



## wwPDB EM Validation Summary Report ⓘ

Dec 11, 2022 – 11:00 pm GMT

PDB ID : 6TCL  
EMDB ID : EMD-10461  
Title : Photosystem I tetramer  
Authors : Chen, M.; Perez-Boerema, A.; Li, S.; Amunts, A.  
Deposited on : 2019-11-06  
Resolution : 3.20 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](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev43  
Mogul : 1.8.4, 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 : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.3

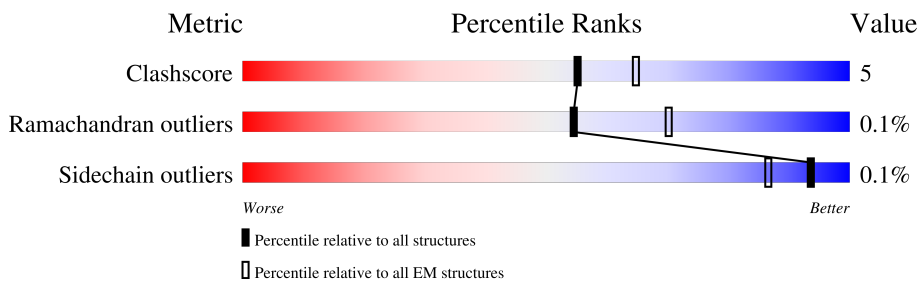
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	740	
1	A1	740	
1	A2	740	
1	AA	740	
2	B	739	
2	B1	739	
2	B2	739	
2	BB	739	

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Mol	Chain	Length	Quality of chain
3	C	80	6% 86% 14%
3	C1	80	5% 84% 15%
3	C2	80	6% 88% 11%
3	CC	80	6% 84% 16%
4	D	134	93% 7%
4	D1	134	94% 6%
4	D2	134	91% 9%
4	DD	134	94% 6%
5	E1	60	5% 92% 8%
5	E2	60	92% 8%
6	F	139	92% 8%
6	F1	139	90% 10%
6	FF	139	88% 12%
7	I	31	94% 6%
7	I1	31	97%
7	II	31	97%
8	J	48	83% 6% 10%
8	J1	48	81% 8% 10%
8	J2	48	79% 10% 10%
8	JJ	48	77% 12% 10%
9	K	74	68% 14% 19%
9	K1	74	96%
9	KK	74	72% 9% 19%
10	L1	166	89% 11%
11	M	31	84% 16%

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Mol	Chain	Length	Quality of chain
11	M1	31	10% 94% 6%
11	M2	31	10% 97% .
11	MM	31	94% 6%
12	X	39	8% 95% 5%
12	X1	39	10% 92% 8%
12	X2	39	8% 90% 10%
12	XX	39	8% 97% .
13	F2	137	85% 13% ..
14	I2	33	94% 6%
15	K2	73	88% 12%
16	L2	167	89% 10% .
17	E	63	90% 10%
17	EE	63	87% 13%
18	L	154	95% 5%
18	LL	154	94% 6%

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
19	CLA	A	801	X	-	-	-
19	CLA	A	804	X	-	-	-
19	CLA	A	805	X	-	-	-
19	CLA	A	806	X	-	-	-
19	CLA	A	807	X	-	-	-
19	CLA	A	808	X	-	-	-
19	CLA	A	809	X	-	-	-
19	CLA	A	810	X	-	-	-
19	CLA	A	811	X	-	-	-
19	CLA	A	812	X	-	-	-
19	CLA	A	813	X	-	-	-
19	CLA	A	814	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	A	815	X	-	-	-
19	CLA	A	816	X	-	-	-
19	CLA	A	817	X	-	-	-
19	CLA	A	818	X	-	-	-
19	CLA	A	819	X	-	-	-
19	CLA	A	821	X	-	-	-
19	CLA	A	822	X	-	-	-
19	CLA	A	823	X	-	-	-
19	CLA	A	824	X	-	-	-
19	CLA	A	825	X	-	-	-
19	CLA	A	826	X	-	-	-
19	CLA	A	827	X	-	-	-
19	CLA	A	828	X	-	-	-
19	CLA	A	829	X	-	-	-
19	CLA	A	830	X	-	-	-
19	CLA	A	831	X	-	-	-
19	CLA	A	832	X	-	-	-
19	CLA	A	833	X	-	-	-
19	CLA	A	834	X	-	-	-
19	CLA	A	835	X	-	-	-
19	CLA	A	836	X	-	-	-
19	CLA	A	837	X	-	-	-
19	CLA	A	838	X	-	-	-
19	CLA	A	839	X	-	-	-
19	CLA	A	840	X	-	-	-
19	CLA	A	841	X	-	-	-
19	CLA	A	842	X	-	-	-
19	CLA	A	844	X	-	-	-
19	CLA	A	852	X	-	-	-
19	CLA	A1	801	X	-	-	-
19	CLA	A1	803	X	-	-	-
19	CLA	A1	804	X	-	-	-
19	CLA	A1	806	X	-	-	-
19	CLA	A1	807	X	-	-	-
19	CLA	A1	808	X	-	-	-
19	CLA	A1	809	X	-	-	-
19	CLA	A1	810	X	-	-	-
19	CLA	A1	811	X	-	-	-
19	CLA	A1	812	X	-	-	-
19	CLA	A1	813	X	-	-	-
19	CLA	A1	814	X	-	-	-
19	CLA	A1	815	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	A1	816	X	-	-	-
19	CLA	A1	817	X	-	-	-
19	CLA	A1	818	X	-	-	-
19	CLA	A1	820	X	-	-	-
19	CLA	A1	821	X	-	-	-
19	CLA	A1	822	X	-	-	-
19	CLA	A1	823	X	-	-	-
19	CLA	A1	824	X	-	-	-
19	CLA	A1	825	X	-	-	-
19	CLA	A1	826	X	-	-	-
19	CLA	A1	827	X	-	-	-
19	CLA	A1	828	X	-	-	-
19	CLA	A1	829	X	-	-	-
19	CLA	A1	830	X	-	-	-
19	CLA	A1	831	X	-	-	-
19	CLA	A1	832	X	-	-	-
19	CLA	A1	833	X	-	-	-
19	CLA	A1	834	X	-	-	-
19	CLA	A1	835	X	-	-	-
19	CLA	A1	836	X	-	-	-
19	CLA	A1	837	X	-	-	-
19	CLA	A1	838	X	-	-	-
19	CLA	A1	839	X	-	-	-
19	CLA	A1	840	X	-	-	-
19	CLA	A1	841	X	-	-	-
19	CLA	A1	842	X	-	-	-
19	CLA	A1	844	X	-	-	-
19	CLA	A1	852	X	-	-	-
19	CLA	A2	801	X	-	-	-
19	CLA	A2	802	X	-	-	-
19	CLA	A2	804	X	-	-	-
19	CLA	A2	805	X	-	-	-
19	CLA	A2	806	X	-	-	-
19	CLA	A2	807	X	-	-	-
19	CLA	A2	808	X	-	-	-
19	CLA	A2	809	X	-	-	-
19	CLA	A2	810	X	-	-	-
19	CLA	A2	811	X	-	-	-
19	CLA	A2	812	X	-	-	-
19	CLA	A2	813	X	-	-	-
19	CLA	A2	814	X	-	-	-
19	CLA	A2	815	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	A2	816	X	-	-	-
19	CLA	A2	817	X	-	-	-
19	CLA	A2	818	X	-	-	-
19	CLA	A2	819	X	-	-	-
19	CLA	A2	820	X	-	-	-
19	CLA	A2	821	X	-	-	-
19	CLA	A2	822	X	-	-	-
19	CLA	A2	823	X	-	-	-
19	CLA	A2	824	X	-	-	-
19	CLA	A2	825	X	-	-	-
19	CLA	A2	826	X	-	-	-
19	CLA	A2	827	X	-	-	-
19	CLA	A2	828	X	-	-	-
19	CLA	A2	829	X	-	-	-
19	CLA	A2	830	X	-	-	-
19	CLA	A2	831	X	-	-	-
19	CLA	A2	832	X	-	-	-
19	CLA	A2	833	X	-	-	-
19	CLA	A2	834	X	-	-	-
19	CLA	A2	835	X	-	-	-
19	CLA	A2	837	X	-	-	-
19	CLA	A2	838	X	-	-	-
19	CLA	A2	839	X	-	-	-
19	CLA	A2	840	X	-	-	-
19	CLA	A2	841	X	-	-	-
19	CLA	A2	842	X	-	-	-
19	CLA	A2	844	X	-	-	-
19	CLA	A2	852	X	-	-	-
19	CLA	AA	801	X	-	-	-
19	CLA	AA	804	X	-	-	-
19	CLA	AA	805	X	-	-	-
19	CLA	AA	806	X	-	-	-
19	CLA	AA	807	X	-	-	-
19	CLA	AA	808	X	-	-	-
19	CLA	AA	809	X	-	-	-
19	CLA	AA	810	X	-	-	-
19	CLA	AA	811	X	-	-	-
19	CLA	AA	812	X	-	-	-
19	CLA	AA	813	X	-	-	-
19	CLA	AA	814	X	-	-	-
19	CLA	AA	815	X	-	-	-
19	CLA	AA	816	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	AA	817	X	-	-	-
19	CLA	AA	818	X	-	-	-
19	CLA	AA	819	X	-	-	-
19	CLA	AA	820	X	-	-	-
19	CLA	AA	821	X	-	-	-
19	CLA	AA	823	X	-	-	-
19	CLA	AA	824	X	-	-	-
19	CLA	AA	825	X	-	-	-
19	CLA	AA	826	X	-	-	-
19	CLA	AA	827	X	-	-	-
19	CLA	AA	828	X	-	-	-
19	CLA	AA	829	X	-	-	-
19	CLA	AA	830	X	-	-	-
19	CLA	AA	831	X	-	-	-
19	CLA	AA	832	X	-	-	-
19	CLA	AA	833	X	-	-	-
19	CLA	AA	834	X	-	-	-
19	CLA	AA	835	X	-	-	-
19	CLA	AA	836	X	-	-	-
19	CLA	AA	837	X	-	-	-
19	CLA	AA	838	X	-	-	-
19	CLA	AA	839	X	-	-	-
19	CLA	AA	840	X	-	-	-
19	CLA	AA	841	X	-	-	-
19	CLA	AA	842	X	-	-	-
19	CLA	AA	843	X	-	-	-
19	CLA	AA	845	X	-	-	-
19	CLA	AA	853	X	-	-	-
19	CLA	B	801	X	-	-	-
19	CLA	B	802	X	-	-	-
19	CLA	B	803	X	-	-	-
19	CLA	B	804	X	-	-	-
19	CLA	B	805	X	-	-	-
19	CLA	B	806	X	-	-	-
19	CLA	B	807	X	-	-	-
19	CLA	B	808	X	-	-	-
19	CLA	B	809	X	-	-	-
19	CLA	B	810	X	-	-	-
19	CLA	B	811	X	-	-	-
19	CLA	B	812	X	-	-	-
19	CLA	B	813	X	-	-	-
19	CLA	B	814	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	B	815	X	-	-	-
19	CLA	B	816	X	-	-	-
19	CLA	B	817	X	-	-	-
19	CLA	B	818	X	-	-	-
19	CLA	B	819	X	-	-	-
19	CLA	B	820	X	-	-	-
19	CLA	B	821	X	-	-	-
19	CLA	B	822	X	-	-	-
19	CLA	B	823	X	-	-	-
19	CLA	B	824	X	-	-	-
19	CLA	B	825	X	-	-	-
19	CLA	B	826	X	-	-	-
19	CLA	B	827	X	-	-	-
19	CLA	B	828	X	-	-	-
19	CLA	B	829	X	-	-	-
19	CLA	B	830	X	-	-	-
19	CLA	B	831	X	-	-	-
19	CLA	B	832	X	-	-	-
19	CLA	B	834	X	-	-	-
19	CLA	B	835	X	-	-	-
19	CLA	B	836	X	-	-	-
19	CLA	B	837	X	-	-	-
19	CLA	B	846	X	-	-	-
19	CLA	B	854	X	-	-	-
19	CLA	B	858	X	-	-	-
19	CLA	B	859	X	-	-	-
19	CLA	B	860	X	-	-	-
19	CLA	B1	801	X	-	-	-
19	CLA	B1	802	X	-	-	-
19	CLA	B1	803	X	-	-	-
19	CLA	B1	804	X	-	-	-
19	CLA	B1	805	X	-	-	-
19	CLA	B1	806	X	-	-	-
19	CLA	B1	807	X	-	-	-
19	CLA	B1	808	X	-	-	-
19	CLA	B1	809	X	-	-	-
19	CLA	B1	810	X	-	-	-
19	CLA	B1	811	X	-	-	-
19	CLA	B1	812	X	-	-	-
19	CLA	B1	813	X	-	-	-
19	CLA	B1	814	X	-	-	-
19	CLA	B1	815	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	B1	816	X	-	-	-
19	CLA	B1	817	X	-	-	-
19	CLA	B1	818	X	-	-	-
19	CLA	B1	819	X	-	-	-
19	CLA	B1	820	X	-	-	-
19	CLA	B1	821	X	-	-	-
19	CLA	B1	822	X	-	-	-
19	CLA	B1	823	X	-	-	-
19	CLA	B1	824	X	-	-	-
19	CLA	B1	825	X	-	-	-
19	CLA	B1	826	X	-	-	-
19	CLA	B1	827	X	-	-	-
19	CLA	B1	828	X	-	-	-
19	CLA	B1	829	X	-	-	-
19	CLA	B1	830	X	-	-	-
19	CLA	B1	831	X	-	-	-
19	CLA	B1	832	X	-	-	-
19	CLA	B1	833	X	-	-	-
19	CLA	B1	834	X	-	-	-
19	CLA	B1	835	X	-	-	-
19	CLA	B1	836	X	-	-	-
19	CLA	B1	845	X	-	-	-
19	CLA	B1	848	X	-	-	-
19	CLA	B1	849	X	-	-	-
19	CLA	B1	850	X	-	-	-
19	CLA	B2	801	X	-	-	-
19	CLA	B2	802	X	-	-	-
19	CLA	B2	803	X	-	-	-
19	CLA	B2	804	X	-	-	-
19	CLA	B2	805	X	-	-	-
19	CLA	B2	806	X	-	-	-
19	CLA	B2	807	X	-	-	-
19	CLA	B2	808	X	-	-	-
19	CLA	B2	809	X	-	-	-
19	CLA	B2	810	X	-	-	-
19	CLA	B2	811	X	-	-	-
19	CLA	B2	812	X	-	-	-
19	CLA	B2	813	X	-	-	-
19	CLA	B2	814	X	-	-	-
19	CLA	B2	815	X	-	-	-
19	CLA	B2	816	X	-	-	-
19	CLA	B2	817	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	B2	818	X	-	-	-
19	CLA	B2	819	X	-	-	-
19	CLA	B2	820	X	-	-	-
19	CLA	B2	821	X	-	-	-
19	CLA	B2	822	X	-	-	-
19	CLA	B2	823	X	-	-	-
19	CLA	B2	824	X	-	-	-
19	CLA	B2	825	X	-	-	-
19	CLA	B2	826	X	-	-	-
19	CLA	B2	827	X	-	-	-
19	CLA	B2	828	X	-	-	-
19	CLA	B2	829	X	-	-	-
19	CLA	B2	830	X	-	-	-
19	CLA	B2	831	X	-	-	-
19	CLA	B2	832	X	-	-	-
19	CLA	B2	834	X	-	-	-
19	CLA	B2	835	X	-	-	-
19	CLA	B2	836	X	-	-	-
19	CLA	B2	837	X	-	-	-
19	CLA	B2	846	X	-	-	-
19	CLA	B2	849	X	-	-	-
19	CLA	B2	850	X	-	-	-
19	CLA	B2	851	X	-	-	-
19	CLA	B2	852	X	-	-	-
19	CLA	BB	801	X	-	-	-
19	CLA	BB	802	X	-	-	-
19	CLA	BB	803	X	-	-	-
19	CLA	BB	804	X	-	-	-
19	CLA	BB	805	X	-	-	-
19	CLA	BB	806	X	-	-	-
19	CLA	BB	807	X	-	-	-
19	CLA	BB	808	X	-	-	-
19	CLA	BB	809	X	-	-	-
19	CLA	BB	810	X	-	-	-
19	CLA	BB	811	X	-	-	-
19	CLA	BB	812	X	-	-	-
19	CLA	BB	813	X	-	-	-
19	CLA	BB	814	X	-	-	-
19	CLA	BB	815	X	-	-	-
19	CLA	BB	816	X	-	-	-
19	CLA	BB	817	X	-	-	-
19	CLA	BB	818	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	BB	819	X	-	-	-
19	CLA	BB	820	X	-	-	-
19	CLA	BB	821	X	-	-	-
19	CLA	BB	822	X	-	-	-
19	CLA	BB	823	X	-	-	-
19	CLA	BB	824	X	-	-	-
19	CLA	BB	825	X	-	-	-
19	CLA	BB	826	X	-	-	-
19	CLA	BB	827	X	-	-	-
19	CLA	BB	828	X	-	-	-
19	CLA	BB	829	X	-	-	-
19	CLA	BB	830	X	-	-	-
19	CLA	BB	831	X	-	-	-
19	CLA	BB	833	X	-	-	-
19	CLA	BB	834	X	-	-	-
19	CLA	BB	835	X	-	-	-
19	CLA	BB	836	X	-	-	-
19	CLA	BB	845	X	-	-	-
19	CLA	BB	852	X	-	-	-
19	CLA	BB	855	X	-	-	-
19	CLA	BB	856	X	-	-	-
19	CLA	F	301	X	-	-	-
19	CLA	F	302	X	-	-	-
19	CLA	F1	301	X	-	-	-
19	CLA	F1	302	X	-	-	-
19	CLA	F1	305	X	-	-	-
19	CLA	F2	301	X	-	-	-
19	CLA	F2	302	X	-	-	-
19	CLA	FF	301	X	-	-	-
19	CLA	FF	302	X	-	-	-
19	CLA	FF	305	X	-	-	-
19	CLA	J	101	X	-	-	-
19	CLA	J1	101	X	-	-	-
19	CLA	J1	103	X	-	-	-
19	CLA	J2	101	X	-	-	-
19	CLA	J2	103	X	-	-	-
19	CLA	JJ	101	X	-	-	-
19	CLA	JJ	103	X	-	-	-
19	CLA	K	101	X	-	-	-
19	CLA	K	102	X	-	-	-
19	CLA	K1	102	X	-	-	-
19	CLA	K1	103	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	K1	105	X	-	-	-
19	CLA	K2	102	X	-	-	-
19	CLA	K2	104	X	-	-	-
19	CLA	KK	101	X	-	-	-
19	CLA	KK	102	X	-	-	-
19	CLA	L	202	X	-	-	-
19	CLA	L	203	X	-	-	-
19	CLA	L	204	X	-	-	-
19	CLA	L1	205	X	-	-	-
19	CLA	L1	206	X	-	-	-
19	CLA	L1	207	X	-	-	-
19	CLA	L2	204	X	-	-	-
19	CLA	L2	205	X	-	-	-
19	CLA	L2	206	X	-	-	-
19	CLA	LL	201	X	-	-	-
19	CLA	LL	202	X	-	-	-
19	CLA	LL	203	X	-	-	-
19	CLA	X	101	X	-	-	-
19	CLA	X1	101	X	-	-	-
19	CLA	X2	101	X	-	-	-
19	CLA	XX	101	X	-	-	-
20	CL0	A	803	X	-	-	-
20	CL0	A1	802	X	-	-	-
20	CL0	A2	803	X	-	-	-
20	CL0	AA	803	X	-	-	-

## 2 Entry composition [i](#)

There are 28 unique types of molecules in this entry. The entry contains 199181 atoms, of which 99577 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Photosystem I P700 chlorophyll a apoprotein A1.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
1	A1	740	Total	C	H	N	O	S	0	0
			11478	3809	5672	1000	976	21		
1	A2	740	Total	C	H	N	O	S	0	0
			11486	3809	5680	1000	976	21		
1	A	740	Total	C	H	N	O	S	0	0
			11483	3809	5677	1000	976	21		
1	AA	740	Total	C	H	N	O	S	0	0
			11483	3809	5677	1000	976	21		

- Molecule 2 is a protein called Photosystem I P700 chlorophyll a apoprotein A2 1.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
2	B1	739	Total	C	H	N	O	S	0	0
			11579	3905	5660	990	1006	18		
2	B2	739	Total	C	H	N	O	S	0	0
			11581	3905	5662	990	1006	18		
2	B	739	Total	C	H	N	O	S	0	0
			11586	3905	5667	990	1006	18		
2	BB	739	Total	C	H	N	O	S	0	0
			11595	3905	5676	990	1006	18		

- Molecule 3 is a protein called Photosystem I iron-sulfur center.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
3	C1	80	Total	C	H	N	O	S	0	0
			1183	367	584	103	118	11		
3	C2	80	Total	C	H	N	O	S	0	0
			1179	367	580	103	118	11		
3	C	80	Total	C	H	N	O	S	0	0
			1181	367	582	103	118	11		
3	CC	80	Total	C	H	N	O	S	0	0
			1181	367	582	103	118	11		

- Molecule 4 is a protein called Photosystem I reaction center subunit II.

Mol	Chain	Residues	Atoms					AltConf	Trace	
4	D1	134	Total	C	H	N	O	S	0	0
			2073	664	1037	178	193	1		
4	D2	134	Total	C	H	N	O	S	0	0
			2078	664	1042	178	193	1		
4	D	134	Total	C	H	N	O	S	0	0
			2078	664	1042	178	193	1		
4	DD	134	Total	C	H	N	O	S	0	0
			2078	664	1042	178	193	1		

- Molecule 5 is a protein called Photosystem I reaction center subunit IV.

Mol	Chain	Residues	Atoms					AltConf	Trace	
5	E1	60	Total	C	H	N	O	S	0	0
			958	308	477	83	90			
5	E2	60	Total	C	H	N	O	S	0	0
			958	308	477	83	90			

- Molecule 6 is a protein called Photosystem I reaction center subunit III.

Mol	Chain	Residues	Atoms					AltConf	Trace	
6	F1	139	Total	C	H	N	O	S	0	0
			2112	678	1052	179	201	2		
6	F	139	Total	C	H	N	O	S	0	0
			2111	678	1051	179	201	2		
6	FF	139	Total	C	H	N	O	S	0	0
			2112	678	1052	179	201	2		

- Molecule 7 is a protein called Photosystem I reaction center subunit VIII.

Mol	Chain	Residues	Atoms					AltConf	Trace	
7	I1	31	Total	C	H	N	O	S	0	0
			508	177	255	35	41			
7	I	31	Total	C	H	N	O	S	0	0
			508	177	255	35	41			
7	II	31	Total	C	H	N	O	S	0	0
			508	177	255	35	41			

- Molecule 8 is a protein called Photosystem I reaction center subunit IX.

Mol	Chain	Residues	Atoms					AltConf	Trace	
8	J1	43	Total	C	H	N	O	S	0	0
			701	237	355	52	57			

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	J2	43	Total	C	H	N	O	0	0
			701	237	355	52	57		
8	J	43	Total	C	H	N	O	0	0
			701	237	355	52	57		
8	JJ	43	Total	C	H	N	O	0	0
			700	237	354	52	57		

- Molecule 9 is a protein called Photosystem I reaction center subunit PsaK 1.

Mol	Chain	Residues	Atoms					AltConf	Trace	
9	K1	74	Total	C	H	N	O	S	0	0
			1091	356	555	87	92	1		
9	K	60	Total	C	H	N	O	S	0	0
			900	289	461	72	77	1		
9	KK	60	Total	C	H	N	O	S	0	0
			900	289	461	72	77	1		

- Molecule 10 is a protein called Photosystem I reaction center subunit XI.

Mol	Chain	Residues	Atoms					AltConf	Trace	
10	L1	166	Total	C	H	N	O	S	0	0
			2483	810	1239	213	220	1		

- Molecule 11 is a protein called Photosystem I reaction center subunit XII.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	M1	31	Total	C	H	N	O	0	0
			496	160	256	37	43		
11	M2	31	Total	C	H	N	O	0	0
			496	160	256	37	43		
11	M	31	Total	C	H	N	O	0	0
			496	160	256	37	43		
11	MM	31	Total	C	H	N	O	0	0
			496	160	256	37	43		

- Molecule 12 is a protein called Photosystem I 4.8 kDa protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	X1	39	Total	C	H	N	O	0	0
			627	212	318	49	48		
12	X2	39	Total	C	H	N	O	0	0
			627	212	318	49	48		

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Mol	Chain	Residues	Atoms					AltConf	Trace
12	X	39	Total	C	H	N	O	0	0
			628	212	319	49	48		
12	XX	39	Total	C	H	N	O	0	0
			628	212	319	49	48		

- Molecule 13 is a protein called Photosystem I reaction center subunit III.

Mol	Chain	Residues	Atoms					AltConf	Trace	
13	F2	137	Total	C	H	N	O	S	0	0
			2087	670	1040	177	198	2		

- Molecule 14 is a protein called Photosystem I reaction center subunit VIII.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	I2	33	Total	C	H	N	O	0	0
			536	186	268	37	45		

- Molecule 15 is a protein called Photosystem I reaction center subunit Psak 1.

Mol	Chain	Residues	Atoms					AltConf	Trace	
15	K2	73	Total	C	H	N	O	S	0	0
			1081	353	550	86	91	1		

- Molecule 16 is a protein called Photosystem I reaction center subunit XI.

Mol	Chain	Residues	Atoms					AltConf	Trace	
16	L2	167	Total	C	H	N	O	S	0	0
			2498	815	1245	215	222	1		

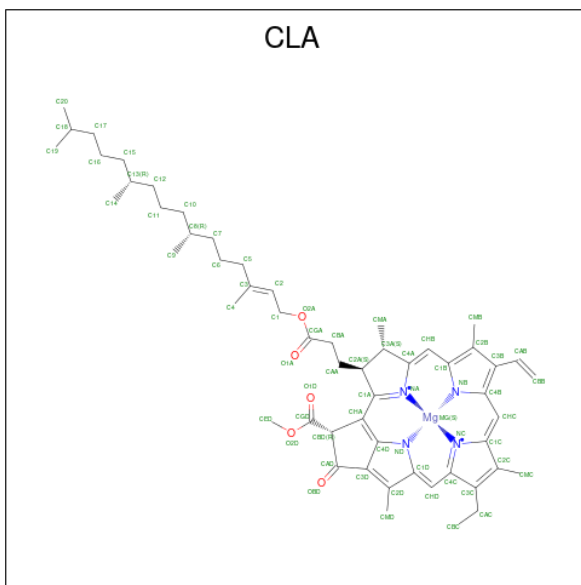
- Molecule 17 is a protein called Photosystem I reaction center subunit IV.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	E	63	Total	C	H	N	O	0	0
			994	321	492	86	95		
17	EE	63	Total	C	H	N	O	0	0
			994	321	492	86	95		

- Molecule 18 is a protein called Photosystem I reaction center subunit XI.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
18	L	154	2309	758	1153	196	201	1	0	0
18	LL	154	2310	758	1154	196	201	1	0	0

- Molecule 19 is CHLOROPHYLL A (three-letter code: CLA) (formula:  $C_{55}H_{72}MgN_4O_5$ ).



Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N		O
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0

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Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N		O
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	A1	1	4655	1974	2261	43	172	205	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0
19	B1	1	4544	1905	2253	40	160	186	0

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Mol	Chain	Residues	Atoms					AltConf	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	

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Mol	Chain	Residues	Atoms					AltConf	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	B1	1	Total	C	H	Mg	N	O	0
			4544	1905	2253	40	160	186	
19	F1	1	Total	C	H	Mg	N	O	0
			269	119	122	3	12	13	
19	F1	1	Total	C	H	Mg	N	O	0
			269	119	122	3	12	13	
19	F1	1	Total	C	H	Mg	N	O	0
			269	119	122	3	12	13	
19	J1	1	Total	C	H	Mg	N	O	0
			139	66	57	2	8	6	
19	J1	1	Total	C	H	Mg	N	O	0
			139	66	57	2	8	6	
19	K1	1	Total	C	H	Mg	N	O	0
			223	103	92	3	12	13	
19	K1	1	Total	C	H	Mg	N	O	0
			223	103	92	3	12	13	
19	K1	1	Total	C	H	Mg	N	O	0
			223	103	92	3	12	13	
19	L1	1	Total	C	H	Mg	N	O	0
			393	161	202	3	12	15	
19	L1	1	Total	C	H	Mg	N	O	0
			393	161	202	3	12	15	
19	L1	1	Total	C	H	Mg	N	O	0
			393	161	202	3	12	15	

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Mol	Chain	Residues	Atoms						AltConf
			Total	C	H	Mg	N	O	
19	X1	1	Total 77	C 35	H 32	Mg 1	N 4	O 5	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0
19	A2	1	Total 4602	C 1955	H 2227	Mg 43	N 172	O 205	0

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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>					<b>AltConf</b>	
			Total	C	H	Mg	N	O	
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0
19	A2	1	4602	1955	2227	43	172	205	0

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Mol	Chain	Residues	Atoms					AltConf	
19	A2	1	Total	C	H	Mg	N	O	0
			4602	1955	2227	43	172	205	
19	A2	1	Total	C	H	Mg	N	O	0
			4602	1955	2227	43	172	205	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	

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Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N		O
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0
19	B2	1	4759	1995	2358	42	168	196	0

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Mol	Chain	Residues	Atoms					AltConf	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	B2	1	Total	C	H	Mg	N	O	0
			4759	1995	2358	42	168	196	
19	F2	1	Total	C	H	Mg	N	O	0
			191	84	89	2	8	8	
19	F2	1	Total	C	H	Mg	N	O	0
			191	84	89	2	8	8	
19	J2	1	Total	C	H	Mg	N	O	0
			140	66	58	2	8	6	
19	J2	1	Total	C	H	Mg	N	O	0
			140	66	58	2	8	6	
19	K2	1	Total	C	H	Mg	N	O	0
			147	68	61	2	8	8	
19	K2	1	Total	C	H	Mg	N	O	0
			147	68	61	2	8	8	
19	L2	1	Total	C	H	Mg	N	O	0
			373	156	187	3	12	15	
19	L2	1	Total	C	H	Mg	N	O	0
			373	156	187	3	12	15	
19	L2	1	Total	C	H	Mg	N	O	0
			373	156	187	3	12	15	
19	X2	1	Total	C	H	Mg	N	O	0
			77	35	32	1	4	5	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	
19	A	1	Total	C	H	Mg	N	O	0
			4546	1927	2207	42	168	202	

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Mol	Chain	Residues	Atoms					AltConf	
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0
19	A	1	Total 4546	C 1927	H 2207	Mg 42	N 168	O 202	0

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Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N	O	
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	A	1	4546	1927	2207	42	168	202	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0
19	B	1	4758	1995	2357	42	168	196	0

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Mol	Chain	Residues	Atoms						AltConf
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	B	1	Total	C	H	Mg	N	O	0
			4758	1995	2357	42	168	196	
19	F	1	Total	C	H	Mg	N	O	0
			191	84	89	2	8	8	
19	F	1	Total	C	H	Mg	N	O	0
			191	84	89	2	8	8	
19	J	1	Total	C	H	Mg	N	O	0
			140	66	58	2	8	6	
19	J	1	Total	C	H	Mg	N	O	0
			140	66	58	2	8	6	
19	K	1	Total	C	H	Mg	N	O	0
			156	71	65	2	8	10	
19	K	1	Total	C	H	Mg	N	O	0
			156	71	65	2	8	10	
19	L	1	Total	C	H	Mg	N	O	0
			389	161	198	3	12	15	
19	L	1	Total	C	H	Mg	N	O	0
			389	161	198	3	12	15	
19	L	1	Total	C	H	Mg	N	O	0
			389	161	198	3	12	15	

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Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N		O
19	X	1	77	35	32	1	4	5	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0
19	AA	1	Total 4683	C 1982	H 2279	Mg 43	N 172	O 207	0

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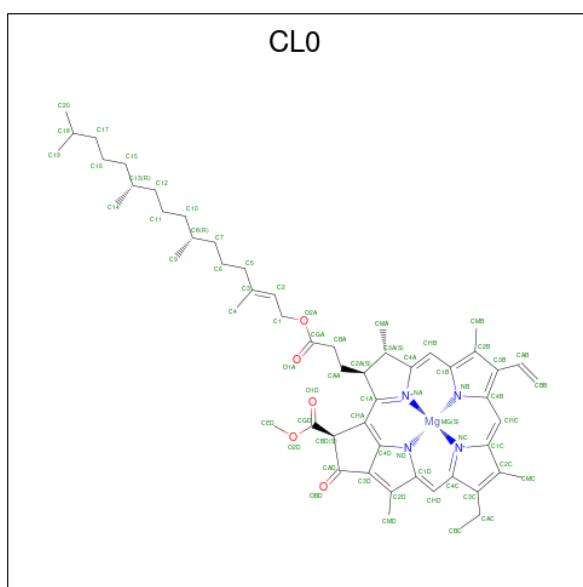




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Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N		O
19	FF	1	Total 328	C 139	H 161	Mg 3	N 12	O 13	0
19	FF	1	Total 328	C 139	H 161	Mg 3	N 12	O 13	0
19	FF	1	Total 328	C 139	H 161	Mg 3	N 12	O 13	0
19	JJ	1	Total 139	C 66	H 57	Mg 2	N 8	O 6	0
19	JJ	1	Total 139	C 66	H 57	Mg 2	N 8	O 6	0
19	KK	1	Total 156	C 71	H 65	Mg 2	N 8	O 10	0
19	KK	1	Total 156	C 71	H 65	Mg 2	N 8	O 10	0
19	LL	1	Total 323	C 140	H 155	Mg 3	N 12	O 13	0
19	LL	1	Total 323	C 140	H 155	Mg 3	N 12	O 13	0
19	LL	1	Total 323	C 140	H 155	Mg 3	N 12	O 13	0
19	XX	1	Total 77	C 35	H 32	Mg 1	N 4	O 5	0

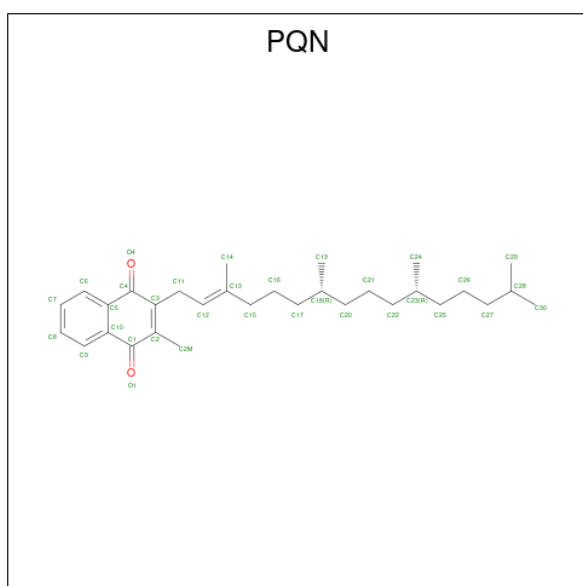
- Molecule 20 is CHLOROPHYLL A ISOMER (three-letter code: CL0) (formula:  $C_{55}H_{72}MgN_4O_5$ ).





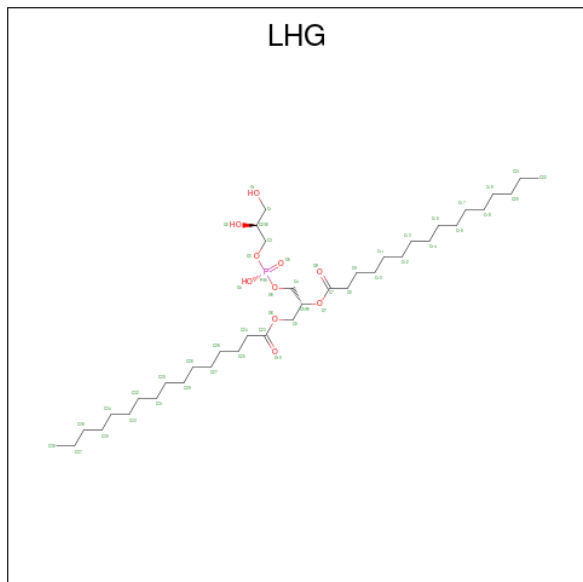
Mol	Chain	Residues	Atoms					AltConf	
			Total	C	H	Mg	N		O
20	A1	1	137	55	72	1	4	5	0
20	A2	1	137	55	72	1	4	5	0
20	A	1	137	55	72	1	4	5	0
20	AA	1	137	55	72	1	4	5	0

- Molecule 21 is PHYLLOQUINONE (three-letter code: PQN) (formula: C<sub>31</sub>H<sub>46</sub>O<sub>2</sub>).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	H	O	
21	A1	1	79	31	46	2	0
21	B1	1	79	31	46	2	0
21	A2	1	79	31	46	2	0
21	B2	1	79	31	46	2	0
21	A	1	79	31	46	2	0
21	B	1	79	31	46	2	0
21	AA	1	79	31	46	2	0
21	BB	1	79	31	46	2	0

- Molecule 22 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula:  $C_{38}H_{75}O_{10}P$ ) (labeled as "Ligand of Interest" by depositor).



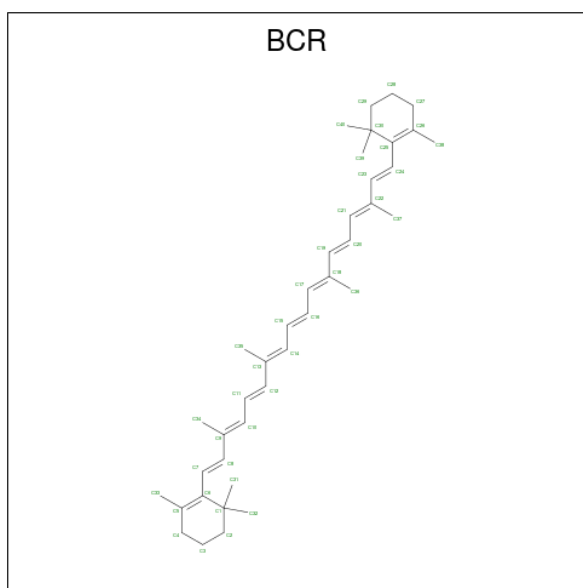
Mol	Chain	Residues	Atoms					AltConf
			Total	C	H	O	P	
22	A1	1	Total 209	C 65	H 122	O 20	P 2	0
22	A1	1	Total 209	C 65	H 122	O 20	P 2	0
22	B1	1	Total 69	C 22	H 36	O 10	P 1	0
22	L1	1	Total 68	C 22	H 35	O 10	P 1	0
22	X1	1	Total 212	C 67	H 123	O 20	P 2	0
22	X1	1	Total 212	C 67	H 123	O 20	P 2	0
22	A2	1	Total 209	C 65	H 122	O 20	P 2	0
22	A2	1	Total 209	C 65	H 122	O 20	P 2	0
22	B2	1	Total 69	C 22	H 36	O 10	P 1	0
22	L2	1	Total 74	C 24	H 39	O 10	P 1	0
22	X2	1	Total 212	C 67	H 123	O 20	P 2	0
22	X2	1	Total 212	C 67	H 123	O 20	P 2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	H	O	P	
22	A	1	Total 209	65	122	20	2	0
22	A	1	Total 209	65	122	20	2	0
22	B	1	Total 192	60	110	20	2	0
22	B	1	Total 192	60	110	20	2	0
22	L	1	Total 76	23	42	10	1	0
22	X	1	Total 89	29	49	10	1	0
22	AA	1	Total 209	65	122	20	2	0
22	AA	1	Total 209	65	122	20	2	0
22	BB	1	Total 192	60	110	20	2	0
22	BB	1	Total 192	60	110	20	2	0
22	LL	1	Total 76	23	42	10	1	0
22	XX	1	Total 89	29	49	10	1	0

- Molecule 23 is BETA-CAROTENE (three-letter code: BCR) (formula: C<sub>40</sub>H<sub>56</sub>).



Mol	Chain	Residues	Atoms			AltConf
23	A1	1	Total 572	C 239	H 333	0
23	A1	1	Total 572	C 239	H 333	0
23	A1	1	Total 572	C 239	H 333	0
23	A1	1	Total 572	C 239	H 333	0
23	A1	1	Total 572	C 239	H 333	0
23	A1	1	Total 572	C 239	H 333	0
23	B1	1	Total 480	C 200	H 280	0
23	B1	1	Total 480	C 200	H 280	0
23	B1	1	Total 480	C 200	H 280	0
23	B1	1	Total 480	C 200	H 280	0
23	B1	1	Total 480	C 200	H 280	0
23	F1	1	Total 283	C 120	H 163	0
23	F1	1	Total 283	C 120	H 163	0
23	F1	1	Total 283	C 120	H 163	0
23	I1	1	Total 96	C 40	H 56	0
23	J1	1	Total 192	C 80	H 112	0
23	J1	1	Total 192	C 80	H 112	0
23	K1	1	Total 192	C 80	H 112	0
23	K1	1	Total 192	C 80	H 112	0
23	L1	1	Total 288	C 120	H 168	0
23	L1	1	Total 288	C 120	H 168	0
23	L1	1	Total 288	C 120	H 168	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	H	
23	M1	1	96	40	56	0
23	A2	1	572	239	333	0
23	A2	1	572	239	333	0
23	A2	1	572	239	333	0
23	A2	1	572	239	333	0
23	A2	1	572	239	333	0
23	A2	1	572	239	333	0
23	B2	1	475	200	275	0
23	B2	1	475	200	275	0
23	B2	1	475	200	275	0
23	B2	1	475	200	275	0
23	B2	1	475	200	275	0
23	B2	1	475	200	275	0
23	F2	1	283	120	163	0
23	F2	1	283	120	163	0
23	F2	1	283	120	163	0
23	I2	1	288	120	168	0
23	I2	1	288	120	168	0
23	I2	1	288	120	168	0
23	J2	1	192	80	112	0
23	J2	1	192	80	112	0
23	K2	1	192	80	112	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	H	
23	K2	1	192	80	112	0
23	L2	1	96	40	56	0
23	M2	1	96	40	56	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	A	1	668	279	389	0
23	B	1	576	240	336	0
23	B	1	576	240	336	0
23	B	1	576	240	336	0
23	B	1	576	240	336	0
23	B	1	576	240	336	0
23	B	1	576	240	336	0
23	F	1	283	120	163	0
23	F	1	283	120	163	0
23	F	1	283	120	163	0
23	I	1	192	80	112	0
23	I	1	192	80	112	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	H	
23	J	1	192	80	112	0
23	J	1	192	80	112	0
23	K	1	96	40	56	0
23	L	1	192	80	112	0
23	L	1	192	80	112	0
23	M	1	91	40	51	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	AA	1	668	279	389	0
23	BB	1	576	240	336	0
23	BB	1	576	240	336	0
23	BB	1	576	240	336	0
23	BB	1	576	240	336	0
23	BB	1	576	240	336	0
23	BB	1	576	240	336	0
23	BB	1	576	240	336	0
23	FF	1	283	120	163	0
23	FF	1	283	120	163	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	H	
23	FF	1	283	120	163	0
23	II	1	288	120	168	0
23	II	1	288	120	168	0
23	II	1	288	120	168	0
23	JJ	1	192	80	112	0
23	JJ	1	192	80	112	0
23	KK	1	96	40	56	0
23	LL	1	96	40	56	0
23	MM	1	93	40	53	0

- Molecule 24 is a ligand with the chemical component id AJP but its atom names do not match the existing wwPDB Chemical Component Dictionary definition for AJP. ERROR THIS SHOULD NOT HAPPEN FOLLOWING ANNOTATION.

Mol	Chain	Residues	Atoms				AltConf
			Total	C	H	O	
24	A1	1	171	60	96	15	0
24	A1	1	171	60	96	15	0
24	L1	1	192	66	106	20	0
24	L1	1	192	66	106	20	0
24	A2	1	75	27	43	5	0
24	I2	1	73	27	42	4	0
24	L2	1	192	66	106	20	0
24	L2	1	192	66	106	20	0
24	M2	1	74	27	43	4	0

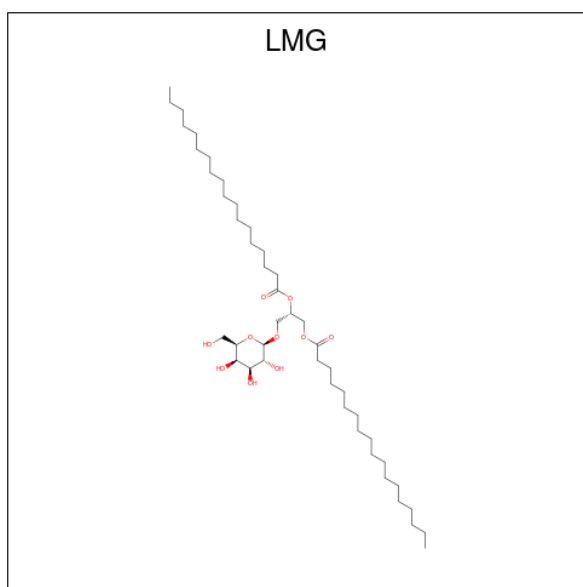
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Mol	Chain	Residues	Atoms				AltConf
24	A	1	Total	C	H	O	0
			153	56	88	9	
24	A	1	Total	C	H	O	0
			153	56	88	9	
24	B	1	Total	C	H	O	0
			288	99	159	30	
24	B	1	Total	C	H	O	0
			288	99	159	30	
24	B	1	Total	C	H	O	0
			288	99	159	30	
24	K	1	Total	C	H	O	0
			91	32	50	9	
24	L	1	Total	C	H	O	0
			147	54	85	8	
24	L	1	Total	C	H	O	0
			147	54	85	8	
24	AA	1	Total	C	H	O	0
			153	56	88	9	
24	AA	1	Total	C	H	O	0
			153	56	88	9	
24	BB	1	Total	C	H	O	0
			192	66	106	20	
24	BB	1	Total	C	H	O	0
			192	66	106	20	
24	KK	1	Total	C	H	O	0
			91	32	50	9	

- Molecule 25 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: C<sub>45</sub>H<sub>86</sub>O<sub>10</sub>) (labeled as "Ligand of Interest" by depositor).



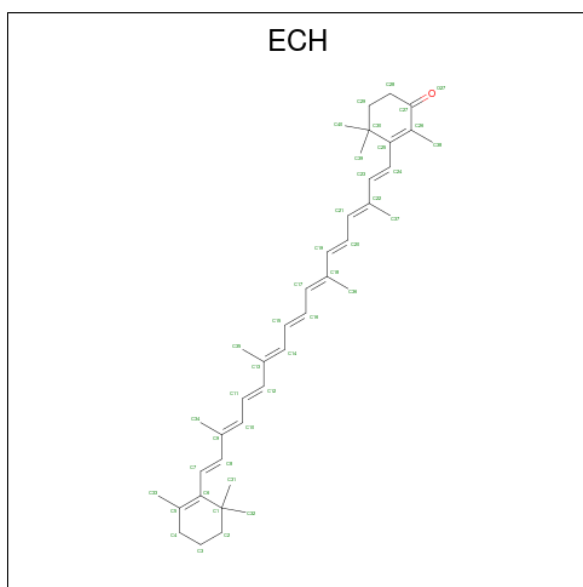
Mol	Chain	Residues	Atoms				AltConf
			Total	C	H	O	
25	A1	1	Total	C	H	O	1
			152	48	84	20	
25	A1	1	Total	C	H	O	1
			152	48	84	20	
25	B1	1	Total	C	H	O	0
			265	87	148	30	
25	B1	1	Total	C	H	O	0
			265	87	148	30	
25	B1	1	Total	C	H	O	0
			265	87	148	30	
25	I1	1	Total	C	H	O	0
			75	25	40	10	
25	K1	1	Total	C	H	O	1
			120	38	62	20	
25	K1	1	Total	C	H	O	1
			120	38	62	20	
25	L1	1	Total	C	H	O	1
			223	71	132	20	
25	L1	1	Total	C	H	O	0
			223	71	132	20	
25	A2	1	Total	C	H	O	1
			171	54	97	20	
25	A2	1	Total	C	H	O	1
			171	54	97	20	
25	B2	1	Total	C	H	O	0
			265	87	148	30	
25	B2	1	Total	C	H	O	0
			265	87	148	30	

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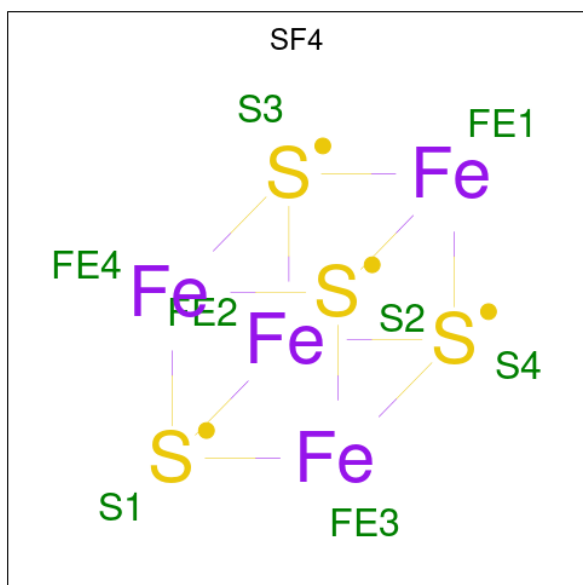
Mol	Chain	Residues	Atoms				AltConf
			Total	C	H	O	
25	B2	1	Total 265	C 87	H 148	O 30	0
25	I2	1	Total 75	C 25	H 40	O 10	0
25	K2	1	Total 114	C 36	H 58	O 20	1
25	K2	1	Total 114	C 36	H 58	O 20	1
25	L2	1	Total 82	C 26	H 46	O 10	1
25	B	1	Total 427	C 136	H 251	O 40	0
25	B	1	Total 427	C 136	H 251	O 40	1
25	B	1	Total 427	C 136	H 251	O 40	0
25	B	1	Total 427	C 136	H 251	O 40	1
25	L	1	Total 85	C 27	H 48	O 10	1
25	M	1	Total 105	C 36	H 59	O 10	0
25	BB	1	Total 289	C 92	H 167	O 30	0
25	BB	1	Total 289	C 92	H 167	O 30	1
25	BB	1	Total 289	C 92	H 167	O 30	1
25	II	1	Total 181	C 59	H 102	O 20	1
25	II	1	Total 181	C 59	H 102	O 20	0

- Molecule 26 is beta,beta-caroten-4-one (three-letter code: ECH) (formula: C<sub>40</sub>H<sub>54</sub>O).



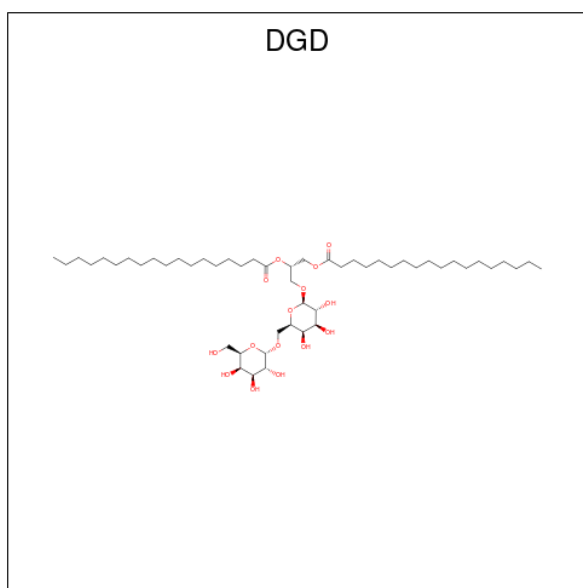
Mol	Chain	Residues	Atoms				AltConf
			Total	C	H	O	
26	B1	1	95	40	54	1	0
26	B2	1	95	40	54	1	0
26	B	1	95	40	54	1	0
26	BB	1	95	40	54	1	0

- Molecule 27 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>).



Mol	Chain	Residues	Atoms			AltConf
27	B1	1	Total	Fe	S	0
			8	4	4	
27	C1	1	Total	Fe	S	0
			16	8	8	
27	C1	1	Total	Fe	S	0
			16	8	8	
27	B2	1	Total	Fe	S	0
			8	4	4	
27	C2	1	Total	Fe	S	0
			16	8	8	
27	C2	1	Total	Fe	S	0
			16	8	8	
27	B	1	Total	Fe	S	0
			8	4	4	
27	C	1	Total	Fe	S	0
			16	8	8	
27	C	1	Total	Fe	S	0
			16	8	8	
27	BB	1	Total	Fe	S	0
			8	4	4	
27	CC	1	Total	Fe	S	0
			16	8	8	
27	CC	1	Total	Fe	S	0
			16	8	8	

- Molecule 28 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (three-letter code: DGD) (formula:  $C_{51}H_{96}O_{15}$ ) (labeled as "Ligand of Interest" by depositor).



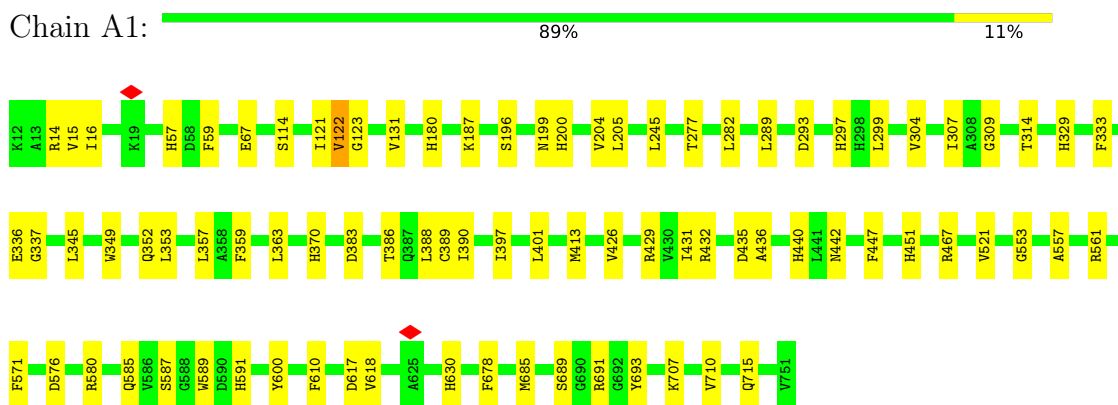
Mol	Chain	Residues	Atoms				AltConf
			Total	C	H	O	
28	B	1	88	27	46	15	0
28	BB	1	88	27	46	15	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

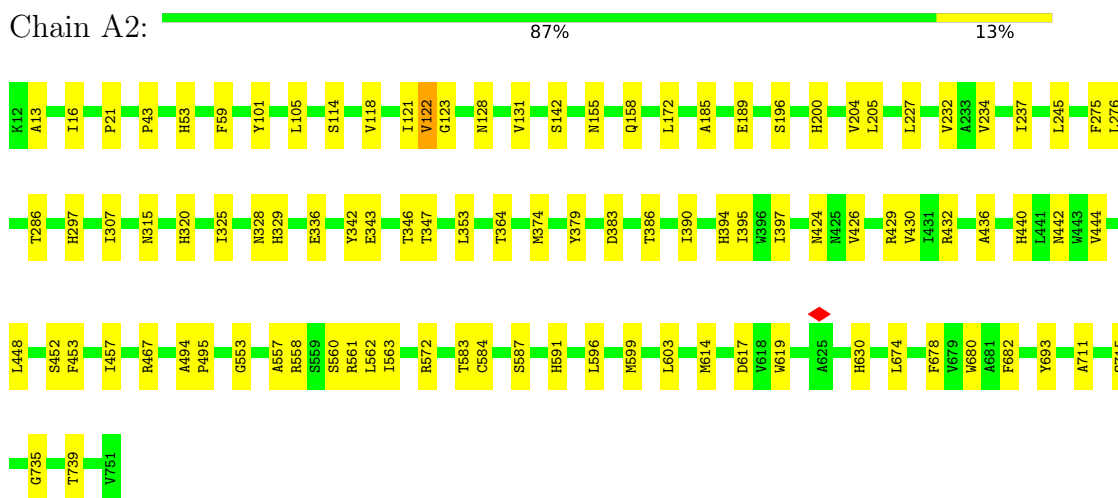
- Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

Chain A1:



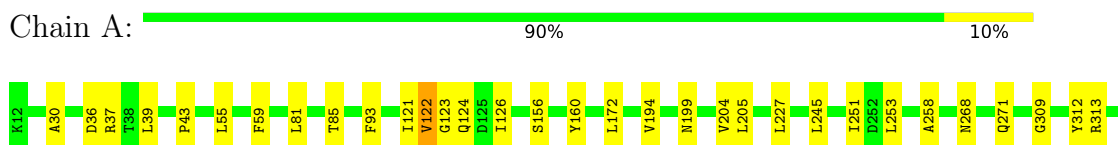
- Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

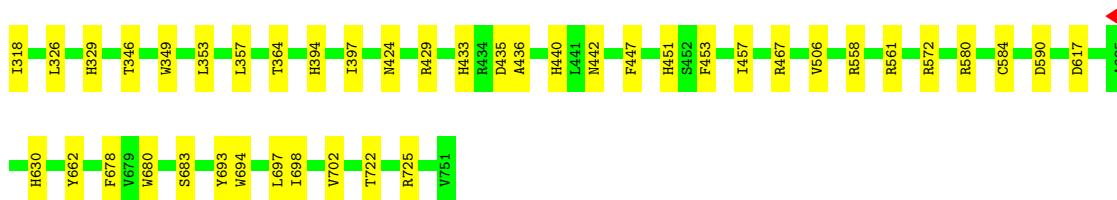
Chain A2:



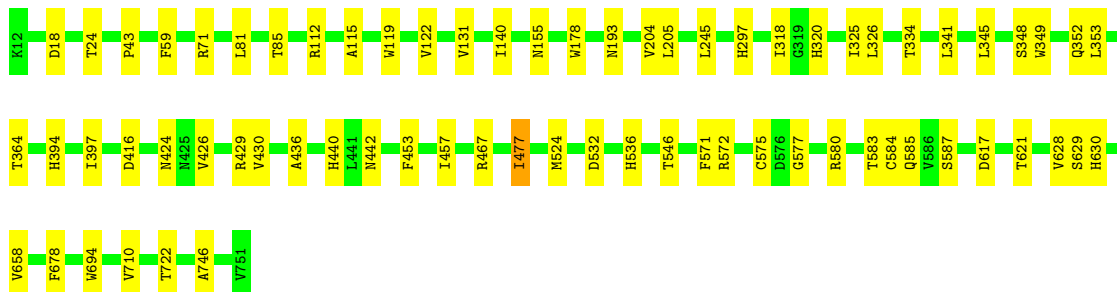
- Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

Chain A:





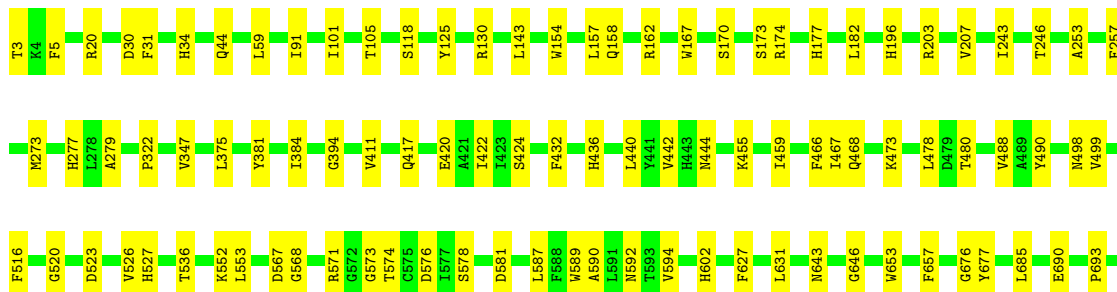
• Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1



• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2 1



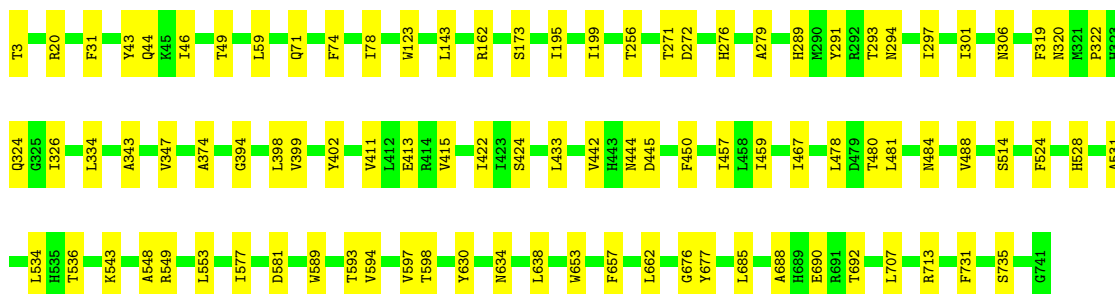
• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2 1



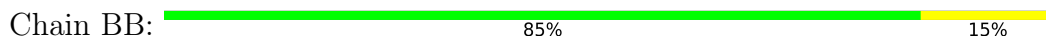




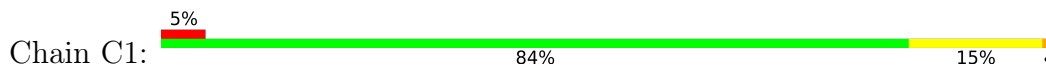
• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2 1



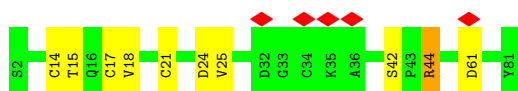
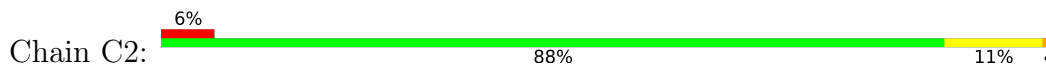
• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2 1



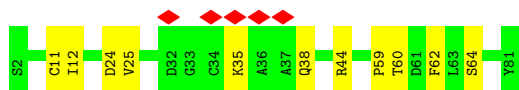
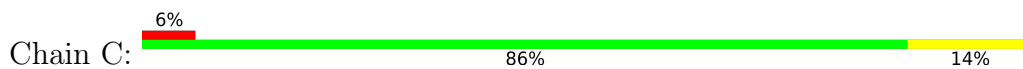
• Molecule 3: Photosystem I iron-sulfur center



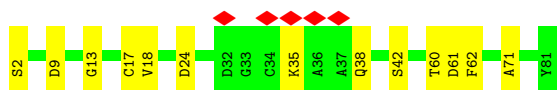
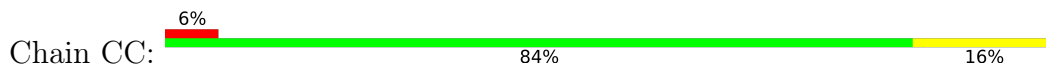
• Molecule 3: Photosystem I iron-sulfur center



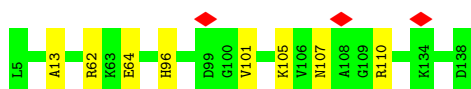
• Molecule 3: Photosystem I iron-sulfur center



- Molecule 3: Photosystem I iron-sulfur center



- Molecule 4: Photosystem I reaction center subunit II



- Molecule 4: Photosystem I reaction center subunit II



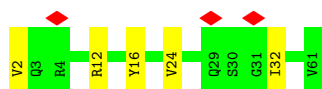
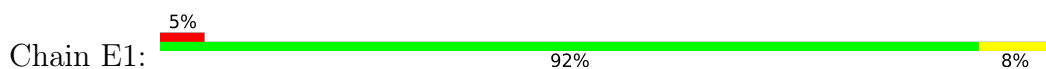
- Molecule 4: Photosystem I reaction center subunit II



- Molecule 4: Photosystem I reaction center subunit II

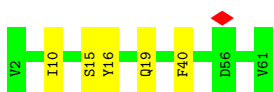


- Molecule 5: Photosystem I reaction center subunit IV

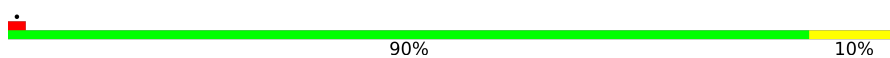


- Molecule 5: Photosystem I reaction center subunit IV

Chain E2:  92% 8%




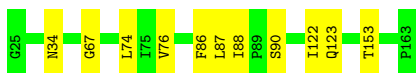
- Molecule 6: Photosystem I reaction center subunit III

Chain F1:  90% 10%




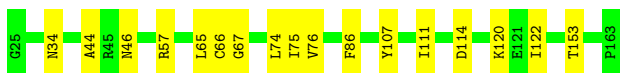
- Molecule 6: Photosystem I reaction center subunit III

Chain F:  92% 8%



- Molecule 6: Photosystem I reaction center subunit III

Chain FF:  88% 12%



- Molecule 7: Photosystem I reaction center subunit VIII

Chain I1:  97% 0%



- Molecule 7: Photosystem I reaction center subunit VIII

Chain I:  94% 6%

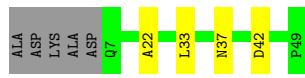
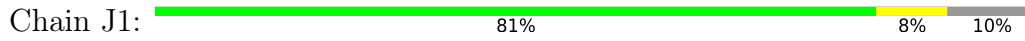


- Molecule 7: Photosystem I reaction center subunit VIII

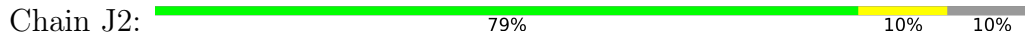
Chain II:  97% 0%



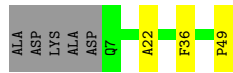
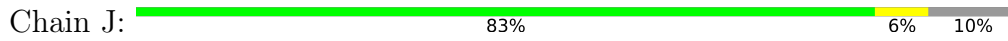
• Molecule 8: Photosystem I reaction center subunit IX



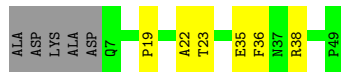
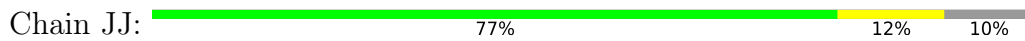
• Molecule 8: Photosystem I reaction center subunit IX



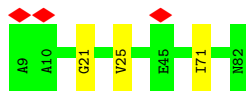
• Molecule 8: Photosystem I reaction center subunit IX



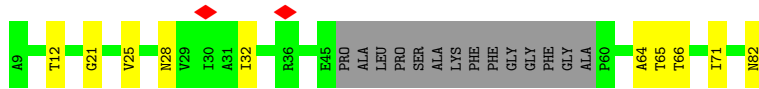
• Molecule 8: Photosystem I reaction center subunit IX



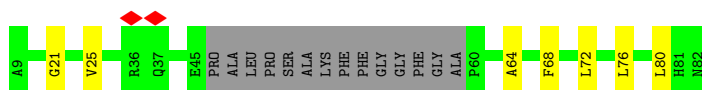
• Molecule 9: Photosystem I reaction center subunit PsaK 1




• Molecule 9: Photosystem I reaction center subunit PsaK 1

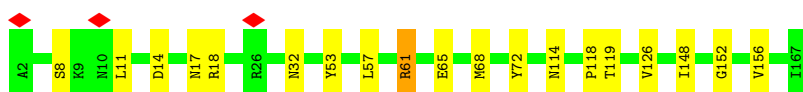


• Molecule 9: Photosystem I reaction center subunit PsaK 1



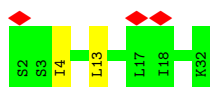
- Molecule 10: Photosystem I reaction center subunit XI

Chain L1:  89% 11%



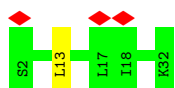
- Molecule 11: Photosystem I reaction center subunit XII

Chain M1:  10% 94% 6%




- Molecule 11: Photosystem I reaction center subunit XII

Chain M2:  10% 97%



- Molecule 11: Photosystem I reaction center subunit XII

Chain M:  84% 16%

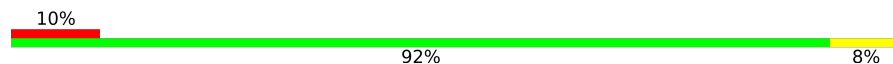


- Molecule 11: Photosystem I reaction center subunit XII

Chain MM:  94% 6%



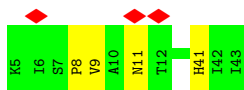
- Molecule 12: Photosystem I 4.8 kDa protein

Chain X1:  10% 92% 8%

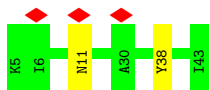


- Molecule 12: Photosystem I 4.8 kDa protein

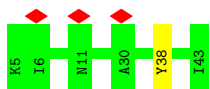
Chain X2:  8% 90% 10%



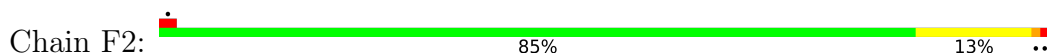
- Molecule 12: Photosystem I 4.8 kDa protein



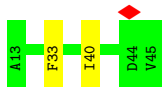
- Molecule 12: Photosystem I 4.8 kDa protein



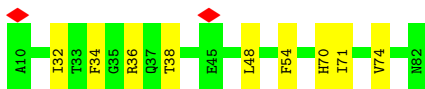
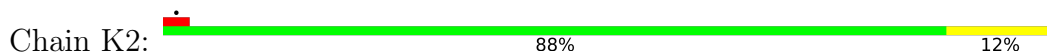
- Molecule 13: Photosystem I reaction center subunit III



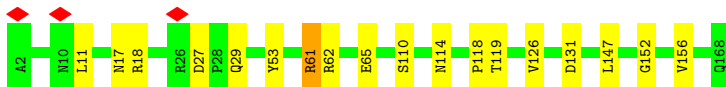
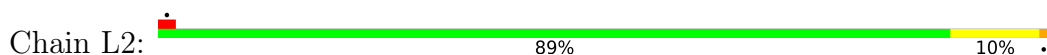
- Molecule 14: Photosystem I reaction center subunit VIII



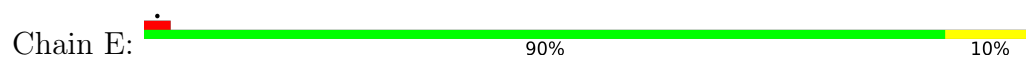
- Molecule 15: Photosystem I reaction center subunit PsaK 1



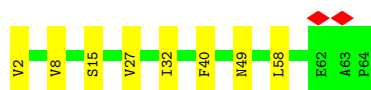
- Molecule 16: Photosystem I reaction center subunit XI



- Molecule 17: Photosystem I reaction center subunit IV



- Molecule 17: Photosystem I reaction center subunit IV



- Molecule 18: Photosystem I reaction center subunit XI



- Molecule 18: Photosystem I reaction center subunit XI



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	69247	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	42	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	4.390	Depositor
Minimum map value	-1.168	Depositor
Average map value	0.014	Depositor
Map value standard deviation	0.108	Depositor
Recommended contour level	0.434	Depositor
Map size ( $\text{\AA}$ )	392.19998, 392.19998, 392.19998	wwPDB
Map dimensions	370, 370, 370	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.06, 1.06, 1.06	Depositor



## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CLA, LHG, DGD, ECH, CL0, SF4, BCR, AJP, LMG, PQN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.29	0/6004	0.44	0/8193
1	A1	0.28	0/6004	0.45	0/8193
1	A2	0.29	0/6004	0.46	0/8193
1	AA	0.28	0/6004	0.44	0/8193
2	B	0.32	0/6143	0.46	0/8396
2	B1	0.29	0/6143	0.44	0/8396
2	B2	0.30	0/6143	0.44	0/8396
2	BB	0.32	0/6143	0.45	0/8396
3	C	0.28	0/609	0.52	0/826
3	C1	0.28	0/609	0.52	0/826
3	C2	0.28	0/609	0.49	0/826
3	CC	0.28	0/609	0.51	0/826
4	D	0.28	0/1060	0.52	0/1431
4	D1	0.27	0/1060	0.50	0/1431
4	D2	0.27	0/1060	0.53	0/1431
4	DD	0.28	0/1060	0.52	0/1431
5	E1	0.27	0/490	0.49	0/665
5	E2	0.30	0/490	0.47	0/665
6	F	0.28	0/1084	0.47	0/1475
6	F1	0.26	0/1084	0.46	0/1475
6	FF	0.27	0/1084	0.47	0/1475
7	I	0.29	0/262	0.41	0/358
7	I1	0.30	0/262	0.40	0/358
7	II	0.30	0/262	0.41	0/358
8	J	0.28	0/358	0.46	0/491
8	J1	0.27	0/358	0.43	0/491
8	J2	0.27	0/358	0.41	0/491
8	JJ	0.27	0/358	0.42	0/491
9	K	0.25	0/448	0.41	0/613
9	K1	0.27	0/551	0.45	0/755
9	KK	0.25	0/448	0.44	0/613
10	L1	0.30	0/1281	0.46	0/1756

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
11	M	0.26	0/244	0.37	0/334
11	M1	0.26	0/244	0.42	0/334
11	M2	0.25	0/244	0.41	0/334
11	MM	0.26	0/244	0.39	0/334
12	X	0.29	0/320	0.46	0/439
12	X1	0.27	0/320	0.43	0/439
12	X2	0.29	0/320	0.44	0/439
12	XX	0.29	0/320	0.44	0/439
13	F2	0.29	0/1070	0.52	0/1455
14	I2	0.30	0/277	0.42	0/379
15	K2	0.26	0/546	0.45	0/748
16	L2	0.31	0/1290	0.47	0/1768
17	E	0.29	0/512	0.49	0/696
17	EE	0.28	0/512	0.48	0/696
18	L	0.30	0/1191	0.47	0/1632
18	LL	0.30	0/1191	0.45	0/1632
All	All	0.29	0/73287	0.46	0/100012

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
13	F2	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
13	F2	158	GLU	Peptide
13	F2	159	ILE	Peptide

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

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

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5806	5677	5682	58	0
1	A1	5806	5672	5682	73	0
1	A2	5806	5680	5682	73	0
1	AA	5806	5677	5682	56	0
2	B	5919	5667	5677	73	0
2	B1	5919	5660	5677	82	0
2	B2	5919	5662	5677	79	0
2	BB	5919	5676	5677	89	0
3	C	599	582	585	8	0
3	C1	599	584	585	10	0
3	C2	599	580	585	6	0
3	CC	599	582	585	10	0
4	D	1036	1042	1042	9	0
4	D1	1036	1037	1042	7	0
4	D2	1036	1042	1042	10	0
4	DD	1036	1042	1042	7	0
5	E1	481	477	478	4	0
5	E2	481	477	478	7	0
6	F	1060	1051	1054	8	0
6	F1	1060	1052	1054	11	0
6	FF	1060	1052	1054	11	0
7	I	253	255	255	2	0
7	I1	253	255	255	1	0
7	II	253	255	255	1	0
8	J	346	355	355	3	0
8	J1	346	355	355	4	0
8	J2	346	355	355	5	0
8	JJ	346	354	355	5	0
9	K	439	461	461	6	0
9	K1	536	555	555	2	0
9	KK	439	461	461	4	0
10	L1	1244	1239	1242	16	0
11	M	240	256	256	5	0
11	M1	240	256	256	3	0
11	M2	240	256	256	1	0
11	MM	240	256	256	4	0
12	X	309	319	319	2	0
12	X1	309	318	319	4	0
12	X2	309	318	319	5	0
12	XX	309	319	319	1	0
13	F2	1047	1040	1042	15	0
14	I2	268	268	268	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	K2	531	550	550	7	0
16	L2	1253	1245	1250	12	0
17	E	502	492	496	5	0
17	EE	502	492	496	6	0
18	L	1156	1153	1157	4	0
18	LL	1156	1154	1157	8	0
19	A	2339	2207	2215	48	0
19	A1	2394	2261	2275	59	0
19	A2	2375	2227	2236	47	0
19	AA	2404	2279	2287	43	0
19	B	2401	2357	2375	73	0
19	B1	2291	2253	2270	61	0
19	B2	2401	2358	2375	50	0
19	BB	2271	2219	2231	64	0
19	F	102	89	90	3	0
19	F1	147	122	123	5	0
19	F2	102	89	90	3	0
19	FF	167	161	162	6	0
19	J	82	58	58	4	0
19	J1	82	57	58	1	0
19	J2	82	58	58	2	0
19	JJ	82	57	58	1	0
19	K	91	65	66	0	0
19	K1	131	92	94	2	0
19	K2	86	61	62	1	0
19	KK	91	65	66	0	0
19	L	191	198	205	4	0
19	L1	191	202	205	5	0
19	L2	186	187	191	0	0
19	LL	168	155	164	7	0
19	X	45	32	33	0	0
19	X1	45	32	33	0	0
19	X2	45	32	33	1	0
19	XX	45	32	33	0	0
20	A	65	72	72	1	0
20	A1	65	72	71	3	0
20	A2	65	72	70	5	0
20	AA	65	72	71	1	0
21	A	33	46	46	3	0
21	A1	33	46	46	1	0
21	A2	33	46	46	1	0
21	AA	33	46	46	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	B	33	46	46	2	0
21	B1	33	46	46	0	0
21	B2	33	46	46	0	0
21	BB	33	46	46	2	0
22	A	87	122	123	3	0
22	A1	87	122	123	1	0
22	A2	87	122	123	2	0
22	AA	87	122	123	3	0
22	B	82	110	110	1	0
22	B1	33	36	36	1	0
22	B2	33	36	36	0	0
22	BB	82	110	110	0	0
22	L	34	42	38	0	0
22	L1	33	35	36	3	0
22	L2	35	39	40	2	0
22	LL	34	42	38	0	0
22	X	40	49	50	0	0
22	X1	89	123	124	0	0
22	X2	89	123	124	0	0
22	XX	40	49	50	0	0
23	A	279	389	389	7	0
23	A1	239	333	333	6	0
23	A2	239	333	333	7	0
23	AA	279	389	389	8	0
23	B	240	336	336	12	0
23	B1	200	280	280	7	0
23	B2	200	275	280	8	0
23	BB	240	336	336	10	0
23	F	120	163	168	8	0
23	F1	120	163	168	7	0
23	F2	120	163	168	7	0
23	FF	120	163	168	7	0
23	I	80	112	112	0	0
23	I1	40	56	56	1	0
23	I2	120	168	168	1	0
23	II	120	168	168	0	0
23	J	80	112	112	2	0
23	J1	80	112	112	2	0
23	J2	80	112	112	3	0
23	JJ	80	112	112	2	0
23	K	40	56	56	0	0
23	K1	80	112	112	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	K2	80	112	112	3	0
23	KK	40	56	56	0	0
23	L	80	112	112	1	0
23	L1	120	168	168	0	0
23	L2	40	56	56	0	0
23	LL	40	56	56	1	0
23	M	40	51	56	2	0
23	M1	40	56	56	0	0
23	M2	40	56	56	0	0
23	MM	40	53	56	1	0
24	A	65	88	0	0	0
24	A1	75	96	0	0	0
24	A2	32	43	0	0	0
24	AA	65	88	0	0	0
24	B	129	159	0	1	0
24	BB	86	106	0	1	0
24	I2	31	42	0	0	0
24	K	41	50	0	0	0
24	KK	41	50	0	0	0
24	L	62	85	0	0	0
24	L1	86	106	0	1	0
24	L2	86	106	0	1	0
24	M2	31	43	0	0	0
25	A1	68	84	0	0	0
25	A2	74	97	0	0	0
25	B	176	251	172	0	0
25	B1	117	148	150	0	0
25	B2	117	148	150	0	0
25	BB	122	167	86	0	0
25	I1	35	40	40	0	0
25	I2	35	40	40	1	0
25	II	79	102	54	0	0
25	K1	58	62	0	0	0
25	K2	56	58	0	0	0
25	L	37	48	0	0	0
25	L1	91	132	86	1	0
25	L2	36	46	0	0	0
25	M	46	59	62	1	0
26	B	41	54	54	1	0
26	B1	41	54	54	1	0
26	B2	41	54	54	1	0
26	BB	41	54	54	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	B	8	0	0	0	0
27	B1	8	0	0	0	0
27	B2	8	0	0	0	0
27	BB	8	0	0	0	0
27	C	16	0	0	1	0
27	C1	16	0	0	1	0
27	C2	16	0	0	0	0
27	CC	16	0	0	0	0
28	B	42	46	42	1	0
28	BB	42	46	42	1	0
All	All	99604	99577	98156	1039	0

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

The worst 5 of 1039 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B2:587:LEU:HD23	2:B2:717:LEU:HD21	1.55	0.88
2:B:553:LEU:HD23	2:B:577:ILE:HD11	1.56	0.86
19:B2:822:CLA:H93	23:B2:843:BCR:H333	1.57	0.84
19:B1:822:CLA:H93	23:B1:842:BCR:H333	1.58	0.83
2:B1:534:LEU:HD12	19:B1:834:CLA:HED3	1.63	0.81

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	738/740 (100%)	713 (97%)	24 (3%)	1 (0%)	51 83
1	A1	738/740 (100%)	710 (96%)	27 (4%)	1 (0%)	51 83

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A2	738/740 (100%)	714 (97%)	23 (3%)	1 (0%)	51	83
1	AA	738/740 (100%)	709 (96%)	28 (4%)	1 (0%)	51	83
2	B	737/739 (100%)	712 (97%)	25 (3%)	0	100	100
2	B1	737/739 (100%)	715 (97%)	22 (3%)	0	100	100
2	B2	737/739 (100%)	713 (97%)	24 (3%)	0	100	100
2	BB	737/739 (100%)	710 (96%)	27 (4%)	0	100	100
3	C	78/80 (98%)	75 (96%)	3 (4%)	0	100	100
3	C1	78/80 (98%)	76 (97%)	2 (3%)	0	100	100
3	C2	78/80 (98%)	75 (96%)	3 (4%)	0	100	100
3	CC	78/80 (98%)	75 (96%)	3 (4%)	0	100	100
4	D	132/134 (98%)	122 (92%)	10 (8%)	0	100	100
4	D1	132/134 (98%)	121 (92%)	11 (8%)	0	100	100
4	D2	132/134 (98%)	125 (95%)	7 (5%)	0	100	100
4	DD	132/134 (98%)	125 (95%)	7 (5%)	0	100	100
5	E1	58/60 (97%)	56 (97%)	2 (3%)	0	100	100
5	E2	58/60 (97%)	54 (93%)	4 (7%)	0	100	100
6	F	137/139 (99%)	132 (96%)	5 (4%)	0	100	100
6	F1	137/139 (99%)	131 (96%)	6 (4%)	0	100	100
6	FF	137/139 (99%)	131 (96%)	6 (4%)	0	100	100
7	I	29/31 (94%)	29 (100%)	0	0	100	100
7	I1	29/31 (94%)	29 (100%)	0	0	100	100
7	II	29/31 (94%)	29 (100%)	0	0	100	100
8	J	41/48 (85%)	40 (98%)	1 (2%)	0	100	100
8	J1	41/48 (85%)	38 (93%)	3 (7%)	0	100	100
8	J2	41/48 (85%)	39 (95%)	2 (5%)	0	100	100
8	JJ	41/48 (85%)	38 (93%)	3 (7%)	0	100	100
9	K	56/74 (76%)	55 (98%)	1 (2%)	0	100	100
9	K1	72/74 (97%)	71 (99%)	1 (1%)	0	100	100
9	KK	56/74 (76%)	55 (98%)	1 (2%)	0	100	100
10	L1	164/166 (99%)	160 (98%)	4 (2%)	0	100	100
11	M	29/31 (94%)	29 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	M1	29/31 (94%)	29 (100%)	0	0	100	100
11	M2	29/31 (94%)	29 (100%)	0	0	100	100
11	MM	29/31 (94%)	29 (100%)	0	0	100	100
12	X	37/39 (95%)	35 (95%)	2 (5%)	0	100	100
12	X1	37/39 (95%)	35 (95%)	2 (5%)	0	100	100
12	X2	37/39 (95%)	35 (95%)	2 (5%)	0	100	100
12	XX	37/39 (95%)	35 (95%)	2 (5%)	0	100	100
13	F2	135/137 (98%)	125 (93%)	7 (5%)	3 (2%)	6	35
14	I2	31/33 (94%)	31 (100%)	0	0	100	100
15	K2	71/73 (97%)	70 (99%)	1 (1%)	0	100	100
16	L2	165/167 (99%)	160 (97%)	5 (3%)	0	100	100
17	E	61/63 (97%)	61 (100%)	0	0	100	100
17	EE	61/63 (97%)	60 (98%)	1 (2%)	0	100	100
18	L	152/154 (99%)	146 (96%)	5 (3%)	1 (1%)	22	61
18	LL	152/154 (99%)	148 (97%)	4 (3%)	0	100	100
All	All	8958/9106 (98%)	8634 (96%)	316 (4%)	8 (0%)	54	83

5 of 8 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A2	122	VAL
13	F2	159	ILE
1	A1	122	VAL
1	A	122	VAL
1	AA	477	ILE

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	594/594 (100%)	594 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A1	594/594 (100%)	594 (100%)	0	100	100
1	A2	594/594 (100%)	594 (100%)	0	100	100
1	AA	594/594 (100%)	594 (100%)	0	100	100
2	B	601/601 (100%)	601 (100%)	0	100	100
2	B1	601/601 (100%)	601 (100%)	0	100	100
2	B2	601/601 (100%)	601 (100%)	0	100	100
2	BB	601/601 (100%)	600 (100%)	1 (0%)	93	98
3	C	68/68 (100%)	68 (100%)	0	100	100
3	C1	68/68 (100%)	67 (98%)	1 (2%)	65	85
3	C2	68/68 (100%)	67 (98%)	1 (2%)	65	85
3	CC	68/68 (100%)	68 (100%)	0	100	100
4	D	107/107 (100%)	107 (100%)	0	100	100
4	D1	107/107 (100%)	107 (100%)	0	100	100
4	D2	107/107 (100%)	107 (100%)	0	100	100
4	DD	107/107 (100%)	107 (100%)	0	100	100
5	E1	53/53 (100%)	53 (100%)	0	100	100
5	E2	53/53 (100%)	53 (100%)	0	100	100
6	F	108/108 (100%)	108 (100%)	0	100	100
6	F1	108/108 (100%)	108 (100%)	0	100	100
6	FF	108/108 (100%)	108 (100%)	0	100	100
7	I	28/28 (100%)	28 (100%)	0	100	100
7	I1	28/28 (100%)	28 (100%)	0	100	100
7	II	28/28 (100%)	28 (100%)	0	100	100
8	J	38/41 (93%)	38 (100%)	0	100	100
8	J1	38/41 (93%)	38 (100%)	0	100	100
8	J2	38/41 (93%)	38 (100%)	0	100	100
8	JJ	38/41 (93%)	38 (100%)	0	100	100
9	K	46/54 (85%)	46 (100%)	0	100	100
9	K1	54/54 (100%)	54 (100%)	0	100	100
9	KK	46/54 (85%)	46 (100%)	0	100	100
10	L1	127/127 (100%)	126 (99%)	1 (1%)	81	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	M	26/26 (100%)	26 (100%)	0	100	100
11	M1	26/26 (100%)	26 (100%)	0	100	100
11	M2	26/26 (100%)	26 (100%)	0	100	100
11	MM	26/26 (100%)	26 (100%)	0	100	100
12	X	31/31 (100%)	31 (100%)	0	100	100
12	X1	31/31 (100%)	31 (100%)	0	100	100
12	X2	31/31 (100%)	31 (100%)	0	100	100
12	XX	31/31 (100%)	31 (100%)	0	100	100
13	F2	106/106 (100%)	106 (100%)	0	100	100
14	I2	30/30 (100%)	30 (100%)	0	100	100
15	K2	54/54 (100%)	54 (100%)	0	100	100
16	L2	128/128 (100%)	127 (99%)	1 (1%)	81	93
17	E	55/55 (100%)	55 (100%)	0	100	100
17	EE	55/55 (100%)	55 (100%)	0	100	100
18	L	117/117 (100%)	116 (99%)	1 (1%)	78	91
18	LL	117/117 (100%)	117 (100%)	0	100	100
All	All	7309/7337 (100%)	7303 (100%)	6 (0%)	93	98

