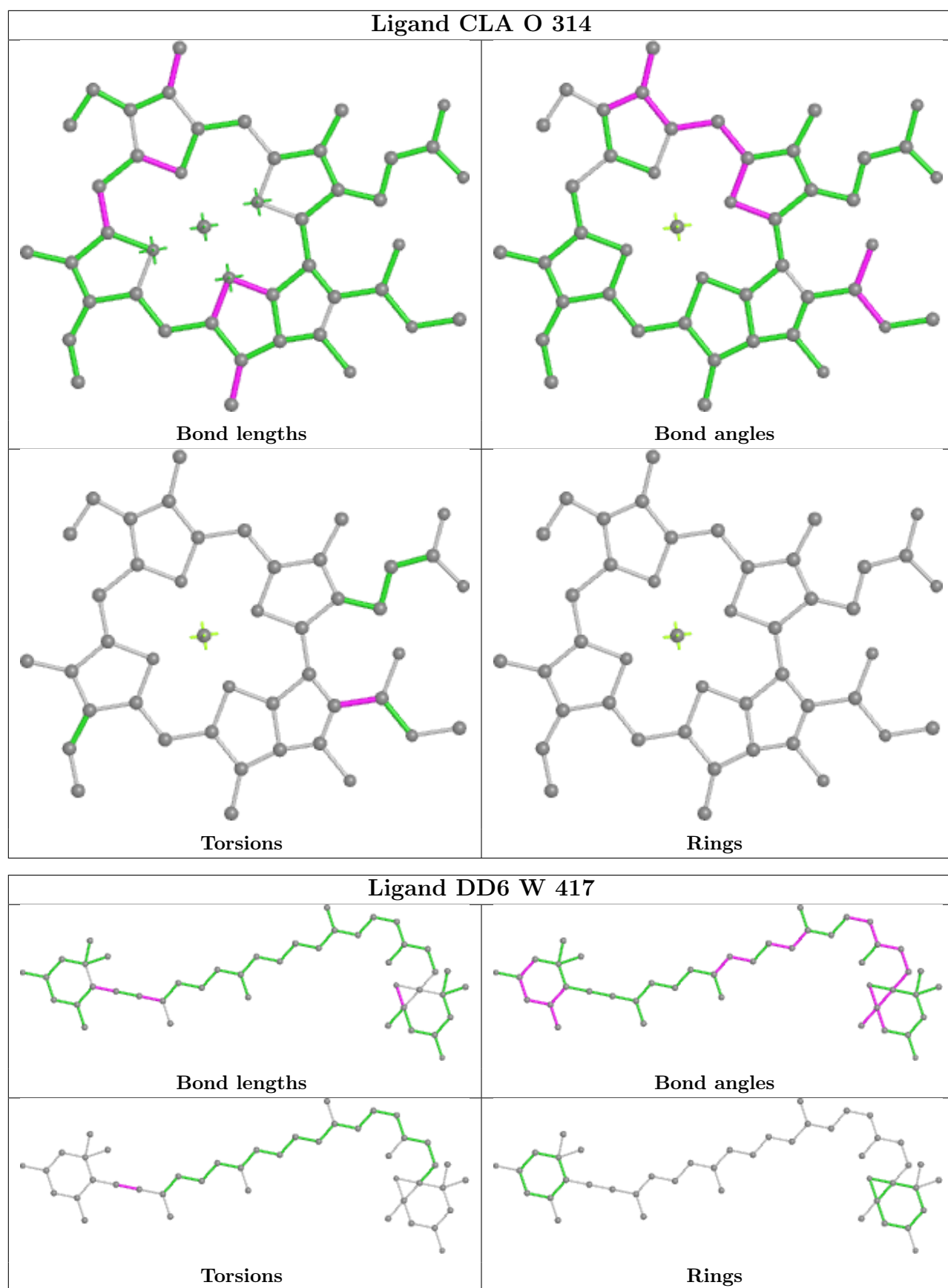


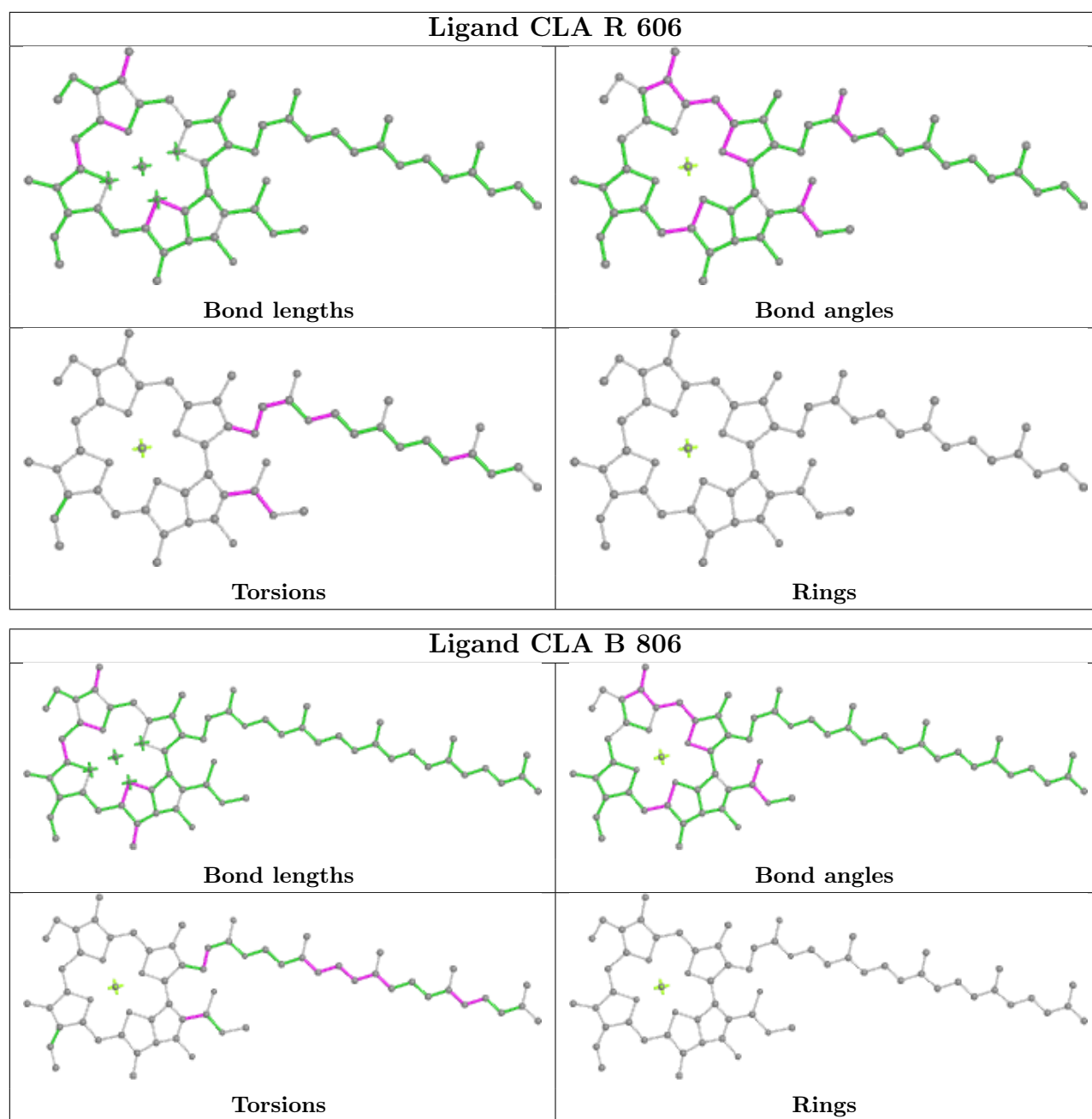


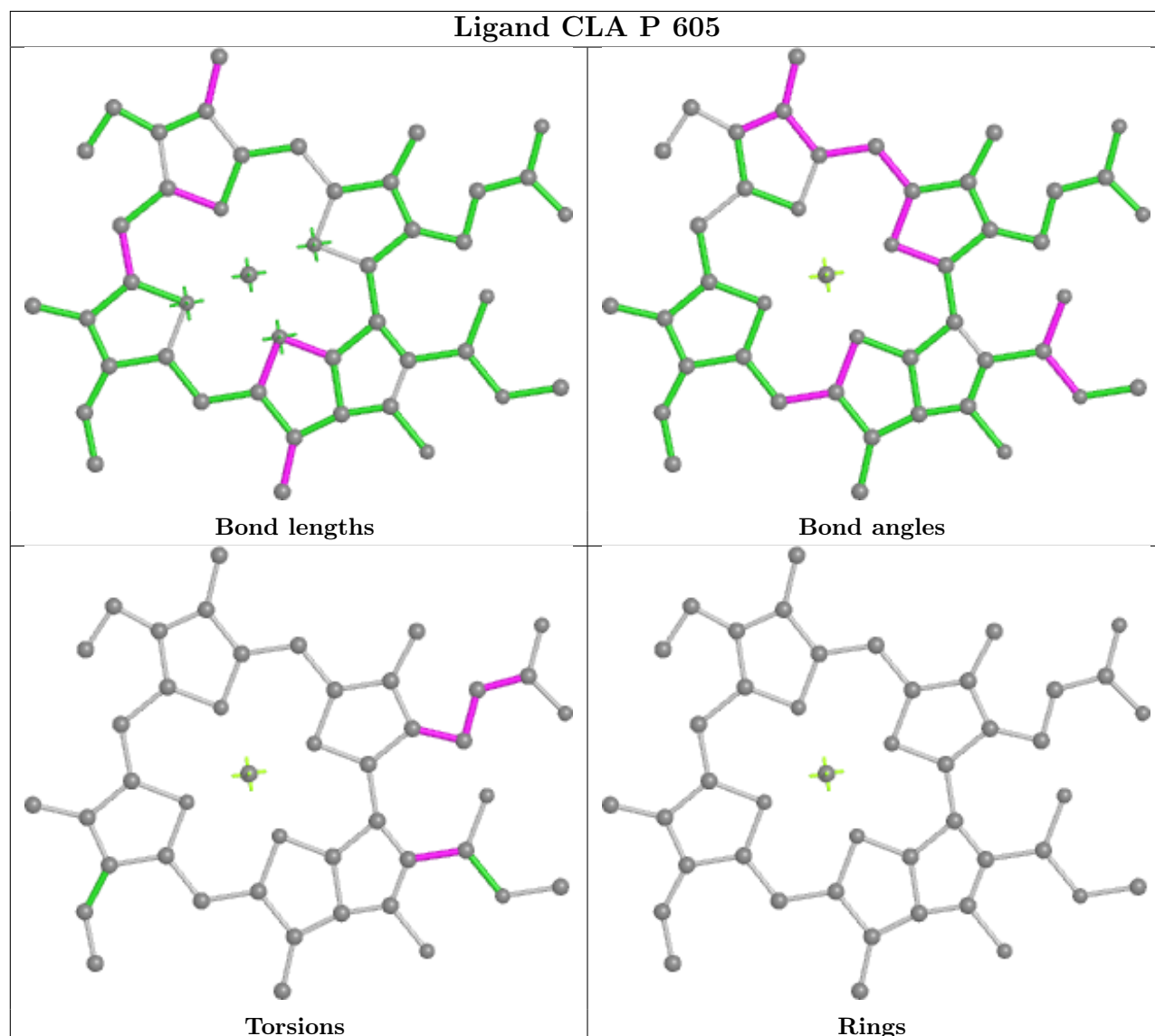
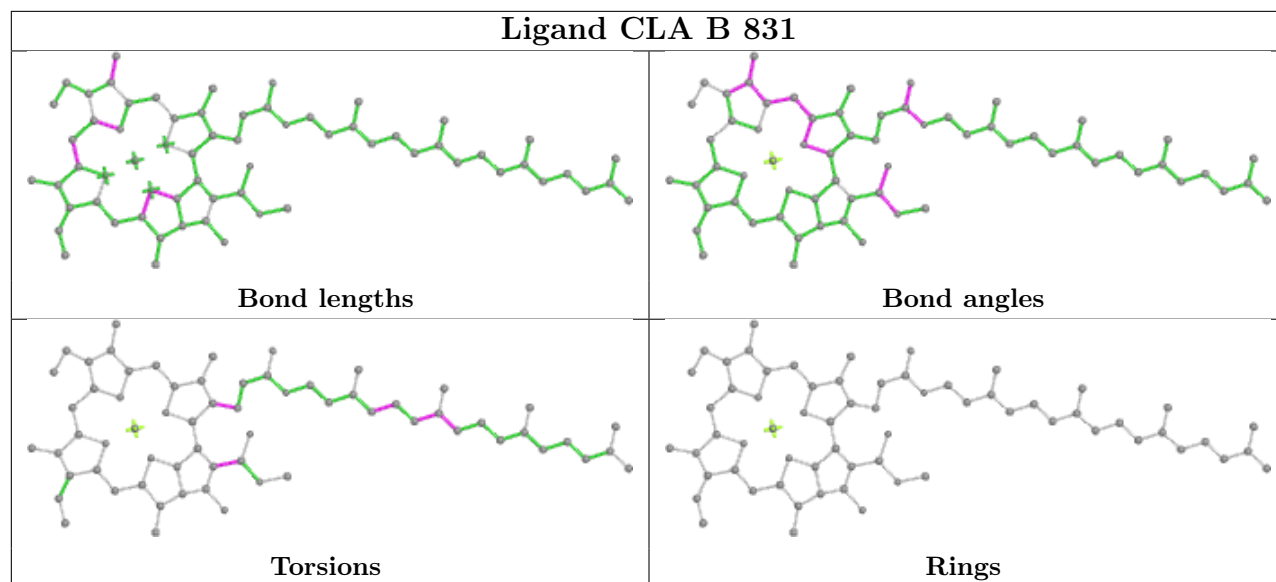


