



wwPDB EM Validation Summary Report ⓘ

Mar 21, 2024 – 02:53 PM JST

PDB ID : 5XNL
EMDB ID : EMD-6741
Title : Structure of stacked C2S2M2-type PSII-LHCII supercomplex from *Pisum sativum*
Authors : Su, X.D.; Ma, J.; Wei, X.P.; Cao, P.; Zhu, D.J.; Chang, W.R.; Liu, Z.F.; Zhang, X.Z.; Li, M.
Deposited on : 2017-05-23
Resolution : 2.70 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:

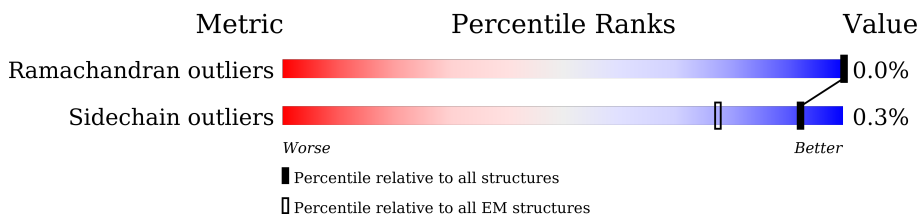
EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.70 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)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	1	232	
1	2	232	
1	5	232	
1	6	232	
1	G	232	
1	N	232	
1	Y	232	
1	g	232	
1	n	232	

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Mol	Chain	Length	Quality of chain
1	y	232	5% 94% 6%
2	3	243	91% 91% 9%
2	7	243	91% 91% 9%
3	4	210	92% 94% 6%
3	8	210	92% 94% 6%
4	A	344	97% 97% ..
4	a	344	97% 97% ..
5	B	507	7% 99% ..
5	b	507	7% 99% ..
6	C	473	95% 95% 5%
6	c	473	95% 95% 5%
7	D	353	96% 96% .
7	d	353	96% 96% .
8	E	83	6% 89% 10%
8	e	83	6% 89% 10%
9	F	39	5% 77% 23%
9	f	39	5% 77% 23%
10	H	73	5% 81% 18%
10	h	73	5% 81% 18%
11	I	36	94% 94% 6%
11	i	36	94% 94% 6%
12	J	40	8% 85% 12%
12	j	40	8% 85% 12%
13	K	61	8% 61% 39%
13	k	61	8% 61% 39%

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Mol	Chain	Length	Quality of chain
14	L	38	11% 97%
14	l	38	11% 97%
15	M	34	18% 97%
15	m	34	18% 97%
16	O	248	14% 100%
16	o	248	13% 100%
17	P	186	19% 100%
17	p	186	19% 100%
18	Q	148	85% 87% 13%
18	q	148	84% 87% 13%
19	R	246	21% 95% 5%
19	r	246	21% 95% 5%
20	S	244	32% 89% 11%
20	s	244	32% 89% 11%
21	T	35	6% 91% 9%
21	t	35	6% 91% 9%
22	W	54	11% 100%
22	w	54	11% 100%
23	X	86	10% 45% 55%
23	x	86	10% 45% 55%
24	Z	62	19% 100%
24	z	62	19% 100%

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
25	CHL	1	601	X	-	-	-
25	CHL	1	605	X	-	-	-
25	CHL	1	606	X	-	-	-
25	CHL	1	607	X	-	-	-
25	CHL	1	608	X	-	-	-
25	CHL	1	609	X	-	-	-
25	CHL	2	601	X	-	-	-
25	CHL	2	605	X	-	-	-
25	CHL	2	606	X	-	-	-
25	CHL	2	607	X	-	-	-
25	CHL	2	608	X	-	-	-
25	CHL	2	609	X	-	-	-
25	CHL	3	601	X	-	-	-
25	CHL	3	605	X	-	-	-
25	CHL	3	606	X	-	-	-
25	CHL	3	607	X	-	-	-
25	CHL	3	608	X	-	-	-
25	CHL	3	609	X	-	-	-
25	CHL	4	601	X	-	-	-
25	CHL	4	606	X	-	-	-
25	CHL	4	607	X	-	-	-
25	CHL	4	608	X	-	-	-
25	CHL	4	609	X	-	-	-
25	CHL	5	601	X	-	-	-
25	CHL	5	605	X	-	-	-
25	CHL	5	606	X	-	-	-
25	CHL	5	607	X	-	-	-
25	CHL	5	608	X	-	-	-
25	CHL	5	609	X	-	-	-
25	CHL	6	601	X	-	-	-
25	CHL	6	605	X	-	-	-
25	CHL	6	606	X	-	-	-
25	CHL	6	607	X	-	-	-
25	CHL	6	608	X	-	-	-
25	CHL	6	609	X	-	-	-
25	CHL	7	601	X	-	-	-
25	CHL	7	605	X	-	-	-
25	CHL	7	606	X	-	-	-
25	CHL	7	607	X	-	-	-
25	CHL	7	608	X	-	-	-
25	CHL	7	609	X	-	-	-
25	CHL	8	601	X	-	-	-
25	CHL	8	606	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CHL	8	607	X	-	-	-
25	CHL	8	608	X	-	-	-
25	CHL	8	609	X	-	-	-
25	CHL	G	601	X	-	-	-
25	CHL	G	605	X	-	-	-
25	CHL	G	606	X	-	-	-
25	CHL	G	607	X	-	-	-
25	CHL	G	608	X	-	-	-
25	CHL	G	609	X	-	-	-
25	CHL	N	601	X	-	-	-
25	CHL	N	605	X	-	-	-
25	CHL	N	606	X	-	-	-
25	CHL	N	607	X	-	-	-
25	CHL	N	608	X	-	-	-
25	CHL	N	609	X	-	-	-
25	CHL	R	606	X	-	-	-
25	CHL	R	607	X	-	-	-
25	CHL	R	608	X	-	-	-
25	CHL	R	614	X	-	-	-
25	CHL	S	601	X	-	-	-
25	CHL	S	606	X	-	-	-
25	CHL	S	607	X	-	-	-
25	CHL	S	608	X	-	-	-
25	CHL	Y	601	X	-	-	-
25	CHL	Y	605	X	-	-	-
25	CHL	Y	606	X	-	-	-
25	CHL	Y	607	X	-	-	-
25	CHL	Y	608	X	-	-	-
25	CHL	Y	609	X	-	-	-
25	CHL	g	601	X	-	-	-
25	CHL	g	605	X	-	-	-
25	CHL	g	606	X	-	-	-
25	CHL	g	607	X	-	-	-
25	CHL	g	608	X	-	-	-
25	CHL	g	609	X	-	-	-
25	CHL	n	601	X	-	-	-
25	CHL	n	605	X	-	-	-
25	CHL	n	606	X	-	-	-
25	CHL	n	607	X	-	-	-
25	CHL	n	608	X	-	-	-
25	CHL	n	609	X	-	-	-
25	CHL	r	606	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CHL	r	607	X	-	-	-
25	CHL	r	608	X	-	-	-
25	CHL	r	614	X	-	-	-
25	CHL	s	601	X	-	-	-
25	CHL	s	606	X	-	-	-
25	CHL	s	607	X	-	-	-
25	CHL	s	608	X	-	-	-
25	CHL	y	601	X	-	-	-
25	CHL	y	605	X	-	-	-
25	CHL	y	606	X	-	-	-
25	CHL	y	607	X	-	-	-
25	CHL	y	608	X	-	-	-
25	CHL	y	609	X	-	-	-
26	CLA	1	602	X	-	-	-
26	CLA	1	603	X	-	-	-
26	CLA	1	610	X	-	-	-
26	CLA	1	611	X	-	-	-
26	CLA	1	612	X	-	-	-
26	CLA	1	614	X	-	-	-
26	CLA	2	602	X	-	-	-
26	CLA	2	603	X	-	-	-
26	CLA	2	604	X	-	-	-
26	CLA	2	610	X	-	-	-
26	CLA	2	612	X	-	-	-
26	CLA	2	614	X	-	-	-
26	CLA	3	602	X	-	-	-
26	CLA	3	603	X	-	-	-
26	CLA	3	604	X	-	-	-
26	CLA	3	610	X	-	-	-
26	CLA	3	611	X	-	-	-
26	CLA	3	612	X	-	-	-
26	CLA	3	613	X	-	-	-
26	CLA	3	614	X	-	-	-
26	CLA	4	602	X	-	-	-
26	CLA	4	603	X	-	-	-
26	CLA	4	610	X	-	-	-
26	CLA	4	611	X	-	-	-
26	CLA	4	612	X	-	-	-
26	CLA	5	602	X	-	-	-
26	CLA	5	603	X	-	-	-
26	CLA	5	610	X	-	-	-
26	CLA	5	611	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
26	CLA	5	612	X	-	-	-
26	CLA	5	614	X	-	-	-
26	CLA	6	602	X	-	-	-
26	CLA	6	603	X	-	-	-
26	CLA	6	604	X	-	-	-
26	CLA	6	610	X	-	-	-
26	CLA	6	612	X	-	-	-
26	CLA	6	614	X	-	-	-
26	CLA	7	602	X	-	-	-
26	CLA	7	603	X	-	-	-
26	CLA	7	604	X	-	-	-
26	CLA	7	610	X	-	-	-
26	CLA	7	611	X	-	-	-
26	CLA	7	612	X	-	-	-
26	CLA	7	613	X	-	-	-
26	CLA	7	614	X	-	-	-
26	CLA	8	602	X	-	-	-
26	CLA	8	603	X	-	-	-
26	CLA	8	610	X	-	-	-
26	CLA	8	611	X	-	-	-
26	CLA	8	612	X	-	-	-
26	CLA	A	405	X	-	-	-
26	CLA	A	406	X	-	-	-
26	CLA	A	410	X	-	-	-
26	CLA	B	602	X	-	-	-
26	CLA	B	603	X	-	-	-
26	CLA	B	604	X	-	-	-
26	CLA	B	605	X	-	-	-
26	CLA	B	606	X	-	-	-
26	CLA	B	607	X	-	-	-
26	CLA	B	608	X	-	-	-
26	CLA	B	611	X	-	-	-
26	CLA	B	612	X	-	-	-
26	CLA	B	613	X	-	-	-
26	CLA	B	614	X	-	-	-
26	CLA	B	615	X	-	-	-
26	CLA	B	616	X	-	-	-
26	CLA	B	617	X	-	-	-
26	CLA	C	501	X	-	-	-
26	CLA	C	502	X	-	-	-
26	CLA	C	503	X	-	-	-
26	CLA	C	504	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
26	CLA	C	505	X	-	-	-
26	CLA	C	506	X	-	-	-
26	CLA	C	507	X	-	-	-
26	CLA	C	508	X	-	-	-
26	CLA	C	509	X	-	-	-
26	CLA	C	510	X	-	-	-
26	CLA	C	511	X	-	-	-
26	CLA	C	512	X	-	-	-
26	CLA	D	402	X	-	-	-
26	CLA	G	602	X	-	-	-
26	CLA	G	603	X	-	-	-
26	CLA	G	604	X	-	-	-
26	CLA	G	610	X	-	-	-
26	CLA	G	611	X	-	-	-
26	CLA	G	612	X	-	-	-
26	CLA	G	613	X	-	-	-
26	CLA	G	614	X	-	-	-
26	CLA	N	602	X	-	-	-
26	CLA	N	603	X	-	-	-
26	CLA	N	604	X	-	-	-
26	CLA	N	610	X	-	-	-
26	CLA	N	611	X	-	-	-
26	CLA	N	612	X	-	-	-
26	CLA	N	613	X	-	-	-
26	CLA	N	614	X	-	-	-
26	CLA	R	601	X	-	-	-
26	CLA	R	602	X	-	-	-
26	CLA	R	603	X	-	-	-
26	CLA	R	604	X	-	-	-
26	CLA	R	609	X	-	-	-
26	CLA	R	610	X	-	-	-
26	CLA	R	611	X	-	-	-
26	CLA	R	612	X	-	-	-
26	CLA	R	613	X	-	-	-
26	CLA	S	602	X	-	-	-
26	CLA	S	603	X	-	-	-
26	CLA	S	604	X	-	-	-
26	CLA	S	609	X	-	-	-
26	CLA	S	610	X	-	-	-
26	CLA	S	611	X	-	-	-
26	CLA	S	612	X	-	-	-
26	CLA	S	613	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
26	CLA	S	614	X	-	-	-
26	CLA	Y	602	X	-	-	-
26	CLA	Y	603	X	-	-	-
26	CLA	Y	604	X	-	-	-
26	CLA	Y	610	X	-	-	-
26	CLA	Y	611	X	-	-	-
26	CLA	Y	612	X	-	-	-
26	CLA	Y	613	X	-	-	-
26	CLA	Y	614	X	-	-	-
26	CLA	a	405	X	-	-	-
26	CLA	a	406	X	-	-	-
26	CLA	a	410	X	-	-	-
26	CLA	b	602	X	-	-	-
26	CLA	b	603	X	-	-	-
26	CLA	b	604	X	-	-	-
26	CLA	b	605	X	-	-	-
26	CLA	b	606	X	-	-	-
26	CLA	b	607	X	-	-	-
26	CLA	b	608	X	-	-	-
26	CLA	b	611	X	-	-	-
26	CLA	b	612	X	-	-	-
26	CLA	b	613	X	-	-	-
26	CLA	b	614	X	-	-	-
26	CLA	b	615	X	-	-	-
26	CLA	b	616	X	-	-	-
26	CLA	b	617	X	-	-	-
26	CLA	c	501	X	-	-	-
26	CLA	c	502	X	-	-	-
26	CLA	c	503	X	-	-	-
26	CLA	c	504	X	-	-	-
26	CLA	c	505	X	-	-	-
26	CLA	c	506	X	-	-	-
26	CLA	c	507	X	-	-	-
26	CLA	c	508	X	-	-	-
26	CLA	c	509	X	-	-	-
26	CLA	c	510	X	-	-	-
26	CLA	c	511	X	-	-	-
26	CLA	c	512	X	-	-	-
26	CLA	d	402	X	-	-	-
26	CLA	g	602	X	-	-	-
26	CLA	g	603	X	-	-	-
26	CLA	g	604	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
26	CLA	g	610	X	-	-	-
26	CLA	g	611	X	-	-	-
26	CLA	g	612	X	-	-	-
26	CLA	g	613	X	-	-	-
26	CLA	g	614	X	-	-	-
26	CLA	n	602	X	-	-	-
26	CLA	n	603	X	-	-	-
26	CLA	n	604	X	-	-	-
26	CLA	n	610	X	-	-	-
26	CLA	n	611	X	-	-	-
26	CLA	n	612	X	-	-	-
26	CLA	n	613	X	-	-	-
26	CLA	n	614	X	-	-	-
26	CLA	r	601	X	-	-	-
26	CLA	r	602	X	-	-	-
26	CLA	r	603	X	-	-	-
26	CLA	r	604	X	-	-	-
26	CLA	r	609	X	-	-	-
26	CLA	r	610	X	-	-	-
26	CLA	r	611	X	-	-	-
26	CLA	r	612	X	-	-	-
26	CLA	r	613	X	-	-	-
26	CLA	s	602	X	-	-	-
26	CLA	s	603	X	-	-	-
26	CLA	s	604	X	-	-	-
26	CLA	s	609	X	-	-	-
26	CLA	s	610	X	-	-	-
26	CLA	s	611	X	-	-	-
26	CLA	s	612	X	-	-	-
26	CLA	s	613	X	-	-	-
26	CLA	s	614	X	-	-	-
26	CLA	y	602	X	-	-	-
26	CLA	y	603	X	-	-	-
26	CLA	y	604	X	-	-	-
26	CLA	y	610	X	-	-	-
26	CLA	y	611	X	-	-	-
26	CLA	y	612	X	-	-	-
26	CLA	y	613	X	-	-	-
26	CLA	y	614	X	-	-	-

2 Entry composition [i](#)

There are 42 unique types of molecules in this entry. The entry contains 98986 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 Chlorophyll a-b binding protein 8, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	1	219	1668	1081	270	312	5	0	0
1	2	218	1664	1079	269	311	5	0	0
1	G	219	1668	1081	270	312	5	0	0
1	N	219	1668	1081	270	312	5	0	0
1	Y	219	1668	1081	270	312	5	0	0
1	5	219	1668	1081	270	312	5	0	0
1	6	218	1664	1079	269	311	5	0	0
1	g	219	1668	1081	270	312	5	0	0
1	n	219	1668	1081	270	312	5	0	0
1	y	219	1668	1081	270	312	5	0	0

- Molecule 2 is a protein called Chlorophyll a-b binding protein, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	3	220	1707	1116	277	309	5	0	0
2	7	220	1707	1116	277	309	5	0	0

- Molecule 3 is a protein called Light harvesting chlorophyll a/b-binding protein Lhcb6, CP24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	4	197	1534	1009	247	274	4	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	8	197	Total	C	N	O	S	0	0
			1534	1009	247	274	4		

- Molecule 4 is a protein called Photosystem II protein D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	334	Total	C	N	O	S	0	0
			2616	1708	431	464	13		
4	a	334	Total	C	N	O	S	0	0
			2616	1708	431	464	13		

- Molecule 5 is a protein called Photosystem II CP47 reaction center protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	503	Total	C	N	O	S	0	0
			3948	2581	669	686	12		
5	b	503	Total	C	N	O	S	0	0
			3948	2581	669	686	12		

- Molecule 6 is a protein called Photosystem II CP43 reaction center protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	450	Total	C	N	O	S	0	0
			3497	2300	583	604	10		
6	c	450	Total	C	N	O	S	0	0
			3497	2300	583	604	10		

- Molecule 7 is a protein called Photosystem II D2 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	341	Total	C	N	O	S	0	0
			2712	1790	444	466	12		
7	d	341	Total	C	N	O	S	0	0
			2712	1790	444	466	12		

- Molecule 8 is a protein called Cytochrome b559 subunit alpha.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	E	75	Total	C	N	O	0	0
			612	400	100	112		
8	e	75	Total	C	N	O	0	0
			612	400	100	112		

- Molecule 9 is a protein called Cytochrome b559 subunit beta, PsbF.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	30	Total	C	N	O	S	0	0
			241	162	41	37	1		
9	f	30	Total	C	N	O	S	0	0
			241	162	41	37	1		

- Molecule 10 is a protein called Photosystem II reaction center protein H.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	H	60	Total	C	N	O	S	0	0
			452	296	72	81	3		
10	h	60	Total	C	N	O	S	0	0
			452	296	72	81	3		

- Molecule 11 is a protein called Photosystem II reaction center protein I, PsbI.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	I	34	Total	C	N	O	S	0	0
			278	191	43	43	1		
11	i	34	Total	C	N	O	S	0	0
			278	191	43	43	1		

- Molecule 12 is a protein called Photosystem II reaction center protein J.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	J	35	Total	C	N	O	S	0	0
			256	174	39	43			
12	j	35	Total	C	N	O	S	0	0
			256	174	39	43			

- Molecule 13 is a protein called Photosystem II reaction center protein K.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	K	37	Total	C	N	O	S	0	0
			306	215	44	46	1		
13	k	37	Total	C	N	O	S	0	0
			306	215	44	46	1		

- Molecule 14 is a protein called Photosystem II reaction center protein L.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	L	37	Total	C	N	O	0	0
			311	205	49	57		
14	l	37	Total	C	N	O	0	0
			311	205	49	57		

- Molecule 15 is a protein called Photosystem II reaction center protein M.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	33	Total	C	N	O	S	0	0
			256	176	36	43	1		
15	m	33	Total	C	N	O	S	0	0
			256	176	36	43	1		

- Molecule 16 is a protein called Oxygen-evolving enhancer protein 1, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	248	Total	C	N	O	S	0	0
			1870	1179	306	382	3		
16	o	248	Total	C	N	O	S	0	0
			1870	1179	306	382	3		

- Molecule 17 is a protein called Oxygen-evolving enhancer protein 2, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	P	186	Total	C	N	O	S	0	0
			1434	909	238	286	1		
17	p	186	Total	C	N	O	S	0	0
			1434	909	238	286	1		

- Molecule 18 is a protein called Oxygen-evolving enhancer protein 3.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	Q	129	Total	C	N	O	0	0
			1034	661	177	196		
18	q	129	Total	C	N	O	0	0
			1034	661	177	196		

- Molecule 19 is a protein called Light harvesting chlorophyll a/b-binding protein Lhcb4, CP29.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	R	234	Total	C	N	O	S	0	0
			1835	1194	297	341	3		

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Mol	Chain	Residues	Atoms					AltConf	Trace
19	r	234	Total	C	N	O	S	0	0
			1835	1194	297	341	3		

- Molecule 20 is a protein called Light harvesting chlorophyll a/b-binding protein Lhcb5, CP26.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	S	218	Total	C	N	O	S	0	0
			1689	1107	273	305	4		
20	s	218	Total	C	N	O	S	0	0
			1689	1107	273	305	4		

- Molecule 21 is a protein called Photosystem II reaction center protein T.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	T	32	Total	C	N	O	S	0	0
			261	182	37	41	1		
21	t	32	Total	C	N	O	S	0	0
			261	182	37	41	1		

- Molecule 22 is a protein called Photosystem II reaction center protein W.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	W	54	Total	C	N	O	S	0	0
			419	275	61	82	1		
22	w	54	Total	C	N	O	S	0	0
			419	275	61	82	1		

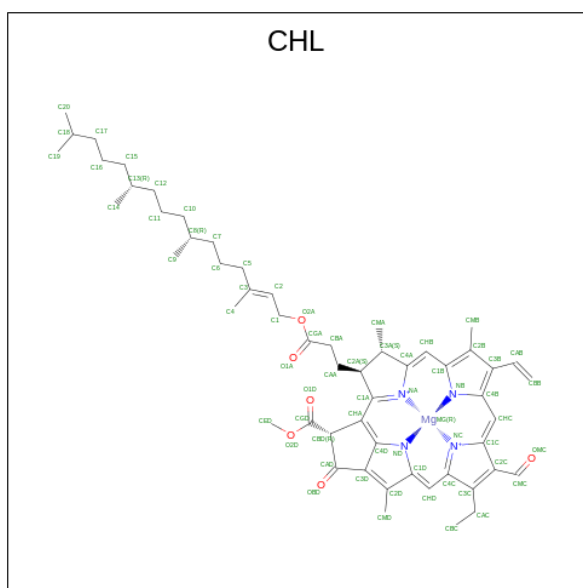
- Molecule 23 is a protein called Photosystem II reaction center protein X.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	X	39	Total	C	N	O	0	0
			276	180	46	50		
23	x	39	Total	C	N	O	0	0
			276	180	46	50		

- Molecule 24 is a protein called Photosystem II reaction center protein Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Z	62	Total	C	N	O	S	0	0
			464	312	69	82	1		
24	z	62	Total	C	N	O	S	0	0
			464	312	69	82	1		

- Molecule 25 is CHLOROPHYLL B (three-letter code: CHL) (formula: $C_{55}H_{70}MgN_4O_6$).



Mol	Chain	Residues	Atoms				AltConf	
25	1	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	1	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	1	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	1	1	Total	C	Mg	N	O	0
			63	52	1	4	6	
25	1	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	1	1	Total	C	Mg	N	O	0
			62	51	1	4	6	
25	2	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	2	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	2	1	Total	C	Mg	N	O	0
			61	50	1	4	6	
25	2	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
25	2	1	Total	C	Mg	N	O	0
			61	50	1	4	6	
25	3	1	Total	C	Mg	N	O	0
			64	53	1	4	6	

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Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Mg	N		O
25	3	1	46	35	1	4	6	0
25	3	1	46	35	1	4	6	0
25	3	1	53	42	1	4	6	0
25	3	1	46	35	1	4	6	0
25	3	1	61	50	1	4	6	0
25	4	1	45	34	1	4	6	0
25	4	1	46	35	1	4	6	0
25	4	1	46	35	1	4	6	0
25	4	1	46	35	1	4	6	0
25	4	1	46	35	1	4	6	0
25	4	1	46	35	1	4	6	0
25	G	1	66	55	1	4	6	0
25	G	1	46	35	1	4	6	0
25	G	1	50	39	1	4	6	0
25	G	1	66	55	1	4	6	0
25	G	1	66	55	1	4	6	0
25	G	1	61	50	1	4	6	0
25	N	1	66	55	1	4	6	0
25	N	1	48	37	1	4	6	0
25	N	1	50	39	1	4	6	0
25	N	1	66	55	1	4	6	0
25	N	1	66	55	1	4	6	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
25	N	1	66	55	1	4	6	0
25	R	1	66	55	1	4	6	0
25	R	1	56	45	1	4	6	0
25	R	1	61	50	1	4	6	0
25	R	1	42	33	1	4	4	0
25	S	1	46	35	1	4	6	0
25	S	1	46	35	1	4	6	0
25	S	1	58	47	1	4	6	0
25	S	1	46	35	1	4	6	0
25	Y	1	66	55	1	4	6	0
25	Y	1	48	37	1	4	6	0
25	Y	1	50	39	1	4	6	0
25	Y	1	66	55	1	4	6	0
25	Y	1	66	55	1	4	6	0
25	Y	1	66	55	1	4	6	0
25	5	1	46	35	1	4	6	0
25	5	1	46	35	1	4	6	0
25	5	1	46	35	1	4	6	0
25	5	1	63	52	1	4	6	0
25	5	1	46	35	1	4	6	0
25	5	1	62	51	1	4	6	0

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Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Mg	N		O
25	6	1	46	35	1	4	6	0
25	6	1	46	35	1	4	6	0
25	6	1	46	35	1	4	6	0
25	6	1	61	50	1	4	6	0
25	6	1	46	35	1	4	6	0
25	6	1	61	50	1	4	6	0
25	7	1	64	53	1	4	6	0
25	7	1	46	35	1	4	6	0
25	7	1	46	35	1	4	6	0
25	7	1	53	42	1	4	6	0
25	7	1	46	35	1	4	6	0
25	7	1	61	50	1	4	6	0
25	8	1	45	34	1	4	6	0
25	8	1	46	35	1	4	6	0
25	8	1	46	35	1	4	6	0
25	8	1	46	35	1	4	6	0
25	8	1	46	35	1	4	6	0
25	g	1	66	55	1	4	6	0
25	g	1	46	35	1	4	6	0
25	g	1	50	39	1	4	6	0
25	g	1	66	55	1	4	6	0

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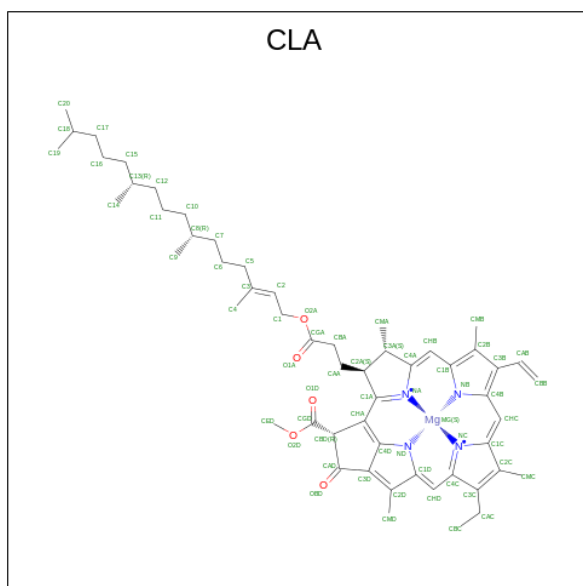
Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
25	g	1	66	55	1	4	6	0
25	g	1	61	50	1	4	6	0
25	n	1	66	55	1	4	6	0
25	n	1	48	37	1	4	6	0
25	n	1	50	39	1	4	6	0
25	n	1	66	55	1	4	6	0
25	n	1	66	55	1	4	6	0
25	n	1	66	55	1	4	6	0
25	r	1	66	55	1	4	6	0
25	r	1	56	45	1	4	6	0
25	r	1	61	50	1	4	6	0
25	r	1	42	33	1	4	4	0
25	s	1	46	35	1	4	6	0
25	s	1	46	35	1	4	6	0
25	s	1	58	47	1	4	6	0
25	s	1	46	35	1	4	6	0
25	y	1	66	55	1	4	6	0
25	y	1	48	37	1	4	6	0
25	y	1	50	39	1	4	6	0
25	y	1	66	55	1	4	6	0
25	y	1	66	55	1	4	6	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
25	y	1	66	55	1	4	6	0

- Molecule 26 is CHLOROPHYLL A (three-letter code: CLA) (formula: $C_{55}H_{72}MgN_4O_5$).



Mol	Chain	Residues	Atoms					AltConf	
			Total	C	Mg	N	O		
26	1	1	Total	61	51	1	4	5	0
26	1	1	Total	55	45	1	4	5	0
26	1	1	Total	50	40	1	4	5	0
26	1	1	Total	56	46	1	4	5	0
26	1	1	Total	45	35	1	4	5	0
26	1	1	Total	45	35	1	4	5	0
26	1	1	Total	55	45	1	4	5	0
26	1	1	Total	45	35	1	4	5	0
26	2	1	Total	61	51	1	4	5	0
26	2	1	Total	55	45	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	2	1	45	35	1	4	5	0
26	2	1	50	40	1	4	5	0
26	2	1	45	35	1	4	5	0
26	2	1	45	35	1	4	5	0
26	2	1	45	35	1	4	5	0
26	2	1	45	35	1	4	5	0
26	2	1	45	35	1	4	5	0
26	3	1	60	50	1	4	5	0
26	3	1	55	45	1	4	5	0
26	3	1	45	35	1	4	5	0
26	3	1	60	50	1	4	5	0
26	3	1	55	45	1	4	5	0
26	3	1	45	35	1	4	5	0
26	3	1	58	48	1	4	5	0
26	3	1	48	38	1	4	5	0
26	4	1	45	35	1	4	5	0
26	4	1	45	35	1	4	5	0
26	4	1	45	35	1	4	5	0
26	4	1	45	35	1	4	5	0
26	4	1	45	35	1	4	5	0
26	4	1	45	35	1	4	5	0
26	4	1	45	35	1	4	5	0
26	A	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	A	1	65	55	1	4	5	0
26	A	1	50	40	1	4	5	0
26	A	1	60	50	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	B	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	C	1	65	55	1	4	5	0
26	D	1	65	55	1	4	5	0
26	D	1	65	55	1	4	5	0
26	G	1	65	55	1	4	5	0
26	G	1	65	55	1	4	5	0
26	G	1	50	40	1	4	5	0
26	G	1	64	54	1	4	5	0
26	G	1	60	50	1	4	5	0
26	G	1	60	50	1	4	5	0
26	G	1	65	55	1	4	5	0
26	G	1	48	38	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	N	1	65	55	1	4	5	0
26	N	1	65	55	1	4	5	0
26	N	1	50	40	1	4	5	0
26	N	1	65	55	1	4	5	0
26	N	1	60	50	1	4	5	0
26	N	1	60	50	1	4	5	0
26	N	1	60	50	1	4	5	0
26	N	1	48	38	1	4	5	0
26	R	1	49	39	1	4	5	0
26	R	1	60	50	1	4	5	0
26	R	1	60	50	1	4	5	0
26	R	1	48	38	1	4	5	0
26	R	1	58	48	1	4	5	0
26	R	1	65	55	1	4	5	0
26	R	1	49	39	1	4	5	0
26	R	1	49	39	1	4	5	0
26	R	1	60	50	1	4	5	0
26	R	1	45	35	1	4	5	0
26	S	1	61	51	1	4	5	0
26	S	1	45	35	1	4	5	0
26	S	1	50	40	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	S	1	45	35	1	4	5	0
26	S	1	55	45	1	4	5	0
26	S	1	56	46	1	4	5	0
26	S	1	49	39	1	4	5	0
26	S	1	55	45	1	4	5	0
26	S	1	49	39	1	4	5	0
26	Y	1	65	55	1	4	5	0
26	Y	1	65	55	1	4	5	0
26	Y	1	50	40	1	4	5	0
26	Y	1	60	50	1	4	5	0
26	Y	1	60	50	1	4	5	0
26	Y	1	60	50	1	4	5	0
26	Y	1	65	55	1	4	5	0
26	Y	1	48	38	1	4	5	0
26	5	1	61	51	1	4	5	0
26	5	1	55	45	1	4	5	0
26	5	1	50	40	1	4	5	0
26	5	1	56	46	1	4	5	0
26	5	1	45	35	1	4	5	0
26	5	1	45	35	1	4	5	0
26	5	1	55	45	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	5	1	45	35	1	4	5	0
26	6	1	61	51	1	4	5	0
26	6	1	55	45	1	4	5	0
26	6	1	45	35	1	4	5	0
26	6	1	50	40	1	4	5	0
26	6	1	45	35	1	4	5	0
26	6	1	45	35	1	4	5	0
26	6	1	45	35	1	4	5	0
26	6	1	45	35	1	4	5	0
26	7	1	60	50	1	4	5	0
26	7	1	55	45	1	4	5	0
26	7	1	45	35	1	4	5	0
26	7	1	60	50	1	4	5	0
26	7	1	55	45	1	4	5	0
26	7	1	45	35	1	4	5	0
26	7	1	58	48	1	4	5	0
26	7	1	48	38	1	4	5	0
26	8	1	45	35	1	4	5	0
26	8	1	45	35	1	4	5	0
26	8	1	45	35	1	4	5	0
26	8	1	45	35	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	8	1	45	35	1	4	5	0
26	8	1	45	35	1	4	5	0
26	a	1	65	55	1	4	5	0
26	a	1	65	55	1	4	5	0
26	a	1	50	40	1	4	5	0
26	a	1	60	50	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0
26	b	1	65	55	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	b	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	c	1	65	55	1	4	5	0
26	d	1	65	55	1	4	5	0
26	d	1	65	55	1	4	5	0
26	g	1	65	55	1	4	5	0
26	g	1	65	55	1	4	5	0
26	g	1	50	40	1	4	5	0
26	g	1	64	54	1	4	5	0
26	g	1	60	50	1	4	5	0

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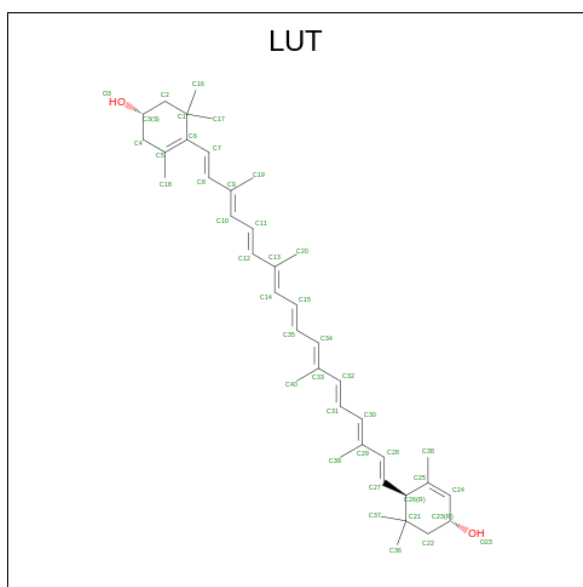
Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	g	1	60	50	1	4	5	0
26	g	1	65	55	1	4	5	0
26	g	1	48	38	1	4	5	0
26	n	1	65	55	1	4	5	0
26	n	1	65	55	1	4	5	0
26	n	1	50	40	1	4	5	0
26	n	1	65	55	1	4	5	0
26	n	1	60	50	1	4	5	0
26	n	1	60	50	1	4	5	0
26	n	1	60	50	1	4	5	0
26	n	1	48	38	1	4	5	0
26	r	1	49	39	1	4	5	0
26	r	1	60	50	1	4	5	0
26	r	1	60	50	1	4	5	0
26	r	1	48	38	1	4	5	0
26	r	1	58	48	1	4	5	0
26	r	1	65	55	1	4	5	0
26	r	1	49	39	1	4	5	0
26	r	1	49	39	1	4	5	0
26	r	1	60	50	1	4	5	0
26	r	1	45	35	1	4	5	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
26	s	1	61	51	1	4	5	0
26	s	1	45	35	1	4	5	0
26	s	1	50	40	1	4	5	0
26	s	1	45	35	1	4	5	0
26	s	1	55	45	1	4	5	0
26	s	1	56	46	1	4	5	0
26	s	1	49	39	1	4	5	0
26	s	1	55	45	1	4	5	0
26	s	1	49	39	1	4	5	0
26	y	1	65	55	1	4	5	0
26	y	1	65	55	1	4	5	0
26	y	1	50	40	1	4	5	0
26	y	1	60	50	1	4	5	0
26	y	1	60	50	1	4	5	0
26	y	1	60	50	1	4	5	0
26	y	1	65	55	1	4	5	0
26	y	1	48	38	1	4	5	0

- Molecule 27 is (3R,3'R,6S)-4,5-DIDEHYDRO-5,6-DIHYDRO-BETA,BETA-CAROTENE-3,3'-DIOL (three-letter code: LUT) (formula: C₄₀H₅₆O₂).



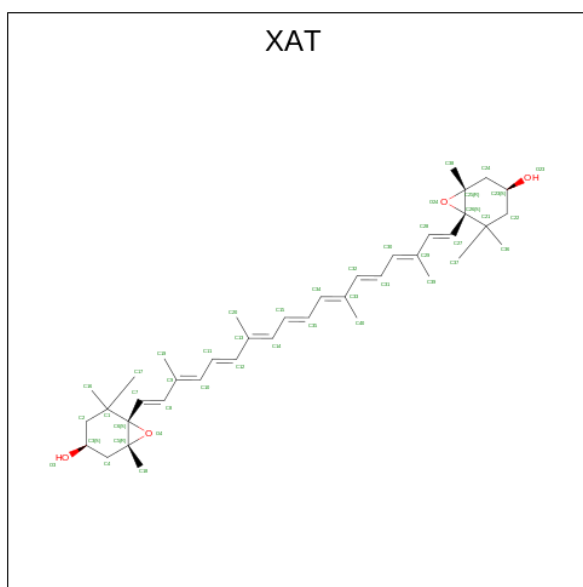
Mol	Chain	Residues	Atoms			AltConf
27	1	1	Total	C	O	0
			42	40	2	
27	1	1	Total	C	O	0
			42	40	2	
27	2	1	Total	C	O	0
			42	40	2	
27	2	1	Total	C	O	0
			42	40	2	
27	3	1	Total	C	O	0
			42	40	2	
27	3	1	Total	C	O	0
			42	40	2	
27	4	1	Total	C	O	0
			42	40	2	
27	G	1	Total	C	O	0
			42	40	2	
27	G	1	Total	C	O	0
			42	40	2	
27	N	1	Total	C	O	0
			42	40	2	
27	N	1	Total	C	O	0
			42	40	2	
27	R	1	Total	C	O	0
			42	40	2	
27	S	1	Total	C	O	0
			42	40	2	
27	S	1	Total	C	O	0
			42	40	2	

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
27	Y	1	42	40	2	0
27	Y	1	42	40	2	0
27	5	1	42	40	2	0
27	5	1	42	40	2	0
27	6	1	42	40	2	0
27	6	1	42	40	2	0
27	7	1	42	40	2	0
27	7	1	42	40	2	0
27	8	1	42	40	2	0
27	g	1	42	40	2	0
27	g	1	42	40	2	0
27	n	1	42	40	2	0
27	n	1	42	40	2	0
27	r	1	42	40	2	0
27	s	1	42	40	2	0
27	s	1	42	40	2	0
27	y	1	42	40	2	0
27	y	1	42	40	2	0

- Molecule 28 is (3S,5R,6S,3'S,5'R,6'S)-5,6,5',6'-DIEPOXY-5,6,5',6'- TETRAHYDRO-BETA ,BETA-CAROTENE-3,3'-DIOL (three-letter code: XAT) (formula: C₄₀H₅₆O₄).



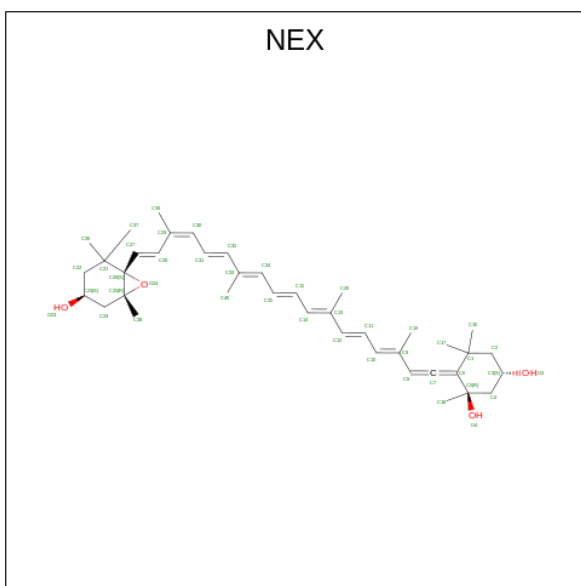
Mol	Chain	Residues	Atoms			AltConf
28	1	1	Total	C	O	0
			44	40	4	
28	2	1	Total	C	O	0
			44	40	4	
28	3	1	Total	C	O	0
			44	40	4	
28	4	1	Total	C	O	0
			44	40	4	
28	G	1	Total	C	O	0
			44	40	4	
28	N	1	Total	C	O	0
			44	40	4	
28	R	1	Total	C	O	0
			44	40	4	
28	Y	1	Total	C	O	0
			44	40	4	
28	5	1	Total	C	O	0
			44	40	4	
28	6	1	Total	C	O	0
			44	40	4	
28	7	1	Total	C	O	0
			44	40	4	
28	8	1	Total	C	O	0
			44	40	4	
28	g	1	Total	C	O	0
			44	40	4	
28	n	1	Total	C	O	0
			44	40	4	

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Mol	Chain	Residues	Atoms			AltConf
28	r	1	Total	C	O	0
			44	40	4	
28	y	1	Total	C	O	0
			44	40	4	

- Molecule 29 is (1R,3R)-6-[(3E,5E,7E,9E,11E,13E,15E,17E)-18-[(1S,4R,6R)-4-HYDROXY-2,6-TRIMETHYL-7-OXABICYCLO[4.1.0]HEPT-1-YL]-3,7,12,16-TETRAMETHYLOCTA DECA-1,3,5,7,9,11,13,15,17-NONAENYLIDENE]-1,5,5-TRIMETHYLCYCLOHEXANE-1,3-DIOL (three-letter code: NEX) (formula: C₄₀H₅₆O₄).



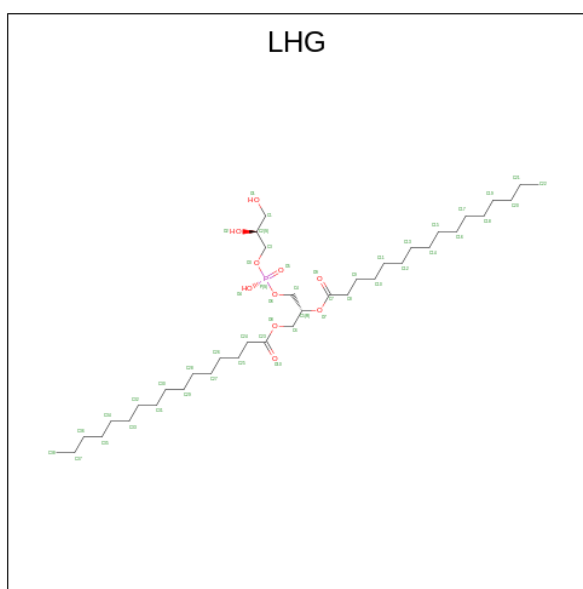
Mol	Chain	Residues	Atoms			AltConf
29	1	1	Total	C	O	0
			44	40	4	
29	2	1	Total	C	O	0
			44	40	4	
29	3	1	Total	C	O	0
			44	40	4	
29	G	1	Total	C	O	0
			44	40	4	
29	N	1	Total	C	O	0
			44	40	4	
29	R	1	Total	C	O	0
			44	40	4	
29	S	1	Total	C	O	0
			44	40	4	
29	Y	1	Total	C	O	0
			44	40	4	

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
29	5	1	44	40	4	0
29	6	1	44	40	4	0
29	7	1	44	40	4	0
29	g	1	44	40	4	0
29	n	1	44	40	4	0
29	r	1	44	40	4	0
29	s	1	44	40	4	0
29	y	1	44	40	4	0

- Molecule 30 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{75}O_{10}P$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
30	1	1	41	30	10	1	0
30	2	1	37	26	10	1	0
30	3	1	47	36	10	1	0

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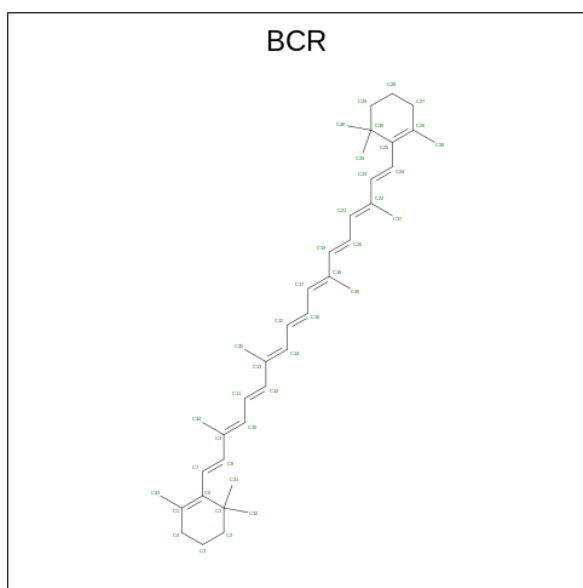
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
30	4	1	Total 21	C 10	O 10	P 1	0
30	B	1	Total 47	C 36	O 10	P 1	0
30	B	1	Total 49	C 38	O 10	P 1	0
30	C	1	Total 49	C 38	O 10	P 1	0
30	C	1	Total 49	C 38	O 10	P 1	0
30	C	1	Total 49	C 38	O 10	P 1	0
30	D	1	Total 46	C 35	O 10	P 1	0
30	D	1	Total 49	C 38	O 10	P 1	0
30	D	1	Total 43	C 32	O 10	P 1	0
30	G	1	Total 49	C 38	O 10	P 1	0
30	L	1	Total 49	C 38	O 10	P 1	0
30	N	1	Total 49	C 38	O 10	P 1	0
30	R	1	Total 42	C 31	O 10	P 1	0
30	S	1	Total 49	C 38	O 10	P 1	0
30	Y	1	Total 49	C 38	O 10	P 1	0
30	5	1	Total 41	C 30	O 10	P 1	0
30	6	1	Total 37	C 26	O 10	P 1	0
30	7	1	Total 47	C 36	O 10	P 1	0
30	8	1	Total 21	C 10	O 10	P 1	0
30	b	1	Total 47	C 36	O 10	P 1	0
30	b	1	Total 49	C 38	O 10	P 1	0

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
30	c	1	Total 49	C 38	O 10	P 1	0
30	c	1	Total 49	C 38	O 10	P 1	0
30	c	1	Total 49	C 38	O 10	P 1	0
30	d	1	Total 46	C 35	O 10	P 1	0
30	d	1	Total 49	C 38	O 10	P 1	0
30	d	1	Total 43	C 32	O 10	P 1	0
30	g	1	Total 49	C 38	O 10	P 1	0
30	l	1	Total 49	C 38	O 10	P 1	0
30	n	1	Total 49	C 38	O 10	P 1	0
30	r	1	Total 42	C 31	O 10	P 1	0
30	s	1	Total 49	C 38	O 10	P 1	0
30	y	1	Total 49	C 38	O 10	P 1	0

- Molecule 31 is BETA-CAROTENE (three-letter code: BCR) (formula: C₄₀H₅₆).



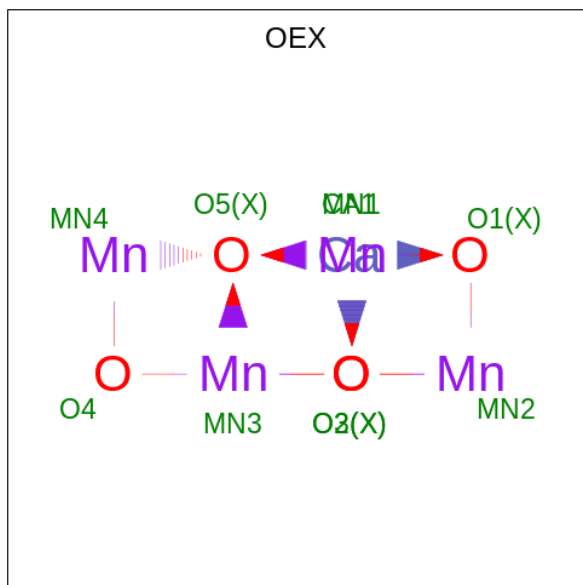
Mol	Chain	Residues	Atoms	AltConf
31	4	1	Total C 40 40	0
31	A	1	Total C 40 40	0
31	B	1	Total C 40 40	0
31	B	1	Total C 40 40	0
31	B	1	Total C 40 40	0
31	C	1	Total C 40 40	0
31	C	1	Total C 40 40	0
31	C	1	Total C 40 40	0
31	C	1	Total C 40 40	0
31	D	1	Total C 40 40	0
31	H	1	Total C 40 40	0
31	T	1	Total C 40 40	0
31	8	1	Total C 40 40	0
31	a	1	Total C 40 40	0
31	b	1	Total C 40 40	0
31	b	1	Total C 40 40	0
31	b	1	Total C 40 40	0
31	c	1	Total C 40 40	0
31	c	1	Total C 40 40	0
31	c	1	Total C 40 40	0
31	c	1	Total C 40 40	0
31	d	1	Total C 40 40	0

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Mol	Chain	Residues	Atoms	AltConf
31	h	1	Total C 40 40	0
31	t	1	Total C 40 40	0

- Molecule 32 is CA-MN4-O5 CLUSTER (three-letter code: OEX) (formula: CaMn_4O_5).



Mol	Chain	Residues	Atoms	AltConf
32	A	1	Total Ca Mn O 10 1 4 5	0
32	a	1	Total Ca Mn O 10 1 4 5	0

- Molecule 33 is FE (II) ION (three-letter code: FE2) (formula: Fe).

Mol	Chain	Residues	Atoms	AltConf
33	A	1	Total Fe 1 1	0
33	a	1	Total Fe 1 1	0

- Molecule 34 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

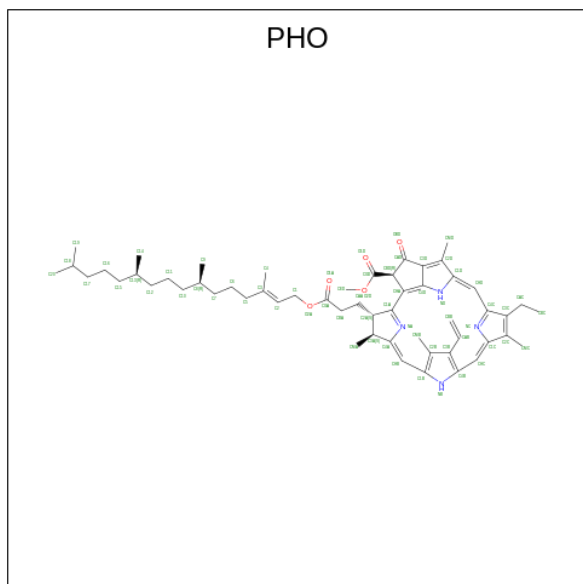
Mol	Chain	Residues	Atoms	AltConf
34	A	2	Total Cl 2 2	0

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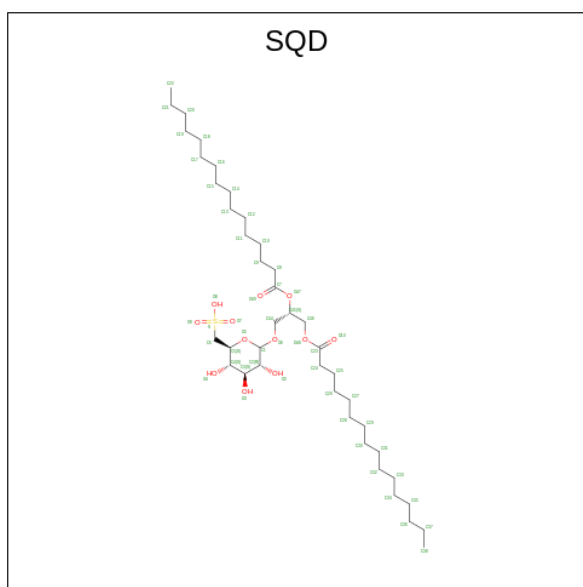
Mol	Chain	Residues	Atoms		AltConf
			Total	Cl	
34	a	2	2	2	0

- Molecule 35 is PHEOPHYTIN A (three-letter code: PHO) (formula: $C_{55}H_{74}N_4O_5$).



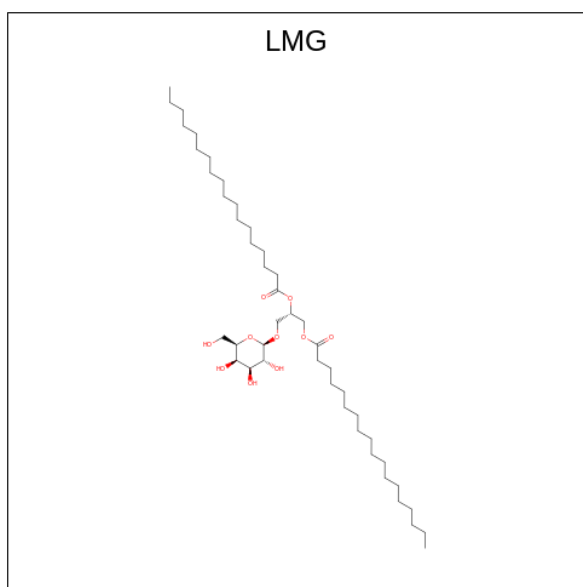
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
35	A	1	64	55	4	5	0
35	A	1	64	55	4	5	0
35	a	1	64	55	4	5	0
35	a	1	64	55	4	5	0

- Molecule 36 is 1,2-DI-O-ACYL-3-O-[6-DEOXY-6-SULFO-ALPHA-D-GLUCOPYRANOSYL]-SN-GLYCEROL (three-letter code: SQD) (formula: $C_{41}H_{78}O_{12}S$).



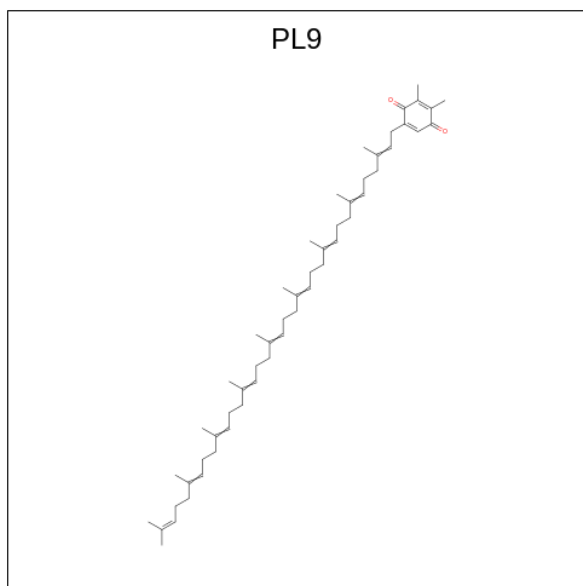
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	S	
36	A	1	50	37	12	1	0
36	A	1	54	41	12	1	0
36	B	1	54	41	12	1	0
36	B	1	42	29	12	1	0
36	a	1	50	37	12	1	0
36	a	1	54	41	12	1	0
36	b	1	54	41	12	1	0
36	b	1	42	29	12	1	0

- Molecule 37 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: $C_{45}H_{86}O_{10}$).



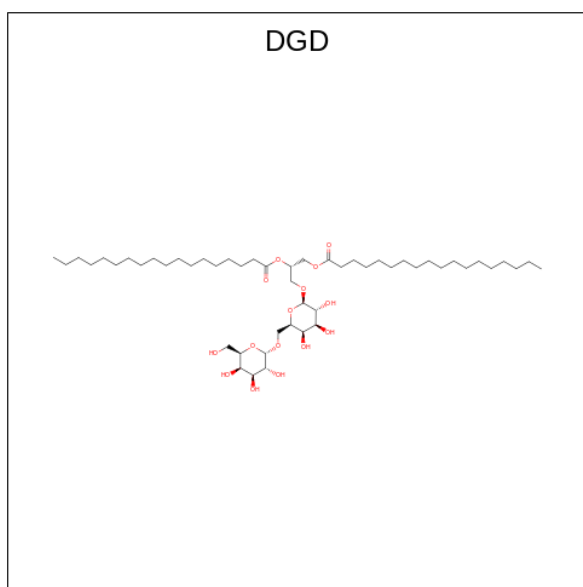
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
37	A	1	48	38	10	0
37	A	1	40	30	10	0
37	B	1	51	41	10	0
37	B	1	55	45	10	0
37	C	1	51	41	10	0
37	D	1	46	36	10	0
37	Z	1	51	41	10	0
37	a	1	48	38	10	0
37	a	1	40	30	10	0
37	b	1	51	41	10	0
37	b	1	55	45	10	0
37	c	1	51	41	10	0
37	d	1	46	36	10	0
37	z	1	51	41	10	0

- Molecule 38 is 2,3-DIMETHYL-5-(3,7,11,15,19,23,27,31,35-NONAMETHYL-2,6,10,14,18,22,26,30,34-HEXATRIACONTANONAENYL-2,5-CYCLOHEXADIENE-1,4-DIONE-2,3-DIMETHYL-5-SOLANESYL-1,4-BENZOQUINONE (three-letter code: PL9) (formula: $C_{53}H_{80}O_2$).



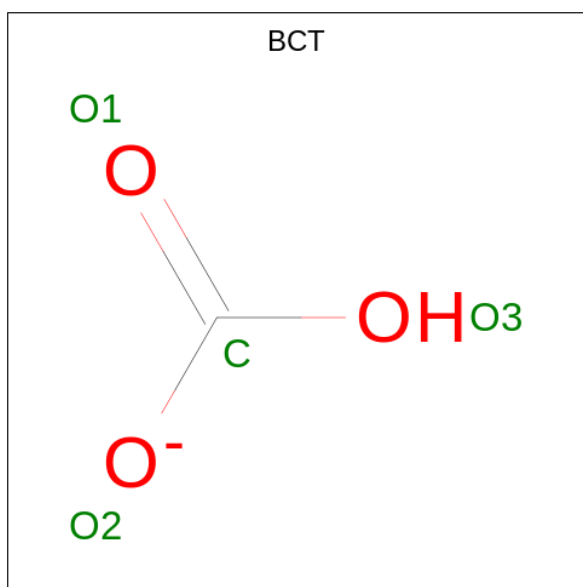
Mol	Chain	Residues	Atoms			AltConf
38	A	1	Total	C	O	0
			13	11	2	
38	D	1	Total	C	O	0
			55	53	2	
38	a	1	Total	C	O	0
			13	11	2	
38	d	1	Total	C	O	0
			55	53	2	

- Molecule 39 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (three-letter code: DGD) (formula: $C_{51}H_{96}O_{15}$).



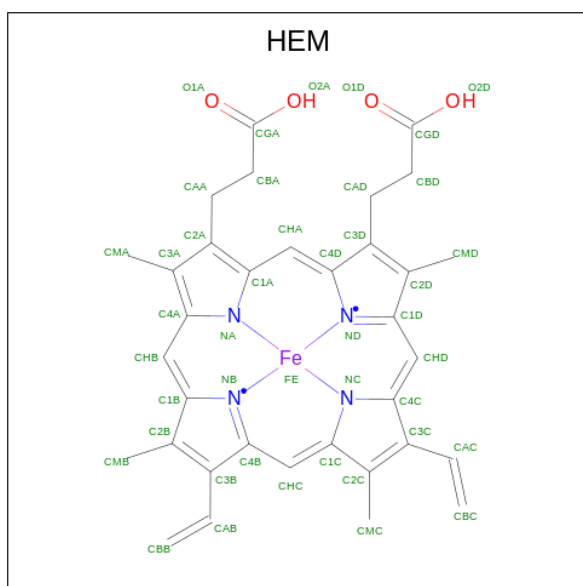
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
39	B	1	59	44	15	0
39	C	1	55	40	15	0
39	C	1	62	47	15	0
39	C	1	60	45	15	0
39	H	1	62	47	15	0
39	b	1	59	44	15	0
39	c	1	55	40	15	0
39	c	1	62	47	15	0
39	c	1	60	45	15	0
39	h	1	62	47	15	0

- Molecule 40 is BICARBONATE ION (three-letter code: BCT) (formula: CHO_3).



Mol	Chain	Residues	Atoms			AltConf
40	D	1	Total	C	O	0
			4	1	3	
40	d	1	Total	C	O	0
			4	1	3	

- Molecule 41 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: $C_{34}H_{32}FeN_4O_4$).



Mol	Chain	Residues	Atoms					AltConf
41	F	1	Total	C	Fe	N	O	0
			43	34	1	4	4	

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Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Fe	N		O
41	f	1	43	34	1	4	4	0

- Molecule 42 is water.

Mol	Chain	Residues	Atoms		AltConf
42	A	96	Total	O	0
			96	96	
42	B	89	Total	O	0
			89	89	
42	C	68	Total	O	0
			68	68	
42	D	58	Total	O	0
			58	58	
42	E	10	Total	O	0
			10	10	
42	F	2	Total	O	0
			2	2	
42	G	15	Total	O	0
			15	15	
42	H	16	Total	O	0
			16	16	
42	J	3	Total	O	0
			3	3	
42	K	2	Total	O	0
			2	2	
42	L	10	Total	O	0
			10	10	
42	M	4	Total	O	0
			4	4	
42	N	20	Total	O	0
			20	20	
42	O	31	Total	O	0
			31	31	
42	P	16	Total	O	0
			16	16	
42	R	30	Total	O	0
			30	30	
42	S	14	Total	O	0
			14	14	
42	T	2	Total	O	0
			2	2	

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Mol	Chain	Residues	Atoms	AltConf
42	W	4	Total O 4 4	0
42	X	5	Total O 5 5	0
42	Y	39	Total O 39 39	0
42	Z	4	Total O 4 4	0
42	a	96	Total O 96 96	0
42	b	89	Total O 89 89	0
42	c	68	Total O 68 68	0
42	d	58	Total O 58 58	0
42	e	10	Total O 10 10	0
42	f	2	Total O 2 2	0
42	g	15	Total O 15 15	0
42	h	16	Total O 16 16	0
42	j	3	Total O 3 3	0
42	k	2	Total O 2 2	0
42	l	10	Total O 10 10	0
42	m	4	Total O 4 4	0
42	n	20	Total O 20 20	0
42	o	31	Total O 31 31	0
42	p	16	Total O 16 16	0
42	r	30	Total O 30 30	0
42	s	14	Total O 14 14	0

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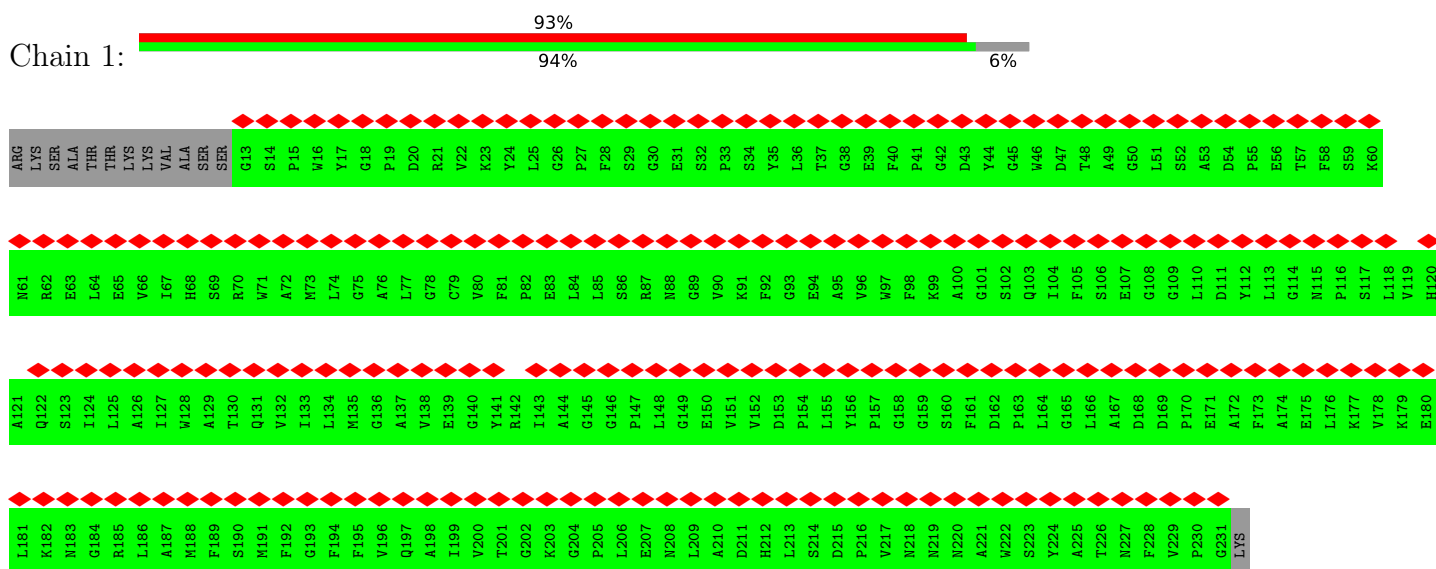
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Mol	Chain	Residues	Atoms	AltConf
42	t	2	Total O 2 2	0
42	w	4	Total O 4 4	0
42	x	5	Total O 5 5	0
42	y	39	Total O 39 39	0
42	z	4	Total O 4 4	0

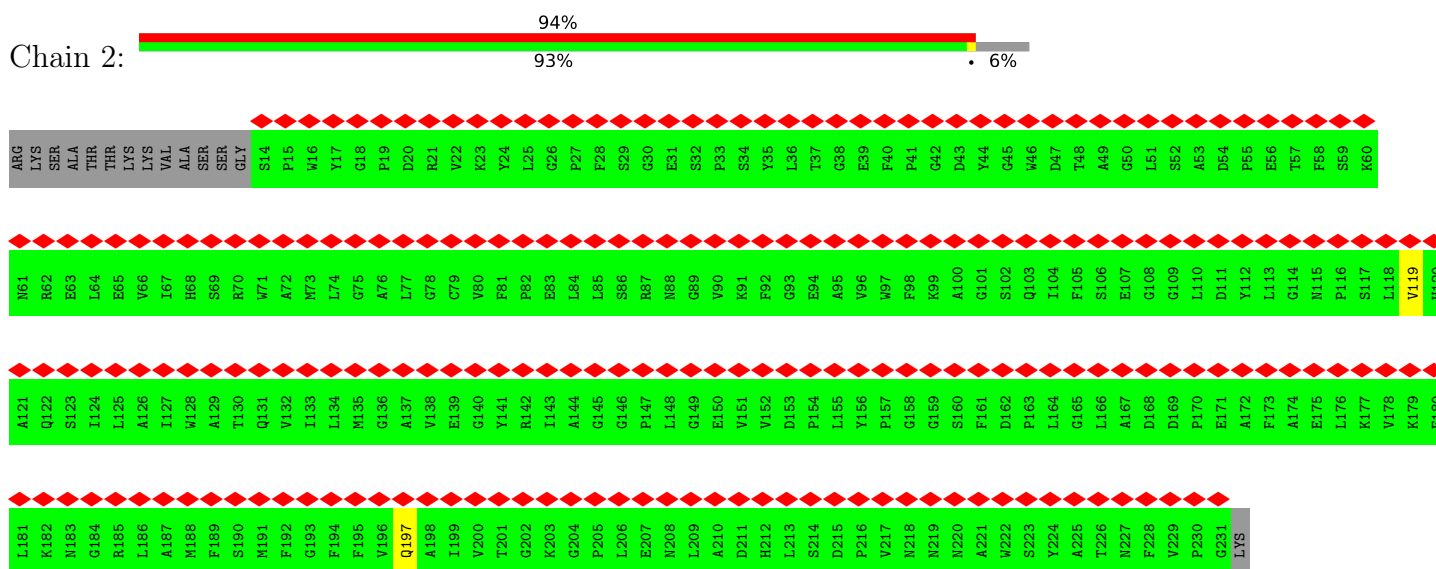
3 Residue-property plots [i](#)

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.

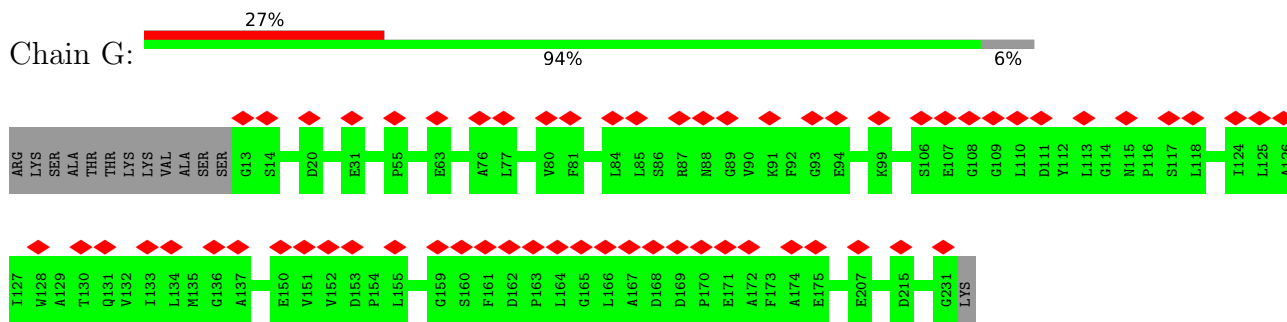
- Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic



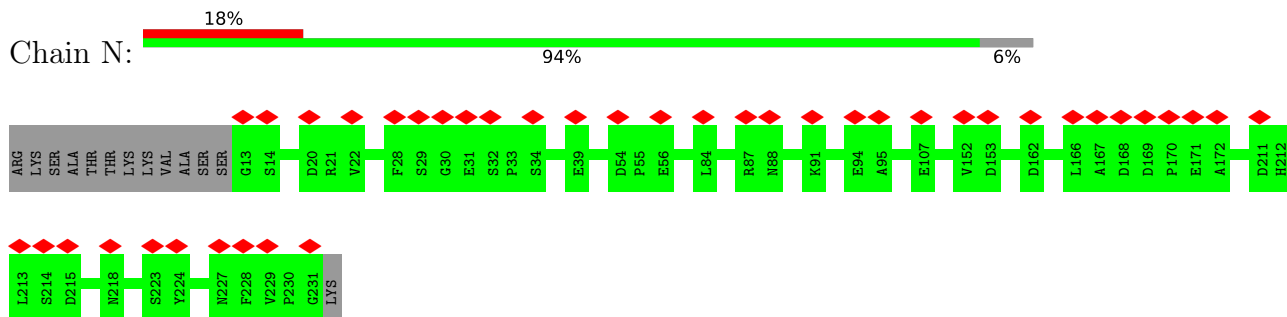
- Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic



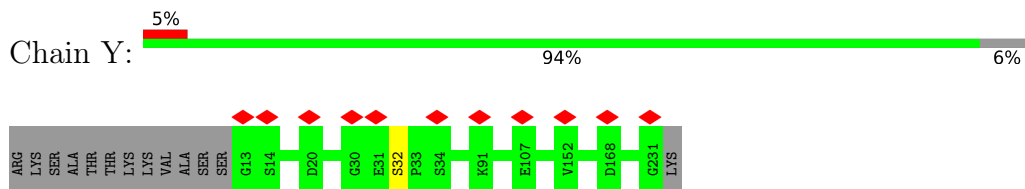
- Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic



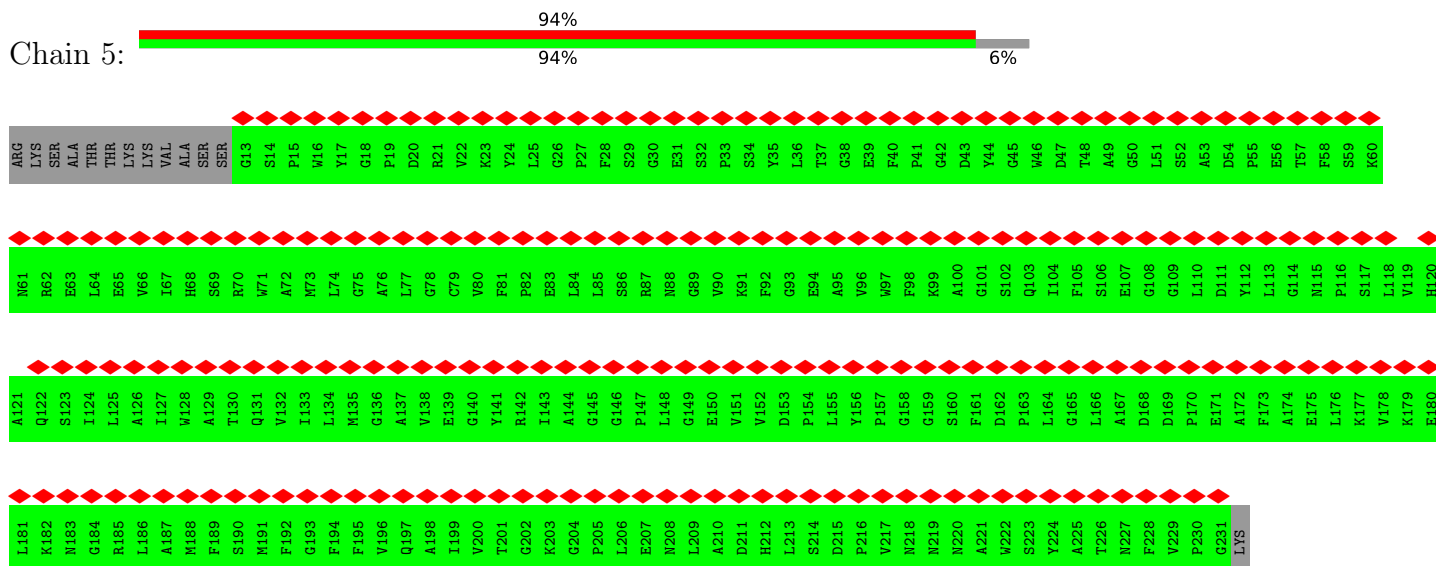
• Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic



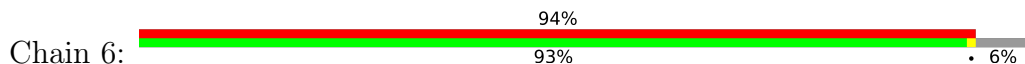
• Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic

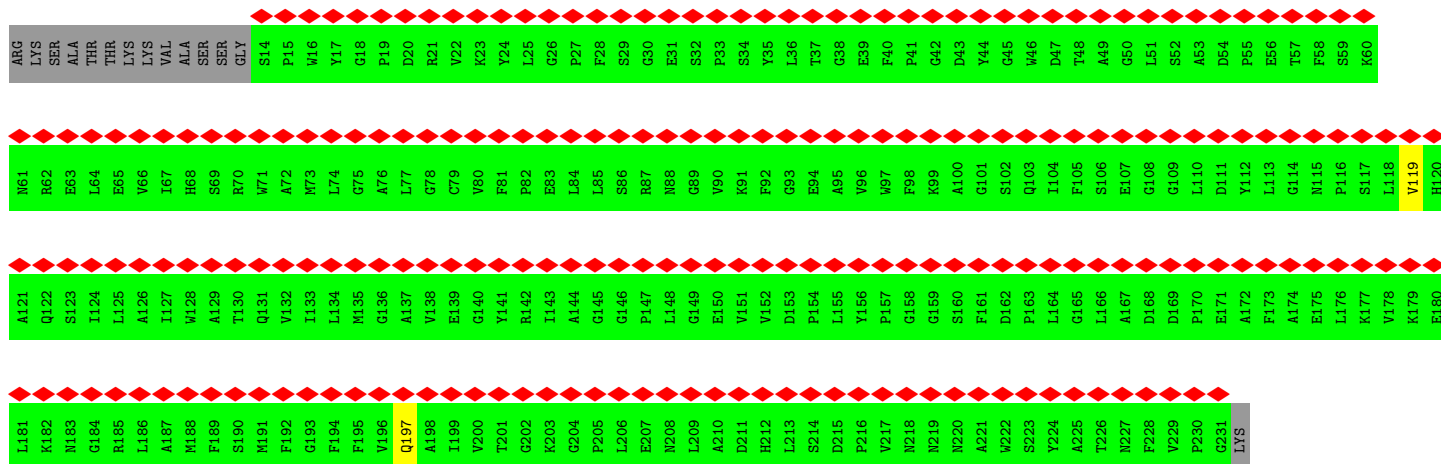


• Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic

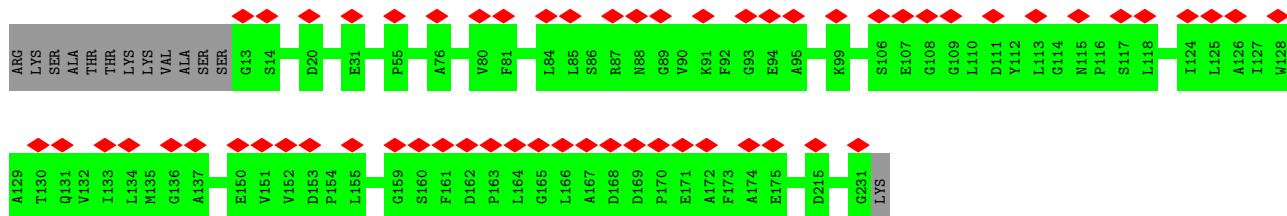
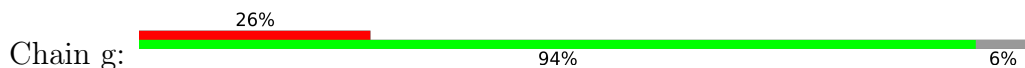


• Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic

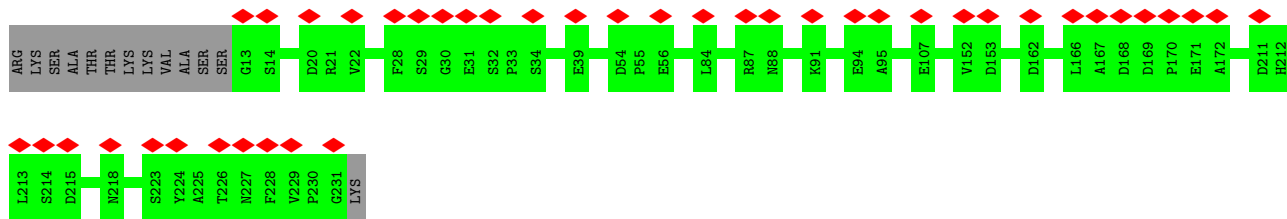
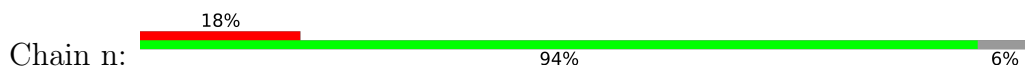




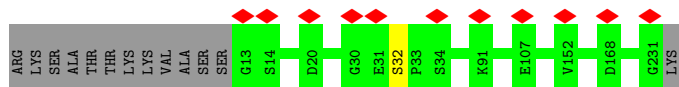
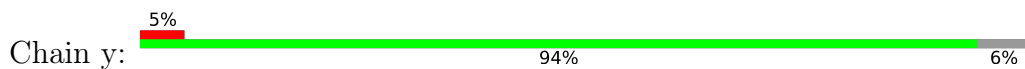
● Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic



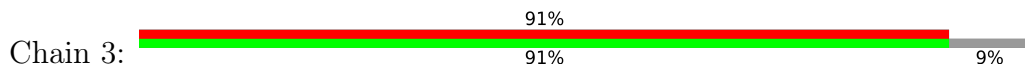
● Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic

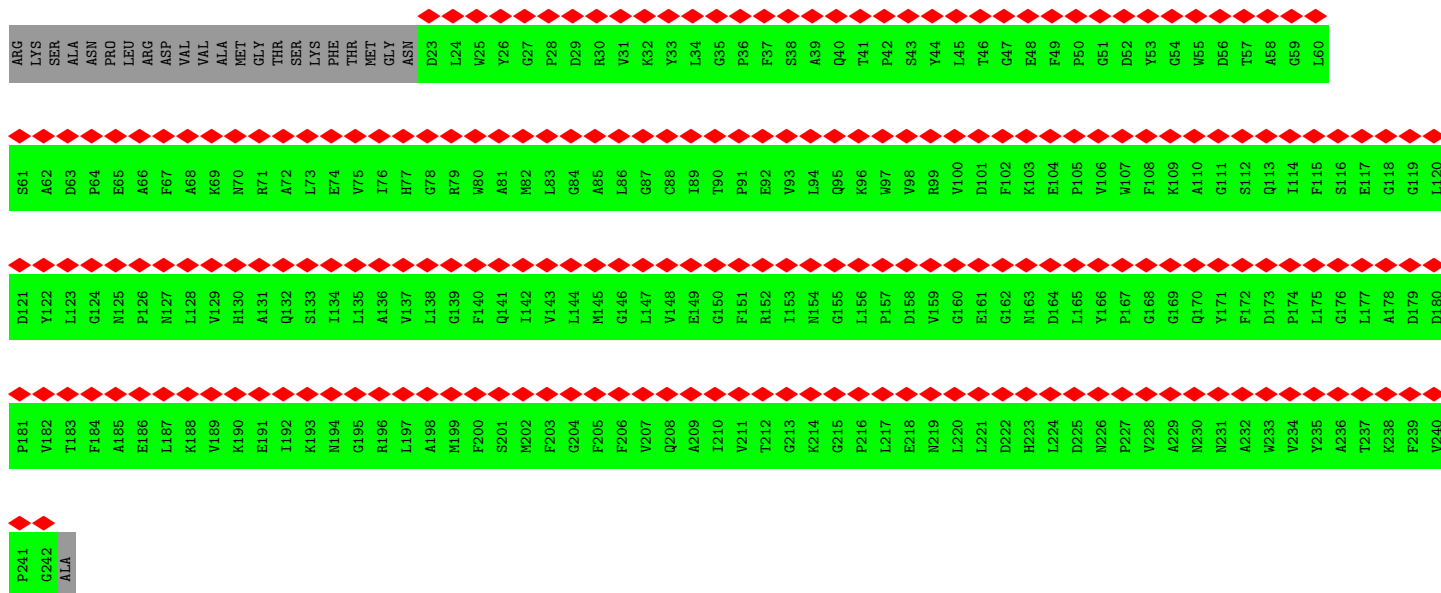


● Molecule 1: Chlorophyll a-b binding protein 8, chloroplastic

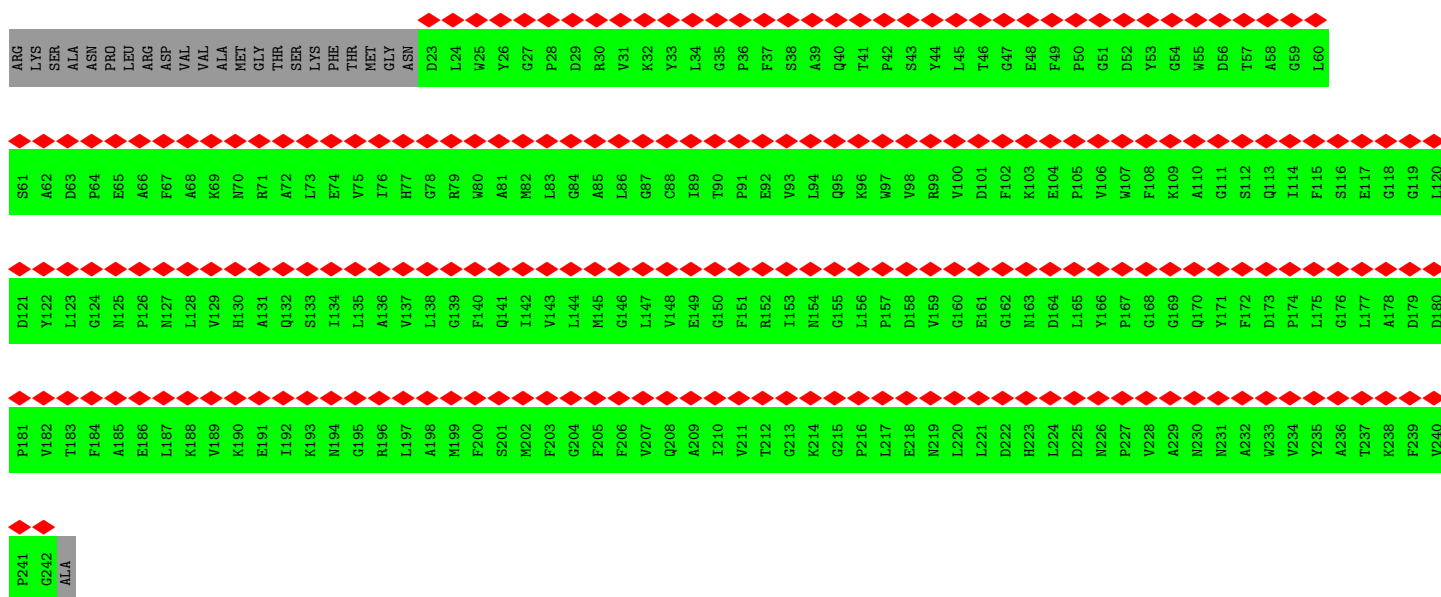
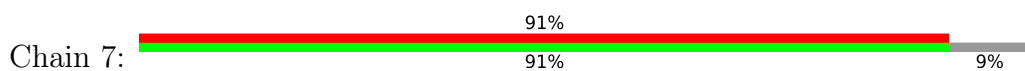


● Molecule 2: Chlorophyll a-b binding protein, chloroplastic

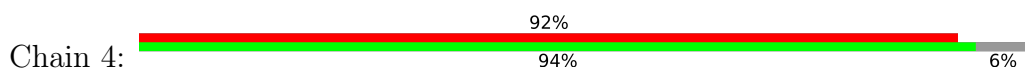


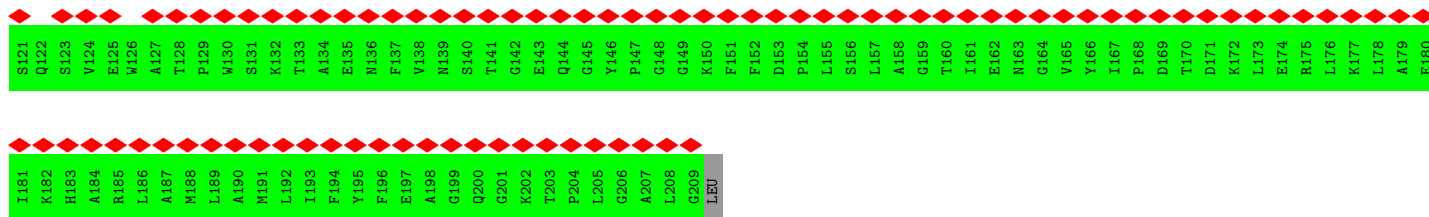


• Molecule 2: Chlorophyll a-b binding protein, chloroplastic

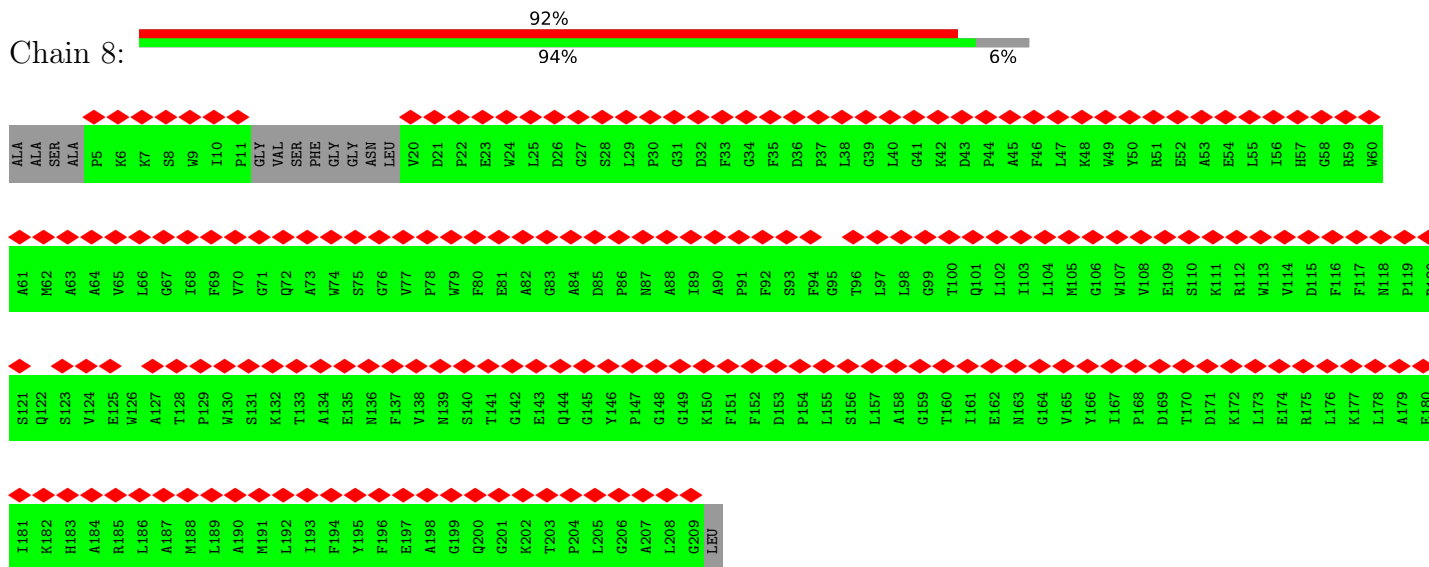


• Molecule 3: Light harvesting chlorophyll a/b-binding protein Lhcb6, CP24

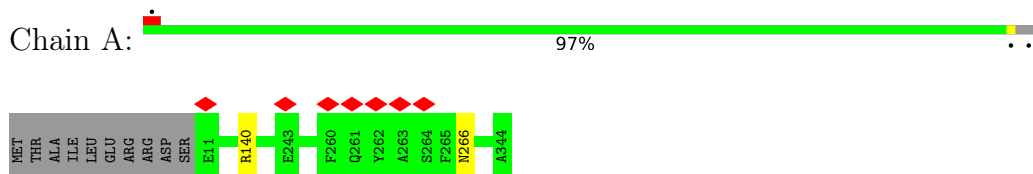




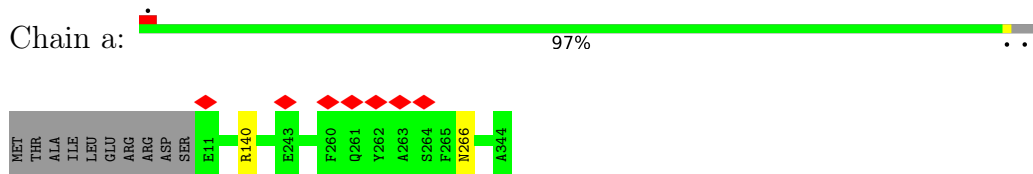
• Molecule 3: Light harvesting chlorophyll a/b-binding protein Lhcb6, CP24



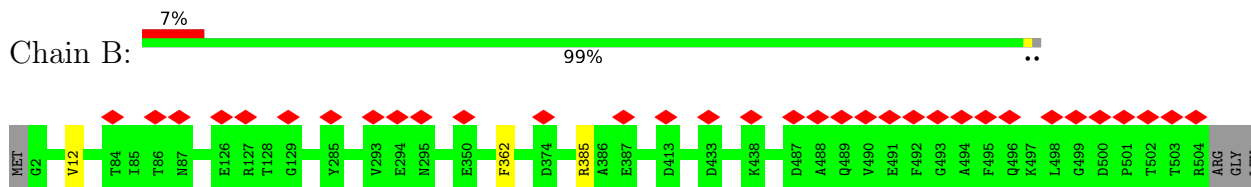
• Molecule 4: Photosystem II protein D1



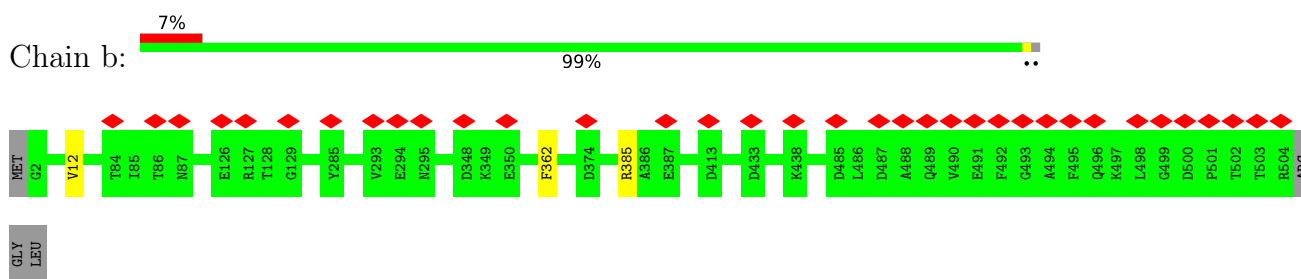
• Molecule 4: Photosystem II protein D1



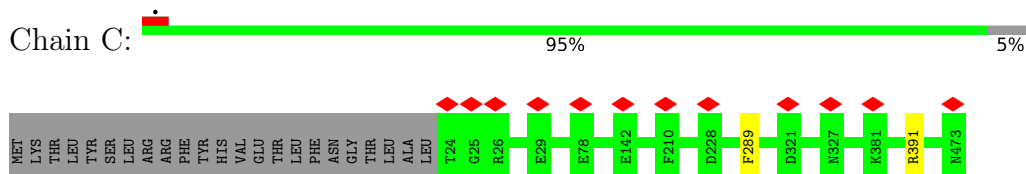
• Molecule 5: Photosystem II CP47 reaction center protein



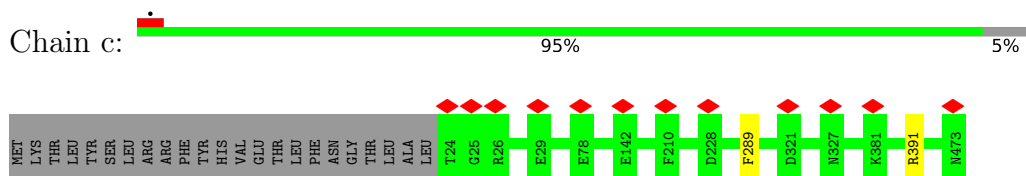
• Molecule 5: Photosystem II CP47 reaction center protein



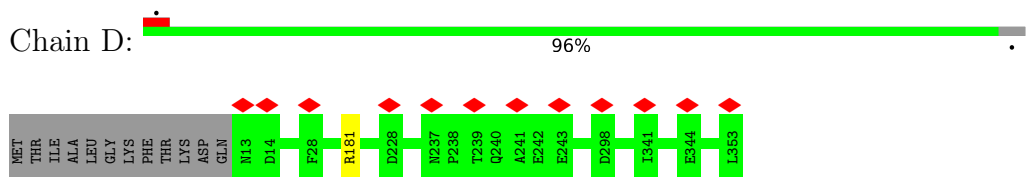
- Molecule 6: Photosystem II CP43 reaction center protein



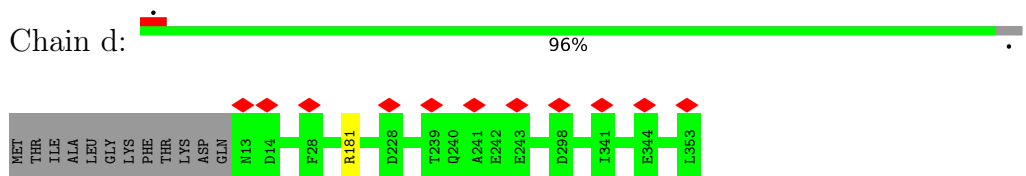
- Molecule 6: Photosystem II CP43 reaction center protein



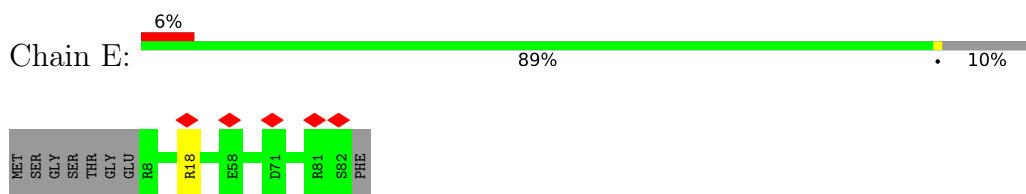
- Molecule 7: Photosystem II D2 protein



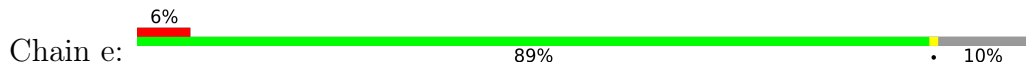
- Molecule 7: Photosystem II D2 protein

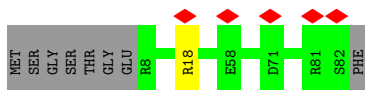


- Molecule 8: Cytochrome b559 subunit alpha

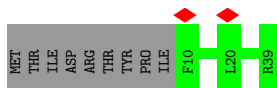
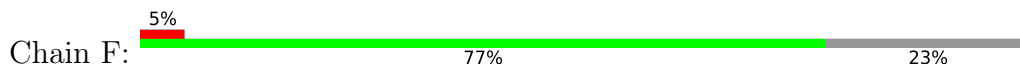


- Molecule 8: Cytochrome b559 subunit alpha

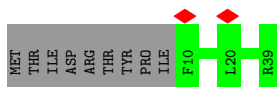
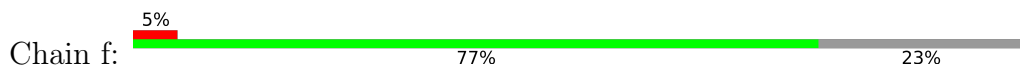




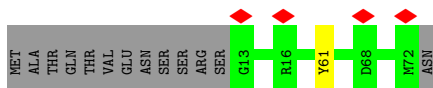
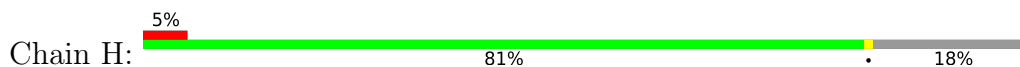
- Molecule 9: Cytochrome b559 subunit beta, PsbF



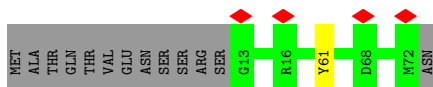
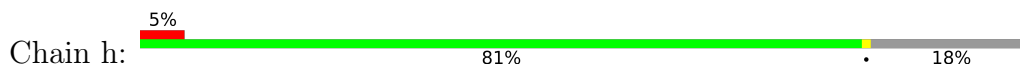
- Molecule 9: Cytochrome b559 subunit beta, PsbF



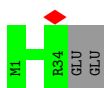
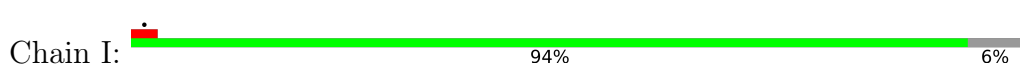
- Molecule 10: Photosystem II reaction center protein H



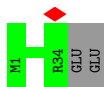
- Molecule 10: Photosystem II reaction center protein H



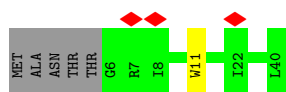
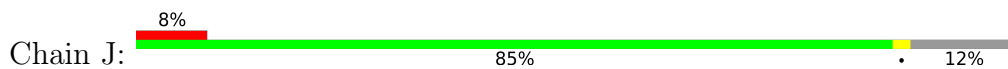
- Molecule 11: Photosystem II reaction center protein I, PsbI



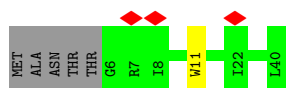
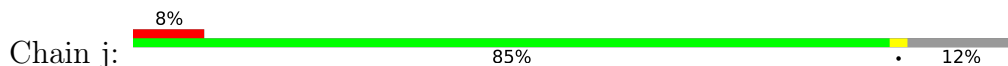
- Molecule 11: Photosystem II reaction center protein I, PsbI



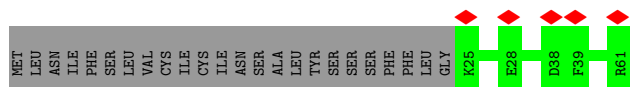
- Molecule 12: Photosystem II reaction center protein J



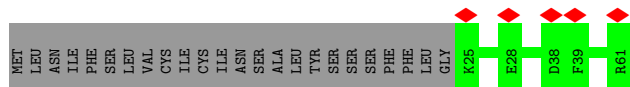
• Molecule 12: Photosystem II reaction center protein J



• Molecule 13: Photosystem II reaction center protein K



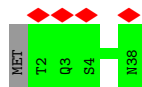
• Molecule 13: Photosystem II reaction center protein K



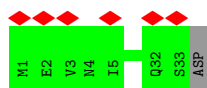
• Molecule 14: Photosystem II reaction center protein L



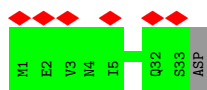
• Molecule 14: Photosystem II reaction center protein L



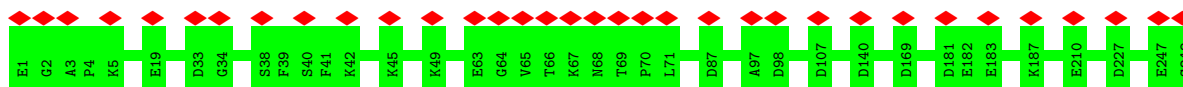
• Molecule 15: Photosystem II reaction center protein M



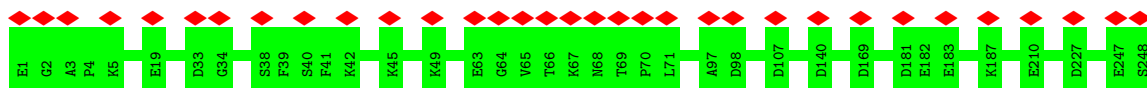
• Molecule 15: Photosystem II reaction center protein M



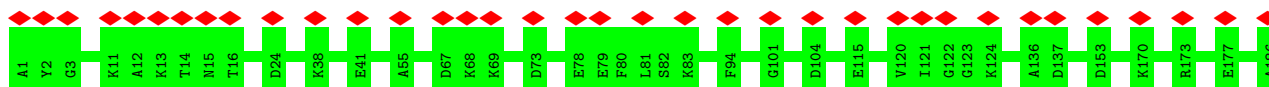
• Molecule 16: Oxygen-evolving enhancer protein 1, chloroplastic



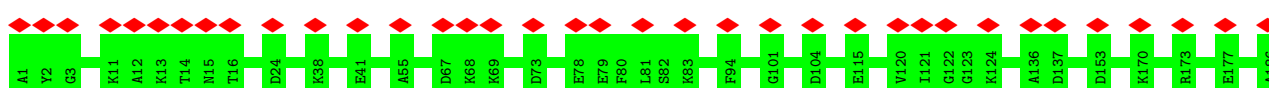
• Molecule 16: Oxygen-evolving enhancer protein 1, chloroplastic



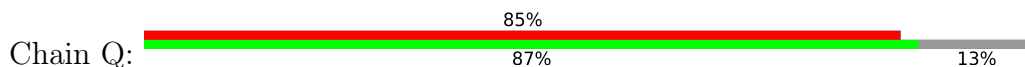
• Molecule 17: Oxygen-evolving enhancer protein 2, chloroplastic

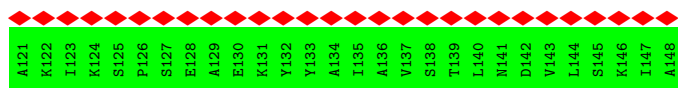


• Molecule 17: Oxygen-evolving enhancer protein 2, chloroplastic

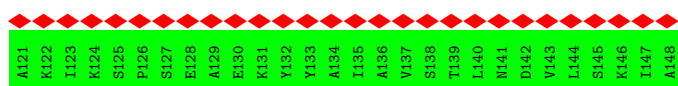
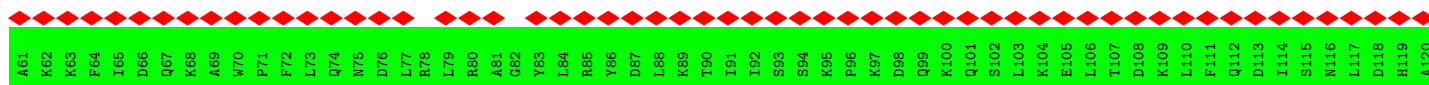
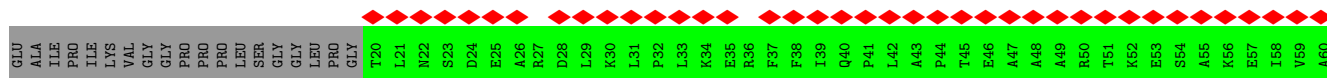
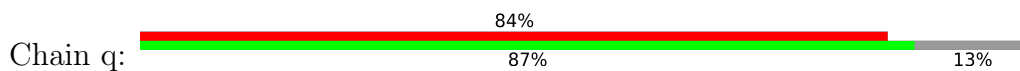


• Molecule 18: Oxygen-evolving enhancer protein 3

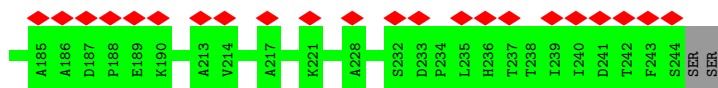
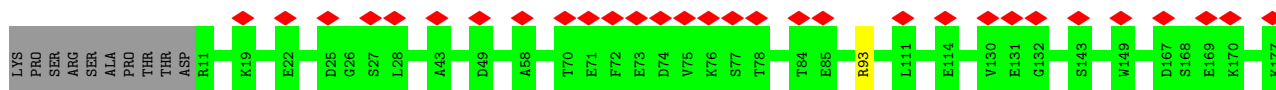




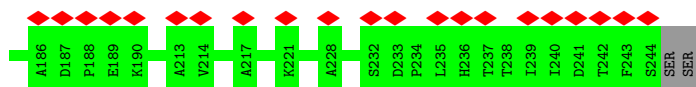
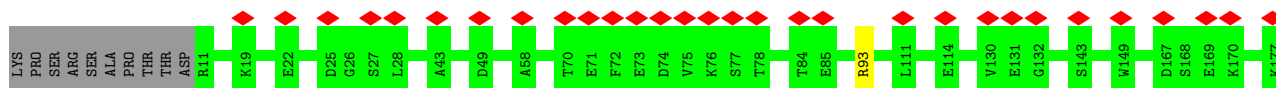
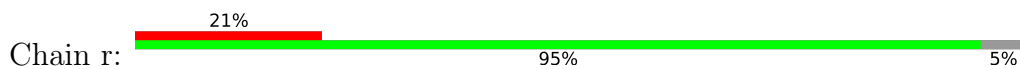
- Molecule 18: Oxygen-evolving enhancer protein 3



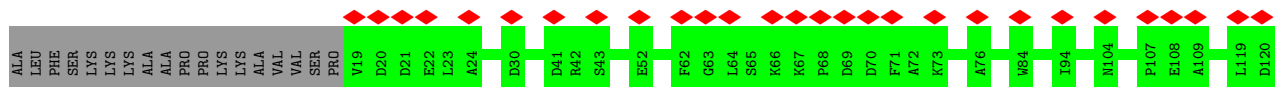
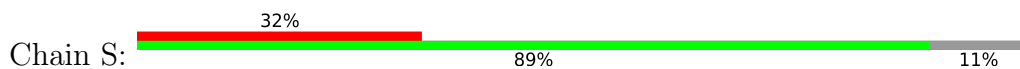
- Molecule 19: Light harvesting chlorophyll a/b-binding protein Lhcb4, CP29

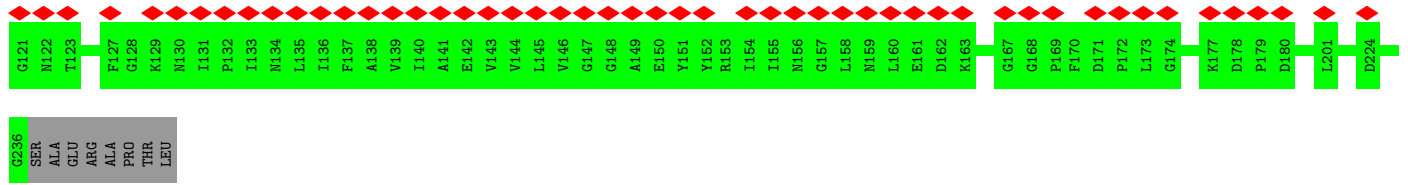


- Molecule 19: Light harvesting chlorophyll a/b-binding protein Lhcb4, CP29

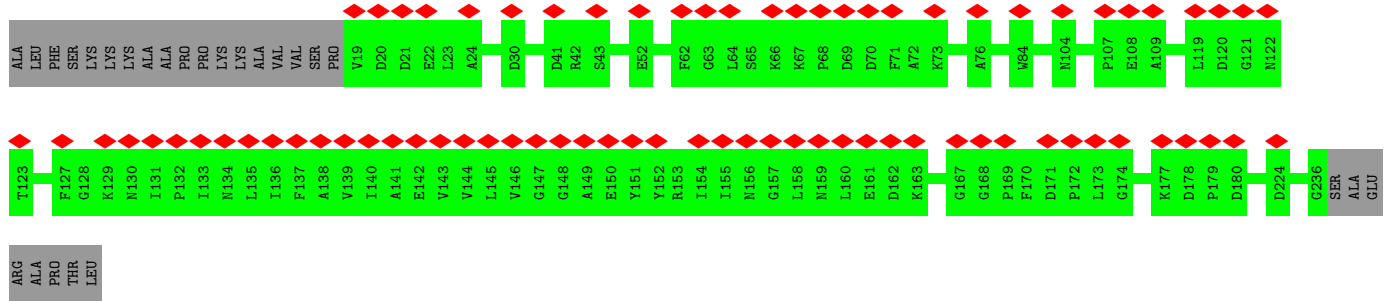
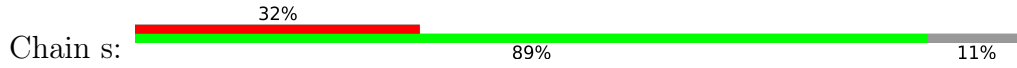


- Molecule 20: Light harvesting chlorophyll a/b-binding protein Lhcb5, CP26

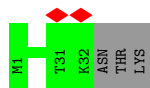
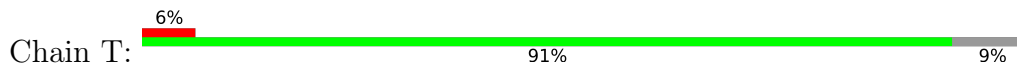




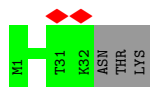
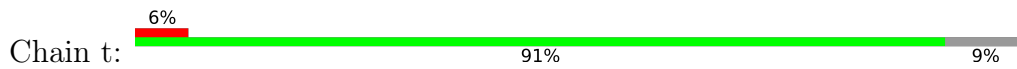
- Molecule 20: Light harvesting chlorophyll a/b-binding protein Lhcb5, CP26



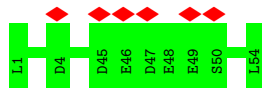
- Molecule 21: Photosystem II reaction center protein T



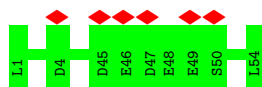
- Molecule 21: Photosystem II reaction center protein T



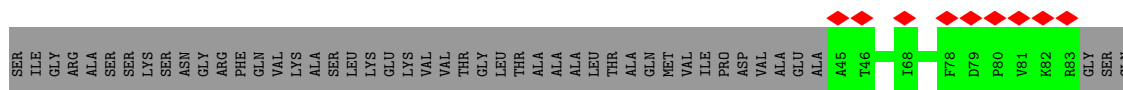
- Molecule 22: Photosystem II reaction center protein W



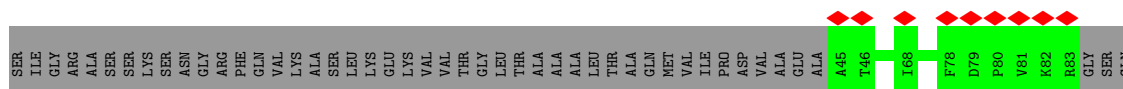
- Molecule 22: Photosystem II reaction center protein W



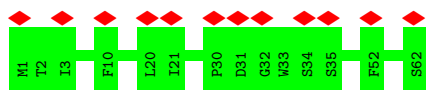
• Molecule 23: Photosystem II reaction center protein X



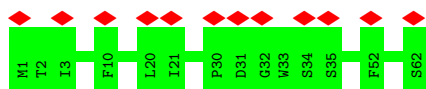
• Molecule 23: Photosystem II reaction center protein X



• Molecule 24: Photosystem II reaction center protein Z



• Molecule 24: Photosystem II reaction center protein Z



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	136521	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	168.730	Depositor
Minimum map value	-94.103	Depositor
Average map value	0.061	Depositor
Map value standard deviation	6.582	Depositor
Recommended contour level	17.5	Depositor
Map size (Å)	312.0, 312.0, 312.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	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: CL, PHO, CHL, PL9, SQD, CLA, LHG, DGD, LUT, XAT, FE2, OEX, BCT, NEX, LMG, BCR, HEM

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	1	0.36	0/1720	0.50	0/2342
1	2	0.32	0/1716	0.51	1/2337 (0.0%)
1	5	0.37	0/1720	0.50	0/2342
1	6	0.33	0/1716	0.51	1/2337 (0.0%)
1	G	0.39	0/1720	0.52	0/2342
1	N	0.44	0/1720	0.56	0/2342
1	Y	0.43	0/1720	0.55	0/2342
1	g	0.39	0/1720	0.52	0/2342
1	n	0.45	0/1720	0.56	0/2342
1	y	0.43	0/1720	0.55	0/2342
2	3	0.37	0/1759	0.53	0/2396
2	7	0.37	0/1759	0.53	0/2396
3	4	0.34	0/1586	0.55	0/2158
3	8	0.34	0/1586	0.55	0/2158
4	A	0.54	0/2697	0.62	1/3677 (0.0%)
4	a	0.54	0/2697	0.62	1/3677 (0.0%)
5	B	0.54	0/4081	0.60	0/5556
5	b	0.54	0/4081	0.61	0/5556
6	C	0.58	0/3614	0.63	0/4922
6	c	0.58	0/3614	0.63	0/4922
7	D	0.47	0/2804	0.61	0/3823
7	d	0.48	0/2804	0.61	0/3823
8	E	0.47	0/630	0.52	0/857
8	e	0.48	0/630	0.52	0/857
9	F	0.60	0/248	0.64	0/335
9	f	0.60	0/248	0.64	0/335
10	H	0.50	0/461	0.56	0/626
10	h	0.50	0/461	0.56	0/626
11	I	0.52	0/286	0.68	0/386
11	i	0.52	0/286	0.68	0/386
12	J	0.58	1/262 (0.4%)	0.70	0/354

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
12	j	0.58	1/262 (0.4%)	0.70	0/354
13	K	0.48	0/318	0.63	0/434
13	k	0.48	0/318	0.63	0/434
14	L	0.57	0/319	0.59	0/434
14	l	0.57	0/319	0.59	0/434
15	M	0.44	0/260	0.66	0/355
15	m	0.44	0/260	0.66	0/355
16	O	0.43	0/1906	0.60	0/2575
16	o	0.43	0/1906	0.60	0/2575
17	P	0.54	0/1464	0.63	0/1978
17	p	0.54	0/1464	0.63	0/1978
18	Q	0.29	0/1051	0.59	0/1414
18	q	0.29	0/1051	0.59	0/1414
19	R	0.50	0/1886	0.59	0/2569
19	r	0.50	0/1886	0.59	0/2569
20	S	0.43	0/1736	0.65	0/2359
20	s	0.43	0/1736	0.65	0/2359
21	T	0.46	0/269	0.51	0/365
21	t	0.46	0/269	0.51	0/365
22	W	0.55	0/429	0.63	0/581
22	w	0.55	0/429	0.63	0/581
23	X	0.33	0/279	0.48	0/380
23	x	0.33	0/279	0.48	0/380
24	Z	0.42	0/474	0.55	0/648
24	z	0.42	0/474	0.55	0/648
All	All	0.47	2/74830 (0.0%)	0.59	4/101774 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	j	11	TRP	CB-CG	-5.25	1.40	1.50
12	J	11	TRP	CB-CG	-5.24	1.40	1.50

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	6	197	GLN	CA-CB-CG	5.70	125.94	113.40
1	2	197	GLN	CA-CB-CG	5.69	125.92	113.40
4	A	140	ARG	NE-CZ-NH1	-5.28	117.66	120.30
4	a	140	ARG	NE-CZ-NH1	-5.28	117.66	120.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	1	217/232 (94%)	209 (96%)	8 (4%)	0	100	100
1	2	216/232 (93%)	210 (97%)	5 (2%)	1 (0%)	29	54
1	5	217/232 (94%)	209 (96%)	8 (4%)	0	100	100
1	6	216/232 (93%)	210 (97%)	5 (2%)	1 (0%)	29	54
1	G	217/232 (94%)	213 (98%)	4 (2%)	0	100	100
1	N	217/232 (94%)	214 (99%)	3 (1%)	0	100	100
1	Y	217/232 (94%)	213 (98%)	4 (2%)	0	100	100
1	g	217/232 (94%)	213 (98%)	4 (2%)	0	100	100
1	n	217/232 (94%)	214 (99%)	3 (1%)	0	100	100
1	y	217/232 (94%)	213 (98%)	4 (2%)	0	100	100
2	3	218/243 (90%)	209 (96%)	9 (4%)	0	100	100
2	7	218/243 (90%)	209 (96%)	9 (4%)	0	100	100
3	4	193/210 (92%)	179 (93%)	14 (7%)	0	100	100
3	8	193/210 (92%)	179 (93%)	14 (7%)	0	100	100
4	A	332/344 (96%)	326 (98%)	6 (2%)	0	100	100
4	a	332/344 (96%)	326 (98%)	6 (2%)	0	100	100
5	B	501/507 (99%)	493 (98%)	8 (2%)	0	100	100
5	b	501/507 (99%)	493 (98%)	8 (2%)	0	100	100
6	C	448/473 (95%)	441 (98%)	7 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	c	448/473 (95%)	442 (99%)	6 (1%)	0	100	100
7	D	339/353 (96%)	335 (99%)	4 (1%)	0	100	100
7	d	339/353 (96%)	335 (99%)	4 (1%)	0	100	100
8	E	73/83 (88%)	73 (100%)	0	0	100	100
8	e	73/83 (88%)	73 (100%)	0	0	100	100
9	F	28/39 (72%)	28 (100%)	0	0	100	100
9	f	28/39 (72%)	28 (100%)	0	0	100	100
10	H	58/73 (80%)	58 (100%)	0	0	100	100
10	h	58/73 (80%)	58 (100%)	0	0	100	100
11	I	32/36 (89%)	32 (100%)	0	0	100	100
11	i	32/36 (89%)	32 (100%)	0	0	100	100
12	J	33/40 (82%)	33 (100%)	0	0	100	100
12	j	33/40 (82%)	33 (100%)	0	0	100	100
13	K	35/61 (57%)	35 (100%)	0	0	100	100
13	k	35/61 (57%)	35 (100%)	0	0	100	100
14	L	35/38 (92%)	35 (100%)	0	0	100	100
14	l	35/38 (92%)	35 (100%)	0	0	100	100
15	M	31/34 (91%)	29 (94%)	2 (6%)	0	100	100
15	m	31/34 (91%)	29 (94%)	2 (6%)	0	100	100
16	O	246/248 (99%)	240 (98%)	6 (2%)	0	100	100
16	o	246/248 (99%)	240 (98%)	6 (2%)	0	100	100
17	P	184/186 (99%)	183 (100%)	1 (0%)	0	100	100
17	p	184/186 (99%)	183 (100%)	1 (0%)	0	100	100
18	Q	127/148 (86%)	125 (98%)	2 (2%)	0	100	100
18	q	127/148 (86%)	125 (98%)	2 (2%)	0	100	100
19	R	232/246 (94%)	228 (98%)	4 (2%)	0	100	100
19	r	232/246 (94%)	228 (98%)	4 (2%)	0	100	100
20	S	216/244 (88%)	209 (97%)	7 (3%)	0	100	100
20	s	216/244 (88%)	208 (96%)	8 (4%)	0	100	100
21	T	30/35 (86%)	30 (100%)	0	0	100	100
21	t	30/35 (86%)	30 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	W	52/54 (96%)	52 (100%)	0	0	100	100
22	w	52/54 (96%)	52 (100%)	0	0	100	100
23	X	37/86 (43%)	36 (97%)	1 (3%)	0	100	100
23	x	37/86 (43%)	36 (97%)	1 (3%)	0	100	100
24	Z	60/62 (97%)	60 (100%)	0	0	100	100
24	z	60/62 (97%)	60 (100%)	0	0	100	100
All	All	9248/10006 (92%)	9056 (98%)	190 (2%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	2	119	VAL
1	6	119	VAL

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	1	171/182 (94%)	171 (100%)	0	100	100
1	2	171/182 (94%)	171 (100%)	0	100	100
1	5	171/182 (94%)	171 (100%)	0	100	100
1	6	171/182 (94%)	171 (100%)	0	100	100
1	G	171/182 (94%)	171 (100%)	0	100	100
1	N	171/182 (94%)	171 (100%)	0	100	100
1	Y	171/182 (94%)	170 (99%)	1 (1%)	86	95
1	g	171/182 (94%)	171 (100%)	0	100	100
1	n	171/182 (94%)	171 (100%)	0	100	100
1	y	171/182 (94%)	170 (99%)	1 (1%)	86	95
2	3	175/193 (91%)	175 (100%)	0	100	100
2	7	175/193 (91%)	175 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	4	154/162 (95%)	154 (100%)	0	100	100
3	8	154/162 (95%)	154 (100%)	0	100	100
4	A	270/279 (97%)	269 (100%)	1 (0%)	91	97
4	a	270/279 (97%)	269 (100%)	1 (0%)	91	97
5	B	400/403 (99%)	397 (99%)	3 (1%)	81	93
5	b	400/403 (99%)	397 (99%)	3 (1%)	81	93
6	C	352/373 (94%)	350 (99%)	2 (1%)	86	95
6	c	352/373 (94%)	350 (99%)	2 (1%)	86	95
7	D	275/285 (96%)	274 (100%)	1 (0%)	91	97
7	d	275/285 (96%)	274 (100%)	1 (0%)	91	97
8	E	67/73 (92%)	66 (98%)	1 (2%)	65	86
8	e	67/73 (92%)	66 (98%)	1 (2%)	65	86
9	F	25/34 (74%)	25 (100%)	0	100	100
9	f	25/34 (74%)	25 (100%)	0	100	100
10	H	49/61 (80%)	48 (98%)	1 (2%)	55	81
10	h	49/61 (80%)	48 (98%)	1 (2%)	55	81
11	I	31/33 (94%)	31 (100%)	0	100	100
11	i	31/33 (94%)	31 (100%)	0	100	100
12	J	26/30 (87%)	26 (100%)	0	100	100
12	j	26/30 (87%)	26 (100%)	0	100	100
13	K	32/54 (59%)	32 (100%)	0	100	100
13	k	32/54 (59%)	32 (100%)	0	100	100
14	L	35/36 (97%)	35 (100%)	0	100	100
14	l	35/36 (97%)	35 (100%)	0	100	100
15	M	29/30 (97%)	29 (100%)	0	100	100
15	m	29/30 (97%)	29 (100%)	0	100	100
16	O	204/204 (100%)	204 (100%)	0	100	100
16	o	204/204 (100%)	204 (100%)	0	100	100
17	P	150/150 (100%)	150 (100%)	0	100	100
17	p	150/150 (100%)	150 (100%)	0	100	100
18	Q	112/125 (90%)	112 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	q	112/125 (90%)	112 (100%)	0	100	100
19	R	191/202 (95%)	190 (100%)	1 (0%)	88	96
19	r	191/202 (95%)	190 (100%)	1 (0%)	88	96
20	S	170/190 (90%)	170 (100%)	0	100	100
20	s	170/190 (90%)	170 (100%)	0	100	100
21	T	29/32 (91%)	29 (100%)	0	100	100
21	t	29/32 (91%)	29 (100%)	0	100	100
22	W	44/44 (100%)	44 (100%)	0	100	100
22	w	44/44 (100%)	44 (100%)	0	100	100
23	X	32/67 (48%)	32 (100%)	0	100	100
23	x	32/67 (48%)	32 (100%)	0	100	100
24	Z	54/54 (100%)	54 (100%)	0	100	100
24	z	54/54 (100%)	54 (100%)	0	100	100
All	All	7522/8048 (94%)	7500 (100%)	22 (0%)	92	98

5 of 22 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	b	385	ARG
7	d	181	ARG
6	c	391	ARG
8	e	18	ARG
7	D	181	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 58 such sidechains are listed below:

Mol	Chain	Res	Type
1	Y	88	ASN
19	r	56	ASN
4	a	234	ASN
19	r	47	GLN
9	f	38	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 490 ligands modelled in this entry, 6 are monoatomic - leaving 484 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
25	CHL	Y	608	42	66,74,74	1.80	13 (19%)	73,114,114	2.74	23 (31%)
29	NEX	r	623	-	38,46,46	1.04	3 (7%)	50,70,70	2.51	19 (38%)
31	BCR	C	516	-	41,41,41	0.74	0	56,56,56	1.98	17 (30%)
25	CHL	g	601	1	66,74,74	1.82	12 (18%)	73,114,114	2.90	24 (32%)
31	BCR	c	514	-	41,41,41	0.90	2 (4%)	56,56,56	1.74	13 (23%)
31	BCR	D	404	-	41,41,41	0.75	0	56,56,56	1.83	12 (21%)
26	CLA	4	612	3	45,53,73	1.77	7 (15%)	52,89,113	1.50	9 (17%)
26	CLA	b	610	5	65,73,73	1.41	9 (13%)	76,113,113	1.59	9 (11%)
26	CLA	6	614	1	45,53,73	1.82	6 (13%)	52,89,113	1.45	6 (11%)
26	CLA	3	603	2	55,63,73	1.56	11 (20%)	64,101,113	1.56	10 (15%)
31	BCR	B	620	-	41,41,41	0.79	0	56,56,56	1.99	16 (28%)
30	LHG	n	2630	26	48,48,48	0.66	1 (2%)	51,54,54	1.30	6 (11%)
26	CLA	n	613	1	60,68,73	1.49	8 (13%)	70,107,113	1.58	7 (10%)
25	CHL	4	601	3	44,53,74	2.42	16 (36%)	46,89,114	3.02	16 (34%)
26	CLA	B	612	5	65,73,73	1.50	8 (12%)	76,113,113	1.67	10 (13%)
27	LUT	2	1620	-	42,43,43	0.81	0	51,60,60	1.81	15 (29%)
32	OEX	a	401	6,4	0,15,15	-	-	-	-	-
36	SQD	b	621	-	53,54,54	0.94	4 (7%)	62,65,65	1.64	13 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	DGD	c	520	-	61,61,67	1.17	8 (13%)	75,75,81	1.47	12 (16%)
26	CLA	y	602	1	65,73,73	1.43	8 (12%)	76,113,113	1.53	10 (13%)
26	CLA	a	405	4	65,73,73	1.49	10 (15%)	76,113,113	1.67	12 (15%)
28	XAT	y	1622	-	39,47,47	1.08	3 (7%)	54,74,74	3.00	21 (38%)
26	CLA	1	612	1	45,53,73	1.84	10 (22%)	52,89,113	1.50	9 (17%)
26	CLA	3	610	2	60,68,73	1.57	9 (15%)	70,107,113	1.28	8 (11%)
26	CLA	1	602	1	61,69,73	1.51	10 (16%)	71,108,113	1.27	8 (11%)
26	CLA	R	609	19	58,66,73	1.62	8 (13%)	67,104,113	1.54	7 (10%)
26	CLA	8	611	30	45,53,73	1.81	8 (17%)	52,89,113	1.50	7 (13%)
26	CLA	s	609	20	45,53,73	1.81	6 (13%)	52,89,113	1.41	9 (17%)
25	CHL	y	608	42	66,74,74	1.80	13 (19%)	73,114,114	2.74	23 (31%)
30	LHG	C	523	-	48,48,48	0.66	1 (2%)	51,54,54	1.20	5 (9%)
26	CLA	S	612	20	49,57,73	1.64	7 (14%)	55,93,113	1.68	6 (10%)
26	CLA	7	611	30	55,63,73	1.66	10 (18%)	64,101,113	1.51	11 (17%)
25	CHL	1	605	1	46,54,74	2.25	15 (32%)	49,90,114	3.22	21 (42%)
25	CHL	8	601	3	44,53,74	2.43	16 (36%)	46,89,114	3.02	16 (34%)
25	CHL	6	608	-	46,54,74	2.23	15 (32%)	49,90,114	3.26	17 (34%)
36	SQD	B	621	-	53,54,54	0.94	4 (7%)	62,65,65	1.64	13 (20%)
26	CLA	g	614	1	48,56,73	1.74	6 (12%)	55,92,113	1.48	7 (12%)
25	CHL	3	605	2	46,54,74	2.29	15 (32%)	49,90,114	3.13	21 (42%)
26	CLA	G	612	1	60,68,73	1.54	8 (13%)	70,107,113	1.35	8 (11%)
26	CLA	d	402	7	65,73,73	1.55	10 (15%)	76,113,113	1.71	10 (13%)
27	LUT	3	1620	-	42,43,43	0.85	0	51,60,60	1.72	13 (25%)
25	CHL	G	601	1	66,74,74	1.82	12 (18%)	73,114,114	2.90	24 (32%)
26	CLA	B	602	42	65,73,73	1.50	9 (13%)	76,113,113	1.41	7 (9%)
25	CHL	3	607	-	53,61,74	2.24	16 (30%)	57,98,114	2.89	23 (40%)
27	LUT	7	1620	-	42,43,43	0.84	0	51,60,60	1.71	12 (23%)
26	CLA	C	501	6	65,73,73	1.48	9 (13%)	76,113,113	1.37	10 (13%)
27	LUT	n	1620	-	42,43,43	0.80	0	51,60,60	1.69	12 (23%)
28	XAT	6	1622	-	39,47,47	0.91	1 (2%)	54,74,74	2.81	21 (38%)
26	CLA	C	512	6	65,73,73	1.42	10 (15%)	76,113,113	1.51	8 (10%)
26	CLA	Y	612	1	60,68,73	1.57	9 (15%)	70,107,113	1.42	7 (10%)
27	LUT	S	1620	-	42,43,43	0.79	0	51,60,60	1.76	12 (23%)
26	CLA	S	613	20	55,63,73	1.56	7 (12%)	64,101,113	1.55	7 (10%)
29	NEX	1	1623	-	38,46,46	0.99	2 (5%)	50,70,70	2.42	15 (30%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	CLA	5	603	1	55,63,73	1.57	11 (20%)	64,101,113	1.57	9 (14%)
26	CLA	c	509	6	65,73,73	1.45	11 (16%)	76,113,113	1.73	11 (14%)
26	CLA	D	403	7	65,73,73	1.42	7 (10%)	76,113,113	1.69	11 (14%)
27	LUT	2	1621	-	42,43,43	0.84	1 (2%)	51,60,60	1.68	15 (29%)
25	CHL	r	608	42	61,69,74	1.90	10 (16%)	67,108,114	2.91	23 (34%)
27	LUT	Y	1620	-	42,43,43	0.87	1 (2%)	51,60,60	1.73	13 (25%)
30	LHG	4	2630	26	20,20,48	0.91	1 (5%)	23,26,54	1.30	2 (8%)
26	CLA	3	613	2	58,66,73	1.61	10 (17%)	67,104,113	1.42	8 (11%)
30	LHG	b	2630	-	46,46,48	0.66	1 (2%)	49,52,54	1.28	6 (12%)
26	CLA	C	510	6	65,73,73	1.44	7 (10%)	76,113,113	1.59	10 (13%)
29	NEX	6	1623	-	38,46,46	0.93	1 (2%)	50,70,70	2.38	15 (30%)
26	CLA	1	610	1	56,64,73	1.61	9 (16%)	65,102,113	1.25	6 (9%)
37	LMG	C	521	-	51,51,55	0.80	3 (5%)	59,59,63	1.38	6 (10%)
26	CLA	N	614	1	48,56,73	1.66	6 (12%)	55,92,113	1.68	8 (14%)
26	CLA	R	601	19	49,57,73	1.64	5 (10%)	55,93,113	1.92	11 (20%)
25	CHL	6	607	-	61,69,74	1.95	15 (24%)	67,108,114	2.73	21 (31%)
31	BCR	d	404	-	41,41,41	0.74	0	56,56,56	1.84	12 (21%)
37	LMG	d	411	-	46,46,55	0.92	3 (6%)	54,54,63	1.45	4 (7%)
26	CLA	c	508	6	65,73,73	1.47	11 (16%)	76,113,113	1.84	12 (15%)
26	CLA	B	615	5	65,73,73	1.40	10 (15%)	76,113,113	1.46	10 (13%)
25	CHL	G	608	42	66,74,74	1.84	16 (24%)	73,114,114	2.73	21 (28%)
26	CLA	1	603	1	55,63,73	1.57	11 (20%)	64,101,113	1.57	9 (14%)
26	CLA	c	511	6	65,73,73	1.45	8 (12%)	76,113,113	1.55	9 (11%)
26	CLA	y	612	1	60,68,73	1.57	9 (15%)	70,107,113	1.42	8 (11%)
37	LMG	b	622	-	51,51,55	0.83	1 (1%)	59,59,63	1.30	4 (6%)
29	NEX	N	1623	-	38,46,46	0.90	1 (2%)	50,70,70	2.36	15 (30%)
32	OEX	A	401	6,4	0,15,15	-	-	-	-	-
26	CLA	y	613	1	65,73,73	1.49	9 (13%)	76,113,113	1.43	9 (11%)
26	CLA	c	510	6	65,73,73	1.44	7 (10%)	76,113,113	1.58	10 (13%)
26	CLA	R	611	30	49,57,73	1.65	8 (16%)	55,93,113	1.75	12 (21%)
28	XAT	5	1622	-	39,47,47	0.90	0	54,74,74	2.77	22 (40%)
30	LHG	r	2630	26	41,41,48	0.70	1 (2%)	44,47,54	1.27	6 (13%)
31	BCR	c	516	-	41,41,41	0.73	0	56,56,56	1.98	17 (30%)
26	CLA	G	610	1	64,72,73	1.50	7 (10%)	74,111,113	1.37	8 (10%)
30	LHG	2	2630	26	36,36,48	0.74	1 (2%)	39,42,54	1.27	4 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	CLA	6	612	1	45,53,73	1.85	8 (17%)	52,89,113	1.50	8 (15%)
39	DGD	C	518	-	56,56,67	1.17	7 (12%)	70,70,81	1.56	13 (18%)
30	LHG	D	409	-	48,48,48	0.75	1 (2%)	51,54,54	1.31	7 (13%)
26	CLA	s	602	20	61,69,73	1.51	8 (13%)	71,108,113	1.46	11 (15%)
26	CLA	S	609	20	45,53,73	1.82	6 (13%)	52,89,113	1.41	9 (17%)
25	CHL	g	606	42	50,58,74	2.20	15 (30%)	52,94,114	3.06	22 (42%)
37	LMG	a	415	-	40,40,55	0.86	0	48,48,63	1.29	5 (10%)
27	LUT	6	1620	-	42,43,43	0.81	0	51,60,60	1.80	15 (29%)
26	CLA	b	612	5	65,73,73	1.50	8 (12%)	76,113,113	1.66	9 (11%)
26	CLA	g	602	1	65,73,73	1.45	8 (12%)	76,113,113	1.58	11 (14%)
26	CLA	b	613	5	65,73,73	1.47	9 (13%)	76,113,113	1.85	13 (17%)
25	CHL	5	607	-	63,71,74	1.89	13 (20%)	69,110,114	2.87	20 (28%)
26	CLA	6	611	30	45,53,73	1.79	8 (17%)	52,89,113	1.52	7 (13%)
26	CLA	7	610	2	60,68,73	1.58	9 (15%)	70,107,113	1.28	8 (11%)
26	CLA	a	406	42	65,73,73	1.42	8 (12%)	76,113,113	1.76	16 (21%)
26	CLA	c	504	42	65,73,73	1.40	10 (15%)	76,113,113	1.67	8 (10%)
30	LHG	C	2630	-	48,48,48	0.66	1 (2%)	51,54,54	1.31	7 (13%)
26	CLA	A	405	4	65,73,73	1.49	10 (15%)	76,113,113	1.68	12 (15%)
29	NEX	g	1623	-	38,46,46	1.00	3 (7%)	50,70,70	2.39	14 (28%)
26	CLA	C	511	6	65,73,73	1.44	8 (12%)	76,113,113	1.56	9 (11%)
26	CLA	s	614	20	49,57,73	1.63	6 (12%)	55,93,113	1.75	10 (18%)
30	LHG	Y	2630	26	48,48,48	0.79	2 (4%)	51,54,54	1.23	6 (11%)
30	LHG	s	2630	26	48,48,48	0.74	1 (2%)	51,54,54	1.26	7 (13%)
26	CLA	2	610	1	50,58,73	1.67	9 (18%)	58,95,113	1.37	9 (15%)
25	CHL	S	607	42	58,66,74	1.93	12 (20%)	63,104,114	2.86	20 (31%)
25	CHL	7	606	-	46,54,74	2.20	15 (32%)	49,90,114	3.15	19 (38%)
26	CLA	C	505	6	65,73,73	1.43	10 (15%)	76,113,113	1.75	11 (14%)
30	LHG	R	2630	26	41,41,48	0.70	1 (2%)	44,47,54	1.27	6 (13%)
30	LHG	y	2630	26	48,48,48	0.79	2 (4%)	51,54,54	1.23	6 (11%)
26	CLA	7	602	2	60,68,73	1.55	9 (15%)	70,107,113	1.34	8 (11%)
27	LUT	Y	1621	-	42,43,43	0.88	1 (2%)	51,60,60	1.69	13 (25%)
26	CLA	R	604	42	48,56,73	1.64	8 (16%)	55,92,113	1.77	10 (18%)
27	LUT	N	1620	-	42,43,43	0.81	0	51,60,60	1.69	12 (23%)
30	LHG	L	101	-	48,48,48	0.90	1 (2%)	51,54,54	1.31	6 (11%)
25	CHL	R	606	42	66,74,74	1.87	14 (21%)	73,114,114	2.78	22 (30%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	CLA	c	512	6	65,73,73	1.42	10 (15%)	76,113,113	1.51	7 (9%)
37	LMG	A	413	-	48,48,55	0.79	0	56,56,63	1.31	6 (10%)
26	CLA	c	502	6	65,73,73	1.40	9 (13%)	76,113,113	1.70	8 (10%)
28	XAT	G	1622	-	39,47,47	0.98	2 (5%)	54,74,74	2.91	23 (42%)
26	CLA	7	604	-	45,53,73	1.81	9 (20%)	52,89,113	1.51	7 (13%)
36	SQD	B	623	-	41,42,54	1.10	5 (12%)	50,53,65	1.77	10 (20%)
27	LUT	3	1621	-	42,43,43	0.85	1 (2%)	51,60,60	1.60	11 (21%)
26	CLA	2	612	1	45,53,73	1.85	7 (15%)	52,89,113	1.50	8 (15%)
26	CLA	g	612	1	60,68,73	1.55	7 (11%)	70,107,113	1.35	8 (11%)
25	CHL	4	606	-	46,54,74	2.29	15 (32%)	49,90,114	3.18	23 (46%)
26	CLA	2	604	-	45,53,73	1.81	8 (17%)	52,89,113	1.50	6 (11%)
25	CHL	8	606	-	46,54,74	2.29	15 (32%)	49,90,114	3.19	22 (44%)
40	BCT	D	401	33	2,3,3	1.32	0	2,3,3	4.20	2 (100%)
25	CHL	3	606	-	46,54,74	2.20	15 (32%)	49,90,114	3.15	19 (38%)
25	CHL	1	609	1	62,70,74	1.94	14 (22%)	68,109,114	2.72	20 (29%)
26	CLA	C	513	6	65,73,73	1.39	7 (10%)	76,113,113	1.60	14 (18%)
26	CLA	s	603	20	45,53,73	1.78	10 (22%)	52,89,113	1.92	12 (23%)
30	LHG	7	2630	26	46,46,48	0.70	1 (2%)	49,52,54	1.25	5 (10%)
26	CLA	B	611	42	65,73,73	1.45	10 (15%)	76,113,113	1.70	13 (17%)
27	LUT	n	1621	-	42,43,43	0.89	2 (4%)	51,60,60	1.83	14 (27%)
26	CLA	N	610	1	65,73,73	1.42	8 (12%)	76,113,113	1.42	10 (13%)
31	BCR	8	623	-	41,41,41	0.74	0	56,56,56	2.31	17 (30%)
25	CHL	7	609	2	61,69,74	2.02	15 (24%)	67,108,114	2.61	21 (31%)
25	CHL	4	608	-	46,54,74	2.16	14 (30%)	49,90,114	3.30	18 (36%)
27	LUT	G	1620	-	42,43,43	0.76	0	51,60,60	1.64	12 (23%)
26	CLA	4	602	3	45,53,73	1.75	9 (20%)	52,89,113	1.58	7 (13%)
25	CHL	4	607	-	46,54,74	2.31	15 (32%)	49,90,114	3.04	18 (36%)
25	CHL	1	601	1	46,54,74	2.35	15 (32%)	49,90,114	3.07	21 (42%)
26	CLA	b	609	5	65,73,73	1.40	8 (12%)	76,113,113	1.69	12 (15%)
25	CHL	n	605	1	48,56,74	2.20	14 (29%)	51,92,114	3.24	20 (39%)
27	LUT	s	1621	-	42,43,43	0.85	1 (2%)	51,60,60	1.78	17 (33%)
25	CHL	y	601	1	66,74,74	1.84	13 (19%)	73,114,114	2.86	22 (30%)
27	LUT	6	1621	-	42,43,43	0.84	1 (2%)	51,60,60	1.68	15 (29%)
30	LHG	3	2630	26	46,46,48	0.70	1 (2%)	49,52,54	1.24	5 (10%)
26	CLA	N	604	42	50,58,73	1.79	10 (20%)	58,95,113	1.74	9 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	CHL	2	606	-	46,54,74	2.26	15 (32%)	49,90,114	3.08	18 (36%)
26	CLA	y	604	42	50,58,73	1.73	10 (20%)	58,95,113	1.77	8 (13%)
25	CHL	2	601	1	46,54,74	2.26	13 (28%)	49,90,114	3.23	22 (44%)
39	DGD	C	520	-	61,61,67	1.17	8 (13%)	75,75,81	1.47	12 (16%)
27	LUT	y	1620	-	42,43,43	0.88	1 (2%)	51,60,60	1.72	13 (25%)
37	LMG	B	2633	-	55,55,55	0.78	3 (5%)	63,63,63	1.32	7 (11%)
26	CLA	5	602	1	61,69,73	1.51	10 (16%)	71,108,113	1.28	8 (11%)
26	CLA	B	605	5	65,73,73	1.54	11 (16%)	76,113,113	2.03	24 (31%)
28	XAT	R	622	-	39,47,47	0.97	1 (2%)	54,74,74	2.76	21 (38%)
31	BCR	B	619	-	41,41,41	0.80	0	56,56,56	1.81	17 (30%)
25	CHL	s	601	20	46,54,74	2.28	14 (30%)	49,90,114	3.12	20 (40%)
30	LHG	C	522	-	48,48,48	0.69	1 (2%)	51,54,54	1.26	6 (11%)
28	XAT	8	622	-	39,47,47	0.93	1 (2%)	54,74,74	2.62	21 (38%)
26	CLA	B	610	5	65,73,73	1.41	9 (13%)	76,113,113	1.60	9 (11%)
26	CLA	s	611	30	56,64,73	1.55	9 (16%)	65,102,113	1.48	7 (10%)
25	CHL	y	606	42	50,58,74	2.04	13 (26%)	52,94,114	3.18	19 (36%)
26	CLA	B	617	5	65,73,73	1.45	9 (13%)	76,113,113	1.62	11 (14%)
39	DGD	b	626	-	60,60,67	1.05	3 (5%)	74,74,81	1.39	12 (16%)
25	CHL	y	609	1	66,74,74	1.86	14 (21%)	73,114,114	2.72	22 (30%)
26	CLA	B	603	5	65,73,73	1.43	7 (10%)	76,113,113	1.51	8 (10%)
26	CLA	6	610	1	50,58,73	1.67	9 (18%)	58,95,113	1.37	9 (15%)
25	CHL	2	609	1	61,69,74	1.98	15 (24%)	67,108,114	2.74	20 (29%)
38	PL9	A	414	-	13,13,55	0.87	0	17,17,69	1.68	4 (23%)
41	HEM	f	101	9,8	41,50,50	1.46	4 (9%)	45,82,82	1.37	7 (15%)
37	LMG	z	101	-	51,51,55	0.84	1 (1%)	59,59,63	1.32	5 (8%)
26	CLA	B	614	5	65,73,73	1.43	9 (13%)	76,113,113	1.45	7 (9%)
25	CHL	r	614	19	42,50,74	2.33	14 (33%)	44,85,114	3.45	19 (43%)
26	CLA	N	612	1	60,68,73	1.55	7 (11%)	70,107,113	1.43	8 (11%)
26	CLA	B	616	5	65,73,73	1.46	10 (15%)	76,113,113	1.45	12 (15%)
26	CLA	r	613	19	60,68,73	1.59	8 (13%)	70,107,113	1.29	8 (11%)
26	CLA	n	603	1	65,73,73	1.55	10 (15%)	76,113,113	1.61	15 (19%)
26	CLA	1	614	1	45,53,73	1.79	7 (15%)	52,89,113	1.47	7 (13%)
26	CLA	3	611	30	55,63,73	1.66	10 (18%)	64,101,113	1.51	11 (17%)
29	NEX	G	1623	-	38,46,46	1.00	2 (5%)	50,70,70	2.39	14 (28%)
25	CHL	G	605	1	46,54,74	2.27	15 (32%)	49,90,114	3.33	20 (40%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	DGD	c	518	-	56,56,67	1.17	7 (12%)	70,70,81	1.56	12 (17%)
26	CLA	2	613	1	45,53,73	1.82	9 (20%)	52,89,113	1.43	7 (13%)
26	CLA	3	604	-	45,53,73	1.81	9 (20%)	52,89,113	1.51	6 (11%)
26	CLA	Y	602	1	65,73,73	1.43	8 (12%)	76,113,113	1.53	10 (13%)
28	XAT	Y	1622	-	39,47,47	1.08	4 (10%)	54,74,74	3.00	21 (38%)
39	DGD	C	519	-	63,63,67	1.11	5 (7%)	77,77,81	1.47	12 (15%)
26	CLA	5	614	1	45,53,73	1.79	7 (15%)	52,89,113	1.47	8 (15%)
36	SQD	a	418	-	53,54,54	0.92	5 (9%)	62,65,65	1.67	14 (22%)
26	CLA	g	604	42	50,58,73	1.78	10 (20%)	58,95,113	1.71	10 (17%)
26	CLA	r	603	19	60,68,73	1.45	9 (15%)	70,107,113	1.66	12 (17%)
25	CHL	3	601	2	64,72,74	1.91	12 (18%)	70,111,114	2.89	23 (32%)
31	BCR	C	515	-	41,41,41	0.93	2 (4%)	56,56,56	2.01	16 (28%)
26	CLA	C	507	42	65,73,73	1.47	12 (18%)	76,113,113	1.74	11 (14%)
29	NEX	5	1623	-	38,46,46	0.98	2 (5%)	50,70,70	2.41	16 (32%)
26	CLA	n	604	42	50,58,73	1.79	10 (20%)	58,95,113	1.75	9 (15%)
37	LMG	Z	101	-	51,51,55	0.84	1 (1%)	59,59,63	1.32	5 (8%)
30	LHG	1	2630	26	40,40,48	0.72	1 (2%)	43,46,54	1.34	6 (13%)
31	BCR	T	101	-	41,41,41	0.75	0	56,56,56	2.55	19 (33%)
26	CLA	N	602	1	65,73,73	1.44	8 (12%)	76,113,113	1.58	11 (14%)
28	XAT	N	1622	-	39,47,47	0.92	0	54,74,74	3.00	24 (44%)
26	CLA	r	610	19	65,73,73	1.48	9 (13%)	76,113,113	1.38	11 (14%)
30	LHG	d	409	-	48,48,48	0.75	1 (2%)	51,54,54	1.31	7 (13%)
26	CLA	5	610	1	56,64,73	1.61	9 (16%)	65,102,113	1.25	6 (9%)
25	CHL	1	608	-	46,54,74	2.17	14 (30%)	49,90,114	3.27	14 (28%)
41	HEM	F	101	9,8	41,50,50	1.46	4 (9%)	45,82,82	1.37	7 (15%)
25	CHL	3	609	2	61,69,74	2.02	14 (22%)	67,108,114	2.61	21 (31%)
26	CLA	N	613	1	60,68,73	1.49	8 (13%)	70,107,113	1.58	7 (10%)
26	CLA	N	603	1	65,73,73	1.54	11 (16%)	76,113,113	1.61	15 (19%)
26	CLA	b	606	5	65,73,73	1.54	12 (18%)	76,113,113	1.67	11 (14%)
27	LUT	S	1621	-	42,43,43	0.85	1 (2%)	51,60,60	1.78	17 (33%)
29	NEX	R	623	-	38,46,46	1.05	3 (7%)	50,70,70	2.51	19 (38%)
26	CLA	R	612	19	49,57,73	1.74	7 (14%)	55,93,113	1.61	7 (12%)
26	CLA	s	612	20	49,57,73	1.64	7 (14%)	55,93,113	1.68	6 (10%)
25	CHL	y	605	1	48,56,74	2.15	14 (29%)	51,92,114	3.33	17 (33%)
30	LHG	G	2630	26	48,48,48	0.66	1 (2%)	51,54,54	1.28	6 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	CLA	6	602	1	61,69,73	1.52	8 (13%)	71,108,113	1.34	8 (11%)
31	BCR	b	619	-	41,41,41	0.80	0	56,56,56	1.81	17 (30%)
25	CHL	5	601	1	46,54,74	2.34	15 (32%)	49,90,114	3.07	21 (42%)
30	LHG	c	2630	-	48,48,48	0.66	1 (2%)	51,54,54	1.31	7 (13%)
36	SQD	A	418	-	53,54,54	0.92	5 (9%)	62,65,65	1.67	14 (22%)
25	CHL	Y	605	1	48,56,74	2.15	14 (29%)	51,92,114	3.33	17 (33%)
25	CHL	4	609	3	46,54,74	2.31	15 (32%)	49,90,114	3.07	17 (34%)
31	BCR	b	618	-	41,41,41	0.84	1 (2%)	56,56,56	1.85	14 (25%)
38	PL9	D	405	-	55,55,55	1.83	12 (21%)	68,69,69	1.57	12 (17%)
26	CLA	8	612	3	45,53,73	1.78	7 (15%)	52,89,113	1.51	9 (17%)
26	CLA	8	604	-	45,53,73	1.81	8 (17%)	52,89,113	1.44	7 (13%)
30	LHG	B	2630	-	46,46,48	0.65	1 (2%)	49,52,54	1.28	6 (12%)
25	CHL	g	608	42	66,74,74	1.84	16 (24%)	73,114,114	2.73	21 (28%)
37	LMG	c	521	-	51,51,55	0.79	3 (5%)	59,59,63	1.37	6 (10%)
28	XAT	n	1622	-	39,47,47	0.93	0	54,74,74	3.00	24 (44%)
25	CHL	r	607	42	56,64,74	2.01	12 (21%)	61,102,114	3.09	21 (34%)
39	DGD	B	626	-	60,60,67	1.04	3 (5%)	74,74,81	1.39	12 (16%)
26	CLA	5	611	30	45,53,73	1.79	9 (20%)	52,89,113	1.42	6 (11%)
25	CHL	Y	606	42	50,58,74	2.04	13 (26%)	52,94,114	3.18	19 (36%)
26	CLA	S	602	20	61,69,73	1.51	8 (13%)	71,108,113	1.46	11 (15%)
26	CLA	4	610	3	45,53,73	1.81	9 (20%)	52,89,113	1.30	6 (11%)
25	CHL	5	609	1	62,70,74	1.93	14 (22%)	68,109,114	2.72	20 (29%)
37	LMG	a	413	-	48,48,55	0.79	0	56,56,63	1.31	6 (10%)
25	CHL	n	607	42	66,74,74	1.80	13 (19%)	73,114,114	2.84	20 (27%)
26	CLA	S	603	20	45,53,73	1.77	10 (22%)	52,89,113	1.92	12 (23%)
25	CHL	s	608	-	46,54,74	2.24	15 (32%)	49,90,114	3.15	16 (32%)
26	CLA	c	503	6	65,73,73	1.49	9 (13%)	76,113,113	1.44	9 (11%)
26	CLA	B	608	42	65,73,73	1.53	10 (15%)	76,113,113	1.68	11 (14%)
26	CLA	G	604	42	50,58,73	1.78	10 (20%)	58,95,113	1.71	10 (17%)
26	CLA	c	507	42	65,73,73	1.48	12 (18%)	76,113,113	1.73	11 (14%)
30	LHG	g	2630	26	48,48,48	0.66	1 (2%)	51,54,54	1.28	6 (11%)
25	CHL	Y	607	42	66,74,74	1.80	13 (19%)	73,114,114	2.72	21 (28%)
25	CHL	6	605	1	46,54,74	2.29	16 (34%)	49,90,114	3.15	19 (38%)
26	CLA	a	407	42	50,58,73	1.61	10 (20%)	58,95,113	1.67	10 (17%)
26	CLA	7	614	2	48,56,73	1.72	8 (16%)	55,92,113	1.28	7 (12%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	CLA	3	614	2	48,56,73	1.72	8 (16%)	55,92,113	1.28	7 (12%)
26	CLA	B	604	5	65,73,73	1.51	11 (16%)	76,113,113	1.46	10 (13%)
26	CLA	7	612	2	45,53,73	1.77	10 (22%)	52,89,113	1.51	10 (19%)
26	CLA	G	613	1	65,73,73	1.49	8 (12%)	76,113,113	1.36	7 (9%)
31	BCR	c	517	-	41,41,41	0.89	1 (2%)	56,56,56	2.09	11 (19%)
29	NEX	2	1623	-	38,46,46	0.93	1 (2%)	50,70,70	2.39	15 (30%)
26	CLA	7	613	2	58,66,73	1.61	10 (17%)	67,104,113	1.42	8 (11%)
26	CLA	C	506	6	65,73,73	1.45	10 (15%)	76,113,113	1.58	11 (14%)
27	LUT	1	1620	-	42,43,43	0.79	0	51,60,60	1.66	14 (27%)
26	CLA	c	501	6	65,73,73	1.48	9 (13%)	76,113,113	1.37	10 (13%)
26	CLA	a	410	4	60,68,73	1.48	10 (16%)	70,107,113	1.64	9 (12%)
26	CLA	r	604	42	48,56,73	1.64	8 (16%)	55,92,113	1.77	10 (18%)
38	PL9	d	405	-	55,55,55	1.83	12 (21%)	68,69,69	1.57	12 (17%)
26	CLA	R	613	19	60,68,73	1.59	7 (11%)	70,107,113	1.28	8 (11%)
25	CHL	6	601	1	46,54,74	2.26	13 (28%)	49,90,114	3.22	22 (44%)
30	LHG	c	523	-	48,48,48	0.66	1 (2%)	51,54,54	1.20	5 (9%)
27	LUT	r	620	-	42,43,43	0.87	2 (4%)	51,60,60	1.82	14 (27%)
25	CHL	S	601	20	46,54,74	2.28	13 (28%)	49,90,114	3.13	20 (40%)
25	CHL	g	605	1	46,54,74	2.27	15 (32%)	49,90,114	3.32	20 (40%)
26	CLA	B	613	5	65,73,73	1.48	9 (13%)	76,113,113	1.84	13 (17%)
25	CHL	7	607	-	53,61,74	2.24	16 (30%)	57,98,114	2.88	23 (40%)
26	CLA	A	407	42	50,58,73	1.61	10 (20%)	58,95,113	1.68	10 (17%)
31	BCR	b	620	-	41,41,41	0.80	0	56,56,56	1.99	16 (28%)
26	CLA	B	607	5	65,73,73	1.50	11 (16%)	76,113,113	1.60	12 (15%)
27	LUT	g	1620	-	42,43,43	0.77	0	51,60,60	1.63	12 (23%)
26	CLA	5	612	1	45,53,73	1.84	10 (22%)	52,89,113	1.50	9 (17%)
26	CLA	Y	614	1	48,56,73	1.67	10 (20%)	55,92,113	1.60	9 (16%)
25	CHL	R	607	42	56,64,74	2.01	13 (23%)	61,102,114	3.09	21 (34%)
25	CHL	s	607	42	58,66,74	1.93	12 (20%)	63,104,114	2.86	20 (31%)
30	LHG	l	101	-	48,48,48	0.90	1 (2%)	51,54,54	1.31	7 (13%)
35	PHO	a	408	-	51,69,69	1.13	6 (11%)	47,99,99	1.46	10 (21%)
31	BCR	C	514	-	41,41,41	0.90	1 (2%)	56,56,56	1.75	13 (23%)
26	CLA	5	613	1	55,63,73	1.65	9 (16%)	64,101,113	1.35	6 (9%)
26	CLA	Y	611	30	60,68,73	1.58	9 (15%)	70,107,113	1.53	9 (12%)
30	LHG	N	2630	26	48,48,48	0.66	1 (2%)	51,54,54	1.30	6 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	CHL	G	609	1	61,69,74	1.93	14 (22%)	67,108,114	2.78	22 (32%)
26	CLA	c	513	6	65,73,73	1.39	7 (10%)	76,113,113	1.60	14 (18%)
30	LHG	B	2631	-	48,48,48	0.68	2 (4%)	51,54,54	1.22	6 (11%)
38	PL9	a	414	-	13,13,55	0.87	0	17,17,69	1.68	4 (23%)
26	CLA	Y	604	42	50,58,73	1.73	10 (20%)	58,95,113	1.77	8 (13%)
35	PHO	A	408	-	51,69,69	1.13	6 (11%)	47,99,99	1.46	11 (23%)
27	LUT	N	1621	-	42,43,43	0.89	2 (4%)	51,60,60	1.83	14 (27%)
26	CLA	A	410	4	60,68,73	1.48	10 (16%)	70,107,113	1.63	9 (12%)
26	CLA	r	609	19	58,66,73	1.62	8 (13%)	67,104,113	1.54	7 (10%)
25	CHL	8	607	-	46,54,74	2.31	15 (32%)	49,90,114	3.05	18 (36%)
25	CHL	7	608	-	46,54,74	2.20	15 (32%)	49,90,114	3.28	19 (38%)
29	NEX	7	1623	-	38,46,46	0.87	1 (2%)	50,70,70	2.39	16 (32%)
25	CHL	Y	609	1	66,74,74	1.86	14 (21%)	73,114,114	2.72	22 (30%)
25	CHL	Y	601	1	66,74,74	1.84	13 (19%)	73,114,114	2.86	22 (30%)
27	LUT	s	1620	-	42,43,43	0.78	0	51,60,60	1.76	12 (23%)
28	XAT	g	1622	-	39,47,47	0.98	2 (5%)	54,74,74	2.91	22 (40%)
26	CLA	g	613	1	65,73,73	1.49	8 (12%)	76,113,113	1.35	7 (9%)
26	CLA	b	616	5	65,73,73	1.46	10 (15%)	76,113,113	1.45	12 (15%)
25	CHL	N	605	1	48,56,74	2.19	14 (29%)	51,92,114	3.24	20 (39%)
26	CLA	d	403	7	65,73,73	1.42	7 (10%)	76,113,113	1.69	11 (14%)
27	LUT	R	620	-	42,43,43	0.86	2 (4%)	51,60,60	1.82	14 (27%)
26	CLA	4	603	3	45,53,73	1.80	9 (20%)	52,89,113	1.60	8 (15%)
27	LUT	1	1621	-	42,43,43	0.90	2 (4%)	51,60,60	1.73	15 (29%)
26	CLA	3	602	2	60,68,73	1.55	9 (15%)	70,107,113	1.34	8 (11%)
26	CLA	1	611	30	45,53,73	1.79	9 (20%)	52,89,113	1.41	6 (11%)
26	CLA	D	402	7	65,73,73	1.55	10 (15%)	76,113,113	1.71	10 (13%)
40	BCT	d	401	33	2,3,3	1.32	0	2,3,3	4.19	2 (100%)
31	BCR	c	515	-	41,41,41	0.93	2 (4%)	56,56,56	2.01	16 (28%)
29	NEX	3	1623	-	38,46,46	0.87	1 (2%)	50,70,70	2.40	16 (32%)
25	CHL	6	606	-	46,54,74	2.27	15 (32%)	49,90,114	3.09	17 (34%)
26	CLA	G	603	1	65,73,73	1.52	11 (16%)	76,113,113	1.58	13 (17%)
26	CLA	B	609	5	65,73,73	1.40	8 (12%)	76,113,113	1.68	12 (15%)
27	LUT	8	620	-	42,43,43	0.80	0	51,60,60	1.87	18 (35%)
30	LHG	5	2630	26	40,40,48	0.72	1 (2%)	43,46,54	1.33	6 (13%)
26	CLA	n	602	1	65,73,73	1.44	8 (12%)	76,113,113	1.58	11 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	CLA	n	614	1	48,56,73	1.66	6 (12%)	55,92,113	1.69	8 (14%)
26	CLA	b	603	5	65,73,73	1.42	7 (10%)	76,113,113	1.51	8 (10%)
31	BCR	h	101	-	41,41,41	0.78	0	56,56,56	1.89	10 (17%)
31	BCR	C	517	-	41,41,41	0.89	1 (2%)	56,56,56	2.08	11 (19%)
26	CLA	C	508	6	65,73,73	1.47	11 (16%)	76,113,113	1.84	11 (14%)
31	BCR	H	101	-	41,41,41	0.78	0	56,56,56	1.90	10 (17%)
26	CLA	6	604	-	45,53,73	1.81	8 (17%)	52,89,113	1.50	6 (11%)
29	NEX	n	1623	-	38,46,46	0.90	1 (2%)	50,70,70	2.36	15 (30%)
30	LHG	S	2630	26	48,48,48	0.73	1 (2%)	51,54,54	1.26	7 (13%)
26	CLA	G	611	30	60,68,73	1.61	7 (11%)	70,107,113	1.60	7 (10%)
25	CHL	5	608	-	46,54,74	2.17	14 (30%)	49,90,114	3.26	14 (28%)
25	CHL	7	605	2	46,54,74	2.29	15 (32%)	49,90,114	3.13	21 (42%)
25	CHL	G	606	42	50,58,74	2.21	15 (30%)	52,94,114	3.06	22 (42%)
26	CLA	4	611	30	45,53,73	1.81	8 (17%)	52,89,113	1.49	7 (13%)
25	CHL	7	601	2	64,72,74	1.91	12 (18%)	70,111,114	2.88	23 (32%)
25	CHL	2	608	-	46,54,74	2.23	15 (32%)	49,90,114	3.26	17 (34%)
26	CLA	n	610	1	65,73,73	1.43	8 (12%)	76,113,113	1.42	10 (13%)
36	SQD	a	412	-	49,50,54	0.96	6 (12%)	58,61,65	1.75	11 (18%)
25	CHL	y	607	42	66,74,74	1.80	13 (19%)	73,114,114	2.72	21 (28%)
26	CLA	c	505	6	65,73,73	1.43	10 (15%)	76,113,113	1.75	11 (14%)
25	CHL	2	607	-	61,69,74	1.96	15 (24%)	67,108,114	2.73	21 (31%)
29	NEX	Y	1623	-	38,46,46	0.94	2 (5%)	50,70,70	2.59	18 (36%)
29	NEX	s	1623	-	38,46,46	0.90	2 (5%)	50,70,70	2.24	15 (30%)
26	CLA	Y	610	1	60,68,73	1.55	10 (16%)	70,107,113	1.28	8 (11%)
26	CLA	C	504	42	65,73,73	1.40	10 (15%)	76,113,113	1.68	8 (10%)
31	BCR	a	411	-	41,41,41	0.79	0	56,56,56	1.78	13 (23%)
26	CLA	b	602	42	65,73,73	1.50	9 (13%)	76,113,113	1.41	7 (9%)
26	CLA	g	603	1	65,73,73	1.52	11 (16%)	76,113,113	1.58	13 (17%)
26	CLA	S	610	20	55,63,73	1.63	8 (14%)	64,101,113	1.58	10 (15%)
25	CHL	n	608	42	66,74,74	1.82	13 (19%)	73,114,114	2.77	25 (34%)
26	CLA	r	616	19	45,53,73	1.82	7 (15%)	52,89,113	1.44	5 (9%)
25	CHL	N	606	42	50,58,74	2.16	15 (30%)	52,94,114	3.03	21 (40%)
25	CHL	l	606	-	46,54,74	2.24	15 (32%)	49,90,114	3.08	20 (40%)
25	CHL	N	609	1	66,74,74	1.88	14 (21%)	73,114,114	2.72	23 (31%)
26	CLA	c	506	6	65,73,73	1.45	10 (15%)	76,113,113	1.58	10 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	CHL	n	601	1	66,74,74	1.85	14 (21%)	73,114,114	2.82	23 (31%)
26	CLA	1	613	1	55,63,73	1.64	9 (16%)	64,101,113	1.34	6 (9%)
27	LUT	4	620	-	42,43,43	0.80	0	51,60,60	1.87	18 (35%)
26	CLA	5	604	-	50,58,73	1.74	9 (18%)	58,95,113	1.52	9 (15%)
27	LUT	g	1621	-	42,43,43	0.89	1 (2%)	51,60,60	1.95	17 (33%)
25	CHL	S	608	-	46,54,74	2.25	15 (32%)	49,90,114	3.15	16 (32%)
25	CHL	6	609	1	61,69,74	1.98	14 (22%)	67,108,114	2.74	20 (29%)
28	XAT	3	1622	-	39,47,47	1.03	2 (5%)	54,74,74	2.85	24 (44%)
25	CHL	N	608	42	66,74,74	1.82	13 (19%)	73,114,114	2.77	25 (34%)
29	NEX	y	1623	-	38,46,46	0.94	2 (5%)	50,70,70	2.59	18 (36%)
30	LHG	d	410	-	42,42,48	0.68	1 (2%)	45,48,54	1.22	4 (8%)
26	CLA	B	606	5	65,73,73	1.54	12 (18%)	76,113,113	1.67	11 (14%)
25	CHL	r	606	42	66,74,74	1.87	14 (21%)	73,114,114	2.78	22 (30%)
26	CLA	S	604	42	50,58,73	1.64	7 (14%)	58,95,113	1.96	8 (13%)
26	CLA	C	509	6	65,73,73	1.45	11 (16%)	76,113,113	1.73	11 (14%)
26	CLA	r	602	19	60,68,73	1.50	7 (11%)	70,107,113	1.65	9 (12%)
25	CHL	N	607	42	66,74,74	1.80	13 (19%)	73,114,114	2.84	20 (27%)
26	CLA	C	503	6	65,73,73	1.48	9 (13%)	76,113,113	1.43	10 (13%)
26	CLA	C	502	6	65,73,73	1.40	9 (13%)	76,113,113	1.70	9 (11%)
26	CLA	2	602	1	61,69,73	1.52	8 (13%)	71,108,113	1.34	8 (11%)
26	CLA	n	611	30	60,68,73	1.55	7 (11%)	70,107,113	1.45	7 (10%)
26	CLA	8	610	3	45,53,73	1.81	9 (20%)	52,89,113	1.30	6 (11%)
25	CHL	2	605	1	46,54,74	2.30	16 (34%)	49,90,114	3.15	19 (38%)
26	CLA	b	615	5	65,73,73	1.40	10 (15%)	76,113,113	1.46	10 (13%)
26	CLA	b	604	5	65,73,73	1.50	11 (16%)	76,113,113	1.46	10 (13%)
26	CLA	1	604	-	50,58,73	1.74	9 (18%)	58,95,113	1.52	9 (15%)
26	CLA	b	608	42	65,73,73	1.53	10 (15%)	76,113,113	1.69	11 (14%)
26	CLA	8	603	3	45,53,73	1.80	9 (20%)	52,89,113	1.60	8 (15%)
26	CLA	s	610	20	55,63,73	1.63	8 (14%)	64,101,113	1.58	10 (15%)
25	CHL	n	606	42	50,58,74	2.16	15 (30%)	52,94,114	3.04	21 (40%)
25	CHL	n	609	1	66,74,74	1.88	14 (21%)	73,114,114	2.72	23 (31%)
31	BCR	A	411	-	41,41,41	0.79	0	56,56,56	1.78	13 (23%)
26	CLA	G	602	1	65,73,73	1.45	8 (12%)	76,113,113	1.59	11 (14%)
25	CHL	5	606	-	46,54,74	2.24	15 (32%)	49,90,114	3.08	20 (40%)
30	LHG	b	2631	-	48,48,48	0.68	2 (4%)	51,54,54	1.22	6 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
31	BCR	4	623	-	41,41,41	0.74	0	56,56,56	2.31	17 (30%)
26	CLA	b	607	5	65,73,73	1.50	11 (16%)	76,113,113	1.60	13 (17%)
25	CHL	s	606	42	46,54,74	2.27	15 (32%)	49,90,114	3.37	19 (38%)
26	CLA	7	603	2	55,63,73	1.56	11 (20%)	64,101,113	1.57	10 (15%)
26	CLA	Y	613	1	65,73,73	1.48	9 (13%)	76,113,113	1.43	9 (11%)
37	LMG	D	411	-	46,46,55	0.92	3 (6%)	54,54,63	1.46	4 (7%)
25	CHL	S	606	42	46,54,74	2.27	15 (32%)	49,90,114	3.37	19 (38%)
30	LHG	c	522	-	48,48,48	0.69	1 (2%)	51,54,54	1.26	6 (11%)
26	CLA	R	602	19	60,68,73	1.49	6 (10%)	70,107,113	1.64	9 (12%)
36	SQD	b	623	-	41,42,54	1.09	5 (12%)	50,53,65	1.77	10 (20%)
26	CLA	G	614	1	48,56,73	1.73	6 (12%)	55,92,113	1.48	7 (12%)
27	LUT	5	1620	-	42,43,43	0.80	0	51,60,60	1.66	15 (29%)
25	CHL	R	608	42	61,69,74	1.90	10 (16%)	67,108,114	2.92	24 (35%)
26	CLA	Y	603	1	65,73,73	1.59	10 (15%)	76,113,113	1.56	13 (17%)
26	CLA	4	604	-	45,53,73	1.81	8 (17%)	52,89,113	1.45	7 (13%)
35	PHO	A	409	-	51,69,69	1.09	4 (7%)	47,99,99	1.36	7 (14%)
25	CHL	N	601	1	66,74,74	1.84	14 (21%)	73,114,114	2.82	23 (31%)
31	BCR	B	618	-	41,41,41	0.84	1 (2%)	56,56,56	1.85	14 (25%)
26	CLA	8	602	3	45,53,73	1.75	9 (20%)	52,89,113	1.59	7 (13%)
26	CLA	S	614	20	49,57,73	1.62	6 (12%)	55,93,113	1.76	10 (18%)
26	CLA	n	612	1	60,68,73	1.55	7 (11%)	70,107,113	1.43	8 (11%)
35	PHO	a	409	-	51,69,69	1.09	4 (7%)	47,99,99	1.36	7 (14%)
26	CLA	3	612	2	45,53,73	1.78	10 (22%)	52,89,113	1.51	10 (19%)
28	XAT	4	622	-	39,47,47	0.93	1 (2%)	54,74,74	2.62	21 (38%)
25	CHL	8	608	-	46,54,74	2.16	14 (30%)	49,90,114	3.32	18 (36%)
29	NEX	S	1623	-	38,46,46	0.91	2 (5%)	50,70,70	2.24	15 (30%)
28	XAT	1	1622	-	39,47,47	0.90	0	54,74,74	2.77	22 (40%)
27	LUT	7	1621	-	42,43,43	0.86	1 (2%)	51,60,60	1.60	11 (21%)
26	CLA	N	611	30	60,68,73	1.54	7 (11%)	70,107,113	1.45	7 (10%)
30	LHG	D	410	-	42,42,48	0.68	1 (2%)	45,48,54	1.22	4 (8%)
39	DGD	h	102	-	63,63,67	1.08	7 (11%)	77,77,81	1.41	11 (14%)
26	CLA	r	612	19	49,57,73	1.74	7 (14%)	55,93,113	1.61	7 (12%)
25	CHL	g	607	42	66,74,74	1.88	13 (19%)	73,114,114	2.66	22 (30%)
26	CLA	s	604	42	50,58,73	1.65	7 (14%)	58,95,113	1.97	9 (15%)
31	BCR	t	101	-	41,41,41	0.76	0	56,56,56	2.55	19 (33%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	LMG	B	622	-	51,51,55	0.83	1 (1%)	59,59,63	1.30	4 (6%)
26	CLA	A	406	42	65,73,73	1.42	8 (12%)	76,113,113	1.76	16 (21%)
39	DGD	H	102	-	63,63,67	1.08	7 (11%)	77,77,81	1.40	11 (14%)
26	CLA	g	611	30	60,68,73	1.61	7 (11%)	70,107,113	1.60	7 (10%)
26	CLA	6	613	1	45,53,73	1.82	9 (20%)	52,89,113	1.43	7 (13%)
30	LHG	d	408	-	45,45,48	0.78	1 (2%)	48,51,54	1.28	5 (10%)
26	CLA	g	610	1	64,72,73	1.50	6 (9%)	74,111,113	1.37	8 (10%)
37	LMG	b	2633	-	55,55,55	0.78	3 (5%)	63,63,63	1.32	7 (11%)
25	CHL	5	605	1	46,54,74	2.25	15 (32%)	49,90,114	3.21	21 (42%)
26	CLA	2	603	1	55,63,73	1.63	10 (18%)	64,101,113	1.52	10 (15%)
25	CHL	R	614	19	42,50,74	2.32	14 (33%)	44,85,114	3.45	19 (43%)
26	CLA	y	614	1	48,56,73	1.67	10 (20%)	55,92,113	1.60	9 (16%)
37	LMG	A	415	-	40,40,55	0.86	0	48,48,63	1.28	5 (10%)
25	CHL	1	607	-	63,71,74	1.89	13 (20%)	69,110,114	2.87	20 (28%)
26	CLA	2	614	1	45,53,73	1.82	6 (13%)	52,89,113	1.45	7 (13%)
26	CLA	b	611	42	65,73,73	1.44	10 (15%)	76,113,113	1.69	13 (17%)
28	XAT	r	622	-	39,47,47	0.97	1 (2%)	54,74,74	2.77	21 (38%)
25	CHL	8	609	3	46,54,74	2.31	15 (32%)	49,90,114	3.08	17 (34%)
26	CLA	s	613	20	55,63,73	1.56	7 (12%)	64,101,113	1.55	7 (10%)
30	LHG	8	2630	26	20,20,48	0.91	0	23,26,54	1.29	2 (8%)
36	SQD	A	412	-	49,50,54	0.96	6 (12%)	58,61,65	1.74	11 (18%)
27	LUT	G	1621	-	42,43,43	0.89	1 (2%)	51,60,60	1.96	17 (33%)
26	CLA	r	601	19	49,57,73	1.64	5 (10%)	55,93,113	1.92	11 (20%)
26	CLA	b	605	5	65,73,73	1.55	11 (16%)	76,113,113	2.03	24 (31%)
26	CLA	R	603	19	60,68,73	1.45	9 (15%)	70,107,113	1.67	12 (17%)
25	CHL	3	608	-	46,54,74	2.20	15 (32%)	49,90,114	3.28	18 (36%)
26	CLA	R	610	19	65,73,73	1.47	9 (13%)	76,113,113	1.38	11 (14%)
26	CLA	y	611	30	60,68,73	1.58	9 (15%)	70,107,113	1.53	9 (12%)
26	CLA	y	610	1	60,68,73	1.55	10 (16%)	70,107,113	1.28	8 (11%)
27	LUT	5	1621	-	42,43,43	0.90	2 (4%)	51,60,60	1.73	15 (29%)
28	XAT	7	1622	-	39,47,47	1.03	2 (5%)	54,74,74	2.85	24 (44%)
26	CLA	b	617	5	65,73,73	1.45	9 (13%)	76,113,113	1.62	11 (14%)
26	CLA	R	616	19	45,53,73	1.83	7 (15%)	52,89,113	1.44	5 (9%)
25	CHL	g	609	1	61,69,74	1.93	14 (22%)	67,108,114	2.78	22 (32%)
25	CHL	G	607	42	66,74,74	1.88	13 (19%)	73,114,114	2.66	23 (31%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
30	LHG	D	408	-	45,45,48	0.77	1 (2%)	48,51,54	1.28	5 (10%)
26	CLA	r	611	30	49,57,73	1.65	8 (16%)	55,93,113	1.74	12 (21%)
26	CLA	y	603	1	65,73,73	1.59	10 (15%)	76,113,113	1.56	13 (17%)
26	CLA	b	614	5	65,73,73	1.43	10 (15%)	76,113,113	1.45	7 (9%)
28	XAT	2	1622	-	39,47,47	0.91	1 (2%)	54,74,74	2.82	21 (38%)
27	LUT	y	1621	-	42,43,43	0.88	1 (2%)	51,60,60	1.69	13 (25%)
26	CLA	2	611	30	45,53,73	1.79	7 (15%)	52,89,113	1.53	7 (13%)
39	DGD	c	519	-	63,63,67	1.11	5 (7%)	77,77,81	1.47	12 (15%)
26	CLA	S	611	30	56,64,73	1.55	9 (16%)	65,102,113	1.47	7 (10%)
30	LHG	6	2630	26	36,36,48	0.74	1 (2%)	39,42,54	1.27	4 (10%)
26	CLA	6	603	1	55,63,73	1.63	11 (20%)	64,101,113	1.53	10 (15%)