5 of 6 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
16	L2	61	ARG
18	L	61	ARG
2	BB	34	HIS
10	L1	61	ARG
3	C1	44	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 30 such sidechains are listed below:

Mol	Chain	Res	Type
2	B2	468	GLN
2	BB	223	GLN
16	L2	114	ASN
17	EE	51	ASN
4	D	128	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 594 ligands modelled in this entry, 22 could not be matched to an existing wwPDB Chemical Component Dictionary definition at this stage - leaving 572 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
19	CLA	B1	824	-	55,63,73	1.62	8 (14%)	64,101,113	1.39	8 (12%)
19	CLA	B	821	2	65,73,73	1.42	6 (9%)	76,113,113	1.40	7 (9%)
23	BCR	B1	842	-	41,41,41	1.18	2 (4%)	56,56,56	1.22	6 (10%)
19	CLA	B1	826	-	65,73,73	1.54	8 (12%)	76,113,113	1.49	9 (11%)
19	CLA	A1	830	-	65,73,73	1.46	6 (9%)	76,113,113	1.33	9 (11%)
19	CLA	BB	803	-	65,73,73	1.45	7 (10%)	76,113,113	1.42	8 (10%)
19	CLA	A1	808	-	50,58,73	1.66	6 (12%)	58,95,113	1.56	8 (13%)
19	CLA	B	832	-	45,53,73	1.81	8 (17%)	52,89,113	1.42	4 (7%)
19	CLA	AA	808	-	65,73,73	1.47	6 (9%)	76,113,113	1.32	7 (9%)
23	BCR	A	851	-	41,41,41	1.07	1 (2%)	56,56,56	1.46	8 (14%)
23	BCR	A2	849	-	41,41,41	1.05	2 (4%)	56,56,56	1.25	8 (14%)
19	CLA	A	808	-	65,73,73	1.47	6 (9%)	76,113,113	1.40	10 (13%)
23	BCR	II	101	-	41,41,41	1.20	2 (4%)	56,56,56	1.22	8 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	BB	813	-	42,50,73	1.80	6 (14%)	48,85,113	1.56	7 (14%)
19	CLA	B1	828	-	65,73,73	1.49	6 (9%)	76,113,113	1.28	7 (9%)
19	CLA	A	806	-	56,64,73	1.61	9 (16%)	65,102,113	1.57	11 (16%)
23	BCR	K2	103	-	41,41,41	1.15	3 (7%)	56,56,56	1.18	6 (10%)
23	BCR	M	101	-	41,41,41	1.21	3 (7%)	56,56,56	1.33	10 (17%)
19	CLA	B2	808	-	60,68,73	1.54	6 (10%)	70,107,113	1.34	7 (10%)
22	LHG	BB	851	-	48,48,48	0.77	2 (4%)	51,54,54	0.98	4 (7%)
25	LMG	B	851	-	55,55,55	0.68	0	63,63,63	1.28	7 (11%)
19	CLA	BB	809	-	45,53,73	1.75	7 (15%)	52,89,113	1.59	8 (15%)
23	BCR	F2	304	-	41,41,41	1.20	2 (4%)	56,56,56	1.25	9 (16%)
19	CLA	A2	809	-	50,58,73	1.66	6 (12%)	58,95,113	1.54	8 (13%)
19	CLA	B2	806	2	65,73,73	1.46	8 (12%)	76,113,113	1.43	9 (11%)
23	BCR	B2	842	-	41,41,41	1.01	2 (4%)	56,56,56	1.35	7 (12%)
22	LHG	X1	102	-	39,39,48	0.82	2 (5%)	42,45,54	0.93	2 (4%)
19	CLA	B	860	-	65,73,73	1.46	7 (10%)	76,113,113	1.56	10 (13%)
19	CLA	B1	802	-	65,73,73	1.45	7 (10%)	76,113,113	1.34	9 (11%)
19	CLA	B2	822	-	65,73,73	1.49	7 (10%)	76,113,113	1.39	8 (10%)
19	CLA	A	801	-	65,73,73	1.45	8 (12%)	76,113,113	1.36	8 (10%)
19	CLA	A2	840	-	56,64,73	1.56	7 (12%)	65,102,113	1.42	7 (10%)
19	CLA	B2	817	-	42,50,73	1.81	6 (14%)	48,85,113	1.57	6 (12%)
19	CLA	B	835	-	45,53,73	1.72	6 (13%)	52,89,113	1.58	9 (17%)
19	CLA	B	837	-	60,68,73	1.55	7 (11%)	70,107,113	1.37	7 (10%)
23	BCR	A	850	-	41,41,41	1.13	2 (4%)	56,56,56	1.24	4 (7%)
19	CLA	A2	828	-	56,64,73	1.57	6 (10%)	65,102,113	1.47	7 (10%)
19	CLA	AA	842	-	65,73,73	1.48	8 (12%)	76,113,113	1.43	11 (14%)
19	CLA	AA	840	-	56,64,73	1.57	7 (12%)	65,102,113	1.36	6 (9%)
19	CLA	BB	834	-	45,53,73	1.74	7 (15%)	52,89,113	1.58	7 (13%)
19	CLA	AA	838	-	44,52,73	1.78	7 (15%)	49,87,113	1.65	8 (16%)
23	BCR	J1	104	-	41,41,41	1.13	2 (4%)	56,56,56	1.34	6 (10%)
23	BCR	LL	204	-	41,41,41	1.14	2 (4%)	56,56,56	1.19	5 (8%)
19	CLA	A	842	-	65,73,73	1.47	8 (12%)	76,113,113	1.44	12 (15%)
19	CLA	B1	833	-	65,73,73	1.49	8 (12%)	76,113,113	1.65	16 (21%)
19	CLA	BB	812	-	41,49,73	1.81	6 (14%)	47,84,113	1.61	6 (12%)
19	CLA	A	838	-	44,52,73	1.78	7 (15%)	49,87,113	1.63	8 (16%)
23	BCR	JJ	104	-	41,41,41	1.17	3 (7%)	56,56,56	1.24	8 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
22	LHG	A	845	-	48,48,48	0.80	2 (4%)	51,54,54	0.98	3 (5%)
19	CLA	A2	807	-	65,73,73	1.45	8 (12%)	76,113,113	1.33	8 (10%)
23	BCR	L1	208	-	41,41,41	1.12	2 (4%)	56,56,56	1.35	10 (17%)
19	CLA	AA	818	-	45,53,73	1.77	6 (13%)	52,89,113	1.54	6 (11%)
19	CLA	A2	802	-	46,54,73	1.74	6 (13%)	53,90,113	1.55	7 (13%)
19	CLA	B1	809	-	45,53,73	1.78	6 (13%)	52,89,113	1.56	8 (15%)
22	LHG	B1	847	-	32,32,48	0.87	1 (3%)	35,38,54	1.03	3 (8%)
19	CLA	A2	806	-	56,64,73	1.62	9 (16%)	65,102,113	1.56	10 (15%)
19	CLA	B1	813	-	42,50,73	1.81	6 (14%)	48,85,113	1.51	7 (14%)
19	CLA	A2	837	-	45,53,73	1.79	7 (15%)	52,89,113	1.57	7 (13%)
19	CLA	A2	822	-	51,59,73	1.67	6 (11%)	59,96,113	1.49	9 (15%)
19	CLA	B2	823	-	65,73,73	1.50	6 (9%)	76,113,113	1.37	7 (9%)
21	PQN	A1	843	-	34,34,34	0.63	0	42,45,45	1.10	3 (7%)
19	CLA	A1	829	-	62,70,73	1.48	6 (9%)	72,109,113	1.37	8 (11%)
19	CLA	B	830	-	56,64,73	1.53	7 (12%)	65,102,113	1.46	9 (13%)
23	BCR	AA	848	-	40,40,41	1.09	2 (5%)	54,54,56	1.28	10 (18%)
23	BCR	AA	854	-	41,41,41	1.13	2 (4%)	56,56,56	1.36	12 (21%)
19	CLA	B1	845	-	40,47,73	1.84	6 (15%)	45,80,113	1.60	7 (15%)
19	CLA	BB	824	-	55,63,73	1.60	7 (12%)	64,101,113	1.41	7 (10%)
23	BCR	J	102	-	41,41,41	1.24	2 (4%)	56,56,56	1.38	10 (17%)
23	BCR	J1	102	-	41,41,41	1.20	2 (4%)	56,56,56	1.36	9 (16%)
19	CLA	BB	826	-	65,73,73	1.57	9 (13%)	76,113,113	1.53	12 (15%)
19	CLA	A1	824	-	42,50,73	1.82	7 (16%)	48,85,113	1.54	7 (14%)
27	SF4	C2	102	-	0,12,12	-	-	-	-	-
19	CLA	A1	833	-	41,49,73	1.81	7 (17%)	47,84,113	1.57	8 (17%)
19	CLA	BB	820	-	45,53,73	1.76	8 (17%)	52,89,113	1.83	13 (25%)
19	CLA	A	813	-	65,73,73	1.45	6 (9%)	76,113,113	1.35	8 (10%)
19	CLA	B1	815	-	65,73,73	1.45	6 (9%)	76,113,113	1.54	11 (14%)
19	CLA	LL	202	-	65,73,73	1.48	9 (13%)	76,113,113	1.45	9 (11%)
27	SF4	C	101	-	0,12,12	-	-	-	-	-
22	LHG	XX	102	-	39,39,48	0.80	2 (5%)	42,45,54	0.94	2 (4%)
19	CLA	A2	818	-	45,53,73	1.79	6 (13%)	52,89,113	1.54	7 (13%)
19	CLA	B2	809	-	45,53,73	1.77	6 (13%)	52,89,113	1.55	8 (15%)
19	CLA	A1	809	-	65,73,73	1.47	7 (10%)	76,113,113	1.39	11 (14%)
19	CLA	LL	203	-	42,50,73	1.84	6 (14%)	48,85,113	1.84	9 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	B2	815	-	65,73,73	1.46	6 (9%)	76,113,113	1.47	10 (13%)
22	LHG	BB	850	-	32,32,48	0.89	1 (3%)	35,38,54	1.03	3 (8%)
19	CLA	BB	807	-	65,73,73	1.48	6 (9%)	76,113,113	1.46	7 (9%)
27	SF4	BB	857	-	0,12,12	-	-	-	-	-
19	CLA	F	301	-	60,68,73	1.54	7 (11%)	70,107,113	1.52	10 (14%)
19	CLA	A1	828	-	65,73,73	1.44	7 (10%)	76,113,113	1.38	8 (10%)
23	BCR	B	842	-	41,41,41	1.09	2 (4%)	56,56,56	1.34	6 (10%)
19	CLA	A	811	1	51,59,73	1.66	9 (17%)	59,96,113	1.57	9 (15%)
19	CLA	AA	834	-	41,49,73	1.81	7 (17%)	47,84,113	1.54	6 (12%)
27	SF4	B1	851	-	0,12,12	-	-	-	-	-
19	CLA	B	820	-	45,53,73	1.77	7 (15%)	52,89,113	1.80	11 (21%)
19	CLA	BB	819	-	41,49,73	1.80	6 (14%)	47,84,113	1.59	7 (14%)
19	CLA	B1	836	-	60,68,73	1.53	6 (10%)	70,107,113	1.46	9 (12%)
19	CLA	A2	801	-	65,73,73	1.44	7 (10%)	76,113,113	1.38	7 (9%)
19	CLA	B2	811	-	61,69,73	1.52	6 (9%)	71,108,113	1.29	5 (7%)
19	CLA	A	824	-	45,53,73	1.76	6 (13%)	52,89,113	1.63	8 (15%)
19	CLA	B1	807	-	65,73,73	1.49	6 (9%)	76,113,113	1.55	13 (17%)
19	CLA	A1	813	-	42,50,73	1.81	6 (14%)	48,85,113	1.52	7 (14%)
23	BCR	F	303	-	41,41,41	1.13	2 (4%)	56,56,56	1.31	9 (16%)
27	SF4	C	102	3	0,12,12	-	-	-	-	-
25	LMG	B1	844	-	55,55,55	0.68	0	63,63,63	1.28	4 (6%)
19	CLA	B1	806	-	65,73,73	1.45	7 (10%)	76,113,113	1.46	10 (13%)
19	CLA	A2	838	-	44,52,73	1.76	6 (13%)	49,87,113	1.64	7 (14%)
19	CLA	AA	813	-	65,73,73	1.46	6 (9%)	76,113,113	1.36	8 (10%)
19	CLA	B2	827	-	45,53,73	1.80	9 (20%)	52,89,113	1.51	7 (13%)
23	BCR	F1	306	-	41,41,41	1.12	2 (4%)	56,56,56	1.48	8 (14%)
19	CLA	A1	827	-	56,64,73	1.58	6 (10%)	65,102,113	1.46	7 (10%)
19	CLA	AA	827	-	65,73,73	1.49	8 (12%)	76,113,113	1.27	5 (6%)
19	CLA	A2	831	-	65,73,73	1.46	8 (12%)	76,113,113	1.32	8 (10%)
19	CLA	A1	819	-	58,66,73	1.58	10 (17%)	67,104,113	1.46	10 (14%)
19	CLA	K1	105	9	39,48,73	1.88	6 (15%)	45,82,113	1.68	9 (20%)
19	CLA	A2	816	-	50,58,73	1.66	6 (12%)	58,95,113	1.47	8 (13%)
19	CLA	A	814	-	42,50,73	1.83	6 (14%)	48,85,113	1.49	7 (14%)
19	CLA	AA	845	-	41,49,73	1.81	6 (14%)	47,84,113	1.62	7 (14%)
19	CLA	AA	826	-	45,53,73	1.76	7 (15%)	52,89,113	1.57	8 (15%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
23	BCR	KK	103	-	41,41,41	1.12	2 (4%)	56,56,56	1.34	10 (17%)
19	CLA	AA	820	-	58,66,73	1.57	9 (15%)	67,104,113	1.48	9 (13%)
19	CLA	B1	801	-	65,73,73	1.46	6 (9%)	76,113,113	1.52	10 (13%)
19	CLA	A2	835	-	65,73,73	1.50	9 (13%)	76,113,113	1.35	9 (11%)
19	CLA	B	834	-	65,73,73	1.45	8 (12%)	76,113,113	1.63	16 (21%)
28	DGD	B	856	-	43,43,67	1.06	0	57,57,81	1.40	6 (10%)
20	CL0	AA	803	-	65,73,73	2.01	15 (23%)	76,113,113	2.54	25 (32%)
23	BCR	L2	207	-	41,41,41	1.15	2 (4%)	56,56,56	1.27	8 (14%)
19	CLA	BB	802	-	65,73,73	1.47	8 (12%)	76,113,113	1.34	9 (11%)
19	CLA	B	813	-	42,50,73	1.80	7 (16%)	48,85,113	1.50	7 (14%)
19	CLA	B1	848	-	65,73,73	1.47	8 (12%)	76,113,113	1.36	4 (5%)
19	CLA	A	821	-	65,73,73	1.43	7 (10%)	76,113,113	1.43	9 (11%)
21	PQN	B2	838	-	34,34,34	0.62	0	42,45,45	0.87	0
23	BCR	B2	839	-	41,41,41	1.13	2 (4%)	56,56,56	1.33	10 (17%)
19	CLA	B1	835	-	65,73,73	1.47	8 (12%)	76,113,113	1.28	6 (7%)
27	SF4	B2	853	-	0,12,12	-	-	-	-	-
19	CLA	AA	812	-	46,54,73	1.73	6 (13%)	53,90,113	1.56	7 (13%)
19	CLA	A1	806	-	65,73,73	1.46	8 (12%)	76,113,113	1.32	8 (10%)
19	CLA	A	837	-	45,53,73	1.79	6 (13%)	52,89,113	1.55	7 (13%)
19	CLA	A	841	-	46,54,73	1.68	6 (13%)	53,90,113	1.55	6 (11%)
19	CLA	A2	815	-	55,63,73	1.57	6 (10%)	64,101,113	1.41	7 (10%)
19	CLA	B1	831	-	45,53,73	1.82	8 (17%)	52,89,113	1.46	5 (9%)
19	CLA	B1	816	-	57,65,73	1.60	7 (12%)	66,103,113	1.39	8 (12%)
19	CLA	AA	829	-	65,73,73	1.44	7 (10%)	76,113,113	1.39	8 (10%)
19	CLA	A	825	-	52,60,73	1.64	6 (11%)	60,97,113	1.46	7 (11%)
19	CLA	BB	836	-	60,68,73	1.52	7 (11%)	70,107,113	1.73	12 (17%)
19	CLA	A	833	-	50,58,73	1.68	8 (16%)	58,95,113	1.42	5 (8%)
19	CLA	A	829	-	65,73,73	1.45	8 (12%)	76,113,113	1.39	8 (10%)
19	CLA	K2	102	-	45,53,73	1.77	6 (13%)	52,89,113	1.59	9 (17%)
19	CLA	J1	103	-	41,49,73	1.87	6 (14%)	47,84,113	1.54	6 (12%)
19	CLA	L1	207	-	65,73,73	1.45	7 (10%)	76,113,113	1.38	6 (7%)
19	CLA	K	102	-	46,54,73	1.73	6 (13%)	53,90,113	1.51	7 (13%)
19	CLA	B	859	-	60,68,73	1.53	8 (13%)	70,107,113	1.72	16 (22%)
19	CLA	BB	830	-	56,64,73	1.56	6 (10%)	65,102,113	1.39	7 (10%)
19	CLA	J	101	8	41,49,73	1.84	6 (14%)	47,84,113	1.58	7 (14%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	A1	814	-	55,63,73	1.57	6 (10%)	64,101,113	1.43	7 (10%)
19	CLA	B2	819	-	41,49,73	1.81	7 (17%)	47,84,113	1.63	6 (12%)
19	CLA	A	828	-	56,64,73	1.55	6 (10%)	65,102,113	1.45	8 (12%)
19	CLA	A2	841	-	46,54,73	1.69	6 (13%)	53,90,113	1.56	6 (11%)
19	CLA	A	835	-	65,73,73	1.48	6 (9%)	76,113,113	1.34	8 (10%)
28	DGD	BB	854	-	43,43,67	1.05	0	57,57,81	1.41	7 (12%)
19	CLA	K1	103	-	46,54,73	1.74	6 (13%)	53,90,113	1.55	7 (13%)
19	CLA	A2	825	-	42,50,73	1.83	8 (19%)	48,85,113	1.60	7 (14%)
19	CLA	A1	823	-	45,53,73	1.75	7 (15%)	52,89,113	1.62	8 (15%)
19	CLA	A1	831	-	65,73,73	1.46	7 (10%)	76,113,113	1.40	7 (9%)
19	CLA	A2	810	1	65,73,73	1.47	7 (10%)	76,113,113	1.45	11 (14%)
19	CLA	BB	852	-	65,73,73	1.47	7 (10%)	76,113,113	1.41	6 (7%)
19	CLA	A1	818	-	60,68,73	1.53	6 (10%)	70,107,113	1.40	8 (11%)
19	CLA	F	302	-	42,50,73	1.83	7 (16%)	48,85,113	1.63	7 (14%)
23	BCR	B2	843	-	41,41,41	1.16	2 (4%)	56,56,56	1.17	6 (10%)
19	CLA	A1	807	-	65,73,73	1.47	7 (10%)	76,113,113	1.41	7 (9%)
23	BCR	F2	303	-	41,41,41	1.09	2 (4%)	56,56,56	1.29	8 (14%)
19	CLA	B2	821	-	65,73,73	1.43	6 (9%)	76,113,113	1.41	9 (11%)
19	CLA	BB	832	-	65,73,73	1.54	8 (12%)	76,113,113	1.48	10 (13%)
19	CLA	B	814	-	59,67,73	1.55	7 (11%)	68,105,113	1.50	8 (11%)
23	BCR	B1	843	-	41,41,41	1.21	3 (7%)	56,56,56	1.19	6 (10%)
19	CLA	X2	101	-	45,53,73	1.79	6 (13%)	52,89,113	1.54	6 (11%)
19	CLA	AA	807	-	65,73,73	1.46	7 (10%)	76,113,113	1.27	6 (7%)
19	CLA	AA	843	-	65,73,73	1.45	7 (10%)	76,113,113	1.53	9 (11%)
23	BCR	B1	841	-	41,41,41	1.06	2 (4%)	56,56,56	1.35	6 (10%)
19	CLA	A	804	-	65,73,73	1.47	8 (12%)	76,113,113	1.33	8 (10%)
19	CLA	AA	805	-	60,68,73	1.50	7 (11%)	70,107,113	1.46	9 (12%)
19	CLA	BB	818	-	41,49,73	1.82	6 (14%)	47,84,113	1.50	7 (14%)
25	LMG	B1	852	-	30,30,55	1.00	0	38,38,63	1.23	4 (10%)
23	BCR	A1	851	-	41,41,41	1.07	1 (2%)	56,56,56	1.46	8 (14%)
19	CLA	AA	819	-	60,68,73	1.54	6 (10%)	70,107,113	1.39	8 (11%)
19	CLA	BB	814	-	59,67,73	1.54	10 (16%)	68,105,113	1.48	10 (14%)
23	BCR	I2	103	-	41,41,41	1.13	2 (4%)	56,56,56	1.36	9 (16%)
19	CLA	A	819	-	60,68,73	1.53	7 (11%)	70,107,113	1.40	8 (11%)
25	LMG	B2	854	-	30,30,55	0.99	0	38,38,63	1.23	4 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
27	SF4	C1	101	-	0,12,12	-	-	-		
20	CL0	A2	803	-	65,73,73	1.97	15 (23%)	76,113,113	2.55	25 (32%)
19	CLA	L2	206	-	65,73,73	1.46	7 (10%)	76,113,113	1.39	6 (7%)
19	CLA	B	810	-	65,73,73	1.45	7 (10%)	76,113,113	1.37	7 (9%)
19	CLA	AA	836	-	65,73,73	1.47	8 (12%)	76,113,113	1.33	6 (7%)
19	CLA	AA	853	-	65,73,73	1.47	9 (13%)	76,113,113	1.28	9 (11%)
19	CLA	BB	823	-	65,73,73	1.50	7 (10%)	76,113,113	1.37	6 (7%)
19	CLA	A	836	-	65,73,73	1.47	8 (12%)	76,113,113	1.35	7 (9%)
19	CLA	B2	803	-	65,73,73	1.45	8 (12%)	76,113,113	1.44	7 (9%)
19	CLA	B	807	-	65,73,73	1.48	6 (9%)	76,113,113	1.44	7 (9%)
19	CLA	BB	835	-	65,73,73	1.48	9 (13%)	76,113,113	1.33	8 (10%)
27	SF4	C2	101	-	0,12,12	-	-	-		
19	CLA	BB	821	-	65,73,73	1.44	6 (9%)	76,113,113	1.29	7 (9%)
19	CLA	A2	852	-	65,73,73	1.49	8 (12%)	76,113,113	1.37	8 (10%)
19	CLA	AA	830	-	62,70,73	1.46	7 (11%)	72,109,113	1.37	8 (11%)
19	CLA	B2	835	-	45,53,73	1.74	6 (13%)	52,89,113	1.54	8 (15%)
19	CLA	B1	849	-	65,73,73	1.49	9 (13%)	76,113,113	1.28	7 (9%)
19	CLA	A1	835	-	65,73,73	1.48	8 (12%)	76,113,113	1.32	5 (6%)
23	BCR	I2	101	-	41,41,41	1.22	2 (4%)	56,56,56	1.27	9 (16%)
23	BCR	J2	102	-	41,41,41	1.19	2 (4%)	56,56,56	1.35	8 (14%)
19	CLA	A2	804	-	65,73,73	1.45	7 (10%)	76,113,113	1.31	7 (9%)
19	CLA	A2	844	-	41,49,73	1.81	7 (17%)	47,84,113	1.59	6 (12%)
23	BCR	A2	847	-	40,40,41	1.09	2 (5%)	54,54,56	1.26	7 (12%)
23	BCR	A	849	-	41,41,41	1.07	2 (4%)	56,56,56	1.26	9 (16%)
23	BCR	A2	853	-	41,41,41	1.12	2 (4%)	56,56,56	1.36	8 (14%)
19	CLA	B1	820	-	45,53,73	1.79	6 (13%)	52,89,113	1.50	7 (13%)
25	LMG	B2	845	-	55,55,55	0.69	0	63,63,63	1.27	5 (7%)
27	SF4	CC	102	-	0,12,12	-	-	-		
23	BCR	II	104	-	41,41,41	1.15	2 (4%)	56,56,56	1.32	8 (14%)
19	CLA	B	828	-	45,53,73	1.75	7 (15%)	52,89,113	1.51	7 (13%)
23	BCR	A	848	-	41,41,41	1.14	2 (4%)	56,56,56	1.22	8 (14%)
19	CLA	B2	801	-	65,73,73	1.45	6 (9%)	76,113,113	1.54	11 (14%)
19	CLA	B2	846	-	40,47,73	1.84	7 (17%)	45,80,113	1.60	7 (15%)
19	CLA	B1	834	-	45,53,73	1.73	6 (13%)	52,89,113	1.55	8 (15%)
19	CLA	B1	810	-	65,73,73	1.47	6 (9%)	76,113,113	1.34	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
23	BCR	FF	306	-	41,41,41	1.15	3 (7%)	56,56,56	1.48	10 (17%)
19	CLA	B	816	-	57,65,73	1.59	8 (14%)	66,103,113	1.45	8 (12%)
19	CLA	B1	804	-	62,70,73	1.52	8 (12%)	72,109,113	1.42	9 (12%)
19	CLA	B	829	-	65,73,73	1.49	6 (9%)	76,113,113	1.32	7 (9%)
23	BCR	MM	101	-	41,41,41	1.20	3 (7%)	56,56,56	1.36	10 (17%)
19	CLA	A1	815	-	50,58,73	1.66	6 (12%)	58,95,113	1.48	8 (13%)
19	CLA	AA	839	-	52,60,73	1.62	6 (11%)	60,97,113	1.50	8 (13%)
19	CLA	A2	808	-	65,73,73	1.46	7 (10%)	76,113,113	1.35	7 (9%)
19	CLA	AA	814	-	42,50,73	1.81	6 (14%)	48,85,113	1.52	7 (14%)
23	BCR	AA	852	-	41,41,41	1.09	1 (2%)	56,56,56	1.44	7 (12%)
19	CLA	B2	813	-	42,50,73	1.80	6 (14%)	48,85,113	1.50	8 (16%)
19	CLA	A2	834	-	41,49,73	1.81	7 (17%)	47,84,113	1.58	8 (17%)
23	BCR	JJ	102	-	41,41,41	1.24	2 (4%)	56,56,56	1.37	10 (17%)
23	BCR	A2	848	-	41,41,41	1.14	2 (4%)	56,56,56	1.23	6 (10%)
19	CLA	XX	101	-	45,53,73	1.77	6 (13%)	52,89,113	1.55	6 (11%)
22	LHG	LL	205	-	33,33,48	0.94	3 (9%)	36,39,54	1.05	4 (11%)
22	LHG	X	102	-	39,39,48	0.80	2 (5%)	42,45,54	0.94	2 (4%)
19	CLA	AA	823	-	60,68,73	1.54	7 (11%)	70,107,113	1.50	10 (14%)
22	LHG	L2	208	-	34,34,48	0.87	1 (2%)	37,40,54	1.05	3 (8%)
19	CLA	BB	815	-	65,73,73	1.45	6 (9%)	76,113,113	1.48	10 (13%)
19	CLA	A	834	-	41,49,73	1.81	7 (17%)	47,84,113	1.56	8 (17%)
19	CLA	A1	810	-	51,59,73	1.67	9 (17%)	59,96,113	1.56	9 (15%)
19	CLA	A2	817	-	44,52,73	1.79	7 (15%)	49,87,113	1.53	6 (12%)
19	CLA	AA	821	-	65,73,73	1.43	7 (10%)	76,113,113	1.39	8 (10%)
19	CLA	A1	852	-	65,73,73	1.48	8 (12%)	76,113,113	1.27	5 (6%)
19	CLA	A1	841	-	65,73,73	1.47	8 (12%)	76,113,113	1.43	10 (13%)
19	CLA	B	836	-	65,73,73	1.48	7 (10%)	76,113,113	1.36	8 (10%)
19	CLA	A1	844	-	41,49,73	1.81	6 (14%)	47,84,113	1.59	7 (14%)
19	CLA	B	808	-	60,68,73	1.51	6 (10%)	70,107,113	1.29	6 (8%)
26	ECH	B	841	-	42,42,42	0.90	1 (2%)	55,58,58	2.48	22 (40%)
23	BCR	A1	853	-	41,41,41	1.12	2 (4%)	56,56,56	1.37	9 (16%)
22	LHG	X2	103	-	48,48,48	0.77	1 (2%)	51,54,54	0.96	4 (7%)
23	BCR	AA	851	-	41,41,41	1.13	2 (4%)	56,56,56	1.24	5 (8%)
19	CLA	AA	832	-	65,73,73	1.47	7 (10%)	76,113,113	1.37	9 (11%)
23	BCR	A1	849	-	41,41,41	1.08	2 (4%)	56,56,56	1.25	8 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	B1	850	-	60,68,73	1.54	7 (11%)	70,107,113	1.67	16 (22%)
19	CLA	B1	808	-	60,68,73	1.53	6 (10%)	70,107,113	1.33	7 (10%)
19	CLA	B2	849	-	65,73,73	1.48	8 (12%)	76,113,113	1.34	4 (5%)
19	CLA	A	832	-	65,73,73	1.46	7 (10%)	76,113,113	1.41	9 (11%)
19	CLA	B	811	-	61,69,73	1.50	7 (11%)	71,108,113	1.30	5 (7%)
23	BCR	B2	844	-	41,41,41	1.20	3 (7%)	56,56,56	1.19	6 (10%)
19	CLA	A1	826	-	65,73,73	1.49	8 (12%)	76,113,113	1.32	5 (6%)
22	LHG	B	852	-	32,32,48	0.89	1 (3%)	35,38,54	1.02	3 (8%)
19	CLA	B1	822	-	65,73,73	1.48	7 (10%)	76,113,113	1.33	7 (9%)
19	CLA	A1	820	-	65,73,73	1.42	7 (10%)	76,113,113	1.43	10 (13%)
23	BCR	A2	850	-	41,41,41	1.16	2 (4%)	56,56,56	1.23	6 (10%)
19	CLA	K	101	-	45,53,73	1.77	6 (13%)	52,89,113	1.66	9 (17%)
19	CLA	L2	204	16	61,69,73	1.51	6 (9%)	71,108,113	1.44	10 (14%)
23	BCR	A1	850	-	41,41,41	1.17	2 (4%)	56,56,56	1.26	6 (10%)
25	LMG	B2	847	-	32,32,55	0.94	1 (3%)	40,40,63	1.22	2 (5%)
23	BCR	AA	850	-	41,41,41	1.06	2 (4%)	56,56,56	1.26	9 (16%)
19	CLA	J2	103	-	41,49,73	1.87	6 (14%)	47,84,113	1.52	7 (14%)
23	BCR	FF	303	-	41,41,41	1.12	2 (4%)	56,56,56	1.33	9 (16%)
19	CLA	L	204	-	65,73,73	1.44	7 (10%)	76,113,113	1.48	9 (11%)
19	CLA	B2	834	-	65,73,73	1.52	8 (12%)	76,113,113	1.61	15 (19%)
21	PQN	AA	844	-	34,34,34	0.66	0	42,45,45	1.06	4 (9%)
19	CLA	A1	834	-	65,73,73	1.49	8 (12%)	76,113,113	1.33	9 (11%)
19	CLA	B2	812	-	41,49,73	1.81	6 (14%)	47,84,113	1.64	7 (14%)
23	BCR	F	304	-	41,41,41	1.21	2 (4%)	56,56,56	1.29	9 (16%)
19	CLA	A	812	-	46,54,73	1.73	6 (13%)	53,90,113	1.58	7 (13%)
19	CLA	BB	829	-	56,64,73	1.55	8 (14%)	65,102,113	1.41	10 (15%)
23	BCR	B	844	-	41,41,41	1.24	4 (9%)	56,56,56	1.22	7 (12%)
19	CLA	B2	828	-	45,53,73	1.76	6 (13%)	52,89,113	1.52	7 (13%)
19	CLA	AA	815	-	55,63,73	1.57	6 (10%)	64,101,113	1.44	7 (10%)
19	CLA	B	818	-	41,49,73	1.88	5 (12%)	47,84,113	1.53	6 (12%)
25	LMG	B	845	-	55,55,55	0.69	0	63,63,63	1.27	4 (6%)
19	CLA	J2	101	8	41,49,73	1.85	6 (14%)	47,84,113	1.54	7 (14%)
19	CLA	AA	809	-	50,58,73	1.65	6 (12%)	58,95,113	1.54	9 (15%)
23	BCR	L1	209	-	41,41,41	1.14	2 (4%)	56,56,56	1.26	9 (16%)
25	LMG	I1	102	-	35,35,55	1.04	1 (2%)	43,43,63	1.27	3 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	A	826	-	45,53,73	1.75	7 (15%)	52,89,113	1.55	8 (15%)
19	CLA	A	820	-	58,66,73	1.57	9 (15%)	67,104,113	1.47	10 (14%)
25	LMG	B1	846	-	32,32,55	0.93	0	40,40,63	1.21	4 (10%)
23	BCR	F2	305	-	41,41,41	1.12	2 (4%)	56,56,56	1.48	9 (16%)
19	CLA	A	840	-	56,64,73	1.57	7 (12%)	65,102,113	1.42	7 (10%)
19	CLA	L	203	-	65,73,73	1.50	8 (12%)	76,113,113	1.41	9 (11%)
19	CLA	A2	812	-	46,54,73	1.73	8 (17%)	53,90,113	1.53	9 (16%)
19	CLA	B2	826	-	65,73,73	1.54	7 (10%)	76,113,113	1.47	9 (11%)
23	BCR	AA	855	-	41,41,41	1.14	2 (4%)	56,56,56	1.28	8 (14%)
19	CLA	F2	301	-	60,68,73	1.56	7 (11%)	70,107,113	1.46	10 (14%)
19	CLA	A	818	-	45,53,73	1.78	6 (13%)	52,89,113	1.53	6 (11%)
23	BCR	A	854	-	41,41,41	1.12	2 (4%)	56,56,56	1.28	8 (14%)
19	CLA	B	804	-	62,70,73	1.52	7 (11%)	72,109,113	1.39	10 (13%)
19	CLA	L2	205	-	59,67,73	1.54	8 (13%)	68,105,113	1.53	8 (11%)
19	CLA	B	833	-	65,73,73	1.50	8 (12%)	76,113,113	1.50	11 (14%)
27	SF4	B	861	-	0,12,12	-	-	-	-	-
19	CLA	B2	818	-	41,49,73	1.85	6 (14%)	47,84,113	1.53	6 (12%)
22	LHG	AA	846	-	48,48,48	0.79	2 (4%)	51,54,54	0.97	3 (5%)
19	CLA	B2	807	-	65,73,73	1.48	6 (9%)	76,113,113	1.56	13 (17%)
19	CLA	B1	823	-	65,73,73	1.49	6 (9%)	76,113,113	1.35	6 (7%)
19	CLA	B	809	-	45,53,73	1.76	7 (15%)	52,89,113	1.58	8 (15%)
19	CLA	B2	850	-	65,73,73	1.49	9 (13%)	76,113,113	1.33	7 (9%)
22	LHG	A	846	-	37,37,48	0.81	1 (2%)	40,43,54	1.01	3 (7%)
21	PQN	A	843	-	34,34,34	0.60	0	42,45,45	1.09	3 (7%)
19	CLA	B1	812	-	41,49,73	1.82	6 (14%)	47,84,113	1.64	7 (14%)
19	CLA	B1	818	-	41,49,73	1.85	6 (14%)	47,84,113	1.53	6 (12%)
19	CLA	K2	104	-	42,49,73	1.82	7 (16%)	48,83,113	1.60	6 (12%)
21	PQN	B1	837	-	34,34,34	0.70	0	42,45,45	0.88	0
19	CLA	AA	824	-	45,53,73	1.76	6 (13%)	52,89,113	1.62	8 (15%)
19	CLA	A2	820	-	58,66,73	1.58	10 (17%)	67,104,113	1.48	9 (13%)
19	CLA	B2	824	-	55,63,73	1.59	6 (10%)	64,101,113	1.43	7 (10%)
27	SF4	C1	102	-	0,12,12	-	-	-	-	-
23	BCR	BB	839	-	41,41,41	1.10	2 (4%)	56,56,56	1.20	6 (10%)
19	CLA	B	846	-	40,47,73	1.84	7 (17%)	45,80,113	1.64	7 (15%)
19	CLA	A1	801	-	65,73,73	1.45	7 (10%)	76,113,113	1.40	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	FF	305	-	65,73,73	1.49	6 (9%)	76,113,113	1.30	7 (9%)
23	BCR	F1	304	-	41,41,41	1.21	2 (4%)	56,56,56	1.28	9 (16%)
19	CLA	BB	810	-	65,73,73	1.45	6 (9%)	76,113,113	1.34	7 (9%)
23	BCR	K2	105	-	41,41,41	1.13	2 (4%)	56,56,56	1.32	9 (16%)
19	CLA	X1	101	-	45,53,73	1.78	6 (13%)	52,89,113	1.55	6 (11%)
19	CLA	B	815	-	65,73,73	1.45	6 (9%)	76,113,113	1.50	11 (14%)
19	CLA	B2	814	-	59,67,73	1.57	7 (11%)	68,105,113	1.39	8 (11%)
19	CLA	B	827	-	45,53,73	1.77	9 (20%)	52,89,113	1.51	7 (13%)
19	CLA	A2	829	-	65,73,73	1.48	10 (15%)	76,113,113	1.31	9 (11%)
19	CLA	A1	838	-	52,60,73	1.63	6 (11%)	60,97,113	1.51	7 (11%)
19	CLA	A1	825	-	45,53,73	1.74	7 (15%)	52,89,113	1.59	8 (15%)
19	CLA	A	831	-	65,73,73	1.47	6 (9%)	76,113,113	1.33	6 (7%)
25	LMG	I2	105	-	35,35,55	0.92	1 (2%)	43,43,63	1.22	4 (9%)
19	CLA	A1	812	-	65,73,73	1.48	6 (9%)	76,113,113	1.38	8 (10%)
19	CLA	BB	806	-	65,73,73	1.45	7 (10%)	76,113,113	1.42	10 (13%)
19	CLA	A1	816	-	44,52,73	1.79	7 (15%)	49,87,113	1.52	6 (12%)
23	BCR	BB	838	-	41,41,41	1.16	2 (4%)	56,56,56	1.26	7 (12%)
23	BCR	F	305	-	41,41,41	1.15	3 (7%)	56,56,56	1.49	10 (17%)
19	CLA	A1	803	-	65,73,73	1.44	6 (9%)	76,113,113	1.33	7 (9%)
23	BCR	B	843	-	41,41,41	1.19	2 (4%)	56,56,56	1.18	6 (10%)
19	CLA	AA	828	-	56,64,73	1.57	6 (10%)	65,102,113	1.47	8 (12%)
19	CLA	BB	822	-	65,73,73	1.49	8 (12%)	76,113,113	1.35	5 (6%)
19	CLA	B2	802	-	65,73,73	1.46	6 (9%)	76,113,113	1.35	8 (10%)
19	CLA	AA	835	-	65,73,73	1.49	6 (9%)	76,113,113	1.35	8 (10%)
19	CLA	B2	837	-	60,68,73	1.53	6 (10%)	70,107,113	1.44	9 (12%)
19	CLA	BB	828	-	45,53,73	1.75	7 (15%)	52,89,113	1.55	7 (13%)
19	CLA	BB	801	-	65,73,73	1.44	6 (9%)	76,113,113	1.62	9 (11%)
19	CLA	B	825	-	65,73,73	1.44	6 (9%)	76,113,113	1.39	10 (13%)
19	CLA	B2	825	-	65,73,73	1.45	6 (9%)	76,113,113	1.40	9 (11%)
19	CLA	B2	833	-	65,73,73	1.51	6 (9%)	76,113,113	1.51	10 (13%)
22	LHG	A2	845	-	48,48,48	0.76	1 (2%)	51,54,54	0.96	3 (5%)
23	BCR	I	102	-	41,41,41	1.15	2 (4%)	56,56,56	1.19	6 (10%)
19	CLA	BB	816	-	57,65,73	1.59	8 (14%)	66,103,113	1.43	8 (12%)
19	CLA	B	806	-	65,73,73	1.45	7 (10%)	76,113,113	1.44	10 (13%)
19	CLA	BB	825	-	65,73,73	1.45	6 (9%)	76,113,113	1.39	9 (11%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
23	BCR	B	848	-	41,41,41	1.17	2 (4%)	56,56,56	1.34	8 (14%)
19	CLA	JJ	103	-	41,49,73	1.85	6 (14%)	47,84,113	1.54	7 (14%)
19	CLA	A2	805	-	60,68,73	1.51	6 (10%)	70,107,113	1.43	8 (11%)
22	LHG	B	853	-	48,48,48	0.75	1 (2%)	51,54,54	0.98	4 (7%)
20	CL0	A1	802	-	65,73,73	2.04	15 (23%)	76,113,113	2.44	28 (36%)
19	CLA	BB	831	-	45,53,73	1.80	8 (17%)	52,89,113	1.47	6 (11%)
23	BCR	J2	104	-	41,41,41	1.15	2 (4%)	56,56,56	1.31	10 (17%)
19	CLA	FF	301	-	60,68,73	1.53	6 (10%)	70,107,113	1.38	9 (12%)
19	CLA	B2	831	-	56,64,73	1.57	6 (10%)	65,102,113	1.41	7 (10%)
23	BCR	II	102	-	41,41,41	1.15	3 (7%)	56,56,56	1.19	5 (8%)
23	BCR	B	840	-	41,41,41	1.10	2 (4%)	56,56,56	1.20	6 (10%)
19	CLA	A	817	-	44,52,73	1.78	6 (13%)	49,87,113	1.54	6 (12%)
19	CLA	B1	829	-	56,64,73	1.58	9 (16%)	65,102,113	1.44	9 (13%)
19	CLA	A1	817	-	45,53,73	1.78	6 (13%)	52,89,113	1.54	7 (13%)
19	CLA	B1	805	-	64,72,73	1.47	9 (14%)	74,111,113	1.42	9 (12%)
19	CLA	A2	819	-	60,68,73	1.53	7 (11%)	70,107,113	1.39	9 (12%)
21	PQN	BB	837	-	34,34,34	0.66	0	42,45,45	0.85	0
19	CLA	AA	806	-	56,64,73	1.62	9 (16%)	65,102,113	1.57	10 (15%)
19	CLA	B	823	-	65,73,73	1.50	7 (10%)	76,113,113	1.37	7 (9%)
19	CLA	B	801	-	65,73,73	1.43	6 (9%)	76,113,113	1.64	12 (15%)
19	CLA	A	809	-	50,58,73	1.66	6 (12%)	58,95,113	1.53	10 (17%)
19	CLA	B	831	-	56,64,73	1.55	6 (10%)	65,102,113	1.40	8 (12%)
19	CLA	AA	822	-	51,59,73	1.68	6 (11%)	59,96,113	1.46	6 (10%)
23	BCR	J	104	-	41,41,41	1.12	2 (4%)	56,56,56	1.36	8 (14%)
19	CLA	B2	804	-	62,70,73	1.52	8 (12%)	72,109,113	1.43	9 (12%)
23	BCR	L	205	-	41,41,41	1.14	2 (4%)	56,56,56	1.32	9 (16%)
23	BCR	K	103	-	41,41,41	1.12	3 (7%)	56,56,56	1.24	7 (12%)
25	LMG	II	105	-	42,42,55	0.82	1 (2%)	50,50,63	1.24	6 (12%)
19	CLA	B1	803	-	65,73,73	1.46	9 (13%)	76,113,113	1.41	8 (10%)
19	CLA	B	819	-	41,49,73	1.81	7 (17%)	47,84,113	1.58	7 (14%)
19	CLA	B1	819	-	41,49,73	1.82	6 (14%)	47,84,113	1.58	7 (14%)
19	CLA	AA	801	-	65,73,73	1.45	9 (13%)	76,113,113	1.33	7 (9%)
23	BCR	I	101	-	41,41,41	1.18	2 (4%)	56,56,56	1.22	6 (10%)
19	CLA	A1	842	-	65,73,73	1.45	9 (13%)	76,113,113	1.58	12 (15%)
19	CLA	BB	855	-	65,73,73	1.49	9 (13%)	76,113,113	1.36	6 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	A	823	-	60,68,73	1.54	7 (11%)	70,107,113	1.51	10 (14%)
19	CLA	B	812	-	41,49,73	1.78	6 (14%)	47,84,113	1.70	8 (17%)
20	CL0	A	803	-	65,73,73	2.03	14 (21%)	76,113,113	2.52	26 (34%)
22	LHG	A1	845	-	48,48,48	0.78	2 (4%)	51,54,54	0.96	3 (5%)
23	BCR	BB	842	-	41,41,41	1.19	2 (4%)	56,56,56	1.19	5 (8%)
19	CLA	BB	811	-	61,69,73	1.51	7 (11%)	71,108,113	1.31	5 (7%)
19	CLA	AA	816	-	50,58,73	1.68	8 (16%)	58,95,113	1.49	9 (15%)
23	BCR	M1	101	-	41,41,41	1.14	3 (7%)	56,56,56	1.24	7 (12%)
19	CLA	A1	836	-	45,53,73	1.79	7 (15%)	52,89,113	1.56	7 (13%)
26	ECH	BB	840	-	42,42,42	0.89	0	55,58,58	2.44	18 (32%)
22	LHG	X1	103	-	48,48,48	0.76	1 (2%)	51,54,54	0.95	3 (5%)
19	CLA	A	816	-	50,58,73	1.67	6 (12%)	58,95,113	1.47	8 (13%)
19	CLA	B2	851	-	60,68,73	1.54	7 (11%)	70,107,113	1.68	16 (22%)
19	CLA	A	805	-	60,68,73	1.50	6 (10%)	70,107,113	1.45	8 (11%)
19	CLA	A1	805	-	56,64,73	1.65	9 (16%)	65,102,113	1.44	8 (12%)
19	CLA	A	810	1	65,73,73	1.48	7 (10%)	76,113,113	1.47	11 (14%)
19	CLA	J1	101	-	41,49,73	1.84	6 (14%)	47,84,113	1.55	7 (14%)
19	CLA	A2	827	-	65,73,73	1.49	8 (12%)	76,113,113	1.40	7 (9%)
19	CLA	A	852	-	65,73,73	1.48	9 (13%)	76,113,113	1.35	7 (9%)
19	CLA	BB	817	-	42,50,73	1.79	6 (14%)	48,85,113	1.60	6 (12%)
19	CLA	BB	833	-	65,73,73	1.45	8 (12%)	76,113,113	1.64	16 (21%)
19	CLA	AA	831	-	65,73,73	1.46	7 (10%)	76,113,113	1.33	7 (9%)
19	CLA	F2	302	-	42,50,73	1.83	7 (16%)	48,85,113	1.66	7 (14%)
19	CLA	B2	810	-	65,73,73	1.45	6 (9%)	76,113,113	1.35	8 (10%)
19	CLA	B	822	-	65,73,73	1.46	7 (10%)	76,113,113	1.36	6 (7%)
23	BCR	A	847	-	40,40,41	1.09	2 (5%)	54,54,56	1.28	11 (20%)
19	CLA	A2	839	-	52,60,73	1.62	6 (11%)	60,97,113	1.50	7 (11%)
23	BCR	M2	102	-	41,41,41	1.12	3 (7%)	56,56,56	1.24	9 (16%)
19	CLA	F1	305	-	45,53,73	1.76	6 (13%)	52,89,113	1.50	7 (13%)
19	CLA	B2	852	-	65,73,73	1.46	7 (10%)	76,113,113	1.54	10 (13%)
23	BCR	B1	839	-	41,41,41	1.10	2 (4%)	56,56,56	1.15	3 (5%)
19	CLA	A2	814	-	42,50,73	1.81	6 (14%)	48,85,113	1.52	7 (14%)
19	CLA	KK	102	-	46,54,73	1.73	6 (13%)	53,90,113	1.53	7 (13%)
23	BCR	A1	847	-	40,40,41	1.10	2 (5%)	54,54,56	1.26	7 (12%)
19	CLA	L	202	18	61,69,73	1.50	7 (11%)	71,108,113	1.61	11 (15%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
23	BCR	BB	841	-	41,41,41	1.09	2 (4%)	56,56,56	1.35	6 (10%)
19	CLA	B2	832	-	45,53,73	1.80	8 (17%)	52,89,113	1.45	5 (9%)
19	CLA	A2	823	-	60,68,73	1.53	7 (11%)	70,107,113	1.56	9 (12%)
19	CLA	B	817	-	42,50,73	1.80	6 (14%)	48,85,113	1.63	7 (14%)
19	CLA	B1	827	-	45,53,73	1.79	9 (20%)	52,89,113	1.50	7 (13%)
19	CLA	A2	821	-	65,73,73	1.43	7 (10%)	76,113,113	1.38	8 (10%)
22	LHG	B2	848	-	32,32,48	0.90	2 (6%)	35,38,54	0.98	2 (5%)
25	LMG	BB	844	-	55,55,55	0.69	1 (1%)	63,63,63	1.27	4 (6%)
19	CLA	A	844	-	41,49,73	1.81	7 (17%)	47,84,113	1.60	6 (12%)
19	CLA	B	858	-	65,73,73	1.49	8 (12%)	76,113,113	1.35	8 (10%)
19	CLA	A2	836	-	65,73,73	1.47	9 (13%)	76,113,113	1.42	7 (9%)
23	BCR	L	206	-	41,41,41	1.17	2 (4%)	56,56,56	1.24	8 (14%)
19	CLA	A2	832	-	65,73,73	1.46	7 (10%)	76,113,113	1.42	8 (10%)
23	BCR	K1	104	-	41,41,41	1.15	3 (7%)	56,56,56	1.18	6 (10%)
19	CLA	B1	814	-	59,67,73	1.56	6 (10%)	68,105,113	1.39	7 (10%)
19	CLA	B2	816	-	57,65,73	1.59	7 (12%)	66,103,113	1.40	7 (10%)
19	CLA	B2	805	-	64,72,73	1.47	8 (12%)	74,111,113	1.44	9 (12%)
19	CLA	A	815	-	55,63,73	1.57	6 (10%)	64,101,113	1.44	7 (10%)
19	CLA	F1	301	-	60,68,73	1.56	7 (11%)	70,107,113	1.50	10 (14%)
27	SF4	CC	101	-	0,12,12	-	-	-	-	-
19	CLA	A	827	-	65,73,73	1.50	9 (13%)	76,113,113	1.27	4 (5%)
19	CLA	B	824	-	55,63,73	1.59	6 (10%)	64,101,113	1.39	7 (10%)
19	CLA	AA	811	1	51,59,73	1.67	9 (17%)	59,96,113	1.60	10 (16%)
22	LHG	A1	846	-	37,37,48	0.81	1 (2%)	40,43,54	1.01	3 (7%)
19	CLA	K1	102	-	45,53,73	1.76	6 (13%)	52,89,113	1.66	9 (17%)
19	CLA	B	826	-	65,73,73	1.54	9 (13%)	76,113,113	1.47	12 (15%)
21	PQN	B	838	-	34,34,34	0.63	0	42,45,45	0.87	1 (2%)
19	CLA	A	839	-	52,60,73	1.62	6 (11%)	60,97,113	1.51	9 (15%)
19	CLA	A2	830	-	62,70,73	1.45	6 (9%)	72,109,113	1.38	8 (11%)
23	BCR	F1	303	-	41,41,41	1.09	2 (4%)	56,56,56	1.27	7 (12%)
19	CLA	BB	845	-	40,47,73	1.84	7 (17%)	45,80,113	1.65	7 (15%)
19	CLA	AA	817	-	44,52,73	1.78	6 (13%)	49,87,113	1.53	6 (12%)
19	CLA	B1	825	-	65,73,73	1.45	6 (9%)	76,113,113	1.41	9 (11%)
19	CLA	A1	804	-	60,68,73	1.51	6 (10%)	70,107,113	1.33	7 (10%)
19	CLA	B1	832	-	65,73,73	1.48	6 (9%)	76,113,113	1.42	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	B	805	-	64,72,73	1.47	8 (12%)	74,111,113	1.44	9 (12%)
23	BCR	I1	101	-	41,41,41	1.23	2 (4%)	56,56,56	1.27	8 (14%)
19	CLA	B1	821	2	65,73,73	1.43	7 (10%)	76,113,113	1.37	9 (11%)
19	CLA	A1	822	-	60,68,73	1.52	8 (13%)	70,107,113	1.47	10 (14%)
19	CLA	LL	201	18	61,69,73	1.50	7 (11%)	71,108,113	1.65	11 (15%)
25	LMG	M	102	-	46,46,55	0.82	0	54,54,63	1.28	7 (12%)
26	ECH	B1	840	-	42,42,42	0.82	1 (2%)	55,58,58	2.43	19 (34%)
19	CLA	A	807	-	65,73,73	1.47	7 (10%)	76,113,113	1.28	8 (10%)
19	CLA	BB	805	-	64,72,73	1.48	8 (12%)	74,111,113	1.43	9 (12%)
19	CLA	B	803	-	65,73,73	1.46	7 (10%)	76,113,113	1.44	8 (10%)
19	CLA	B	854	-	65,73,73	1.45	8 (12%)	76,113,113	1.35	4 (5%)
25	LMG	L1	210	-	55,55,55	0.68	0	63,63,63	1.28	6 (9%)
19	CLA	X	101	-	45,53,73	1.77	6 (13%)	52,89,113	1.55	6 (11%)
19	CLA	B1	830	-	56,64,73	1.58	5 (8%)	65,102,113	1.41	6 (9%)
23	BCR	A2	851	-	41,41,41	1.07	1 (2%)	56,56,56	1.47	10 (17%)
23	BCR	K1	106	-	41,41,41	1.14	2 (4%)	56,56,56	1.35	10 (17%)
19	CLA	B2	820	-	45,53,73	1.78	7 (15%)	52,89,113	1.71	10 (19%)
19	CLA	BB	804	-	62,70,73	1.53	8 (12%)	72,109,113	1.40	10 (13%)
19	CLA	A1	821	-	51,59,73	1.67	6 (11%)	59,96,113	1.48	9 (15%)
19	CLA	A2	811	-	51,59,73	1.66	9 (17%)	59,96,113	1.55	9 (15%)
23	BCR	BB	847	-	41,41,41	1.17	2 (4%)	56,56,56	1.34	7 (12%)
19	CLA	BB	827	-	45,53,73	1.77	9 (20%)	52,89,113	1.49	7 (13%)
23	BCR	A	853	-	41,41,41	1.13	2 (4%)	56,56,56	1.35	10 (17%)
19	CLA	J	103	-	41,49,73	1.86	7 (17%)	47,84,113	1.52	5 (10%)
19	CLA	L1	205	10	61,69,73	1.51	6 (9%)	71,108,113	1.46	11 (15%)
19	CLA	AA	810	-	65,73,73	1.48	7 (10%)	76,113,113	1.46	12 (15%)
23	BCR	AA	849	-	41,41,41	1.14	2 (4%)	56,56,56	1.20	7 (12%)
19	CLA	A	830	-	62,70,73	1.46	7 (11%)	72,109,113	1.38	8 (11%)
22	LHG	L	207	-	33,33,48	0.94	3 (9%)	36,39,54	1.05	4 (11%)
19	CLA	AA	841	-	46,54,73	1.68	6 (13%)	53,90,113	1.55	7 (13%)
23	BCR	BB	843	-	41,41,41	1.21	4 (9%)	56,56,56	1.19	6 (10%)
19	CLA	A2	826	-	45,53,73	1.76	8 (17%)	52,89,113	1.61	8 (15%)
19	CLA	A1	839	-	56,64,73	1.56	7 (12%)	65,102,113	1.39	7 (10%)
19	CLA	A2	842	-	65,73,73	1.46	8 (12%)	76,113,113	1.47	10 (13%)
23	BCR	L1	201	-	41,41,41	1.17	2 (4%)	56,56,56	1.23	6 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	A2	813	-	65,73,73	1.47	6 (9%)	76,113,113	1.39	8 (10%)
19	CLA	B2	829	-	65,73,73	1.50	6 (9%)	76,113,113	1.27	7 (9%)
19	CLA	AA	833	-	50,58,73	1.68	8 (16%)	58,95,113	1.37	5 (8%)
19	CLA	B2	830	-	56,64,73	1.57	9 (16%)	65,102,113	1.45	9 (13%)
23	BCR	B2	840	-	41,41,41	1.09	2 (4%)	56,56,56	1.20	5 (8%)
19	CLA	B1	811	-	61,69,73	1.52	6 (9%)	71,108,113	1.28	5 (7%)
19	CLA	KK	101	-	45,53,73	1.78	6 (13%)	52,89,113	1.66	9 (17%)
23	BCR	I2	102	-	41,41,41	1.16	2 (4%)	56,56,56	1.23	6 (10%)
19	CLA	BB	808	-	60,68,73	1.52	7 (11%)	70,107,113	1.37	7 (10%)
22	LHG	AA	847	-	37,37,48	0.81	1 (2%)	40,43,54	1.01	3 (7%)
19	CLA	B	802	-	65,73,73	1.46	8 (12%)	76,113,113	1.34	8 (10%)
23	BCR	B1	838	-	41,41,41	1.13	2 (4%)	56,56,56	1.32	10 (17%)
23	BCR	B	839	-	41,41,41	1.14	2 (4%)	56,56,56	1.27	8 (14%)
19	CLA	B1	817	-	42,50,73	1.81	6 (14%)	48,85,113	1.58	6 (12%)
22	LHG	L1	211	-	32,32,48	0.96	3 (9%)	35,38,54	1.02	3 (8%)
19	CLA	A1	840	-	46,54,73	1.69	6 (13%)	53,90,113	1.56	6 (11%)
26	ECH	B2	841	-	42,42,42	0.80	1 (2%)	55,58,58	2.41	18 (32%)
19	CLA	BB	856	-	60,68,73	1.52	8 (13%)	70,107,113	1.70	16 (22%)
19	CLA	FF	302	-	42,50,73	1.83	6 (14%)	48,85,113	1.63	7 (14%)
19	CLA	A2	824	-	45,53,73	1.75	6 (13%)	52,89,113	1.60	8 (15%)
21	PQN	A2	843	-	34,34,34	0.63	0	42,45,45	1.09	3 (7%)
19	CLA	A1	837	1	44,52,73	1.77	6 (13%)	49,87,113	1.65	8 (16%)
22	LHG	X2	102	-	39,39,48	0.81	2 (5%)	42,45,54	0.93	2 (4%)
19	CLA	B2	836	-	65,73,73	1.48	9 (13%)	76,113,113	1.29	6 (7%)
19	CLA	AA	837	-	45,53,73	1.79	7 (15%)	52,89,113	1.55	7 (13%)
23	BCR	A1	848	-	41,41,41	1.14	2 (4%)	56,56,56	1.22	6 (10%)
23	BCR	FF	304	-	41,41,41	1.22	2 (4%)	56,56,56	1.29	9 (16%)
19	CLA	AA	825	-	52,60,73	1.64	6 (11%)	60,97,113	1.44	7 (11%)
19	CLA	A1	832	-	50,58,73	1.68	8 (16%)	58,95,113	1.45	7 (12%)
19	CLA	A1	811	-	46,54,73	1.73	7 (15%)	53,90,113	1.54	8 (15%)
19	CLA	F1	302	-	42,50,73	1.82	7 (16%)	48,85,113	1.65	8 (16%)
19	CLA	A2	833	-	50,58,73	1.69	8 (16%)	58,95,113	1.39	8 (13%)
19	CLA	JJ	101	8	41,49,73	1.84	6 (14%)	47,84,113	1.58	7 (14%)
19	CLA	A	822	-	51,59,73	1.68	5 (9%)	59,96,113	1.48	7 (11%)
19	CLA	L1	206	-	65,73,73	1.47	8 (12%)	76,113,113	1.42	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
19	CLA	AA	804	-	65,73,73	1.46	6 (9%)	76,113,113	1.34	7 (9%)
22	LHG	A2	846	-	37,37,48	0.82	1 (2%)	40,43,54	1.02	3 (7%)

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
19	CLA	B1	824	-	1/1/18/20	13/25/103/115	-
19	CLA	B	821	2	1/1/20/20	14/37/115/115	-
23	BCR	B1	842	-	-	16/29/63/63	0/2/2/2
19	CLA	B1	826	-	1/1/20/20	15/37/115/115	-
19	CLA	A1	830	-	1/1/20/20	14/37/115/115	-
19	CLA	BB	803	-	1/1/20/20	14/37/115/115	-
19	CLA	A1	808	-	1/1/17/20	1/19/97/115	-
19	CLA	B	832	-	1/1/15/20	4/13/91/115	-
19	CLA	AA	808	-	1/1/20/20	14/37/115/115	-
23	BCR	A	851	-	-	19/29/63/63	0/2/2/2
23	BCR	A2	849	-	-	13/29/63/63	0/2/2/2
19	CLA	A	808	-	1/1/20/20	13/37/115/115	-
23	BCR	II	101	-	-	17/29/63/63	0/2/2/2
19	CLA	BB	813	-	1/1/14/20	6/10/88/115	-
19	CLA	B1	828	-	1/1/20/20	11/37/115/115	-
19	CLA	A	806	-	1/1/18/20	8/27/105/115	-
23	BCR	K2	103	-	-	12/29/63/63	0/2/2/2
23	BCR	M	101	-	-	22/29/63/63	0/2/2/2
19	CLA	B2	808	-	1/1/19/20	11/31/109/115	-
22	LHG	BB	851	-	-	20/53/53/53	-
25	LMG	B	851	-	-	17/50/70/70	0/1/1/1
19	CLA	BB	809	-	1/1/15/20	6/13/91/115	-
23	BCR	F2	304	-	-	15/29/63/63	0/2/2/2
19	CLA	A2	809	-	1/1/17/20	2/19/97/115	-
19	CLA	B2	806	2	1/1/20/20	15/37/115/115	-
23	BCR	B2	842	-	-	21/29/63/63	0/2/2/2
22	LHG	X1	102	-	-	17/44/44/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	B1	802	-	1/1/20/20	13/37/115/115	-
19	CLA	A	801	-	1/1/20/20	11/37/115/115	-
19	CLA	B2	822	-	1/1/20/20	7/37/115/115	-
19	CLA	B	860	-	1/1/20/20	15/37/115/115	-
19	CLA	A2	840	-	1/1/18/20	4/27/105/115	-
19	CLA	B2	817	-	1/1/14/20	2/10/88/115	-
19	CLA	B	835	-	1/1/15/20	1/13/91/115	-
19	CLA	B	837	-	1/1/19/20	10/31/109/115	-
23	BCR	A	850	-	-	15/29/63/63	0/2/2/2
19	CLA	A2	828	-	1/1/18/20	11/27/105/115	-
19	CLA	AA	842	-	1/1/20/20	10/37/115/115	-
19	CLA	AA	840	-	1/1/18/20	7/27/105/115	-
19	CLA	BB	834	-	1/1/15/20	1/13/91/115	-
19	CLA	AA	838	-	1/1/14/20	4/11/90/115	-
23	BCR	J1	104	-	-	18/29/63/63	0/2/2/2
23	BCR	LL	204	-	-	18/29/63/63	0/2/2/2
19	CLA	A	842	-	1/1/20/20	11/37/115/115	-
19	CLA	B1	833	-	1/1/19/20	18/37/115/115	-
19	CLA	BB	812	-	1/1/14/20	6/8/86/115	-
19	CLA	A	838	-	1/1/14/20	5/11/90/115	-
23	BCR	JJ	104	-	-	16/29/63/63	0/2/2/2
22	LHG	A	845	-	-	19/53/53/53	-
19	CLA	A2	807	-	1/1/20/20	16/37/115/115	-
23	BCR	L1	208	-	-	17/29/63/63	0/2/2/2
19	CLA	AA	818	-	1/1/15/20	3/13/91/115	-
19	CLA	A2	802	-	1/1/15/20	9/15/93/115	-
19	CLA	B1	809	-	1/1/15/20	6/13/91/115	-
22	LHG	B1	847	-	-	14/37/37/53	-
19	CLA	A2	806	-	1/1/18/20	9/27/105/115	-
19	CLA	B1	813	-	1/1/14/20	6/10/88/115	-
19	CLA	A2	837	-	1/1/15/20	6/13/91/115	-
19	CLA	A2	822	-	1/1/17/20	5/21/99/115	-
19	CLA	B2	823	-	1/1/20/20	17/37/115/115	-
21	PQN	A1	843	-	-	8/23/43/43	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A1	829	-	1/1/19/20	16/34/112/115	-
19	CLA	B	830	-	1/1/18/20	4/27/105/115	-
23	BCR	AA	848	-	-	13/27/61/63	0/2/2/2
23	BCR	AA	854	-	-	18/29/63/63	0/2/2/2
19	CLA	B1	845	-	1/1/12/20	0/5/79/115	-
19	CLA	BB	824	-	1/1/18/20	12/25/103/115	-
23	BCR	J	102	-	-	19/29/63/63	0/2/2/2
23	BCR	J1	102	-	-	19/29/63/63	0/2/2/2
19	CLA	BB	826	-	1/1/20/20	17/37/115/115	-
19	CLA	A1	824	-	1/1/14/20	2/10/88/115	-
27	SF4	C2	102	-	-	-	0/6/5/5
19	CLA	A1	833	-	1/1/14/20	4/8/86/115	-
19	CLA	BB	820	-	1/1/15/20	10/13/91/115	-
19	CLA	A	813	-	1/1/20/20	9/37/115/115	-
19	CLA	B1	815	-	1/1/20/20	16/37/115/115	-
19	CLA	LL	202	-	1/1/20/20	6/37/115/115	-
27	SF4	C	101	-	-	-	0/6/5/5
22	LHG	XX	102	-	-	18/44/44/53	-
19	CLA	A2	818	-	1/1/15/20	3/13/91/115	-
19	CLA	B2	809	-	1/1/15/20	6/13/91/115	-
19	CLA	A1	809	-	1/1/20/20	11/37/115/115	-
19	CLA	LL	203	-	1/1/14/20	8/10/88/115	-
19	CLA	B2	815	-	1/1/20/20	15/37/115/115	-
22	LHG	BB	850	-	-	13/37/37/53	-
19	CLA	BB	807	-	1/1/20/20	11/37/115/115	-
27	SF4	BB	857	-	-	-	0/6/5/5
19	CLA	F	301	-	1/1/19/20	12/31/109/115	-
19	CLA	A1	828	-	1/1/20/20	20/37/115/115	-
23	BCR	B	842	-	-	18/29/63/63	0/2/2/2
19	CLA	A	811	1	1/1/17/20	6/21/99/115	-
19	CLA	AA	834	-	1/1/14/20	4/8/86/115	-
27	SF4	B1	851	-	-	-	0/6/5/5
19	CLA	B	820	-	1/1/15/20	9/13/91/115	-
19	CLA	BB	819	-	1/1/14/20	2/8/86/115	-
19	CLA	B1	836	-	1/1/19/20	10/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A2	801	-	1/1/20/20	13/37/115/115	-
19	CLA	B2	811	-	1/1/19/20	15/33/111/115	-
19	CLA	A	824	-	1/1/15/20	9/13/91/115	-
19	CLA	B1	807	-	1/1/20/20	11/37/115/115	-
19	CLA	A1	813	-	1/1/14/20	4/10/88/115	-
23	BCR	F	303	-	-	18/29/63/63	0/2/2/2
27	SF4	C	102	3	-	-	0/6/5/5
25	LMG	B1	844	-	-	20/50/70/70	0/1/1/1
19	CLA	B1	806	-	1/1/20/20	15/37/115/115	-
19	CLA	A2	838	-	1/1/14/20	4/11/90/115	-
19	CLA	AA	813	-	1/1/20/20	9/37/115/115	-
19	CLA	B2	827	-	1/1/15/20	4/13/91/115	-
23	BCR	F1	306	-	-	25/29/63/63	0/2/2/2
19	CLA	A1	827	-	1/1/18/20	11/27/105/115	-
19	CLA	AA	827	-	1/1/20/20	16/37/115/115	-
19	CLA	A2	831	-	1/1/20/20	13/37/115/115	-
19	CLA	A2	816	-	1/1/17/20	6/19/97/115	-
19	CLA	K1	105	9	1/1/13/20	6/8/82/115	-
19	CLA	A	814	-	1/1/14/20	3/10/88/115	-
19	CLA	A1	819	-	-	9/29/107/115	-
19	CLA	AA	845	-	1/1/14/20	3/8/86/115	-
19	CLA	AA	826	-	1/1/15/20	9/13/91/115	-
23	BCR	KK	103	-	-	19/29/63/63	0/2/2/2
19	CLA	AA	820	-	1/1/18/20	11/29/107/115	-
19	CLA	B1	801	-	1/1/20/20	20/37/115/115	-
19	CLA	A2	835	-	1/1/20/20	7/37/115/115	-
19	CLA	B	834	-	1/1/19/20	18/37/115/115	-
28	DGD	B	856	-	-	22/31/71/95	0/2/2/2
20	CL0	AA	803	-	4/4/25/25	15/37/135/135	-
23	BCR	L2	207	-	-	19/29/63/63	0/2/2/2
19	CLA	BB	802	-	1/1/20/20	16/37/115/115	-
19	CLA	B	813	-	1/1/14/20	6/10/88/115	-
19	CLA	B1	848	-	1/1/20/20	16/37/115/115	-
19	CLA	A	821	-	1/1/20/20	13/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
21	PQN	B2	838	-	-	7/23/43/43	0/2/2/2
23	BCR	B2	839	-	-	19/29/63/63	0/2/2/2
19	CLA	B1	835	-	1/1/20/20	10/37/115/115	-
27	SF4	B2	853	-	-	-	0/6/5/5
19	CLA	AA	812	-	1/1/15/20	7/15/93/115	-
19	CLA	A1	806	-	1/1/20/20	16/37/115/115	-
19	CLA	A	837	-	1/1/15/20	4/13/91/115	-
19	CLA	A	841	-	1/1/15/20	5/15/93/115	-
19	CLA	A2	815	-	1/1/18/20	9/25/103/115	-
19	CLA	B1	831	-	1/1/15/20	6/13/91/115	-
19	CLA	B1	816	-	1/1/18/20	9/28/106/115	-
19	CLA	AA	829	-	1/1/20/20	14/37/115/115	-
19	CLA	A	825	-	1/1/17/20	3/22/100/115	-
19	CLA	BB	836	-	1/1/19/20	10/31/109/115	-
19	CLA	A	833	-	1/1/17/20	5/19/97/115	-
19	CLA	A	829	-	1/1/20/20	14/37/115/115	-
19	CLA	K2	102	-	1/1/15/20	1/13/91/115	-
19	CLA	J1	103	-	1/1/14/20	0/8/86/115	-
19	CLA	L1	207	-	1/1/20/20	12/37/115/115	-
19	CLA	K	102	-	1/1/15/20	11/15/93/115	-
19	CLA	B	859	-	1/1/19/20	13/31/109/115	-
19	CLA	BB	830	-	1/1/18/20	8/27/105/115	-
19	CLA	J	101	8	1/1/14/20	3/8/86/115	-
19	CLA	A1	814	-	1/1/18/20	9/25/103/115	-
19	CLA	B2	819	-	1/1/14/20	3/8/86/115	-
19	CLA	A	828	-	1/1/18/20	11/27/105/115	-
19	CLA	A2	841	-	1/1/15/20	6/15/93/115	-
19	CLA	A	835	-	1/1/20/20	8/37/115/115	-
28	DGD	BB	854	-	-	21/31/71/95	0/2/2/2
19	CLA	K1	103	-	1/1/15/20	8/15/93/115	-
19	CLA	A2	825	-	1/1/14/20	3/10/88/115	-
19	CLA	A1	823	-	1/1/15/20	6/13/91/115	-
19	CLA	A1	831	-	1/1/20/20	8/37/115/115	-
19	CLA	A2	810	1	1/1/20/20	10/37/115/115	-
19	CLA	BB	852	-	1/1/20/20	13/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A1	818	-	1/1/19/20	13/31/109/115	-
19	CLA	F	302	-	1/1/14/20	4/10/88/115	-
23	BCR	B2	843	-	-	18/29/63/63	0/2/2/2
19	CLA	A1	807	-	1/1/20/20	14/37/115/115	-
23	BCR	F2	303	-	-	21/29/63/63	0/2/2/2
19	CLA	B2	821	-	1/1/20/20	14/37/115/115	-
19	CLA	BB	832	-	-	12/37/115/115	-
19	CLA	B	814	-	1/1/18/20	10/30/108/115	-
23	BCR	B1	843	-	-	13/29/63/63	0/2/2/2
19	CLA	X2	101	-	1/1/15/20	4/13/91/115	-
19	CLA	AA	807	-	1/1/20/20	16/37/115/115	-
19	CLA	AA	843	-	1/1/20/20	15/37/115/115	-
23	BCR	B1	841	-	-	20/29/63/63	0/2/2/2
19	CLA	A	804	-	1/1/20/20	17/37/115/115	-
19	CLA	AA	805	-	1/1/19/20	8/31/109/115	-
19	CLA	BB	818	-	1/1/14/20	2/8/86/115	-
25	LMG	B1	852	-	-	5/25/45/70	0/1/1/1
23	BCR	A1	851	-	-	19/29/63/63	0/2/2/2
19	CLA	AA	819	-	1/1/19/20	13/31/109/115	-
19	CLA	BB	814	-	1/1/18/20	11/30/108/115	-
23	BCR	I2	103	-	-	18/29/63/63	0/2/2/2
19	CLA	A	819	-	1/1/19/20	11/31/109/115	-
25	LMG	B2	854	-	-	5/25/45/70	0/1/1/1
27	SF4	C1	101	-	-	-	0/6/5/5
20	CL0	A2	803	-	4/4/25/25	16/37/135/135	-
19	CLA	L2	206	-	1/1/20/20	14/37/115/115	-
19	CLA	B	810	-	1/1/20/20	15/37/115/115	-
19	CLA	AA	836	-	1/1/20/20	16/37/115/115	-
19	CLA	AA	853	-	1/1/20/20	18/37/115/115	-
19	CLA	BB	823	-	1/1/20/20	14/37/115/115	-
19	CLA	A	836	-	1/1/20/20	13/37/115/115	-
19	CLA	B2	803	-	1/1/20/20	13/37/115/115	-
19	CLA	B	807	-	1/1/20/20	11/37/115/115	-
19	CLA	BB	835	-	1/1/20/20	9/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	SF4	C2	101	-	-	-	0/6/5/5
19	CLA	BB	821	-	1/1/20/20	17/37/115/115	-
19	CLA	A2	852	-	1/1/20/20	13/37/115/115	-
19	CLA	AA	830	-	1/1/19/20	14/34/112/115	-
19	CLA	B2	835	-	1/1/15/20	2/13/91/115	-
19	CLA	B1	849	-	1/1/20/20	4/37/115/115	-
19	CLA	A1	835	-	1/1/20/20	11/37/115/115	-
23	BCR	I2	101	-	-	17/29/63/63	0/2/2/2
23	BCR	J2	102	-	-	18/29/63/63	0/2/2/2
19	CLA	A2	804	-	1/1/20/20	19/37/115/115	-
19	CLA	A2	844	-	1/1/14/20	3/8/86/115	-
23	BCR	A2	847	-	-	12/27/61/63	0/2/2/2
23	BCR	A	849	-	-	18/29/63/63	0/2/2/2
23	BCR	A2	853	-	-	17/29/63/63	0/2/2/2
19	CLA	B1	820	-	1/1/15/20	9/13/91/115	-
25	LMG	B2	845	-	-	21/50/70/70	0/1/1/1
27	SF4	CC	102	-	-	-	0/6/5/5
23	BCR	II	104	-	-	18/29/63/63	0/2/2/2
19	CLA	B	828	-	1/1/15/20	4/13/91/115	-
23	BCR	A	848	-	-	18/29/63/63	0/2/2/2
19	CLA	B2	801	-	1/1/20/20	18/37/115/115	-
19	CLA	B2	846	-	1/1/12/20	0/5/79/115	-
19	CLA	B1	834	-	1/1/15/20	1/13/91/115	-
19	CLA	B1	810	-	1/1/20/20	16/37/115/115	-
23	BCR	FF	306	-	-	22/29/63/63	0/2/2/2
19	CLA	B	816	-	1/1/18/20	9/28/106/115	-
19	CLA	B1	804	-	1/1/19/20	10/34/112/115	-
19	CLA	B	829	-	1/1/20/20	14/37/115/115	-
23	BCR	MM	101	-	-	23/29/63/63	0/2/2/2
19	CLA	A1	815	-	1/1/17/20	9/19/97/115	-
19	CLA	AA	839	-	1/1/17/20	8/22/100/115	-
19	CLA	A2	808	-	1/1/20/20	15/37/115/115	-
19	CLA	AA	814	-	1/1/14/20	3/10/88/115	-
23	BCR	AA	852	-	-	19/29/63/63	0/2/2/2
19	CLA	B2	813	-	1/1/14/20	6/10/88/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A2	834	-	1/1/14/20	4/8/86/115	-
23	BCR	JJ	102	-	-	20/29/63/63	0/2/2/2
23	BCR	A2	848	-	-	15/29/63/63	0/2/2/2
19	CLA	XX	101	-	1/1/15/20	7/13/91/115	-
22	LHG	LL	205	-	-	13/38/38/53	-
22	LHG	X	102	-	-	19/44/44/53	-
19	CLA	AA	823	-	1/1/19/20	13/31/109/115	-
22	LHG	L2	208	-	-	17/39/39/53	-
19	CLA	BB	815	-	1/1/20/20	17/37/115/115	-
19	CLA	A	834	-	1/1/14/20	4/8/86/115	-
19	CLA	A1	810	-	1/1/17/20	7/21/99/115	-
19	CLA	A2	817	-	1/1/14/20	1/11/90/115	-
19	CLA	AA	821	-	1/1/20/20	15/37/115/115	-
19	CLA	A1	852	-	1/1/20/20	18/37/115/115	-
19	CLA	A1	841	-	1/1/20/20	9/37/115/115	-
19	CLA	B	836	-	1/1/20/20	9/37/115/115	-
19	CLA	A1	844	-	1/1/14/20	3/8/86/115	-
19	CLA	B	808	-	1/1/19/20	10/31/109/115	-
26	ECH	B	841	-	-	16/29/66/66	0/2/2/2
23	BCR	A1	853	-	-	16/29/63/63	0/2/2/2
22	LHG	X2	103	-	-	22/53/53/53	-
23	BCR	AA	851	-	-	15/29/63/63	0/2/2/2
19	CLA	AA	832	-	1/1/20/20	6/37/115/115	-
23	BCR	A1	849	-	-	13/29/63/63	0/2/2/2
19	CLA	B1	850	-	1/1/19/20	11/31/109/115	-
19	CLA	B1	808	-	1/1/19/20	11/31/109/115	-
19	CLA	B2	849	-	1/1/20/20	14/37/115/115	-
19	CLA	A	832	-	1/1/20/20	9/37/115/115	-
19	CLA	B	811	-	1/1/19/20	16/33/111/115	-
23	BCR	B2	844	-	-	13/29/63/63	0/2/2/2
19	CLA	A1	826	-	1/1/20/20	14/37/115/115	-
22	LHG	B	852	-	-	14/37/37/53	-
19	CLA	B1	822	-	1/1/20/20	2/37/115/115	-
19	CLA	A1	820	-	1/1/20/20	18/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
23	BCR	A2	850	-	-	13/29/63/63	0/2/2/2
19	CLA	K	101	-	1/1/15/20	1/13/91/115	-
19	CLA	L2	204	16	1/1/19/20	16/33/111/115	-
23	BCR	A1	850	-	-	14/29/63/63	0/2/2/2
25	LMG	B2	847	-	-	9/27/47/70	0/1/1/1
23	BCR	AA	850	-	-	16/29/63/63	0/2/2/2
19	CLA	J2	103	-	1/1/14/20	0/8/86/115	-
23	BCR	FF	303	-	-	19/29/63/63	0/2/2/2
19	CLA	L	204	-	1/1/20/20	17/37/115/115	-
19	CLA	B2	834	-	1/1/19/20	20/37/115/115	-
21	PQN	AA	844	-	-	4/23/43/43	0/2/2/2
19	CLA	A1	834	-	1/1/20/20	7/37/115/115	-
19	CLA	B2	812	-	1/1/14/20	4/8/86/115	-
23	BCR	F	304	-	-	15/29/63/63	0/2/2/2
19	CLA	A	812	-	1/1/15/20	7/15/93/115	-
19	CLA	BB	829	-	1/1/18/20	7/27/105/115	-
23	BCR	B	844	-	-	15/29/63/63	0/2/2/2
19	CLA	B2	828	-	1/1/15/20	1/13/91/115	-
19	CLA	AA	815	-	1/1/18/20	9/25/103/115	-
19	CLA	B	818	-	1/1/14/20	4/8/86/115	-
25	LMG	B	845	-	-	21/50/70/70	0/1/1/1
19	CLA	J2	101	8	1/1/14/20	3/8/86/115	-
19	CLA	AA	809	-	1/1/17/20	2/19/97/115	-
23	BCR	L1	209	-	-	18/29/63/63	0/2/2/2
25	LMG	I1	102	-	-	18/30/50/70	0/1/1/1
19	CLA	A	826	-	1/1/15/20	9/13/91/115	-
19	CLA	A	820	-	-	11/29/107/115	-
25	LMG	B1	846	-	-	10/27/47/70	0/1/1/1
23	BCR	F2	305	-	-	26/29/63/63	0/2/2/2
19	CLA	A	840	-	1/1/18/20	5/27/105/115	-
19	CLA	L	203	-	1/1/20/20	6/37/115/115	-
19	CLA	A2	812	-	1/1/15/20	5/15/93/115	-
19	CLA	B2	826	-	1/1/20/20	16/37/115/115	-
23	BCR	AA	855	-	-	18/29/63/63	0/2/2/2
19	CLA	F2	301	-	1/1/19/20	10/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A	818	-	1/1/15/20	3/13/91/115	-
23	BCR	A	854	-	-	18/29/63/63	0/2/2/2
19	CLA	B	804	-	1/1/19/20	8/34/112/115	-
19	CLA	L2	205	-	1/1/18/20	6/30/108/115	-
19	CLA	B	833	-	-	12/37/115/115	-
27	SF4	B	861	-	-	-	0/6/5/5
19	CLA	B2	818	-	1/1/14/20	2/8/86/115	-
22	LHG	AA	846	-	-	19/53/53/53	-
19	CLA	B2	807	-	1/1/20/20	14/37/115/115	-
19	CLA	B1	823	-	1/1/20/20	16/37/115/115	-
19	CLA	B	809	-	1/1/15/20	4/13/91/115	-
19	CLA	B2	850	-	1/1/20/20	4/37/115/115	-
22	LHG	A	846	-	-	12/42/42/53	-
21	PQN	A	843	-	-	8/23/43/43	0/2/2/2
19	CLA	B1	812	-	1/1/14/20	6/8/86/115	-
19	CLA	B1	818	-	1/1/14/20	2/8/86/115	-
19	CLA	K2	104	-	1/1/13/20	4/7/81/115	-
21	PQN	B1	837	-	-	7/23/43/43	0/2/2/2
19	CLA	AA	824	-	1/1/15/20	9/13/91/115	-
19	CLA	A2	820	-	1/1/18/20	11/29/107/115	-
19	CLA	B2	824	-	1/1/18/20	13/25/103/115	-
27	SF4	C1	102	-	-	-	0/6/5/5
23	BCR	BB	839	-	-	9/29/63/63	0/2/2/2
19	CLA	B	846	-	1/1/12/20	1/5/79/115	-
19	CLA	A1	801	-	1/1/20/20	13/37/115/115	-
19	CLA	FF	305	-	1/1/20/20	11/37/115/115	-
23	BCR	F1	304	-	-	15/29/63/63	0/2/2/2
19	CLA	BB	810	-	1/1/20/20	16/37/115/115	-
23	BCR	K2	105	-	-	17/29/63/63	0/2/2/2
19	CLA	X1	101	-	1/1/15/20	4/13/91/115	-
19	CLA	B	815	-	1/1/20/20	18/37/115/115	-
19	CLA	B2	814	-	1/1/18/20	12/30/108/115	-
19	CLA	B	827	-	1/1/15/20	8/13/91/115	-
19	CLA	A2	829	-	1/1/20/20	17/37/115/115	-
19	CLA	A1	838	-	1/1/17/20	8/22/100/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A1	825	-	1/1/15/20	9/13/91/115	-
19	CLA	A	831	-	1/1/20/20	13/37/115/115	-
25	LMG	I2	105	-	-	10/29/49/70	0/1/1/1
19	CLA	A1	812	-	1/1/20/20	9/37/115/115	-
19	CLA	BB	806	-	1/1/20/20	15/37/115/115	-
19	CLA	A1	816	-	1/1/14/20	2/11/90/115	-
23	BCR	BB	838	-	-	15/29/63/63	0/2/2/2
23	BCR	F	305	-	-	23/29/63/63	0/2/2/2
19	CLA	A1	803	-	1/1/20/20	17/37/115/115	-
23	BCR	B	843	-	-	16/29/63/63	0/2/2/2
19	CLA	AA	828	-	1/1/18/20	11/27/105/115	-
19	CLA	BB	822	-	1/1/20/20	8/37/115/115	-
19	CLA	B2	802	-	1/1/20/20	9/37/115/115	-
19	CLA	AA	835	-	1/1/20/20	8/37/115/115	-
19	CLA	B2	837	-	1/1/19/20	10/31/109/115	-
19	CLA	BB	828	-	1/1/15/20	1/13/91/115	-
19	CLA	BB	801	-	1/1/20/20	21/37/115/115	-
19	CLA	B	825	-	1/1/20/20	20/37/115/115	-
19	CLA	B2	825	-	1/1/20/20	20/37/115/115	-
19	CLA	B2	833	-	-	11/37/115/115	-
22	LHG	A2	845	-	-	16/53/53/53	-
23	BCR	I	102	-	-	10/29/63/63	0/2/2/2
19	CLA	BB	816	-	1/1/18/20	8/28/106/115	-
19	CLA	B	806	-	1/1/20/20	15/37/115/115	-
19	CLA	BB	825	-	1/1/20/20	20/37/115/115	-
23	BCR	B	848	-	-	16/29/63/63	0/2/2/2
19	CLA	JJ	103	-	1/1/14/20	0/8/86/115	-
19	CLA	A2	805	-	1/1/19/20	8/31/109/115	-
22	LHG	B	853	-	-	23/53/53/53	-
20	CL0	A1	802	-	4/4/25/25	13/37/135/135	-
19	CLA	BB	831	-	1/1/15/20	4/13/91/115	-
23	BCR	J2	104	-	-	16/29/63/63	0/2/2/2
19	CLA	FF	301	-	1/1/19/20	13/31/109/115	-
19	CLA	B2	831	-	1/1/18/20	9/27/105/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
23	BCR	II	102	-	-	9/29/63/63	0/2/2/2
23	BCR	B	840	-	-	9/29/63/63	0/2/2/2
19	CLA	A	817	-	1/1/14/20	3/11/90/115	-
19	CLA	B1	829	-	1/1/18/20	5/27/105/115	-
19	CLA	A1	817	-	1/1/15/20	3/13/91/115	-
19	CLA	B1	805	-	1/1/19/20	9/36/114/115	-
19	CLA	A2	819	-	1/1/19/20	9/31/109/115	-
21	PQN	BB	837	-	-	7/23/43/43	0/2/2/2
19	CLA	AA	806	-	1/1/18/20	8/27/105/115	-
19	CLA	B	823	-	1/1/20/20	14/37/115/115	-
19	CLA	B	801	-	1/1/20/20	17/37/115/115	-
19	CLA	A	809	-	1/1/17/20	2/19/97/115	-
19	CLA	B	831	-	1/1/18/20	5/27/105/115	-
19	CLA	AA	822	-	-	8/21/99/115	-
23	BCR	J	104	-	-	16/29/63/63	0/2/2/2
19	CLA	B2	804	-	1/1/19/20	10/34/112/115	-
23	BCR	L	205	-	-	17/29/63/63	0/2/2/2
23	BCR	K	103	-	-	19/29/63/63	0/2/2/2
25	LMG	II	105	-	-	20/37/57/70	0/1/1/1
19	CLA	B1	803	-	1/1/20/20	13/37/115/115	-
19	CLA	B	819	-	1/1/14/20	2/8/86/115	-
19	CLA	B1	819	-	1/1/14/20	3/8/86/115	-
19	CLA	AA	801	-	1/1/20/20	13/37/115/115	-
23	BCR	I	101	-	-	20/29/63/63	0/2/2/2
19	CLA	A1	842	-	1/1/20/20	15/37/115/115	-
19	CLA	BB	855	-	1/1/20/20	6/37/115/115	-
19	CLA	A	823	-	1/1/19/20	14/31/109/115	-
19	CLA	B	812	-	1/1/14/20	4/8/86/115	-
20	CL0	A	803	-	4/4/25/25	18/37/135/135	-
22	LHG	A1	845	-	-	20/53/53/53	-
23	BCR	BB	842	-	-	16/29/63/63	0/2/2/2
19	CLA	BB	811	-	1/1/19/20	18/33/111/115	-
19	CLA	AA	816	-	1/1/17/20	9/19/97/115	-
23	BCR	M1	101	-	-	17/29/63/63	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A1	836	-	1/1/15/20	6/13/91/115	-
26	ECH	BB	840	-	-	16/29/66/66	0/2/2/2
22	LHG	X1	103	-	-	20/53/53/53	-
19	CLA	A	816	-	1/1/17/20	7/19/97/115	-
19	CLA	B2	851	-	1/1/19/20	11/31/109/115	-
19	CLA	A	805	-	1/1/19/20	8/31/109/115	-
19	CLA	A	810	1	1/1/20/20	11/37/115/115	-
19	CLA	A1	805	-	-	6/27/105/115	-
19	CLA	J1	101	-	1/1/13/20	3/8/86/115	-
19	CLA	A2	827	-	1/1/20/20	14/37/115/115	-
19	CLA	A	852	-	1/1/20/20	16/37/115/115	-
19	CLA	BB	817	-	1/1/14/20	1/10/88/115	-
19	CLA	BB	833	-	1/1/19/20	16/37/115/115	-
19	CLA	AA	831	-	1/1/20/20	14/37/115/115	-
19	CLA	F2	302	-	1/1/14/20	4/10/88/115	-
19	CLA	B2	810	-	1/1/20/20	17/37/115/115	-
19	CLA	B	822	-	1/1/20/20	4/37/115/115	-
23	BCR	A	847	-	-	14/27/61/63	0/2/2/2
19	CLA	A2	839	-	1/1/17/20	8/22/100/115	-
23	BCR	M2	102	-	-	19/29/63/63	0/2/2/2
19	CLA	F1	305	-	1/1/15/20	4/13/91/115	-
19	CLA	B2	852	-	1/1/20/20	15/37/115/115	-
23	BCR	B1	839	-	-	9/29/63/63	0/2/2/2
19	CLA	A2	814	-	1/1/14/20	4/10/88/115	-
19	CLA	KK	102	-	1/1/15/20	10/15/93/115	-
23	BCR	A1	847	-	-	12/27/61/63	0/2/2/2
19	CLA	L	202	18	1/1/19/20	14/33/111/115	-
23	BCR	BB	841	-	-	20/29/63/63	0/2/2/2
19	CLA	B2	832	-	1/1/15/20	6/13/91/115	-
19	CLA	A2	823	-	1/1/19/20	12/31/109/115	-
19	CLA	B	817	-	1/1/14/20	4/10/88/115	-
19	CLA	B1	827	-	1/1/15/20	6/13/91/115	-
19	CLA	A2	821	-	1/1/20/20	13/37/115/115	-
22	LHG	B2	848	-	-	8/37/37/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	LMG	BB	844	-	-	18/50/70/70	0/1/1/1
19	CLA	A	844	-	1/1/14/20	4/8/86/115	-
19	CLA	B	858	-	1/1/20/20	5/37/115/115	-
19	CLA	A2	836	-	-	14/37/115/115	-
23	BCR	L	206	-	-	18/29/63/63	0/2/2/2
19	CLA	A2	832	-	1/1/20/20	6/37/115/115	-
23	BCR	K1	104	-	-	18/29/63/63	0/2/2/2
19	CLA	B1	814	-	1/1/18/20	12/30/108/115	-
19	CLA	B2	816	-	1/1/18/20	8/28/106/115	-
19	CLA	B2	805	-	1/1/19/20	9/36/114/115	-
19	CLA	A	815	-	1/1/18/20	9/25/103/115	-
19	CLA	F1	301	-	1/1/19/20	10/31/109/115	-
27	SF4	CC	101	-	-	-	0/6/5/5
19	CLA	A	827	-	1/1/20/20	16/37/115/115	-
19	CLA	B	824	-	1/1/18/20	12/25/103/115	-
19	CLA	AA	811	1	1/1/17/20	6/21/99/115	-
22	LHG	A1	846	-	-	12/42/42/53	-
19	CLA	K1	102	-	1/1/15/20	1/13/91/115	-
19	CLA	B	826	-	1/1/20/20	14/37/115/115	-
21	PQN	B	838	-	-	7/23/43/43	0/2/2/2
19	CLA	A	839	-	1/1/17/20	8/22/100/115	-
19	CLA	A2	830	-	1/1/19/20	18/34/112/115	-
23	BCR	F1	303	-	-	17/29/63/63	0/2/2/2
19	CLA	BB	845	-	1/1/12/20	1/5/79/115	-
19	CLA	AA	817	-	1/1/14/20	2/11/90/115	-
19	CLA	B1	825	-	1/1/20/20	18/37/115/115	-
19	CLA	A1	804	-	1/1/19/20	9/31/109/115	-
19	CLA	B1	832	-	1/1/20/20	12/37/115/115	-
19	CLA	B	805	-	1/1/19/20	9/36/114/115	-
23	BCR	I1	101	-	-	17/29/63/63	0/2/2/2
19	CLA	B1	821	2	1/1/20/20	14/37/115/115	-
19	CLA	A1	822	-	1/1/19/20	15/31/109/115	-
19	CLA	LL	201	18	1/1/19/20	13/33/111/115	-
25	LMG	M	102	-	-	15/41/61/70	0/1/1/1
26	ECH	B1	840	-	-	16/29/66/66	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A	807	-	1/1/20/20	17/37/115/115	-
19	CLA	BB	805	-	1/1/19/20	9/36/114/115	-
19	CLA	B	803	-	1/1/20/20	13/37/115/115	-
19	CLA	B	854	-	1/1/20/20	13/37/115/115	-
25	LMG	L1	210	-	-	16/50/70/70	0/1/1/1
19	CLA	X	101	-	1/1/15/20	3/13/91/115	-
19	CLA	B1	830	-	1/1/18/20	8/27/105/115	-
23	BCR	A2	851	-	-	17/29/63/63	0/2/2/2
23	BCR	K1	106	-	-	18/29/63/63	0/2/2/2
19	CLA	B2	820	-	1/1/15/20	10/13/91/115	-
19	CLA	BB	804	-	1/1/19/20	9/34/112/115	-
19	CLA	A1	821	-	1/1/17/20	4/21/99/115	-
19	CLA	A2	811	-	1/1/17/20	6/21/99/115	-
23	BCR	BB	847	-	-	17/29/63/63	0/2/2/2
19	CLA	BB	827	-	1/1/15/20	2/13/91/115	-
23	BCR	A	853	-	-	18/29/63/63	0/2/2/2
19	CLA	J	103	-	-	6/8/86/115	-
19	CLA	L1	205	10	1/1/19/20	11/33/111/115	-
19	CLA	AA	810	-	1/1/20/20	10/37/115/115	-
23	BCR	AA	849	-	-	18/29/63/63	0/2/2/2
19	CLA	A	830	-	1/1/19/20	15/34/112/115	-
22	LHG	L	207	-	-	13/38/38/53	-
19	CLA	AA	841	-	1/1/15/20	5/15/93/115	-
23	BCR	BB	843	-	-	13/29/63/63	0/2/2/2
19	CLA	A2	826	-	1/1/15/20	9/13/91/115	-
19	CLA	A1	839	-	1/1/18/20	7/27/105/115	-
19	CLA	A2	842	-	1/1/20/20	10/37/115/115	-
23	BCR	L1	201	-	-	12/29/63/63	0/2/2/2
19	CLA	A2	813	-	1/1/20/20	11/37/115/115	-
19	CLA	B2	829	-	1/1/20/20	13/37/115/115	-
19	CLA	AA	833	-	1/1/17/20	4/19/97/115	-
19	CLA	B2	830	-	1/1/18/20	4/27/105/115	-
23	BCR	B2	840	-	-	8/29/63/63	0/2/2/2
19	CLA	B1	811	-	1/1/19/20	15/33/111/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	KK	101	-	1/1/15/20	1/13/91/115	-
23	BCR	I2	102	-	-	11/29/63/63	0/2/2/2
19	CLA	BB	808	-	1/1/19/20	13/31/109/115	-
22	LHG	AA	847	-	-	12/42/42/53	-
19	CLA	B	802	-	1/1/20/20	11/37/115/115	-
23	BCR	B1	838	-	-	19/29/63/63	0/2/2/2
23	BCR	B	839	-	-	16/29/63/63	0/2/2/2
19	CLA	B1	817	-	1/1/14/20	2/10/88/115	-
22	LHG	L1	211	-	-	14/37/37/53	-
19	CLA	A1	840	-	1/1/15/20	6/15/93/115	-
26	ECH	B2	841	-	-	16/29/66/66	0/2/2/2
19	CLA	BB	856	-	1/1/19/20	13/31/109/115	-
19	CLA	FF	302	-	1/1/14/20	4/10/88/115	-
19	CLA	A2	824	-	1/1/15/20	4/13/91/115	-
21	PQN	A2	843	-	-	8/23/43/43	0/2/2/2
19	CLA	A1	837	1	1/1/14/20	4/11/90/115	-
22	LHG	X2	102	-	-	15/44/44/53	-
19	CLA	B2	836	-	1/1/20/20	11/37/115/115	-
19	CLA	AA	837	-	1/1/15/20	0/13/91/115	-
23	BCR	A1	848	-	-	14/29/63/63	0/2/2/2
23	BCR	FF	304	-	-	14/29/63/63	0/2/2/2
19	CLA	AA	825	-	1/1/17/20	2/22/100/115	-
19	CLA	A1	832	-	1/1/17/20	9/19/97/115	-
19	CLA	A1	811	-	1/1/15/20	5/15/93/115	-
19	CLA	F1	302	-	1/1/14/20	4/10/88/115	-
19	CLA	A2	833	-	1/1/17/20	5/19/97/115	-
19	CLA	JJ	101	8	1/1/14/20	3/8/86/115	-
19	CLA	A	822	-	1/1/17/20	7/21/99/115	-
19	CLA	L1	206	-	1/1/20/20	3/37/115/115	-
19	CLA	AA	804	-	1/1/20/20	16/37/115/115	-
22	LHG	A2	846	-	-	12/42/42/53	-