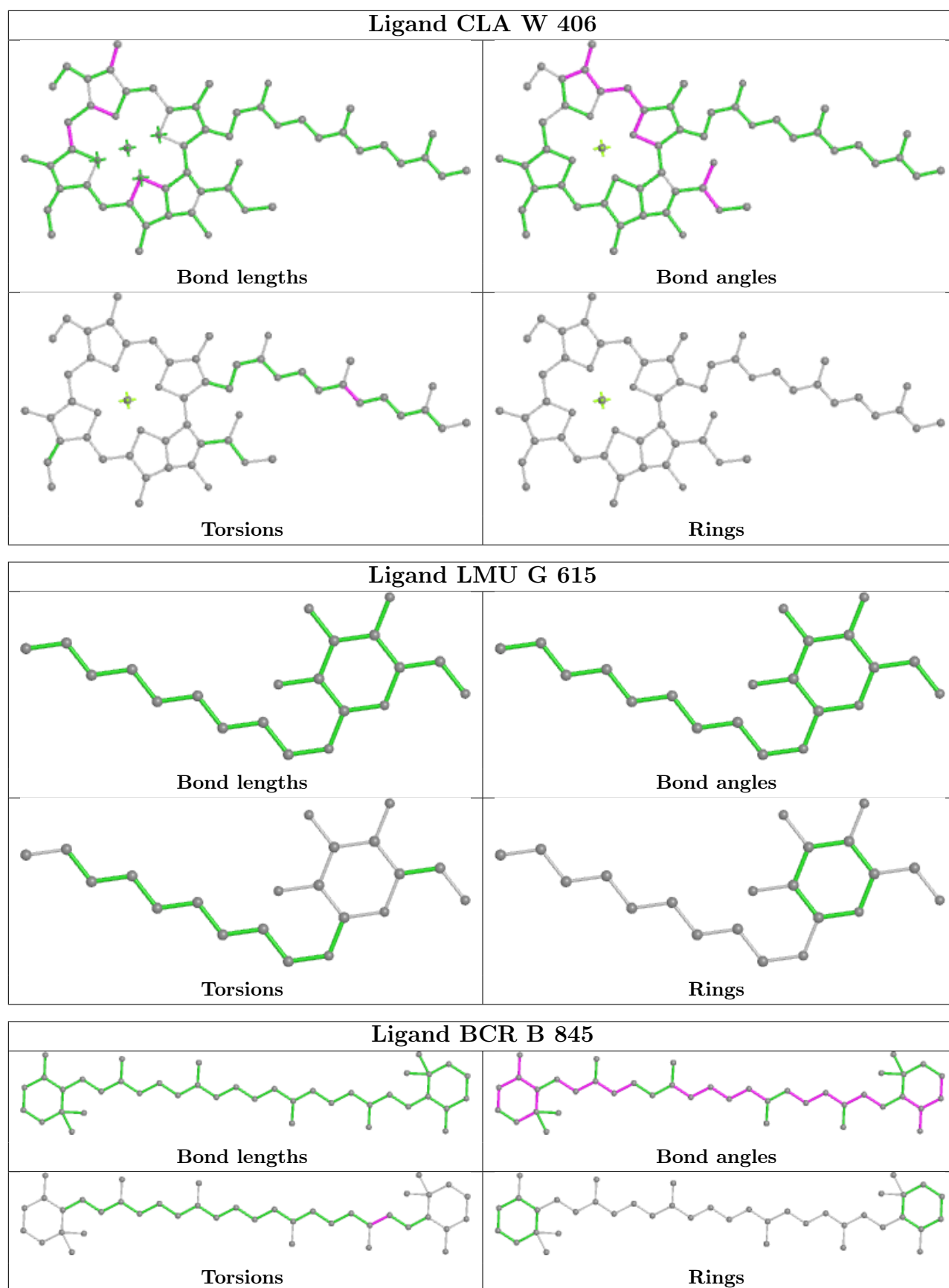


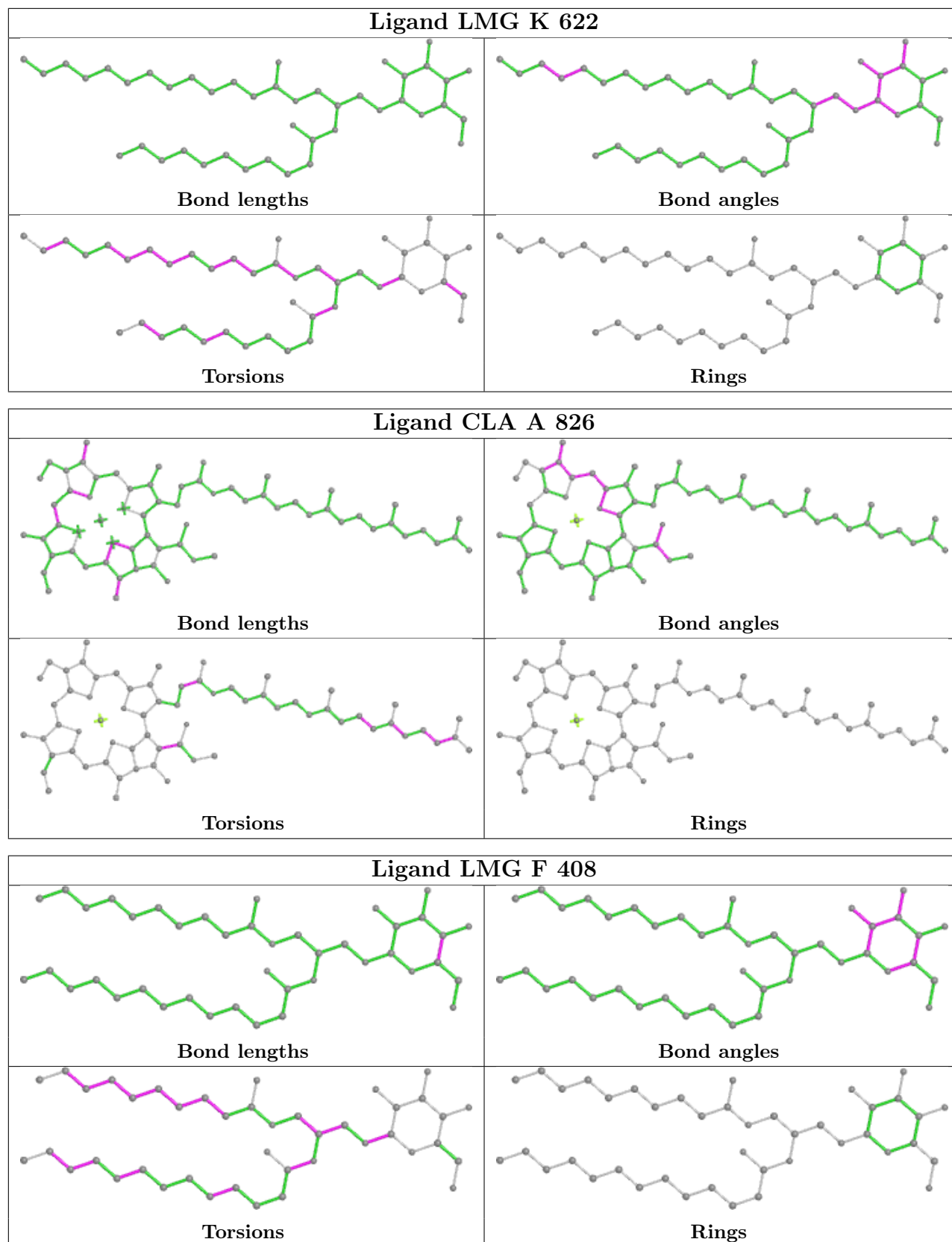