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
25	CHL	Y	608	42	4/4/20/26	15/39/137/137	-
29	NEX	r	623	-	-	4/27/83/83	0/3/3/3
31	BCR	C	516	-	-	7/29/63/63	0/2/2/2
25	CHL	g	601	1	4/4/20/26	16/39/137/137	-
31	BCR	c	514	-	-	4/29/63/63	0/2/2/2
31	BCR	D	404	-	-	7/29/63/63	0/2/2/2
26	CLA	4	612	3	1/1/11/20	5/13/91/115	-
26	CLA	b	610	5	-	11/37/115/115	-
26	CLA	6	614	1	1/1/11/20	5/13/91/115	-
26	CLA	3	603	2	1/1/13/20	13/25/103/115	-
31	BCR	B	620	-	-	6/29/63/63	0/2/2/2
30	LHG	n	2630	26	-	24/53/53/53	-
26	CLA	n	613	1	1/1/14/20	8/31/109/115	-
25	CHL	4	601	3	3/3/16/26	7/13/111/137	-
26	CLA	B	612	5	1/1/15/20	13/37/115/115	-
27	LUT	2	1620	-	-	2/29/67/67	0/2/2/2
36	SQD	b	621	-	-	32/49/69/69	0/1/1/1
39	DGD	c	520	-	-	21/49/89/95	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	y	602	1	1/1/15/20	10/37/115/115	-
26	CLA	a	405	4	1/1/15/20	7/37/115/115	-
28	XAT	y	1622	-	-	2/31/93/93	0/4/4/4
26	CLA	1	612	1	1/1/11/20	3/13/91/115	-
26	CLA	3	610	2	1/1/14/20	7/31/109/115	-
26	CLA	1	602	1	1/1/14/20	12/33/111/115	-
26	CLA	R	609	19	1/1/13/20	3/29/107/115	-
26	CLA	8	611	30	1/1/11/20	4/13/91/115	-
26	CLA	s	609	20	1/1/11/20	5/13/91/115	-
25	CHL	y	608	42	4/4/20/26	15/39/137/137	-
30	LHG	C	523	-	-	21/53/53/53	-
26	CLA	S	612	20	1/1/11/20	5/18/96/115	-
26	CLA	7	611	30	1/1/13/20	7/25/103/115	-
25	CHL	1	605	1	3/3/16/26	8/15/113/137	-
25	CHL	8	601	3	3/3/16/26	7/13/111/137	-
25	CHL	6	608	-	3/3/16/26	7/15/113/137	-
36	SQD	B	621	-	-	32/49/69/69	0/1/1/1
26	CLA	g	614	1	1/1/11/20	3/17/95/115	-
25	CHL	3	605	2	3/3/16/26	9/15/113/137	-
26	CLA	G	612	1	1/1/14/20	11/31/109/115	-
26	CLA	d	402	7	1/1/15/20	4/37/115/115	-
27	LUT	3	1620	-	-	2/29/67/67	0/2/2/2
25	CHL	G	601	1	4/4/20/26	16/39/137/137	-
26	CLA	B	602	42	1/1/15/20	15/37/115/115	-
25	CHL	3	607	-	3/3/17/26	8/24/122/137	-
27	LUT	7	1620	-	-	2/29/67/67	0/2/2/2
26	CLA	C	501	6	1/1/15/20	17/37/115/115	-
27	LUT	n	1620	-	-	2/29/67/67	0/2/2/2
28	XAT	6	1622	-	-	3/31/93/93	0/4/4/4
26	CLA	C	512	6	1/1/15/20	11/37/115/115	-
26	CLA	Y	612	1	1/1/14/20	15/31/109/115	-
27	LUT	S	1620	-	-	2/29/67/67	0/2/2/2
26	CLA	S	613	20	1/1/13/20	6/25/103/115	-
29	NEX	1	1623	-	-	6/27/83/83	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	5	603	1	1/1/13/20	12/25/103/115	-
26	CLA	c	509	6	1/1/15/20	8/37/115/115	-
26	CLA	D	403	7	-	12/37/115/115	-
27	LUT	2	1621	-	-	3/29/67/67	0/2/2/2
25	CHL	r	608	42	4/4/19/26	17/33/131/137	-
27	LUT	Y	1620	-	-	2/29/67/67	0/2/2/2
30	LHG	4	2630	26	-	8/23/23/53	-
26	CLA	3	613	2	1/1/13/20	9/29/107/115	-
30	LHG	b	2630	-	-	31/51/51/53	-
26	CLA	C	510	6	1/1/15/20	15/37/115/115	-
29	NEX	6	1623	-	-	7/27/83/83	0/3/3/3
26	CLA	1	610	1	1/1/13/20	5/27/105/115	-
37	LMG	C	521	-	-	22/46/66/70	0/1/1/1
26	CLA	N	614	1	1/1/11/20	6/17/95/115	-
26	CLA	R	601	19	1/1/11/20	14/18/96/115	-
25	CHL	6	607	-	4/4/19/26	14/33/131/137	-
31	BCR	d	404	-	-	7/29/63/63	0/2/2/2
37	LMG	d	411	-	-	15/41/61/70	0/1/1/1
26	CLA	y	612	1	1/1/14/20	15/31/109/115	-
26	CLA	B	615	5	1/1/15/20	13/37/115/115	-
25	CHL	G	608	42	4/4/20/26	15/39/137/137	-
26	CLA	1	603	1	1/1/13/20	12/25/103/115	-
26	CLA	c	508	6	1/1/15/20	11/37/115/115	-
26	CLA	c	511	6	1/1/15/20	14/37/115/115	-
37	LMG	b	622	-	-	23/46/66/70	0/1/1/1
29	NEX	N	1623	-	-	4/27/83/83	0/3/3/3
26	CLA	y	613	1	1/1/15/20	10/37/115/115	-
26	CLA	c	510	6	1/1/15/20	14/37/115/115	-
26	CLA	R	611	30	1/1/11/20	8/18/96/115	-
28	XAT	5	1622	-	-	2/31/93/93	0/4/4/4
30	LHG	r	2630	26	-	19/46/46/53	-
31	BCR	c	516	-	-	7/29/63/63	0/2/2/2
26	CLA	G	610	1	1/1/14/20	13/36/114/115	-
30	LHG	2	2630	26	-	16/41/41/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	6	612	1	1/1/11/20	5/13/91/115	-
39	DGD	C	518	-	-	15/44/84/95	0/2/2/2
30	LHG	D	409	-	-	27/53/53/53	-
26	CLA	s	602	20	1/1/14/20	14/33/111/115	-
26	CLA	S	609	20	1/1/11/20	5/13/91/115	-
25	CHL	g	606	42	3/3/16/26	9/20/118/137	-
37	LMG	a	415	-	-	14/35/55/70	0/1/1/1
27	LUT	6	1620	-	-	2/29/67/67	0/2/2/2
26	CLA	b	612	5	1/1/15/20	13/37/115/115	-
26	CLA	g	602	1	1/1/15/20	12/37/115/115	-
26	CLA	b	613	5	1/1/15/20	16/37/115/115	-
25	CHL	5	607	-	4/4/19/26	20/36/134/137	-
26	CLA	6	611	30	-	3/13/91/115	-
26	CLA	7	610	2	1/1/14/20	7/31/109/115	-
26	CLA	a	406	42	1/1/15/20	12/37/115/115	-
26	CLA	c	504	42	1/1/15/20	18/37/115/115	-
30	LHG	C	2630	-	-	27/53/53/53	-
26	CLA	A	405	4	1/1/15/20	7/37/115/115	-
29	NEX	g	1623	-	-	5/27/83/83	0/3/3/3
26	CLA	C	511	6	1/1/15/20	14/37/115/115	-
26	CLA	s	614	20	1/1/11/20	3/18/96/115	-
30	LHG	Y	2630	26	-	24/53/53/53	-
30	LHG	s	2630	26	-	27/53/53/53	-
26	CLA	2	610	1	1/1/12/20	4/19/97/115	-
25	CHL	S	607	42	4/4/18/26	19/30/128/137	-
25	CHL	7	606	-	3/3/16/26	9/15/113/137	-
26	CLA	C	505	6	1/1/15/20	17/37/115/115	-
30	LHG	R	2630	26	-	19/46/46/53	-
30	LHG	y	2630	26	-	24/53/53/53	-
26	CLA	7	602	2	1/1/14/20	14/31/109/115	-
27	LUT	Y	1621	-	-	1/29/67/67	0/2/2/2
26	CLA	R	604	42	1/1/11/20	6/17/95/115	-
27	LUT	N	1620	-	-	2/29/67/67	0/2/2/2
30	LHG	L	101	-	-	20/53/53/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CHL	R	606	42	4/4/20/26	19/39/137/137	-
26	CLA	c	512	6	1/1/15/20	11/37/115/115	-
37	LMG	A	413	-	-	28/43/63/70	0/1/1/1
26	CLA	c	502	6	1/1/15/20	20/37/115/115	-
28	XAT	G	1622	-	-	2/31/93/93	0/4/4/4
26	CLA	7	604	-	1/1/11/20	9/13/91/115	-
36	SQD	B	623	-	-	17/37/57/69	0/1/1/1
27	LUT	3	1621	-	-	3/29/67/67	0/2/2/2
26	CLA	2	612	1	1/1/11/20	5/13/91/115	-
26	CLA	g	612	1	1/1/14/20	11/31/109/115	-
25	CHL	4	606	-	3/3/16/26	8/15/113/137	-
26	CLA	2	604	-	1/1/11/20	8/13/91/115	-
25	CHL	8	606	-	3/3/16/26	8/15/113/137	-
25	CHL	3	606	-	3/3/16/26	9/15/113/137	-
25	CHL	1	609	1	4/4/19/26	16/35/133/137	-
26	CLA	C	513	6	-	10/37/115/115	-
26	CLA	s	603	20	1/1/11/20	5/13/91/115	-
30	LHG	7	2630	26	-	24/51/51/53	-
26	CLA	B	611	42	1/1/15/20	10/37/115/115	-
27	LUT	n	1621	-	-	3/29/67/67	0/2/2/2
26	CLA	N	610	1	1/1/15/20	12/37/115/115	-
31	BCR	8	623	-	-	9/29/63/63	0/2/2/2
25	CHL	7	609	2	4/4/19/26	13/33/131/137	-
25	CHL	4	608	-	3/3/16/26	5/15/113/137	-
27	LUT	G	1620	-	-	2/29/67/67	0/2/2/2
26	CLA	4	602	3	1/1/11/20	7/13/91/115	-
25	CHL	4	607	-	3/3/16/26	8/15/113/137	-
25	CHL	1	601	1	3/3/16/26	6/15/113/137	-
26	CLA	b	609	5	-	9/37/115/115	-
25	CHL	n	605	1	3/3/16/26	9/18/116/137	-
27	LUT	s	1621	-	-	2/29/67/67	0/2/2/2
25	CHL	y	601	1	4/4/20/26	16/39/137/137	-
27	LUT	6	1621	-	-	3/29/67/67	0/2/2/2
30	LHG	3	2630	26	-	24/51/51/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	N	604	42	1/1/12/20	5/19/97/115	-
25	CHL	2	606	-	3/3/16/26	6/15/113/137	-
26	CLA	y	604	42	1/1/12/20	3/19/97/115	-
25	CHL	2	601	1	3/3/16/26	6/15/113/137	-
39	DGD	C	520	-	-	21/49/89/95	0/2/2/2
27	LUT	y	1620	-	-	2/29/67/67	0/2/2/2
37	LMG	B	2633	-	-	24/50/70/70	0/1/1/1
26	CLA	5	602	1	1/1/14/20	12/33/111/115	-
26	CLA	B	605	5	1/1/15/20	14/37/115/115	-
28	XAT	R	622	-	-	3/31/93/93	0/4/4/4
31	BCR	B	619	-	-	2/29/63/63	0/2/2/2
25	CHL	s	601	20	3/3/16/26	7/15/113/137	-
30	LHG	C	522	-	-	20/53/53/53	-
28	XAT	8	622	-	-	2/31/93/93	0/4/4/4
26	CLA	B	610	5	-	11/37/115/115	-
26	CLA	s	611	30	1/1/13/20	9/27/105/115	-
25	CHL	y	606	42	3/3/16/26	6/20/118/137	-
26	CLA	B	617	5	1/1/15/20	18/37/115/115	-
39	DGD	b	626	-	-	24/48/88/95	0/2/2/2
25	CHL	y	609	1	4/4/20/26	13/39/137/137	-
26	CLA	B	603	5	1/1/15/20	9/37/115/115	-
26	CLA	6	610	1	1/1/12/20	4/19/97/115	-
25	CHL	2	609	1	4/4/19/26	11/33/131/137	-
38	PL9	A	414	-	-	1/5/18/73	0/1/1/1
41	HEM	f	101	9,8	-	1/12/54/54	-
37	LMG	z	101	-	-	24/46/66/70	0/1/1/1
26	CLA	B	614	5	1/1/15/20	13/37/115/115	-
25	CHL	r	614	19	3/3/15/26	6/10/108/137	-
26	CLA	N	612	1	1/1/14/20	9/31/109/115	-
26	CLA	B	616	5	1/1/15/20	13/37/115/115	-
26	CLA	r	613	19	1/1/14/20	10/31/109/115	-
26	CLA	n	603	1	1/1/15/20	15/37/115/115	-
26	CLA	1	614	1	1/1/11/20	2/13/91/115	-
26	CLA	3	611	30	1/1/13/20	7/25/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
29	NEX	G	1623	-	-	5/27/83/83	0/3/3/3
25	CHL	G	605	1	3/3/16/26	9/15/113/137	-
39	DGD	c	518	-	-	15/44/84/95	0/2/2/2
26	CLA	2	613	1	-	5/13/91/115	-
26	CLA	3	604	-	1/1/11/20	9/13/91/115	-
26	CLA	Y	602	1	1/1/15/20	10/37/115/115	-
28	XAT	Y	1622	-	-	2/31/93/93	0/4/4/4
39	DGD	C	519	-	-	26/51/91/95	0/2/2/2
26	CLA	5	614	1	1/1/11/20	2/13/91/115	-
36	SQD	a	418	-	-	22/49/69/69	0/1/1/1
26	CLA	g	604	42	1/1/12/20	5/19/97/115	-
26	CLA	r	603	19	1/1/14/20	14/31/109/115	-
25	CHL	3	601	2	4/4/19/26	18/37/135/137	-
31	BCR	C	515	-	-	6/29/63/63	0/2/2/2
26	CLA	C	507	42	1/1/15/20	23/37/115/115	-
29	NEX	5	1623	-	-	6/27/83/83	0/3/3/3
26	CLA	n	604	42	1/1/12/20	5/19/97/115	-
37	LMG	Z	101	-	-	24/46/66/70	0/1/1/1
30	LHG	1	2630	26	-	15/45/45/53	-
31	BCR	T	101	-	-	13/29/63/63	0/2/2/2
26	CLA	N	602	1	1/1/15/20	12/37/115/115	-
28	XAT	N	1622	-	-	3/31/93/93	0/4/4/4
26	CLA	r	610	19	1/1/15/20	13/37/115/115	-
30	LHG	d	409	-	-	27/53/53/53	-
26	CLA	5	610	1	1/1/13/20	5/27/105/115	-
25	CHL	1	608	-	3/3/16/26	7/15/113/137	-
41	HEM	F	101	9,8	-	1/12/54/54	-
25	CHL	3	609	2	4/4/19/26	13/33/131/137	-
26	CLA	N	613	1	1/1/14/20	8/31/109/115	-
26	CLA	N	603	1	1/1/15/20	15/37/115/115	-
26	CLA	b	606	5	1/1/15/20	14/37/115/115	-
27	LUT	S	1621	-	-	2/29/67/67	0/2/2/2
29	NEX	R	623	-	-	4/27/83/83	0/3/3/3
26	CLA	R	612	19	1/1/11/20	6/18/96/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	s	612	20	1/1/11/20	5/18/96/115	-
25	CHL	y	605	1	3/3/16/26	8/18/116/137	-
30	LHG	G	2630	26	-	26/53/53/53	-
26	CLA	6	602	1	1/1/14/20	12/33/111/115	-
31	BCR	b	619	-	-	2/29/63/63	0/2/2/2
25	CHL	5	601	1	3/3/16/26	6/15/113/137	-
30	LHG	c	2630	-	-	27/53/53/53	-
36	SQD	A	418	-	-	22/49/69/69	0/1/1/1
25	CHL	Y	605	1	3/3/16/26	8/18/116/137	-
25	CHL	4	609	3	3/3/16/26	4/15/113/137	-
31	BCR	b	618	-	-	2/29/63/63	0/2/2/2
38	PL9	D	405	-	-	10/53/73/73	0/1/1/1
26	CLA	8	612	3	1/1/11/20	5/13/91/115	-
26	CLA	8	604	-	-	8/13/91/115	-
30	LHG	B	2630	-	-	31/51/51/53	-
25	CHL	g	608	42	4/4/20/26	15/39/137/137	-
37	LMG	c	521	-	-	22/46/66/70	0/1/1/1
28	XAT	n	1622	-	-	3/31/93/93	0/4/4/4
25	CHL	r	607	42	4/4/18/26	9/27/125/137	-
39	DGD	B	626	-	-	24/48/88/95	0/2/2/2
26	CLA	5	611	30	1/1/11/20	6/13/91/115	-
25	CHL	Y	606	42	3/3/16/26	6/20/118/137	-
26	CLA	S	602	20	1/1/14/20	14/33/111/115	-
26	CLA	4	610	3	1/1/11/20	4/13/91/115	-
25	CHL	5	609	1	4/4/19/26	16/35/133/137	-
37	LMG	a	413	-	-	28/43/63/70	0/1/1/1
25	CHL	n	607	42	4/4/20/26	14/39/137/137	-
26	CLA	S	603	20	1/1/11/20	5/13/91/115	-
25	CHL	s	608	-	3/3/16/26	4/15/113/137	-
26	CLA	c	503	6	1/1/15/20	14/37/115/115	-
26	CLA	B	608	42	1/1/15/20	11/37/115/115	-
26	CLA	G	604	42	1/1/12/20	5/19/97/115	-
26	CLA	c	507	42	1/1/15/20	23/37/115/115	-
30	LHG	g	2630	26	-	26/53/53/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CHL	Y	607	42	4/4/20/26	16/39/137/137	-
25	CHL	6	605	1	3/3/16/26	9/15/113/137	-
26	CLA	a	407	42	-	3/19/97/115	-
26	CLA	7	614	2	1/1/11/20	9/17/95/115	-
26	CLA	3	614	2	1/1/11/20	9/17/95/115	-
26	CLA	B	604	5	1/1/15/20	10/37/115/115	-
26	CLA	7	612	2	1/1/11/20	8/13/91/115	-
26	CLA	G	613	1	1/1/15/20	12/37/115/115	-
31	BCR	c	517	-	-	4/29/63/63	0/2/2/2
29	NEX	2	1623	-	-	7/27/83/83	0/3/3/3
26	CLA	7	613	2	1/1/13/20	9/29/107/115	-
26	CLA	C	506	6	1/1/15/20	22/37/115/115	-
27	LUT	1	1620	-	-	2/29/67/67	0/2/2/2
26	CLA	c	501	6	1/1/15/20	17/37/115/115	-
26	CLA	a	410	4	1/1/14/20	5/31/109/115	-
26	CLA	r	604	42	1/1/11/20	6/17/95/115	-
38	PL9	d	405	-	-	10/53/73/73	0/1/1/1
26	CLA	R	613	19	1/1/14/20	10/31/109/115	-
25	CHL	6	601	1	3/3/16/26	6/15/113/137	-
30	LHG	c	523	-	-	21/53/53/53	-
27	LUT	r	620	-	-	3/29/67/67	0/2/2/2
25	CHL	S	601	20	3/3/16/26	7/15/113/137	-
25	CHL	g	605	1	3/3/16/26	9/15/113/137	-
26	CLA	B	613	5	1/1/15/20	16/37/115/115	-
25	CHL	7	607	-	3/3/17/26	8/24/122/137	-
26	CLA	A	407	42	-	3/19/97/115	-
31	BCR	b	620	-	-	6/29/63/63	0/2/2/2
26	CLA	B	607	5	1/1/15/20	9/37/115/115	-
27	LUT	g	1620	-	-	2/29/67/67	0/2/2/2
26	CLA	5	612	1	1/1/11/20	3/13/91/115	-
26	CLA	Y	614	1	1/1/11/20	3/17/95/115	-
25	CHL	R	607	42	4/4/18/26	9/27/125/137	-
25	CHL	s	607	42	4/4/18/26	19/30/128/137	-
30	LHG	l	101	-	-	20/53/53/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
35	PHO	a	408	-	-	12/37/103/103	0/5/6/6
31	BCR	C	514	-	-	4/29/63/63	0/2/2/2
26	CLA	5	613	1	-	8/25/103/115	-
26	CLA	Y	611	30	1/1/14/20	8/31/109/115	-
30	LHG	N	2630	26	-	24/53/53/53	-
25	CHL	G	609	1	4/4/19/26	10/33/131/137	-
26	CLA	c	513	6	-	10/37/115/115	-
30	LHG	B	2631	-	-	23/53/53/53	-
38	PL9	a	414	-	-	1/5/18/73	0/1/1/1
26	CLA	Y	604	42	1/1/12/20	3/19/97/115	-
35	PHO	A	408	-	-	12/37/103/103	0/5/6/6
27	LUT	N	1621	-	-	3/29/67/67	0/2/2/2
26	CLA	A	410	4	1/1/14/20	5/31/109/115	-
26	CLA	r	609	19	1/1/13/20	3/29/107/115	-
25	CHL	8	607	-	3/3/16/26	8/15/113/137	-
25	CHL	7	608	-	3/3/16/26	3/15/113/137	-
29	NEX	7	1623	-	-	4/27/83/83	0/3/3/3
25	CHL	Y	609	1	4/4/20/26	13/39/137/137	-
25	CHL	Y	601	1	4/4/20/26	16/39/137/137	-
27	LUT	s	1620	-	-	2/29/67/67	0/2/2/2
28	XAT	g	1622	-	-	2/31/93/93	0/4/4/4
26	CLA	g	613	1	1/1/15/20	12/37/115/115	-
26	CLA	b	616	5	1/1/15/20	13/37/115/115	-
25	CHL	N	605	1	3/3/16/26	9/18/116/137	-
26	CLA	d	403	7	-	12/37/115/115	-
27	LUT	R	620	-	-	4/29/67/67	0/2/2/2
26	CLA	4	603	3	1/1/11/20	4/13/91/115	-
27	LUT	1	1621	-	-	3/29/67/67	0/2/2/2
26	CLA	3	602	2	1/1/14/20	14/31/109/115	-
26	CLA	1	611	30	1/1/11/20	6/13/91/115	-
26	CLA	D	402	7	1/1/15/20	4/37/115/115	-
31	BCR	c	515	-	-	6/29/63/63	0/2/2/2
29	NEX	3	1623	-	-	4/27/83/83	0/3/3/3
25	CHL	6	606	-	3/3/16/26	6/15/113/137	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	G	603	1	1/1/15/20	11/37/115/115	-
26	CLA	B	609	5	-	9/37/115/115	-
27	LUT	8	620	-	-	4/29/67/67	0/2/2/2
30	LHG	5	2630	26	-	15/45/45/53	-
26	CLA	n	602	1	1/1/15/20	11/37/115/115	-
26	CLA	n	614	1	1/1/11/20	6/17/95/115	-
26	CLA	b	603	5	1/1/15/20	9/37/115/115	-
31	BCR	h	101	-	-	4/29/63/63	0/2/2/2
31	BCR	C	517	-	-	4/29/63/63	0/2/2/2
26	CLA	C	508	6	1/1/15/20	11/37/115/115	-
31	BCR	H	101	-	-	4/29/63/63	0/2/2/2
26	CLA	6	604	-	1/1/11/20	8/13/91/115	-
29	NEX	n	1623	-	-	4/27/83/83	0/3/3/3
30	LHG	S	2630	26	-	27/53/53/53	-
26	CLA	G	611	30	1/1/14/20	11/31/109/115	-
25	CHL	5	608	-	3/3/16/26	7/15/113/137	-
25	CHL	7	605	2	3/3/16/26	9/15/113/137	-
25	CHL	G	606	42	3/3/16/26	9/20/118/137	-
26	CLA	4	611	30	1/1/11/20	4/13/91/115	-
25	CHL	7	601	2	4/4/19/26	18/37/135/137	-
25	CHL	2	608	-	3/3/16/26	7/15/113/137	-
26	CLA	n	610	1	1/1/15/20	12/37/115/115	-
36	SQD	a	412	-	-	13/45/65/69	0/1/1/1
25	CHL	y	607	42	4/4/20/26	16/39/137/137	-
26	CLA	c	505	6	1/1/15/20	17/37/115/115	-
25	CHL	2	607	-	4/4/19/26	14/33/131/137	-
29	NEX	Y	1623	-	-	6/27/83/83	0/3/3/3
29	NEX	s	1623	-	-	5/27/83/83	0/3/3/3
26	CLA	Y	610	1	1/1/14/20	7/31/109/115	-
26	CLA	C	504	42	1/1/15/20	18/37/115/115	-
31	BCR	a	411	-	-	6/29/63/63	0/2/2/2
26	CLA	b	602	42	1/1/15/20	15/37/115/115	-
26	CLA	g	603	1	1/1/15/20	11/37/115/115	-
26	CLA	S	610	20	1/1/13/20	4/25/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CHL	n	608	42	4/4/20/26	13/39/137/137	-
26	CLA	r	616	19	-	6/13/91/115	-
25	CHL	N	606	42	3/3/16/26	6/20/118/137	-
25	CHL	1	606	-	3/3/16/26	8/15/113/137	-
25	CHL	N	609	1	4/4/20/26	13/39/137/137	-
26	CLA	c	506	6	1/1/15/20	22/37/115/115	-
25	CHL	n	601	1	4/4/20/26	16/39/137/137	-
26	CLA	1	613	1	-	8/25/103/115	-
27	LUT	4	620	-	-	4/29/67/67	0/2/2/2
26	CLA	5	604	-	-	10/19/97/115	-
27	LUT	g	1621	-	-	3/29/67/67	0/2/2/2
25	CHL	S	608	-	3/3/16/26	4/15/113/137	-
25	CHL	6	609	1	4/4/19/26	11/33/131/137	-
28	XAT	3	1622	-	-	2/31/93/93	0/4/4/4
25	CHL	N	608	42	4/4/20/26	13/39/137/137	-
29	NEX	y	1623	-	-	6/27/83/83	0/3/3/3
30	LHG	d	410	-	-	30/47/47/53	-
26	CLA	B	606	5	1/1/15/20	14/37/115/115	-
25	CHL	r	606	42	4/4/20/26	19/39/137/137	-
26	CLA	S	604	42	1/1/12/20	6/19/97/115	-
26	CLA	C	509	6	1/1/15/20	8/37/115/115	-
26	CLA	r	602	19	1/1/14/20	8/31/109/115	-
25	CHL	N	607	42	4/4/20/26	14/39/137/137	-
26	CLA	C	503	6	1/1/15/20	14/37/115/115	-
26	CLA	C	502	6	1/1/15/20	20/37/115/115	-
26	CLA	2	602	1	1/1/14/20	12/33/111/115	-
26	CLA	n	611	30	1/1/14/20	4/31/109/115	-
26	CLA	8	610	3	1/1/11/20	4/13/91/115	-
25	CHL	2	605	1	3/3/16/26	9/15/113/137	-
26	CLA	b	615	5	1/1/15/20	12/37/115/115	-
26	CLA	b	604	5	1/1/15/20	10/37/115/115	-
26	CLA	1	604	-	-	10/19/97/115	-
26	CLA	b	608	42	1/1/15/20	11/37/115/115	-
26	CLA	8	603	3	1/1/11/20	4/13/91/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	s	610	20	1/1/13/20	4/25/103/115	-
25	CHL	n	606	42	3/3/16/26	6/20/118/137	-
25	CHL	n	609	1	4/4/20/26	14/39/137/137	-
31	BCR	A	411	-	-	6/29/63/63	0/2/2/2
26	CLA	G	602	1	1/1/15/20	12/37/115/115	-
25	CHL	5	606	-	3/3/16/26	8/15/113/137	-
30	LHG	b	2631	-	-	22/53/53/53	-
31	BCR	4	623	-	-	9/29/63/63	0/2/2/2
26	CLA	b	607	5	1/1/15/20	9/37/115/115	-
25	CHL	s	606	42	3/3/16/26	10/15/113/137	-
26	CLA	7	603	2	1/1/13/20	13/25/103/115	-
26	CLA	Y	613	1	1/1/15/20	10/37/115/115	-
37	LMG	D	411	-	-	15/41/61/70	0/1/1/1
25	CHL	S	606	42	3/3/16/26	10/15/113/137	-
30	LHG	c	522	-	-	20/53/53/53	-
26	CLA	R	602	19	1/1/14/20	8/31/109/115	-
36	SQD	b	623	-	-	17/37/57/69	0/1/1/1
26	CLA	G	614	1	1/1/11/20	3/17/95/115	-
27	LUT	5	1620	-	-	2/29/67/67	0/2/2/2
25	CHL	R	608	42	4/4/19/26	17/33/131/137	-
26	CLA	Y	603	1	1/1/15/20	13/37/115/115	-
26	CLA	4	604	-	-	8/13/91/115	-
35	PHO	A	409	-	-	7/37/103/103	0/5/6/6
25	CHL	N	601	1	4/4/20/26	16/39/137/137	-
31	BCR	B	618	-	-	2/29/63/63	0/2/2/2
26	CLA	8	602	3	1/1/11/20	7/13/91/115	-
26	CLA	S	614	20	1/1/11/20	3/18/96/115	-
26	CLA	n	612	1	1/1/14/20	9/31/109/115	-
35	PHO	a	409	-	-	7/37/103/103	0/5/6/6
26	CLA	3	612	2	1/1/11/20	8/13/91/115	-
28	XAT	4	622	-	-	2/31/93/93	0/4/4/4
25	CHL	8	608	-	3/3/16/26	5/15/113/137	-
29	NEX	S	1623	-	-	5/27/83/83	0/3/3/3
28	XAT	1	1622	-	-	2/31/93/93	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	LUT	7	1621	-	-	3/29/67/67	0/2/2/2
26	CLA	N	611	30	1/1/14/20	4/31/109/115	-
30	LHG	D	410	-	-	29/47/47/53	-
39	DGD	h	102	-	-	21/51/91/95	0/2/2/2
26	CLA	r	612	19	1/1/11/20	6/18/96/115	-
25	CHL	g	607	42	4/4/20/26	16/39/137/137	-
26	CLA	s	604	42	1/1/12/20	6/19/97/115	-
31	BCR	t	101	-	-	13/29/63/63	0/2/2/2
37	LMG	B	622	-	-	23/46/66/70	0/1/1/1
26	CLA	A	406	42	1/1/15/20	12/37/115/115	-
39	DGD	H	102	-	-	21/51/91/95	0/2/2/2
26	CLA	g	611	30	1/1/14/20	11/31/109/115	-
26	CLA	6	613	1	-	5/13/91/115	-
30	LHG	d	408	-	-	19/50/50/53	-
26	CLA	g	610	1	1/1/14/20	13/36/114/115	-
37	LMG	b	2633	-	-	24/50/70/70	0/1/1/1
25	CHL	5	605	1	3/3/16/26	8/15/113/137	-
26	CLA	2	603	1	1/1/13/20	11/25/103/115	-
25	CHL	R	614	19	3/3/15/26	6/10/108/137	-
26	CLA	y	614	1	1/1/11/20	3/17/95/115	-
37	LMG	A	415	-	-	14/35/55/70	0/1/1/1
25	CHL	1	607	-	4/4/19/26	20/36/134/137	-
26	CLA	2	614	1	1/1/11/20	5/13/91/115	-
26	CLA	b	611	42	1/1/15/20	10/37/115/115	-
28	XAT	r	622	-	-	3/31/93/93	0/4/4/4
25	CHL	8	609	3	3/3/16/26	4/15/113/137	-
26	CLA	s	613	20	1/1/13/20	6/25/103/115	-
30	LHG	8	2630	26	-	8/23/23/53	-
36	SQD	A	412	-	-	13/45/65/69	0/1/1/1
27	LUT	G	1621	-	-	3/29/67/67	0/2/2/2
26	CLA	r	601	19	1/1/11/20	14/18/96/115	-
26	CLA	b	605	5	1/1/15/20	14/37/115/115	-
26	CLA	R	603	19	1/1/14/20	14/31/109/115	-
25	CHL	3	608	-	3/3/16/26	3/15/113/137	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	CLA	R	610	19	1/1/15/20	13/37/115/115	-
26	CLA	y	611	30	1/1/14/20	8/31/109/115	-
26	CLA	y	610	1	1/1/14/20	7/31/109/115	-
27	LUT	5	1621	-	-	3/29/67/67	0/2/2/2
28	XAT	7	1622	-	-	2/31/93/93	0/4/4/4
26	CLA	b	617	5	1/1/15/20	18/37/115/115	-
26	CLA	R	616	19	-	6/13/91/115	-
25	CHL	g	609	1	4/4/19/26	10/33/131/137	-
25	CHL	G	607	42	4/4/20/26	16/39/137/137	-
30	LHG	D	408	-	-	19/50/50/53	-
26	CLA	r	611	30	1/1/11/20	8/18/96/115	-
26	CLA	y	603	1	1/1/15/20	13/37/115/115	-
26	CLA	b	614	5	1/1/15/20	13/37/115/115	-
28	XAT	2	1622	-	-	3/31/93/93	0/4/4/4
27	LUT	y	1621	-	-	1/29/67/67	0/2/2/2
26	CLA	2	611	30	-	3/13/91/115	-
39	DGD	c	519	-	-	26/51/91/95	0/2/2/2
26	CLA	S	611	30	1/1/13/20	9/27/105/115	-
30	LHG	6	2630	26	-	16/41/41/53	-
26	CLA	6	603	1	1/1/13/20	11/25/103/115	-

The worst 5 of 3567 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
26	2	612	CLA	C4B-NB	8.06	1.42	1.35
26	R	609	CLA	C4B-NB	8.04	1.42	1.35
26	6	612	CLA	C4B-NB	8.04	1.42	1.35
26	r	609	CLA	C4B-NB	8.04	1.42	1.35
26	R	612	CLA	C4B-NB	7.91	1.42	1.35

The worst 5 of 5990 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	N	607	CHL	C2C-C3C-C4C	-10.86	98.75	106.49
25	n	607	CHL	C2C-C3C-C4C	-10.86	98.75	106.49
25	y	601	CHL	CMD-C2D-C1D	10.85	143.84	124.71
25	Y	601	CHL	CMD-C2D-C1D	10.83	143.81	124.71
25	G	601	CHL	CMD-C2D-C1D	10.64	143.47	124.71

5 of 532 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
25	1	601	CHL	NC
25	1	601	CHL	ND
25	1	601	CHL	NA
25	1	605	CHL	NC
25	1	605	CHL	ND

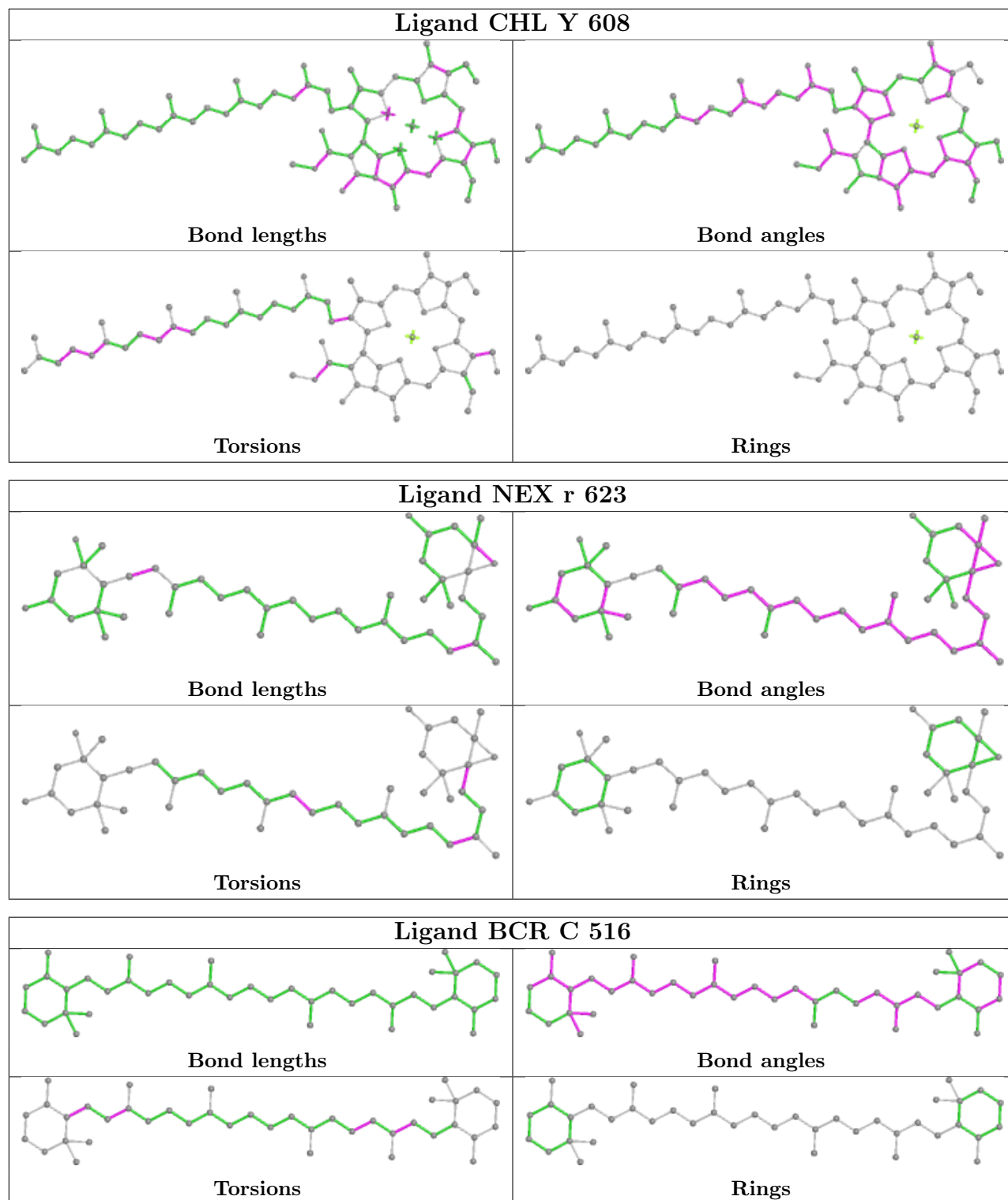
5 of 4969 torsion outliers are listed below:

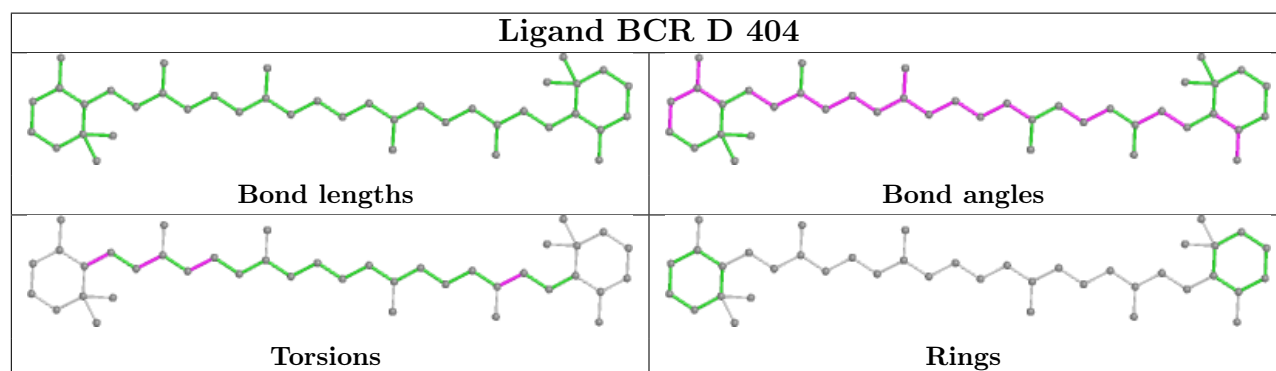
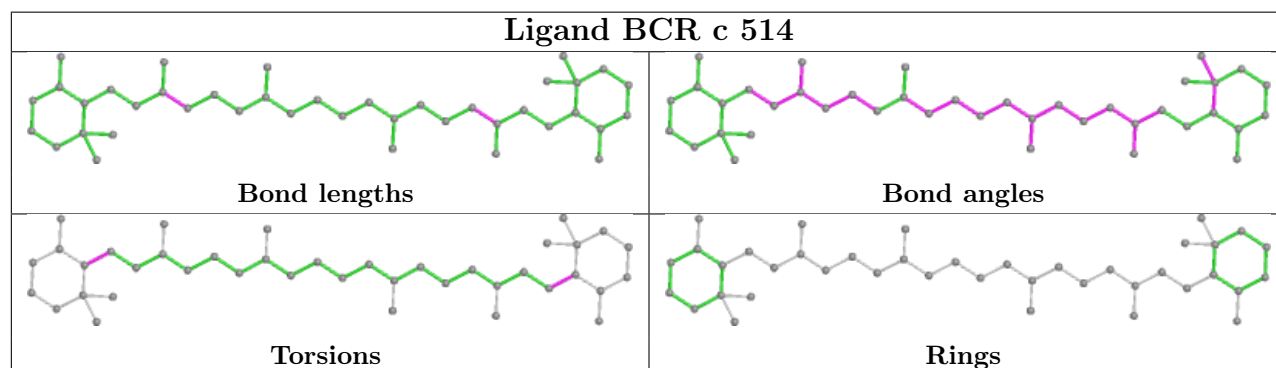
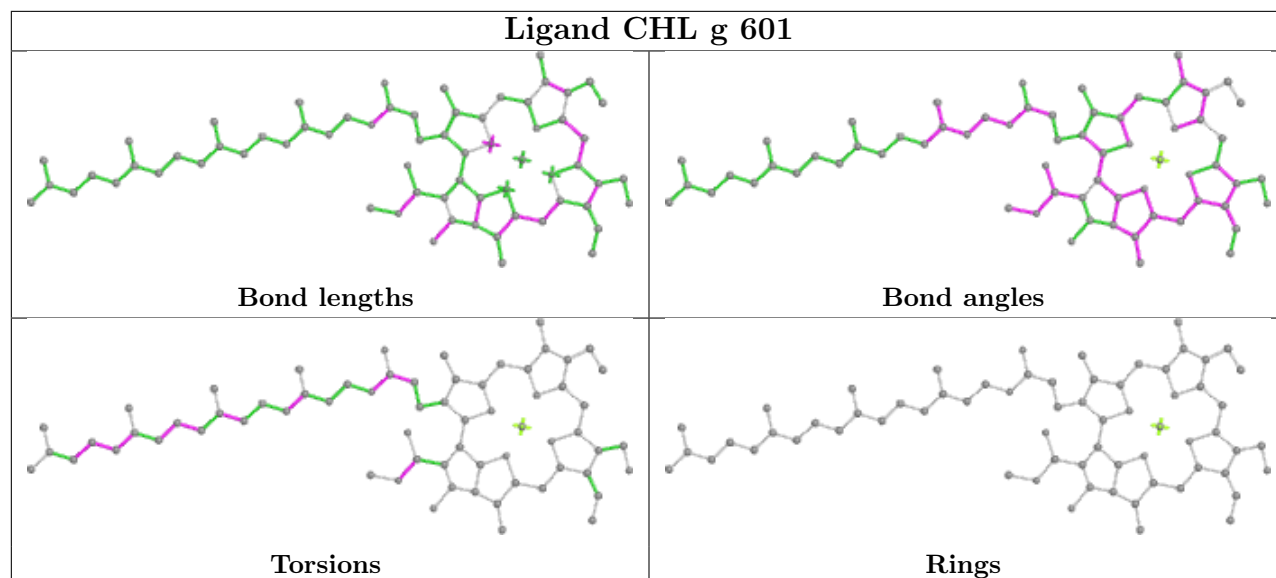
Mol	Chain	Res	Type	Atoms
25	1	601	CHL	C1C-C2C-CMC-OMC
25	1	601	CHL	C3C-C2C-CMC-OMC
25	1	601	CHL	CHA-CBD-CGD-O1D
25	1	601	CHL	CHA-CBD-CGD-O2D
25	1	605	CHL	C1C-C2C-CMC-OMC

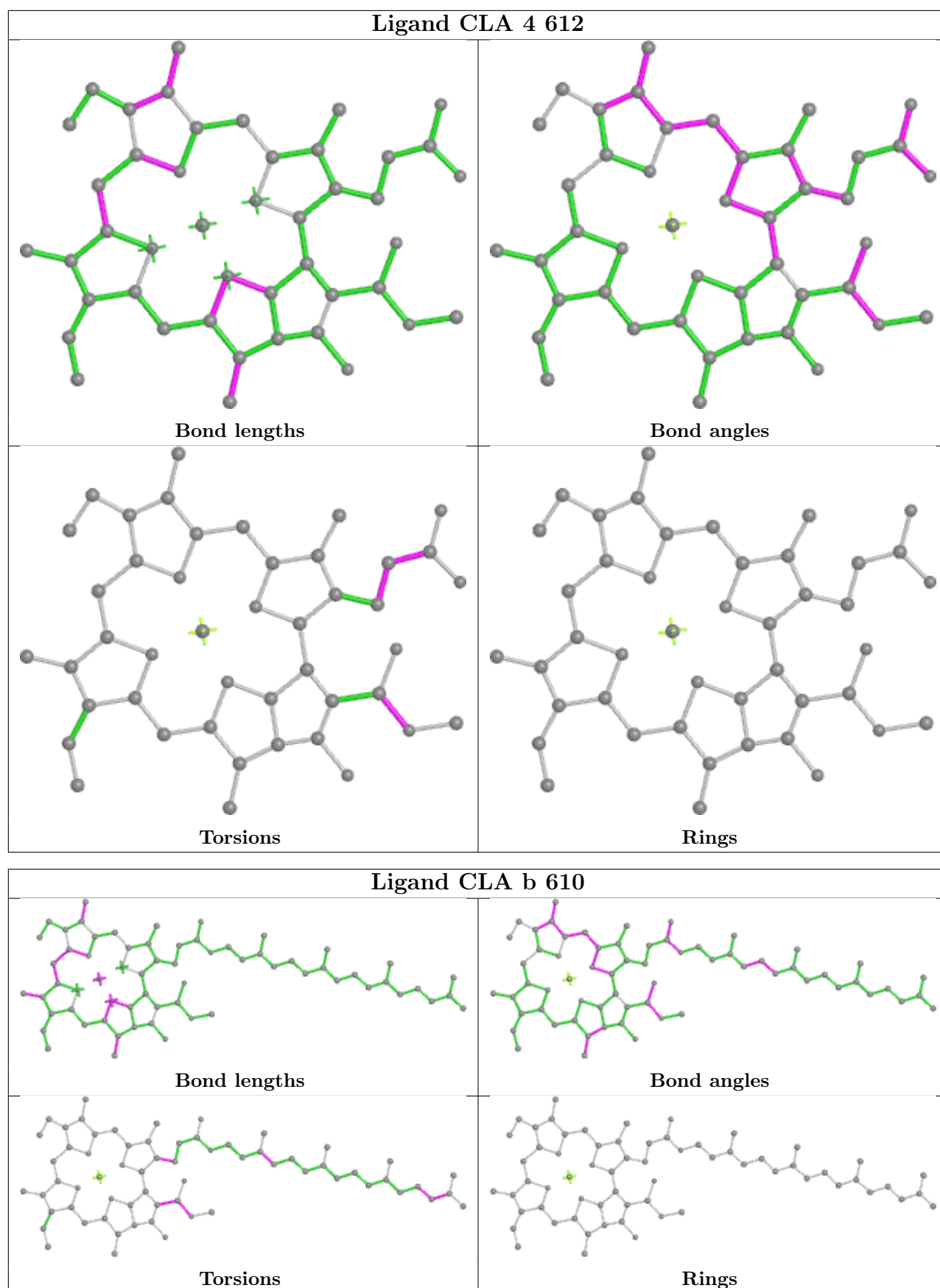
There are no ring outliers.

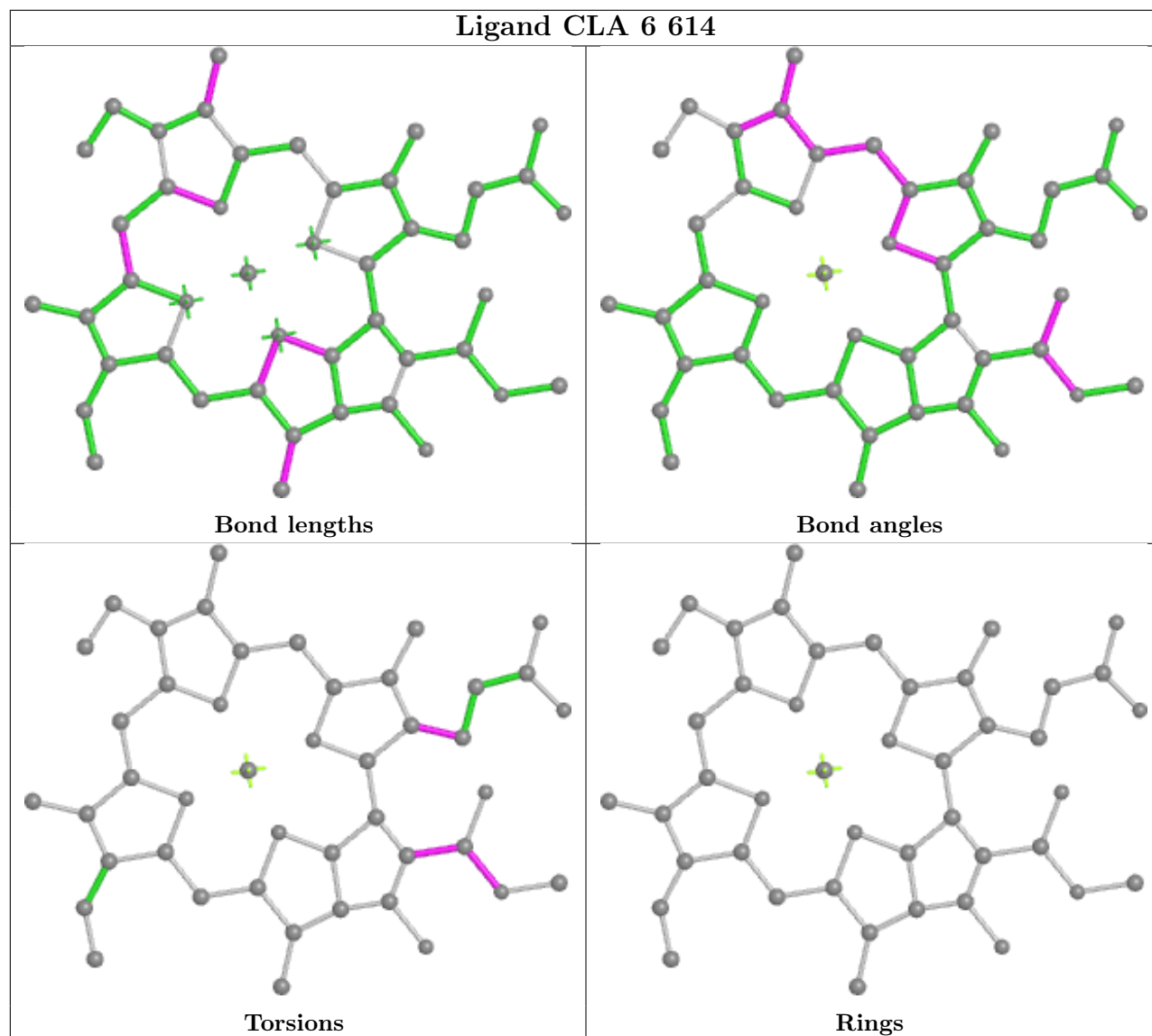
No monomer is involved in short contacts.

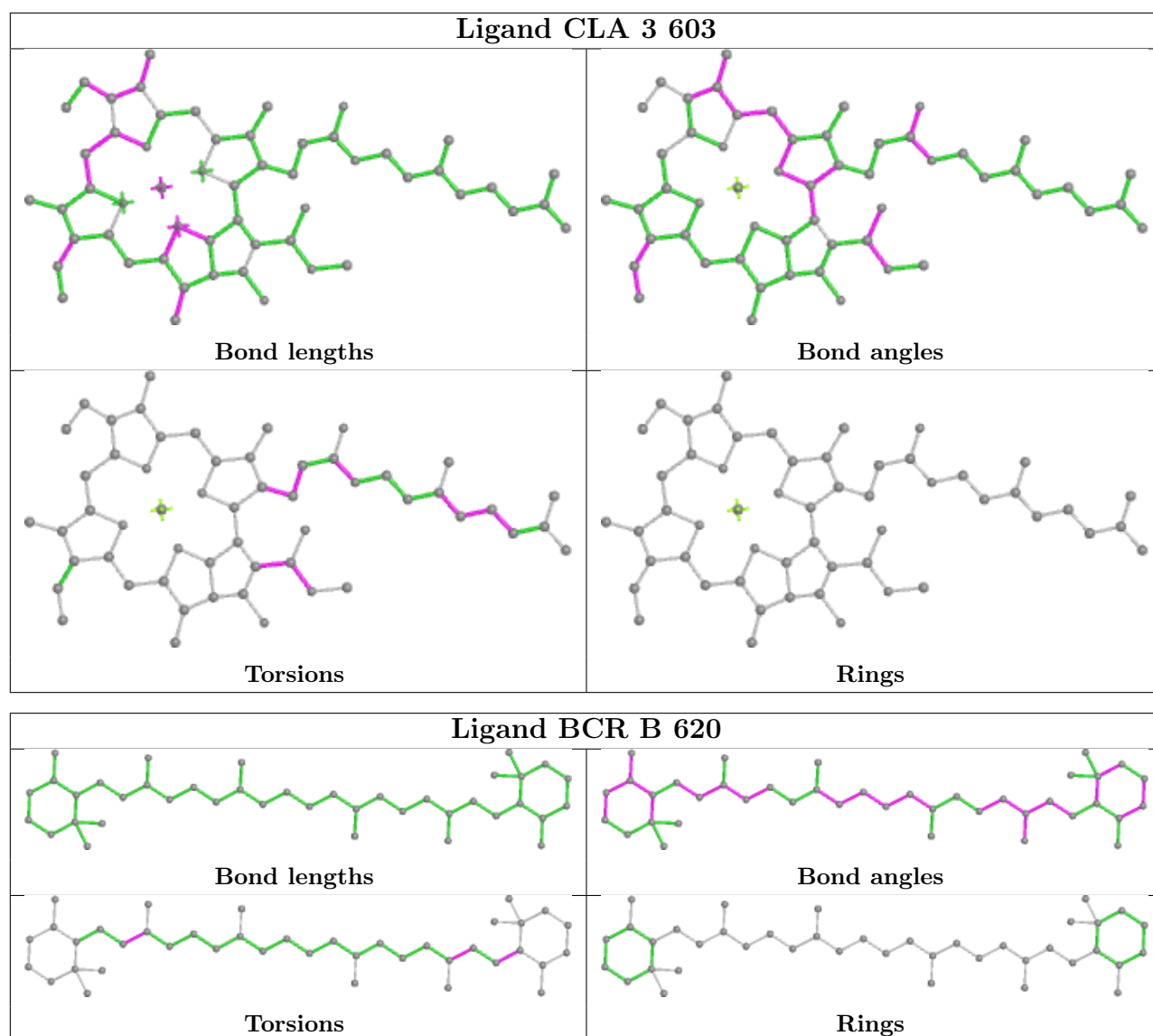
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

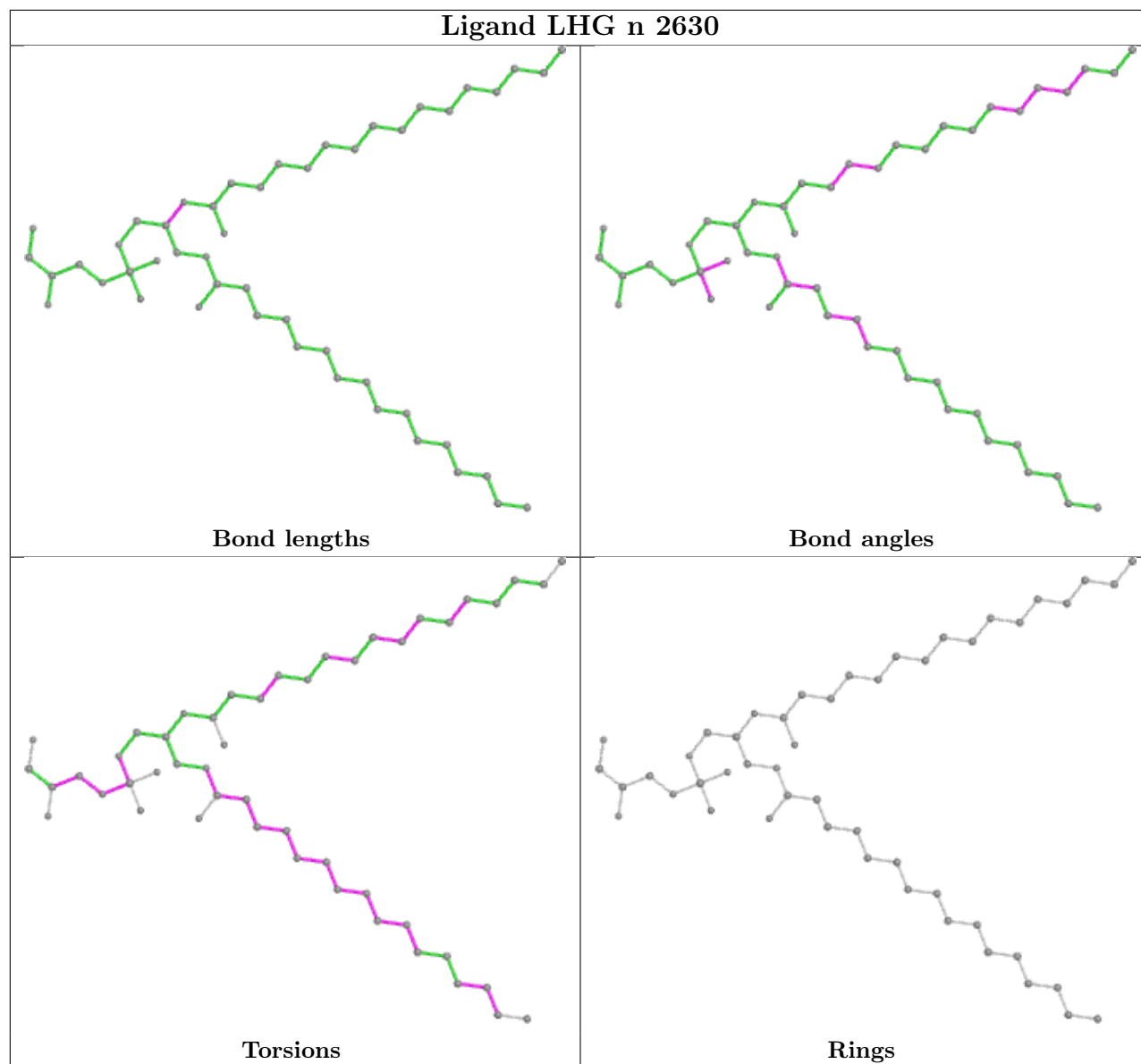


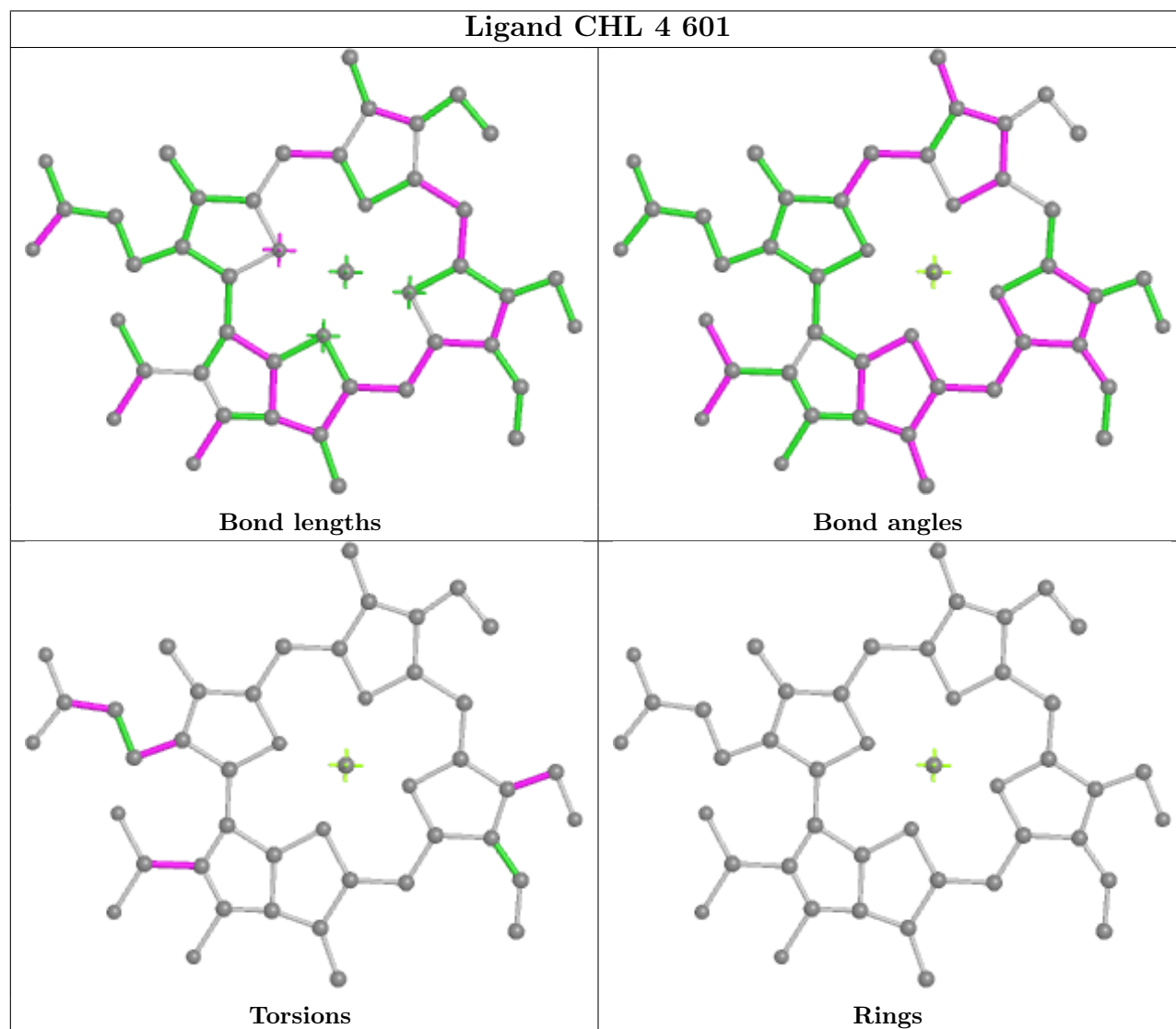
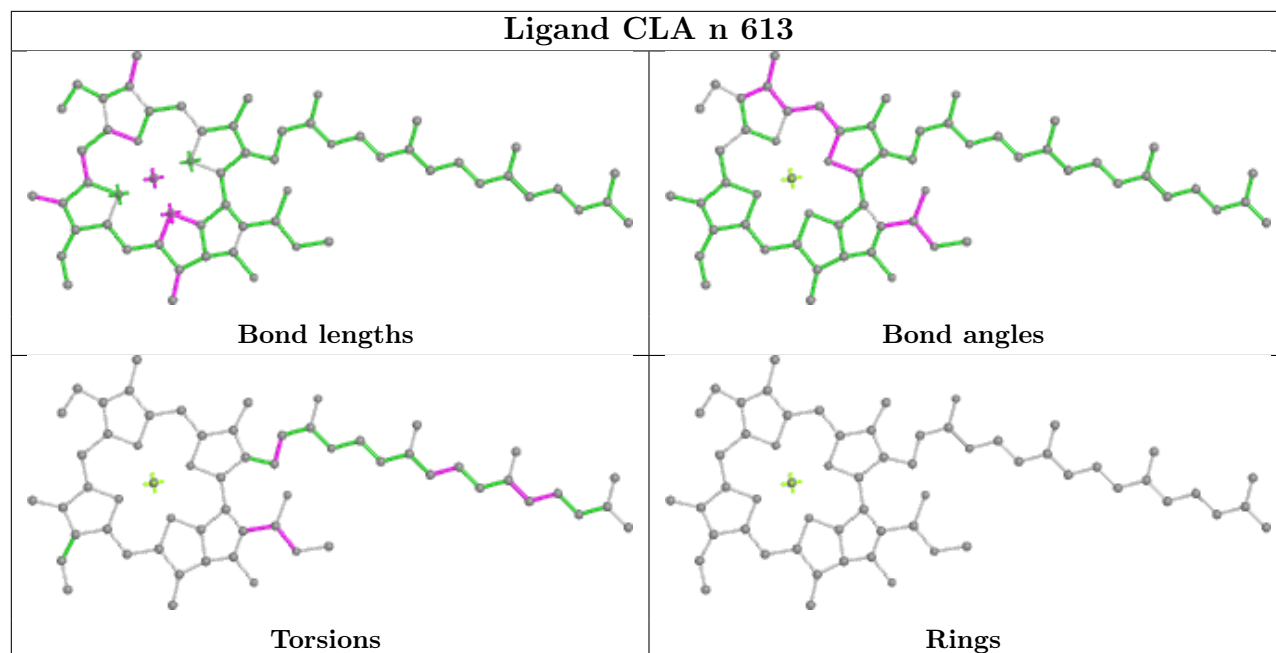


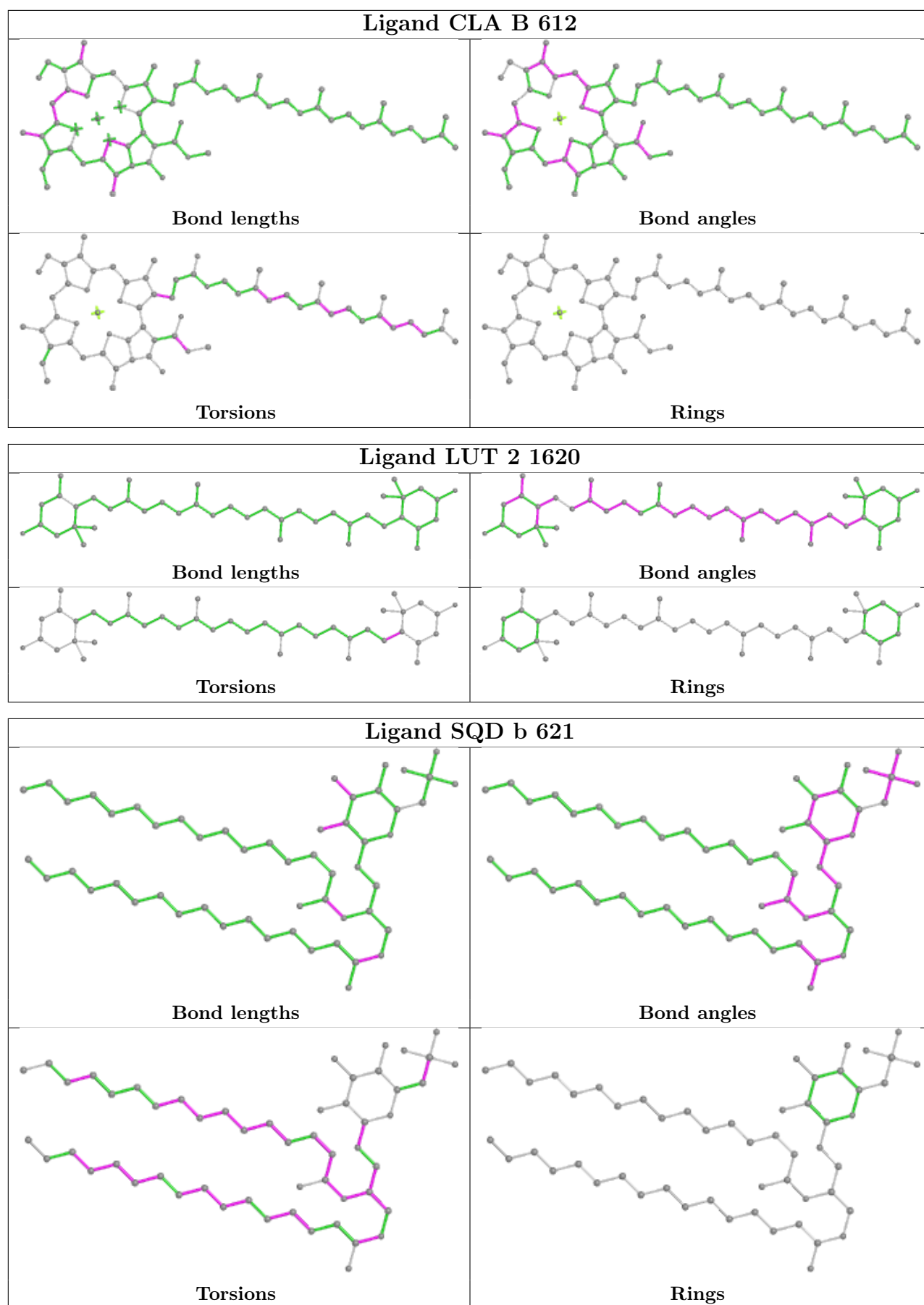


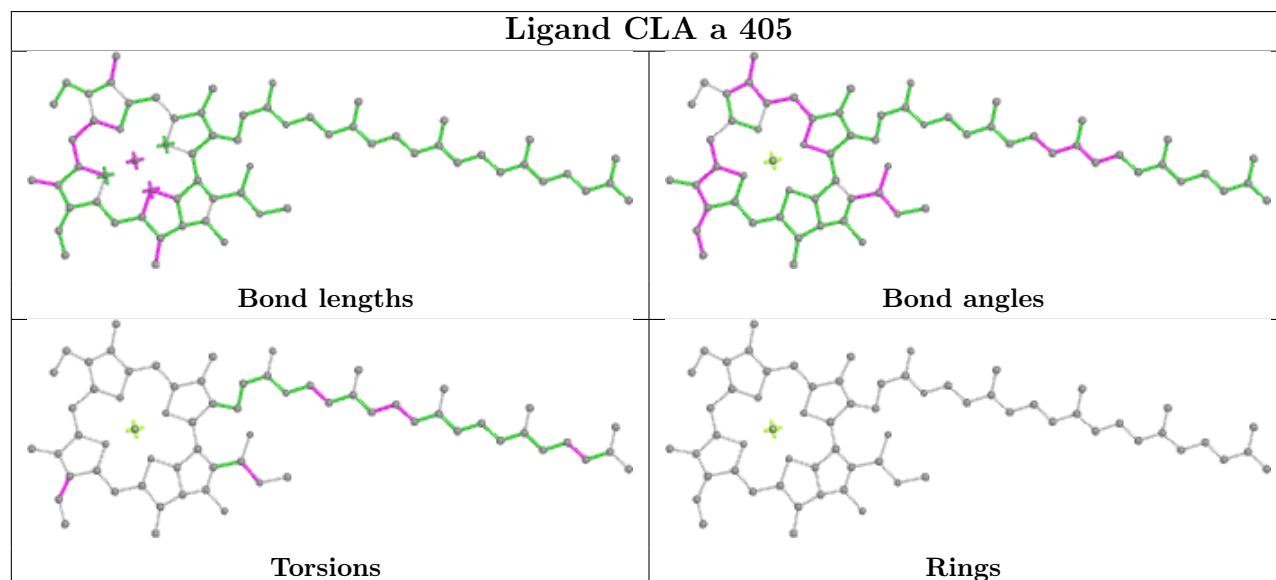
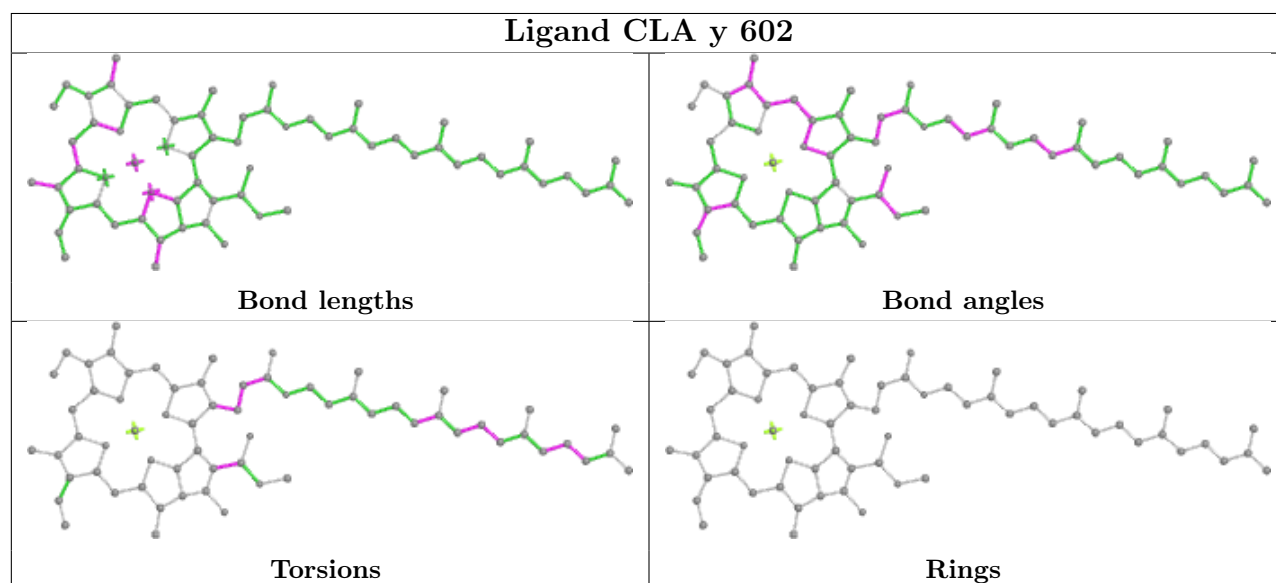
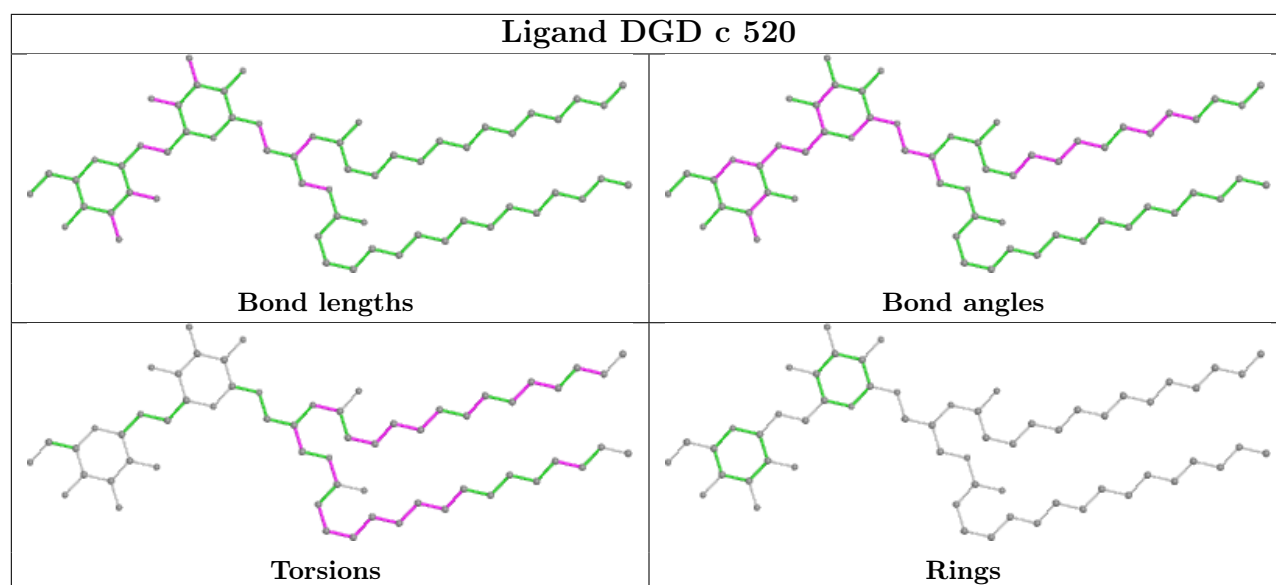


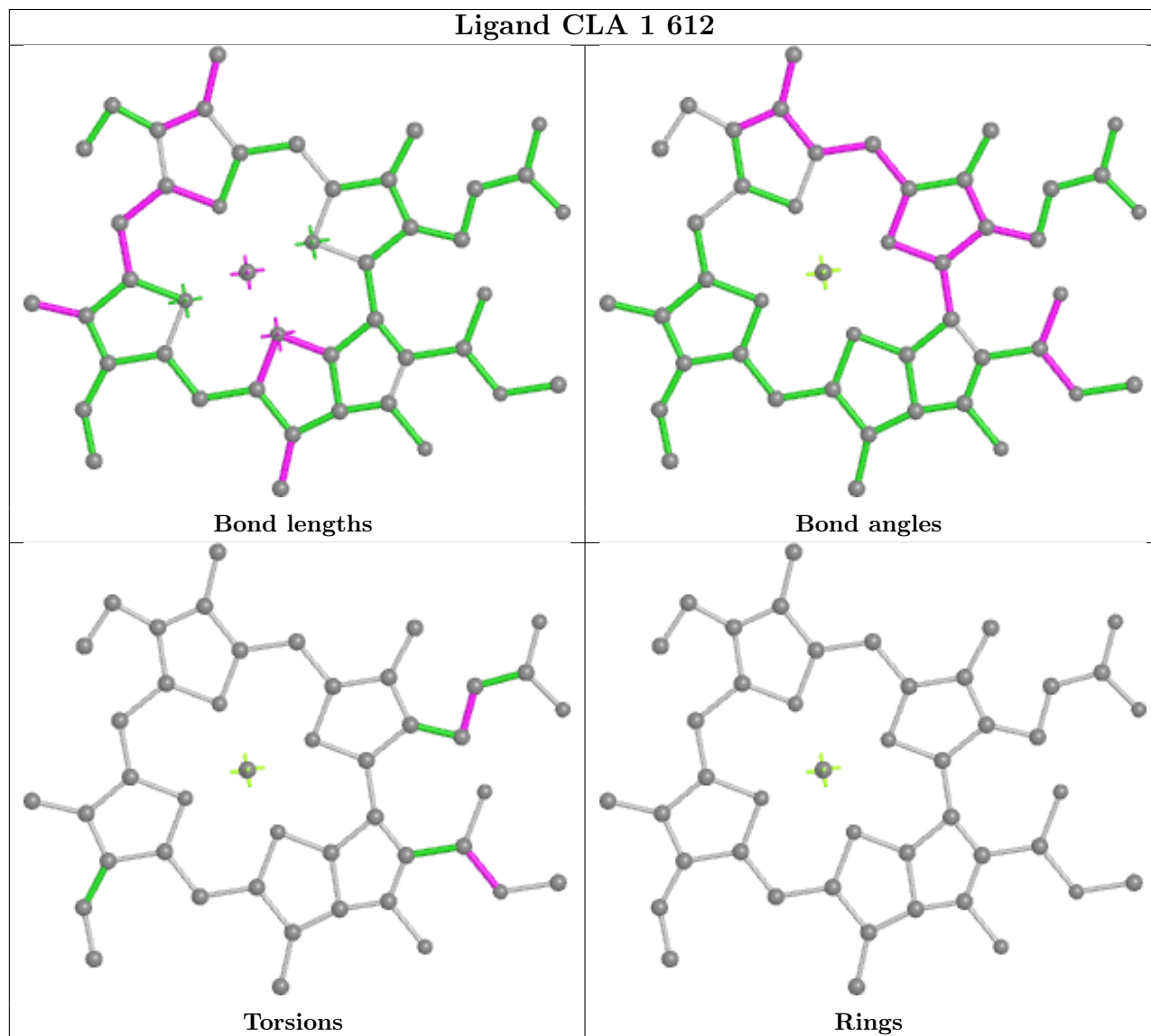
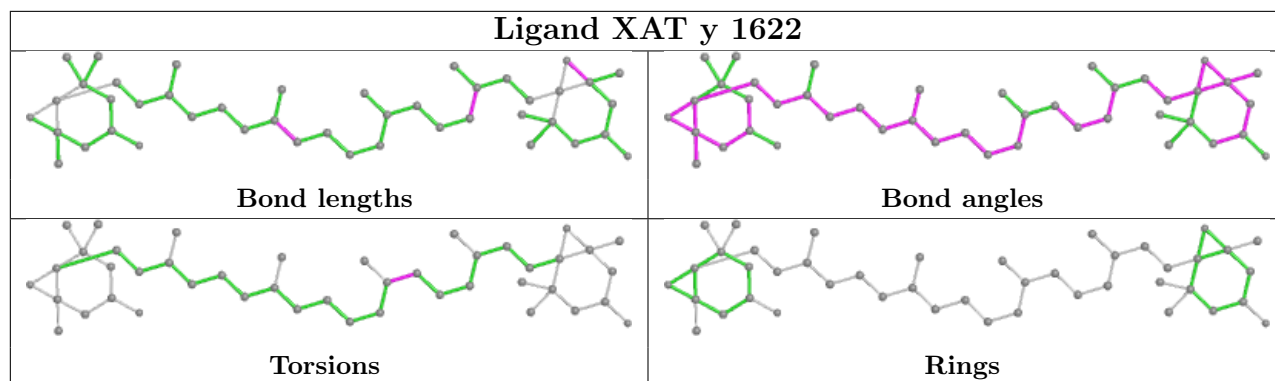


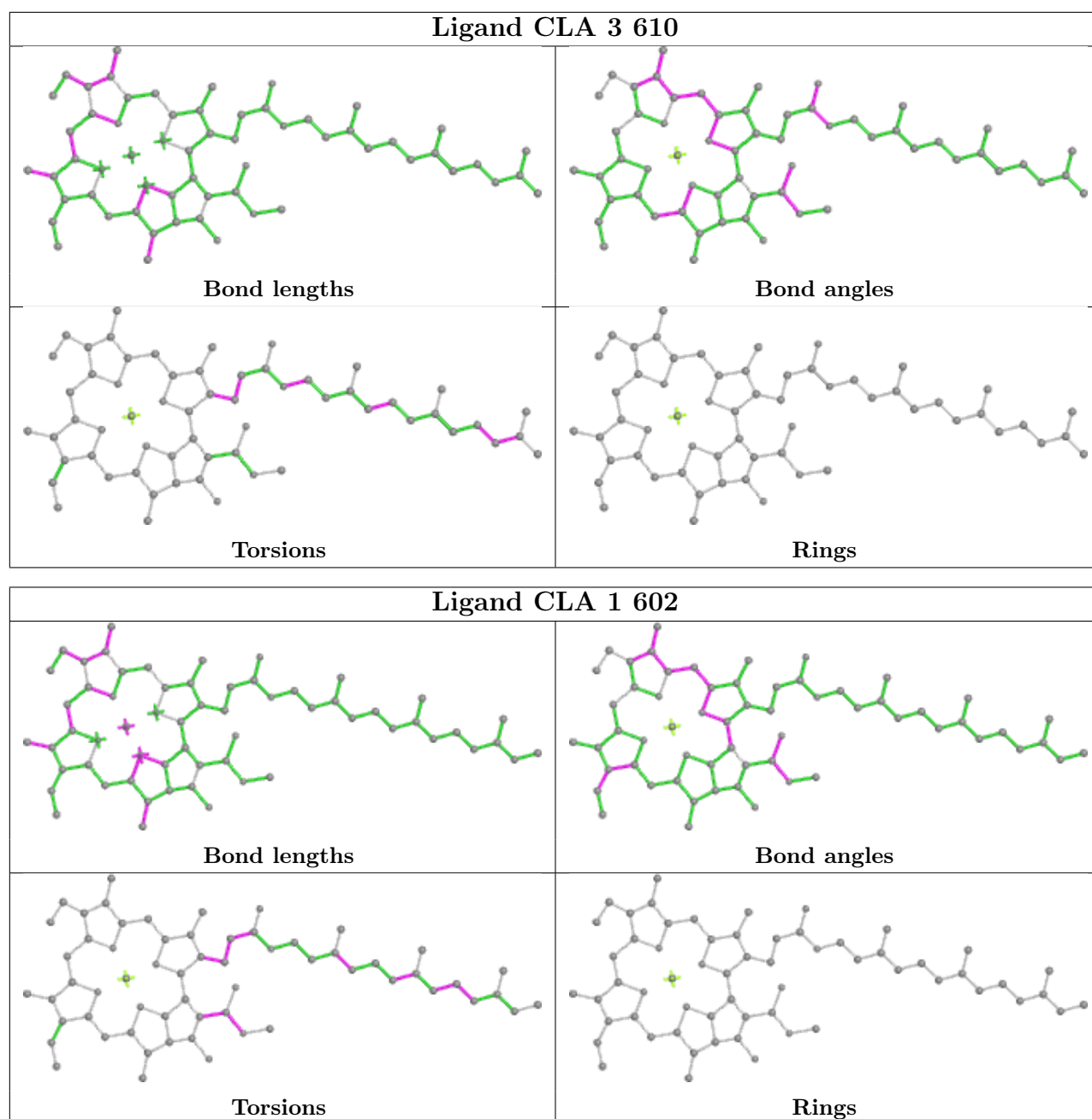


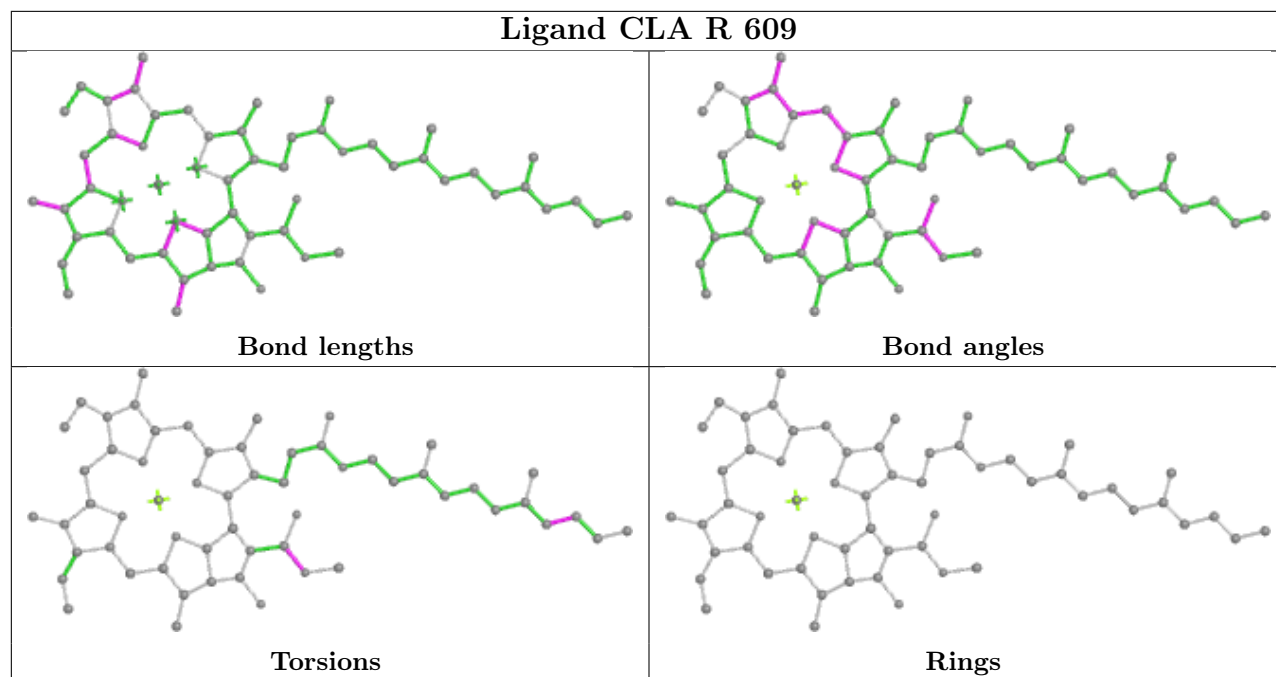


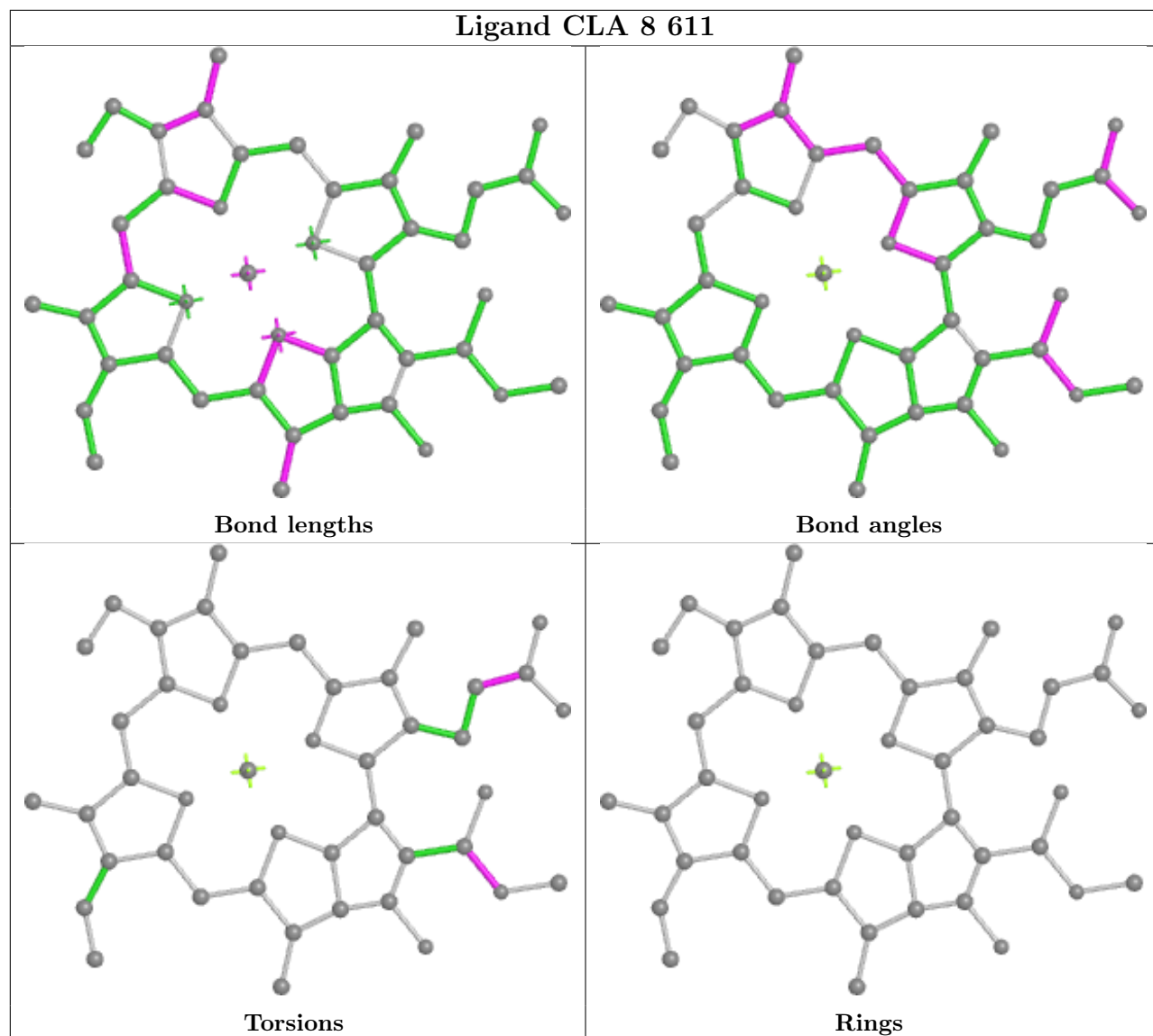


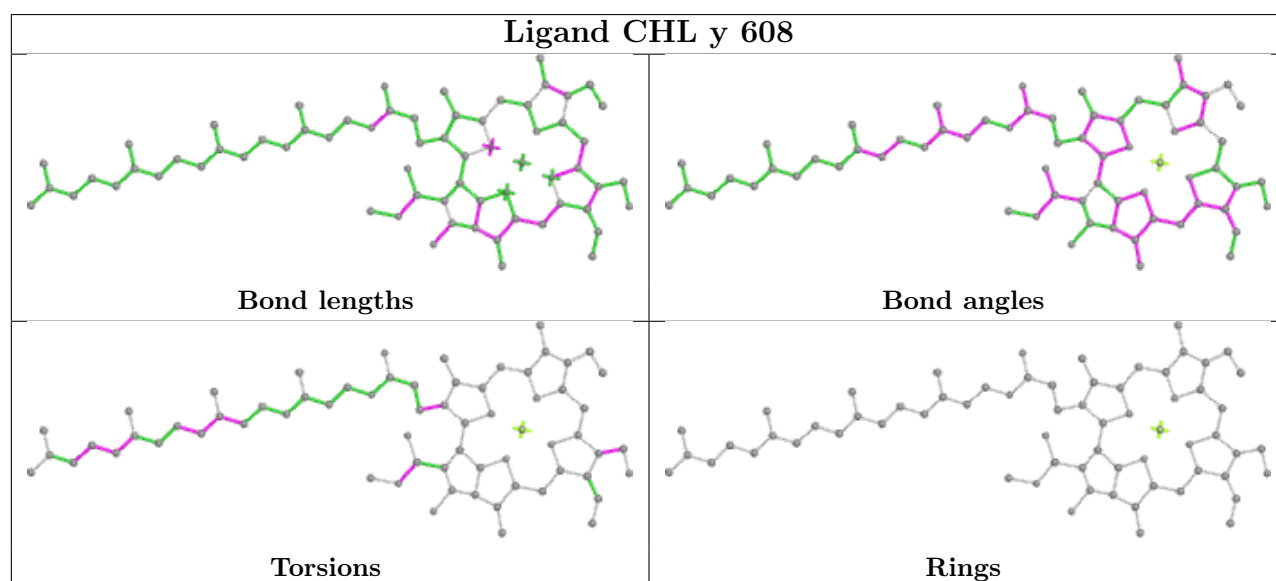
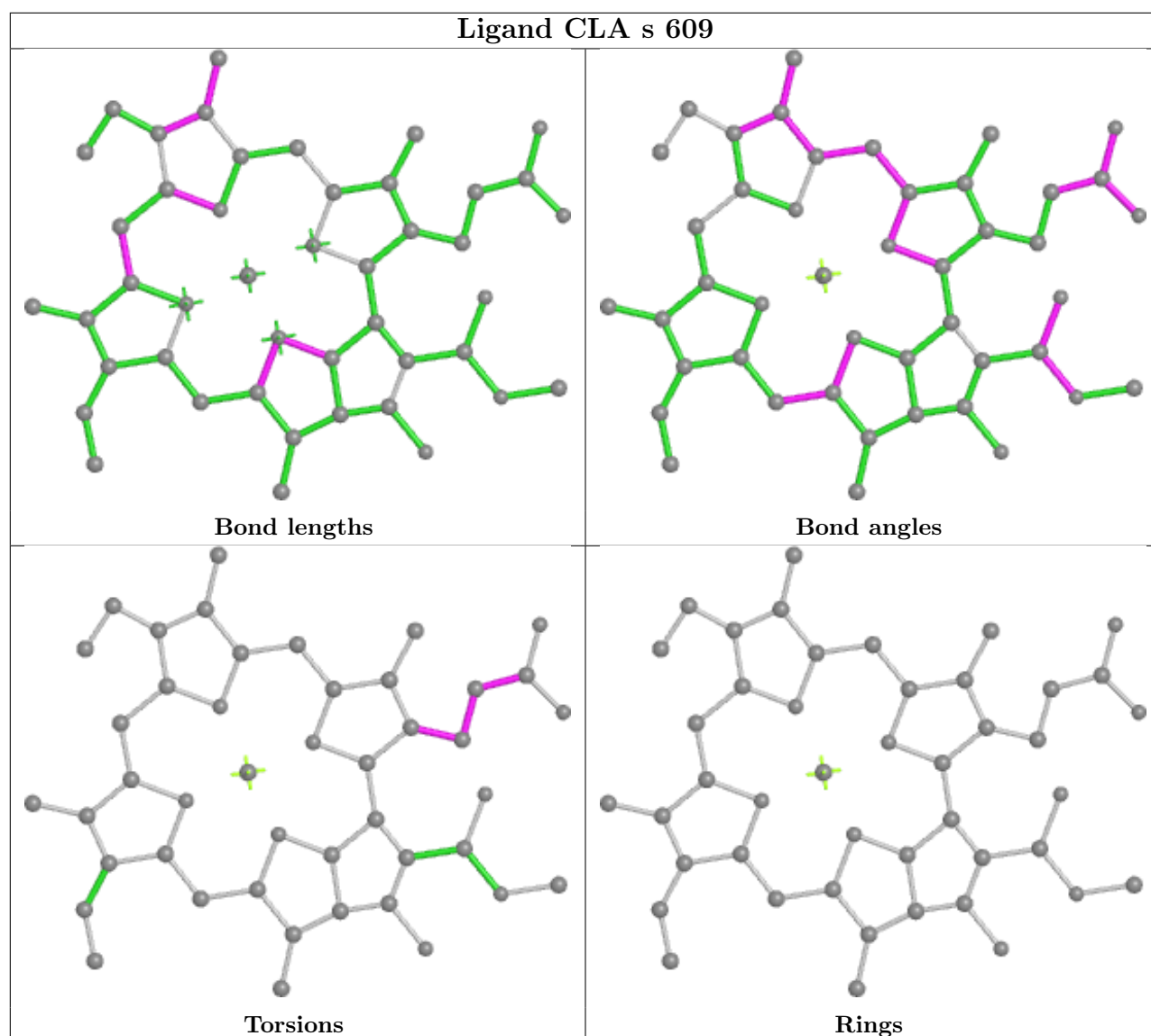


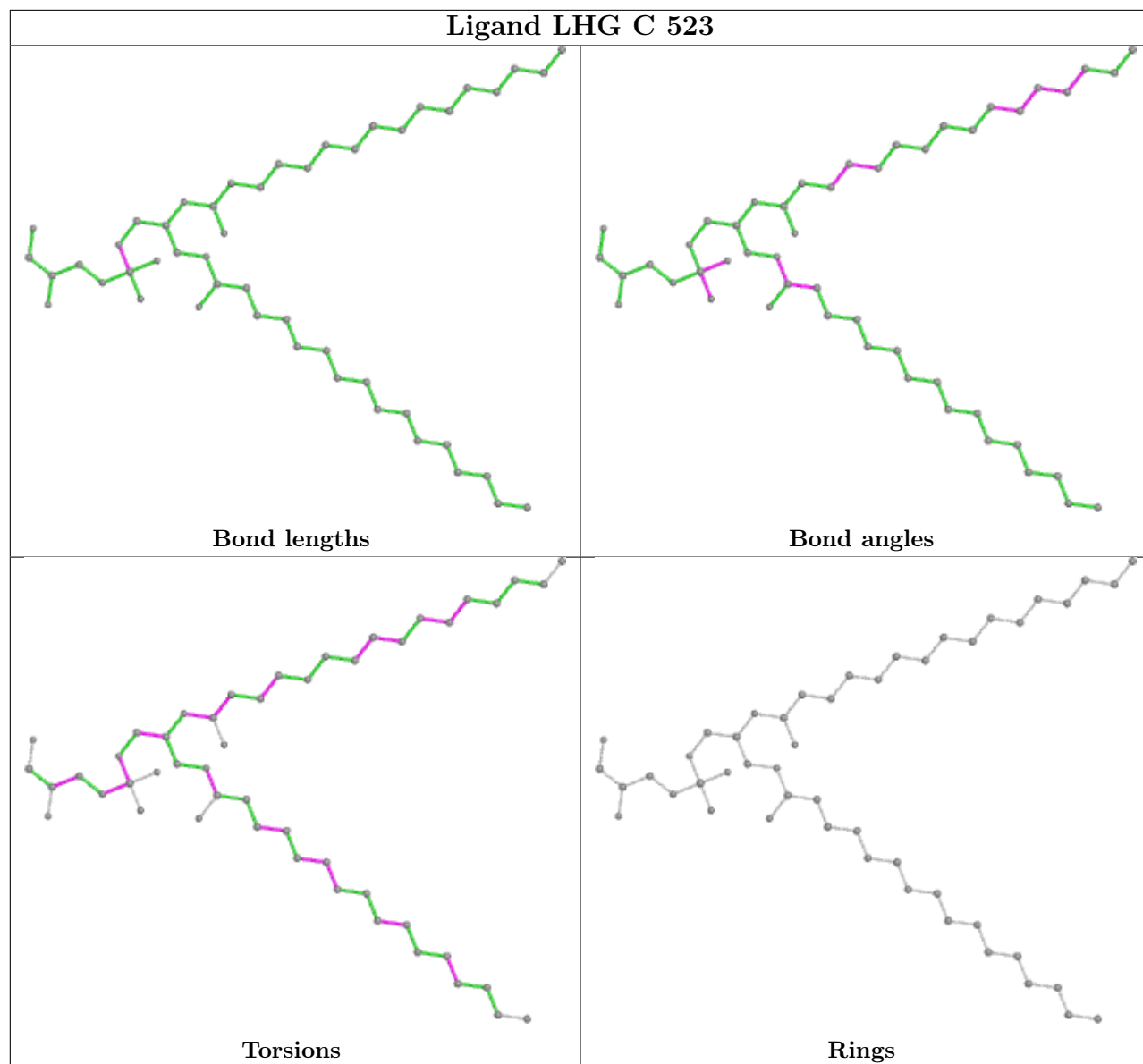


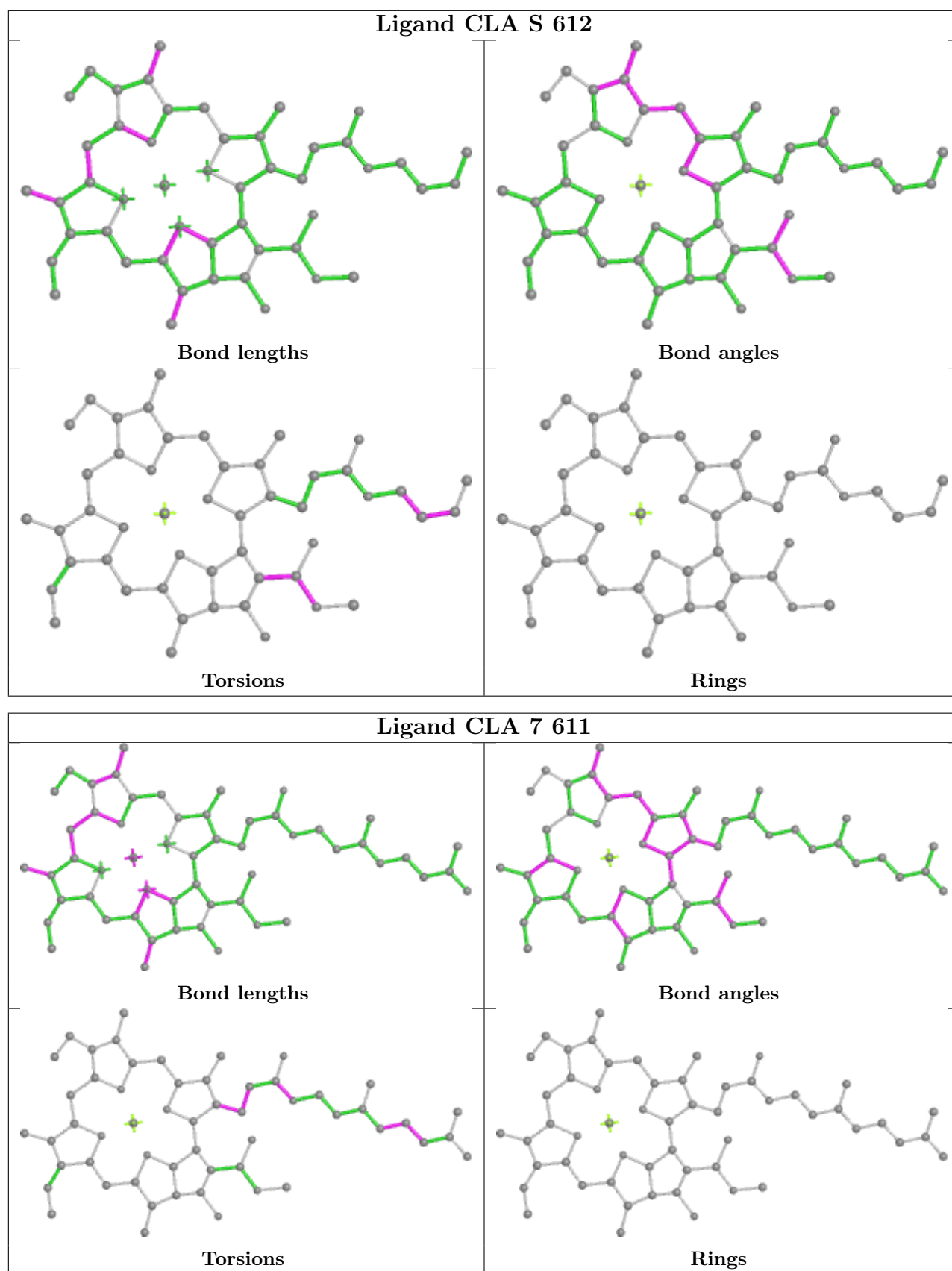


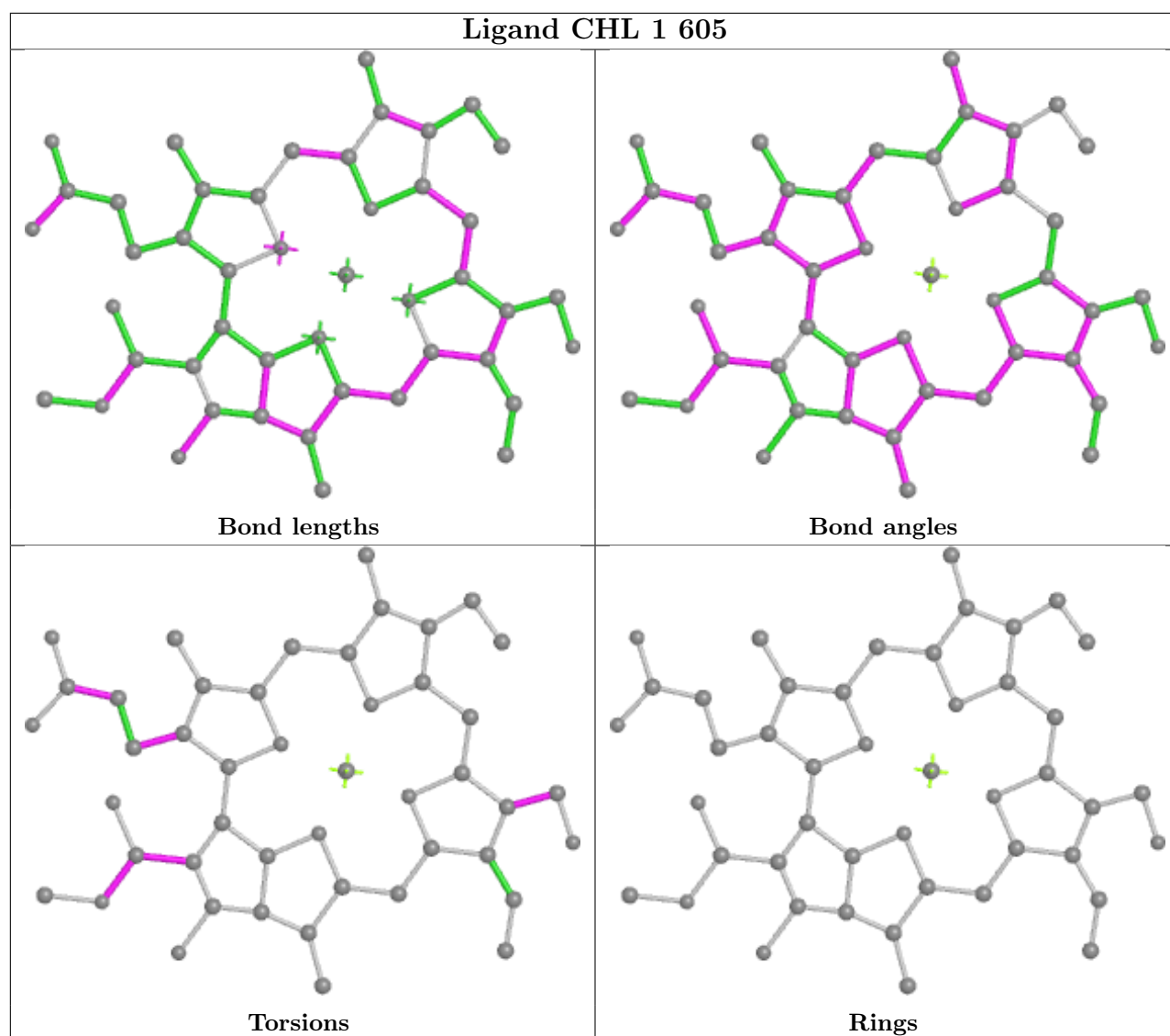


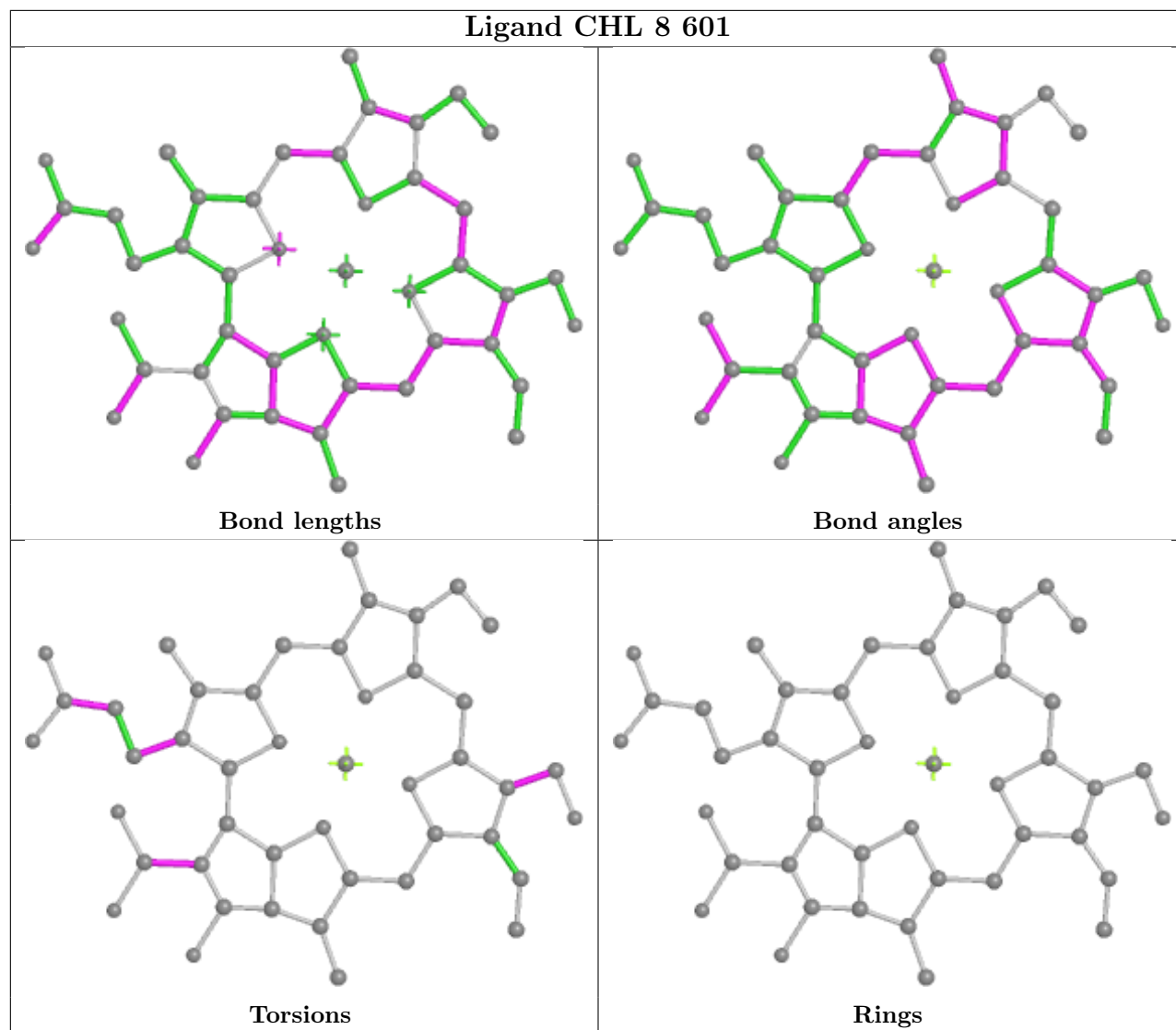


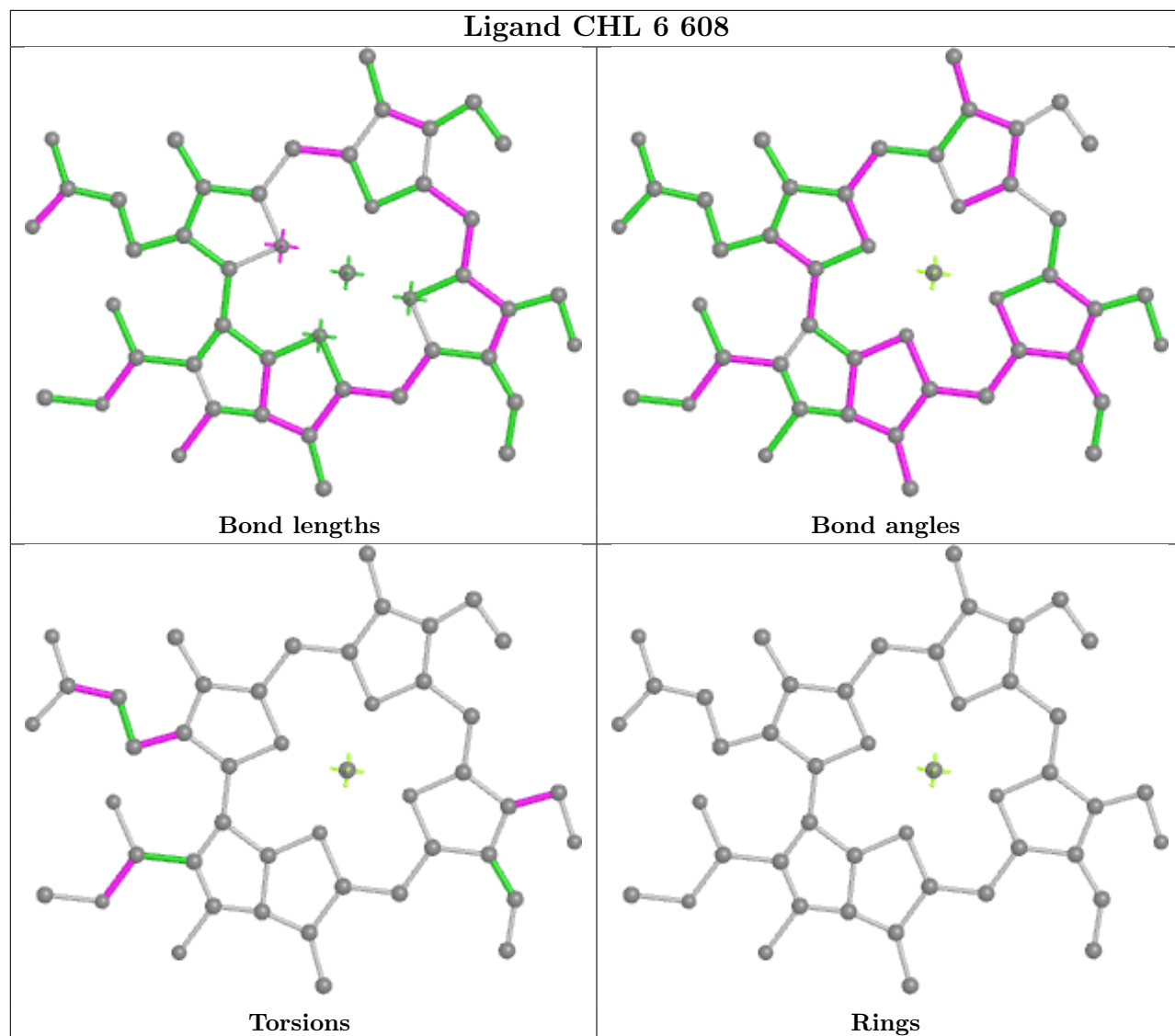


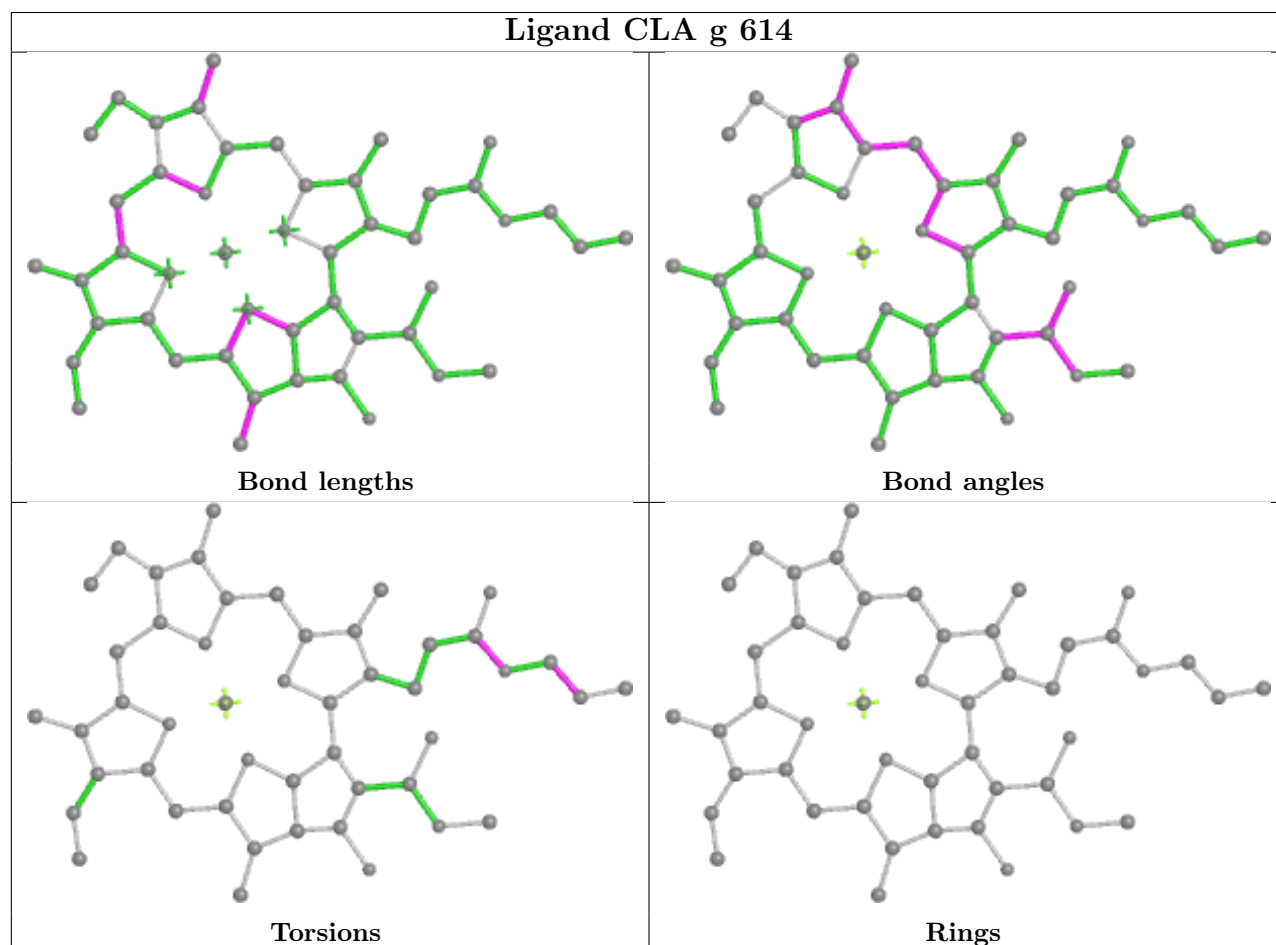
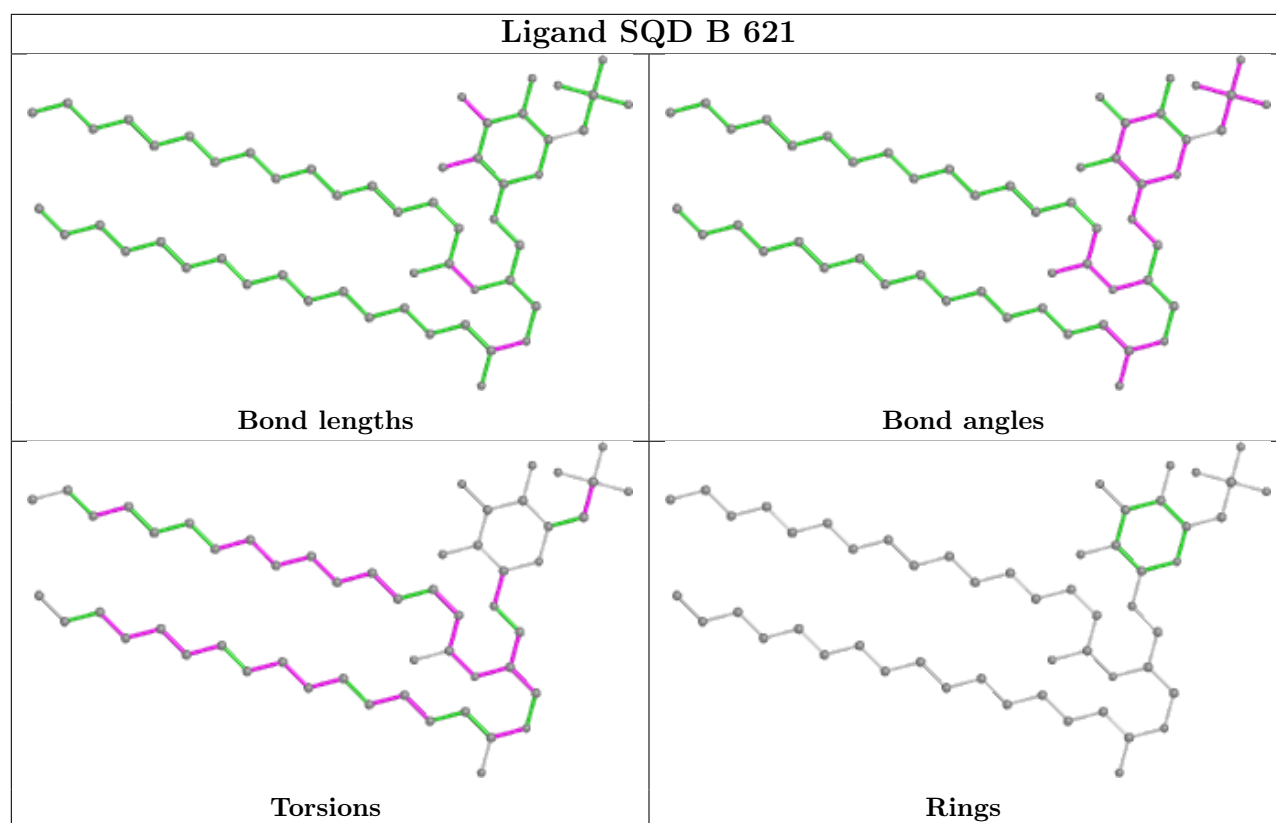


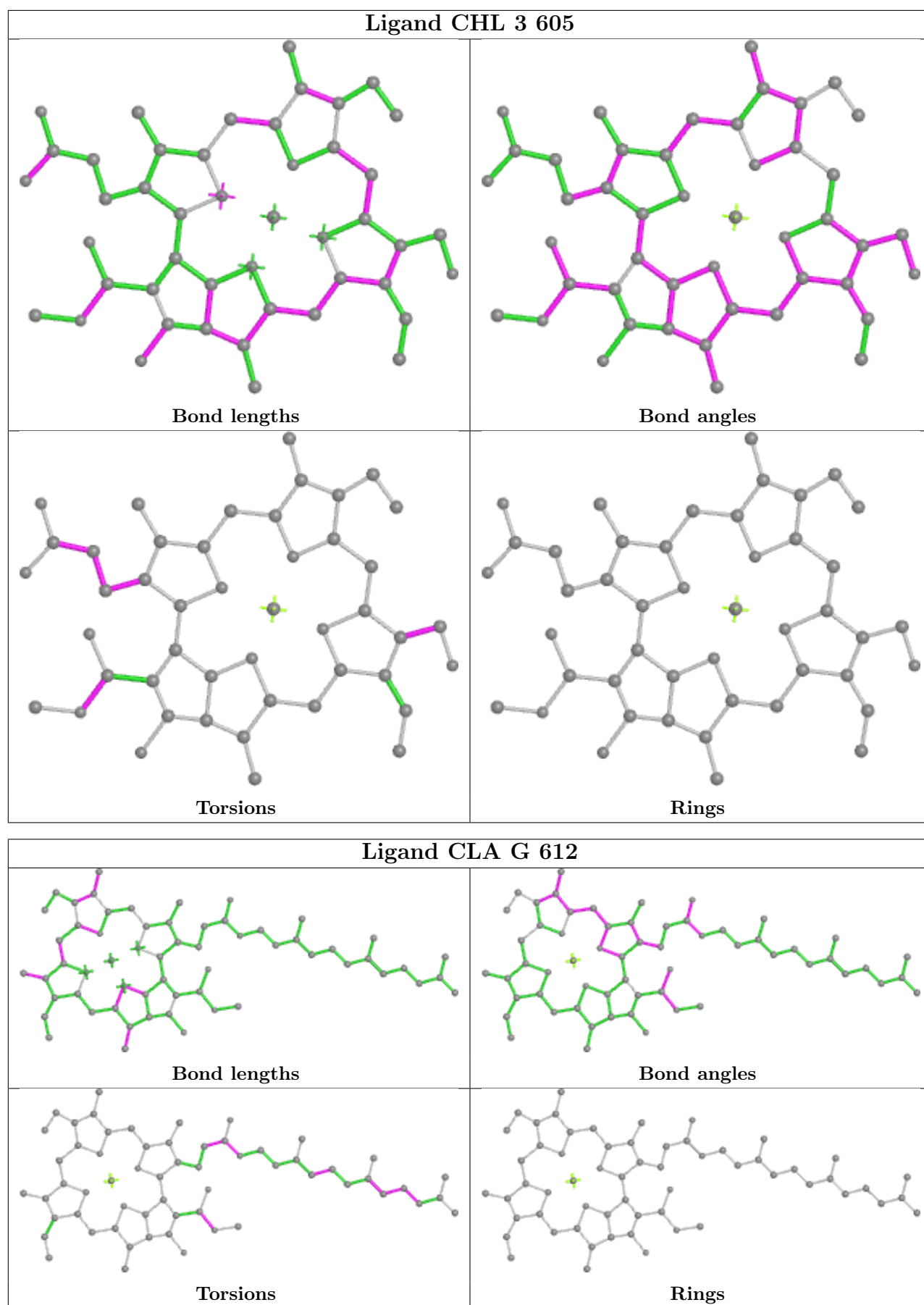


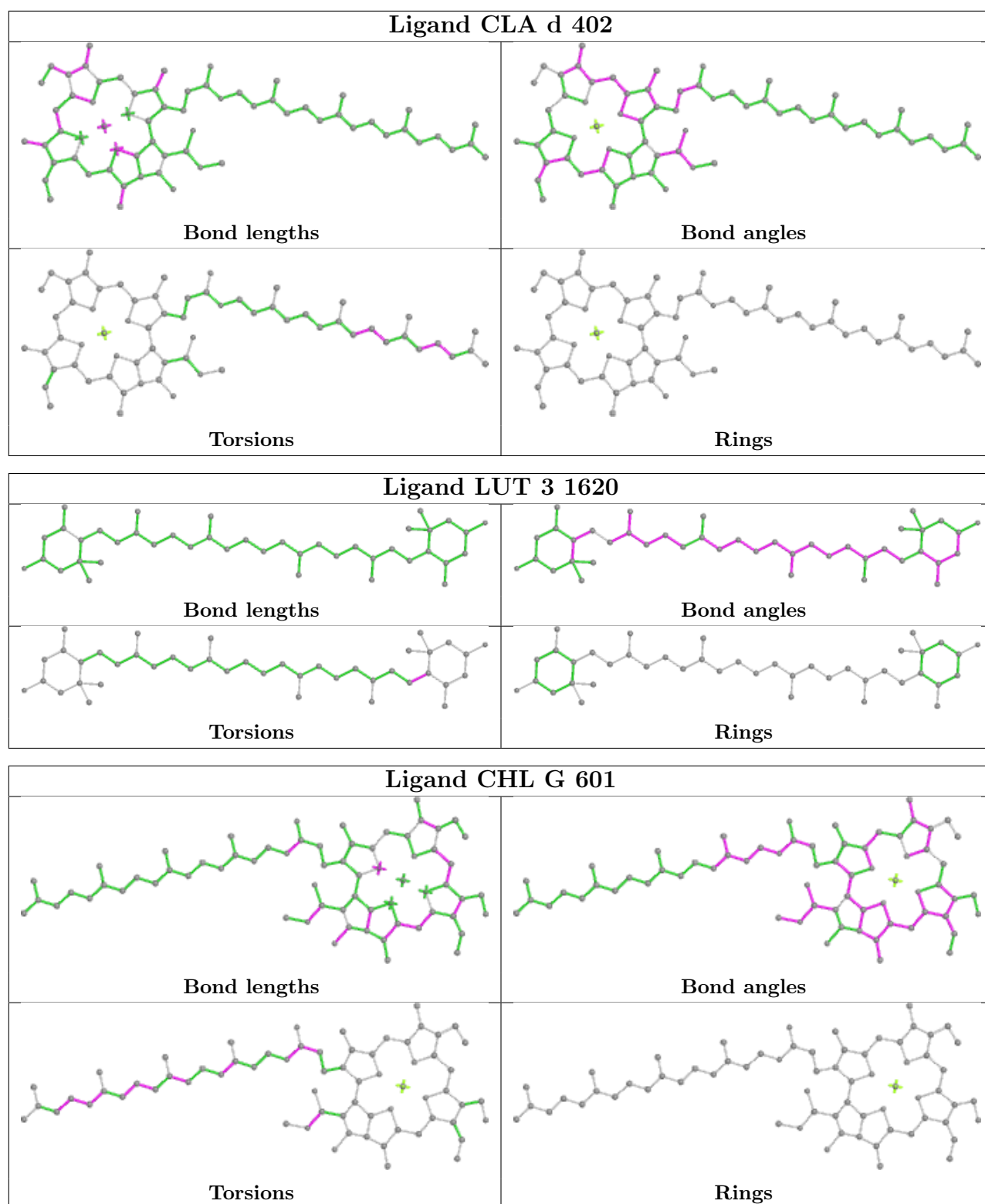


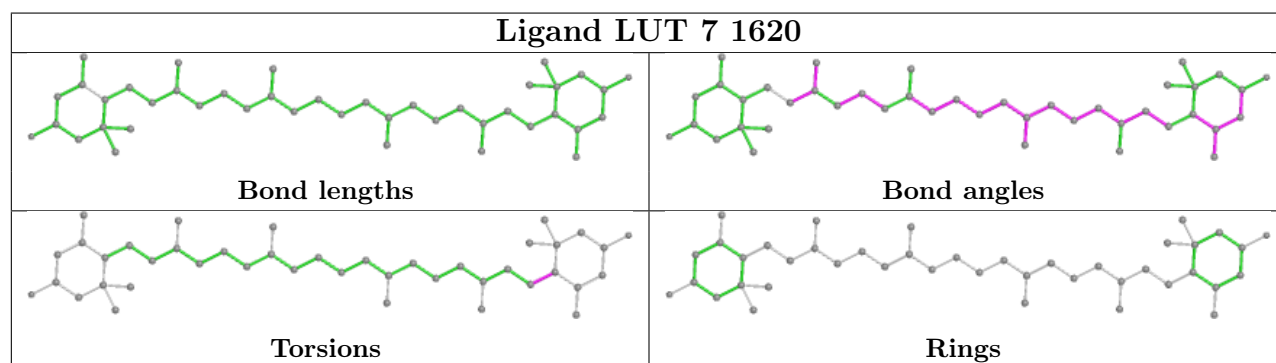
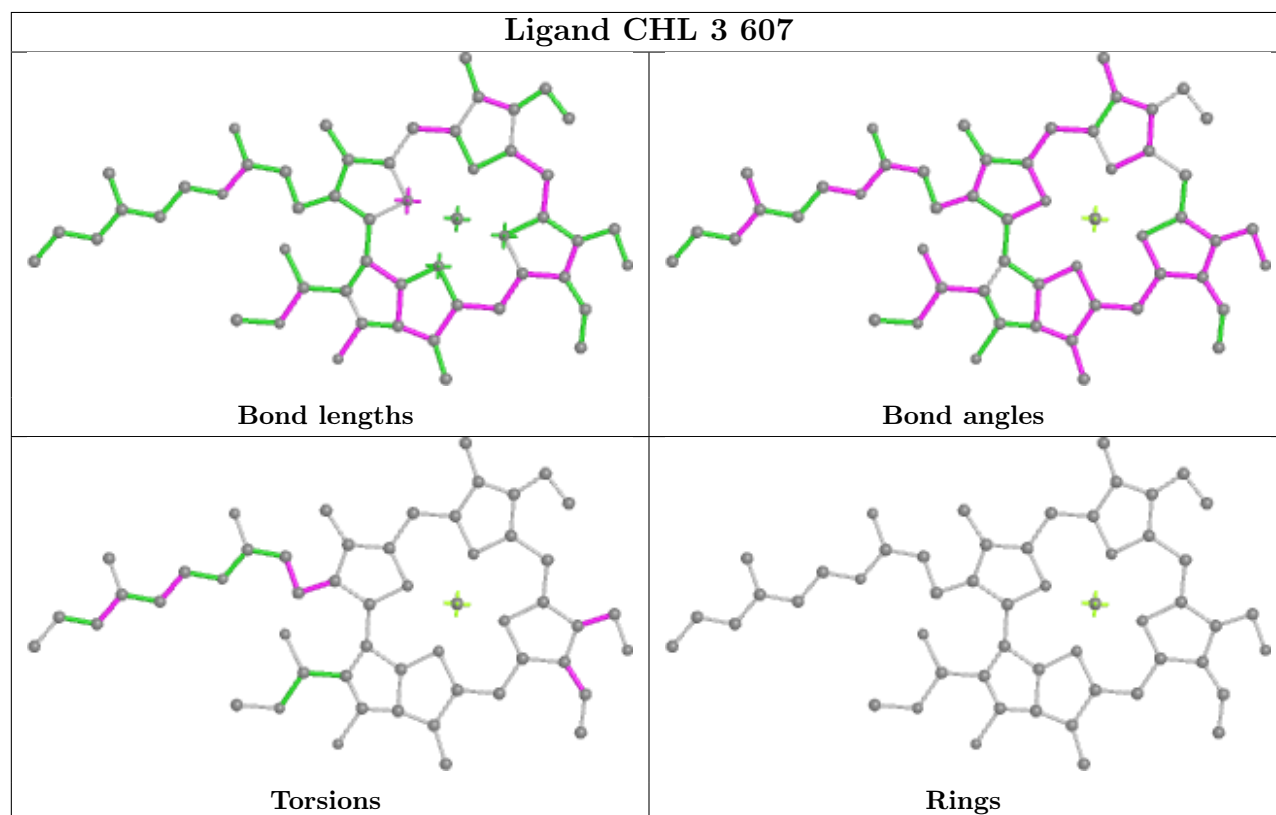
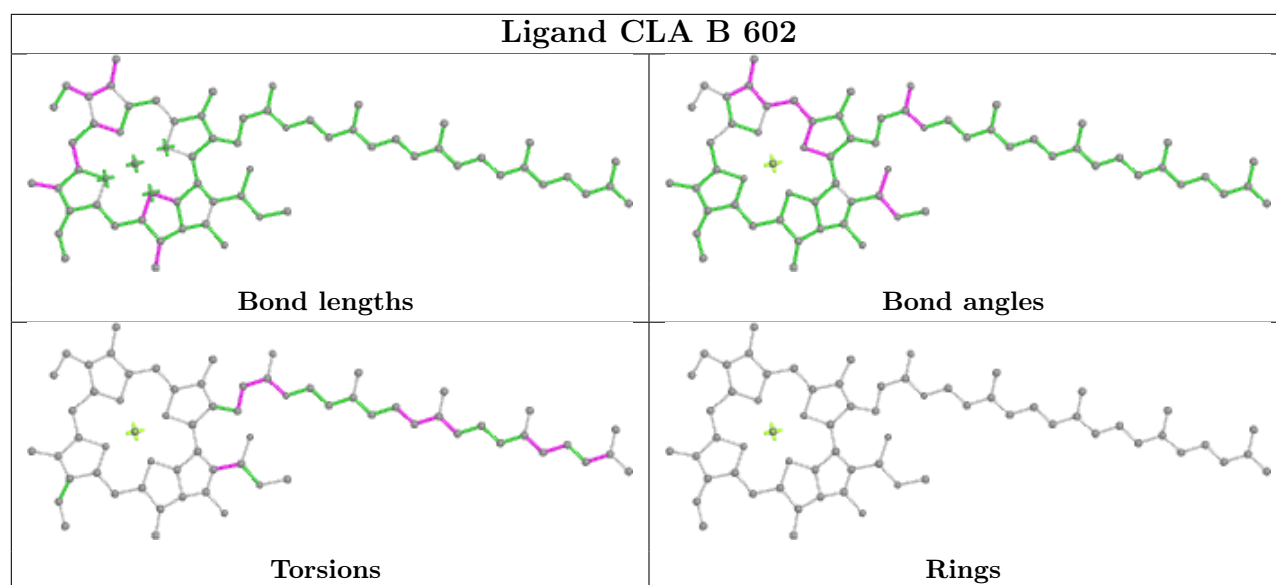


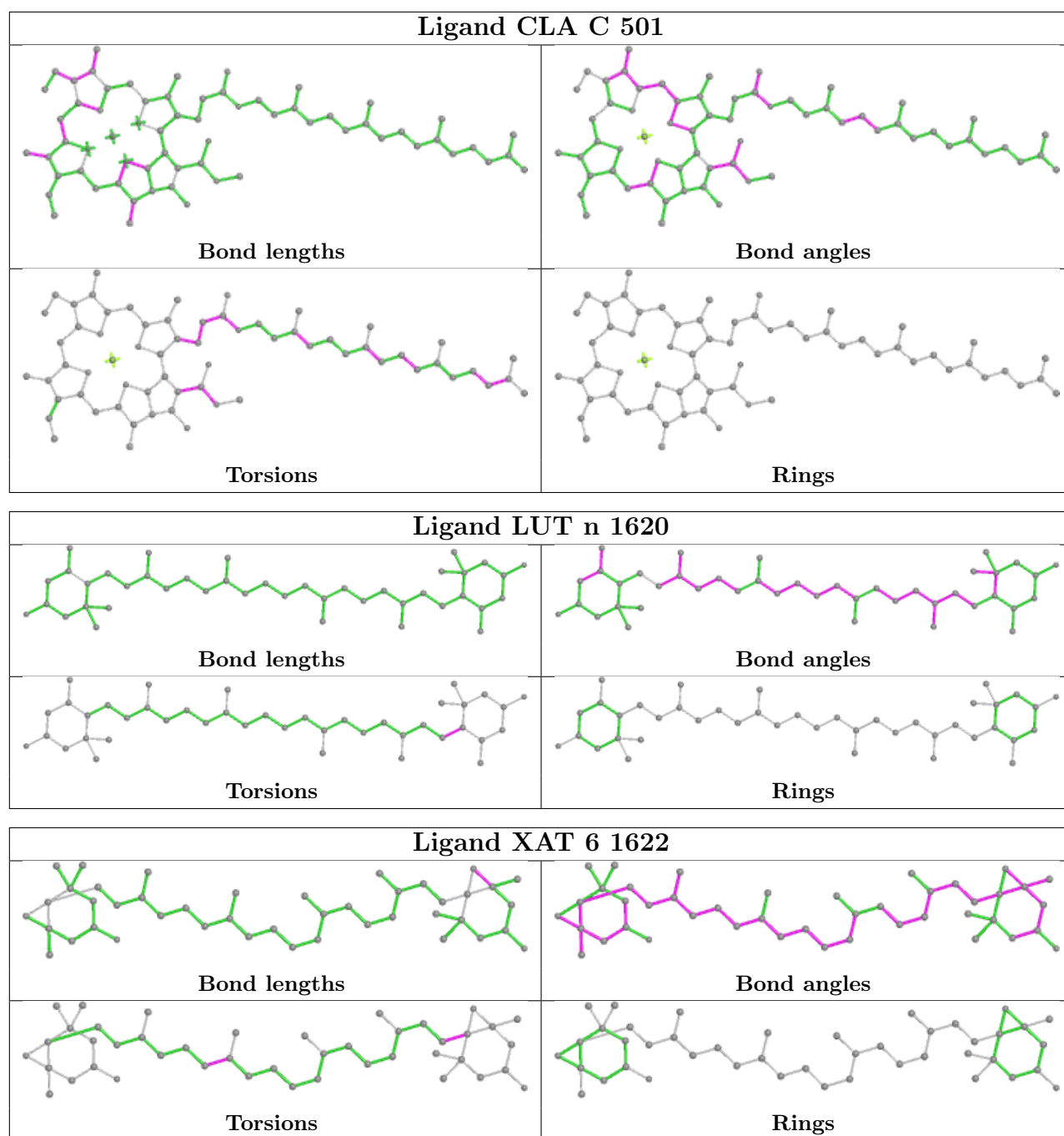


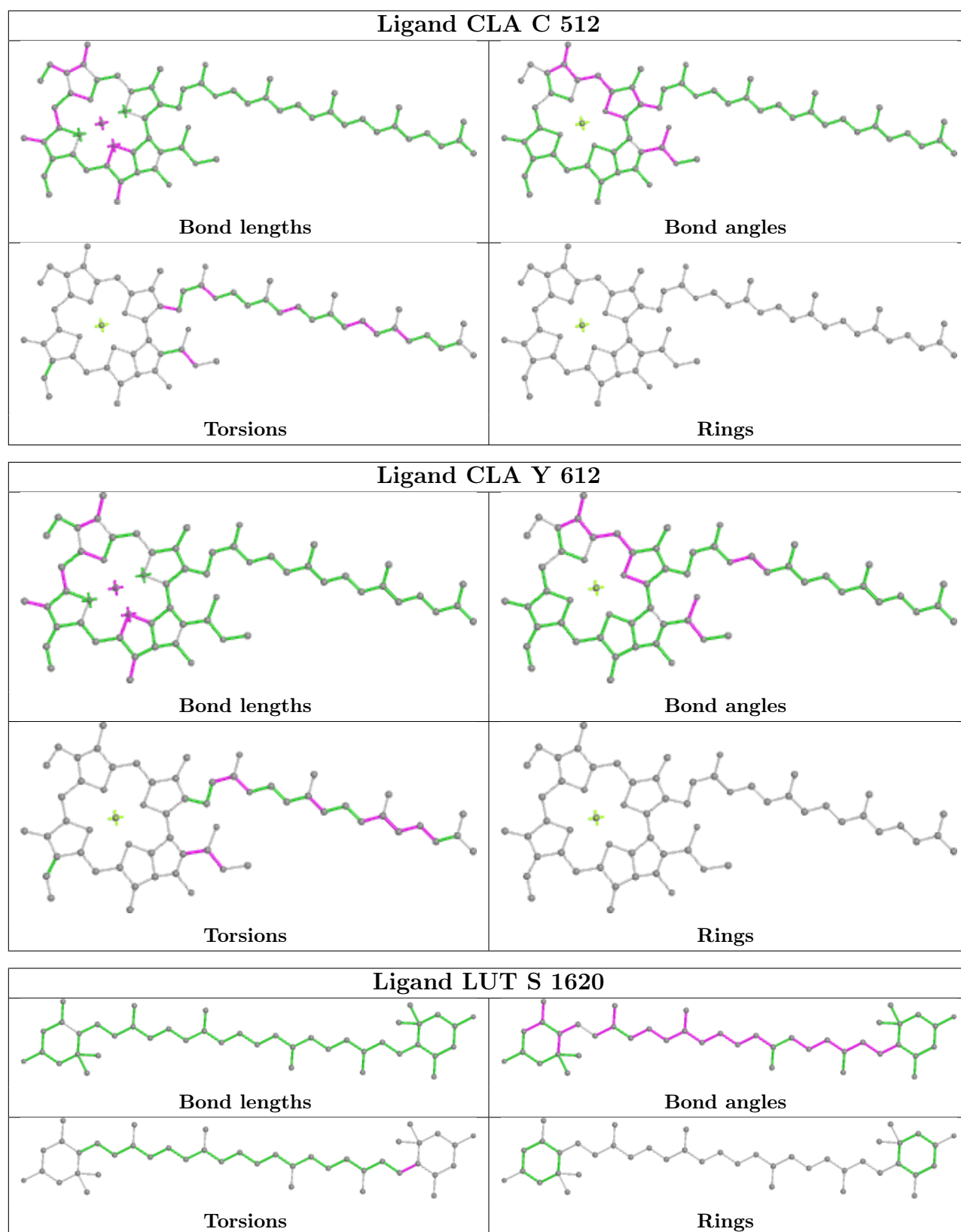


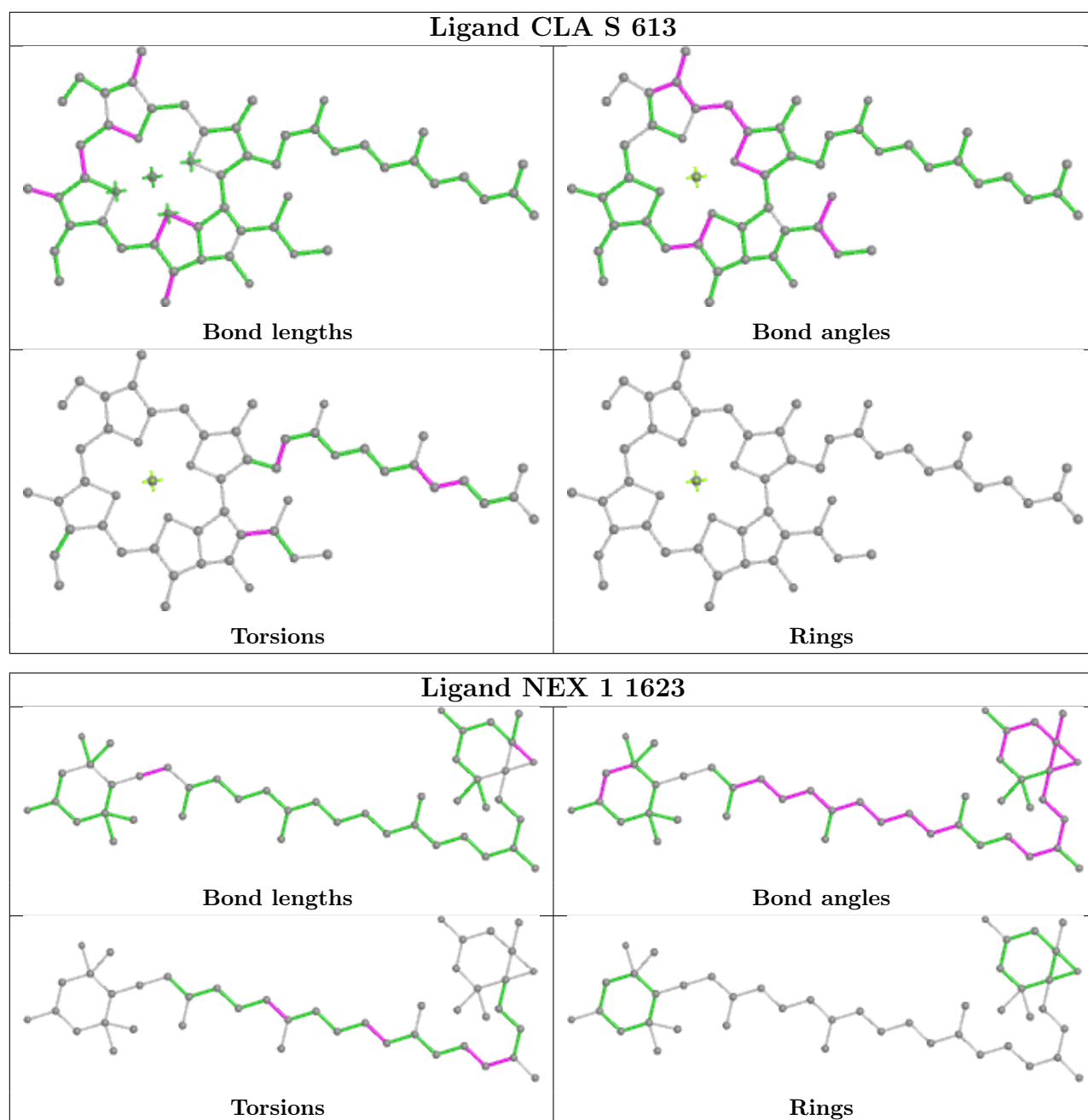


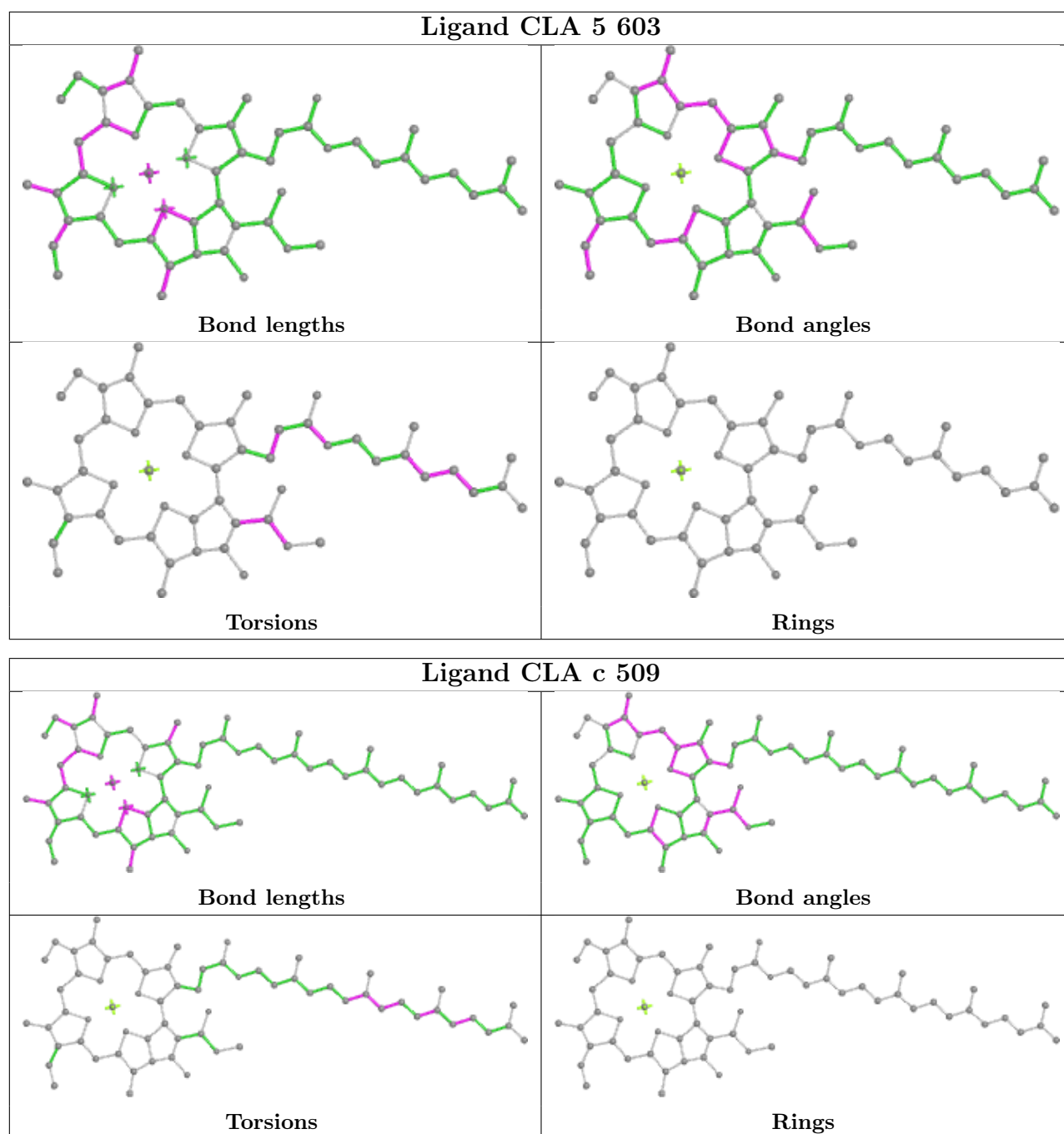


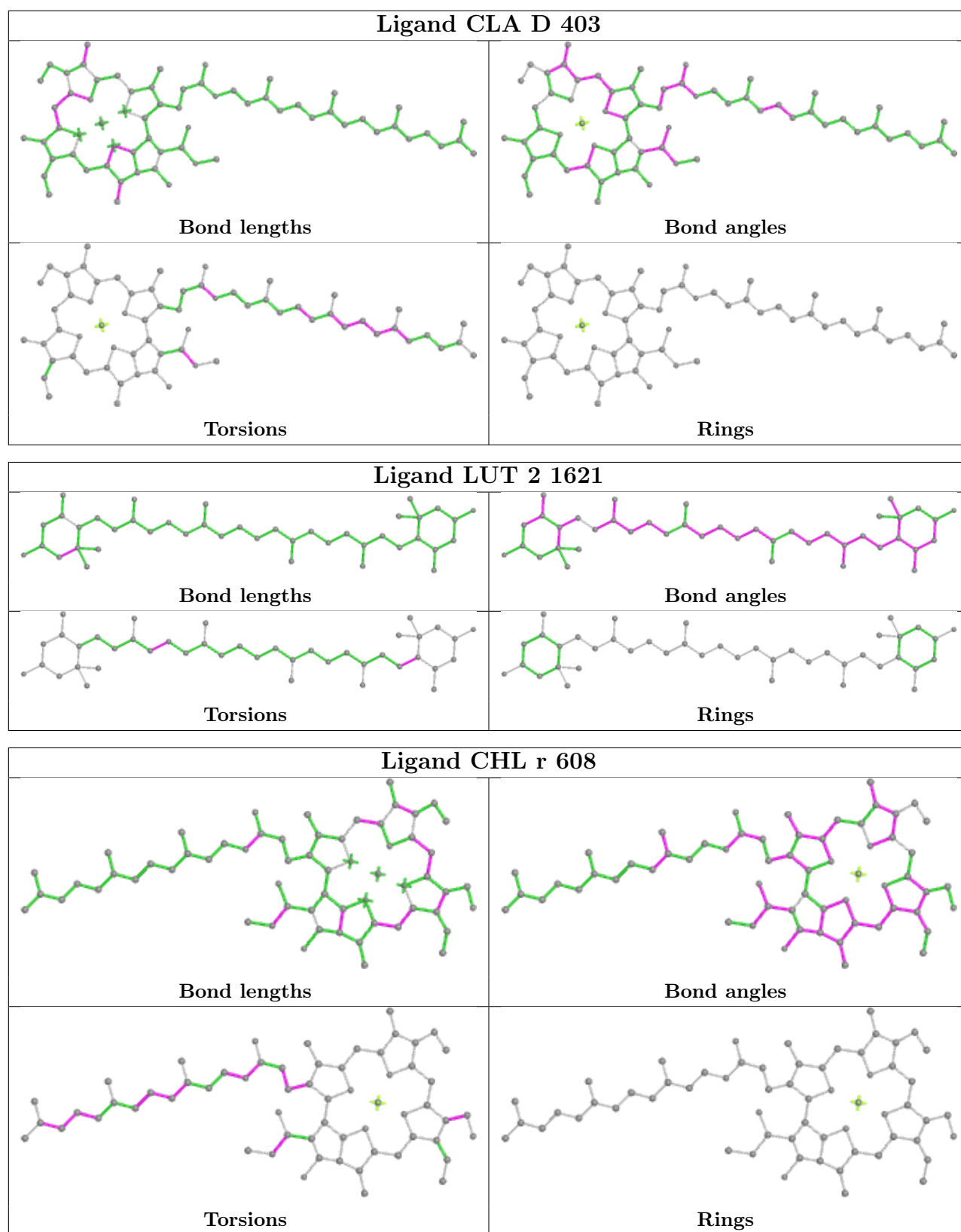


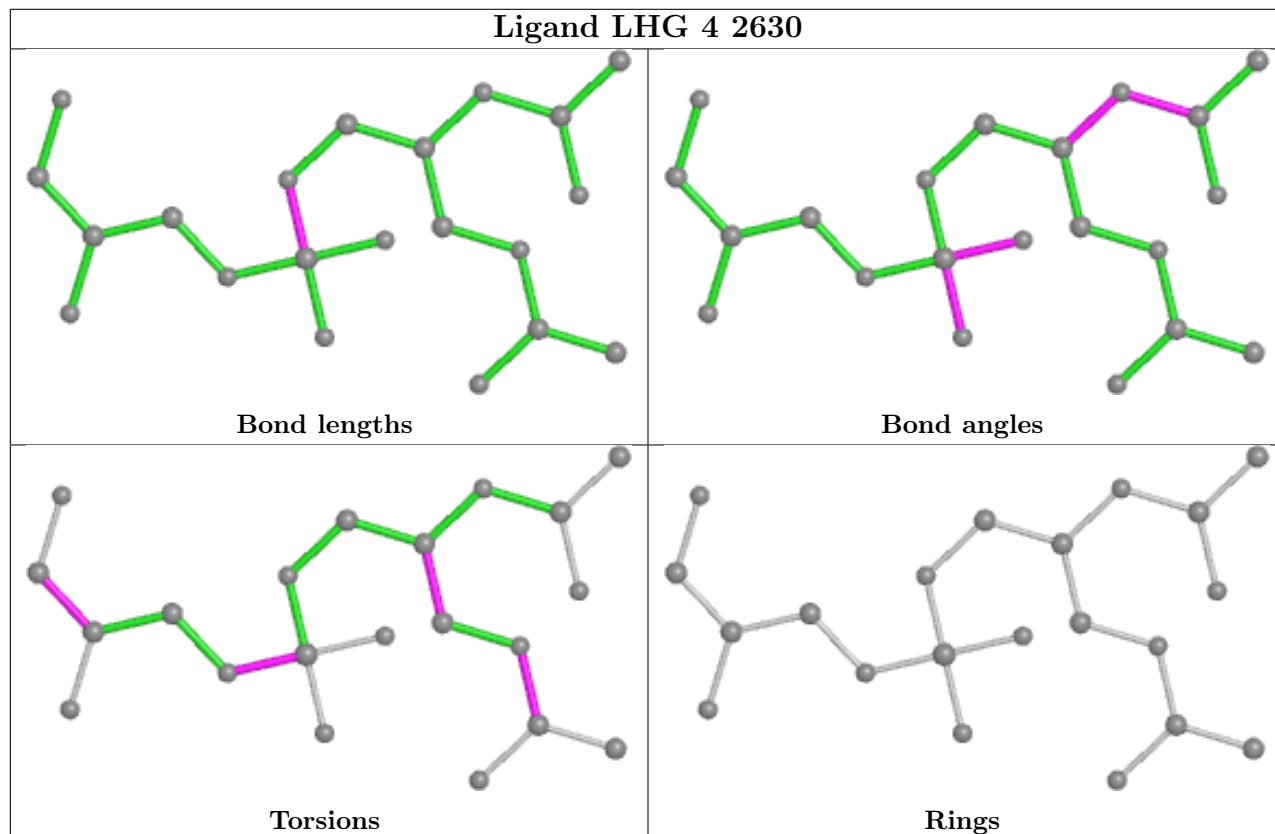
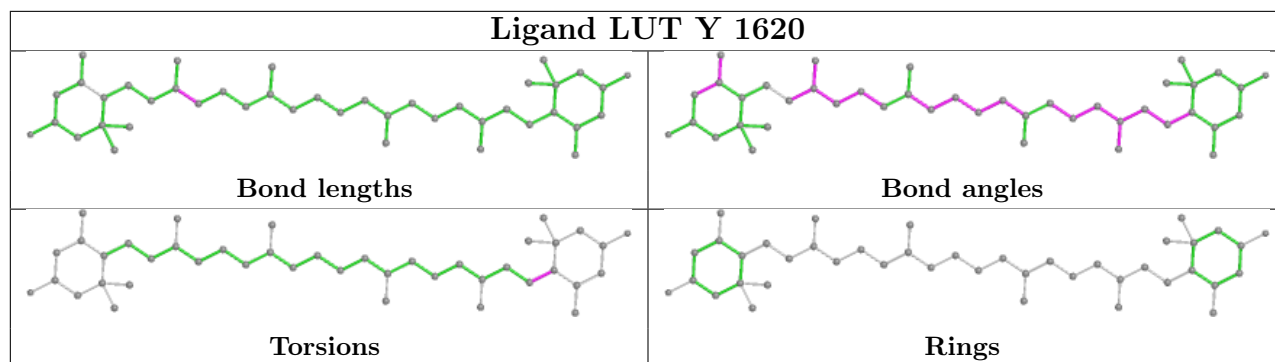


