



wwPDB EM Validation Summary Report ⓘ

Jan 16, 2025 – 12:43 PM JST

PDB ID : 8Z11
EMDB ID : EMD-39717
Title : Cryo-EM structure of haptophyte photosystem I
Authors : He, F.Y.; Zhao, L.S.; Li, K.; Zhang, Y.Z.; Liu, L.N.
Deposited on : 2024-04-10
Resolution : 2.74 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:

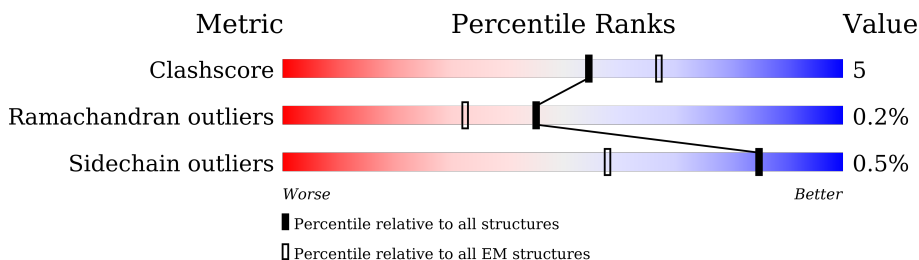
EMDB validation analysis : 0.0.1.dev113
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.40

1 Overall quality at a glance

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

The reported resolution of this entry is 2.74 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.














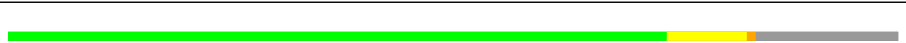




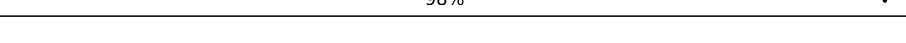
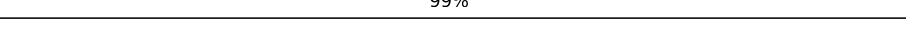
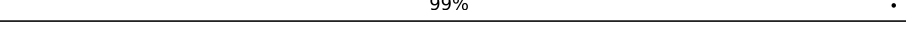
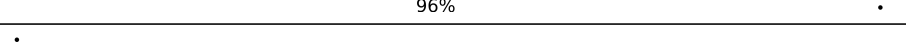

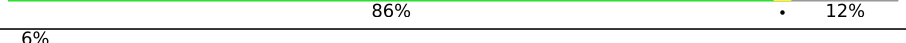
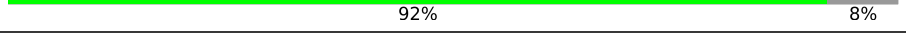
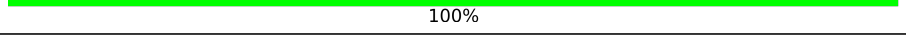

Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	A	209	
2	B	209	
3	C	205	
4	D	245	
5	E	206	
6	F	240	
7	G	198	
8	H	198	

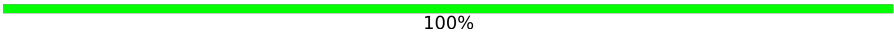

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Mol	Chain	Length	Quality of chain
9	I	194	
10	J	200	
11	K	202	
12	L	229	
13	M	217	
13	P	217	
13	W	217	
14	N	224	
15	O	206	
15	R	206	
15	T	206	
16	Q	187	
17	S	235	
18	U	203	
19	V	122	
20	a	752	
21	b	734	
22	c	81	
23	d	142	
24	e	124	
25	f	184	
26	i	36	
27	j	40	
28	k	92	
29	l	145	

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Mol	Chain	Length	Quality of chain
30	m	30	 100%
31	r	133	 68% 32%

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
32	CLA	A	301	X	-	-	-
32	CLA	A	302	X	-	-	-
32	CLA	A	303	X	-	-	-
32	CLA	A	304	X	-	-	-
32	CLA	A	305	X	-	-	-
32	CLA	A	306	X	-	-	-
32	CLA	A	307	X	-	-	-
32	CLA	A	308	X	-	-	-
32	CLA	A	309	X	-	-	-
32	CLA	A	311	X	-	-	-
32	CLA	B	301	X	-	-	-
32	CLA	B	302	X	-	-	-
32	CLA	B	303	X	-	-	-
32	CLA	B	304	X	-	-	-
32	CLA	B	305	X	-	-	-
32	CLA	B	306	X	-	-	-
32	CLA	B	309	X	-	-	-
32	CLA	C	301	X	-	-	-
32	CLA	C	302	X	-	-	-
32	CLA	C	304	X	-	-	-
32	CLA	C	305	X	-	-	-
32	CLA	C	306	X	-	-	-
32	CLA	C	307	X	-	-	-
32	CLA	C	308	X	-	-	-
32	CLA	C	309	X	-	-	-
32	CLA	D	304	X	-	-	-
32	CLA	D	305	X	-	-	-
32	CLA	D	306	X	-	-	-
32	CLA	D	307	X	-	-	-
32	CLA	D	308	X	-	-	-
32	CLA	D	309	X	-	-	-
32	CLA	D	310	X	-	-	-
32	CLA	D	311	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	CLA	D	312	X	-	-	-
32	CLA	D	313	X	-	-	-
32	CLA	D	314	X	-	-	-
32	CLA	D	315	X	-	-	-
32	CLA	E	303	X	-	-	-
32	CLA	E	304	X	-	-	-
32	CLA	E	305	X	-	-	-
32	CLA	E	306	X	-	-	-
32	CLA	E	307	X	-	-	-
32	CLA	E	308	X	-	-	-
32	CLA	E	309	X	-	-	-
32	CLA	E	310	X	-	-	-
32	CLA	E	311	X	-	-	-
32	CLA	E	312	X	-	-	-
32	CLA	E	314	X	-	-	-
32	CLA	E	315	X	-	-	-
32	CLA	F	301	X	-	-	-
32	CLA	F	303	X	-	-	-
32	CLA	F	304	X	-	-	-
32	CLA	F	305	X	-	-	-
32	CLA	F	306	X	-	-	-
32	CLA	F	307	X	-	-	-
32	CLA	F	308	X	-	-	-
32	CLA	F	309	X	-	-	-
32	CLA	F	311	X	-	-	-
32	CLA	F	322	X	-	-	-
32	CLA	G	301	X	-	-	-
32	CLA	G	303	X	-	-	-
32	CLA	G	304	X	-	-	-
32	CLA	G	305	X	-	-	-
32	CLA	G	306	X	-	-	-
32	CLA	G	307	X	-	-	-
32	CLA	G	308	X	-	-	-
32	CLA	H	301	X	-	-	-
32	CLA	H	302	X	-	-	-
32	CLA	H	304	X	-	-	-
32	CLA	H	305	X	-	-	-
32	CLA	H	306	X	-	-	-
32	CLA	H	307	X	-	-	-
32	CLA	H	308	X	-	-	-
32	CLA	H	309	X	-	-	-
32	CLA	H	310	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	CLA	I	301	X	-	-	-
32	CLA	I	302	X	-	-	-
32	CLA	I	303	X	-	-	-
32	CLA	I	304	X	-	-	-
32	CLA	I	305	X	-	-	-
32	CLA	I	306	X	-	-	-
32	CLA	I	307	X	-	-	-
32	CLA	I	308	X	-	-	-
32	CLA	I	317	X	-	-	-
32	CLA	J	301	X	-	-	-
32	CLA	J	302	X	-	-	-
32	CLA	J	304	X	-	-	-
32	CLA	J	305	X	-	-	-
32	CLA	J	306	X	-	-	-
32	CLA	J	307	X	-	-	-
32	CLA	J	308	X	-	-	-
32	CLA	J	309	X	-	-	-
32	CLA	J	311	X	-	-	-
32	CLA	J	312	X	-	-	-
32	CLA	K	301	X	-	-	-
32	CLA	K	304	X	-	-	-
32	CLA	K	306	X	-	-	-
32	CLA	K	307	X	-	-	-
32	CLA	K	308	X	-	-	-
32	CLA	K	310	X	-	-	-
32	CLA	L	301	X	-	-	-
32	CLA	L	304	X	-	-	-
32	CLA	L	307	X	-	-	-
32	CLA	L	308	X	-	-	-
32	CLA	L	309	X	-	-	-
32	CLA	L	310	X	-	-	-
32	CLA	L	311	X	-	-	-
32	CLA	L	312	X	-	-	-
32	CLA	L	314	X	-	-	-
32	CLA	M	305	X	-	-	-
32	CLA	M	306	X	-	-	-
32	CLA	M	308	X	-	-	-
32	CLA	M	309	X	-	-	-
32	CLA	M	310	X	-	-	-
32	CLA	M	311	X	-	-	-
32	CLA	M	312	X	-	-	-
32	CLA	N	305	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	CLA	N	309	X	-	-	-
32	CLA	N	310	X	-	-	-
32	CLA	N	311	X	-	-	-
32	CLA	N	312	X	-	-	-
32	CLA	N	313	X	-	-	-
32	CLA	O	301	X	-	-	-
32	CLA	O	304	X	-	-	-
32	CLA	O	305	X	-	-	-
32	CLA	O	306	X	-	-	-
32	CLA	O	307	X	-	-	-
32	CLA	O	308	X	-	-	-
32	CLA	O	309	X	-	-	-
32	CLA	P	304	X	-	-	-
32	CLA	P	305	X	-	-	-
32	CLA	P	307	X	-	-	-
32	CLA	P	308	X	-	-	-
32	CLA	P	309	X	-	-	-
32	CLA	P	310	X	-	-	-
32	CLA	P	311	X	-	-	-
32	CLA	Q	301	X	-	-	-
32	CLA	Q	303	X	-	-	-
32	CLA	Q	304	X	-	-	-
32	CLA	Q	305	X	-	-	-
32	CLA	Q	306	X	-	-	-
32	CLA	Q	307	X	-	-	-
32	CLA	Q	308	X	-	-	-
32	CLA	Q	309	X	-	-	-
32	CLA	Q	310	X	-	-	-
32	CLA	R	301	X	-	-	-
32	CLA	R	304	X	-	-	-
32	CLA	R	306	X	-	-	-
32	CLA	R	307	X	-	-	-
32	CLA	R	308	X	-	-	-
32	CLA	R	309	X	-	-	-
32	CLA	R	310	X	-	-	-
32	CLA	S	301	X	-	-	-
32	CLA	S	304	X	-	-	-
32	CLA	S	305	X	-	-	-
32	CLA	S	307	X	-	-	-
32	CLA	S	308	X	-	-	-
32	CLA	S	309	X	-	-	-
32	CLA	S	310	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	CLA	S	311	X	-	-	-
32	CLA	S	313	X	-	-	-
32	CLA	T	302	X	-	-	-
32	CLA	T	305	X	-	-	-
32	CLA	T	306	X	-	-	-
32	CLA	T	307	X	-	-	-
32	CLA	T	308	X	-	-	-
32	CLA	T	309	X	-	-	-
32	CLA	T	310	X	-	-	-
32	CLA	U	301	X	-	-	-
32	CLA	U	302	X	-	-	-
32	CLA	U	303	X	-	-	-
32	CLA	U	305	X	-	-	-
32	CLA	U	306	X	-	-	-
32	CLA	U	307	X	-	-	-
32	CLA	V	201	X	-	-	-
32	CLA	V	203	X	-	-	-
32	CLA	V	204	X	-	-	-
32	CLA	W	306	X	-	-	-
32	CLA	W	307	X	-	-	-
32	CLA	W	309	X	-	-	-
32	CLA	W	310	X	-	-	-
32	CLA	W	311	X	-	-	-
32	CLA	W	312	X	-	-	-
32	CLA	W	313	X	-	-	-
32	CLA	a	801	X	-	-	-
32	CLA	a	802	X	-	-	-
32	CLA	a	803	X	-	-	-
32	CLA	a	804	X	-	-	-
32	CLA	a	805	X	-	-	-
32	CLA	a	806	X	-	-	-
32	CLA	a	807	X	-	-	-
32	CLA	a	808	X	-	-	-
32	CLA	a	809	X	-	-	-
32	CLA	a	810	X	-	-	-
32	CLA	a	811	X	-	-	-
32	CLA	a	812	X	-	-	-
32	CLA	a	813	X	-	-	-
32	CLA	a	814	X	-	-	-
32	CLA	a	815	X	-	-	-
32	CLA	a	816	X	-	-	-
32	CLA	a	817	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	CLA	a	818	X	-	-	-
32	CLA	a	819	X	-	-	-
32	CLA	a	820	X	-	-	-
32	CLA	a	821	X	-	-	-
32	CLA	a	822	X	-	-	-
32	CLA	a	823	X	-	-	-
32	CLA	a	824	X	-	-	-
32	CLA	a	825	X	-	-	-
32	CLA	a	826	X	-	-	-
32	CLA	a	827	X	-	-	-
32	CLA	a	828	X	-	-	-
32	CLA	a	829	X	-	-	-
32	CLA	a	830	X	-	-	-
32	CLA	a	831	X	-	-	-
32	CLA	a	832	X	-	-	-
32	CLA	a	833	X	-	-	-
32	CLA	a	834	X	-	-	-
32	CLA	a	835	X	-	-	-
32	CLA	a	836	X	-	-	-
32	CLA	a	837	X	-	-	-
32	CLA	a	838	X	-	-	-
32	CLA	a	839	X	-	-	-
32	CLA	a	840	X	-	-	-
32	CLA	a	841	X	-	-	-
32	CLA	a	842	X	-	-	-
32	CLA	a	852	X	-	-	-
32	CLA	a	853	X	-	-	-
32	CLA	b	801	X	-	-	-
32	CLA	b	802	X	-	-	-
32	CLA	b	803	X	-	-	-
32	CLA	b	804	X	-	-	-
32	CLA	b	805	X	-	-	-
32	CLA	b	806	X	-	-	-
32	CLA	b	807	X	-	-	-
32	CLA	b	808	X	-	-	-
32	CLA	b	809	X	-	-	-
32	CLA	b	810	X	-	-	-
32	CLA	b	811	X	-	-	-
32	CLA	b	812	X	-	-	-
32	CLA	b	813	X	-	-	-
32	CLA	b	814	X	-	-	-
32	CLA	b	815	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	CLA	b	816	X	-	-	-
32	CLA	b	817	X	-	-	-
32	CLA	b	818	X	-	-	-
32	CLA	b	819	X	-	-	-
32	CLA	b	820	X	-	-	-
32	CLA	b	821	X	-	-	-
32	CLA	b	822	X	-	-	-
32	CLA	b	823	X	-	-	-
32	CLA	b	824	X	-	-	-
32	CLA	b	825	X	-	-	-
32	CLA	b	826	X	-	-	-
32	CLA	b	827	X	-	-	-
32	CLA	b	828	X	-	-	-
32	CLA	b	829	X	-	-	-
32	CLA	b	830	X	-	-	-
32	CLA	b	831	X	-	-	-
32	CLA	b	832	X	-	-	-
32	CLA	b	833	X	-	-	-
32	CLA	b	834	X	-	-	-
32	CLA	b	835	X	-	-	-
32	CLA	b	836	X	-	-	-
32	CLA	b	837	X	-	-	-
32	CLA	b	838	X	-	-	-
32	CLA	b	839	X	-	-	-
32	CLA	b	840	X	-	-	-
32	CLA	f	201	X	-	-	-
32	CLA	f	203	X	-	-	-
32	CLA	f	204	X	-	-	-
32	CLA	j	101	X	-	-	-
32	CLA	k	201	X	-	-	-
32	CLA	k	202	X	-	-	-
32	CLA	k	203	X	-	-	-
32	CLA	l	202	X	-	-	-
32	CLA	l	203	X	-	-	-
32	CLA	l	204	X	-	-	-
32	CLA	r	201	X	-	-	-
32	CLA	r	202	X	-	-	-
34	DD6	J	317	X	-	-	-
34	DD6	K	315	X	-	-	-
34	DD6	O	313	X	-	-	-
34	DD6	S	321	X	-	-	-
37	A86	O	312	X	-	-	-

2 Entry composition [i](#)

There are 43 unique types of molecules in this entry. The entry contains 73546 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 iFCPI-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	180	1403	910	230	254	9	0	0

- Molecule 2 is a protein called iFCPI-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	158	1194	770	197	219	8	0	0

- Molecule 3 is a protein called iFCPI-11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	177	1346	872	223	244	7	0	0

- Molecule 4 is a protein called iFCPI-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	178	1392	910	220	254	8	1	0

- Molecule 5 is a protein called iFCPI-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	176	1316	854	212	240	10	0	0

- Molecule 6 is a protein called iFCPI-8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	210	1573	1006	266	290	11	0	0

- Molecule 7 is a protein called iFCPI-13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	G	167	1235	794	204	227	10	0	0

- Molecule 8 is a protein called iFCPI-10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	167	1266	808	212	233	13	0	0

- Molecule 9 is a protein called iFCPI-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	I	154	1190	770	198	213	9	0	0

- Molecule 10 is a protein called iFCPI-9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	J	171	1253	803	212	227	11	0	0

- Molecule 11 is a protein called iFCPI-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	K	166	1280	837	217	219	7	0	0

- Molecule 12 is a protein called iFCPI-12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	198	1479	960	246	266	7	0	0

- Molecule 13 is a protein called iFCPI-15/14/16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	M	193	1465	949	247	263	6	0	0
13	P	193	1465	949	247	263	6	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
13	W	193	Total	C	N	O	S	0	0
			1465	949	247	263	6		

- Molecule 14 is a protein called iFCPI-17.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	194	Total	C	N	O	S	0	0
			1451	941	247	255	8		

- Molecule 15 is a protein called iFCPI-20/19/21.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	175	Total	C	N	O	S	0	0
			1299	842	215	237	5		
15	R	175	Total	C	N	O	S	0	0
			1299	842	215	237	5		
15	T	175	Total	C	N	O	S	0	0
			1299	842	215	237	5		

- Molecule 16 is a protein called iFCPI-18.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	157	Total	C	N	O	S	0	0
			1210	775	205	221	9		

- Molecule 17 is a protein called iFCPI-22.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	S	205	Total	C	N	O	S	0	0
			1597	1046	264	279	8		

- Molecule 18 is a protein called iFCPI-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	U	142	Total	C	N	O	S	0	0
			1084	698	180	199	7		

- Molecule 19 is a protein called L-iFP.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	V	47	Total	C	N	O	S	0	0
			357	229	60	66	2		

- Molecule 20 is a protein called Photosystem I P700 chlorophyll a apoprotein A1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	a	741	Total	C	N	O	S	0	0
			5826	3810	991	995	30		

- Molecule 21 is a protein called Photosystem I P700 chlorophyll a apoprotein A2.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	b	732	Total	C	N	O	S	0	0
			5818	3832	981	984	21		

- Molecule 22 is a protein called Photosystem I iron-sulfur center.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	c	80	Total	C	N	O	S	0	0
			596	364	105	116	11		

- Molecule 23 is a protein called Photosystem I reaction center subunit II.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	d	137	Total	C	N	O	S	0	0
			1080	698	181	198	3		

- Molecule 24 is a protein called PsaE.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	e	65	Total	C	N	O	S	0	0
			504	320	87	94	3		

- Molecule 25 is a protein called Photosystem I reaction center subunit III.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	f	161	Total	C	N	O	S	0	0
			1243	804	211	224	4		

- Molecule 26 is a protein called Photosystem I reaction center subunit VIII.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	i	33	Total	C	N	O	S	0	0
			258	179	34	44	1		

- Molecule 27 is a protein called Photosystem I reaction center subunit IX.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	j	40	Total	C	N	O	S	0	0
			316	210	47	57	2		

- Molecule 28 is a protein called PsaK.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	k	70	Total	C	N	O	S	0	0
			503	327	80	90	6		

- Molecule 29 is a protein called Photosystem I reaction center subunit XI.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	l	143	Total	C	N	O	S	0	0
			1081	710	173	196	2		

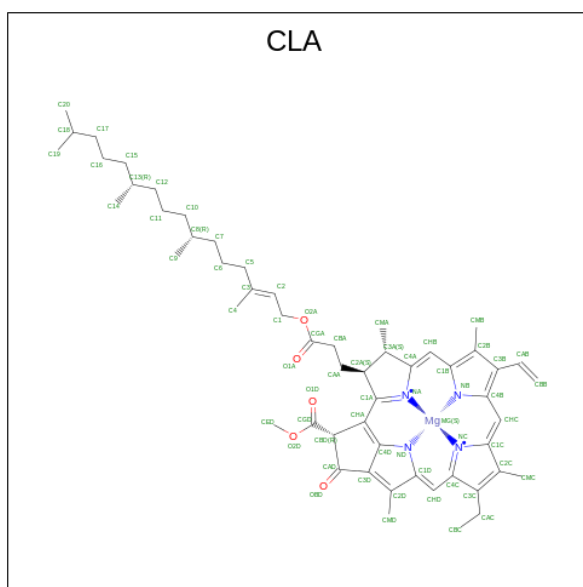
- Molecule 30 is a protein called Photosystem I reaction center subunit XII.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	m	30	Total	C	N	O	S	0	0
			219	145	35	37	2		

- Molecule 31 is a protein called PsaR.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	r	91	Total	C	N	O	S	0	0
			682	441	111	129	1		

- Molecule 32 is CHLOROPHYLL A (three-letter code: CLA) (formula: $C_{55}H_{72}MgN_4O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Mg	N		O
32	A	1	45	35	1	4	5	0
32	A	1	60	50	1	4	5	0
32	A	1	62	52	1	4	5	0
32	A	1	65	55	1	4	5	0
32	A	1	61	51	1	4	5	0
32	A	1	65	55	1	4	5	0
32	A	1	60	50	1	4	5	0
32	A	1	55	45	1	4	5	0
32	A	1	65	55	1	4	5	0
32	A	1	45	35	1	4	5	0
32	B	1	40	32	1	4	3	0
32	B	1	45	35	1	4	5	0
32	B	1	45	35	1	4	5	0
32	B	1	46	36	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	B	1	45	35	1	4	5	0
32	B	1	45	35	1	4	5	0
32	B	1	55	45	1	4	5	0
32	C	1	45	35	1	4	5	0
32	C	1	41	33	1	4	3	0
32	C	1	43	35	1	4	3	0
32	C	1	60	50	1	4	5	0
32	C	1	65	55	1	4	5	0
32	C	1	60	50	1	4	5	0
32	C	1	45	35	1	4	5	0
32	C	1	43	35	1	4	3	0
32	D	1	60	50	1	4	5	0
32	D	1	58	48	1	4	5	0
32	D	1	60	50	1	4	5	0
32	D	1	61	51	1	4	5	0
32	D	1	55	45	1	4	5	0
32	D	1	45	35	1	4	5	0
32	D	1	65	55	1	4	5	0
32	D	1	65	55	1	4	5	0
32	D	1	55	45	1	4	5	0
32	D	1	58	48	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	D	1	Total 52	C 42	Mg 1	N 4	O 5	0
32	D	1	Total 45	C 35	Mg 1	N 4	O 5	0
32	E	1	Total 45	C 35	Mg 1	N 4	O 5	0
32	E	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	E	1	Total 55	C 45	Mg 1	N 4	O 5	0
32	E	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	E	1	Total 55	C 45	Mg 1	N 4	O 5	0
32	E	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	E	1	Total 58	C 48	Mg 1	N 4	O 5	0
32	E	1	Total 45	C 35	Mg 1	N 4	O 5	0
32	E	1	Total 45	C 35	Mg 1	N 4	O 5	0
32	E	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	E	1	Total 50	C 40	Mg 1	N 4	O 5	0
32	E	1	Total 46	C 36	Mg 1	N 4	O 5	0
32	F	1	Total 40	C 32	Mg 1	N 4	O 3	0
32	F	1	Total 62	C 52	Mg 1	N 4	O 5	0
32	F	1	Total 55	C 45	Mg 1	N 4	O 5	0
32	F	1	Total 49	C 39	Mg 1	N 4	O 5	0
32	F	1	Total 55	C 45	Mg 1	N 4	O 5	0
32	F	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	F	1	Total 46	C 36	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	F	1	55	45	1	4	5	0
32	F	1	45	35	1	4	5	0
32	F	1	60	50	1	4	5	0
32	G	1	45	35	1	4	5	0
32	G	1	55	45	1	4	5	0
32	G	1	55	45	1	4	5	0
32	G	1	45	35	1	4	5	0
32	G	1	56	46	1	4	5	0
32	G	1	40	32	1	4	3	0
32	G	1	54	44	1	4	5	0
32	H	1	45	35	1	4	5	0
32	H	1	41	33	1	4	3	0
32	H	1	45	35	1	4	5	0
32	H	1	45	35	1	4	5	0
32	H	1	50	40	1	4	5	0
32	H	1	60	50	1	4	5	0
32	H	1	41	33	1	4	3	0
32	H	1	45	35	1	4	5	0
32	H	1	46	36	1	4	5	0
32	I	1	65	55	1	4	5	0
32	I	1	55	45	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	I	1	55	45	1	4	5	0
32	I	1	45	35	1	4	5	0
32	I	1	56	46	1	4	5	0
32	I	1	65	55	1	4	5	0
32	I	1	45	35	1	4	5	0
32	I	1	55	45	1	4	5	0
32	I	1	65	55	1	4	5	0
32	J	1	45	35	1	4	5	0
32	J	1	45	35	1	4	5	0
32	J	1	55	45	1	4	5	0
32	J	1	52	42	1	4	5	0
32	J	1	55	45	1	4	5	0
32	J	1	55	45	1	4	5	0
32	J	1	45	35	1	4	5	0
32	J	1	45	35	1	4	5	0
32	J	1	58	48	1	4	5	0
32	K	1	45	35	1	4	5	0
32	K	1	45	35	1	4	5	0
32	K	1	60	50	1	4	5	0
32	K	1	41	33	1	4	3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	K	1	65	55	1	4	5	0
32	K	1	45	35	1	4	5	0
32	L	1	45	35	1	4	5	0
32	L	1	45	35	1	4	5	0
32	L	1	57	47	1	4	5	0
32	L	1	45	35	1	4	5	0
32	L	1	45	35	1	4	5	0
32	L	1	40	32	1	4	3	0
32	L	1	40	32	1	4	3	0
32	L	1	60	50	1	4	5	0
32	L	1	45	35	1	4	5	0
32	M	1	50	40	1	4	5	0
32	M	1	62	52	1	4	5	0
32	M	1	57	47	1	4	5	0
32	M	1	45	35	1	4	5	0
32	M	1	62	52	1	4	5	0
32	M	1	45	35	1	4	5	0
32	M	1	60	50	1	4	5	0
32	N	1	50	40	1	4	5	0
32	N	1	50	40	1	4	5	0
32	N	1	55	45	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
32	N	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	N	1	Total	C	Mg	N	O	0
			41	33	1	4	3	
32	N	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	O	1	Total	C	Mg	N	O	0
			62	52	1	4	5	
32	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	P	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	P	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
32	P	1	Total	C	Mg	N	O	0
			41	33	1	4	3	
32	P	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	Q	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	Q	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	Q	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
32	Q	1	Total	C	Mg	N	O	0
			51	41	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	Q	1	62	52	1	4	5	0
32	Q	1	62	52	1	4	5	0
32	Q	1	45	35	1	4	5	0
32	Q	1	45	35	1	4	5	0
32	Q	1	46	36	1	4	5	0
32	R	1	45	35	1	4	5	0
32	R	1	45	35	1	4	5	0
32	R	1	45	35	1	4	5	0
32	R	1	45	35	1	4	5	0
32	R	1	60	50	1	4	5	0
32	R	1	41	33	1	4	3	0
32	R	1	55	45	1	4	5	0
32	S	1	45	35	1	4	5	0
32	S	1	42	34	1	4	3	0
32	S	1	63	53	1	4	5	0
32	S	1	52	42	1	4	5	0
32	S	1	44	34	1	4	5	0
32	S	1	60	50	1	4	5	0
32	S	1	45	35	1	4	5	0
32	S	1	50	40	1	4	5	0
32	S	1	45	35	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	T	1	45	35	1	4	5	0
32	T	1	45	35	1	4	5	0
32	T	1	60	50	1	4	5	0
32	T	1	50	40	1	4	5	0
32	T	1	60	50	1	4	5	0
32	T	1	45	35	1	4	5	0
32	T	1	55	45	1	4	5	0
32	U	1	40	32	1	4	3	0
32	U	1	45	35	1	4	5	0
32	U	1	45	35	1	4	5	0
32	U	1	45	35	1	4	5	0
32	U	1	45	35	1	4	5	0
32	U	1	45	35	1	4	5	0
32	U	1	45	35	1	4	5	0
32	V	1	58	48	1	4	5	0
32	V	1	55	45	1	4	5	0
32	V	1	50	40	1	4	5	0
32	W	1	55	45	1	4	5	0
32	W	1	45	35	1	4	5	0
32	W	1	65	55	1	4	5	0
32	W	1	60	50	1	4	5	0
32	W	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	W	1	60	50	1	4	5	0
32	W	1	60	50	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	63	53	1	4	5	0
32	a	1	63	53	1	4	5	0
32	a	1	58	48	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	60	50	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	50	40	1	4	5	0
32	a	1	60	50	1	4	5	0
32	a	1	62	52	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	45	35	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	50	40	1	4	5	0
32	a	1	45	35	1	4	5	0
32	a	1	61	51	1	4	5	0
32	a	1	60	50	1	4	5	0
32	a	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	a	1	65	55	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	62	52	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	61	51	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	58	48	1	4	5	0
32	a	1	60	50	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	60	50	1	4	5	0
32	a	1	60	50	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	a	1	65	55	1	4	5	0
32	a	1	55	45	1	4	5	0
32	a	1	65	55	1	4	5	0
32	a	1	65	55	1	4	5	0
32	b	1	60	50	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	60	50	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	45	35	1	4	5	0
32	b	1	60	50	1	4	5	0
32	b	1	50	40	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	45	35	1	4	5	0
32	b	1	45	35	1	4	5	0
32	b	1	65	55	1	4	5	0
32	b	1	62	52	1	4	5	0
32	b	1	55	45	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 64	C 54	Mg 1	N 4	O 5	0
32	b	1	Total 55	C 45	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 58	C 48	Mg 1	N 4	O 5	0
32	b	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	b	1	Total 49	C 39	Mg 1	N 4	O 5	0
32	b	1	Total 50	C 40	Mg 1	N 4	O 5	0
32	b	1	Total 61	C 51	Mg 1	N 4	O 5	0
32	b	1	Total 55	C 45	Mg 1	N 4	O 5	0
32	b	1	Total 61	C 51	Mg 1	N 4	O 5	0
32	b	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 62	C 52	Mg 1	N 4	O 5	0
32	b	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	b	1	Total 60	C 50	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0
32	b	1	Total 65	C 55	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
32	b	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
32	b	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
32	f	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	f	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	f	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
32	j	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	k	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
32	k	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
32	k	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
32	l	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
32	l	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
32	l	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
32	r	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
32	r	1	Total	C	Mg	N	O	0
			45	35	1	4	5	

- Molecule 33 is Chlorophyll c2 (three-letter code: KC2) (formula: $C_{35}H_{28}MgN_4O_5$) (labeled as "Ligand of Interest" by depositor).

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
33	K	1	45	35	1	4	5	0
33	K	1	45	35	1	4	5	0
33	L	1	45	35	1	4	5	0
33	L	1	45	35	1	4	5	0
33	L	1	45	35	1	4	5	0
33	L	1	45	35	1	4	5	0
33	L	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	M	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	N	1	45	35	1	4	5	0
33	O	1	45	35	1	4	5	0

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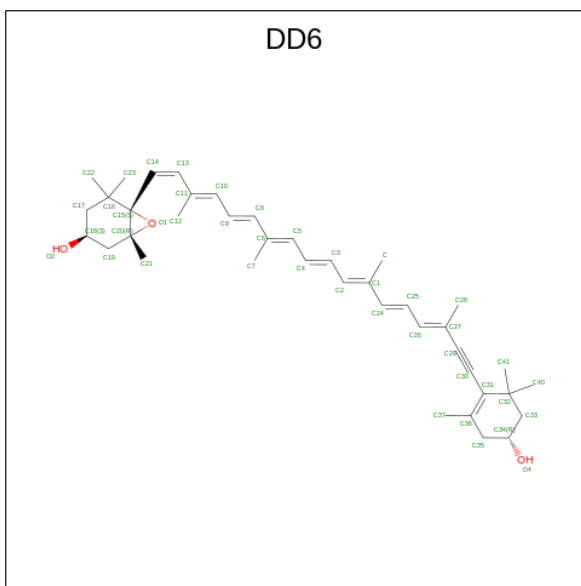
Mol	Chain	Residues	Atoms					AltConf
33	O	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	O	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	P	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	Q	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	Q	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	R	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	R	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	R	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	R	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	S	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	S	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	S	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	S	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	T	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	T	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	T	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	U	1	Total	C	Mg	N	O	0
			45	35	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
33	W	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	W	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	W	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	W	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
33	W	1	Total	C	Mg	N	O	0
			45	35	1	4	5	

- Molecule 34 is (3S,3'R,5R,6S,7cis)-7',8'-didehydro-5,6-dihydro-5,6-epoxy-beta,beta-carotene -3,3'-diol (three-letter code: DD6) (formula: C₄₀H₅₄O₃) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
34	A	1	Total	C	O	0
			43	40	3	
34	A	1	Total	C	O	0
			43	40	3	
34	A	1	Total	C	O	0
			43	40	3	
34	A	1	Total	C	O	0
			43	40	3	

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
34	B	1	43	40	3	0
34	C	1	43	40	3	0
34	D	1	43	40	3	0
34	D	1	43	40	3	0
34	D	1	43	40	3	0
34	D	1	43	40	3	0
34	D	1	43	40	3	0
34	E	1	43	40	3	0
34	E	1	43	40	3	0
34	E	1	43	40	3	0
34	E	1	43	40	3	0
34	F	1	43	40	3	0
34	F	1	43	40	3	0
34	F	1	43	40	3	0
34	G	1	43	40	3	0
34	H	1	43	40	3	0
34	H	1	43	40	3	0
34	H	1	43	40	3	0
34	I	1	43	40	3	0
34	I	1	43	40	3	0
34	I	1	43	40	3	0

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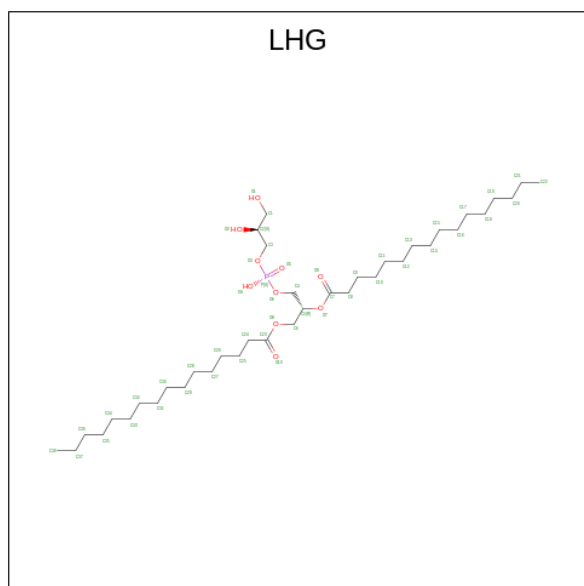
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
34	I	1	43	40	3	0
34	J	1	43	40	3	0
34	J	1	43	40	3	0
34	J	1	43	40	3	0
34	J	1	43	40	3	0
34	K	1	43	40	3	0
34	K	1	43	40	3	0
34	L	1	43	40	3	0
34	M	1	43	40	3	0
34	N	1	43	40	3	0
34	N	1	43	40	3	0
34	N	1	43	40	3	0
34	O	1	43	40	3	0
34	P	1	43	40	3	0
34	Q	1	43	40	3	0
34	Q	1	43	40	3	0
34	Q	1	43	40	3	0
34	Q	1	43	40	3	0
34	R	1	43	40	3	0
34	S	1	43	40	3	0
34	T	1	43	40	3	0

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Mol	Chain	Residues	Atoms			AltConf
34	U	1	Total	C	O	0
			43	40	3	
34	V	1	Total	C	O	0
			43	40	3	
34	W	1	Total	C	O	0
			43	40	3	
34	j	1	Total	C	O	0
			43	40	3	
34	k	1	Total	C	O	0
			43	40	3	

- Molecule 35 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{75}O_{10}P$).



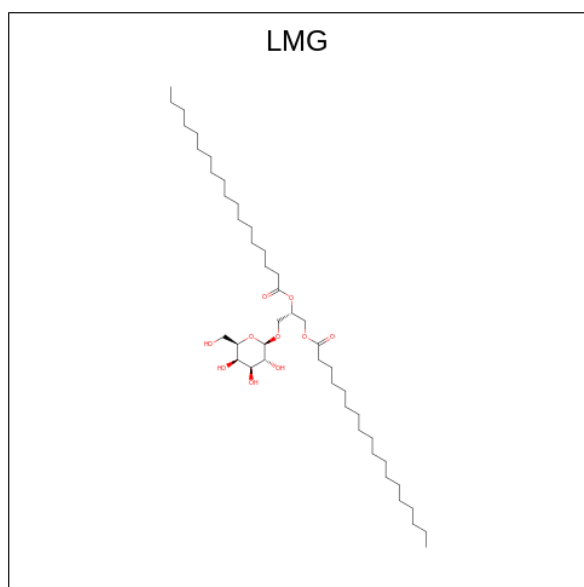
Mol	Chain	Residues	Atoms				AltConf
35	A	1	Total	C	O	P	0
			40	29	10	1	
35	B	1	Total	C	O	P	0
			31	20	10	1	
35	D	1	Total	C	O	P	0
			48	37	10	1	
35	E	1	Total	C	O	P	0
			46	35	10	1	
35	E	1	Total	C	O	P	0
			46	35	10	1	
35	F	1	Total	C	O	P	0
			41	30	10	1	

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
35	F	1	40	29	10	1	0
35	I	1	46	35	10	1	0
35	I	1	37	26	10	1	0
35	M	1	46	35	10	1	0
35	P	1	46	35	10	1	0
35	W	1	46	35	10	1	0
35	a	1	48	37	10	1	0
35	a	1	30	19	10	1	0
35	a	1	38	27	10	1	0
35	f	1	47	36	10	1	0

- Molecule 36 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: $C_{45}H_{86}O_{10}$).



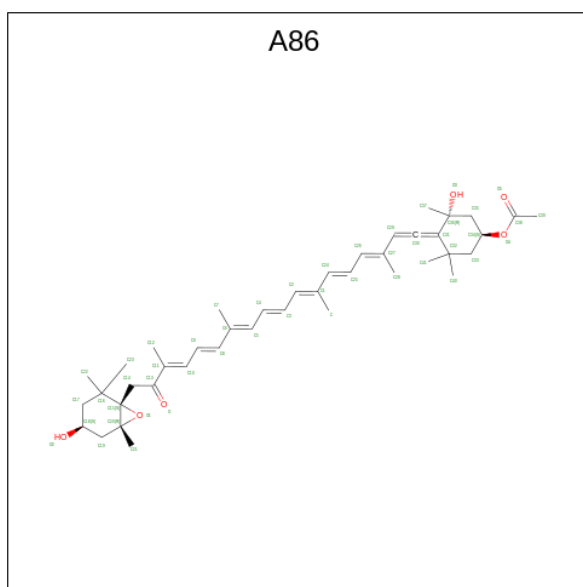
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
36	A	1	36	26	10	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
36	A	1	40	30	10	0
36	D	1	30	20	10	0
36	D	1	36	26	10	0
36	D	1	40	30	10	0
36	D	1	35	25	10	0
36	E	1	40	30	10	0
36	E	1	31	21	10	0
36	E	1	40	30	10	0
36	F	1	40	30	10	0
36	F	1	33	23	10	0
36	L	1	37	27	10	0
36	M	1	40	30	10	0
36	N	1	40	30	10	0
36	P	1	45	35	10	0
36	S	1	33	23	10	0
36	T	1	37	27	10	0
36	W	1	39	29	10	0
36	j	1	38	28	10	0
36	l	1	49	39	10	0

- Molecule 37 is (3S,3'S,5R,5'R,6S,6'R,8'R)-3,5'-dihydroxy-8-oxo-6',7'-didehydro-5,5',6,6',7,8-hexahydro-5,6-epoxy-beta,beta-caroten-3'-yl acetate (three-letter code: A86) (formula: C₄₂H₅₈O₆) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
37	C	1	Total	C	O	0
			48	42	6	
37	C	1	Total	C	O	0
			48	42	6	
37	D	1	Total	C	O	0
			48	42	6	
37	D	1	Total	C	O	0
			48	42	6	
37	F	1	Total	C	O	0
			48	42	6	
37	F	1	Total	C	O	0
			48	42	6	
37	F	1	Total	C	O	0
			48	42	6	
37	G	1	Total	C	O	0
			48	42	6	
37	G	1	Total	C	O	0
			48	42	6	
37	H	1	Total	C	O	0
			48	42	6	
37	J	1	Total	C	O	0
			48	42	6	
37	K	1	Total	C	O	0
			48	42	6	
37	K	1	Total	C	O	0
			48	42	6	
37	K	1	Total	C	O	0
			48	42	6	

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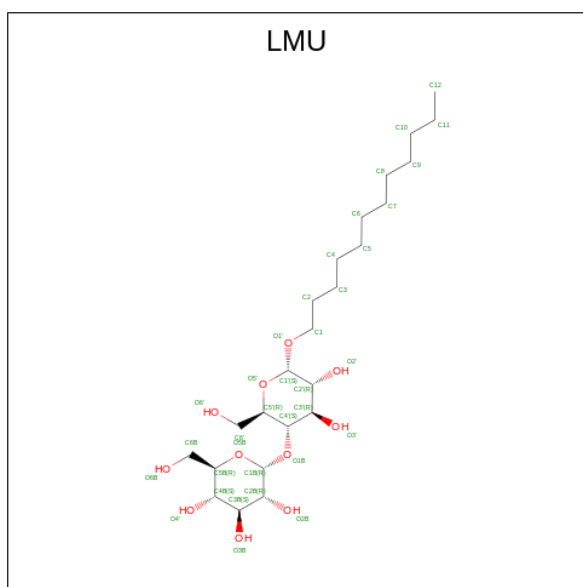
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
37	L	1	48	42	6	0
37	L	1	48	42	6	0
37	L	1	48	42	6	0
37	L	1	48	42	6	0
37	M	1	48	42	6	0
37	M	1	48	42	6	0
37	M	1	48	42	6	0
37	M	1	48	42	6	0
37	M	1	48	42	6	0
37	M	1	48	42	6	0
37	M	1	48	42	6	0
37	N	1	48	42	6	0
37	N	1	48	42	6	0
37	N	1	48	42	6	0
37	N	1	48	42	6	0
37	O	1	48	42	6	0
37	O	1	48	42	6	0
37	P	1	48	42	6	0
37	P	1	48	42	6	0
37	P	1	48	42	6	0
37	P	1	48	42	6	0
37	Q	1	48	42	6	0

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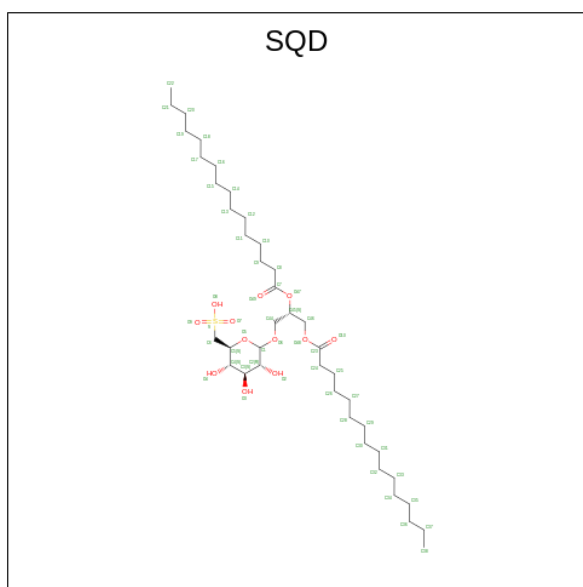
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
37	Q	1	48	42	6	0
37	R	1	48	42	6	0
37	R	1	48	42	6	0
37	S	1	48	42	6	0
37	S	1	48	42	6	0
37	S	1	48	42	6	0
37	S	1	48	42	6	0
37	S	1	48	42	6	0
37	S	1	48	42	6	0
37	S	1	48	42	6	0
37	T	1	48	42	6	0
37	T	1	48	42	6	0
37	T	1	48	42	6	0
37	U	1	48	42	6	0
37	W	1	48	42	6	0
37	W	1	48	42	6	0
37	W	1	48	42	6	0
37	W	1	48	42	6	0
37	r	1	48	42	6	0

- Molecule 38 is DODECYL-ALPHA-D-MALTOSE (three-letter code: LMU) (formula: $C_{24}H_{46}O_{11}$).



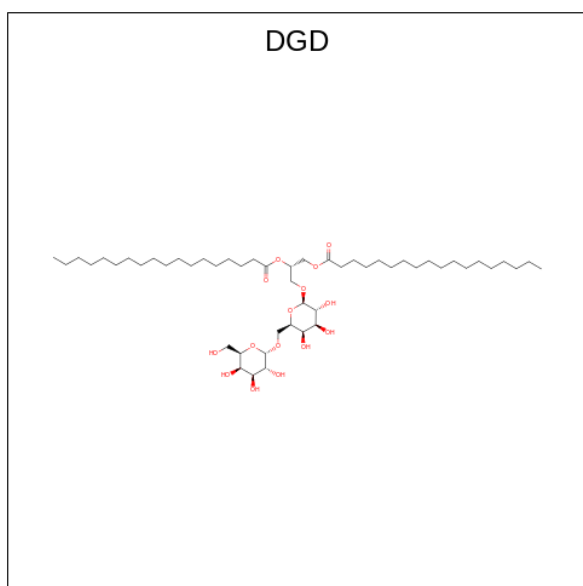
Mol	Chain	Residues	Atoms			AltConf
38	D	1	Total	C	O	0
			35	24	11	
38	I	1	Total	C	O	0
			35	24	11	
38	J	1	Total	C	O	0
			35	24	11	
38	V	1	Total	C	O	0
			34	23	11	
38	j	1	Total	C	O	0
			34	23	11	

- Molecule 39 is 1,2-DI-O-ACYL-3-O-[6-DEOXY-6-SULFO-ALPHA-D-GLUCOPYRANOSYL L]-SN-GLYCEROL (three-letter code: SQD) (formula: $C_{41}H_{78}O_{12}S$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	S	
39	H	1	43	30	12	1	0
39	k	1	36	23	12	1	0

- Molecule 40 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (three-letter code: DGD) (formula: $C_{51}H_{96}O_{15}$).



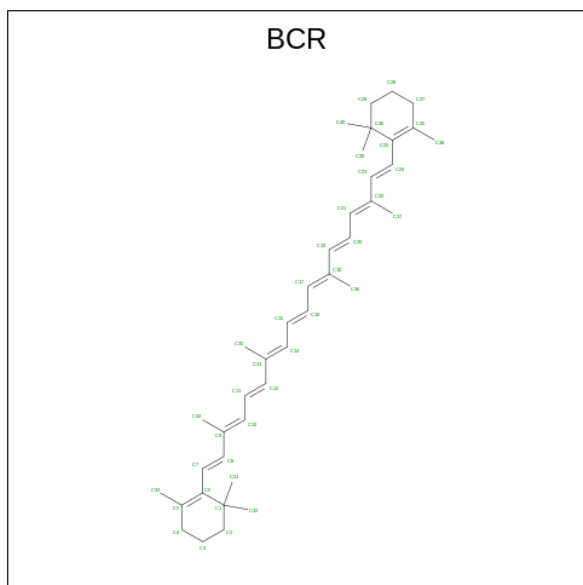
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
40	Q	1	56	41	15	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	C O	
40	b	1	56	41 15	0

- Molecule 41 is BETA-CAROTENE (three-letter code: BCR) (formula: C₄₀H₅₆) (labeled as "Ligand of Interest" by depositor).



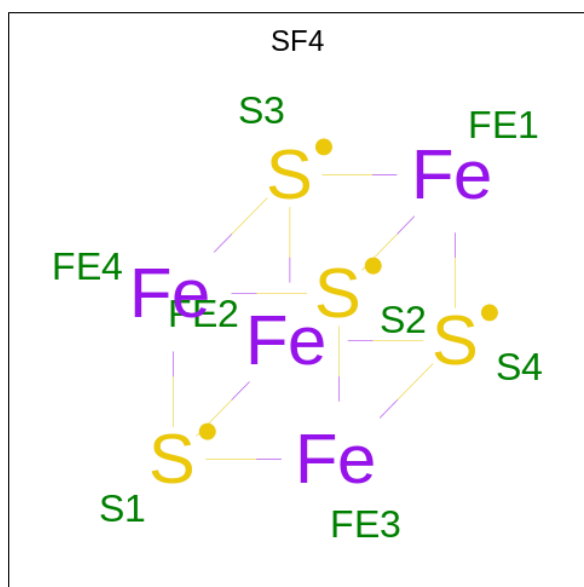
Mol	Chain	Residues	Atoms		AltConf
41	U	1	Total	C	0
			40	40	
41	a	1	Total	C	0
			40	40	
41	a	1	Total	C	0
			40	40	
41	a	1	Total	C	0
			40	40	
41	a	1	Total	C	0
			40	40	
41	a	1	Total	C	0
			40	40	
41	b	1	Total	C	0
			40	40	
41	b	1	Total	C	0
			40	40	
41	b	1	Total	C	0
			40	40	
41	b	1	Total	C	0
			40	40	

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Mol	Chain	Residues	Atoms	AltConf
41	b	1	Total C 40 40	0
41	f	1	Total C 40 40	0
41	i	1	Total C 40 40	0
41	j	1	Total C 40 40	0
41	k	1	Total C 40 40	0
41	l	1	Total C 40 40	0
41	l	1	Total C 40 40	0
41	m	1	Total C 40 40	0
41	r	1	Total C 40 40	0
41	r	1	Total C 40 40	0

- Molecule 42 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄) (labeled as "Ligand of Interest" by depositor).



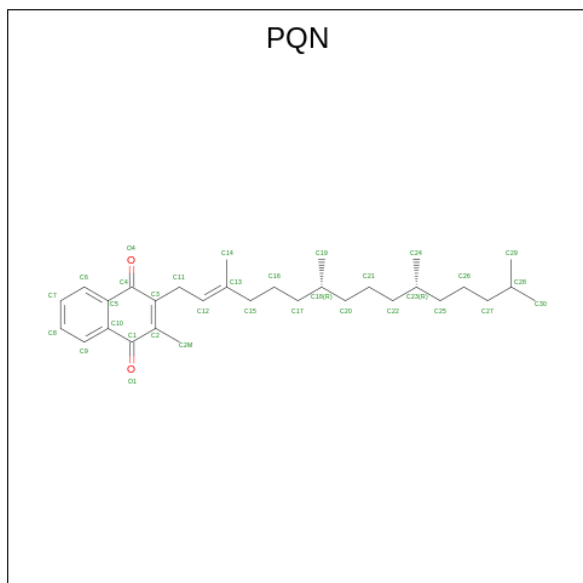
Mol	Chain	Residues	Atoms	AltConf
42	a	1	Total Fe S 8 4 4	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
42	c	1	8	4	4	0
42	c	1	8	4	4	0

- Molecule 43 is PHYLLLOQUINONE (three-letter code: PQN) (formula: C₃₁H₄₆O₂) (labeled as "Ligand of Interest" by depositor).




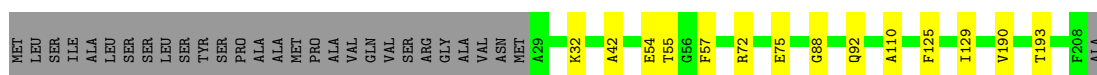
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
43	a	1	33	31	2	0
43	b	1	33	31	2	0

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.

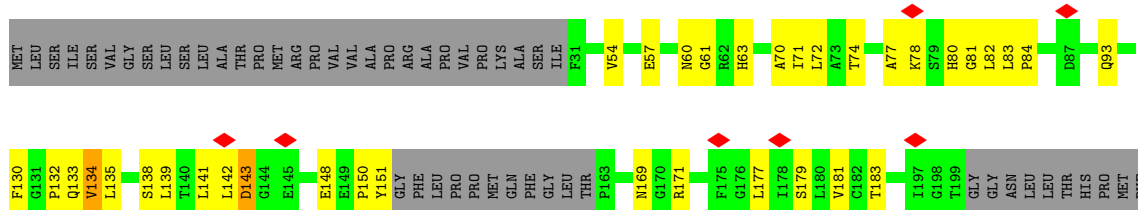
- Molecule 1: iFCPI-7

Chain A: 




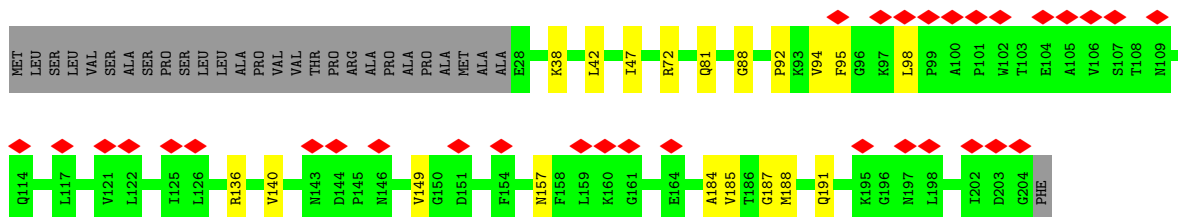
- Molecule 2: iFCPI-1

Chain B: 



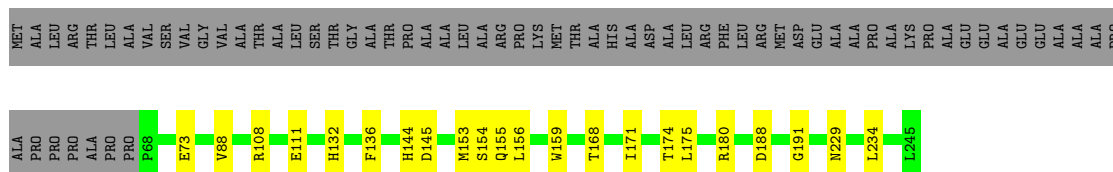
- Molecule 3: iFCPI-11

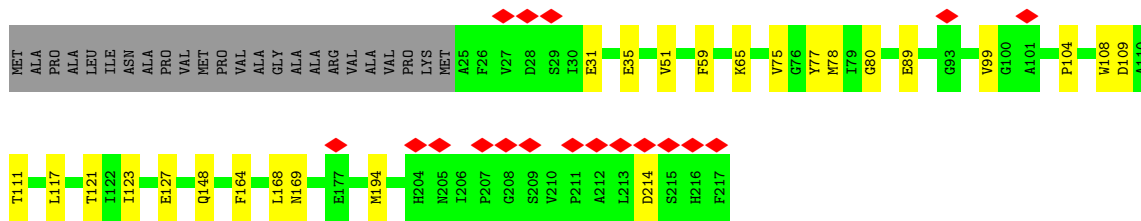
Chain C: 



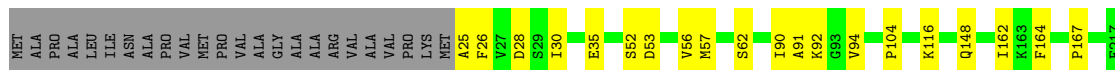
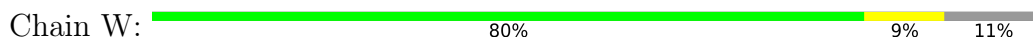
- Molecule 4: iFCPI-6

Chain D: 

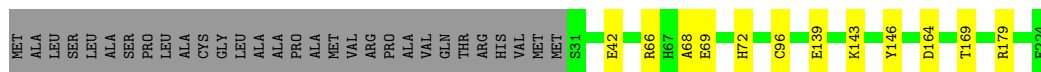
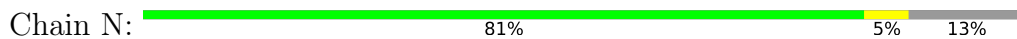




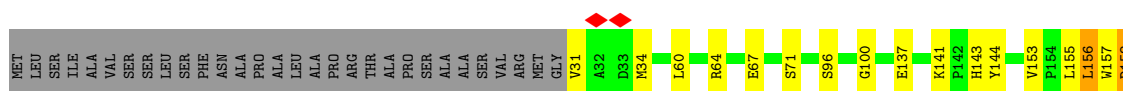
• Molecule 13: iFCPI-15/14/16



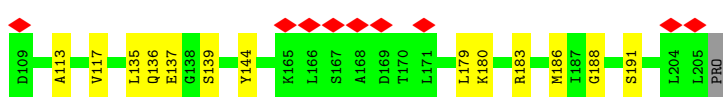
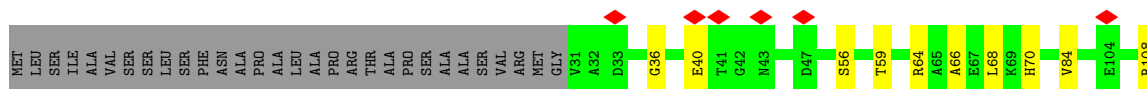
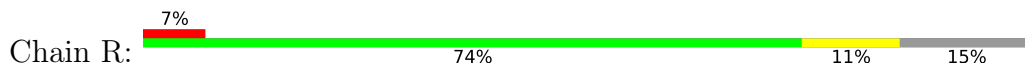
• Molecule 14: iFCPI-17



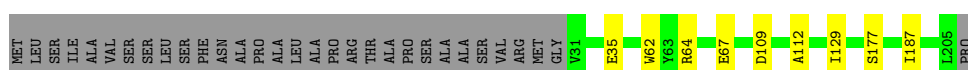
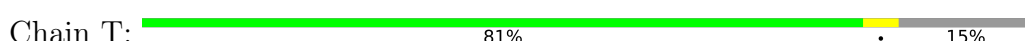
• Molecule 15: iFCPI-20/19/21



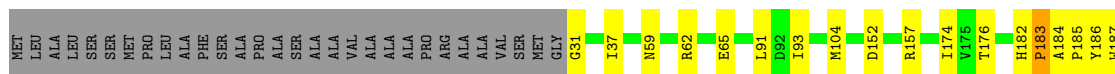
• Molecule 15: iFCPI-20/19/21



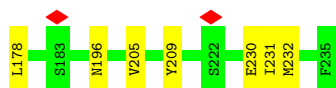
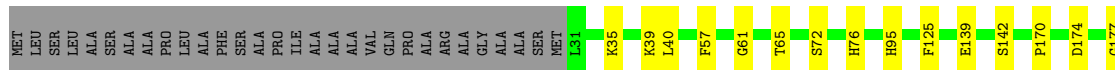
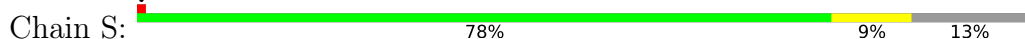
• Molecule 15: iFCPI-20/19/21



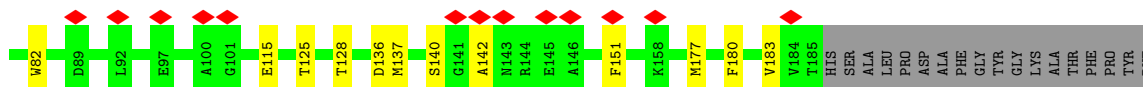
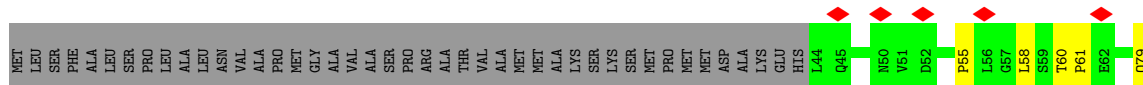
• Molecule 16: iFCPI-18



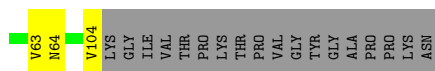
• Molecule 17: iFCPI-22



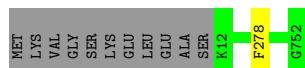
• Molecule 18: iFCPI-2



• Molecule 19: L-iFP



• Molecule 20: Photosystem I P700 chlorophyll a apoprotein A1



• Molecule 21: Photosystem I P700 chlorophyll a apoprotein A2





- Molecule 22: Photosystem I iron-sulfur center

Chain c: 99%



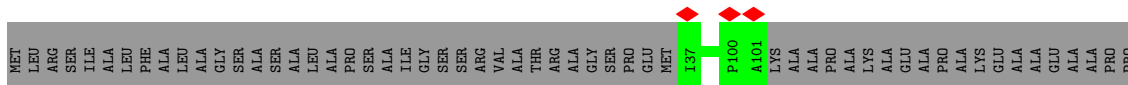
- Molecule 23: Photosystem I reaction center subunit II

Chain d: 96%



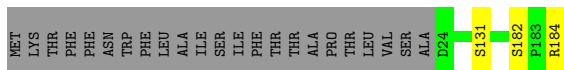
- Molecule 24: PsaE

Chain e: 52% 48%



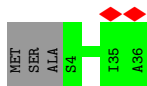
- Molecule 25: Photosystem I reaction center subunit III

Chain f: 86% 12%



- Molecule 26: Photosystem I reaction center subunit VIII

Chain i: 6% 92% 8%



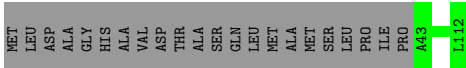
- Molecule 27: Photosystem I reaction center subunit IX

Chain j: 100%

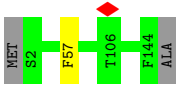
There are no outlier residues recorded for this chain.

- Molecule 28: PsaK

Chain k: 76% 24%



- Molecule 29: Photosystem I reaction center subunit XI

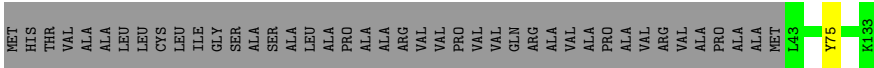


- Molecule 30: Photosystem I reaction center subunit XII



There are no outlier residues recorded for this chain.

- Molecule 31: PsaR



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	148236	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	5.577	Depositor
Minimum map value	-0.182	Depositor
Average map value	0.065	Depositor
Map value standard deviation	0.129	Depositor
Recommended contour level	0.5	Depositor
Map size (Å)	423.99997, 423.99997, 423.99997	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	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: DD6, DGD, LMG, KC2, SQD, PQN, LMU, CLA, LHG, BCR, A86, SF4

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.55	0/1443	0.58	0/1956
2	B	0.45	0/1224	0.64	0/1661
3	C	0.37	0/1377	0.57	0/1864
4	D	0.48	0/1432	0.57	0/1939
5	E	0.47	0/1350	0.57	0/1839
6	F	0.38	0/1616	0.55	0/2193
7	G	0.37	0/1265	0.59	0/1722
8	H	0.38	0/1297	0.60	0/1751
9	I	0.44	0/1219	0.58	0/1646
10	J	0.34	0/1282	0.58	0/1729
11	K	0.50	0/1321	0.62	0/1792
12	L	0.44	0/1519	0.60	0/2057
13	M	0.35	0/1505	0.57	0/2041
13	P	0.41	0/1505	0.59	0/2041
13	W	0.40	0/1505	0.59	0/2041
14	N	0.29	0/1491	0.55	0/2023
15	O	0.41	0/1333	0.57	0/1815
15	R	0.30	0/1333	0.56	0/1815
15	T	0.29	0/1333	0.55	0/1815
16	Q	0.43	0/1244	0.58	0/1690
17	S	0.47	0/1650	0.57	0/2234
18	U	0.33	0/1107	0.59	0/1494
19	V	0.31	0/369	0.52	0/503
20	a	0.35	0/6019	0.51	0/8193
21	b	0.41	0/6029	0.53	0/8226
22	c	0.41	0/606	0.62	0/822
23	d	0.36	0/1105	0.58	0/1492
24	e	0.35	0/515	0.62	0/699
25	f	0.60	0/1273	0.64	0/1723
26	i	0.29	0/265	0.52	0/363
27	j	0.28	0/323	0.49	0/439
28	k	0.29	0/512	0.50	0/693

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
29	l	0.30	0/1109	0.50	0/1510
30	m	0.28	0/220	0.53	0/298
31	r	0.27	0/700	0.46	0/957
All	All	0.40	0/49396	0.56	0/67076

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [\(i\)](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1403	0	1381	14	0
2	B	1194	0	1157	28	0
3	C	1346	0	1366	13	0
4	D	1392	0	1340	21	0
5	E	1316	0	1319	11	0
6	F	1573	0	1548	22	0
7	G	1235	0	1231	25	0
8	H	1266	0	1241	22	0
9	I	1190	0	1194	14	0
10	J	1253	0	1243	10	0
11	K	1280	0	1275	28	0
12	L	1479	0	1476	44	0
13	M	1465	0	1469	20	0
13	P	1465	0	1469	21	0
13	W	1465	0	1469	22	0
14	N	1451	0	1475	8	0
15	O	1299	0	1315	21	0
15	R	1299	0	1315	15	0
15	T	1299	0	1315	7	0
16	Q	1210	0	1167	16	0
17	S	1597	0	1552	20	0
18	U	1084	0	1081	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	V	357	0	352	5	0
20	a	5826	0	5714	0	0
21	b	5818	0	5647	0	0
22	c	596	0	578	0	0
23	d	1080	0	1095	0	0
24	e	504	0	493	0	0
25	f	1243	0	1252	0	0
26	i	258	0	268	0	0
27	j	316	0	328	0	0
28	k	503	0	523	0	0
29	l	1081	0	1091	0	0
30	m	219	0	243	0	0
31	r	682	0	665	0	0
32	A	583	0	573	8	0
32	B	321	0	242	0	0
32	C	402	0	351	3	0
32	D	679	0	640	10	0
32	E	644	0	573	1	0
32	F	527	0	456	5	0
32	G	350	0	291	1	0
32	H	418	0	321	3	0
32	I	506	0	480	3	0
32	J	500	0	410	10	0
32	K	301	0	259	4	0
32	L	422	0	333	9	0
32	M	381	0	343	7	0
32	N	316	0	274	6	0
32	O	367	0	326	5	0
32	P	357	0	307	7	0
32	Q	481	0	423	1	0
32	R	336	0	269	4	0
32	S	446	0	366	1	0
32	T	360	0	305	5	0
32	U	265	0	193	3	0
32	V	163	0	143	1	0
32	W	410	0	403	14	0
32	a	2658	0	2697	0	0
32	b	2403	0	2432	0	0
32	f	152	0	127	0	0
32	j	45	0	33	0	0
32	k	165	0	147	0	0
32	l	175	0	177	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	r	105	0	92	0	0
33	A	45	0	0	2	0
33	C	45	0	0	0	0
33	E	45	0	0	0	0
33	F	90	0	0	2	0
33	G	90	0	0	0	0
33	H	45	0	0	0	0
33	I	90	0	0	0	0
33	J	90	0	0	0	0
33	K	180	0	0	3	0
33	L	225	0	0	0	0
33	M	270	0	0	2	0
33	N	315	0	0	2	0
33	O	135	0	0	1	0
33	P	225	0	0	3	0
33	Q	90	0	0	0	0
33	R	180	0	0	1	0
33	S	180	0	0	5	0
33	T	135	0	0	0	0
33	U	45	0	0	0	0
33	W	270	0	0	1	0
34	A	172	0	0	3	0
34	B	43	0	0	0	0
34	C	43	0	0	0	0
34	D	215	0	0	3	0
34	E	172	0	0	0	0
34	F	129	0	0	1	0
34	G	43	0	0	0	0
34	H	129	0	0	0	0
34	I	172	0	0	2	0
34	J	172	0	0	2	0
34	K	86	0	0	0	0
34	L	43	0	0	2	0
34	M	43	0	0	3	0
34	N	129	0	0	0	0
34	O	43	0	0	1	0
34	P	43	0	0	1	0
34	Q	172	0	0	0	0
34	R	43	0	0	1	0
34	S	43	0	0	2	0
34	T	43	0	0	1	0
34	U	43	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	V	43	0	0	0	0
34	W	43	0	0	1	0
34	j	43	0	0	0	0
34	k	43	0	0	0	0
35	A	40	0	50	0	0
35	B	31	0	32	2	0
35	D	48	0	69	0	0
35	E	92	0	130	0	0
35	F	81	0	102	2	0
35	I	83	0	109	0	0
35	M	46	0	65	0	0
35	P	46	0	65	1	0
35	W	46	0	65	0	0
35	a	116	0	145	0	0
35	f	47	0	67	0	0
36	A	76	0	92	1	0
36	D	141	0	162	1	0
36	E	111	0	132	0	0
36	F	73	0	86	17	0
36	L	37	0	44	0	0
36	M	40	0	48	9	0
36	N	40	0	49	5	0
36	P	45	0	59	8	0
36	S	33	0	34	8	0
36	T	37	0	44	2	0
36	W	39	0	46	11	0
36	j	38	0	46	0	0
36	l	49	0	69	0	0
37	C	96	0	0	0	0
37	D	96	0	0	1	0
37	F	144	0	0	2	0
37	G	96	0	0	0	0
37	H	48	0	0	1	0
37	J	48	0	0	0	0
37	K	144	0	0	0	0
37	L	192	0	0	4	0
37	M	288	0	0	6	0
37	N	192	0	0	0	0
37	O	96	0	0	0	0
37	P	192	0	0	1	0
37	Q	96	0	0	2	0
37	R	96	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	S	336	0	0	2	0
37	T	144	0	0	1	0
37	U	48	0	0	0	0
37	W	192	0	0	2	0
37	r	48	0	0	0	0
38	D	35	0	46	2	0
38	I	35	0	46	3	0
38	J	35	0	46	3	0
38	V	34	0	41	3	0
38	j	34	0	41	0	0
39	H	43	0	50	14	0
39	k	36	0	36	0	0
40	Q	56	0	70	3	0
40	b	56	0	70	0	0
41	U	40	0	56	1	0
41	a	200	0	280	0	0
41	b	200	0	280	0	0
41	f	40	0	56	0	0
41	i	40	0	56	0	0
41	j	40	0	56	0	0
41	k	40	0	56	0	0
41	l	80	0	112	0	0
41	m	40	0	56	0	0
41	r	80	0	112	0	0
42	a	8	0	0	0	0
42	c	16	0	0	0	0
43	a	33	0	46	0	0
43	b	33	0	46	0	0
All	All	73546	0	65101	494	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

The worst 5 of 494 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)
34:A:313:DD6:C28	36:N:301:LMG:H322	1.77	1.14
37:S:315:A86:C39	36:S:322:LMG:H291	1.79	1.11
17:S:174:ASP:OD1	17:S:177:GLY:N	1.87	1.07
32:N:312:CLA:CAA	36:W:320:LMG:H152	1.86	1.05
33:S:312:KC2:O2A	36:S:322:LMG:O1	1.62	0.98

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	A	178/209 (85%)	175 (98%)	3 (2%)	0	100	100
2	B	154/209 (74%)	144 (94%)	8 (5%)	2 (1%)	10	17
3	C	175/205 (85%)	168 (96%)	6 (3%)	1 (1%)	22	37
4	D	177/245 (72%)	173 (98%)	4 (2%)	0	100	100
5	E	174/206 (84%)	161 (92%)	13 (8%)	0	100	100
6	F	208/240 (87%)	200 (96%)	8 (4%)	0	100	100
7	G	165/198 (83%)	158 (96%)	7 (4%)	0	100	100
8	H	165/198 (83%)	158 (96%)	6 (4%)	1 (1%)	22	37
9	I	152/194 (78%)	146 (96%)	5 (3%)	1 (1%)	19	33
10	J	169/200 (84%)	166 (98%)	3 (2%)	0	100	100
11	K	164/202 (81%)	157 (96%)	6 (4%)	1 (1%)	22	37
12	L	196/229 (86%)	190 (97%)	5 (3%)	1 (0%)	25	41
13	M	191/217 (88%)	183 (96%)	7 (4%)	1 (0%)	25	41
13	P	191/217 (88%)	183 (96%)	8 (4%)	0	100	100
13	W	191/217 (88%)	181 (95%)	9 (5%)	1 (0%)	25	41
14	N	192/224 (86%)	184 (96%)	8 (4%)	0	100	100
15	O	173/206 (84%)	160 (92%)	12 (7%)	1 (1%)	22	37
15	R	173/206 (84%)	167 (96%)	6 (4%)	0	100	100
15	T	173/206 (84%)	162 (94%)	11 (6%)	0	100	100
16	Q	155/187 (83%)	152 (98%)	2 (1%)	1 (1%)	22	37
17	S	203/235 (86%)	192 (95%)	10 (5%)	1 (0%)	25	41
18	U	140/203 (69%)	133 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	V	45/122 (37%)	43 (96%)	2 (4%)	0	100	100
20	a	739/752 (98%)	711 (96%)	28 (4%)	0	100	100
21	b	730/734 (100%)	708 (97%)	22 (3%)	0	100	100
22	c	78/81 (96%)	74 (95%)	4 (5%)	0	100	100
23	d	135/142 (95%)	129 (96%)	6 (4%)	0	100	100
24	e	63/124 (51%)	57 (90%)	6 (10%)	0	100	100
25	f	159/184 (86%)	154 (97%)	5 (3%)	0	100	100
26	i	31/36 (86%)	31 (100%)	0	0	100	100
27	j	38/40 (95%)	38 (100%)	0	0	100	100
28	k	68/92 (74%)	68 (100%)	0	0	100	100
29	l	141/145 (97%)	137 (97%)	4 (3%)	0	100	100
30	m	28/30 (93%)	28 (100%)	0	0	100	100
31	r	89/133 (67%)	89 (100%)	0	0	100	100
All	All	6203/7268 (85%)	5960 (96%)	231 (4%)	12 (0%)	45	63

5 of 12 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	H	92	GLY
9	I	136	PRO
11	K	44	GLY
13	M	136	HIS
15	O	156	LEU

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	A	148/170 (87%)	148 (100%)	0	100	100
2	B	117/159 (74%)	116 (99%)	1 (1%)	75	86
3	C	143/164 (87%)	143 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	D	143/186 (77%)	142 (99%)	1 (1%)	81	89
5	E	137/157 (87%)	137 (100%)	0	100	100
6	F	161/183 (88%)	161 (100%)	0	100	100
7	G	126/148 (85%)	126 (100%)	0	100	100
8	H	133/158 (84%)	132 (99%)	1 (1%)	79	88
9	I	125/156 (80%)	124 (99%)	1 (1%)	79	88
10	J	122/143 (85%)	122 (100%)	0	100	100
11	K	129/153 (84%)	127 (98%)	2 (2%)	58	75
12	L	151/176 (86%)	147 (97%)	4 (3%)	41	62
13	M	148/164 (90%)	147 (99%)	1 (1%)	81	89
13	P	148/164 (90%)	148 (100%)	0	100	100
13	W	148/164 (90%)	148 (100%)	0	100	100
14	N	150/172 (87%)	149 (99%)	1 (1%)	81	89
15	O	133/156 (85%)	132 (99%)	1 (1%)	79	88
15	R	133/156 (85%)	133 (100%)	0	100	100
15	T	133/156 (85%)	133 (100%)	0	100	100
16	Q	124/142 (87%)	124 (100%)	0	100	100
17	S	160/177 (90%)	159 (99%)	1 (1%)	84	90
18	U	110/156 (70%)	109 (99%)	1 (1%)	75	86
19	V	41/94 (44%)	41 (100%)	0	100	100
20	a	607/616 (98%)	606 (100%)	1 (0%)	92	96
21	b	590/591 (100%)	588 (100%)	2 (0%)	91	95
22	c	68/69 (99%)	68 (100%)	0	100	100
23	d	116/121 (96%)	116 (100%)	0	100	100
24	e	53/88 (60%)	53 (100%)	0	100	100
25	f	127/147 (86%)	124 (98%)	3 (2%)	44	64
26	i	30/32 (94%)	30 (100%)	0	100	100
27	j	36/36 (100%)	36 (100%)	0	100	100
28	k	53/70 (76%)	53 (100%)	0	100	100
29	l	117/118 (99%)	116 (99%)	1 (1%)	75	86
30	m	22/22 (100%)	22 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
31	r	71/99 (72%)	70 (99%)	1 (1%)	62	78
All	All	4953/5663 (88%)	4930 (100%)	23 (0%)	85	92

5 of 23 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
18	U	151	PHE
21	b	576	PHE
21	b	257	PHE
25	f	131	SER
12	L	32	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 9 such sidechains are listed below:

Mol	Chain	Res	Type
21	b	178	HIS
28	k	76	HIS
4	D	144	HIS
12	L	91	HIS
17	S	196	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

517 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
32	CLA	B	302	-	45,53,73	2.55	8 (17%)	52,89,113	1.61	7 (13%)
32	CLA	E	304	-	60,68,73	2.33	8 (13%)	70,107,113	1.52	5 (7%)
41	BCR	l	205	-	41,41,41	0.11	0	56,56,56	0.33	0
34	DD6	O	313	-	39,45,45	0.18	0	52,67,67	1.22	4 (7%)
32	CLA	H	307	-	60,68,73	2.32	8 (13%)	70,107,113	1.50	6 (8%)
41	BCR	j	102	-	41,41,41	0.16	0	56,56,56	0.48	0
32	CLA	H	305	8	45,53,73	2.60	8 (17%)	52,89,113	1.78	6 (11%)
32	CLA	a	819	20	65,73,73	2.14	8 (12%)	76,113,113	1.37	5 (6%)
32	CLA	a	811	-	55,63,73	2.40	8 (14%)	64,101,113	1.53	7 (10%)
34	DD6	j	103	-	39,45,45	0.18	0	52,67,67	0.83	1 (1%)
38	LMU	J	318	-	36,36,36	0.69	0	47,47,47	1.01	1 (2%)
32	CLA	O	301	15	45,53,73	2.71	8 (17%)	52,89,113	1.72	6 (11%)
32	CLA	b	833	-	62,70,73	2.26	8 (12%)	72,109,113	1.51	5 (6%)
34	DD6	S	321	-	39,45,45	0.46	0	52,67,67	1.56	5 (9%)
32	CLA	b	809	-	45,53,73	2.59	8 (17%)	52,89,113	1.66	5 (9%)
32	CLA	r	202	-	45,53,73	2.67	8 (17%)	52,89,113	1.66	4 (7%)
34	DD6	A	314	-	39,45,45	0.19	0	52,67,67	0.70	1 (1%)
36	LMG	F	320	-	33,33,55	1.11	3 (9%)	41,41,63	1.27	4 (9%)
34	DD6	I	310	-	39,45,45	0.15	0	52,67,67	0.88	3 (5%)
32	CLA	a	818	-	60,68,73	2.27	8 (13%)	70,107,113	1.69	9 (12%)
33	KC2	O	310	15	48,53,53	1.55	8 (16%)	54,89,89	1.03	6 (11%)
33	KC2	N	302	14	48,53,53	1.56	7 (14%)	54,89,89	1.03	5 (9%)
32	CLA	C	304	3	43,51,73	2.77	8 (18%)	49,86,113	1.91	8 (16%)
32	CLA	K	307	-	41,49,73	2.84	9 (21%)	47,84,113	1.72	8 (17%)
32	CLA	M	306	13	62,70,73	2.27	8 (12%)	72,109,113	1.45	6 (8%)
41	BCR	a	844	-	41,41,41	0.16	0	56,56,56	0.40	0
32	CLA	H	304	-	45,53,73	2.73	8 (17%)	52,89,113	1.85	7 (13%)
32	CLA	a	853	-	65,73,73	2.16	8 (12%)	76,113,113	1.43	8 (10%)
34	DD6	E	318	-	39,45,45	0.17	0	52,67,67	0.73	3 (5%)
32	CLA	S	307	-	52,60,73	2.46	8 (15%)	60,97,113	1.90	10 (16%)
32	CLA	N	305	-	50,58,73	2.52	8 (16%)	58,95,113	1.64	6 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	a	826	-	65,73,73	2.14	8 (12%)	76,113,113	1.33	5 (6%)
32	CLA	f	201	-	60,68,73	2.26	8 (13%)	70,107,113	1.35	5 (7%)
32	CLA	S	305	-	63,71,73	2.25	8 (12%)	73,110,113	1.39	5 (6%)
32	CLA	H	308	8	41,49,73	2.90	9 (21%)	47,84,113	1.92	7 (14%)
32	CLA	E	307	5	55,63,73	2.36	8 (14%)	64,101,113	1.48	5 (7%)
32	CLA	a	801	-	65,73,73	2.07	8 (12%)	76,113,113	1.34	8 (10%)
32	CLA	O	305	15	65,73,73	2.12	8 (12%)	76,113,113	1.39	6 (7%)
37	A86	F	312	-	44,50,50	0.57	1 (2%)	51,76,76	1.34	3 (5%)
37	A86	R	312	-	44,50,50	0.56	1 (2%)	51,76,76	0.77	1 (1%)
32	CLA	S	313	17	45,53,73	2.72	8 (17%)	52,89,113	1.70	5 (9%)
32	CLA	b	820	-	64,72,73	2.22	8 (12%)	74,111,113	1.44	6 (8%)
33	KC2	L	313	-	48,53,53	1.55	8 (16%)	54,89,89	1.03	4 (7%)
41	BCR	l	206	-	41,41,41	0.23	0	56,56,56	0.92	3 (5%)
32	CLA	G	306	7	56,64,73	2.34	8 (14%)	65,102,113	1.66	8 (12%)
32	CLA	l	203	35	65,73,73	2.22	8 (12%)	76,113,113	1.32	6 (7%)
37	A86	C	312	-	44,50,50	0.41	1 (2%)	51,76,76	1.25	2 (3%)
32	CLA	I	303	9	55,63,73	2.38	8 (14%)	64,101,113	1.64	7 (10%)
32	CLA	N	312	-	41,49,73	2.83	9 (21%)	47,84,113	1.74	6 (12%)
34	DD6	N	318	-	39,45,45	0.18	0	52,67,67	0.88	2 (3%)
37	A86	M	301	-	44,50,50	0.47	1 (2%)	51,76,76	0.64	2 (3%)
34	DD6	V	202	-	39,45,45	0.19	0	52,67,67	0.96	3 (5%)
32	CLA	a	829	-	60,68,73	2.30	8 (13%)	70,107,113	1.49	5 (7%)
32	CLA	K	306	-	60,68,73	2.22	8 (13%)	70,107,113	1.55	9 (12%)
41	BCR	f	202	-	41,41,41	0.11	0	56,56,56	0.38	0
33	KC2	N	308	14	48,53,53	1.46	7 (14%)	54,89,89	1.01	6 (11%)
41	BCR	r	205	-	41,41,41	0.16	0	56,56,56	0.36	0
32	CLA	R	304	-	45,53,73	2.68	8 (17%)	52,89,113	1.69	6 (11%)
32	CLA	b	823	-	65,73,73	2.13	8 (12%)	76,113,113	1.39	6 (7%)
32	CLA	B	301	-	39,48,73	2.89	8 (20%)	45,82,113	1.92	7 (15%)
34	DD6	J	316	-	39,45,45	0.19	0	52,67,67	0.73	3 (5%)
35	LHG	P	317	-	45,45,48	0.63	0	48,51,54	1.16	4 (8%)
33	KC2	M	321	15	48,53,53	1.55	8 (16%)	54,89,89	1.08	4 (7%)
35	LHG	E	321	-	45,45,48	0.92	2 (4%)	48,51,54	1.15	3 (6%)
37	A86	D	323	-	44,50,50	0.38	0	51,76,76	0.90	3 (5%)
37	A86	M	315	-	44,50,50	0.36	0	51,76,76	1.19	3 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	A86	W	315	-	44,50,50	0.57	1 (2%)	51,76,76	1.11	2 (3%)
32	CLA	L	301	-	45,53,73	2.69	8 (17%)	52,89,113	1.66	5 (9%)
33	KC2	G	302	-	48,53,53	1.56	8 (16%)	54,89,89	1.02	4 (7%)
37	A86	F	313	-	44,50,50	0.44	1 (2%)	51,76,76	0.93	3 (5%)
36	LMG	D	303	-	36,36,55	1.03	2 (5%)	44,44,63	1.48	7 (15%)
32	CLA	I	301	-	65,73,73	2.19	8 (12%)	76,113,113	1.39	4 (5%)
37	A86	M	317	-	44,50,50	0.73	1 (2%)	51,76,76	0.55	1 (1%)
34	DD6	L	319	-	39,45,45	0.20	0	52,67,67	1.23	3 (5%)
32	CLA	k	203	-	55,63,73	2.35	8 (14%)	64,101,113	1.58	8 (12%)
33	KC2	F	310	36,6	48,53,53	1.56	7 (14%)	54,89,89	1.05	6 (11%)
32	CLA	b	822	-	65,73,73	2.10	8 (12%)	76,113,113	1.41	7 (9%)
34	DD6	Q	313	-	39,45,45	0.21	0	52,67,67	0.64	1 (1%)
32	CLA	K	301	-	45,53,73	2.66	8 (17%)	52,89,113	1.65	5 (9%)
32	CLA	H	301	8	45,53,73	2.69	8 (17%)	52,89,113	1.79	7 (13%)
33	KC2	S	306	17	48,53,53	1.52	8 (16%)	54,89,89	1.02	5 (9%)
32	CLA	r	201	-	60,68,73	2.35	8 (13%)	70,107,113	1.56	7 (10%)
33	KC2	I	309	36,9	48,53,53	1.54	8 (16%)	54,89,89	1.06	5 (9%)
37	A86	F	317	-	44,50,50	0.52	1 (2%)	51,76,76	0.63	2 (3%)
32	CLA	S	304	-	42,50,73	2.78	8 (19%)	48,85,113	1.66	6 (12%)
32	CLA	E	311	5	45,53,73	2.69	8 (17%)	52,89,113	1.75	6 (11%)
32	CLA	a	823	-	65,73,73	2.14	8 (12%)	76,113,113	1.40	7 (9%)
34	DD6	T	314	-	39,45,45	0.19	0	52,67,67	0.85	3 (5%)
32	CLA	a	810	-	62,70,73	2.18	8 (12%)	72,109,113	1.43	7 (9%)
34	DD6	Q	314	-	39,45,45	0.17	0	52,67,67	0.67	2 (3%)
32	CLA	a	817	-	61,69,73	2.29	8 (13%)	71,108,113	1.43	6 (8%)
34	DD6	B	307	-	39,45,45	0.19	0	52,67,67	0.78	3 (5%)
32	CLA	G	308	-	54,62,73	2.46	8 (14%)	62,99,113	1.54	5 (8%)
32	CLA	C	306	-	65,73,73	2.20	8 (12%)	76,113,113	1.47	6 (7%)
32	CLA	S	301	-	45,53,73	2.71	8 (17%)	52,89,113	1.81	7 (13%)
41	BCR	b	845	-	41,41,41	0.16	0	56,56,56	0.29	0
32	CLA	b	815	-	65,73,73	2.09	8 (12%)	76,113,113	1.42	6 (7%)
32	CLA	J	308	-	45,53,73	2.67	8 (17%)	52,89,113	1.77	6 (11%)
32	CLA	F	301	-	39,48,73	2.89	8 (20%)	45,82,113	1.92	7 (15%)
32	CLA	M	305	-	50,58,73	2.49	8 (16%)	58,95,113	1.55	10 (17%)
32	CLA	k	202	-	55,63,73	2.41	8 (14%)	64,101,113	1.47	4 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
34	DD6	k	205	-	39,45,45	0.18	0	52,67,67	0.84	4 (7%)
37	A86	T	312	-	44,50,50	0.81	1 (2%)	51,76,76	1.12	3 (5%)
32	CLA	l	202	-	45,53,73	2.62	8 (17%)	52,89,113	1.69	5 (9%)
32	CLA	W	306	-	55,63,73	2.37	8 (14%)	64,101,113	1.53	5 (7%)
33	KC2	J	310	10	48,53,53	1.63	8 (16%)	54,89,89	1.03	5 (9%)
32	CLA	B	303	-	45,53,73	2.68	8 (17%)	52,89,113	1.59	4 (7%)
39	SQD	k	206	-	35,36,54	1.46	5 (14%)	44,47,65	1.49	7 (15%)
32	CLA	J	309	-	45,53,73	2.64	8 (17%)	52,89,113	1.64	5 (9%)
32	CLA	b	817	-	55,63,73	2.37	8 (14%)	64,101,113	1.51	6 (9%)
33	KC2	Q	317	32	48,53,53	1.51	8 (16%)	54,89,89	1.15	5 (9%)
35	LHG	W	319	32	45,45,48	0.72	1 (2%)	48,51,54	1.16	4 (8%)
33	KC2	G	309	7	48,53,53	1.59	8 (16%)	54,89,89	1.07	5 (9%)
32	CLA	E	306	5	60,68,73	2.27	8 (13%)	70,107,113	1.48	5 (7%)
35	LHG	F	318	-	40,40,48	0.71	1 (2%)	43,46,54	1.11	2 (4%)
33	KC2	M	303	13	48,53,53	1.57	8 (16%)	54,89,89	0.97	2 (3%)
32	CLA	T	305	-	45,53,73	2.70	8 (17%)	52,89,113	1.68	7 (13%)
32	CLA	b	825	-	60,68,73	2.20	9 (15%)	70,107,113	1.44	4 (5%)
32	CLA	F	305	-	49,57,73	2.58	8 (16%)	57,94,113	1.70	6 (10%)
32	CLA	a	840	-	65,73,73	2.15	8 (12%)	76,113,113	1.45	6 (7%)
37	A86	W	316	36	44,50,50	0.62	1 (2%)	51,76,76	0.69	1 (1%)
32	CLA	F	304	-	55,63,73	2.33	8 (14%)	64,101,113	1.57	7 (10%)
32	CLA	R	310	-	55,63,73	2.39	8 (14%)	64,101,113	1.50	5 (7%)
32	CLA	P	310	-	41,49,73	2.93	9 (21%)	47,84,113	1.86	5 (10%)
32	CLA	D	315	-	45,53,73	2.63	8 (17%)	52,89,113	1.72	5 (9%)
32	CLA	N	311	14	60,68,73	2.27	8 (13%)	70,107,113	1.40	6 (8%)
33	KC2	L	306	12	48,53,53	1.58	8 (16%)	54,89,89	1.03	6 (11%)
36	LMG	D	302	-	30,30,55	1.17	3 (10%)	38,38,63	1.40	5 (13%)
41	BCR	U	310	-	41,41,41	0.15	0	56,56,56	0.39	0
41	BCR	b	841	-	41,41,41	0.13	0	56,56,56	0.41	0
32	CLA	C	302	-	41,49,73	2.89	9 (21%)	47,84,113	1.84	5 (10%)
32	CLA	A	305	1	61,69,73	2.28	8 (13%)	71,108,113	1.47	5 (7%)
33	KC2	K	309	-	48,53,53	1.61	7 (14%)	54,89,89	1.06	7 (12%)
37	A86	N	320	-	44,50,50	0.62	1 (2%)	51,76,76	0.55	1 (1%)
37	A86	J	313	-	44,50,50	0.47	1 (2%)	51,76,76	1.82	5 (9%)
32	CLA	b	818	-	65,73,73	2.20	8 (12%)	76,113,113	1.43	6 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	L	311	-	39,48,73	2.94	8 (20%)	45,82,113	2.04	8 (17%)
32	CLA	a	804	-	58,66,73	2.30	8 (13%)	67,104,113	1.51	6 (8%)
32	CLA	A	303	1	62,70,73	2.22	8 (12%)	72,109,113	1.45	6 (8%)
36	LMG	l	201	33	49,49,55	0.89	2 (4%)	57,57,63	1.48	12 (21%)
33	KC2	L	305	12	48,53,53	1.58	8 (16%)	54,89,89	1.08	5 (9%)
33	KC2	J	303	-	48,53,53	1.56	8 (16%)	54,89,89	1.04	4 (7%)
33	KC2	P	303	13	48,53,53	1.54	8 (16%)	54,89,89	1.00	3 (5%)
34	DD6	F	314	-	39,45,45	0.23	0	52,67,67	0.86	3 (5%)
32	CLA	G	305	-	45,53,73	2.59	8 (17%)	52,89,113	1.61	7 (13%)
32	CLA	V	204	-	50,58,73	2.51	8 (16%)	58,95,113	1.55	4 (6%)
32	CLA	M	312	-	60,68,73	2.31	8 (13%)	70,107,113	1.47	5 (7%)
32	CLA	b	824	-	58,66,73	2.28	8 (13%)	67,104,113	1.43	4 (5%)
34	DD6	D	316	-	39,45,45	0.20	0	52,67,67	0.93	3 (5%)
41	BCR	a	854	-	41,41,41	0.17	0	56,56,56	0.44	0
32	CLA	R	307	-	45,53,73	2.61	8 (17%)	52,89,113	1.66	5 (9%)
32	CLA	D	309	-	45,53,73	2.63	8 (17%)	52,89,113	1.69	5 (9%)
32	CLA	R	306	15	45,53,73	2.65	8 (17%)	52,89,113	1.70	5 (9%)
32	CLA	Q	303	16	60,68,73	2.35	9 (15%)	70,107,113	1.63	7 (10%)
35	LHG	I	314	-	45,45,48	0.64	0	48,51,54	1.18	2 (4%)
32	CLA	L	310	-	39,48,73	2.91	8 (20%)	45,82,113	1.99	6 (13%)
32	CLA	A	309	1	65,73,73	2.18	8 (12%)	76,113,113	1.41	5 (6%)
33	KC2	M	313	13,36	48,53,53	1.54	7 (14%)	54,89,89	1.02	6 (11%)
38	LMU	j	105	-	35,35,36	0.27	0	46,46,47	1.09	3 (6%)
32	CLA	Q	306	16	62,70,73	2.23	8 (12%)	72,109,113	1.50	8 (11%)
32	CLA	H	306	-	50,58,73	2.53	8 (16%)	58,95,113	1.60	4 (6%)
35	LHG	f	205	-	46,46,48	0.59	0	49,52,54	1.10	2 (4%)
37	A86	W	302	-	44,50,50	0.45	1 (2%)	51,76,76	0.68	1 (1%)
34	DD6	N	321	-	39,45,45	0.16	0	52,67,67	0.89	1 (1%)
32	CLA	b	814	-	45,53,73	2.60	8 (17%)	52,89,113	1.63	6 (11%)
37	A86	S	319	-	44,50,50	0.37	0	51,76,76	0.94	2 (3%)
32	CLA	D	313	-	58,66,73	2.33	8 (13%)	67,104,113	1.47	5 (7%)
32	CLA	b	804	-	65,73,73	2.16	8 (12%)	76,113,113	1.51	8 (10%)
32	CLA	F	306	-	55,63,73	2.38	8 (14%)	64,101,113	1.51	6 (9%)
32	CLA	a	836	-	55,63,73	2.39	8 (14%)	64,101,113	1.49	5 (7%)
32	CLA	O	307	15	60,68,73	2.25	8 (13%)	70,107,113	1.49	7 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	E	315	-	46,54,73	2.61	8 (17%)	53,90,113	1.65	6 (11%)
35	LHG	a	851	-	37,37,48	1.01	2 (5%)	40,43,54	1.27	5 (12%)
32	CLA	a	825	-	65,73,73	2.11	8 (12%)	76,113,113	1.29	5 (6%)
32	CLA	H	302	-	41,49,73	2.91	9 (21%)	47,84,113	1.91	6 (12%)
32	CLA	N	310	-	55,63,73	2.35	8 (14%)	64,101,113	1.63	5 (7%)
32	CLA	W	310	-	60,68,73	2.19	8 (13%)	70,107,113	1.45	6 (8%)
41	BCR	a	846	-	41,41,41	0.15	0	56,56,56	0.38	0
32	CLA	L	307	-	57,65,73	2.32	8 (14%)	66,103,113	1.49	6 (9%)
33	KC2	K	305	-	48,53,53	1.52	8 (16%)	54,89,89	1.06	4 (7%)
32	CLA	b	813	-	45,53,73	2.63	8 (17%)	52,89,113	1.64	5 (9%)
34	DD6	J	314	-	39,45,45	0.25	0	52,67,67	0.65	1 (1%)
33	KC2	P	312	13	48,53,53	1.57	8 (16%)	54,89,89	1.02	6 (11%)
32	CLA	G	304	-	55,63,73	2.39	8 (14%)	64,101,113	1.50	6 (9%)
32	CLA	F	308	6	46,54,73	2.69	8 (17%)	53,90,113	1.63	5 (9%)
34	DD6	I	311	-	39,45,45	0.17	0	52,67,67	0.70	1 (1%)
36	LMG	j	104	-	38,38,55	1.09	3 (7%)	46,46,63	1.48	6 (13%)
32	CLA	J	306	-	55,63,73	2.30	8 (14%)	64,101,113	1.55	6 (9%)
32	CLA	b	816	-	62,70,73	2.20	8 (12%)	72,109,113	1.37	6 (8%)
32	CLA	a	822	-	62,70,73	2.17	8 (12%)	72,109,113	1.41	8 (11%)
32	CLA	J	311	-	45,53,73	2.63	8 (17%)	52,89,113	1.75	5 (9%)
36	LMG	W	320	37,33	39,39,55	1.05	2 (5%)	47,47,63	1.13	3 (6%)
32	CLA	A	307	1	60,68,73	2.28	8 (13%)	70,107,113	1.50	6 (8%)
35	LHG	D	320	-	47,47,48	0.64	0	50,53,54	1.17	3 (6%)
32	CLA	Q	305	-	51,59,73	2.41	8 (15%)	59,96,113	1.56	5 (8%)
32	CLA	I	317	35	65,73,73	2.19	8 (12%)	76,113,113	1.40	5 (6%)
32	CLA	A	306	-	65,73,73	2.13	8 (12%)	76,113,113	1.35	5 (6%)
32	CLA	Q	310	-	46,54,73	2.65	8 (17%)	53,90,113	1.70	7 (13%)
33	KC2	N	304	14	48,53,53	1.52	8 (16%)	54,89,89	1.08	6 (11%)
32	CLA	b	808	-	65,73,73	2.13	8 (12%)	76,113,113	1.33	6 (7%)
33	KC2	P	306	-	48,53,53	1.56	8 (16%)	54,89,89	1.03	5 (9%)
37	A86	O	311	-	44,50,50	0.33	0	51,76,76	0.96	2 (3%)
32	CLA	a	809	-	60,68,73	2.29	8 (13%)	70,107,113	1.48	5 (7%)
32	CLA	R	301	-	45,53,73	2.73	8 (17%)	52,89,113	1.79	6 (11%)
32	CLA	a	824	-	61,69,73	2.25	8 (13%)	71,108,113	1.40	5 (7%)
43	PQN	b	847	-	34,34,34	0.42	0	42,45,45	0.67	1 (2%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
33	KC2	I	316	-	48,53,53	1.59	7 (14%)	54,89,89	1.05	6 (11%)
32	CLA	B	306	-	45,53,73	2.67	8 (17%)	52,89,113	1.68	5 (9%)
32	CLA	K	310	-	45,53,73	2.71	8 (17%)	52,89,113	1.76	6 (11%)
32	CLA	b	829	-	55,63,73	2.36	8 (14%)	64,101,113	1.52	5 (7%)
32	CLA	T	306	15	60,68,73	2.27	8 (13%)	70,107,113	1.37	4 (5%)
40	DGD	b	846	-	57,57,67	0.88	2 (3%)	71,71,81	1.31	6 (8%)
34	DD6	I	313	-	39,45,45	0.19	0	52,67,67	0.79	2 (3%)
32	CLA	a	830	-	65,73,73	2.20	8 (12%)	76,113,113	1.44	8 (10%)
32	CLA	a	832	-	60,68,73	2.22	8 (13%)	70,107,113	1.48	4 (5%)
32	CLA	F	307	6	60,68,73	2.27	8 (13%)	70,107,113	1.46	6 (8%)
33	KC2	M	307	-	48,53,53	1.61	7 (14%)	54,89,89	1.04	5 (9%)
37	A86	L	317	-	44,50,50	0.51	1 (2%)	51,76,76	1.20	3 (5%)
32	CLA	S	310	17	45,53,73	2.68	8 (17%)	52,89,113	1.67	5 (9%)
37	A86	P	314	-	44,50,50	0.43	1 (2%)	51,76,76	1.19	3 (5%)
41	BCR	b	844	-	41,41,41	0.14	0	56,56,56	0.49	0
34	DD6	H	312	-	39,45,45	0.20	0	52,67,67	0.90	3 (5%)
37	A86	C	311	-	44,50,50	0.67	1 (2%)	51,76,76	1.00	3 (5%)
32	CLA	D	314	4	52,60,73	2.11	10 (19%)	60,97,113	1.52	9 (15%)
32	CLA	b	805	-	65,73,73	2.06	8 (12%)	76,113,113	1.28	7 (9%)
34	DD6	D	301	-	39,45,45	0.20	0	52,67,67	0.78	2 (3%)
34	DD6	D	317	-	39,45,45	0.17	0	52,67,67	1.01	3 (5%)
34	DD6	N	319	-	39,45,45	0.16	0	52,67,67	0.98	3 (5%)
32	CLA	V	203	19	55,63,73	2.37	8 (14%)	64,101,113	1.48	5 (7%)
32	CLA	W	312	13	60,68,73	2.29	8 (13%)	70,107,113	1.43	6 (8%)
32	CLA	N	309	14	50,58,73	2.52	8 (16%)	58,95,113	1.70	7 (12%)
32	CLA	W	309	13	65,73,73	2.17	8 (12%)	76,113,113	1.38	6 (7%)
33	KC2	W	305	13	48,53,53	1.46	7 (14%)	54,89,89	1.05	4 (7%)
32	CLA	b	837	-	65,73,73	2.18	8 (12%)	76,113,113	1.55	5 (6%)
33	KC2	T	311	15	48,53,53	1.56	8 (16%)	54,89,89	1.07	7 (12%)
34	DD6	U	309	-	39,45,45	0.19	0	52,67,67	0.97	4 (7%)
37	A86	M	314	-	44,50,50	0.60	1 (2%)	51,76,76	0.82	2 (3%)
37	A86	P	316	-	44,50,50	0.44	0	51,76,76	1.61	5 (9%)
32	CLA	Q	304	-	50,58,73	2.50	8 (16%)	58,95,113	1.60	7 (12%)
32	CLA	P	305	13	60,68,73	2.30	8 (13%)	70,107,113	1.44	6 (8%)
32	CLA	a	805	-	65,73,73	1.90	13 (20%)	76,113,113	1.56	10 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	C	301	3	45,53,73	2.67	8 (17%)	52,89,113	1.60	6 (11%)
37	A86	K	311	-	44,50,50	0.60	1 (2%)	51,76,76	0.83	2 (3%)
32	CLA	P	304	-	45,53,73	2.68	8 (17%)	52,89,113	1.68	8 (15%)
32	CLA	L	314	-	45,53,73	2.72	8 (17%)	52,89,113	1.63	5 (9%)
37	A86	L	318	-	44,50,50	0.67	1 (2%)	51,76,76	1.09	2 (3%)
34	DD6	H	313	-	39,45,45	0.21	0	52,67,67	0.92	4 (7%)
32	CLA	U	305	18	45,53,73	2.71	8 (17%)	52,89,113	1.80	8 (15%)
32	CLA	a	852	-	65,73,73	2.16	8 (12%)	76,113,113	1.29	7 (9%)
36	LMG	N	301	-	40,40,55	1.07	2 (5%)	48,48,63	1.16	4 (8%)
32	CLA	a	816	-	45,53,73	2.63	8 (17%)	52,89,113	1.66	5 (9%)
33	KC2	S	312	36,17	48,53,53	1.25	7 (14%)	54,89,89	1.08	4 (7%)
32	CLA	I	305	-	56,64,73	2.37	8 (14%)	65,102,113	1.60	6 (9%)
32	CLA	Q	301	33	60,68,73	2.31	8 (13%)	70,107,113	1.49	5 (7%)
32	CLA	a	821	-	55,63,73	2.35	8 (14%)	64,101,113	1.49	5 (7%)
32	CLA	H	309	-	45,53,73	2.72	8 (17%)	52,89,113	1.68	6 (11%)
32	CLA	I	308	-	55,63,73	2.41	8 (14%)	64,101,113	1.60	5 (7%)
32	CLA	b	838	-	65,73,73	2.23	8 (12%)	76,113,113	1.54	6 (7%)
33	KC2	S	302	17	48,53,53	1.60	8 (16%)	54,89,89	1.05	5 (9%)
32	CLA	Q	307	16	62,70,73	2.23	8 (12%)	72,109,113	1.40	5 (6%)
33	KC2	O	303	15	48,53,53	1.53	7 (14%)	54,89,89	0.99	5 (9%)
34	DD6	Q	315	-	39,45,45	0.18	0	52,67,67	0.74	2 (3%)
38	LMU	I	315	-	36,36,36	0.35	0	47,47,47	1.18	5 (10%)
41	BCR	a	843	-	41,41,41	0.16	0	56,56,56	0.41	0
32	CLA	E	312	-	60,68,73	2.29	8 (13%)	70,107,113	1.45	5 (7%)
32	CLA	B	309	-	55,63,73	2.40	8 (14%)	64,101,113	1.41	5 (7%)
35	LHG	A	316	-	39,39,48	0.70	1 (2%)	42,45,54	1.16	2 (4%)
33	KC2	R	305	15	48,53,53	1.59	8 (16%)	54,89,89	1.06	3 (5%)
34	DD6	G	312	-	39,45,45	0.24	0	52,67,67	0.86	4 (7%)
32	CLA	b	834	-	60,68,73	2.29	8 (13%)	70,107,113	1.45	5 (7%)
32	CLA	f	204	-	47,55,73	2.62	8 (17%)	54,91,113	1.62	6 (11%)
41	BCR	m	101	-	41,41,41	0.14	0	56,56,56	0.43	0
33	KC2	F	302	6	48,53,53	1.55	8 (16%)	54,89,89	1.03	6 (11%)
33	KC2	R	302	15	48,53,53	1.58	7 (14%)	54,89,89	1.08	6 (11%)
32	CLA	G	307	-	39,48,73	2.92	8 (20%)	45,82,113	2.00	7 (15%)
32	CLA	a	833	-	65,73,73	2.17	8 (12%)	76,113,113	1.39	5 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
33	KC2	L	303	-	48,53,53	1.55	8 (16%)	54,89,89	1.05	6 (11%)
35	LHG	a	850	32	29,29,48	0.84	0	32,35,54	1.23	3 (9%)
36	LMG	E	302	-	40,40,55	1.11	4 (10%)	48,48,63	1.55	8 (16%)
37	A86	G	311	-	44,50,50	0.56	1 (2%)	51,76,76	0.88	2 (3%)
34	DD6	J	317	-	39,45,45	0.18	0	52,67,67	0.97	3 (5%)
32	CLA	Q	309	-	45,53,73	2.61	8 (17%)	52,89,113	1.67	4 (7%)
33	KC2	N	306	14	48,53,53	1.53	8 (16%)	54,89,89	1.03	6 (11%)
32	CLA	P	311	-	60,68,73	2.27	8 (13%)	70,107,113	1.43	8 (11%)
34	DD6	R	314	-	39,45,45	0.18	0	52,67,67	0.83	1 (1%)
32	CLA	P	309	-	61,69,73	2.26	9 (14%)	71,108,113	1.46	6 (8%)
35	LHG	B	308	-	30,30,48	1.11	2 (6%)	33,36,54	1.20	4 (12%)
32	CLA	b	835	-	60,68,73	2.25	8 (13%)	70,107,113	1.48	7 (10%)
33	KC2	M	304	13	48,53,53	1.58	8 (16%)	54,89,89	1.03	3 (5%)
32	CLA	S	309	-	60,68,73	2.24	8 (13%)	70,107,113	1.47	7 (10%)
36	LMG	P	318	-	45,45,55	0.97	2 (4%)	53,53,63	1.15	4 (7%)
32	CLA	R	308	15	60,68,73	2.26	8 (13%)	70,107,113	1.50	8 (11%)
37	A86	N	317	-	44,50,50	0.61	1 (2%)	51,76,76	0.84	2 (3%)
37	A86	U	308	-	44,50,50	0.65	1 (2%)	51,76,76	1.16	3 (5%)
37	A86	P	313	-	44,50,50	0.57	1 (2%)	51,76,76	1.28	2 (3%)
32	CLA	b	810	21	60,68,73	2.19	8 (13%)	70,107,113	1.33	5 (7%)
32	CLA	a	827	-	65,73,73	2.16	8 (12%)	76,113,113	1.46	7 (9%)
33	KC2	E	313	-	48,53,53	1.53	8 (16%)	54,89,89	1.02	5 (9%)
42	SF4	c	102	-	0,12,12	-	-	-	-	-
34	DD6	E	316	-	39,45,45	0.19	0	52,67,67	0.95	3 (5%)
32	CLA	O	309	-	62,70,73	2.27	8 (12%)	72,109,113	1.45	6 (8%)
33	KC2	T	303	-	48,53,53	1.55	7 (14%)	54,89,89	1.05	6 (11%)
32	CLA	D	311	4	65,73,73	2.18	8 (12%)	76,113,113	1.38	6 (7%)
32	CLA	b	819	-	65,73,73	2.12	8 (12%)	76,113,113	1.33	7 (9%)
32	CLA	k	201	-	55,63,73	2.39	8 (14%)	64,101,113	1.51	5 (7%)
37	A86	P	319	-	44,50,50	0.49	1 (2%)	51,76,76	0.80	2 (3%)
32	CLA	b	840	-	61,69,73	2.25	8 (13%)	71,108,113	1.36	5 (7%)
32	CLA	b	811	-	50,58,73	2.48	8 (16%)	58,95,113	1.57	6 (10%)
41	BCR	b	842	-	41,41,41	0.23	0	56,56,56	0.57	1 (1%)
32	CLA	a	831	-	60,68,73	2.29	8 (13%)	70,107,113	1.46	5 (7%)
32	CLA	b	827	-	50,58,73	2.48	8 (16%)	58,95,113	1.54	5 (8%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	R	309	15	41,49,73	2.91	9 (21%)	47,84,113	1.88	5 (10%)
32	CLA	E	303	5	45,53,73	2.64	8 (17%)	52,89,113	1.65	5 (9%)
40	DGD	Q	318	-	57,57,67	0.92	2 (3%)	71,71,81	1.15	6 (8%)
32	CLA	F	303	6	62,70,73	2.24	8 (12%)	72,109,113	1.41	6 (8%)
34	DD6	Q	312	-	39,45,45	0.18	0	52,67,67	0.77	1 (1%)
32	CLA	b	807	-	60,68,73	2.30	8 (13%)	70,107,113	1.63	6 (8%)
37	A86	K	314	-	44,50,50	0.58	1 (2%)	51,76,76	1.15	4 (7%)
32	CLA	C	305	-	60,68,73	2.38	8 (13%)	70,107,113	1.59	7 (10%)
33	KC2	S	303	17	48,53,53	1.53	8 (16%)	54,89,89	1.05	6 (11%)
32	CLA	L	308	-	45,53,73	2.65	8 (17%)	52,89,113	1.66	5 (9%)
37	A86	G	310	-	44,50,50	0.38	0	51,76,76	1.25	2 (3%)
34	DD6	A	312	-	39,45,45	0.21	0	52,67,67	0.94	4 (7%)
32	CLA	J	302	-	45,53,73	2.68	8 (17%)	52,89,113	1.66	5 (9%)
35	LHG	E	301	-	45,45,48	0.65	1 (2%)	48,51,54	1.10	2 (4%)
32	CLA	a	841	-	65,73,73	2.14	8 (12%)	76,113,113	1.38	6 (7%)
37	A86	H	314	-	44,50,50	0.38	0	51,76,76	1.15	3 (5%)
37	A86	S	314	-	44,50,50	0.30	0	51,76,76	1.65	6 (11%)
32	CLA	W	311	13	65,73,73	2.13	8 (12%)	76,113,113	1.35	5 (6%)
32	CLA	C	308	3	45,53,73	2.51	8 (17%)	52,89,113	1.82	9 (17%)
33	KC2	O	302	-	48,53,53	1.56	8 (16%)	54,89,89	1.04	6 (11%)
33	KC2	C	303	-	48,53,53	1.64	8 (16%)	54,89,89	1.02	4 (7%)
32	CLA	F	309	-	55,63,73	2.33	8 (14%)	64,101,113	1.48	4 (6%)
41	BCR	r	203	-	41,41,41	0.14	0	56,56,56	0.42	0
42	SF4	a	847	-	0,12,12	-	-	-	-	-
32	CLA	T	309	-	45,53,73	2.71	8 (17%)	52,89,113	1.67	5 (9%)
32	CLA	F	311	-	45,53,73	2.68	8 (17%)	52,89,113	1.72	5 (9%)
32	CLA	L	309	-	45,53,73	2.66	8 (17%)	52,89,113	1.68	6 (11%)
32	CLA	I	307	-	45,53,73	2.68	8 (17%)	52,89,113	1.75	6 (11%)
33	KC2	R	303	-	48,53,53	1.60	8 (16%)	54,89,89	1.03	5 (9%)
33	KC2	T	304	15	48,53,53	1.52	7 (14%)	54,89,89	1.07	5 (9%)
43	PQN	a	848	-	34,34,34	0.39	0	42,45,45	0.99	1 (2%)
32	CLA	I	306	9	65,73,73	2.21	8 (12%)	76,113,113	1.44	5 (6%)
32	CLA	a	838	-	65,73,73	2.14	8 (12%)	76,113,113	1.43	7 (9%)
34	DD6	P	315	-	39,45,45	0.25	0	52,67,67	0.89	4 (7%)
32	CLA	M	310	13	62,70,73	2.20	8 (12%)	72,109,113	1.39	5 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
36	LMG	M	320	33	40,40,55	1.08	2 (5%)	48,48,63	1.09	3 (6%)
32	CLA	a	803	-	63,71,73	2.23	8 (12%)	73,110,113	1.48	6 (8%)
32	CLA	f	203	25	45,53,73	2.69	8 (17%)	52,89,113	1.68	4 (7%)
32	CLA	W	313	-	60,68,73	2.29	8 (13%)	70,107,113	1.52	6 (8%)
32	CLA	T	308	15	60,68,73	2.29	8 (13%)	70,107,113	1.60	12 (17%)
33	KC2	N	303	14	48,53,53	1.53	8 (16%)	54,89,89	1.06	6 (11%)
32	CLA	E	310	5	45,53,73	2.63	8 (17%)	52,89,113	1.60	5 (9%)
32	CLA	T	310	-	55,63,73	2.40	8 (14%)	64,101,113	1.58	6 (9%)
35	LHG	I	318	32	36,36,48	1.05	2 (5%)	39,42,54	1.29	4 (10%)
37	A86	S	317	-	44,50,50	0.49	1 (2%)	51,76,76	1.42	2 (3%)
32	CLA	J	307	10	55,63,73	2.43	9 (16%)	64,101,113	1.73	7 (10%)
32	CLA	B	304	-	46,54,73	2.73	8 (17%)	53,90,113	1.74	7 (13%)
32	CLA	a	806	-	60,68,73	2.24	8 (13%)	70,107,113	1.43	7 (10%)
32	CLA	J	305	10	52,60,73	2.50	8 (15%)	60,97,113	1.51	6 (10%)
32	CLA	T	302	15	45,53,73	2.73	8 (17%)	52,89,113	1.69	6 (11%)
32	CLA	b	801	-	60,68,73	2.32	8 (13%)	70,107,113	1.58	6 (8%)
32	CLA	b	803	-	65,73,73	2.11	8 (12%)	76,113,113	1.35	4 (5%)
32	CLA	J	304	10	55,63,73	2.40	9 (16%)	64,101,113	1.66	9 (14%)
37	A86	T	313	-	44,50,50	0.78	1 (2%)	51,76,76	1.05	2 (3%)
38	LMU	D	324	-	36,36,36	0.38	0	47,47,47	0.85	0
32	CLA	K	308	-	65,73,73	2.23	8 (12%)	76,113,113	1.41	5 (6%)
33	KC2	W	303	13	48,53,53	1.51	7 (14%)	54,89,89	1.03	6 (11%)
32	CLA	S	311	-	50,58,73	2.49	8 (16%)	58,95,113	1.67	6 (10%)
34	DD6	C	310	-	39,45,45	0.19	0	52,67,67	0.81	2 (3%)
34	DD6	I	312	-	39,45,45	0.20	0	52,67,67	0.68	1 (1%)
37	A86	R	313	-	44,50,50	0.56	1 (2%)	51,76,76	1.01	2 (3%)
32	CLA	H	310	-	46,54,73	2.69	8 (17%)	53,90,113	1.61	5 (9%)
37	A86	O	312	-	44,50,50	0.47	1 (2%)	51,76,76	0.92	3 (5%)
41	BCR	b	843	-	41,41,41	0.12	0	56,56,56	0.55	0
32	CLA	b	802	-	65,73,73	2.02	8 (12%)	76,113,113	1.46	6 (7%)
32	CLA	a	807	-	65,73,73	2.17	8 (12%)	76,113,113	1.51	7 (9%)
32	CLA	a	815	-	50,58,73	2.45	8 (16%)	58,95,113	1.55	6 (10%)
37	A86	Q	316	-	44,50,50	0.57	1 (2%)	51,76,76	0.45	0
37	A86	L	315	-	44,50,50	0.51	1 (2%)	51,76,76	1.03	3 (5%)
34	DD6	E	317	-	39,45,45	0.20	0	52,67,67	0.94	3 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	D	308	4	55,63,73	2.42	8 (14%)	64,101,113	1.60	6 (9%)
33	KC2	L	302	12	48,53,53	1.58	8 (16%)	54,89,89	1.04	6 (11%)
32	CLA	b	826	-	49,57,73	2.56	8 (16%)	55,93,113	1.71	7 (12%)
32	CLA	S	308	-	44,52,73	2.73	9 (20%)	51,87,113	2.01	8 (15%)
34	DD6	M	316	-	39,45,45	0.18	0	52,67,67	0.79	1 (1%)
34	DD6	F	316	-	39,45,45	0.21	0	52,67,67	1.38	3 (5%)
36	LMG	S	322	33	33,33,55	1.10	2 (6%)	41,41,63	1.27	3 (7%)
34	DD6	J	315	-	39,45,45	0.18	0	52,67,67	0.88	2 (3%)
32	CLA	b	836	-	65,73,73	2.12	8 (12%)	76,113,113	1.47	6 (7%)
34	DD6	K	315	-	39,45,45	0.18	0	52,67,67	1.18	3 (5%)
36	LMG	T	301	-	37,37,55	0.93	1 (2%)	45,45,63	1.27	6 (13%)
32	CLA	b	830	-	61,69,73	2.26	8 (13%)	71,108,113	1.65	9 (12%)
32	CLA	b	812	-	65,73,73	2.14	8 (12%)	76,113,113	1.38	6 (7%)
38	LMU	V	205	-	35,35,36	0.48	0	46,46,47	1.16	3 (6%)
37	A86	N	315	-	44,50,50	0.54	1 (2%)	51,76,76	0.79	1 (1%)
35	LHG	F	321	-	39,39,48	0.69	2 (5%)	42,45,54	1.16	2 (4%)
37	A86	S	315	-	44,50,50	0.55	1 (2%)	51,76,76	1.37	3 (5%)
37	A86	S	320	-	44,50,50	0.47	1 (2%)	51,76,76	0.58	0
32	CLA	U	306	-	45,53,73	2.68	8 (17%)	52,89,113	1.67	5 (9%)
33	KC2	W	304	13	48,53,53	1.53	8 (16%)	54,89,89	1.04	6 (11%)
34	DD6	E	319	-	39,45,45	0.18	0	52,67,67	0.80	3 (5%)
34	DD6	K	313	-	39,45,45	0.19	0	52,67,67	0.64	2 (3%)
32	CLA	C	309	-	43,51,73	2.75	8 (18%)	49,86,113	1.66	5 (10%)
37	A86	W	318	-	44,50,50	0.36	0	51,76,76	1.34	4 (7%)
32	CLA	a	842	-	55,63,73	2.43	8 (14%)	64,101,113	1.47	4 (6%)
32	CLA	J	312	-	58,66,73	2.25	8 (13%)	67,104,113	1.43	6 (8%)
32	CLA	a	839	-	55,63,73	2.36	8 (14%)	64,101,113	1.58	7 (10%)
35	LHG	M	319	-	45,45,48	0.64	0	48,51,54	1.18	4 (8%)
32	CLA	N	313	-	60,68,73	2.31	8 (13%)	70,107,113	1.49	6 (8%)
32	CLA	V	201	-	58,66,73	2.34	8 (13%)	67,104,113	1.46	5 (7%)
36	LMG	D	325	-	35,35,55	1.06	2 (5%)	43,43,63	1.48	7 (16%)
32	CLA	J	301	10	45,53,73	2.65	8 (17%)	52,89,113	1.58	5 (9%)
42	SF4	c	101	22	0,12,12	-	-	-	-	-
32	CLA	a	812	-	55,63,73	1.98	10 (18%)	64,101,113	1.66	8 (12%)
33	KC2	P	302	13	48,53,53	1.59	7 (14%)	54,89,89	1.06	6 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	U	302	18	45,53,73	2.68	8 (17%)	52,89,113	1.65	7 (13%)
36	LMG	D	321	-	40,40,55	0.82	0	48,48,63	1.29	6 (12%)
36	LMG	F	319	33	40,40,55	1.01	2 (5%)	48,48,63	1.08	2 (4%)
33	KC2	N	307	-	48,53,53	1.57	8 (16%)	54,89,89	1.01	4 (7%)
32	CLA	b	839	-	65,73,73	2.18	8 (12%)	76,113,113	1.31	4 (5%)
32	CLA	E	308	-	65,73,73	2.14	8 (12%)	76,113,113	1.36	6 (7%)
33	KC2	K	302	11	48,53,53	1.50	7 (14%)	54,89,89	1.04	4 (7%)
37	A86	S	318	-	44,50,50	0.45	1 (2%)	51,76,76	0.92	3 (5%)
37	A86	K	312	-	44,50,50	0.50	1 (2%)	51,76,76	0.74	1 (1%)
32	CLA	a	808	20	50,58,73	2.50	8 (16%)	58,95,113	1.60	6 (10%)
32	CLA	a	834	-	65,73,73	2.18	8 (12%)	76,113,113	1.37	5 (6%)
33	KC2	P	301	-	48,53,53	1.60	8 (16%)	54,89,89	1.02	6 (11%)
32	CLA	O	304	-	45,53,73	2.71	8 (17%)	52,89,113	1.78	7 (13%)
34	DD6	H	311	-	39,45,45	0.23	0	52,67,67	1.03	4 (7%)
32	CLA	Q	308	-	45,53,73	2.64	8 (17%)	52,89,113	1.69	6 (11%)
32	CLA	b	832	-	65,73,73	2.15	8 (12%)	76,113,113	1.47	5 (6%)
32	CLA	a	835	-	65,73,73	2.15	8 (12%)	76,113,113	1.37	5 (6%)
36	LMG	E	320	-	31,31,55	1.12	2 (6%)	39,39,63	1.54	7 (17%)
32	CLA	L	304	-	45,53,73	2.62	8 (17%)	52,89,113	1.63	7 (13%)
32	CLA	M	308	13	57,65,73	2.35	8 (14%)	66,103,113	1.55	10 (15%)
36	LMG	E	322	-	40,40,55	1.08	2 (5%)	48,48,63	1.34	3 (6%)
32	CLA	A	311	-	45,53,73	2.62	8 (17%)	52,89,113	1.74	5 (9%)
32	CLA	A	308	-	55,63,73	2.36	8 (14%)	64,101,113	1.46	5 (7%)
33	KC2	W	301	15	48,53,53	1.55	8 (16%)	54,89,89	1.05	6 (11%)
32	CLA	U	307	-	45,53,73	2.71	8 (17%)	52,89,113	1.74	6 (11%)
33	KC2	N	314	14	48,53,53	1.59	8 (16%)	54,89,89	1.02	5 (9%)
32	CLA	D	310	4	65,73,73	2.16	8 (12%)	76,113,113	1.53	9 (11%)
32	CLA	A	302	35	60,68,73	2.26	8 (13%)	70,107,113	1.37	4 (5%)
32	CLA	T	307	-	50,58,73	2.47	8 (16%)	58,95,113	1.57	5 (8%)
32	CLA	D	304	4	60,68,73	2.29	8 (13%)	70,107,113	1.46	7 (10%)
35	LHG	a	849	-	47,47,48	0.63	1 (2%)	50,53,54	1.16	3 (6%)
36	LMG	A	318	-	40,40,55	0.95	2 (5%)	48,48,63	1.28	6 (12%)
37	A86	S	316	-	44,50,50	0.62	1 (2%)	51,76,76	1.21	3 (5%)
39	SQD	H	315	-	42,43,54	1.32	4 (9%)	51,54,65	1.39	6 (11%)
32	CLA	P	307	13	45,53,73	2.69	8 (17%)	52,89,113	1.70	5 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	A86	r	204	-	44,50,50	0.44	1 (2%)	51,76,76	1.00	2 (3%)
32	CLA	A	304	-	65,73,73	2.16	8 (12%)	76,113,113	1.43	7 (9%)
32	CLA	G	303	7	55,63,73	2.37	8 (14%)	64,101,113	1.65	9 (14%)
32	CLA	D	312	4	55,63,73	2.42	8 (14%)	64,101,113	1.54	7 (10%)
32	CLA	a	828	-	58,66,73	2.27	8 (13%)	67,104,113	1.53	8 (11%)
34	DD6	W	317	-	39,45,45	0.20	0	52,67,67	0.67	2 (3%)
32	CLA	a	814	-	65,73,73	2.13	8 (12%)	76,113,113	1.55	9 (11%)
37	A86	L	316	-	44,50,50	0.44	1 (2%)	51,76,76	1.50	2 (3%)
37	A86	Q	311	-	44,50,50	0.44	0	51,76,76	0.89	2 (3%)
32	CLA	b	806	-	65,73,73	2.23	8 (12%)	76,113,113	1.38	5 (6%)
32	CLA	b	821	-	55,63,73	2.37	8 (14%)	64,101,113	1.58	6 (9%)
33	KC2	W	308	-	48,53,53	1.50	7 (14%)	54,89,89	1.07	6 (11%)
33	KC2	M	302	13	48,53,53	1.55	8 (16%)	54,89,89	1.02	5 (9%)
33	KC2	U	304	-	48,53,53	1.56	7 (14%)	54,89,89	1.05	4 (7%)
32	CLA	D	307	4	61,69,73	2.24	8 (13%)	71,108,113	1.60	8 (11%)
32	CLA	P	308	-	45,53,73	2.65	8 (17%)	52,89,113	1.60	6 (11%)
32	CLA	D	305	-	58,66,73	2.32	8 (13%)	67,104,113	1.51	6 (8%)
32	CLA	D	306	4	60,68,73	2.26	8 (13%)	70,107,113	1.47	8 (11%)
32	CLA	F	322	-	60,68,73	2.29	8 (13%)	70,107,113	1.54	7 (10%)
34	DD6	A	315	-	39,45,45	0.19	0	52,67,67	0.90	3 (5%)
41	BCR	a	845	-	41,41,41	0.15	0	56,56,56	0.37	0
32	CLA	j	101	27	45,53,73	2.68	8 (17%)	52,89,113	1.62	5 (9%)
41	BCR	i	101	-	41,41,41	0.20	0	56,56,56	0.53	0
32	CLA	K	304	11	45,53,73	2.68	8 (17%)	52,89,113	1.70	5 (9%)
32	CLA	O	306	-	45,53,73	2.58	8 (17%)	52,89,113	1.65	6 (11%)
37	A86	D	322	-	44,50,50	0.47	1 (2%)	51,76,76	0.92	2 (3%)
34	DD6	A	313	-	39,45,45	0.15	0	52,67,67	0.80	2 (3%)
34	DD6	F	315	-	39,45,45	0.19	0	52,67,67	1.01	3 (5%)
32	CLA	L	312	-	60,68,73	2.30	8 (13%)	70,107,113	1.41	5 (7%)
37	A86	M	322	-	44,50,50	0.43	1 (2%)	51,76,76	0.65	1 (1%)
32	CLA	a	837	20	55,63,73	2.42	8 (14%)	64,101,113	1.61	7 (10%)
34	DD6	D	319	-	39,45,45	0.18	0	52,67,67	0.87	3 (5%)
37	A86	N	316	-	44,50,50	0.56	1 (2%)	51,76,76	1.37	3 (5%)
37	A86	M	318	-	44,50,50	0.42	1 (2%)	51,76,76	0.85	4 (7%)
33	KC2	Q	302	-	48,53,53	1.54	8 (16%)	54,89,89	1.03	5 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	CLA	I	302	9	55,63,73	2.37	8 (14%)	64,101,113	1.52	6 (9%)
41	BCR	k	204	-	41,41,41	0.14	0	56,56,56	0.38	0
32	CLA	O	308	-	45,53,73	2.72	8 (17%)	52,89,113	1.72	6 (11%)
32	CLA	a	820	-	65,73,73	2.16	8 (12%)	76,113,113	1.52	7 (9%)
33	KC2	H	303	-	48,53,53	1.62	7 (14%)	54,89,89	1.01	4 (7%)
33	KC2	K	303	11	48,53,53	1.53	7 (14%)	54,89,89	1.06	6 (11%)
34	DD6	D	318	-	39,45,45	0.19	0	52,67,67	0.61	0
32	CLA	M	311	13	45,53,73	2.67	8 (17%)	52,89,113	1.79	6 (11%)
32	CLA	A	301	1	45,53,73	2.59	8 (17%)	52,89,113	1.61	7 (13%)
32	CLA	I	304	9	45,53,73	2.65	8 (17%)	52,89,113	1.68	6 (11%)
32	CLA	b	831	-	60,68,73	2.22	8 (13%)	70,107,113	1.33	6 (8%)
32	CLA	l	204	-	65,73,73	2.17	8 (12%)	76,113,113	1.50	9 (11%)
32	CLA	b	828	-	61,69,73	2.25	8 (13%)	71,108,113	1.52	6 (8%)
32	CLA	E	314	-	50,58,73	2.56	8 (16%)	58,95,113	1.58	6 (10%)
33	KC2	R	311	15	48,53,53	1.57	8 (16%)	54,89,89	1.00	6 (11%)
36	LMG	L	320	-	37,37,55	0.82	1 (2%)	45,45,63	1.24	5 (11%)
32	CLA	U	301	-	39,48,73	2.90	8 (20%)	45,82,113	1.88	8 (17%)
32	CLA	a	813	-	45,53,73	2.69	8 (17%)	52,89,113	1.80	6 (11%)
32	CLA	U	303	18	45,53,73	2.63	8 (17%)	52,89,113	1.78	7 (13%)
32	CLA	G	301	-	45,53,73	2.70	8 (17%)	52,89,113	1.67	5 (9%)
32	CLA	E	309	5	58,66,73	2.22	8 (13%)	67,104,113	1.52	6 (8%)
33	KC2	A	310	1	48,53,53	1.60	8 (16%)	54,89,89	1.02	5 (9%)
32	CLA	W	307	13	45,53,73	2.67	8 (17%)	52,89,113	1.64	6 (11%)
32	CLA	M	309	-	45,53,73	2.59	8 (17%)	52,89,113	1.67	5 (9%)
36	LMG	A	317	-	36,36,55	1.07	2 (5%)	44,44,63	1.32	4 (9%)
37	A86	T	315	-	44,50,50	0.54	1 (2%)	51,76,76	0.52	1 (1%)
32	CLA	C	307	3	60,68,73	2.28	8 (13%)	70,107,113	1.57	8 (11%)
32	CLA	B	305	-	45,53,73	2.75	8 (17%)	52,89,113	1.79	6 (11%)
32	CLA	E	305	5	55,63,73	2.40	8 (14%)	64,101,113	1.49	6 (9%)
33	KC2	W	314	13,36	48,53,53	1.57	8 (16%)	54,89,89	1.02	5 (9%)
32	CLA	a	802	-	63,71,73	2.17	8 (12%)	73,110,113	1.45	9 (12%)

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
32	CLA	B	302	-	1/1/11/20	4/13/91/115	-
32	CLA	E	304	-	1/1/14/20	2/31/109/115	-
41	BCR	l	205	-	-	4/29/63/63	0/2/2/2
34	DD6	O	313	-	1/1/12/24	0/26/80/80	0/3/3/3
32	CLA	H	307	-	1/1/14/20	10/31/109/115	-
41	BCR	j	102	-	-	5/29/63/63	0/2/2/2
32	CLA	H	305	8	1/1/11/20	3/13/91/115	-
32	CLA	a	819	20	1/1/15/20	12/37/115/115	-
32	CLA	a	811	-	1/1/13/20	5/25/103/115	-
34	DD6	j	103	-	-	1/26/80/80	0/3/3/3
38	LMU	J	318	-	-	4/21/61/61	0/2/2/2
32	CLA	O	301	15	1/1/11/20	3/13/91/115	-
32	CLA	b	833	-	1/1/14/20	10/34/112/115	-
34	DD6	S	321	-	1/1/12/24	5/26/80/80	0/3/3/3
32	CLA	b	809	-	1/1/11/20	4/13/91/115	-
32	CLA	r	202	-	1/1/11/20	1/13/91/115	-
34	DD6	A	314	-	-	1/26/80/80	0/3/3/3
36	LMG	F	320	-	-	7/28/48/70	0/1/1/1
34	DD6	I	310	-	-	1/26/80/80	0/3/3/3
32	CLA	a	818	-	1/1/14/20	8/31/109/115	-
33	KC2	O	310	15	-	6/15/71/71	-
33	KC2	N	302	14	-	5/15/71/71	-
32	CLA	C	304	3	1/1/10/20	2/11/89/115	-
32	CLA	K	307	-	1/1/10/20	2/8/86/115	-
32	CLA	M	306	13	1/1/14/20	3/34/112/115	-
41	BCR	a	844	-	-	2/29/63/63	0/2/2/2
32	CLA	H	304	-	1/1/11/20	5/13/91/115	-
32	CLA	a	853	-	1/1/15/20	8/37/115/115	-
34	DD6	E	318	-	-	1/26/80/80	0/3/3/3
32	CLA	S	307	-	1/1/12/20	2/22/100/115	-
32	CLA	N	305	-	1/1/12/20	4/19/97/115	-
32	CLA	a	826	-	1/1/15/20	14/37/115/115	-
32	CLA	f	201	-	1/1/14/20	2/31/109/115	-
32	CLA	S	305	-	1/1/14/20	4/35/113/115	-
32	CLA	H	308	8	1/1/10/20	3/8/86/115	-
32	CLA	E	307	5	1/1/13/20	6/25/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CLA	a	801	-	1/1/15/20	5/37/115/115	-
32	CLA	O	305	15	1/1/15/20	8/37/115/115	-
37	A86	F	312	-	-	2/34/90/90	0/3/3/3
37	A86	R	312	-	-	3/34/90/90	0/3/3/3
32	CLA	S	313	17	1/1/11/20	4/13/91/115	-
32	CLA	b	820	-	1/1/14/20	7/36/114/115	-
33	KC2	L	313	-	-	8/15/71/71	-
41	BCR	l	206	-	-	5/29/63/63	0/2/2/2
32	CLA	G	306	7	1/1/13/20	9/27/105/115	-
32	CLA	l	203	35	1/1/15/20	14/37/115/115	-
37	A86	C	312	-	-	6/34/90/90	0/3/3/3
32	CLA	I	303	9	1/1/13/20	4/25/103/115	-
32	CLA	N	312	-	1/1/10/20	4/8/86/115	-
34	DD6	N	318	-	-	2/26/80/80	0/3/3/3
37	A86	M	301	-	-	6/34/90/90	0/3/3/3
34	DD6	V	202	-	-	4/26/80/80	0/3/3/3
32	CLA	a	829	-	1/1/14/20	7/31/109/115	-
32	CLA	K	306	-	1/1/14/20	8/31/109/115	-
41	BCR	f	202	-	-	2/29/63/63	0/2/2/2
33	KC2	N	308	14	-	5/15/71/71	-
41	BCR	r	205	-	-	2/29/63/63	0/2/2/2
32	CLA	R	304	-	1/1/11/20	3/13/91/115	-
32	CLA	b	823	-	1/1/15/20	8/37/115/115	-
32	CLA	B	301	-	1/1/9/20	1/8/82/115	-
34	DD6	J	316	-	-	0/26/80/80	0/3/3/3
35	LHG	P	317	-	-	20/50/50/53	-
33	KC2	M	321	15	-	5/15/71/71	-
35	LHG	E	321	-	-	18/50/50/53	-
37	A86	D	323	-	-	10/34/90/90	0/3/3/3
37	A86	M	315	-	-	4/34/90/90	0/3/3/3
37	A86	W	315	-	-	7/34/90/90	0/3/3/3
32	CLA	L	301	-	1/1/11/20	5/13/91/115	-
33	KC2	G	302	-	-	9/15/71/71	-
37	A86	F	313	-	-	5/34/90/90	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	LMG	D	303	-	-	16/31/51/70	0/1/1/1
32	CLA	I	301	-	1/1/15/20	10/37/115/115	-
37	A86	M	317	-	-	7/34/90/90	1/3/3/3
34	DD6	L	319	-	-	2/26/80/80	0/3/3/3
32	CLA	k	203	-	1/1/13/20	7/25/103/115	-
33	KC2	F	310	36,6	-	8/15/71/71	-
32	CLA	b	822	-	1/1/15/20	5/37/115/115	-
34	DD6	Q	313	-	-	0/26/80/80	0/3/3/3
32	CLA	K	301	-	1/1/11/20	2/13/91/115	-
32	CLA	H	301	8	1/1/11/20	6/13/91/115	-
33	KC2	S	306	17	-	6/15/71/71	-
32	CLA	r	201	-	1/1/14/20	6/31/109/115	-
33	KC2	I	309	36,9	-	8/15/71/71	-
37	A86	F	317	-	-	7/34/90/90	0/3/3/3
32	CLA	S	304	-	1/1/10/20	0/10/88/115	-
32	CLA	E	311	5	1/1/11/20	3/13/91/115	-
32	CLA	a	823	-	1/1/15/20	5/37/115/115	-
34	DD6	T	314	-	-	1/26/80/80	0/3/3/3
32	CLA	a	810	-	1/1/14/20	12/34/112/115	-
34	DD6	Q	314	-	-	1/26/80/80	0/3/3/3
32	CLA	a	817	-	1/1/14/20	9/33/111/115	-
34	DD6	B	307	-	-	2/26/80/80	0/3/3/3
32	CLA	G	308	-	1/1/12/20	4/24/102/115	-
32	CLA	C	306	-	1/1/15/20	12/37/115/115	-
32	CLA	S	301	-	1/1/11/20	1/13/91/115	-
41	BCR	b	845	-	-	2/29/63/63	0/2/2/2
32	CLA	b	815	-	1/1/15/20	7/37/115/115	-
32	CLA	J	308	-	1/1/11/20	6/13/91/115	-
32	CLA	F	301	-	1/1/9/20	0/8/82/115	-
32	CLA	M	305	-	1/1/12/20	1/19/97/115	-
32	CLA	k	202	-	1/1/13/20	8/25/103/115	-
34	DD6	k	205	-	-	1/26/80/80	0/3/3/3
37	A86	T	312	-	-	4/34/90/90	0/3/3/3
32	CLA	l	202	-	1/1/11/20	5/13/91/115	-
32	CLA	W	306	-	1/1/13/20	4/25/103/115	-
33	KC2	J	310	10	-	8/15/71/71	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CLA	B	303	-	1/1/11/20	3/13/91/115	-
39	SQD	k	206	-	-	13/31/51/69	0/1/1/1
32	CLA	J	309	-	1/1/11/20	2/13/91/115	-
32	CLA	b	817	-	1/1/13/20	9/25/103/115	-
33	KC2	Q	317	32	-	8/15/71/71	-
35	LHG	W	319	32	-	18/50/50/53	-
33	KC2	G	309	7	-	9/15/71/71	-
32	CLA	E	306	5	1/1/14/20	5/31/109/115	-
35	LHG	F	318	-	-	15/45/45/53	-
33	KC2	M	303	13	-	2/15/71/71	-
32	CLA	T	305	-	1/1/11/20	10/13/91/115	-
32	CLA	b	825	-	1/1/14/20	8/31/109/115	-
32	CLA	F	305	-	1/1/12/20	0/17/95/115	-
32	CLA	a	840	-	1/1/15/20	5/37/115/115	-
37	A86	W	316	36	-	5/34/90/90	0/3/3/3
32	CLA	F	304	-	1/1/13/20	1/25/103/115	-
32	CLA	R	310	-	1/1/13/20	6/25/103/115	-
32	CLA	P	310	-	1/1/10/20	1/8/86/115	-
32	CLA	D	315	-	1/1/11/20	2/13/91/115	-
32	CLA	N	311	14	1/1/14/20	5/31/109/115	-
33	KC2	L	306	12	-	6/15/71/71	-
36	LMG	D	302	-	-	9/25/45/70	0/1/1/1
41	BCR	U	310	-	-	4/29/63/63	0/2/2/2
41	BCR	b	841	-	-	0/29/63/63	0/2/2/2
32	CLA	C	302	-	1/1/10/20	0/8/86/115	-
32	CLA	A	305	1	1/1/14/20	4/33/111/115	-
33	KC2	K	309	-	-	8/15/71/71	-
37	A86	N	320	-	-	0/34/90/90	0/3/3/3
37	A86	J	313	-	-	8/34/90/90	0/3/3/3
32	CLA	b	818	-	1/1/15/20	8/37/115/115	-
32	CLA	L	311	-	1/1/9/20	0/8/82/115	-
32	CLA	a	804	-	1/1/13/20	4/29/107/115	-
32	CLA	A	303	1	1/1/14/20	10/34/112/115	-
36	LMG	l	201	33	-	23/44/64/70	0/1/1/1
33	KC2	L	305	12	-	11/15/71/71	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
33	KC2	J	303	-	-	8/15/71/71	-
33	KC2	P	303	13	-	3/15/71/71	-
34	DD6	F	314	-	-	1/26/80/80	0/3/3/3
32	CLA	G	305	-	1/1/11/20	3/13/91/115	-
32	CLA	V	204	-	1/1/12/20	3/19/97/115	-
32	CLA	M	312	-	1/1/14/20	10/31/109/115	-
32	CLA	b	824	-	1/1/13/20	8/29/107/115	-
34	DD6	D	316	-	-	1/26/80/80	0/3/3/3
41	BCR	a	854	-	-	5/29/63/63	0/2/2/2
32	CLA	R	307	-	1/1/11/20	2/13/91/115	-
32	CLA	D	309	-	1/1/11/20	2/13/91/115	-
32	CLA	R	306	15	1/1/11/20	4/13/91/115	-
32	CLA	Q	303	16	1/1/14/20	6/31/109/115	-
35	LHG	I	314	-	-	22/50/50/53	-
32	CLA	L	310	-	1/1/9/20	2/8/82/115	-
32	CLA	A	309	1	1/1/15/20	12/37/115/115	-
33	KC2	M	313	13,36	-	7/15/71/71	-
38	LMU	j	105	-	-	12/20/60/61	0/2/2/2
32	CLA	Q	306	16	1/1/14/20	12/34/112/115	-
32	CLA	H	306	-	1/1/12/20	1/19/97/115	-
35	LHG	f	205	-	-	26/51/51/53	-
37	A86	W	302	-	-	1/34/90/90	0/3/3/3
34	DD6	N	321	-	-	2/26/80/80	0/3/3/3
32	CLA	b	814	-	1/1/11/20	4/13/91/115	-
37	A86	S	319	-	-	7/34/90/90	0/3/3/3
32	CLA	D	313	-	1/1/13/20	9/29/107/115	-
32	CLA	b	804	-	1/1/15/20	17/37/115/115	-
32	CLA	F	306	-	1/1/13/20	5/25/103/115	-
32	CLA	a	836	-	1/1/13/20	7/25/103/115	-
32	CLA	O	307	15	1/1/14/20	5/31/109/115	-
32	CLA	E	315	-	1/1/11/20	3/15/93/115	-
35	LHG	a	851	-	-	8/42/42/53	-
32	CLA	a	825	-	1/1/15/20	2/37/115/115	-
32	CLA	H	302	-	1/1/10/20	3/8/86/115	-
32	CLA	N	310	-	1/1/13/20	5/25/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CLA	W	310	-	1/1/14/20	10/31/109/115	-
41	BCR	a	846	-	-	2/29/63/63	0/2/2/2
32	CLA	L	307	-	1/1/13/20	2/28/106/115	-
33	KC2	K	305	-	-	4/15/71/71	-
32	CLA	b	813	-	1/1/11/20	4/13/91/115	-
34	DD6	J	314	-	-	2/26/80/80	0/3/3/3
33	KC2	P	312	13	-	7/15/71/71	-
32	CLA	G	304	-	1/1/13/20	2/25/103/115	-
32	CLA	F	308	6	1/1/11/20	1/15/93/115	-
34	DD6	I	311	-	-	1/26/80/80	0/3/3/3
36	LMG	j	104	-	-	21/33/53/70	0/1/1/1
32	CLA	J	306	-	1/1/13/20	7/25/103/115	-
32	CLA	b	816	-	1/1/14/20	8/34/112/115	-
32	CLA	a	822	-	1/1/14/20	10/34/112/115	-
32	CLA	J	311	-	1/1/11/20	2/13/91/115	-
36	LMG	W	320	37,33	-	13/34/54/70	0/1/1/1
32	CLA	A	307	1	1/1/14/20	5/31/109/115	-
35	LHG	D	320	-	-	23/52/52/53	-
32	CLA	Q	305	-	1/1/12/20	5/21/99/115	-
32	CLA	I	317	35	1/1/15/20	3/37/115/115	-
32	CLA	A	306	-	1/1/15/20	9/37/115/115	-
32	CLA	Q	310	-	1/1/11/20	2/15/93/115	-
33	KC2	N	304	14	-	8/15/71/71	-
32	CLA	b	808	-	1/1/15/20	7/37/115/115	-
33	KC2	P	306	-	-	5/15/71/71	-
37	A86	O	311	-	-	4/34/90/90	0/3/3/3
32	CLA	a	809	-	1/1/14/20	8/31/109/115	-
32	CLA	R	301	-	1/1/11/20	2/13/91/115	-
32	CLA	a	824	-	1/1/14/20	7/33/111/115	-
43	PQN	b	847	-	-	1/23/43/43	0/2/2/2
33	KC2	I	316	-	-	8/15/71/71	-
32	CLA	B	306	-	1/1/11/20	4/13/91/115	-
32	CLA	K	310	-	1/1/11/20	6/13/91/115	-
32	CLA	b	829	-	1/1/13/20	8/25/103/115	-
32	CLA	T	306	15	1/1/14/20	5/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	DGD	b	846	-	-	21/45/85/95	0/2/2/2
34	DD6	I	313	-	-	0/26/80/80	0/3/3/3
32	CLA	a	830	-	1/1/15/20	11/37/115/115	-
32	CLA	a	832	-	1/1/14/20	3/31/109/115	-
32	CLA	F	307	6	1/1/14/20	3/31/109/115	-
33	KC2	M	307	-	-	3/15/71/71	-
37	A86	L	317	-	-	10/34/90/90	0/3/3/3
32	CLA	S	310	17	1/1/11/20	7/13/91/115	-
37	A86	P	314	-	-	4/34/90/90	0/3/3/3
41	BCR	b	844	-	-	4/29/63/63	0/2/2/2
34	DD6	H	312	-	-	2/26/80/80	0/3/3/3
37	A86	C	311	-	-	8/34/90/90	0/3/3/3
32	CLA	D	314	4	1/1/12/20	5/22/100/115	-
32	CLA	b	805	-	1/1/15/20	5/37/115/115	-
34	DD6	D	301	-	-	2/26/80/80	0/3/3/3
34	DD6	D	317	-	-	0/26/80/80	0/3/3/3
34	DD6	N	319	-	-	1/26/80/80	0/3/3/3
32	CLA	V	203	19	1/1/13/20	2/25/103/115	-
32	CLA	W	312	13	1/1/14/20	10/31/109/115	-
32	CLA	N	309	14	1/1/12/20	3/19/97/115	-
32	CLA	W	309	13	1/1/15/20	4/37/115/115	-
33	KC2	W	305	13	-	4/15/71/71	-
32	CLA	b	837	-	1/1/15/20	12/37/115/115	-
33	KC2	T	311	15	-	5/15/71/71	-
34	DD6	U	309	-	-	0/26/80/80	0/3/3/3
37	A86	M	314	-	-	4/34/90/90	1/3/3/3
37	A86	P	316	-	-	7/34/90/90	0/3/3/3
32	CLA	Q	304	-	1/1/12/20	3/19/97/115	-
32	CLA	P	305	13	1/1/14/20	10/31/109/115	-
32	CLA	a	805	-	1/1/15/20	15/37/115/115	-
32	CLA	C	301	3	1/1/11/20	3/13/91/115	-
37	A86	K	311	-	-	8/34/90/90	0/3/3/3
32	CLA	P	304	-	1/1/11/20	4/13/91/115	-
32	CLA	L	314	-	1/1/11/20	5/13/91/115	-
37	A86	L	318	-	-	4/34/90/90	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
34	DD6	H	313	-	-	2/26/80/80	0/3/3/3
32	CLA	U	305	18	1/1/11/20	7/13/91/115	-
32	CLA	a	852	-	1/1/15/20	11/37/115/115	-
36	LMG	N	301	-	-	19/35/55/70	0/1/1/1
32	CLA	a	816	-	1/1/11/20	5/13/91/115	-
33	KC2	S	312	36,17	-	4/15/71/71	-
32	CLA	I	305	-	1/1/13/20	6/27/105/115	-
32	CLA	Q	301	33	1/1/14/20	4/31/109/115	-
32	CLA	a	821	-	1/1/13/20	7/25/103/115	-
32	CLA	H	309	-	1/1/11/20	5/13/91/115	-
32	CLA	I	308	-	1/1/13/20	8/25/103/115	-
32	CLA	b	838	-	1/1/15/20	8/37/115/115	-
33	KC2	S	302	17	-	4/15/71/71	-
32	CLA	Q	307	16	1/1/14/20	6/34/112/115	-
33	KC2	O	303	15	-	6/15/71/71	-
34	DD6	Q	315	-	-	1/26/80/80	0/3/3/3
38	LMU	I	315	-	-	6/21/61/61	0/2/2/2
41	BCR	a	843	-	-	4/29/63/63	0/2/2/2
32	CLA	E	312	-	1/1/14/20	6/31/109/115	-
32	CLA	B	309	-	1/1/13/20	3/25/103/115	-
35	LHG	A	316	-	-	21/44/44/53	-
33	KC2	R	305	15	-	5/15/71/71	-
34	DD6	G	312	-	-	1/26/80/80	0/3/3/3
32	CLA	b	834	-	1/1/14/20	3/31/109/115	-
32	CLA	f	204	-	1/1/11/20	0/16/94/115	-
41	BCR	m	101	-	-	1/29/63/63	0/2/2/2
33	KC2	F	302	6	-	8/15/71/71	-
33	KC2	R	302	15	-	5/15/71/71	-
32	CLA	G	307	-	1/1/9/20	0/8/82/115	-
32	CLA	a	833	-	1/1/15/20	4/37/115/115	-
33	KC2	L	303	-	-	4/15/71/71	-
35	LHG	a	850	32	-	13/34/34/53	-
36	LMG	E	302	-	-	19/35/55/70	0/1/1/1
37	A86	G	311	-	-	4/34/90/90	1/3/3/3
34	DD6	J	317	-	1/1/12/24	0/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CLA	Q	309	-	1/1/11/20	3/13/91/115	-
33	KC2	N	306	14	-	4/15/71/71	-
32	CLA	P	311	-	1/1/14/20	11/31/109/115	-
34	DD6	R	314	-	-	0/26/80/80	0/3/3/3
32	CLA	P	309	-	1/1/14/20	5/33/111/115	-
35	LHG	B	308	-	-	18/35/35/53	-
32	CLA	b	835	-	1/1/14/20	7/31/109/115	-
33	KC2	M	304	13	-	6/15/71/71	-
32	CLA	S	309	-	1/1/14/20	13/31/109/115	-
36	LMG	P	318	-	-	20/40/60/70	0/1/1/1
32	CLA	R	308	15	1/1/14/20	1/31/109/115	-
37	A86	N	317	-	-	8/34/90/90	0/3/3/3
37	A86	U	308	-	-	2/34/90/90	1/3/3/3
37	A86	P	313	-	-	7/34/90/90	1/3/3/3
32	CLA	b	810	21	1/1/14/20	5/31/109/115	-
32	CLA	a	827	-	1/1/15/20	9/37/115/115	-
33	KC2	E	313	-	-	8/15/71/71	-
42	SF4	c	102	-	-	-	0/6/5/5
34	DD6	E	316	-	-	0/26/80/80	0/3/3/3
32	CLA	O	309	-	1/1/14/20	7/34/112/115	-
33	KC2	T	303	-	-	8/15/71/71	-
32	CLA	D	311	4	1/1/15/20	4/37/115/115	-
32	CLA	b	819	-	1/1/15/20	4/37/115/115	-
32	CLA	k	201	-	1/1/13/20	7/25/103/115	-
37	A86	P	319	-	-	4/34/90/90	0/3/3/3
32	CLA	b	840	-	1/1/14/20	7/33/111/115	-
32	CLA	b	811	-	1/1/12/20	4/19/97/115	-
41	BCR	b	842	-	-	6/29/63/63	0/2/2/2
32	CLA	a	831	-	1/1/14/20	2/31/109/115	-
32	CLA	b	827	-	1/1/12/20	2/19/97/115	-
32	CLA	R	309	15	1/1/10/20	1/8/86/115	-
32	CLA	E	303	5	1/1/11/20	2/13/91/115	-
40	DGD	Q	318	-	-	27/45/85/95	0/2/2/2
32	CLA	F	303	6	1/1/14/20	10/34/112/115	-
34	DD6	Q	312	-	-	1/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CLA	b	807	-	1/1/14/20	10/31/109/115	-
37	A86	K	314	-	-	4/34/90/90	0/3/3/3
32	CLA	C	305	-	1/1/14/20	6/31/109/115	-
33	KC2	S	303	17	-	6/15/71/71	-
32	CLA	L	308	-	1/1/11/20	2/13/91/115	-
37	A86	G	310	-	-	10/34/90/90	0/3/3/3
34	DD6	A	312	-	-	0/26/80/80	0/3/3/3
32	CLA	J	302	-	1/1/11/20	0/13/91/115	-
35	LHG	E	301	-	-	18/50/50/53	-
32	CLA	a	841	-	1/1/15/20	9/37/115/115	-
37	A86	H	314	-	-	5/34/90/90	0/3/3/3
37	A86	S	314	-	-	6/34/90/90	0/3/3/3
32	CLA	W	311	13	1/1/15/20	11/37/115/115	-
32	CLA	C	308	3	1/1/11/20	4/13/91/115	-
33	KC2	O	302	-	-	8/15/71/71	-
33	KC2	C	303	-	-	9/15/71/71	-
32	CLA	F	309	-	1/1/13/20	3/25/103/115	-
41	BCR	r	203	-	-	5/29/63/63	0/2/2/2
42	SF4	a	847	-	-	-	0/6/5/5
32	CLA	T	309	-	1/1/11/20	2/13/91/115	-
32	CLA	F	311	-	1/1/11/20	0/13/91/115	-
32	CLA	L	309	-	1/1/11/20	3/13/91/115	-
32	CLA	I	307	-	1/1/11/20	6/13/91/115	-
33	KC2	R	303	-	-	5/15/71/71	-
33	KC2	T	304	15	-	3/15/71/71	-
43	PQN	a	848	-	-	8/23/43/43	0/2/2/2
32	CLA	I	306	9	1/1/15/20	5/37/115/115	-
32	CLA	a	838	-	1/1/15/20	3/37/115/115	-
34	DD6	P	315	-	-	0/26/80/80	0/3/3/3
32	CLA	M	310	13	1/1/14/20	2/34/112/115	-
36	LMG	M	320	33	-	9/35/55/70	0/1/1/1
32	CLA	a	803	-	1/1/14/20	8/35/113/115	-
32	CLA	f	203	25	1/1/11/20	0/13/91/115	-
32	CLA	W	313	-	1/1/14/20	5/31/109/115	-
32	CLA	T	308	15	1/1/14/20	5/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
33	KC2	N	303	14	-	7/15/71/71	-
32	CLA	E	310	5	1/1/11/20	5/13/91/115	-
32	CLA	T	310	-	1/1/13/20	4/25/103/115	-
35	LHG	I	318	32	-	16/41/41/53	-
37	A86	S	317	-	-	6/34/90/90	0/3/3/3
32	CLA	J	307	10	1/1/13/20	4/25/103/115	-
32	CLA	B	304	-	1/1/11/20	5/15/93/115	-
32	CLA	a	806	-	1/1/14/20	7/31/109/115	-
32	CLA	J	305	10	1/1/12/20	1/22/100/115	-
32	CLA	T	302	15	1/1/11/20	4/13/91/115	-
32	CLA	b	801	-	1/1/14/20	6/31/109/115	-
32	CLA	b	803	-	1/1/15/20	7/37/115/115	-
32	CLA	J	304	10	1/1/13/20	3/25/103/115	-
37	A86	T	313	-	-	9/34/90/90	0/3/3/3
38	LMU	D	324	-	-	11/21/61/61	0/2/2/2
32	CLA	K	308	-	1/1/15/20	12/37/115/115	-
33	KC2	W	303	13	-	6/15/71/71	-
32	CLA	S	311	-	1/1/12/20	5/19/97/115	-
34	DD6	C	310	-	-	0/26/80/80	0/3/3/3
34	DD6	I	312	-	-	0/26/80/80	0/3/3/3
37	A86	R	313	-	-	4/34/90/90	0/3/3/3
32	CLA	H	310	-	1/1/11/20	1/15/93/115	-
37	A86	O	312	-	1/1/14/25	4/34/90/90	0/3/3/3
41	BCR	b	843	-	-	2/29/63/63	0/2/2/2
32	CLA	b	802	-	1/1/15/20	3/37/115/115	-
32	CLA	a	807	-	1/1/15/20	7/37/115/115	-
32	CLA	a	815	-	1/1/12/20	1/19/97/115	-
37	A86	Q	316	-	-	6/34/90/90	0/3/3/3
37	A86	L	315	-	-	4/34/90/90	0/3/3/3
34	DD6	E	317	-	-	0/26/80/80	0/3/3/3
32	CLA	D	308	4	1/1/13/20	2/25/103/115	-
33	KC2	L	302	12	-	4/15/71/71	-
32	CLA	b	826	-	1/1/11/20	4/18/96/115	-
32	CLA	S	308	-	1/1/11/20	4/13/91/115	-
34	DD6	M	316	-	-	1/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
34	DD6	F	316	-	-	3/26/80/80	0/3/3/3
36	LMG	S	322	33	-	13/28/48/70	0/1/1/1
34	DD6	J	315	-	-	1/26/80/80	0/3/3/3
32	CLA	b	836	-	1/1/15/20	9/37/115/115	-
34	DD6	K	315	-	1/1/12/24	1/26/80/80	0/3/3/3
36	LMG	T	301	-	-	14/32/52/70	0/1/1/1
32	CLA	b	830	-	1/1/14/20	7/33/111/115	-
32	CLA	b	812	-	1/1/15/20	9/37/115/115	-
38	LMU	V	205	-	-	6/20/60/61	0/2/2/2
37	A86	N	315	-	-	2/34/90/90	0/3/3/3
35	LHG	F	321	-	-	16/44/44/53	-
37	A86	S	315	-	-	3/34/90/90	1/3/3/3
37	A86	S	320	-	-	6/34/90/90	0/3/3/3
32	CLA	U	306	-	1/1/11/20	6/13/91/115	-
33	KC2	W	304	13	-	5/15/71/71	-
34	DD6	E	319	-	-	0/26/80/80	0/3/3/3
34	DD6	K	313	-	-	0/26/80/80	0/3/3/3
32	CLA	C	309	-	1/1/10/20	1/11/89/115	-
37	A86	W	318	-	-	6/34/90/90	0/3/3/3
32	CLA	a	842	-	1/1/13/20	6/25/103/115	-
32	CLA	J	312	-	1/1/13/20	10/29/107/115	-
32	CLA	a	839	-	1/1/13/20	5/25/103/115	-
35	LHG	M	319	-	-	18/50/50/53	-
32	CLA	N	313	-	1/1/14/20	9/31/109/115	-
32	CLA	V	201	-	1/1/13/20	4/29/107/115	-
36	LMG	D	325	-	-	9/30/50/70	0/1/1/1
32	CLA	J	301	10	1/1/11/20	3/13/91/115	-
42	SF4	c	101	22	-	-	0/6/5/5
32	CLA	a	812	-	1/1/13/20	5/25/103/115	-
33	KC2	P	302	13	-	9/15/71/71	-
32	CLA	U	302	18	1/1/11/20	2/13/91/115	-
36	LMG	D	321	-	-	16/35/55/70	0/1/1/1
36	LMG	F	319	33	-	16/35/55/70	0/1/1/1
33	KC2	N	307	-	-	4/15/71/71	-
32	CLA	b	839	-	1/1/15/20	10/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	CLA	E	308	-	1/1/15/20	11/37/115/115	-
33	KC2	K	302	11	-	6/15/71/71	-
37	A86	S	318	-	-	4/34/90/90	0/3/3/3
37	A86	K	312	-	-	7/34/90/90	0/3/3/3
32	CLA	a	808	20	1/1/12/20	3/19/97/115	-
32	CLA	a	834	-	1/1/15/20	7/37/115/115	-
33	KC2	P	301	-	-	9/15/71/71	-
32	CLA	O	304	-	1/1/11/20	0/13/91/115	-
34	DD6	H	311	-	-	0/26/80/80	0/3/3/3
32	CLA	Q	308	-	1/1/11/20	3/13/91/115	-
32	CLA	b	832	-	1/1/15/20	7/37/115/115	-
32	CLA	a	835	-	1/1/15/20	9/37/115/115	-
36	LMG	E	320	-	-	13/26/46/70	0/1/1/1
32	CLA	L	304	-	1/1/11/20	0/13/91/115	-
32	CLA	M	308	13	1/1/13/20	7/28/106/115	-
36	LMG	E	322	-	-	12/35/55/70	0/1/1/1
32	CLA	A	311	-	1/1/11/20	5/13/91/115	-
32	CLA	A	308	-	1/1/13/20	3/25/103/115	-
33	KC2	W	301	15	-	5/15/71/71	-
32	CLA	U	307	-	1/1/11/20	5/13/91/115	-
33	KC2	N	314	14	-	6/15/71/71	-
32	CLA	D	310	4	1/1/15/20	4/37/115/115	-
32	CLA	A	302	35	1/1/14/20	2/31/109/115	-
32	CLA	T	307	-	1/1/12/20	2/19/97/115	-
32	CLA	D	304	4	1/1/14/20	8/31/109/115	-
35	LHG	a	849	-	-	22/52/52/53	-
36	LMG	A	318	-	-	9/35/55/70	0/1/1/1
37	A86	S	316	-	-	2/34/90/90	0/3/3/3
39	SQD	H	315	-	-	23/38/58/69	0/1/1/1
32	CLA	P	307	13	1/1/11/20	0/13/91/115	-
37	A86	r	204	-	-	8/34/90/90	0/3/3/3
32	CLA	A	304	-	1/1/15/20	8/37/115/115	-
32	CLA	G	303	7	1/1/13/20	8/25/103/115	-
32	CLA	D	312	4	1/1/13/20	6/25/103/115	-
32	CLA	a	828	-	1/1/13/20	5/29/107/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
34	DD6	W	317	-	-	1/26/80/80	0/3/3/3
32	CLA	a	814	-	1/1/15/20	10/37/115/115	-
37	A86	L	316	-	-	8/34/90/90	0/3/3/3
37	A86	Q	311	-	-	8/34/90/90	0/3/3/3
32	CLA	b	806	-	1/1/15/20	10/37/115/115	-
32	CLA	b	821	-	1/1/13/20	3/25/103/115	-
33	KC2	W	308	-	-	6/15/71/71	-
33	KC2	M	302	13	-	6/15/71/71	-
33	KC2	U	304	-	-	6/15/71/71	-
32	CLA	D	307	4	1/1/14/20	4/33/111/115	-
32	CLA	P	308	-	1/1/11/20	2/13/91/115	-
32	CLA	D	305	-	1/1/13/20	9/29/107/115	-
32	CLA	D	306	4	1/1/14/20	8/31/109/115	-
32	CLA	F	322	-	1/1/14/20	9/31/109/115	-
34	DD6	A	315	-	-	3/26/80/80	0/3/3/3
41	BCR	a	845	-	-	4/29/63/63	0/2/2/2
32	CLA	j	101	27	1/1/11/20	2/13/91/115	-
41	BCR	i	101	-	-	3/29/63/63	0/2/2/2
32	CLA	K	304	11	1/1/11/20	3/13/91/115	-
32	CLA	O	306	-	1/1/11/20	5/13/91/115	-
37	A86	D	322	-	-	4/34/90/90	0/3/3/3
34	DD6	A	313	-	-	3/26/80/80	0/3/3/3
34	DD6	F	315	-	-	3/26/80/80	0/3/3/3
32	CLA	L	312	-	1/1/14/20	8/31/109/115	-
37	A86	M	322	-	-	4/34/90/90	0/3/3/3
32	CLA	a	837	20	1/1/13/20	5/25/103/115	-
34	DD6	D	319	-	-	2/26/80/80	0/3/3/3
37	A86	N	316	-	-	14/34/90/90	0/3/3/3
37	A86	M	318	-	-	4/34/90/90	0/3/3/3
33	KC2	Q	302	-	-	7/15/71/71	-
32	CLA	I	302	9	1/1/13/20	6/25/103/115	-
41	BCR	k	204	-	-	4/29/63/63	0/2/2/2
32	CLA	O	308	-	1/1/11/20	4/13/91/115	-
32	CLA	a	820	-	1/1/15/20	8/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
33	KC2	H	303	-	-	8/15/71/71	-
33	KC2	K	303	11	-	8/15/71/71	-
34	DD6	D	318	-	-	2/26/80/80	0/3/3/3
32	CLA	M	311	13	1/1/11/20	5/13/91/115	-
32	CLA	A	301	1	1/1/11/20	3/13/91/115	-
32	CLA	I	304	9	1/1/11/20	3/13/91/115	-
32	CLA	b	831	-	1/1/14/20	12/31/109/115	-
32	CLA	l	204	-	1/1/15/20	13/37/115/115	-
32	CLA	b	828	-	1/1/14/20	5/33/111/115	-
32	CLA	E	314	-	1/1/12/20	2/19/97/115	-
33	KC2	R	311	15	-	4/15/71/71	-
36	LMG	L	320	-	-	13/32/52/70	0/1/1/1
32	CLA	U	301	-	1/1/9/20	1/8/82/115	-
32	CLA	a	813	-	1/1/11/20	6/13/91/115	-
32	CLA	U	303	18	1/1/11/20	1/13/91/115	-
32	CLA	G	301	-	1/1/11/20	4/13/91/115	-
32	CLA	E	309	5	1/1/13/20	8/29/107/115	-
33	KC2	A	310	1	-	5/15/71/71	-
32	CLA	W	307	13	1/1/11/20	5/13/91/115	-
32	CLA	M	309	-	1/1/11/20	5/13/91/115	-
36	LMG	A	317	-	-	15/31/51/70	0/1/1/1
37	A86	T	315	-	-	4/34/90/90	0/3/3/3
32	CLA	C	307	3	1/1/14/20	7/31/109/115	-
32	CLA	B	305	-	1/1/11/20	3/13/91/115	-
32	CLA	E	305	5	1/1/13/20	1/25/103/115	-
33	KC2	W	314	13,36	-	7/15/71/71	-
32	CLA	a	802	-	1/1/14/20	10/35/113/115	-

The worst 5 of 2851 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	H	304	CLA	C1B-NB	11.07	1.45	1.35
32	P	310	CLA	C1B-NB	11.04	1.45	1.35
32	R	301	CLA	C1B-NB	10.97	1.45	1.35
32	G	307	CLA	C1B-NB	10.97	1.45	1.35
32	B	304	CLA	C1B-NB	10.97	1.45	1.35

The worst 5 of 2476 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	S	307	CLA	C4A-NA-C1A	-8.62	102.83	106.71
37	S	317	A86	O1-C20-C19	8.49	119.76	113.38
32	a	818	CLA	C4A-NA-C1A	-8.34	102.95	106.71
34	S	321	DD6	O1-C20-C19	-8.32	107.14	113.38
32	S	308	CLA	C1C-NC-C4C	-8.20	103.02	106.71

5 of 285 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
32	A	301	CLA	ND
32	A	302	CLA	ND
32	A	303	CLA	ND
32	A	304	CLA	ND
32	A	305	CLA	ND

5 of 3000 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
32	A	304	CLA	C1A-C2A-CAA-CBA
32	A	304	CLA	C3A-C2A-CAA-CBA
32	A	309	CLA	CHA-CBD-CGD-O1D
32	A	309	CLA	CHA-CBD-CGD-O2D
32	A	311	CLA	C1A-C2A-CAA-CBA

5 of 6 ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
37	M	314	A86	C31-C32-C33-C34-C35-C36
37	M	317	A86	C31-C32-C33-C34-C35-C36
37	S	315	A86	C31-C32-C33-C34-C35-C36
37	U	308	A86	C31-C32-C33-C34-C35-C36
37	G	311	A86	C31-C32-C33-C34-C35-C36

135 monomers are involved in 218 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
34	O	313	DD6	1	0
32	H	305	CLA	2	0
38	J	318	LMU	3	0
34	S	321	DD6	2	0
36	F	320	LMG	12	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	S	305	CLA	1	0
32	E	307	CLA	1	0
37	F	312	A86	1	0
37	R	312	A86	1	0
32	G	306	CLA	1	0
32	I	303	CLA	1	0
32	N	312	CLA	4	0
37	M	301	A86	1	0
32	K	306	CLA	1	0
35	P	317	LHG	1	0
37	M	315	A86	1	0
37	F	313	A86	1	0
32	I	301	CLA	2	0
37	M	317	A86	3	0
34	L	319	DD6	2	0
33	F	310	KC2	1	0
32	K	301	CLA	2	0
34	T	314	DD6	1	0
32	W	306	CLA	1	0
35	F	318	LHG	1	0
32	F	305	CLA	1	0
37	W	316	A86	1	0
32	F	304	CLA	1	0
32	D	315	CLA	2	0
32	N	311	CLA	1	0
41	U	310	BCR	1	0
33	K	309	KC2	2	0
32	L	311	CLA	2	0
32	A	303	CLA	1	0
34	F	314	DD6	1	0
34	D	316	DD6	2	0
32	R	306	CLA	1	0
32	Q	303	CLA	1	0
32	L	310	CLA	4	0
32	A	309	CLA	2	0
33	M	313	KC2	1	0
32	H	306	CLA	1	0
37	W	302	A86	1	0
32	O	307	CLA	1	0
32	N	310	CLA	1	0
32	W	310	CLA	5	0
33	P	312	KC2	3	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
34	I	311	DD6	1	0
32	J	311	CLA	1	0
36	W	320	LMG	11	0
32	A	307	CLA	1	0
32	T	306	CLA	1	0
32	F	307	CLA	3	0
33	M	307	KC2	1	0
32	D	314	CLA	4	0
32	V	203	CLA	1	0
32	W	312	CLA	7	0
32	W	309	CLA	1	0
34	U	309	DD6	1	0
37	P	316	A86	1	0
32	P	305	CLA	1	0
32	C	301	CLA	1	0
32	P	304	CLA	2	0
32	U	305	CLA	2	0
36	N	301	LMG	5	0
33	S	312	KC2	5	0
38	I	315	LMU	3	0
33	R	305	KC2	1	0
33	F	302	KC2	1	0
34	J	317	DD6	1	0
32	P	311	CLA	1	0
34	R	314	DD6	1	0
32	P	309	CLA	2	0
35	B	308	LHG	2	0
36	P	318	LMG	8	0
32	R	308	CLA	3	0
40	Q	318	DGD	3	0
32	C	305	CLA	1	0
34	A	312	DD6	1	0
37	H	314	A86	1	0
32	W	311	CLA	1	0
32	C	308	CLA	1	0
33	O	302	KC2	1	0
32	L	309	CLA	3	0
34	P	315	DD6	1	0
32	M	310	CLA	1	0
36	M	320	LMG	9	0
32	T	308	CLA	2	0
33	N	303	KC2	1	0

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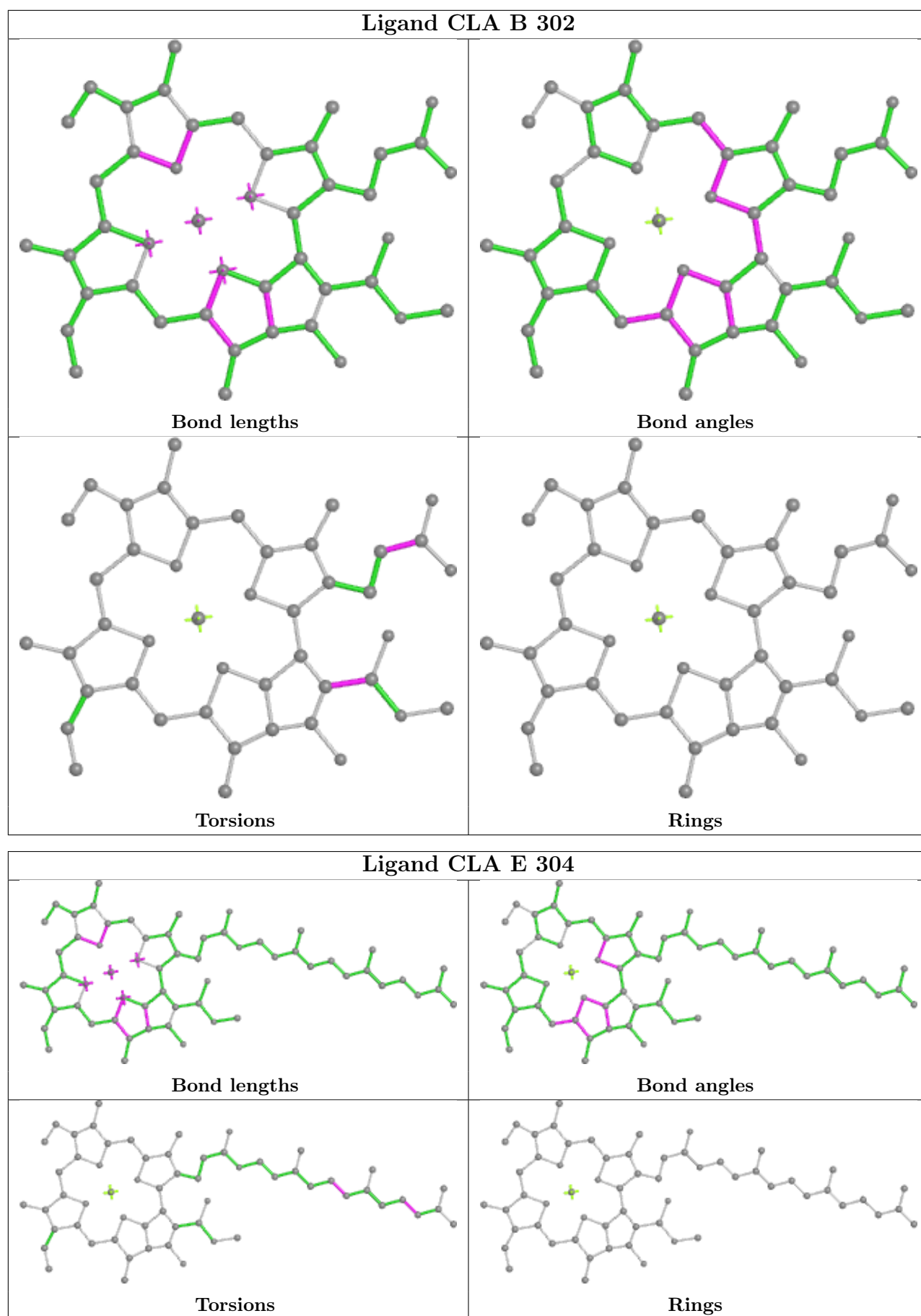
Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	J	307	CLA	2	0
32	J	305	CLA	1	0
32	T	302	CLA	1	0
32	J	304	CLA	2	0
37	T	313	A86	1	0
38	D	324	LMU	2	0
34	I	312	DD6	1	0
37	R	313	A86	1	0
37	Q	316	A86	2	0
37	L	315	A86	3	0
32	D	308	CLA	1	0
34	M	316	DD6	3	0
36	S	322	LMG	8	0
34	J	315	DD6	1	0
36	T	301	LMG	2	0
38	V	205	LMU	3	0
35	F	321	LHG	1	0
37	S	315	A86	2	0
32	J	312	CLA	4	0
36	D	325	LMG	1	0
32	U	302	CLA	1	0
36	F	319	LMG	5	0
32	O	304	CLA	4	0
32	M	308	CLA	2	0
33	N	314	KC2	1	0
32	T	307	CLA	1	0
32	D	304	CLA	1	0
36	A	318	LMG	1	0
39	H	315	SQD	14	0
32	P	307	CLA	1	0
32	A	304	CLA	1	0
34	W	317	DD6	1	0
37	L	316	A86	1	0
32	D	307	CLA	2	0
32	K	304	CLA	1	0
37	D	322	A86	1	0
34	A	313	DD6	2	0
37	M	318	A86	1	0
33	K	303	KC2	1	0
34	D	318	DD6	1	0
32	M	311	CLA	3	0
32	A	301	CLA	3	0

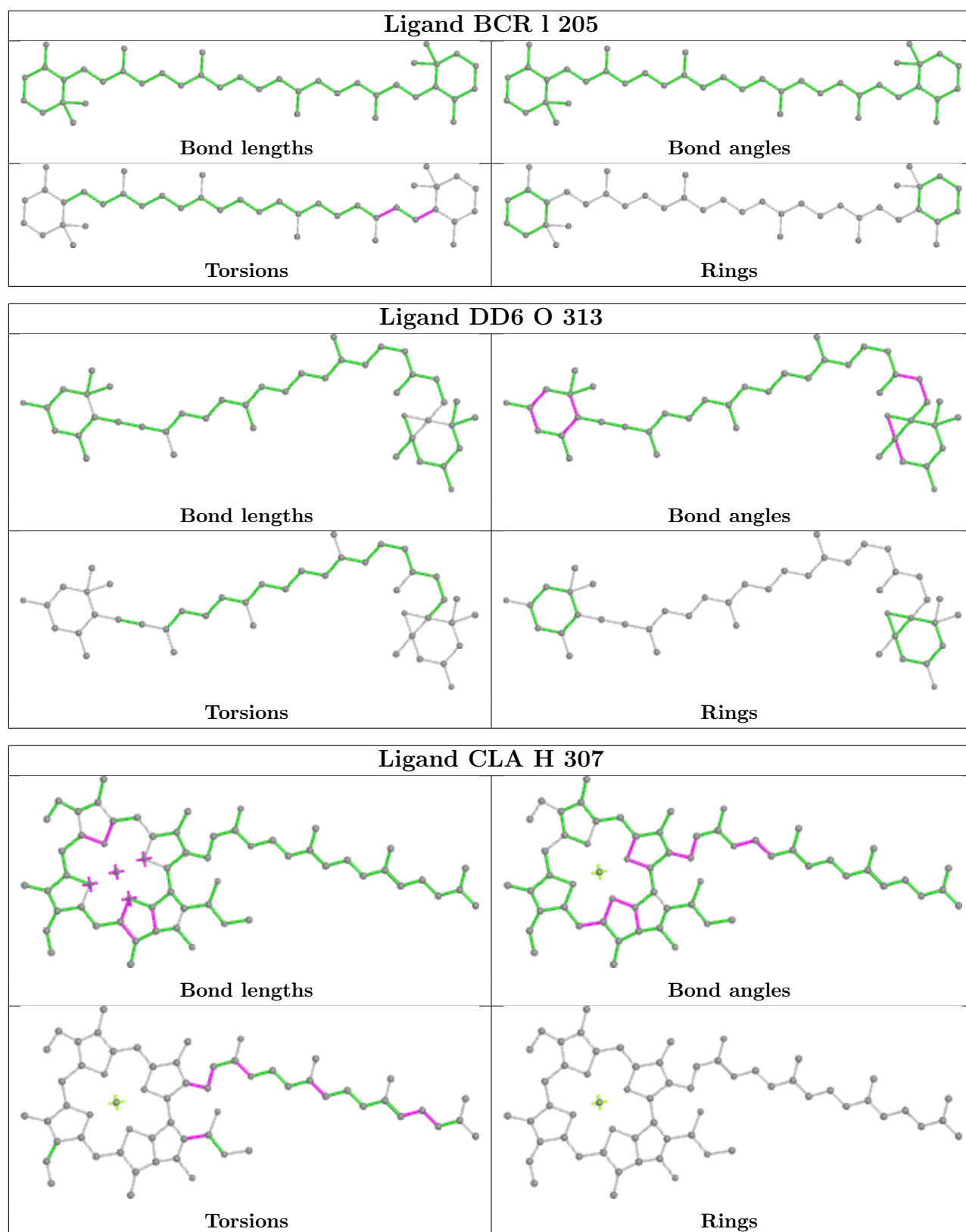
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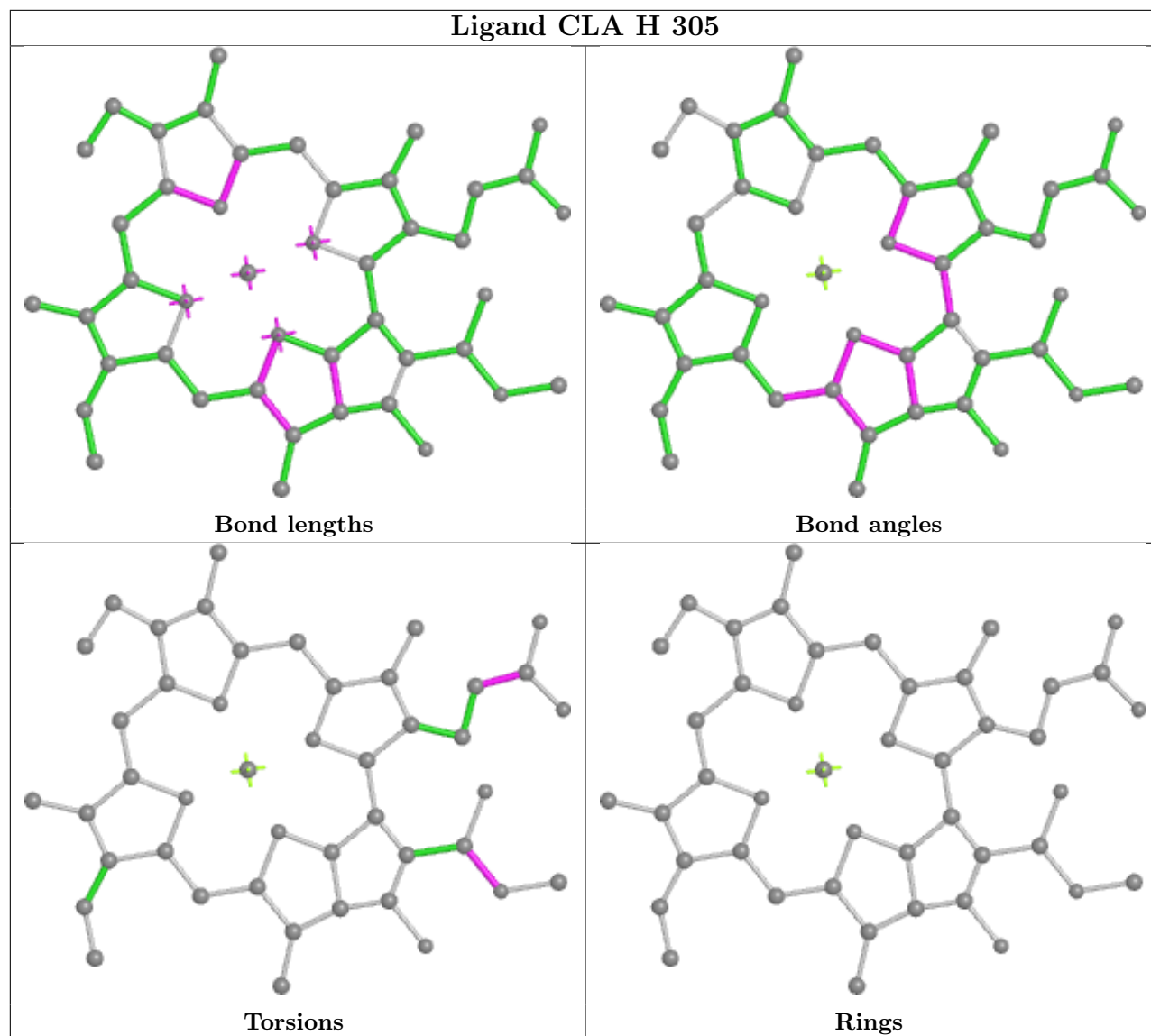
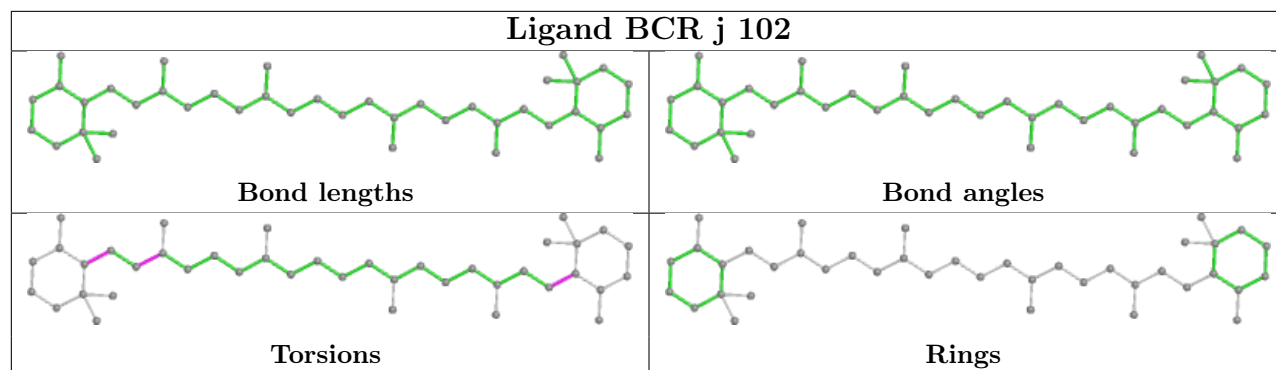
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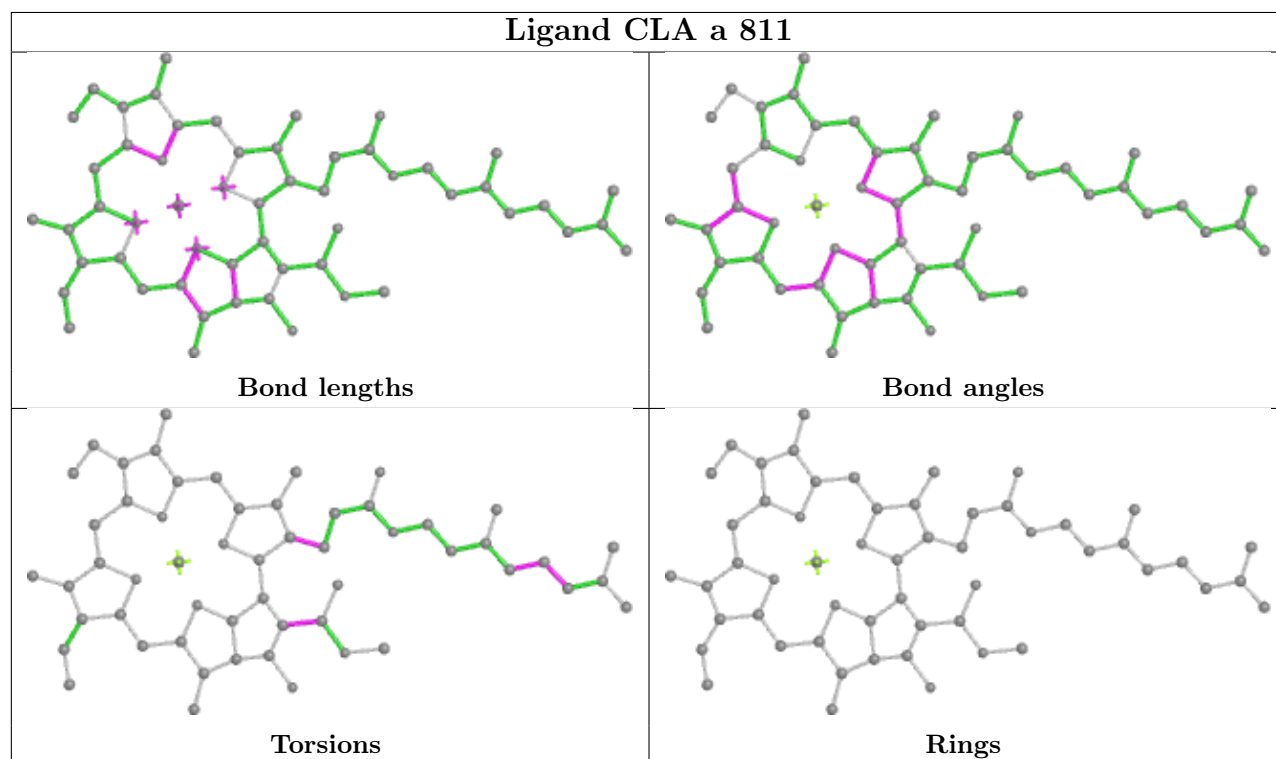
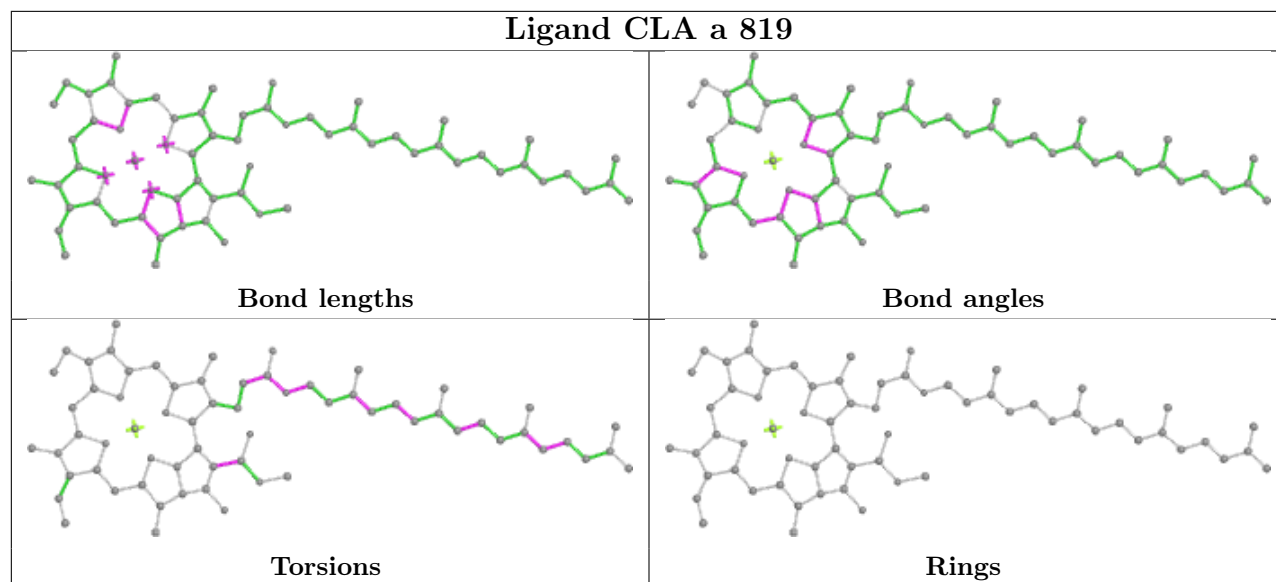
Mol	Chain	Res	Type	Clashes	Symm-Clashes
33	A	310	KC2	2	0
32	M	309	CLA	1	0
36	A	317	LMG	1	0
33	W	314	KC2	1	0