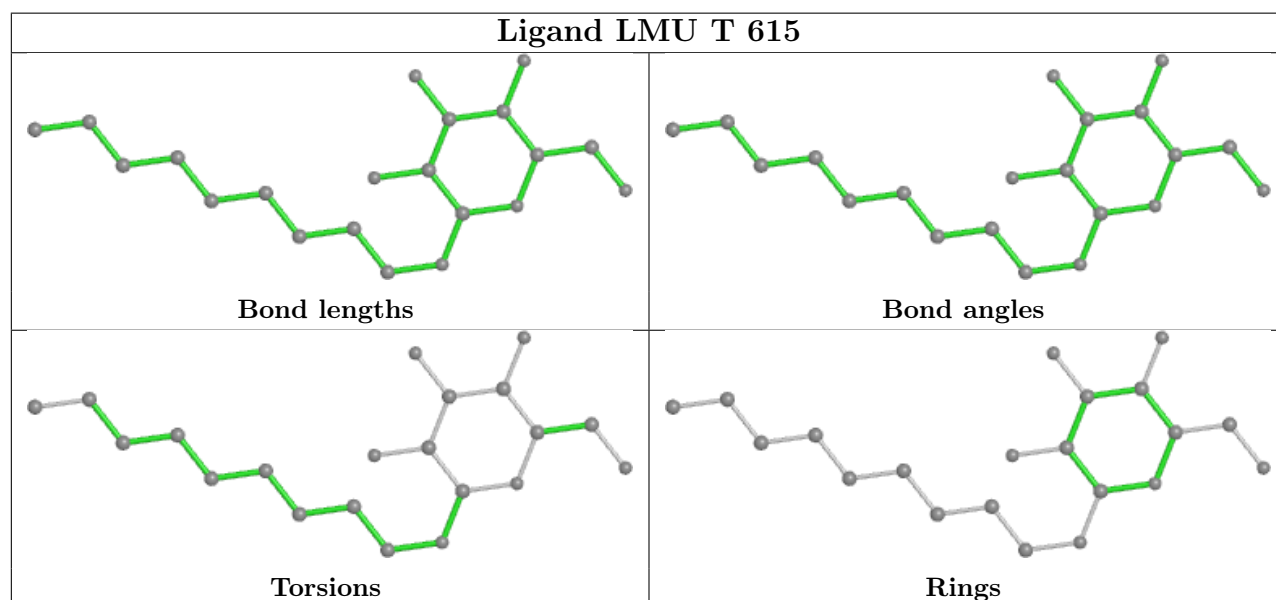
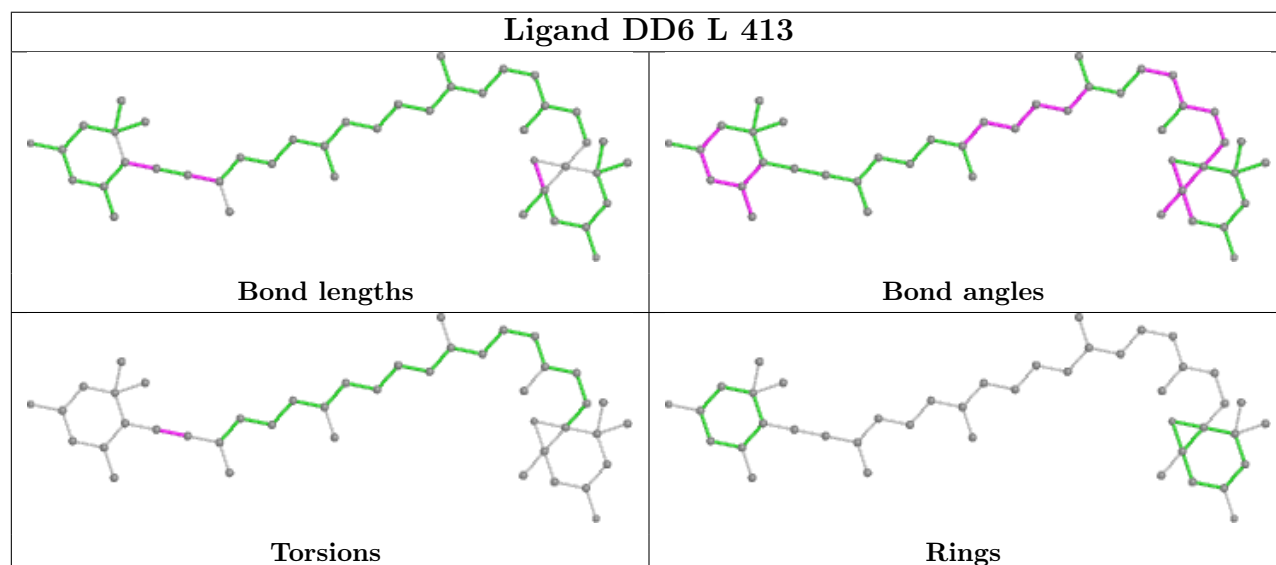
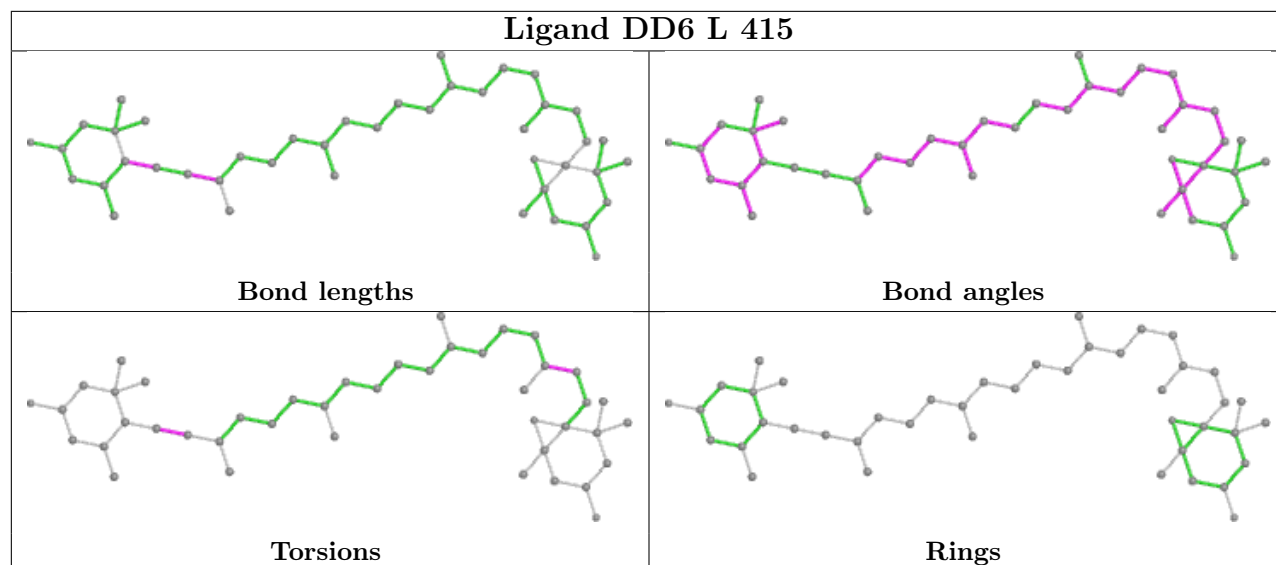