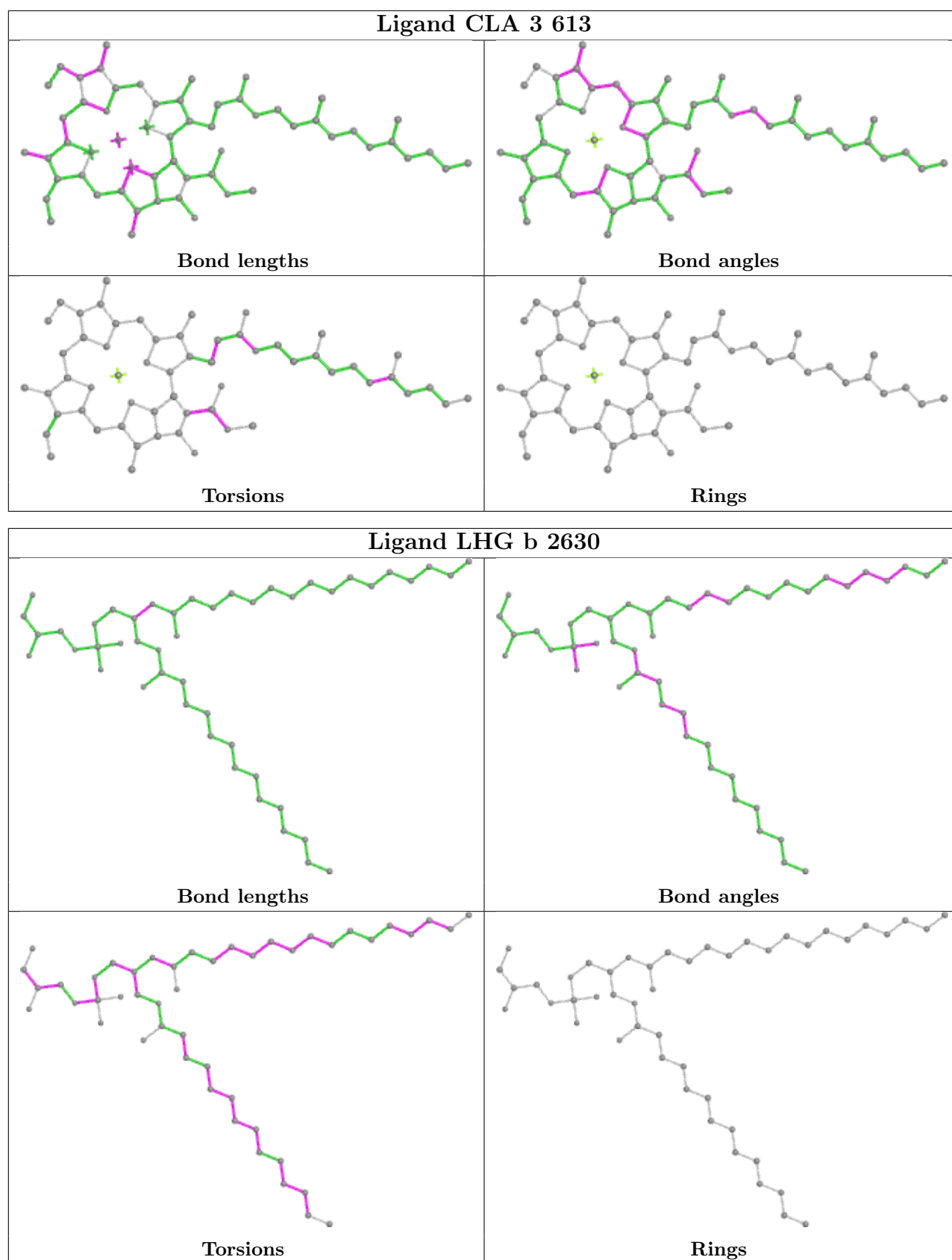


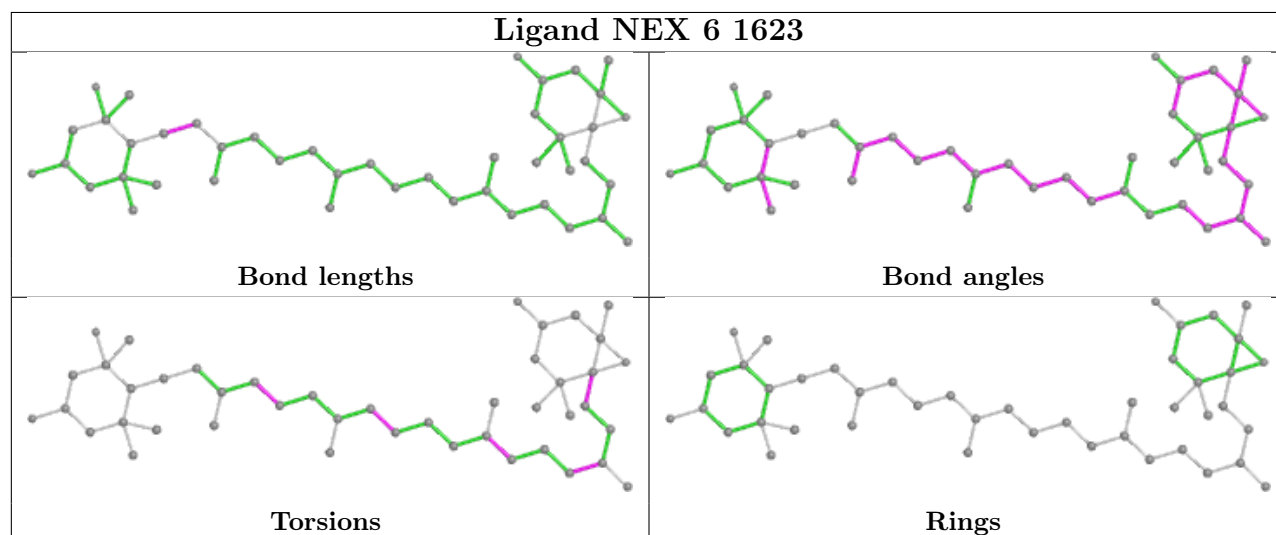
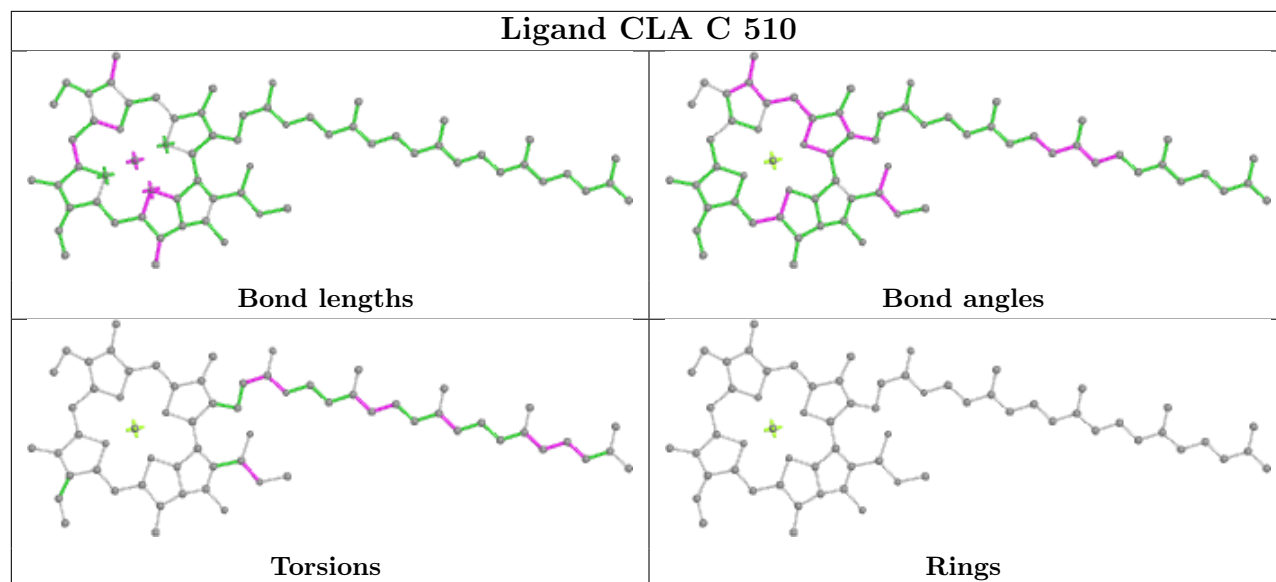


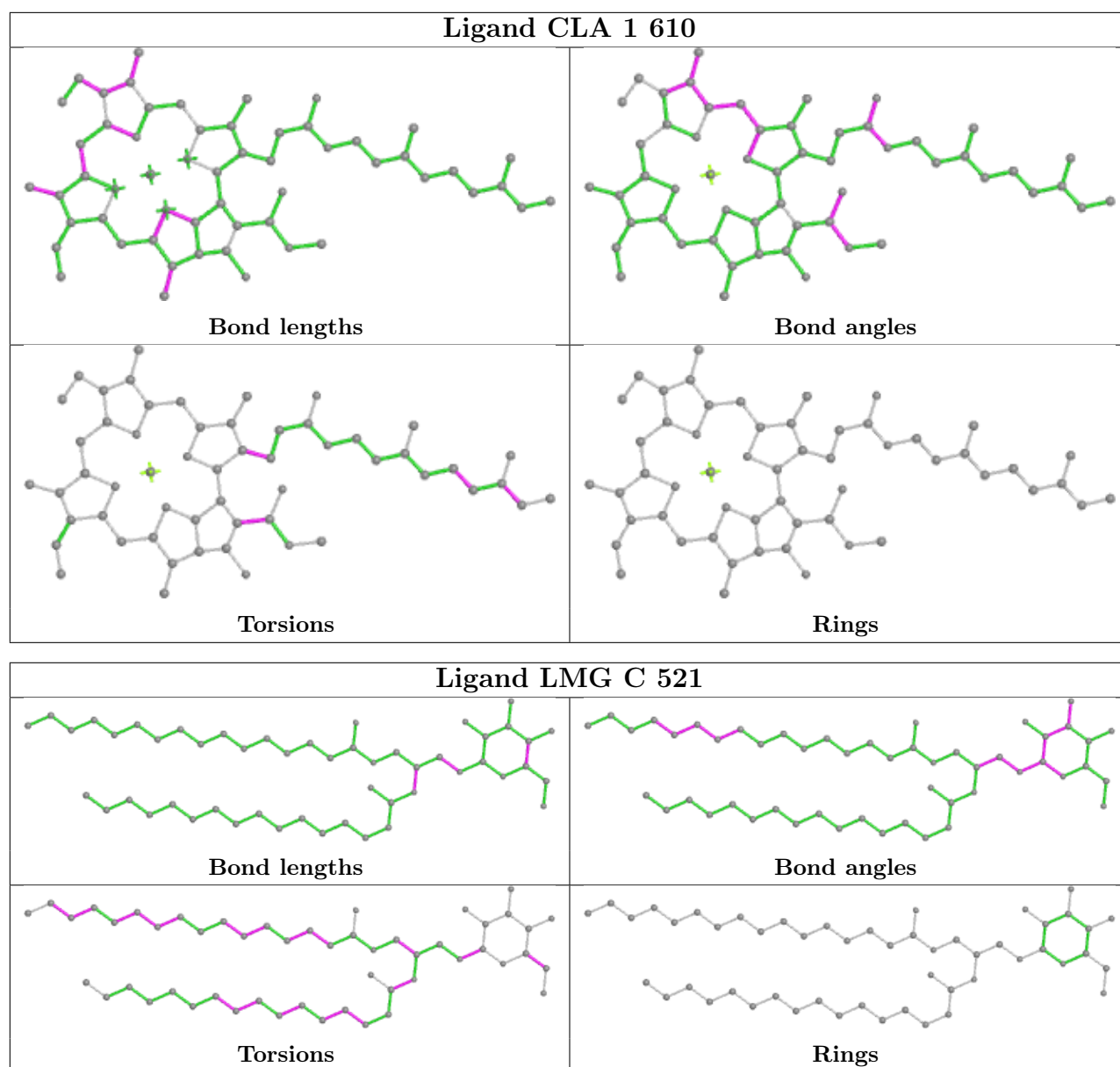


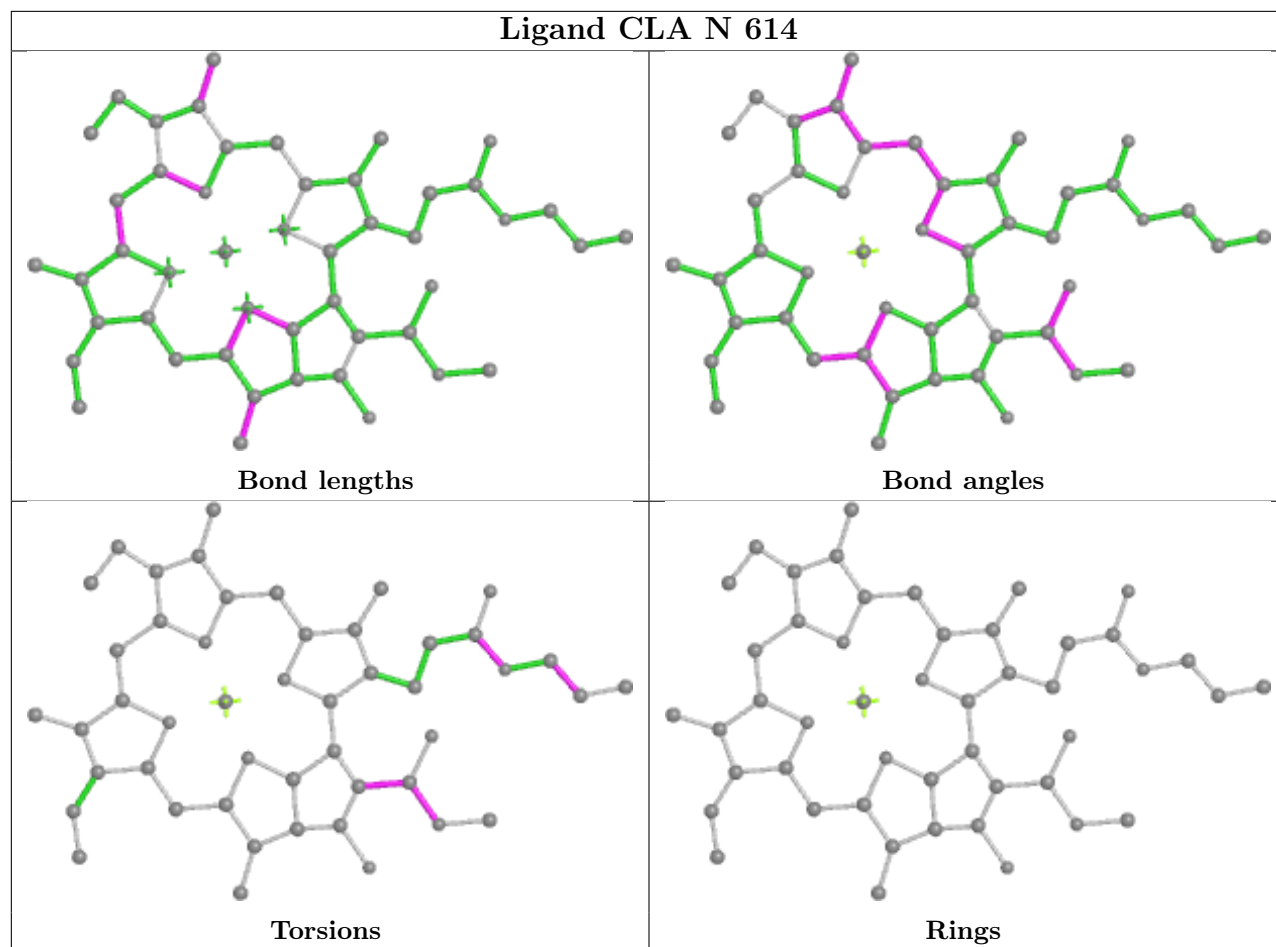


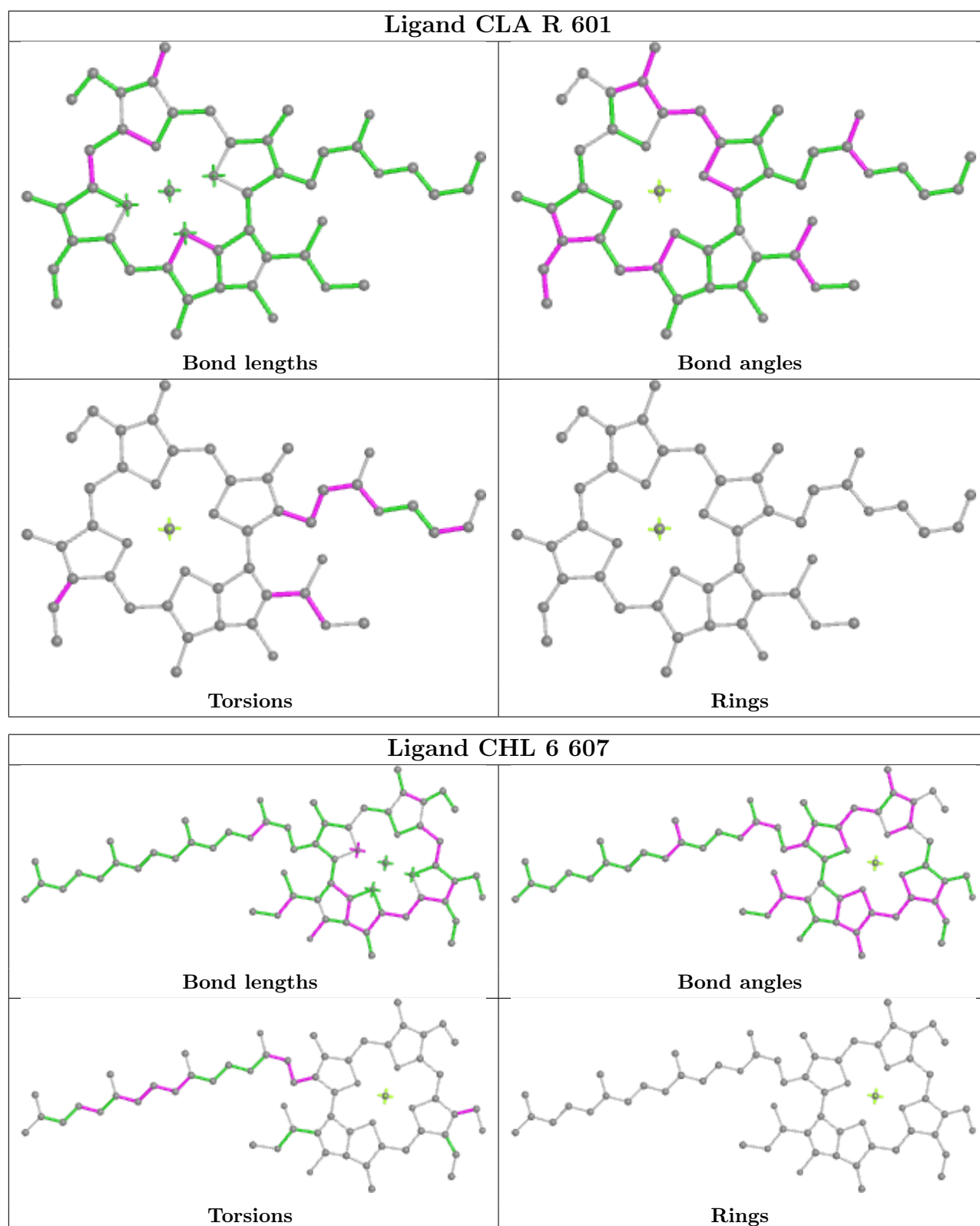


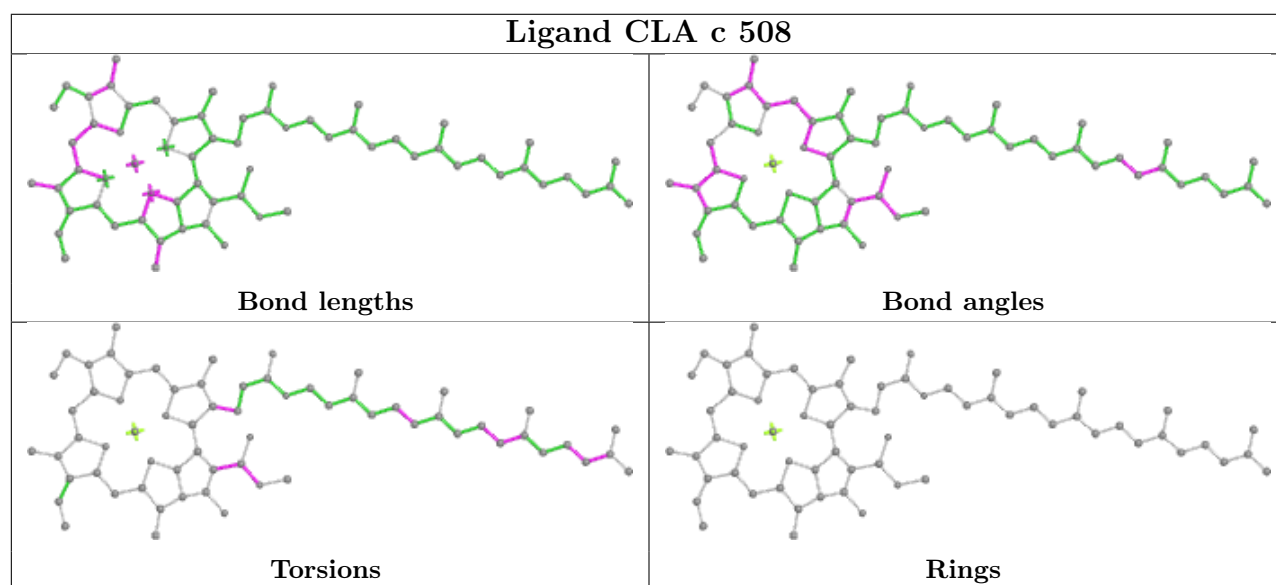
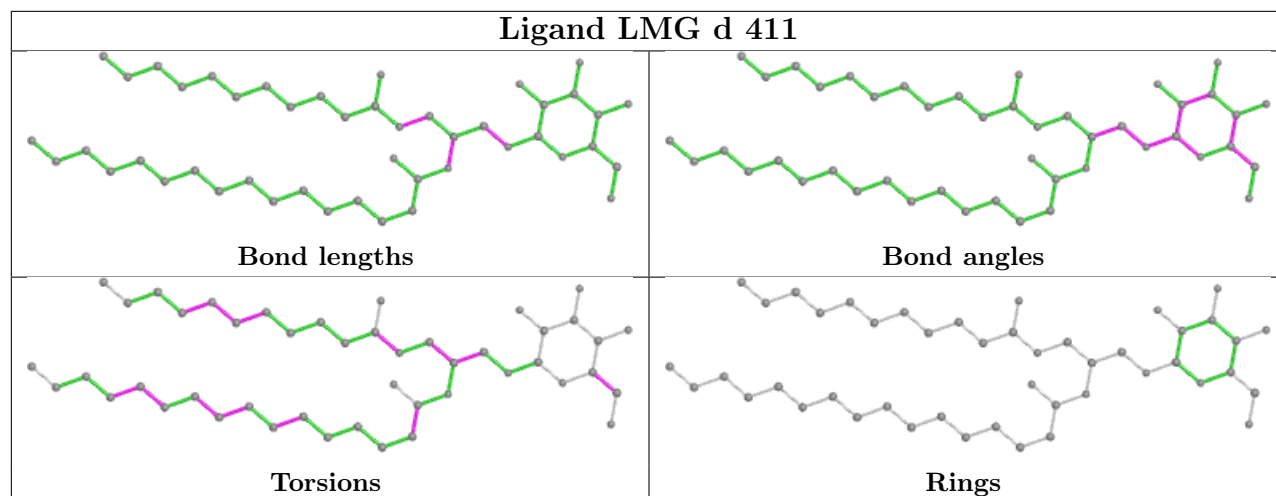
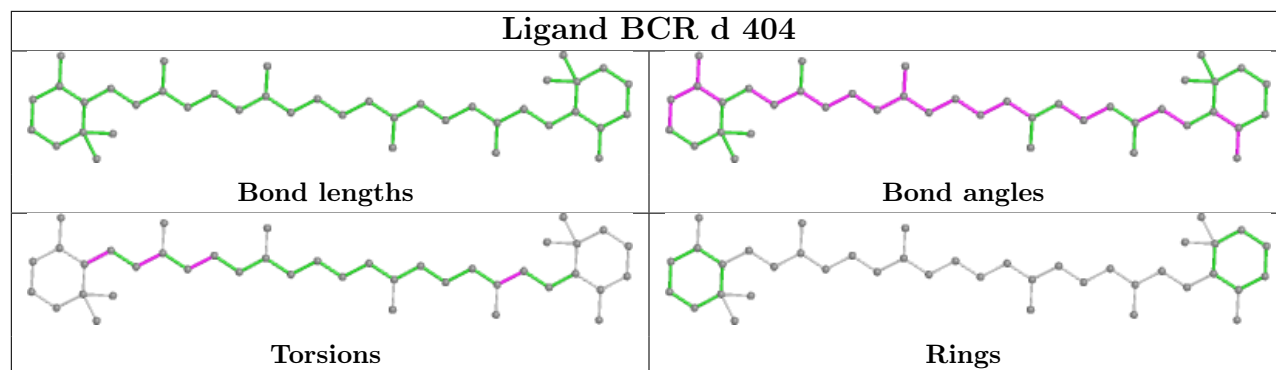


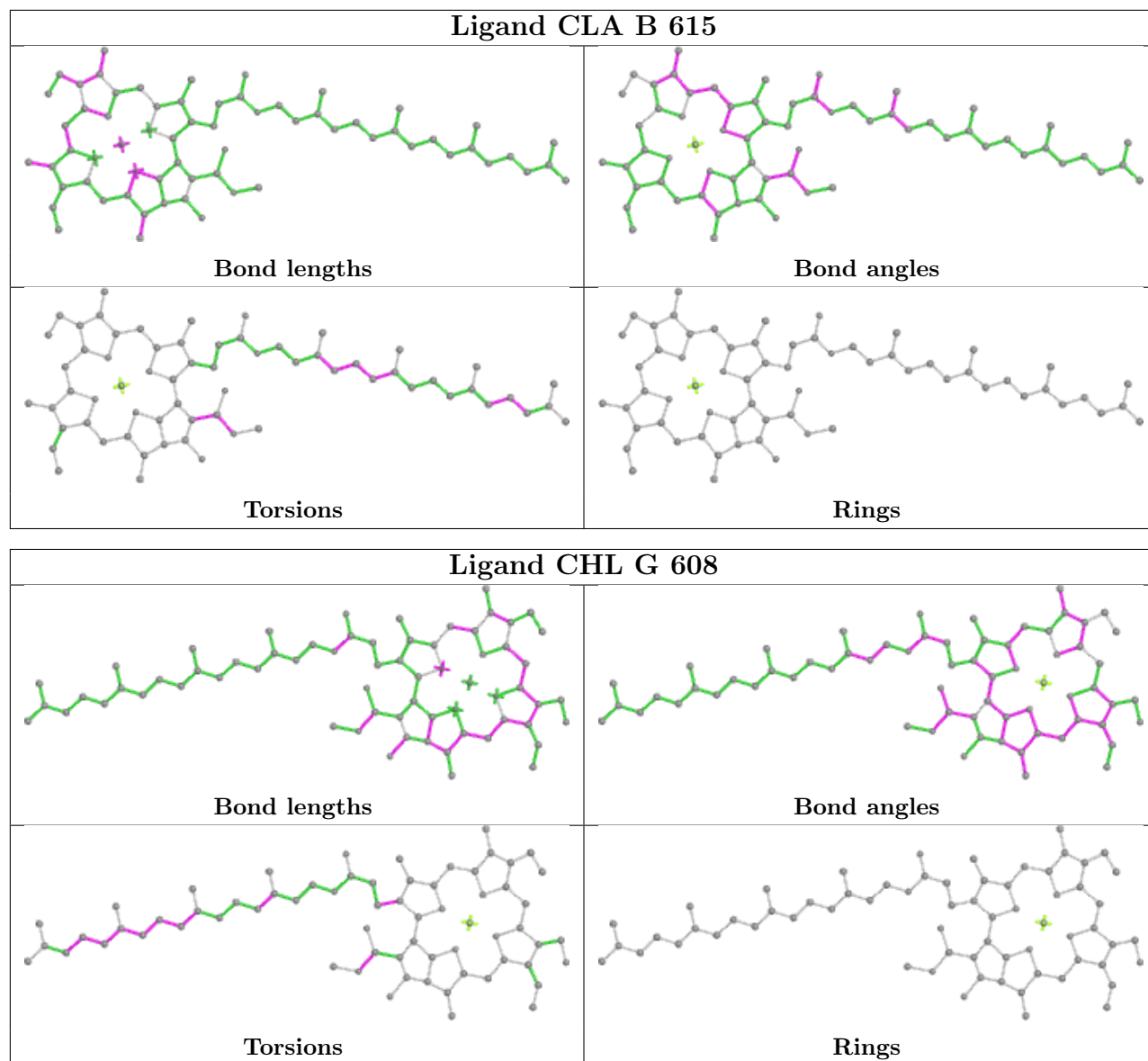


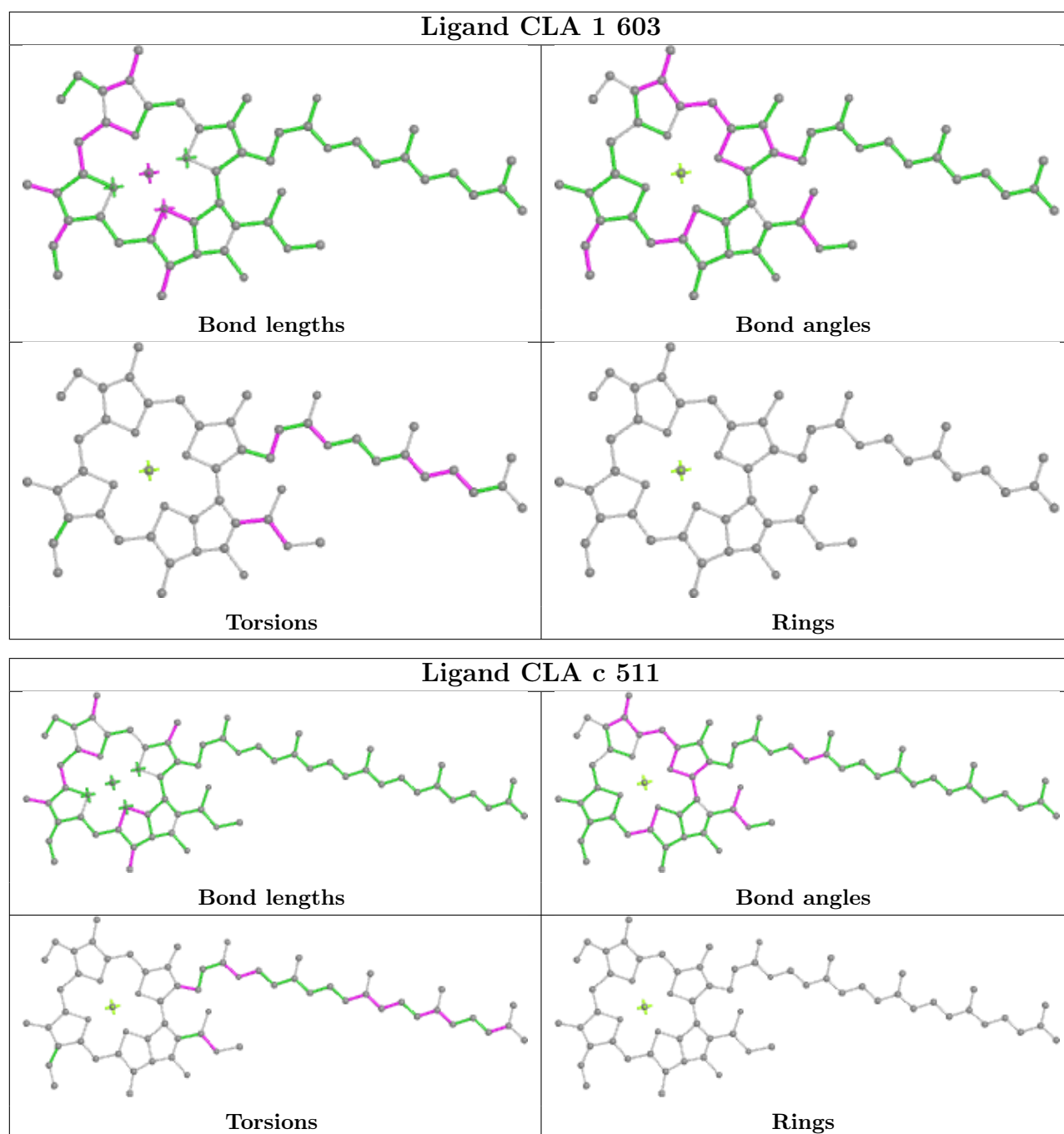


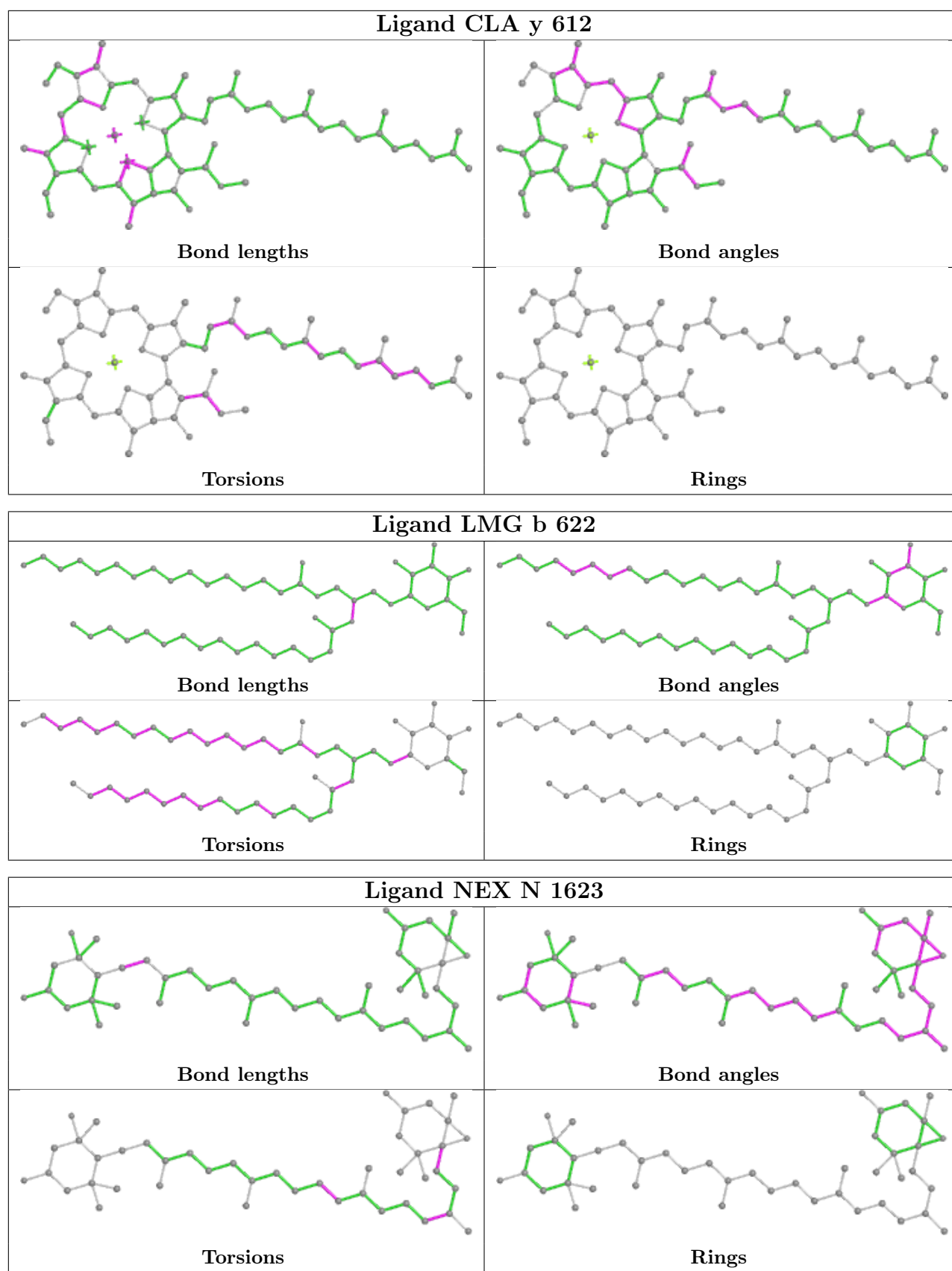


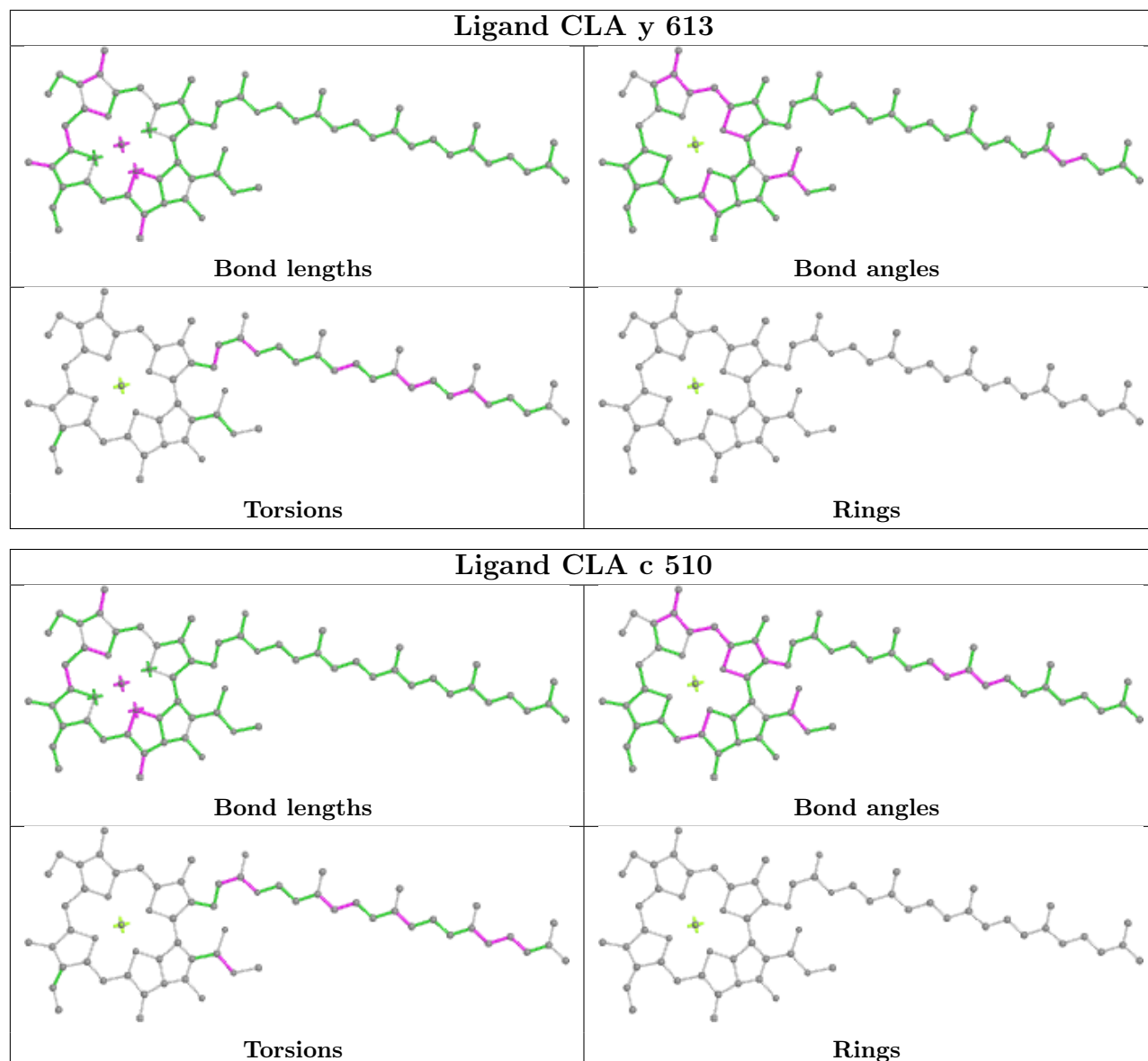


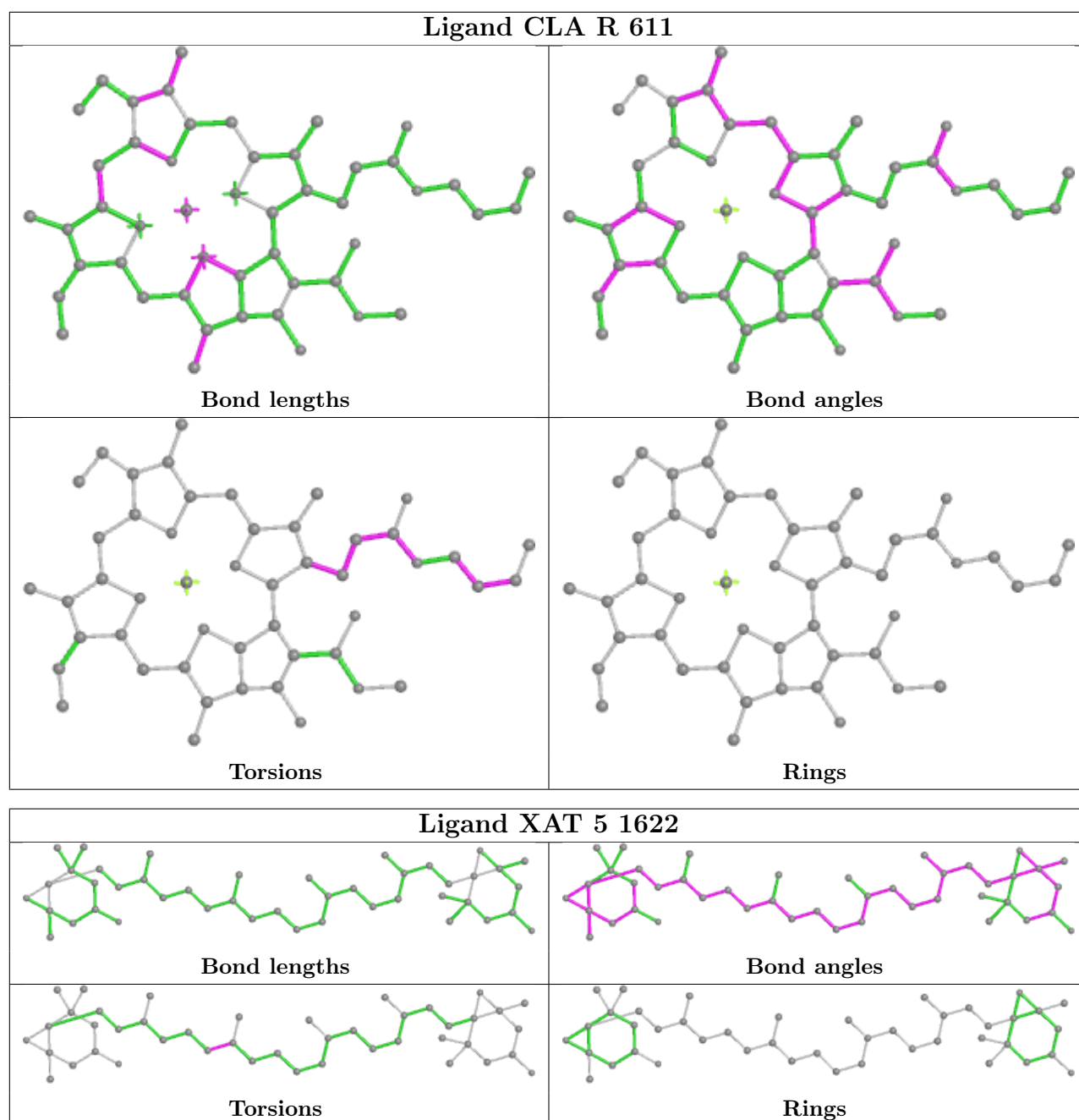


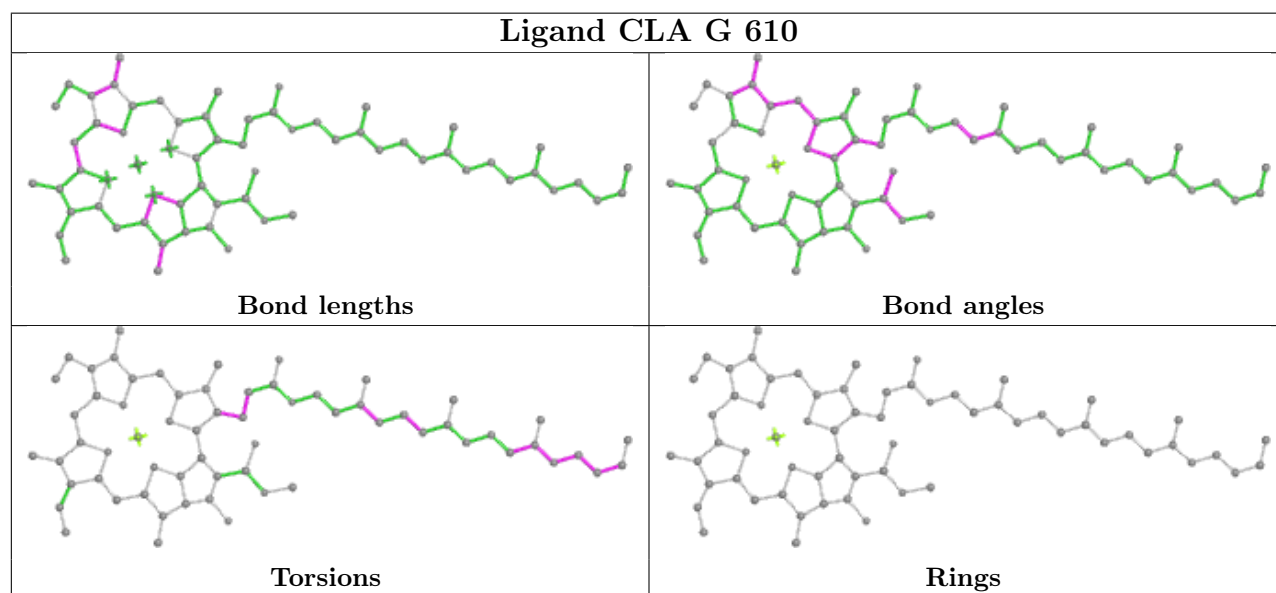
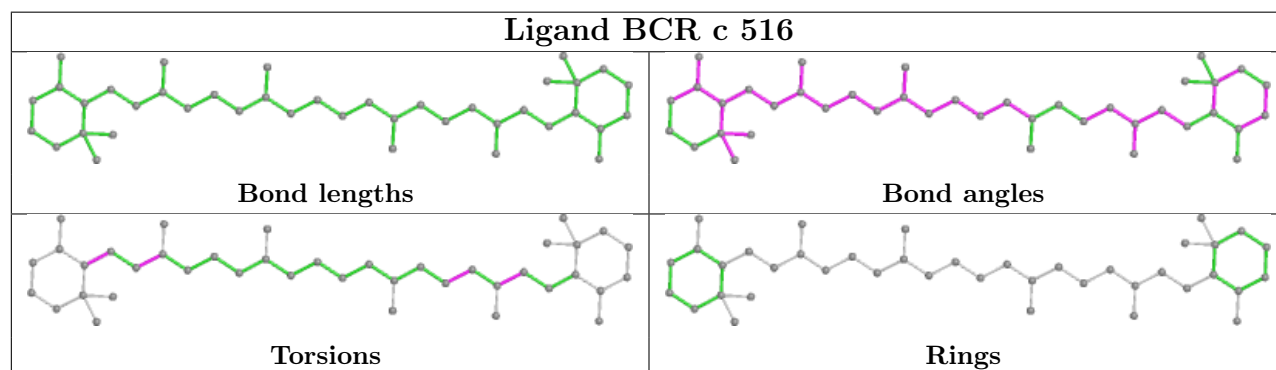
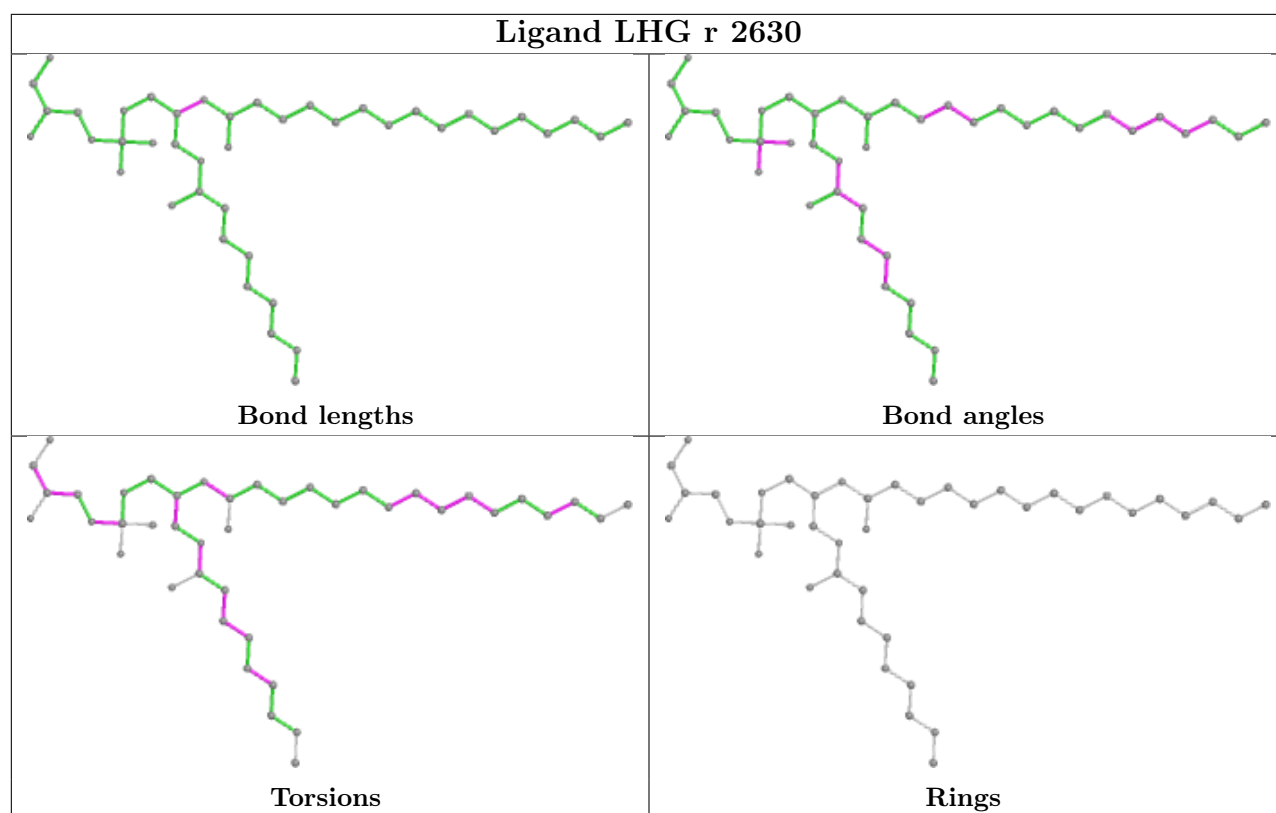


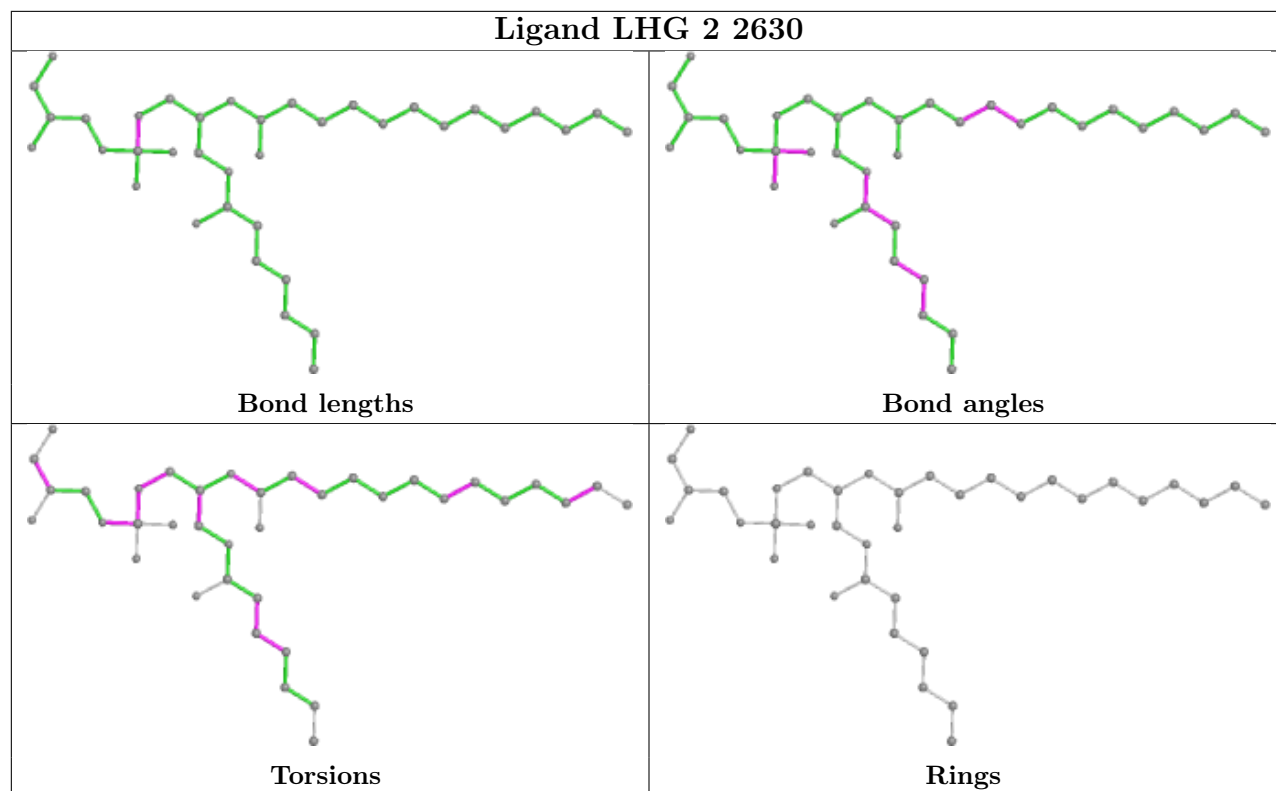


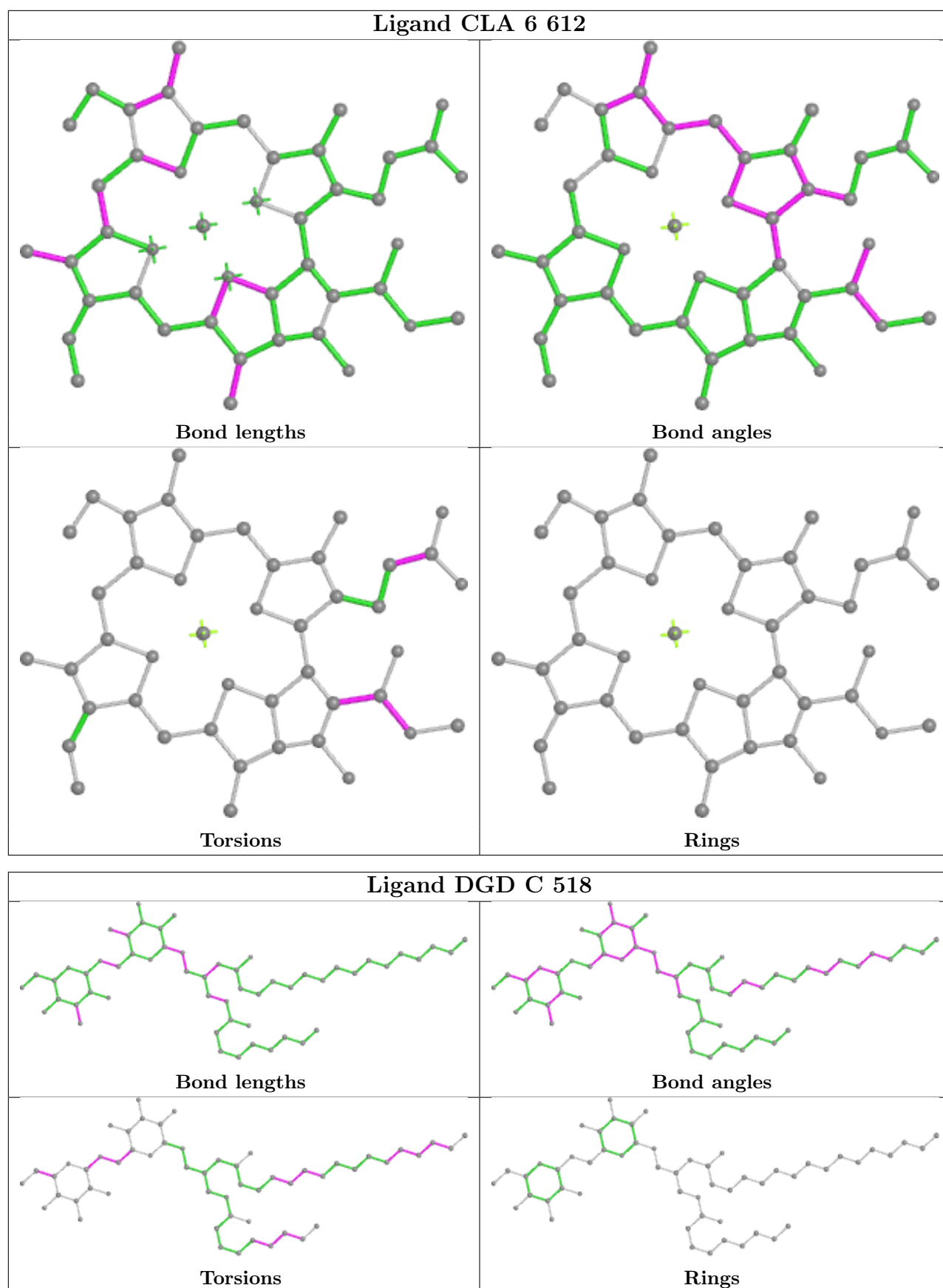


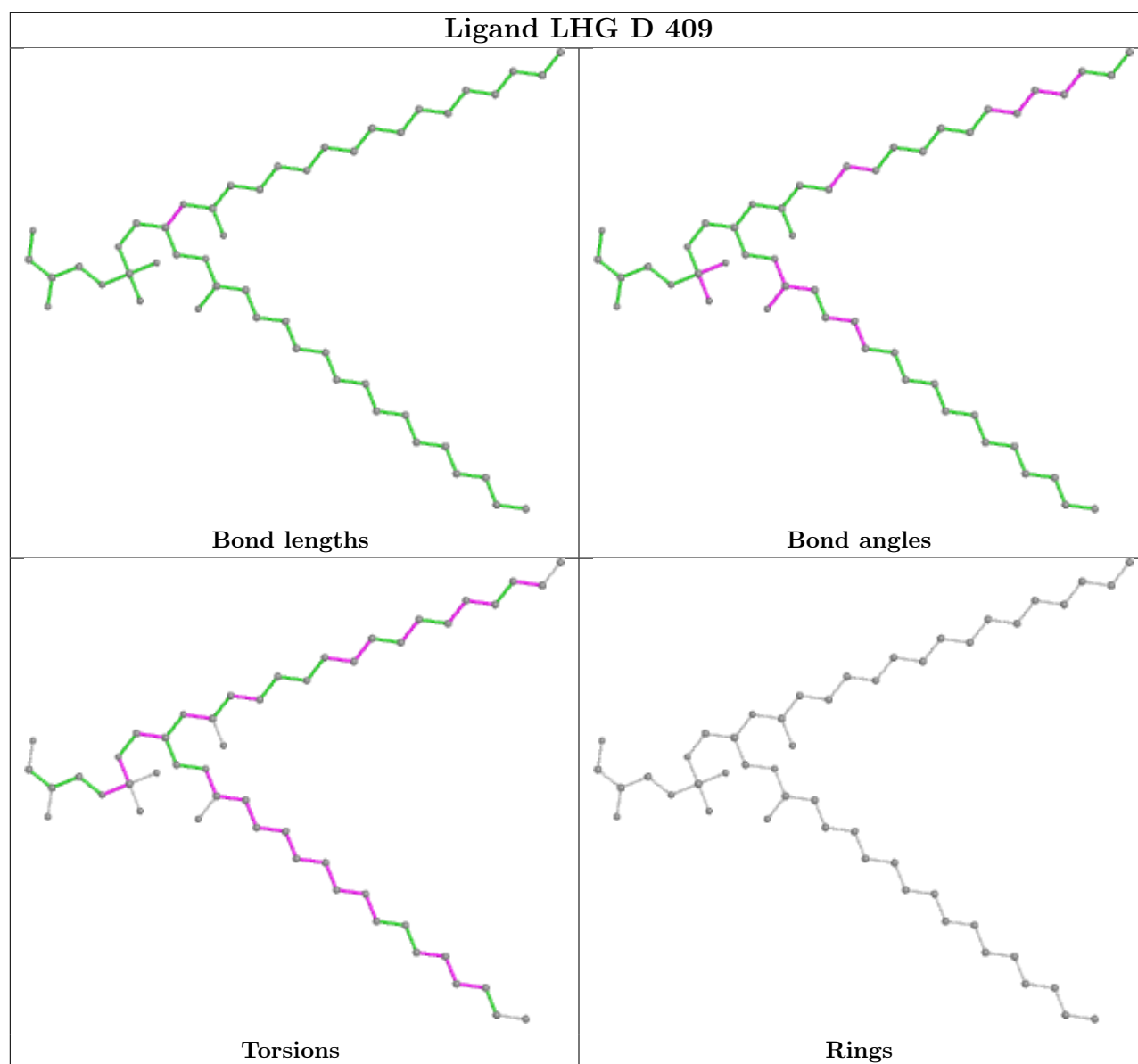


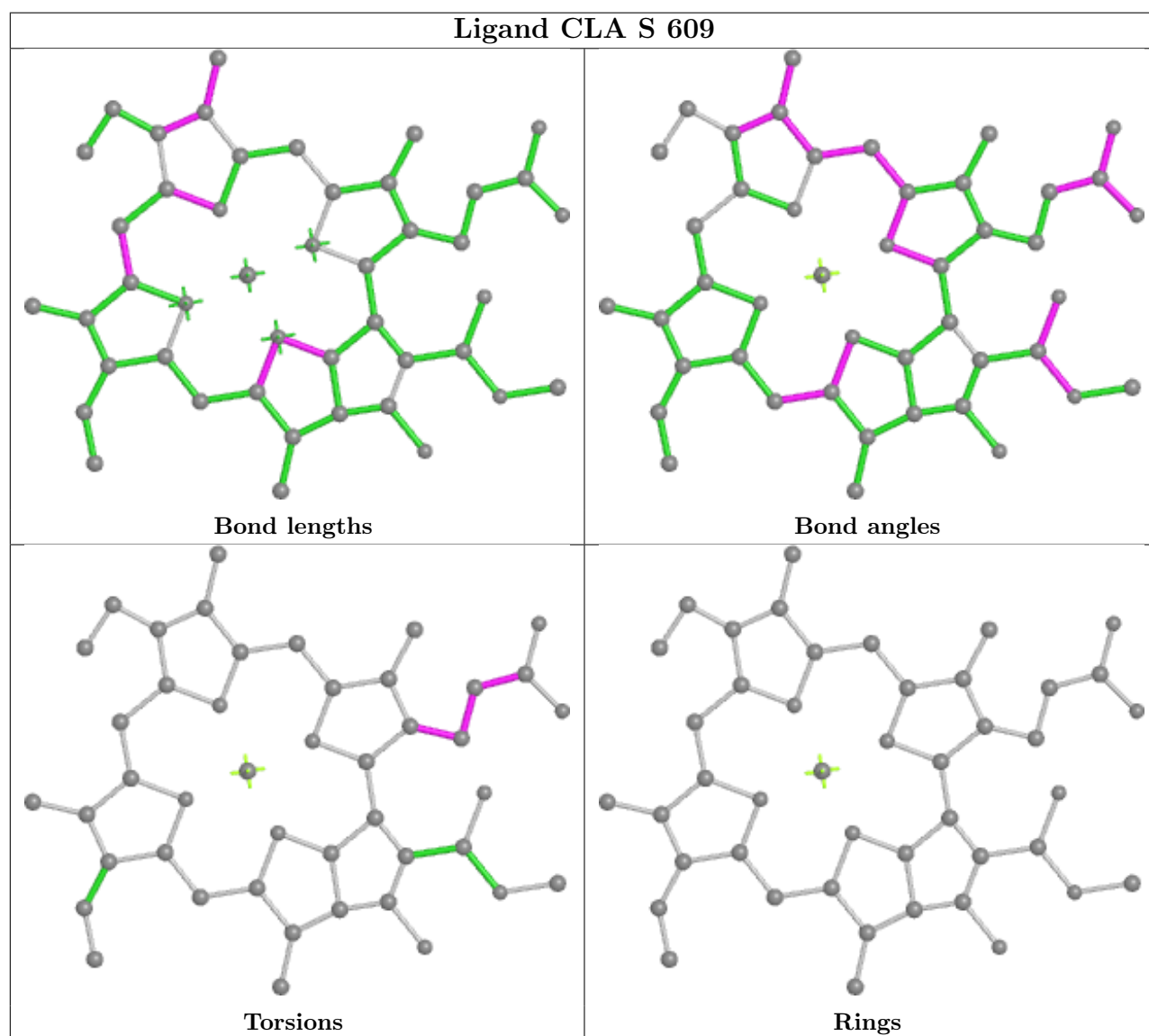
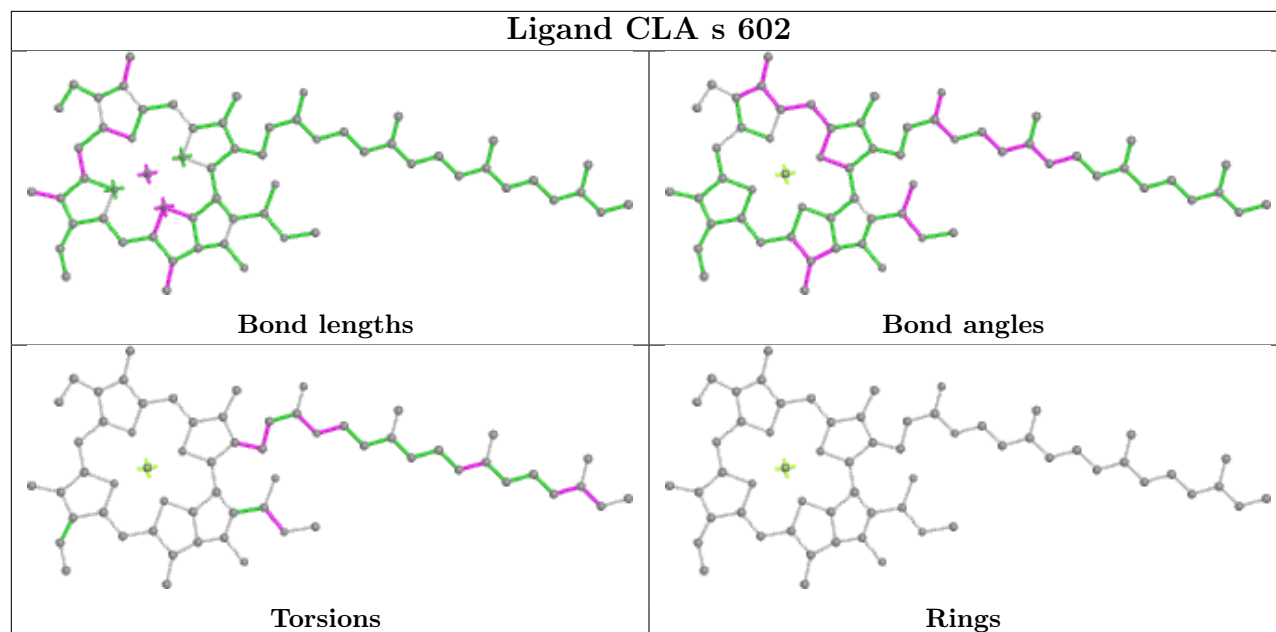


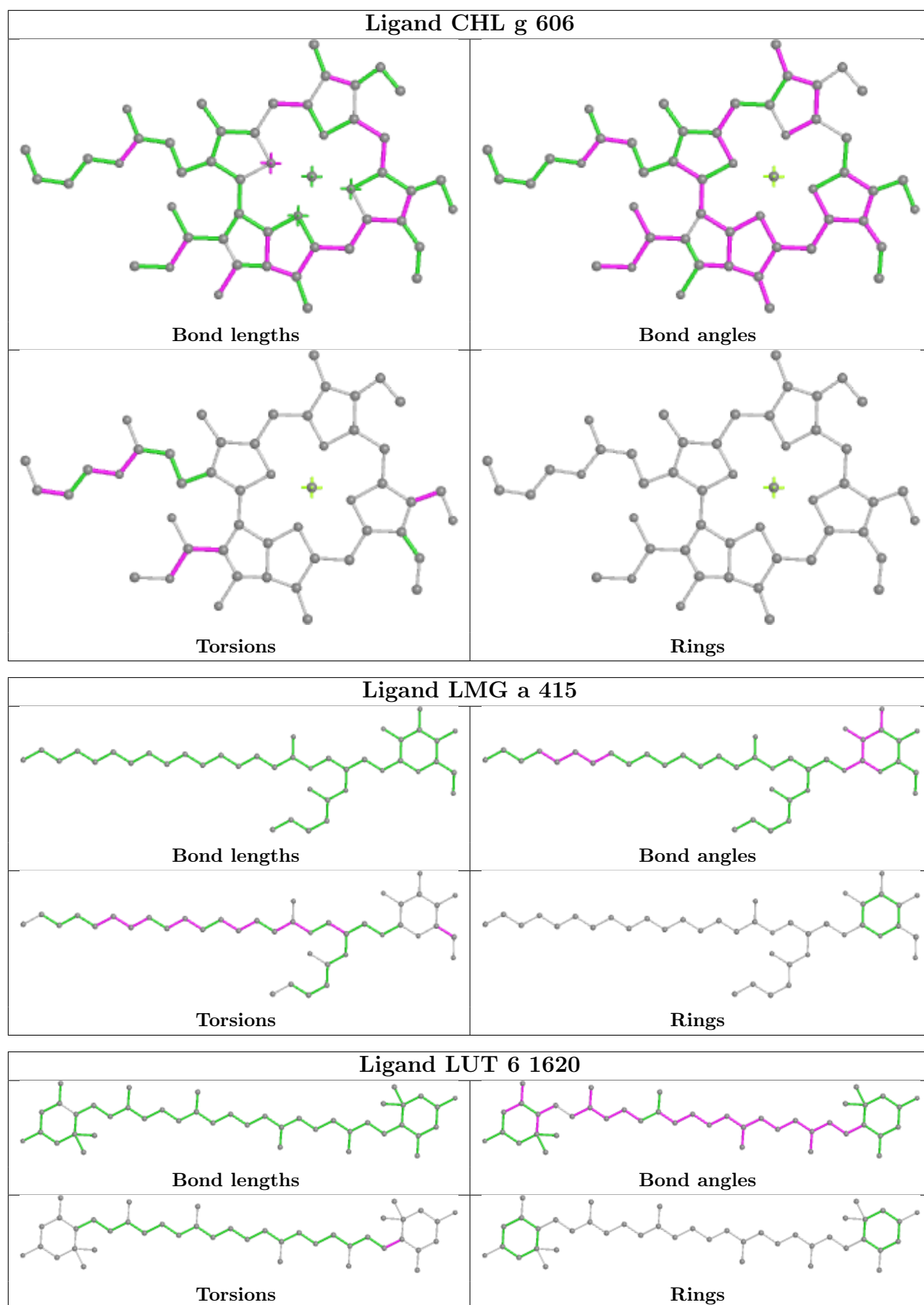


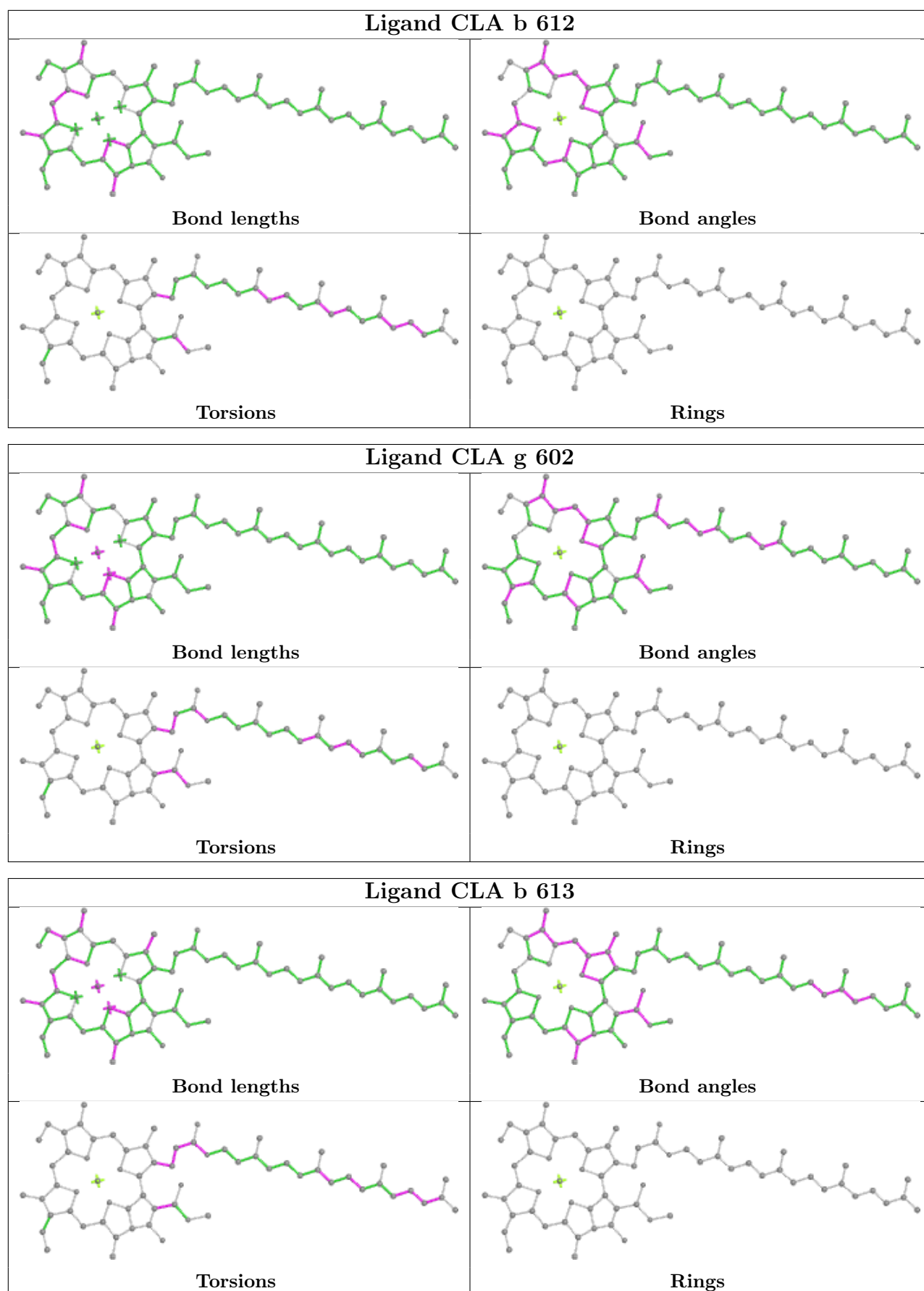


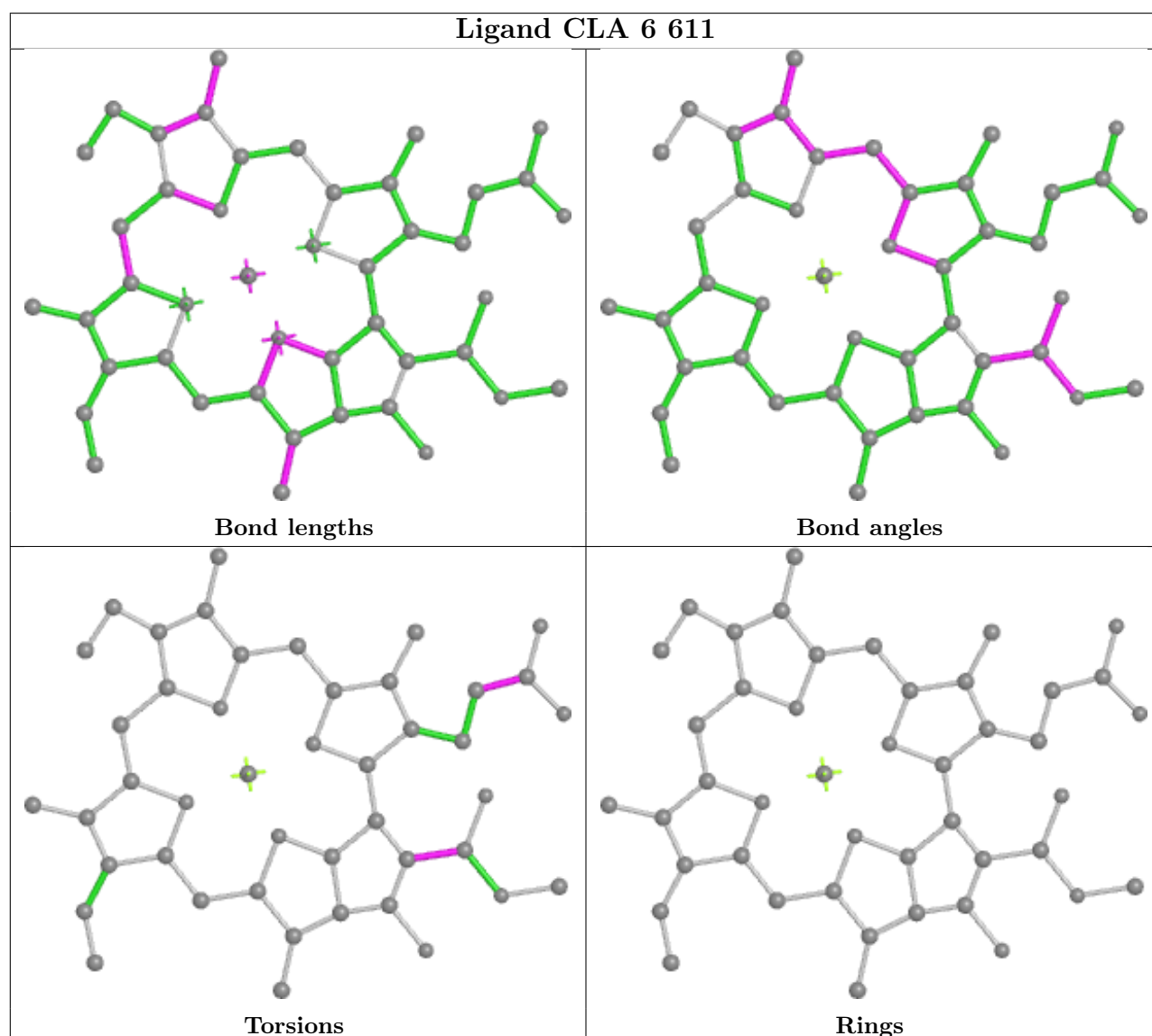
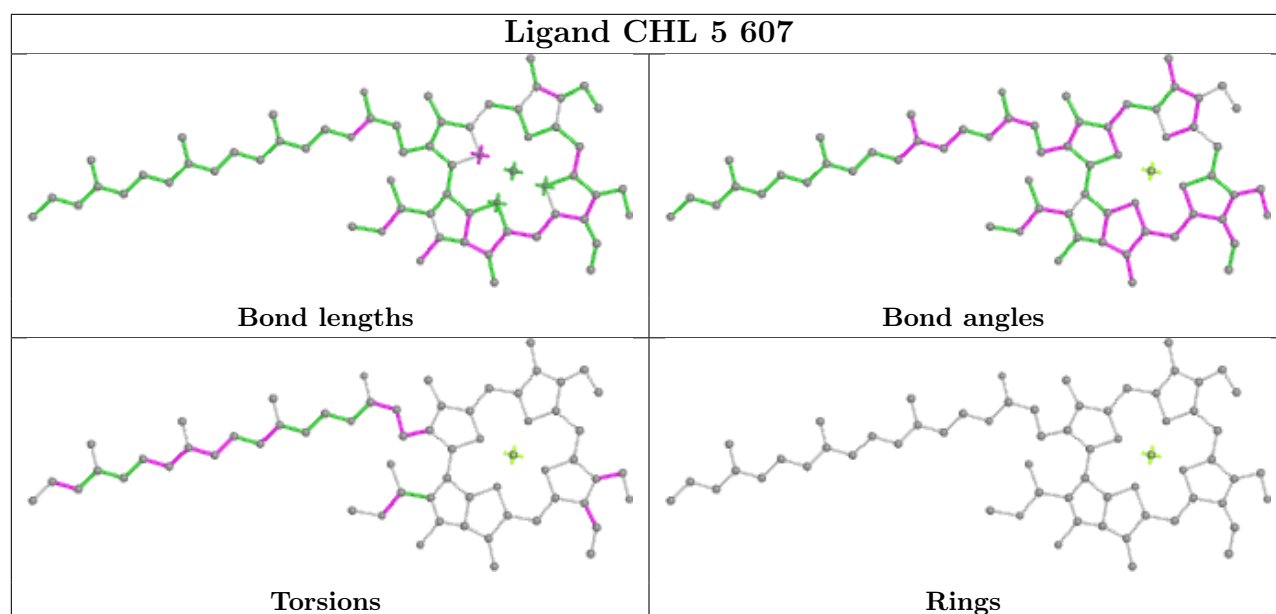


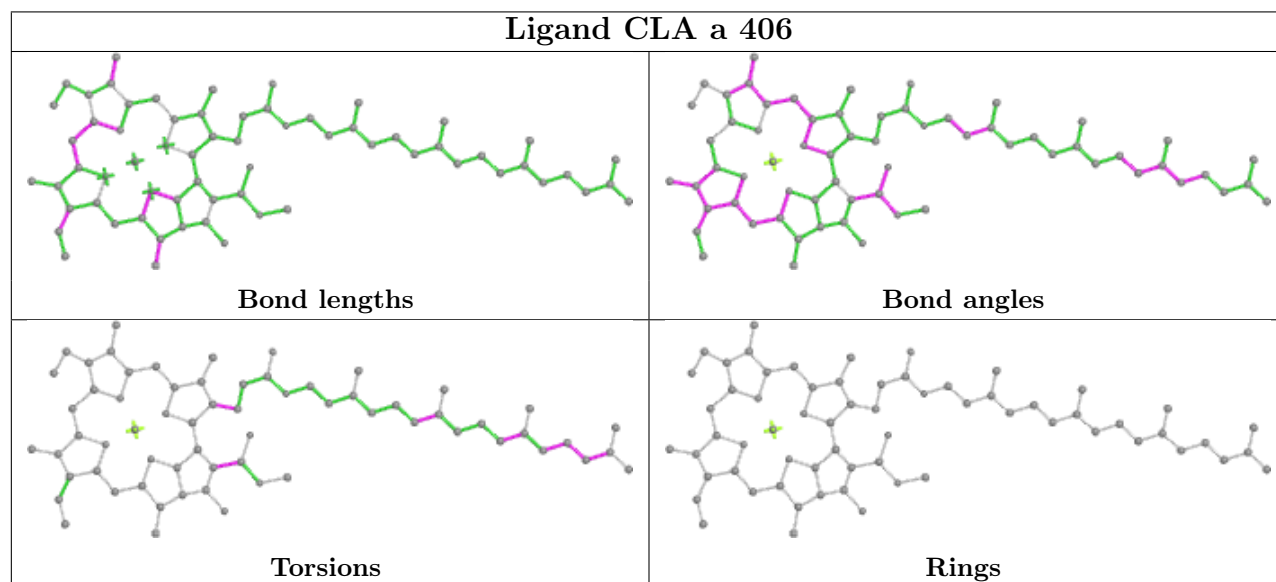
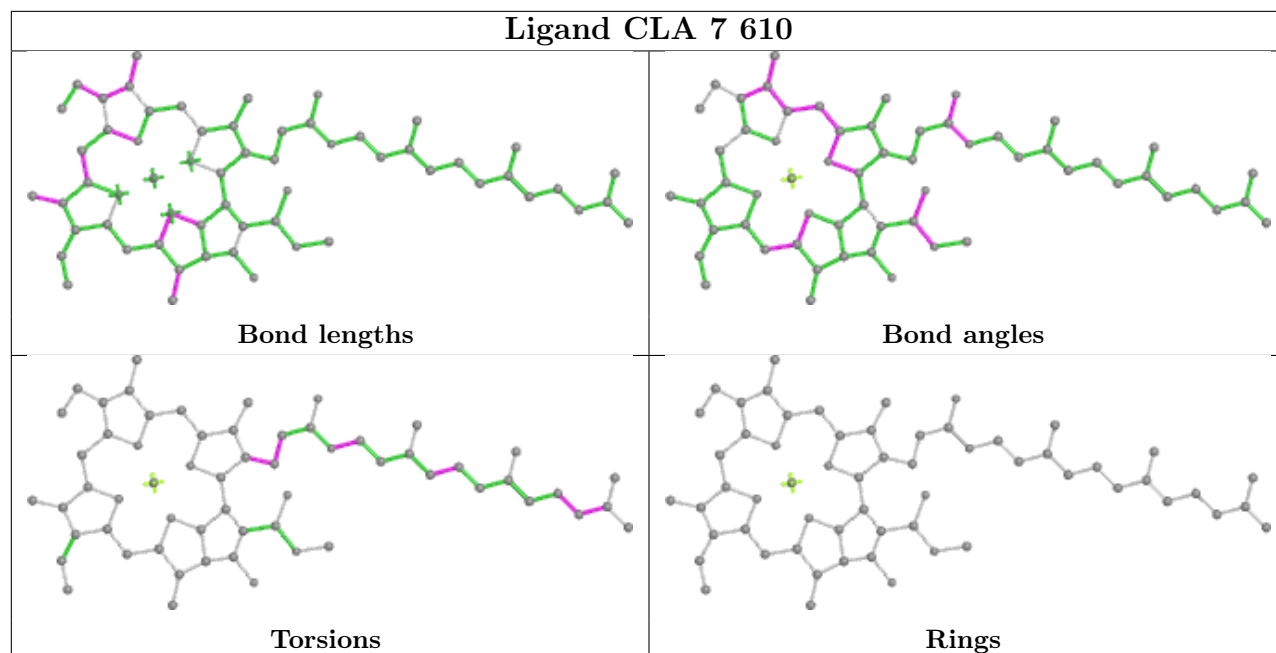


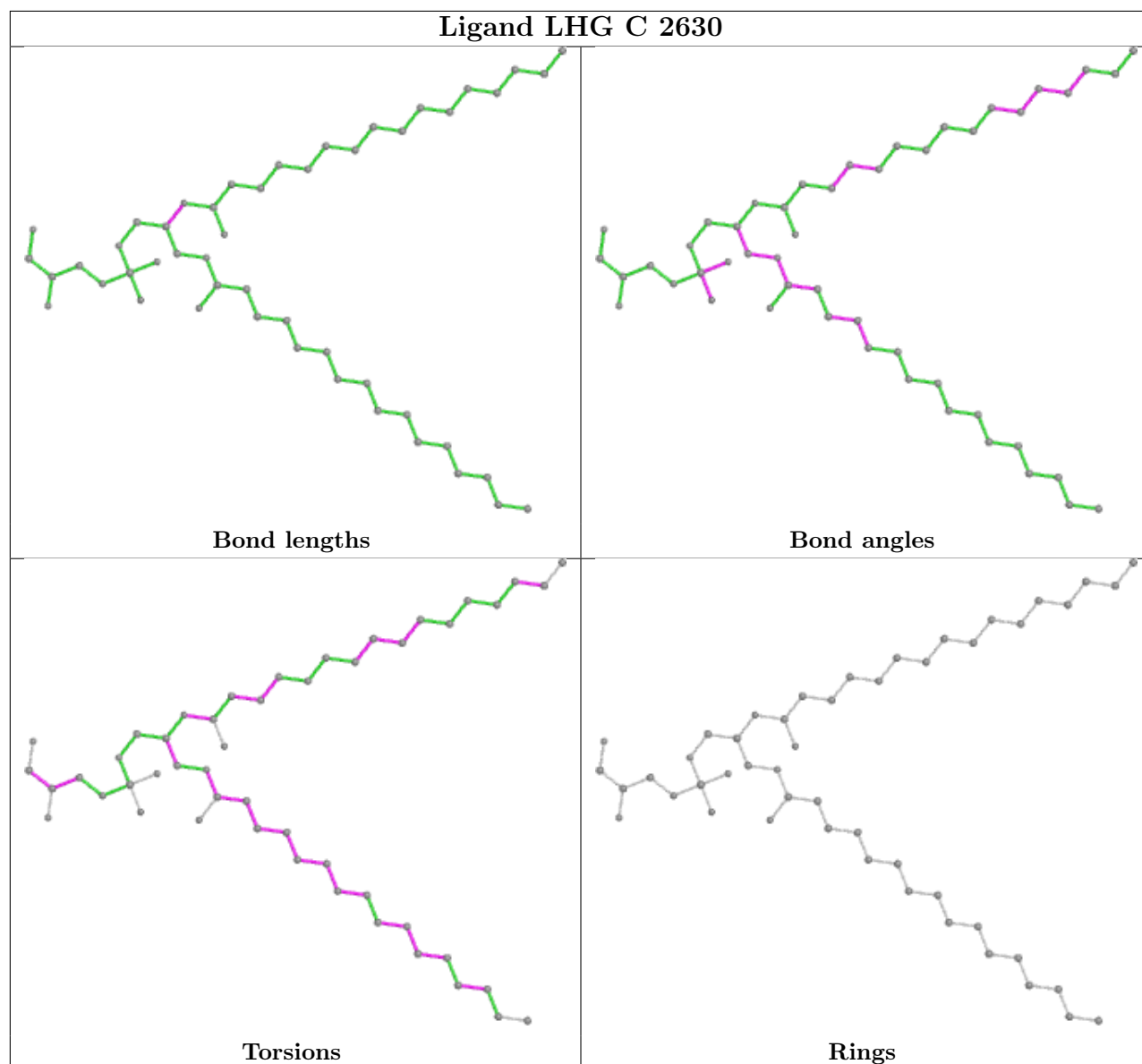
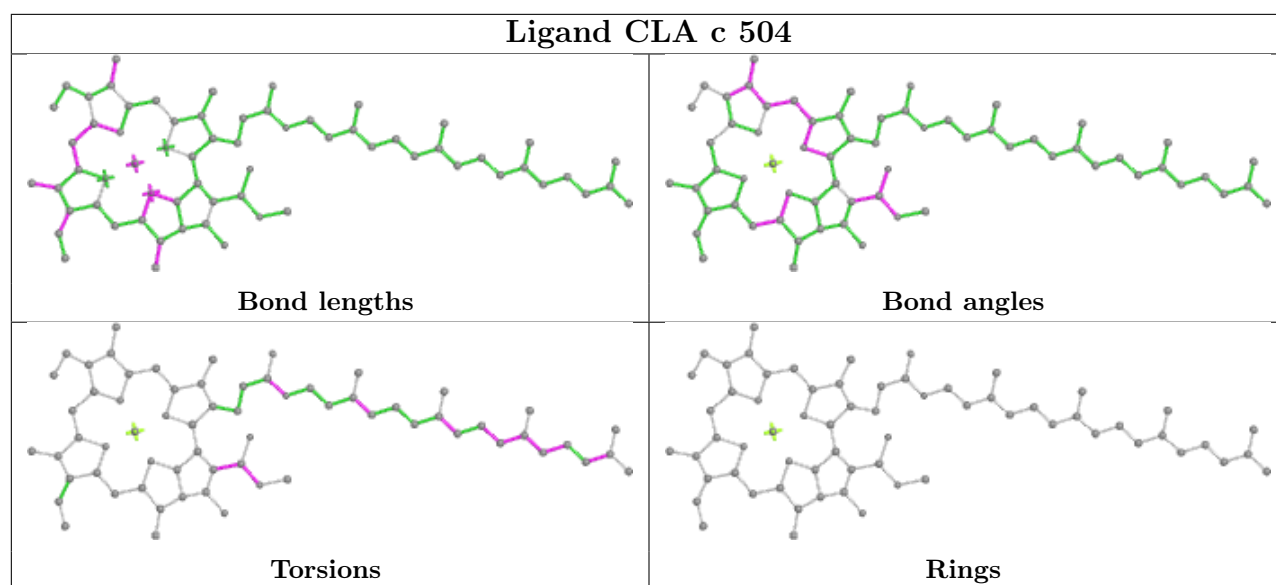


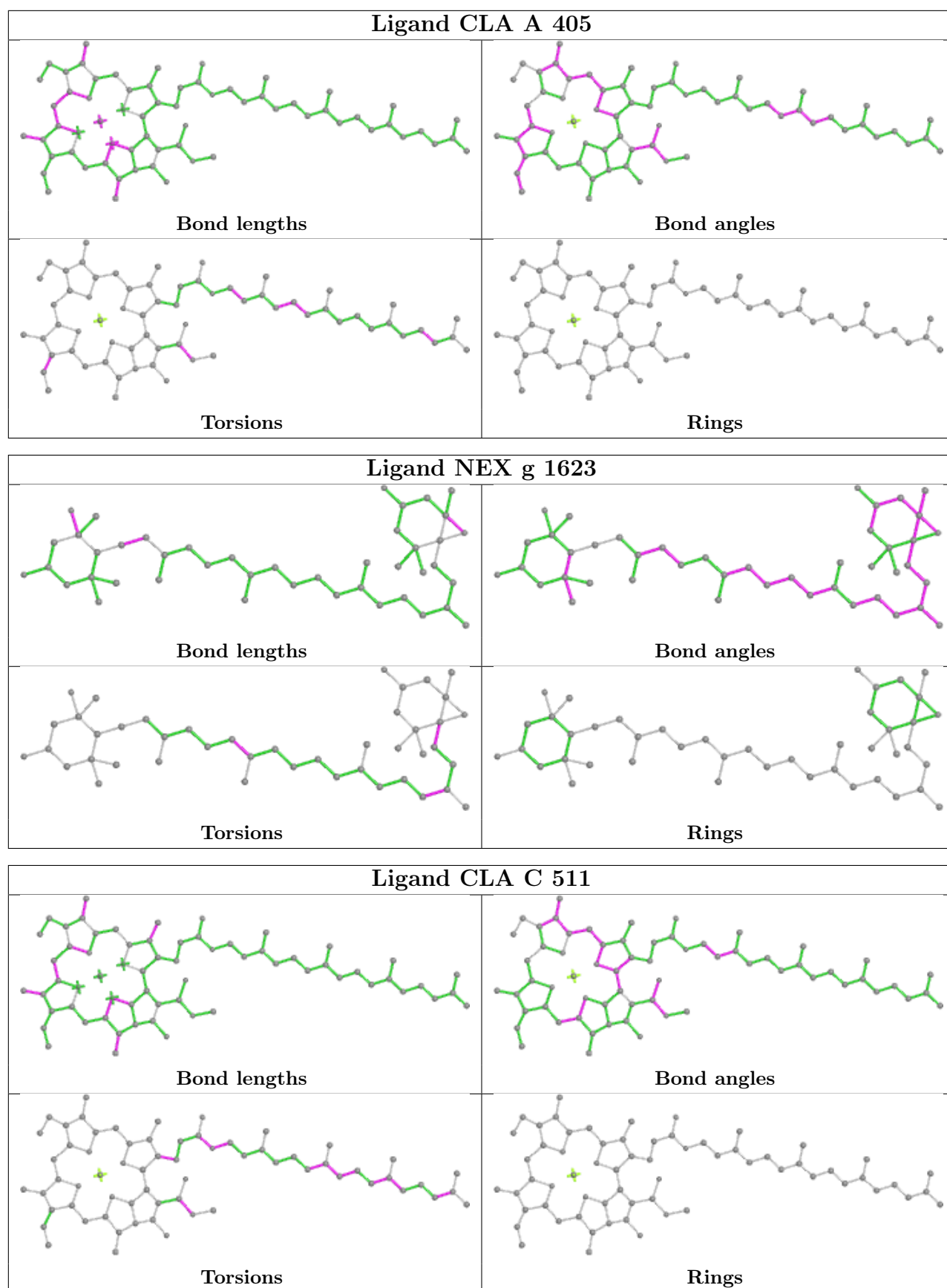


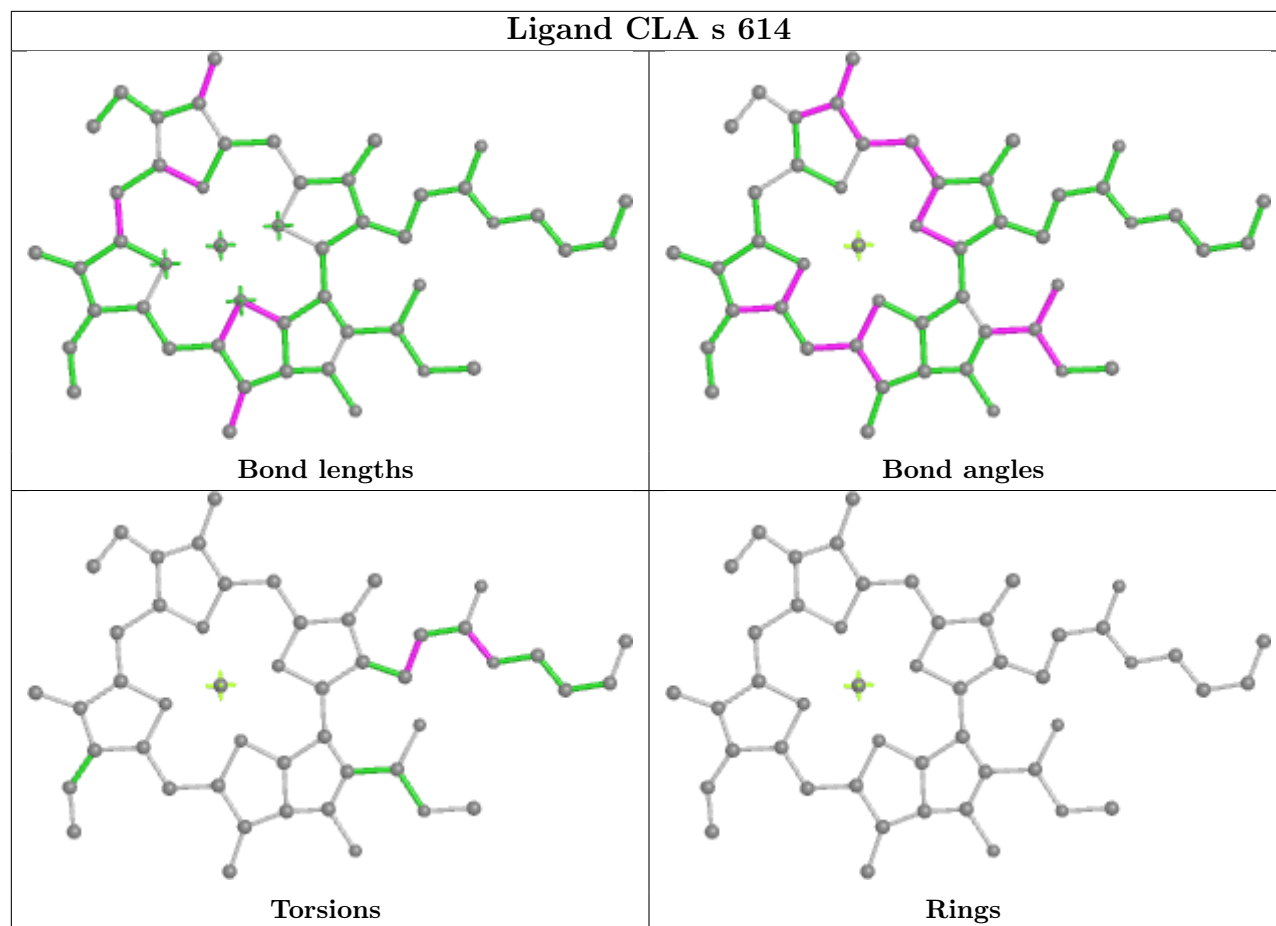


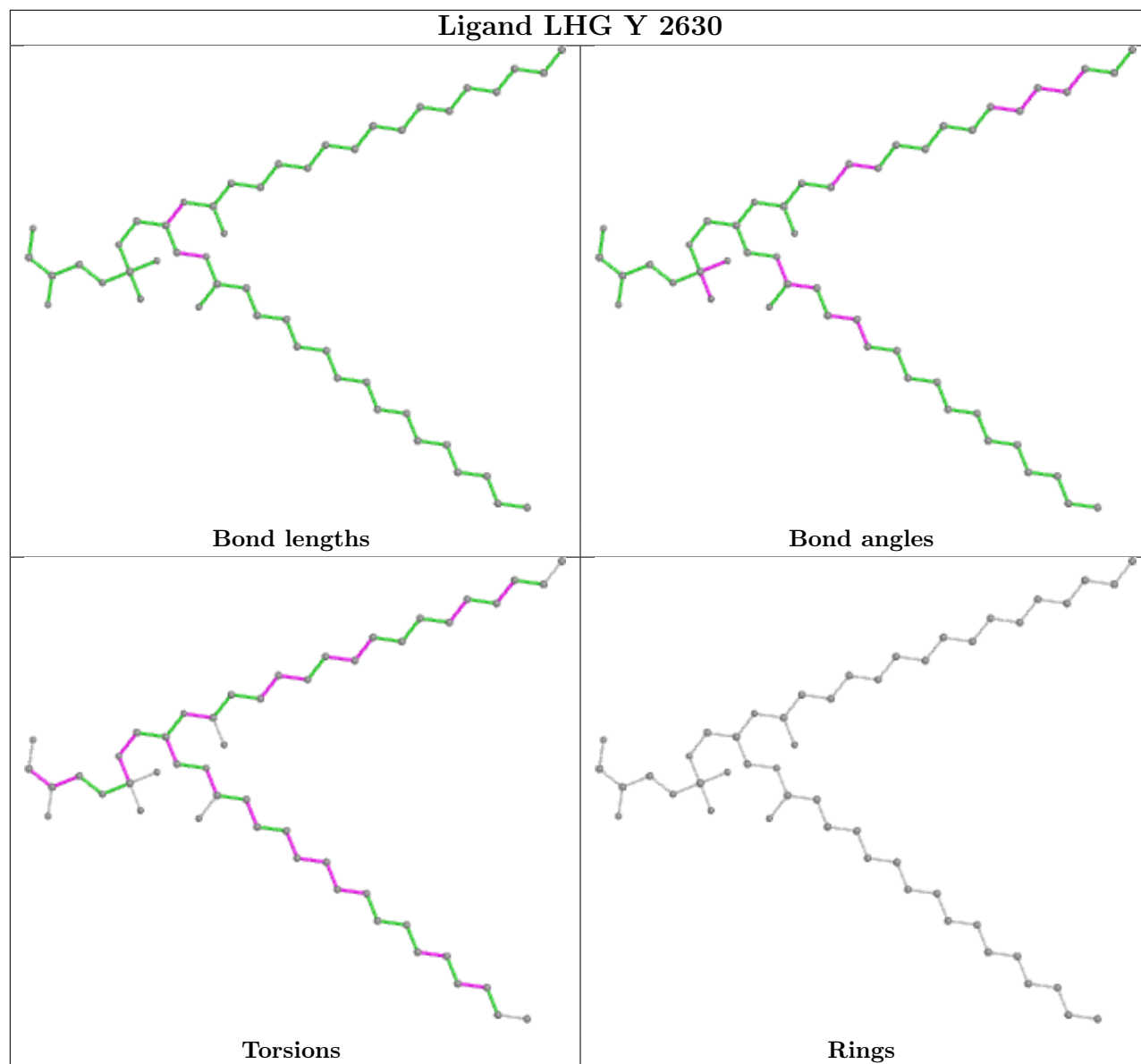


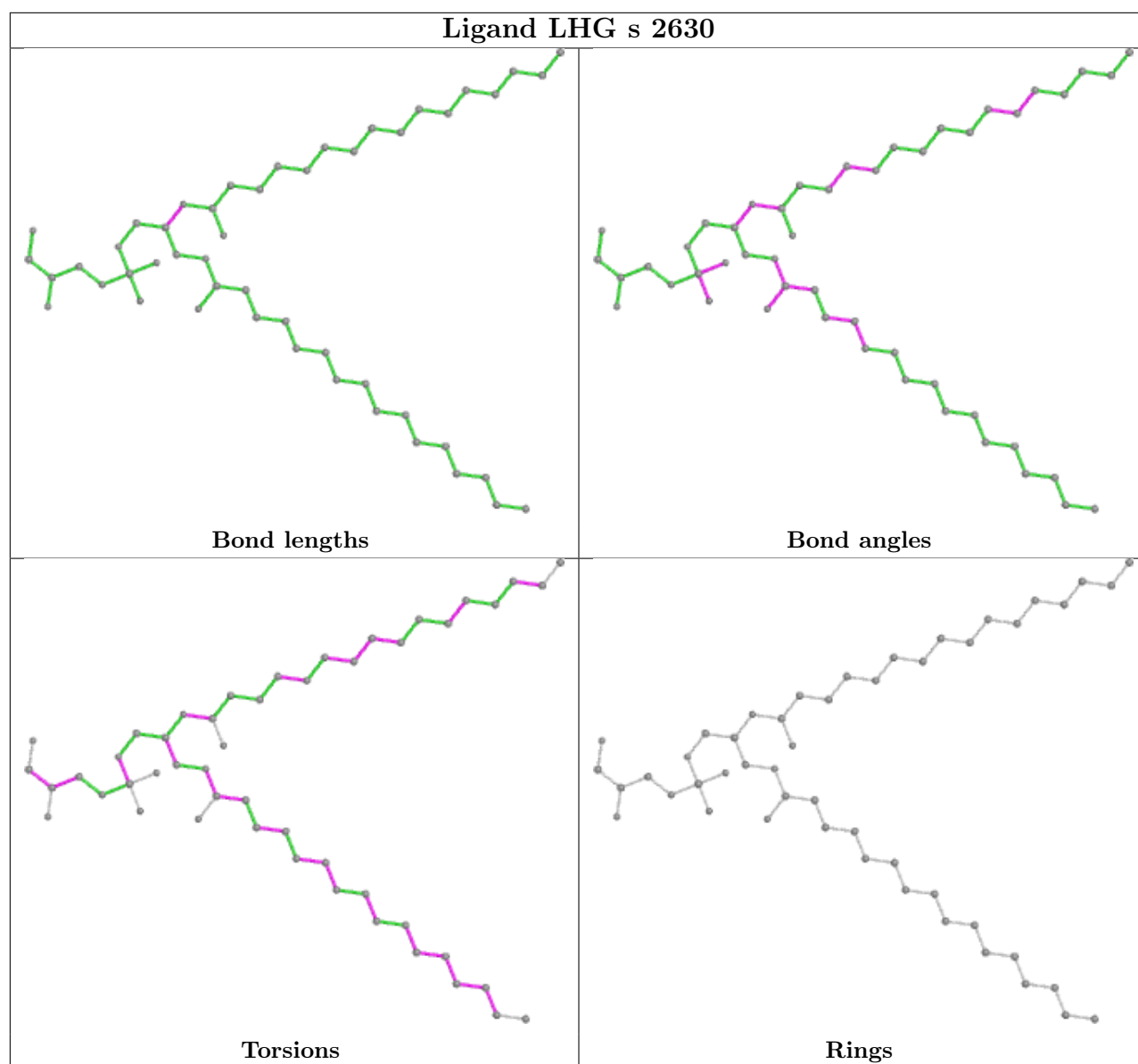


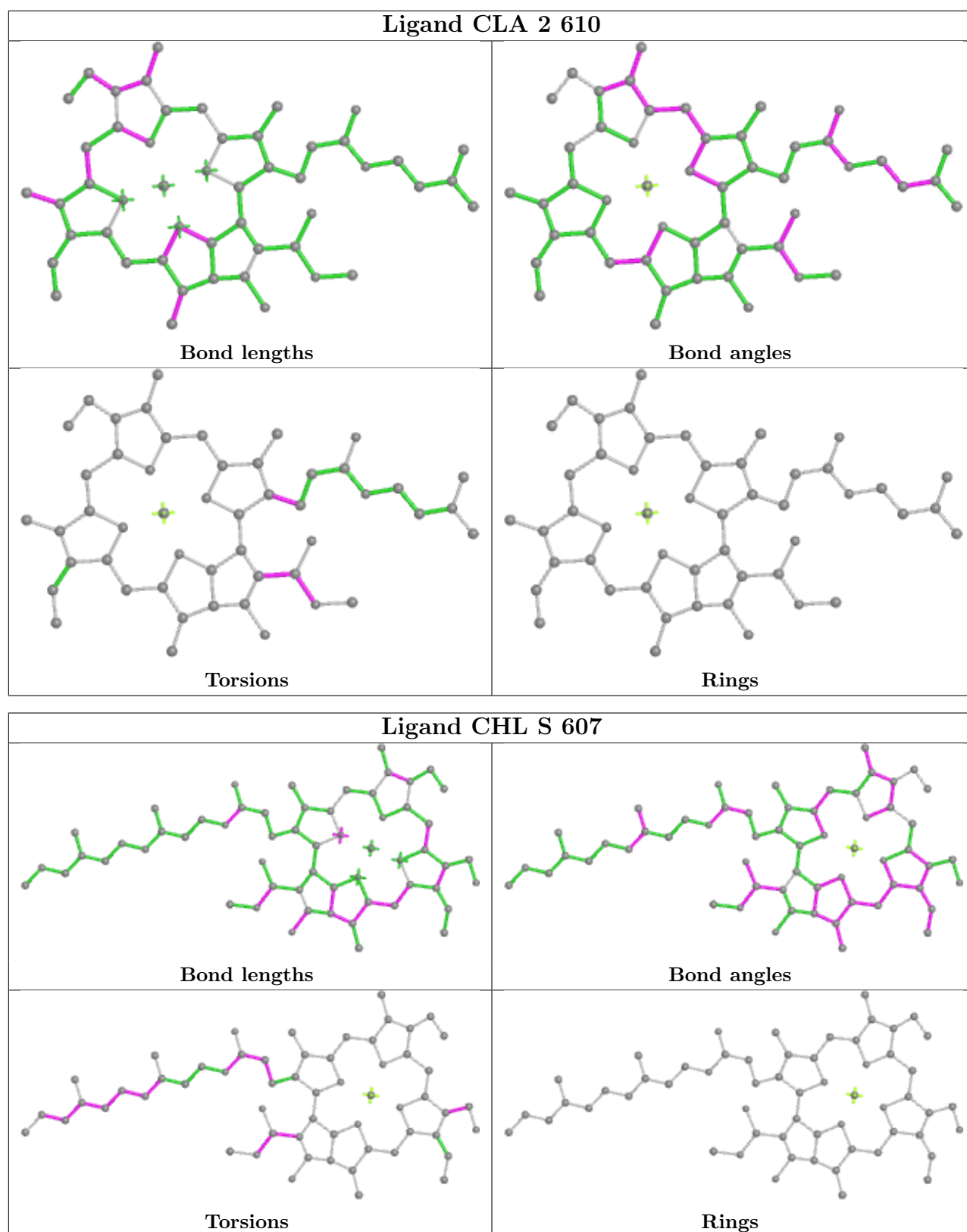


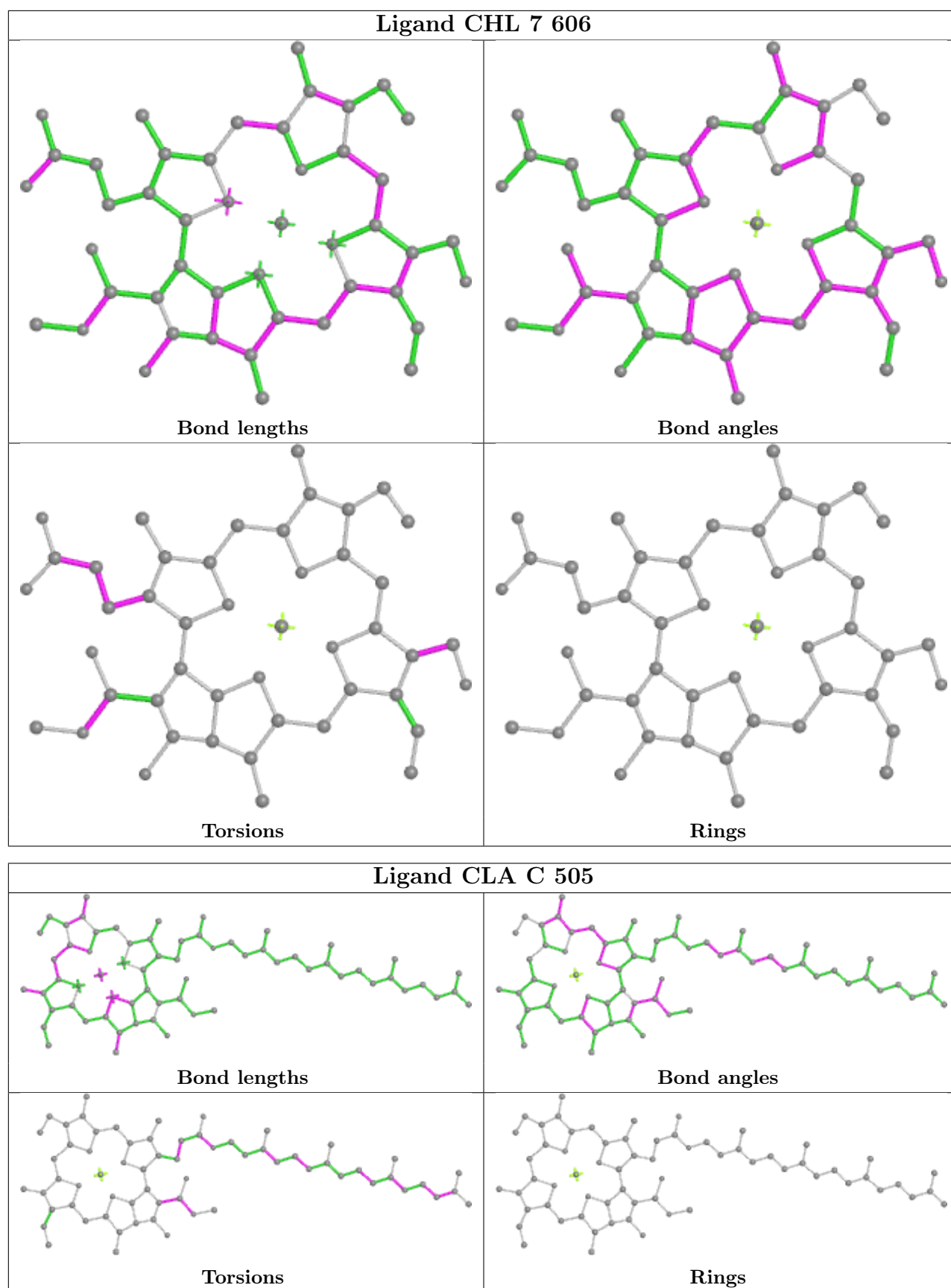


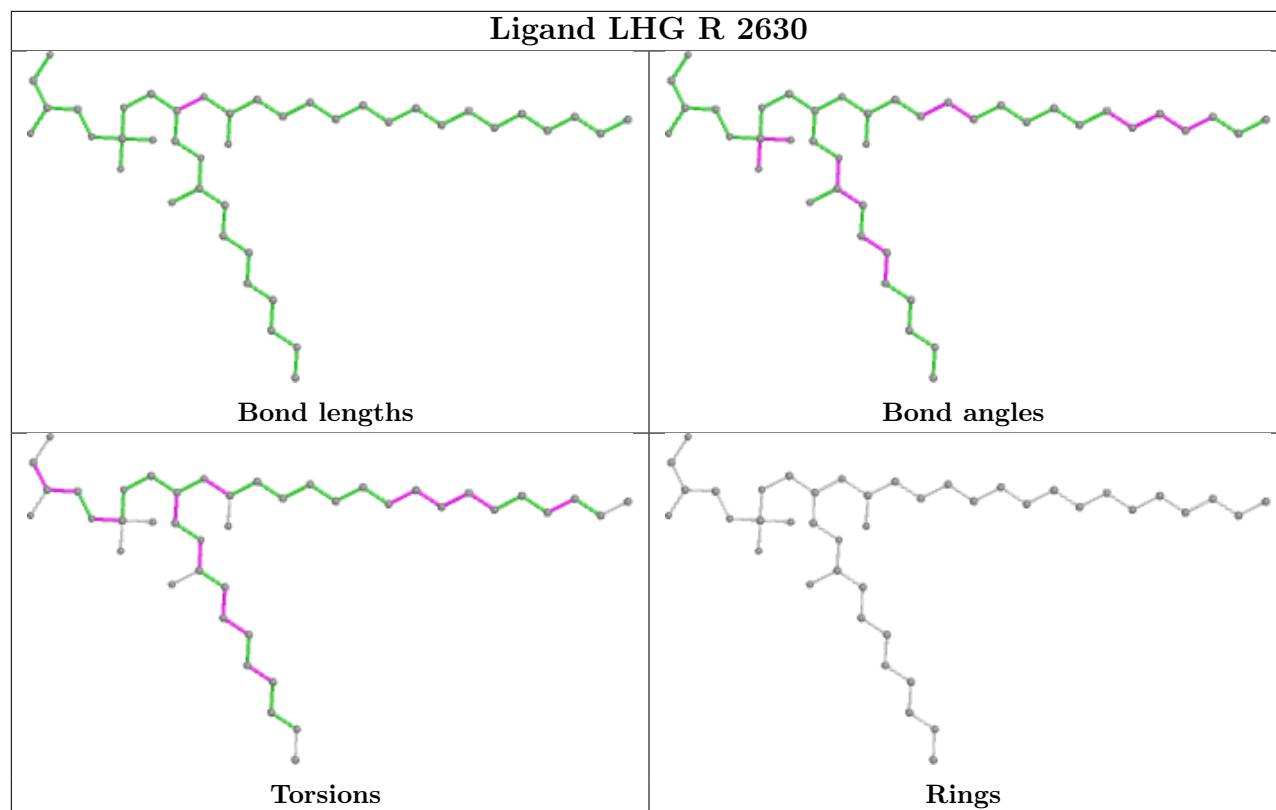


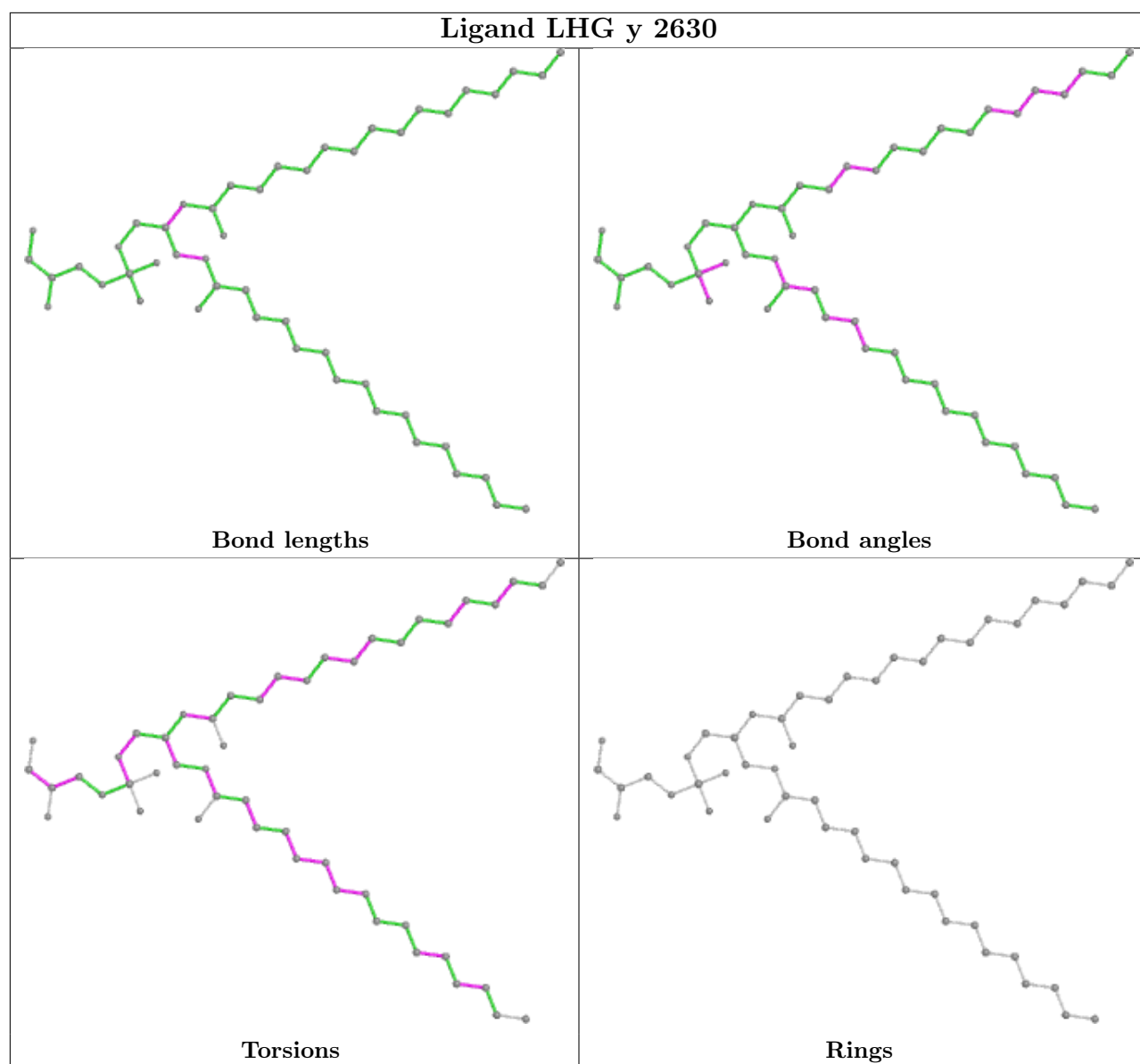


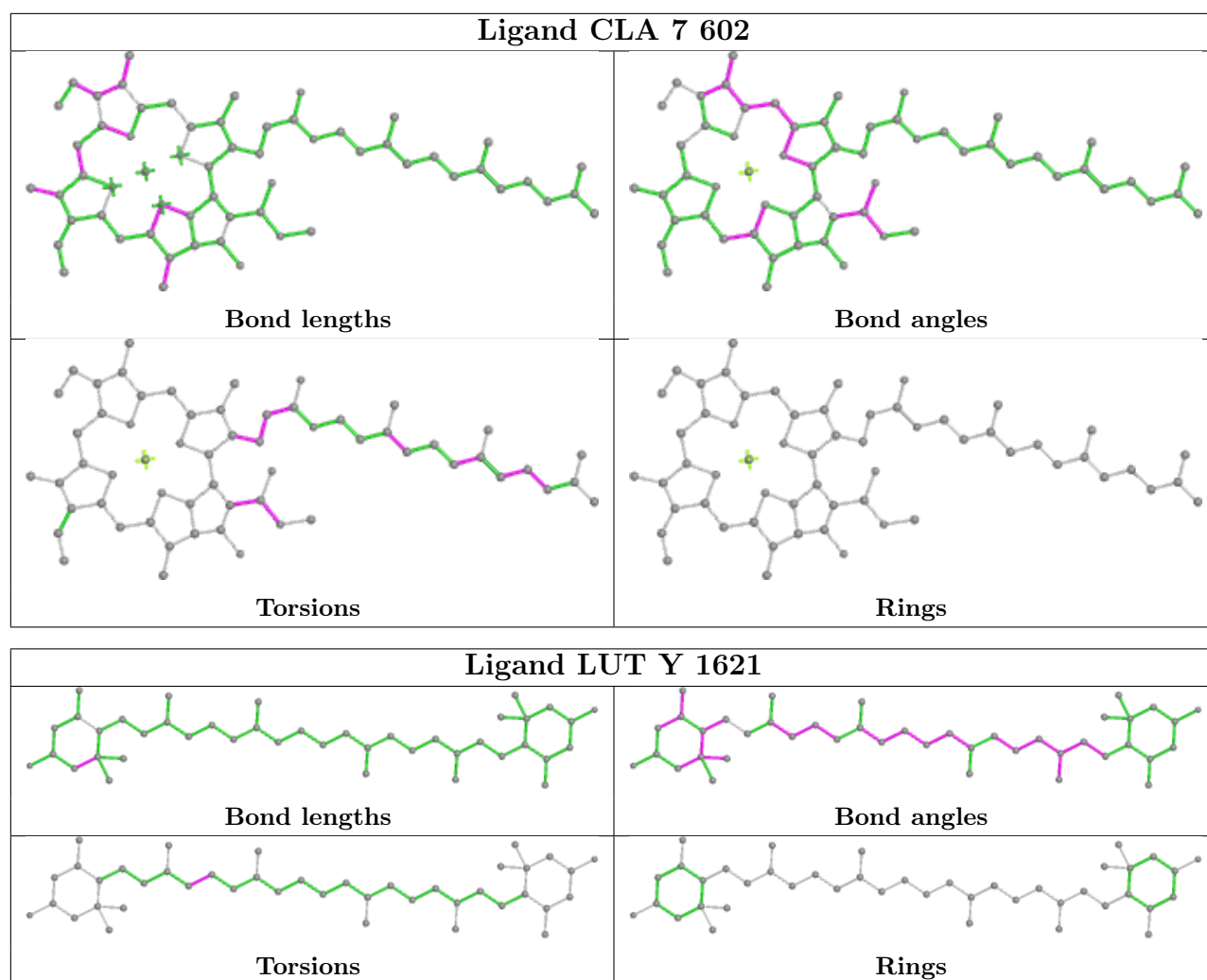


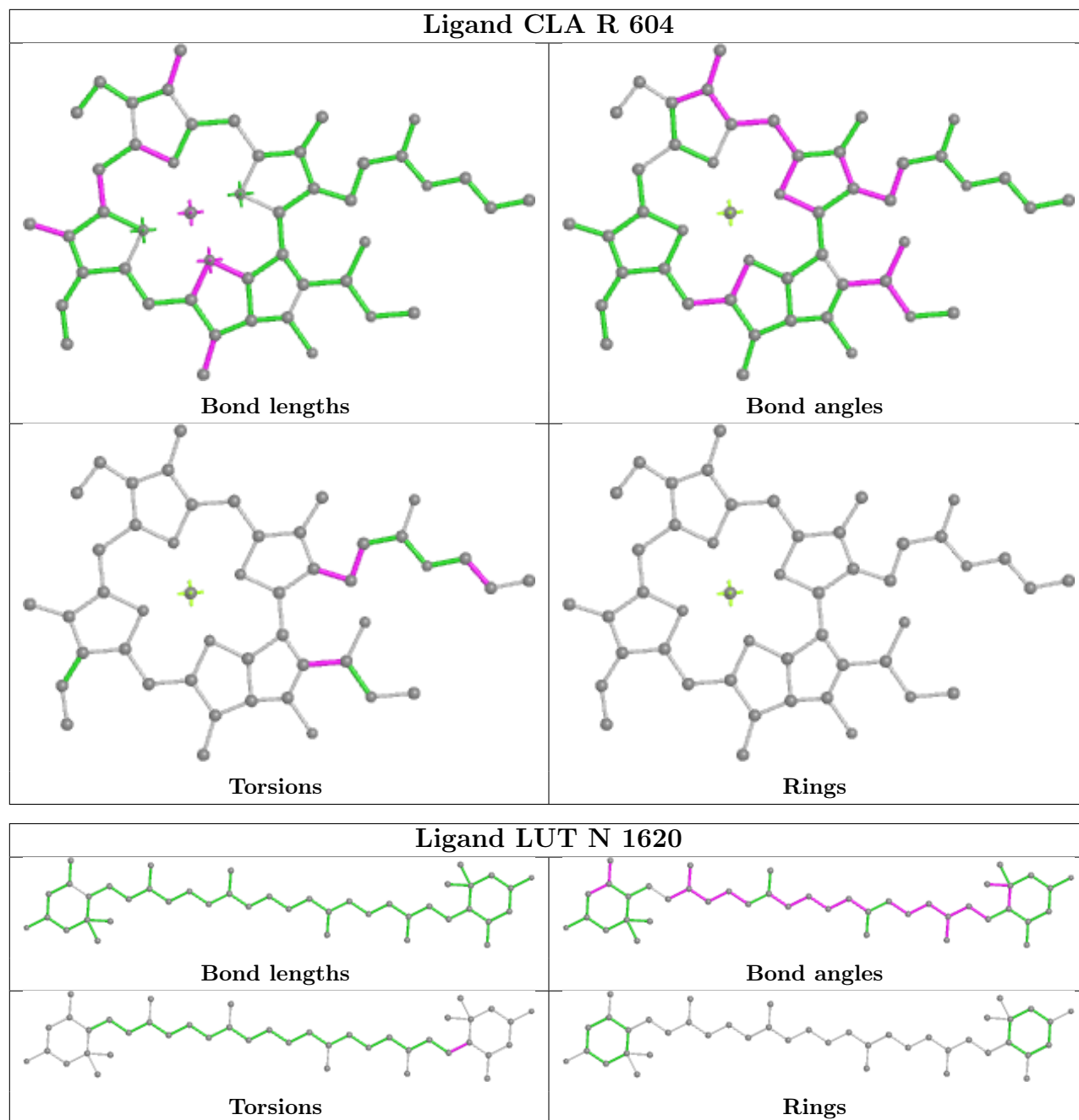


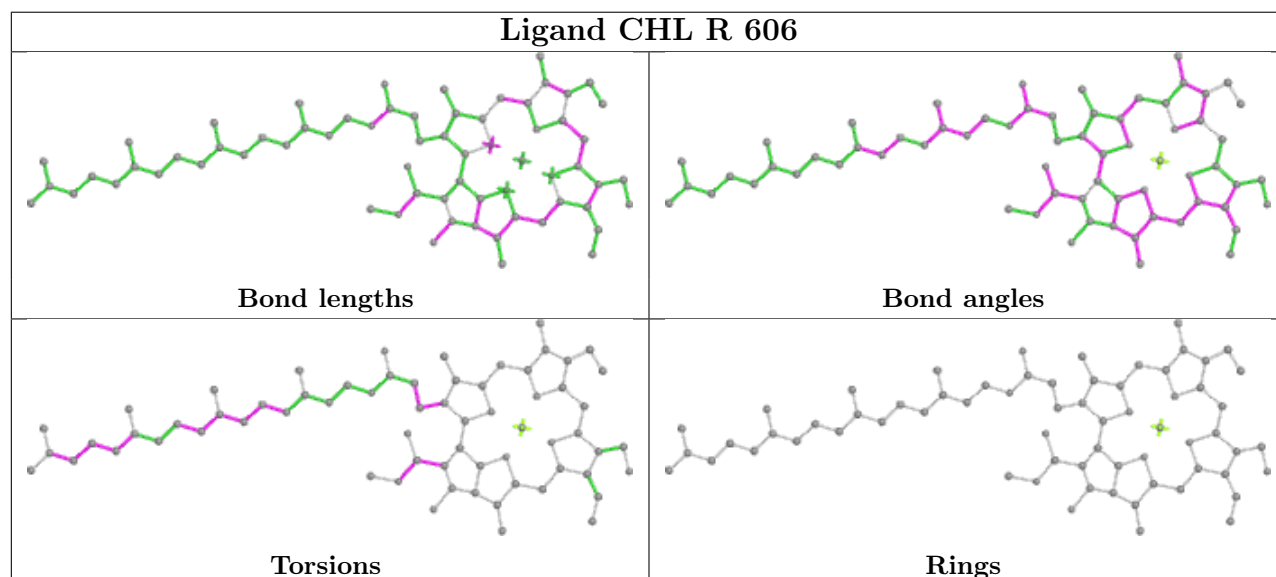
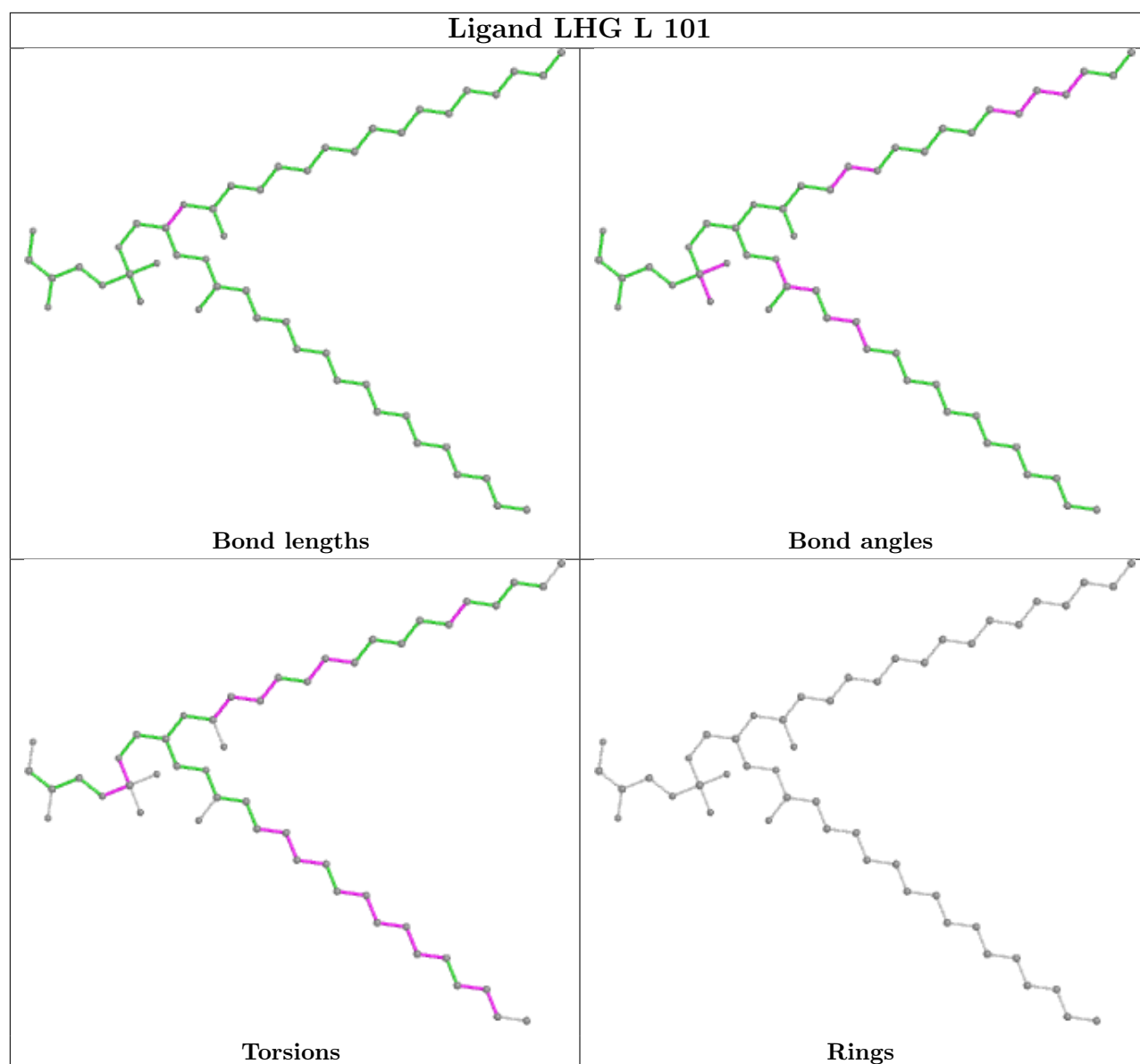


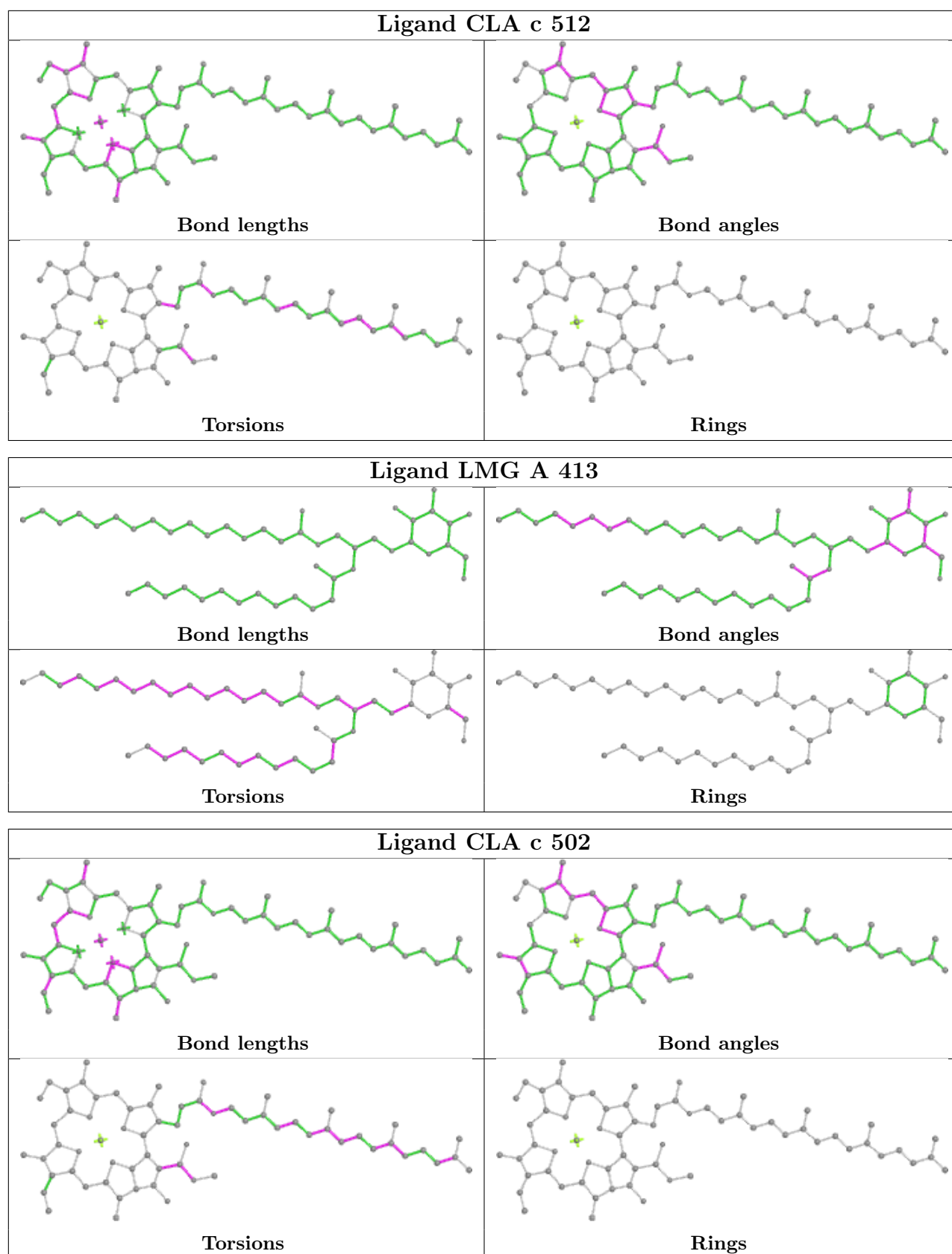


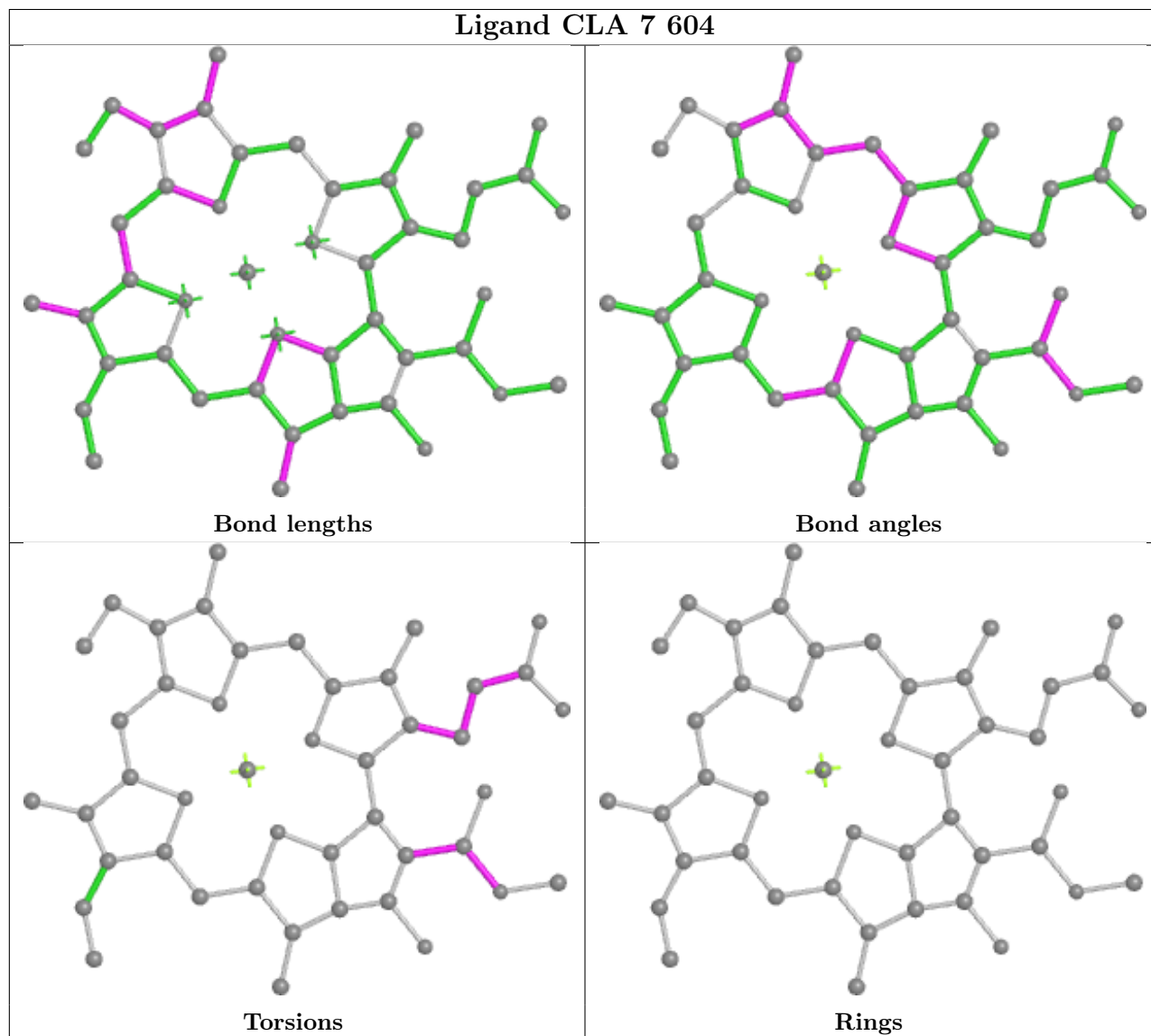
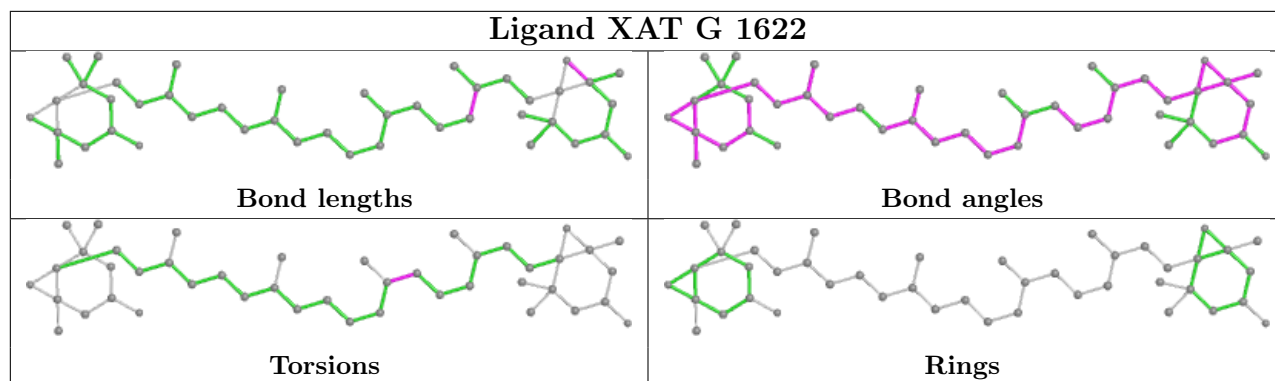


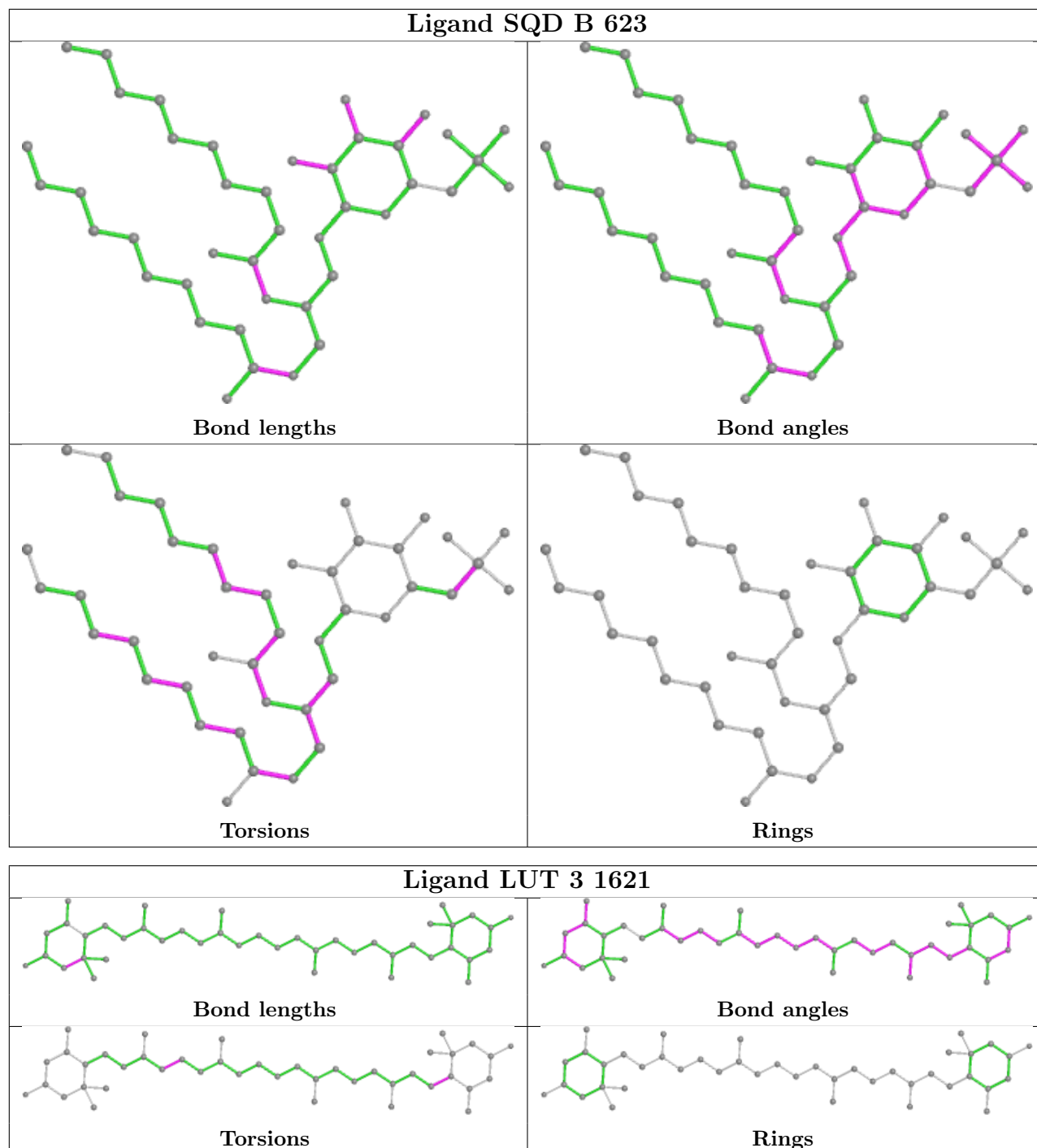


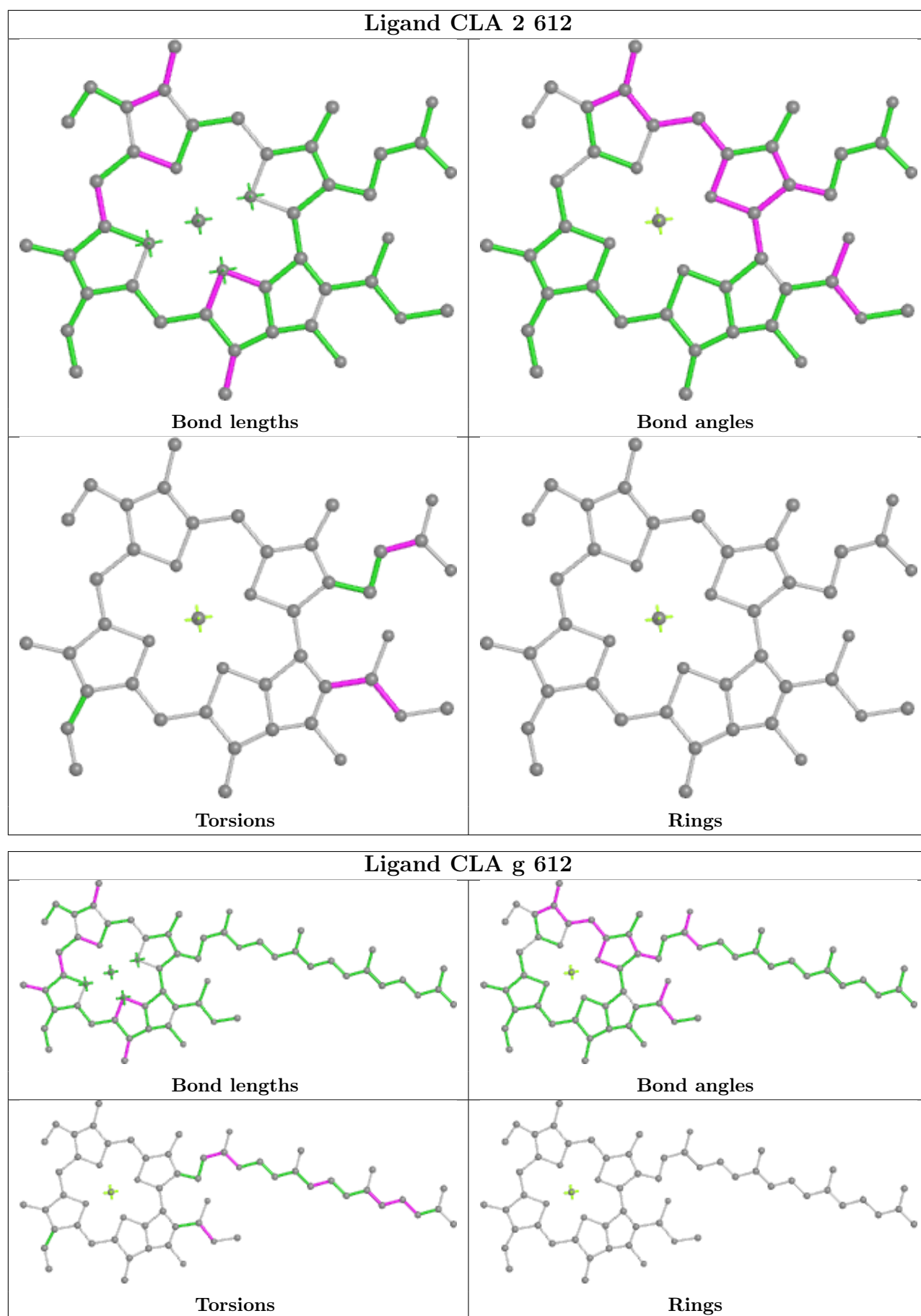


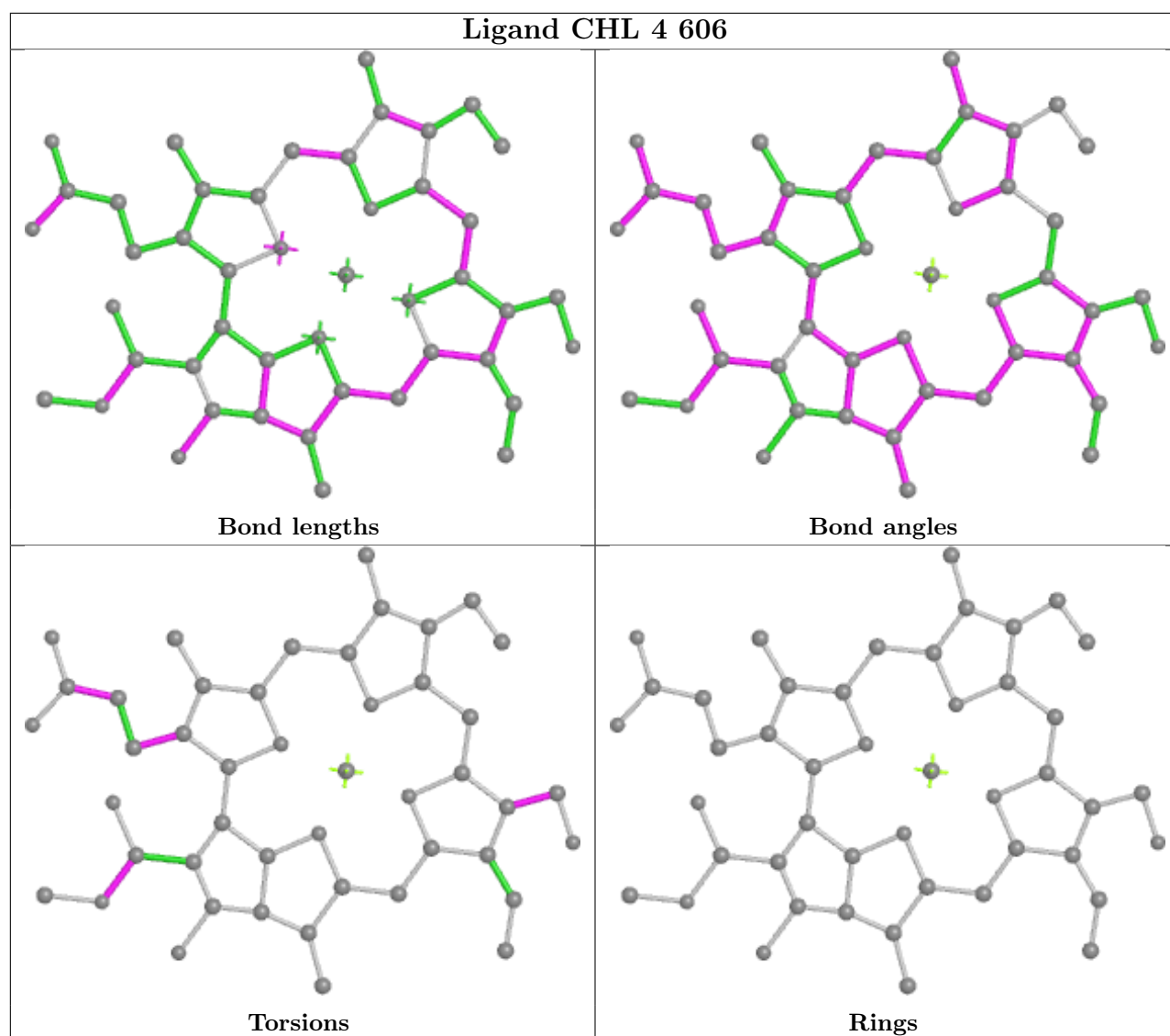


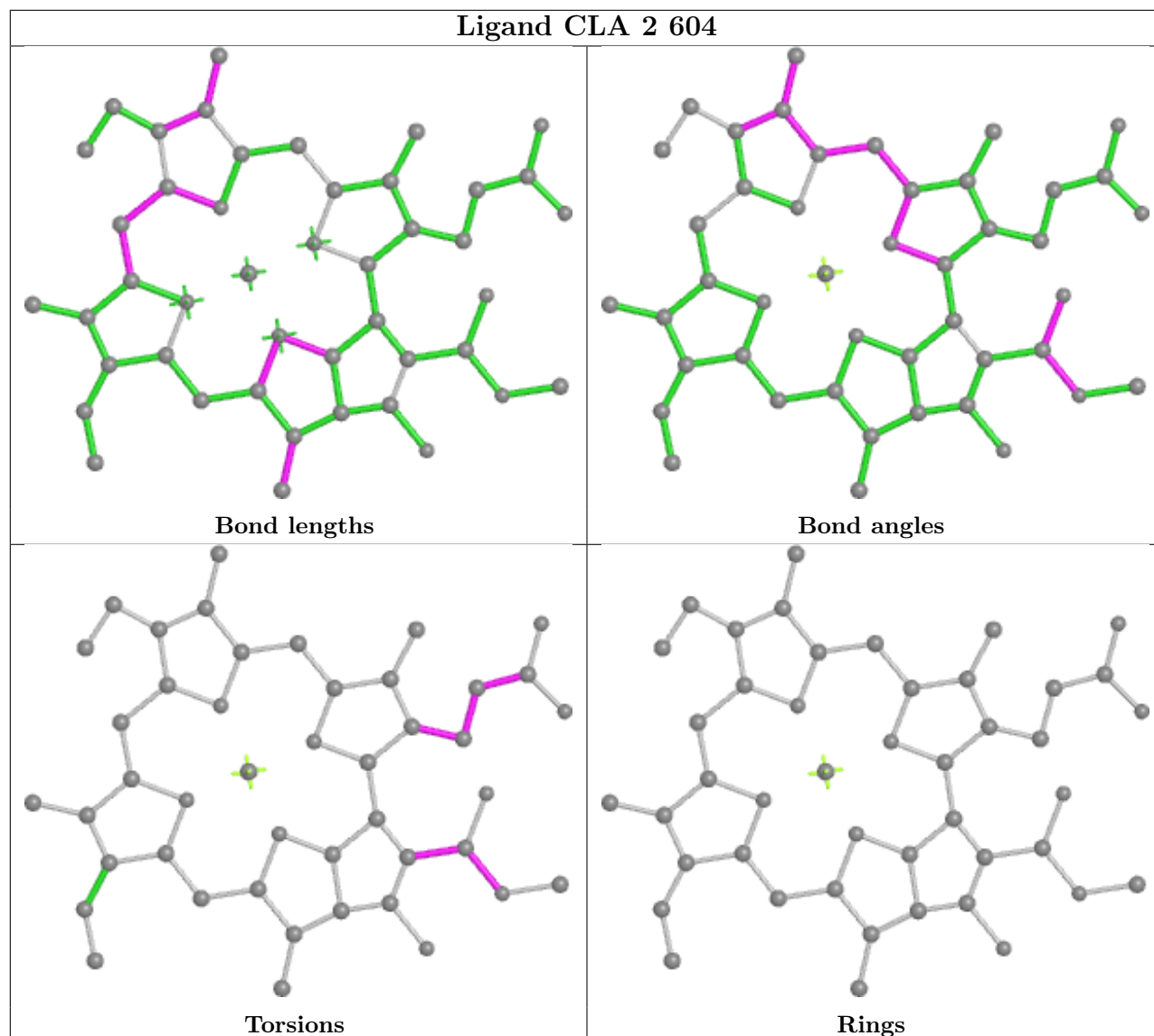


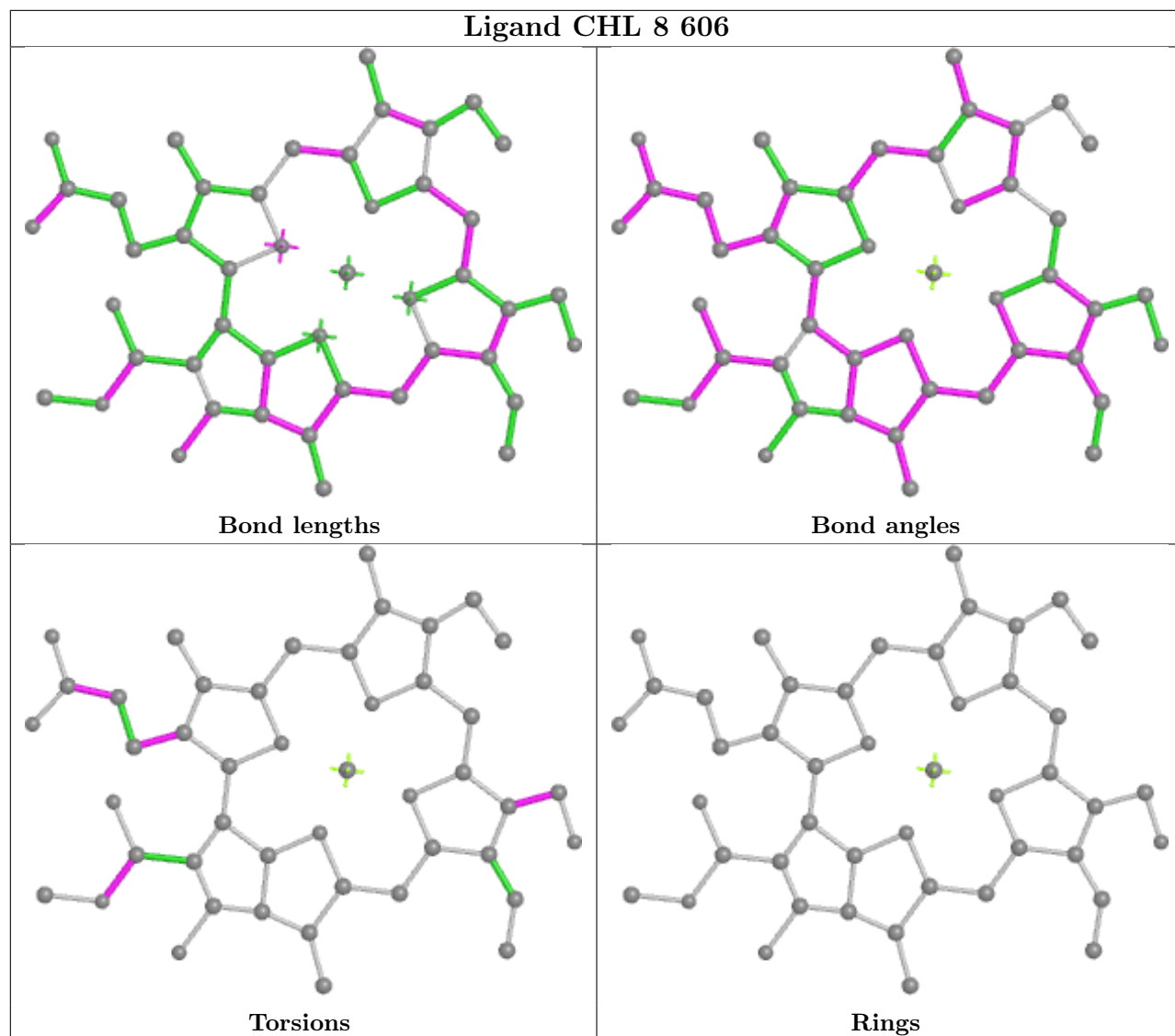


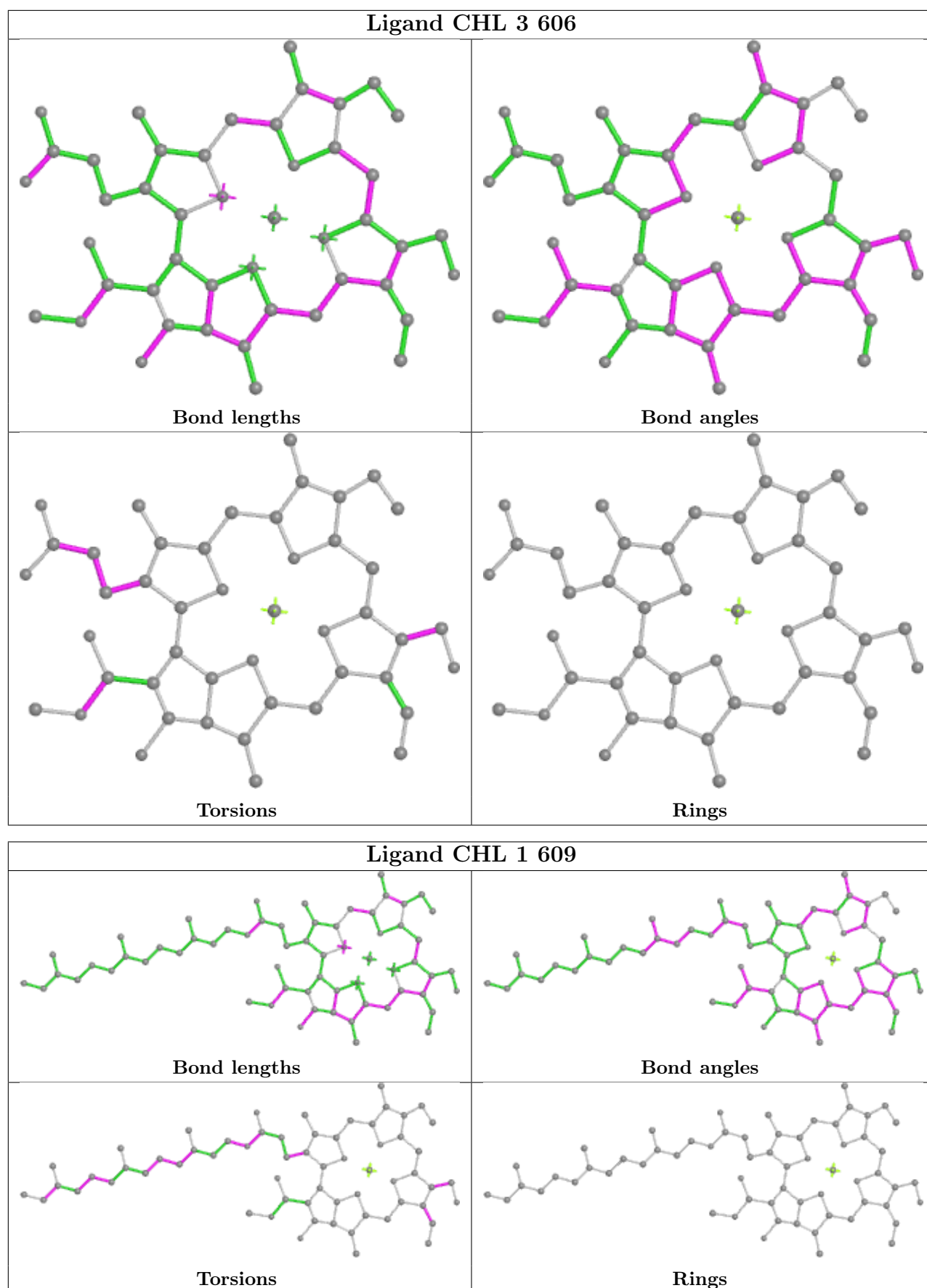


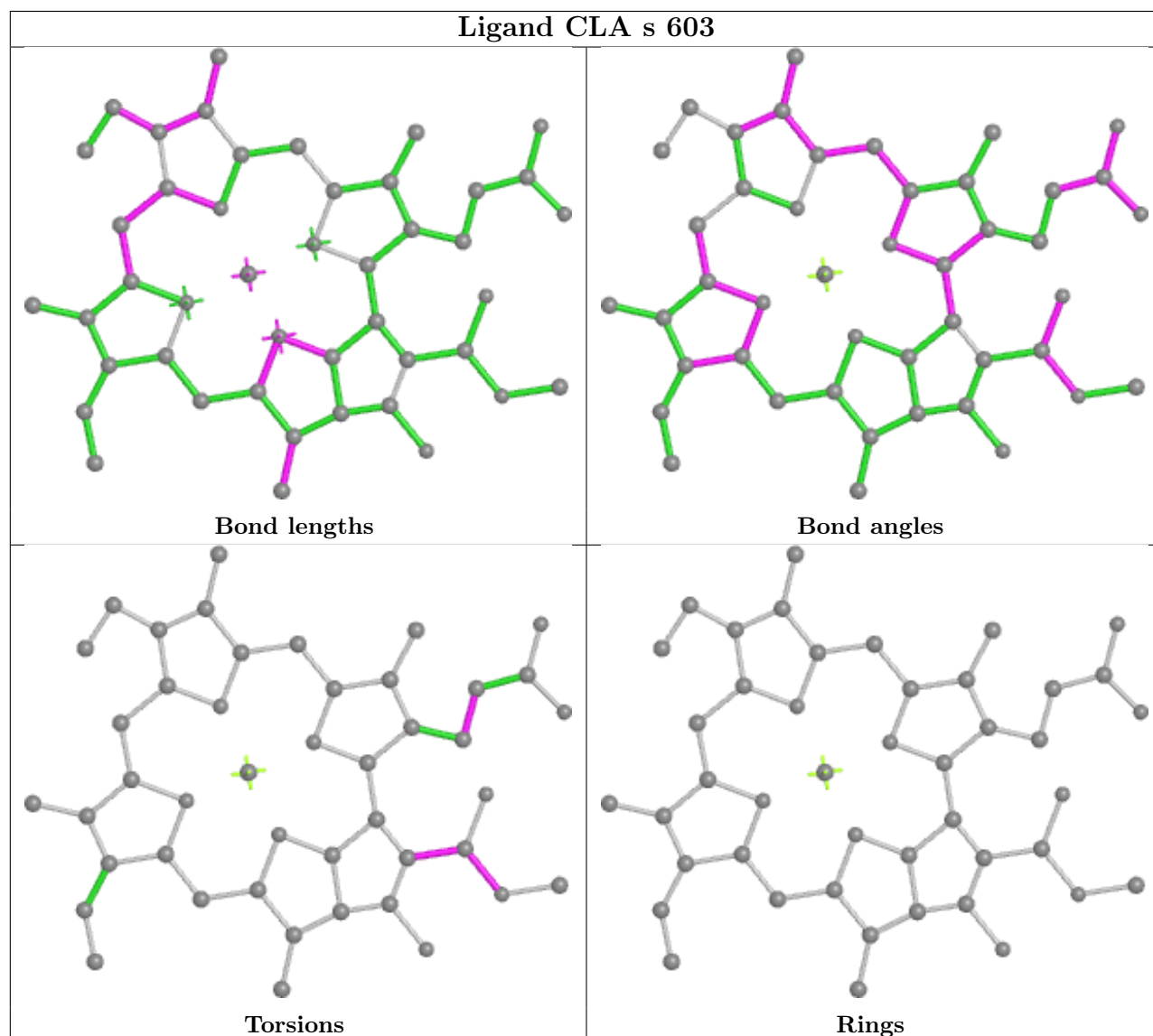
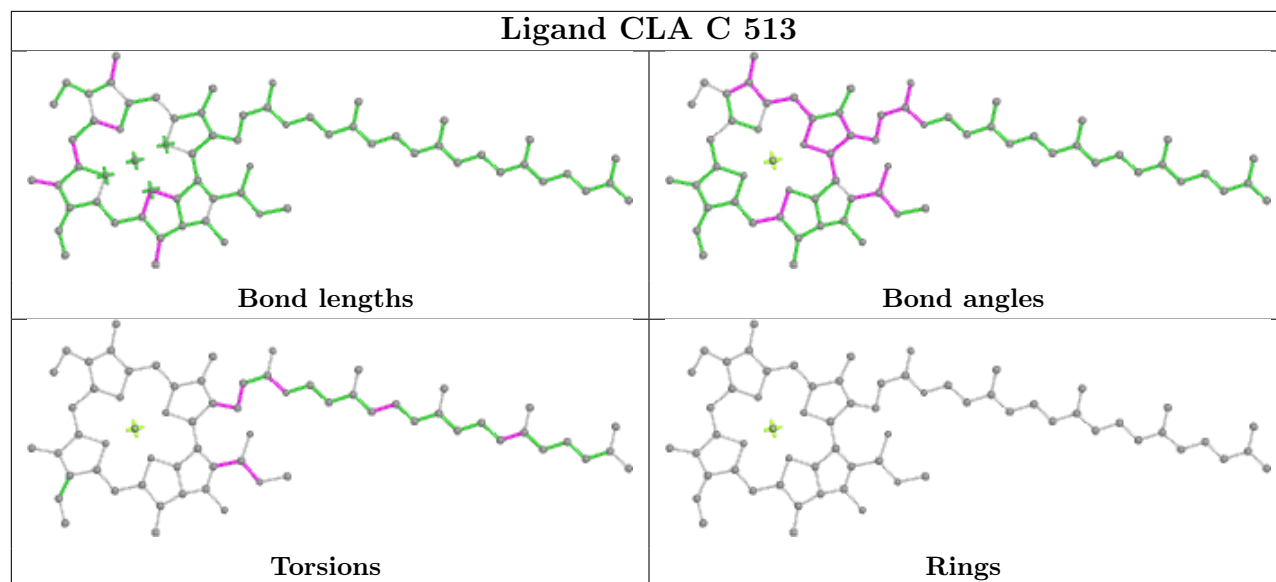