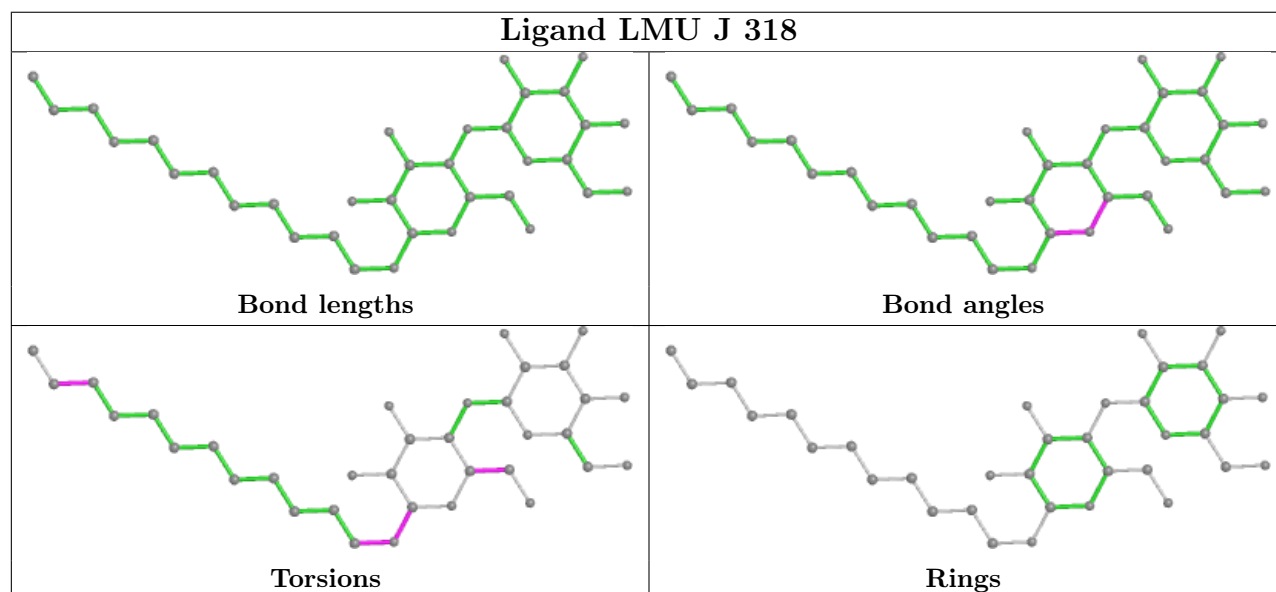
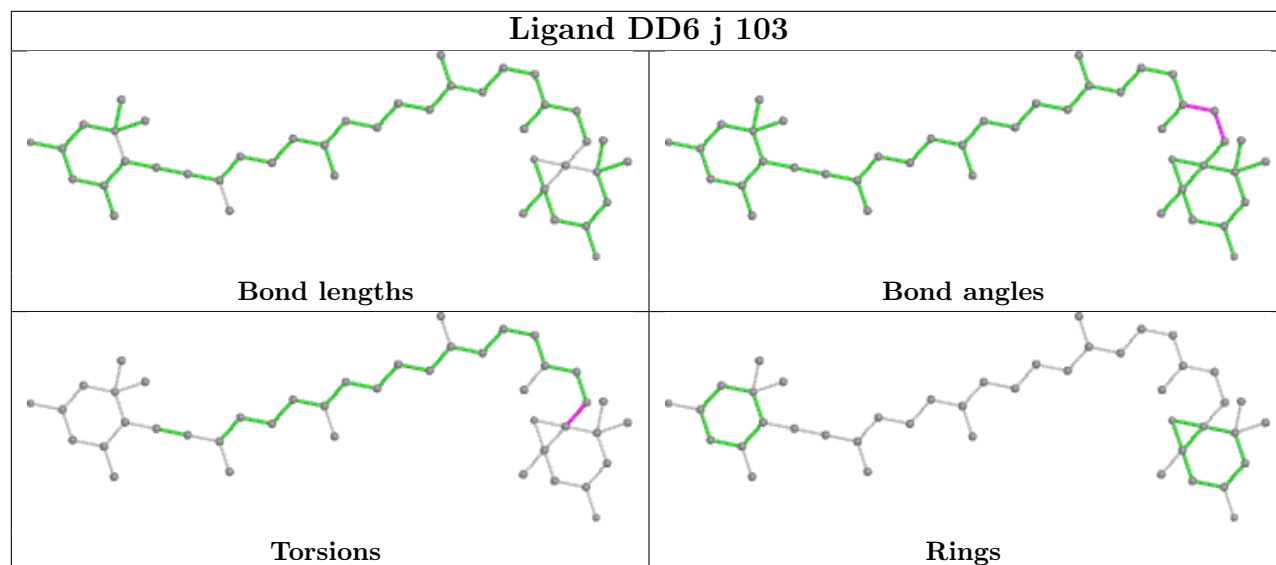
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

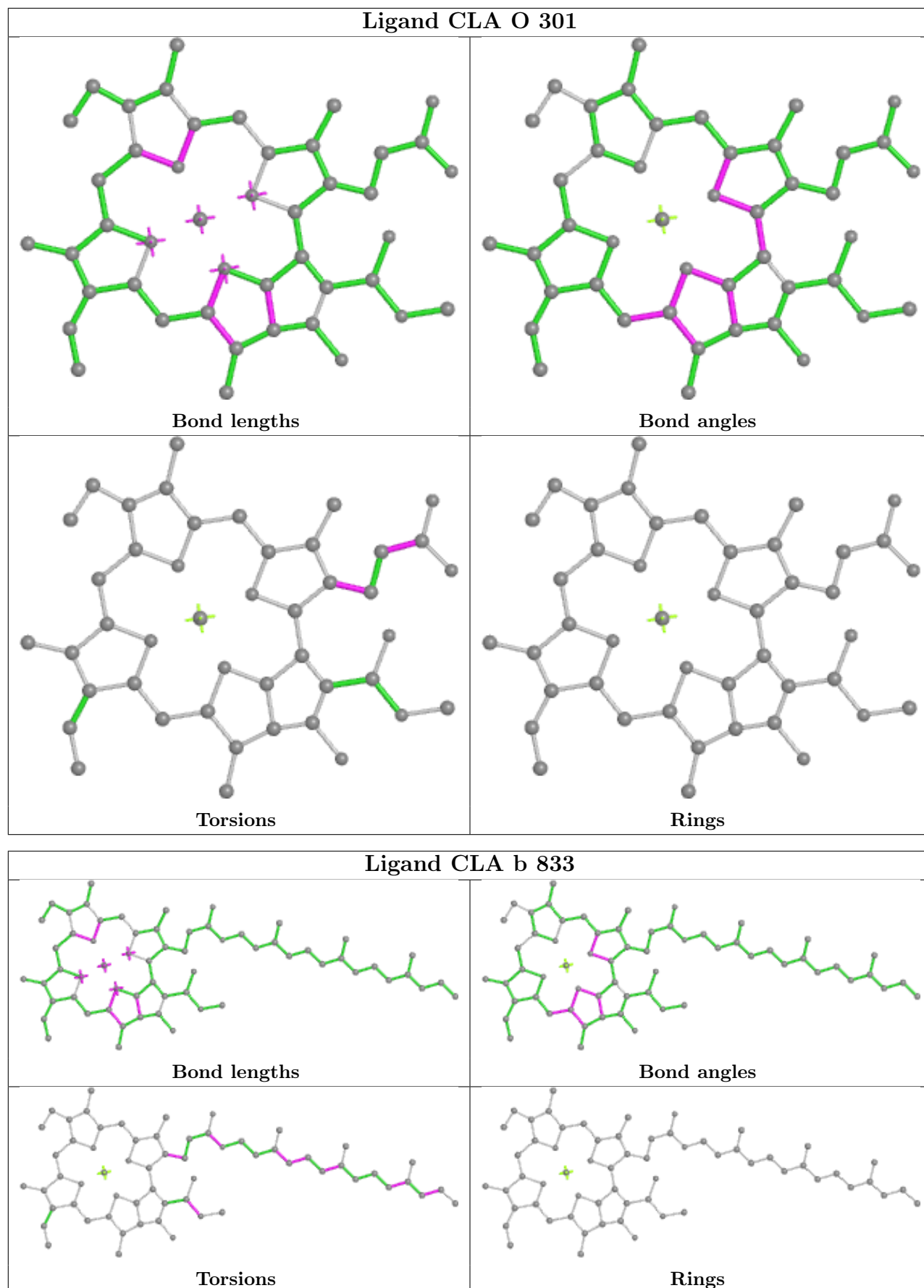


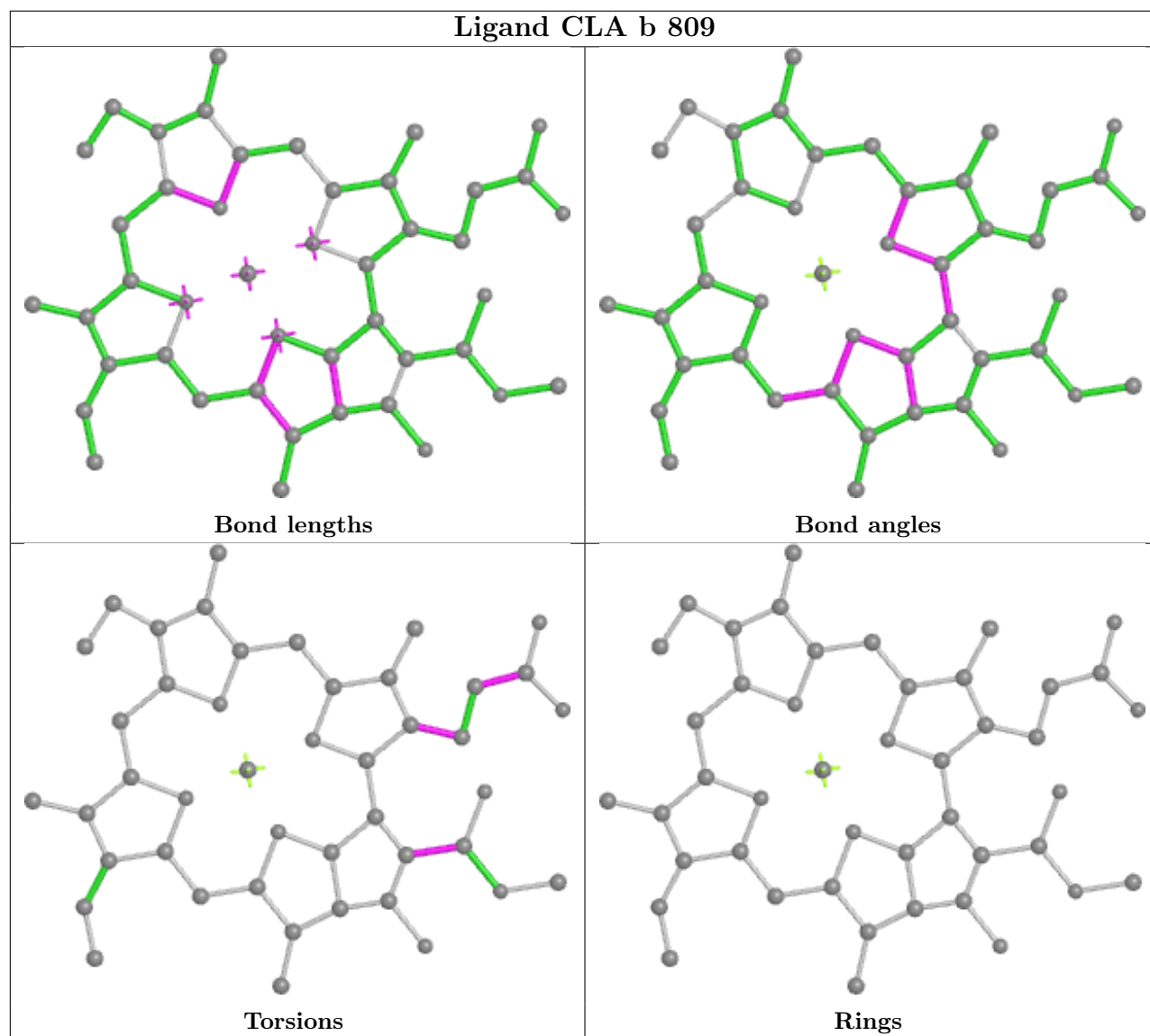
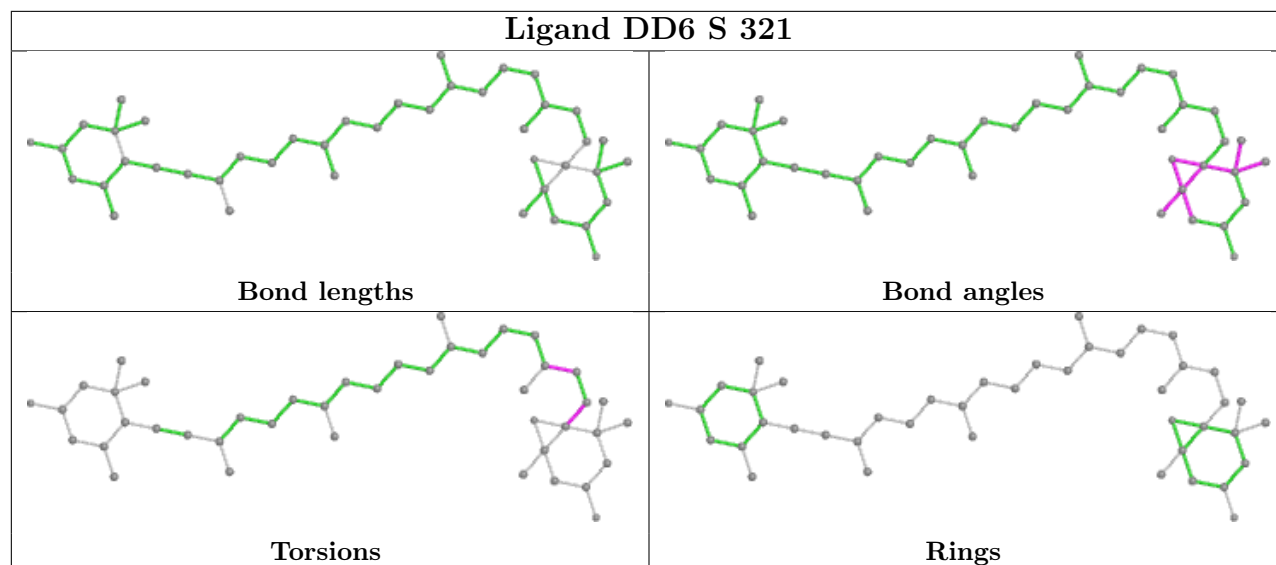


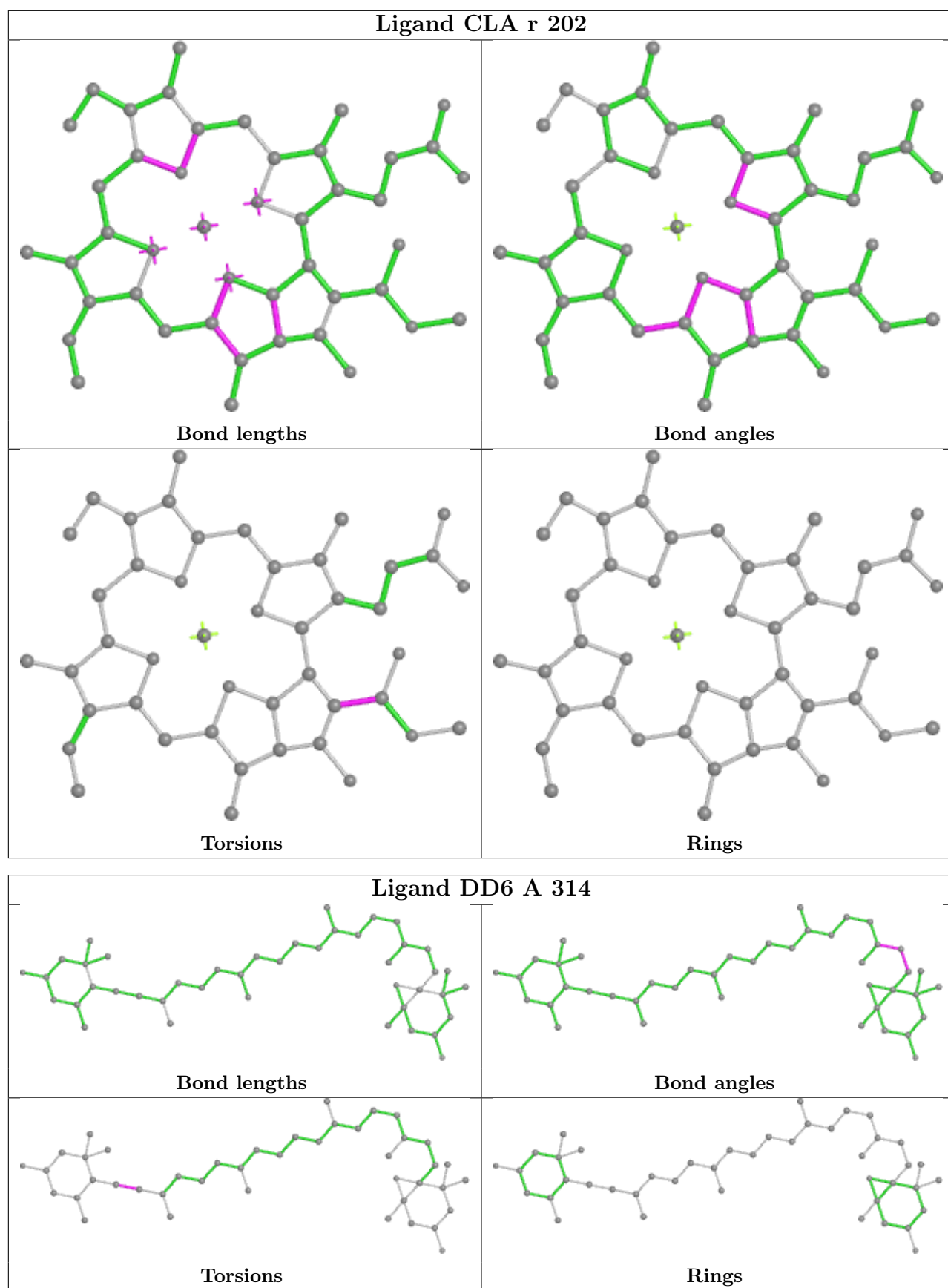


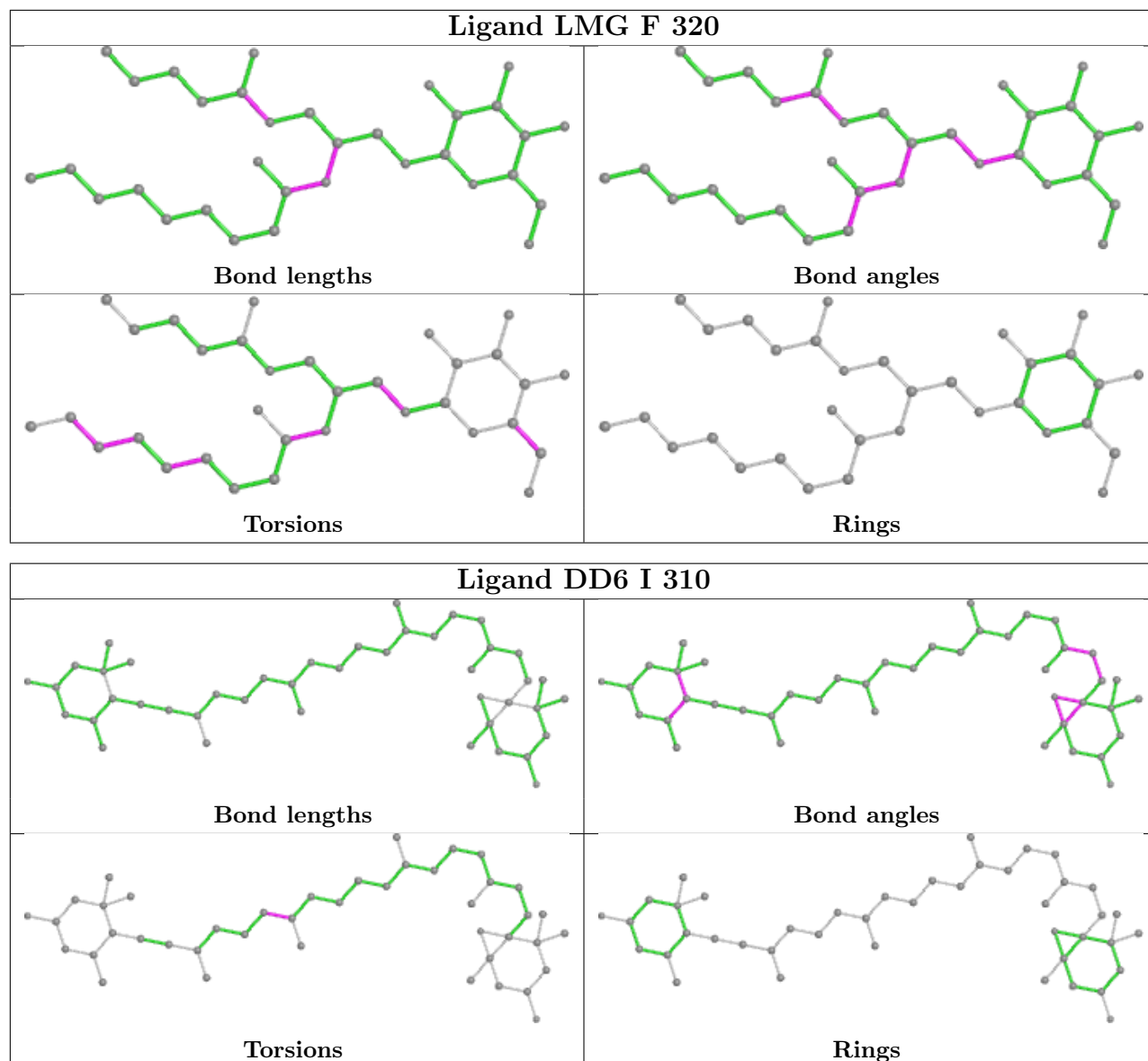


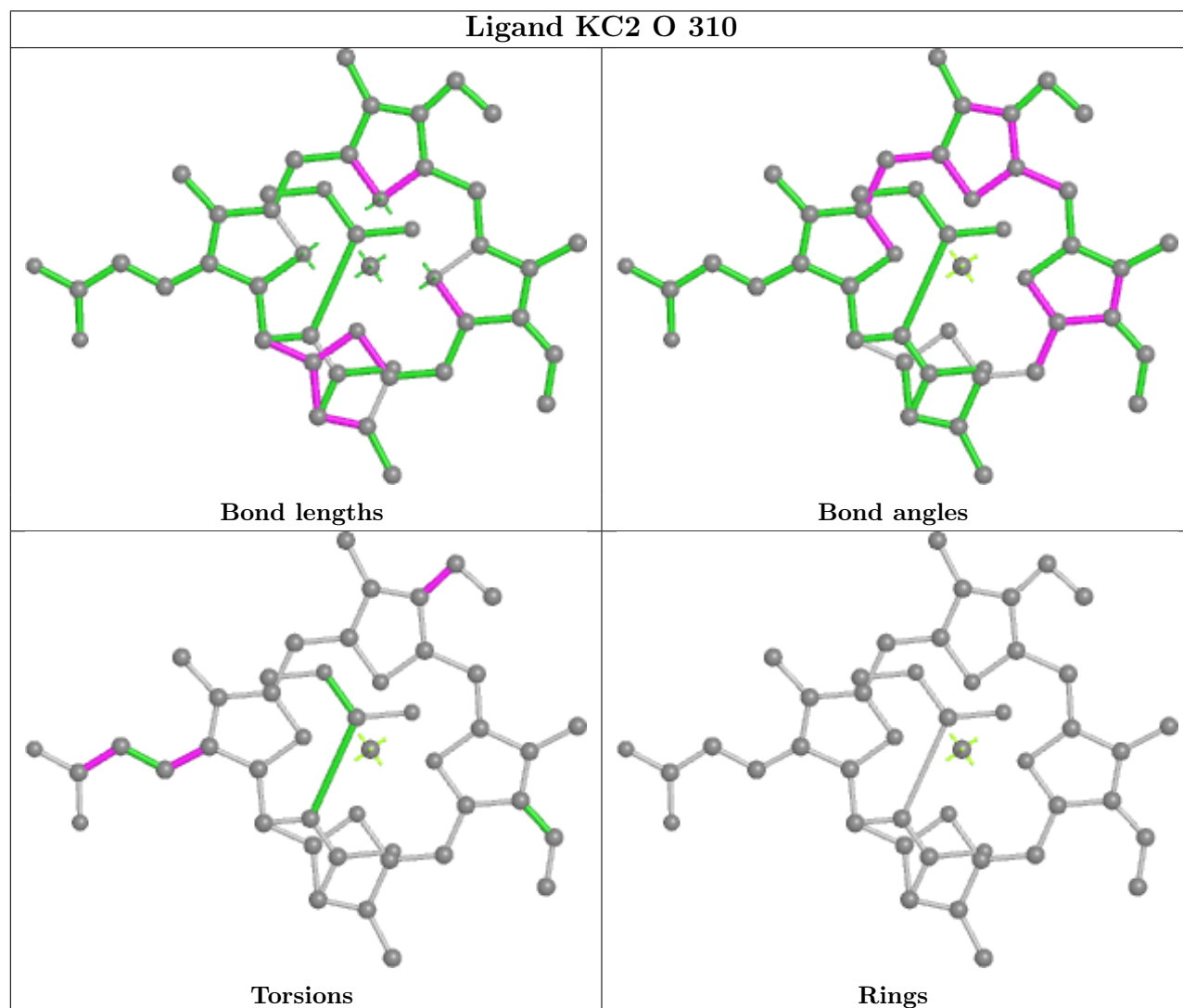
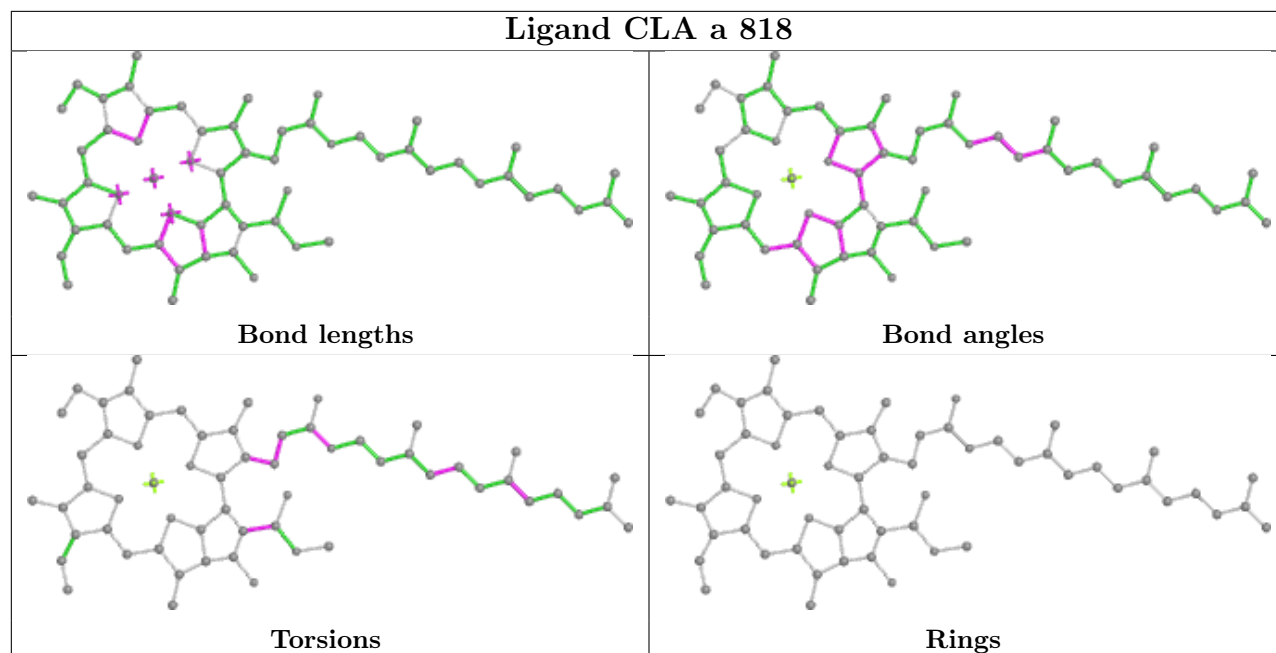


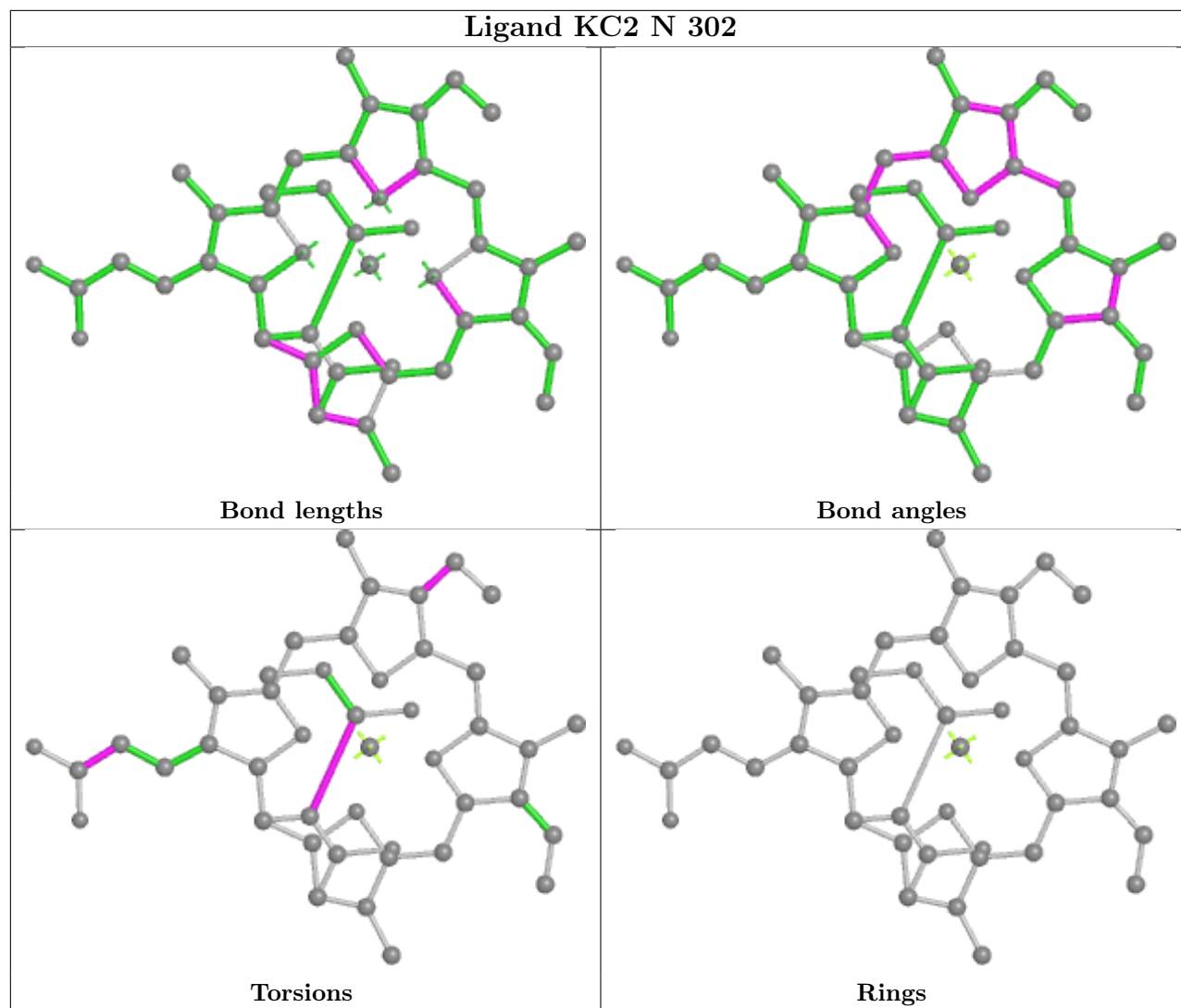


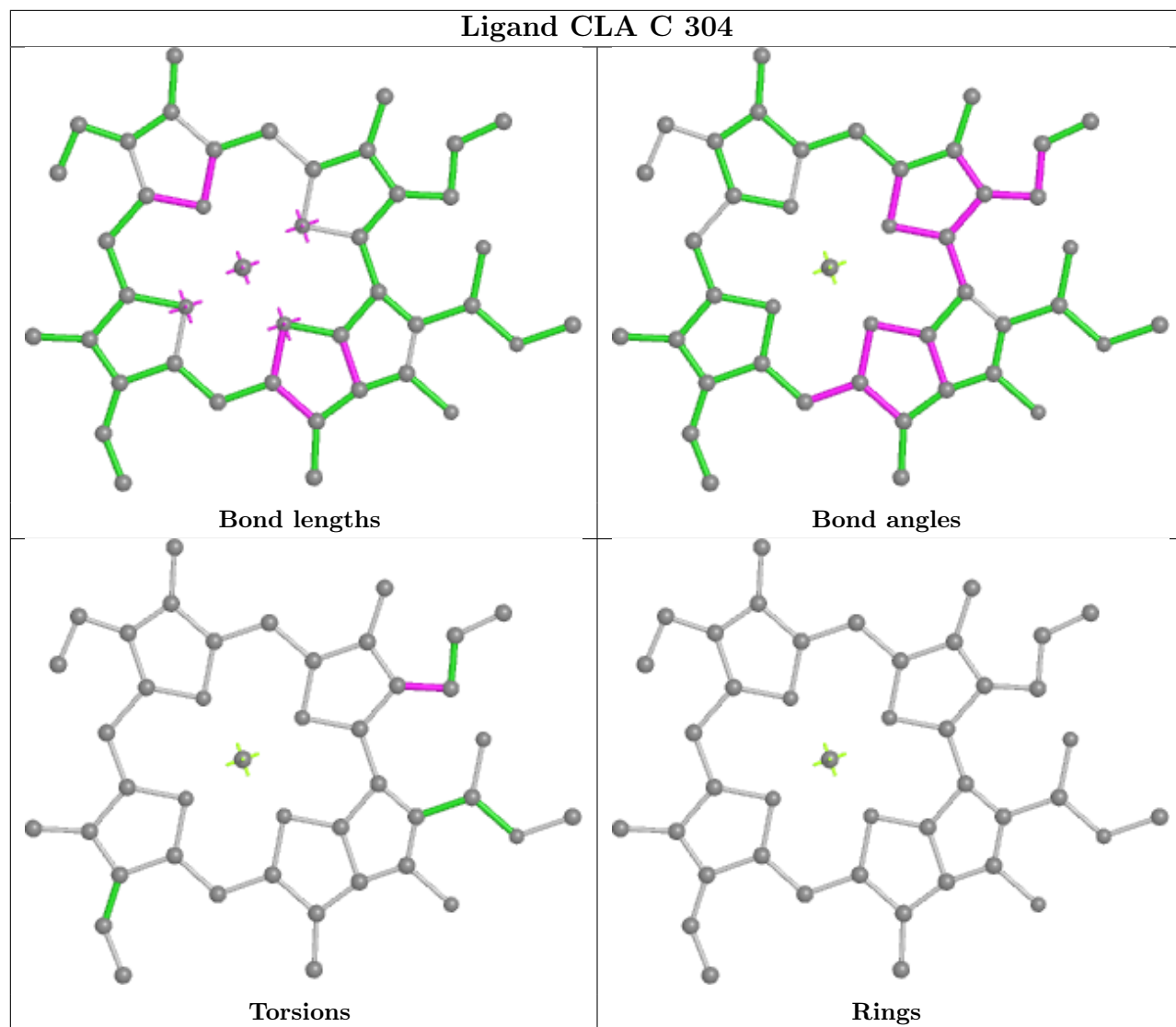


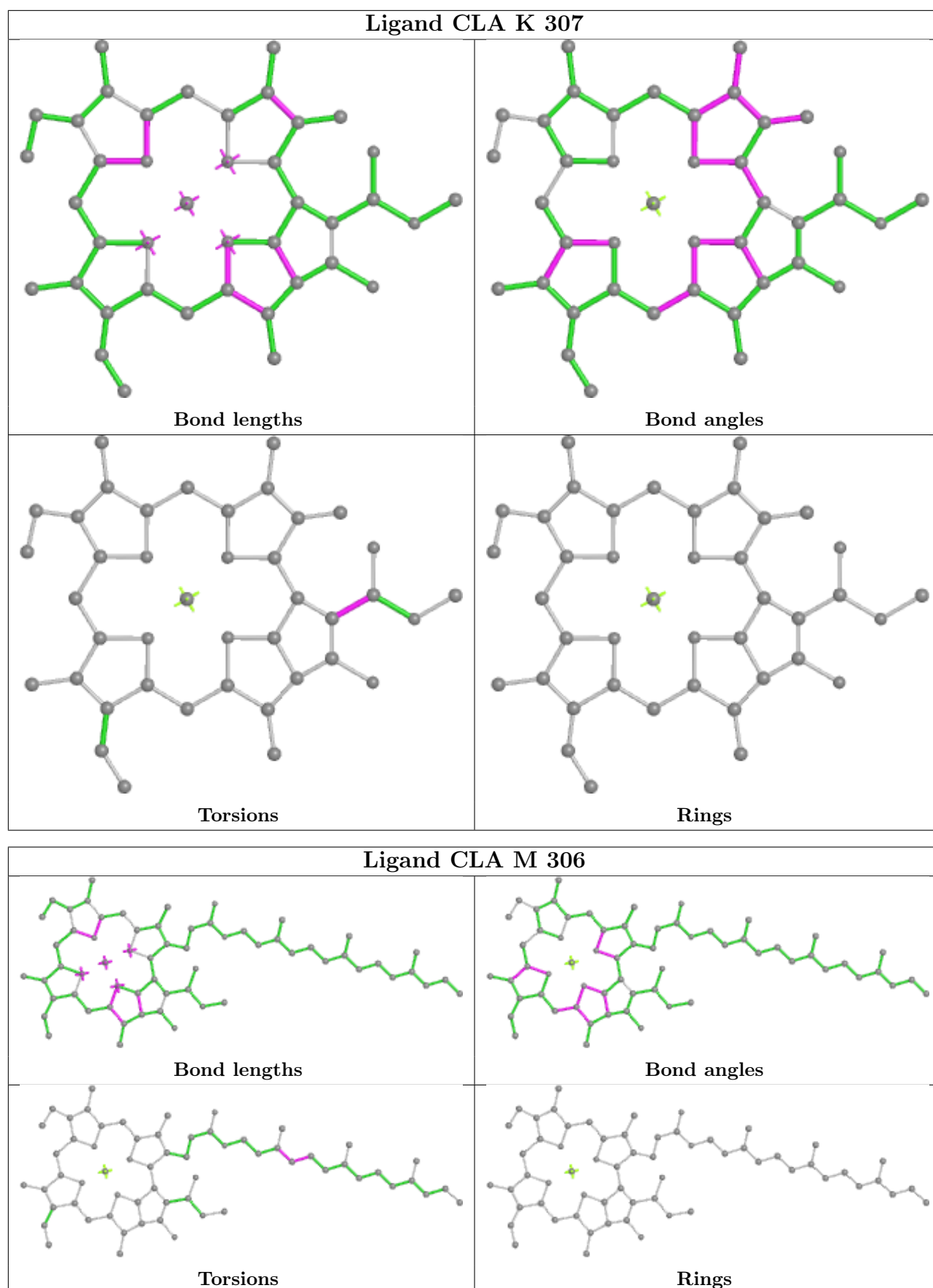


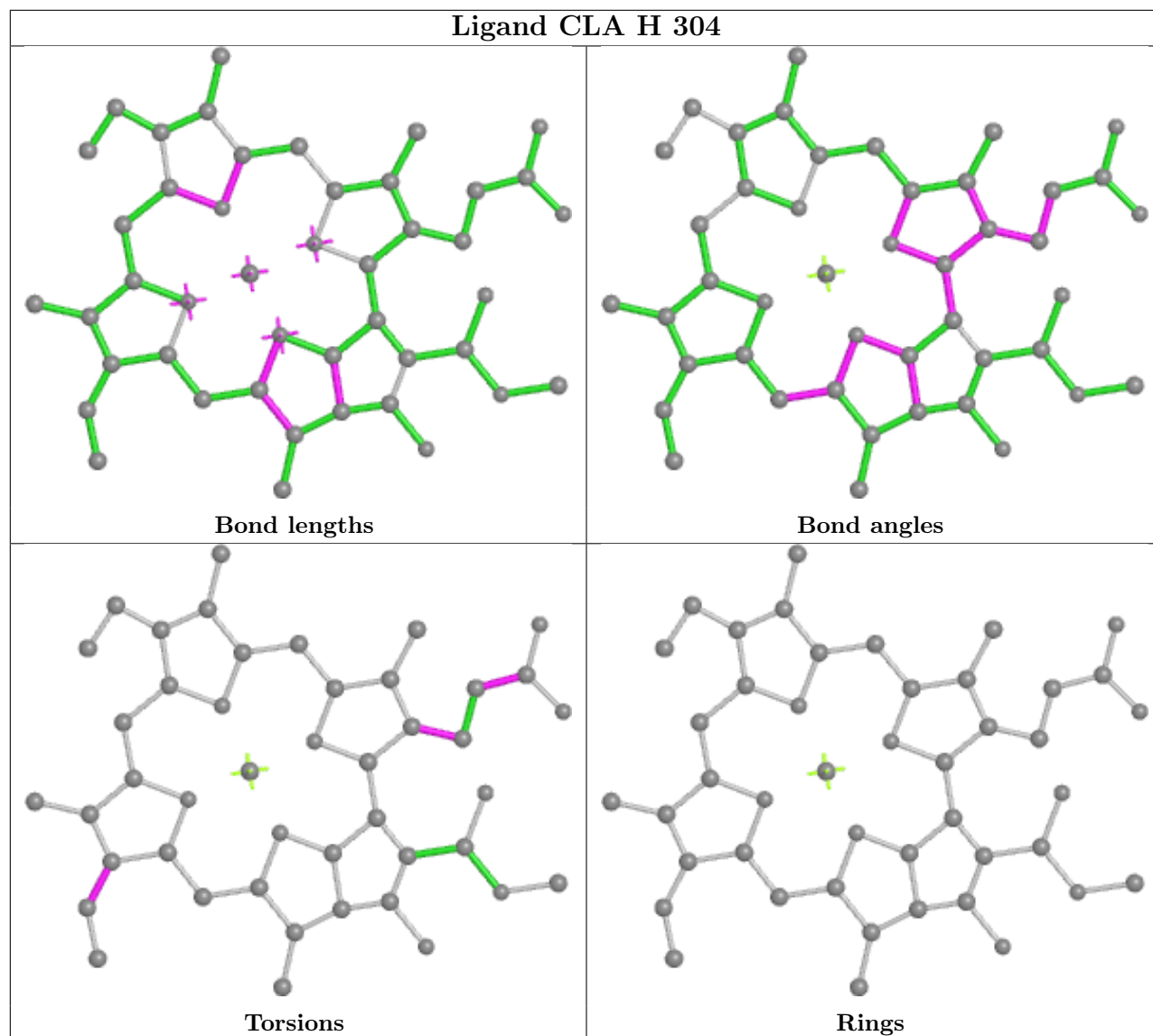
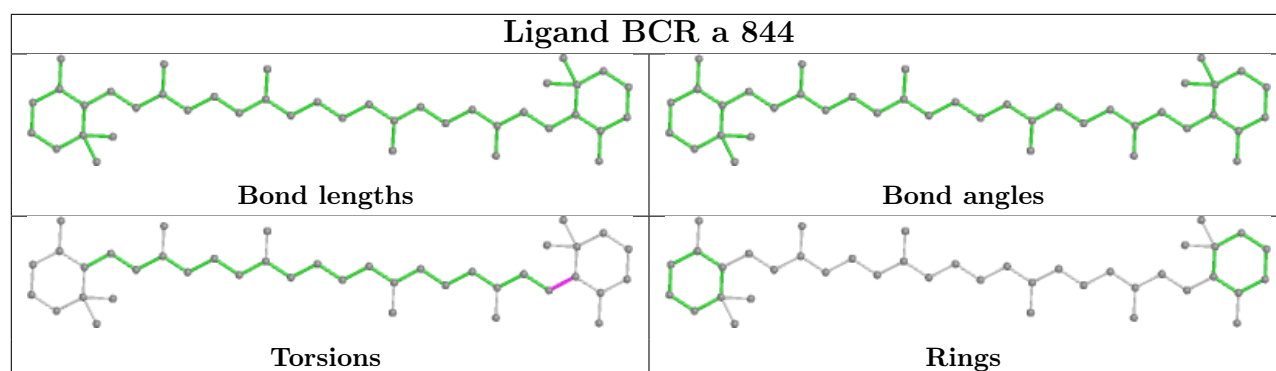


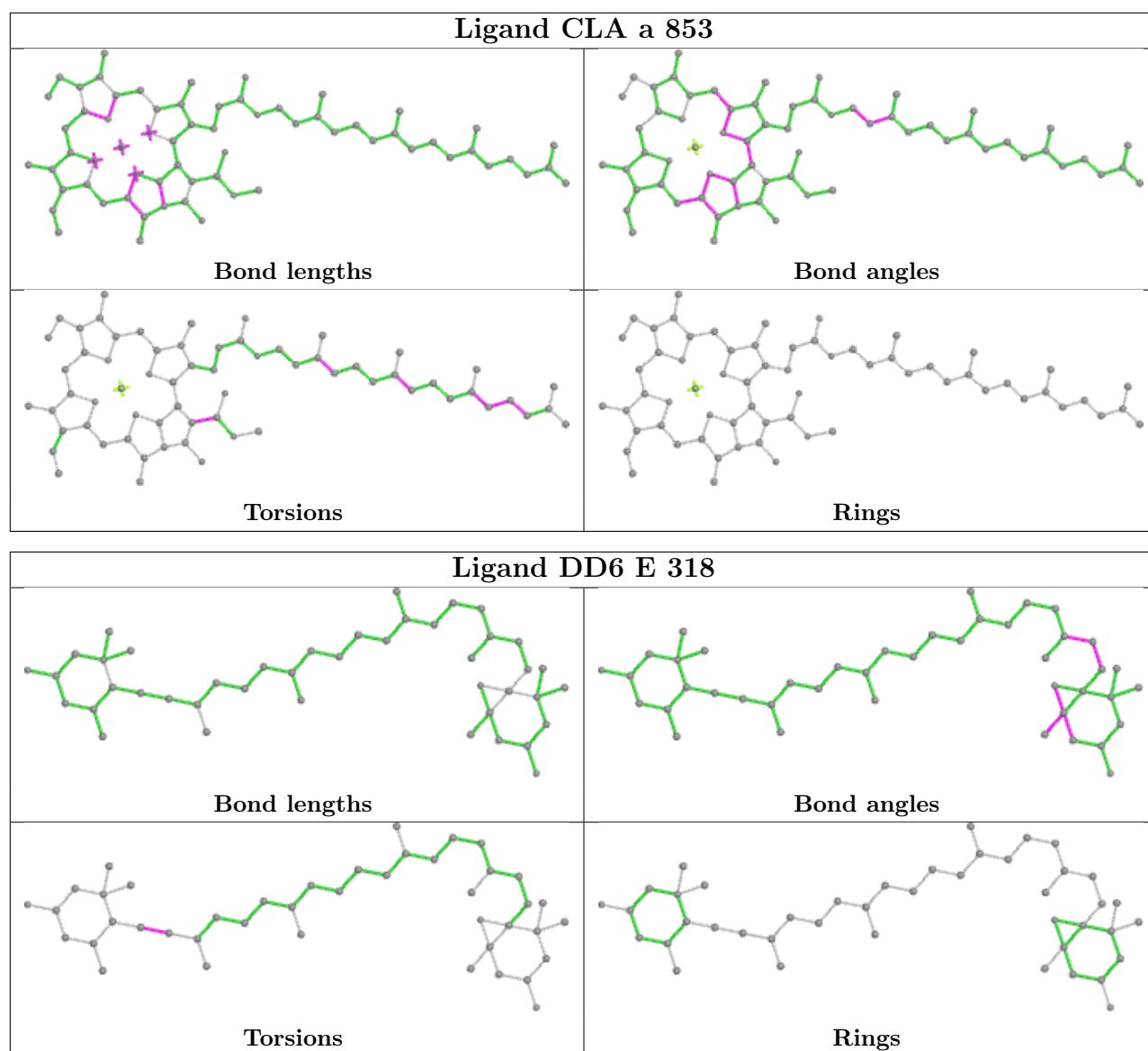


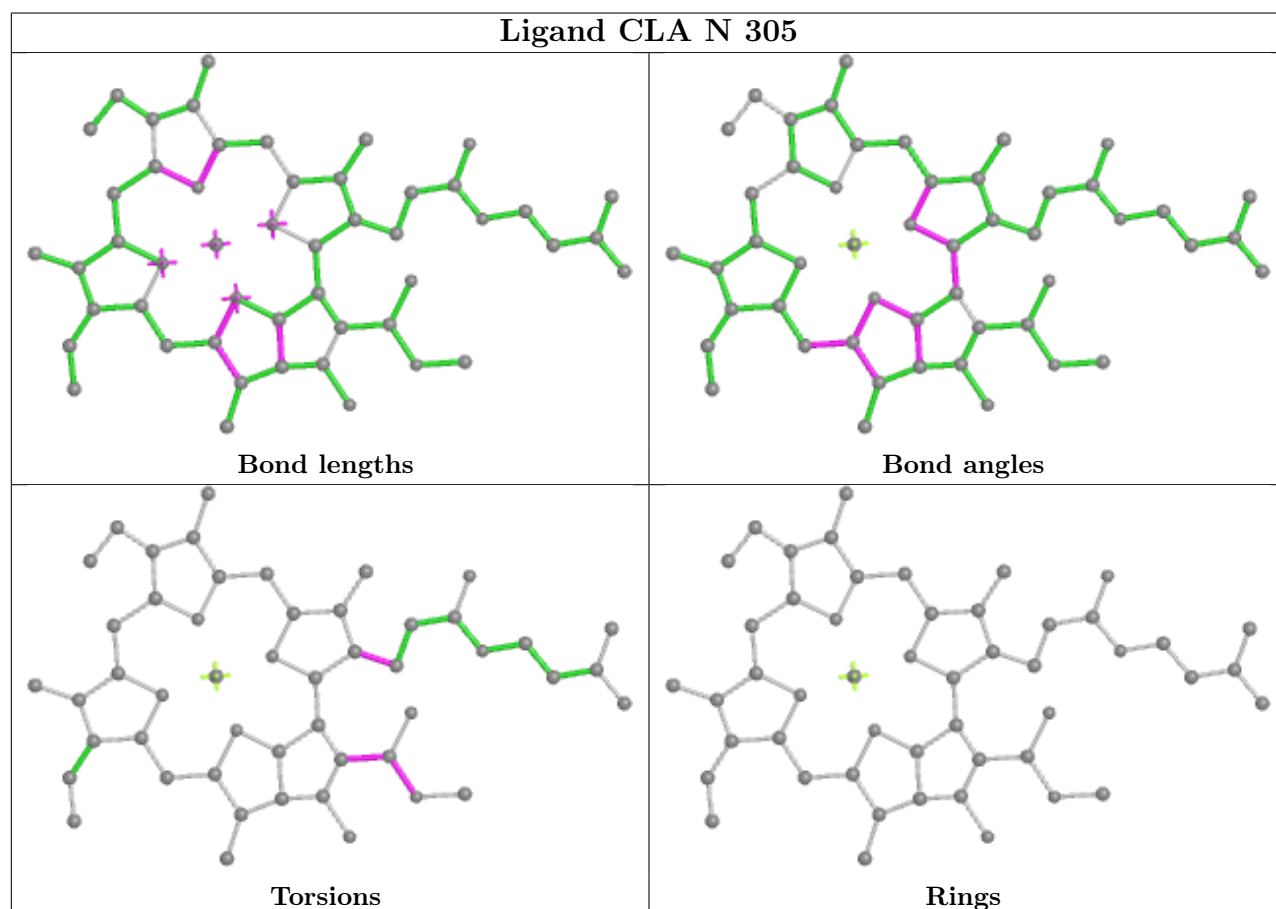
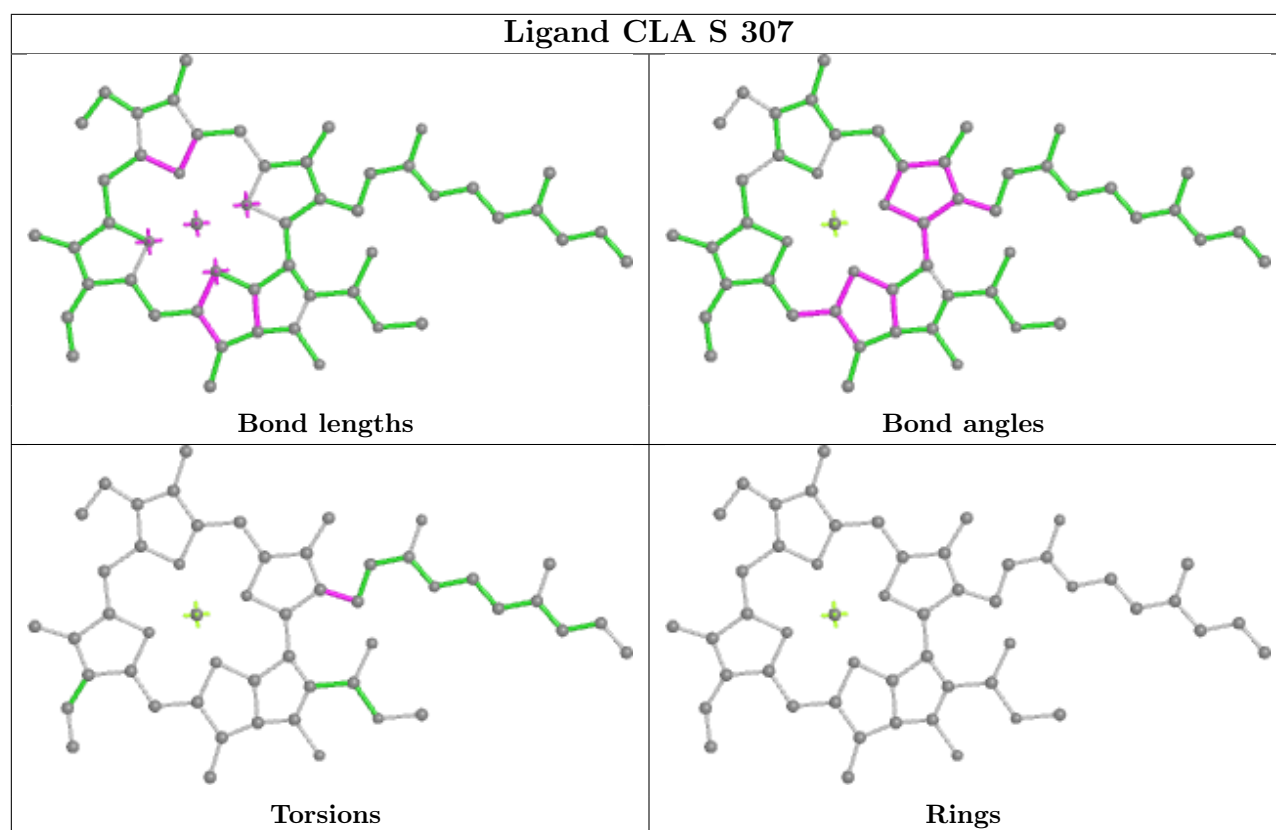


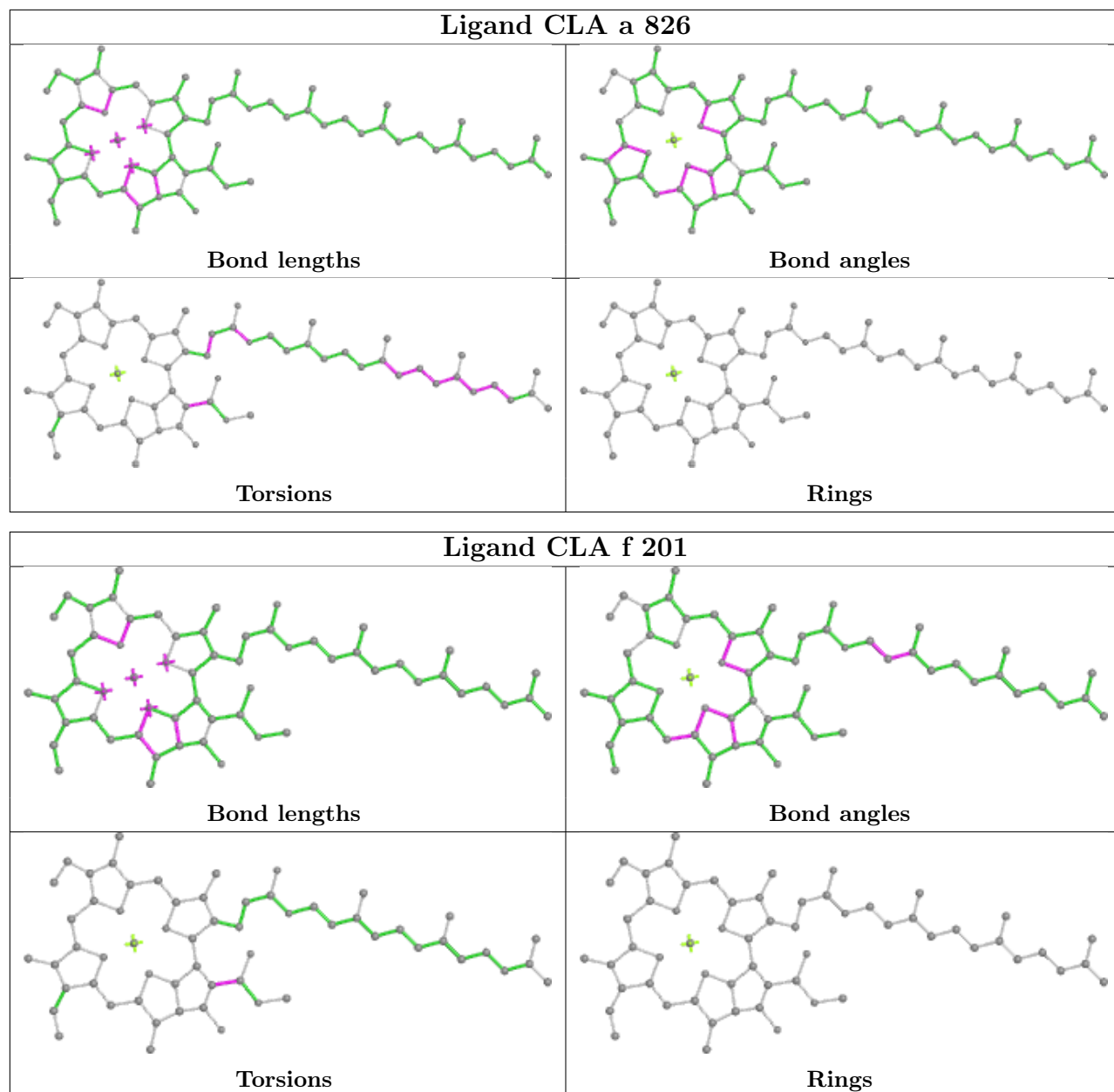


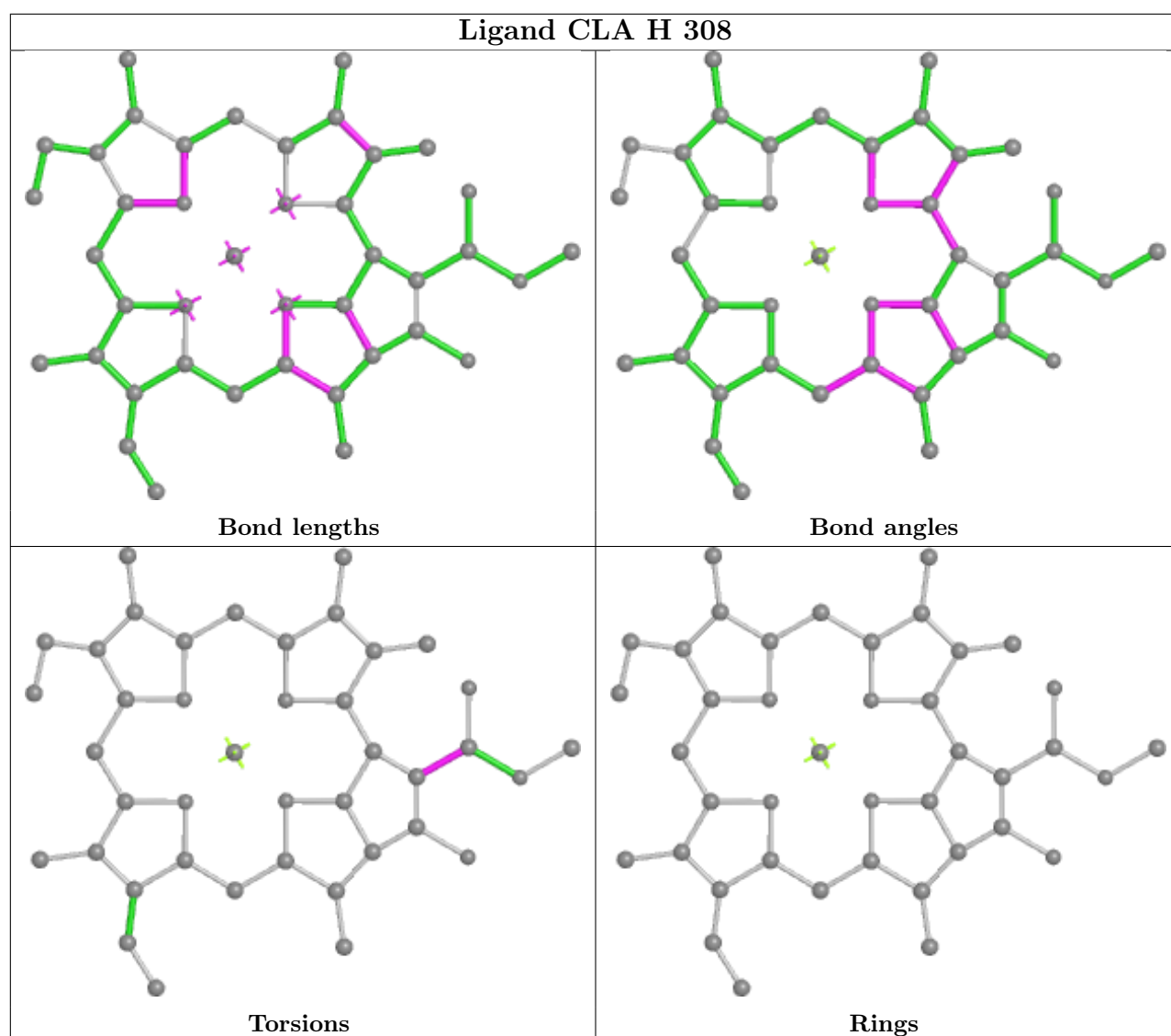
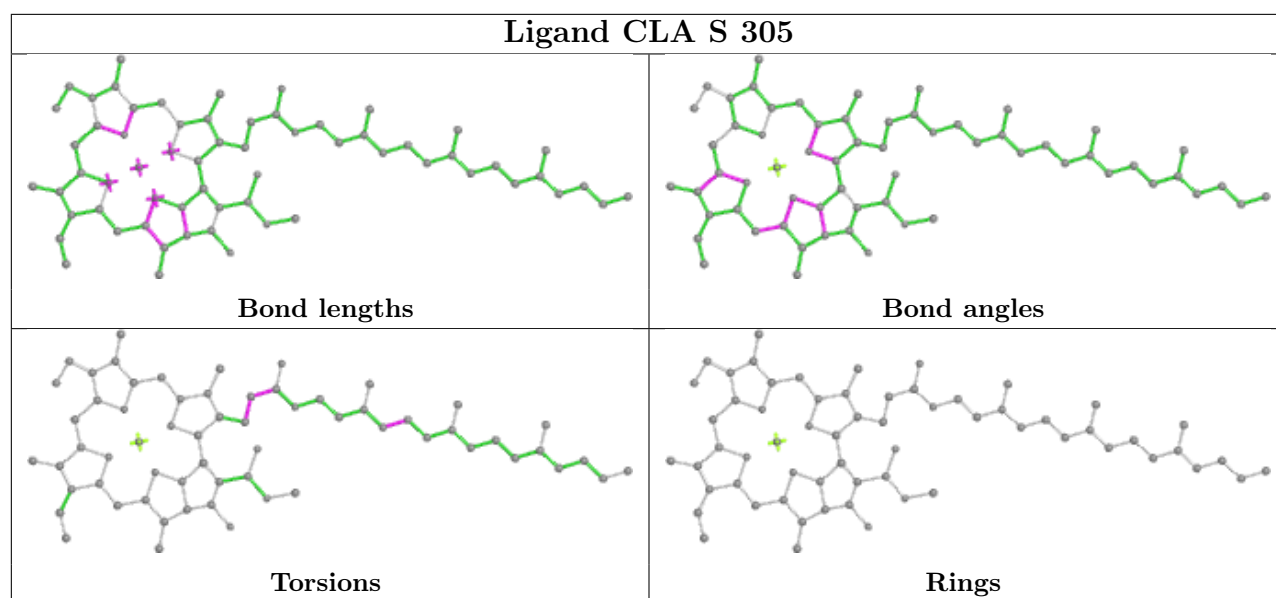


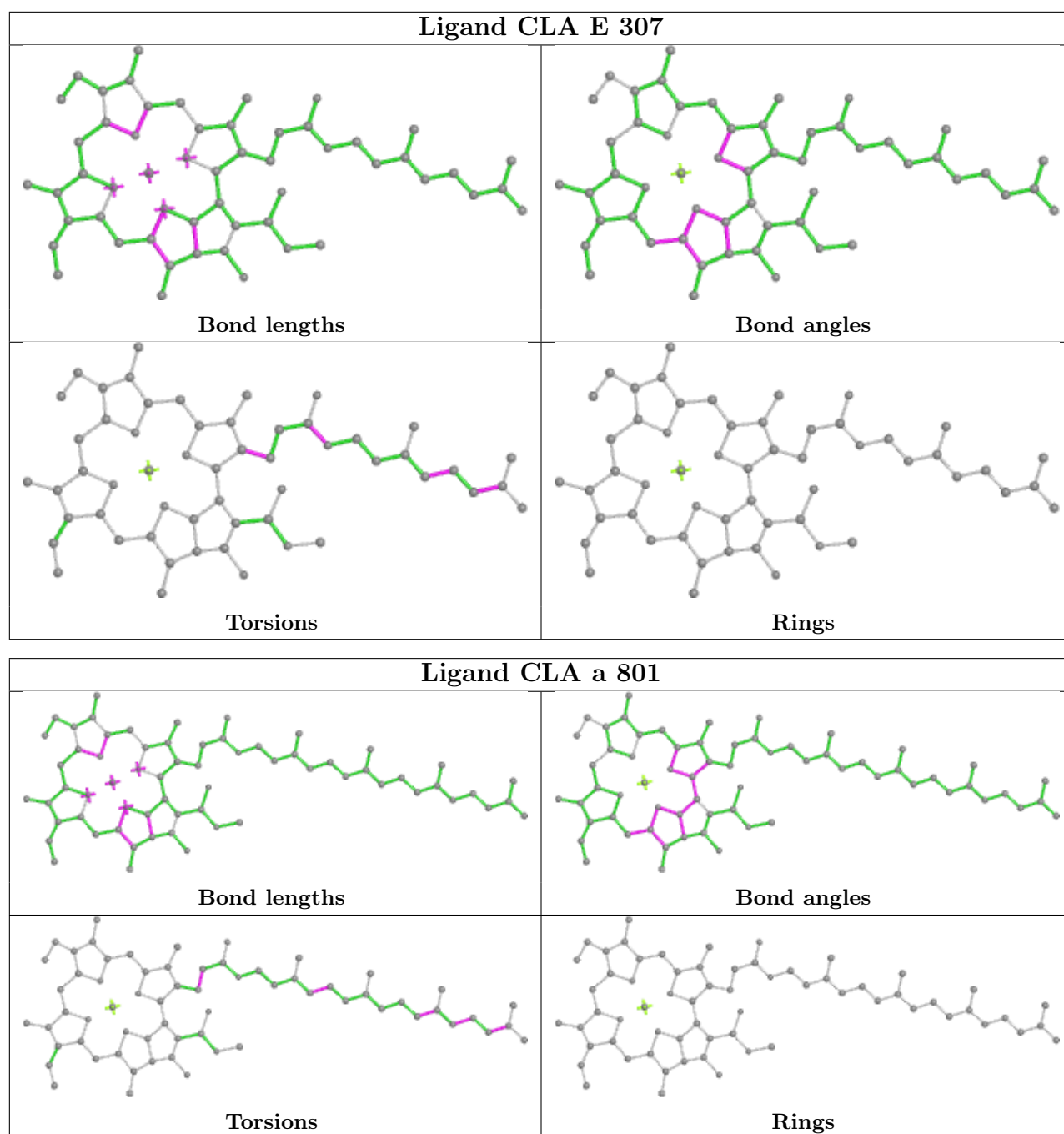


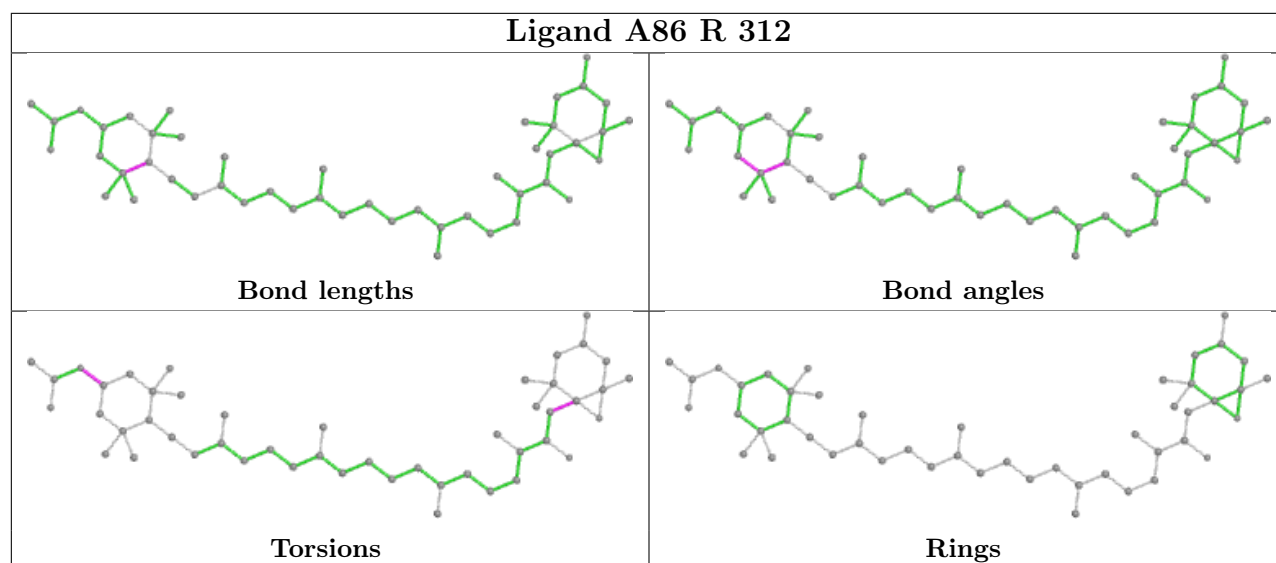
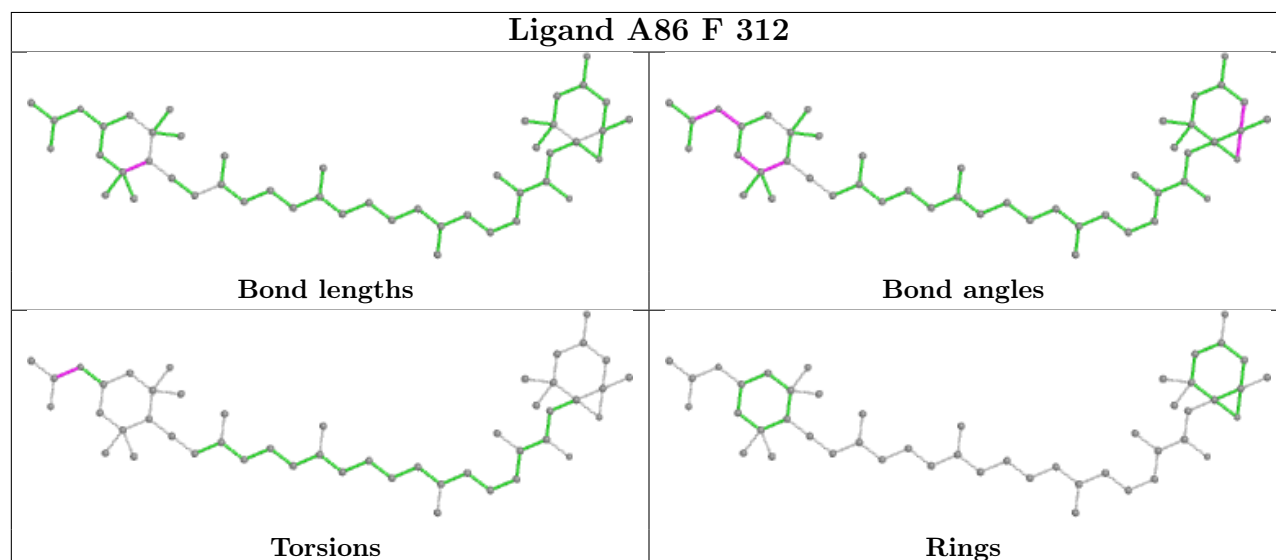
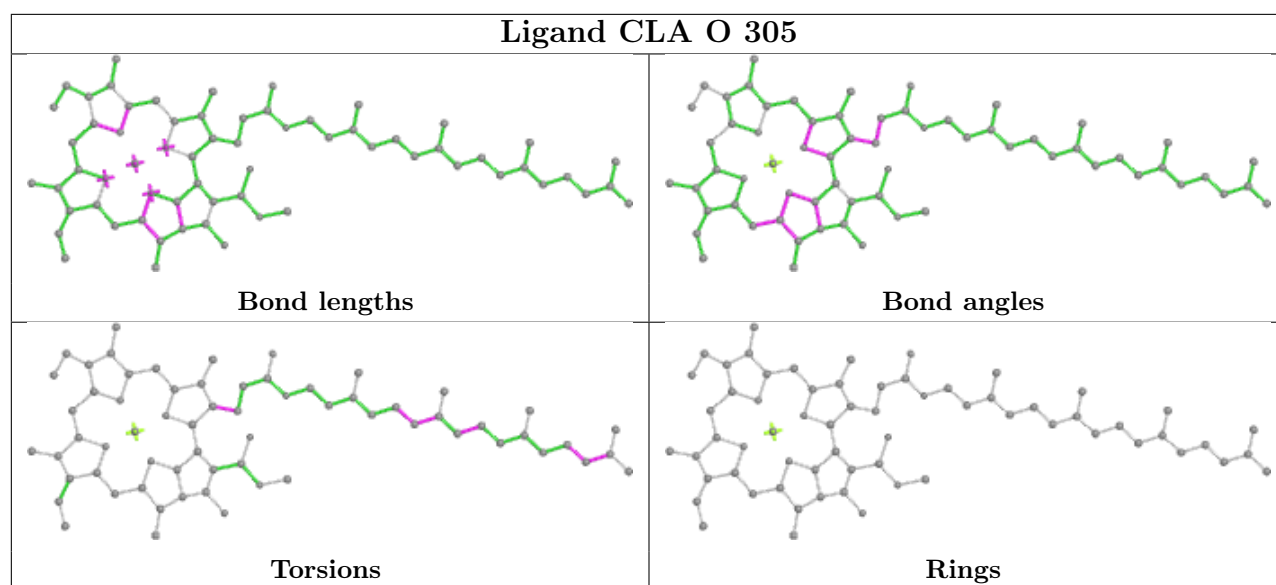


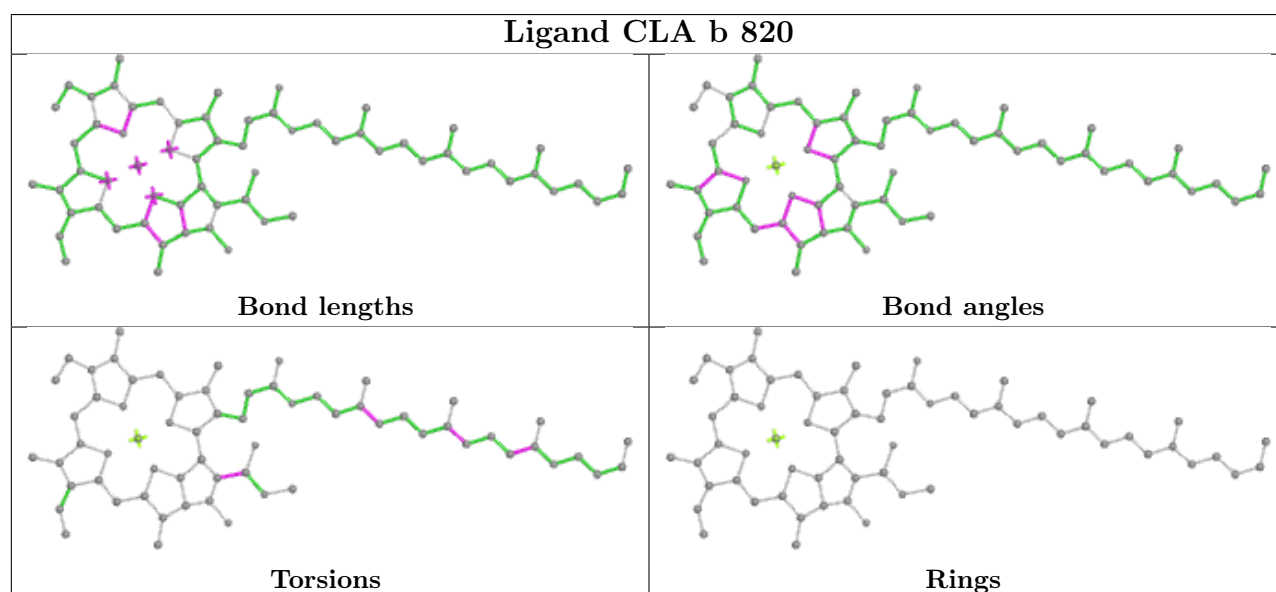
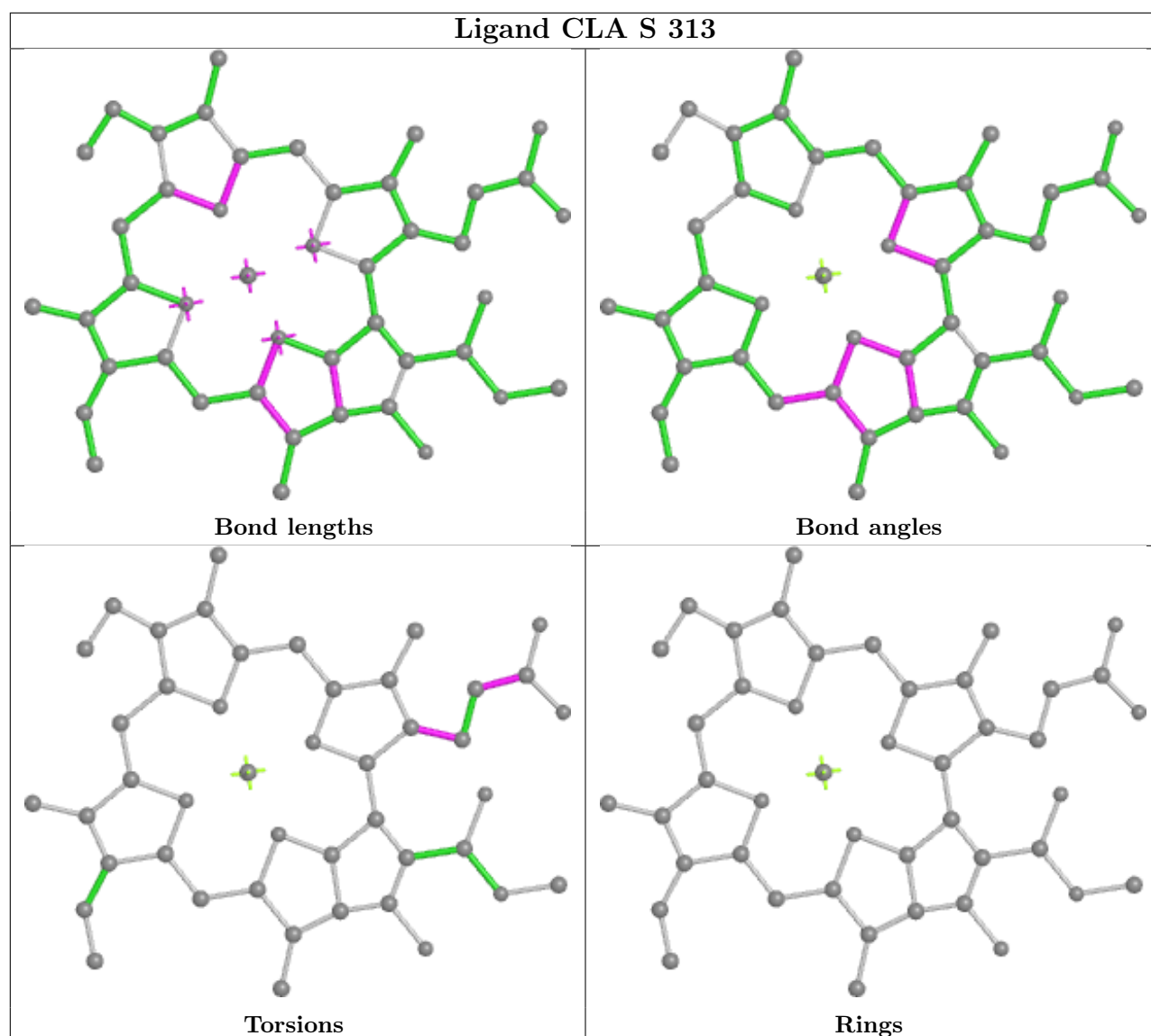


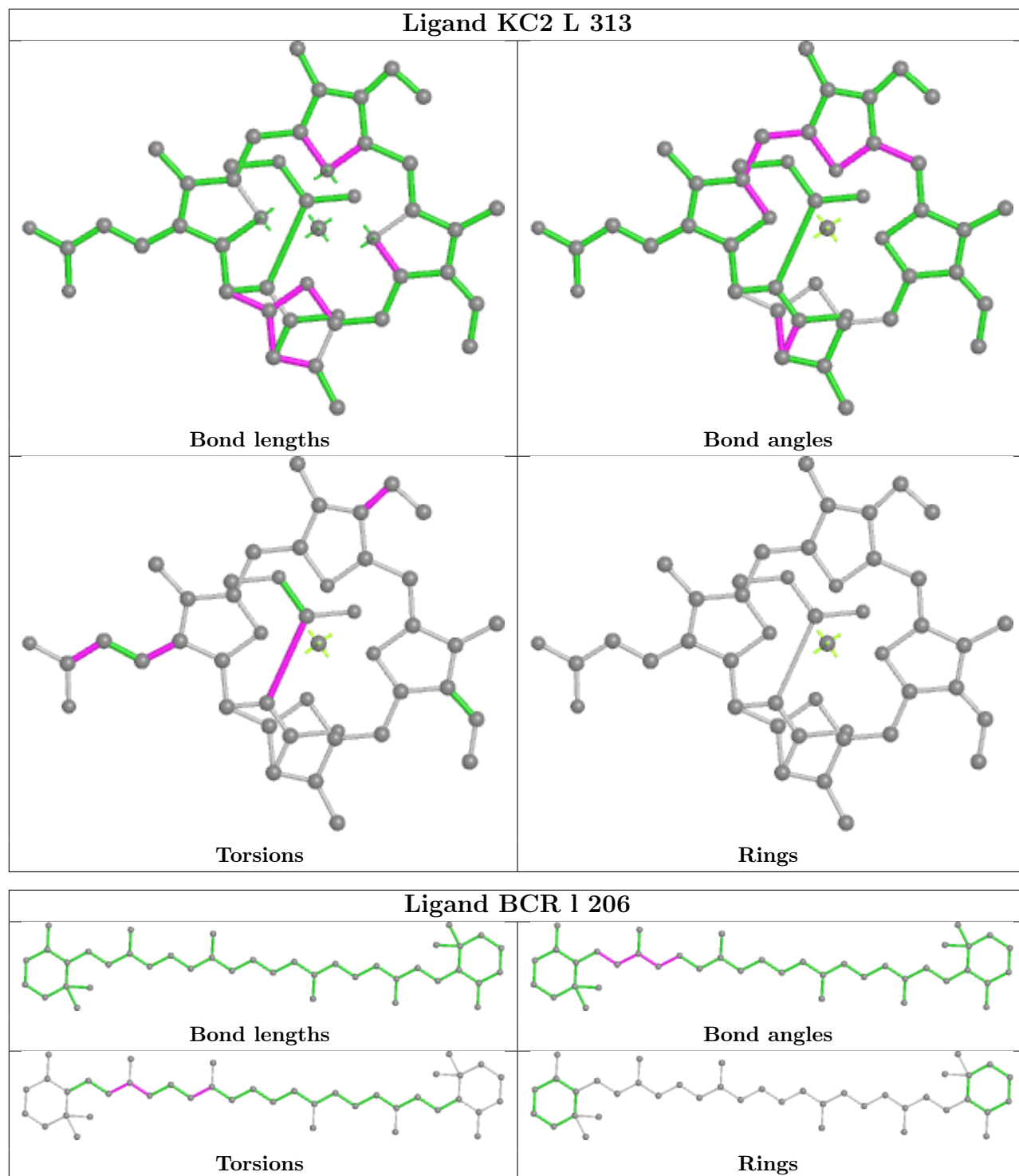


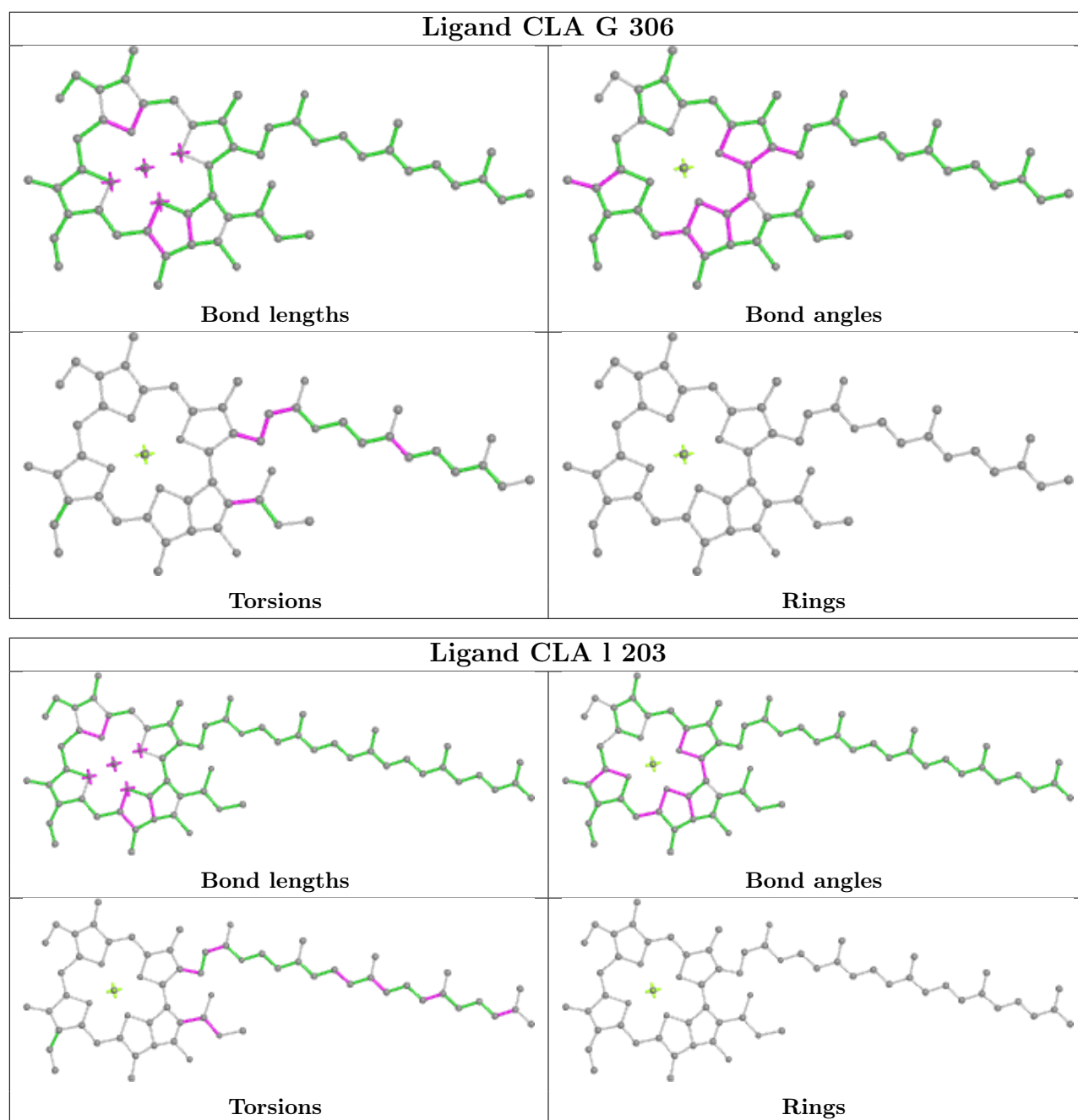


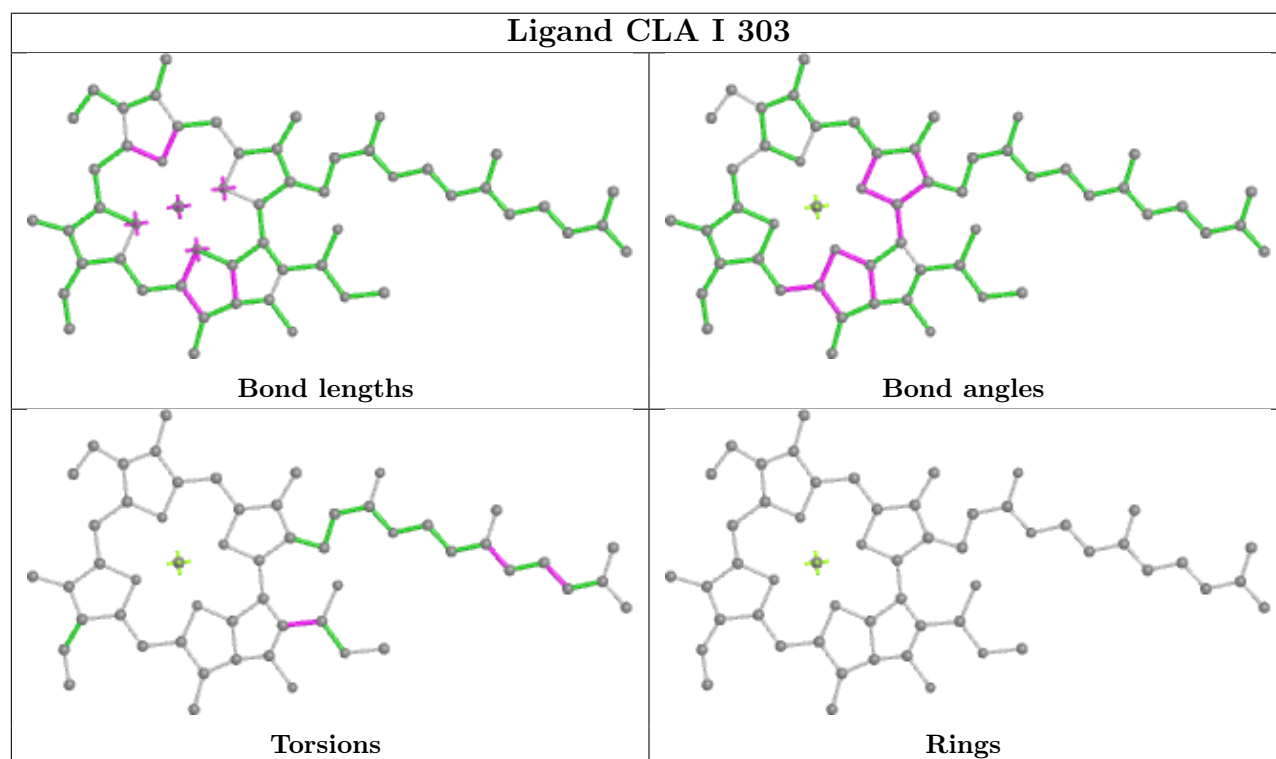
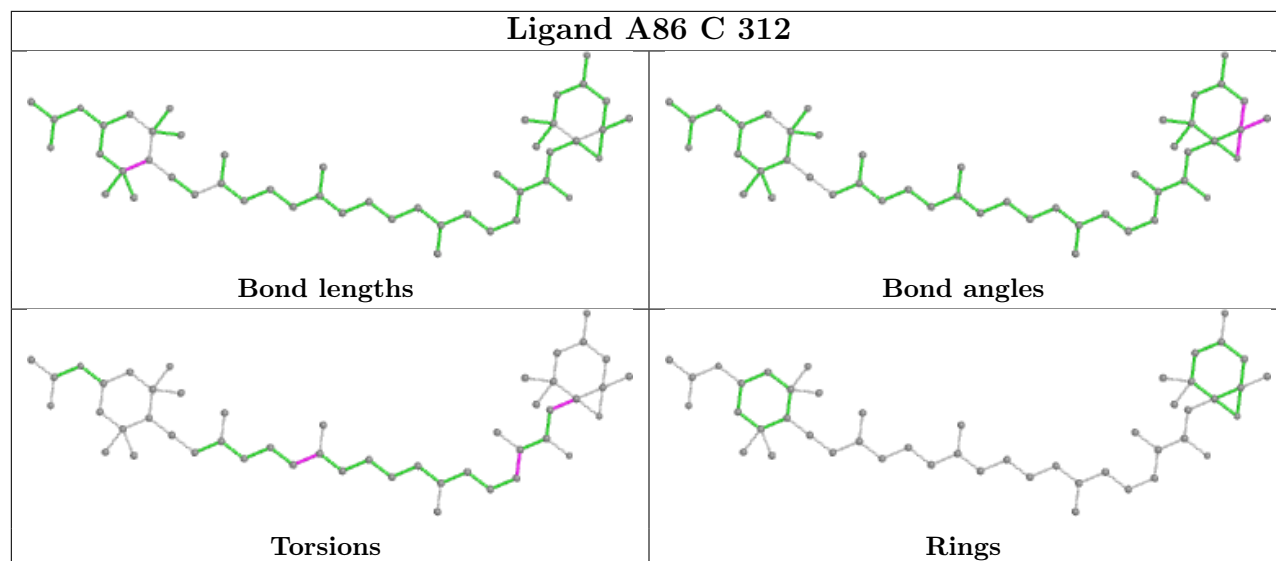


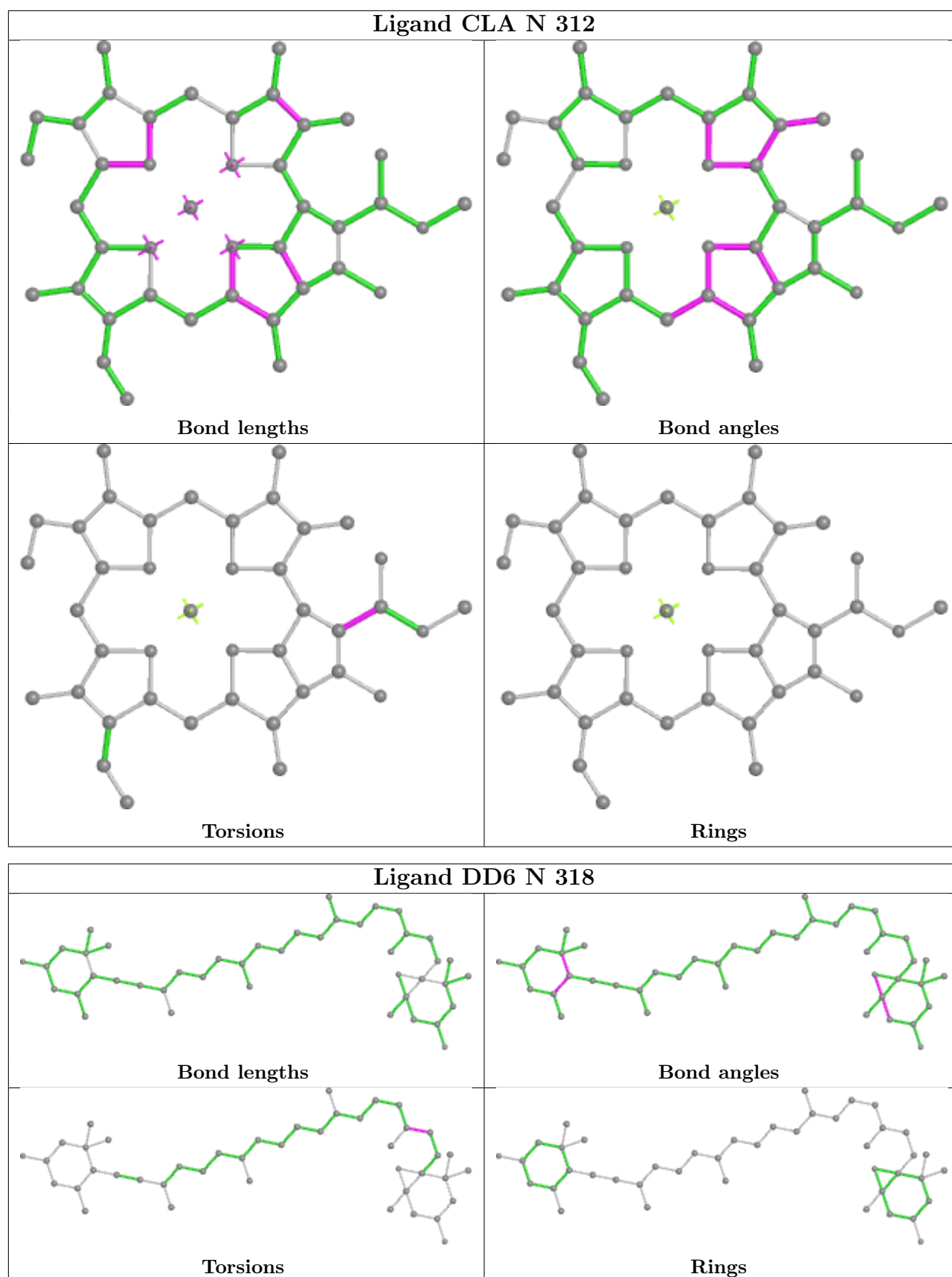


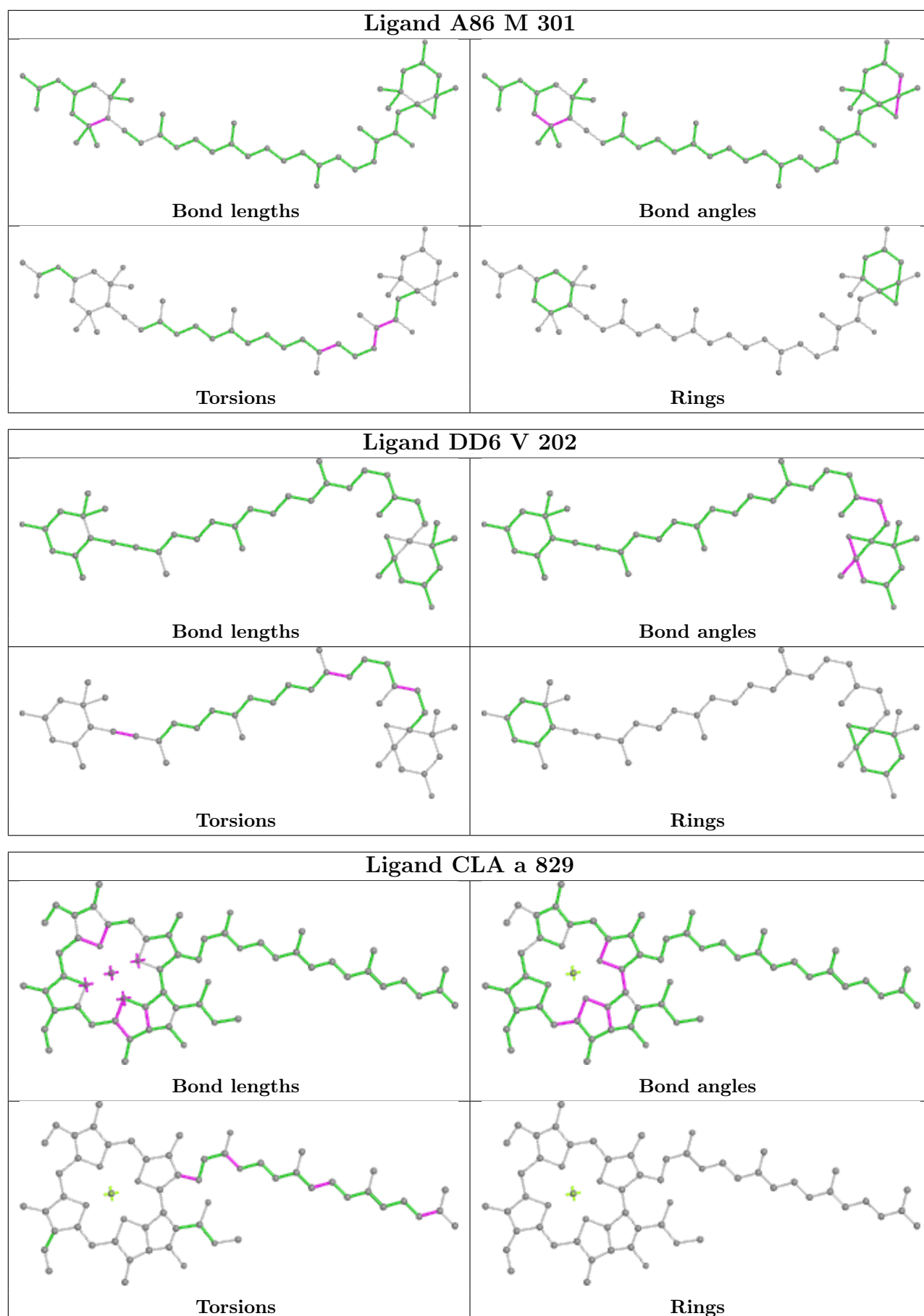


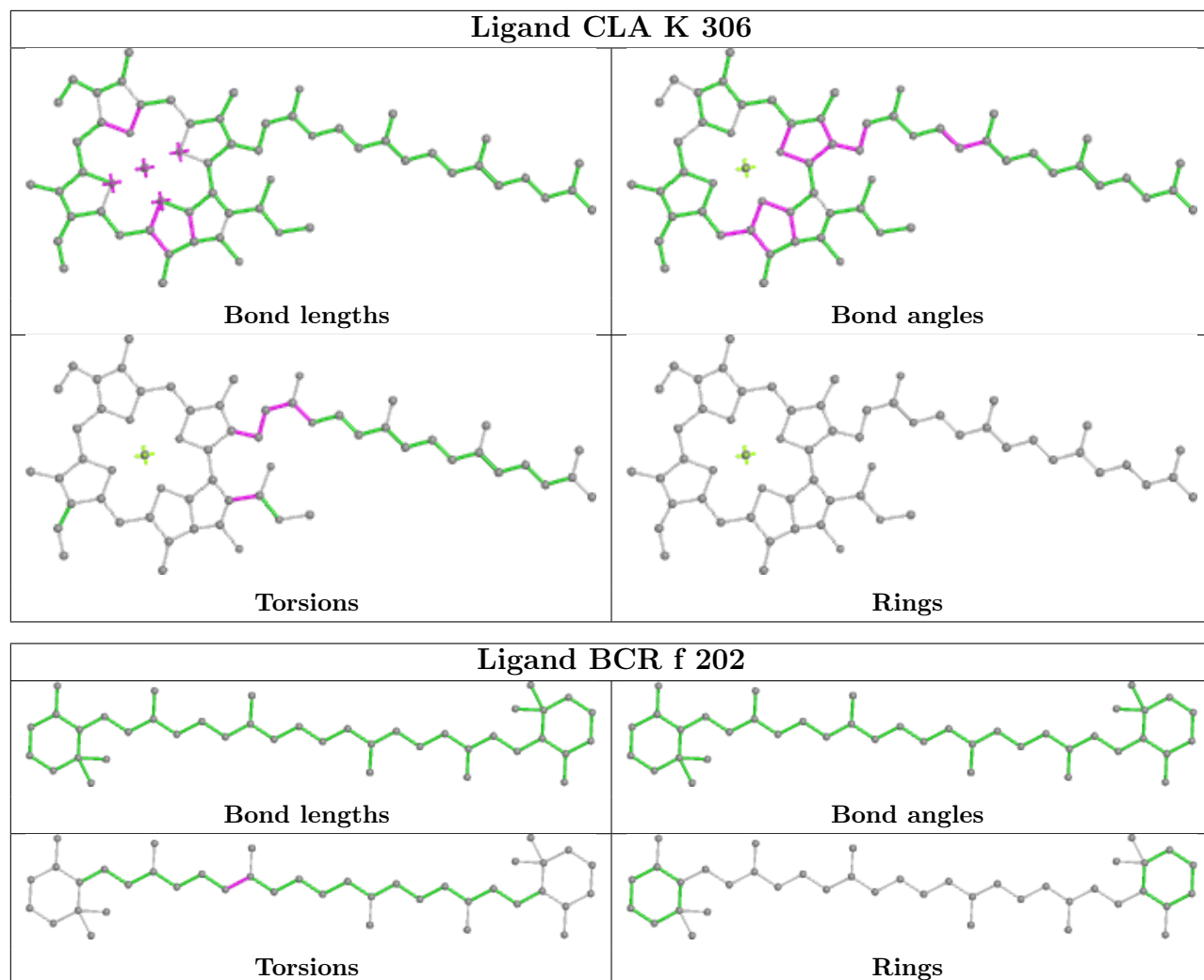


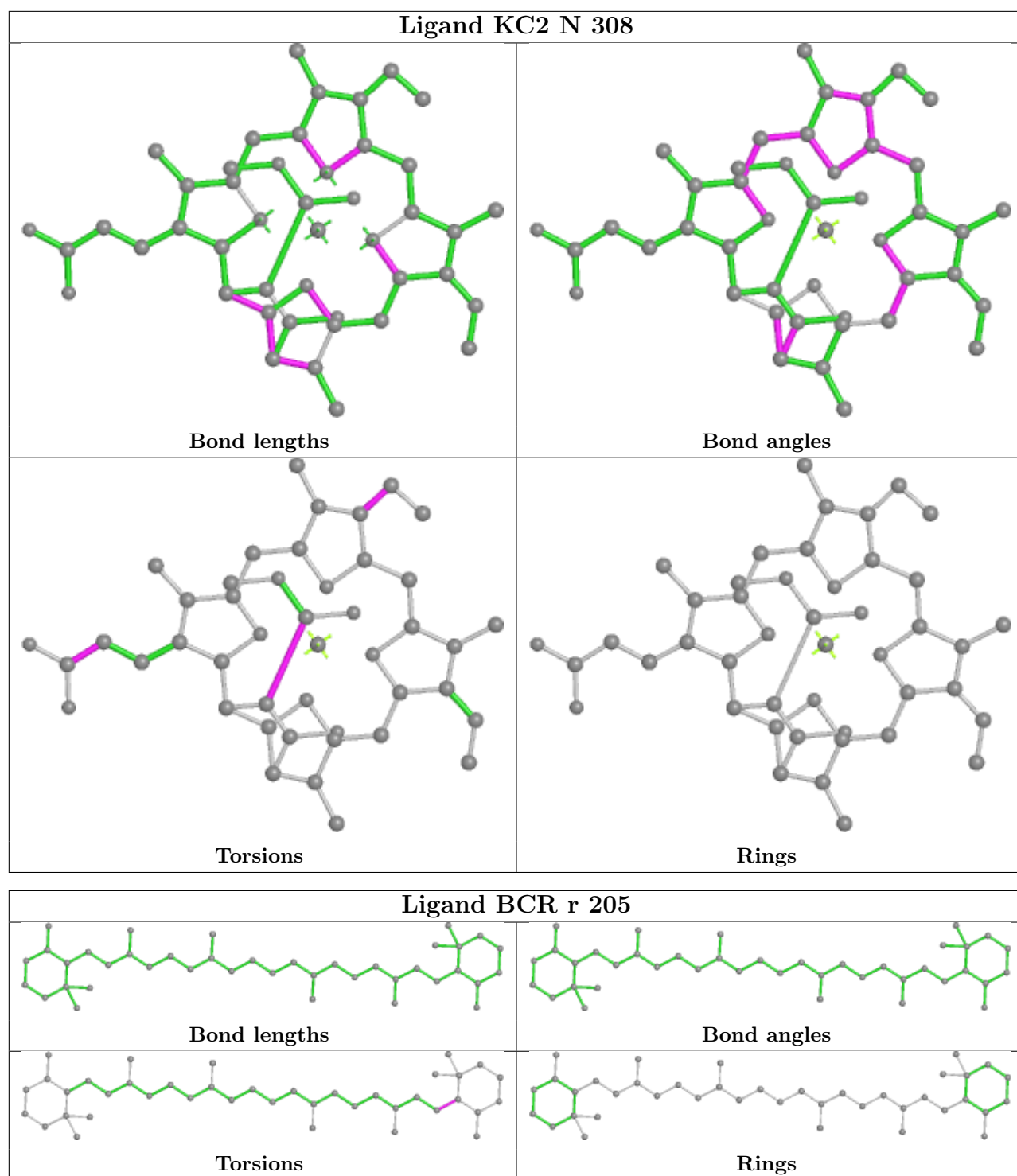


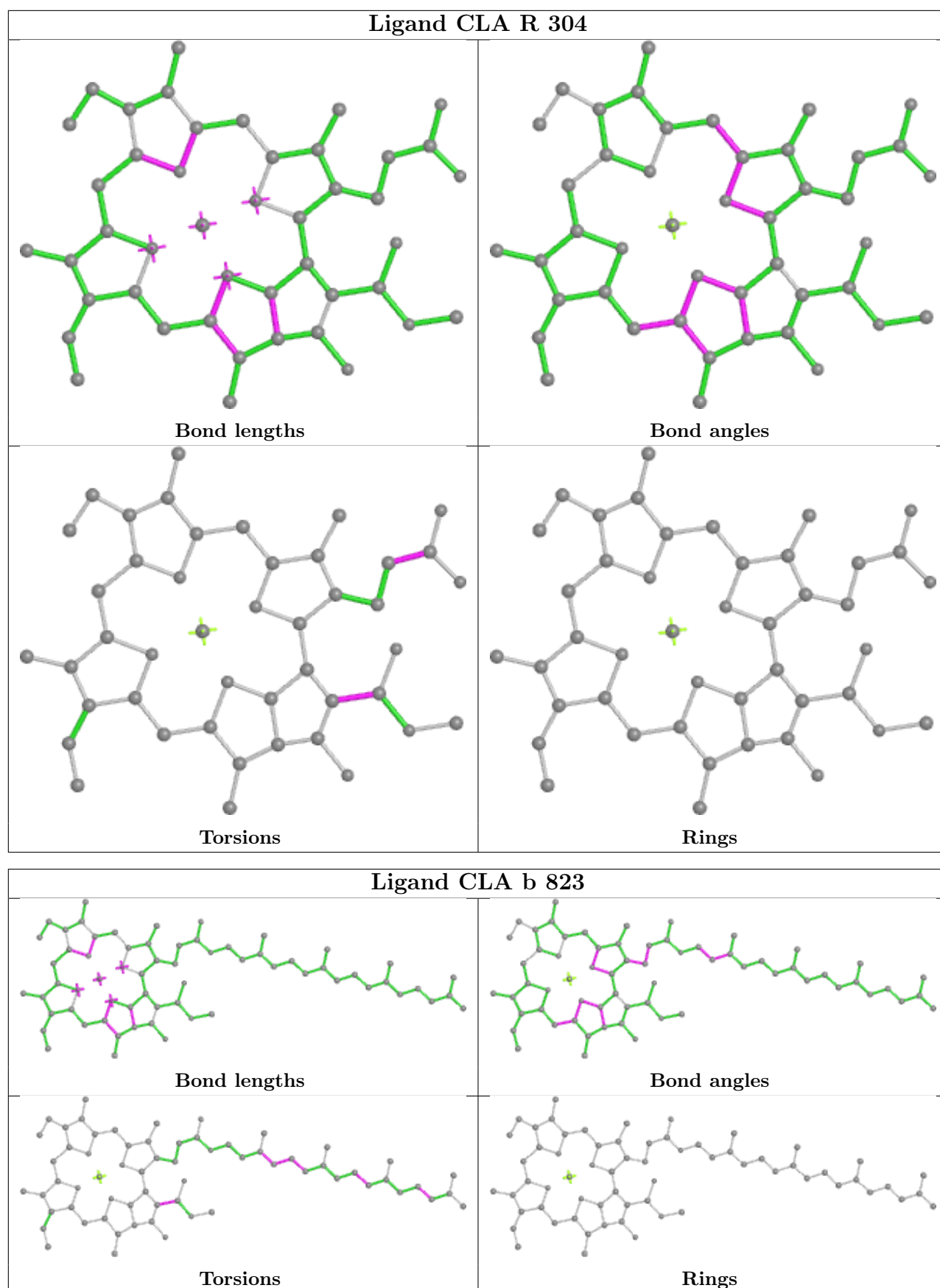


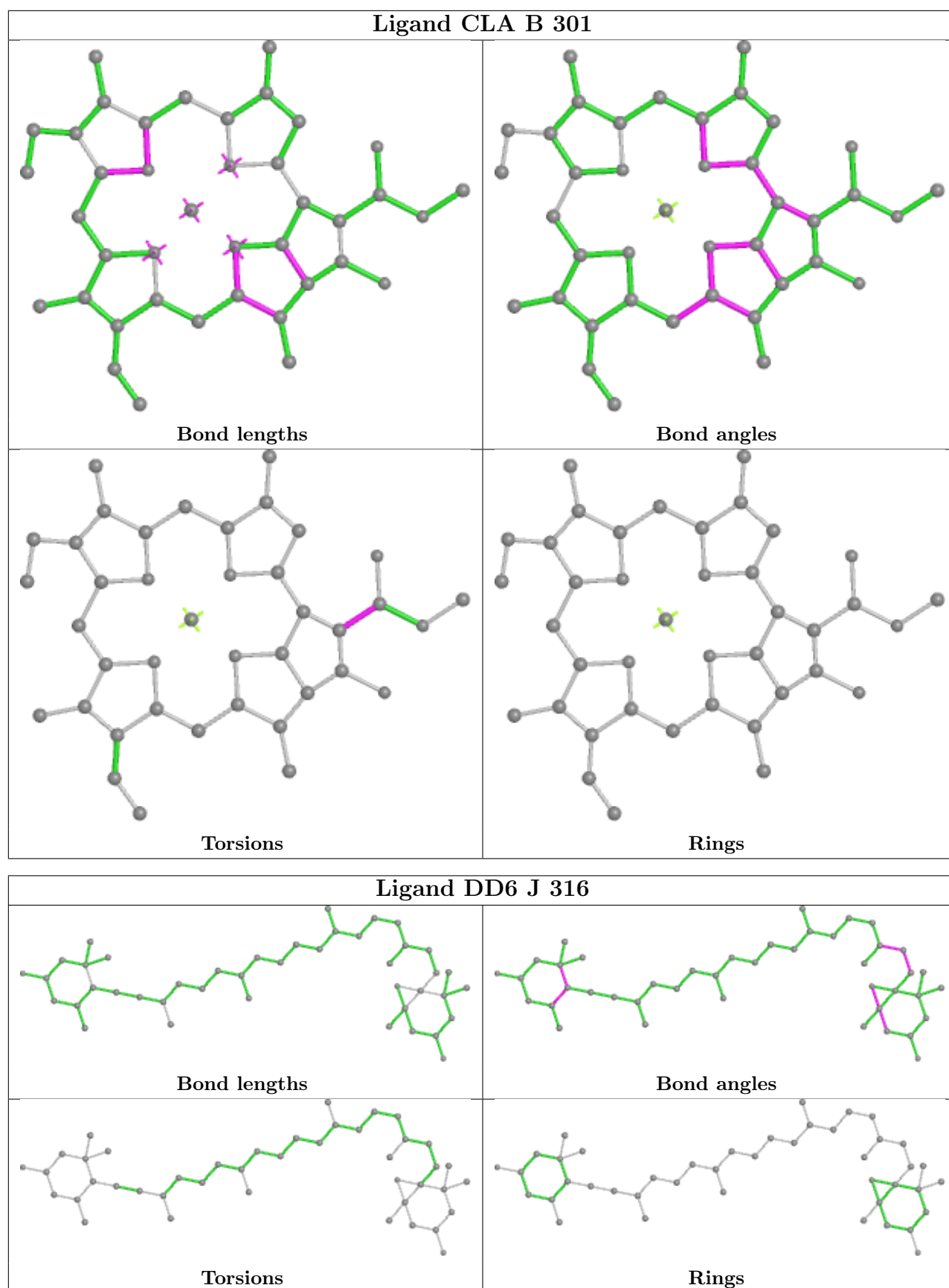


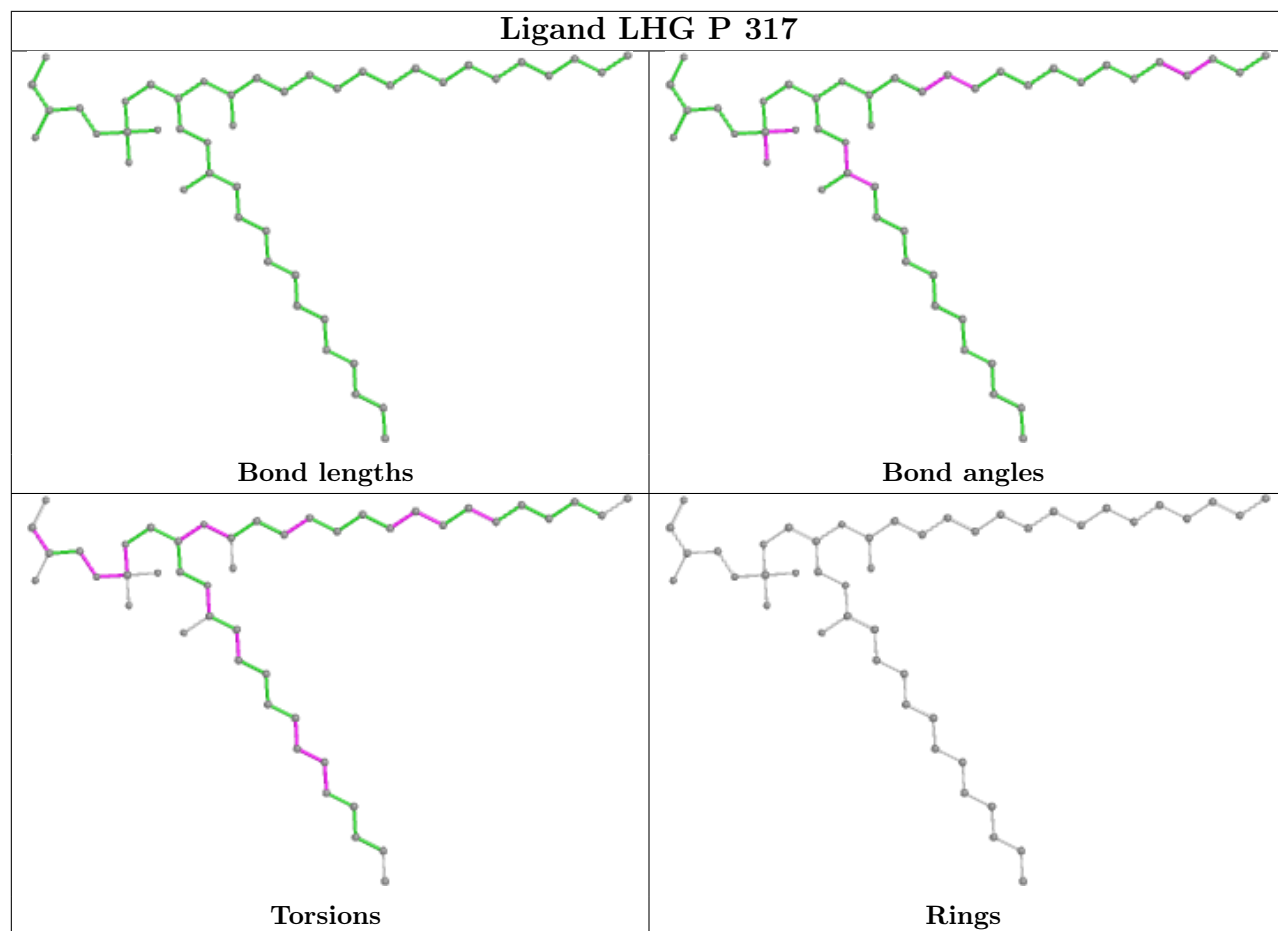


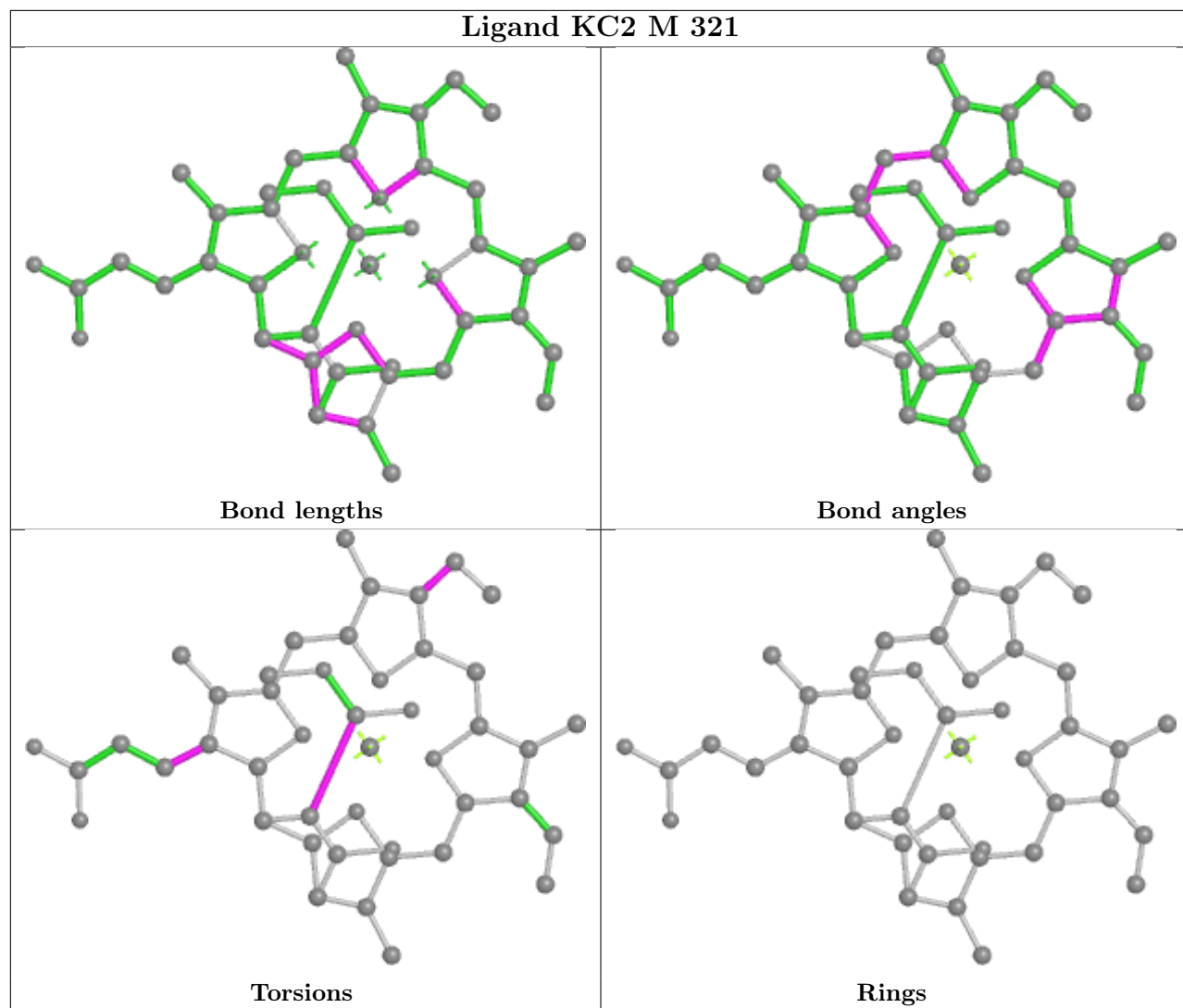


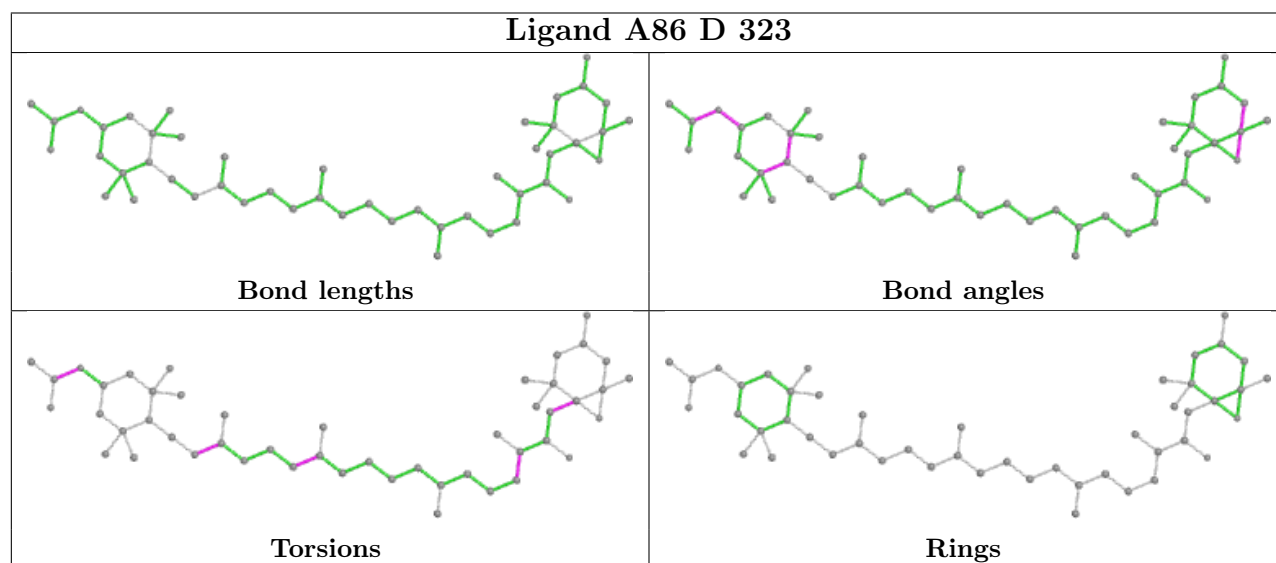
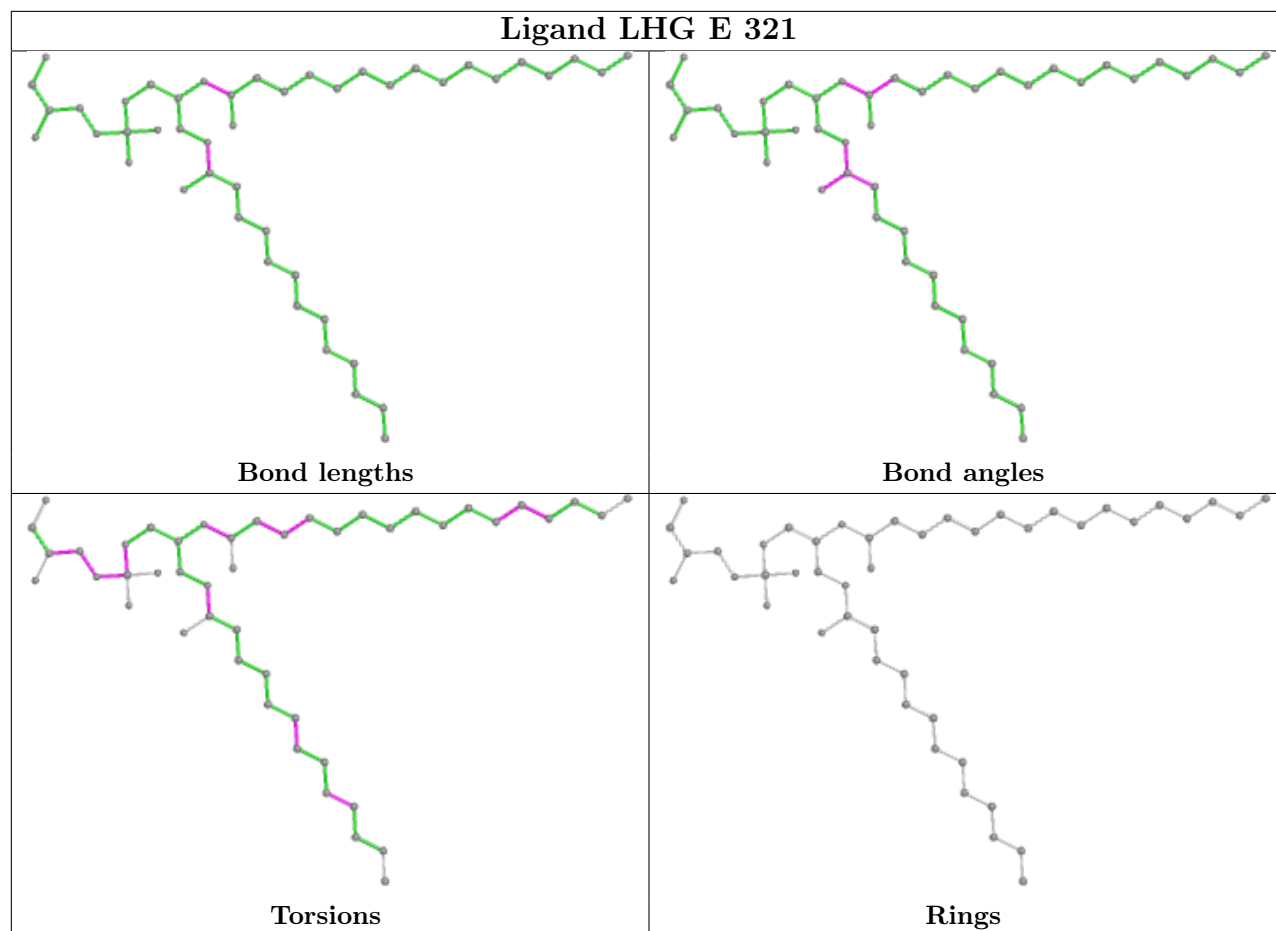


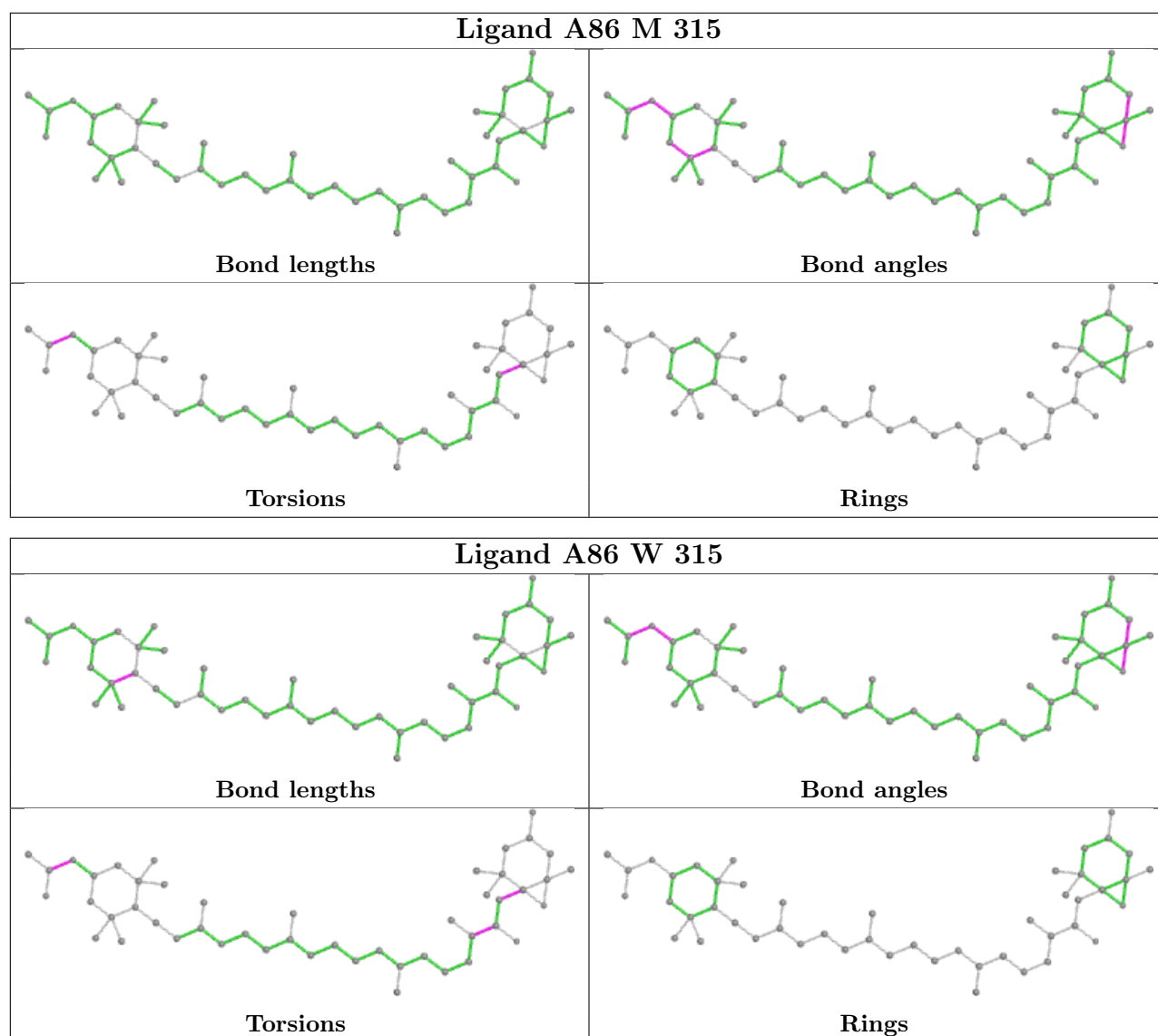


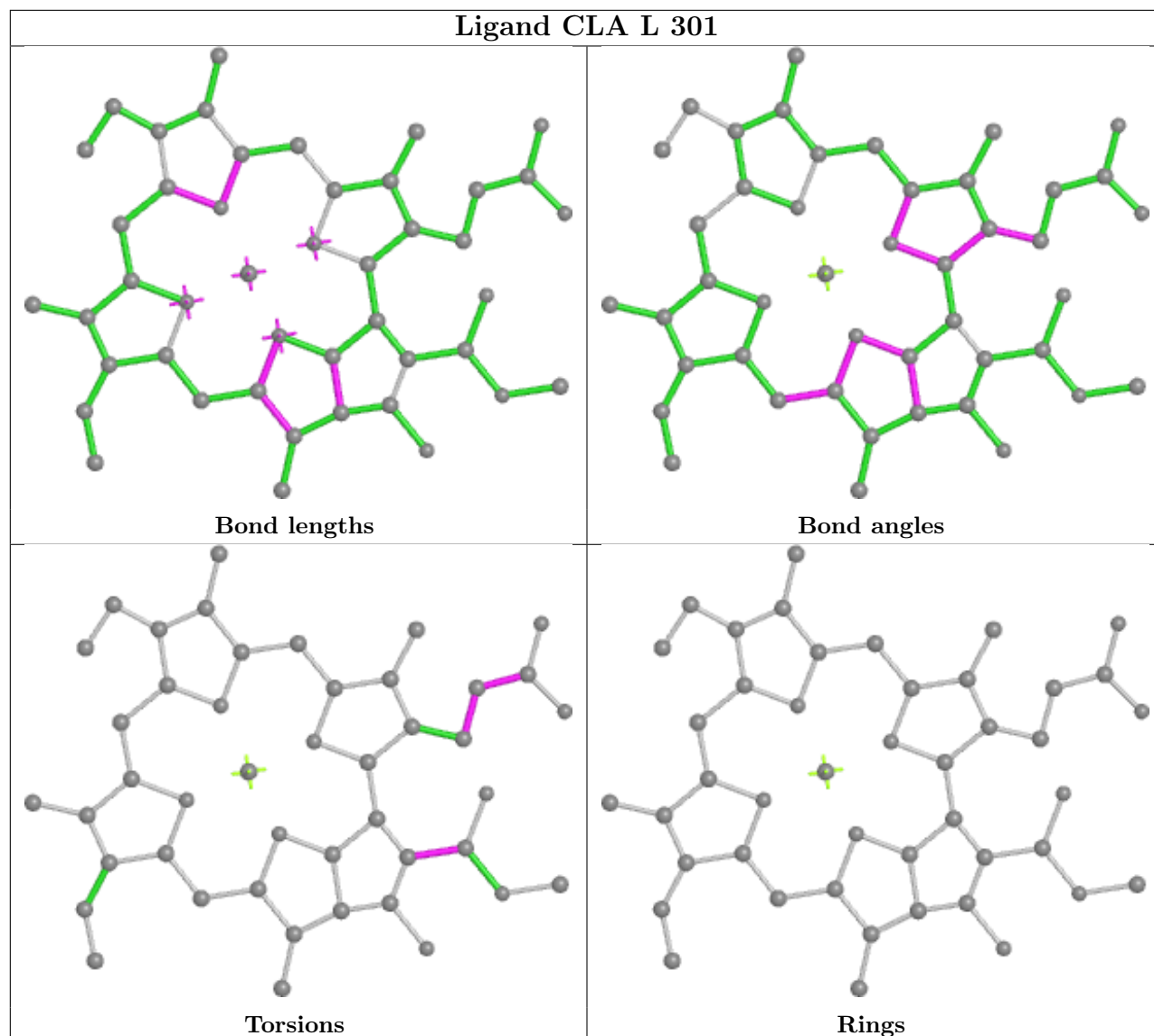


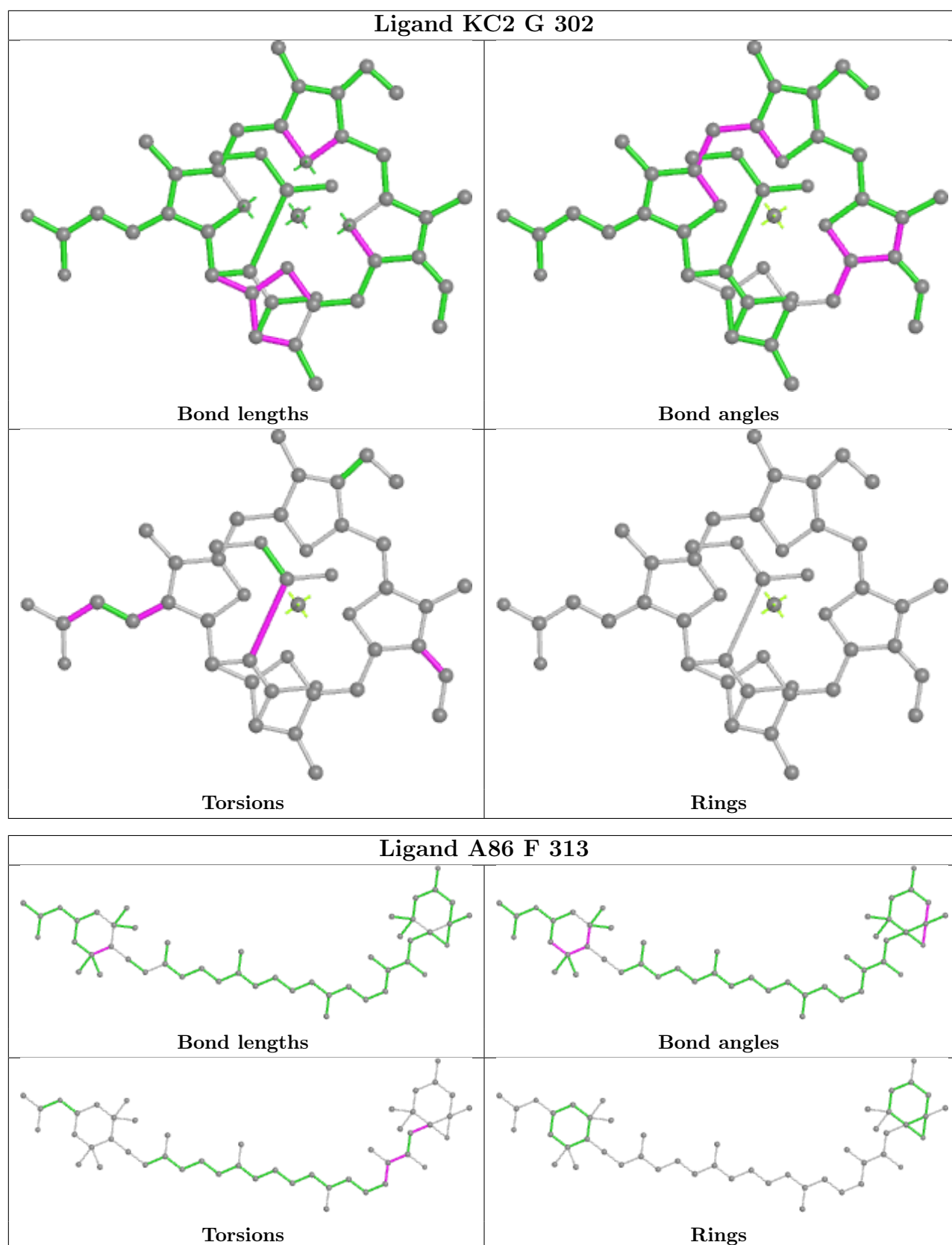


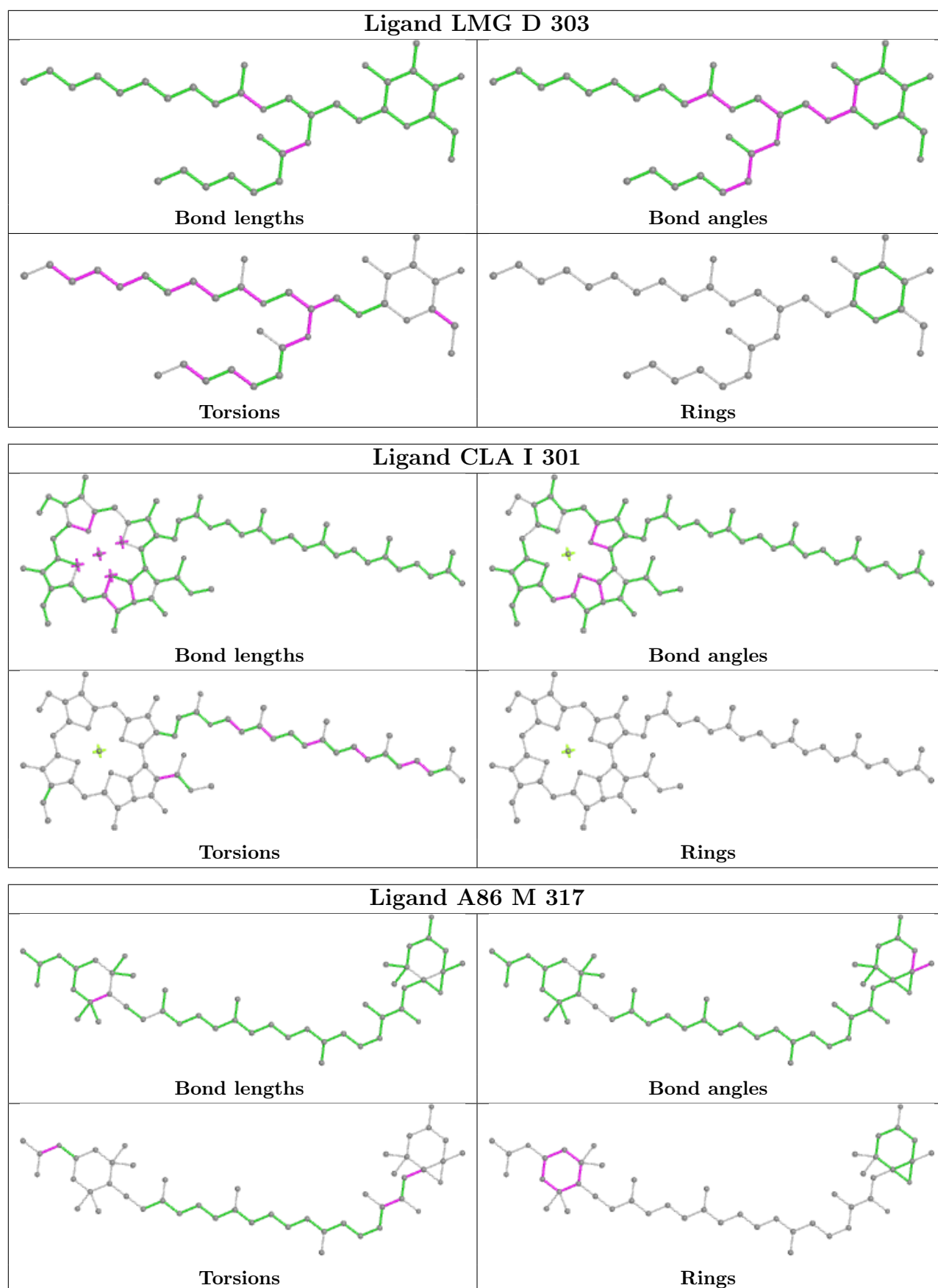


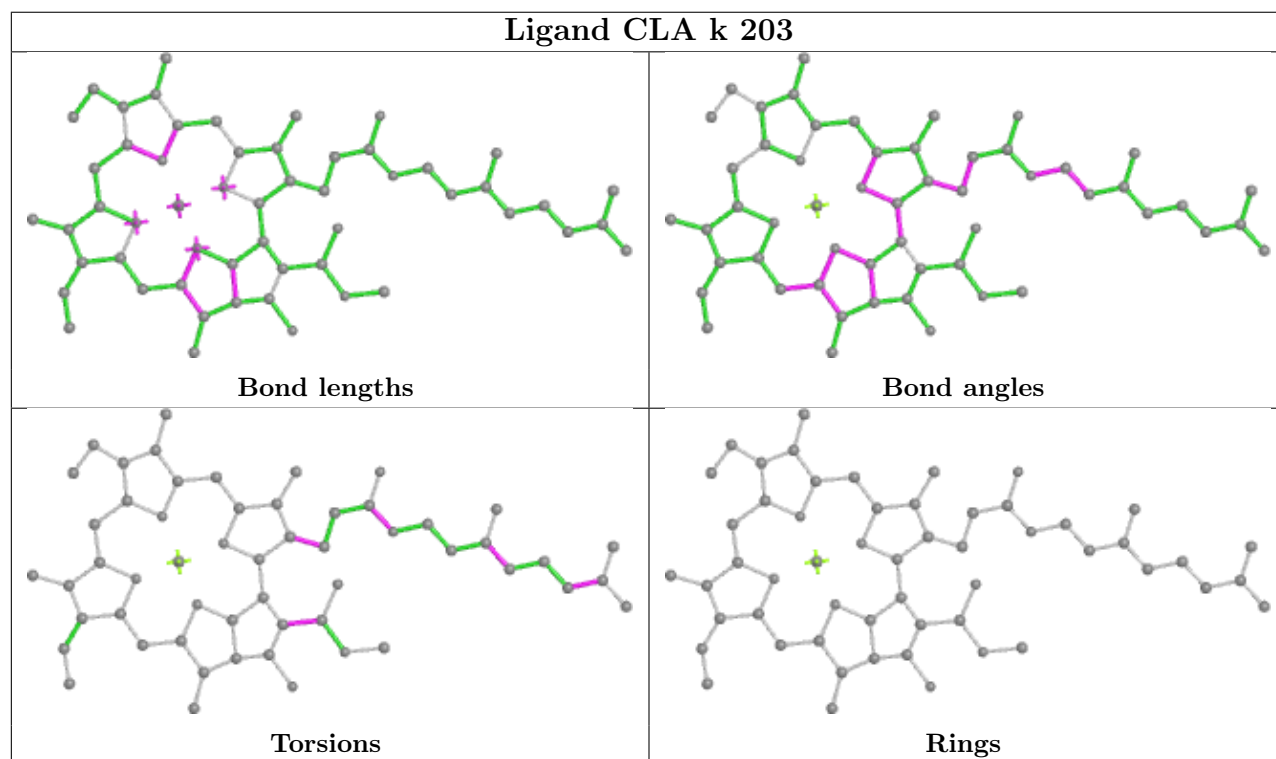
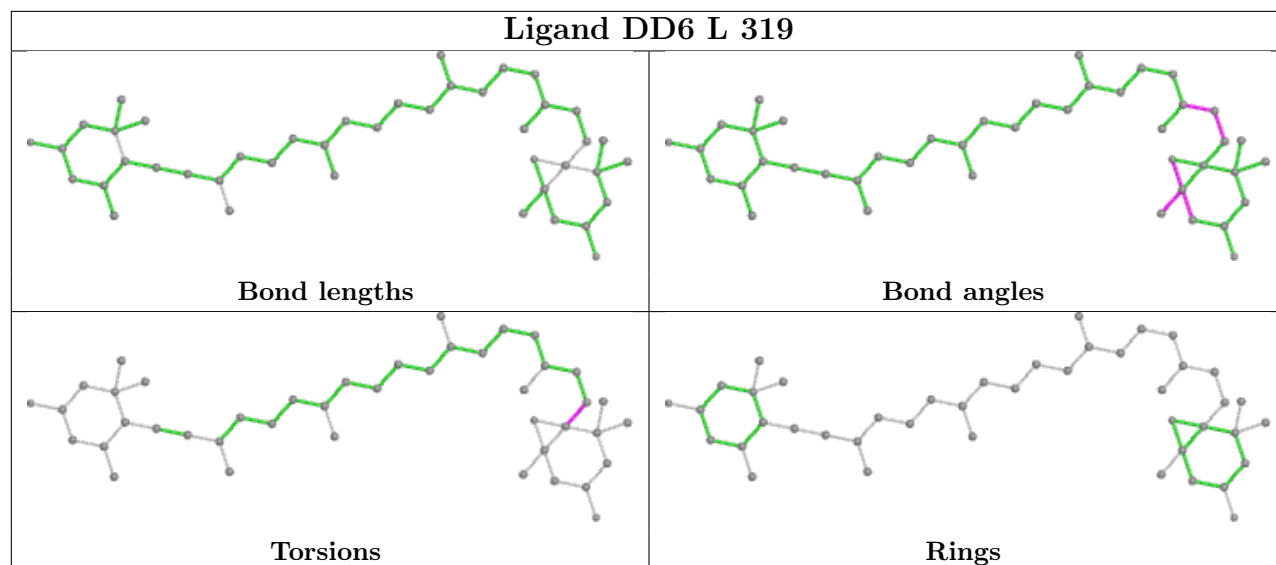


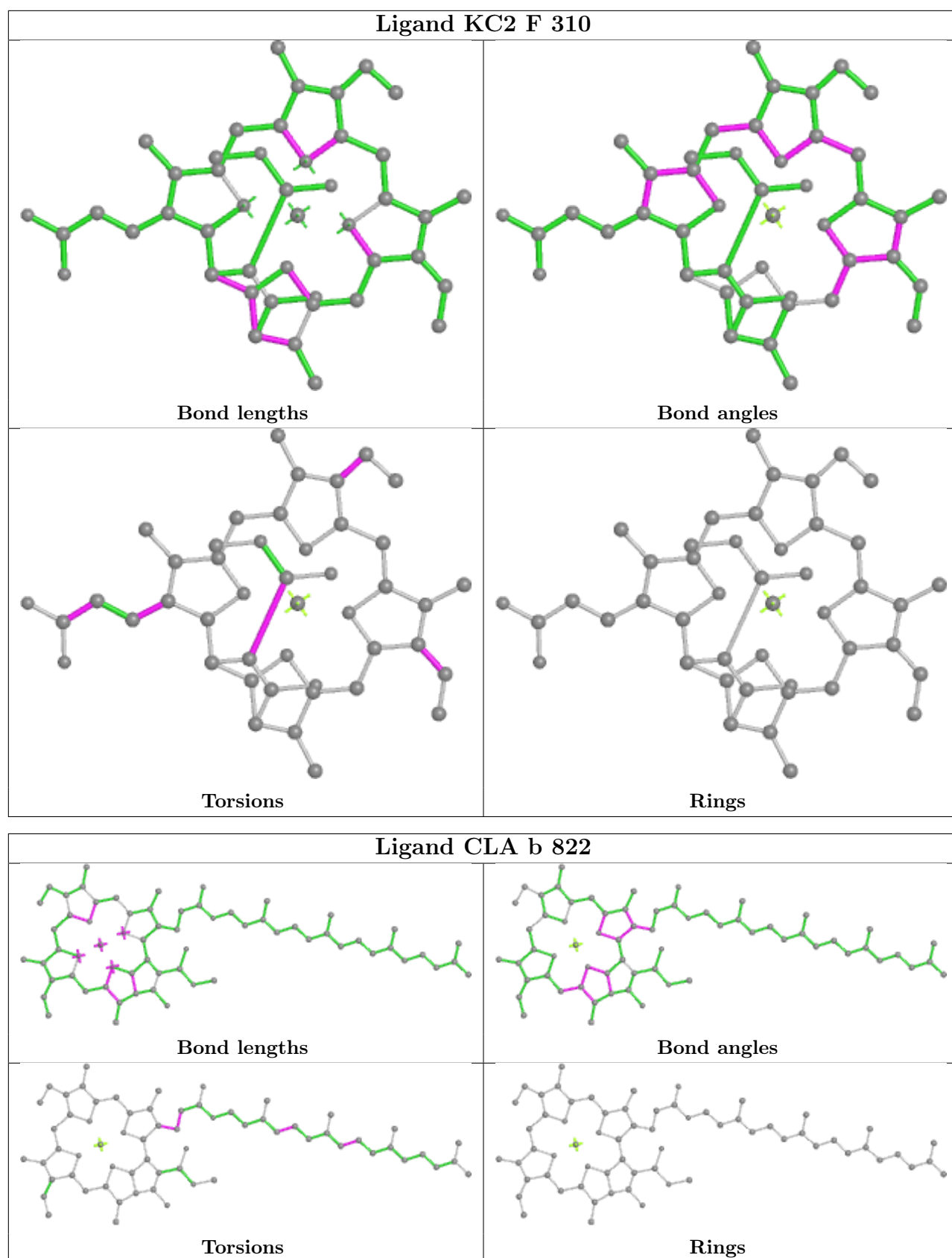


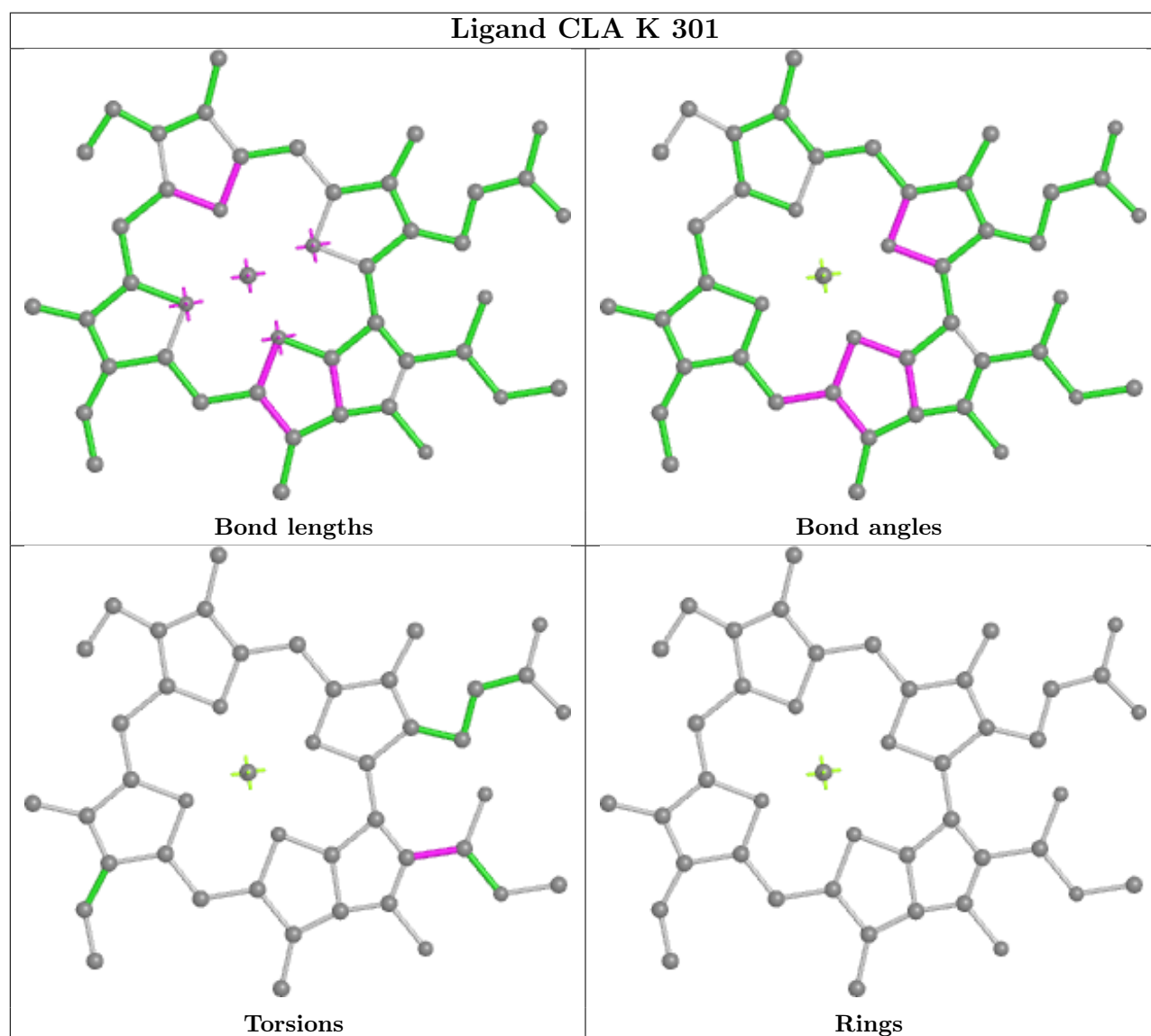
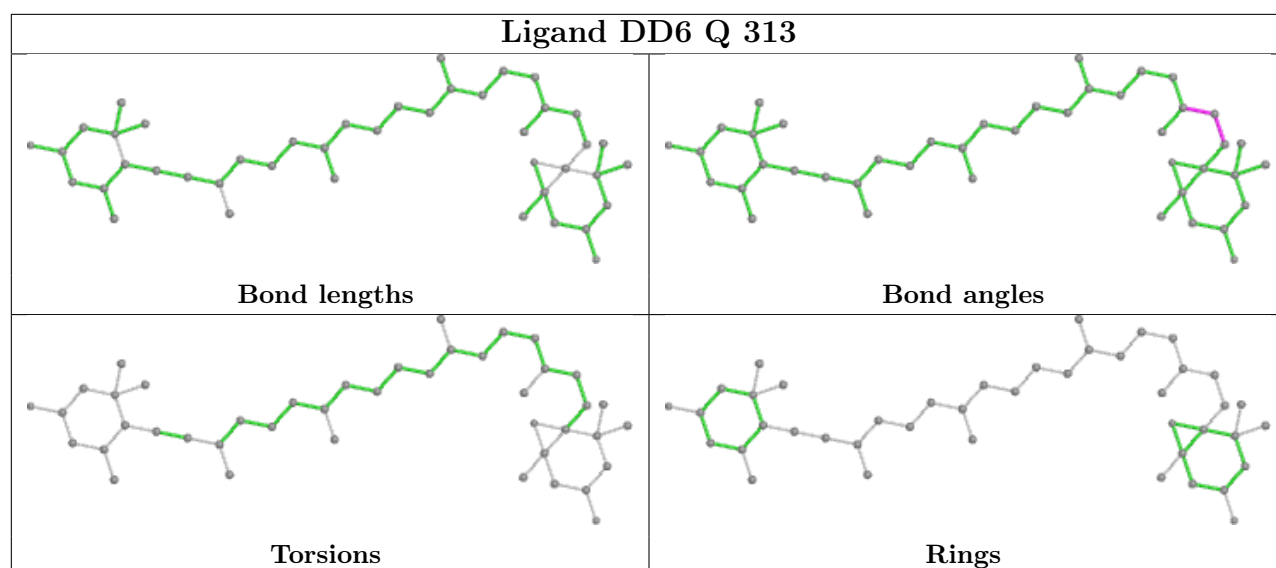


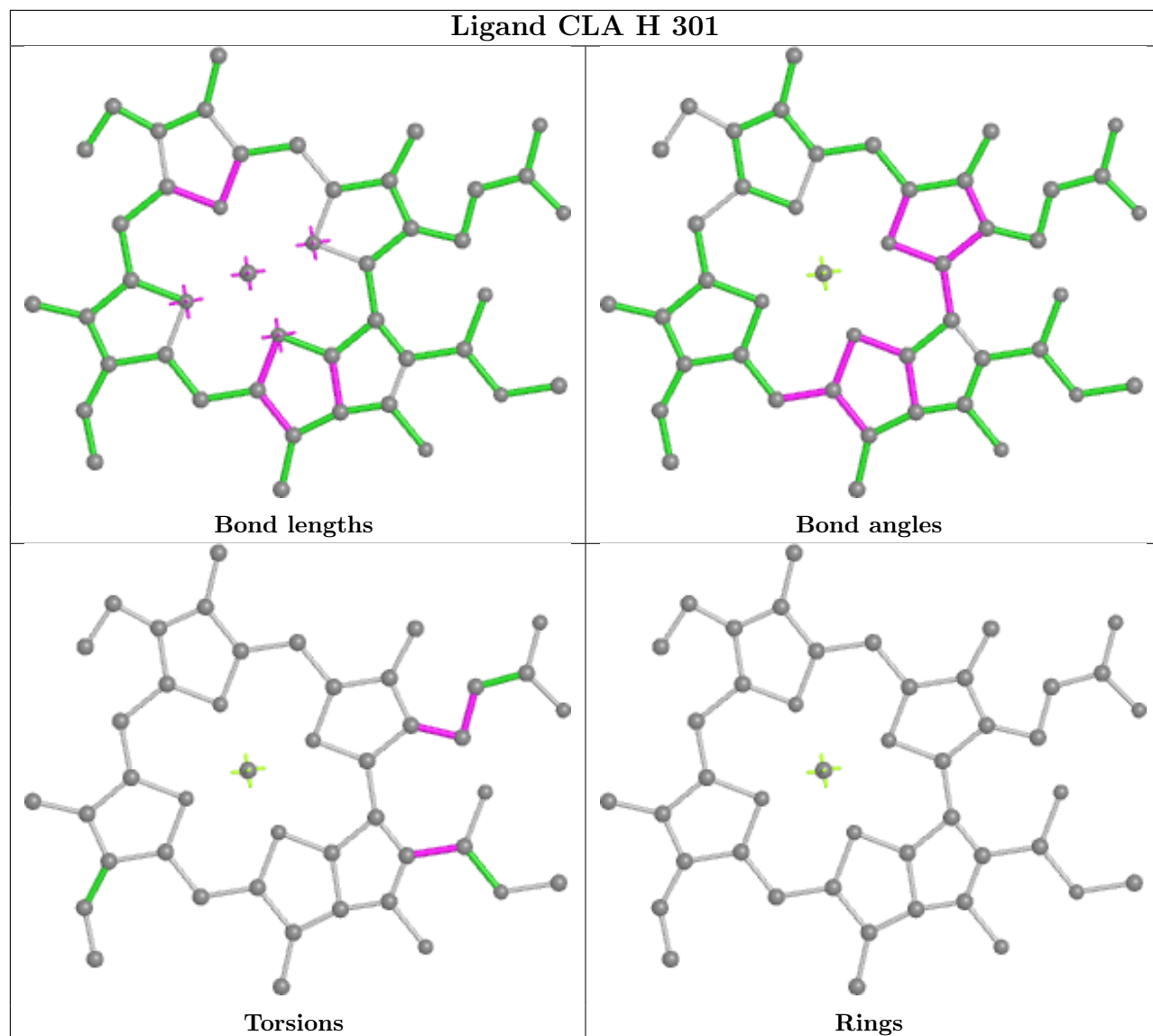


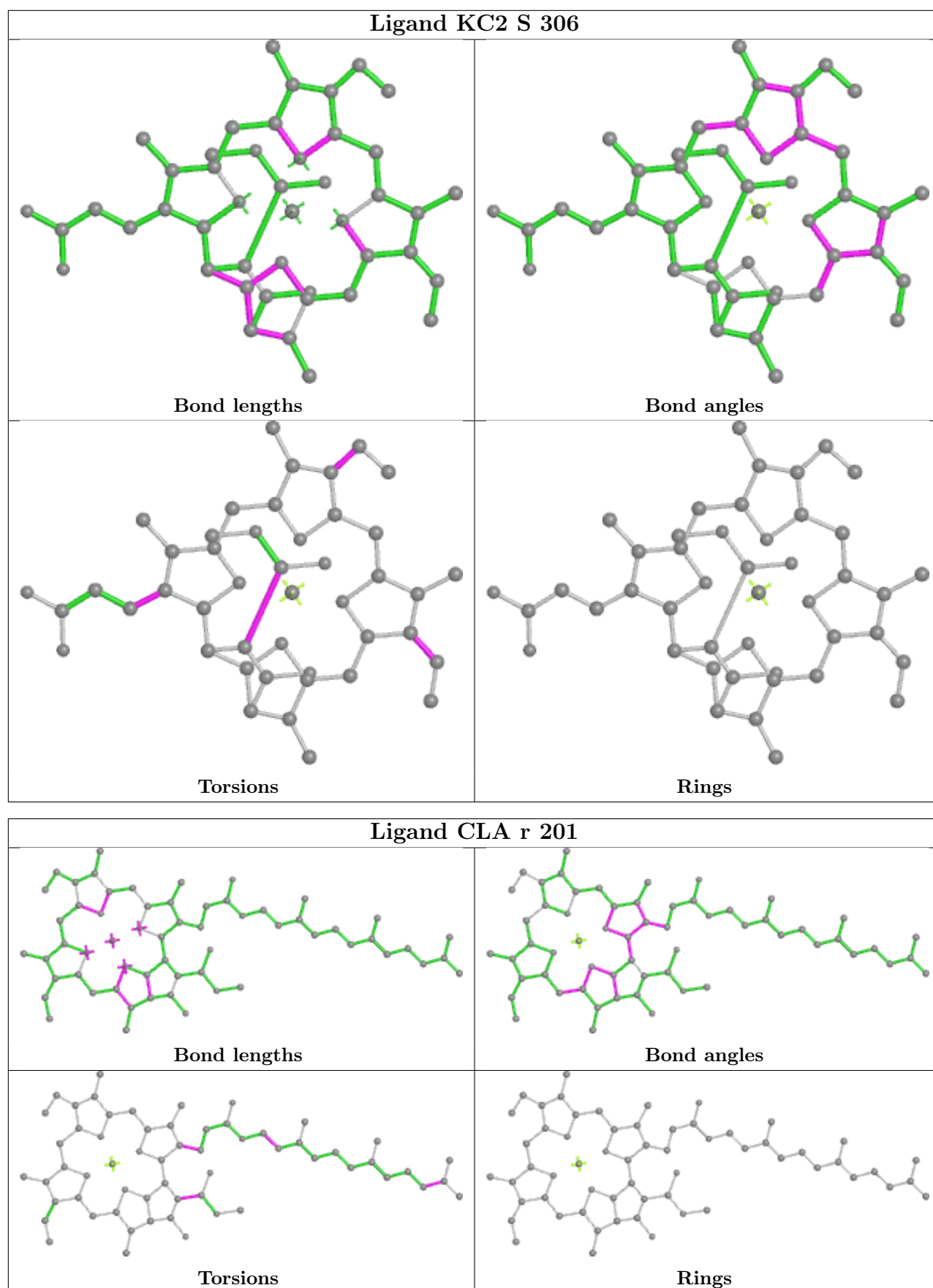


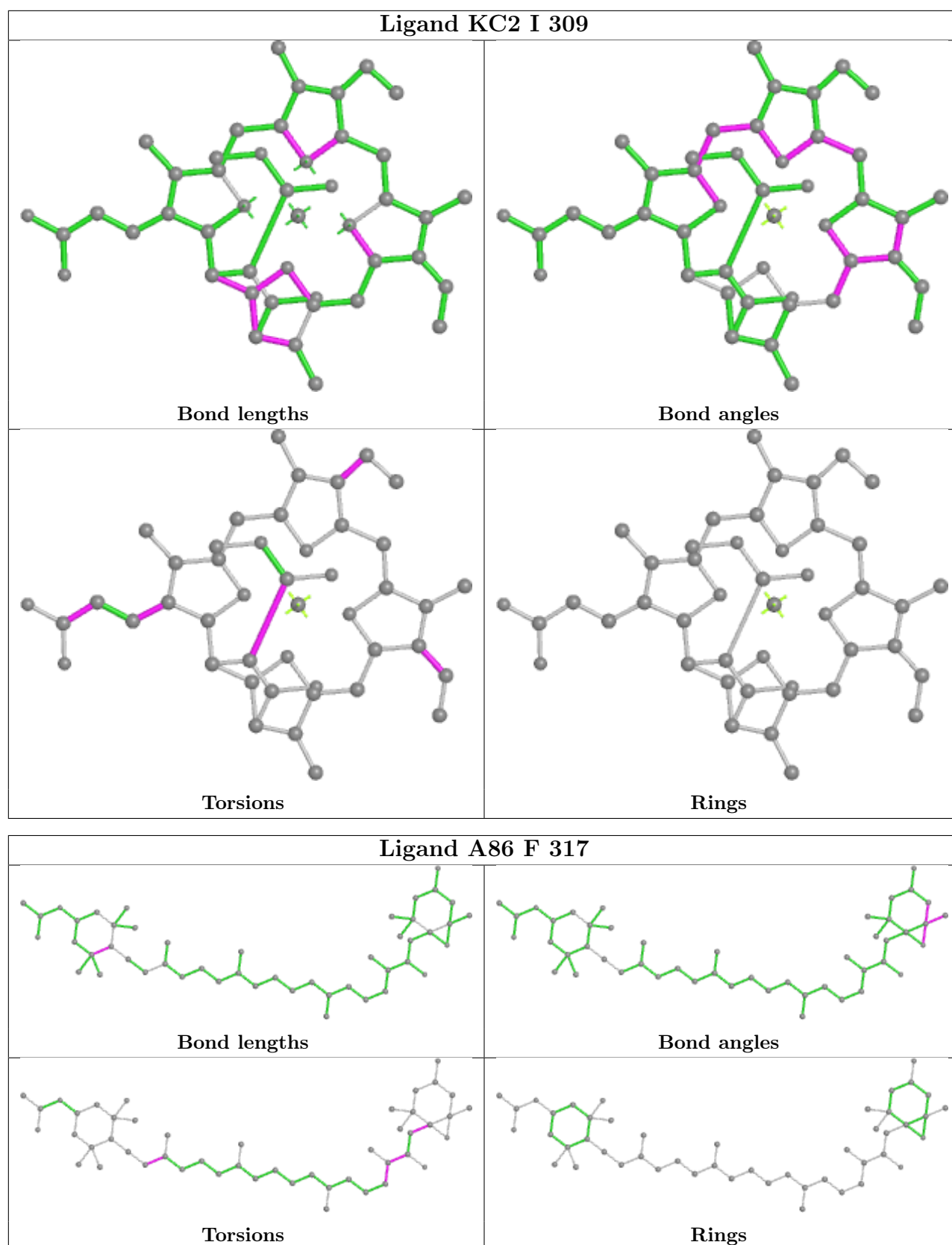


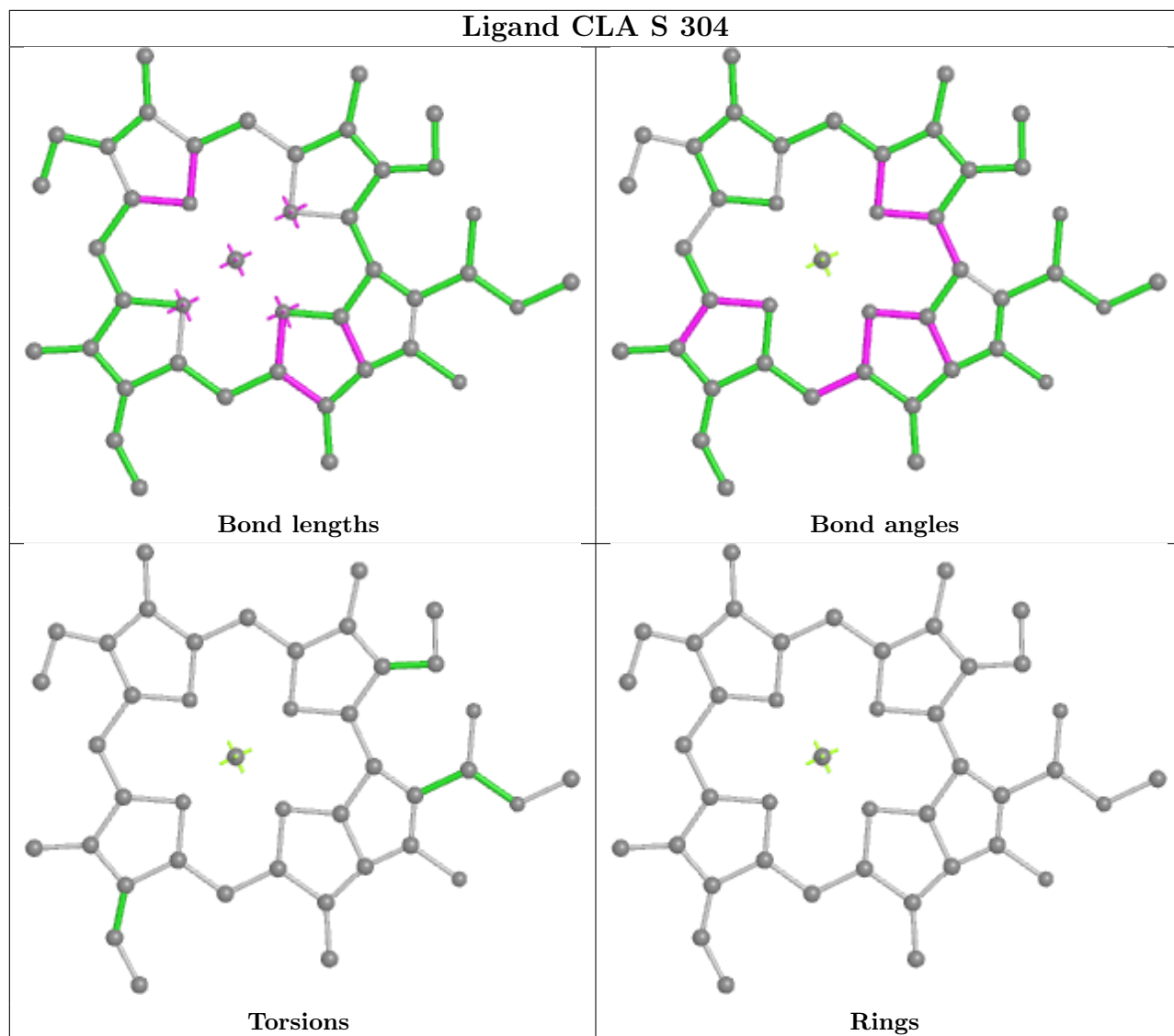


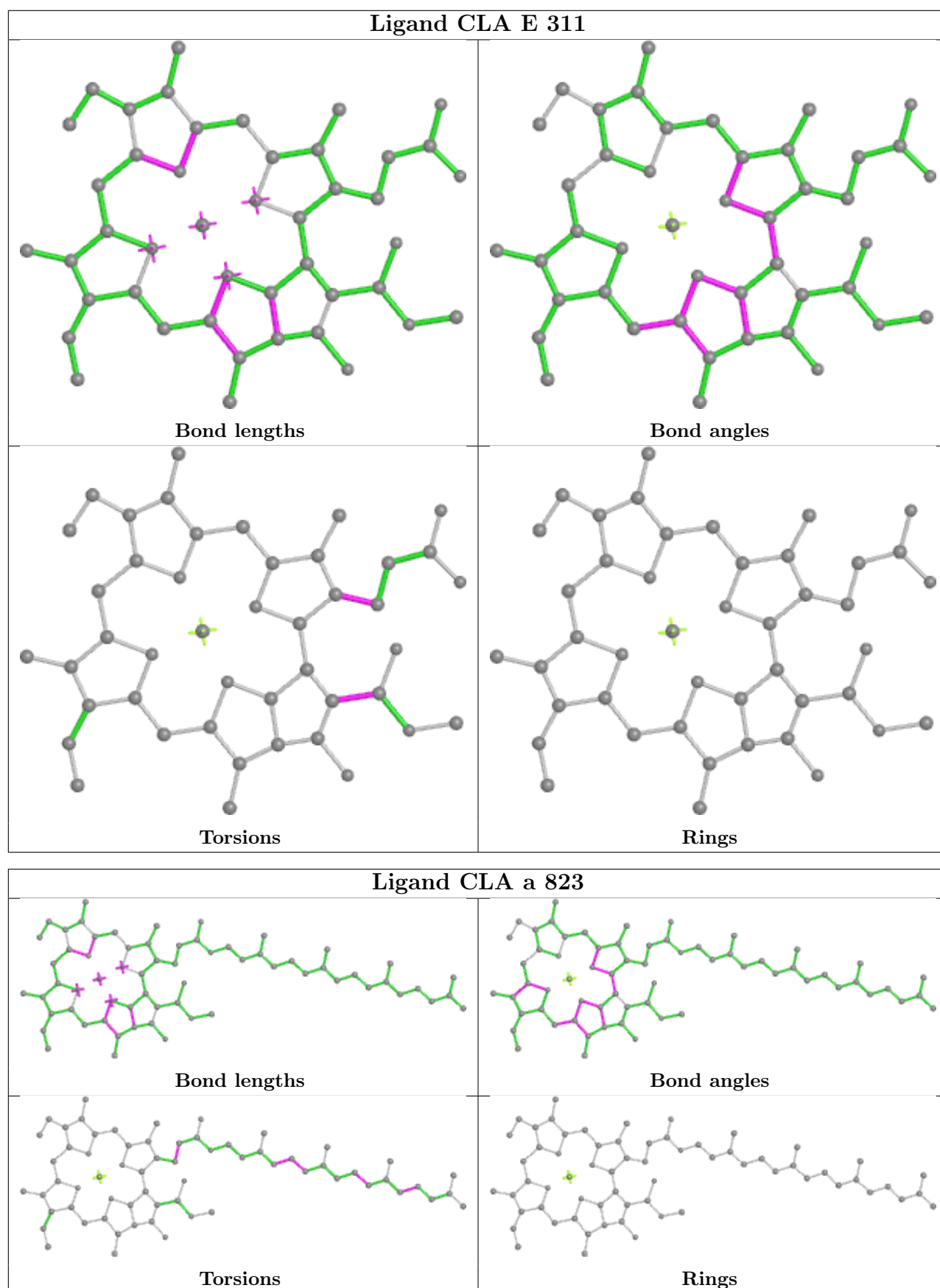


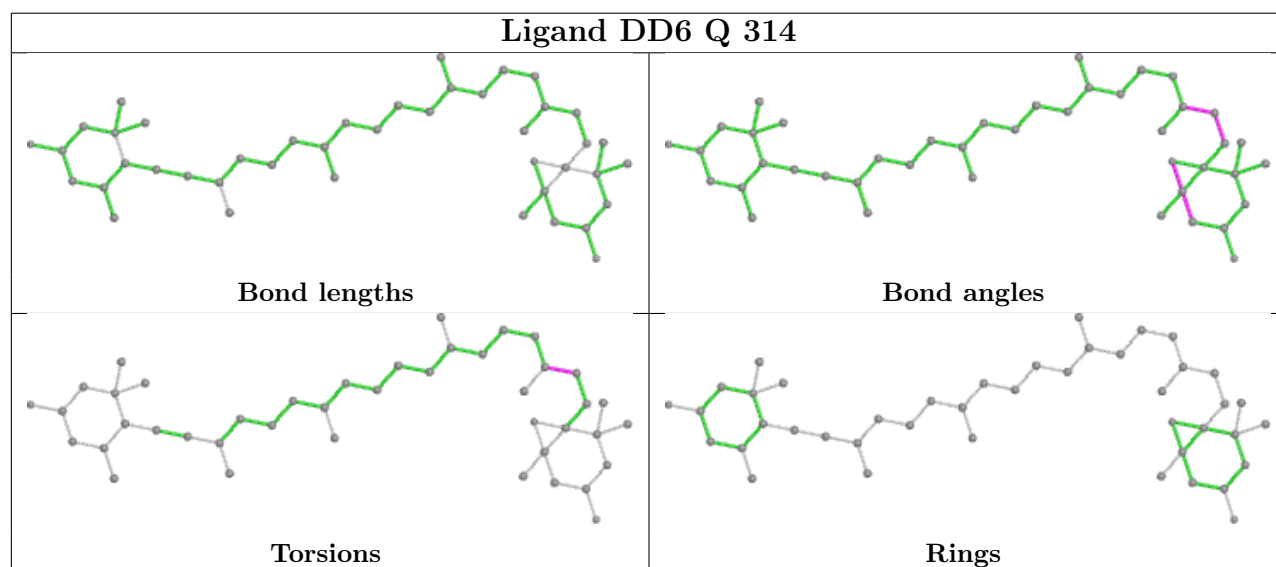
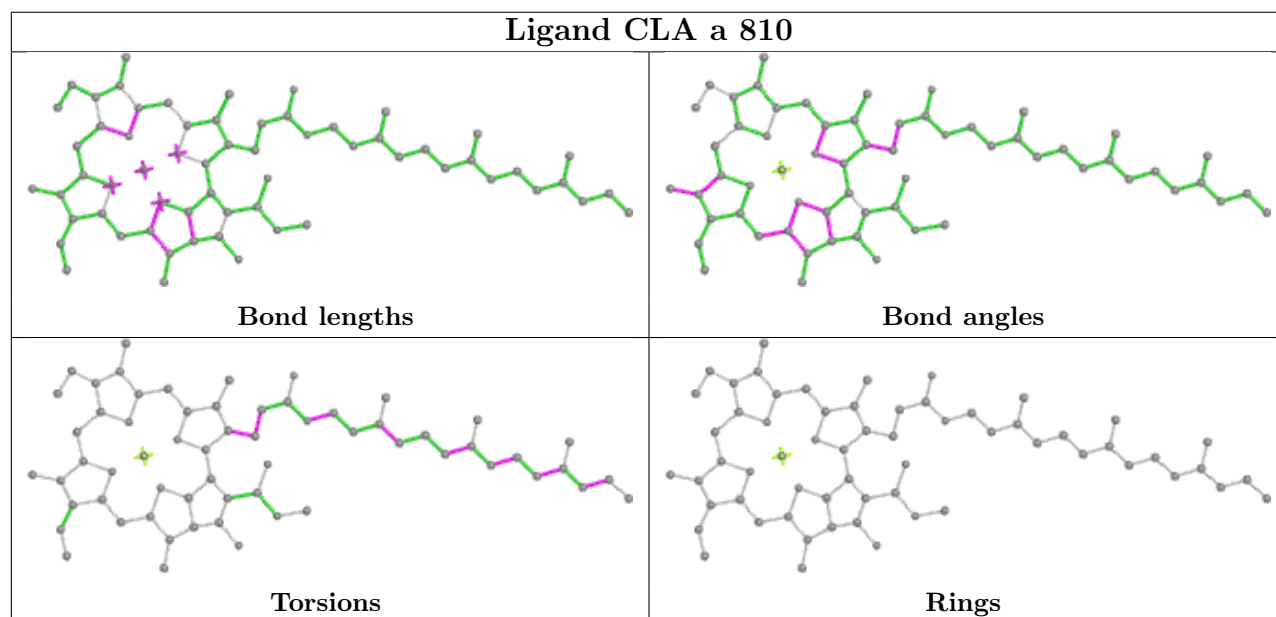
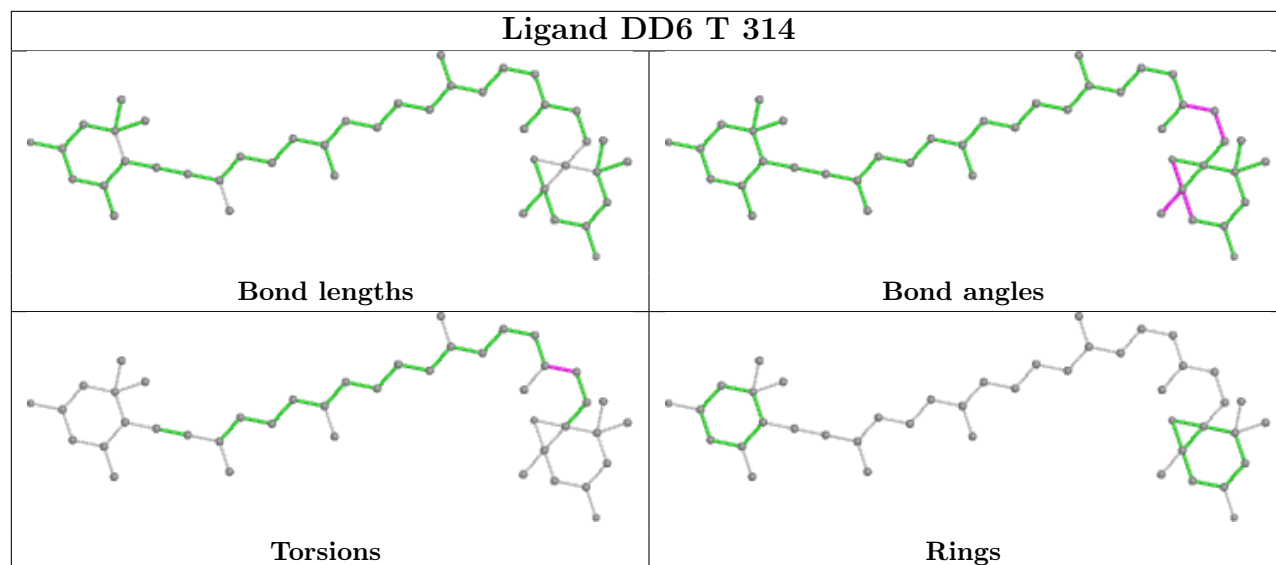