The worst 5 of 2929 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	B	818	CLA	C4B-NB	8.40	1.42	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	BB	826	CLA	C4B-NB	8.11	1.42	1.35
19	B2	826	CLA	C4B-NB	8.00	1.42	1.35
19	B1	826	CLA	C4B-NB	7.89	1.42	1.35
19	BB	822	CLA	C4B-NB	7.71	1.42	1.35

The worst 5 of 4106 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	B	841	ECH	C16-C17-C18	-9.89	113.19	127.31
26	B1	840	ECH	C16-C17-C18	-9.84	113.27	127.31
26	B2	841	ECH	C16-C17-C18	-9.81	113.30	127.31
26	BB	840	ECH	C16-C17-C18	-9.54	113.70	127.31
20	A	803	CL0	CMD-C2D-C1D	8.52	139.72	124.71

5 of 385 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
19	A1	801	CLA	ND
19	A1	803	CLA	ND
19	A1	804	CLA	ND
19	A1	806	CLA	ND
19	A1	807	CLA	ND

5 of 5830 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	A1	803	CLA	CBD-CGD-O2D-CED
19	A1	804	CLA	C1A-C2A-CAA-CBA
19	A1	804	CLA	C3A-C2A-CAA-CBA
19	A1	804	CLA	CHA-CBD-CGD-O1D
19	A1	804	CLA	CHA-CBD-CGD-O2D

There are no ring outliers.

346 monomers are involved in 565 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	B1	824	CLA	1	0
19	B	821	CLA	1	0
23	B1	842	BCR	3	0
19	B1	826	CLA	1	0
19	A1	830	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	B	832	CLA	2	0
23	A	851	BCR	4	0
19	BB	813	CLA	1	0
19	B1	828	CLA	3	0
19	A	806	CLA	2	0
23	K2	103	BCR	1	0
23	M	101	BCR	2	0
19	B2	808	CLA	1	0
19	B2	806	CLA	2	0
23	B2	842	BCR	4	0
19	B	860	CLA	2	0
19	B1	802	CLA	1	0
19	B2	822	CLA	1	0
19	A	801	CLA	1	0
19	A2	840	CLA	1	0
19	B	835	CLA	8	0
19	B	837	CLA	2	0
19	A2	828	CLA	1	0
19	AA	842	CLA	2	0
19	BB	834	CLA	6	0
23	J1	104	BCR	1	0
23	LL	204	BCR	1	0
19	A	842	CLA	2	0
19	B1	833	CLA	14	0
19	BB	812	CLA	1	0
23	JJ	104	BCR	1	0
22	A	845	LHG	2	0
19	A2	807	CLA	2	0
19	AA	818	CLA	2	0
19	A2	802	CLA	1	0
19	B1	809	CLA	1	0
22	B1	847	LHG	1	0
19	A2	806	CLA	3	0
19	B1	813	CLA	1	0
19	B2	823	CLA	1	0
21	A1	843	PQN	1	0
19	A1	829	CLA	3	0
19	B	830	CLA	4	0
23	AA	848	BCR	1	0
23	AA	854	BCR	1	0
19	B1	845	CLA	1	0
23	J	102	BCR	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
23	J1	102	BCR	1	0
19	BB	826	CLA	2	0
19	A1	824	CLA	1	0
19	A1	833	CLA	2	0
19	BB	820	CLA	5	0
19	A	813	CLA	1	0
19	B1	815	CLA	3	0
19	LL	202	CLA	1	0
19	A2	818	CLA	2	0
19	B2	809	CLA	1	0
19	LL	203	CLA	1	0
19	F	301	CLA	3	0
19	A1	828	CLA	3	0
23	B	842	BCR	5	0
19	B	820	CLA	5	0
19	B1	836	CLA	1	0
19	A2	801	CLA	1	0
19	B2	811	CLA	2	0
19	A	824	CLA	1	0
19	B1	807	CLA	1	0
23	F	303	BCR	2	0
27	C	102	SF4	1	0
19	B1	806	CLA	1	0
19	AA	813	CLA	1	0
19	B2	827	CLA	1	0
23	F1	306	BCR	5	0
19	A1	827	CLA	1	0
19	A2	831	CLA	1	0
19	A1	819	CLA	2	0
19	K1	105	CLA	1	0
19	A2	816	CLA	1	0
19	AA	845	CLA	1	0
19	AA	826	CLA	4	0
19	AA	820	CLA	1	0
19	A2	835	CLA	1	0
19	B	834	CLA	14	0
28	B	856	DGD	1	0
20	AA	803	CL0	1	0
19	BB	802	CLA	1	0
19	B	813	CLA	1	0
19	B1	848	CLA	6	0
19	A	821	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
23	B2	839	BCR	1	0
19	B1	835	CLA	1	0
19	A1	806	CLA	4	0
19	A	837	CLA	2	0
19	A	841	CLA	1	0
19	A2	815	CLA	4	0
19	B1	831	CLA	3	0
19	BB	836	CLA	1	0
19	A	833	CLA	2	0
19	J1	103	CLA	1	0
19	L1	207	CLA	1	0
19	B	859	CLA	3	0
19	A1	814	CLA	4	0
19	A	828	CLA	1	0
19	A2	841	CLA	1	0
28	BB	854	DGD	1	0
19	K1	103	CLA	1	0
19	A2	825	CLA	1	0
19	A1	831	CLA	2	0
19	BB	852	CLA	6	0
19	F	302	CLA	1	0
23	B2	843	BCR	3	0
19	A1	807	CLA	1	0
23	F2	303	BCR	2	0
19	B2	821	CLA	3	0
19	BB	832	CLA	7	0
19	X2	101	CLA	1	0
19	AA	807	CLA	3	0
19	AA	843	CLA	1	0
23	B1	841	BCR	2	0
19	A	804	CLA	3	0
19	AA	805	CLA	2	0
23	A1	851	BCR	3	0
23	I2	103	BCR	1	0
20	A2	803	CL0	5	0
19	B	810	CLA	2	0
19	AA	836	CLA	1	0
19	AA	853	CLA	6	0
19	BB	823	CLA	2	0
19	A	836	CLA	1	0
19	BB	835	CLA	2	0
19	BB	821	CLA	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	A2	852	CLA	9	0
19	AA	830	CLA	5	0
19	B2	835	CLA	3	0
19	B1	849	CLA	1	0
19	A1	835	CLA	1	0
23	J2	102	BCR	1	0
19	A2	804	CLA	3	0
19	A2	844	CLA	1	0
23	A2	847	BCR	1	0
19	B1	820	CLA	1	0
19	B	828	CLA	3	0
19	B2	846	CLA	1	0
19	B1	834	CLA	9	0
19	B1	810	CLA	3	0
23	FF	306	BCR	4	0
19	B1	804	CLA	2	0
19	B	829	CLA	3	0
23	MM	101	BCR	1	0
19	A1	815	CLA	2	0
23	AA	852	BCR	4	0
19	B2	813	CLA	1	0
19	A2	834	CLA	1	0
23	JJ	102	BCR	1	0
22	L2	208	LHG	2	0
19	BB	815	CLA	2	0
19	A	834	CLA	1	0
19	AA	821	CLA	3	0
19	A1	852	CLA	11	0
19	A1	841	CLA	3	0
19	B	836	CLA	2	0
19	A1	844	CLA	1	0
26	B	841	ECH	1	0
23	AA	851	BCR	1	0
19	AA	832	CLA	1	0
19	B1	850	CLA	2	0
19	B1	808	CLA	1	0
19	B2	849	CLA	5	0
19	A	832	CLA	3	0
19	B	811	CLA	2	0
19	A1	826	CLA	1	0
22	B	852	LHG	1	0
19	B1	822	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	A1	820	CLA	3	0
23	A2	850	BCR	1	0
23	A1	850	BCR	1	0
19	J2	103	CLA	2	0
23	FF	303	BCR	3	0
19	B2	834	CLA	4	0
21	AA	844	PQN	3	0
19	A1	834	CLA	2	0
19	A	812	CLA	1	0
19	BB	829	CLA	4	0
23	B	844	BCR	1	0
19	B2	828	CLA	1	0
19	AA	815	CLA	3	0
19	B	818	CLA	3	0
19	A	826	CLA	2	0
19	A	820	CLA	2	0
23	F2	305	BCR	5	0
19	A	840	CLA	1	0
19	A2	812	CLA	1	0
19	B2	826	CLA	2	0
23	AA	855	BCR	1	0
19	F2	301	CLA	3	0
19	A	818	CLA	1	0
23	A	854	BCR	2	0
19	B	804	CLA	2	0
19	B	833	CLA	7	0
22	AA	846	LHG	2	0
19	B1	823	CLA	1	0
19	B	809	CLA	1	0
19	B2	850	CLA	3	0
22	A	846	LHG	1	0
21	A	843	PQN	3	0
19	K2	104	CLA	1	0
19	A2	820	CLA	1	0
27	C1	102	SF4	1	0
19	A1	801	CLA	1	0
19	FF	305	CLA	3	0
19	BB	810	CLA	4	0
23	K2	105	BCR	2	0
19	B	815	CLA	1	0
19	B	827	CLA	1	0
19	A2	829	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	A	831	CLA	1	0
25	I2	105	LMG	1	0
19	A1	812	CLA	1	0
19	BB	806	CLA	2	0
19	A1	816	CLA	1	0
23	BB	838	BCR	2	0
23	F	305	BCR	6	0
19	A1	803	CLA	3	0
23	B	843	BCR	4	0
19	AA	828	CLA	3	0
19	BB	822	CLA	2	0
19	B2	802	CLA	1	0
19	B2	837	CLA	1	0
19	BB	828	CLA	3	0
19	BB	801	CLA	1	0
19	B2	833	CLA	3	0
22	A2	845	LHG	1	0
19	B	806	CLA	3	0
19	JJ	103	CLA	1	0
19	A2	805	CLA	3	0
20	A1	802	CL0	3	0
19	BB	831	CLA	1	0
23	J2	104	BCR	2	0
19	FF	301	CLA	3	0
19	B2	831	CLA	1	0
19	B1	829	CLA	2	0
19	A1	817	CLA	2	0
21	BB	837	PQN	2	0
19	AA	806	CLA	2	0
19	B	823	CLA	1	0
19	B	801	CLA	1	0
19	A	809	CLA	1	0
19	B	831	CLA	1	0
19	AA	822	CLA	2	0
23	J	104	BCR	1	0
19	B2	804	CLA	1	0
23	L	205	BCR	1	0
19	AA	801	CLA	1	0
19	A1	842	CLA	1	0
20	A	803	CL0	1	0
23	BB	842	BCR	2	0
19	BB	811	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	AA	816	CLA	1	0
19	A1	836	CLA	1	0
26	BB	840	ECH	1	0
19	A	816	CLA	1	0
19	B2	851	CLA	2	0
19	A	805	CLA	3	0
19	A1	805	CLA	2	0
19	A	810	CLA	1	0
19	A	852	CLA	11	0
19	BB	817	CLA	1	0
19	BB	833	CLA	14	0
19	AA	831	CLA	1	0
19	F2	302	CLA	1	0
19	B2	810	CLA	3	0
19	B	822	CLA	2	0
23	A	847	BCR	1	0
19	F1	305	CLA	2	0
19	B2	852	CLA	2	0
23	B1	839	BCR	1	0
23	A1	847	BCR	2	0
19	L	202	CLA	4	0
23	BB	841	BCR	6	0
19	B2	832	CLA	3	0
19	B1	827	CLA	2	0
19	A2	821	CLA	4	0
19	B	858	CLA	3	0
19	A2	836	CLA	1	0
19	A2	832	CLA	2	0
23	K1	104	BCR	1	0
19	B1	814	CLA	1	0
19	B2	816	CLA	1	0
19	A	815	CLA	3	0
19	F1	301	CLA	3	0
19	B	824	CLA	1	0
22	A1	846	LHG	1	0
19	B	826	CLA	2	0
21	B	838	PQN	2	0
19	A2	830	CLA	2	0
23	F1	303	BCR	2	0
19	A1	804	CLA	2	0
19	B1	832	CLA	5	0
23	I1	101	BCR	1	0

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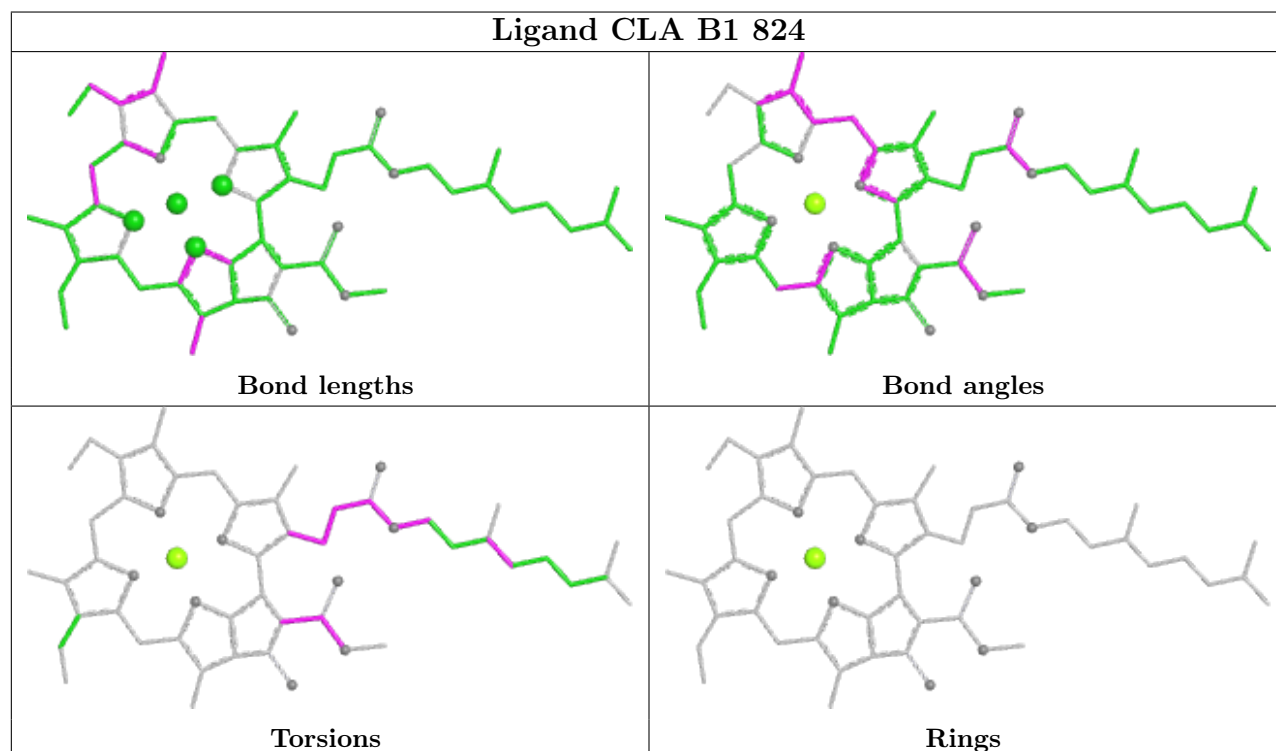
Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	B1	821	CLA	1	0
19	A1	822	CLA	1	0
19	LL	201	CLA	5	0
25	M	102	LMG	1	0
26	B1	840	ECH	1	0
19	A	807	CLA	3	0
19	BB	805	CLA	1	0
19	B	854	CLA	6	0
25	L1	210	LMG	1	0
19	B1	830	CLA	1	0
23	A2	851	BCR	5	0
23	K1	106	BCR	2	0
19	B2	820	CLA	1	0
19	BB	804	CLA	2	0
19	J	103	CLA	4	0
19	L1	205	CLA	3	0
19	AA	810	CLA	1	0
19	A	830	CLA	4	0
19	A2	826	CLA	1	0
19	A1	839	CLA	2	0
19	A2	842	CLA	4	0
19	A2	813	CLA	1	0
19	B2	829	CLA	3	0
19	AA	833	CLA	1	0
19	B2	830	CLA	3	0
23	B2	840	BCR	1	0
19	B1	811	CLA	2	0
22	AA	847	LHG	1	0
19	B	802	CLA	2	0
23	B1	838	BCR	1	0
23	B	839	BCR	2	0
22	L1	211	LHG	3	0
19	A1	840	CLA	1	0
26	B2	841	ECH	1	0
19	BB	856	CLA	3	0
19	FF	302	CLA	1	0
21	A2	843	PQN	1	0
19	B2	836	CLA	1	0
19	AA	825	CLA	1	0
19	A1	832	CLA	1	0
19	A1	811	CLA	2	0
19	F1	302	CLA	1	0

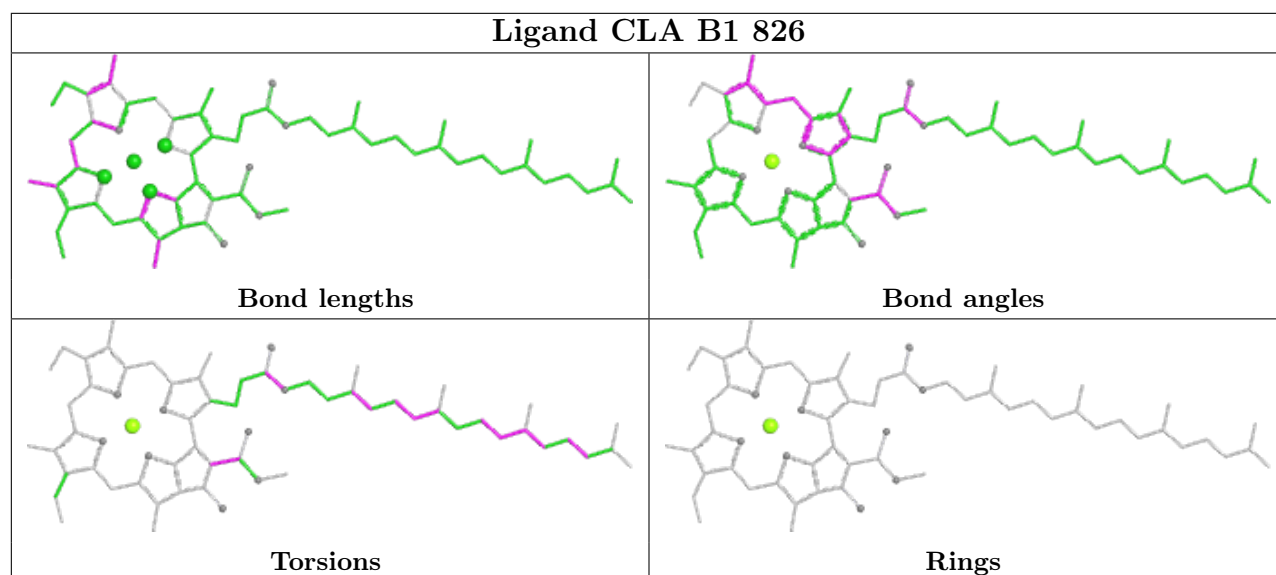
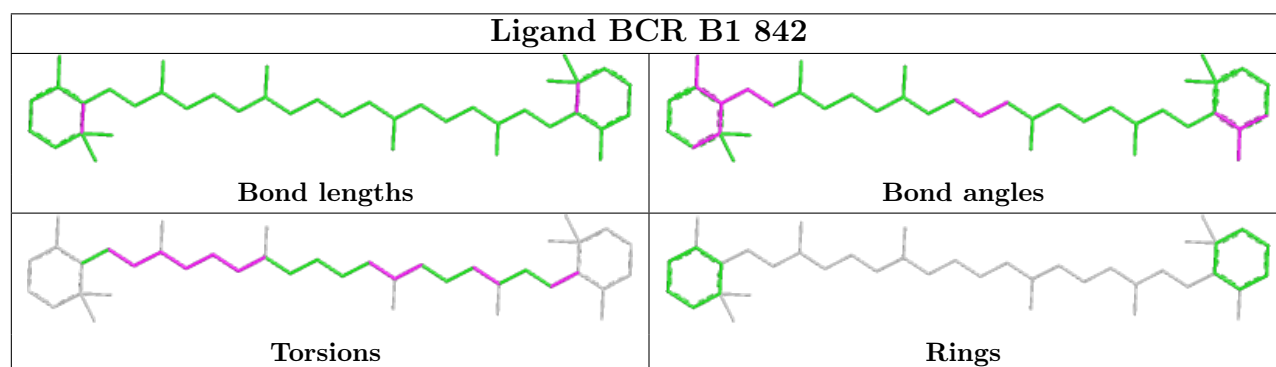
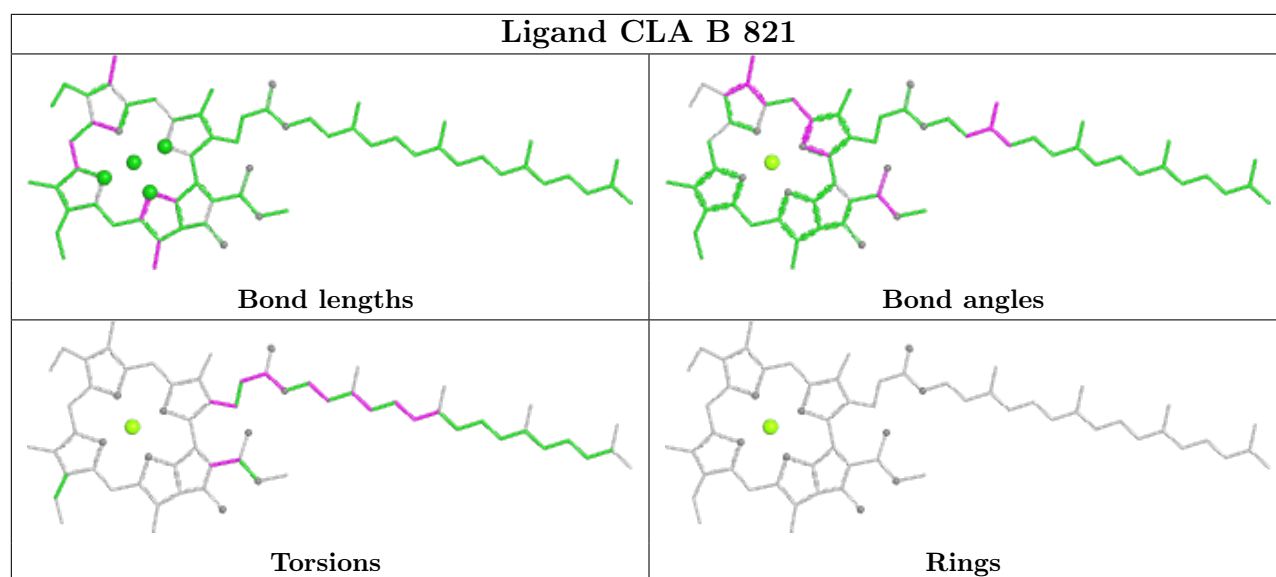
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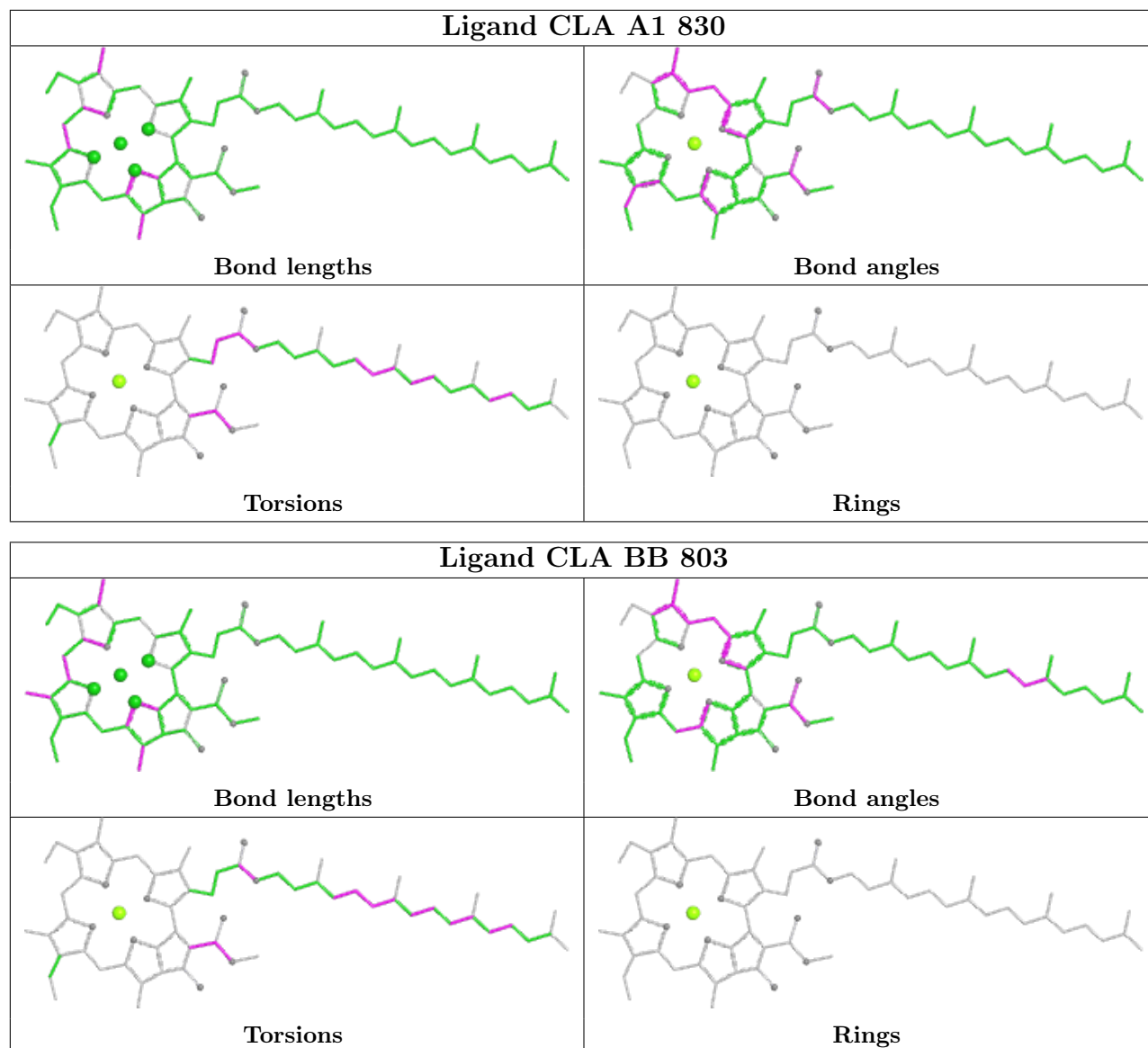
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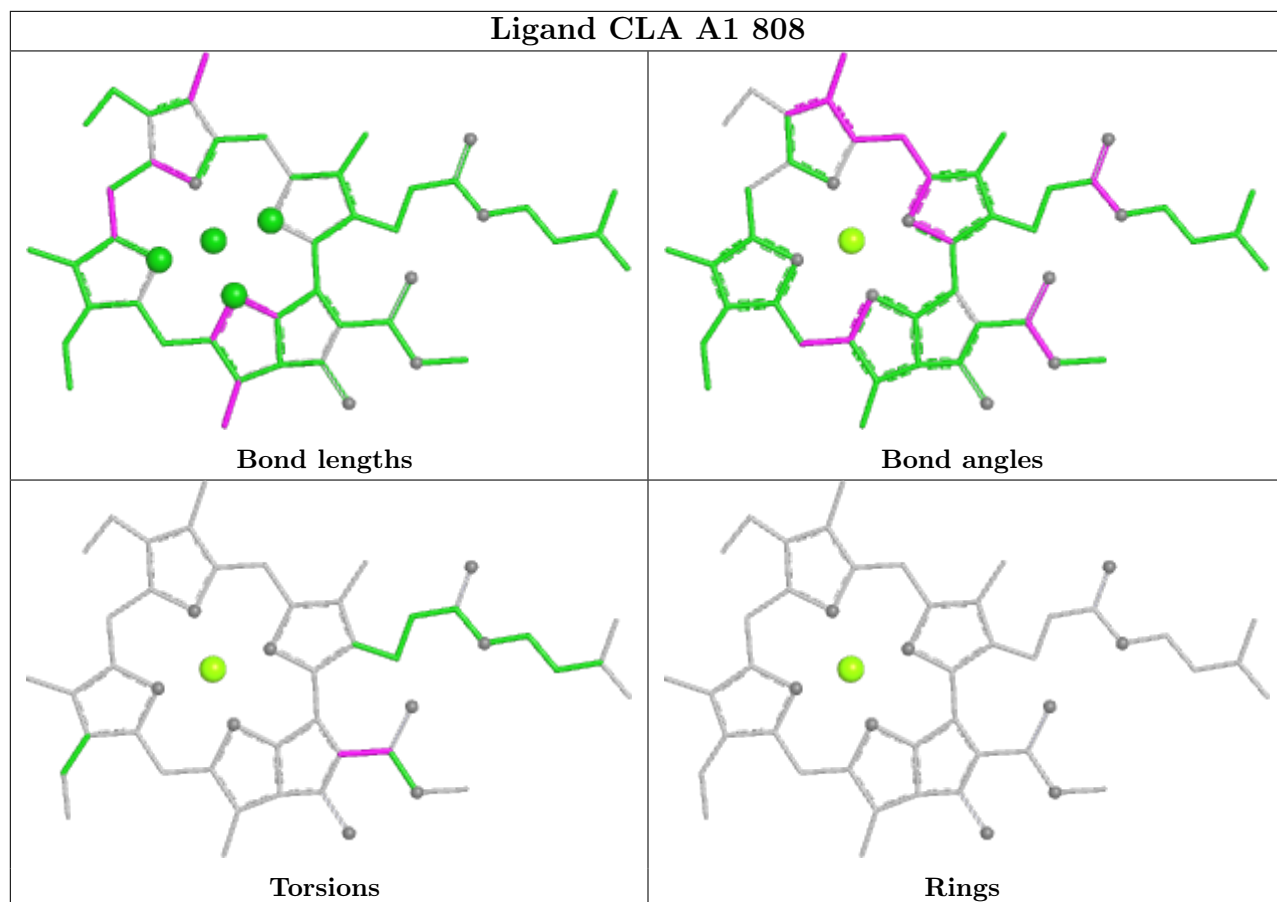
Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	A2	833	CLA	2	0
19	A	822	CLA	3	0
19	L1	206	CLA	1	0
19	AA	804	CLA	3	0
22	A2	846	LHG	1	0

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

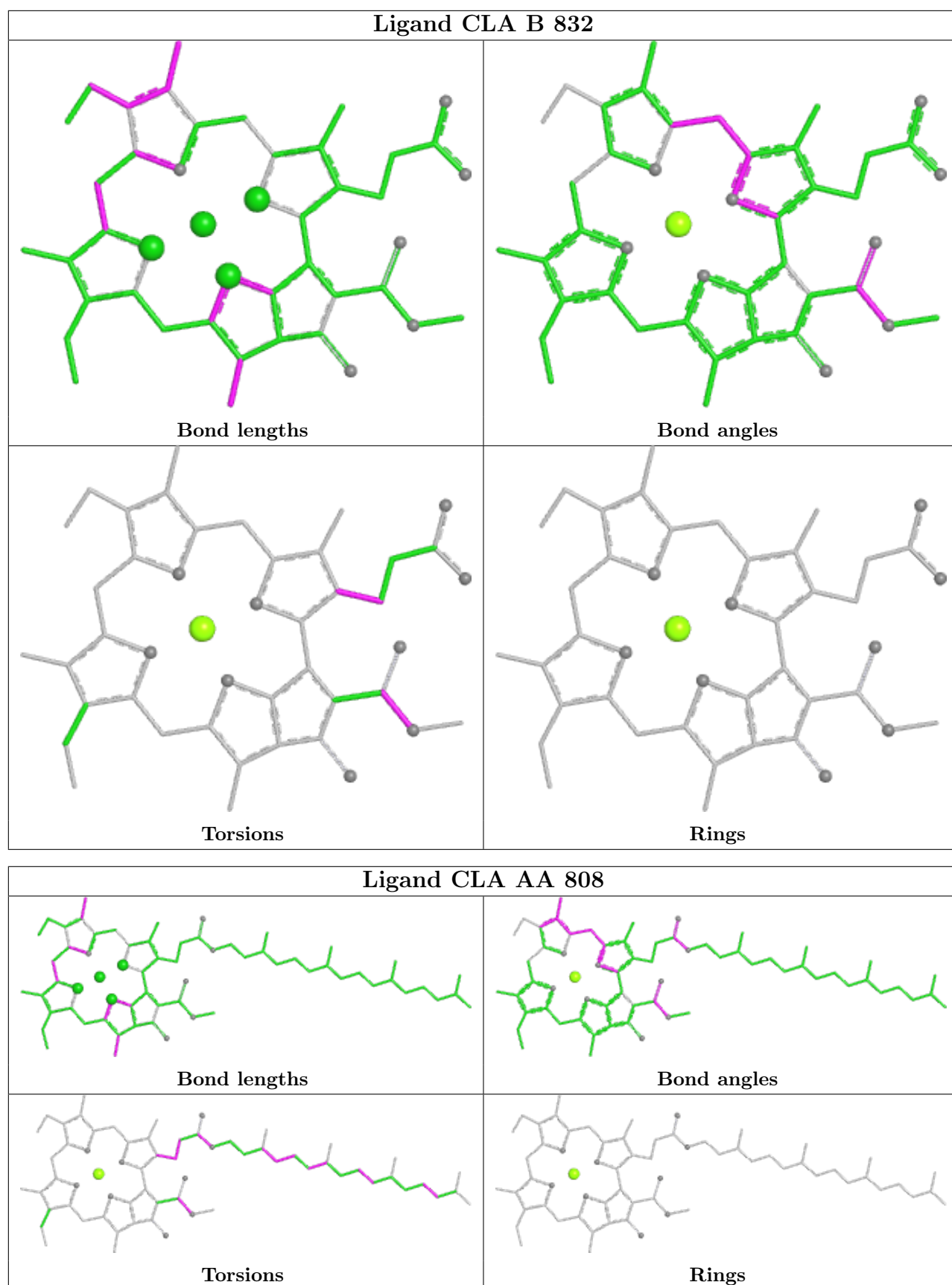


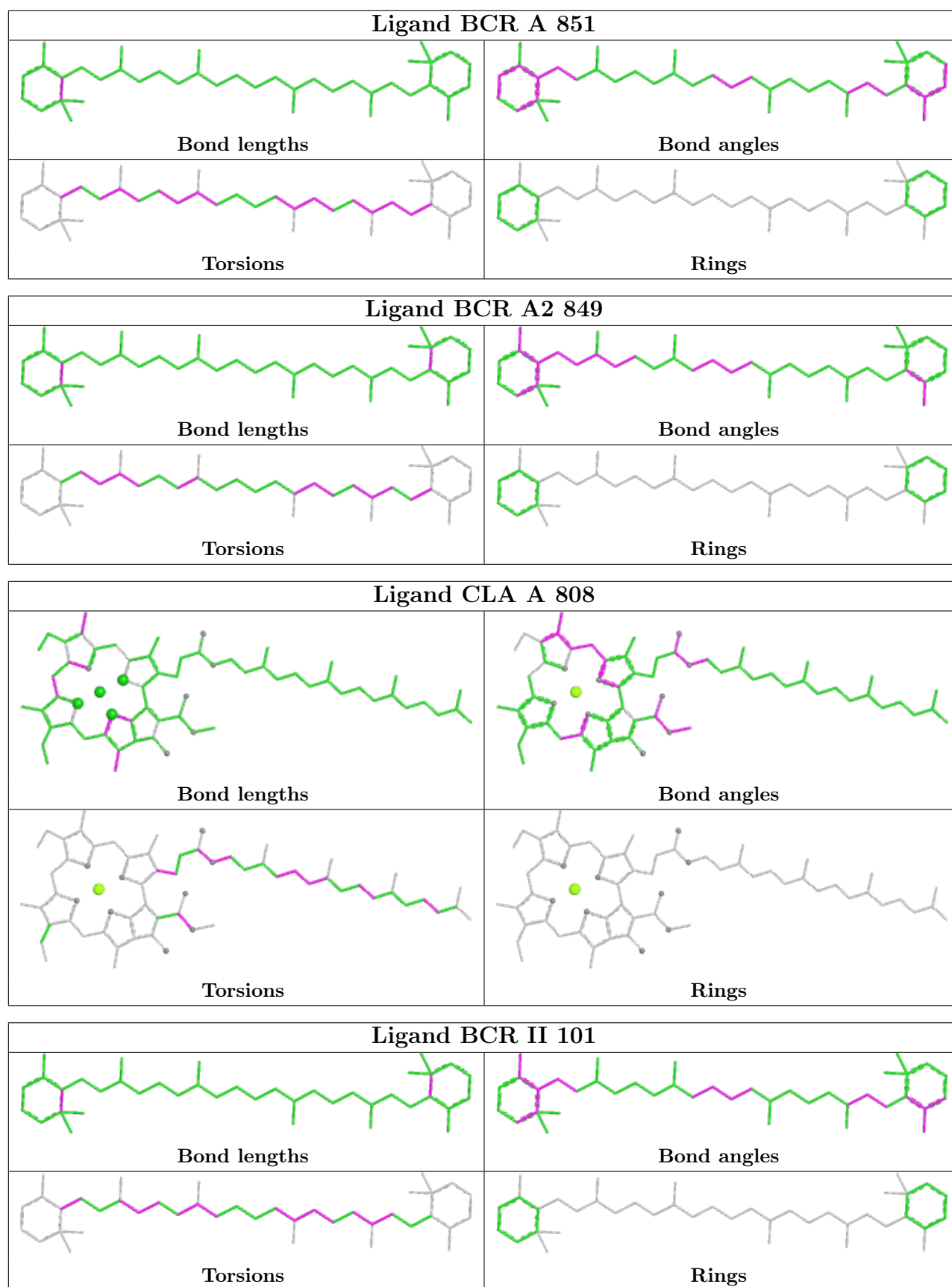


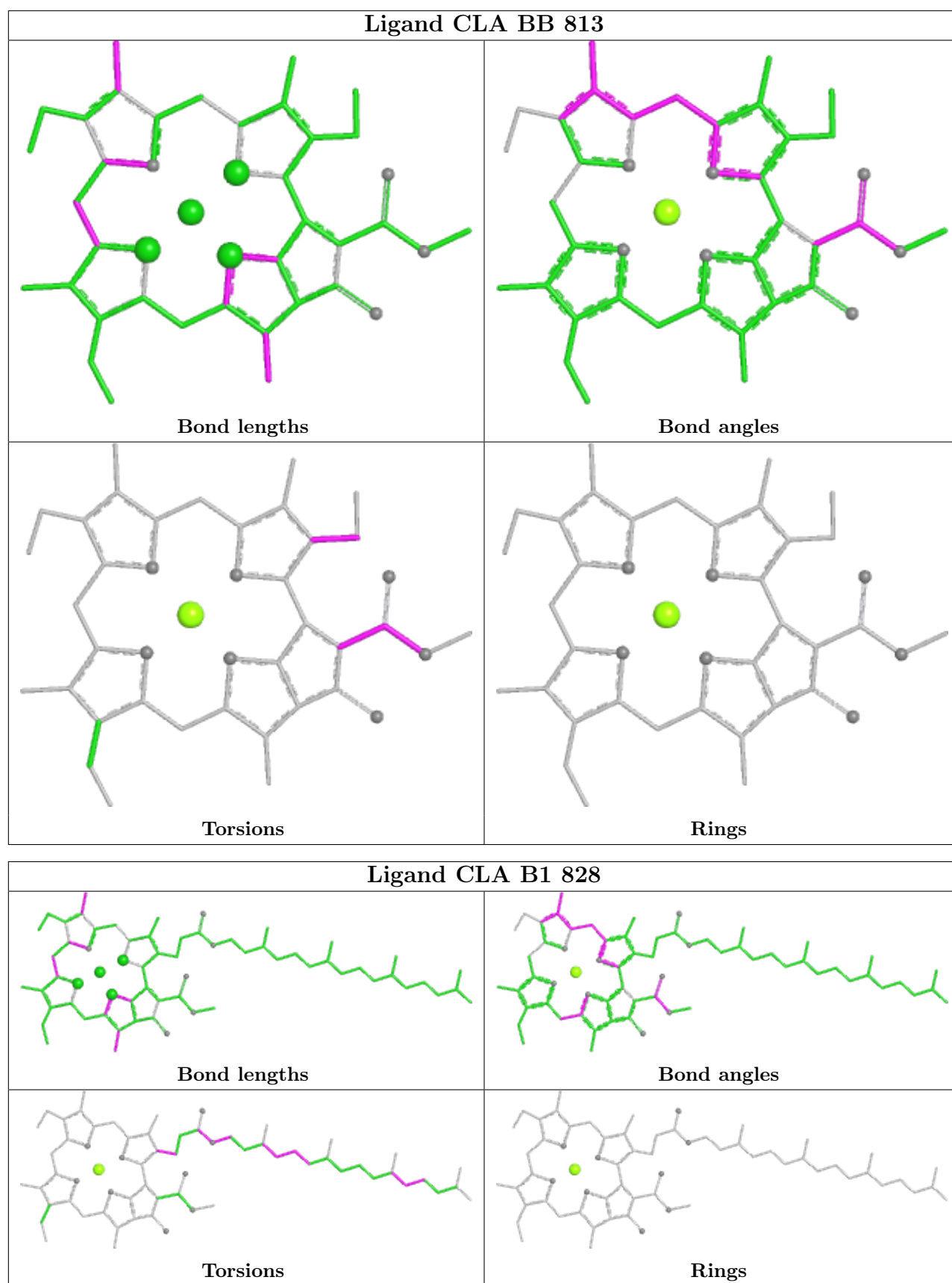


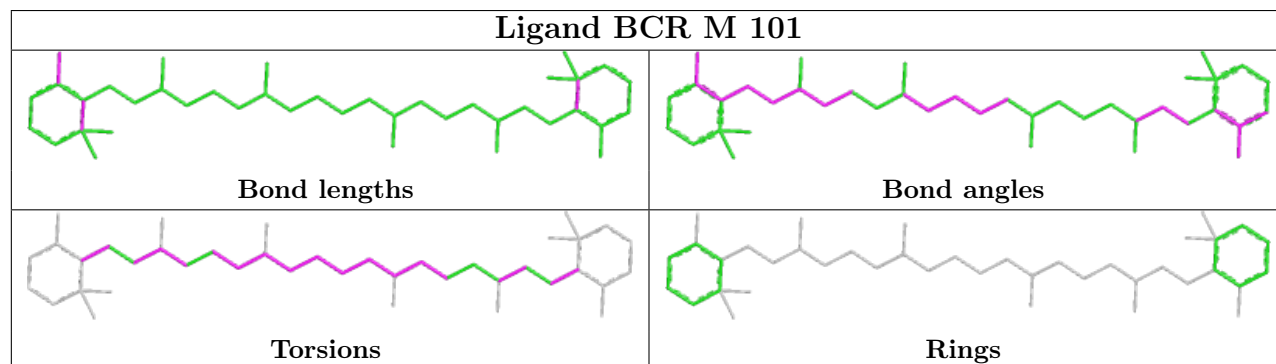
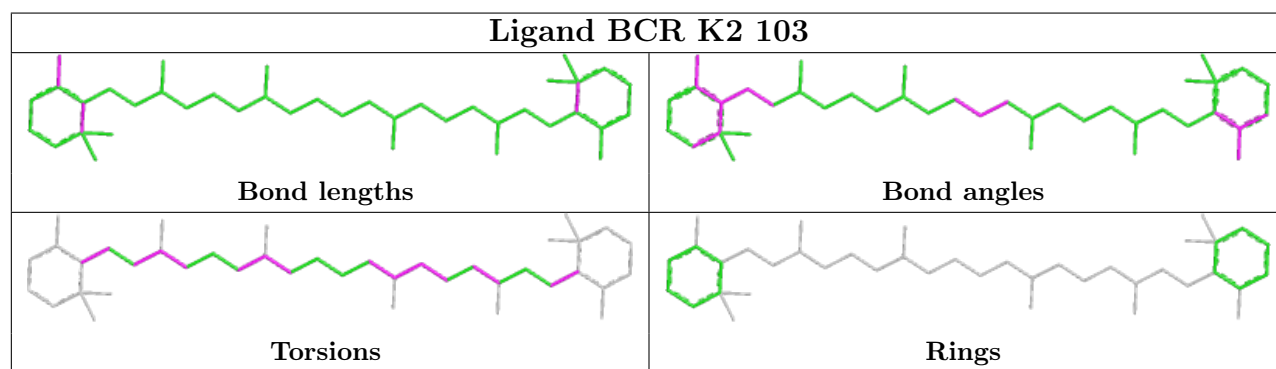
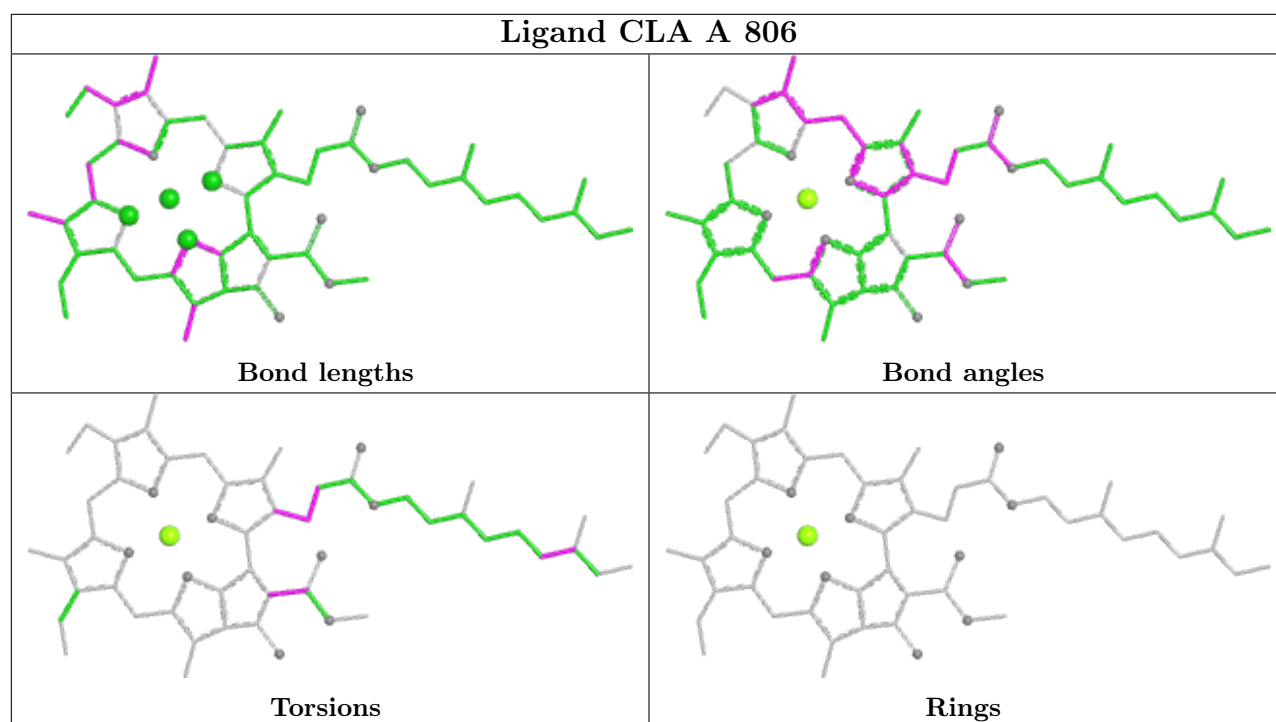


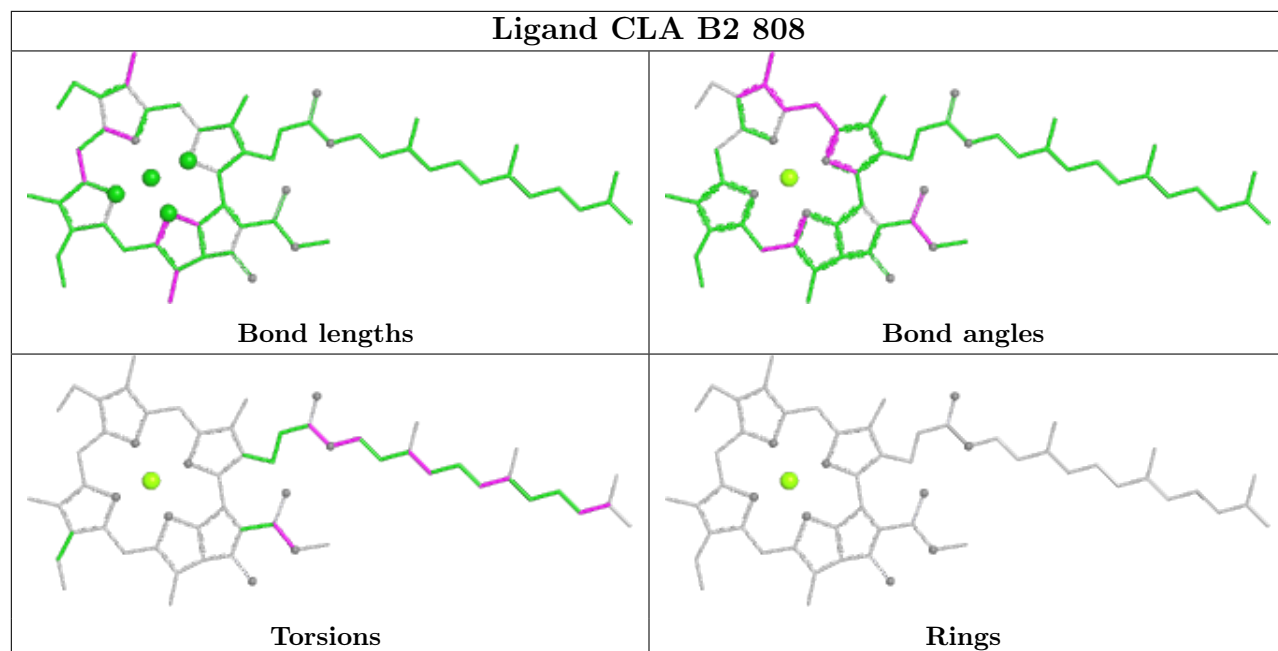


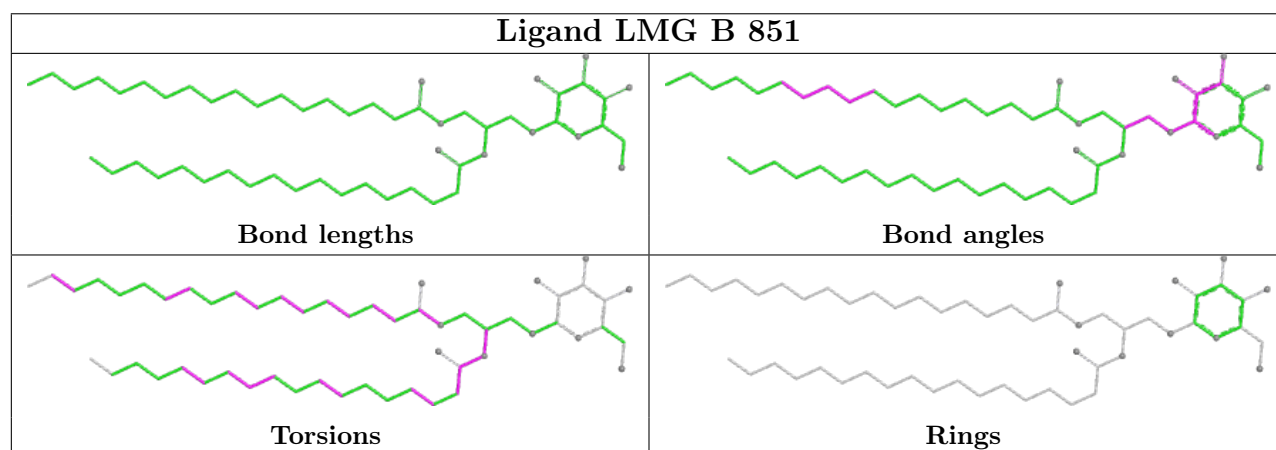
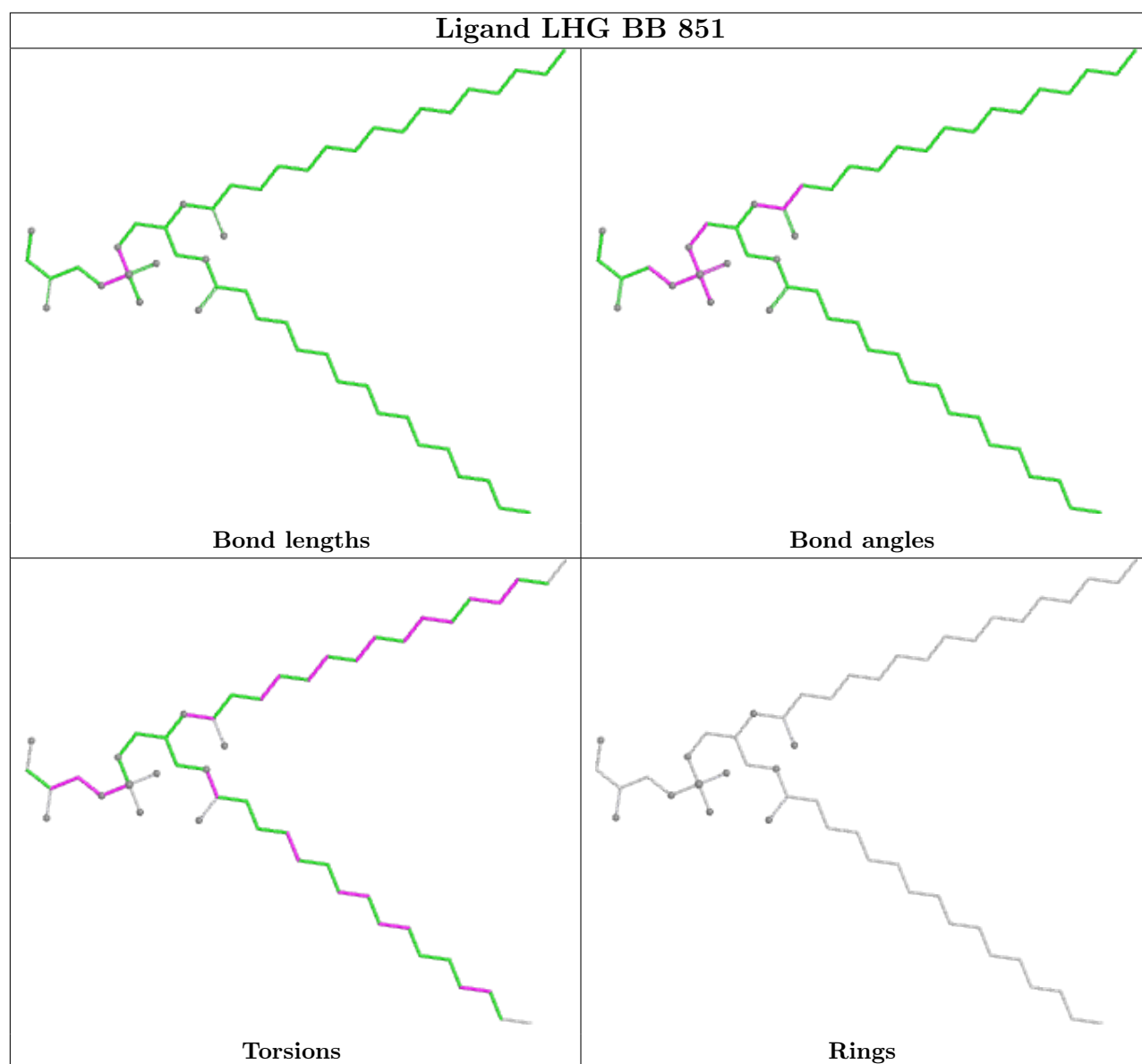


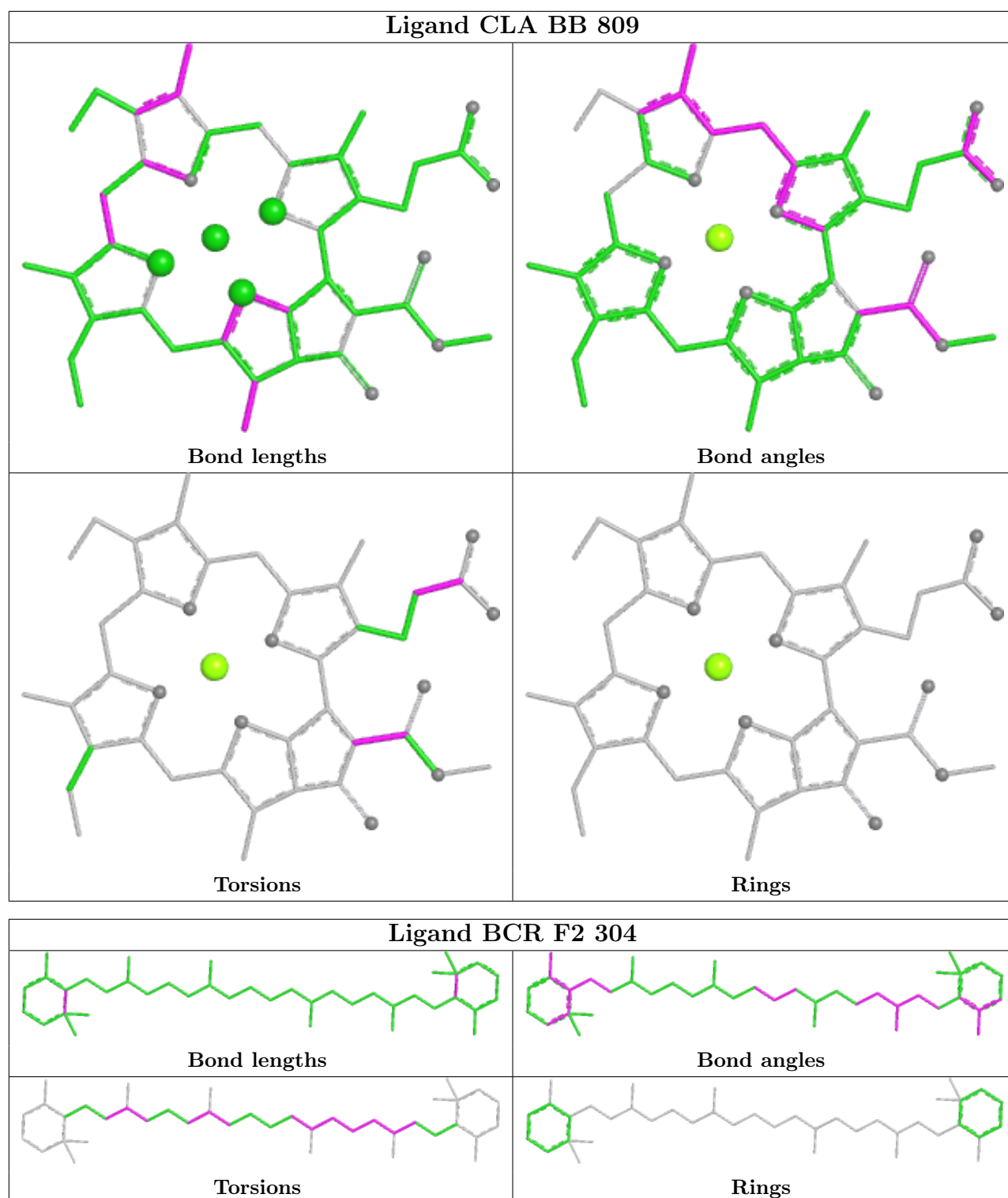


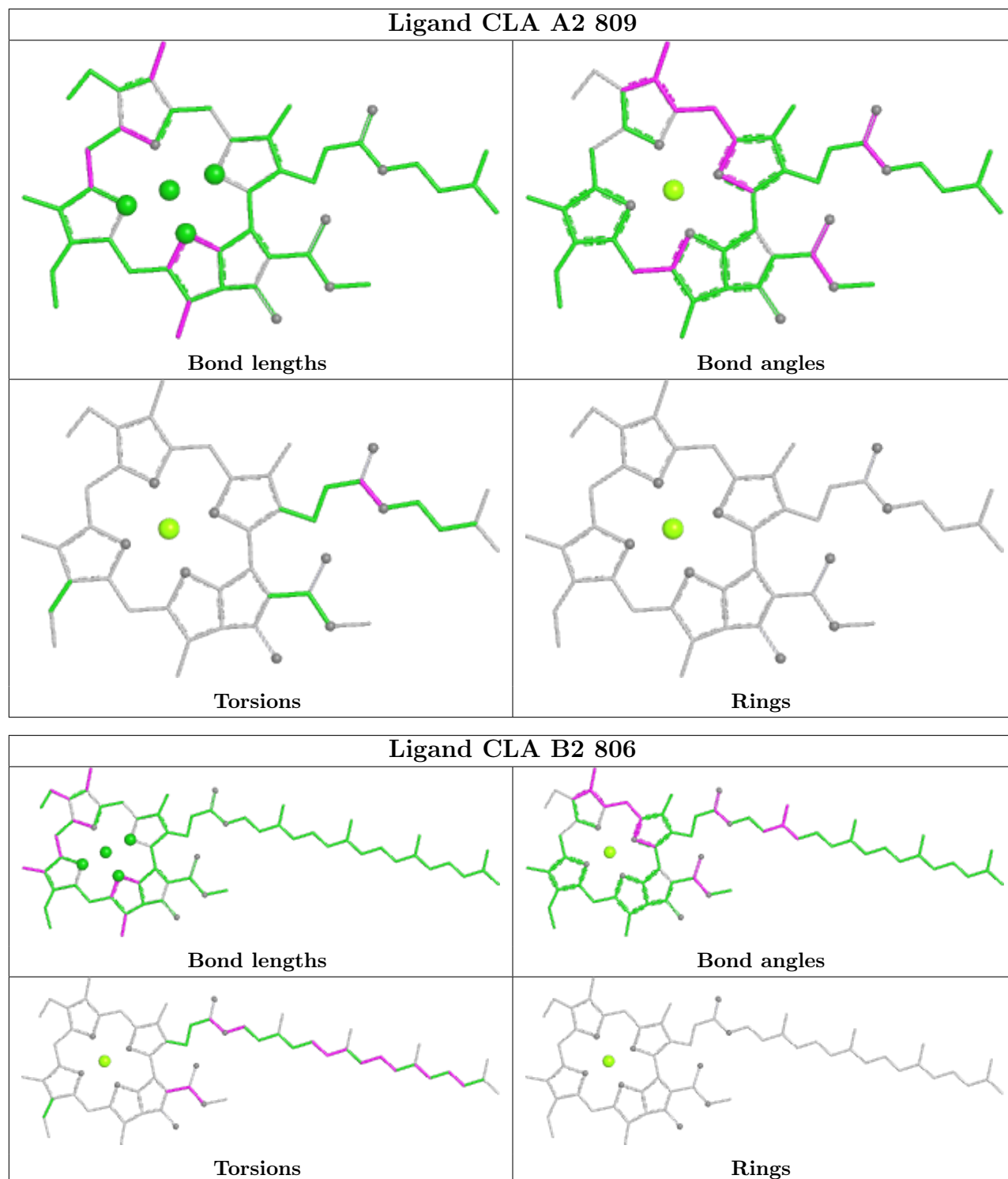




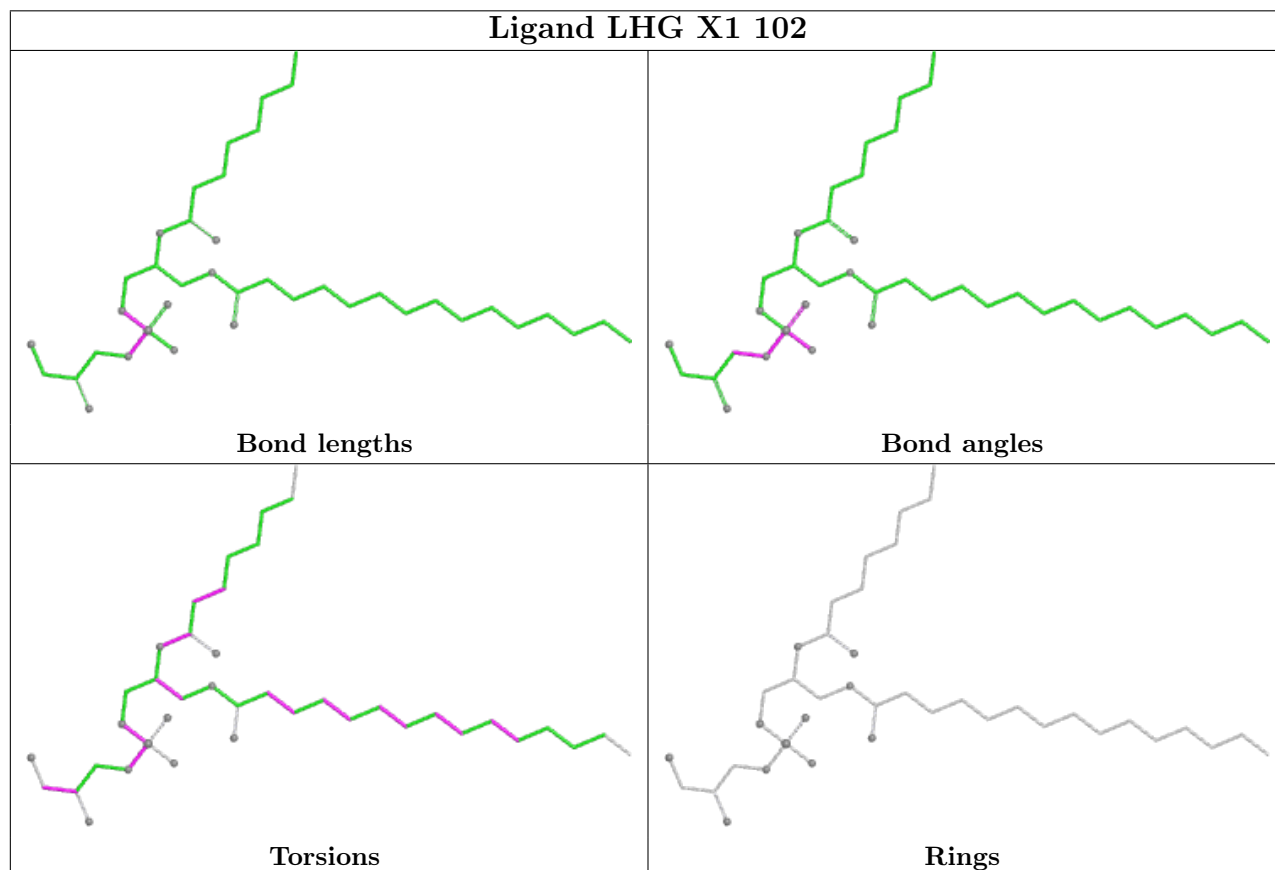
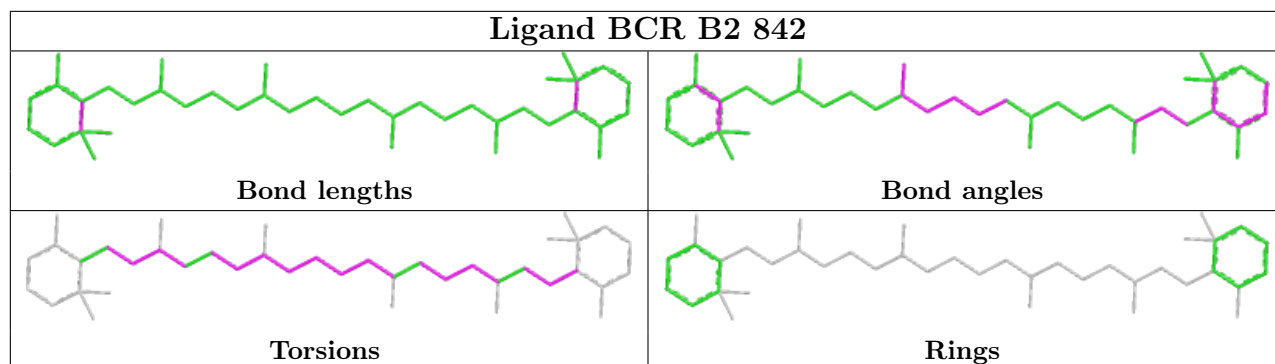


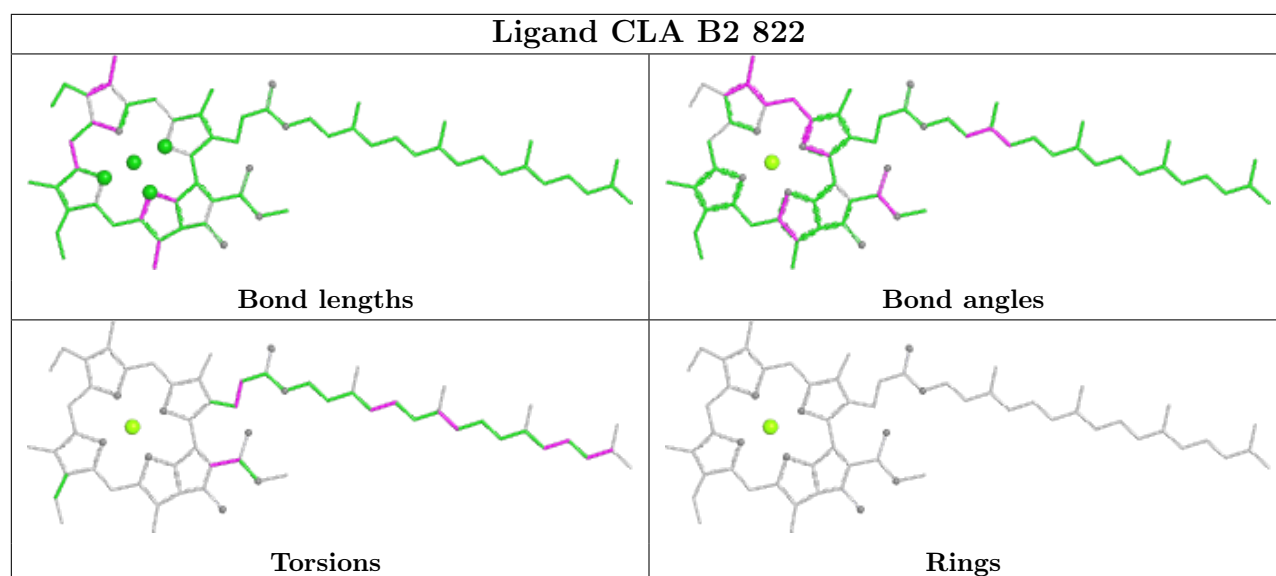
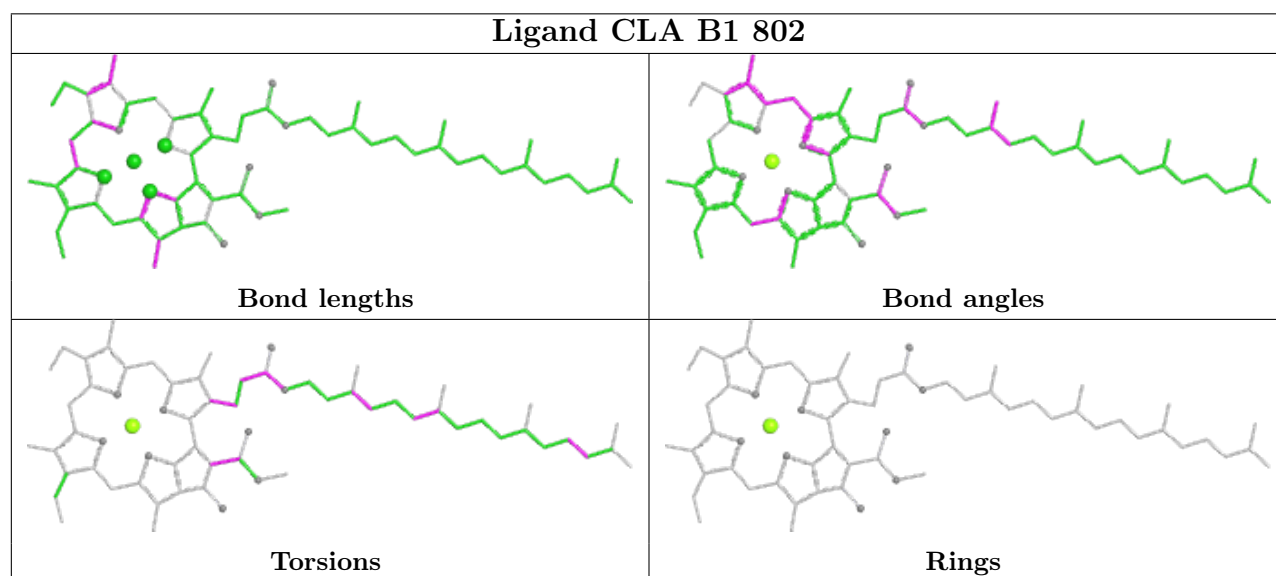
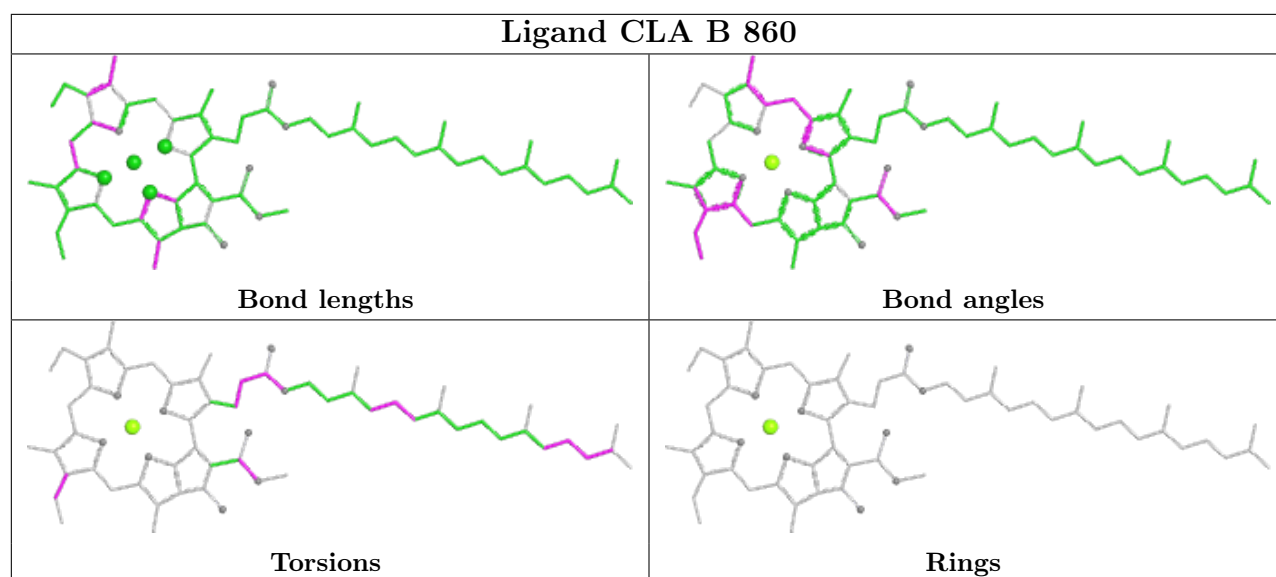