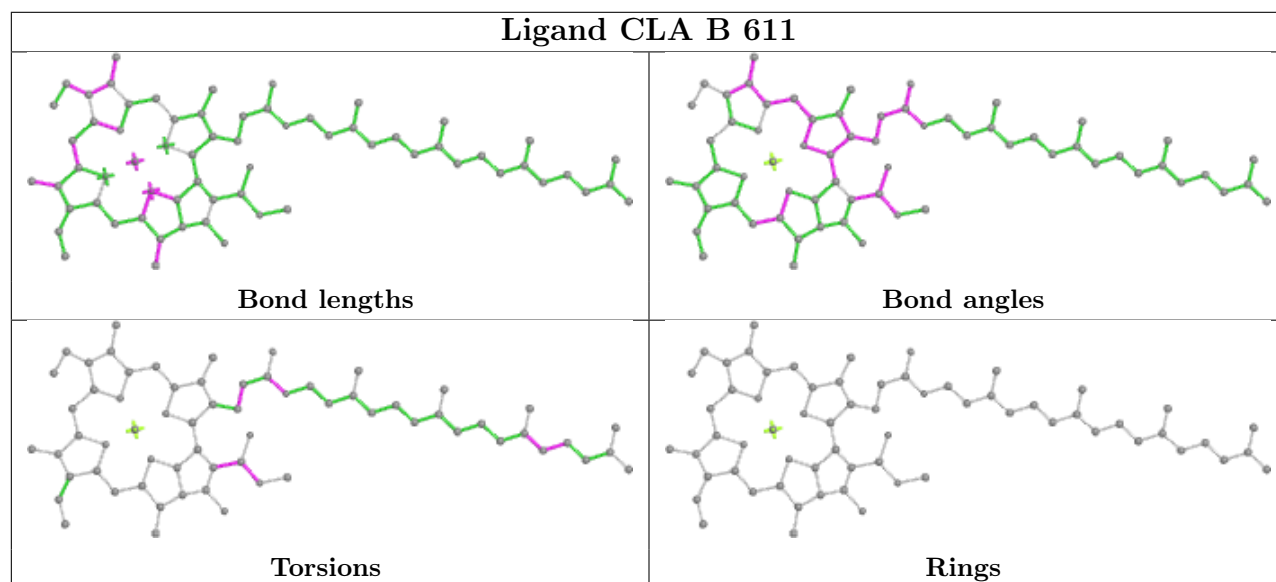
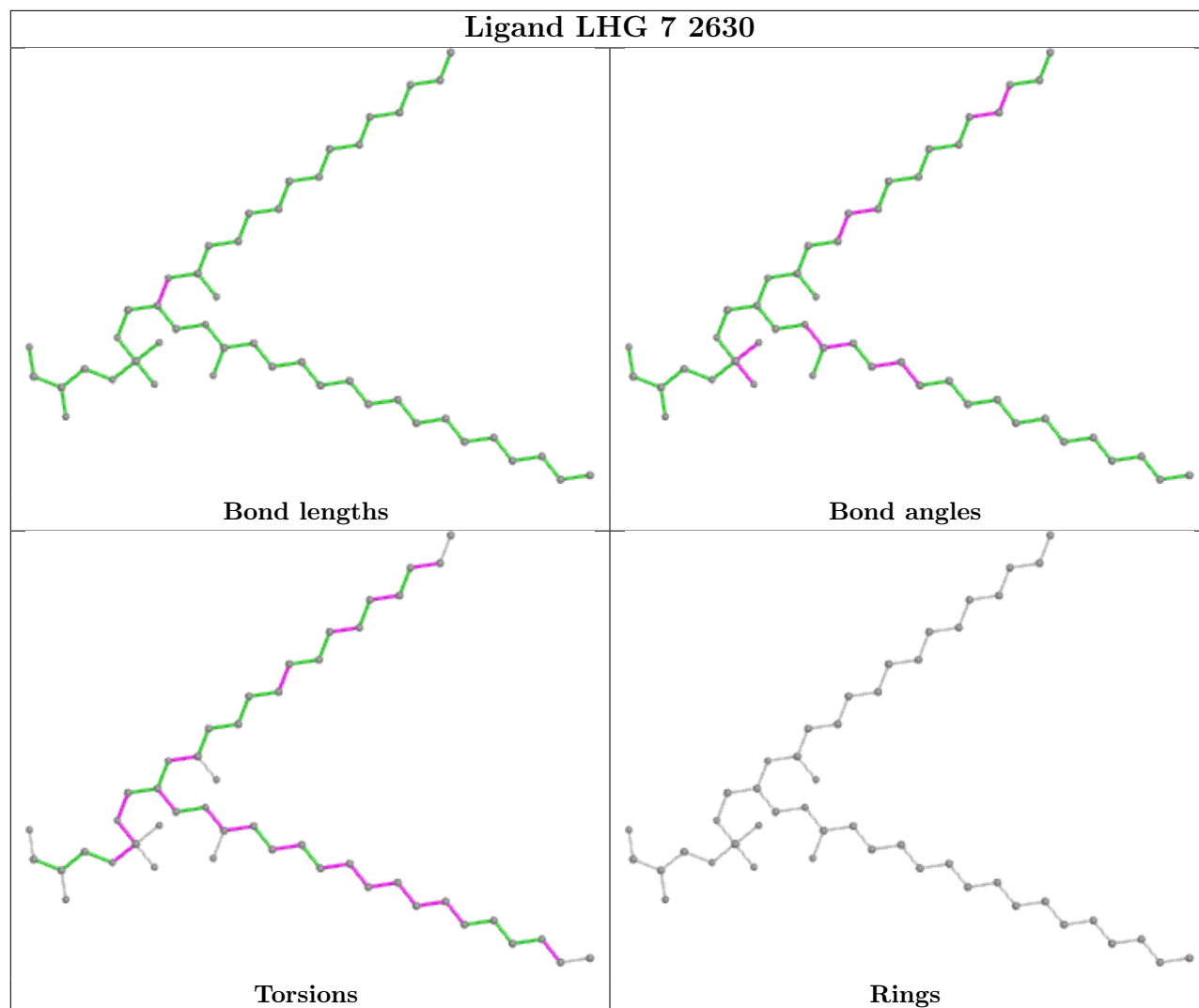


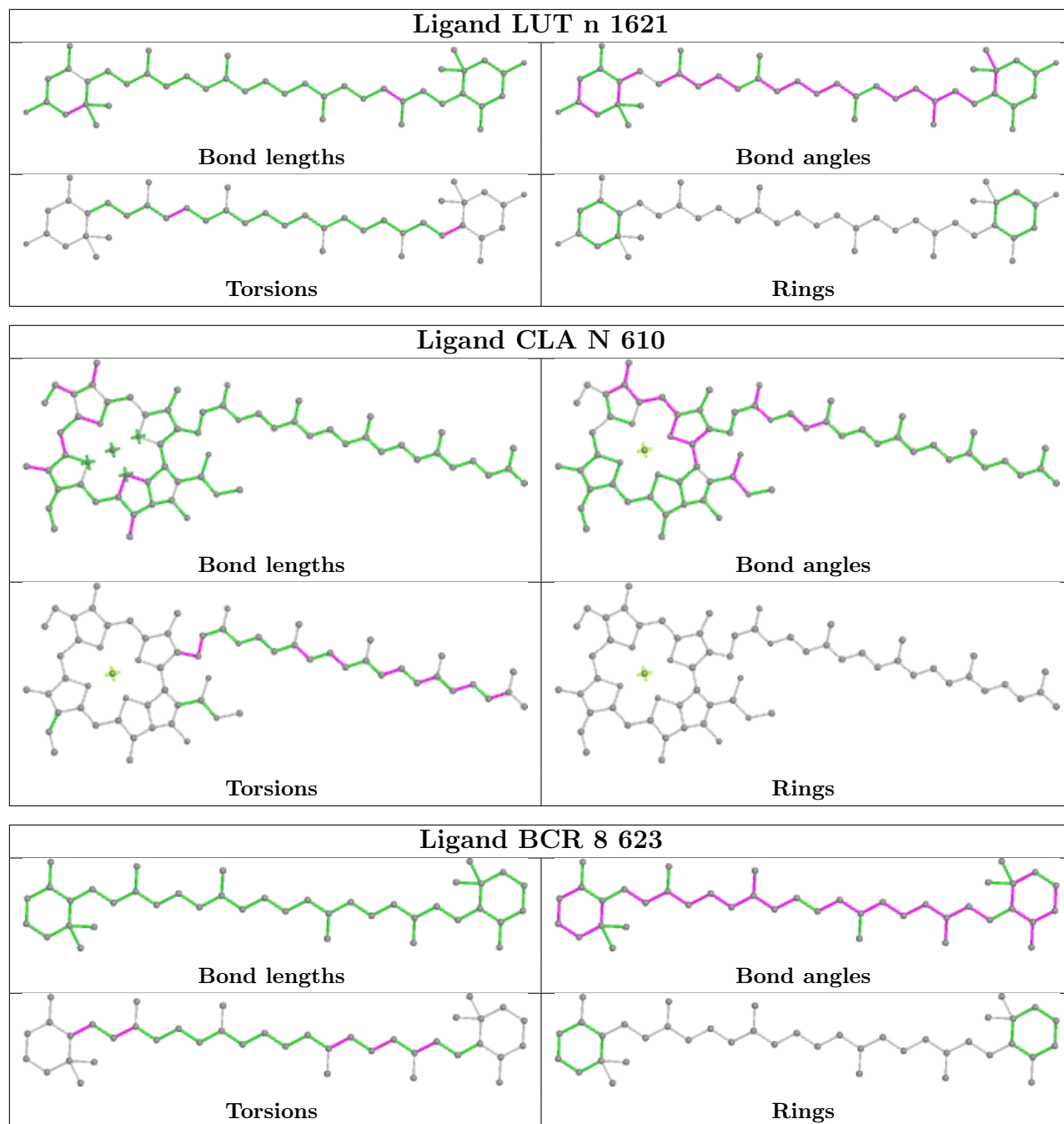


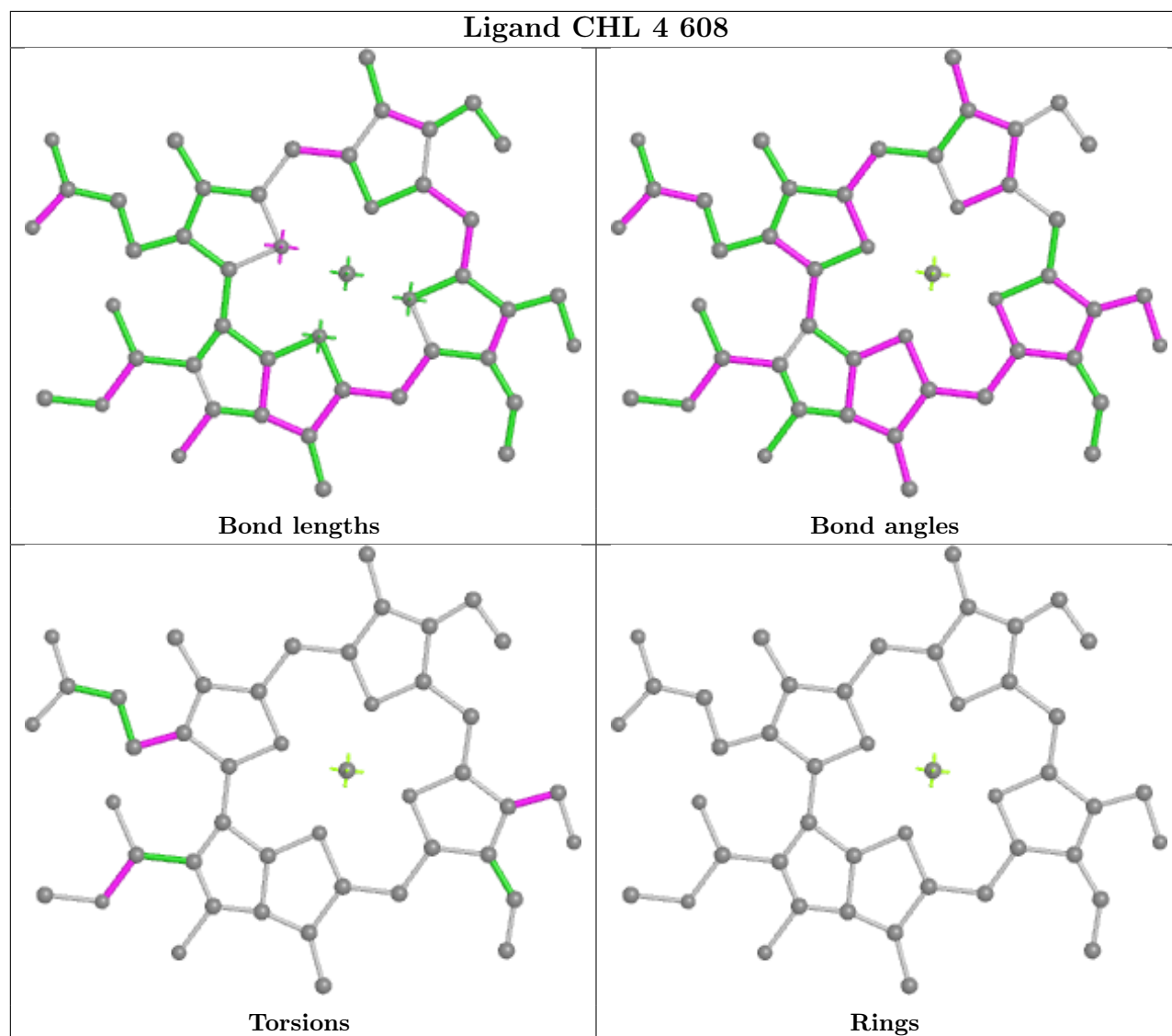
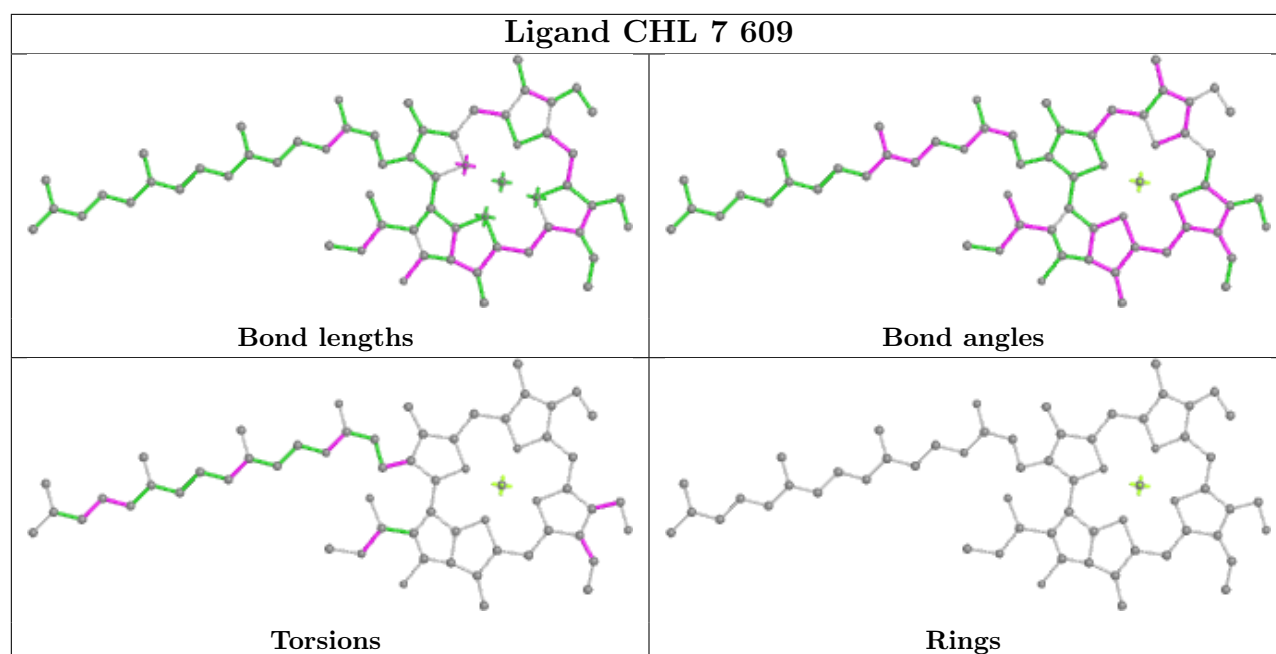


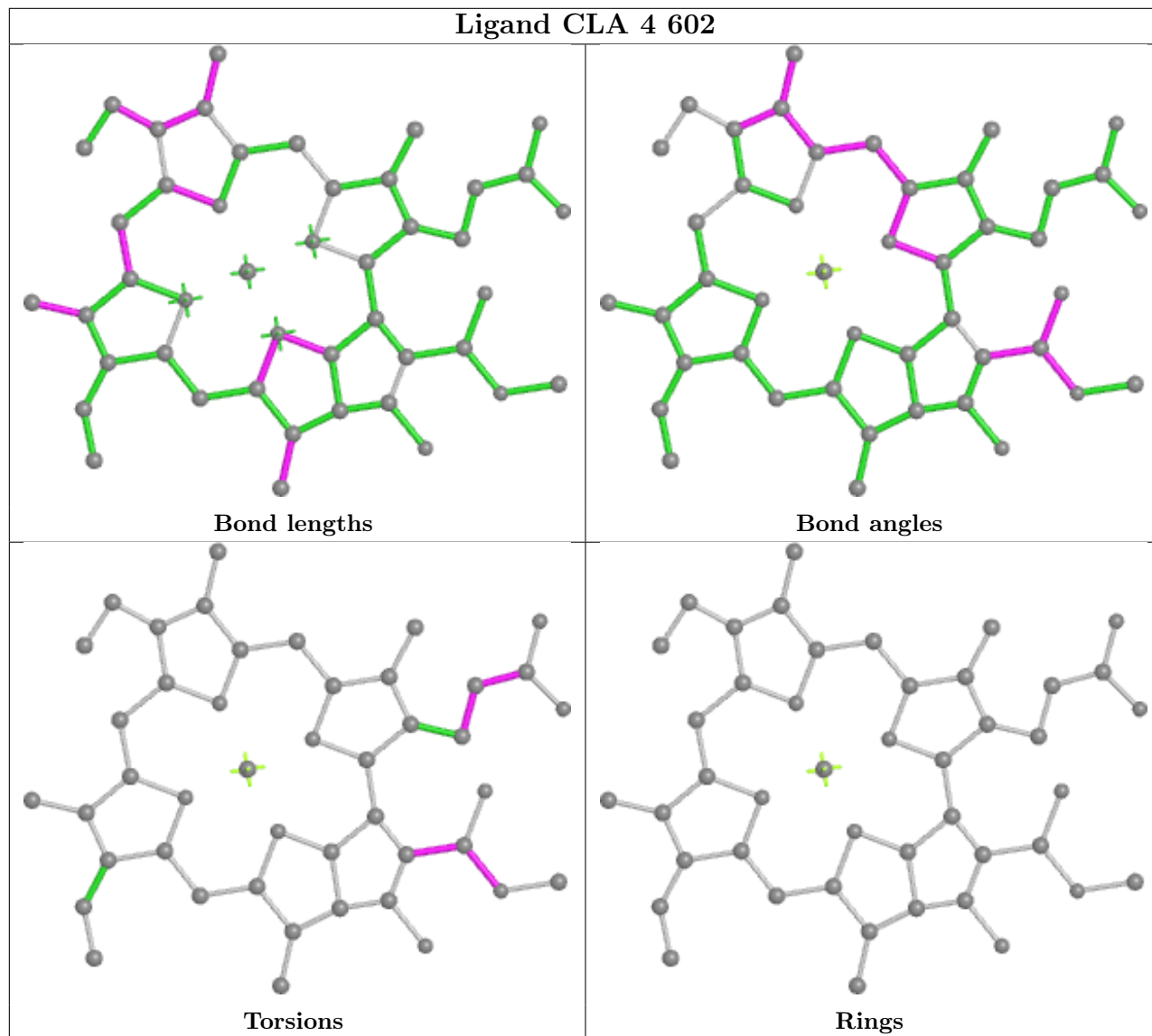
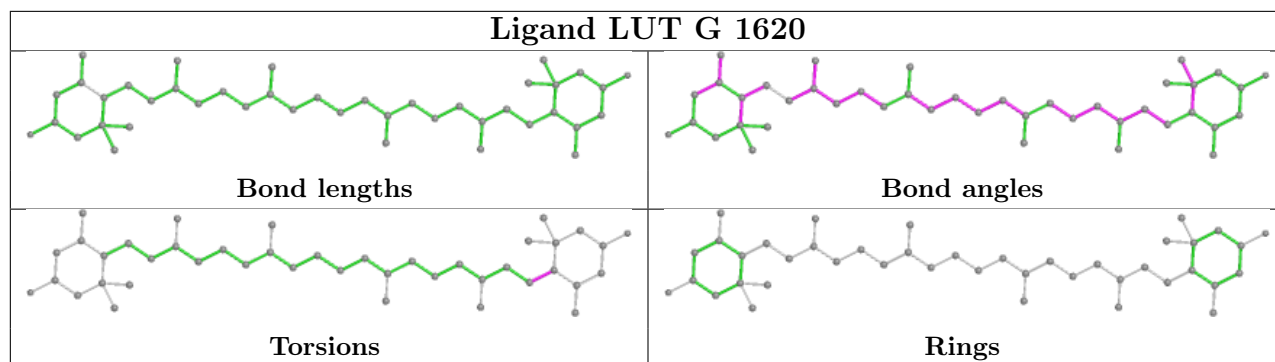


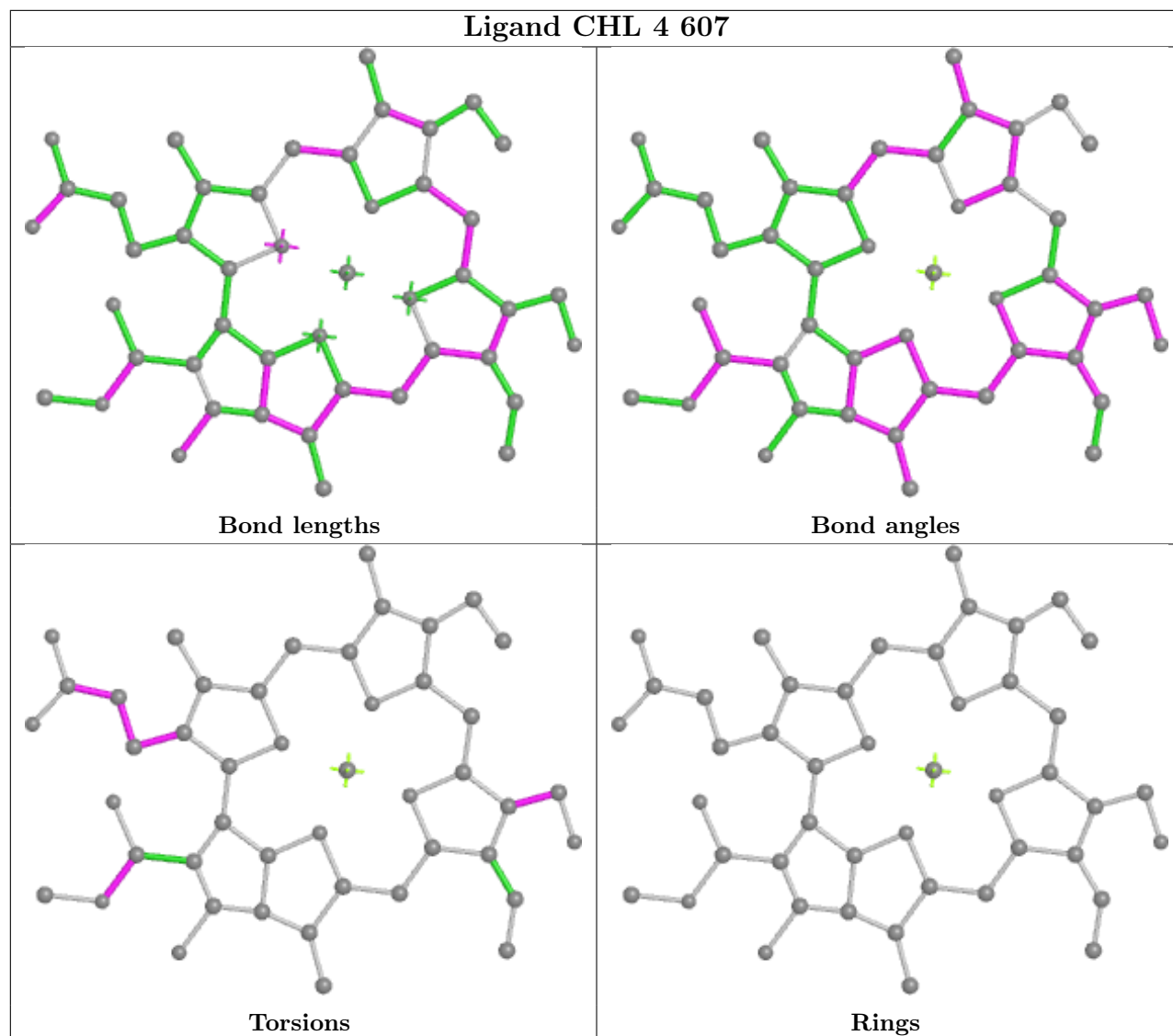


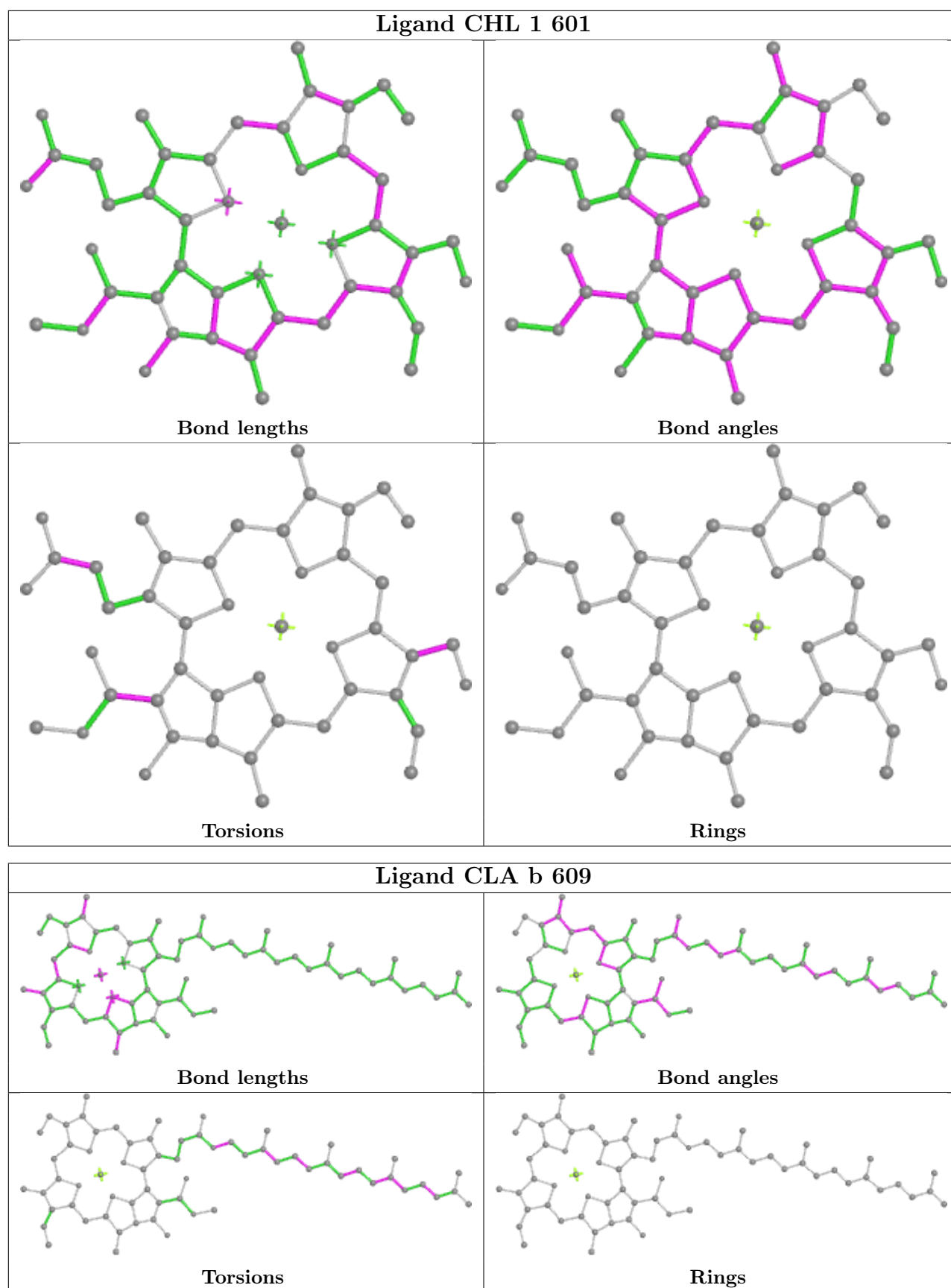


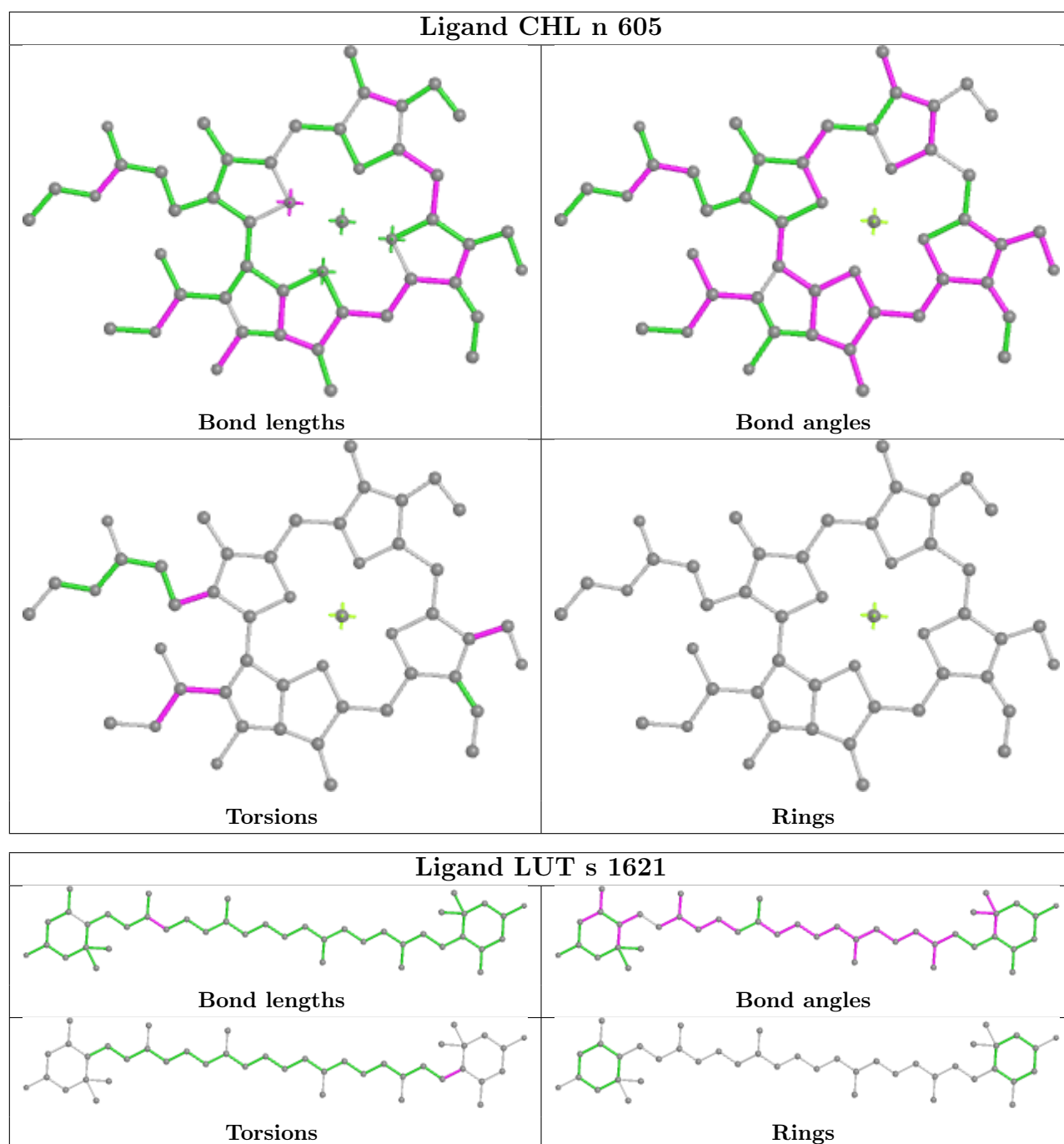


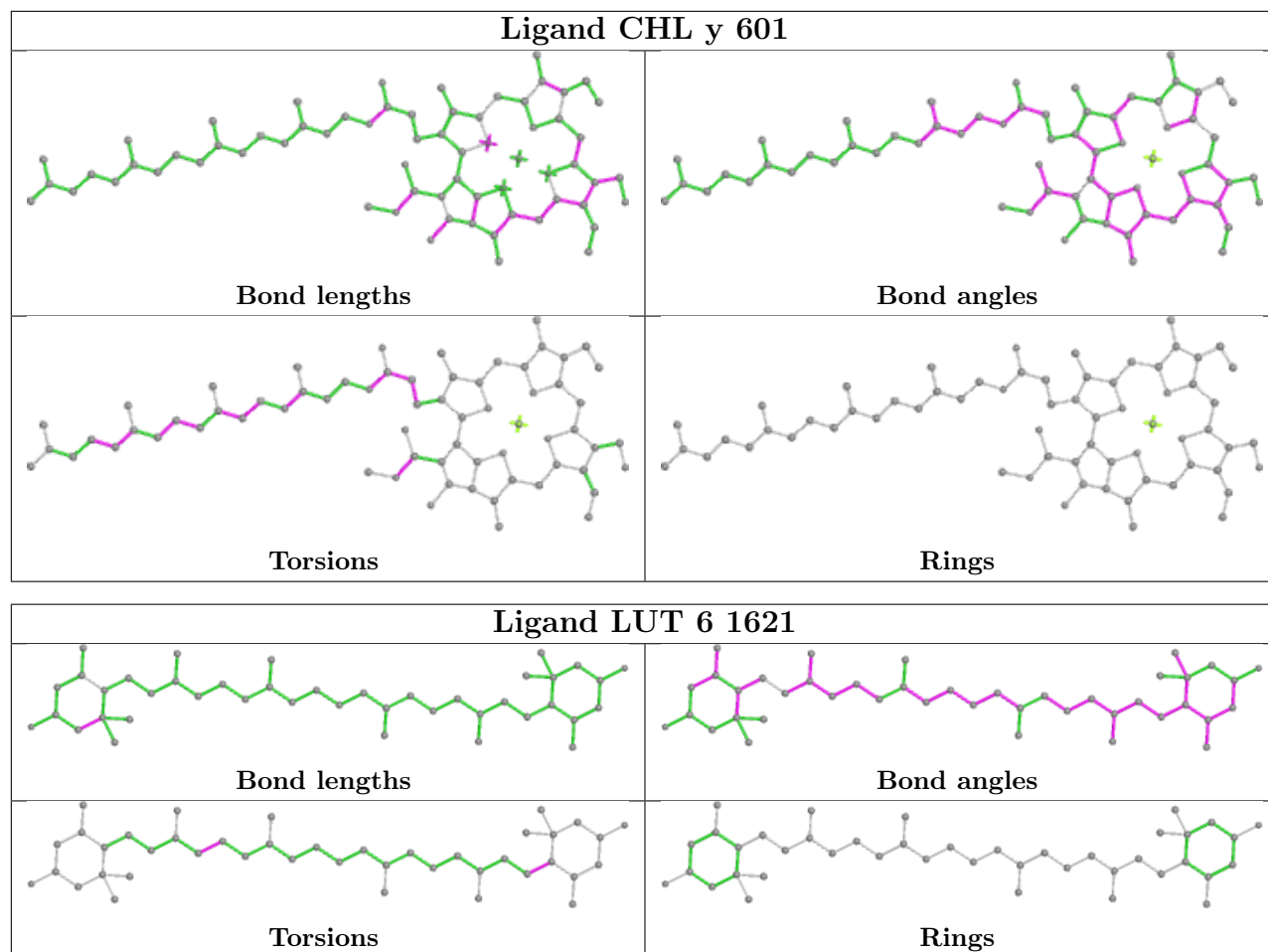


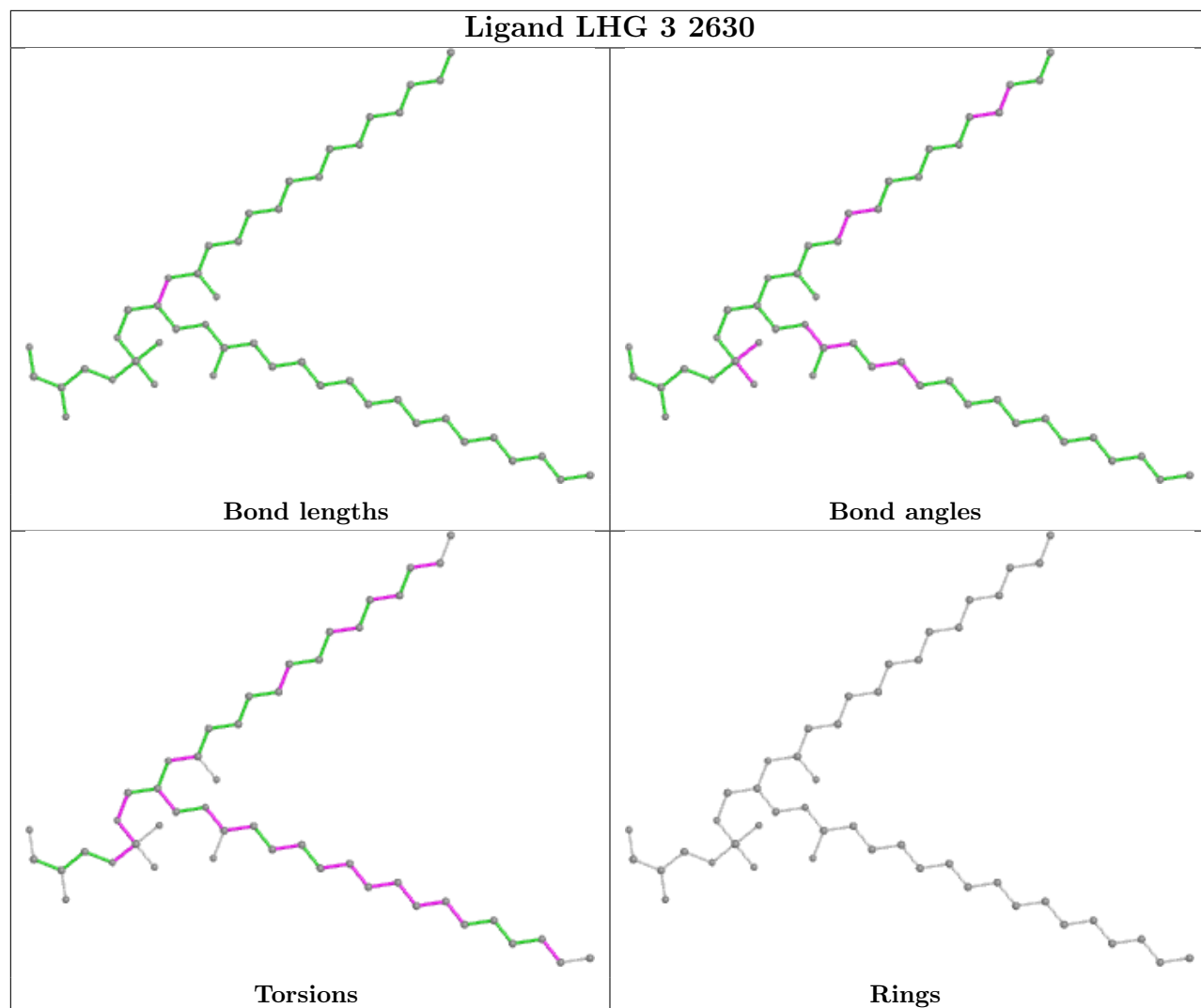


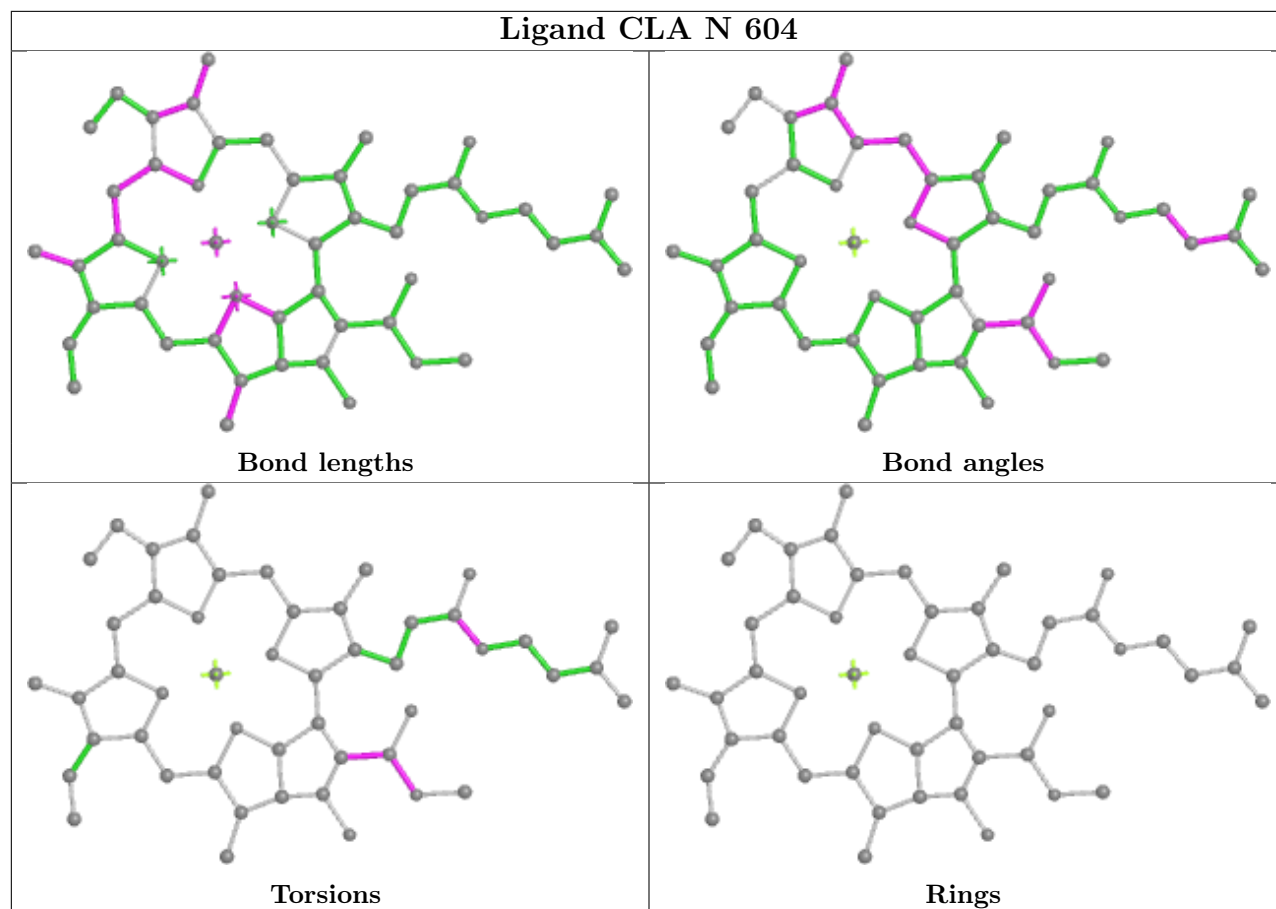


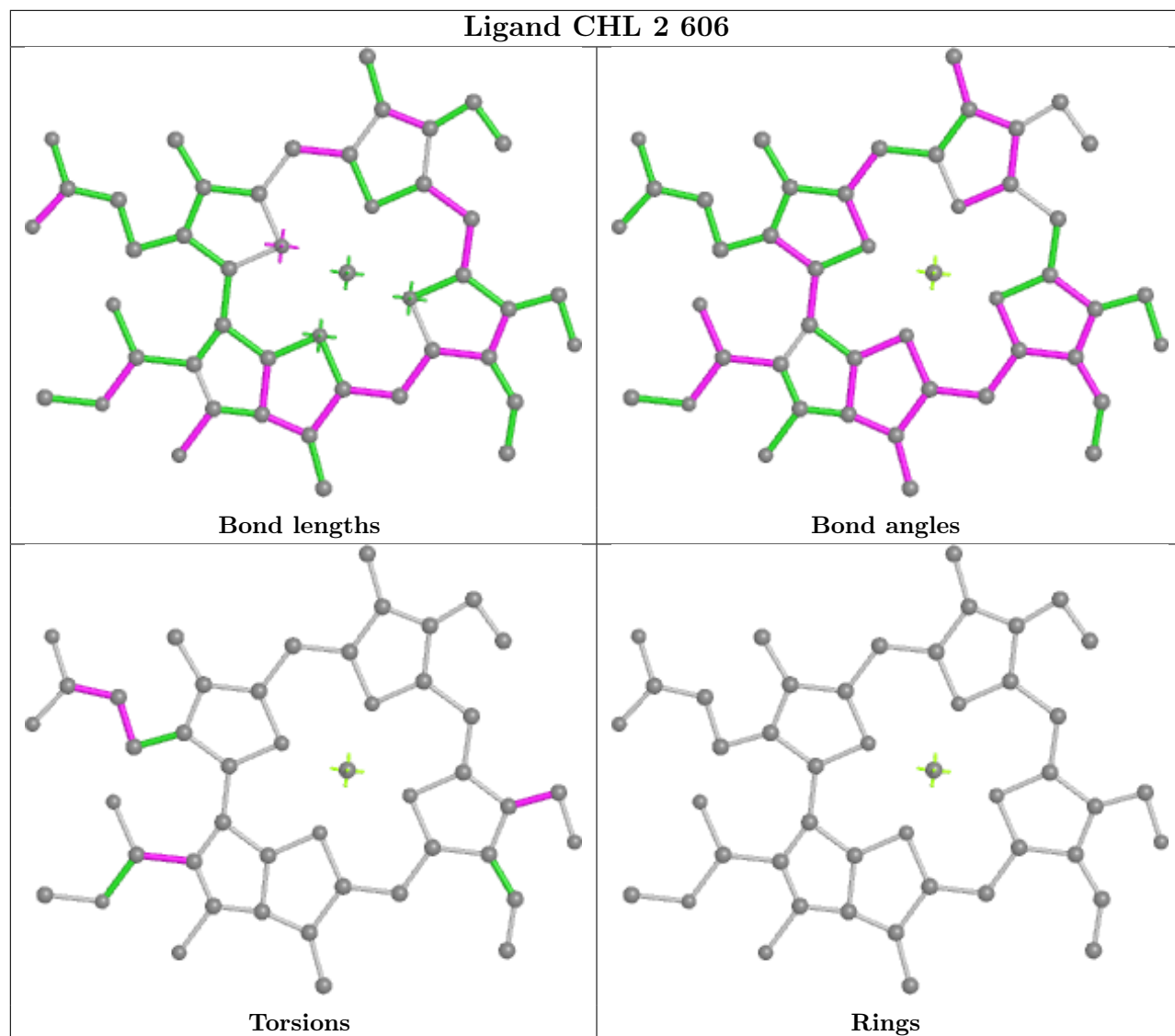


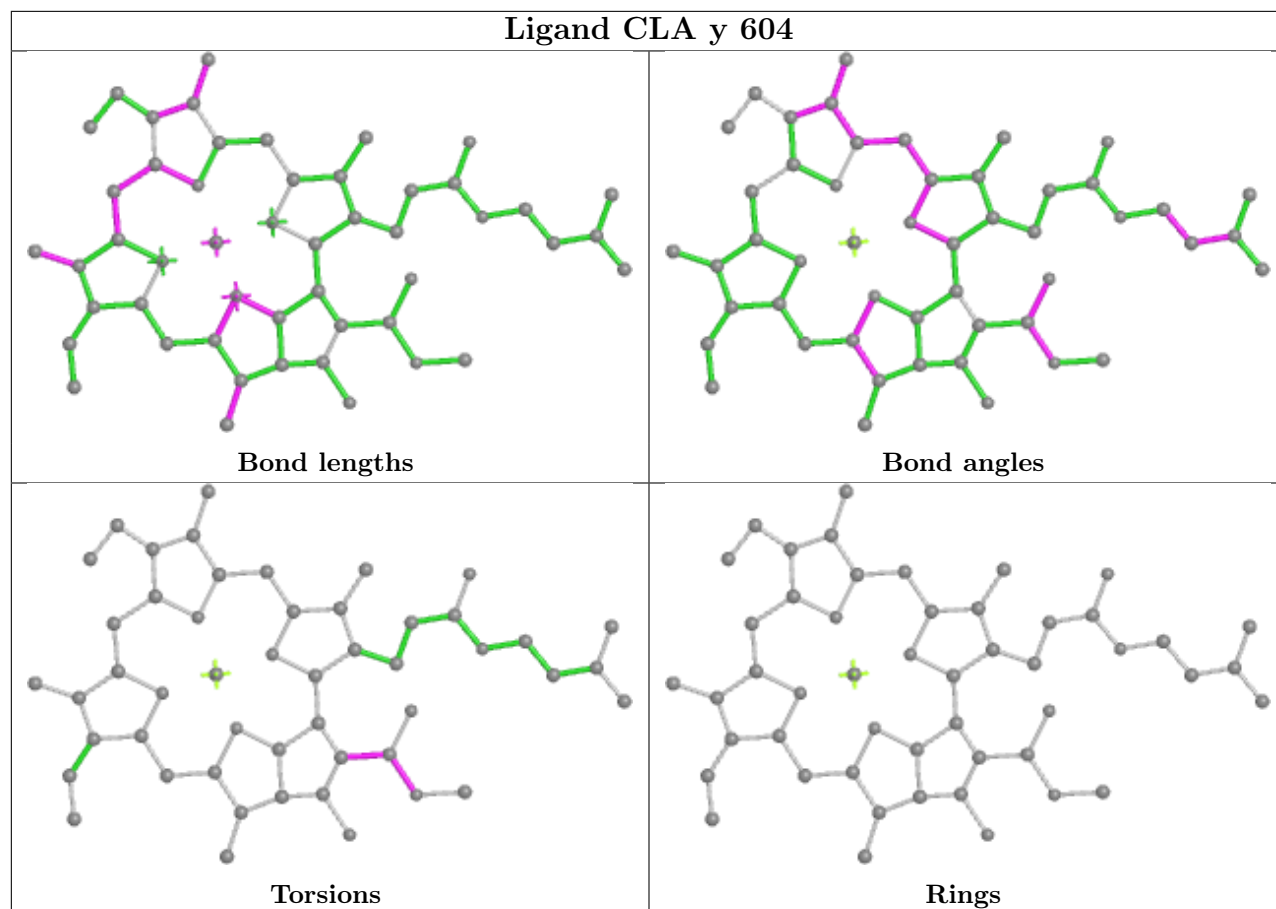


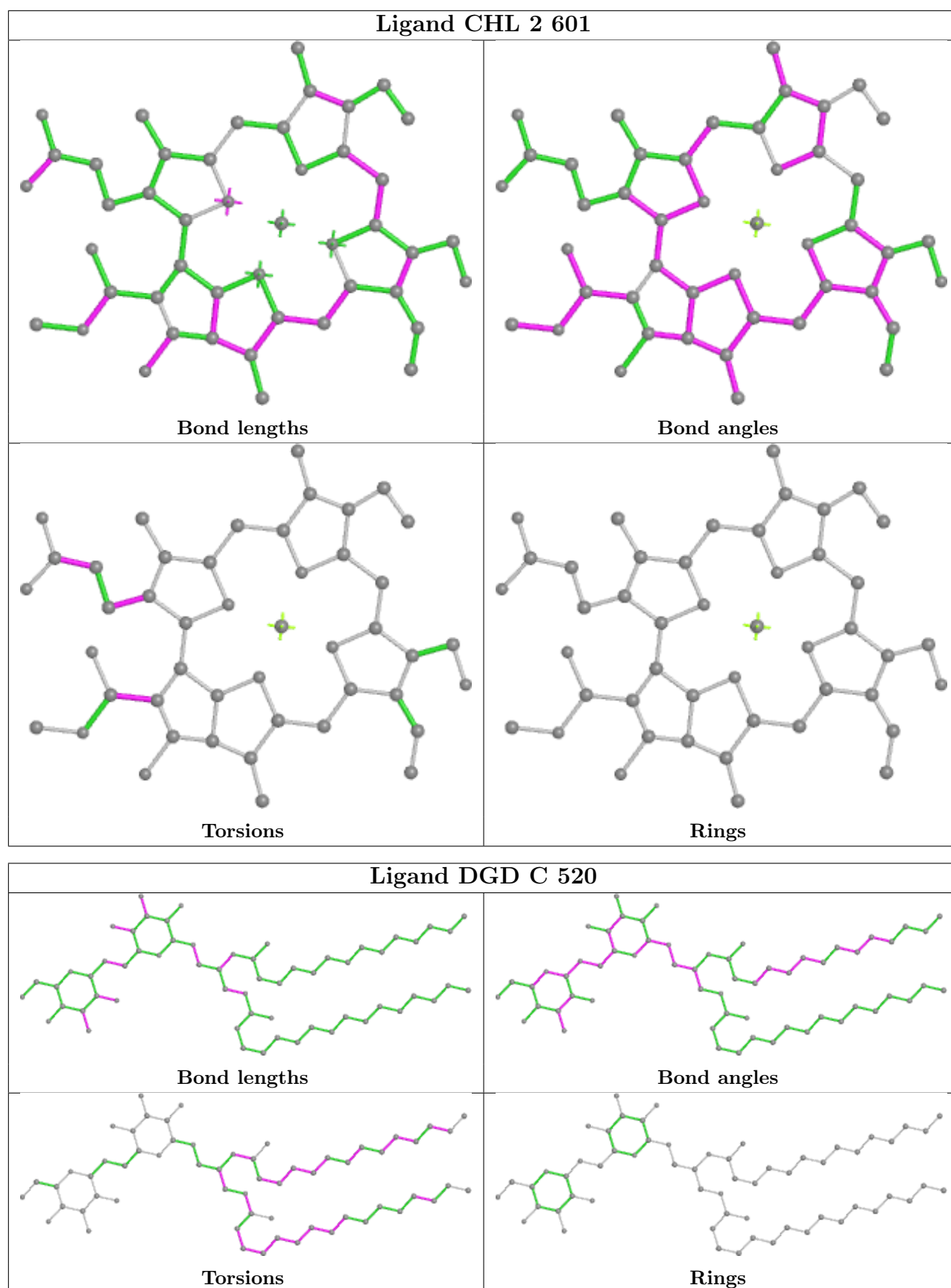


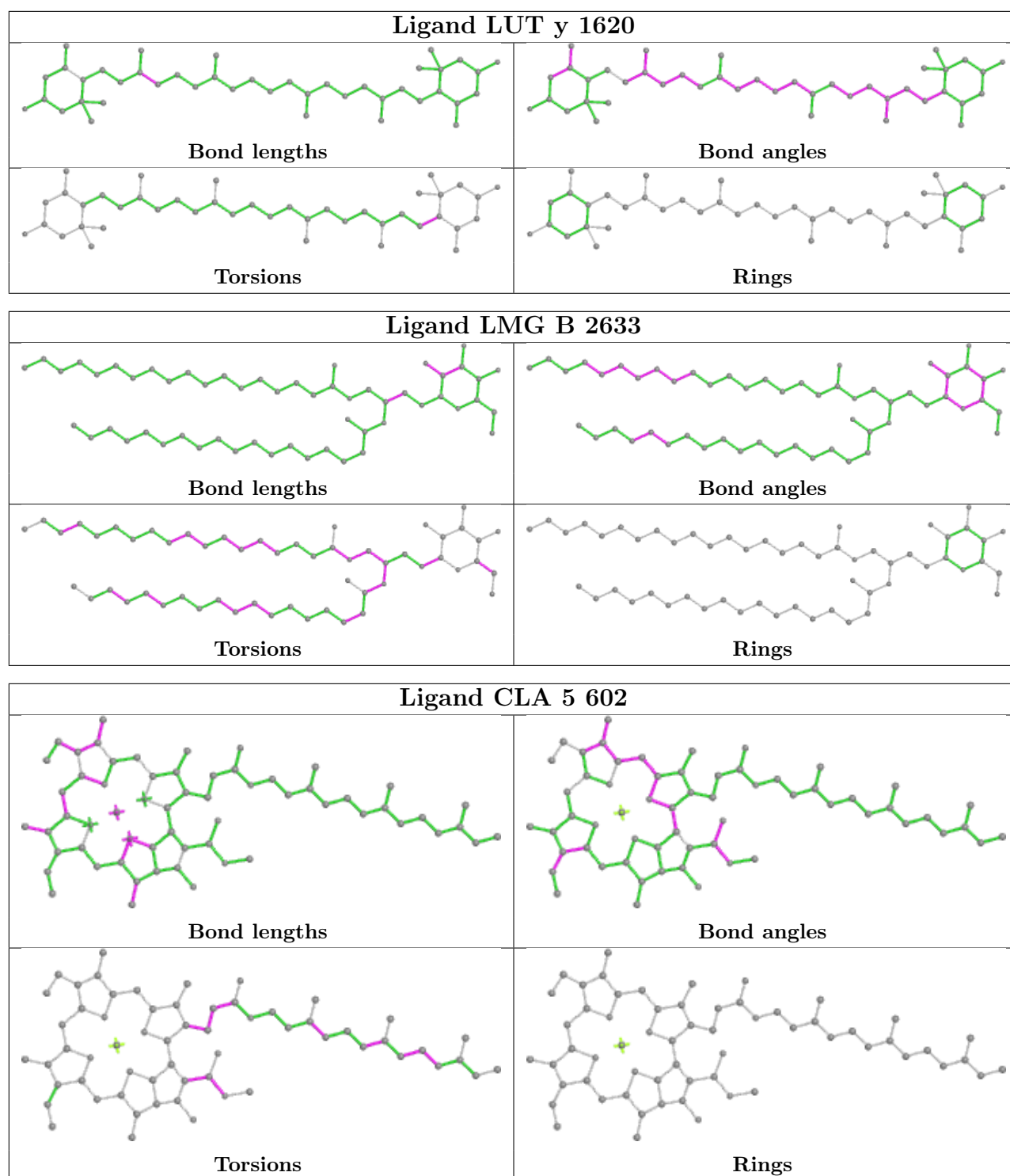


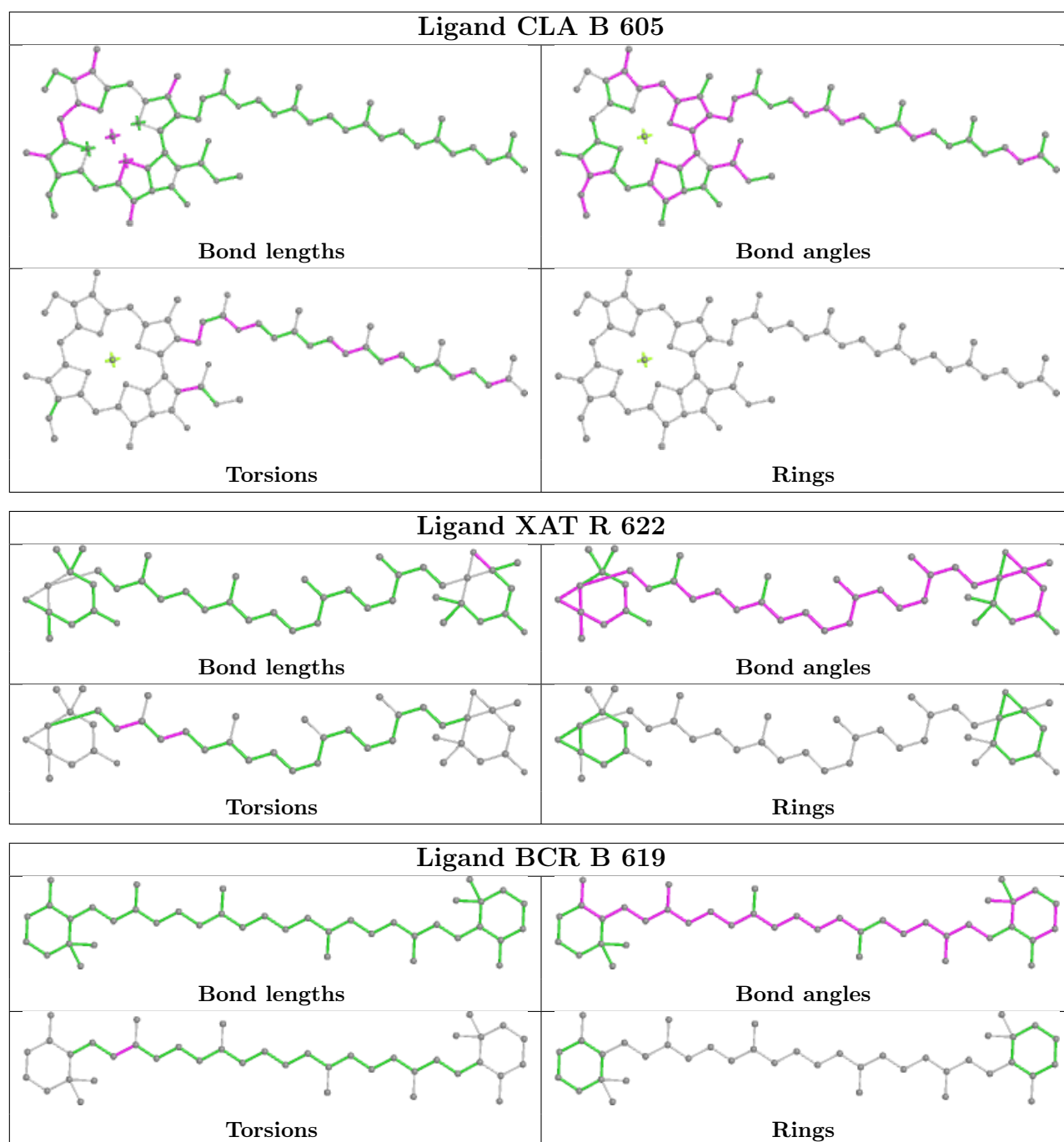


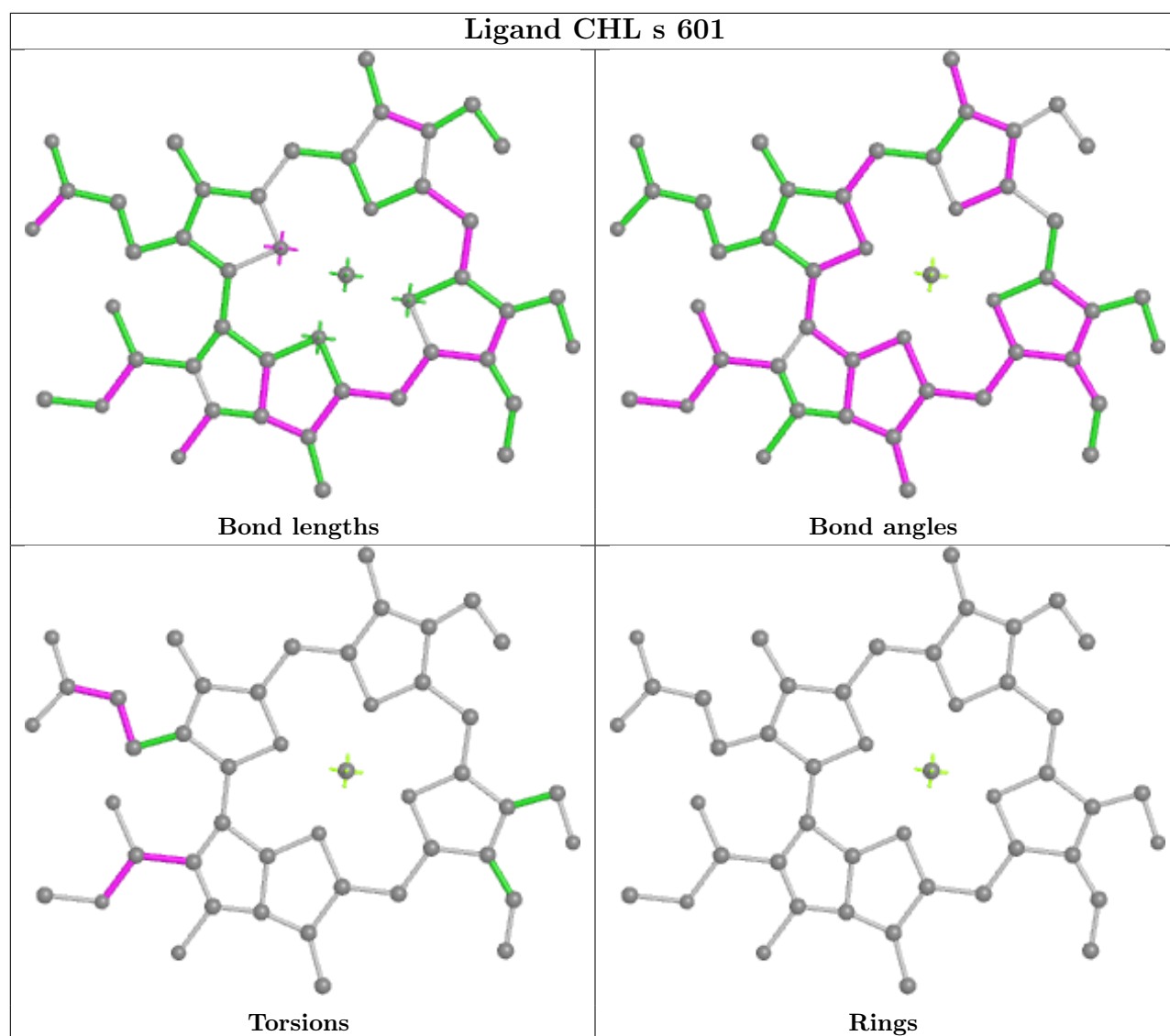


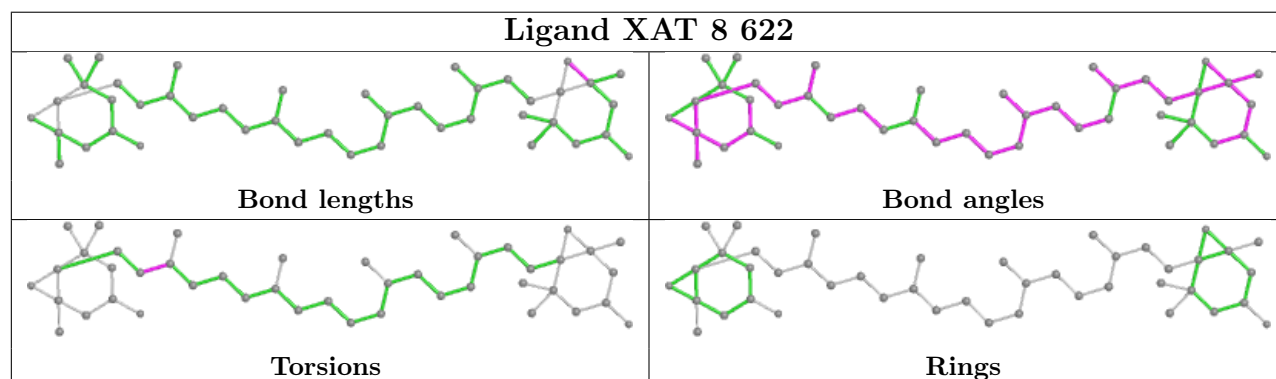
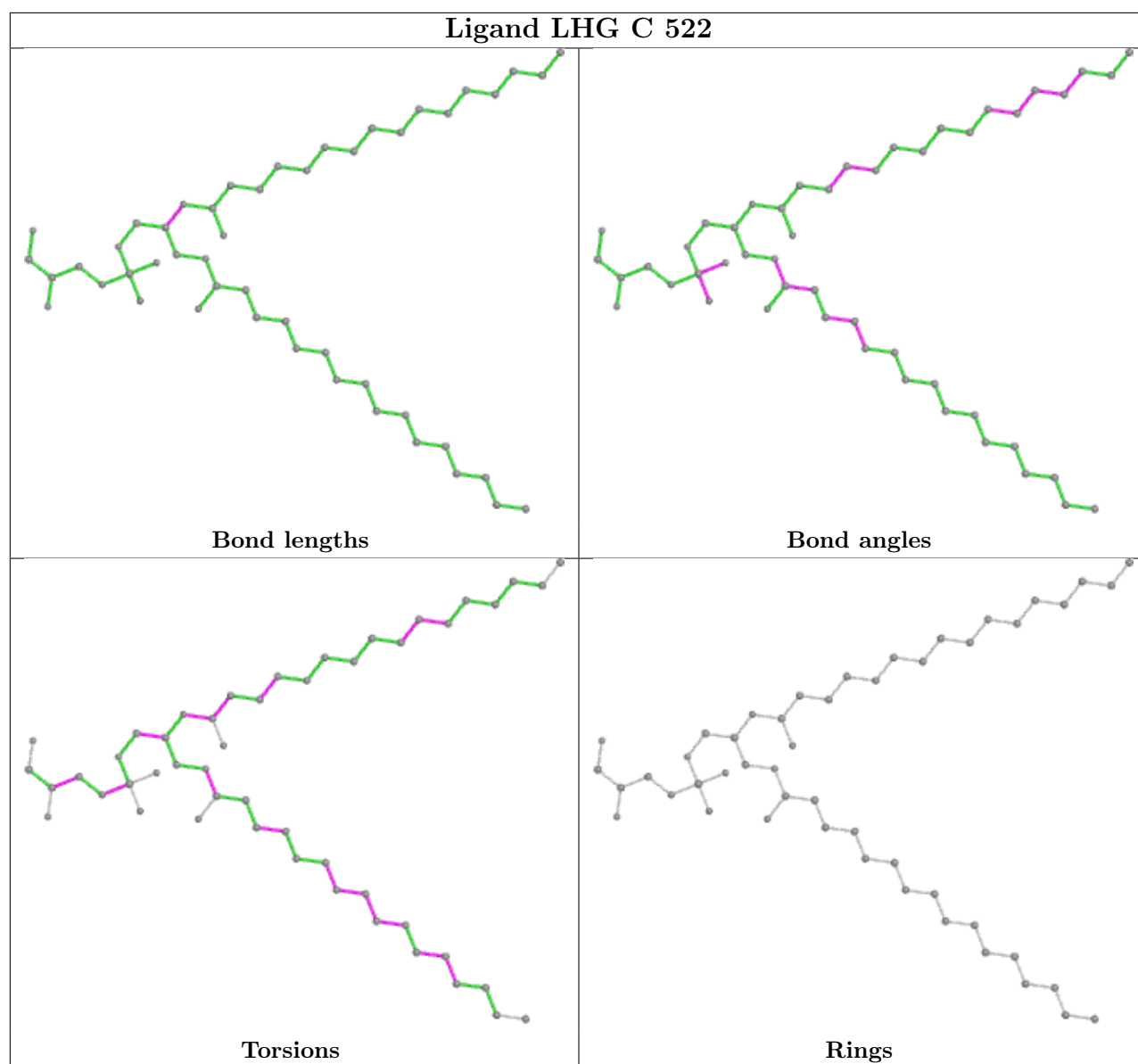


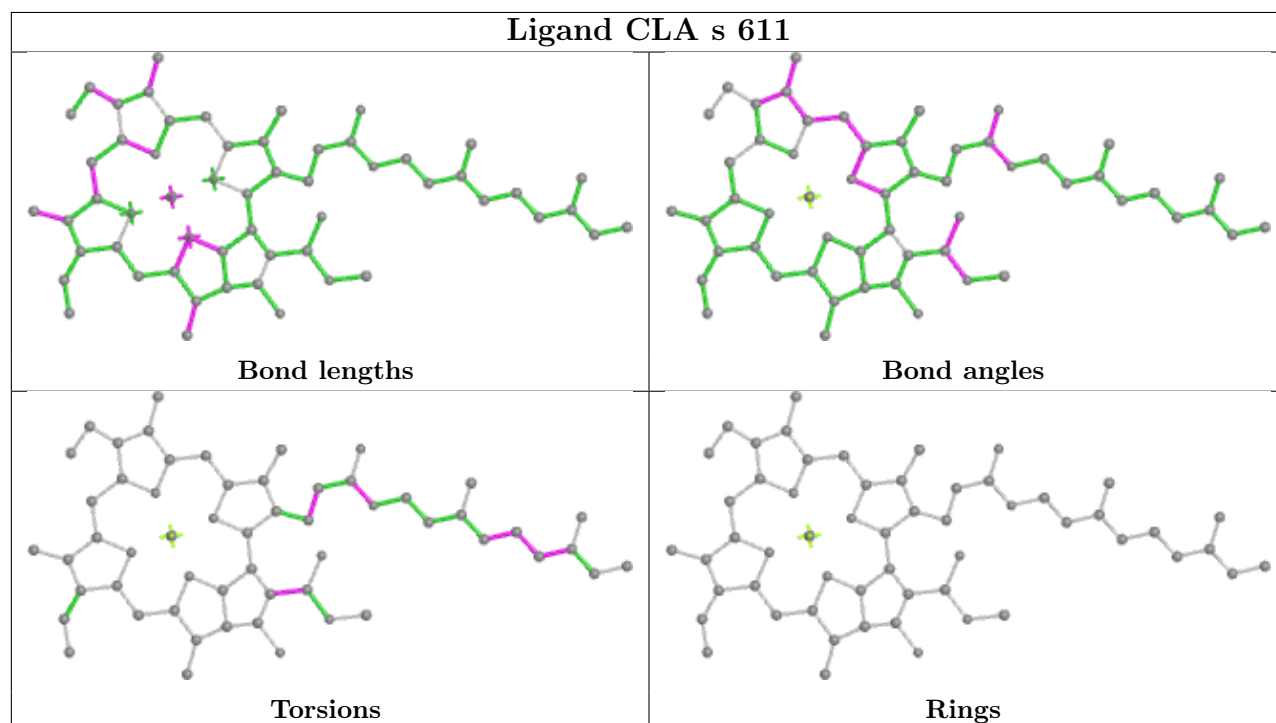
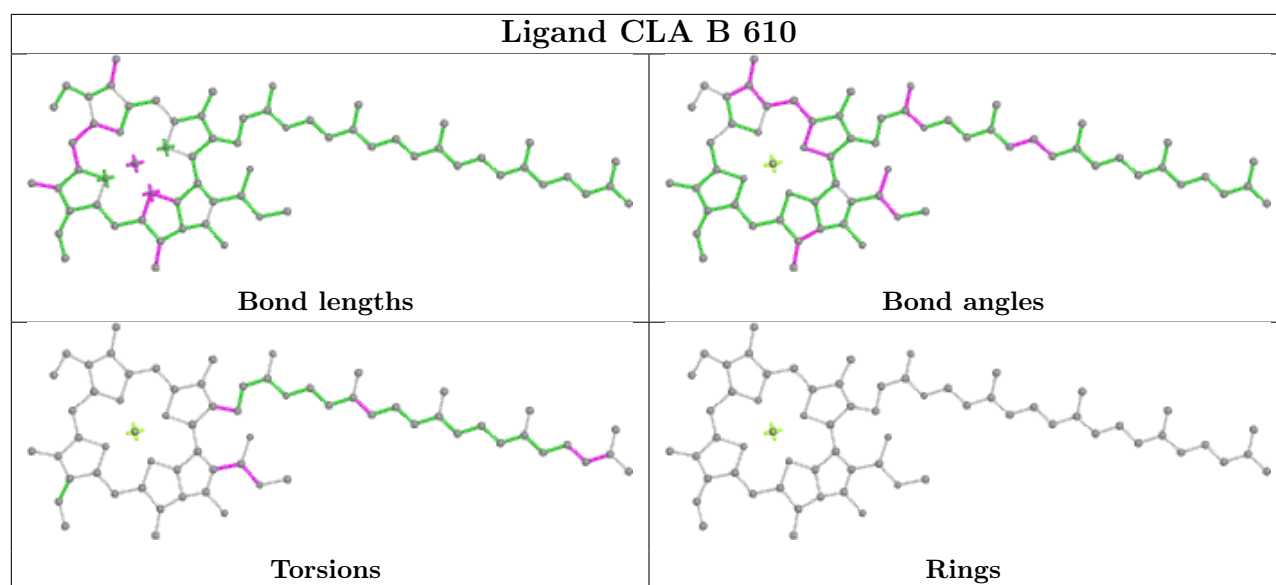


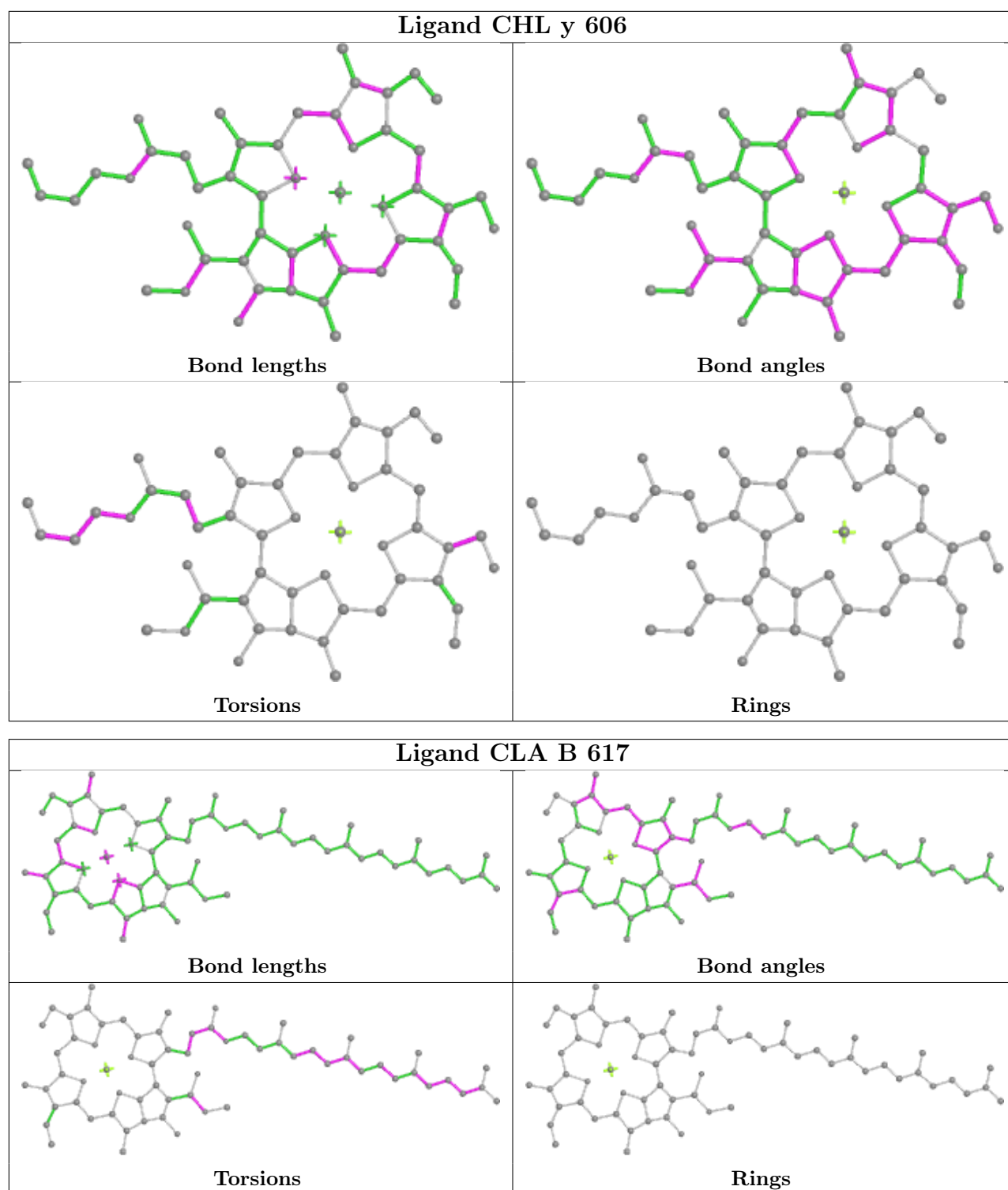


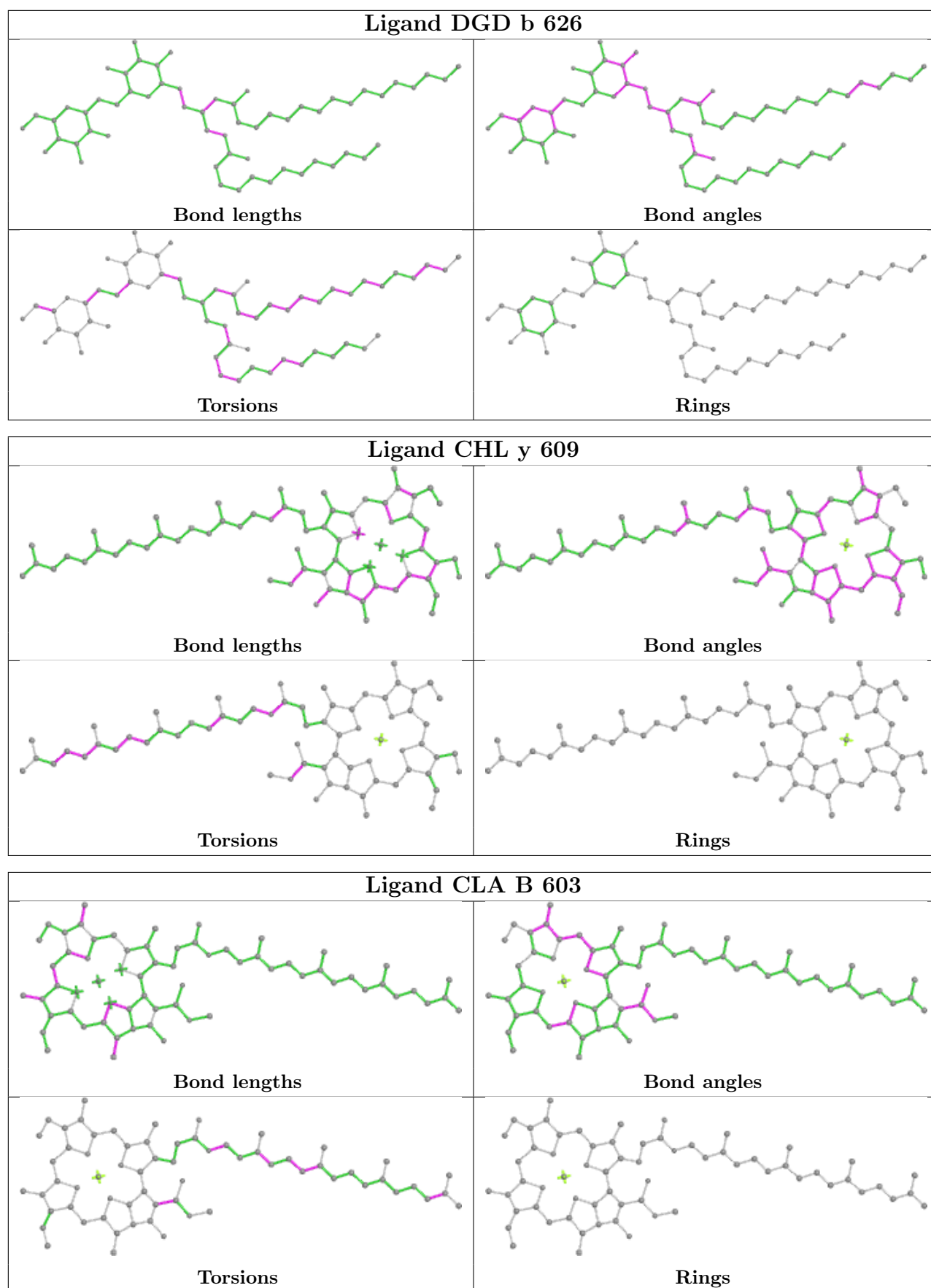


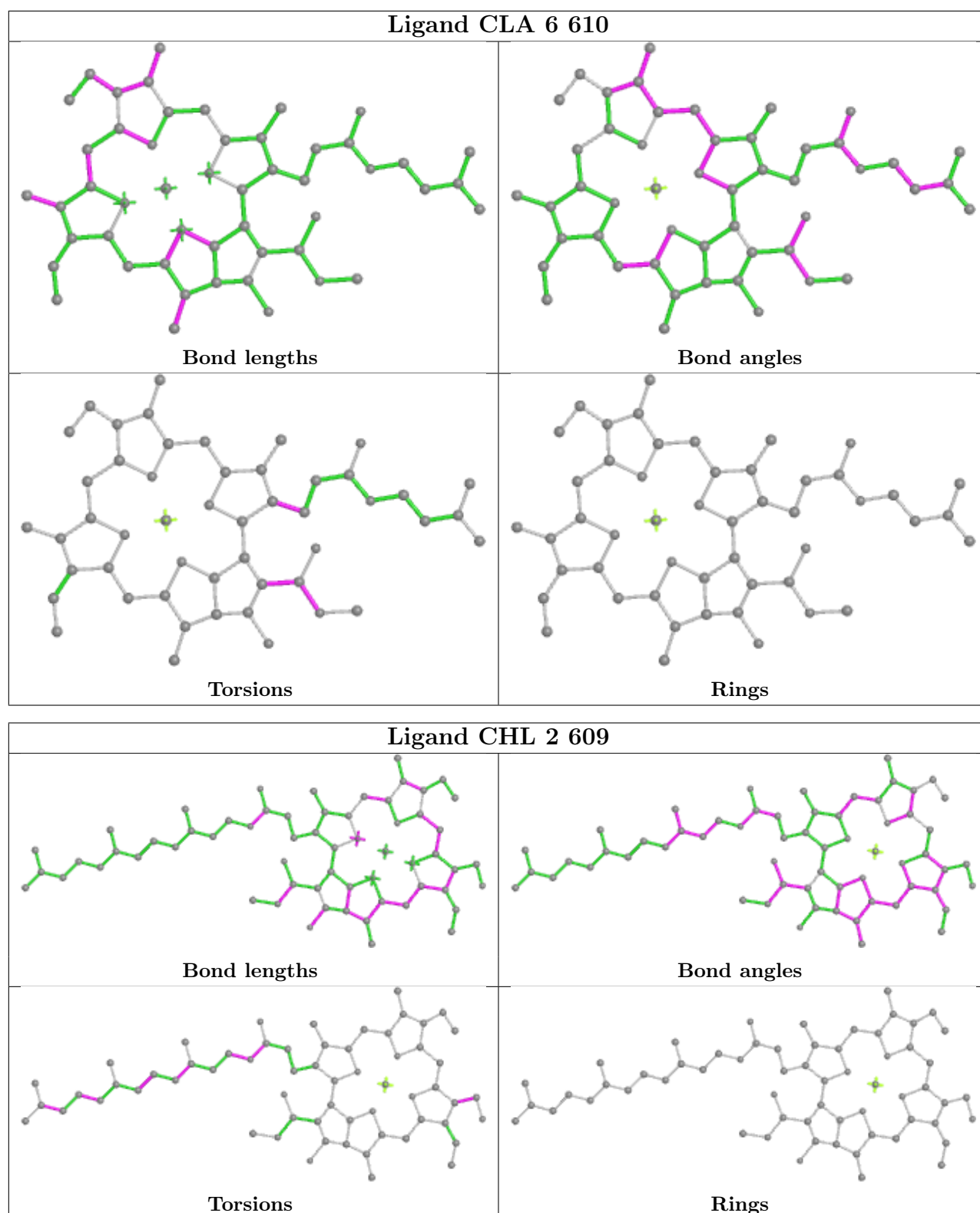


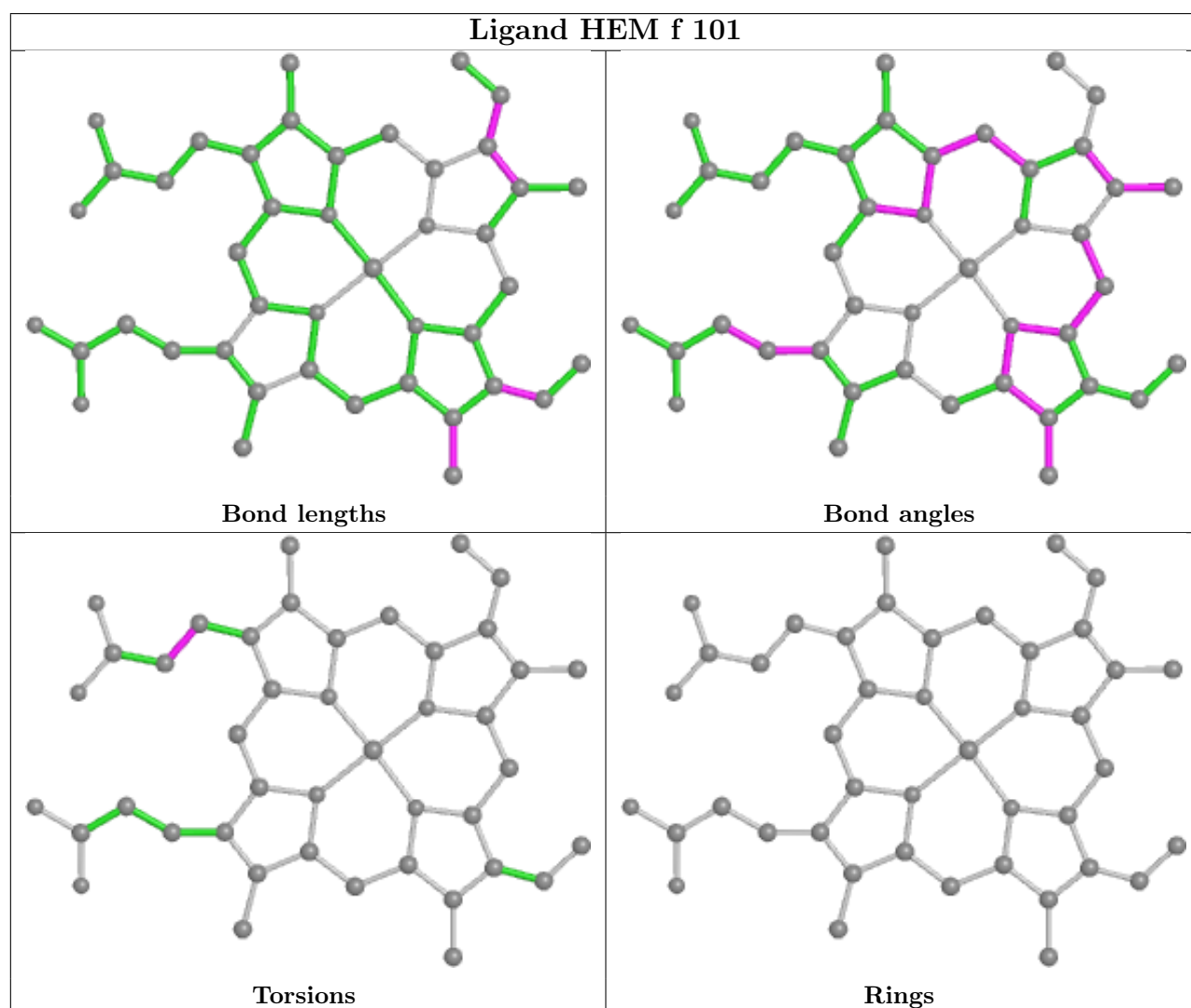
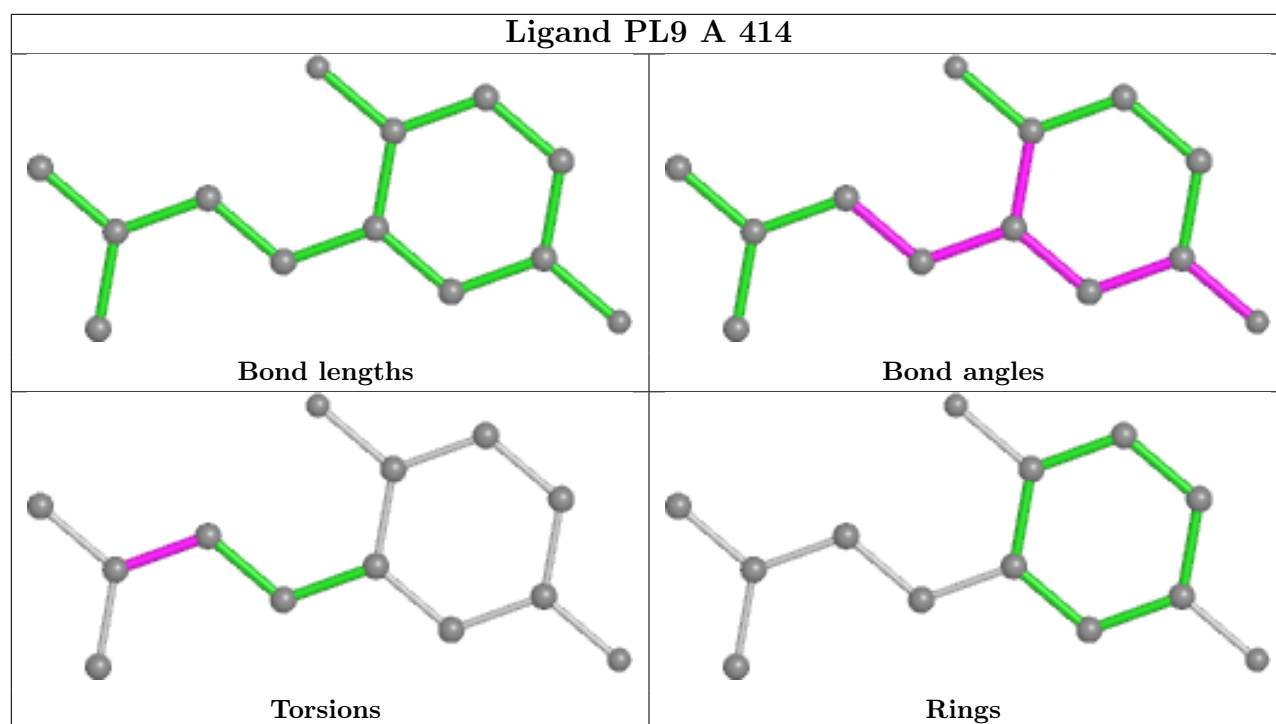


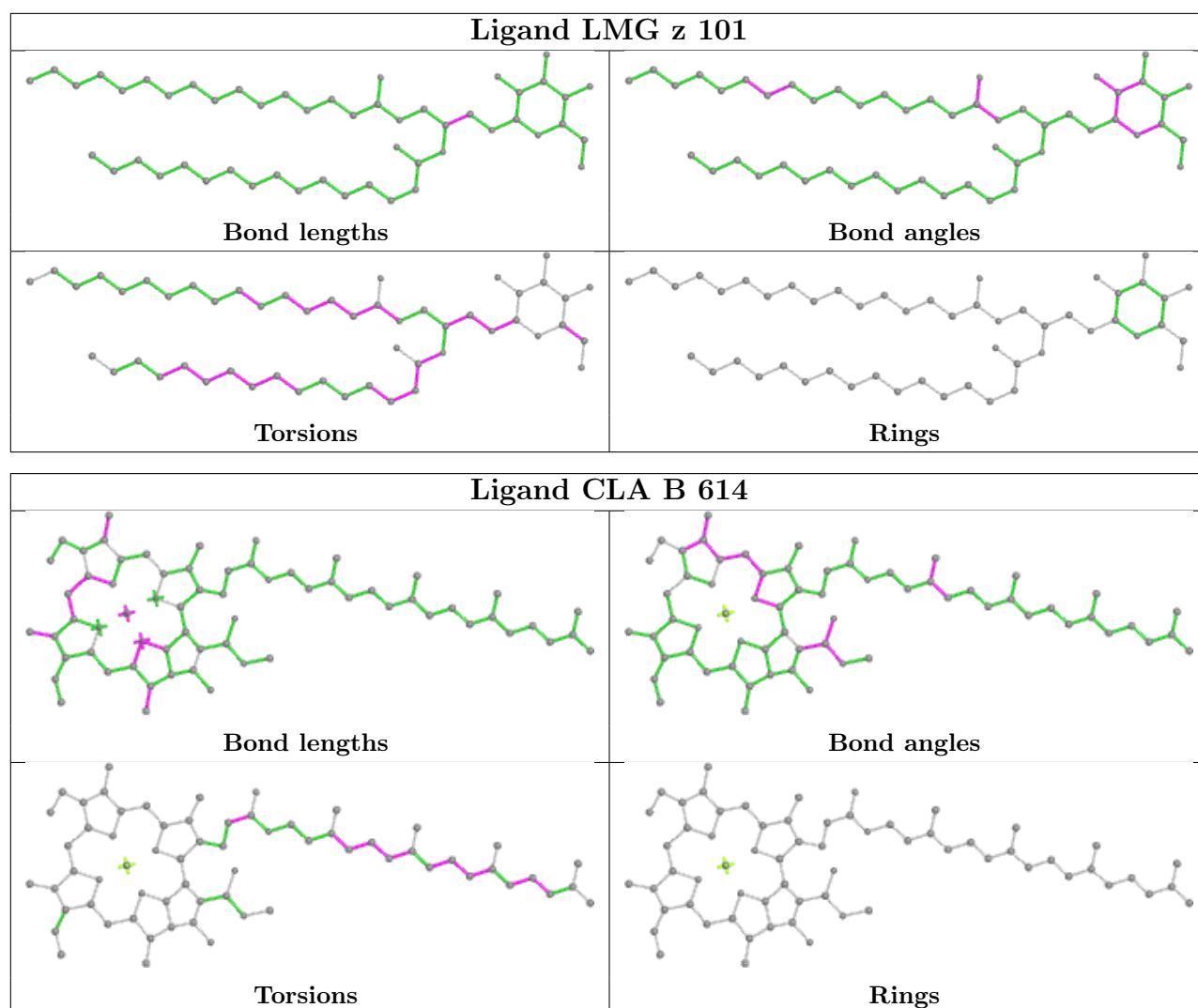


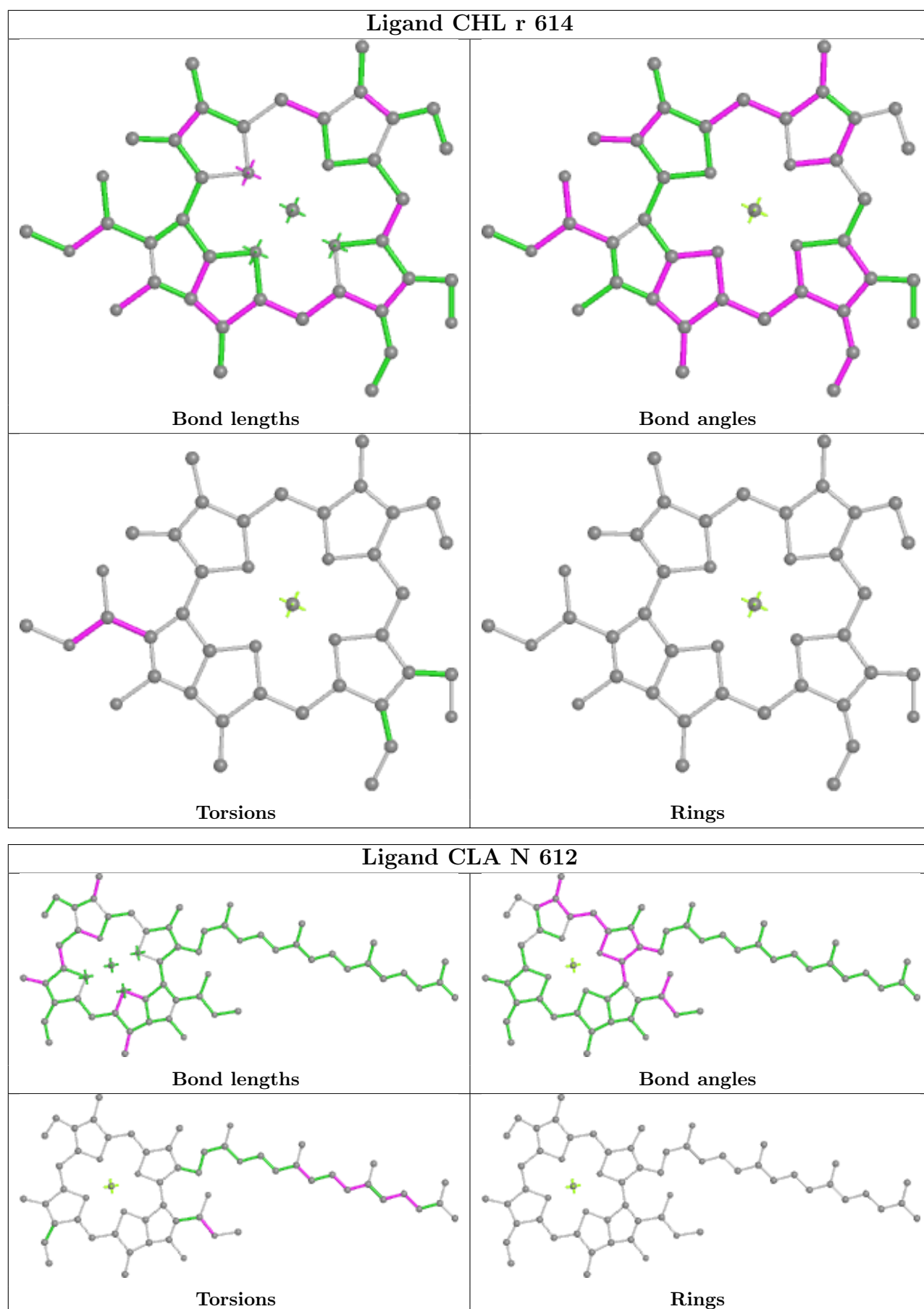


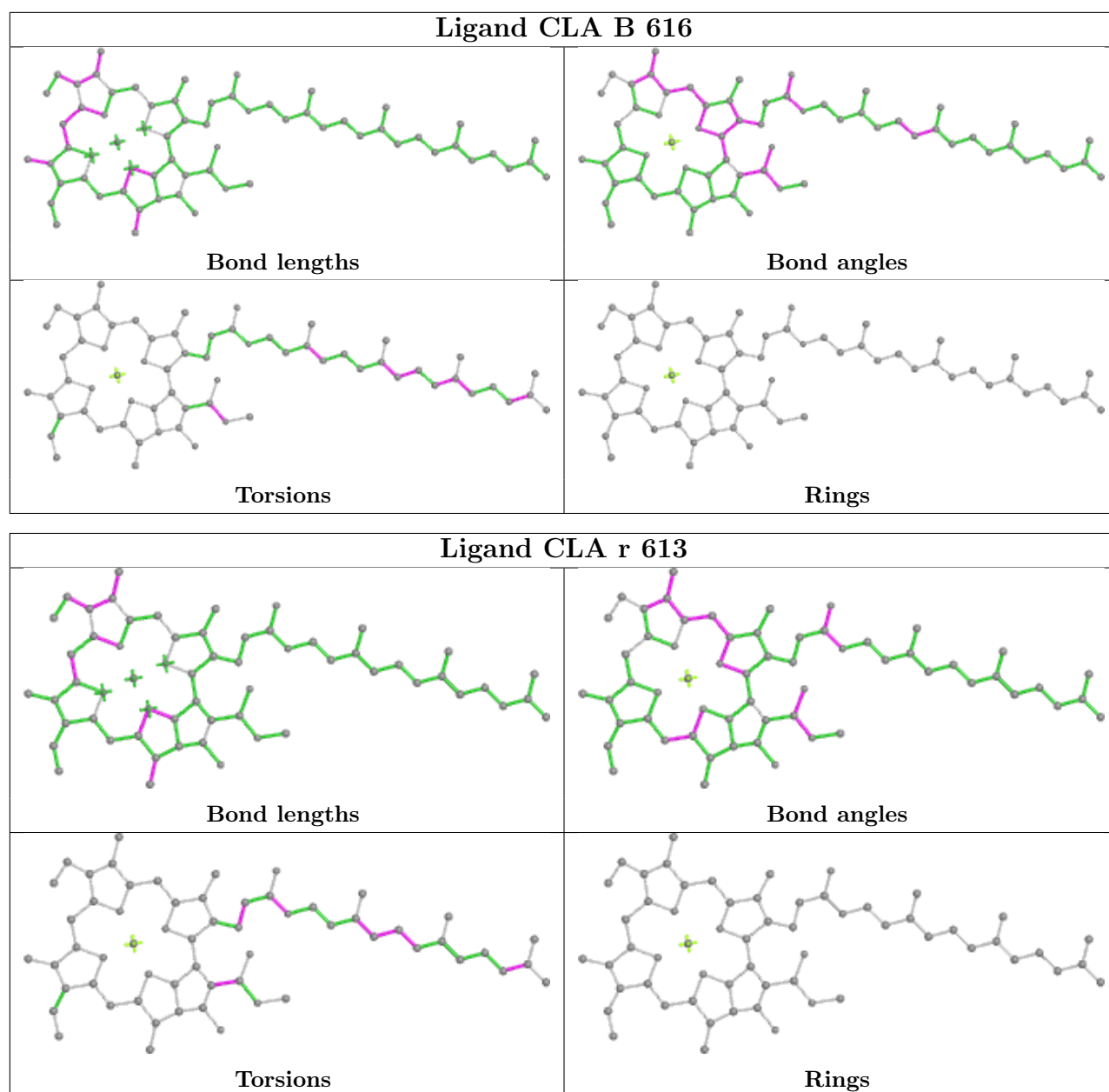


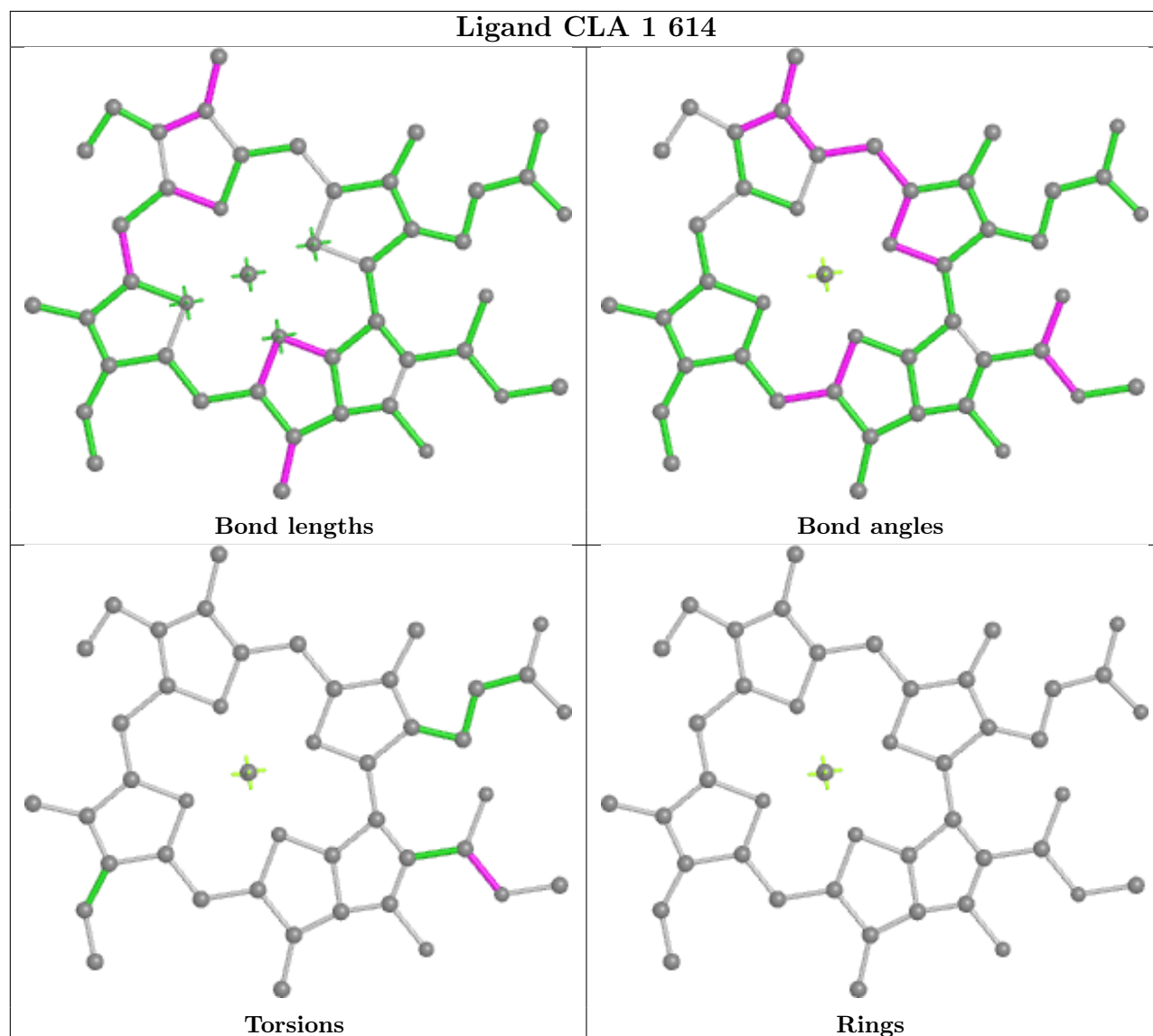
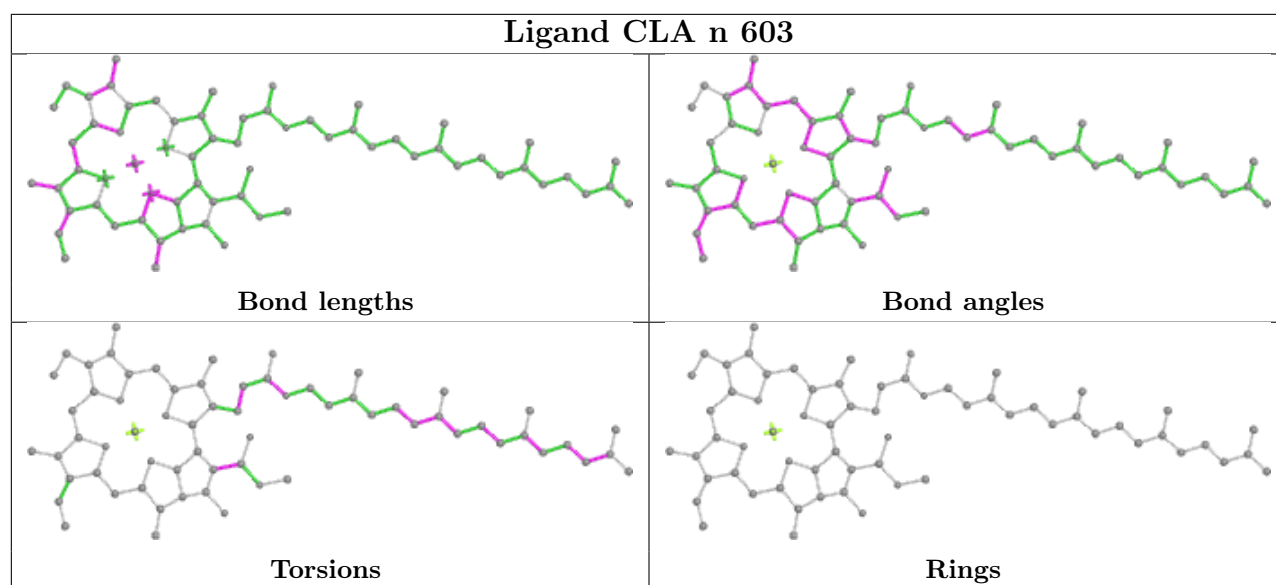


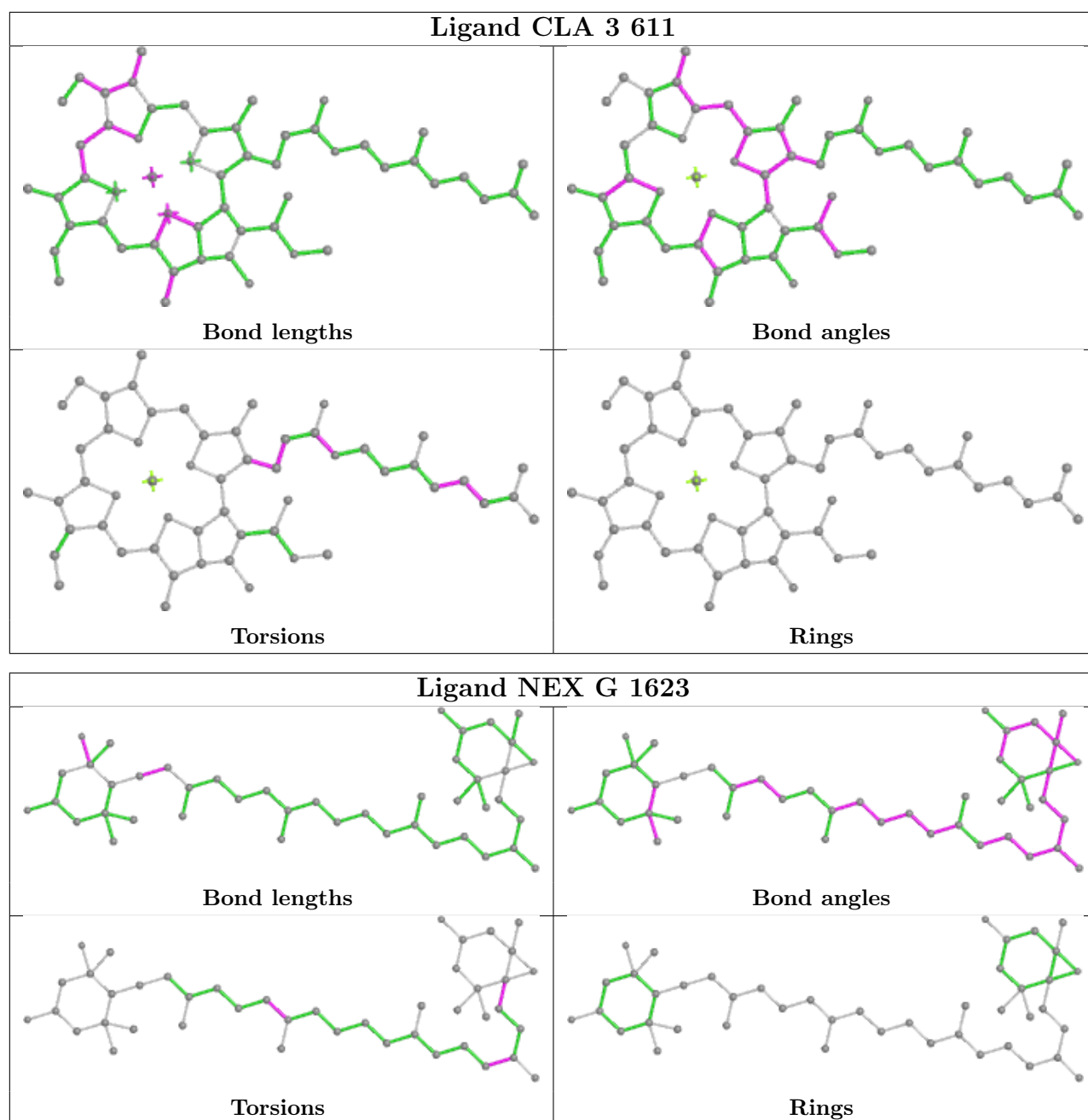


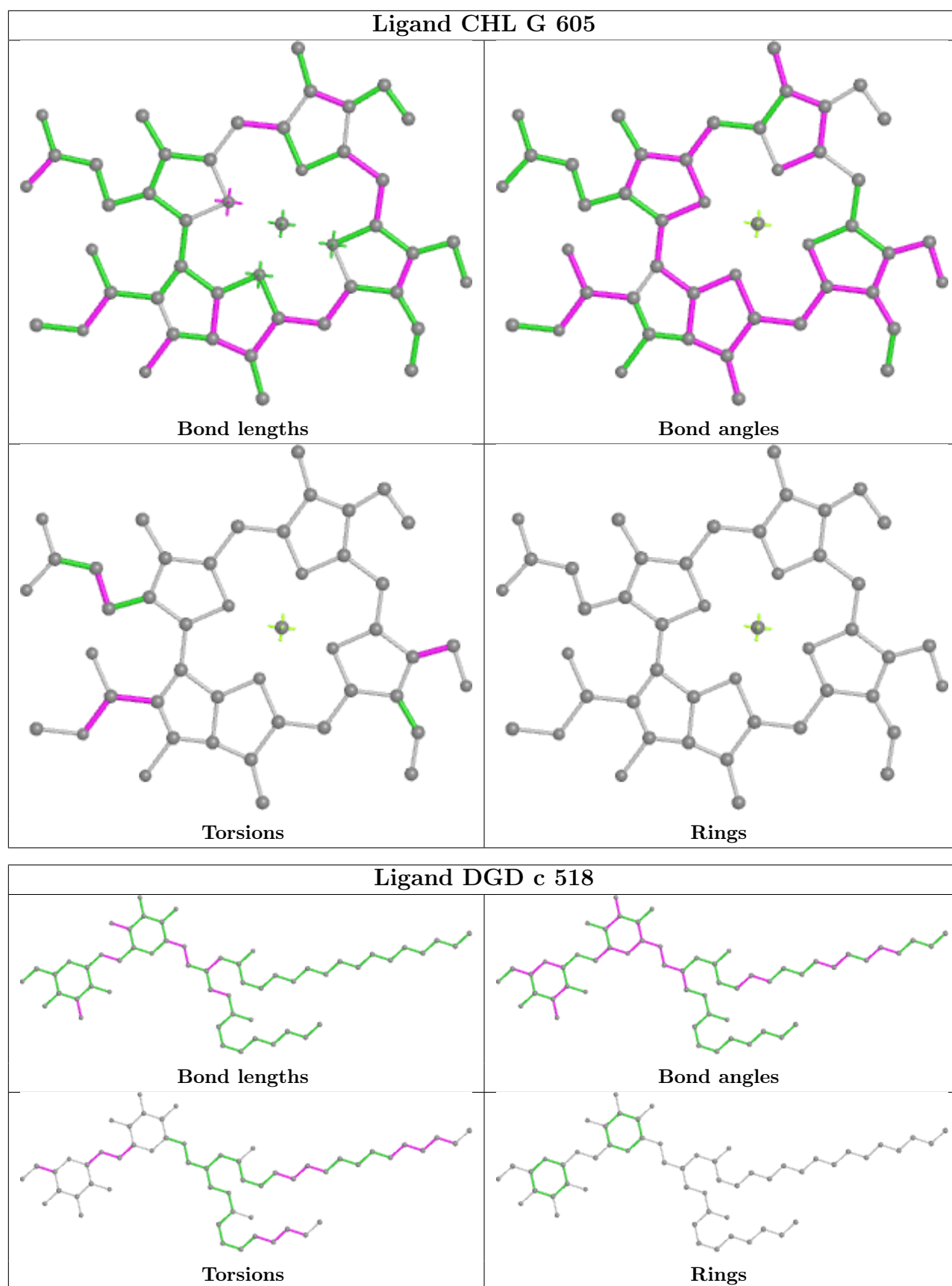


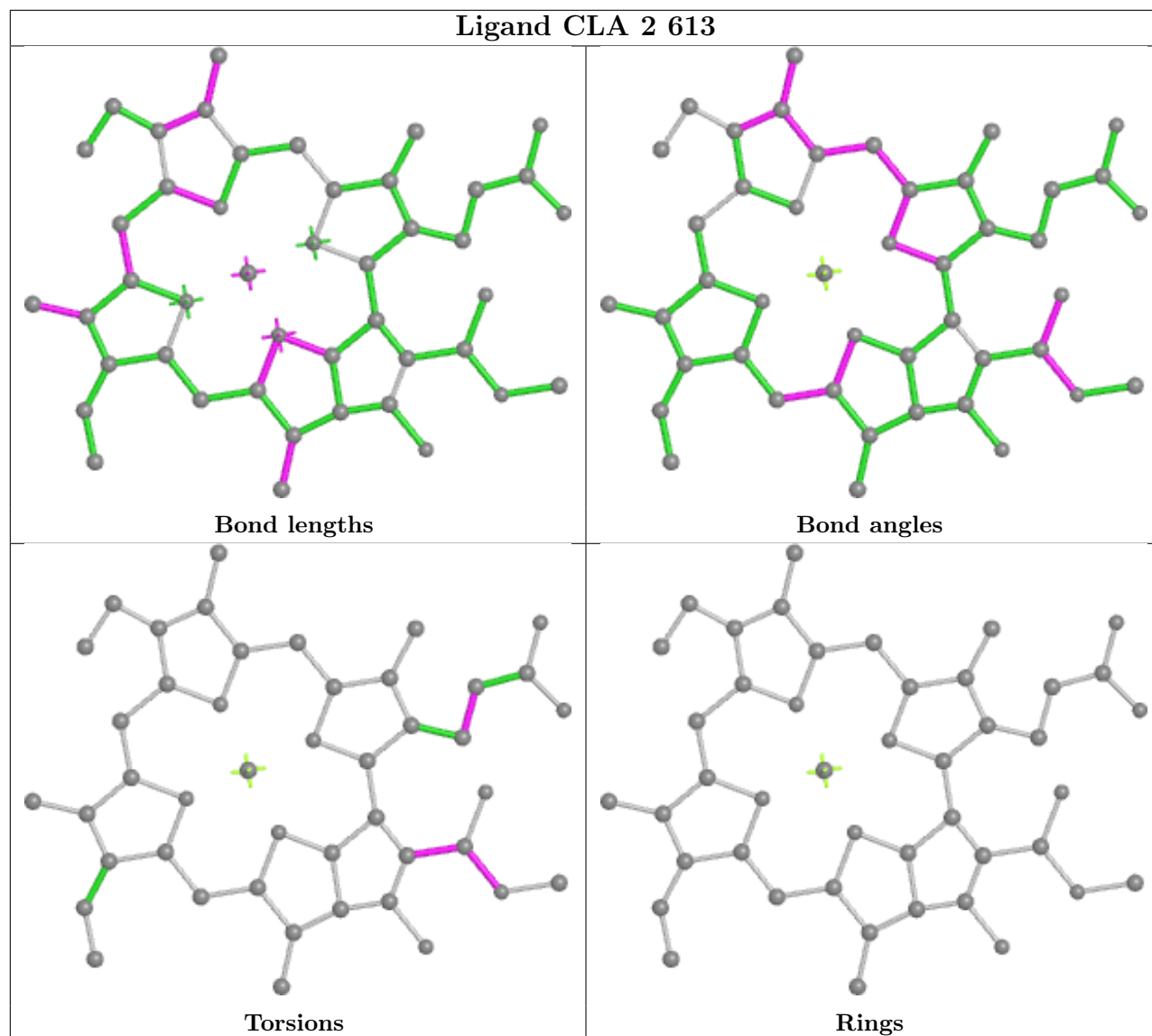


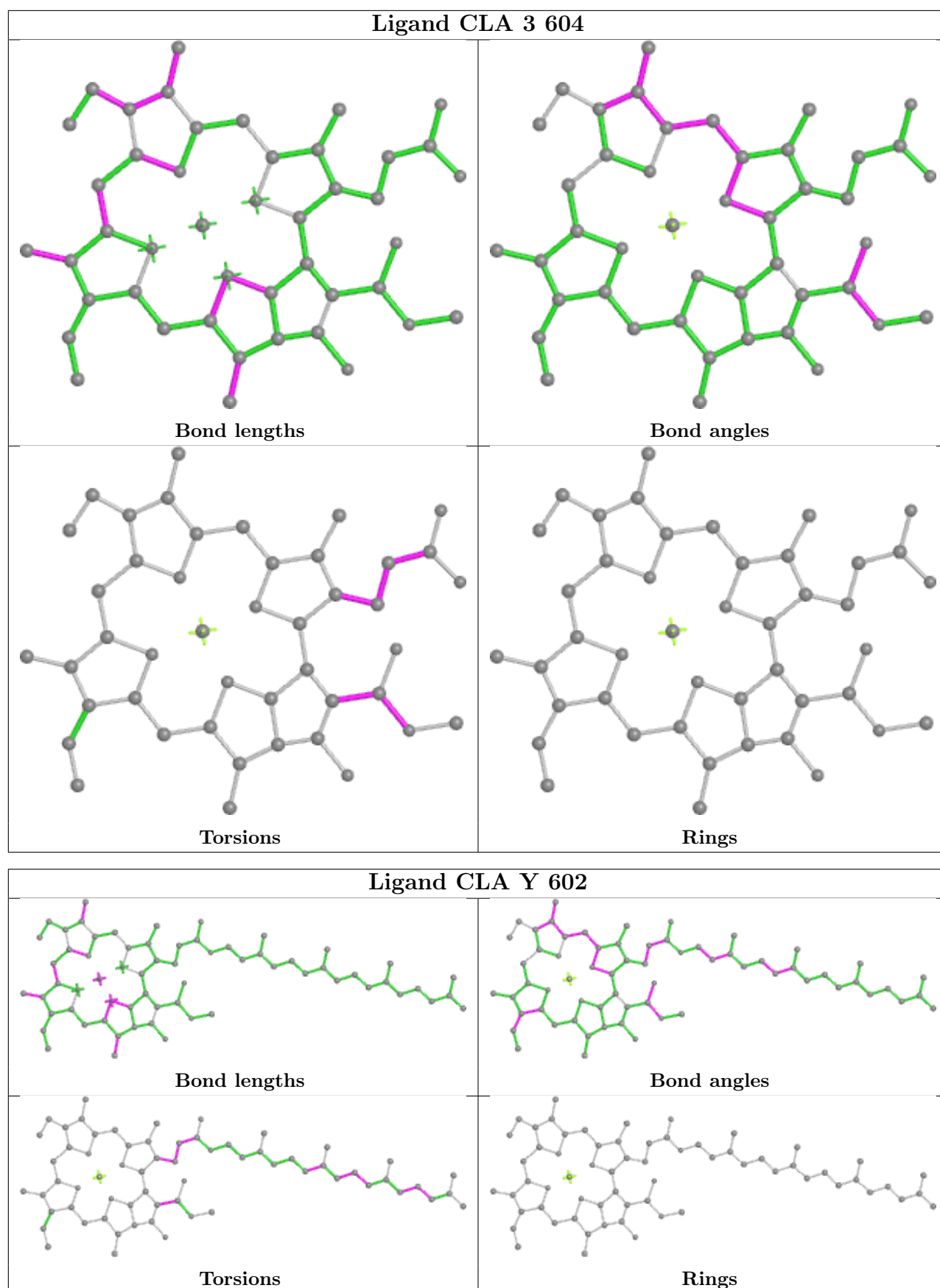


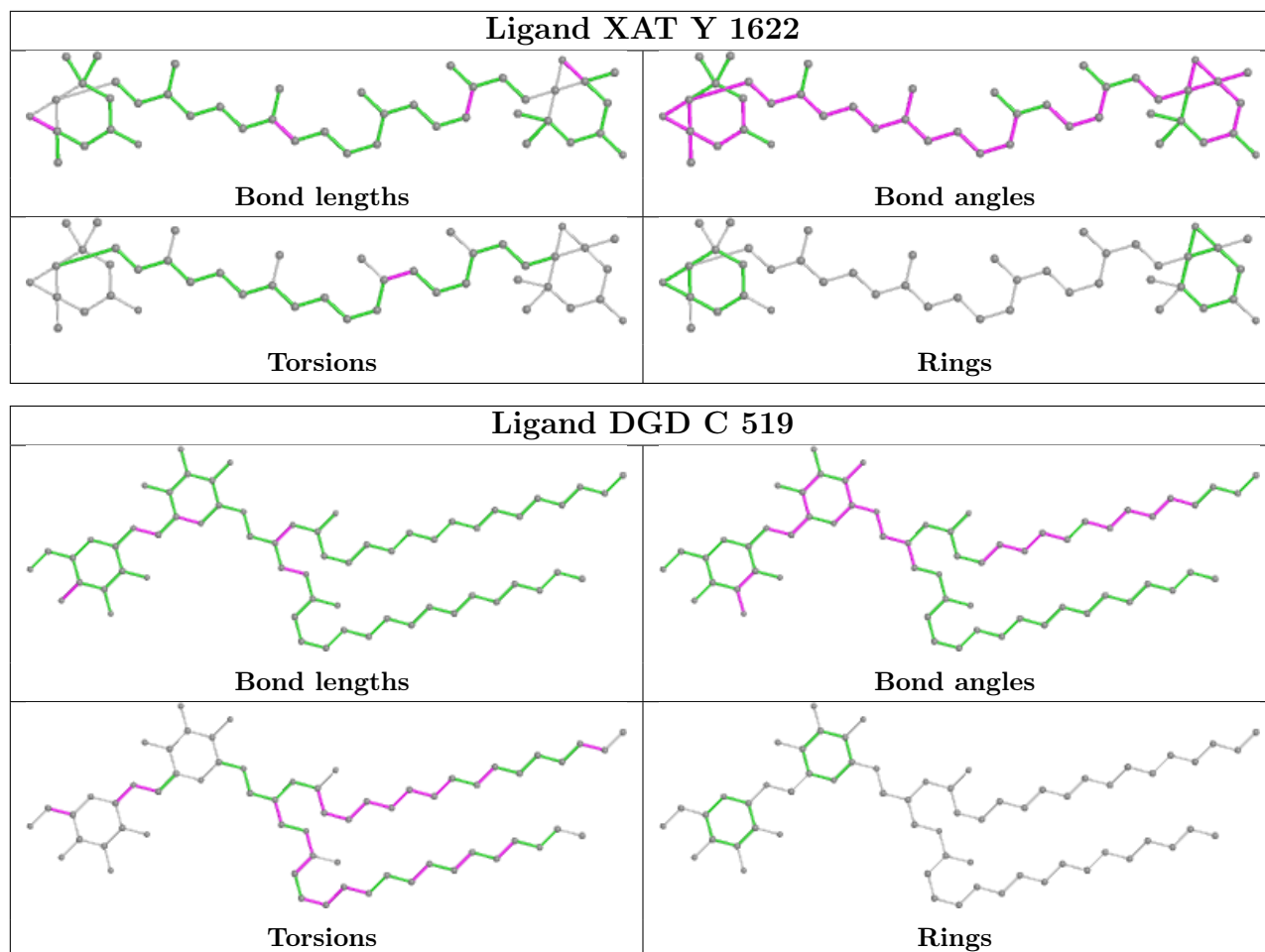


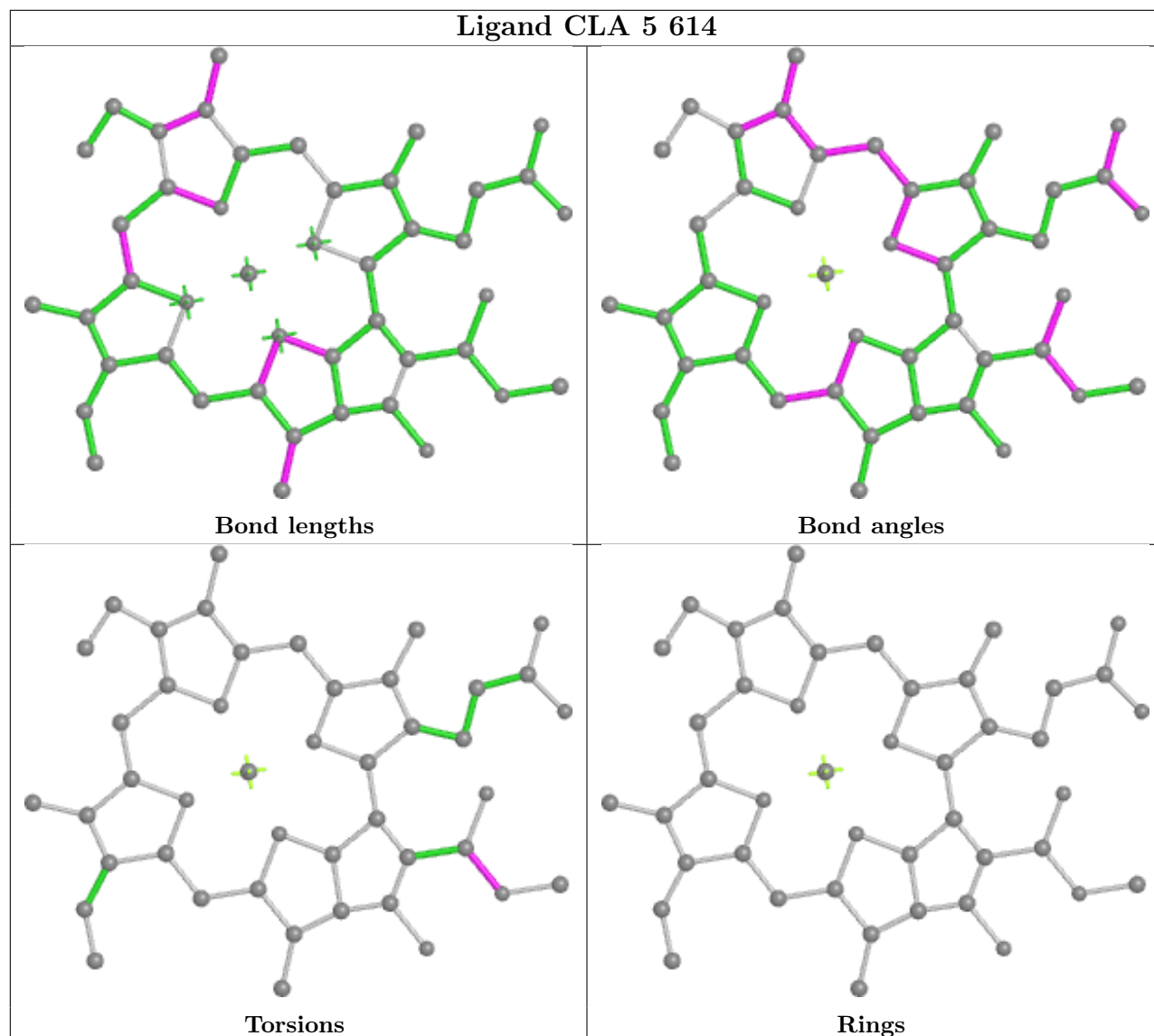


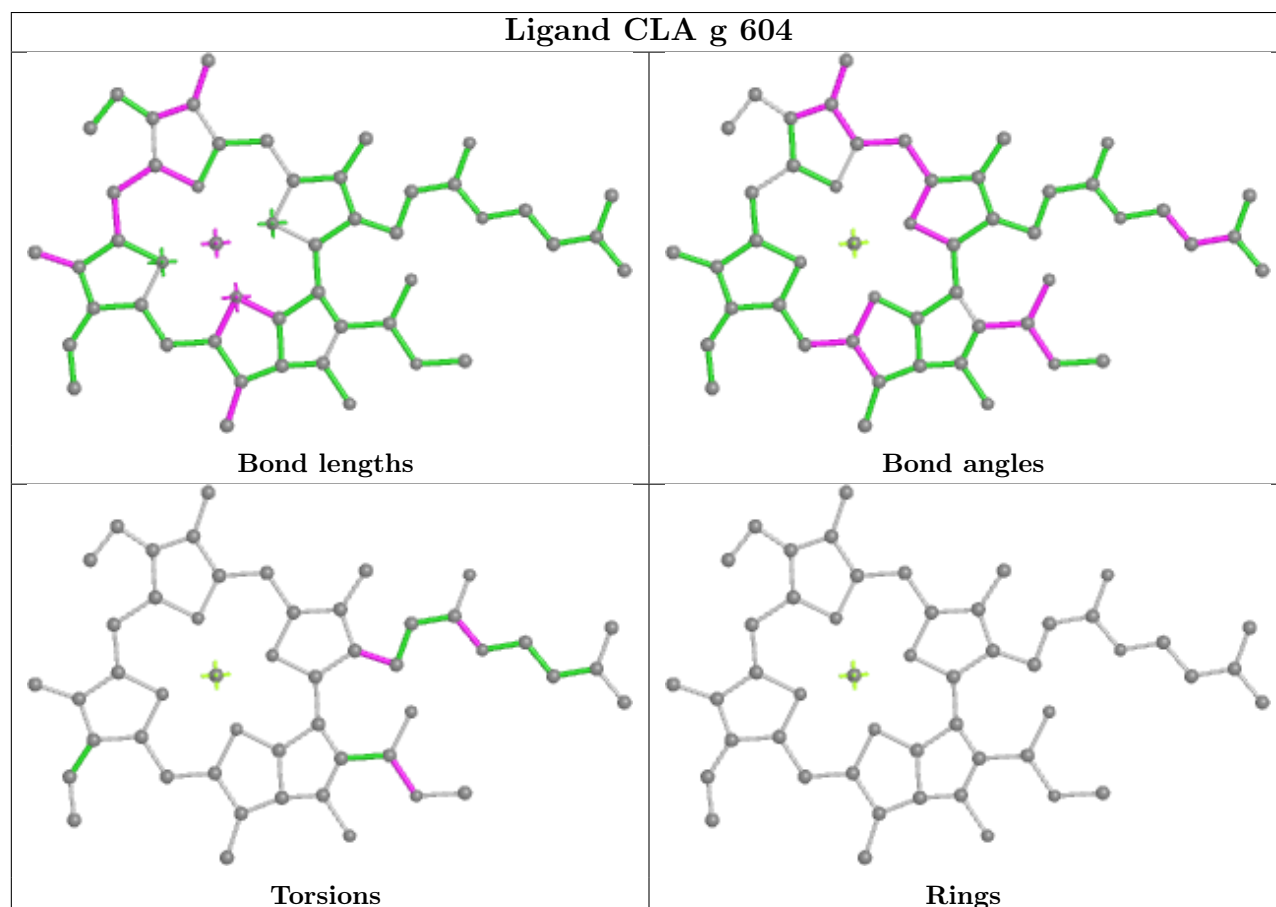
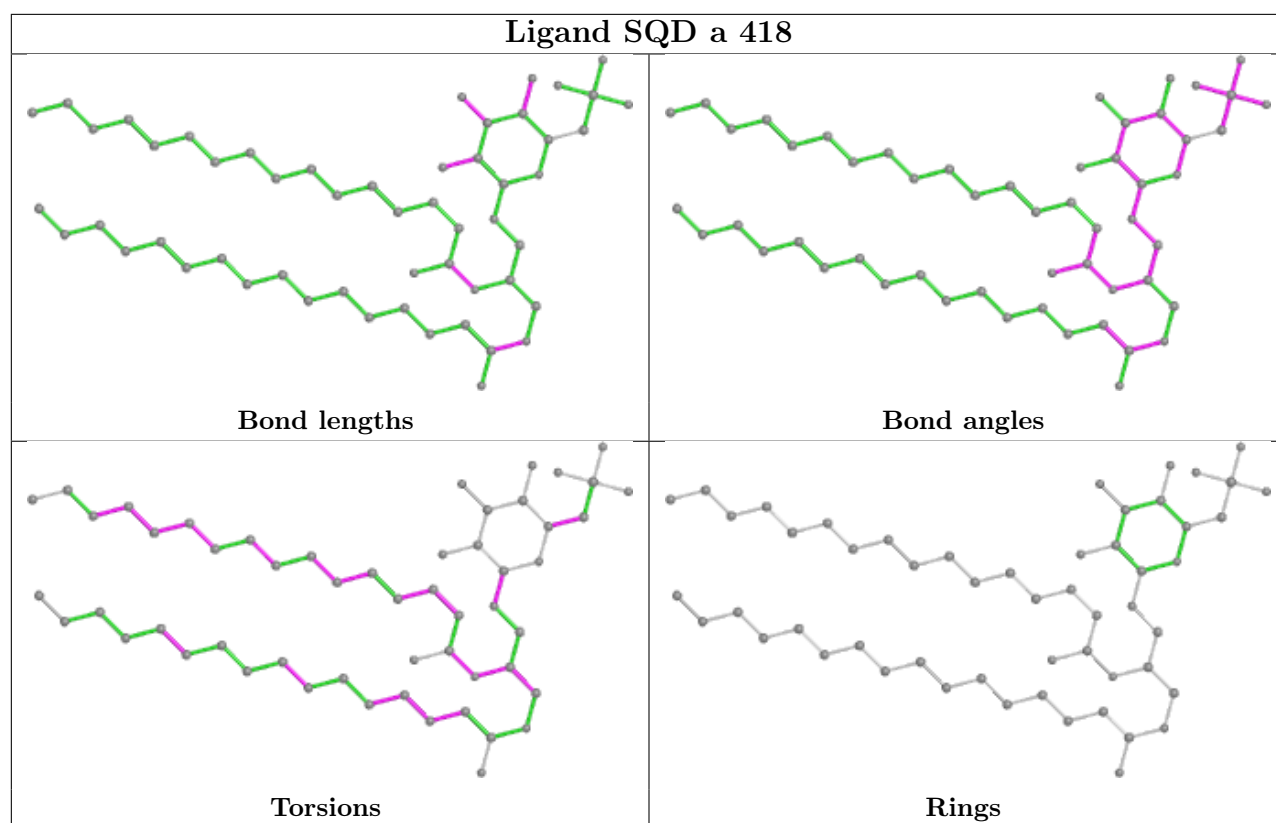


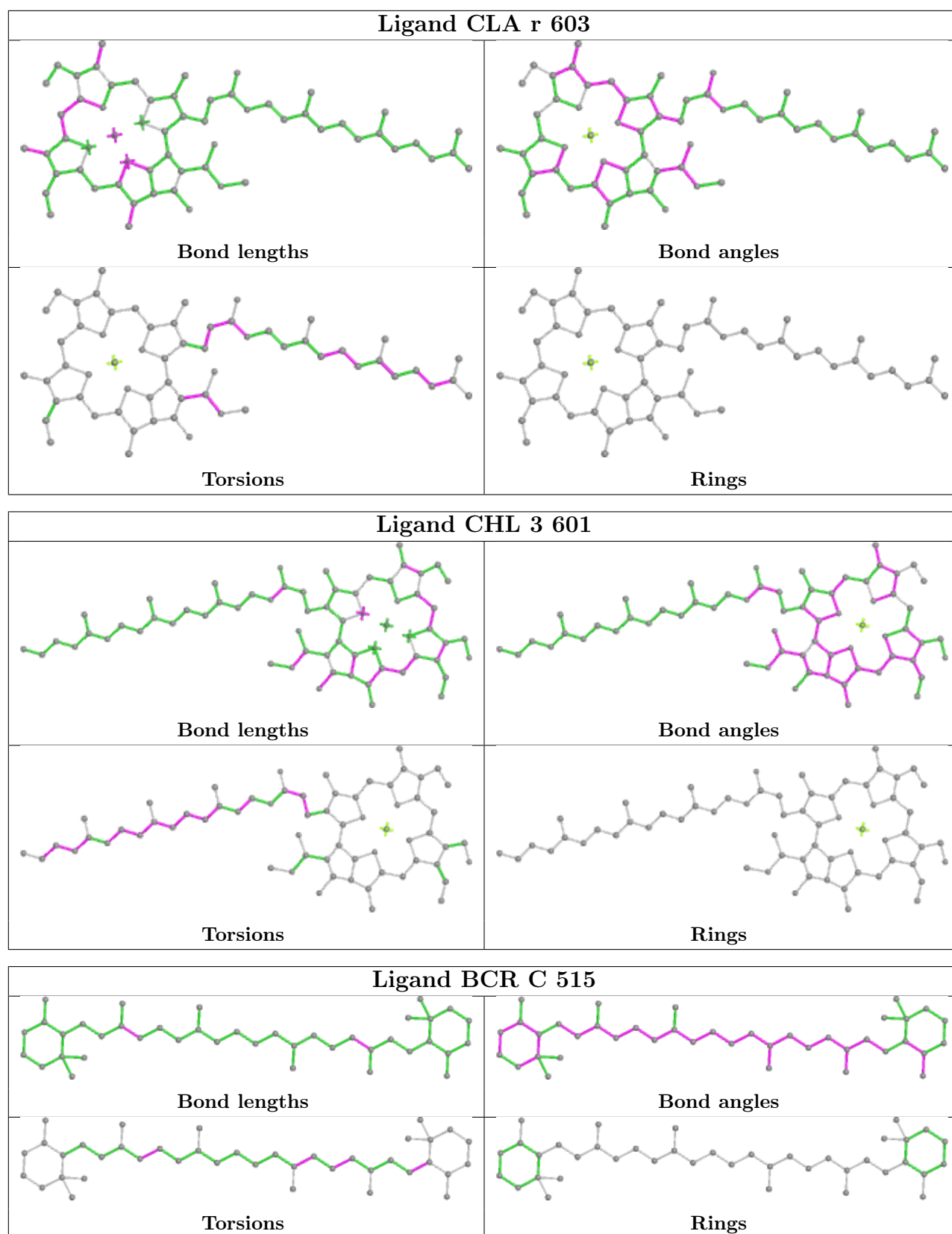


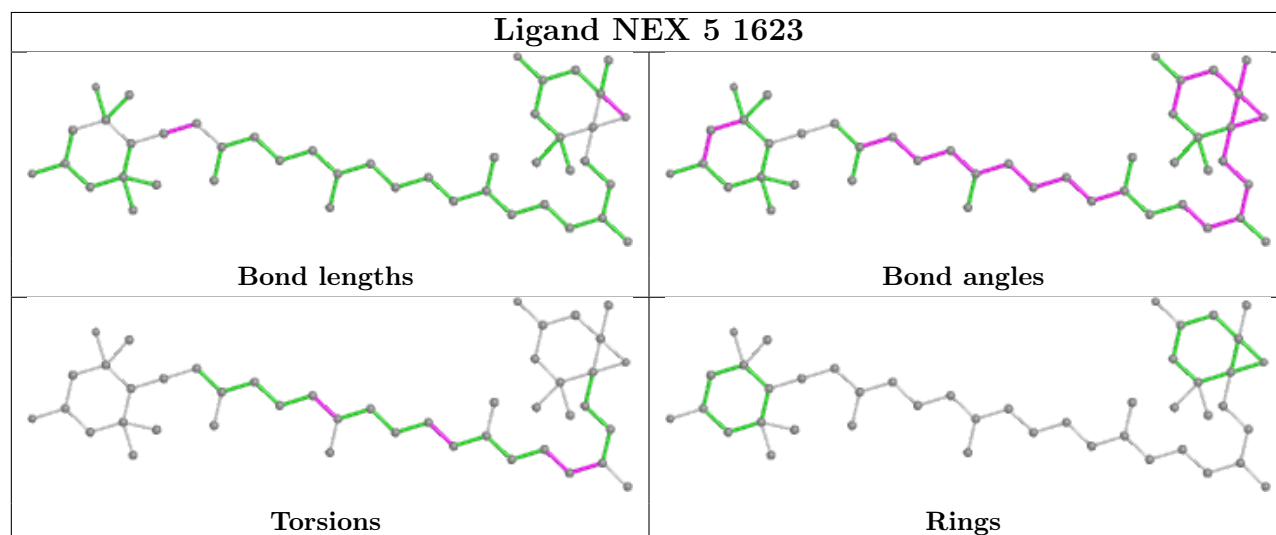
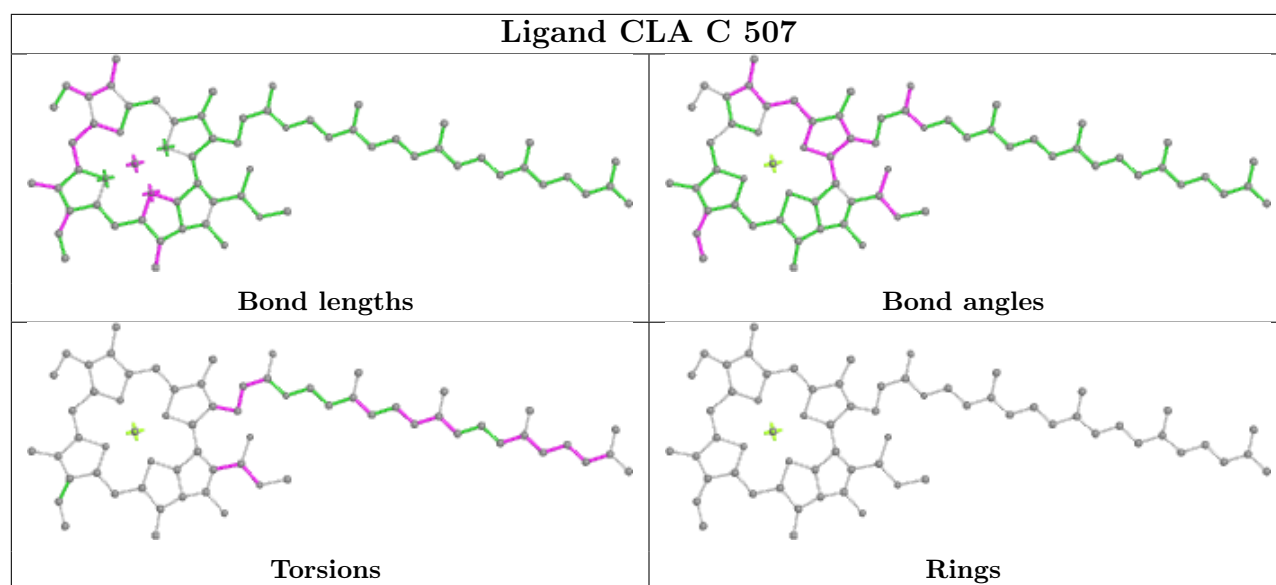