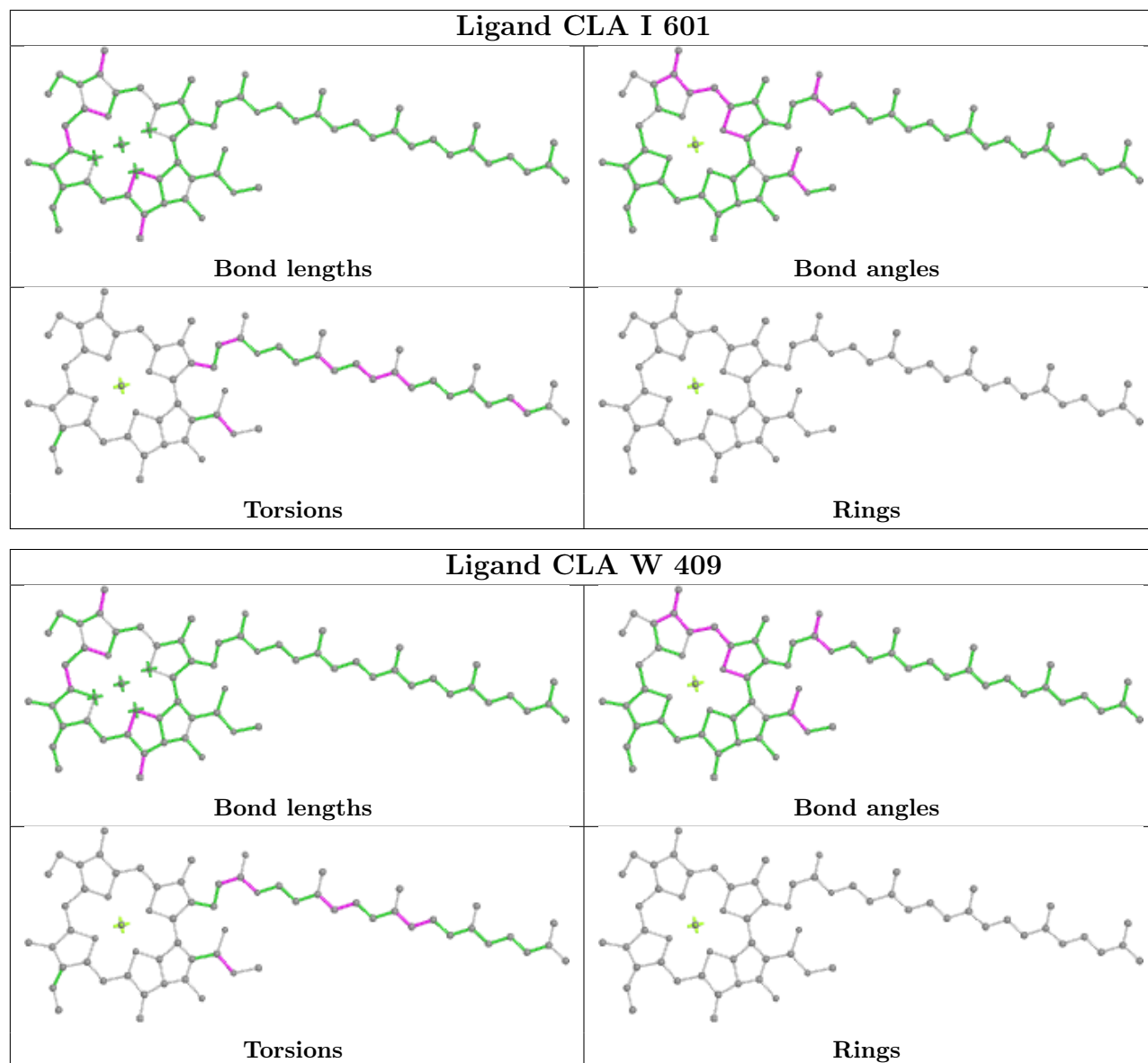


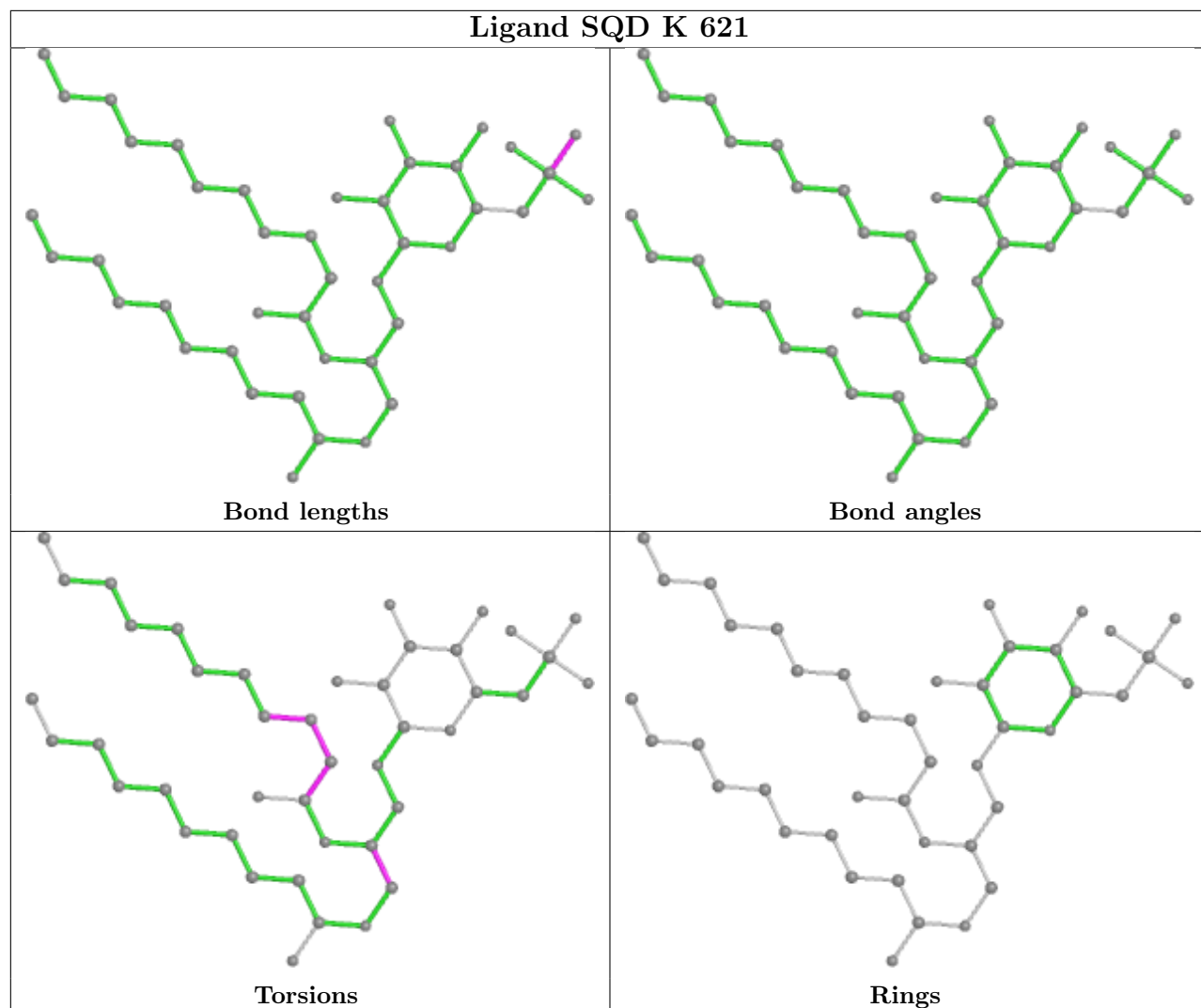


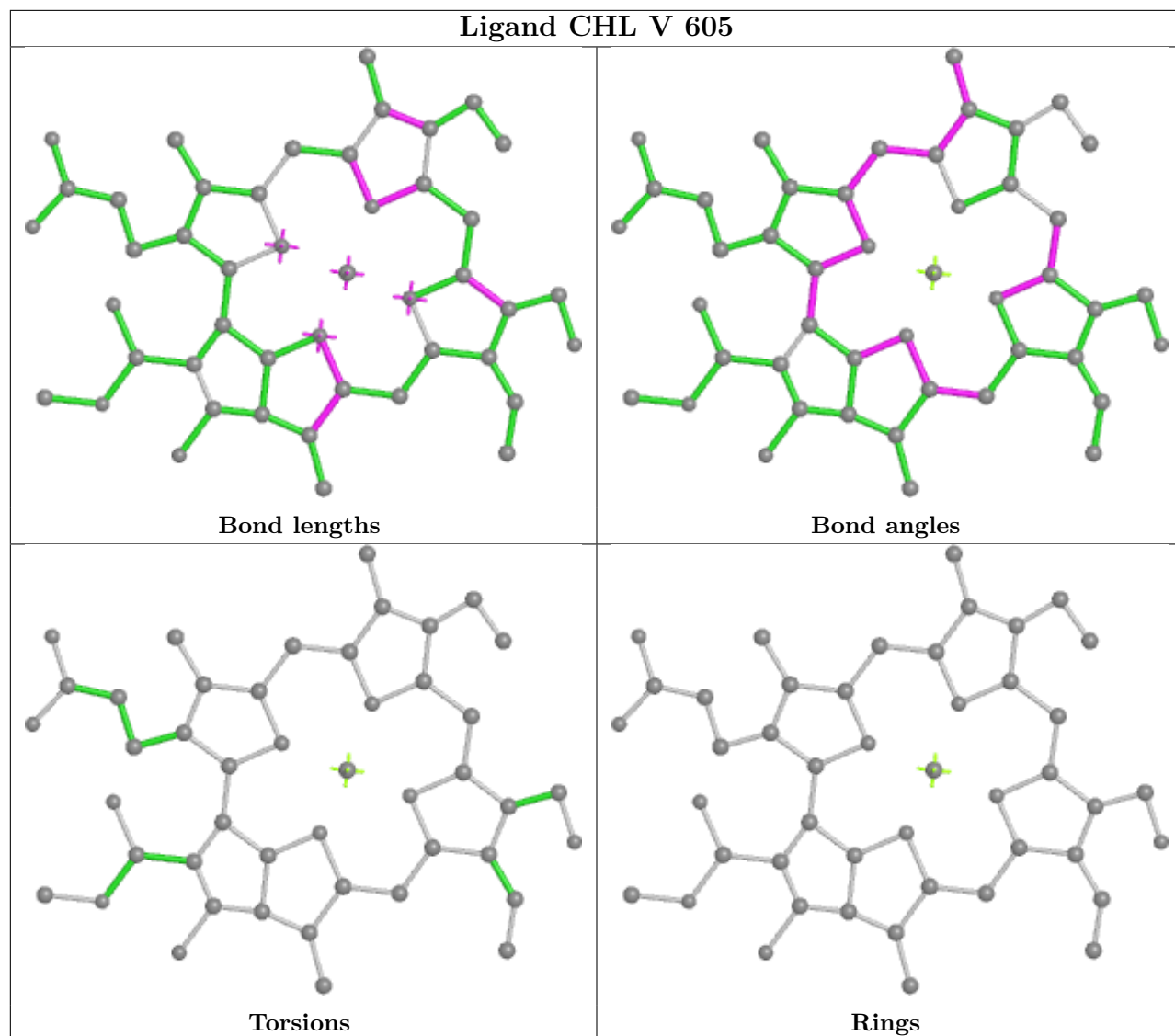