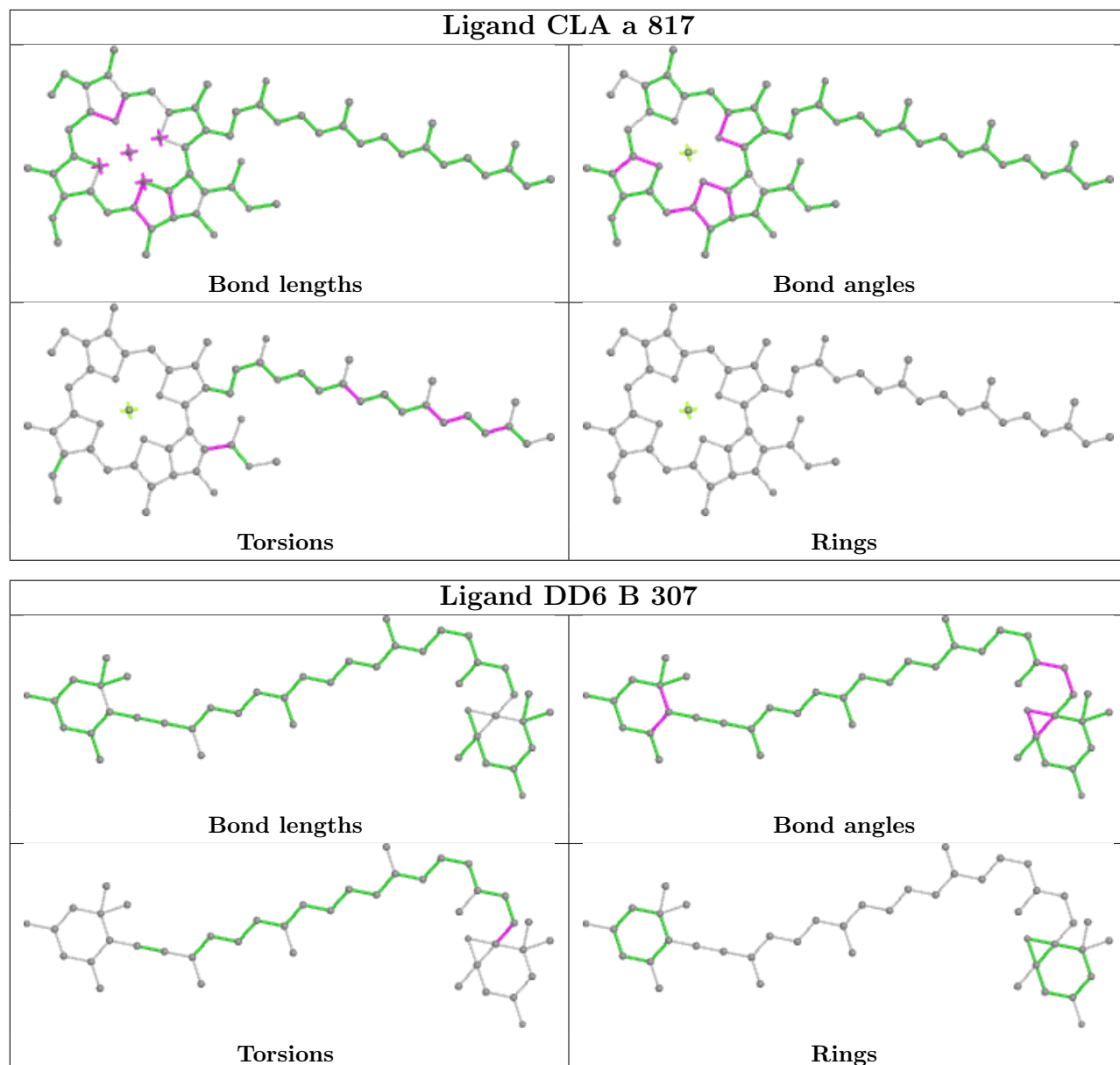


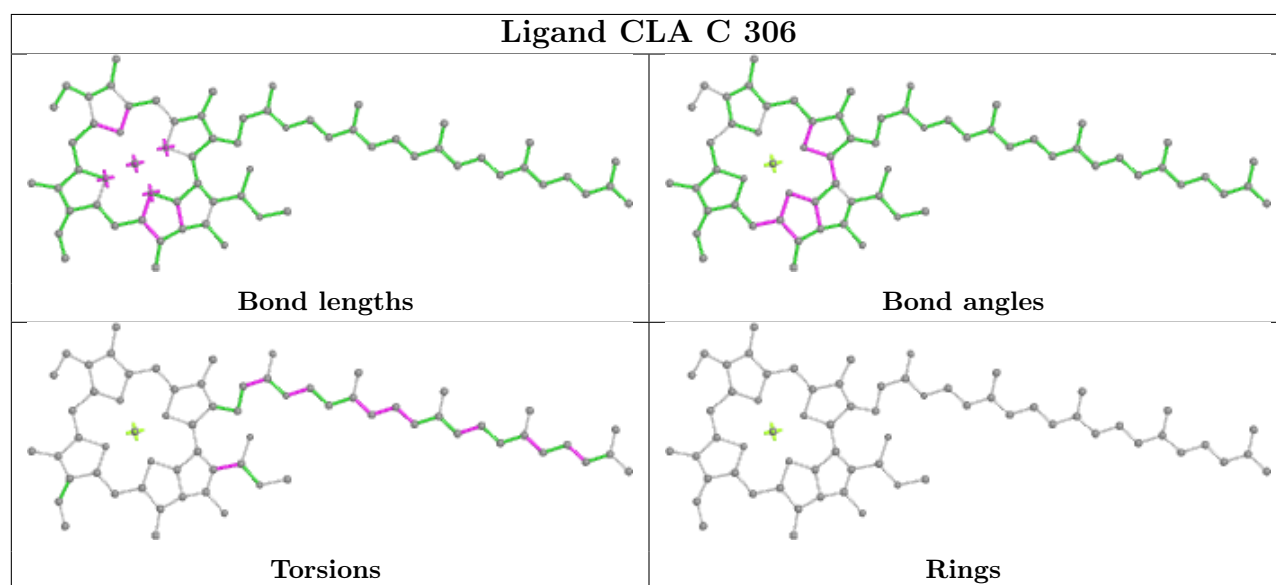
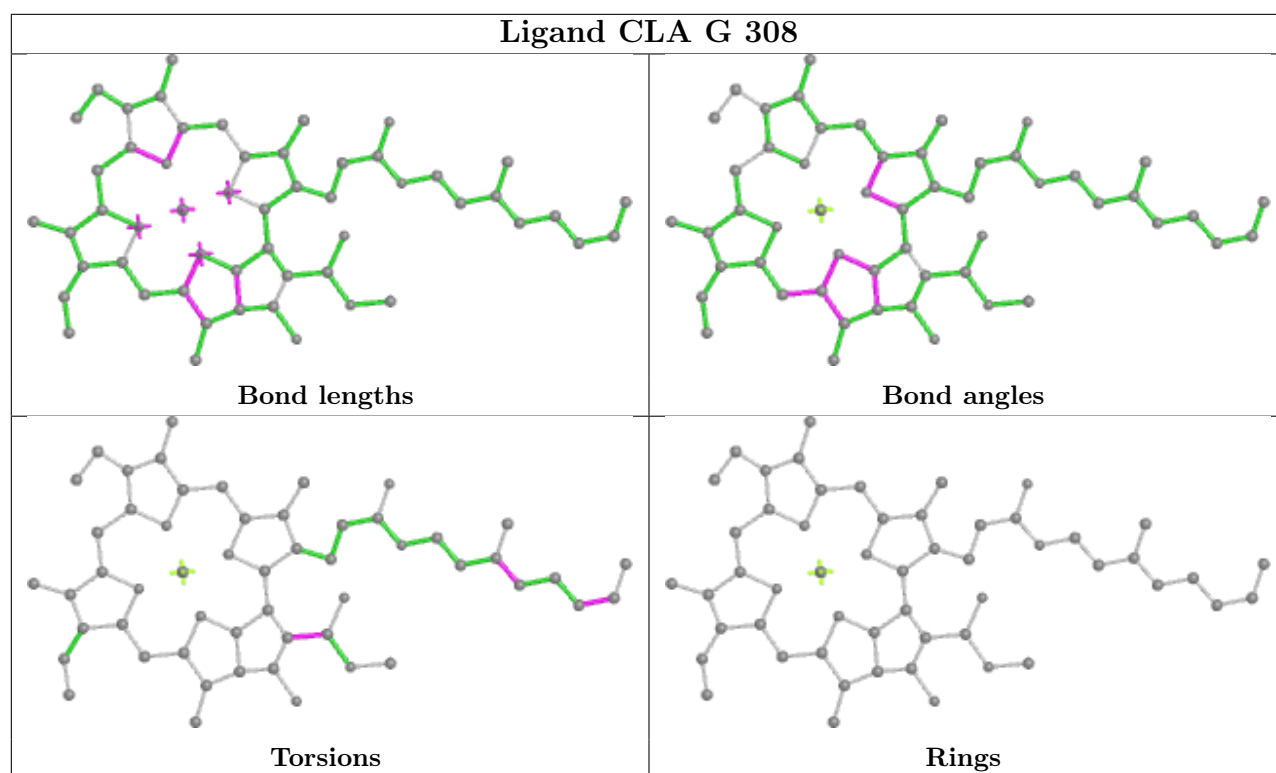


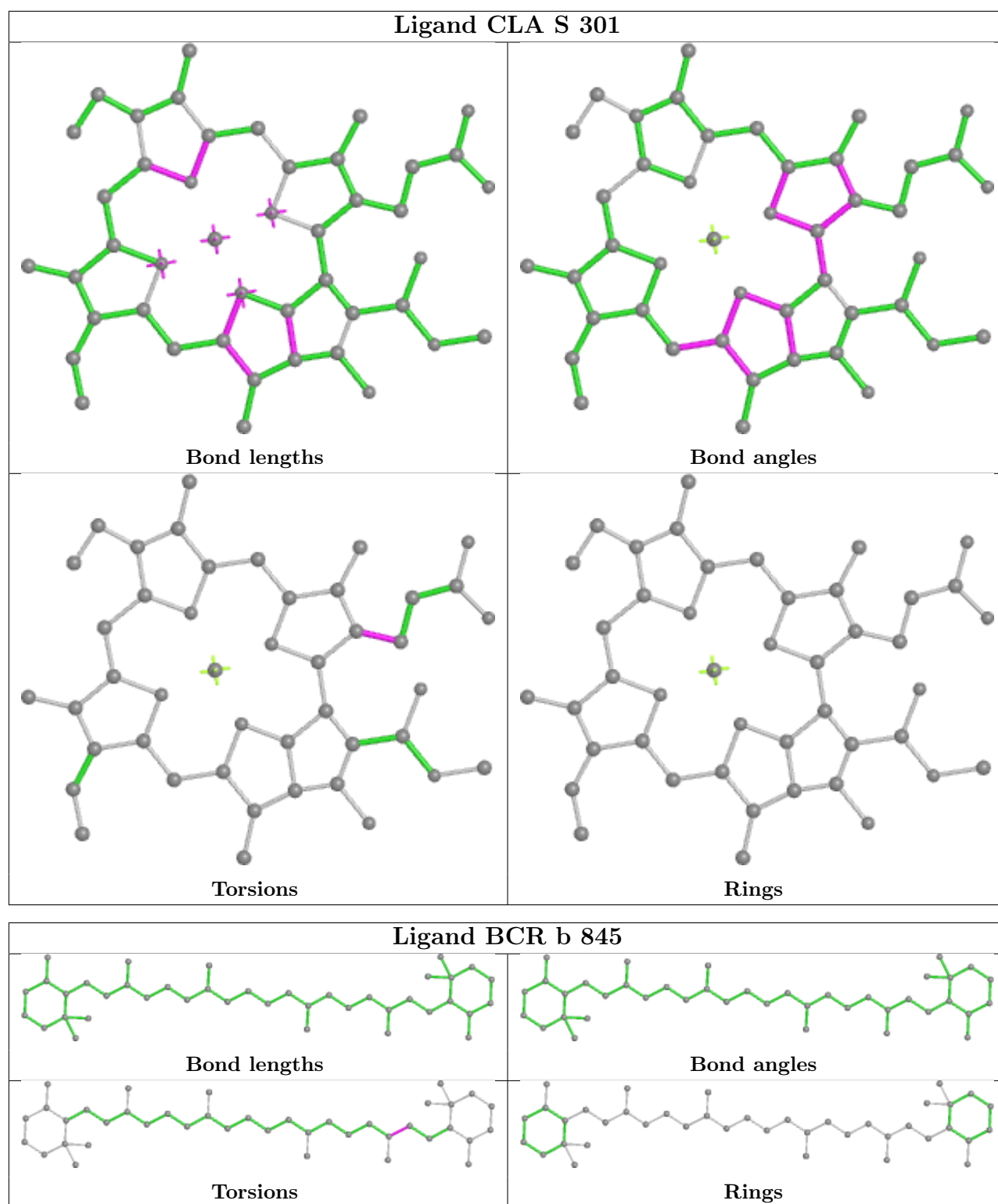


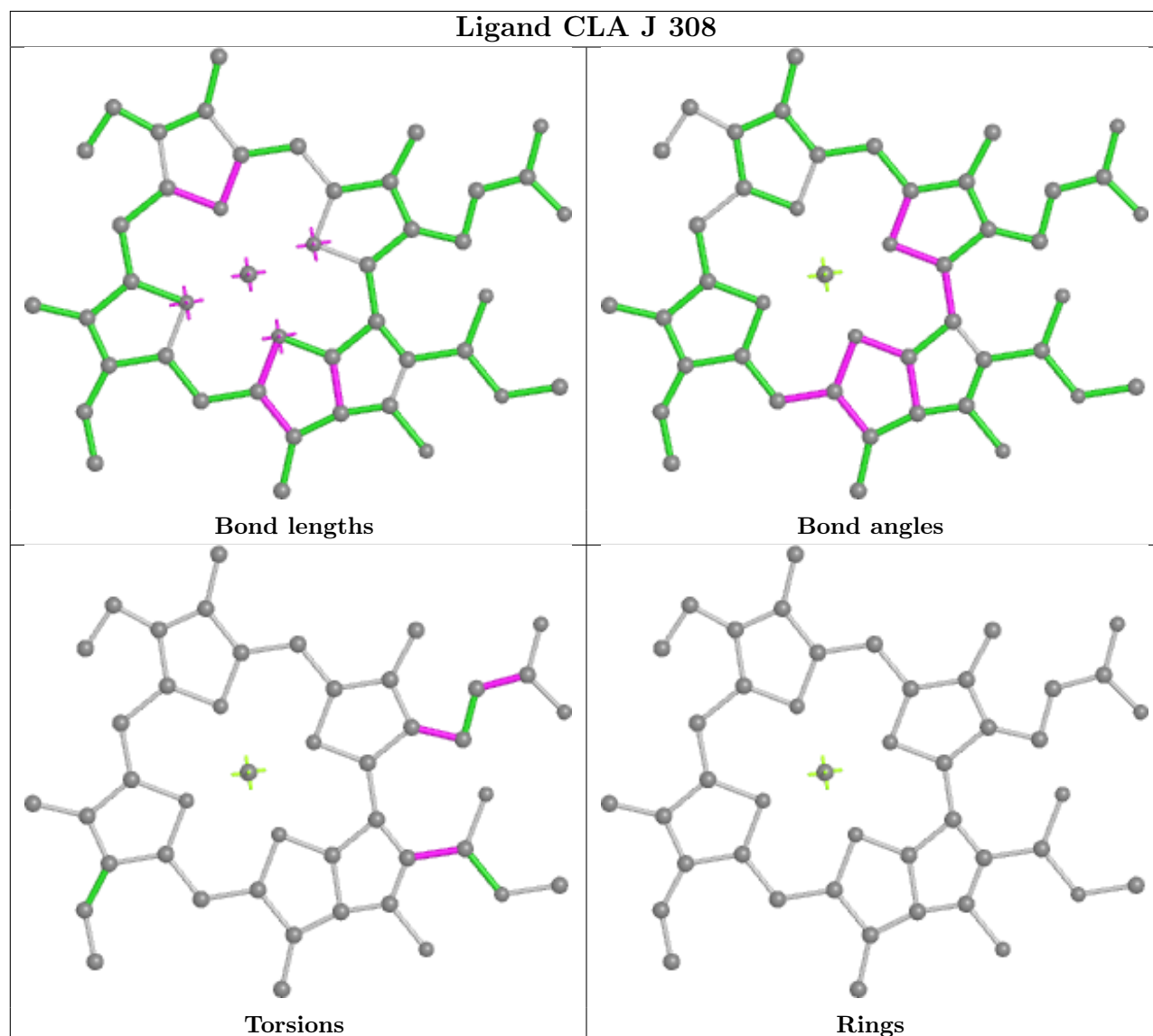
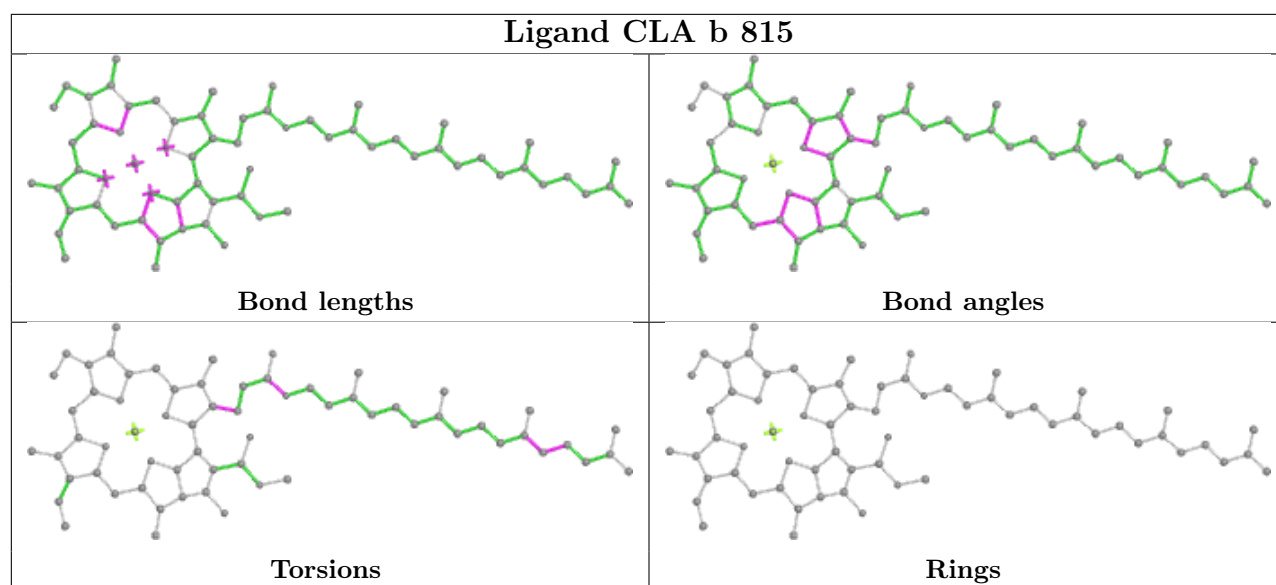


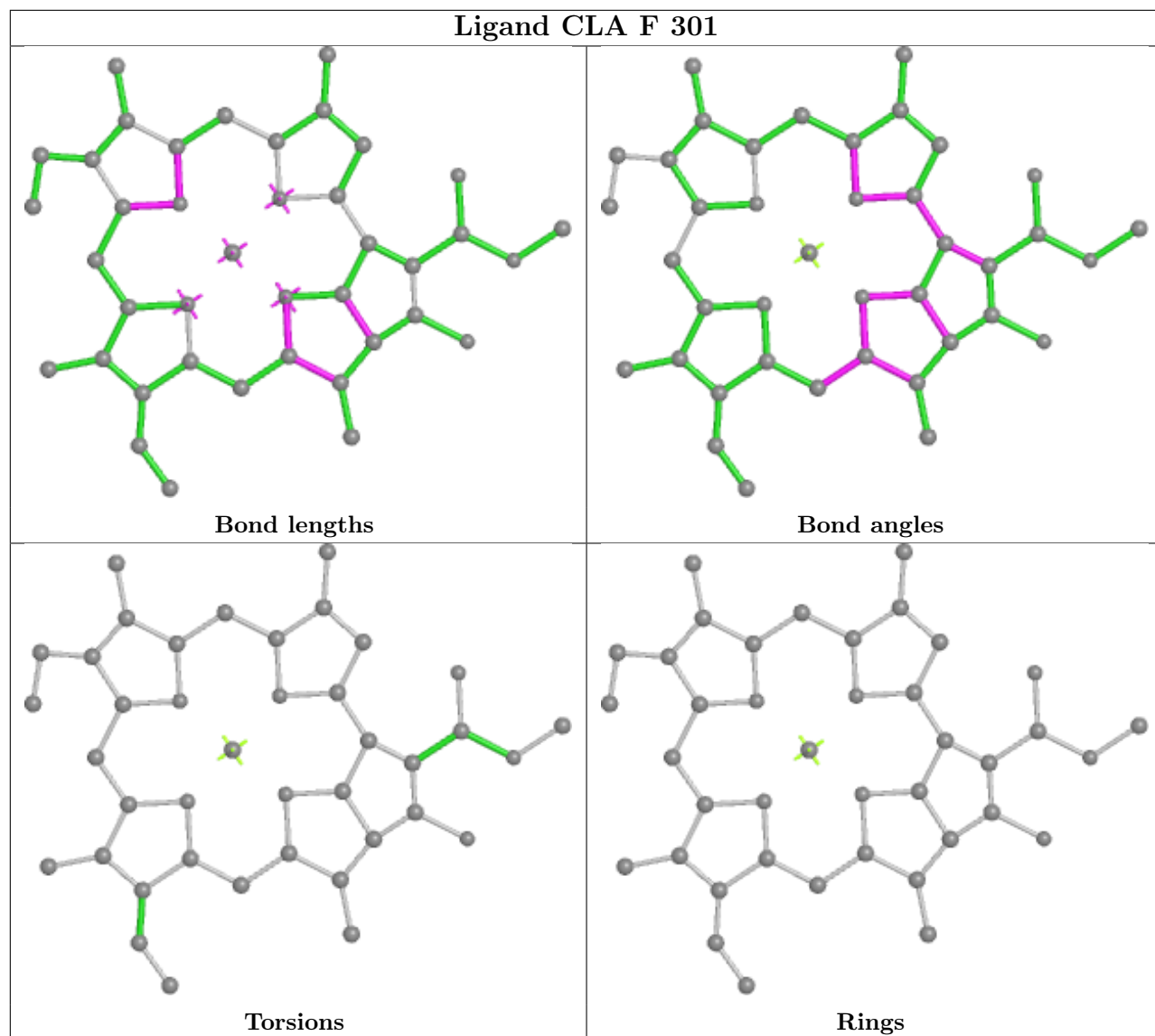


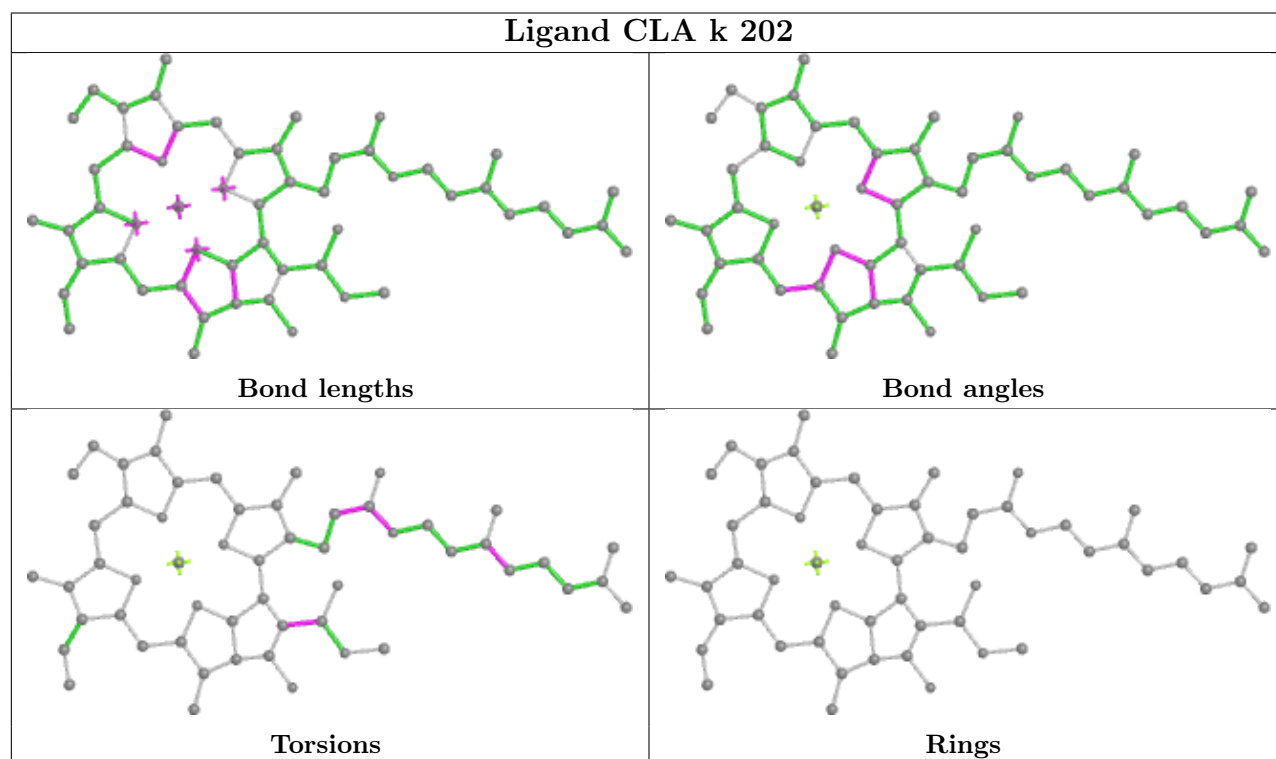
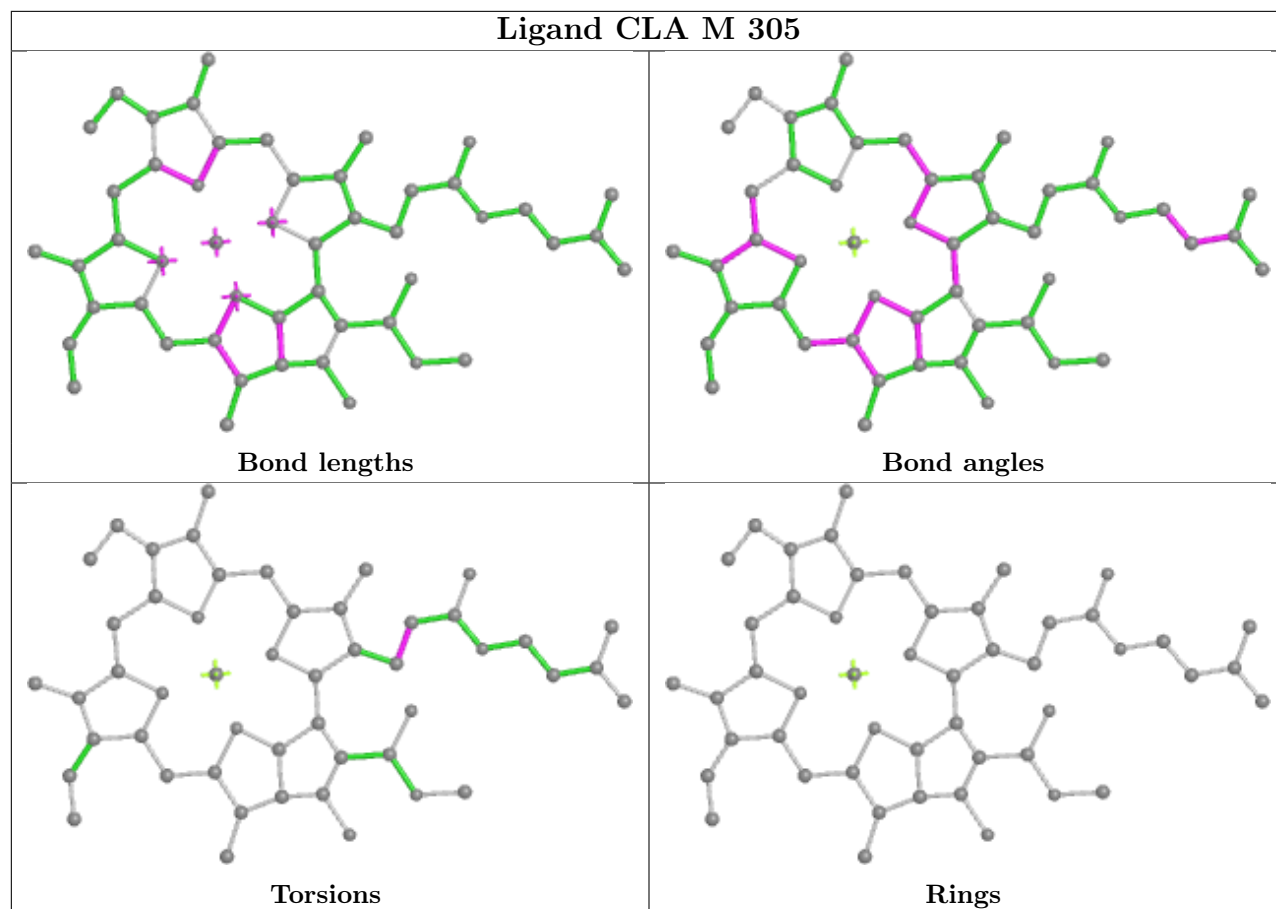


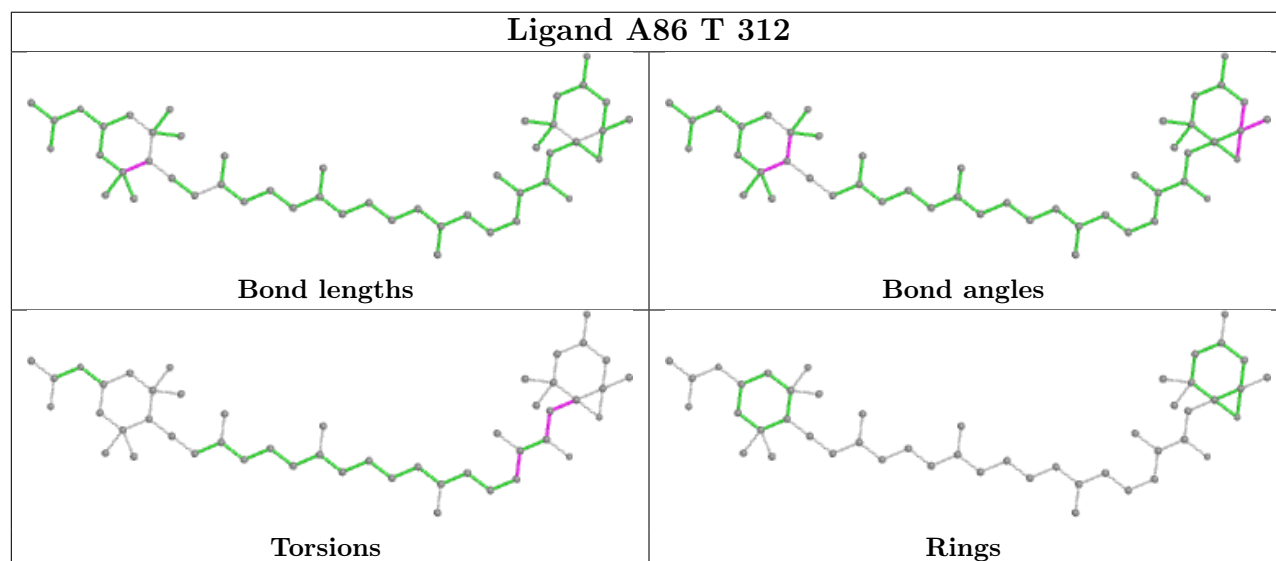
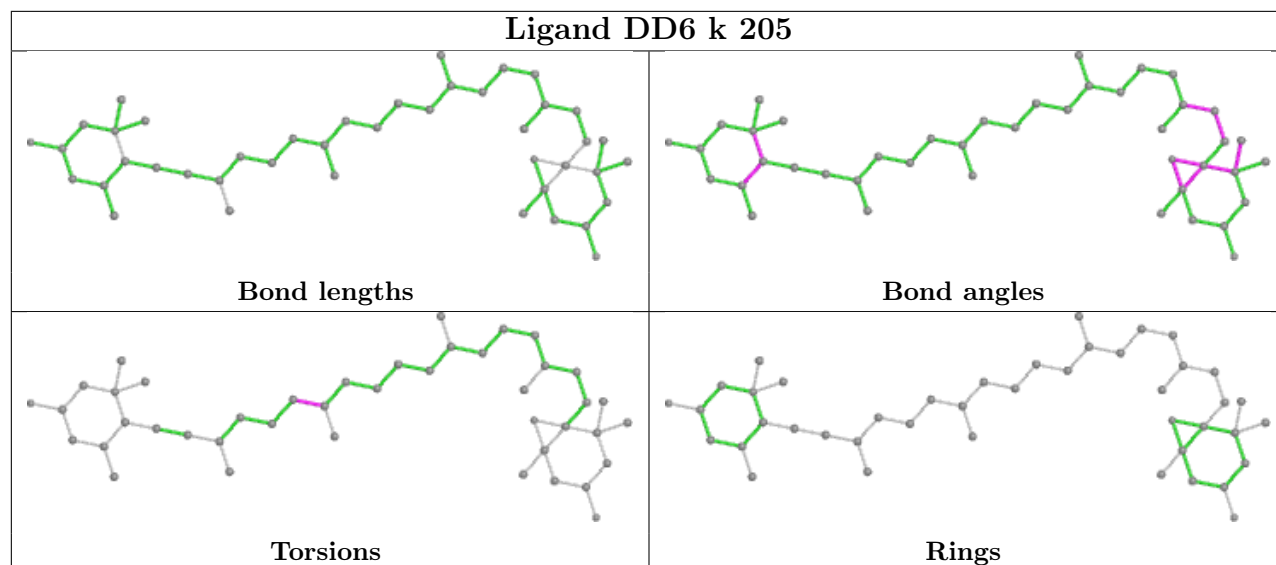


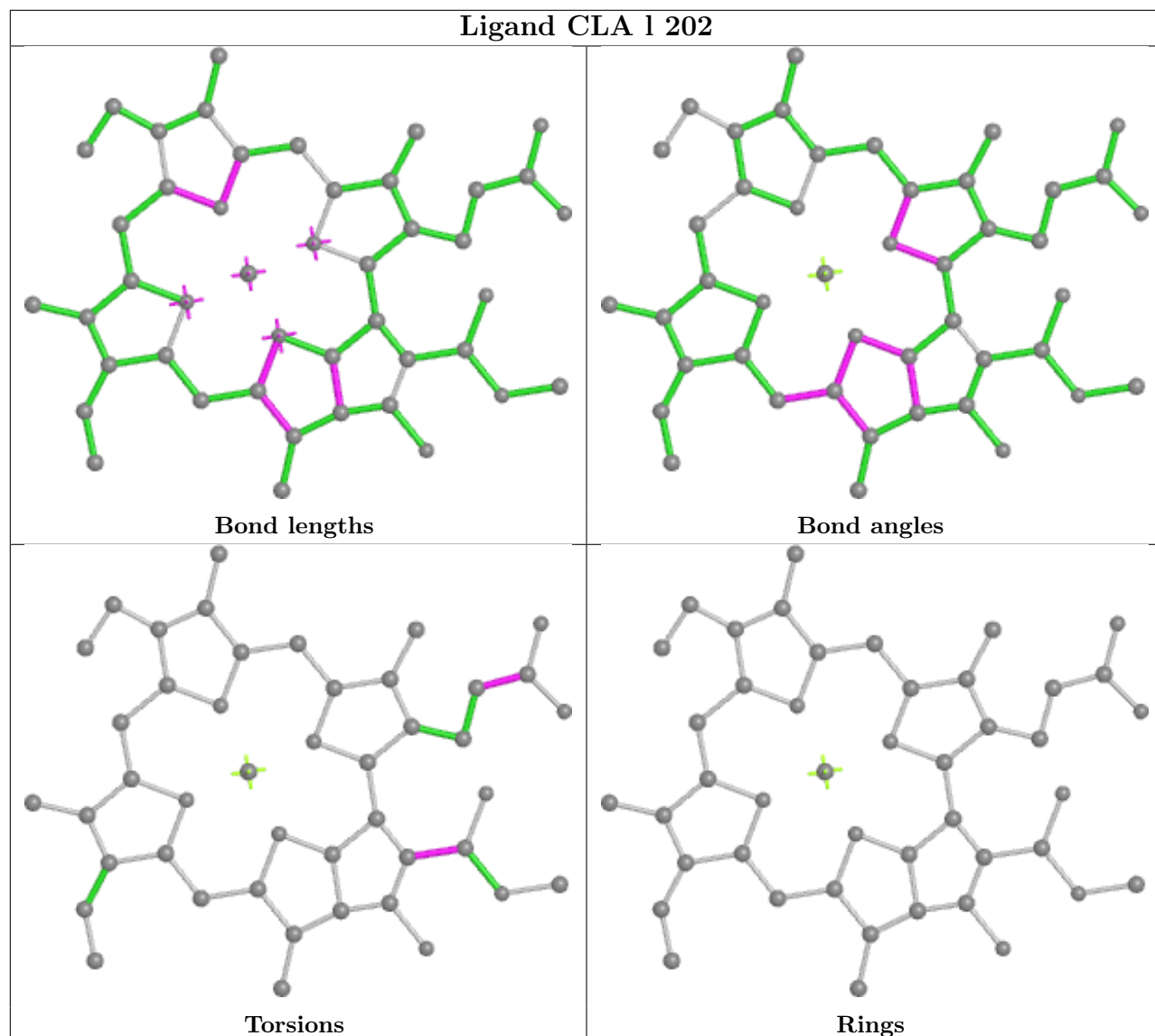


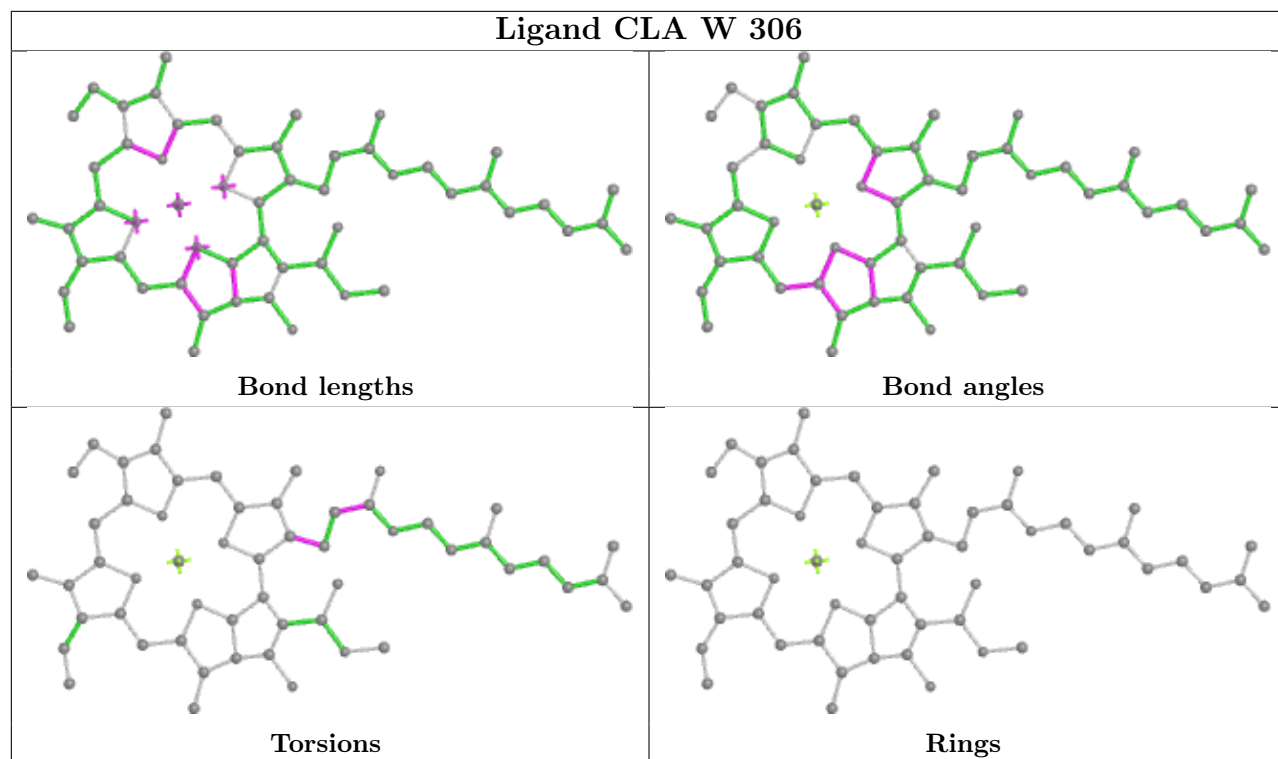


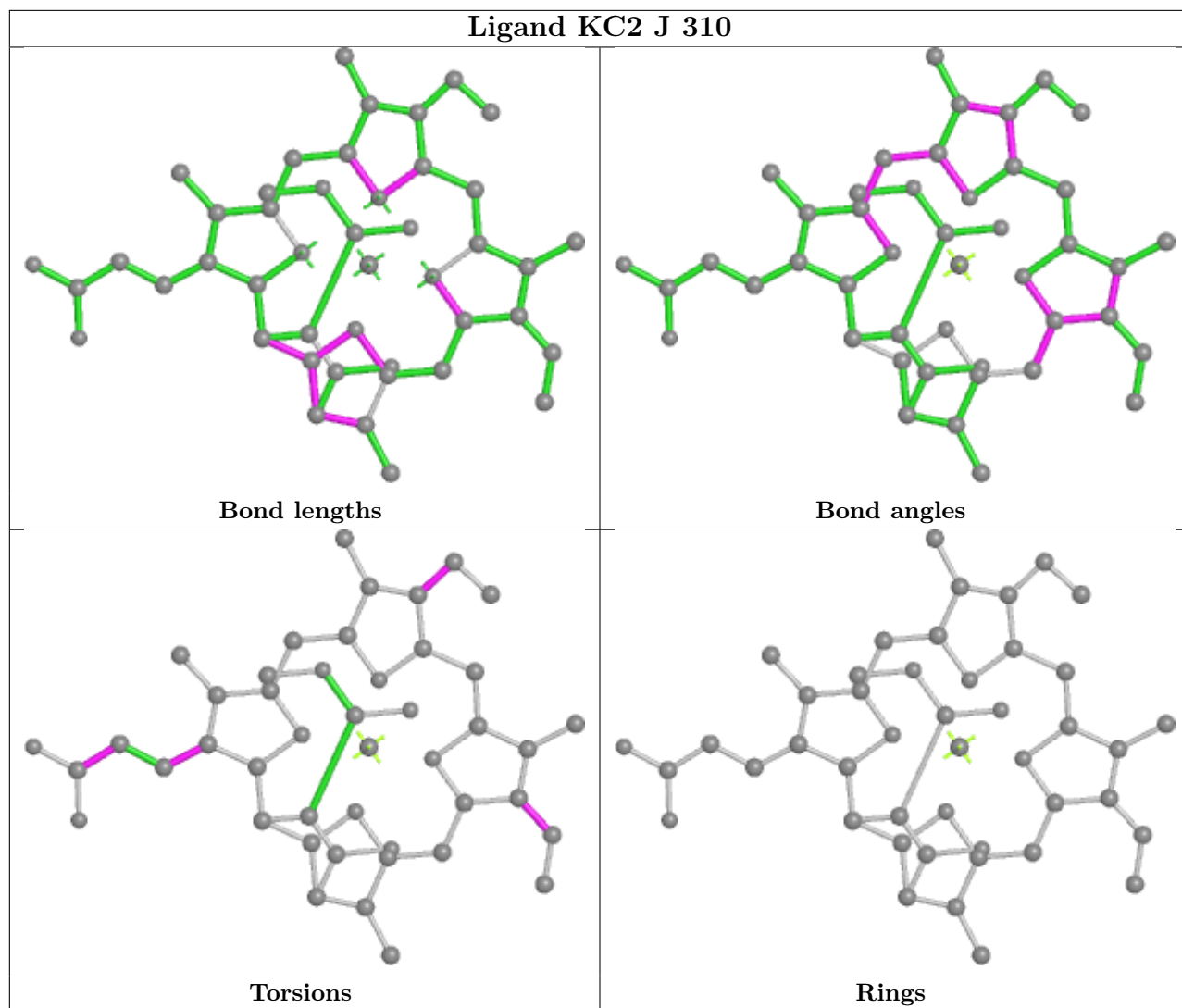


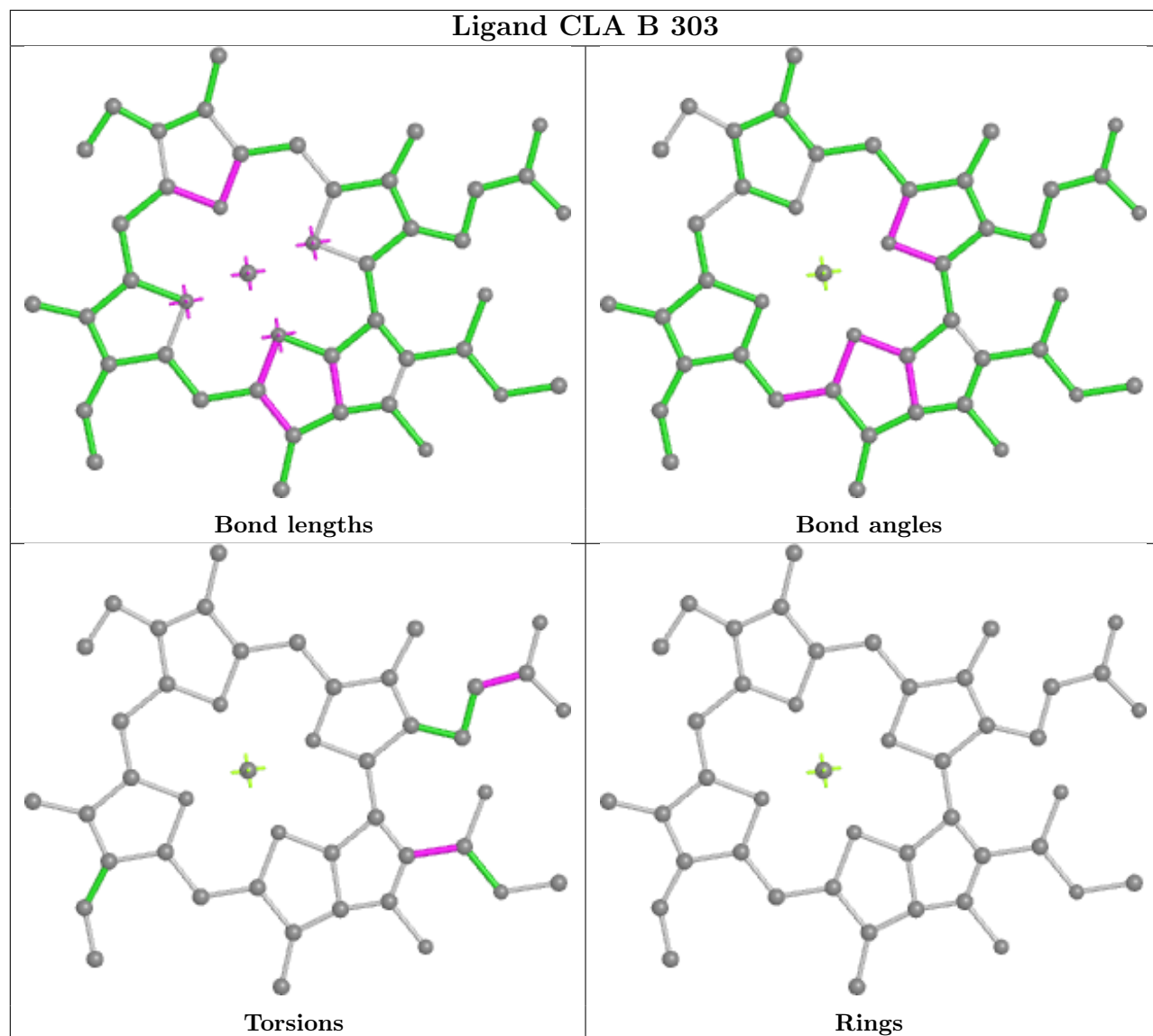


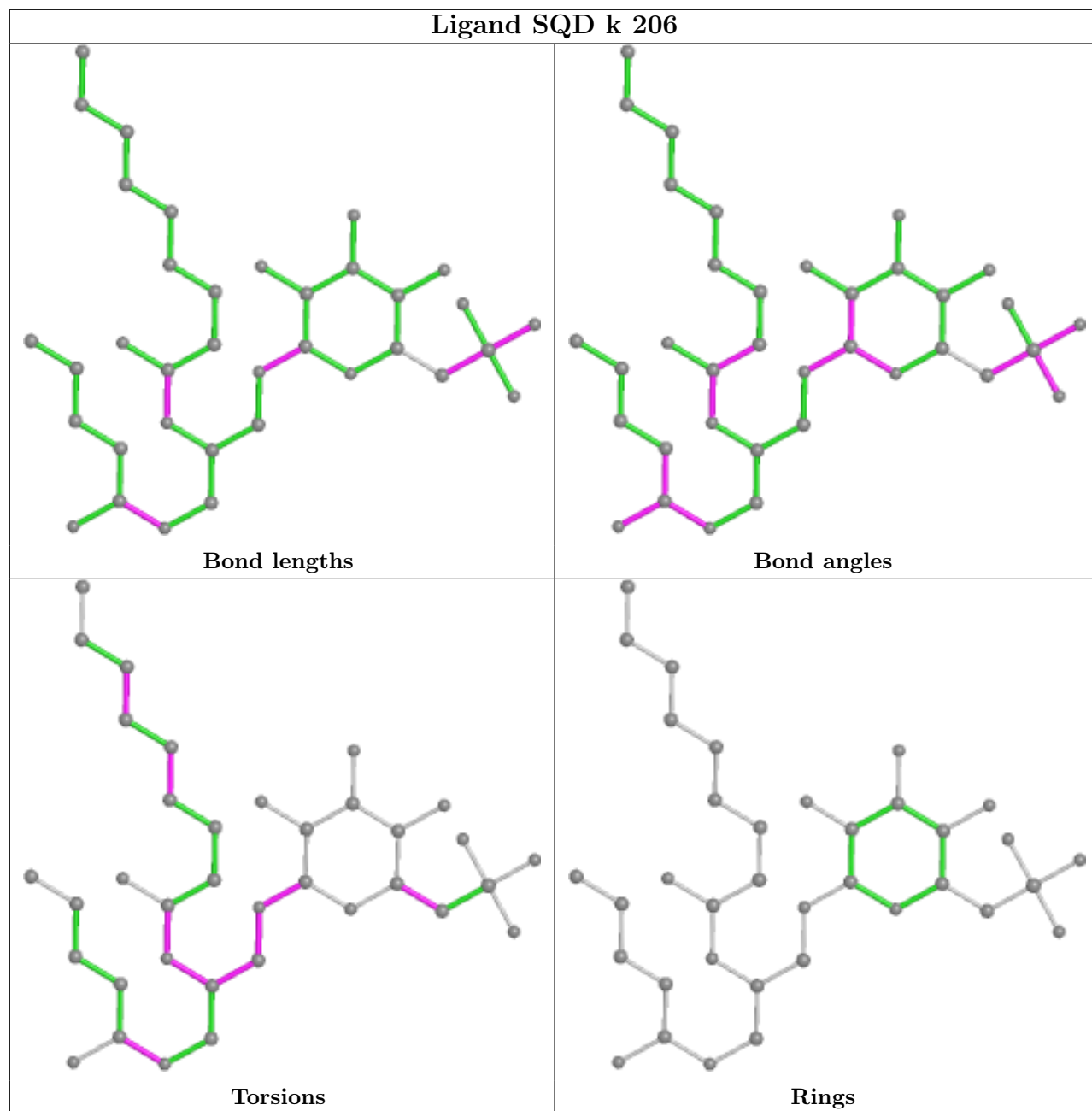


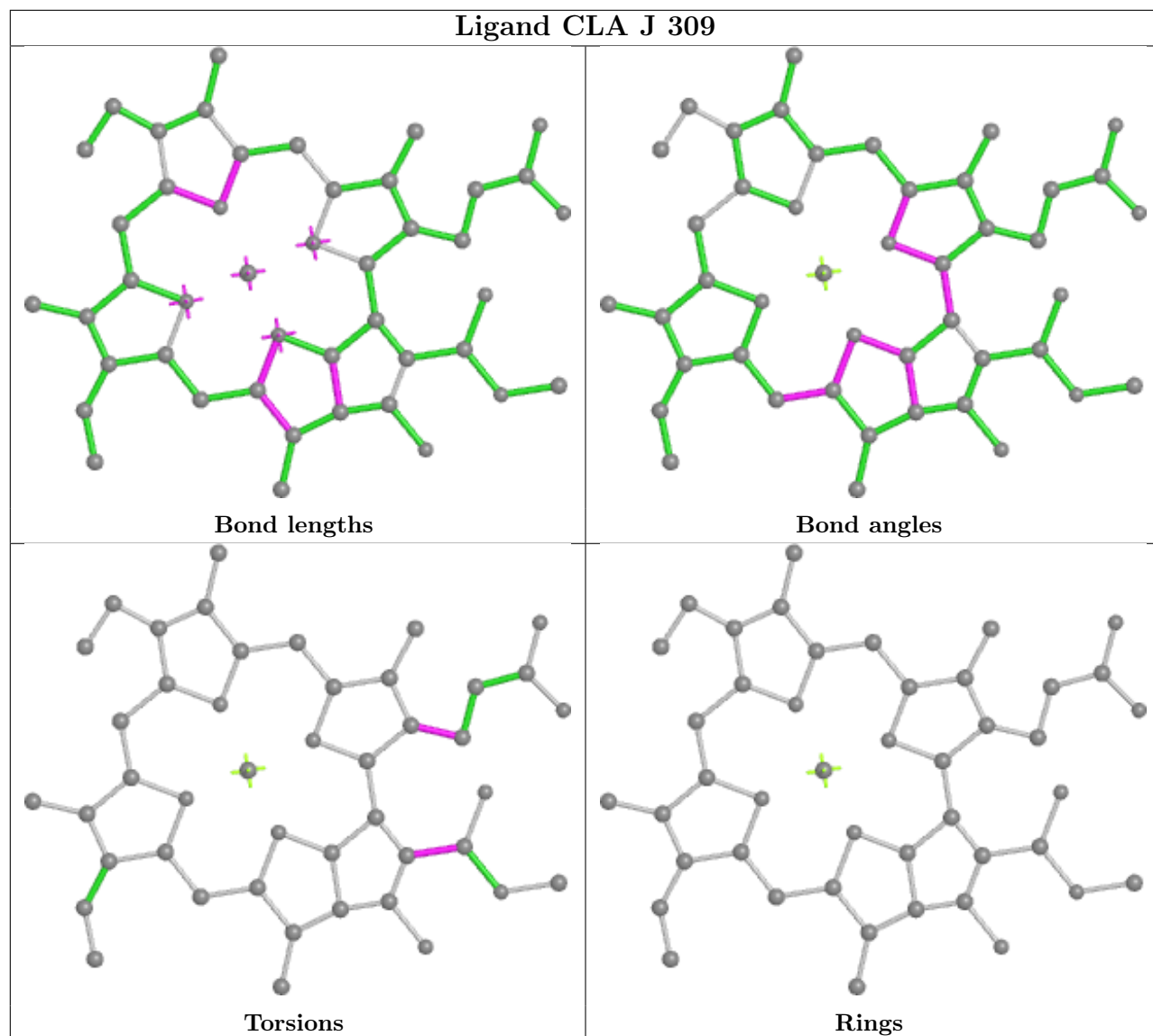


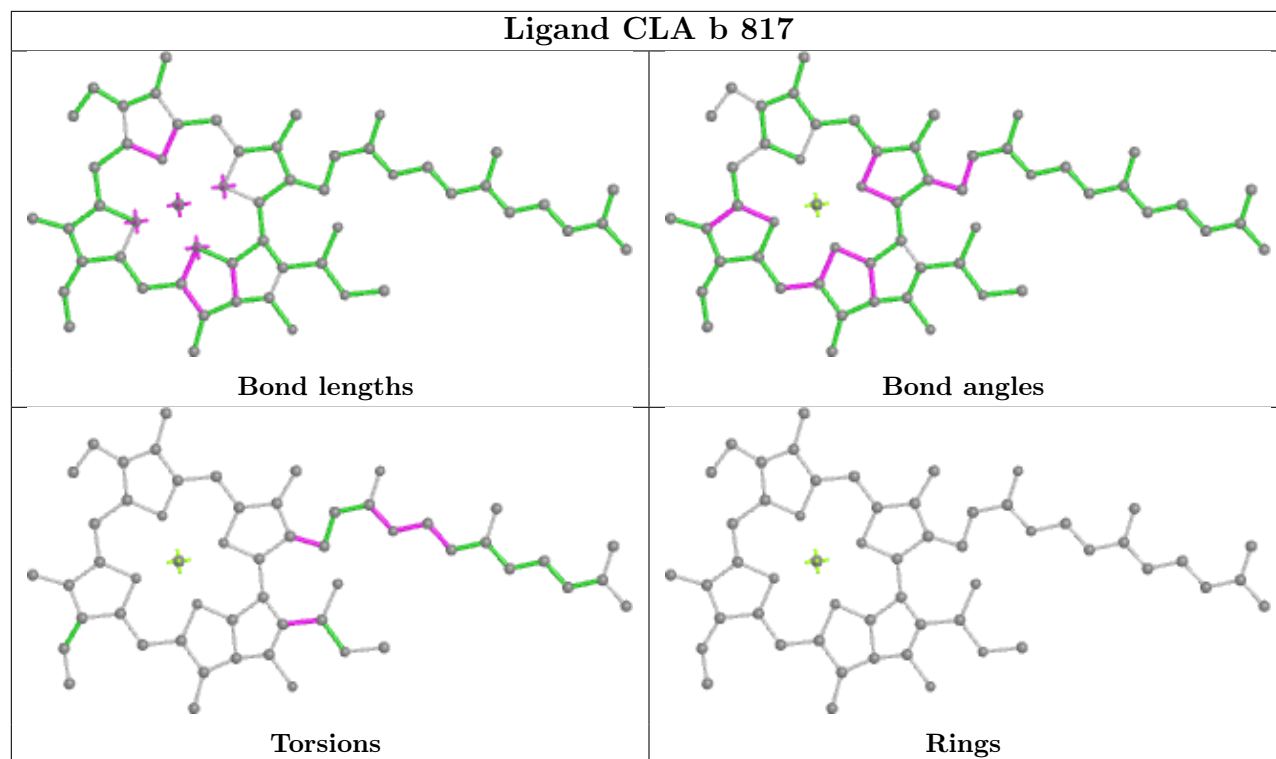


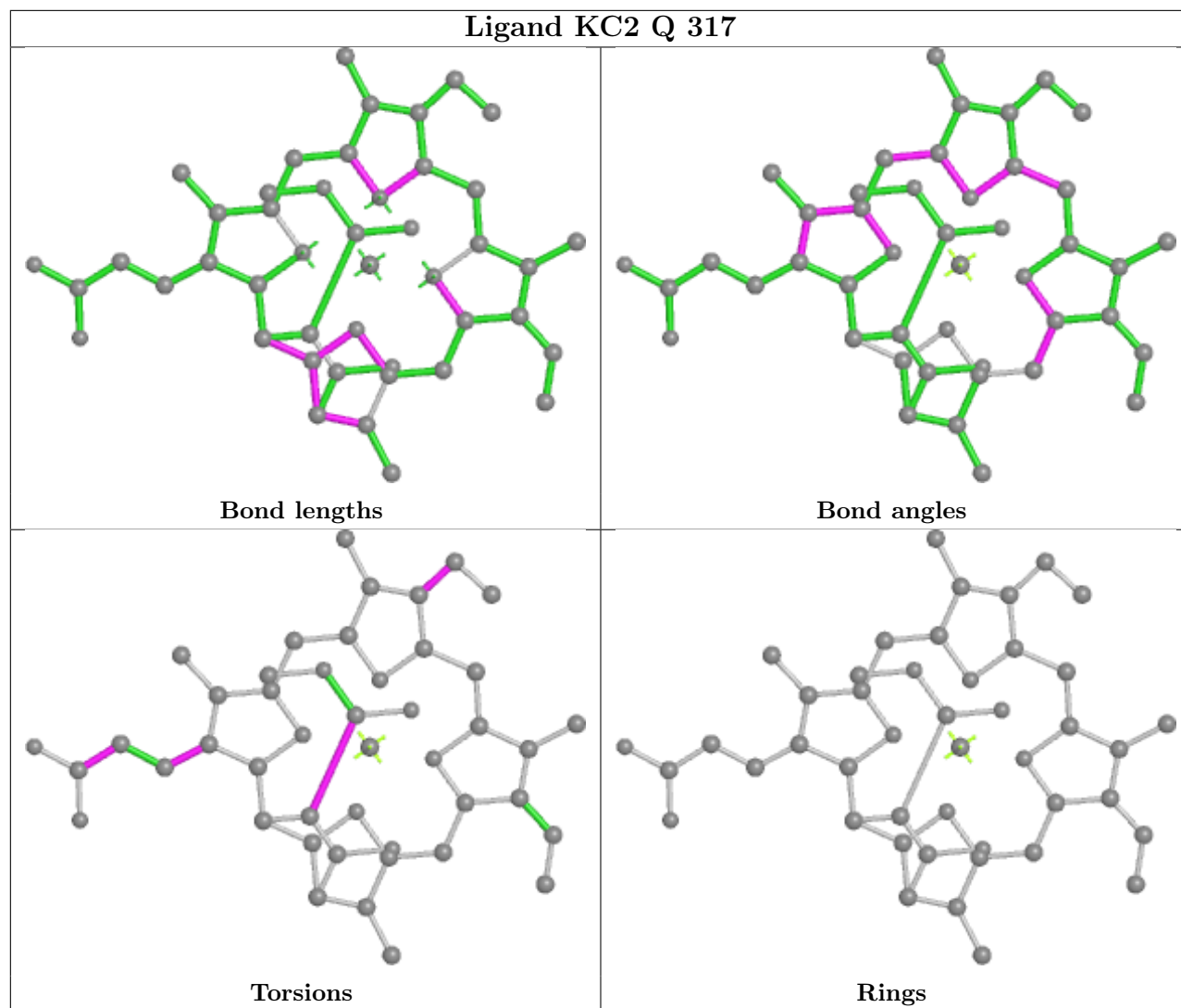


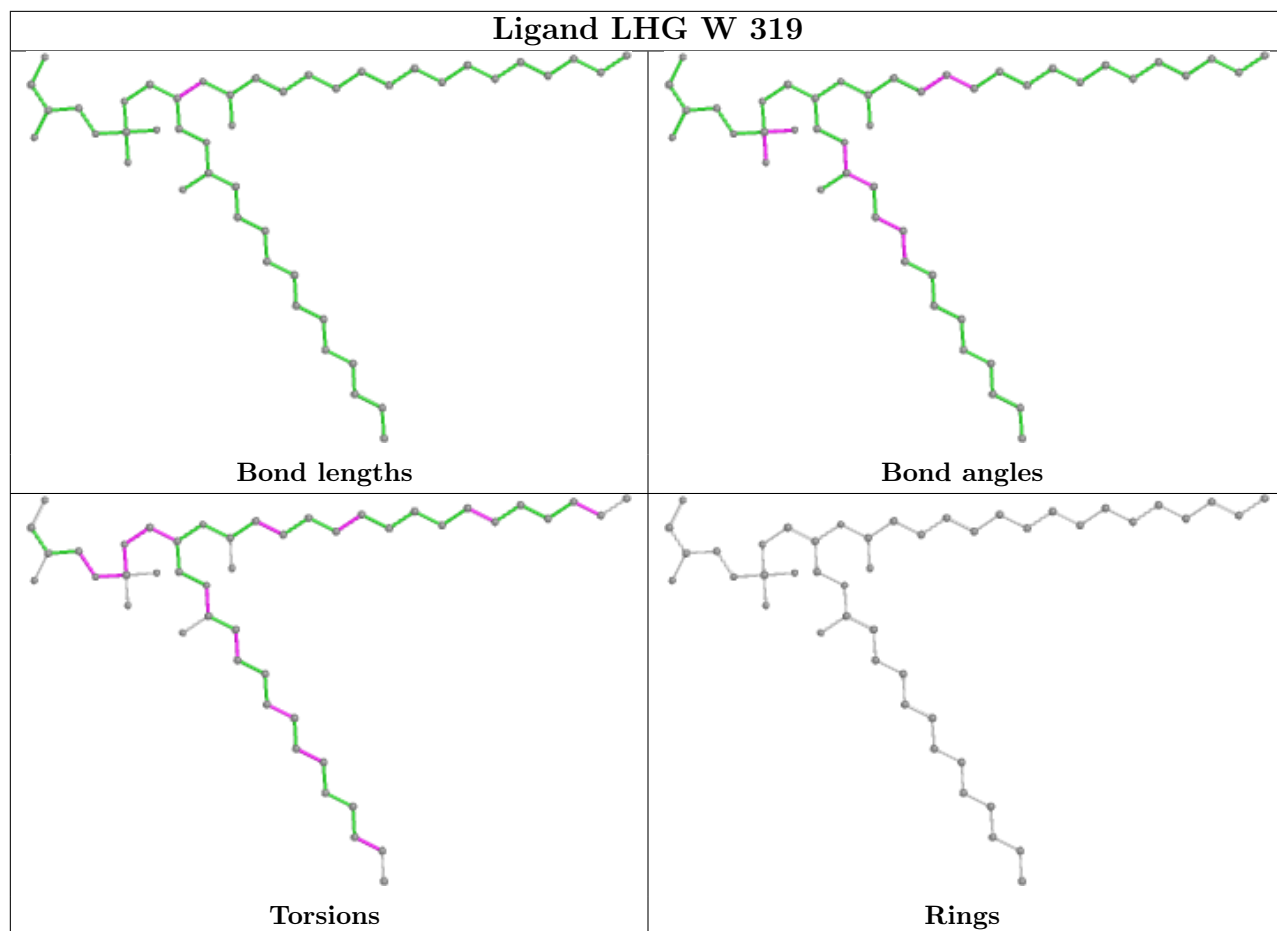


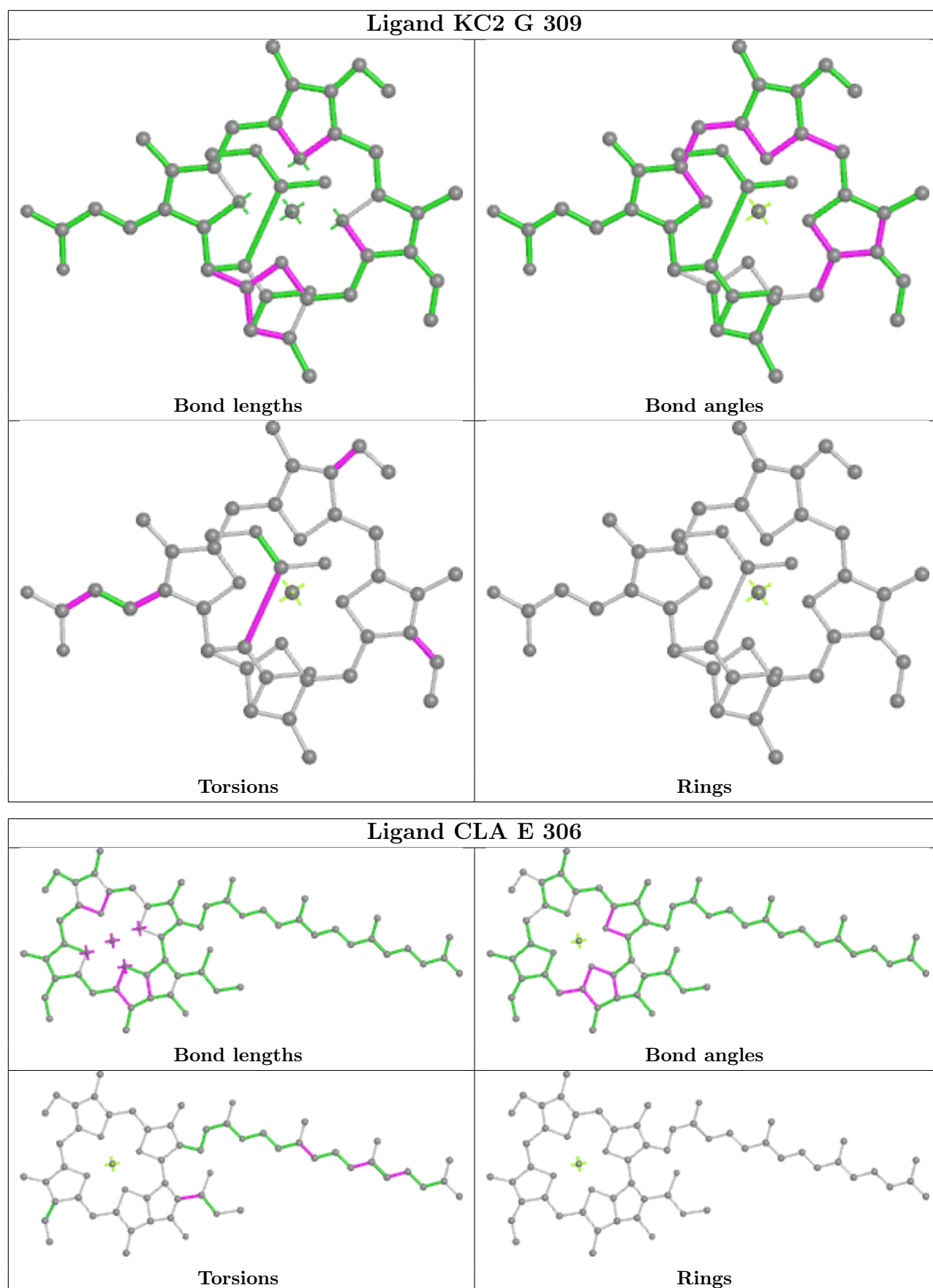


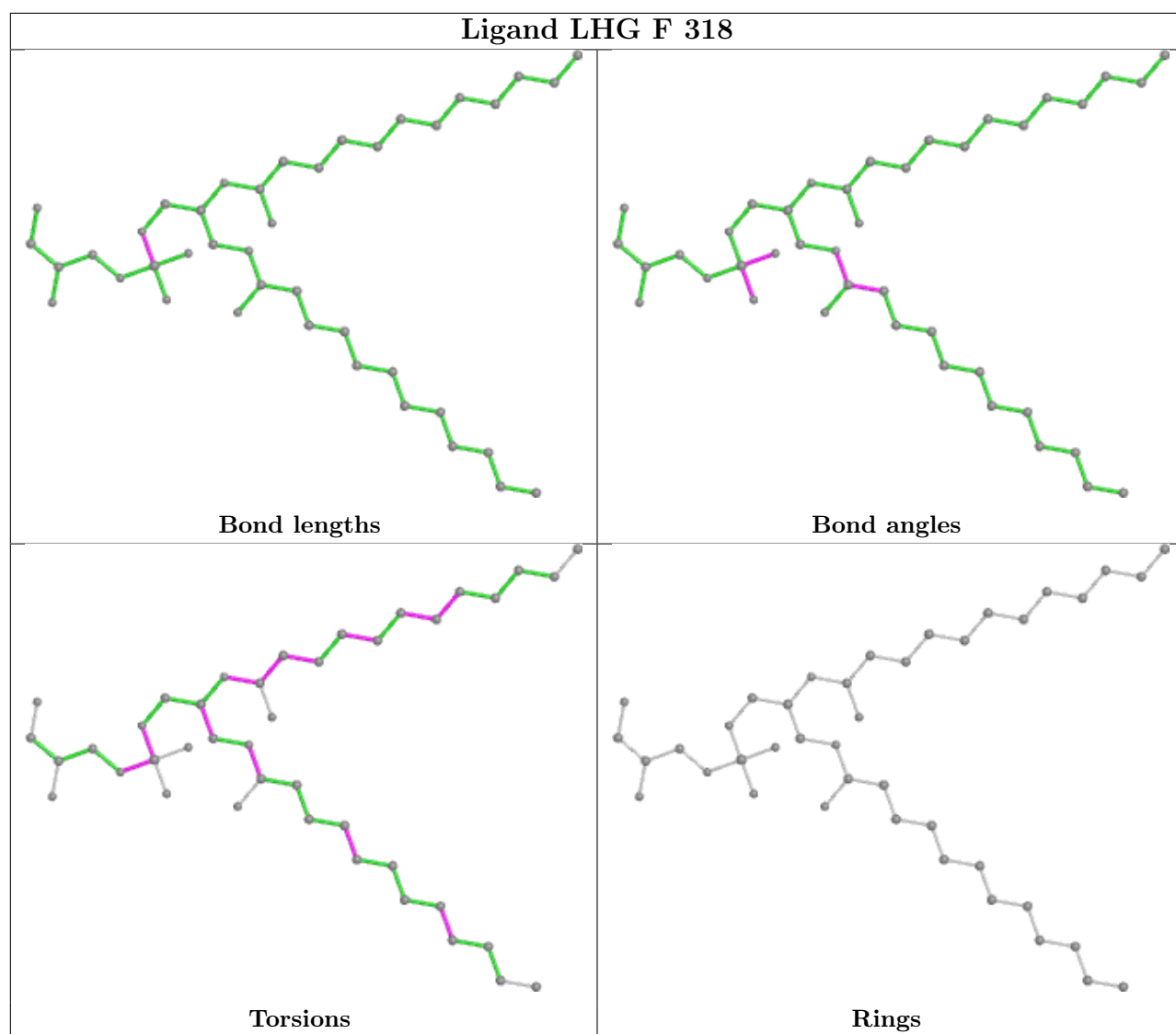


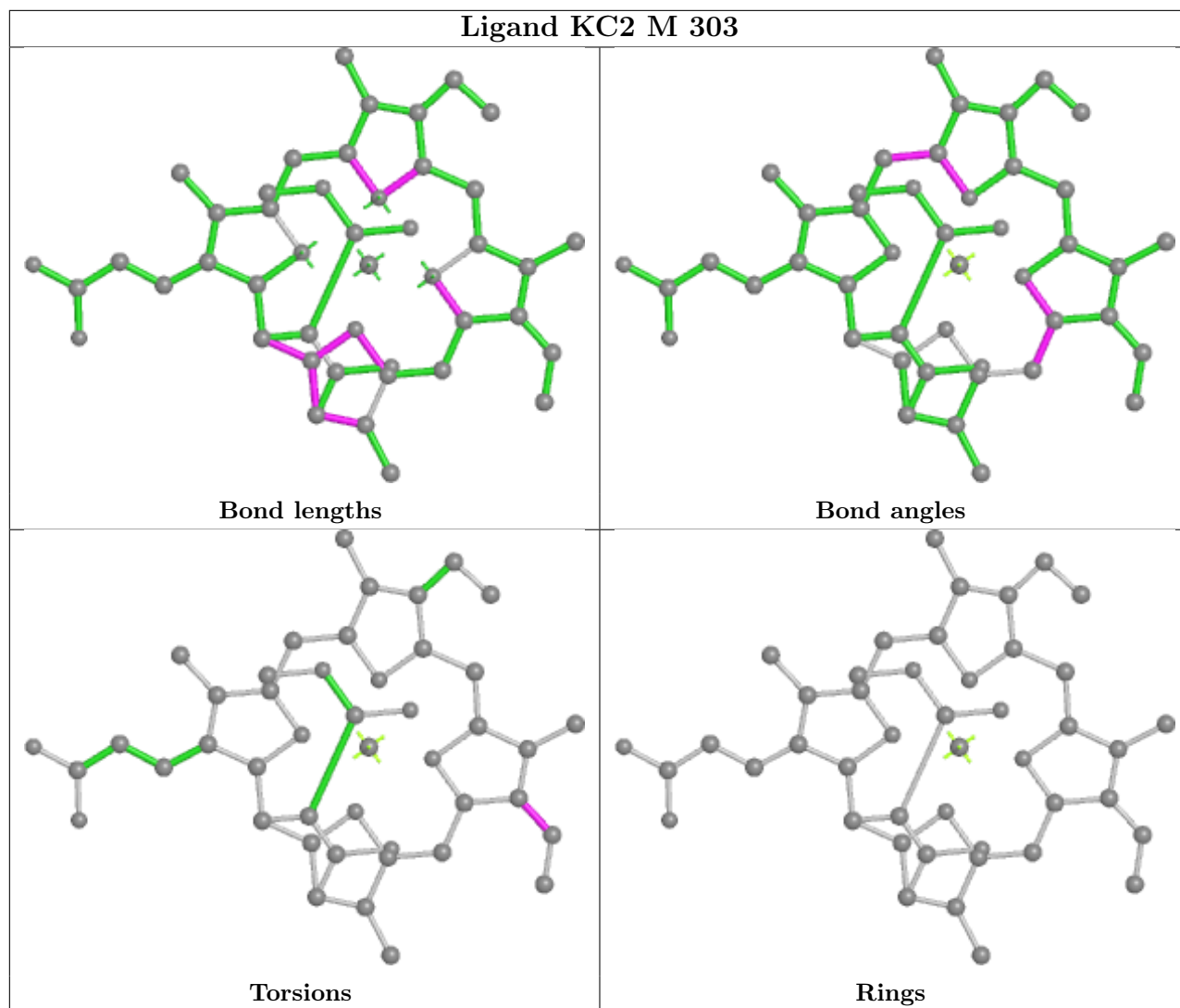


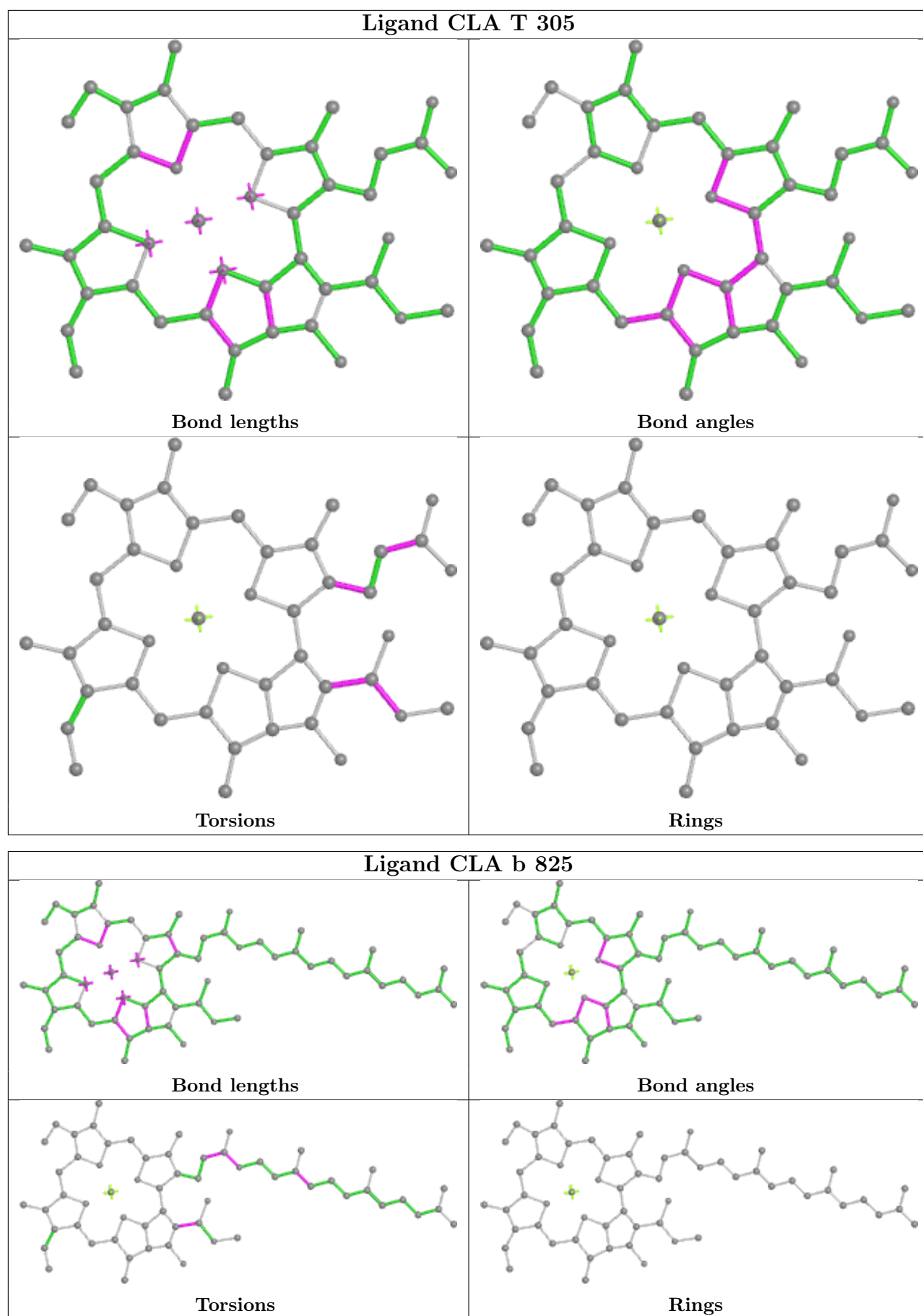


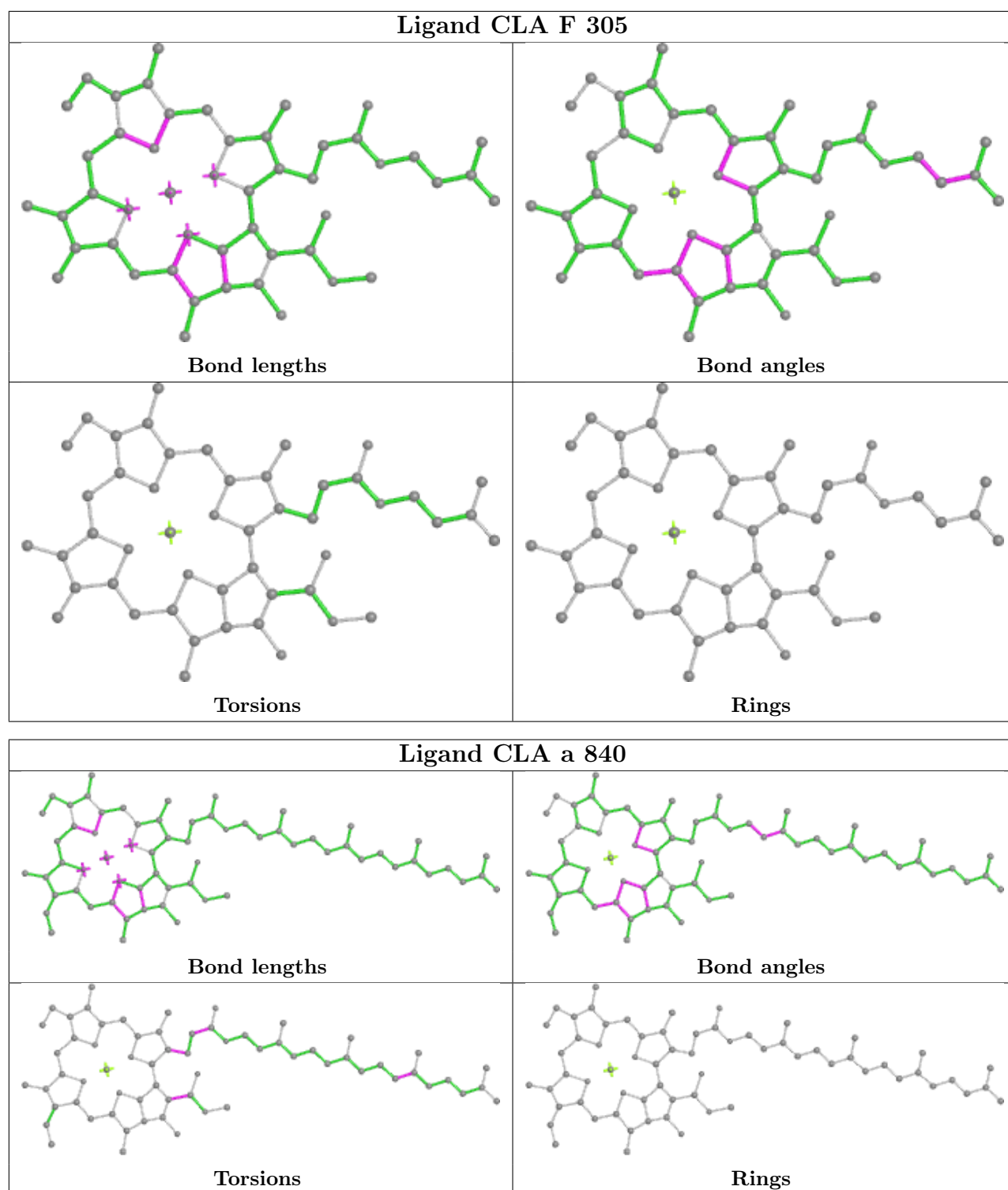


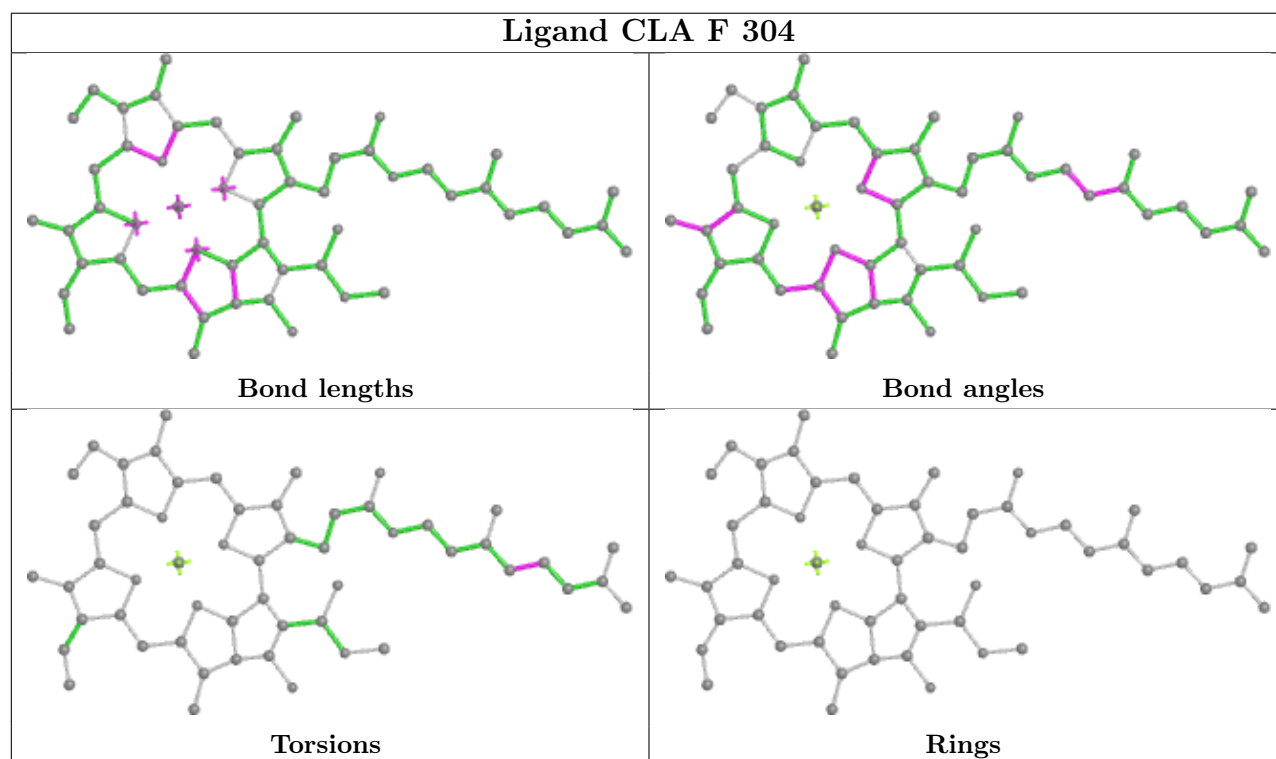
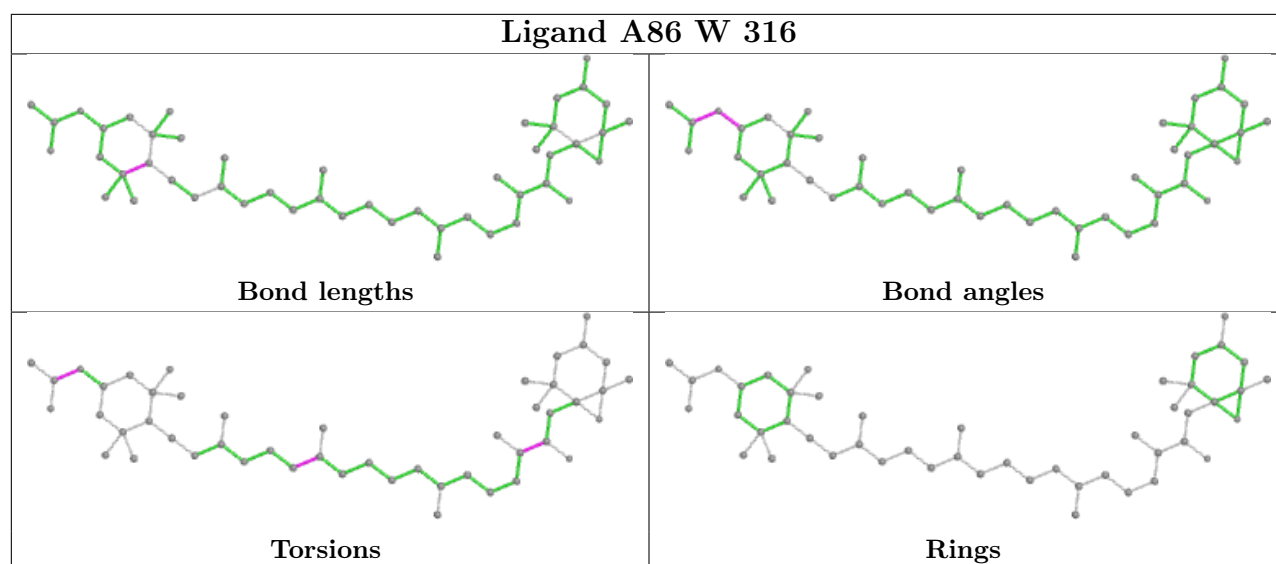


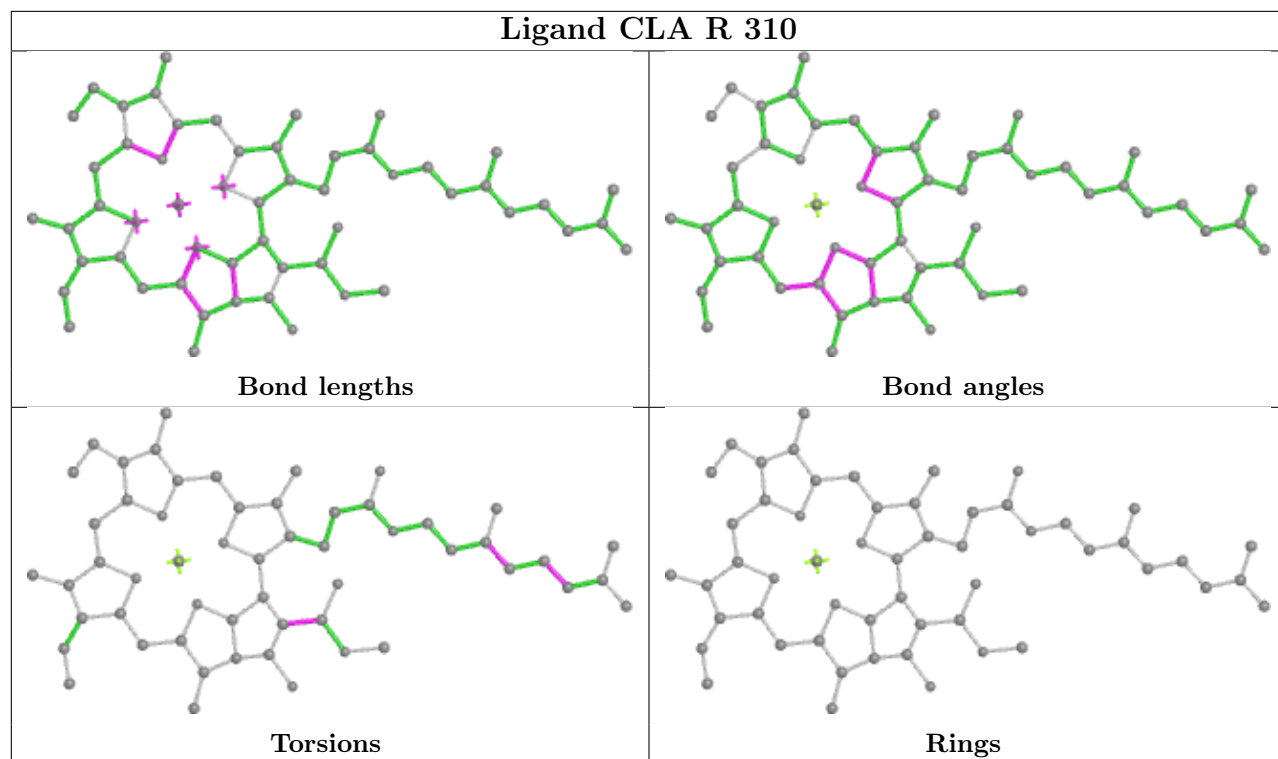


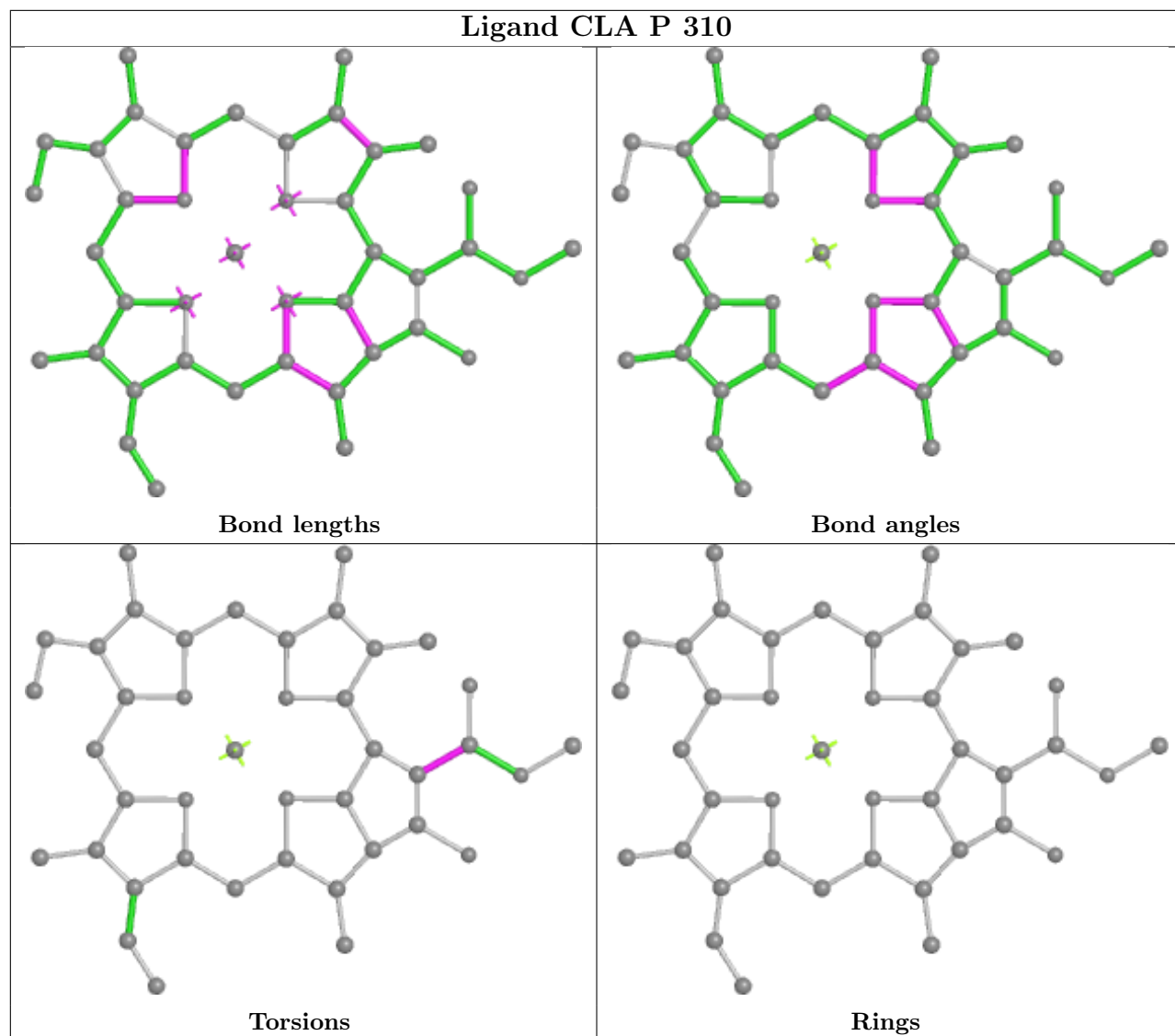


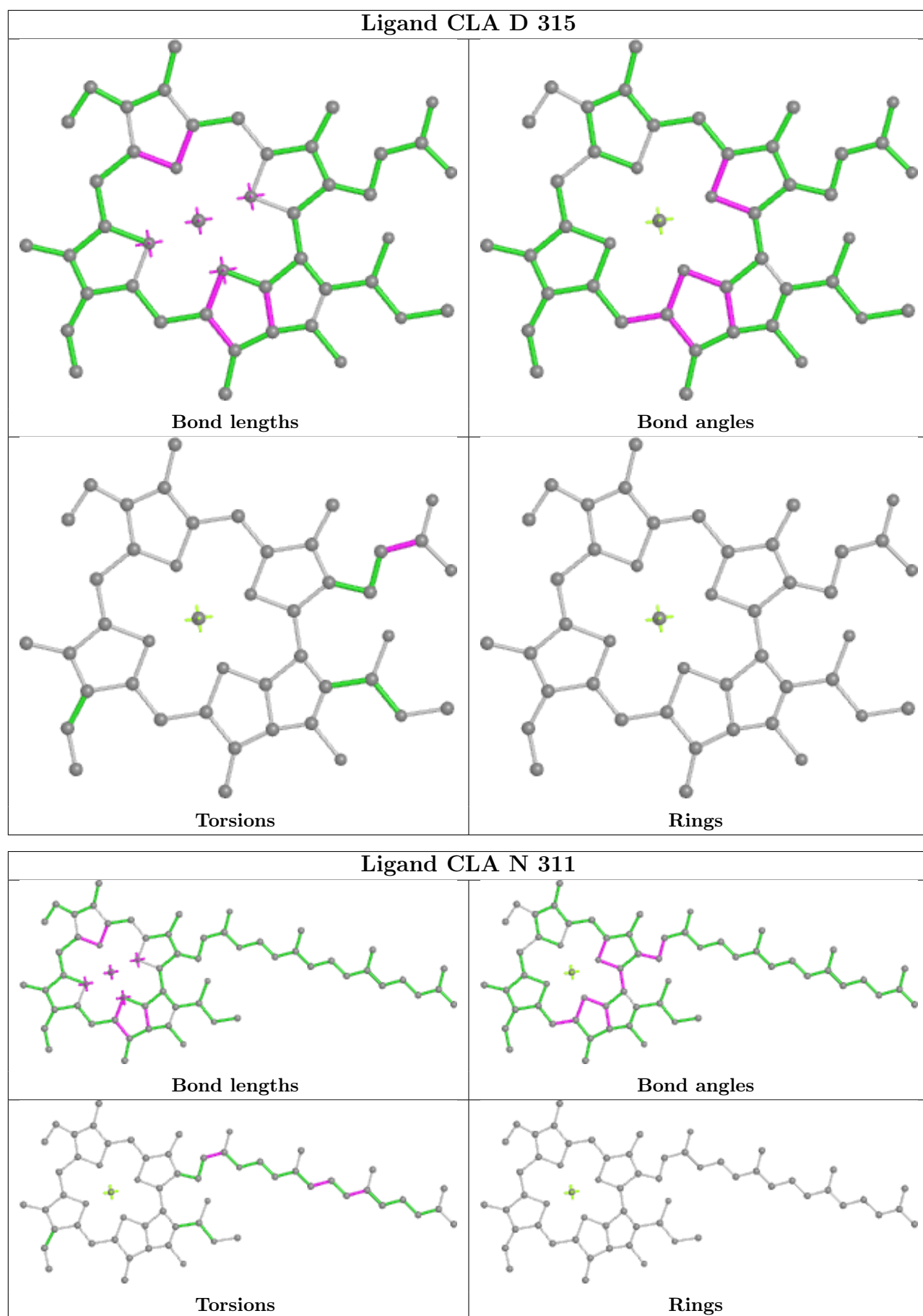


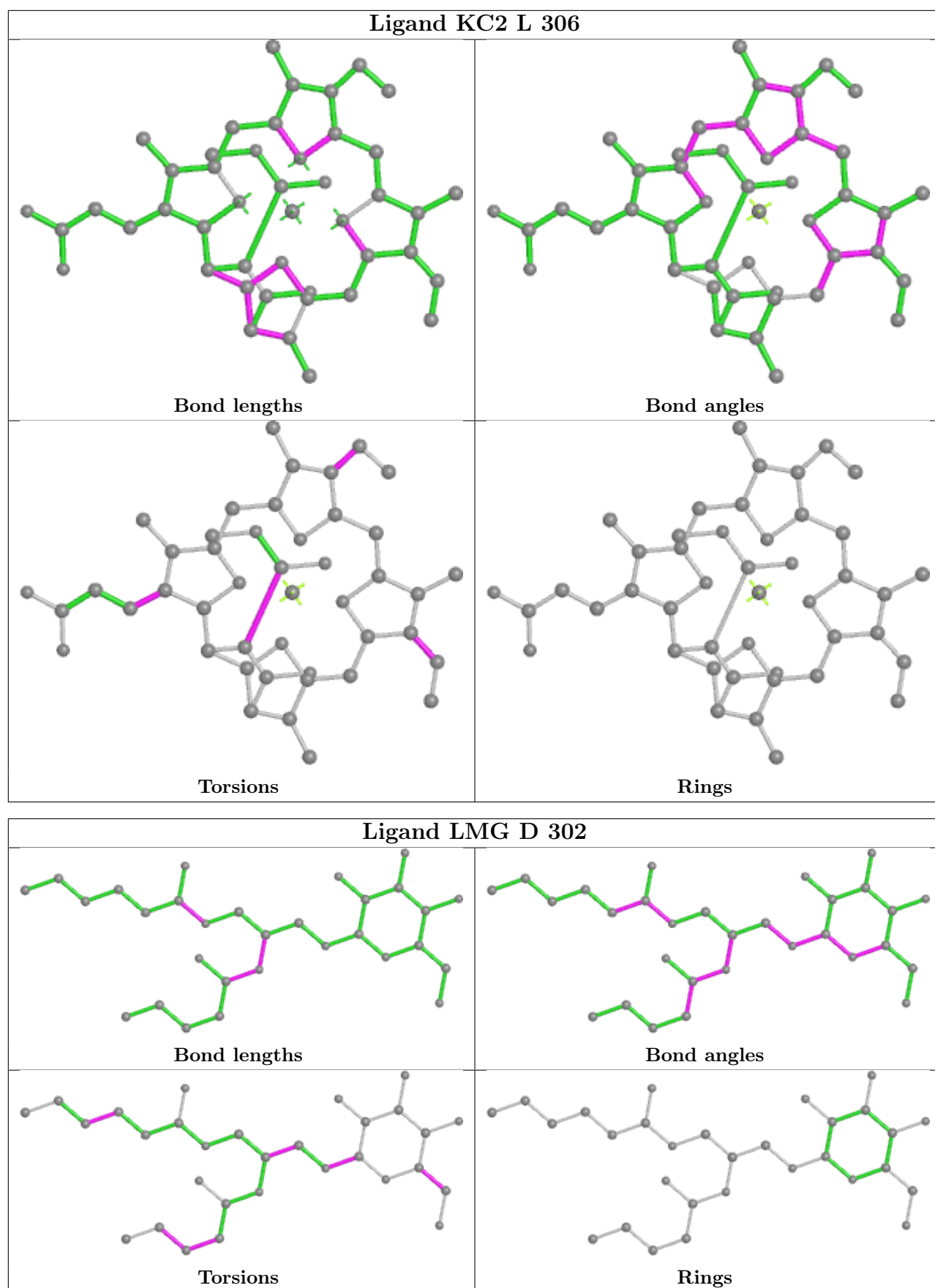


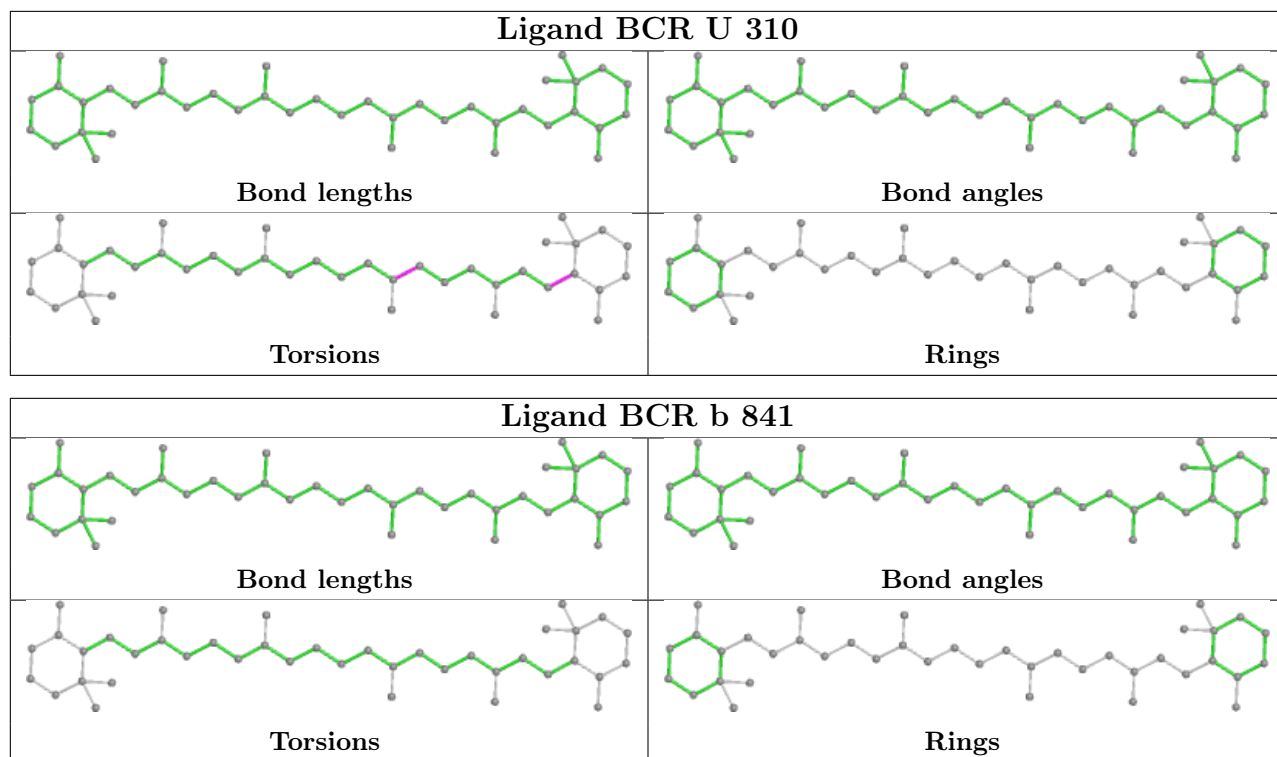


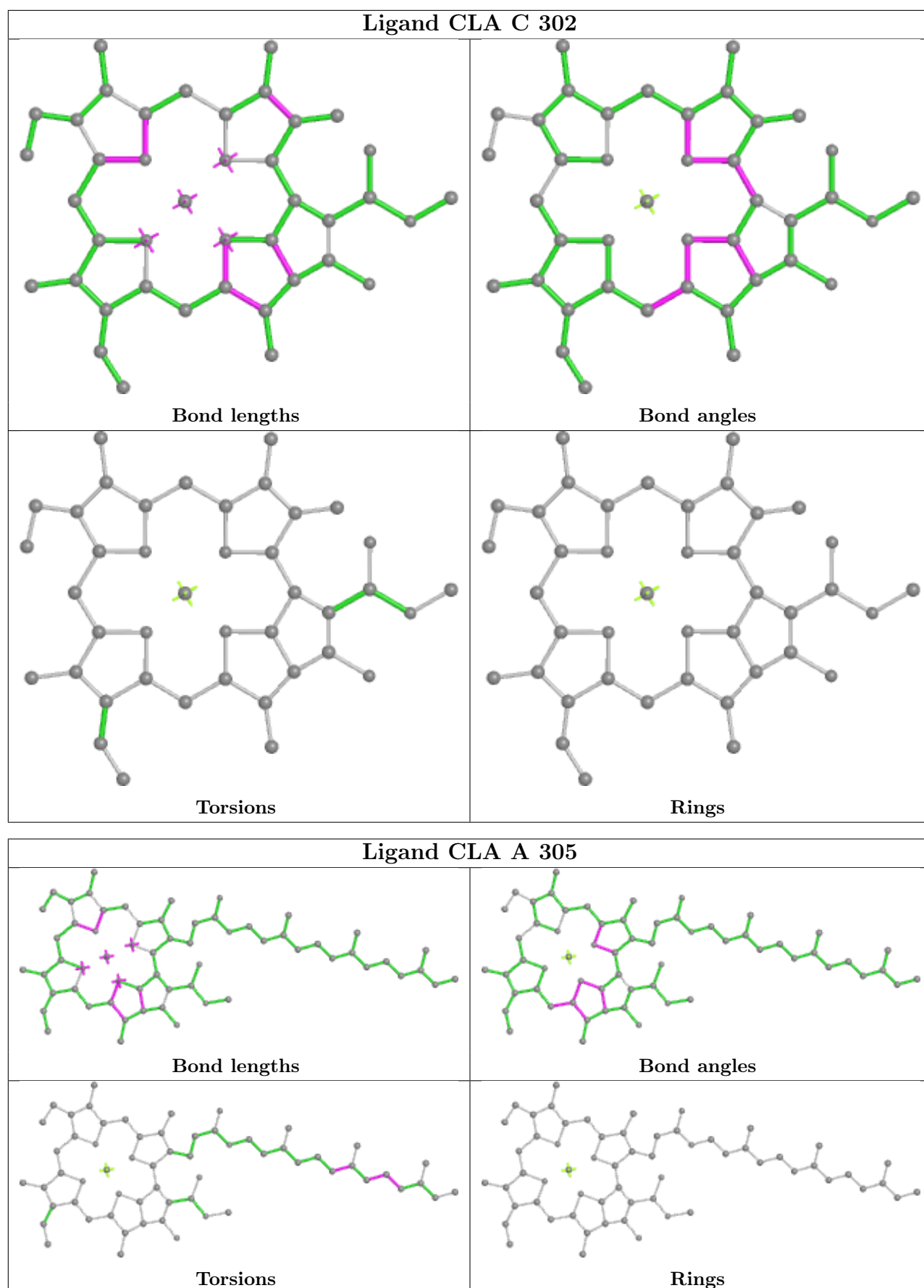


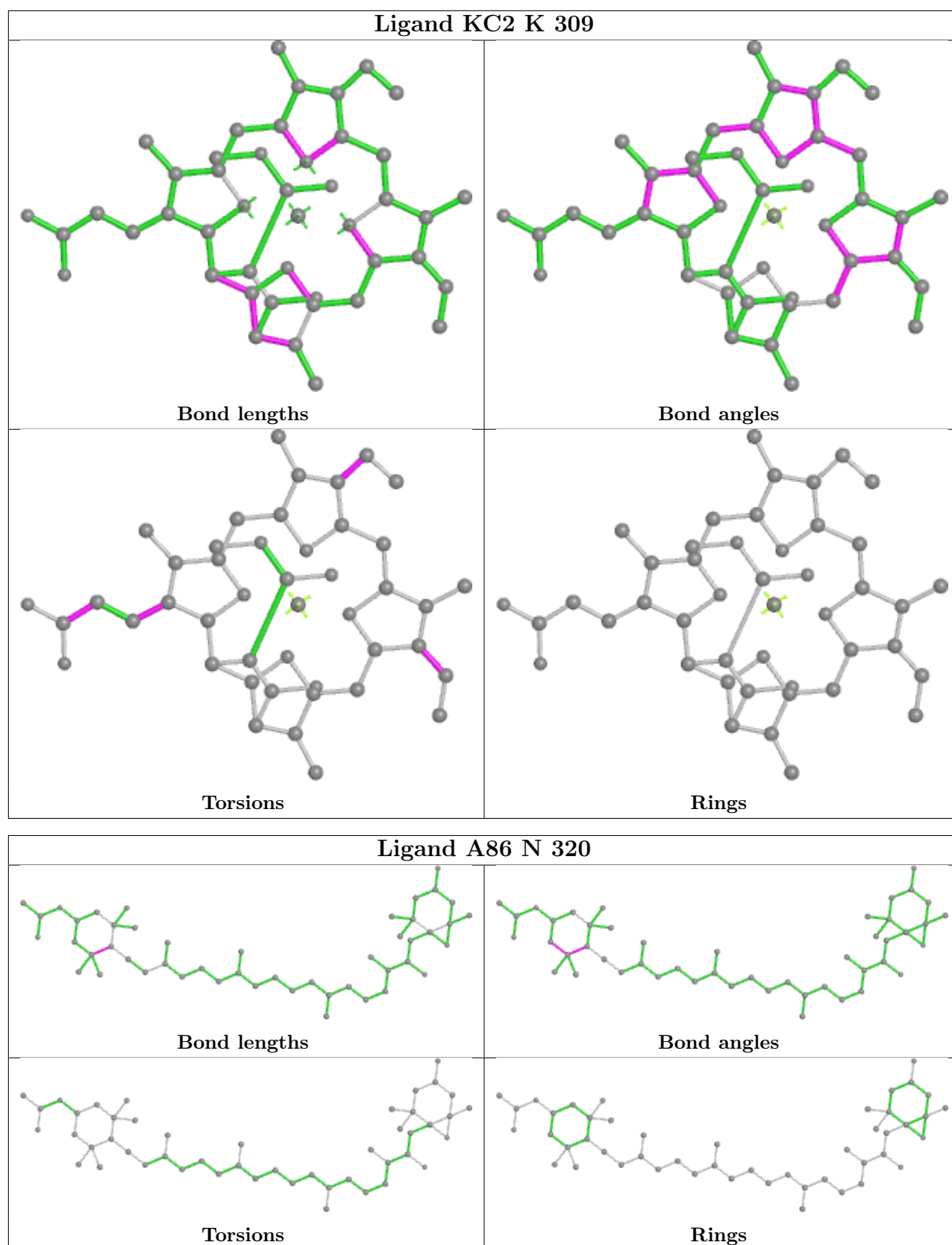


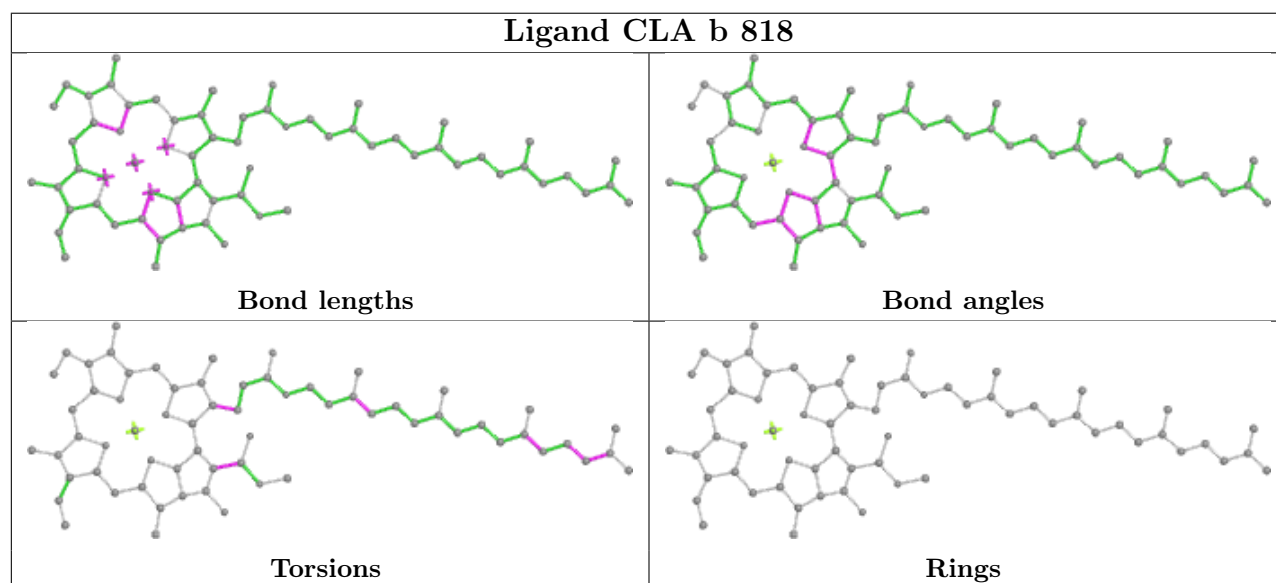
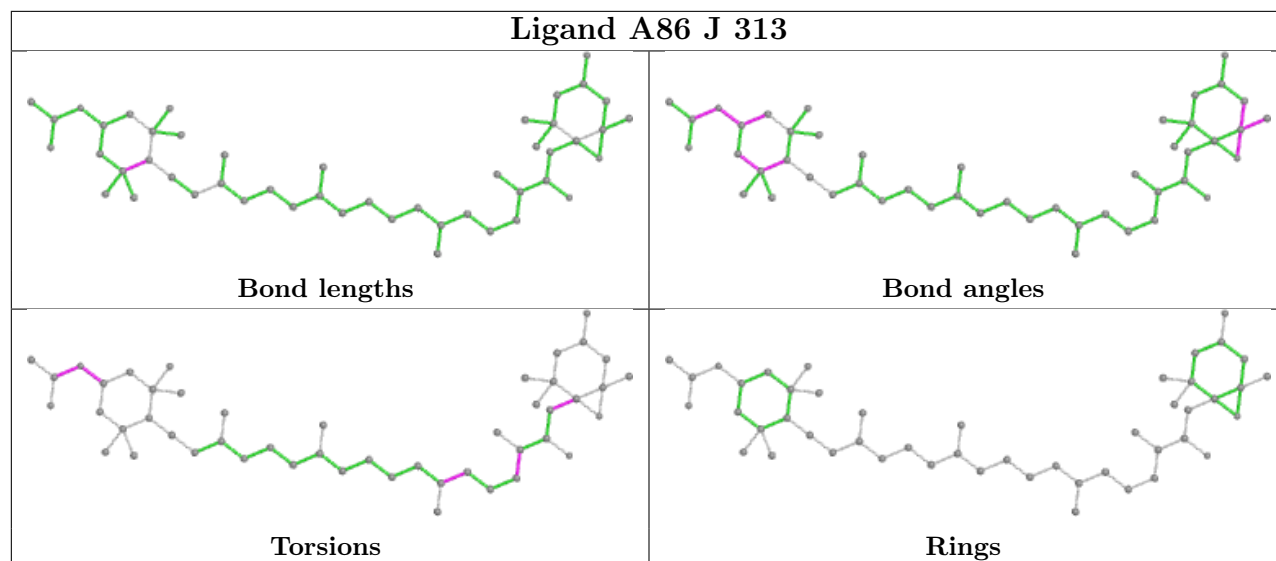


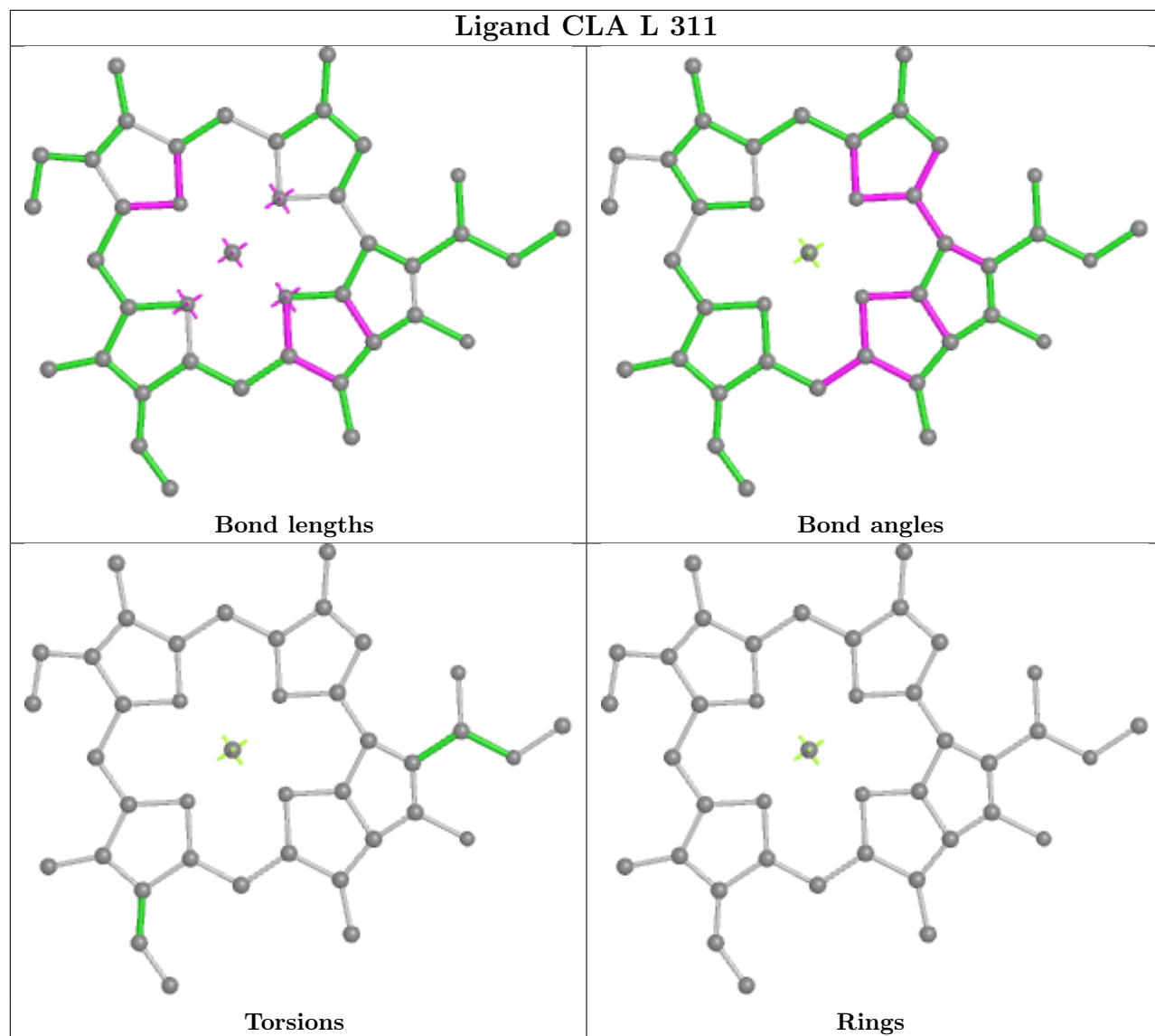


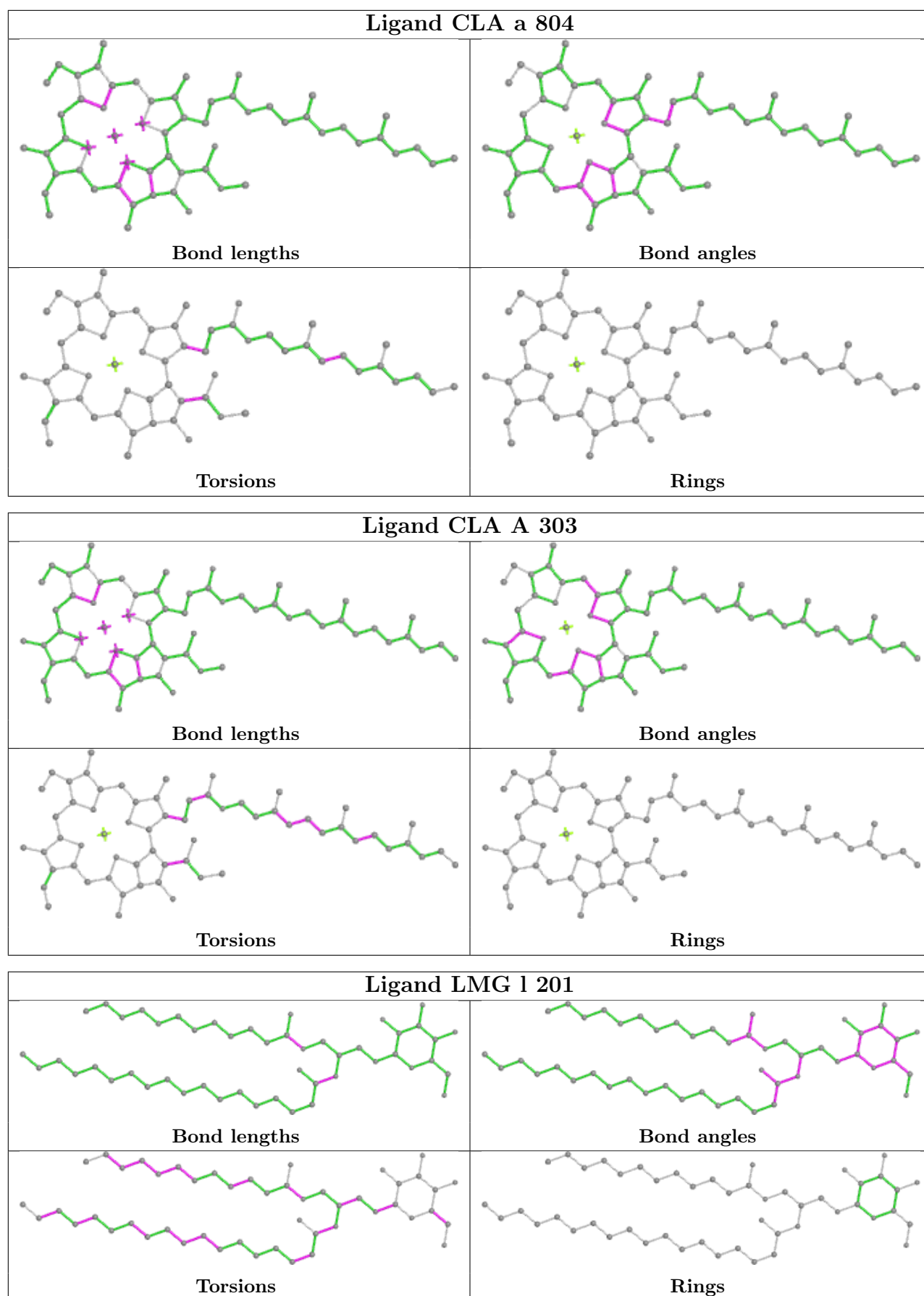


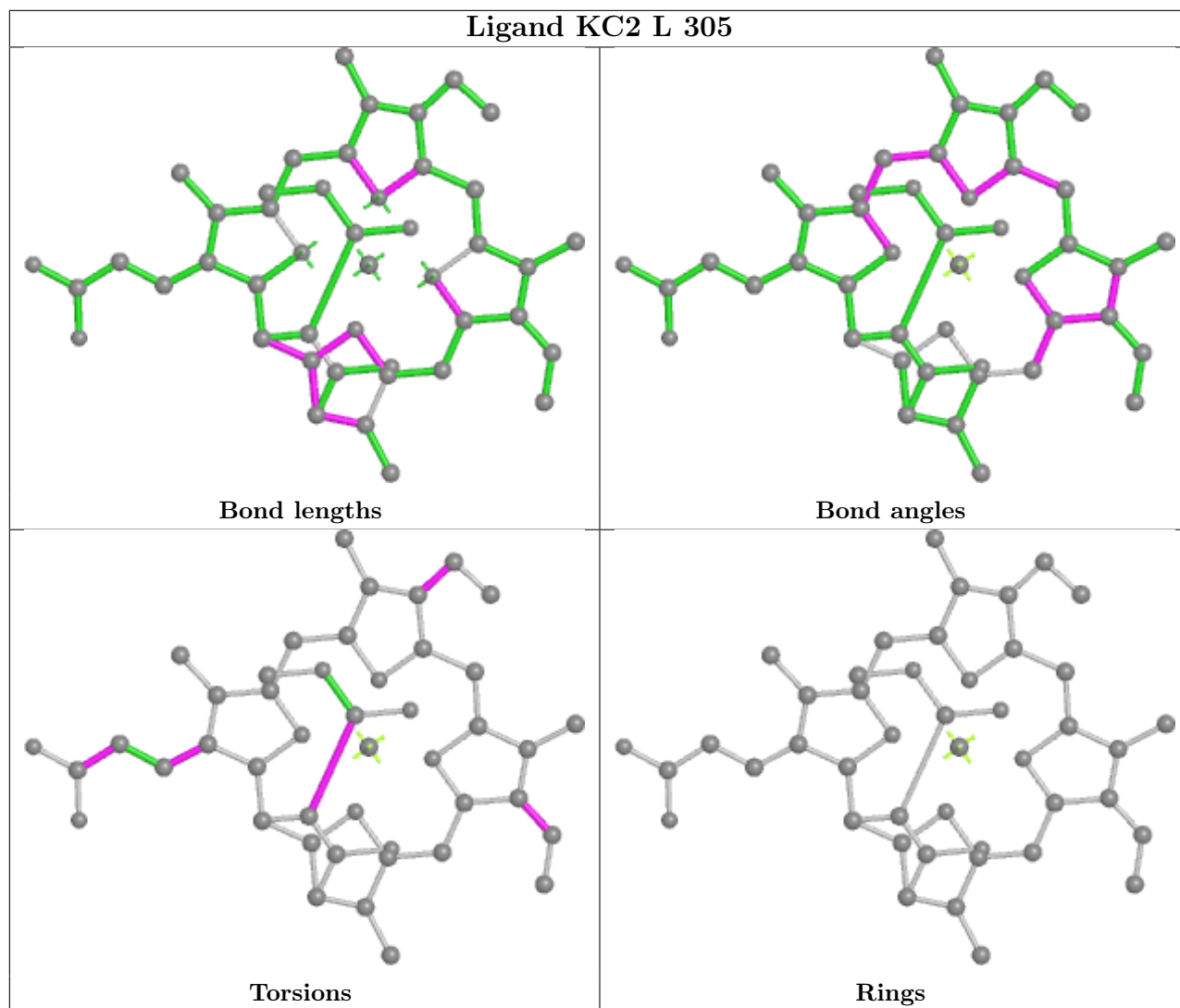


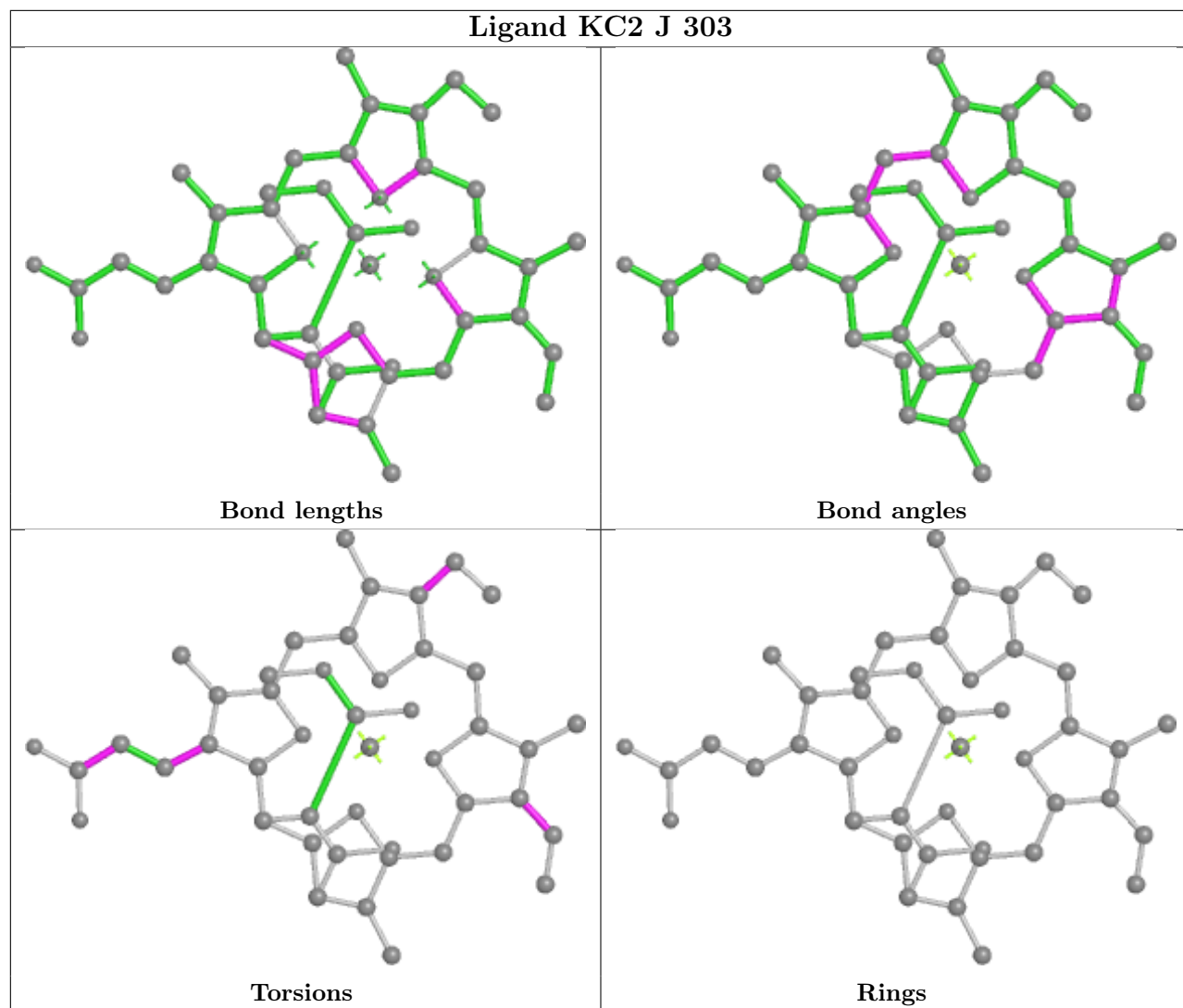


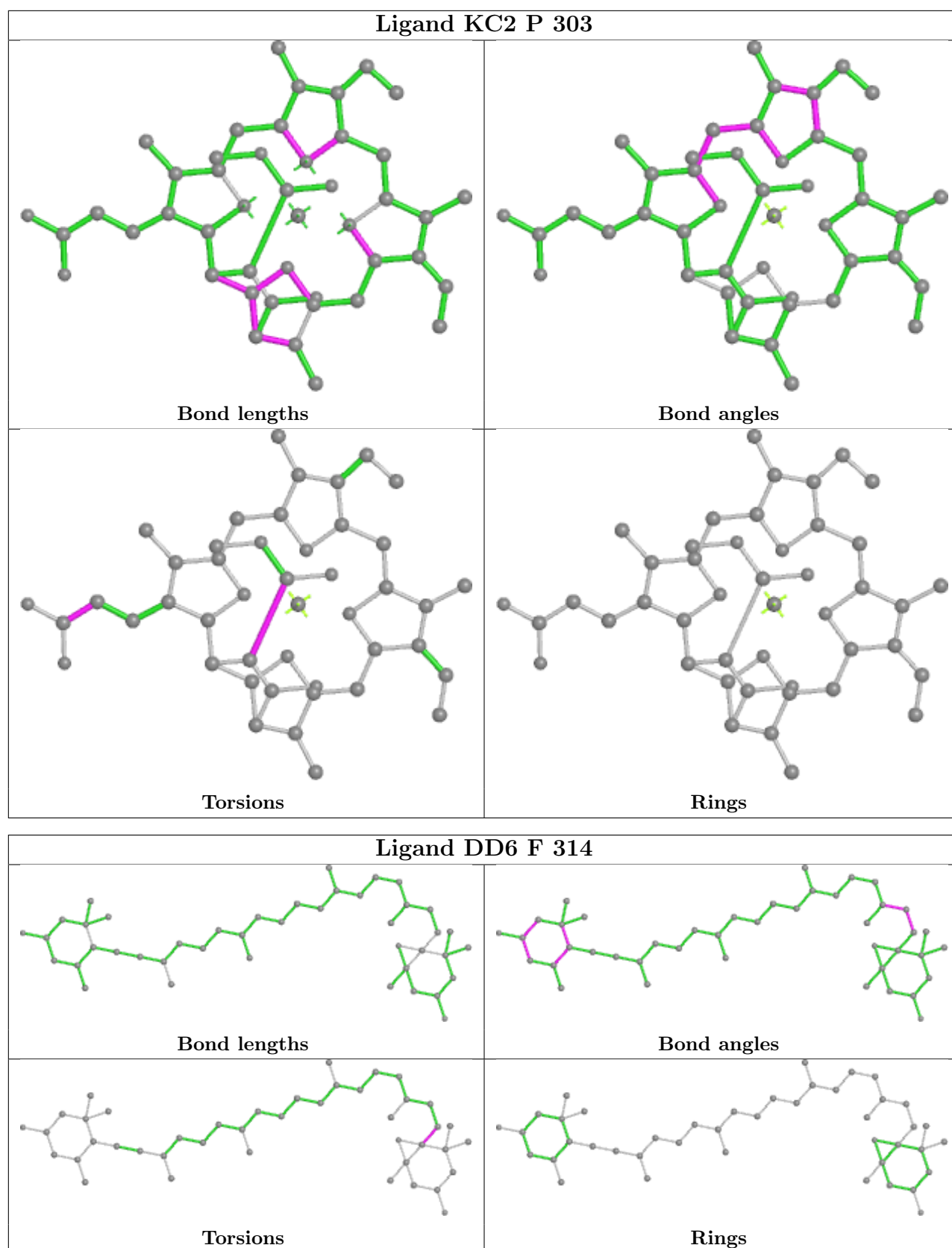


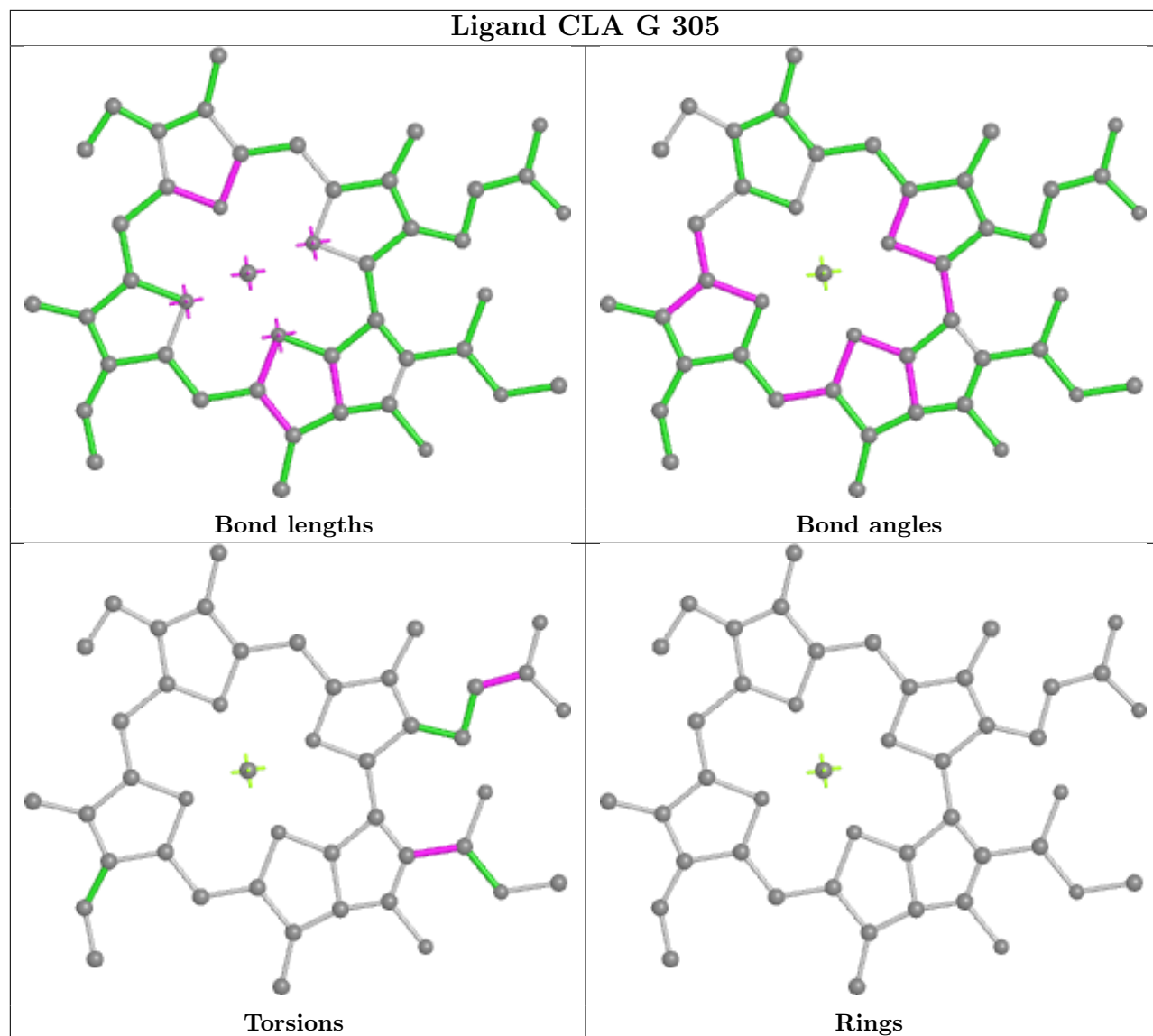


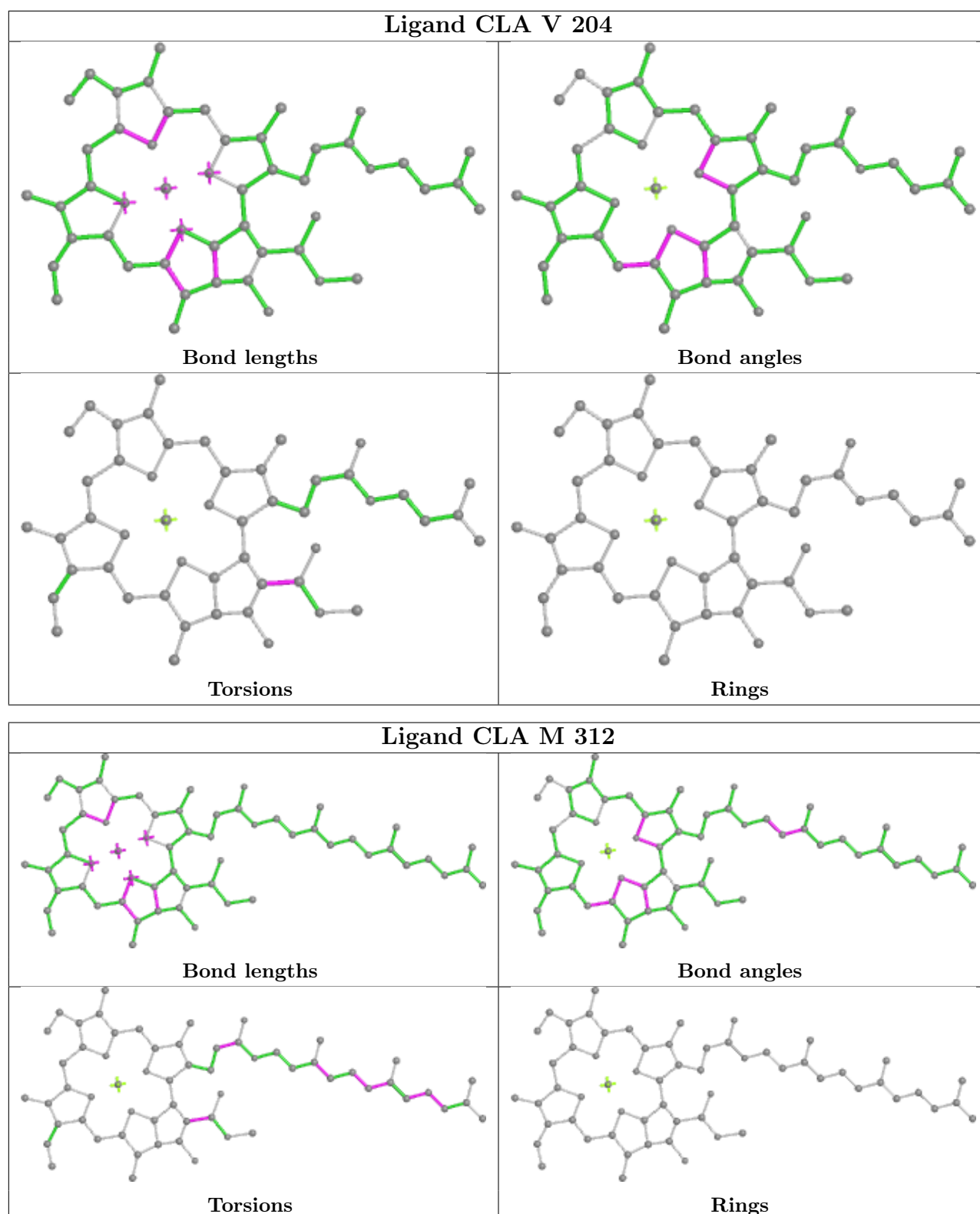


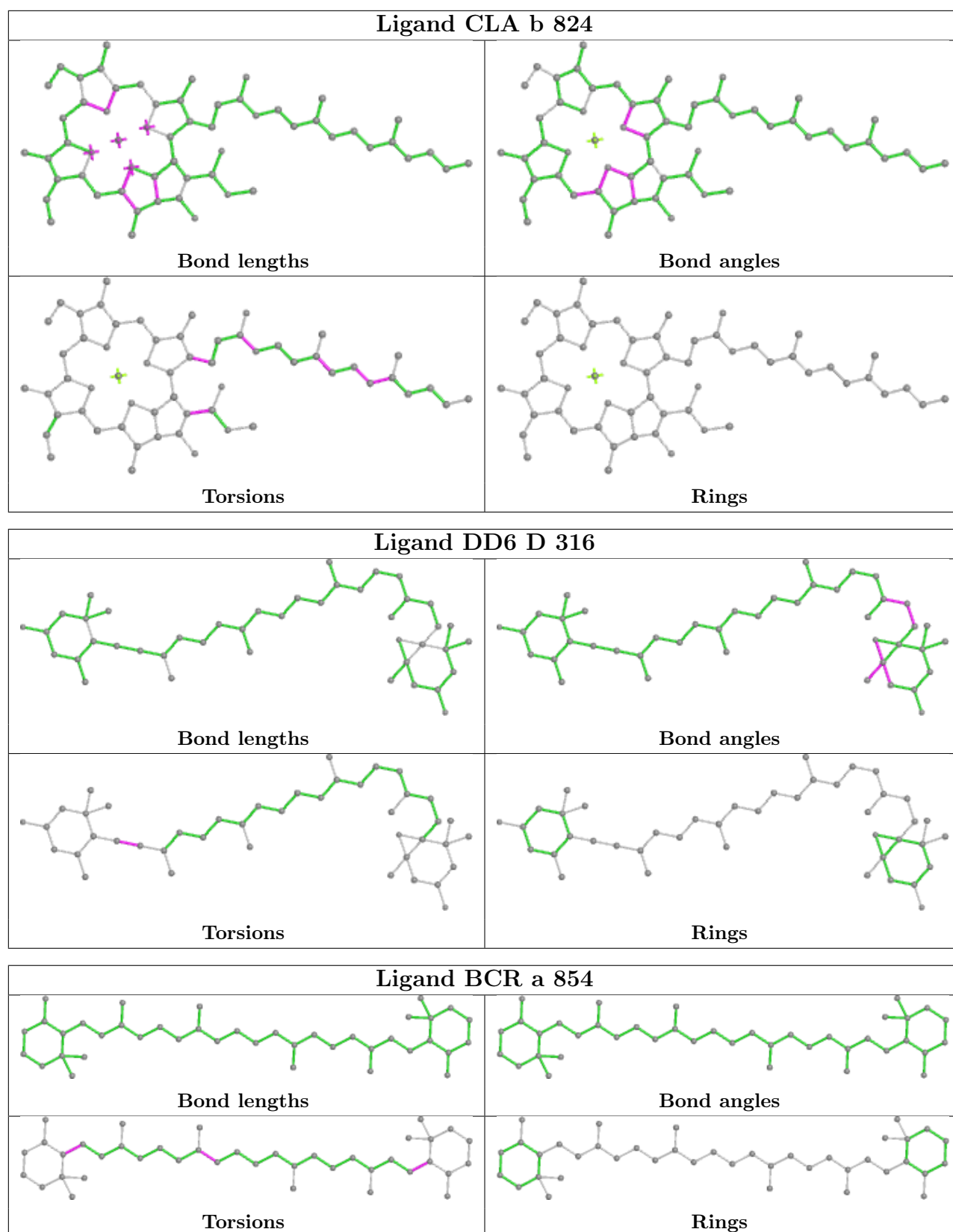


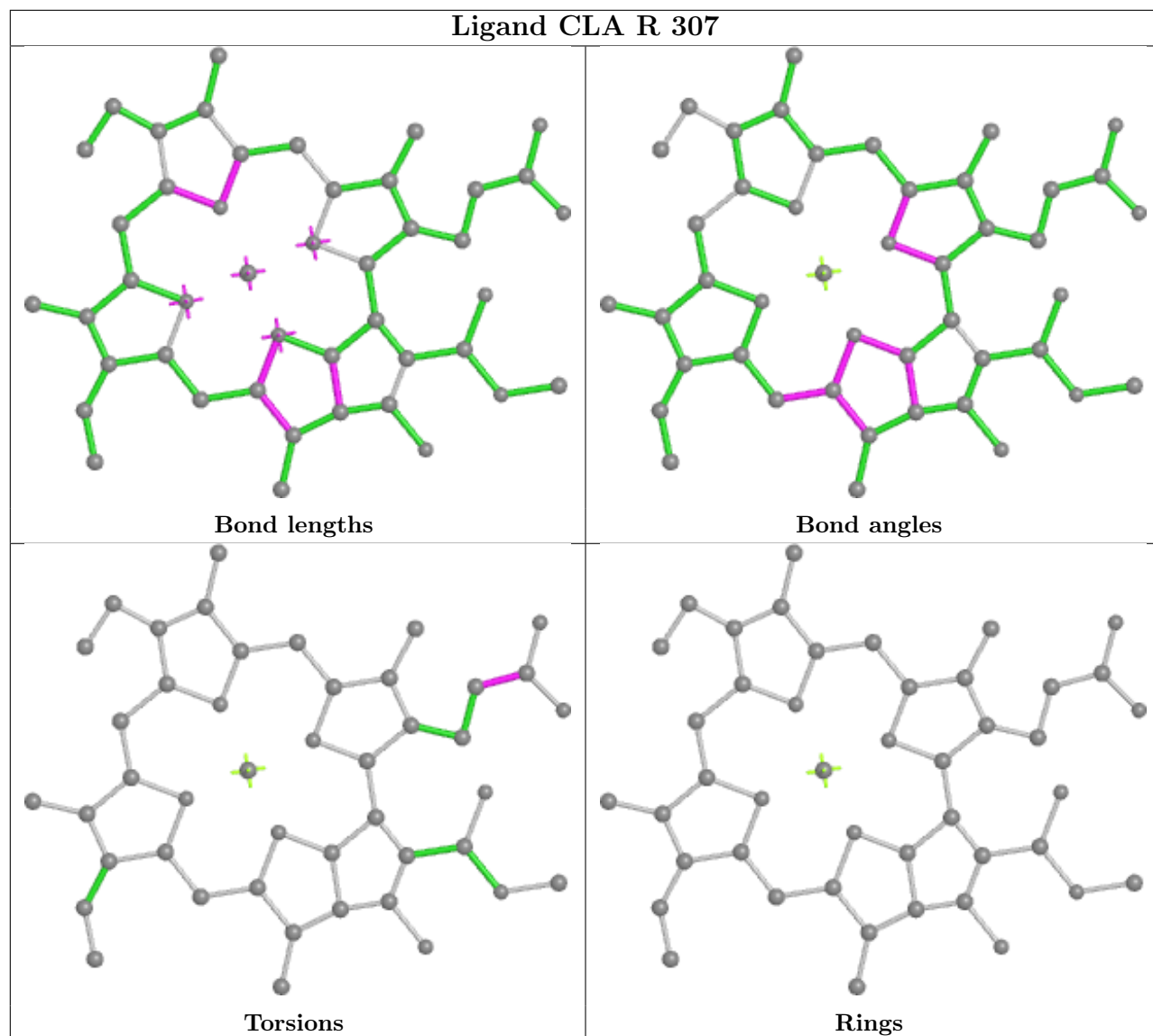


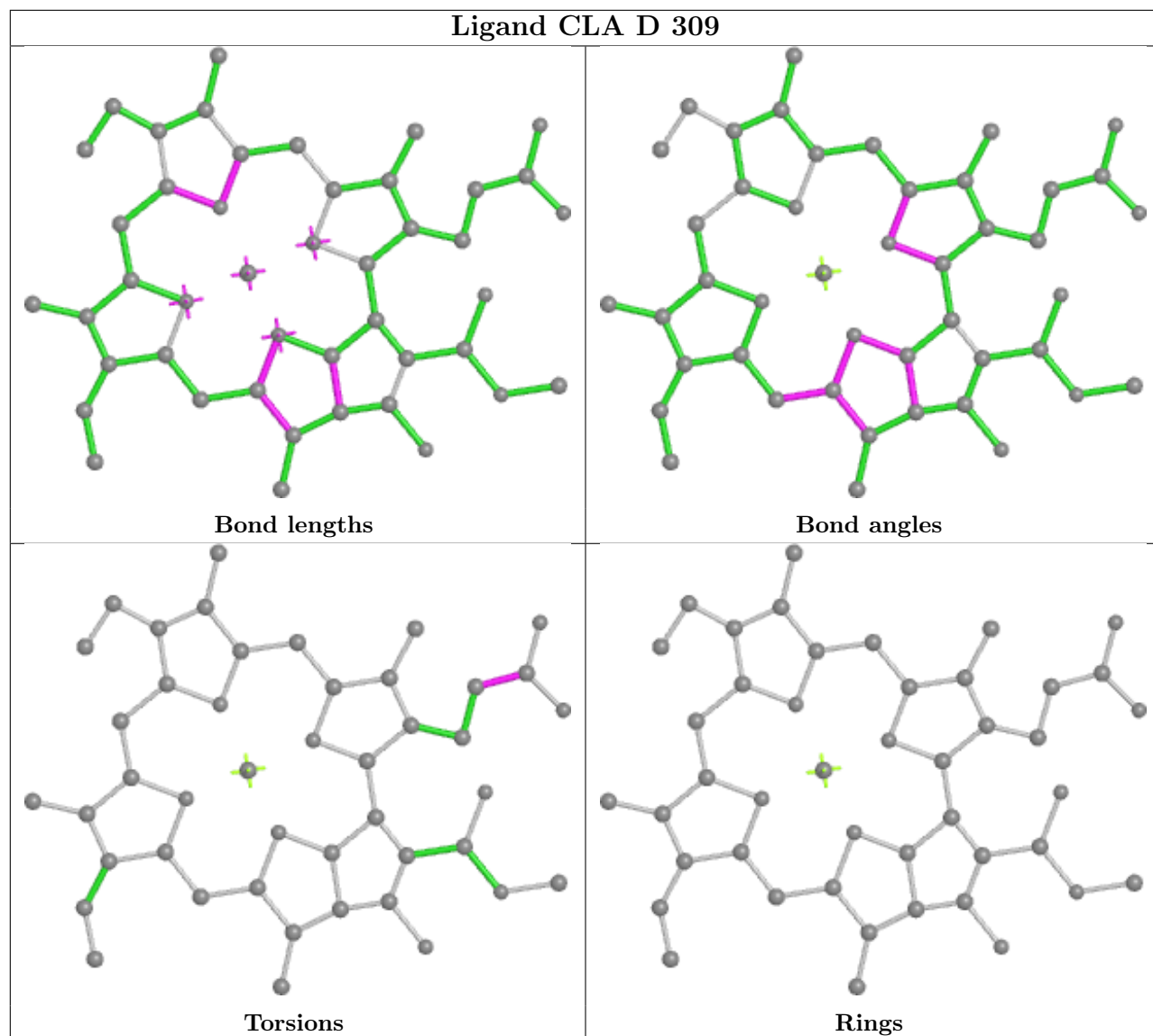


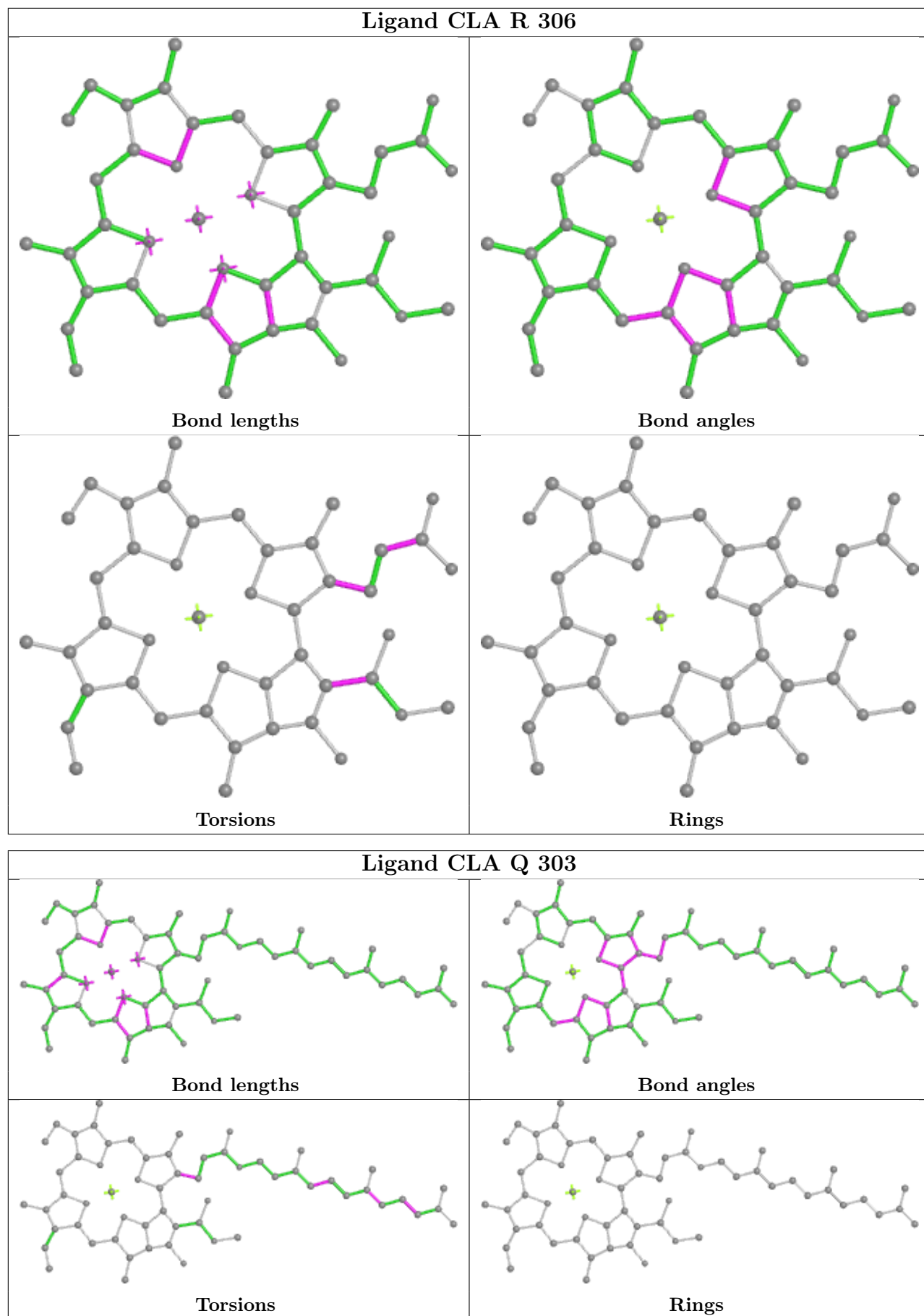


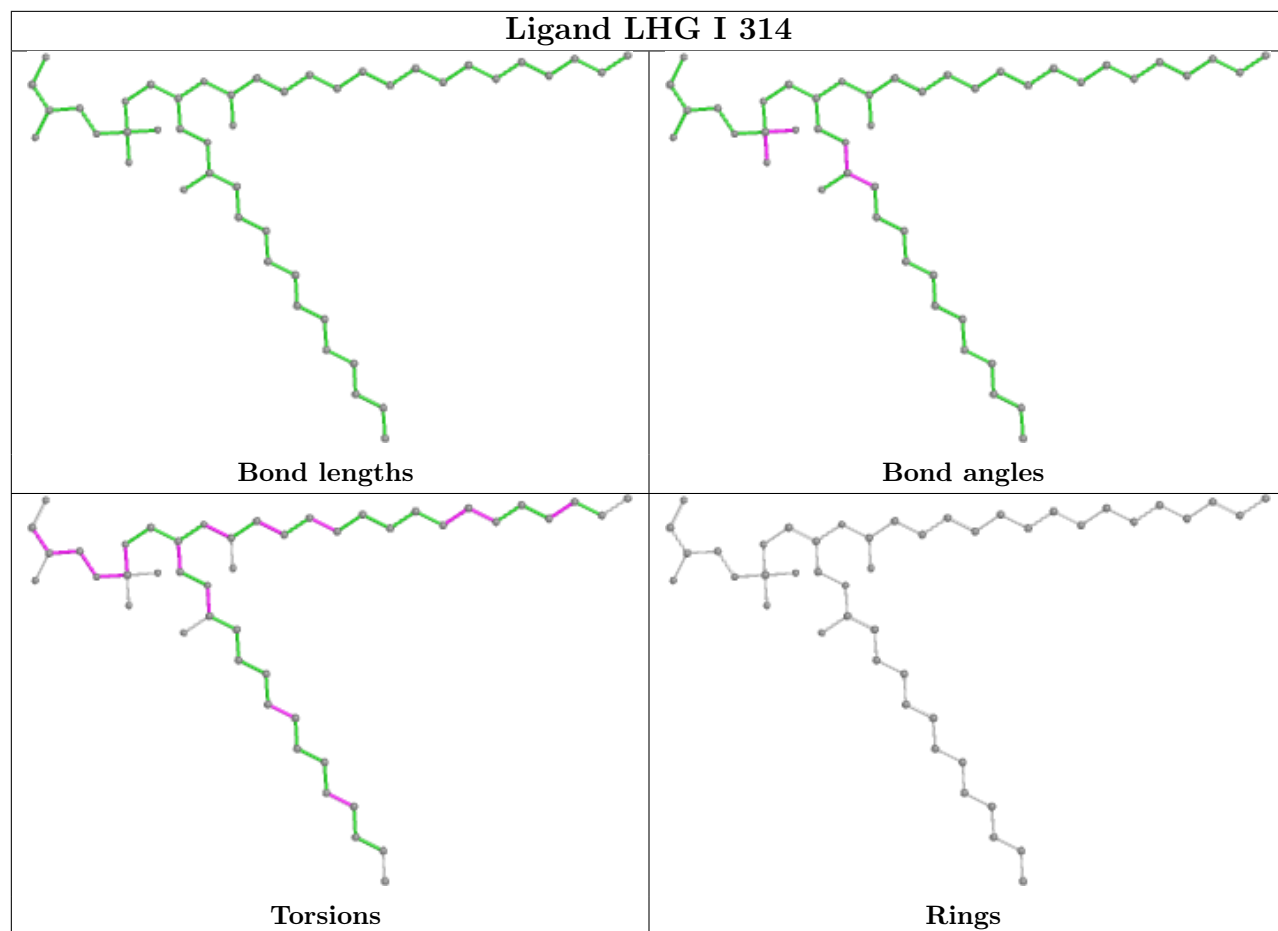


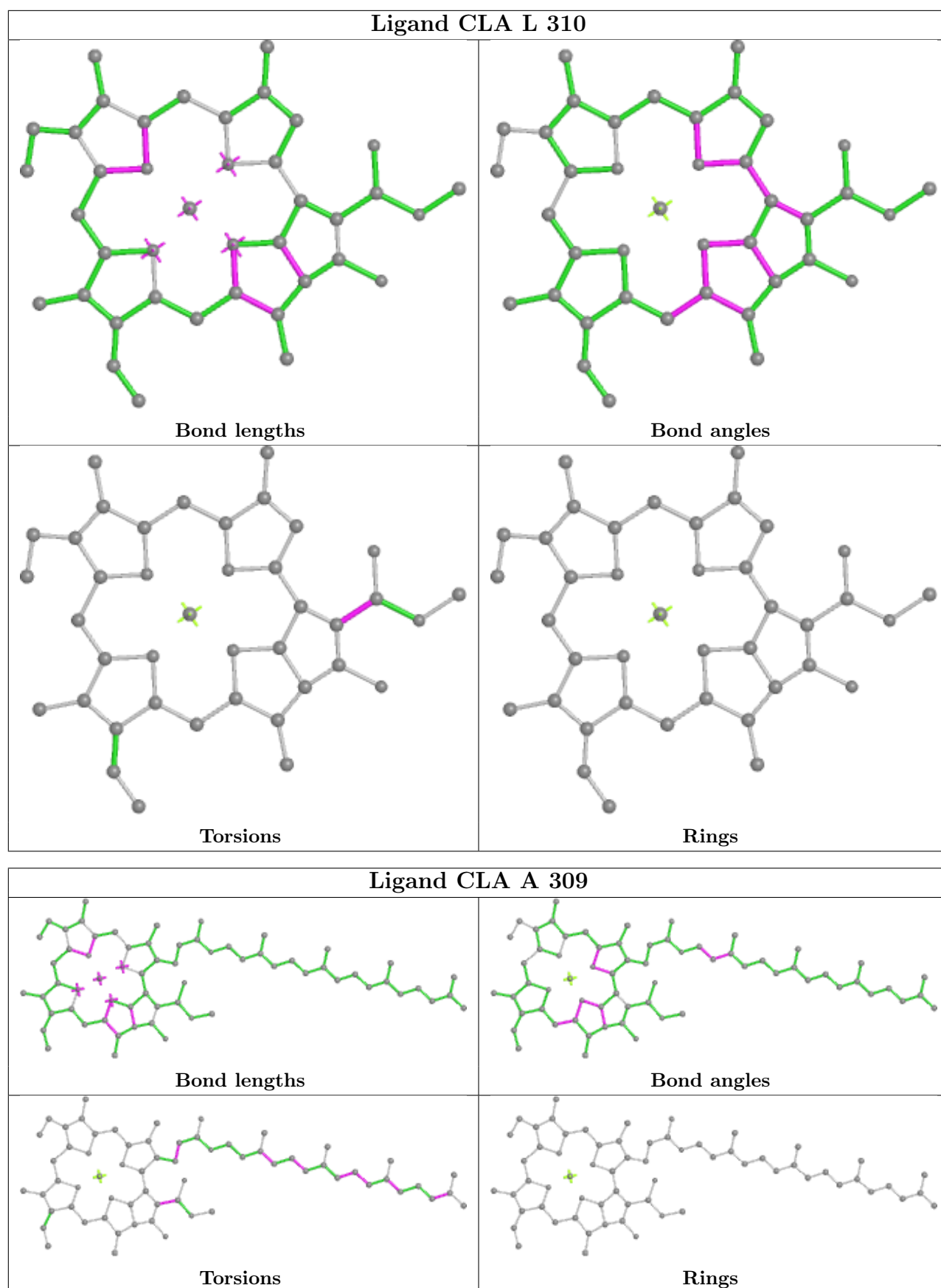


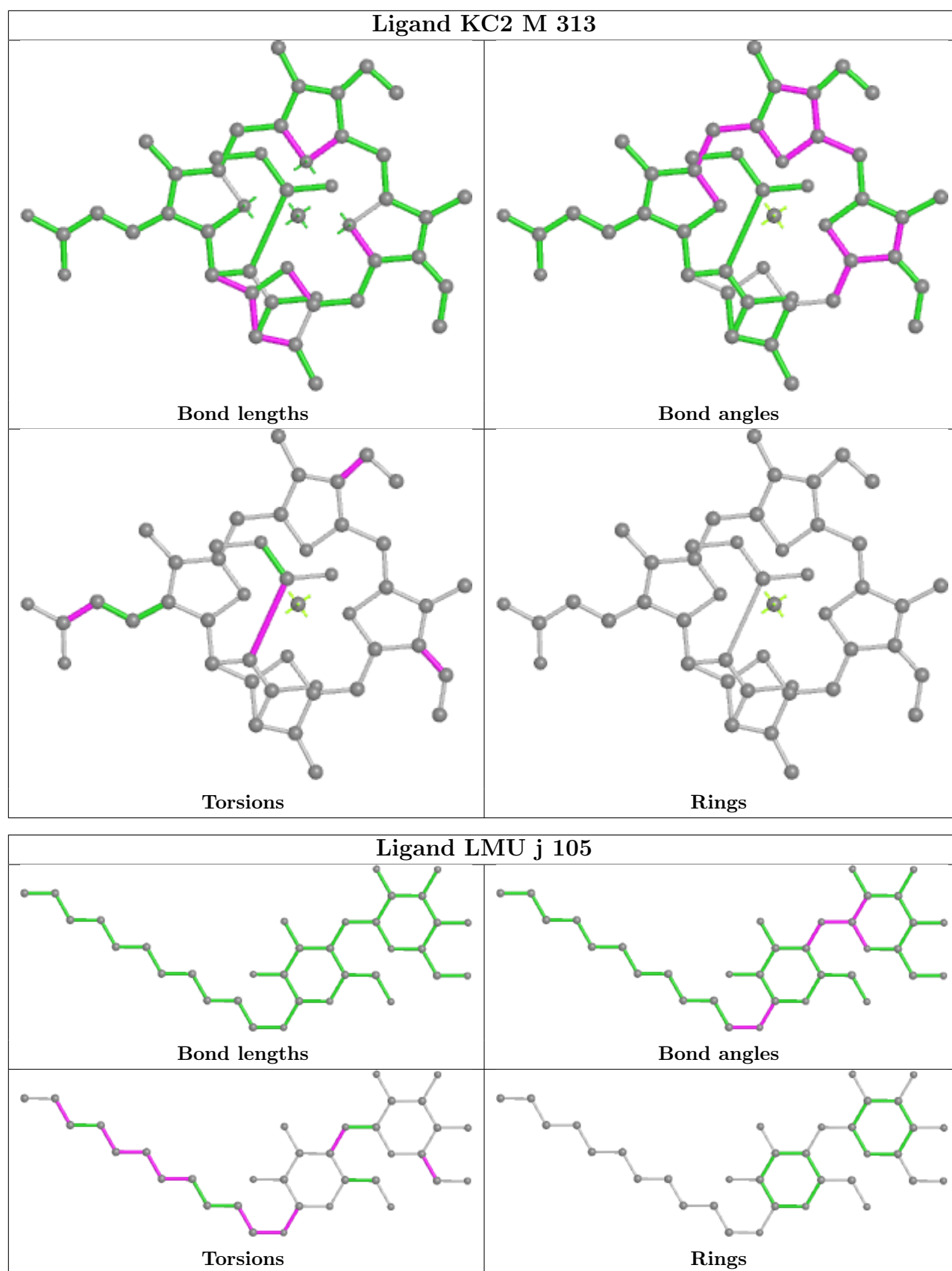


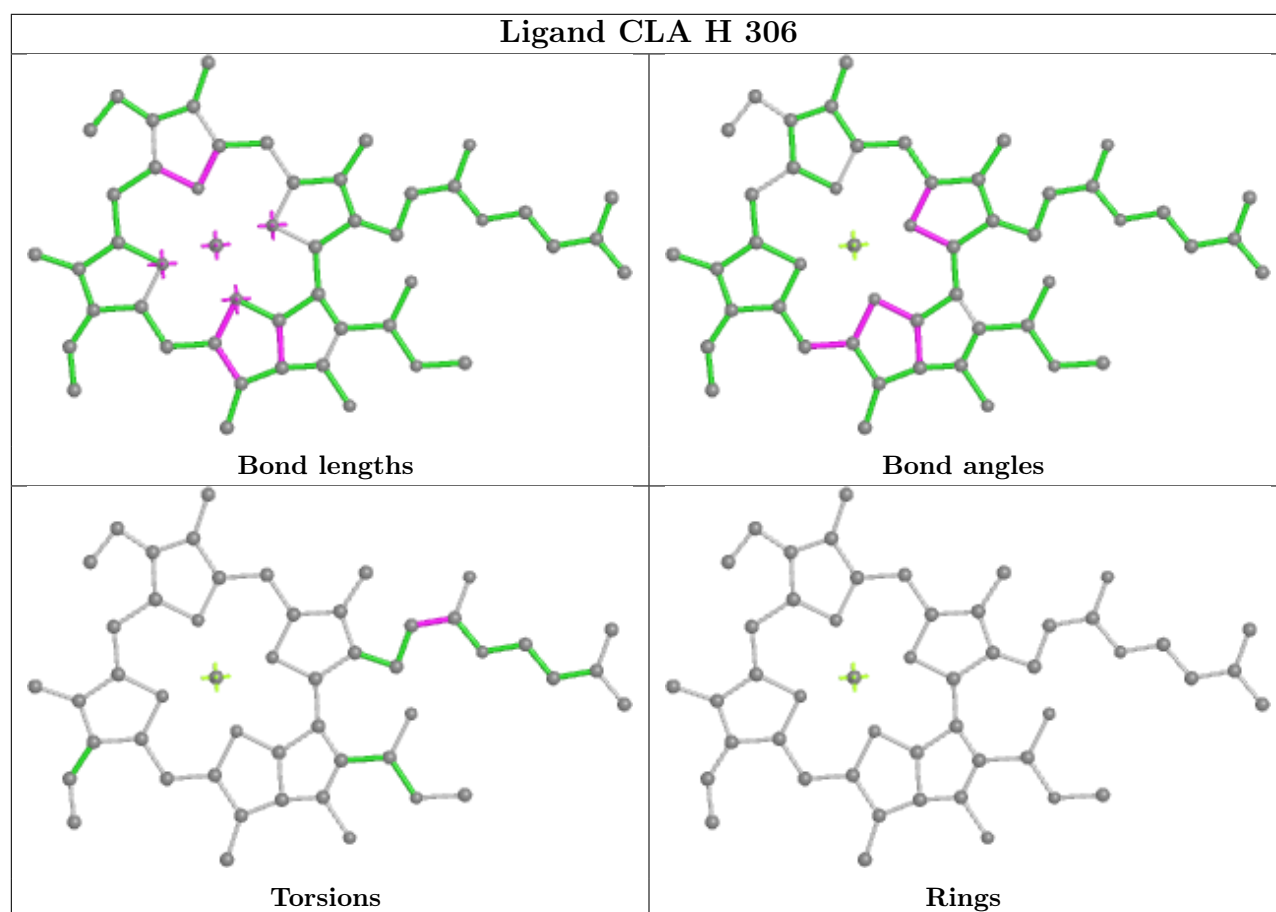
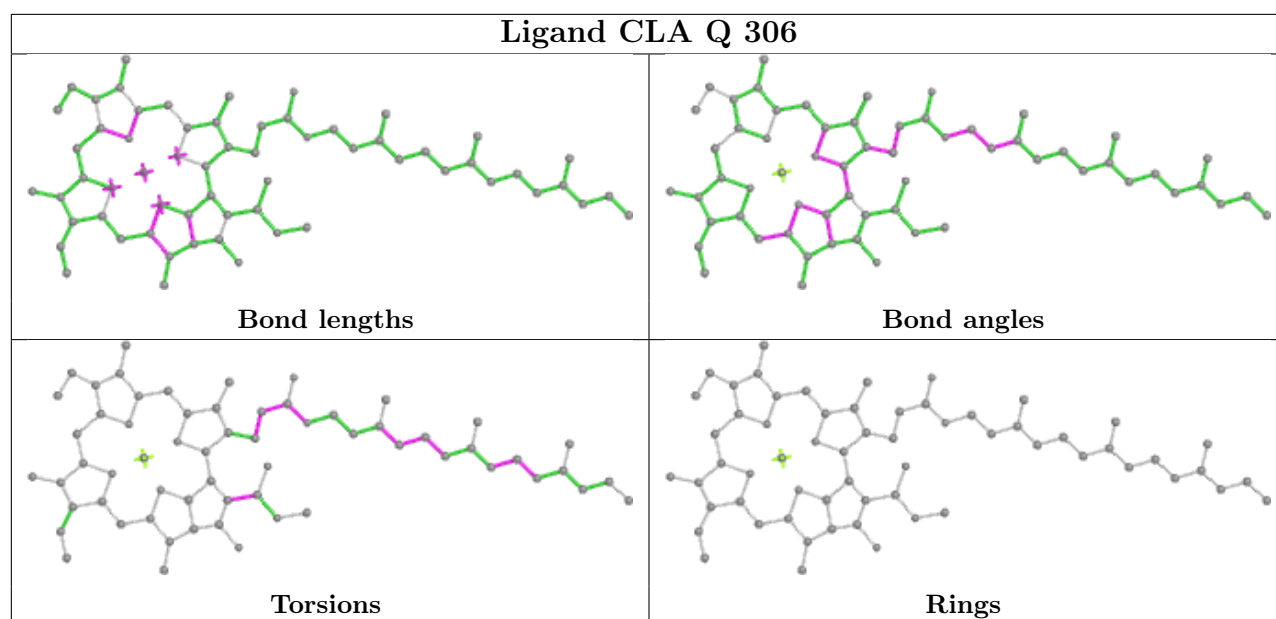