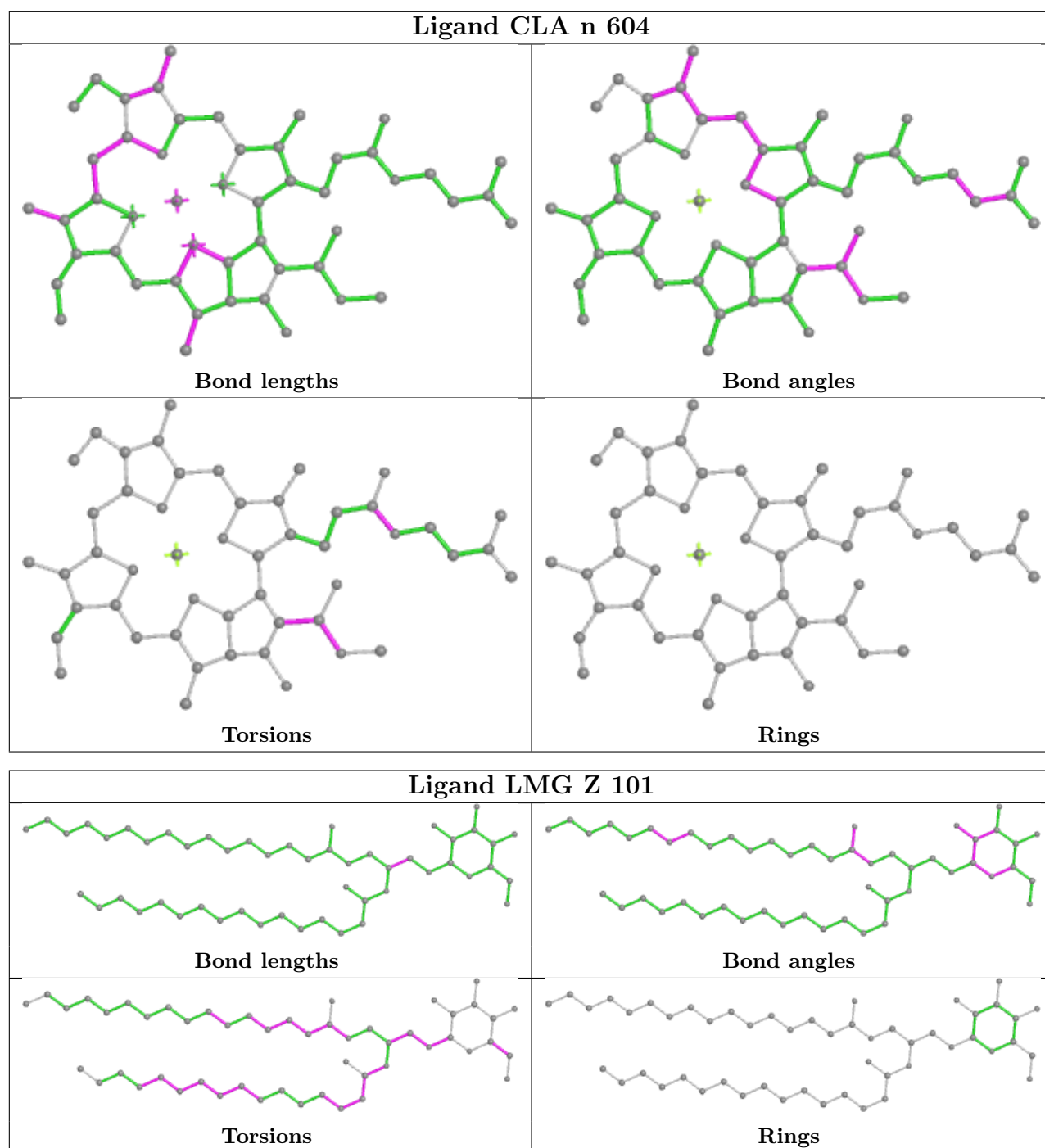


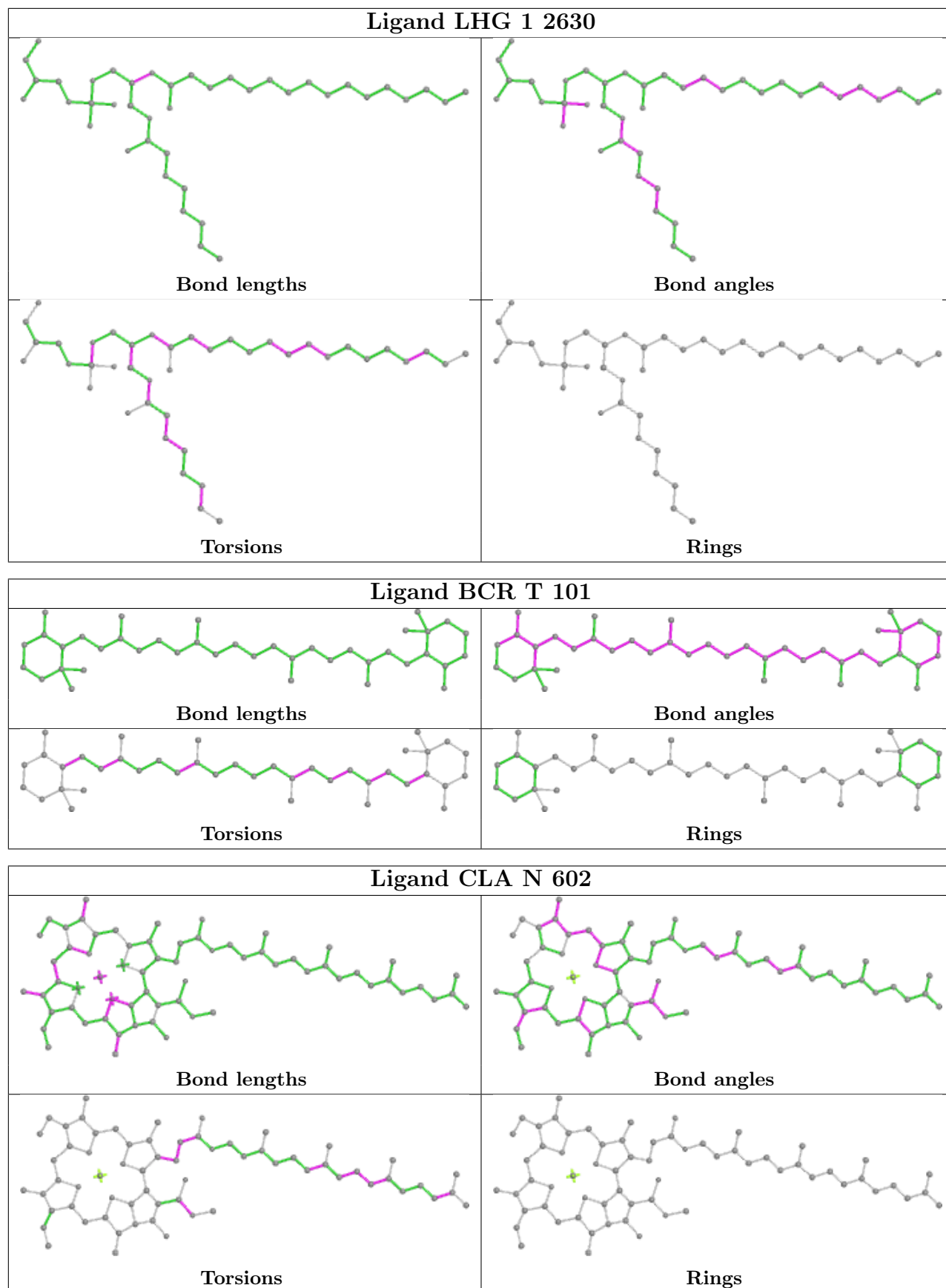


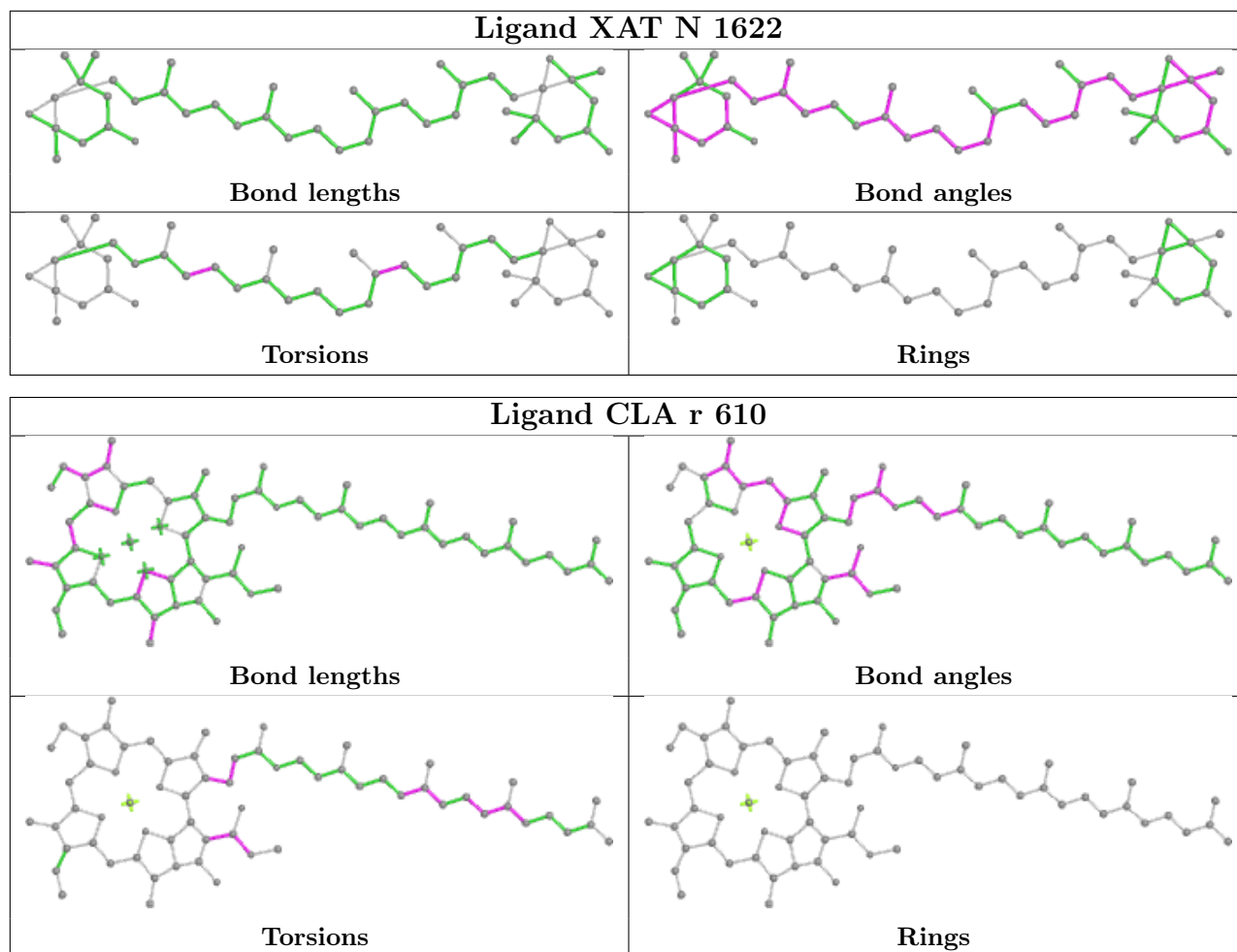


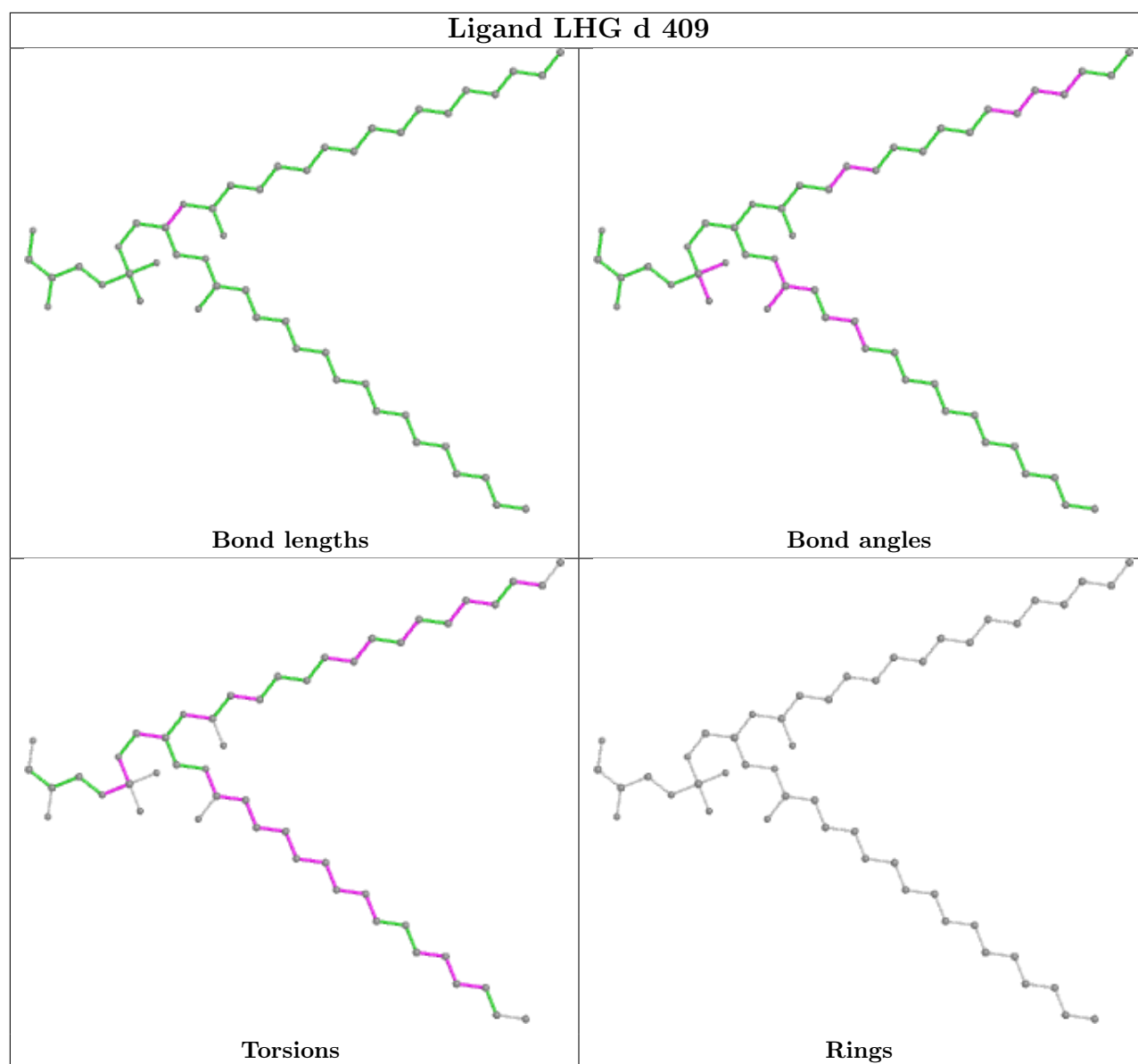


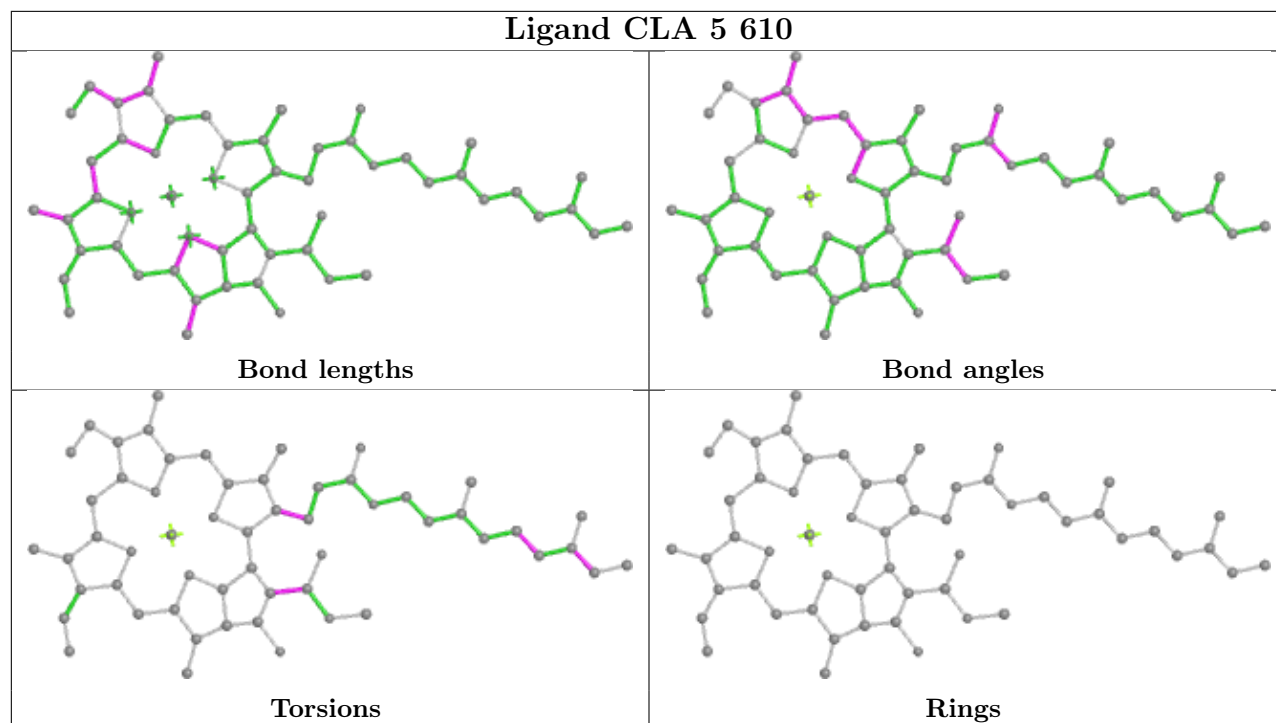


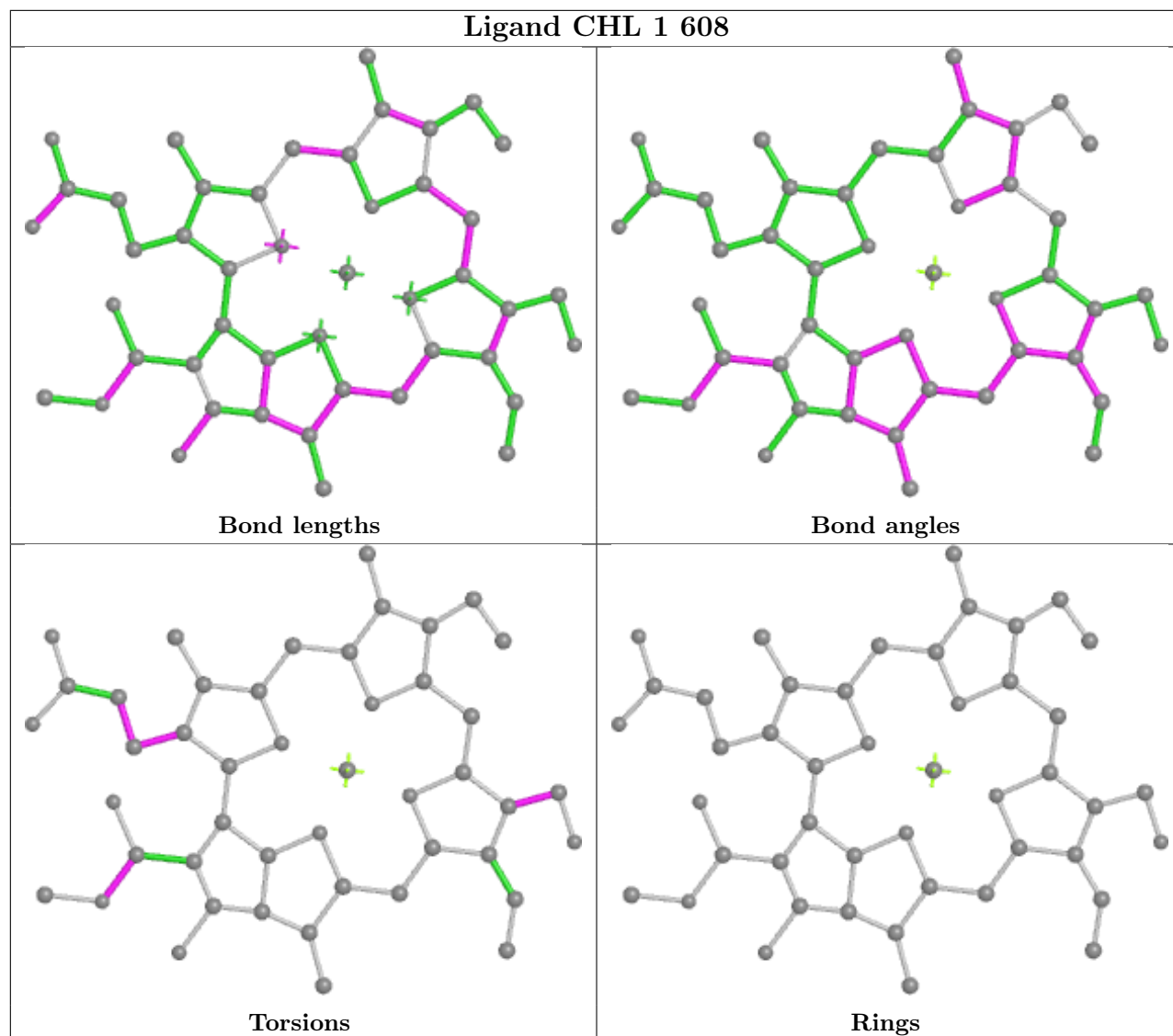


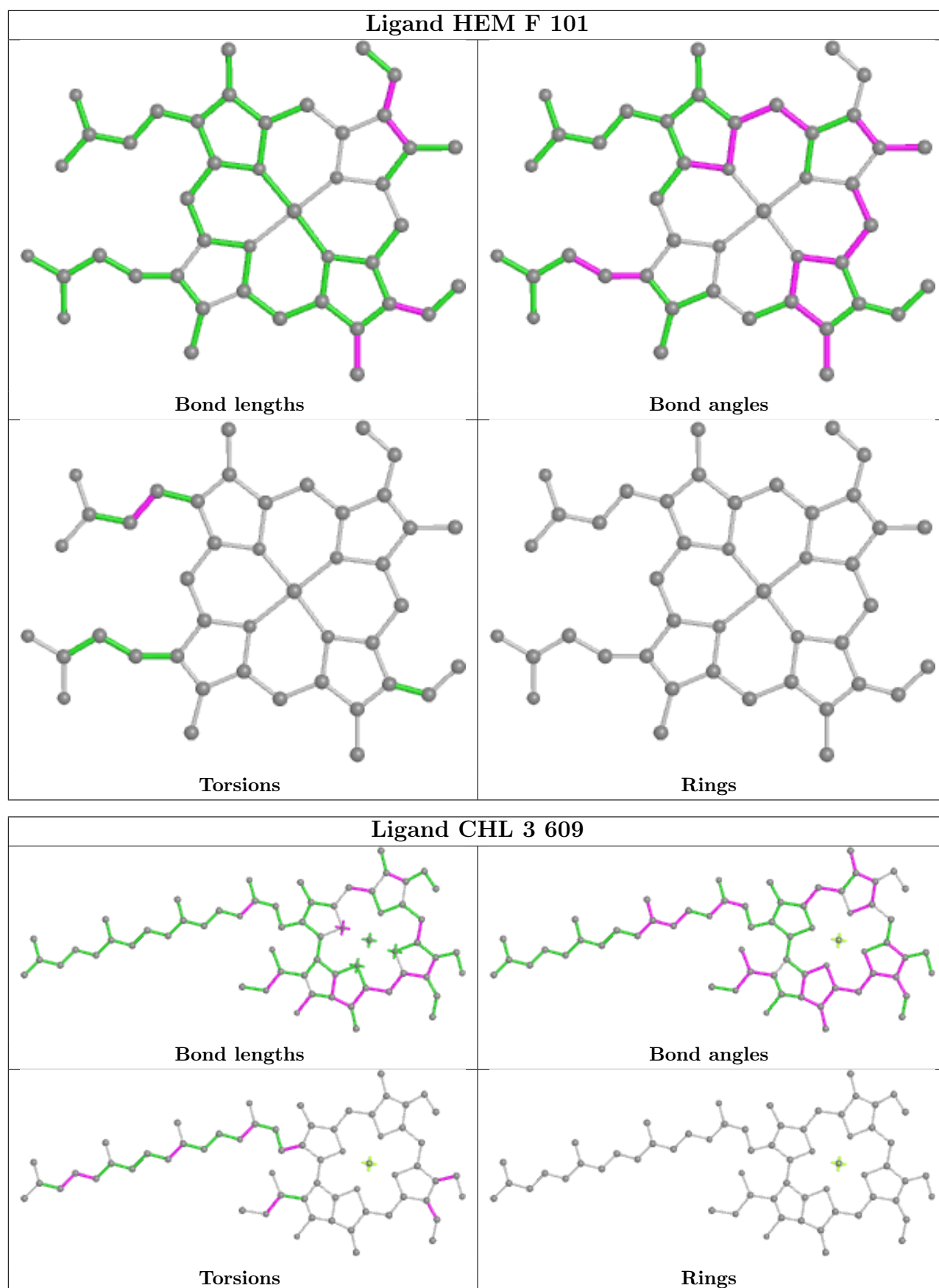


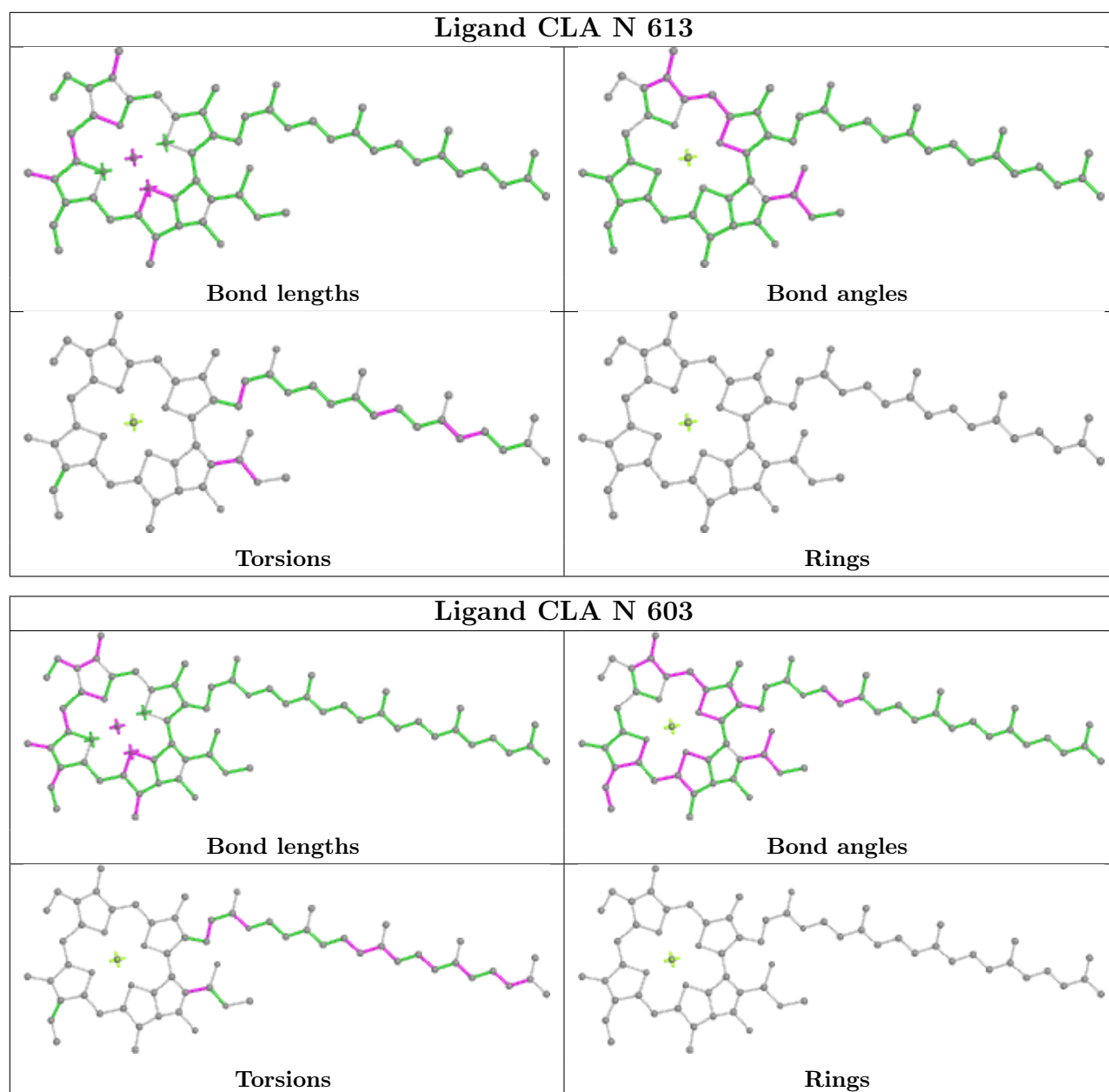


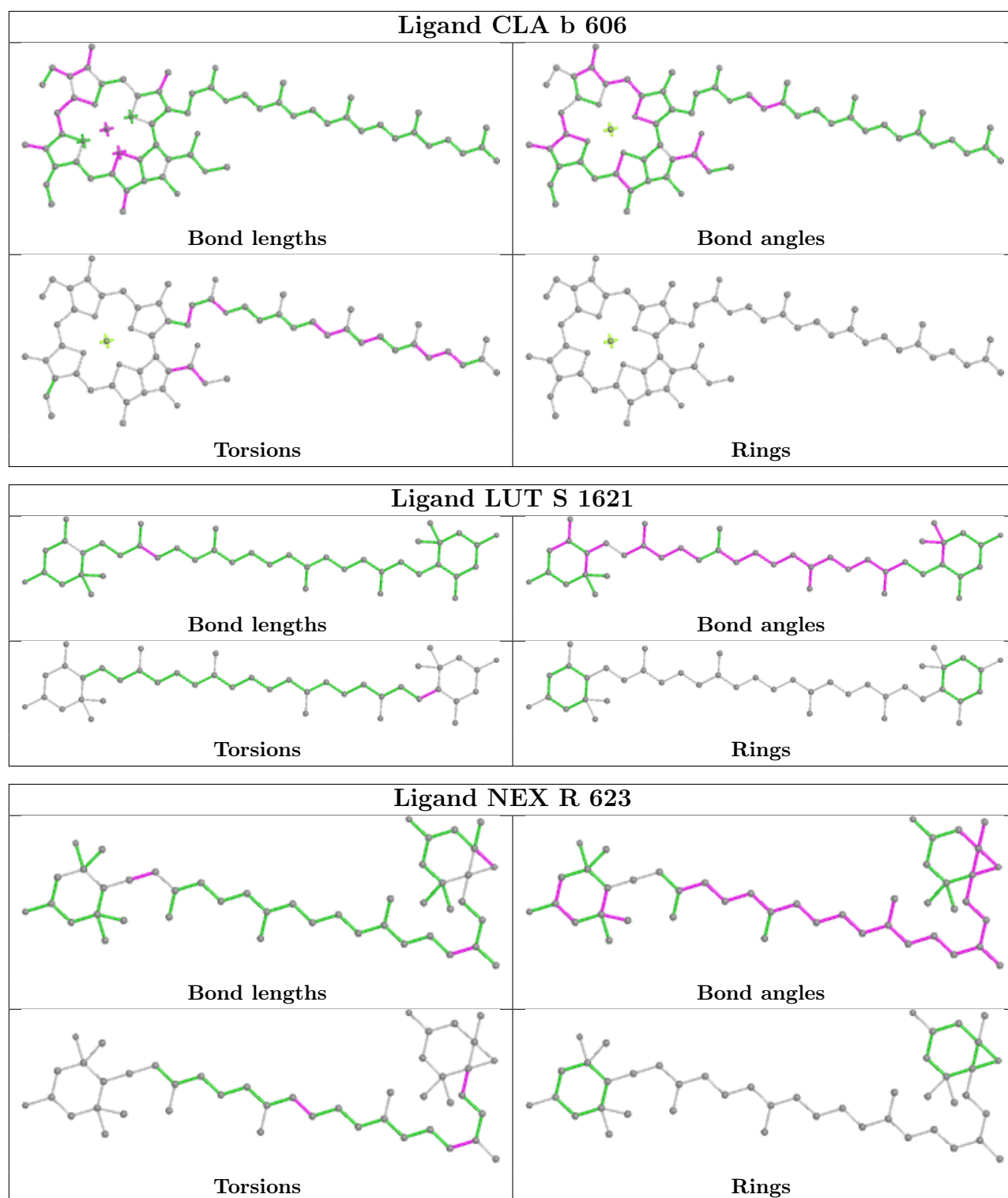


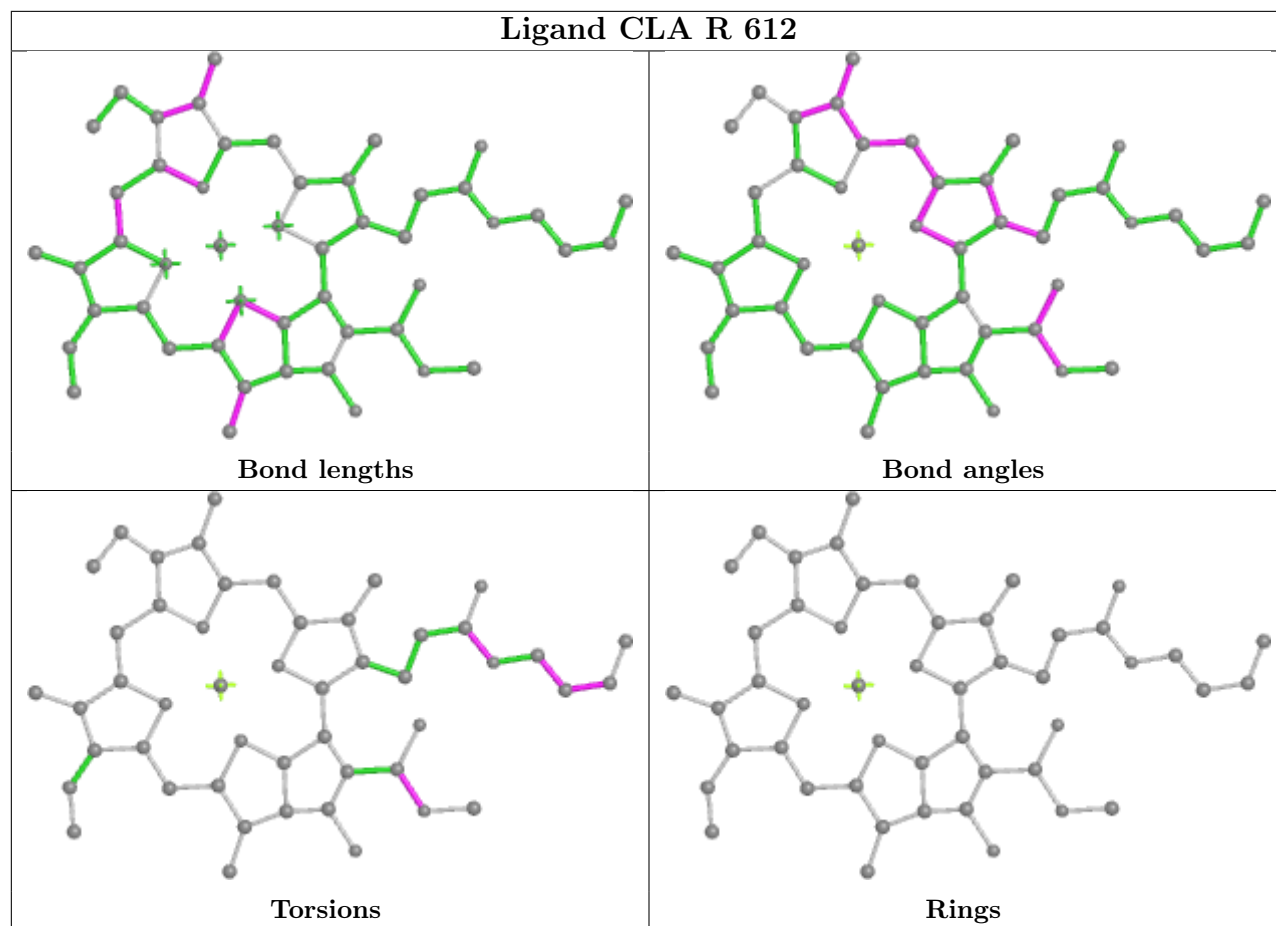


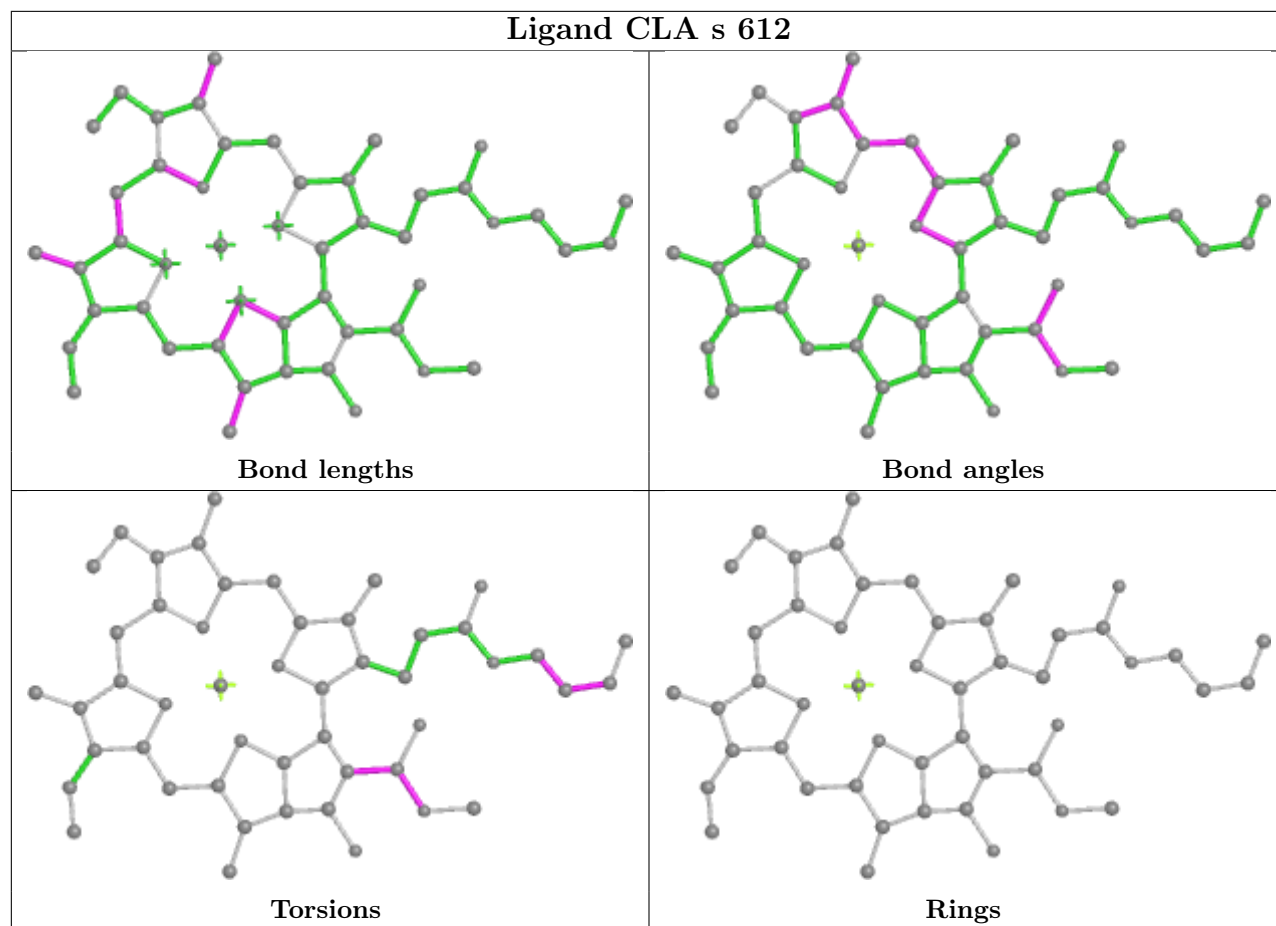


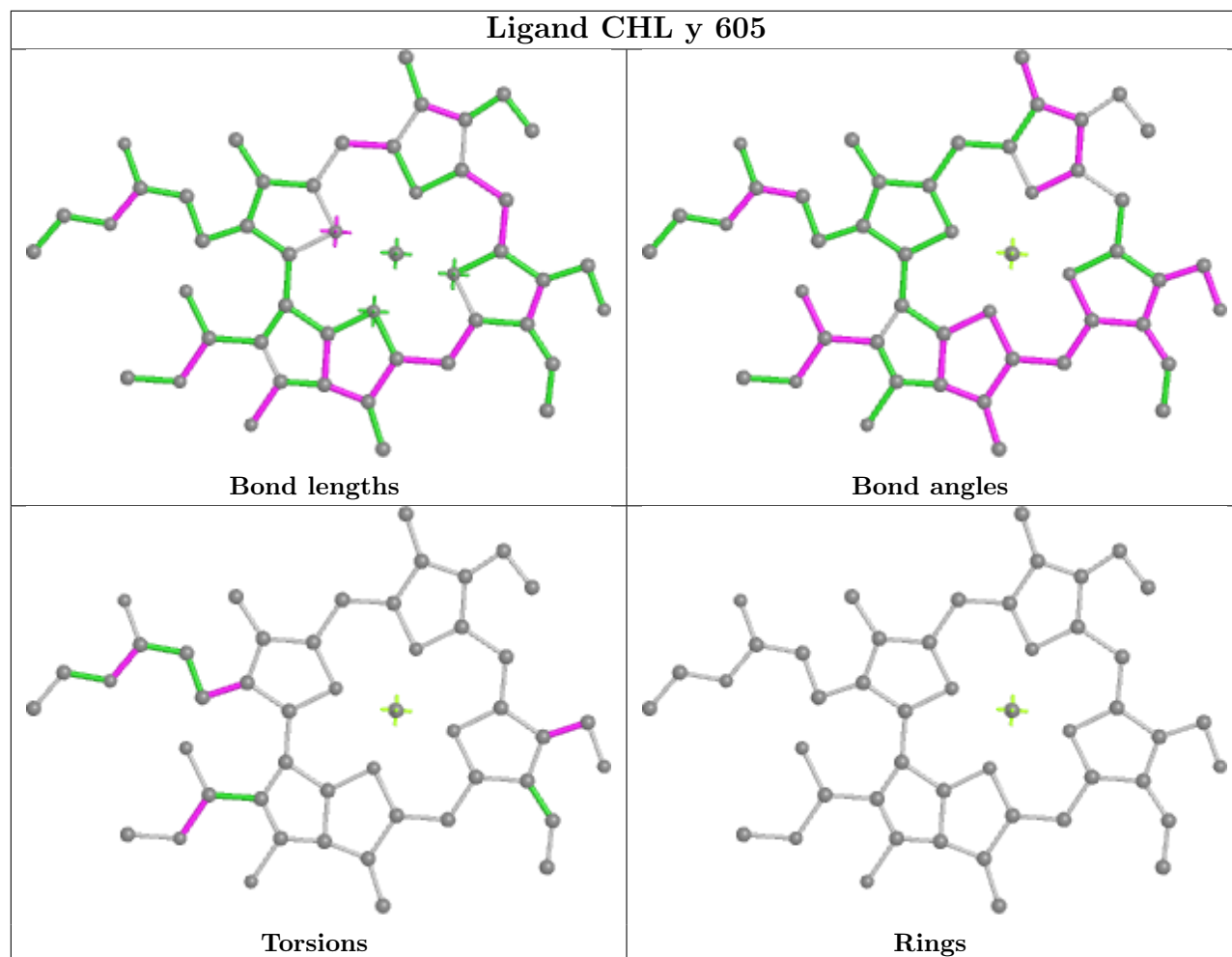


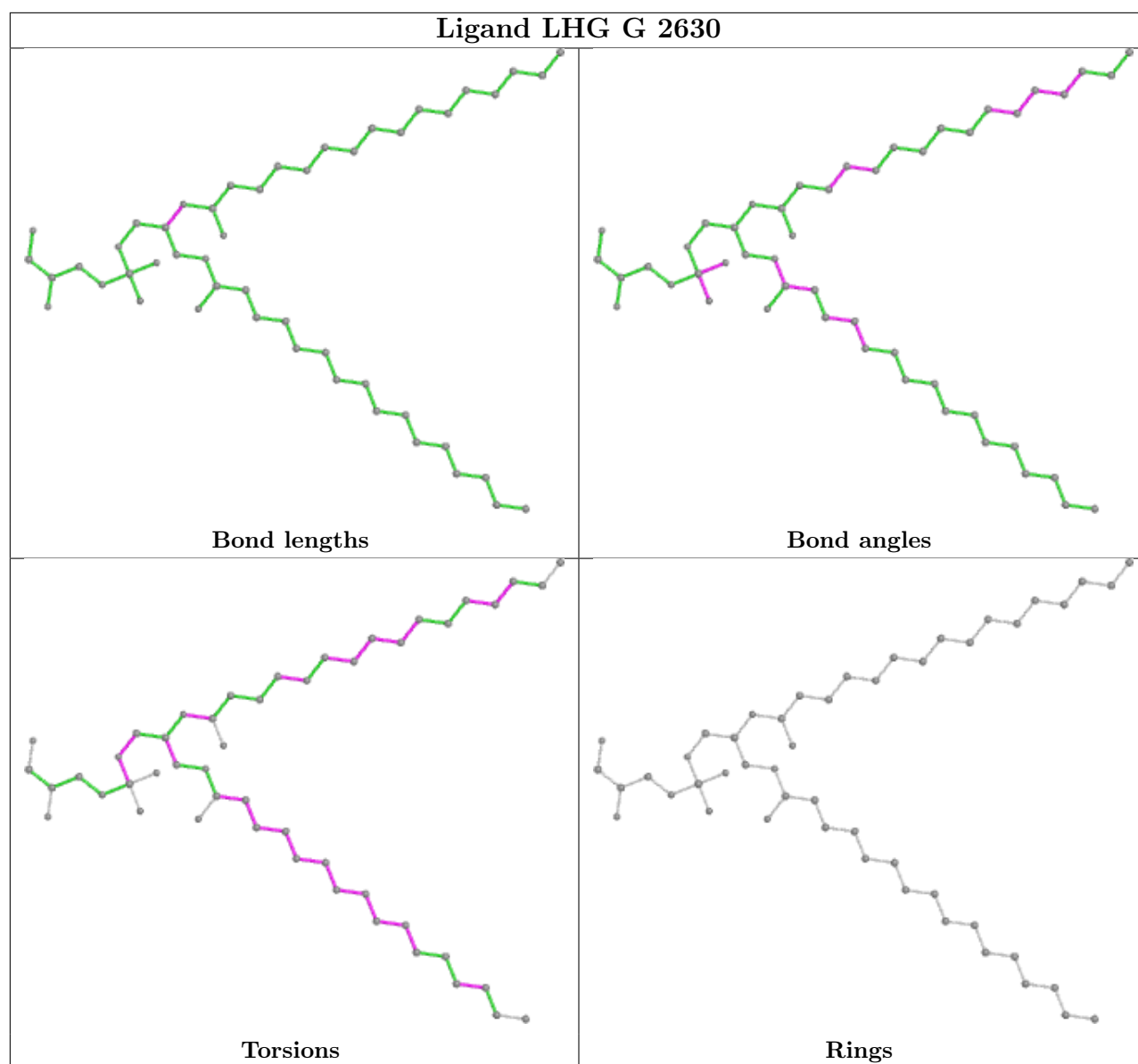


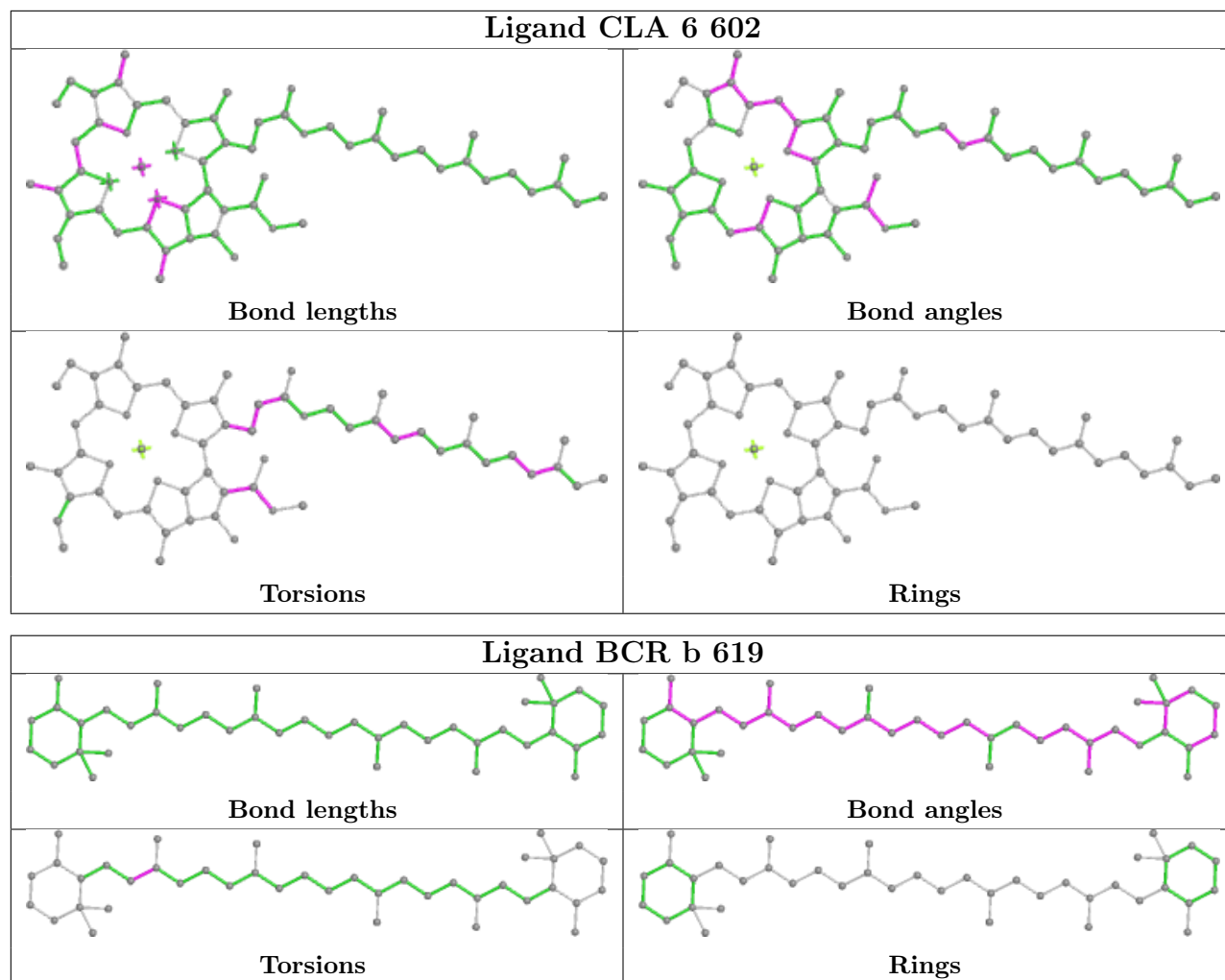


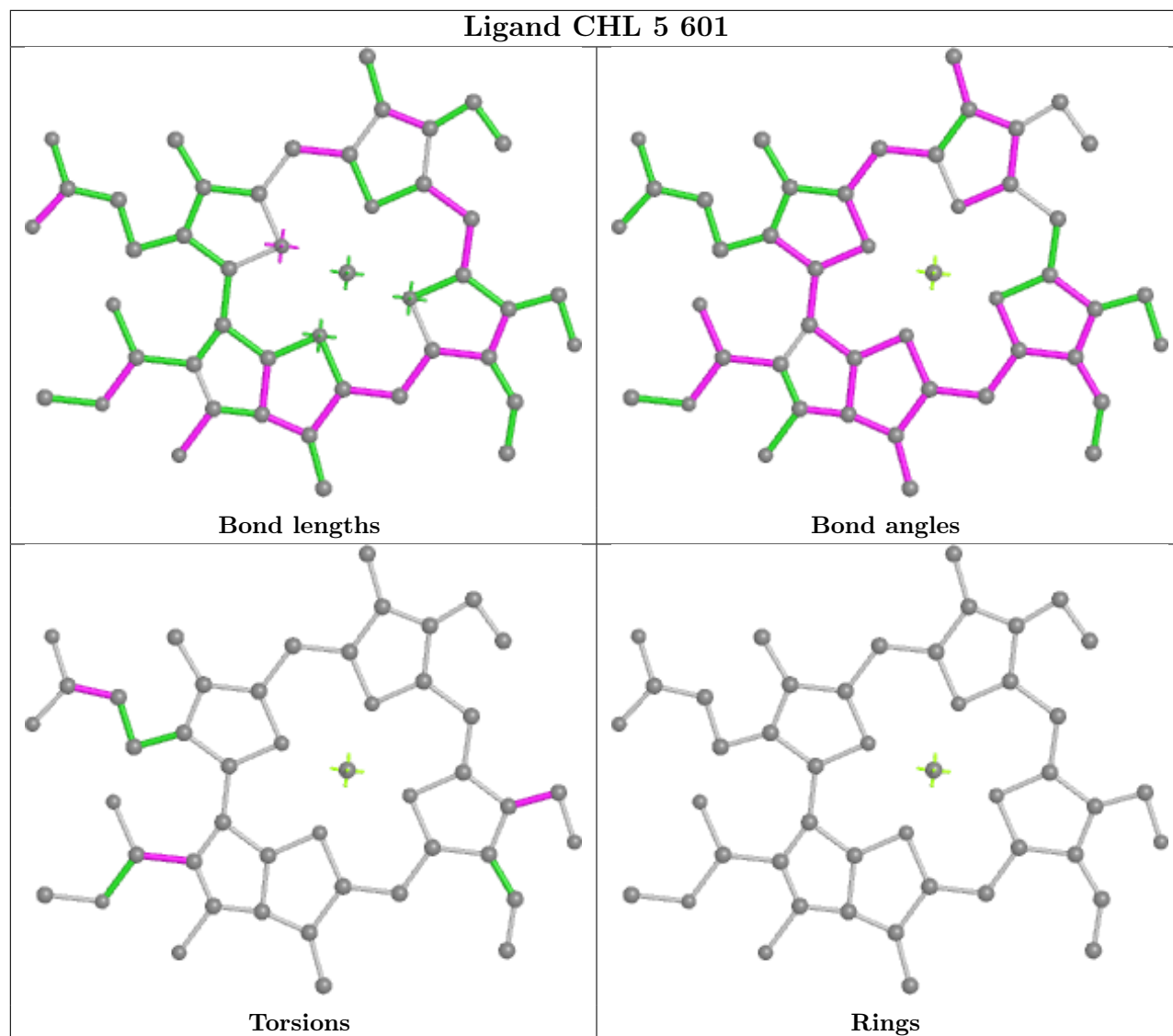


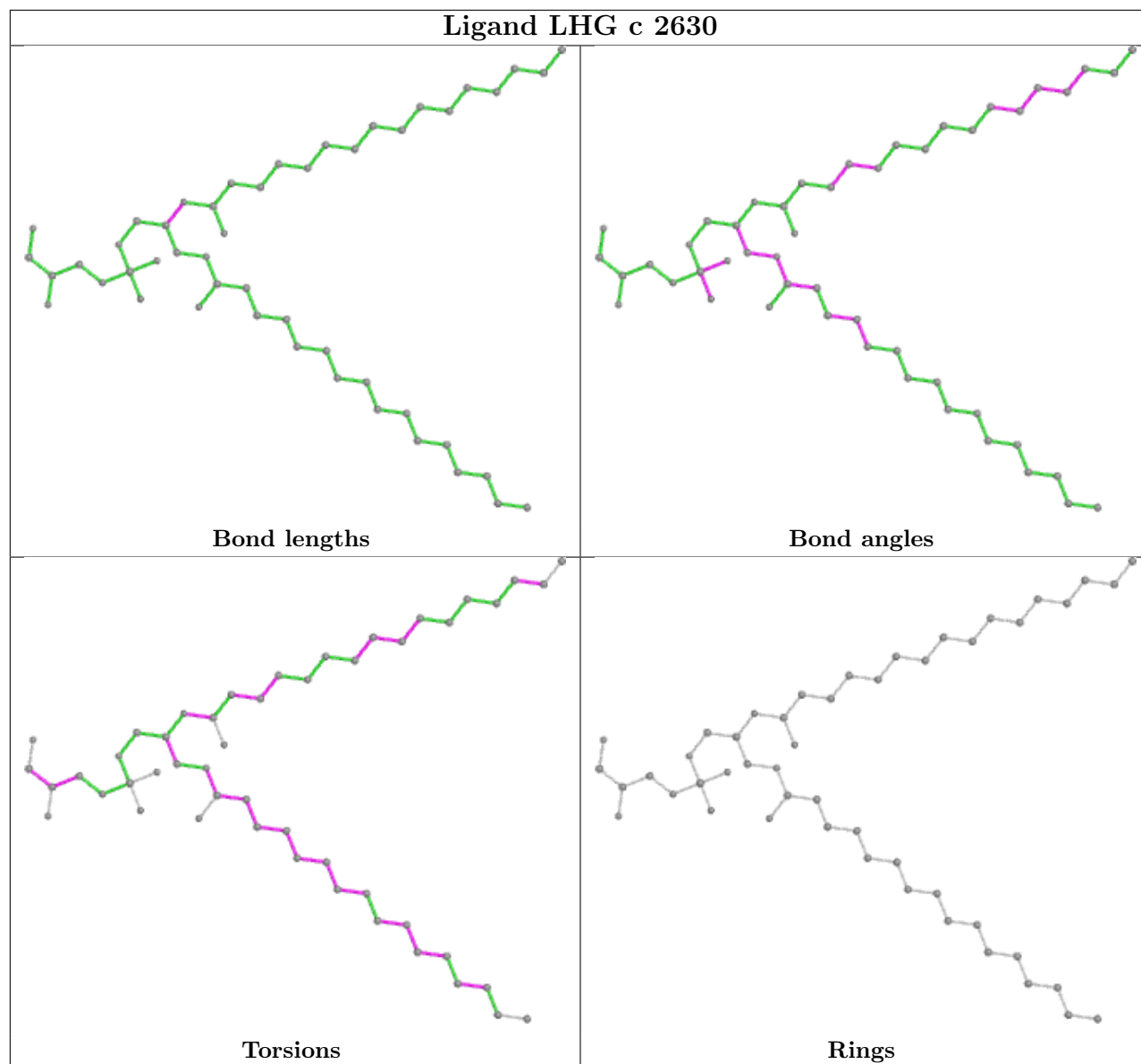


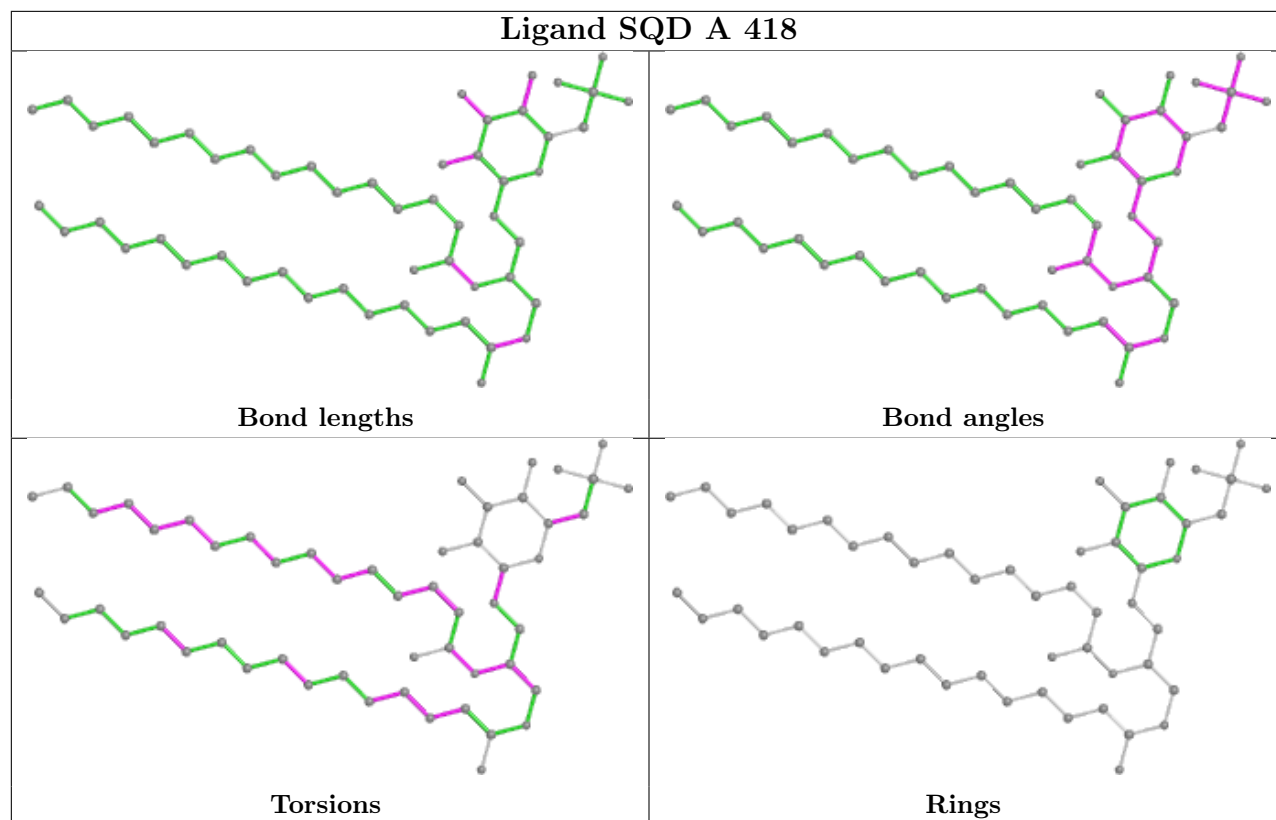


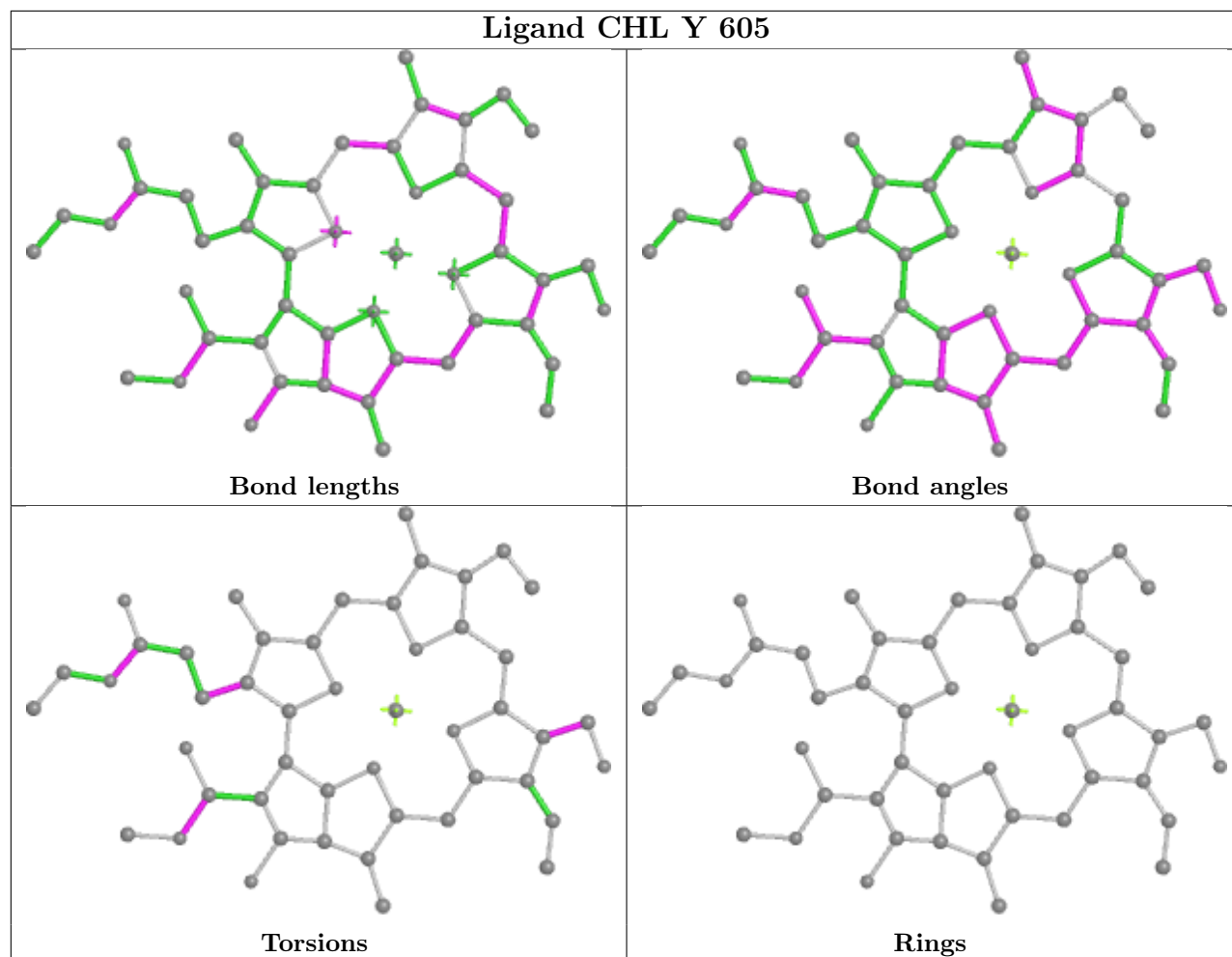


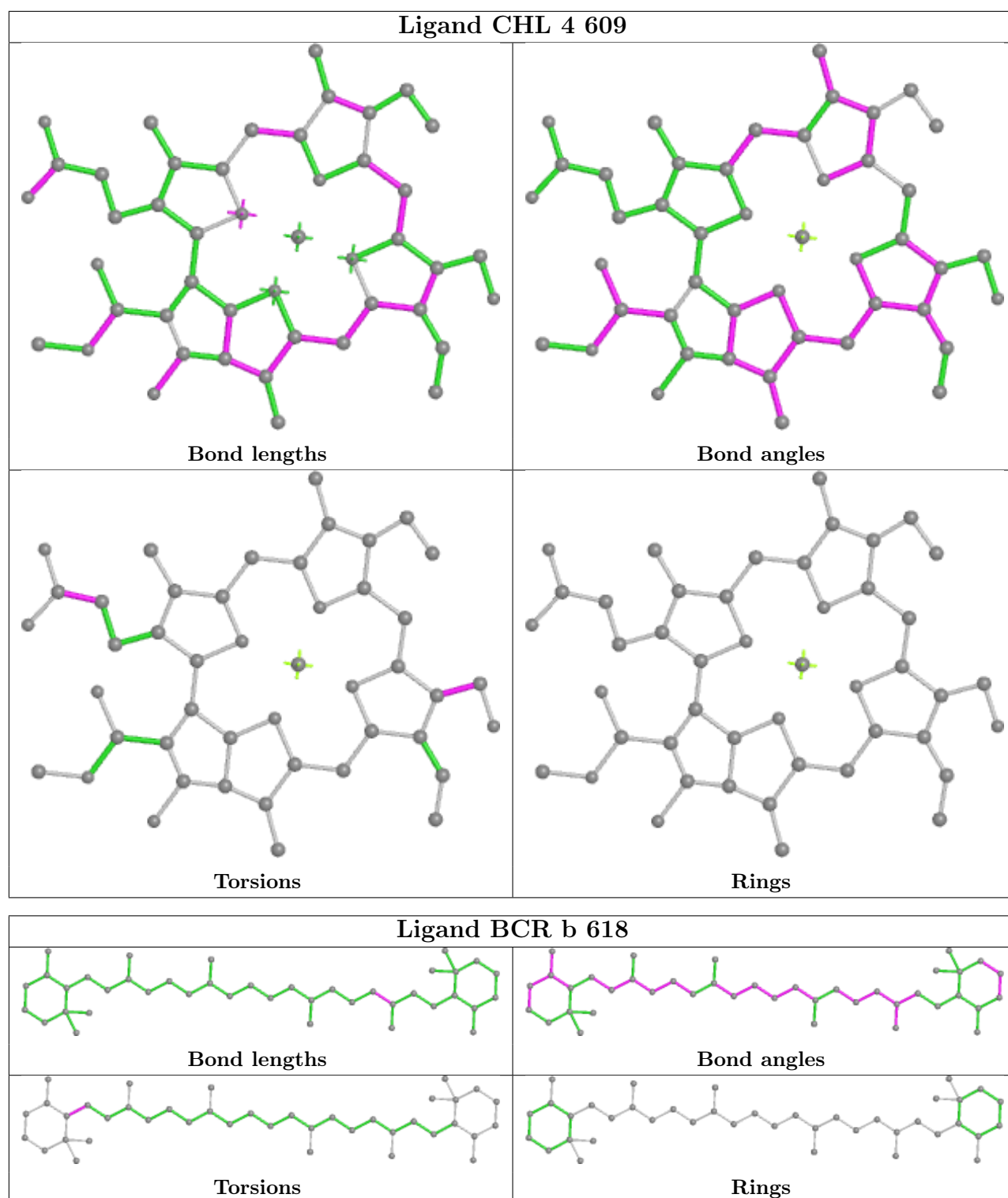


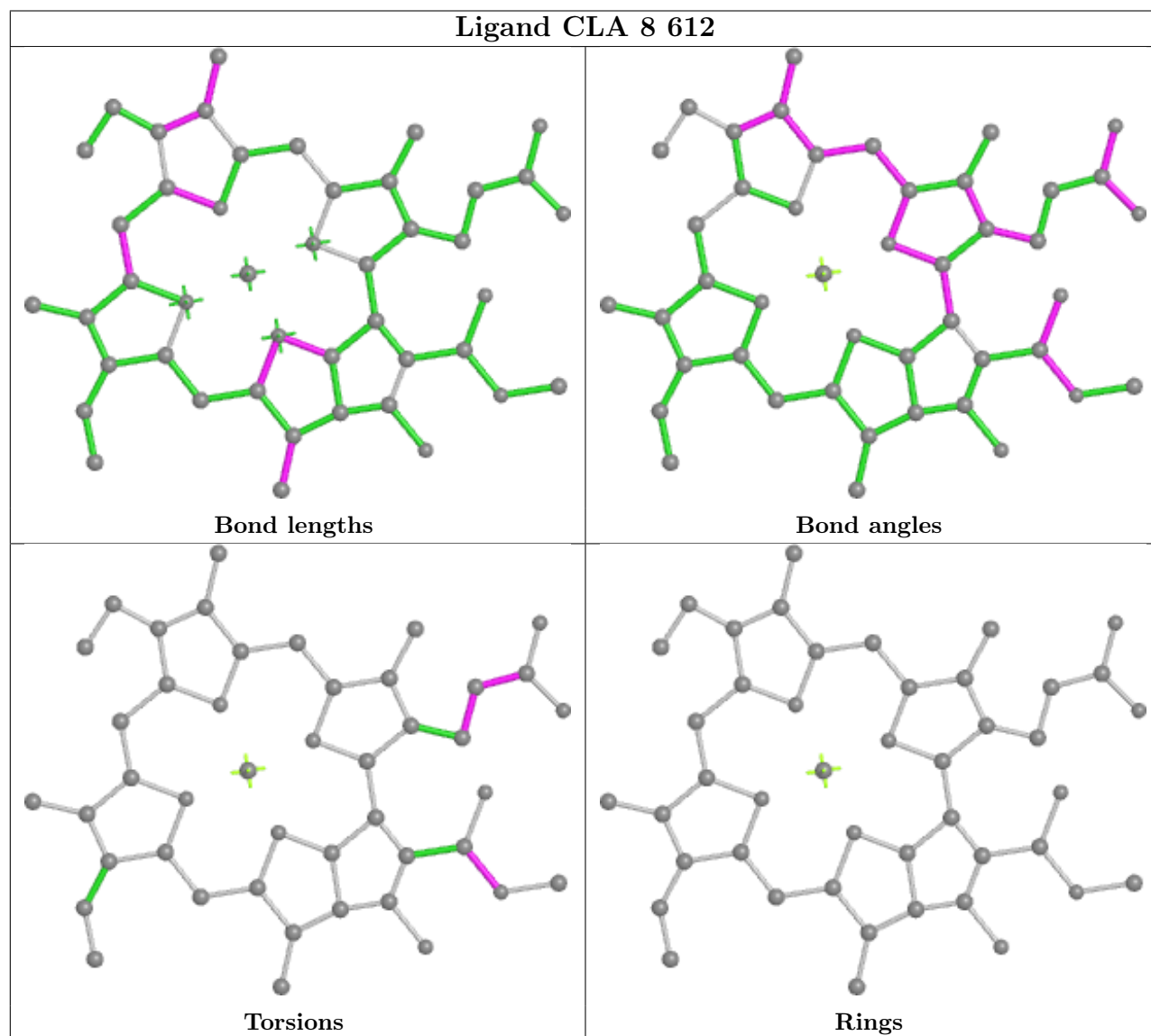
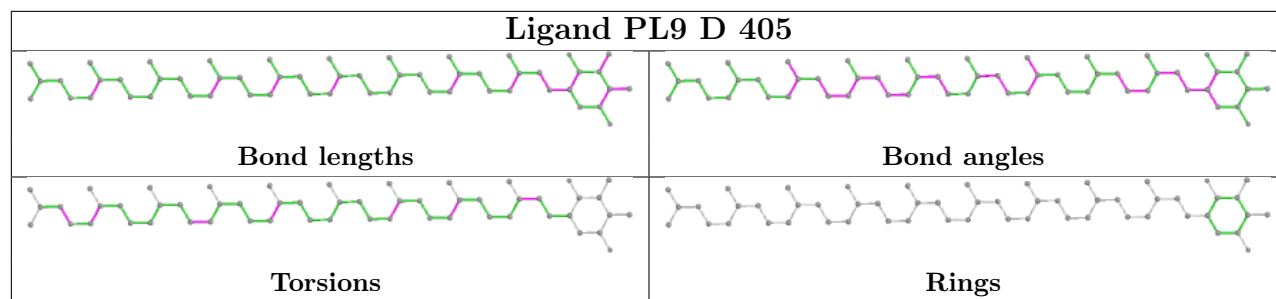


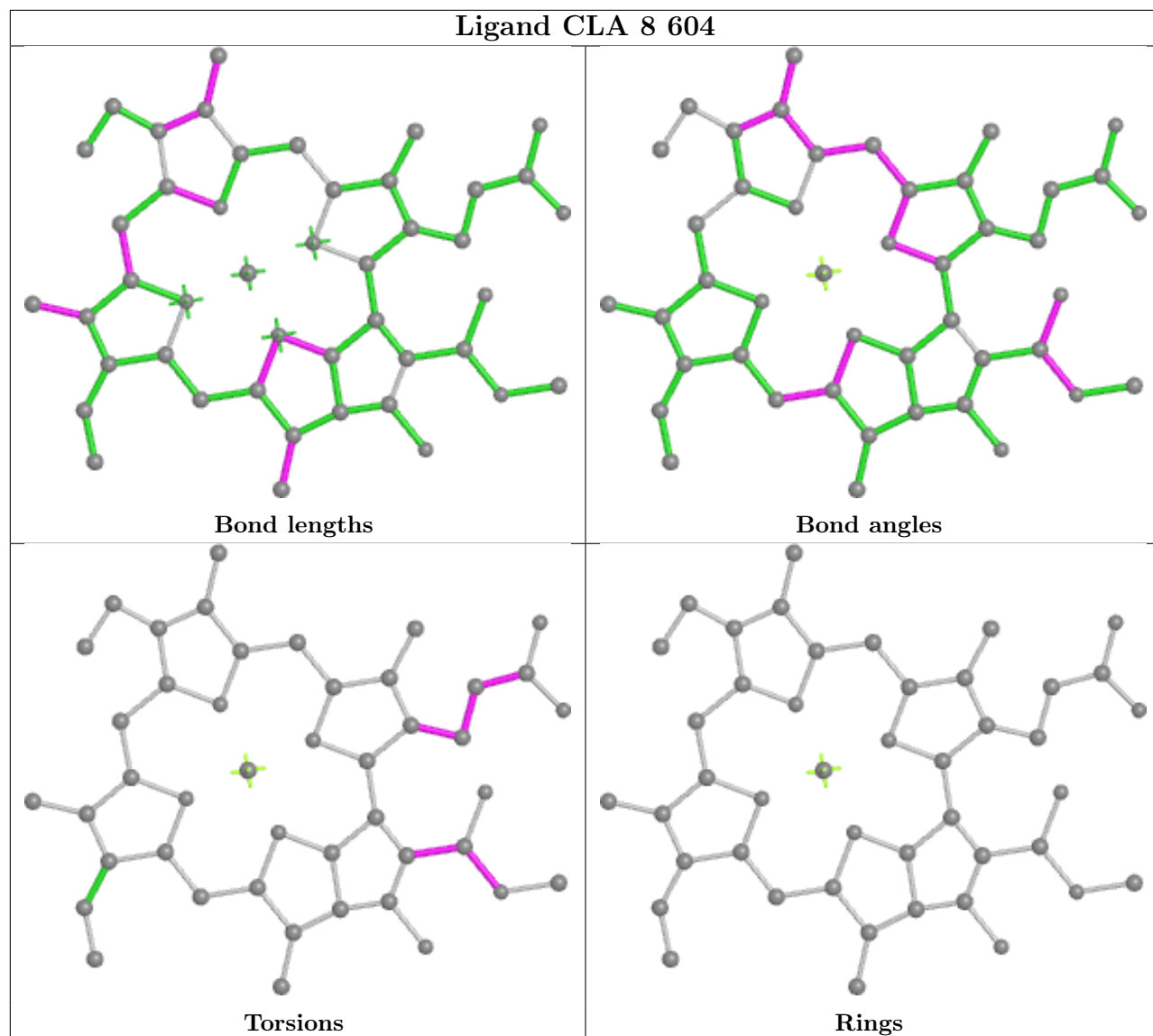


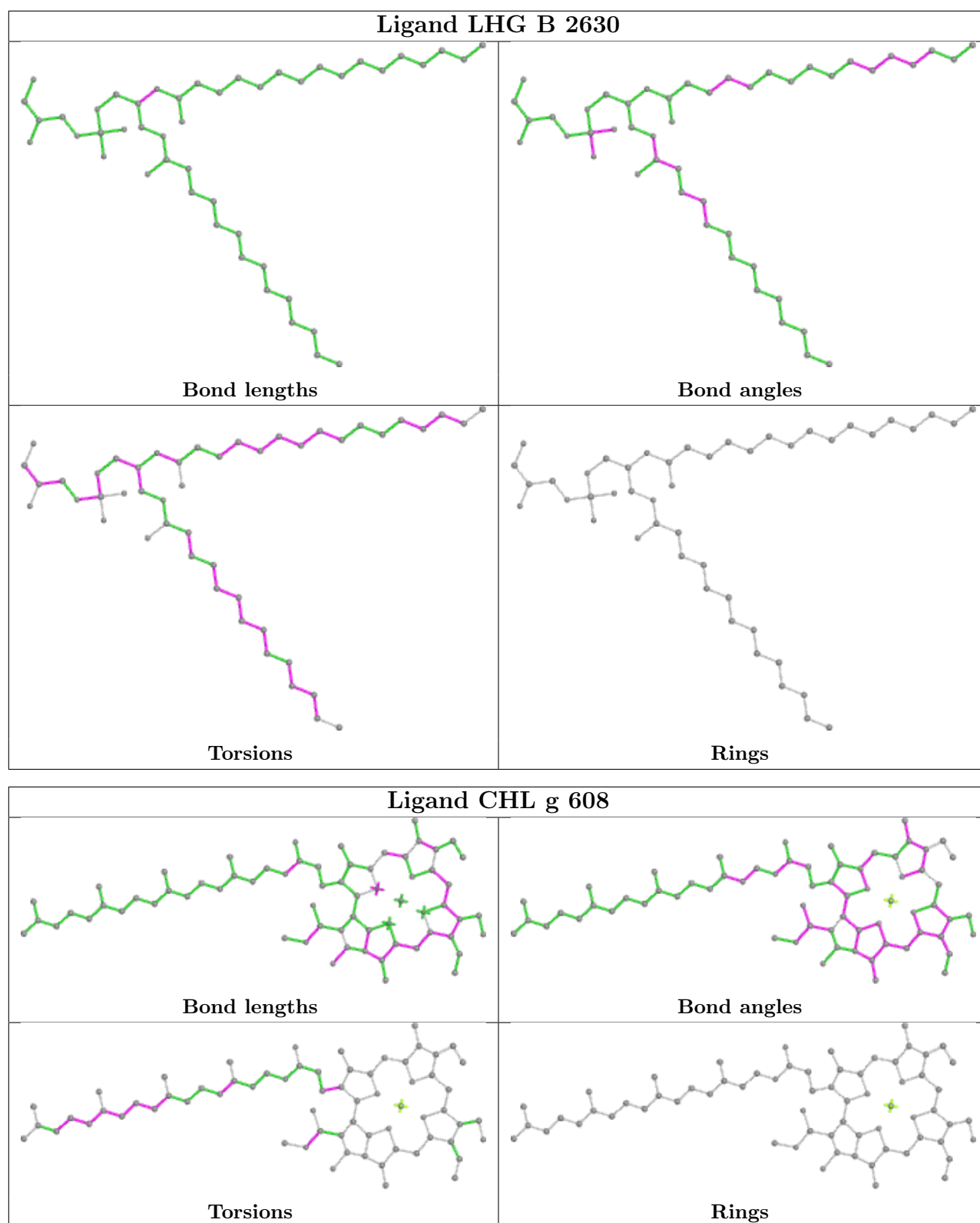


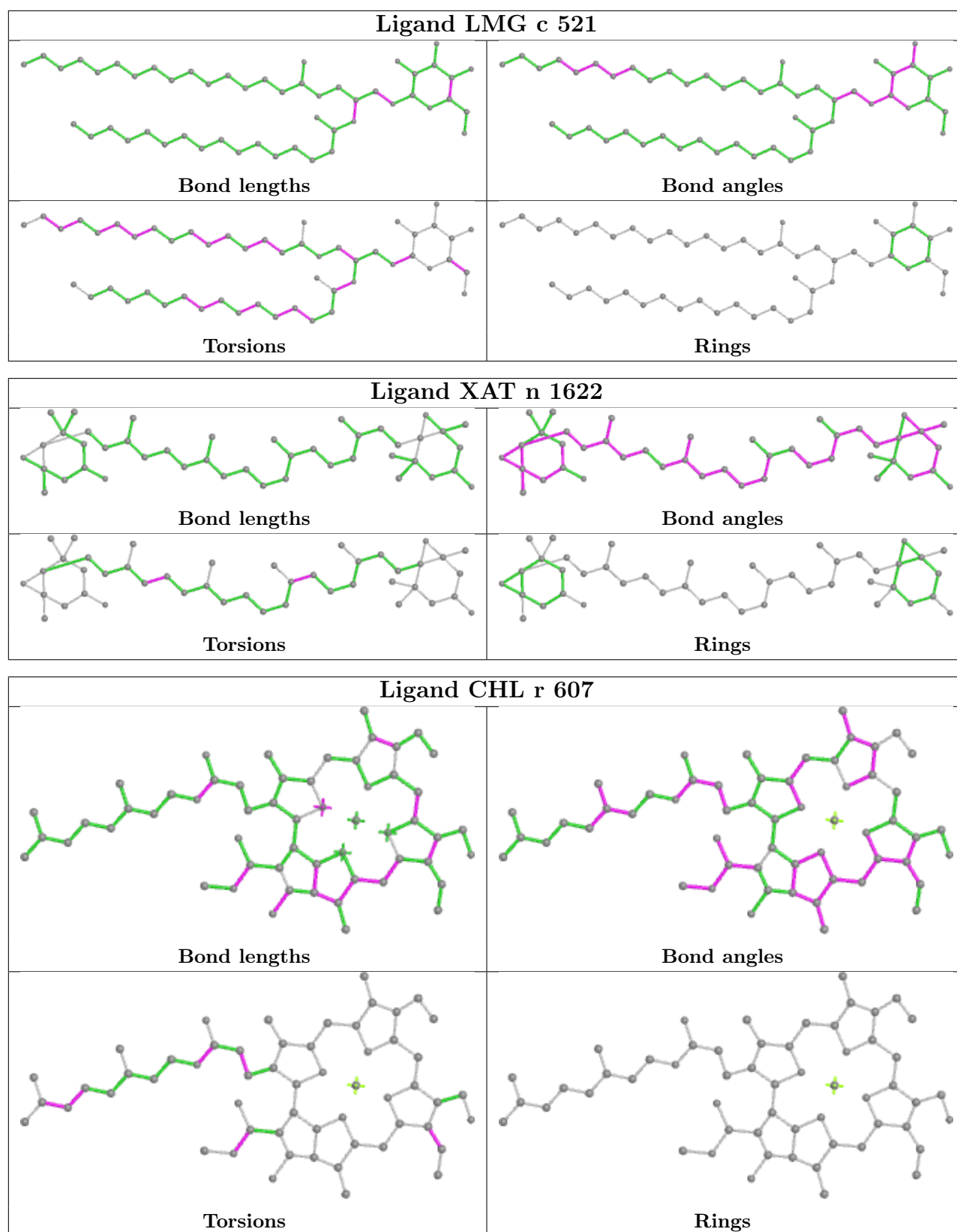


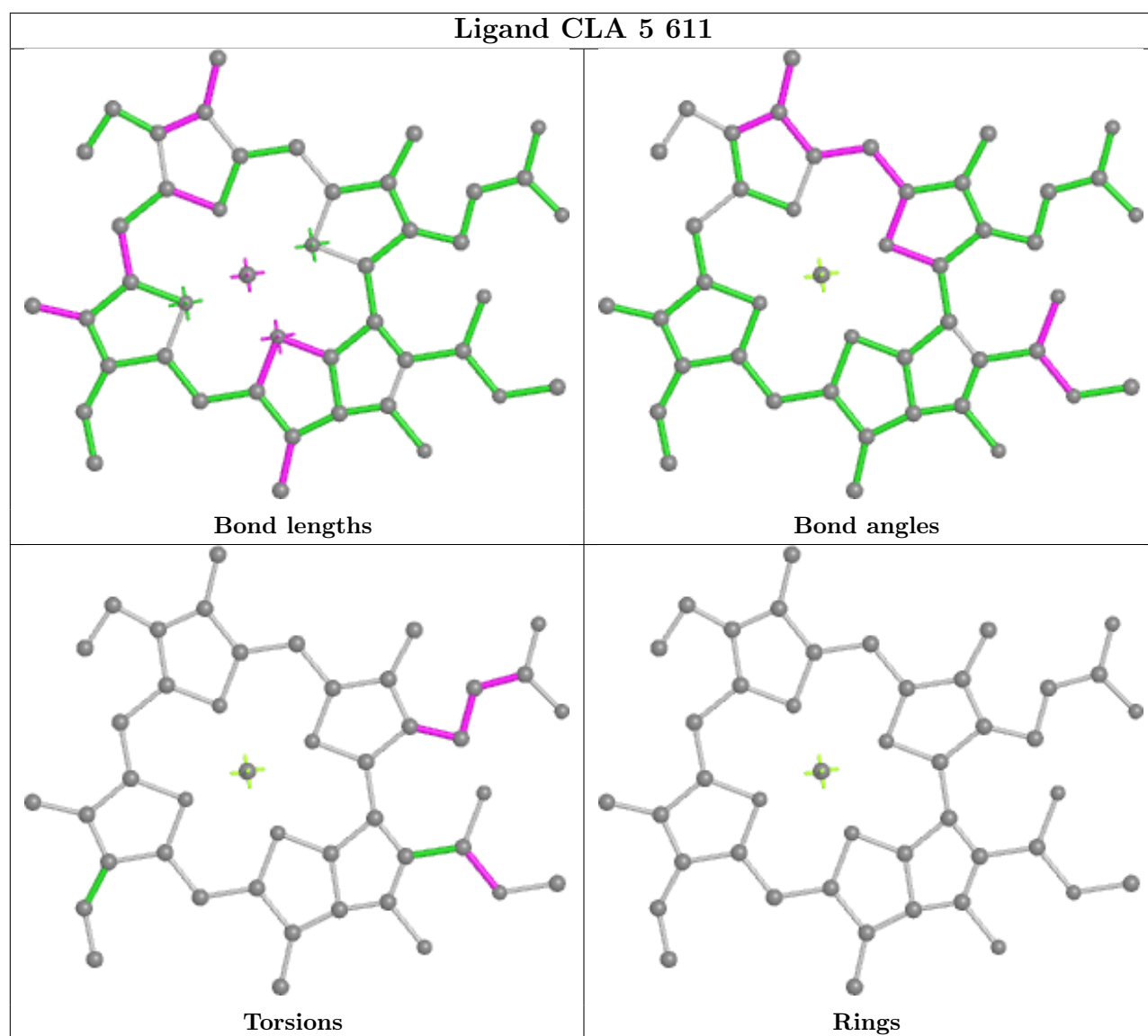
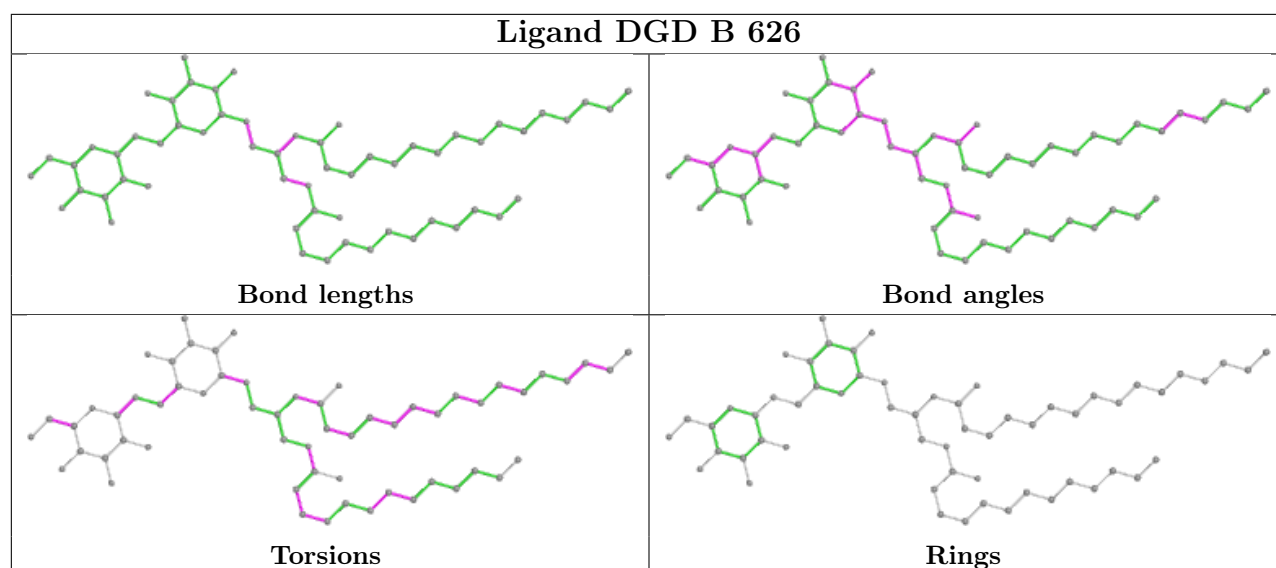


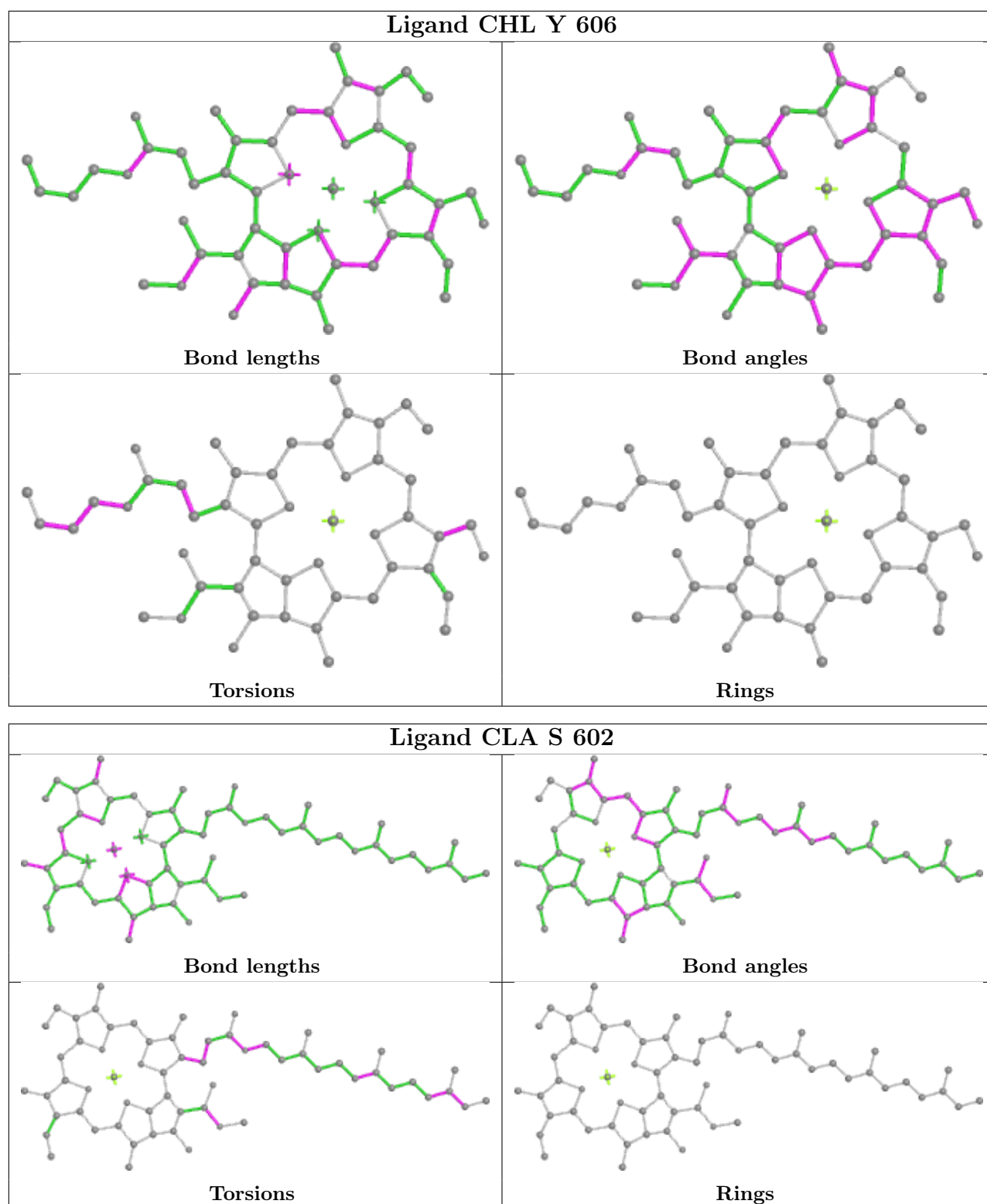


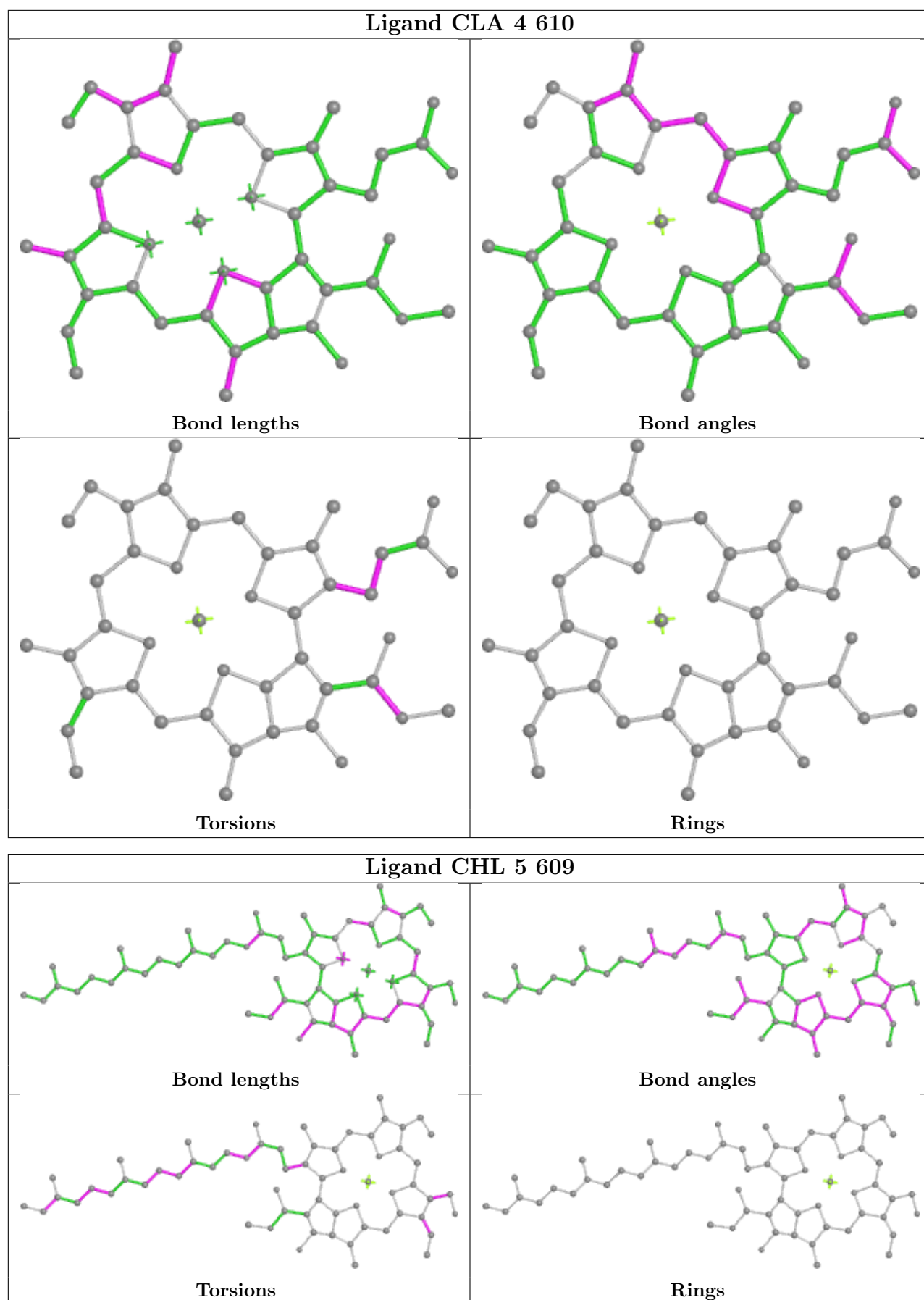


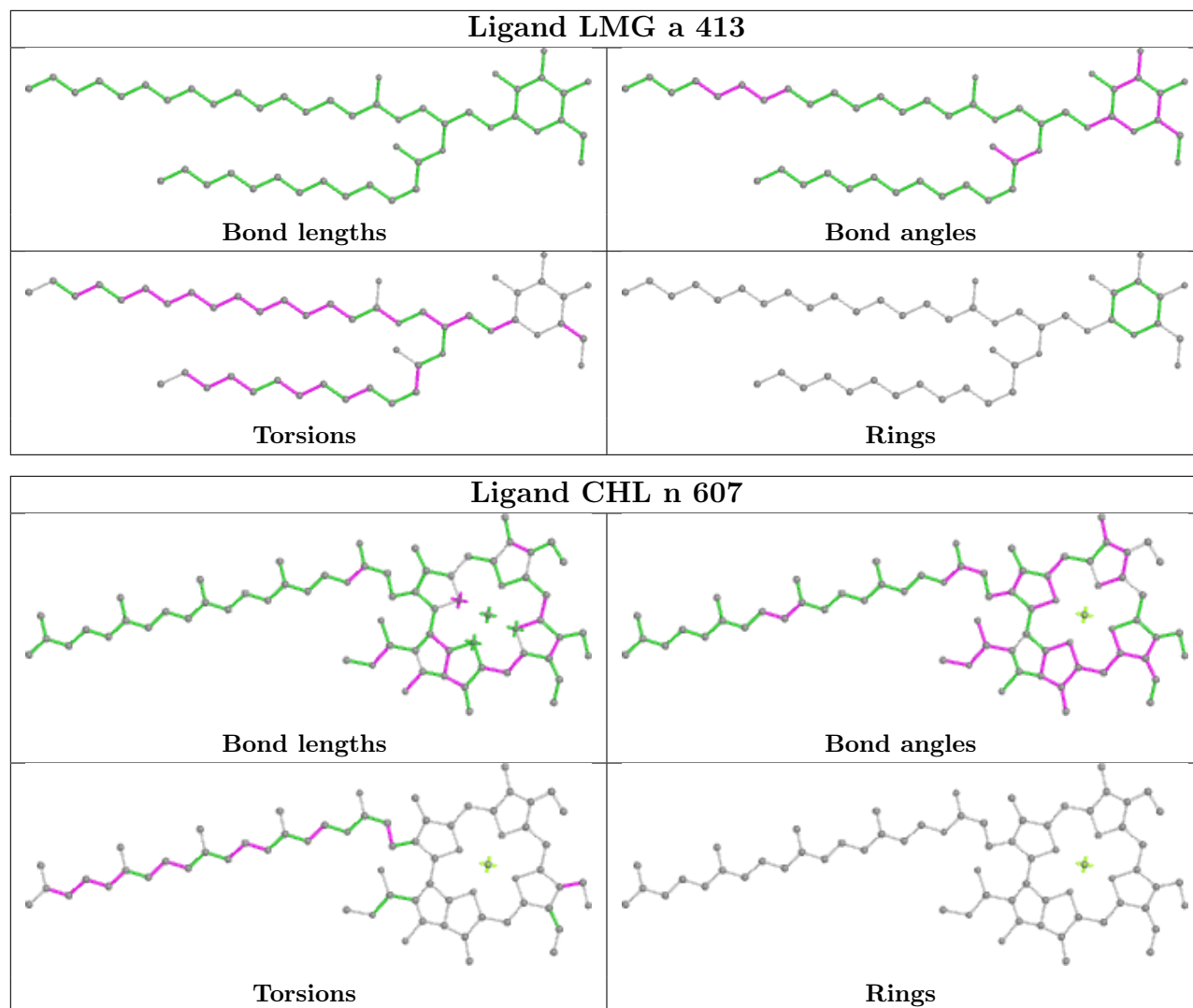


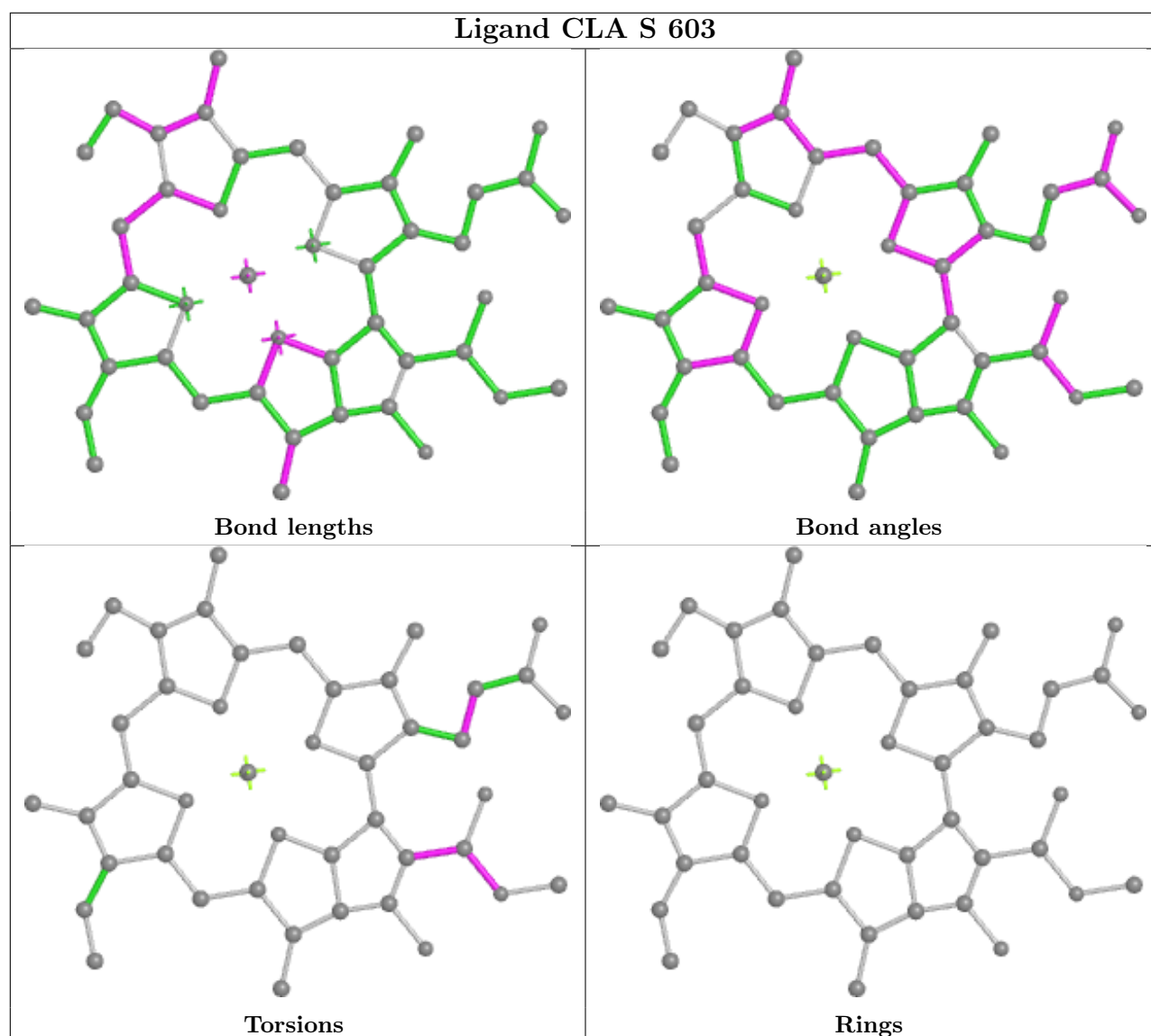


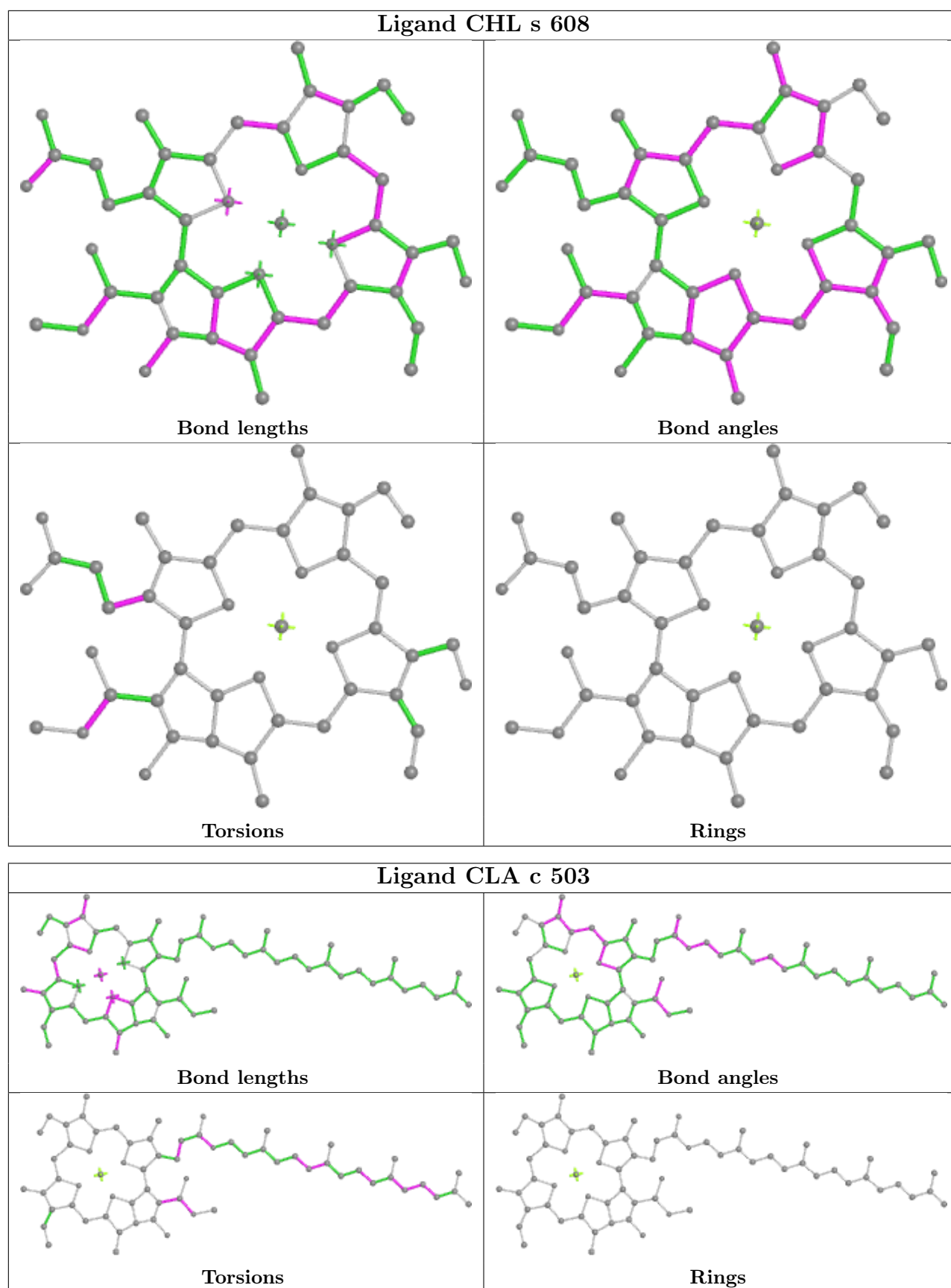


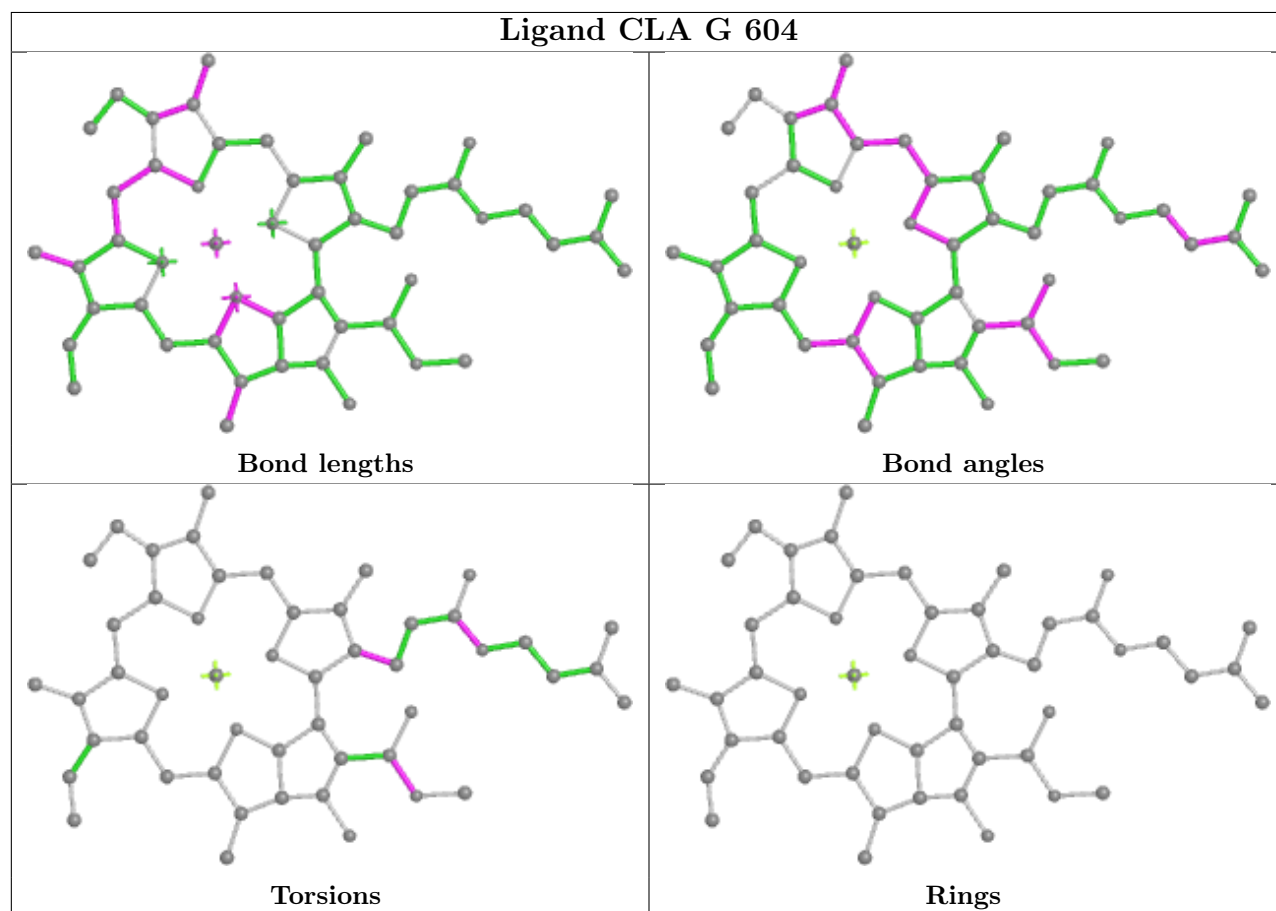
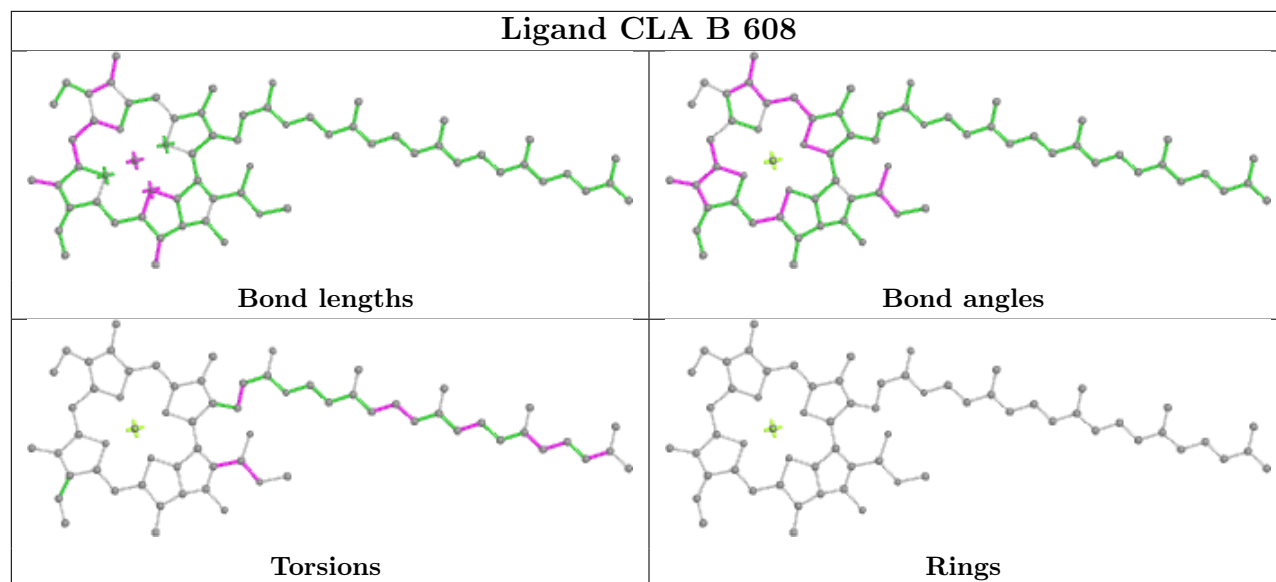


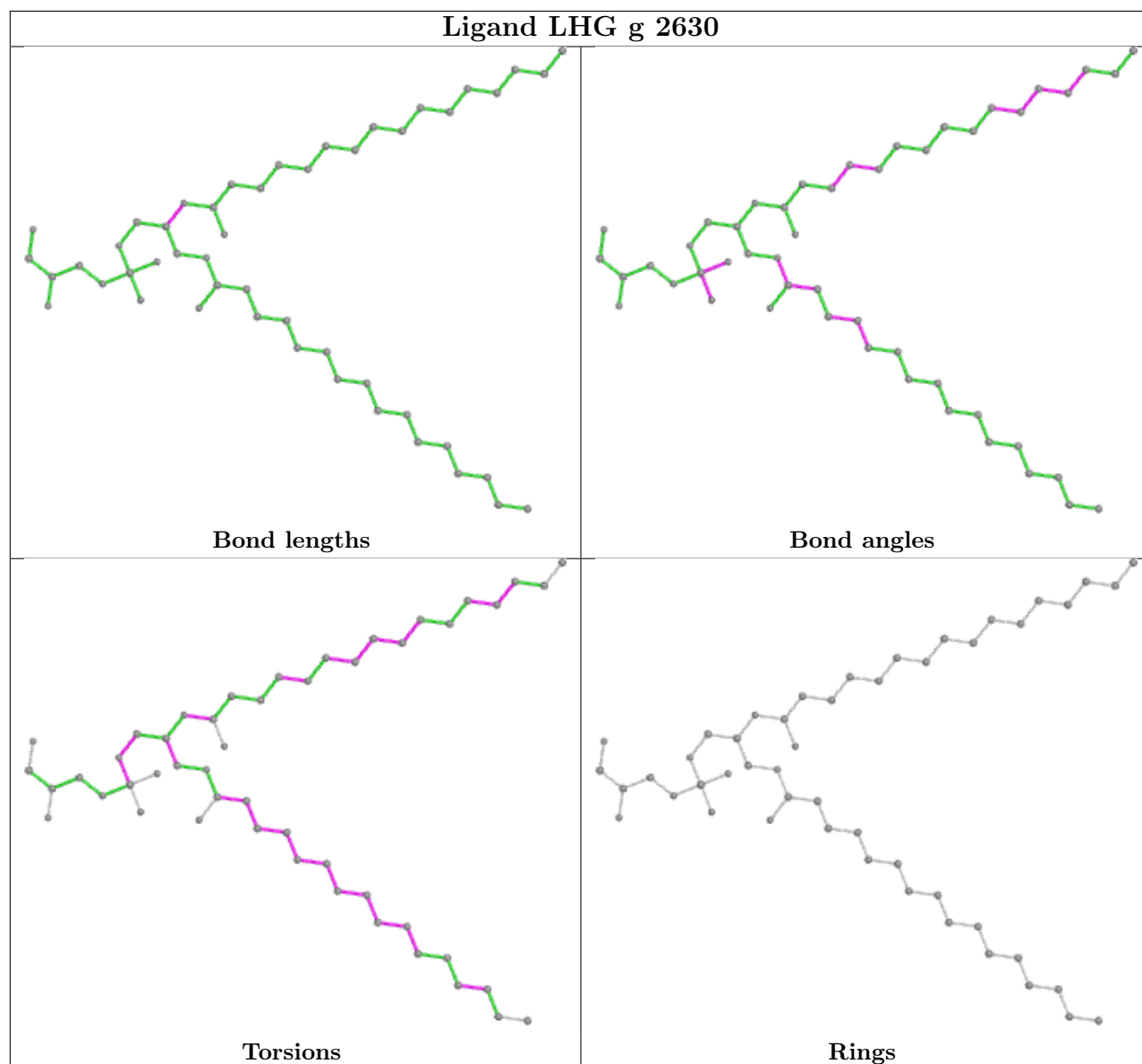
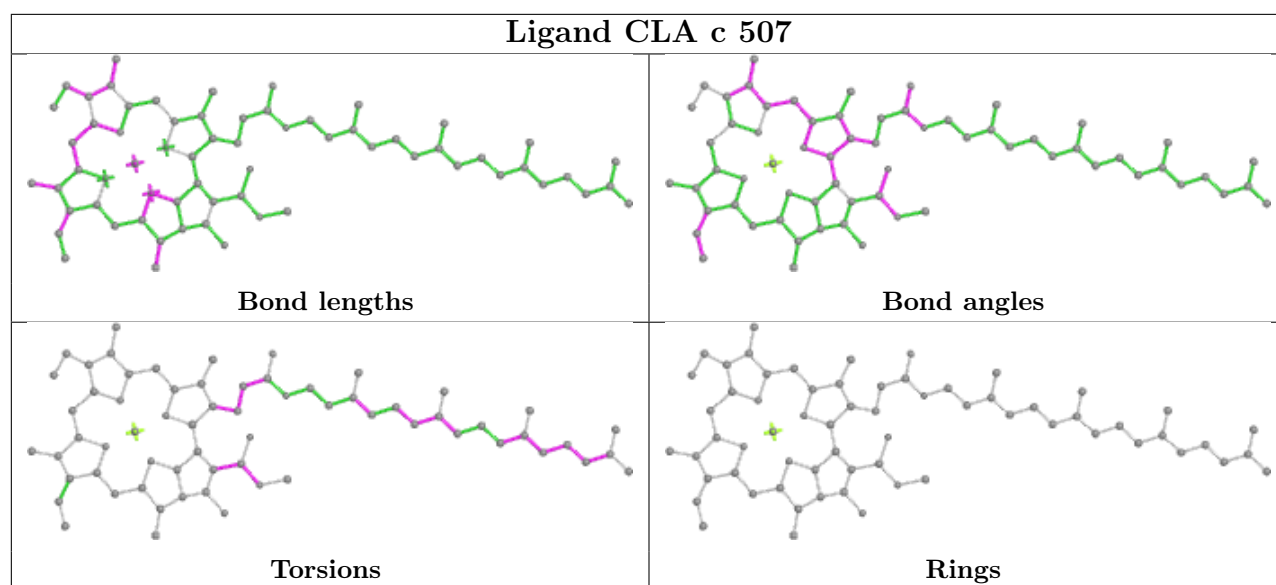


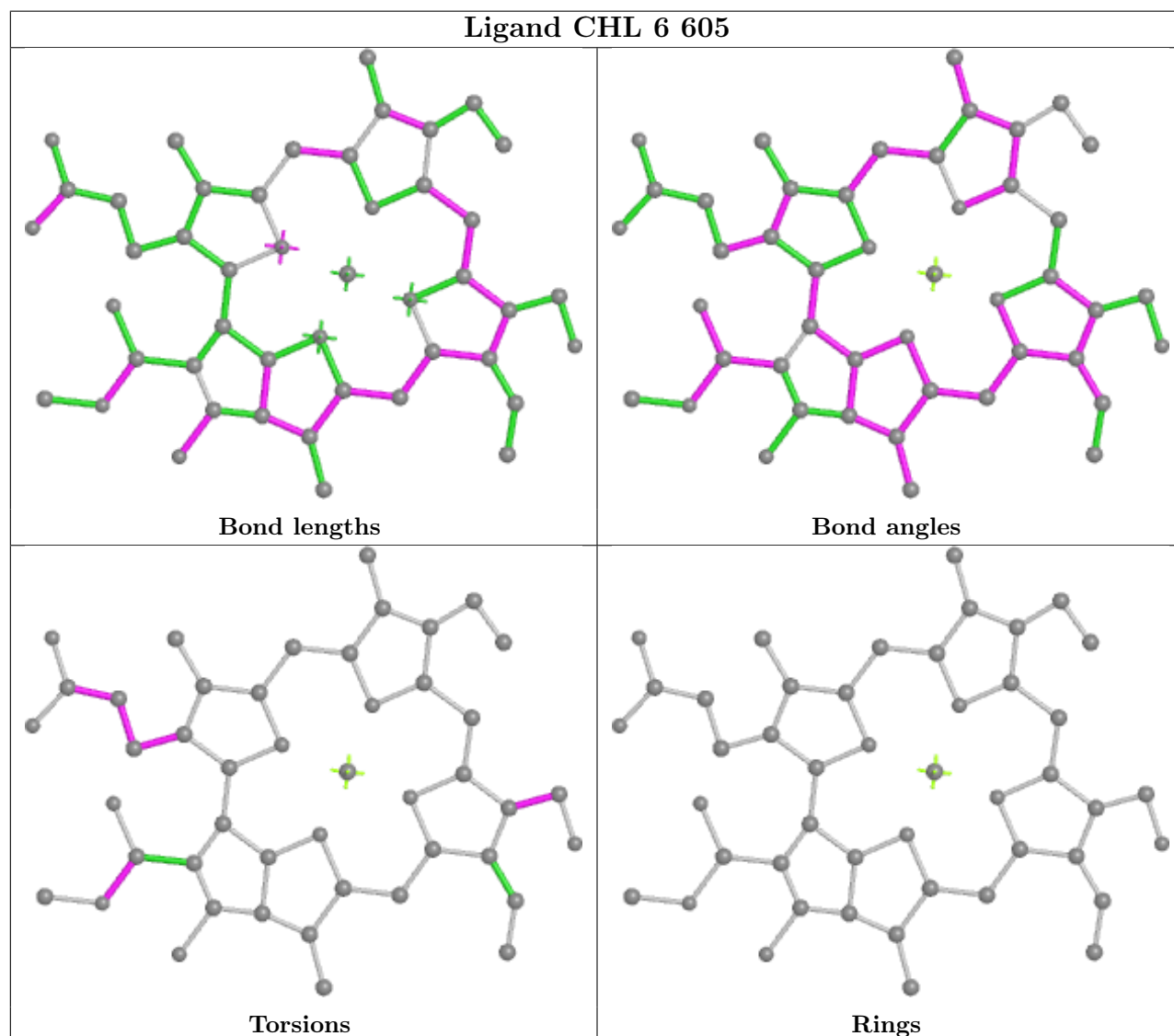
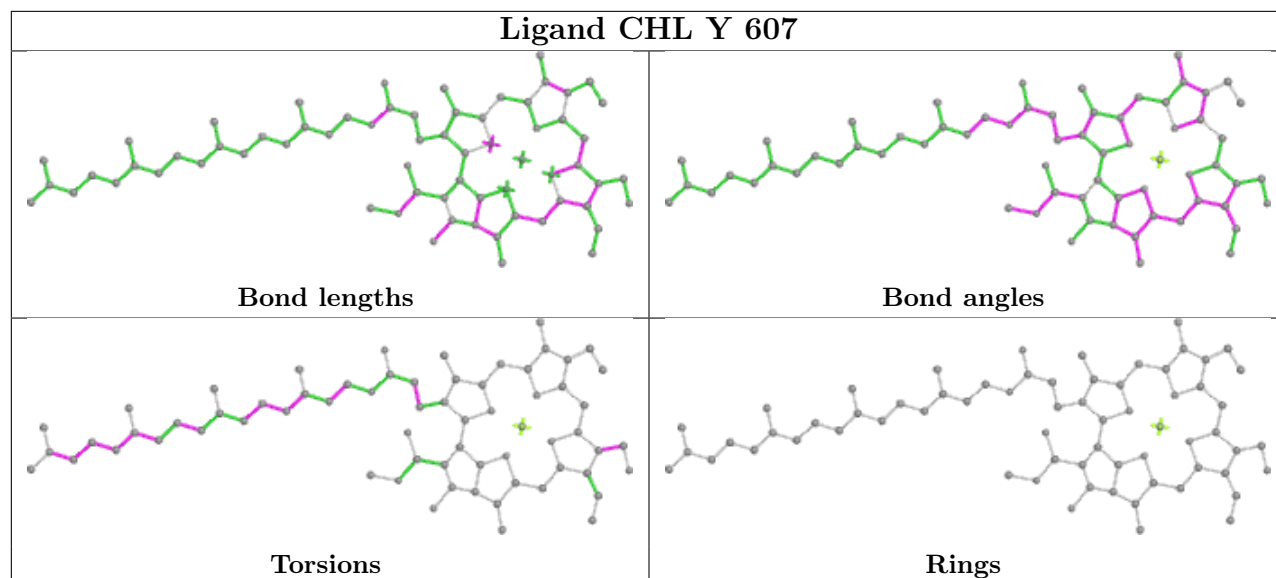


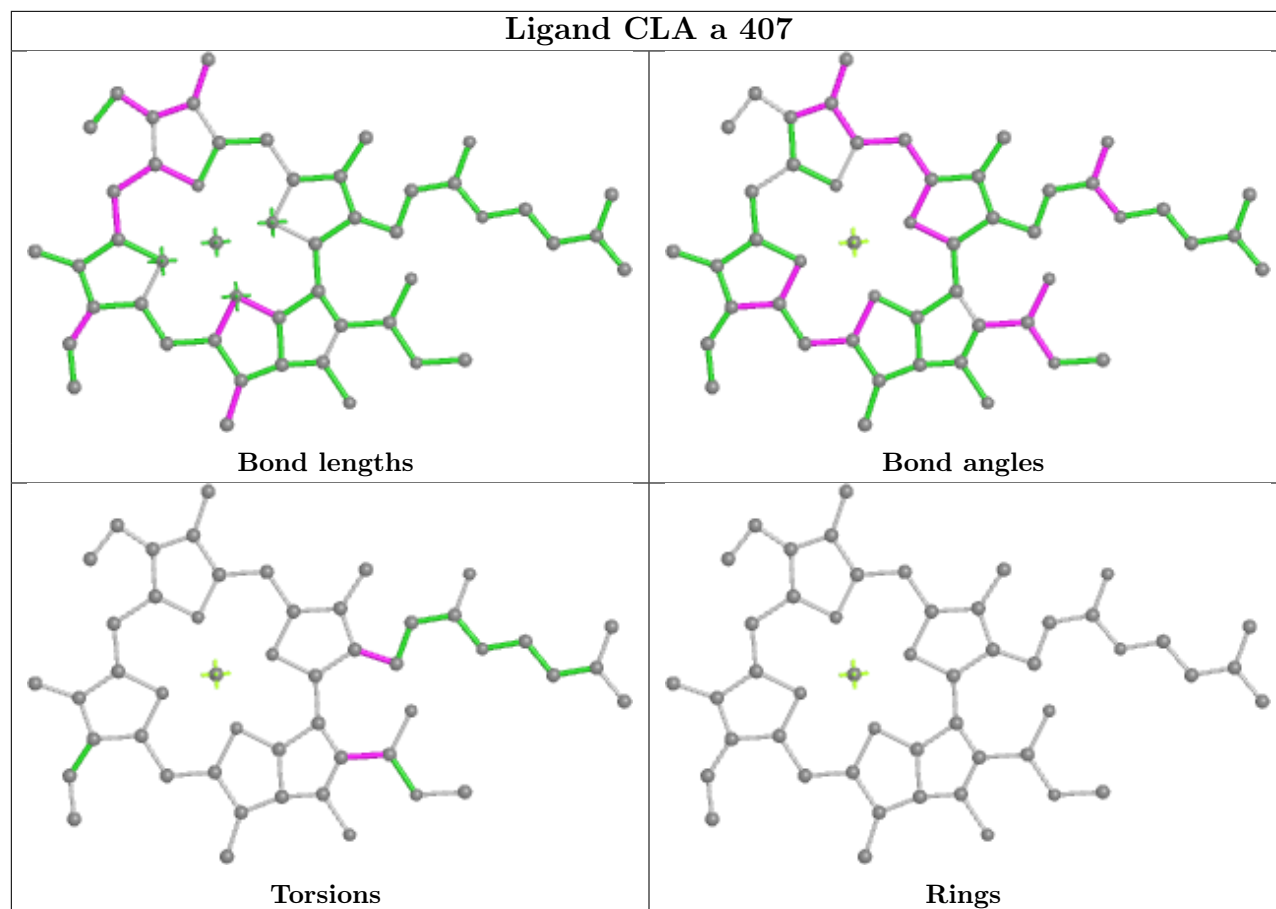


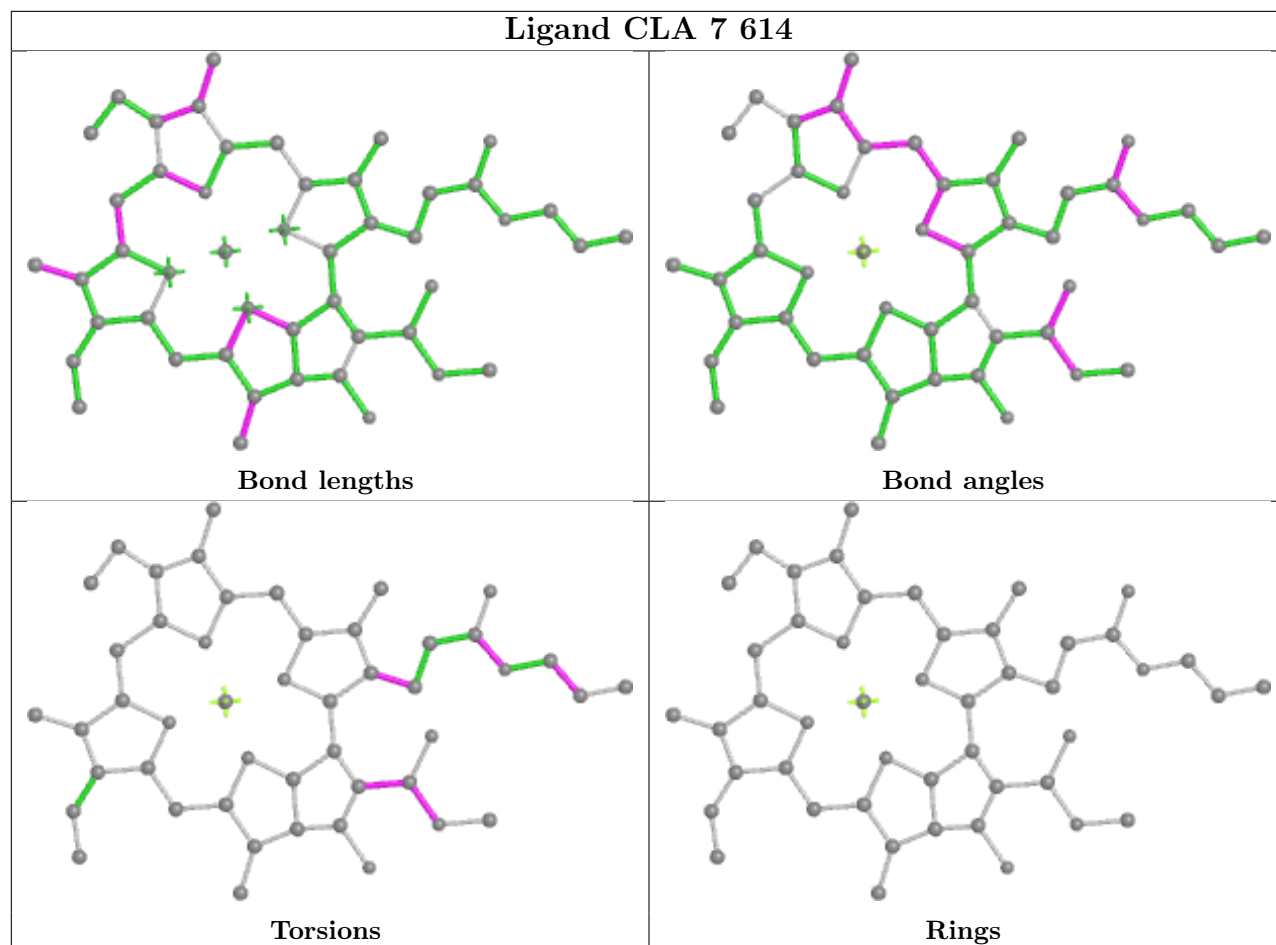


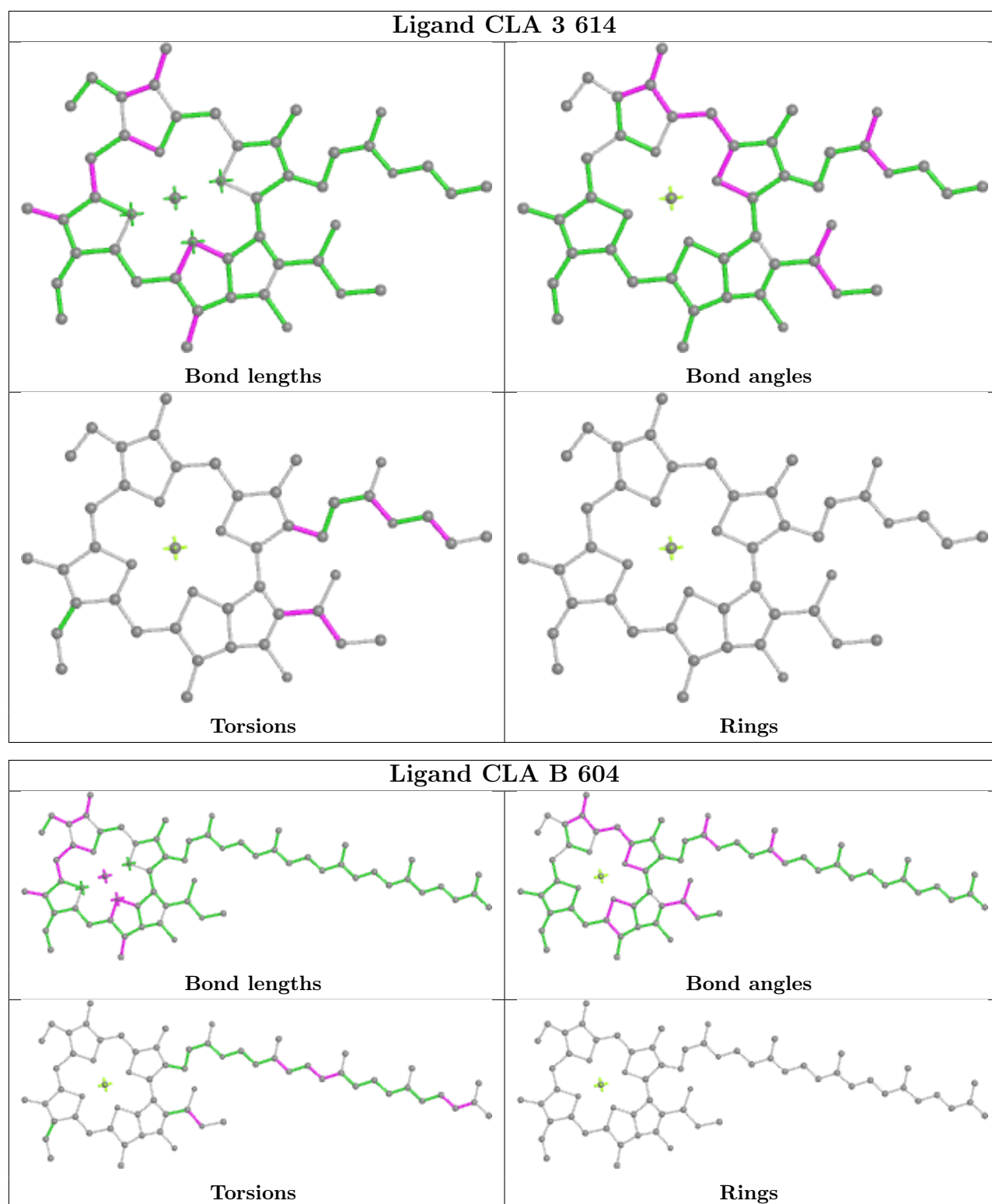


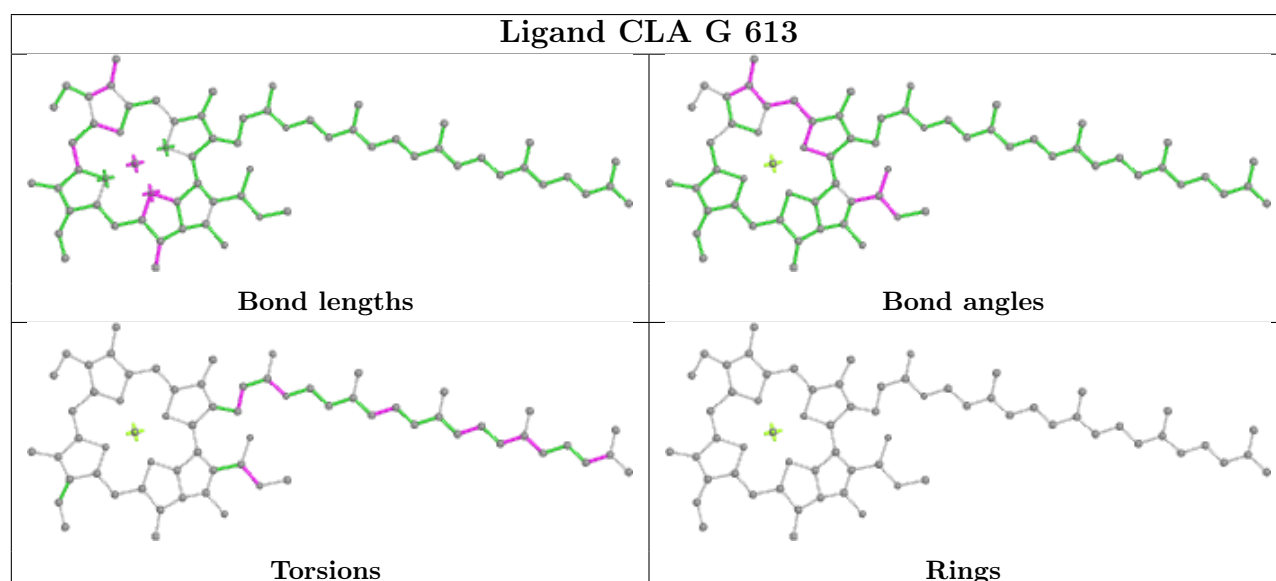
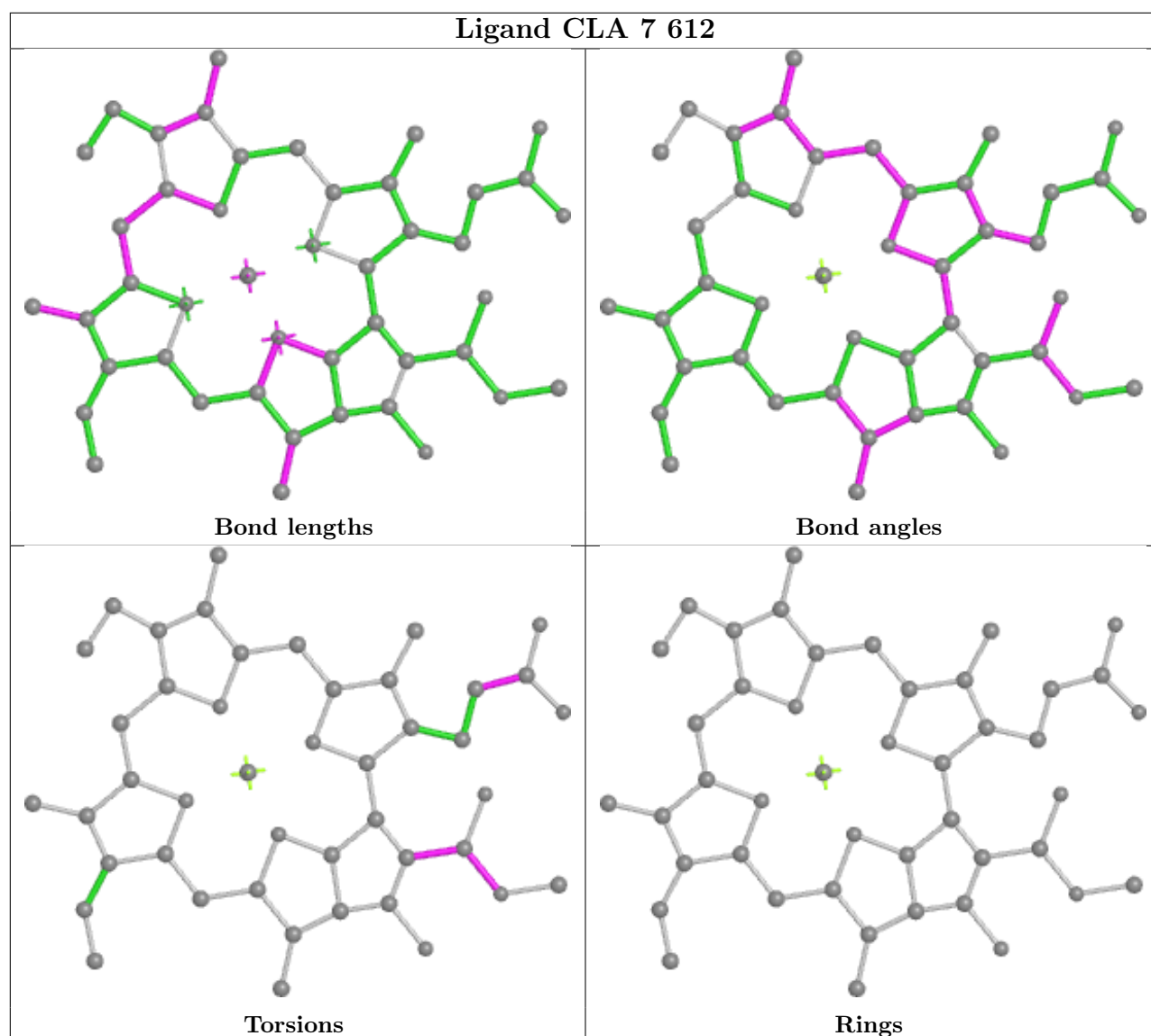


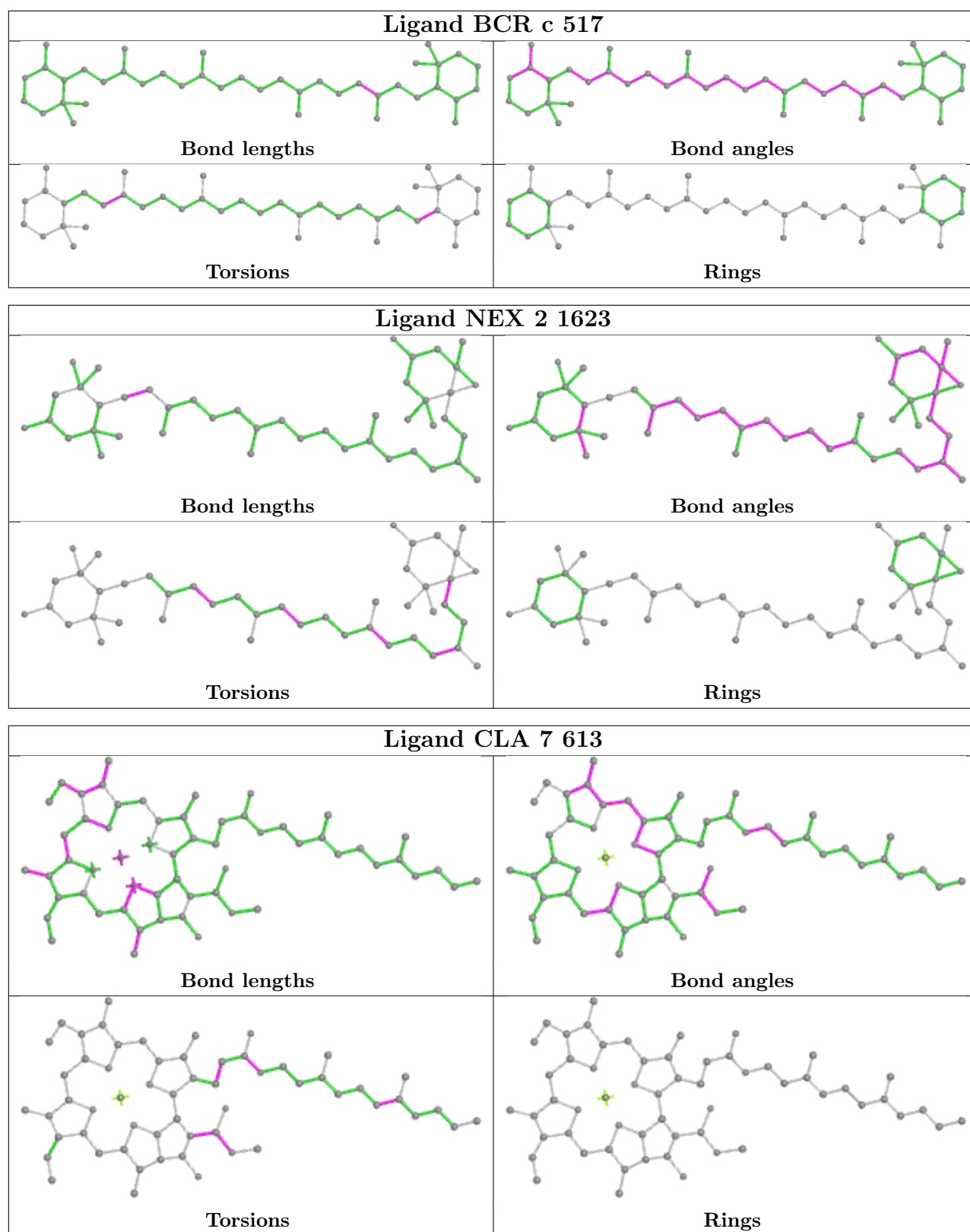


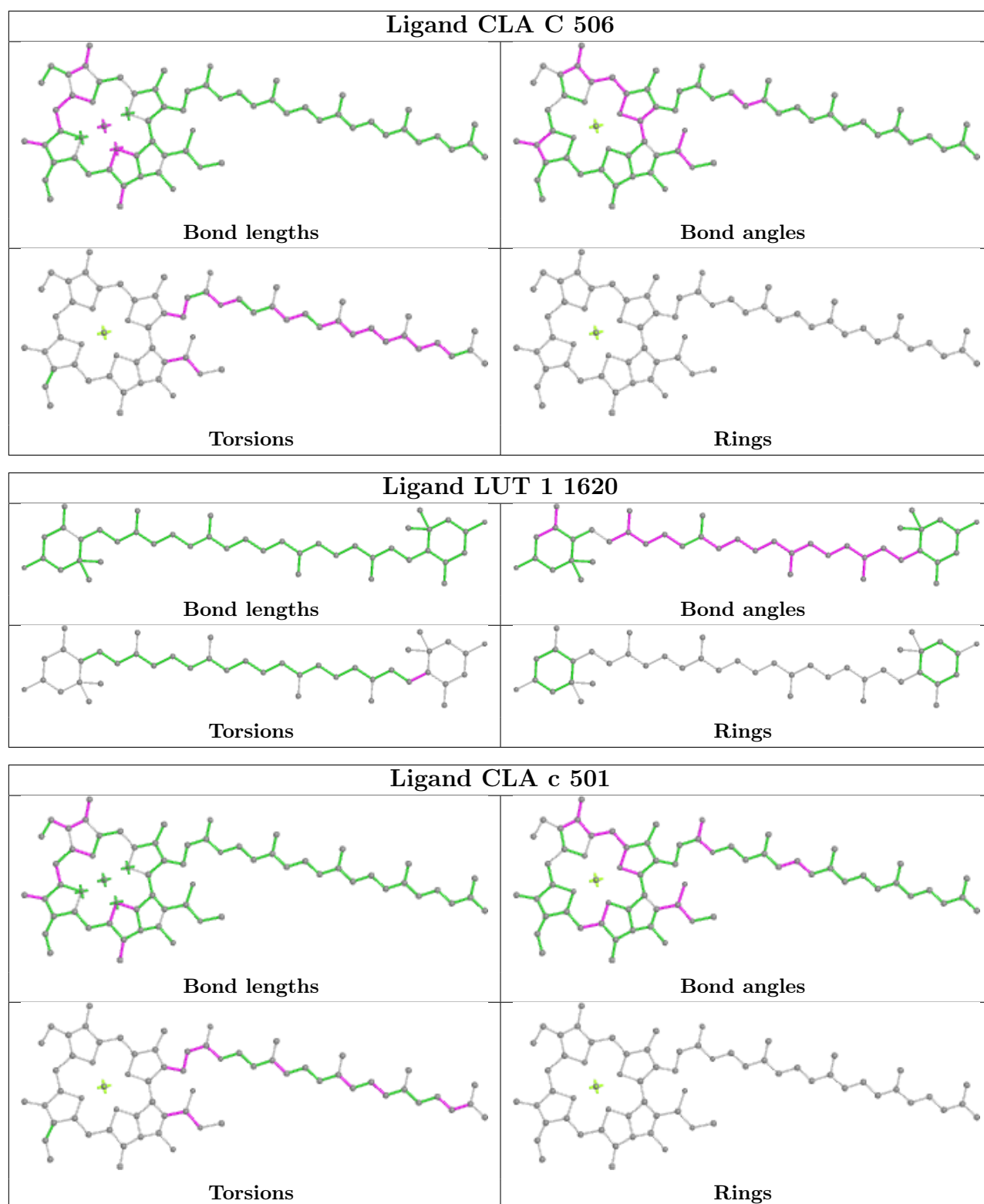


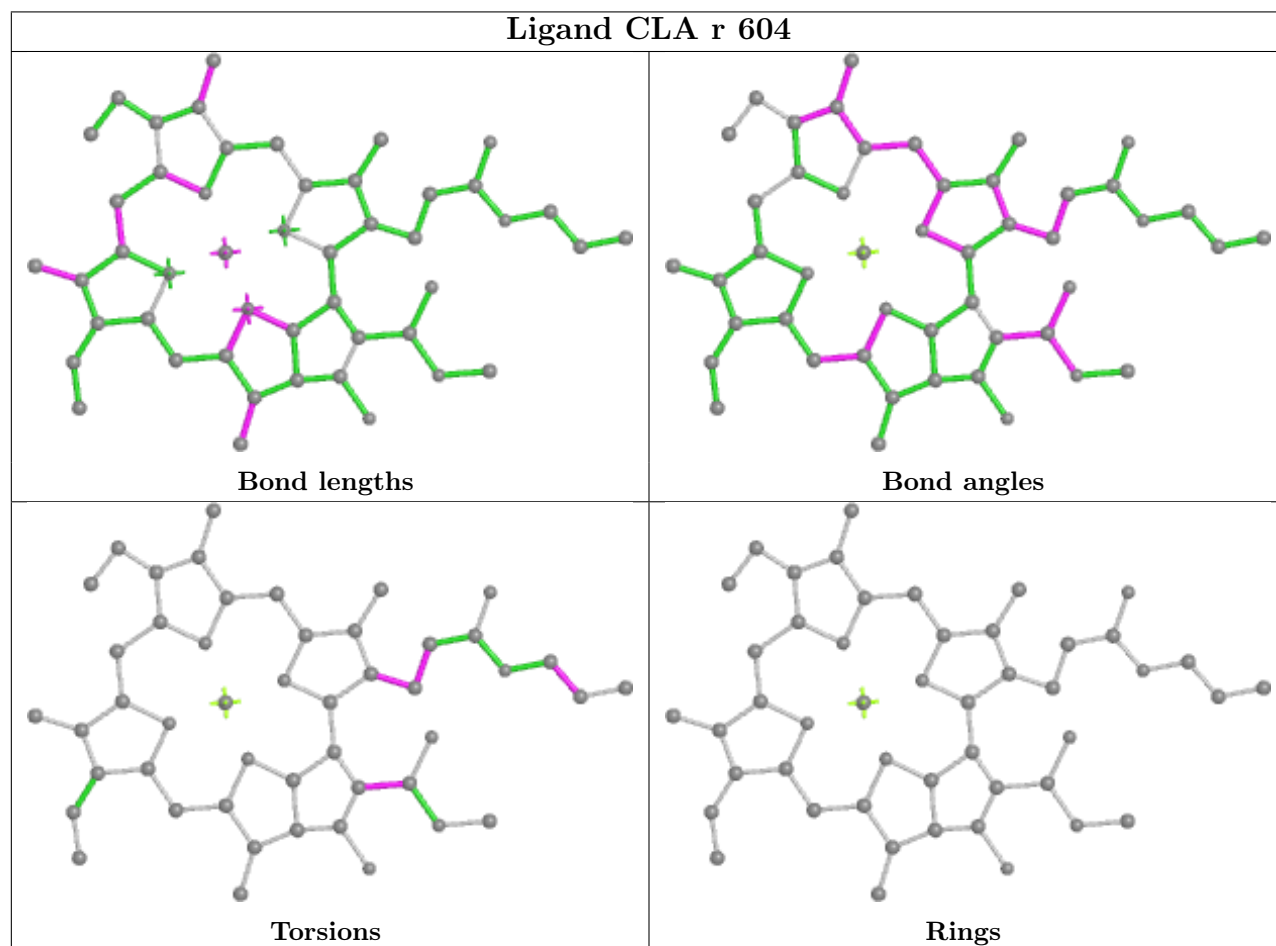
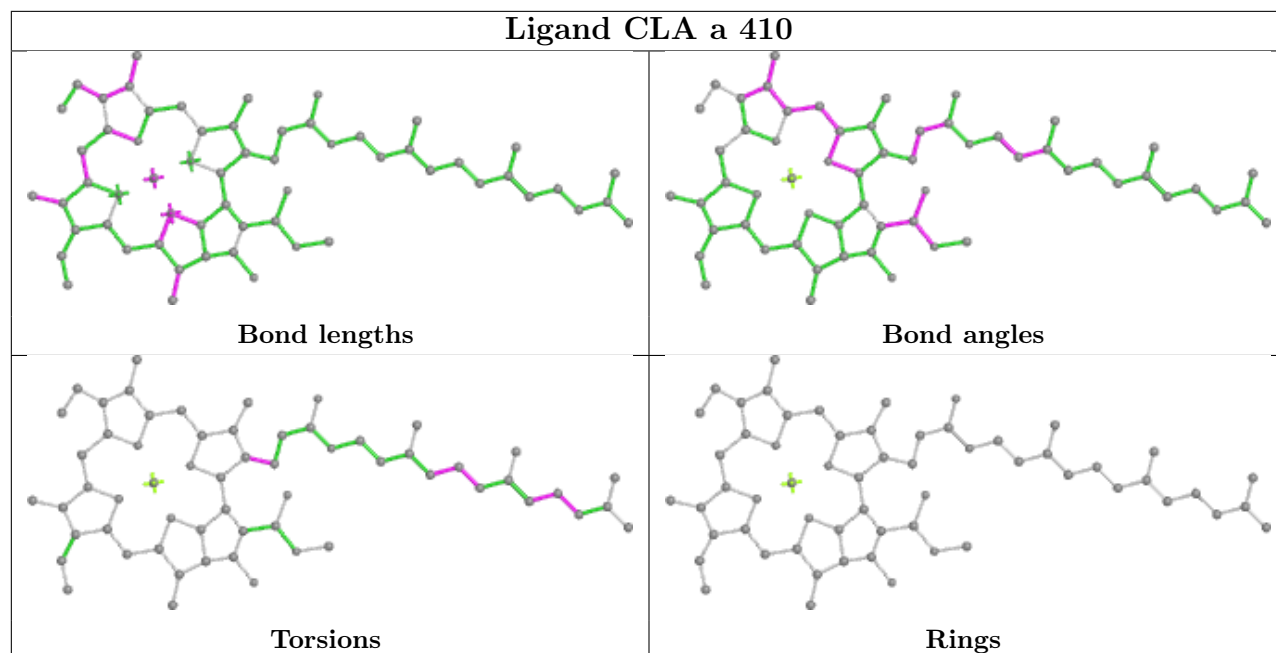


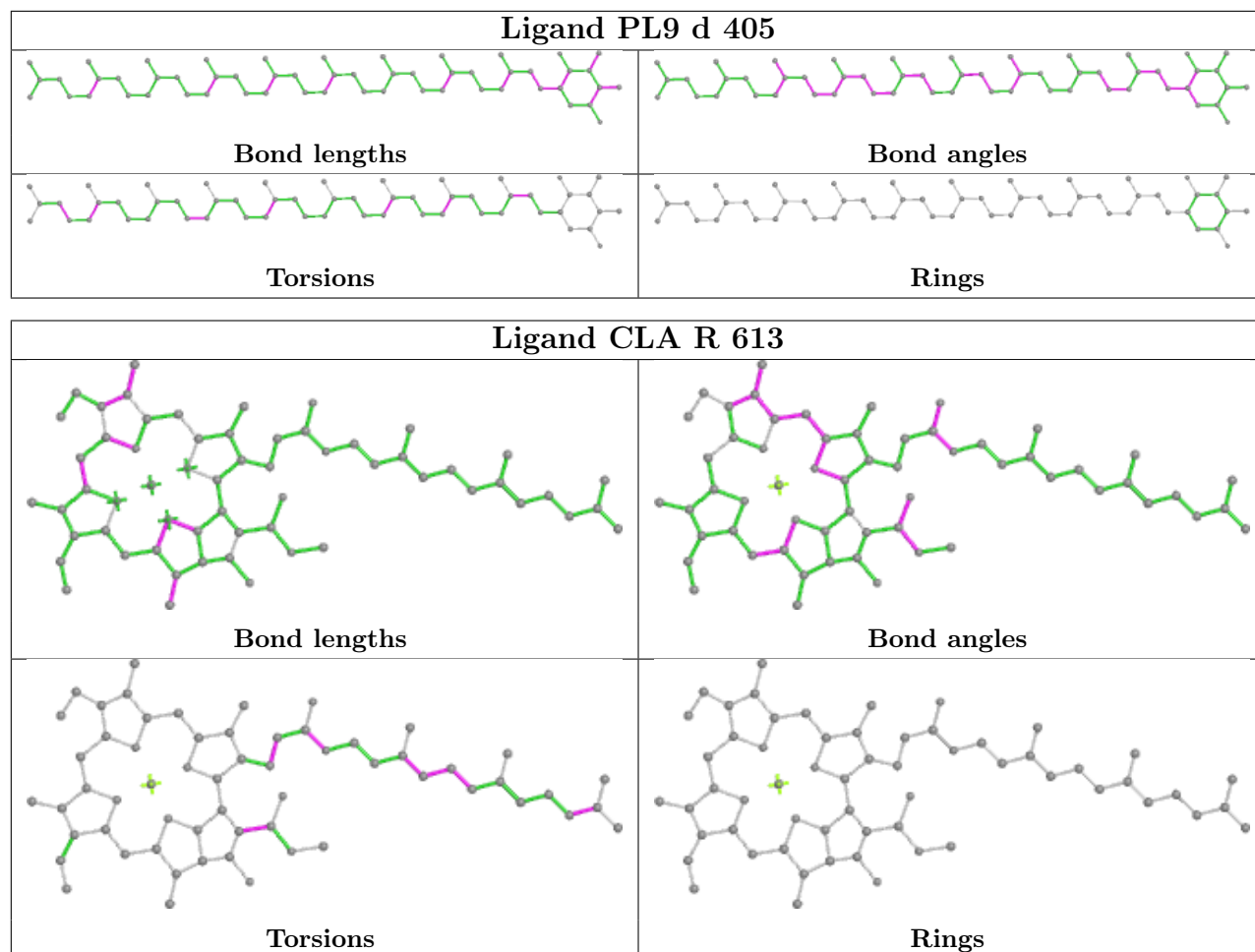


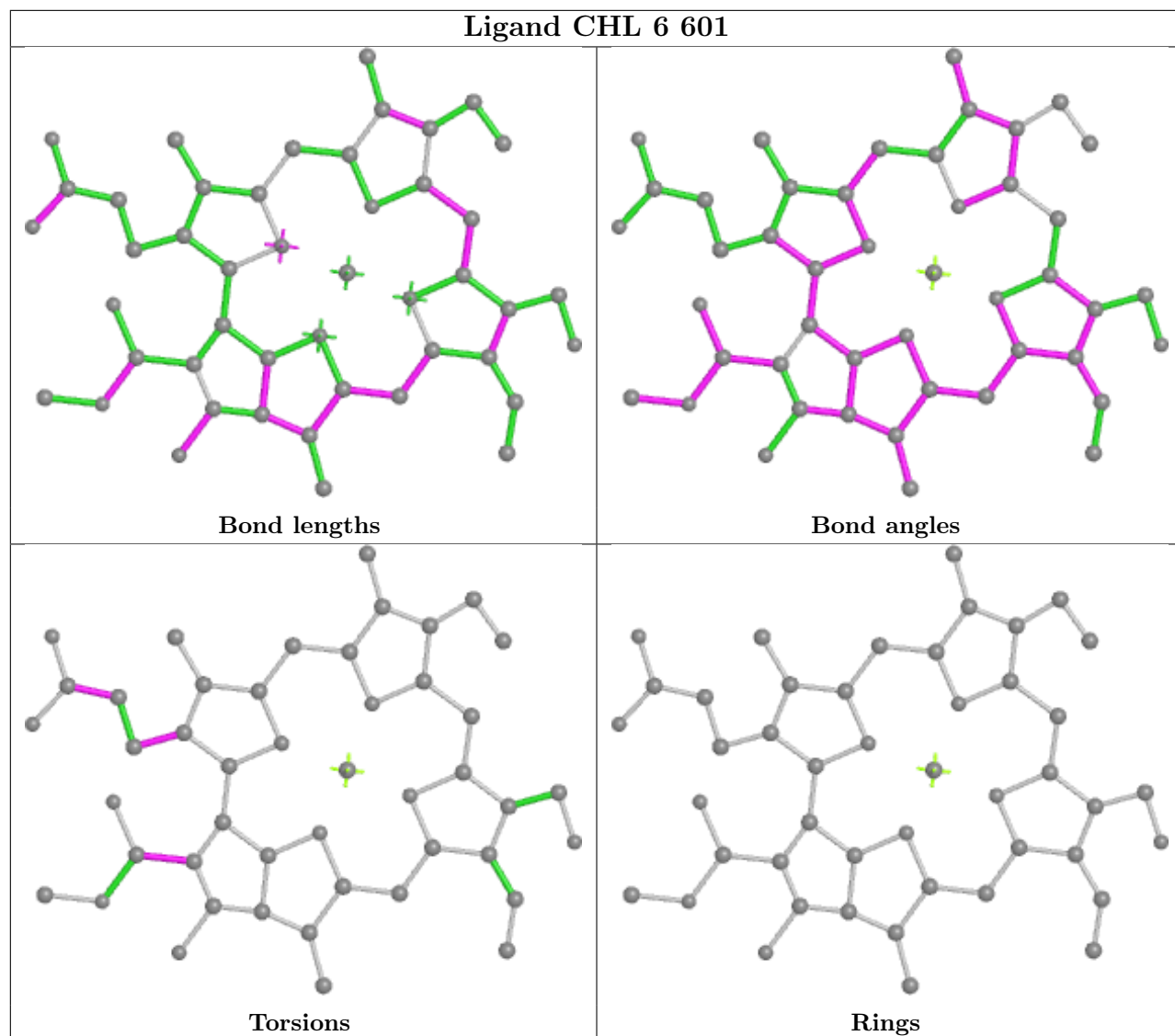


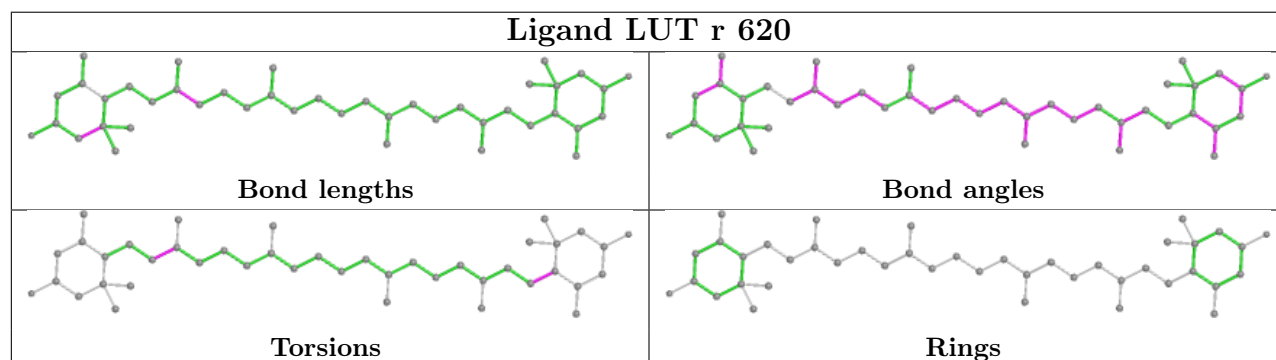
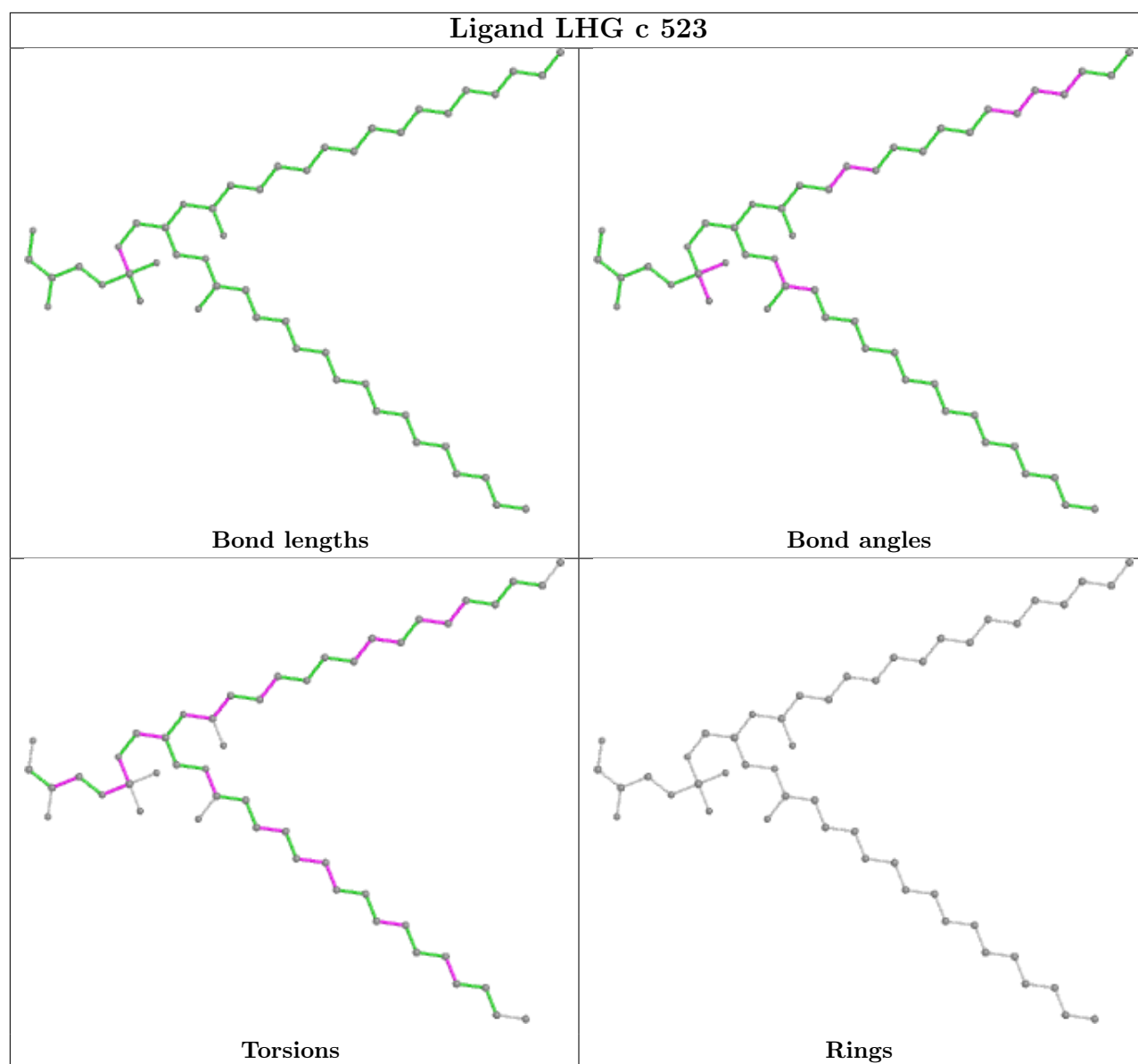