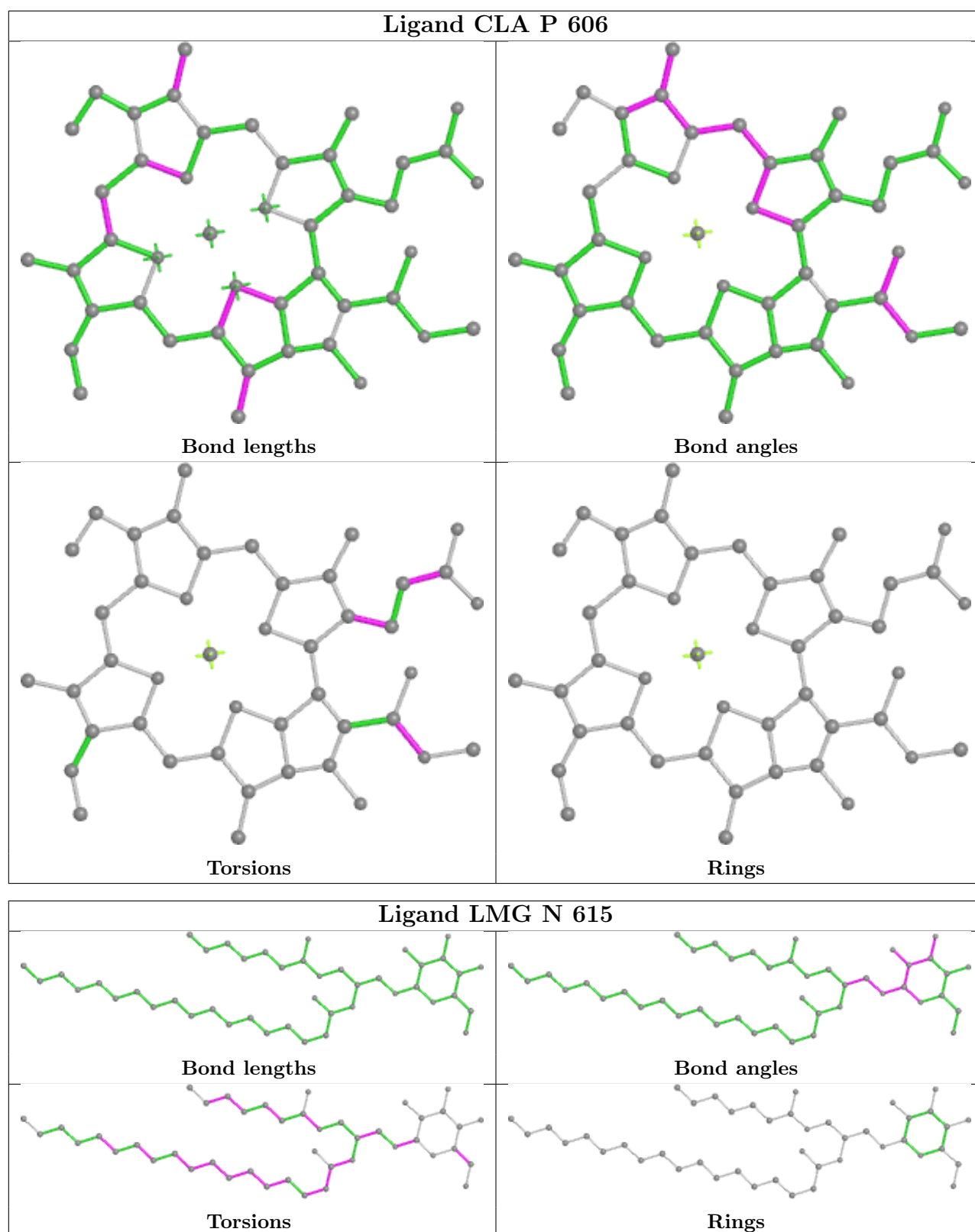


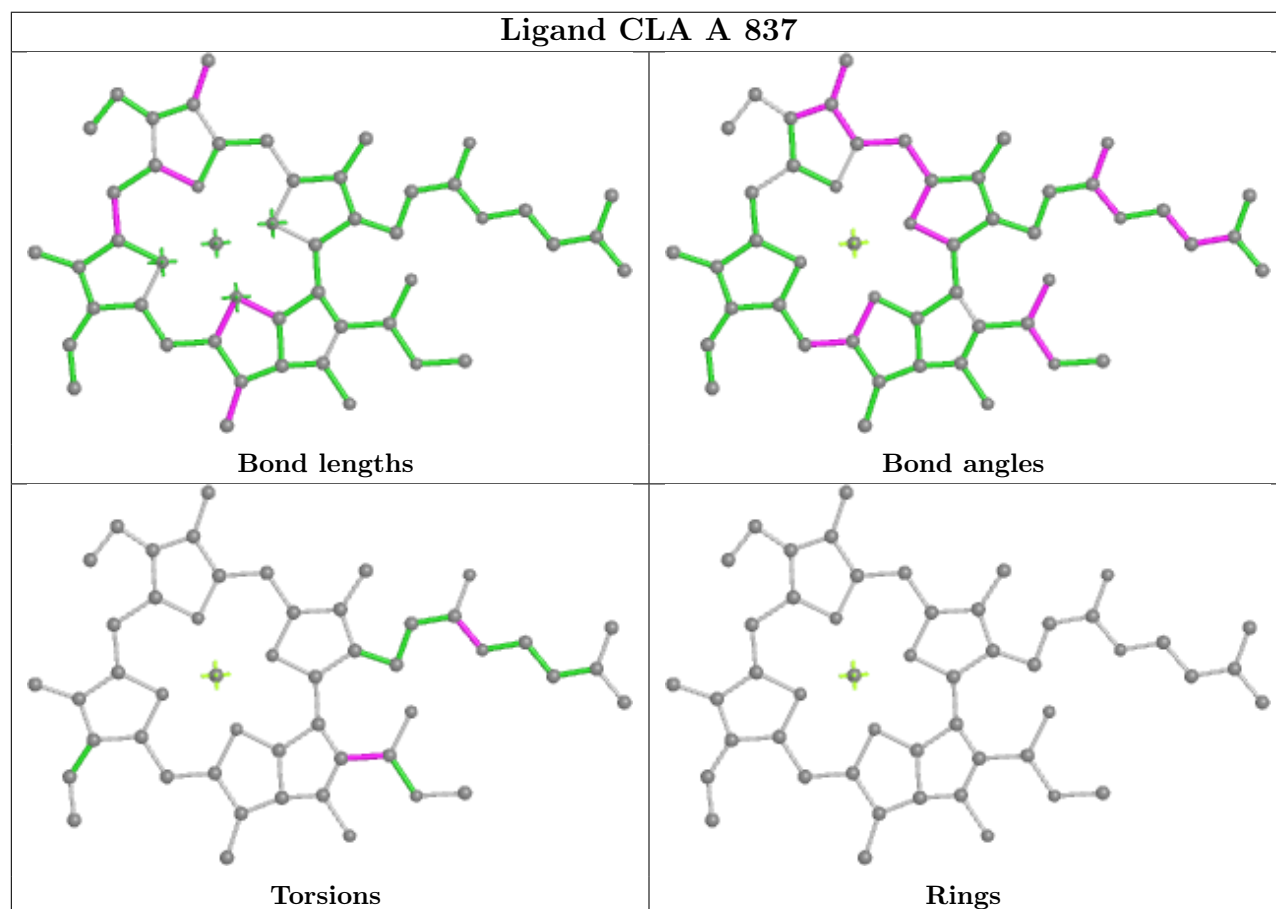
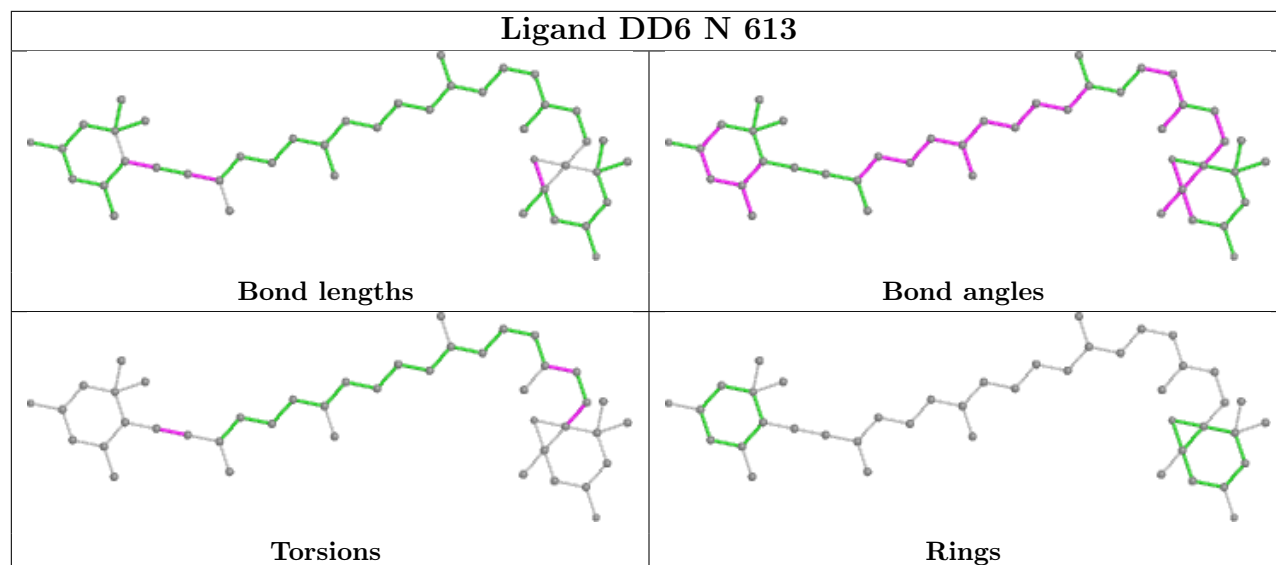