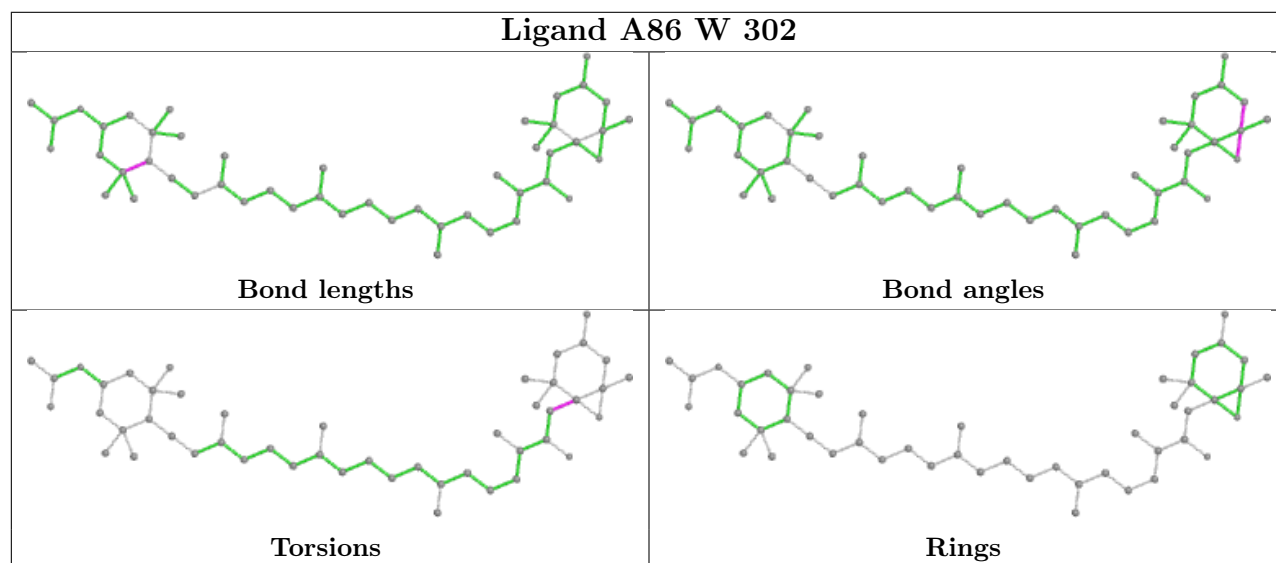
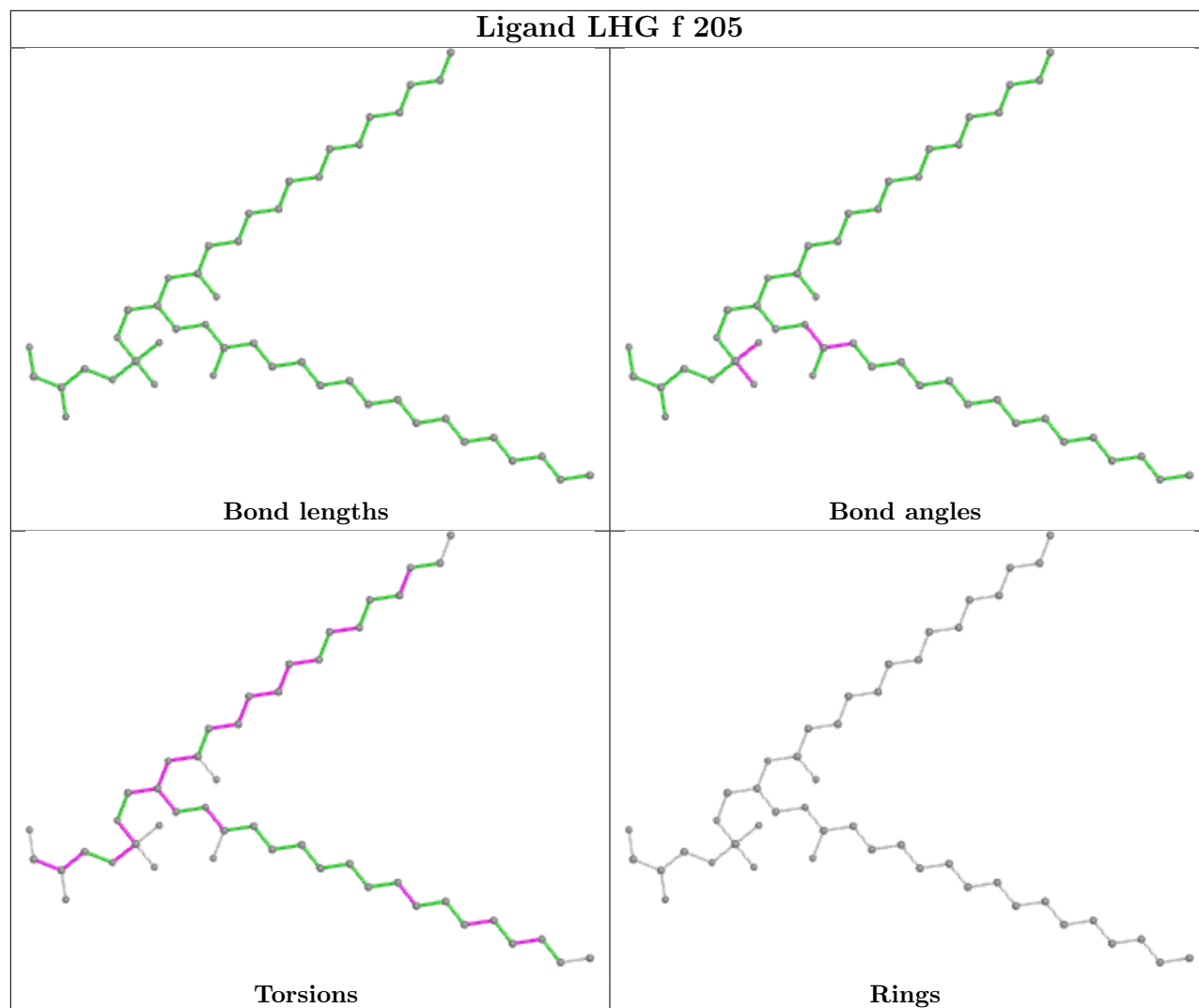


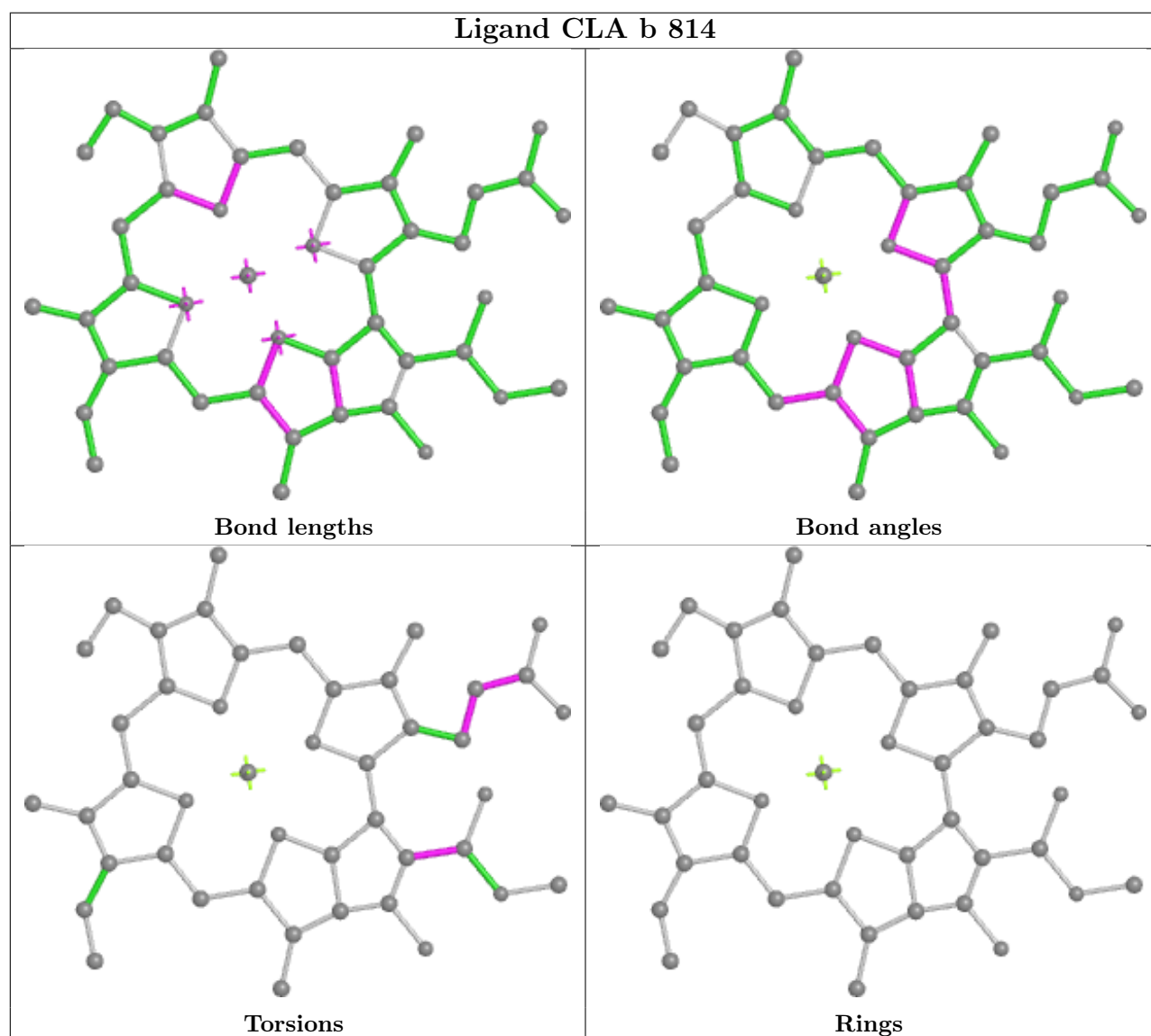
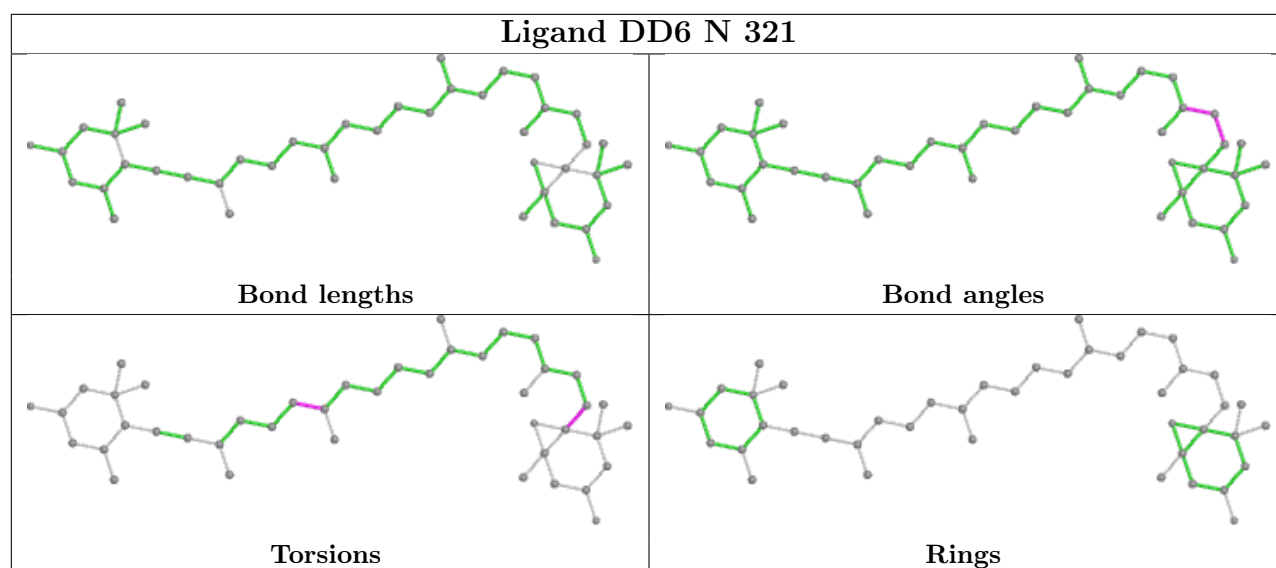


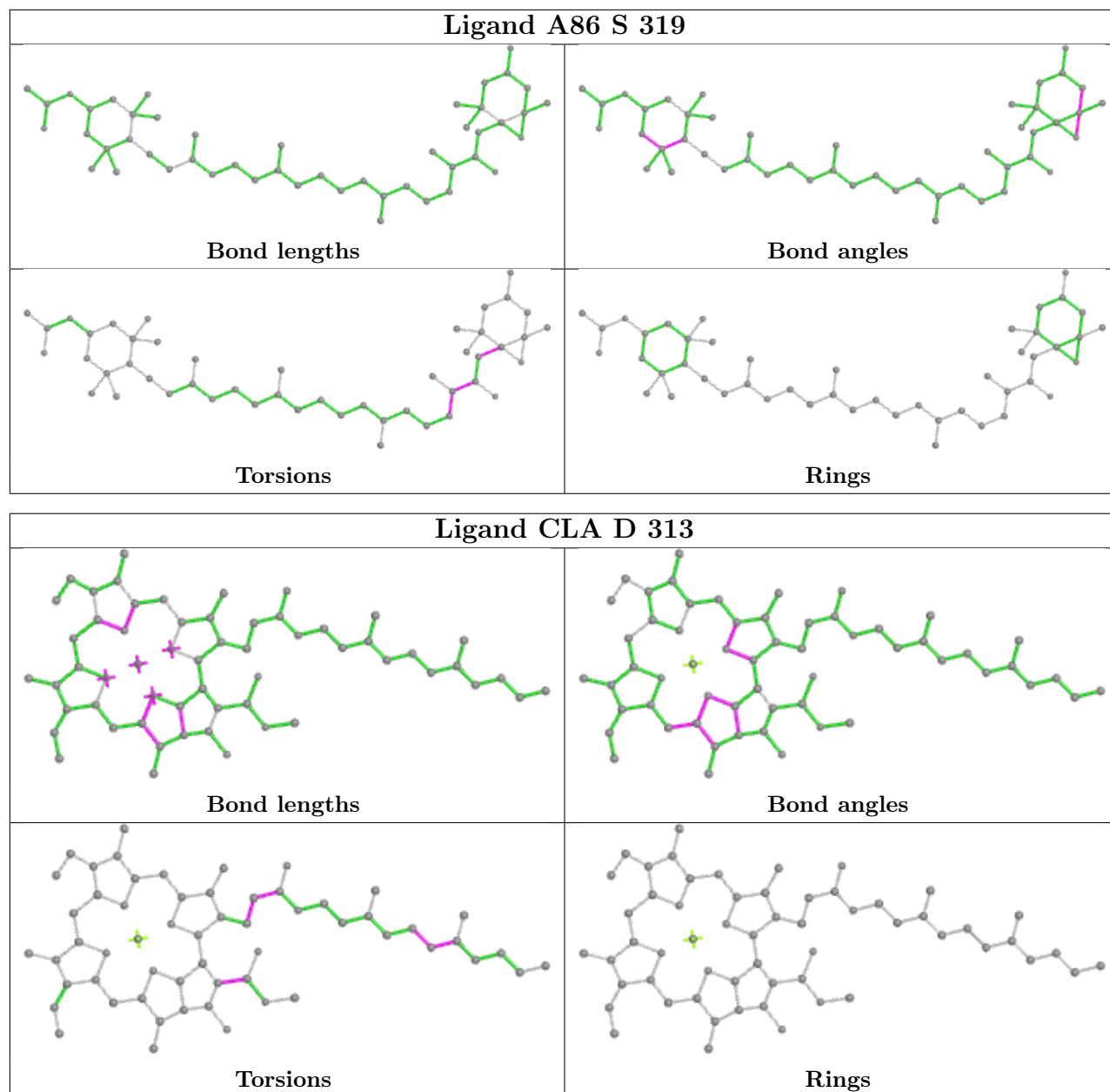


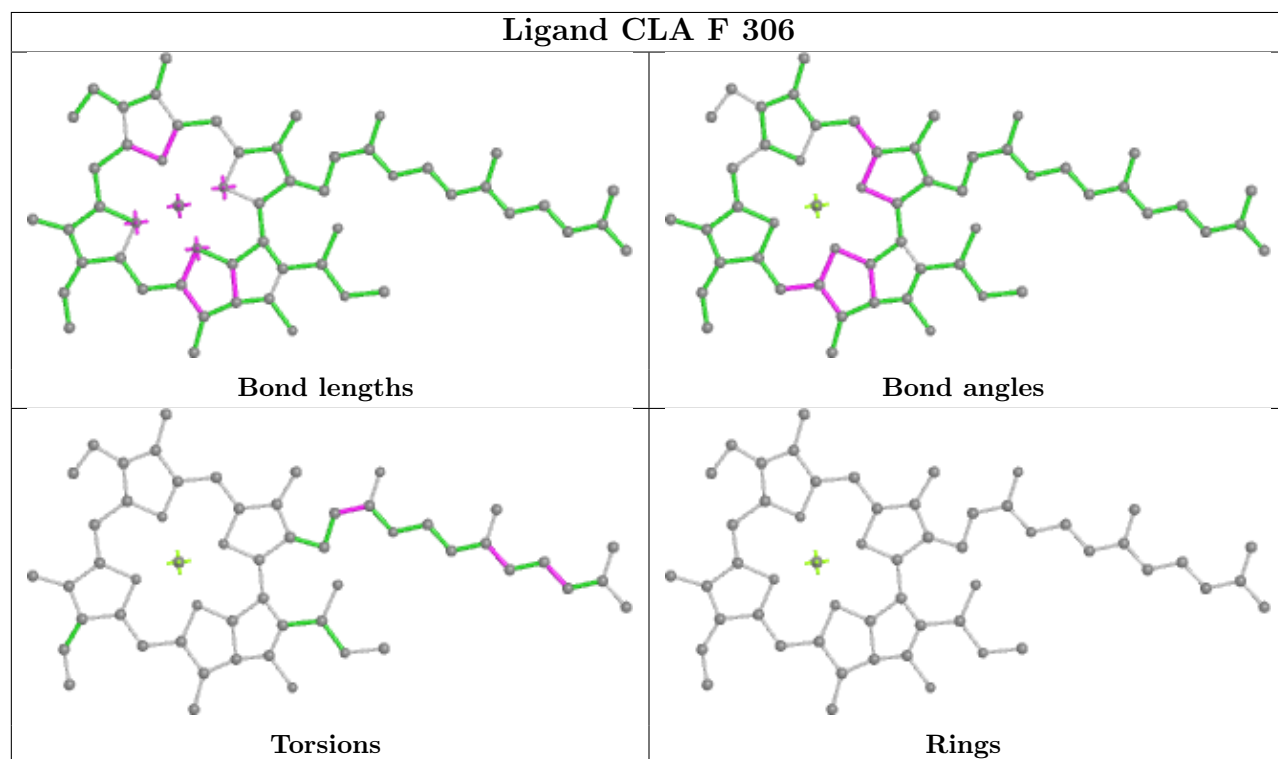
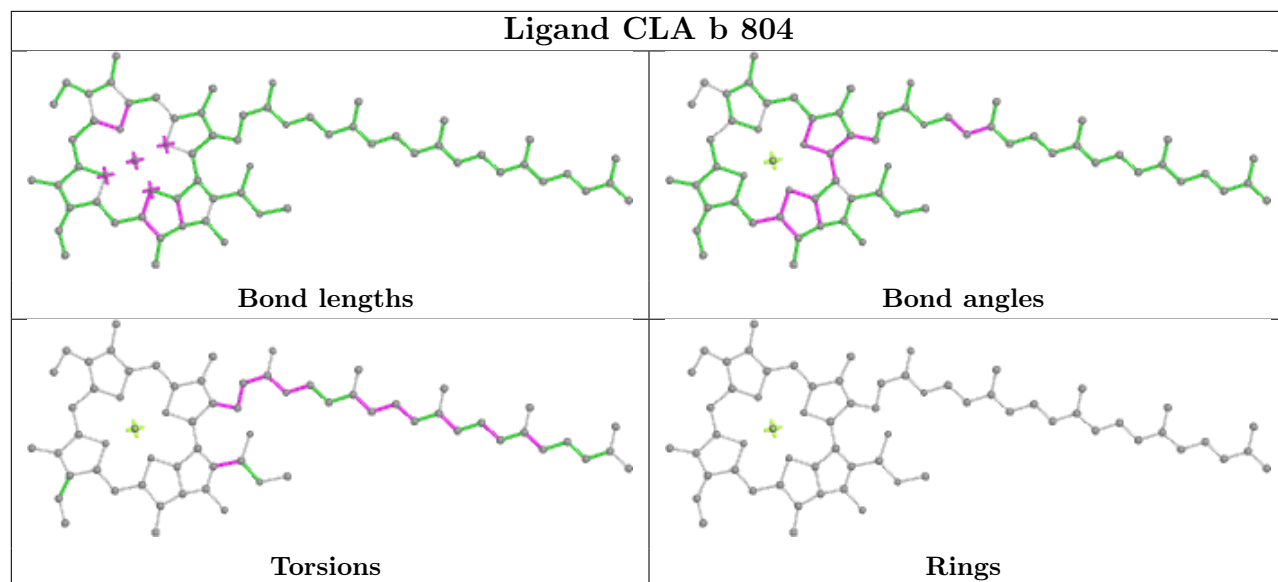


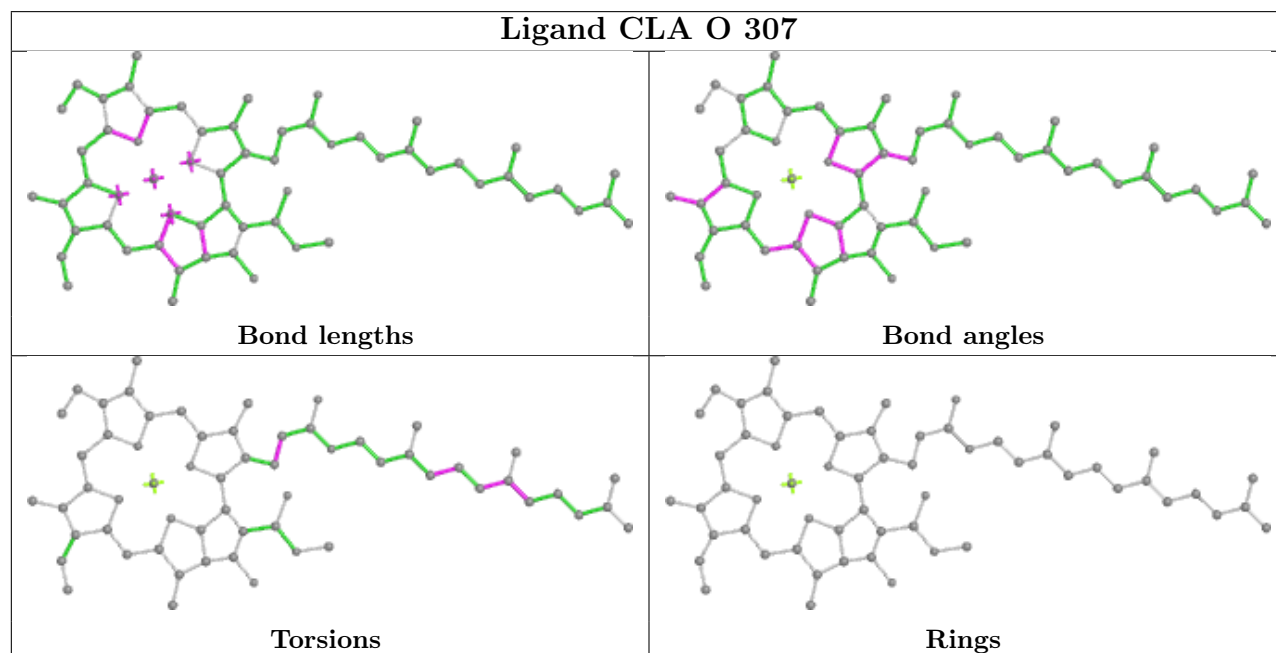
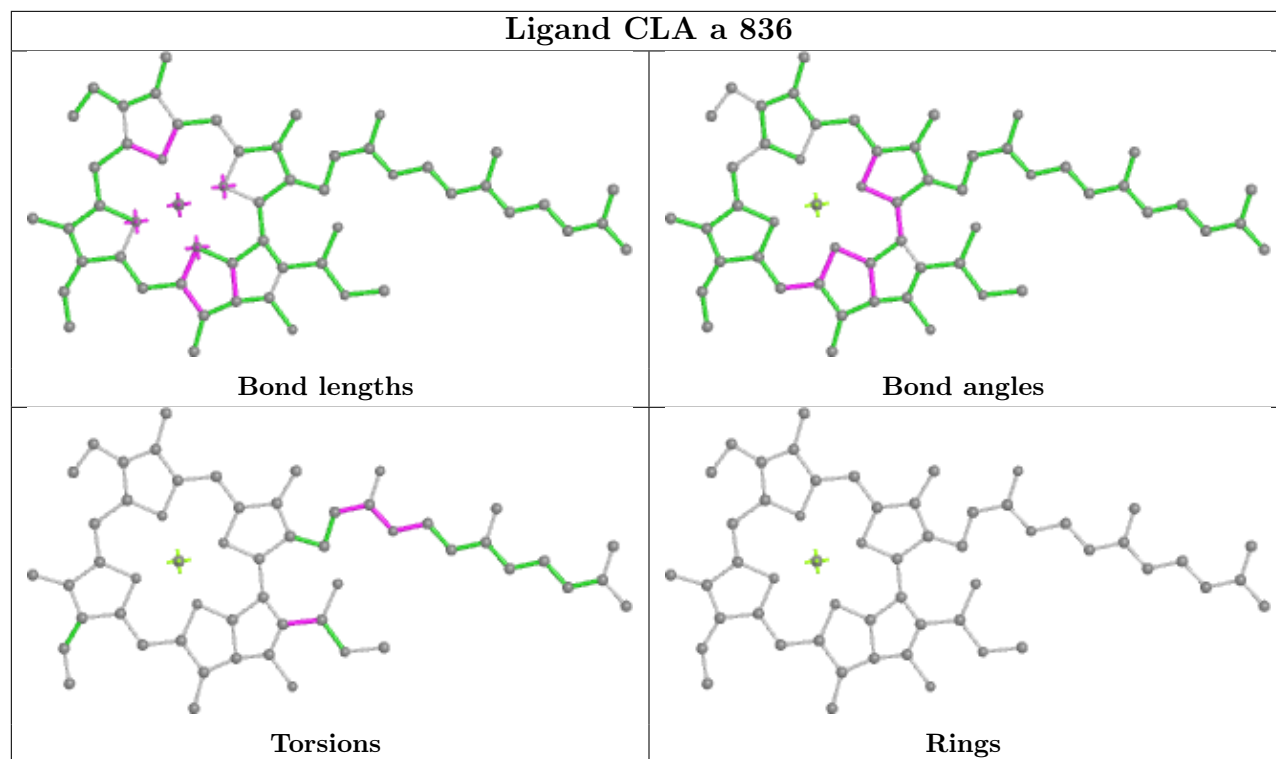


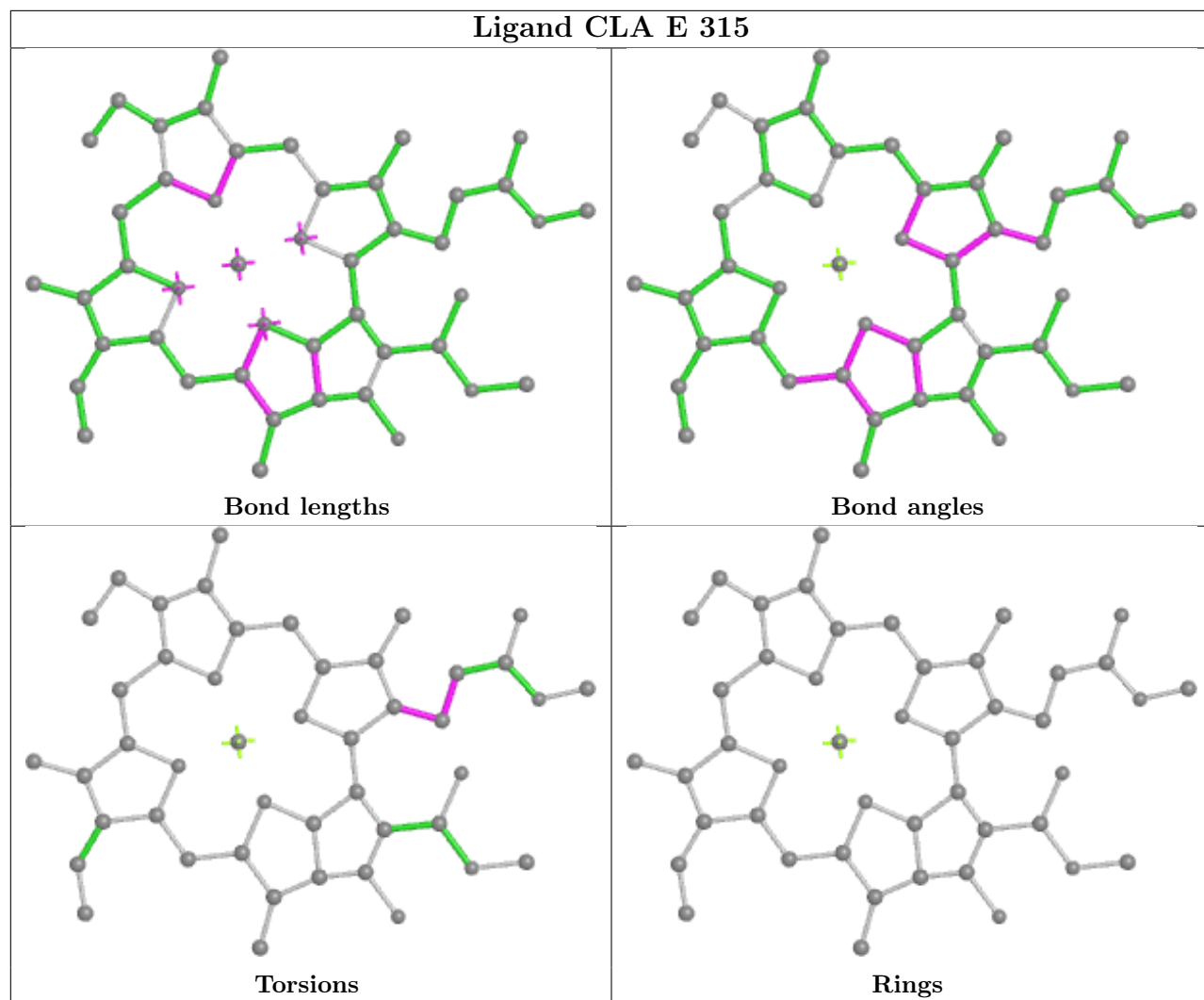


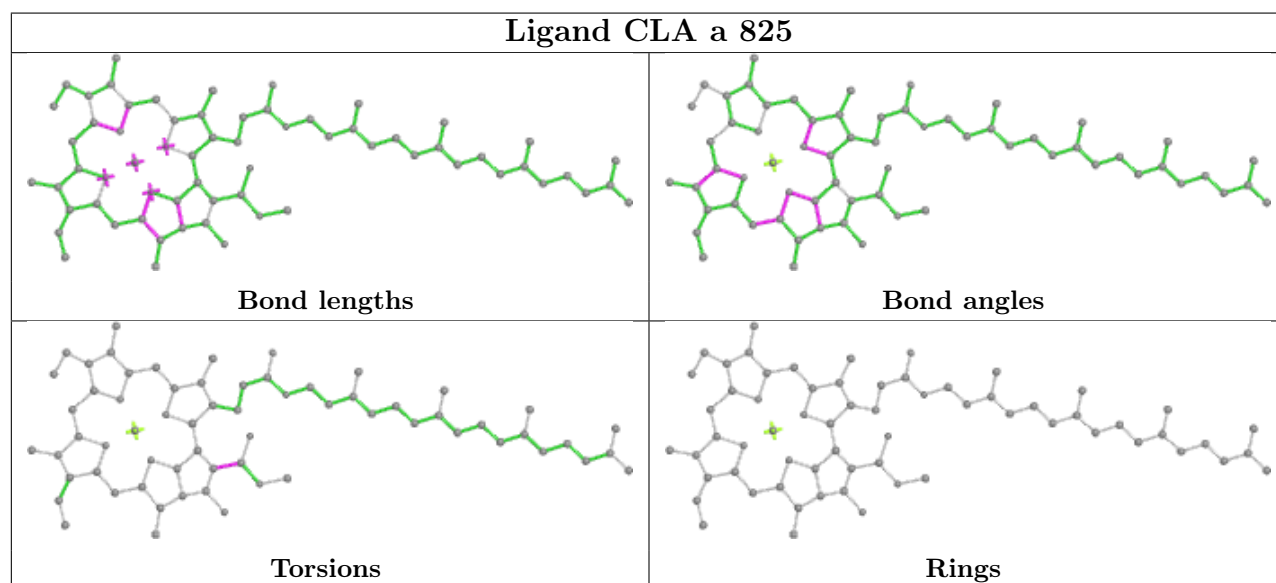
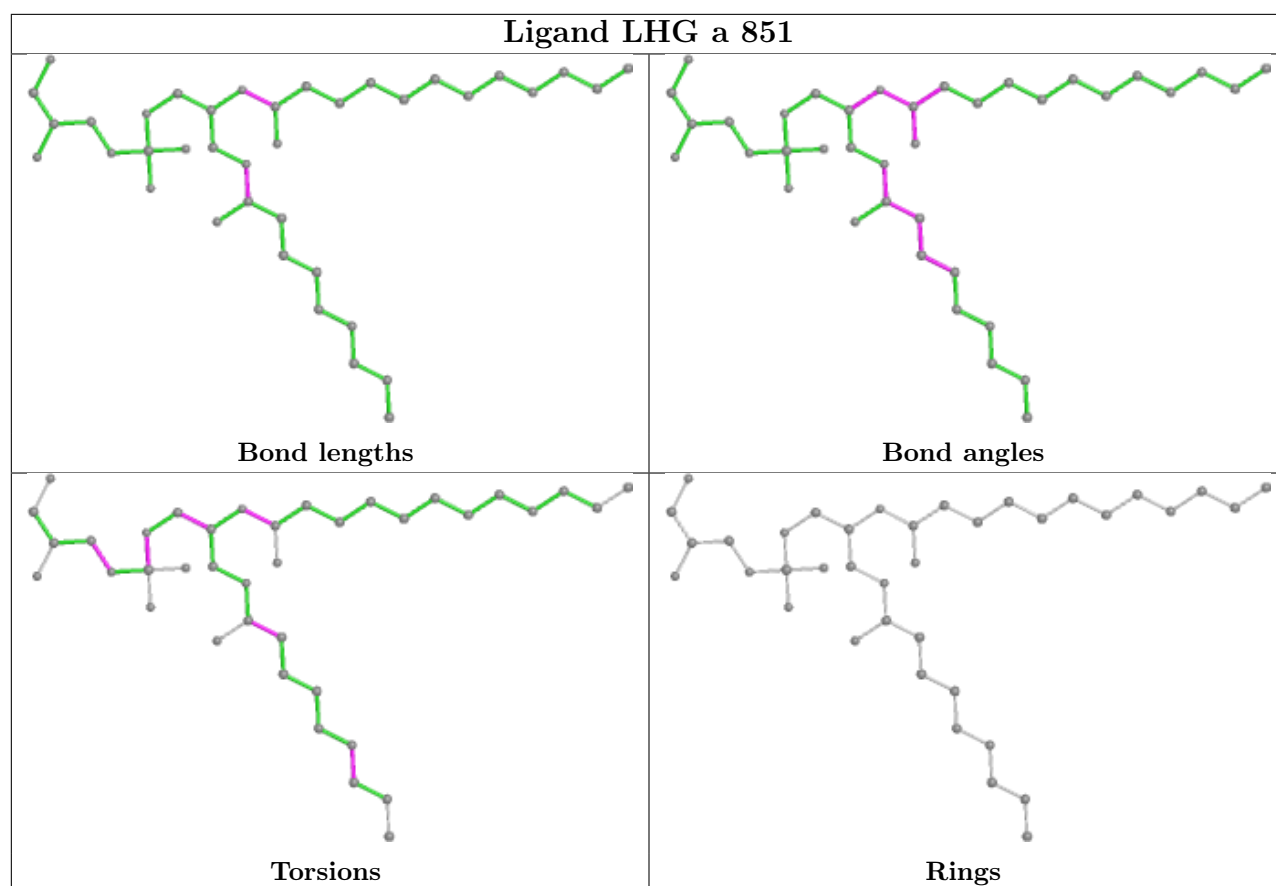


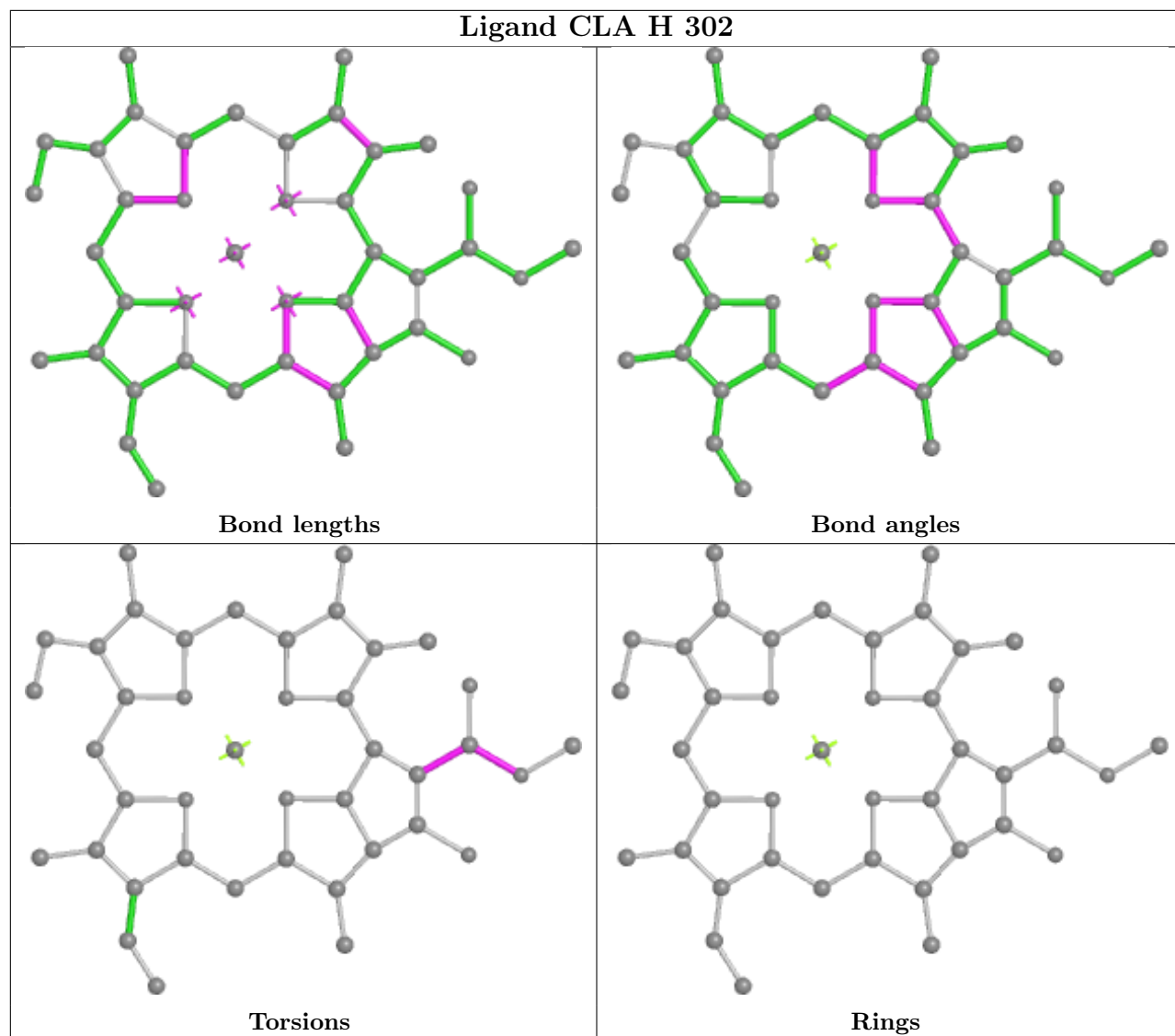


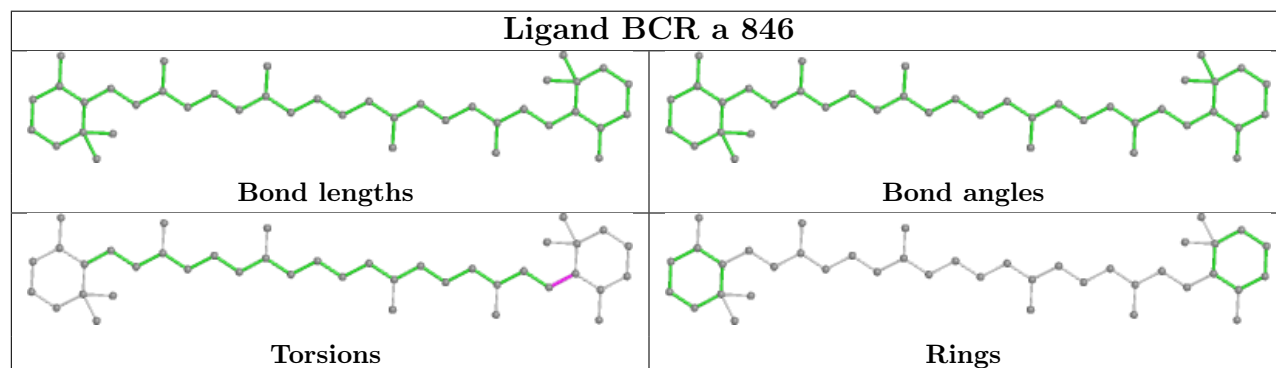
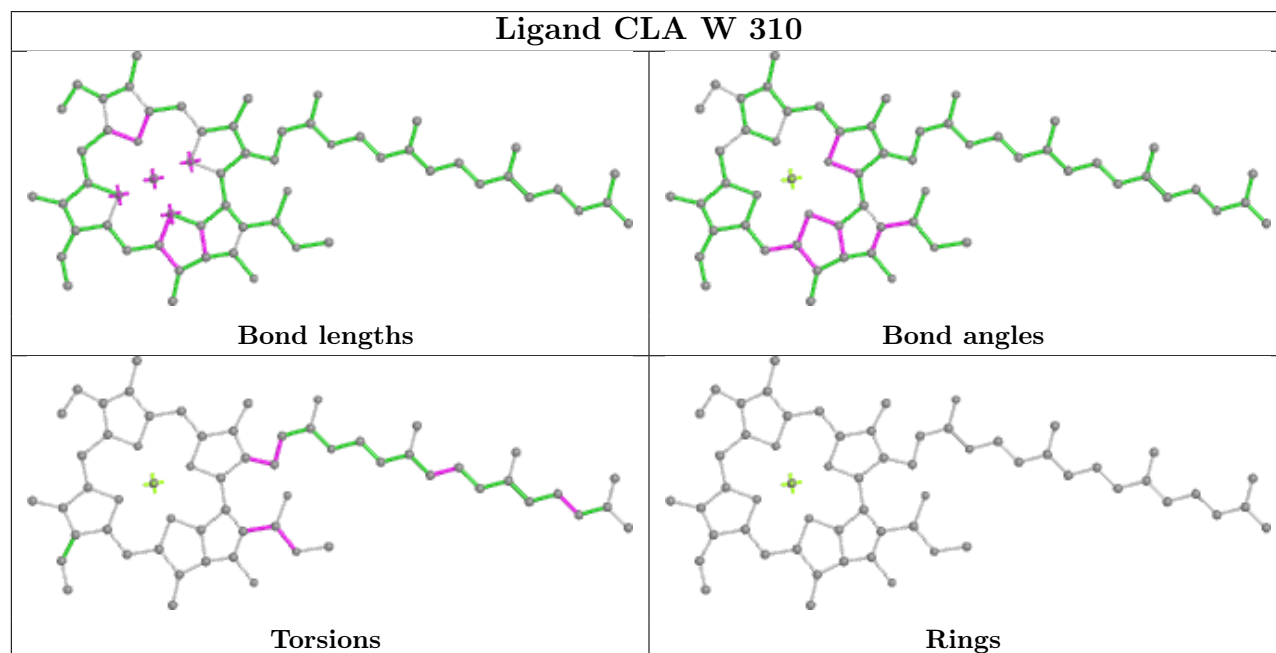
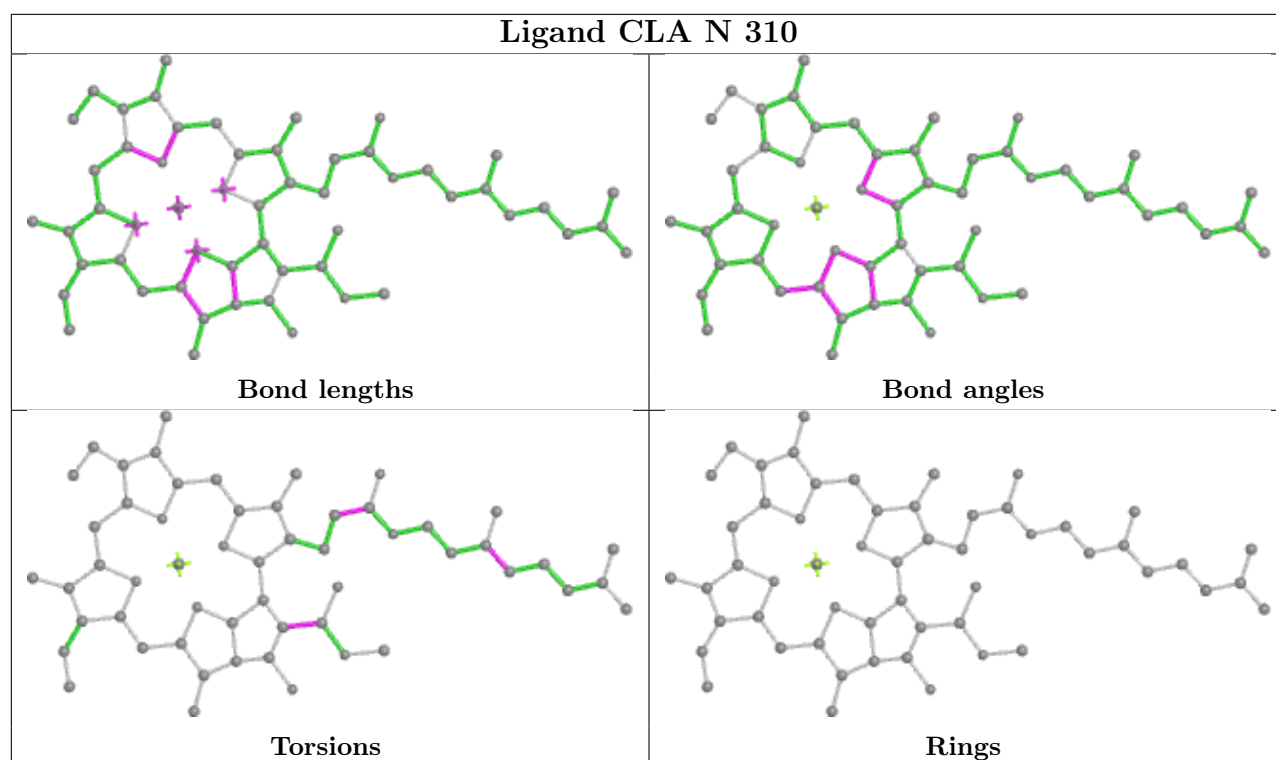


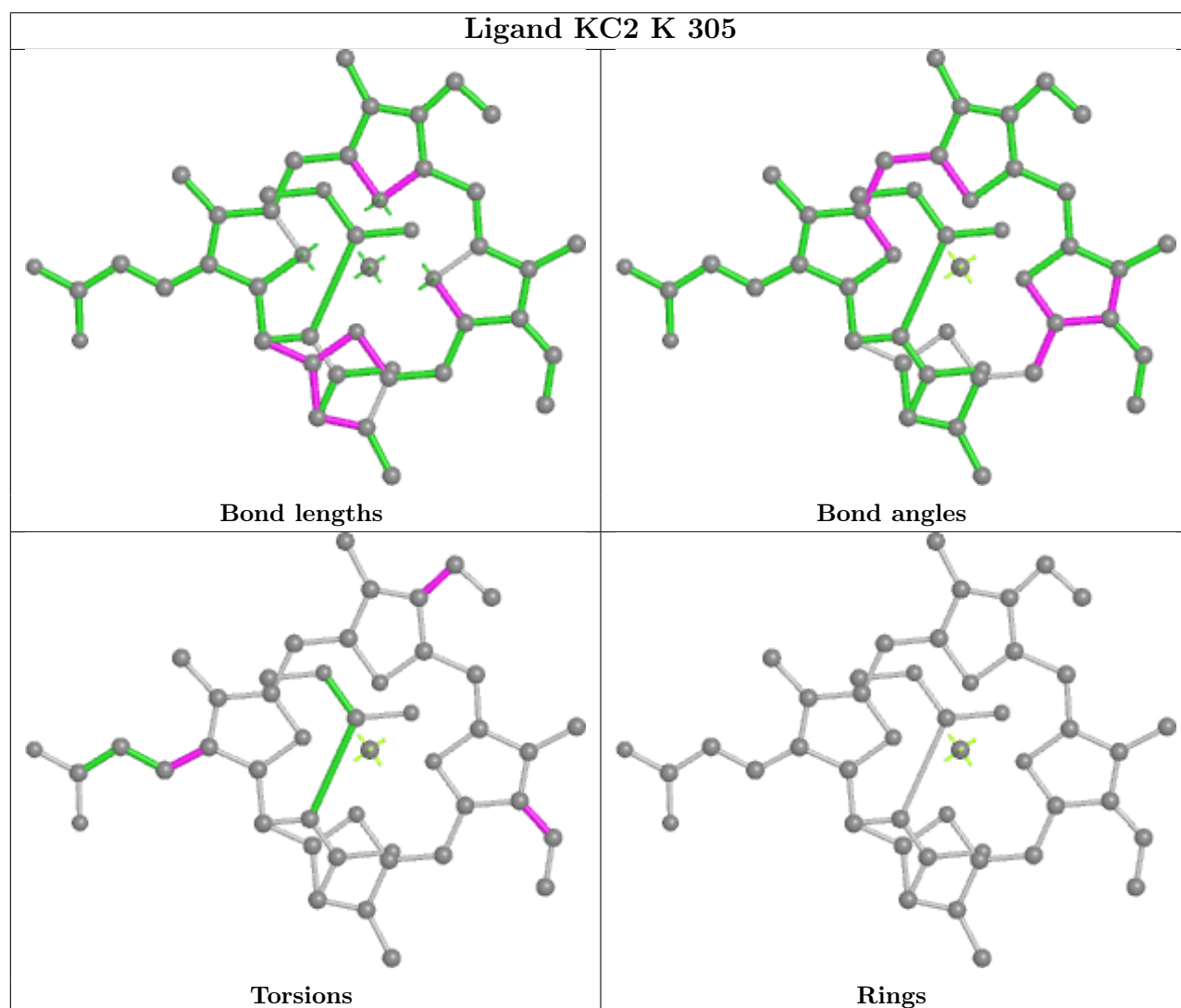
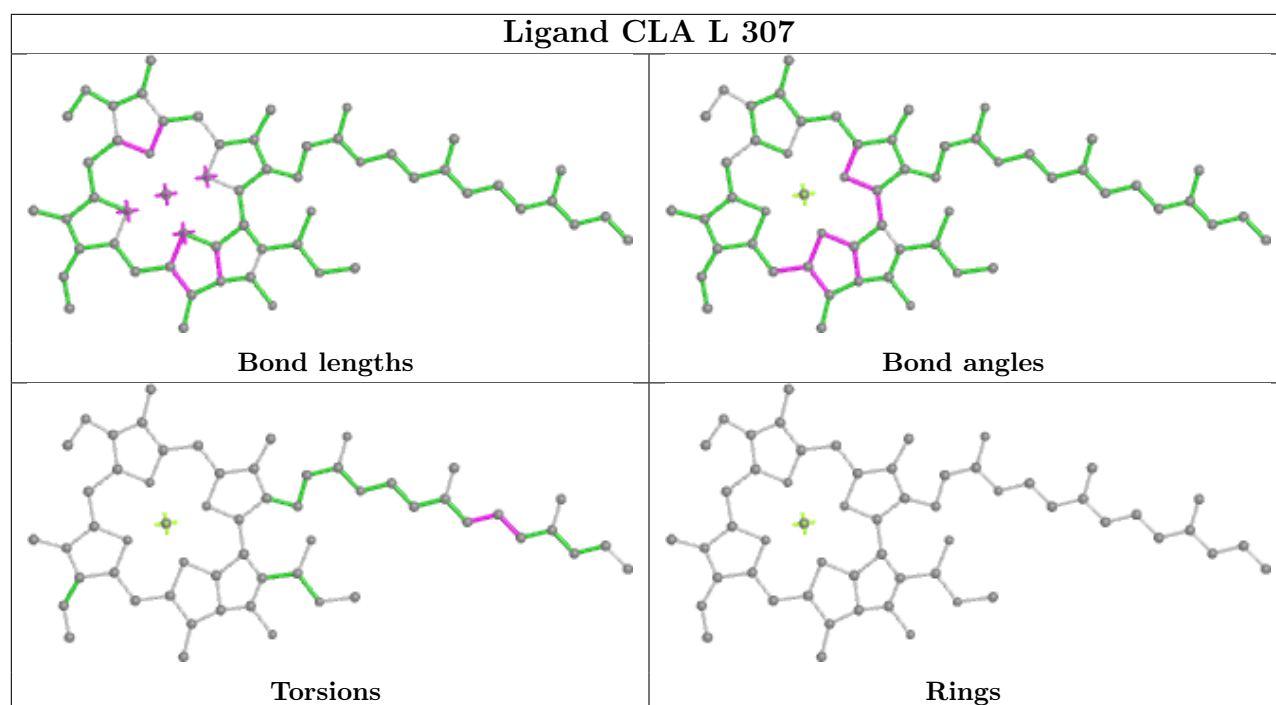


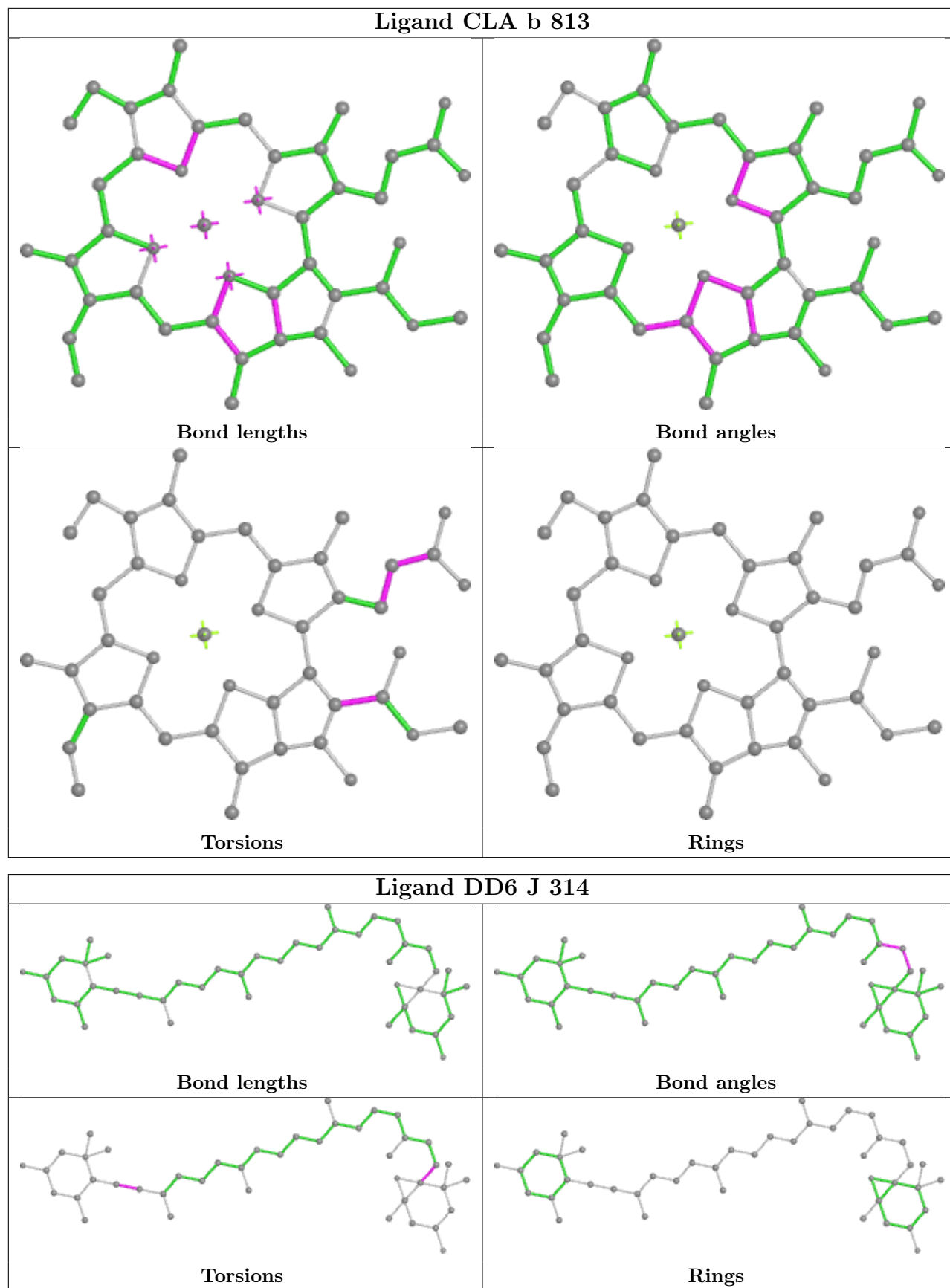


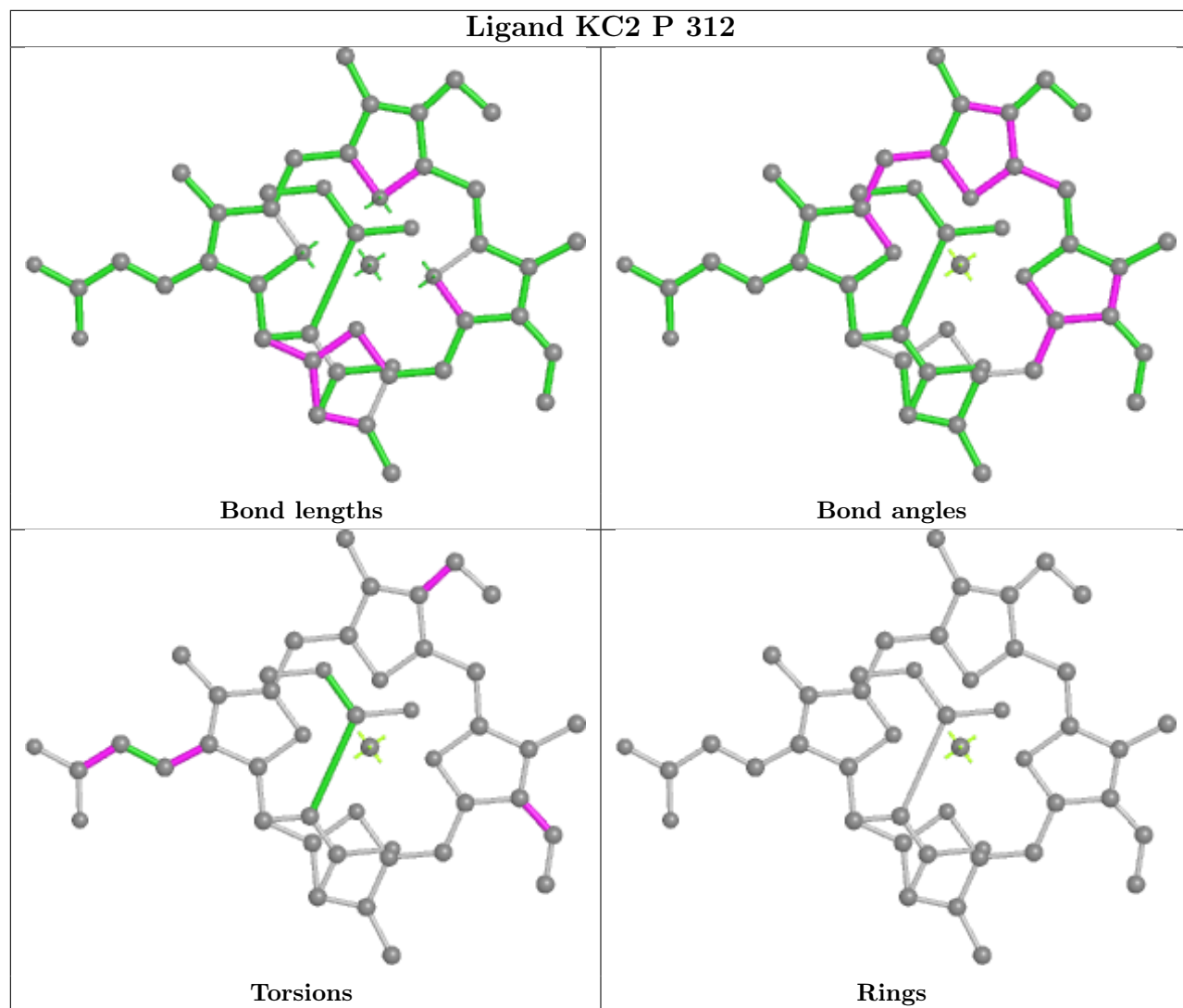


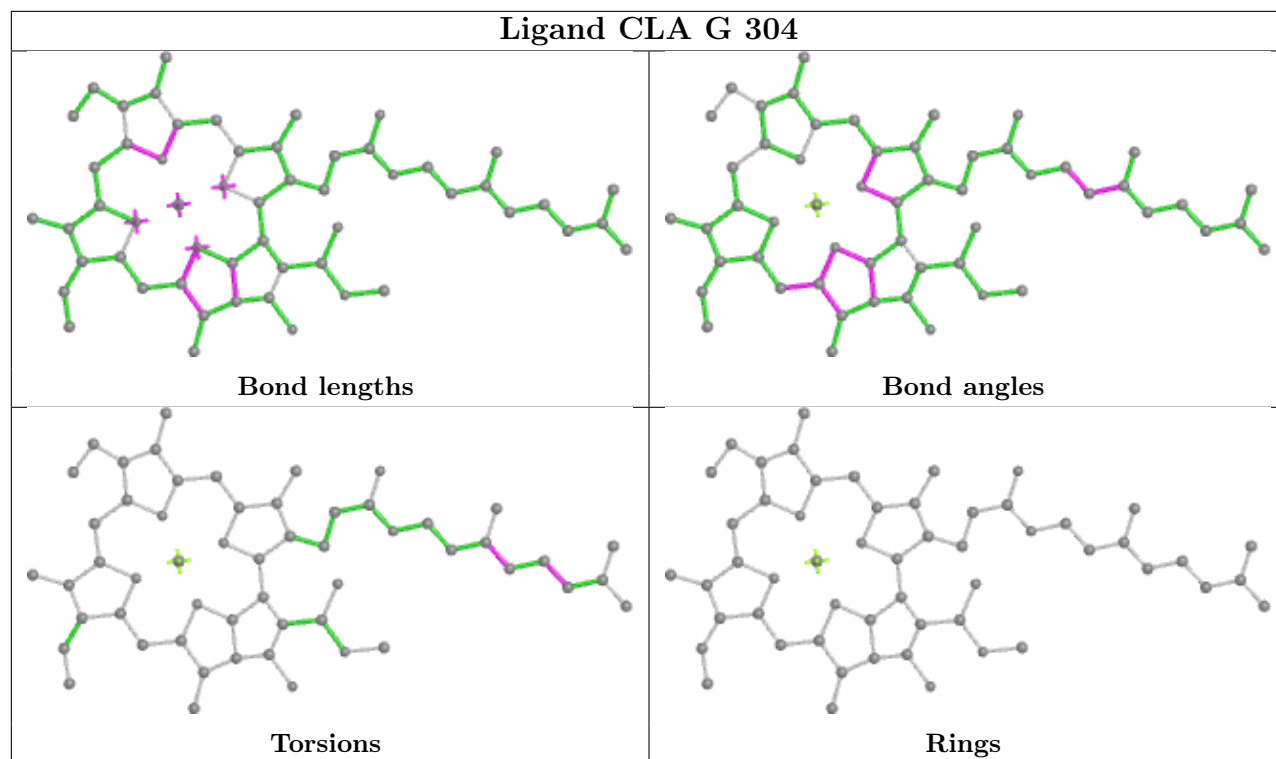


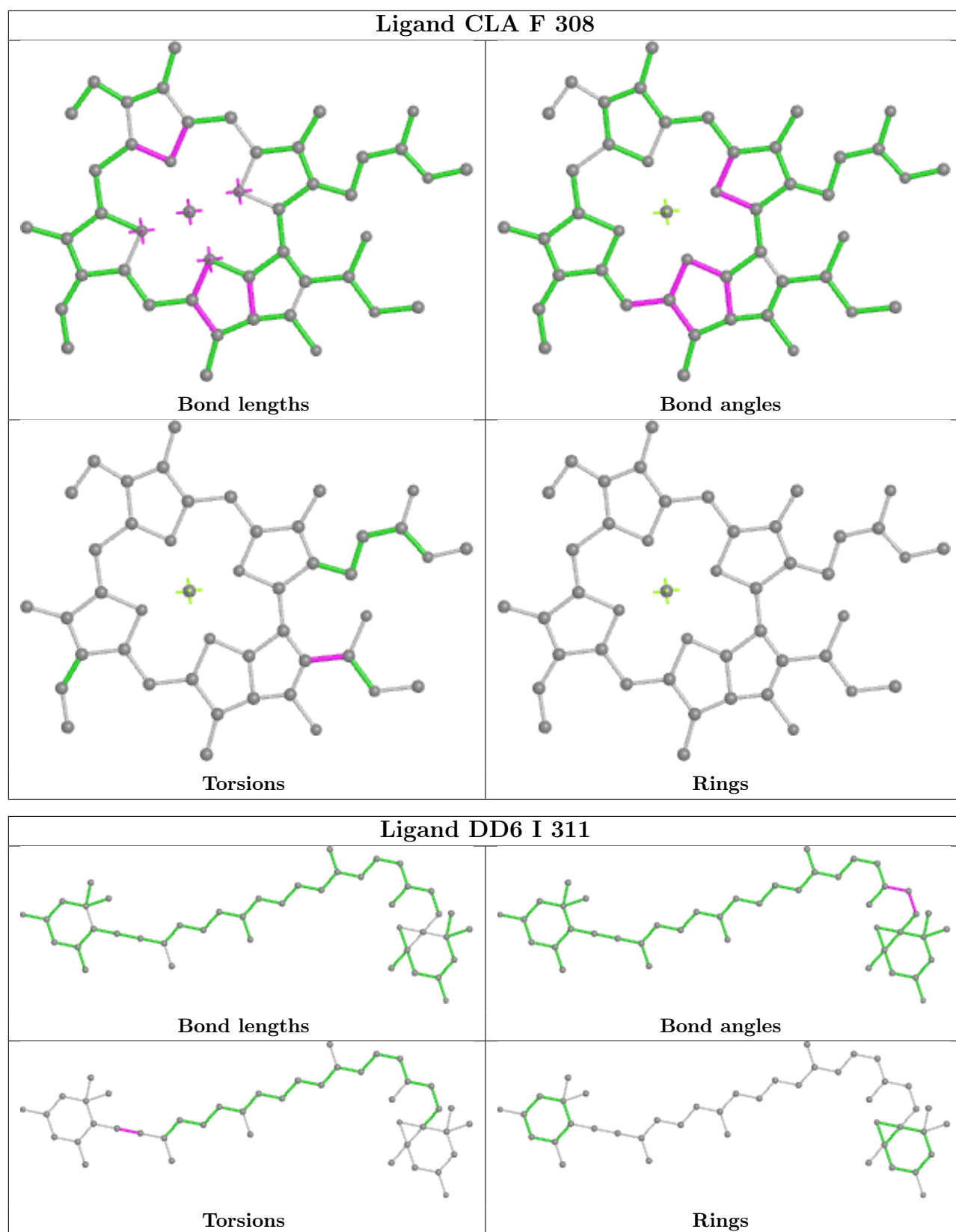


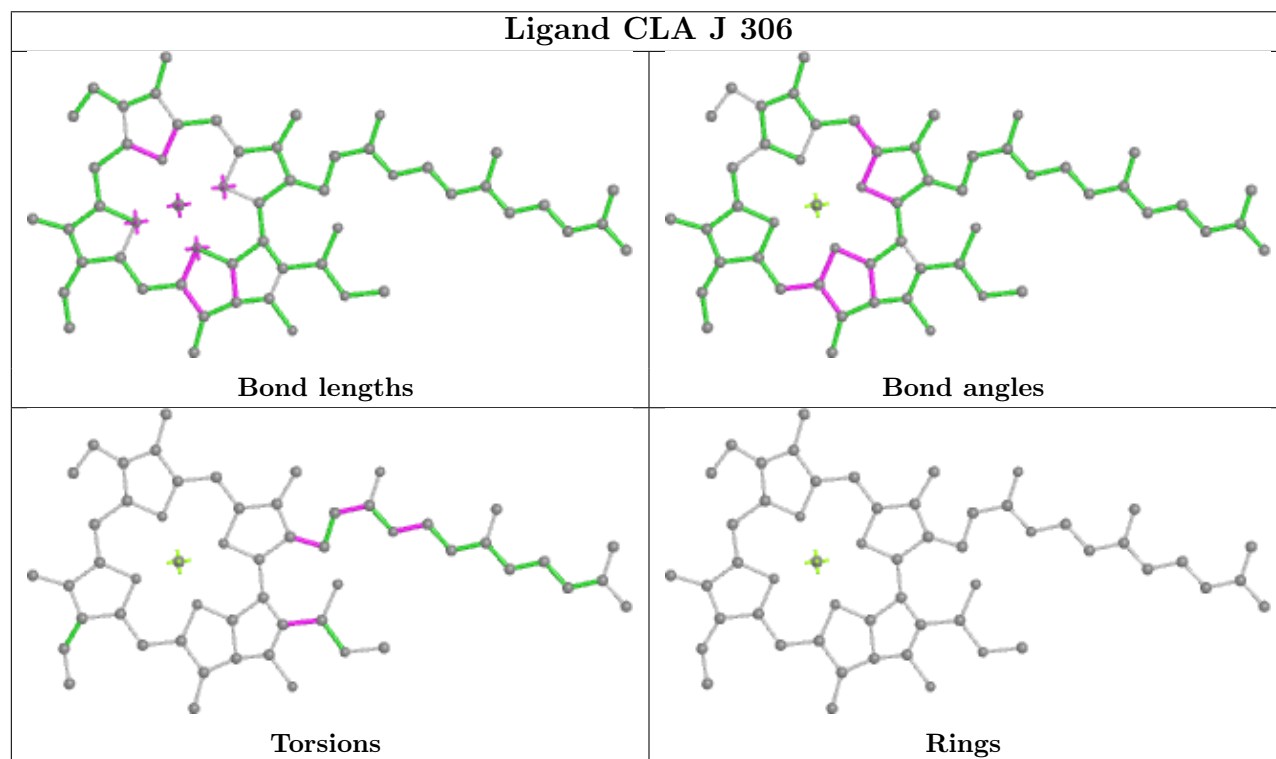
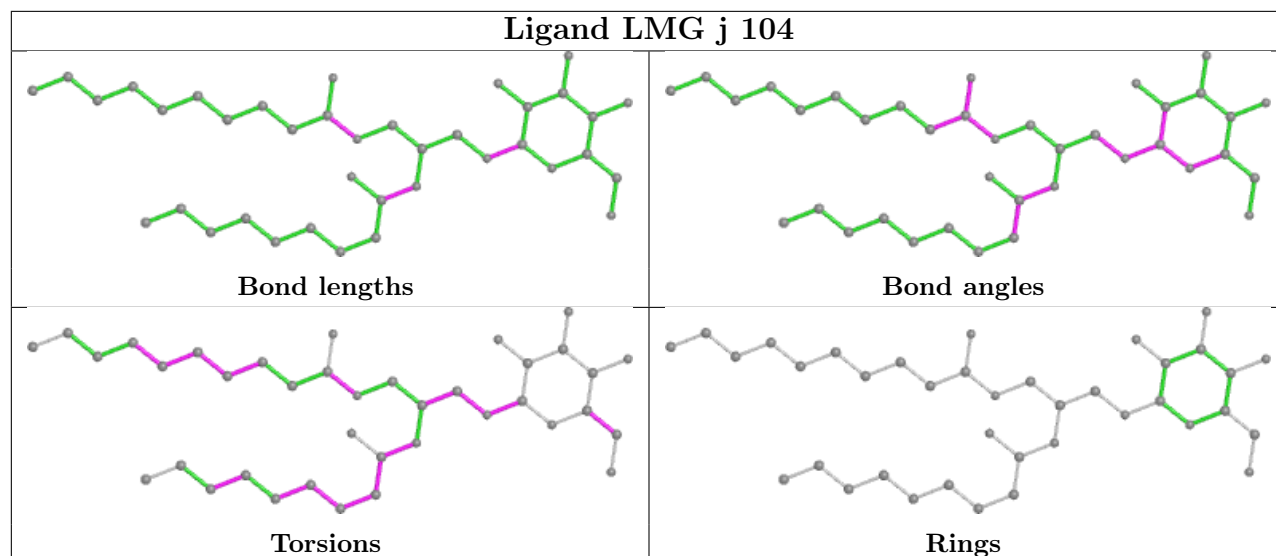


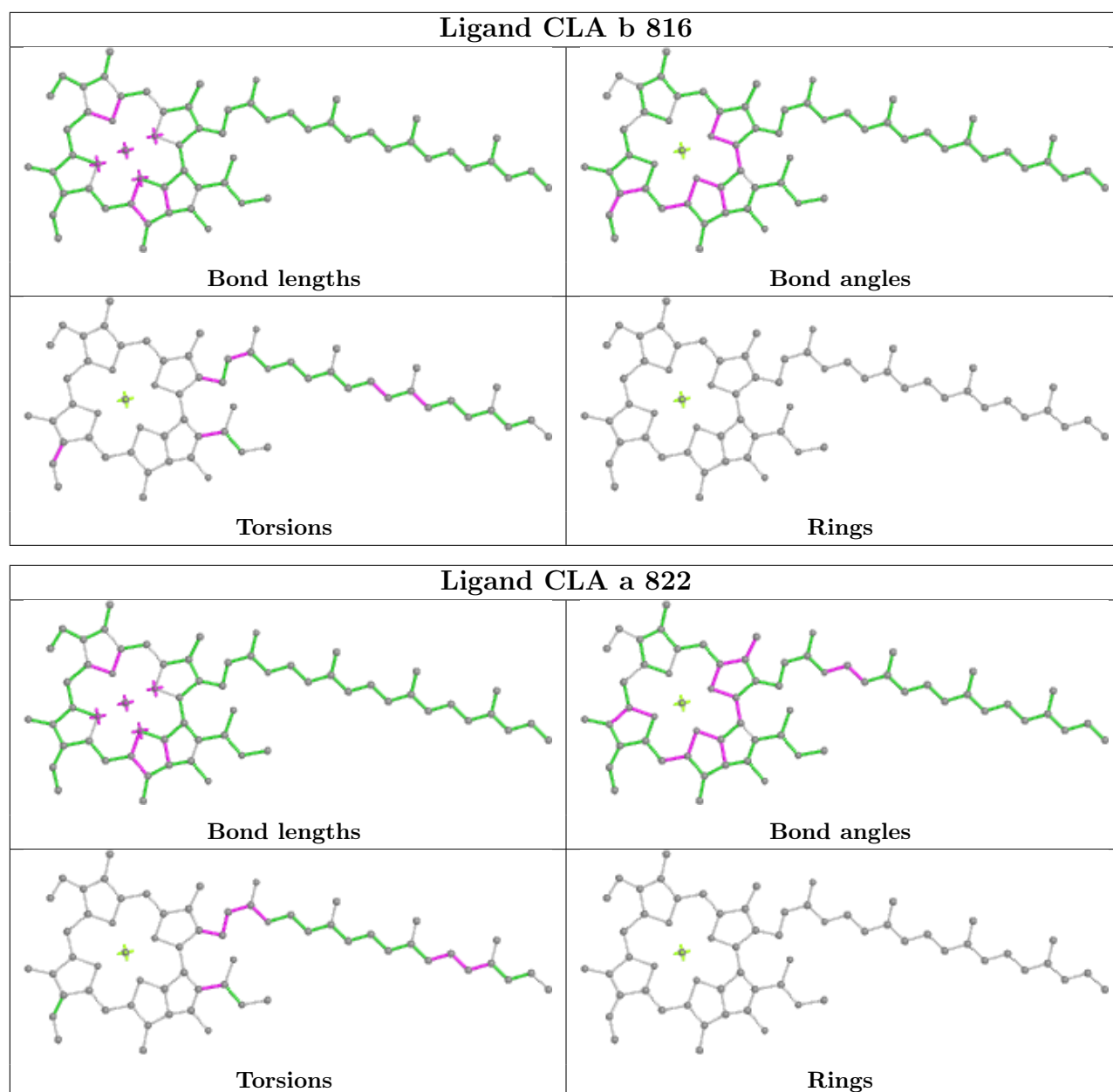


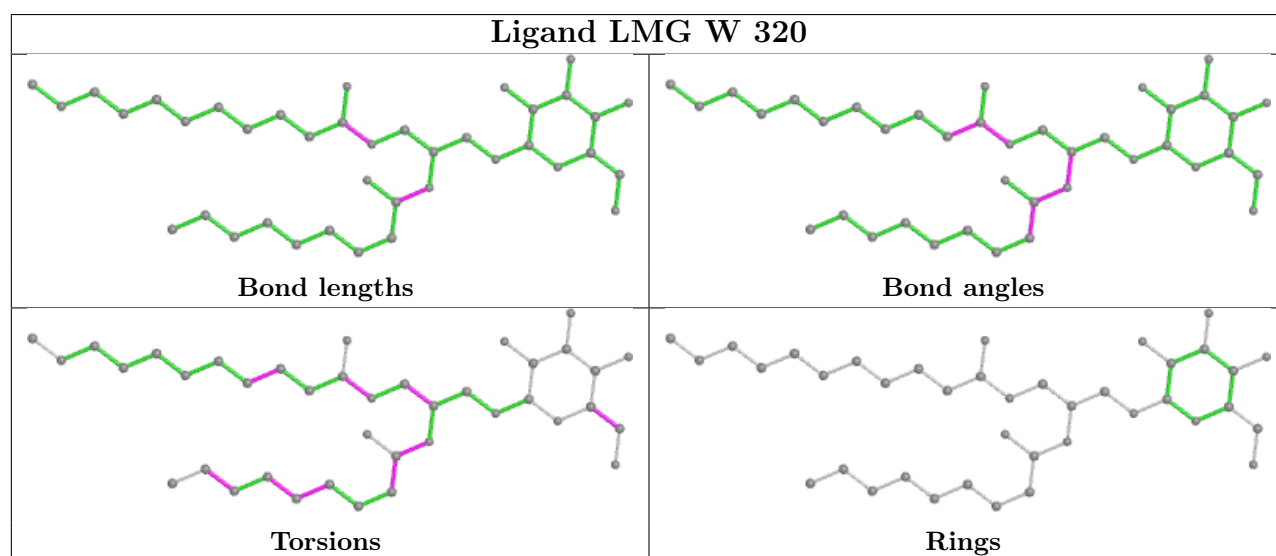
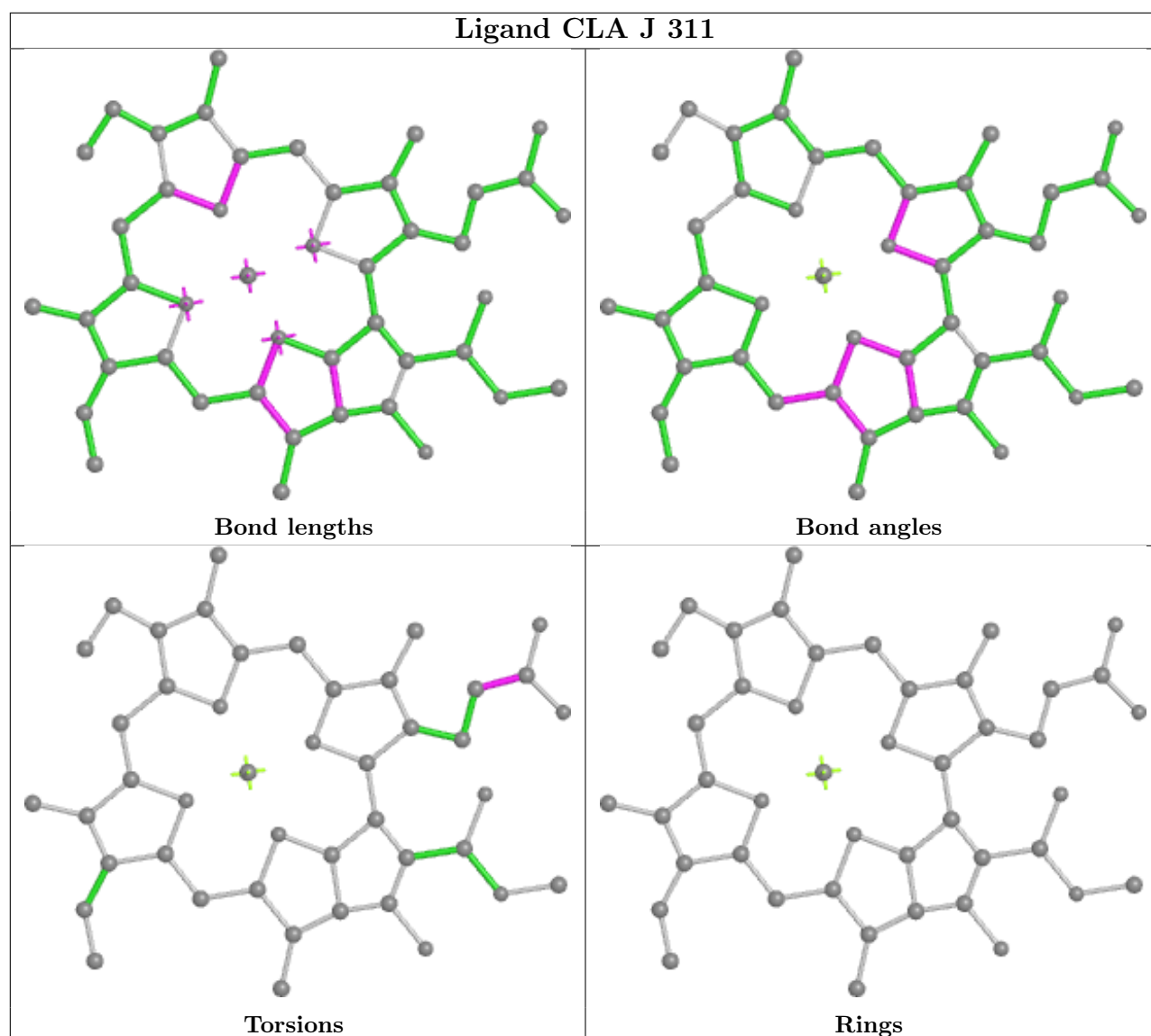


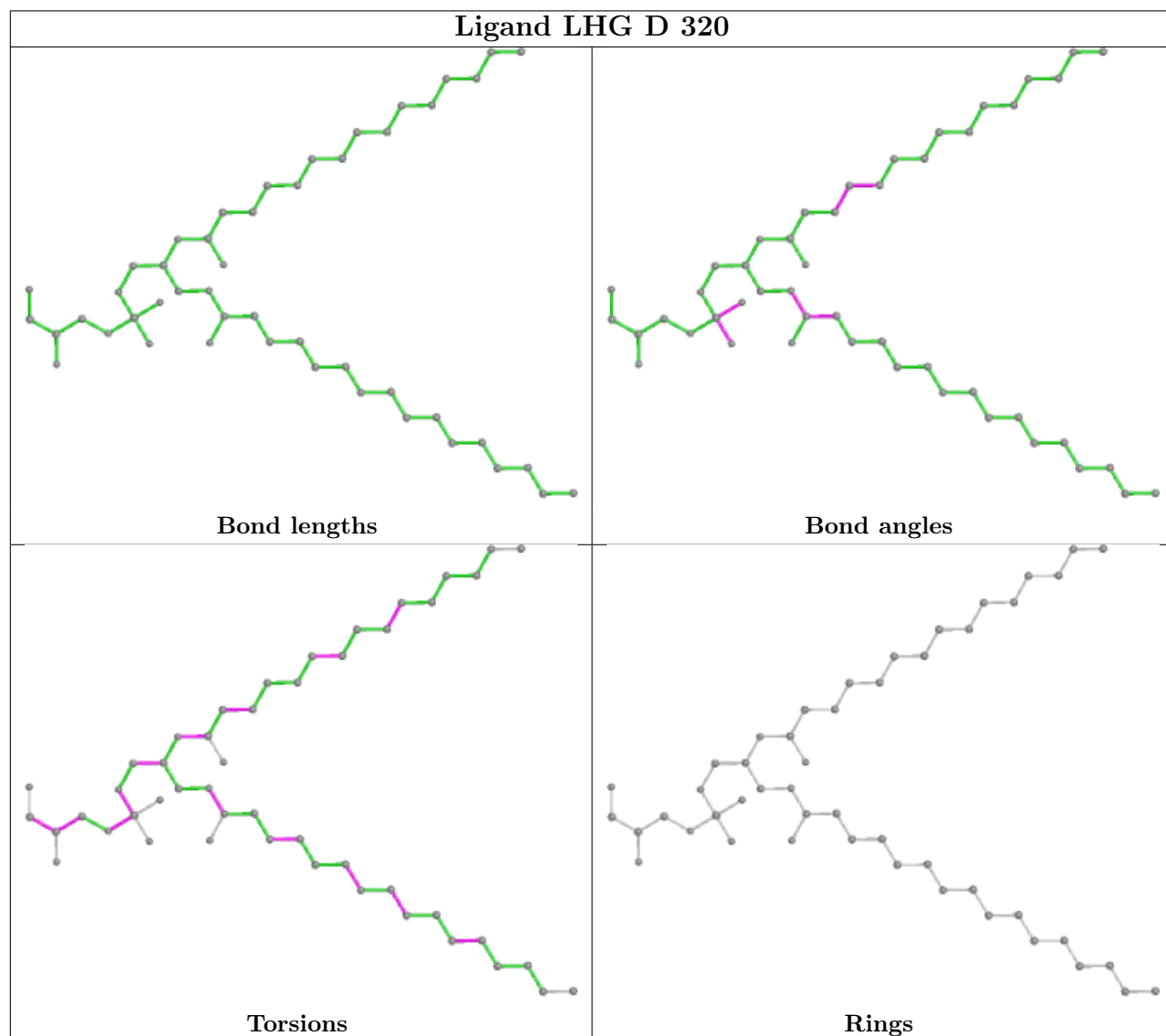
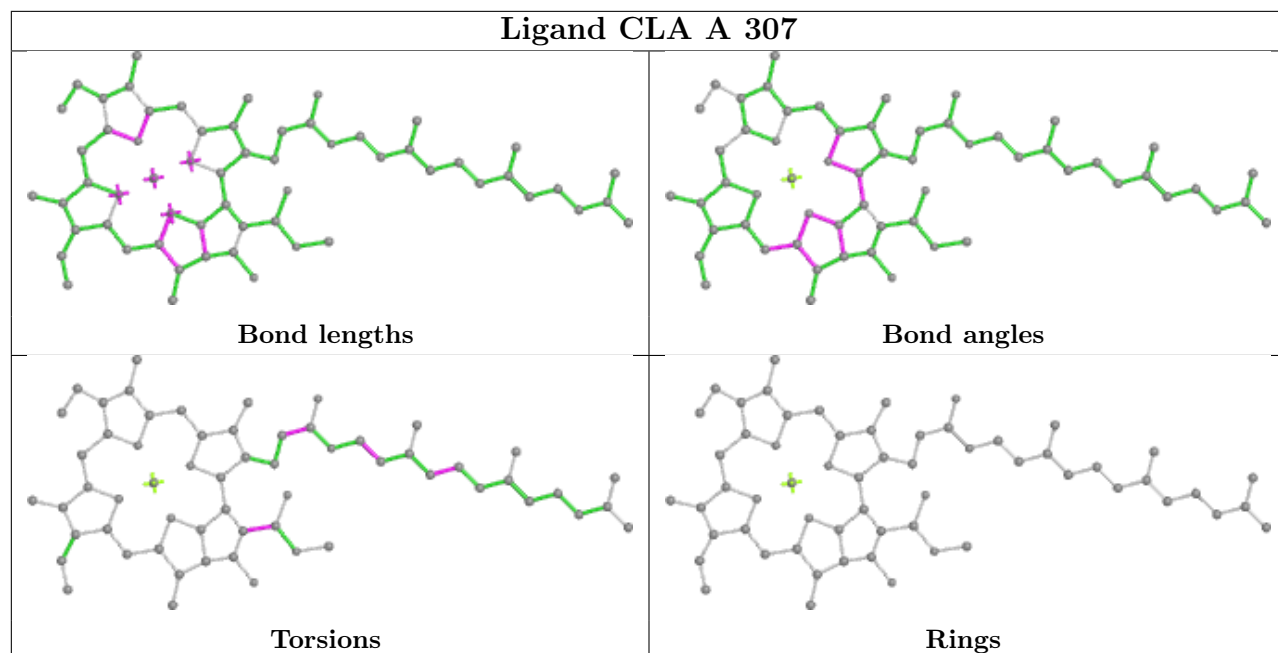


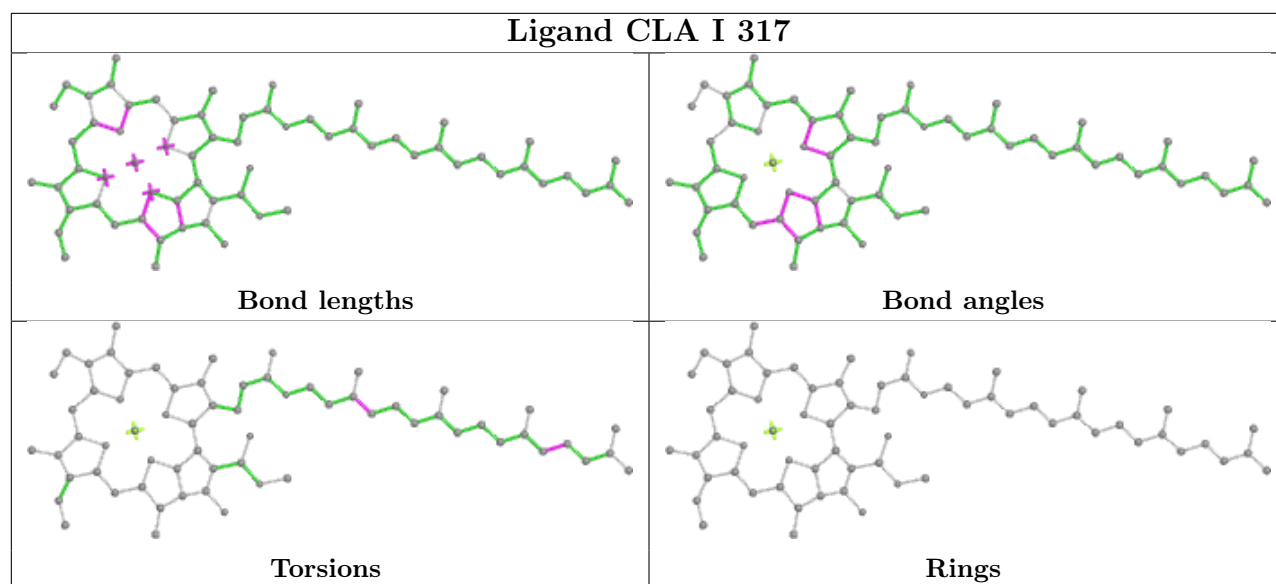
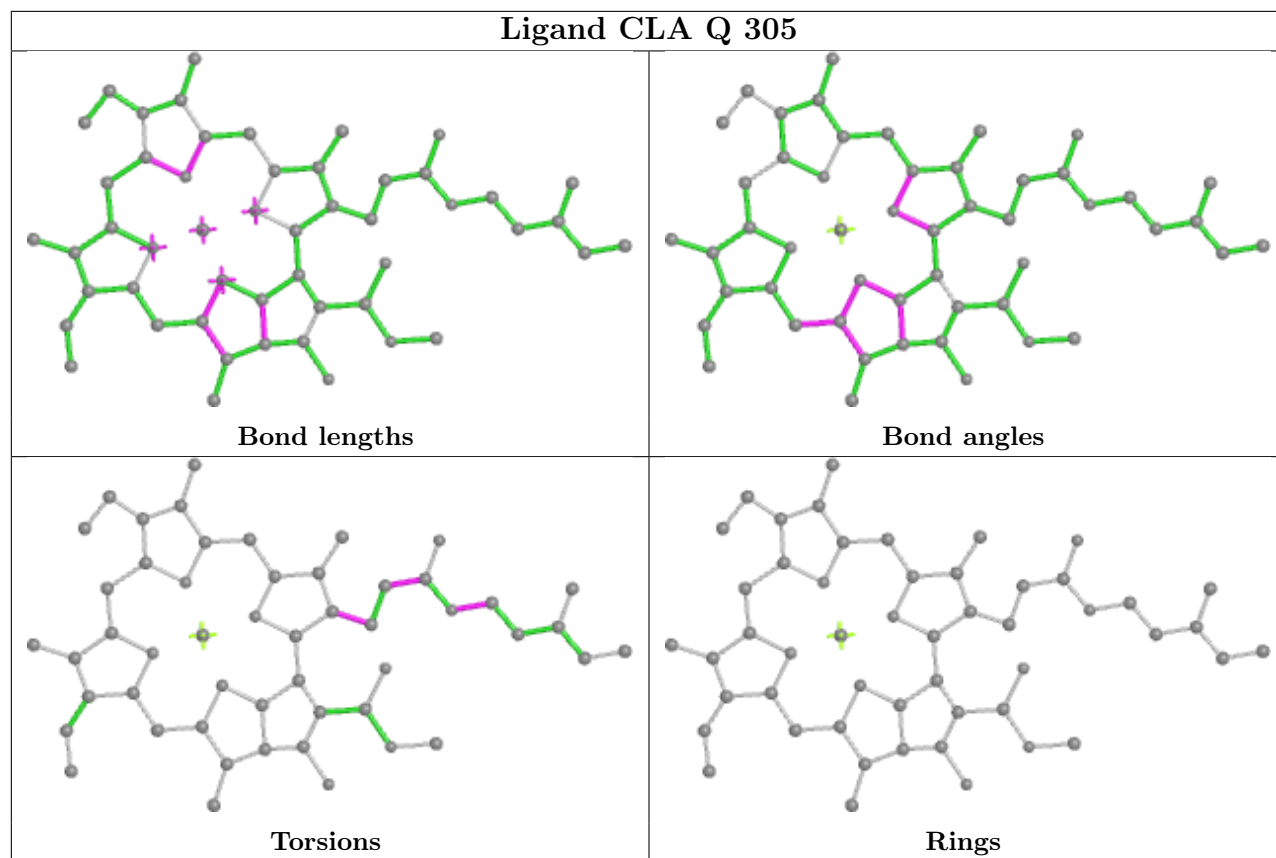


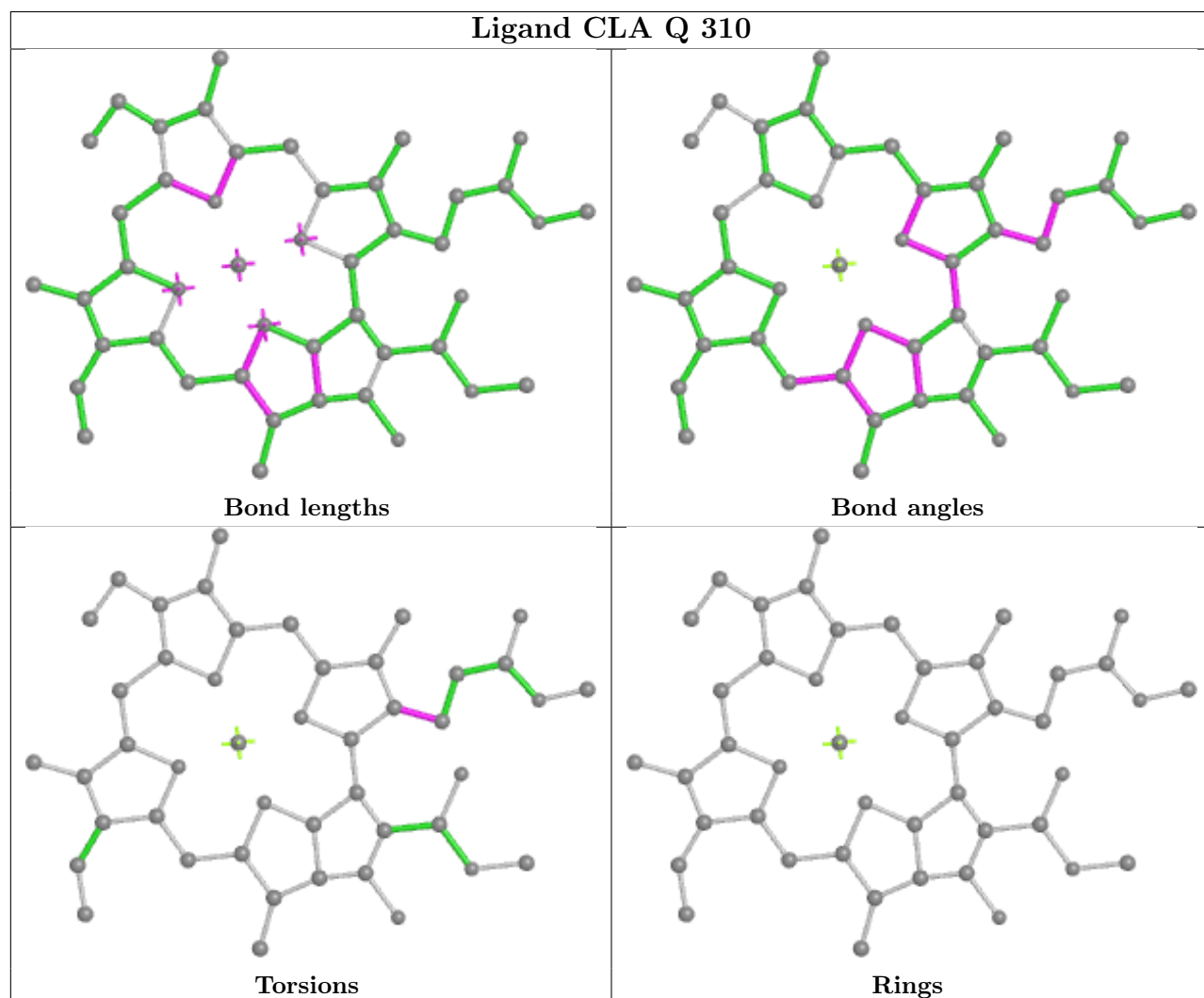
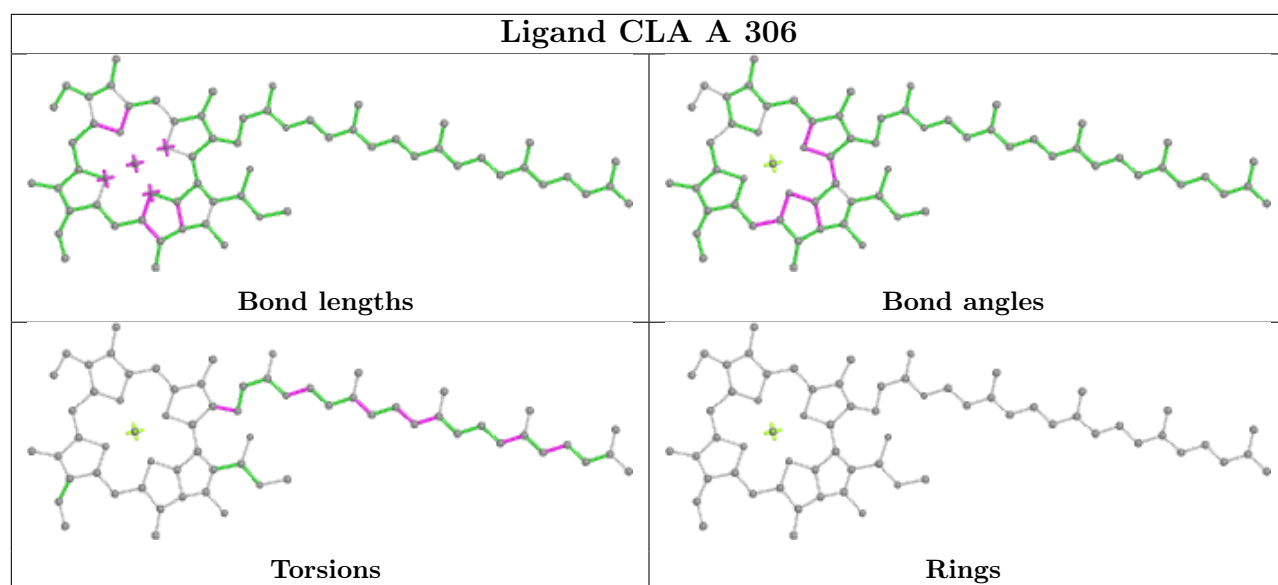


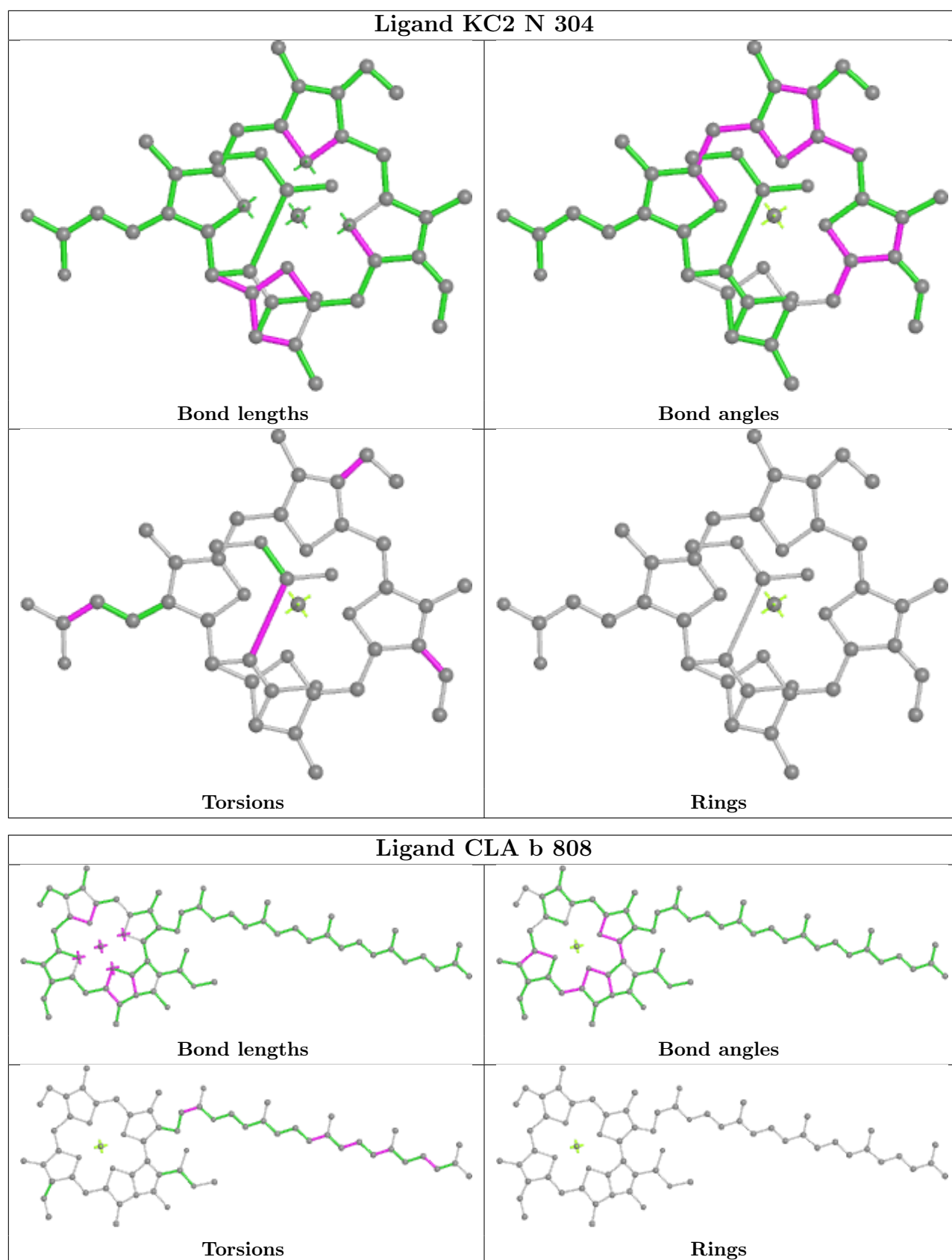


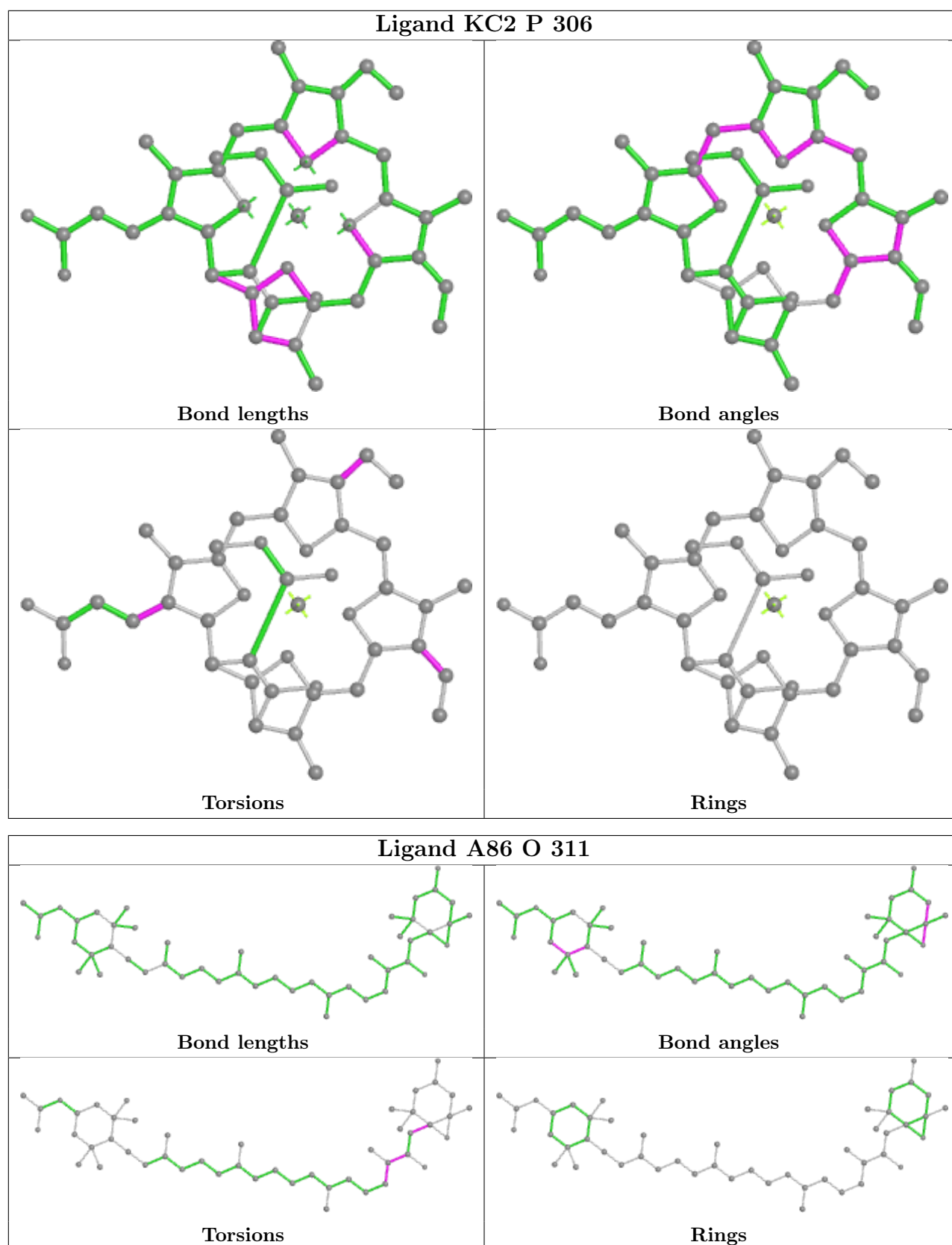


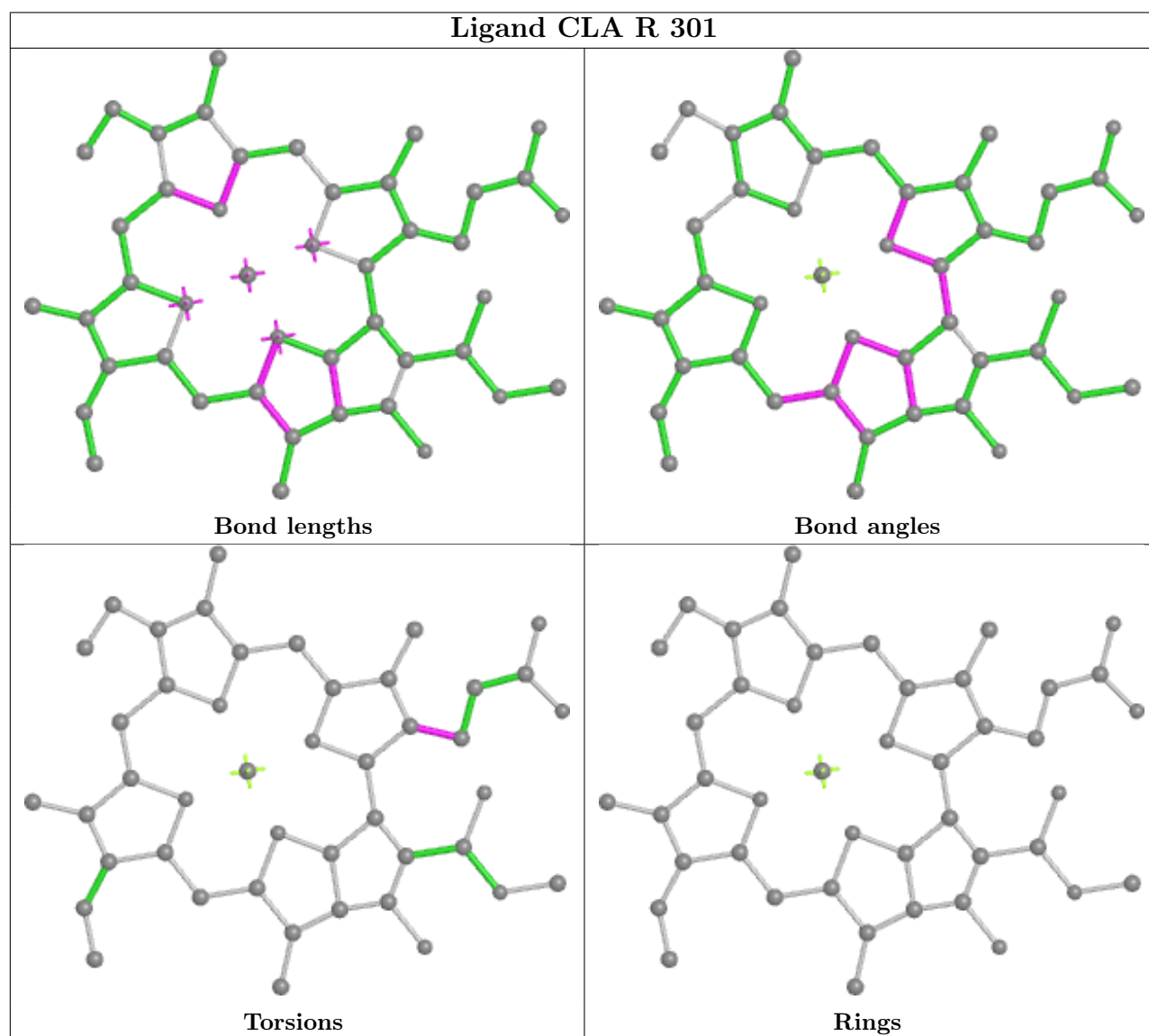
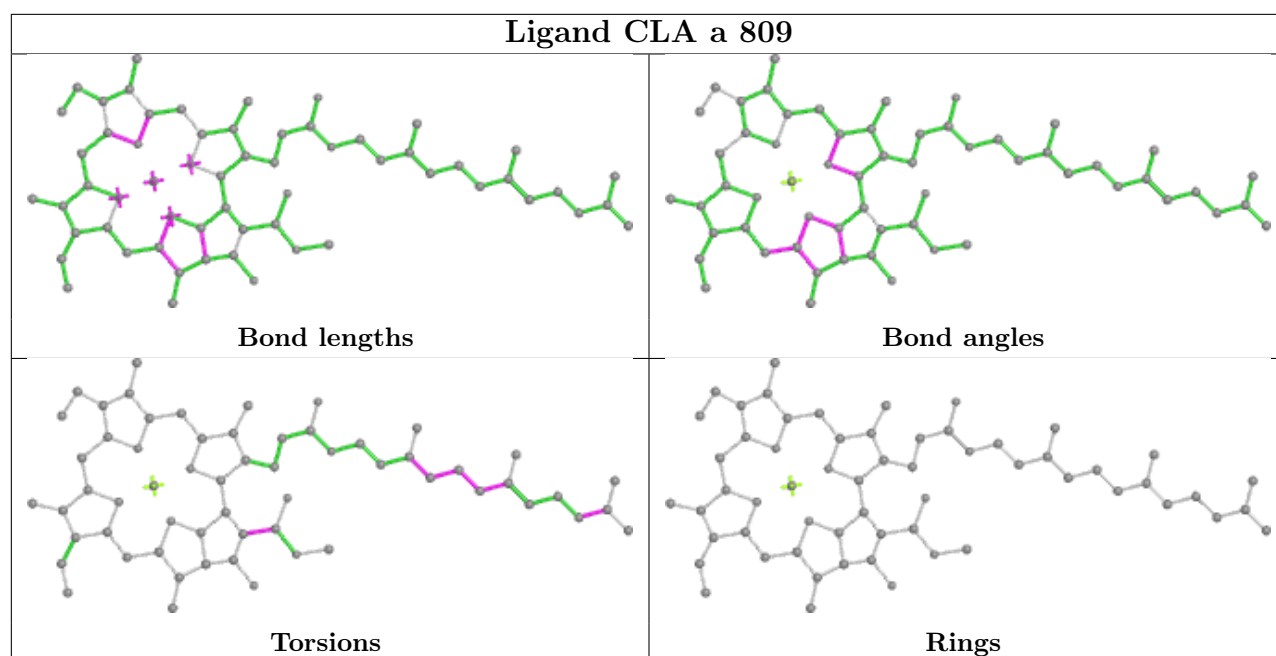


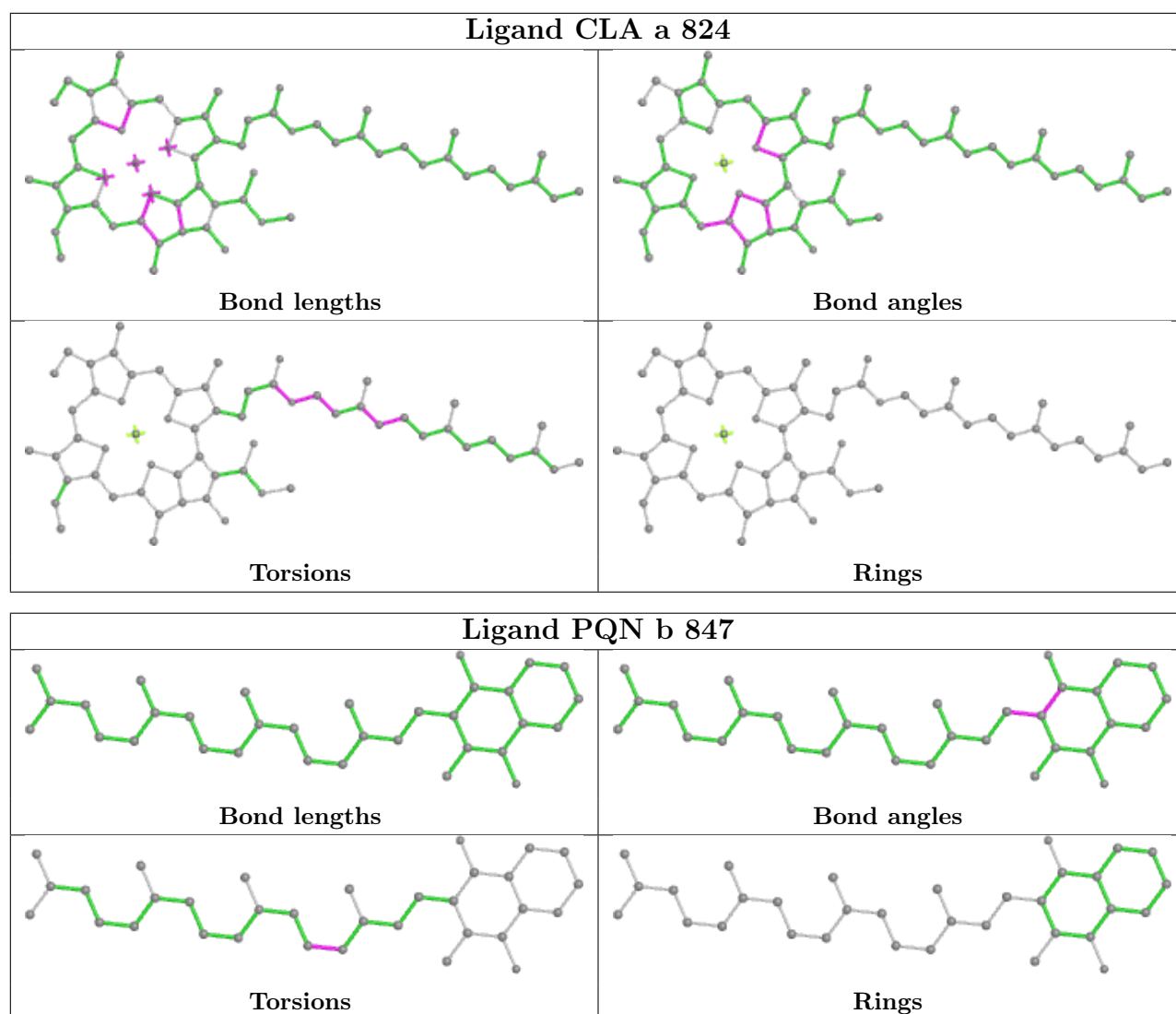


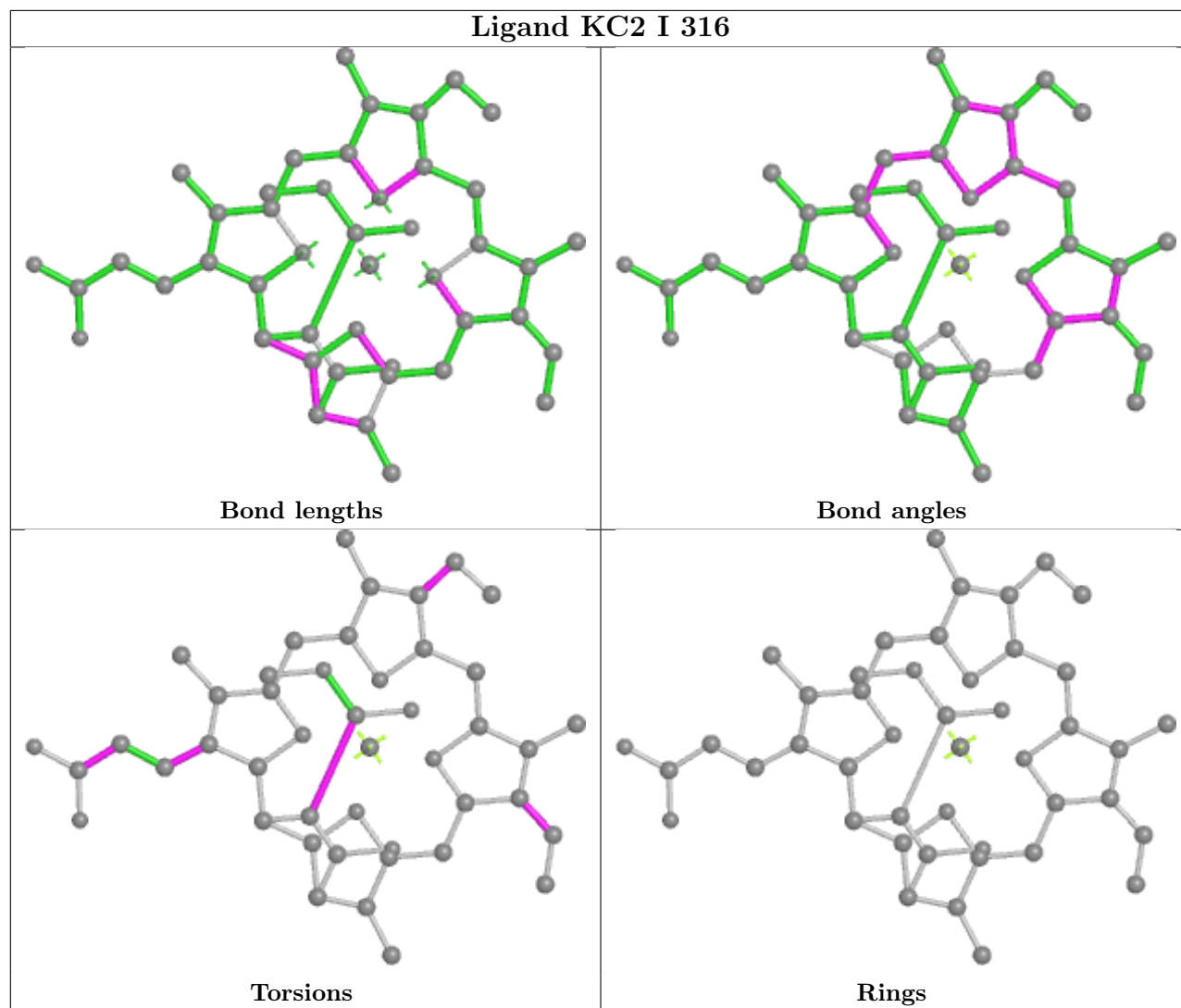


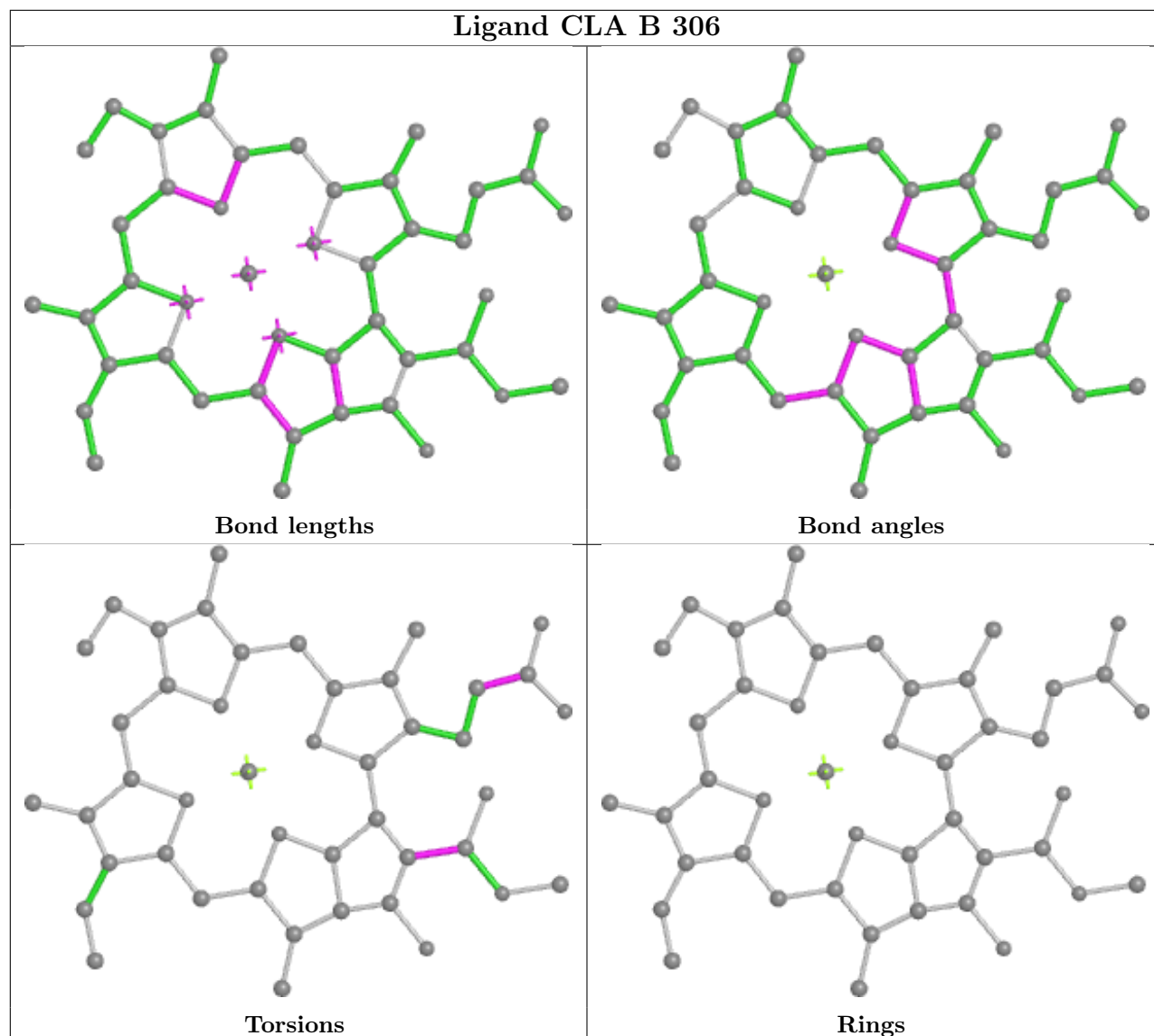


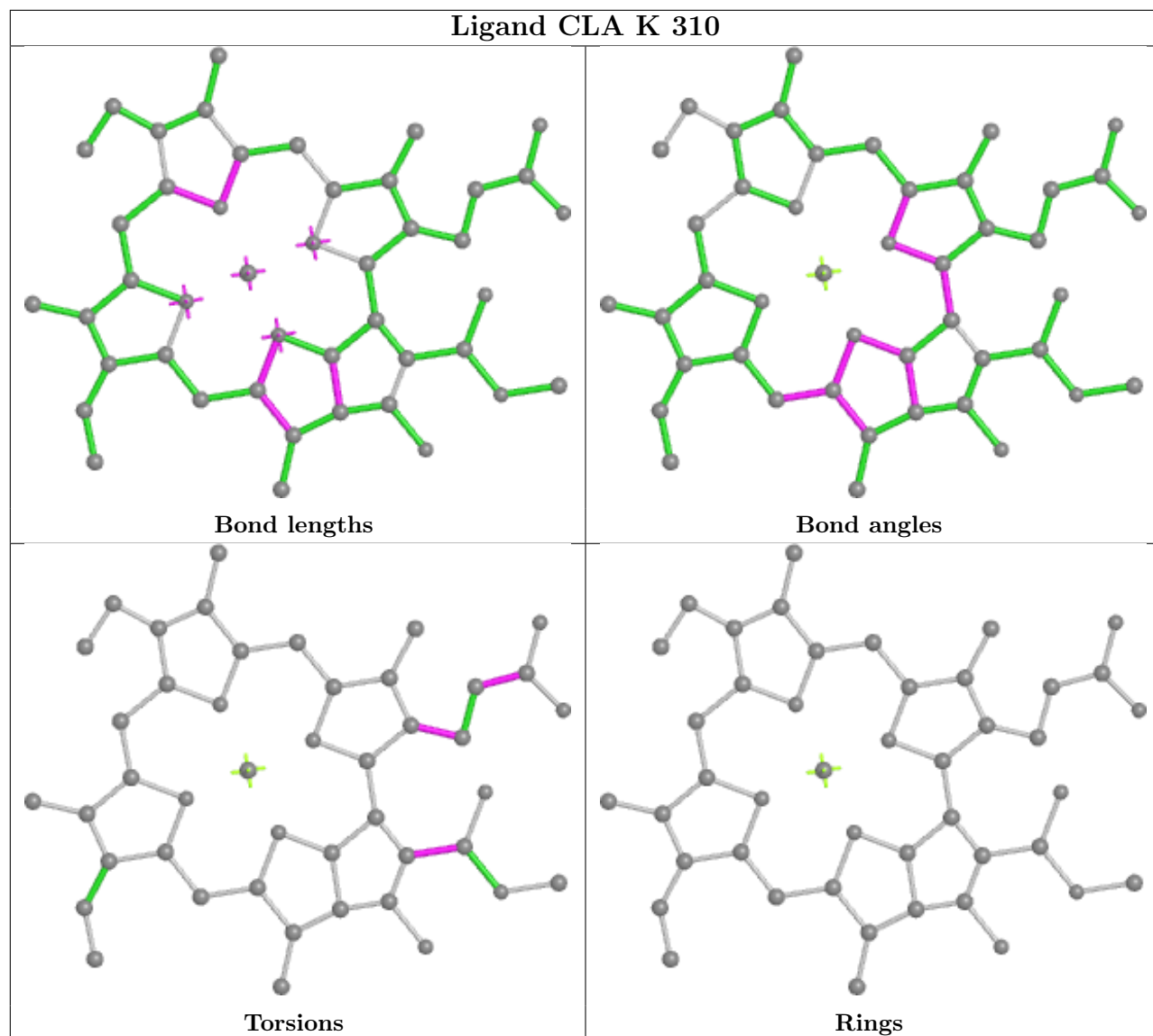


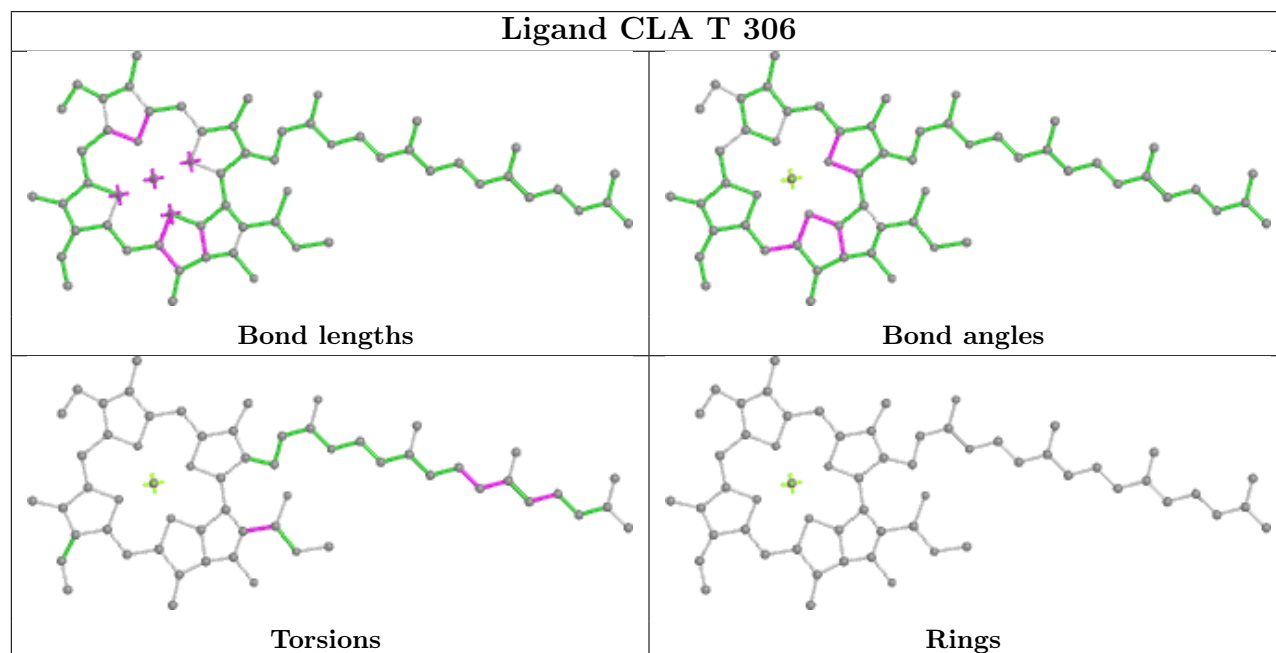
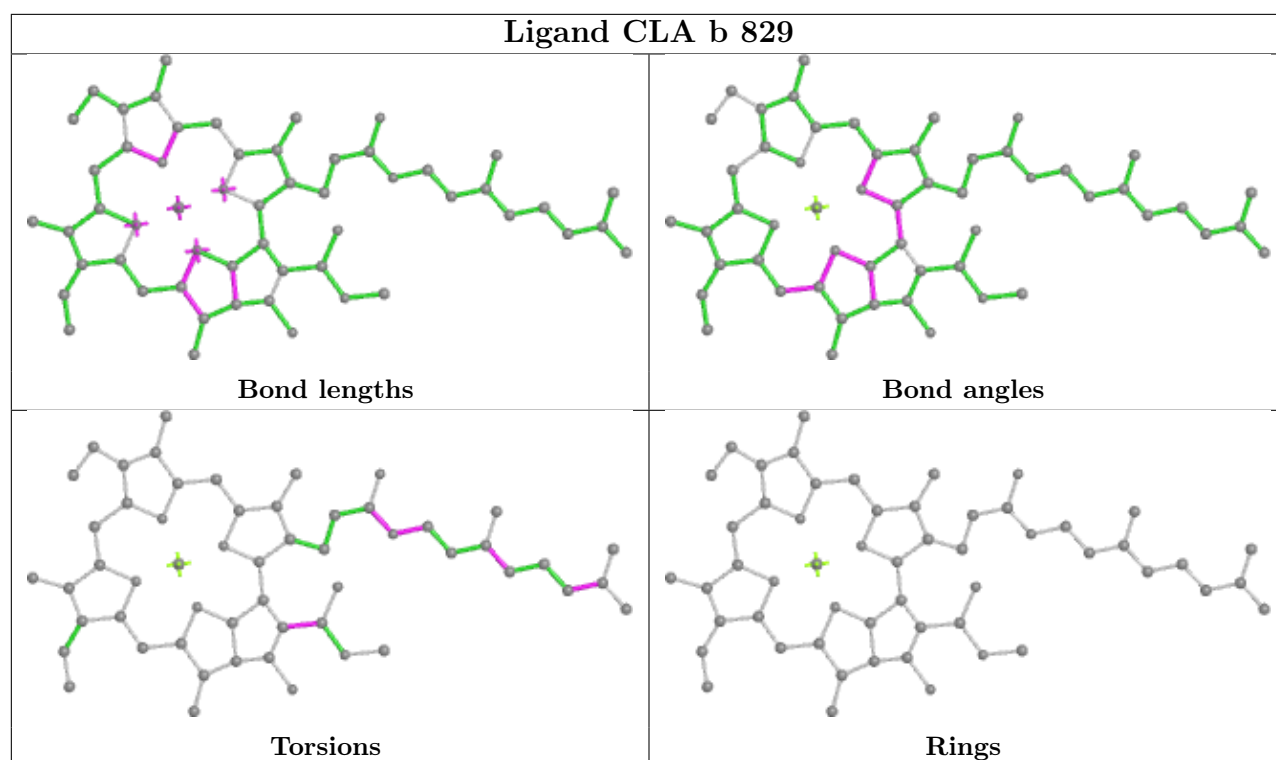


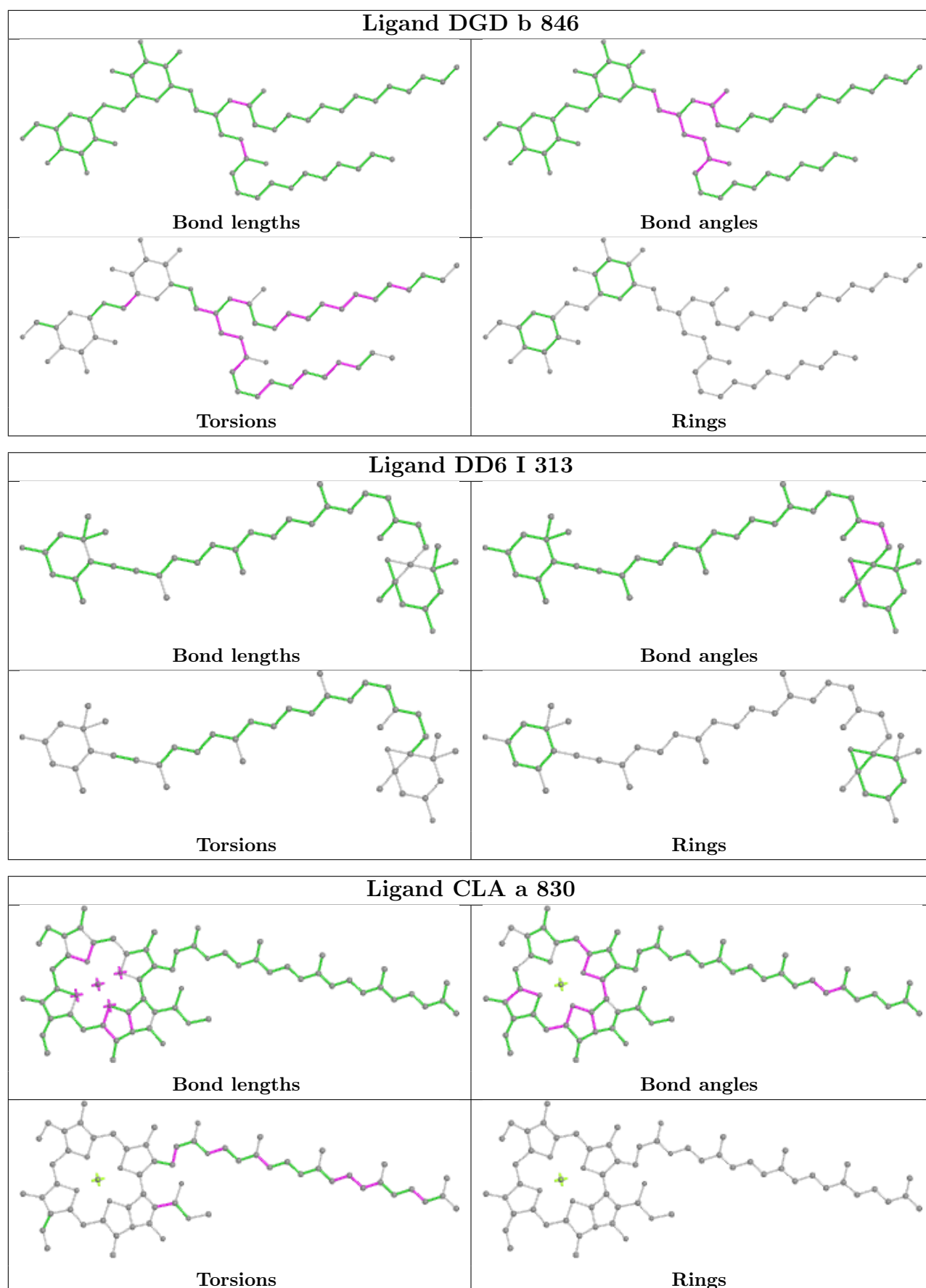


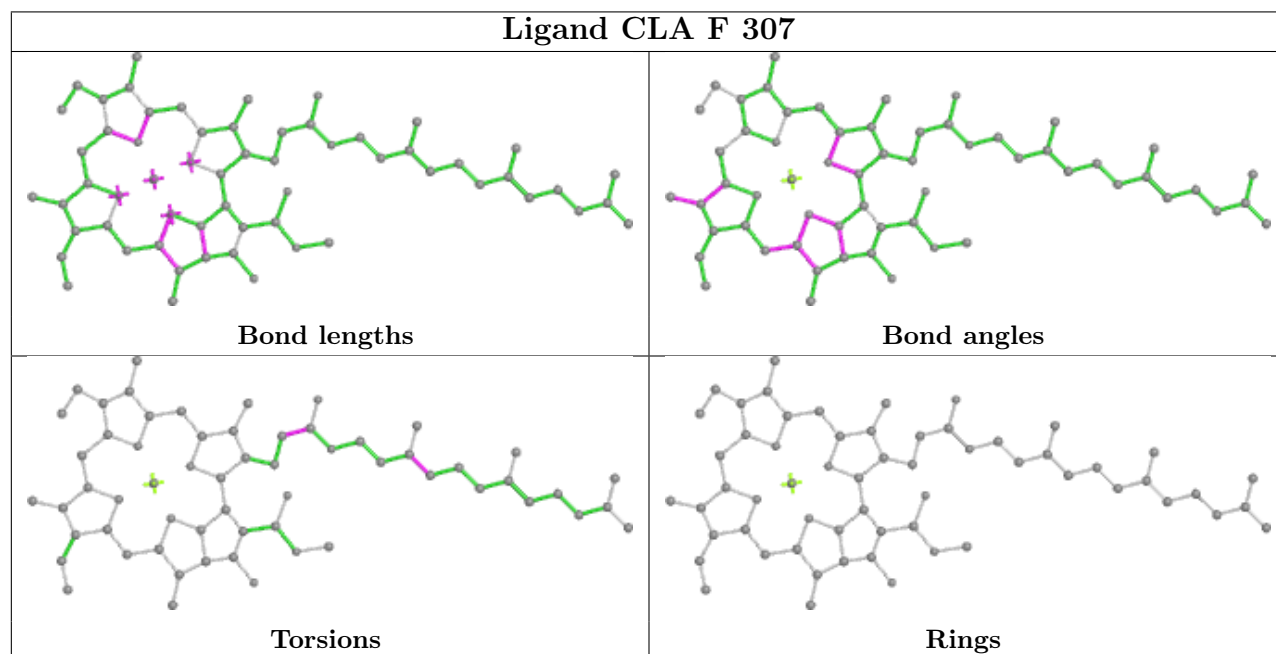
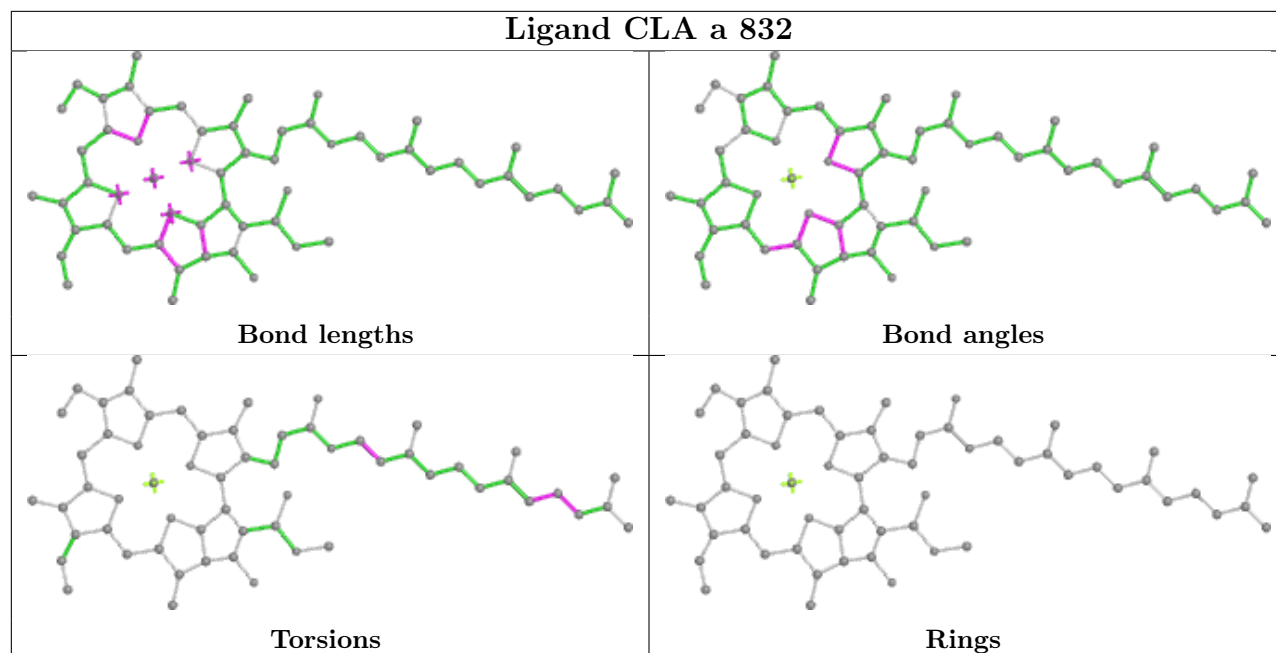


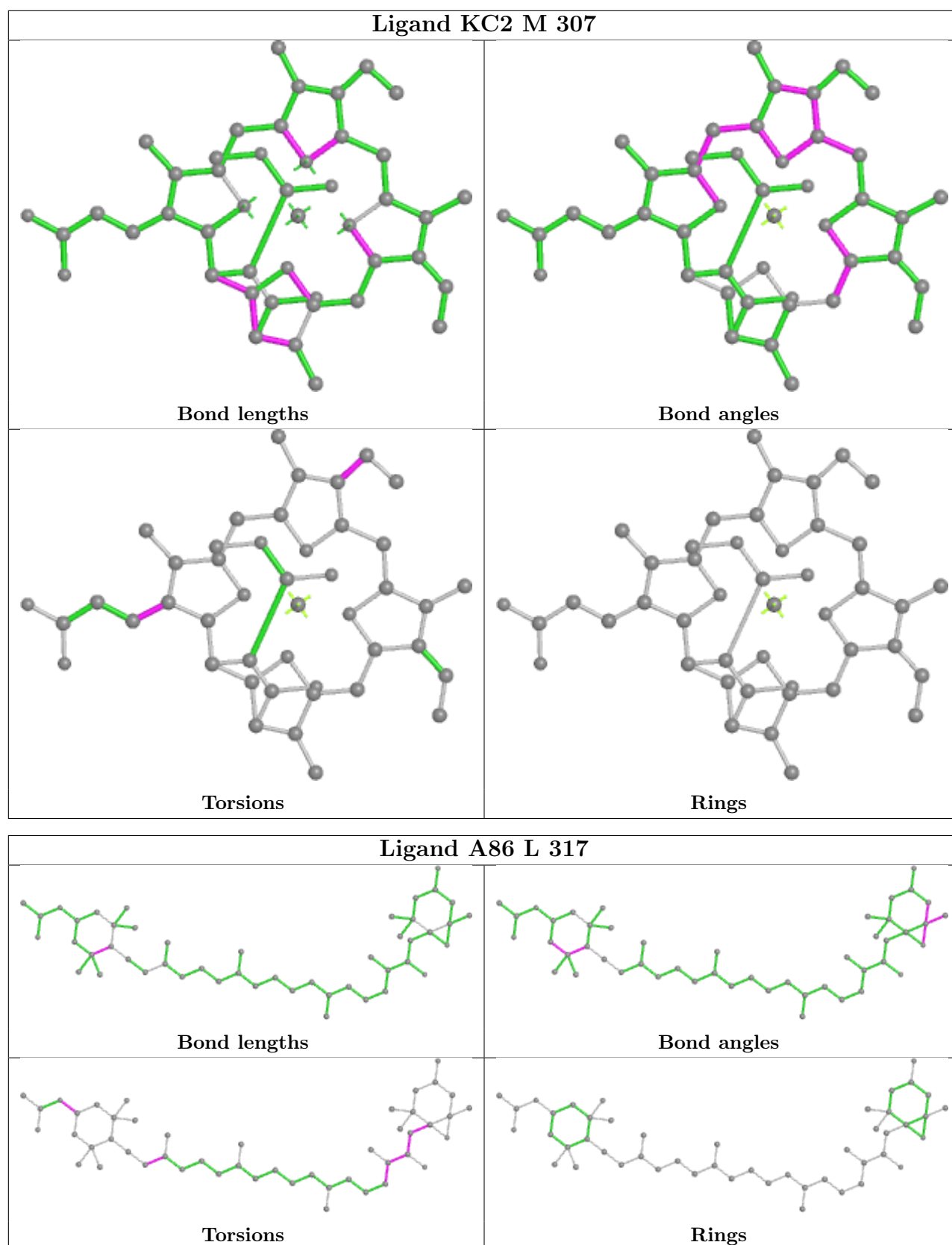


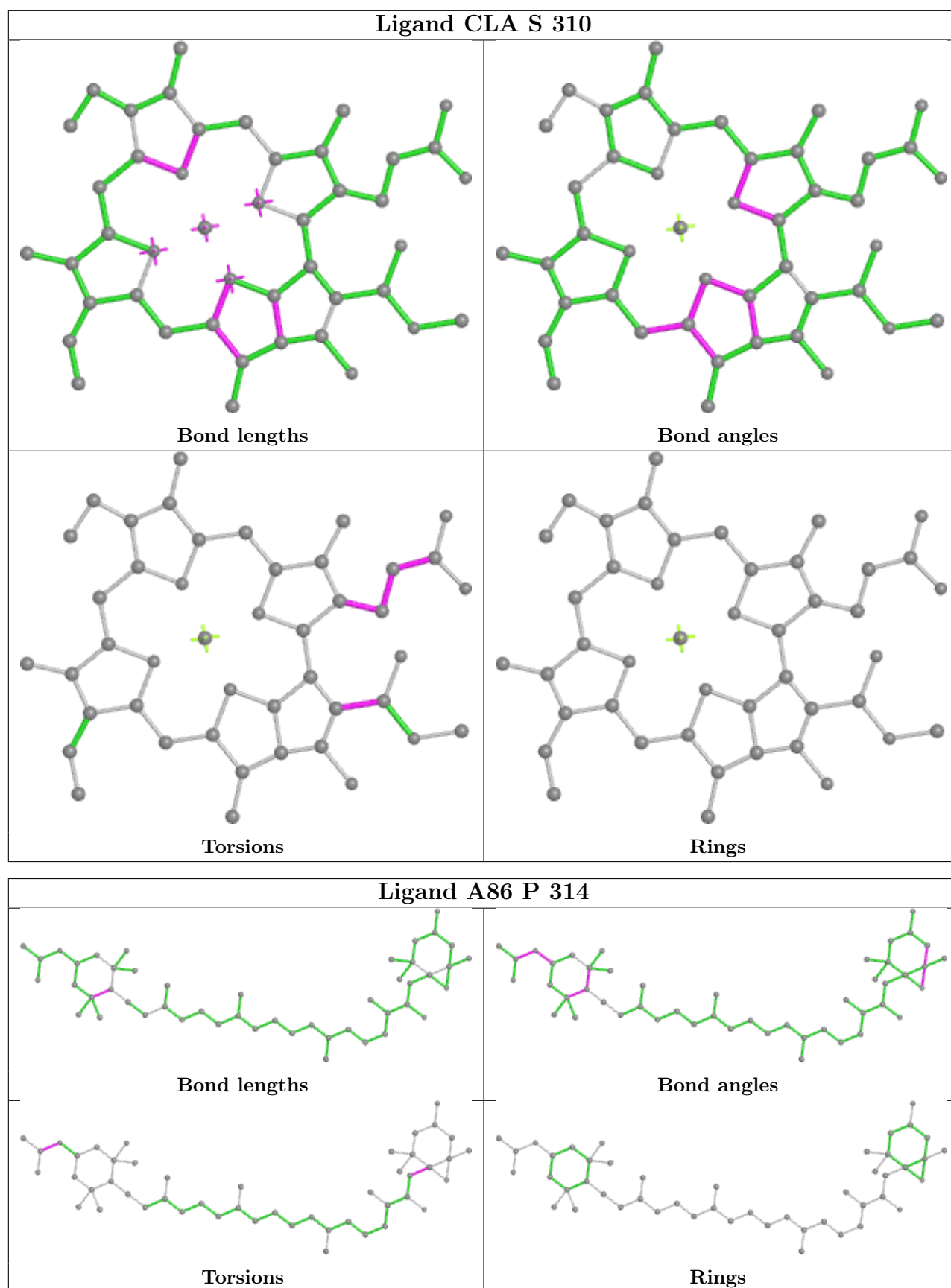


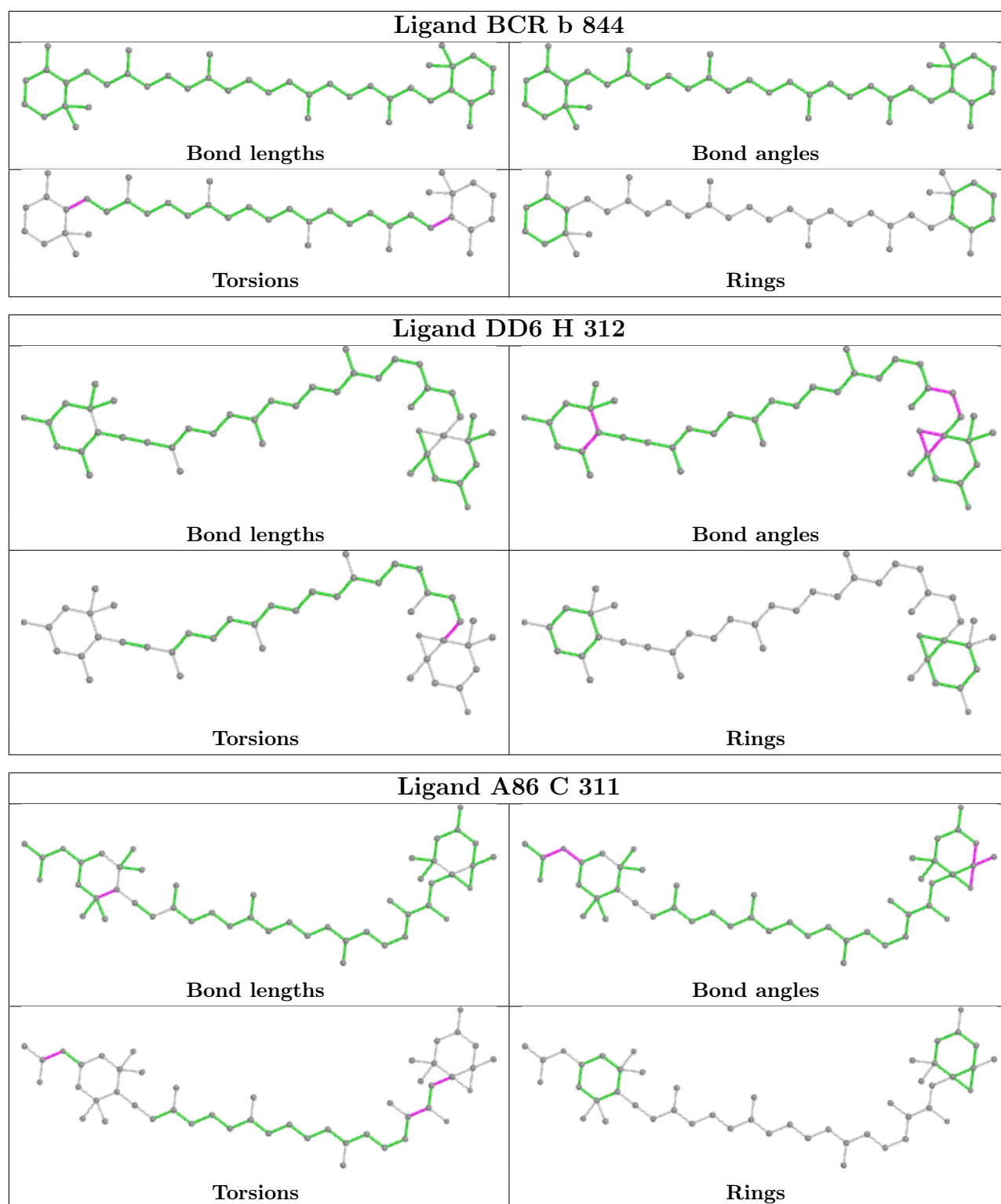


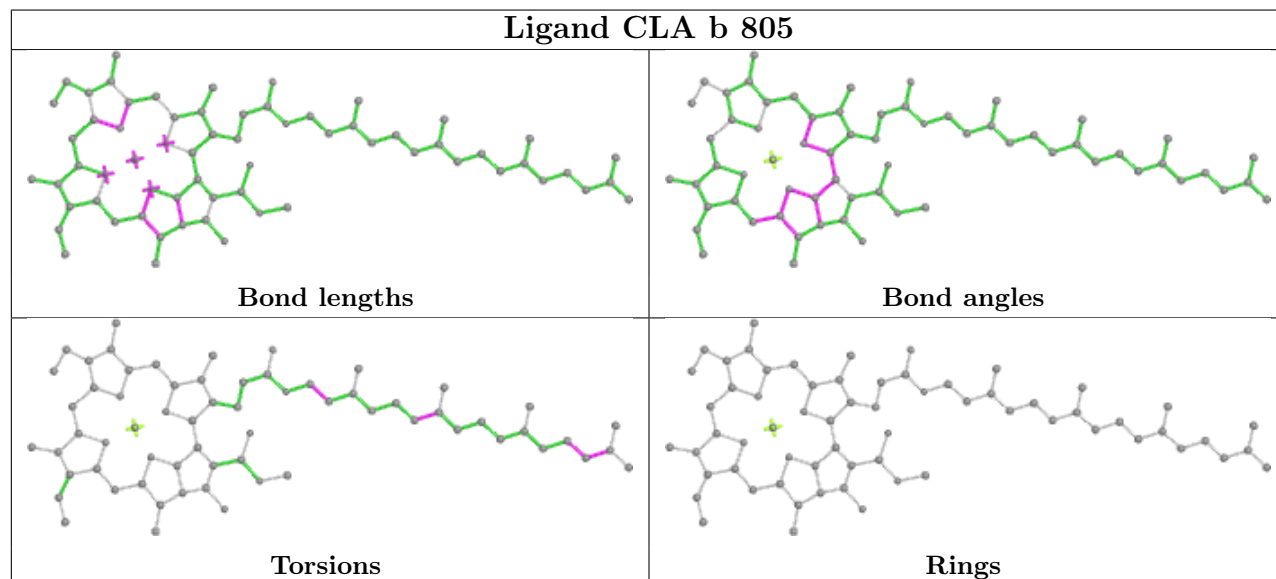
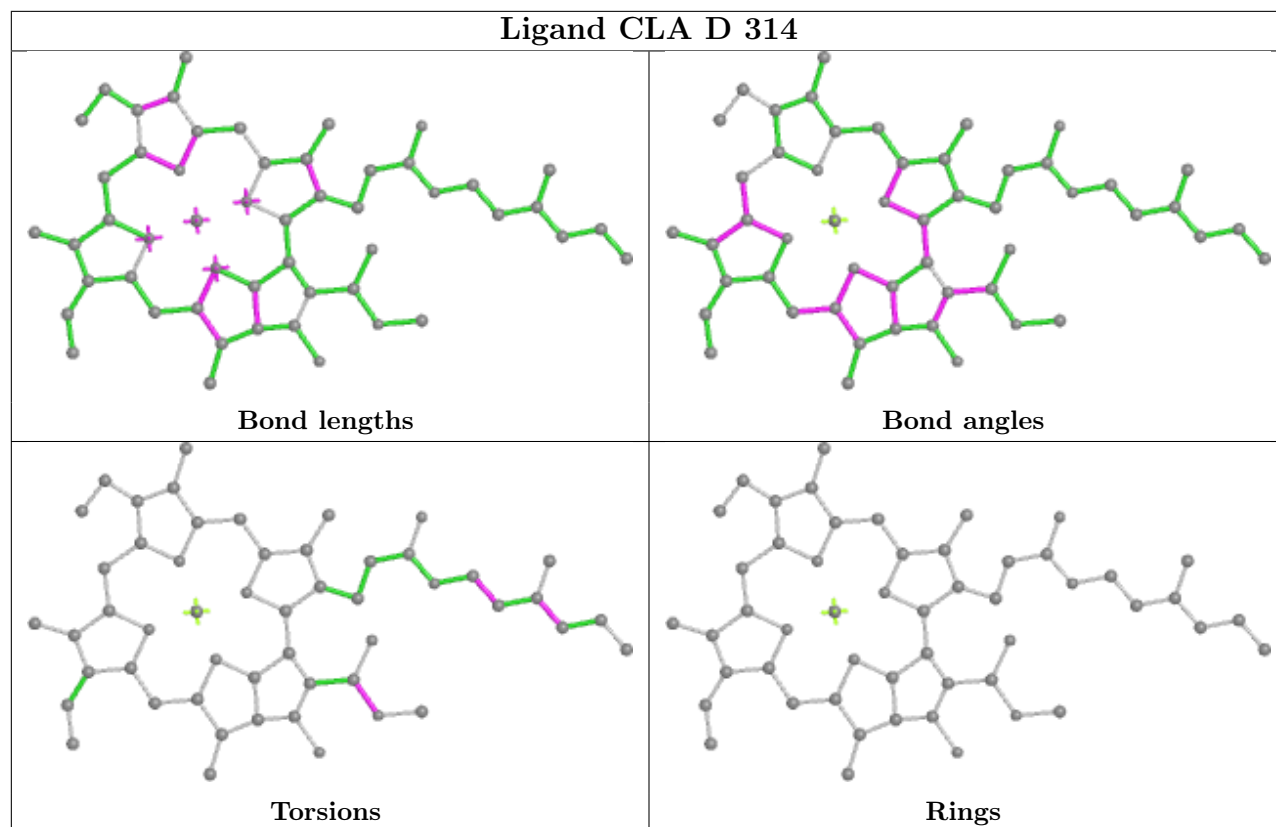


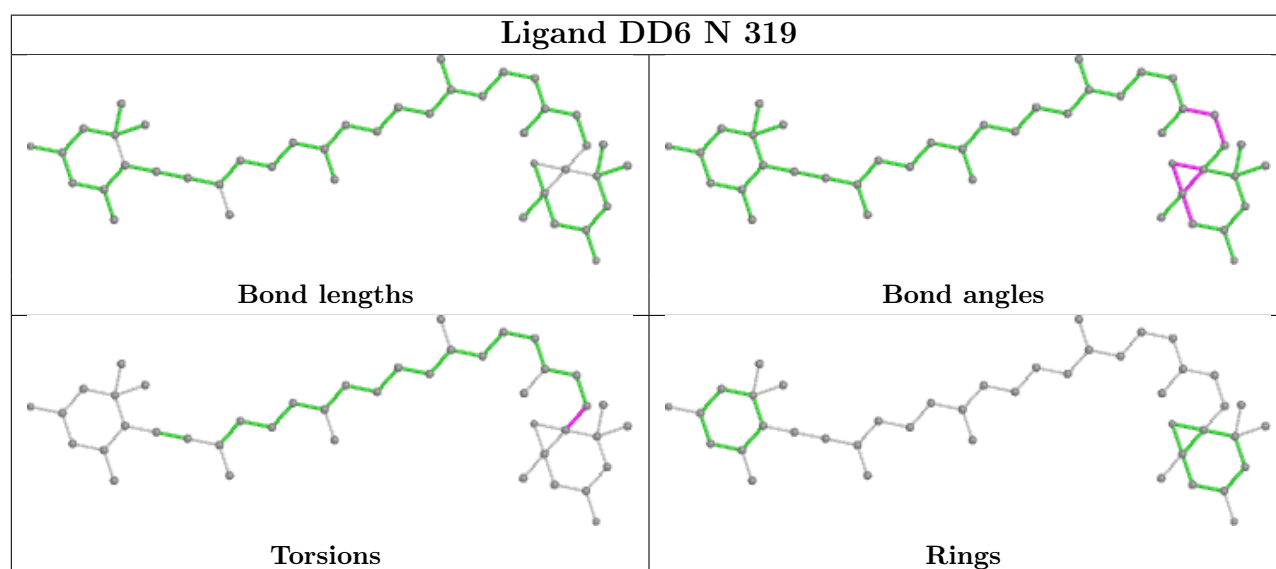
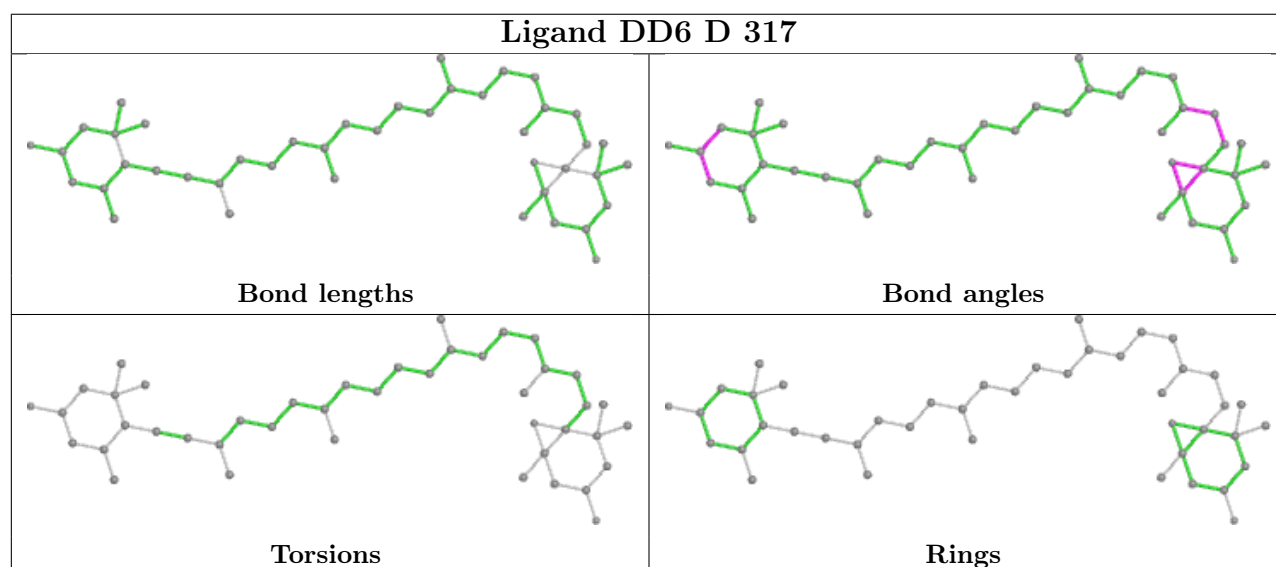
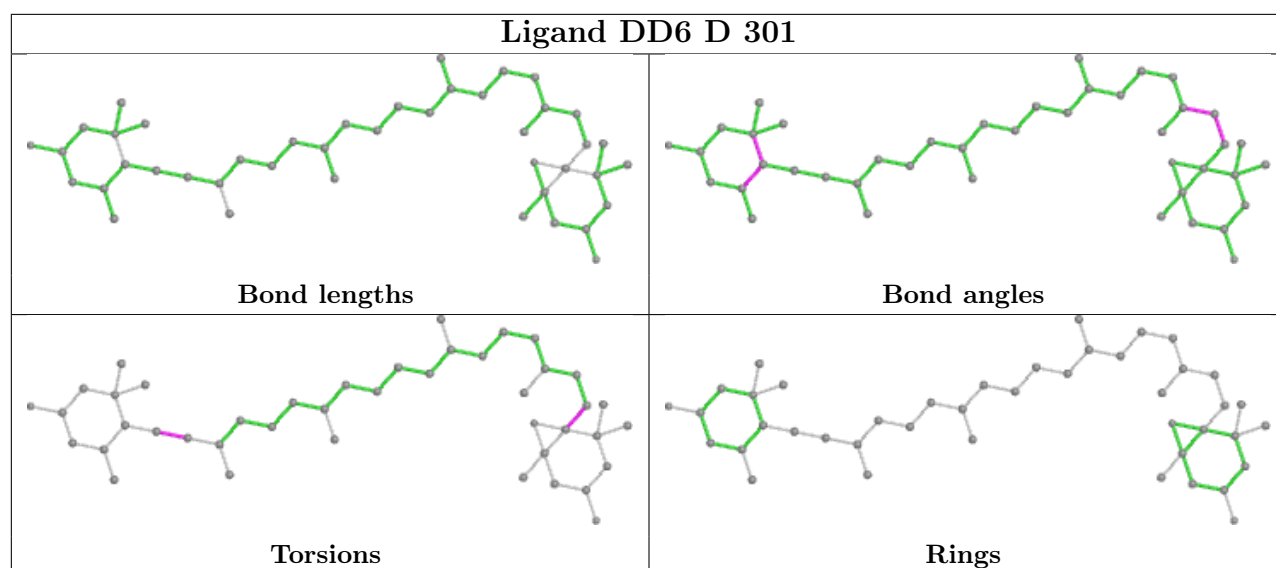


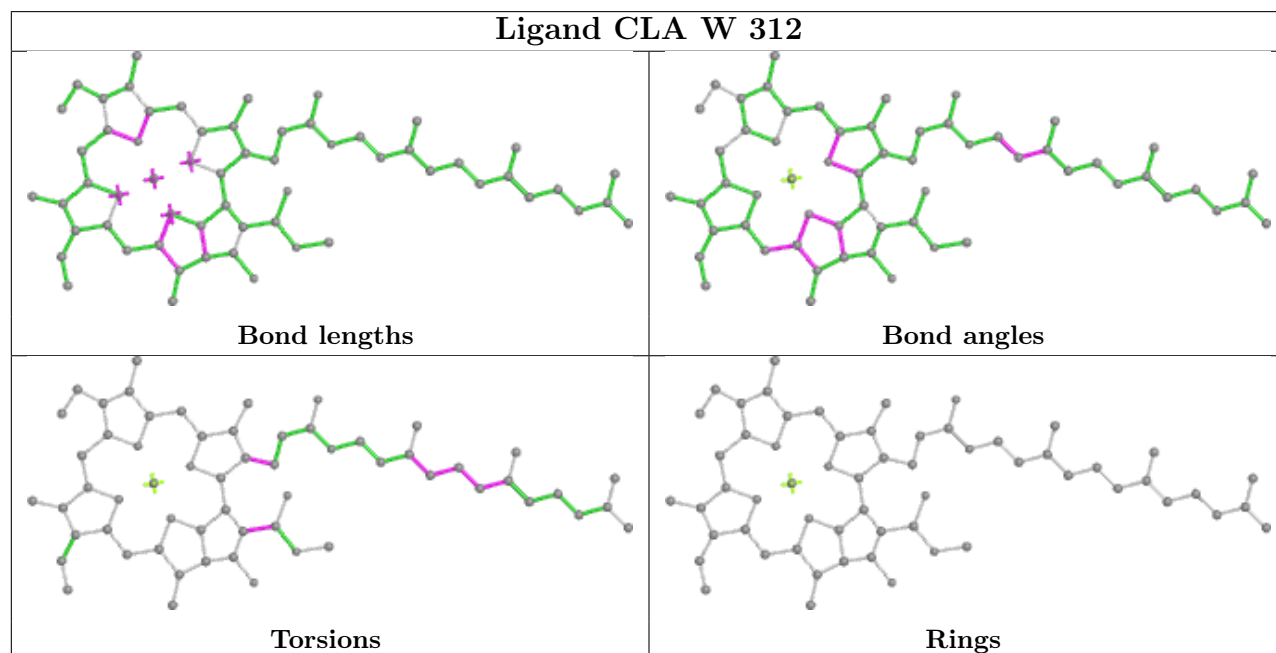
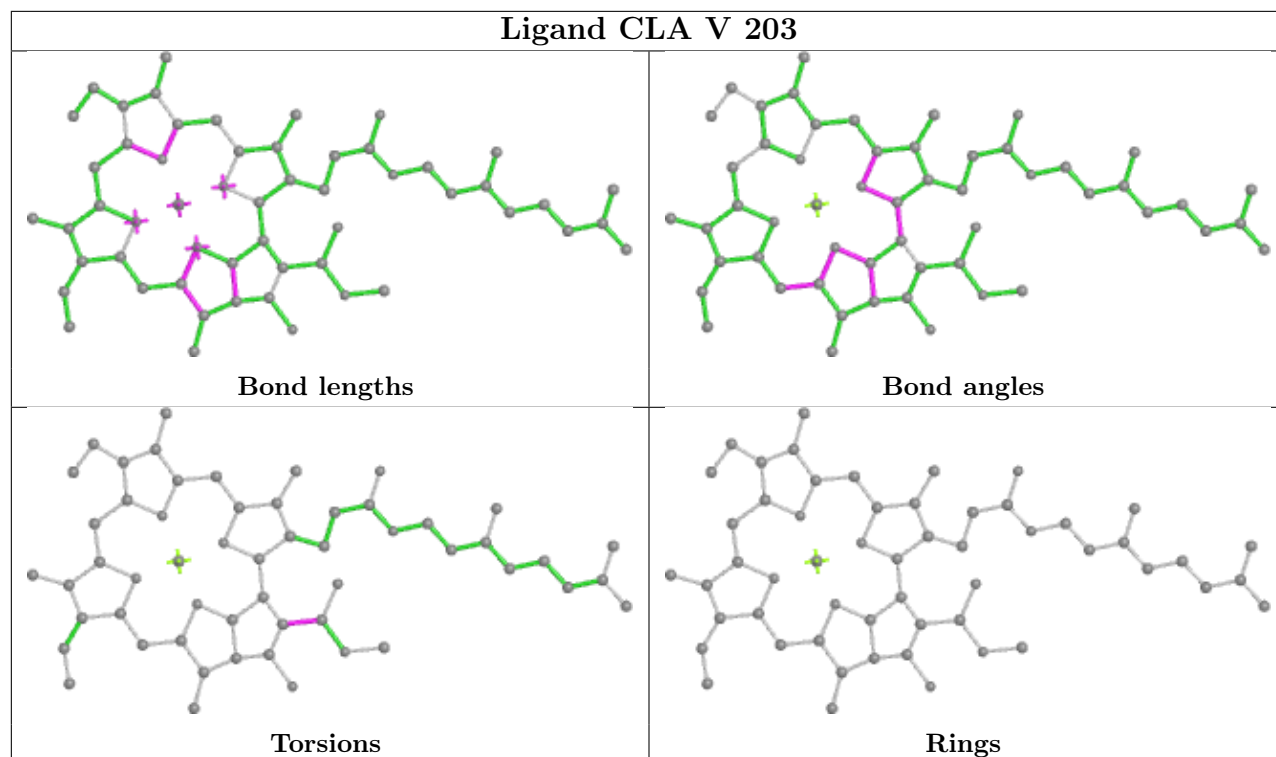


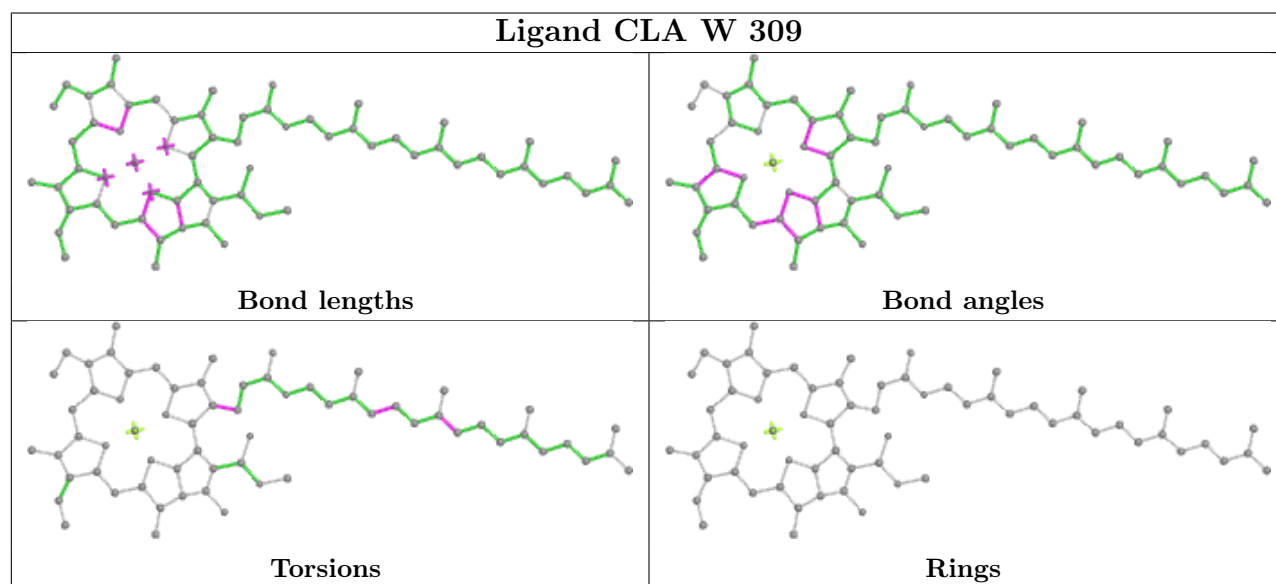
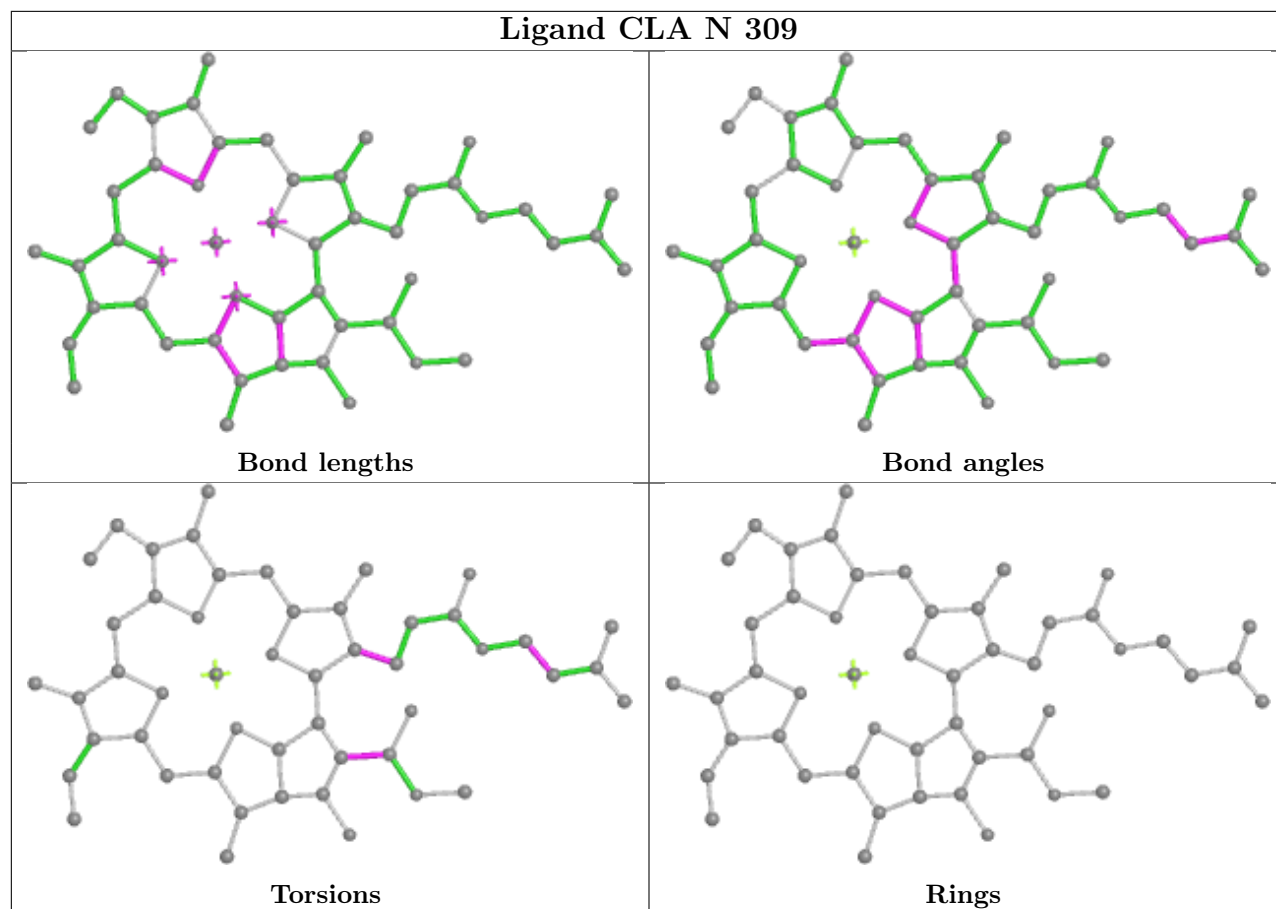