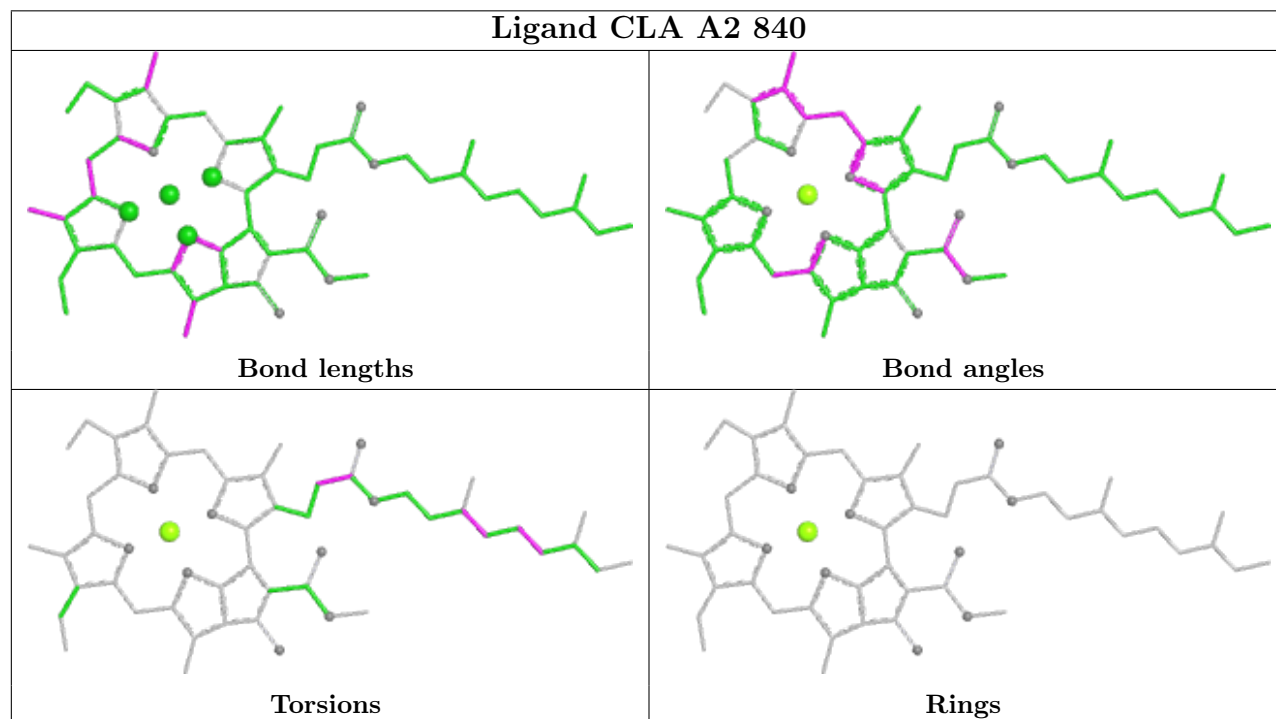
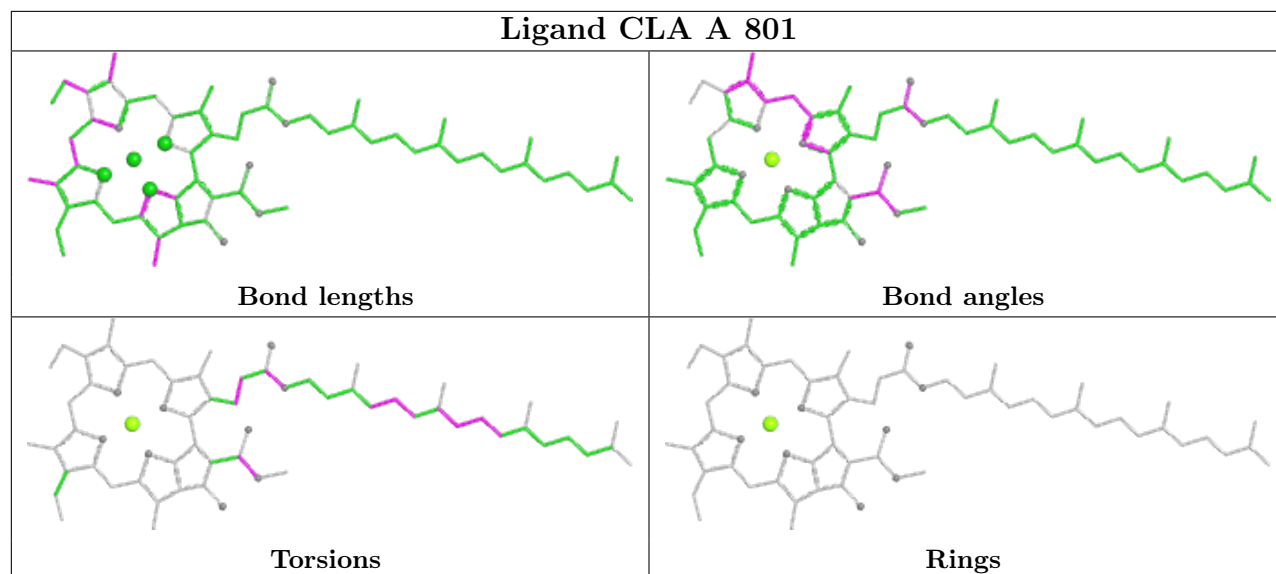


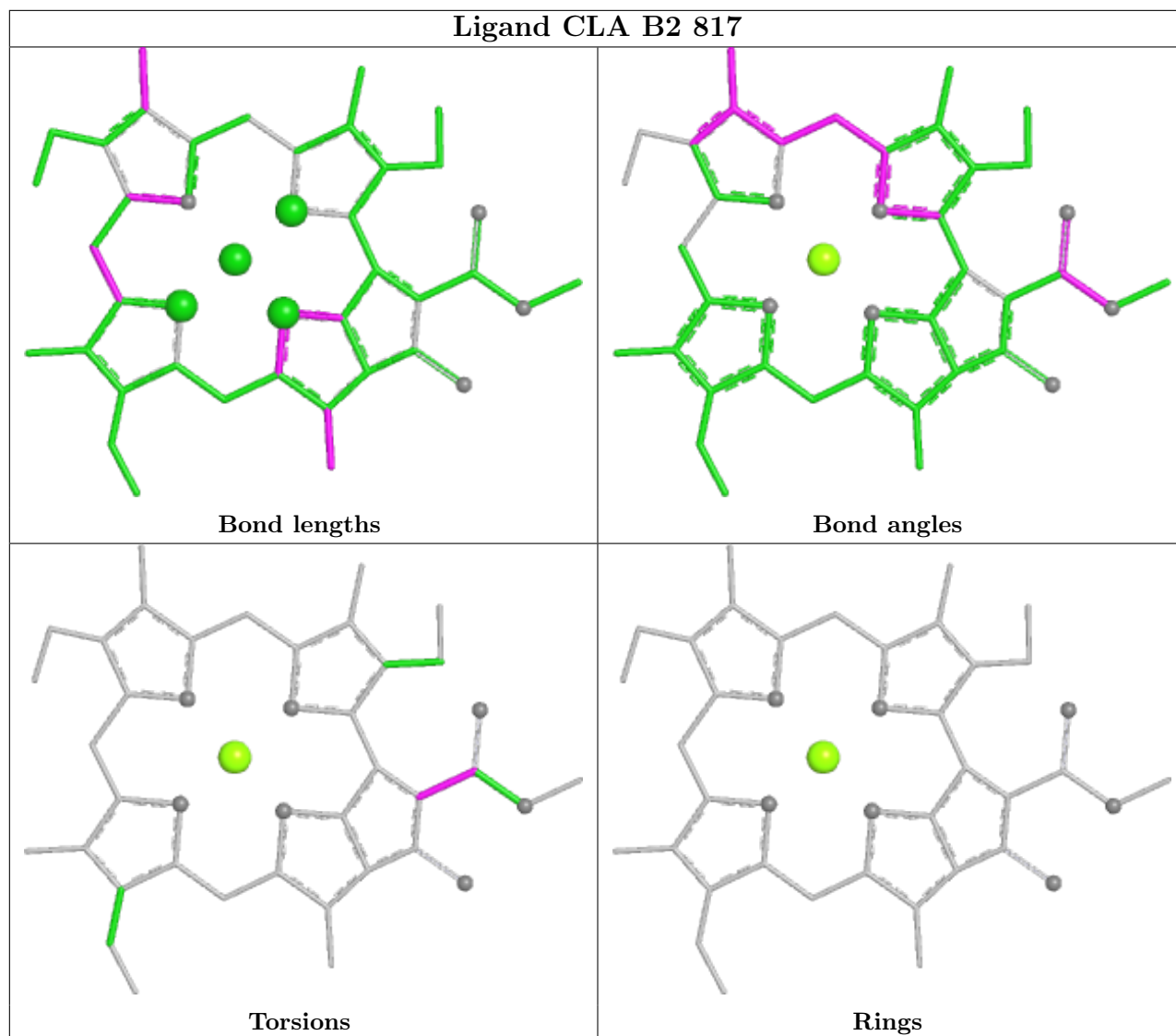


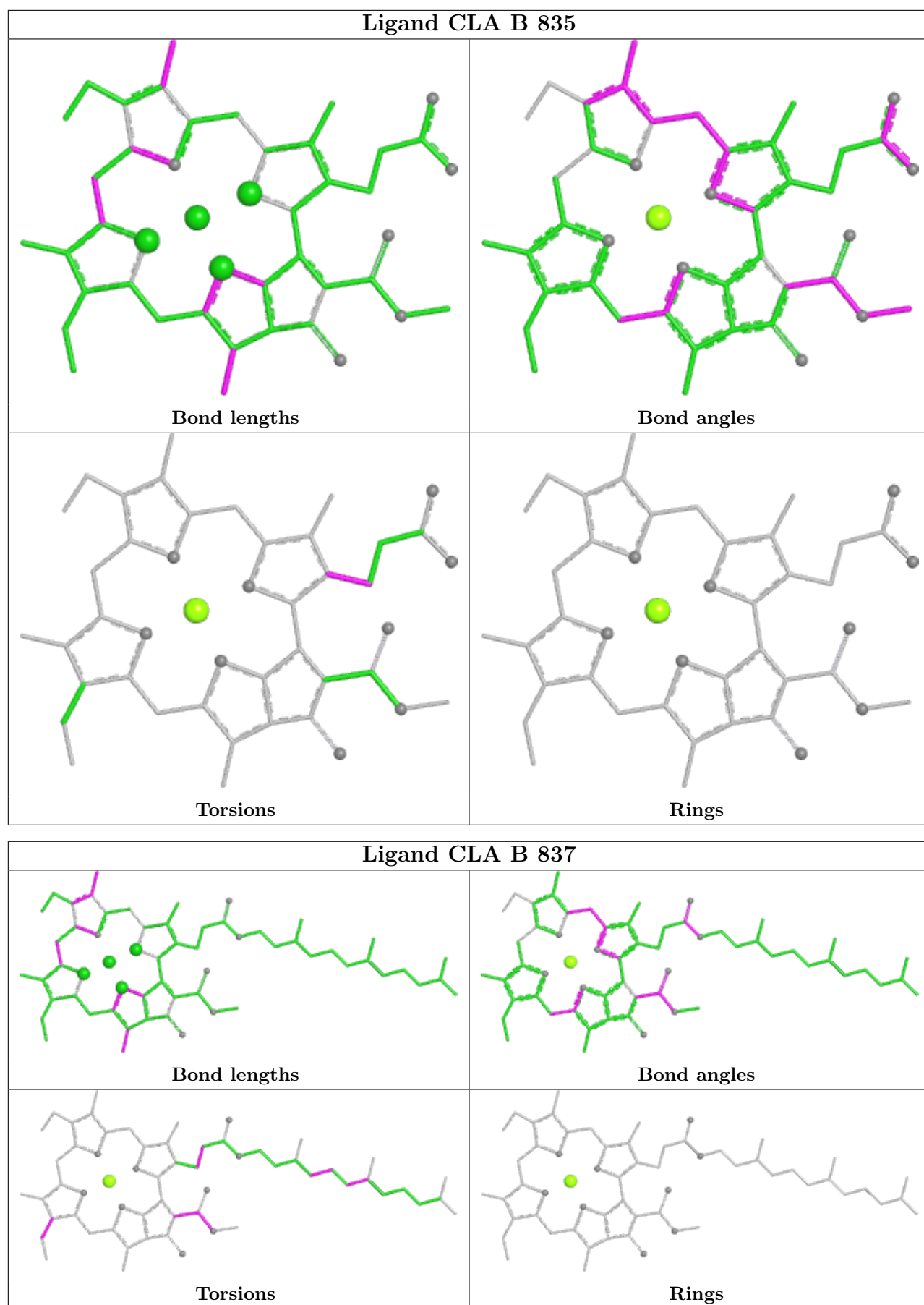


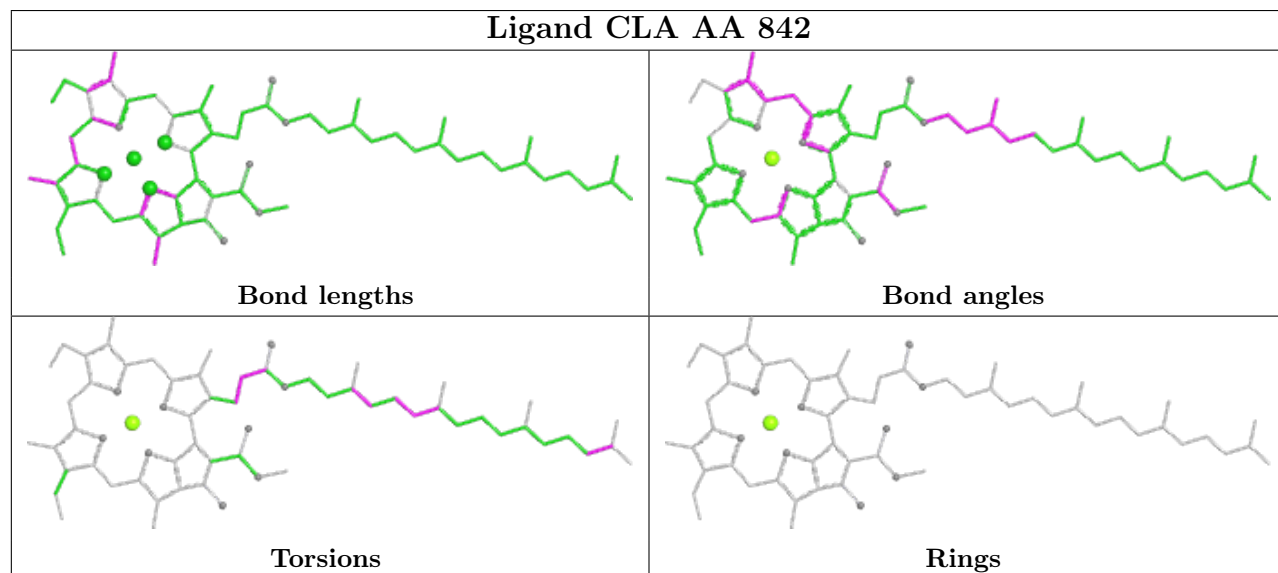
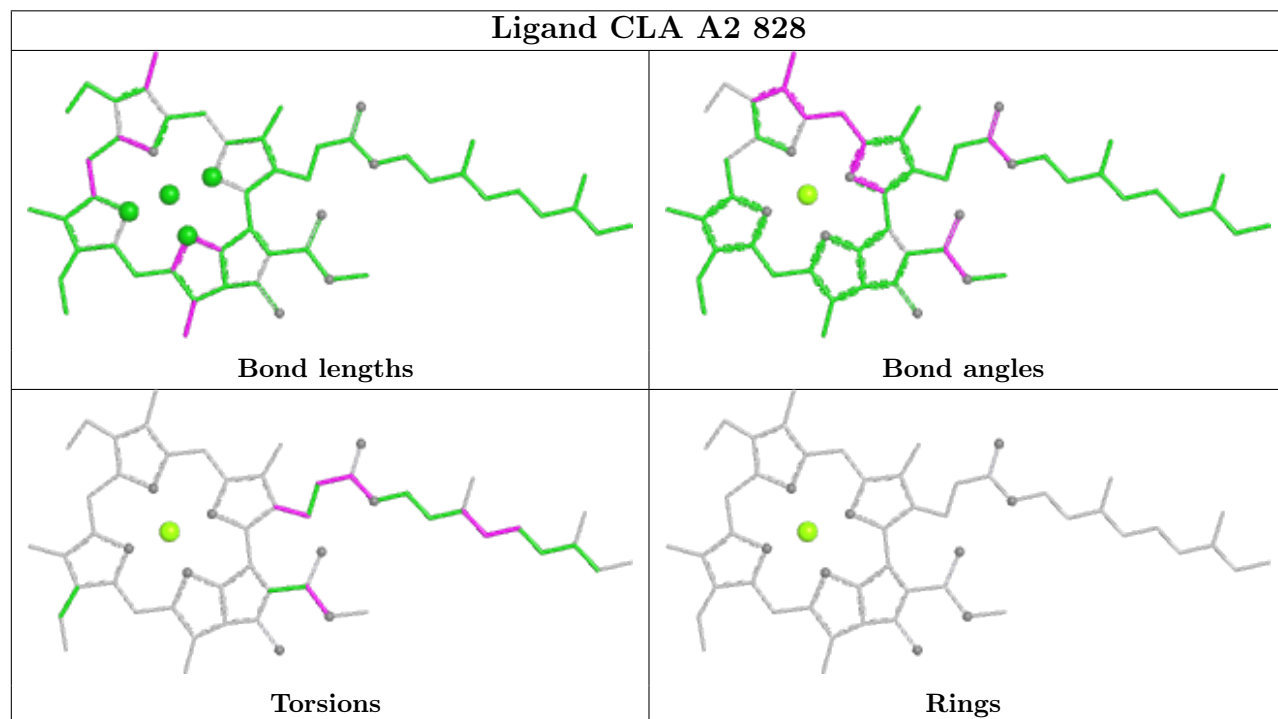
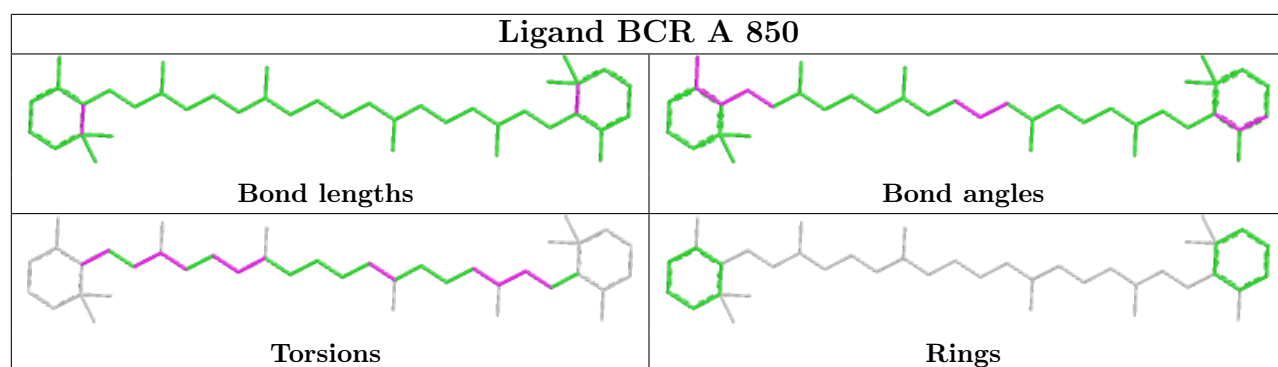


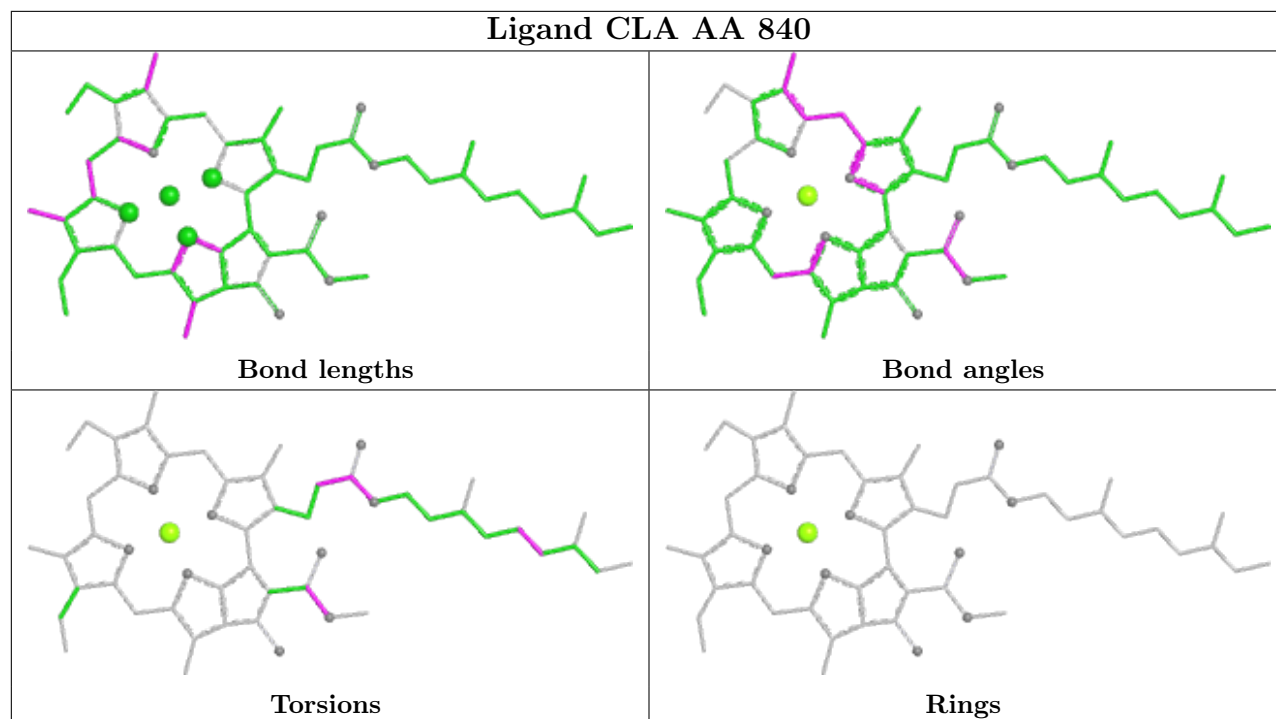


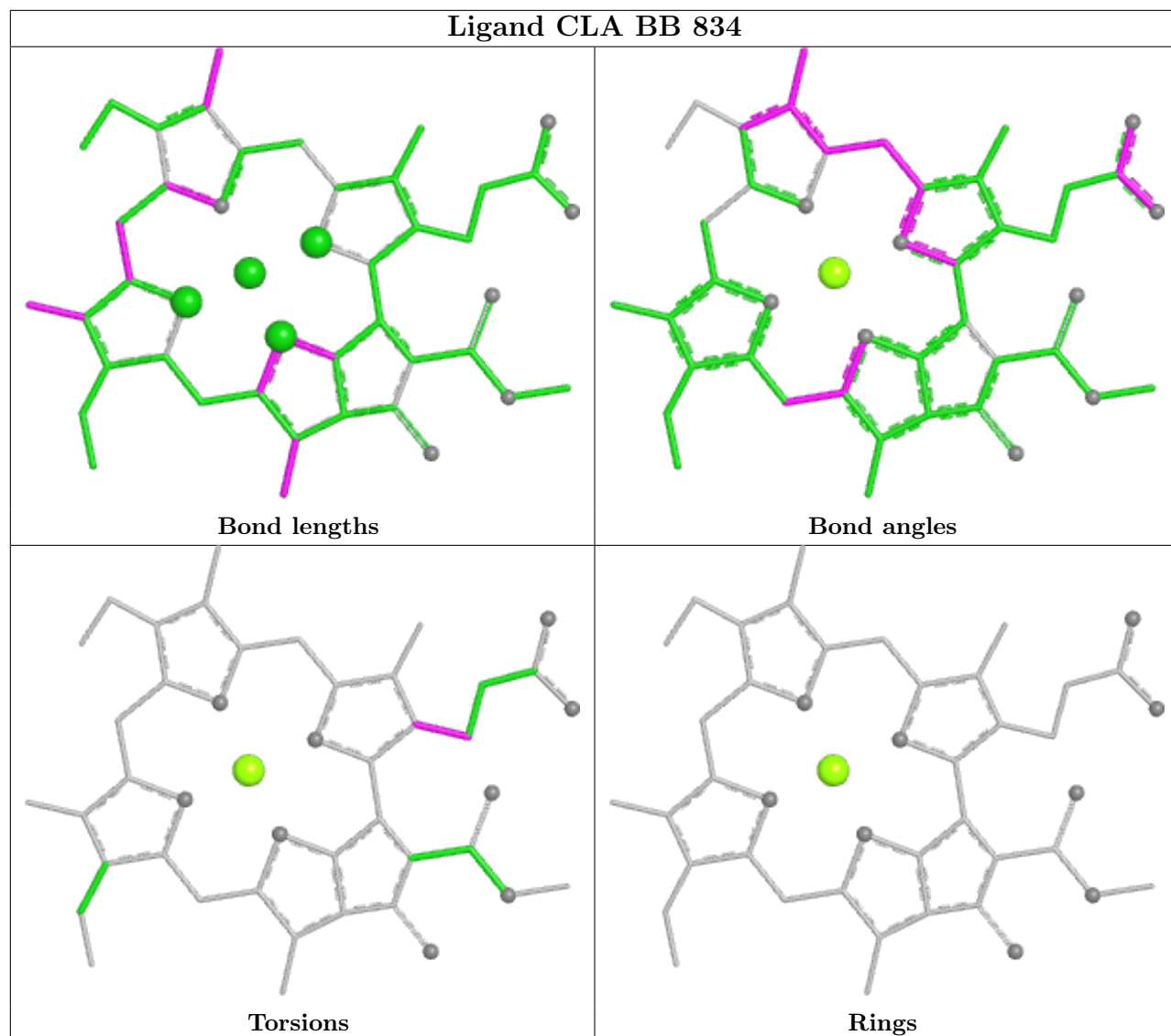




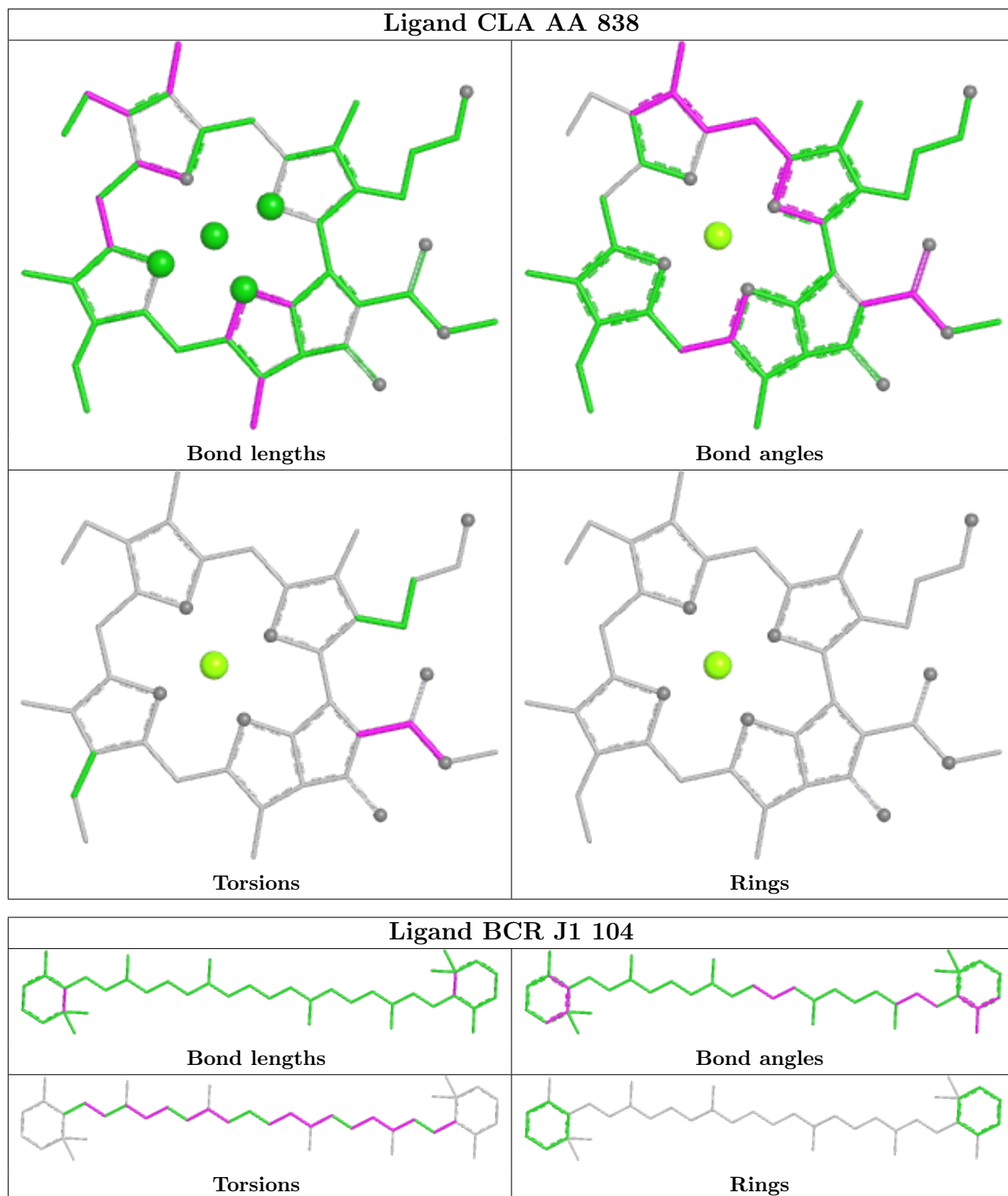


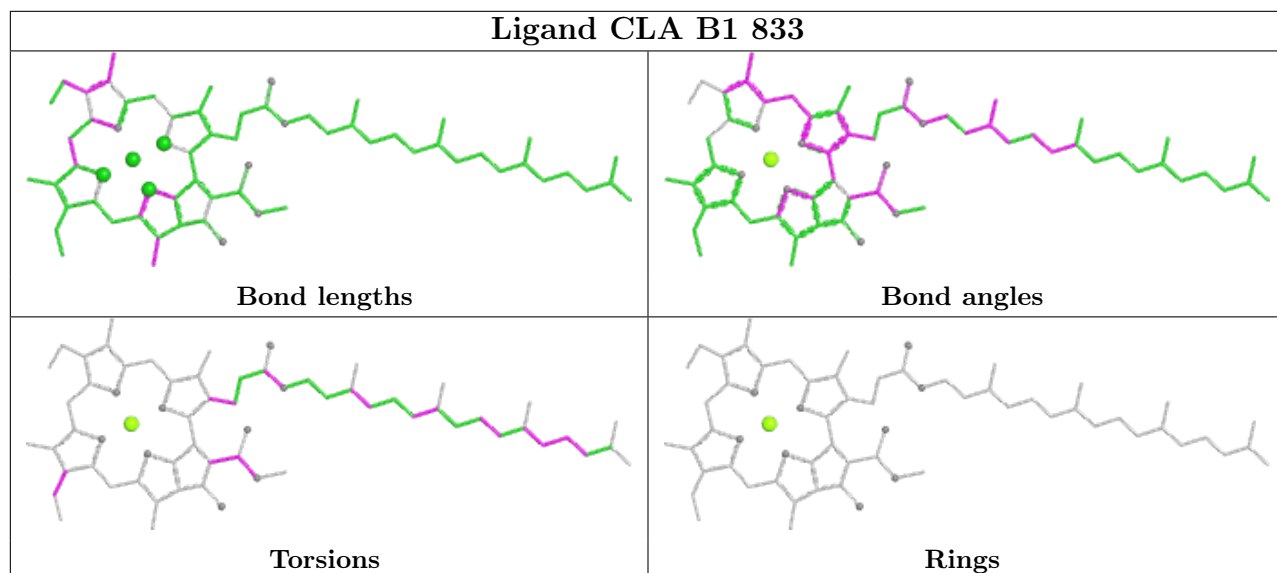
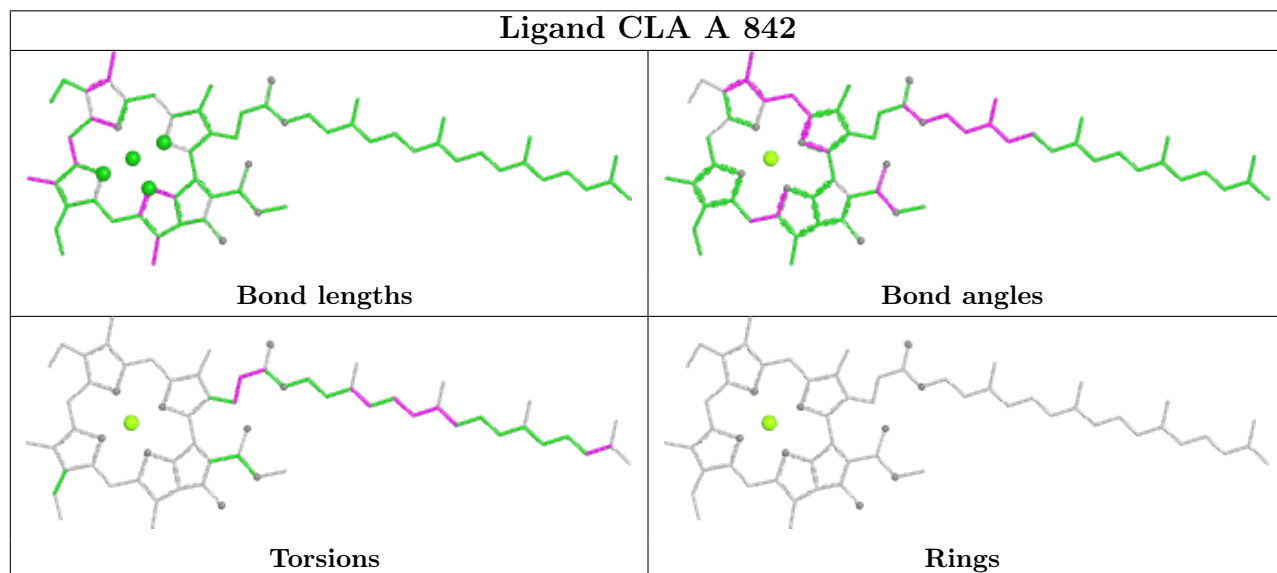
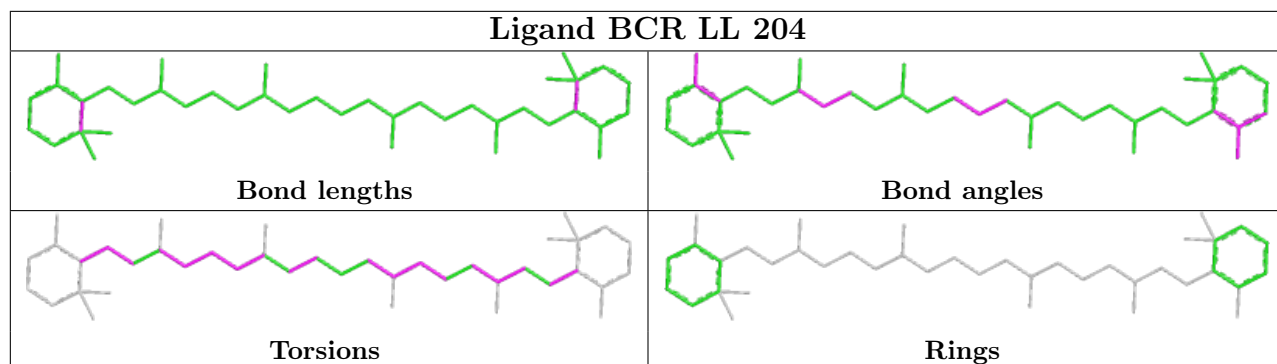


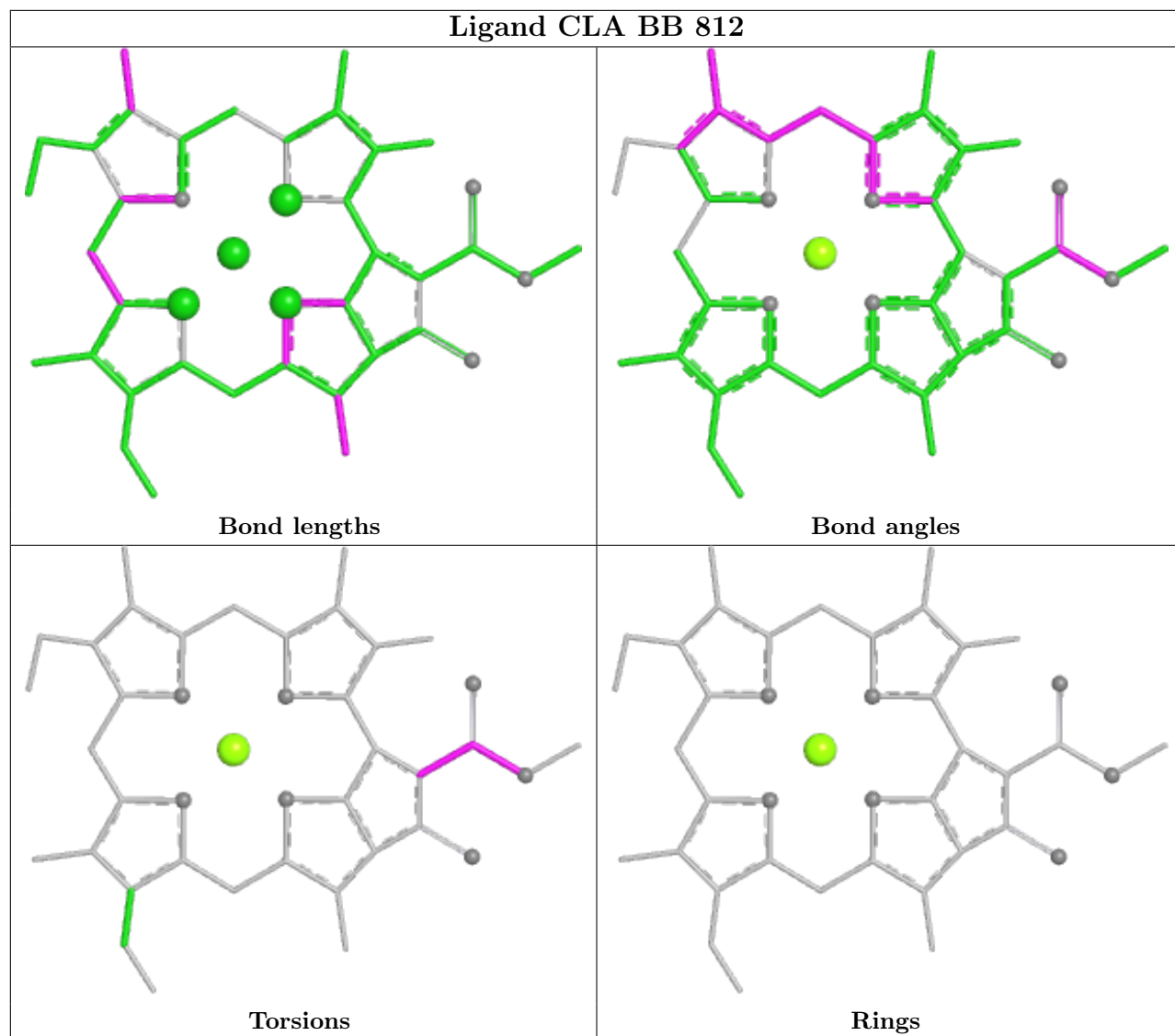


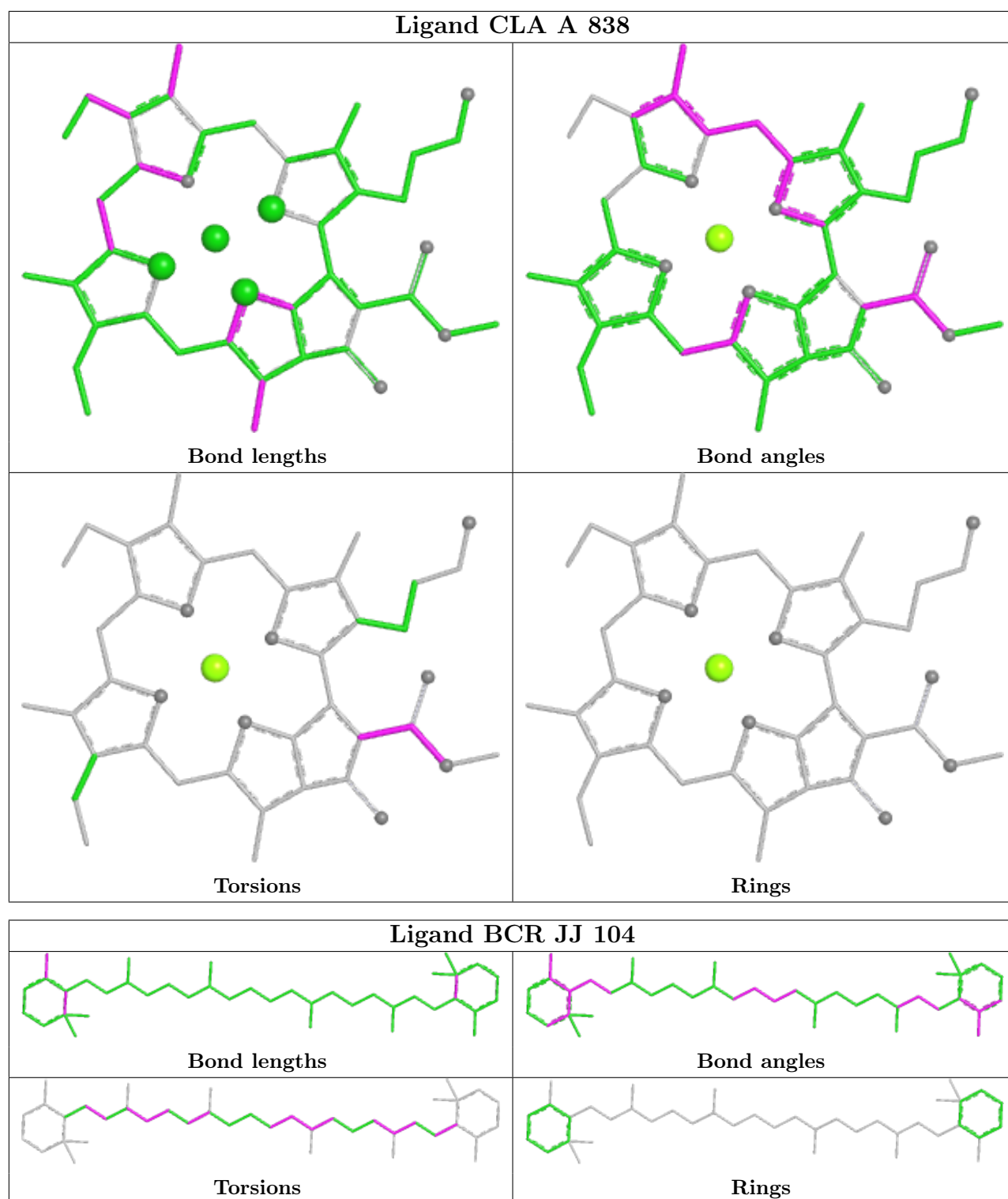


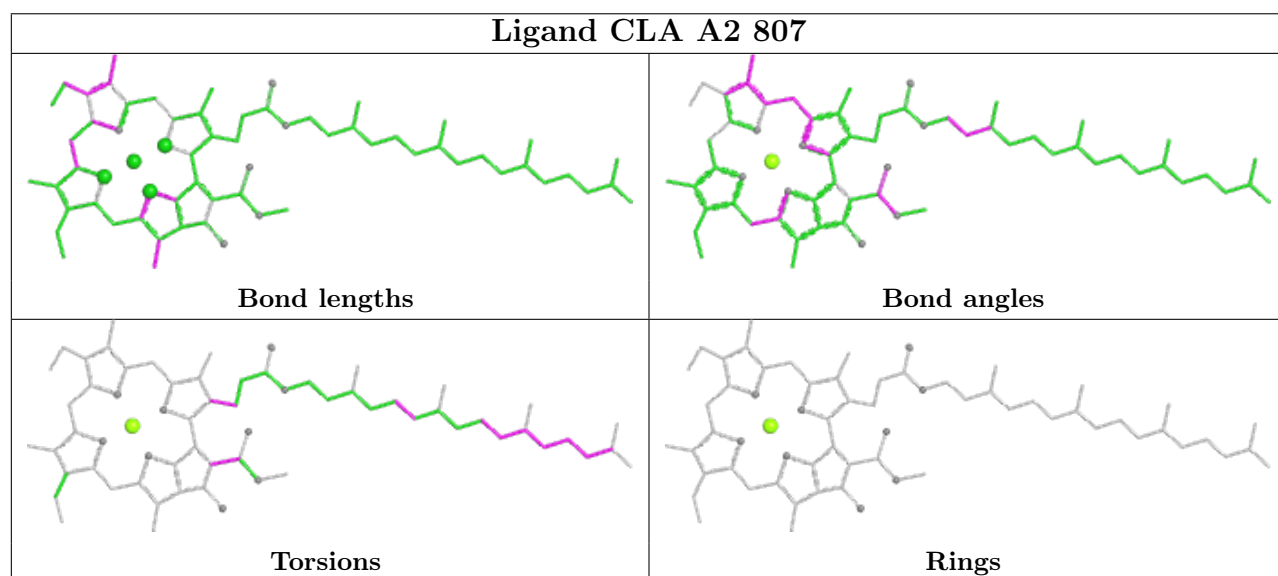
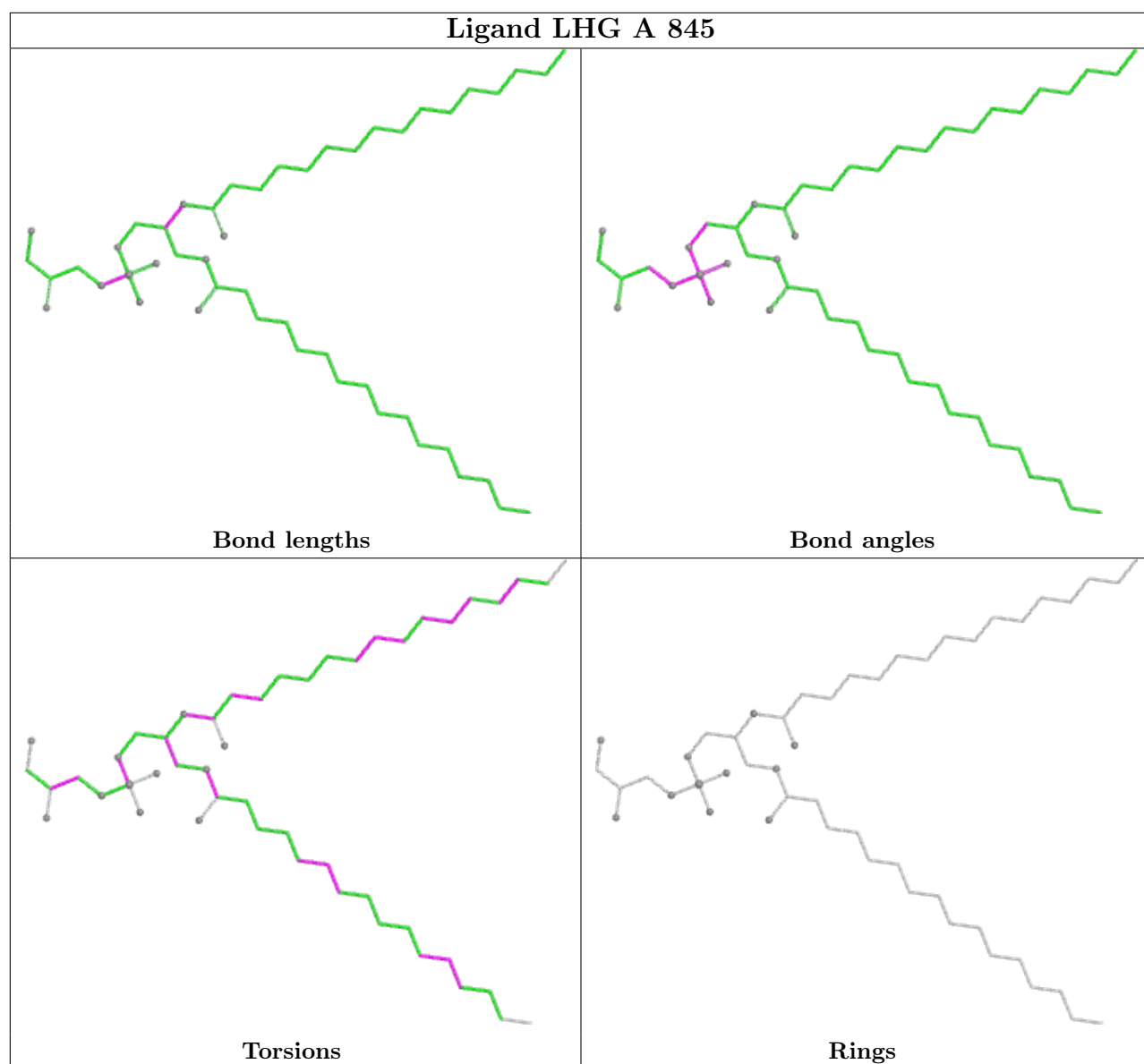


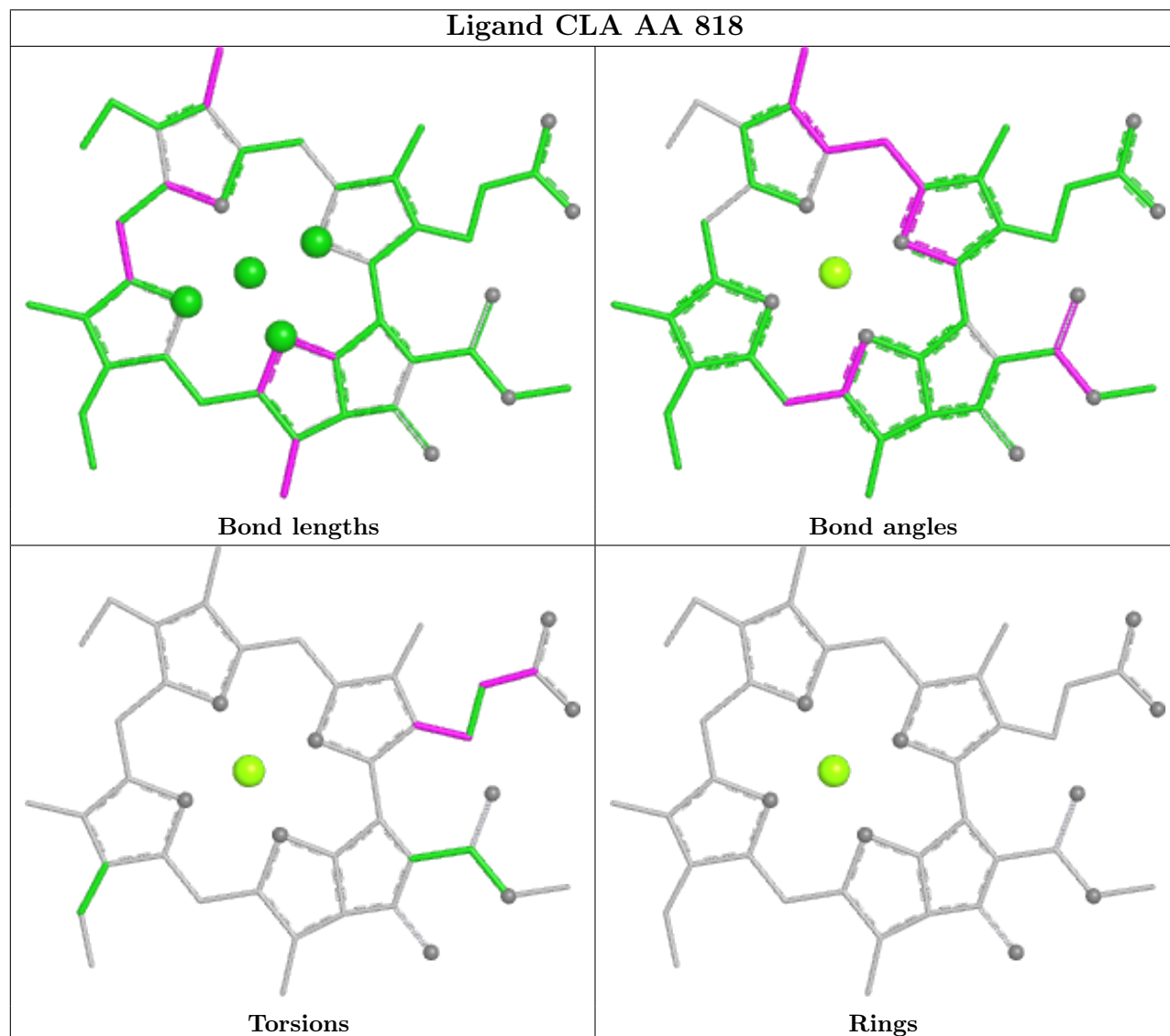
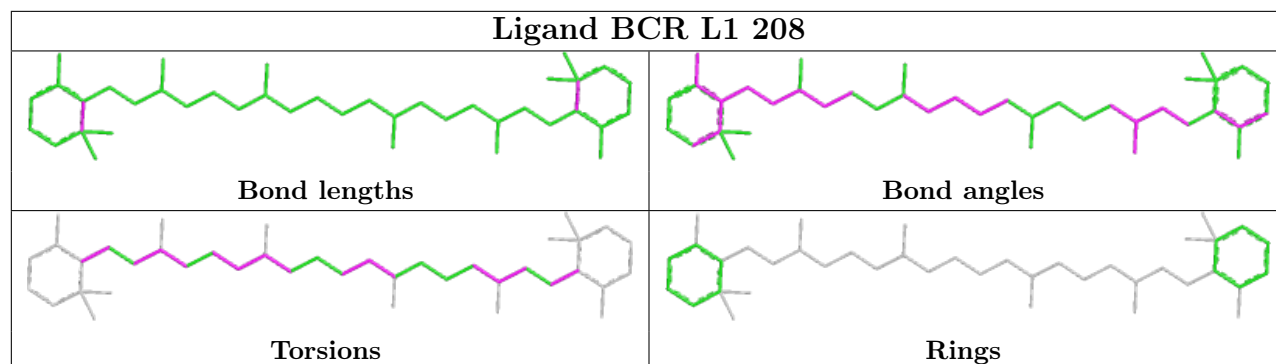


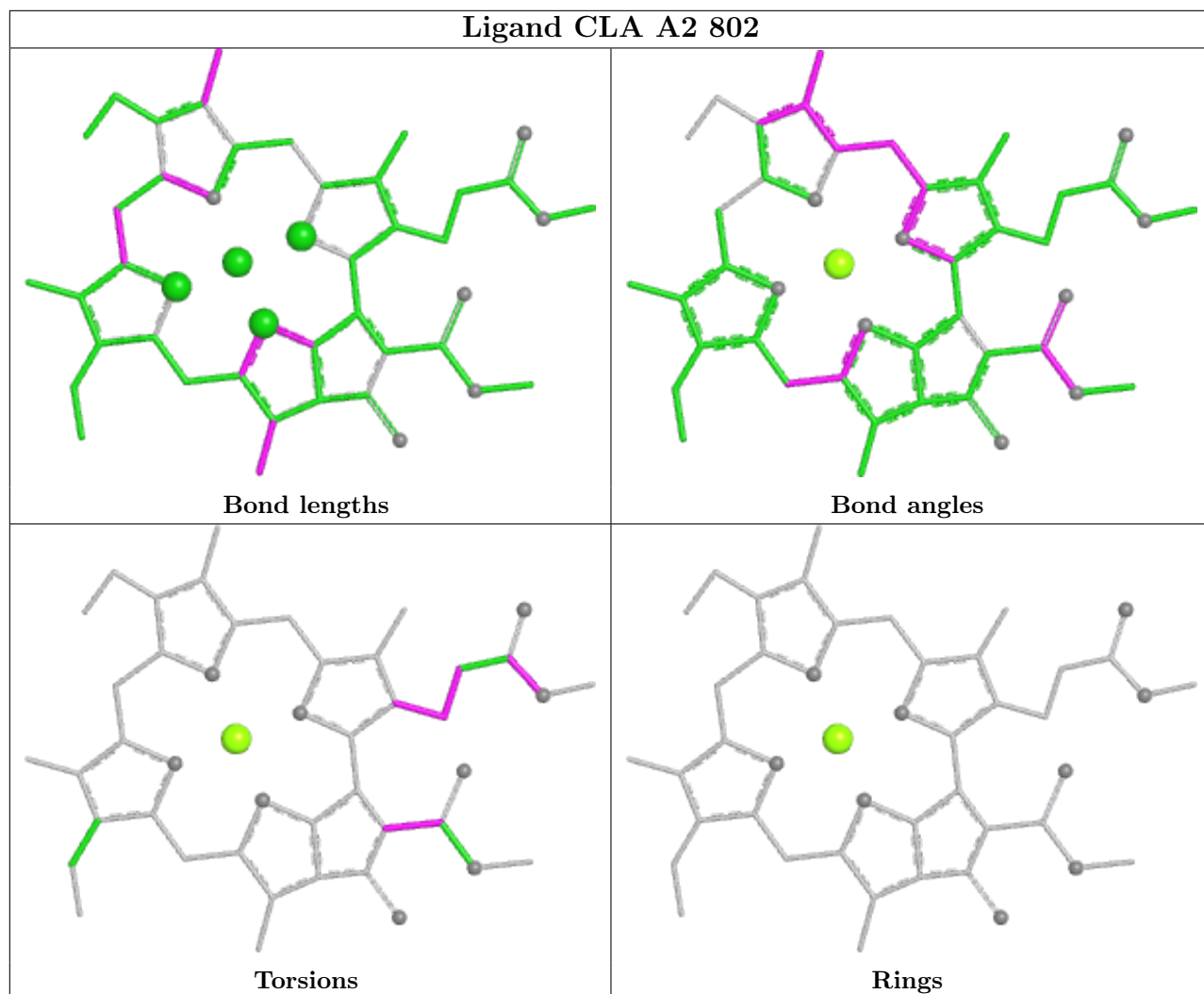


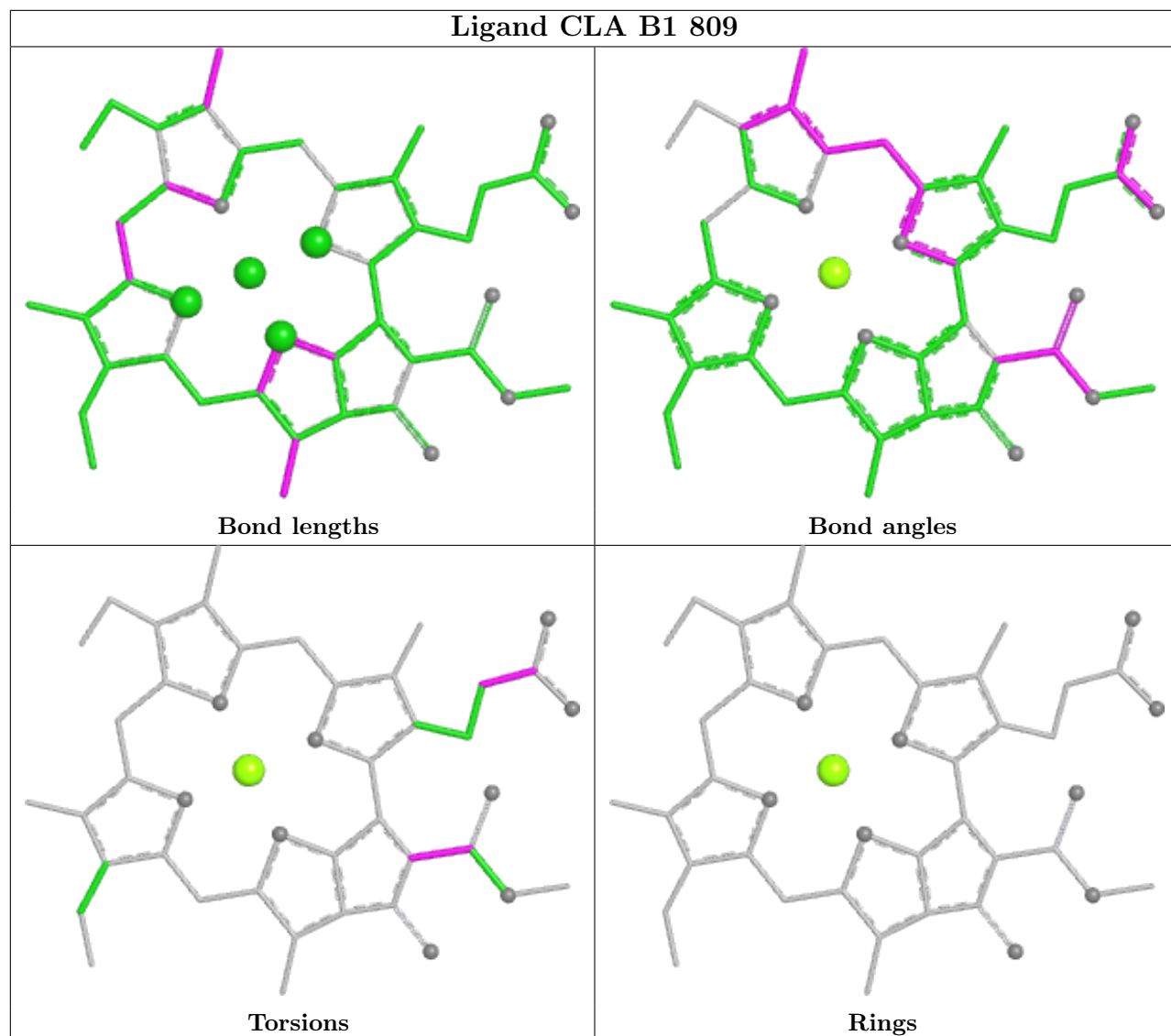




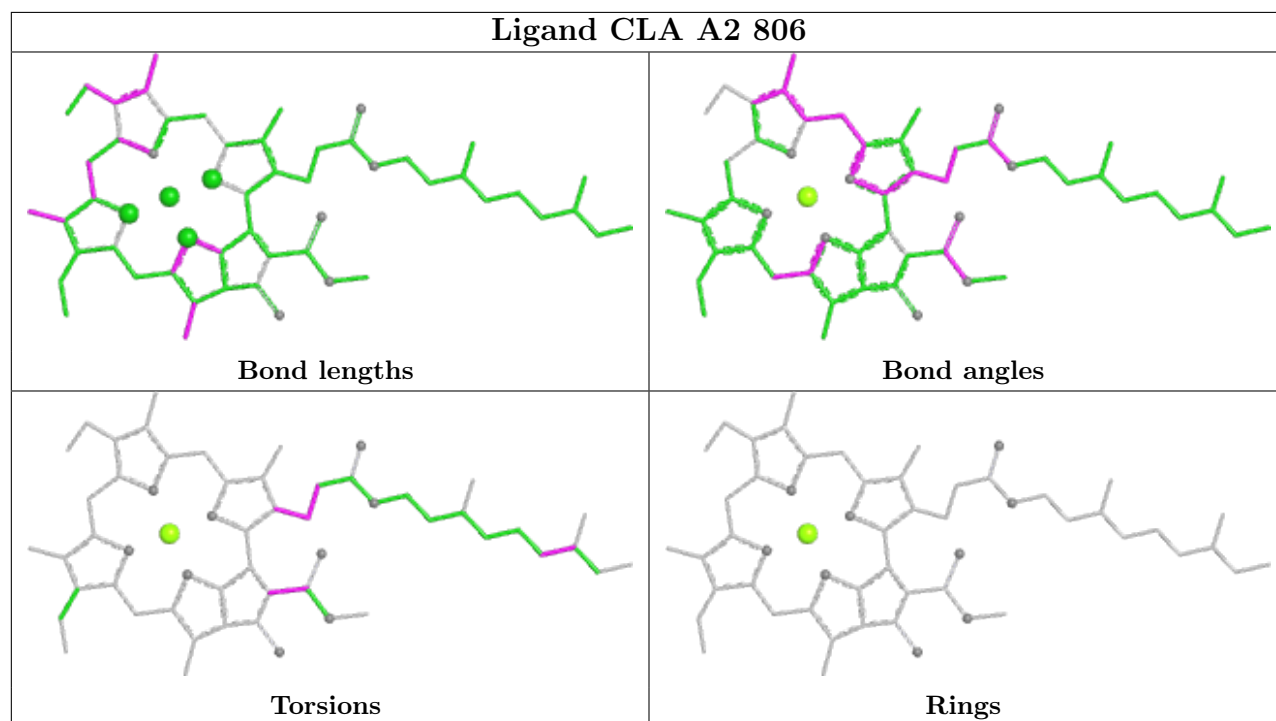
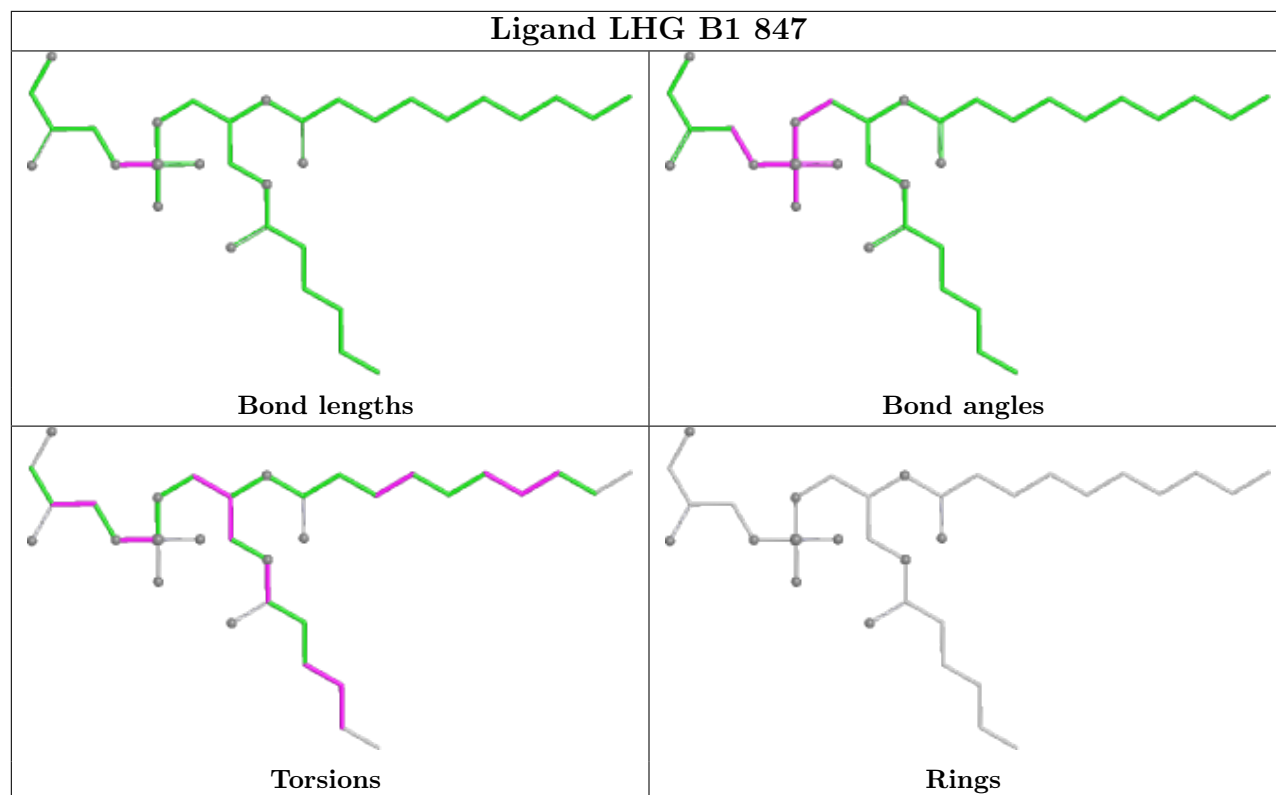


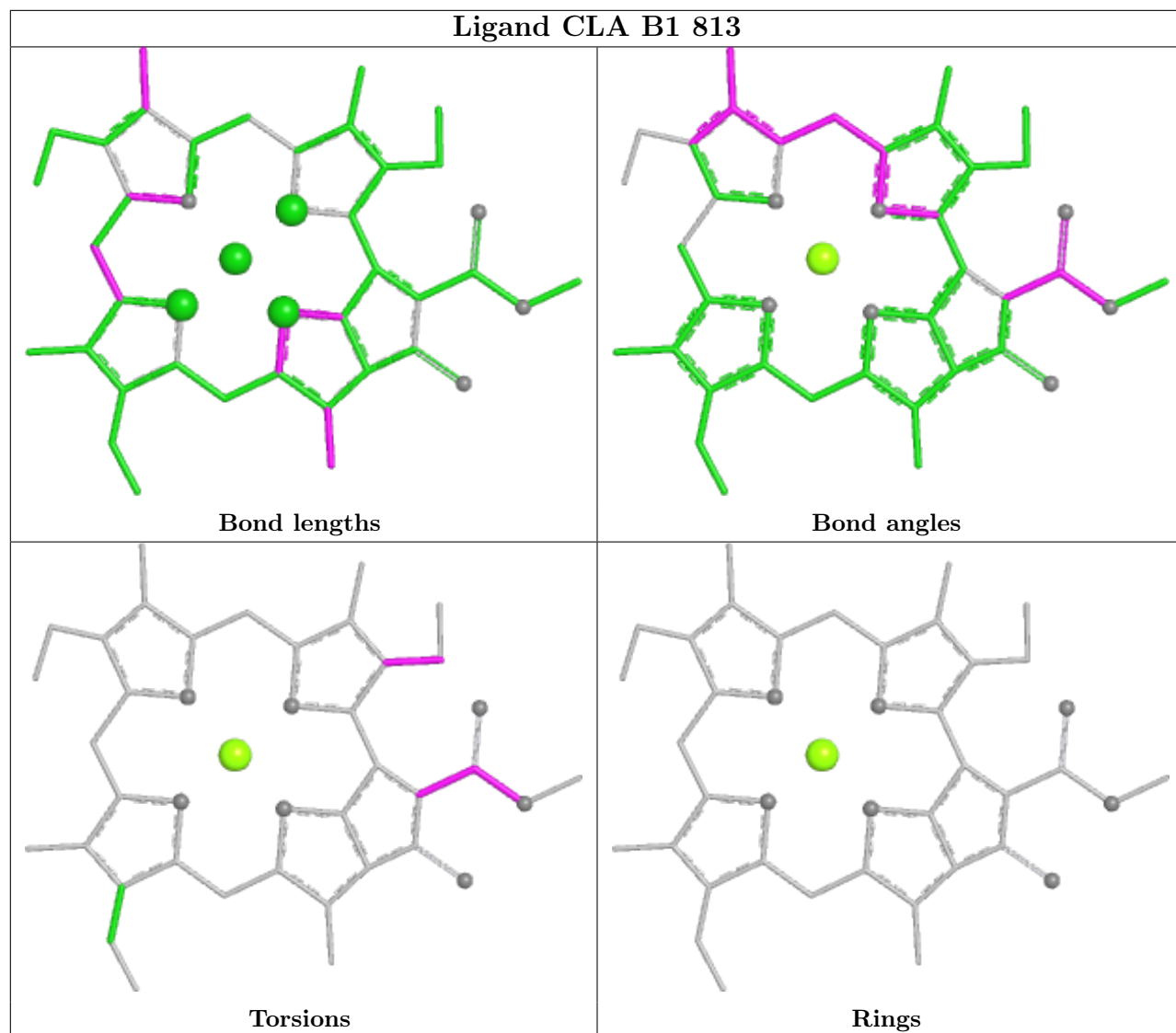


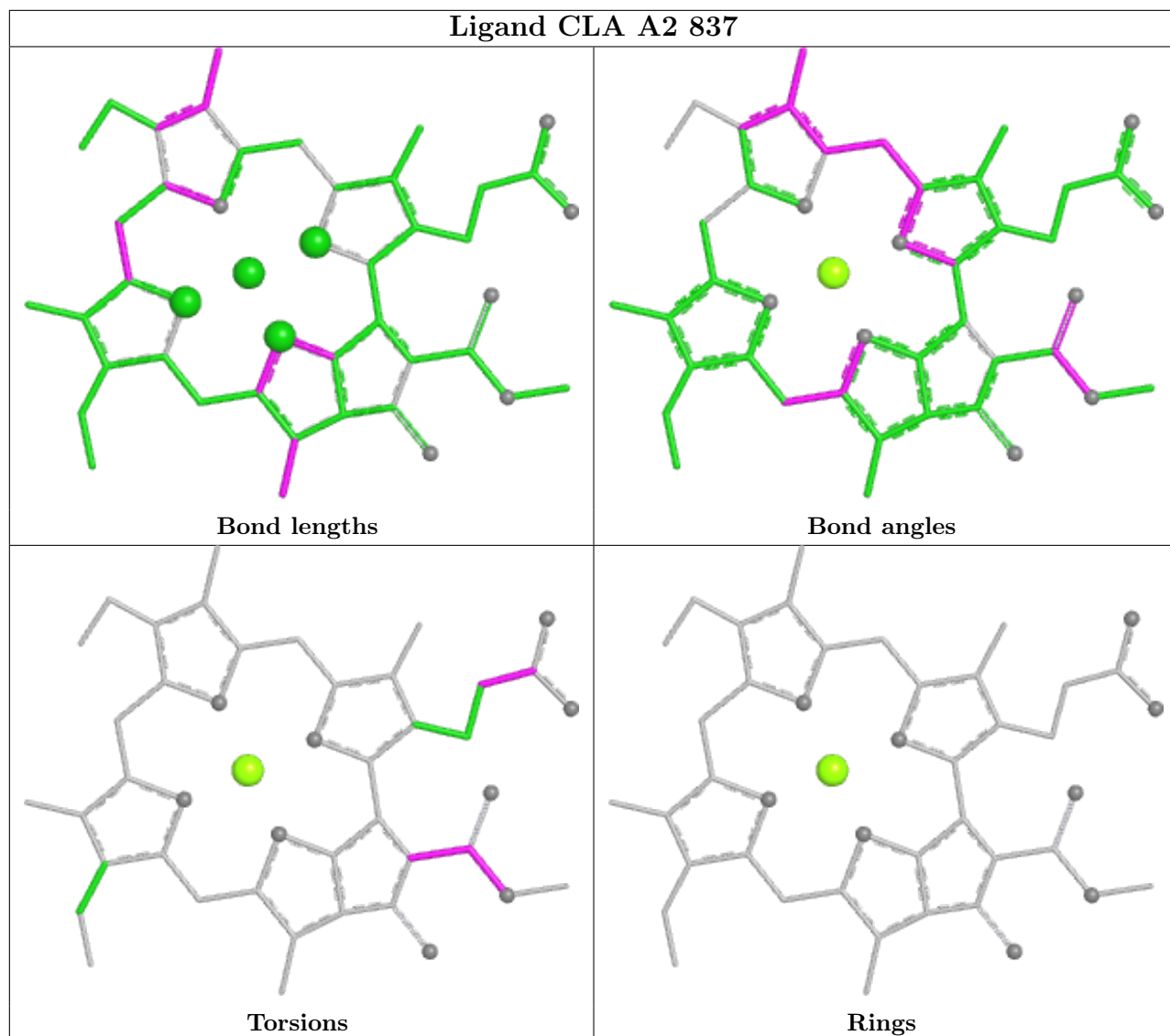


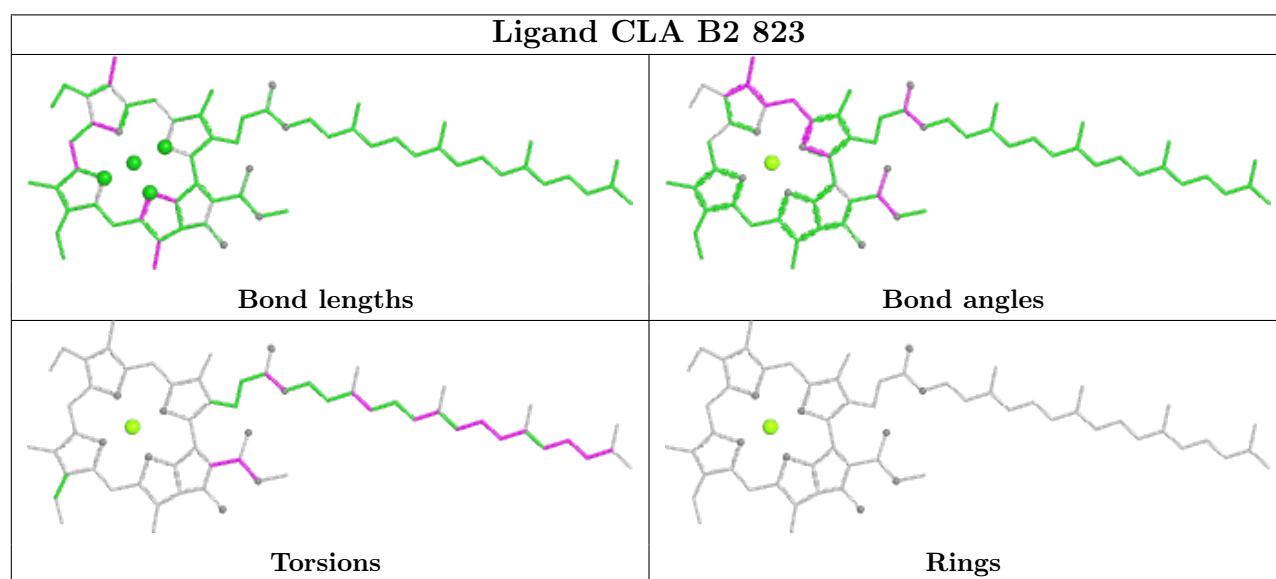
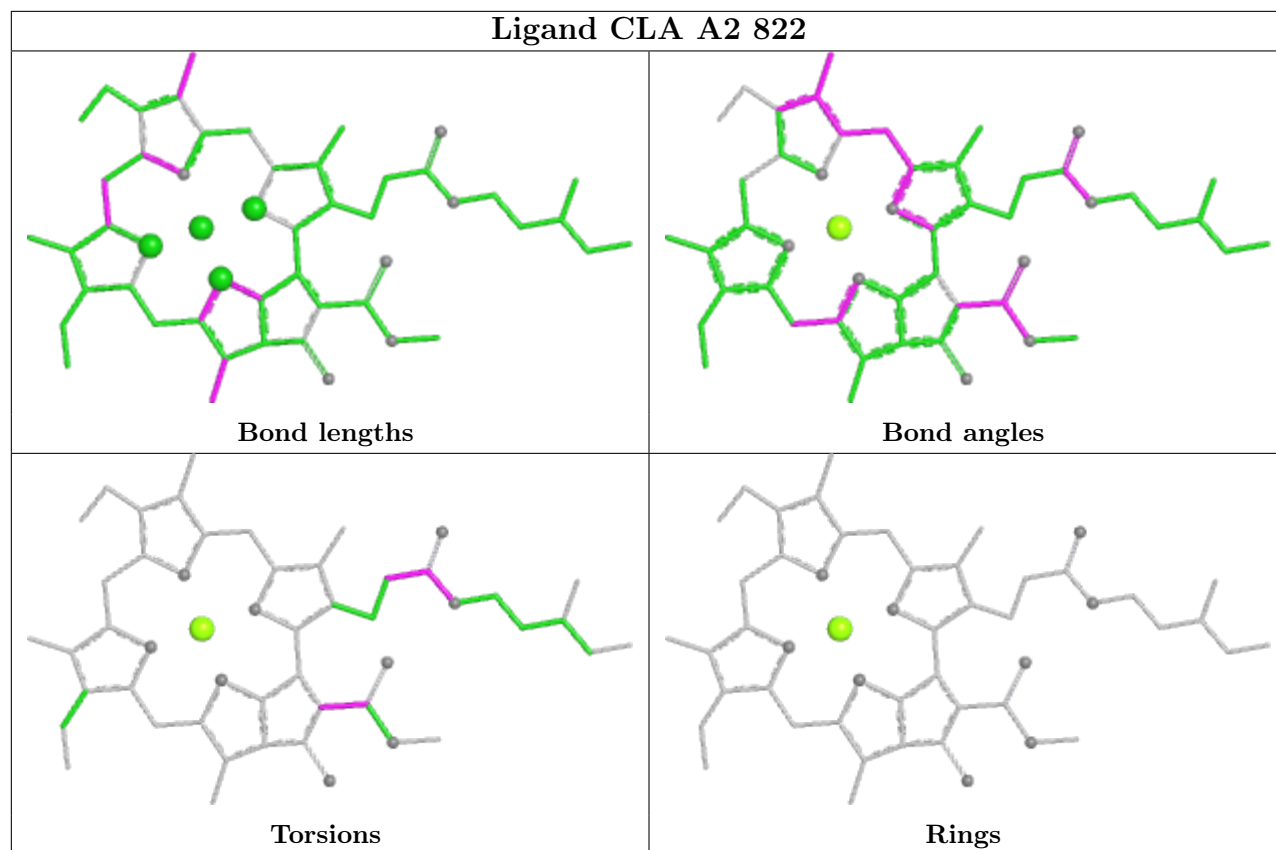


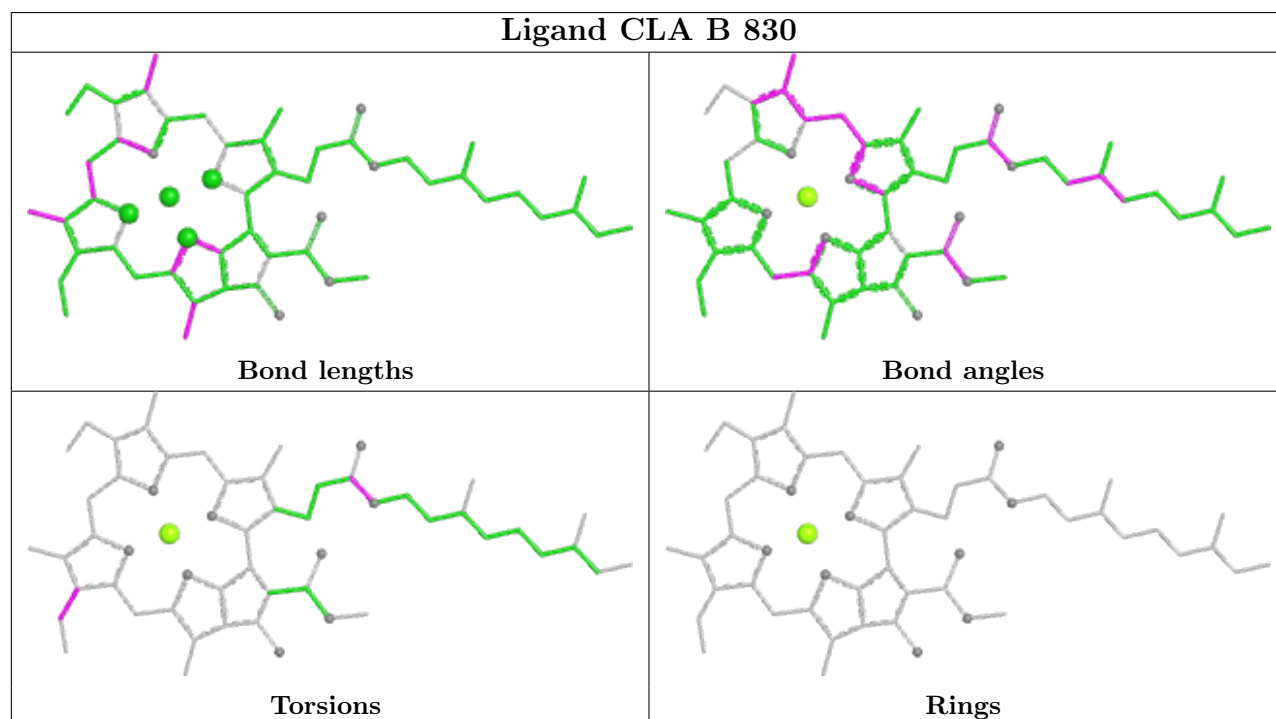
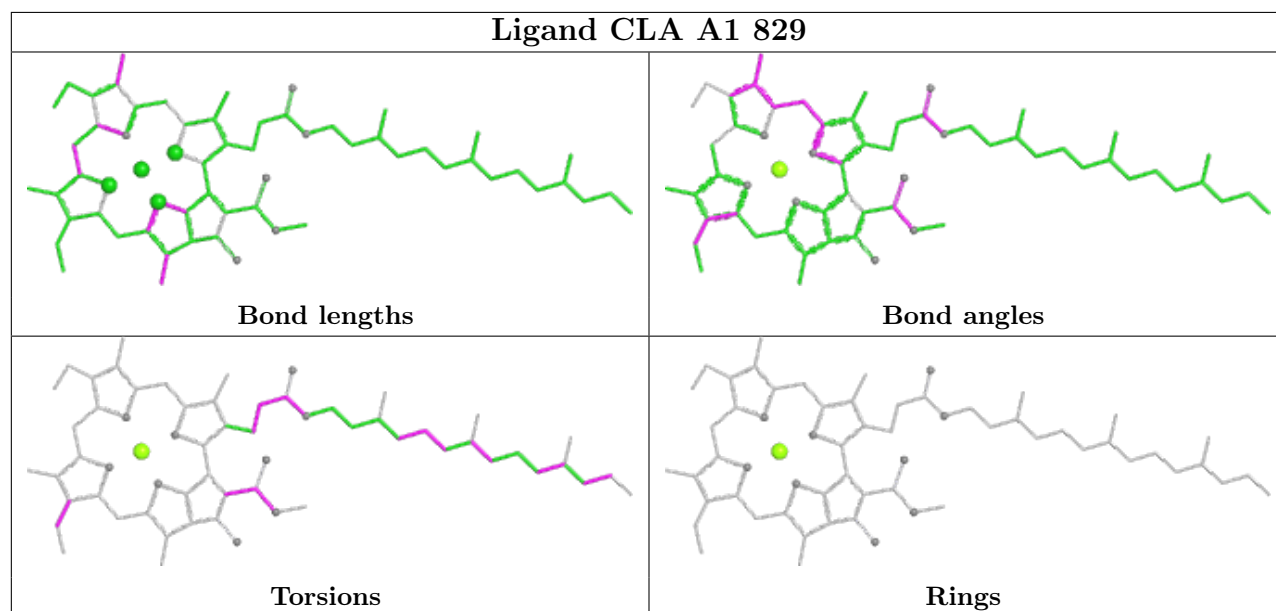
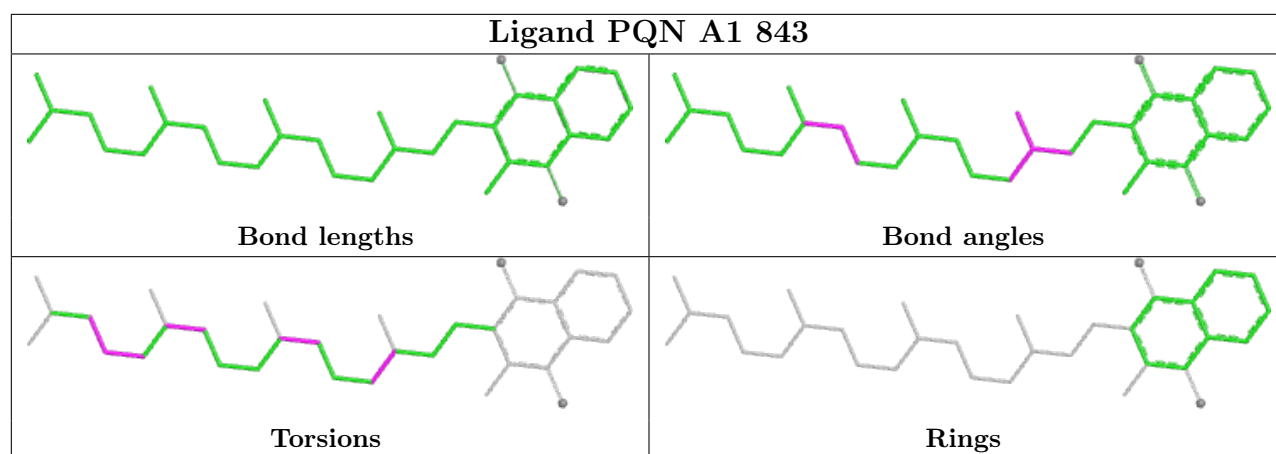