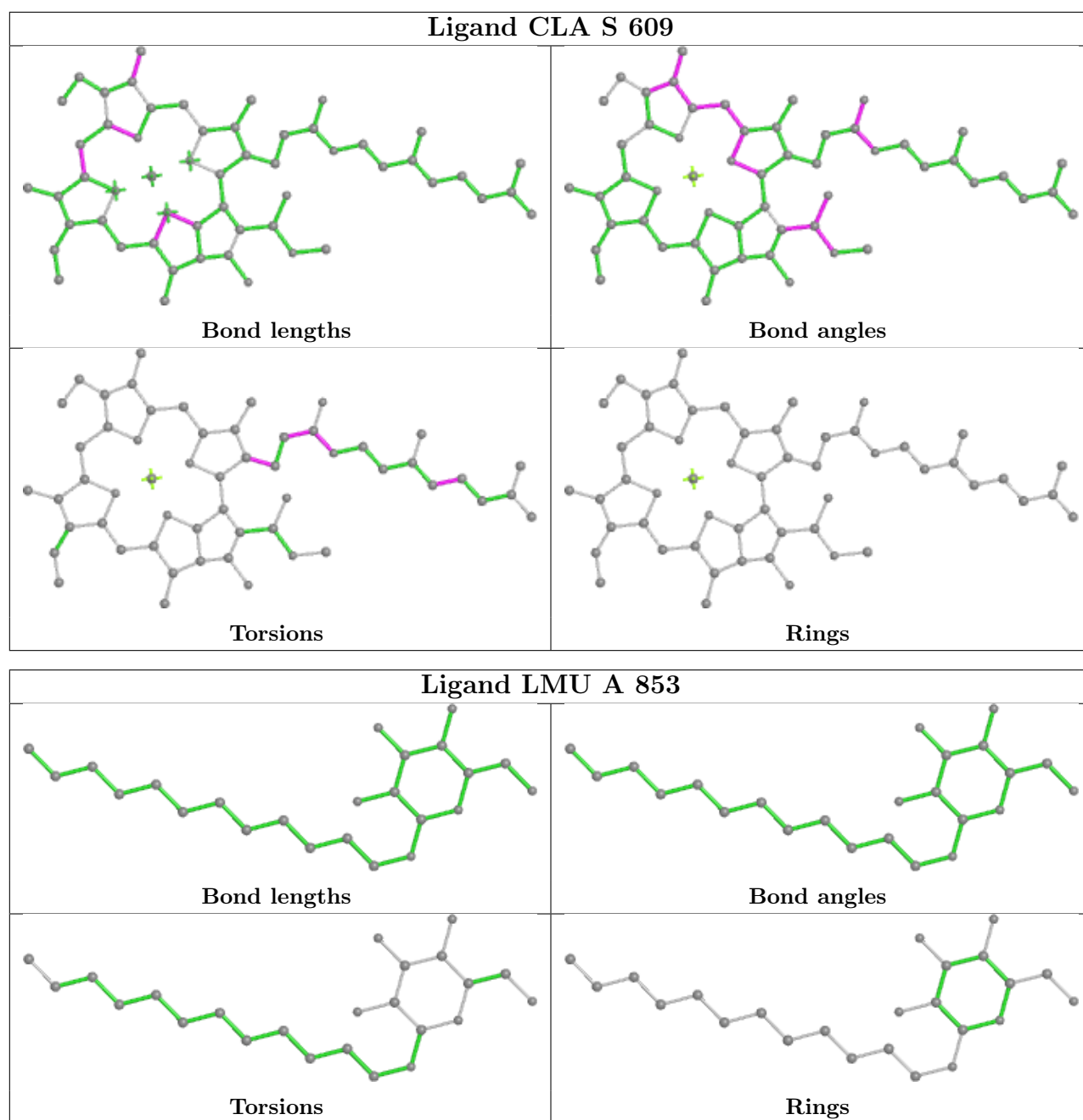












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

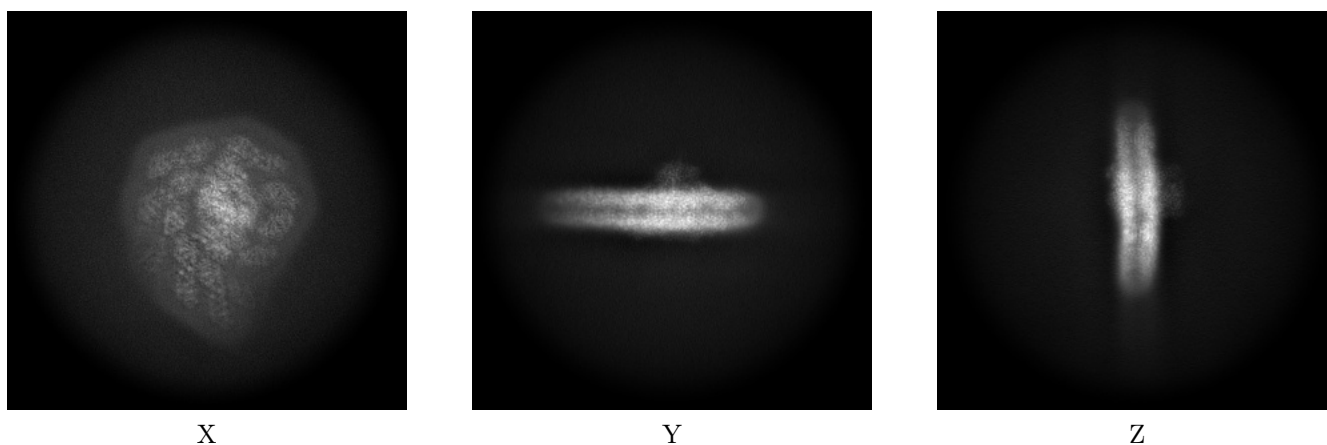
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-63994. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

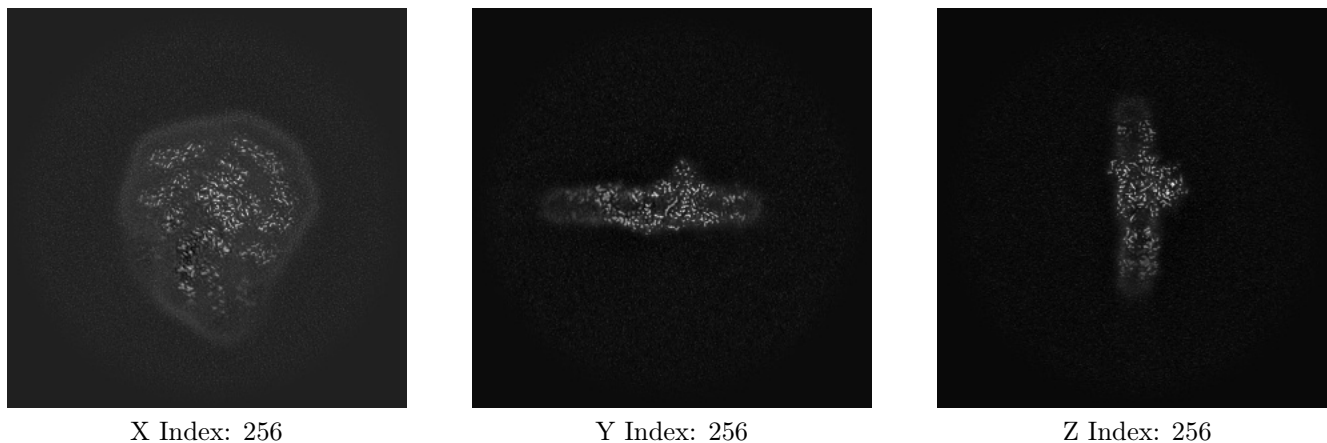
6.1.1 Primary map



The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

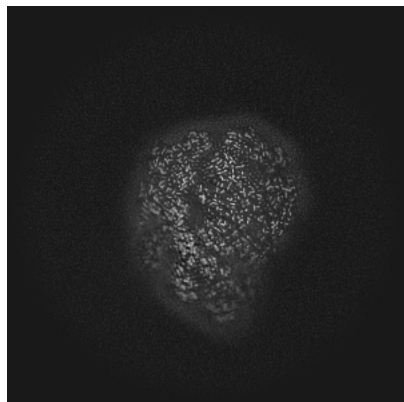
6.2.1 Primary map



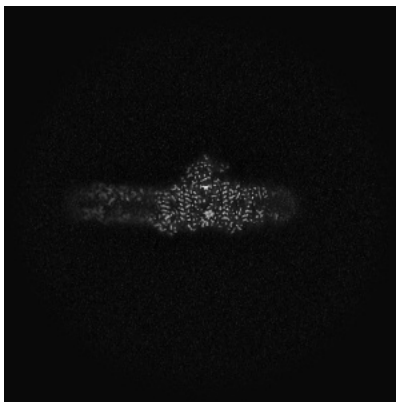
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

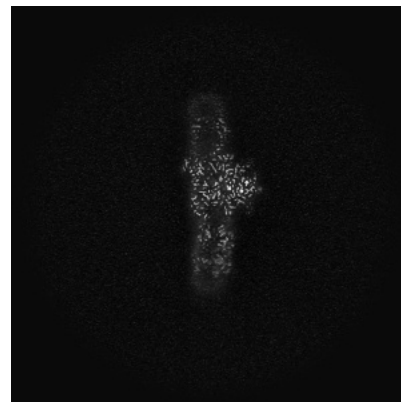
6.3.1 Primary map



X Index: 270



Y Index: 278

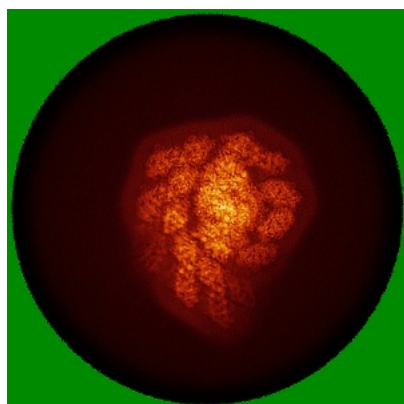


Z Index: 257

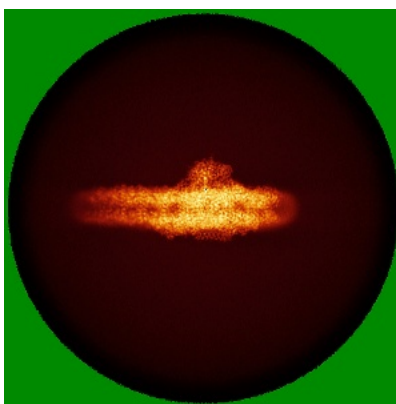
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

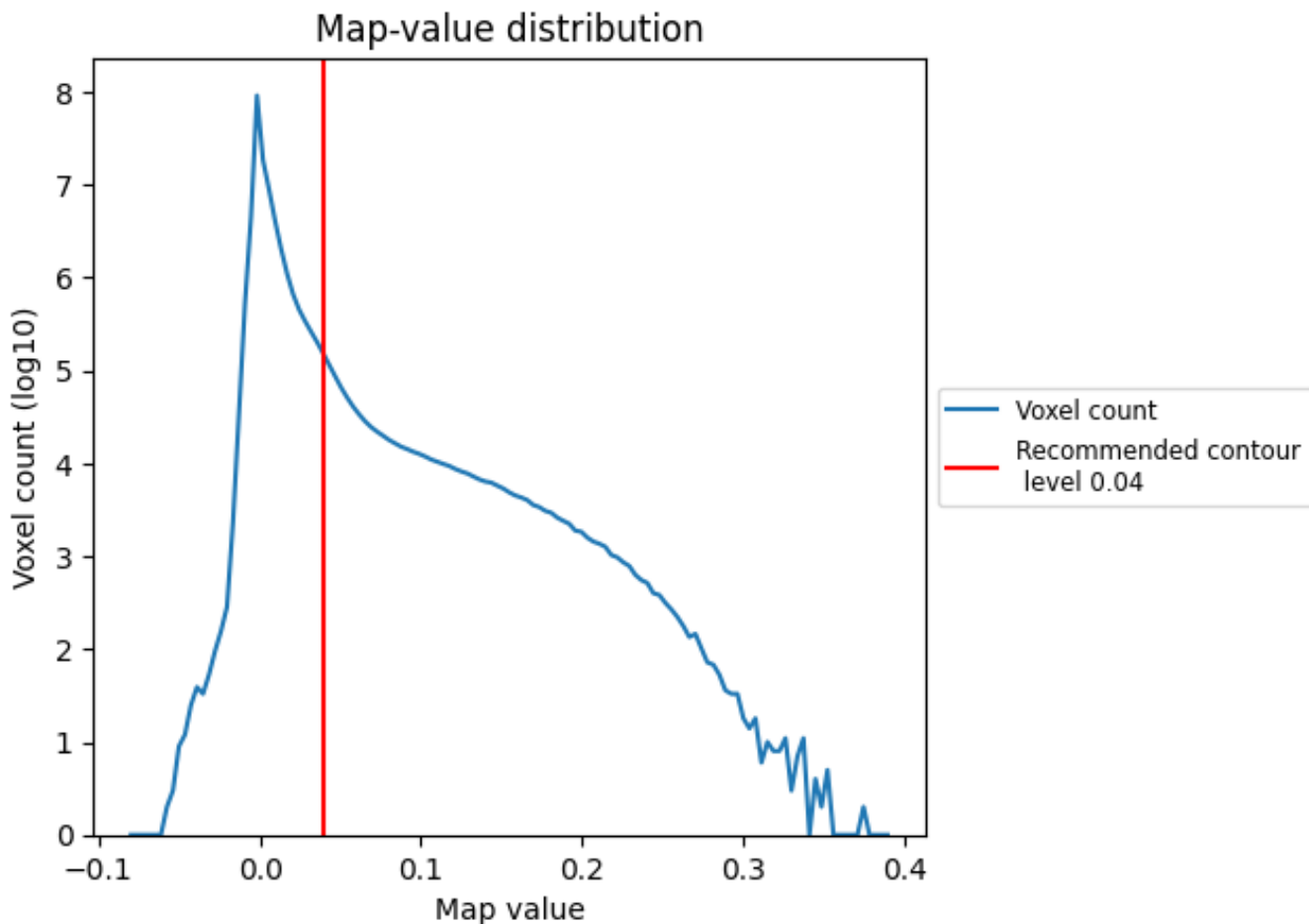
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