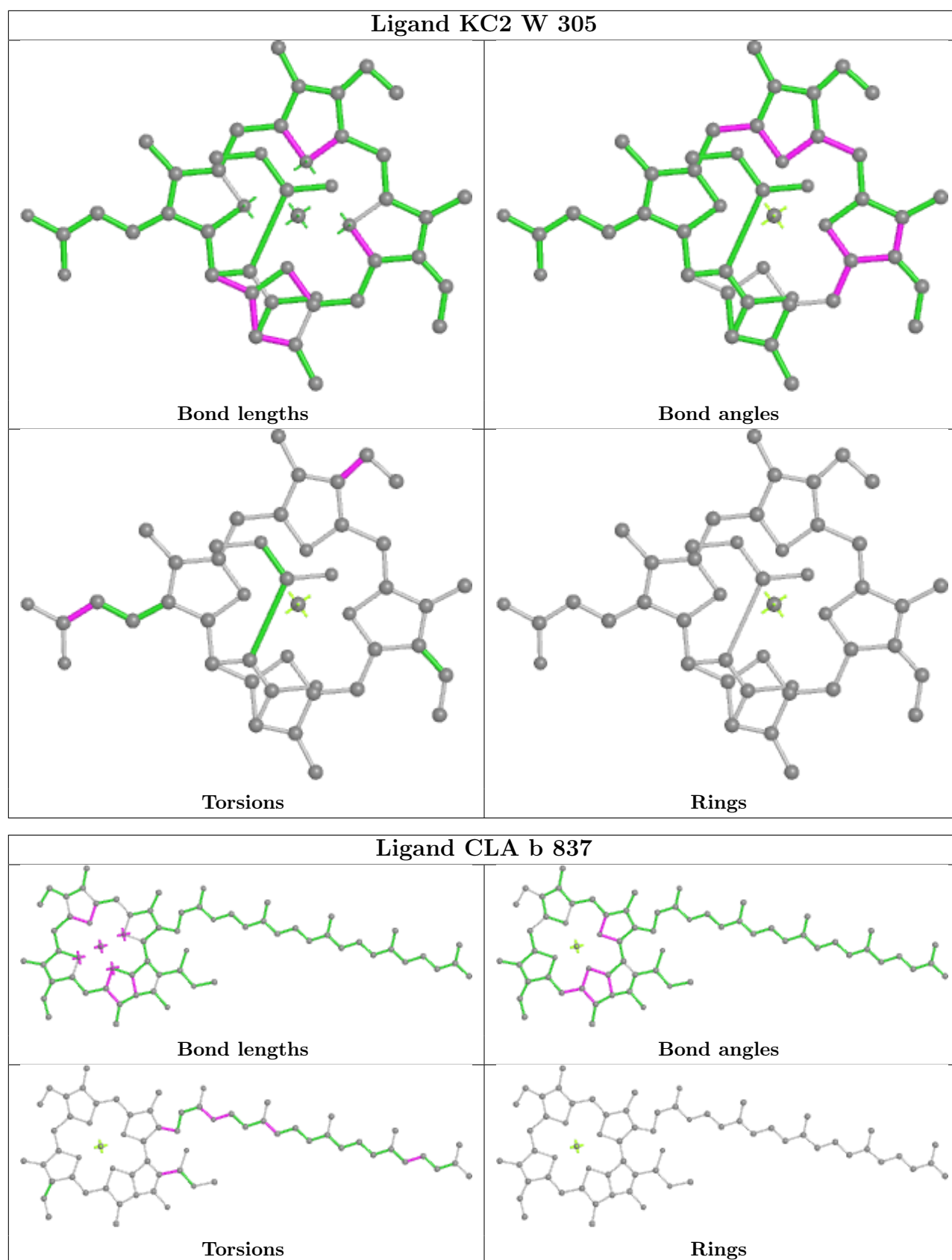


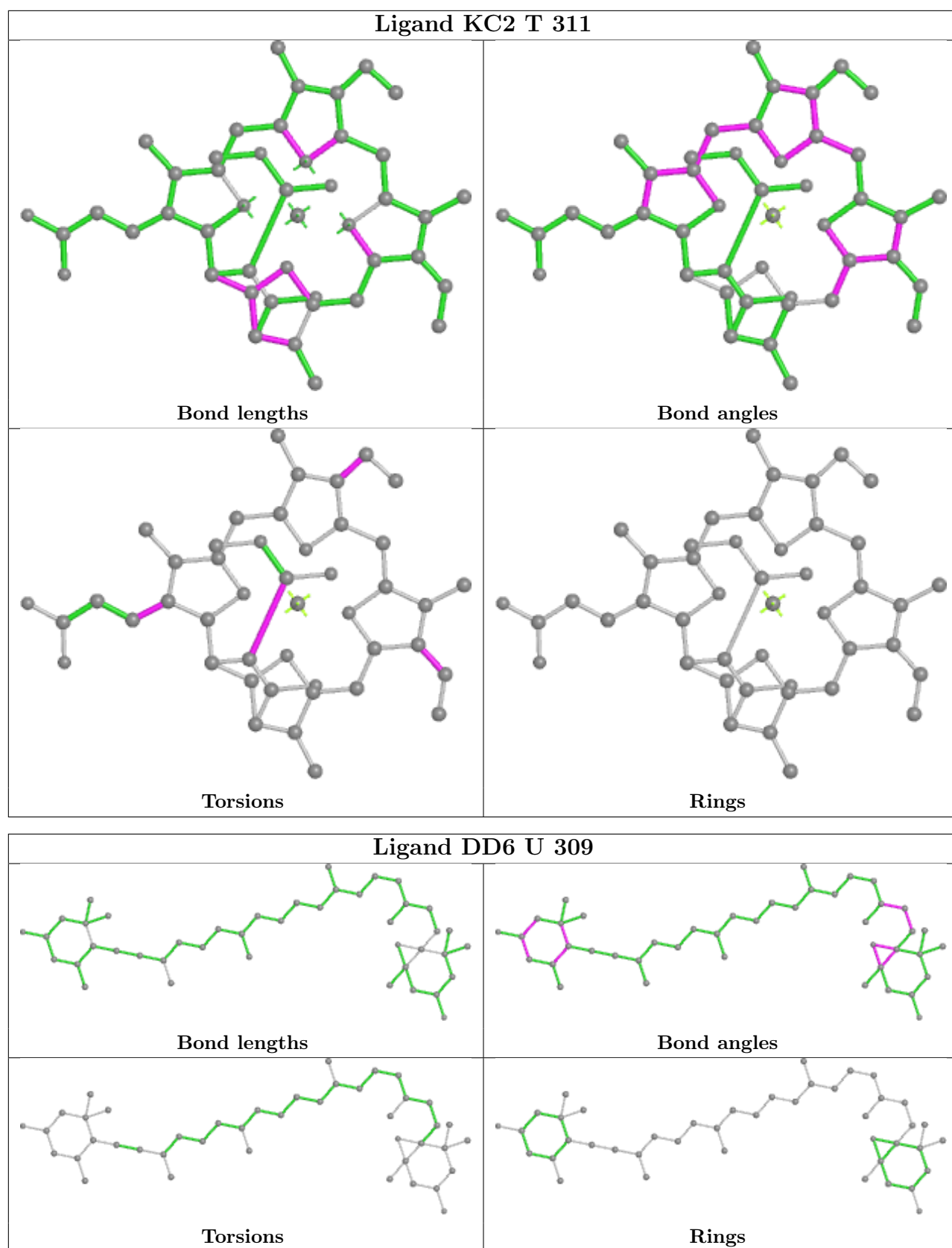


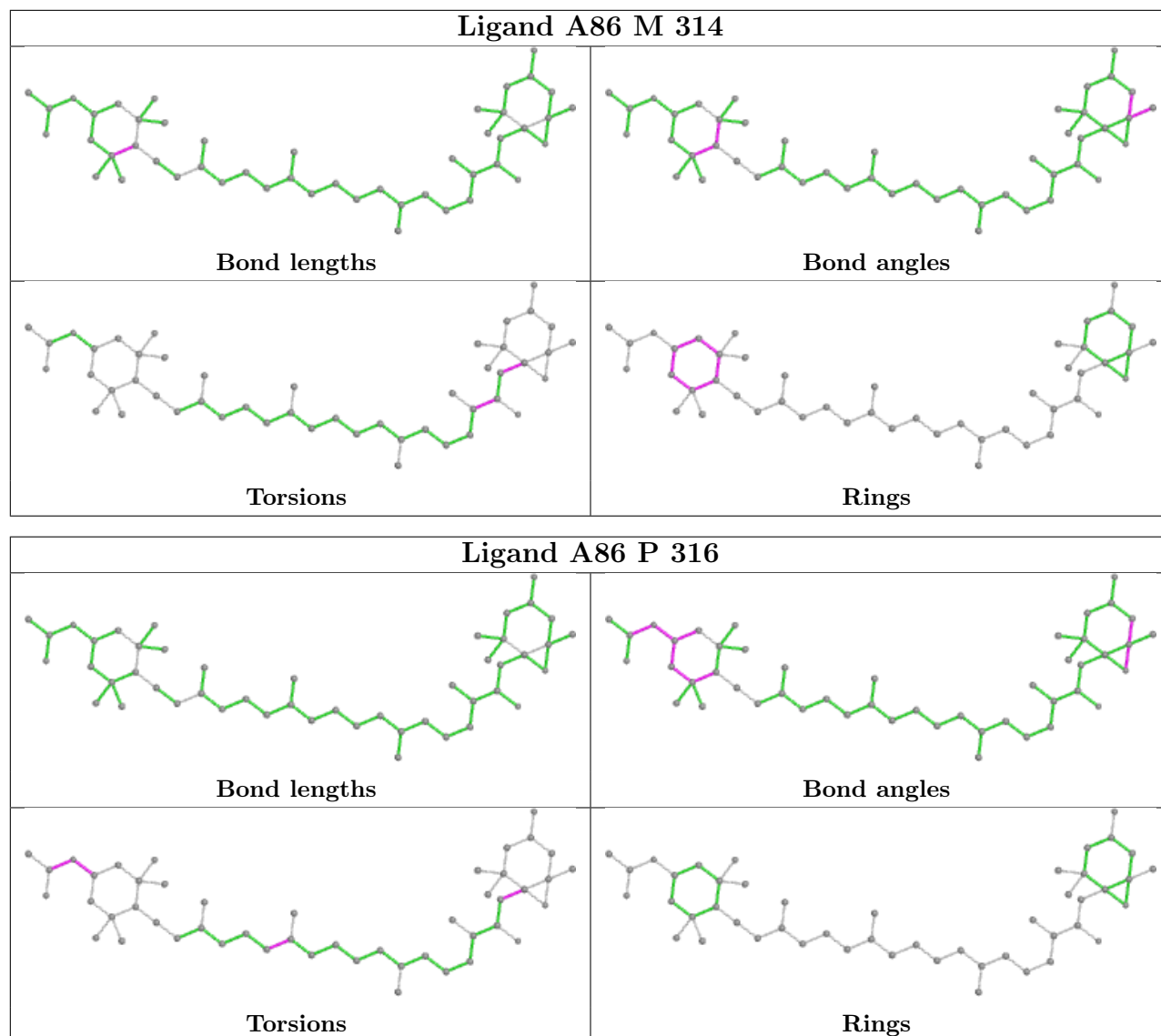


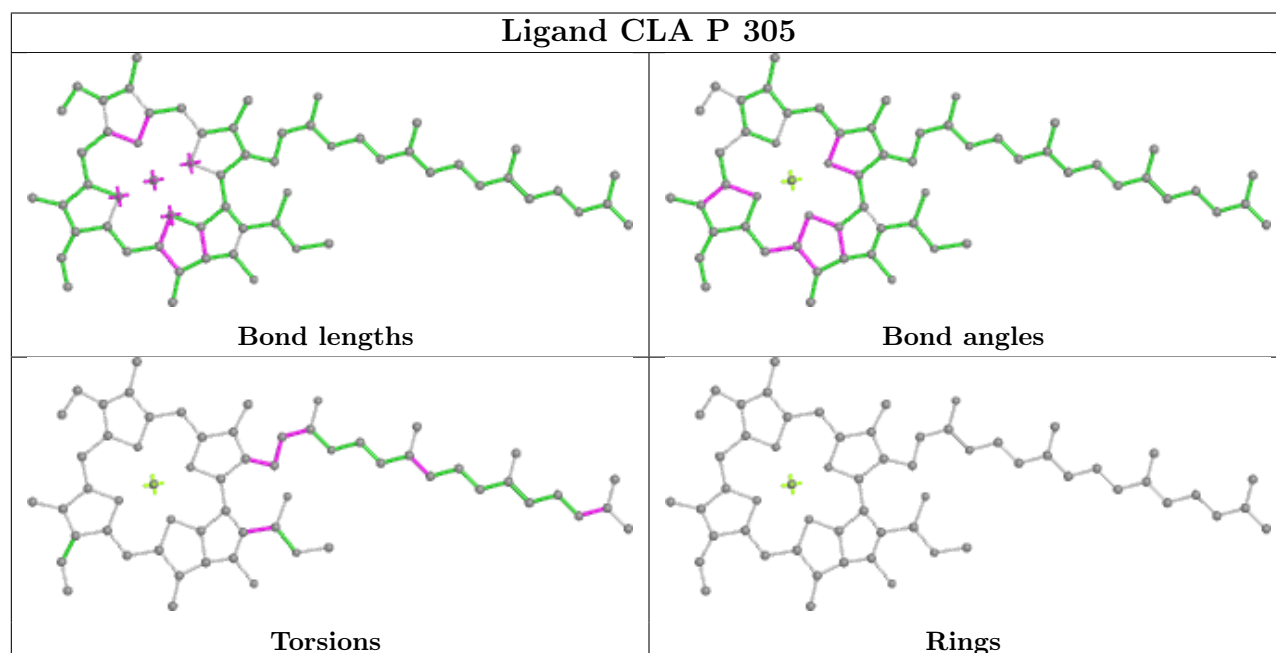
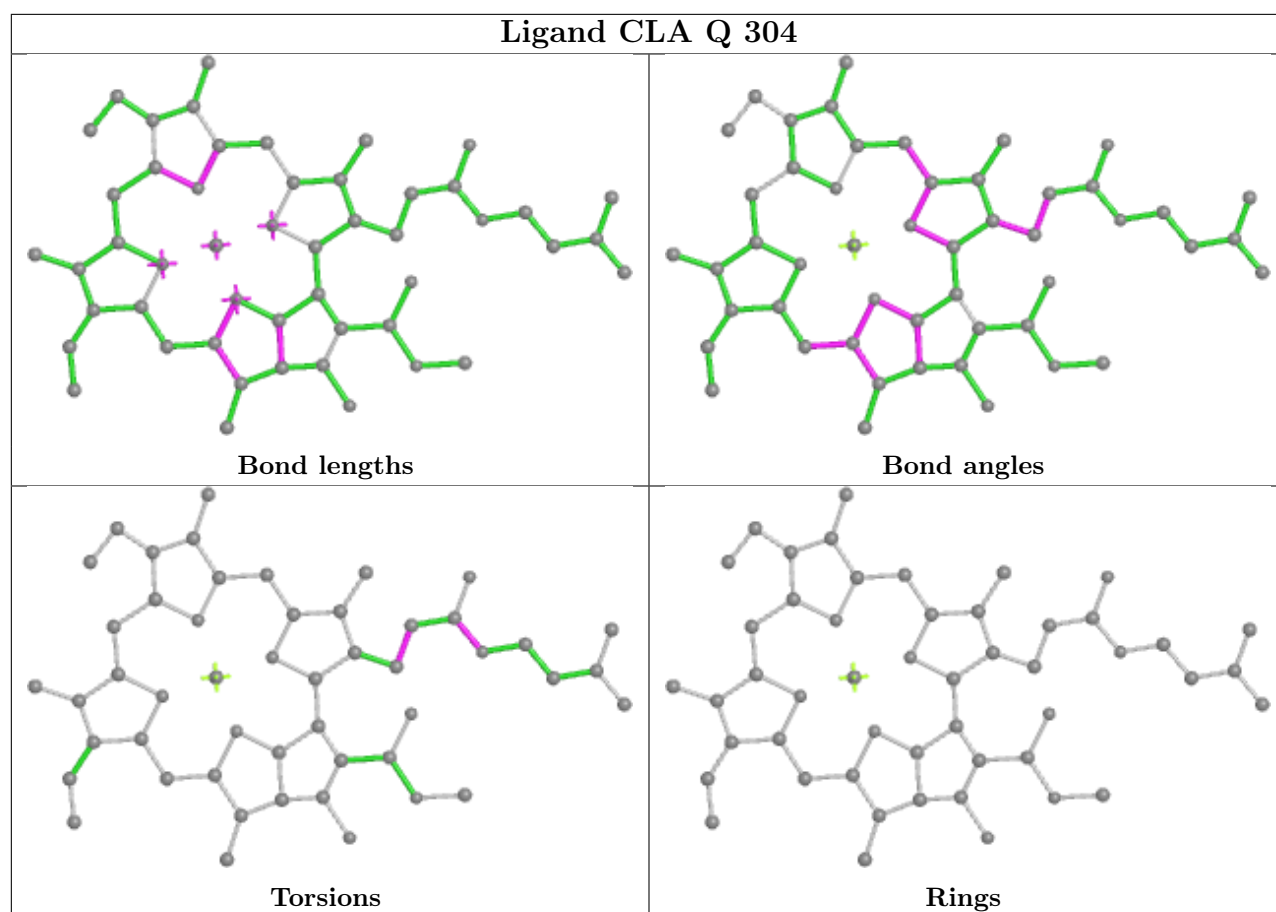


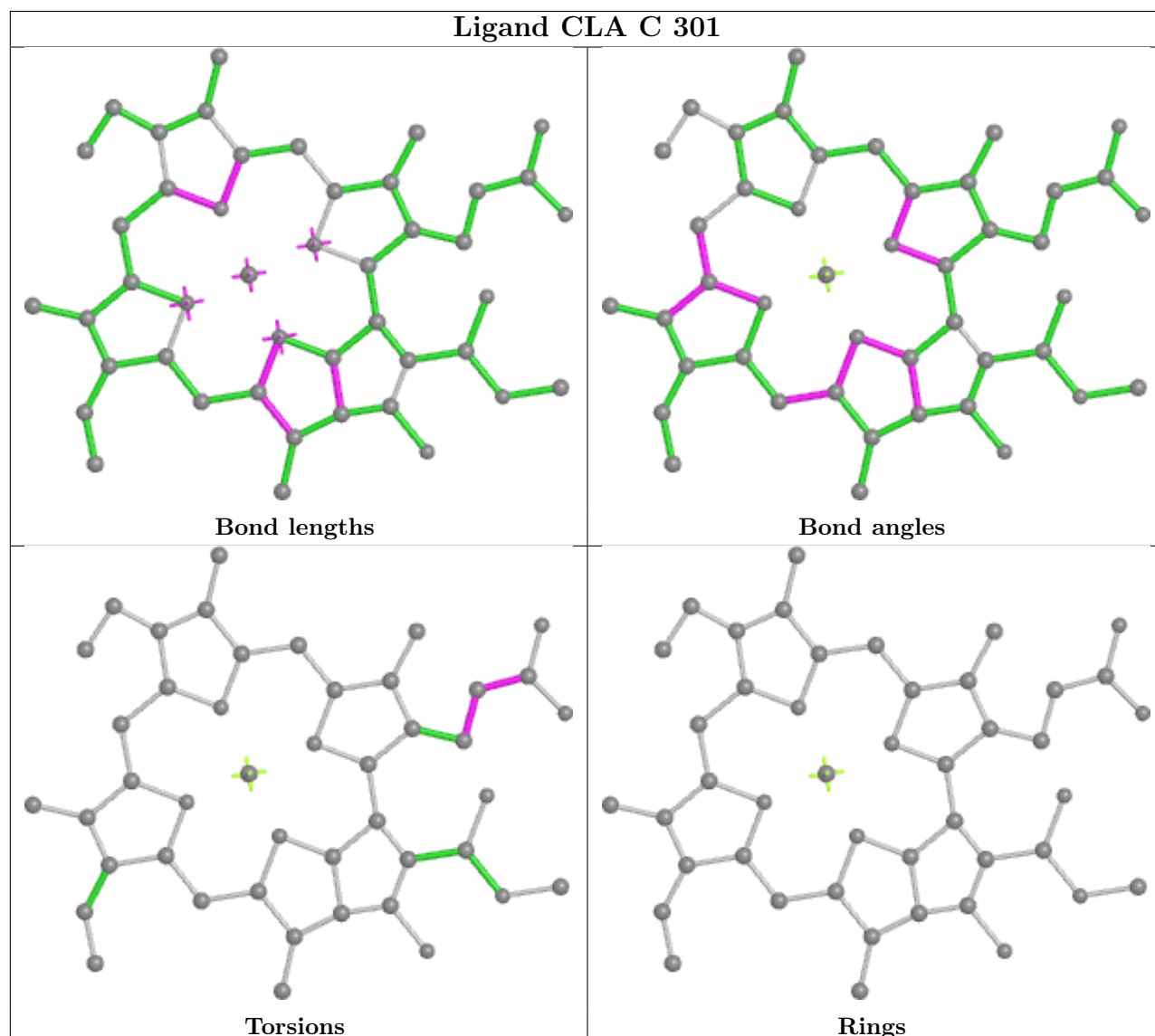
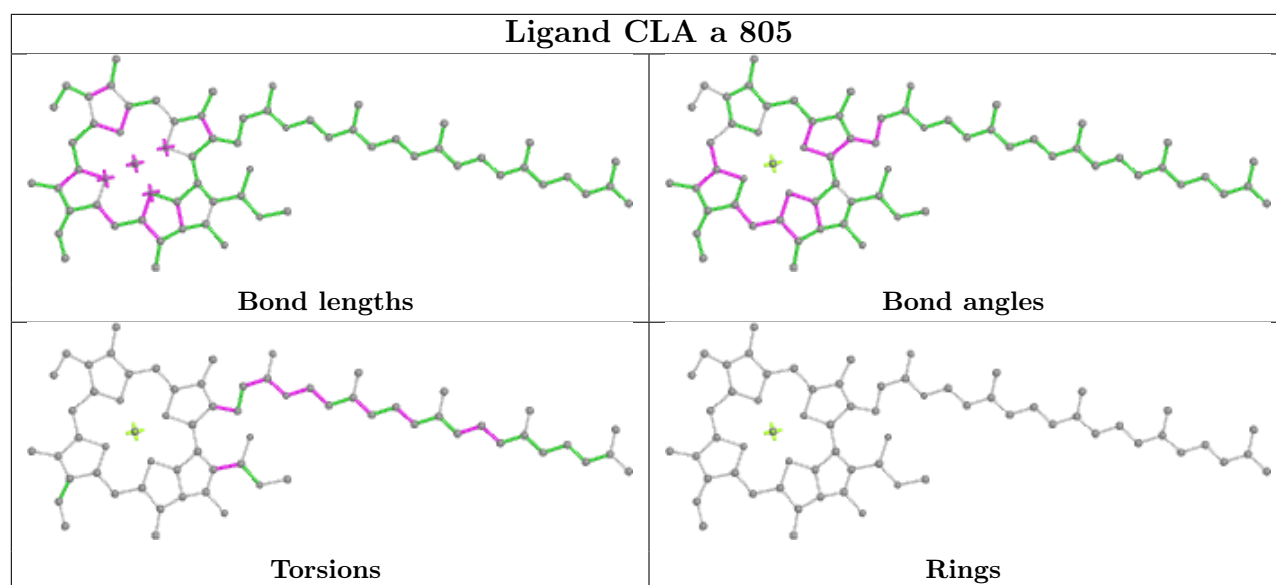


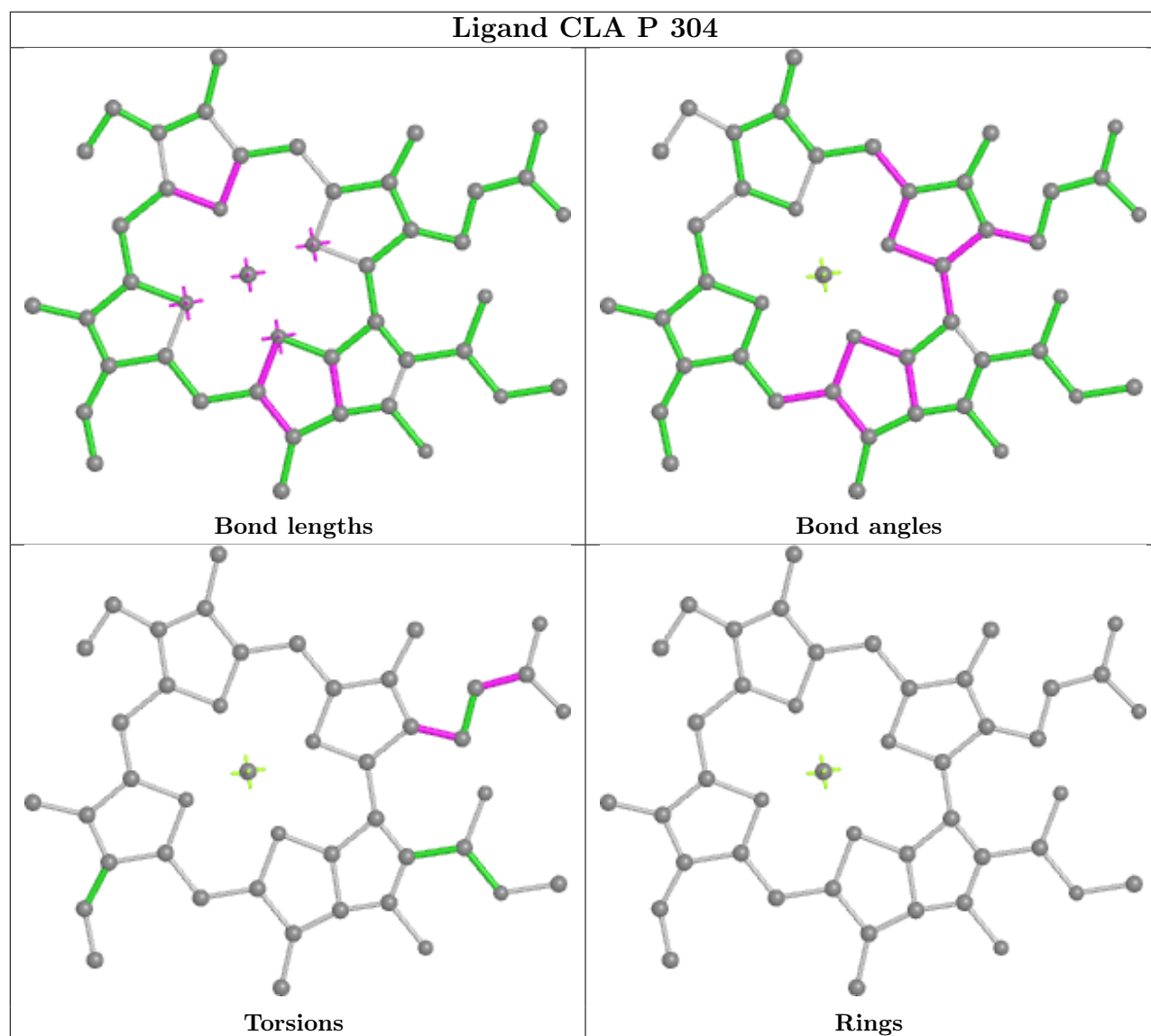
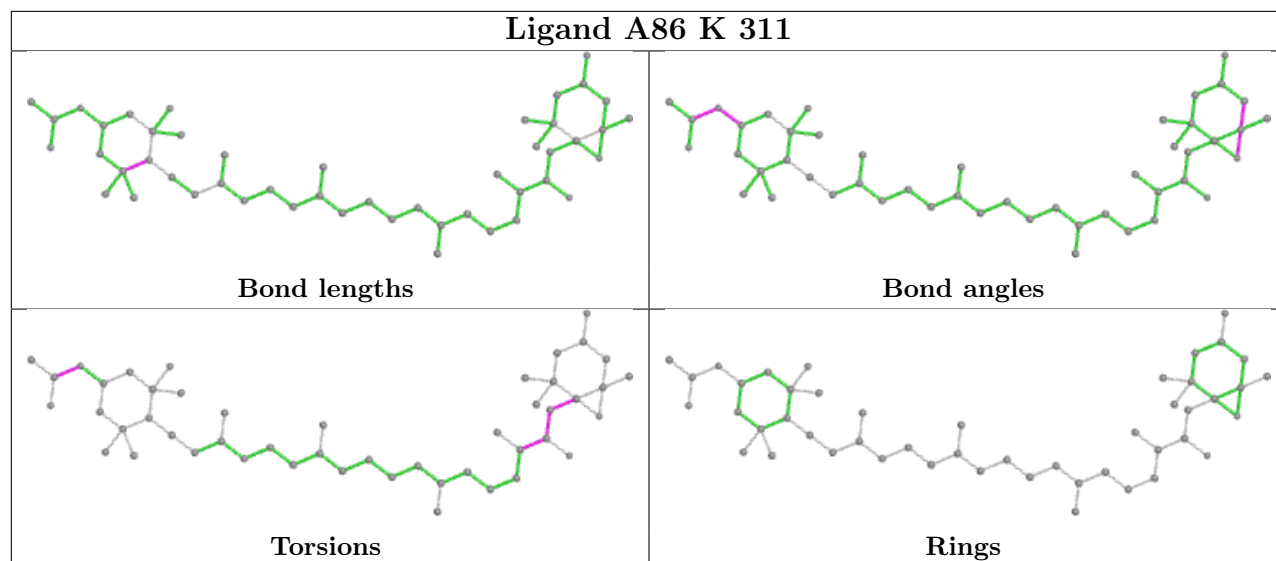


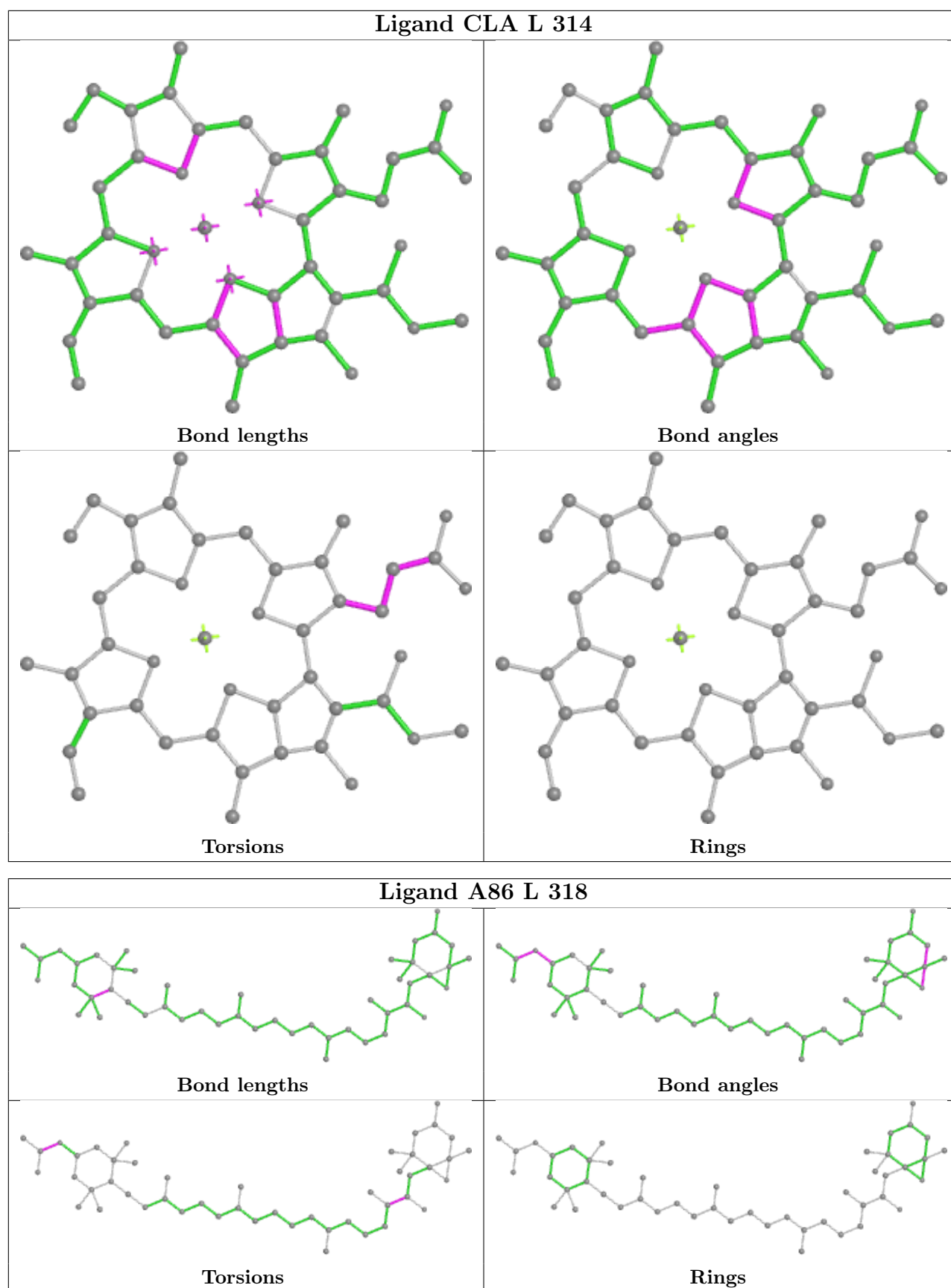


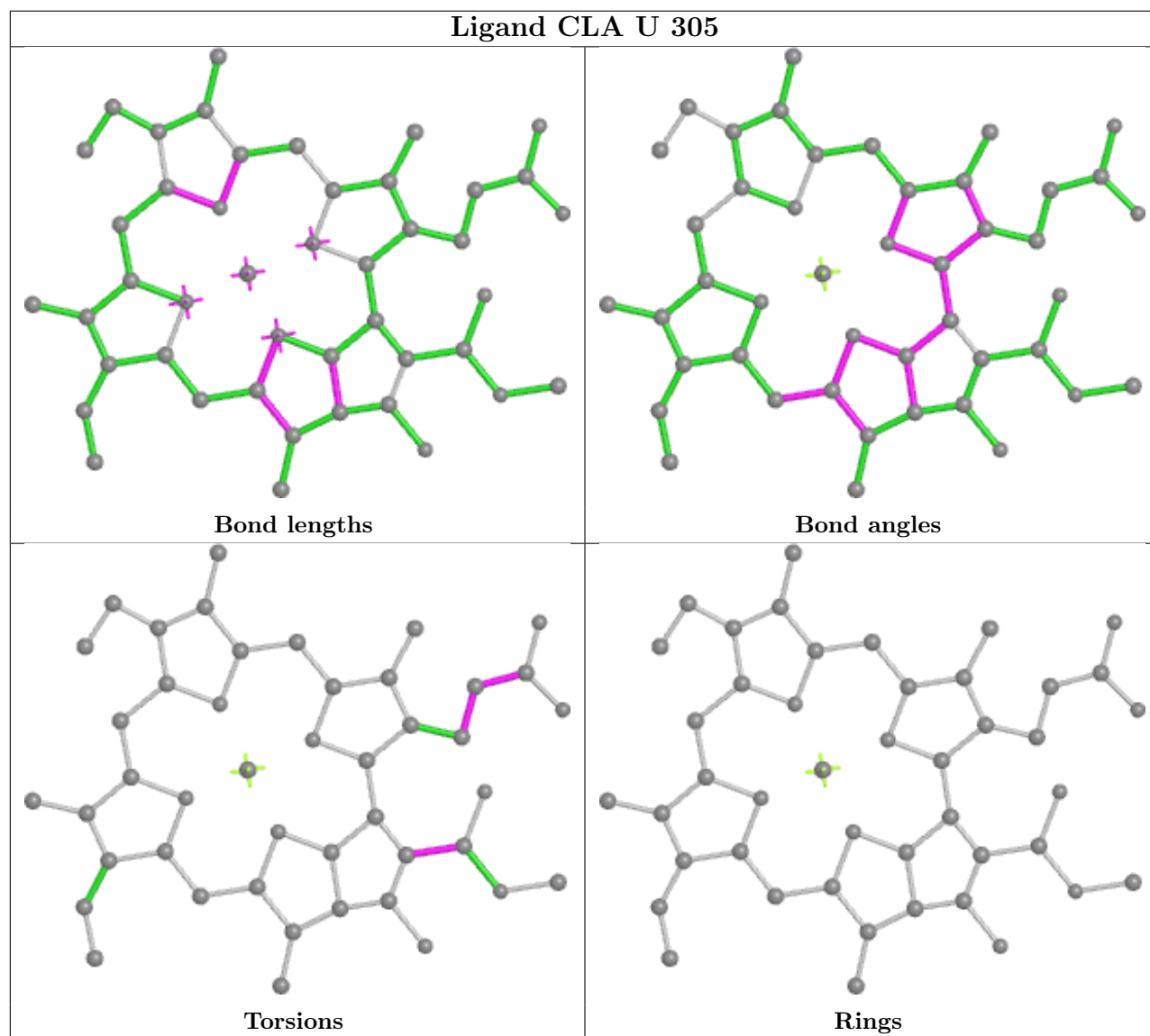
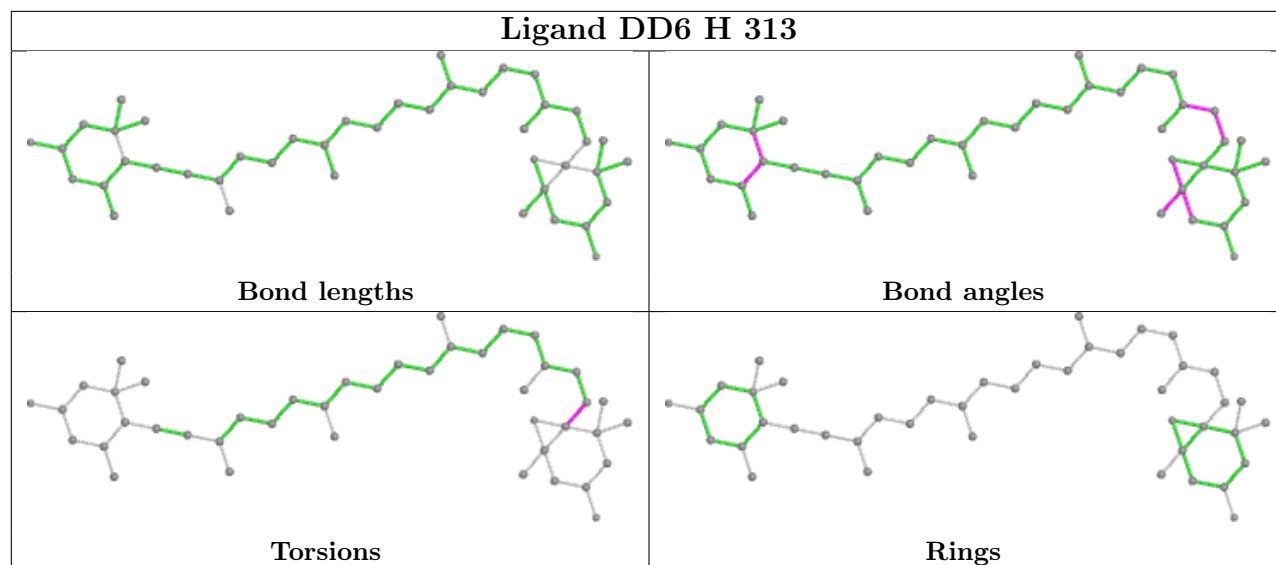


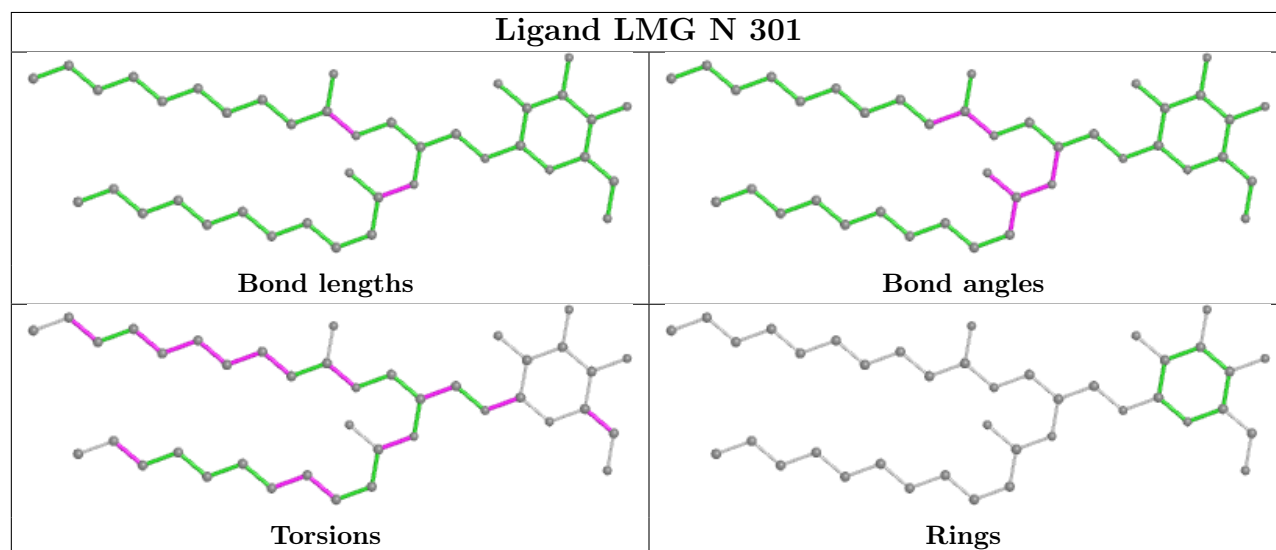
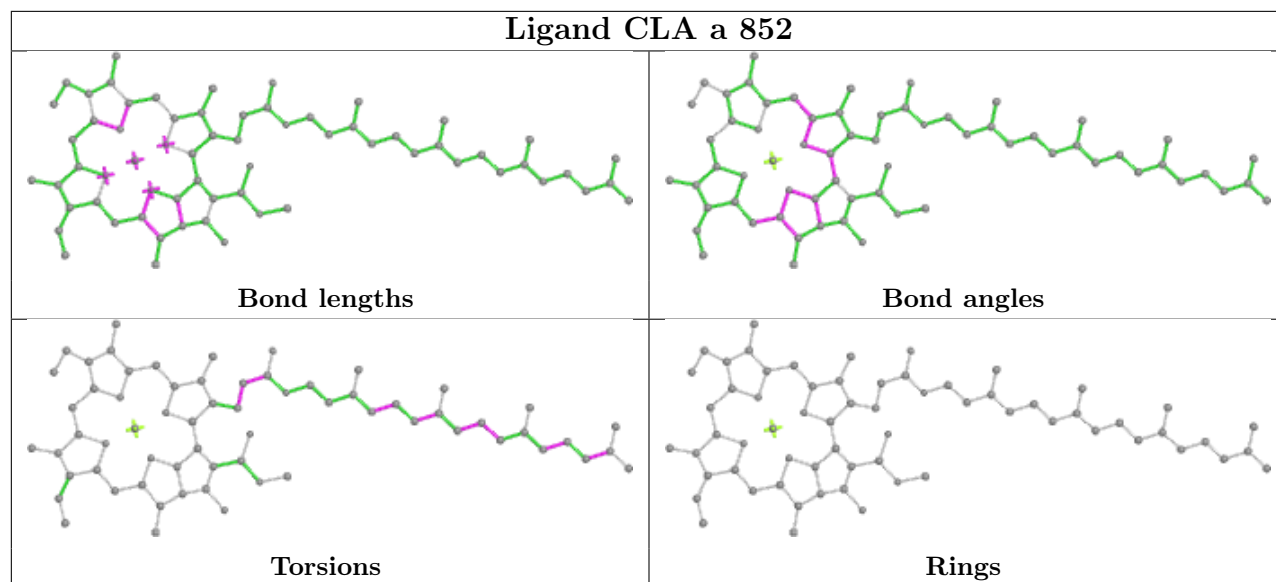


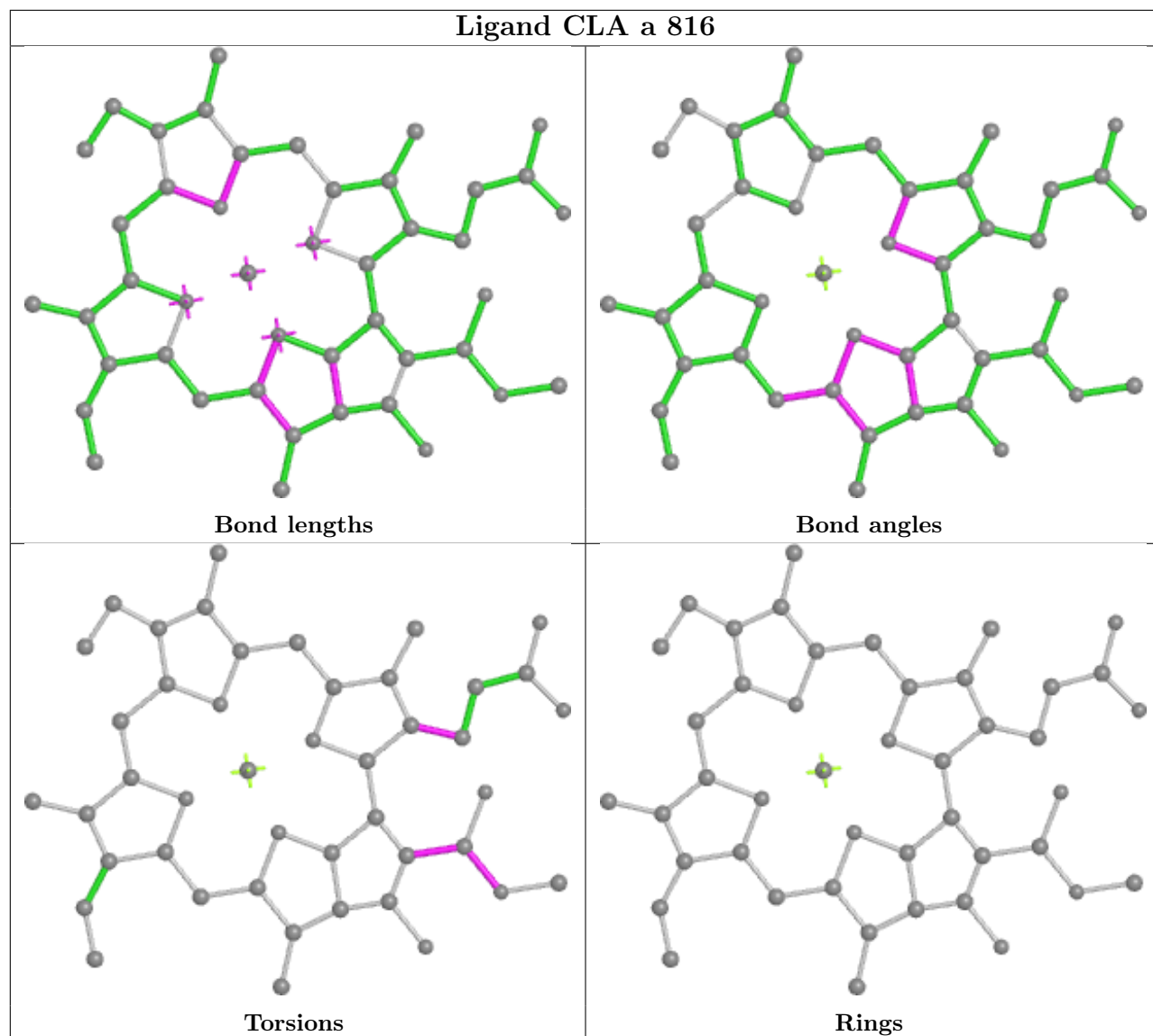


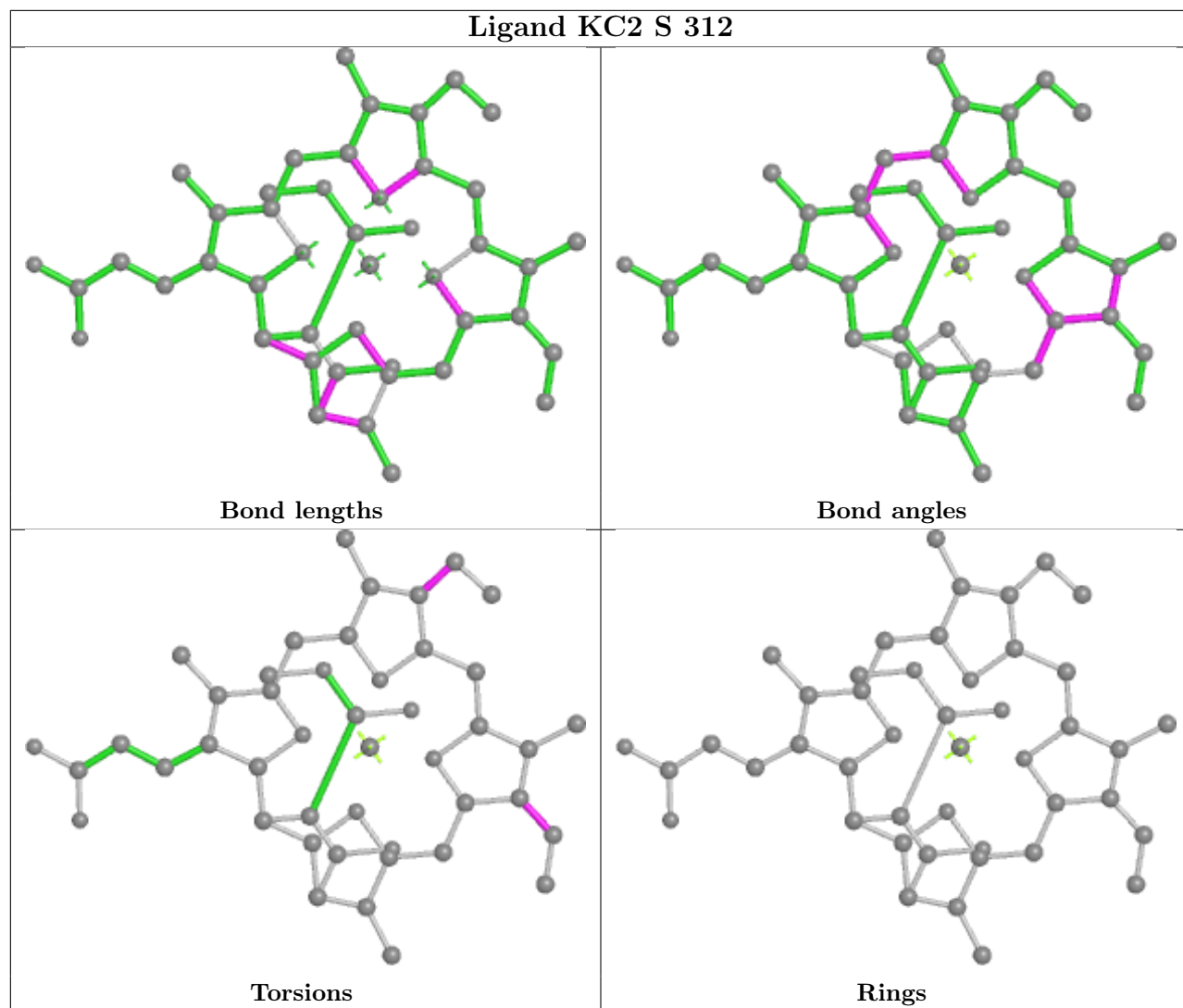


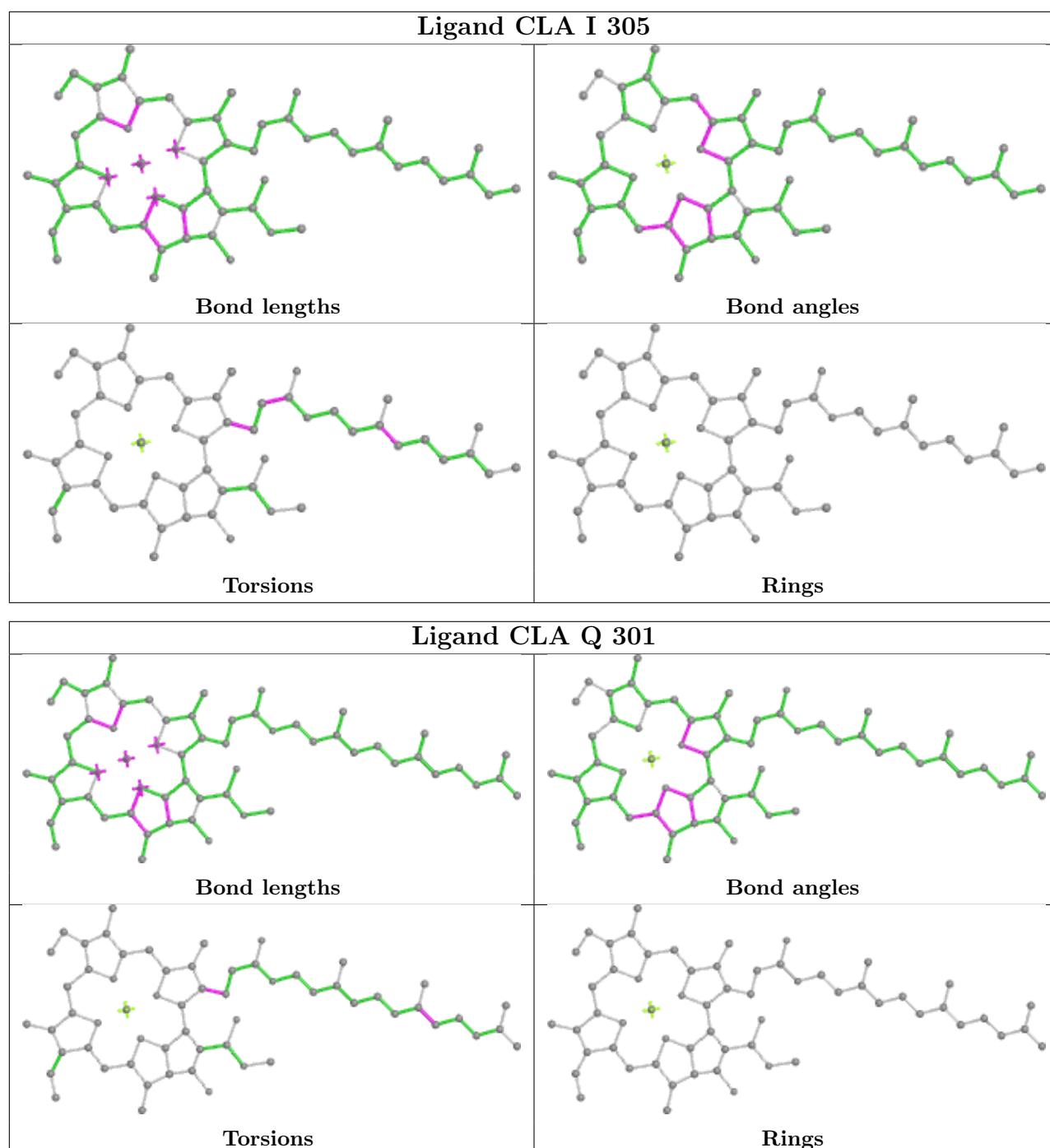


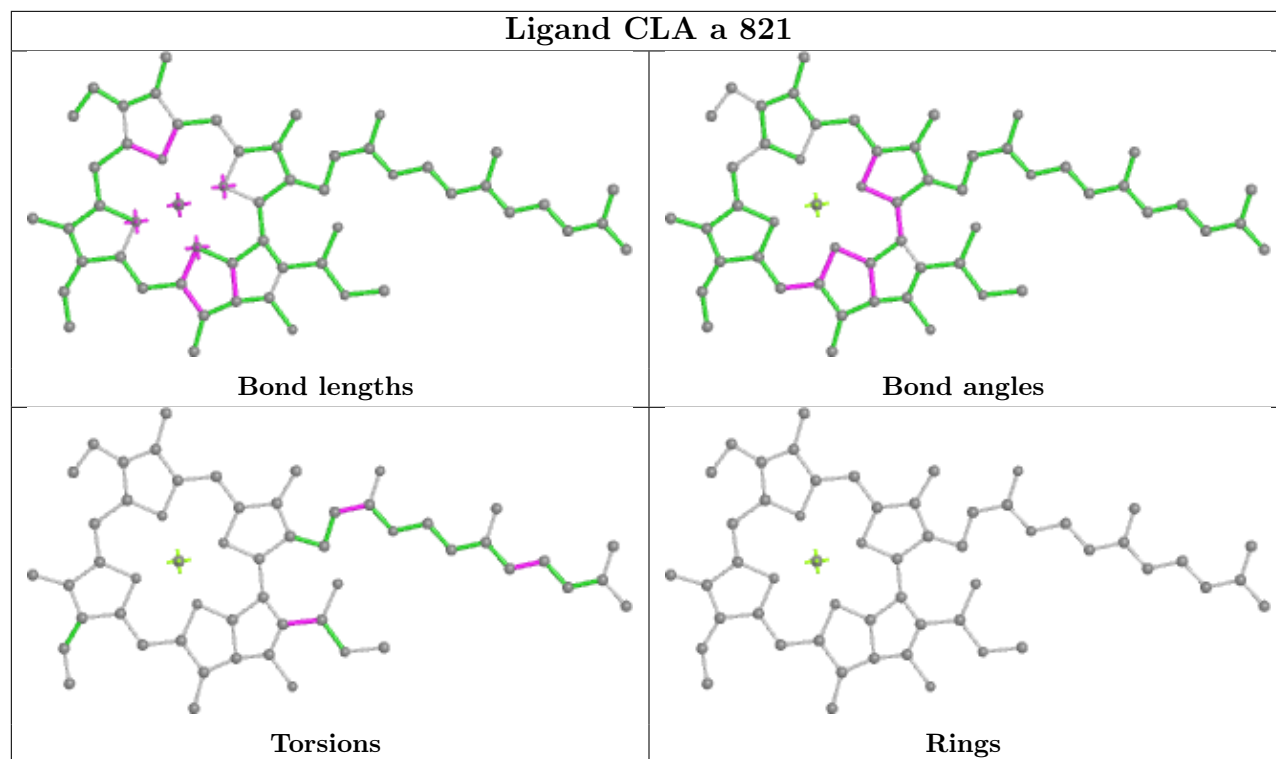


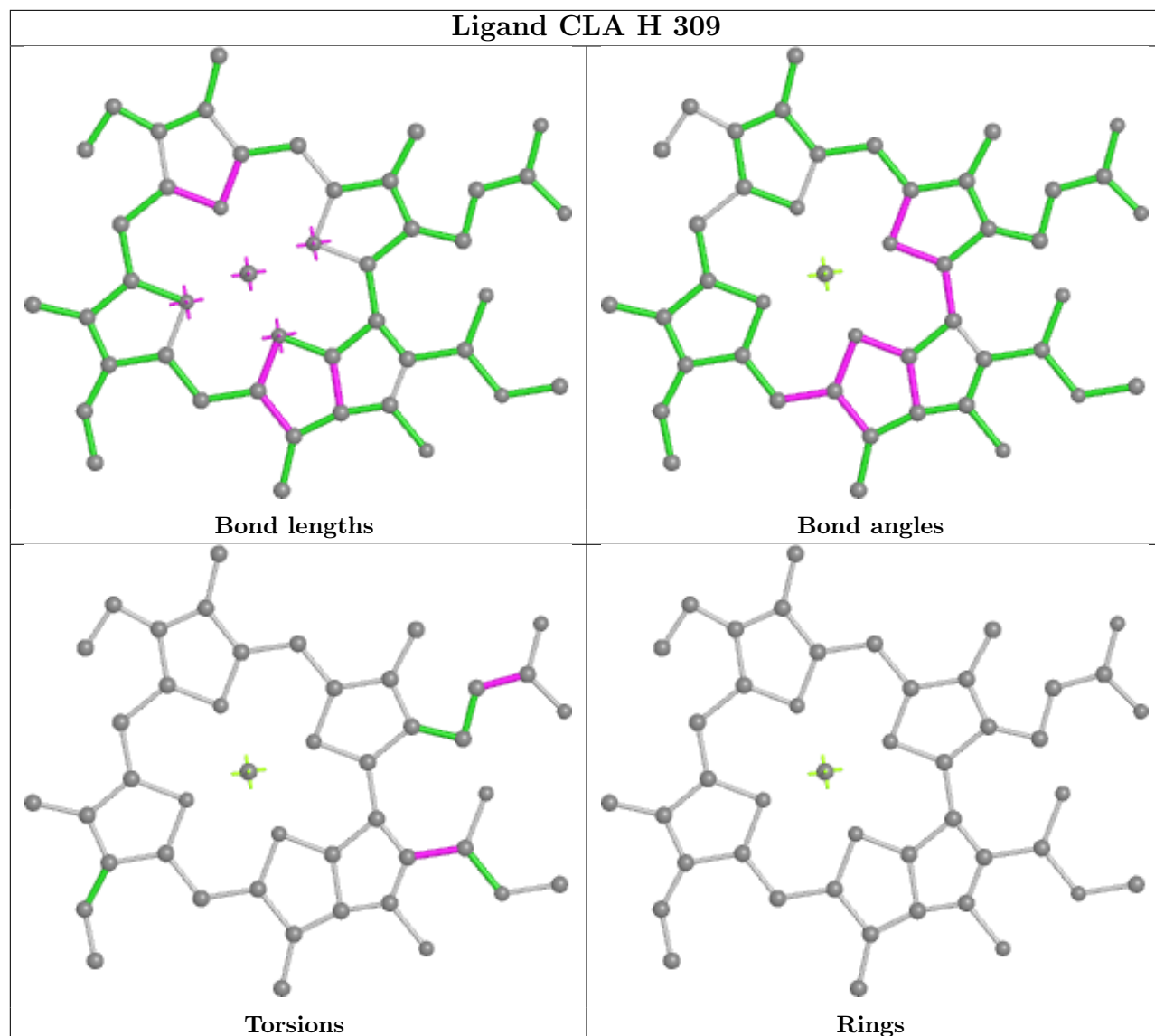


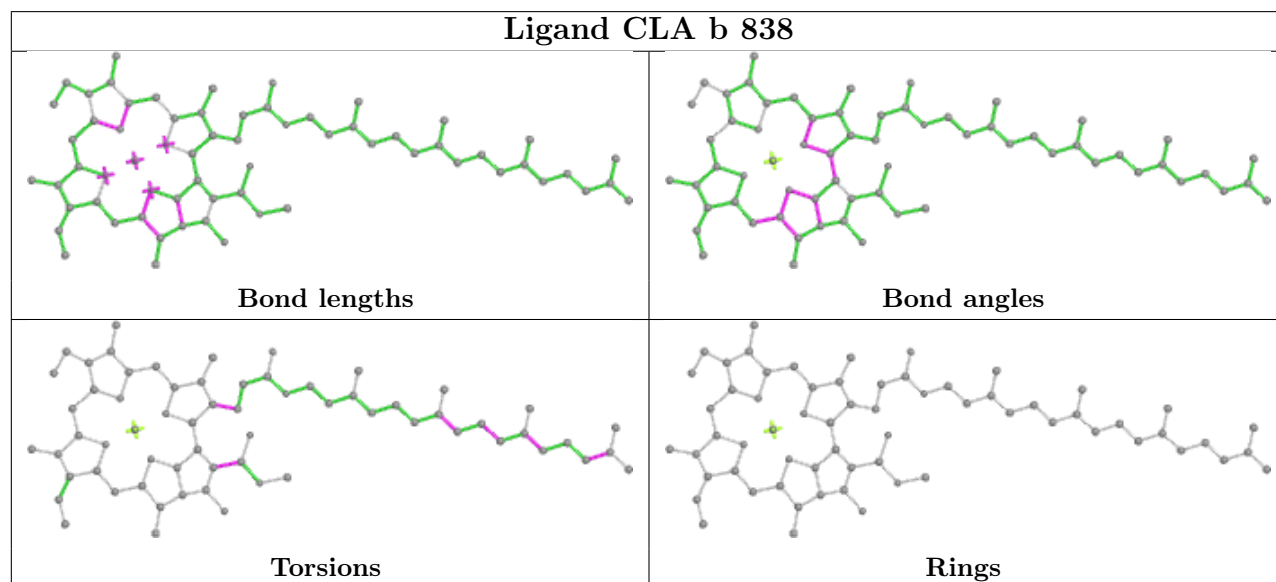
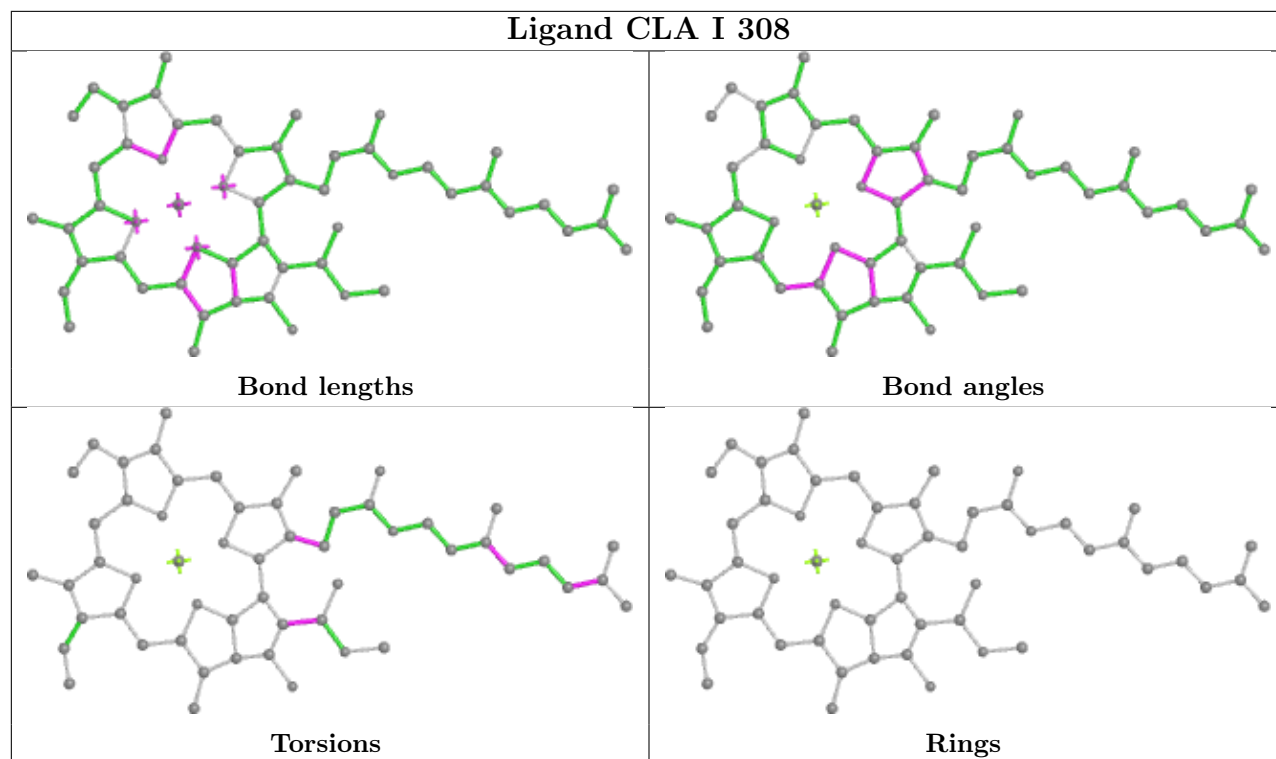


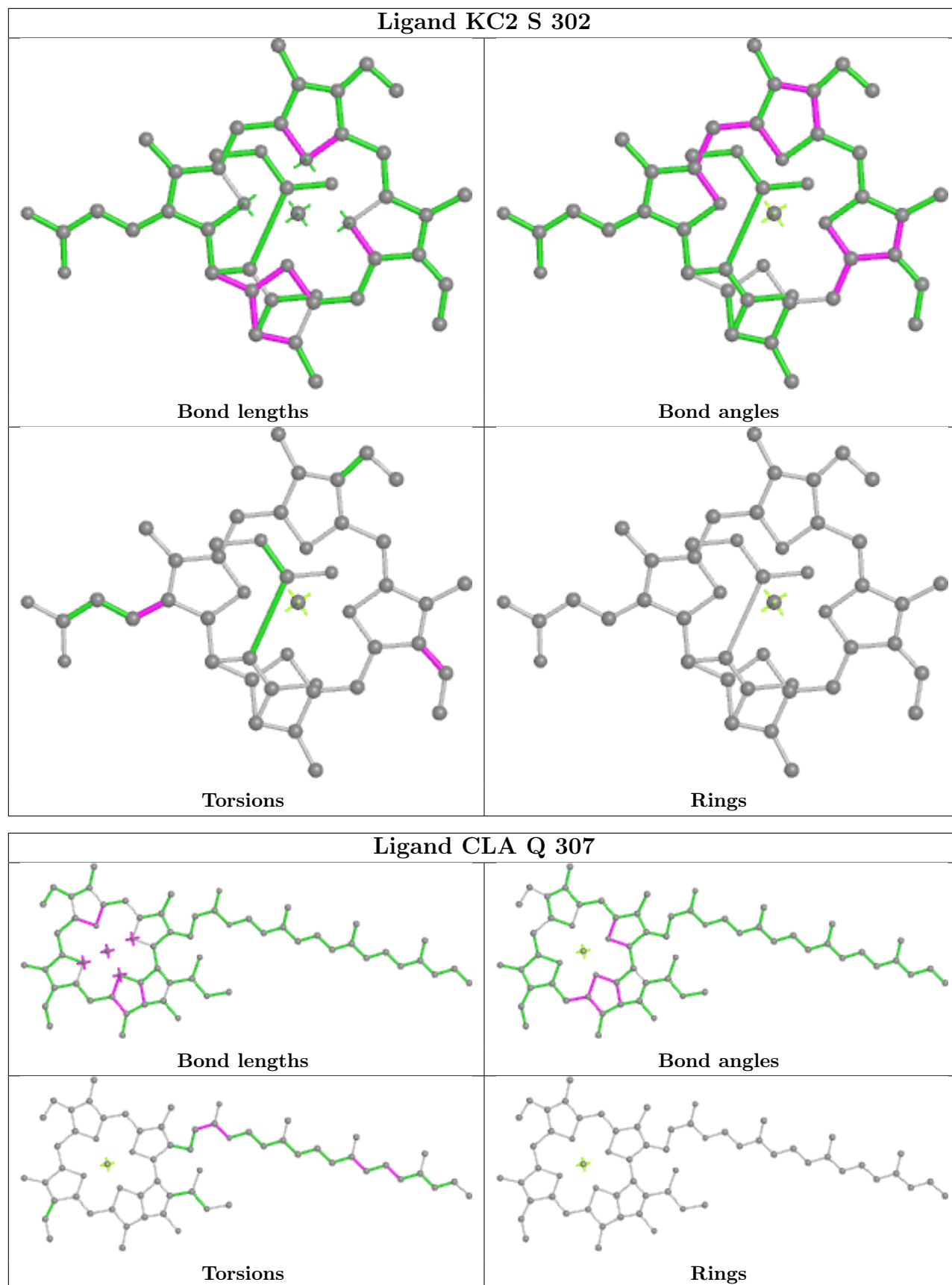


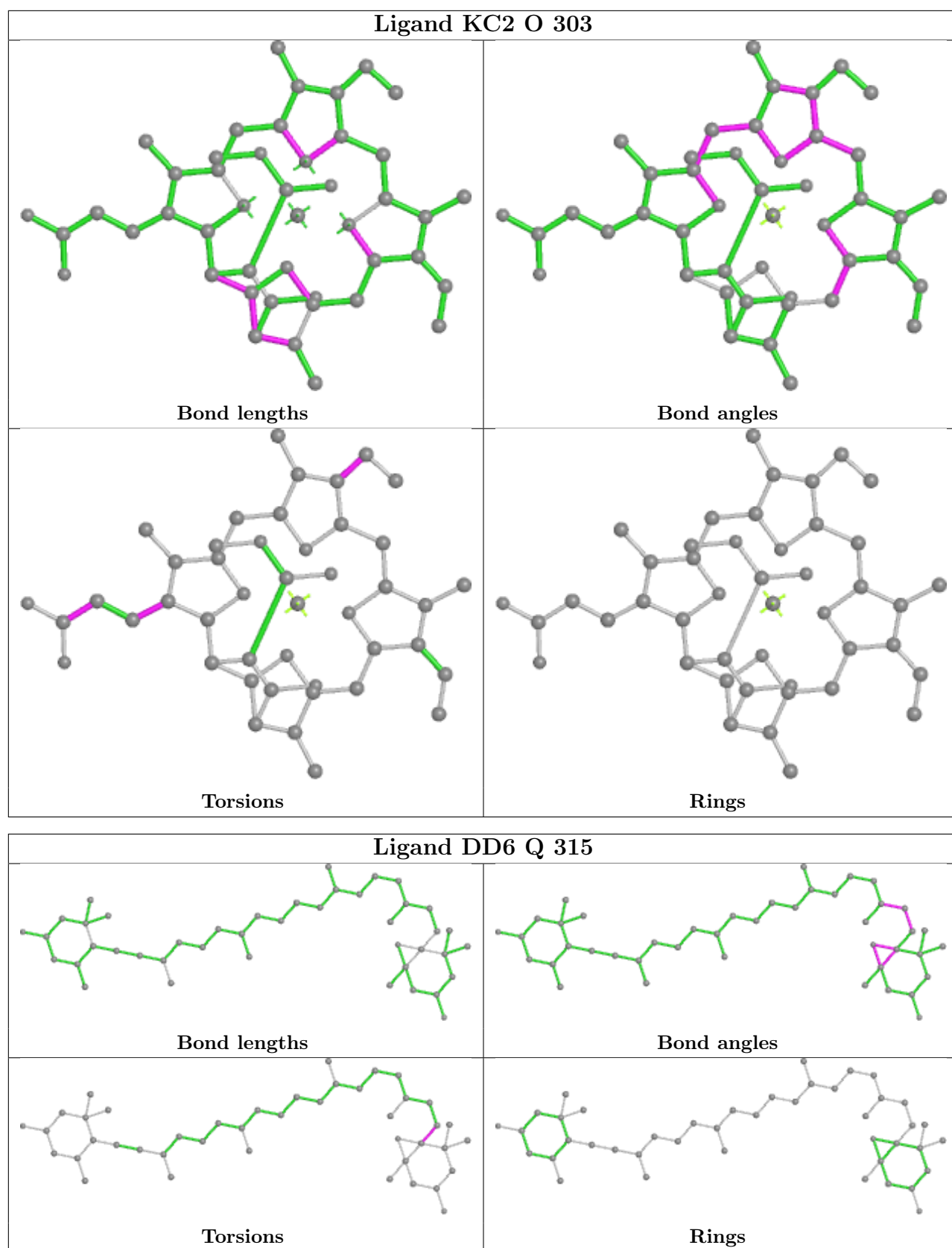


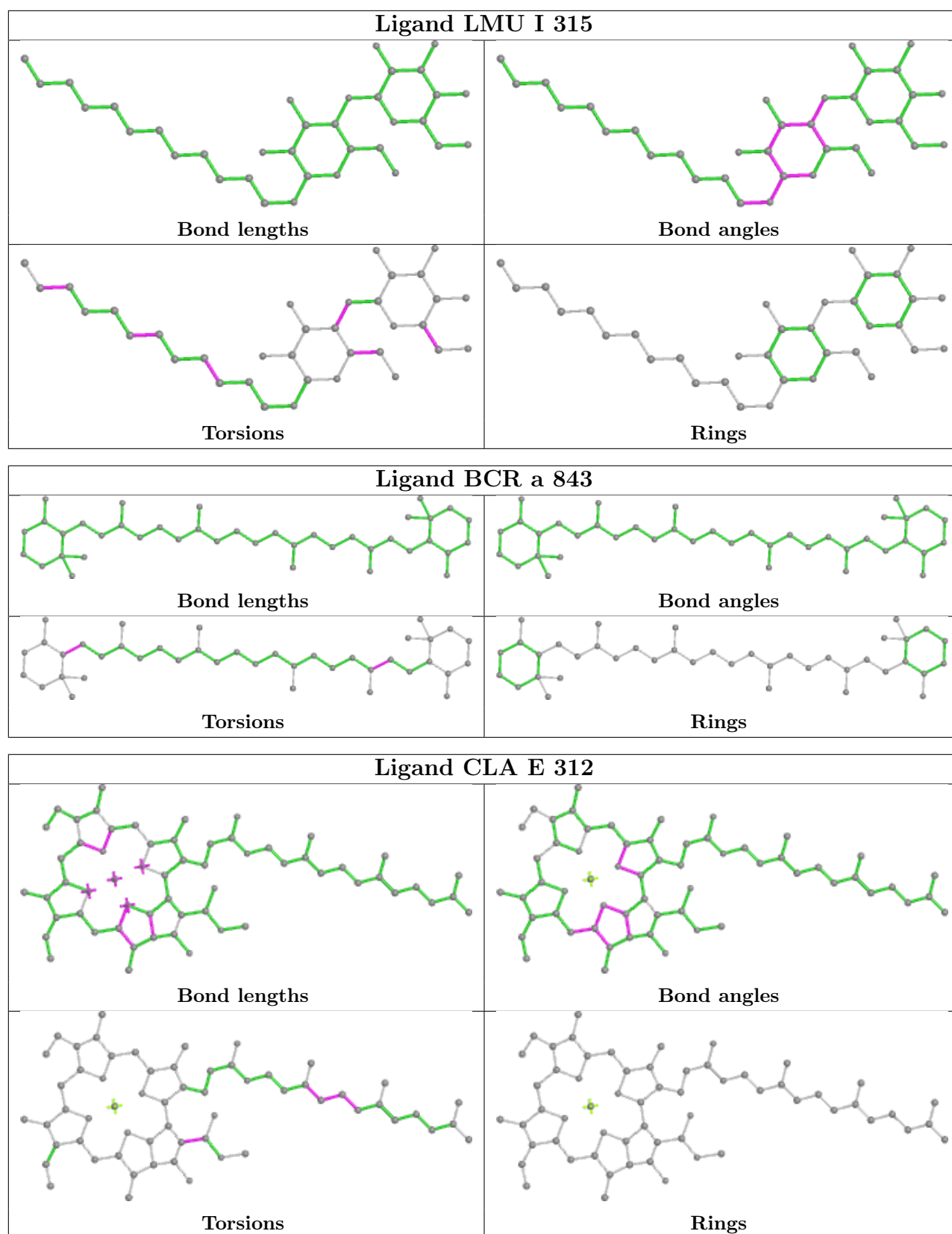


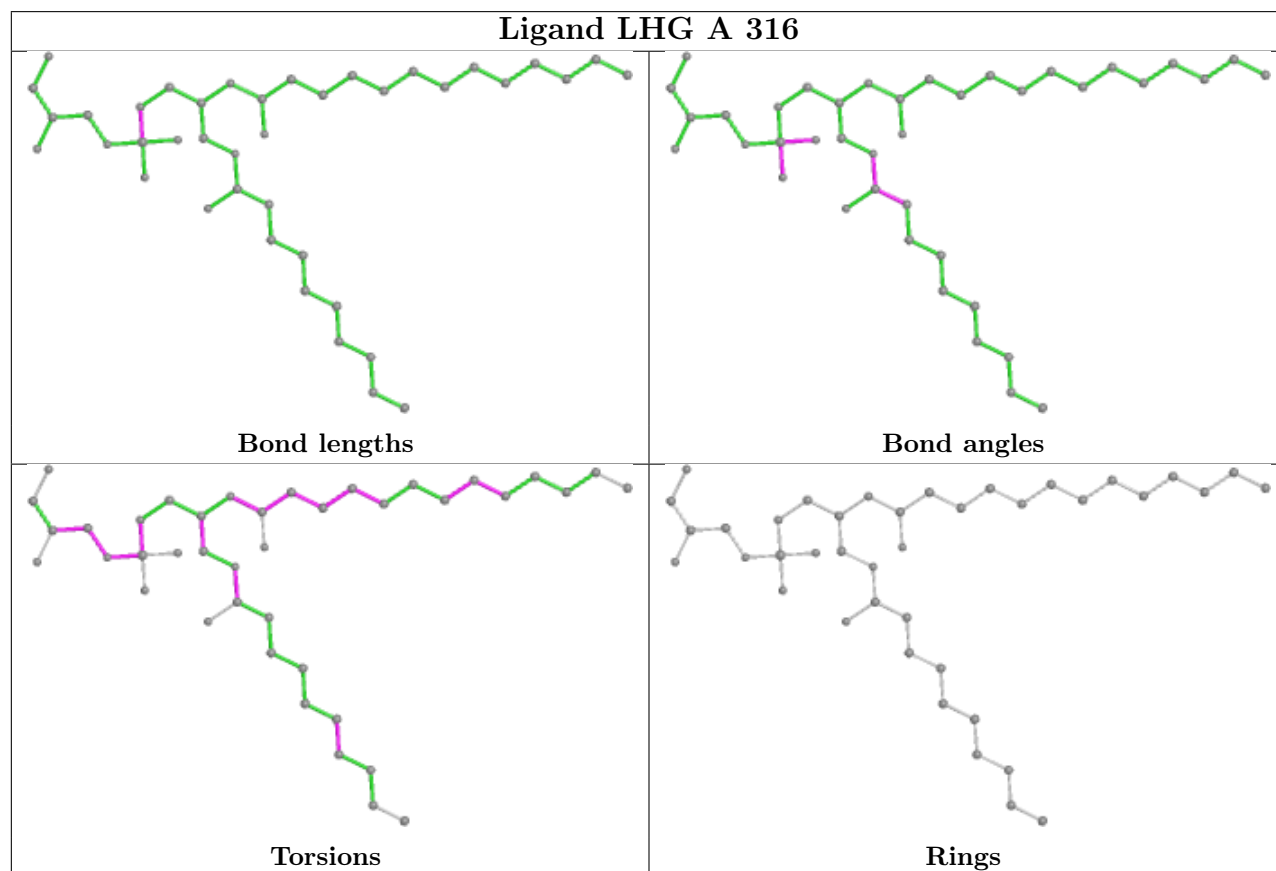
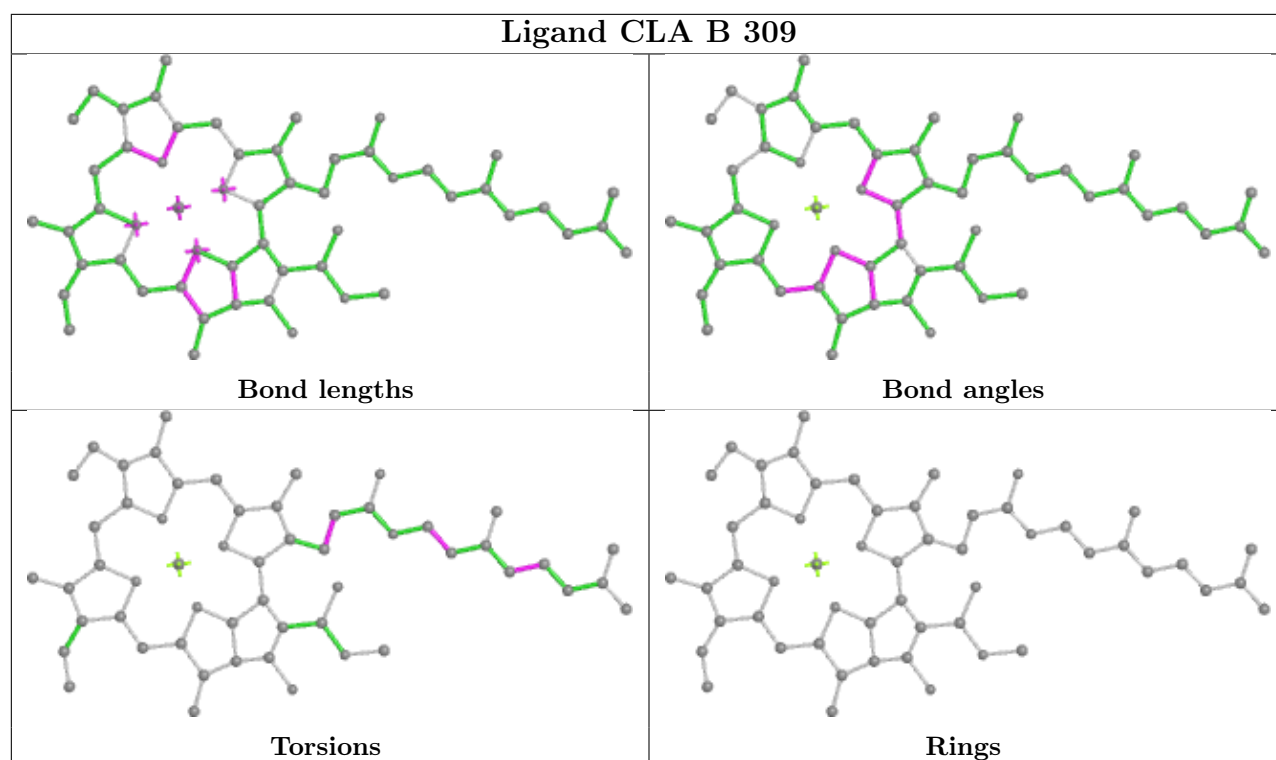


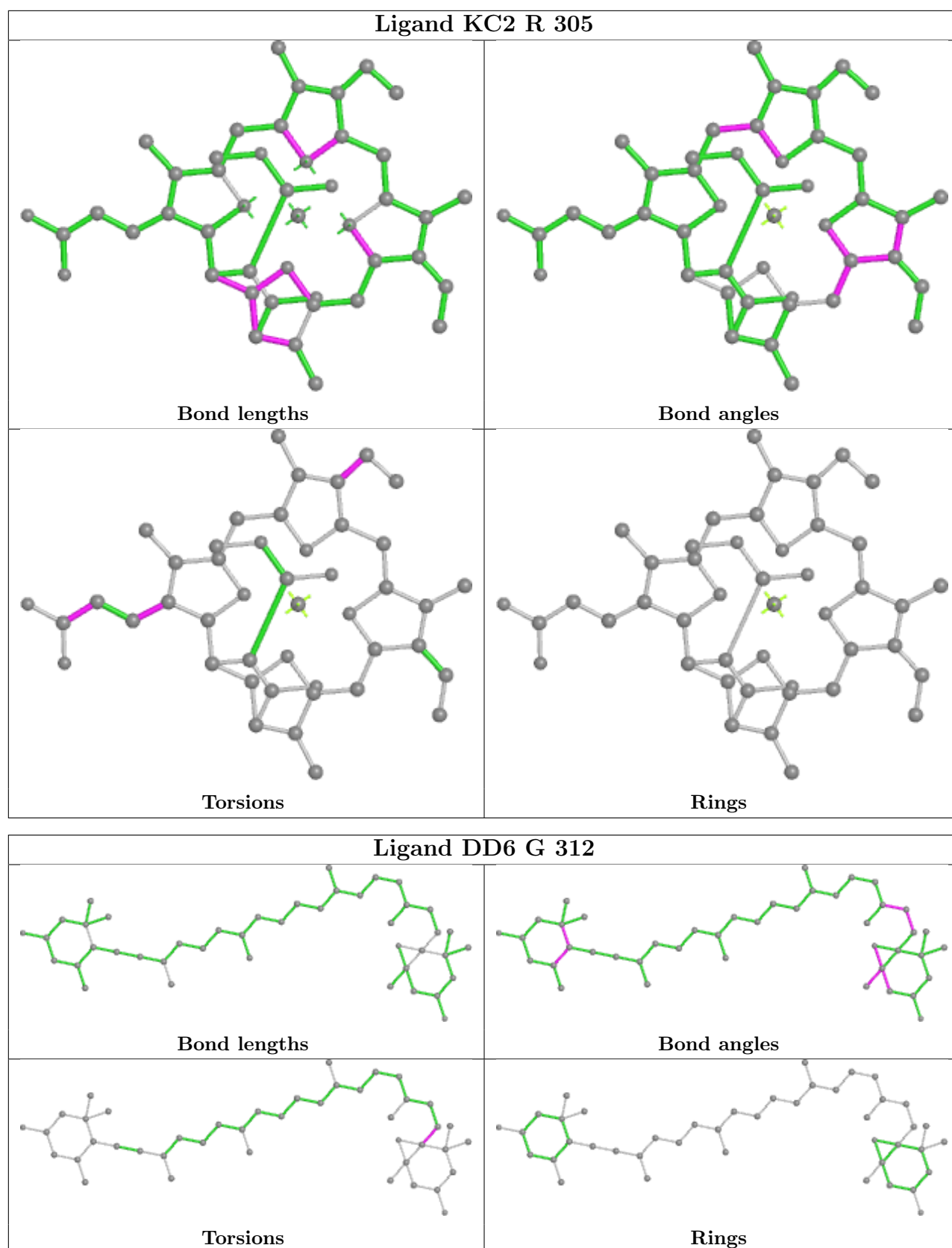


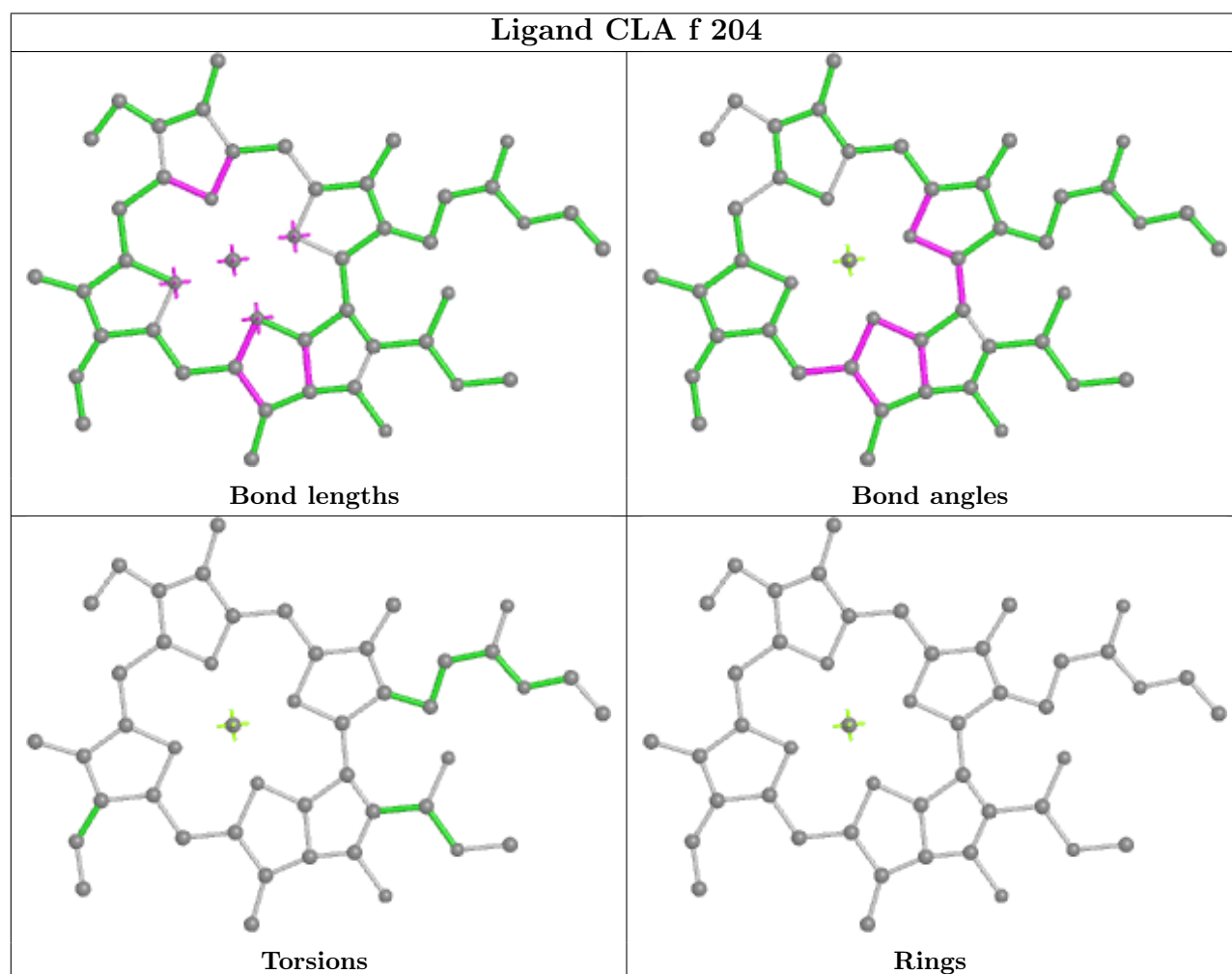
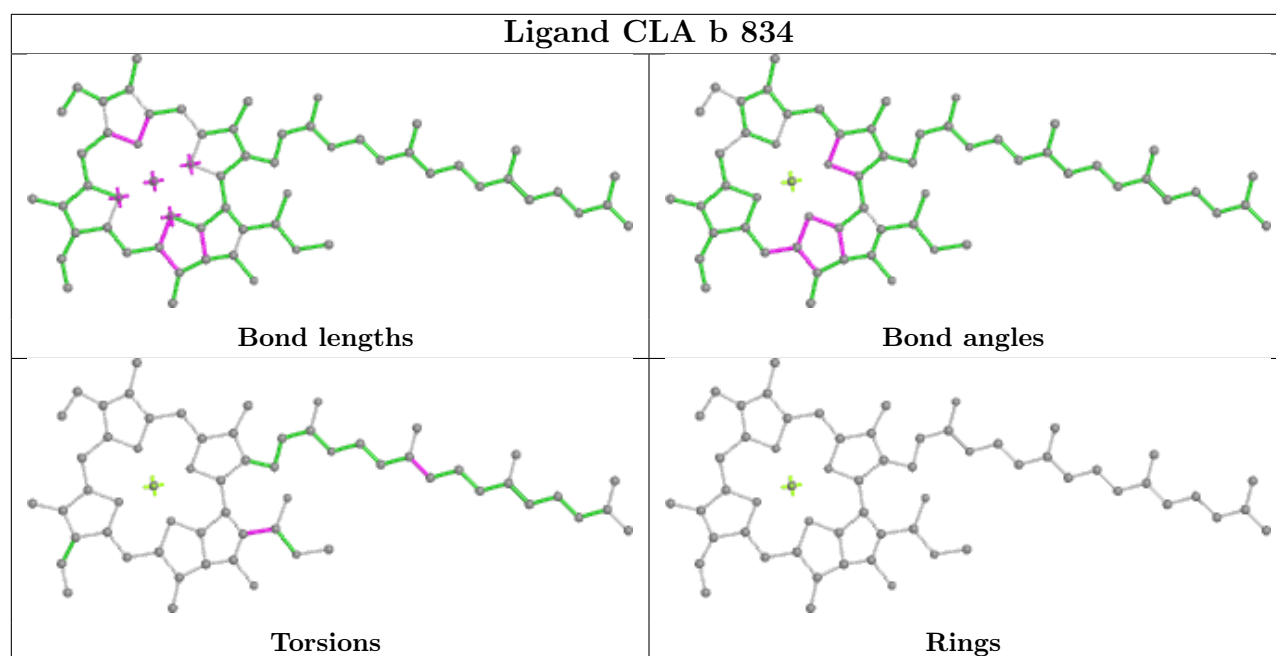


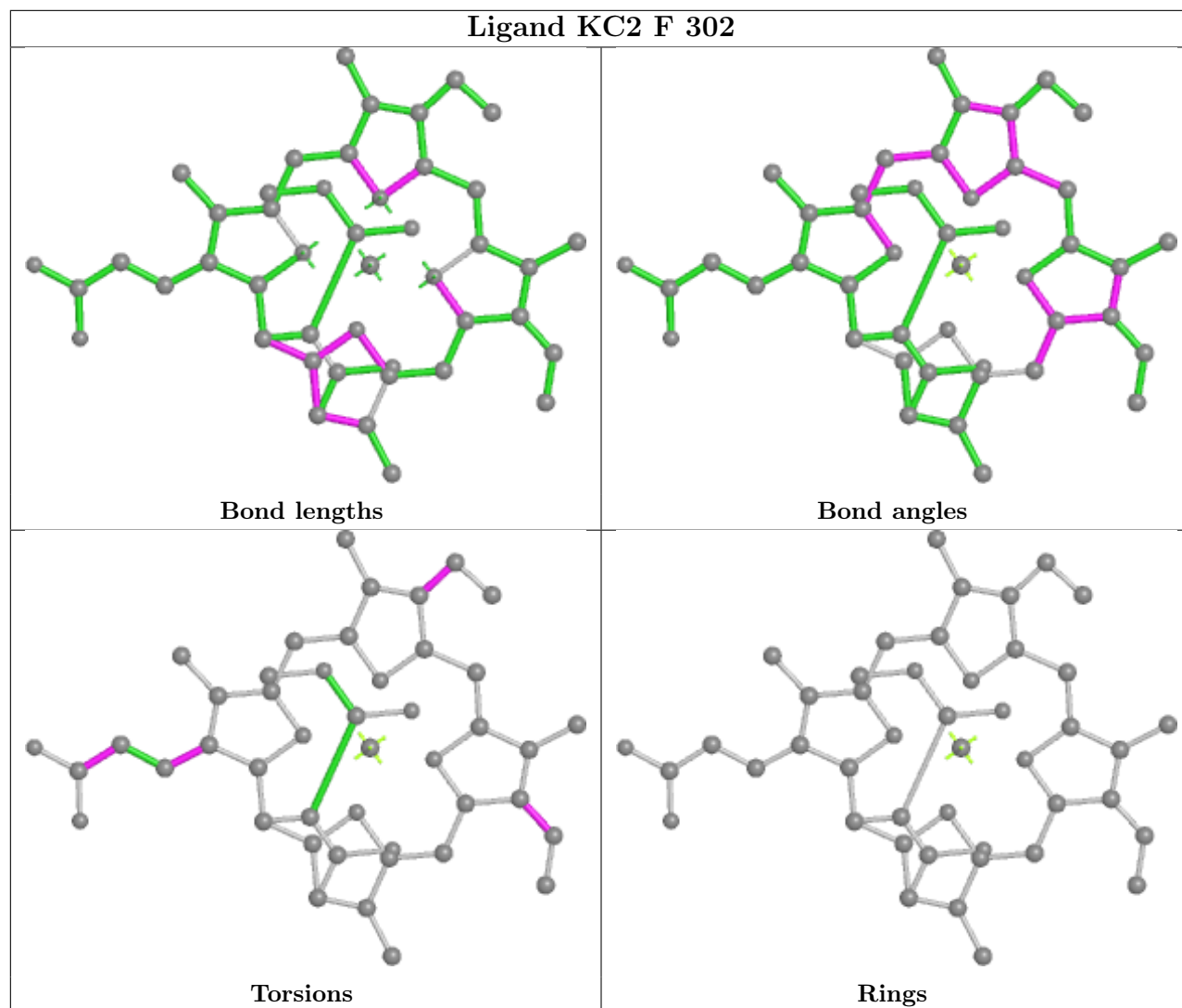
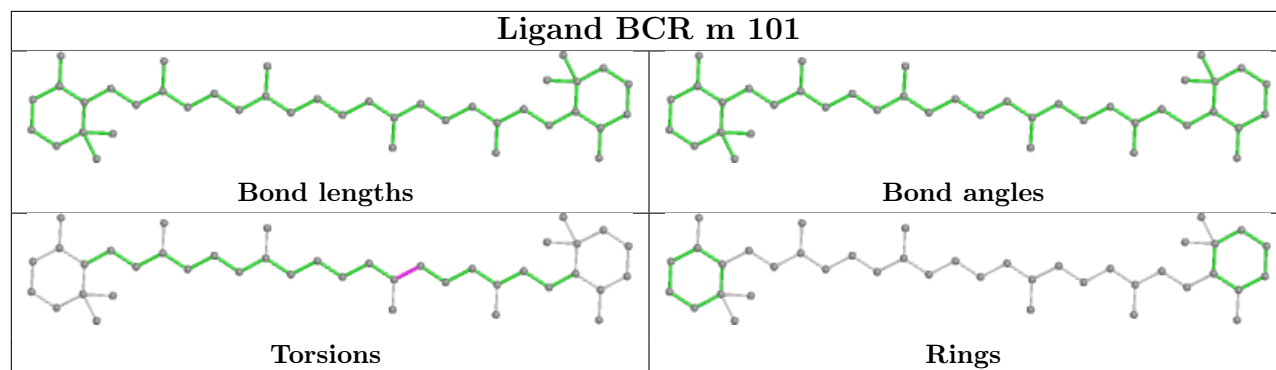


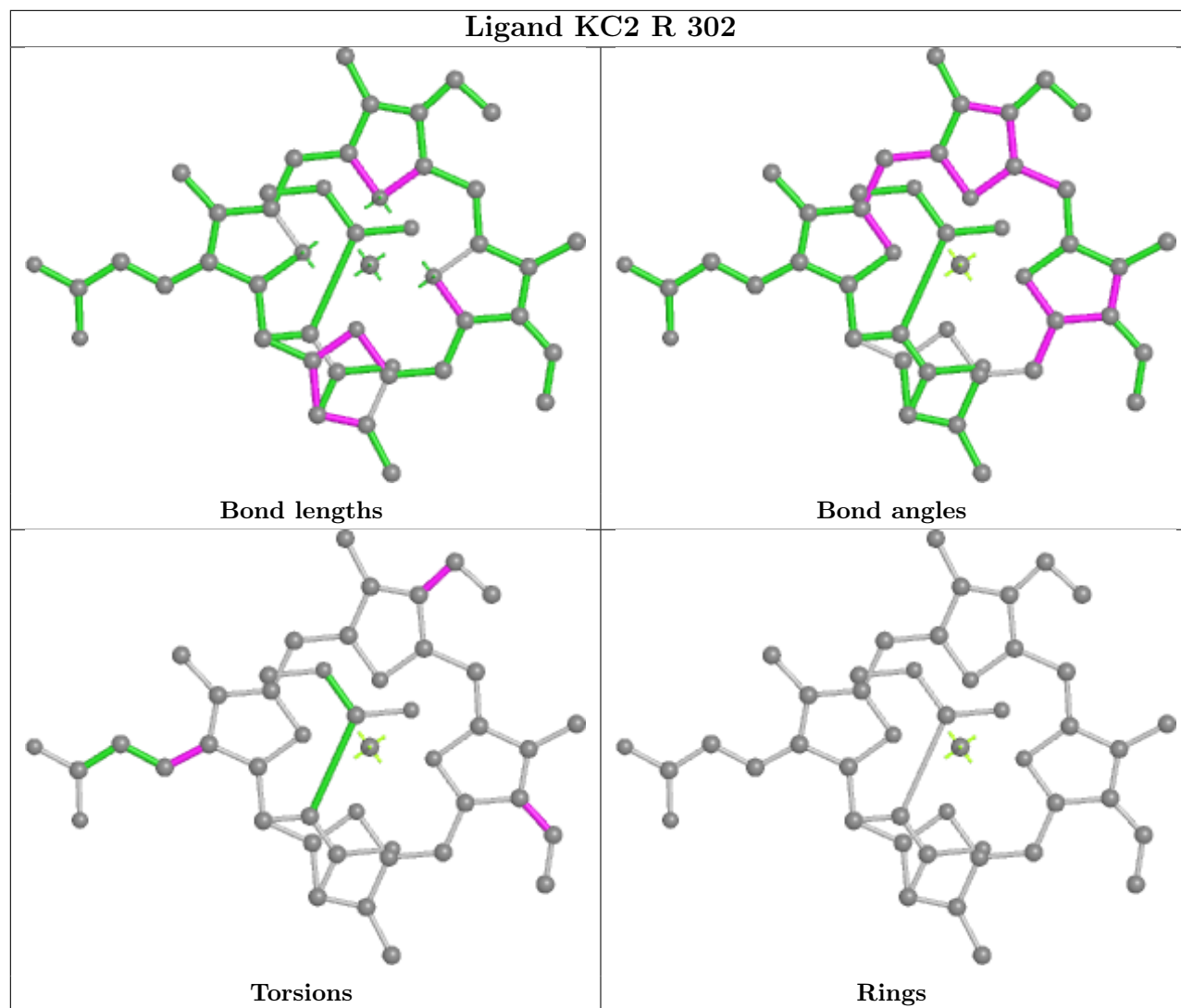


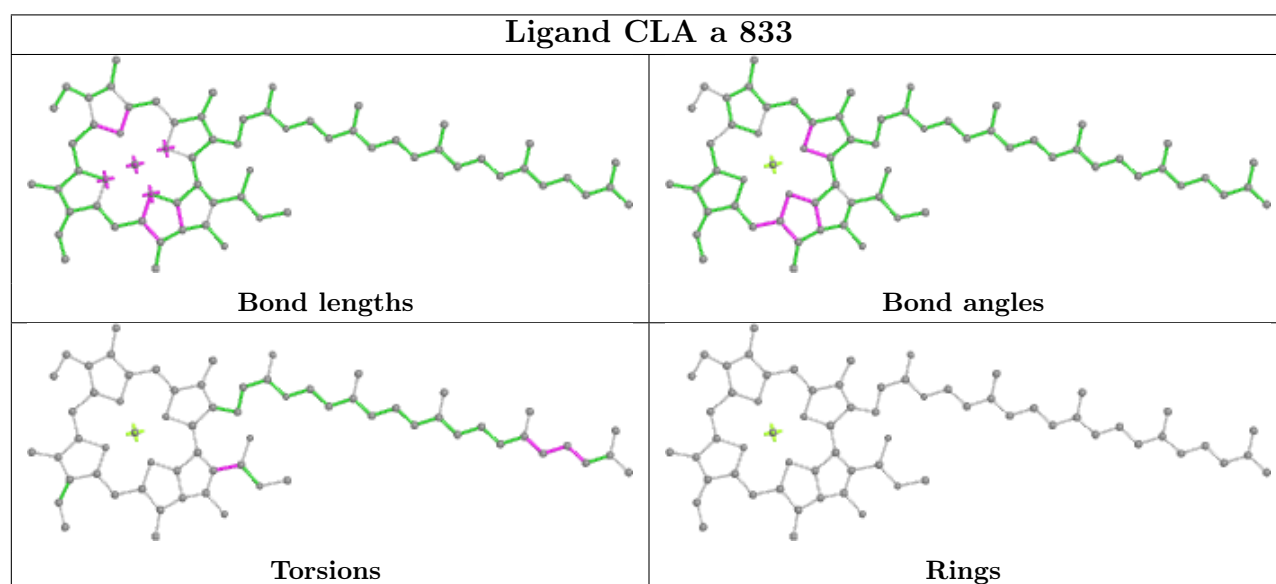
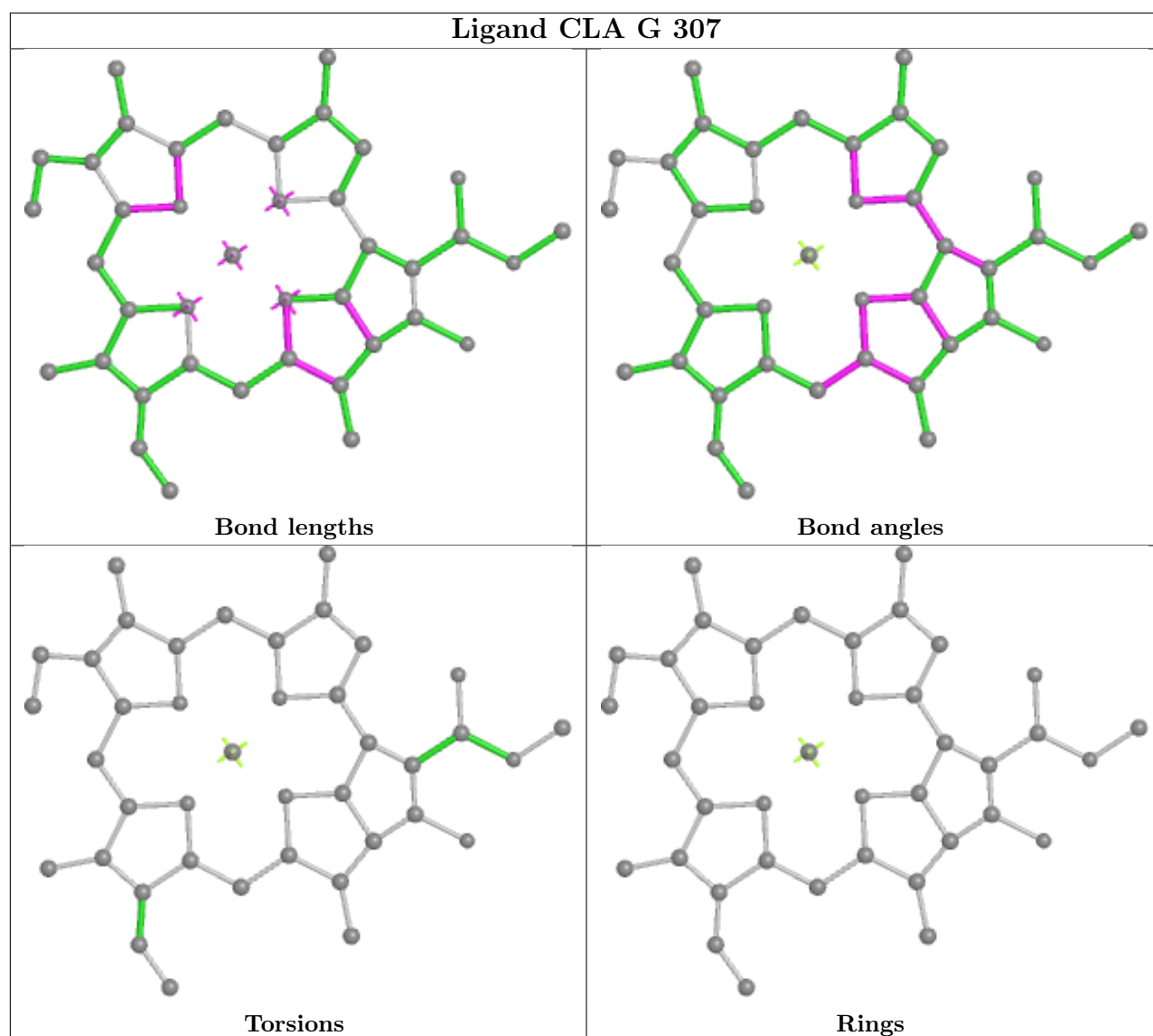


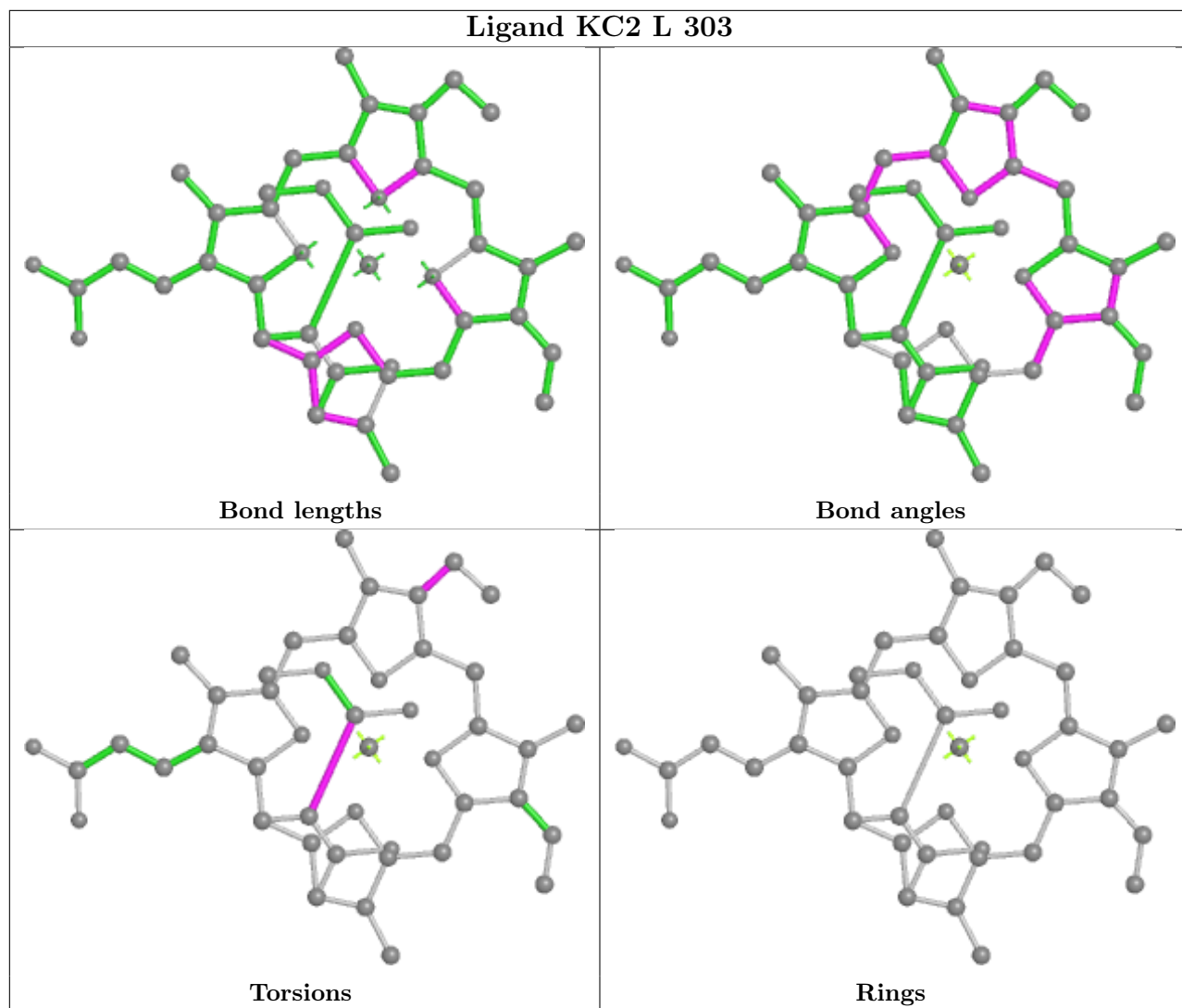


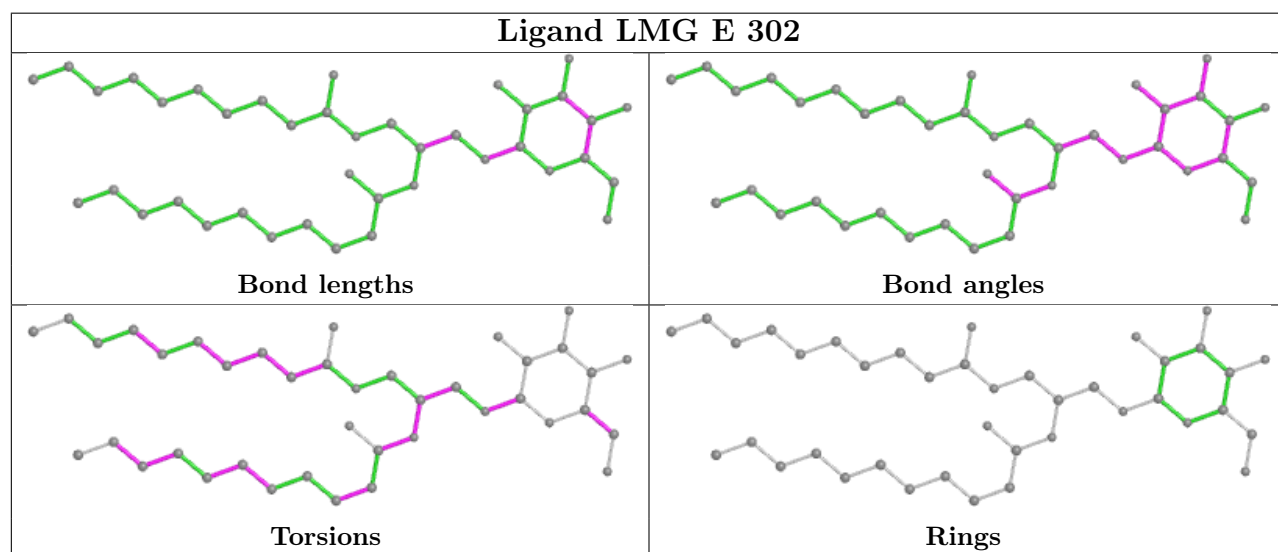
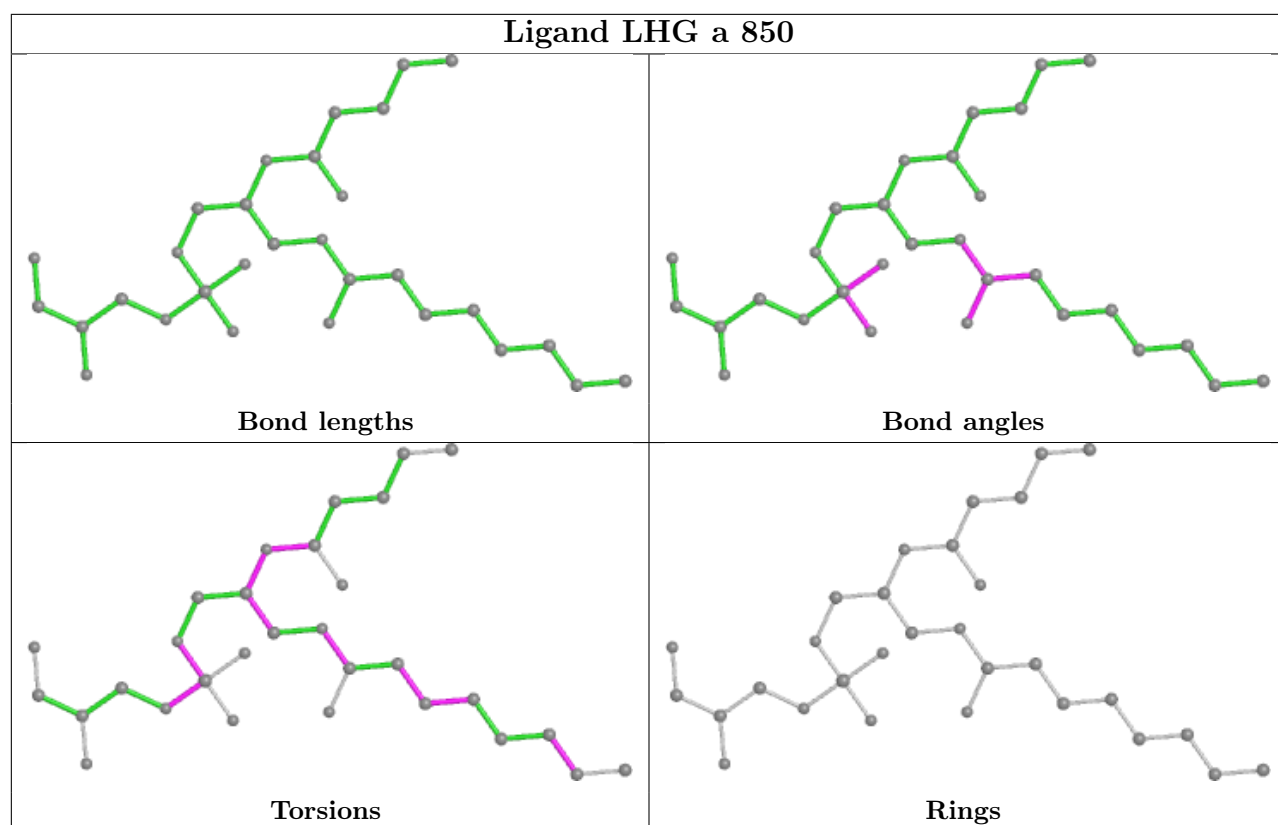


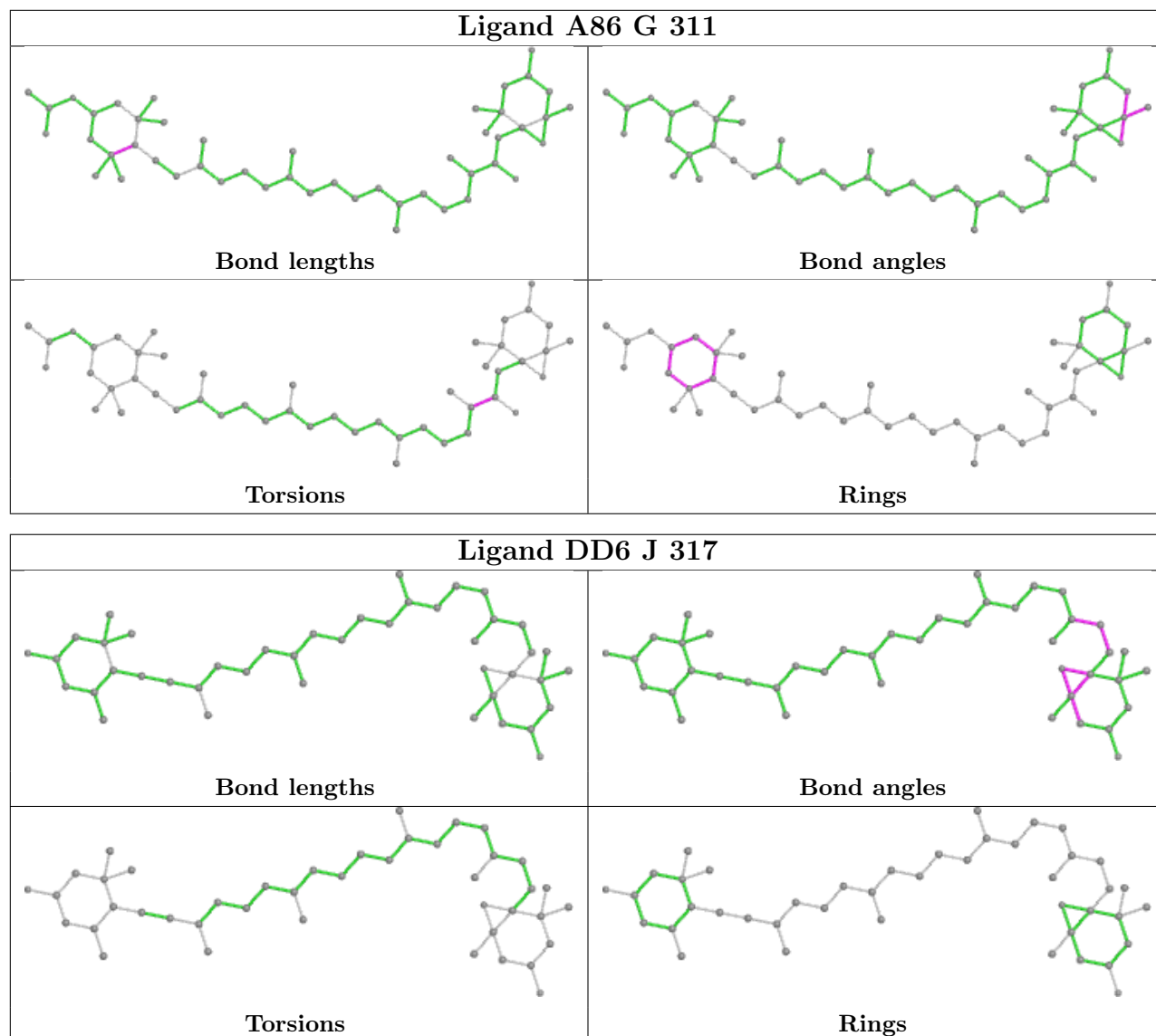


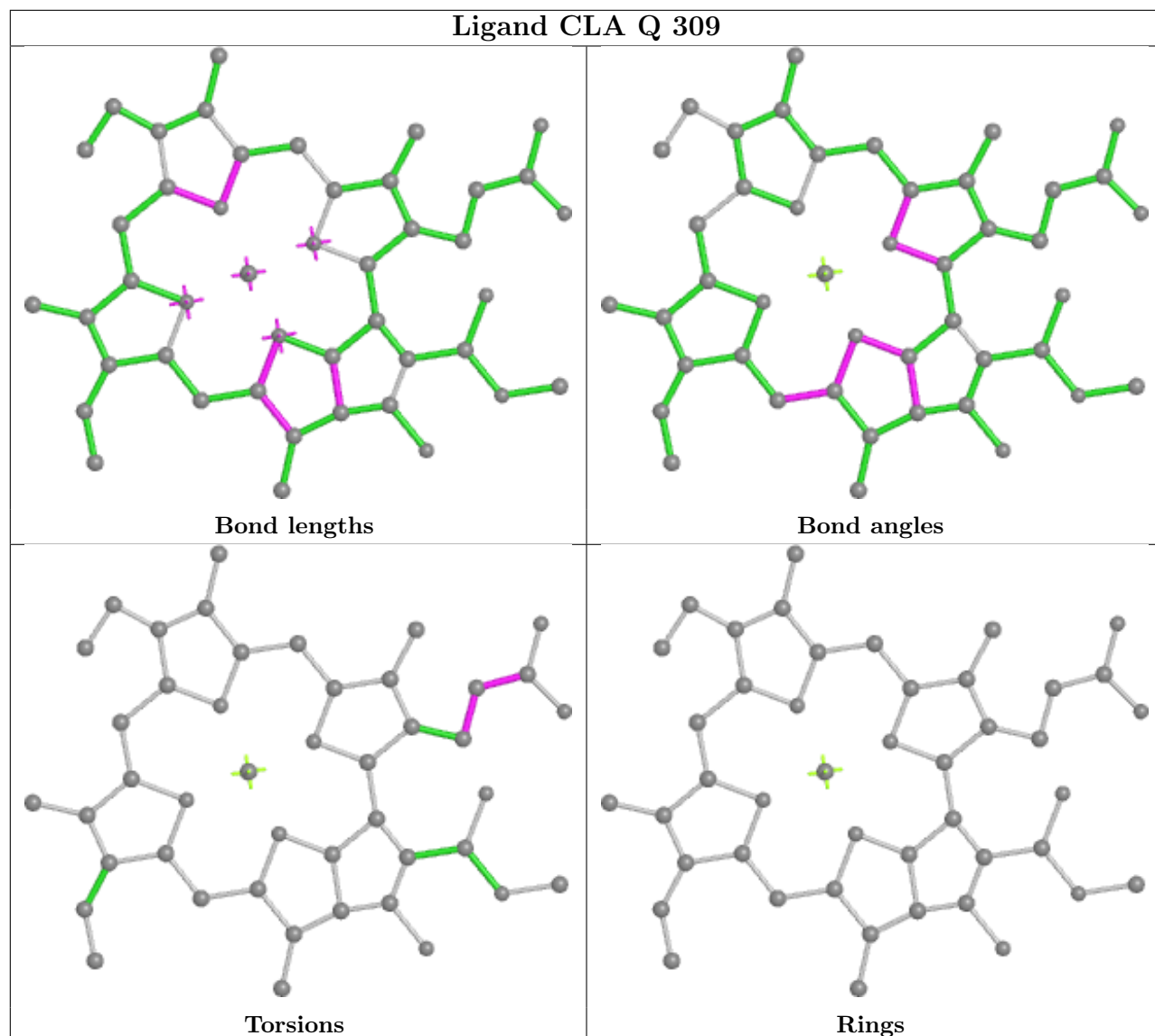


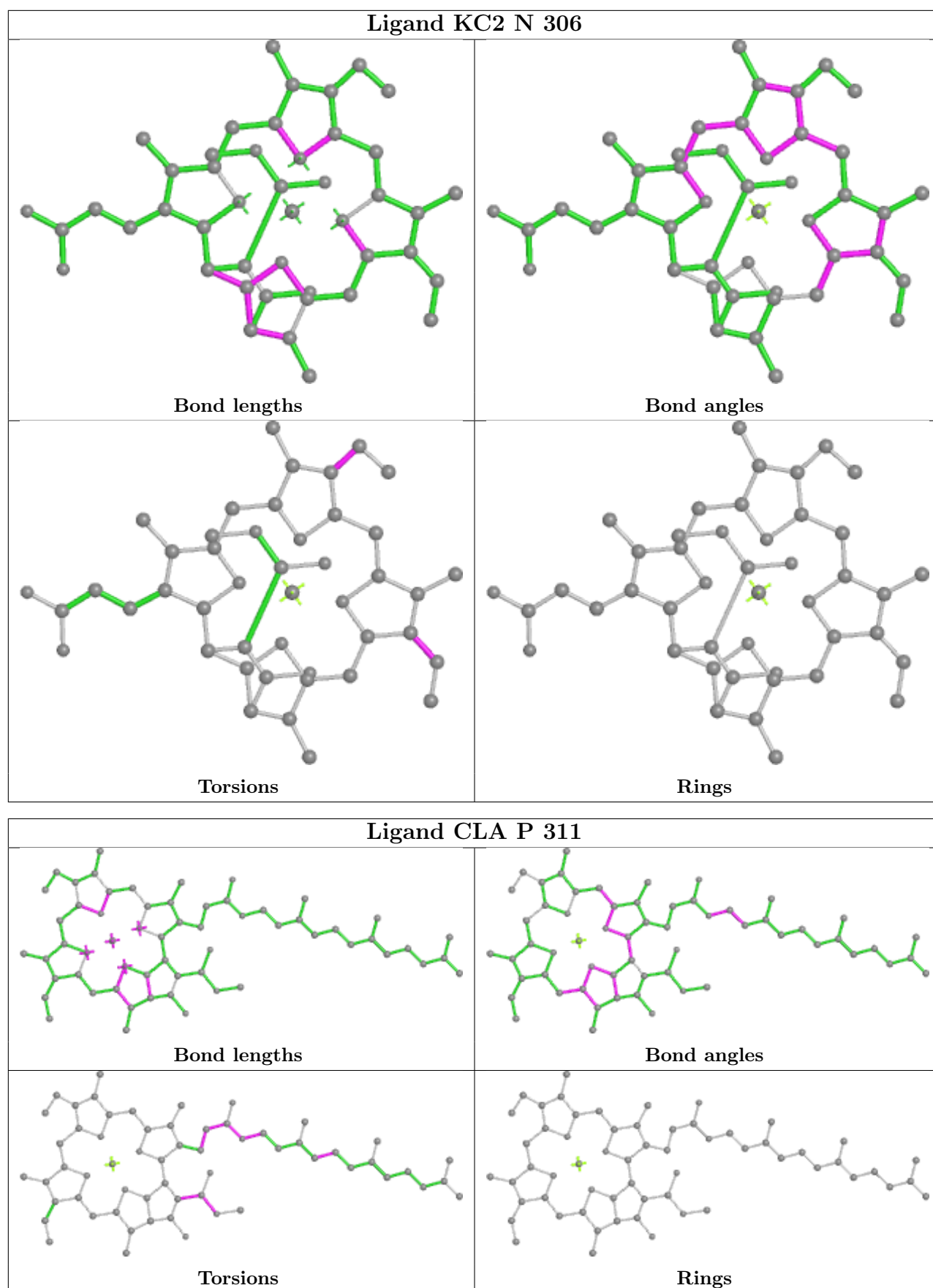


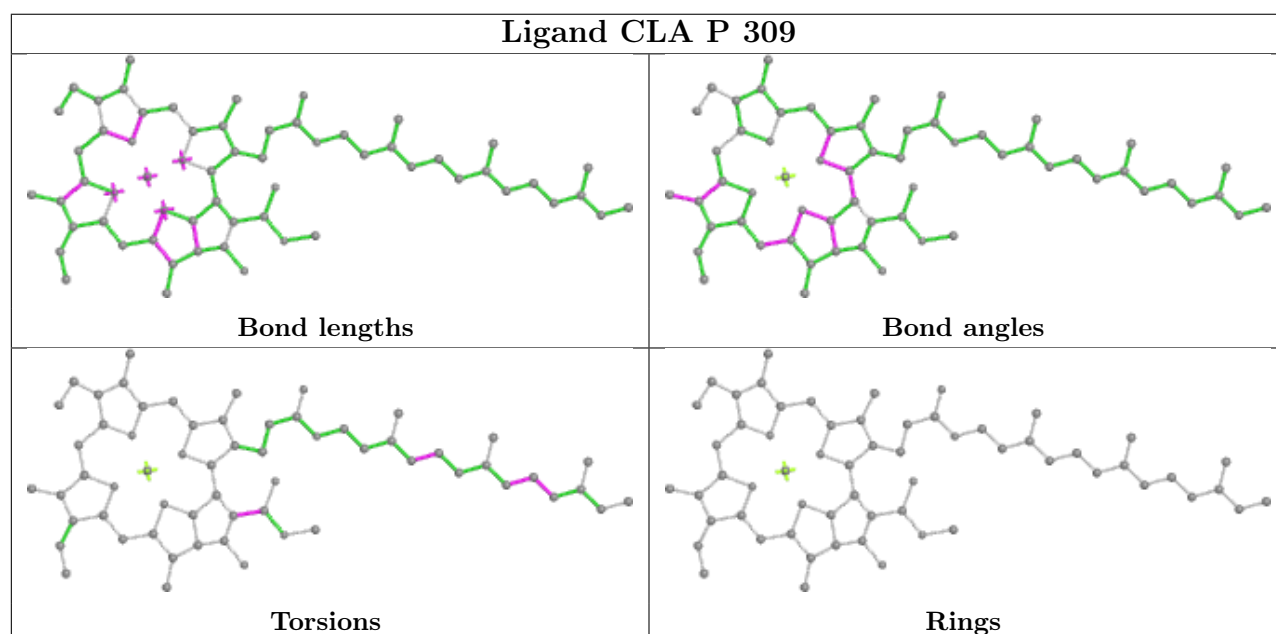
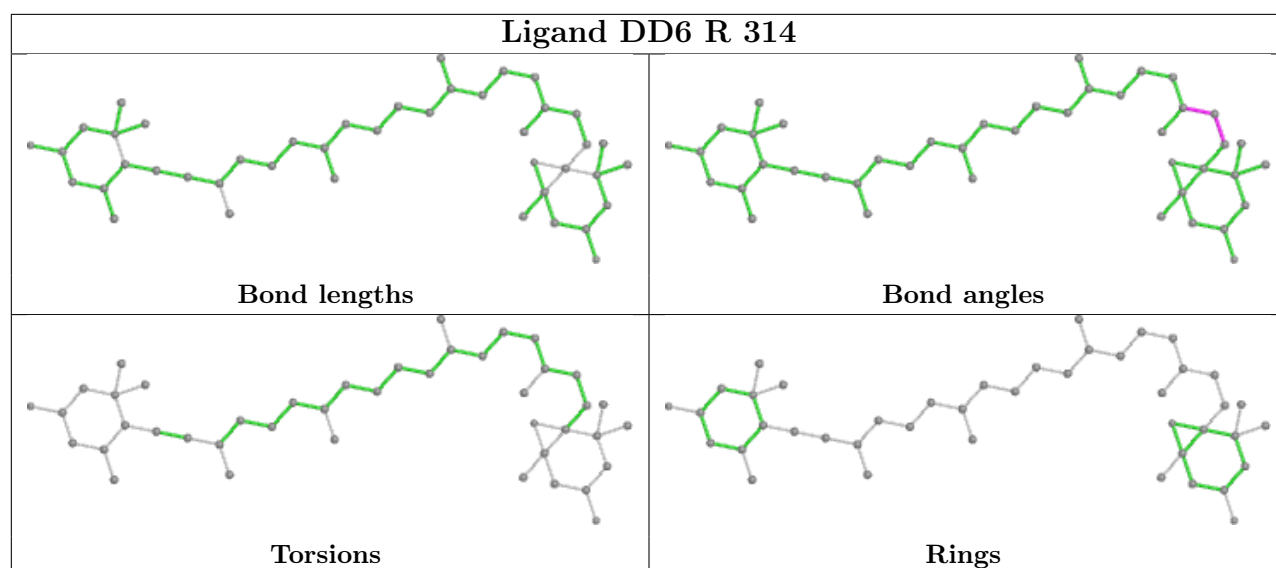


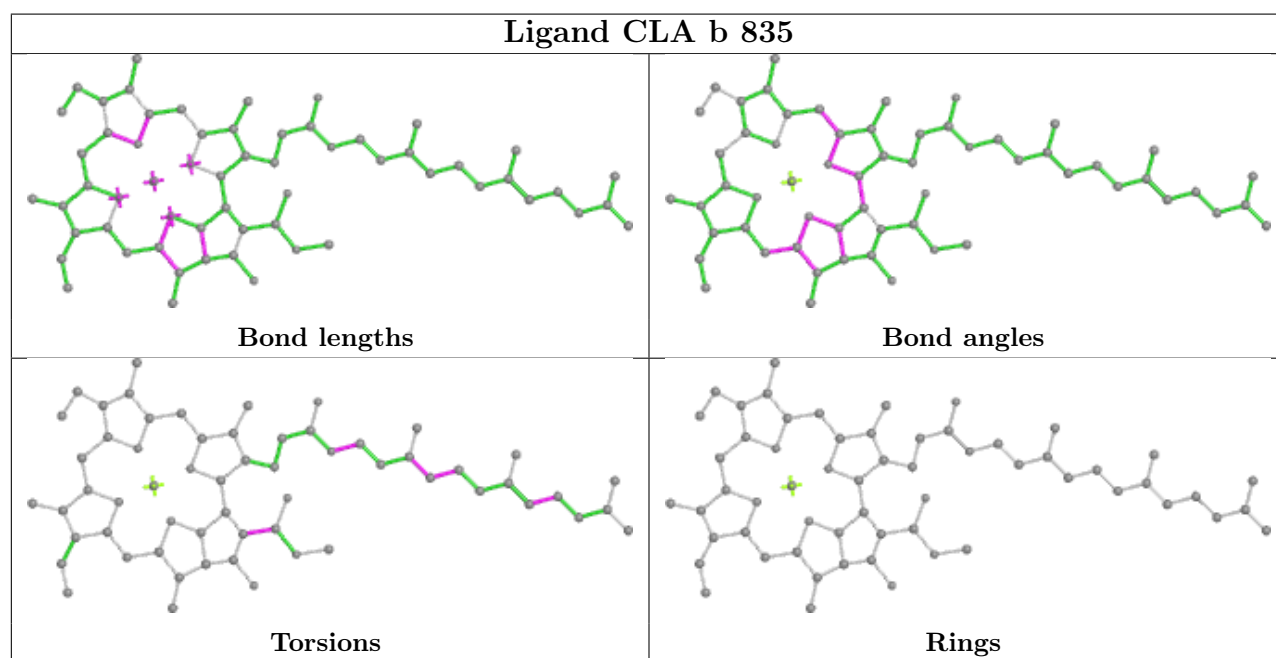
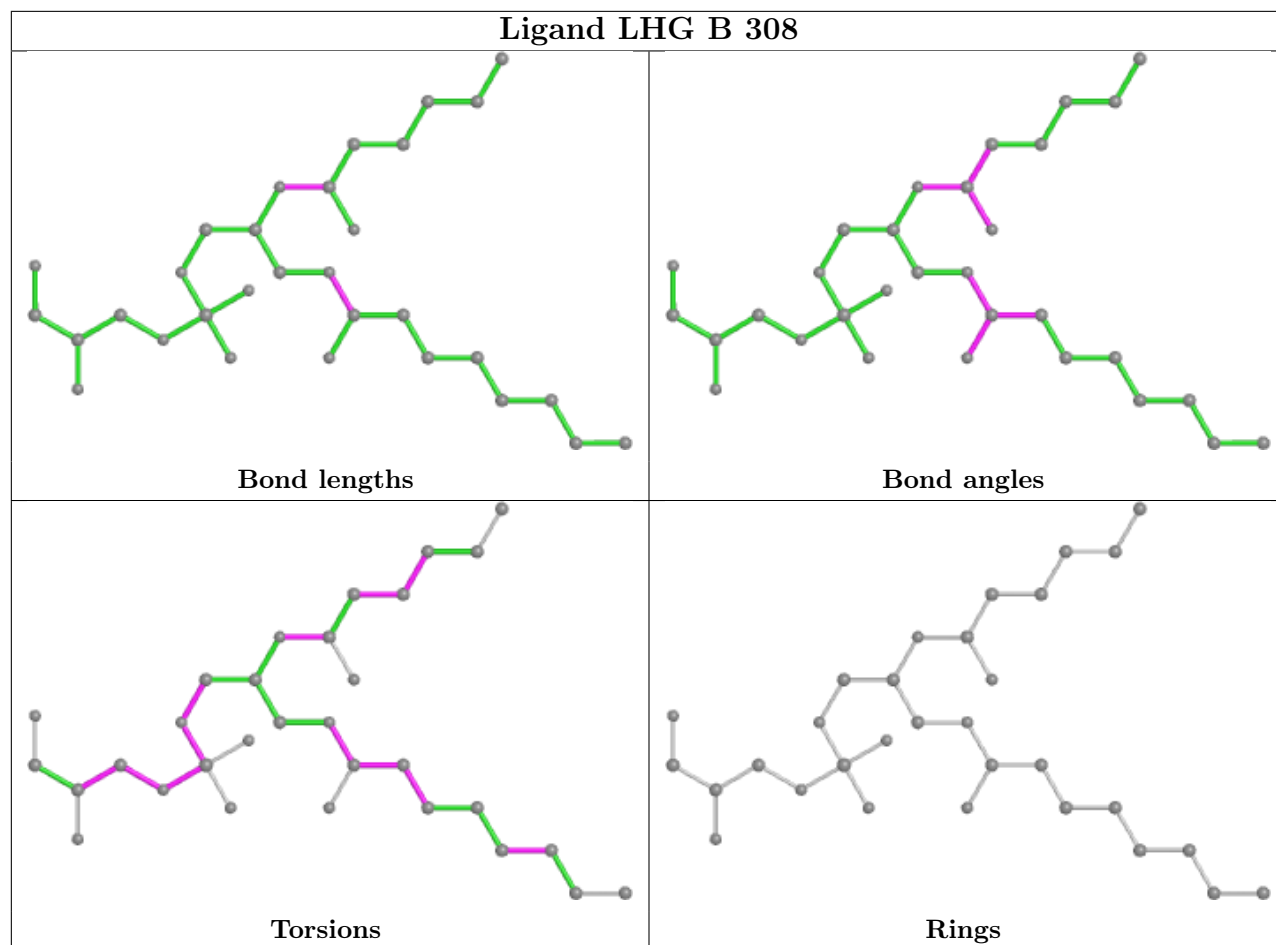


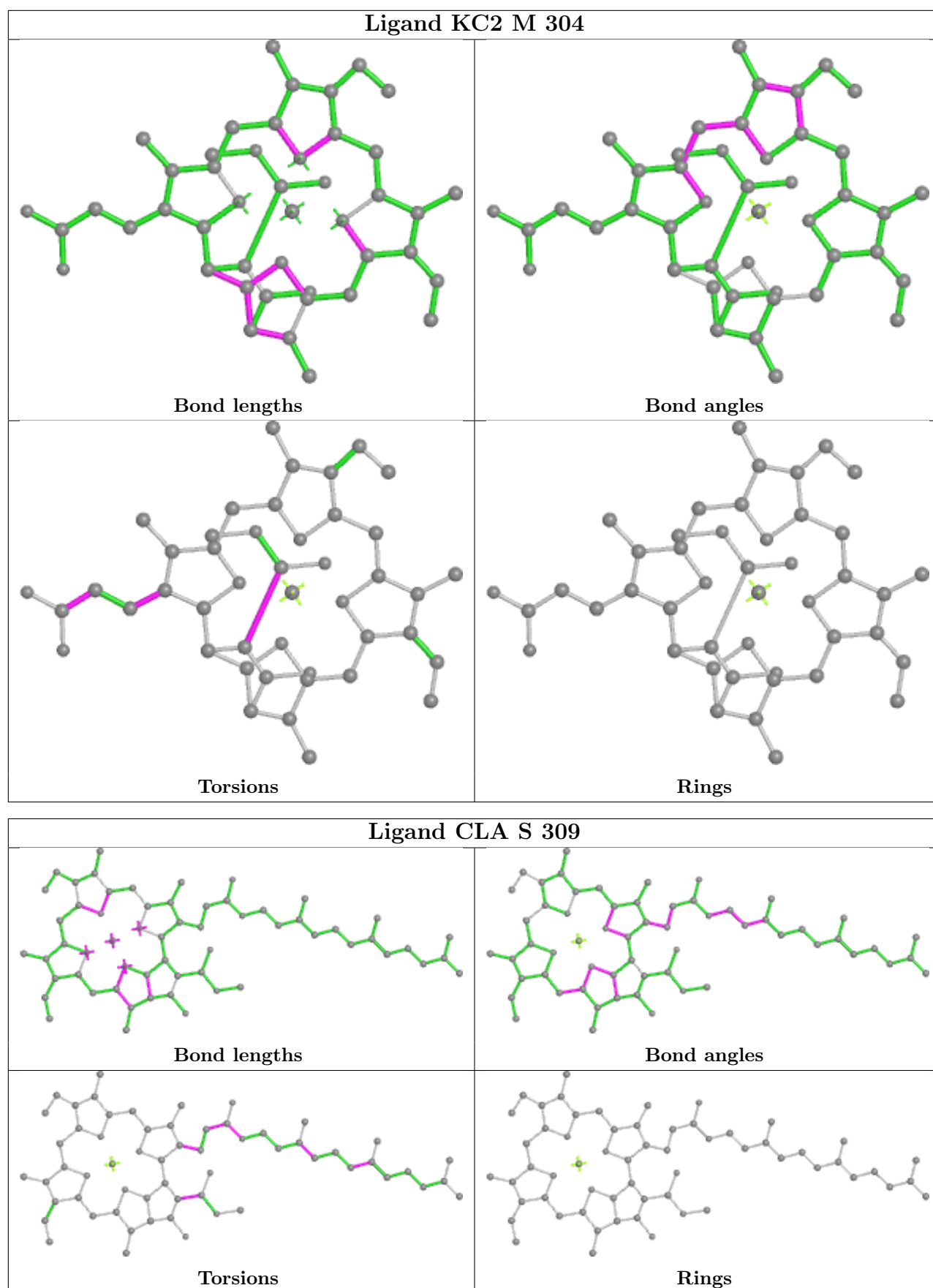


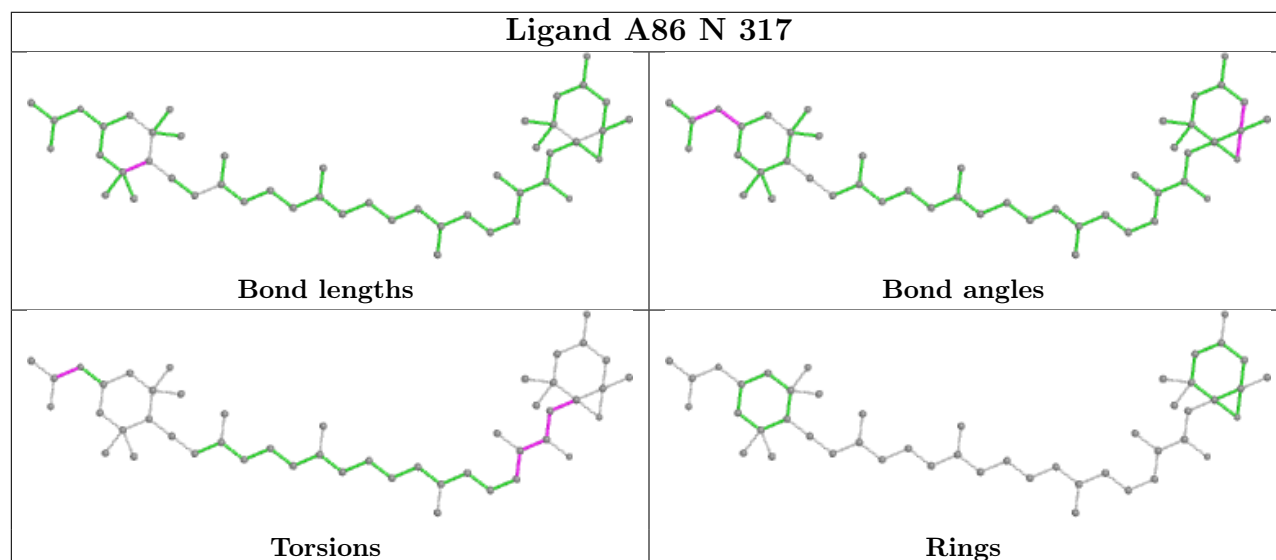
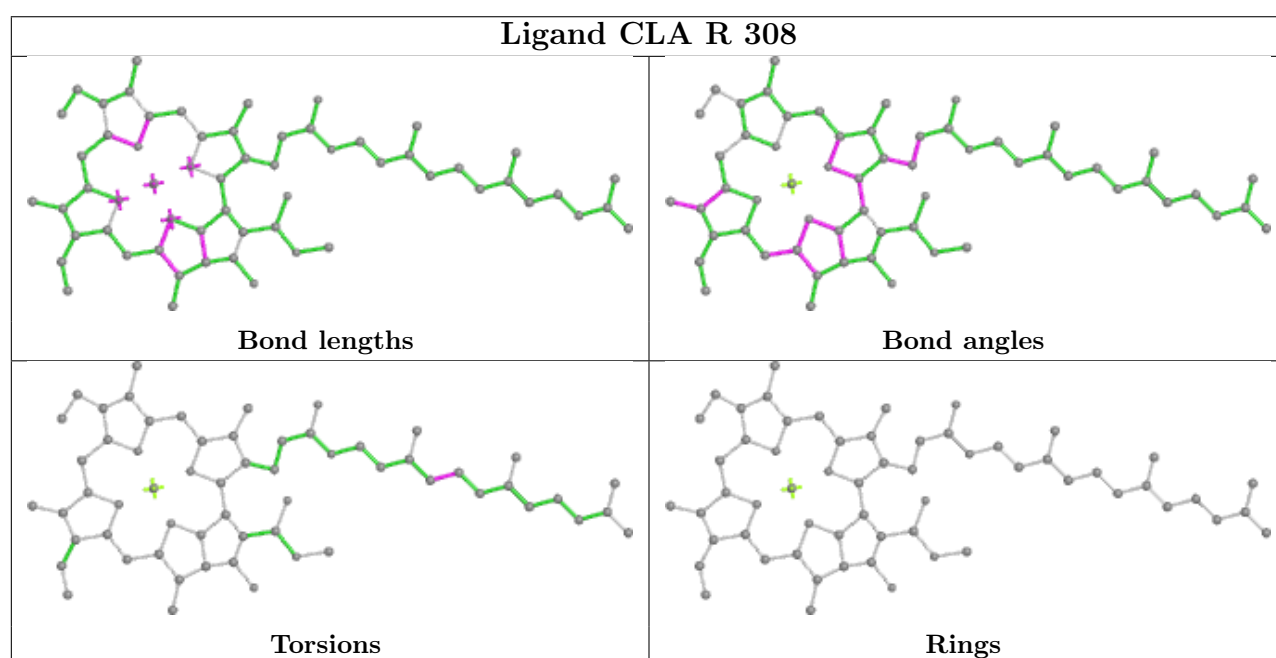
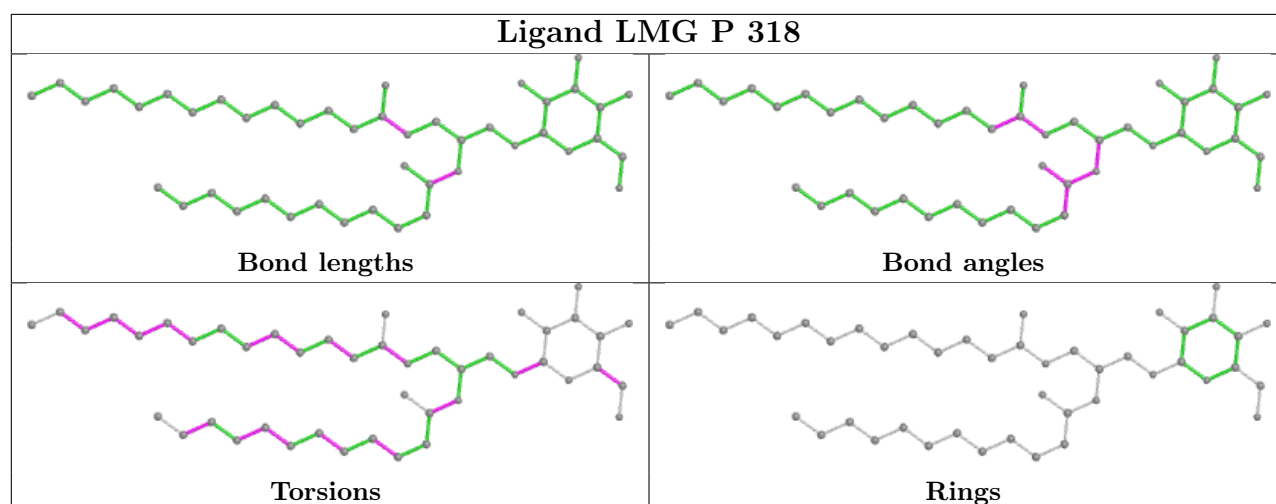


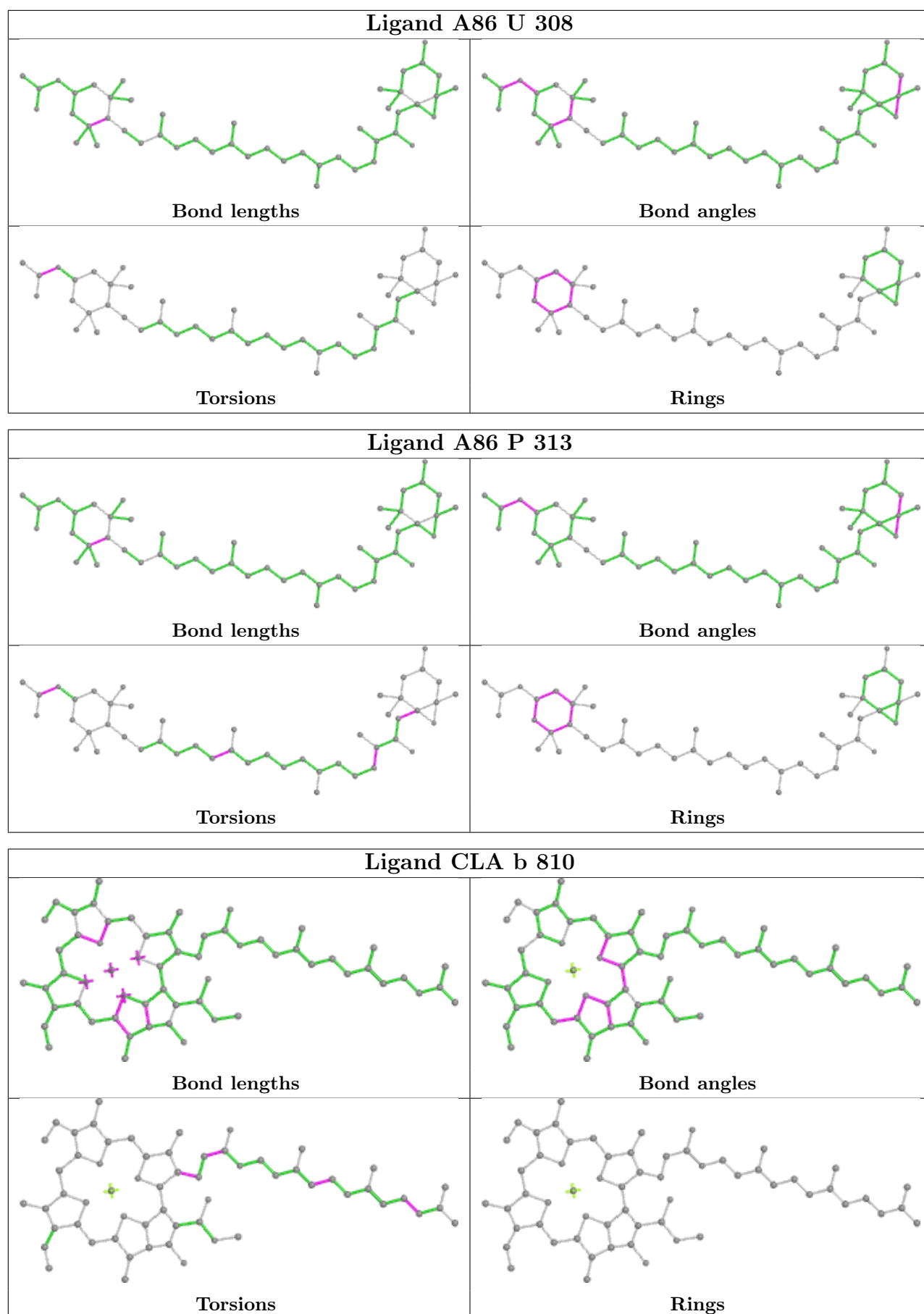


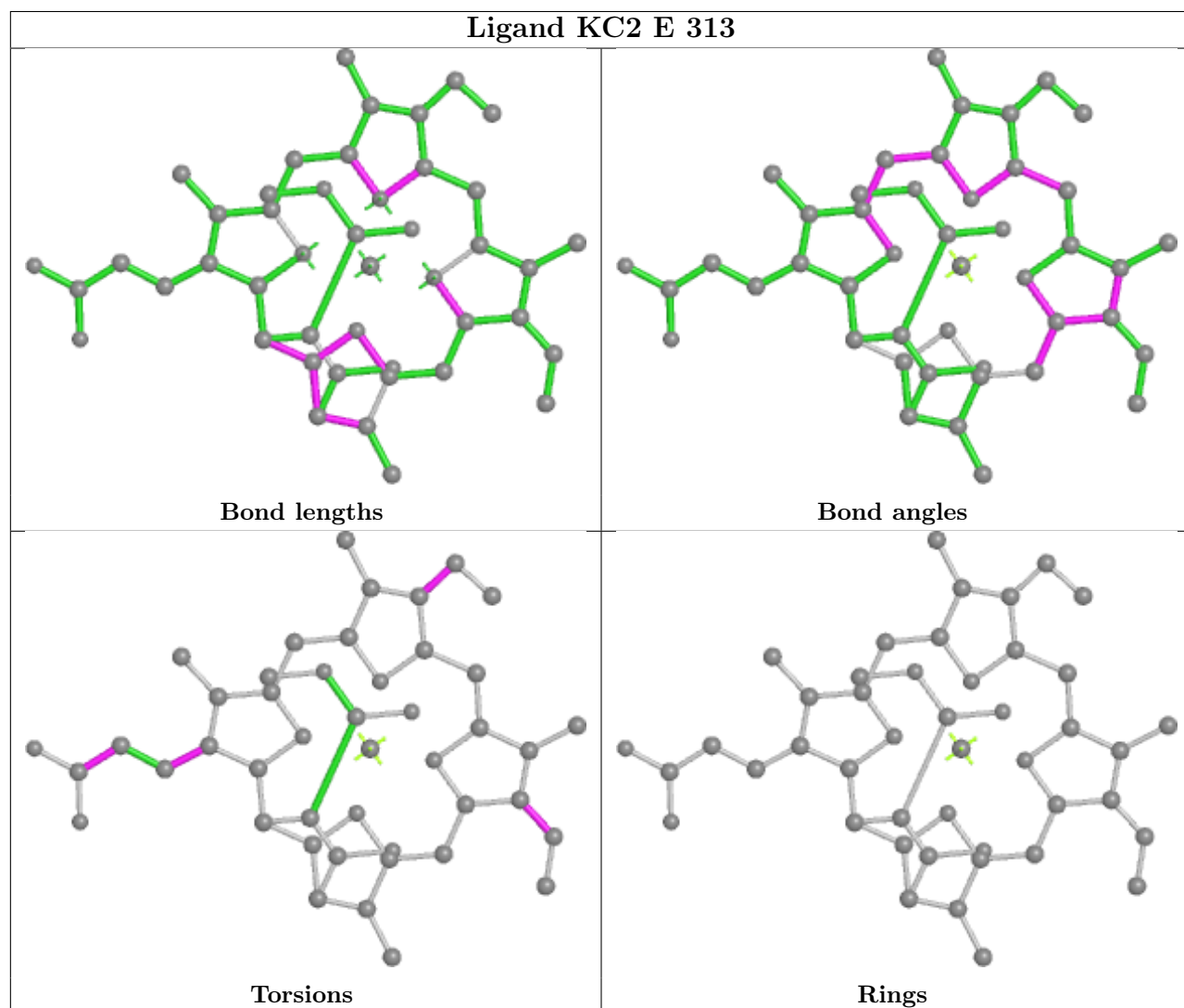
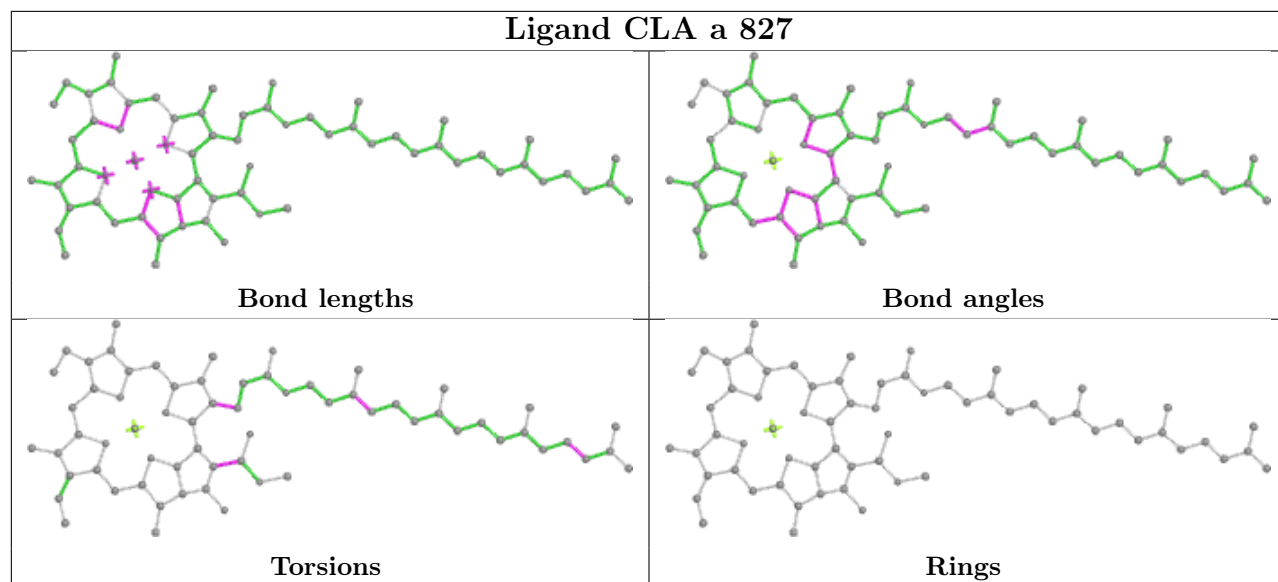


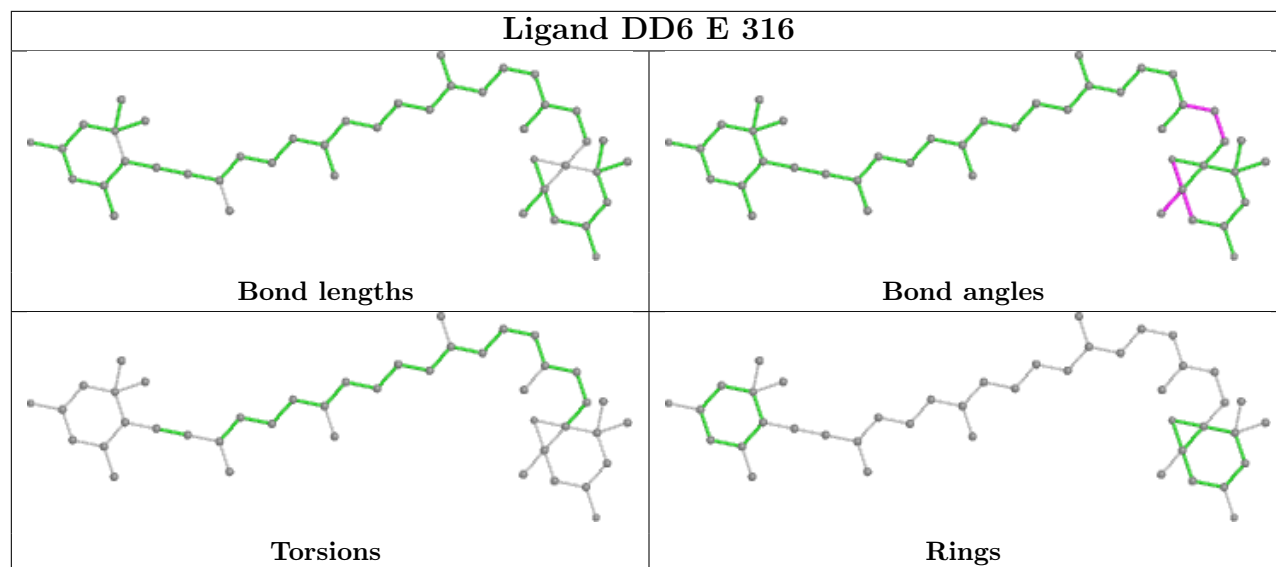
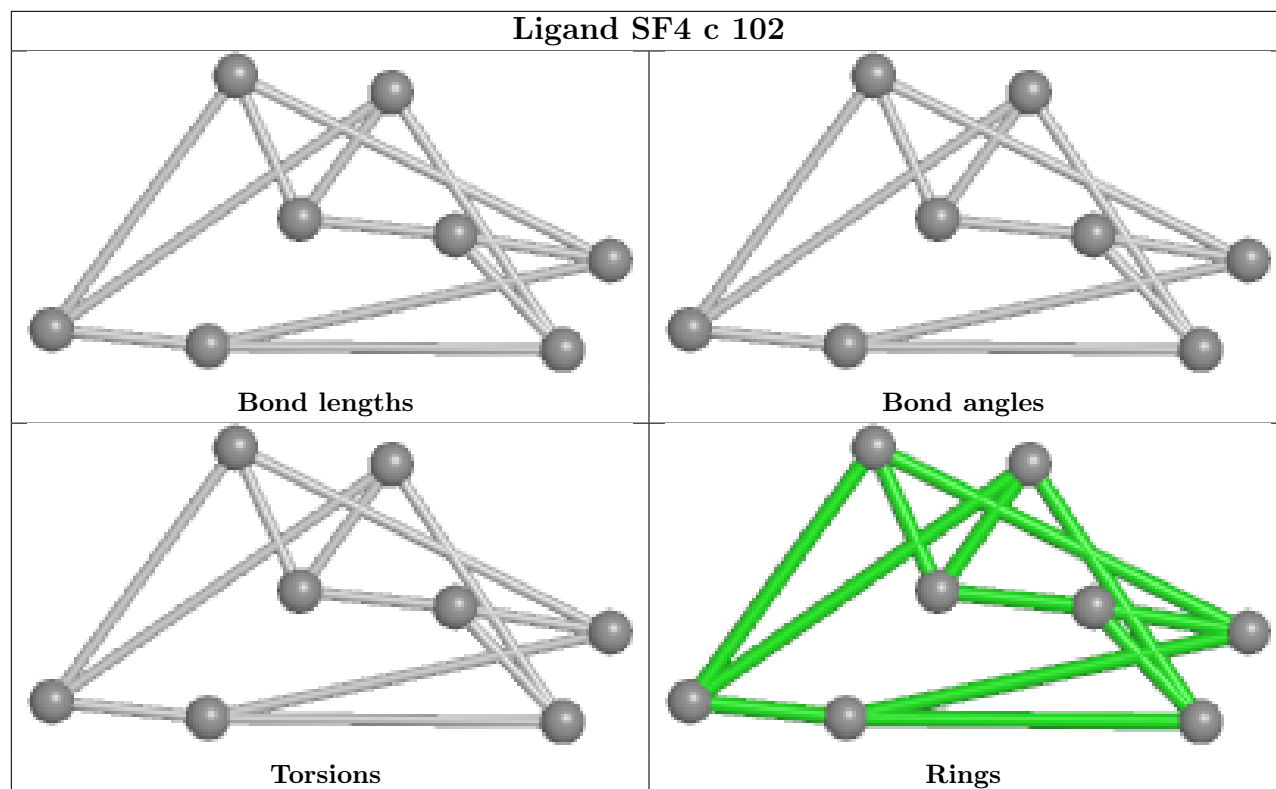


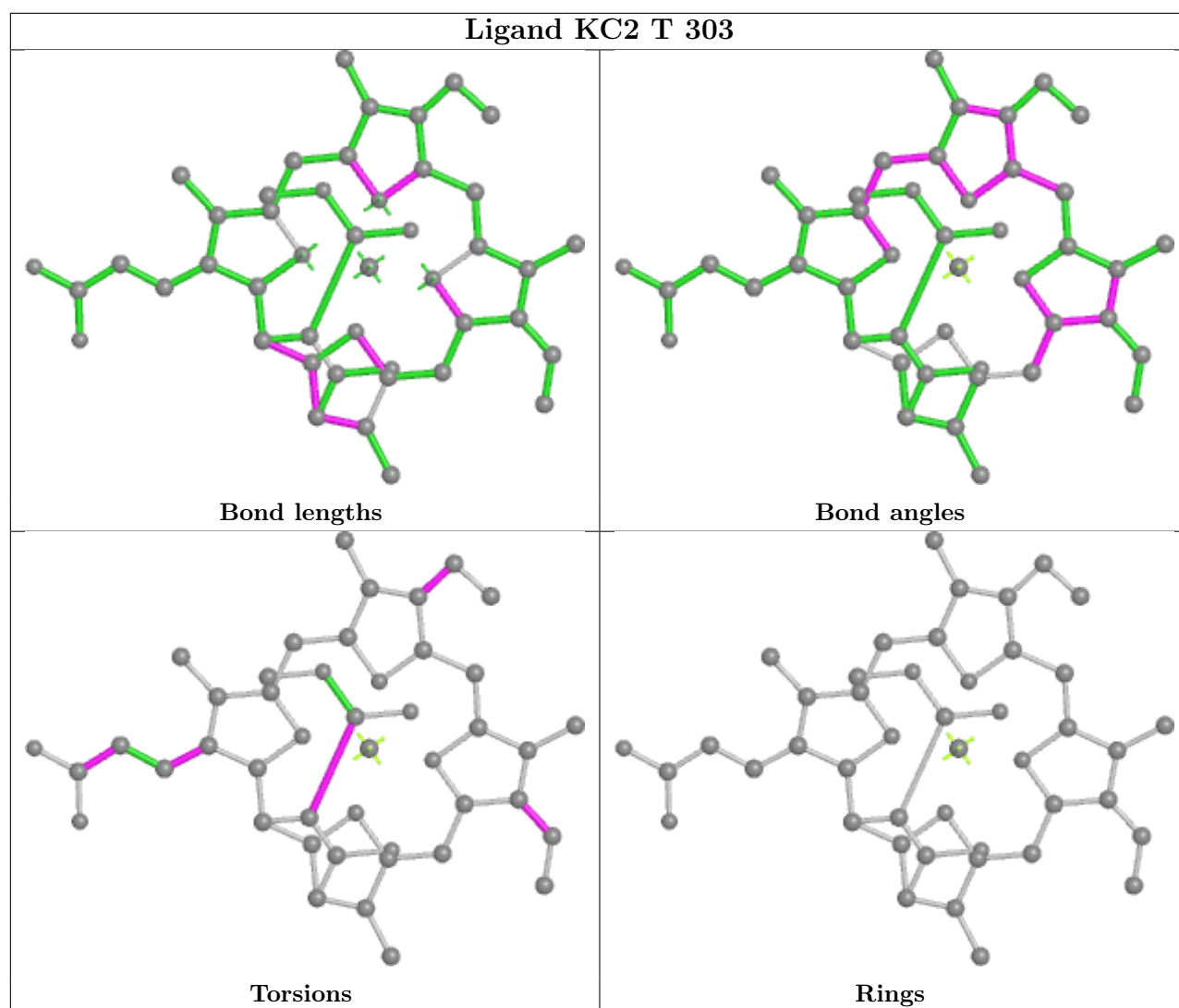
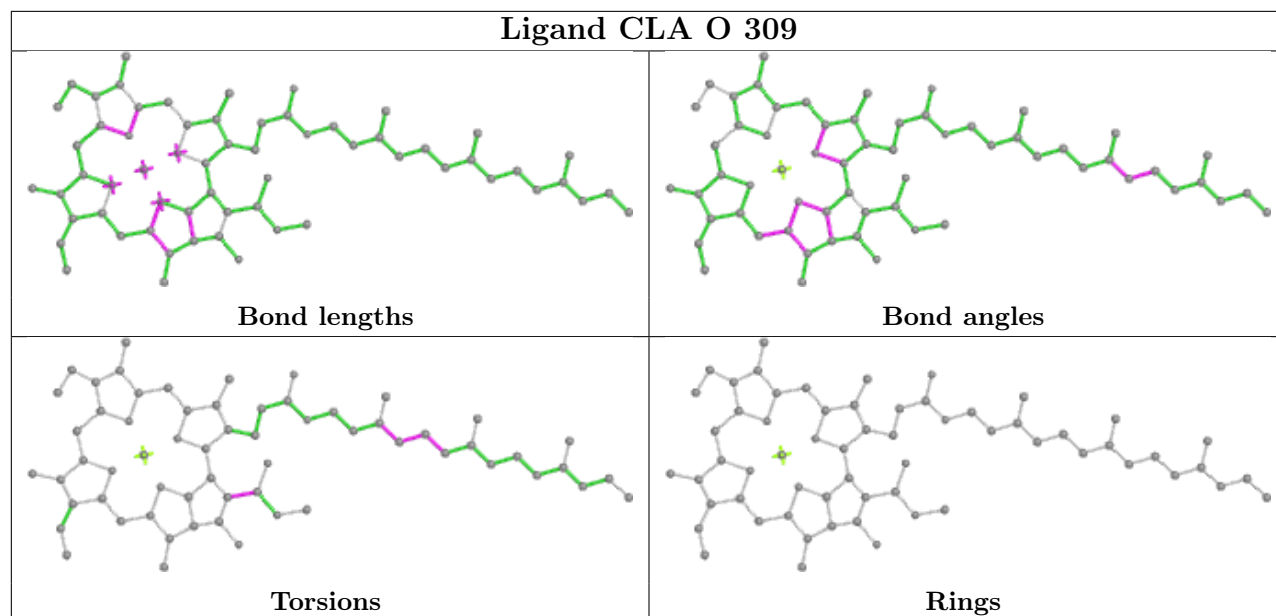


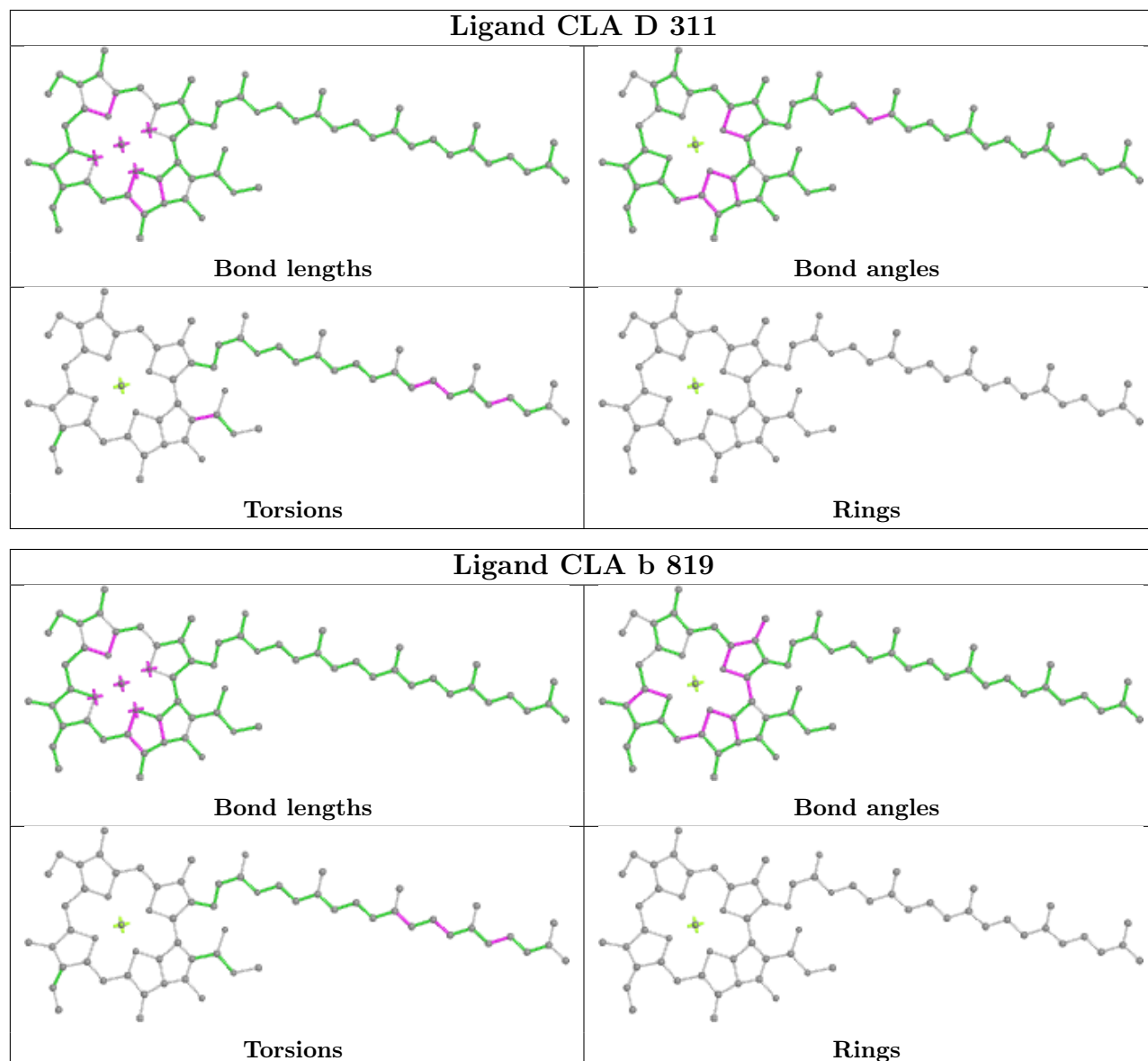


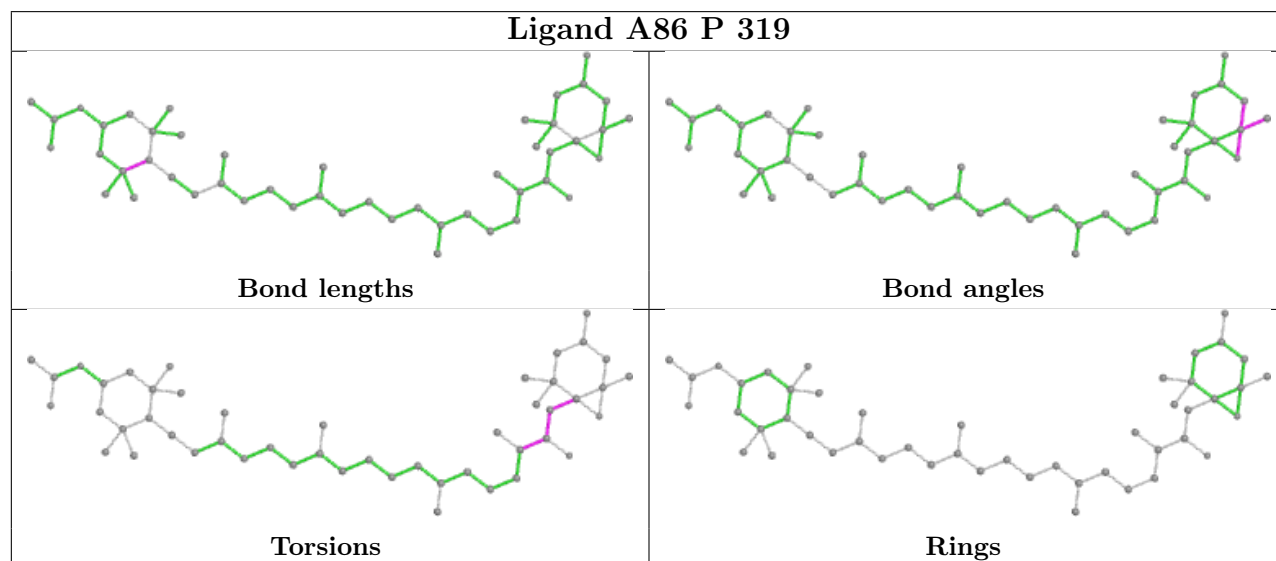
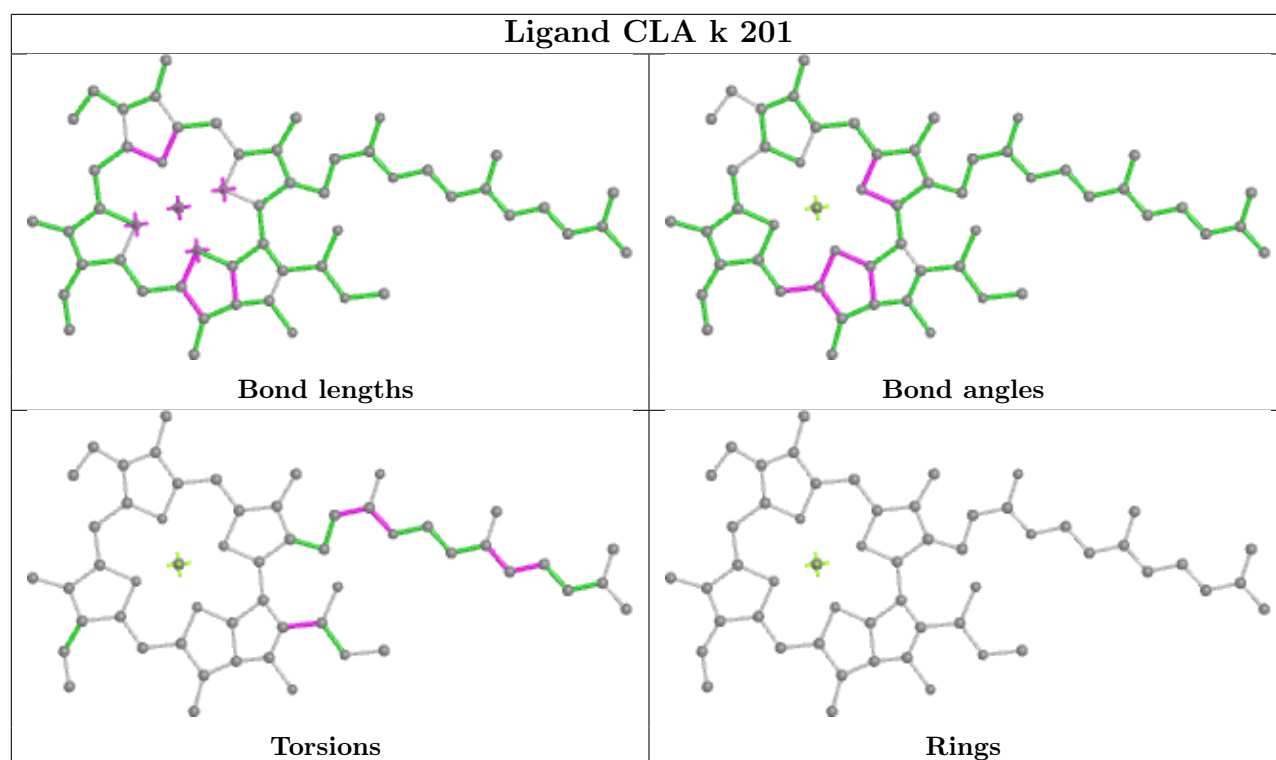


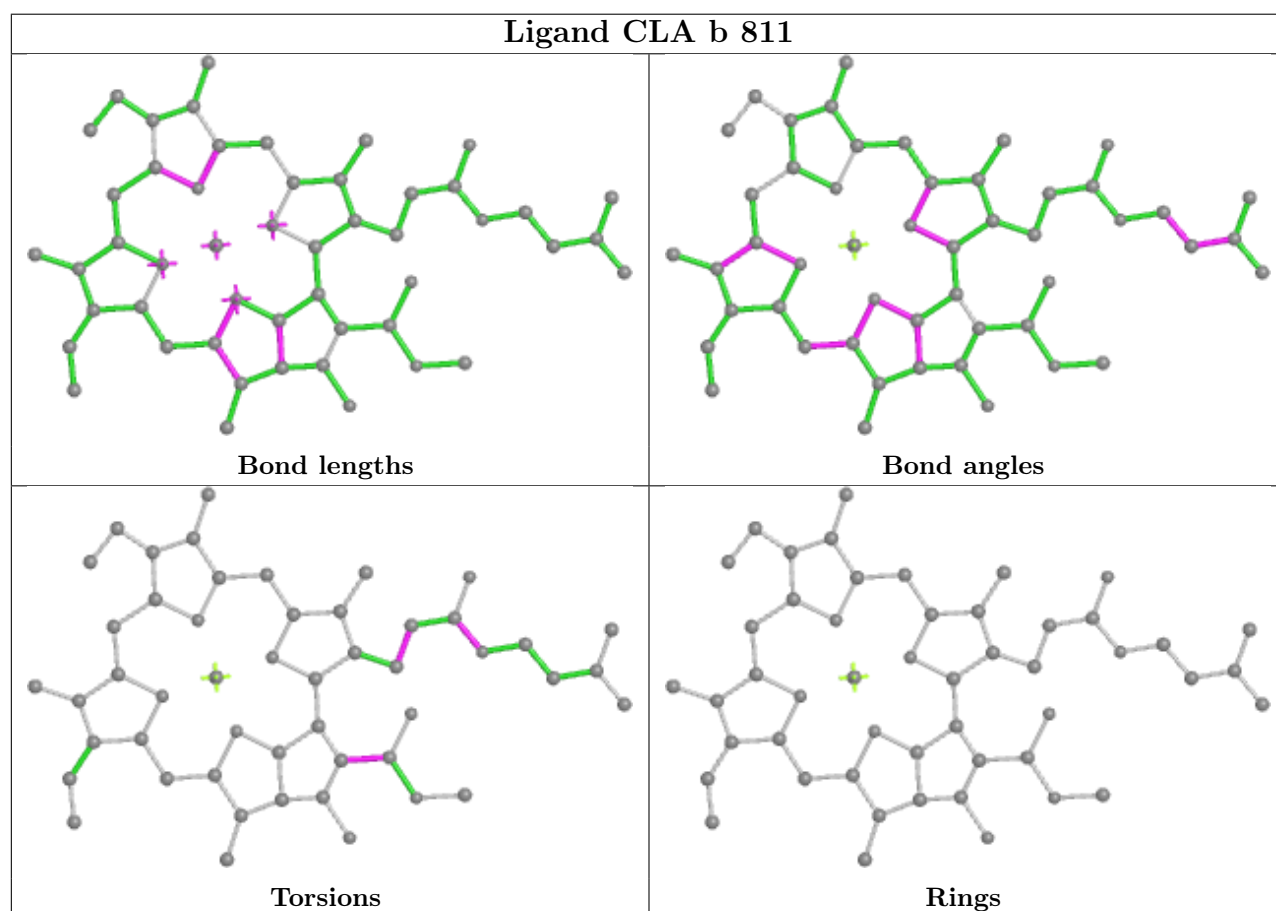
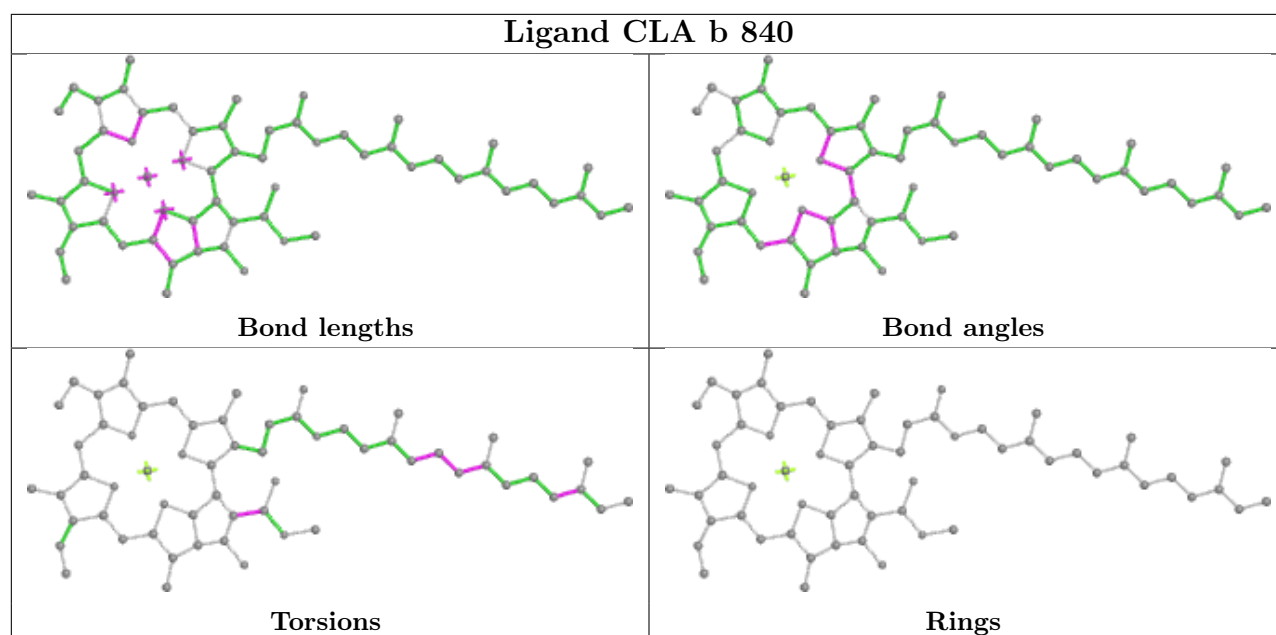


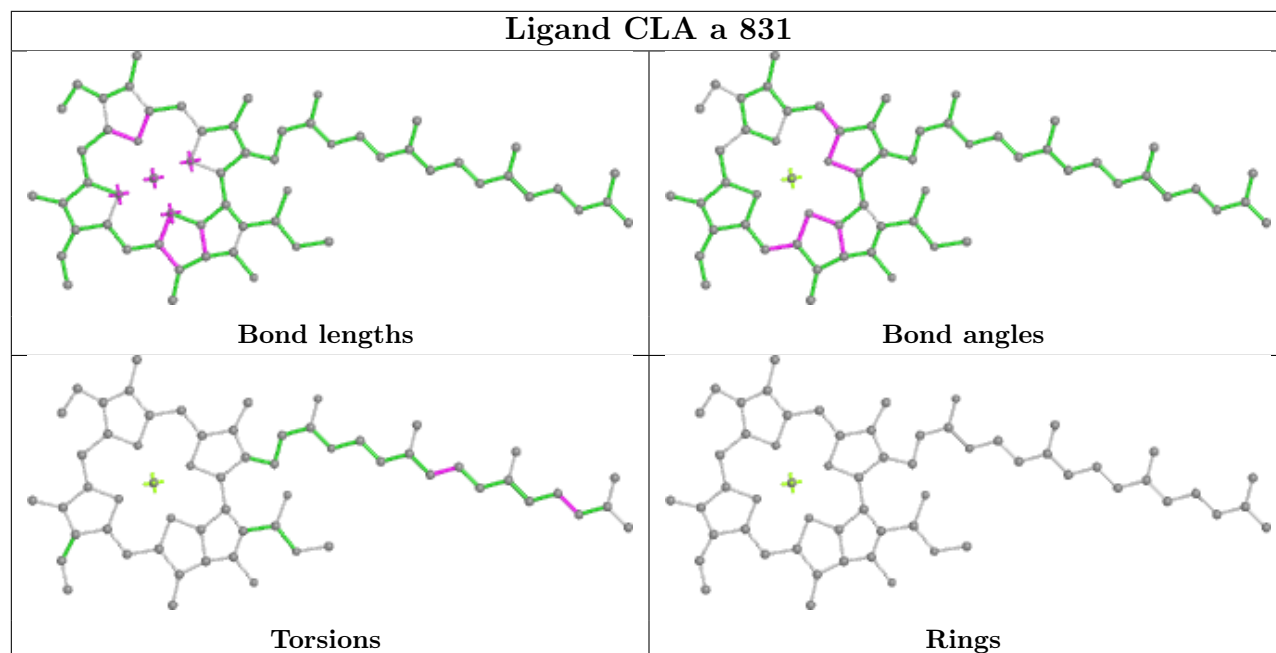
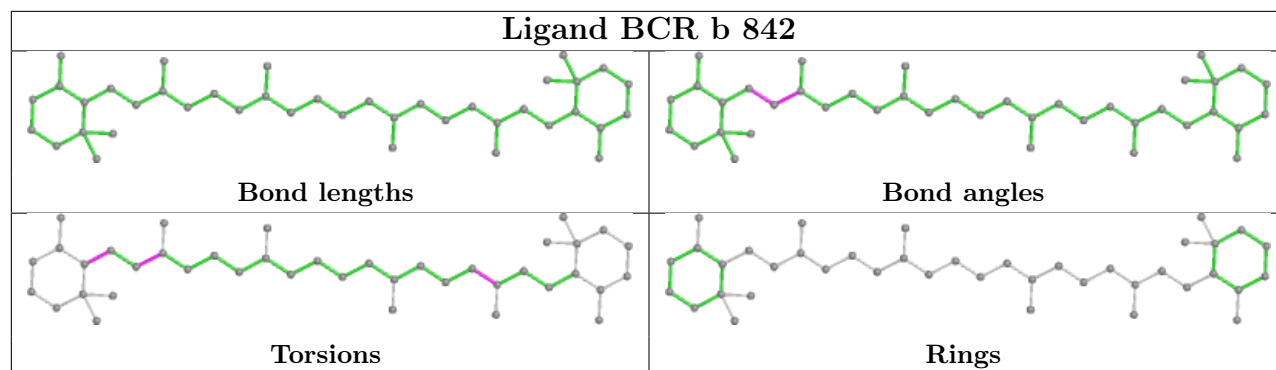