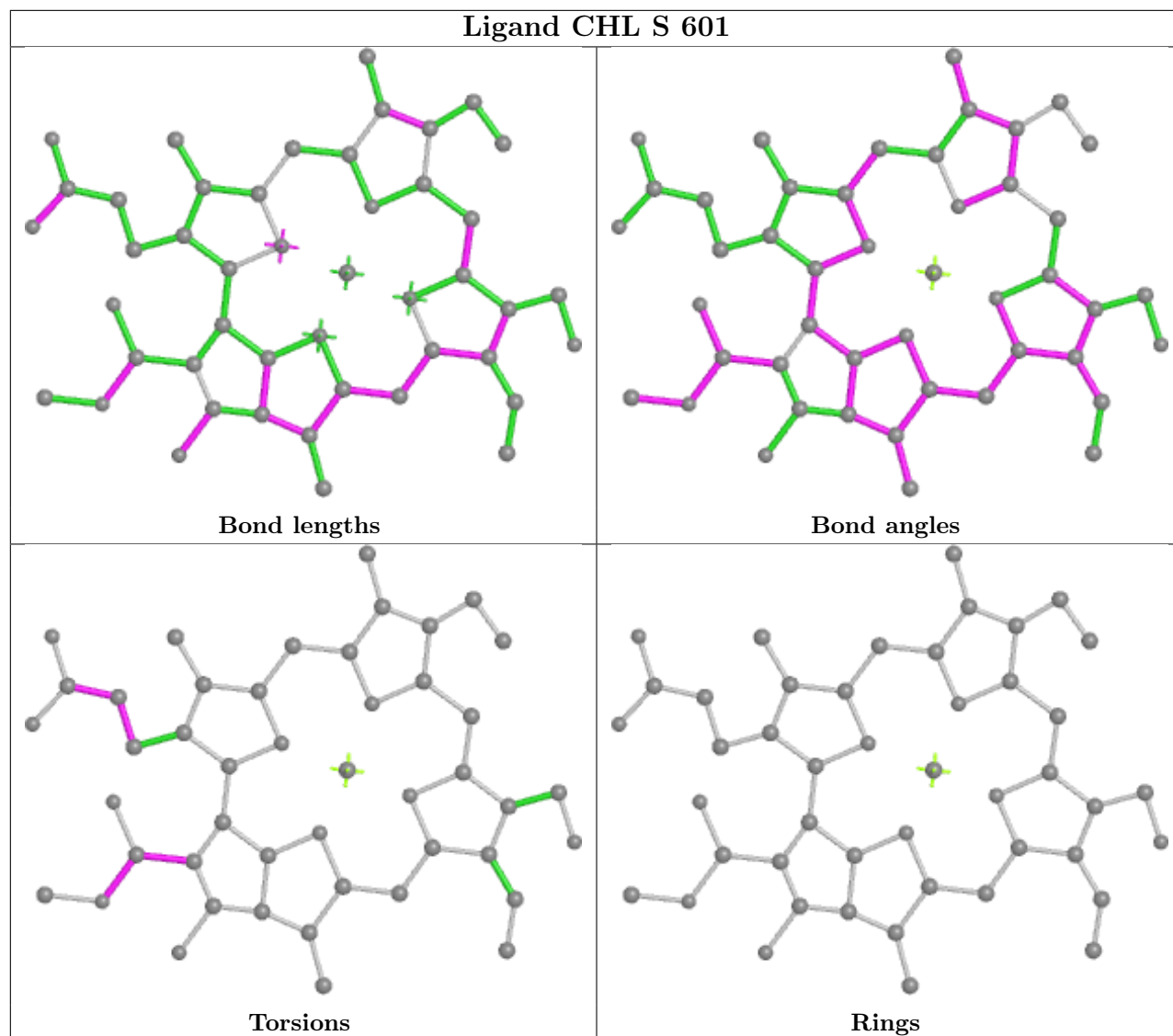


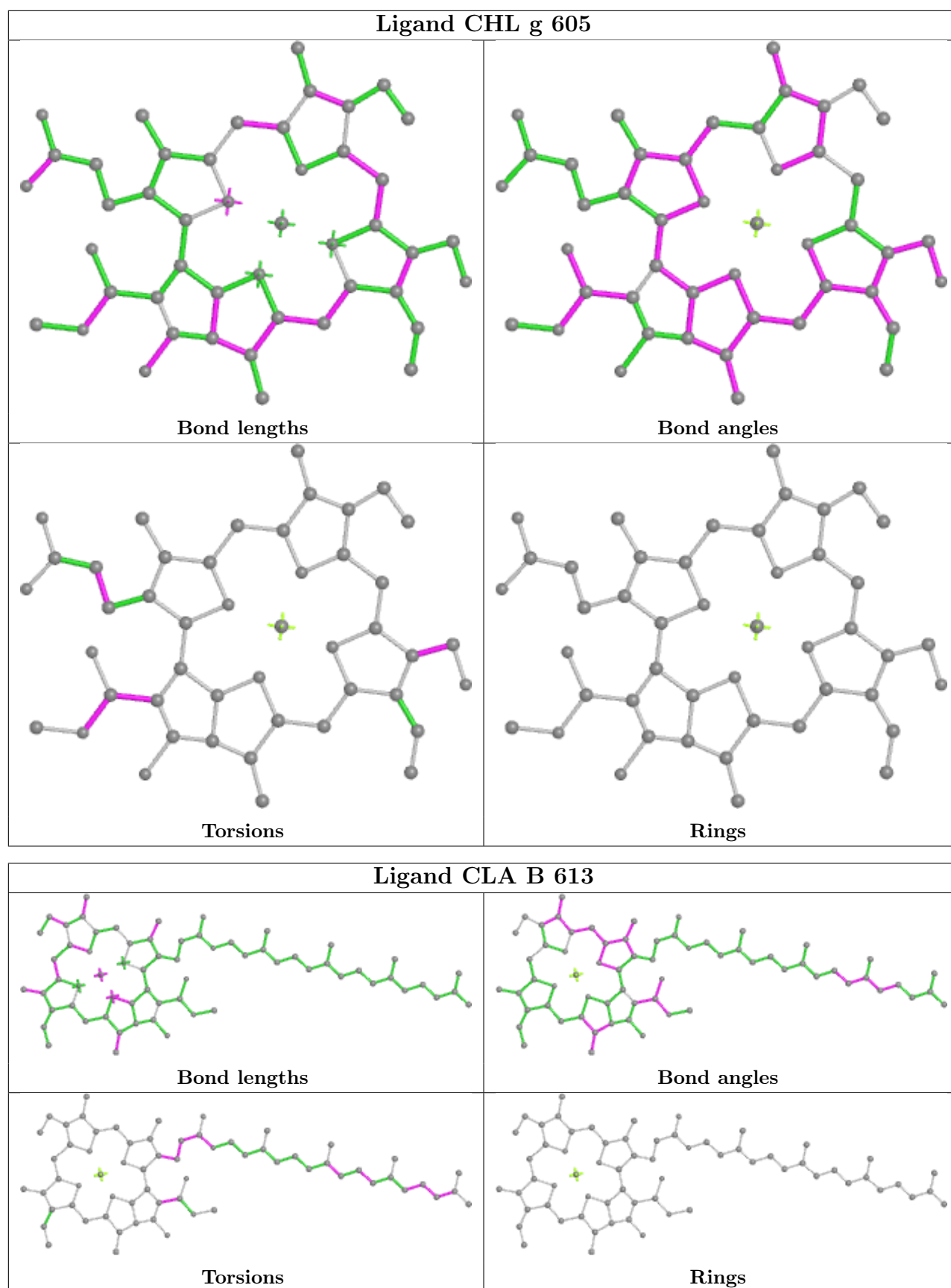


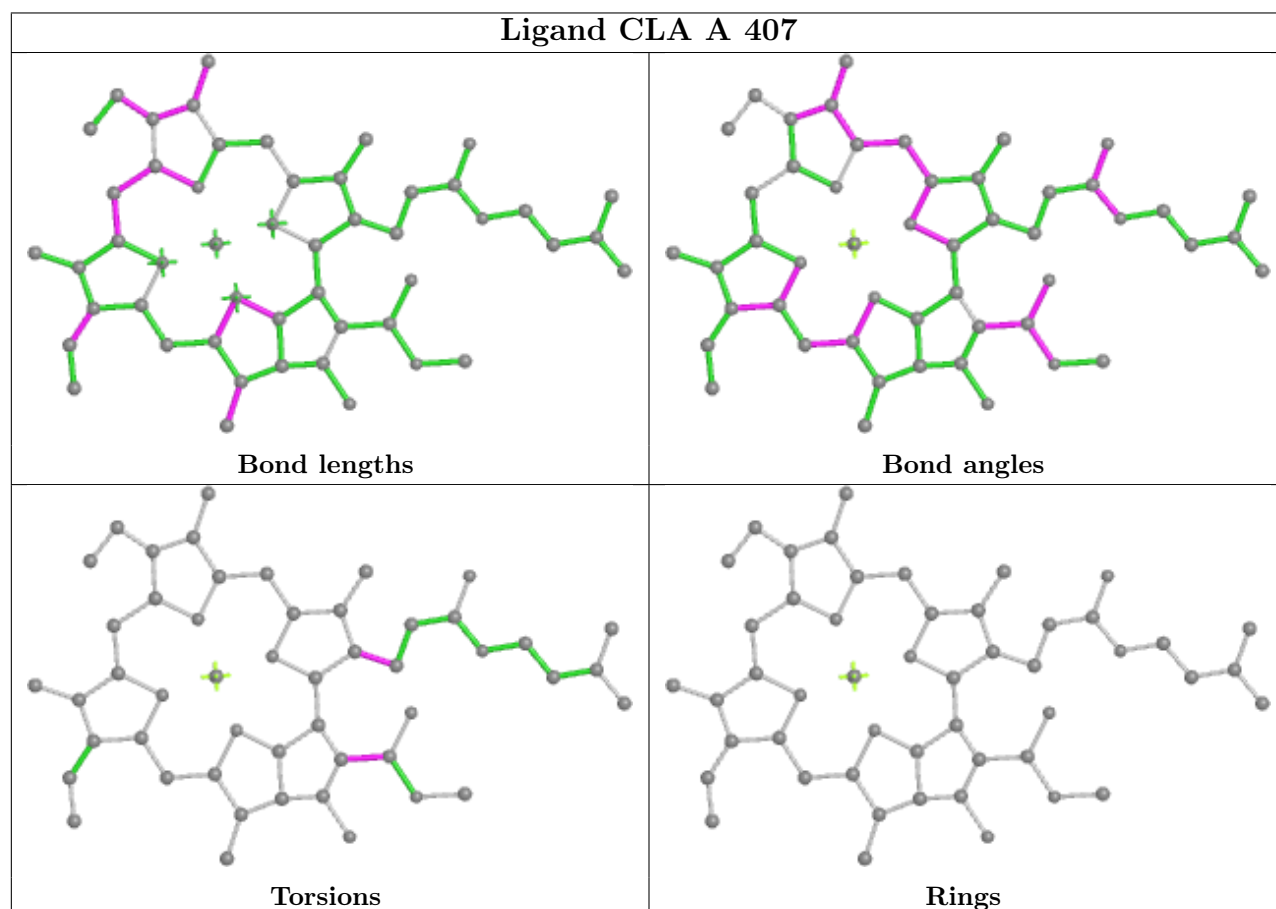
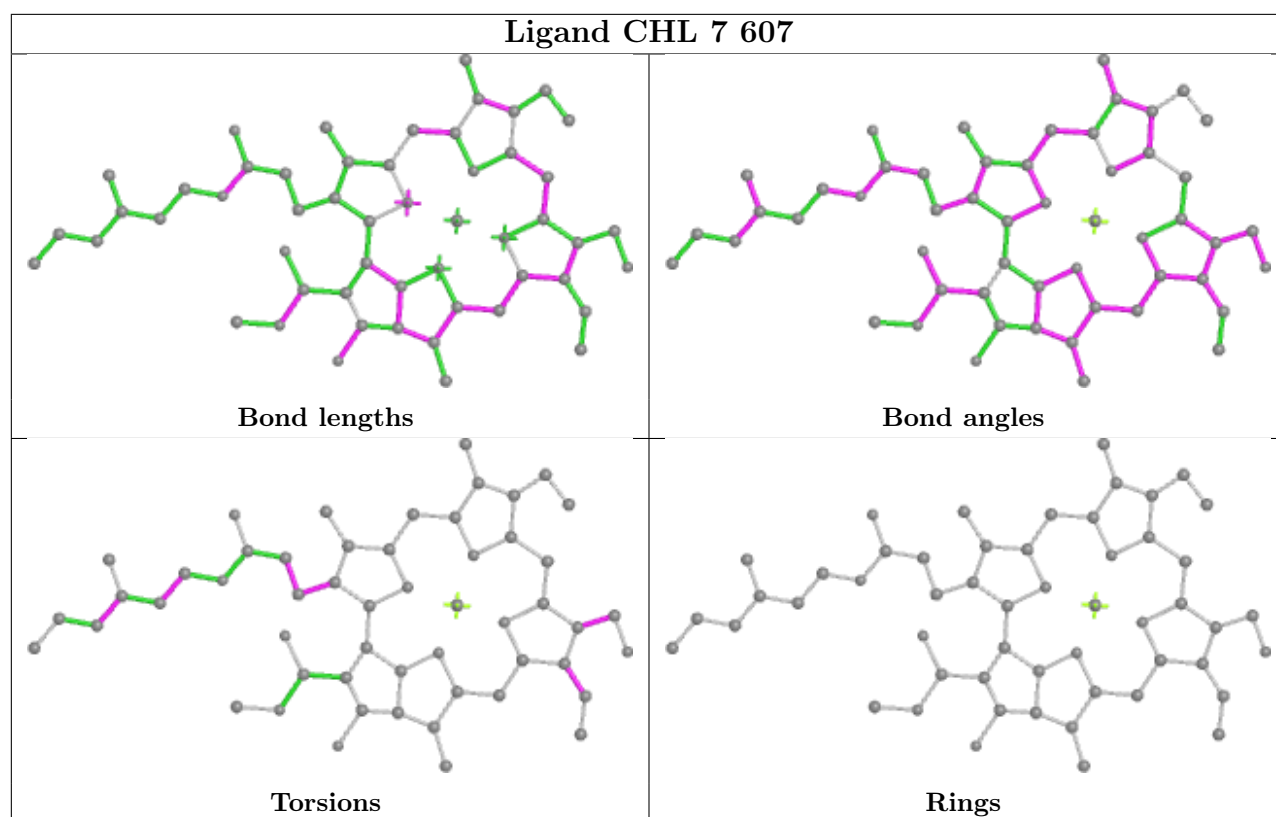


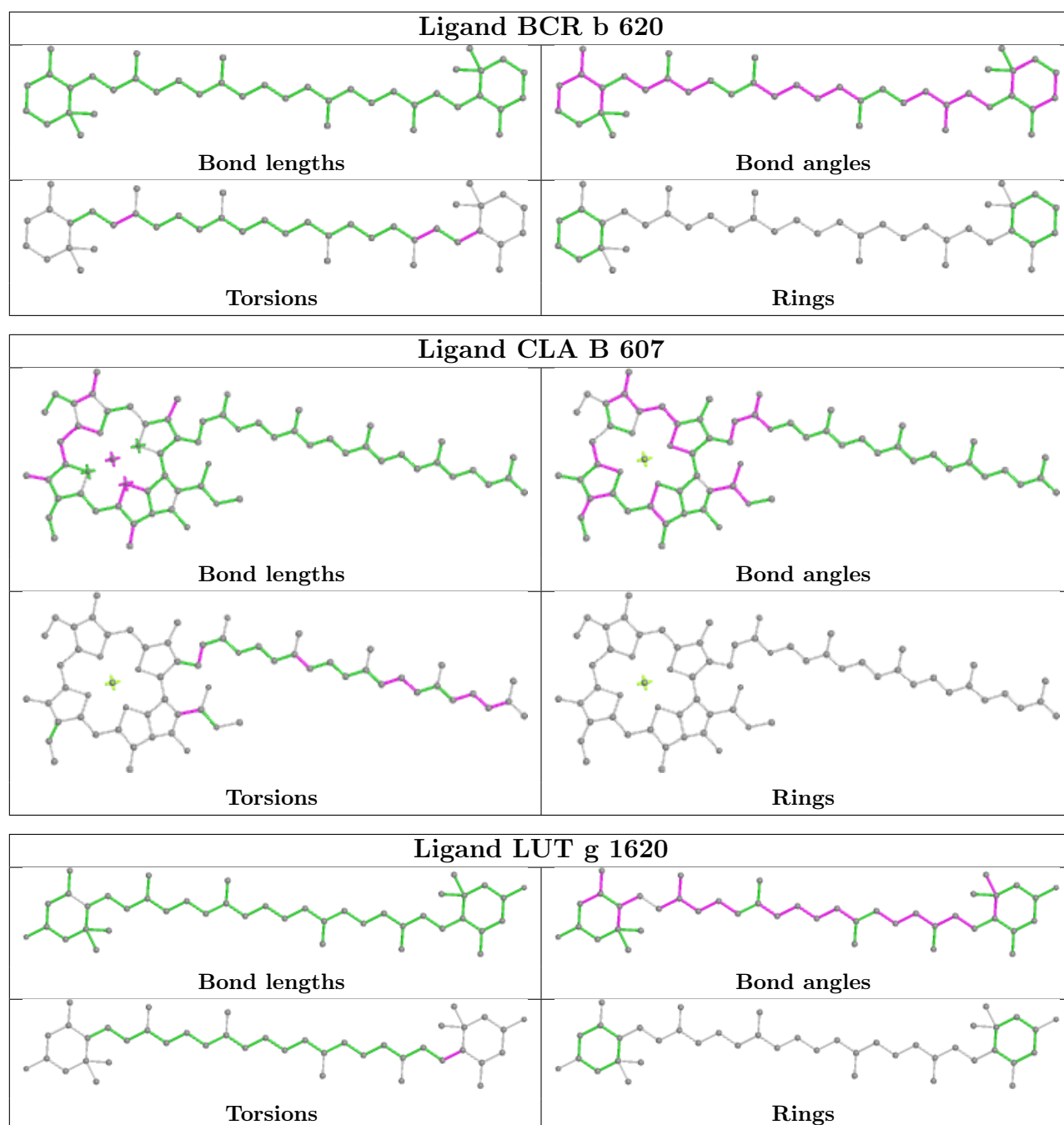


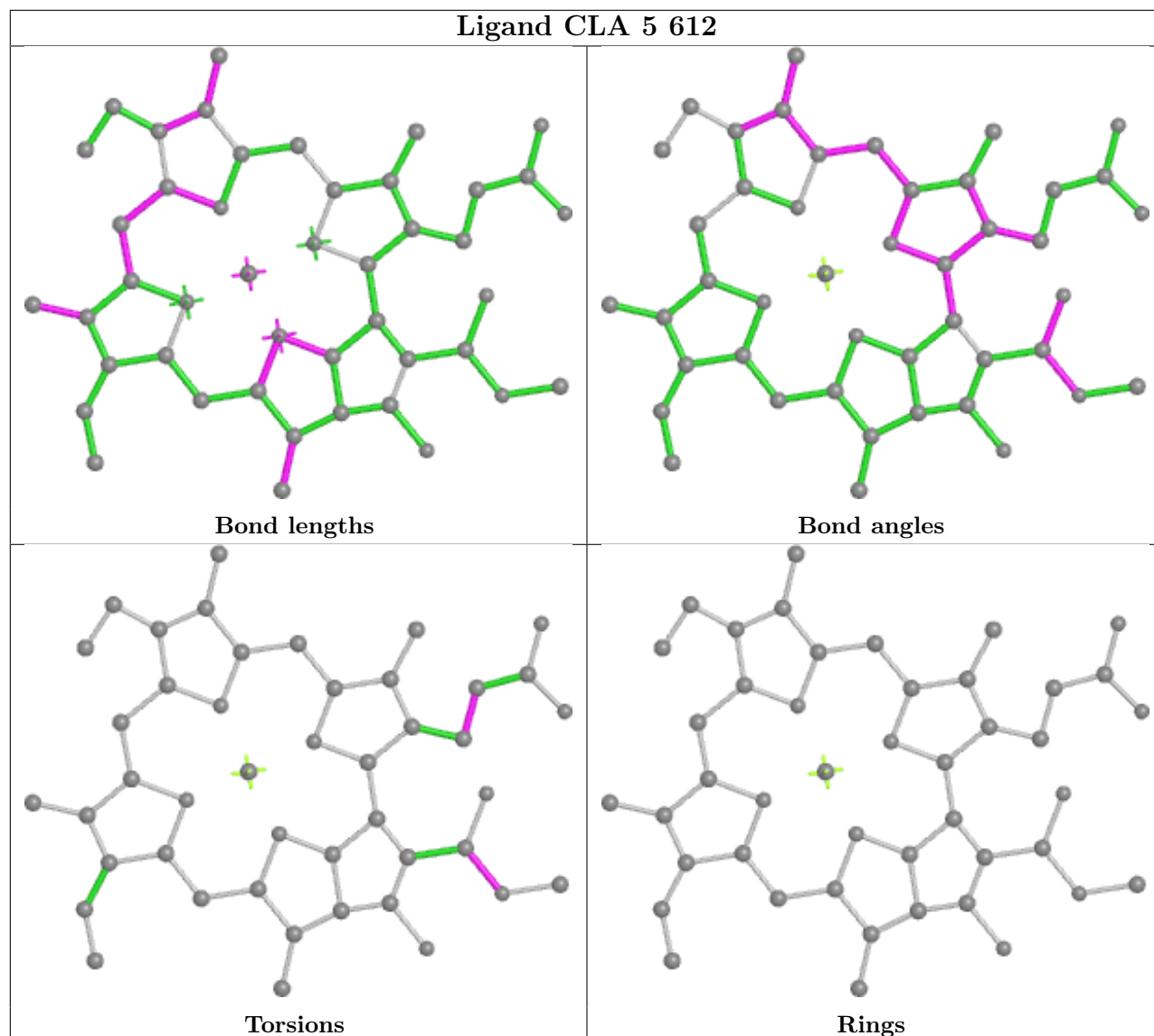


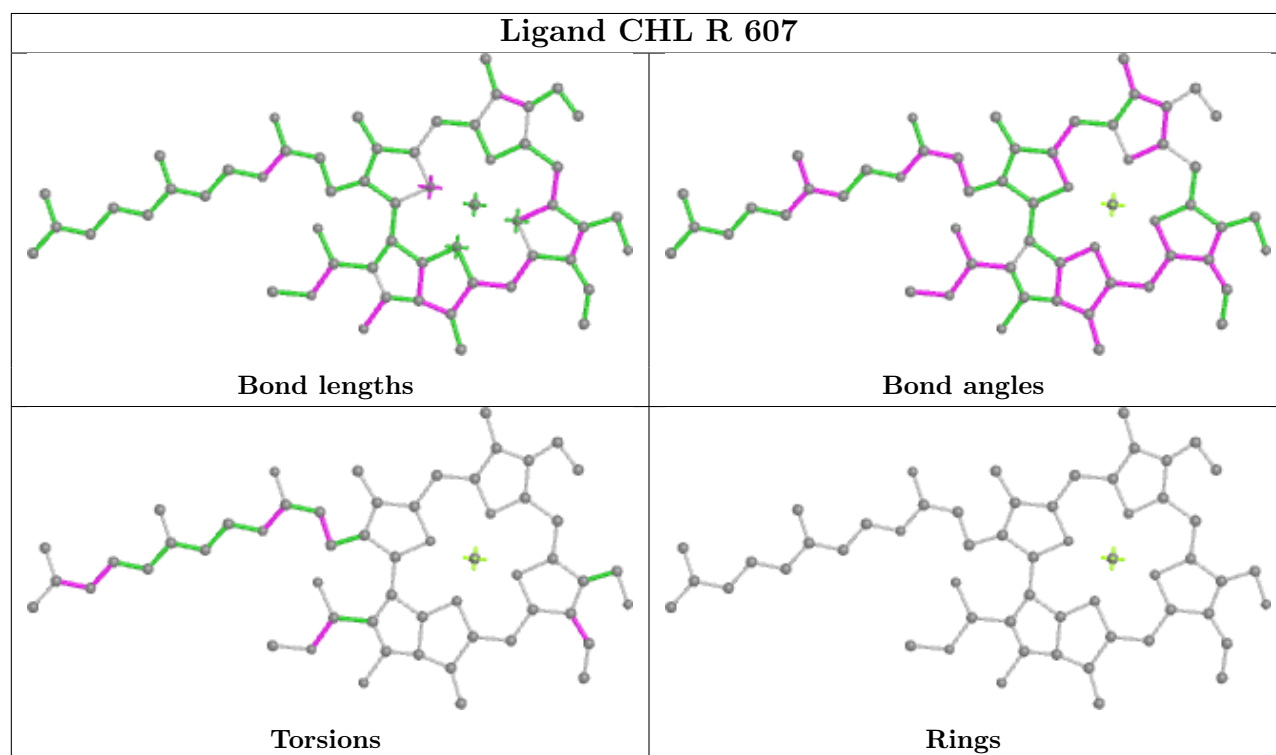
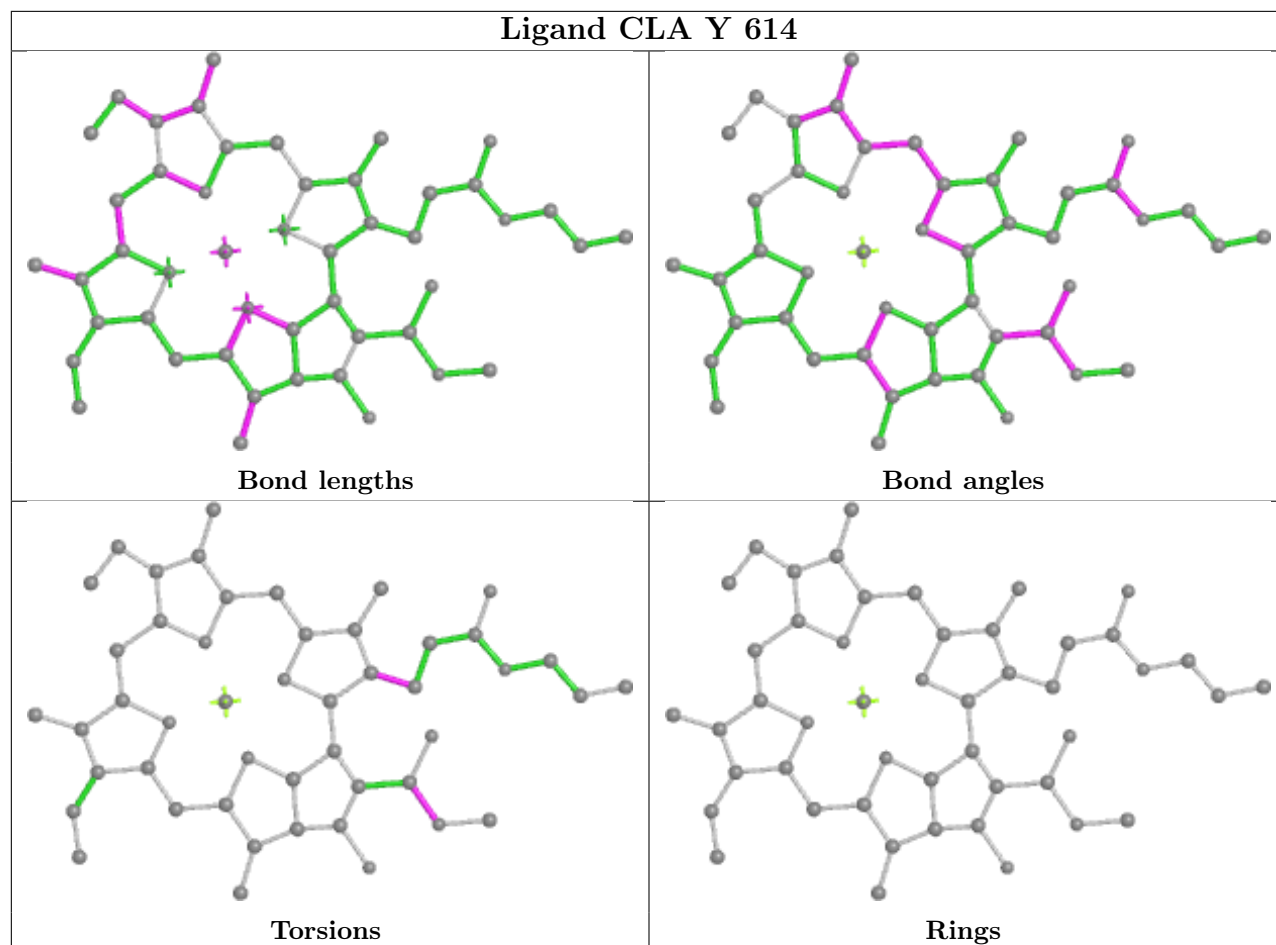


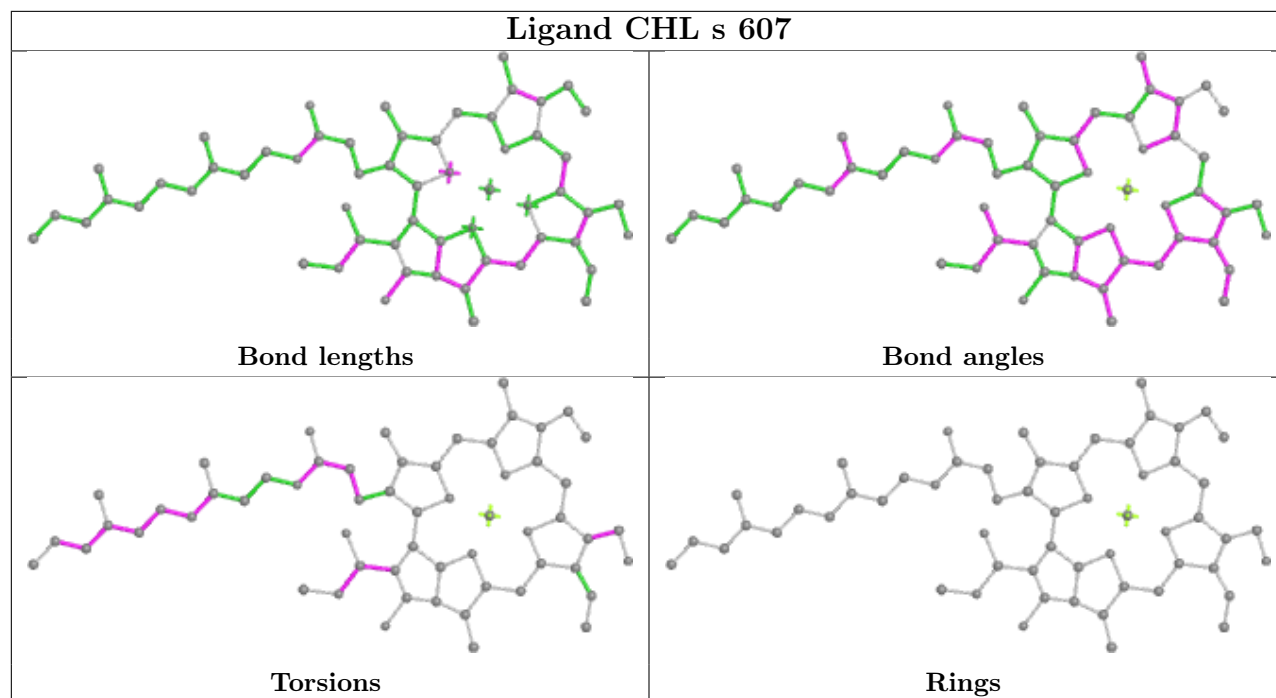


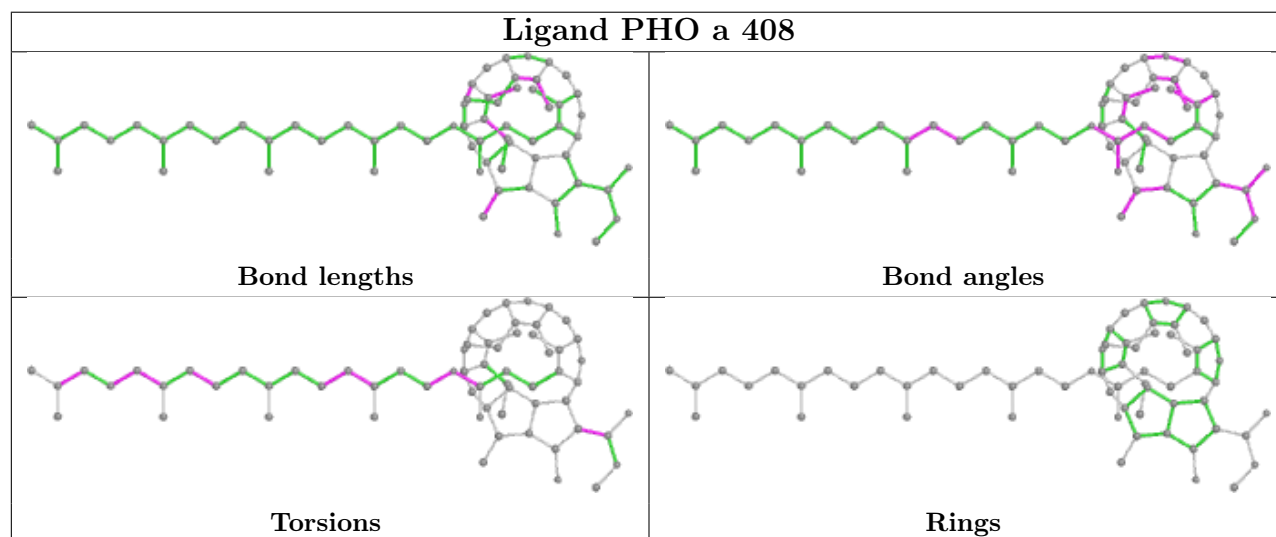
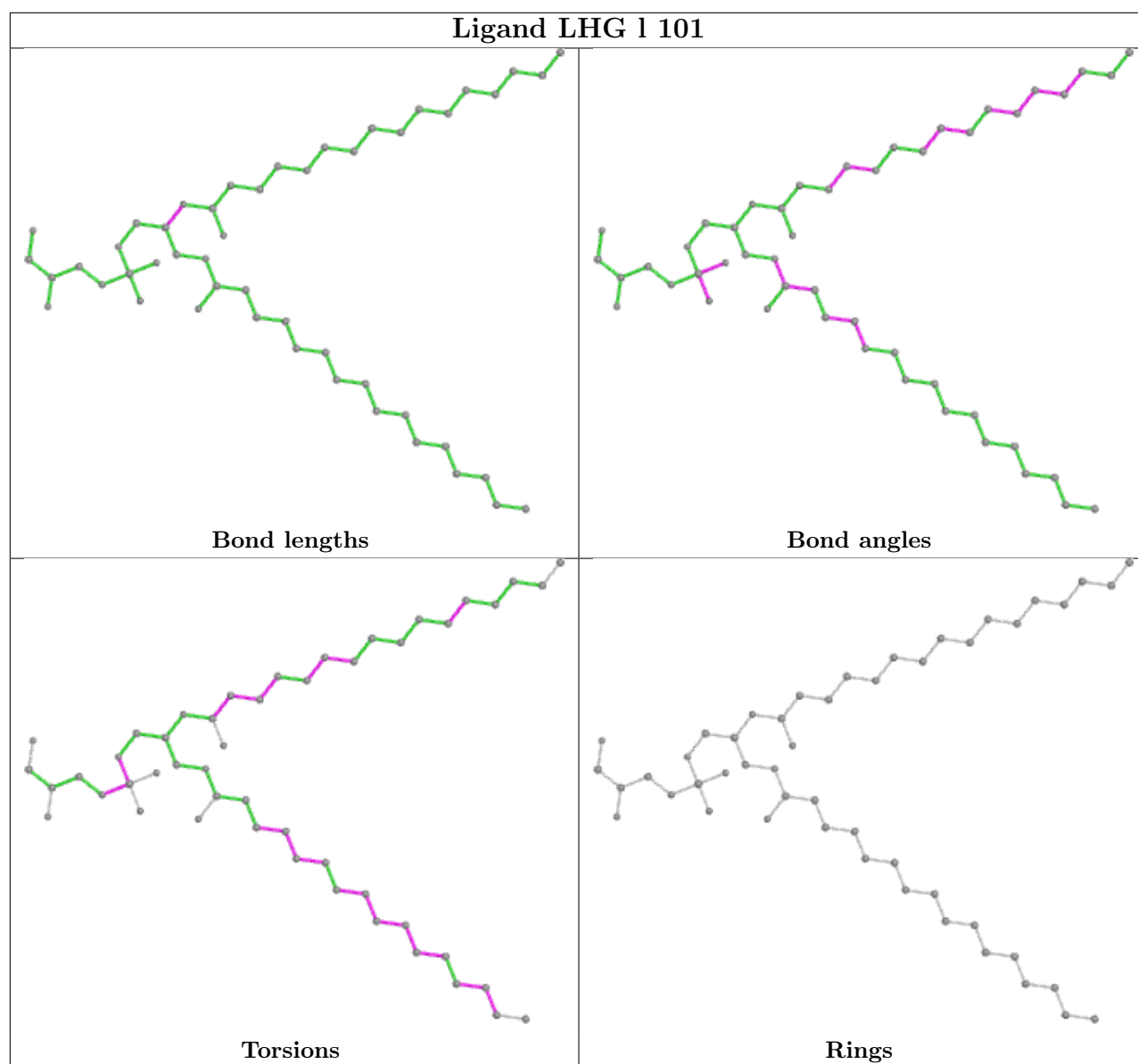


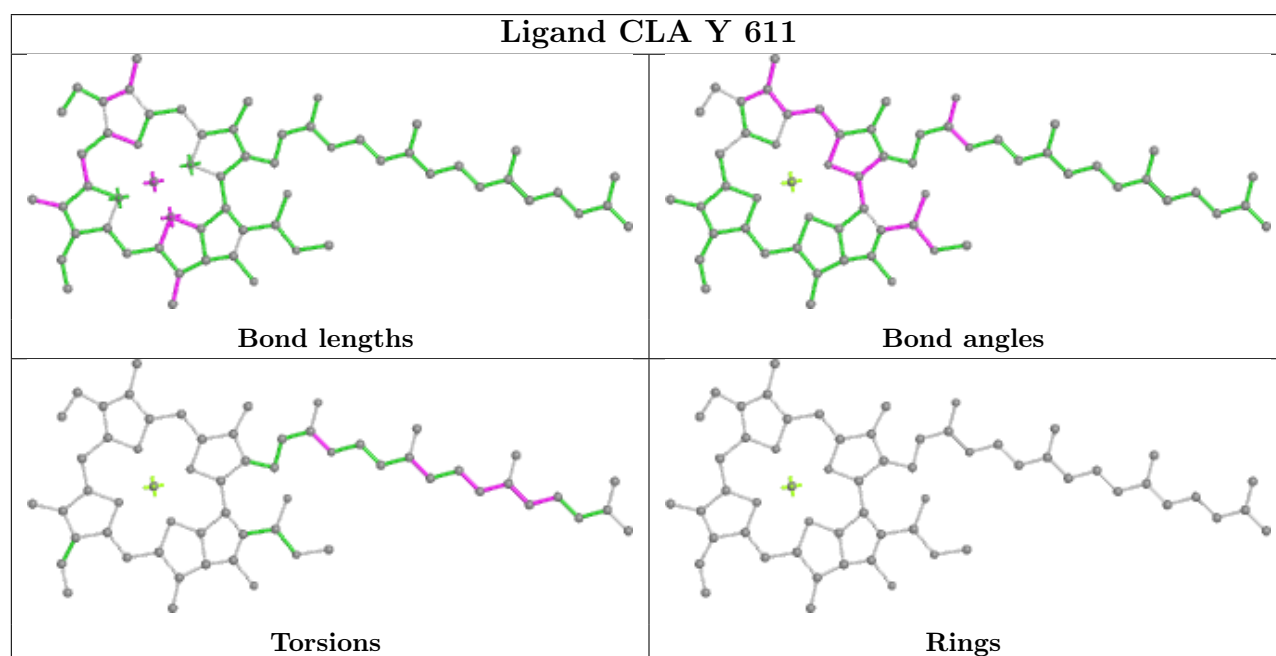
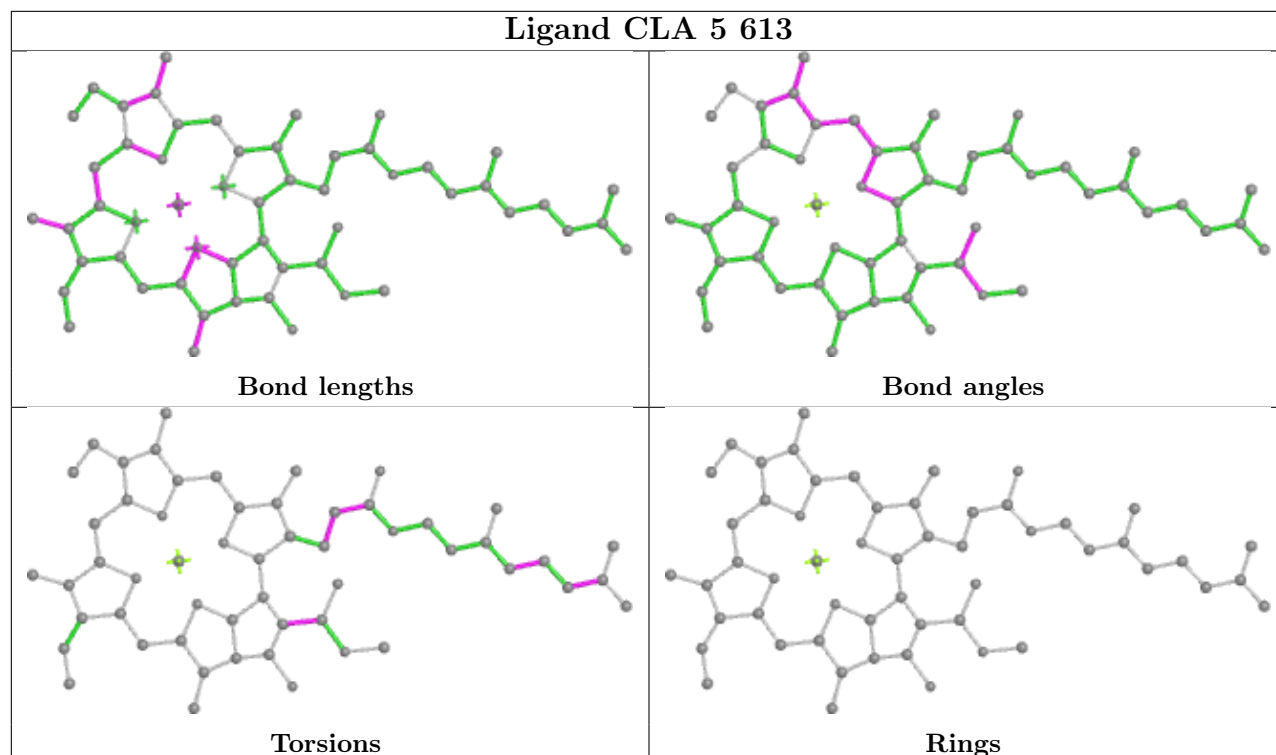
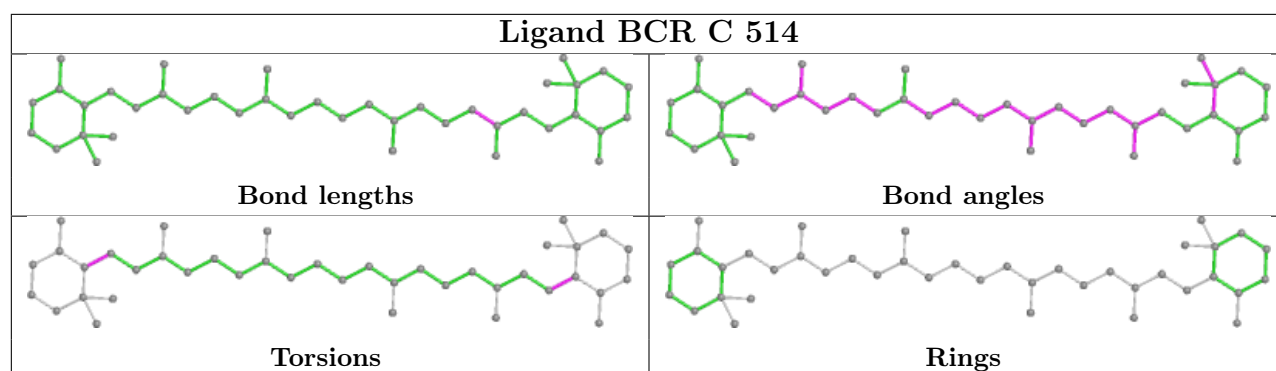


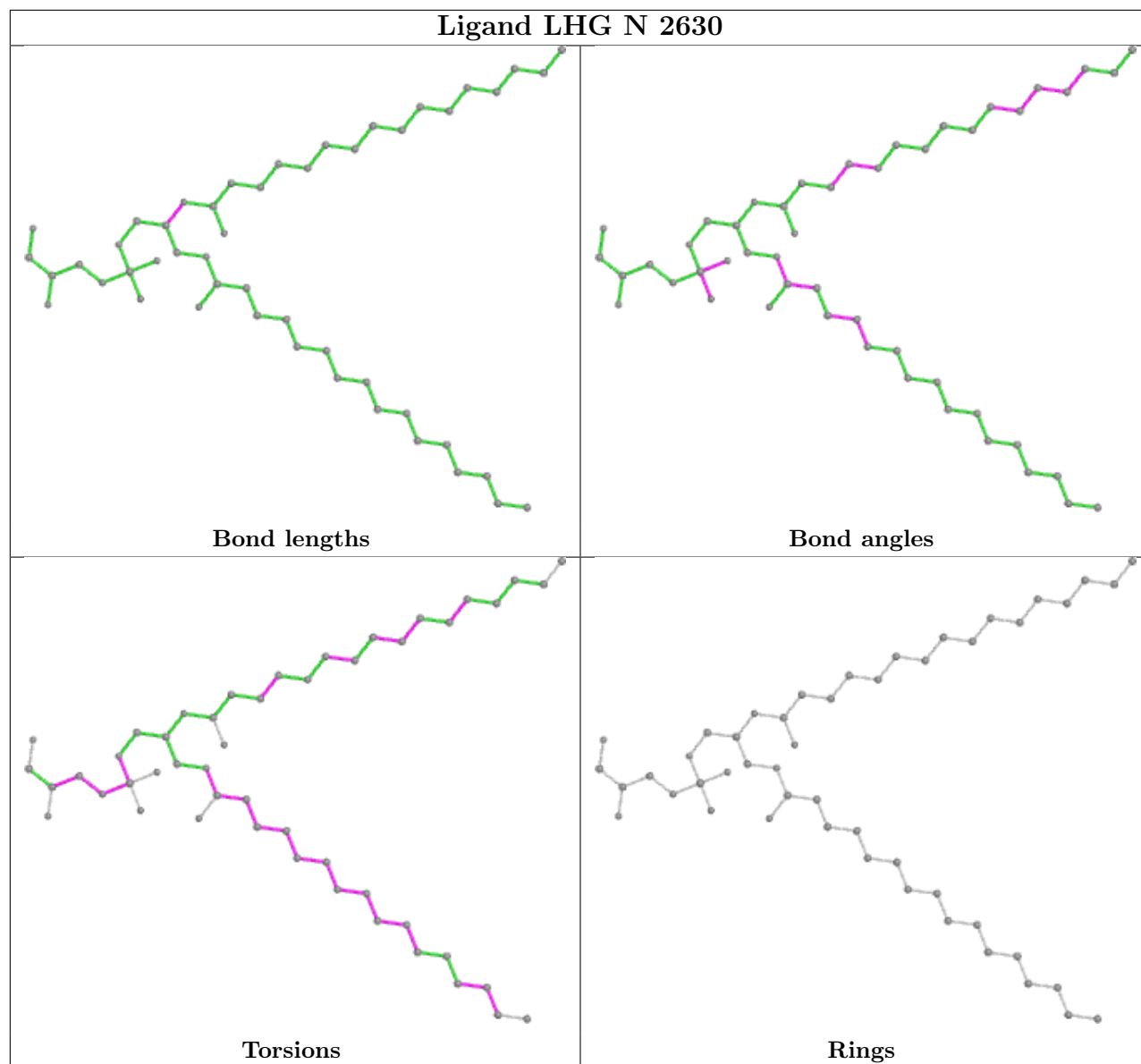


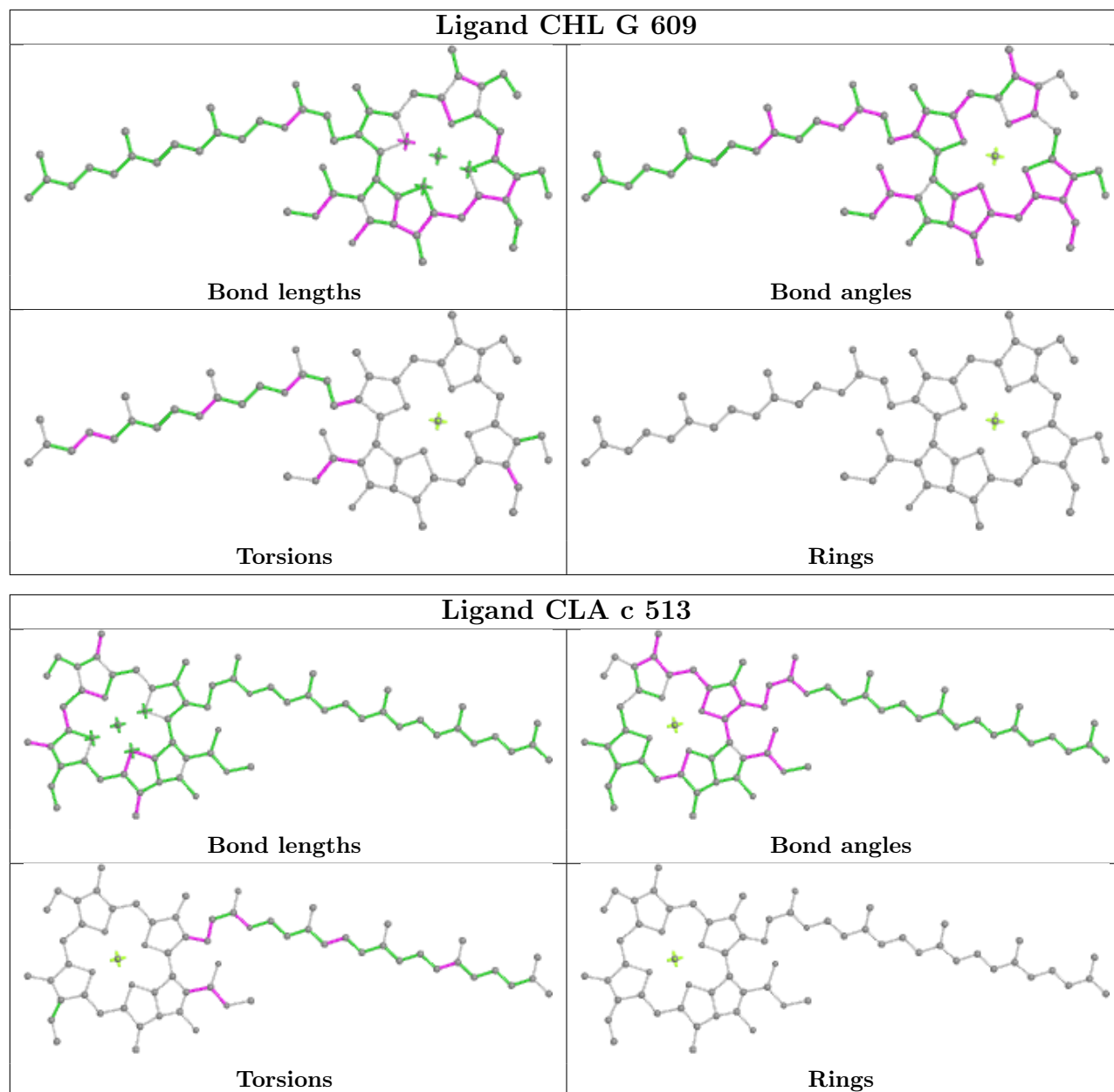


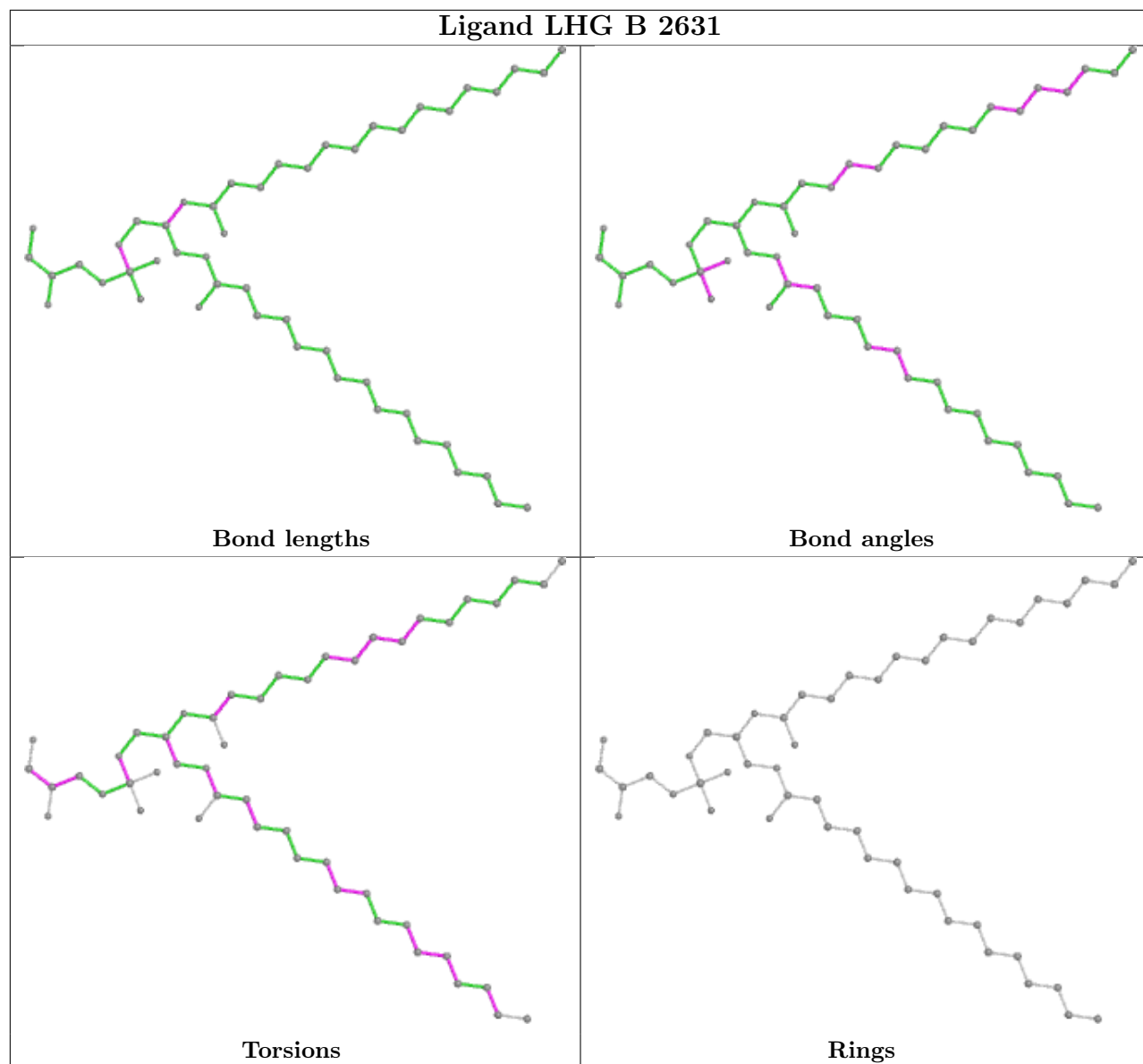


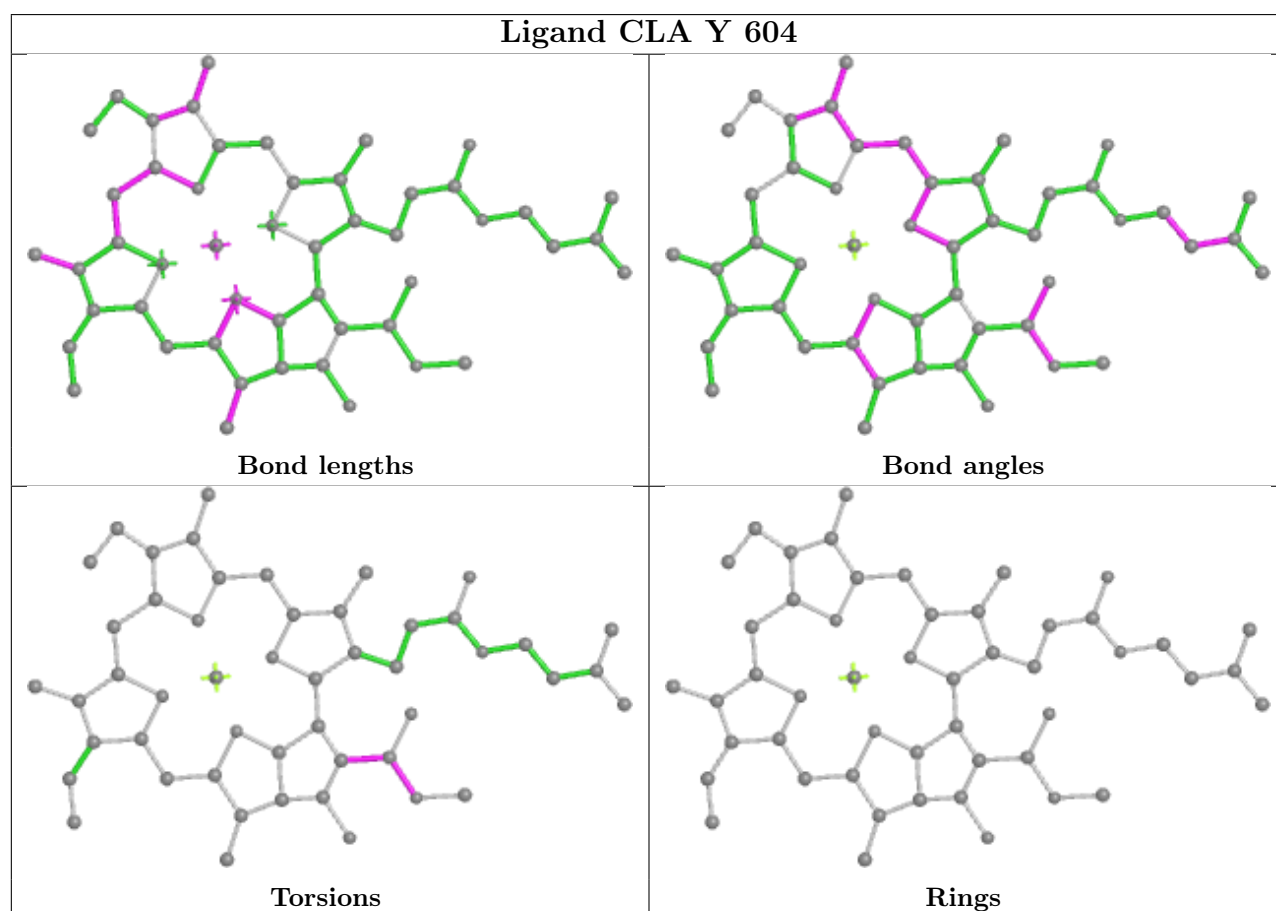
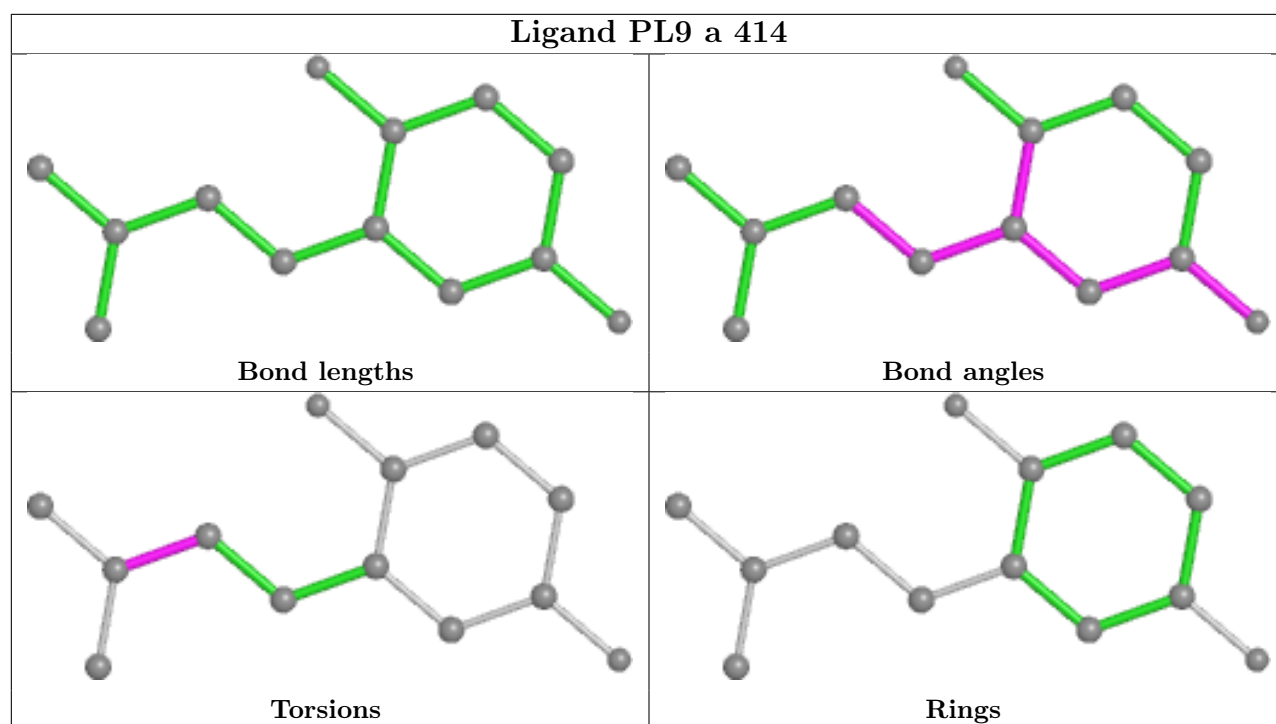


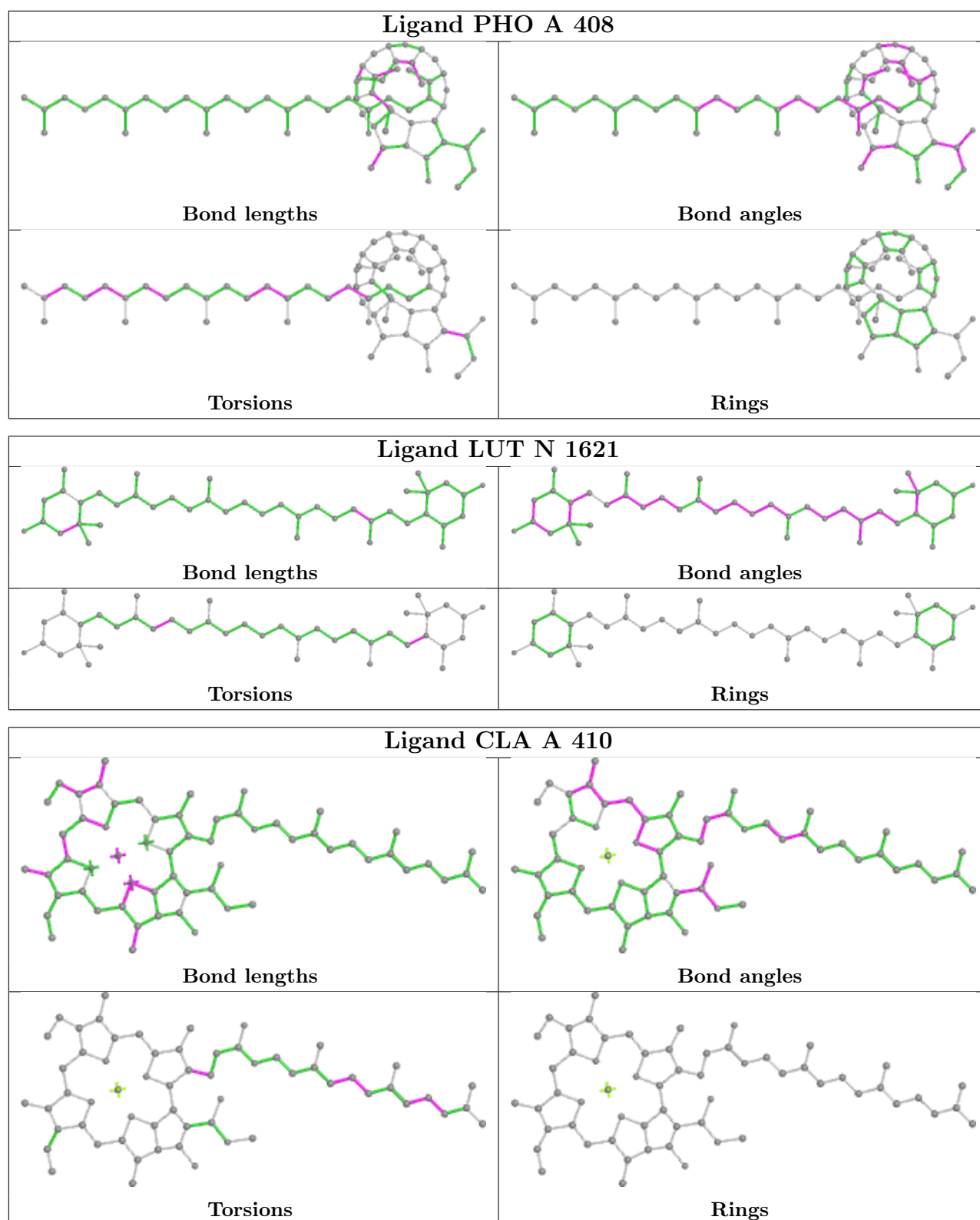


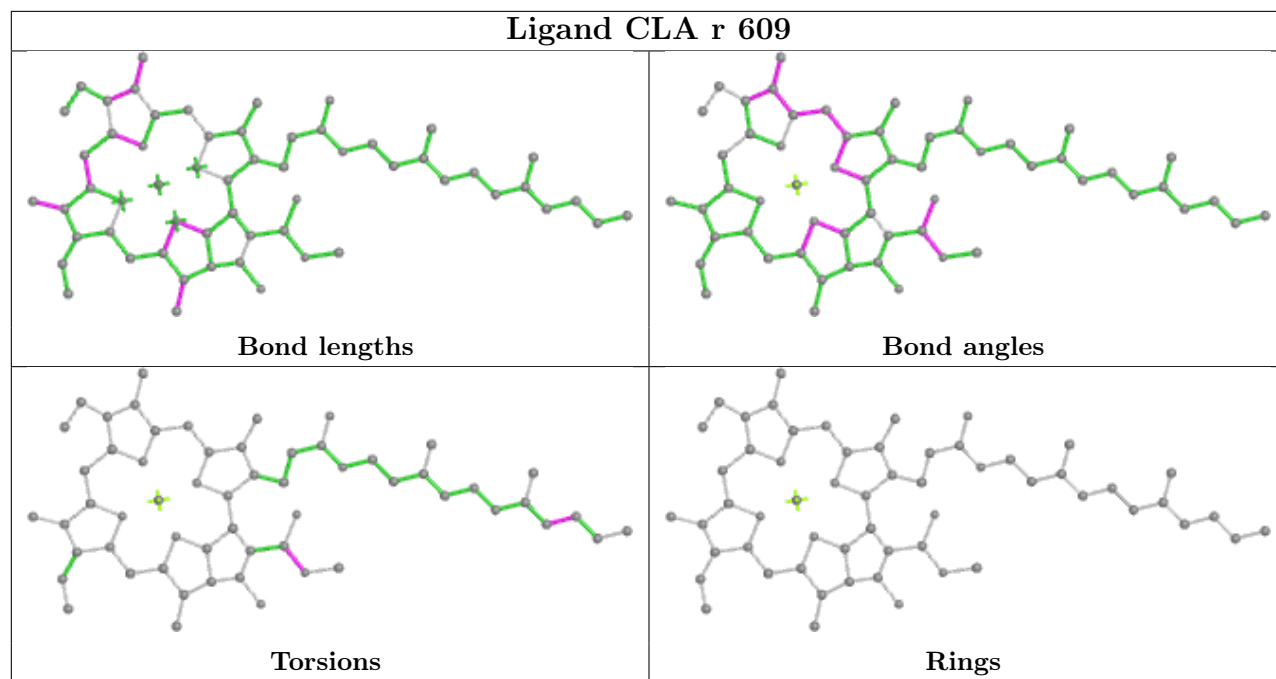


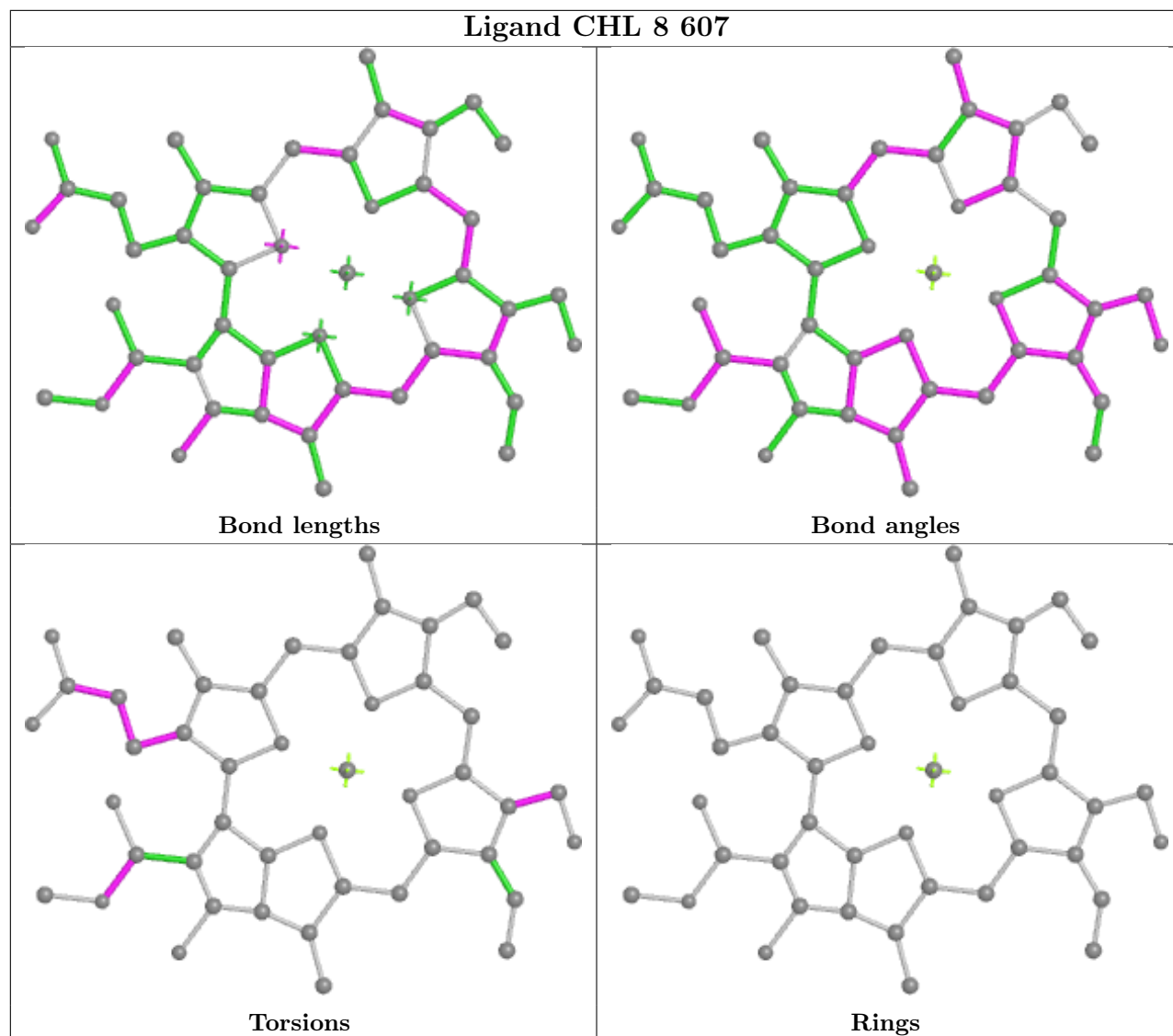


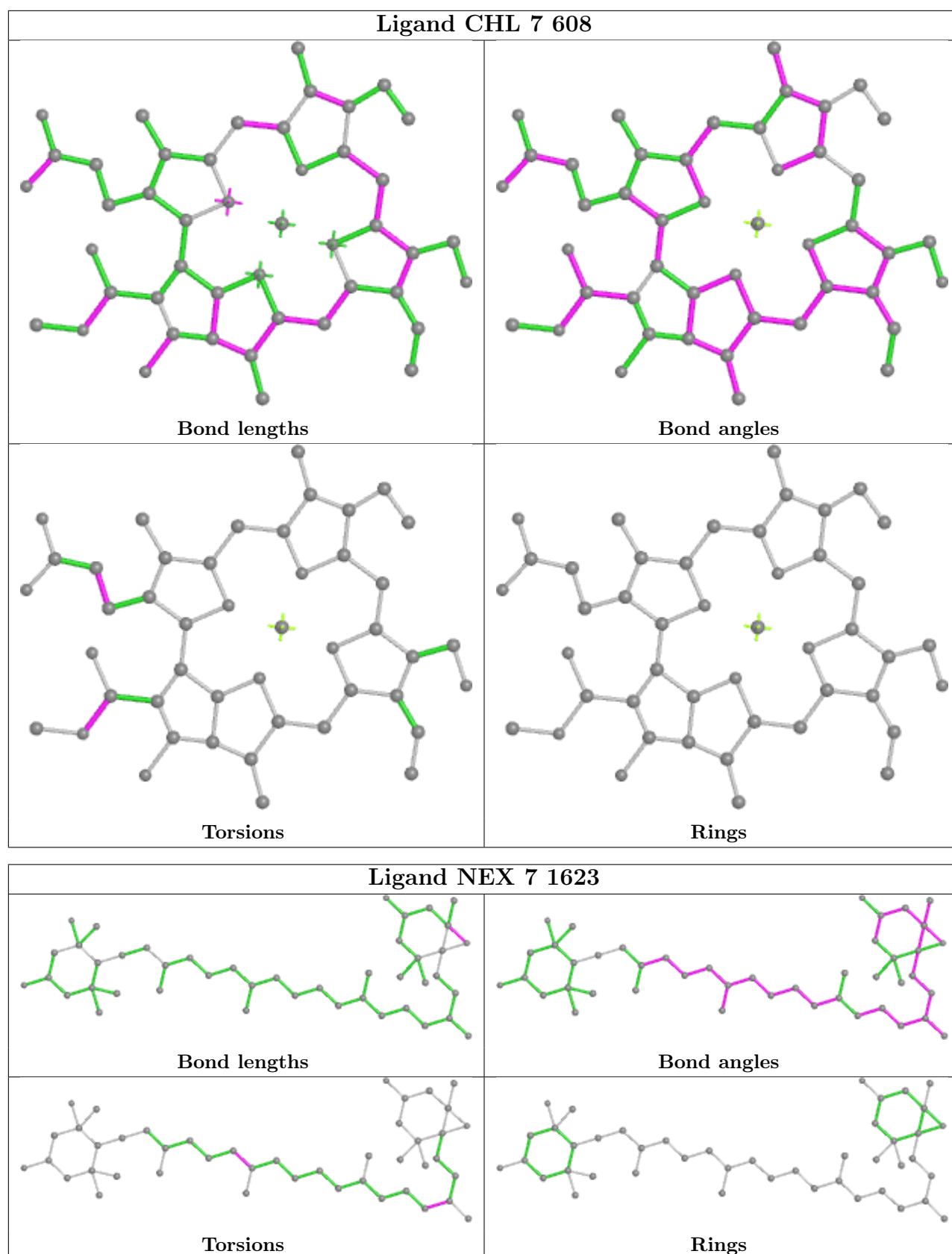


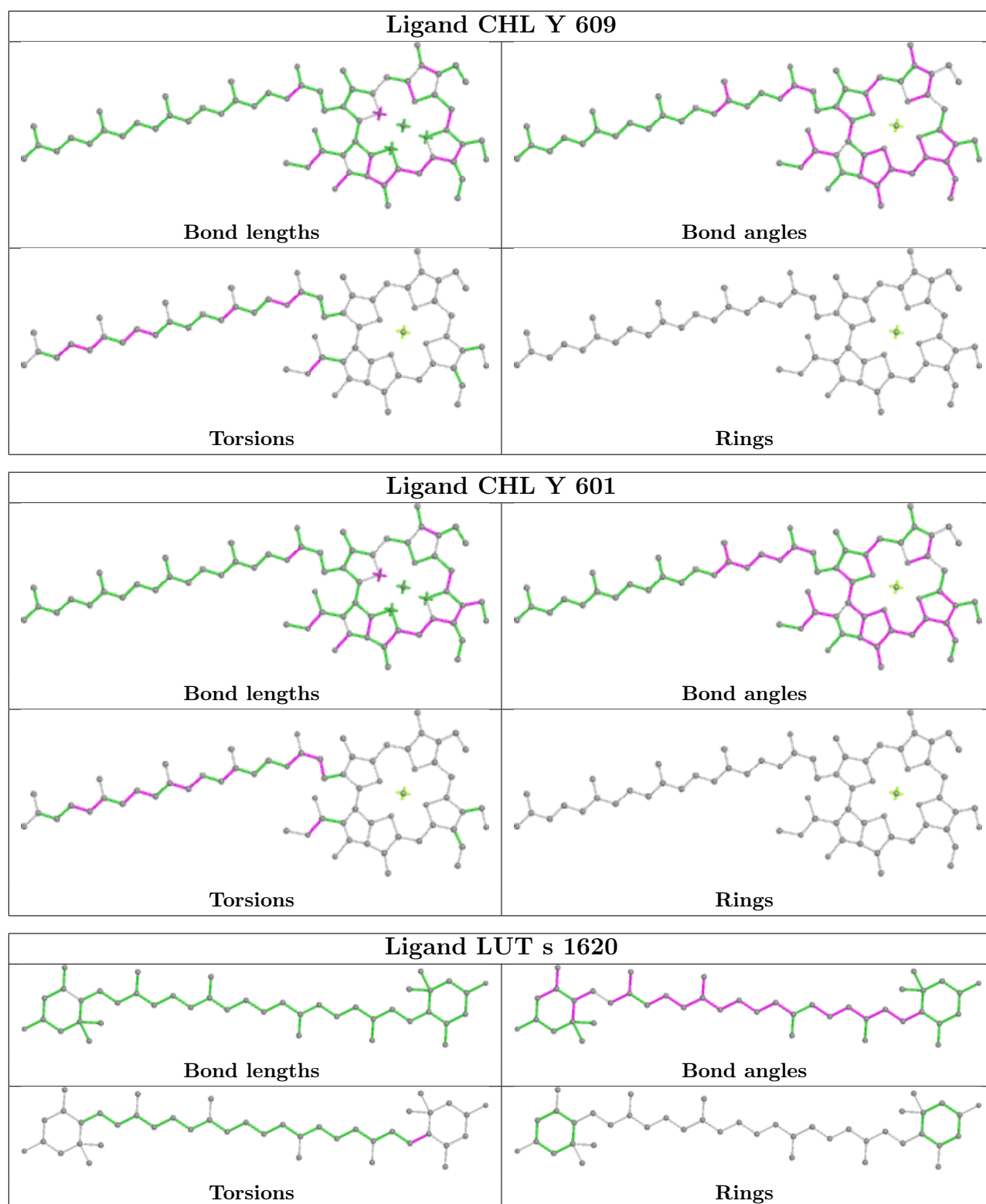


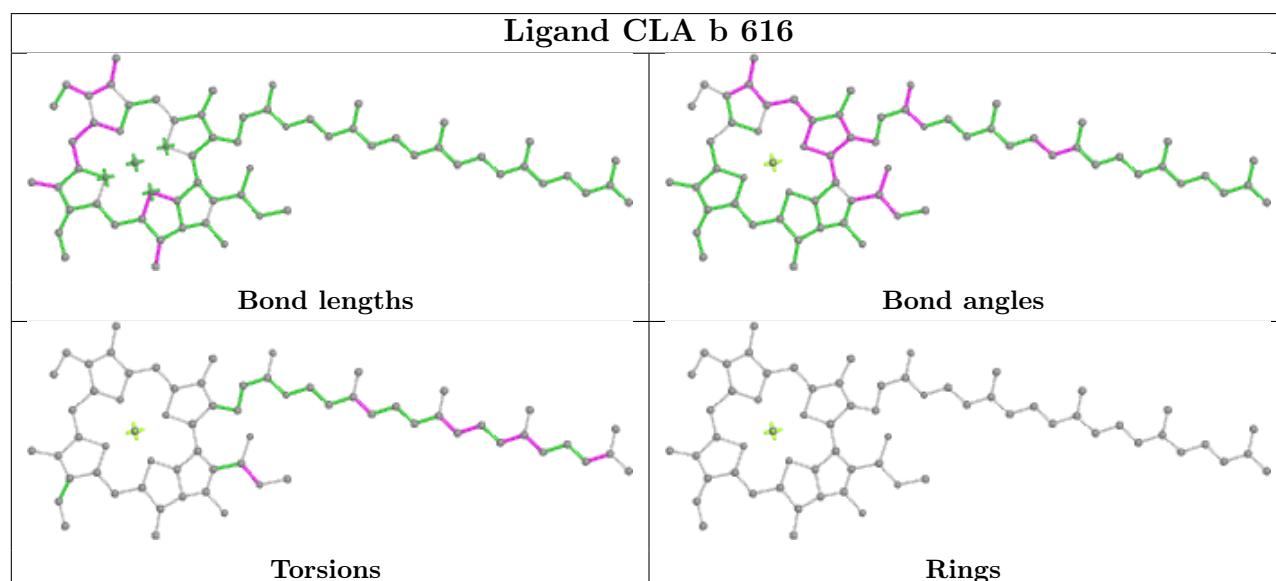
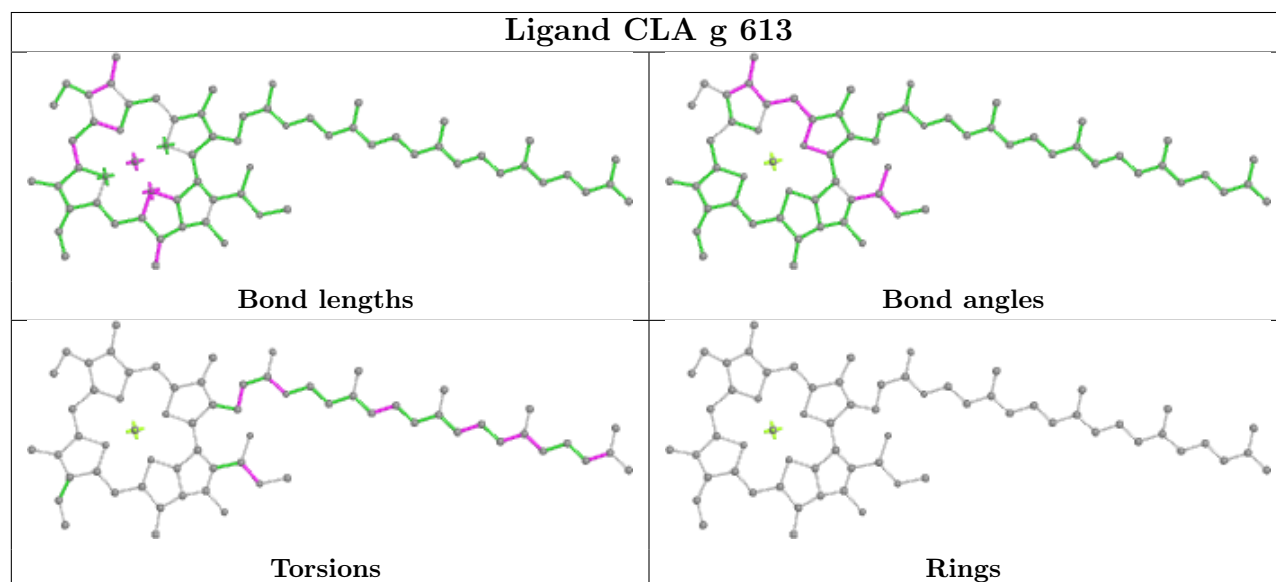
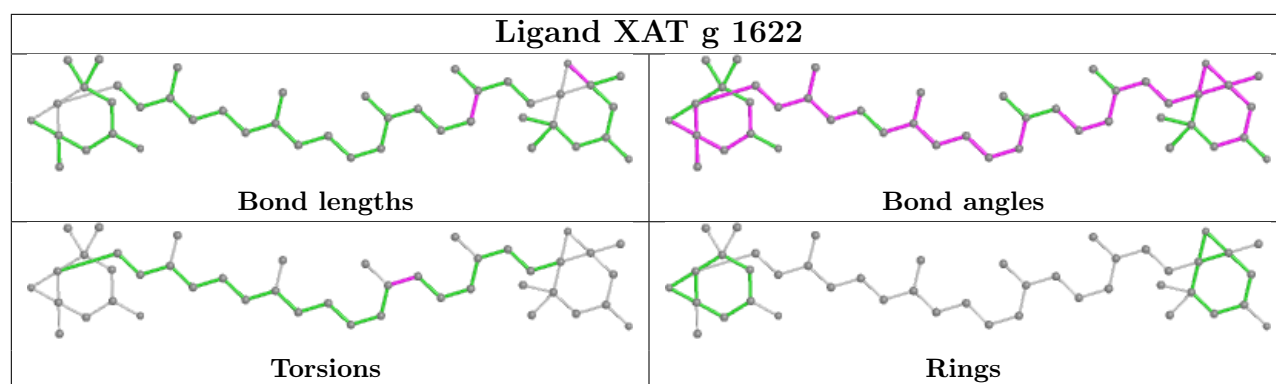


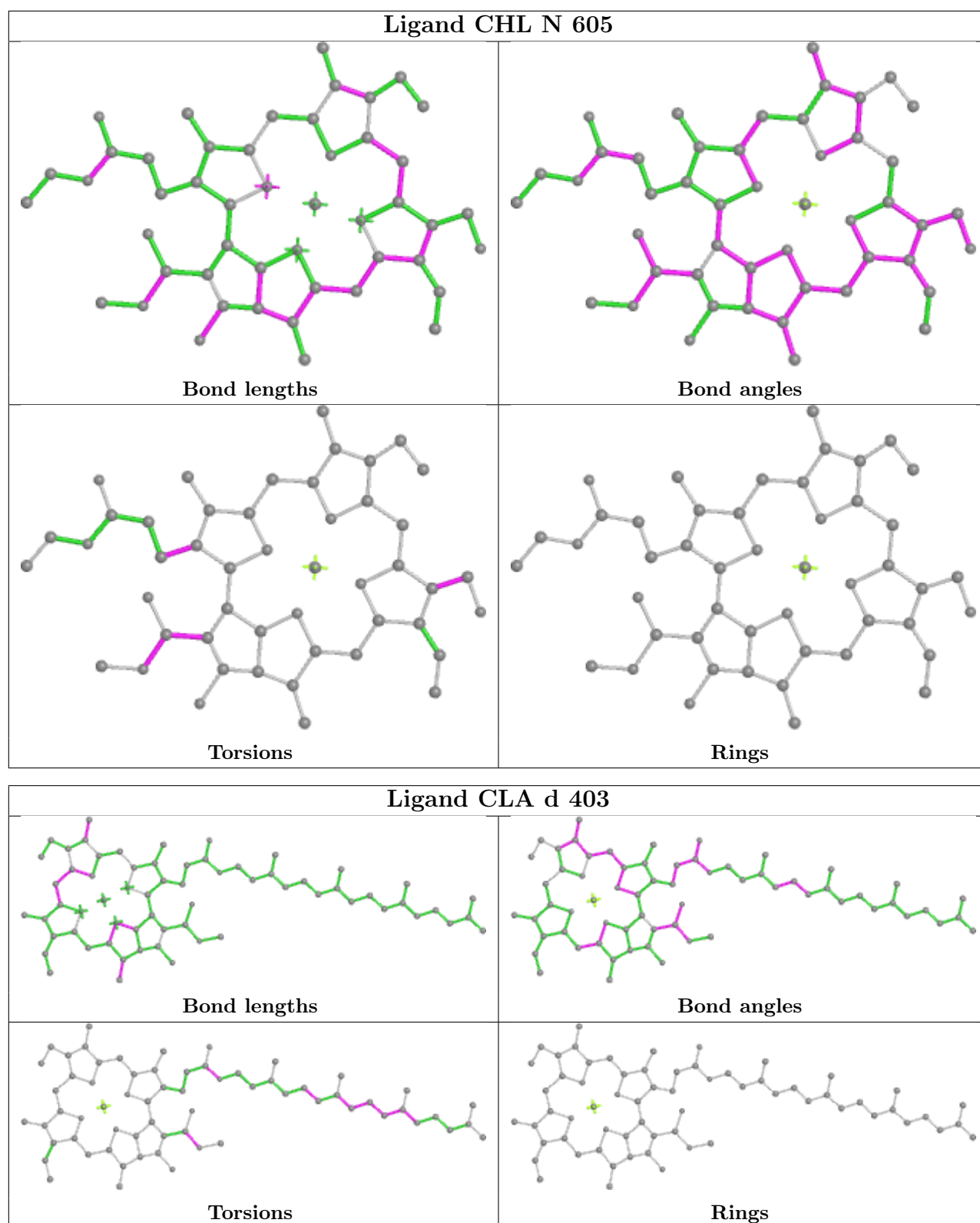


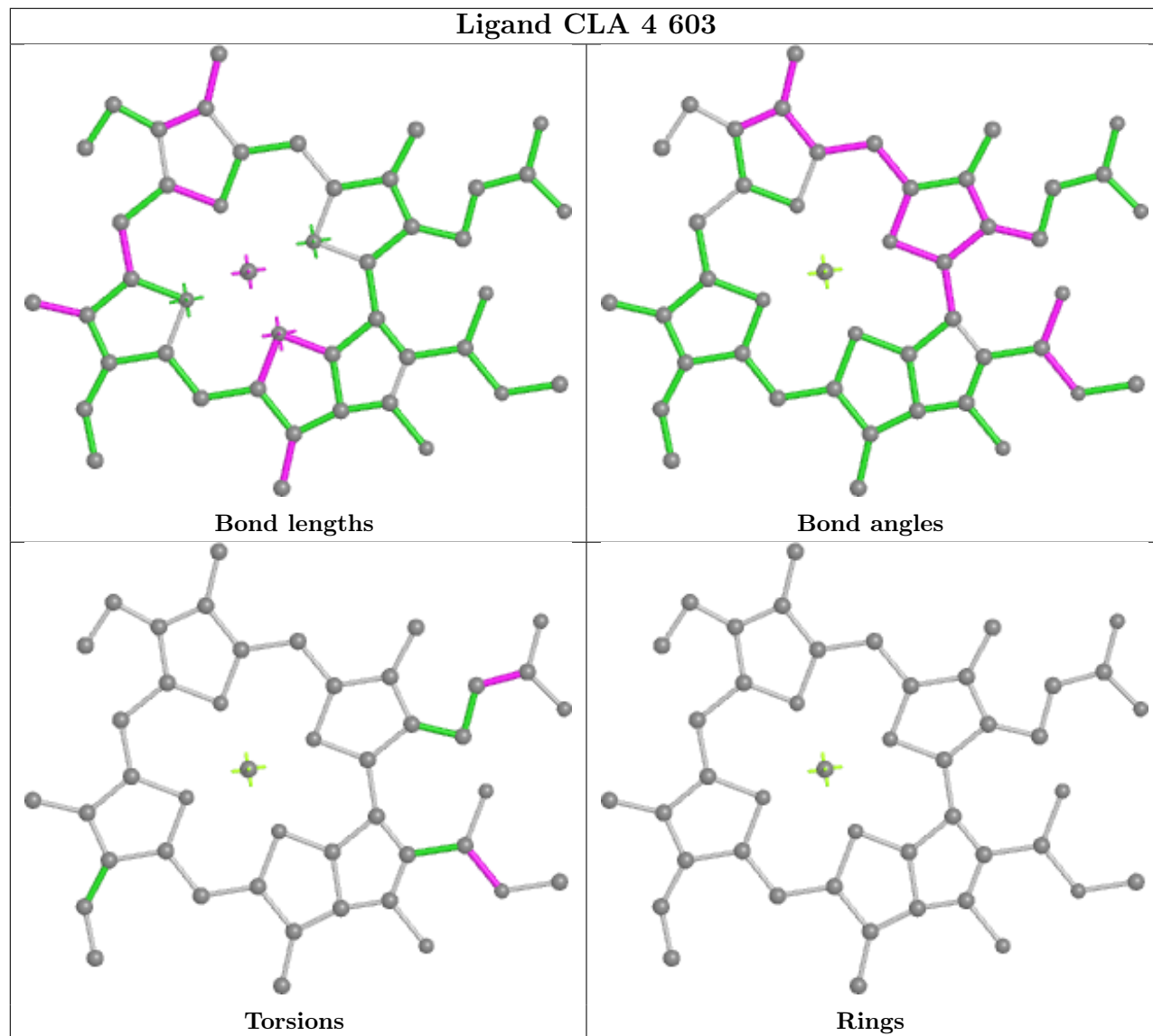
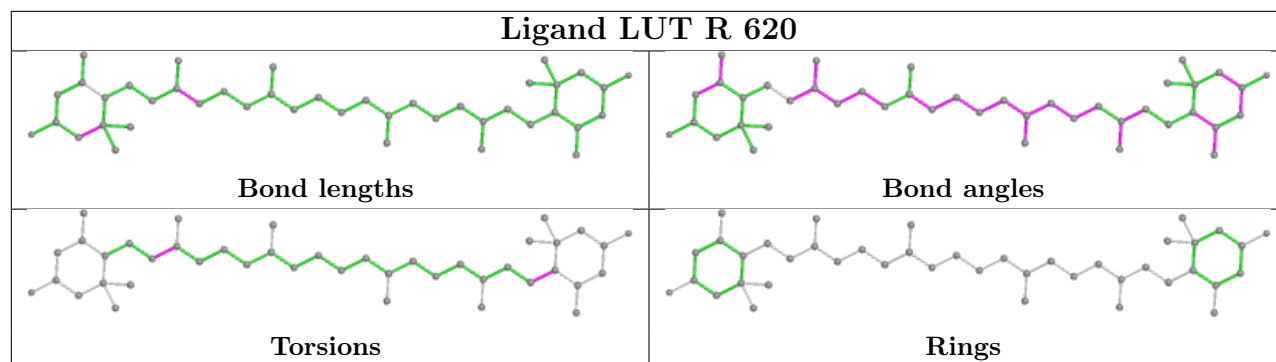


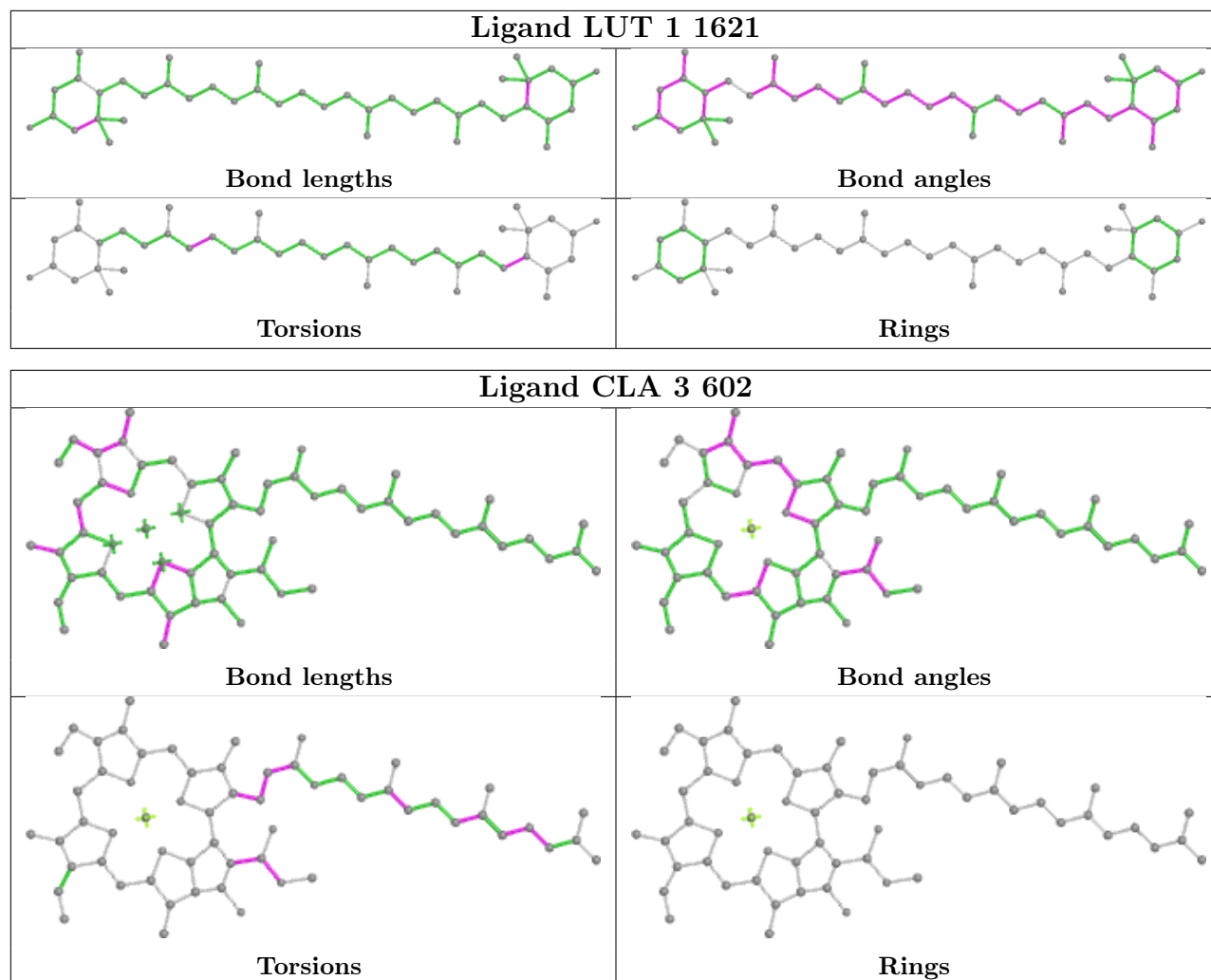


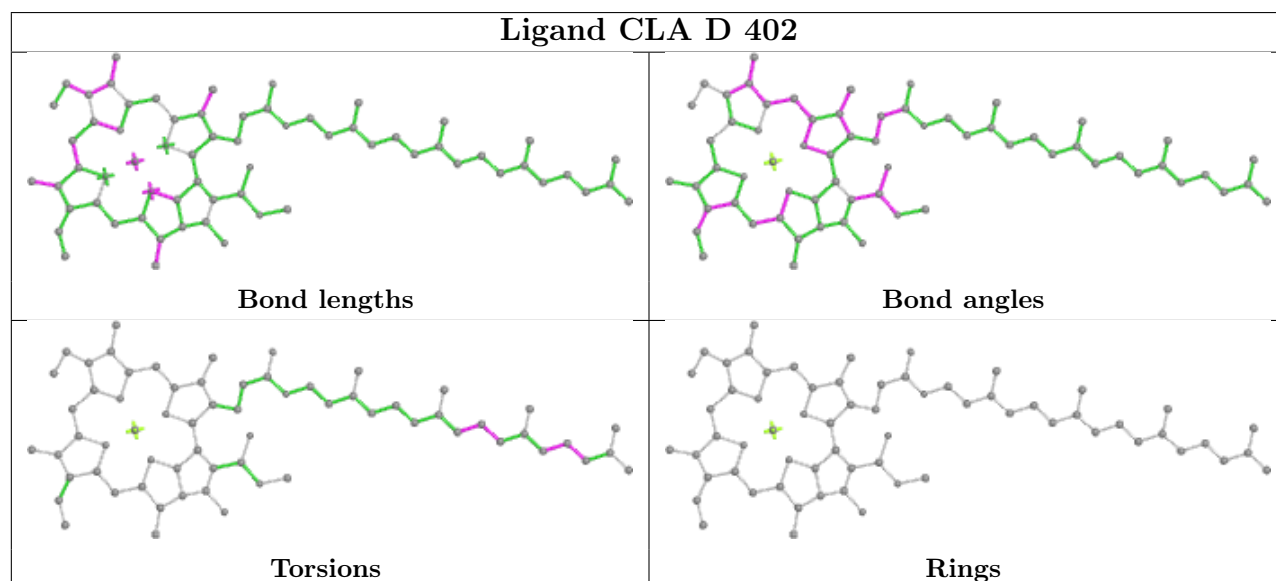
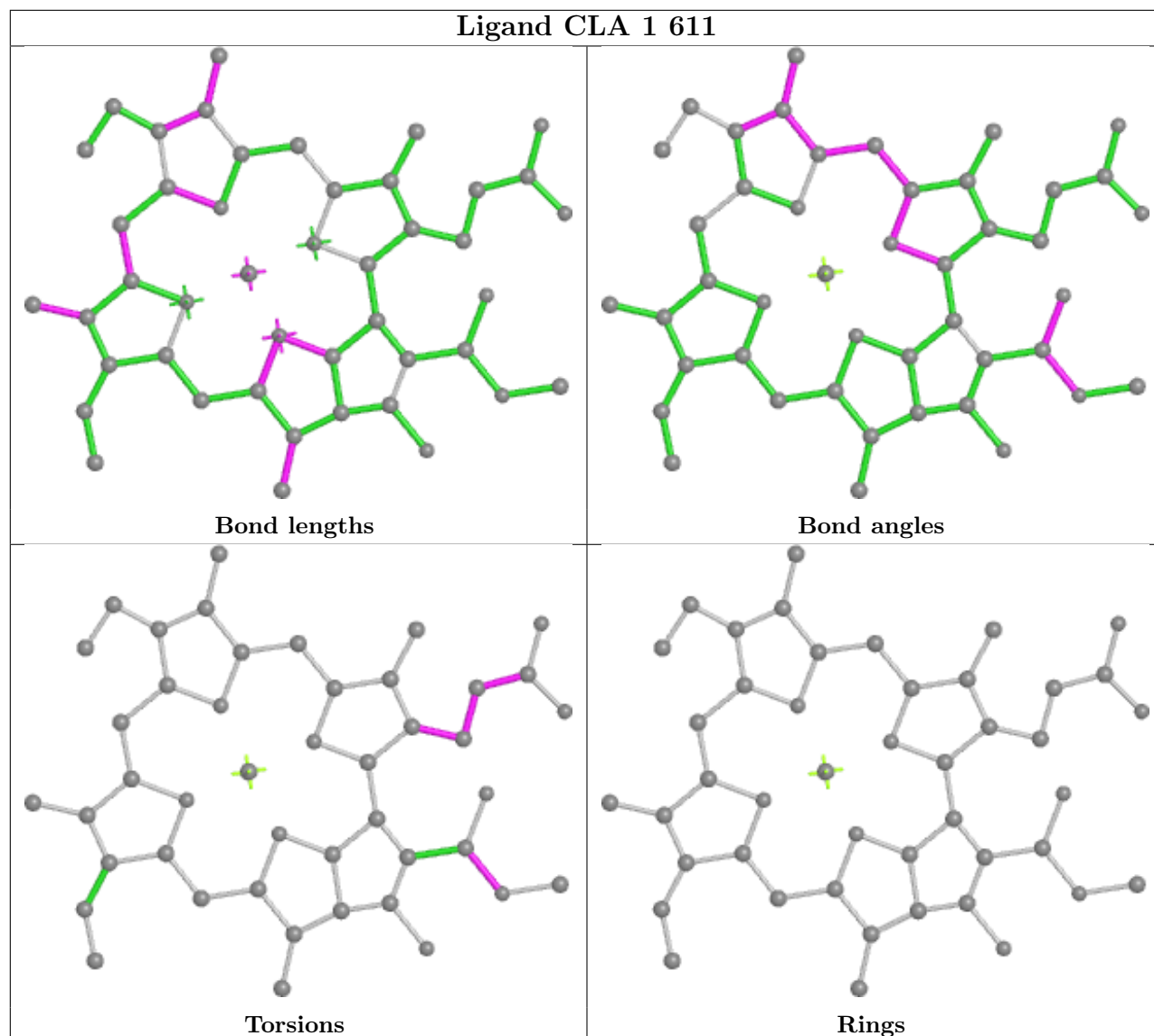


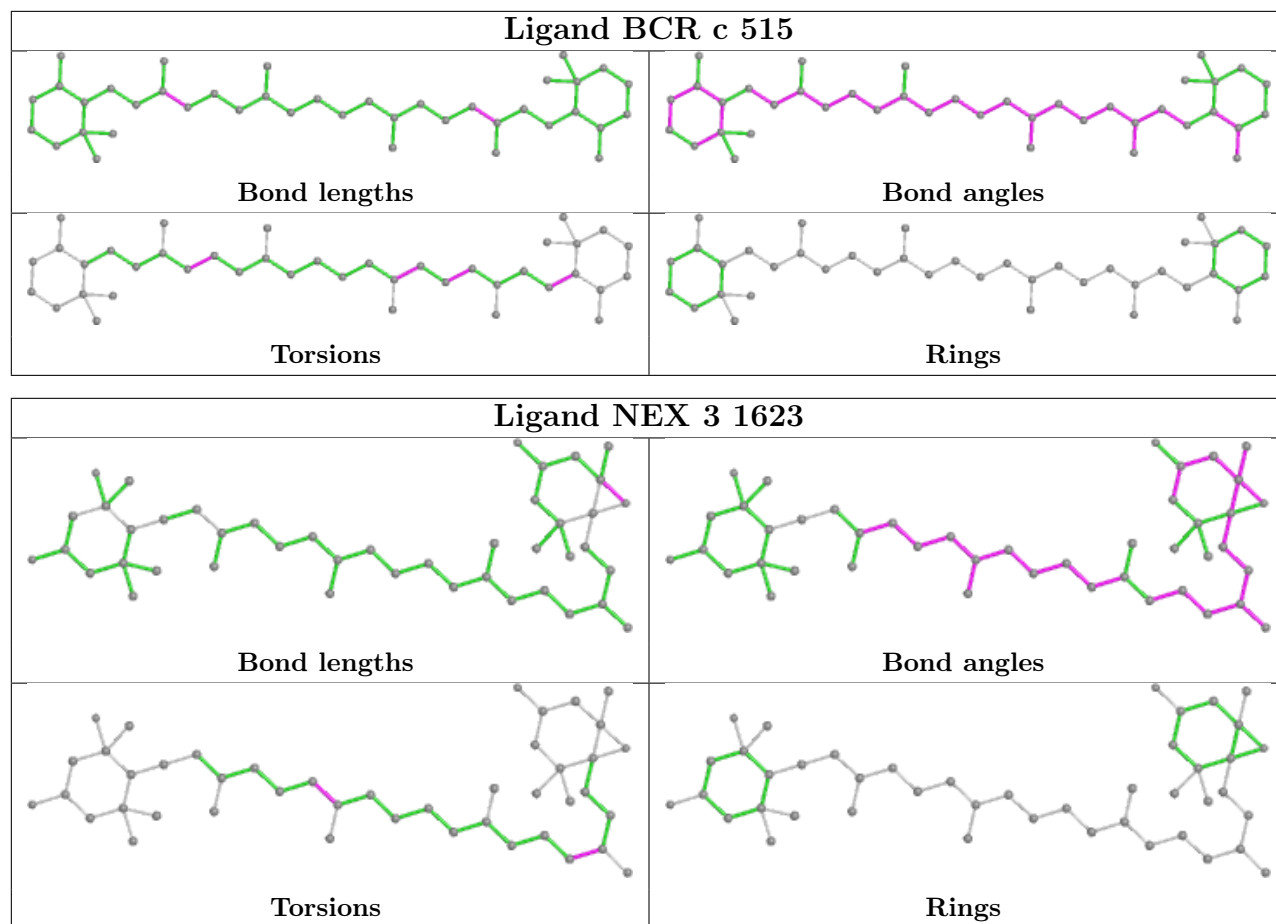


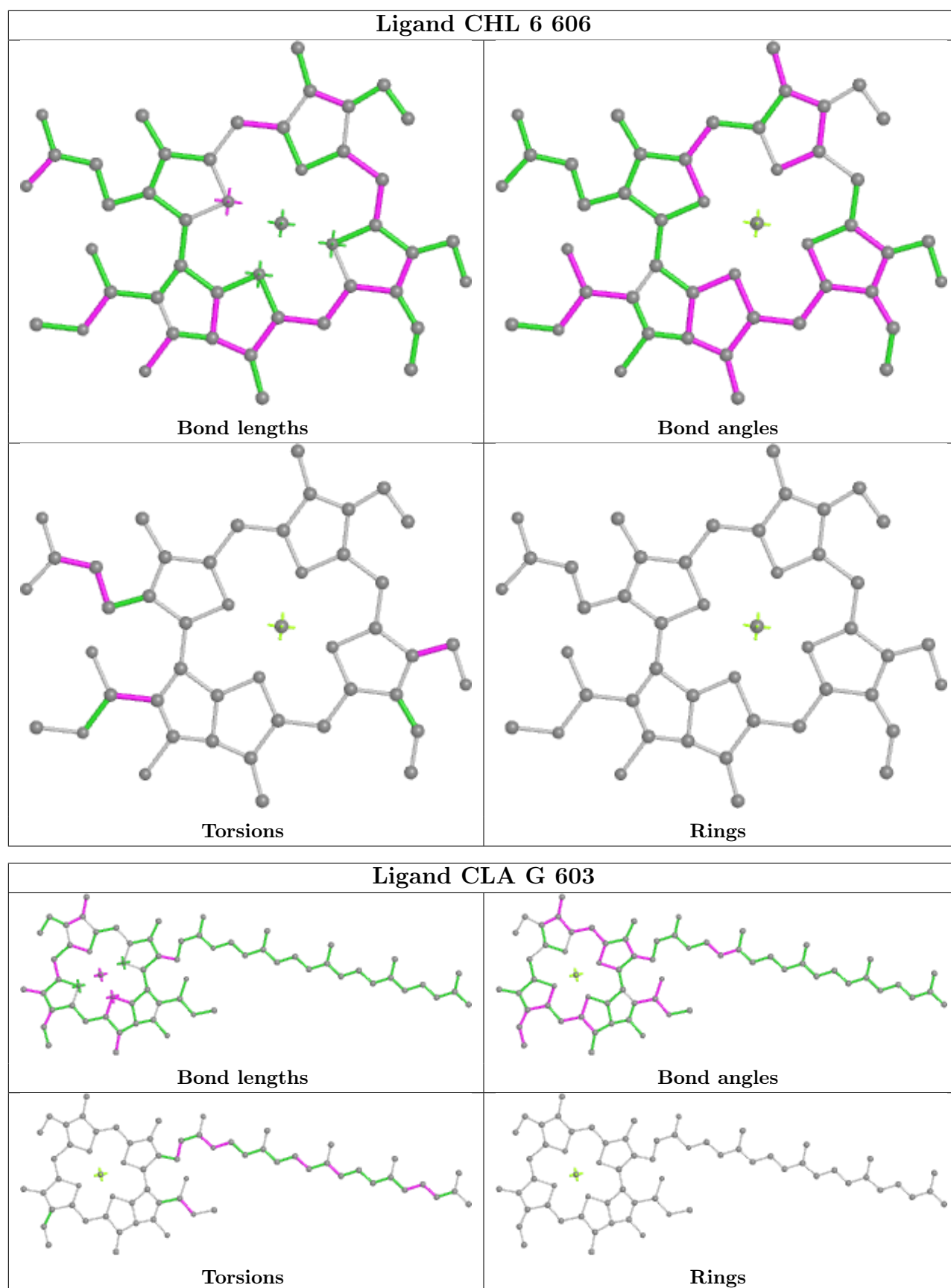


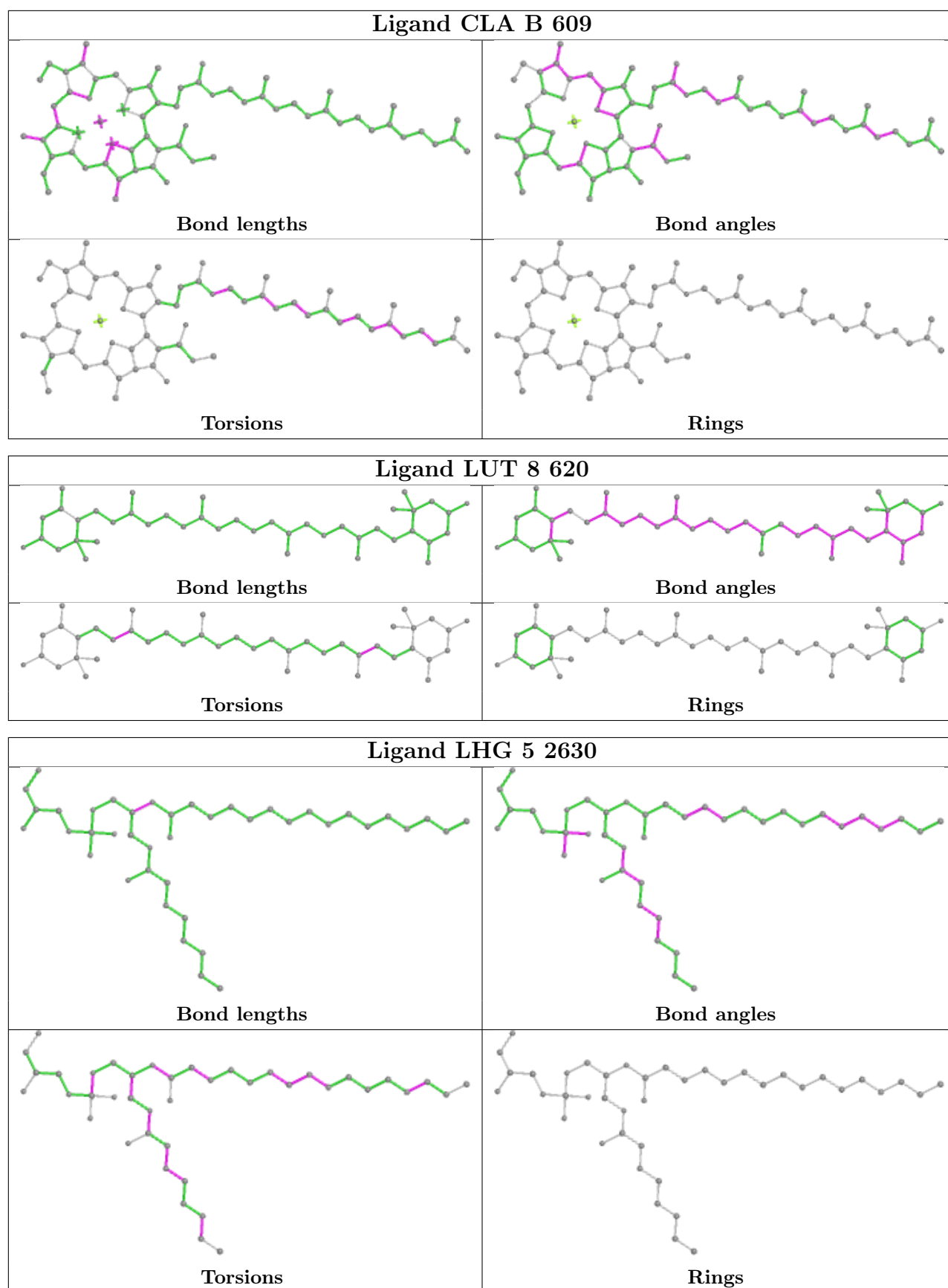


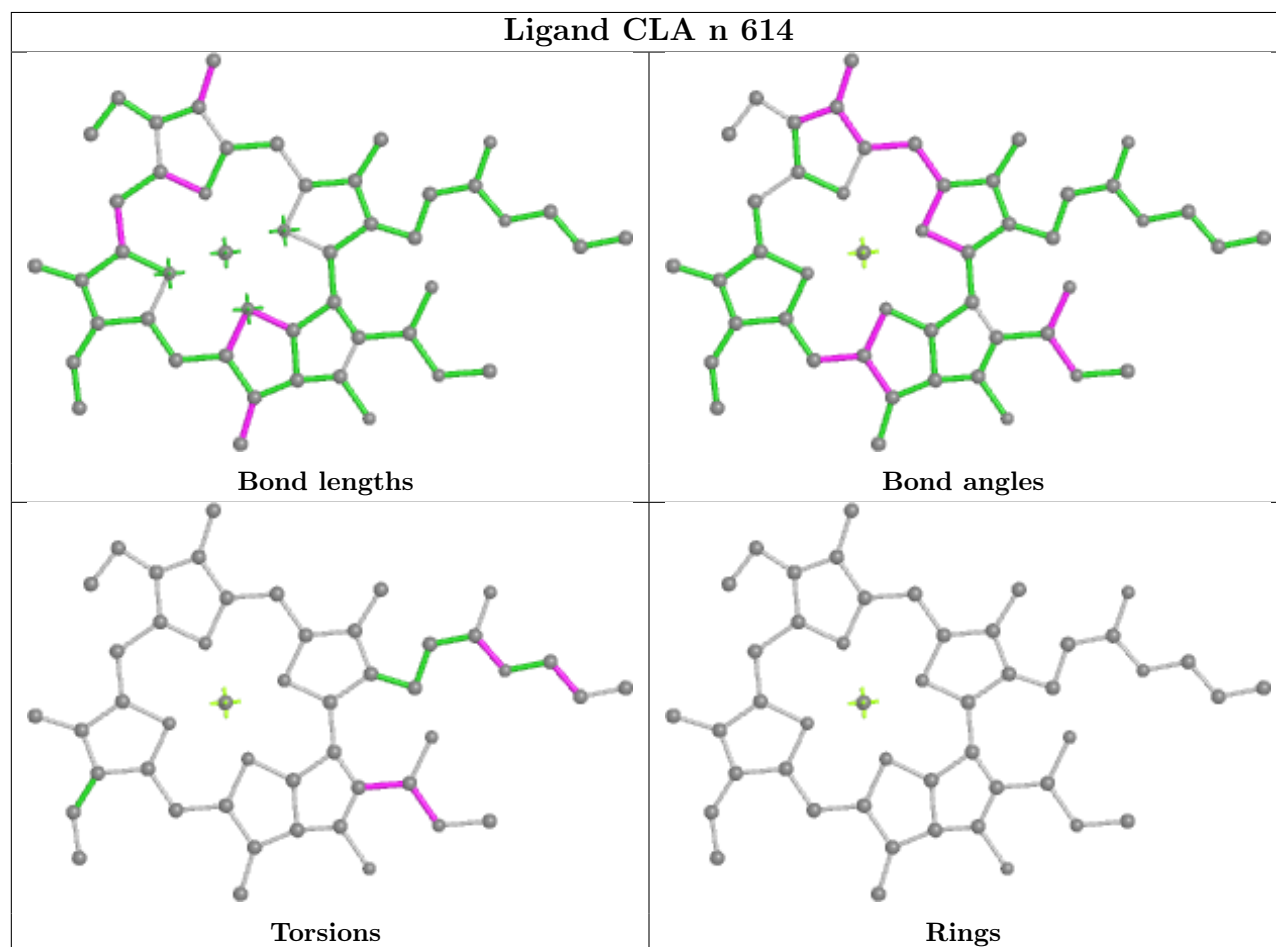
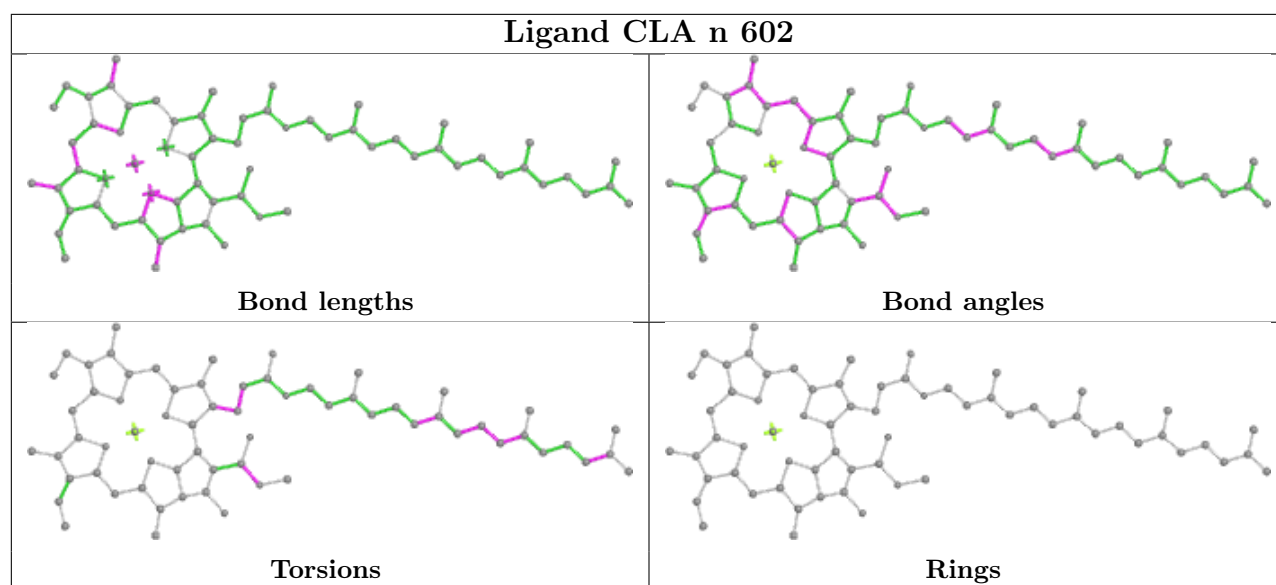


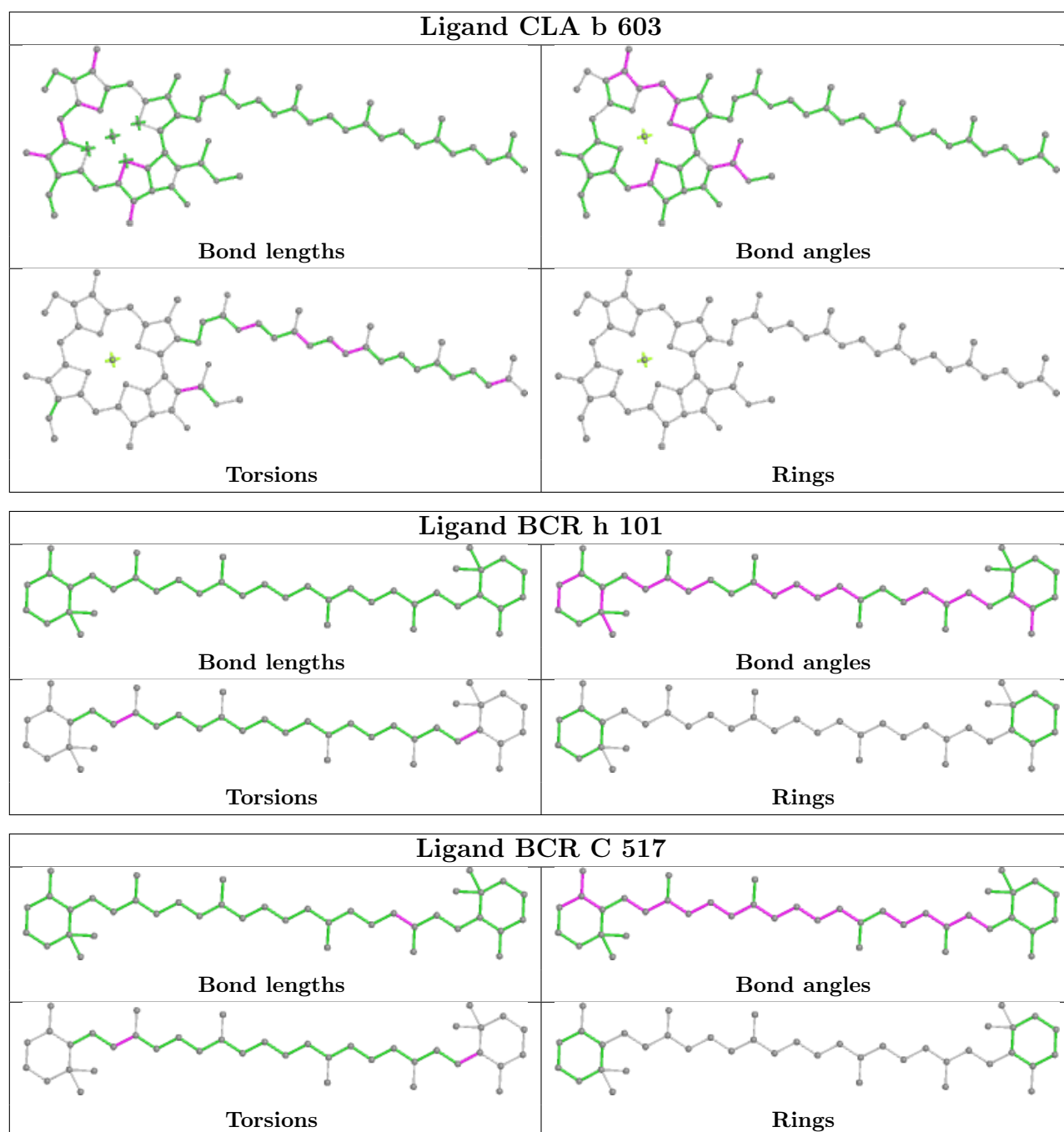


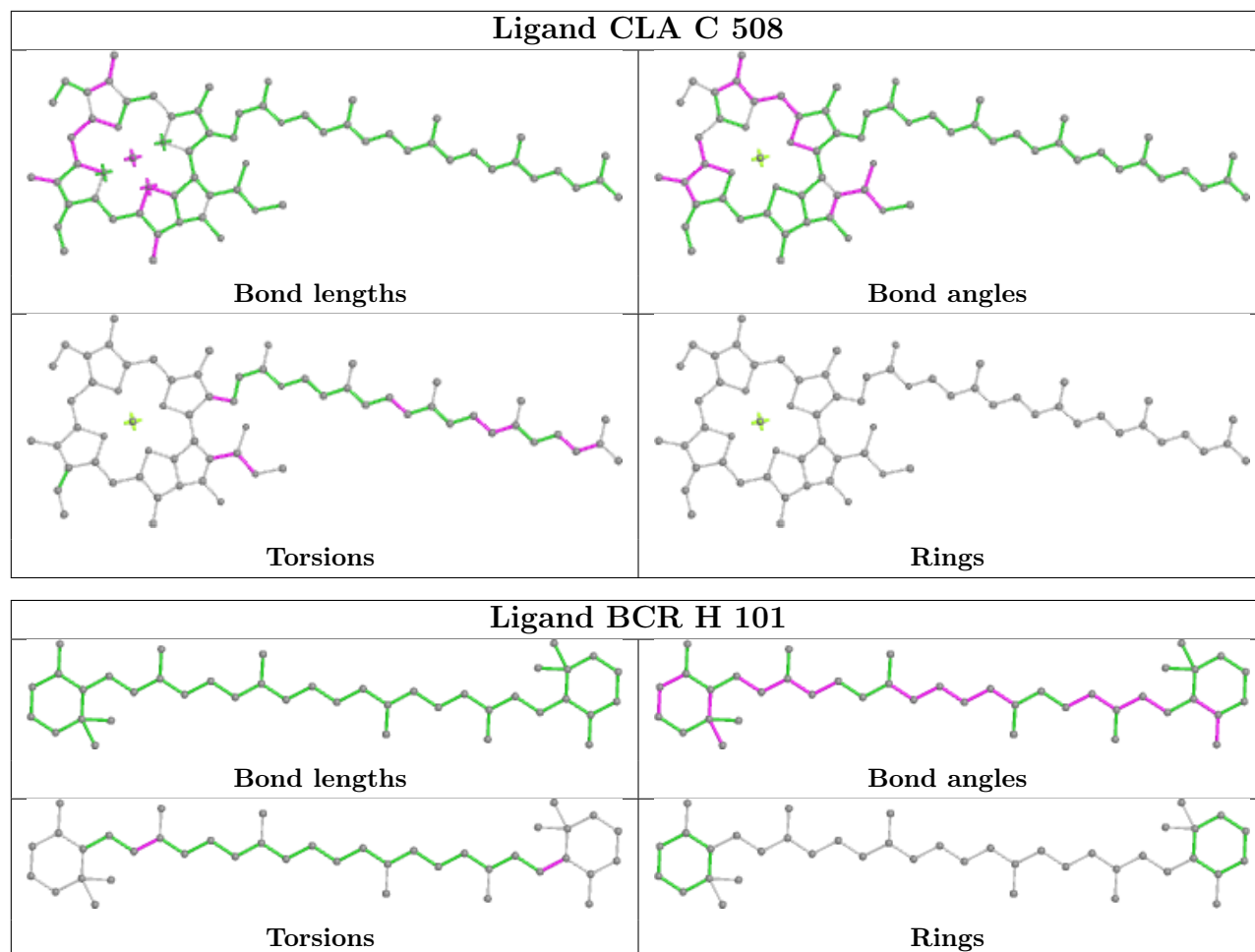


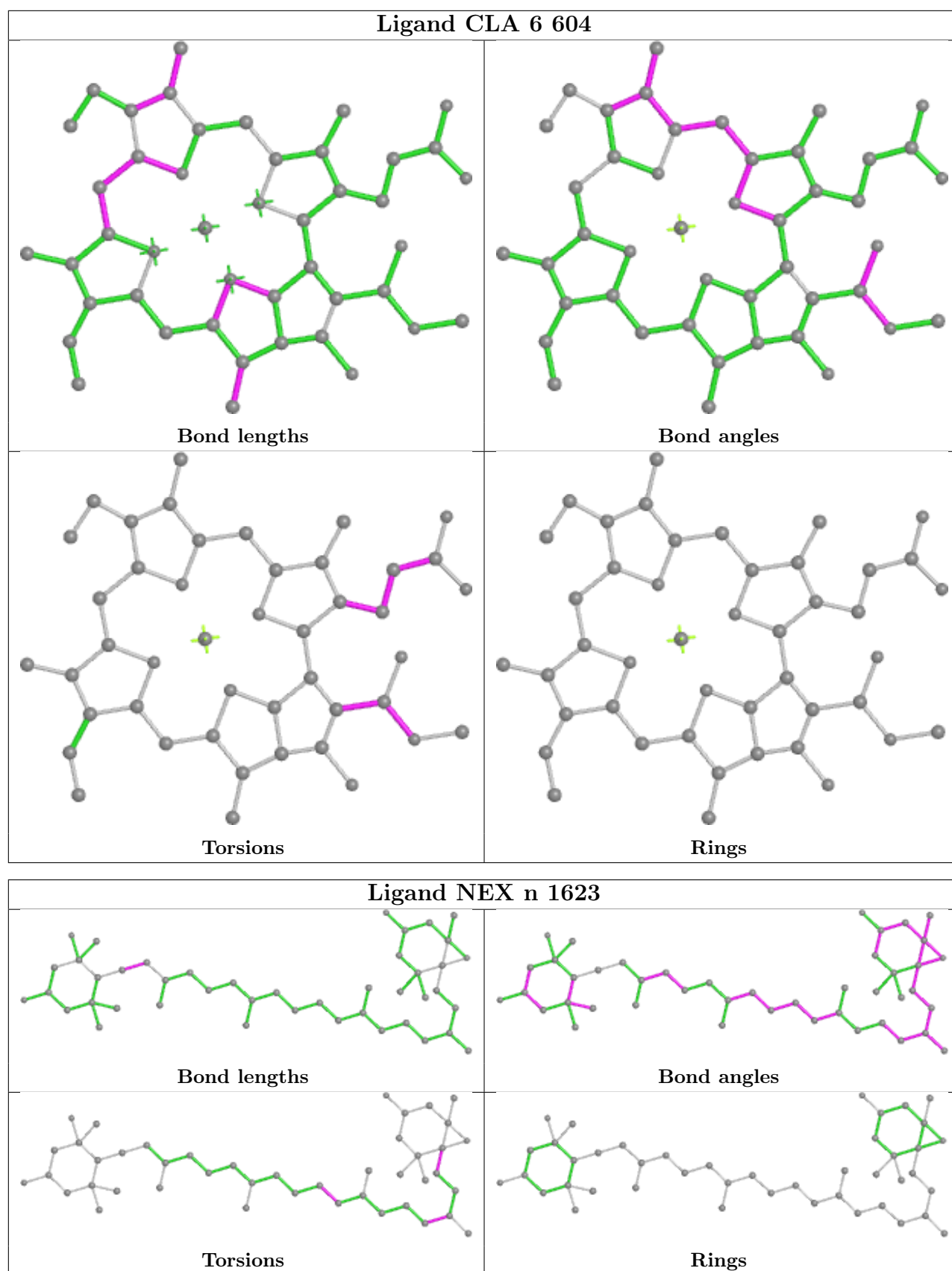


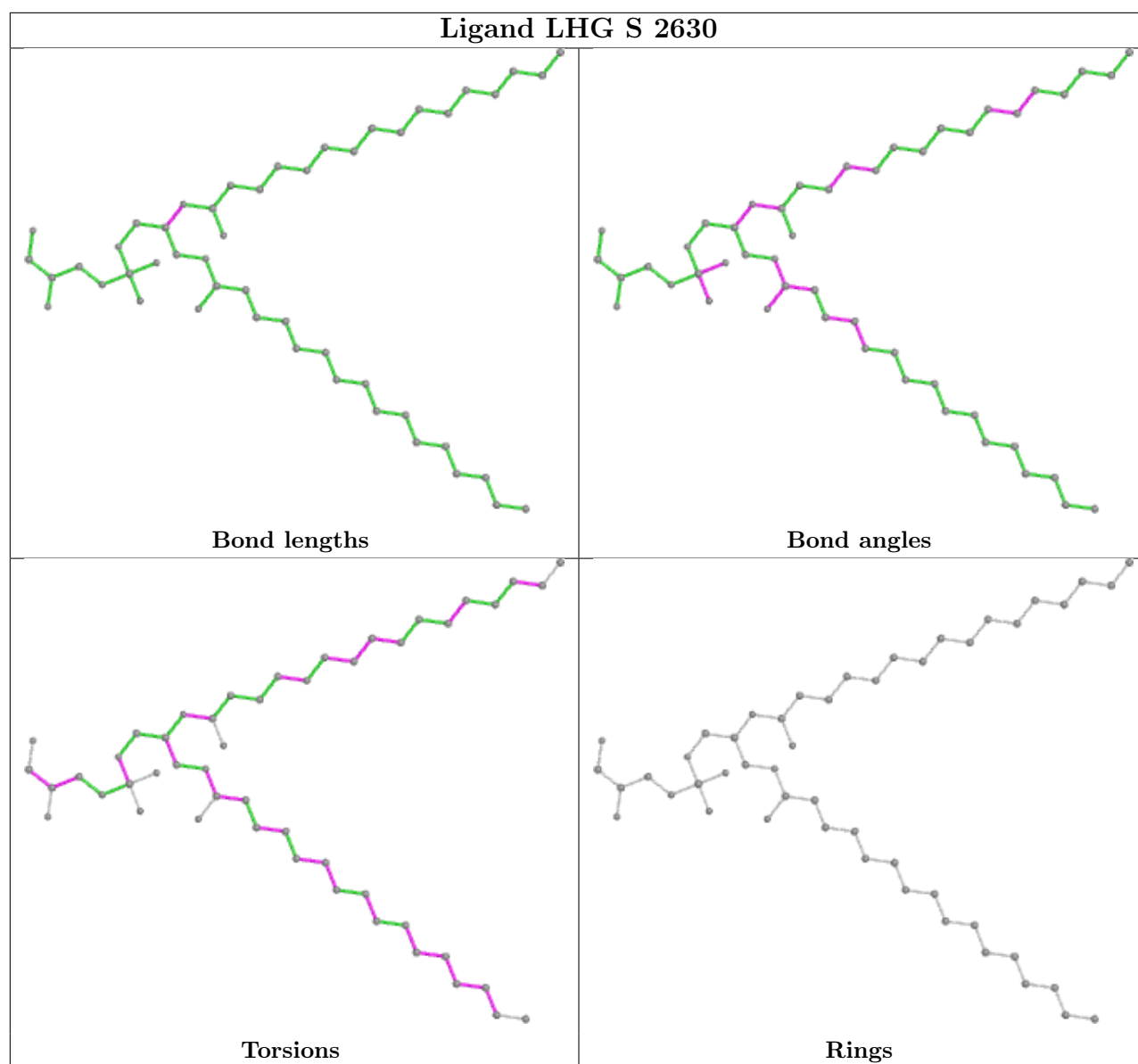


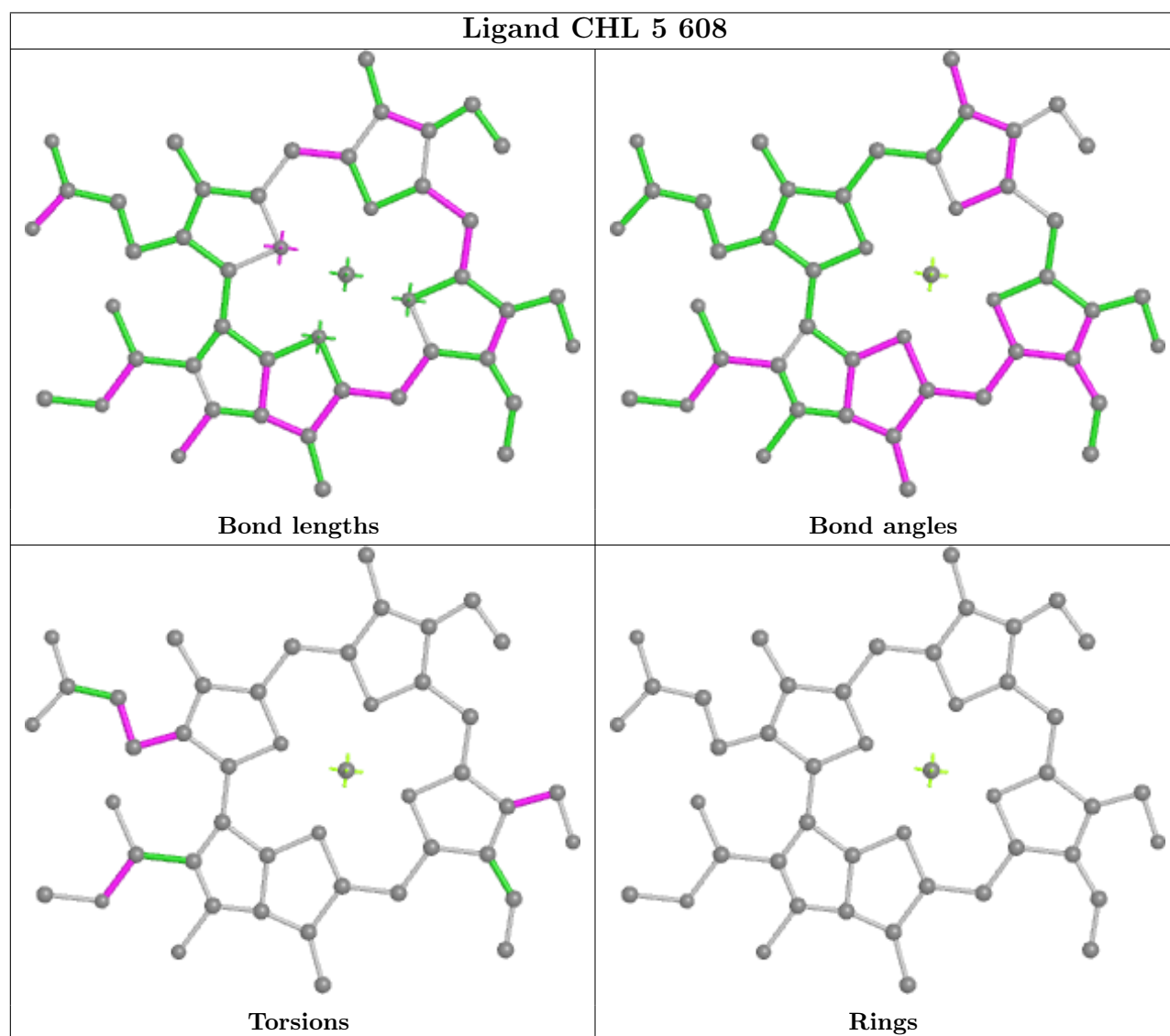
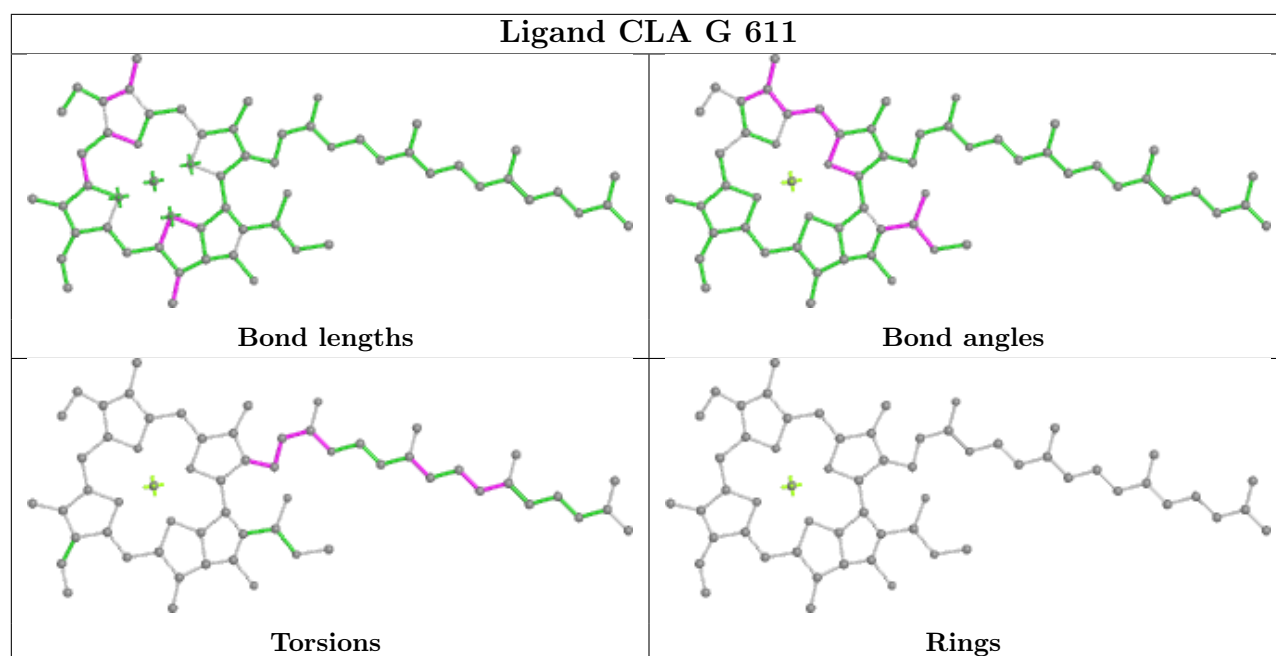


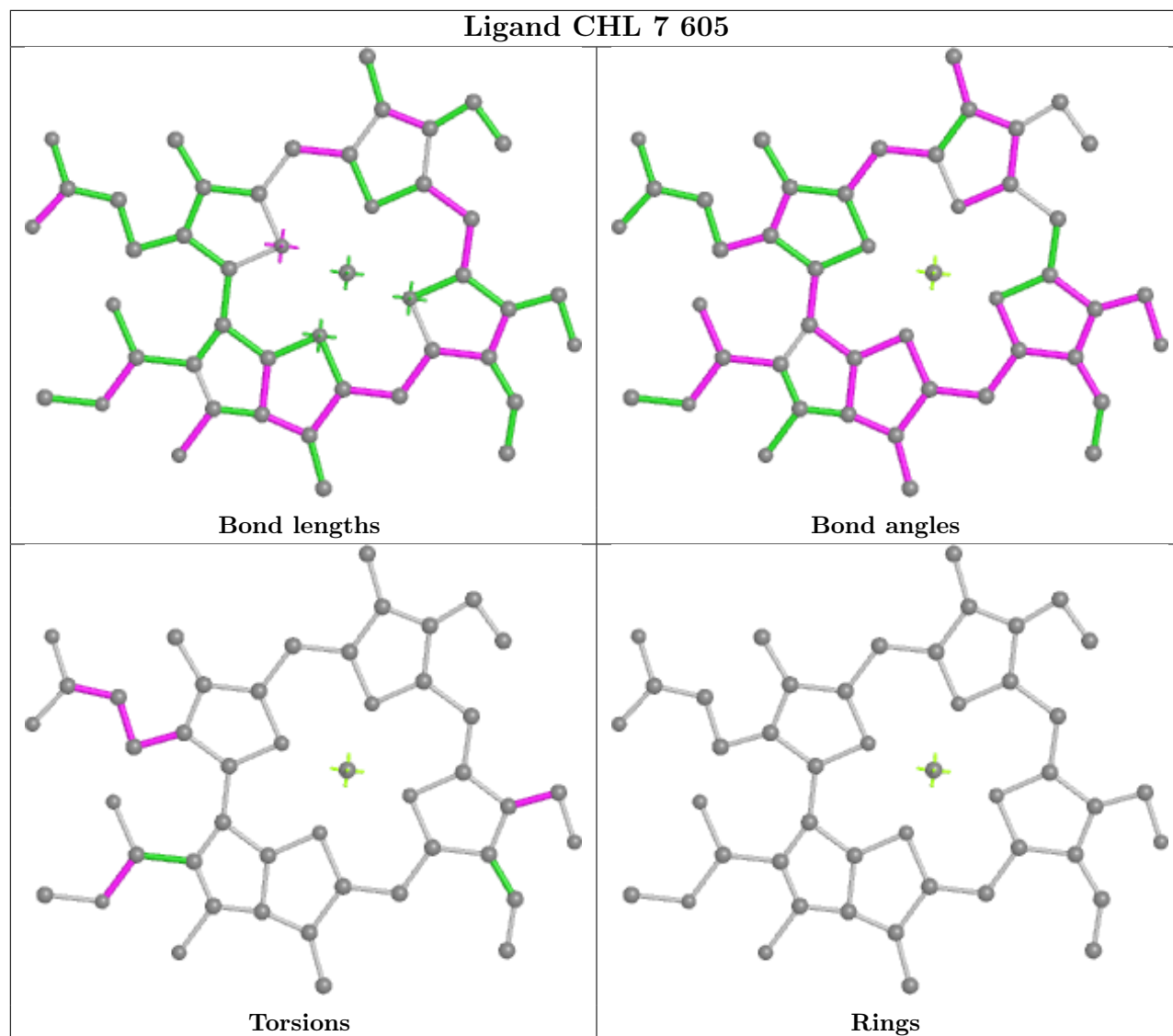


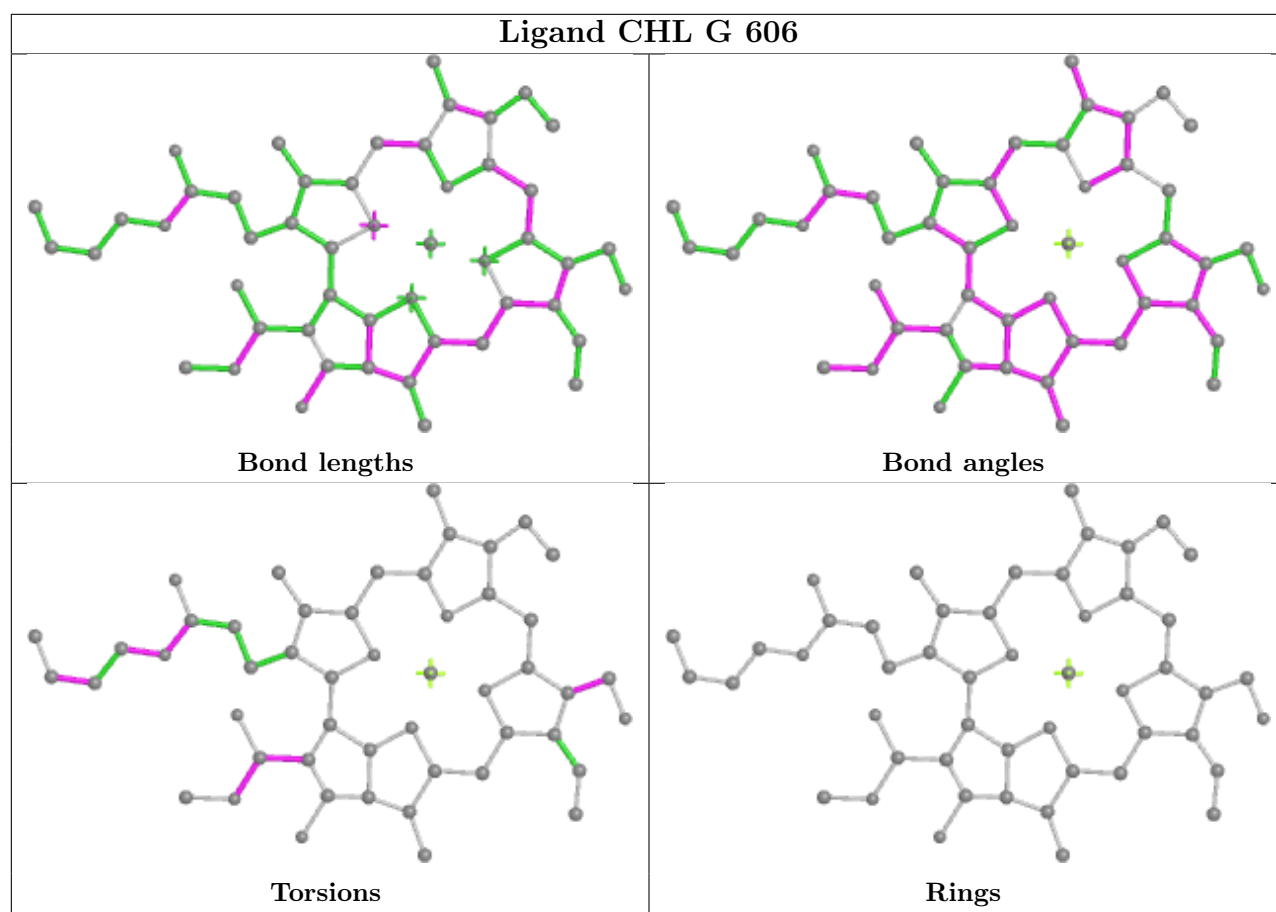


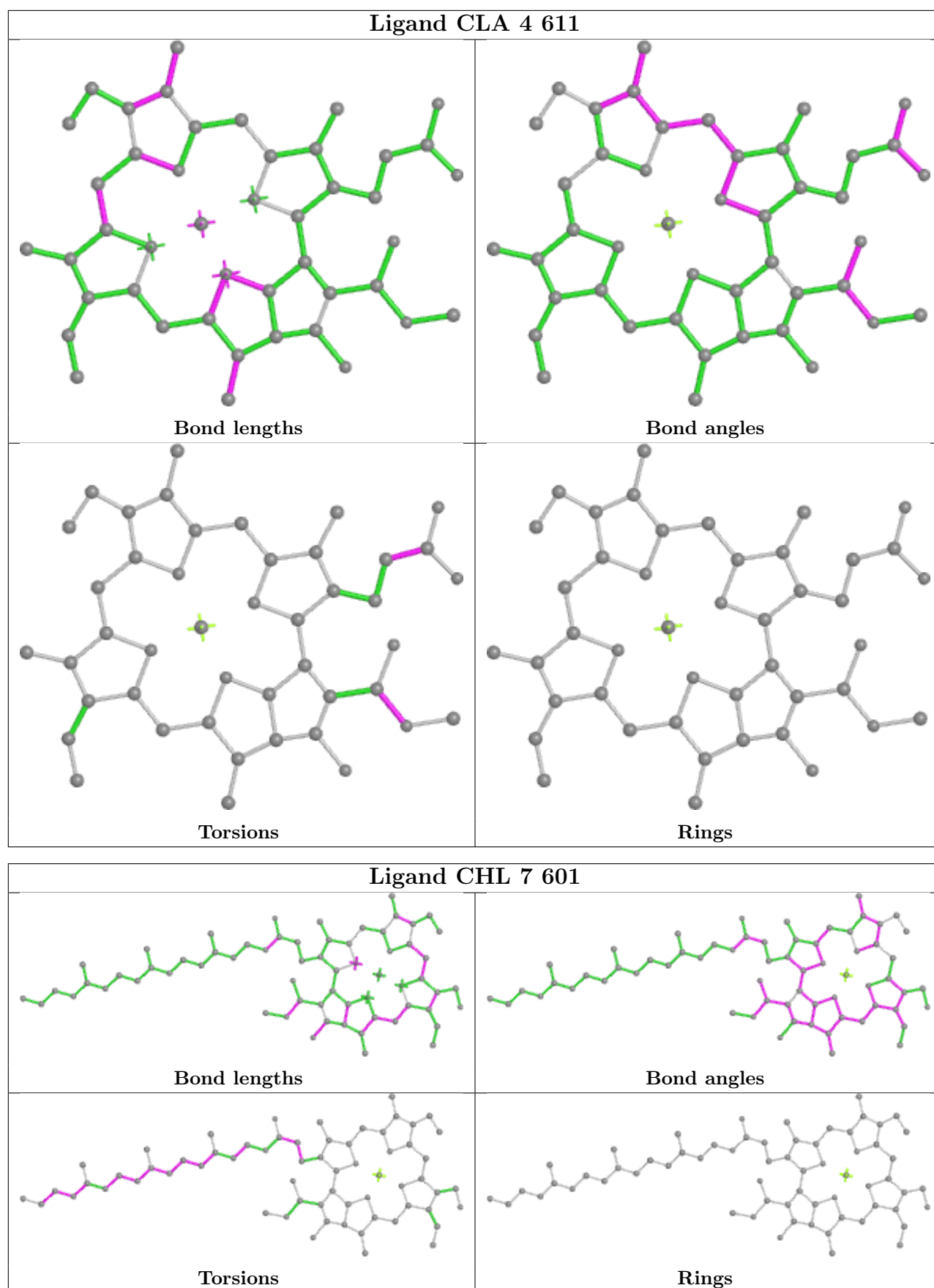


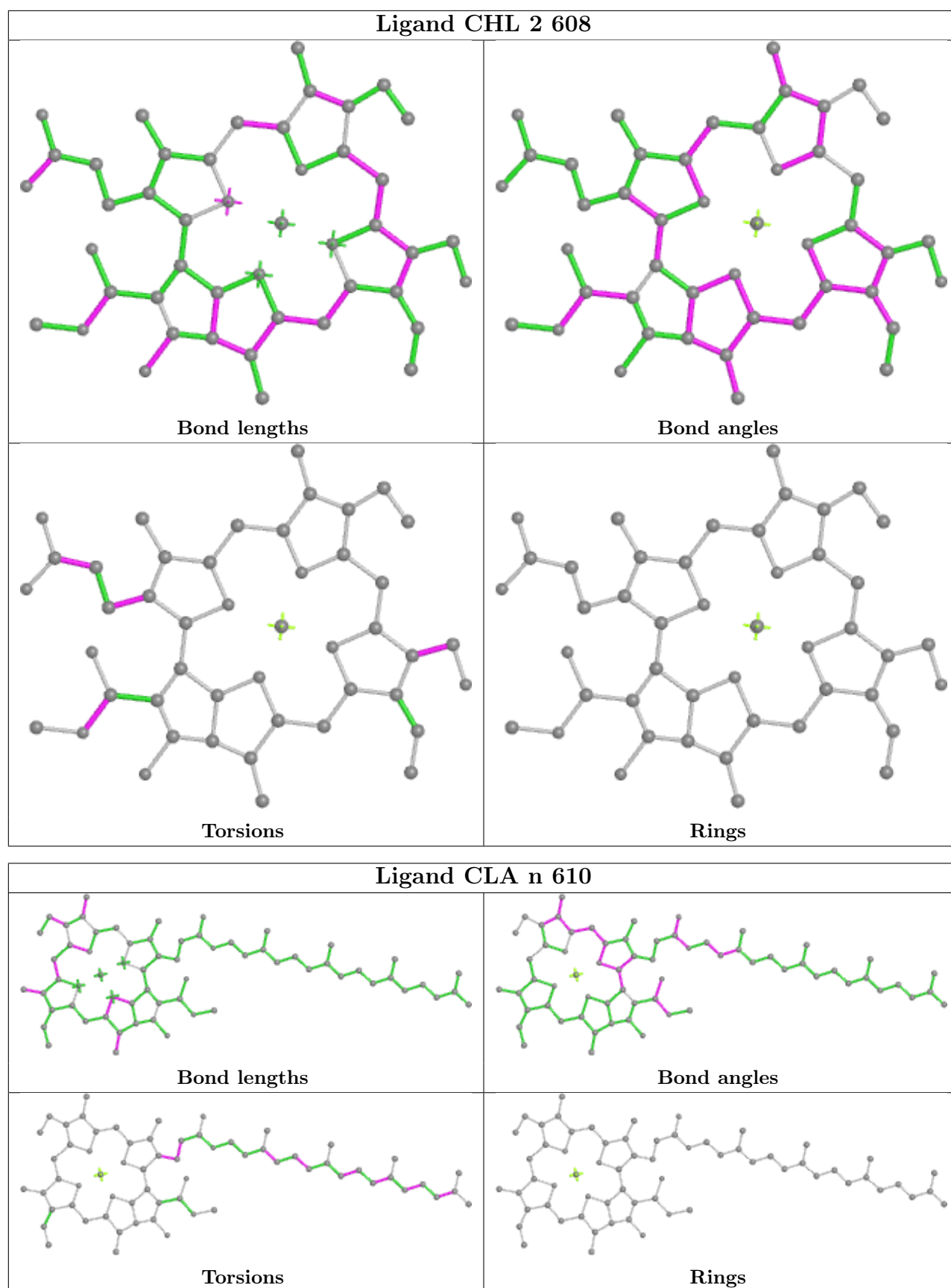


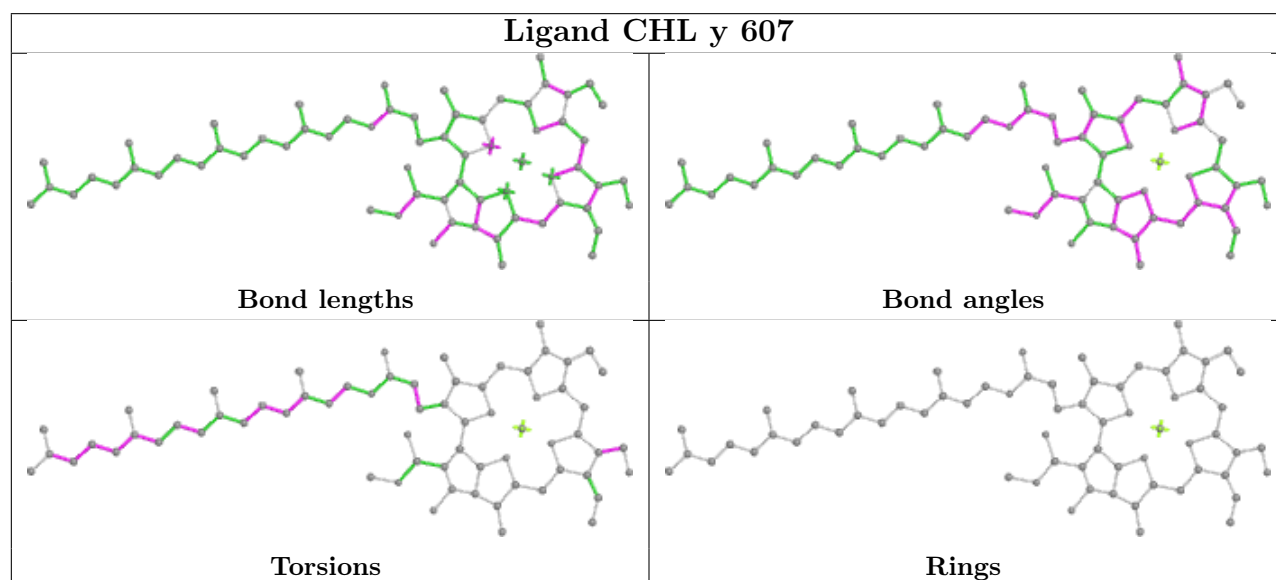
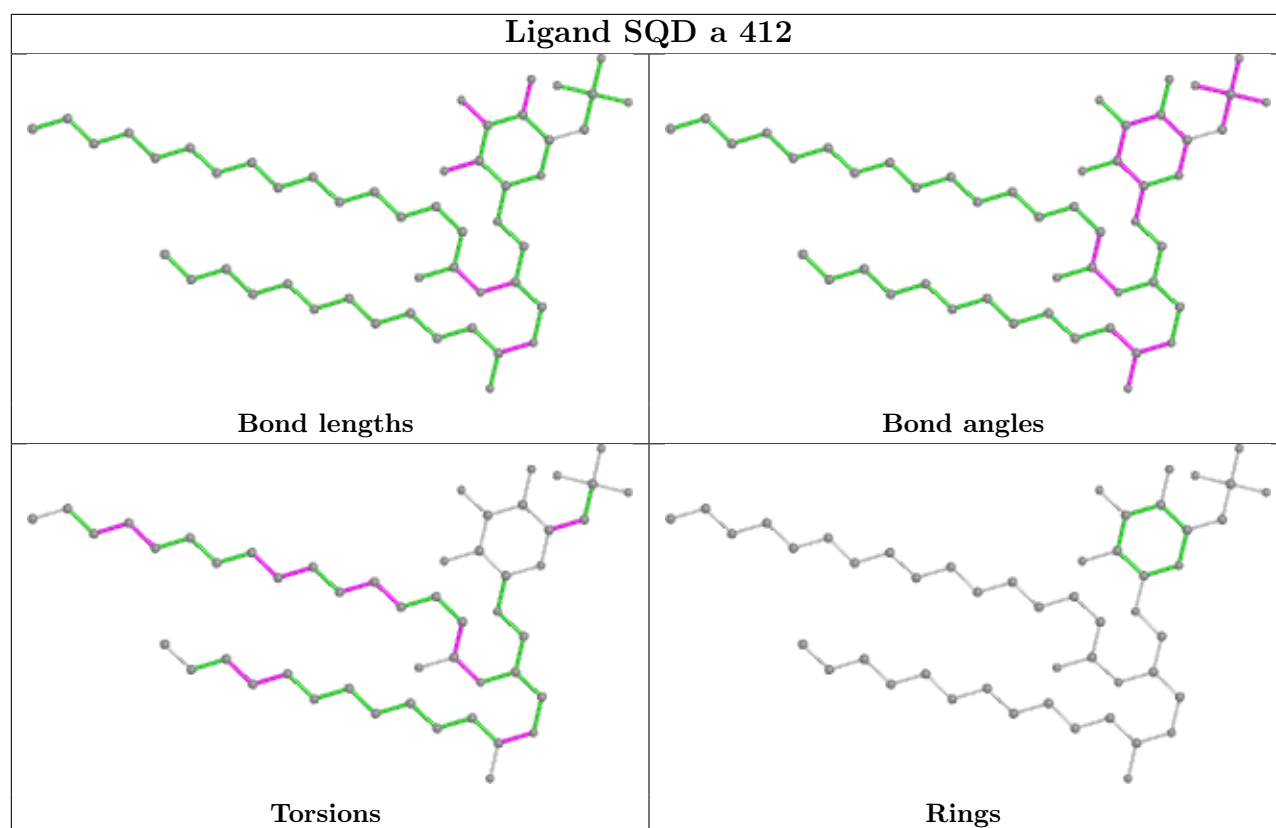