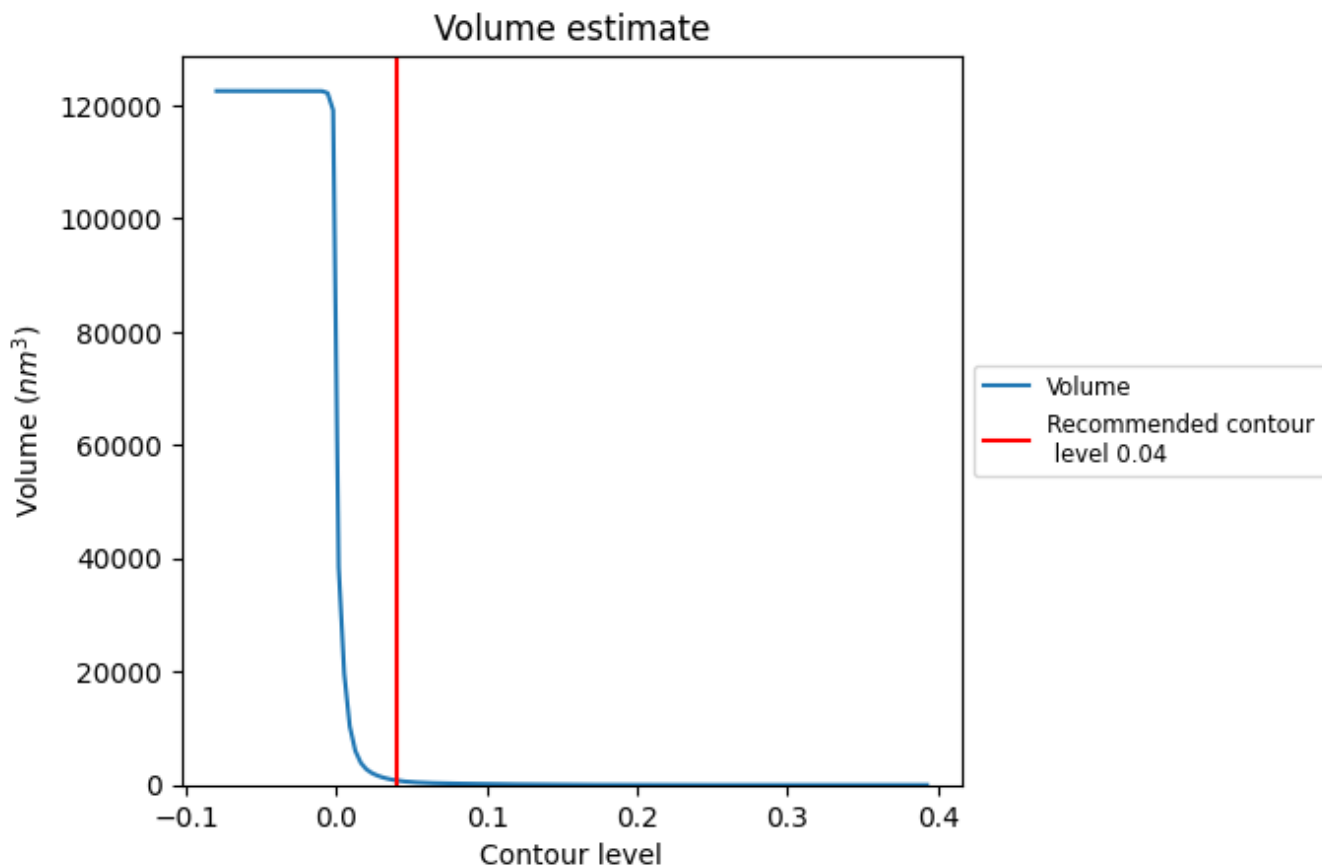
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

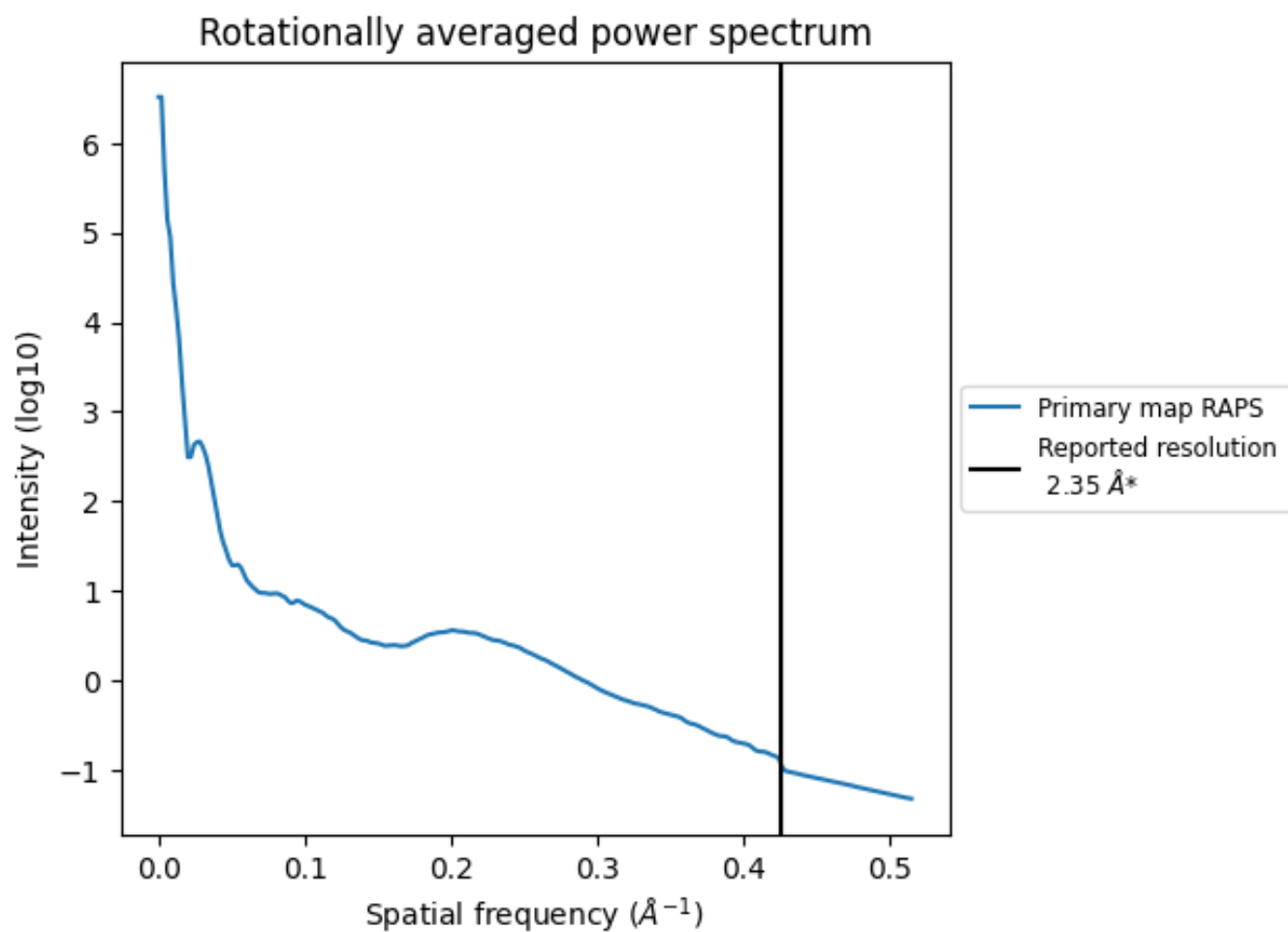
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 801 nm^3 ; this corresponds to an approximate mass of 724 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)

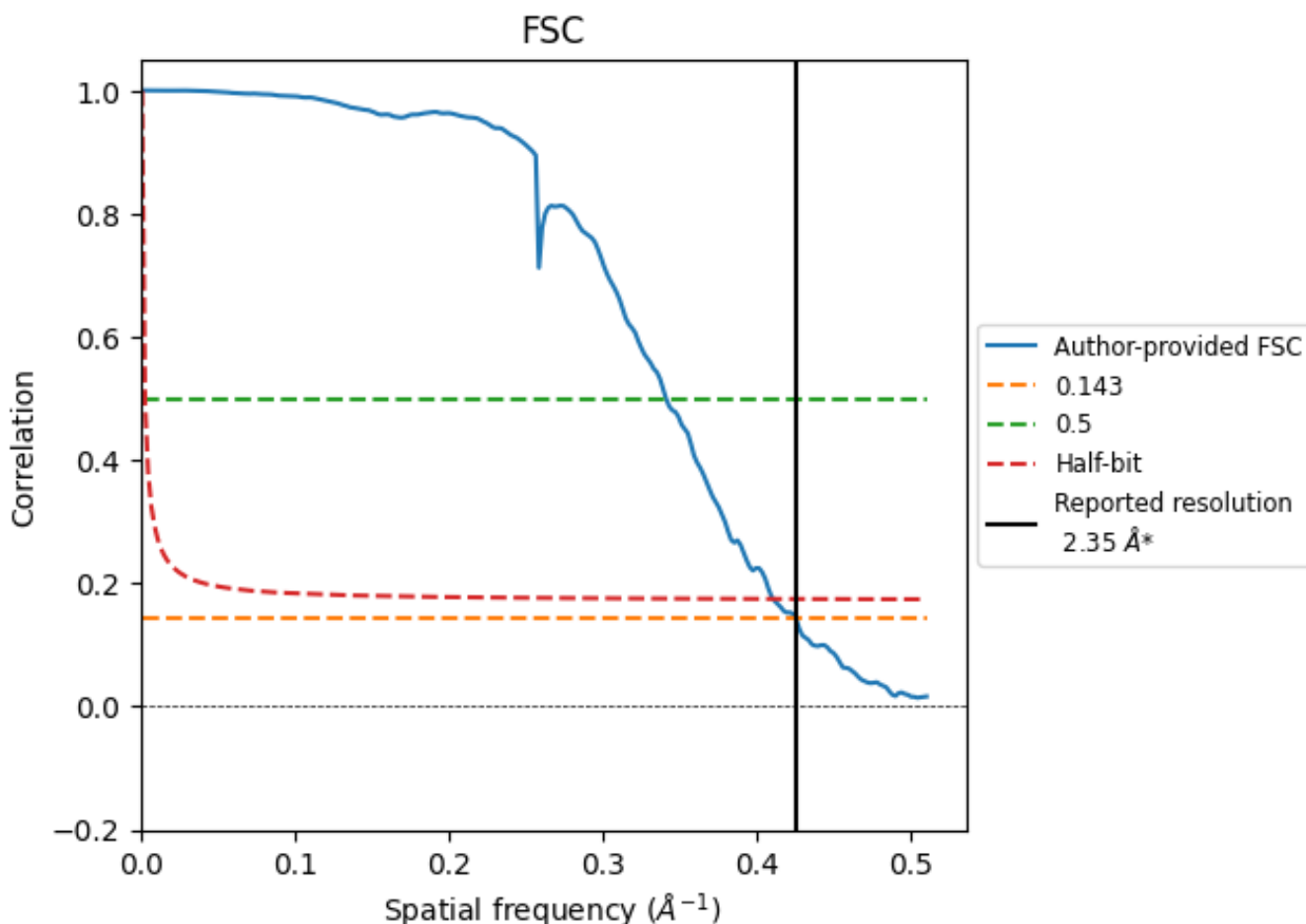


*Reported resolution corresponds to spatial frequency of 0.426 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.426 Å⁻¹