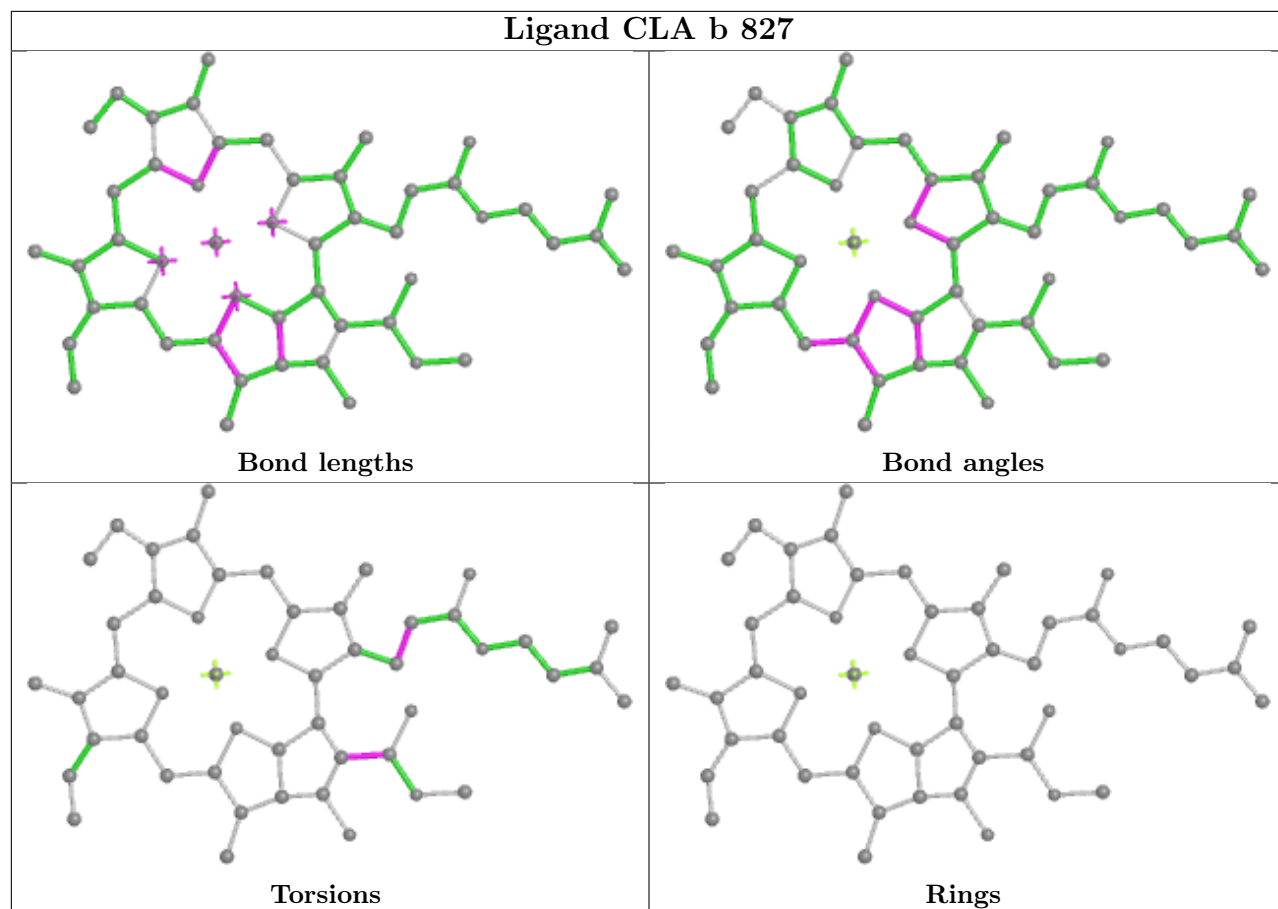


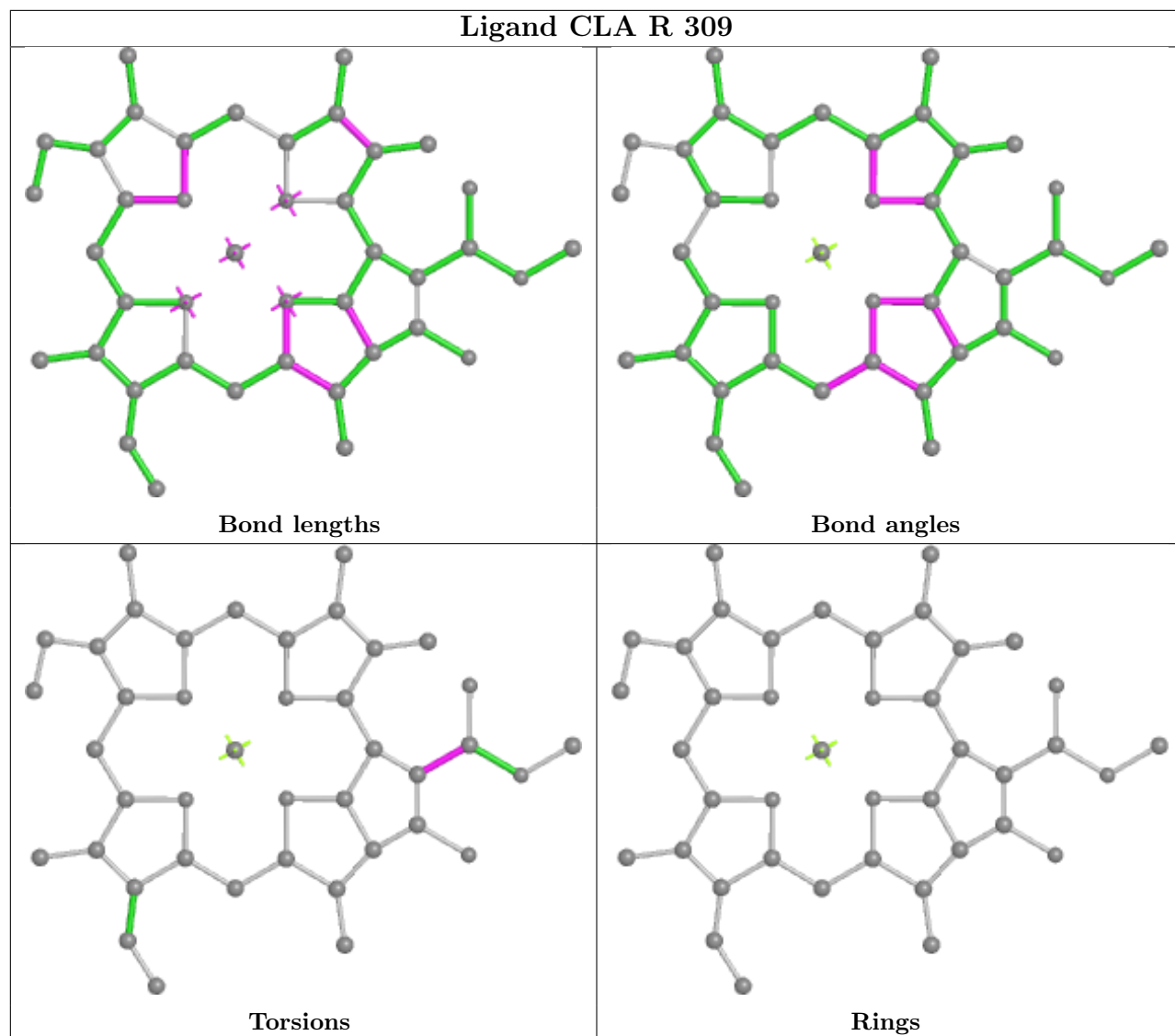


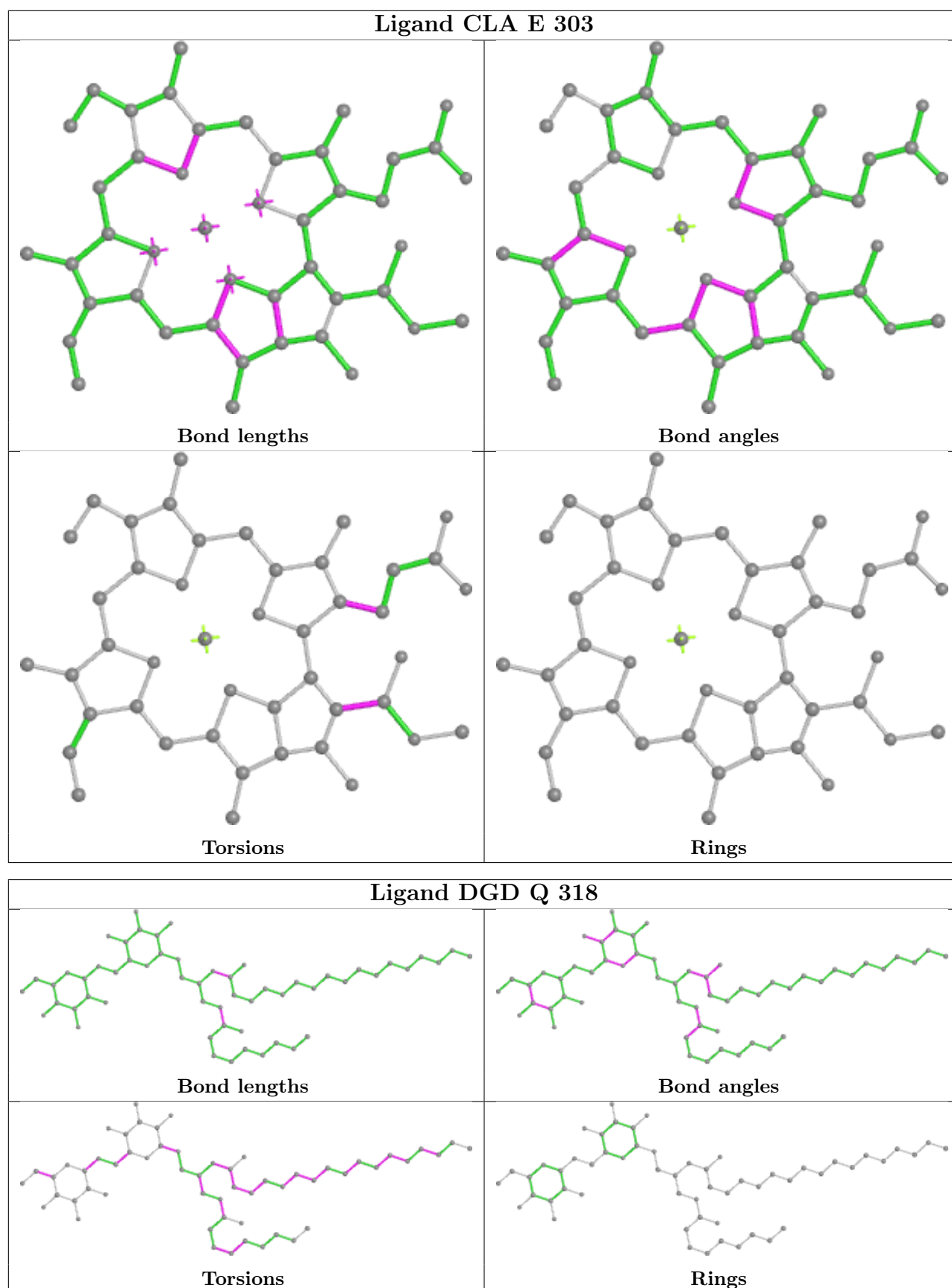


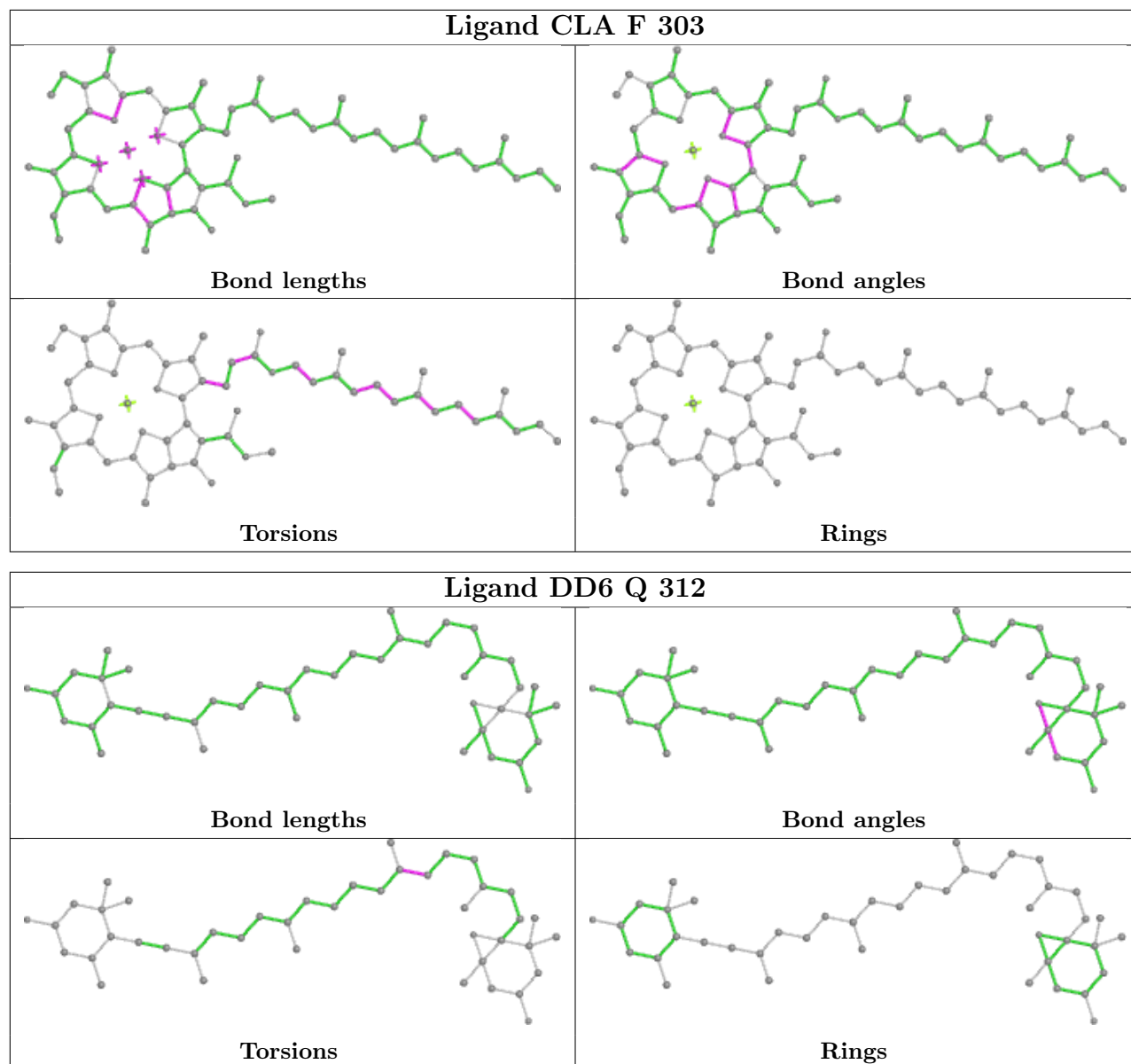


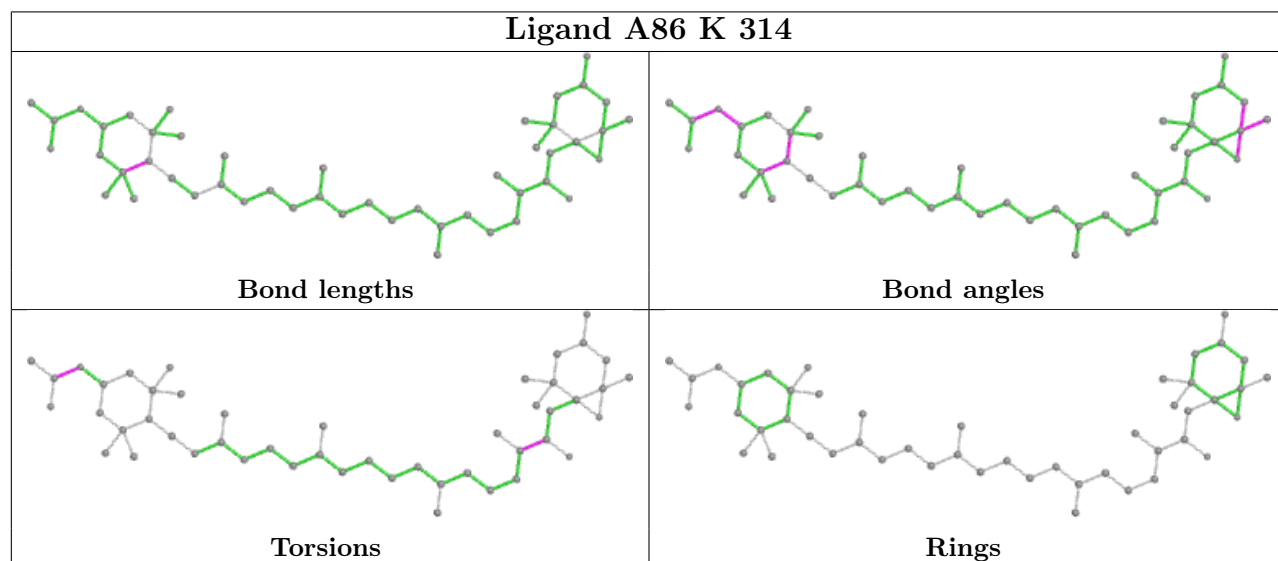
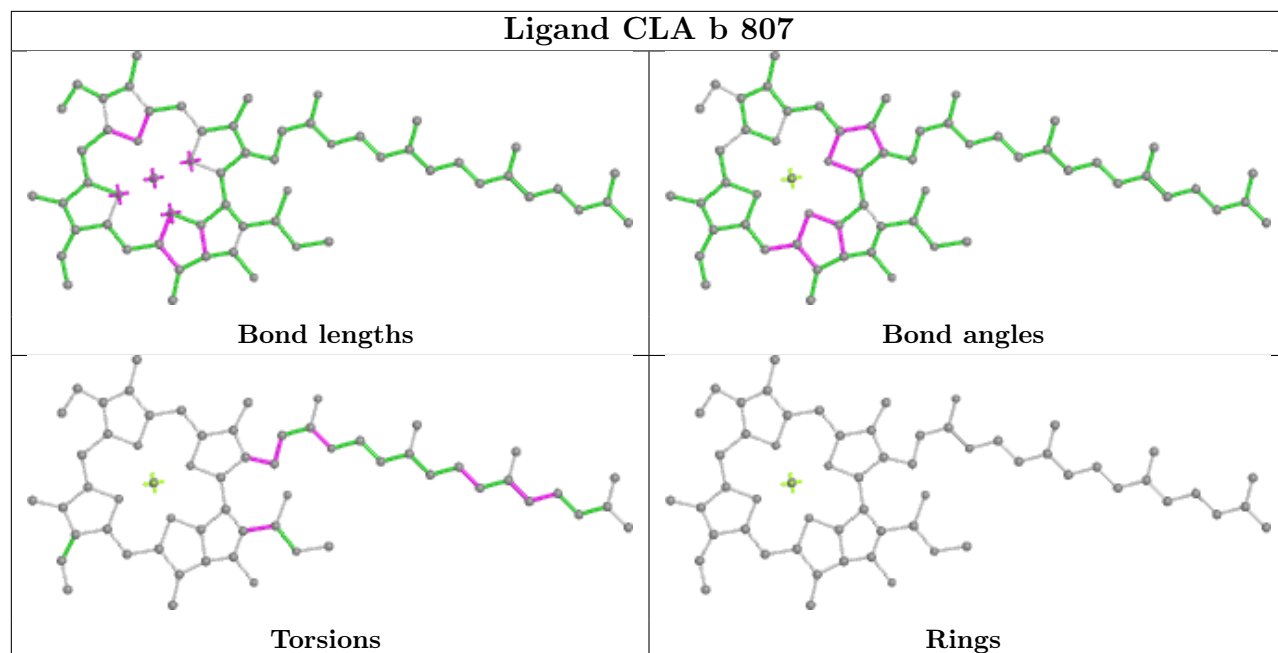


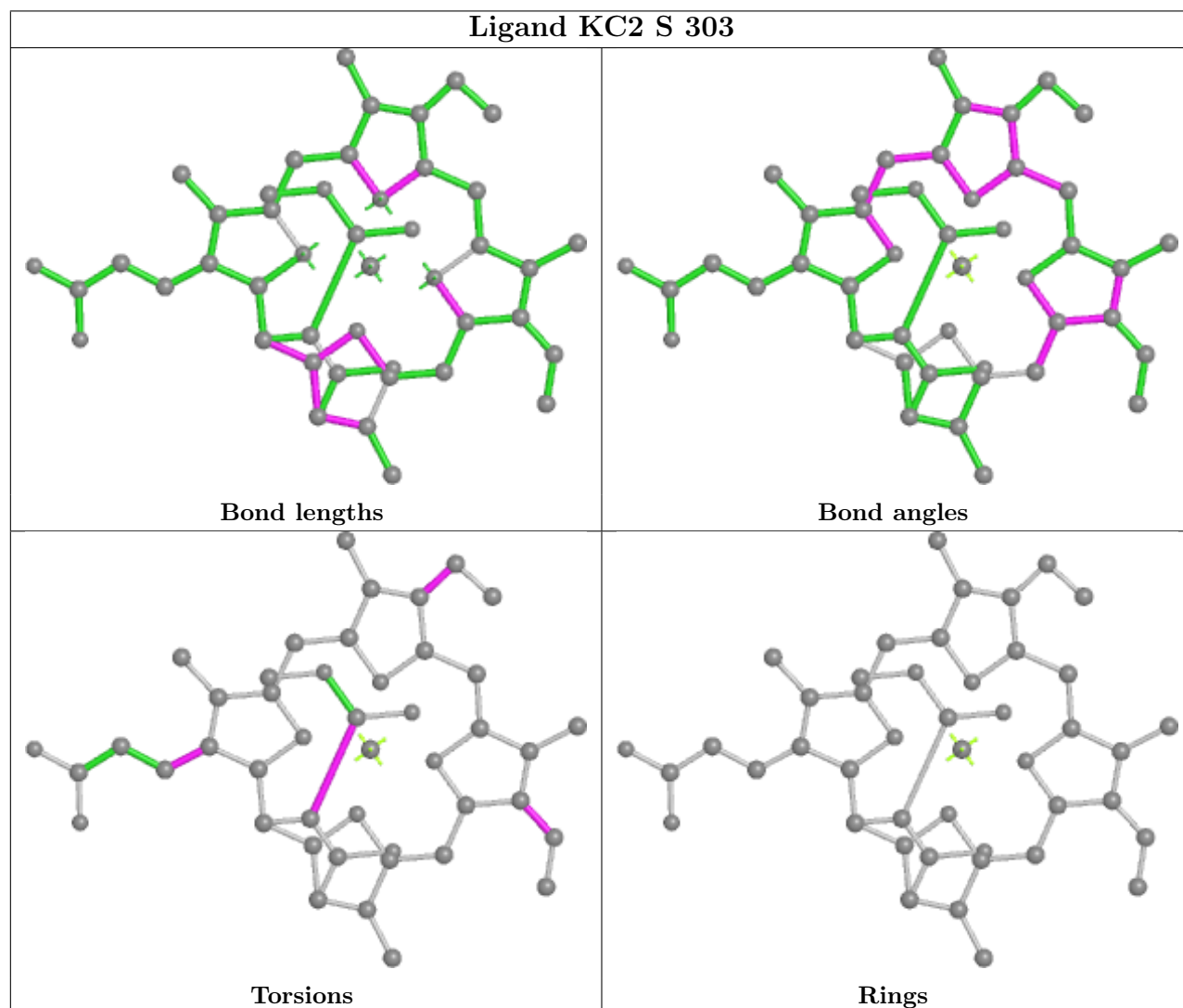
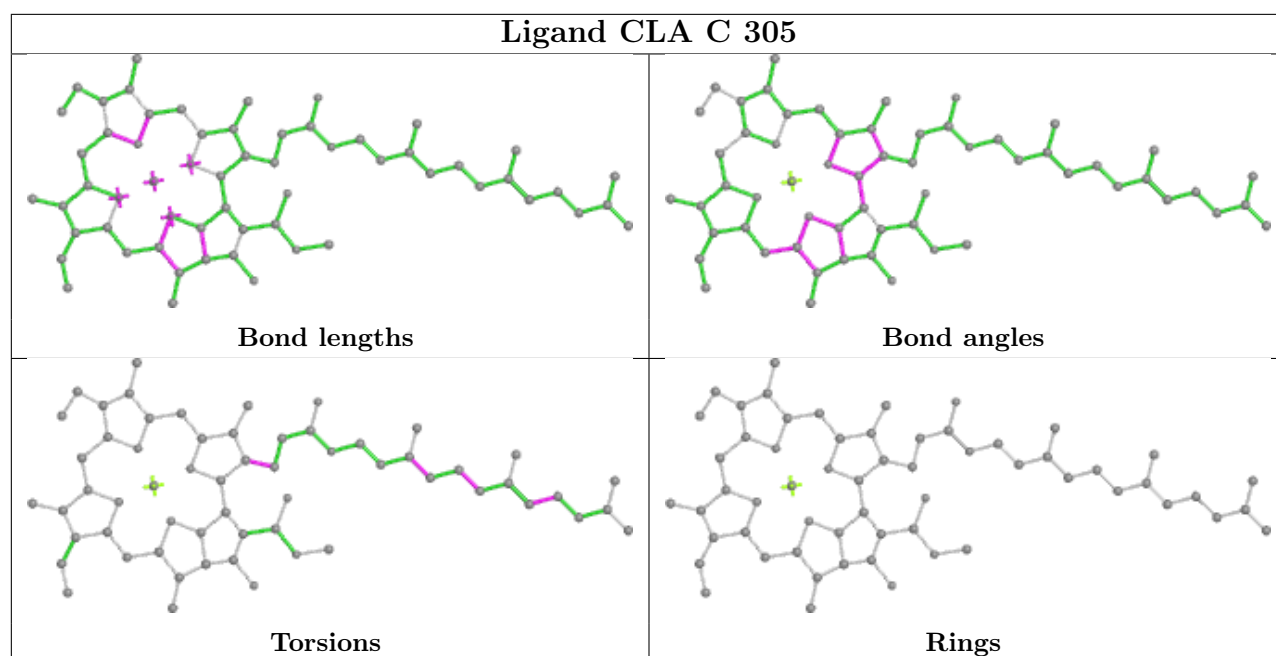


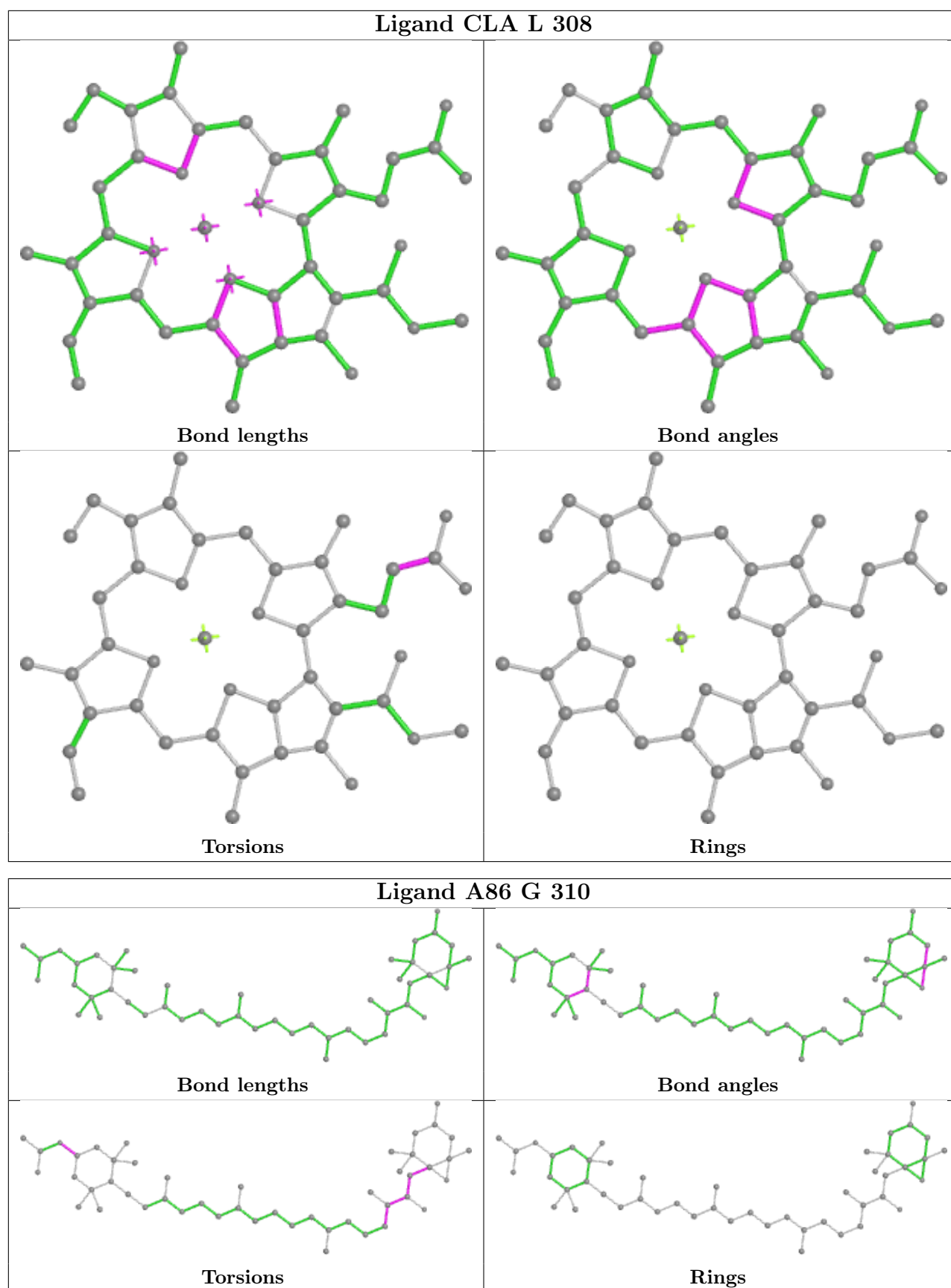


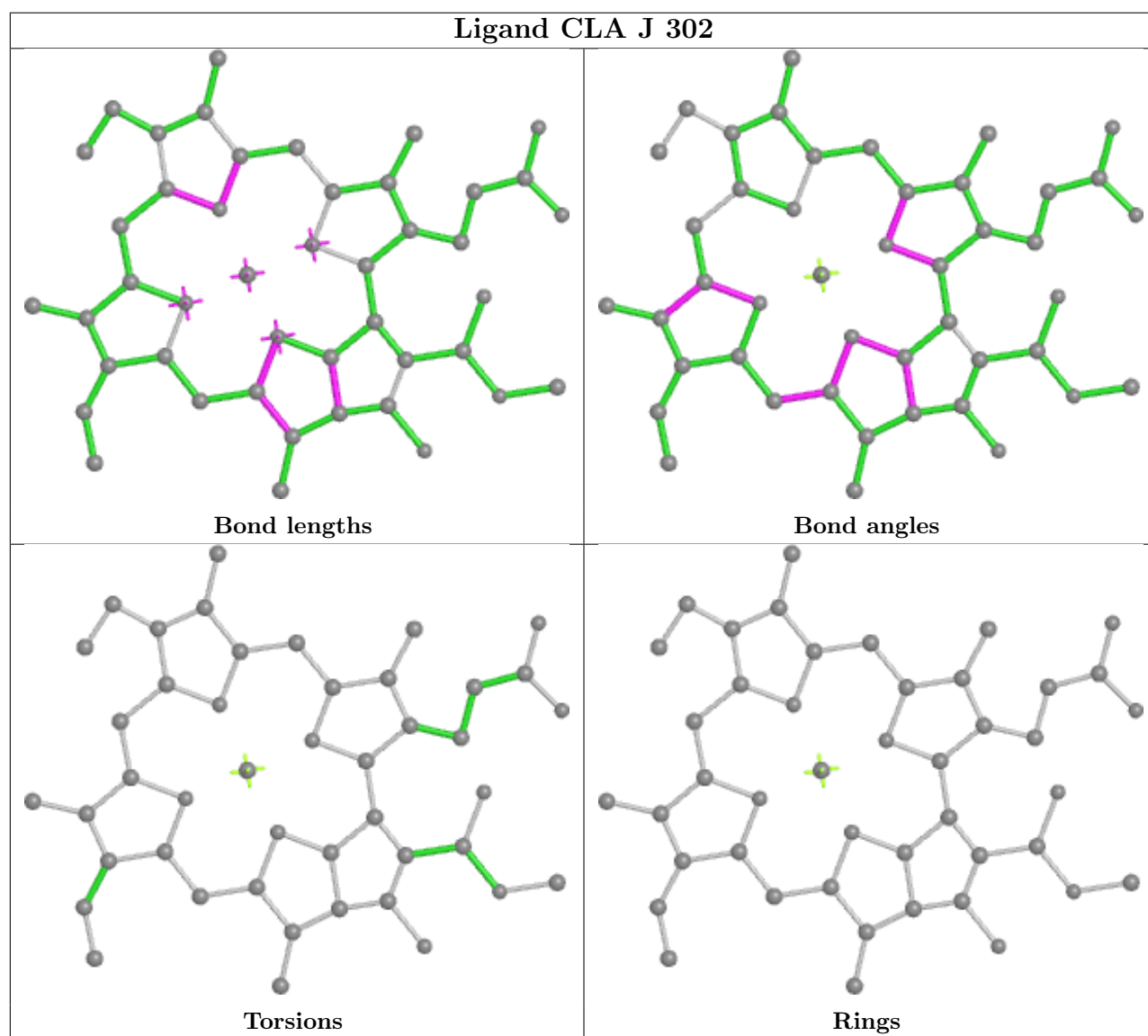
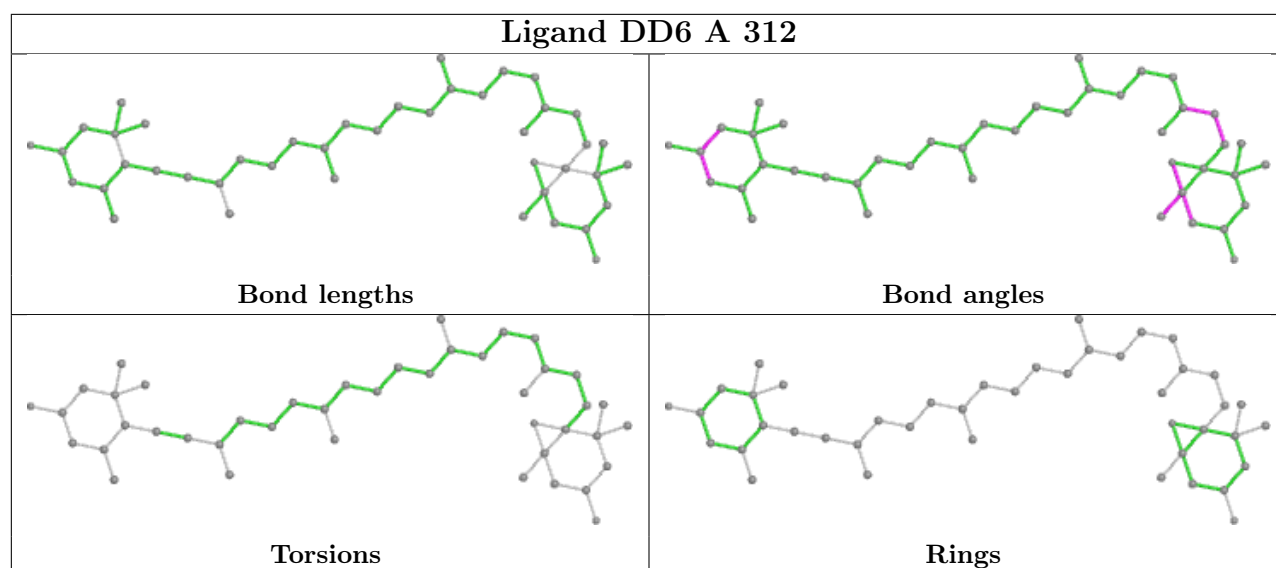


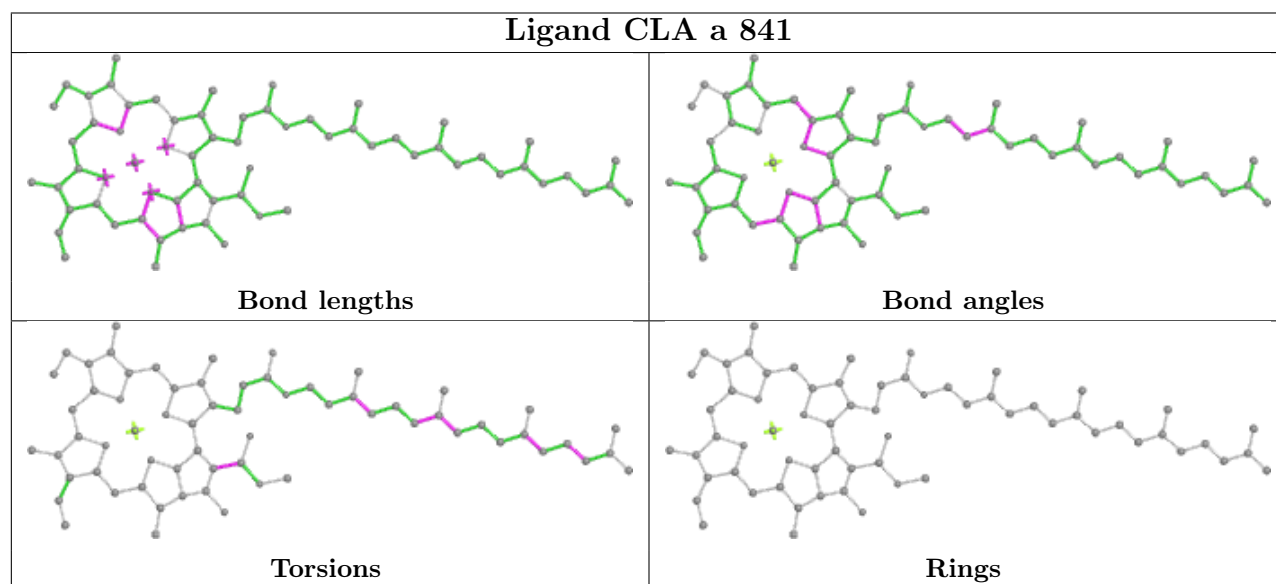
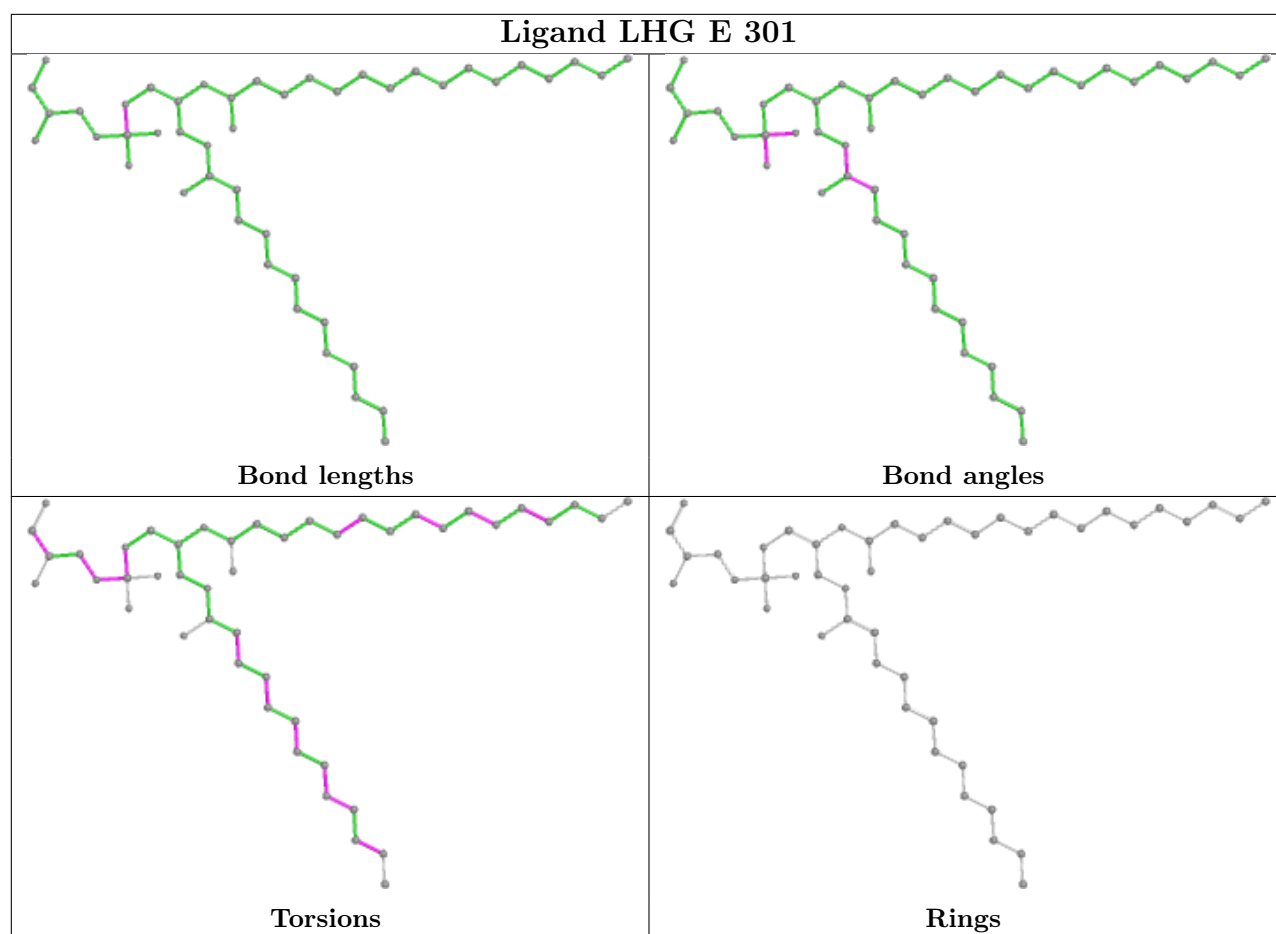


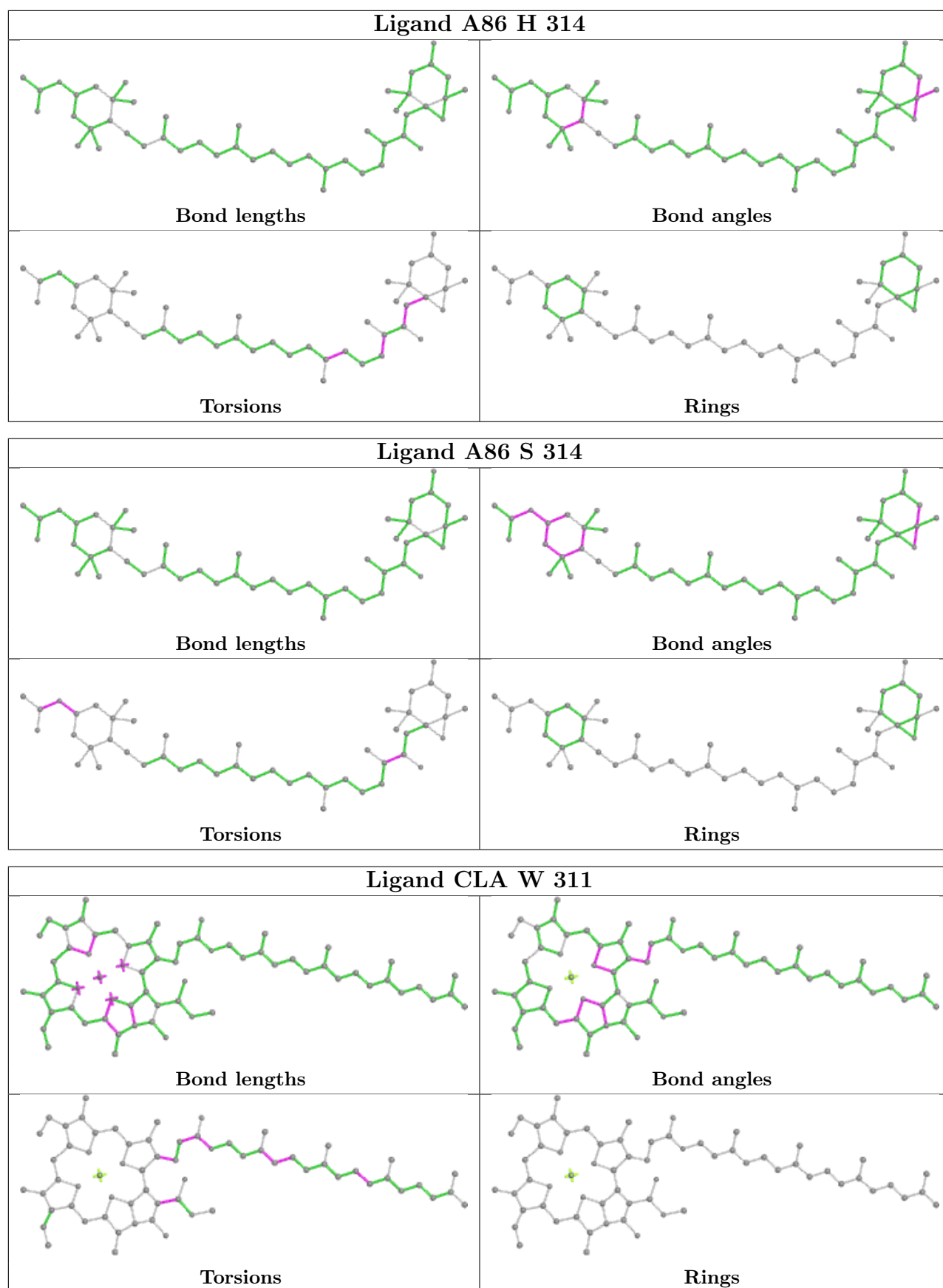


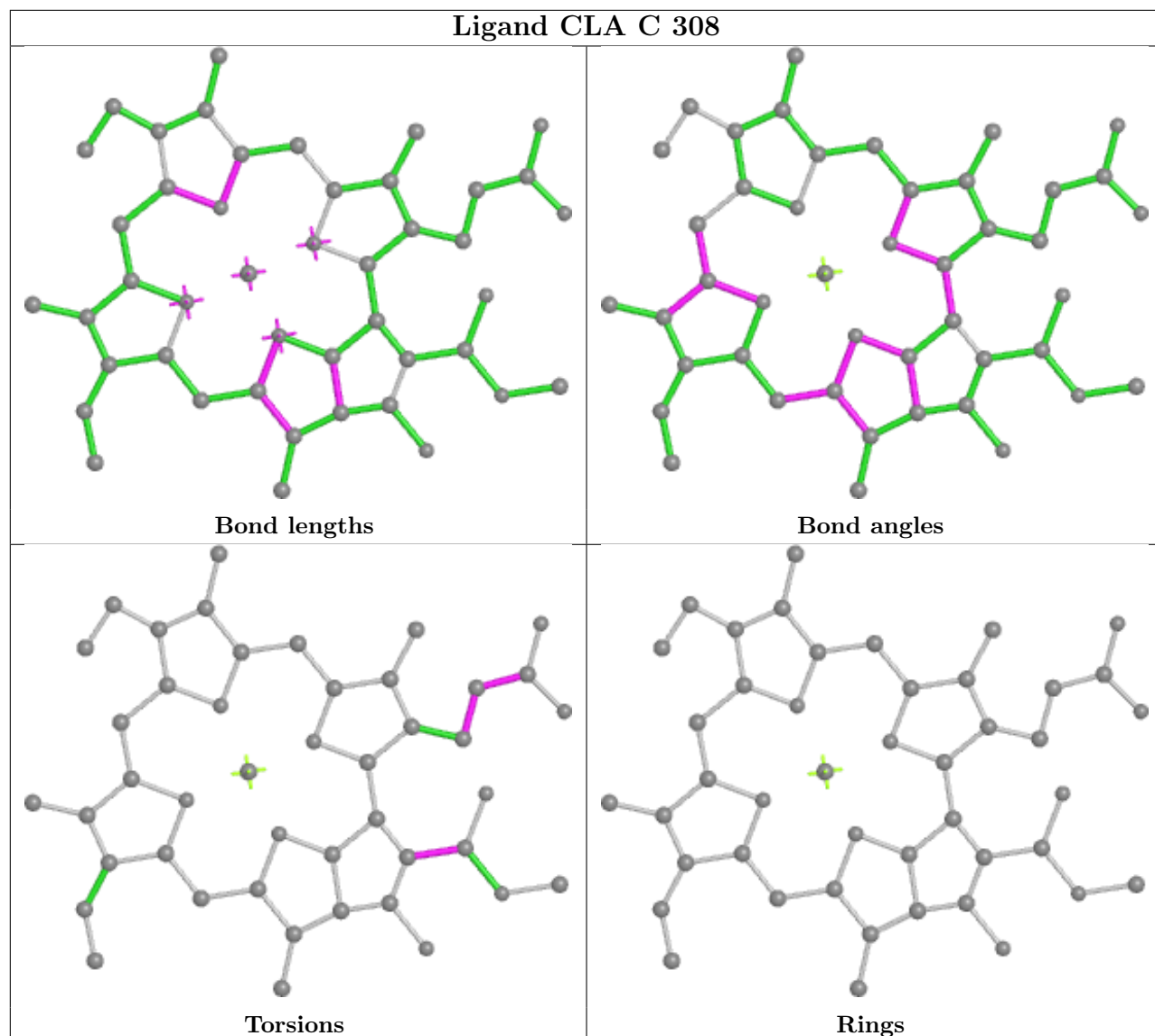


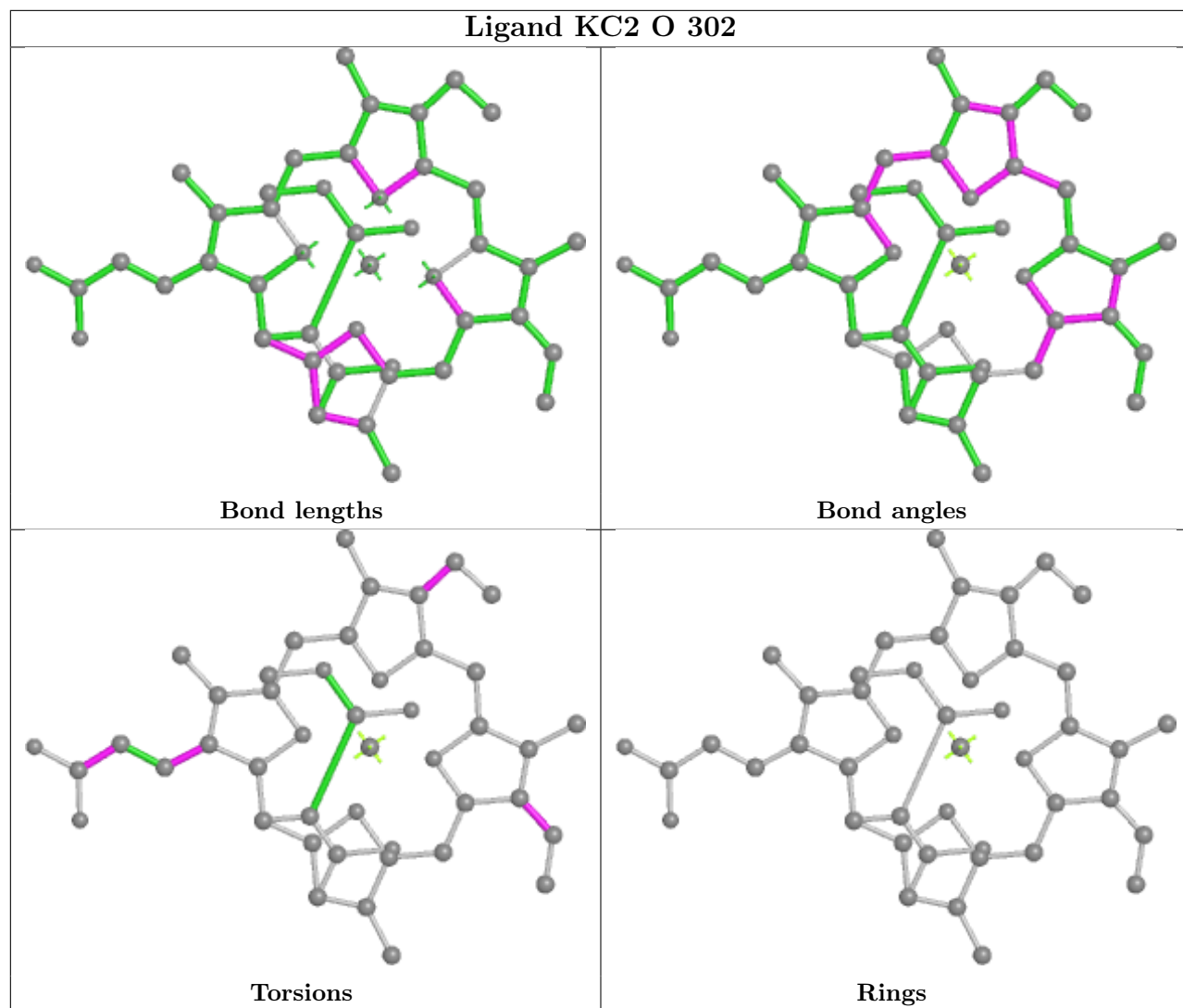


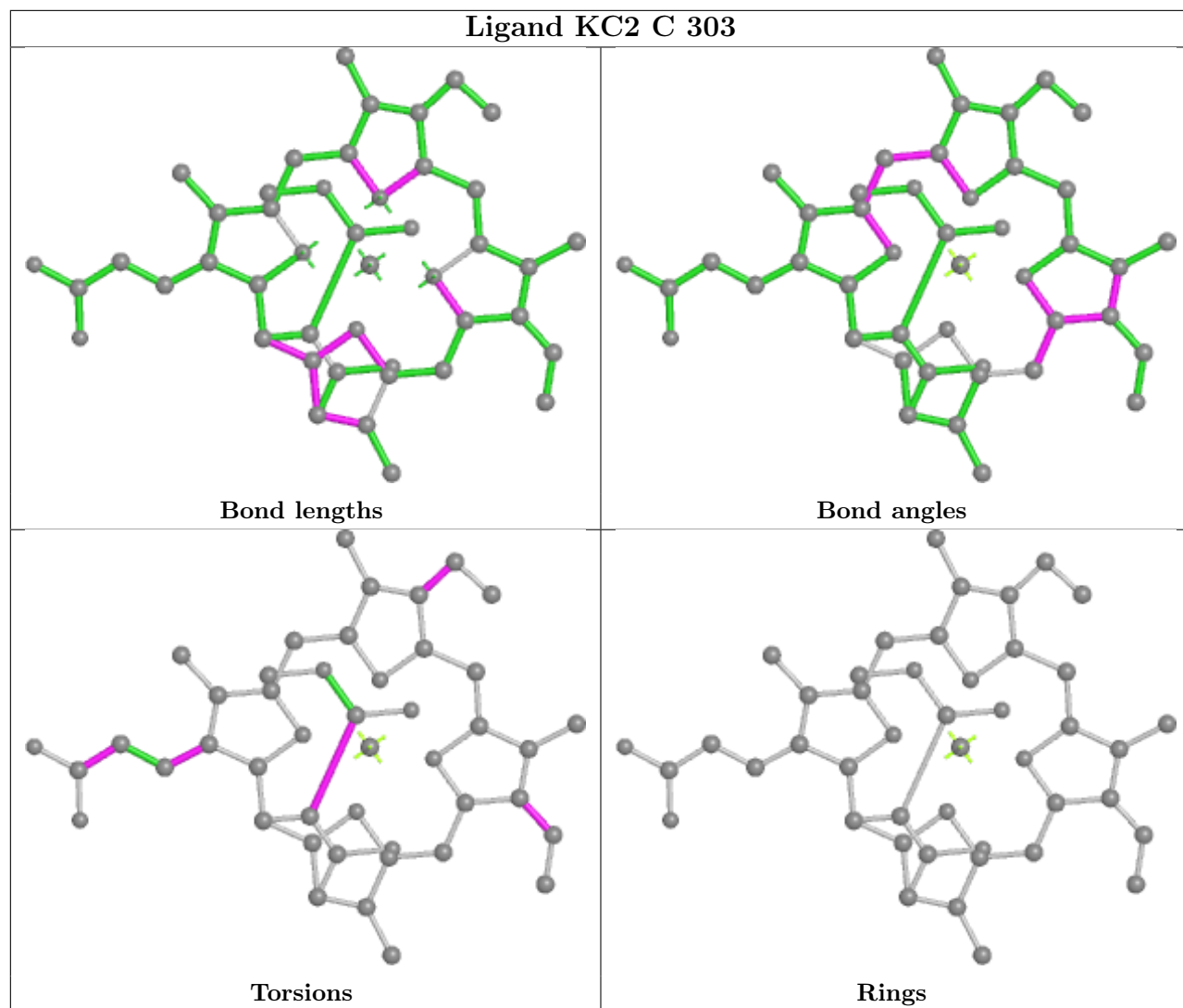


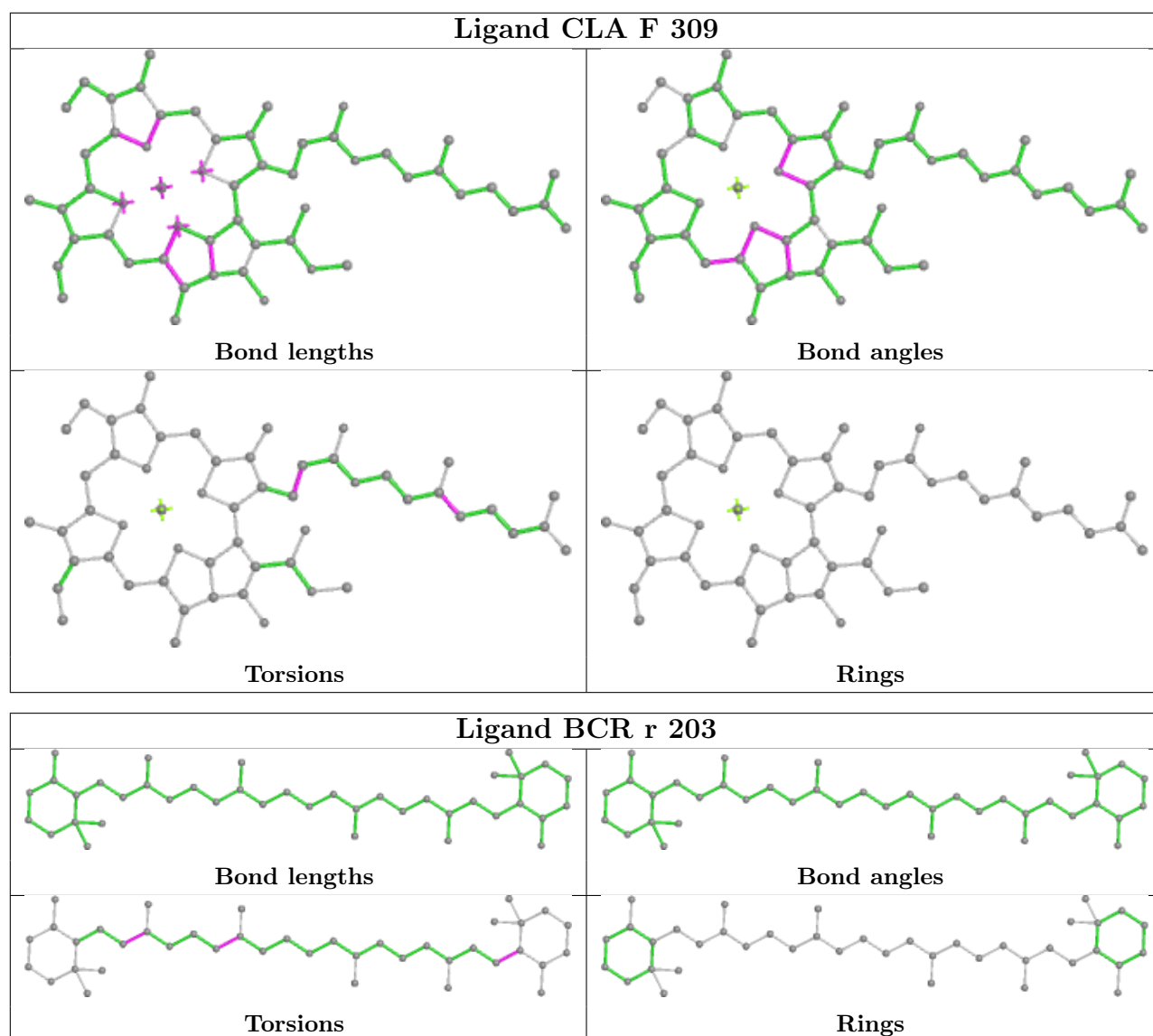


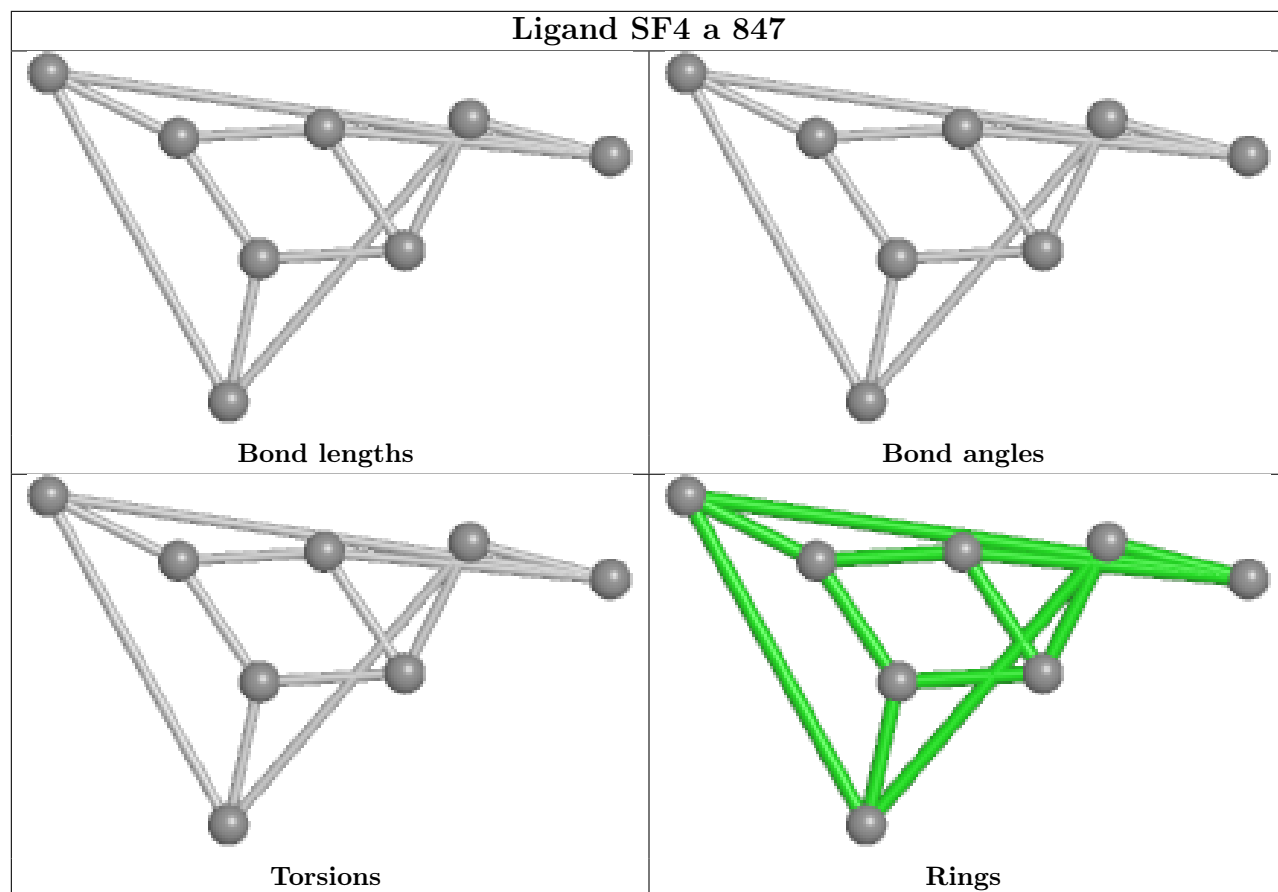


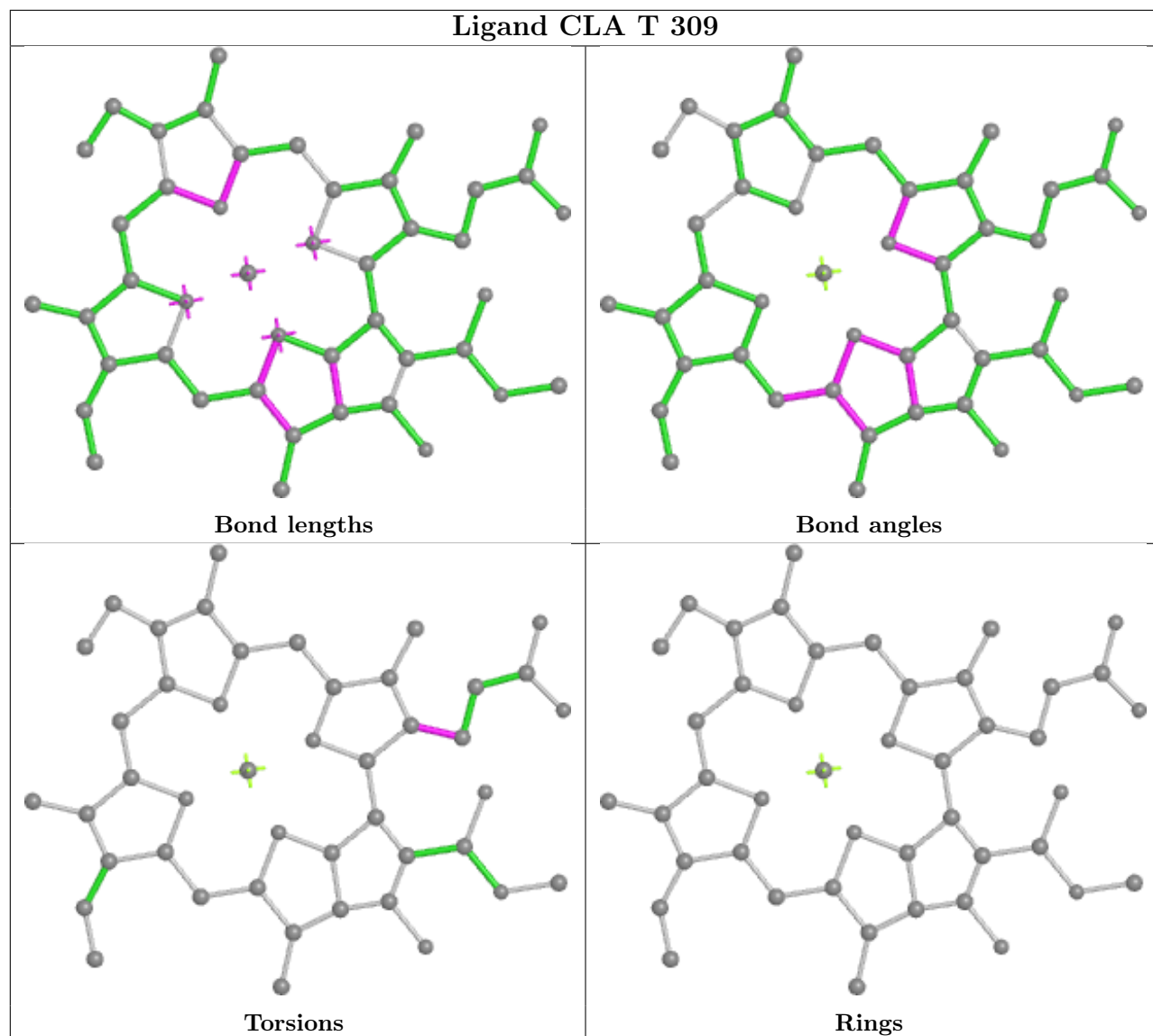


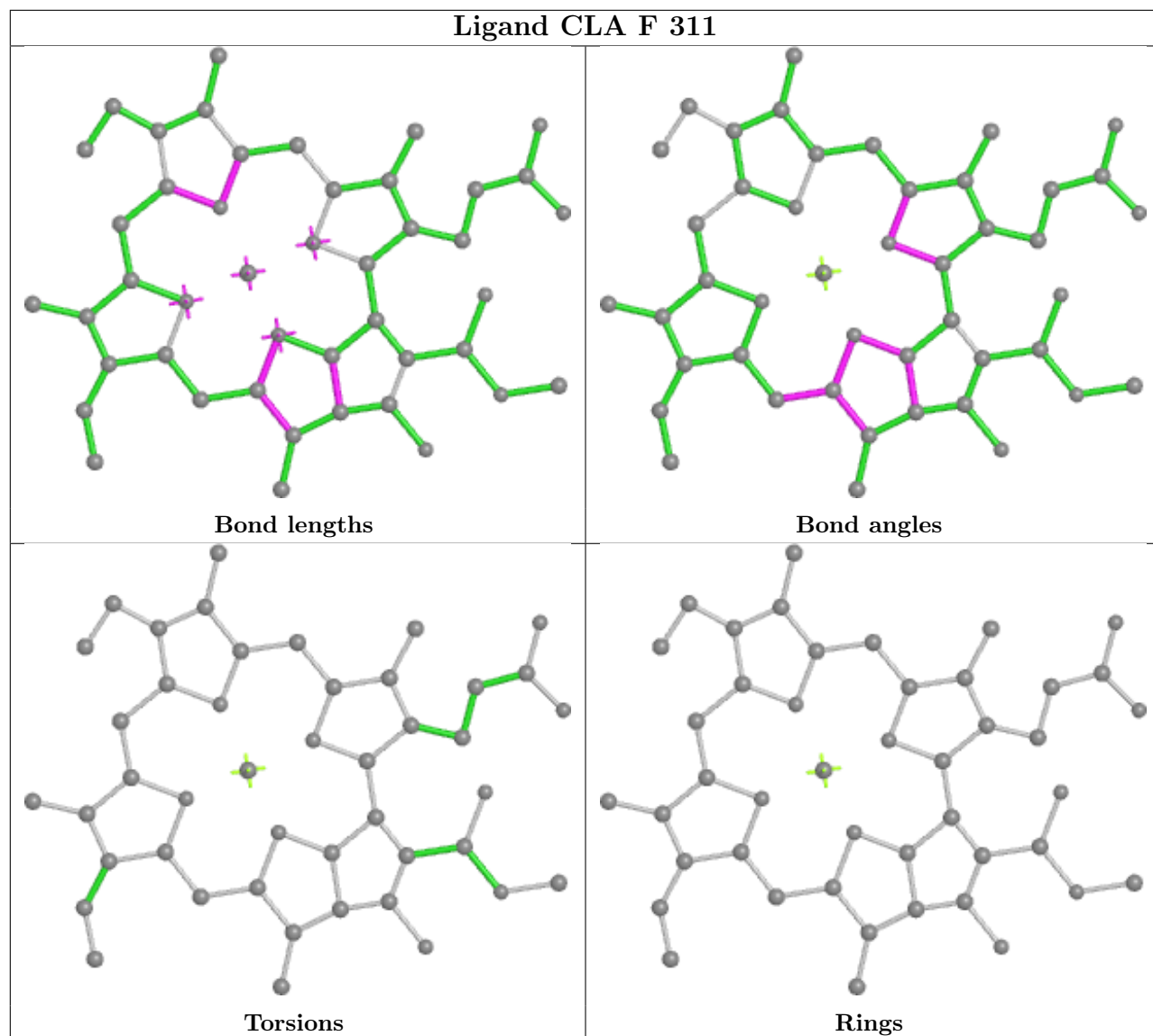


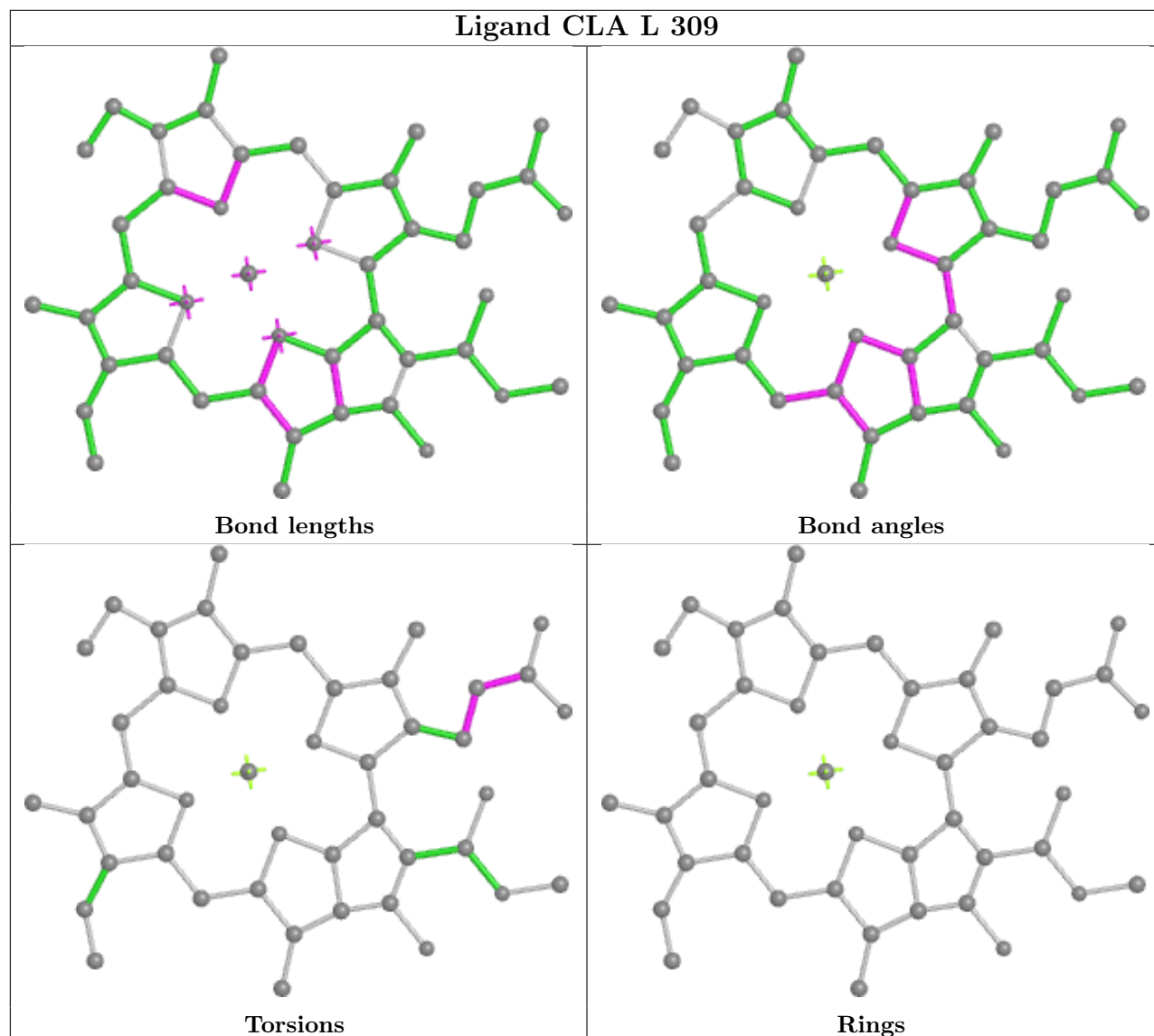


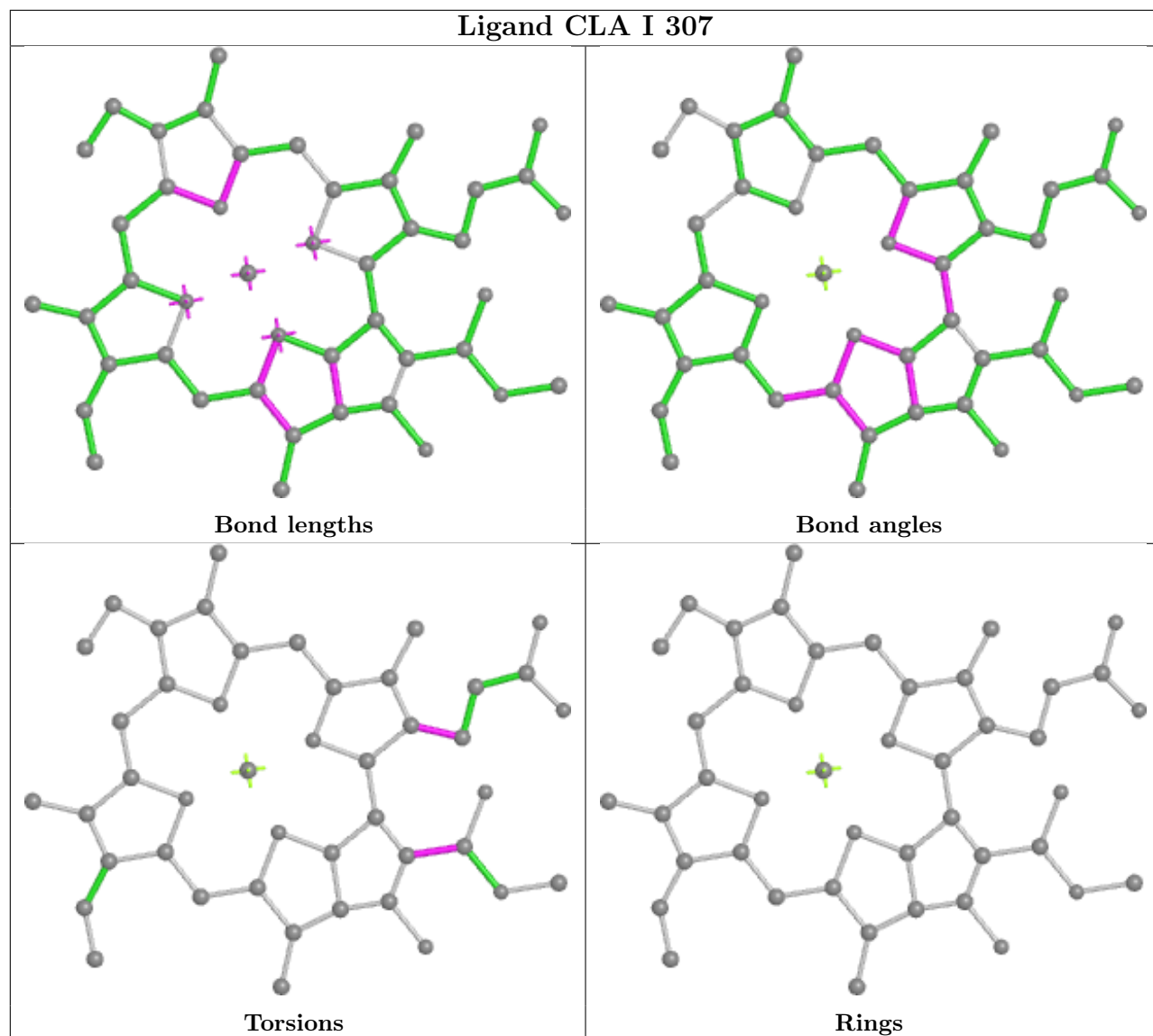


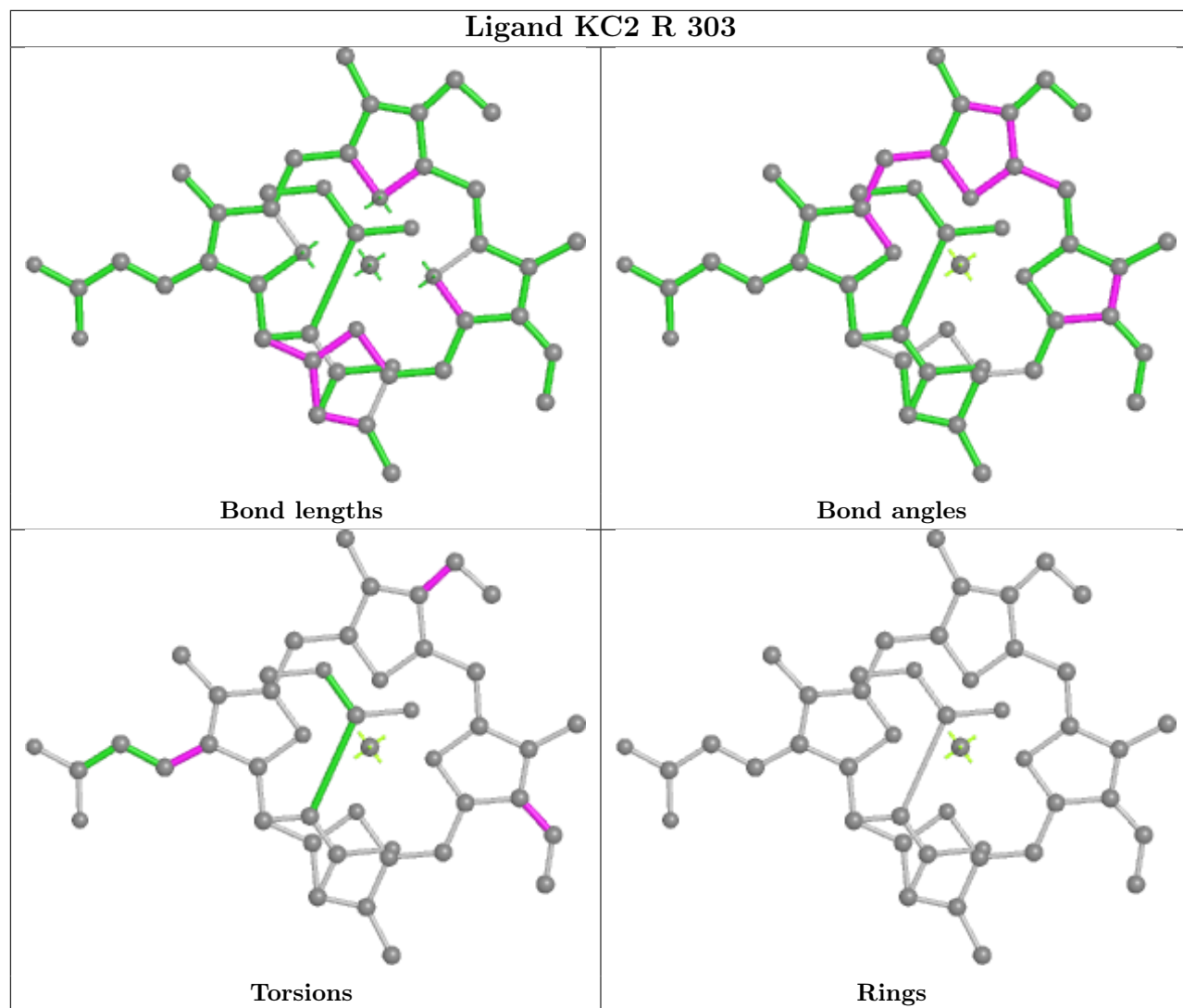


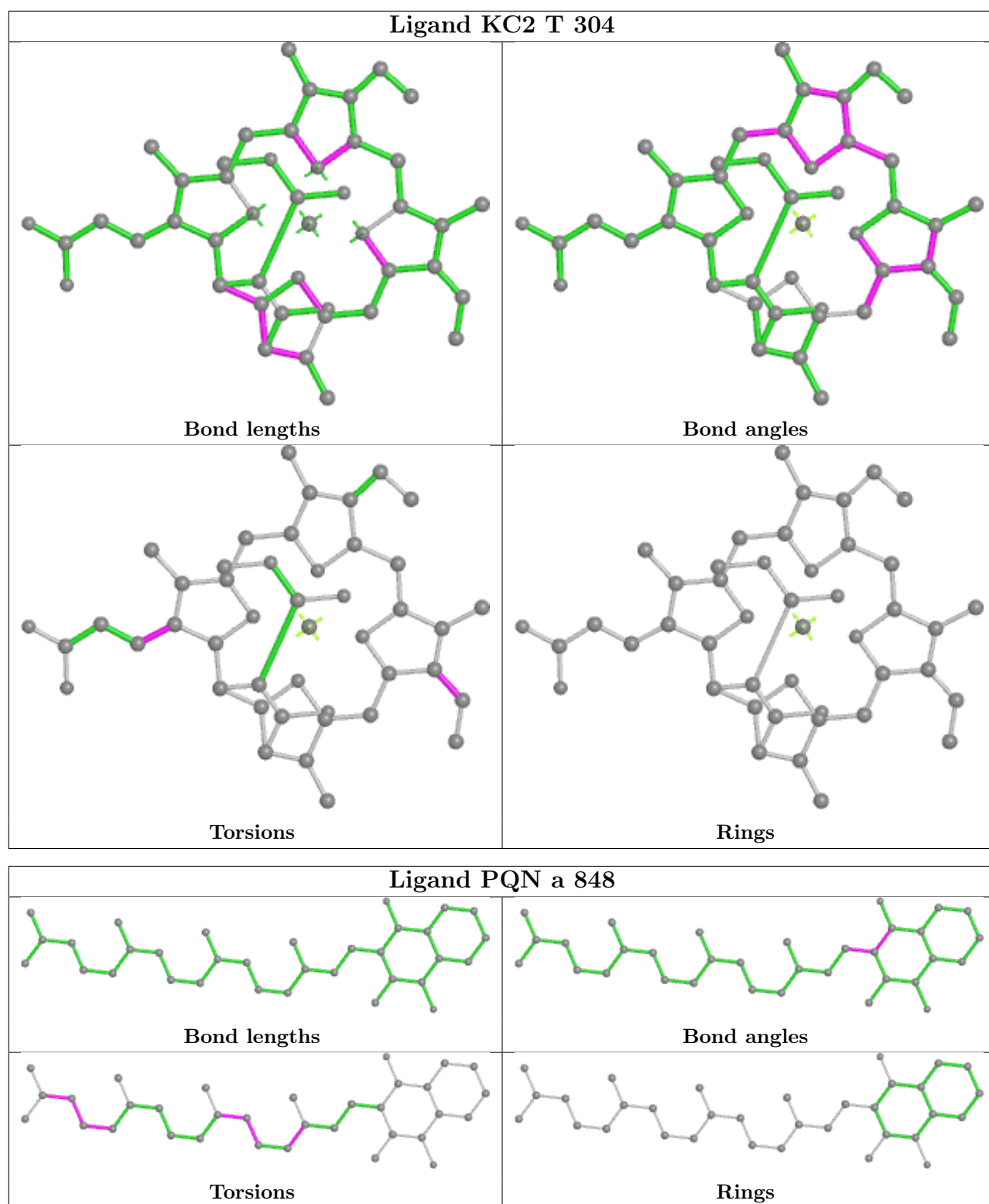


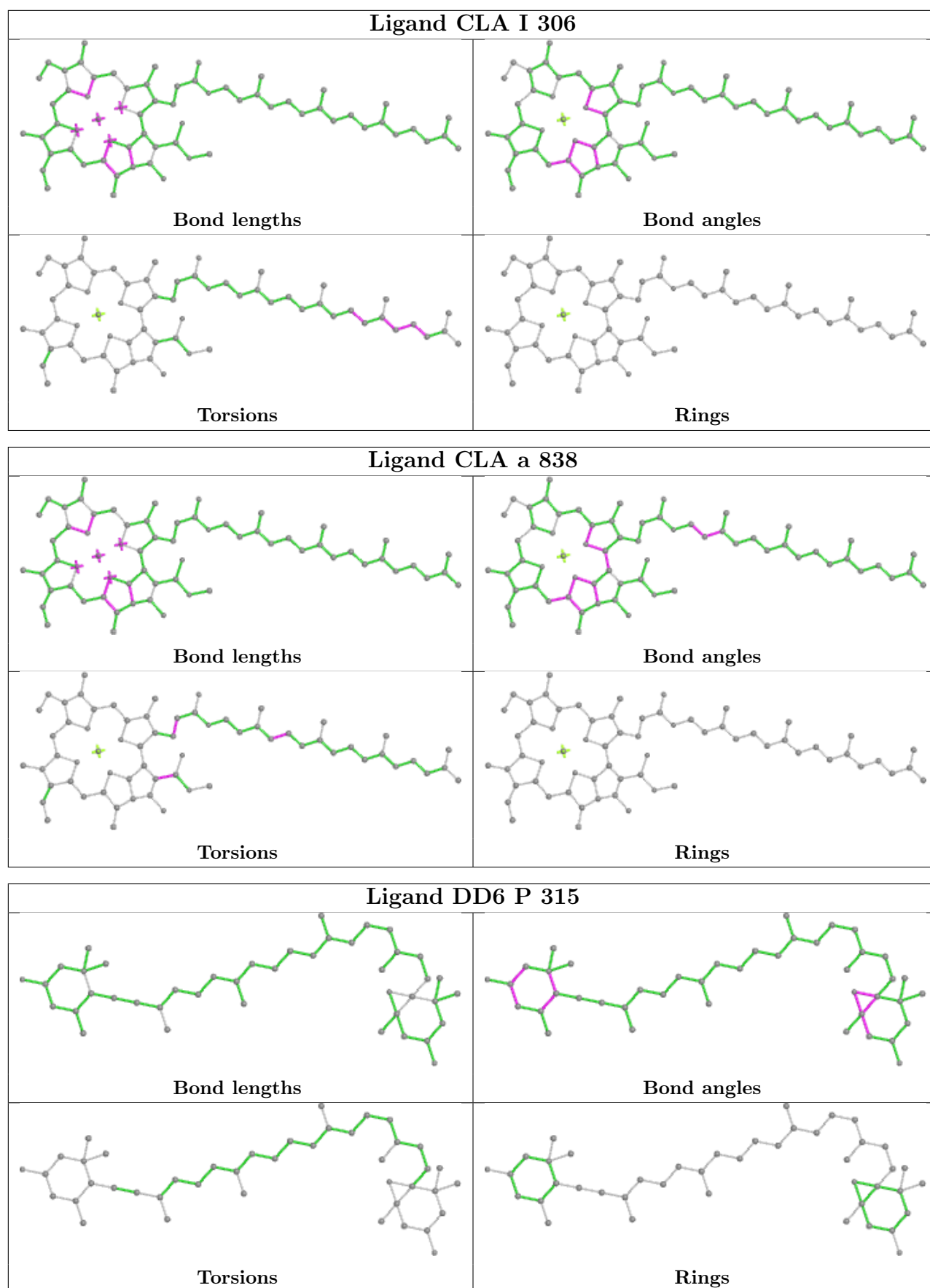


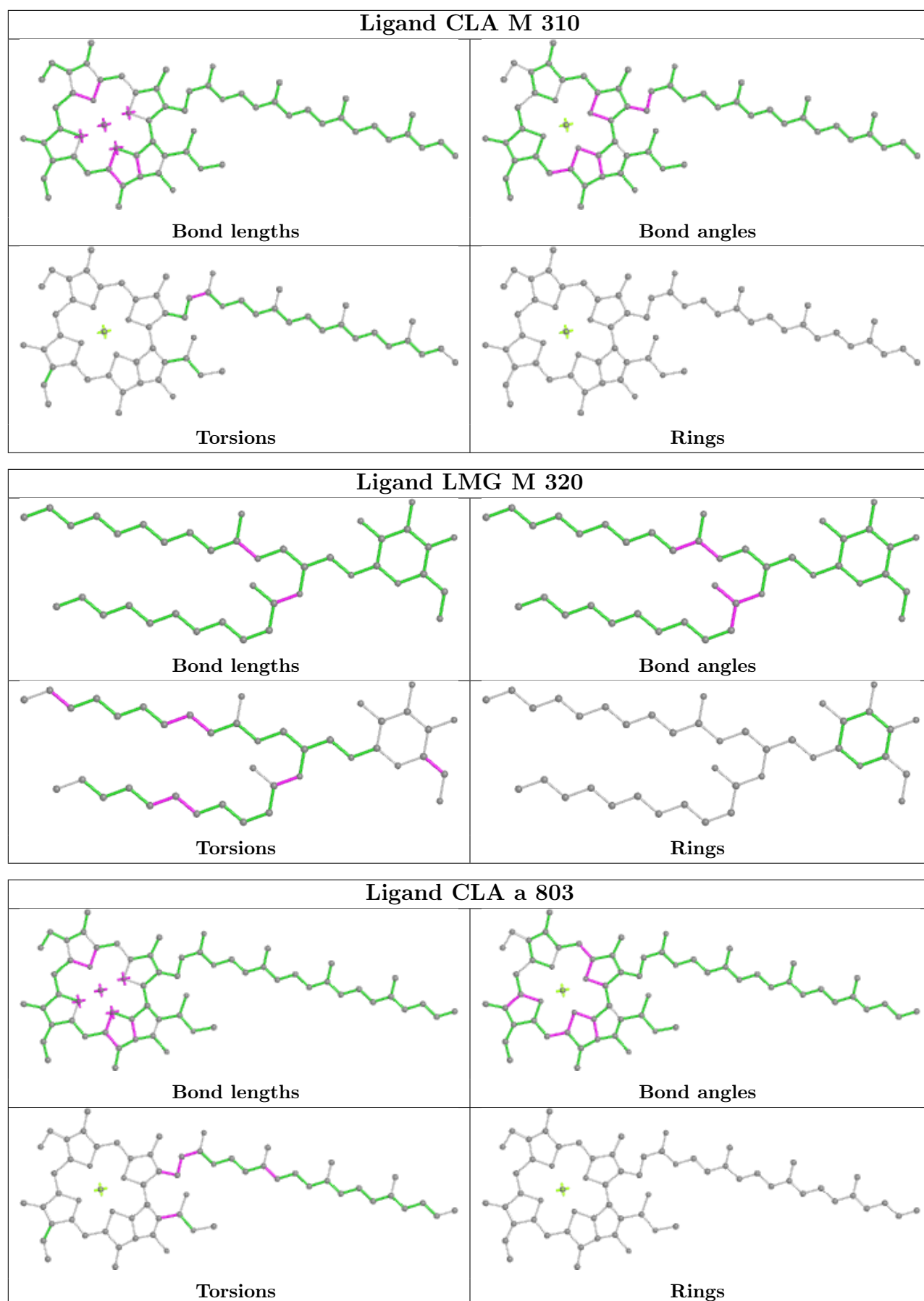


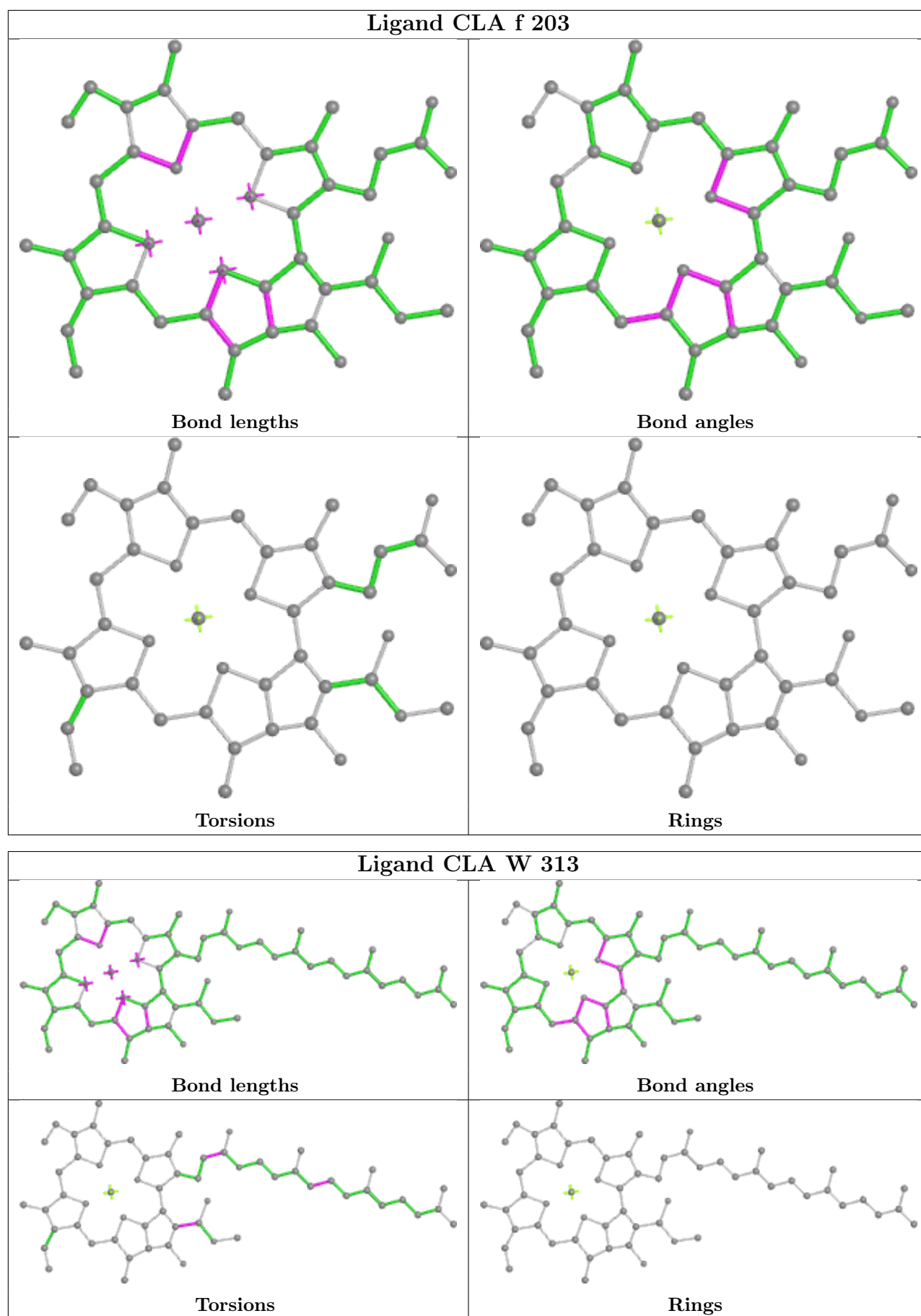


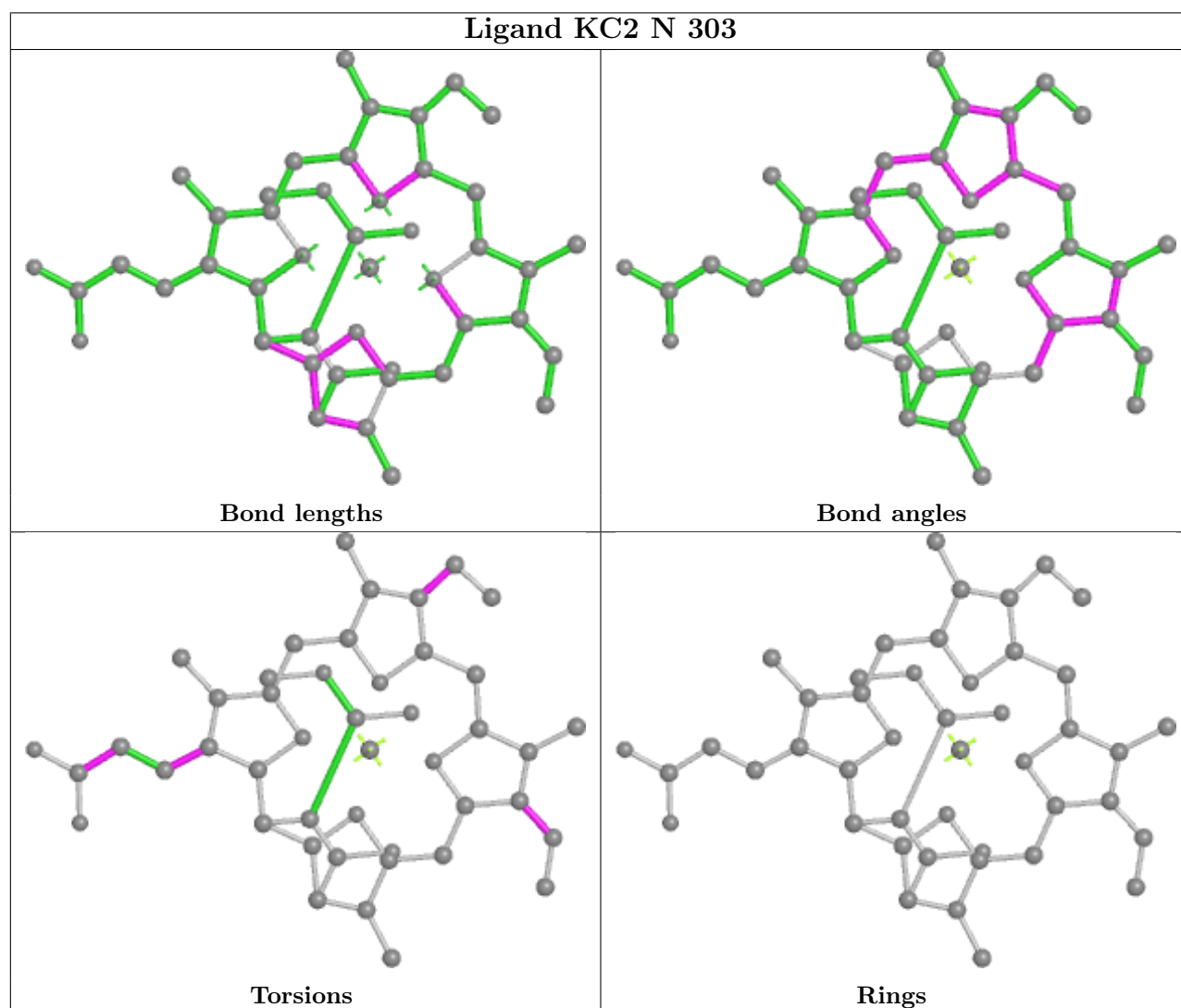
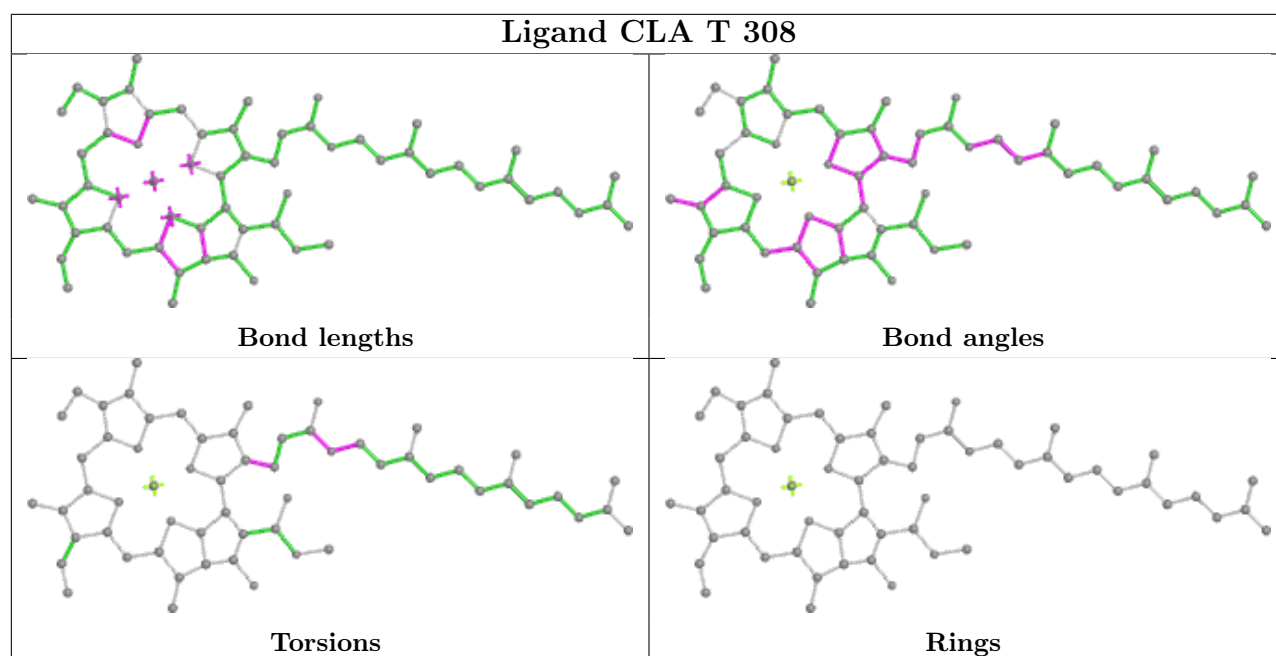


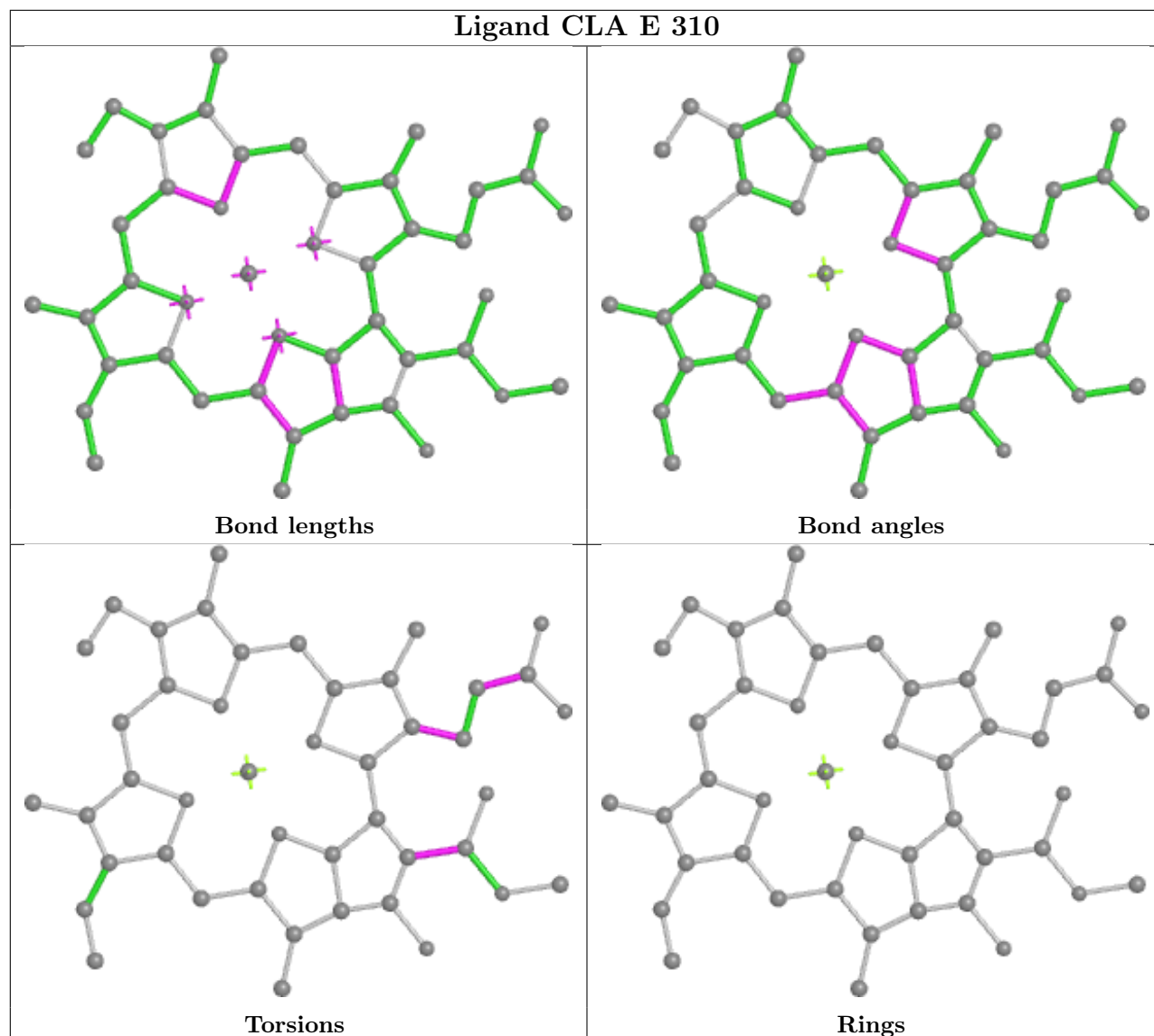


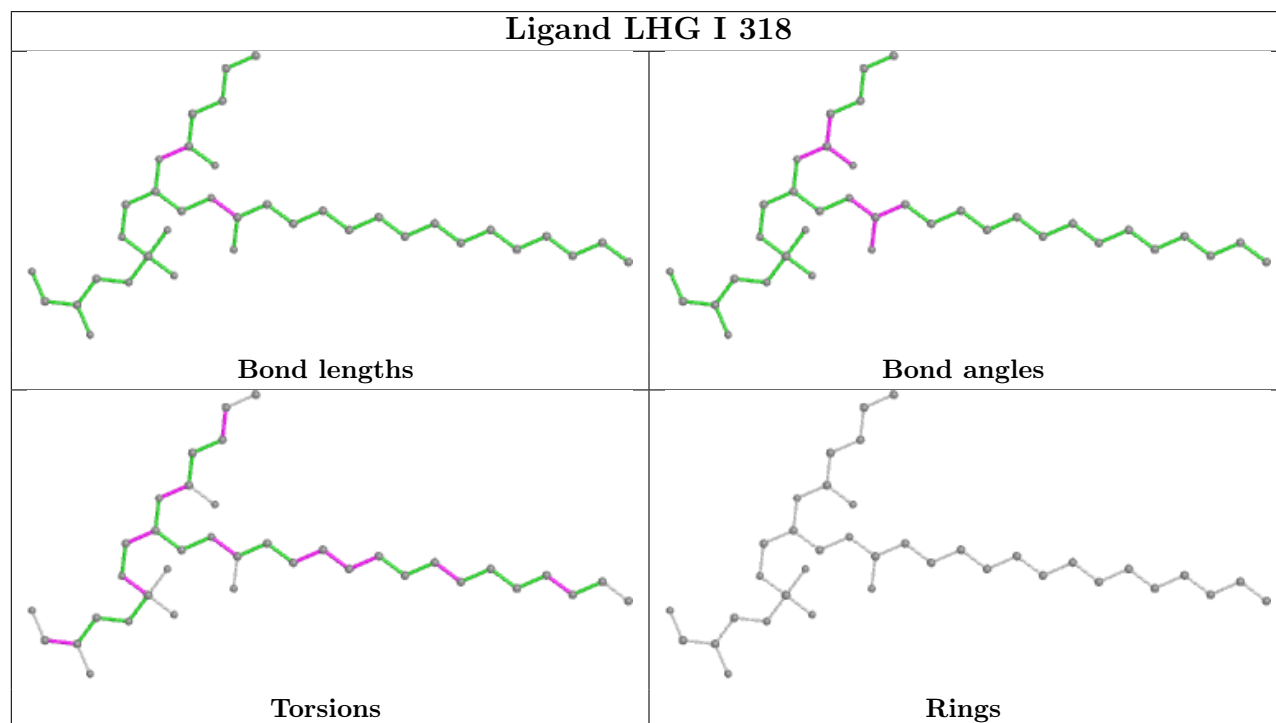
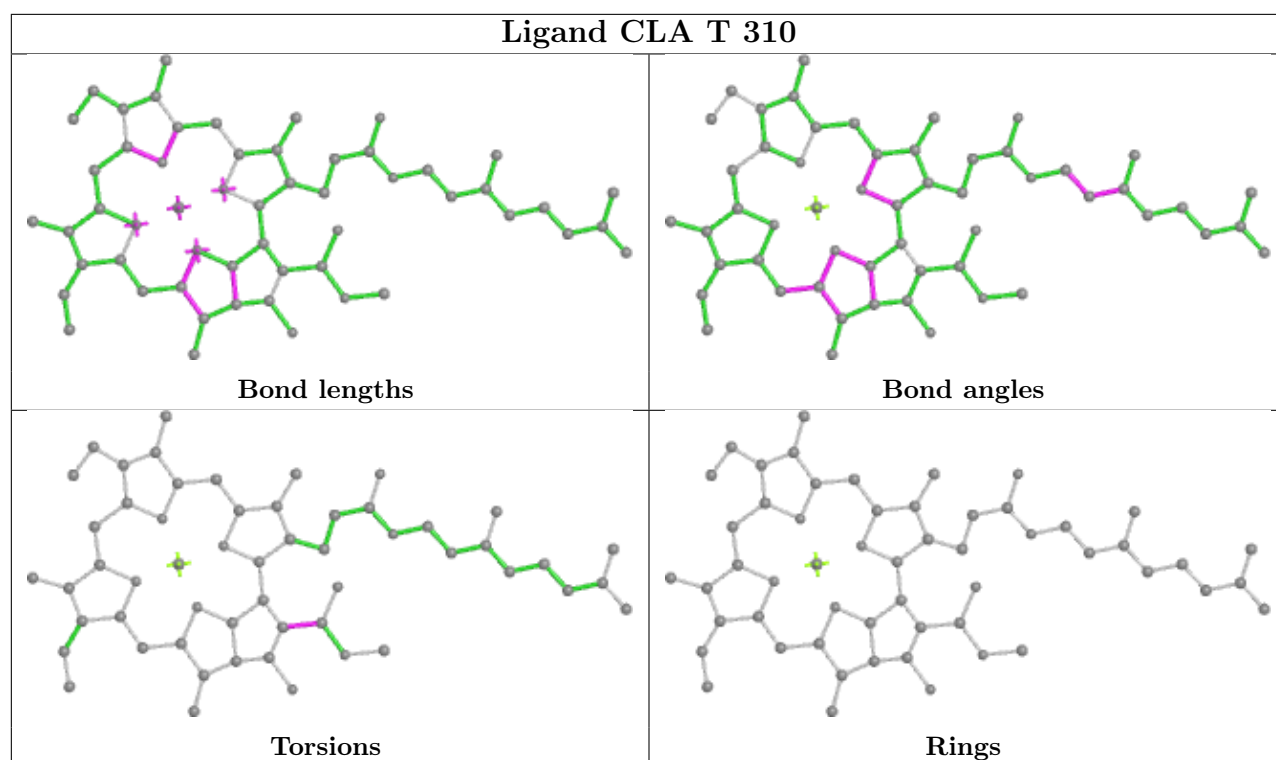


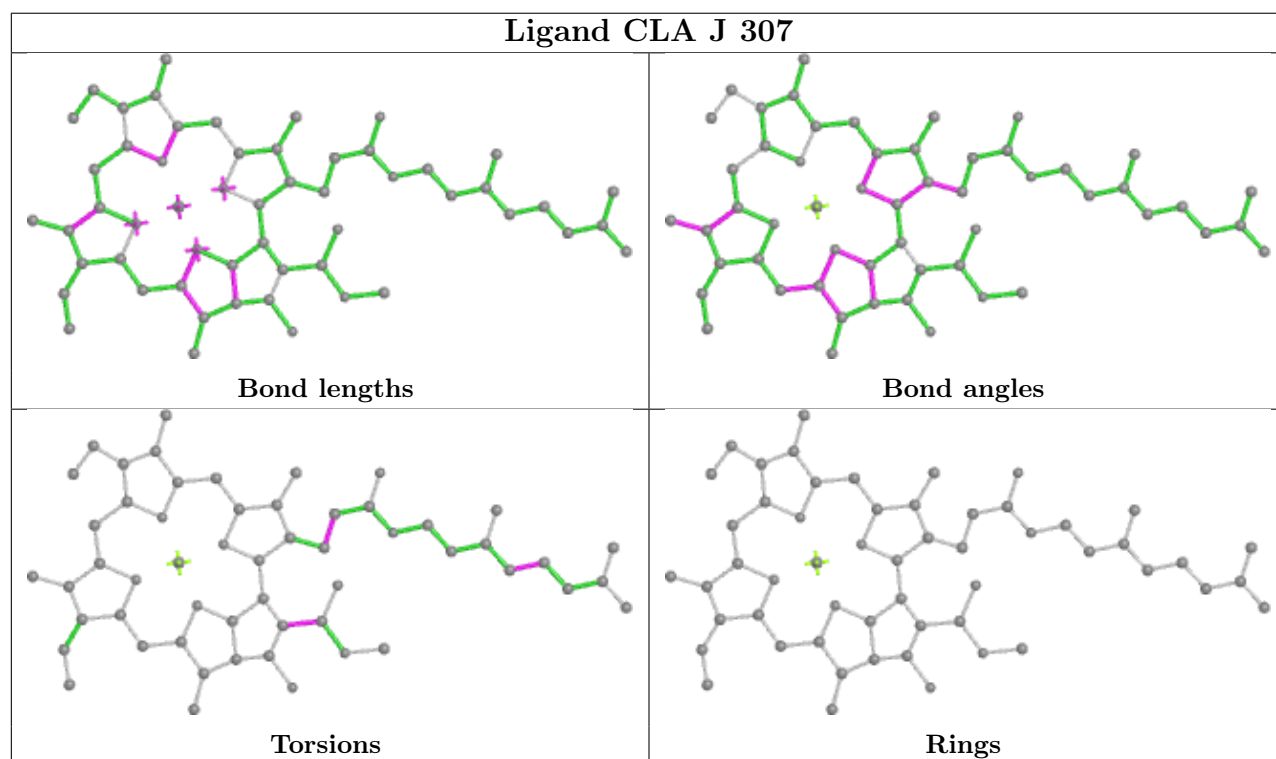
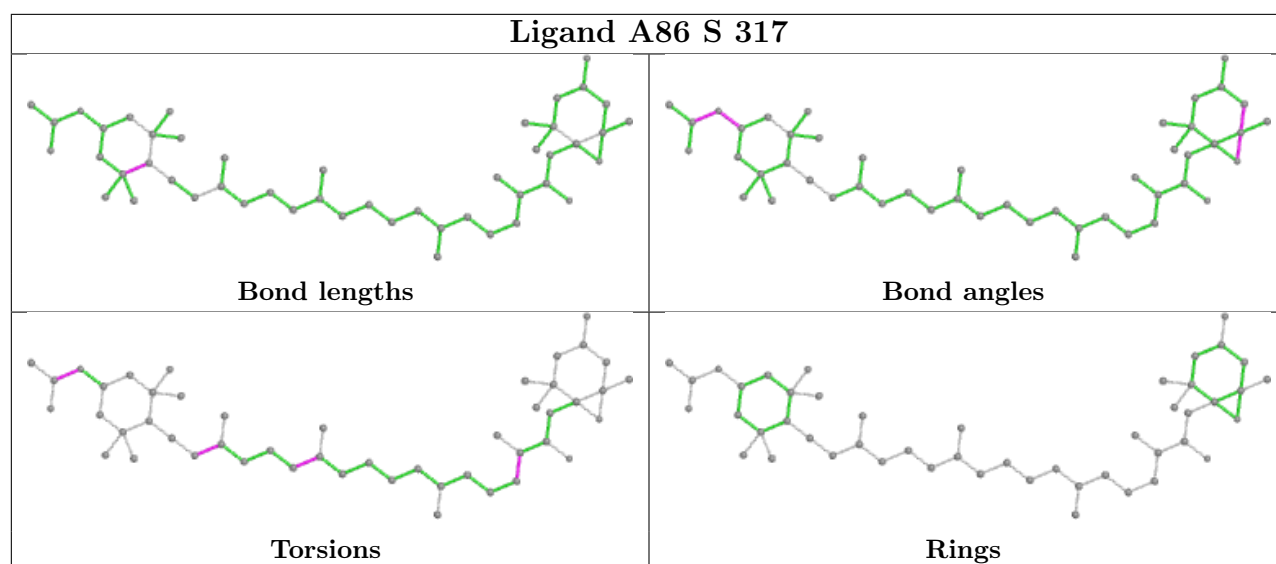


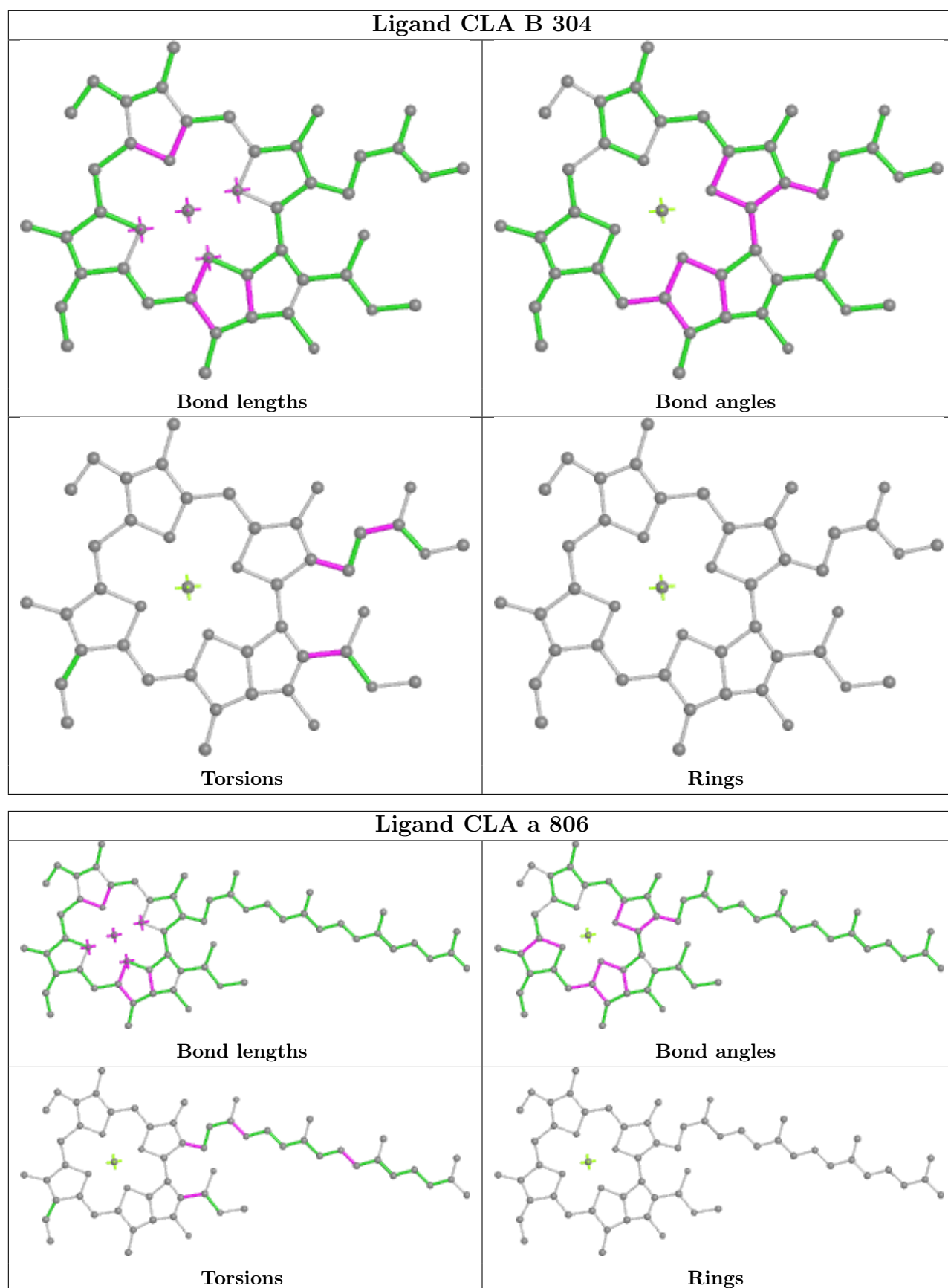


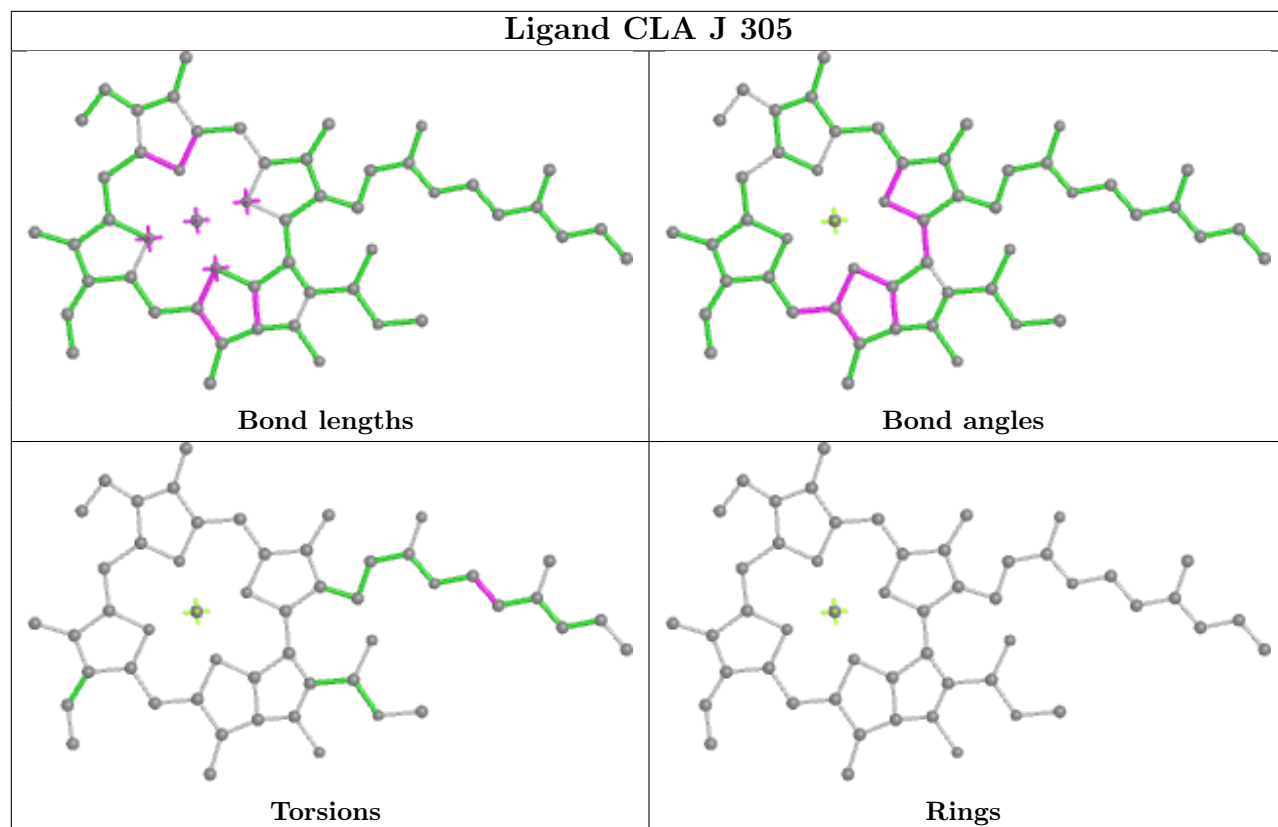


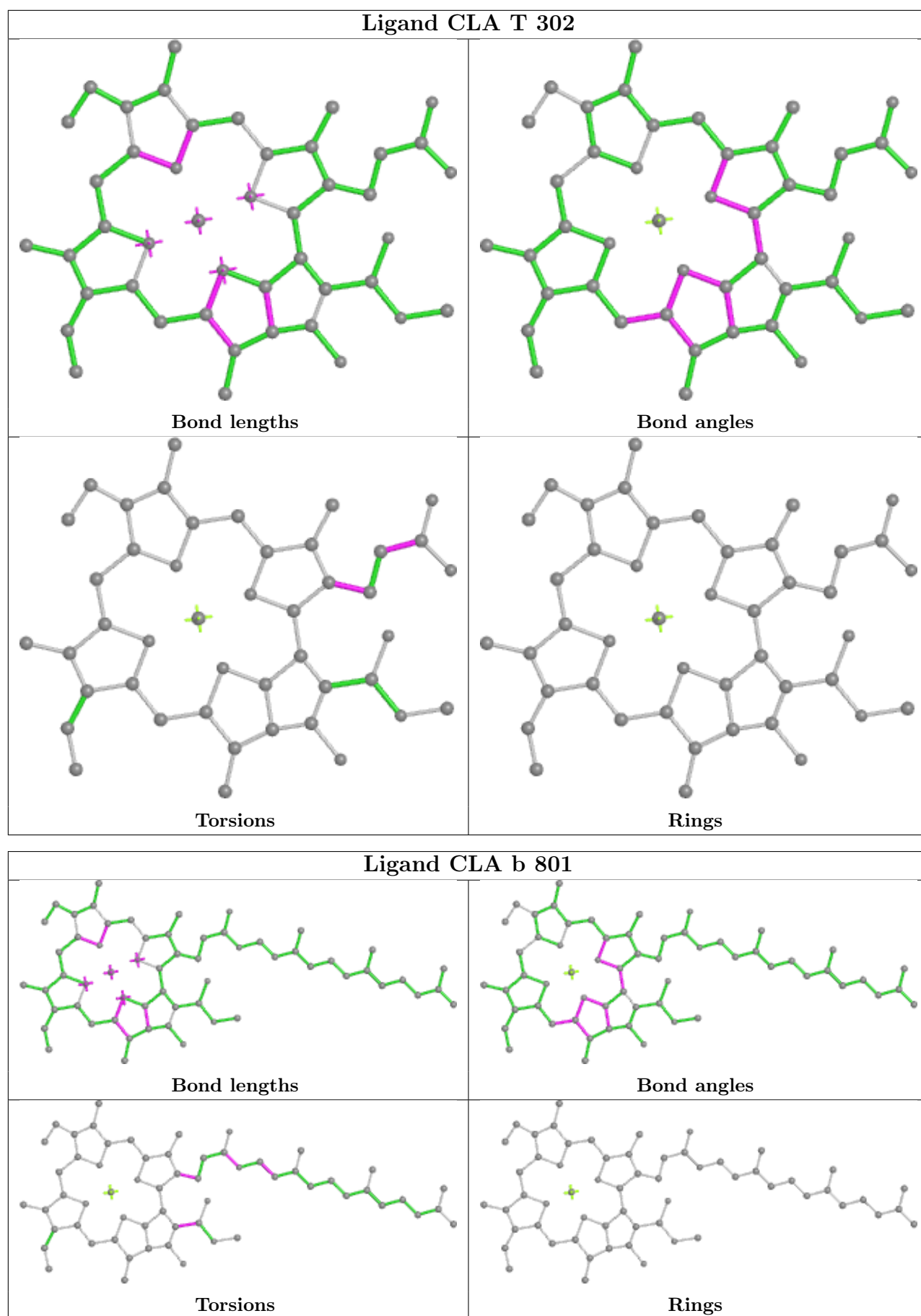


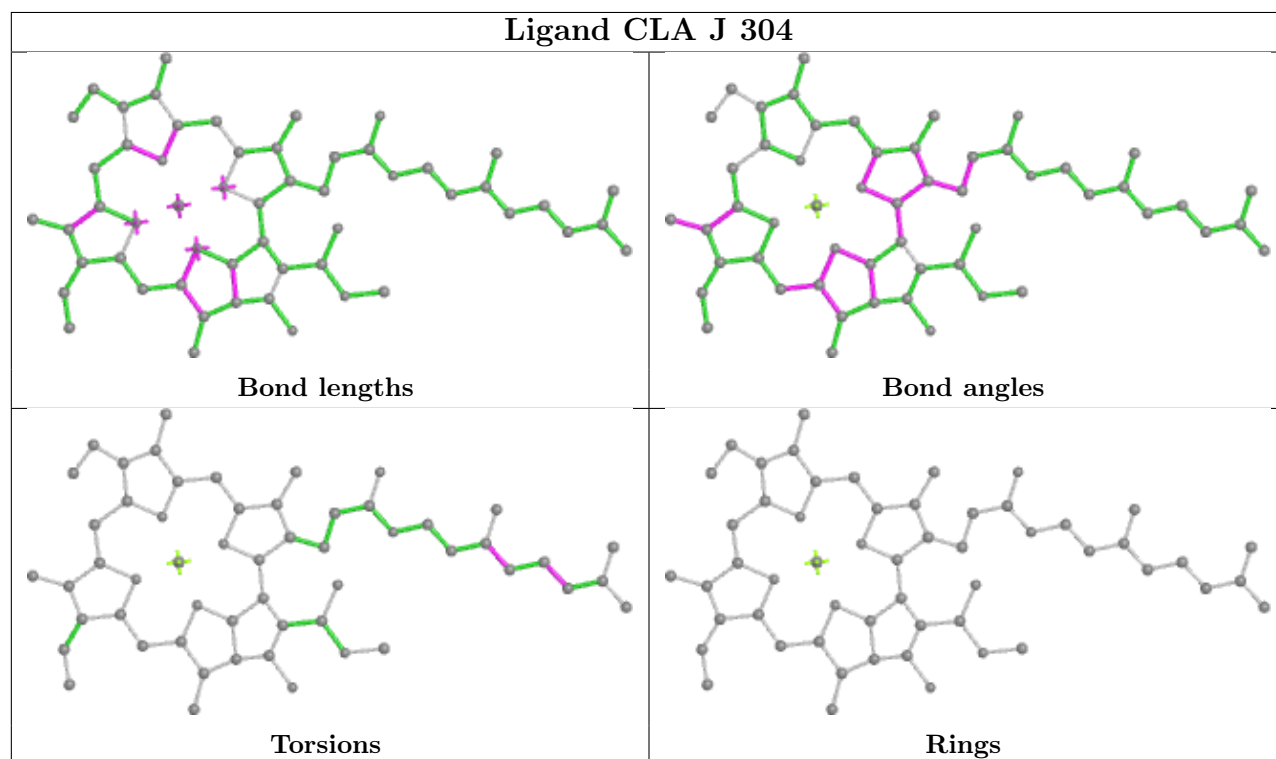
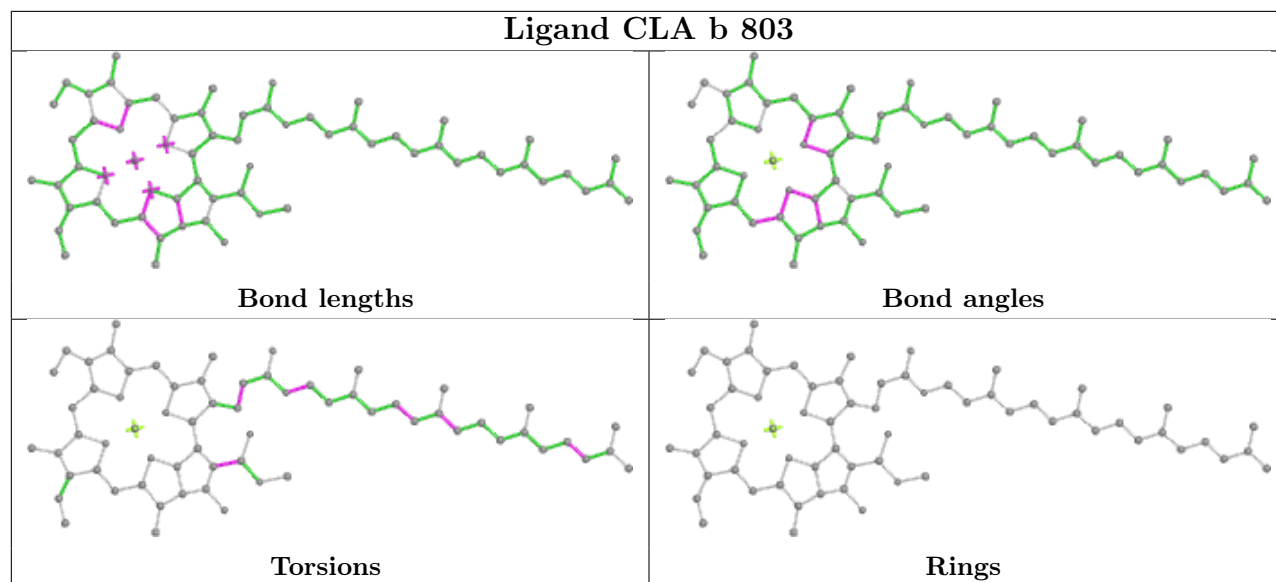


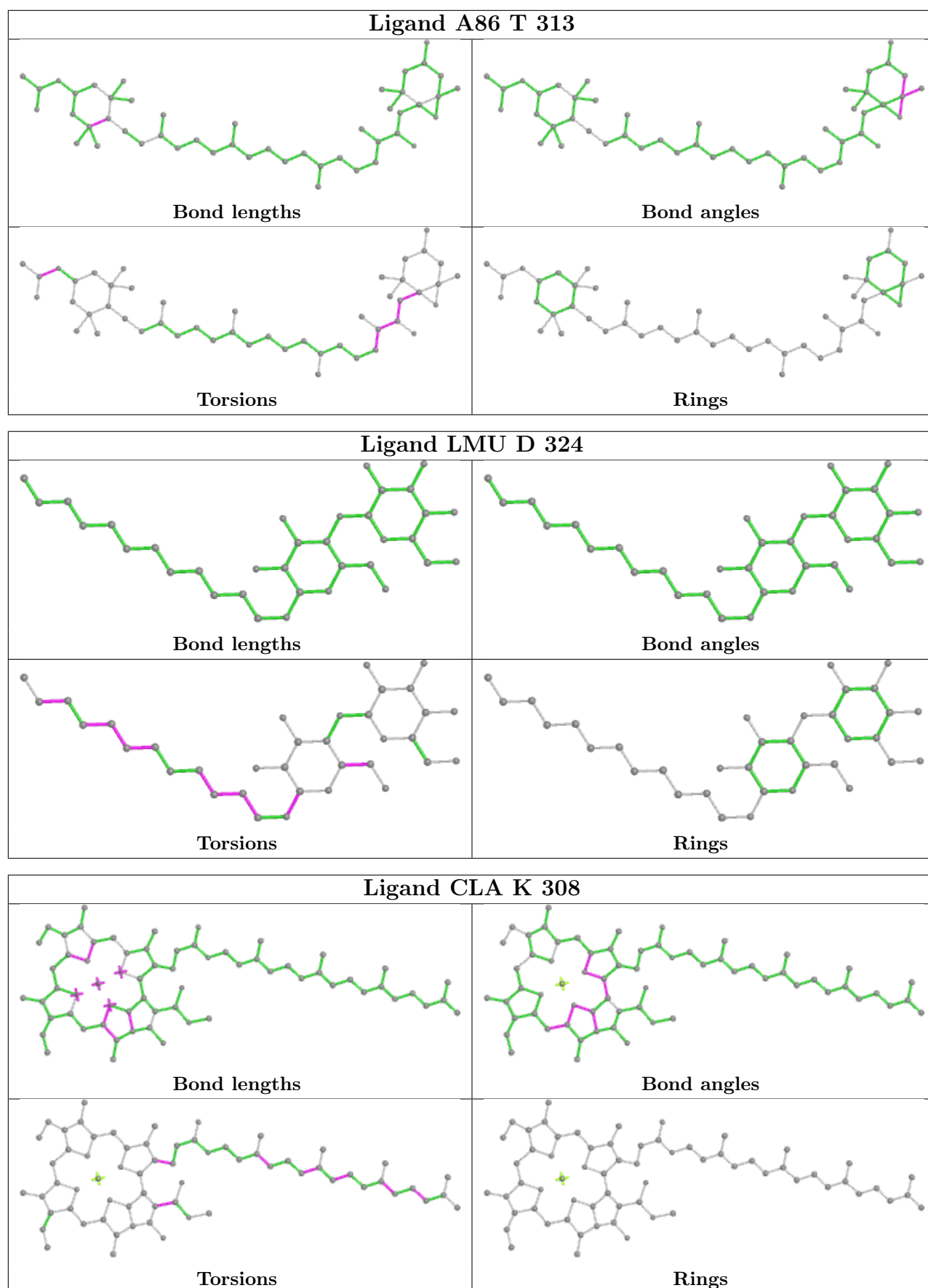


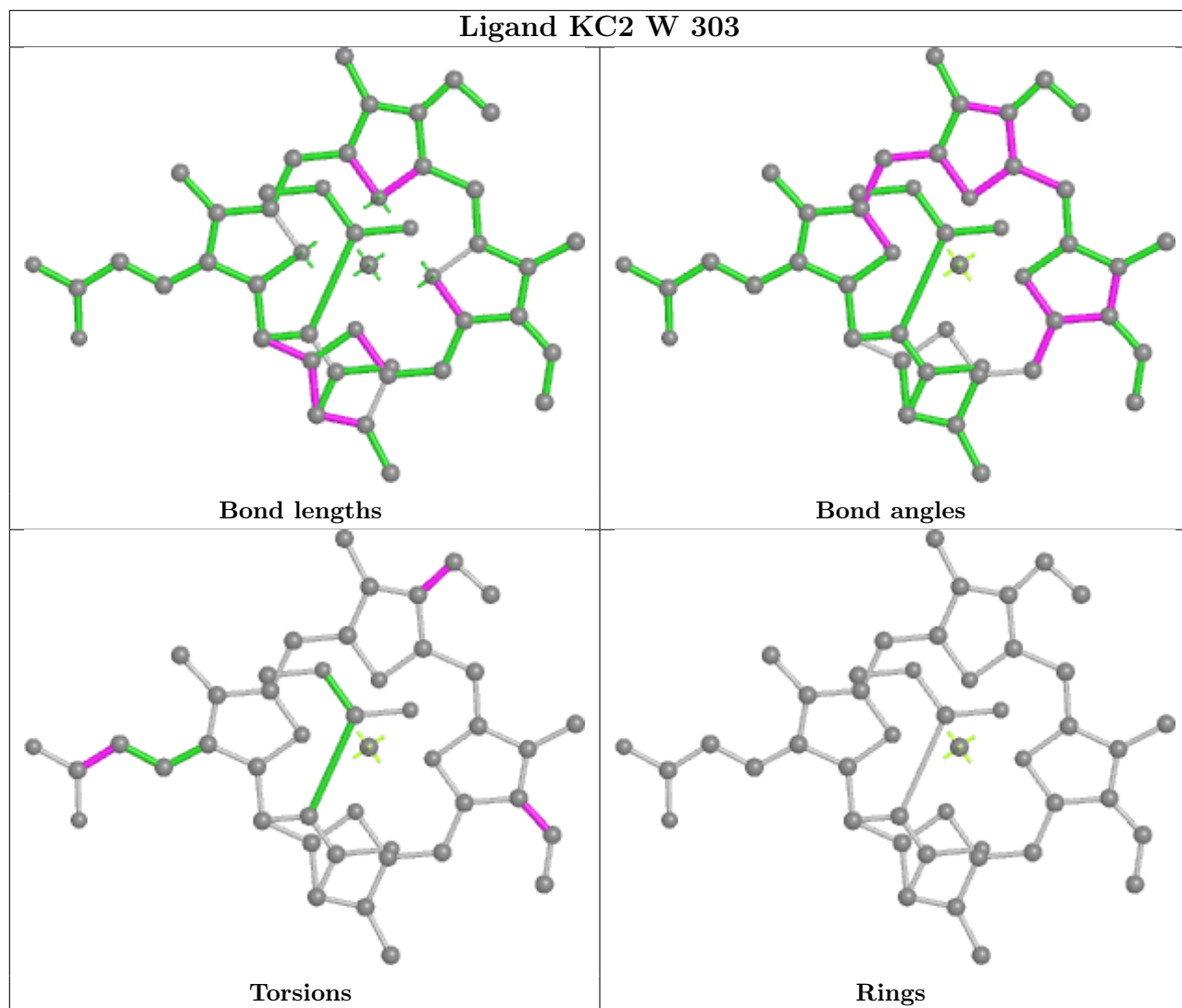


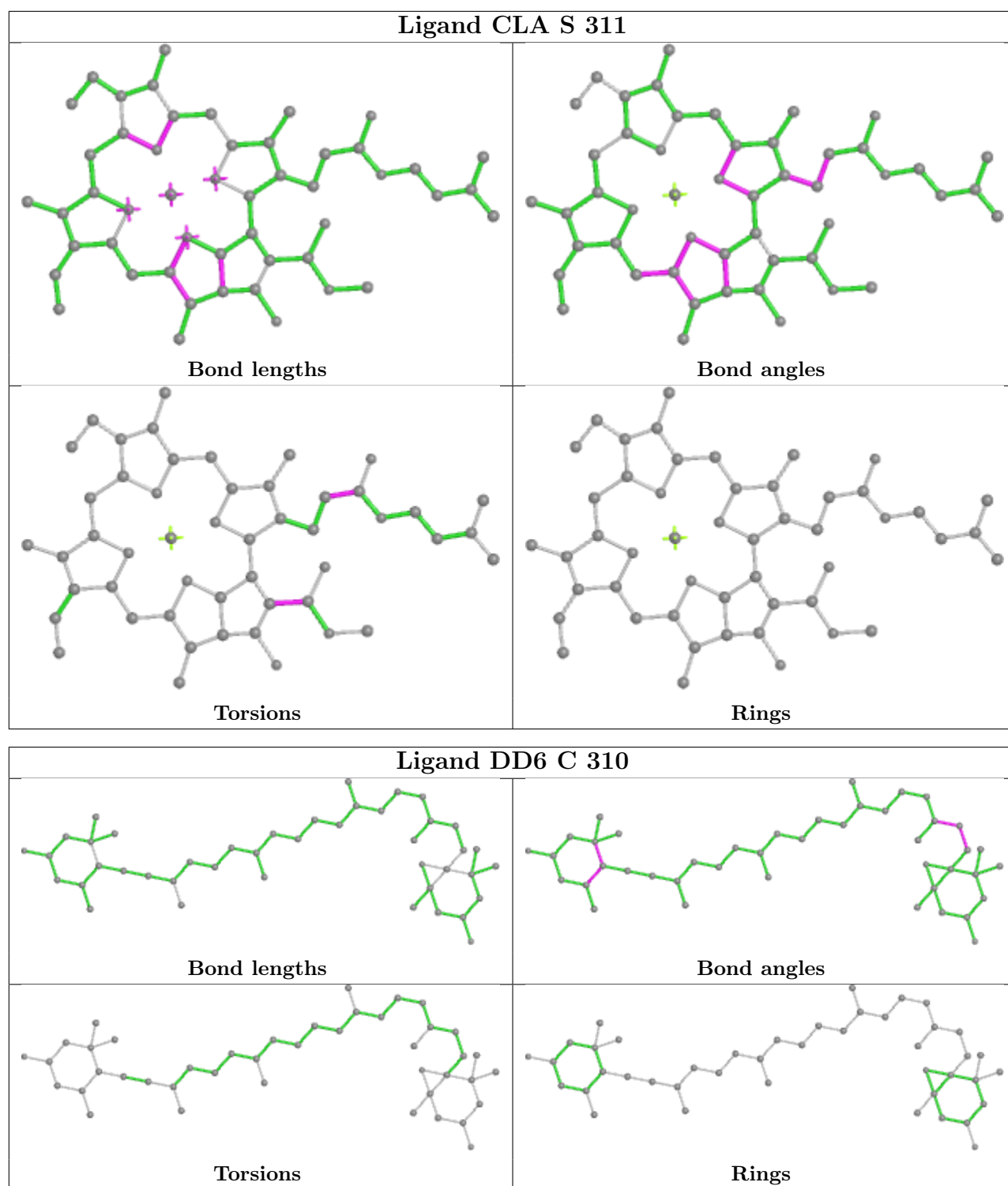


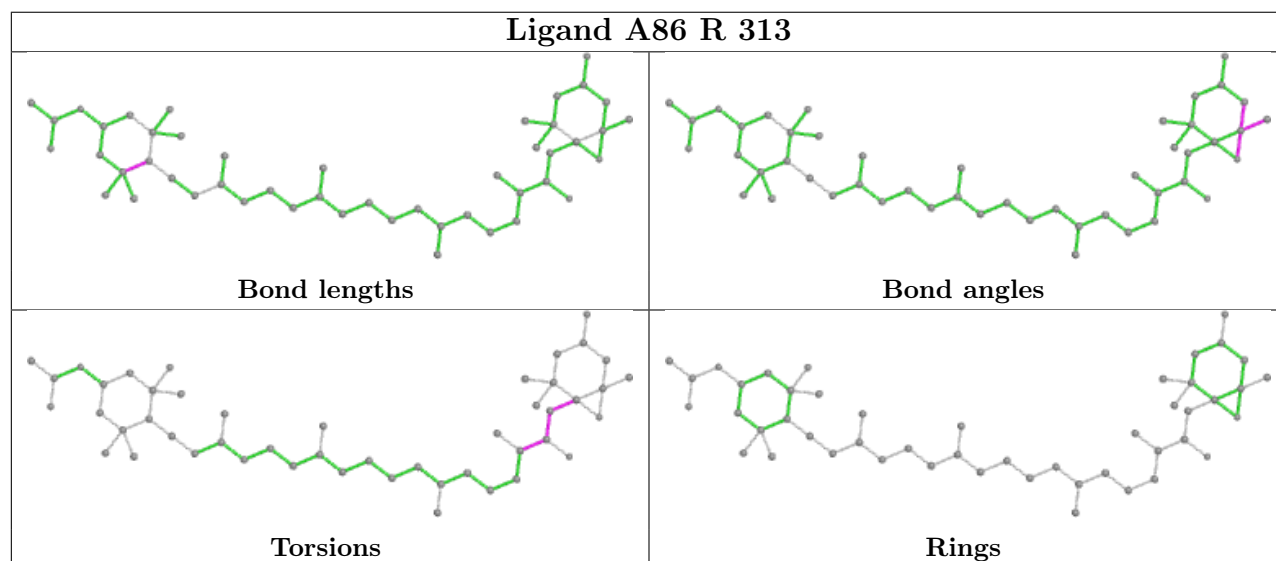
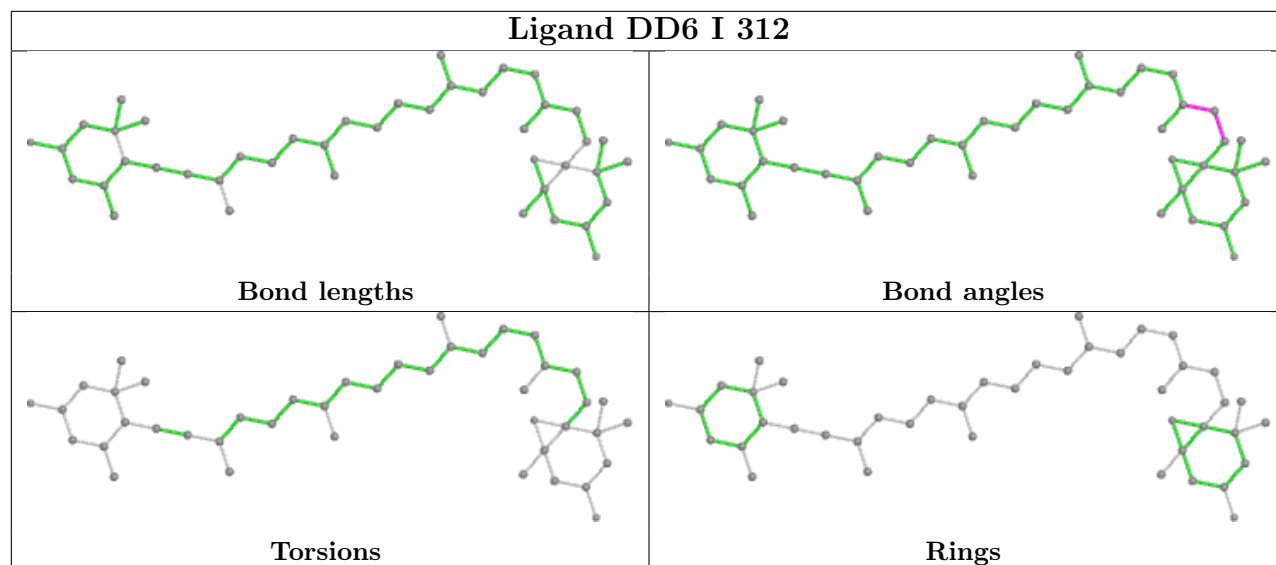


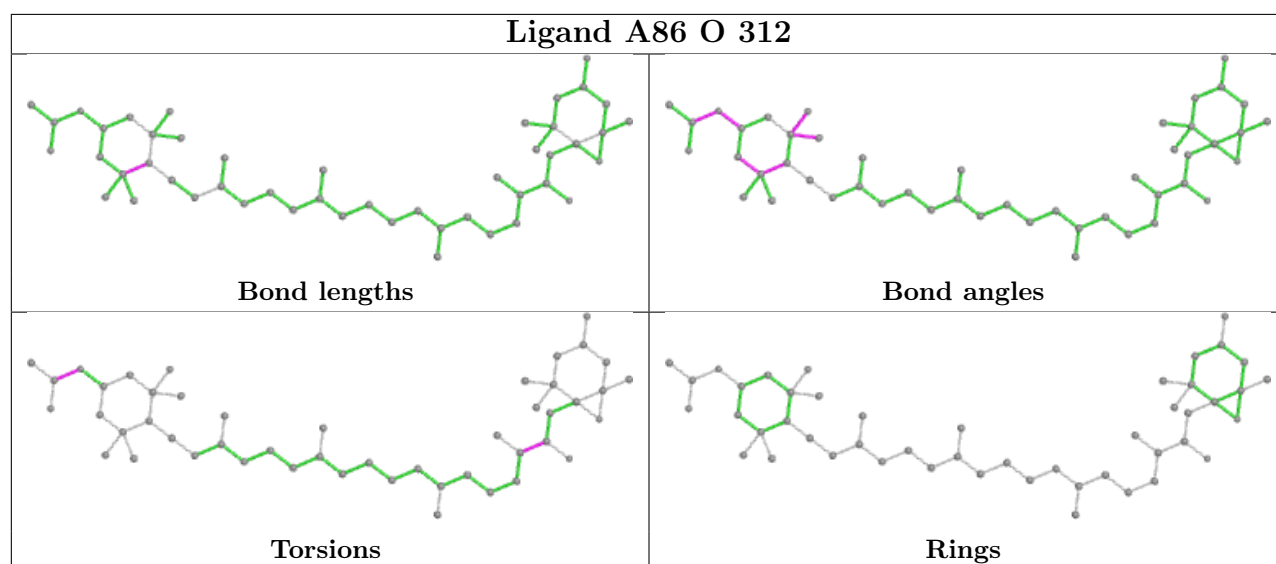
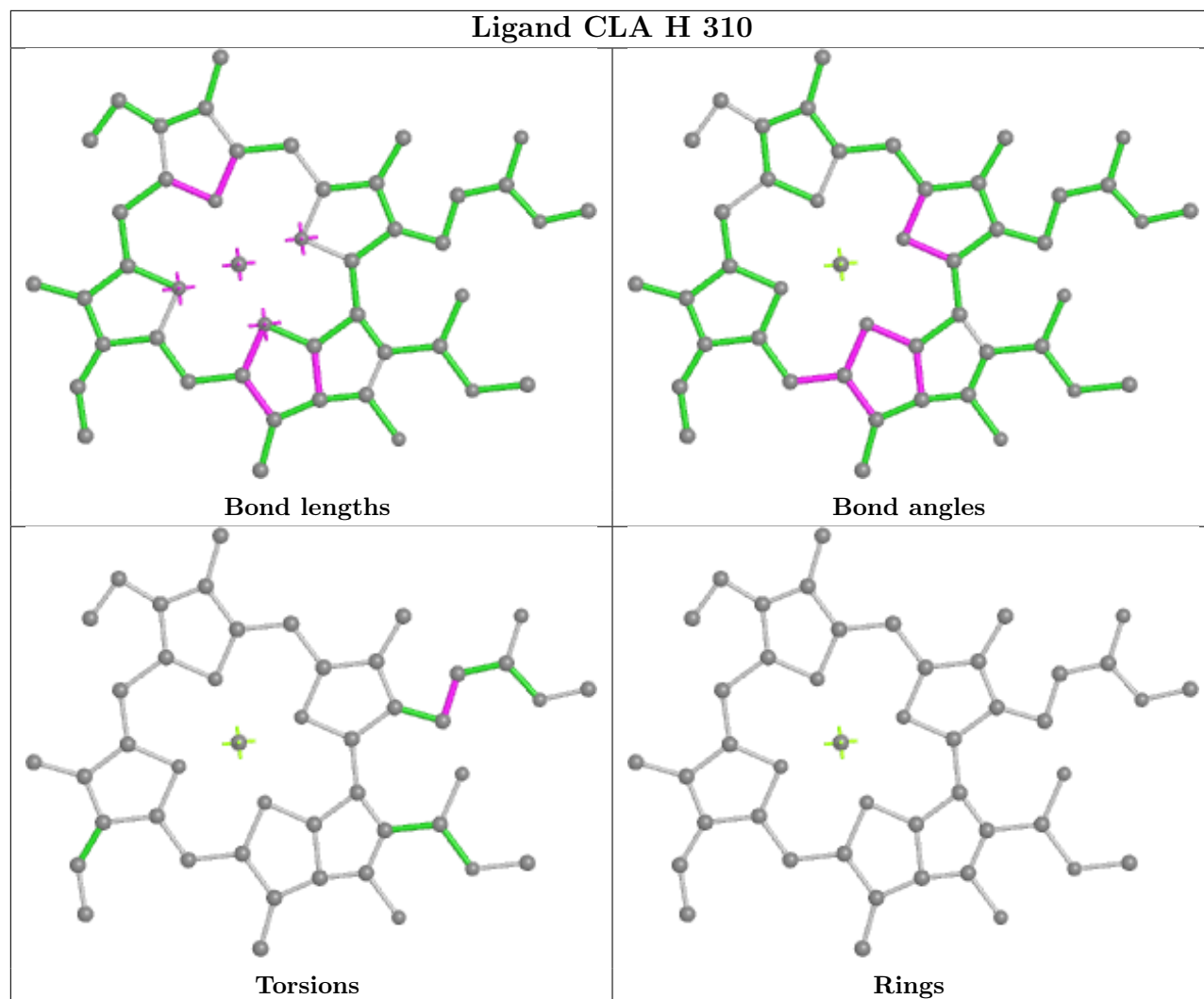


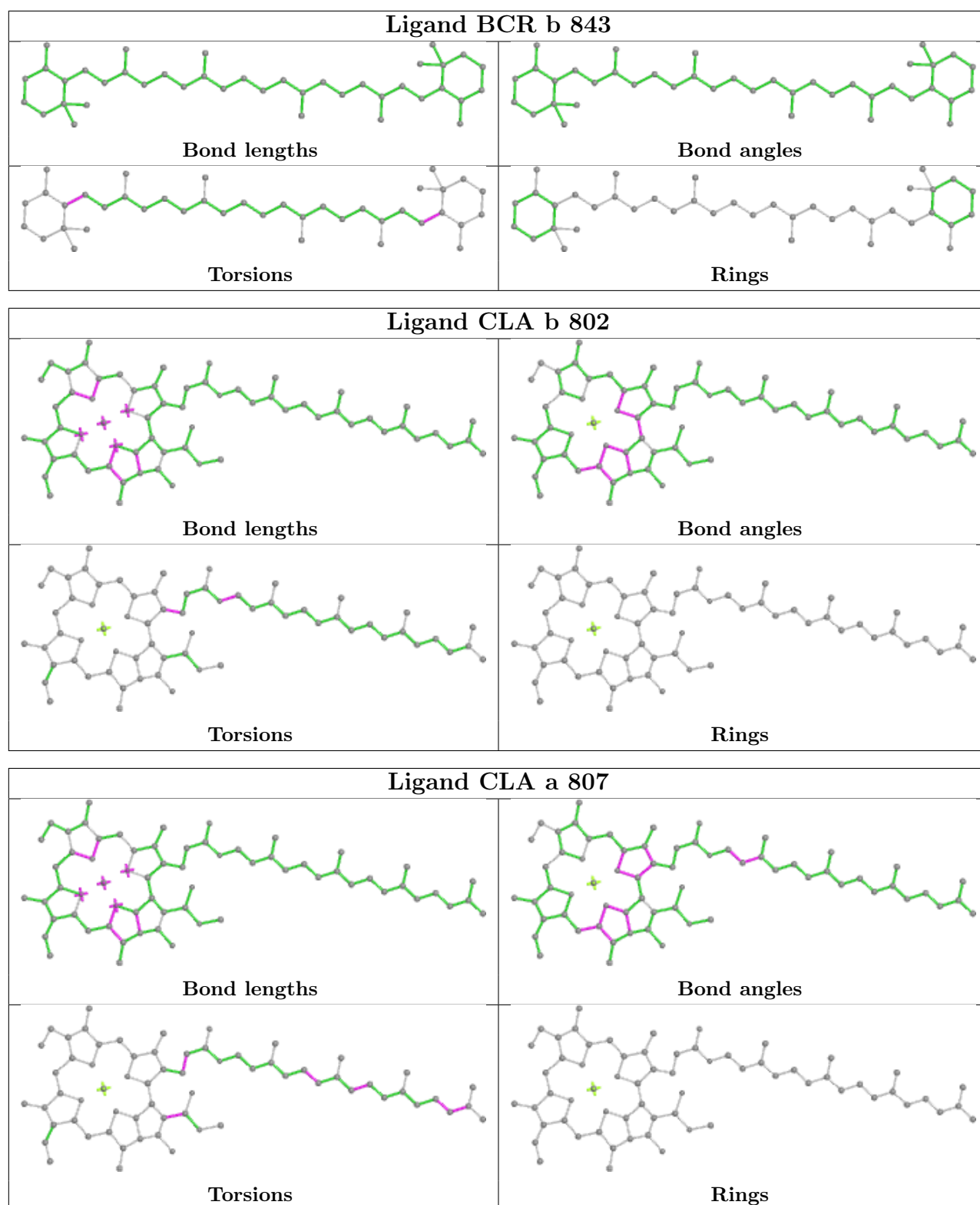


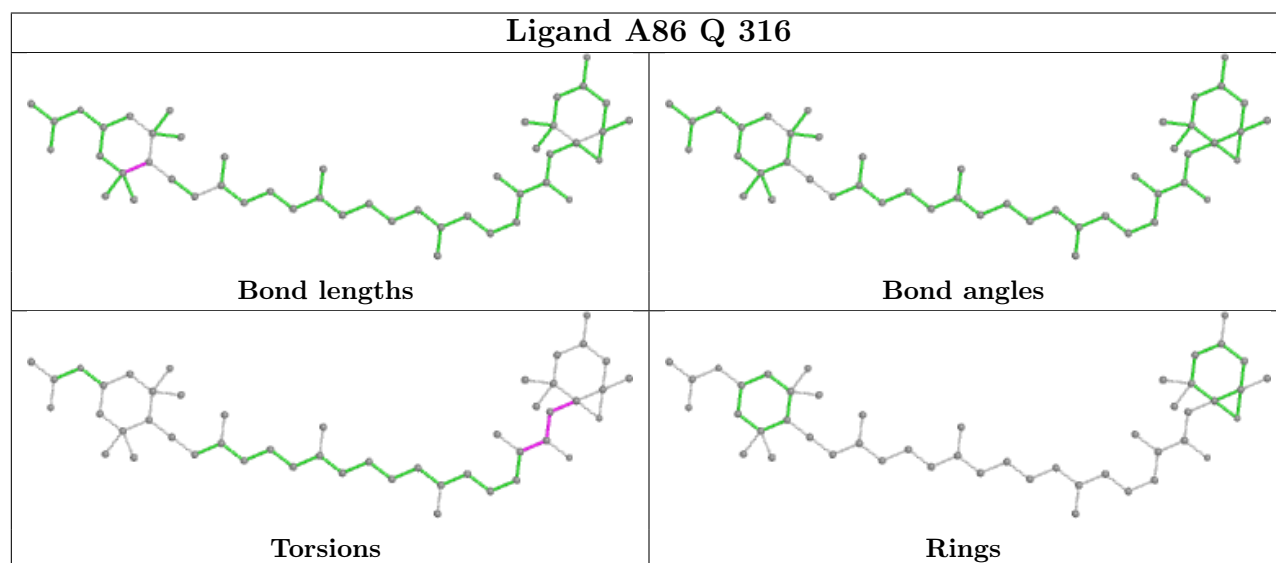
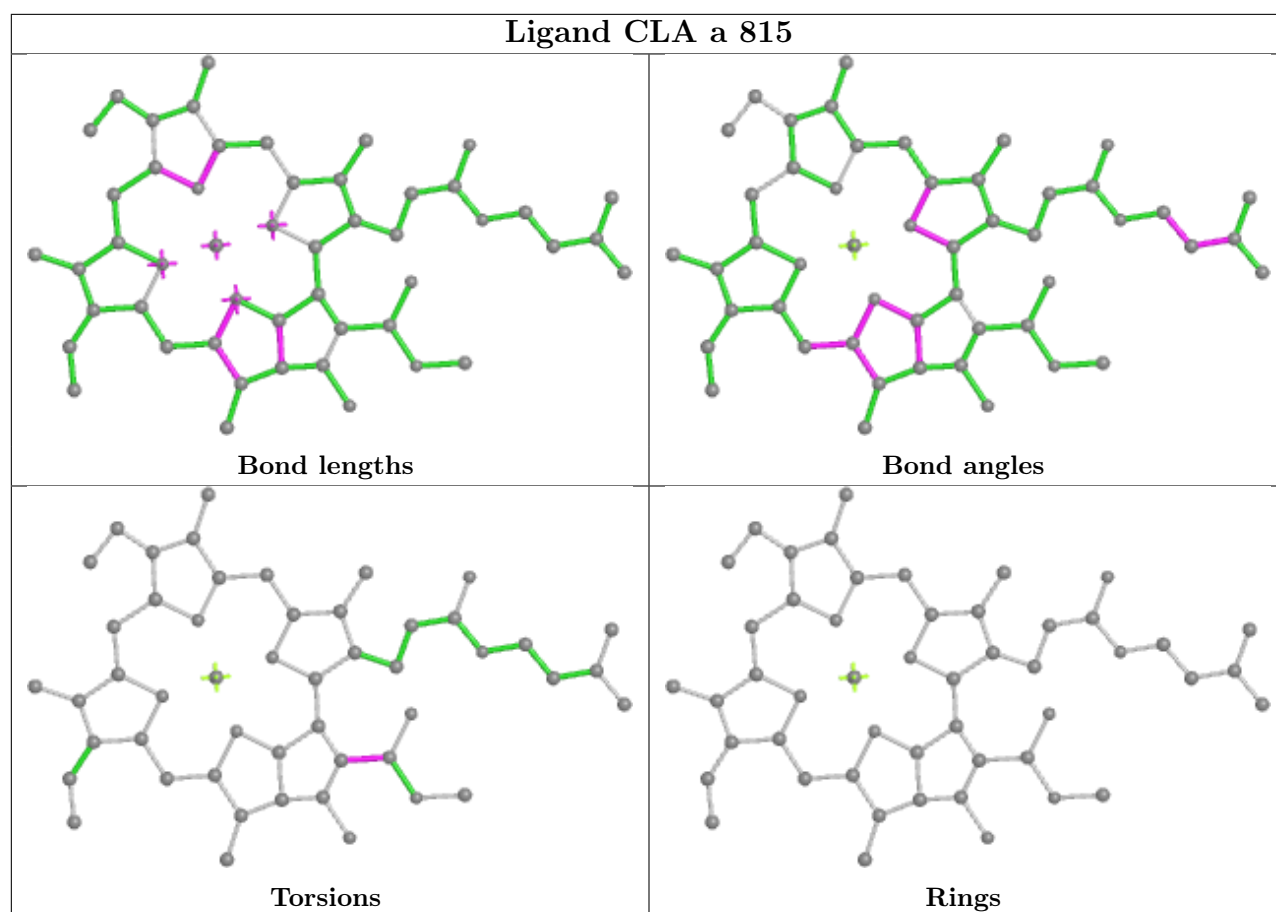


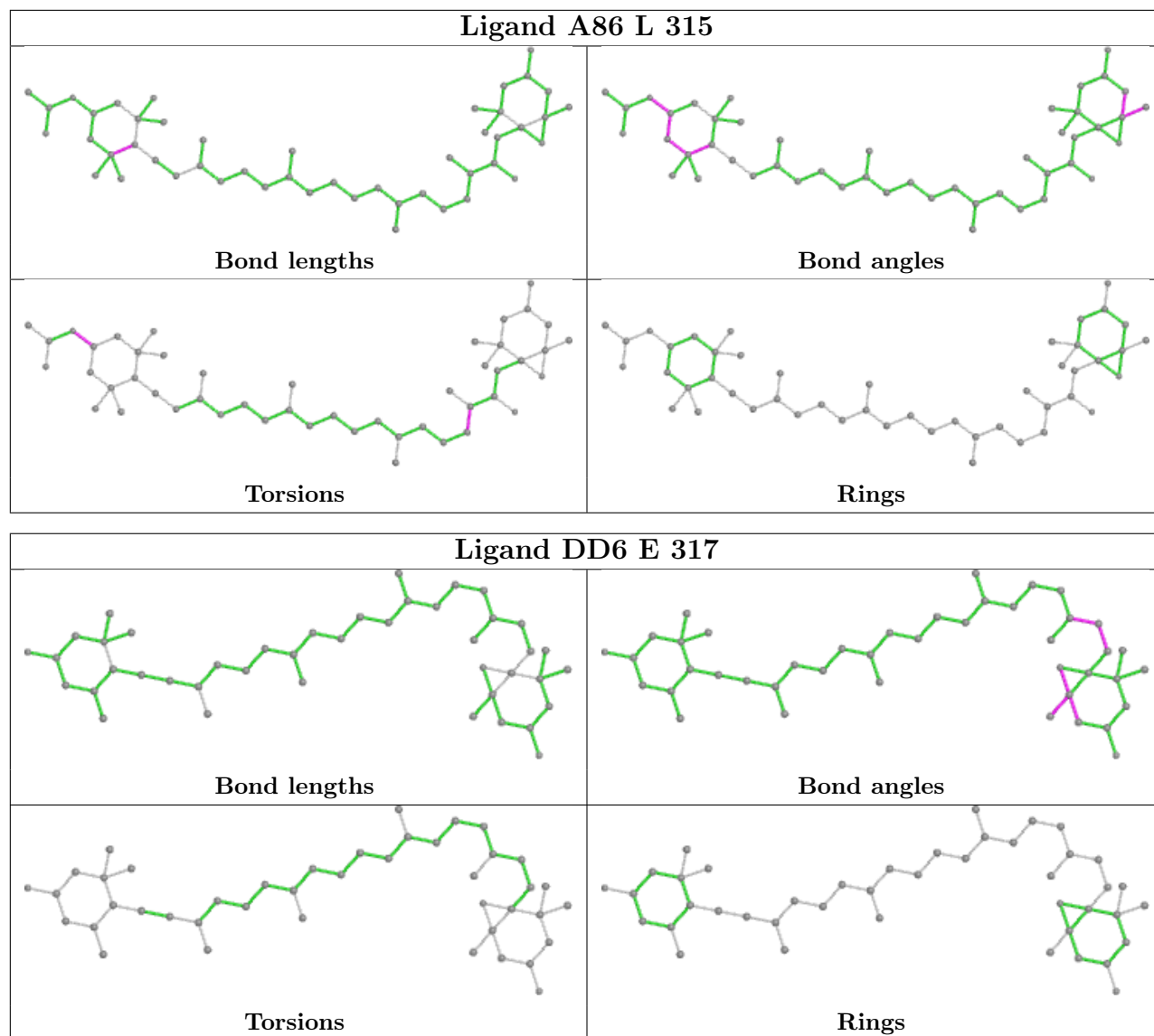


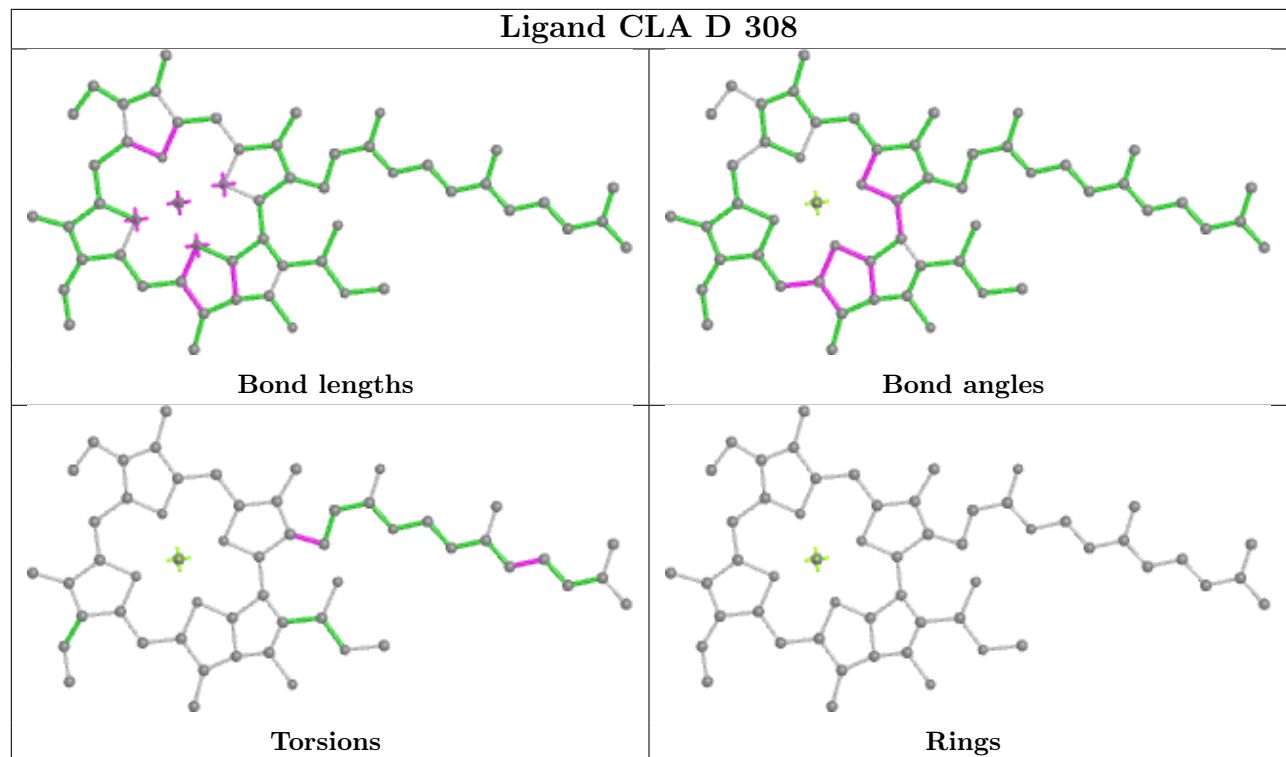


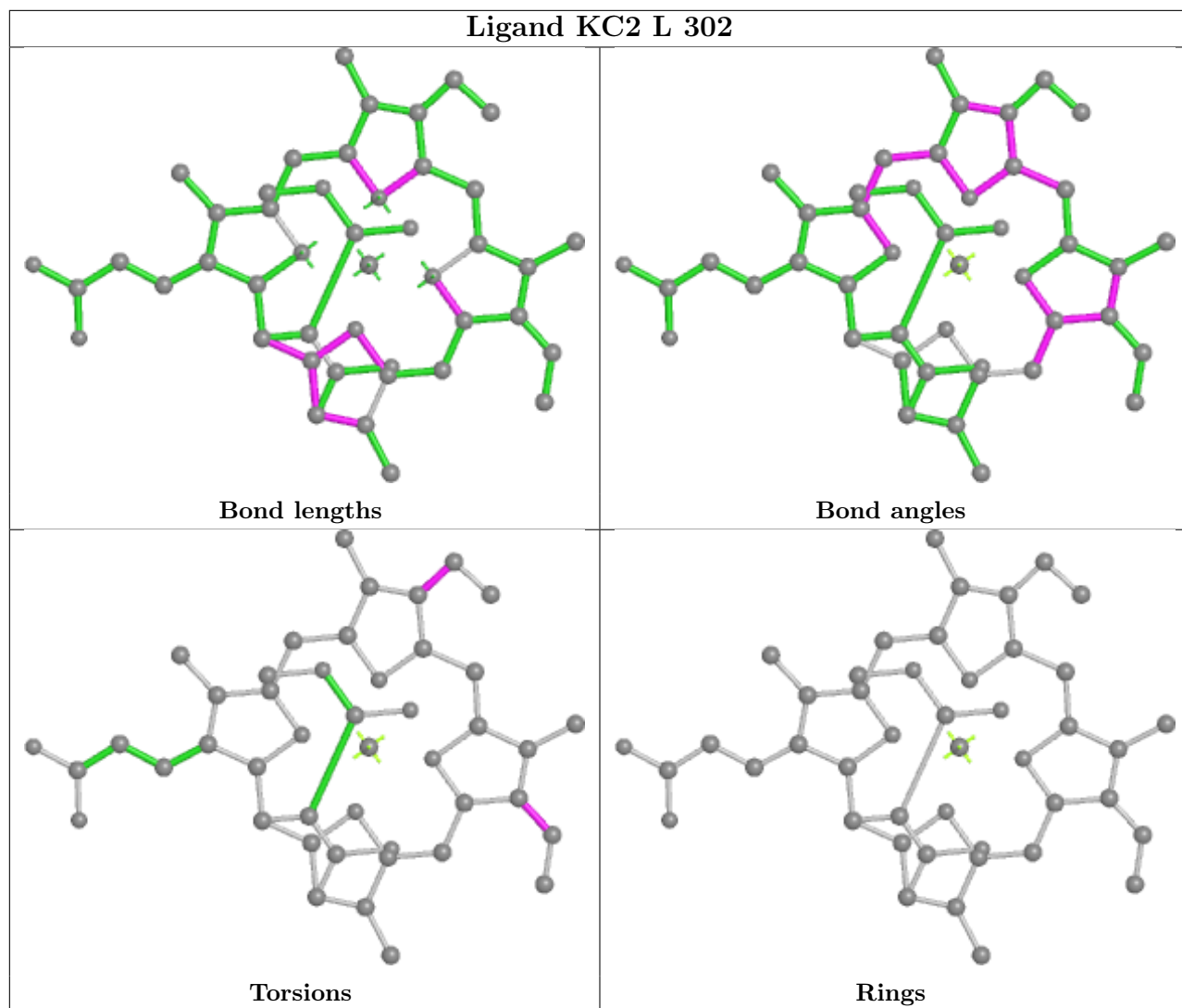


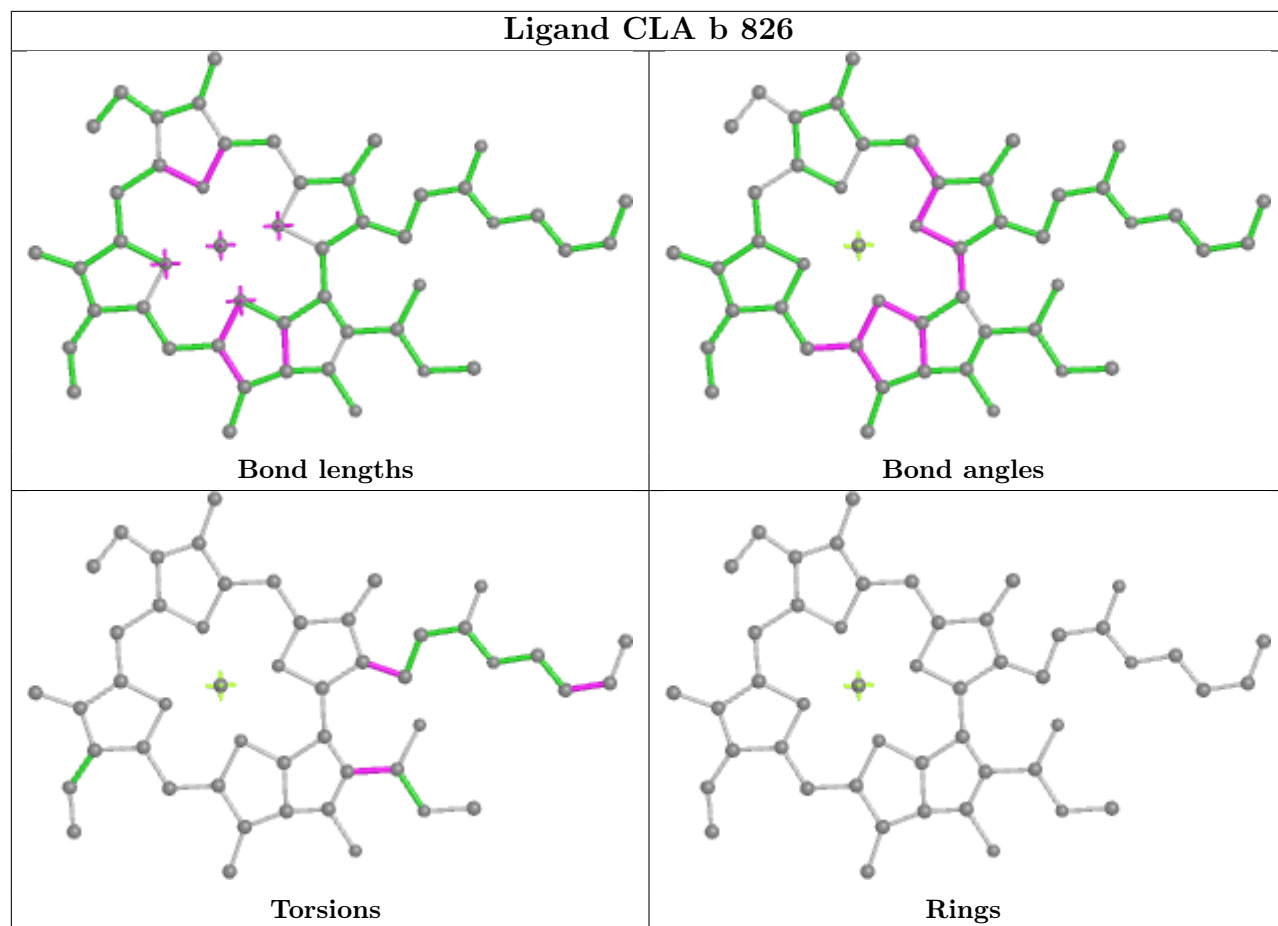


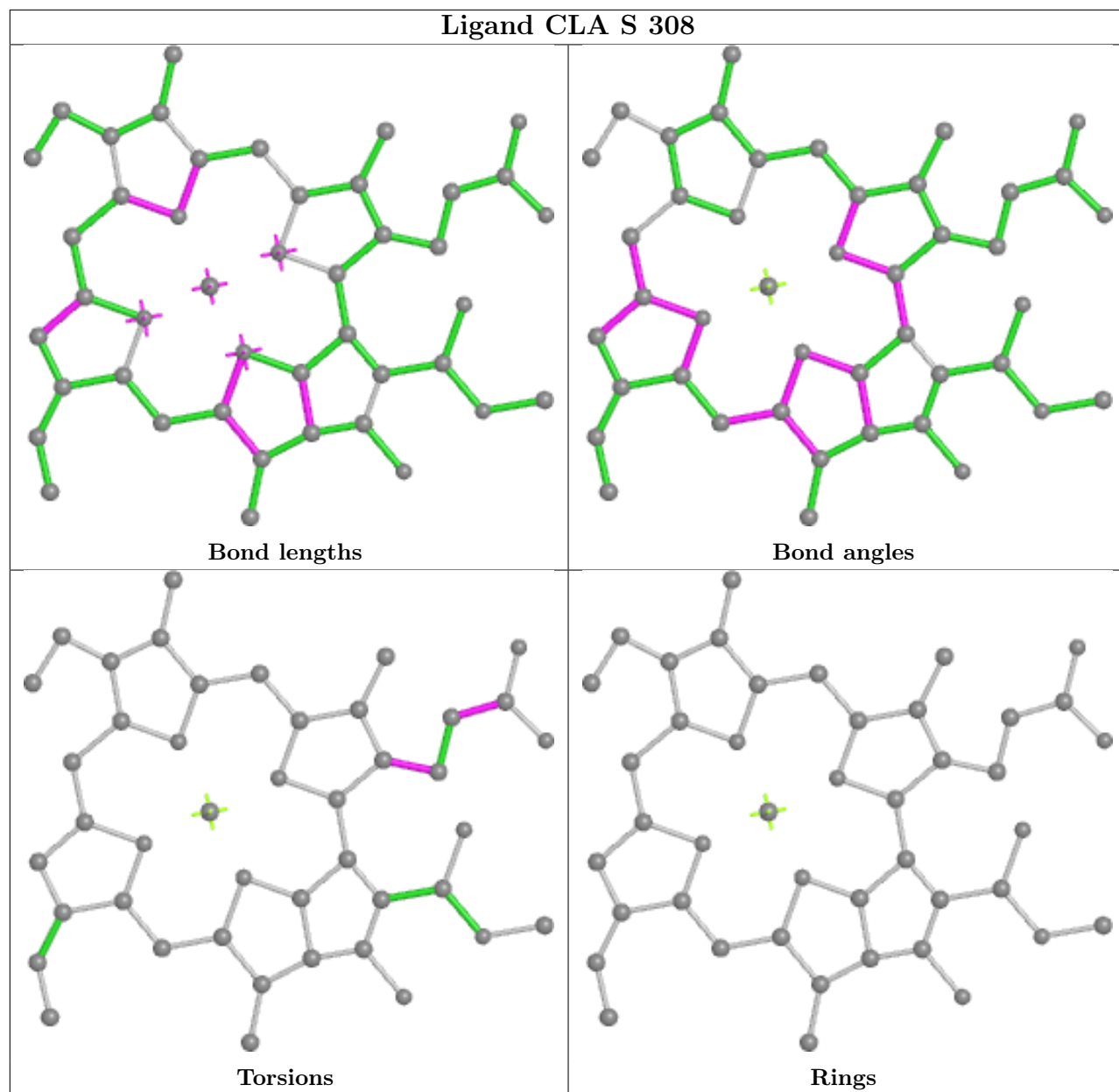


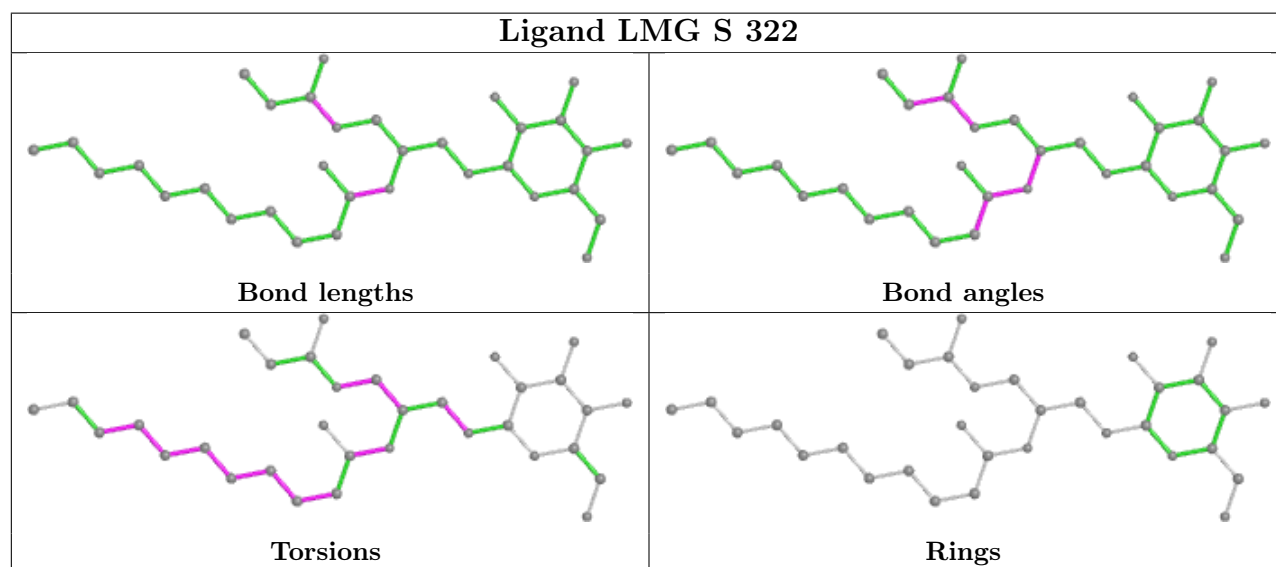
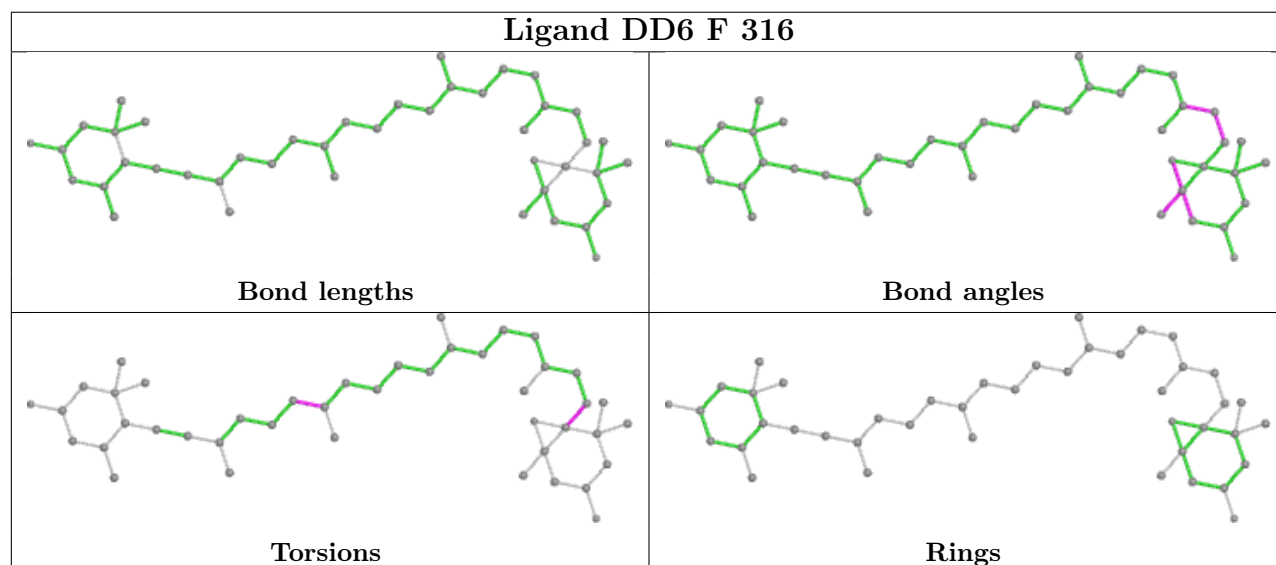
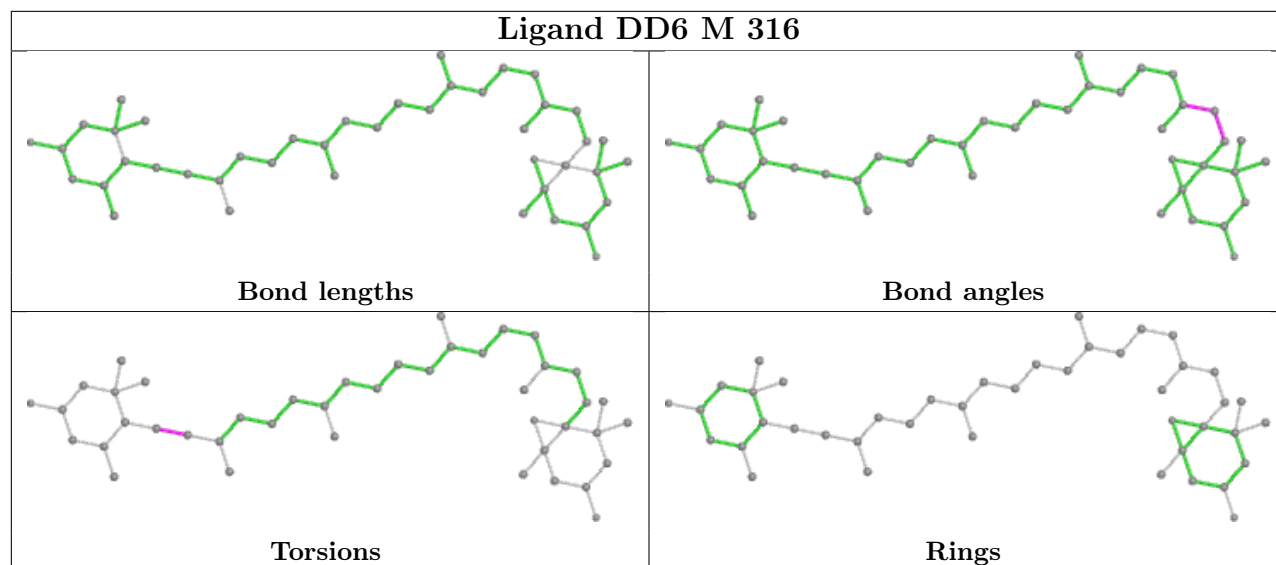