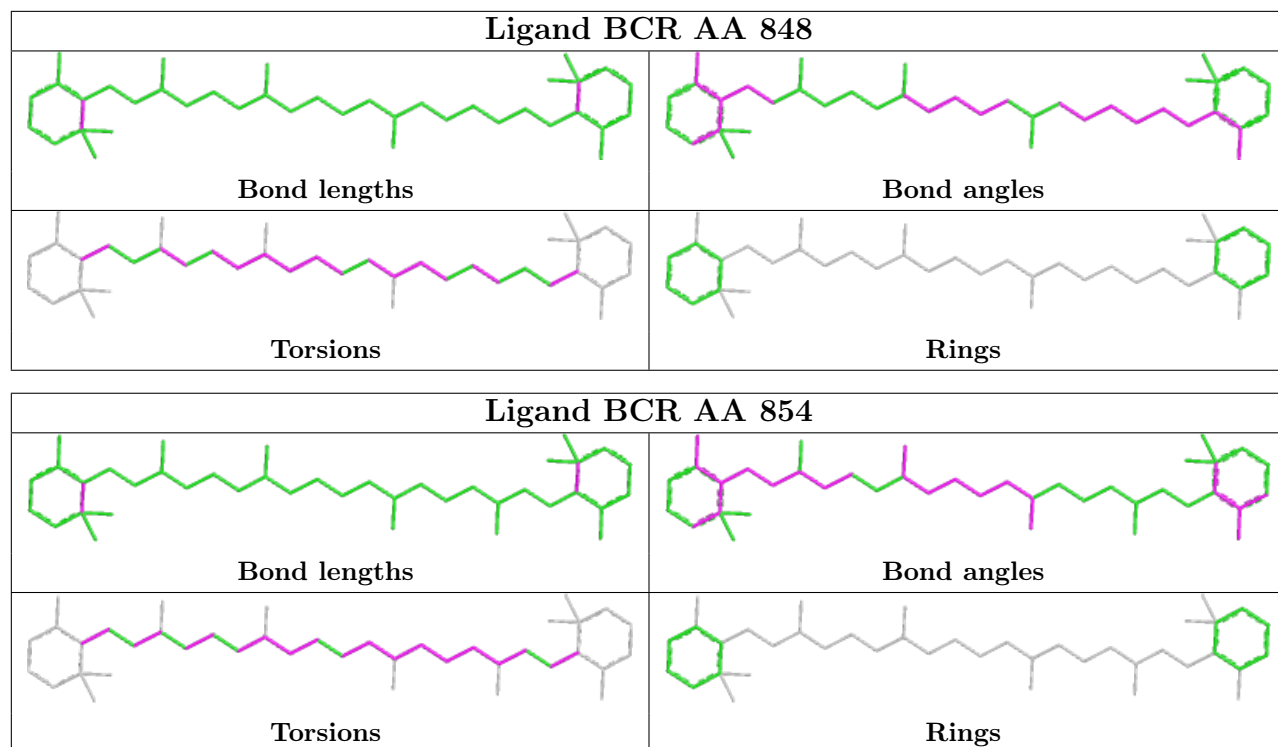


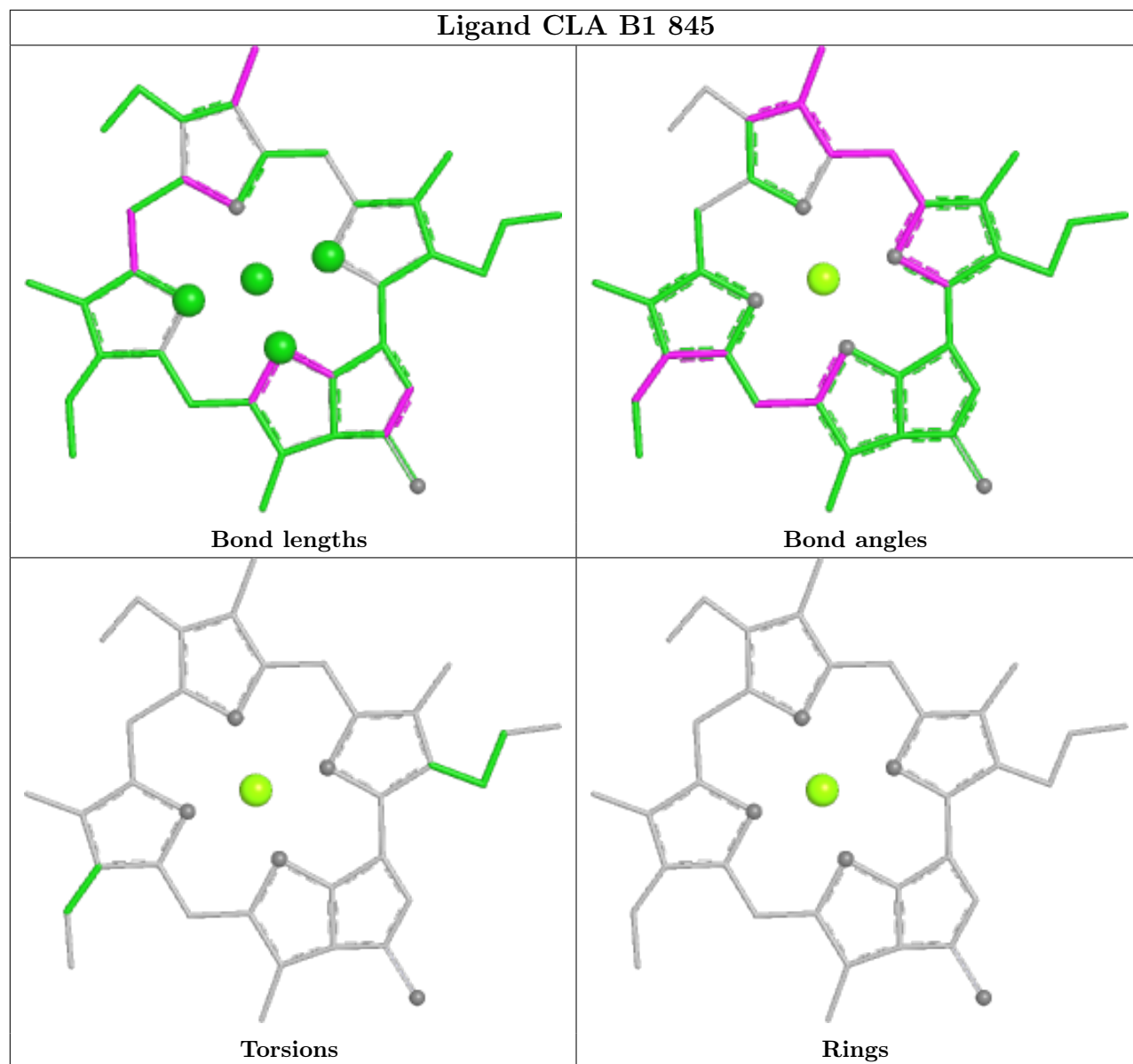


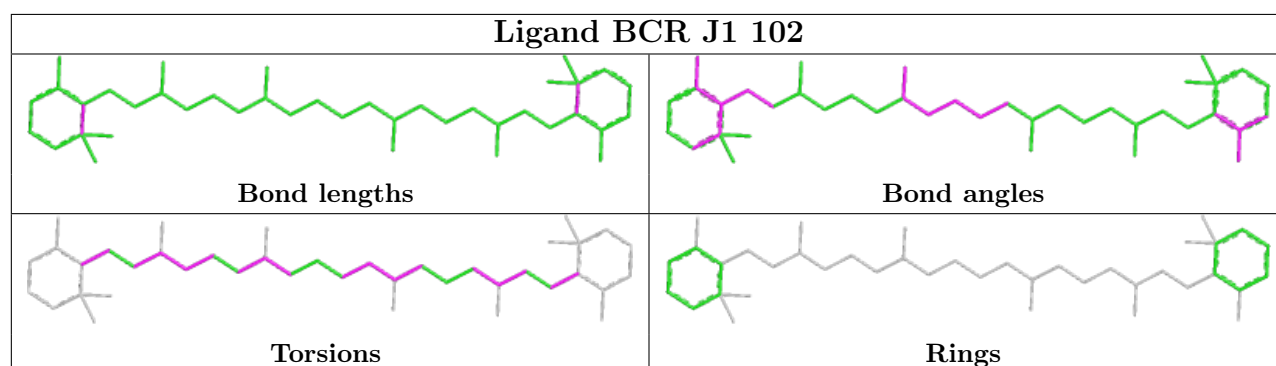
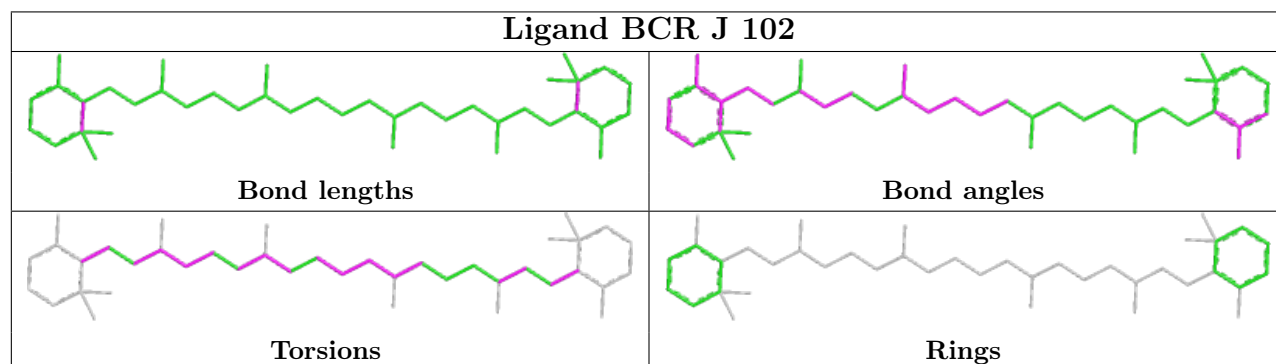
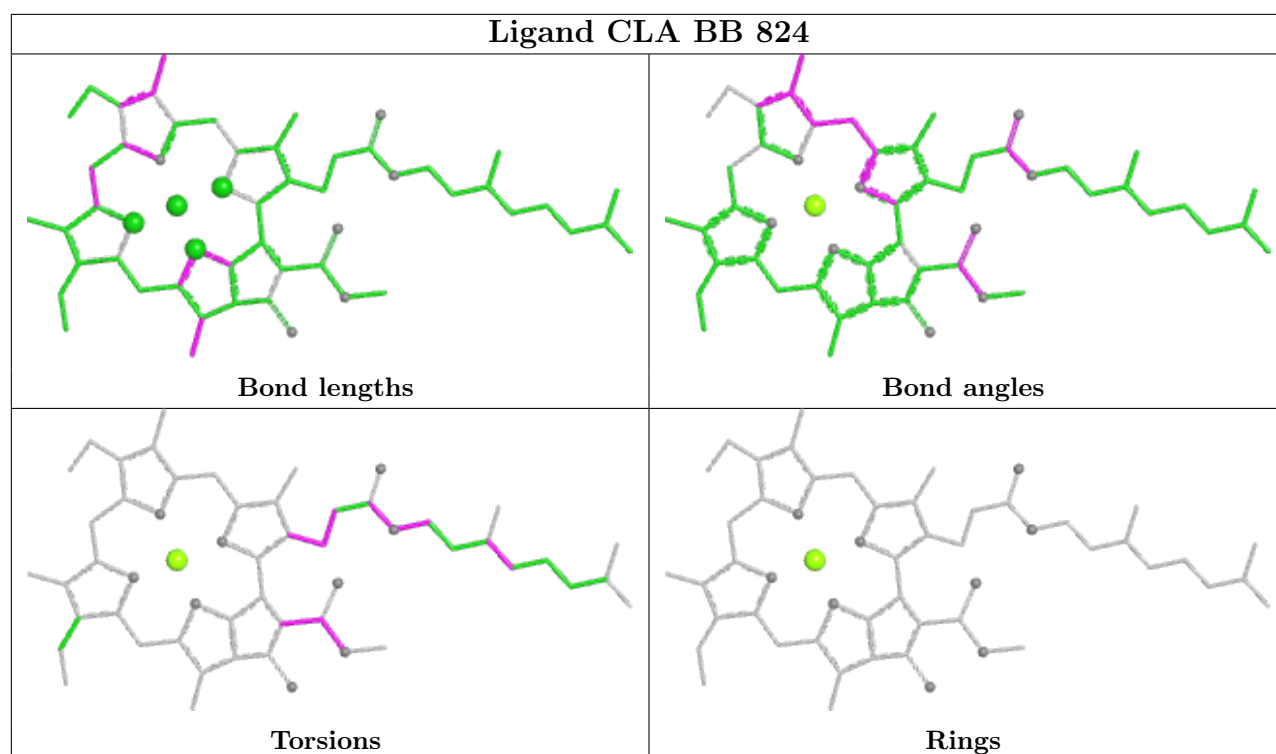




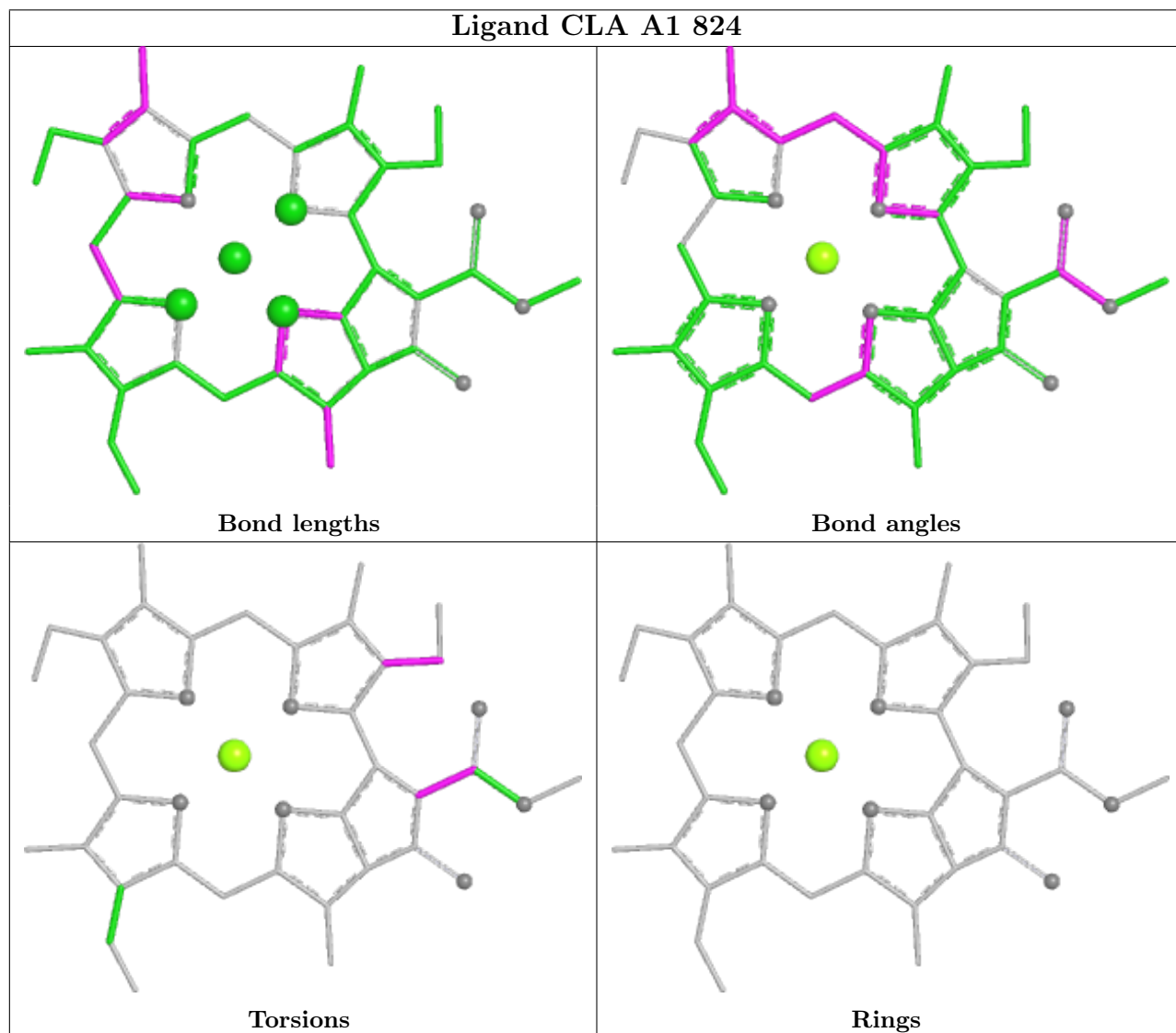
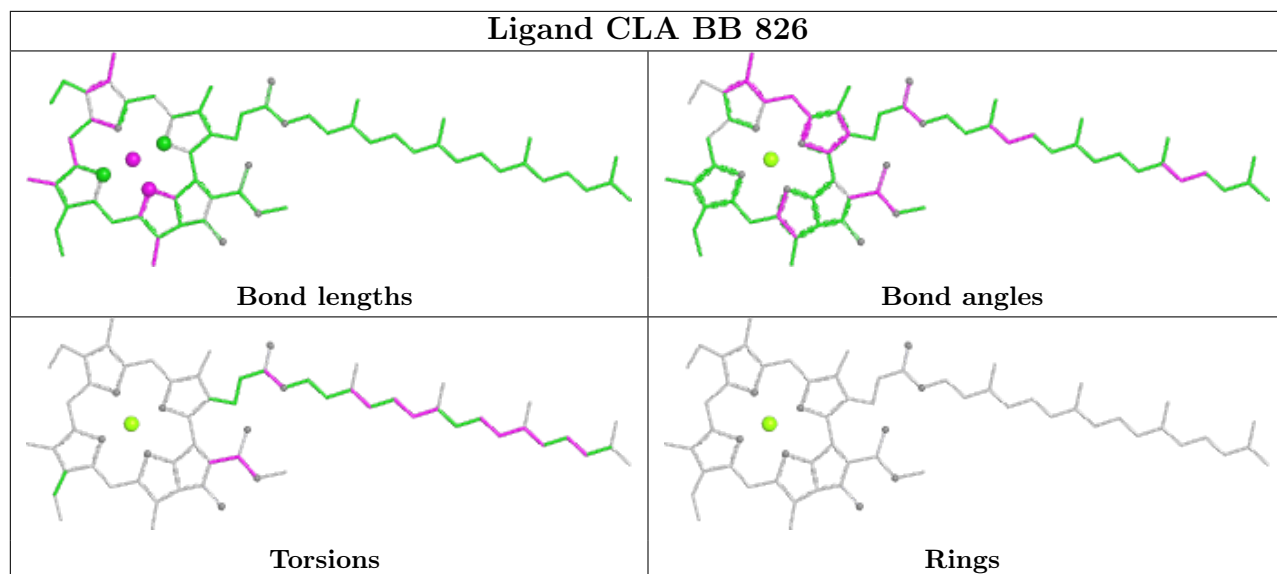


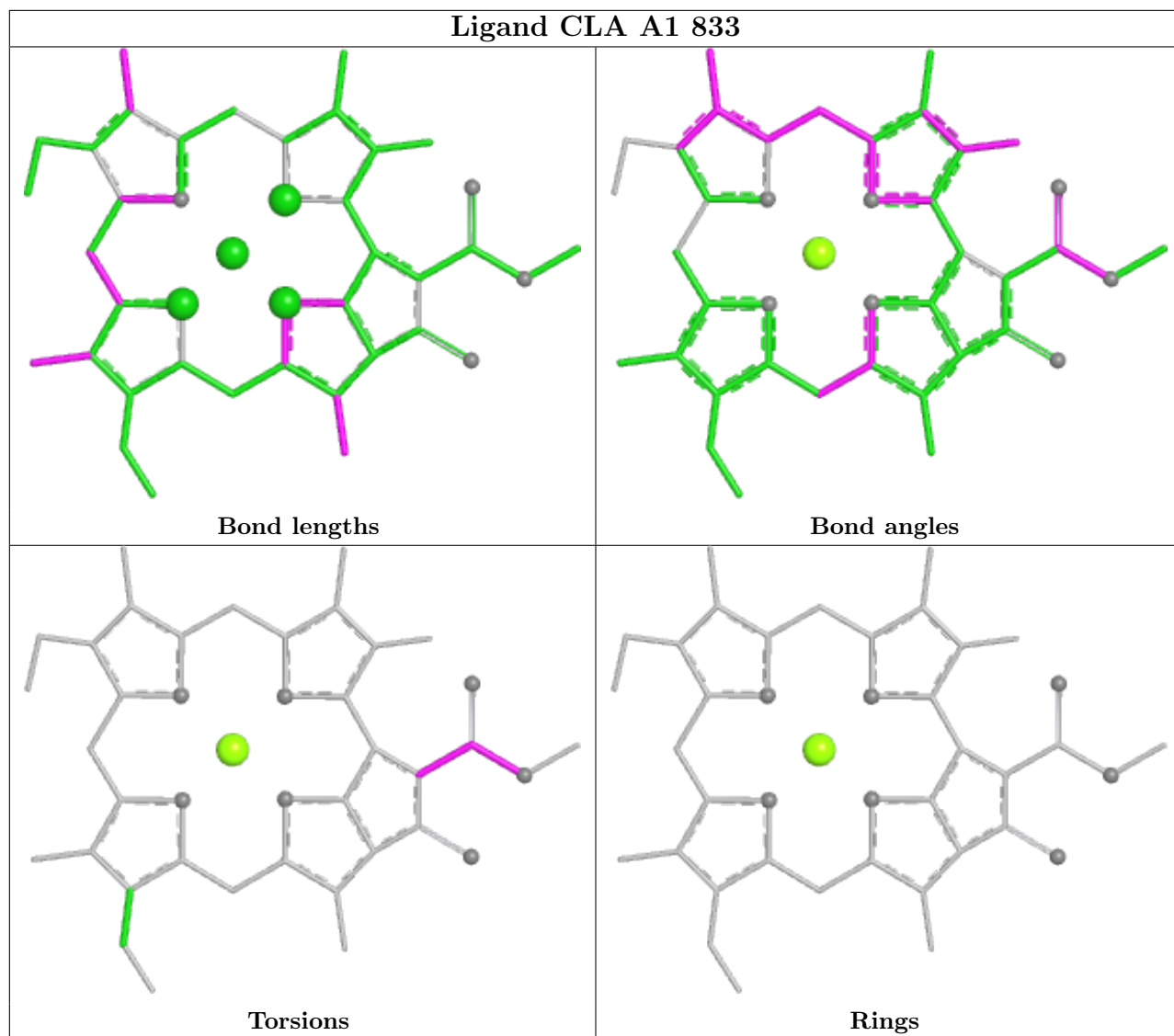


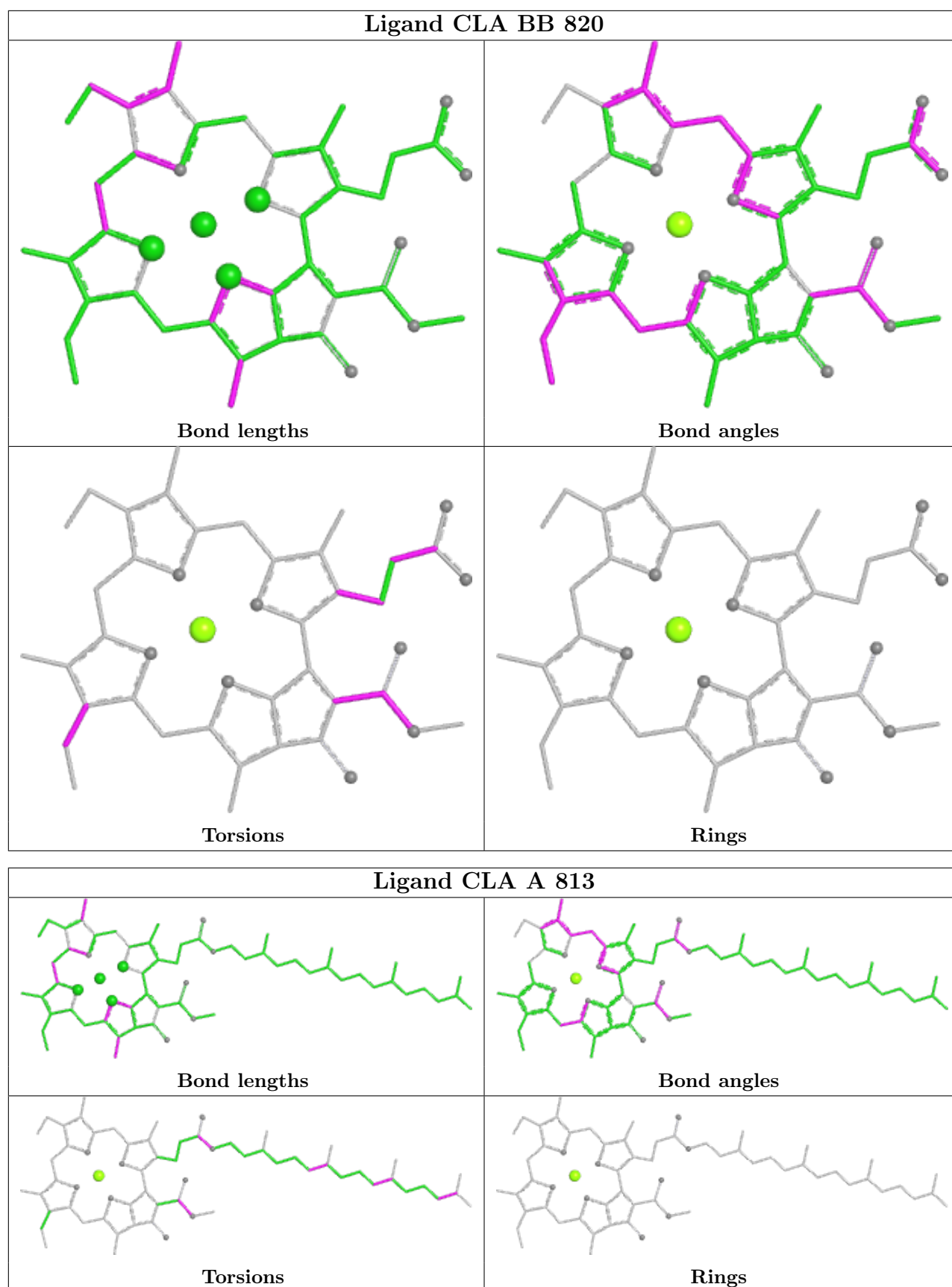


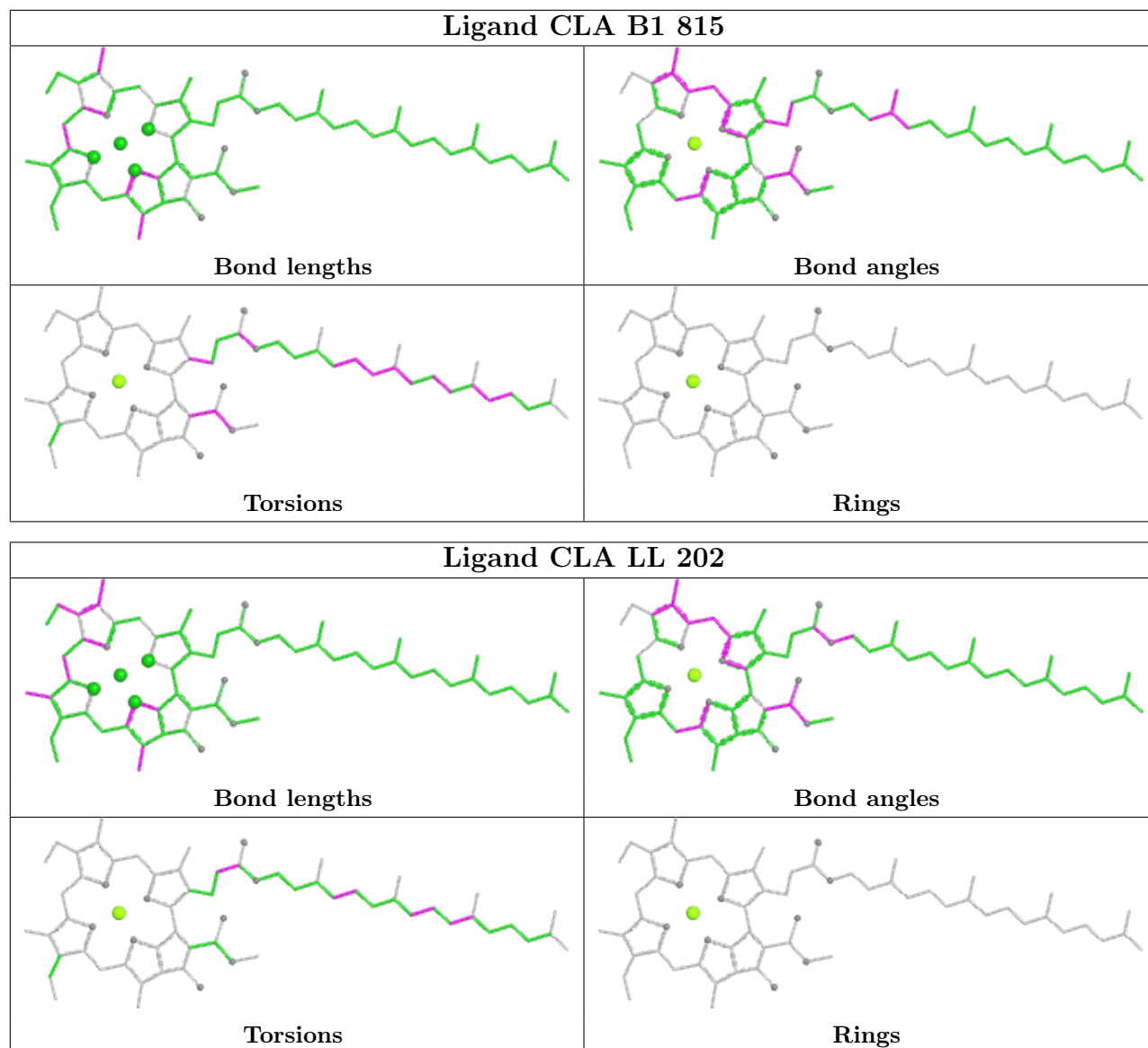


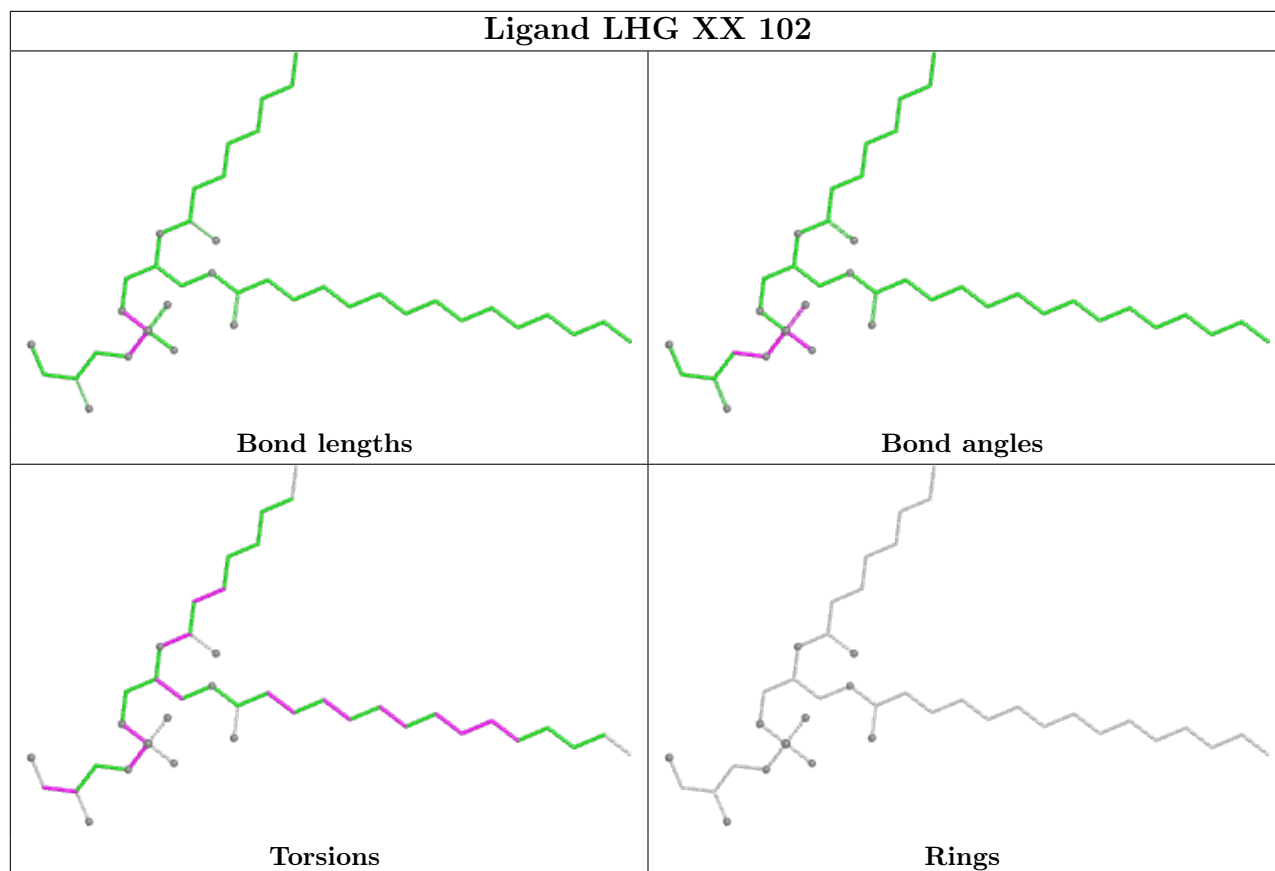


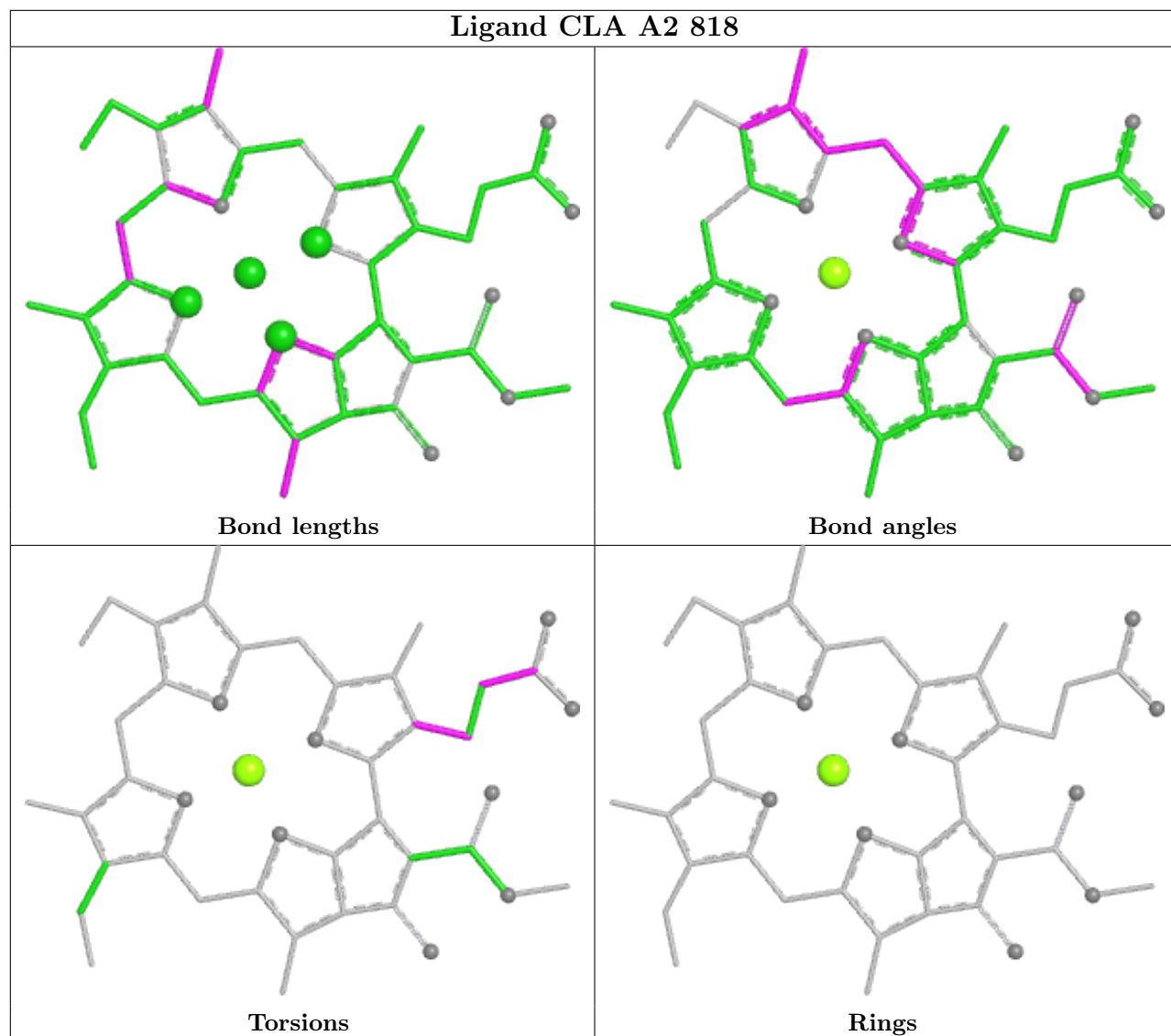


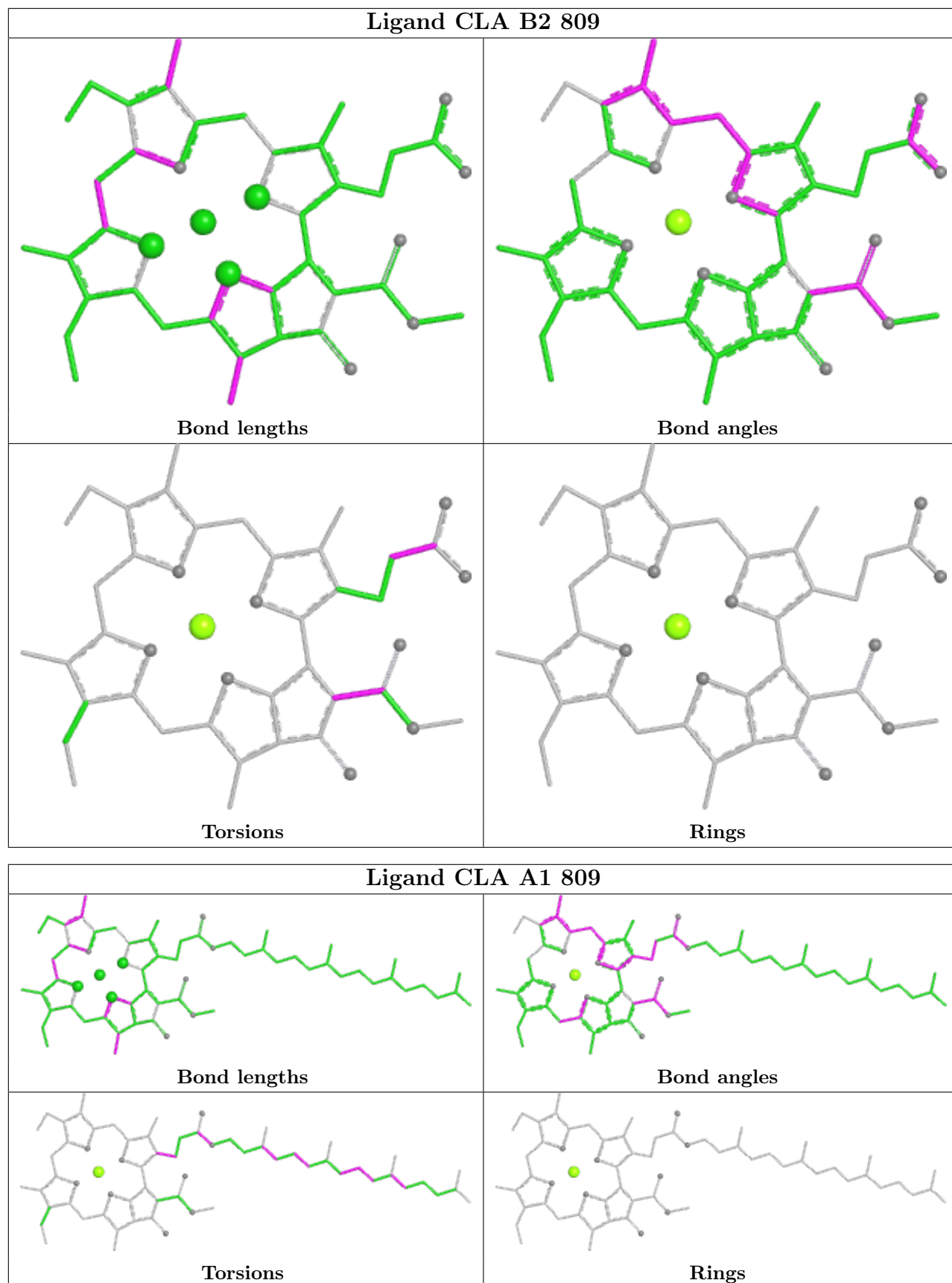


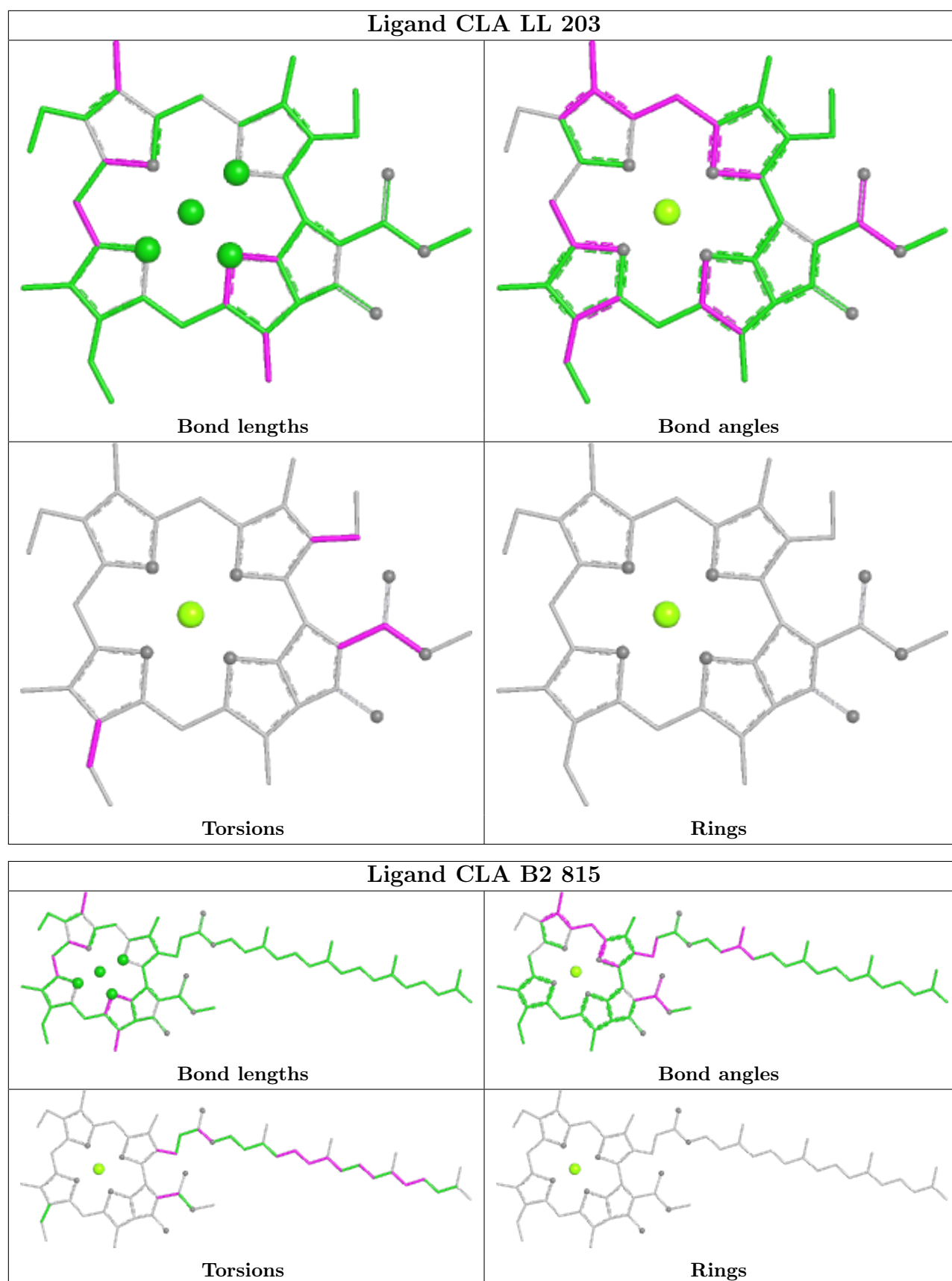




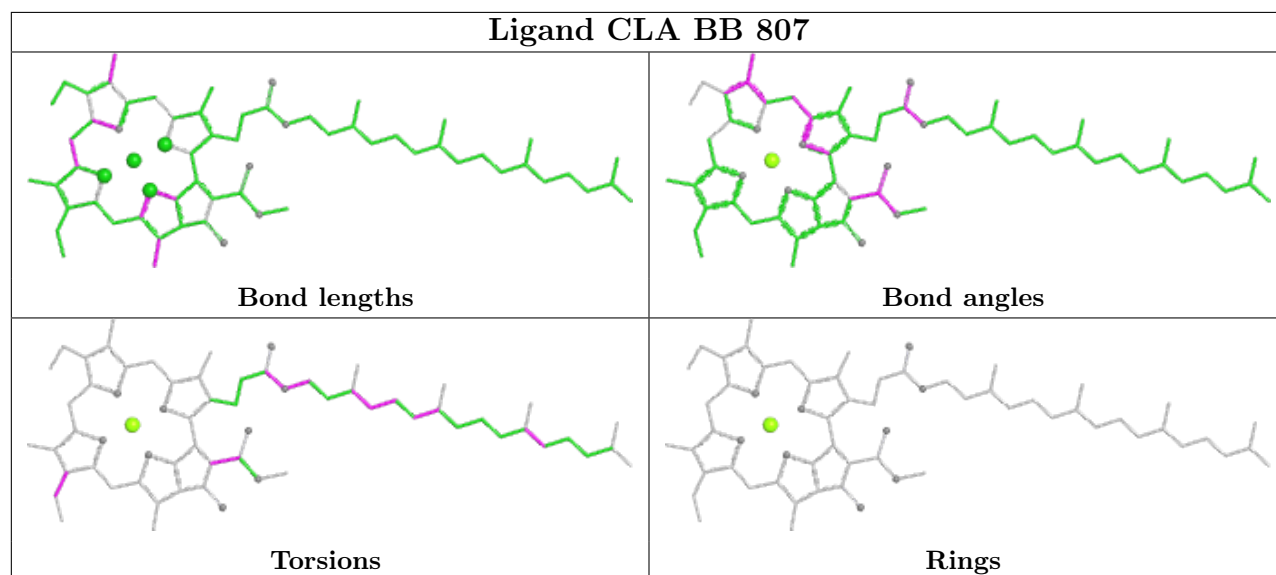
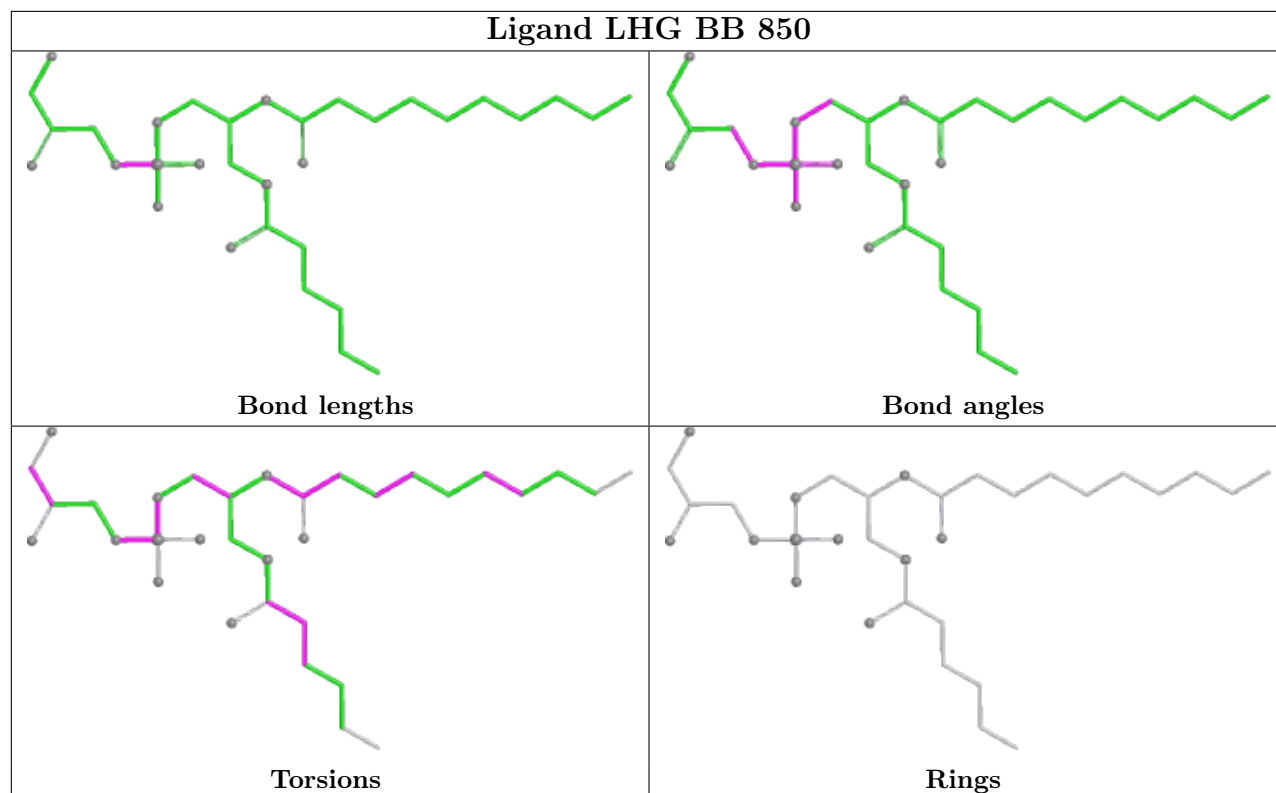


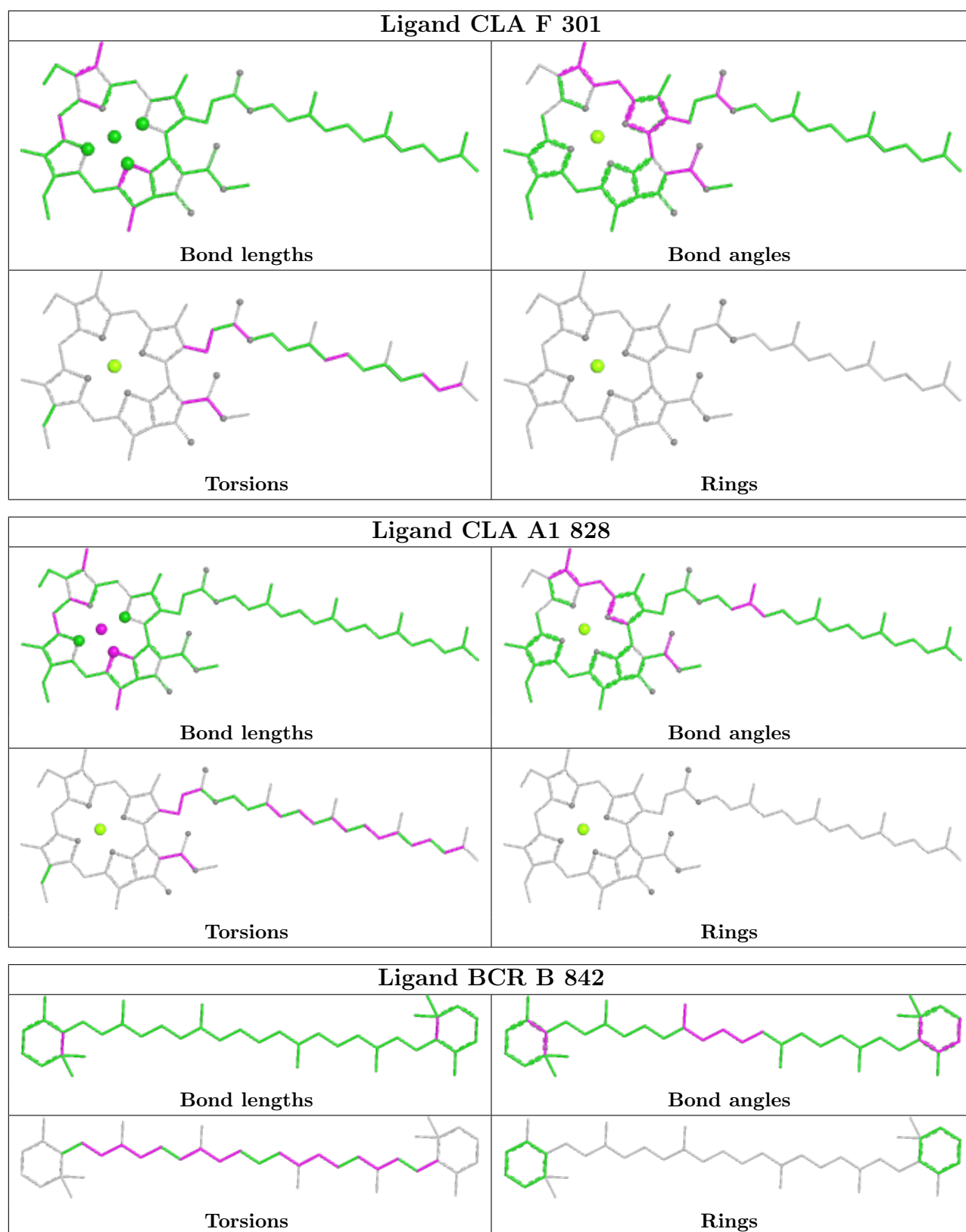


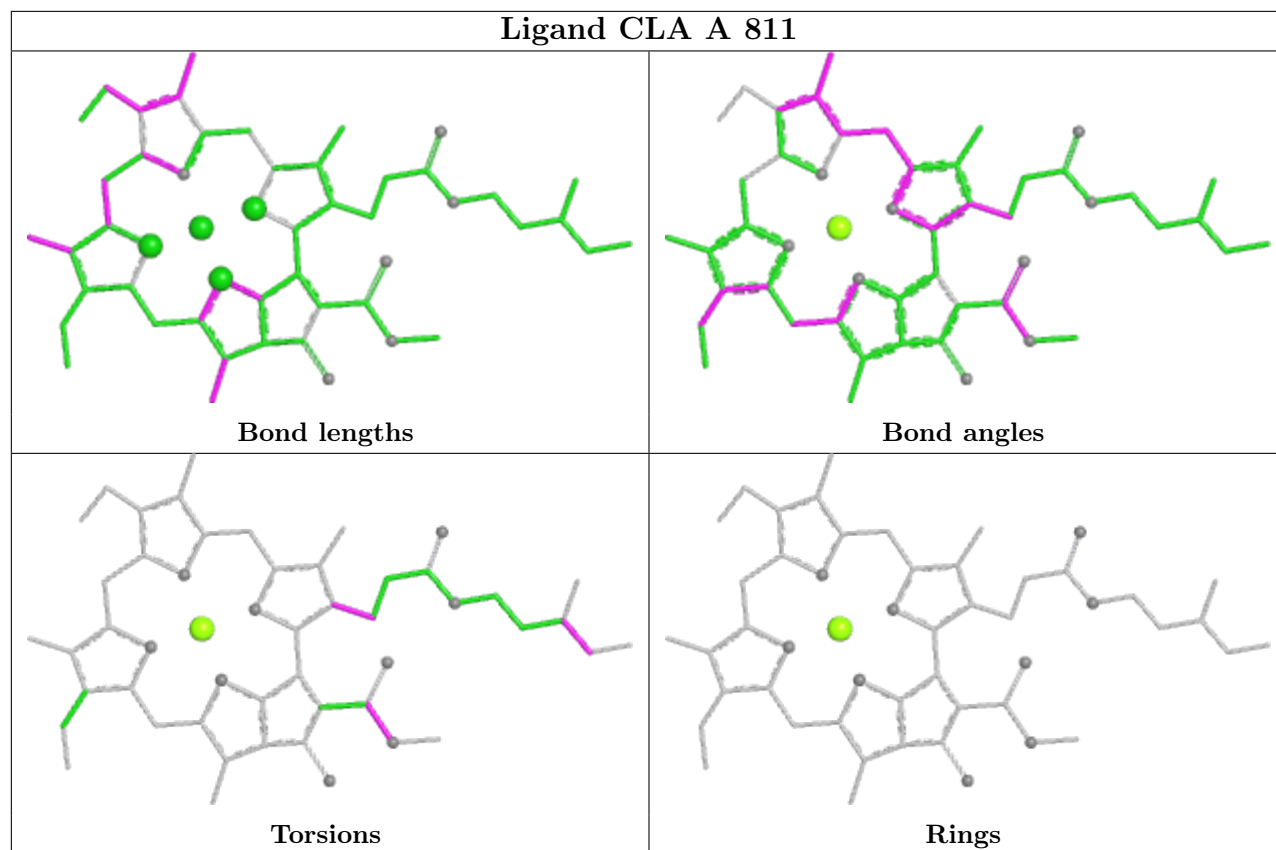


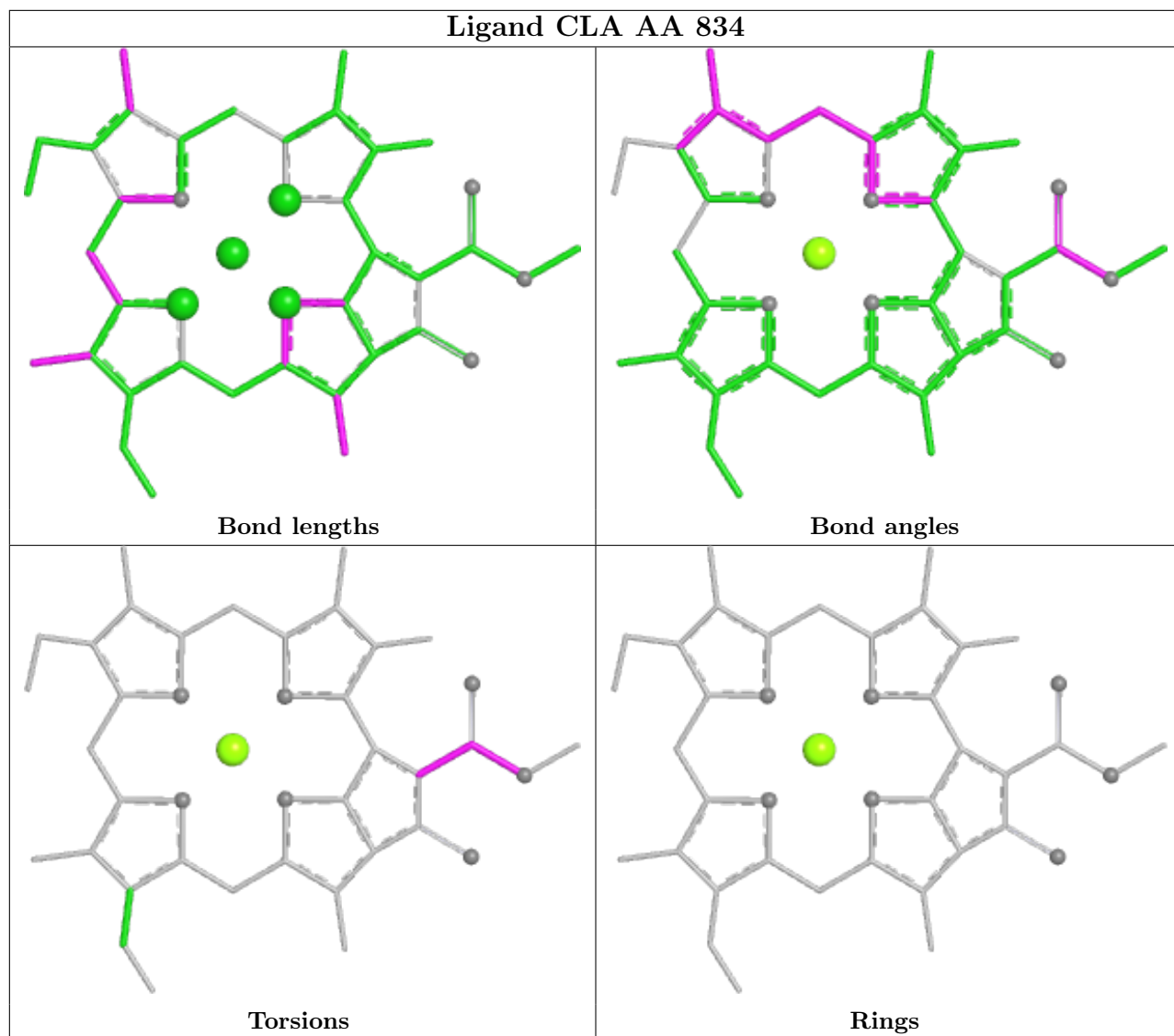


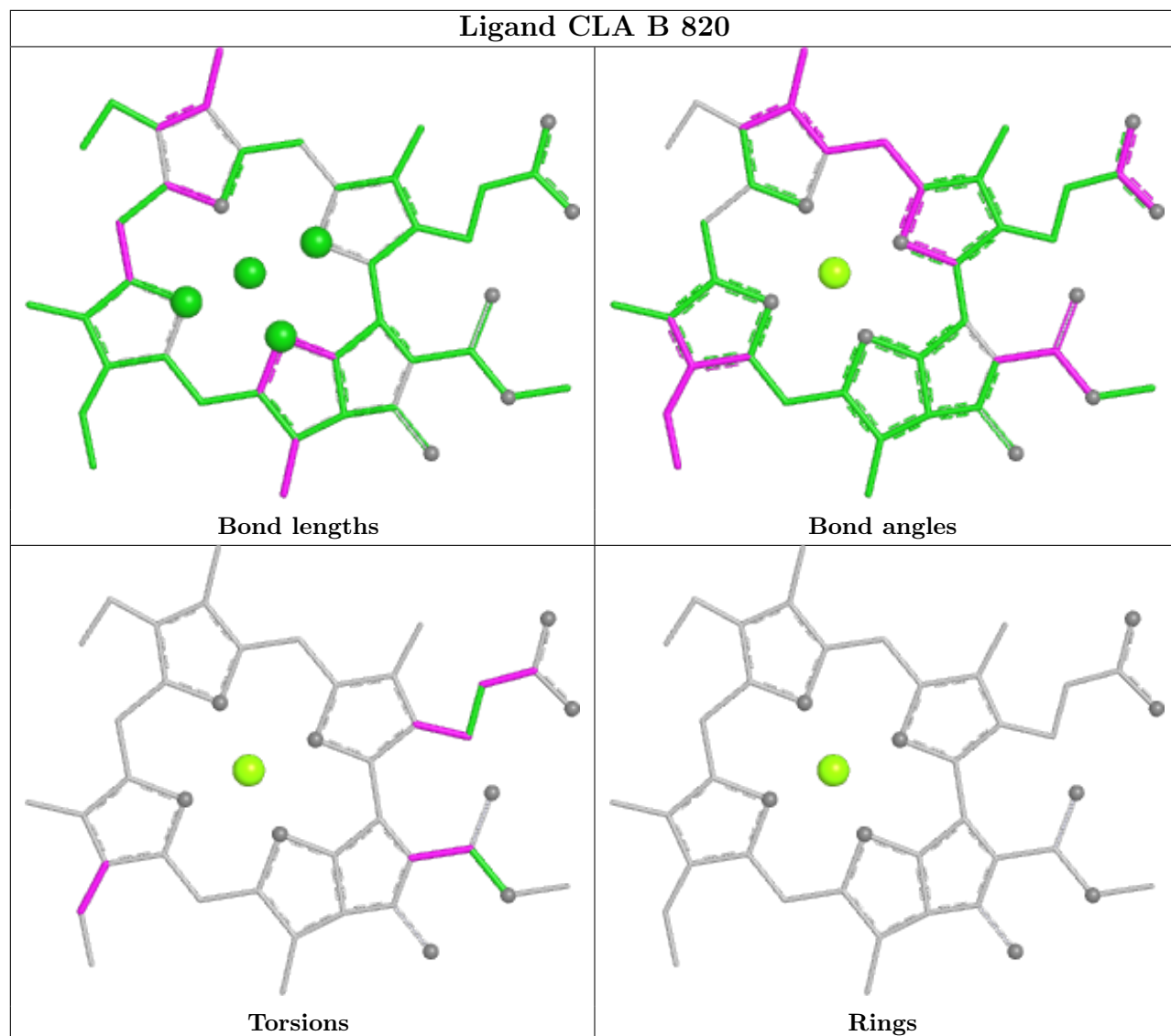


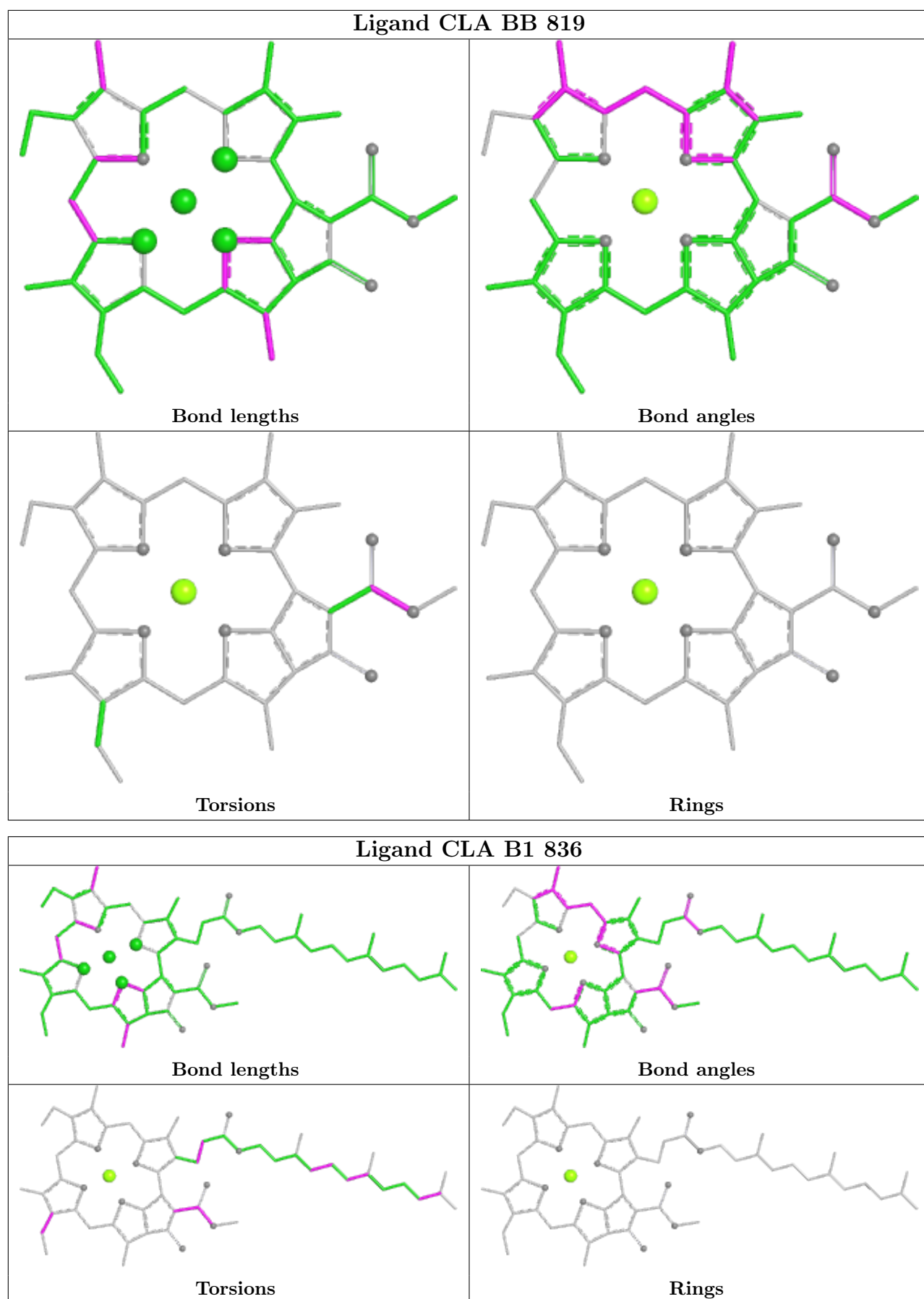


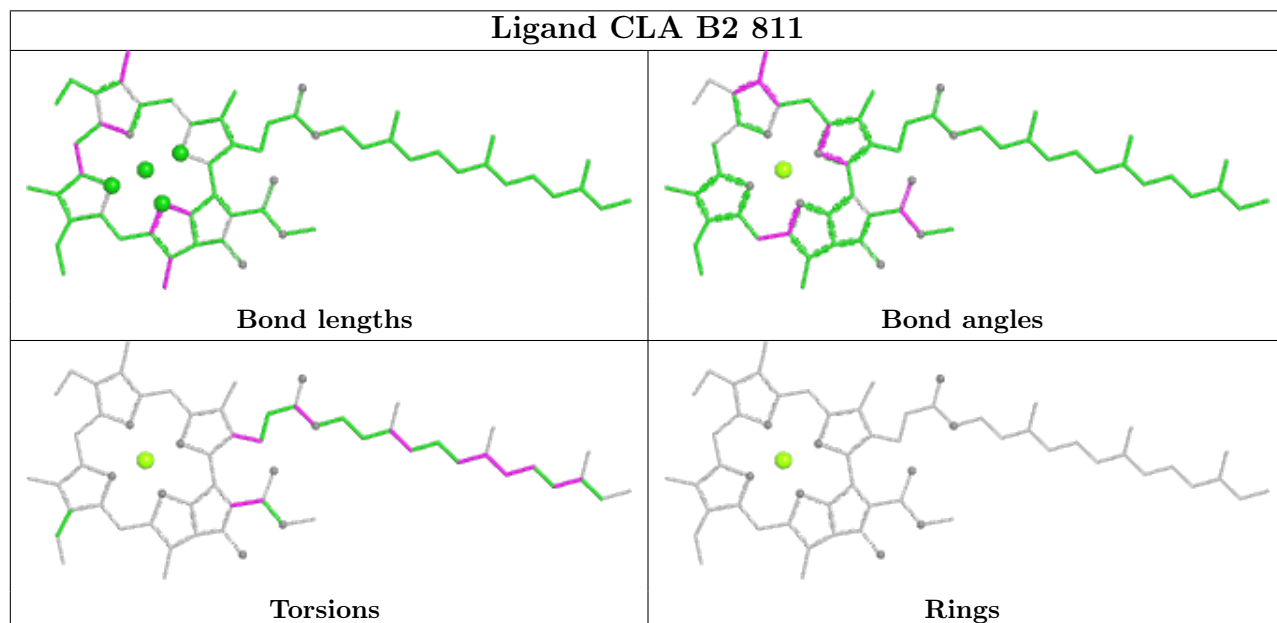
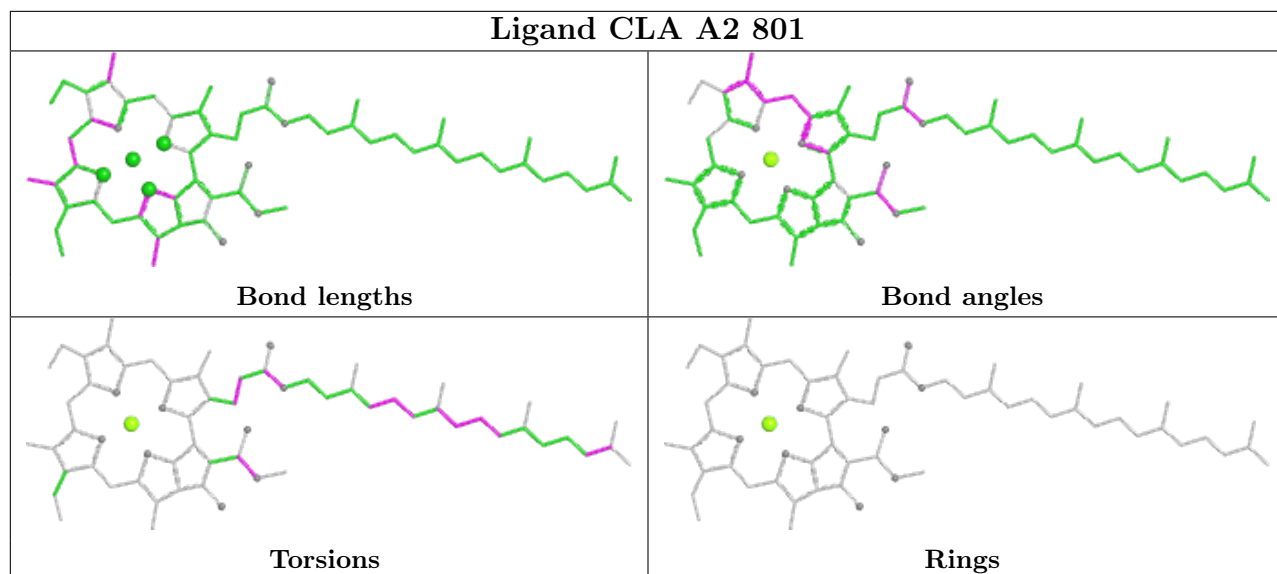


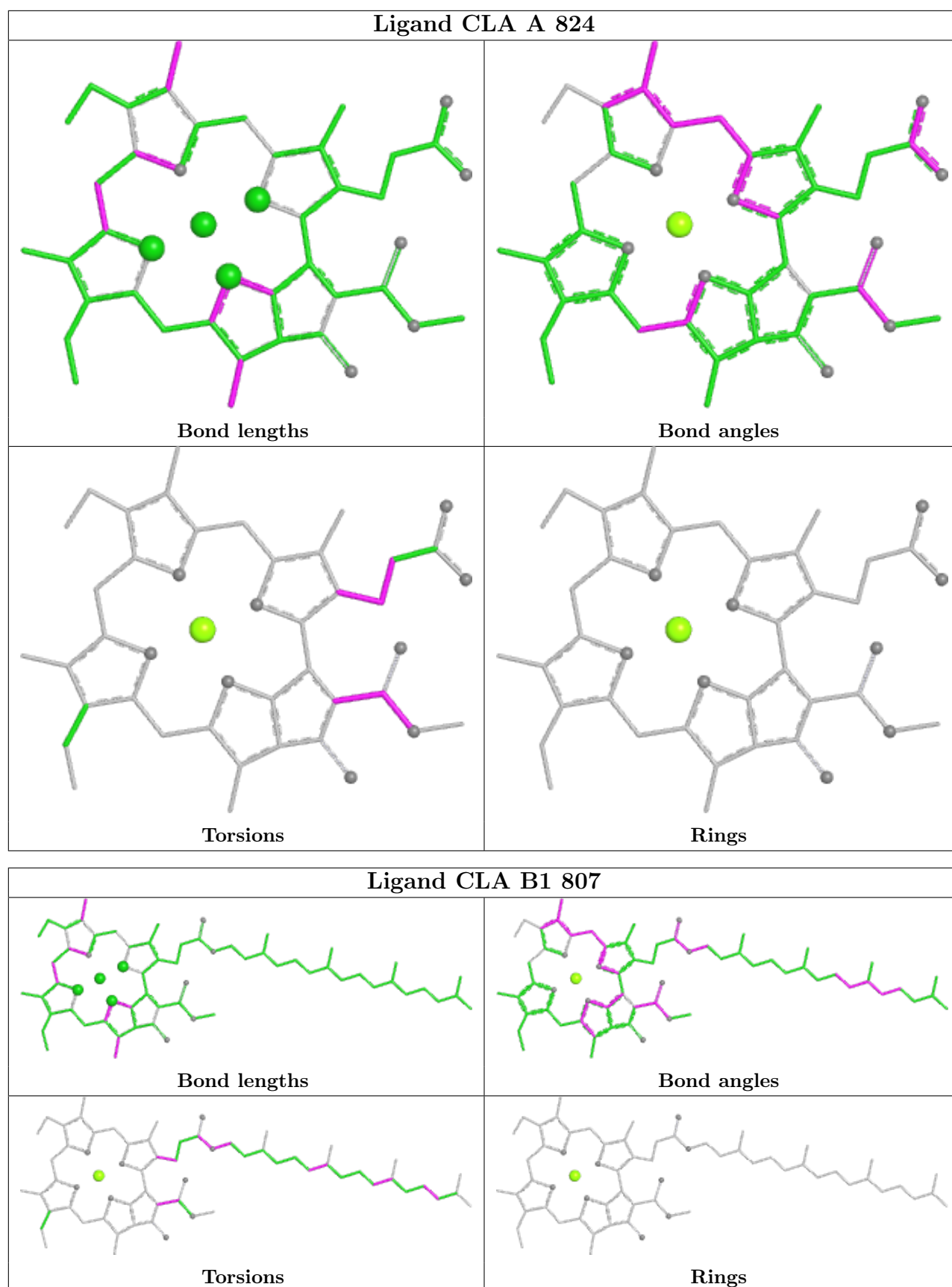




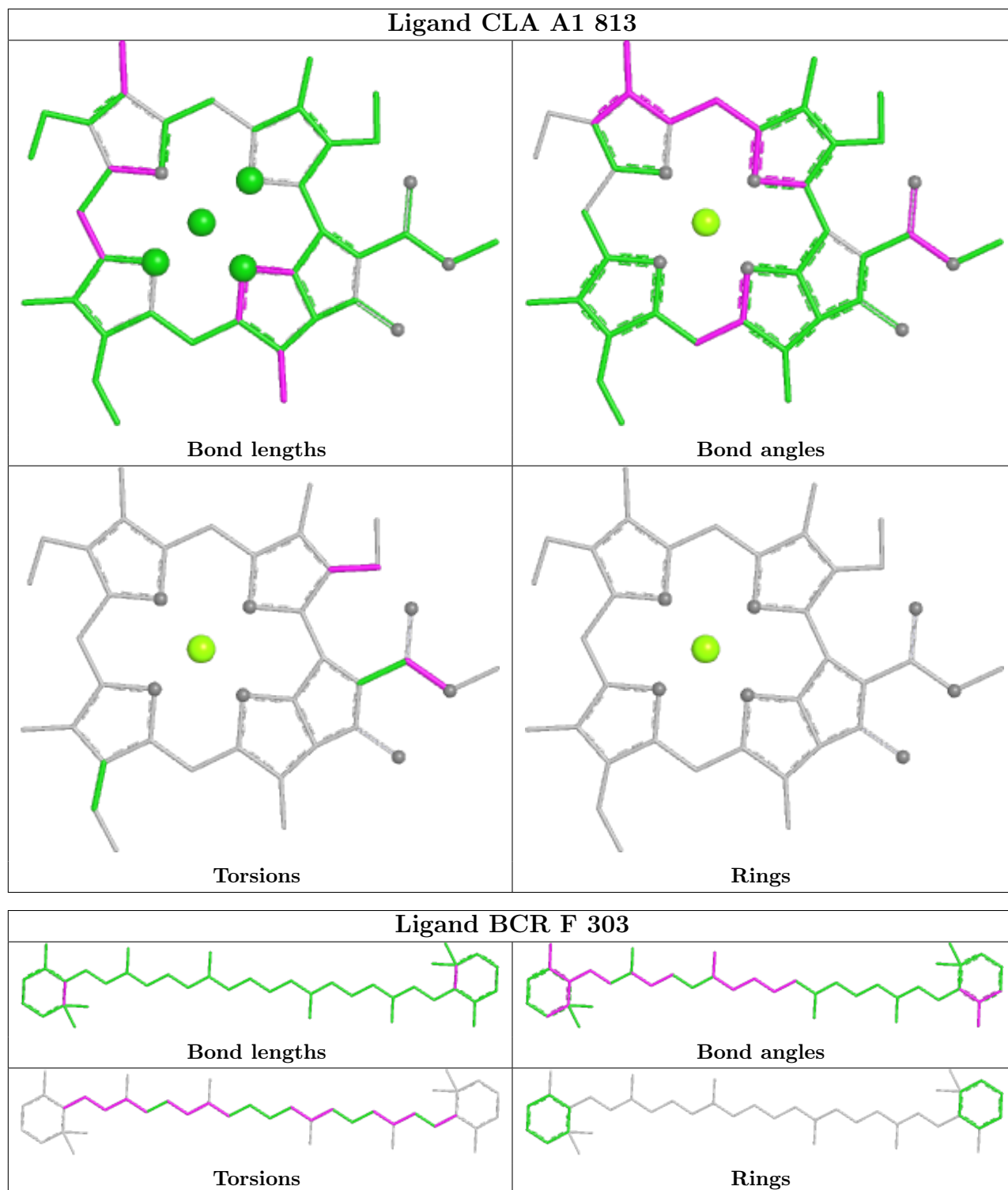


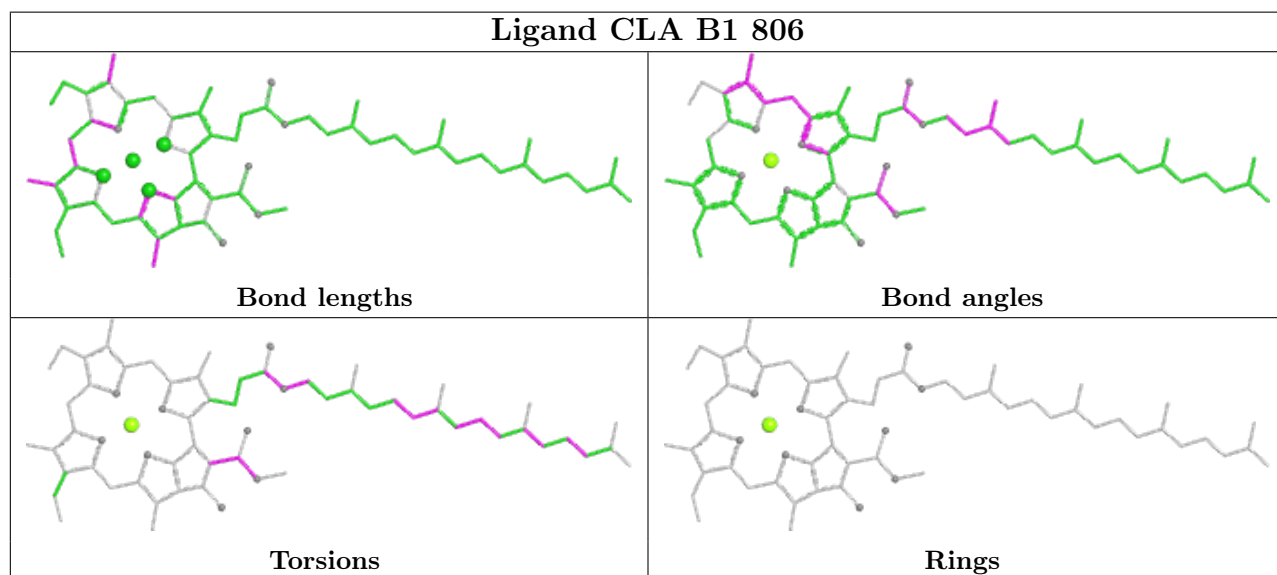
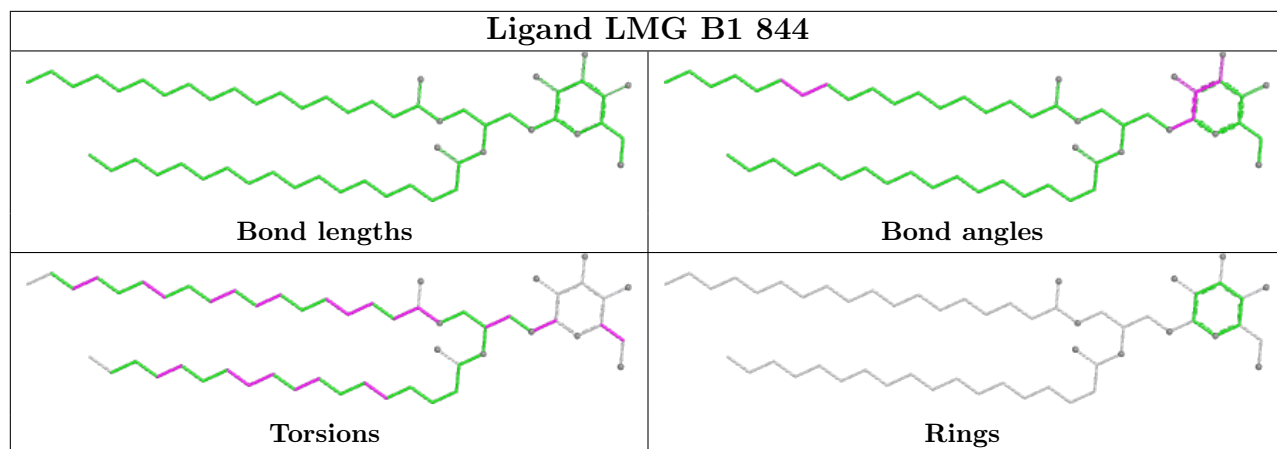