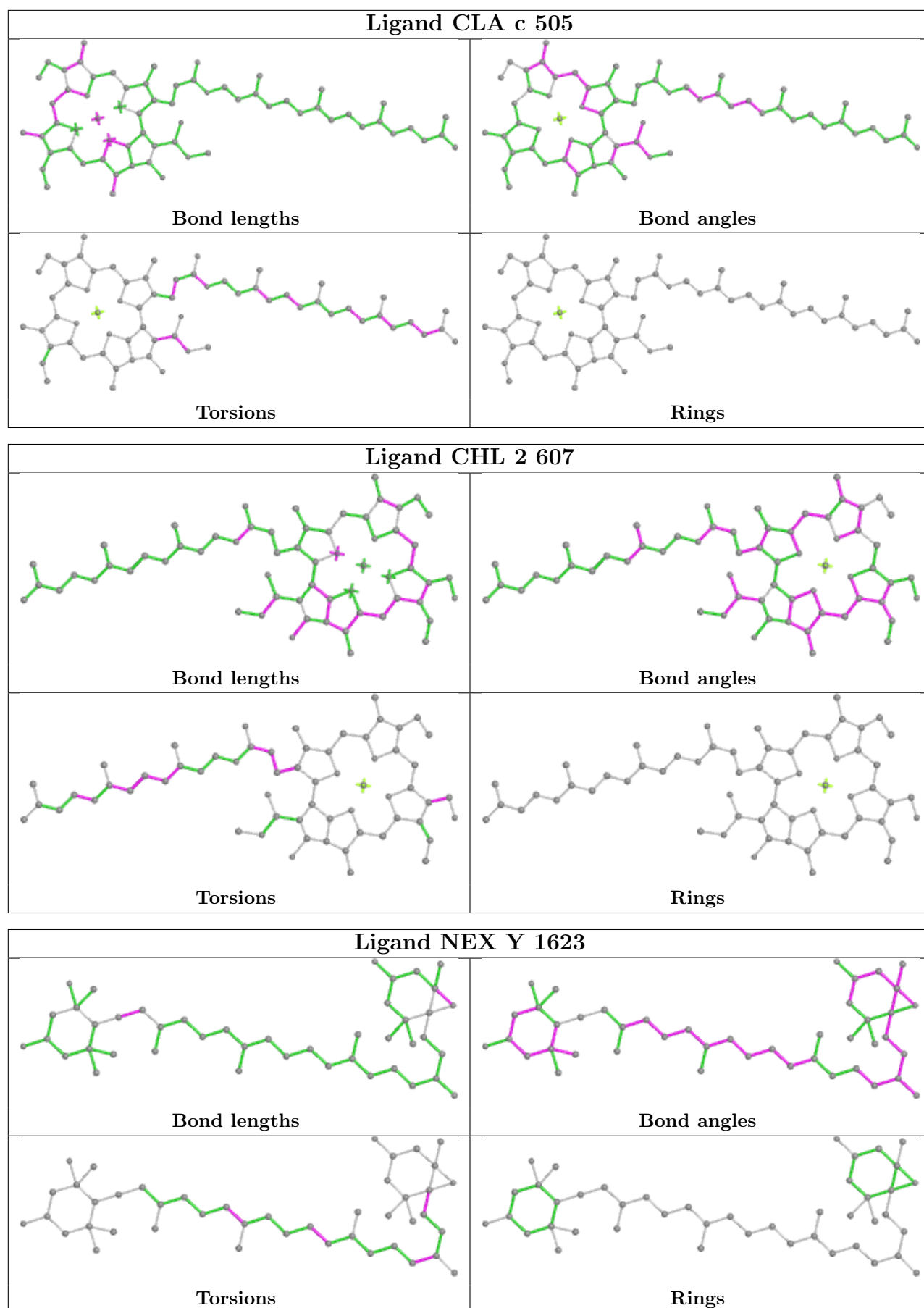


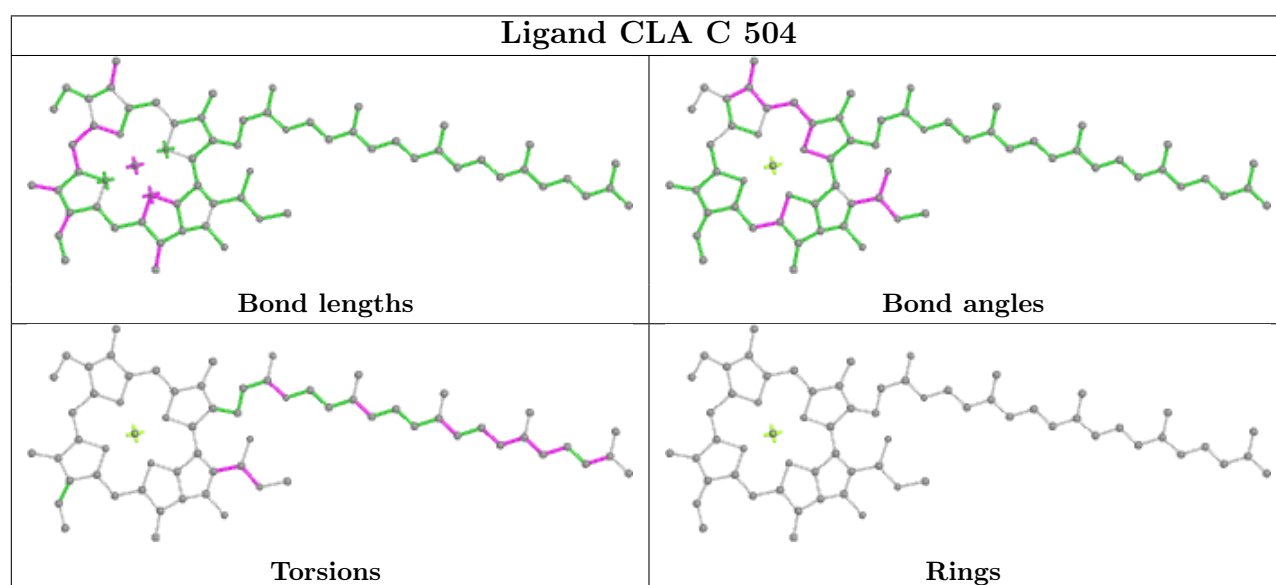
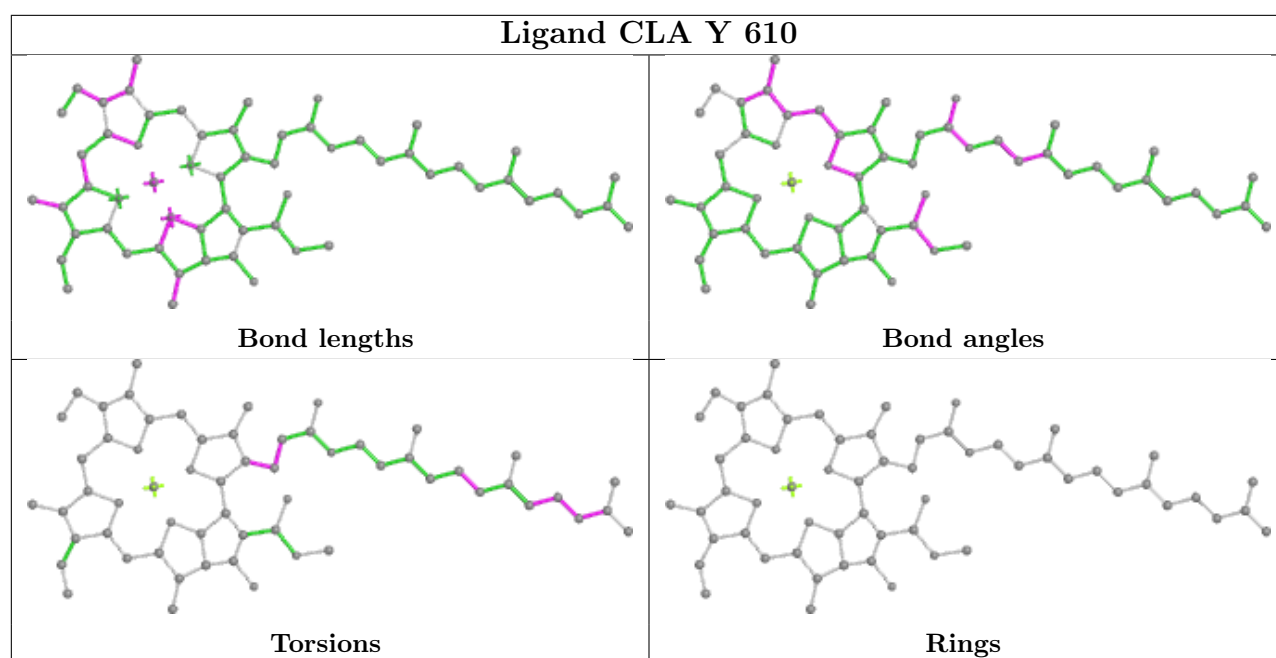
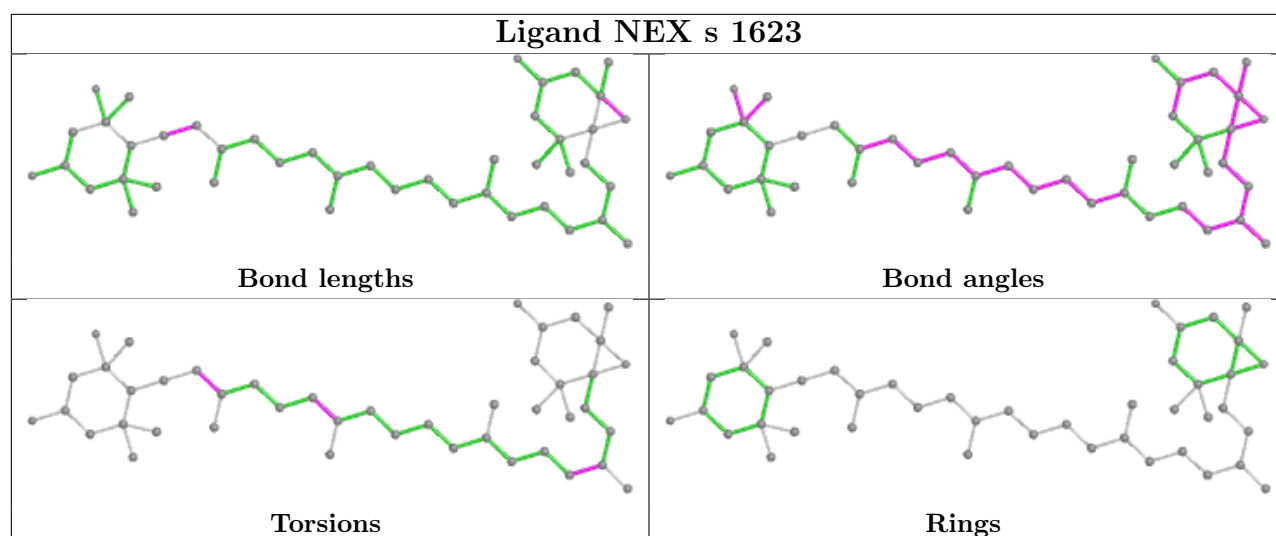


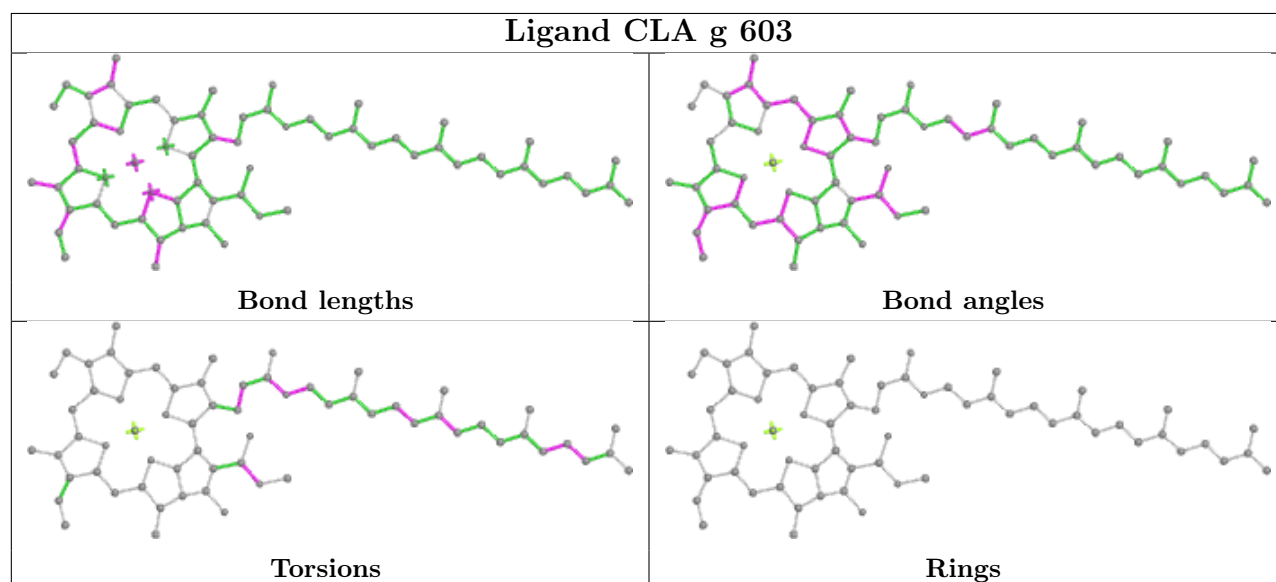
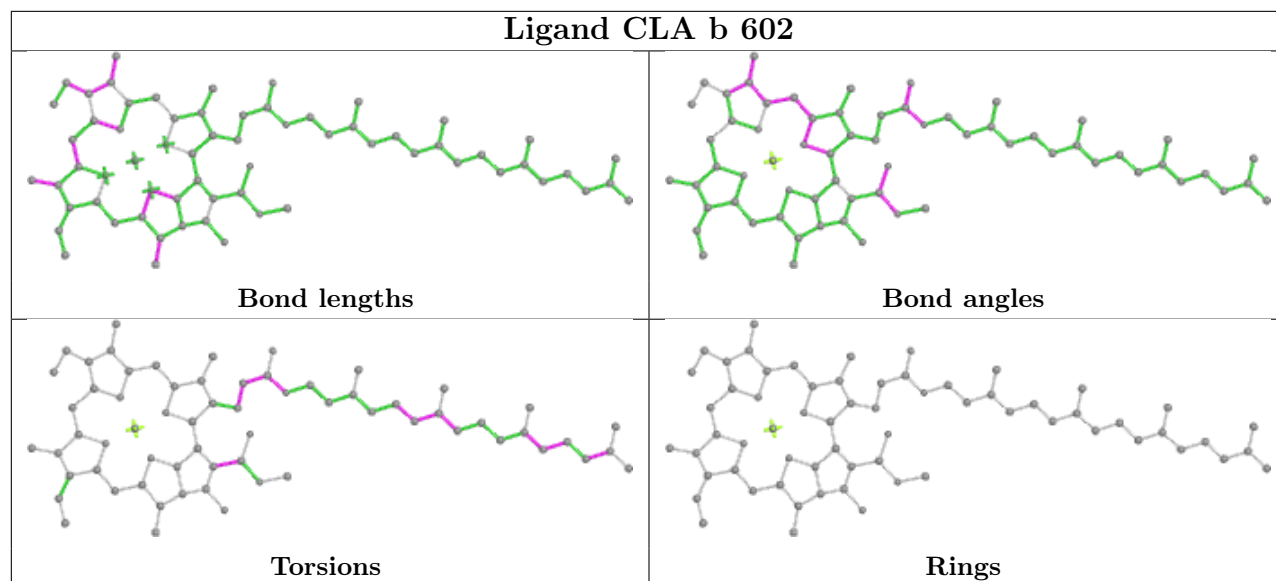
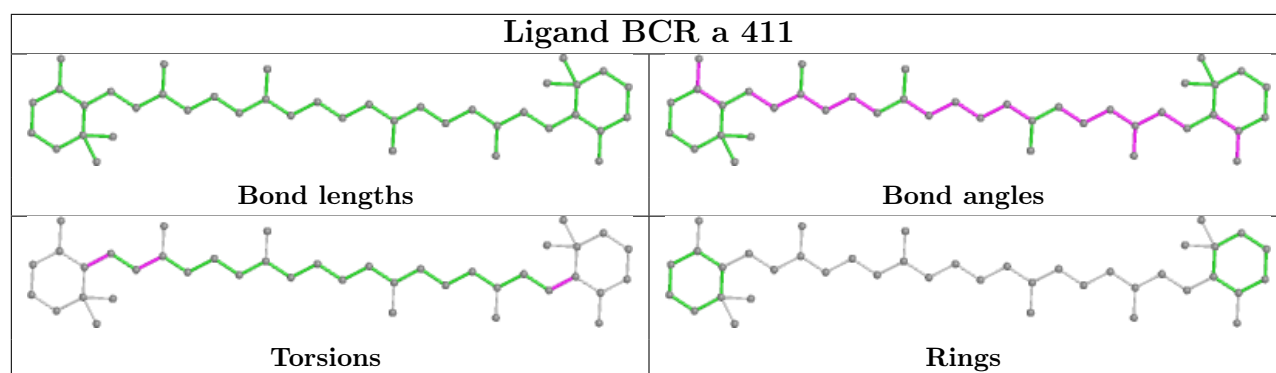


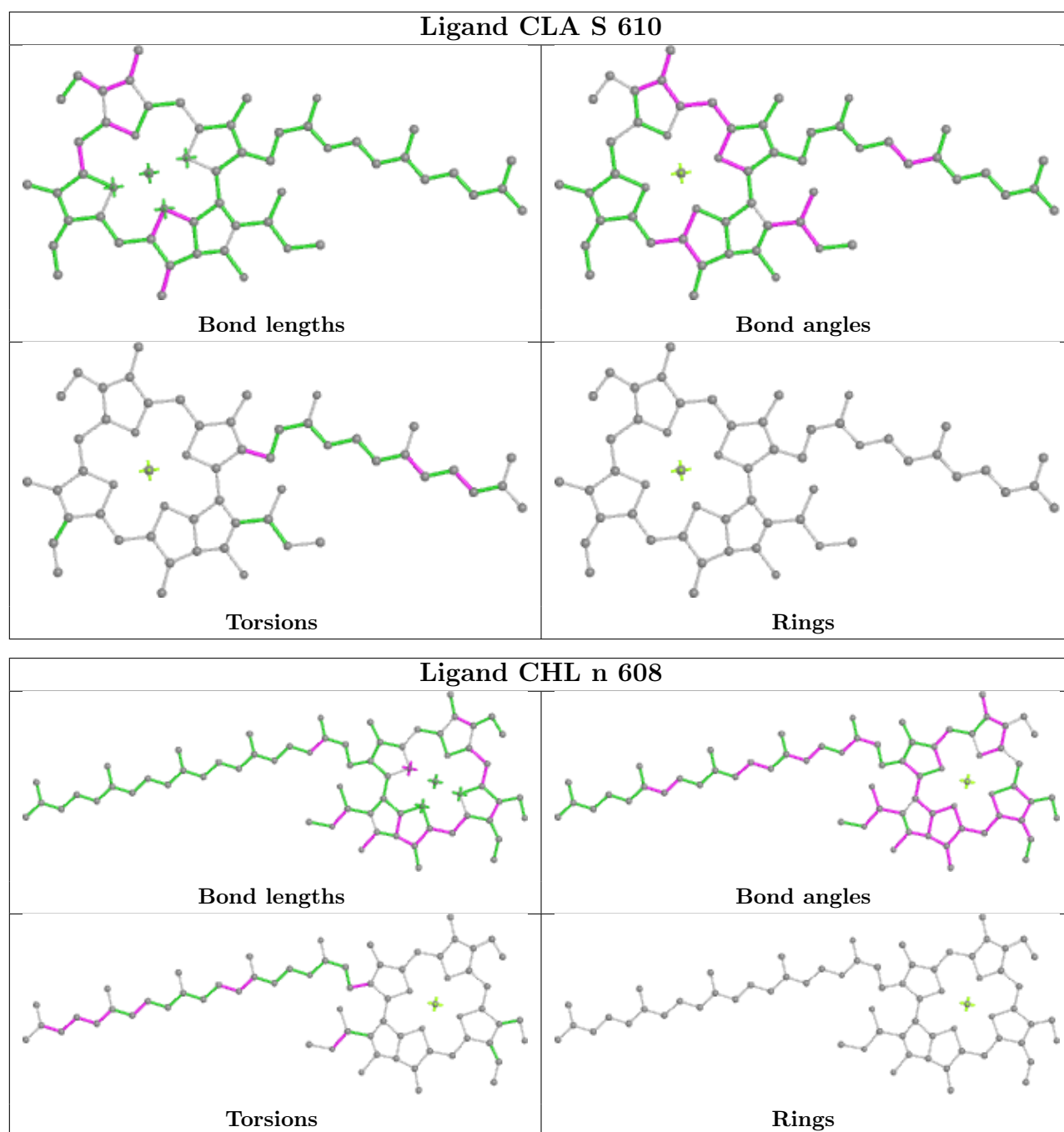


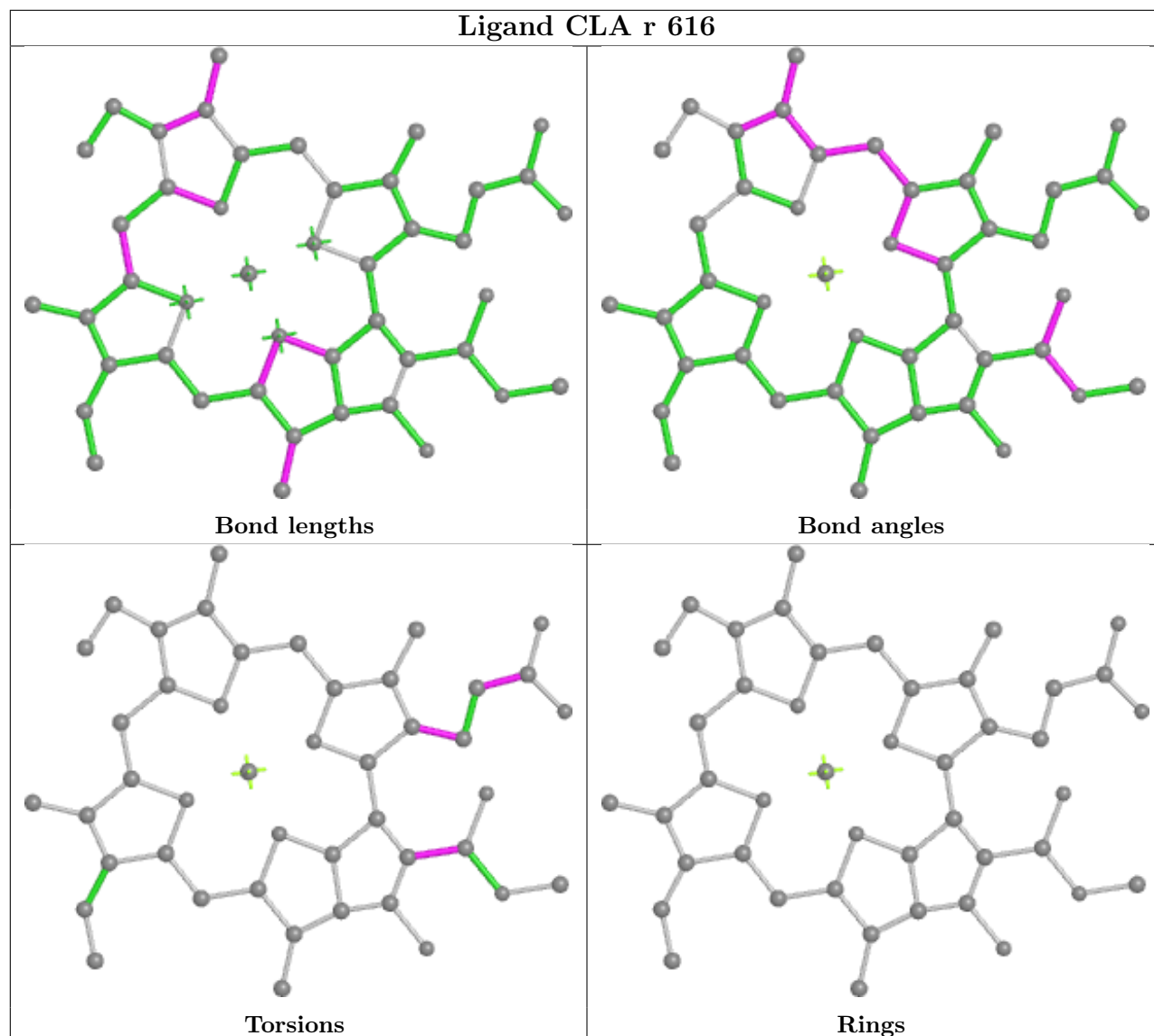


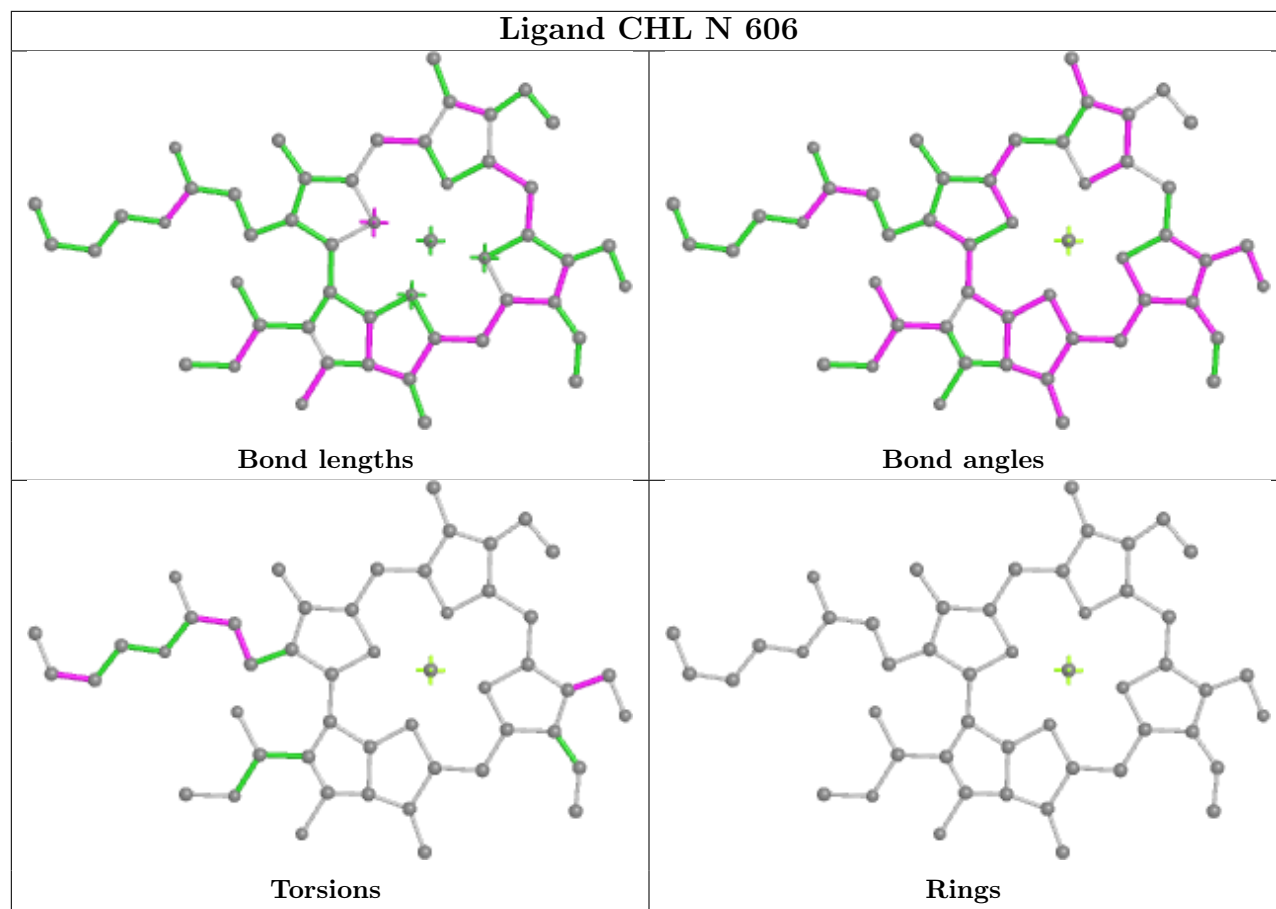


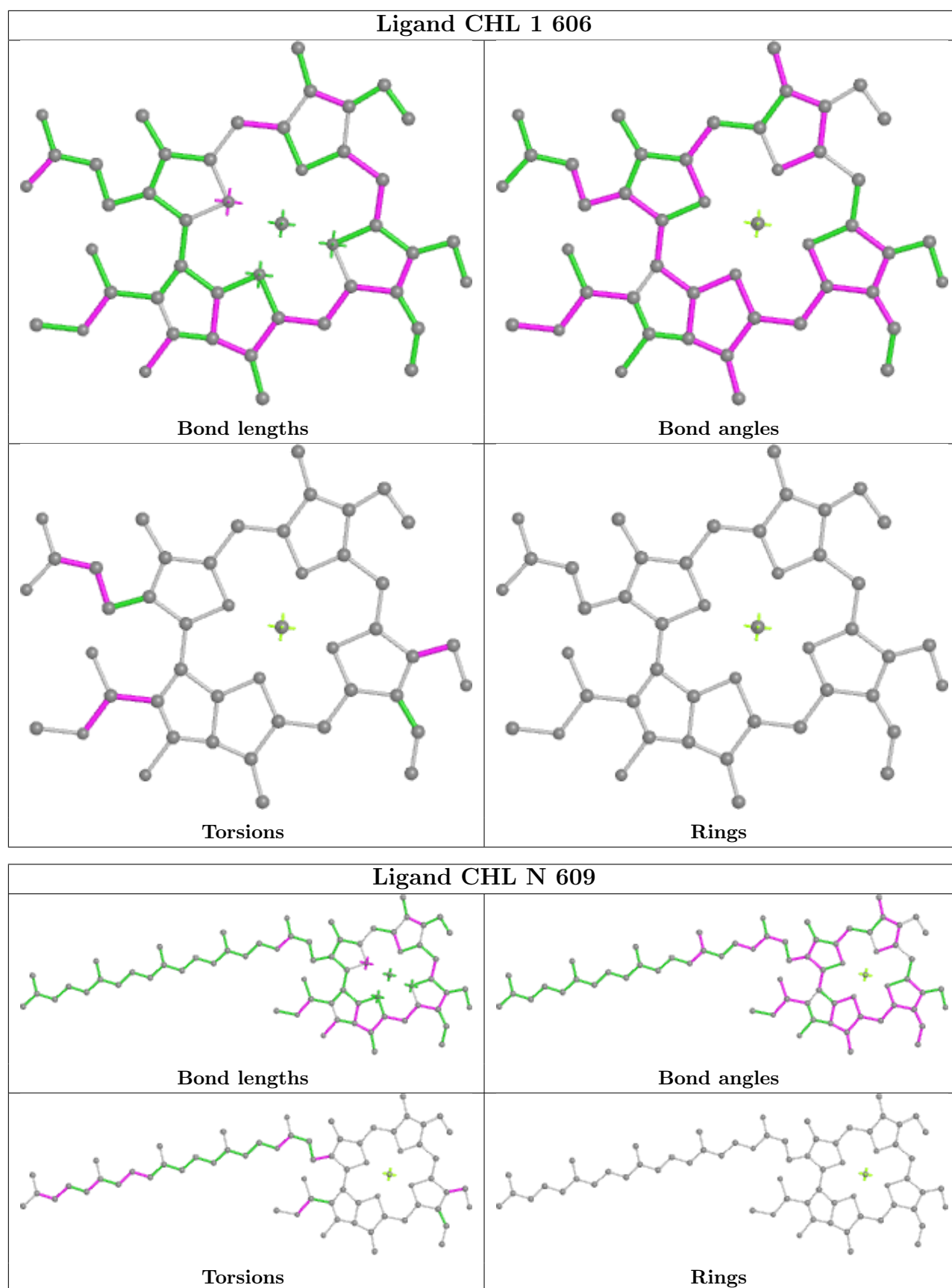


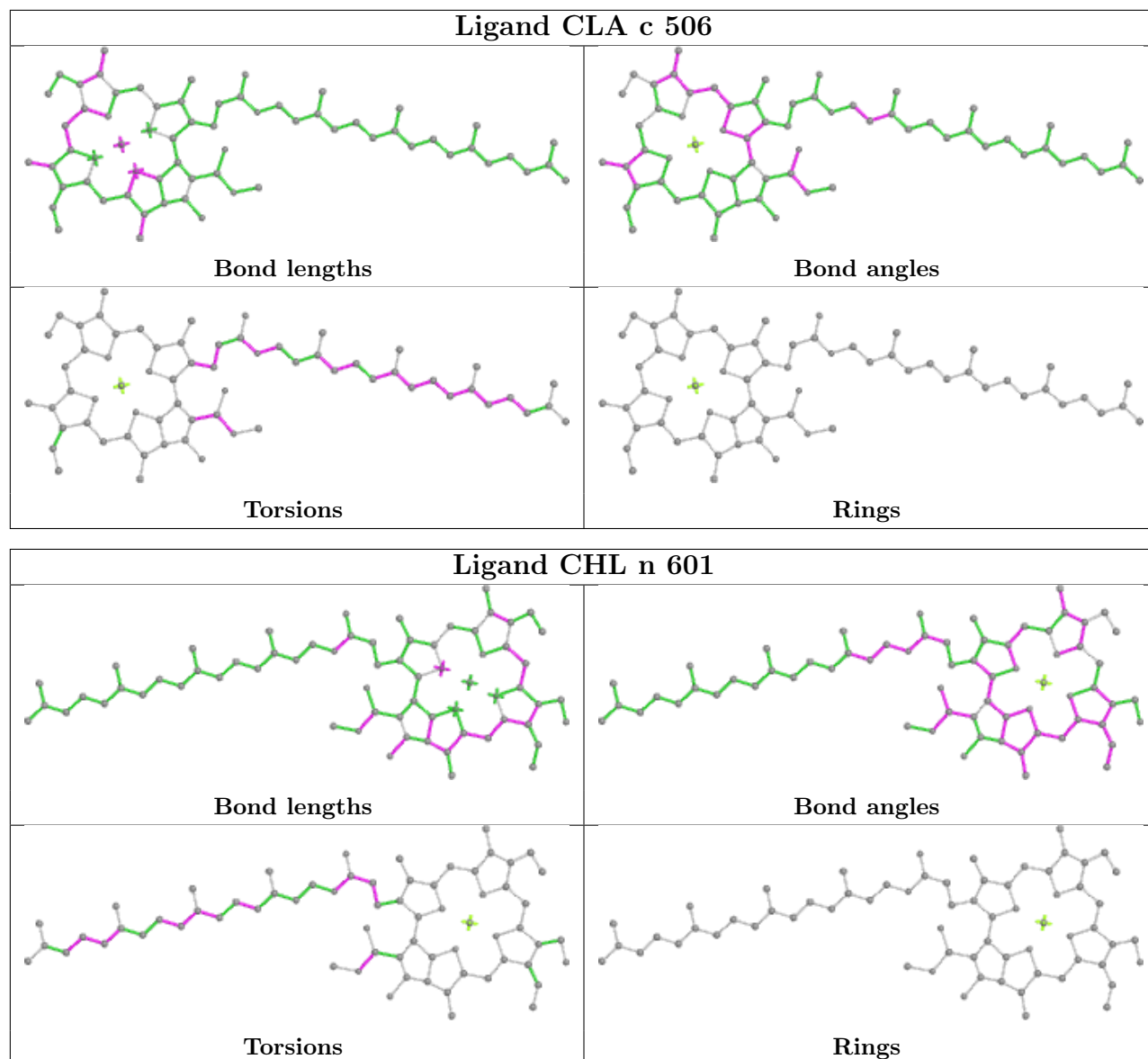


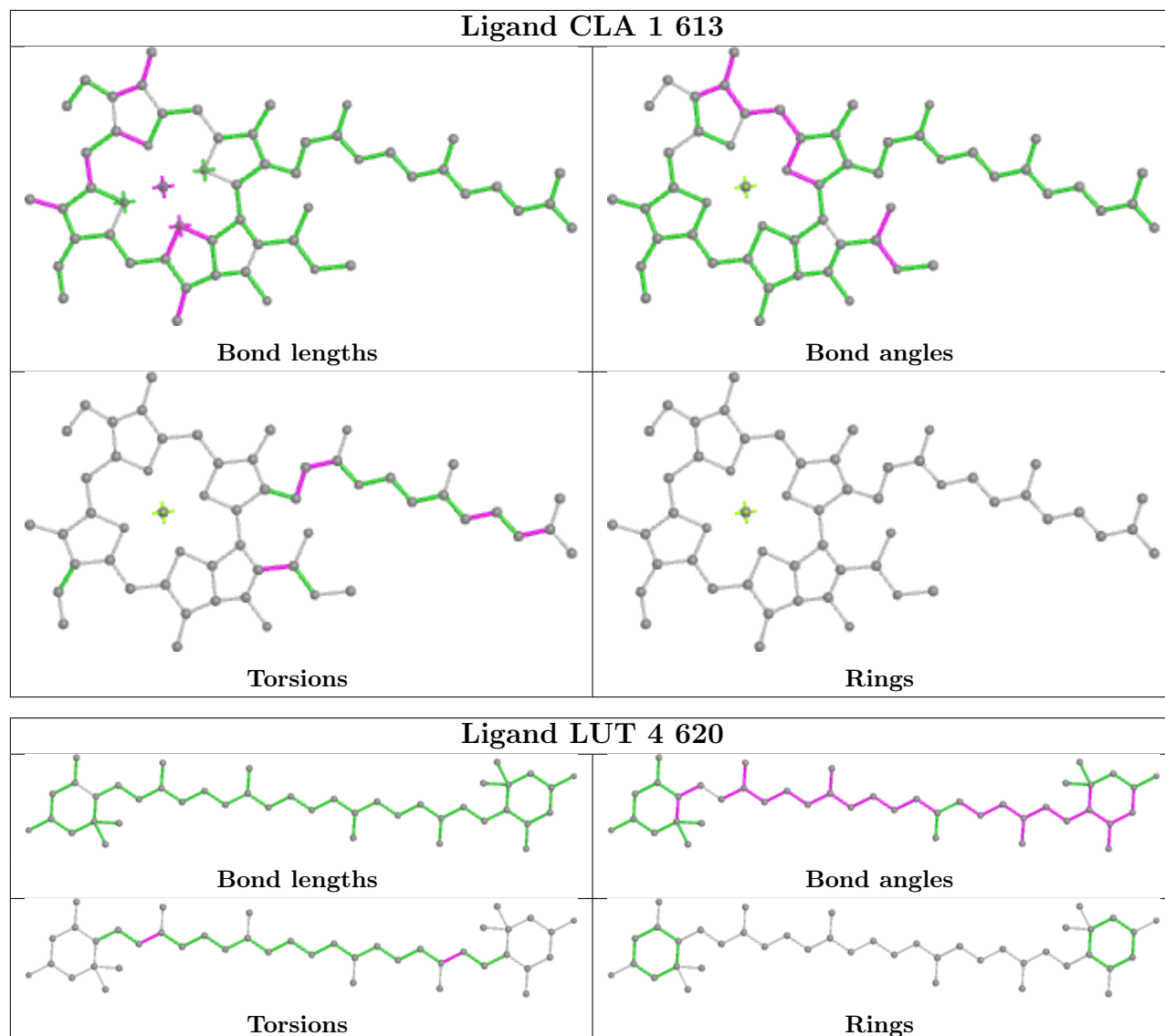


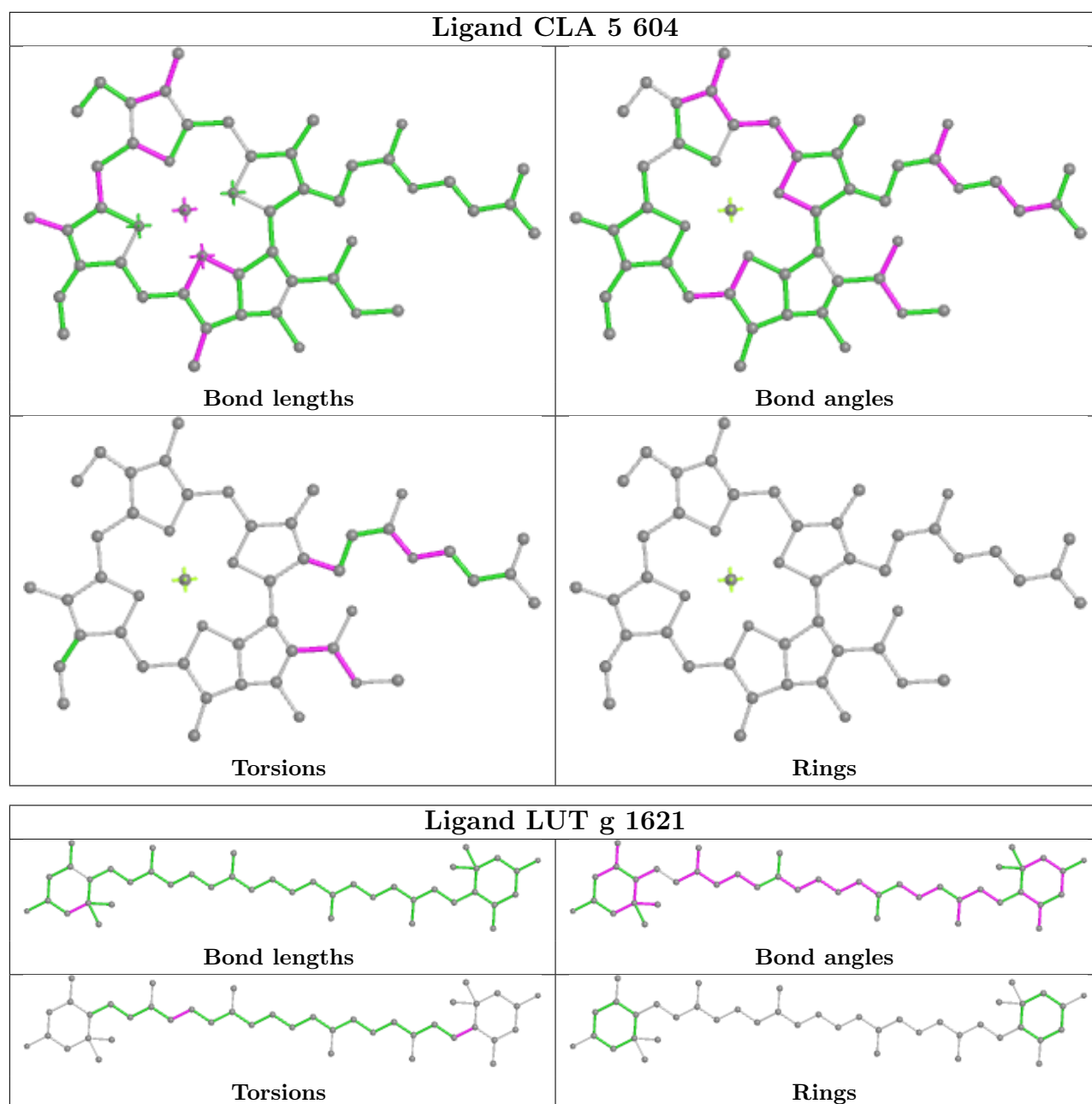


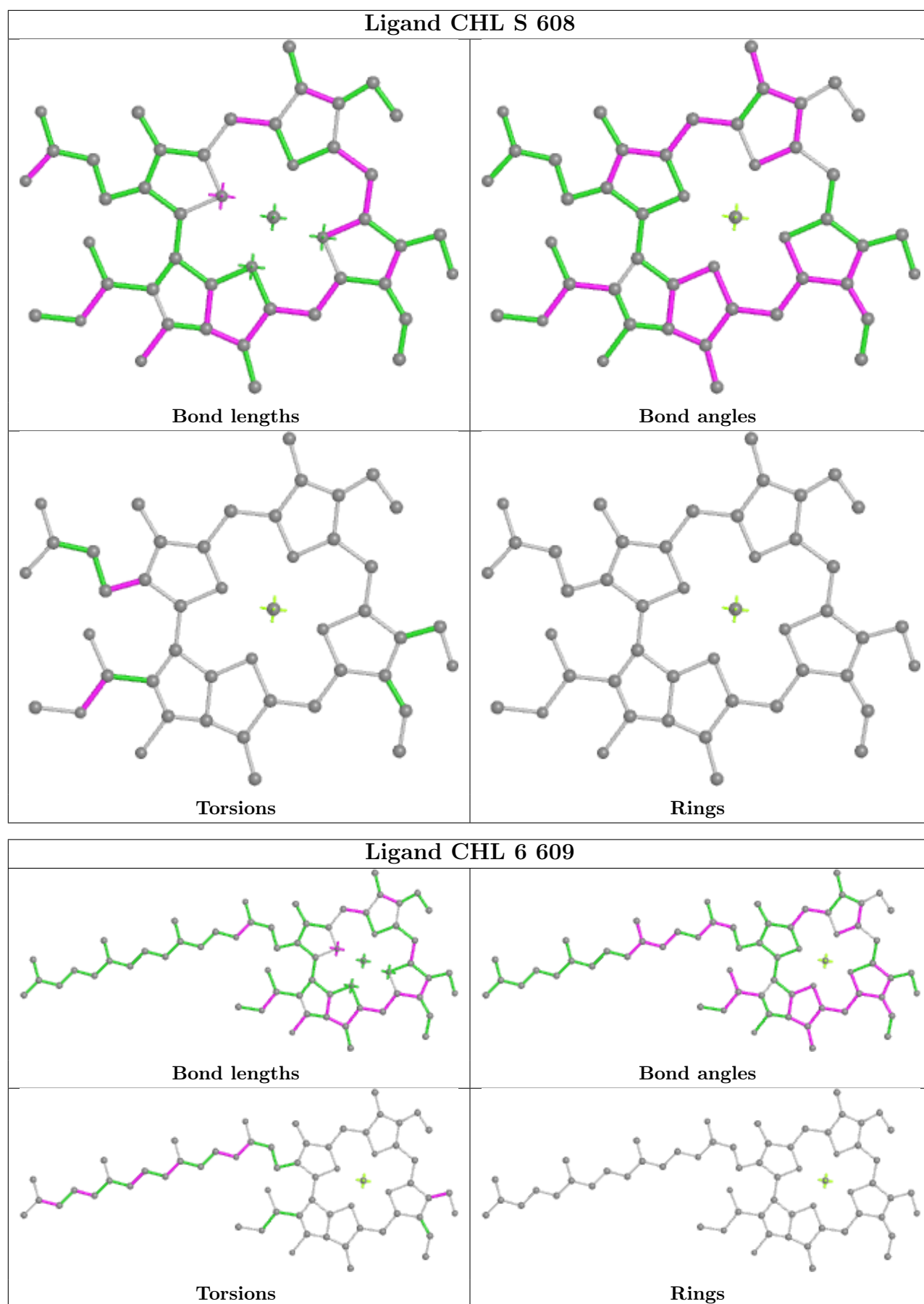


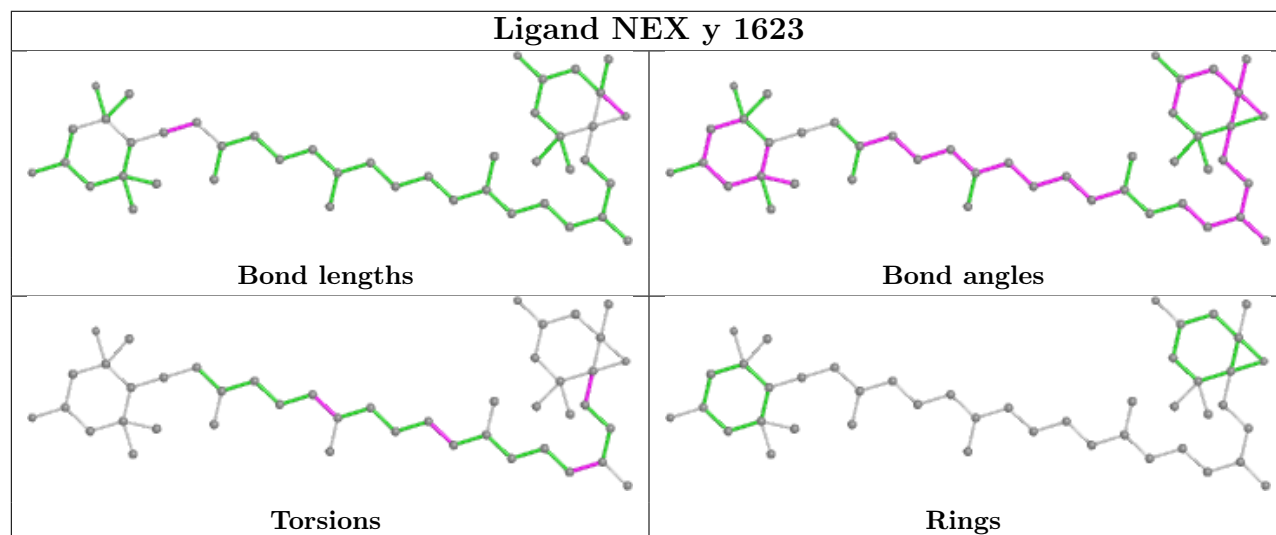
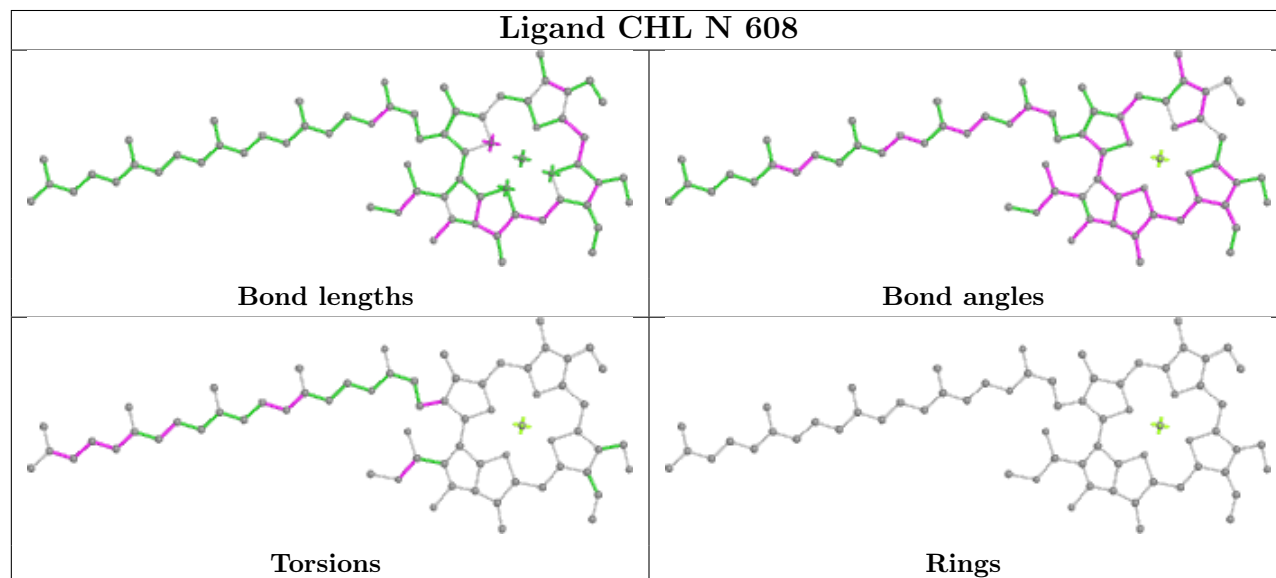
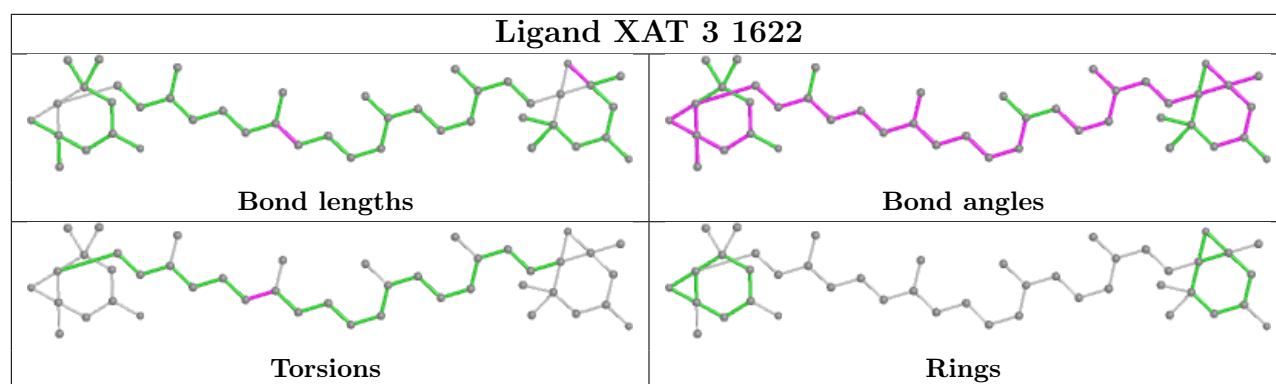


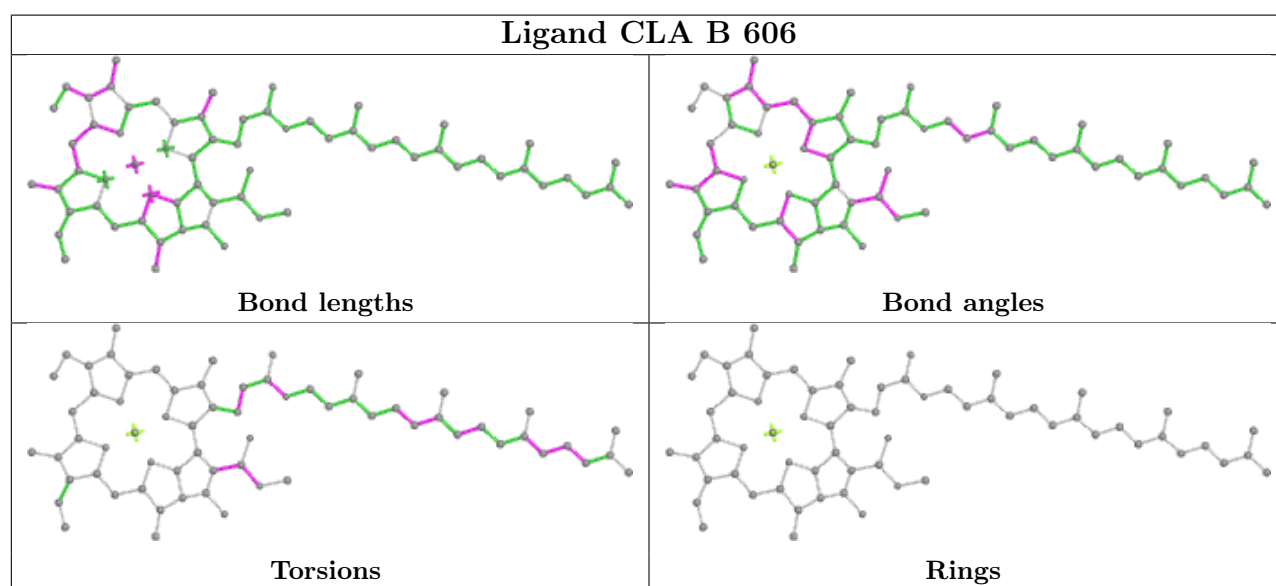
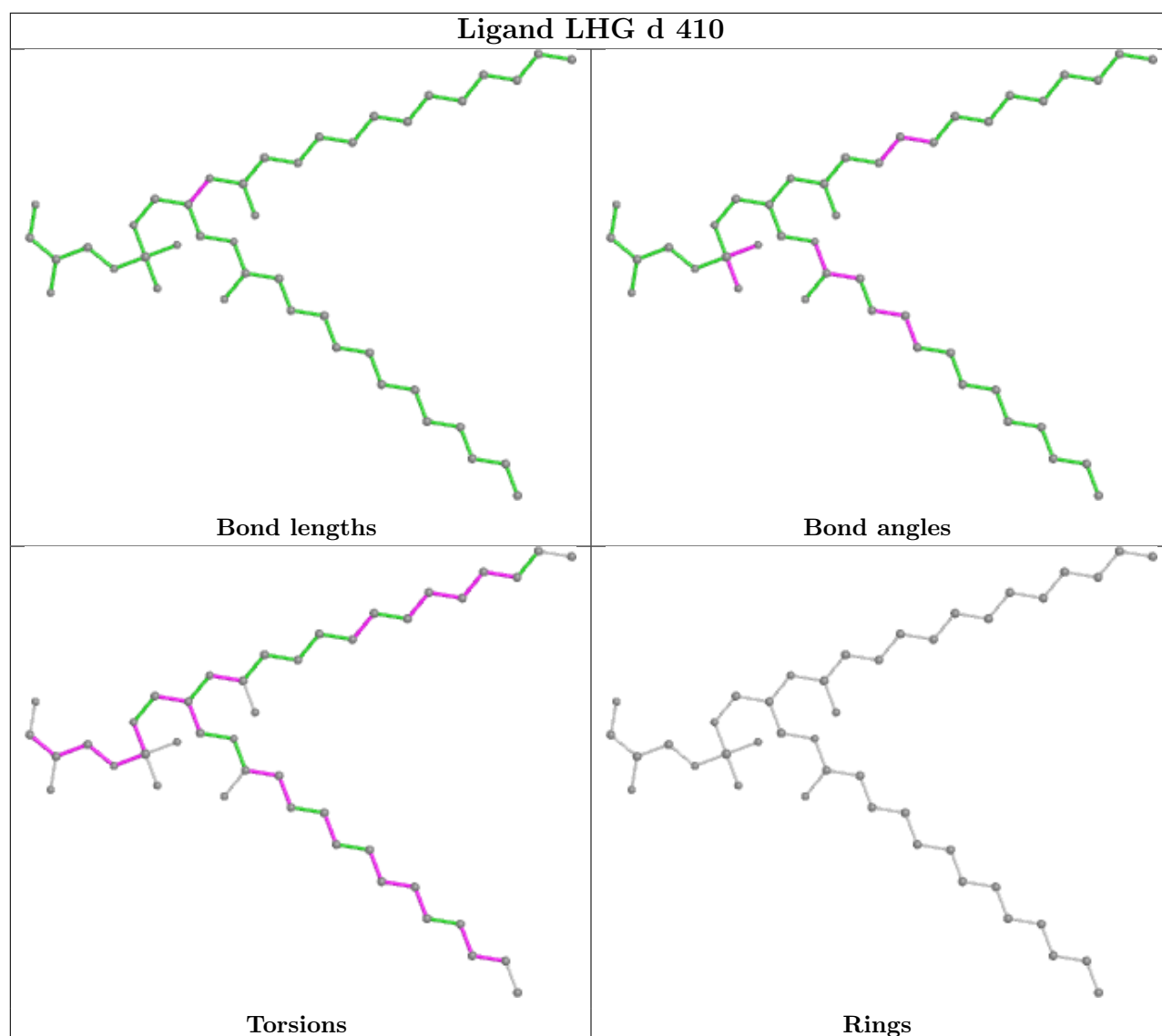


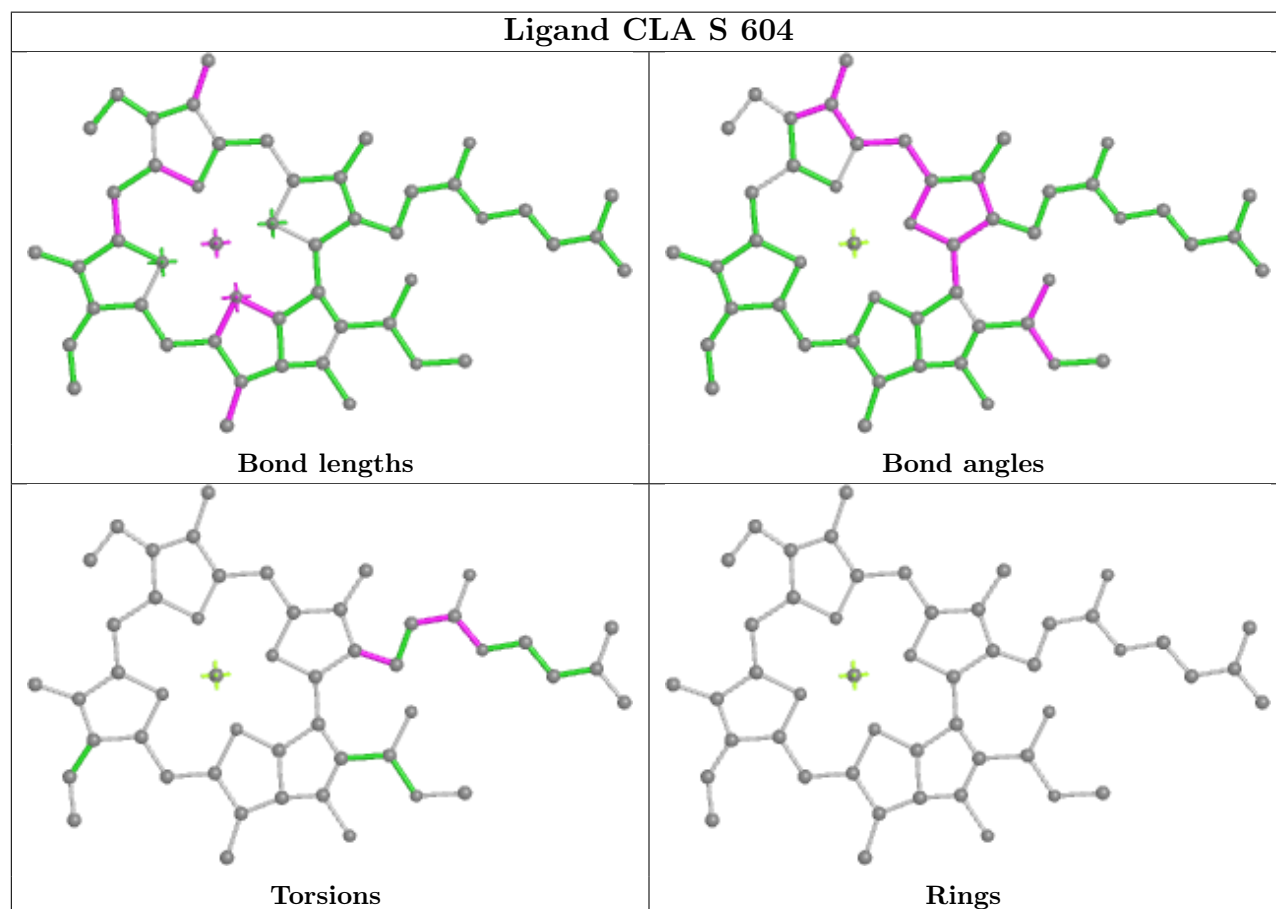
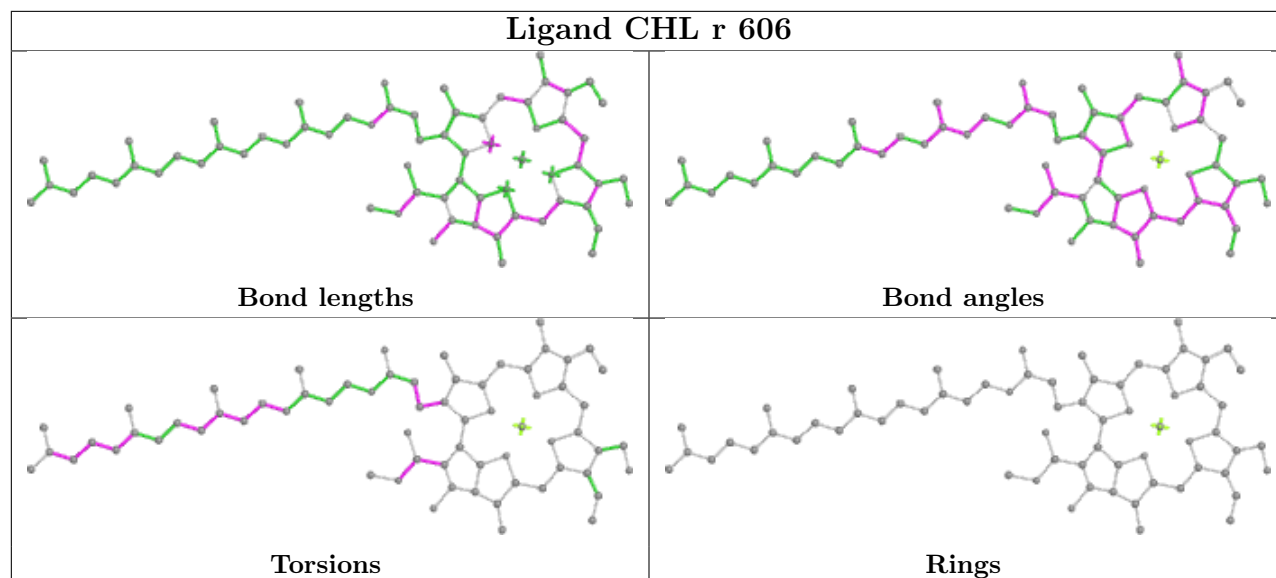


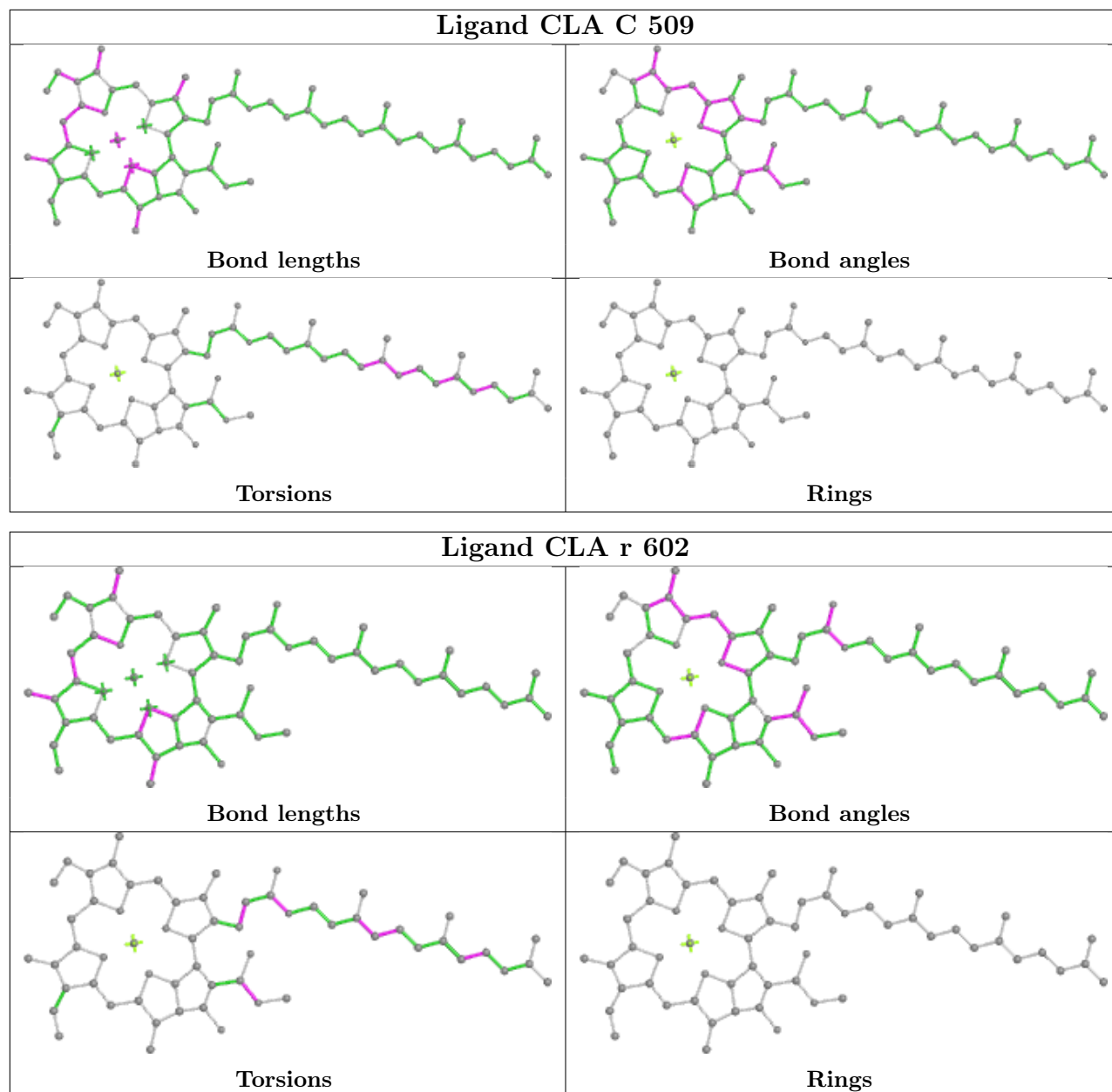


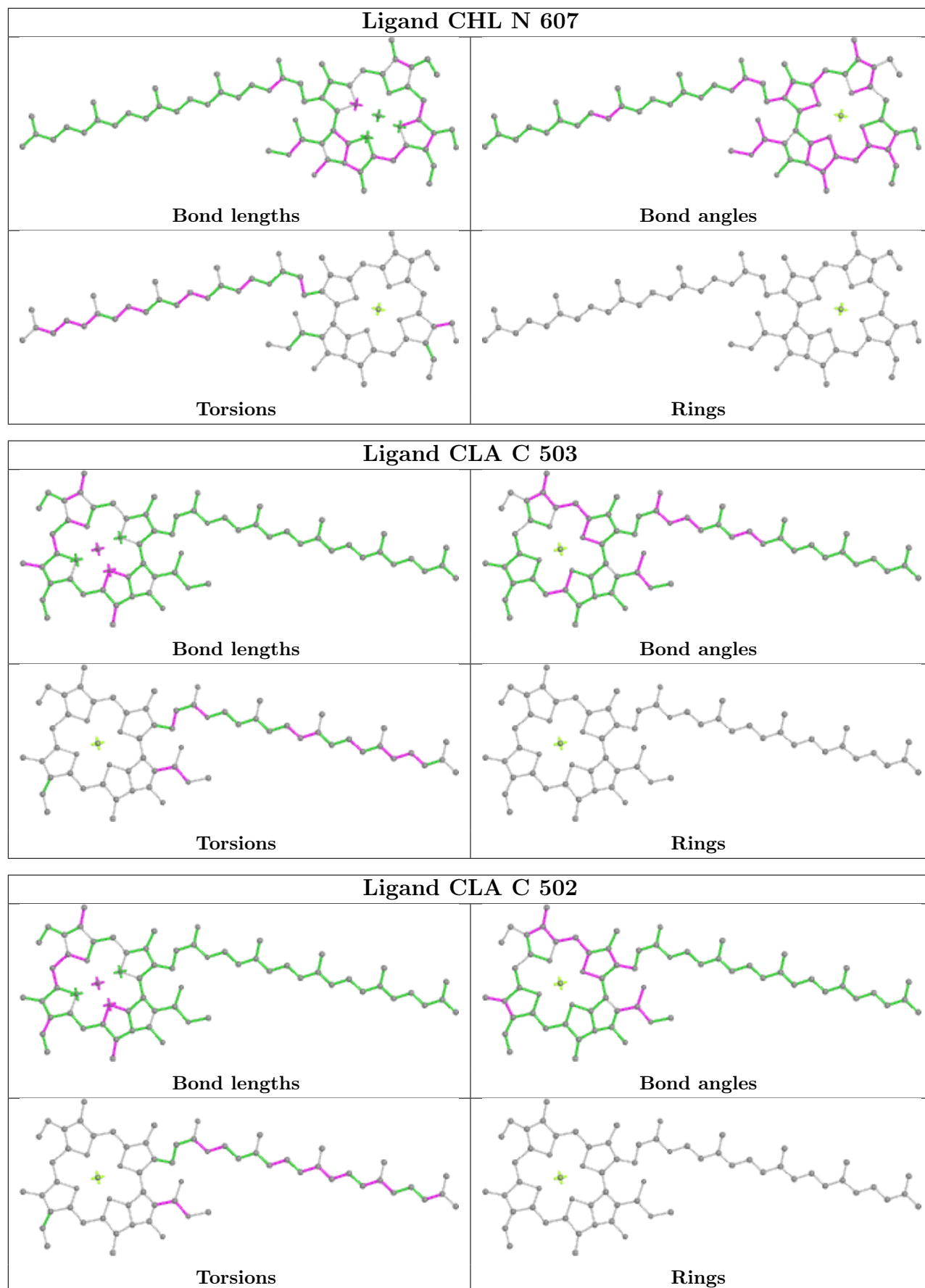


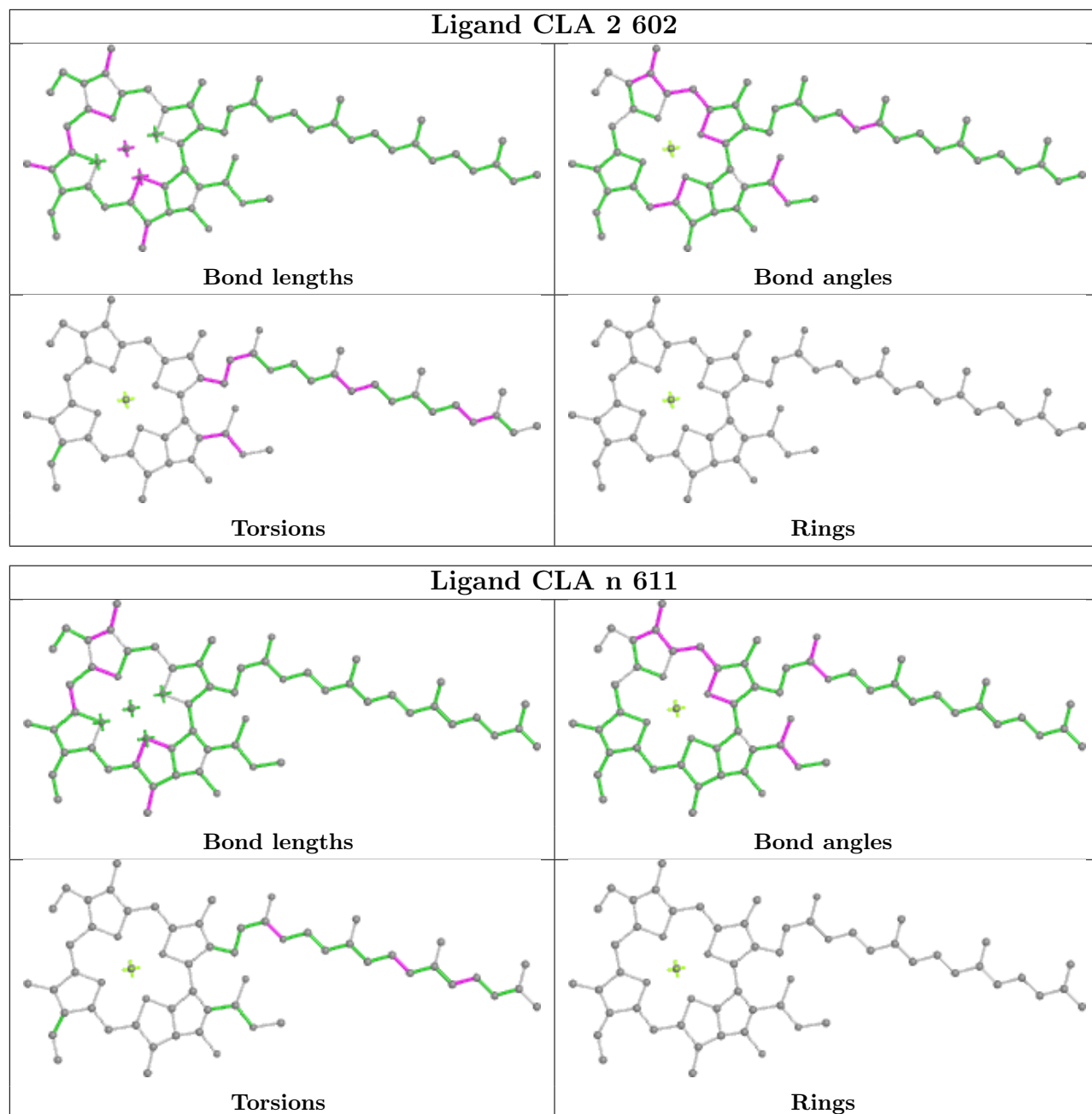


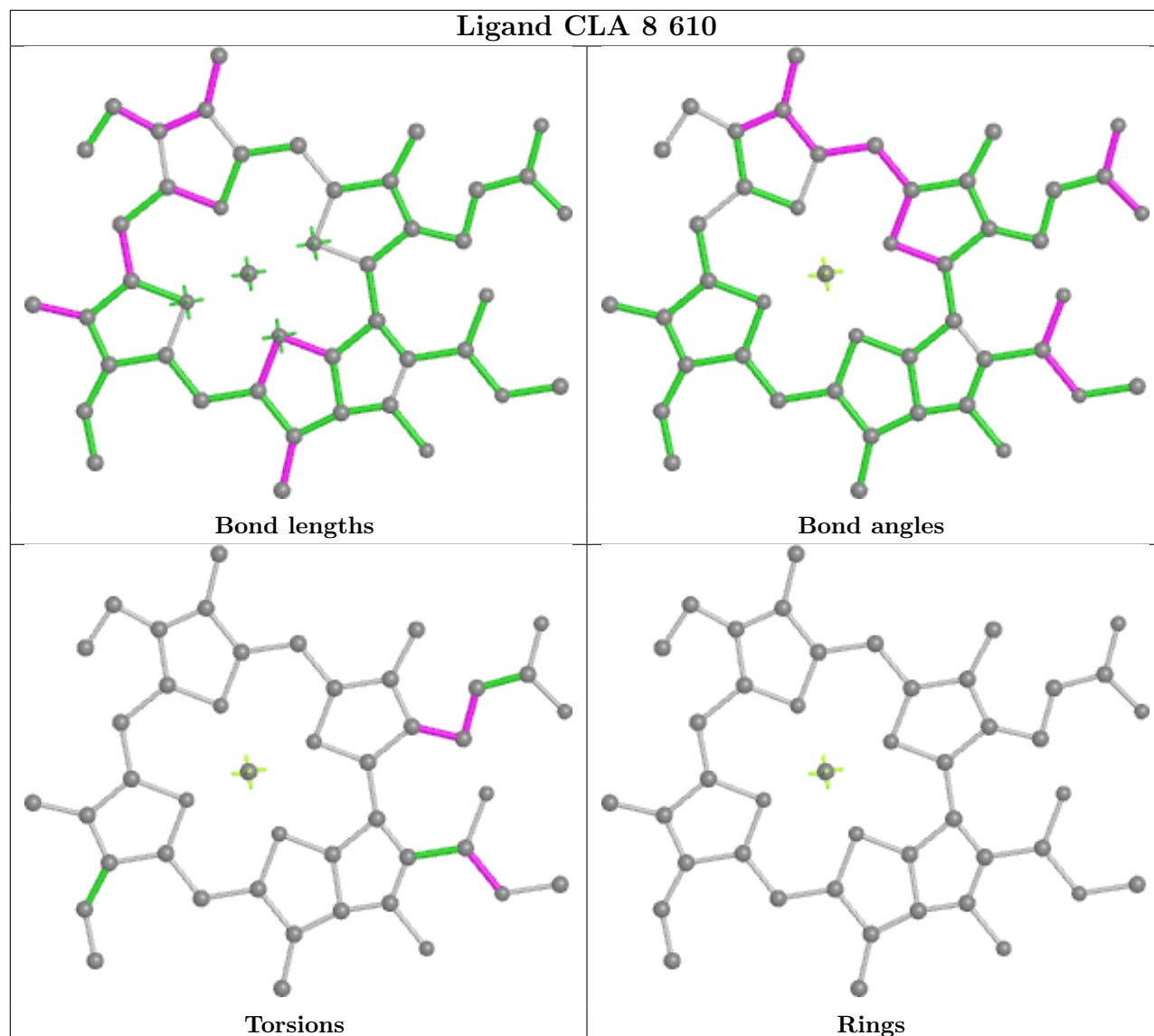


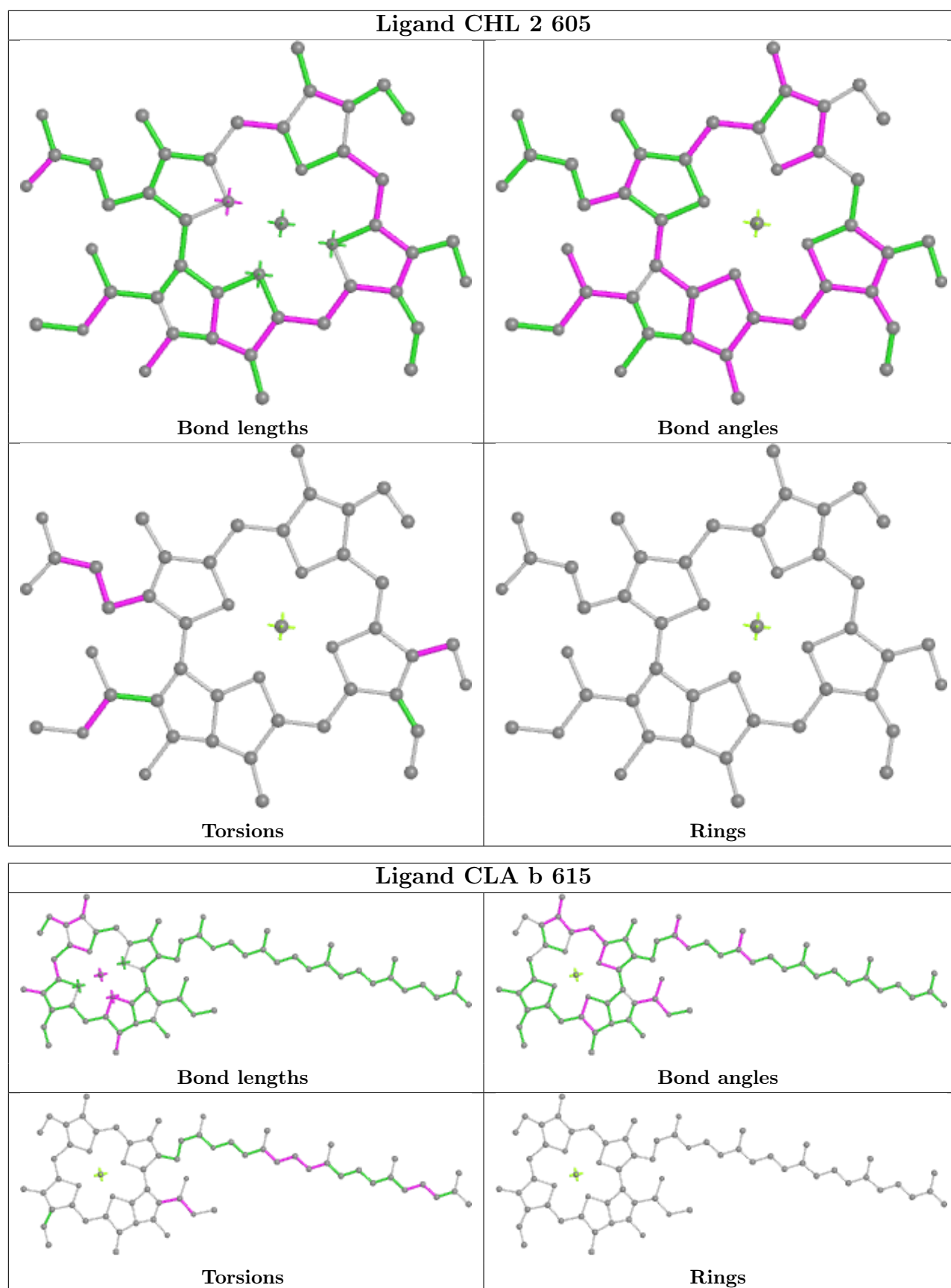


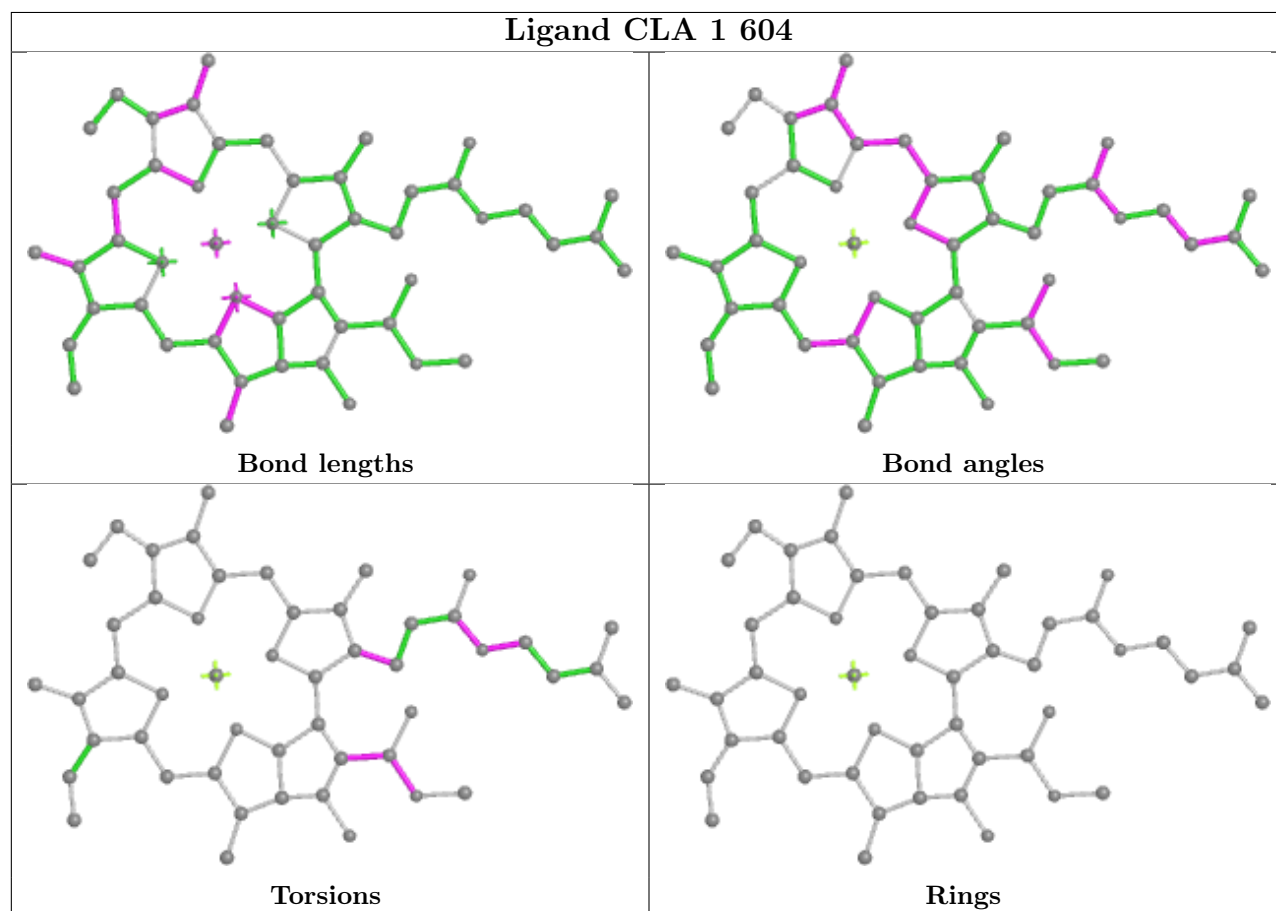
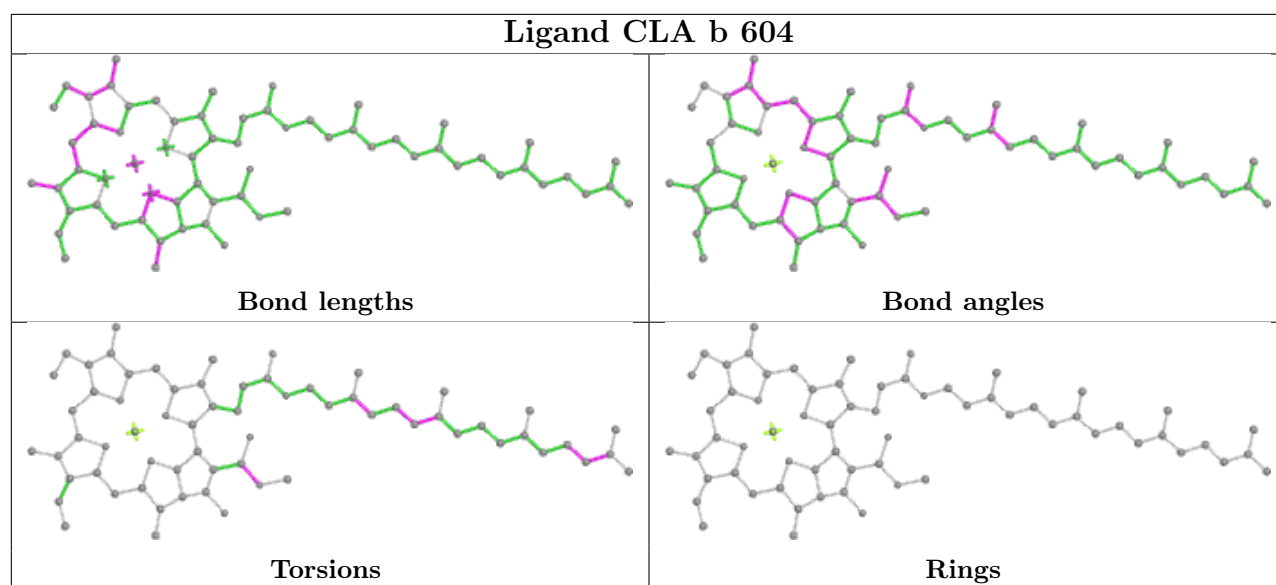


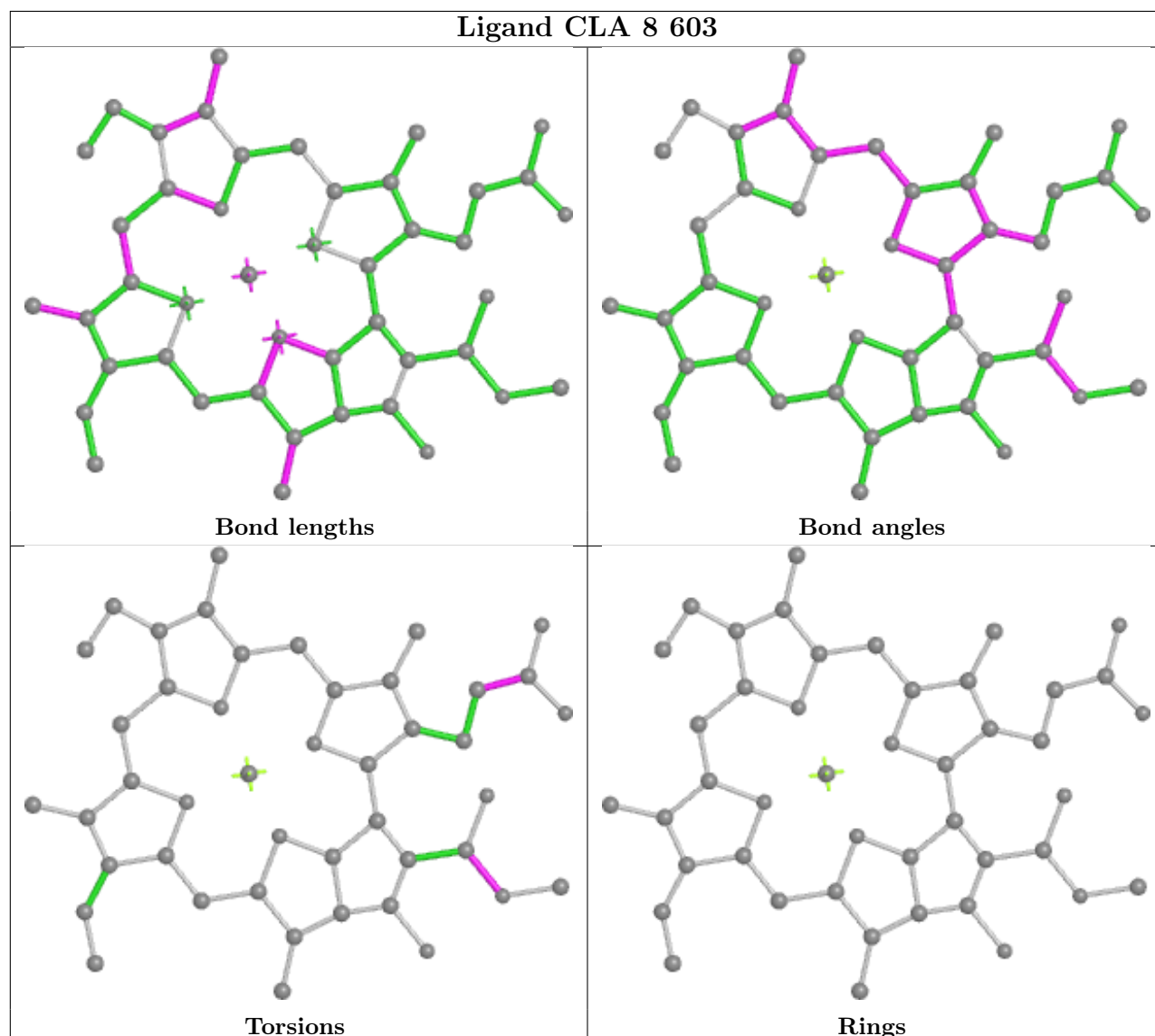
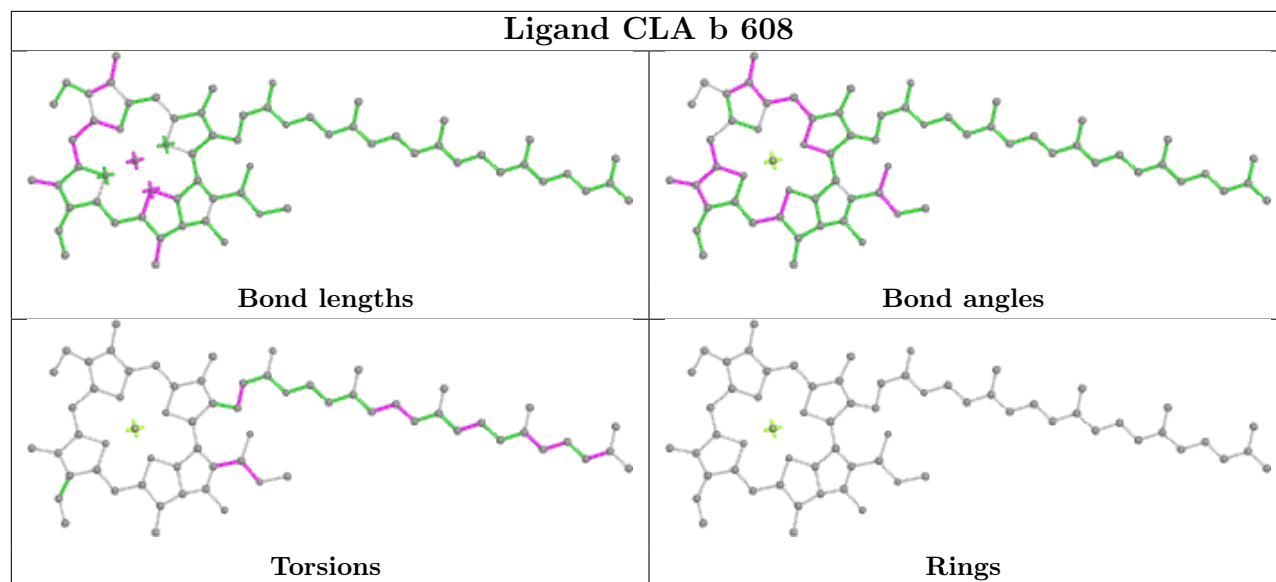


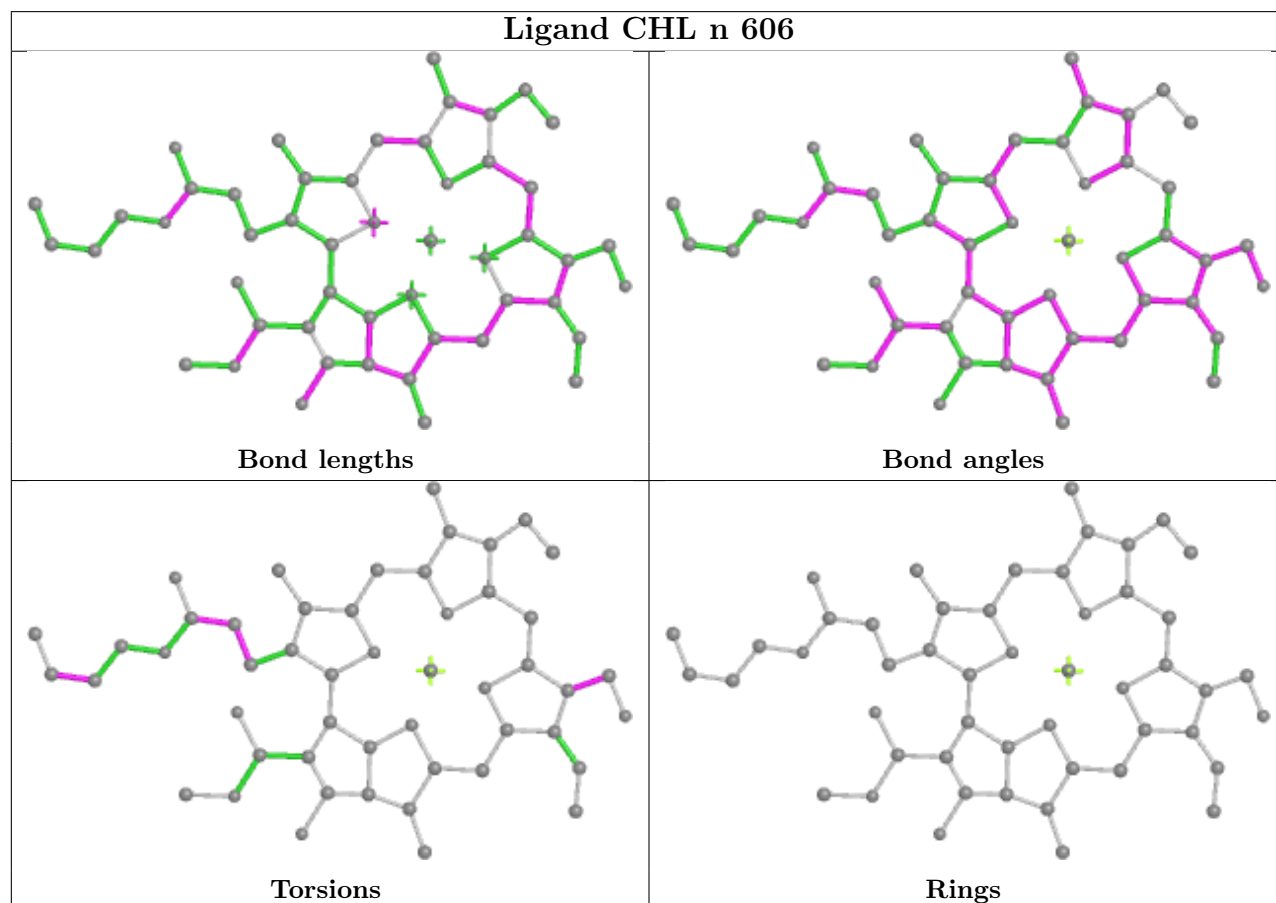
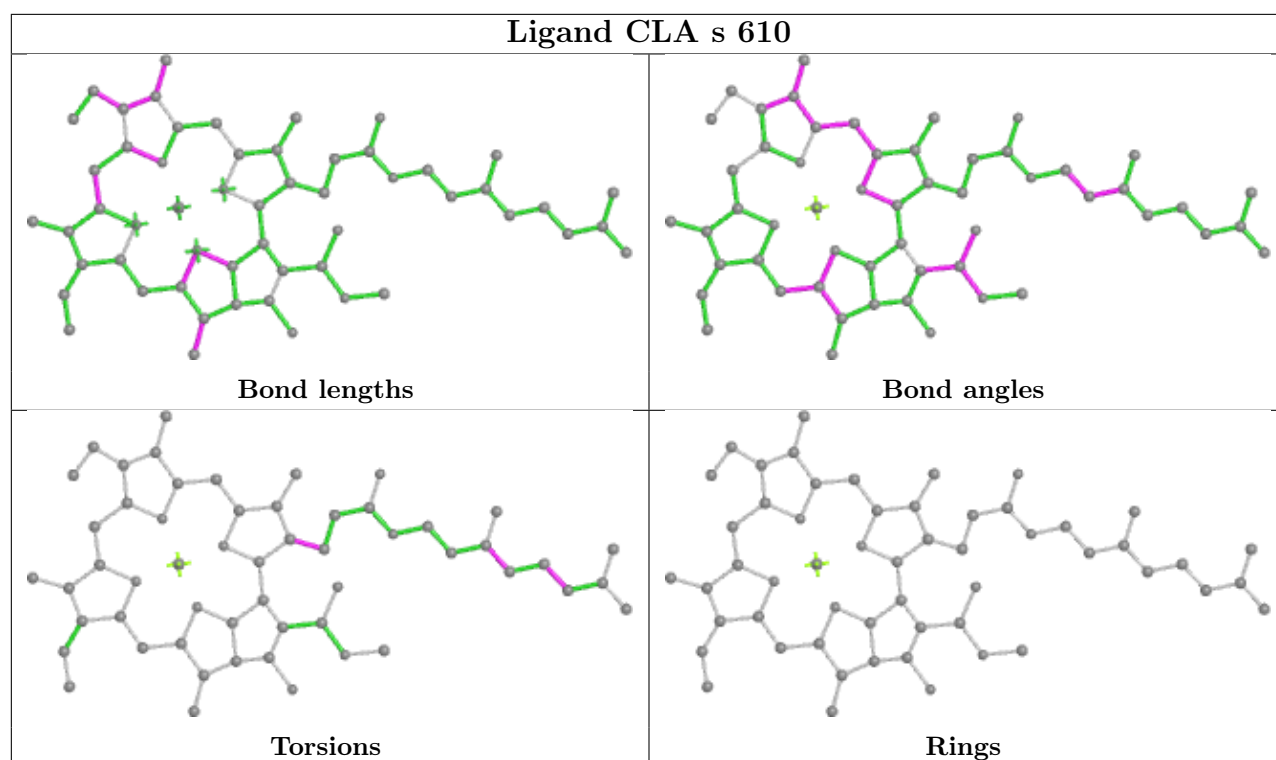


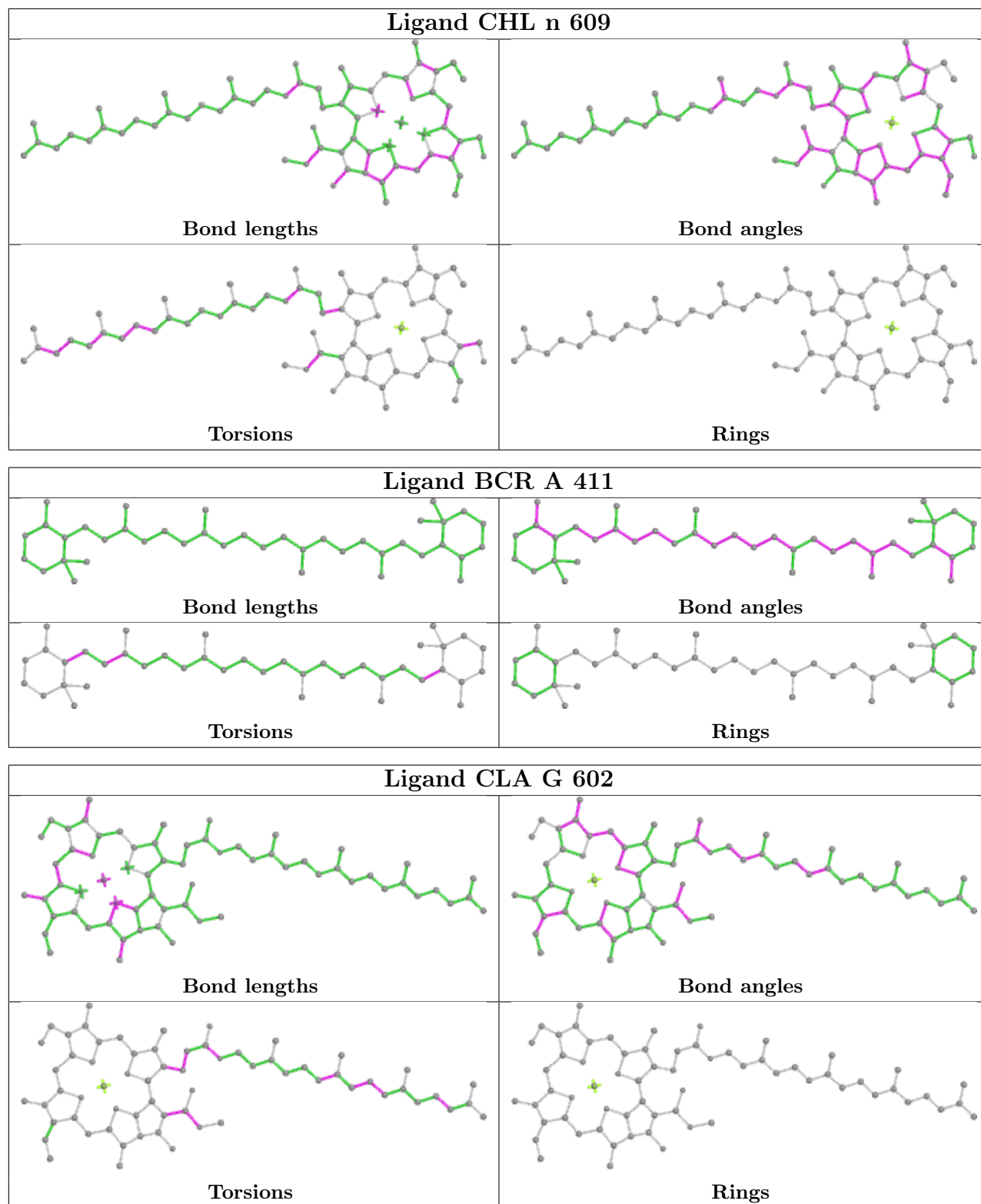


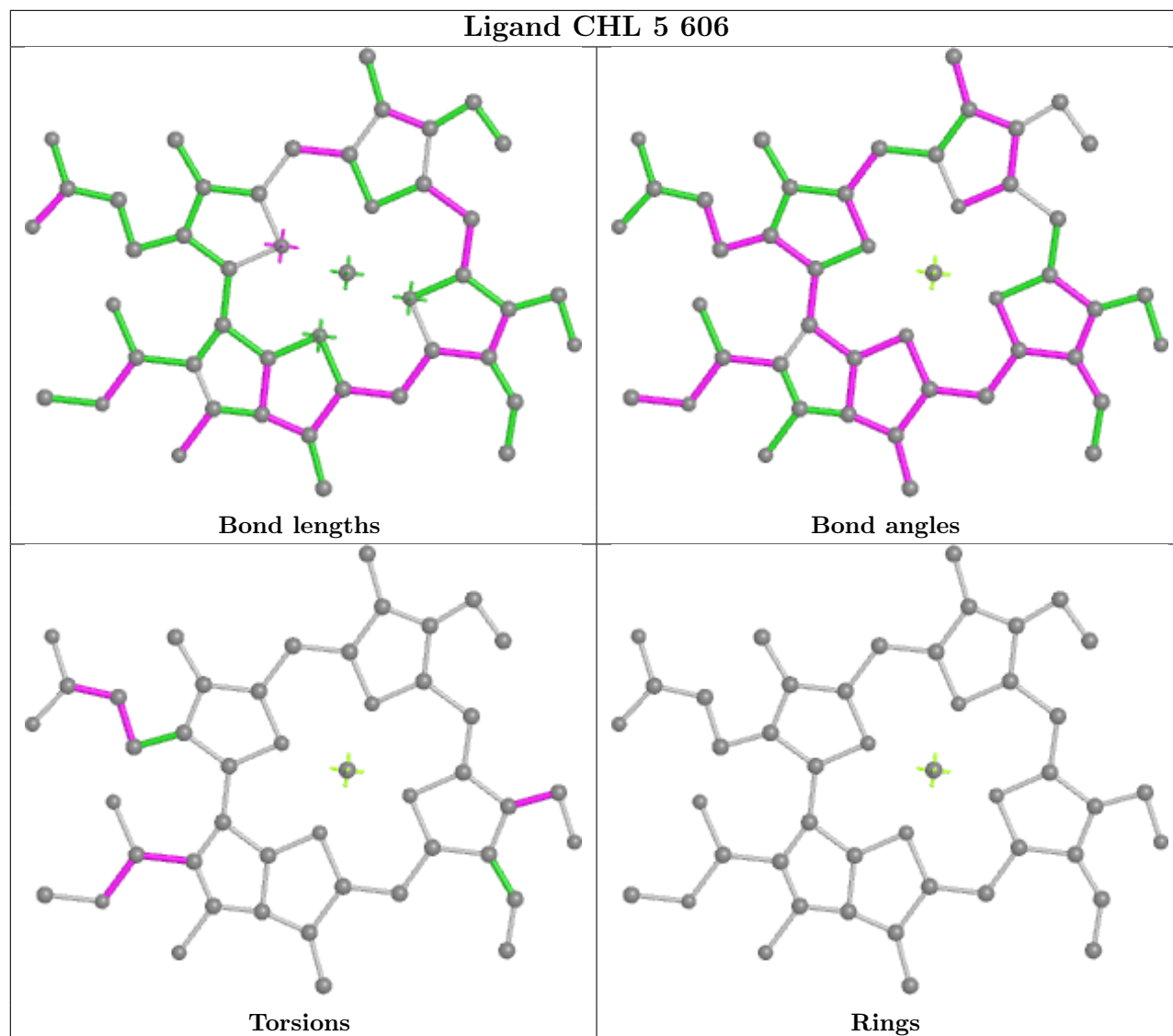


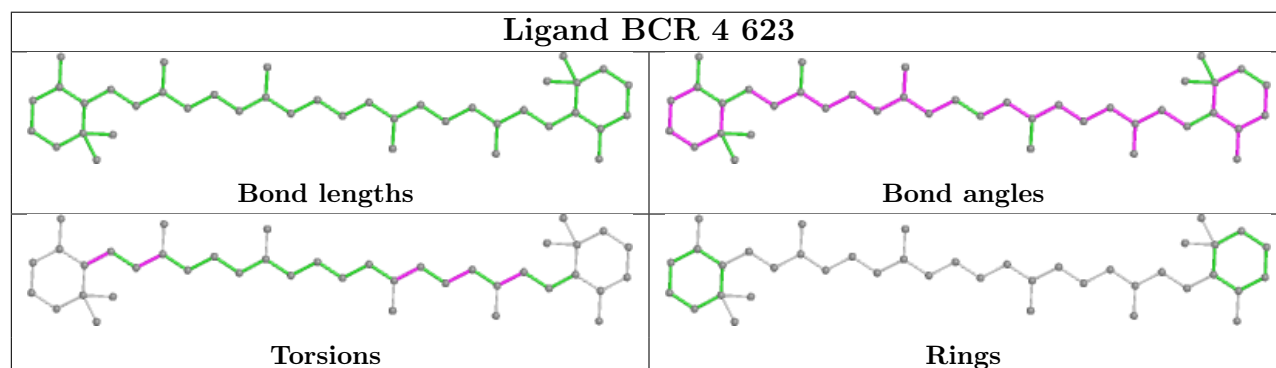
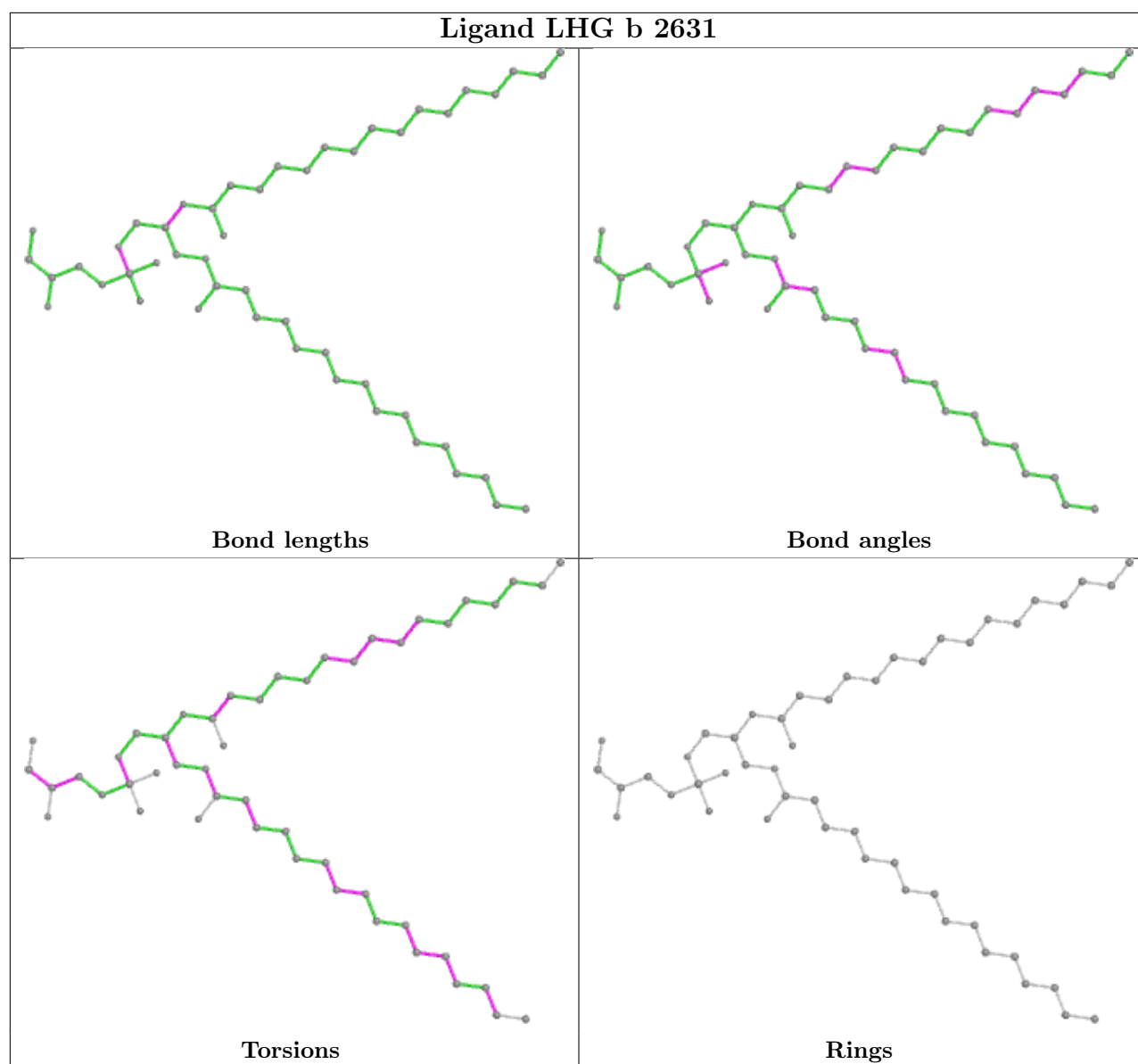


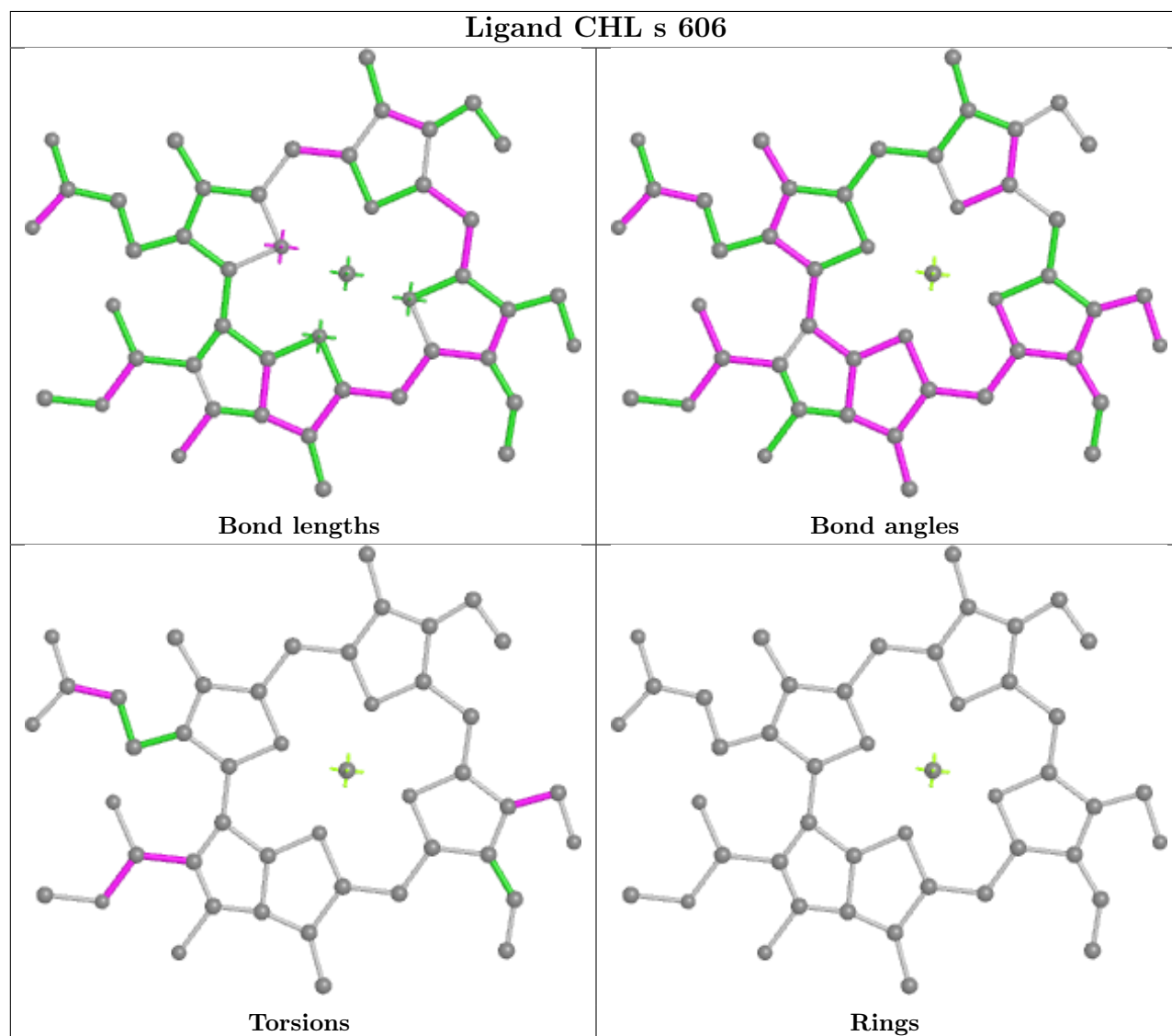
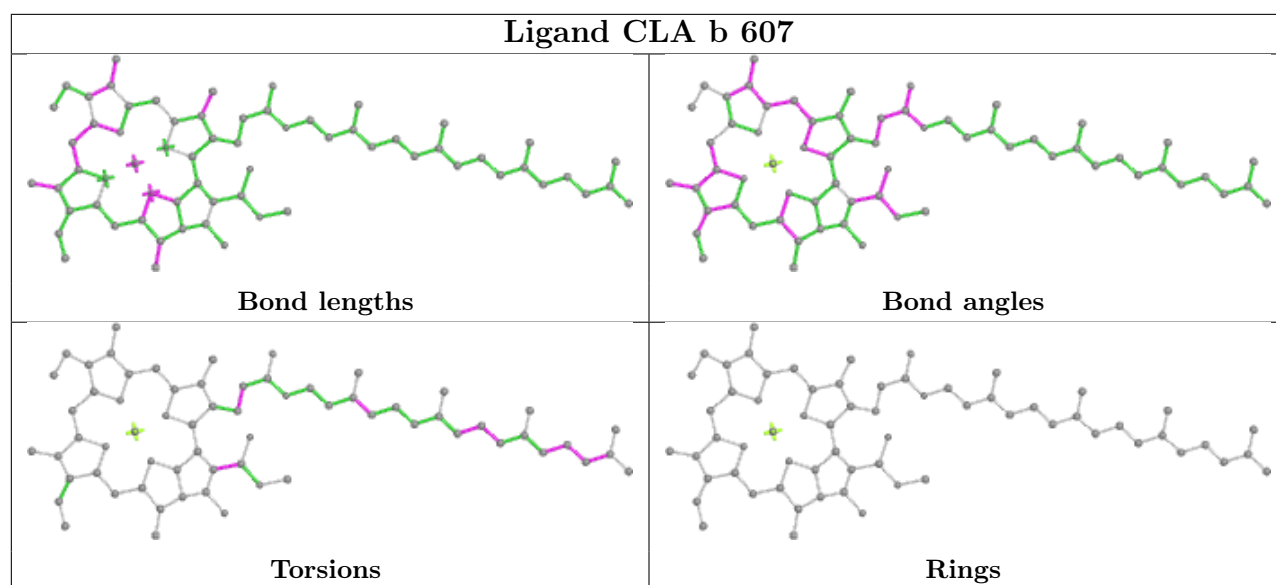


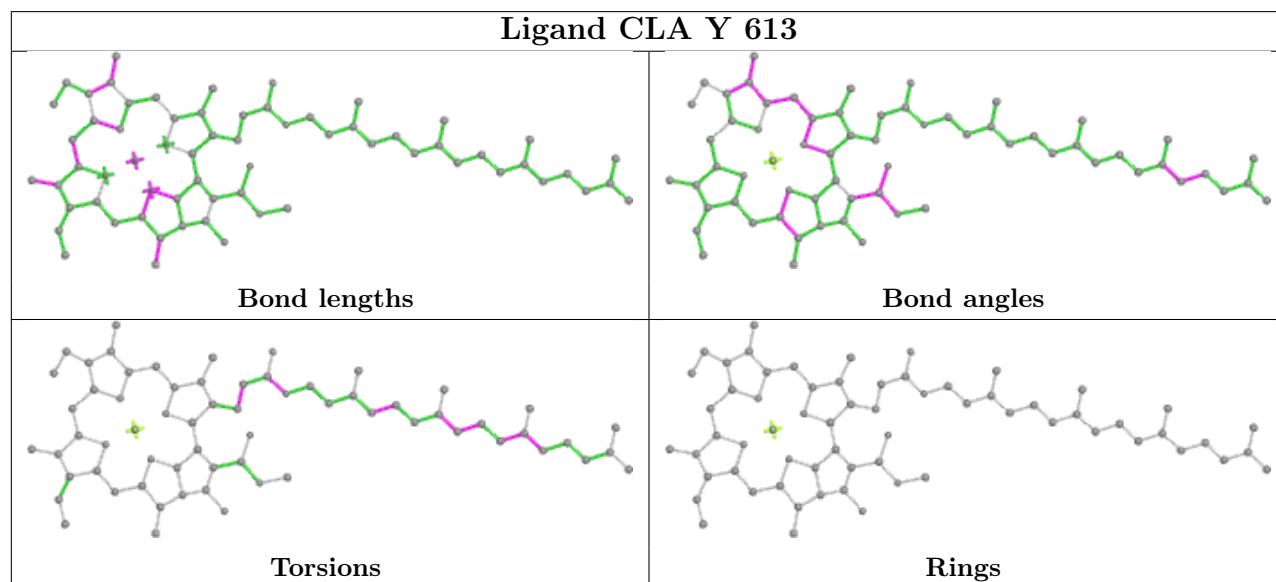
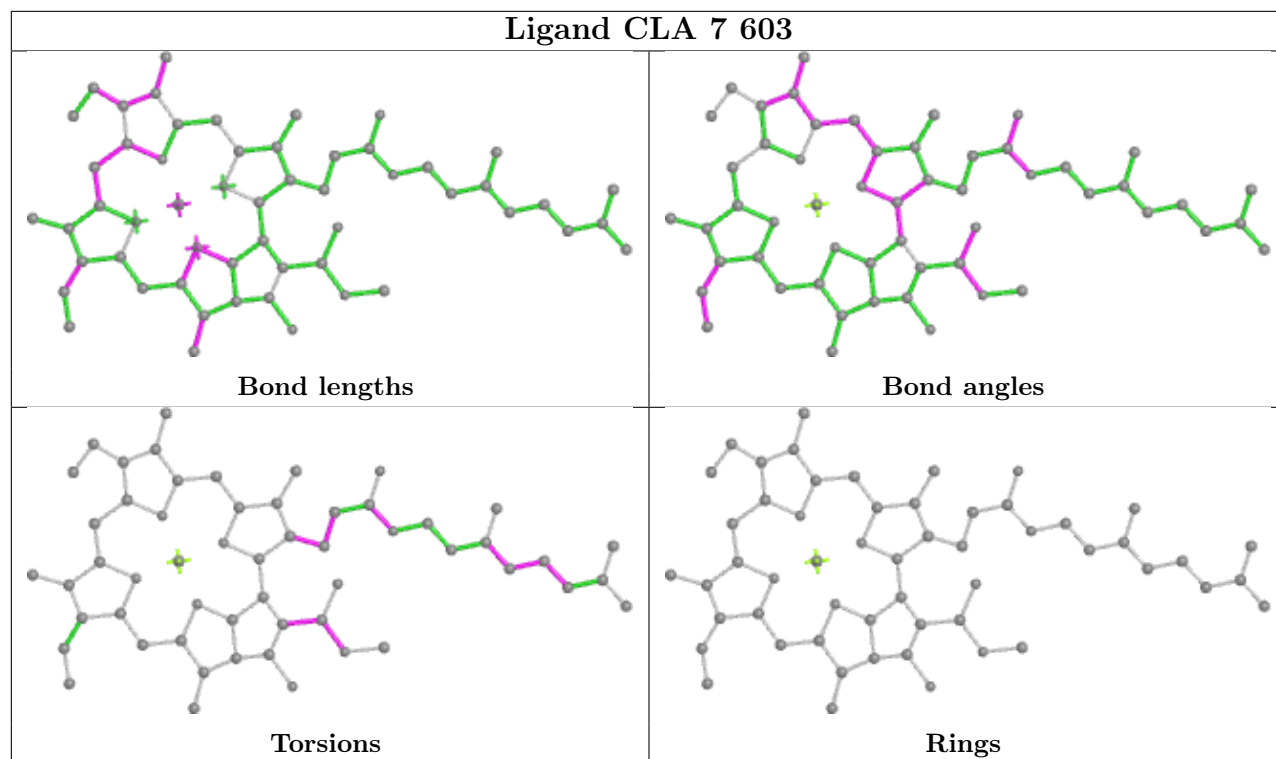


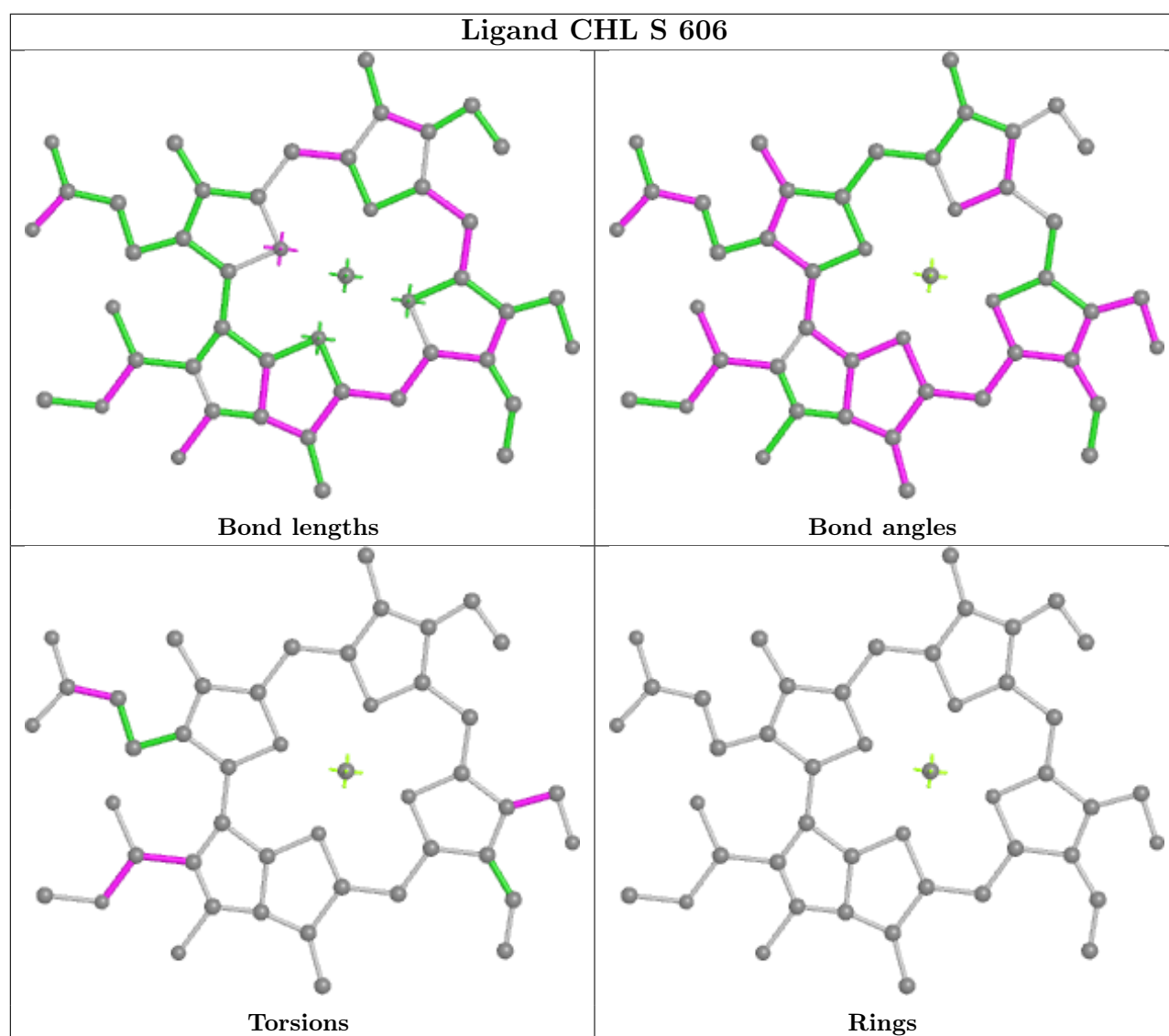
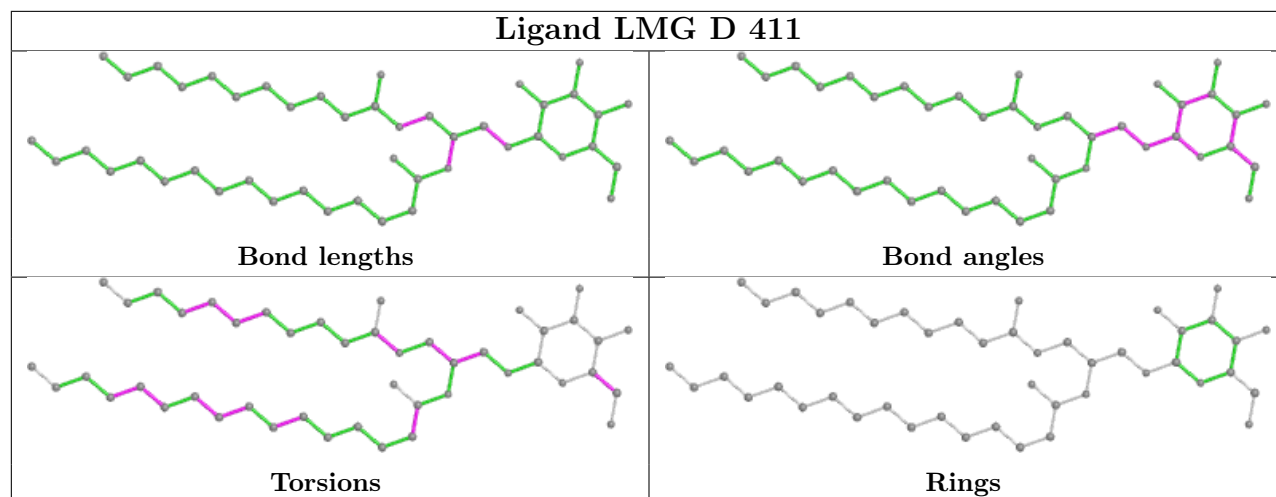


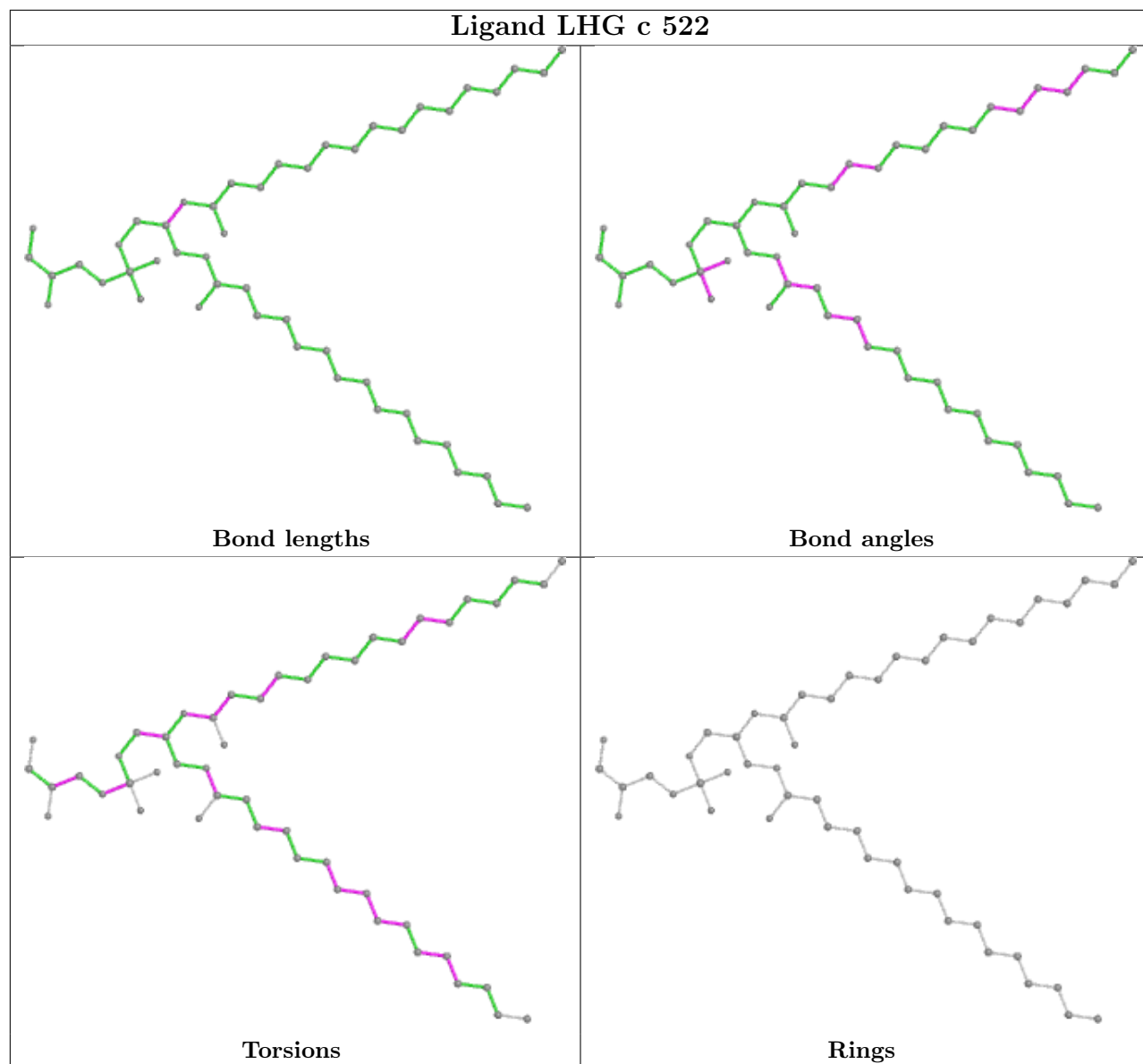


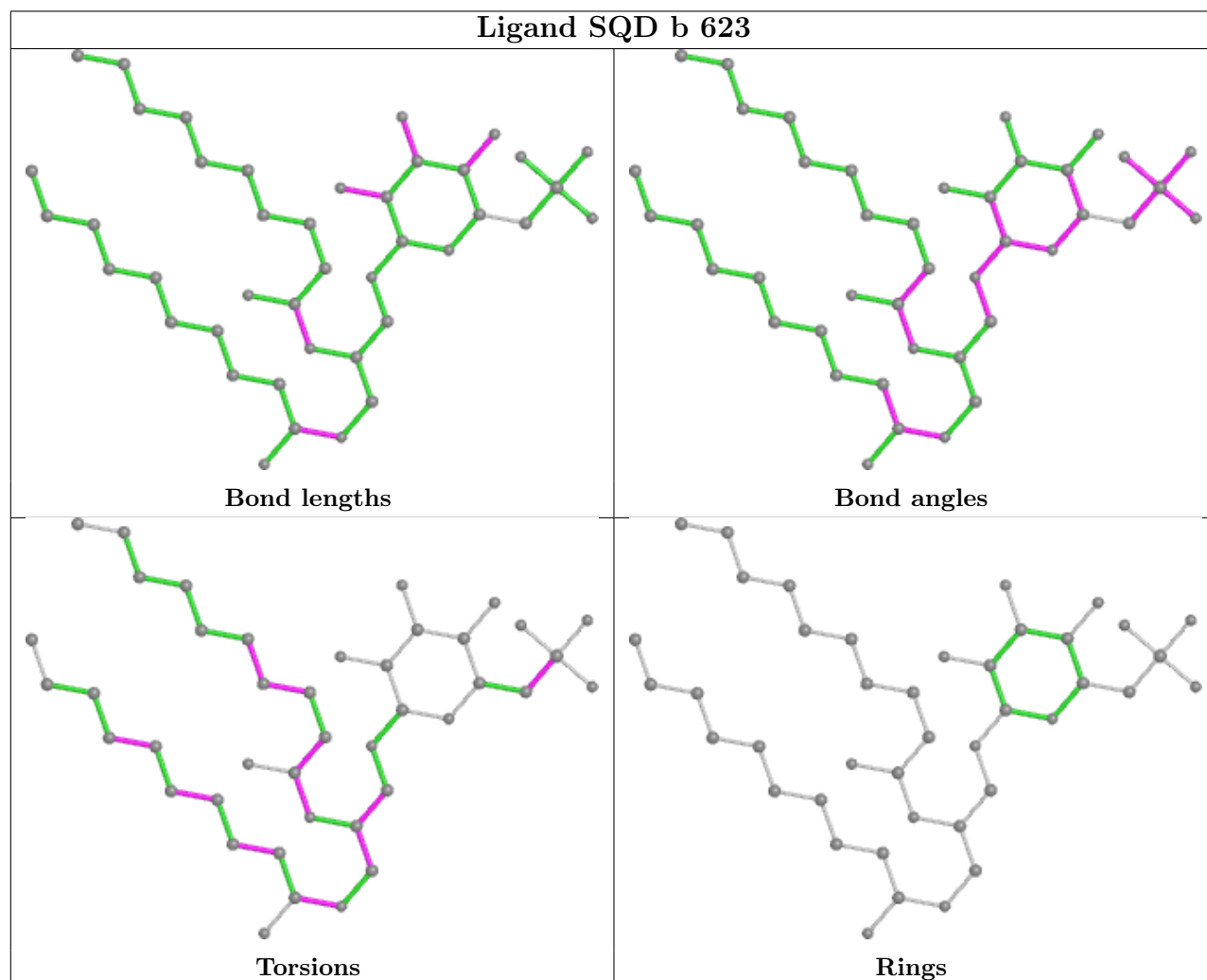
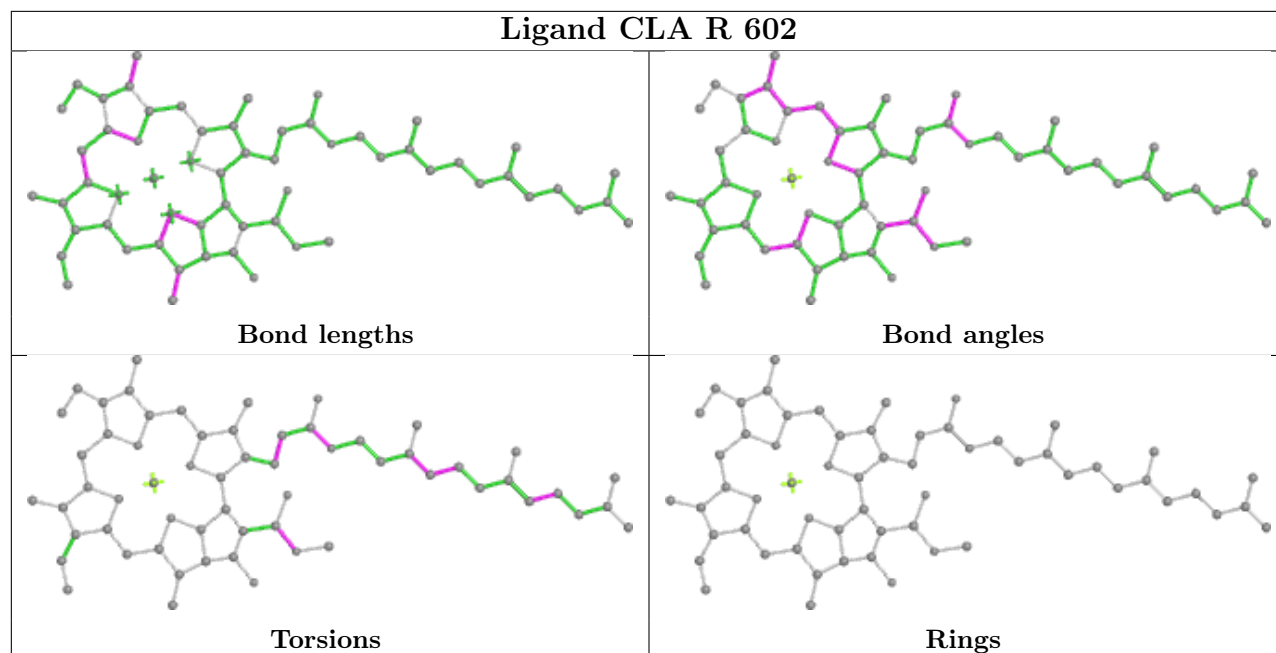


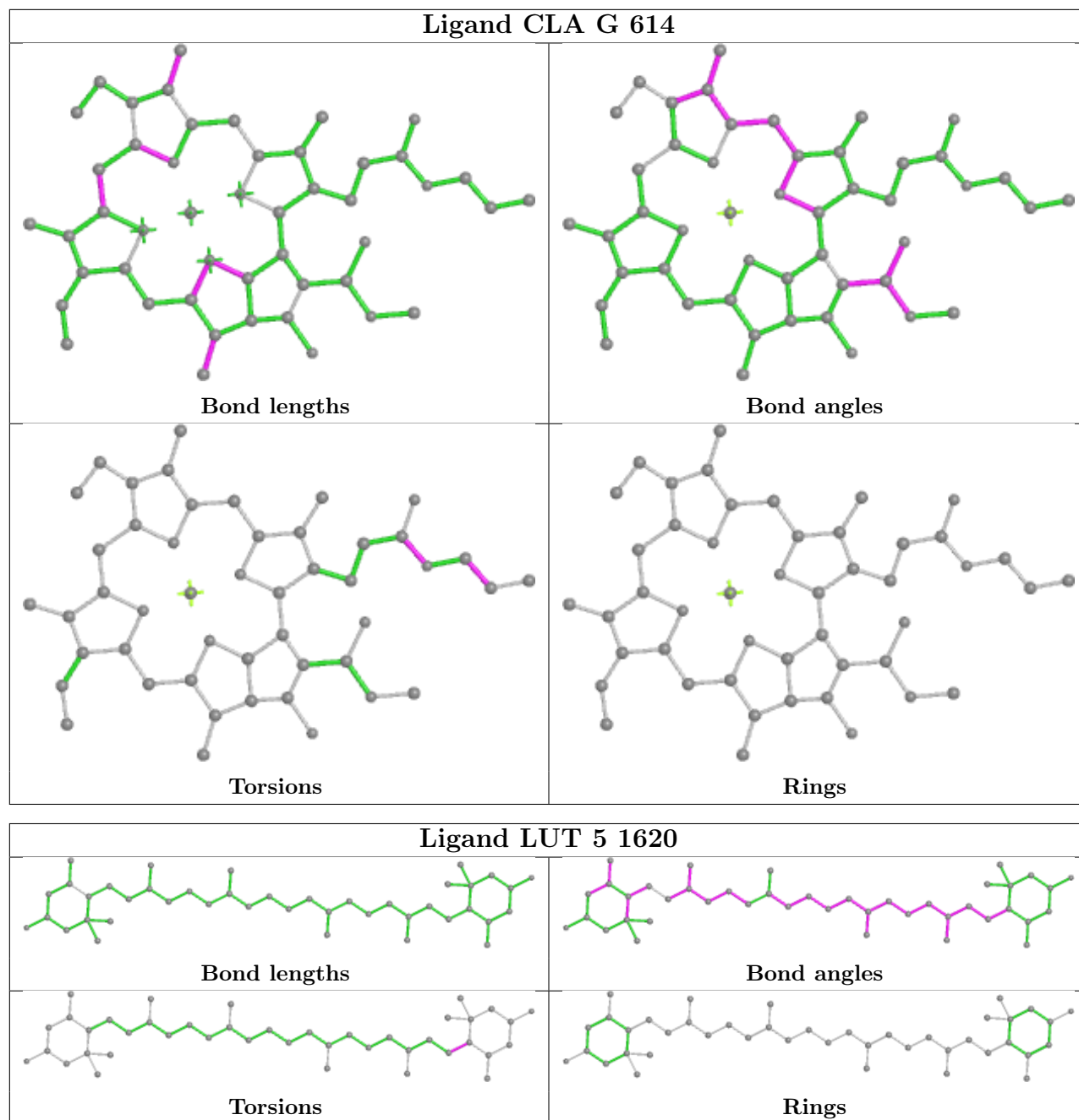


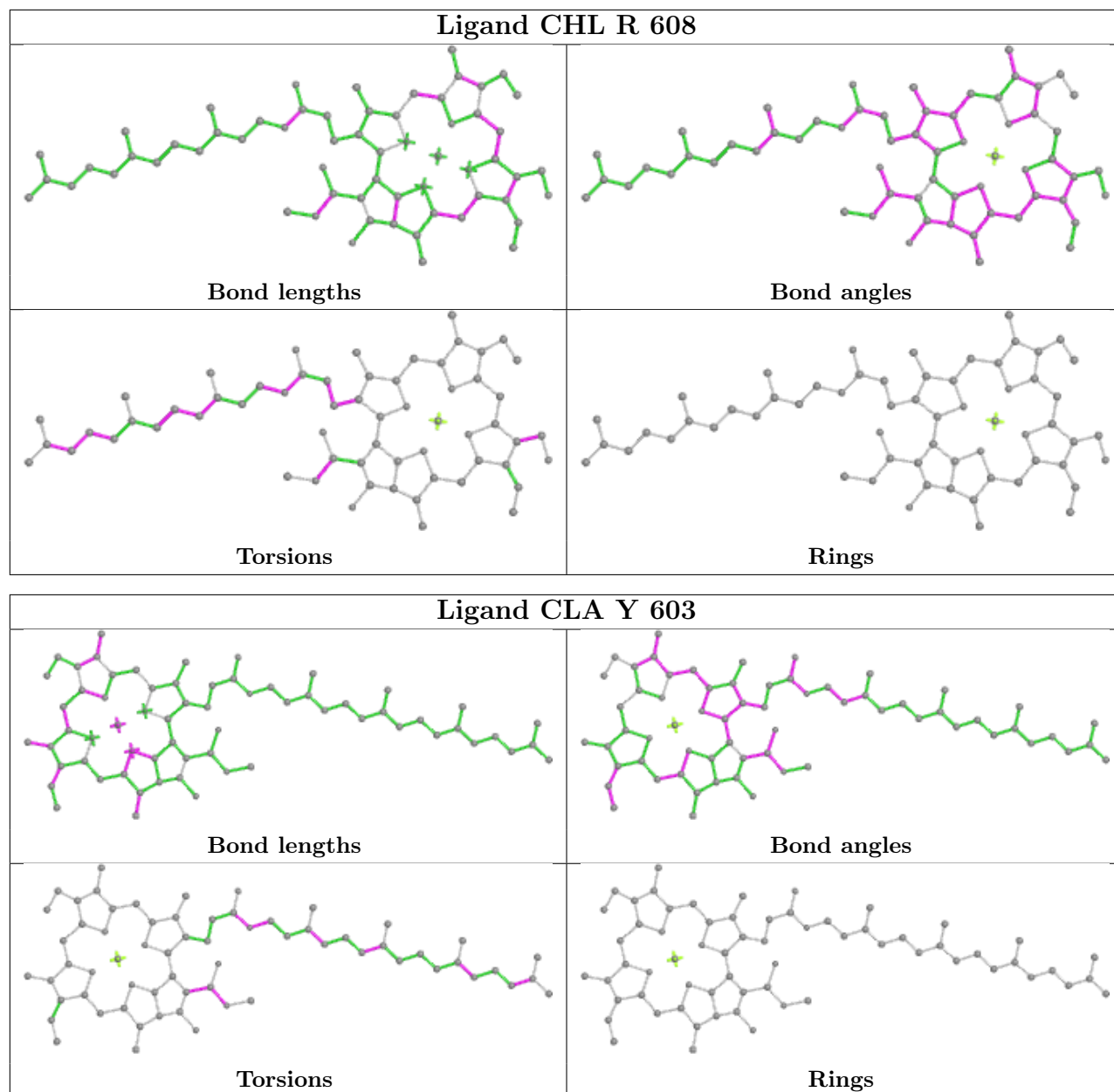


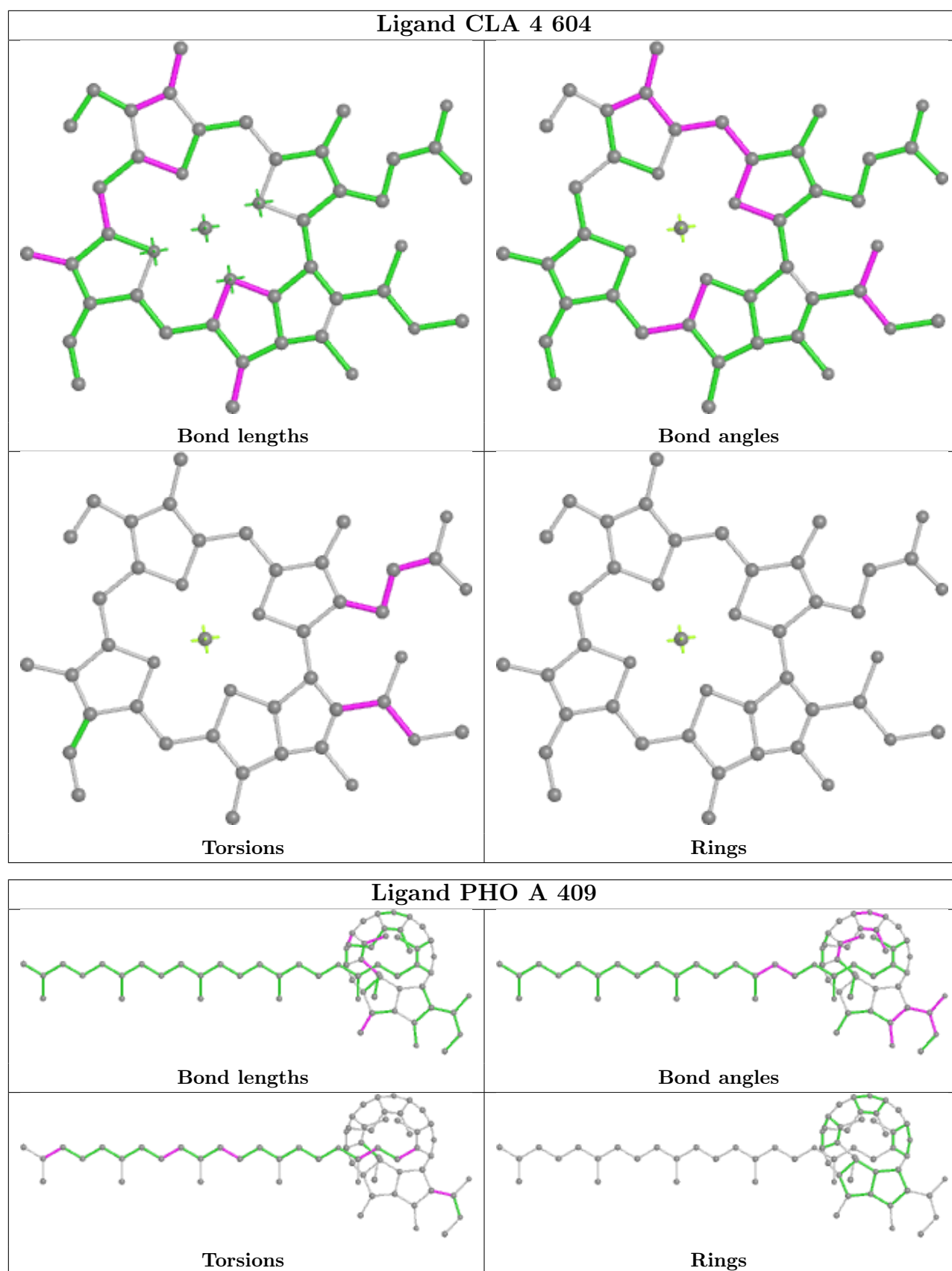


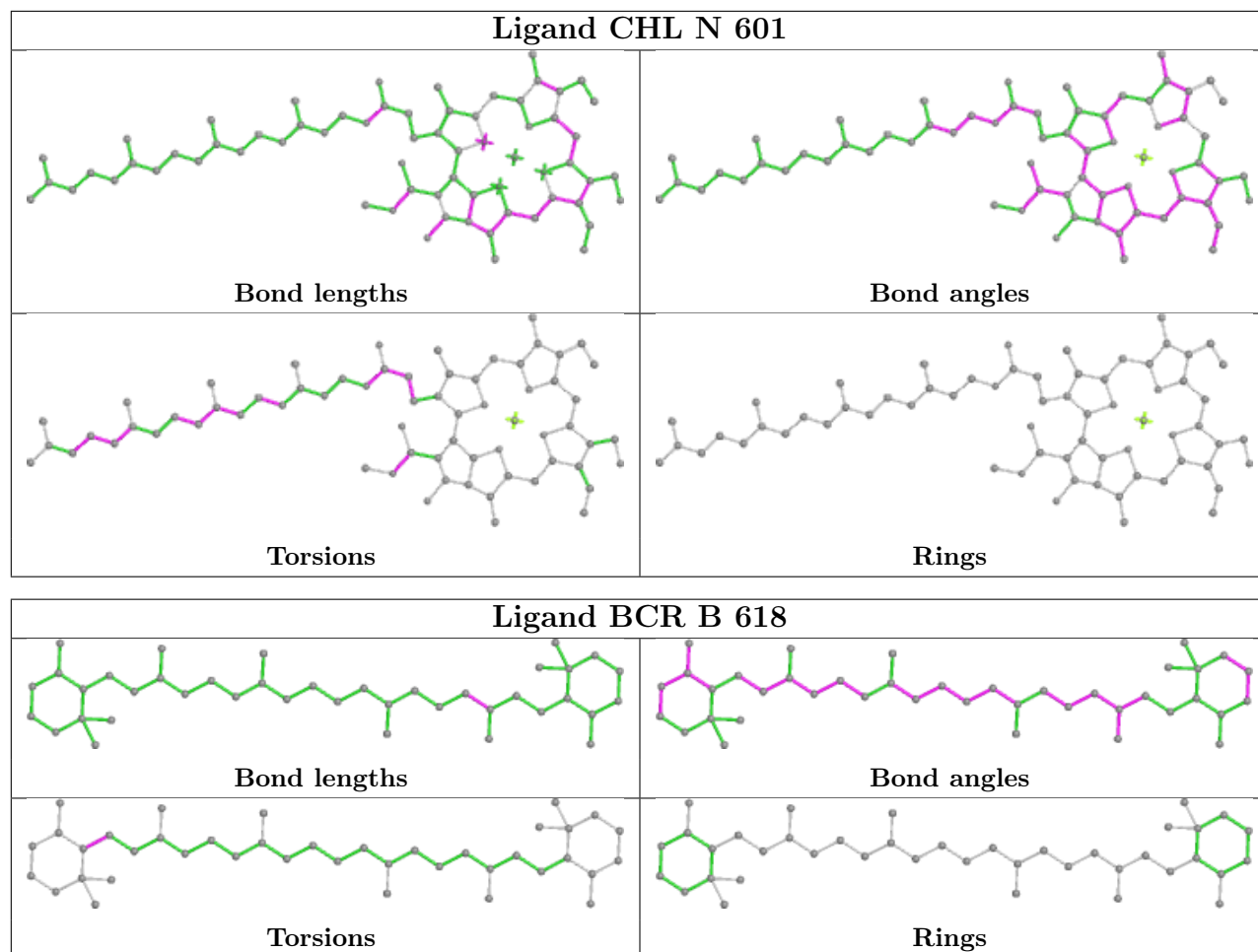


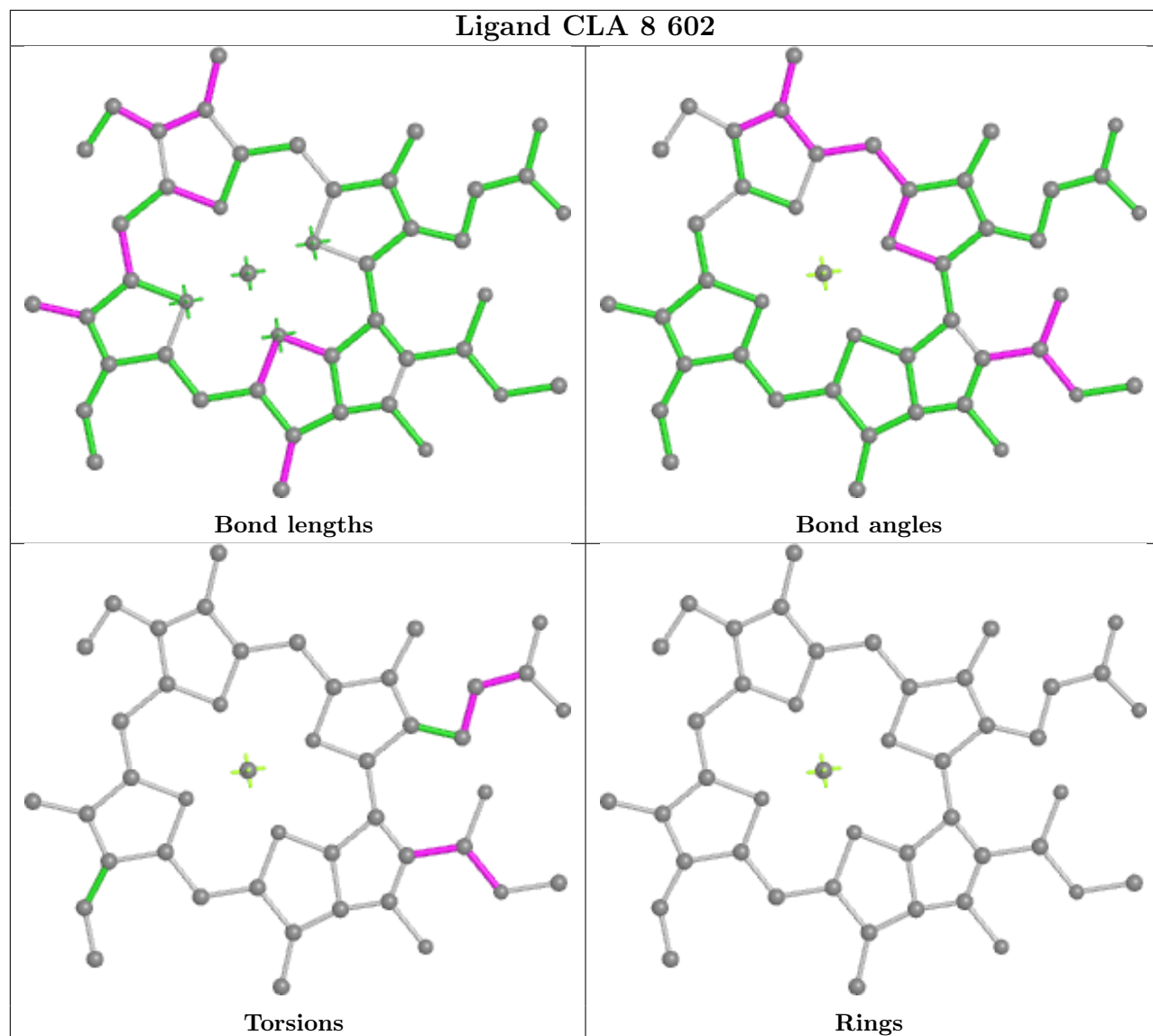


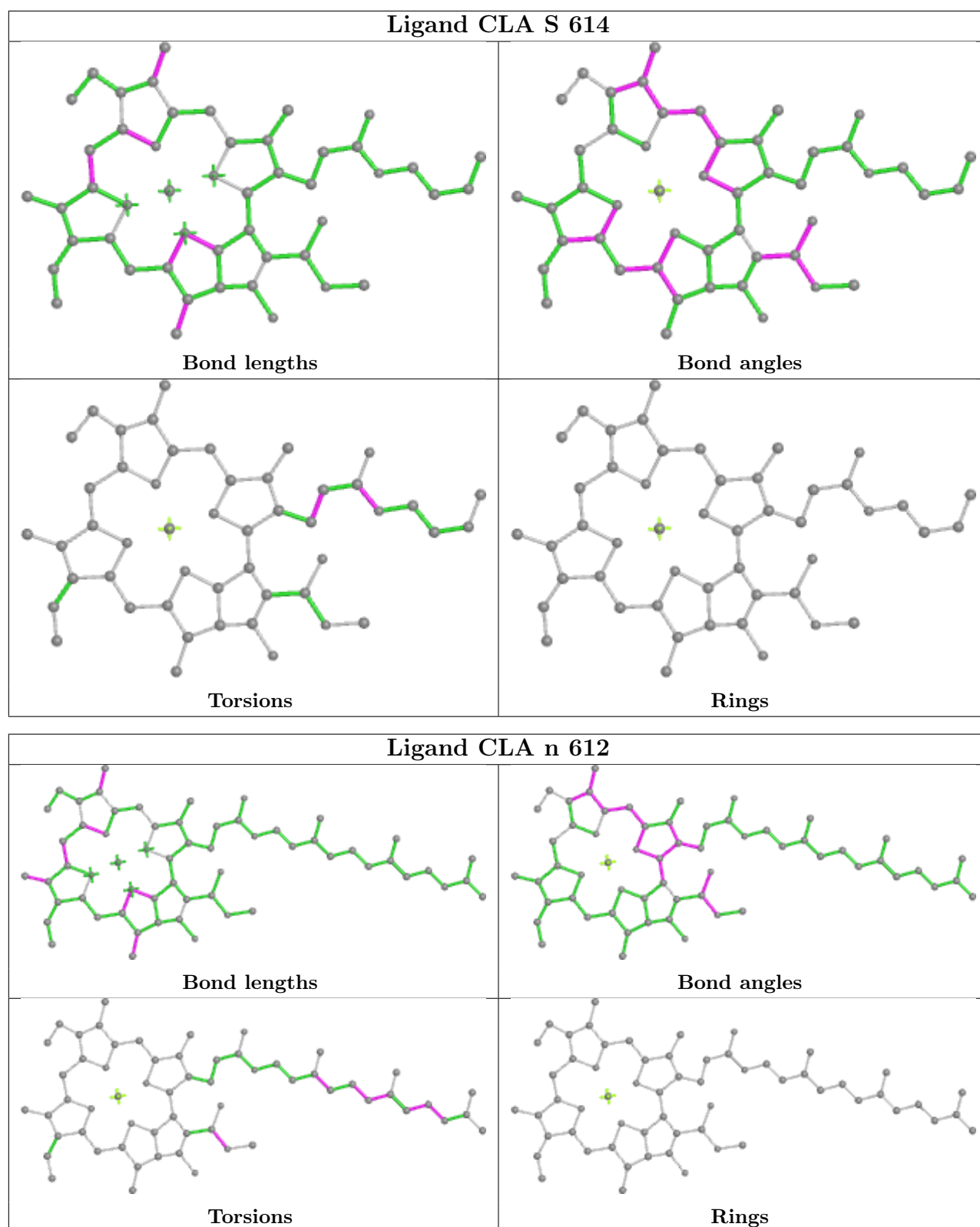


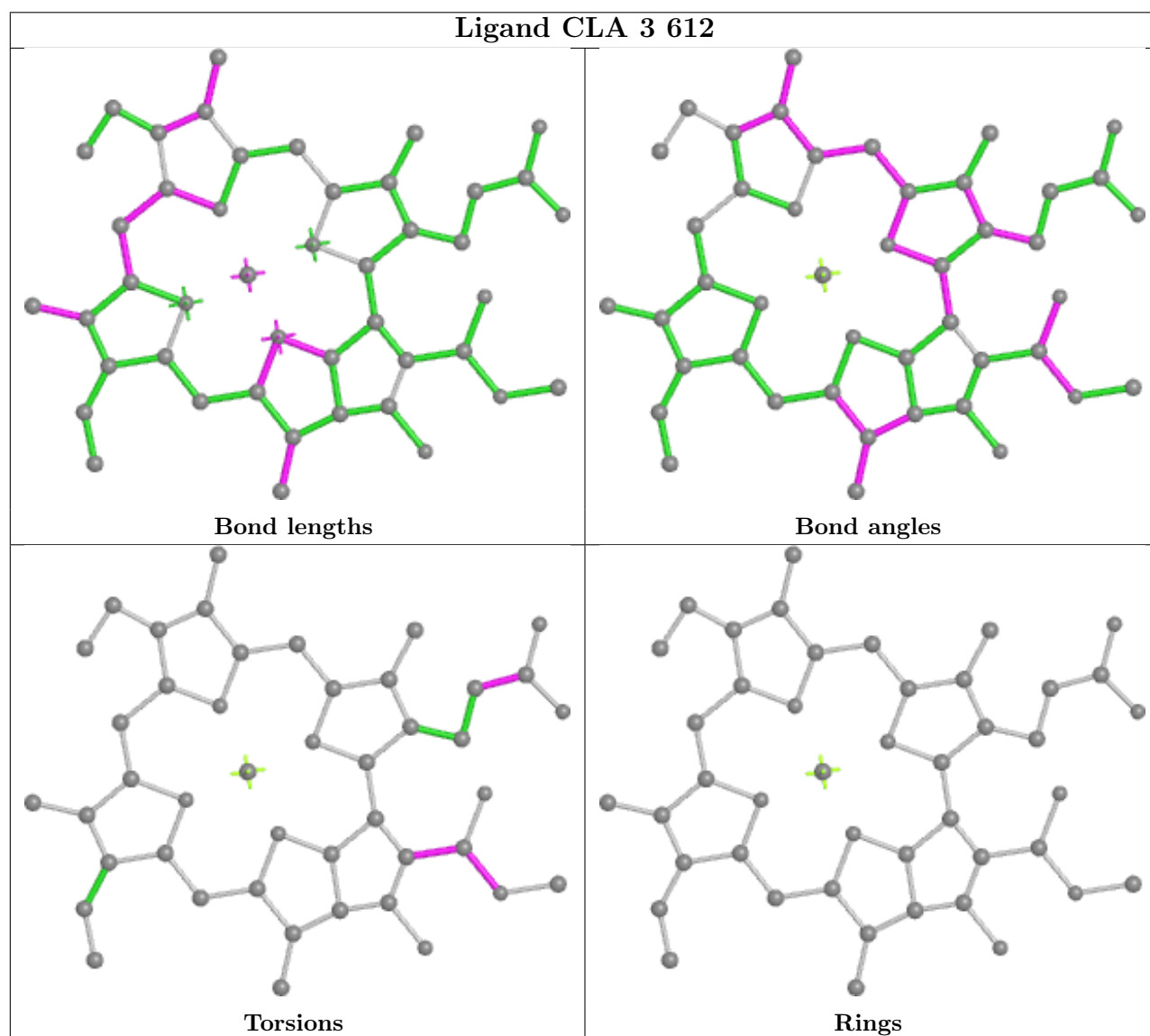
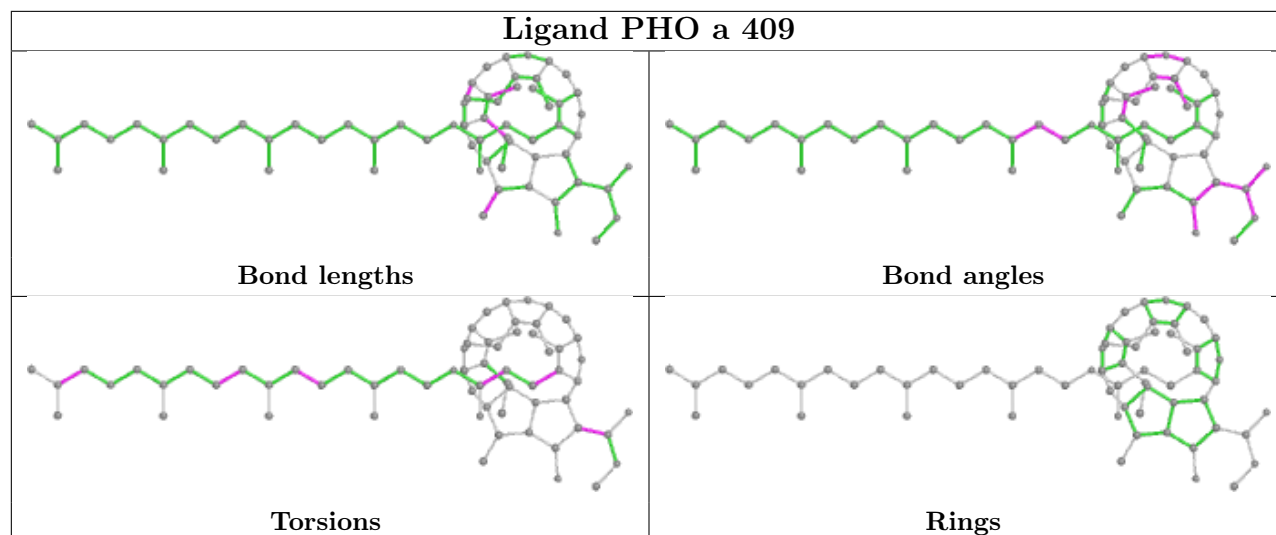