8.2 Resolution estimates [i](#)

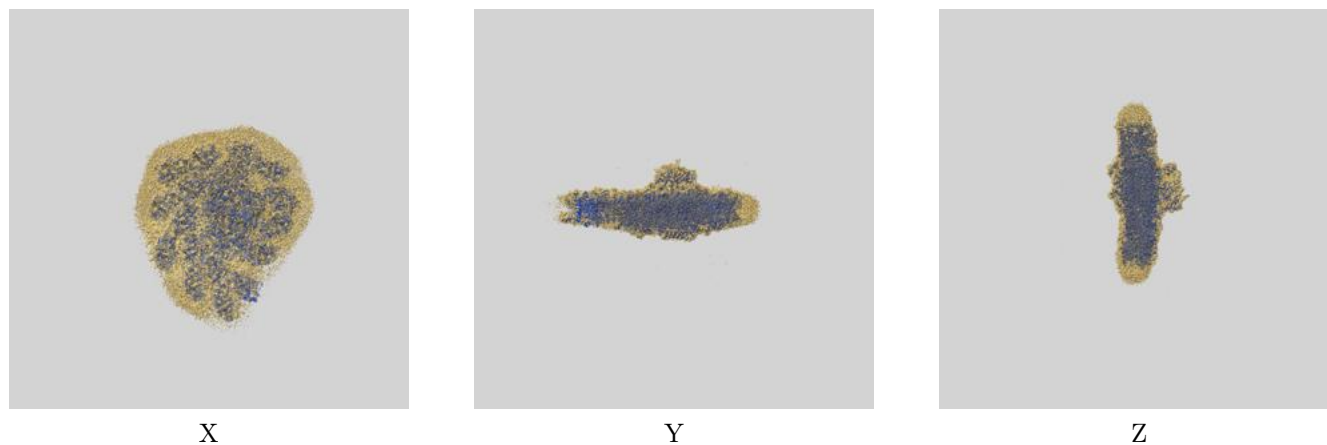
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.35	-	-
Author-provided FSC curve	2.35	2.93	2.43
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

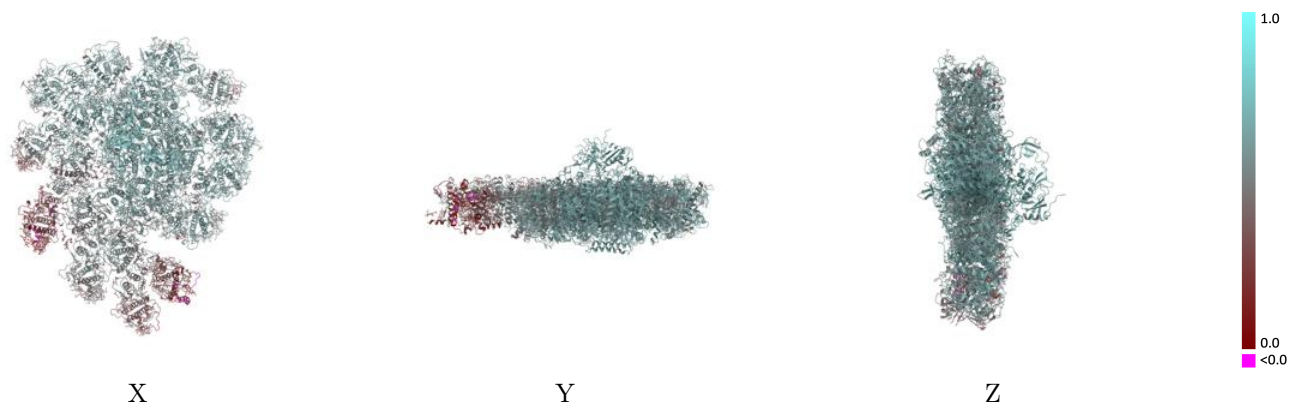
This section contains information regarding the fit between EMDB map EMD-63994 and PDB model 9UAS. Per-residue inclusion information can be found in section 3 on page 42.

9.1 Map-model overlay [i](#)



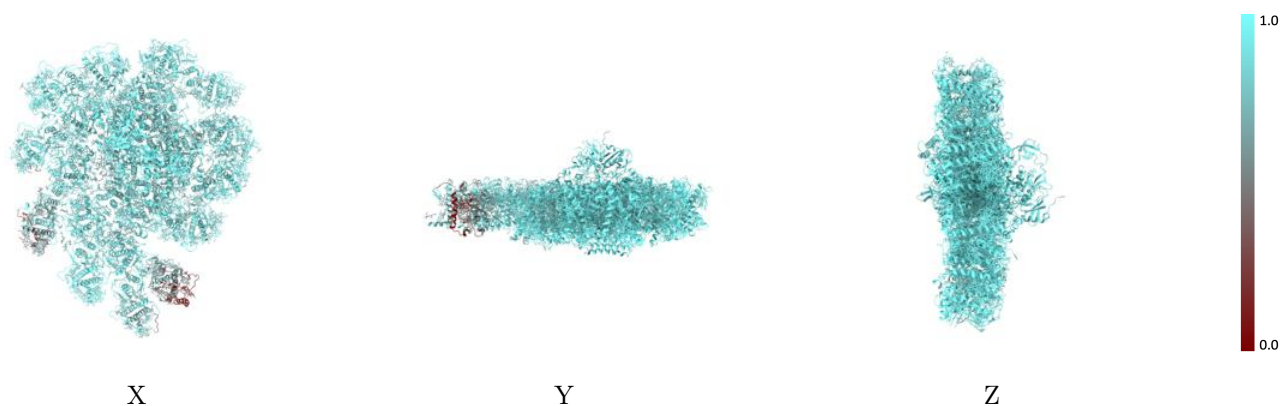
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



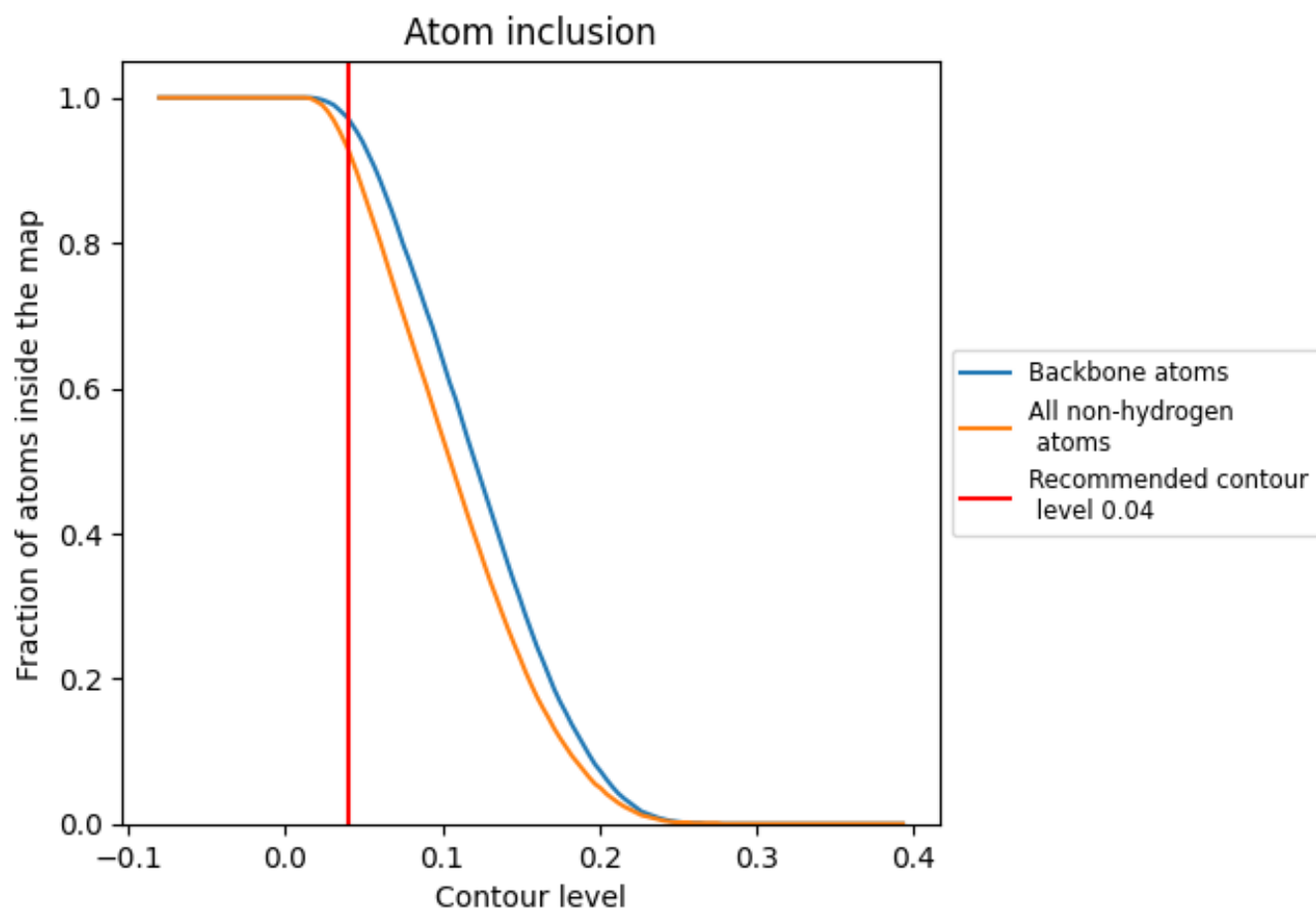
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.04).



















































9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9300	 0.5550
A	 0.9840	 0.6580
B	 0.9780	 0.6190
C	 0.9970	 0.6770
D	 0.9510	 0.6400
E	 0.9560	 0.6350
F	 0.9620	 0.6150
G	 0.9560	 0.5620
H	 0.9670	 0.5870
I	 0.9400	 0.4830
J	 0.9420	 0.6280
K	 0.9690	 0.6110
L	 0.9710	 0.5060
M	 0.9840	 0.5760
N	 0.9490	 0.4660
O	 0.9660	 0.4920
P	 0.7790	 0.3540
Q	 0.9570	 0.5030
R	 0.4970	 0.2490
S	 0.9380	 0.5600
T	 0.9500	 0.6030
U	 0.9200	 0.5570
V	 0.6770	 0.2230
W	 0.9550	 0.6060
X	 0.9420	 0.6030