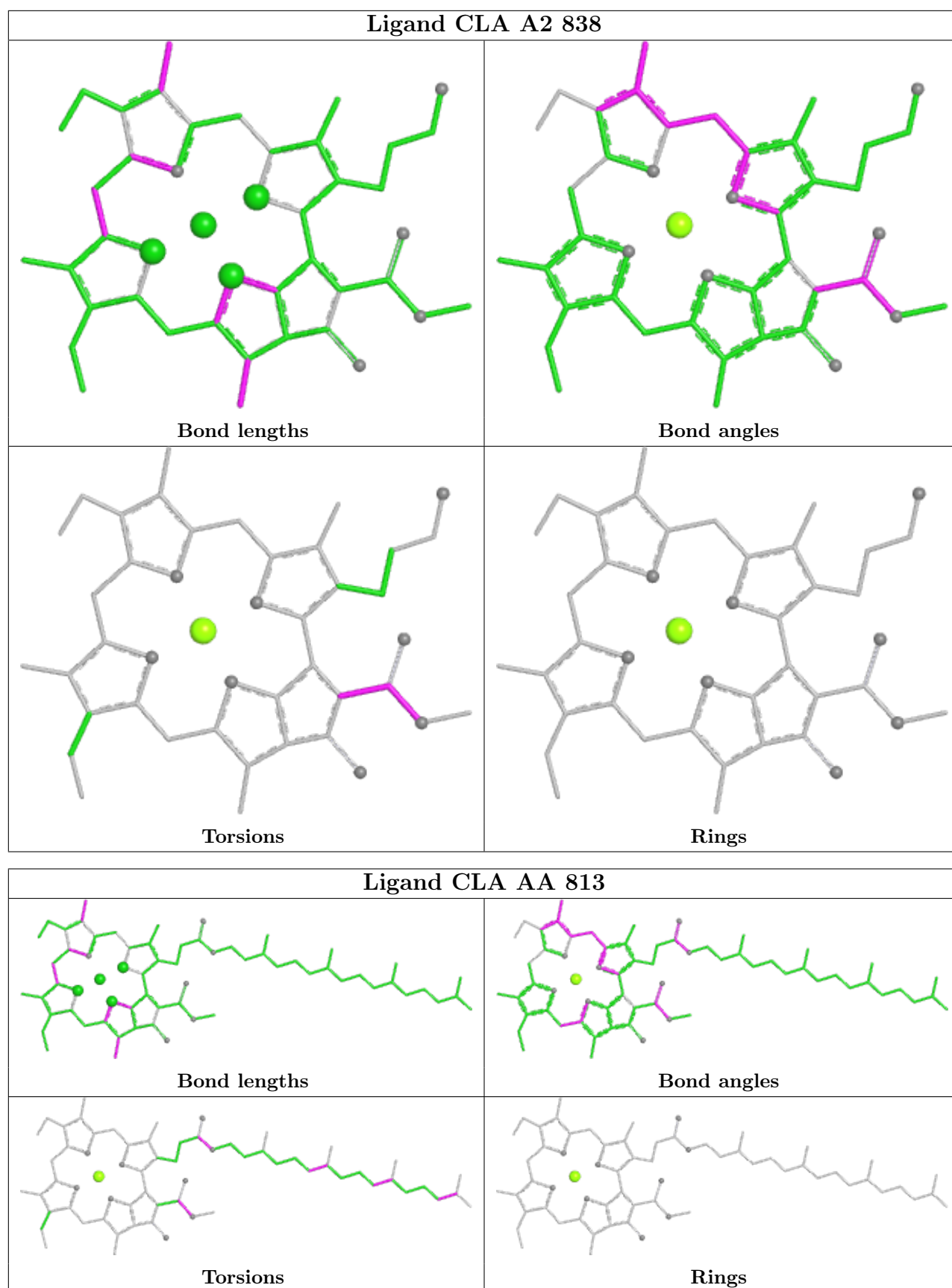


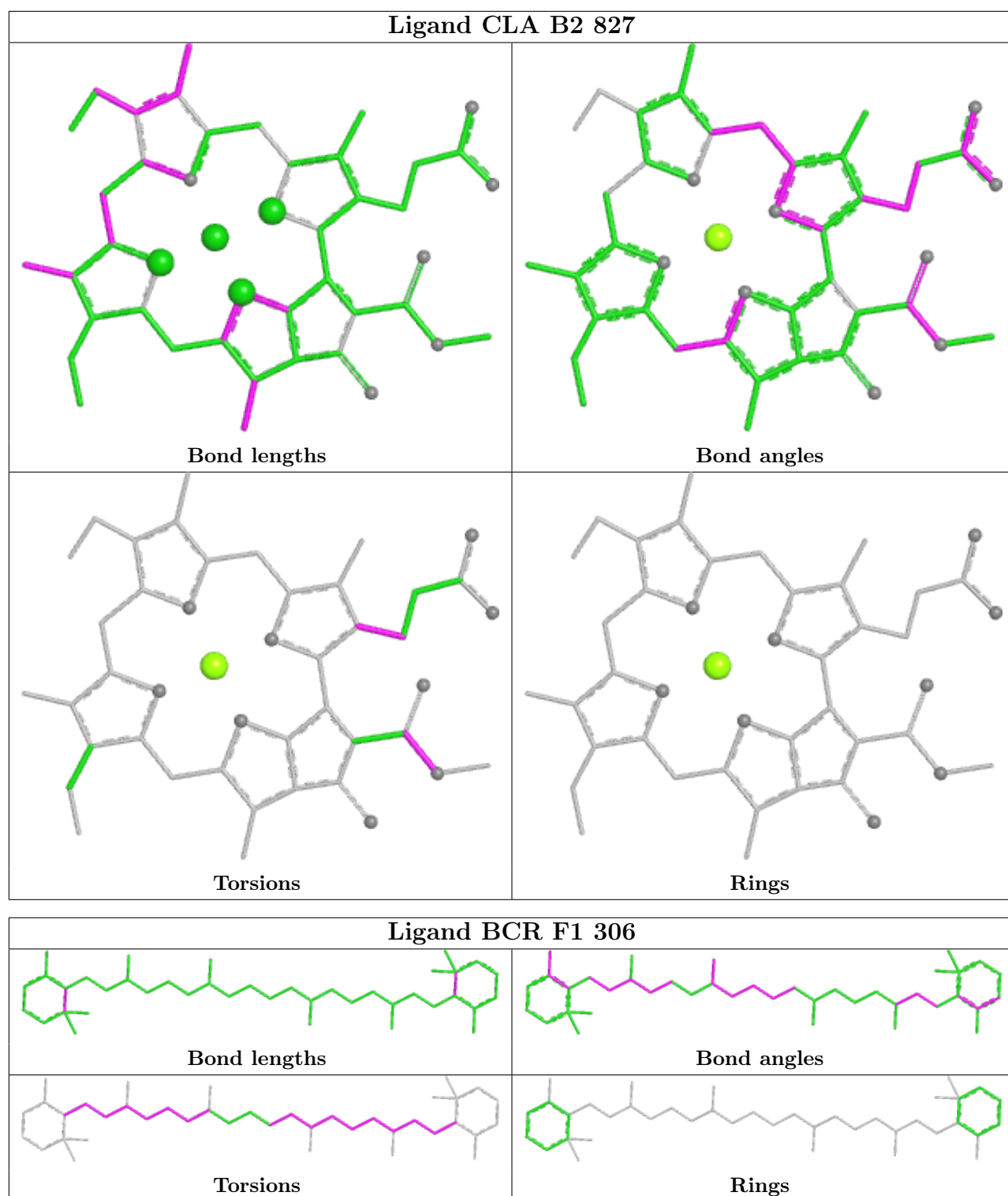


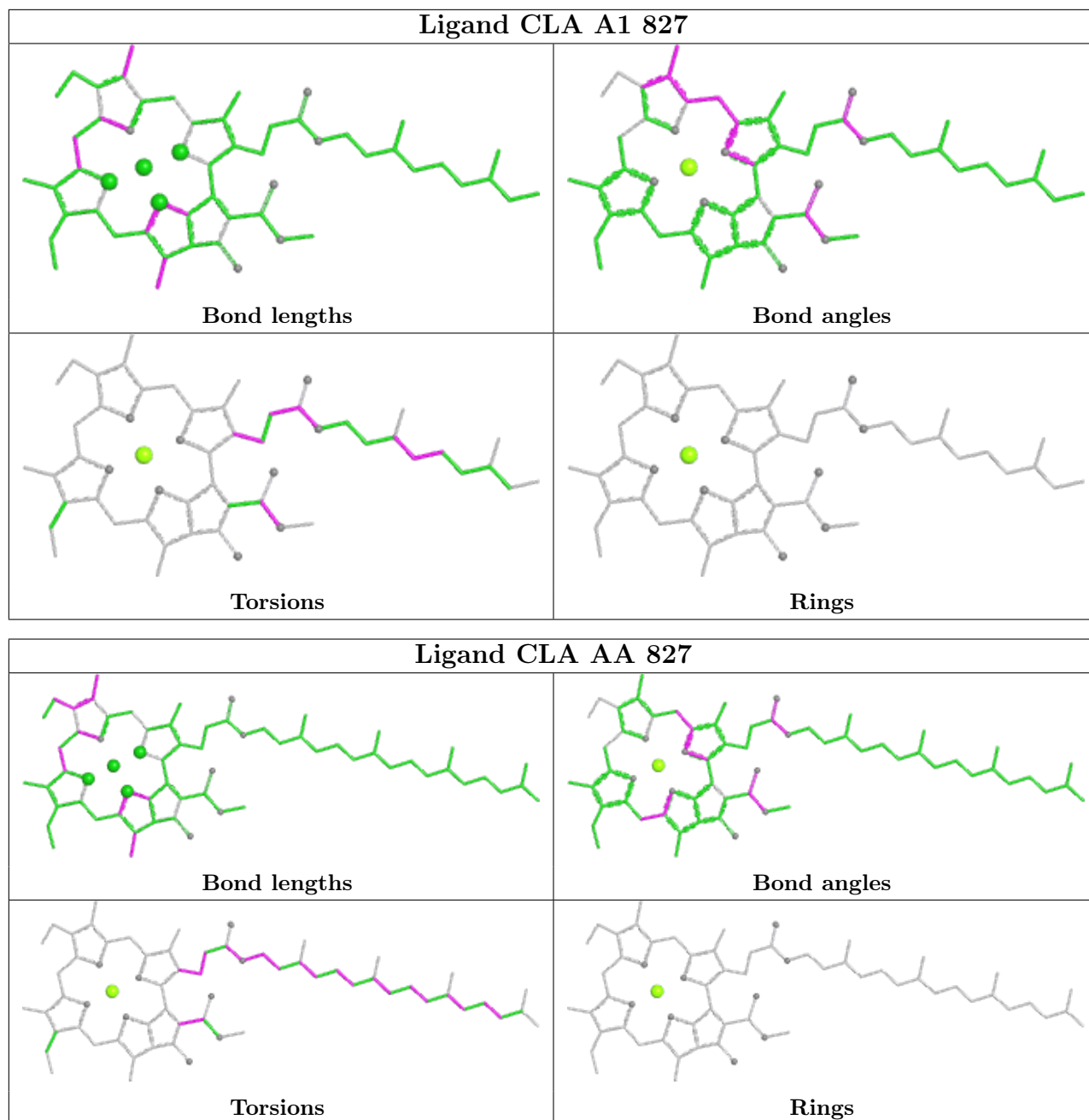


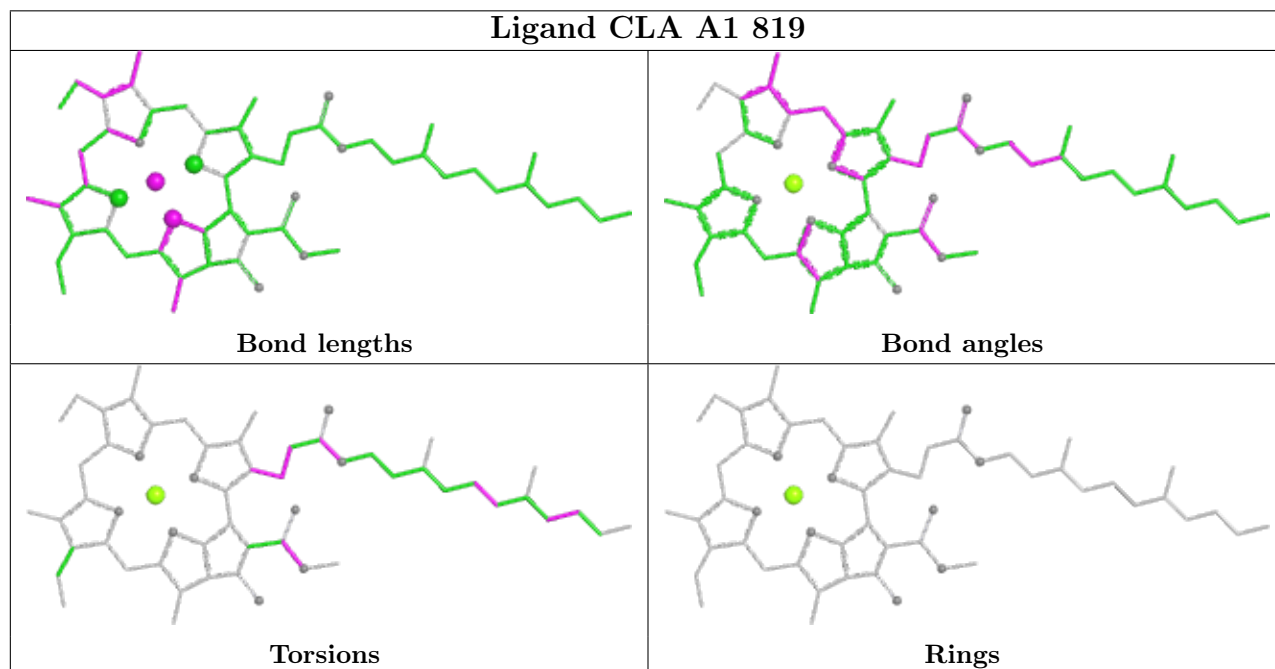
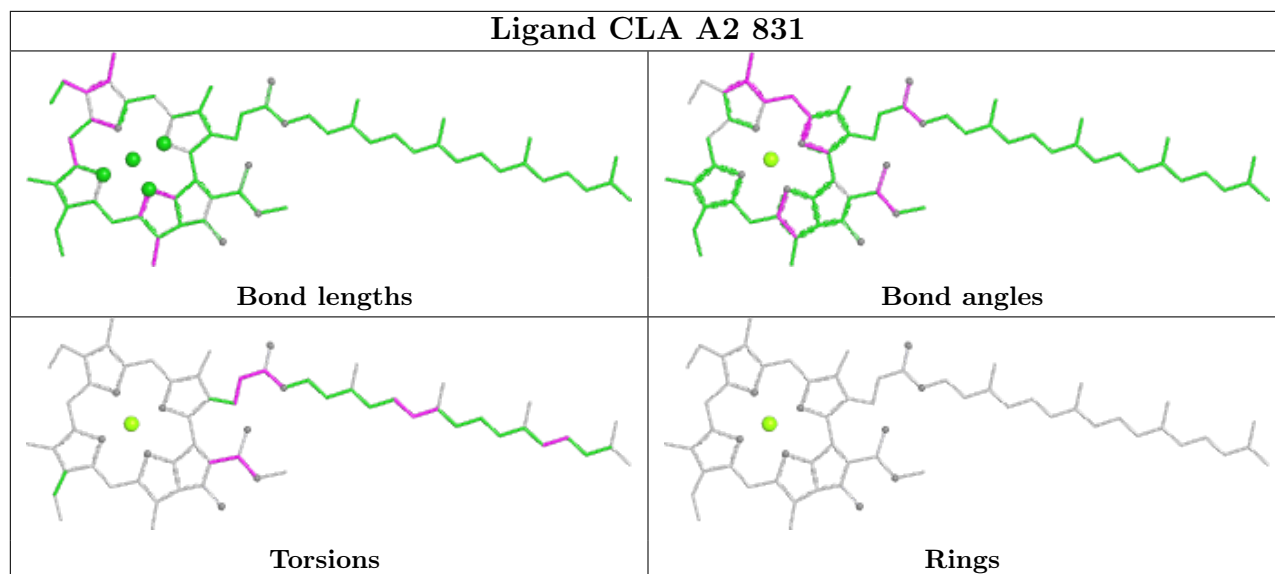


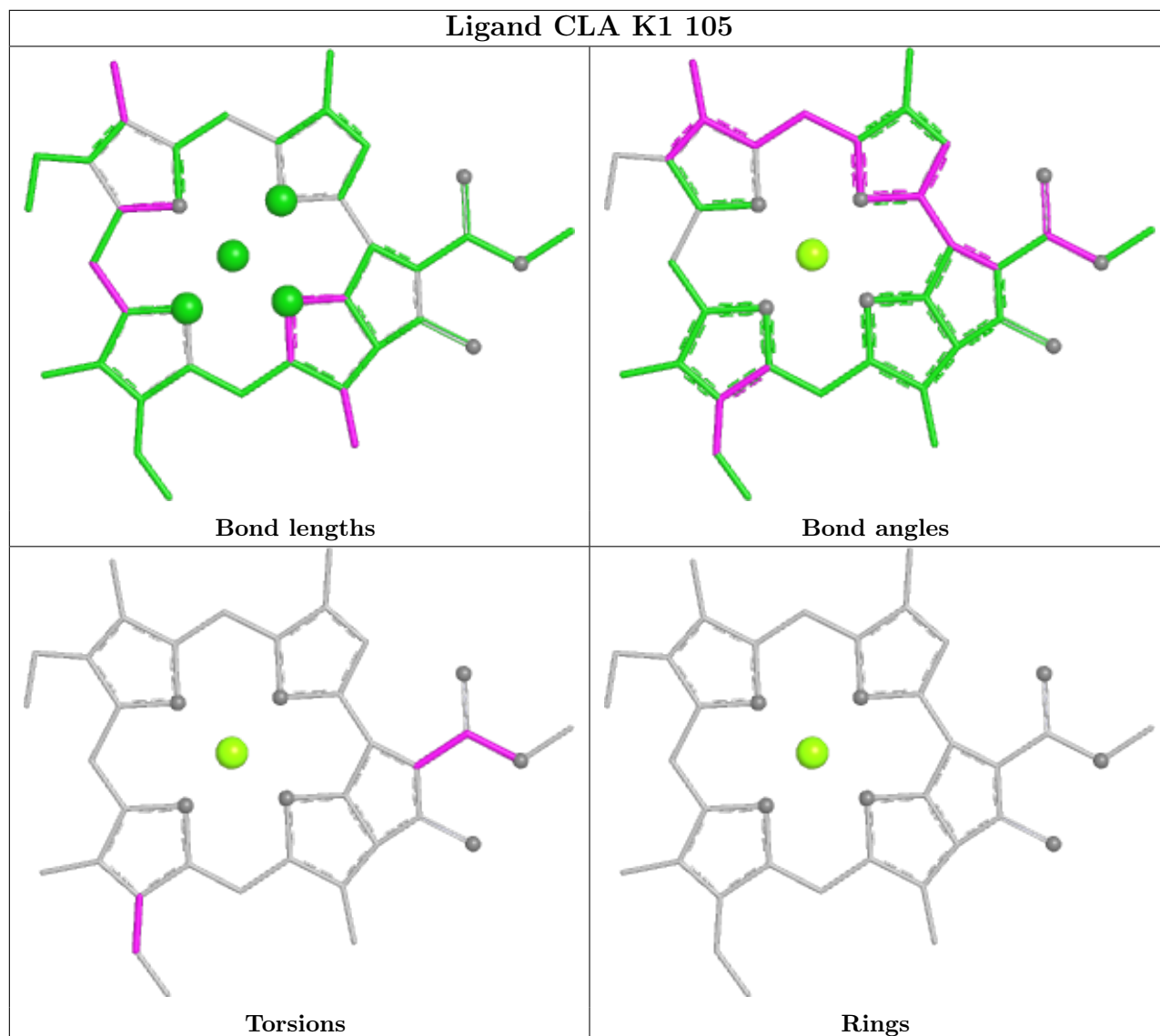


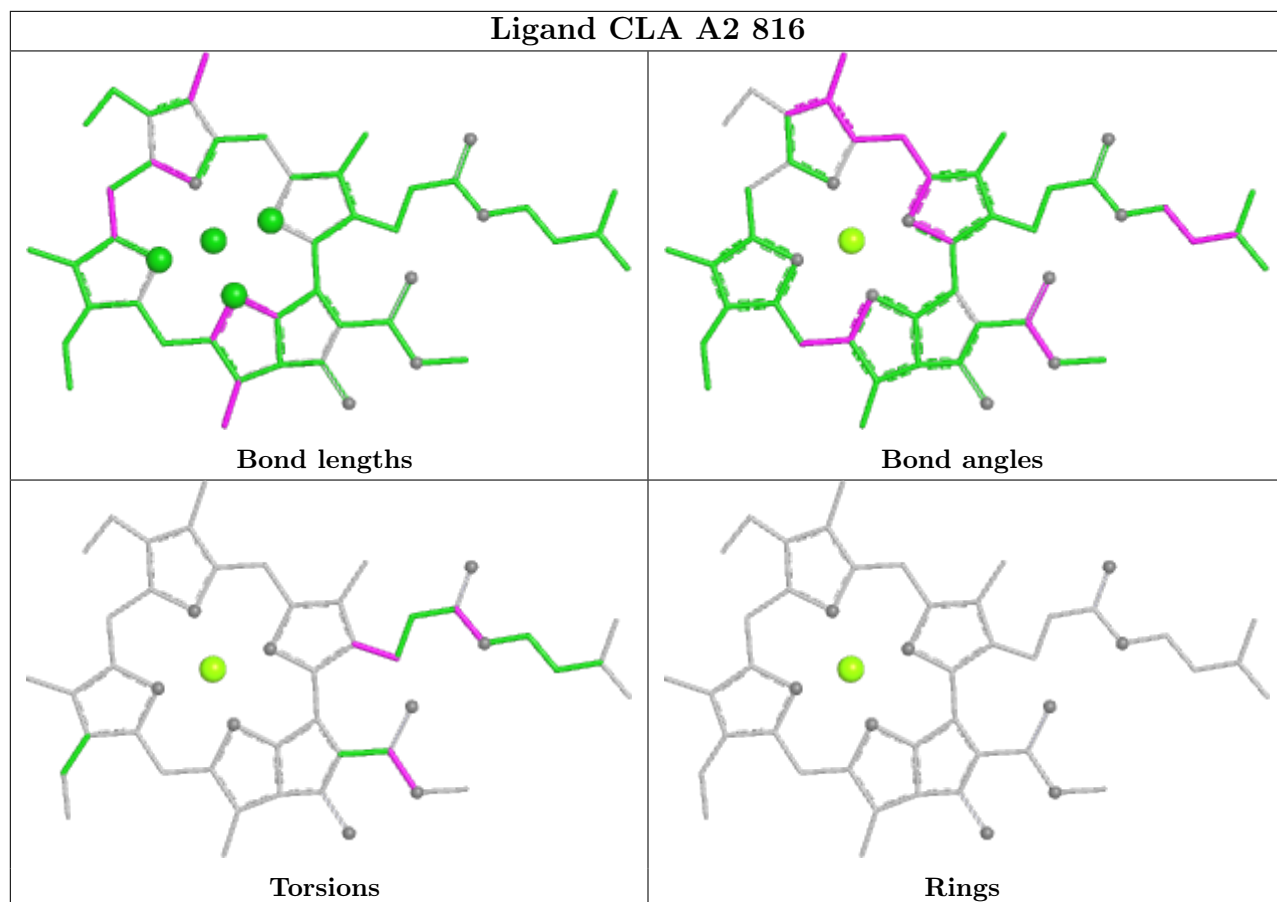




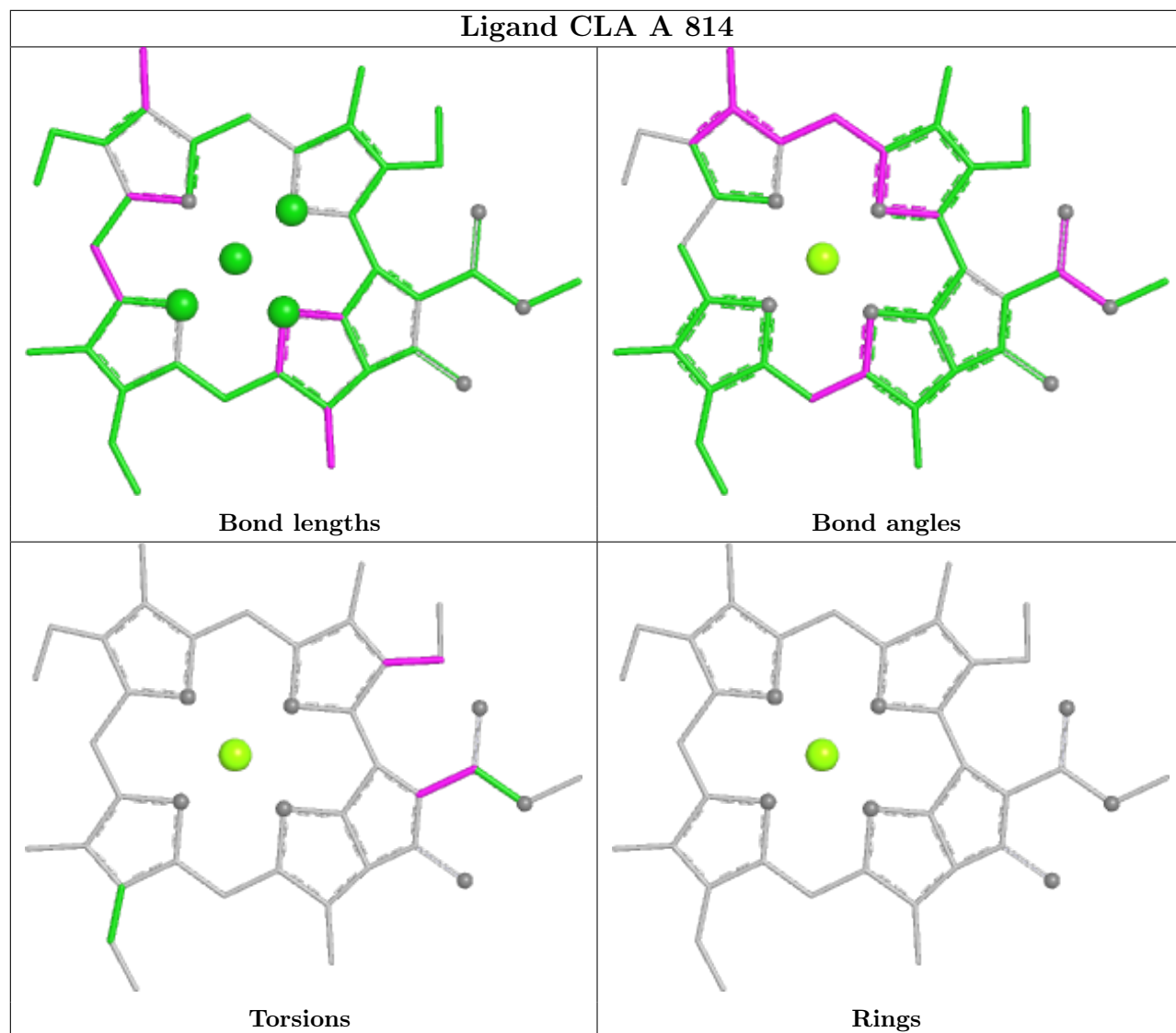


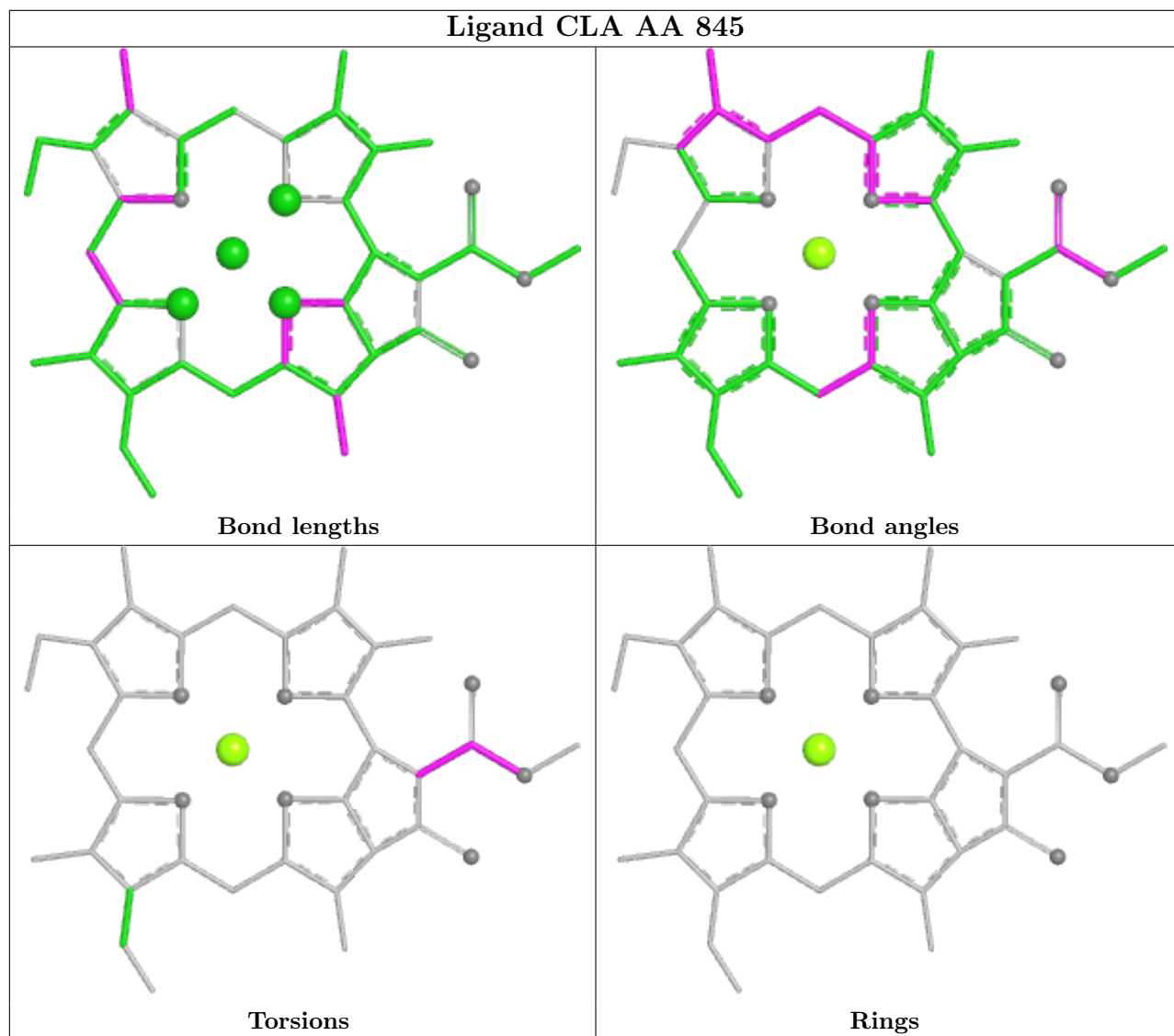


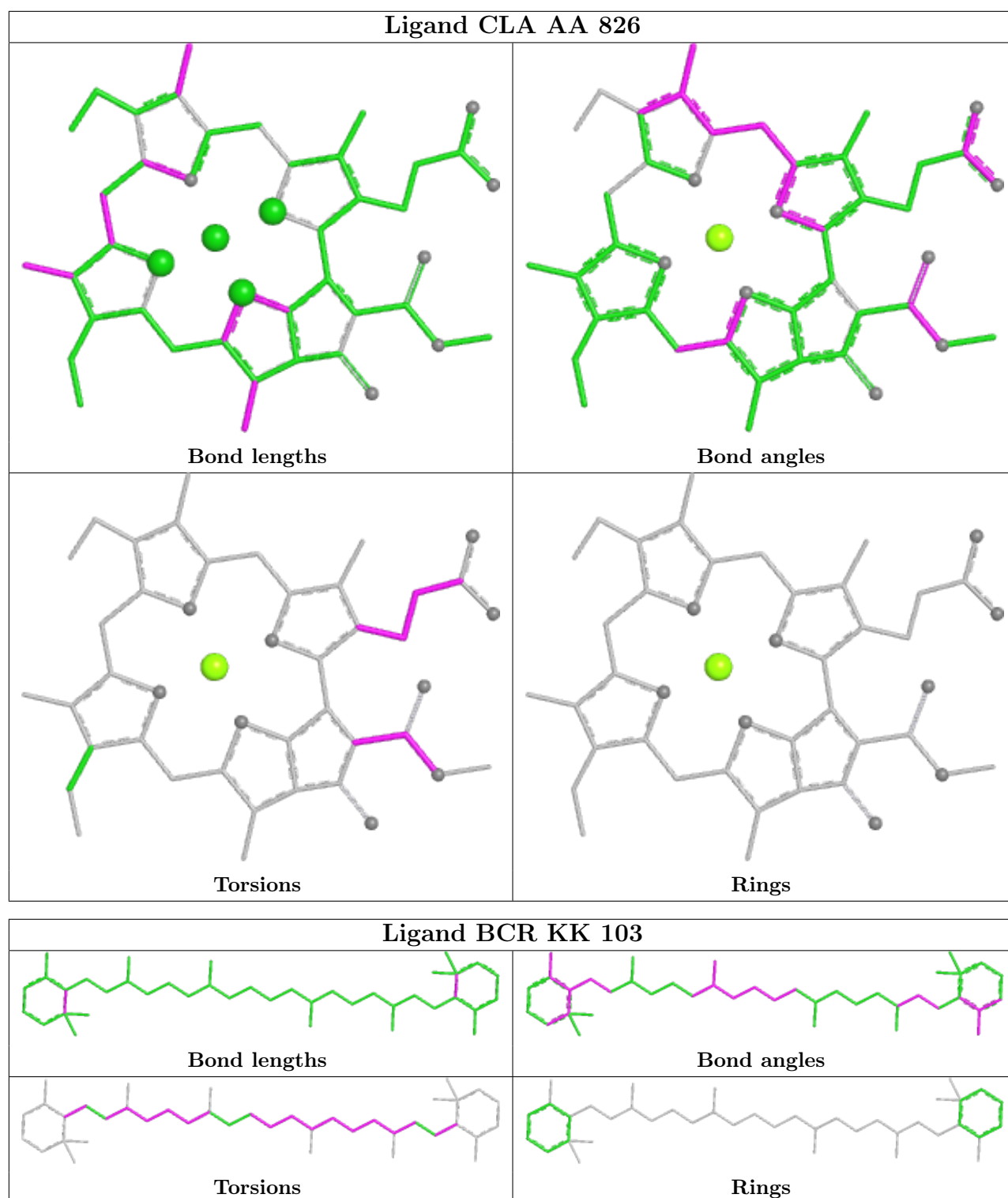


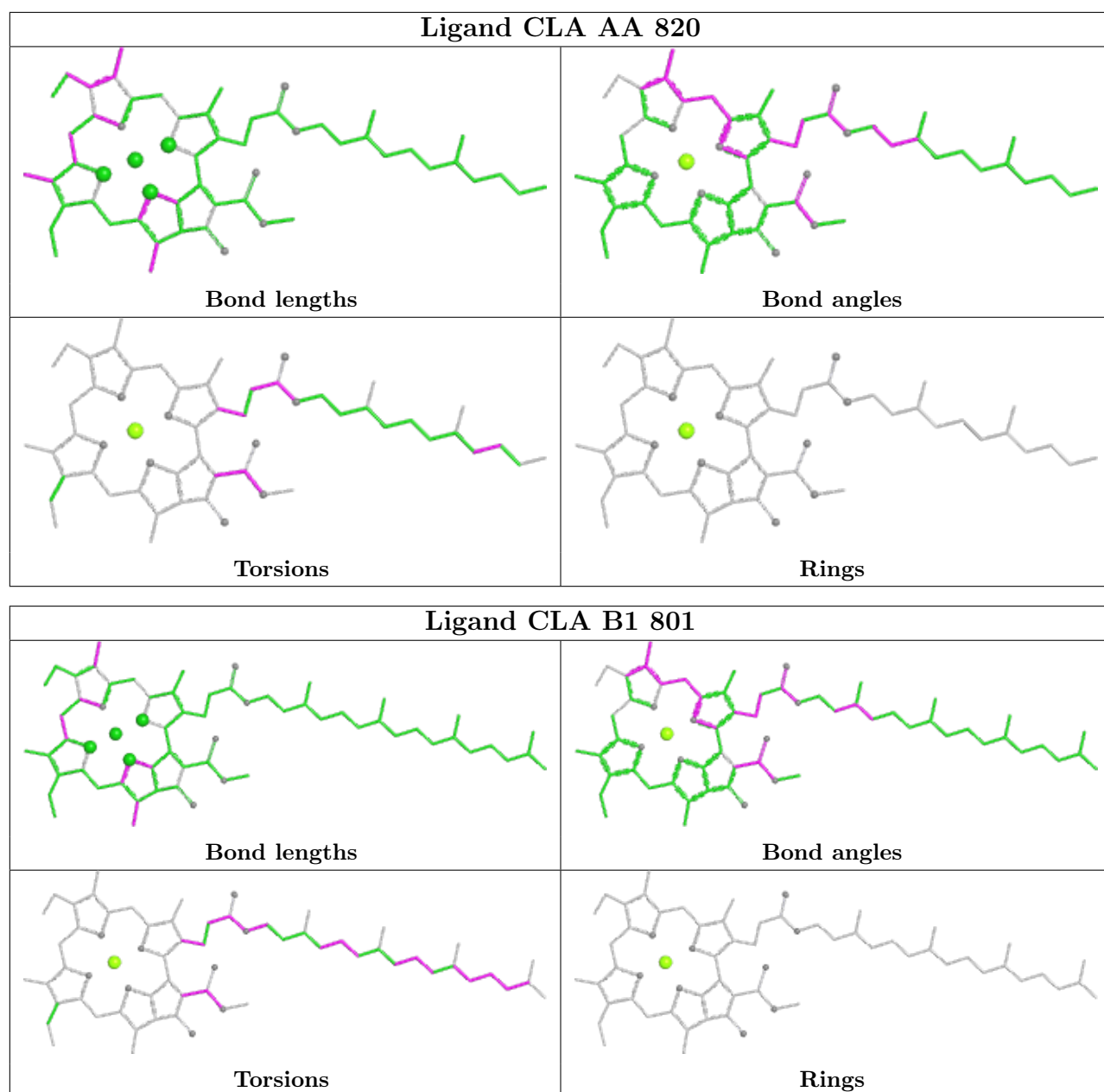


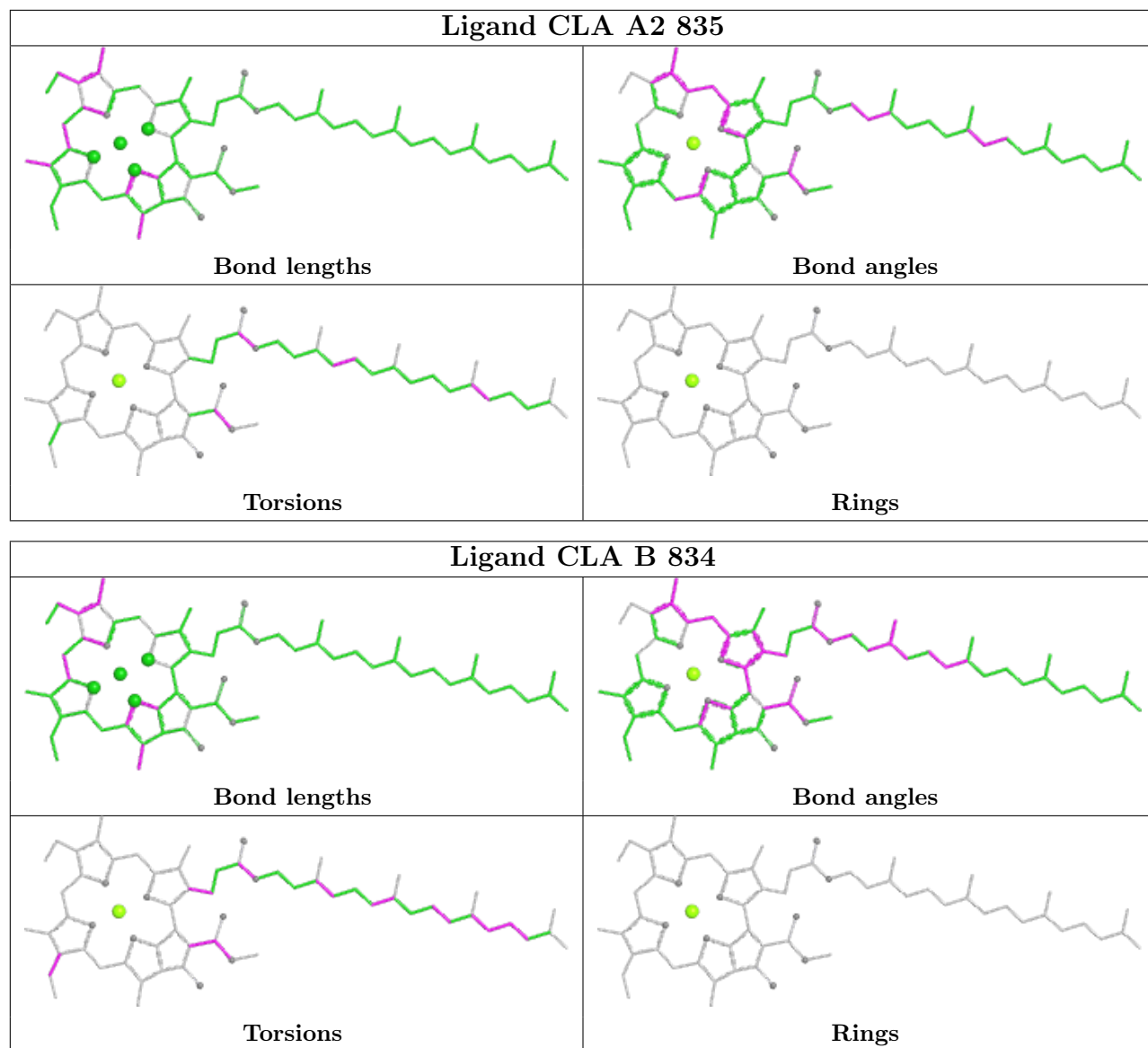


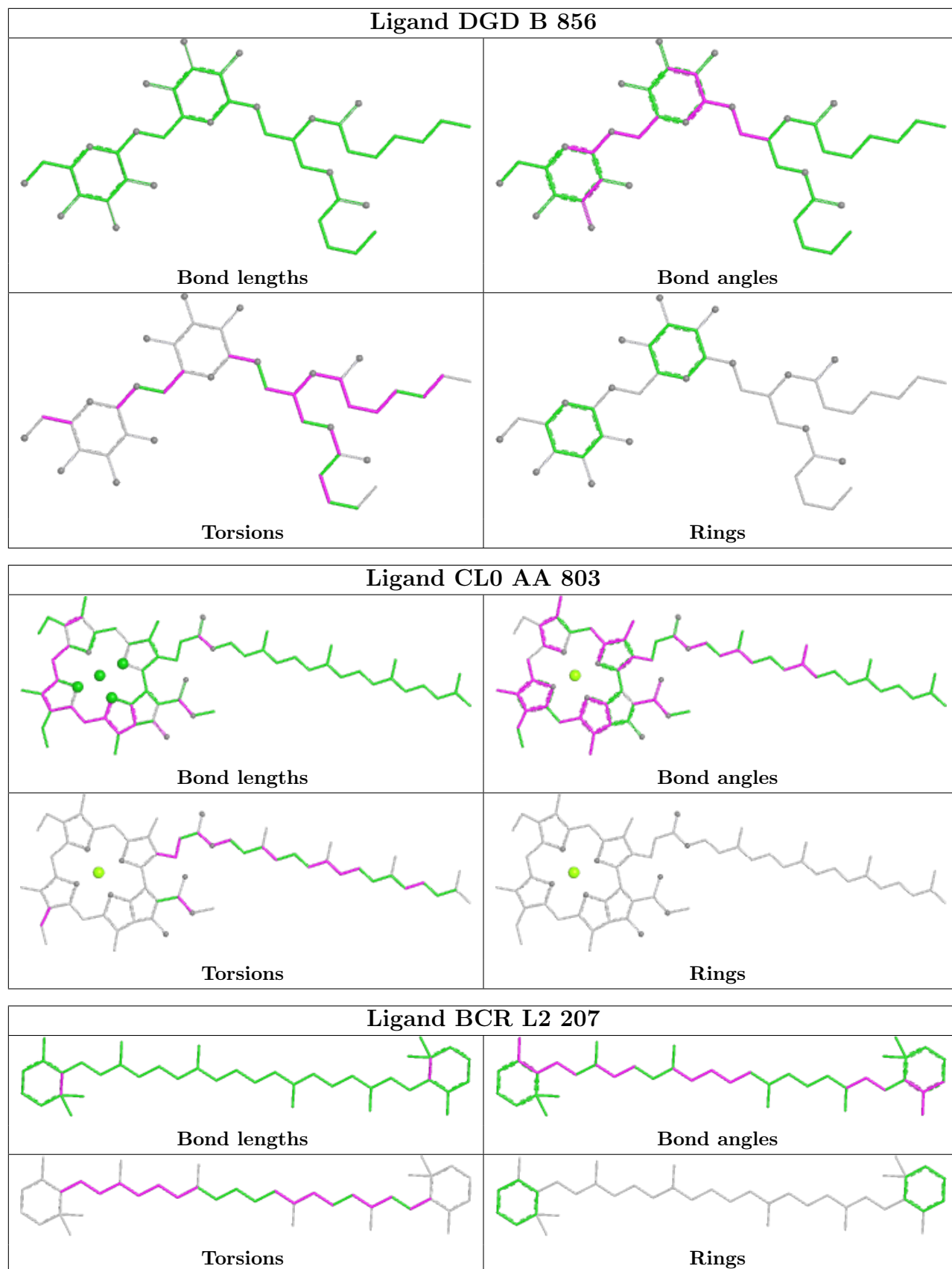


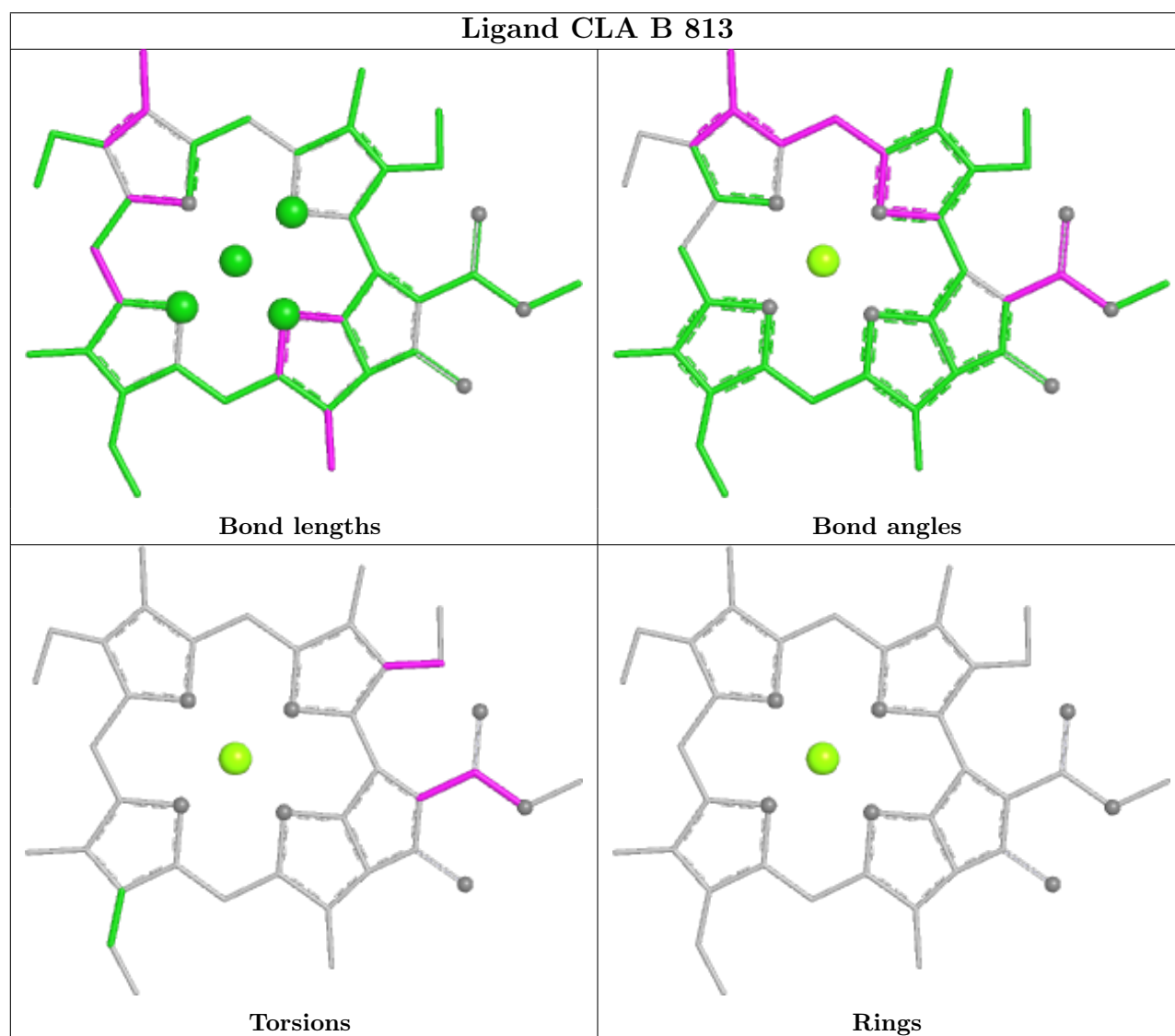
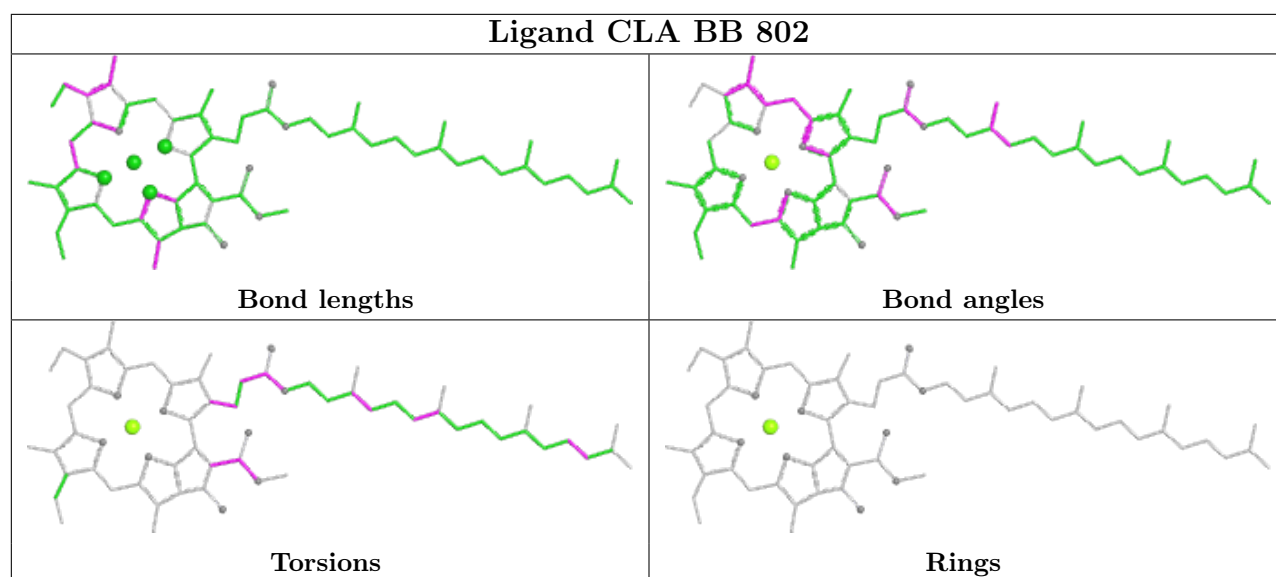


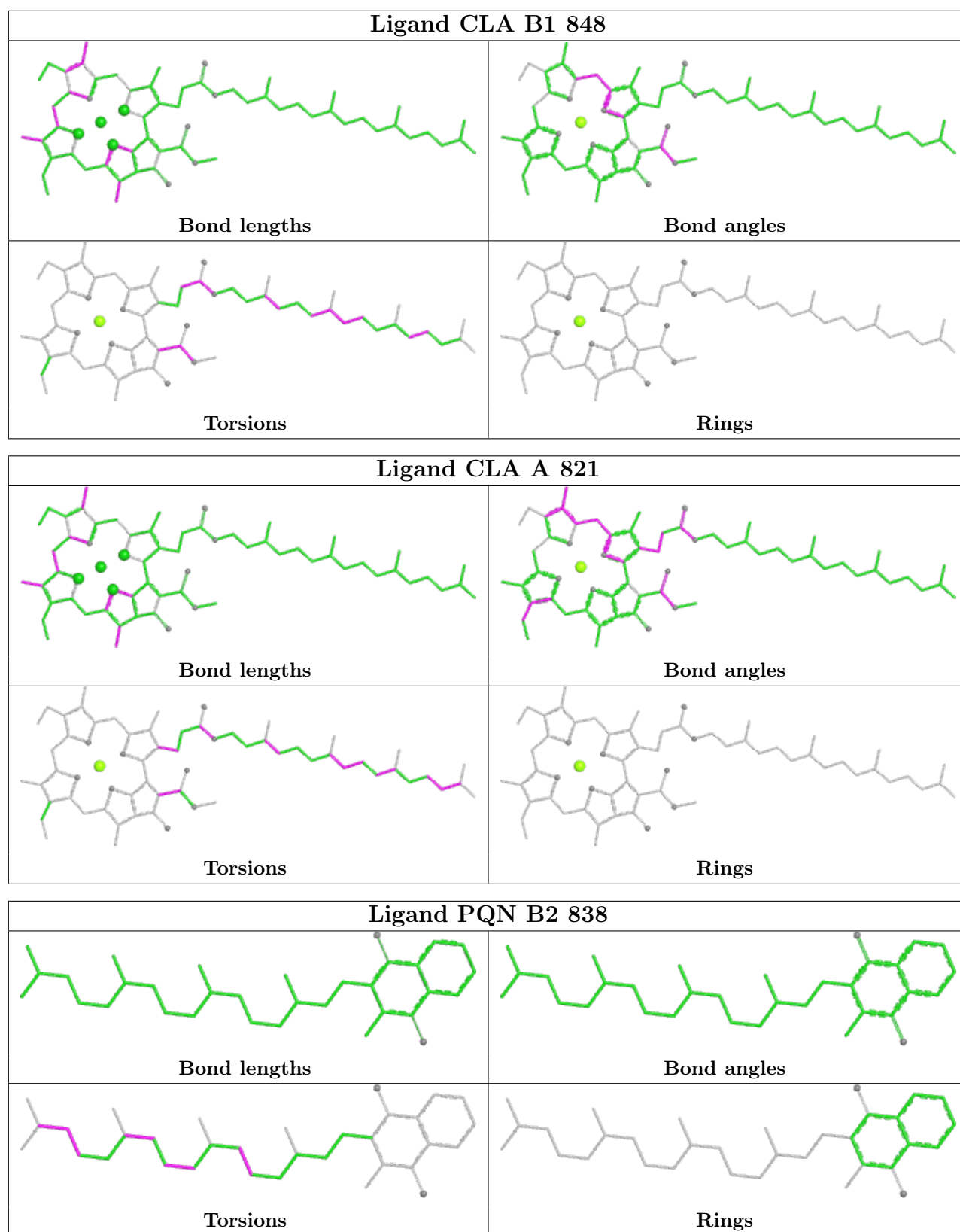




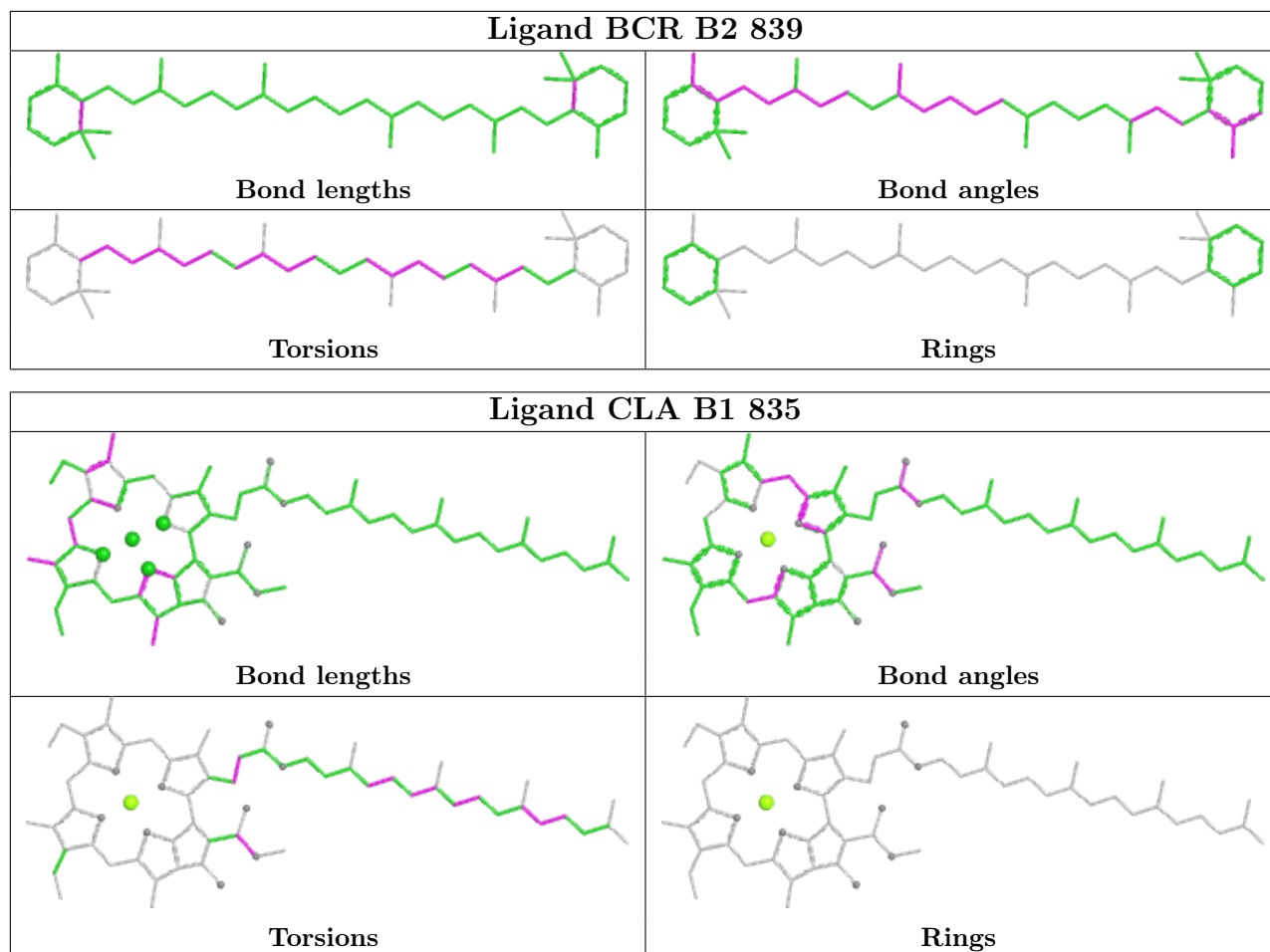


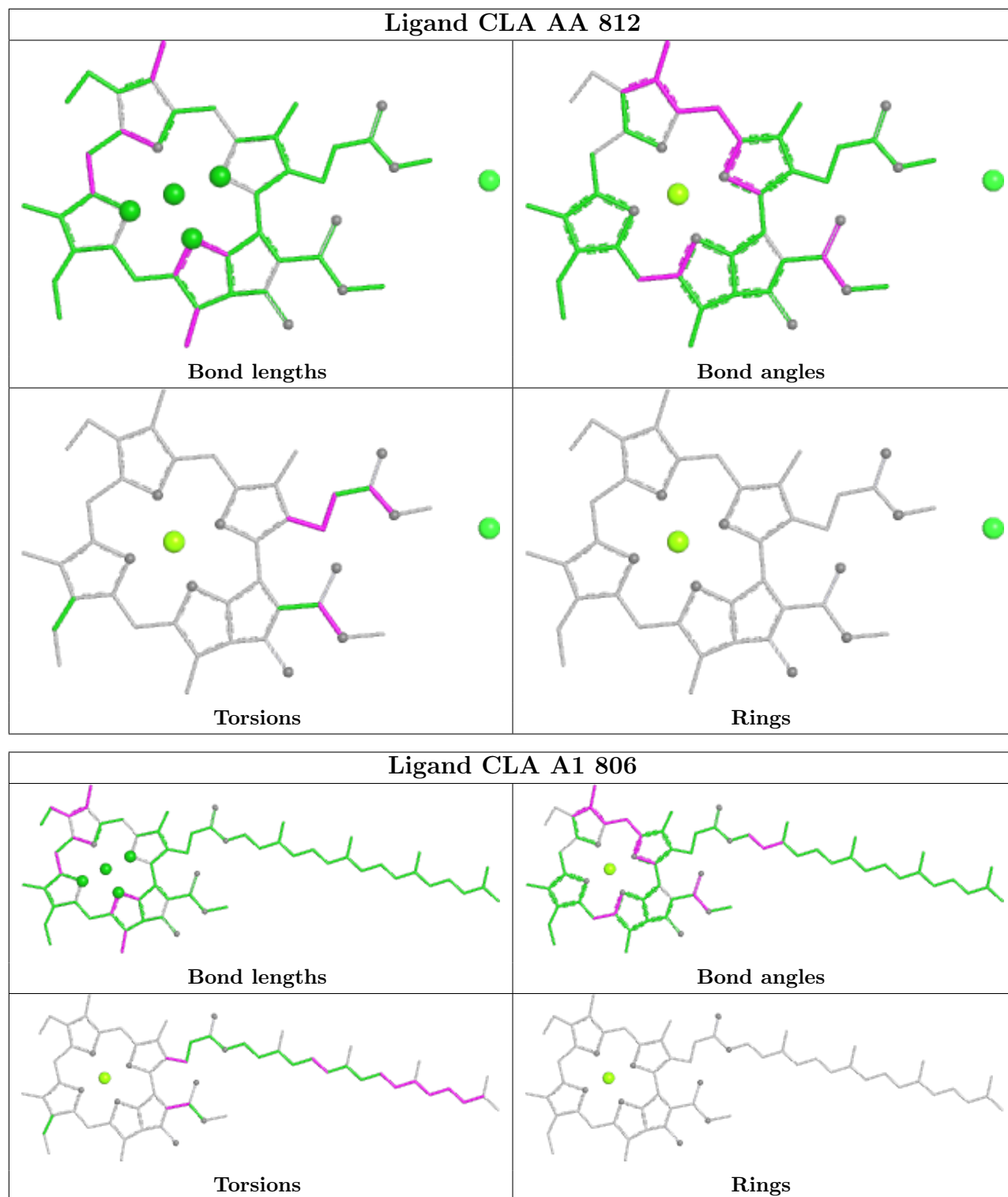


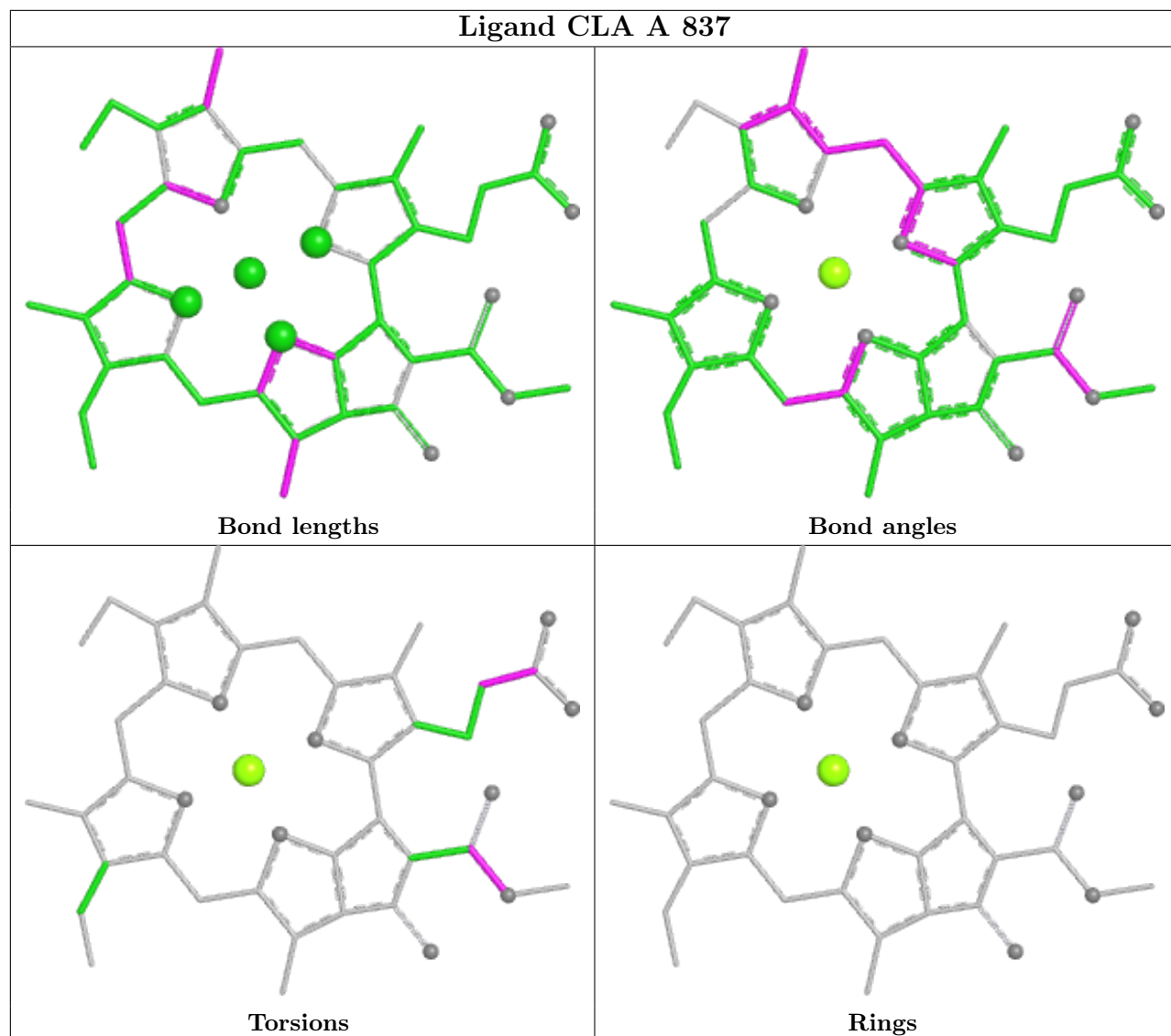


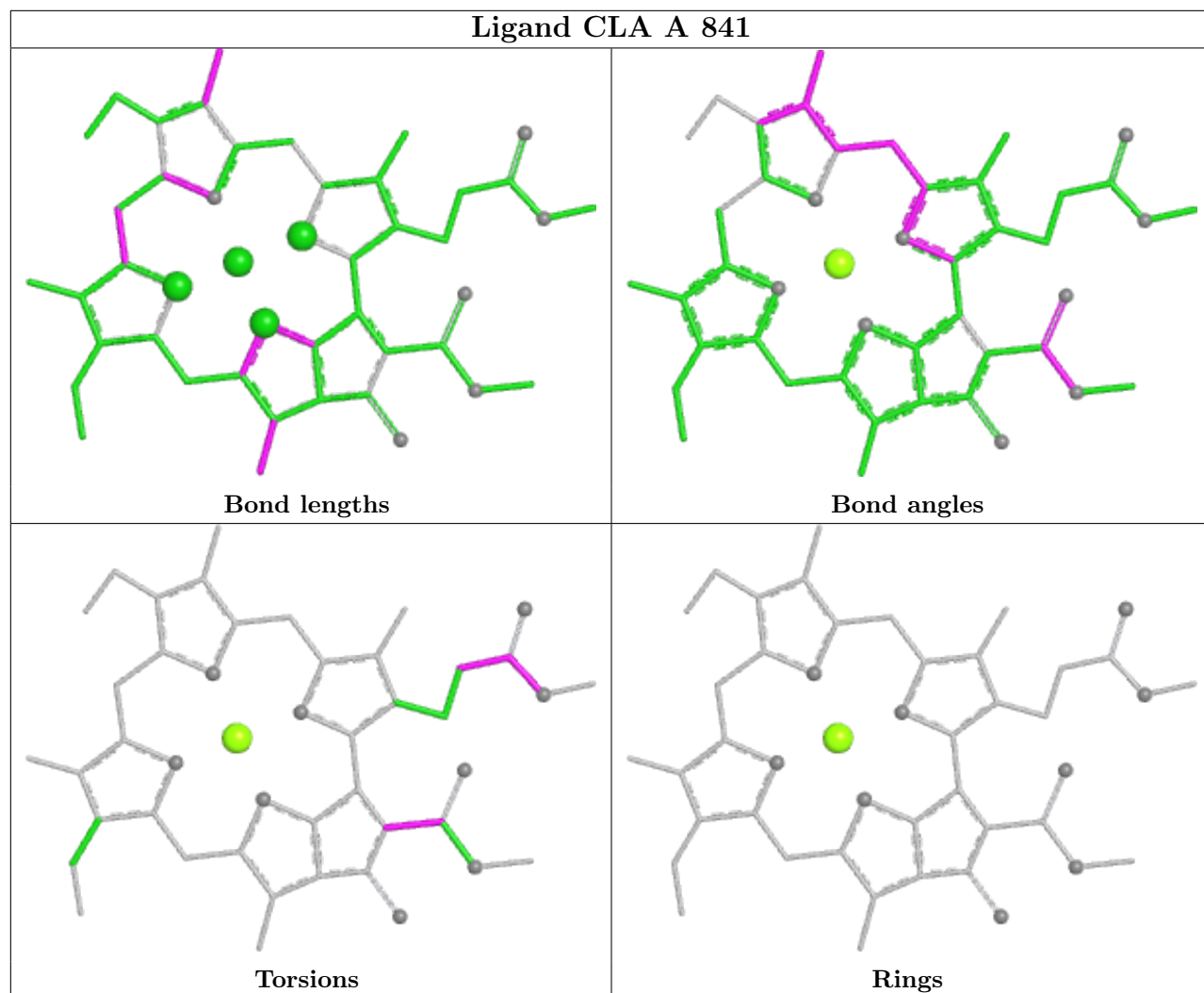


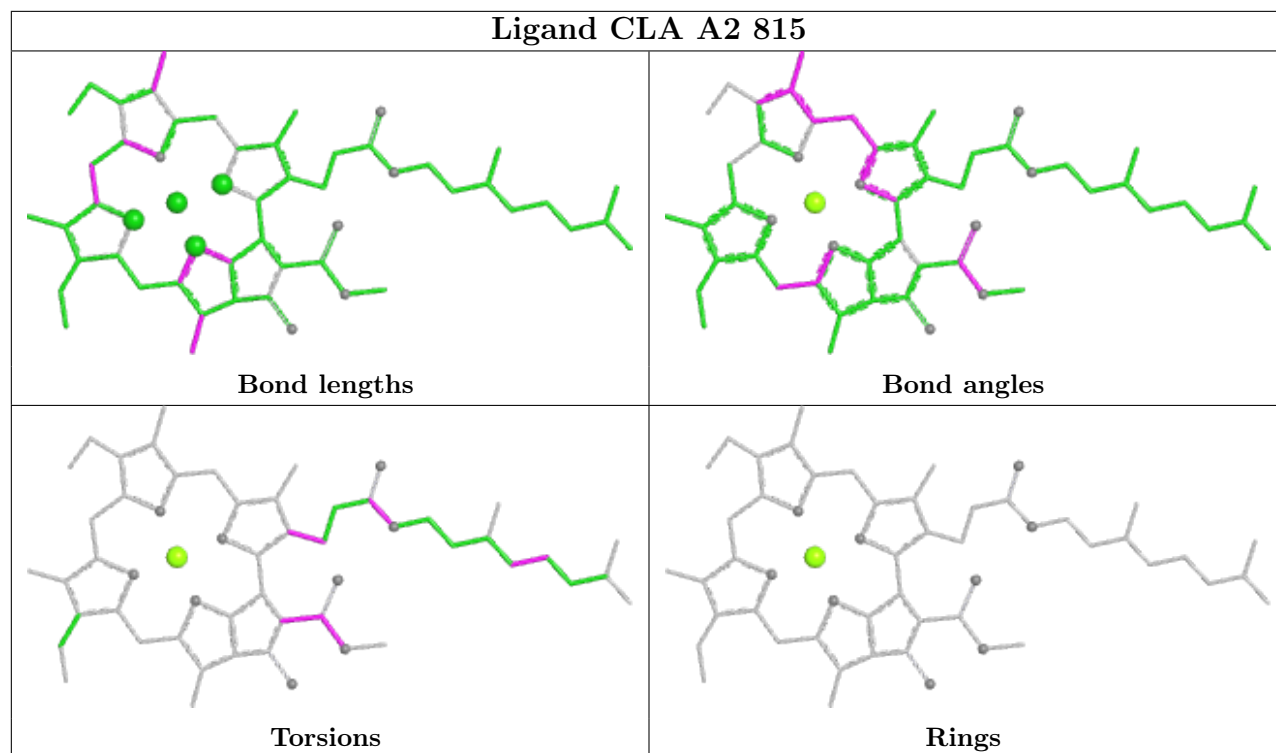


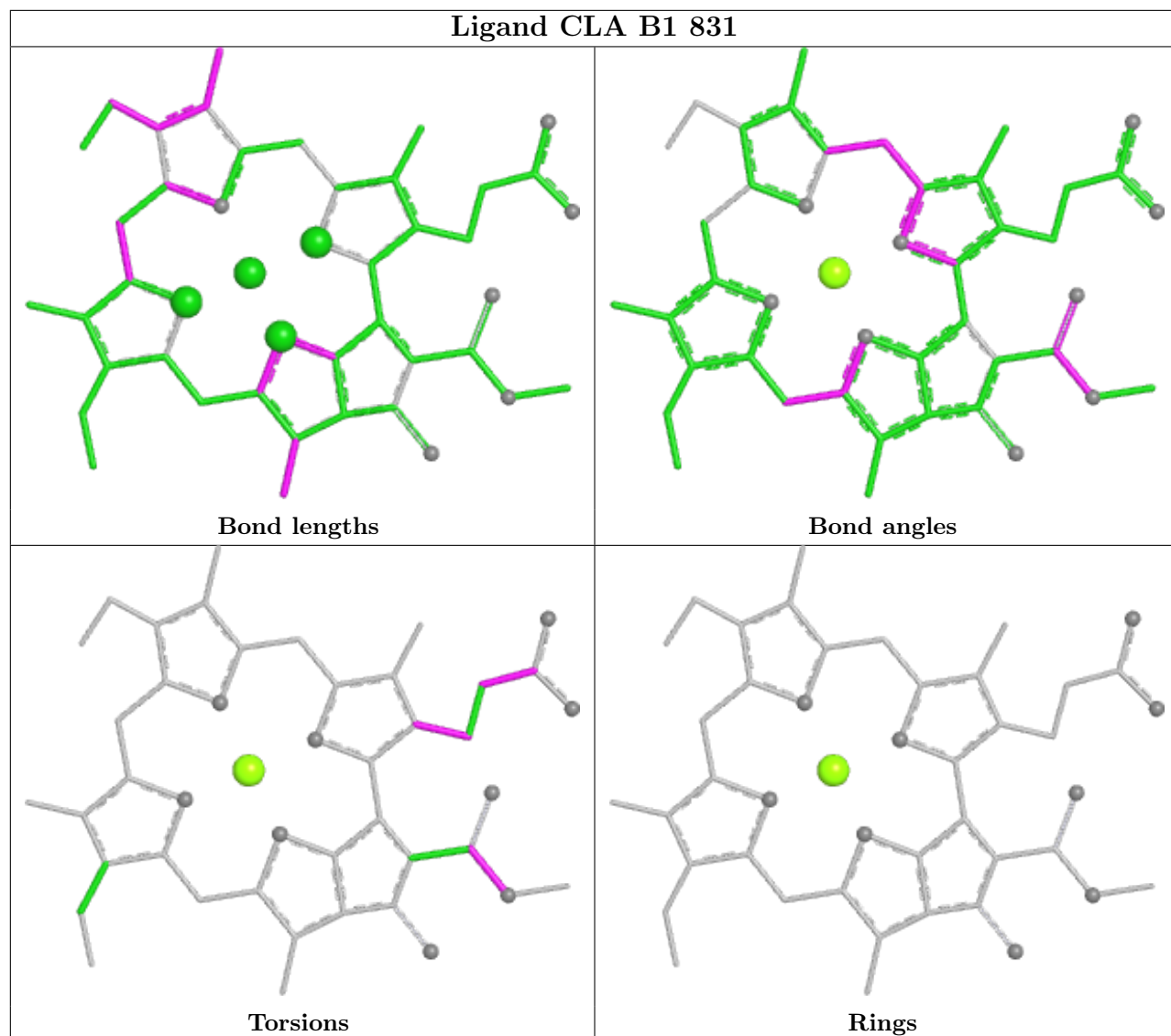


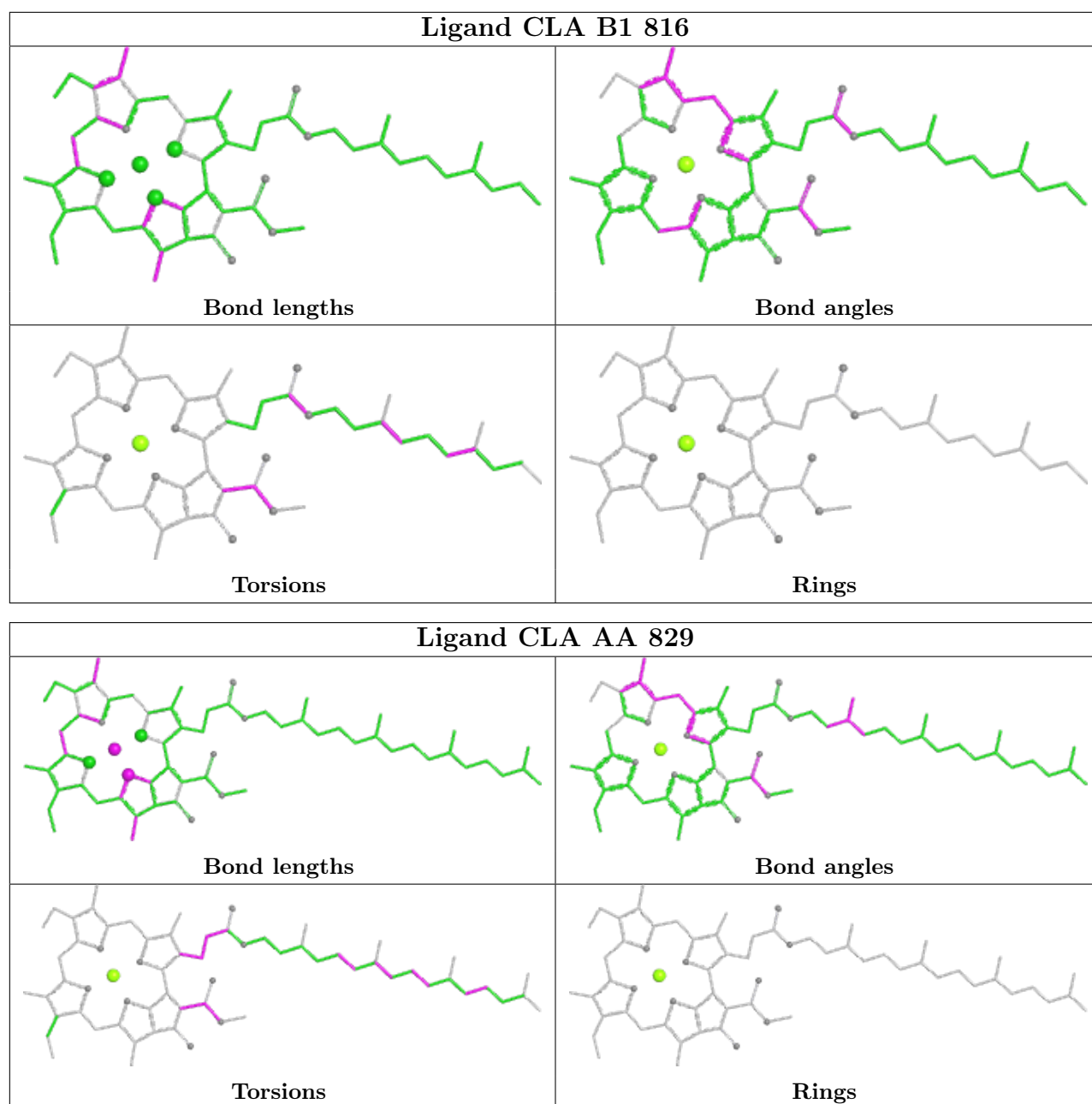


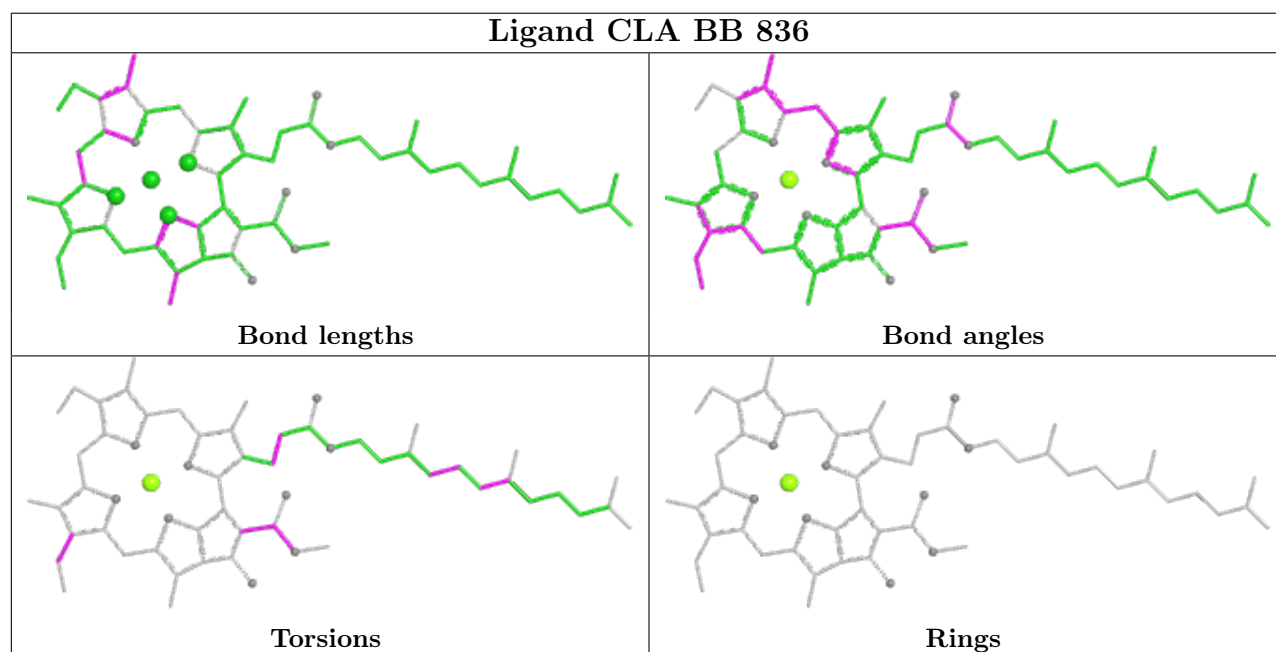
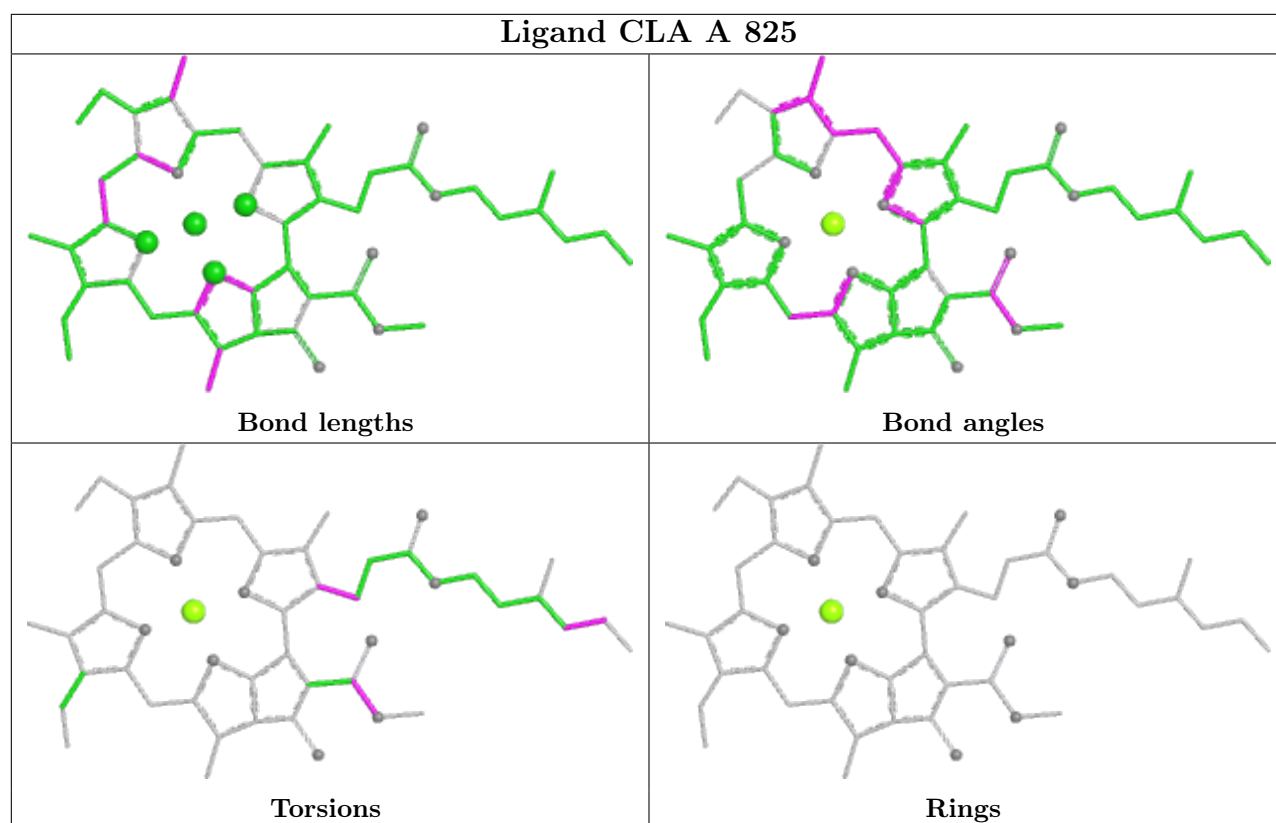