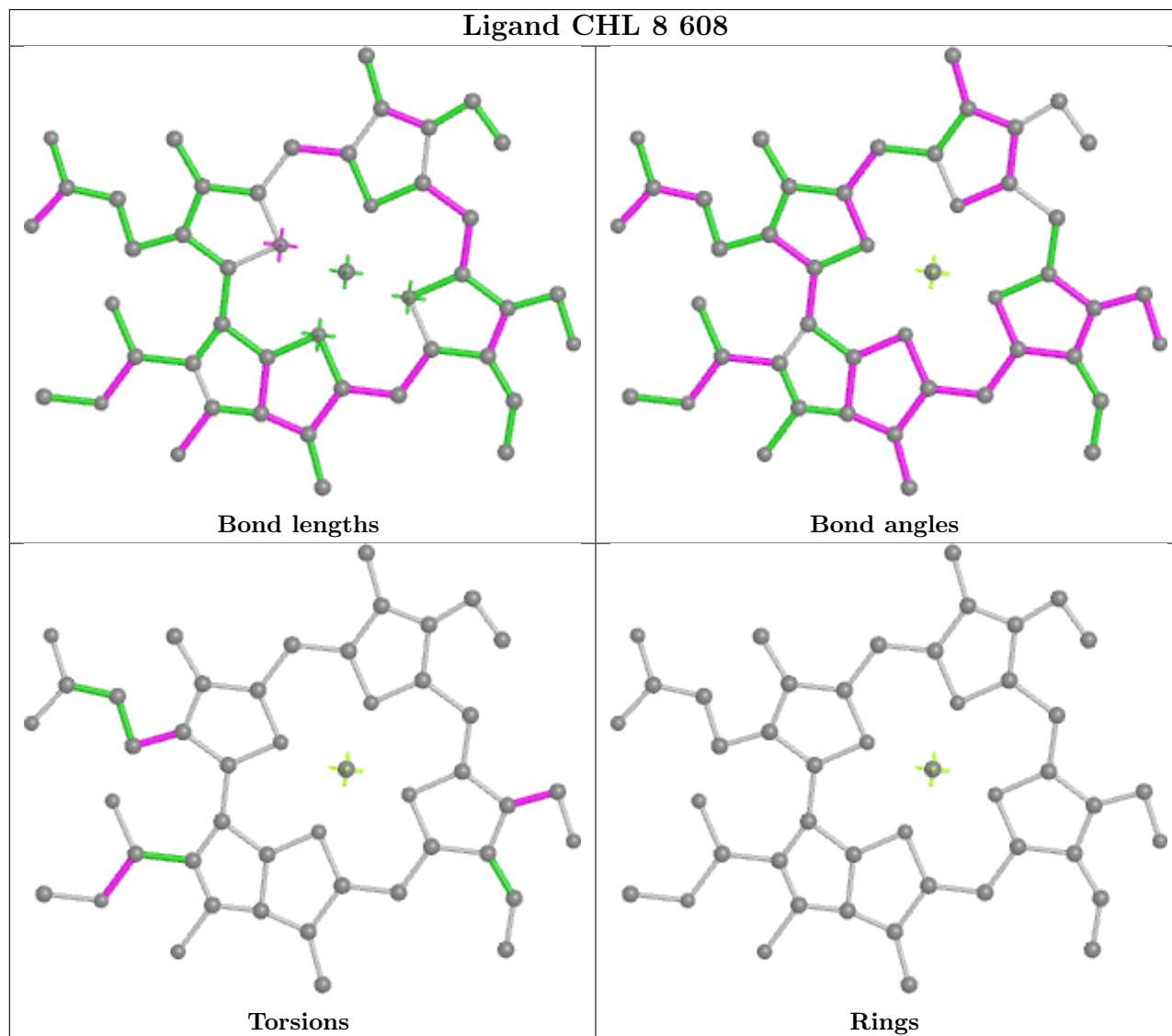
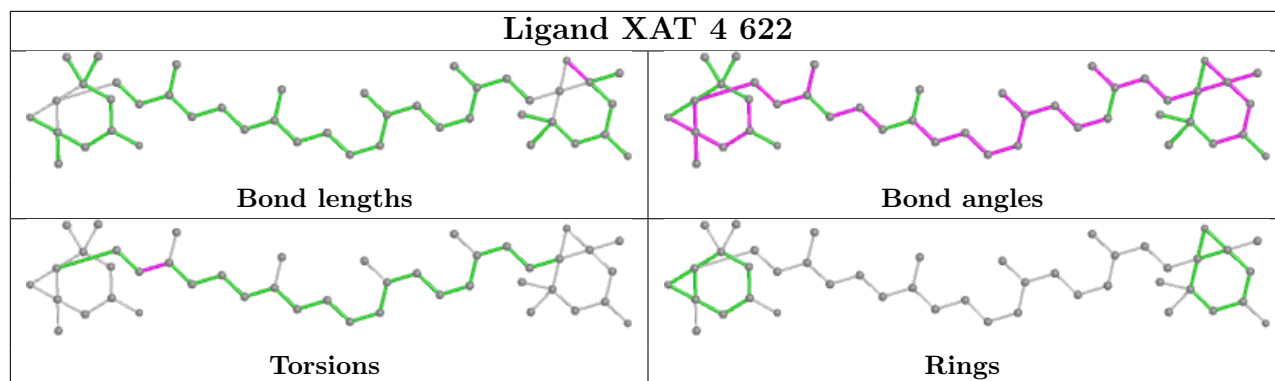


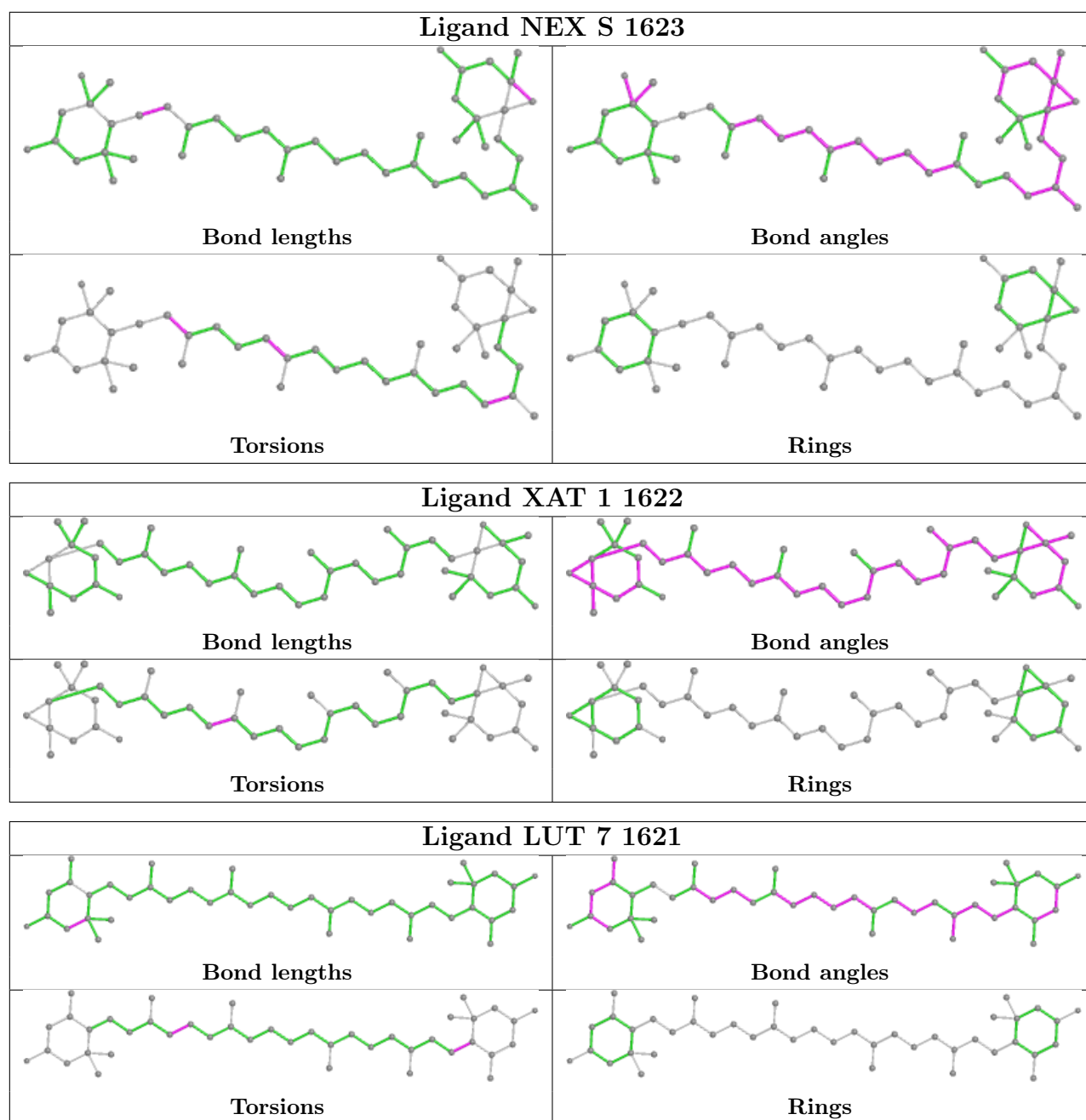


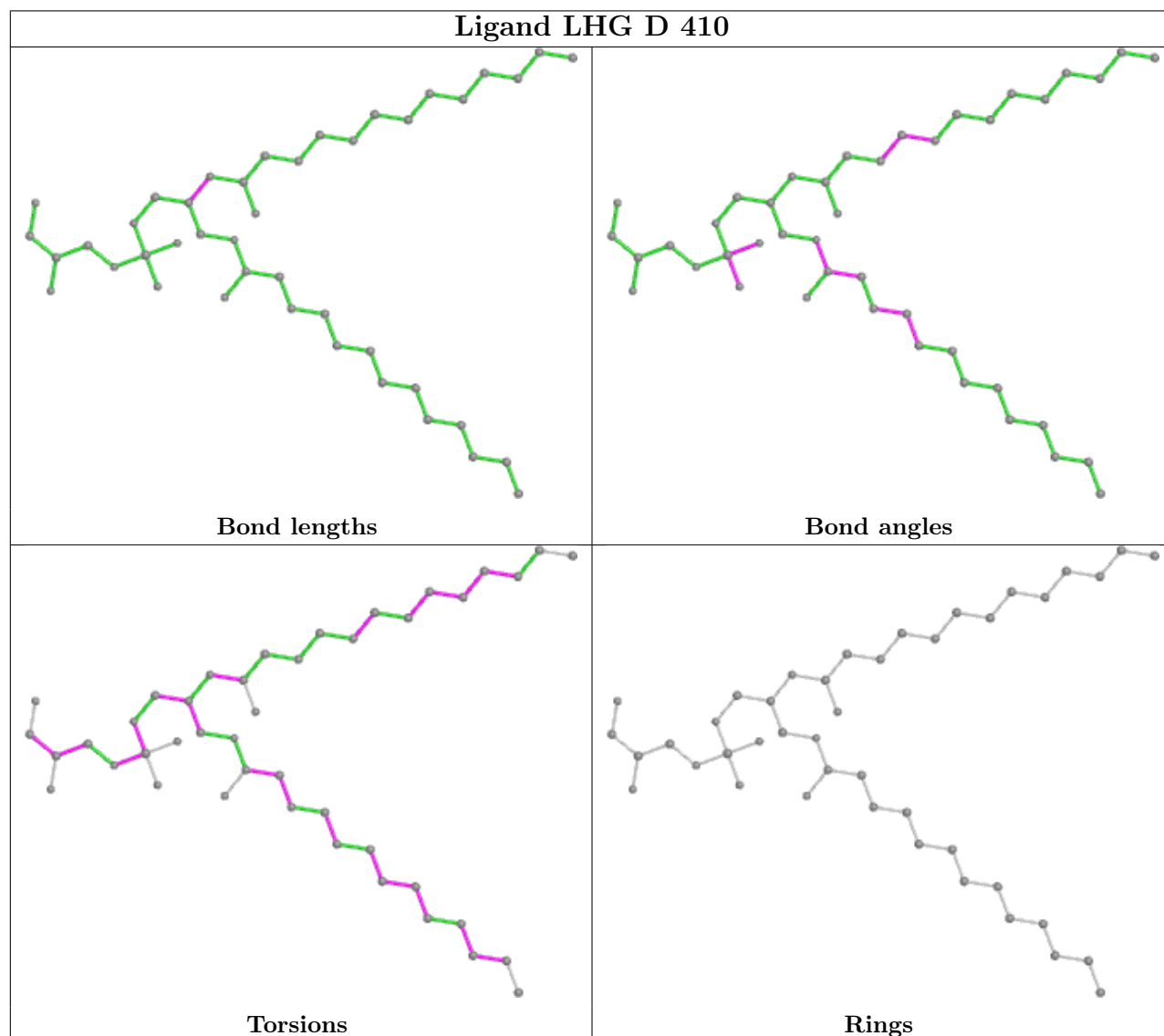
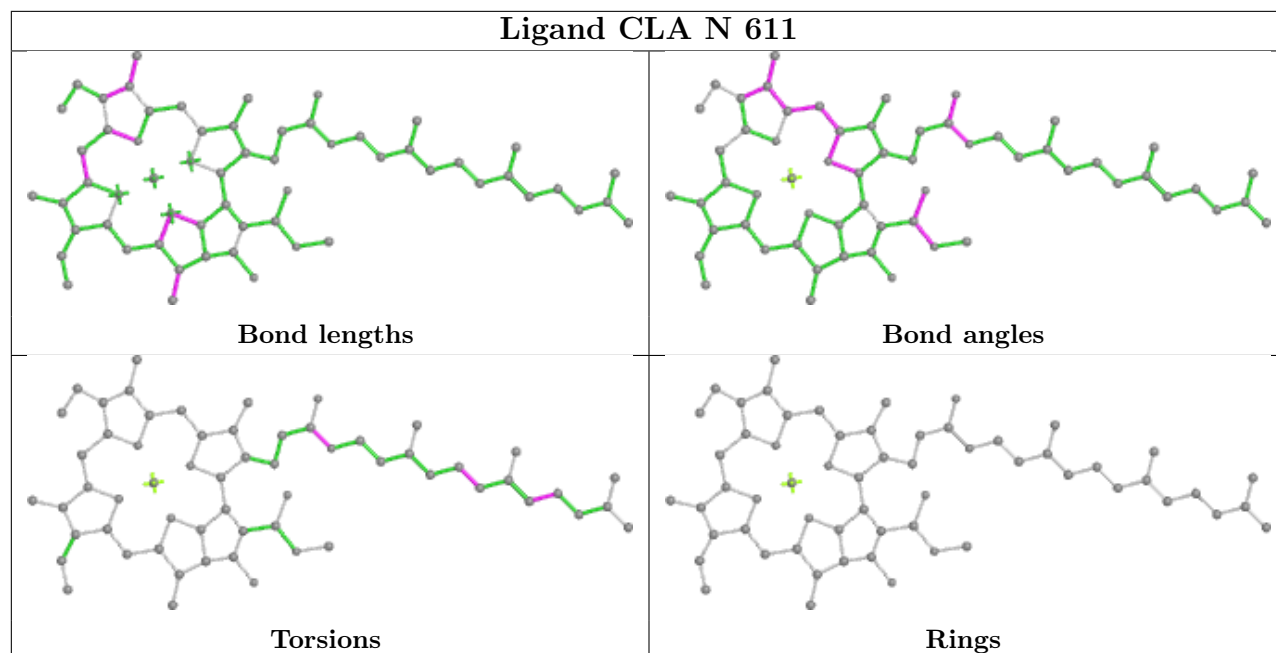


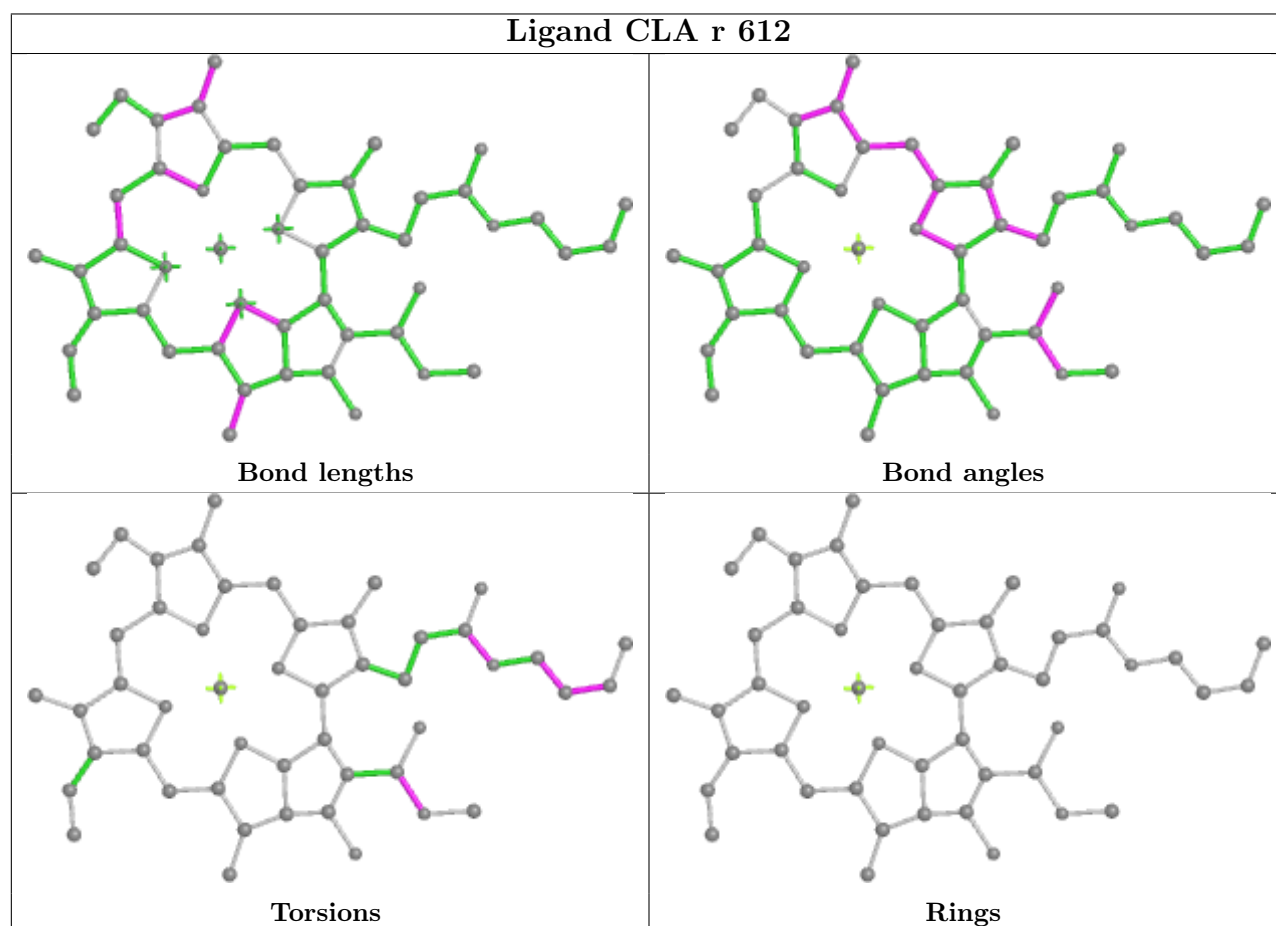
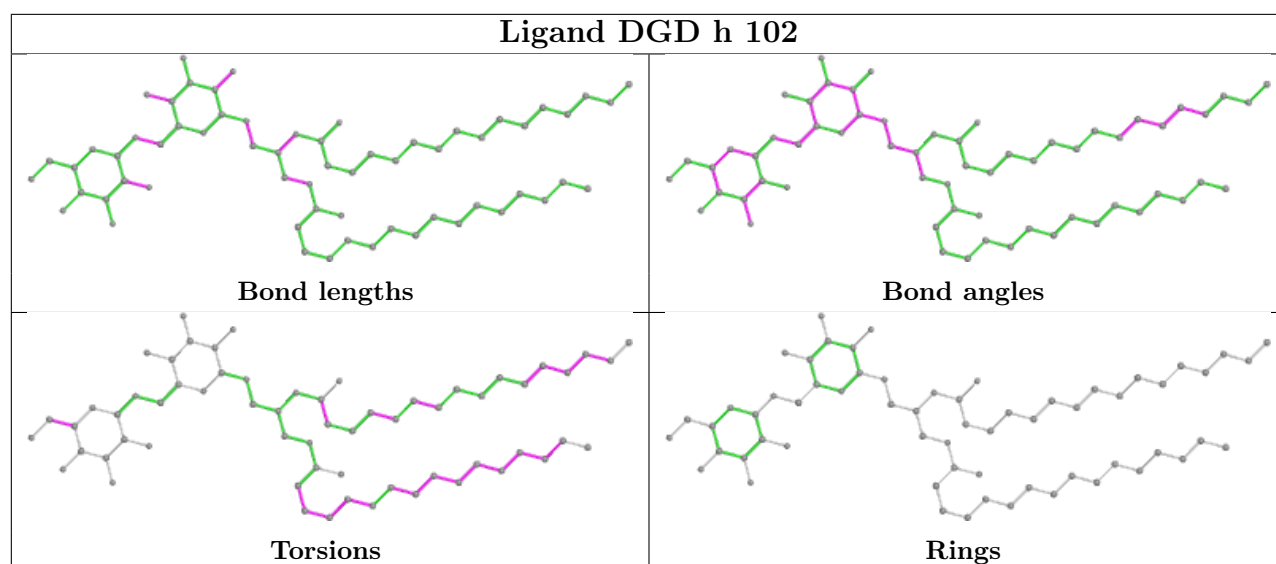


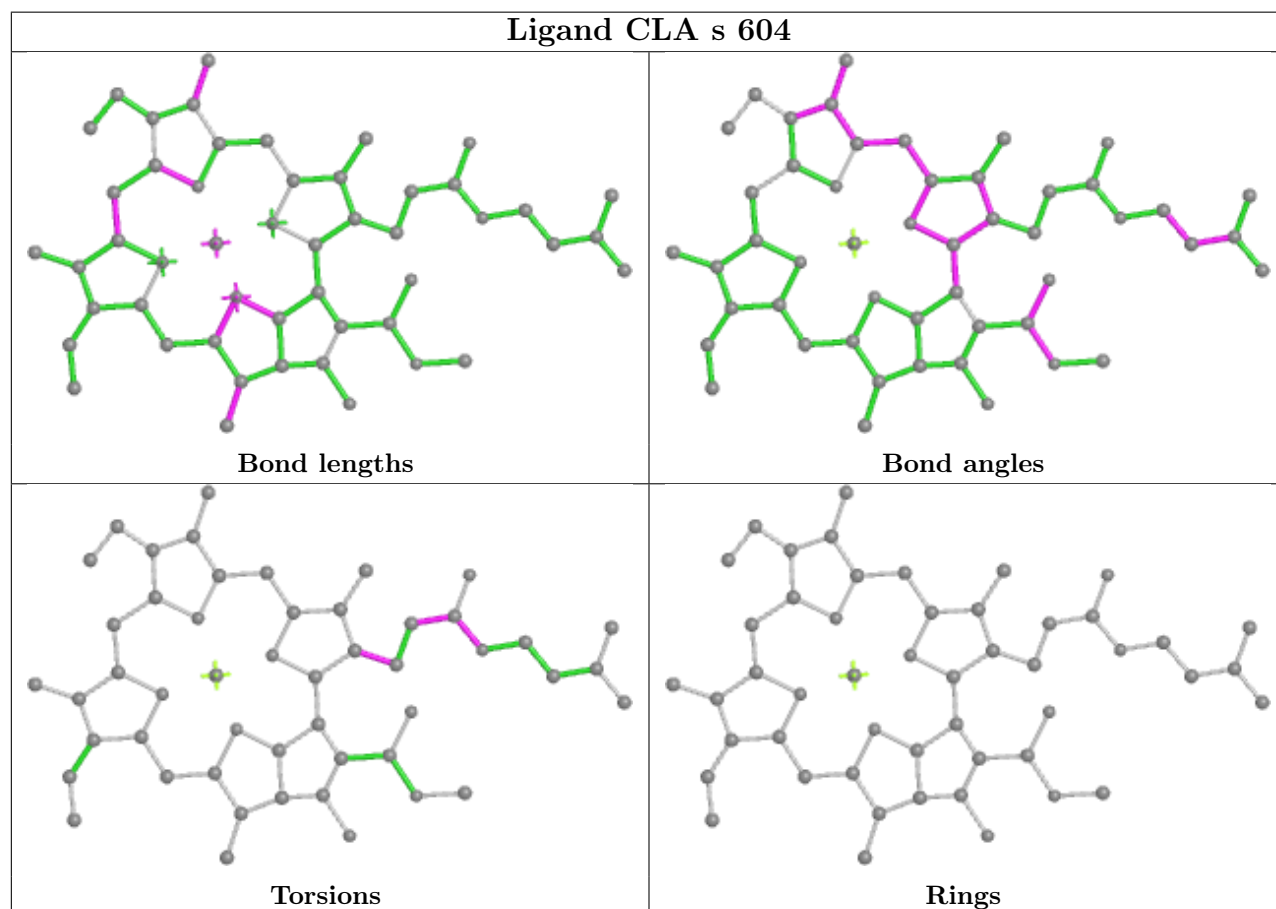
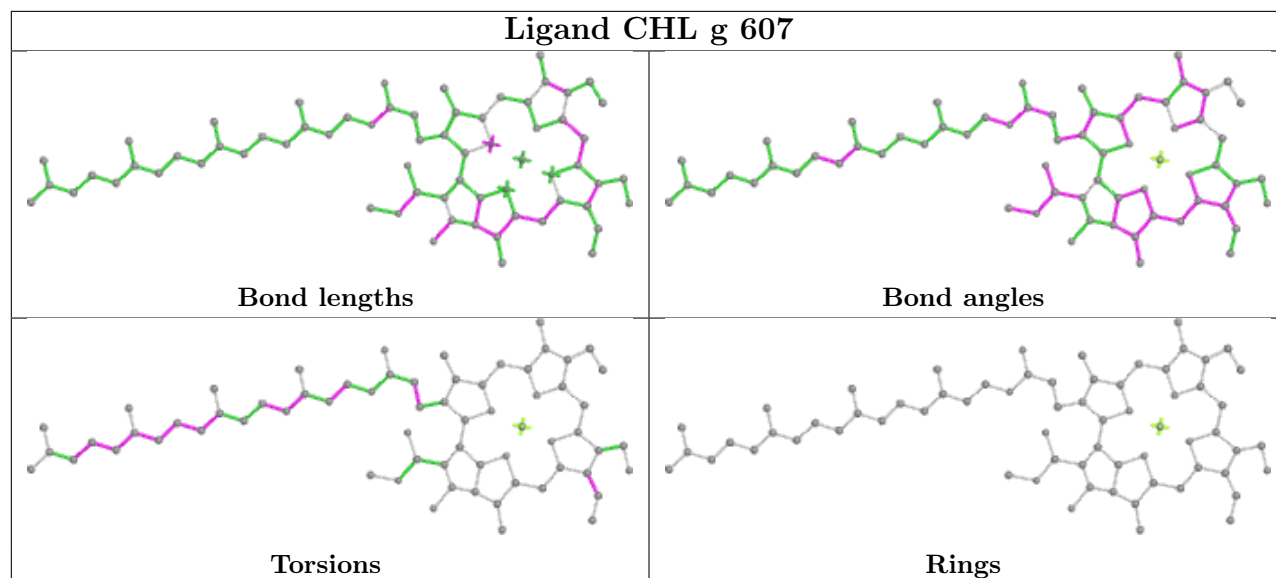


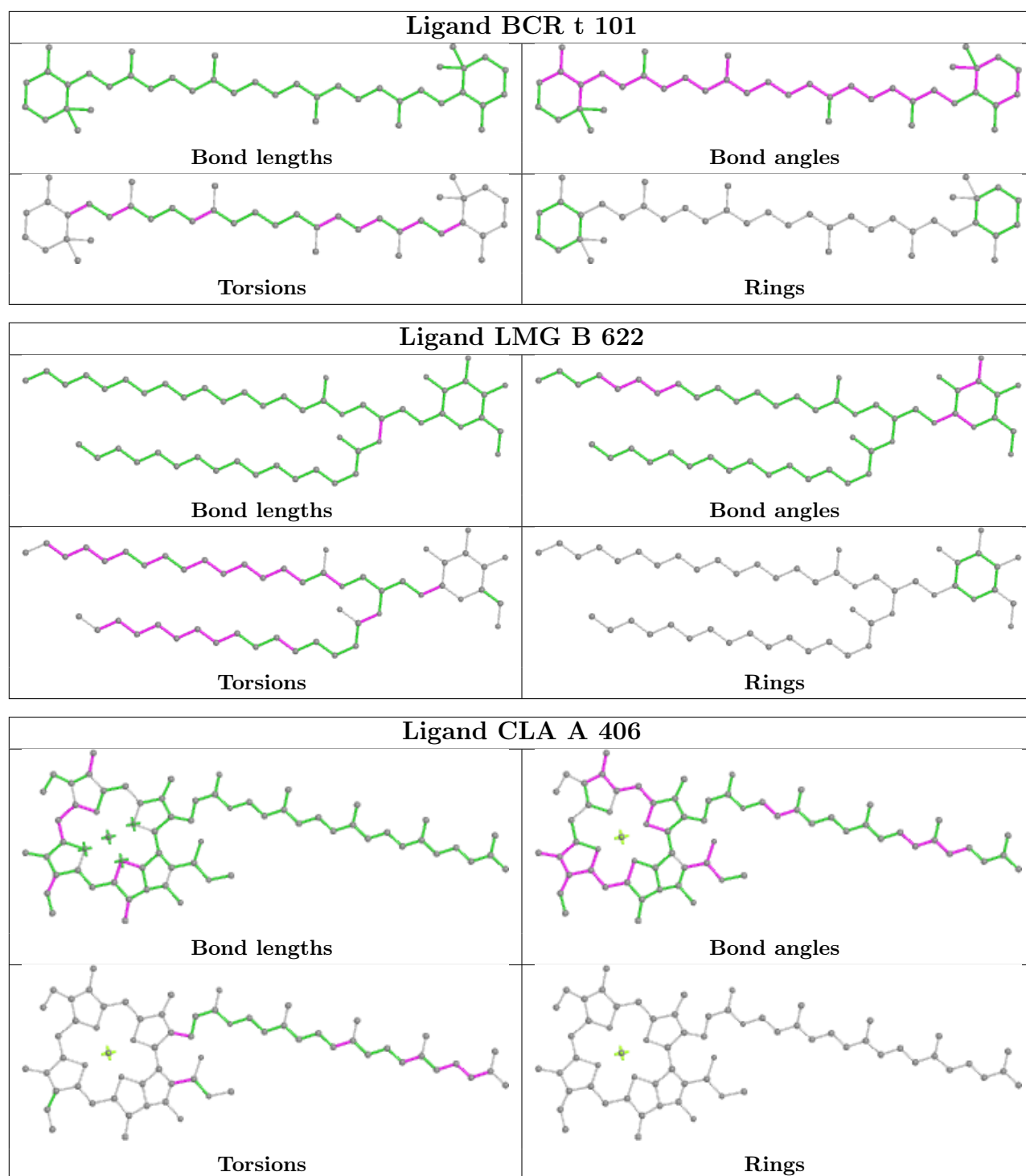


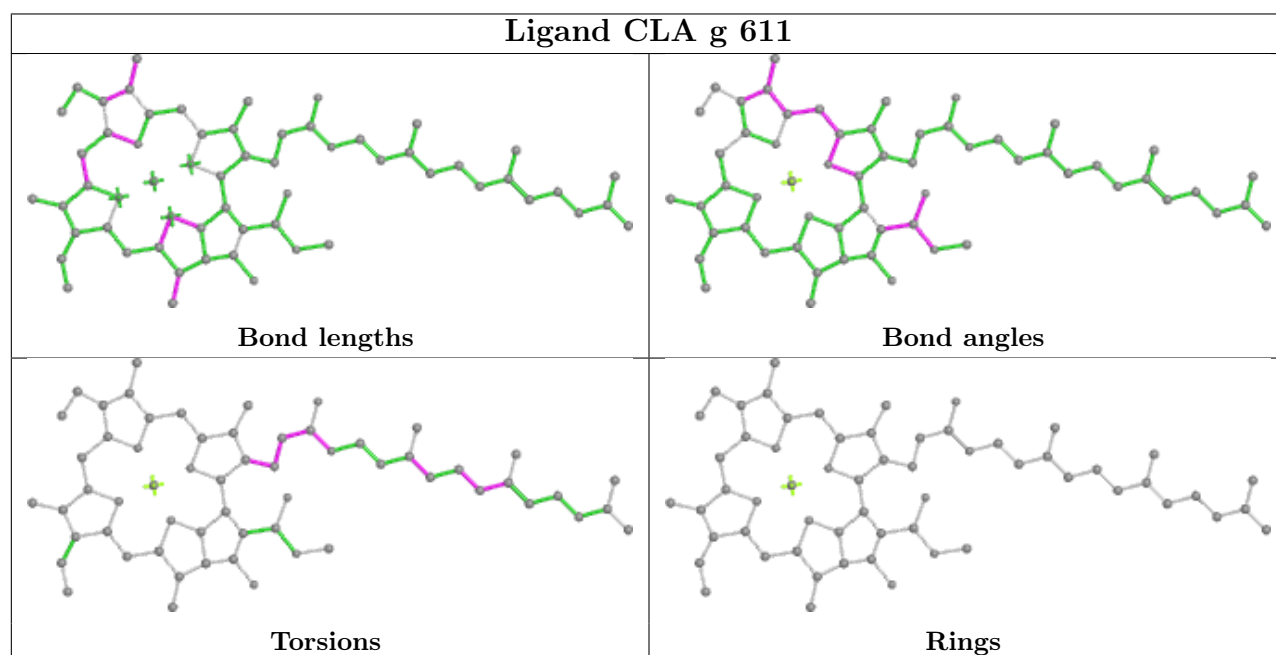
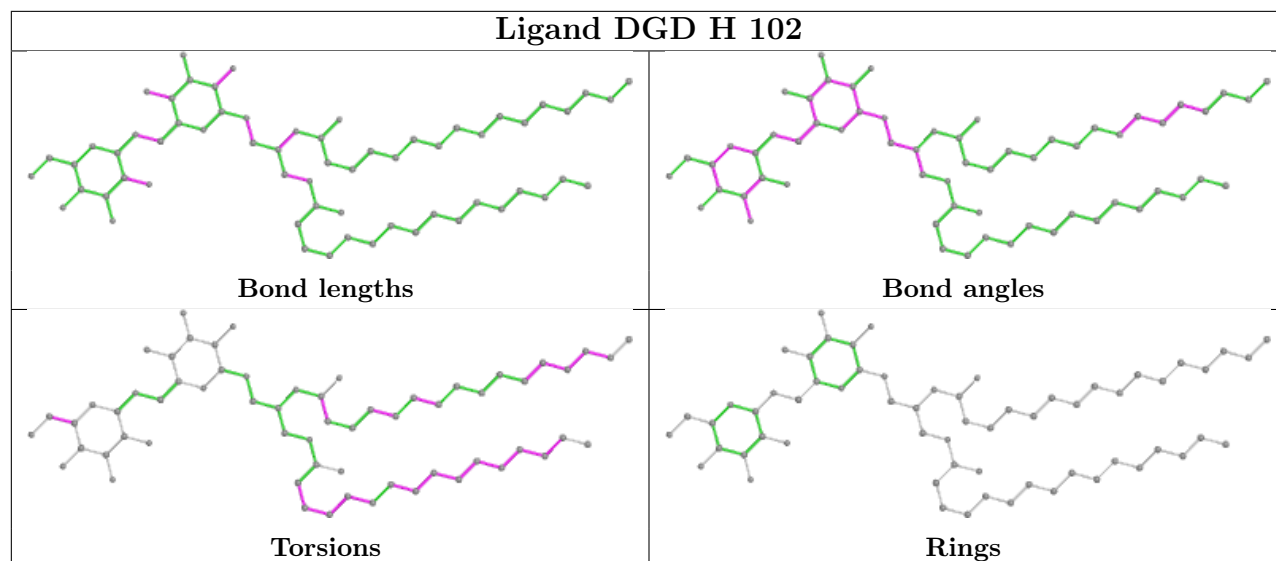


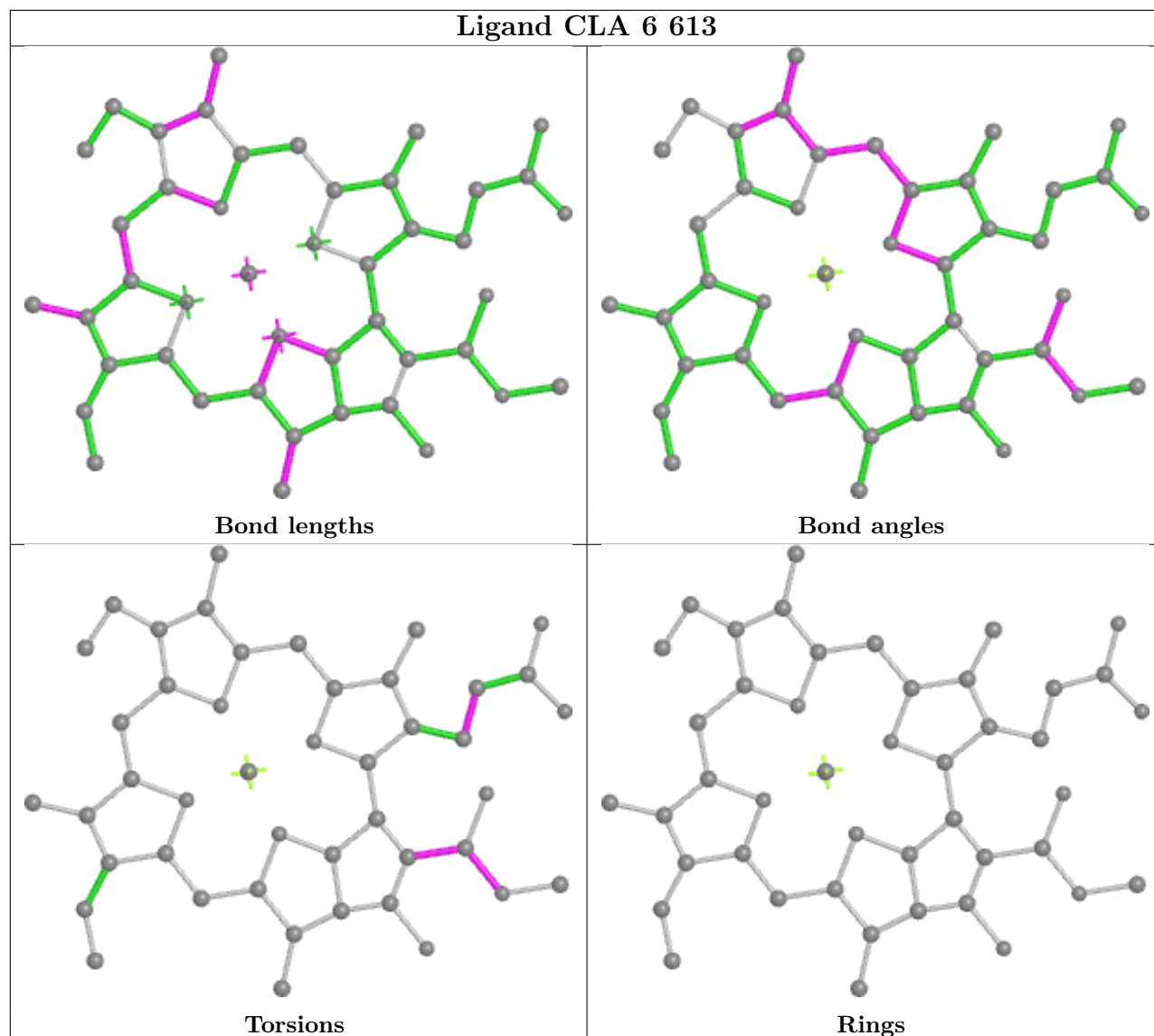


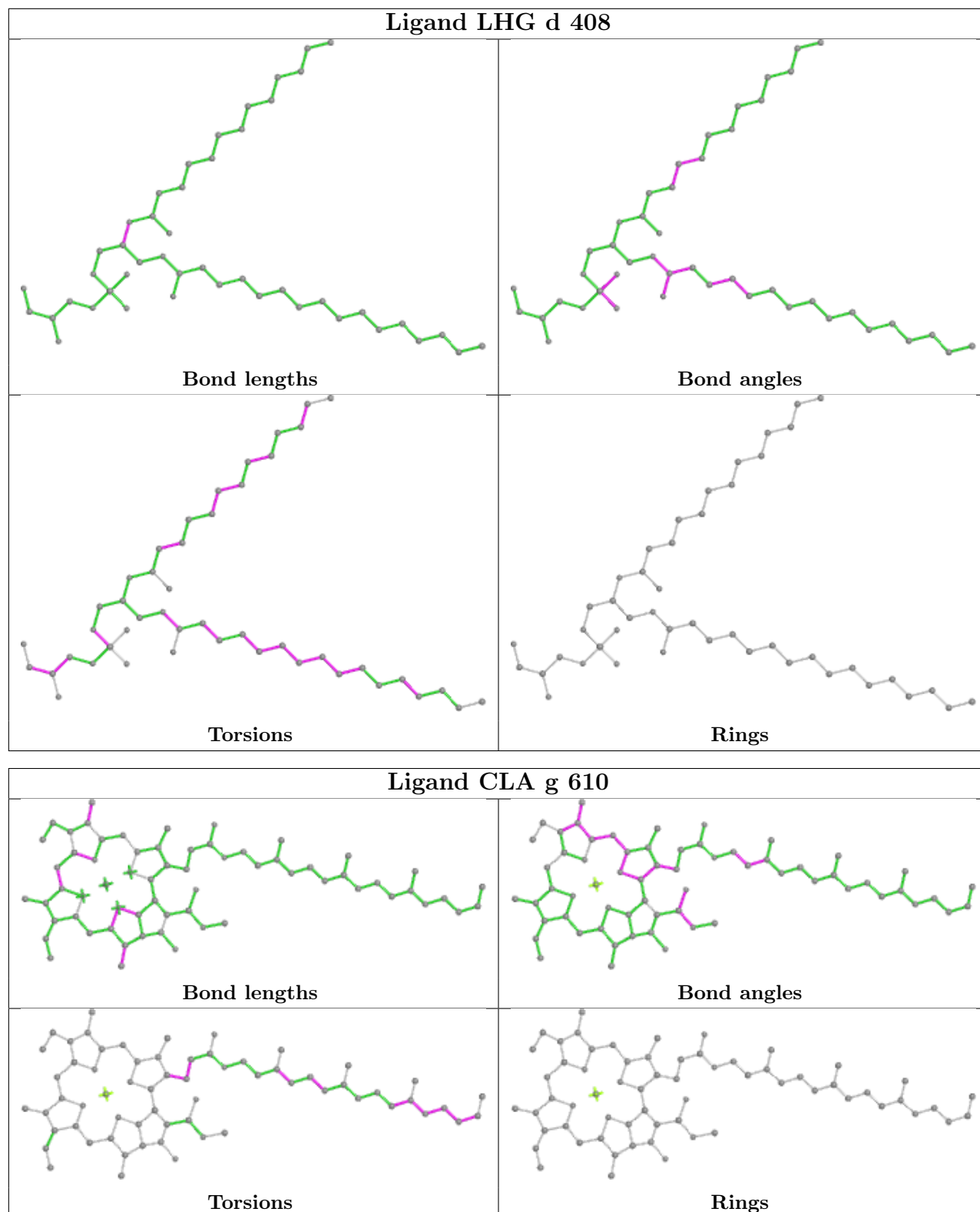


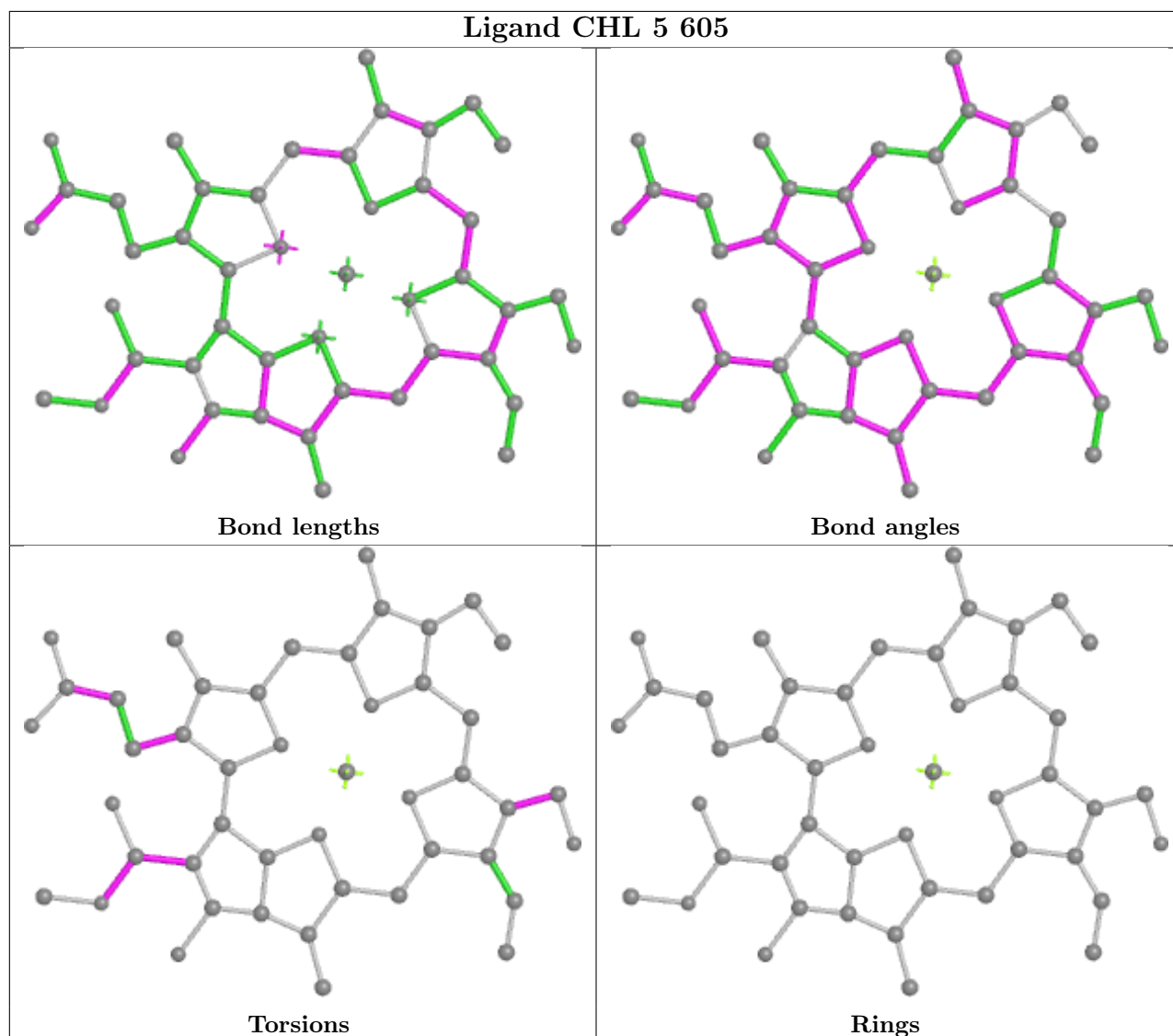
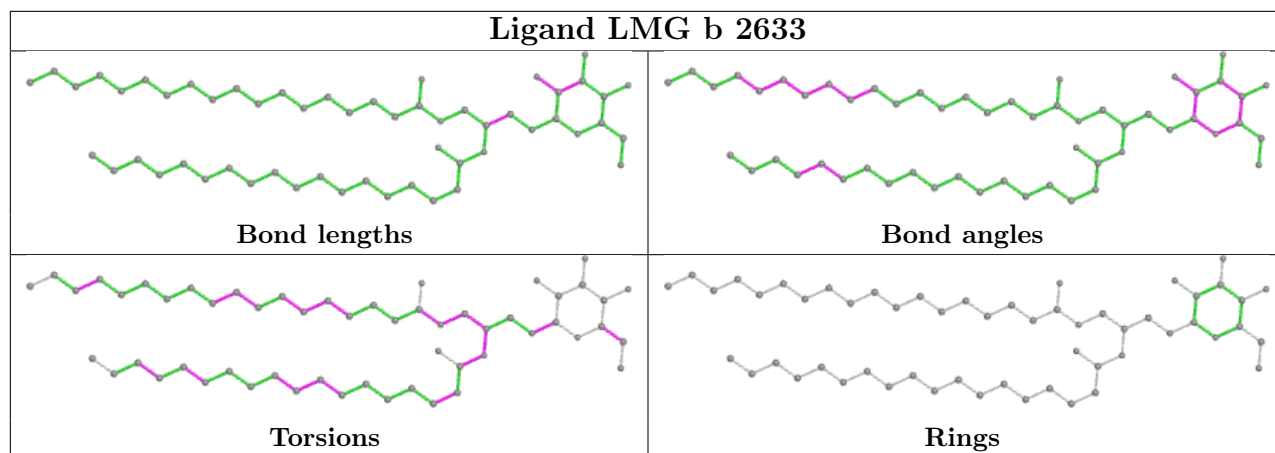


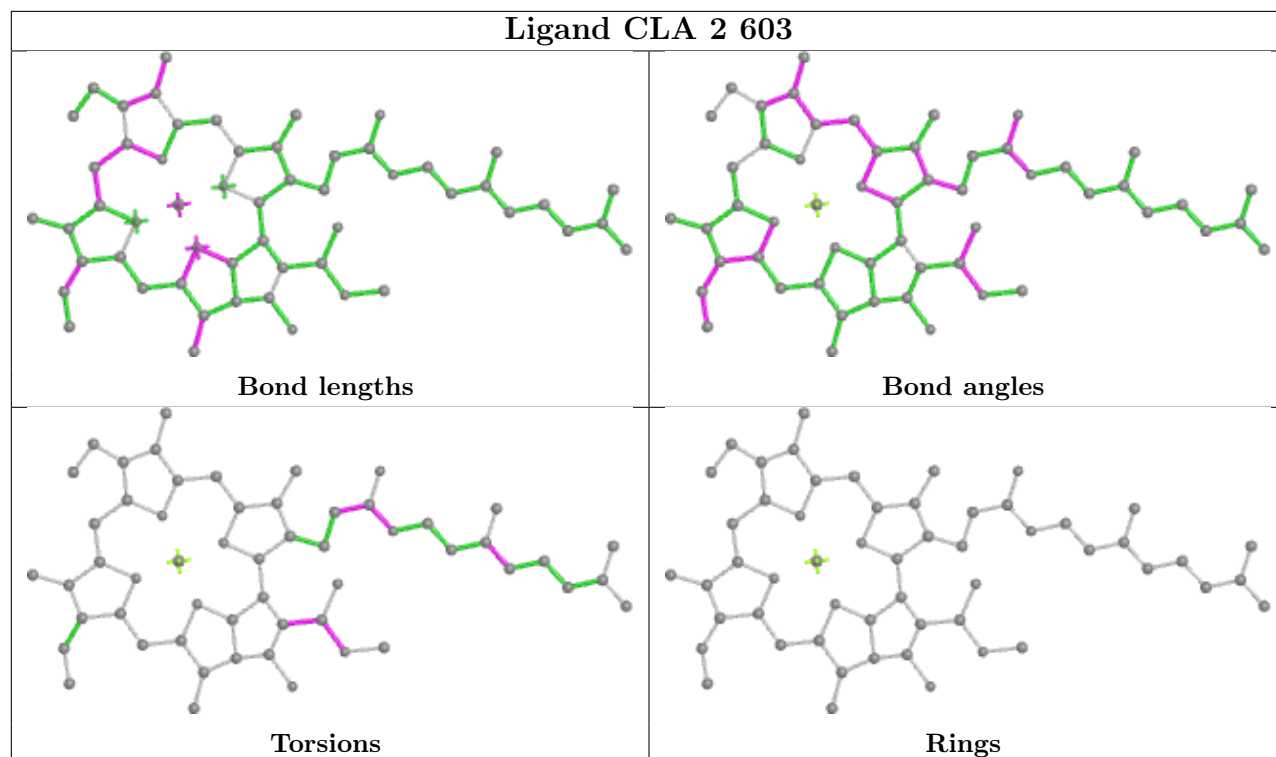


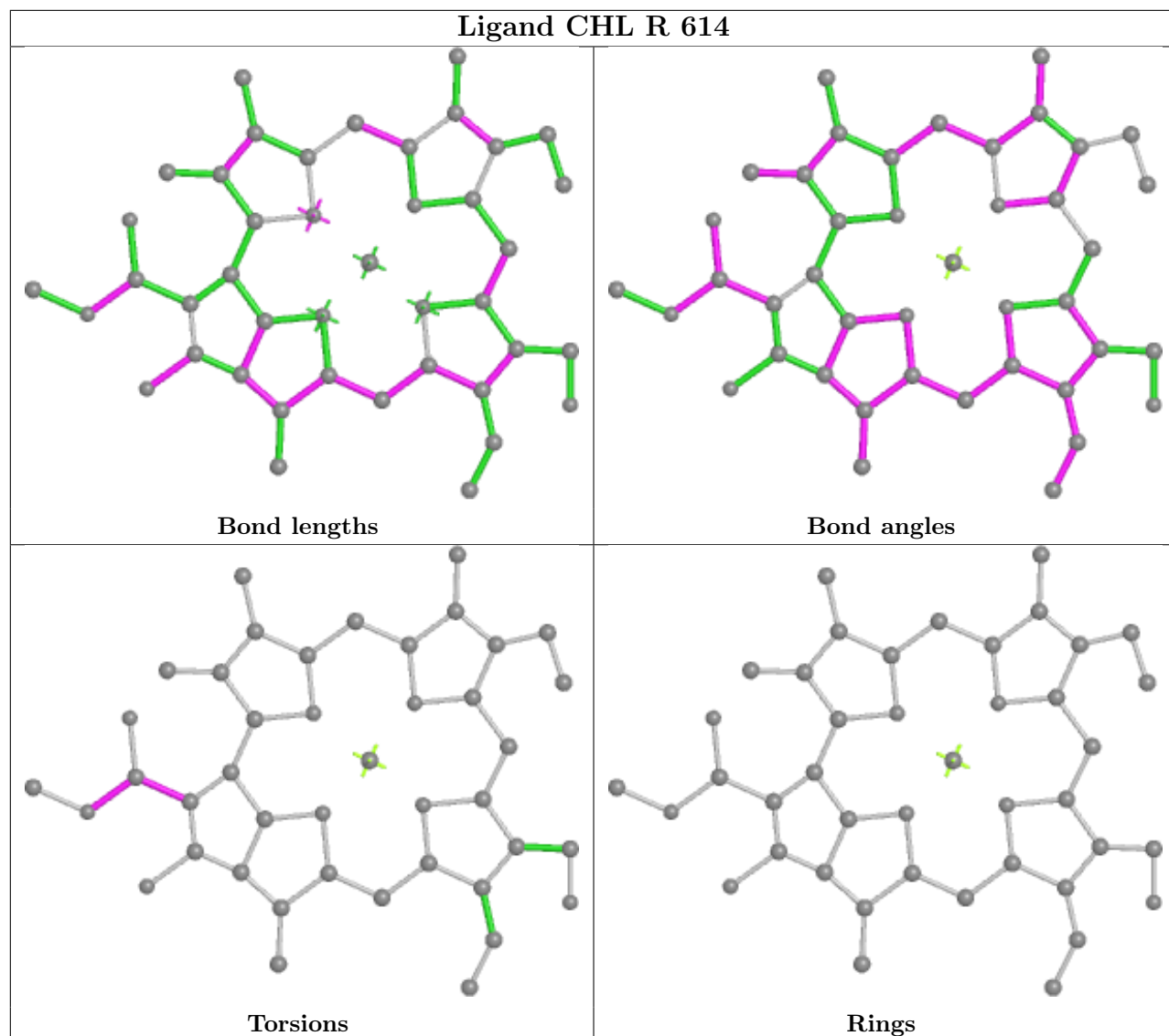


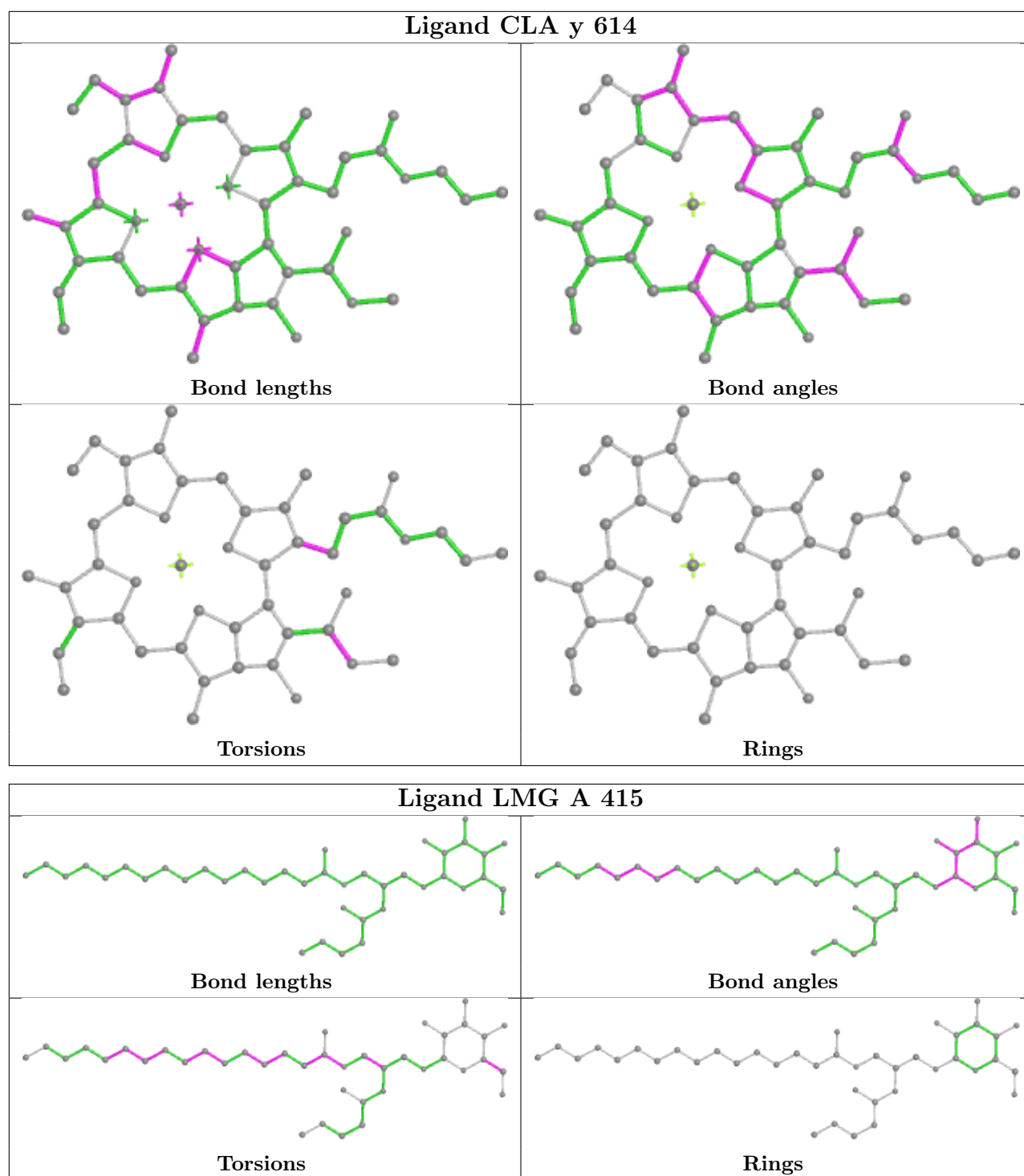


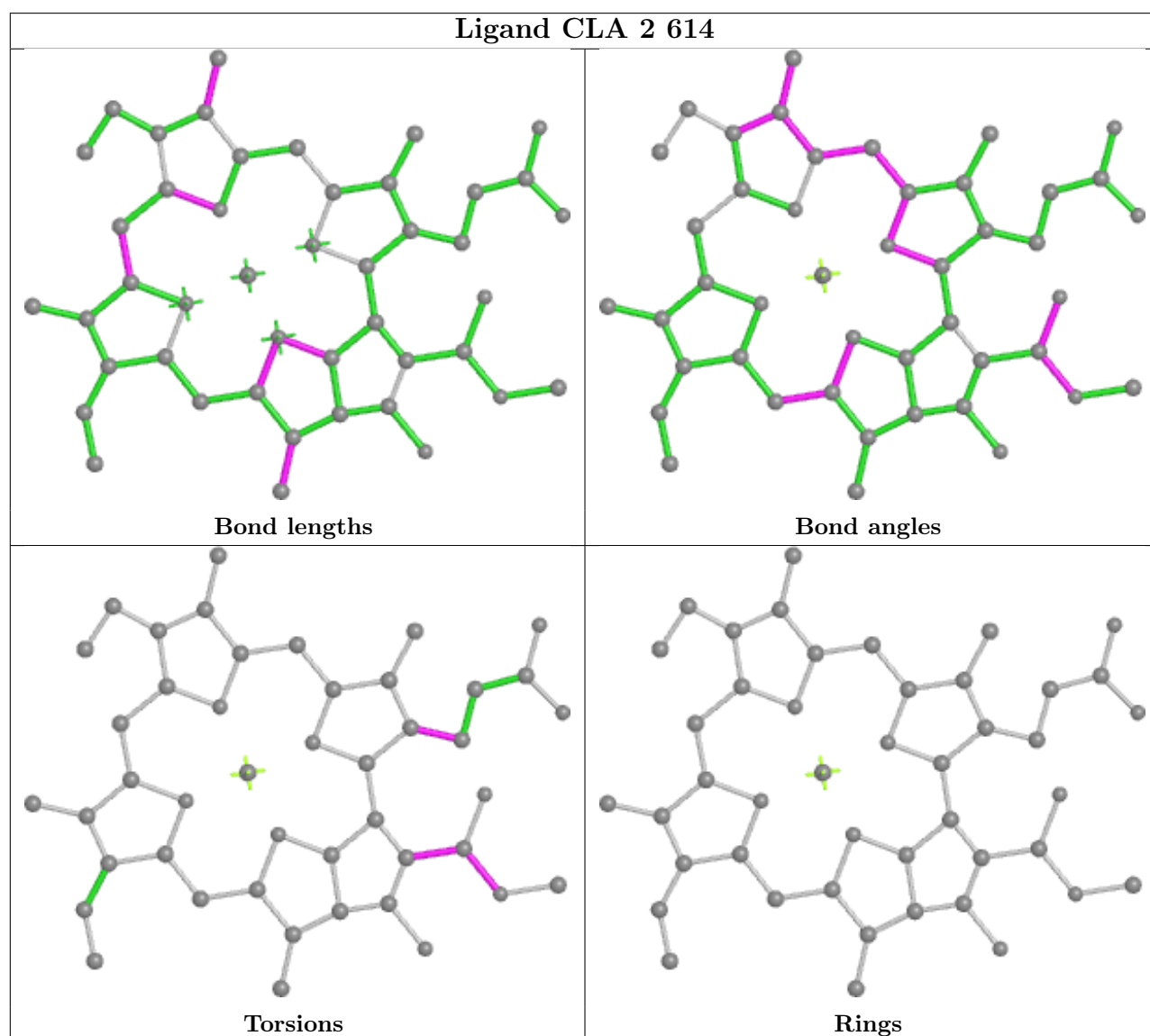
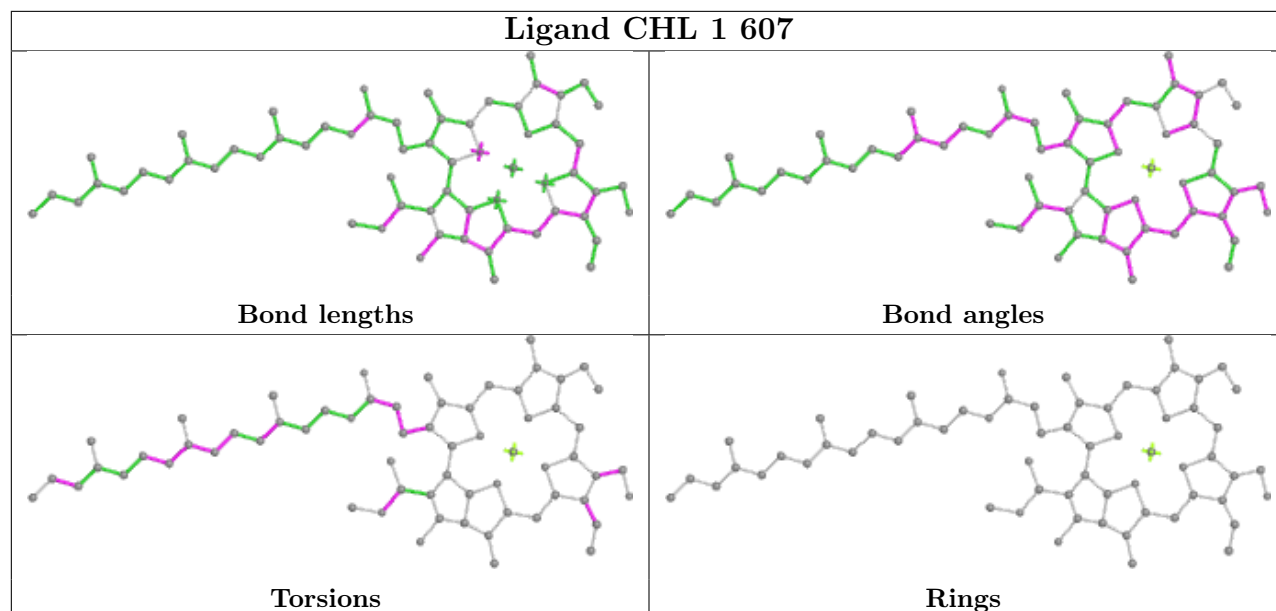


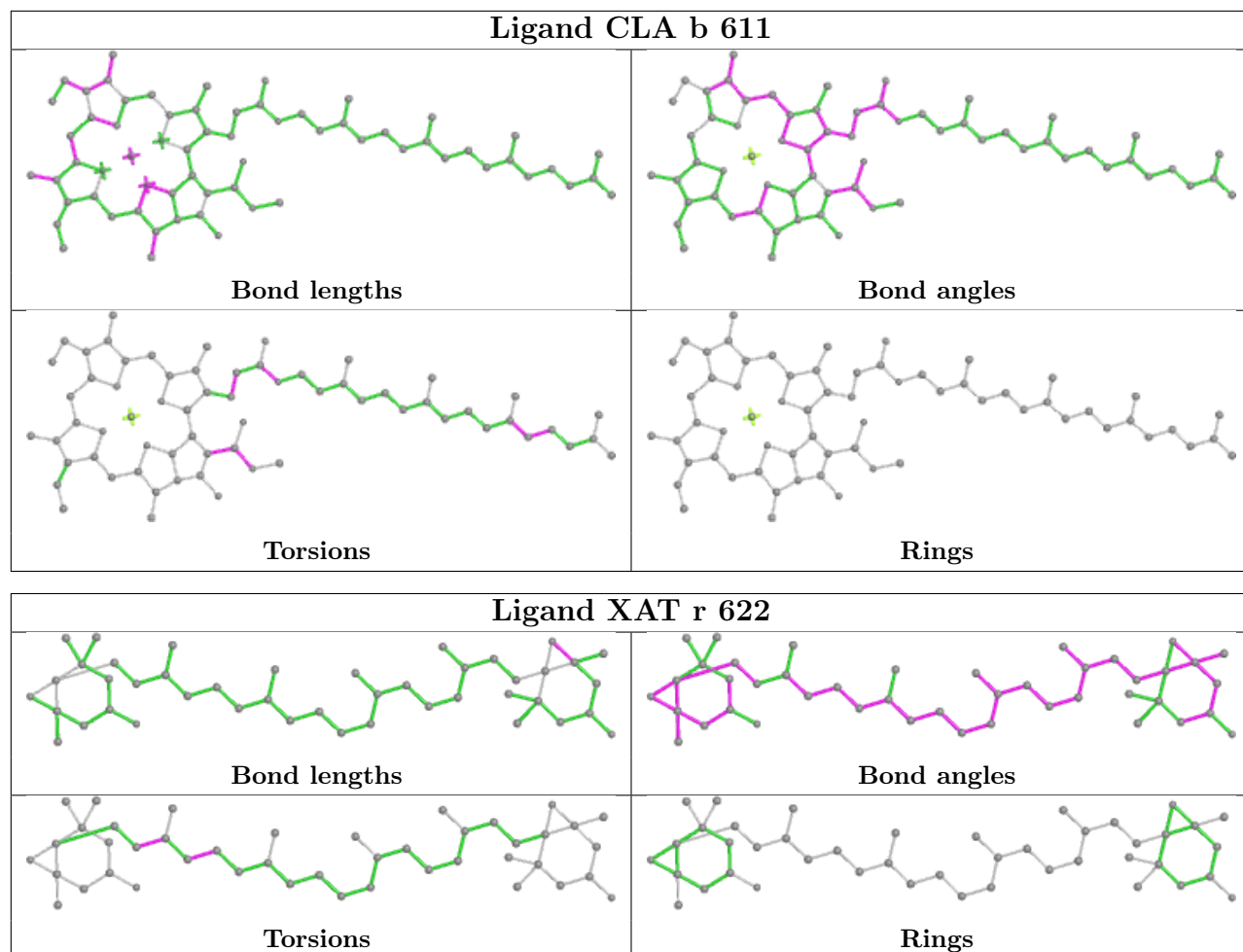


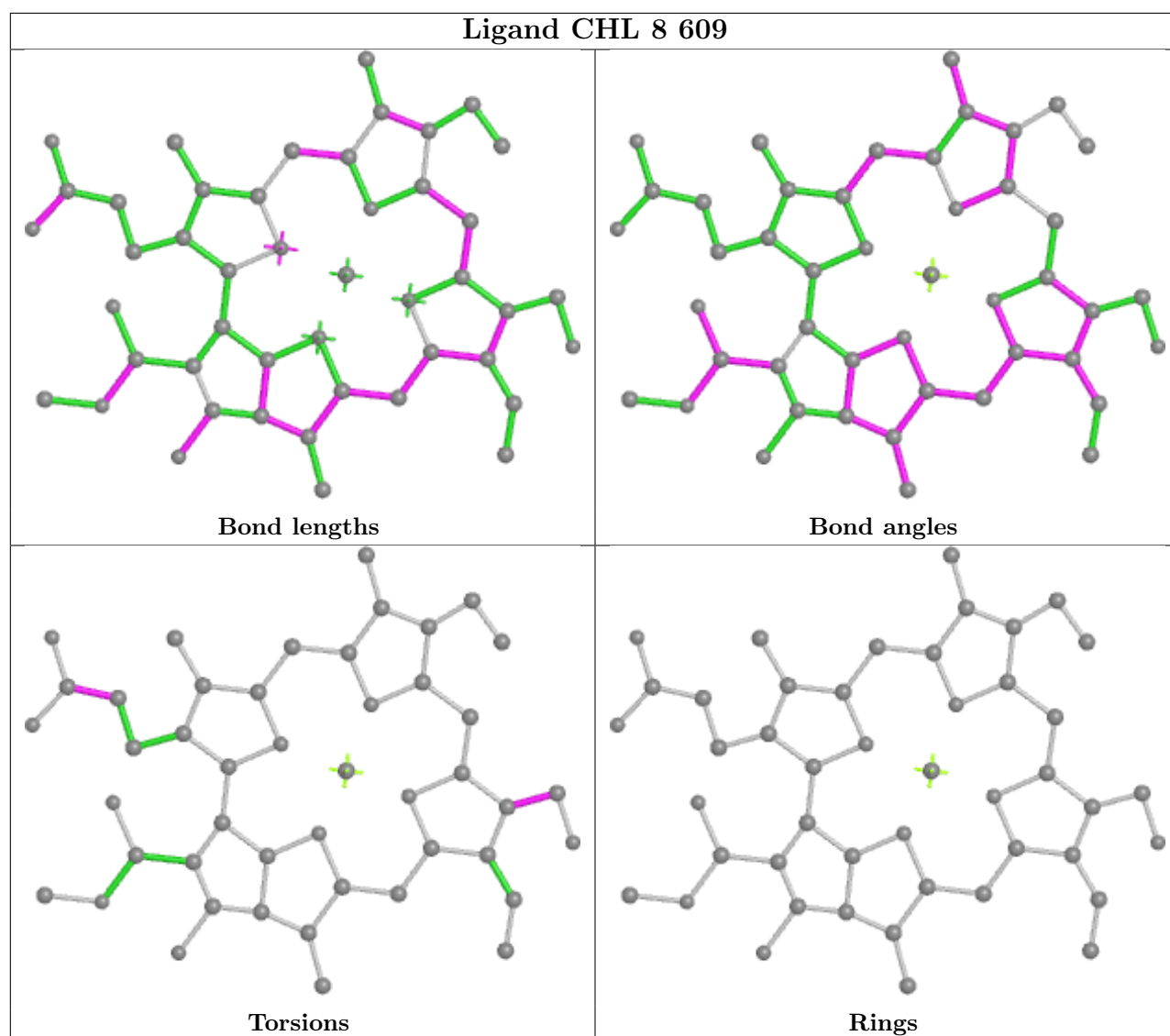


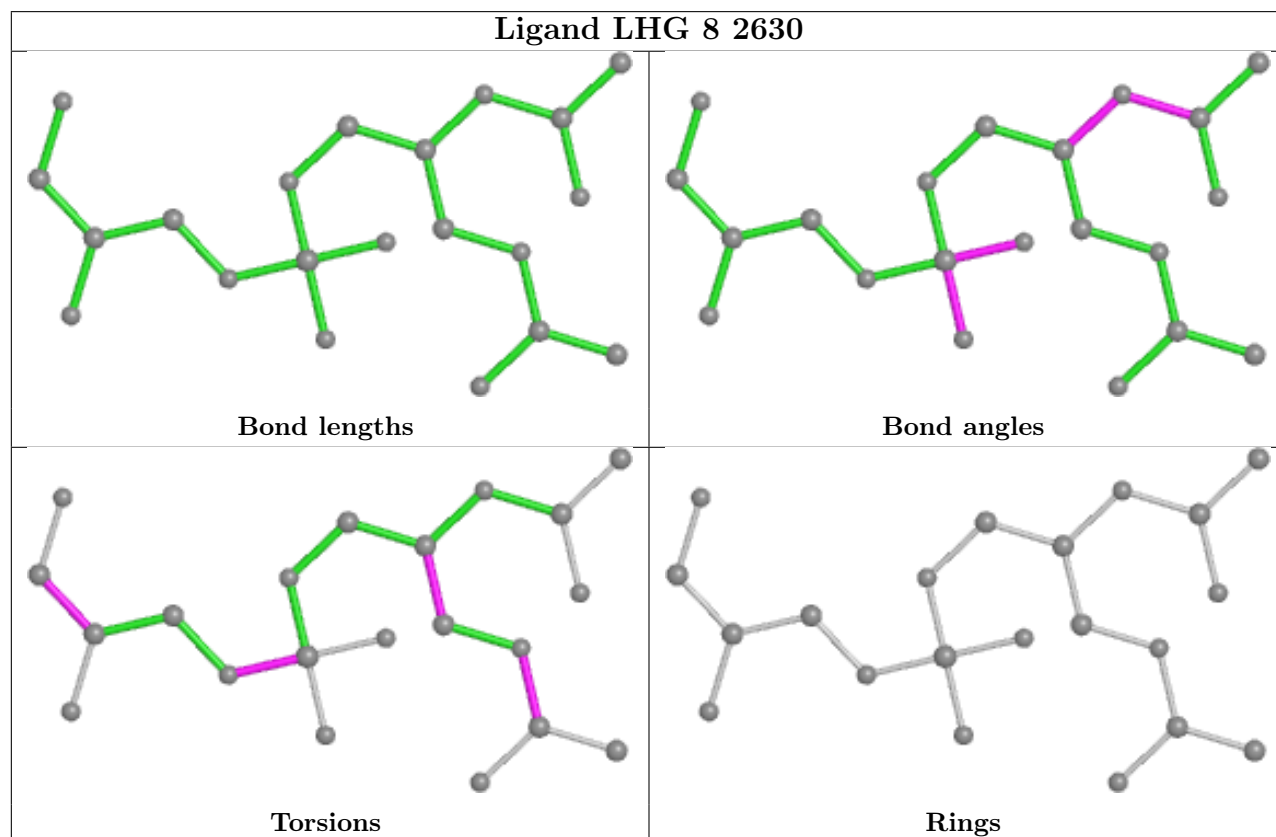
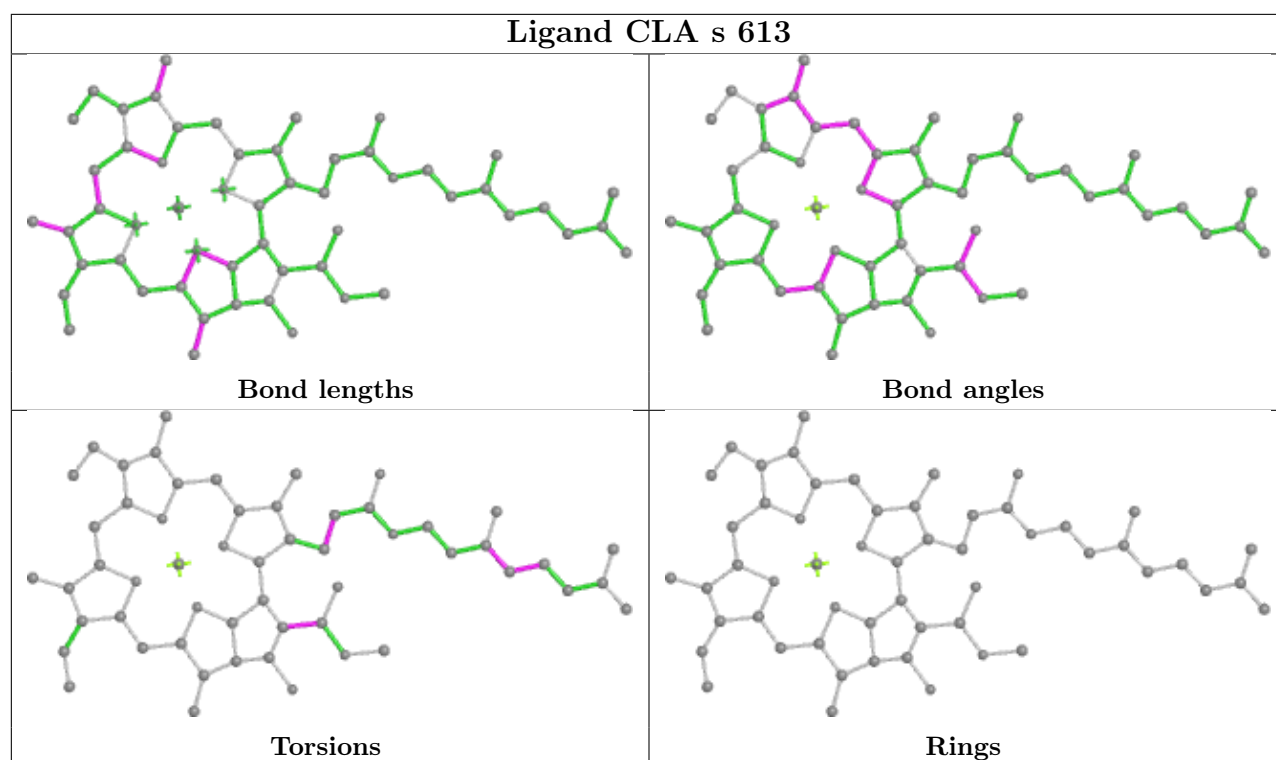


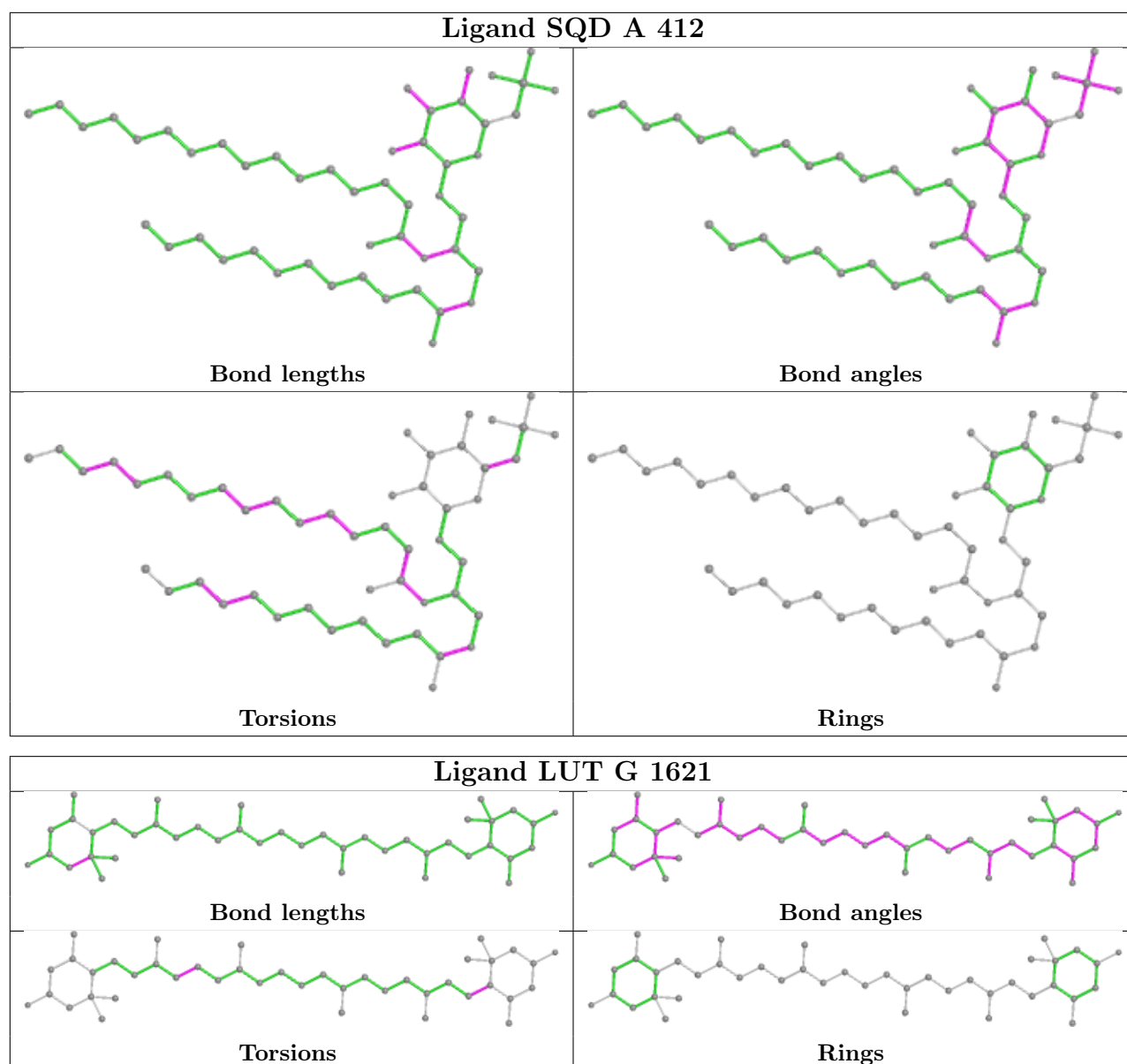


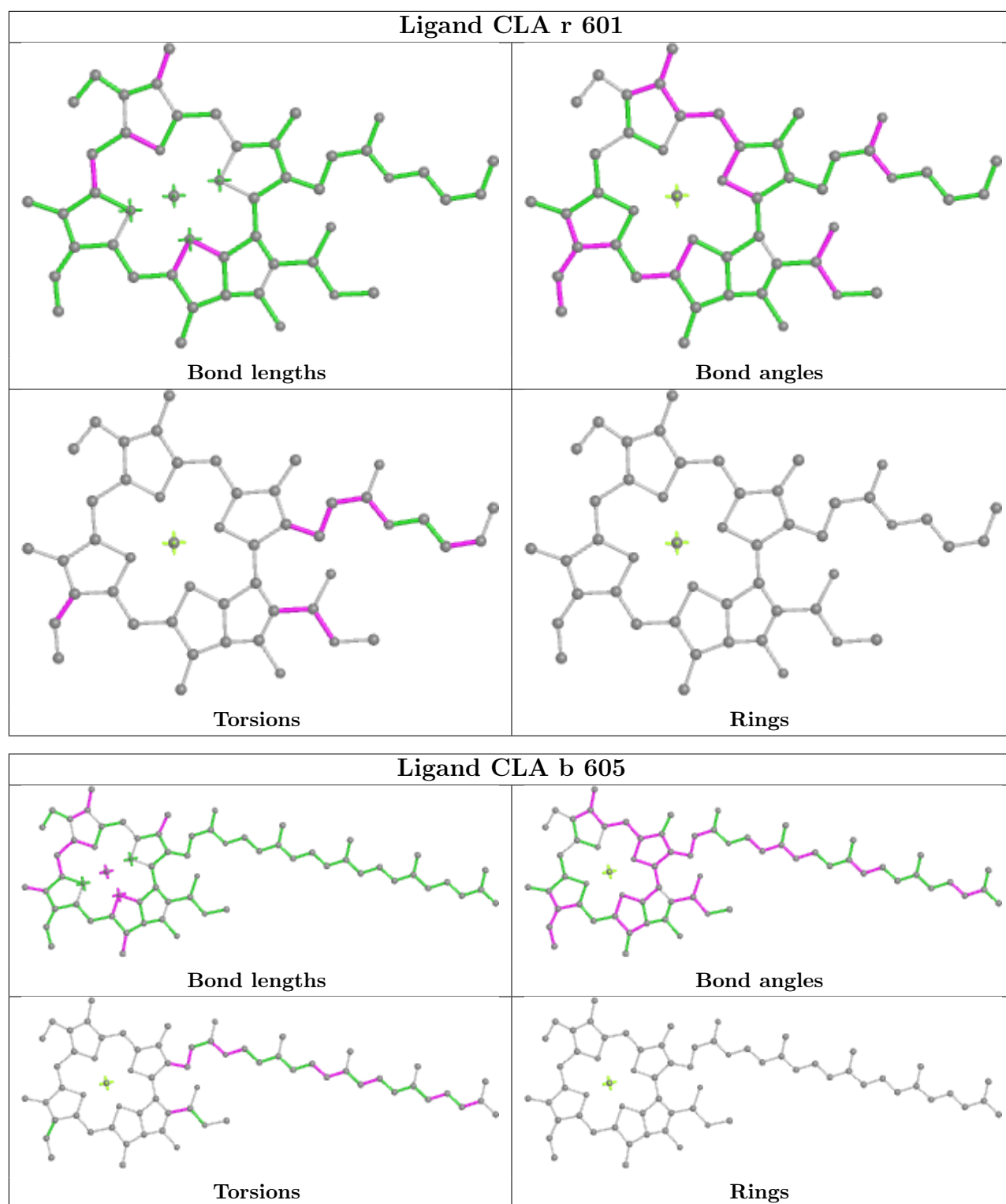


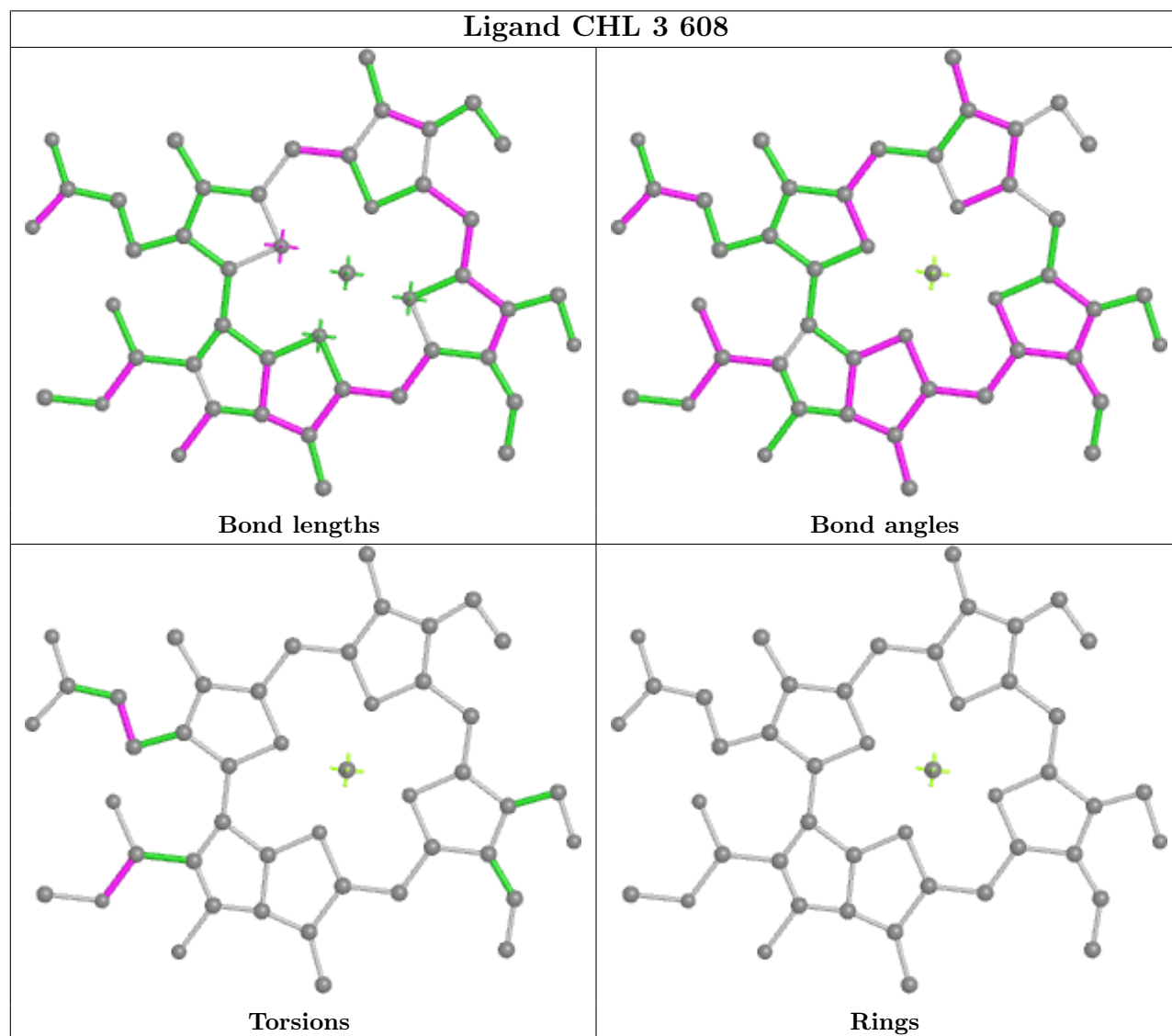
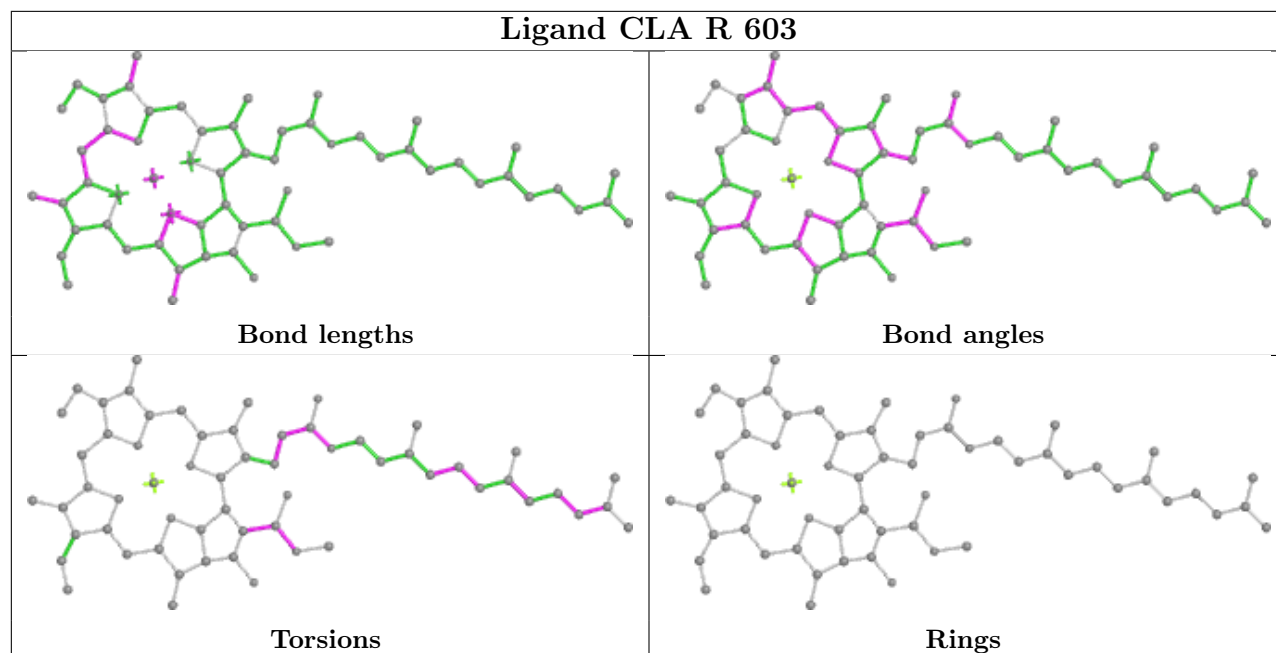


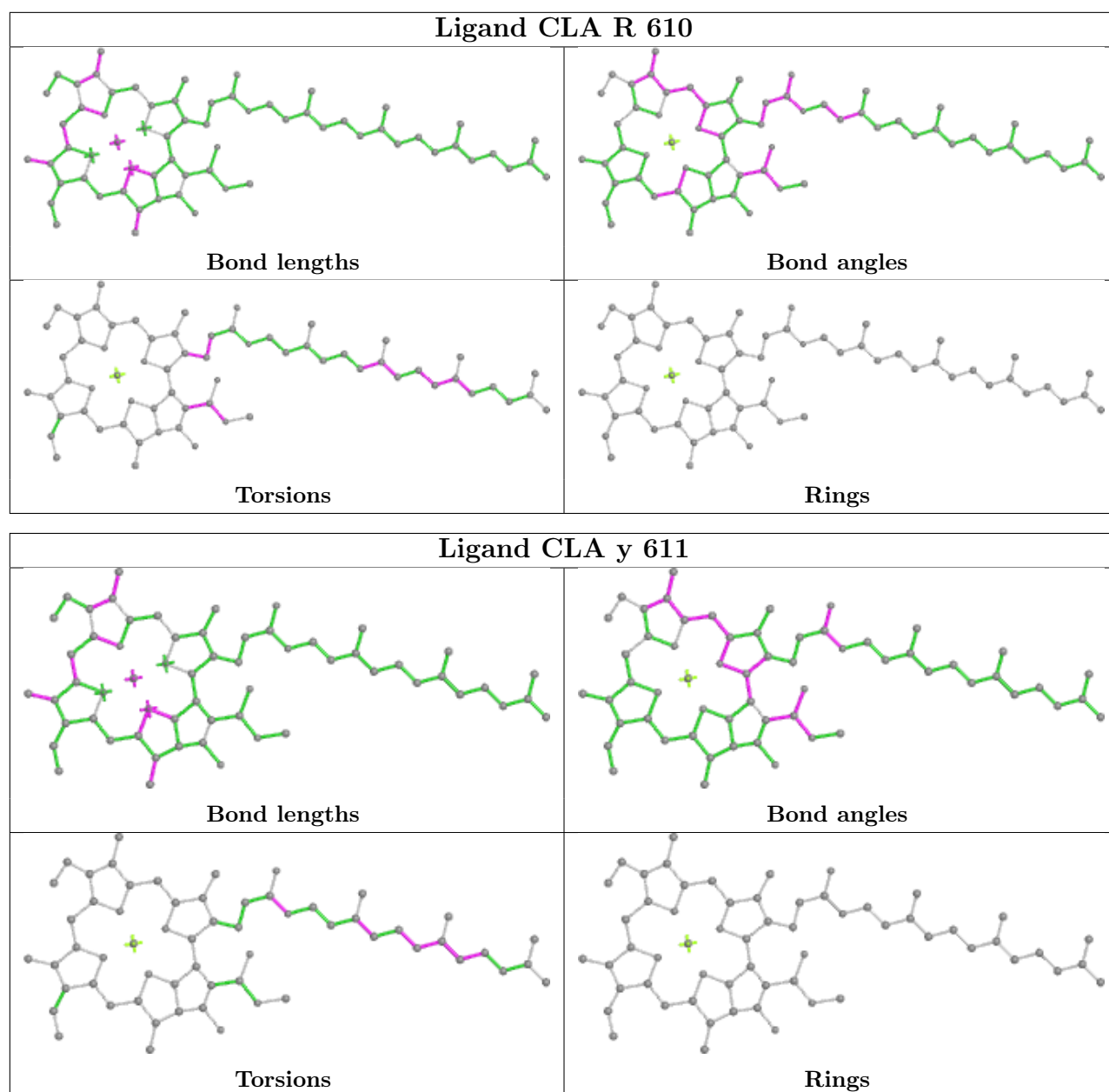


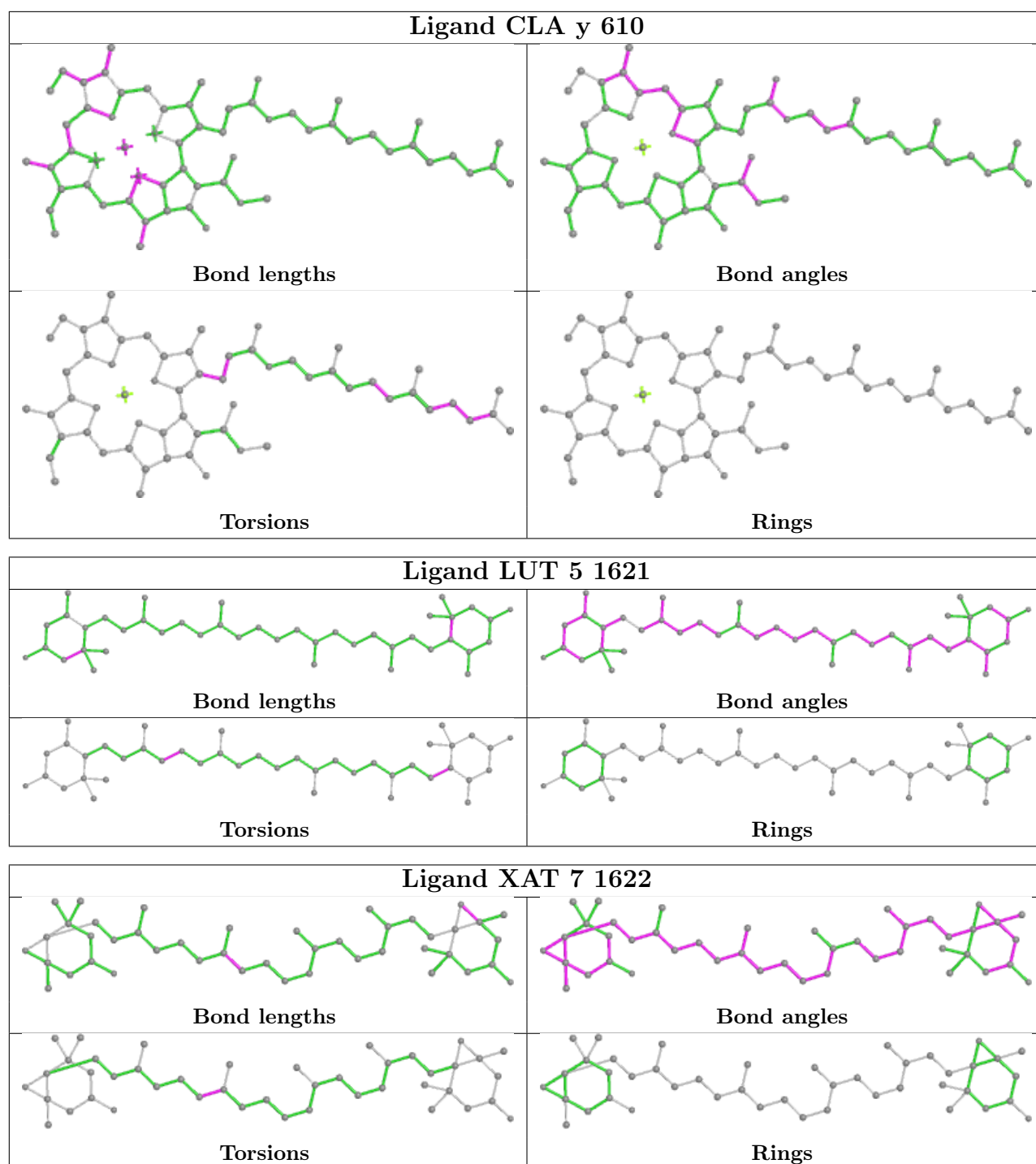


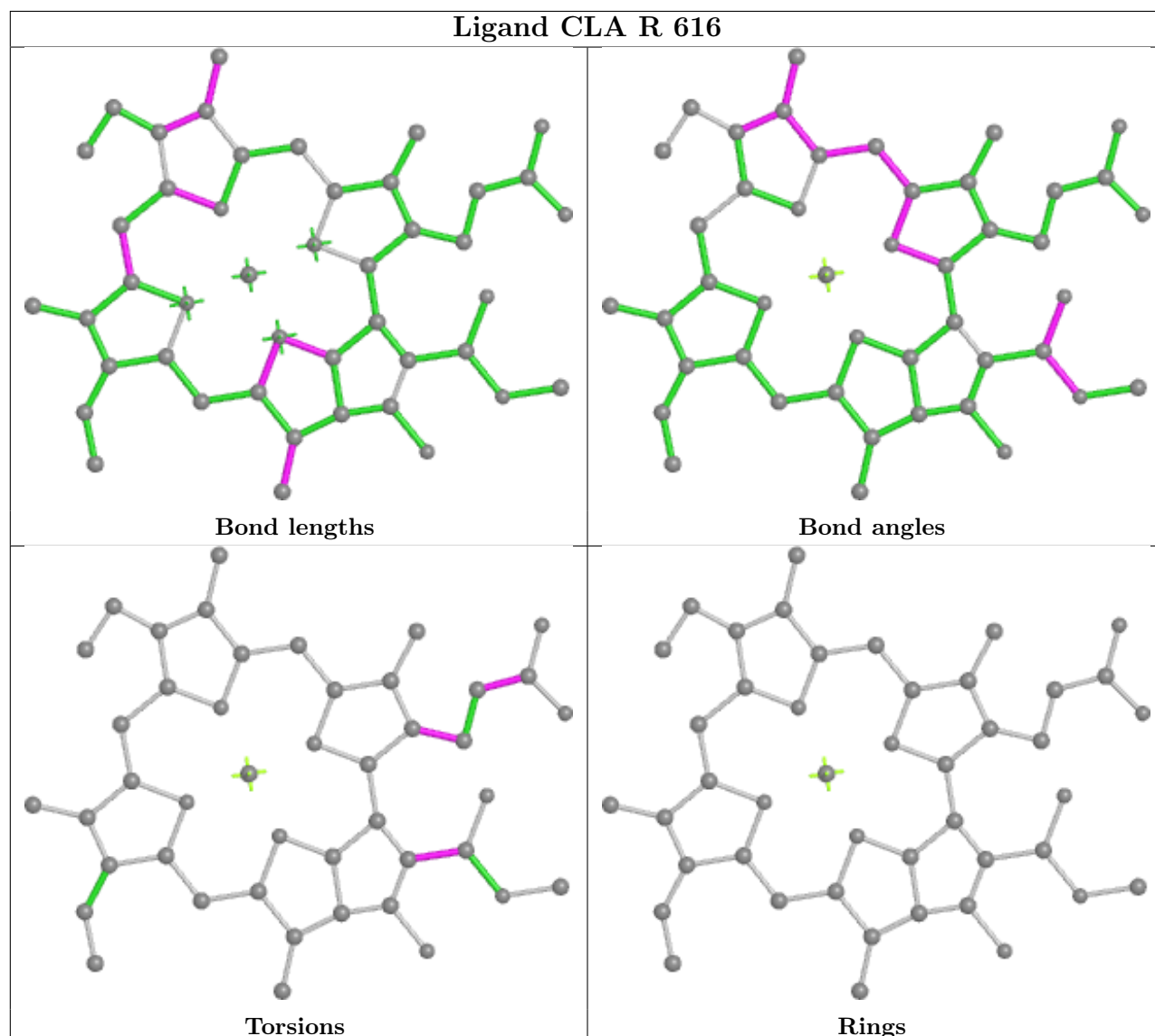
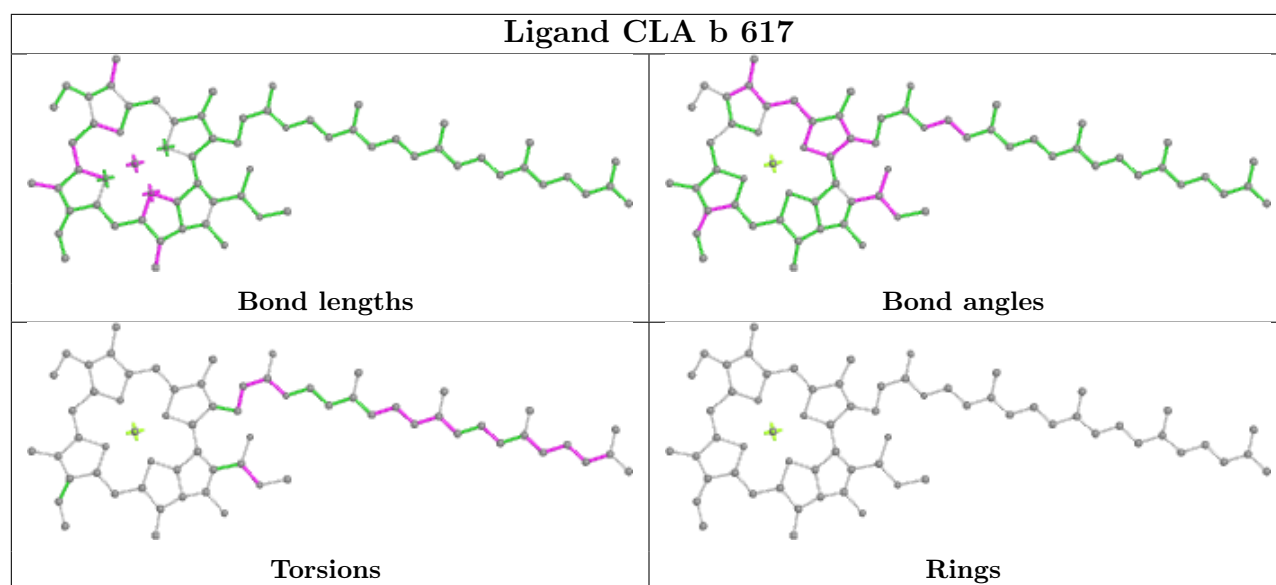


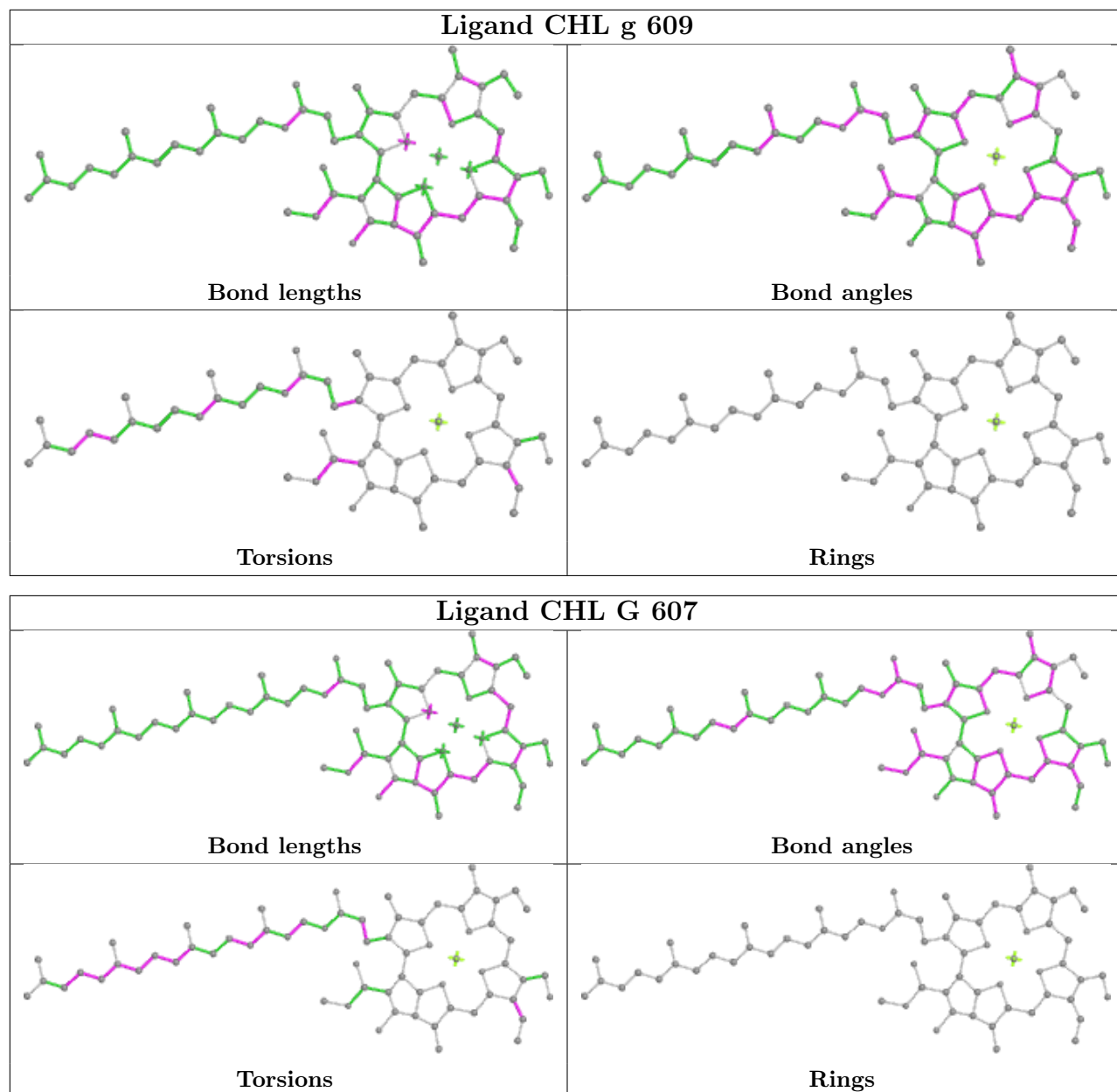


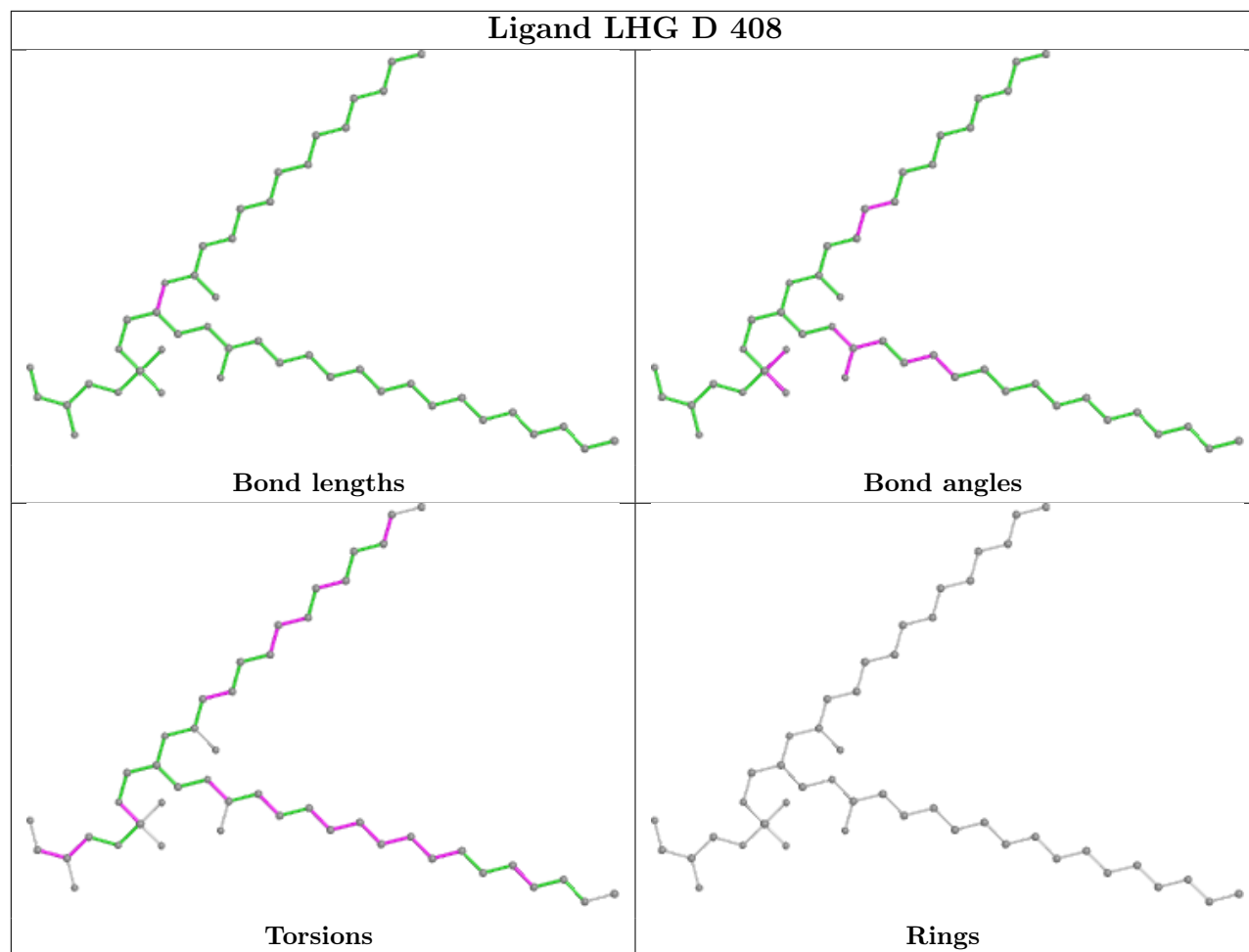


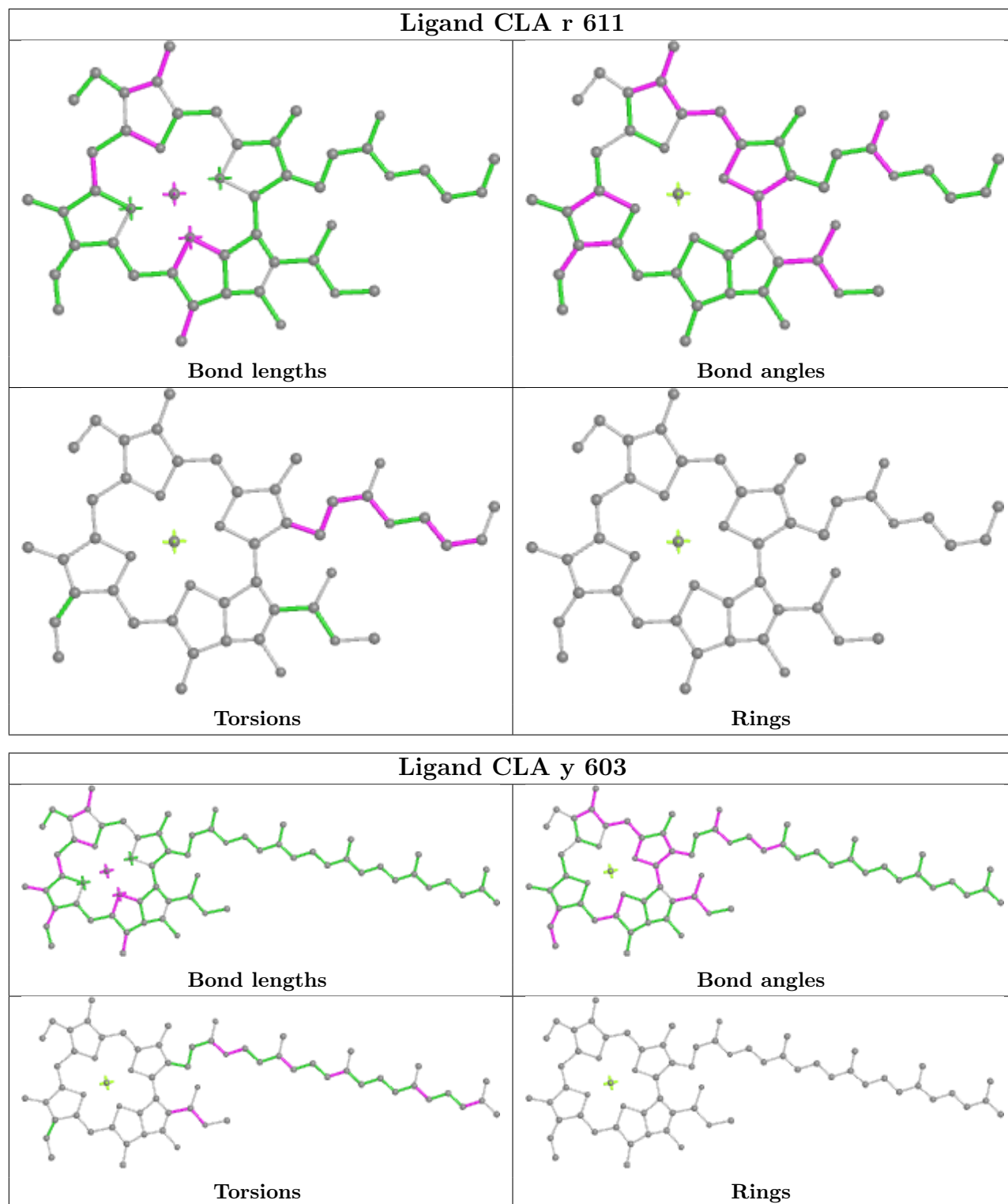


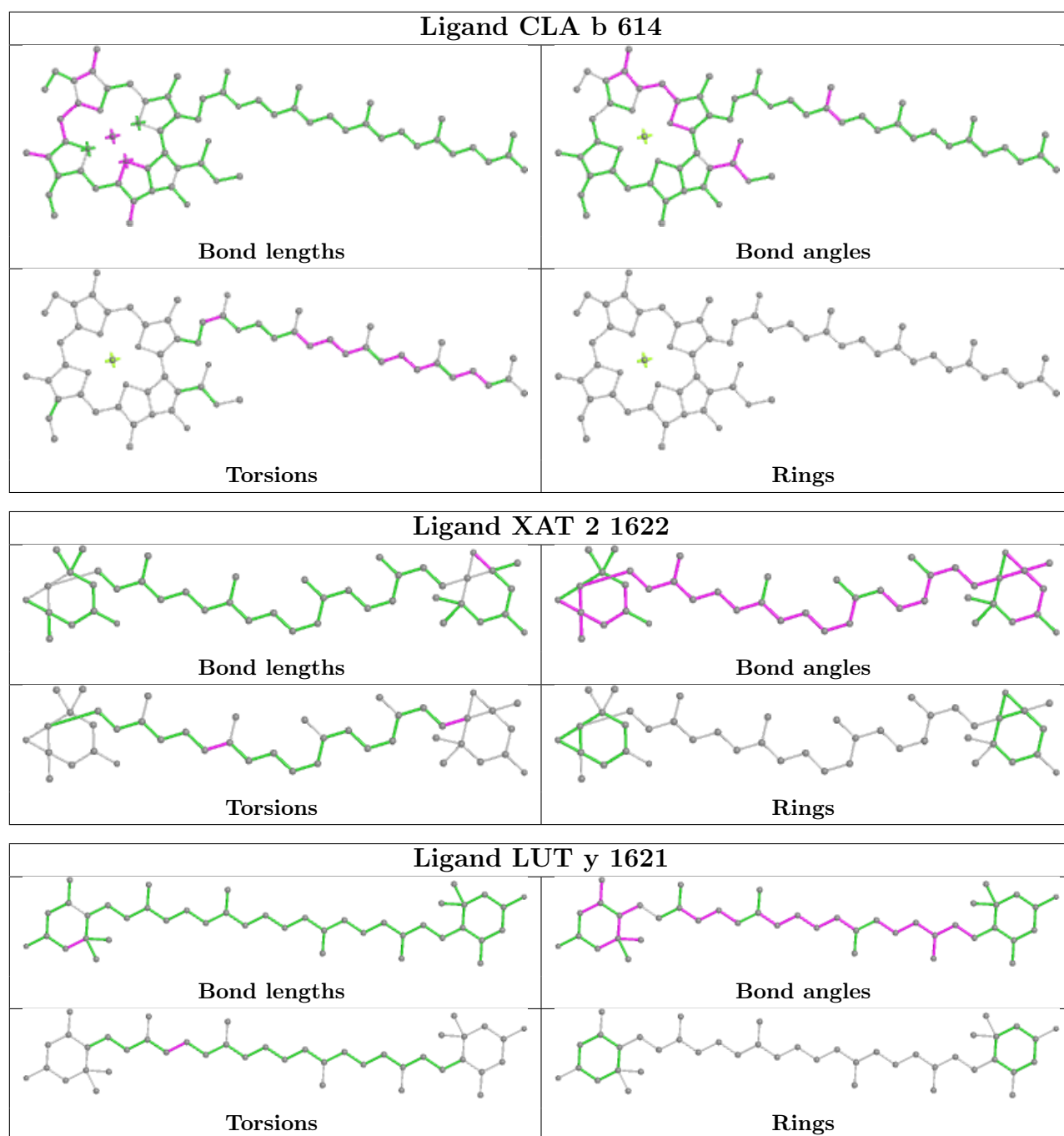


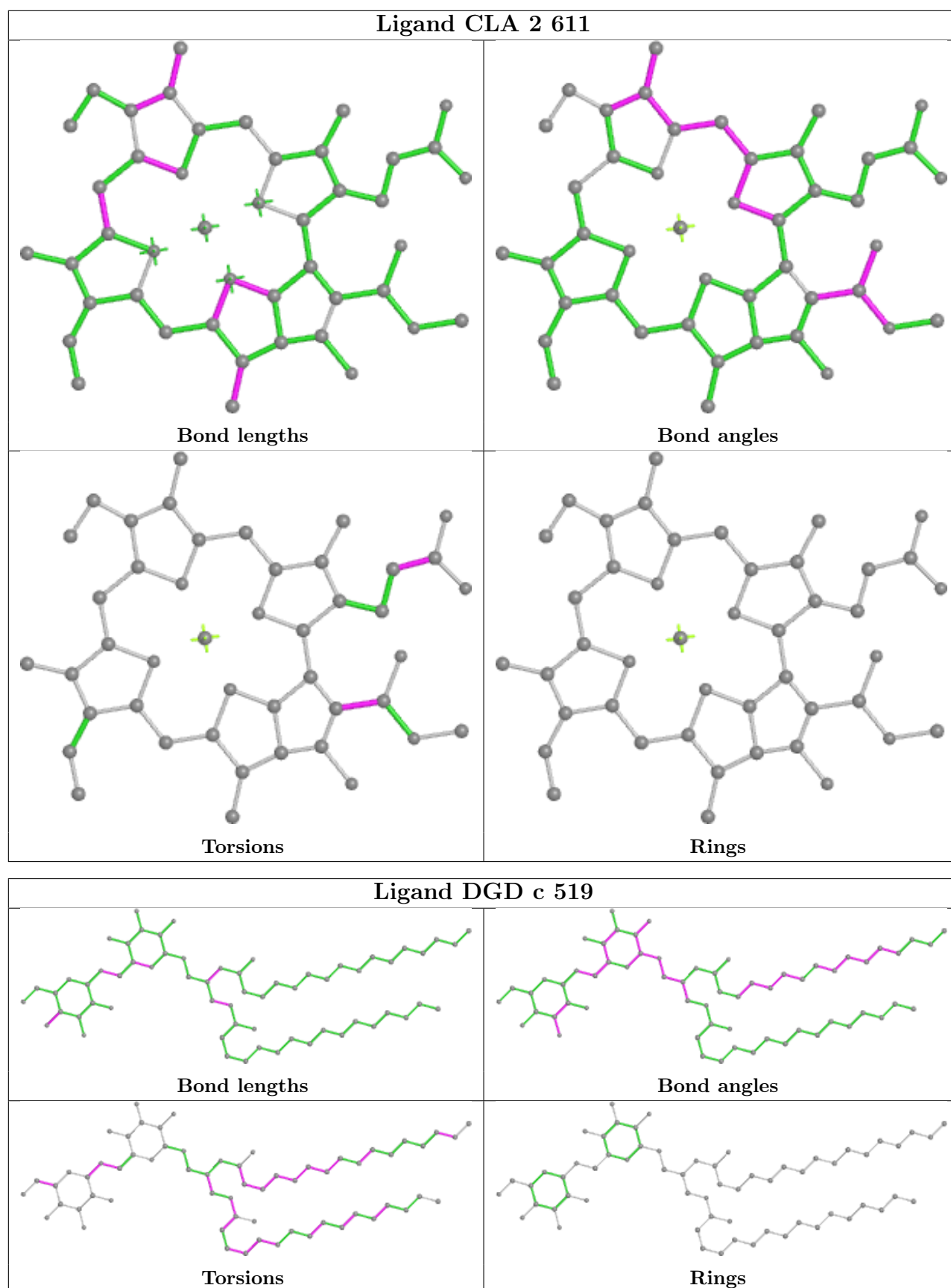


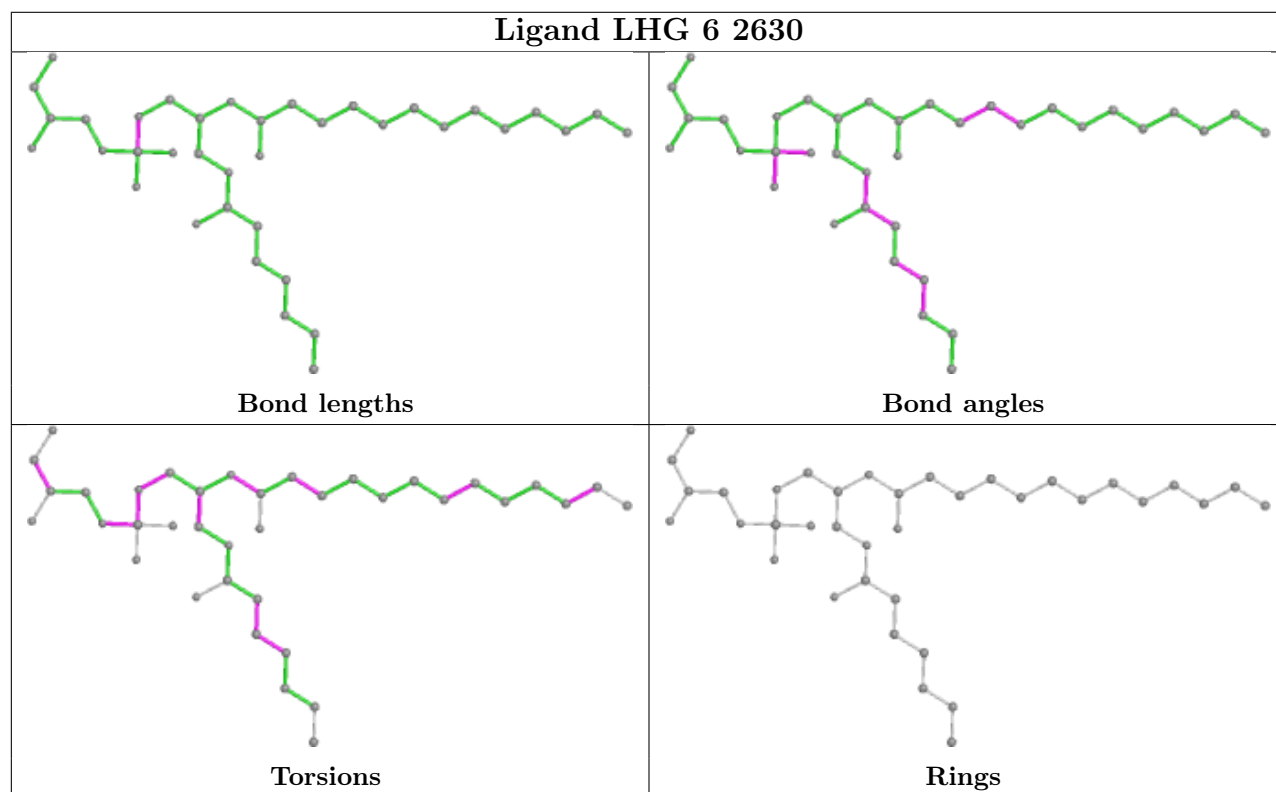
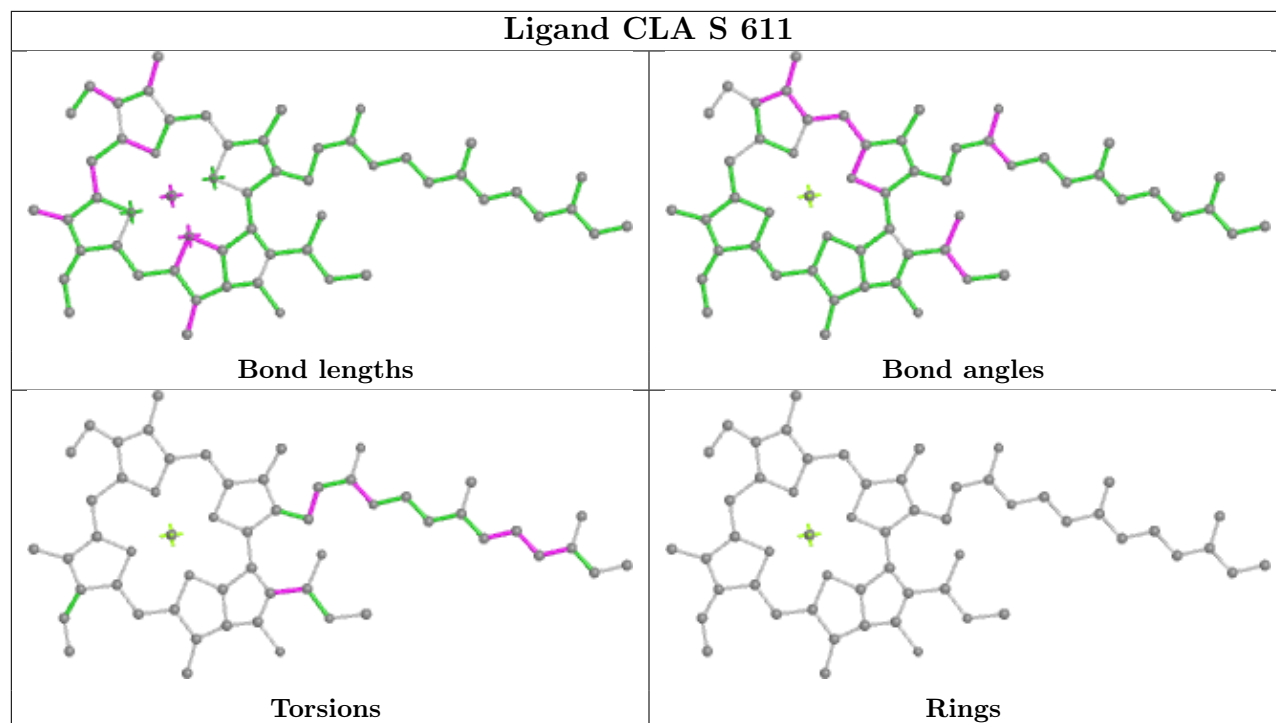


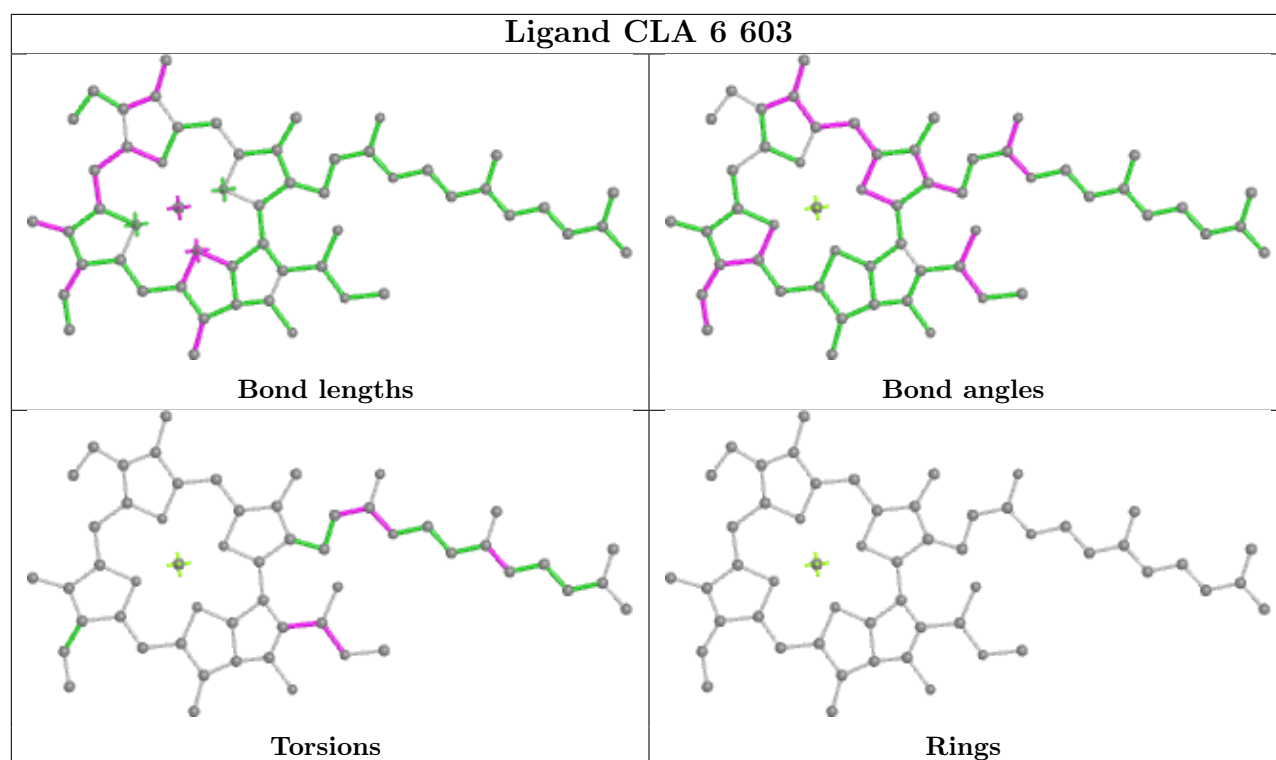












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

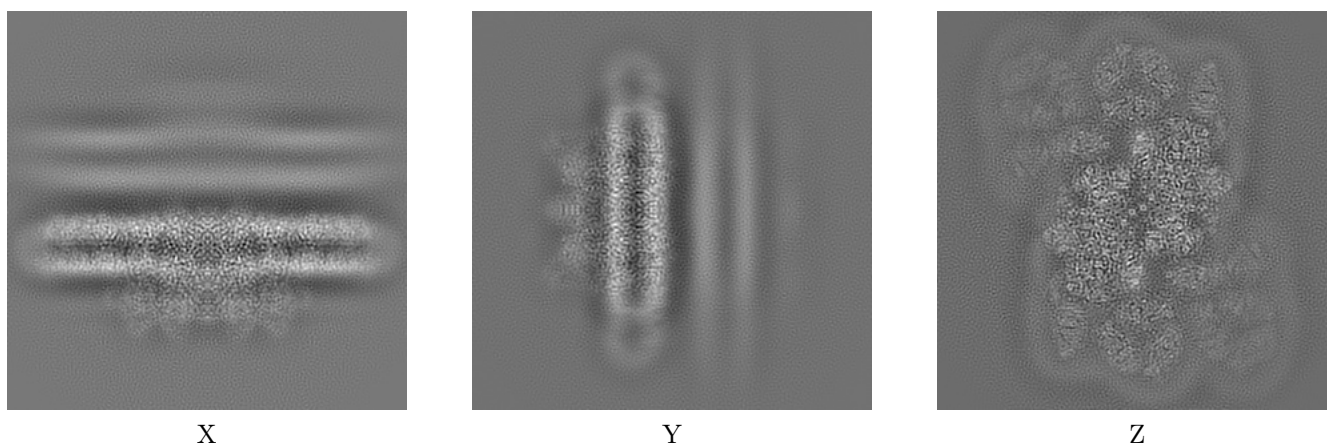
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6741. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections [i](#)

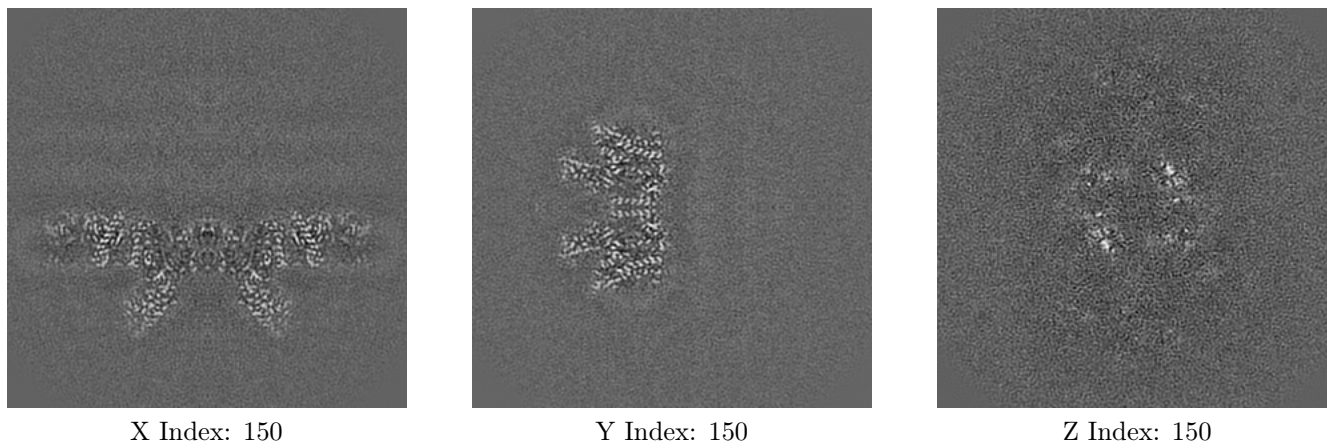
6.1.1 Primary map



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

6.2 Central slices [i](#)

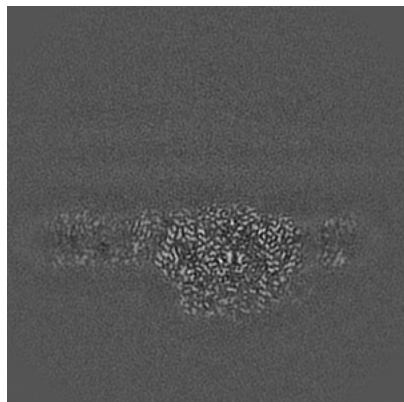
6.2.1 Primary map



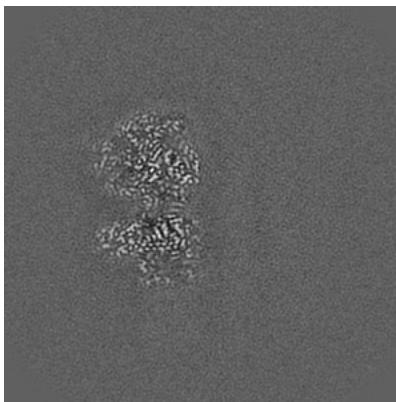
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

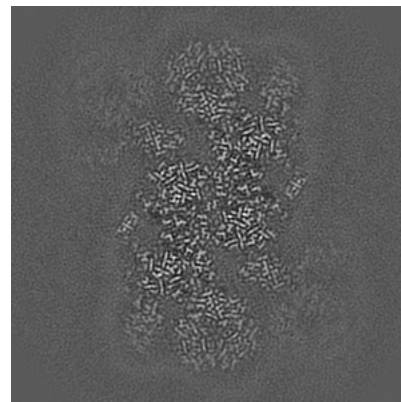
6.3.1 Primary map



X Index: 178



Y Index: 162

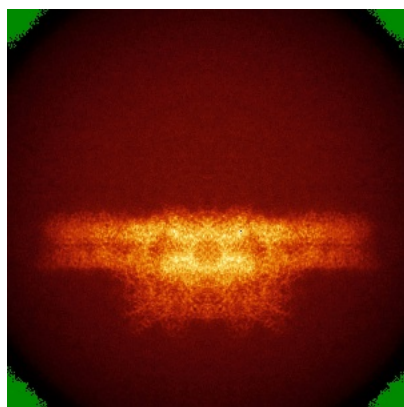


Z Index: 130

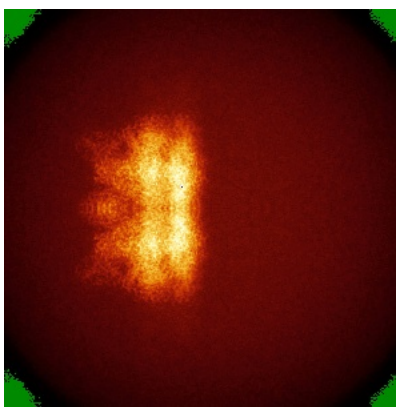
The images above show the largest variance slices of the map in three orthogonal directions.

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

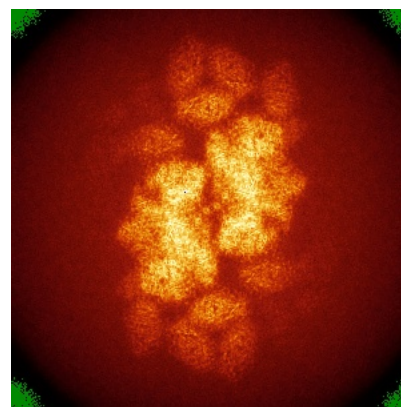
6.4.1 Primary map



X



Y

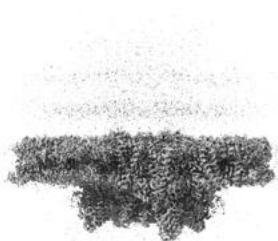


Z

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

6.5 Orthogonal surface views [i](#)

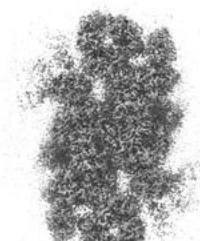
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 17.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

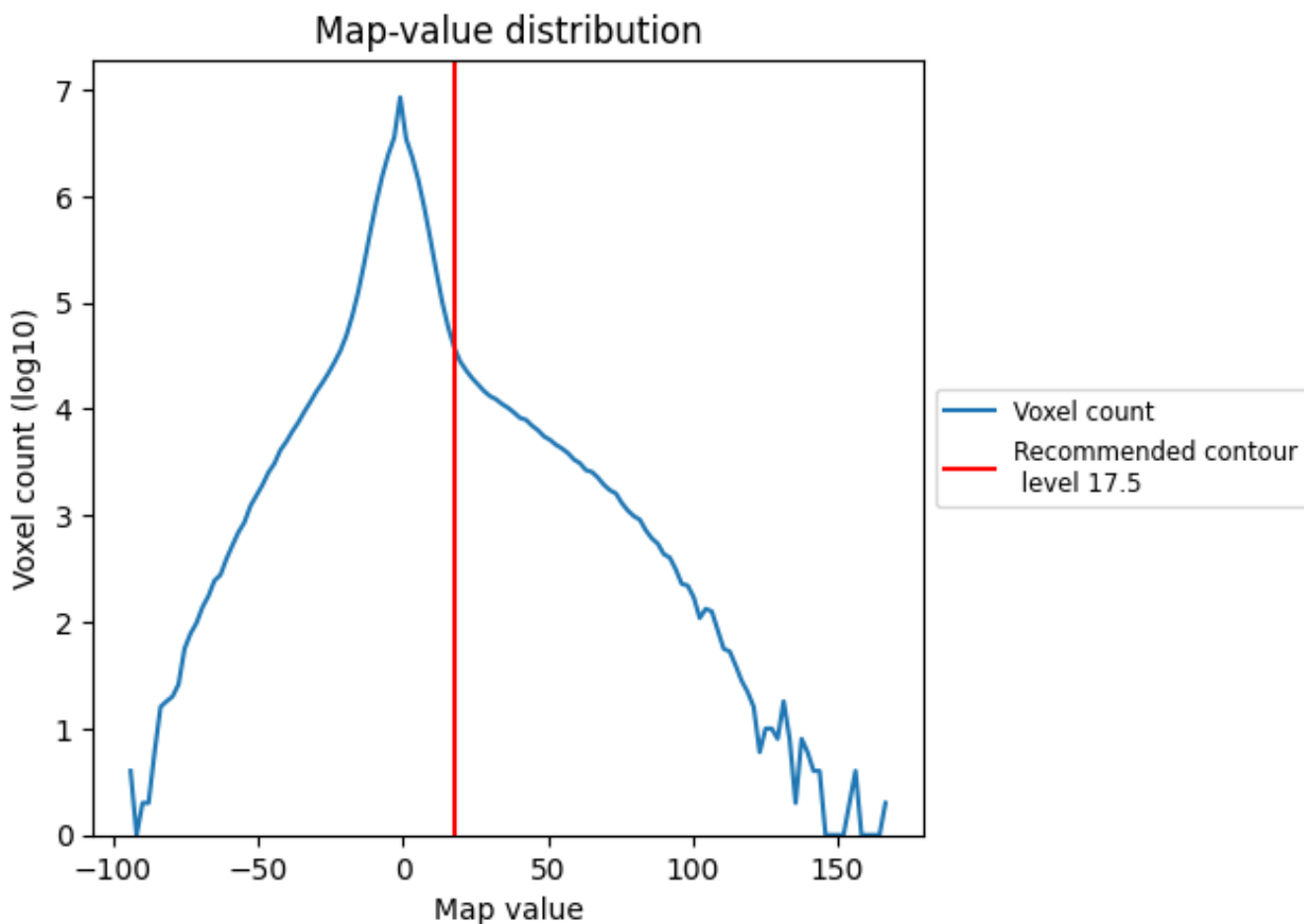
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

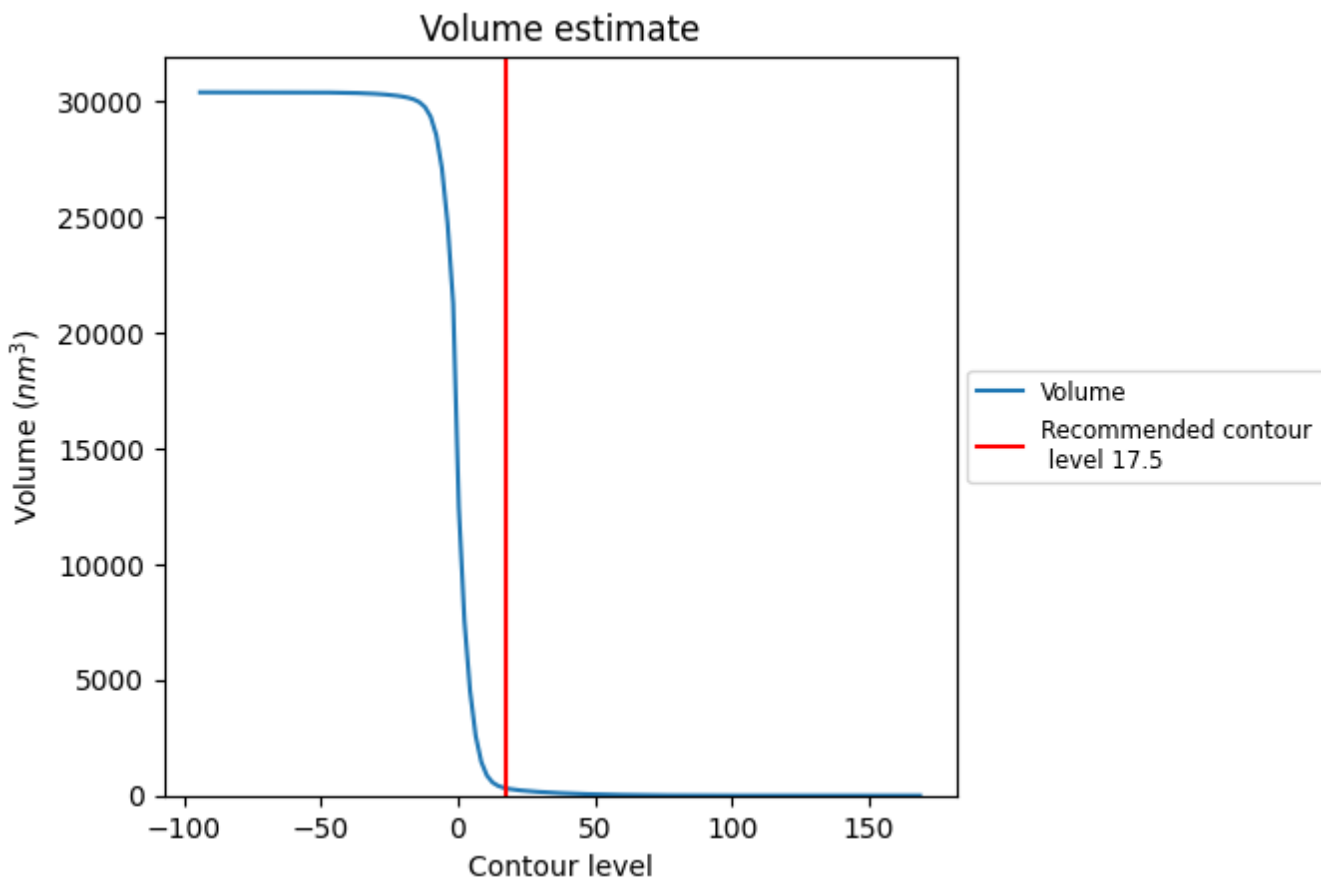
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

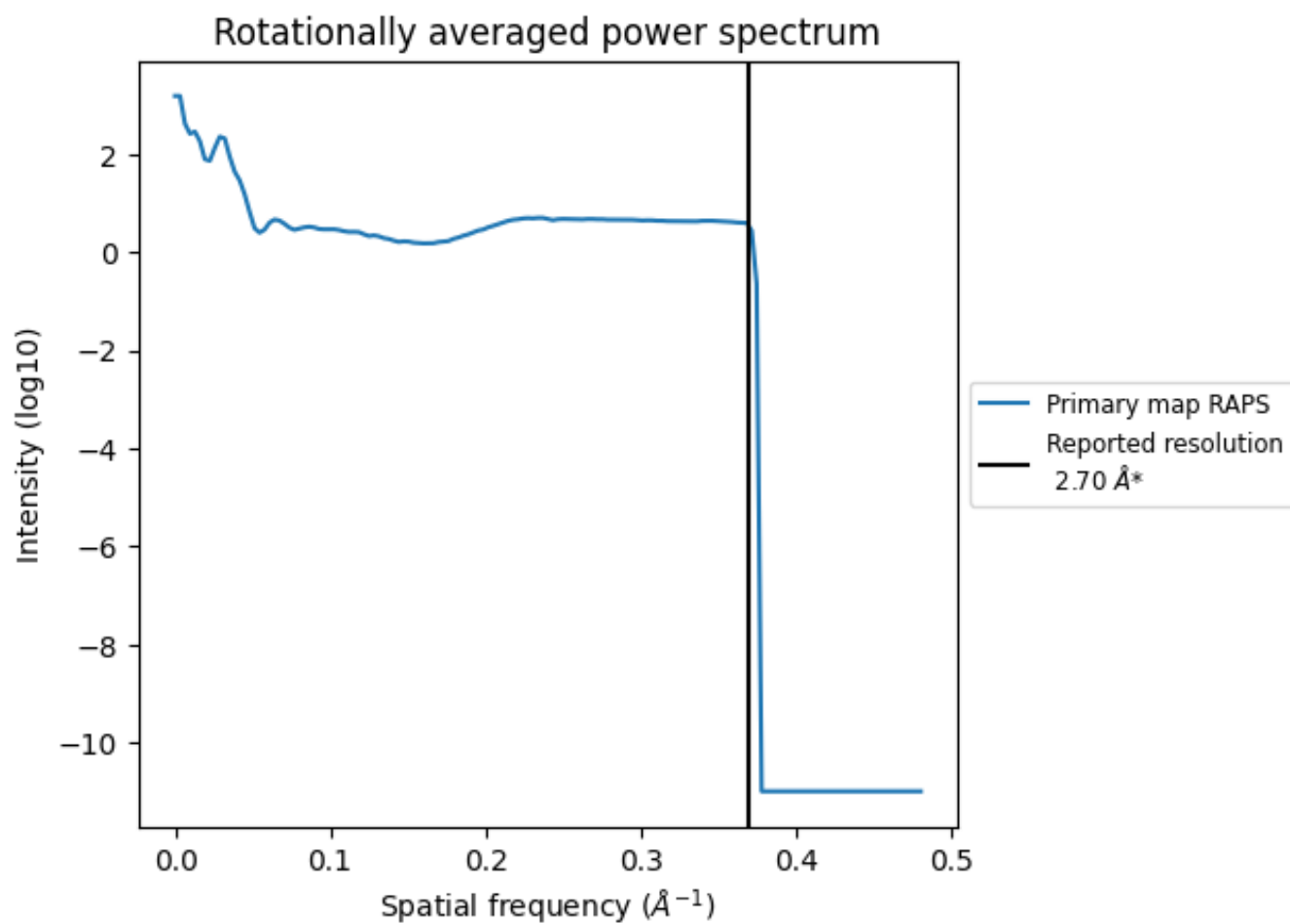
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 319 nm³; this corresponds to an approximate mass of 288 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 0.370 Å⁻¹

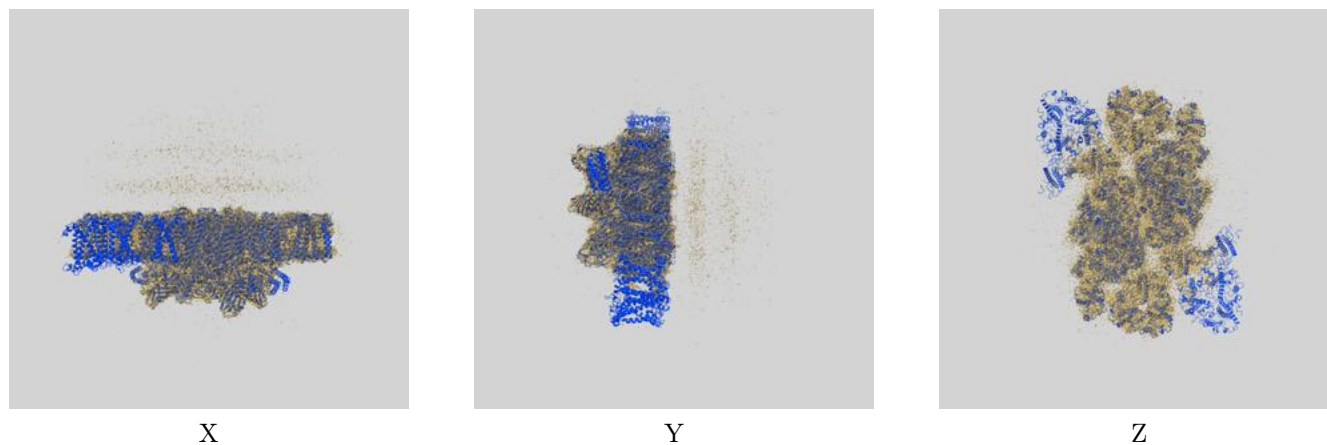
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

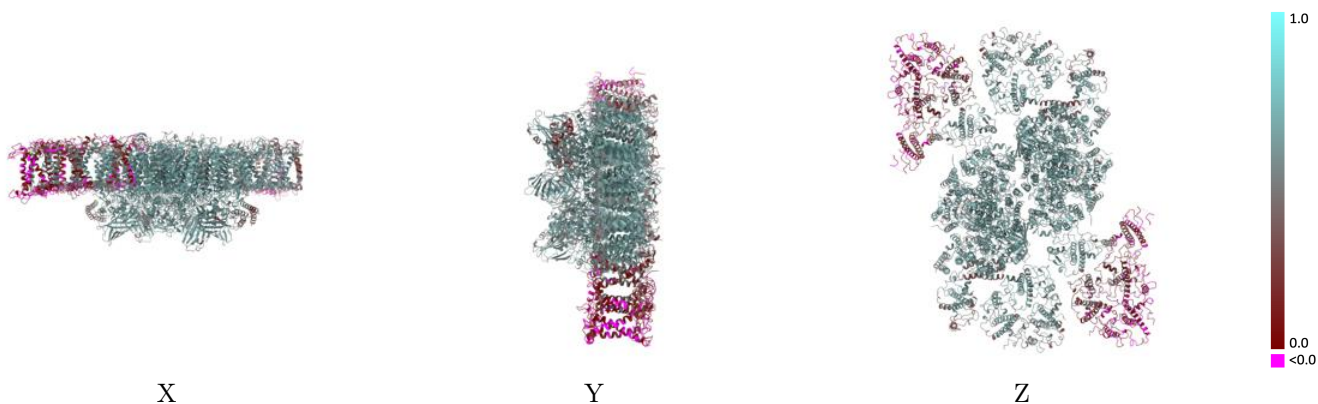
This section contains information regarding the fit between EMDB map EMD-6741 and PDB model 5XNL. Per-residue inclusion information can be found in section 3 on page 51.

9.1 Map-model overlay [i](#)



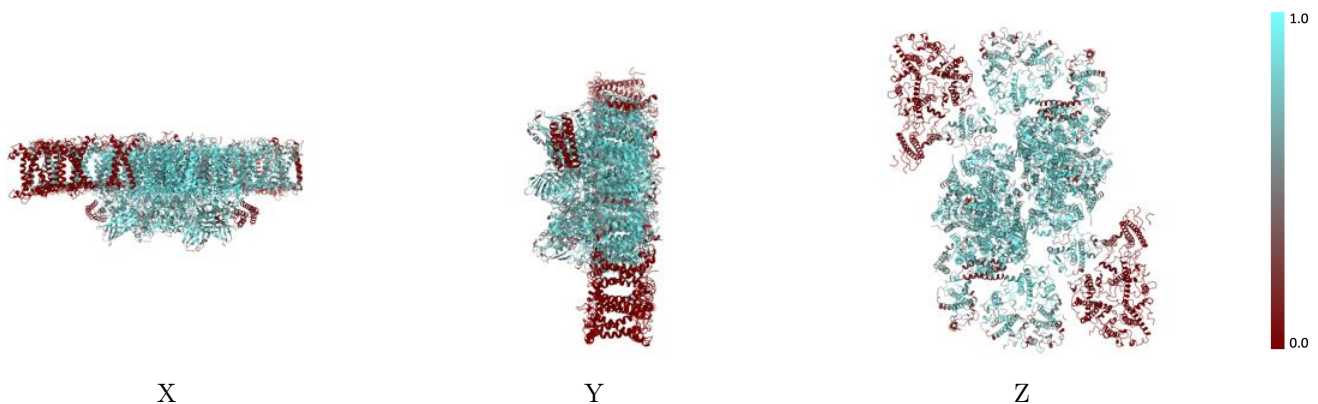
The images above show the 3D surface view of the map at the recommended contour level 17.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



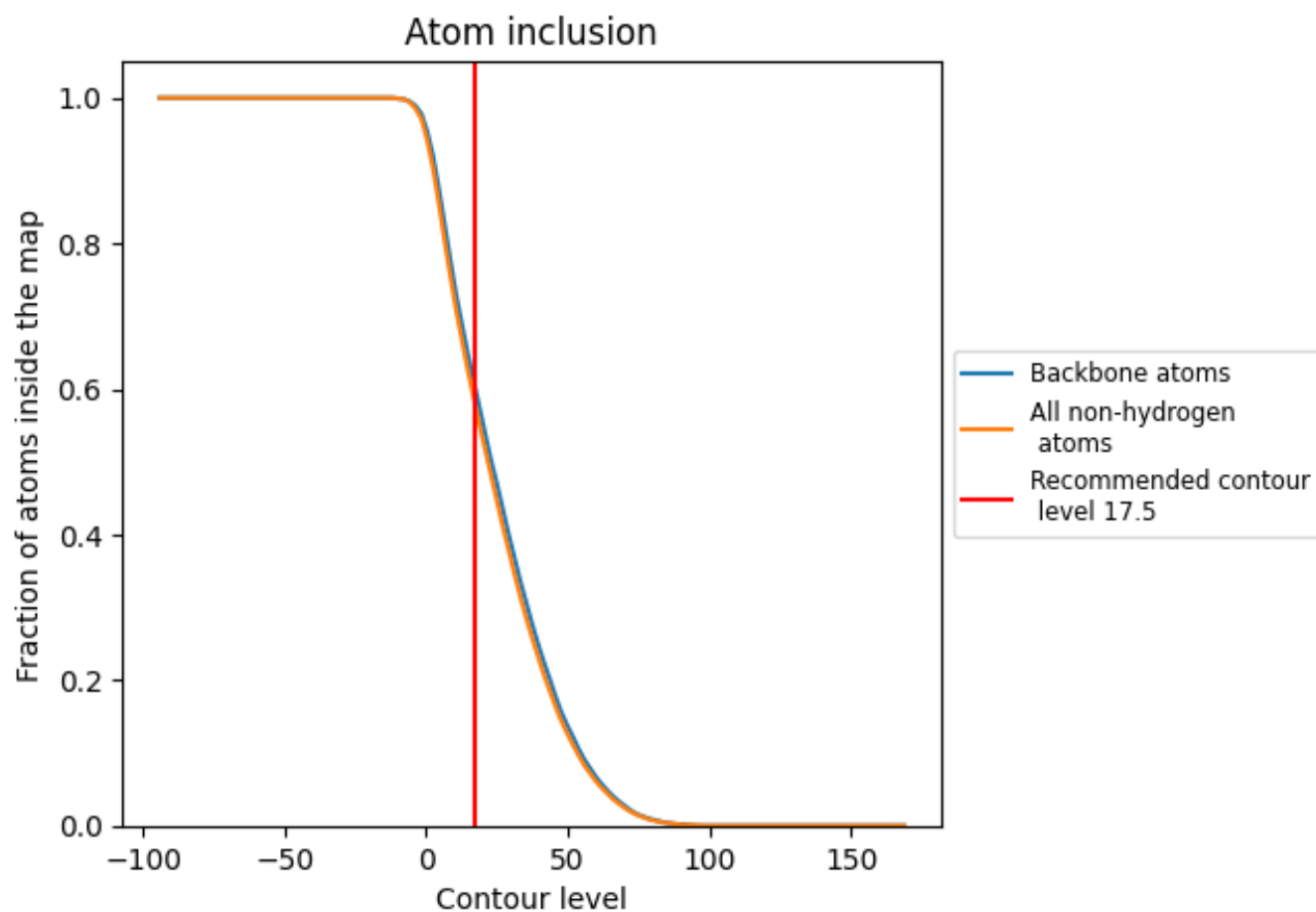
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (17.5).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 60% of all backbone atoms, 57% 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 (17.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5740	 0.5080
1	 0.0440	 0.2350
2	 0.0000	 0.0900
3	 0.0190	 0.2140
4	 0.0370	 0.1910
5	 0.0440	 0.2370
6	 0.0000	 0.0880
7	 0.0190	 0.2130
8	 0.0370	 0.1890
A	 0.8730	 0.6430
B	 0.8090	 0.6200
C	 0.8210	 0.6290
D	 0.8650	 0.6370
E	 0.7800	 0.6010
F	 0.7890	 0.6140
G	 0.5390	 0.5460
H	 0.8030	 0.6150
I	 0.8750	 0.6340
J	 0.6810	 0.5830
K	 0.7320	 0.5880
L	 0.8080	 0.6190
M	 0.6740	 0.5720
N	 0.6000	 0.5620
O	 0.7230	 0.5810
P	 0.6240	 0.5760
Q	 0.0760	 0.4090
R	 0.6350	 0.5630
S	 0.5200	 0.5220
T	 0.7010	 0.6000
W	 0.6930	 0.5860
X	 0.5880	 0.5550
Y	 0.7970	 0.6100
Z	 0.5570	 0.5360
a	 0.8720	 0.6420
b	 0.8080	 0.6200



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Chain	Atom inclusion	Q-score
c	 0.8200	 0.6300
d	 0.8640	 0.6370
e	 0.7800	 0.6010
f	 0.7930	 0.6130
g	 0.5410	 0.5450
h	 0.8010	 0.6110
i	 0.8750	 0.6330
j	 0.6770	 0.5810
k	 0.7320	 0.5800
l	 0.8060	 0.6240
m	 0.6670	 0.5710
n	 0.5990	 0.5610
o	 0.7210	 0.5820
p	 0.6260	 0.5770
q	 0.0770	 0.4070
r	 0.6360	 0.5650
s	 0.5220	 0.5210
t	 0.6880	 0.6000
w	 0.6930	 0.5880
x	 0.5880	 0.5590
y	 0.7970	 0.6110
z	 0.5540	 0.5340