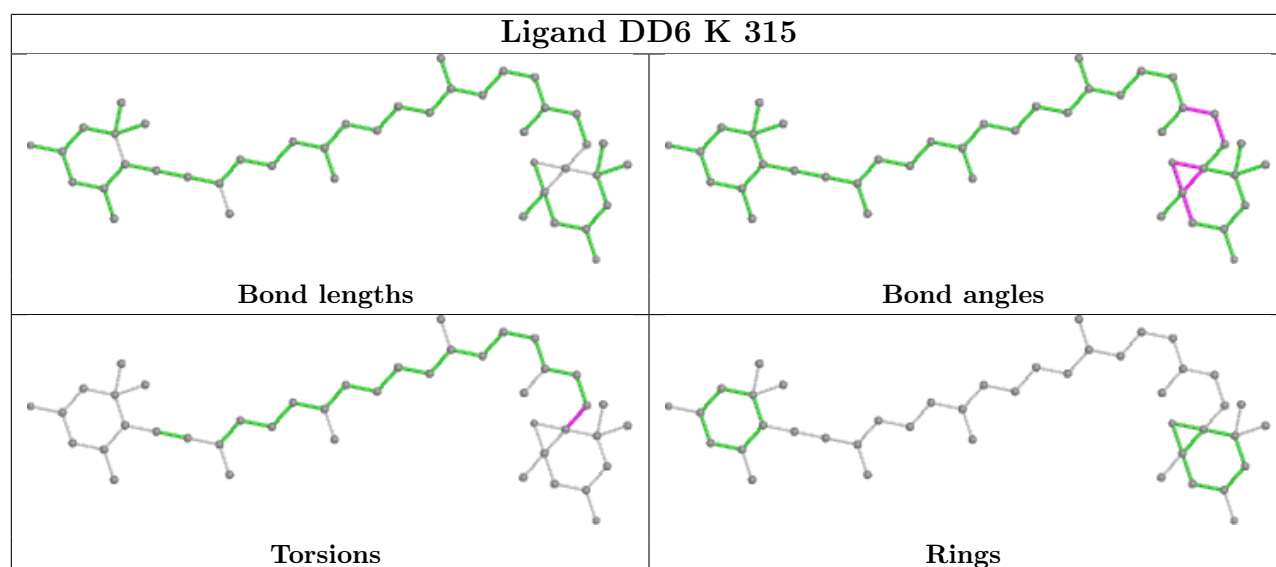
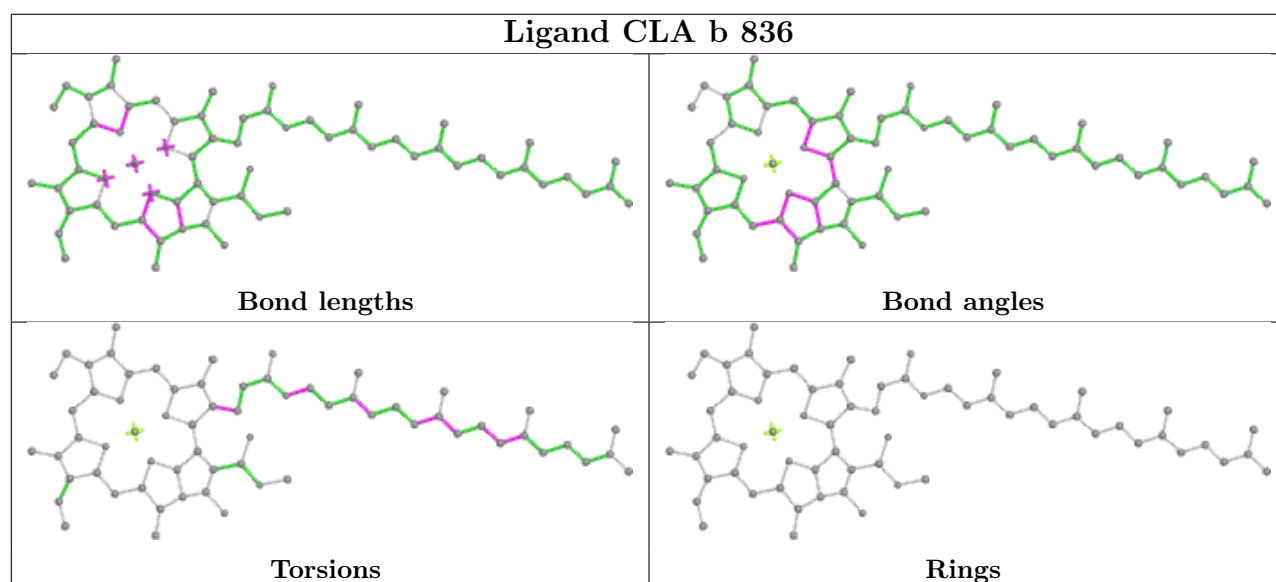
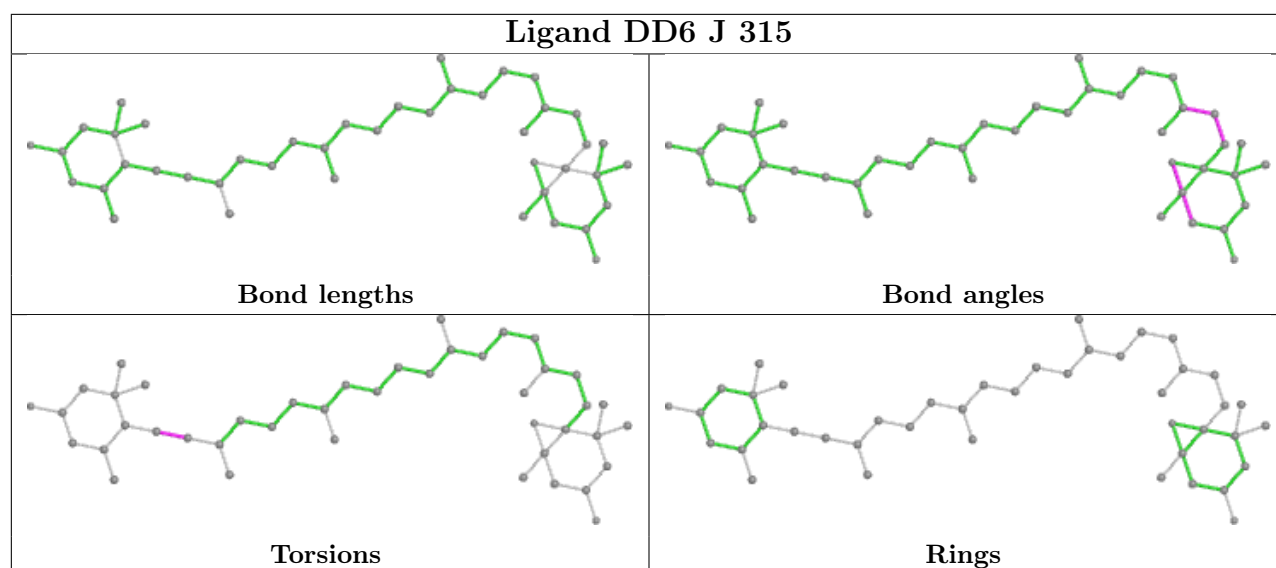


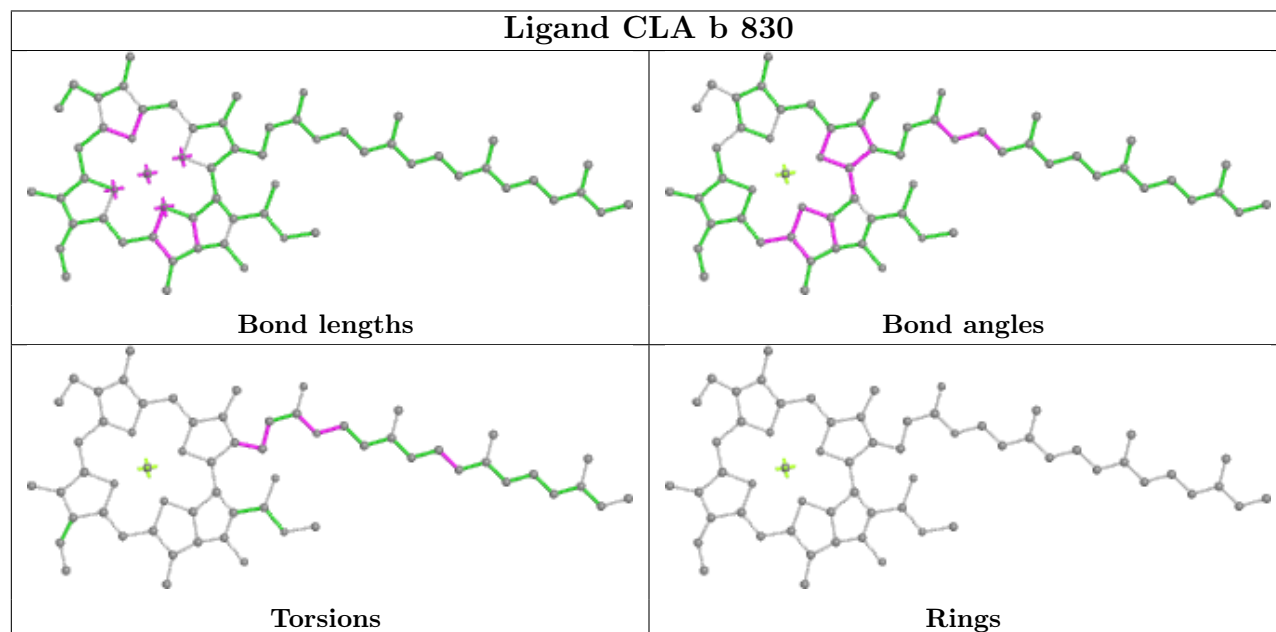
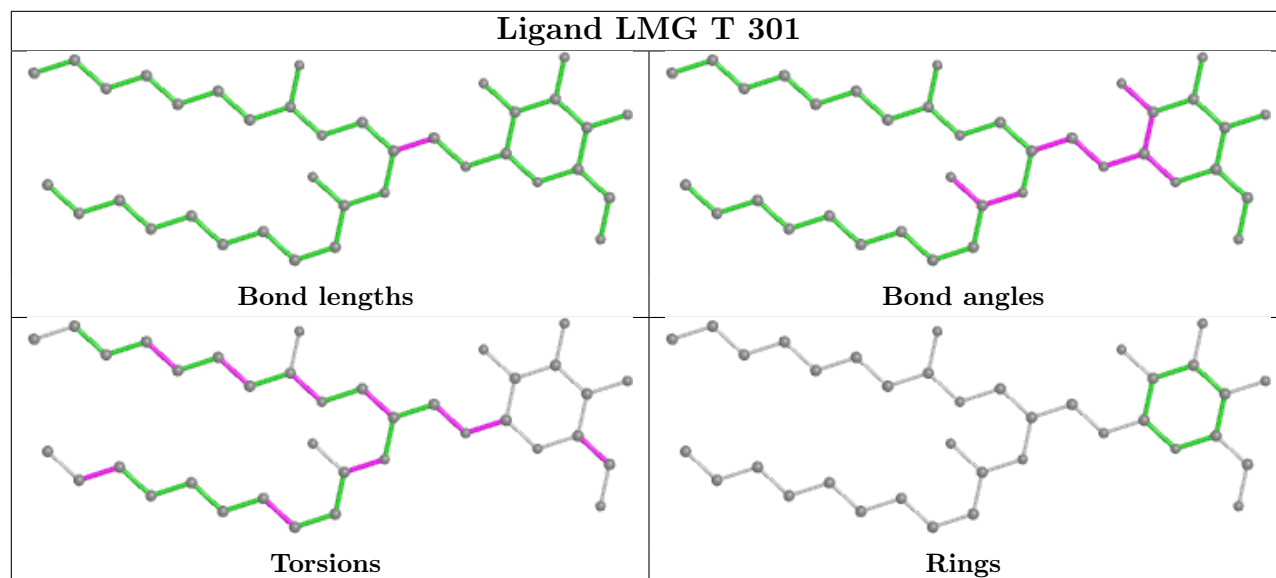


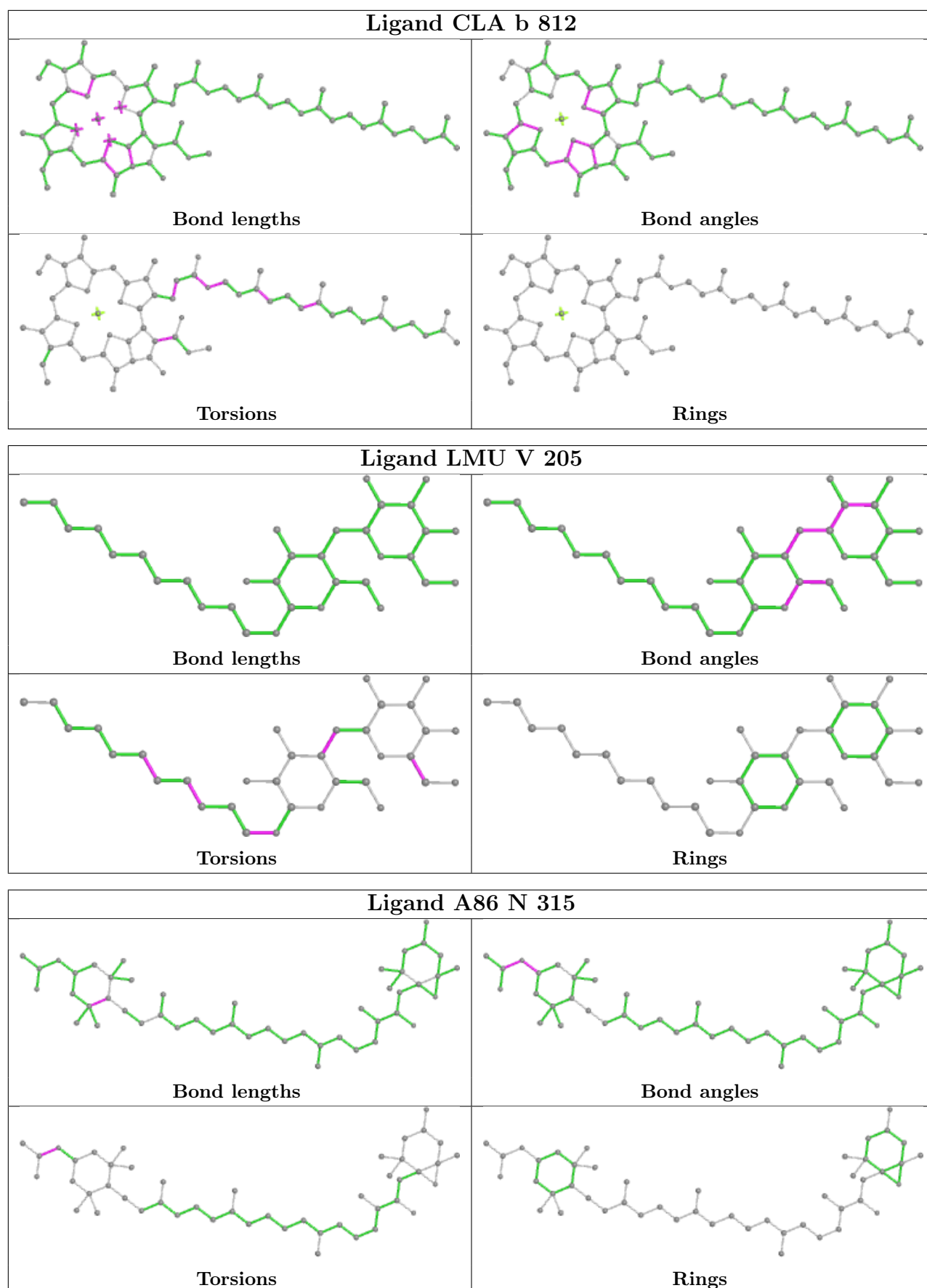


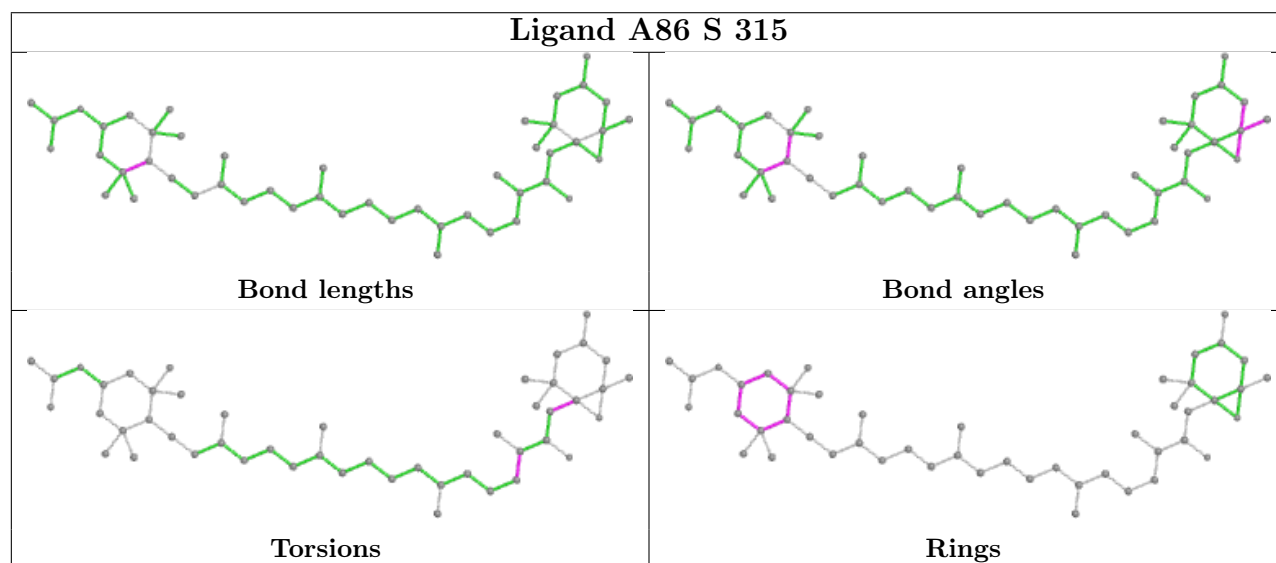
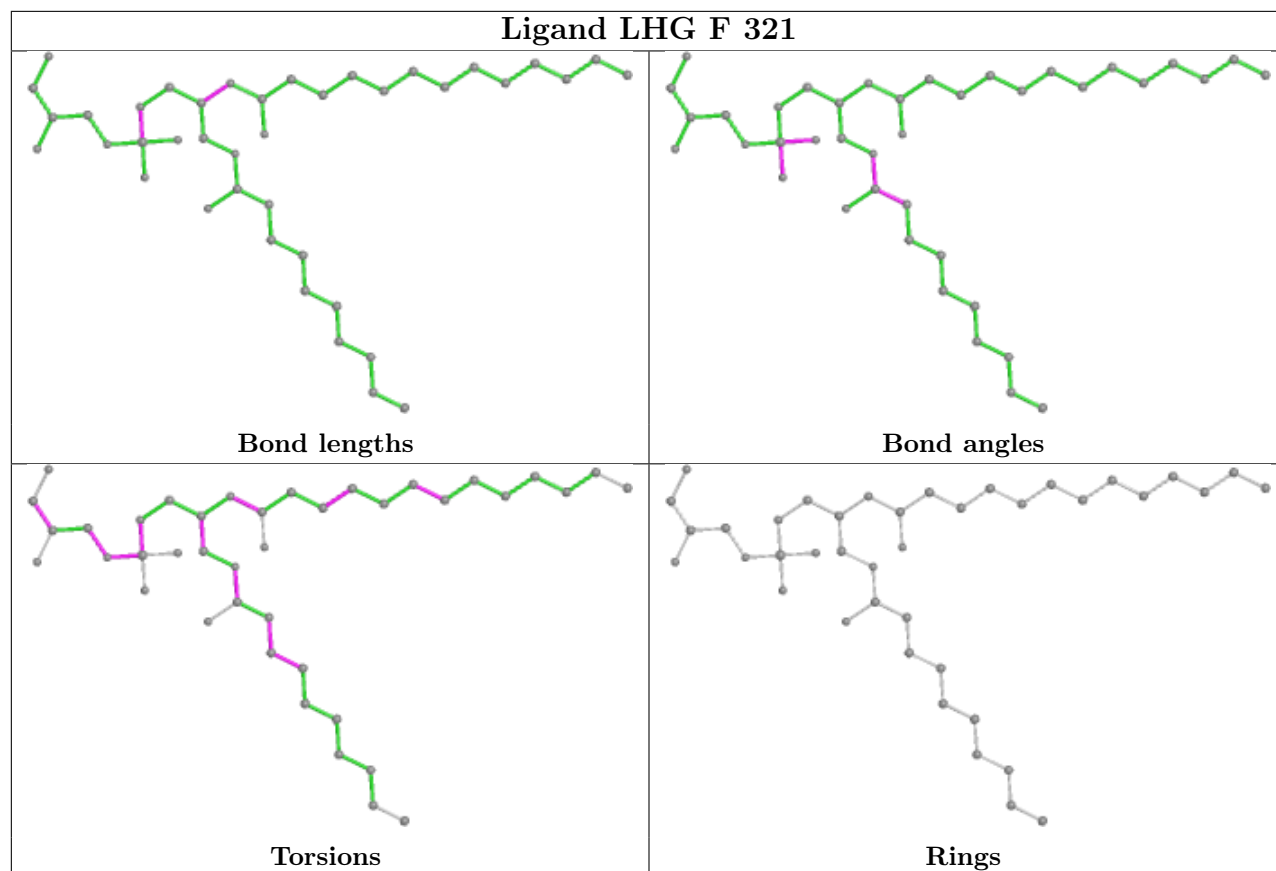


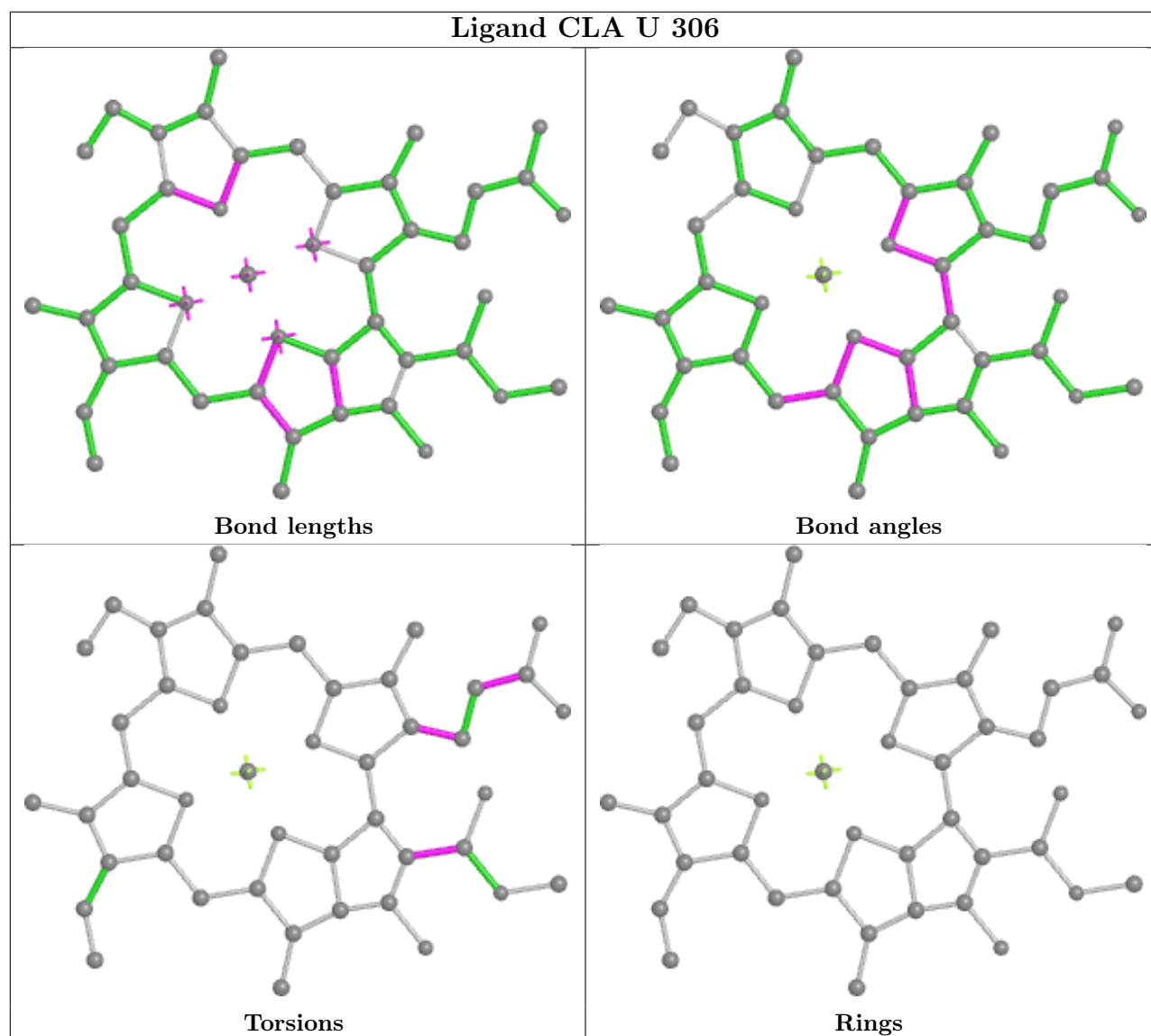
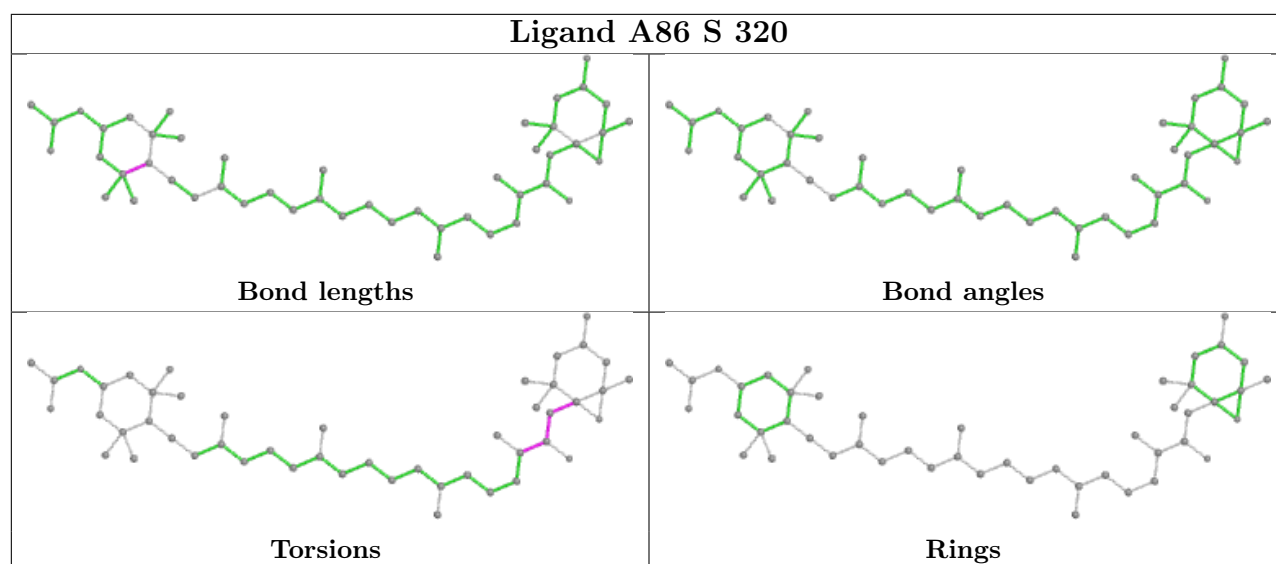


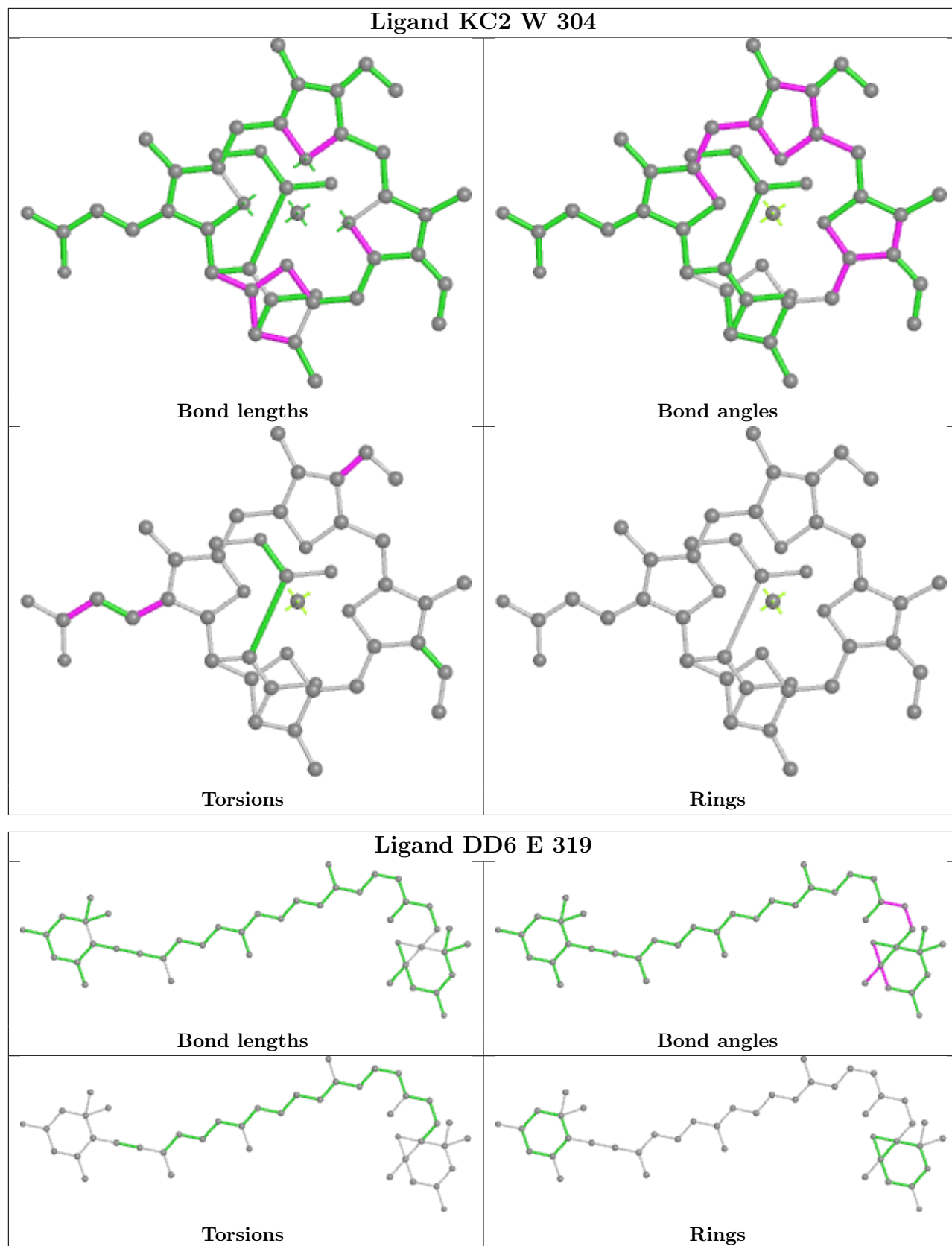


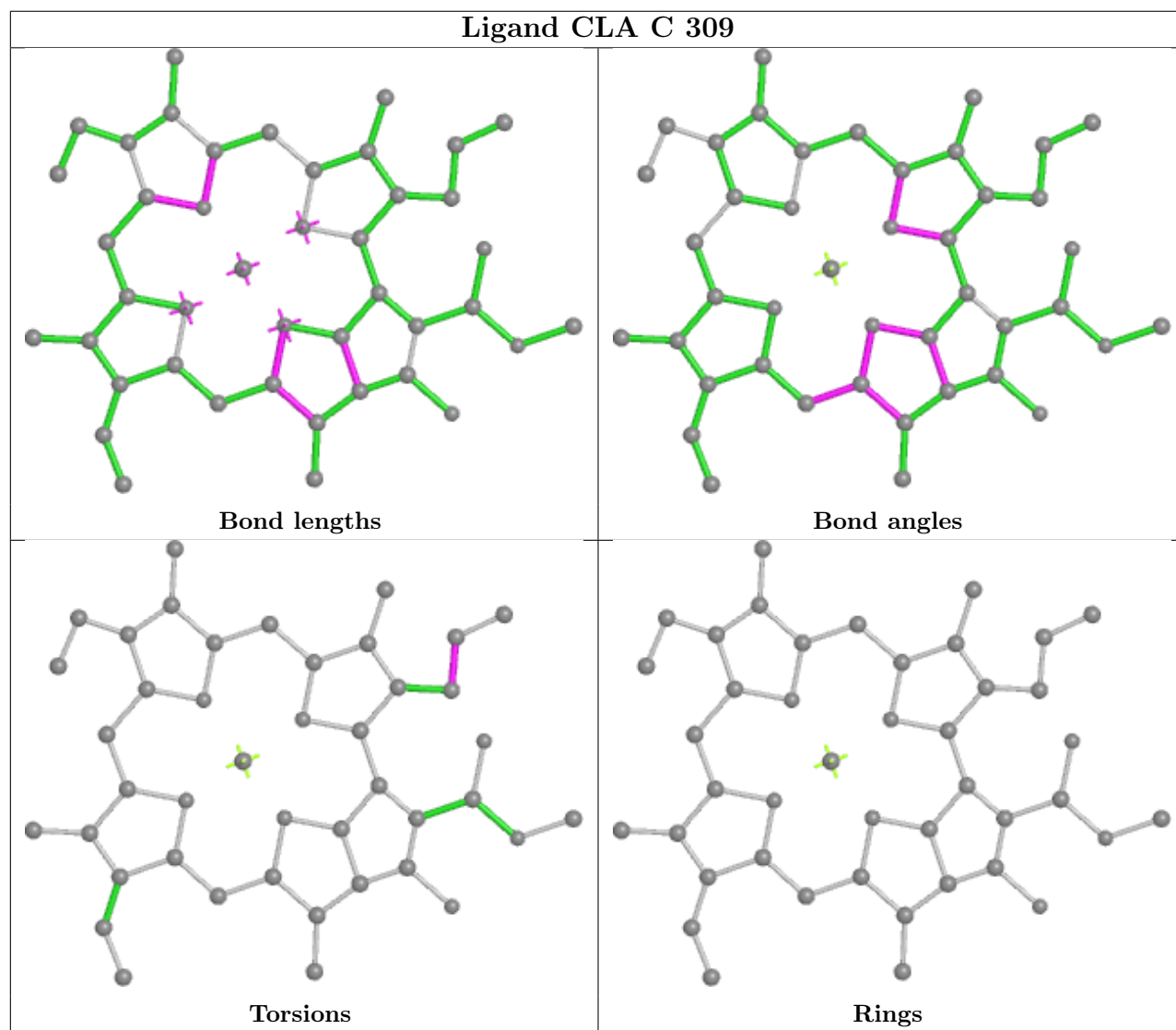
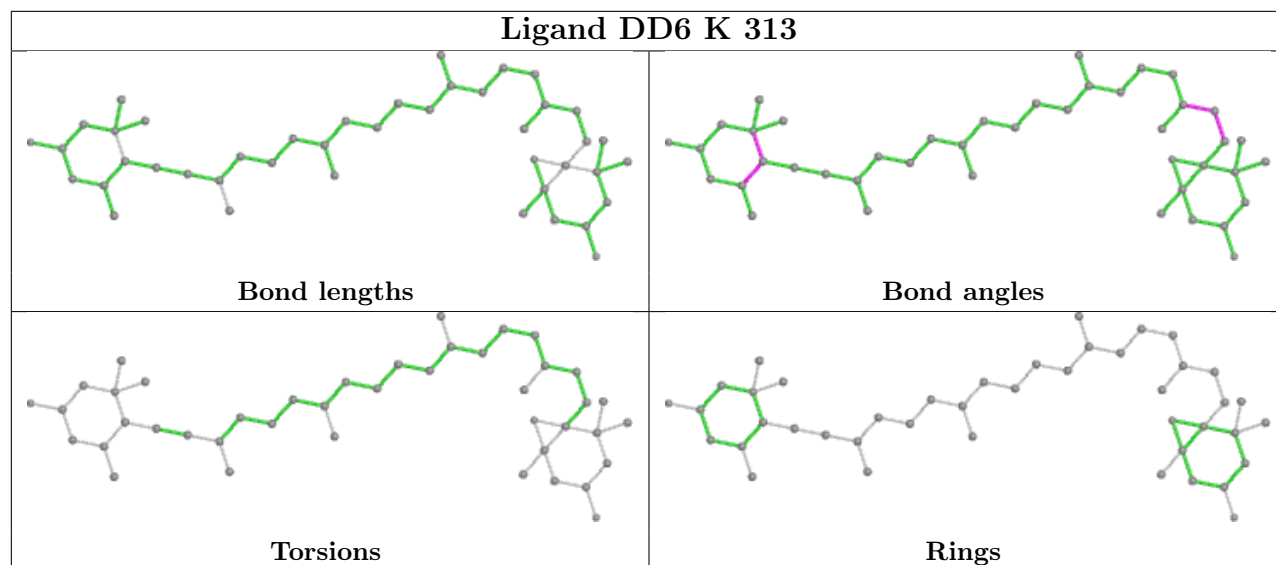


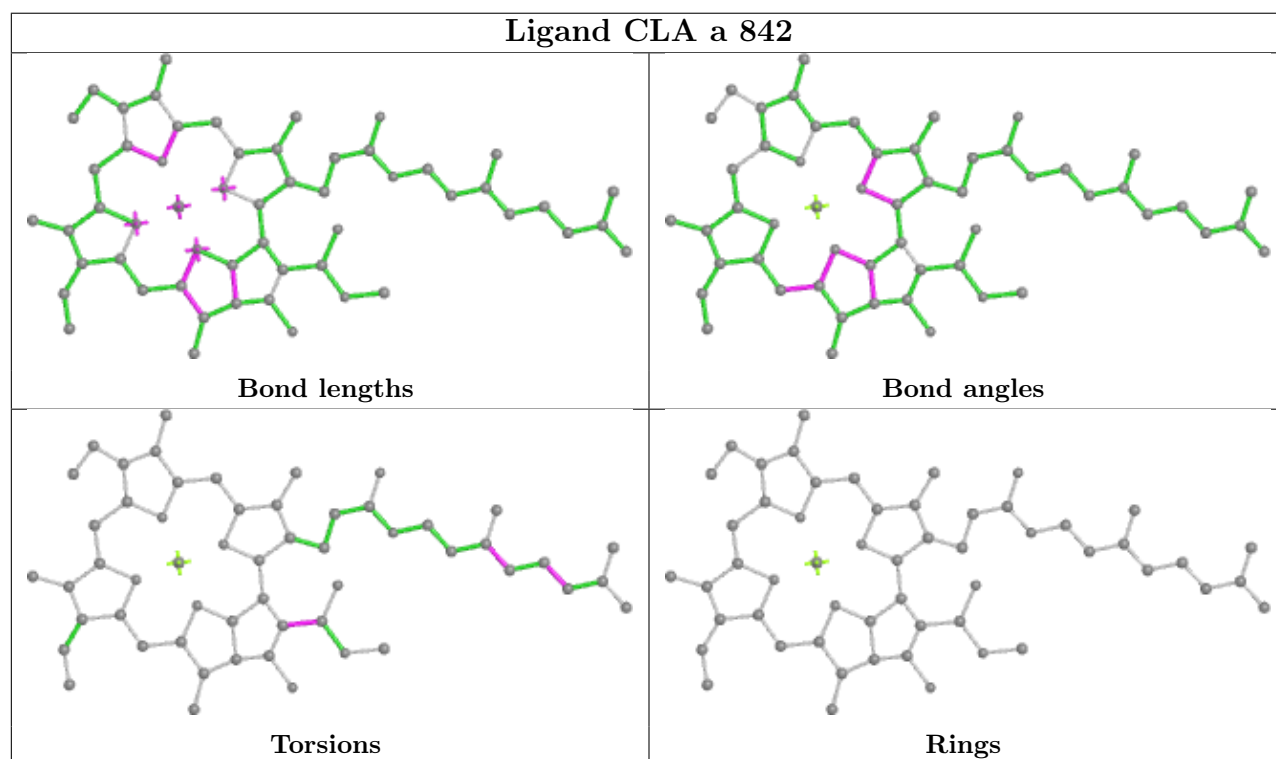
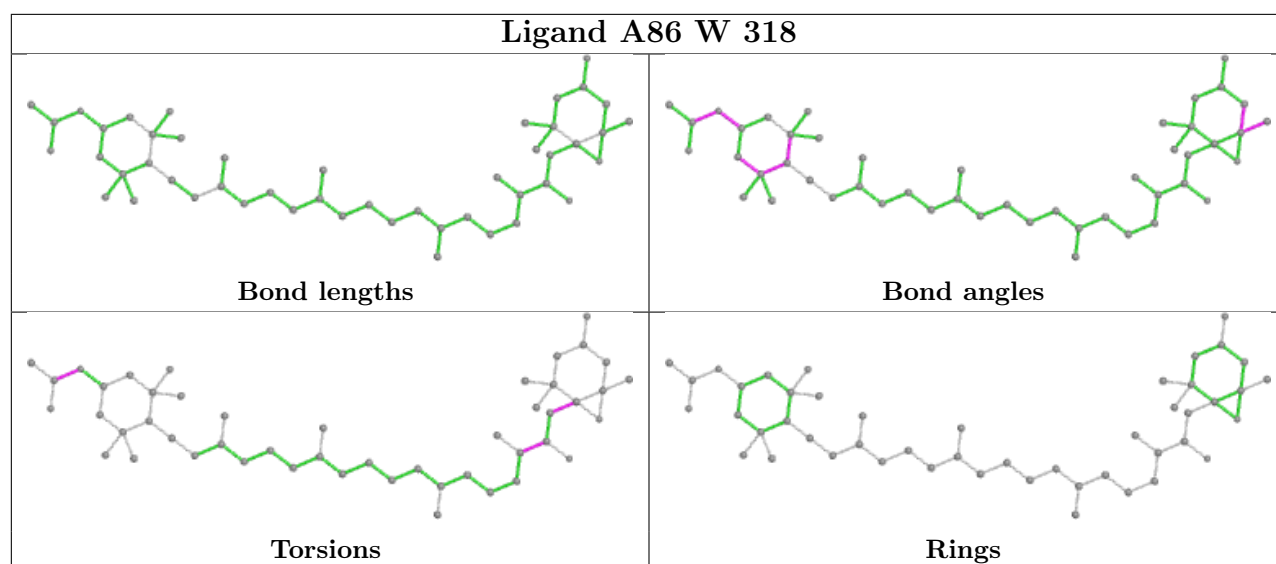


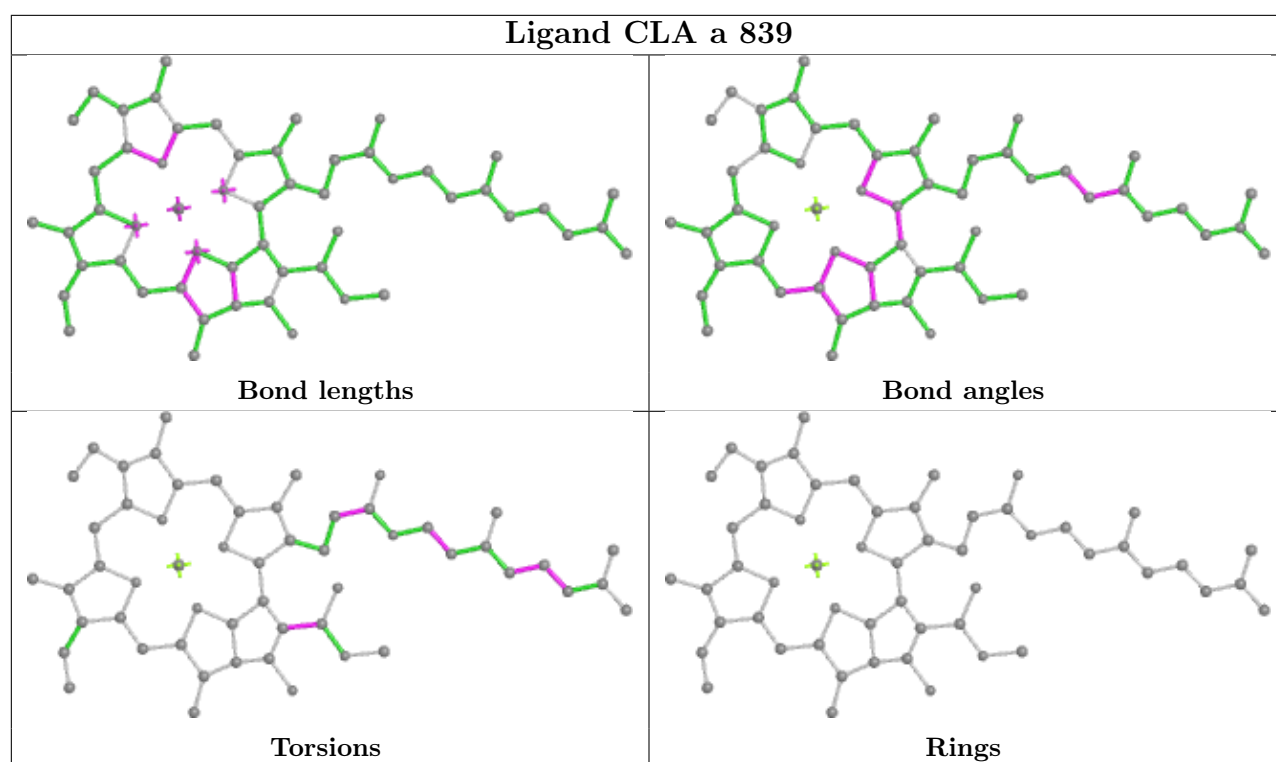
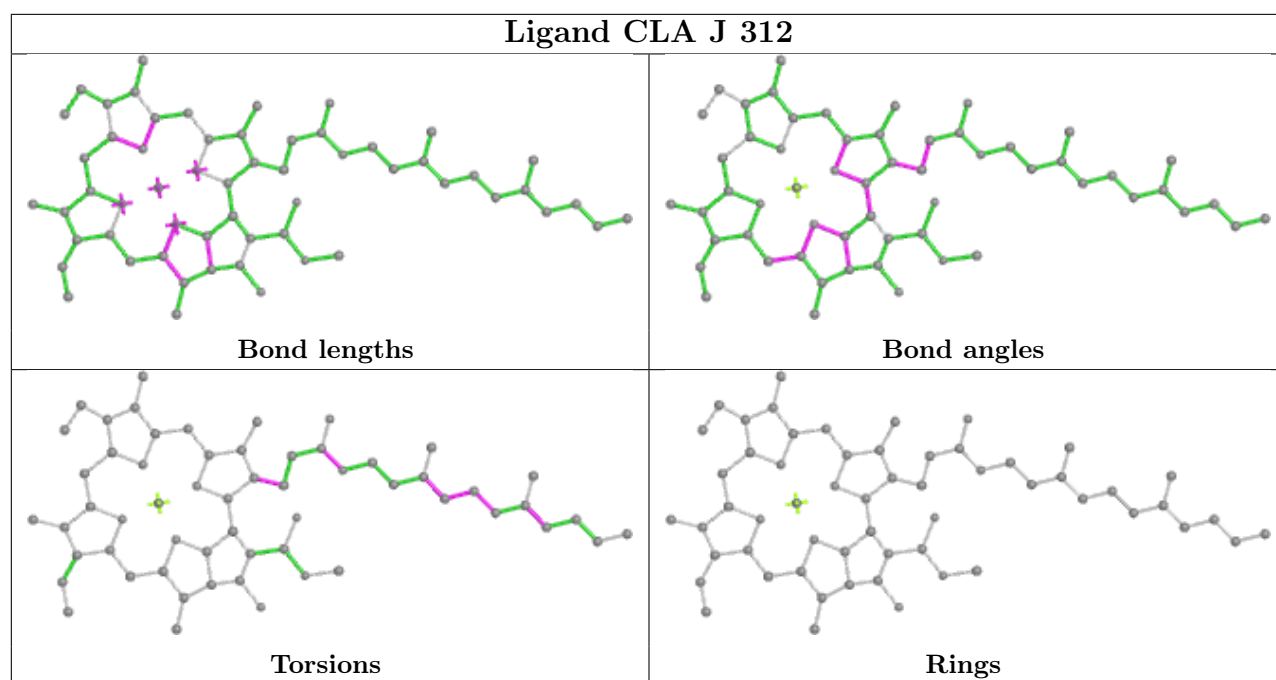


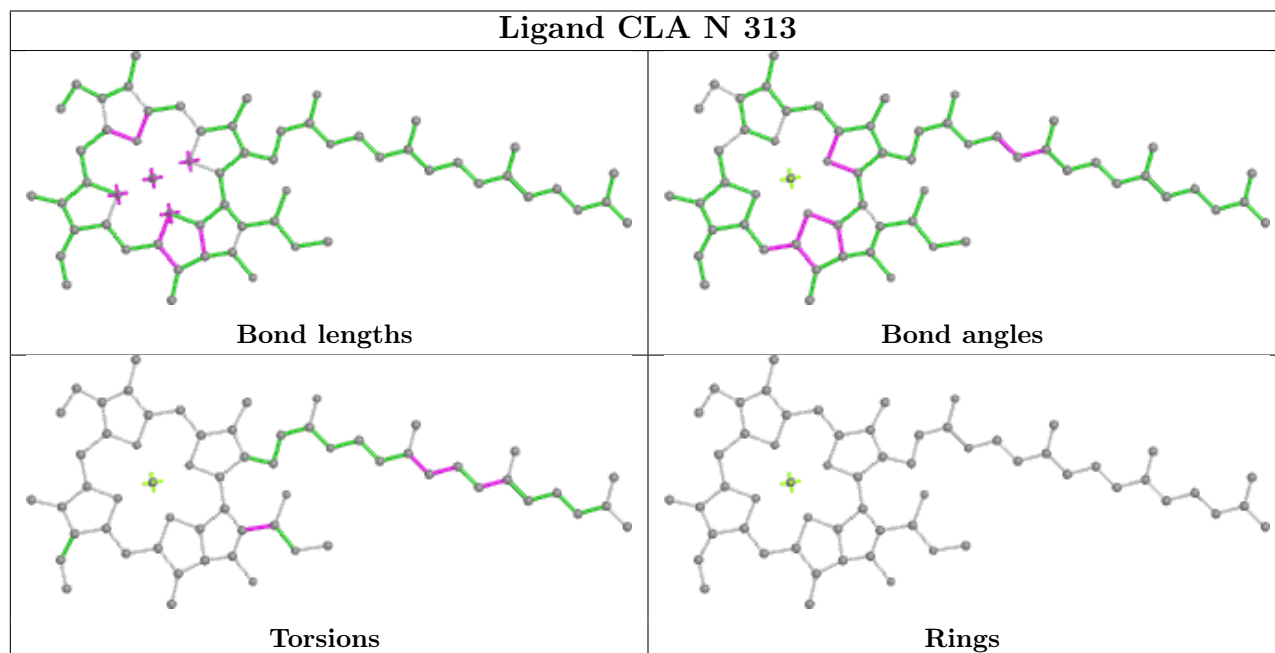
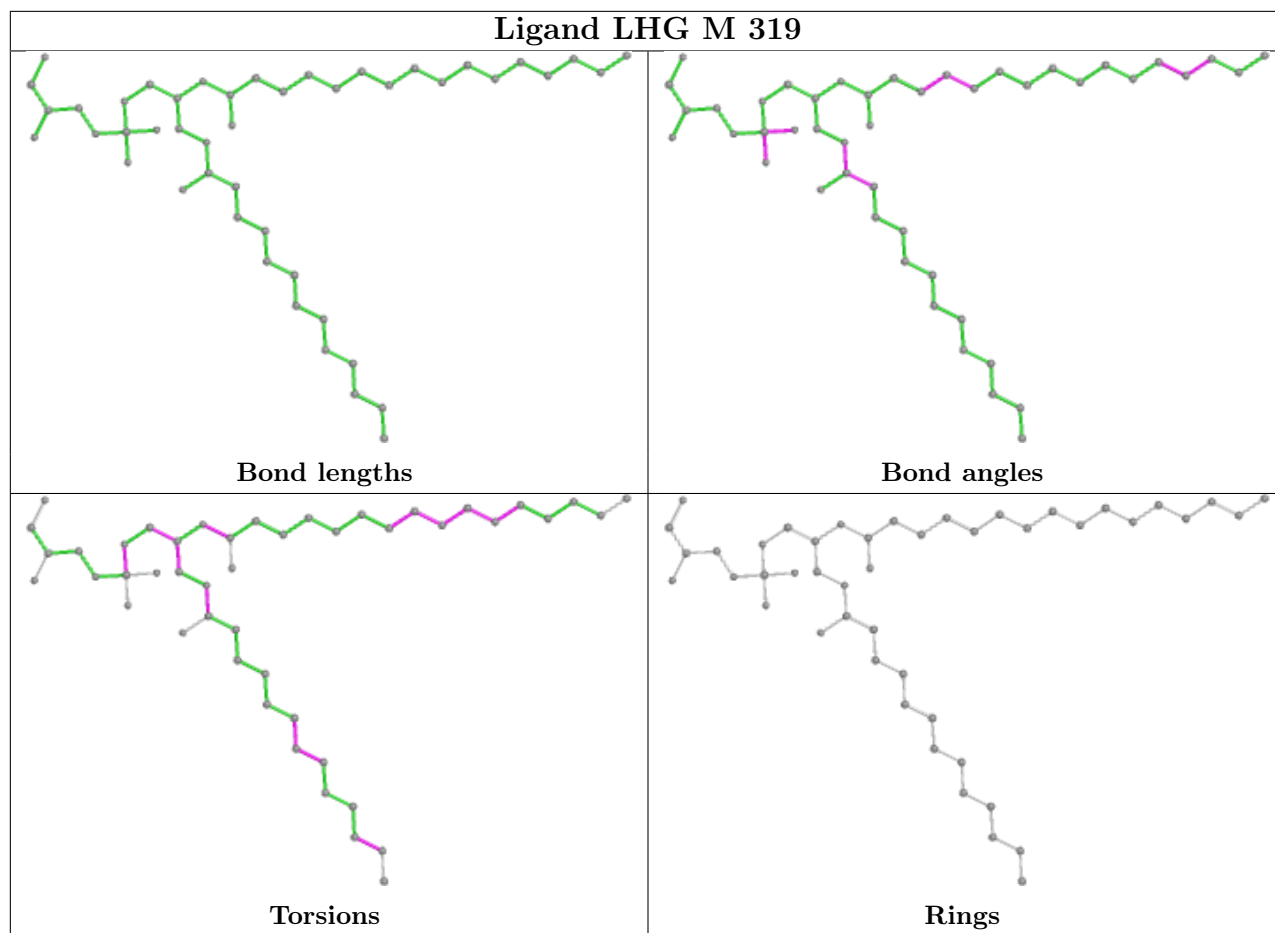


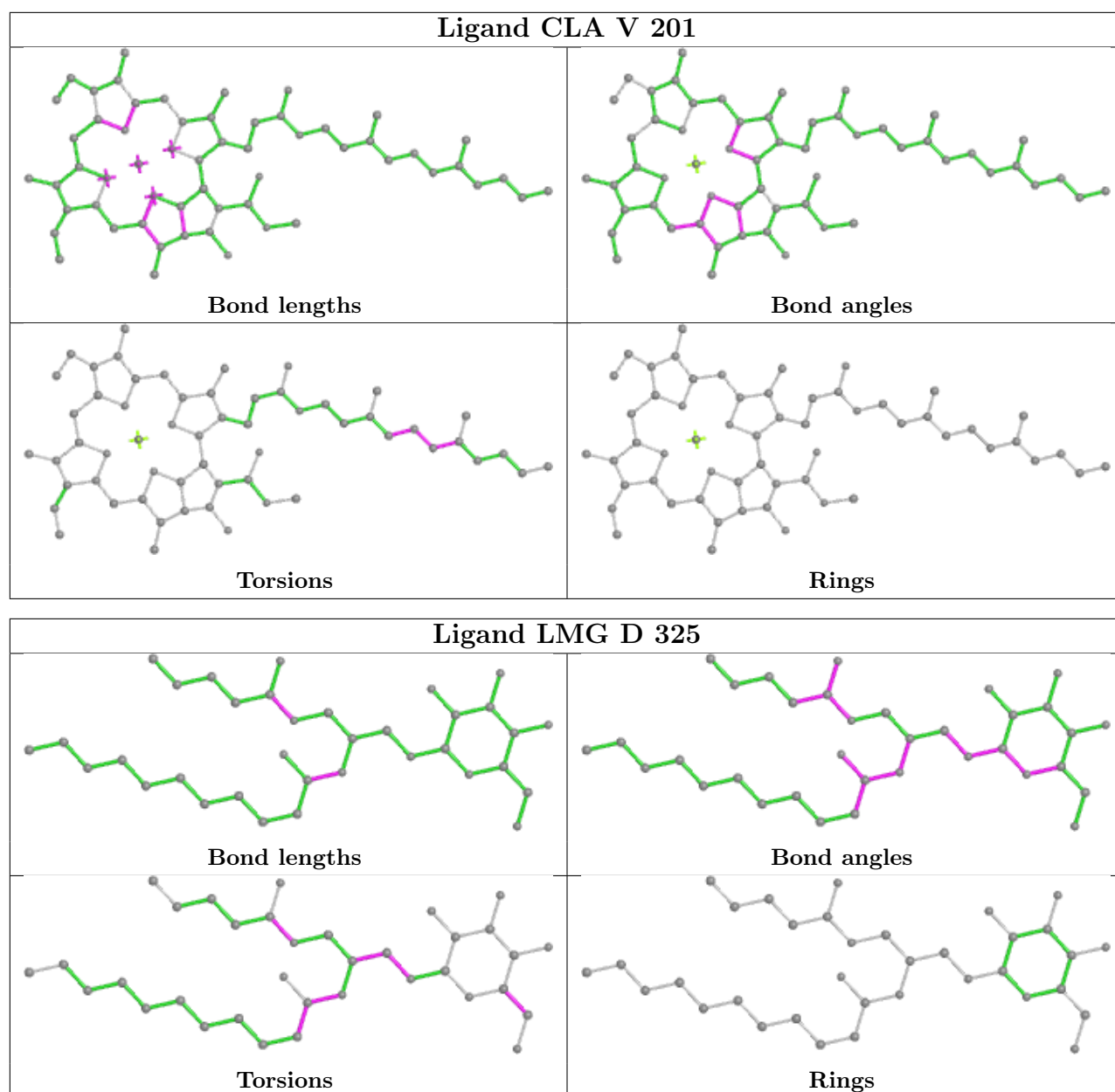


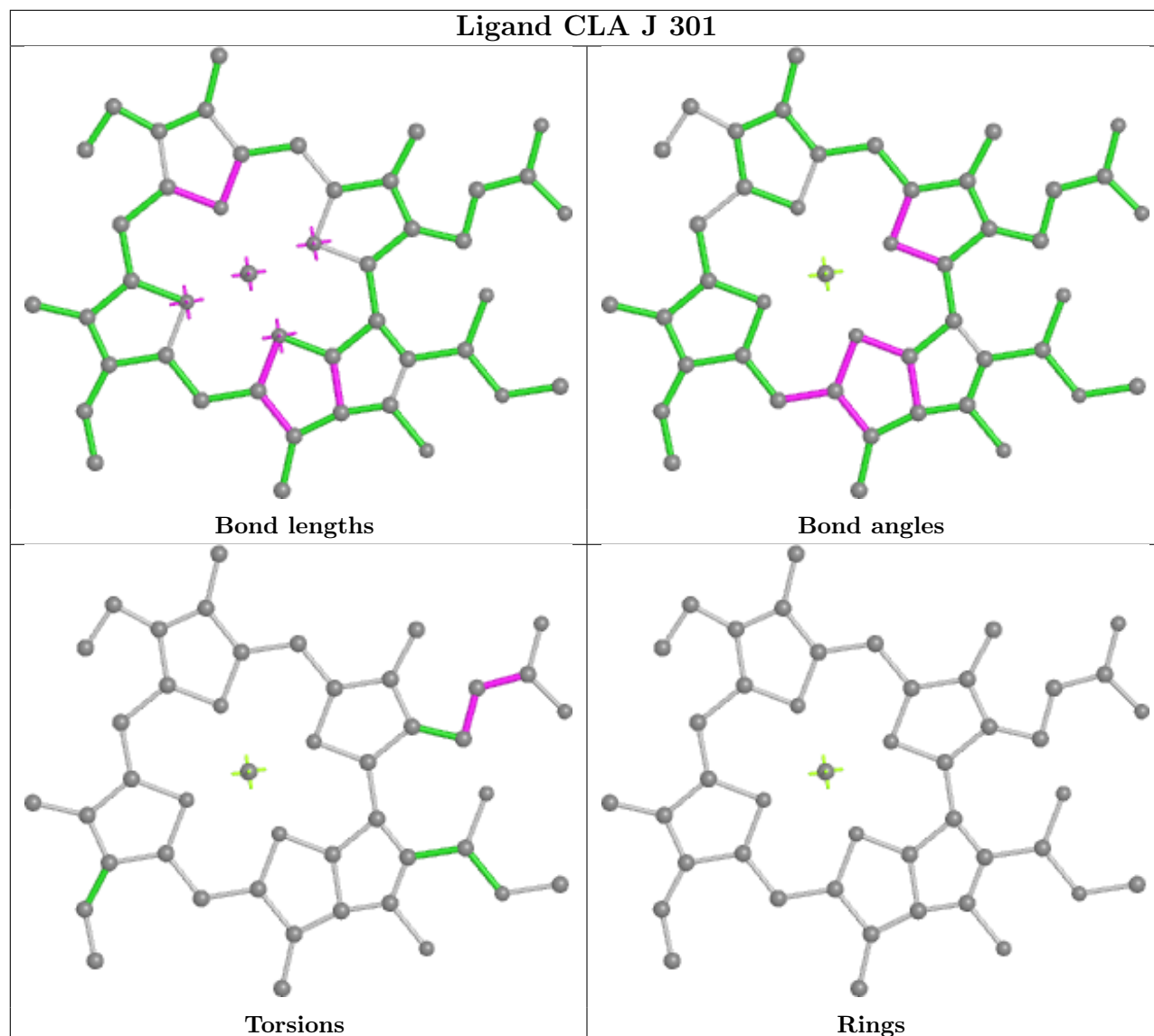


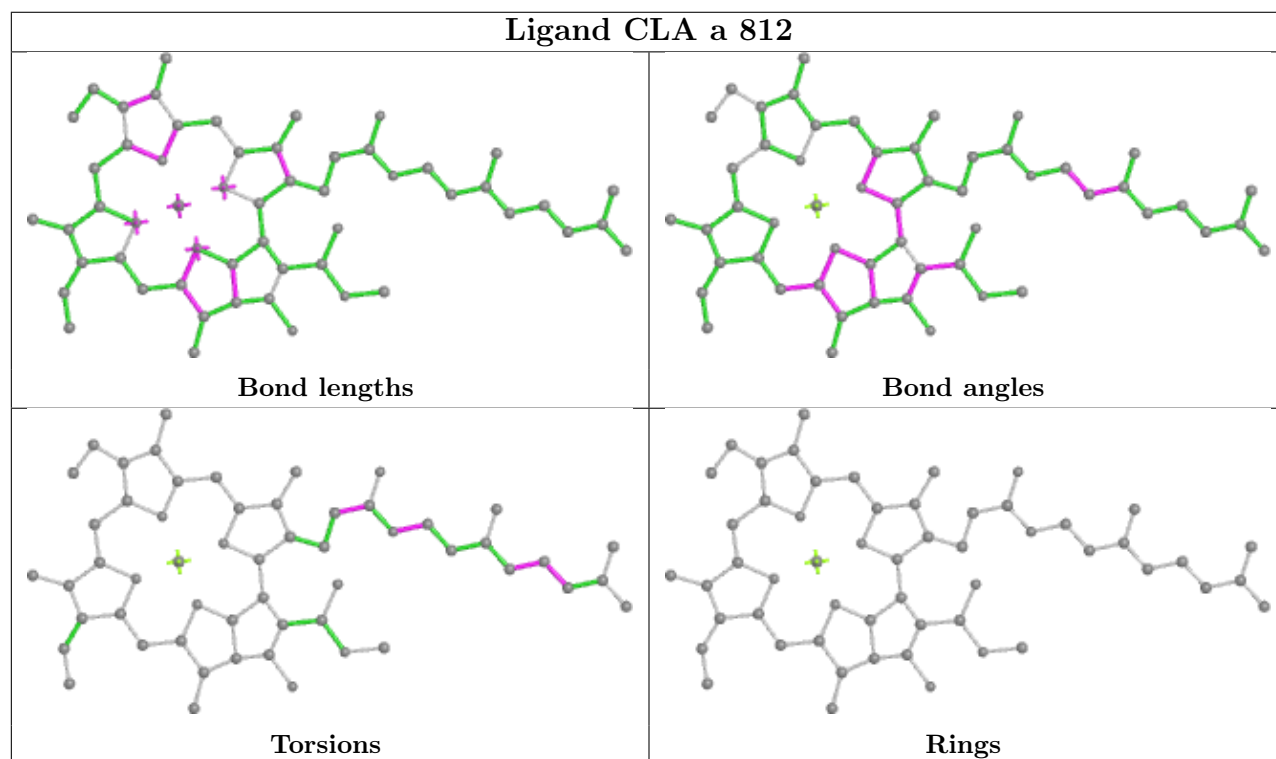
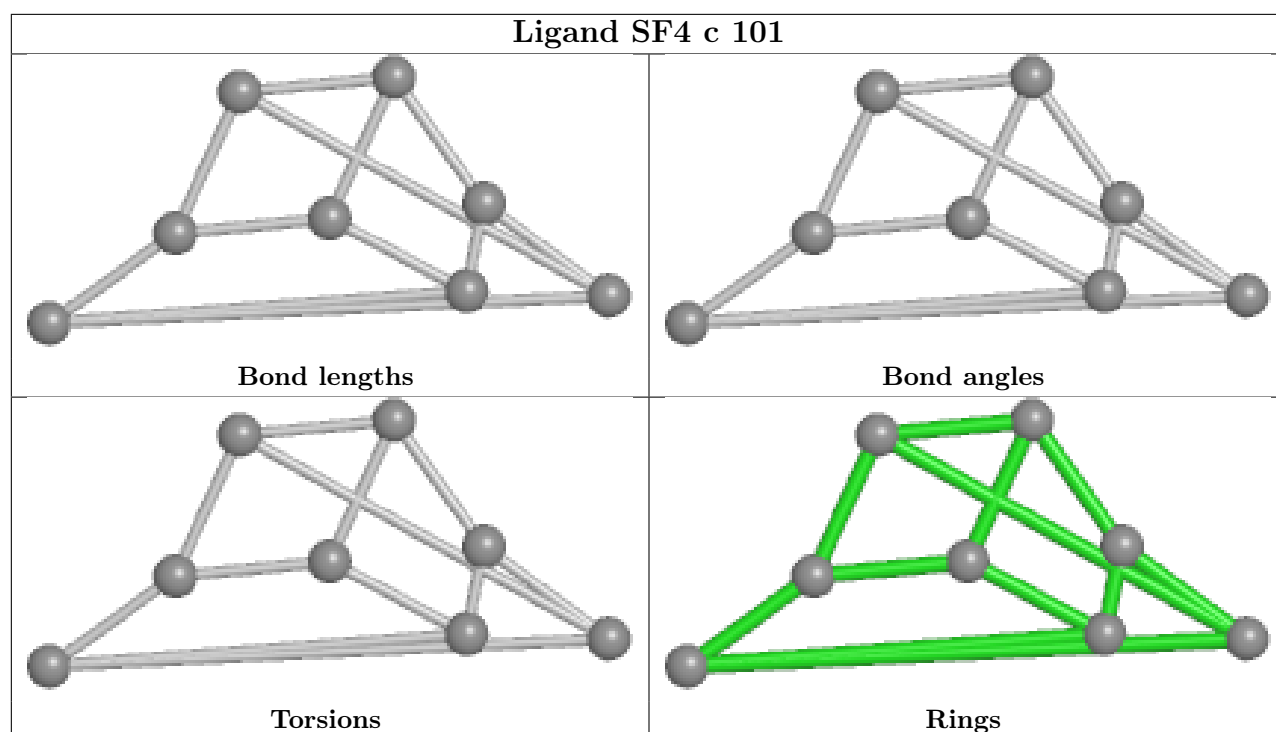


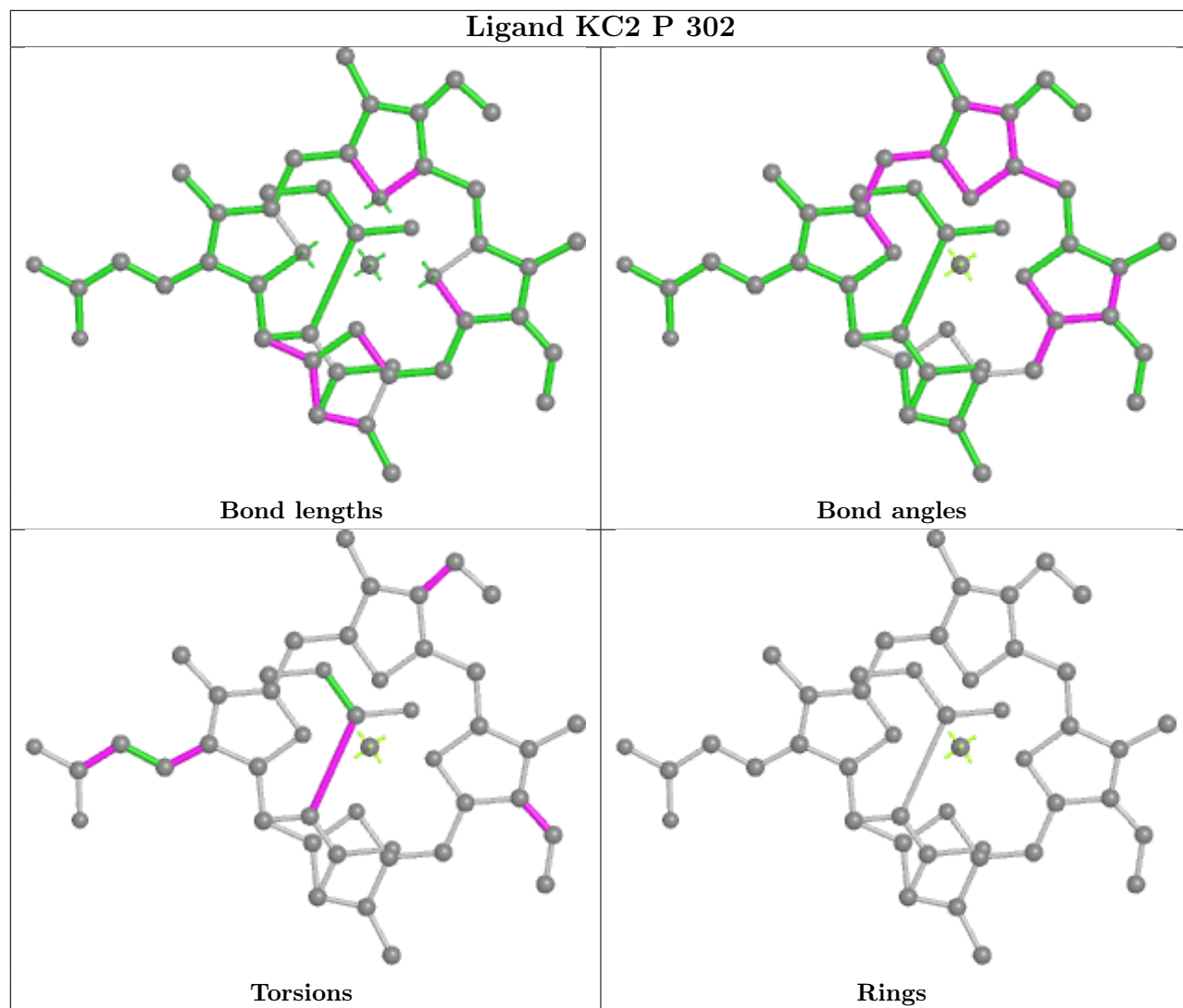


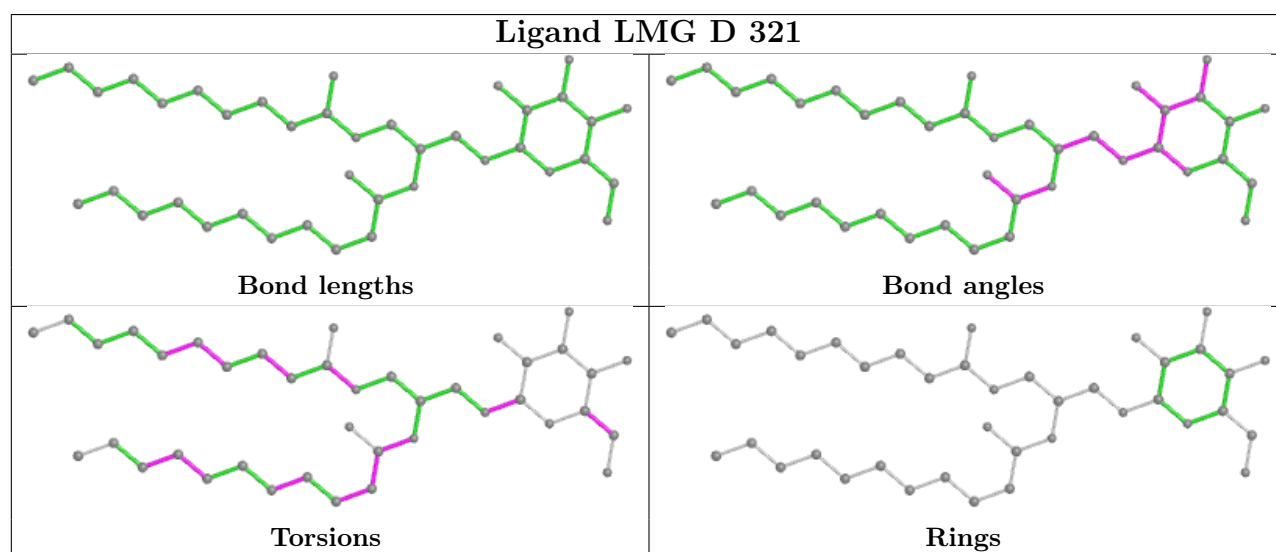
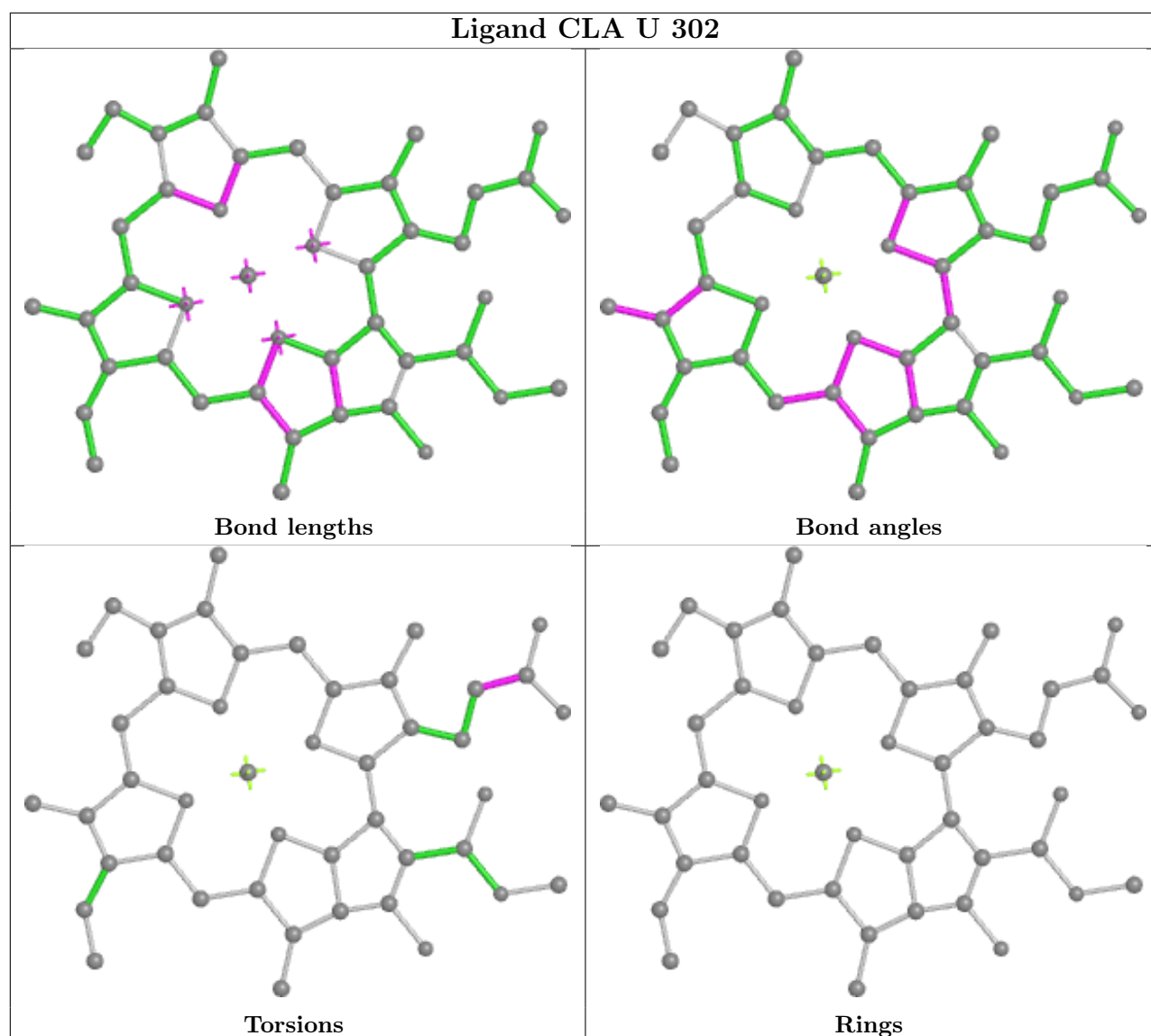


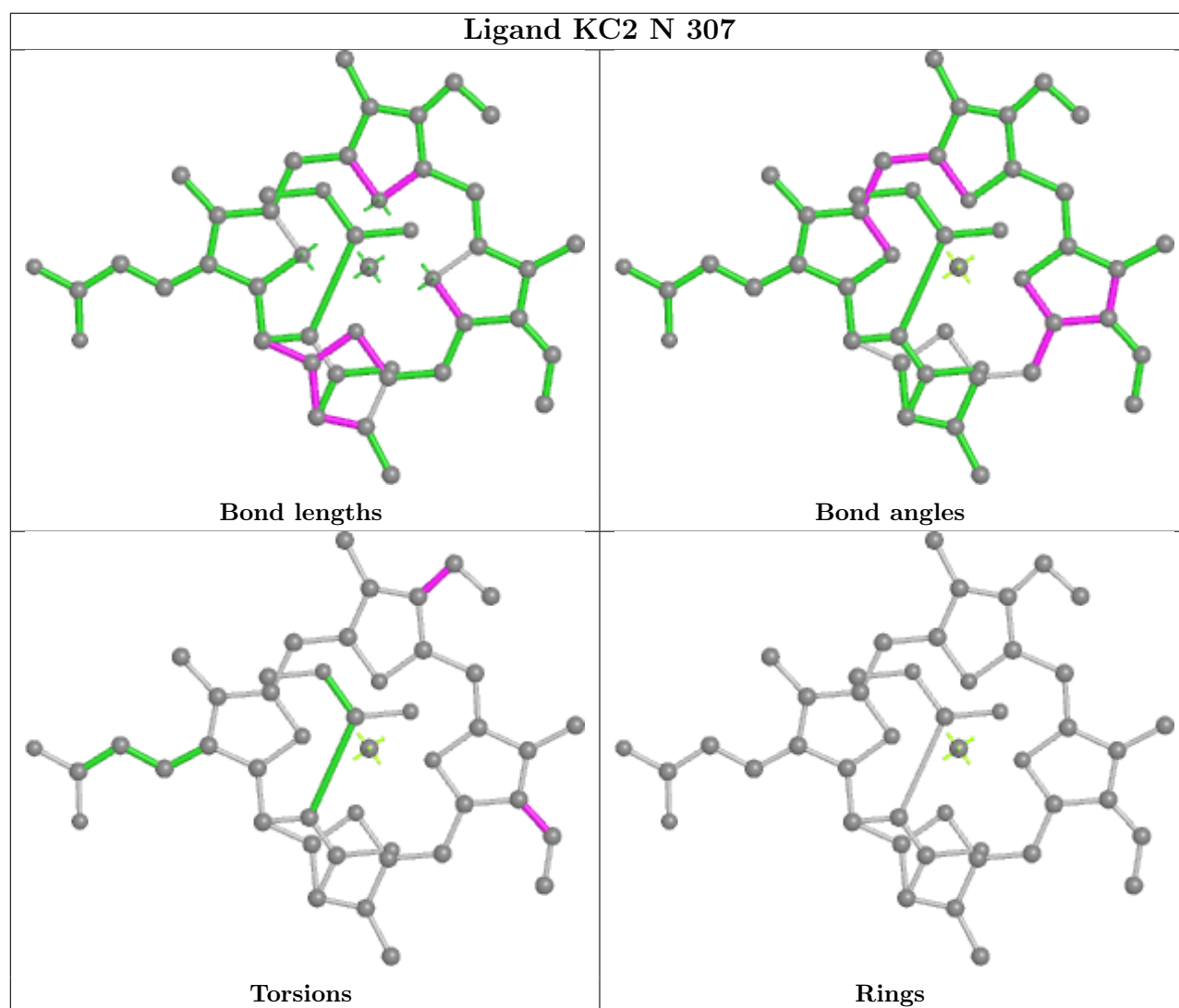
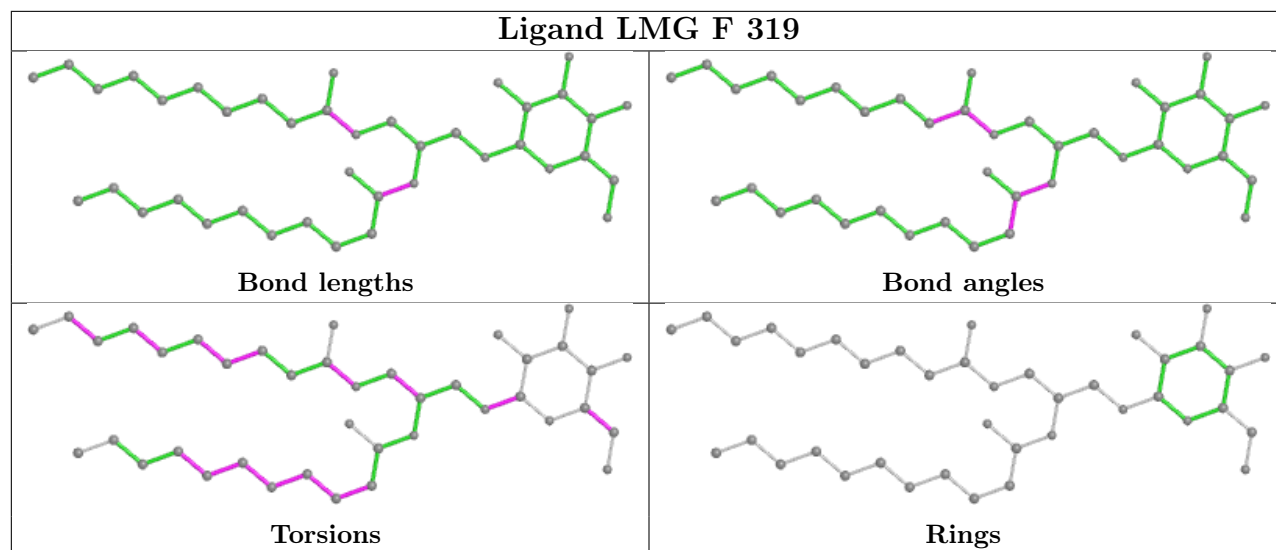


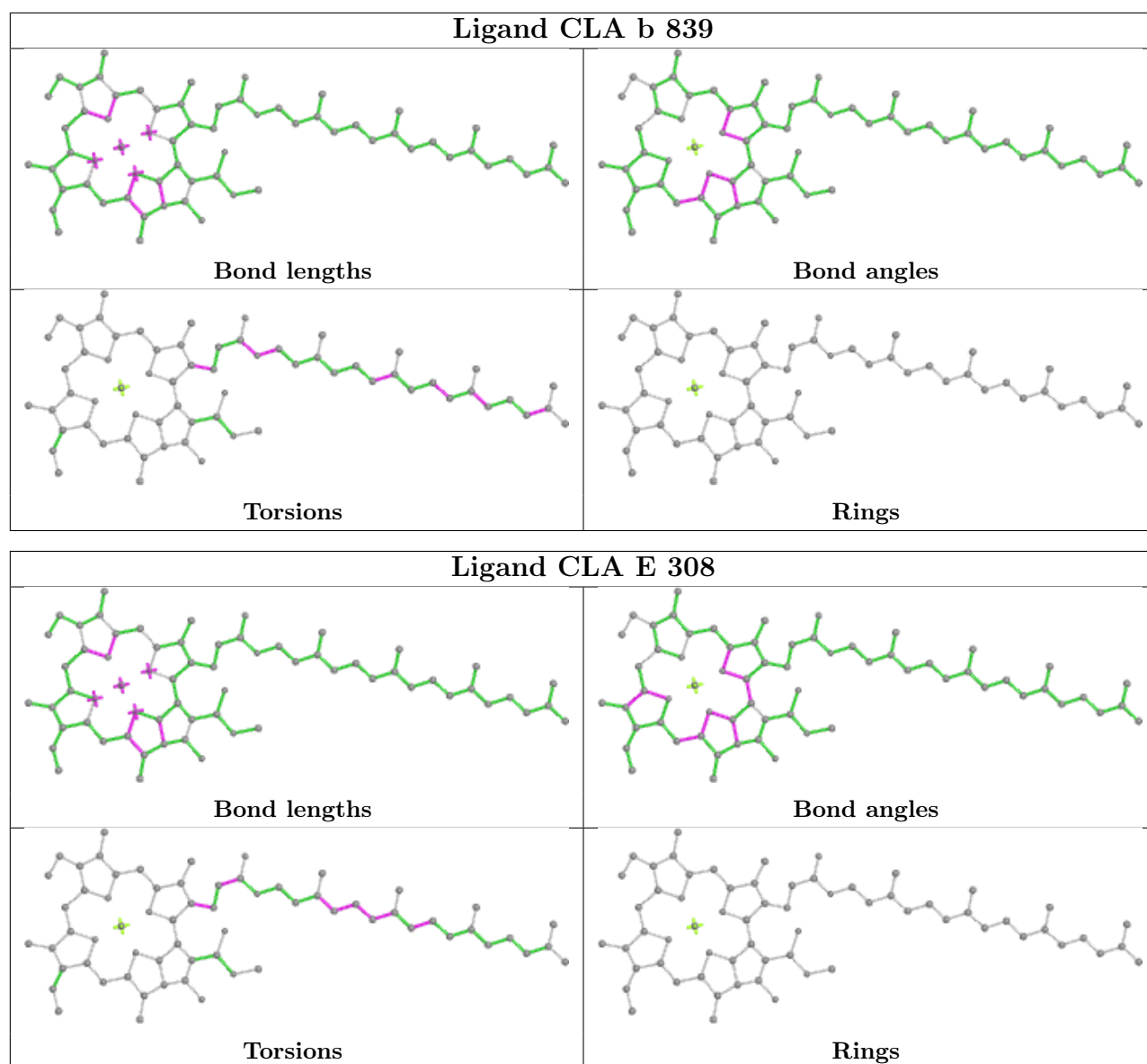


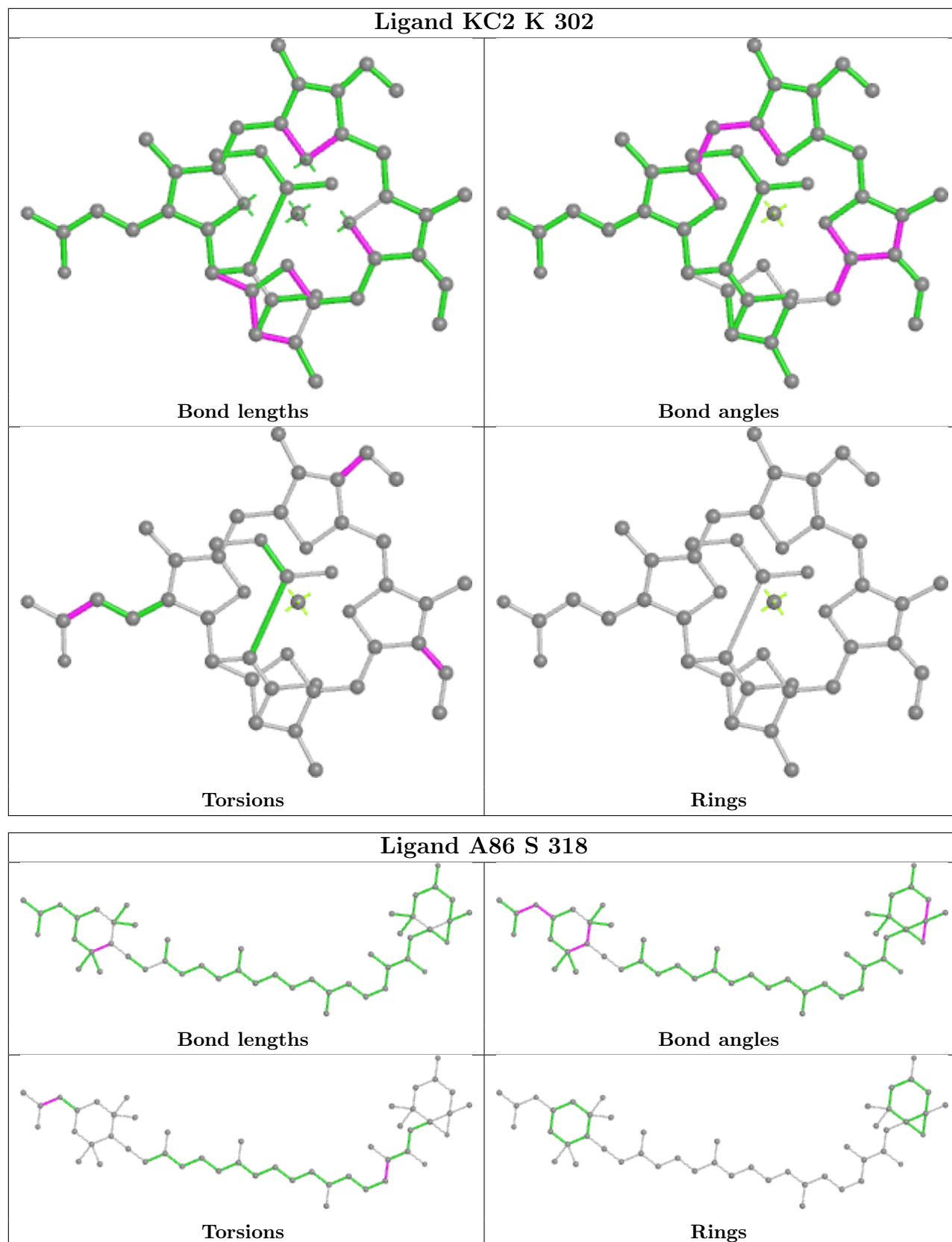


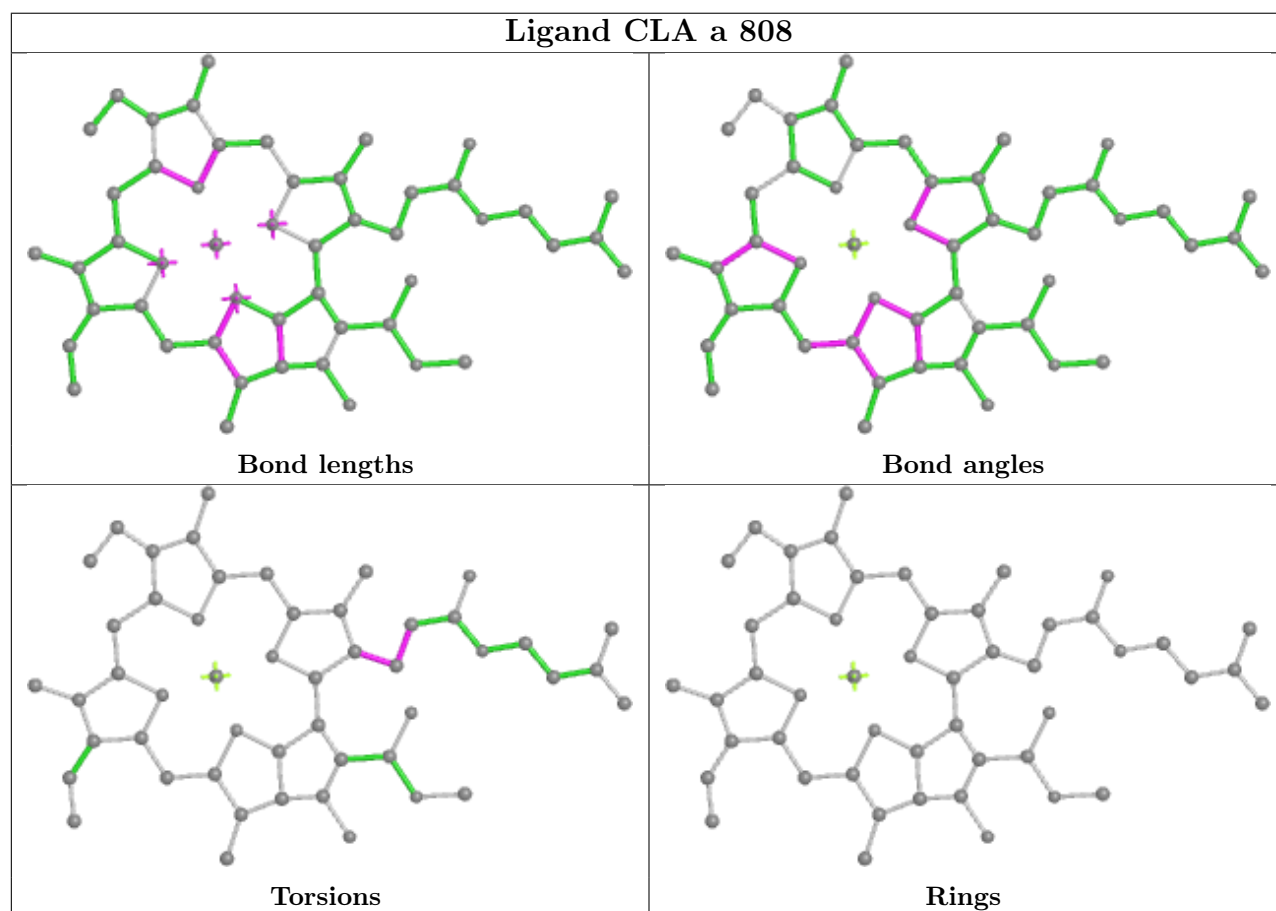
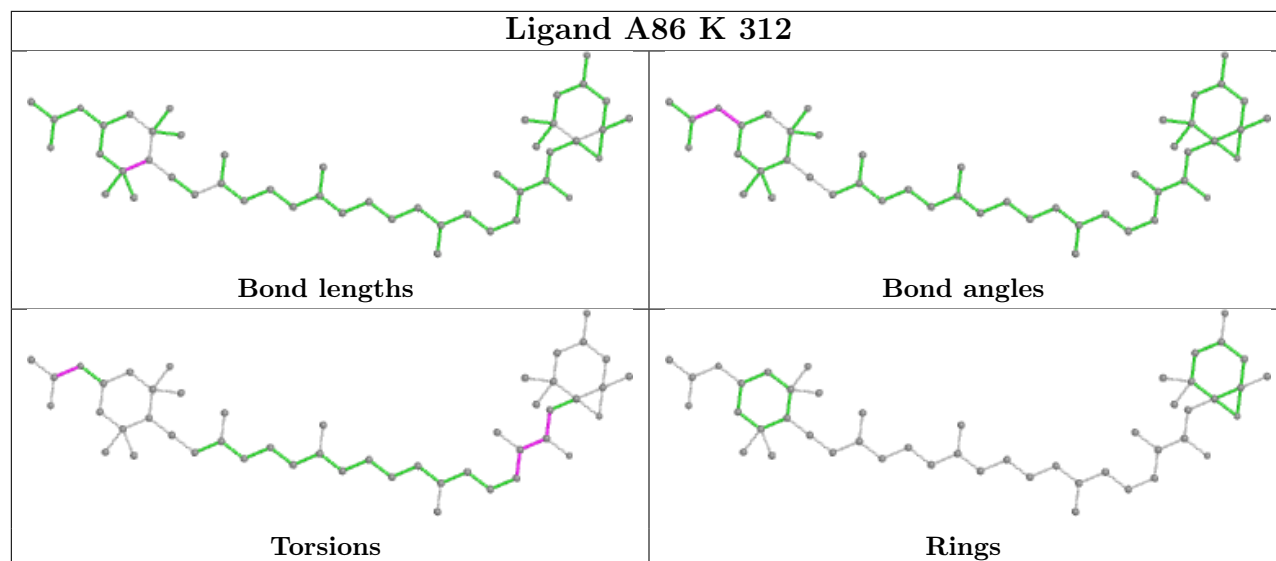


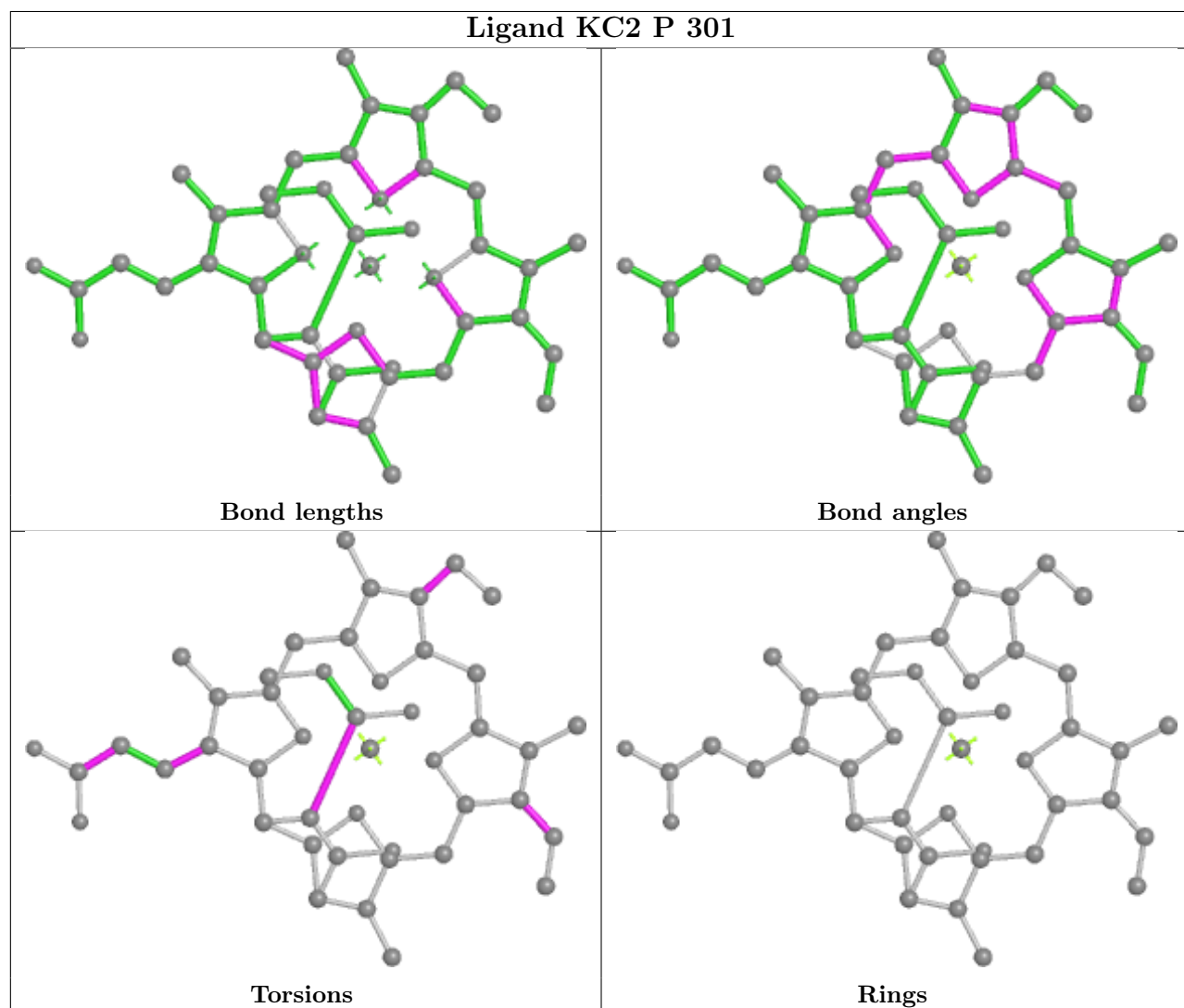
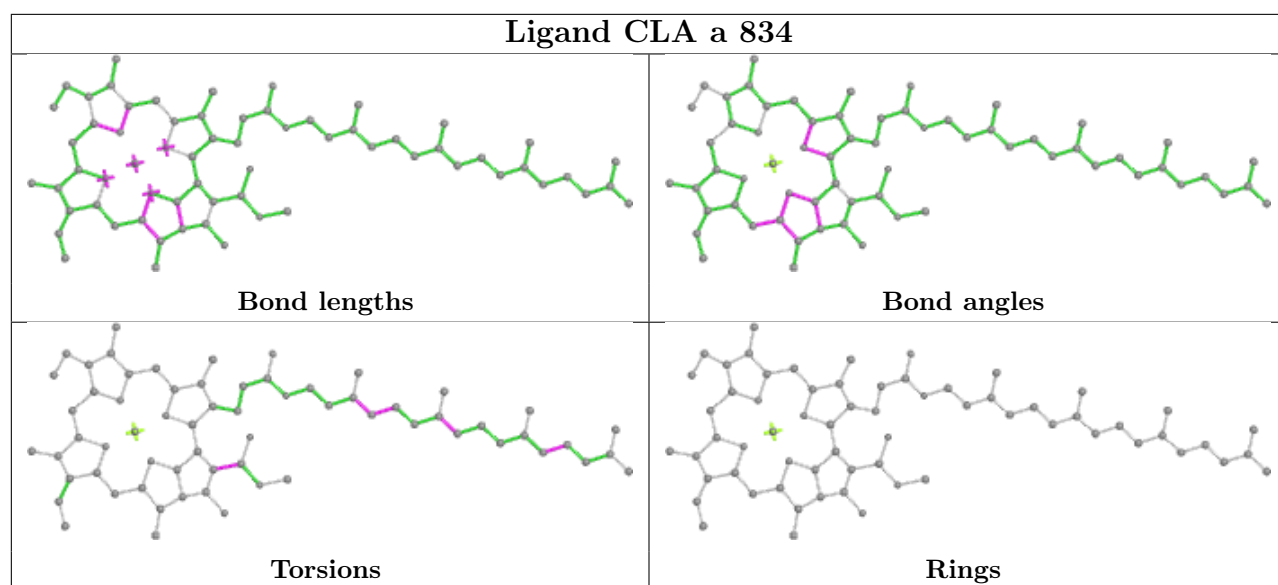


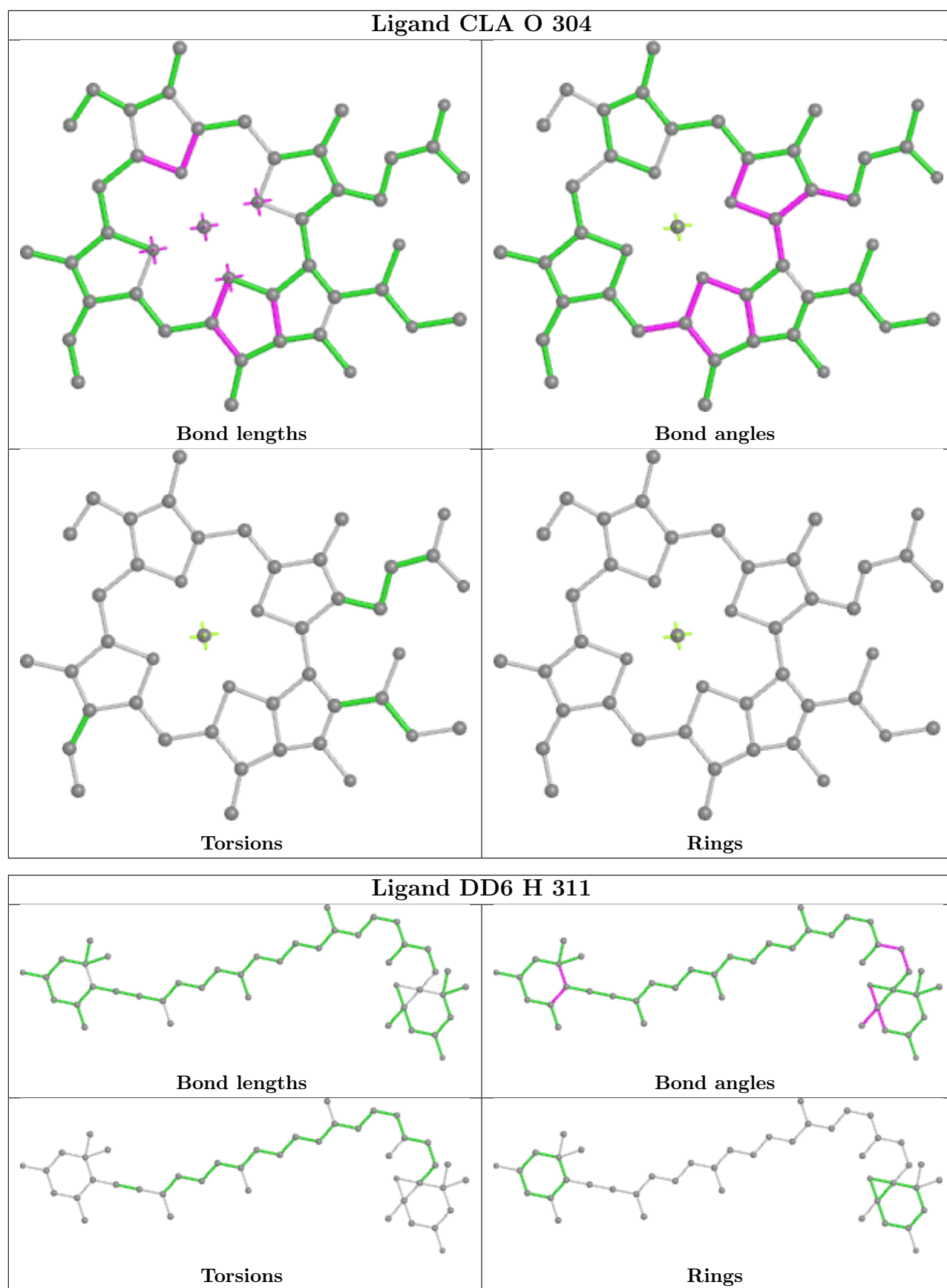


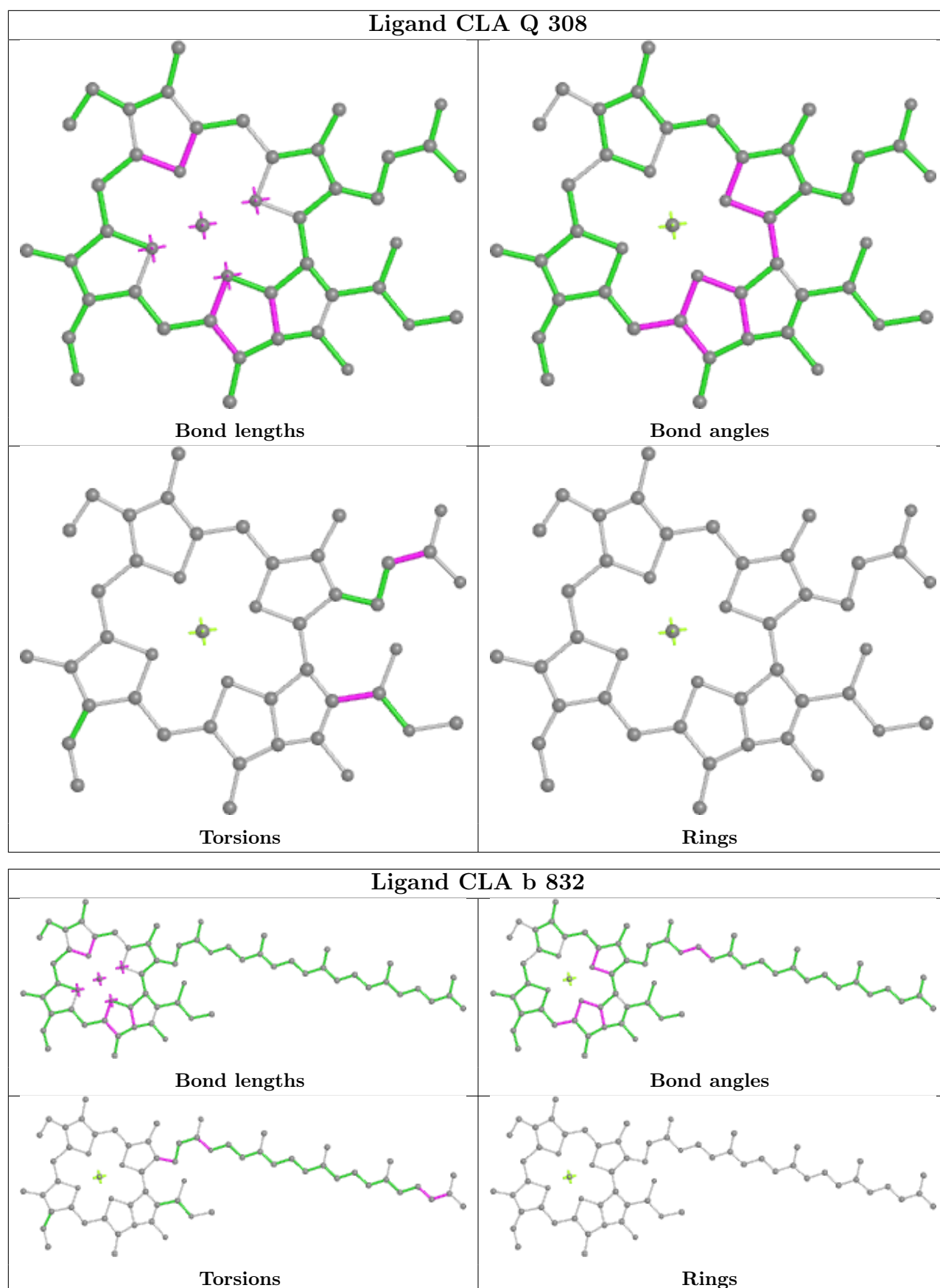


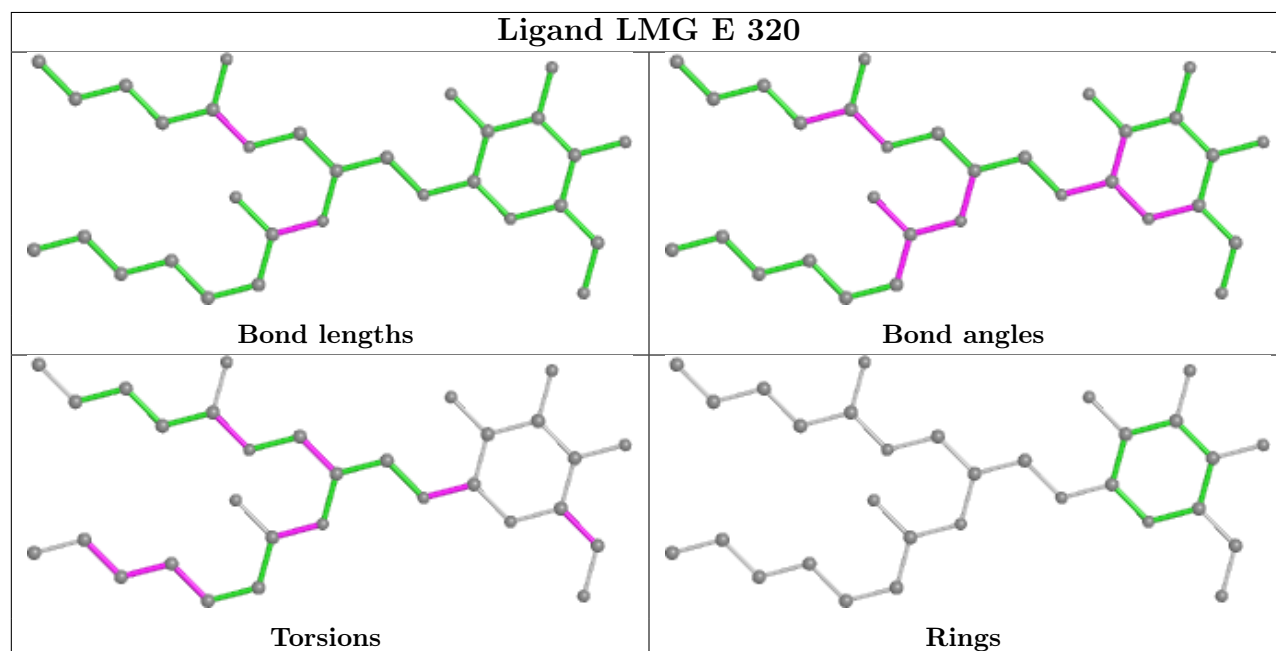
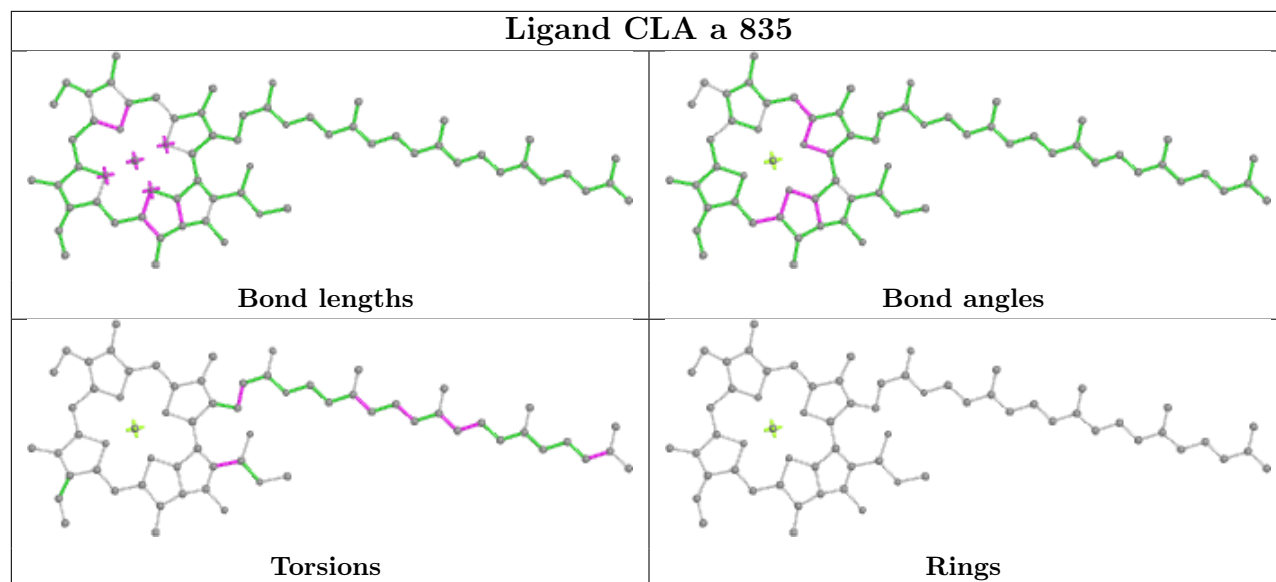


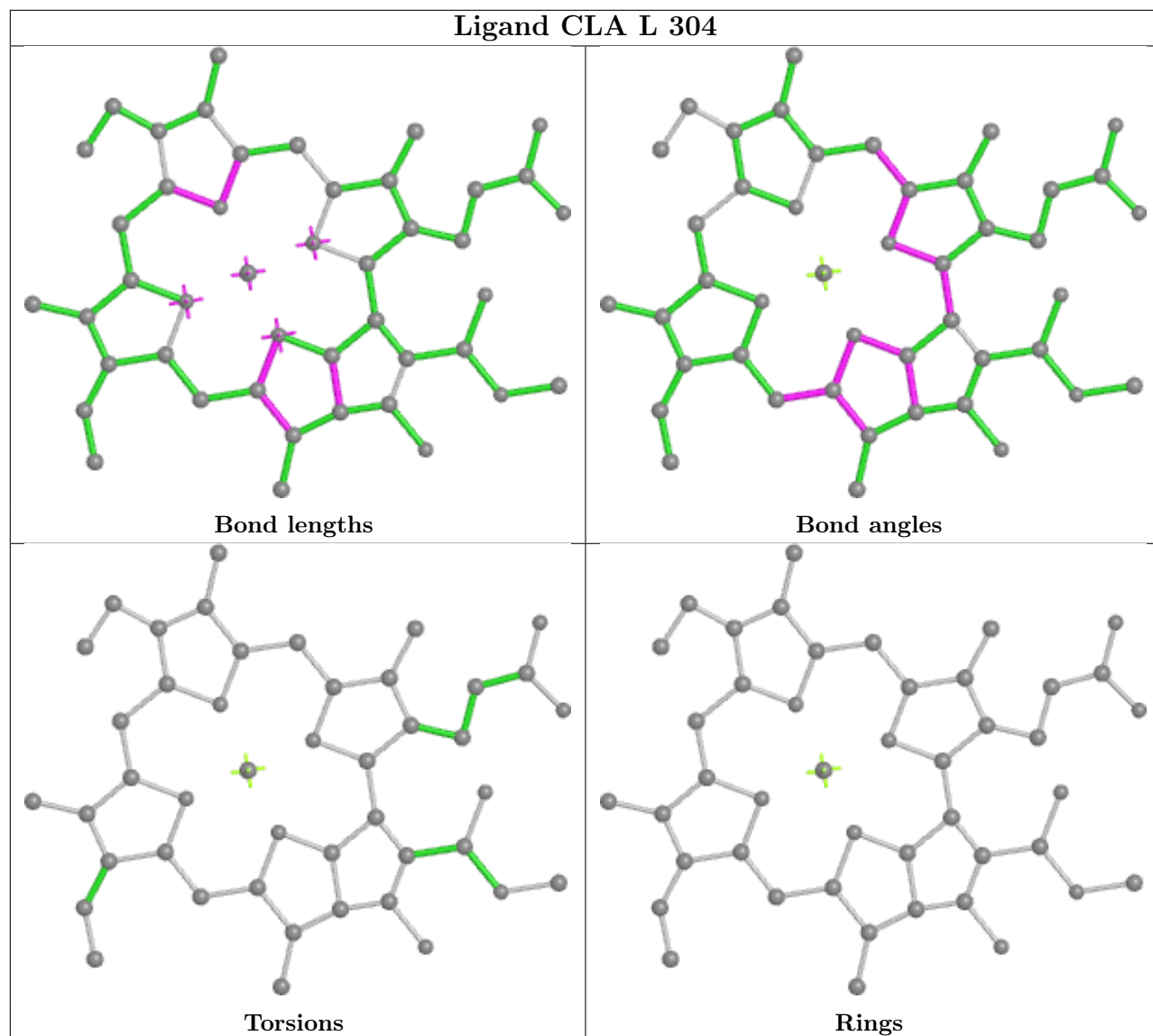


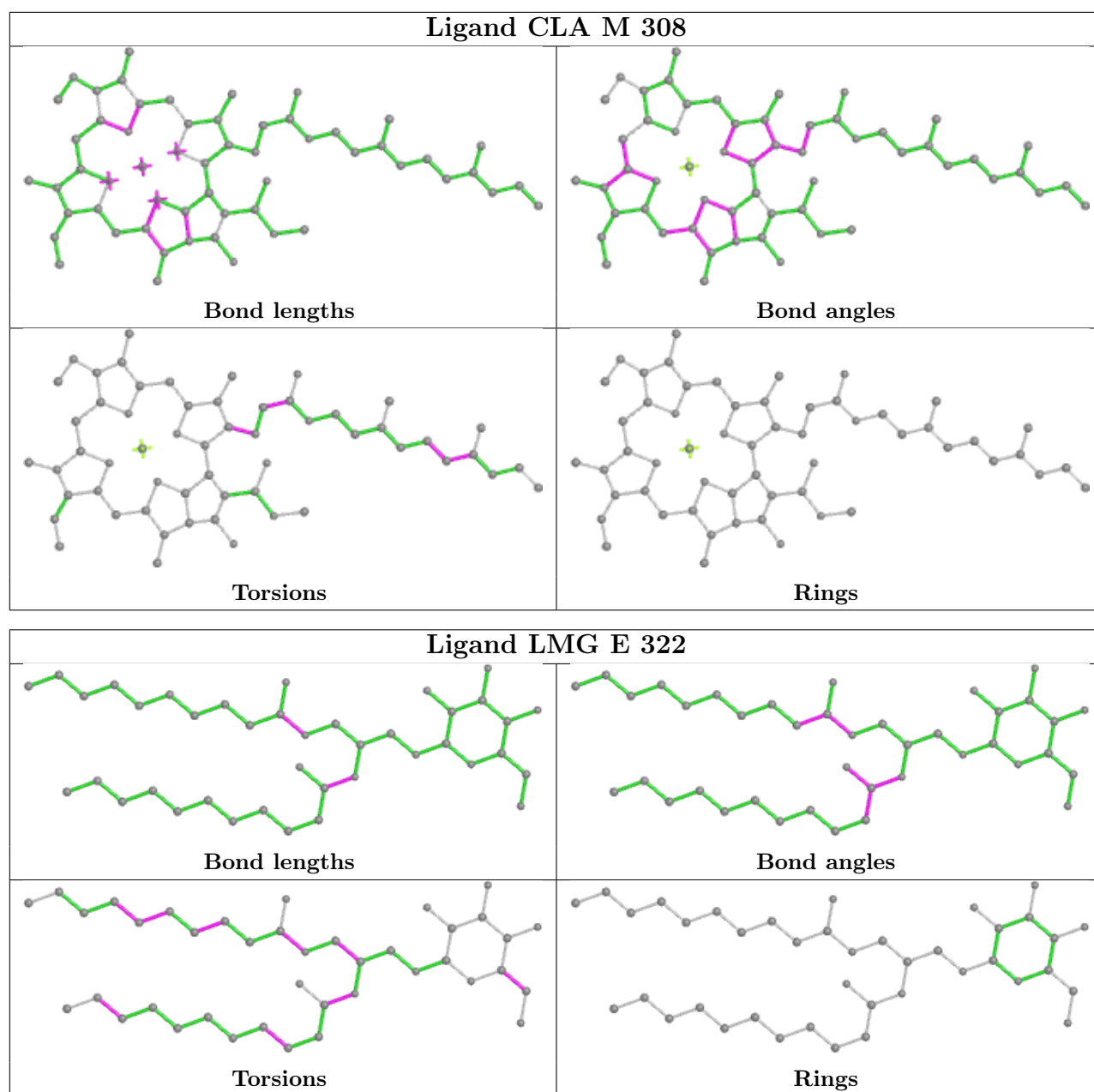


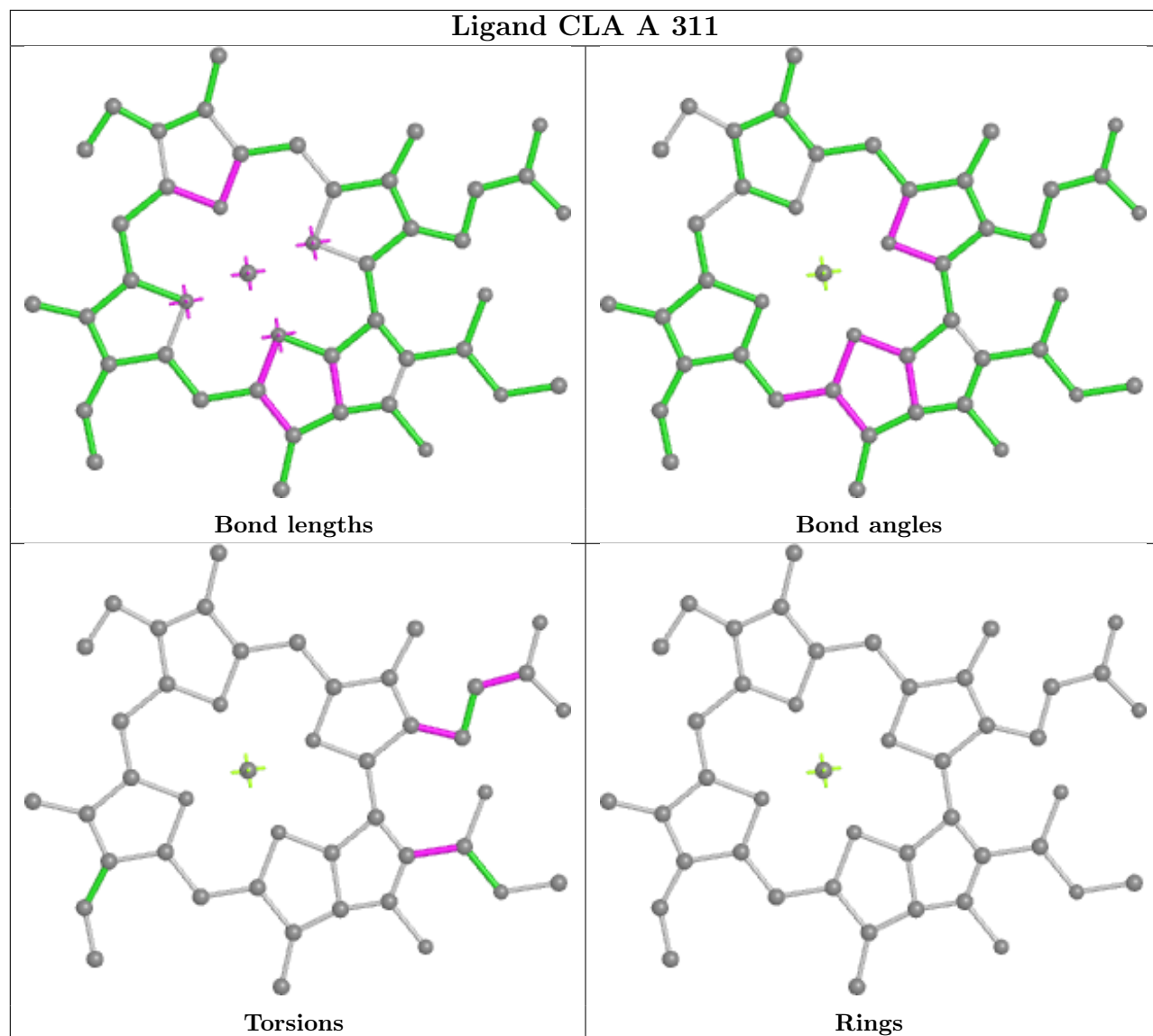


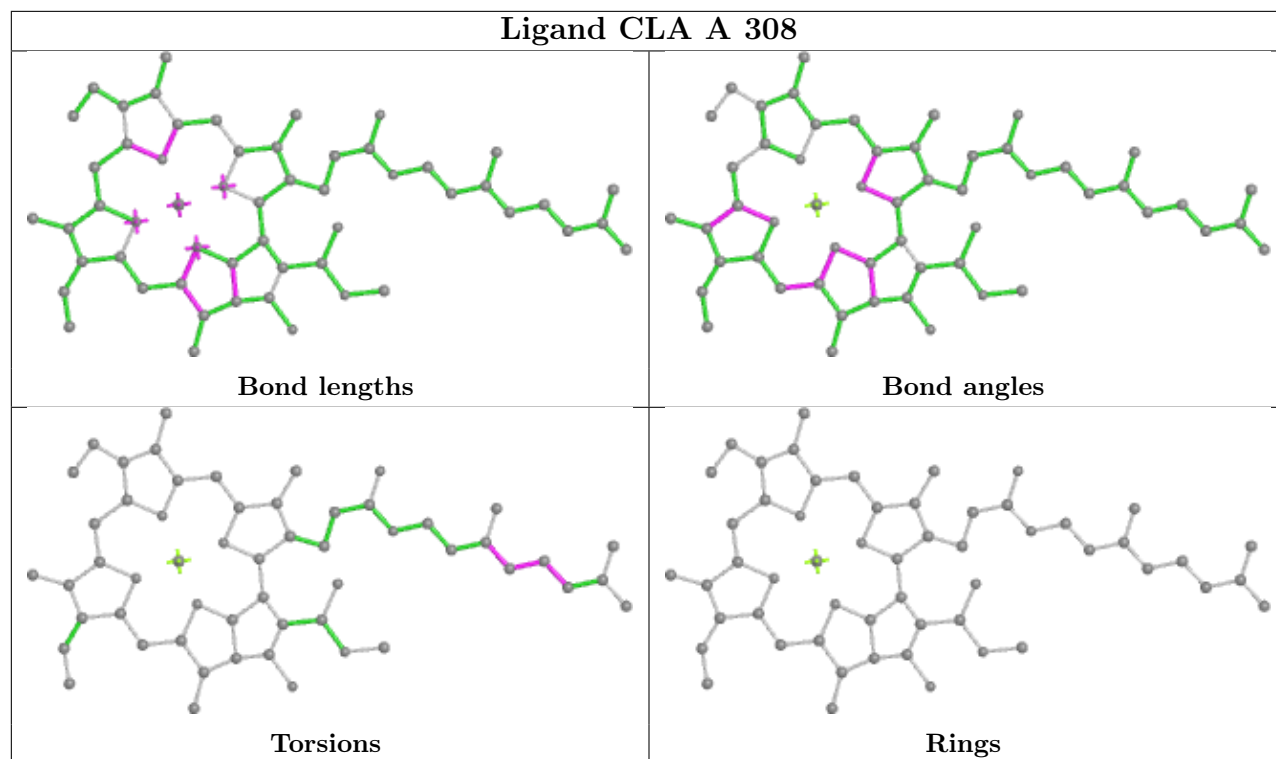


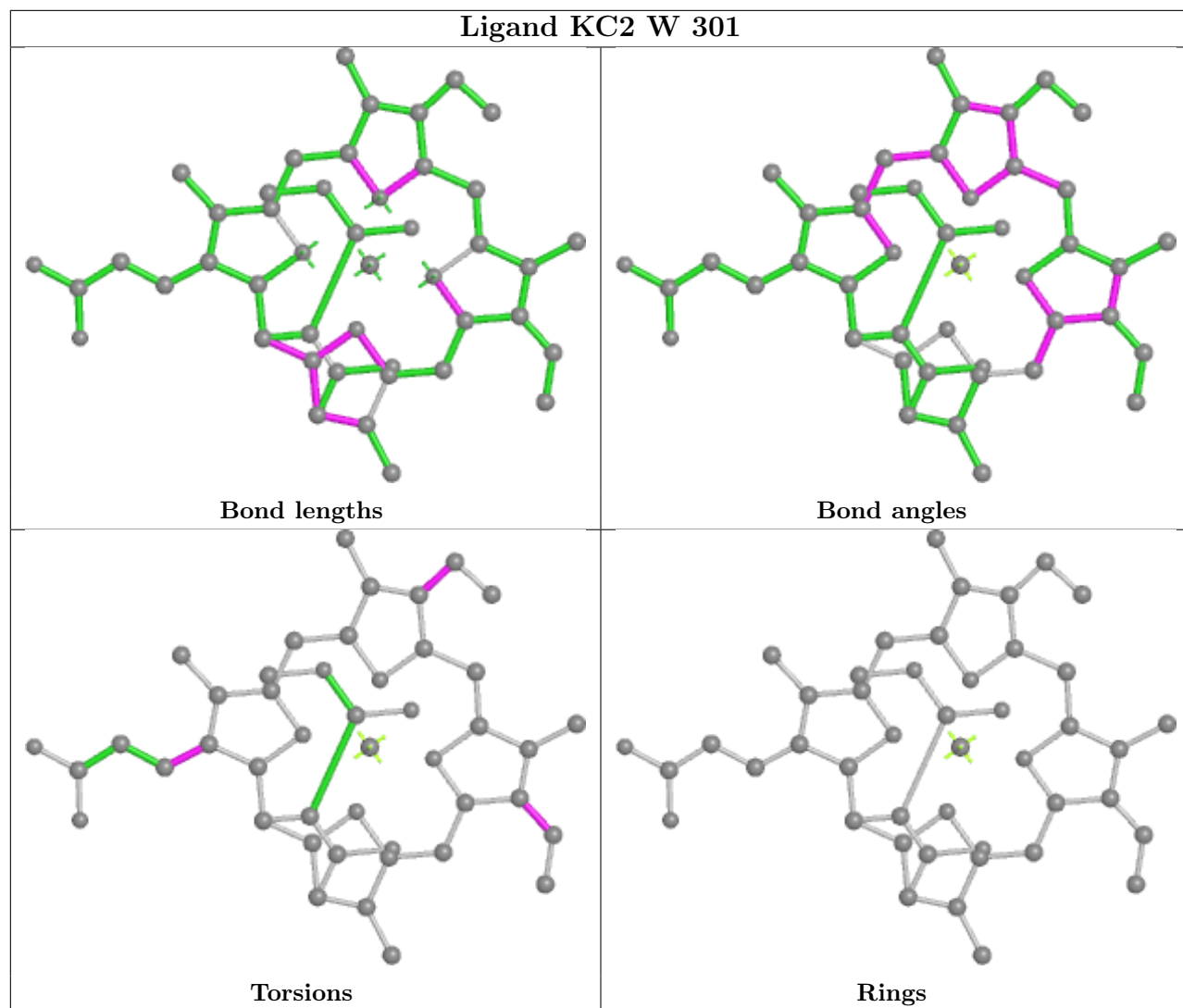


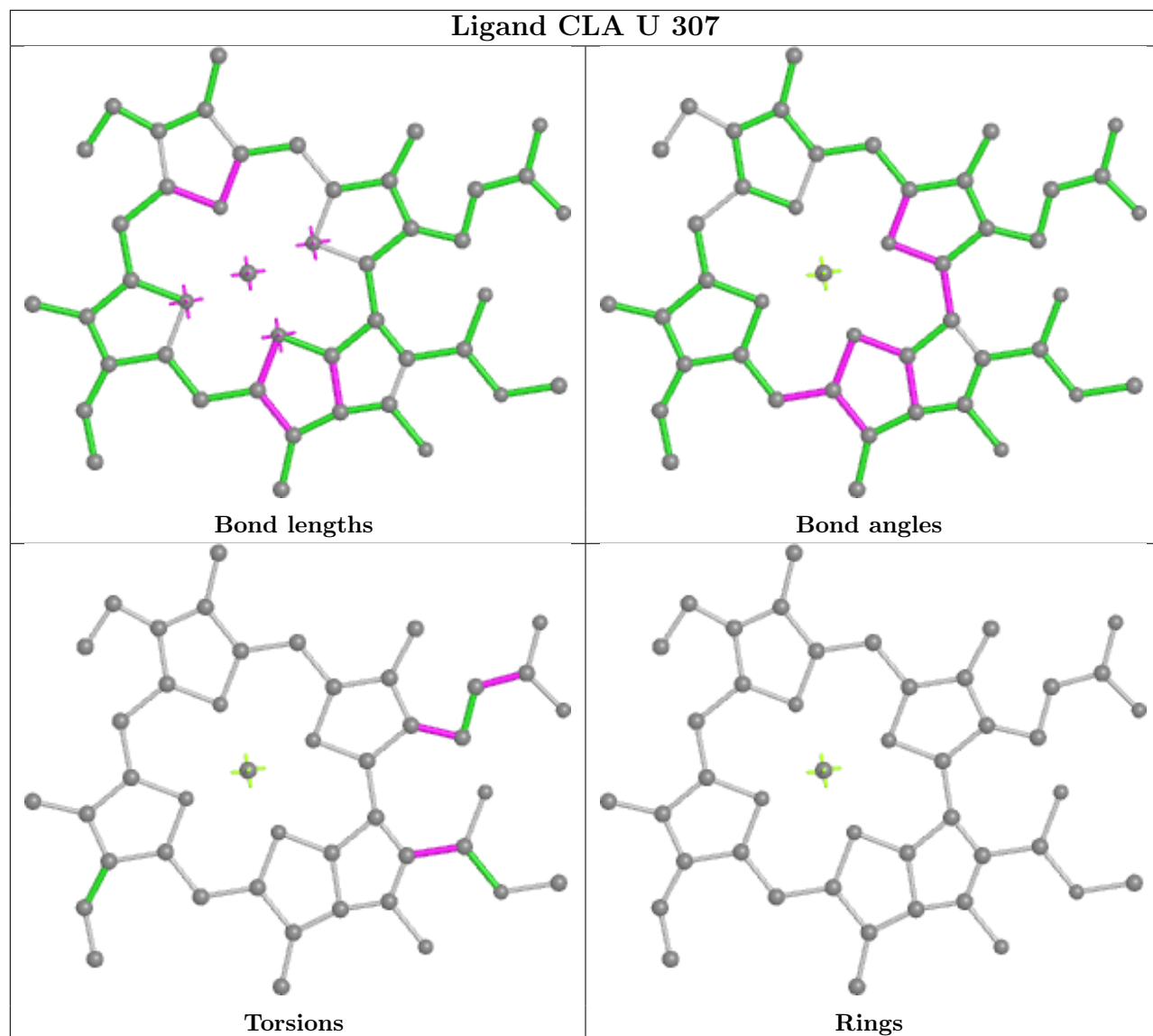


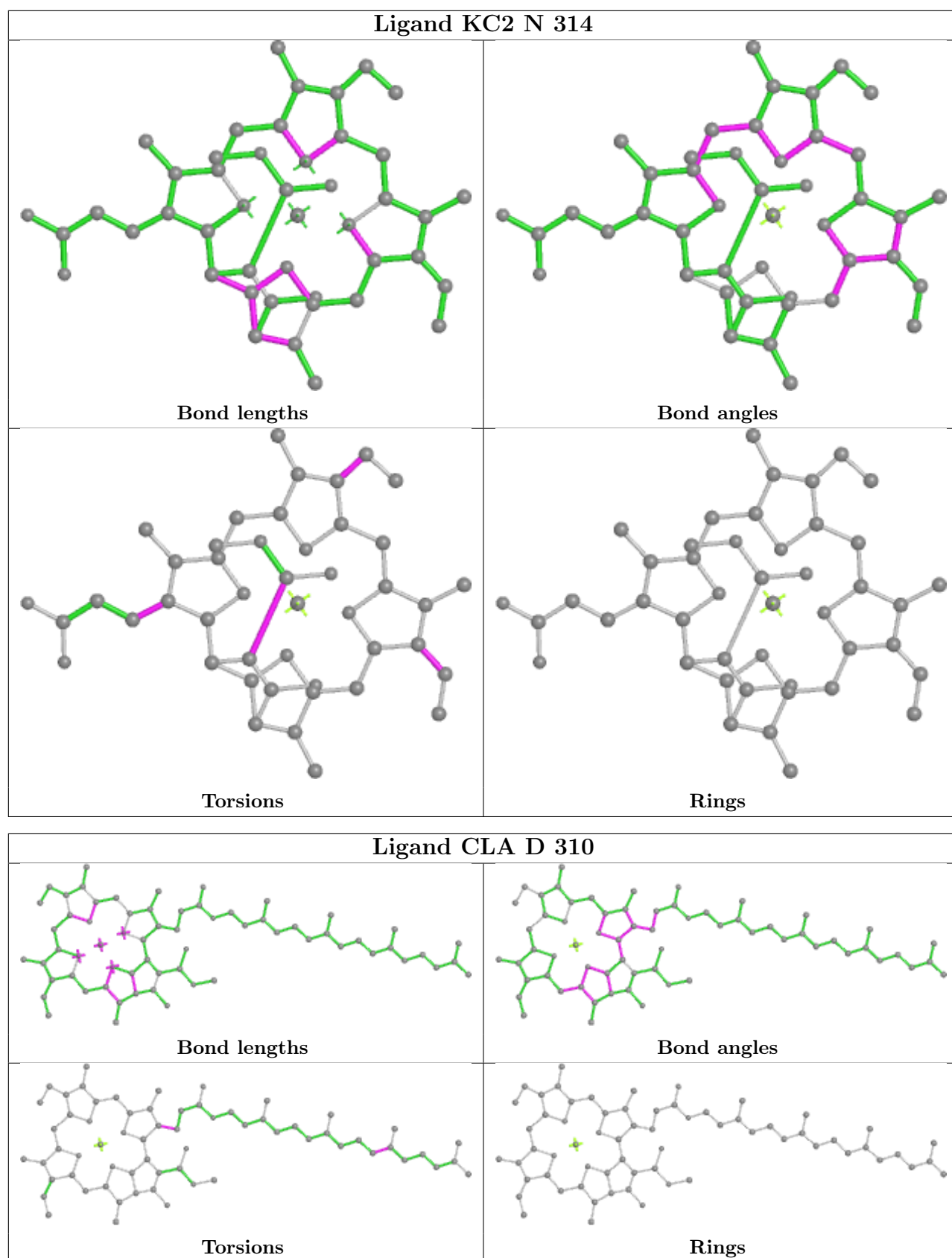


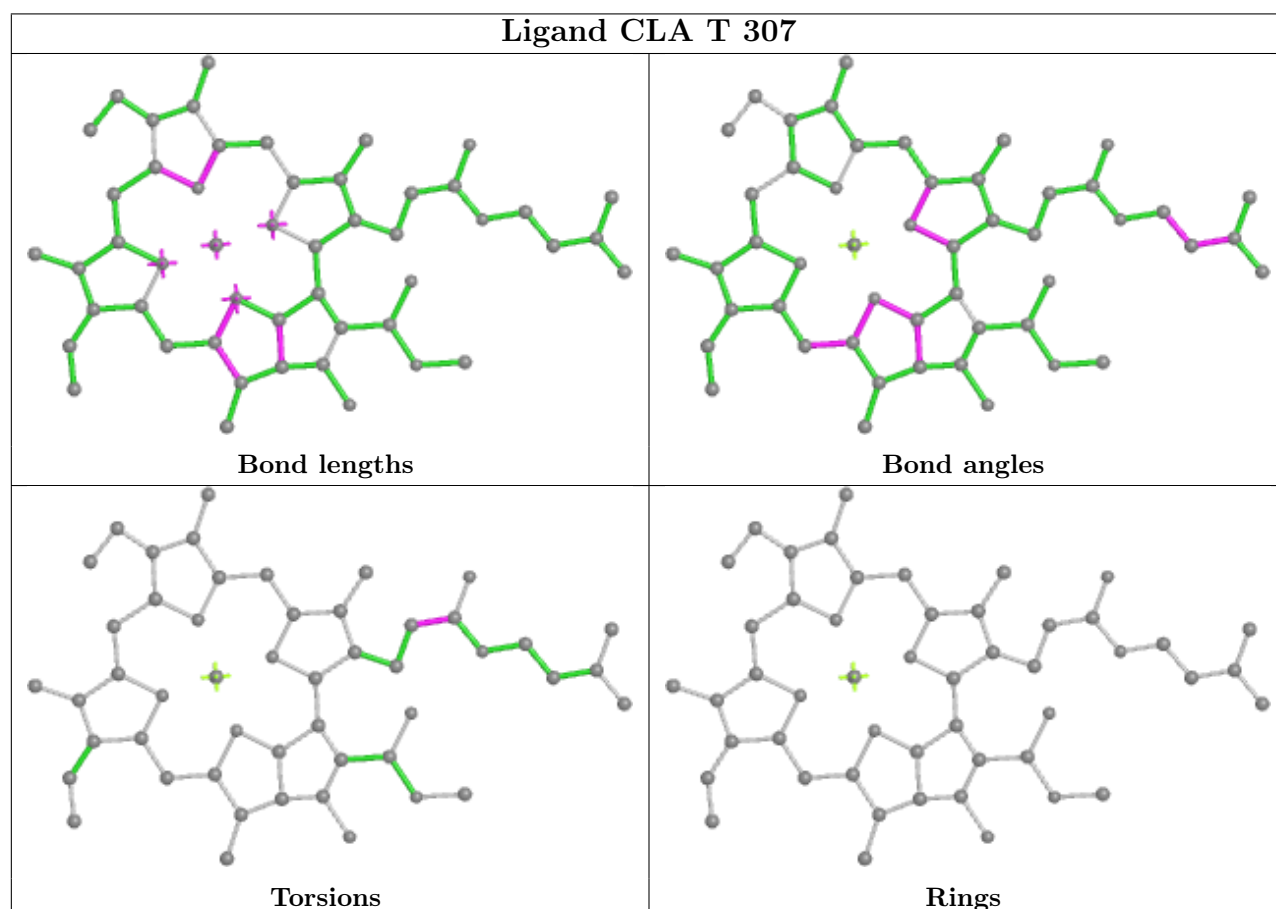
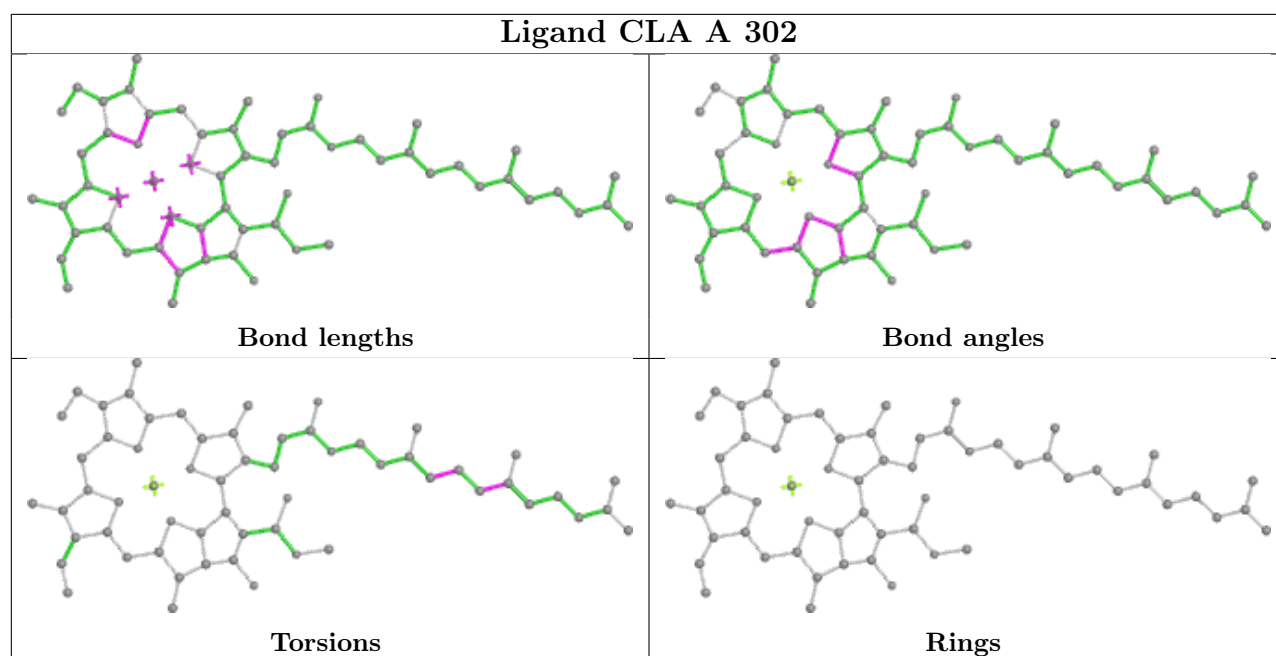


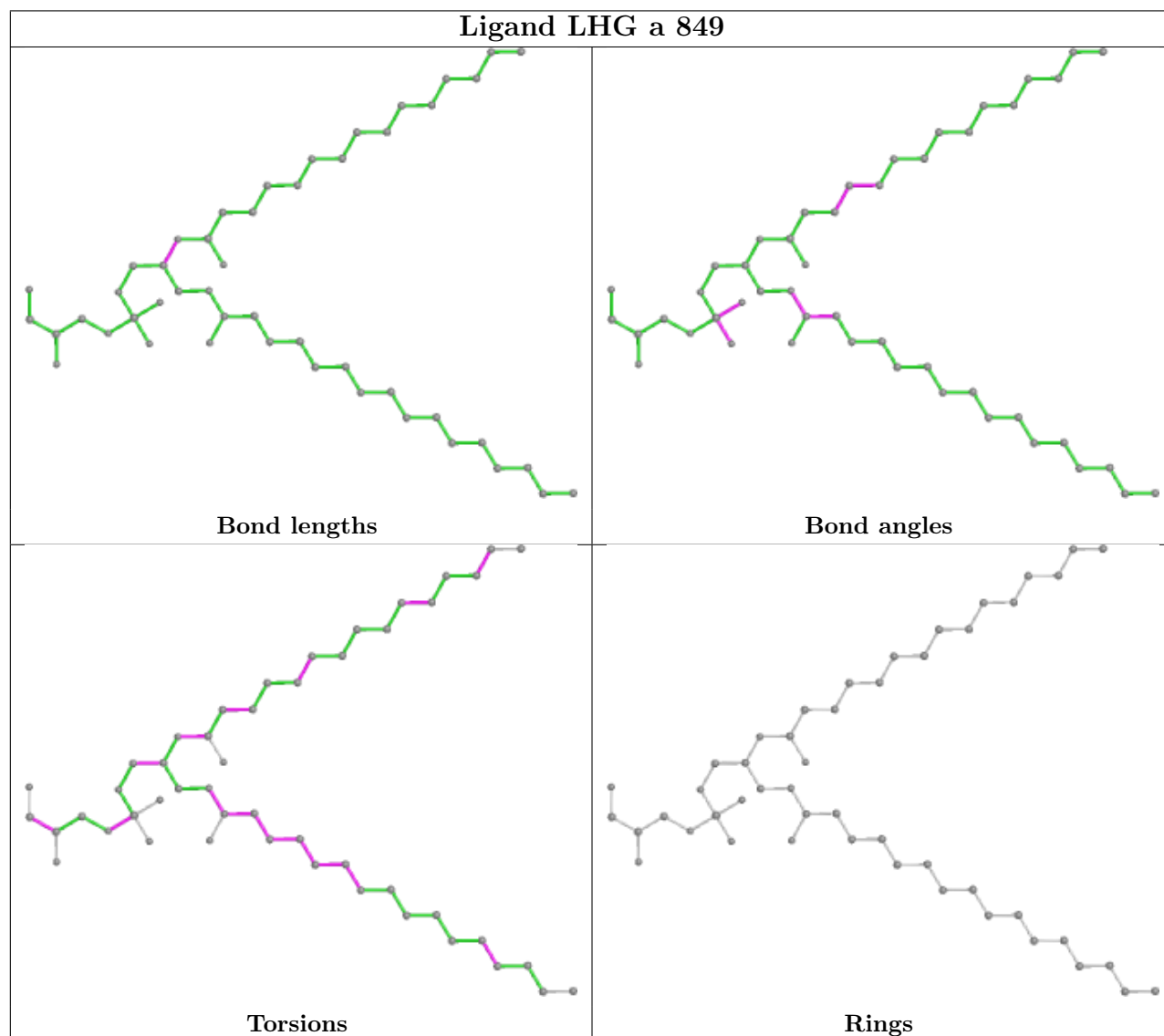
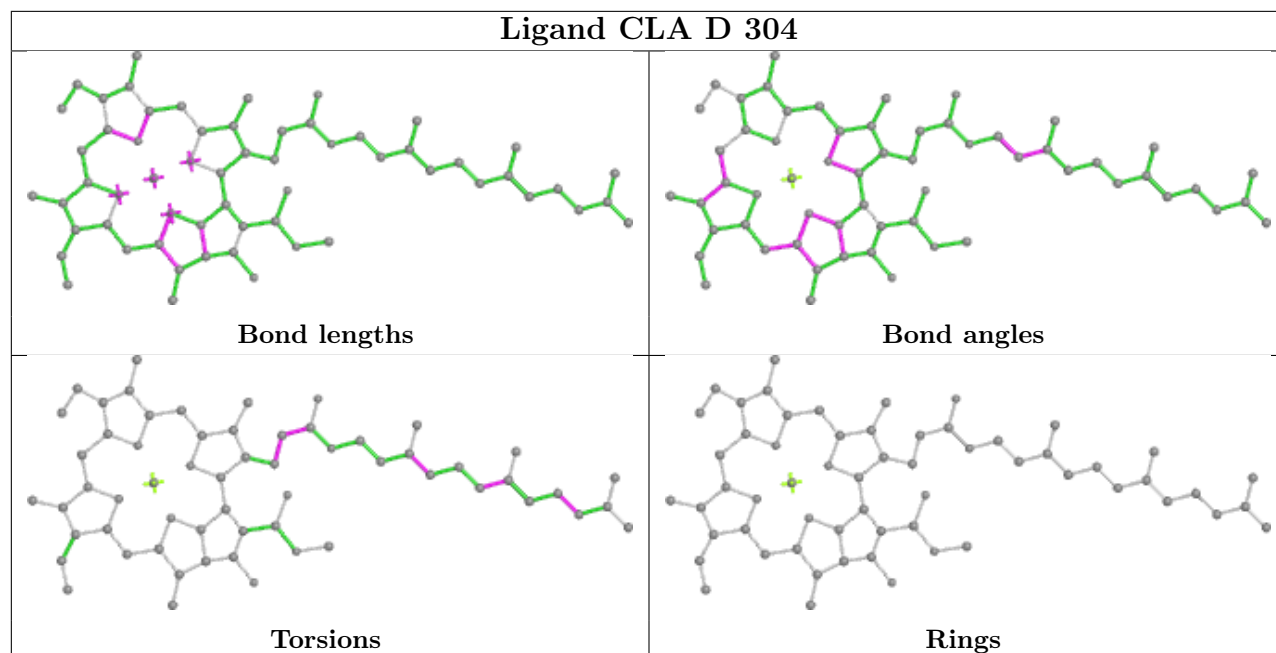


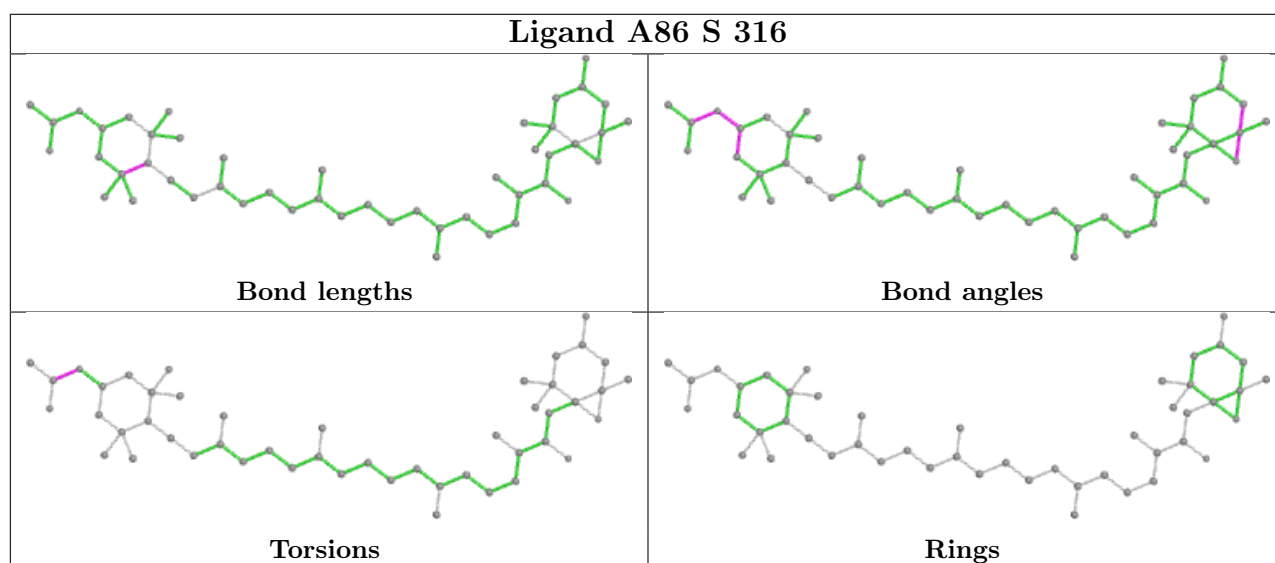
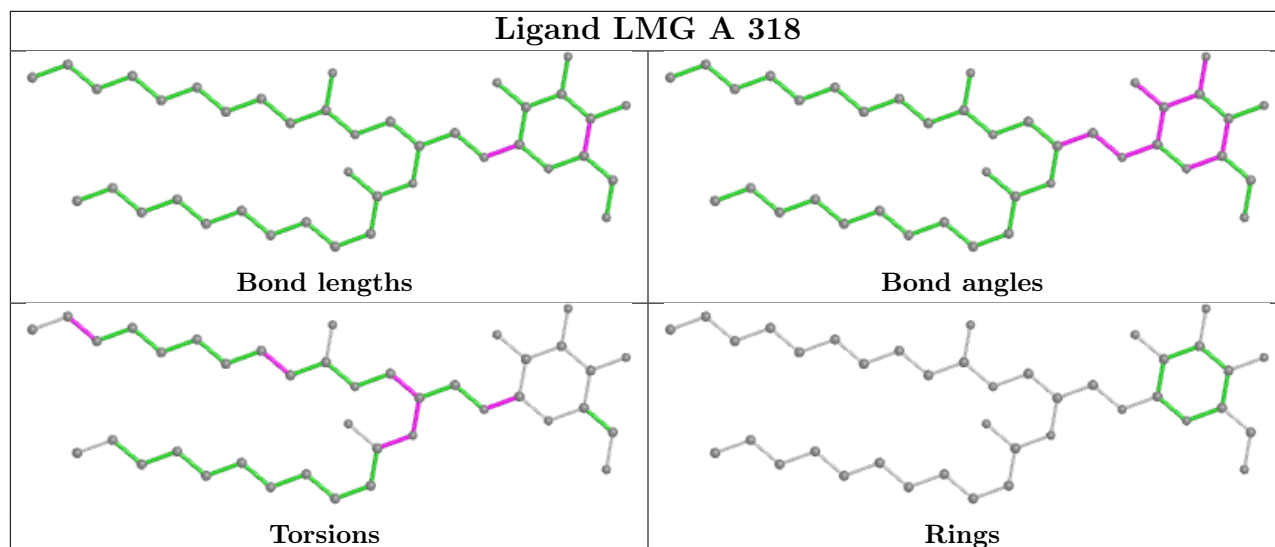


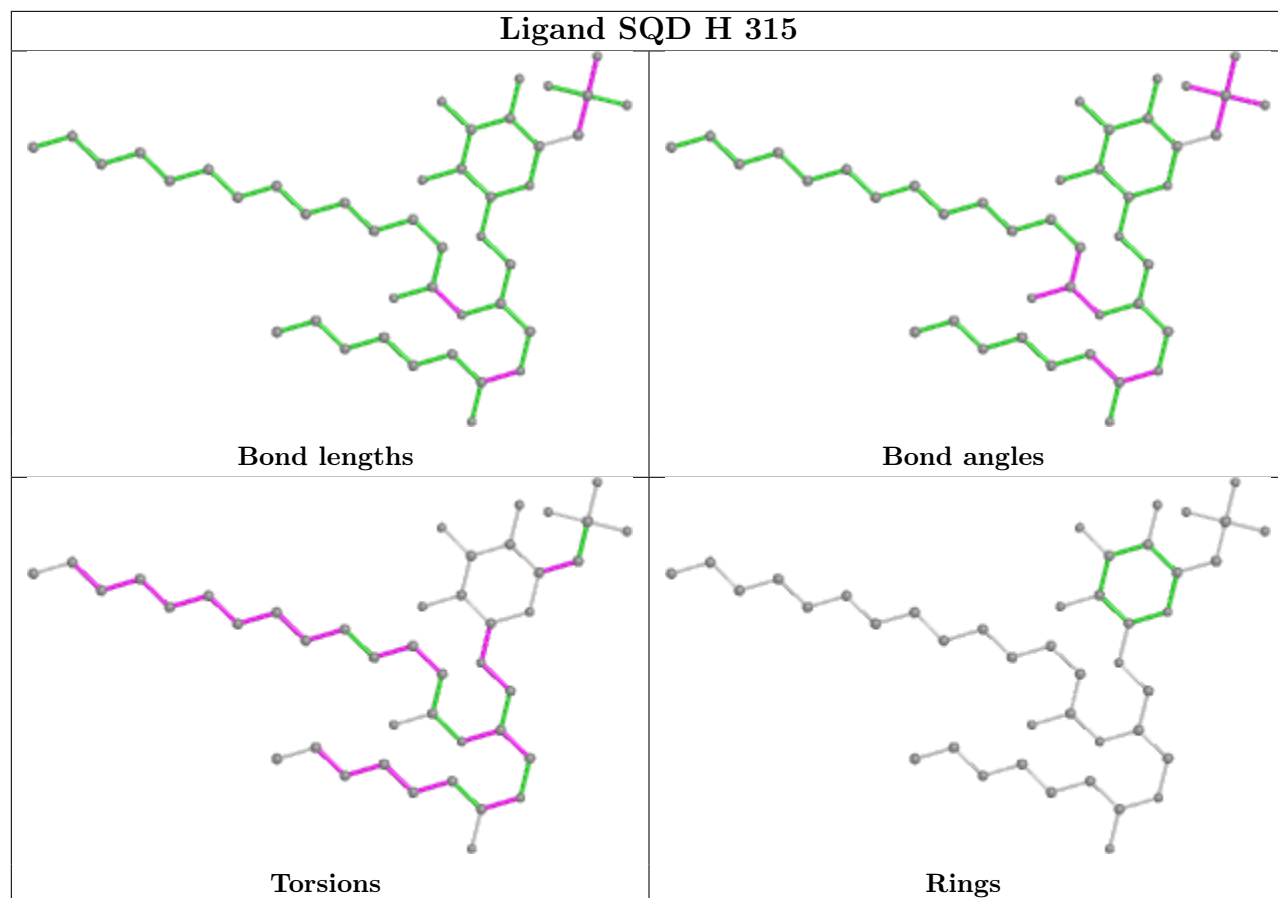


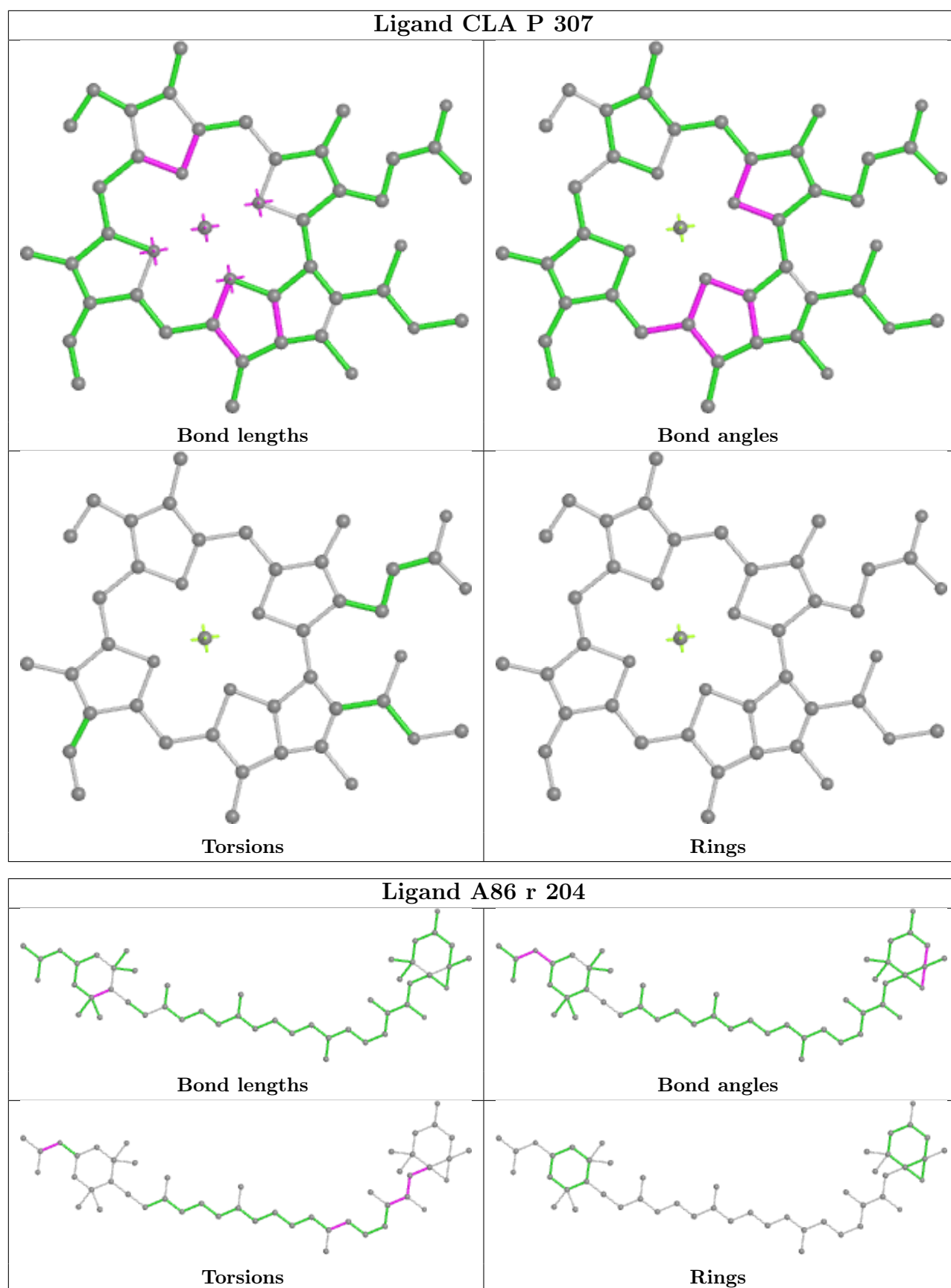


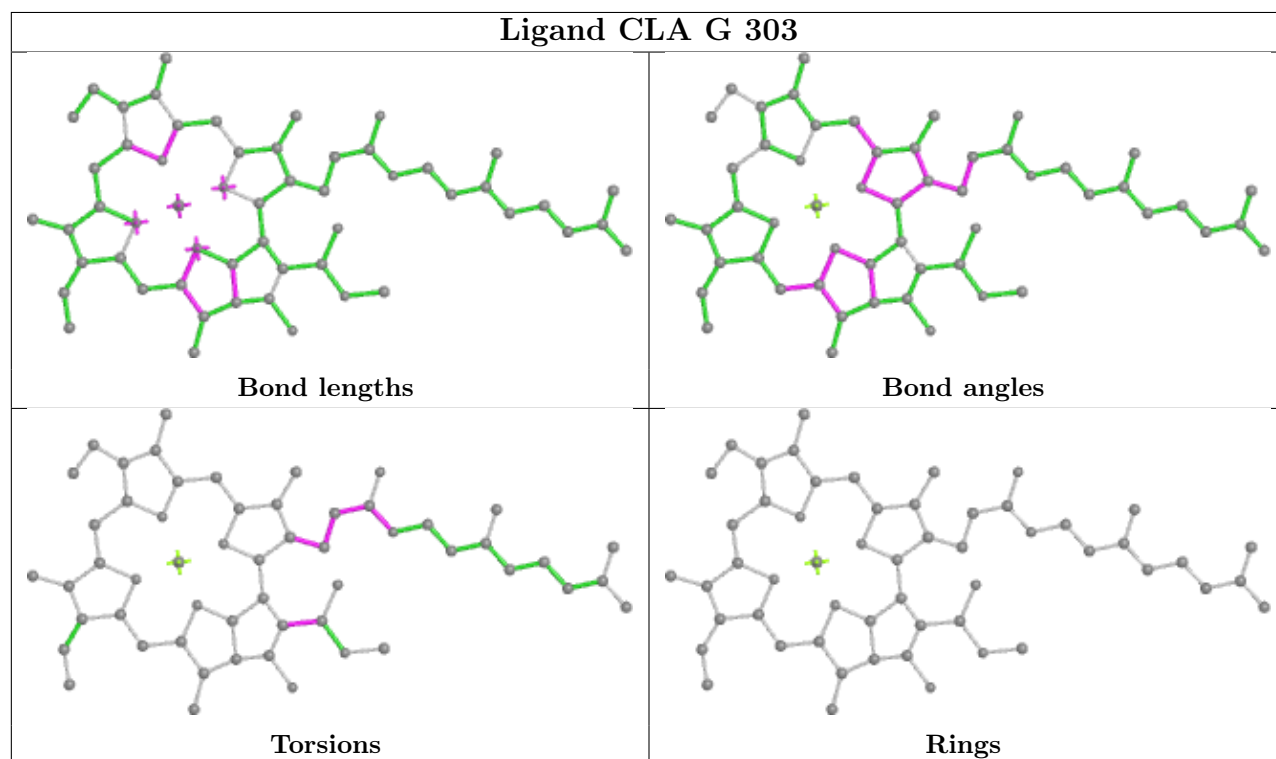
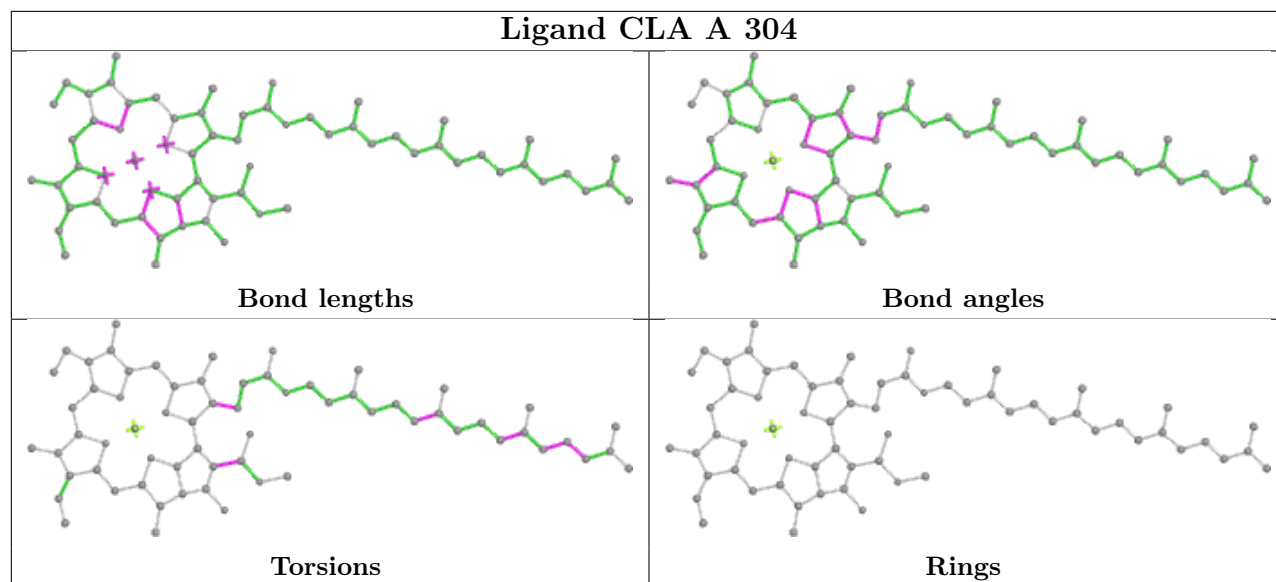


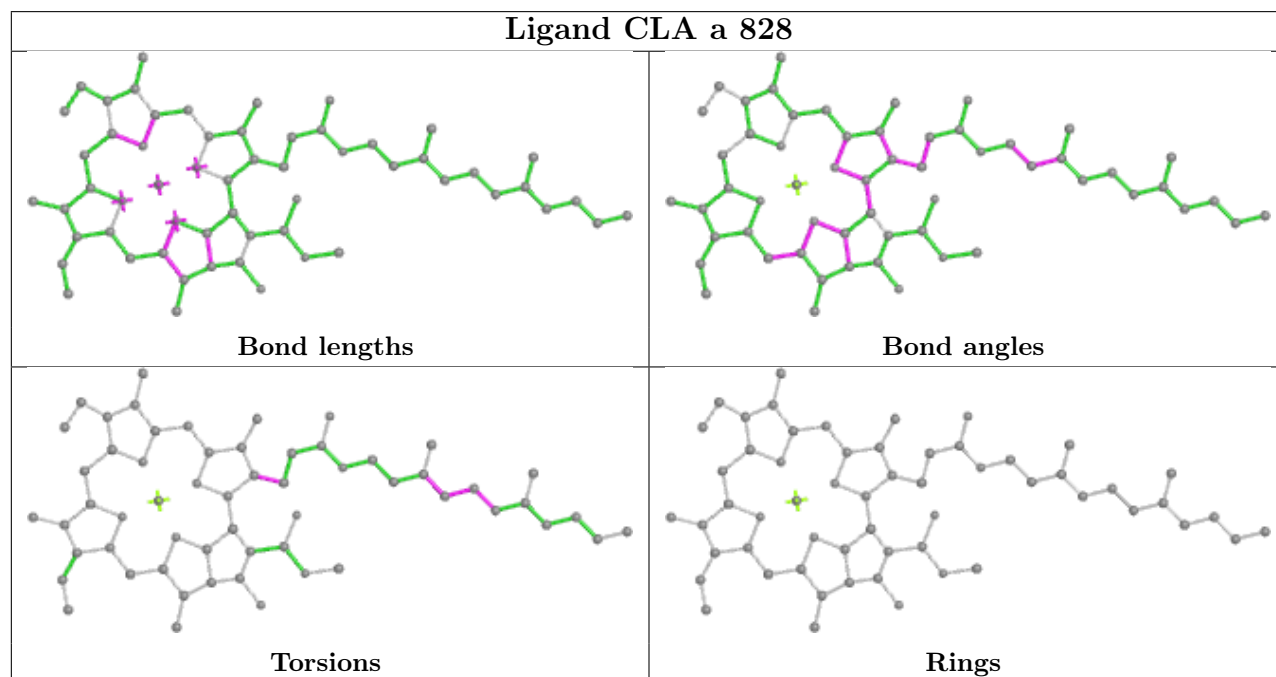
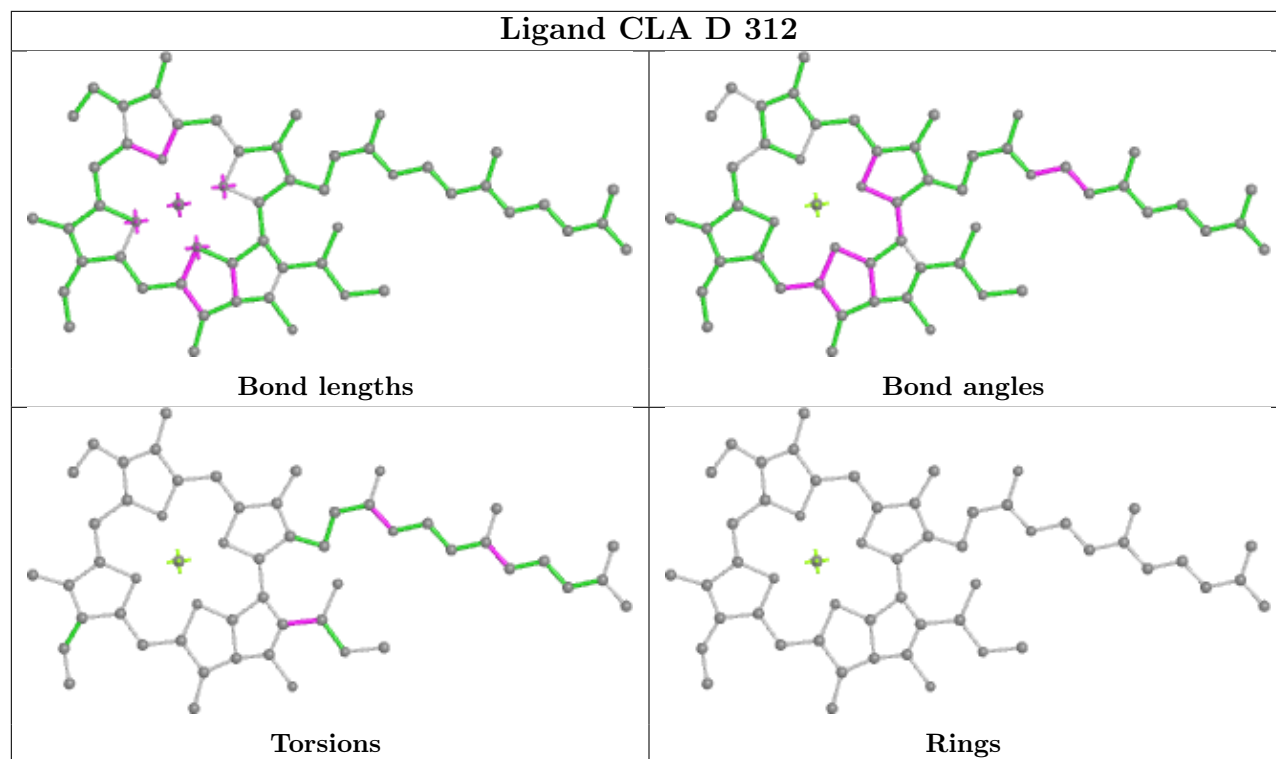