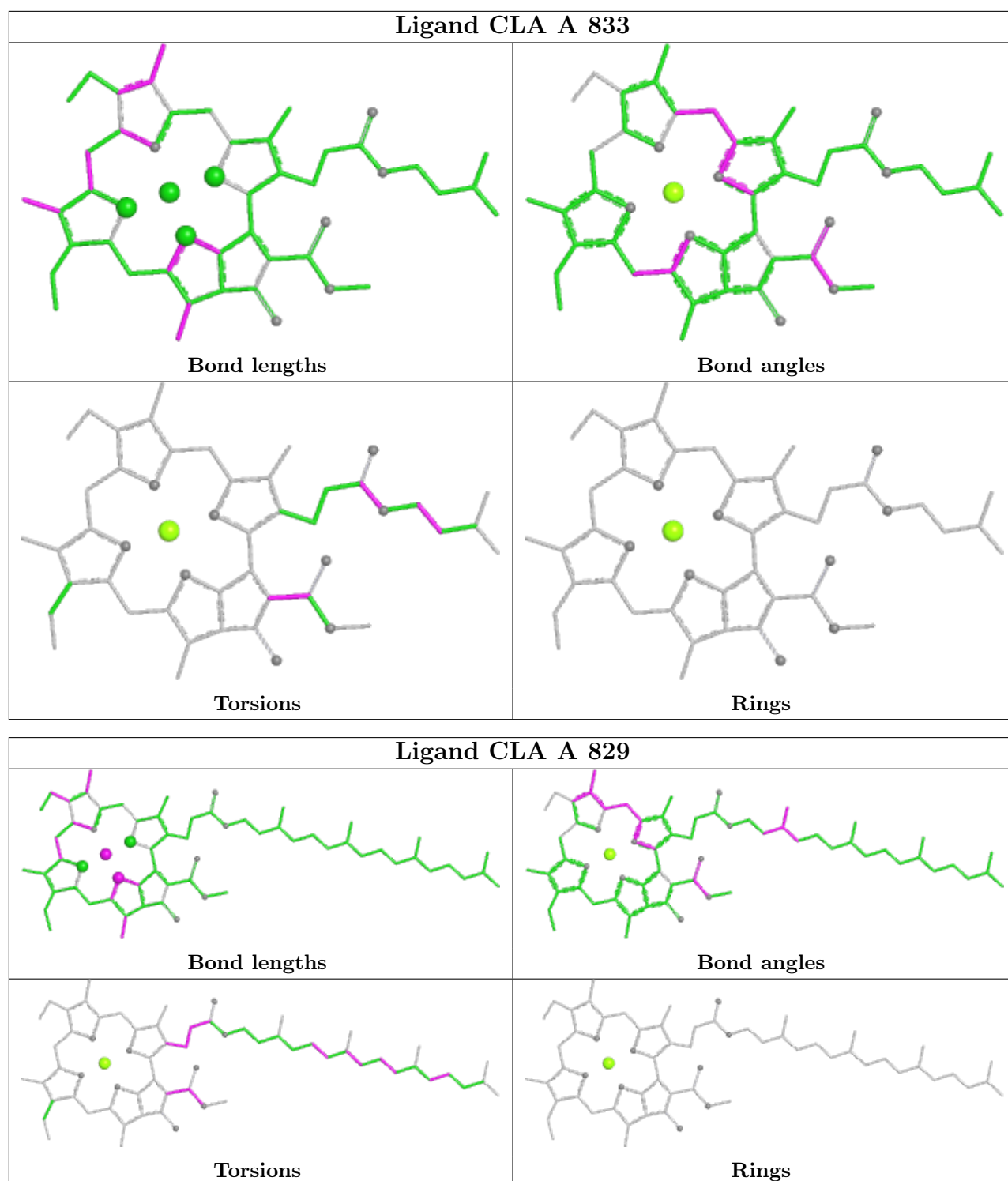


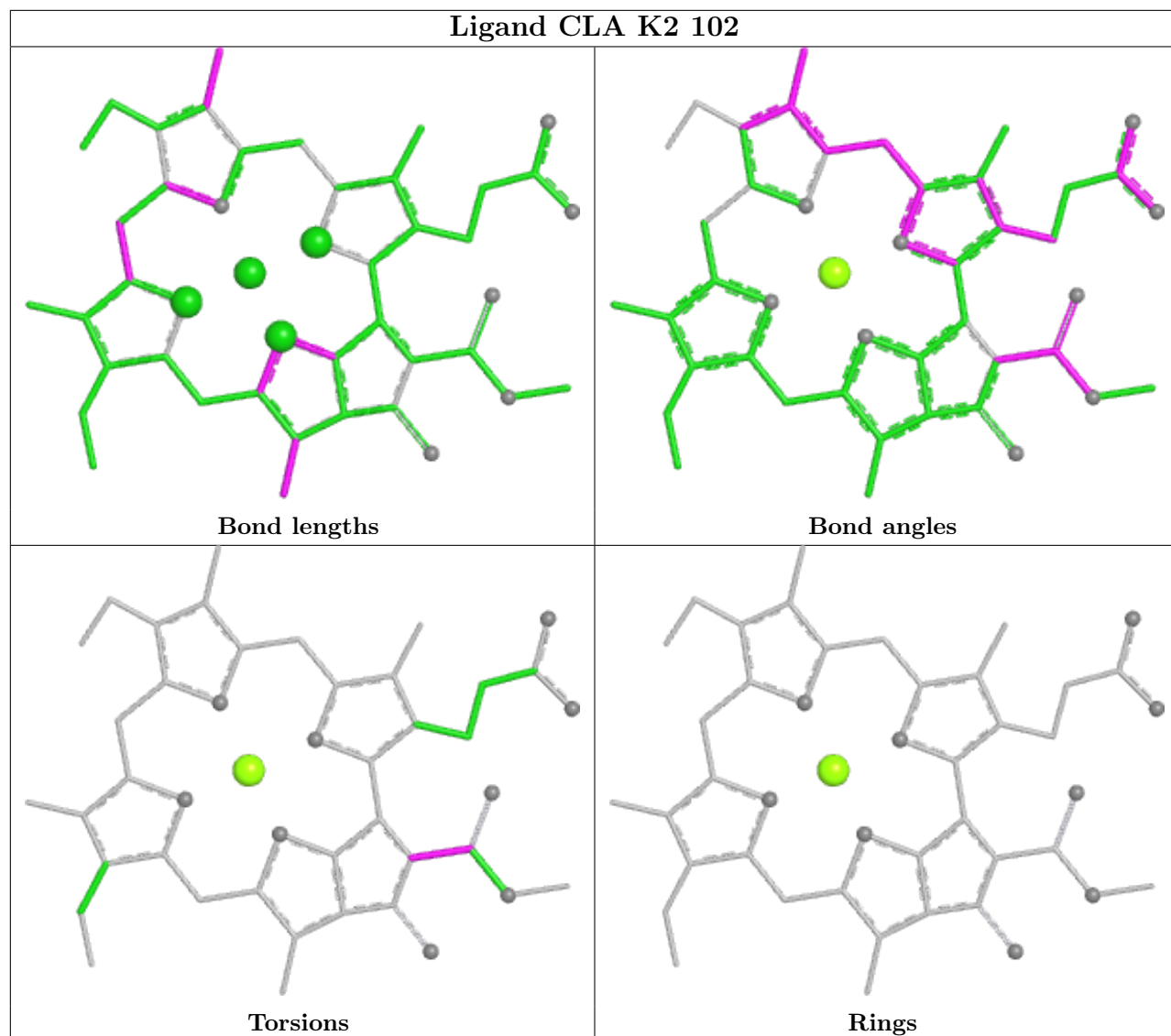


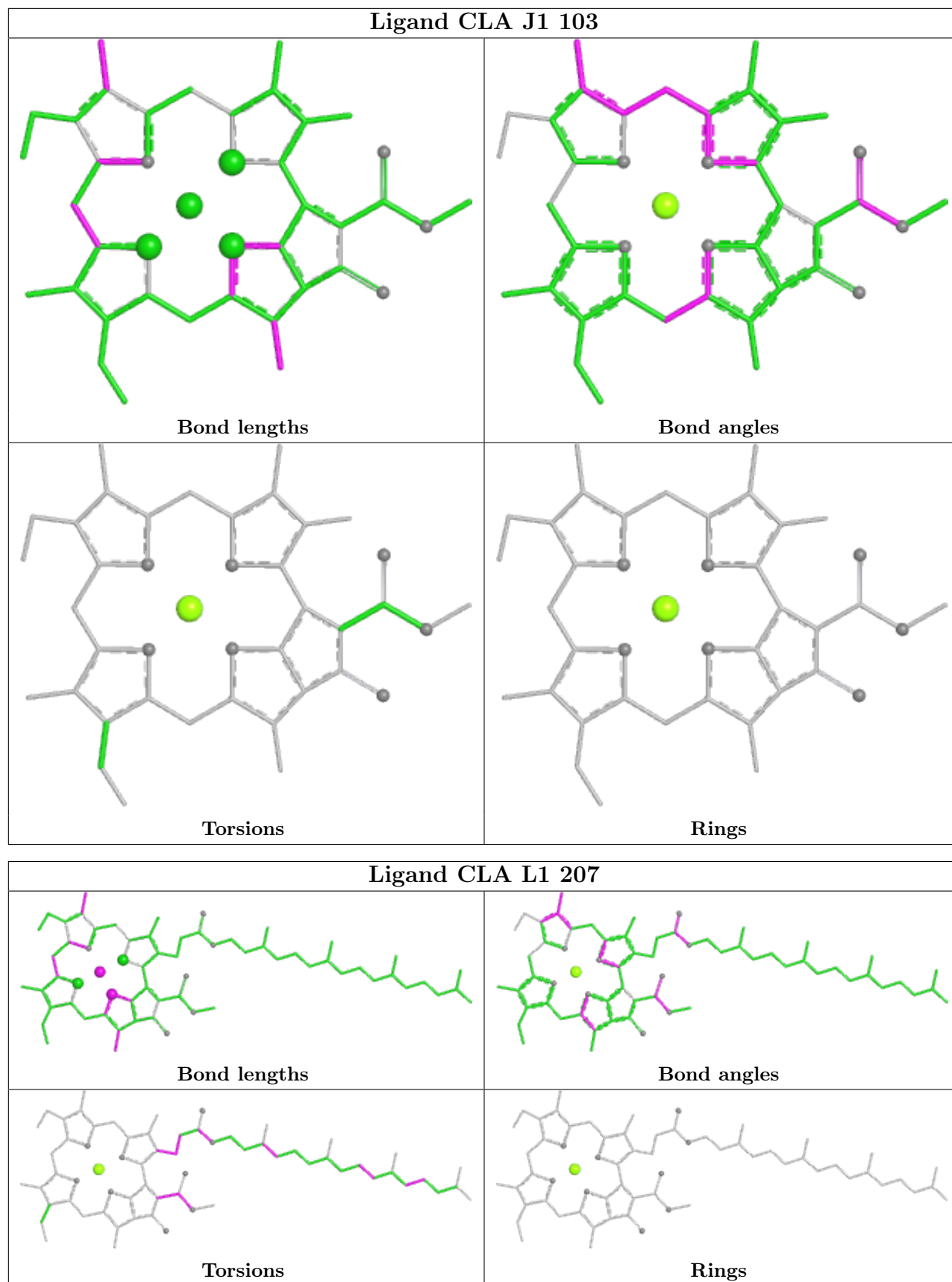


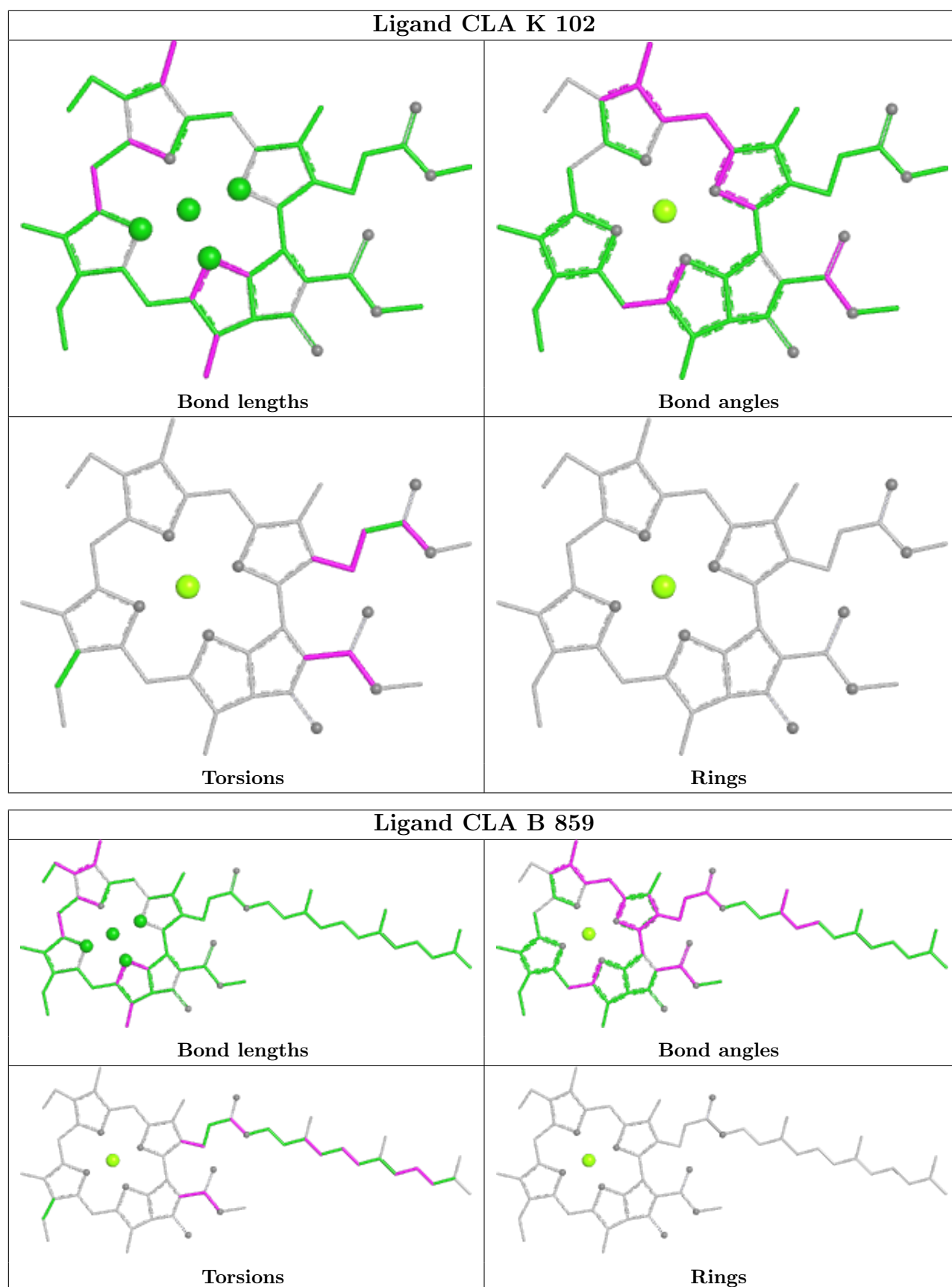


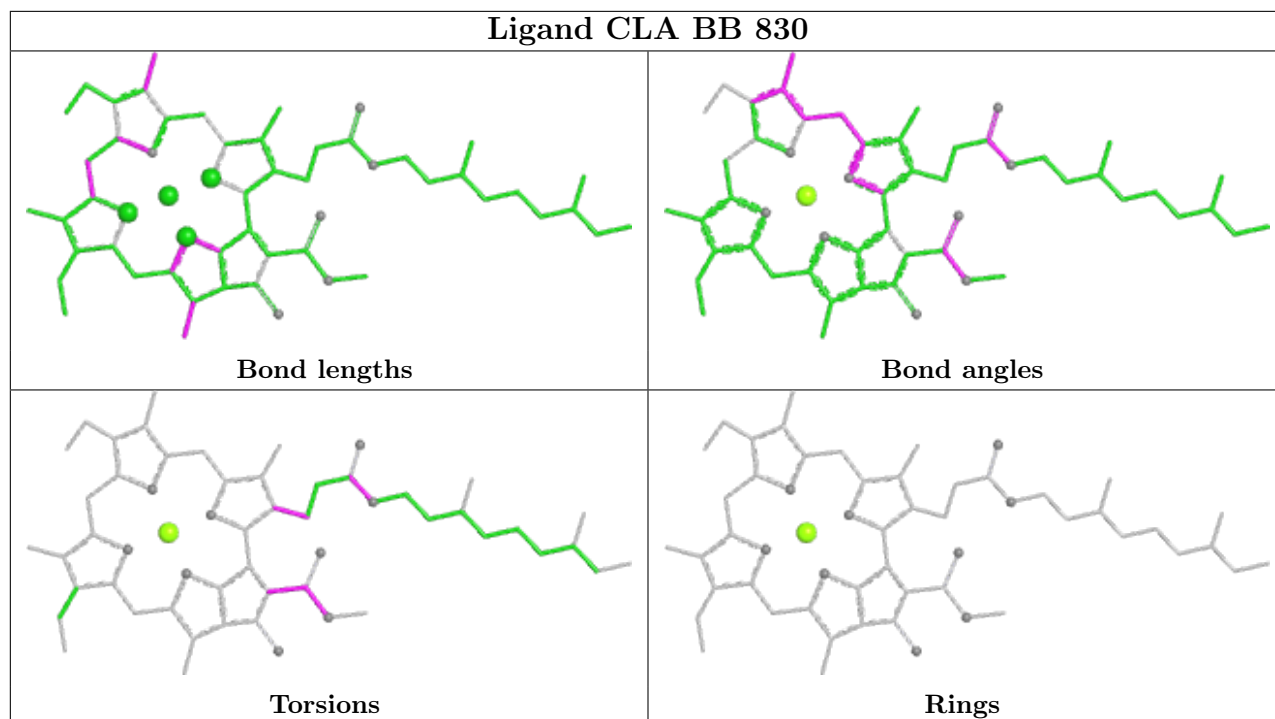


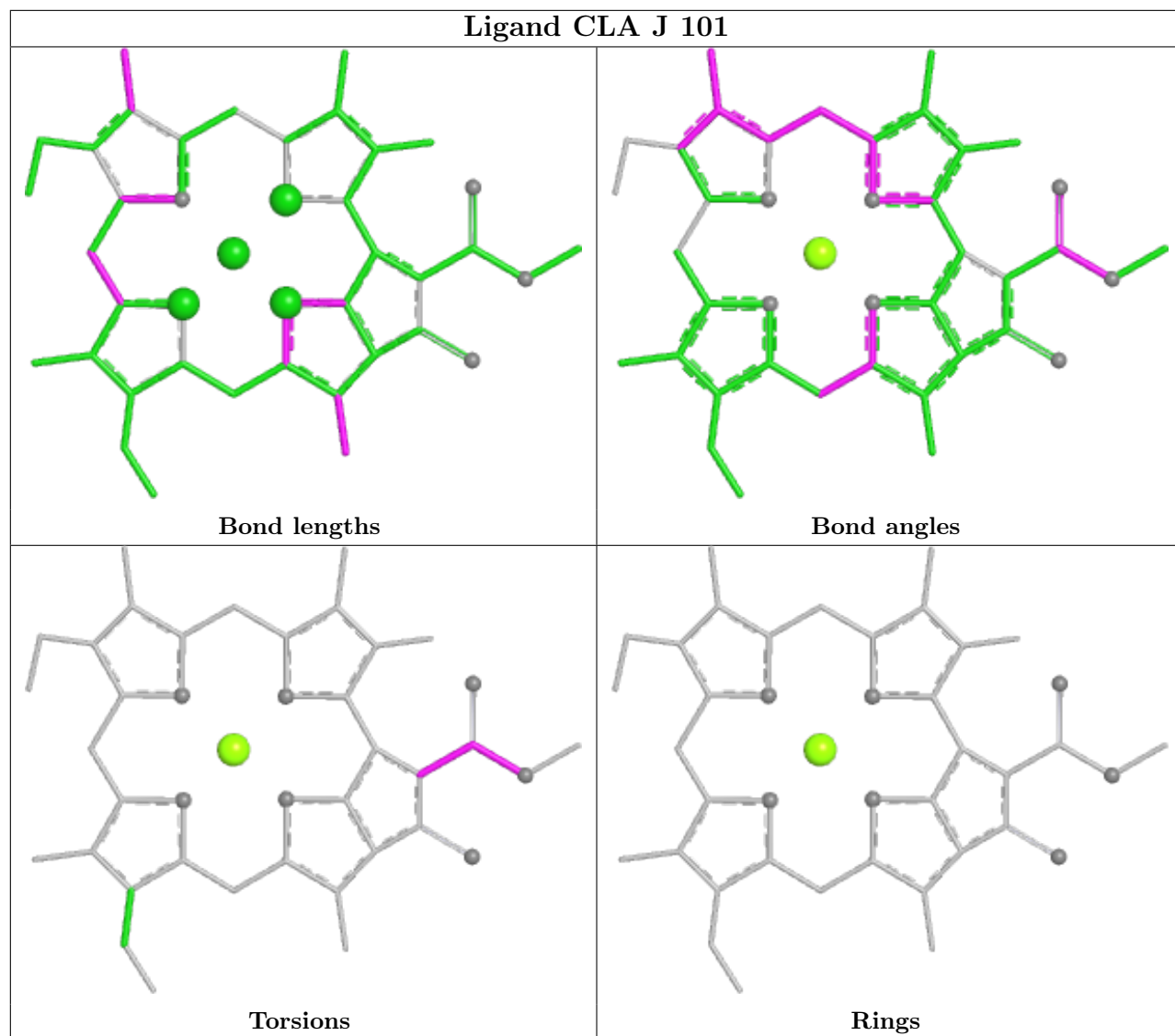


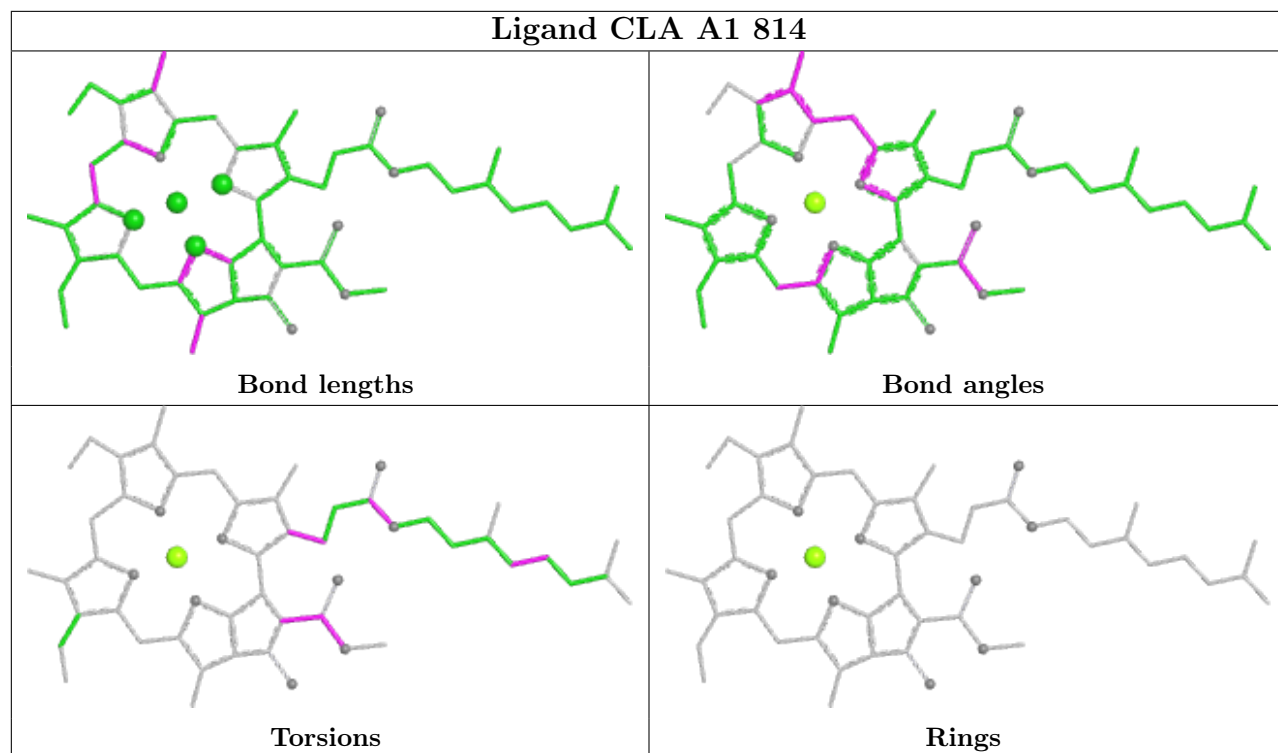


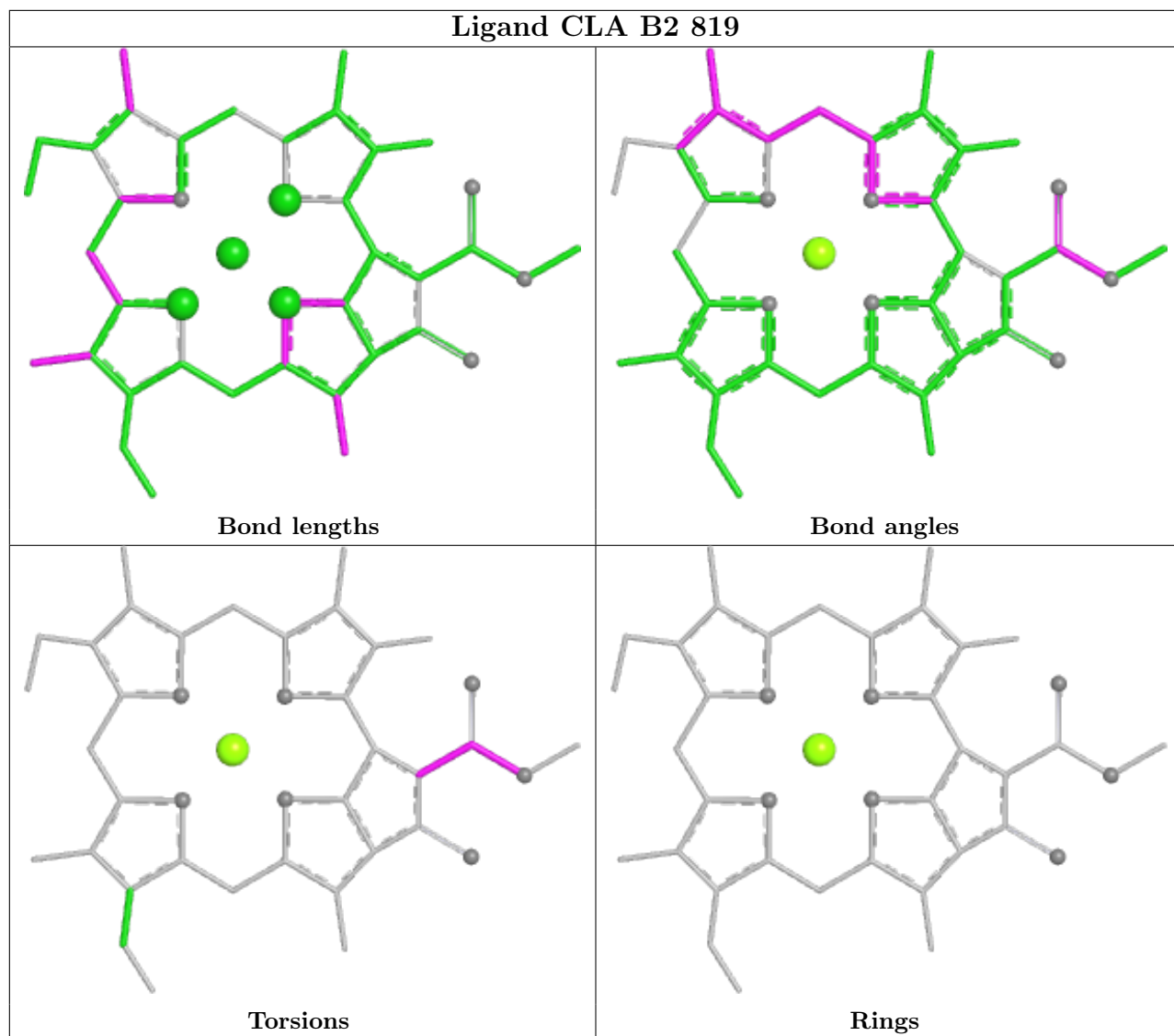




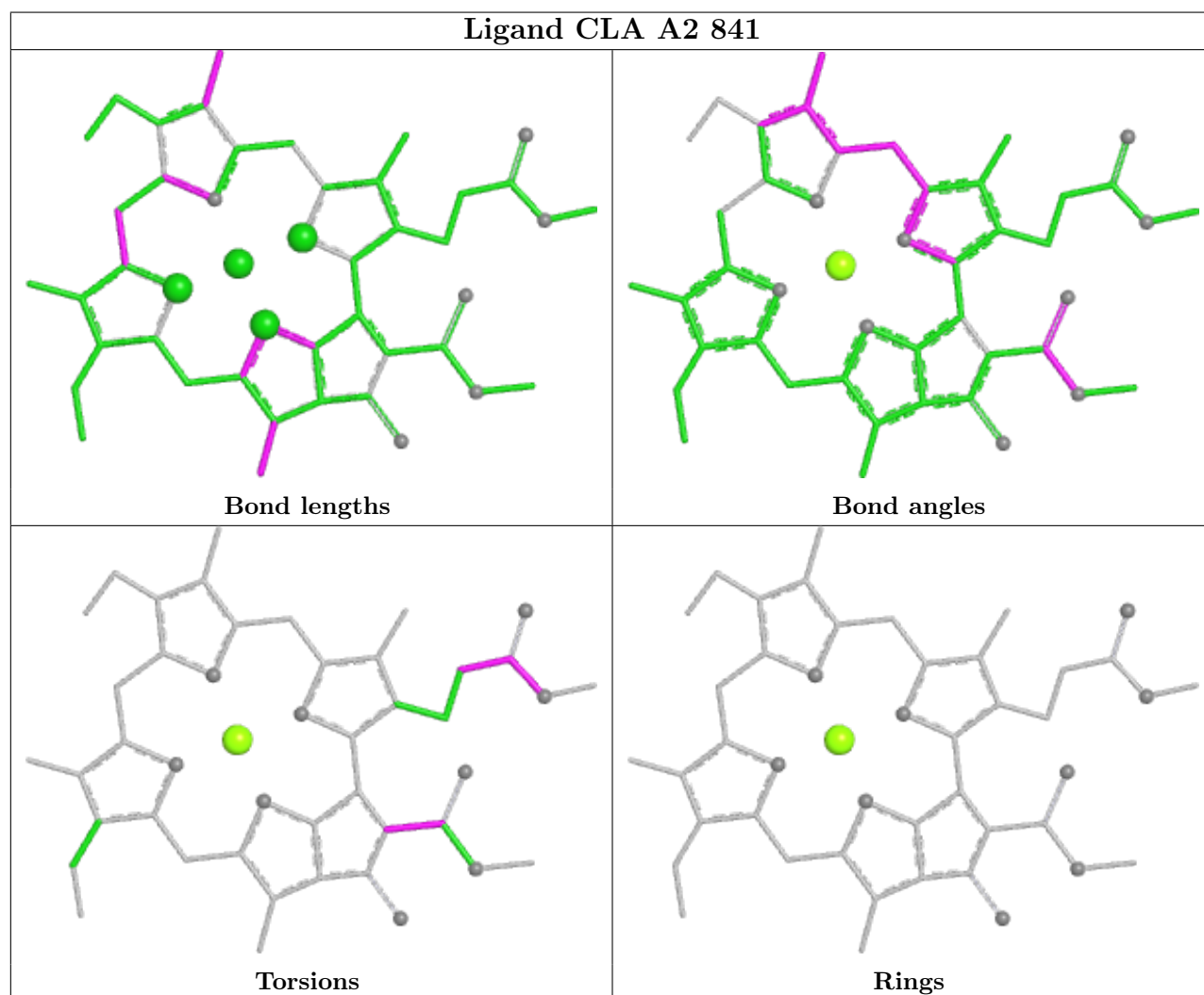
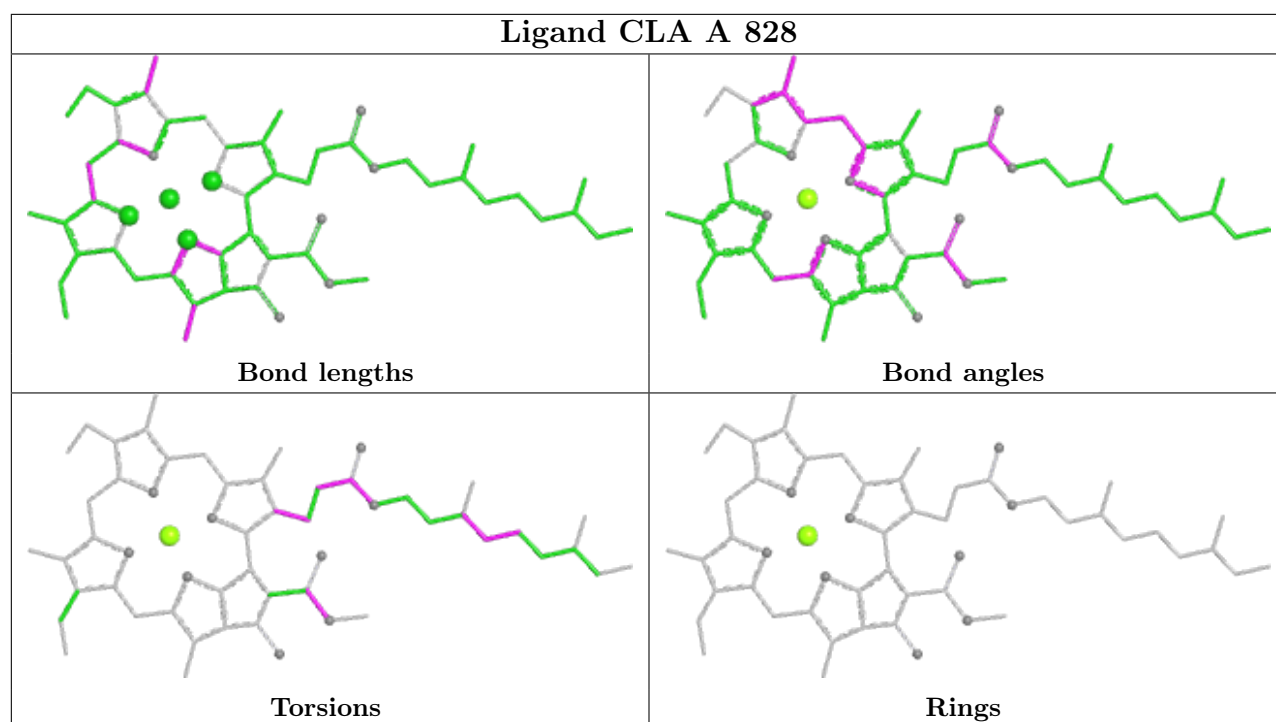


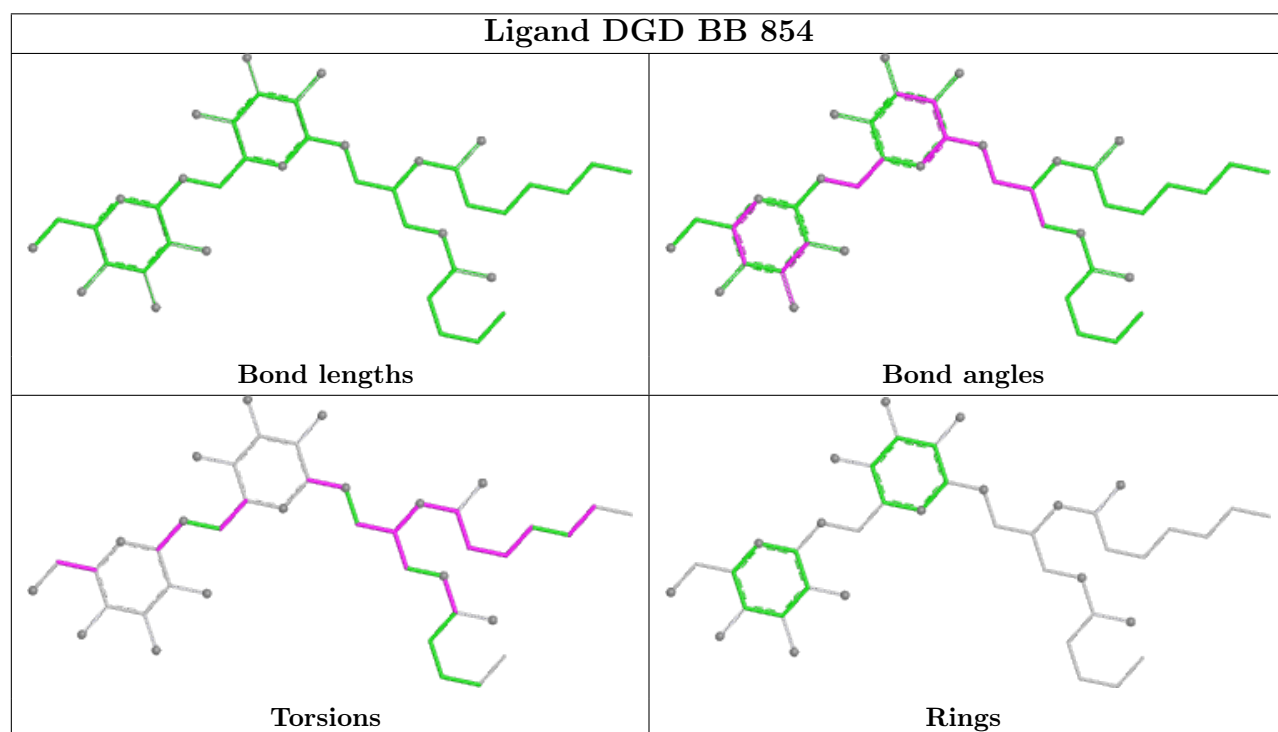
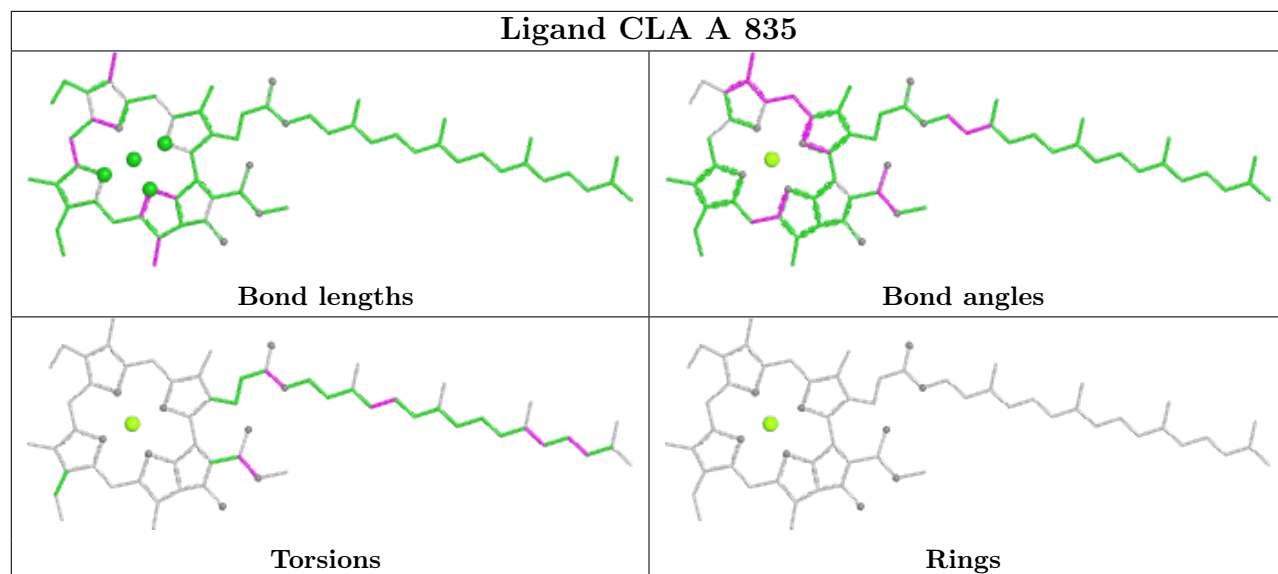


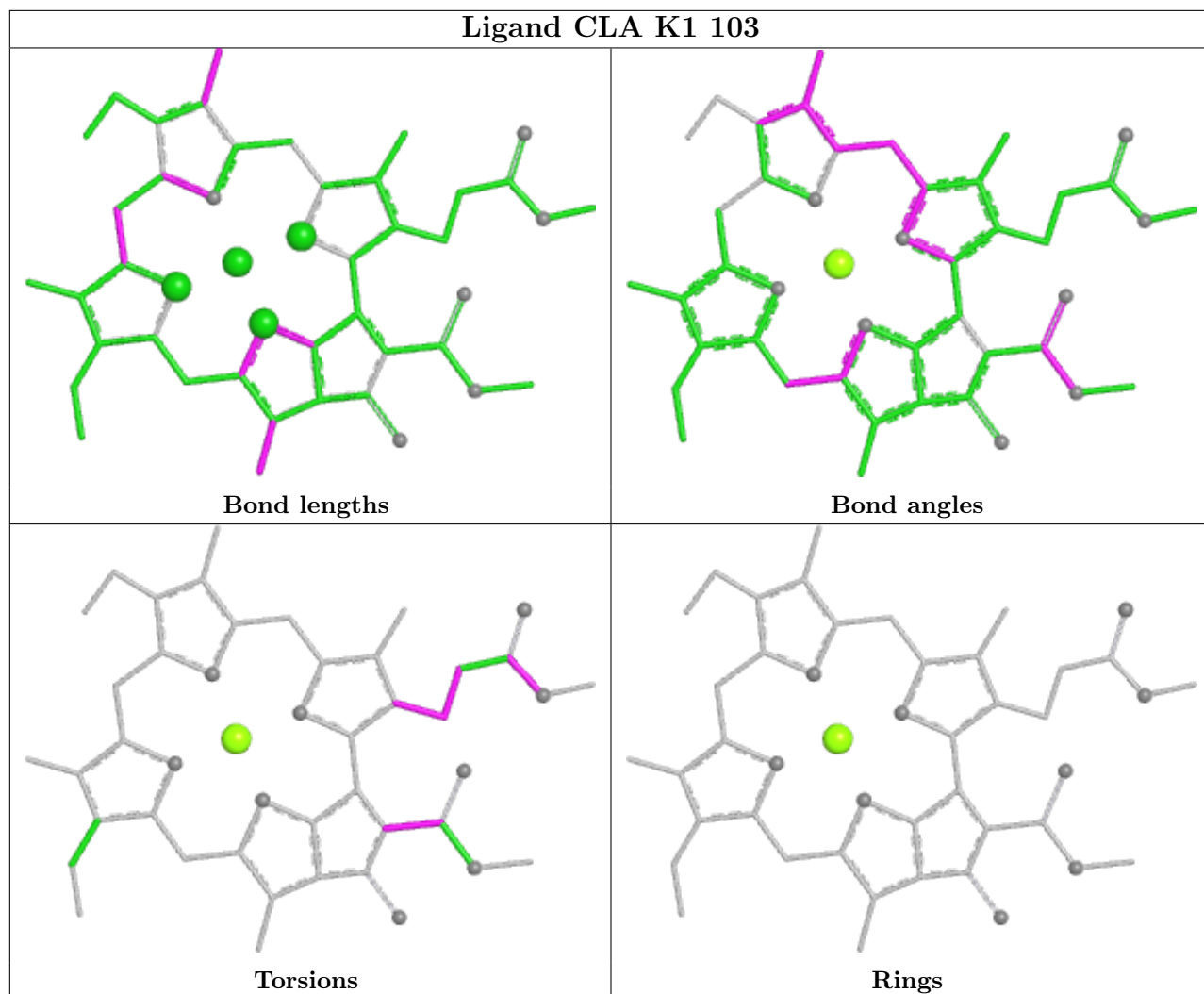


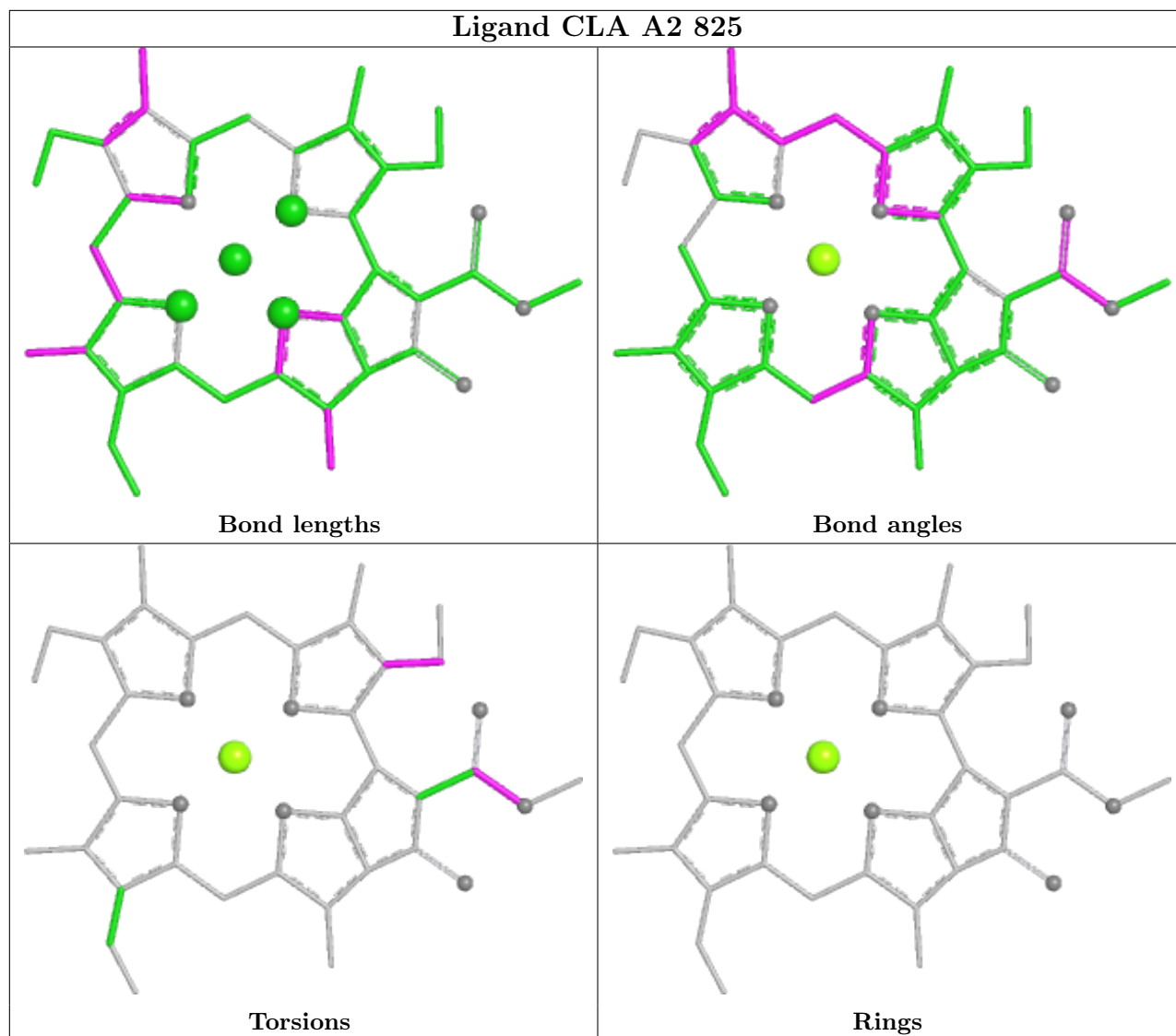


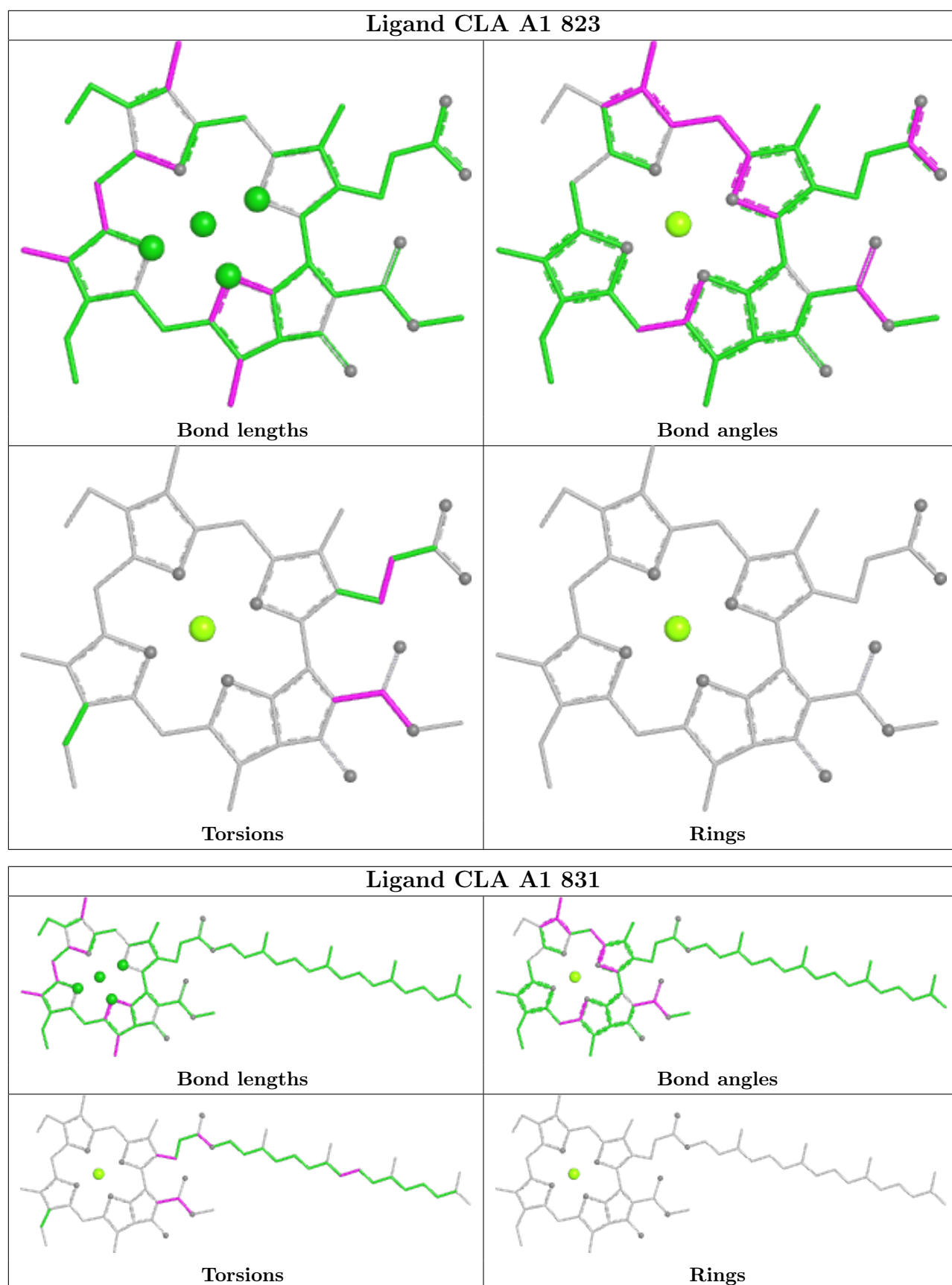


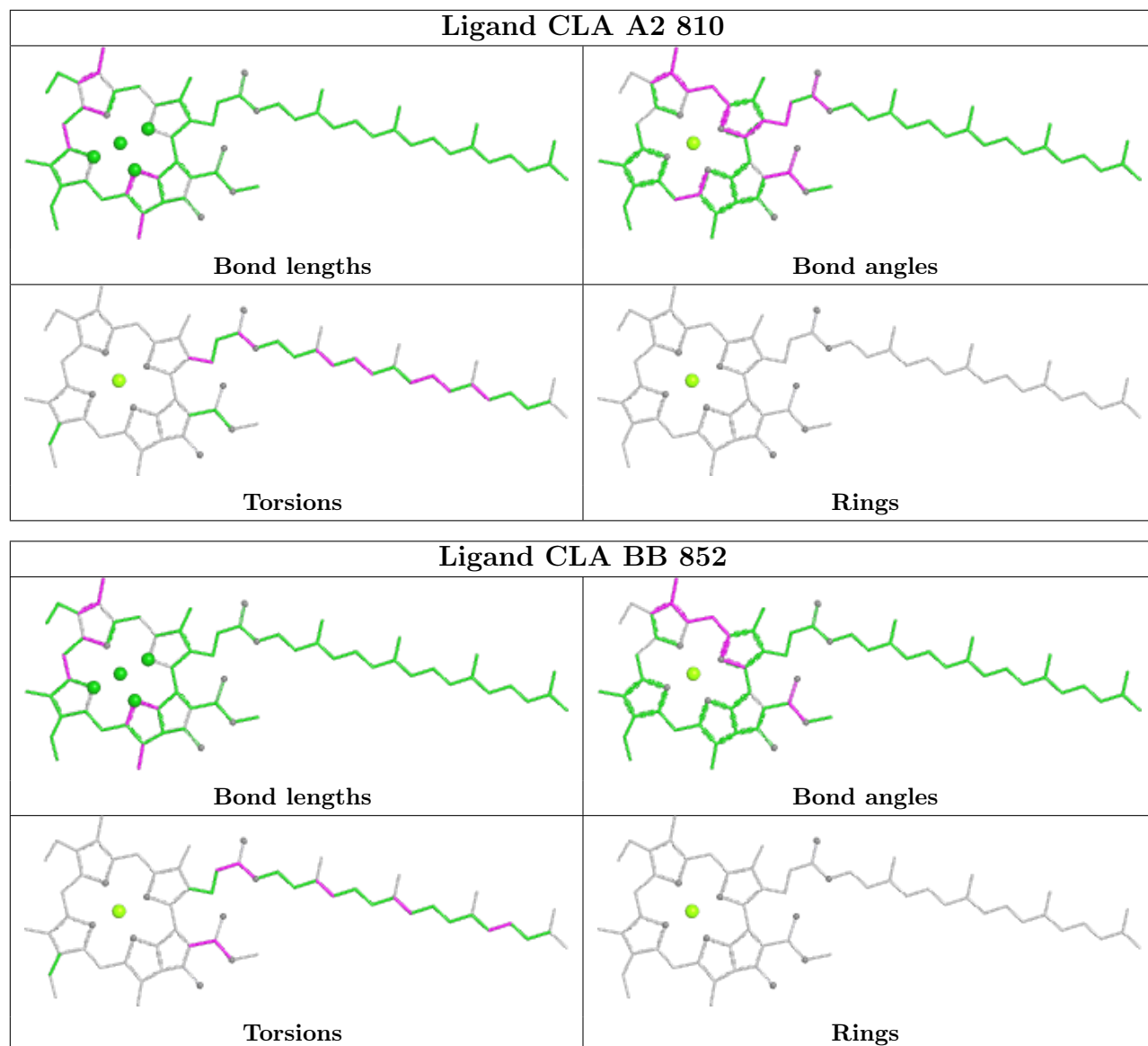


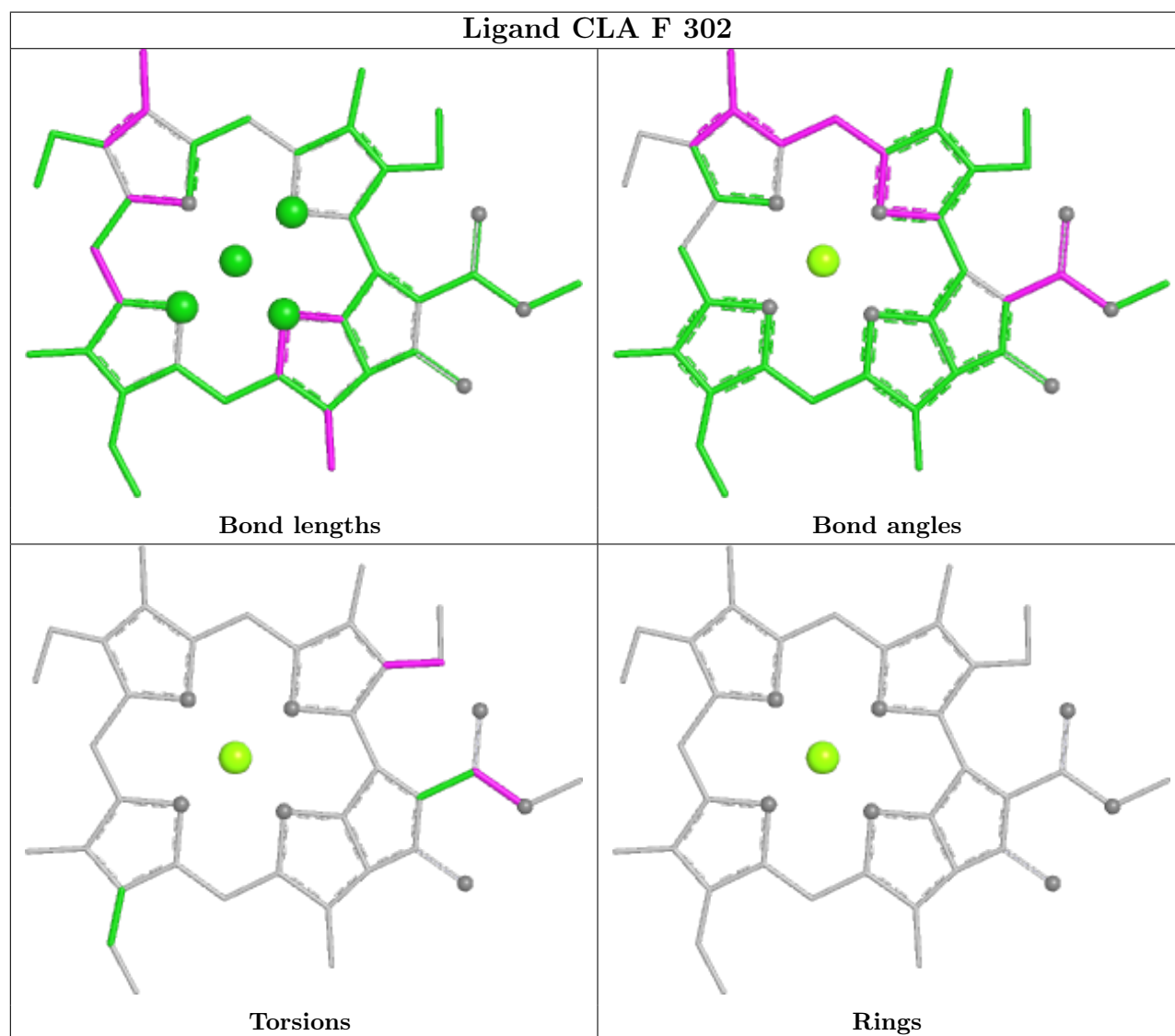
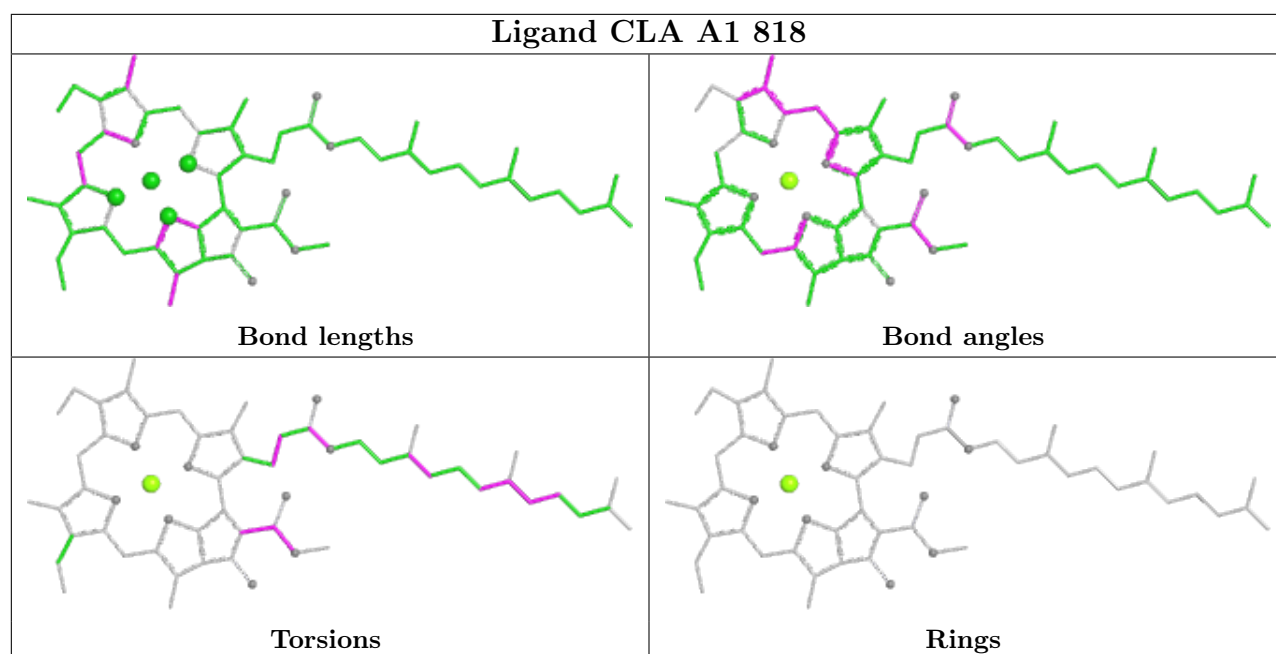


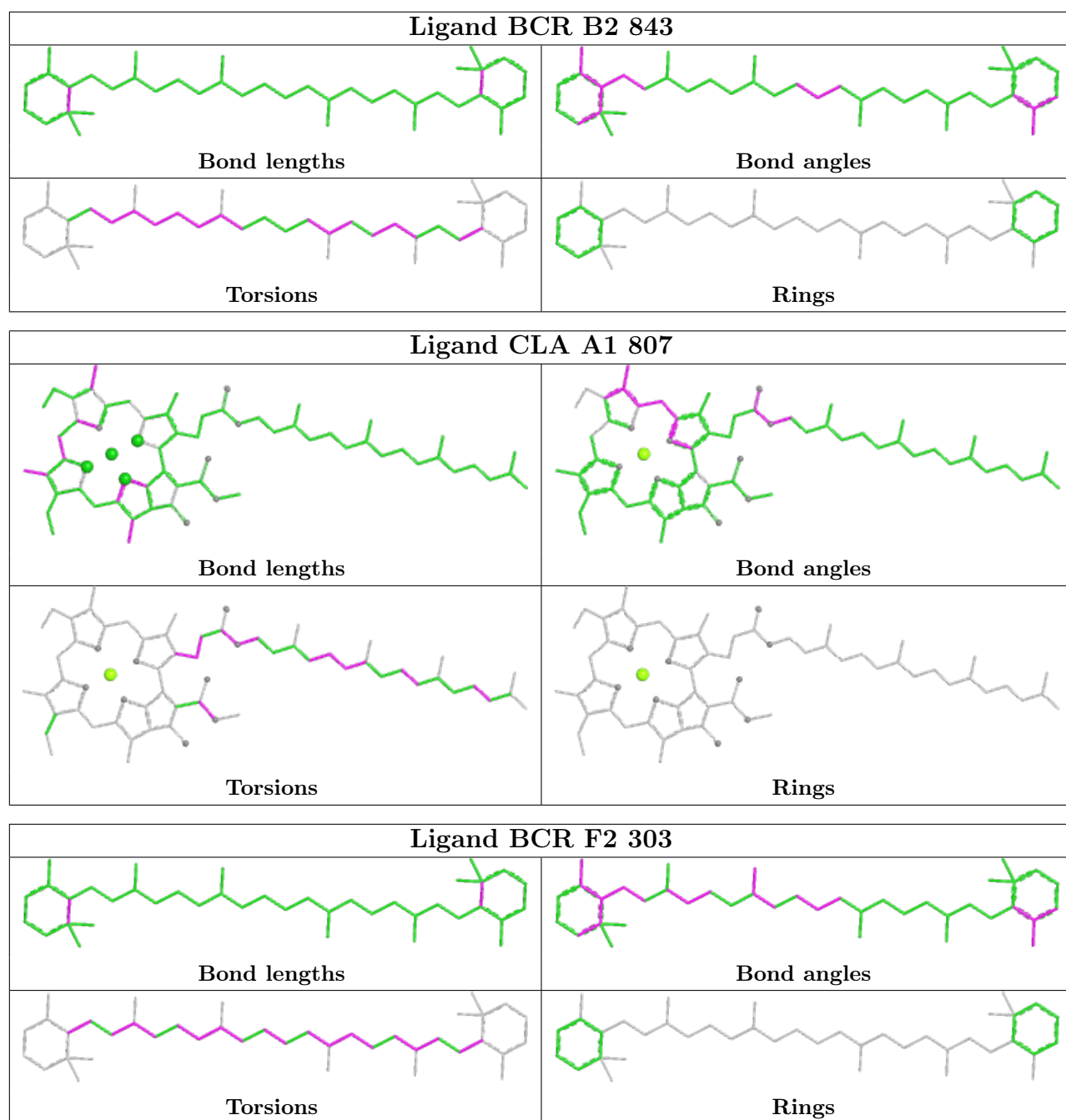




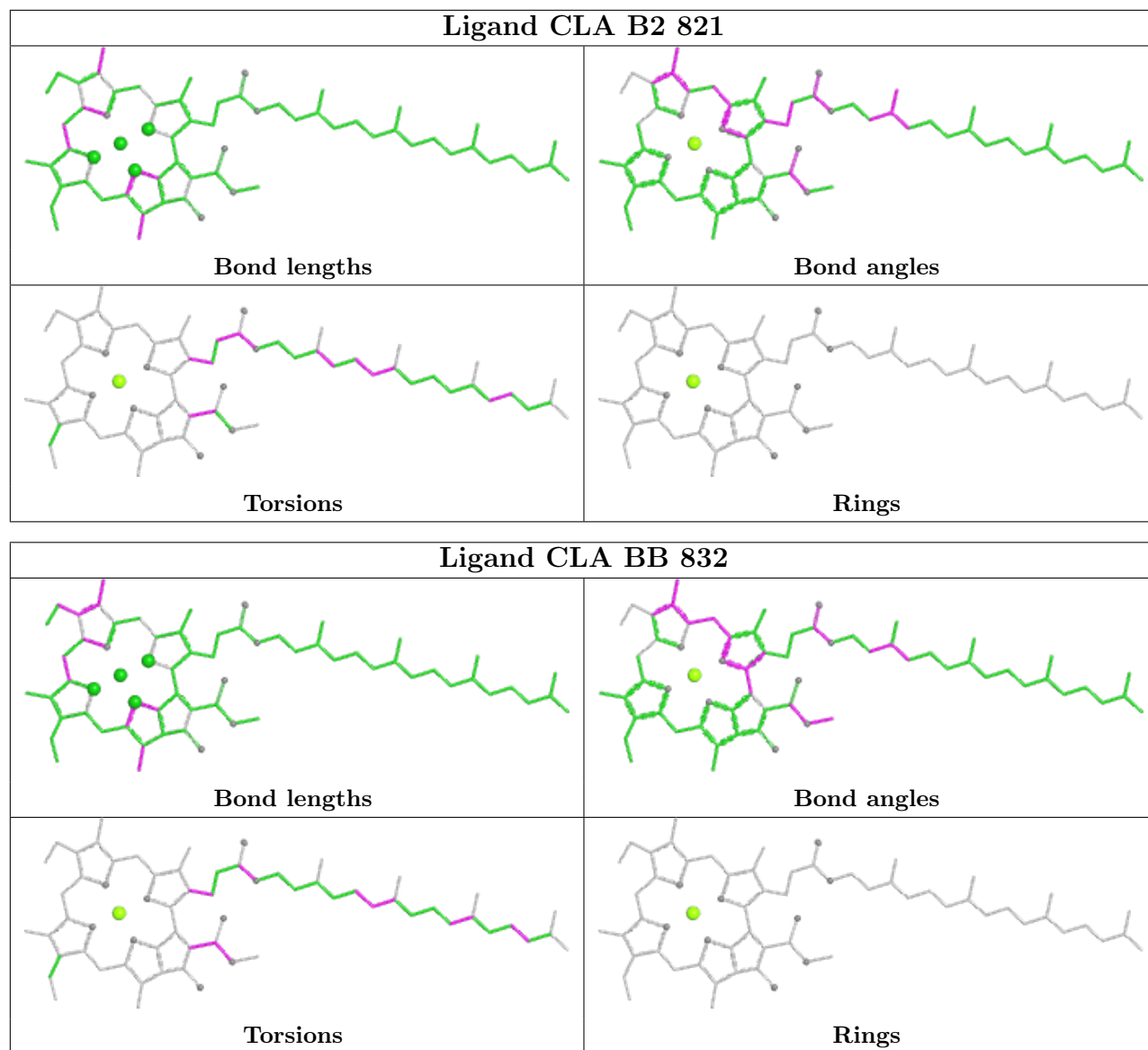


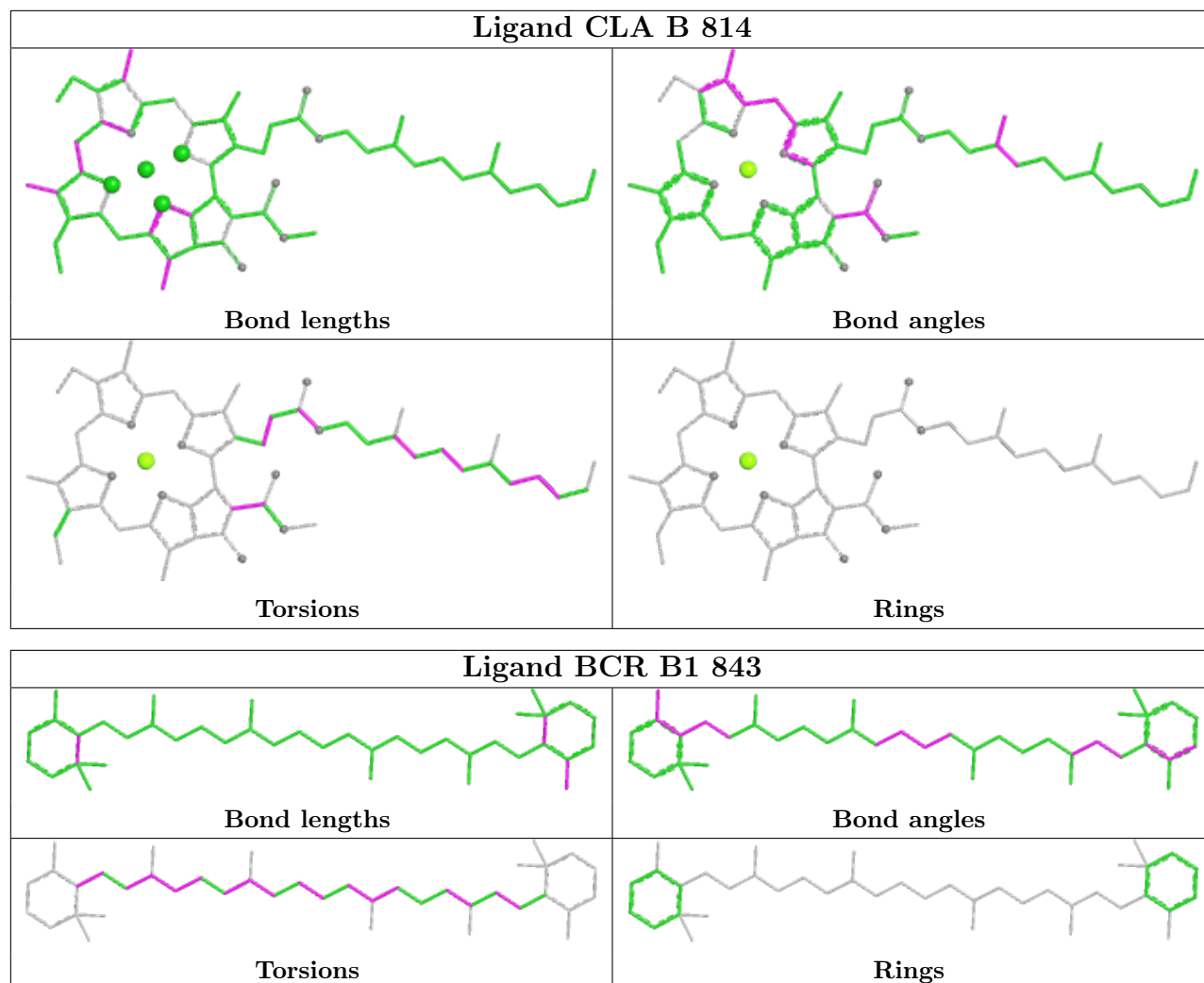


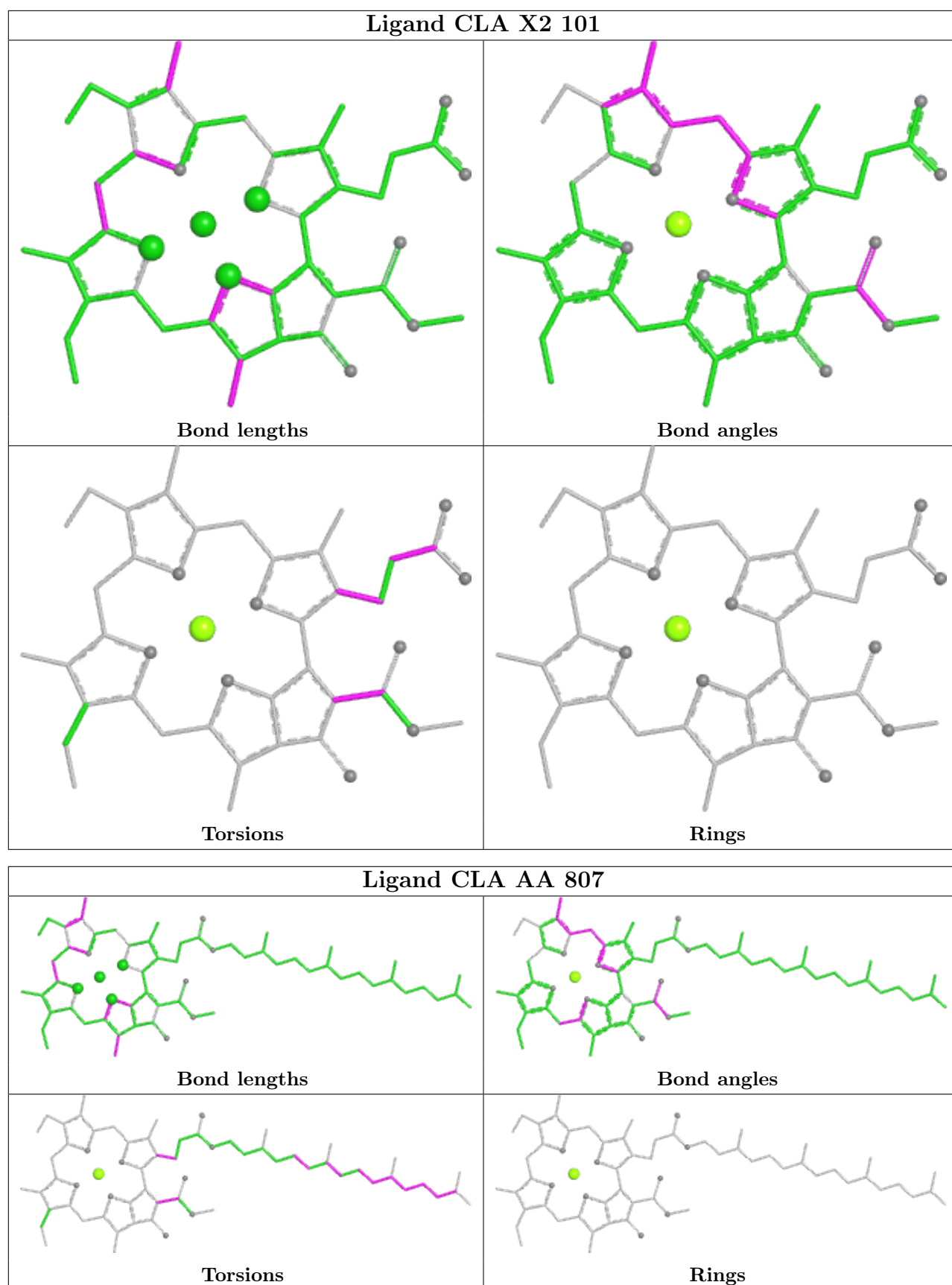


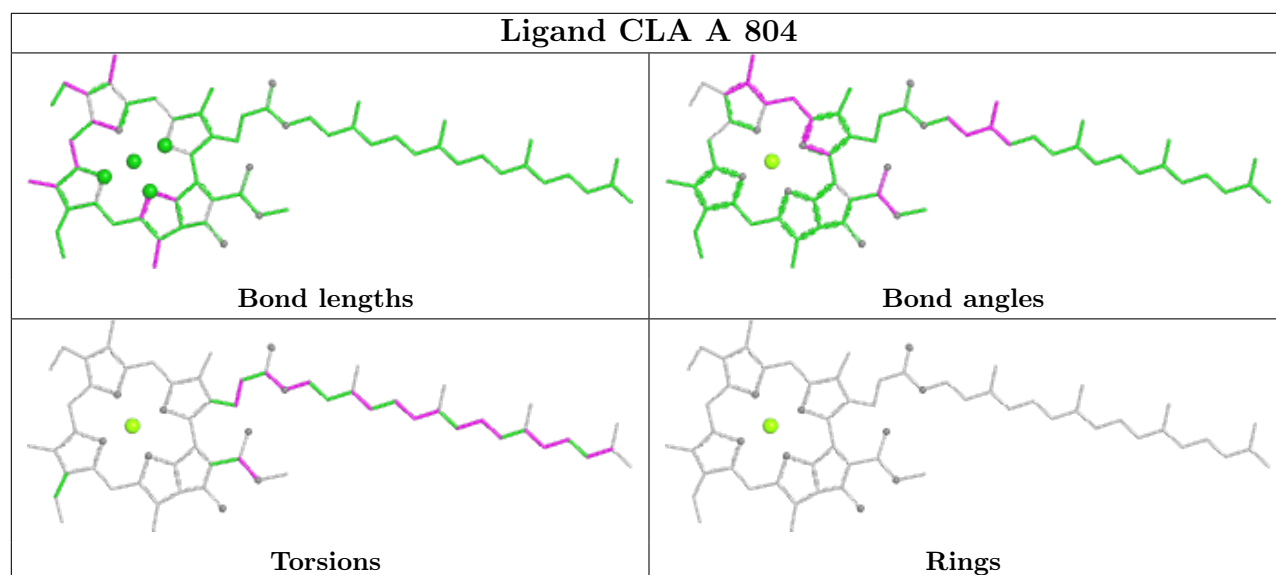
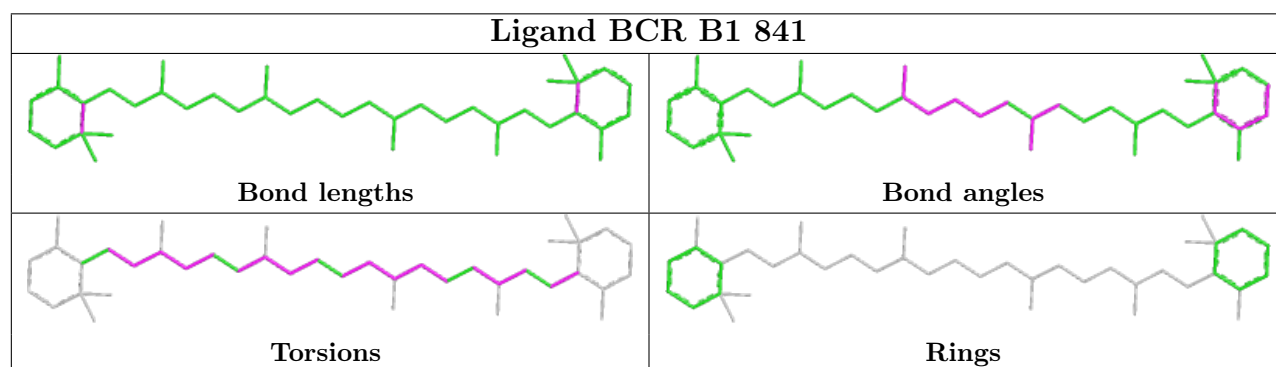
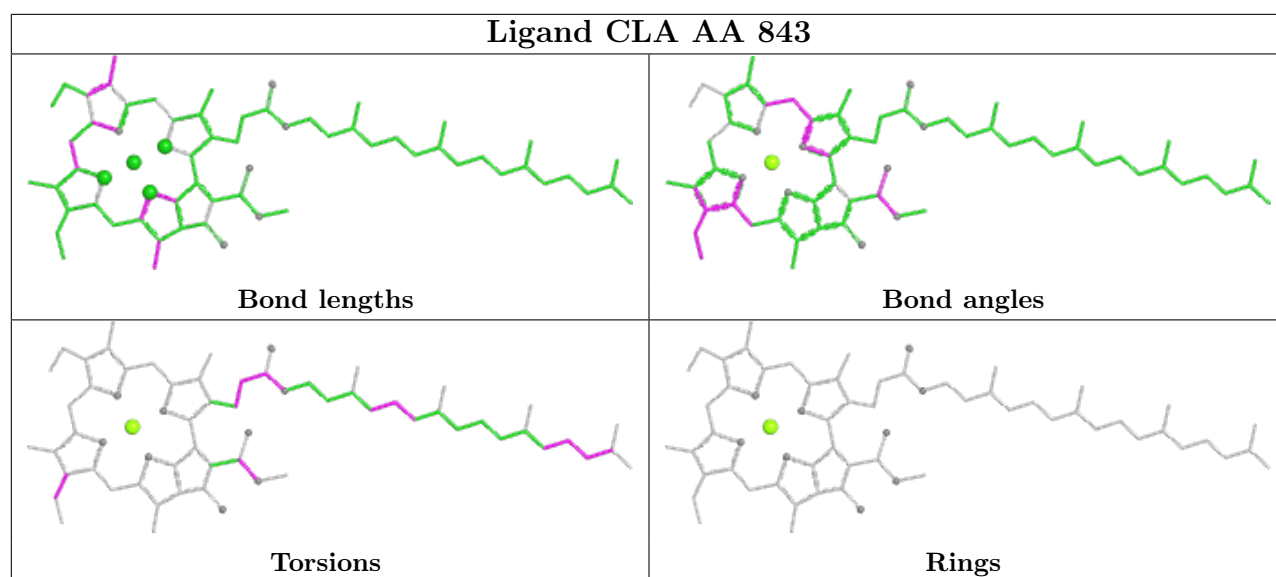


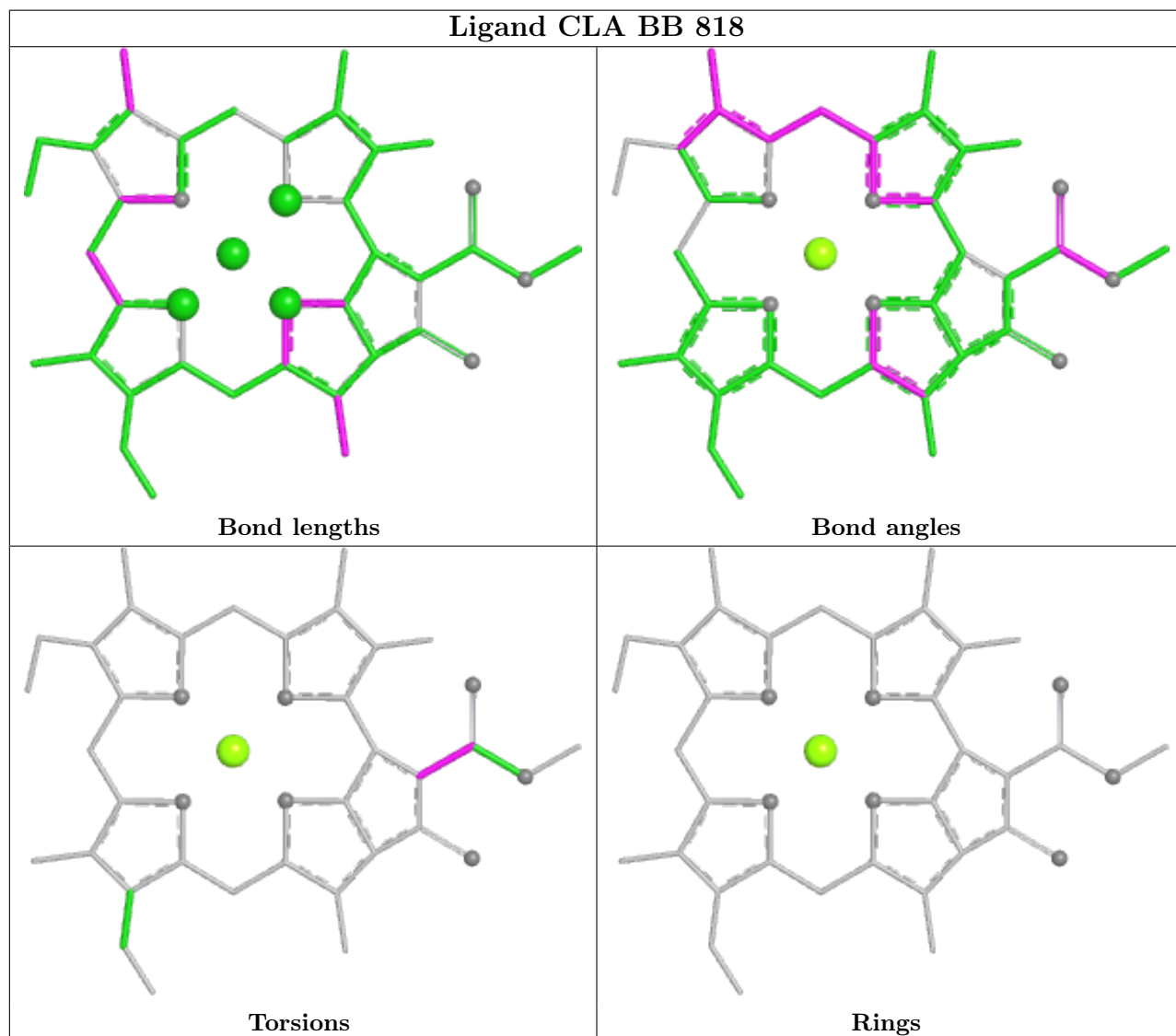
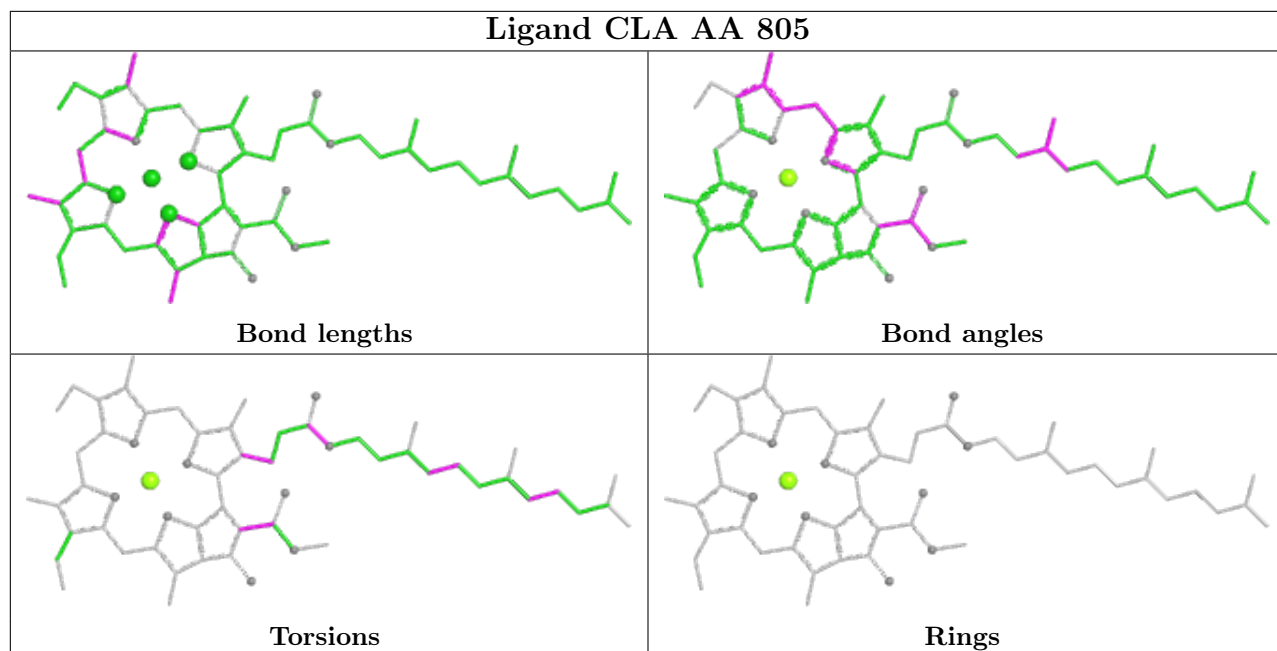