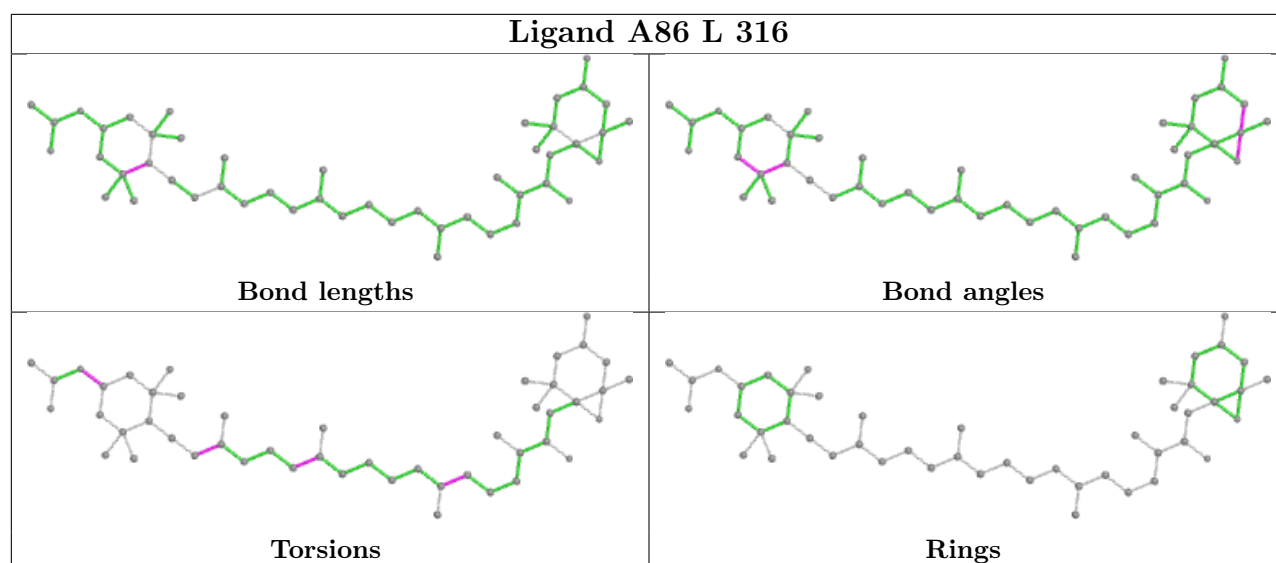
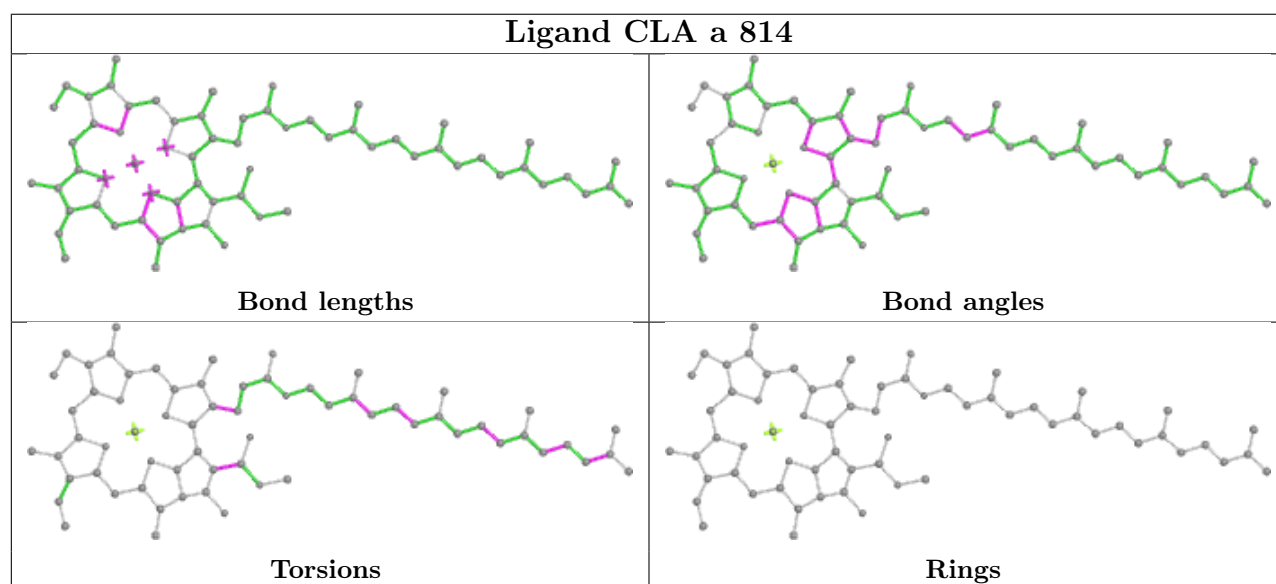
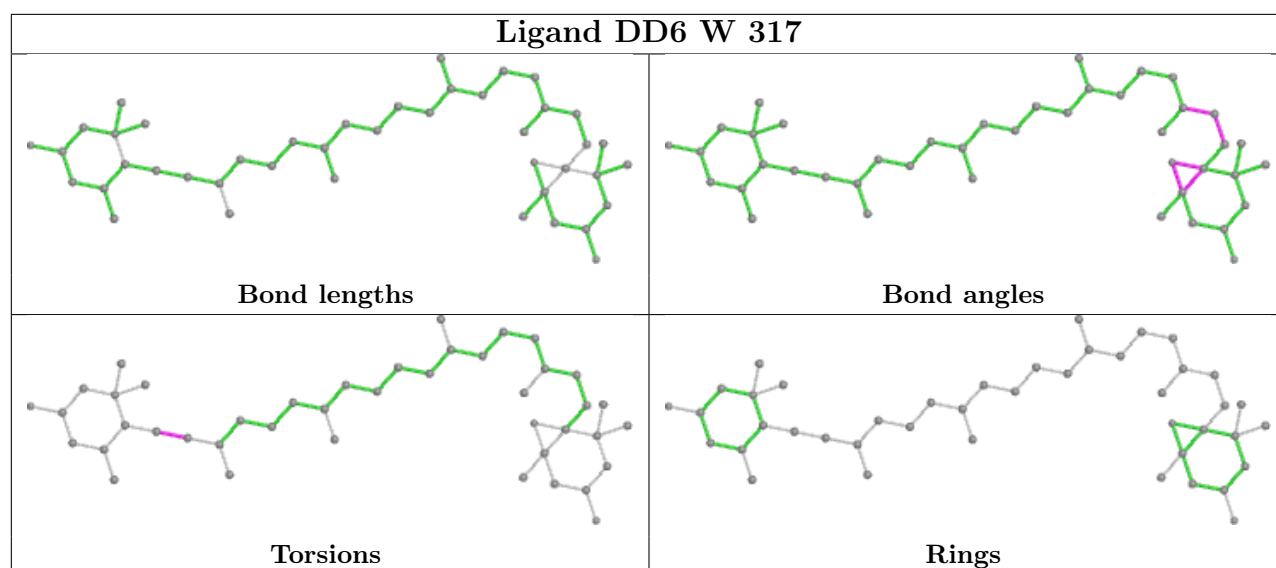


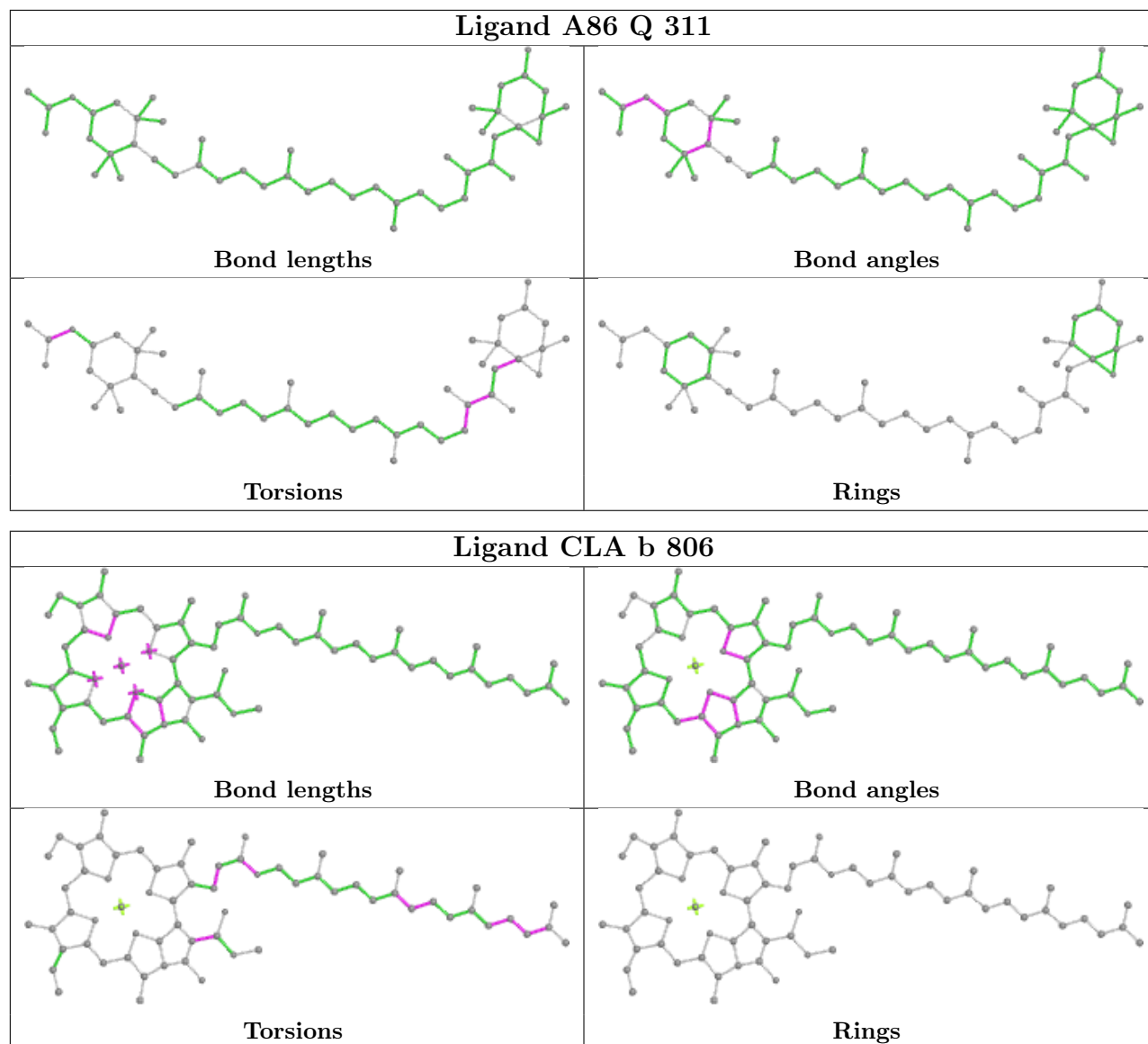


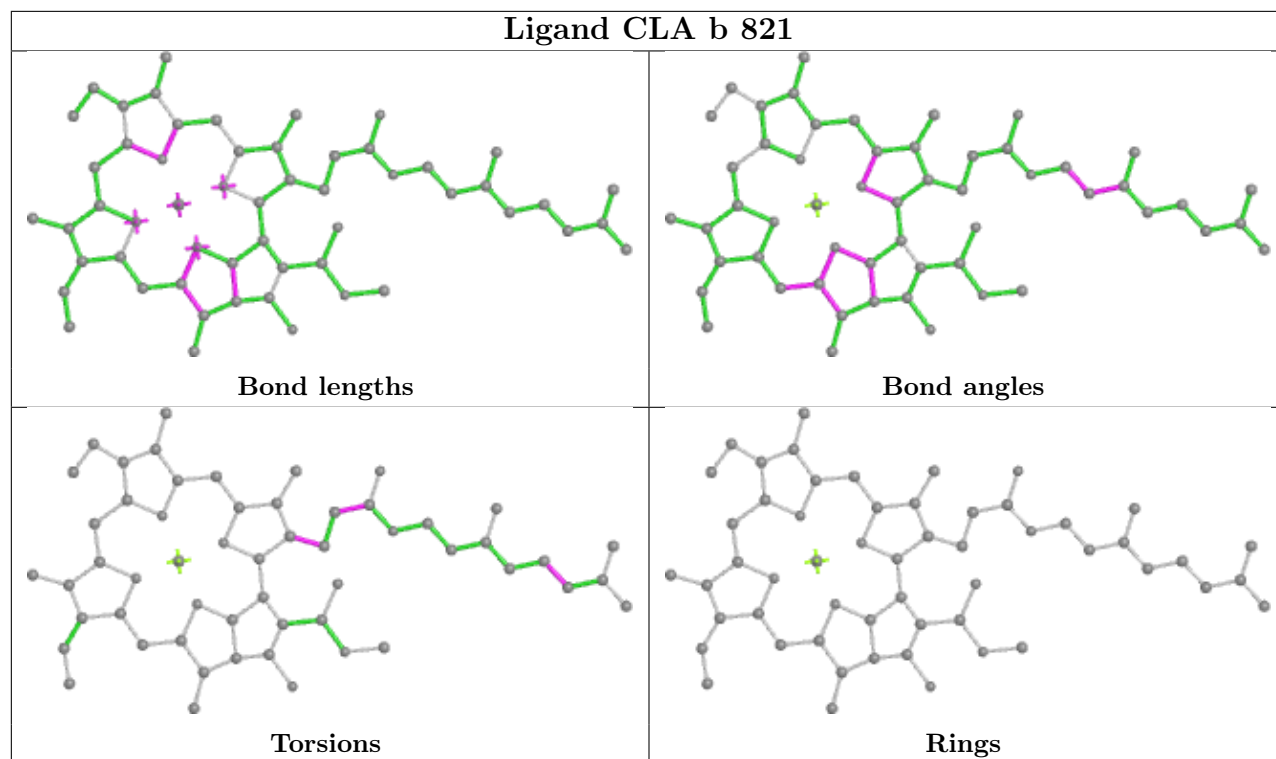


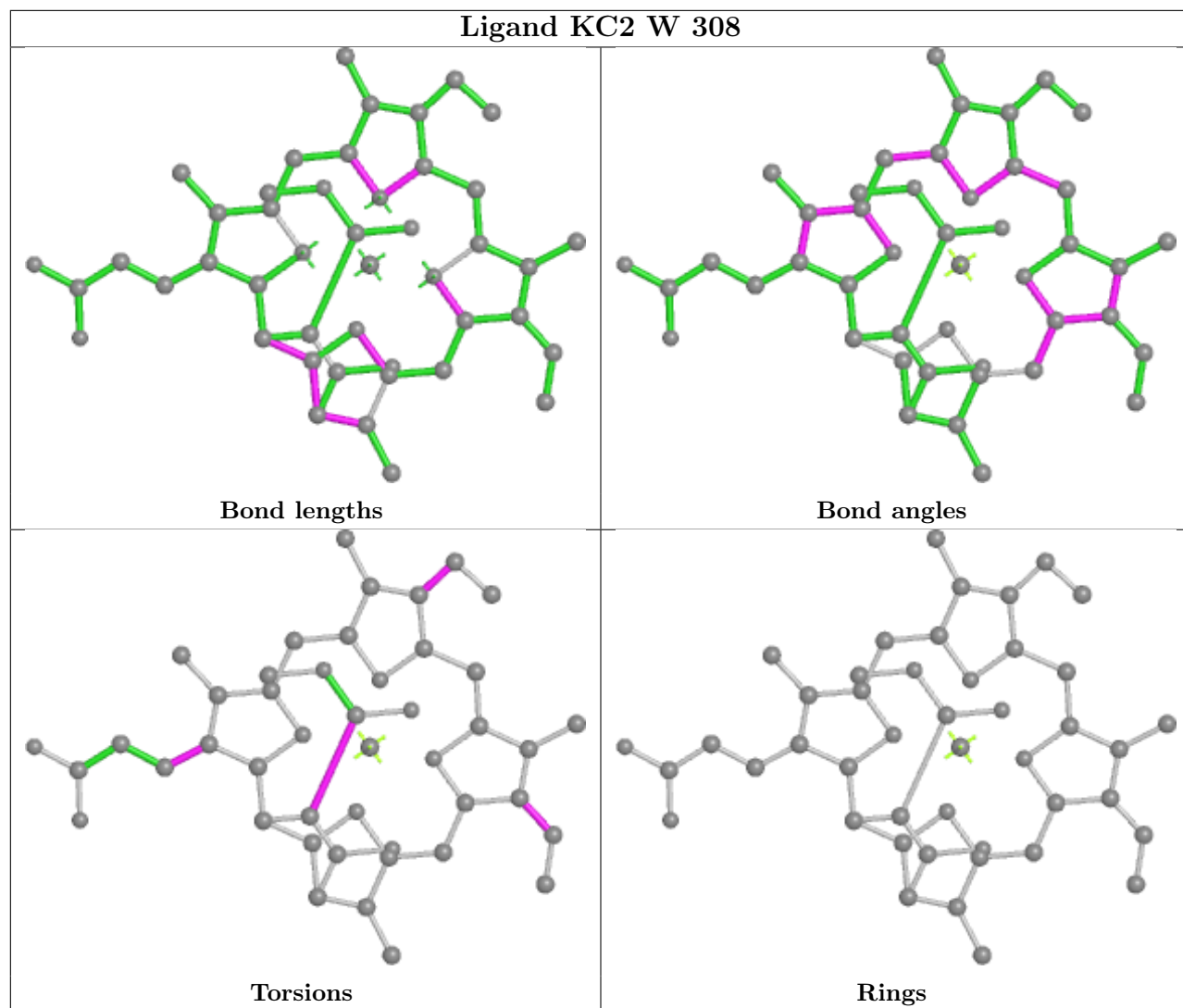


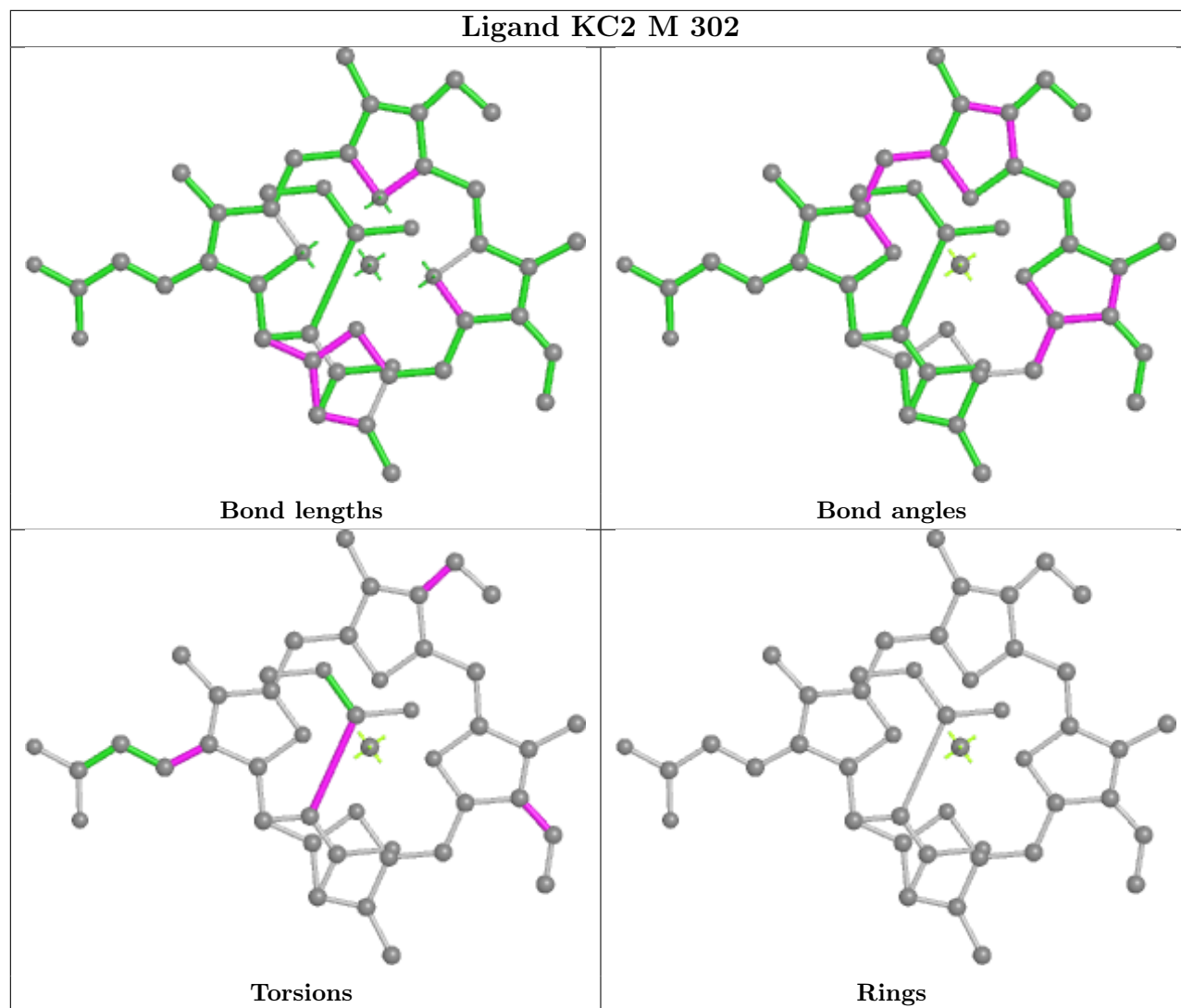


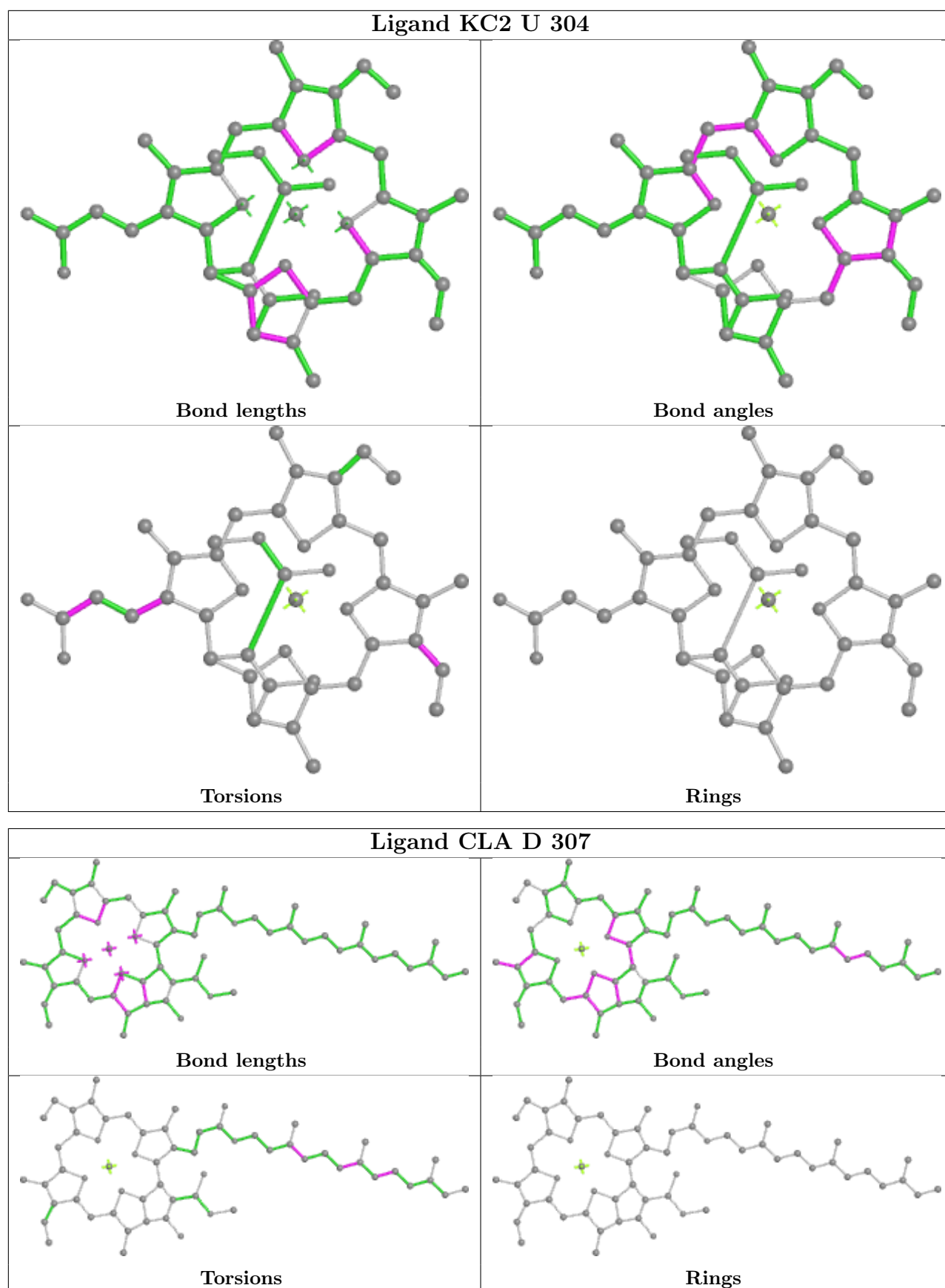


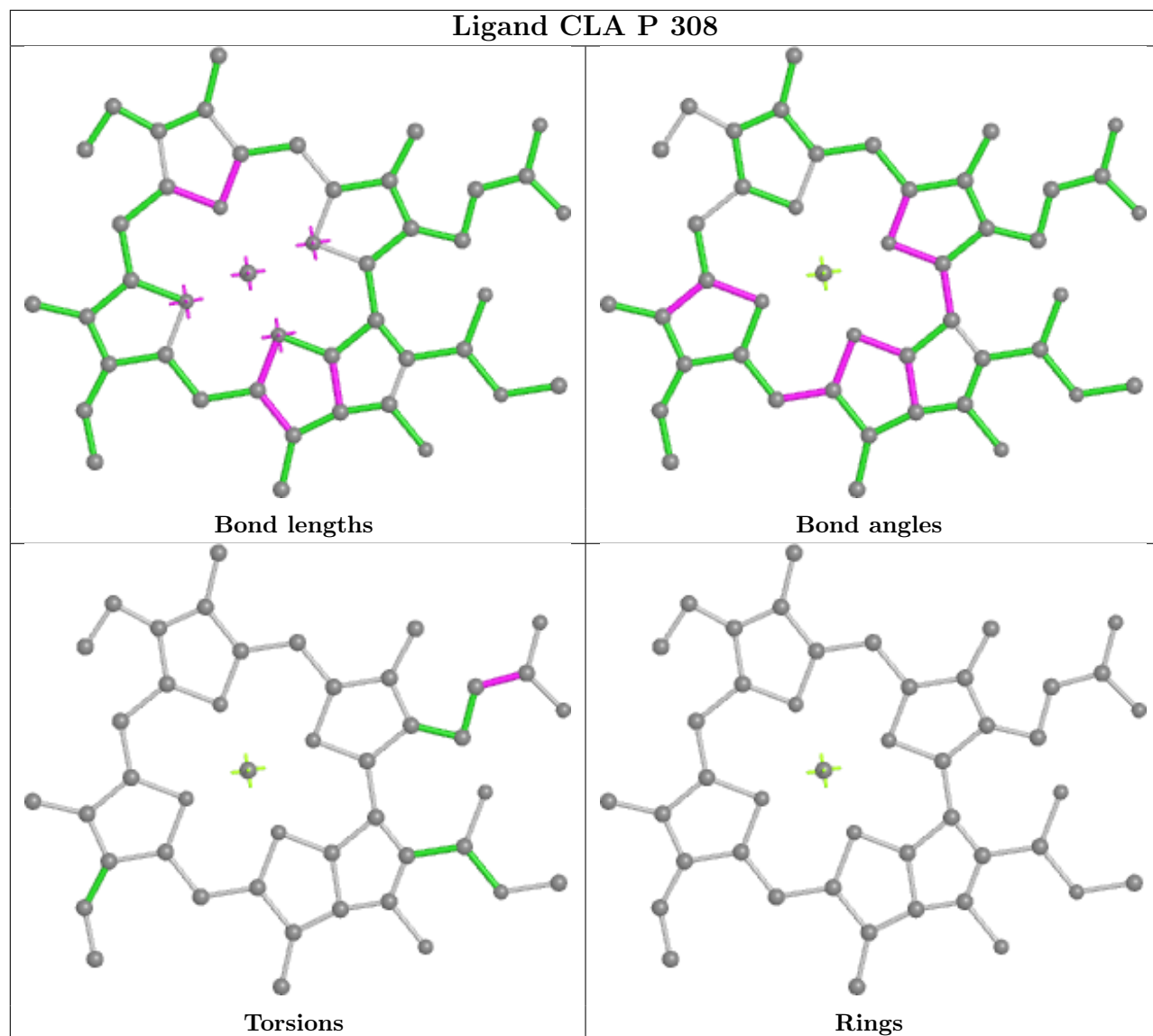


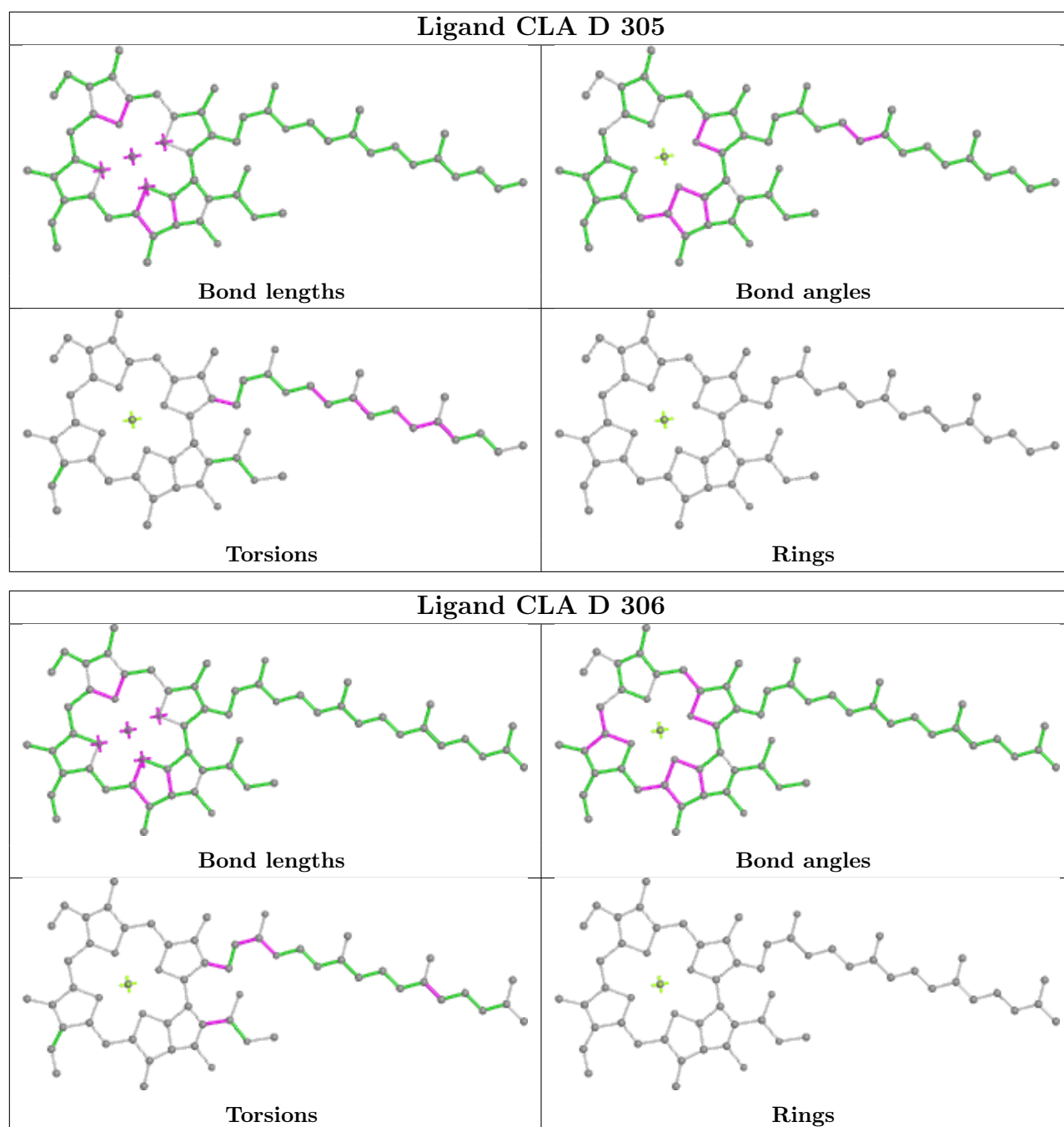


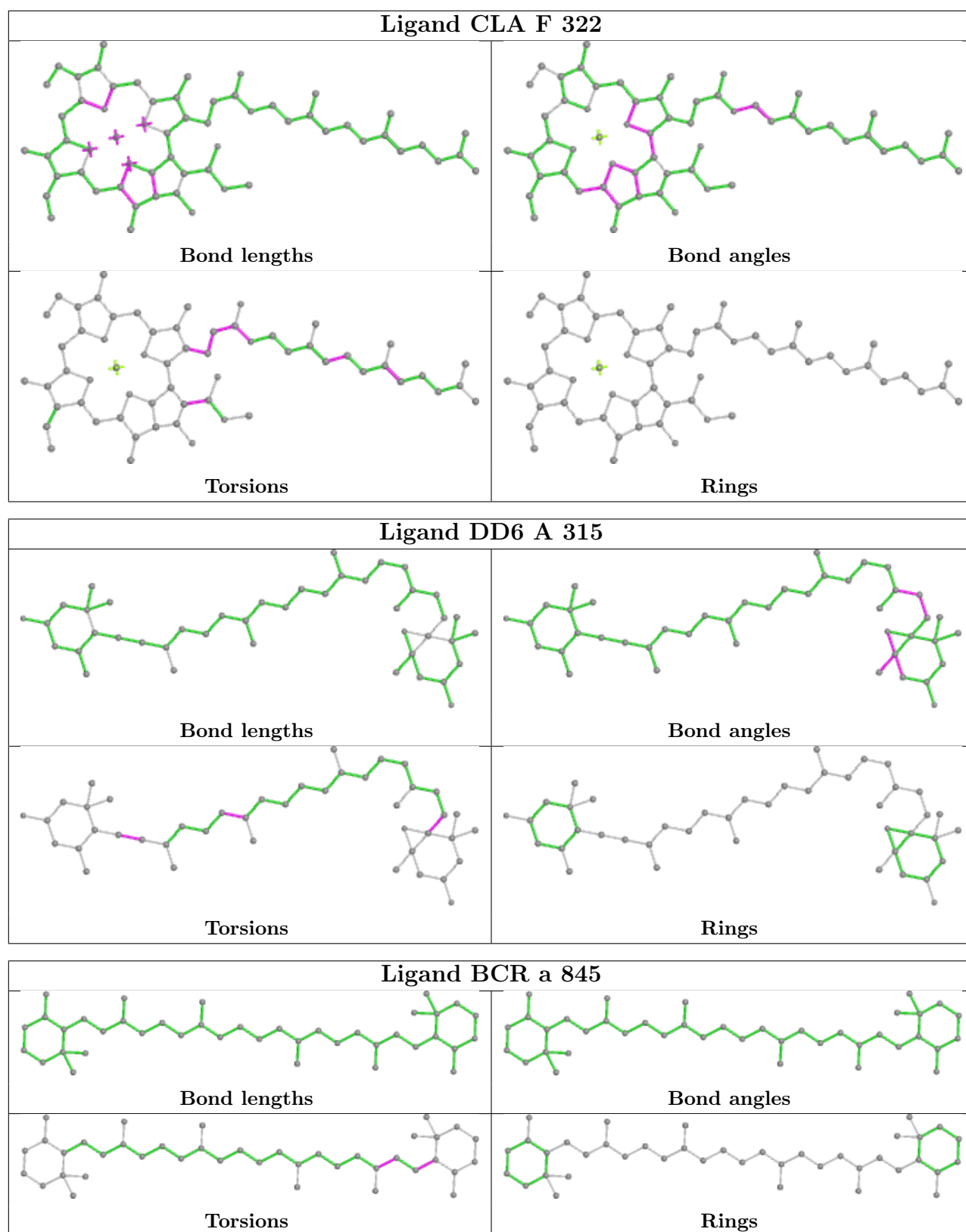


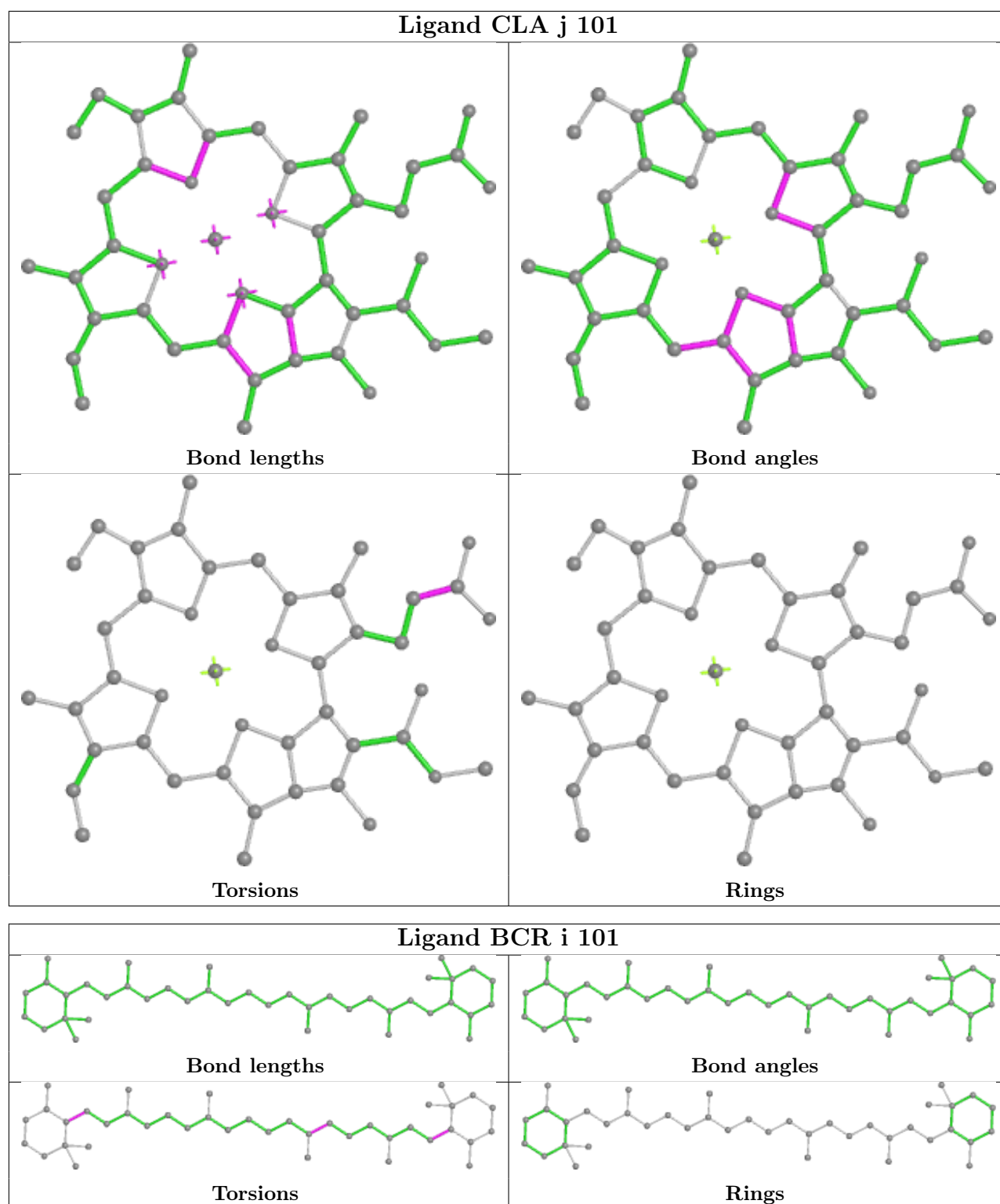


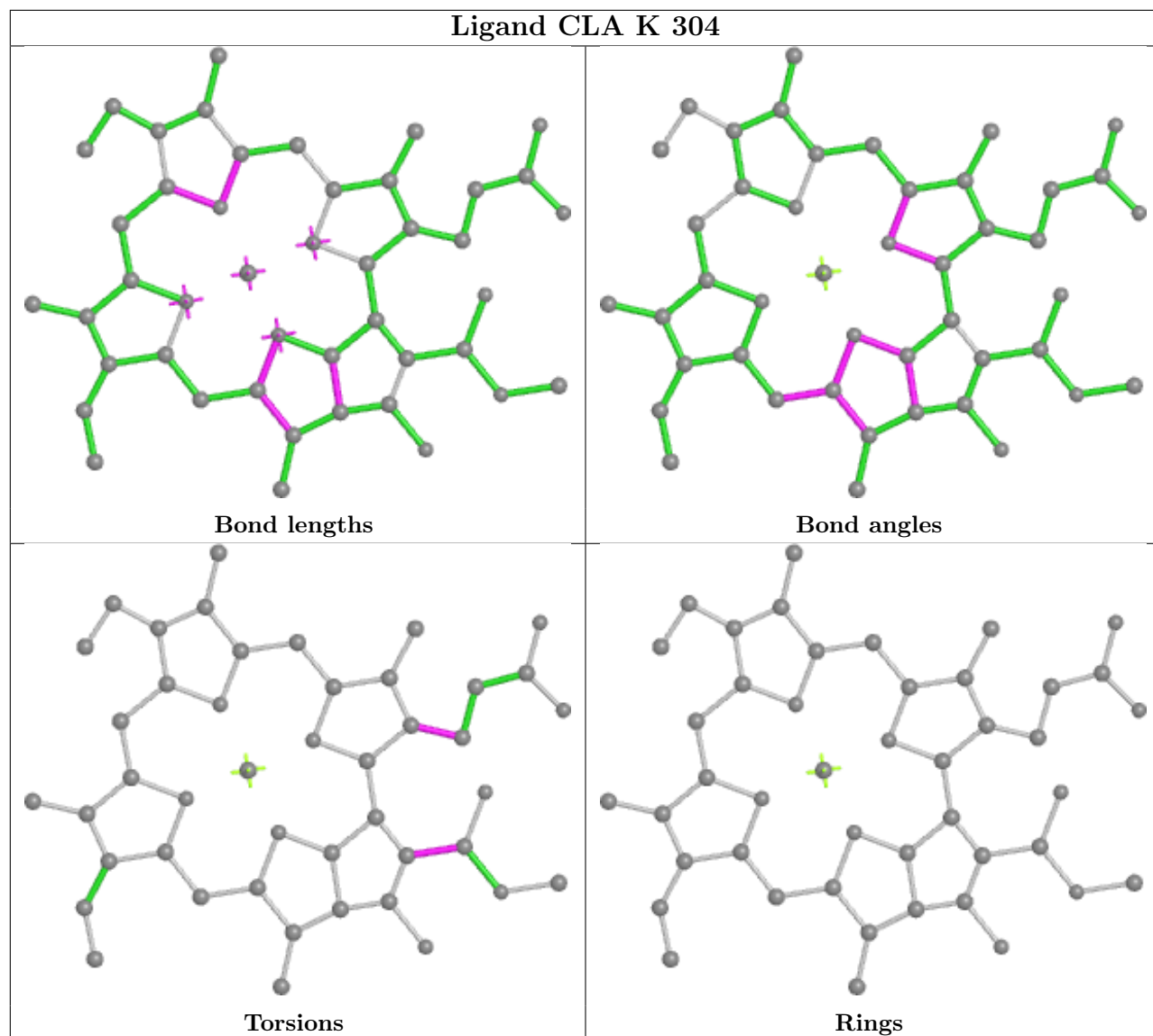


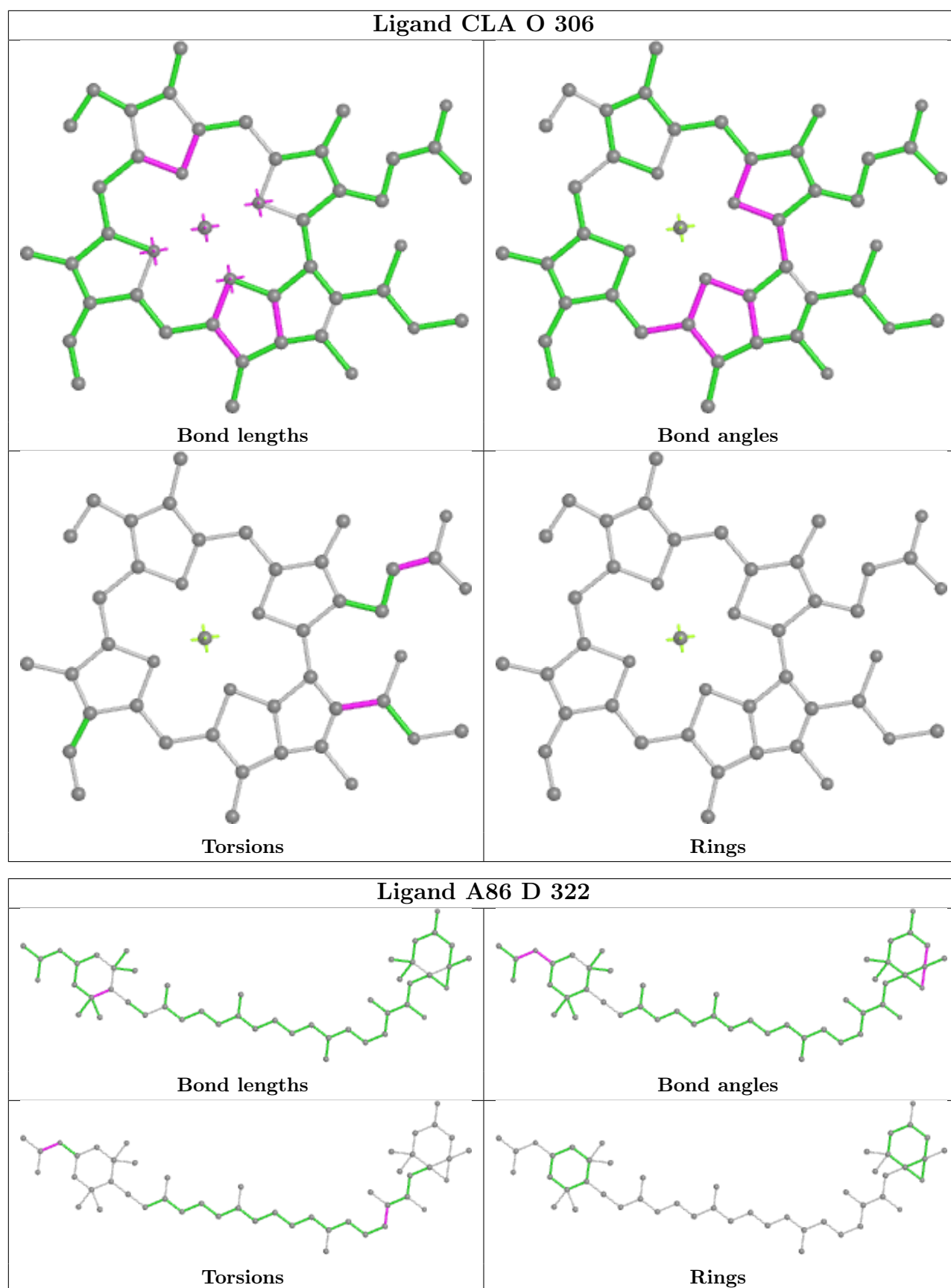


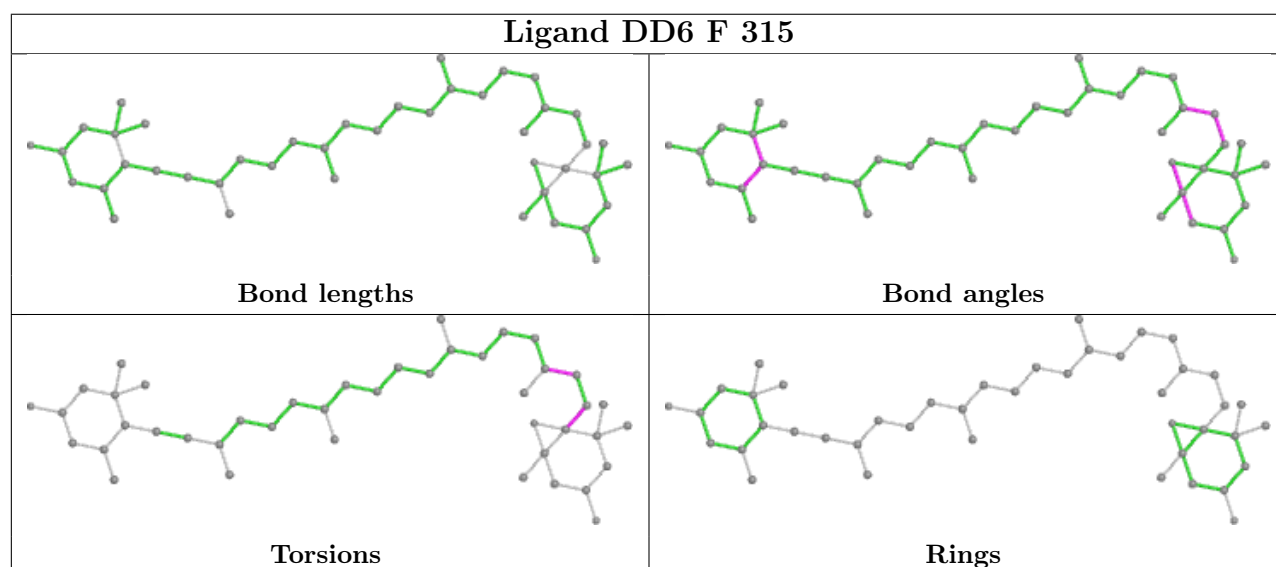
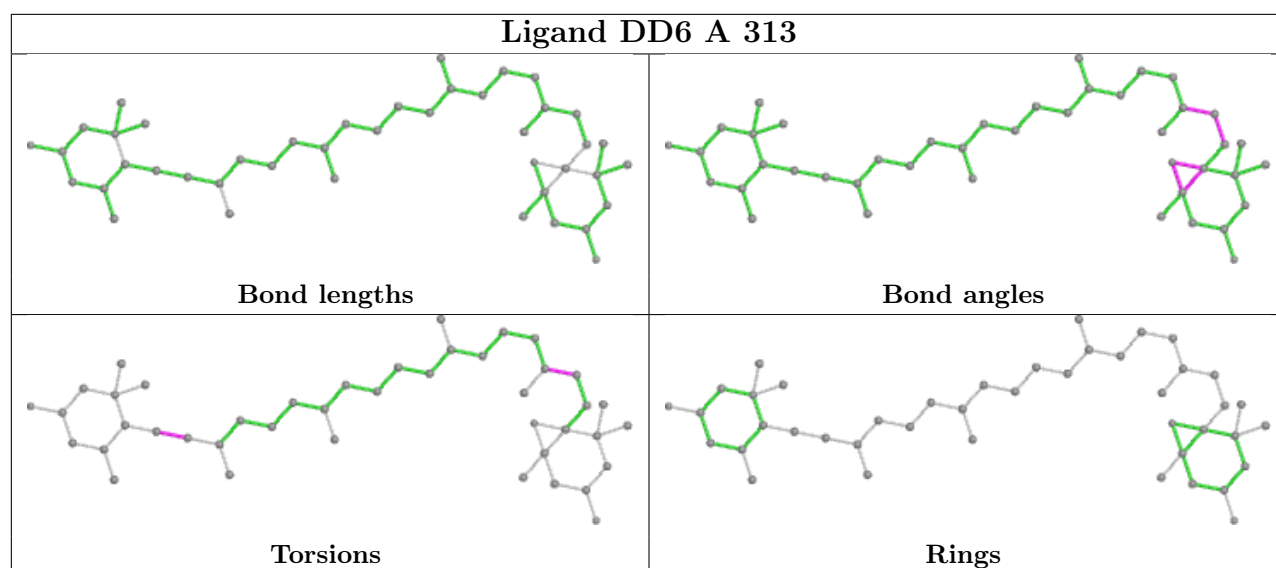


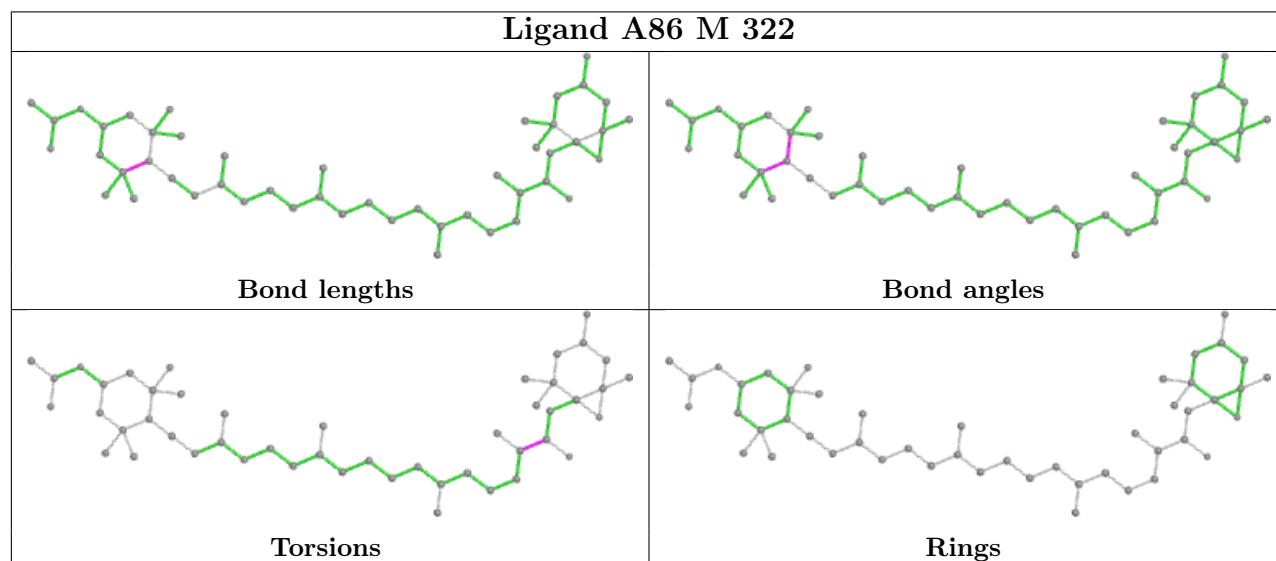
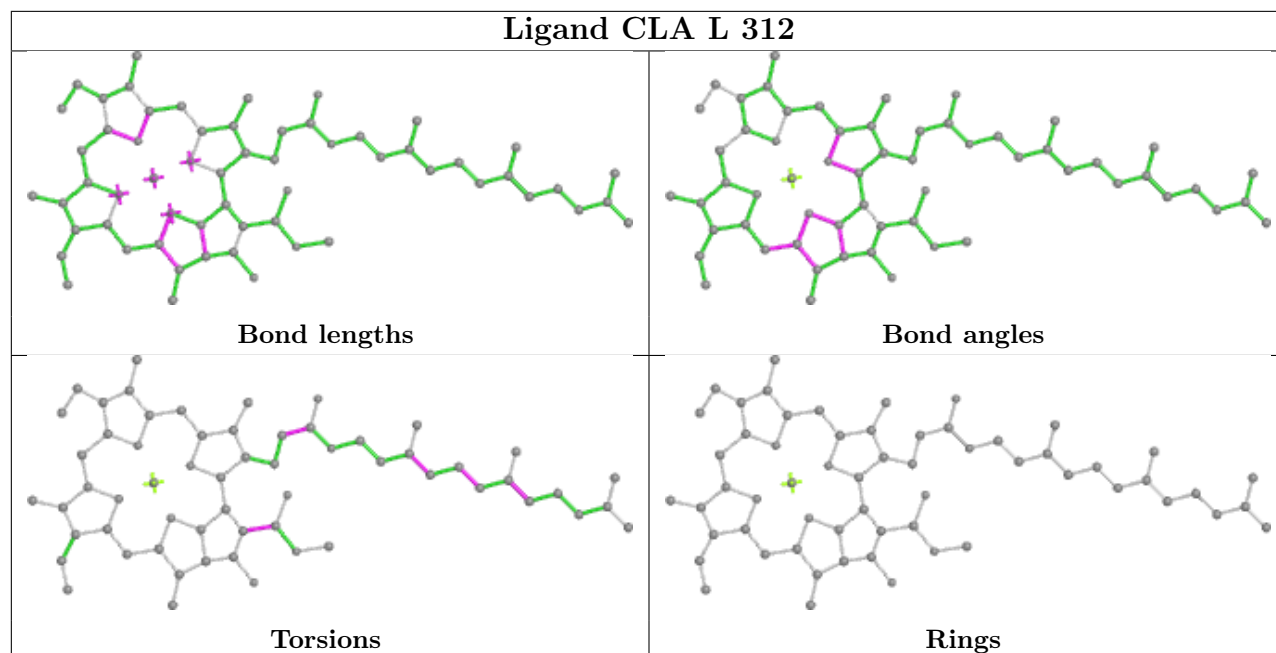


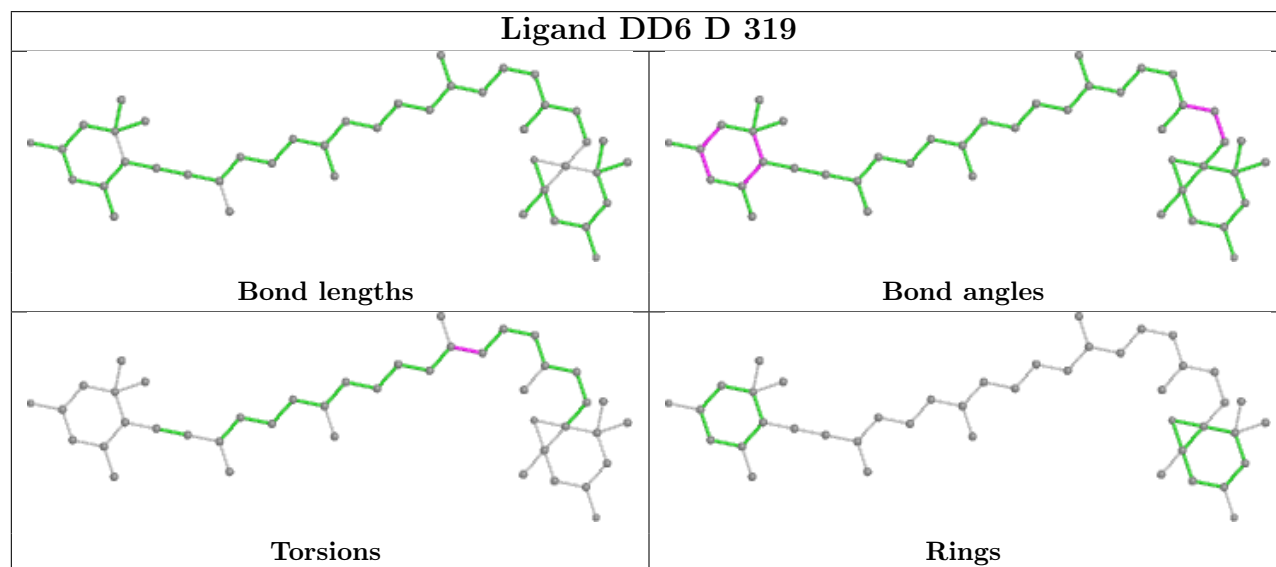
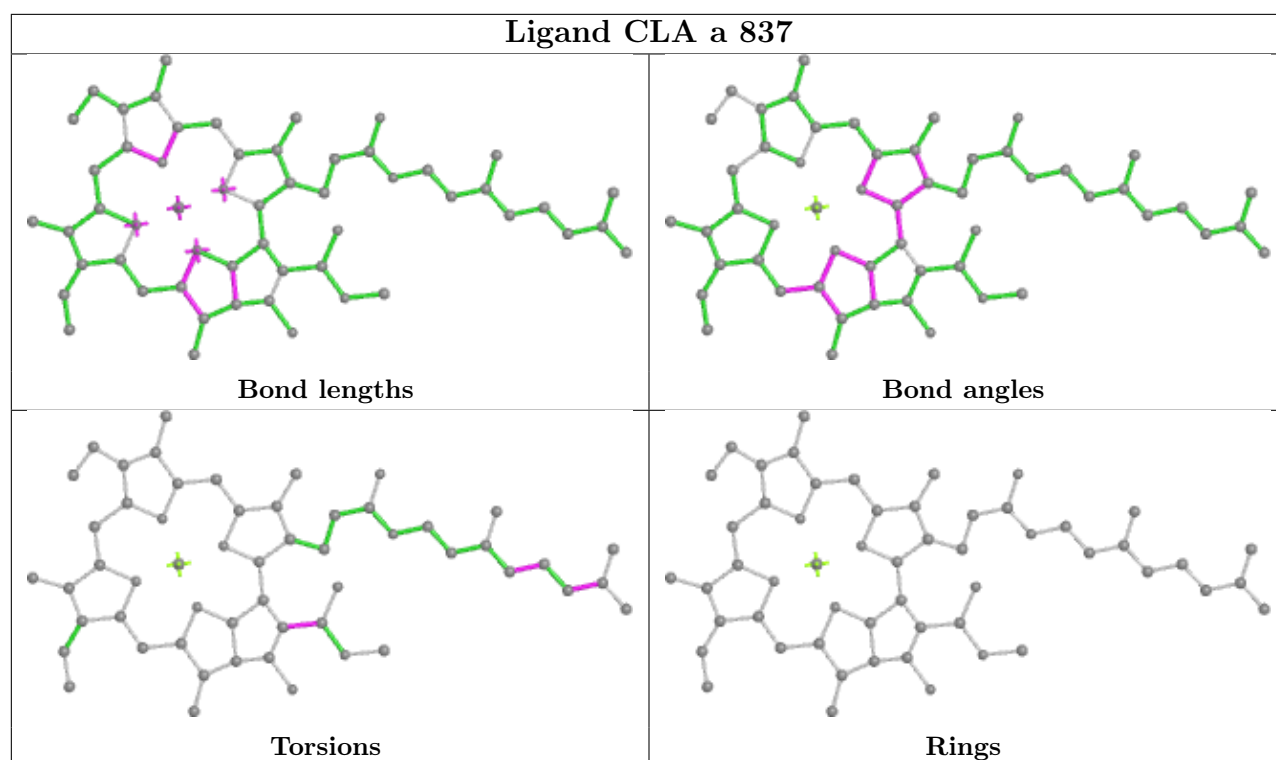


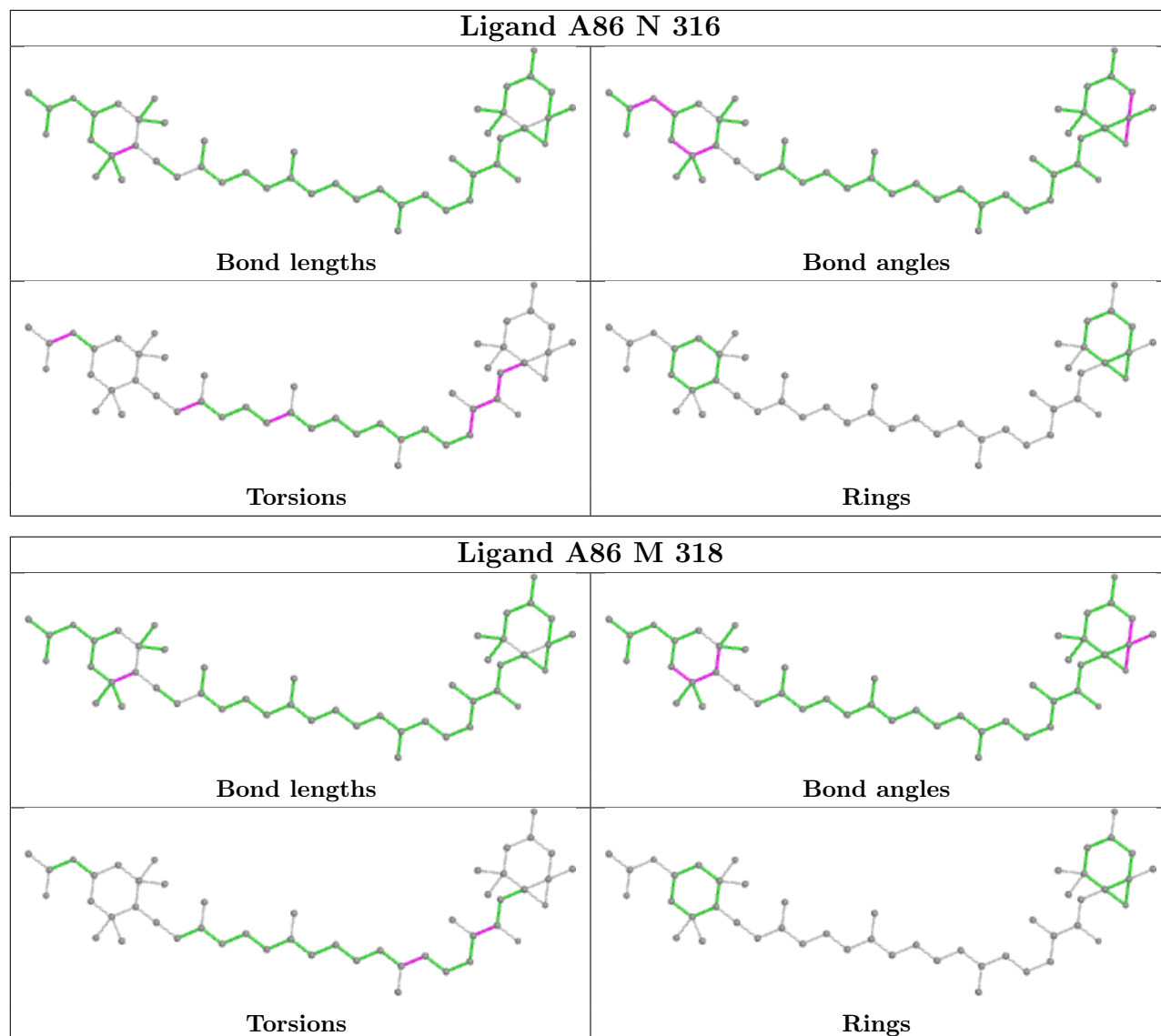


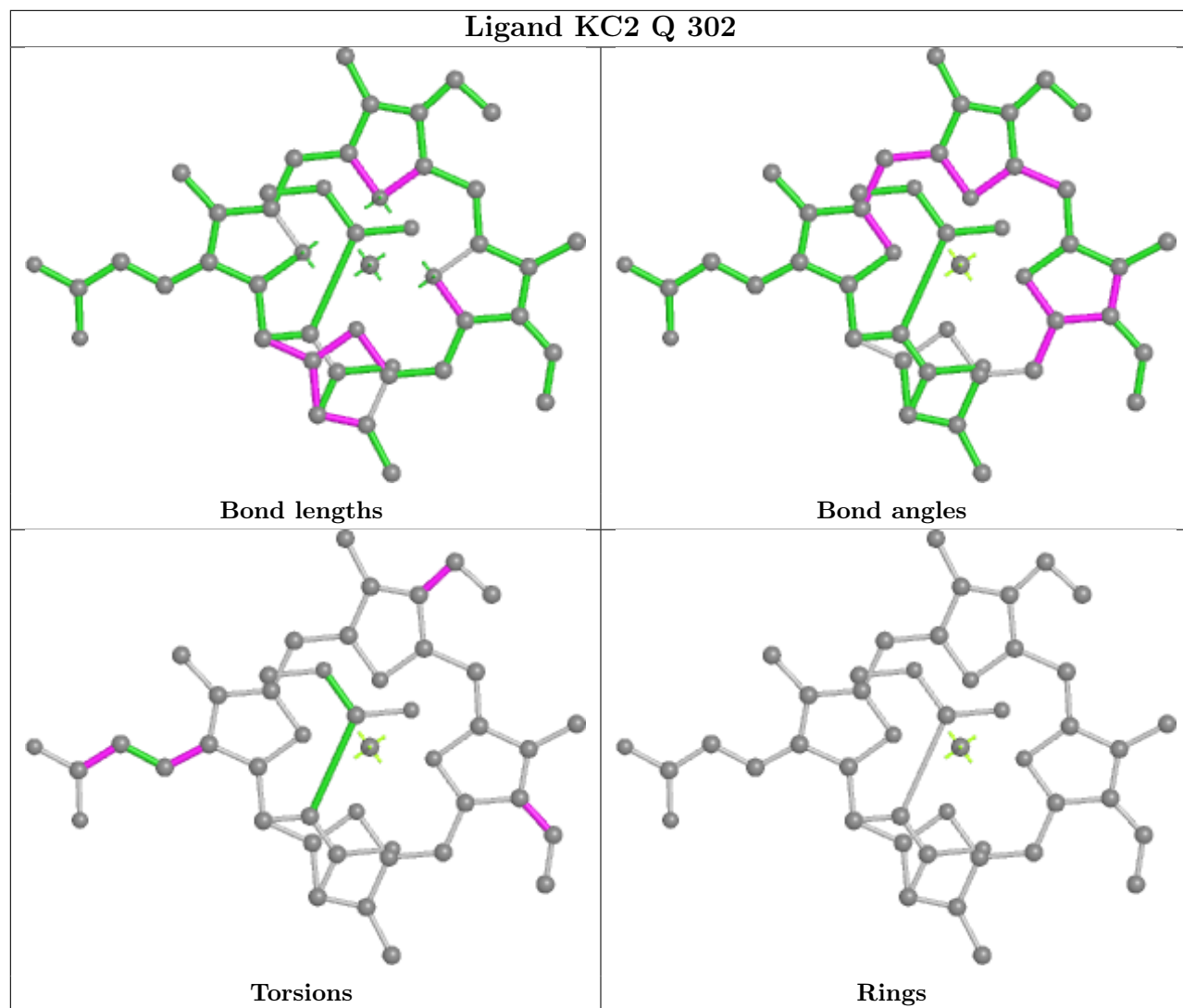


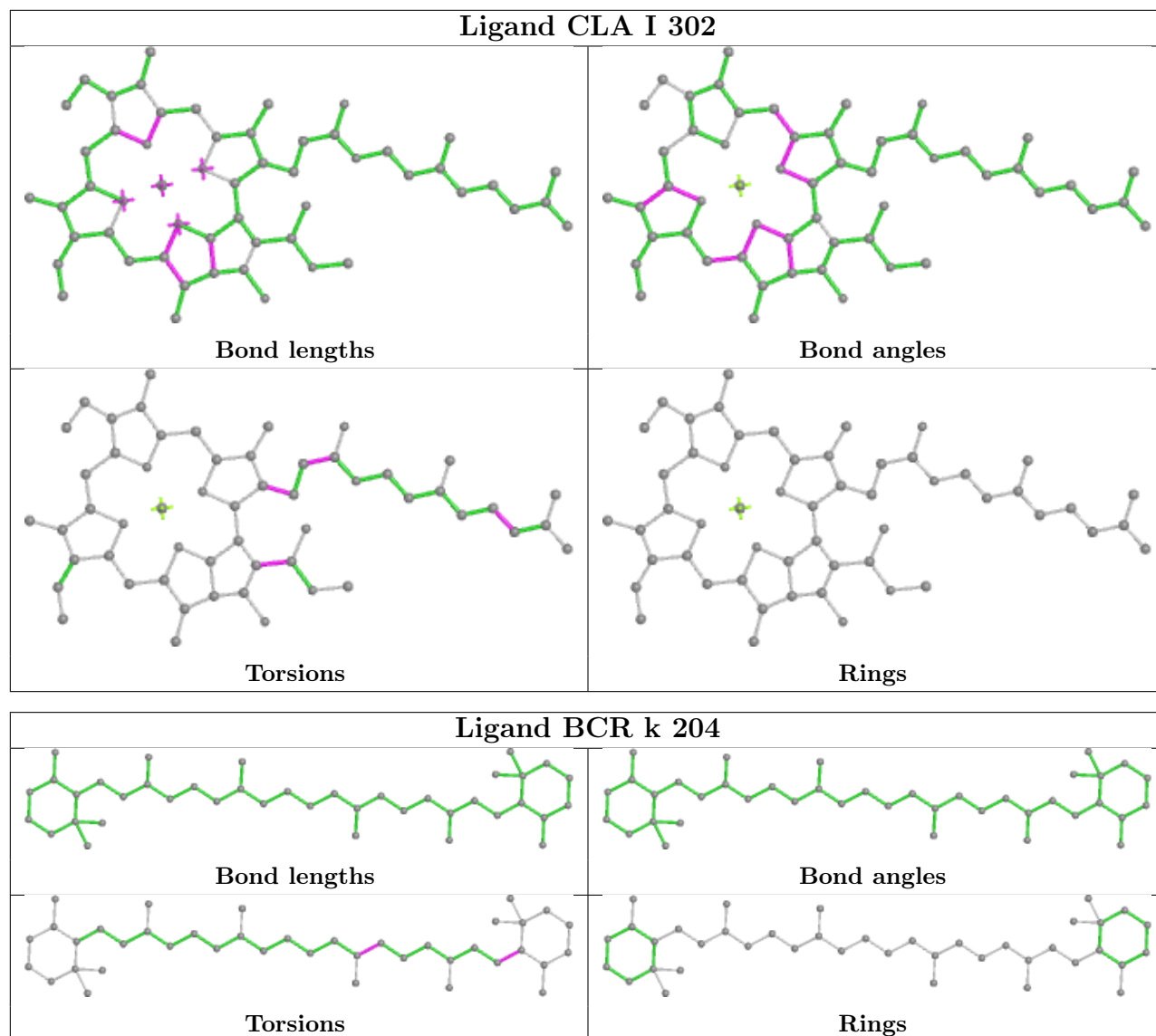


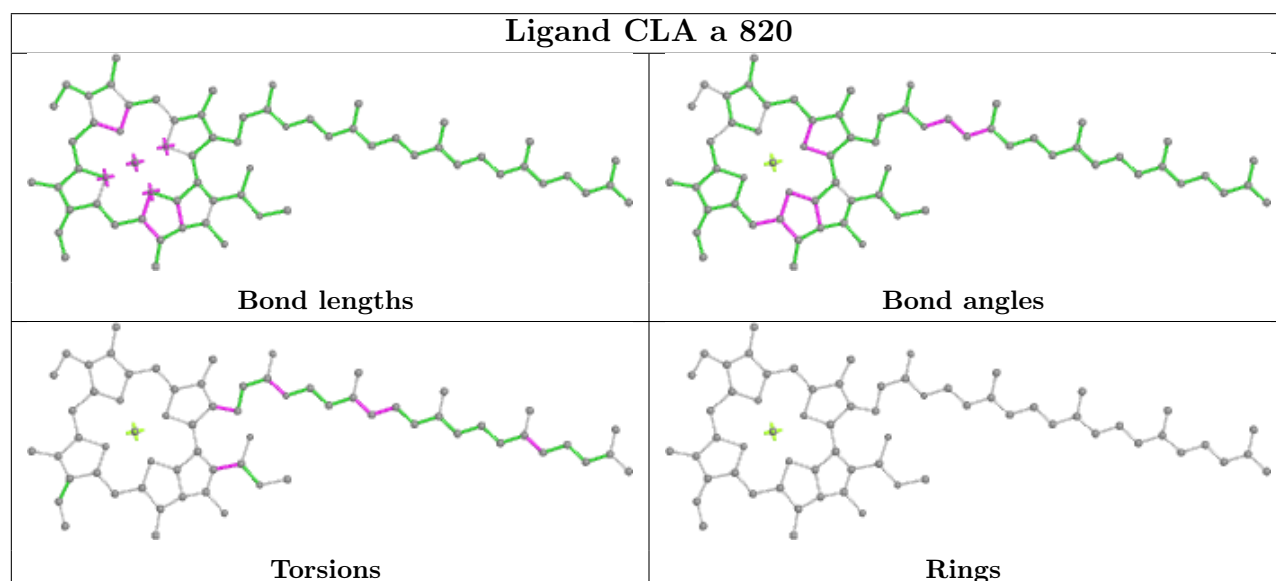
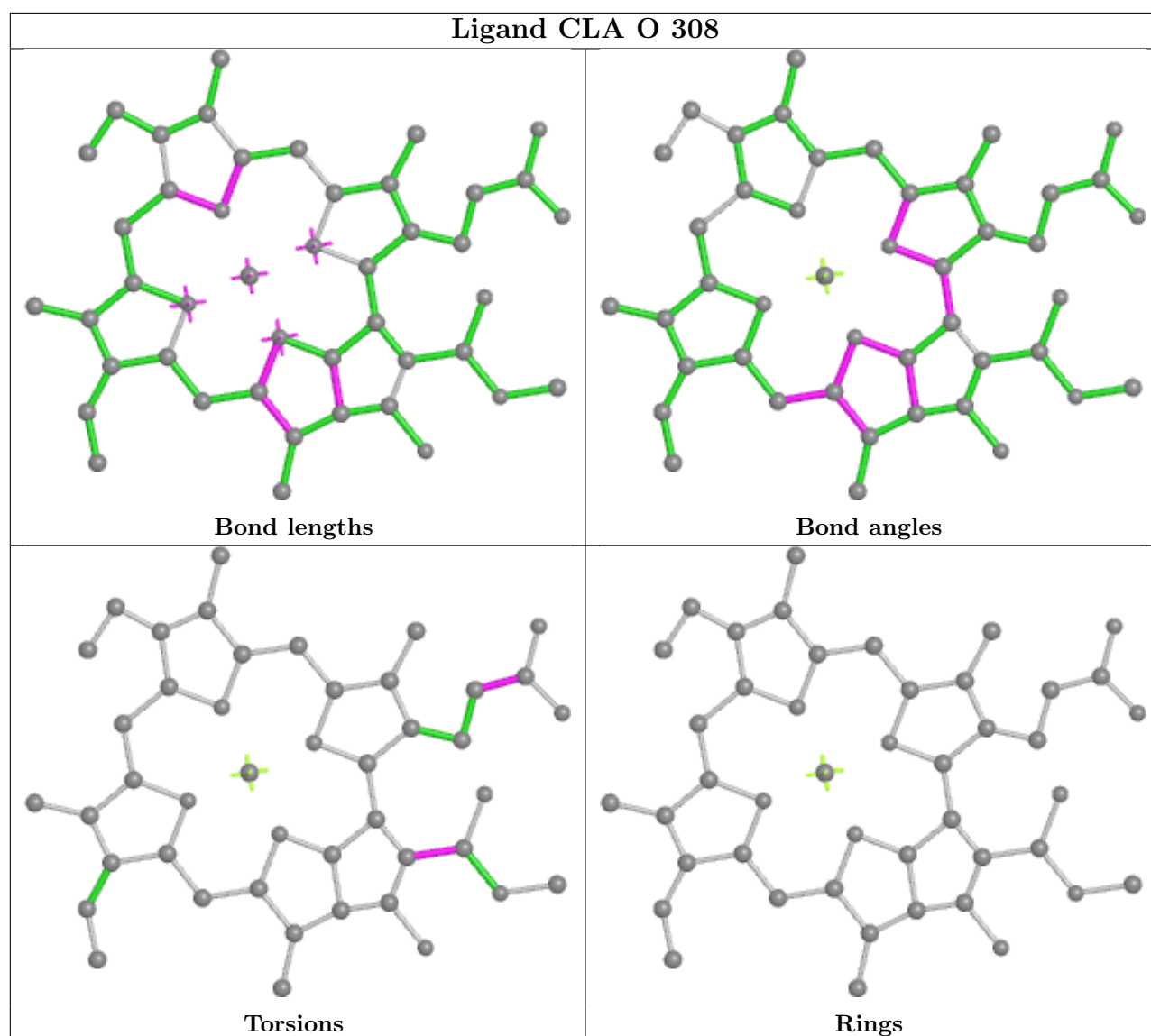


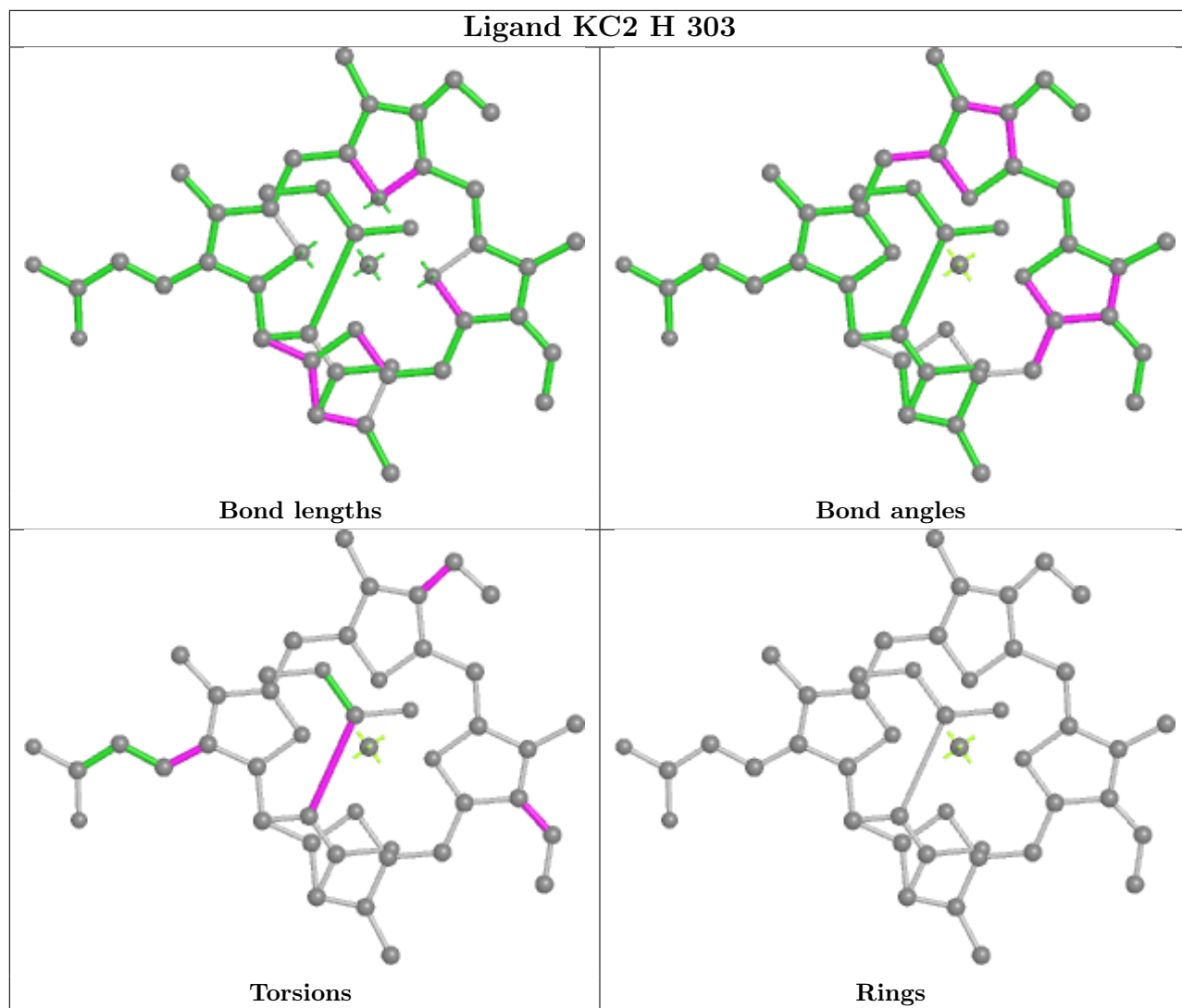


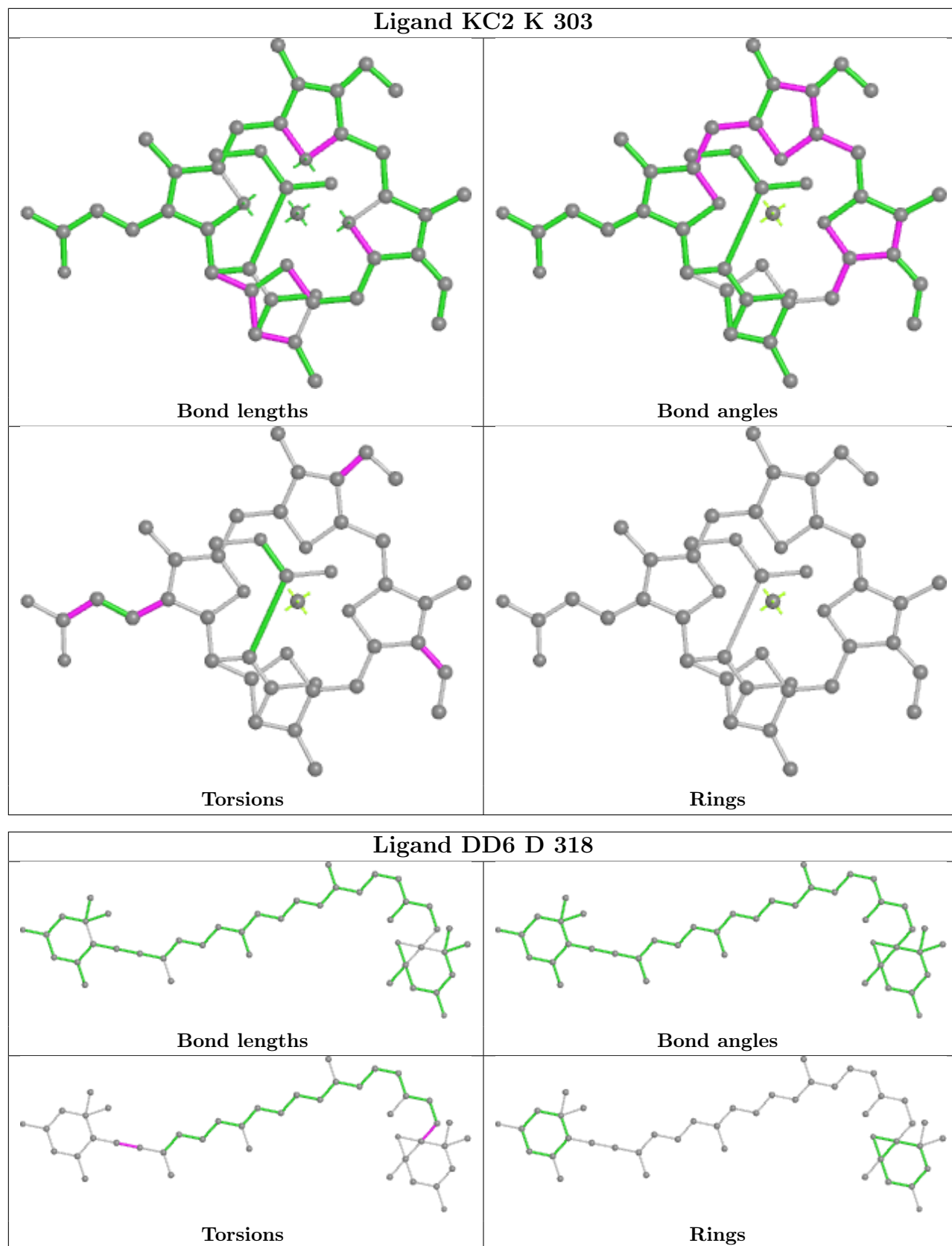


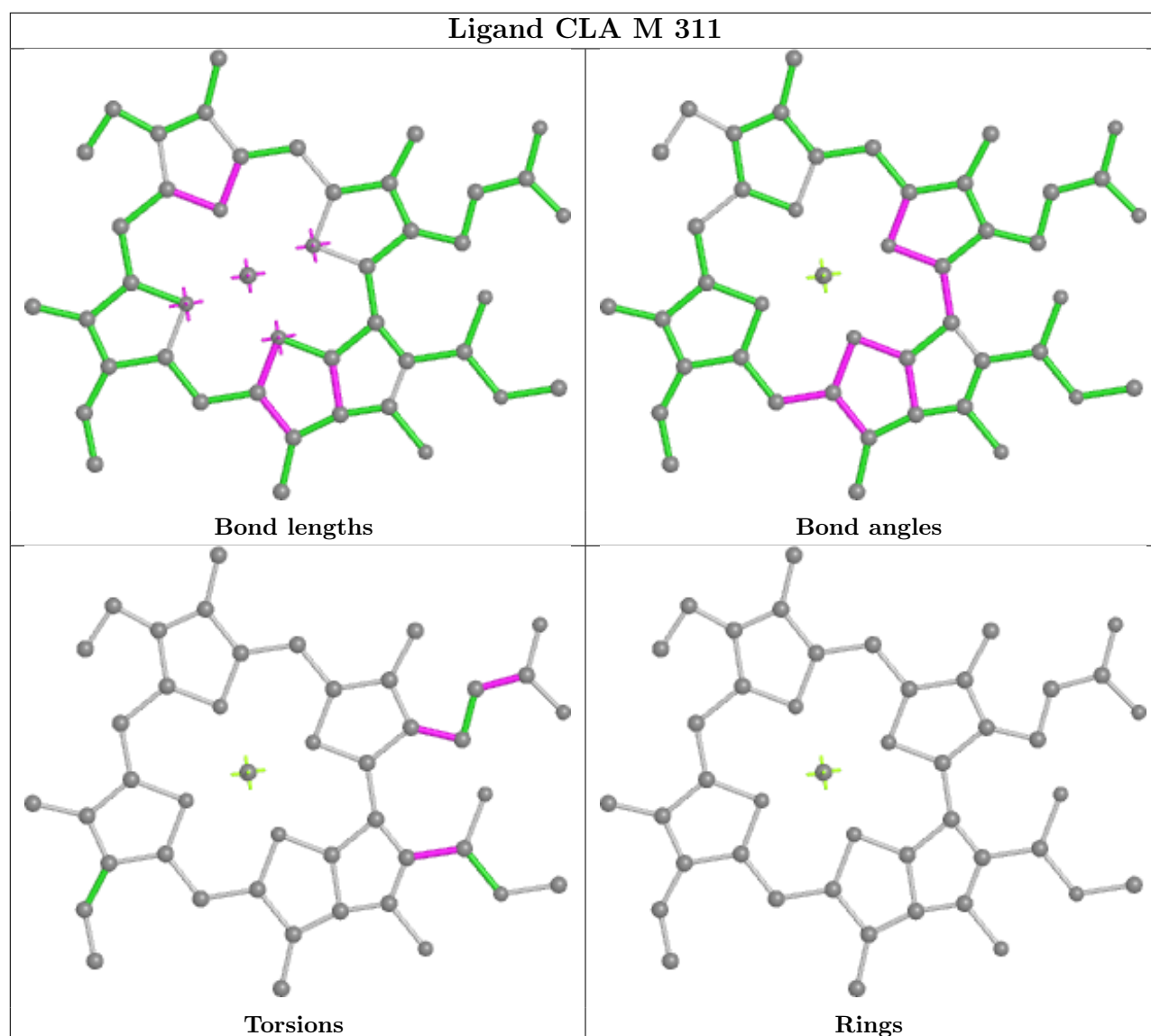


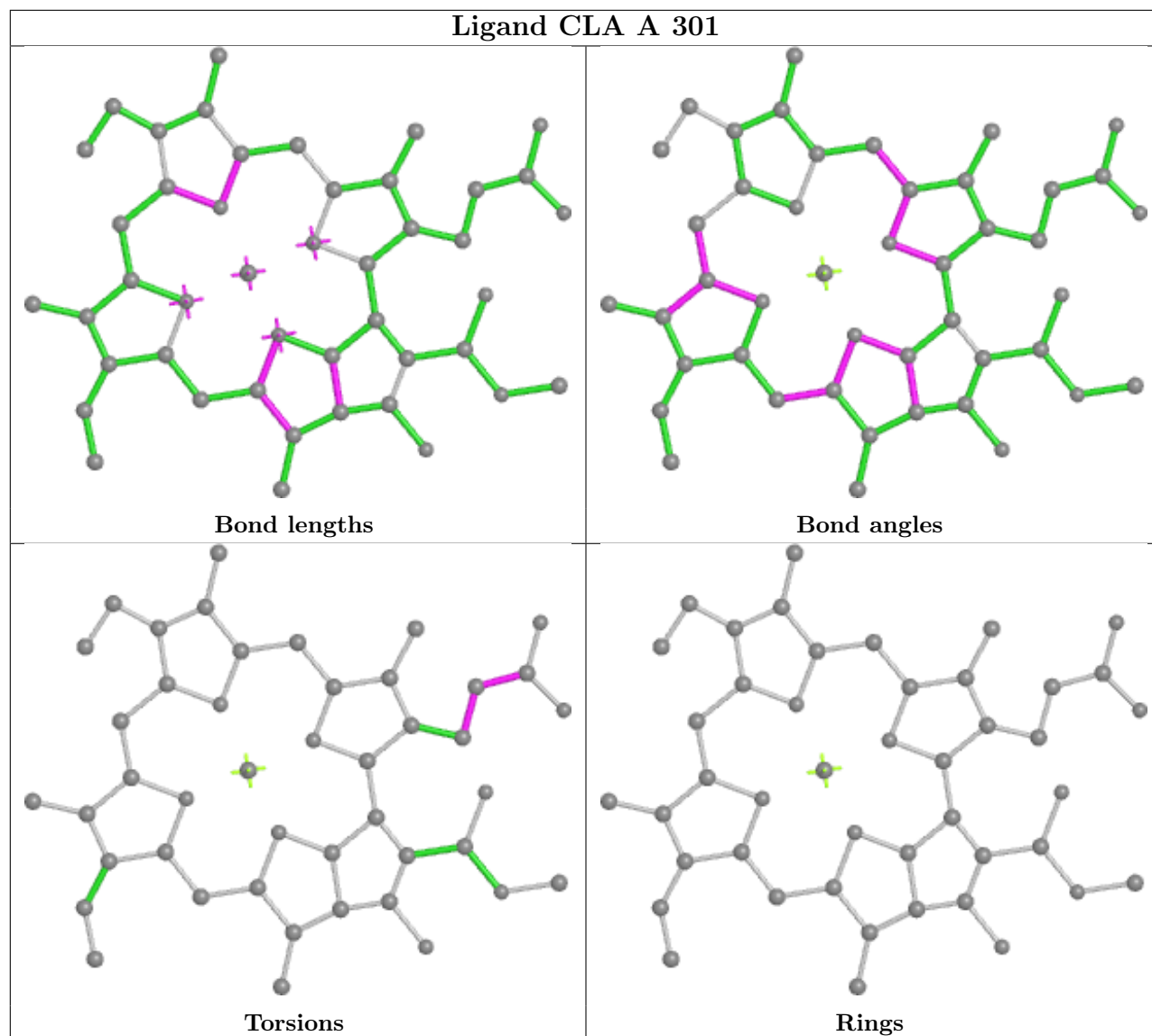


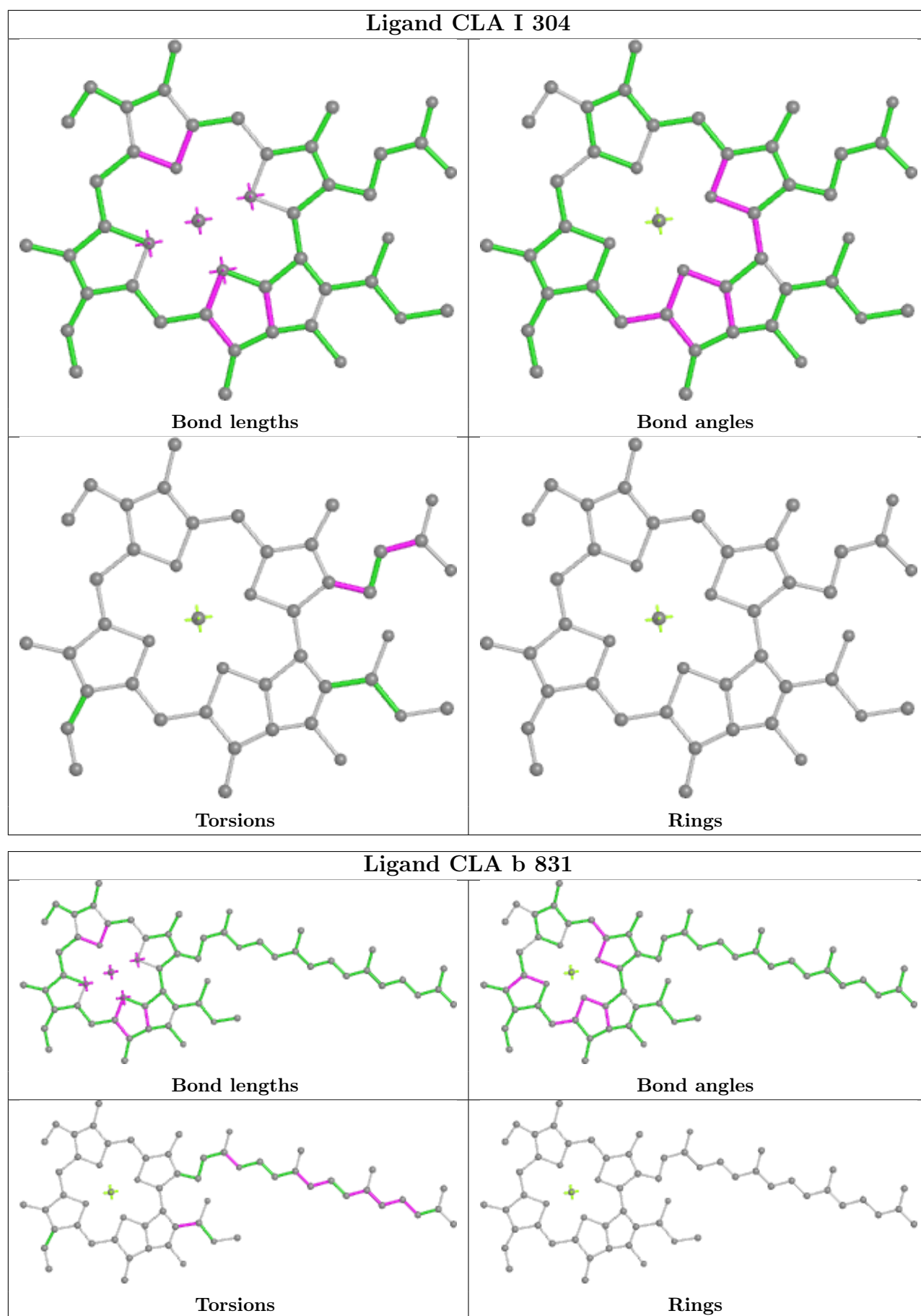


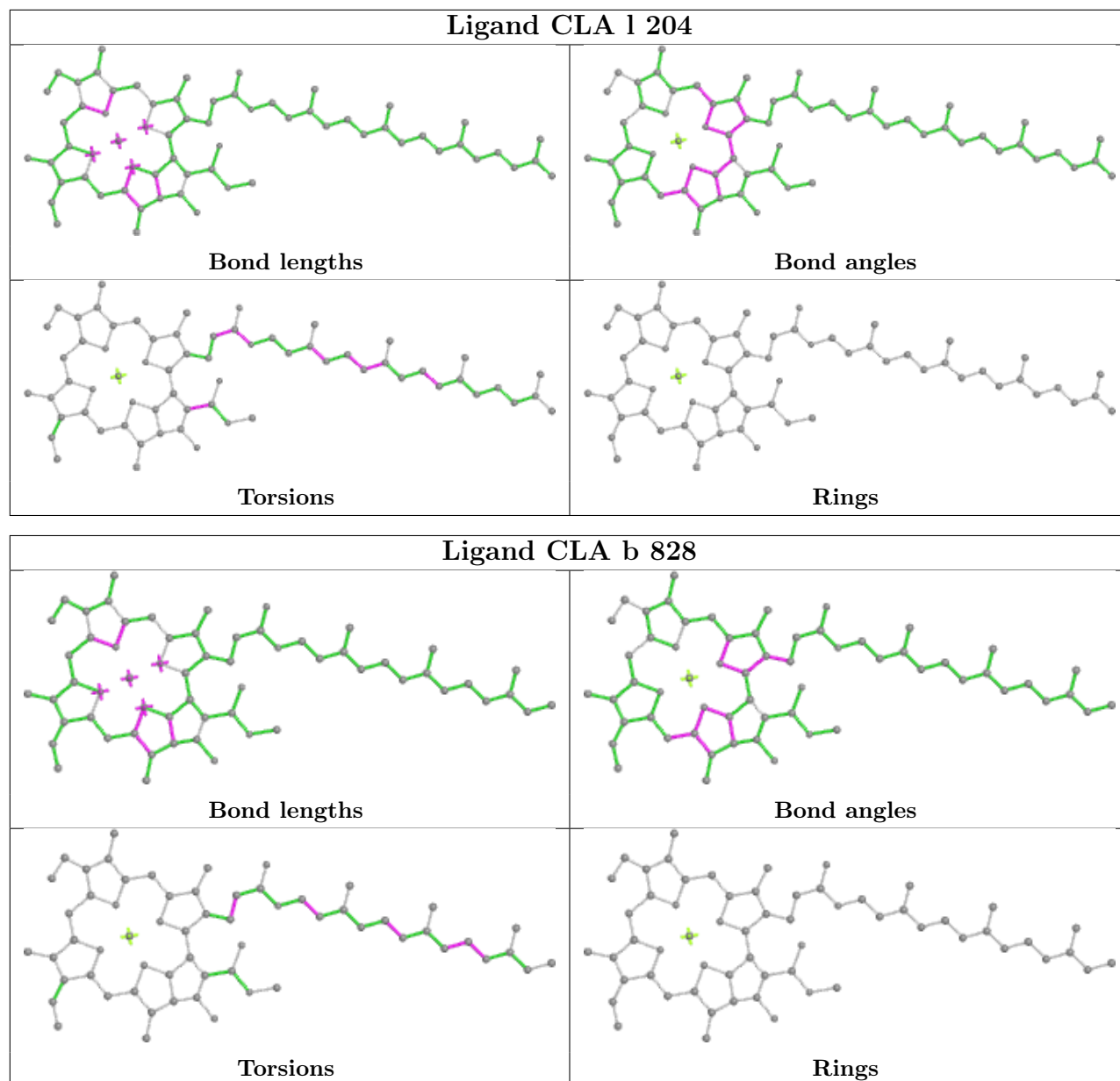


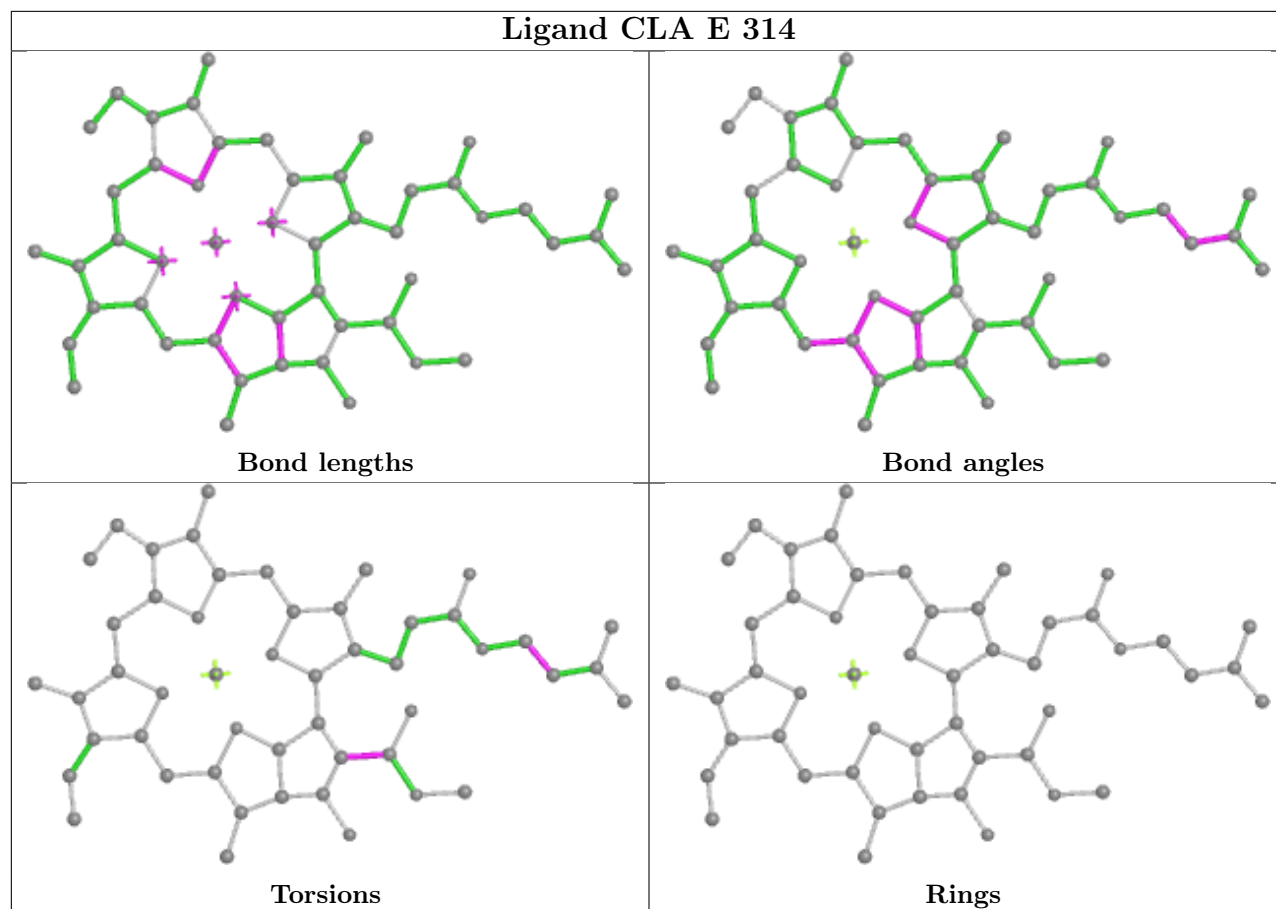


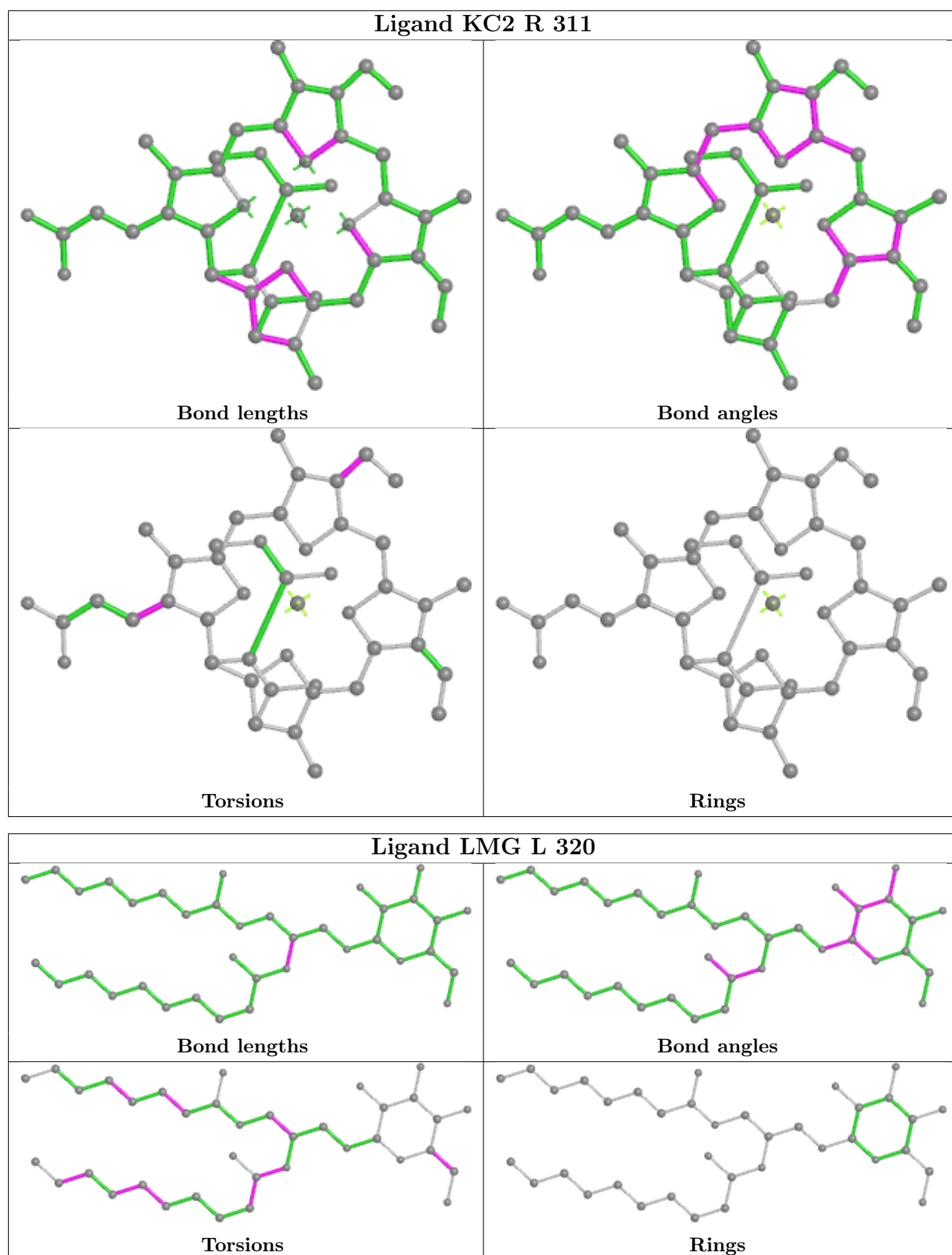


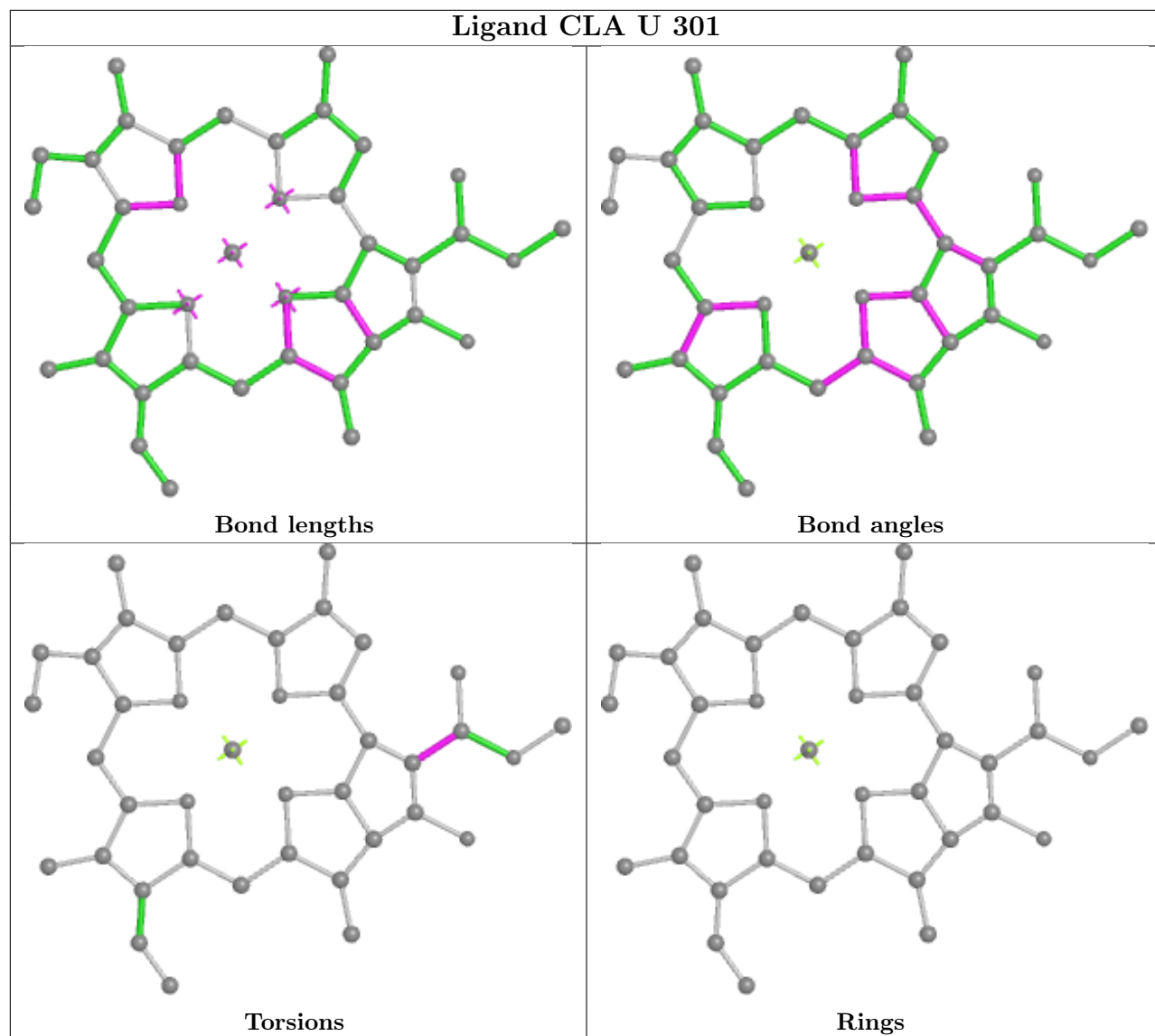


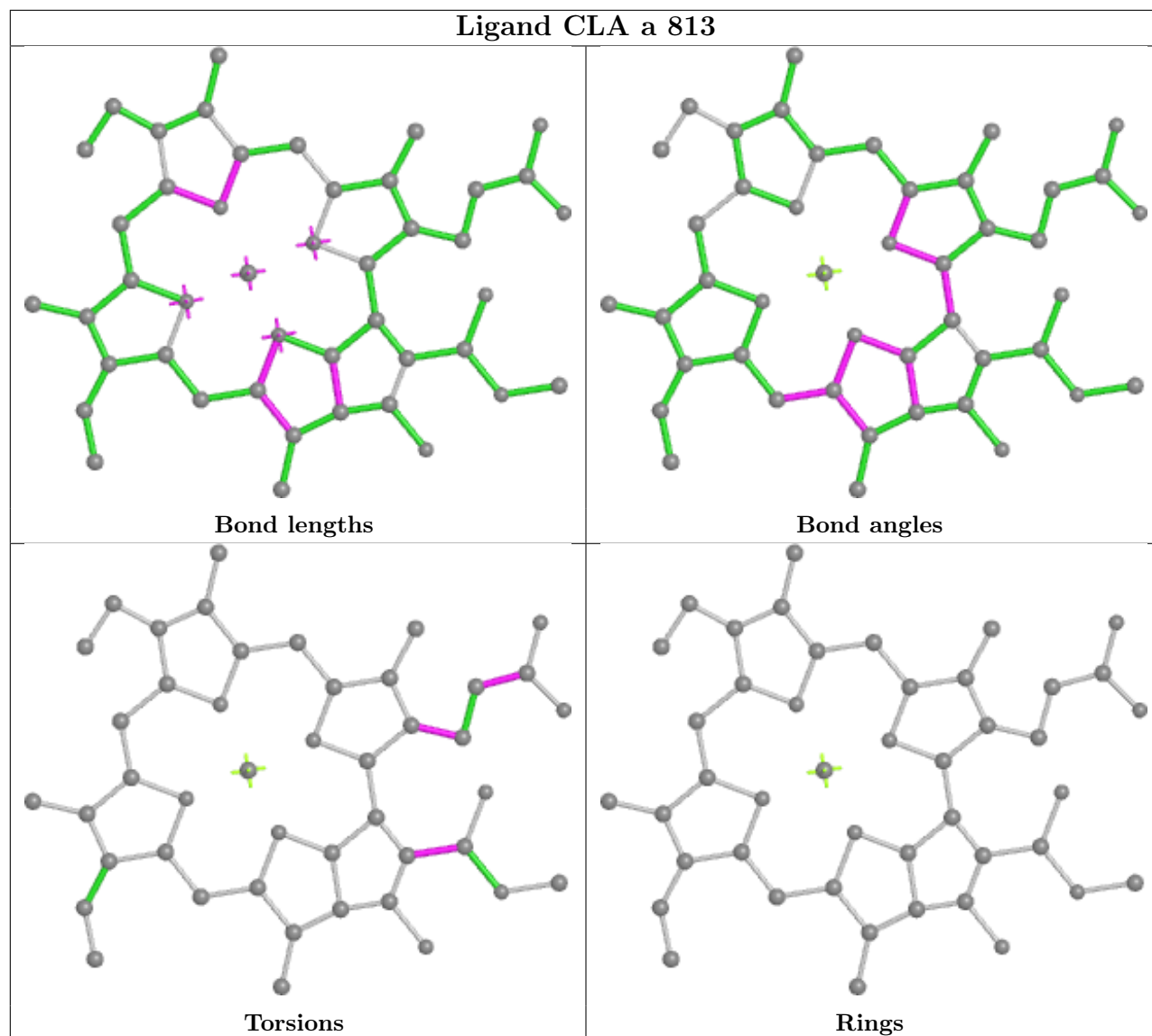


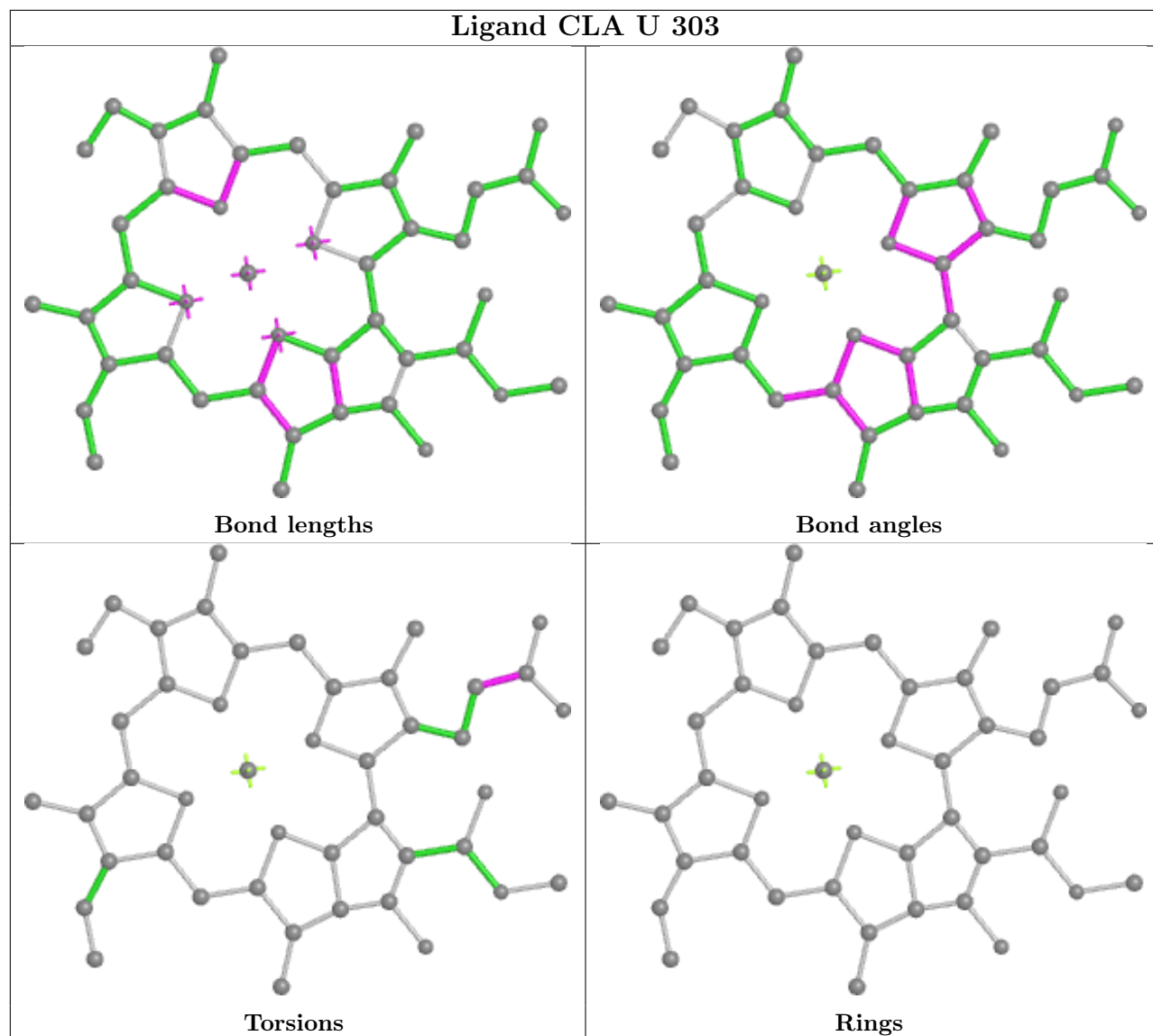


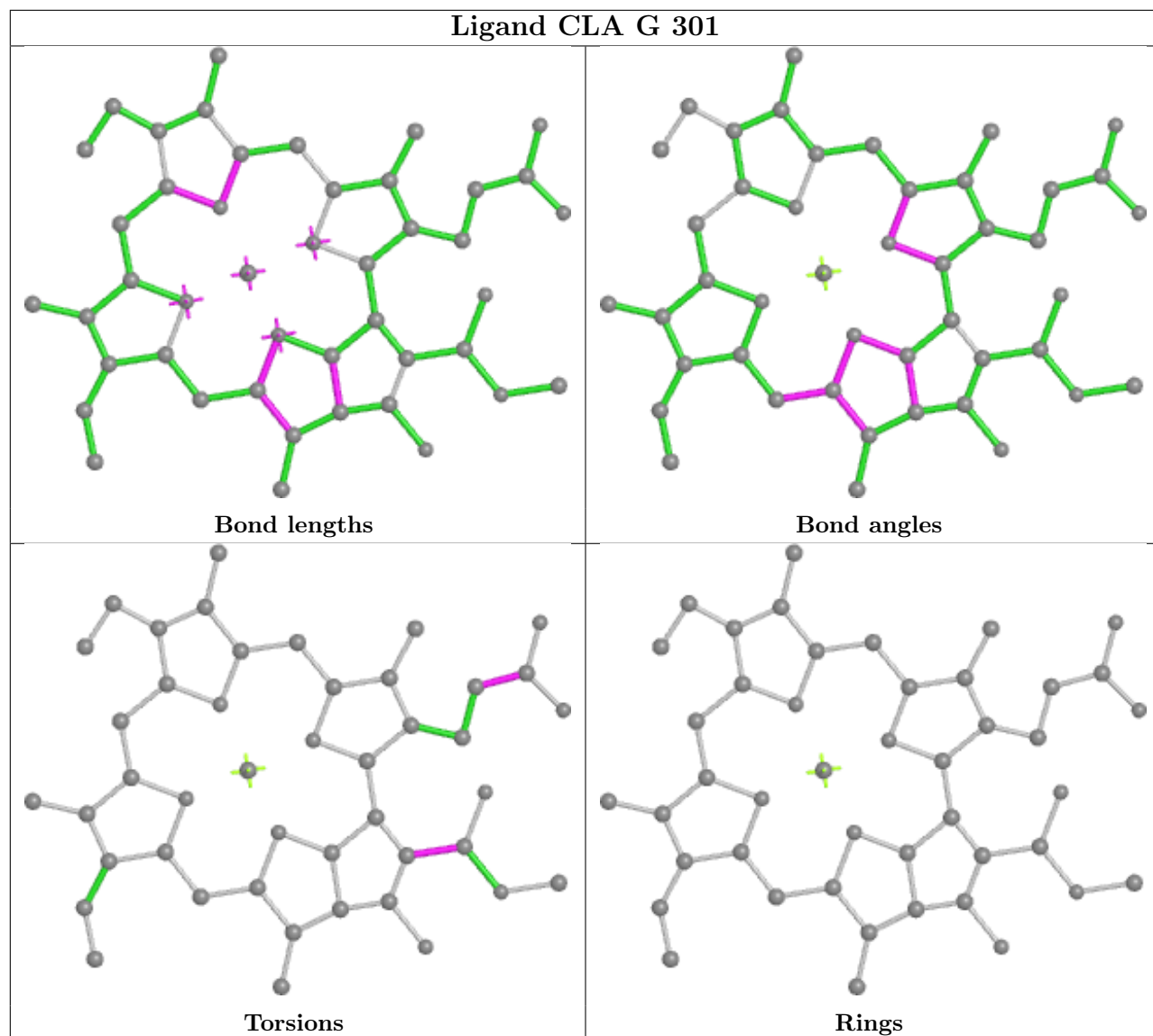


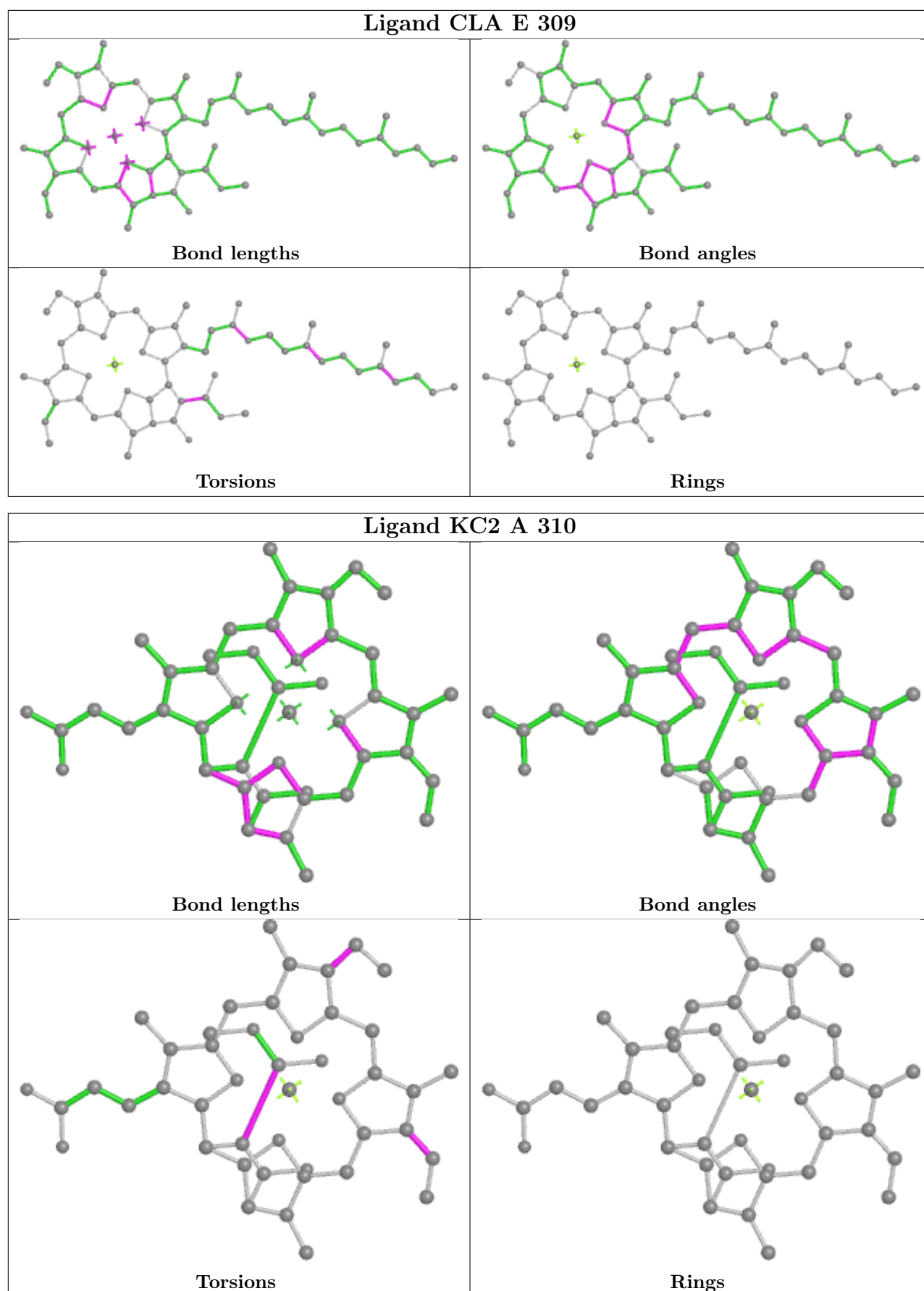


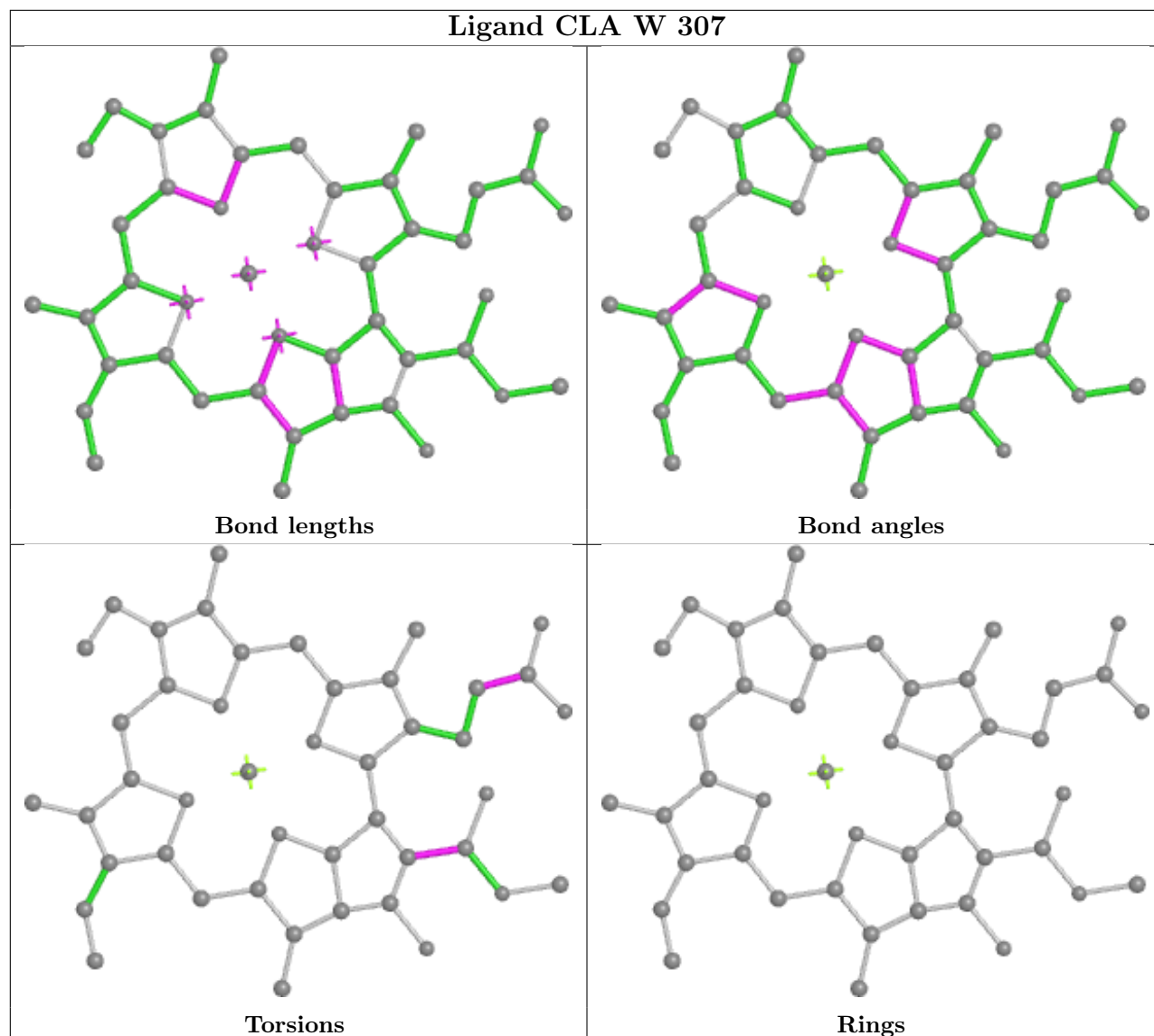


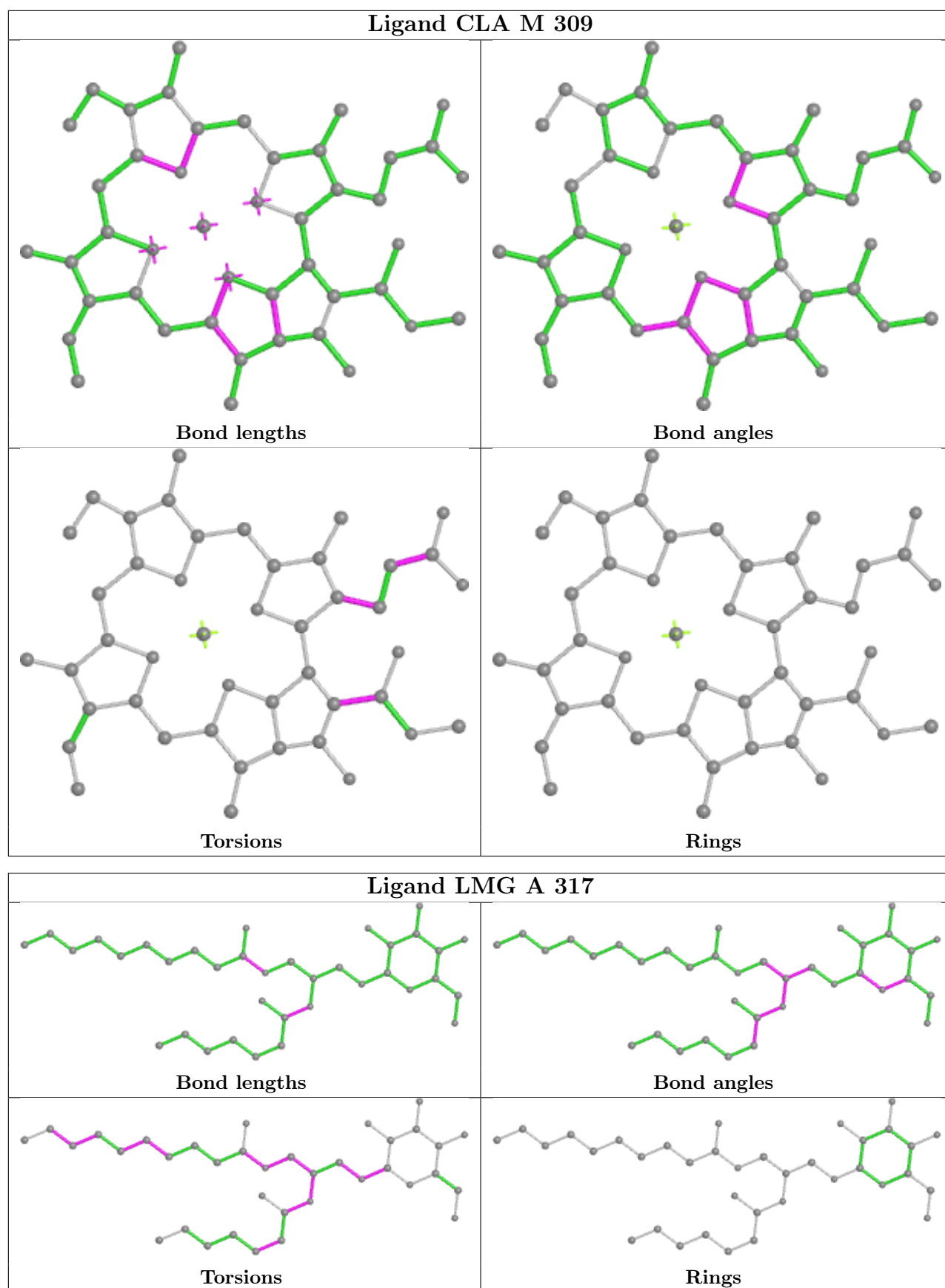


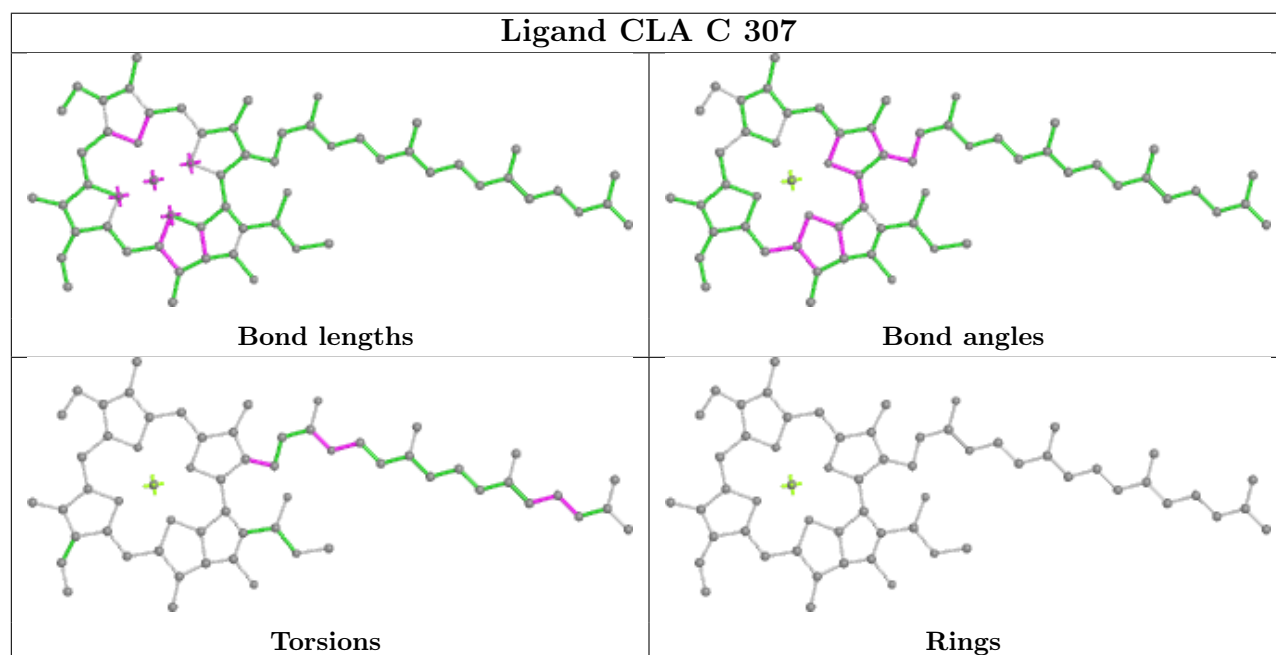
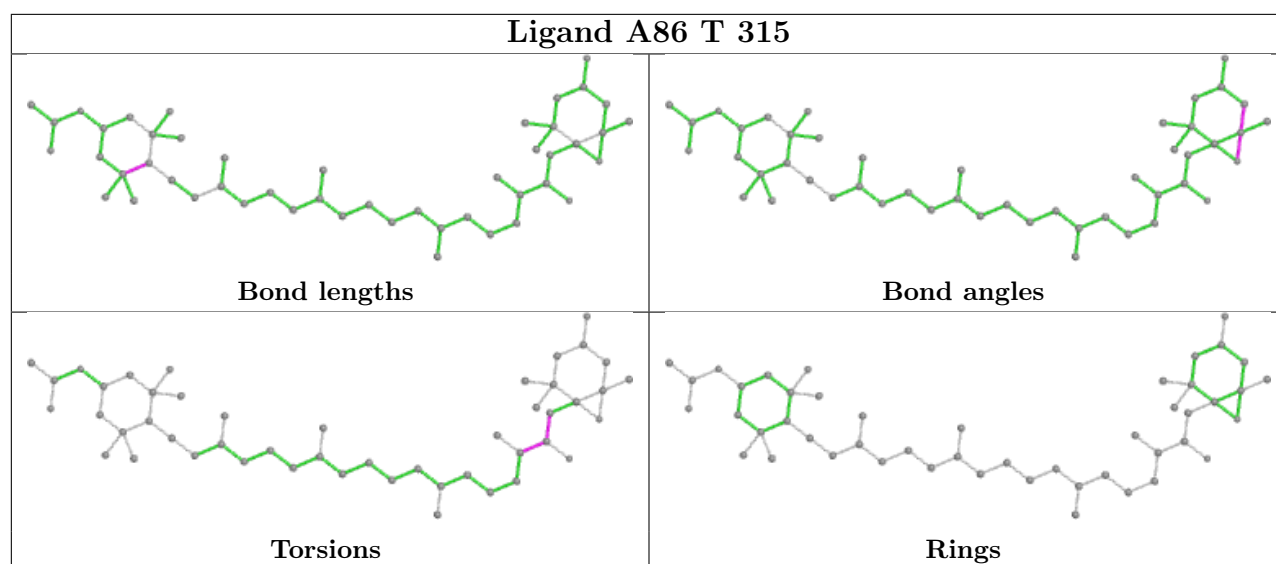


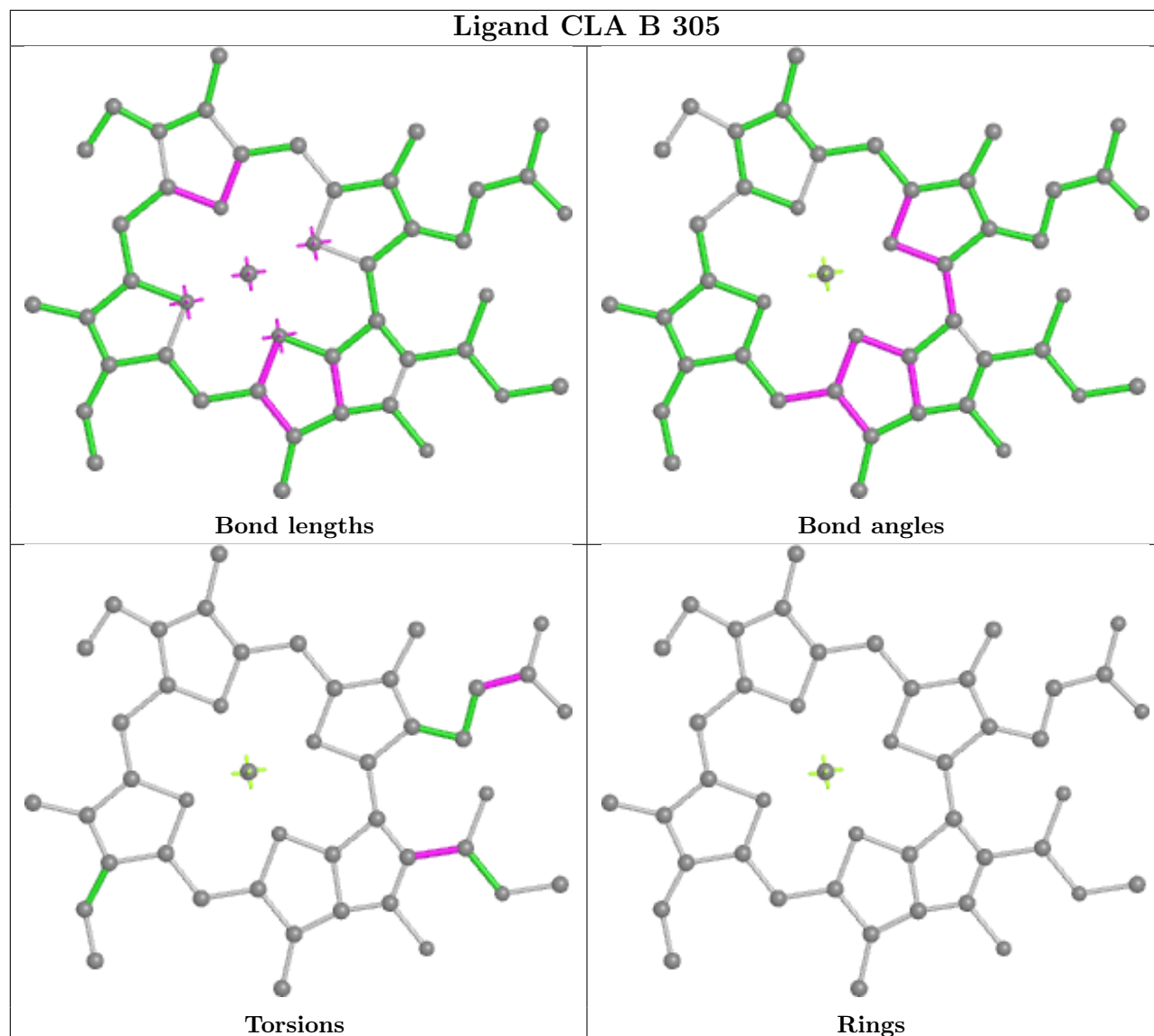


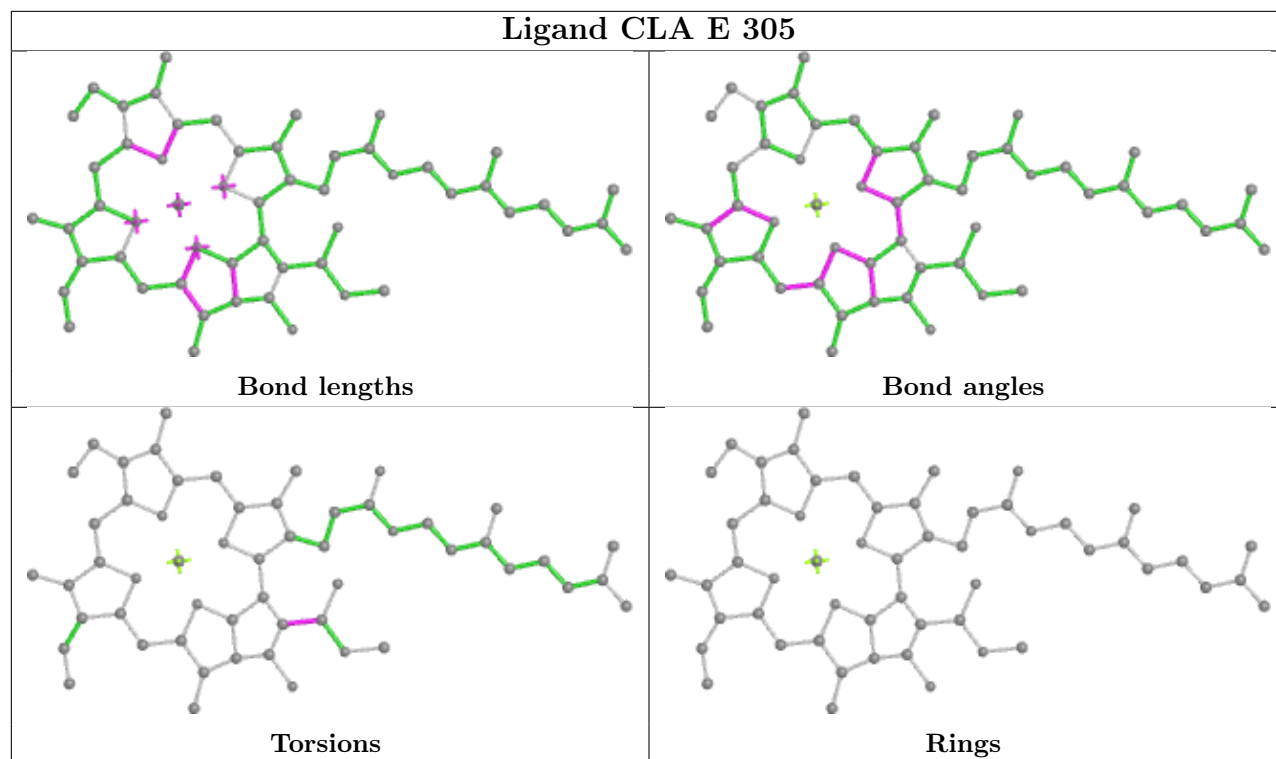


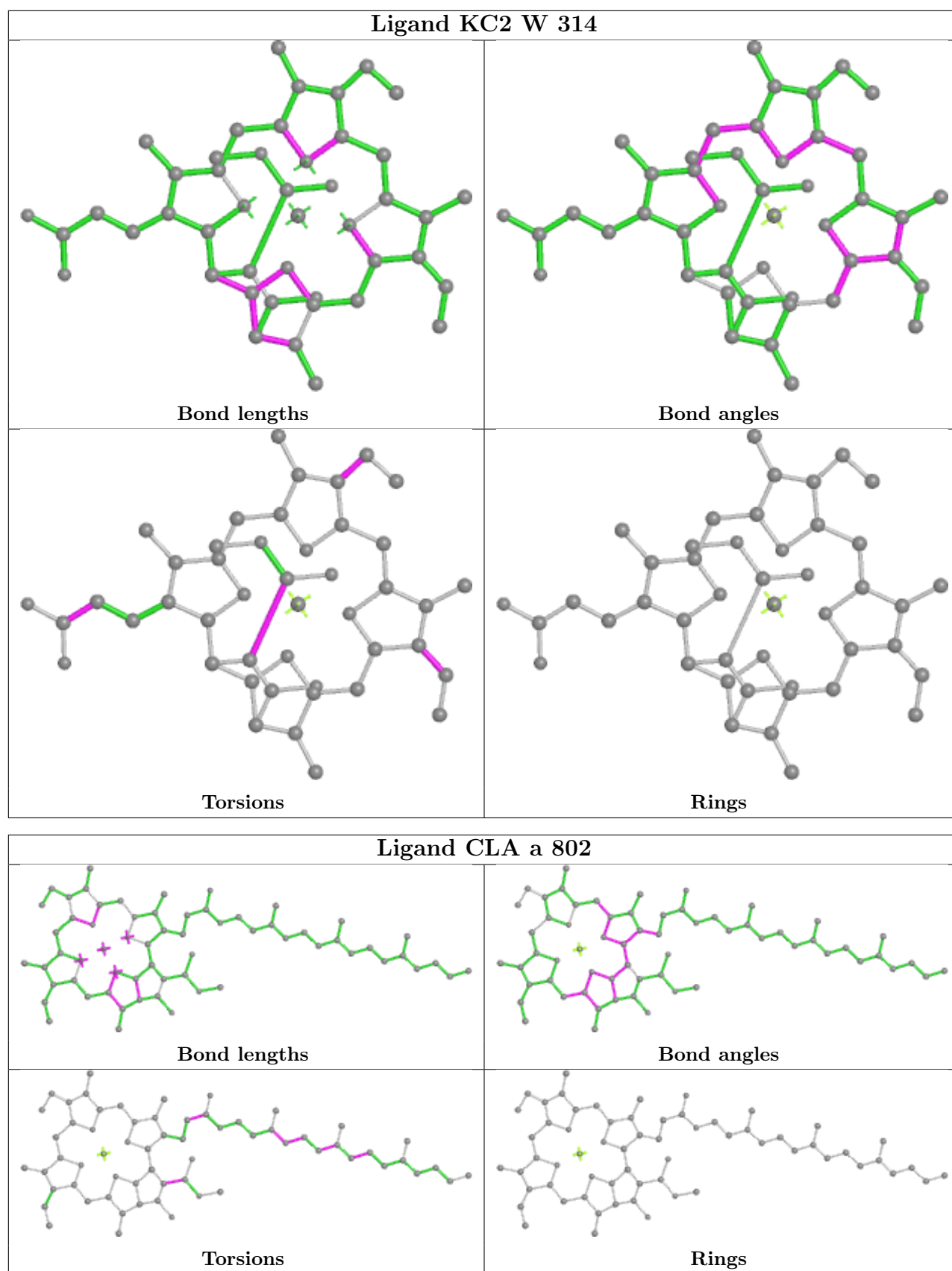












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

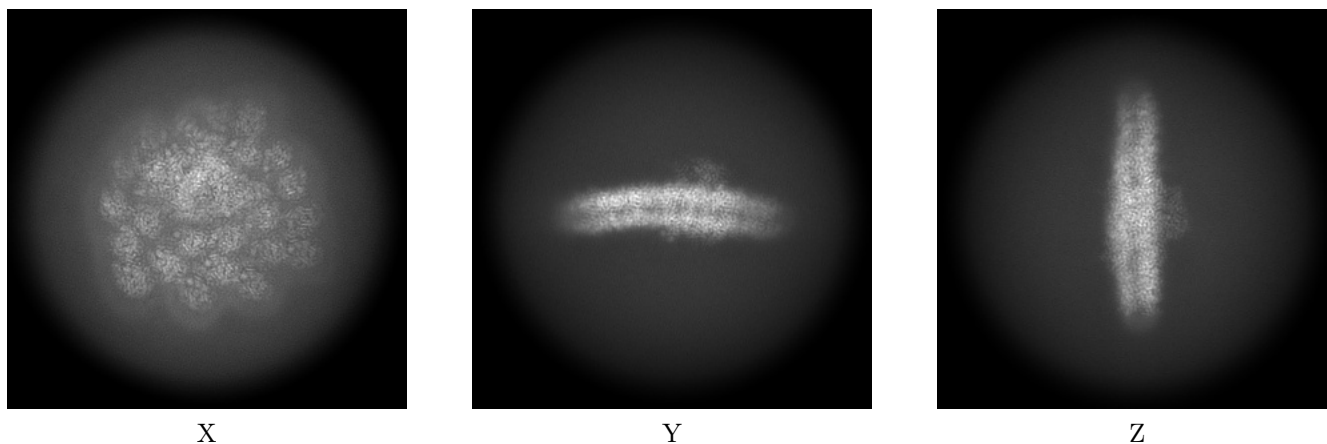
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-39717. These allow visual inspection of the internal detail of the map and identification of artifacts.

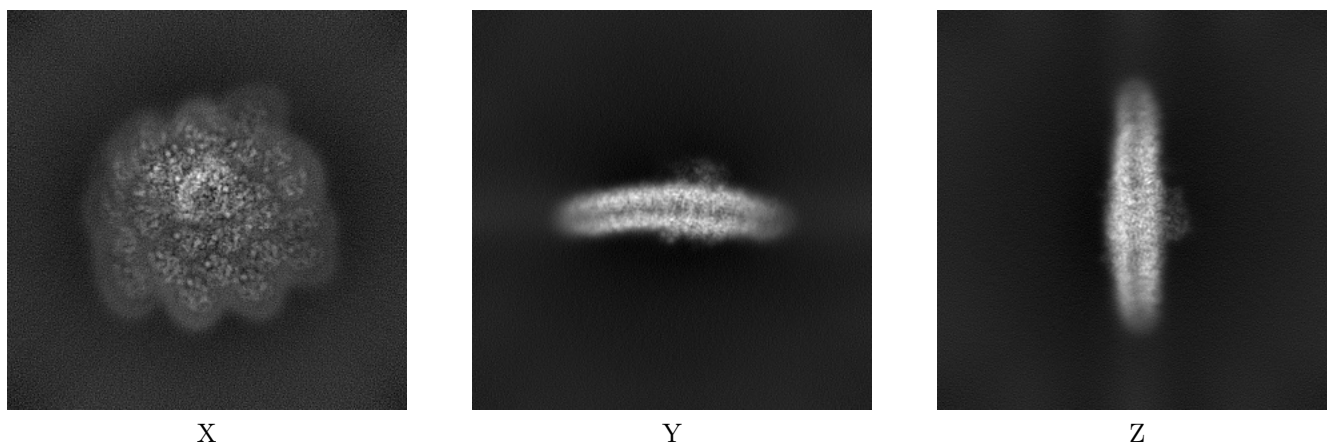
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



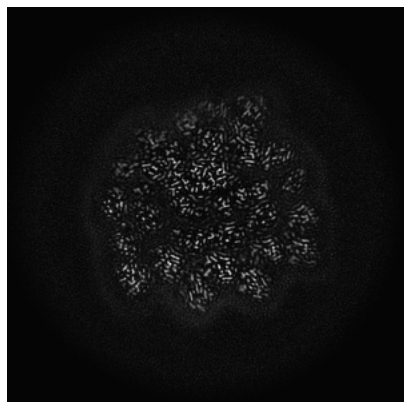
6.1.2 Raw map



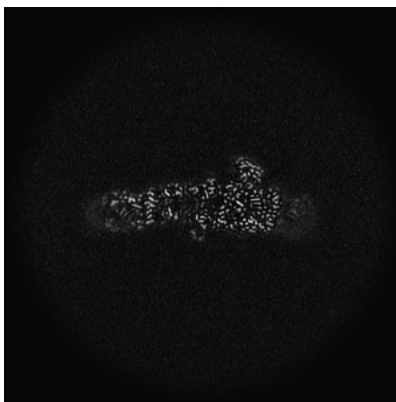
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

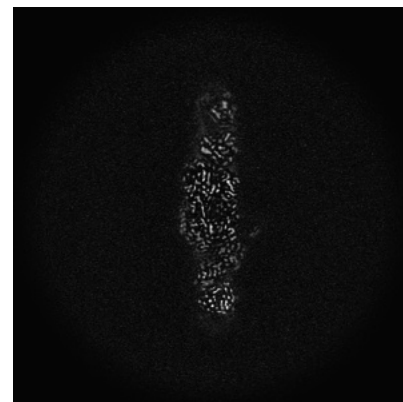
6.2.1 Primary map



X Index: 200

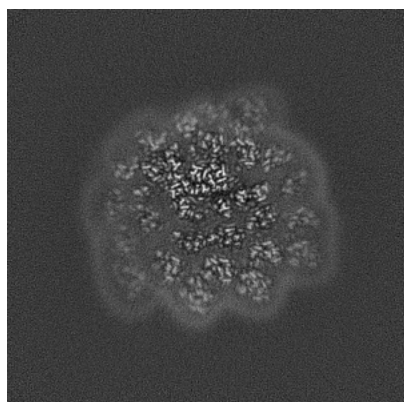


Y Index: 200

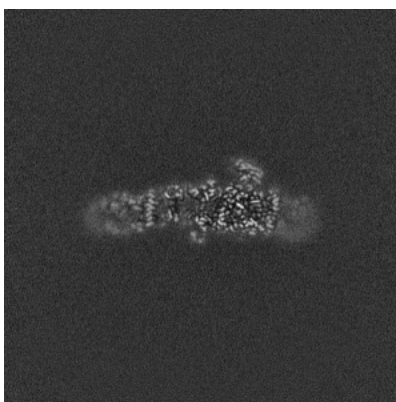


Z Index: 200

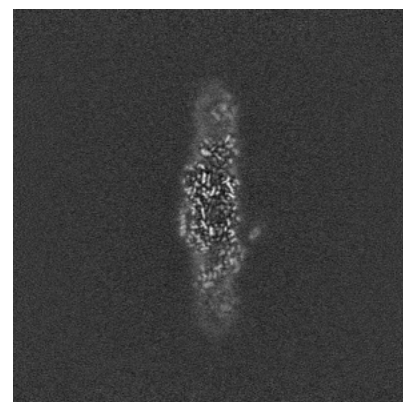
6.2.2 Raw map



X Index: 200



Y Index: 200

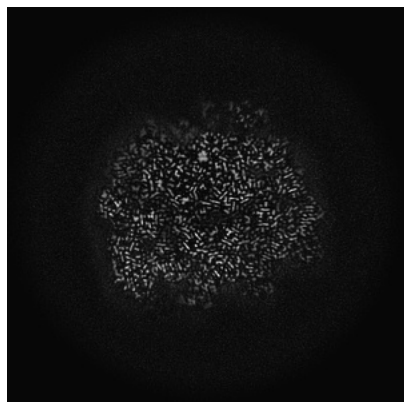


Z Index: 200

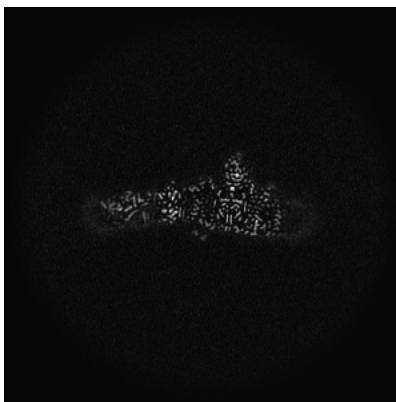
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

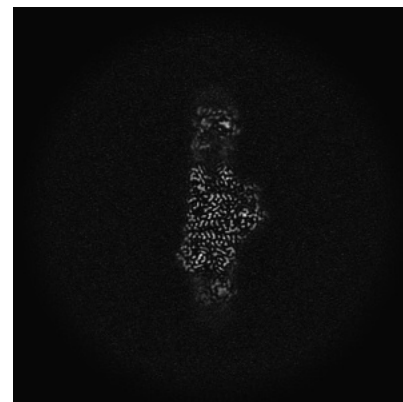
6.3.1 Primary map



X Index: 210

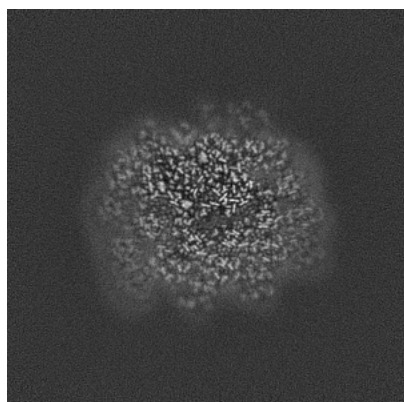


Y Index: 191

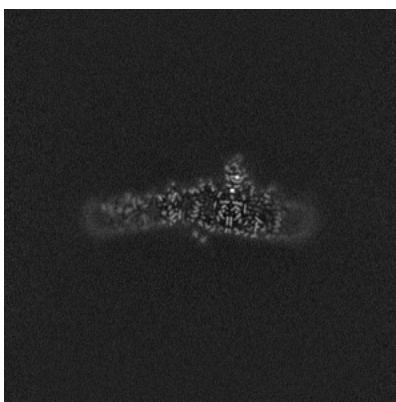


Z Index: 232

6.3.2 Raw map



X Index: 211



Y Index: 191

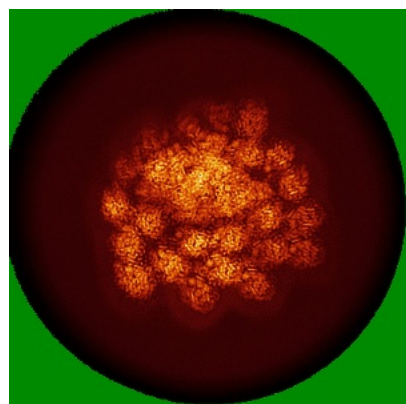


Z Index: 232

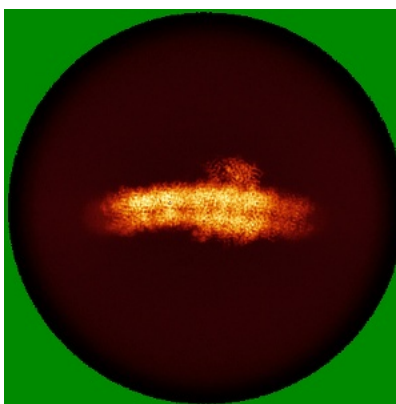
The images above show the largest variance slices of the map in three orthogonal directions.

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

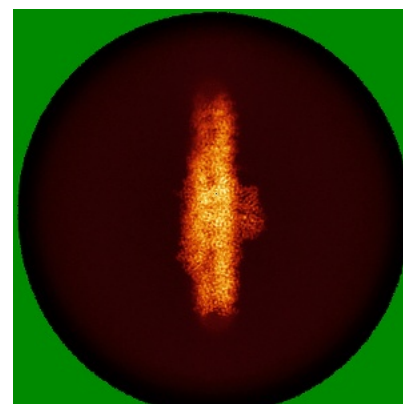
6.4.1 Primary map



X

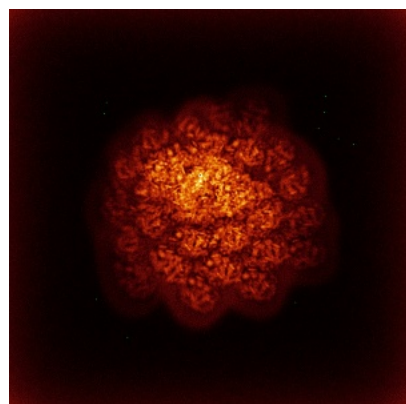


Y

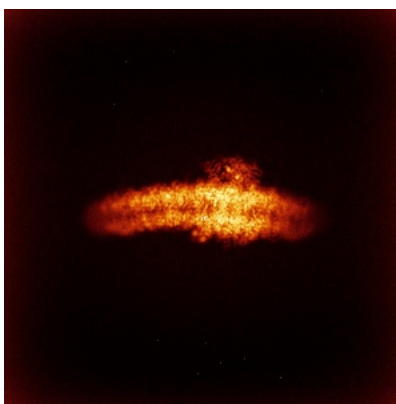


Z

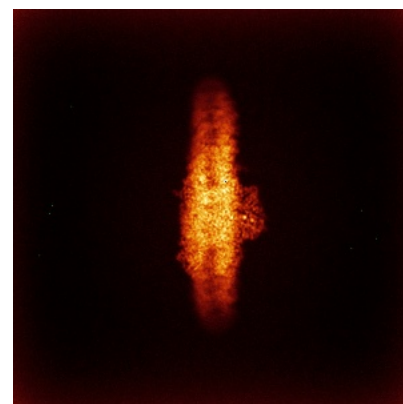
6.4.2 Raw map



X



Y

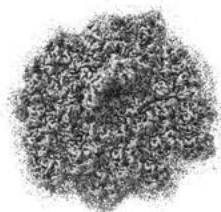


Z

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



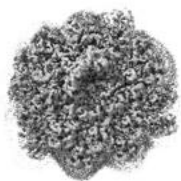
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

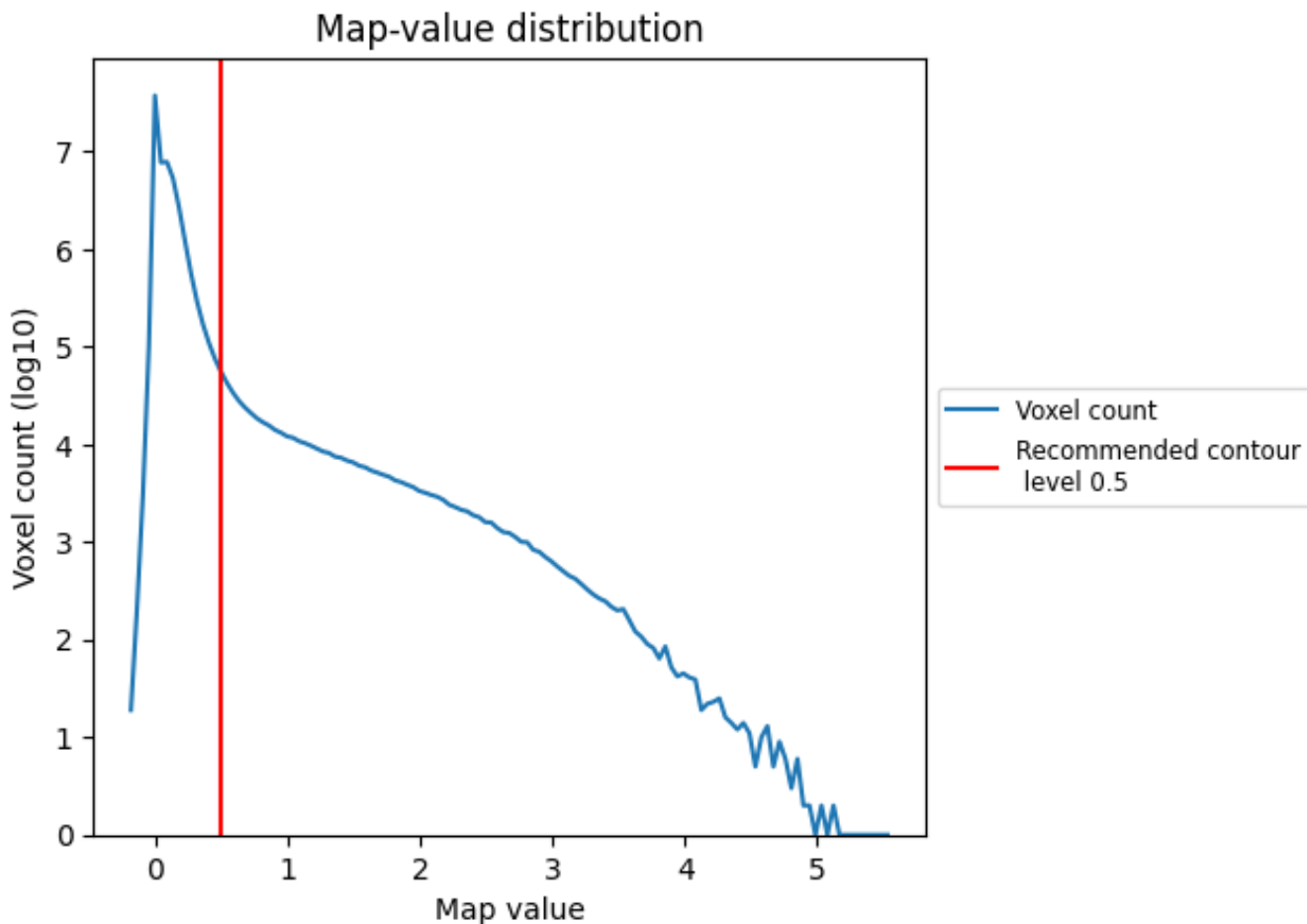
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

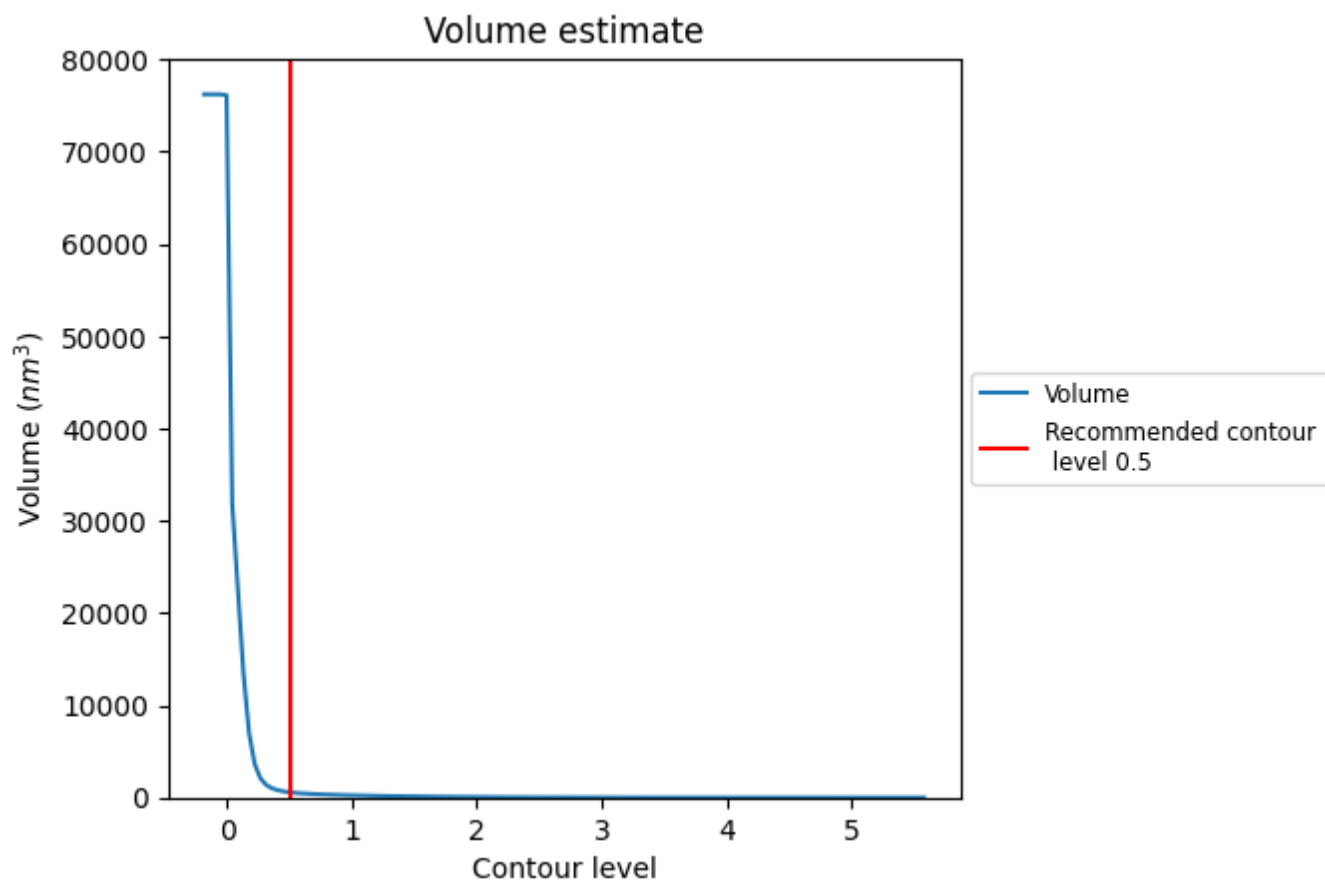
This section contains the results of statistical analysis of the map.

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.

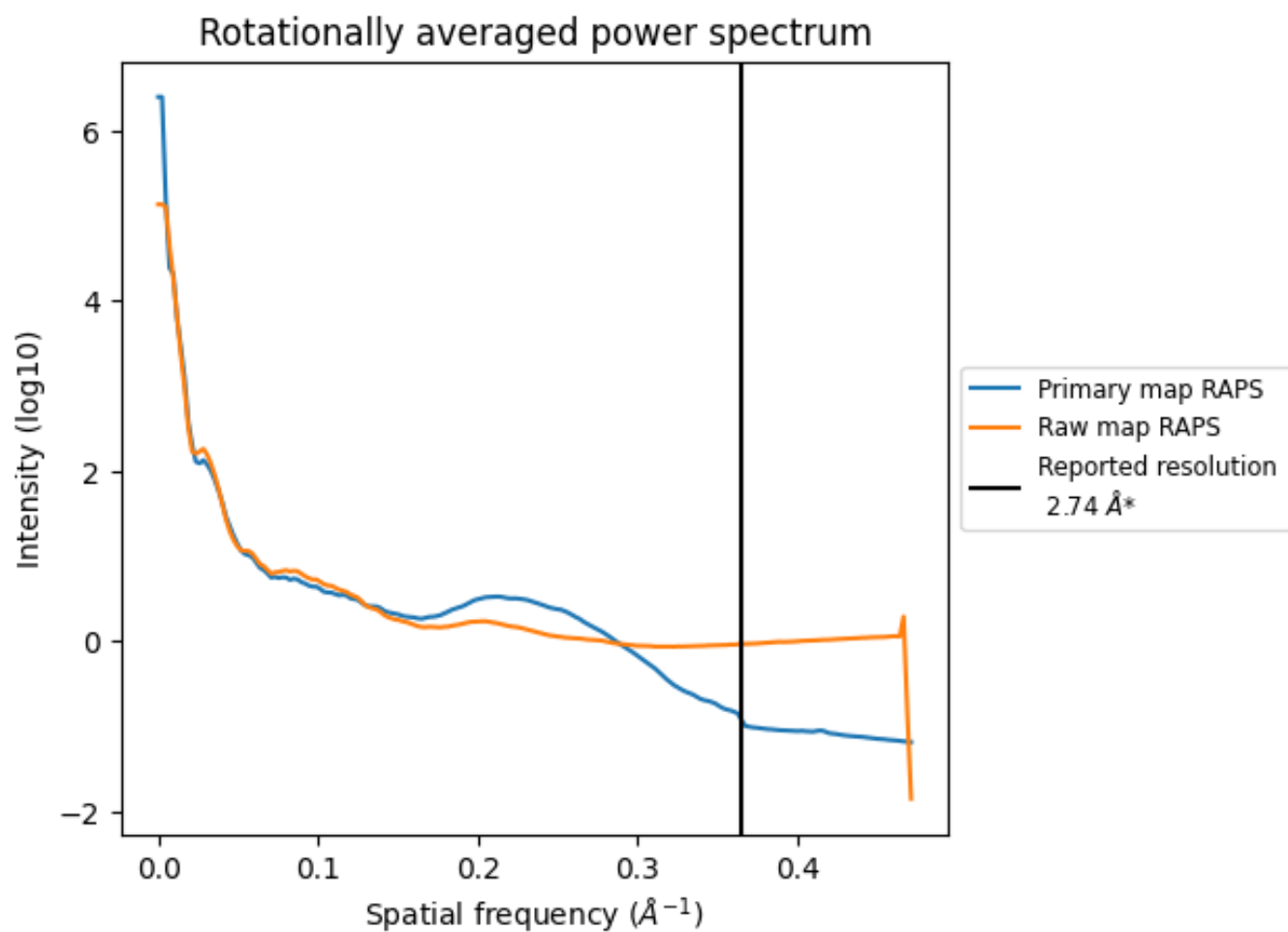
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 575 nm³; this corresponds to an approximate mass of 519 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](#)

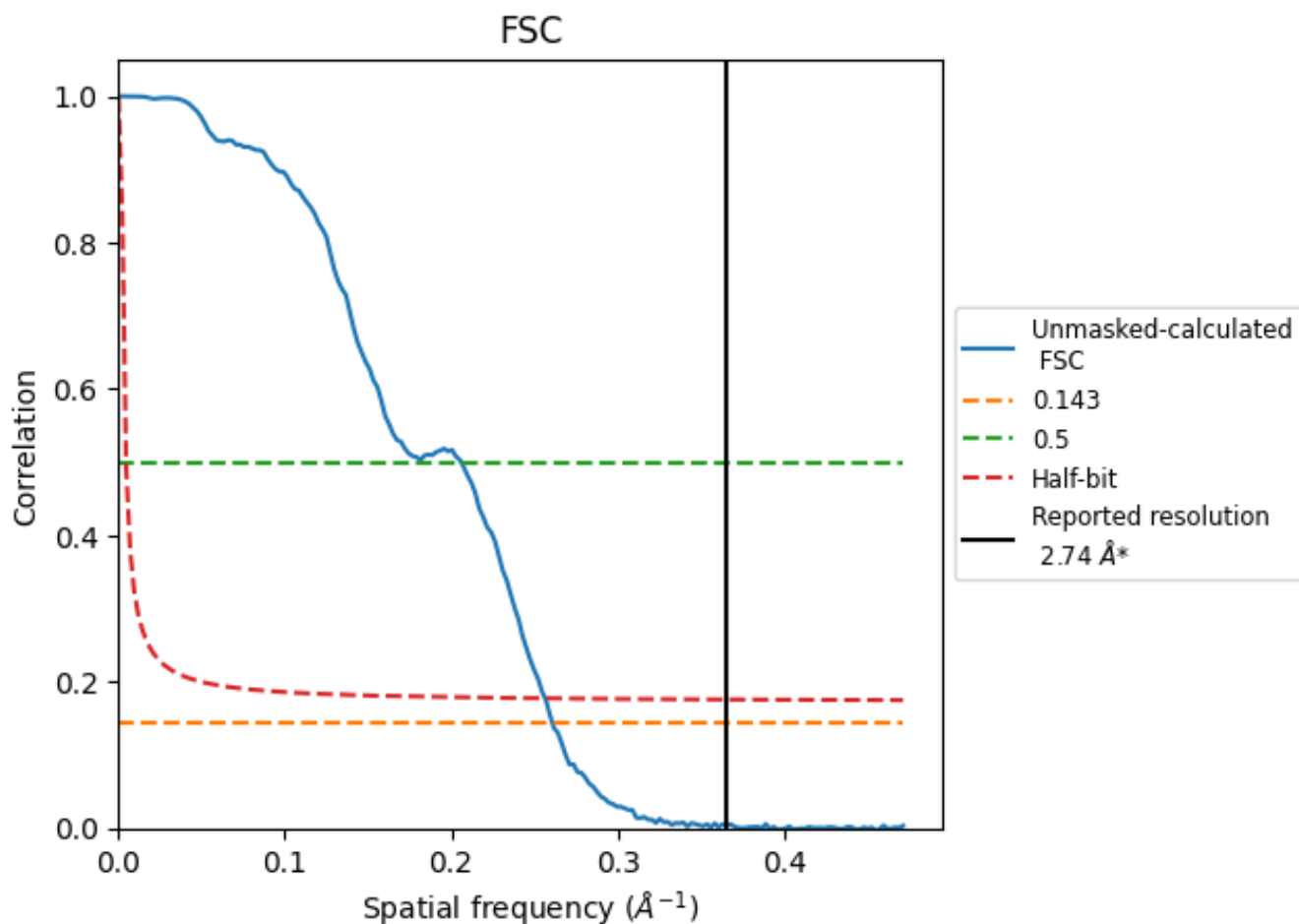


*Reported resolution corresponds to spatial frequency of 0.365 \AA^{-1}

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 0.365 Å⁻¹

8.2 Resolution estimates [i](#)

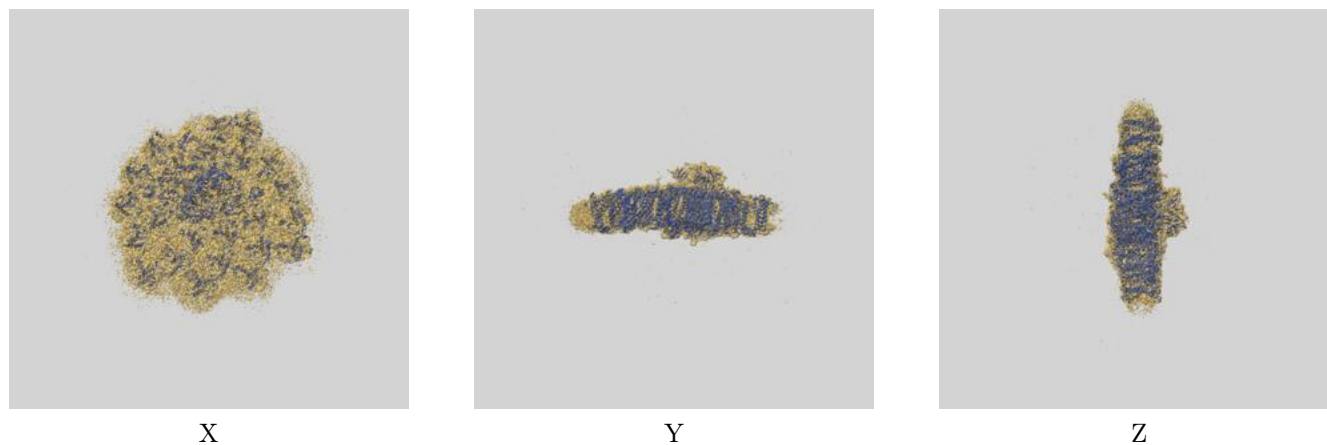
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.74	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.83	4.85	3.90

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.83 differs from the reported value 2.74 by more than 10 %

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-39717 and PDB model 8Z11. Per-residue inclusion information can be found in section 3 on page 47.

9.1 Map-model overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.5 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](#)



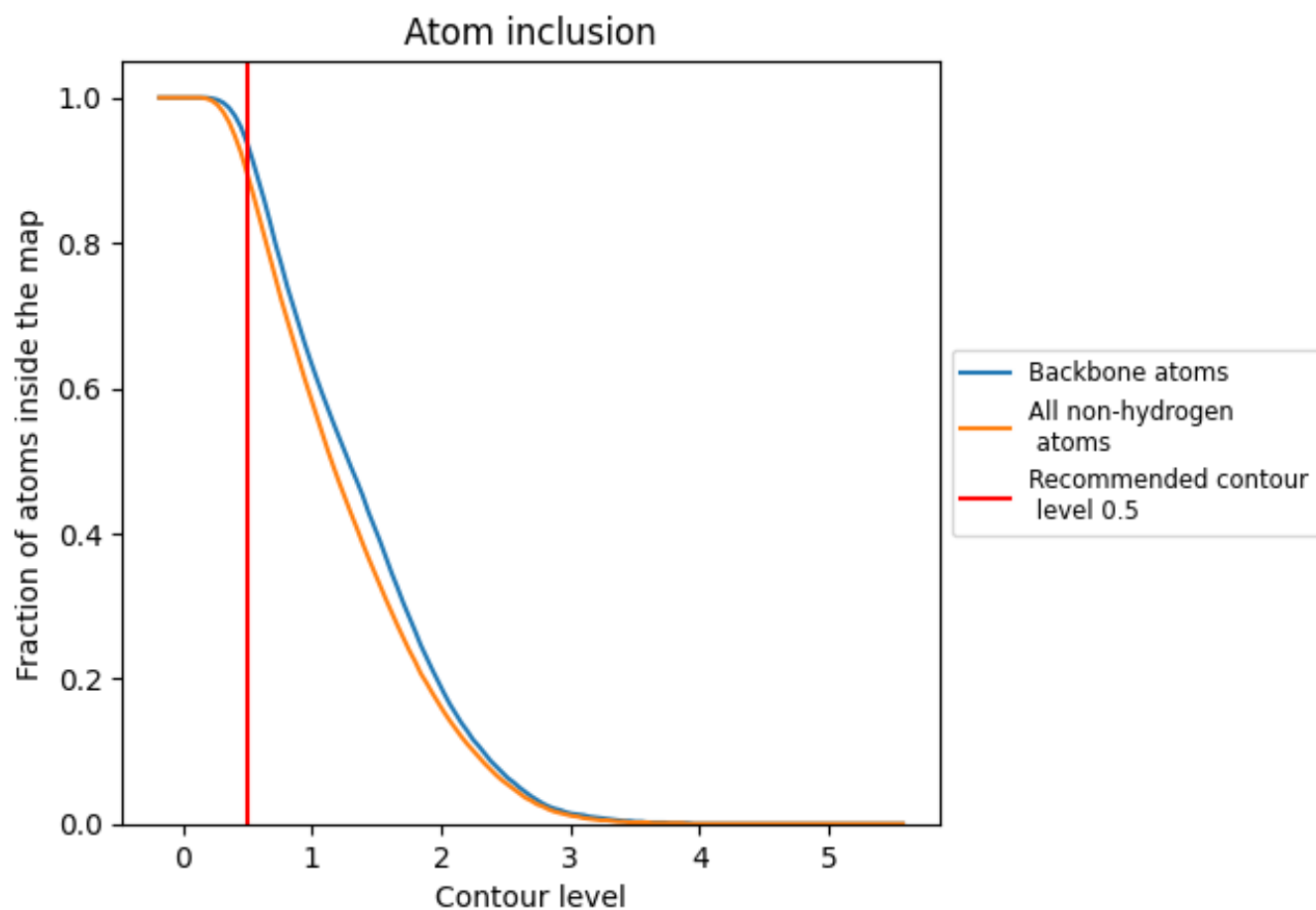
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.5).









































































9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 89% 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 (0.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8940	 0.5540
A	 0.9310	 0.5850
B	 0.8270	 0.4560
C	 0.7020	 0.4480
D	 0.9360	 0.5930
E	 0.9290	 0.5770
F	 0.9270	 0.5630
G	 0.8590	 0.5040
H	 0.7340	 0.4810
I	 0.9360	 0.5770
J	 0.8740	 0.5120
K	 0.8540	 0.4960
L	 0.7800	 0.5020
M	 0.8860	 0.5630
N	 0.9480	 0.5340
O	 0.8590	 0.5240
P	 0.7880	 0.5110
Q	 0.9360	 0.5540
R	 0.7400	 0.4820
S	 0.8870	 0.5170
T	 0.8950	 0.5000
U	 0.7030	 0.4630
V	 0.9140	 0.5920
W	 0.9540	 0.5780
a	 0.9600	 0.6160
b	 0.9620	 0.6110
c	 0.9680	 0.5860
d	 0.9330	 0.5640
e	 0.8630	 0.5660
f	 0.9020	 0.5840
i	 0.9090	 0.5680
j	 0.9090	 0.5940
k	 0.9480	 0.5680
l	 0.9540	 0.5790
m	 0.9100	 0.5640
r	 0.8910	 0.5630