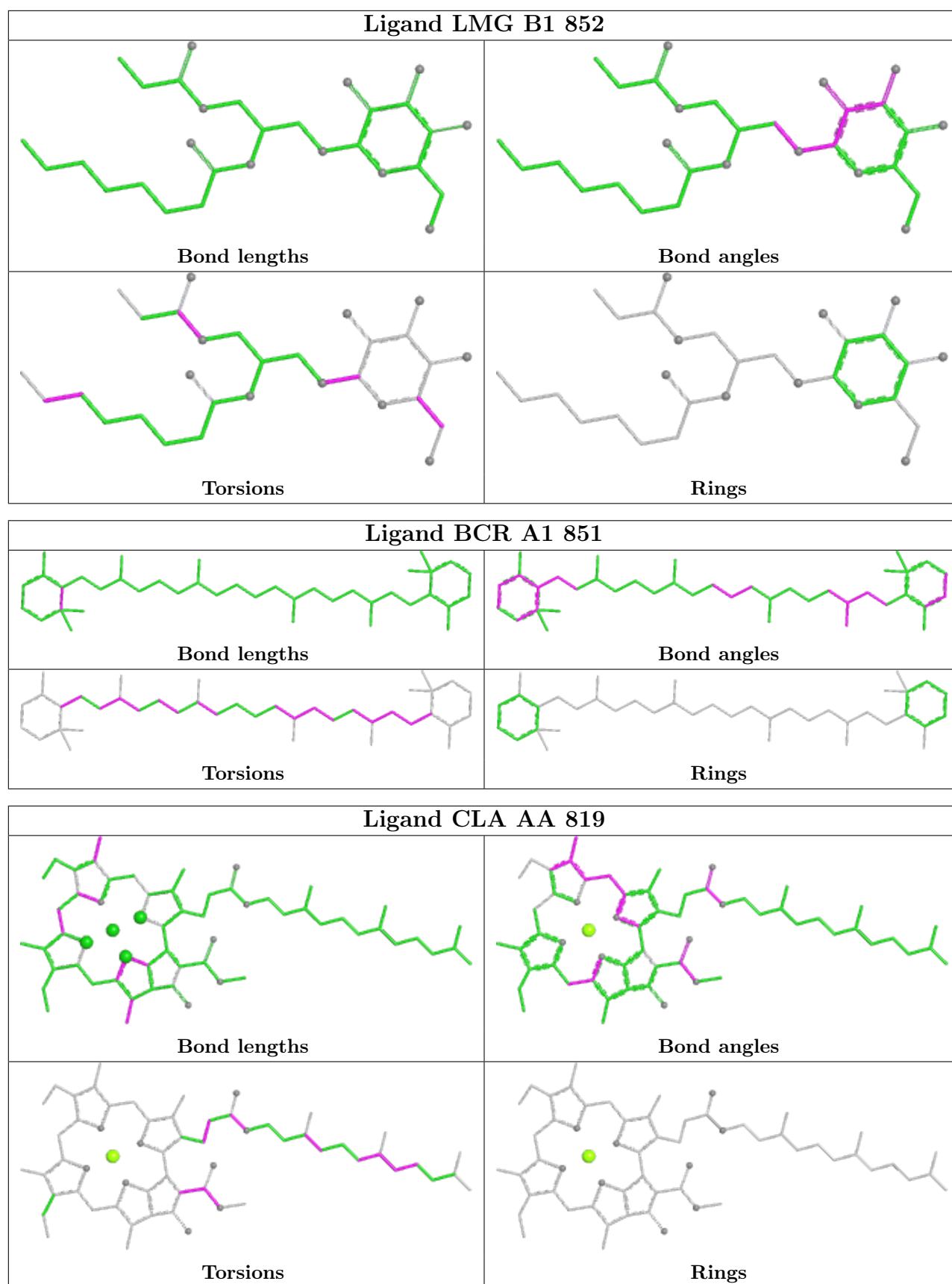


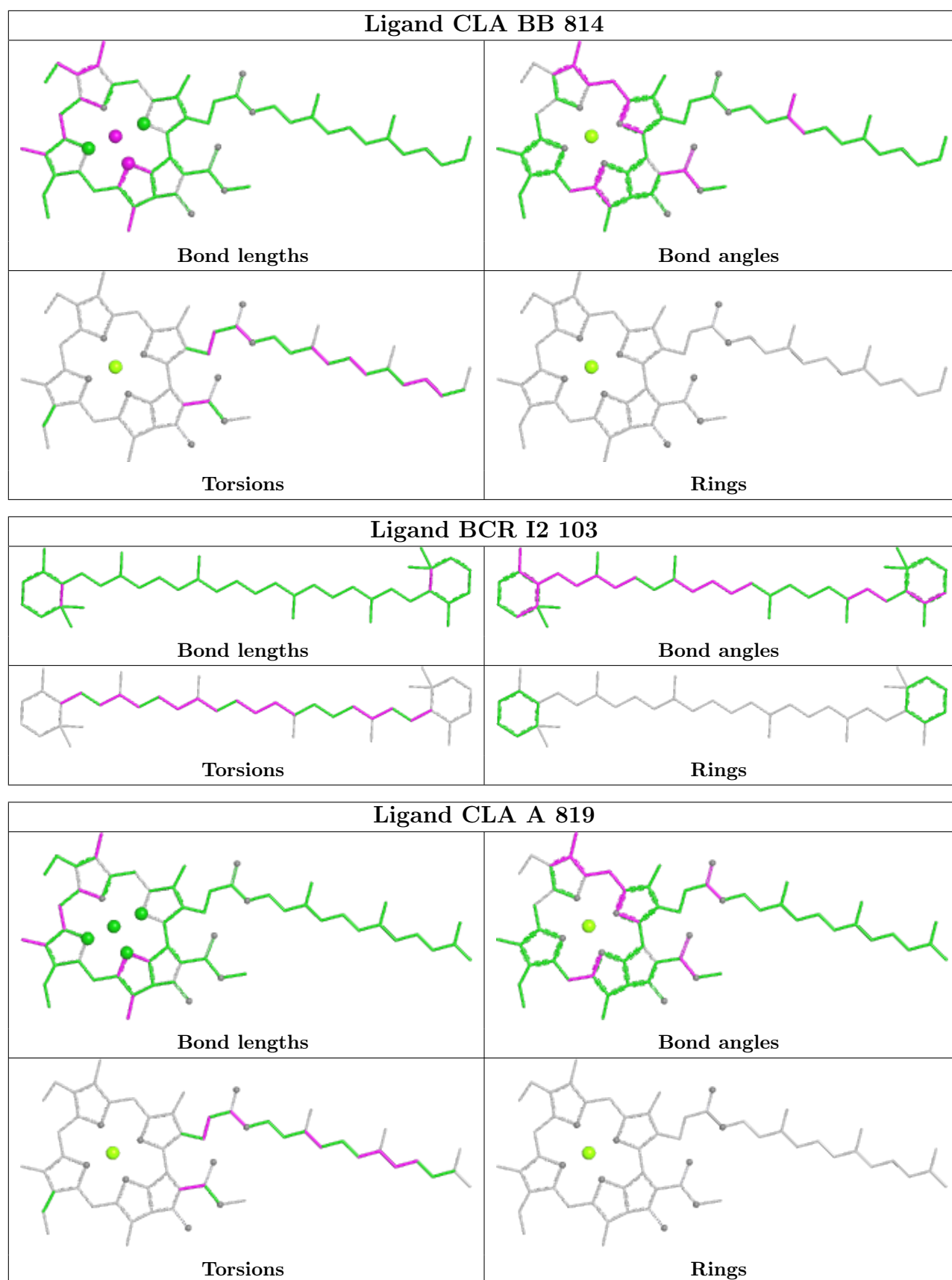


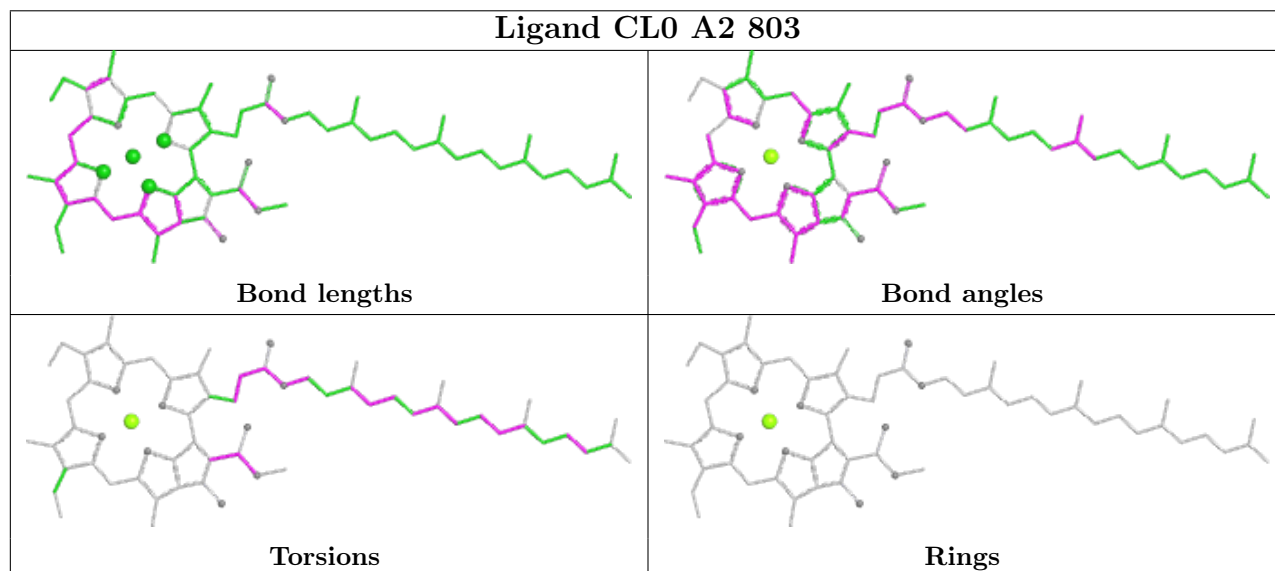
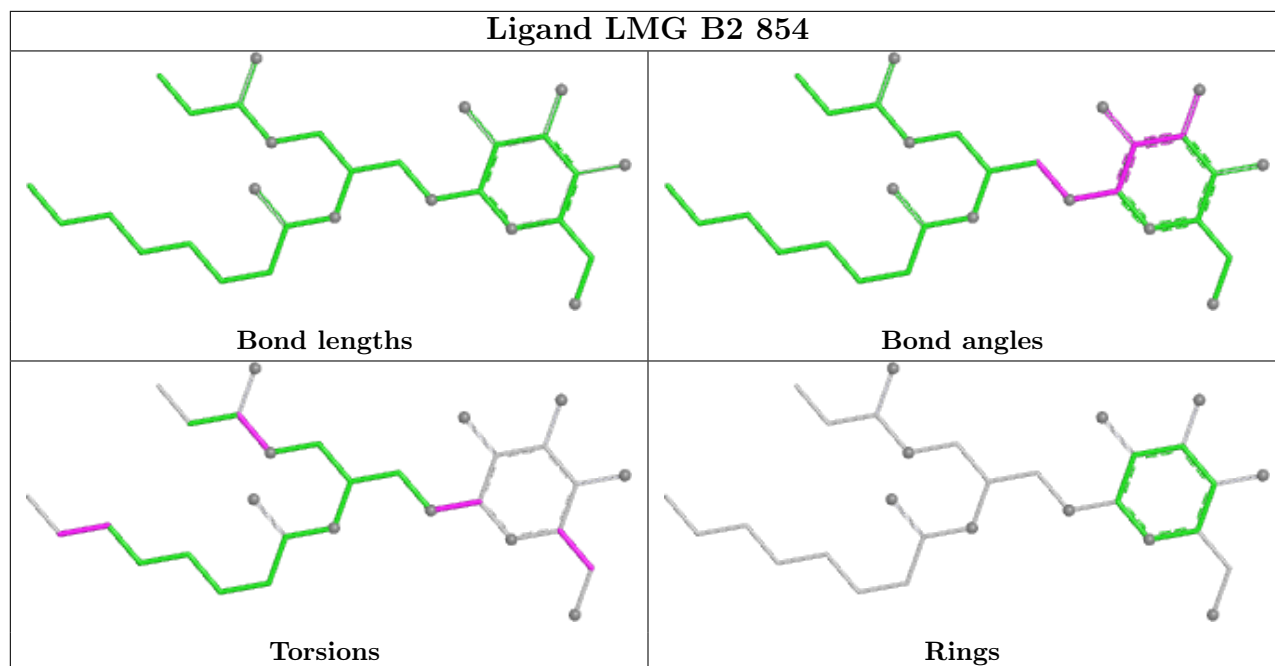




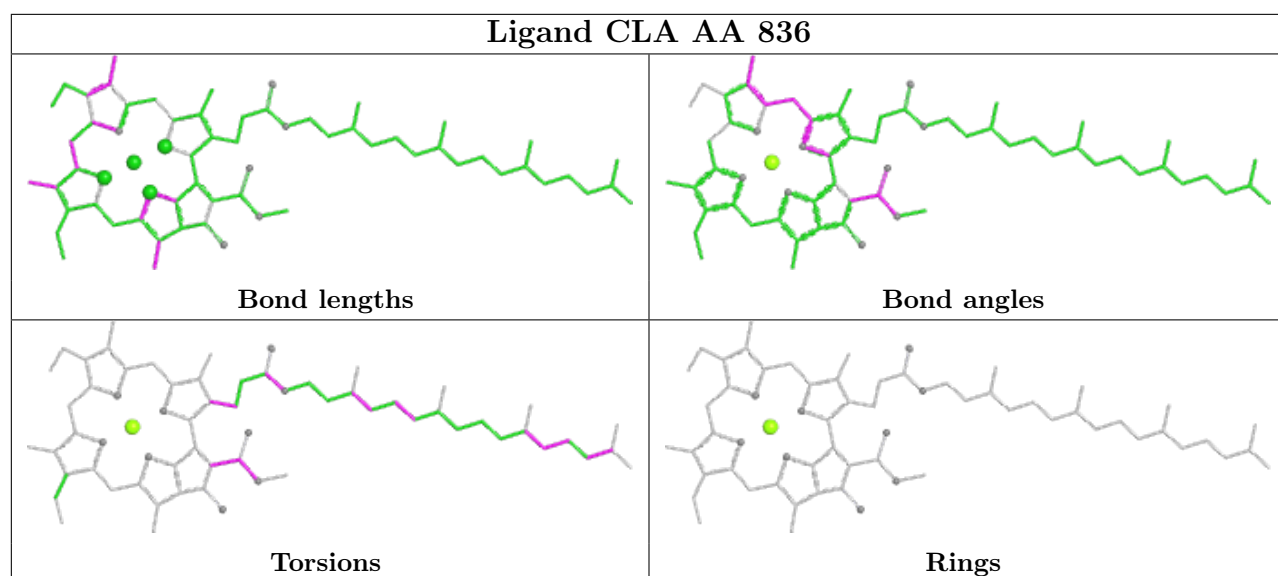
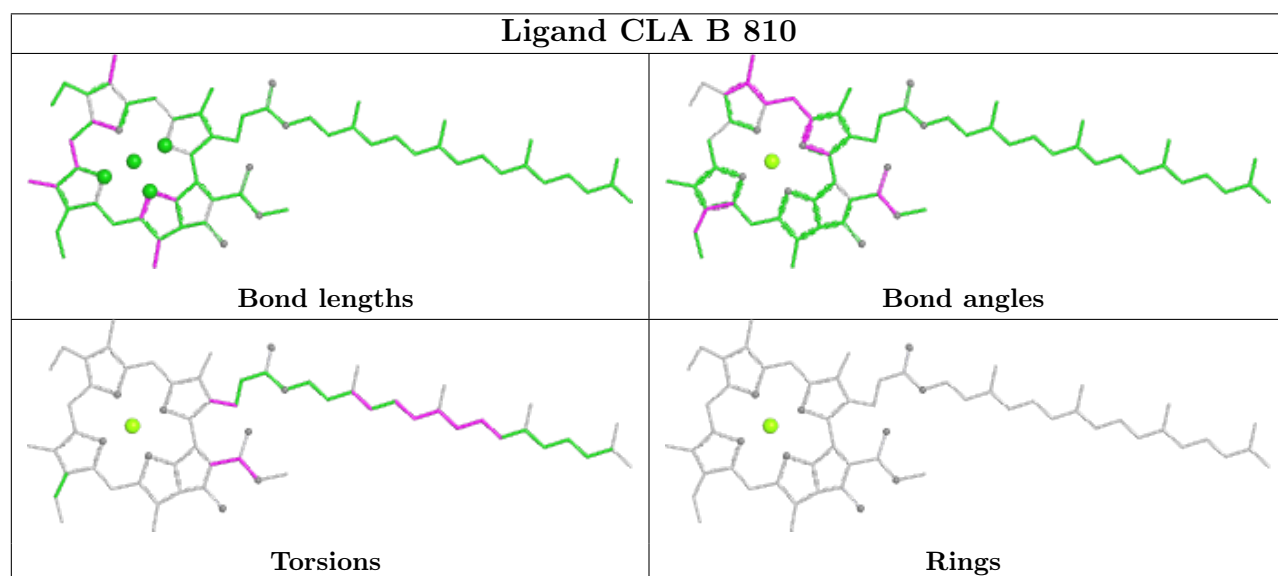
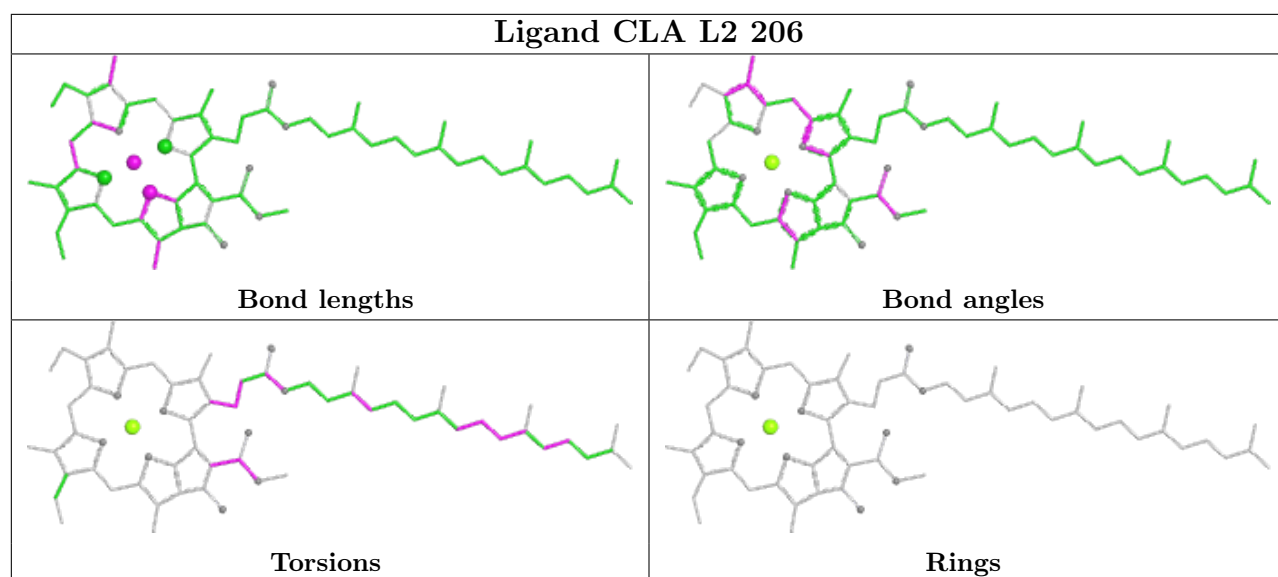


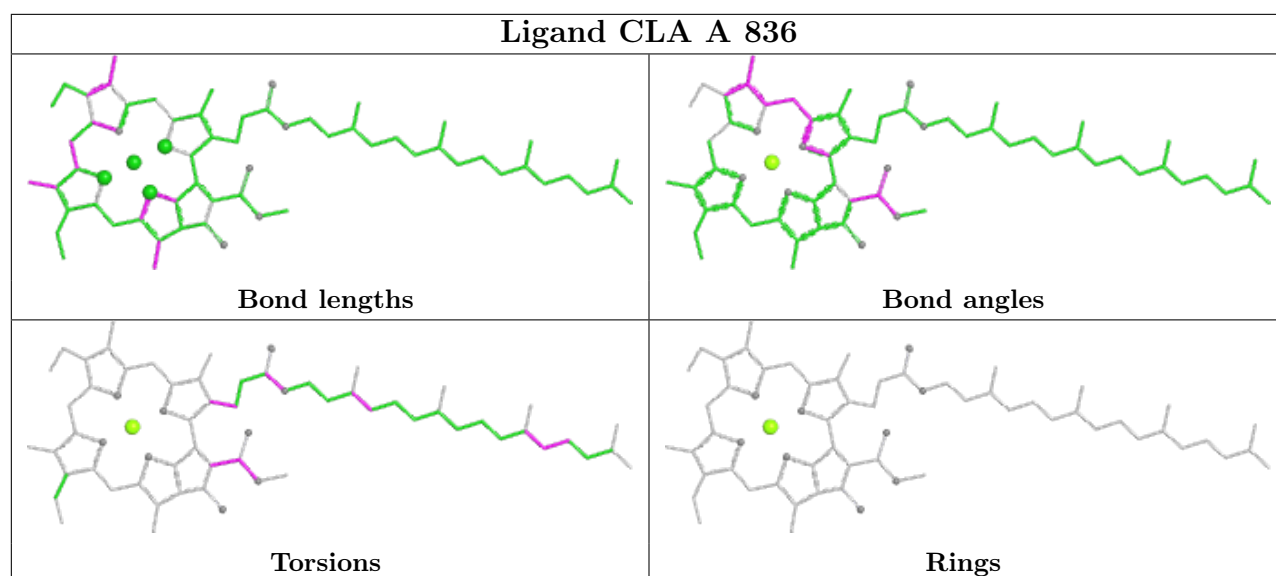
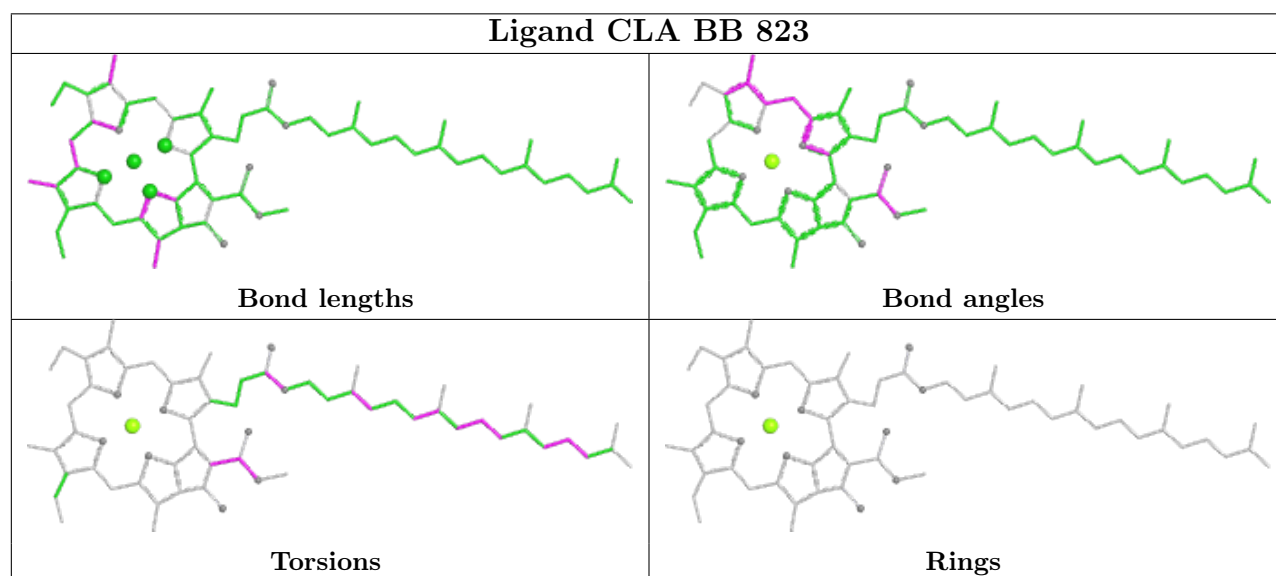
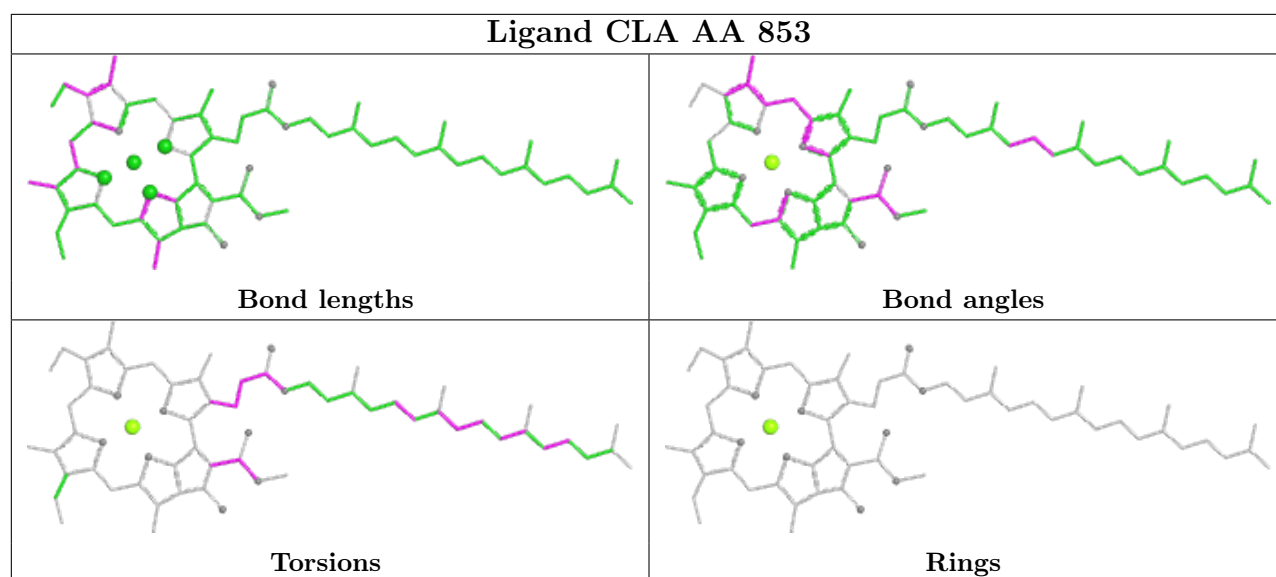


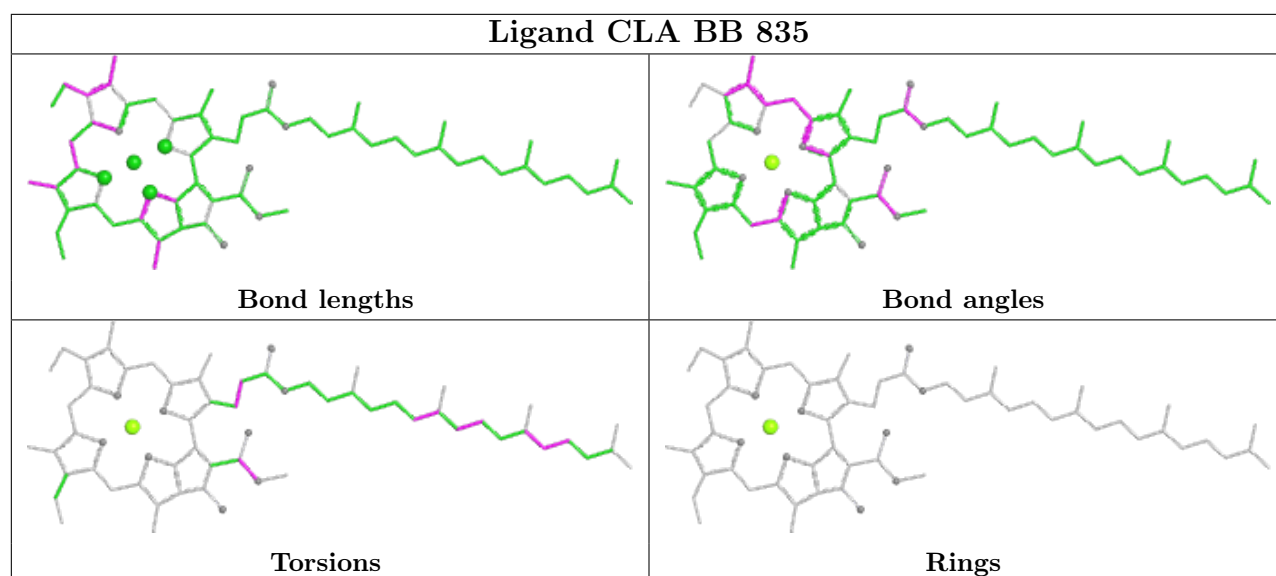
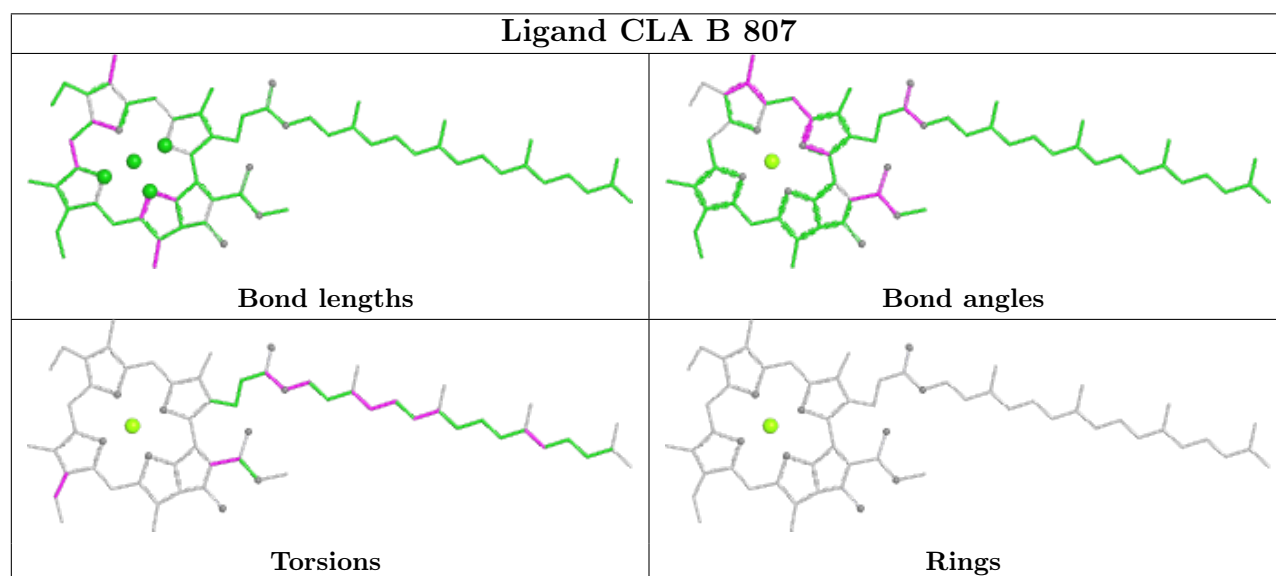
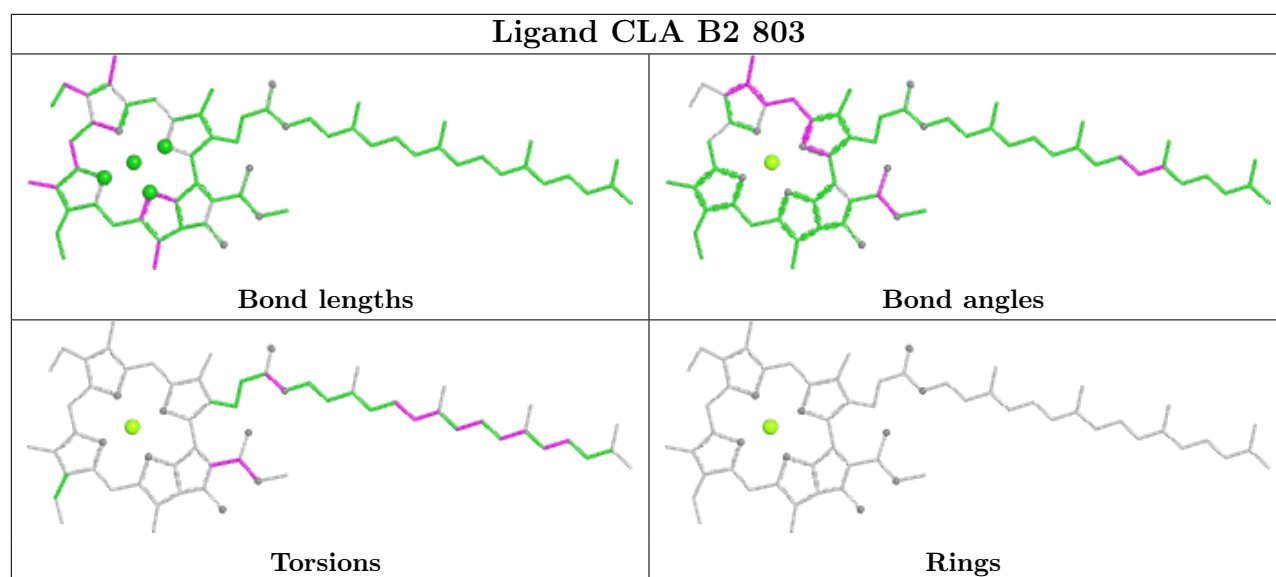


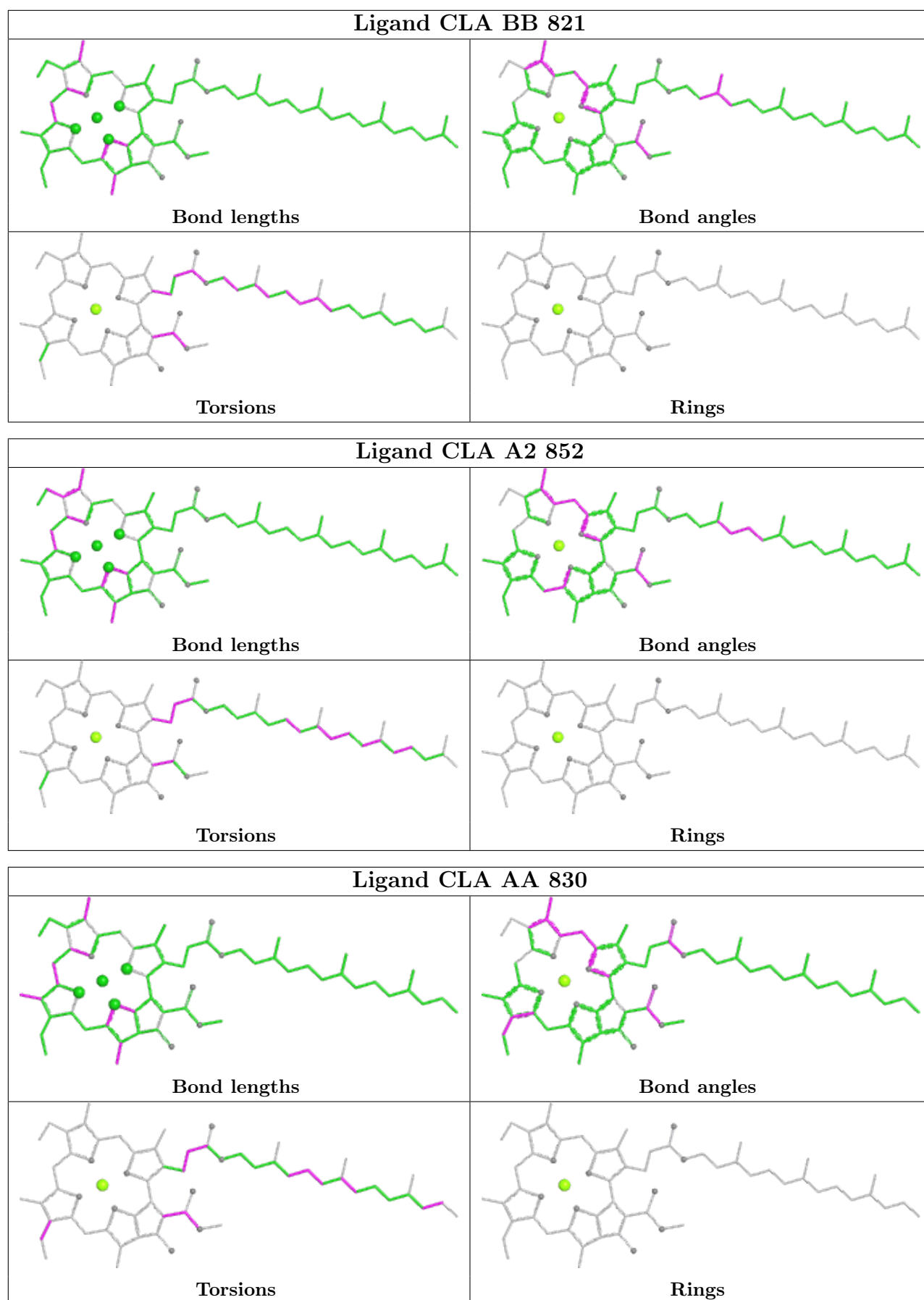


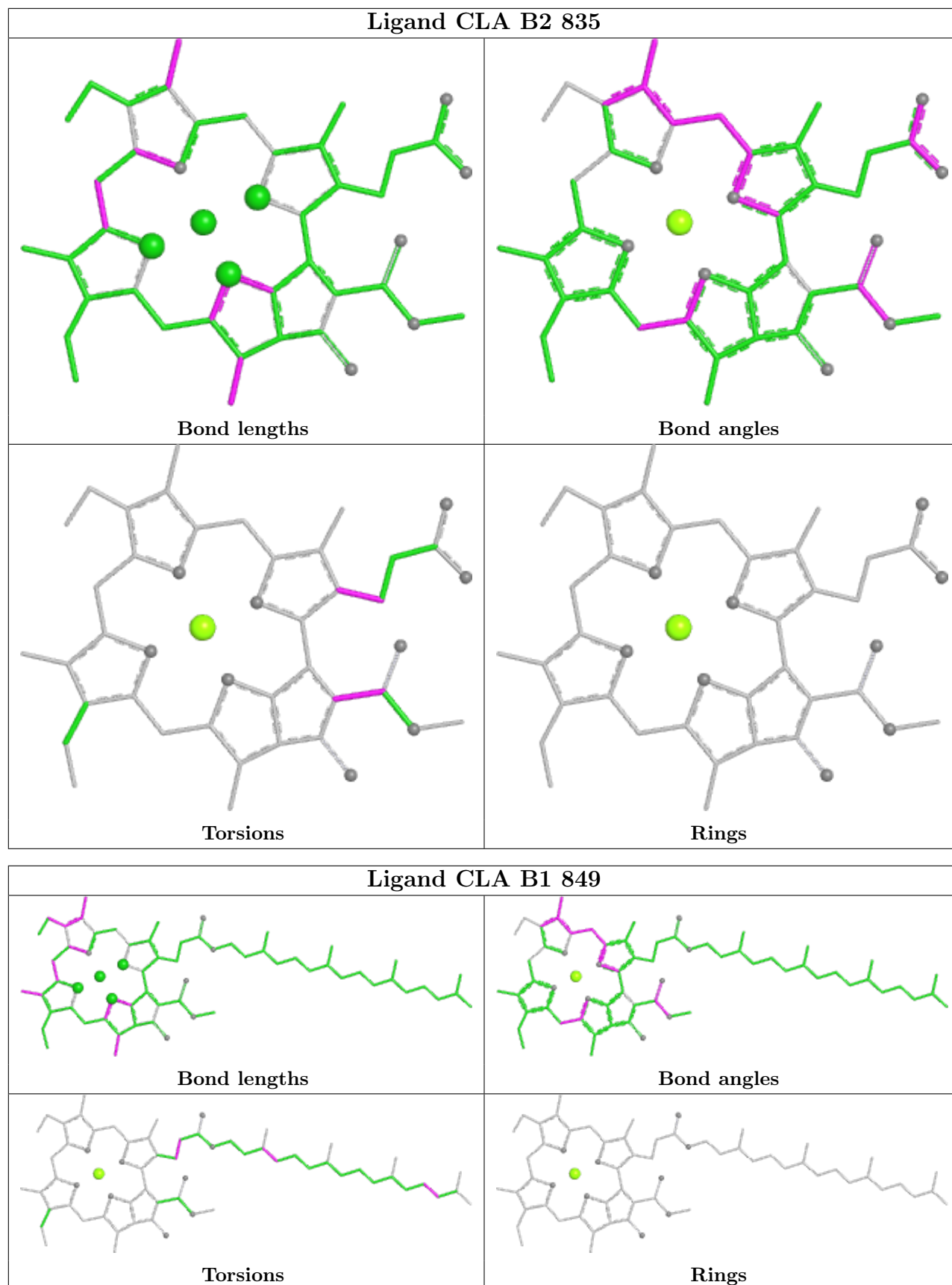


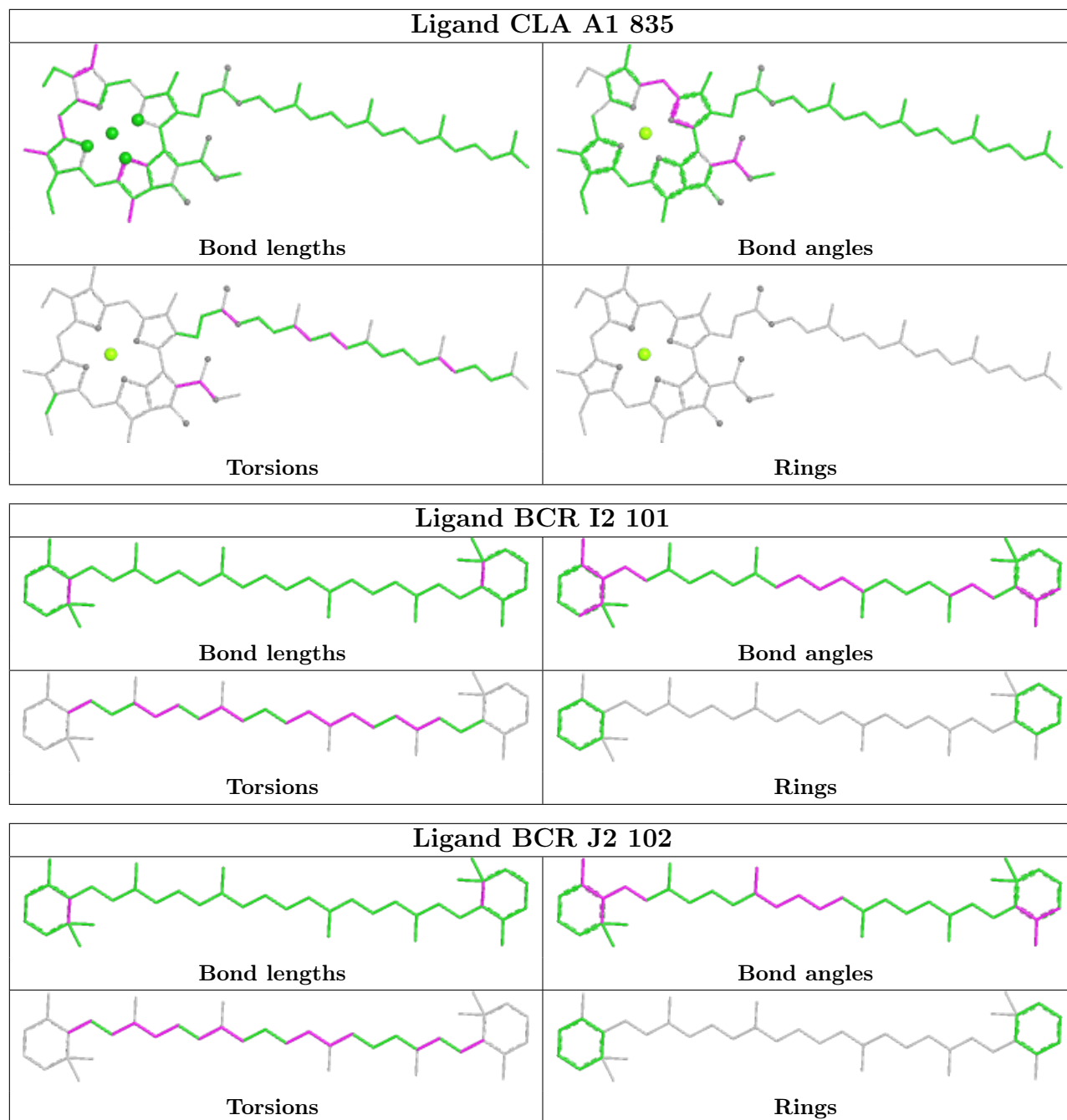


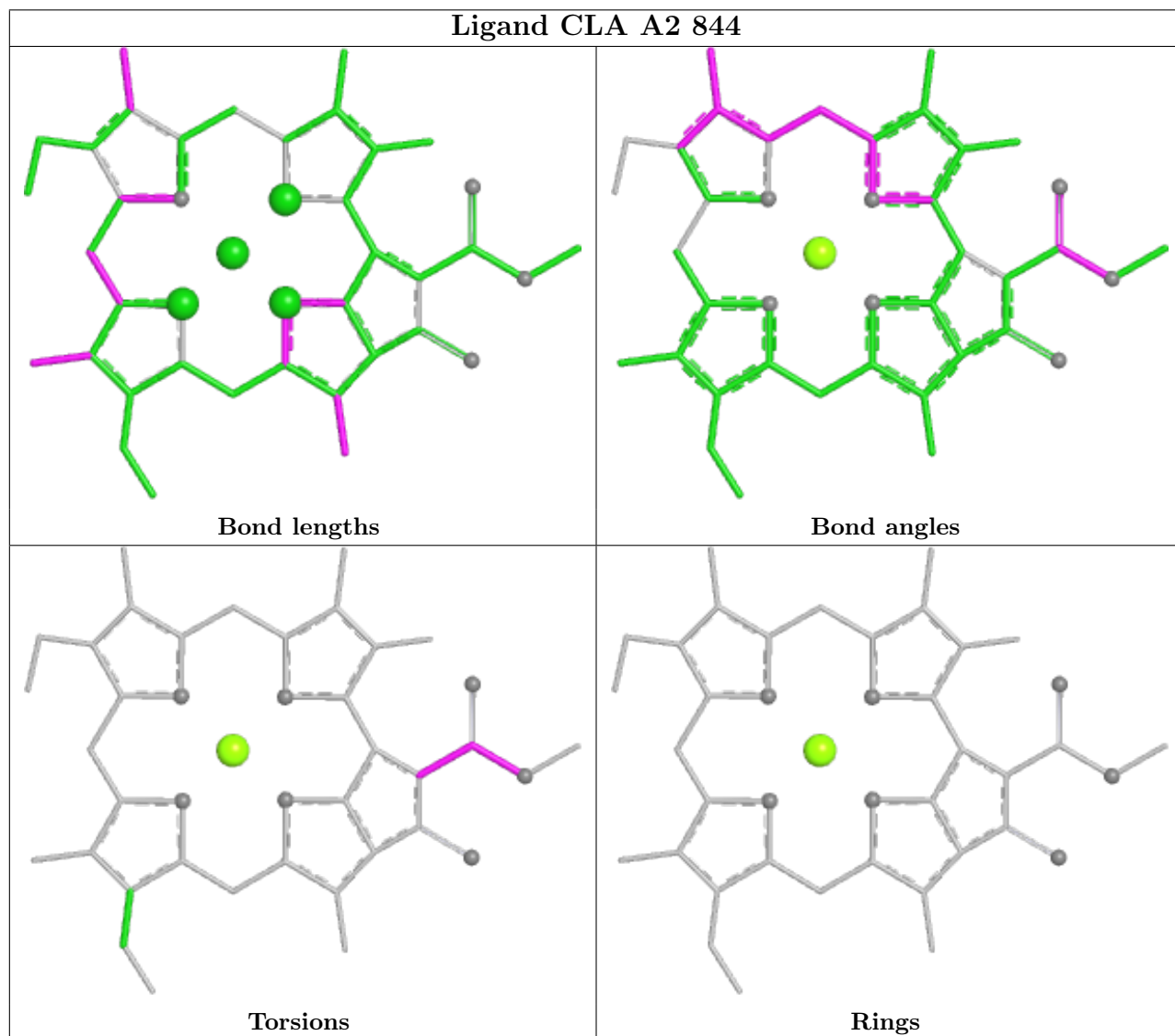
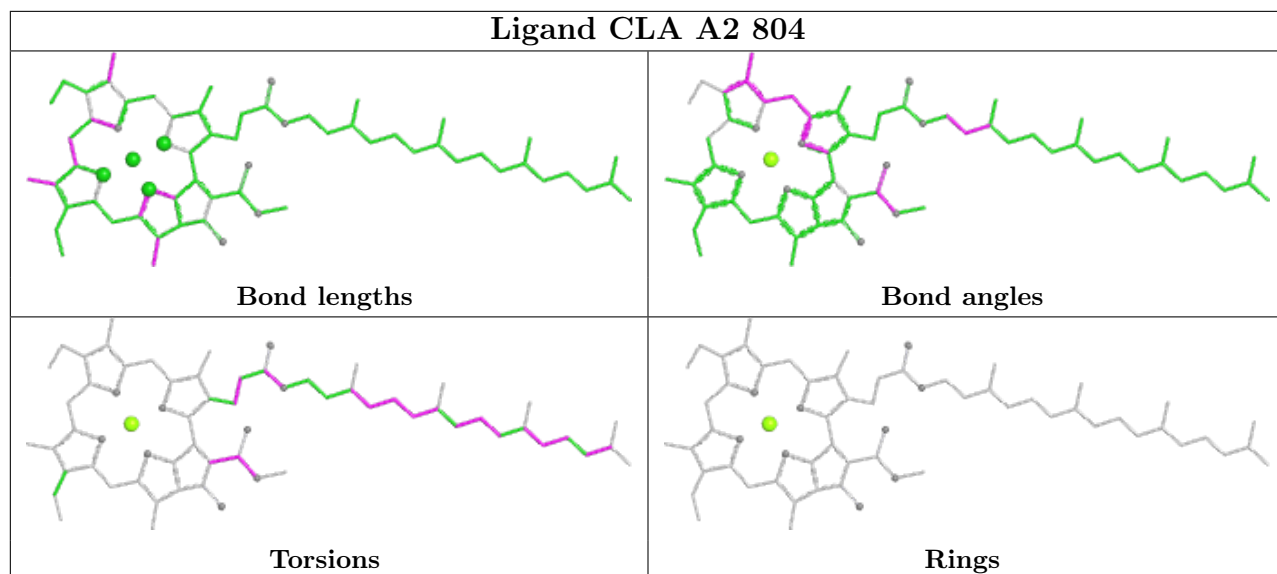


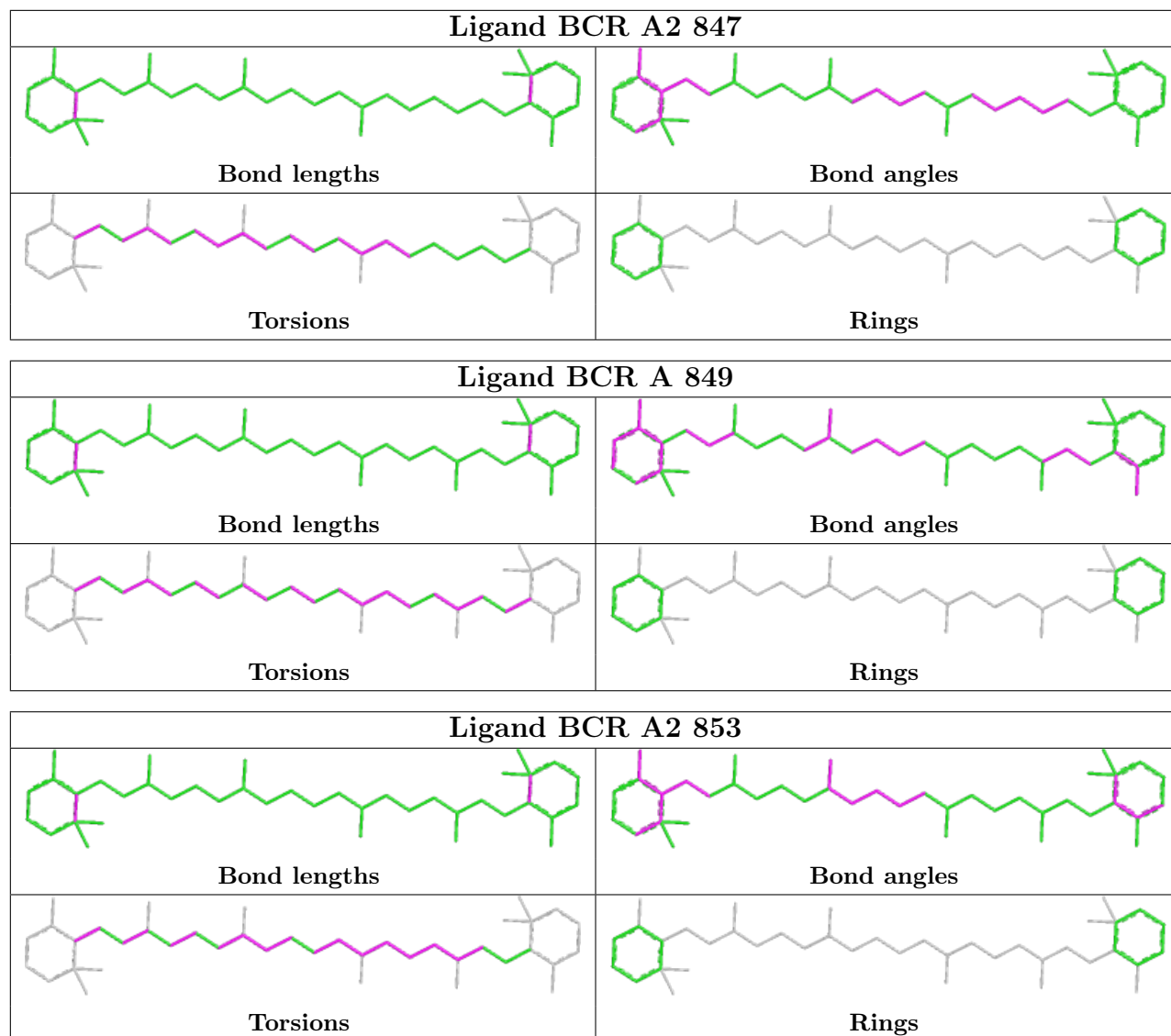




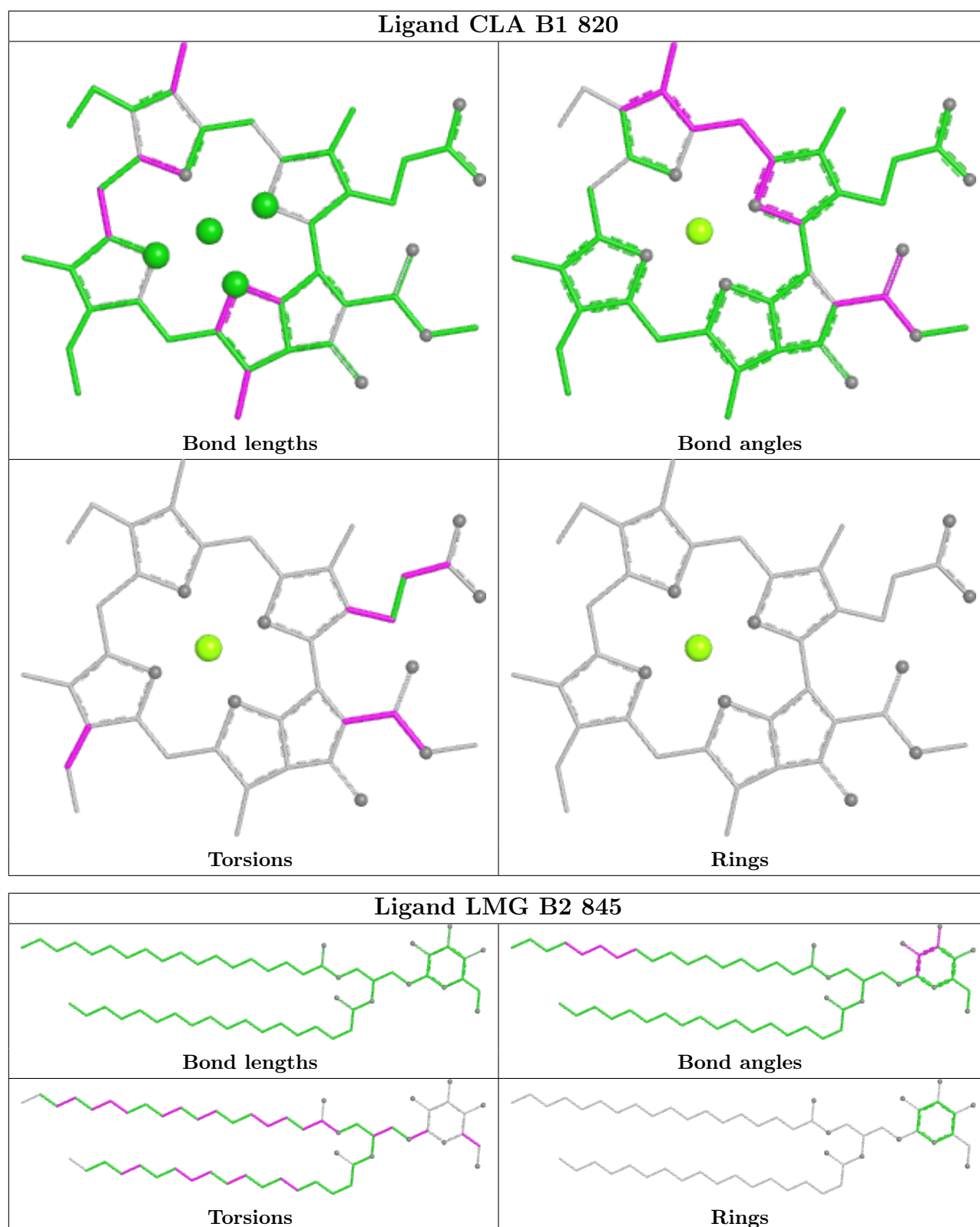


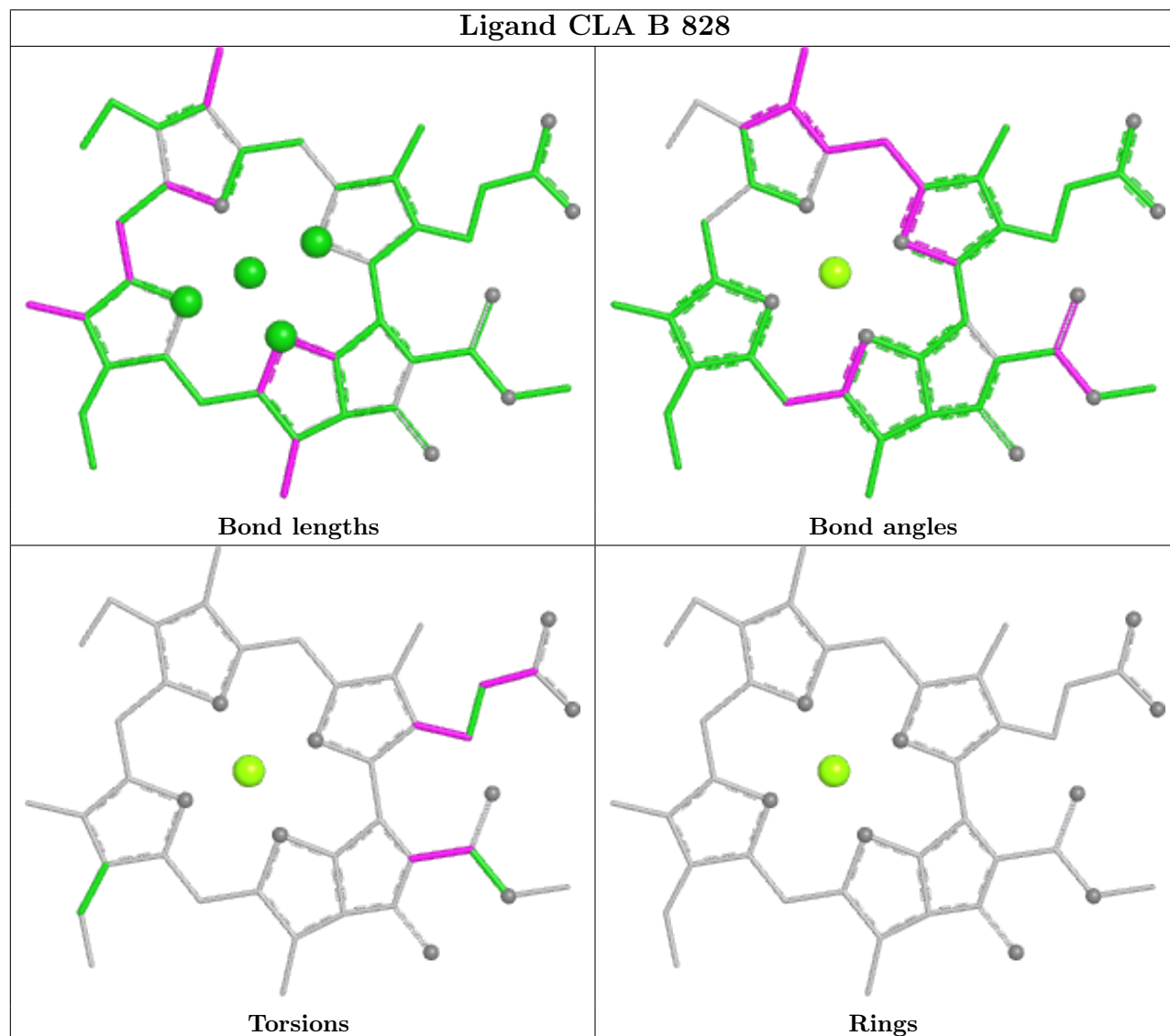
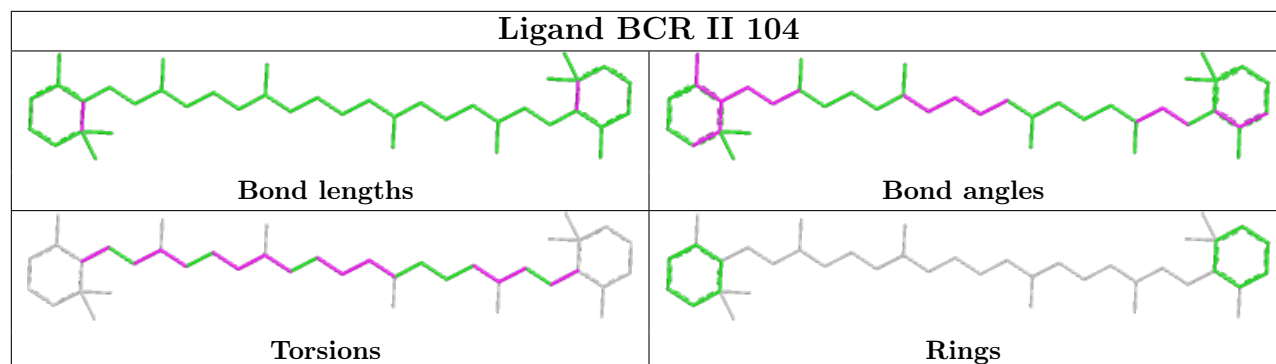


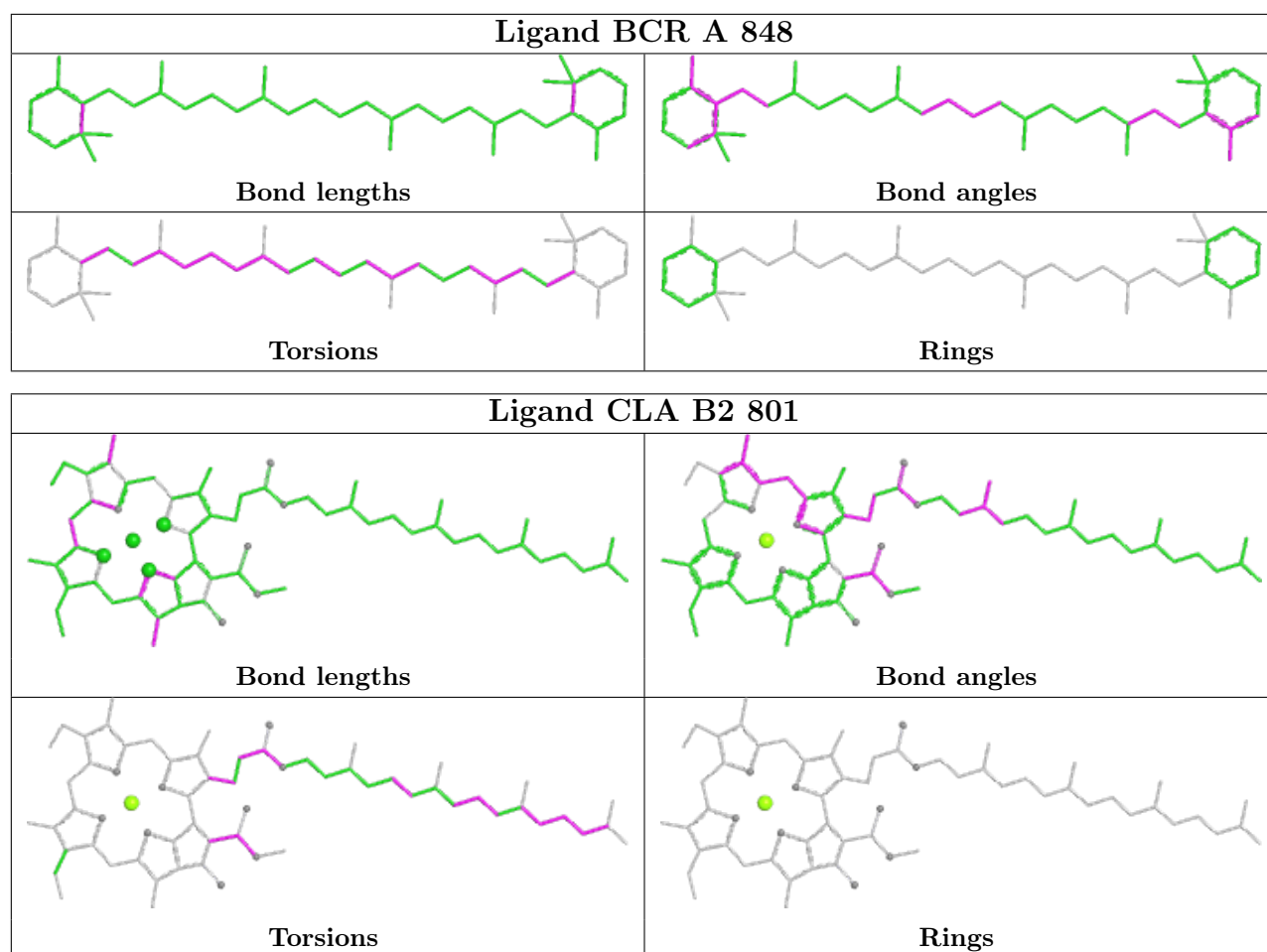


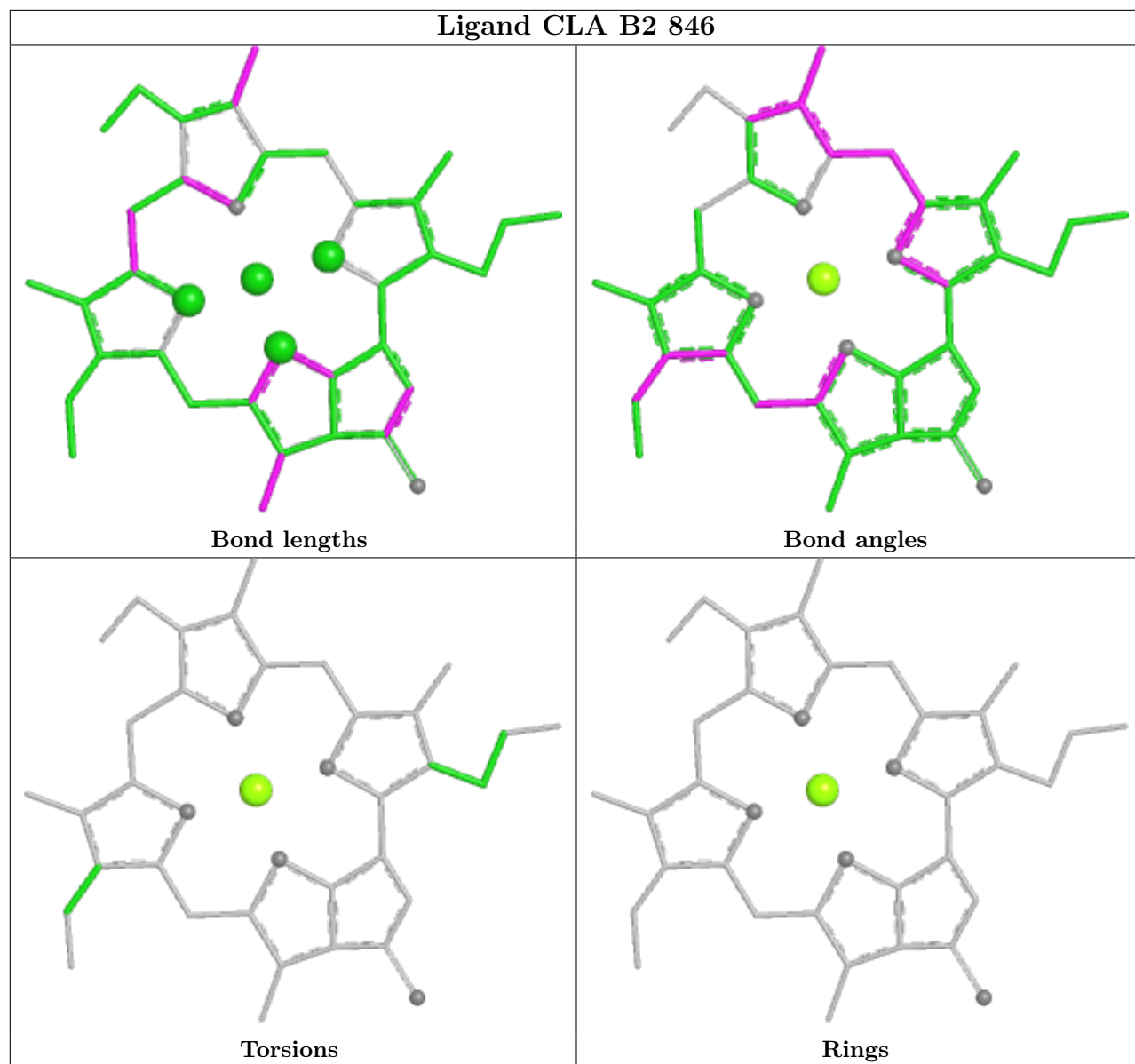


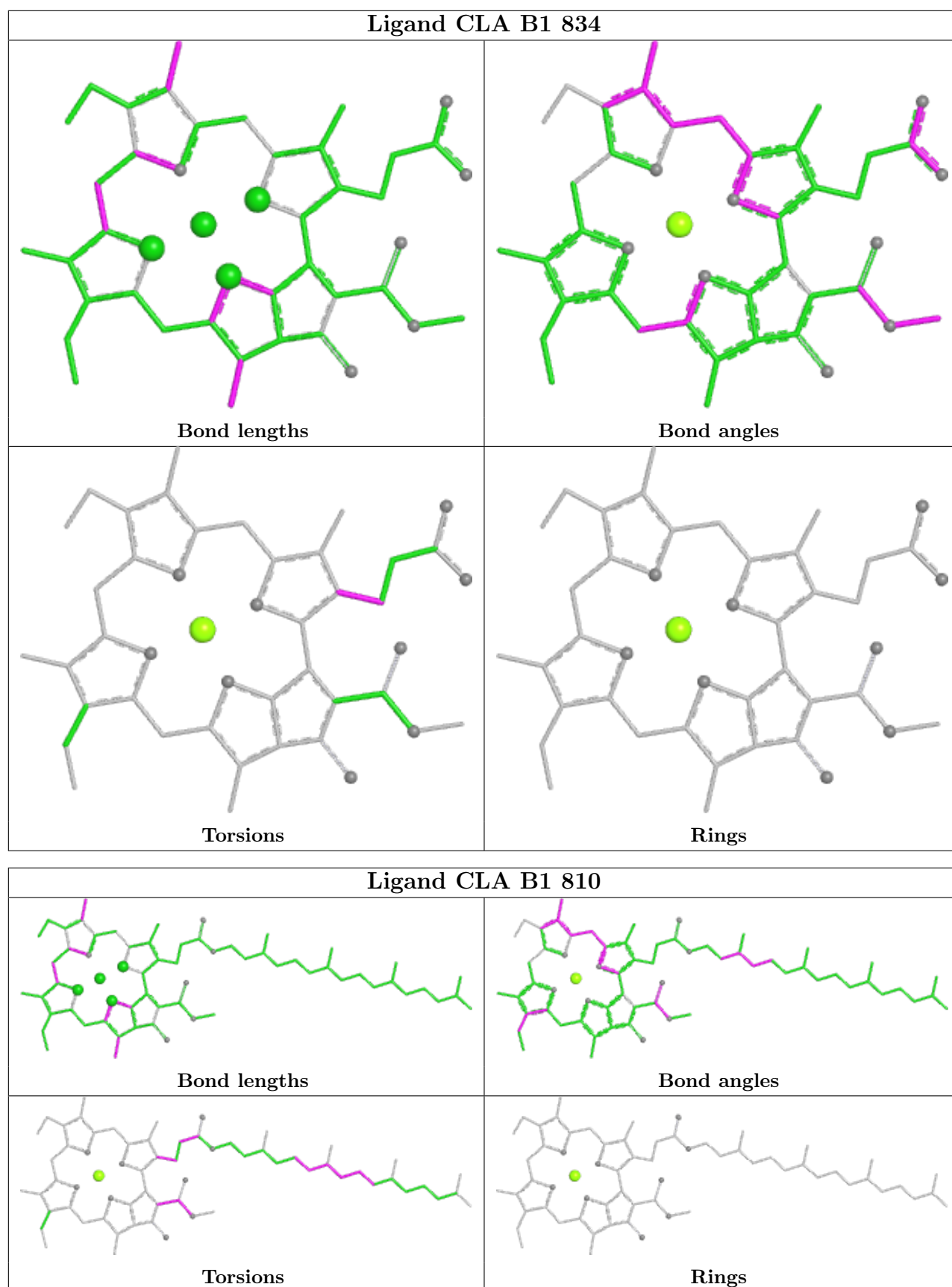


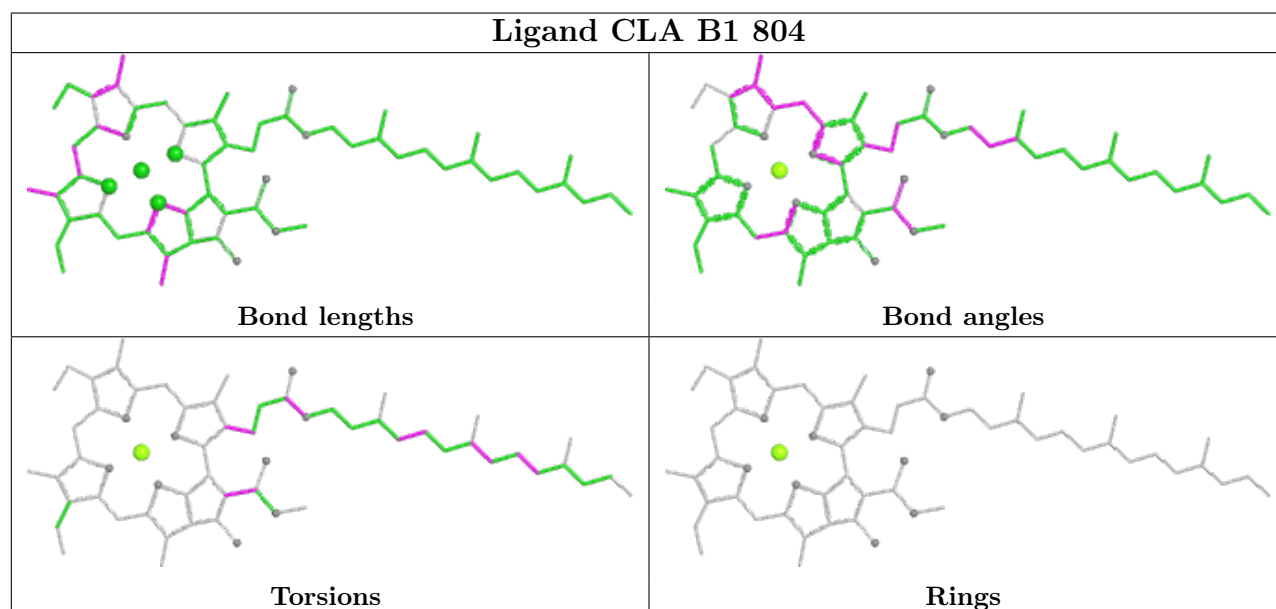
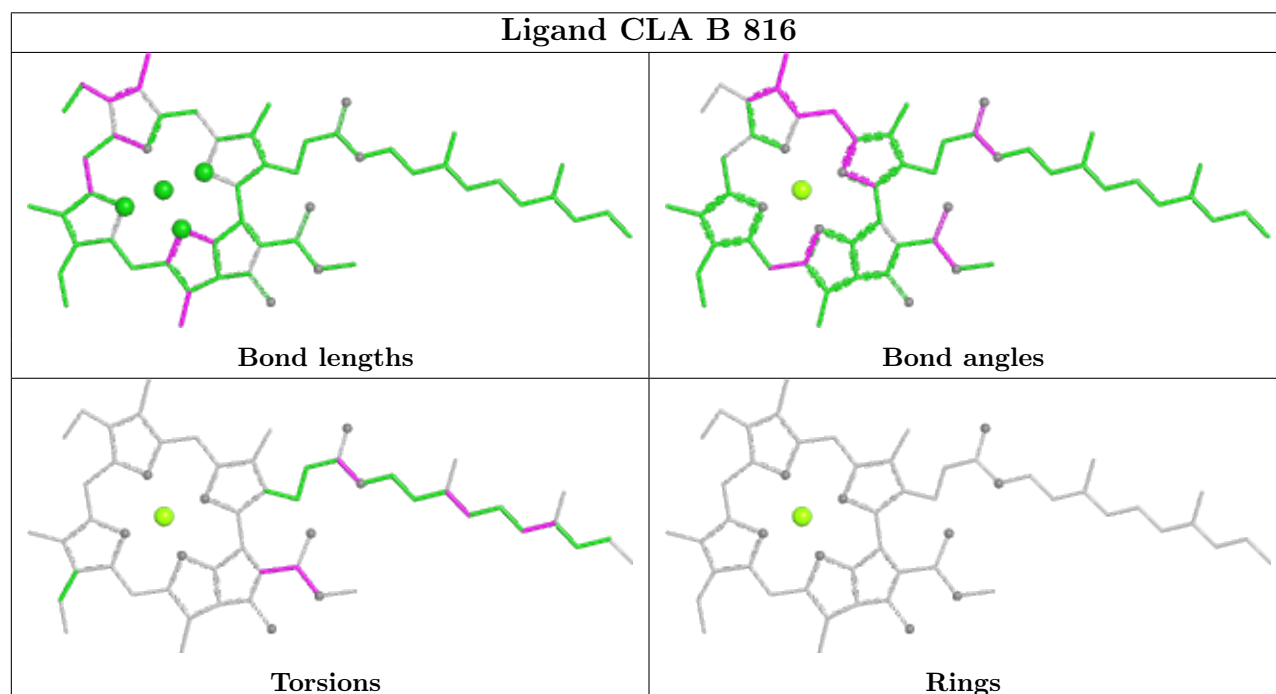
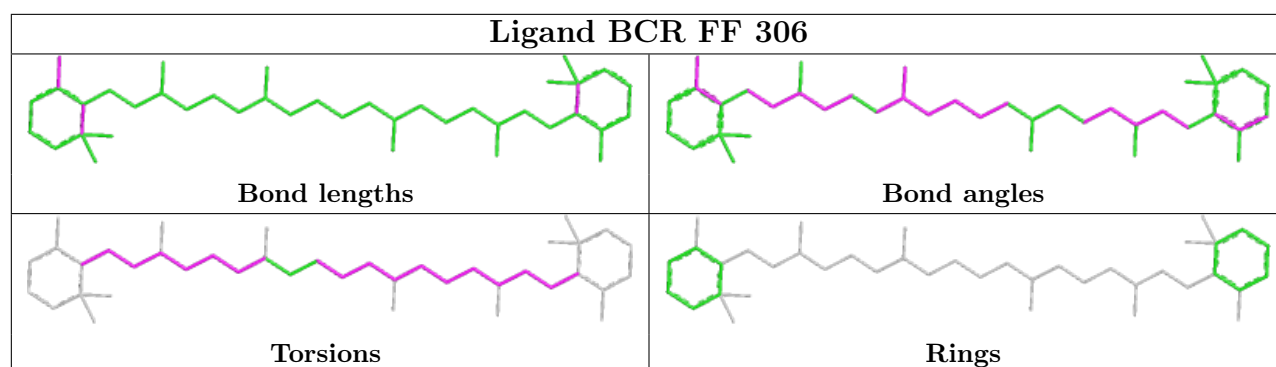


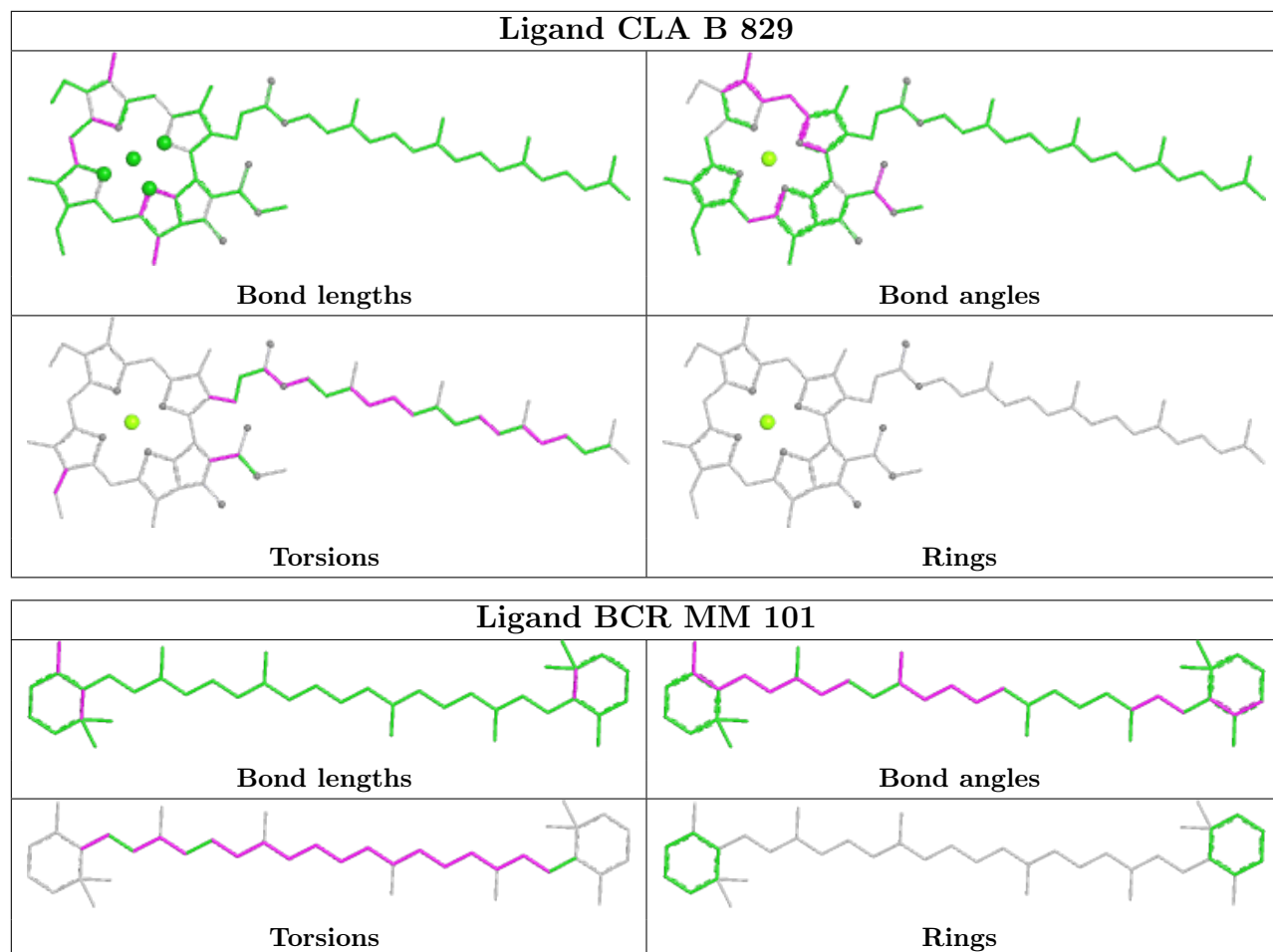


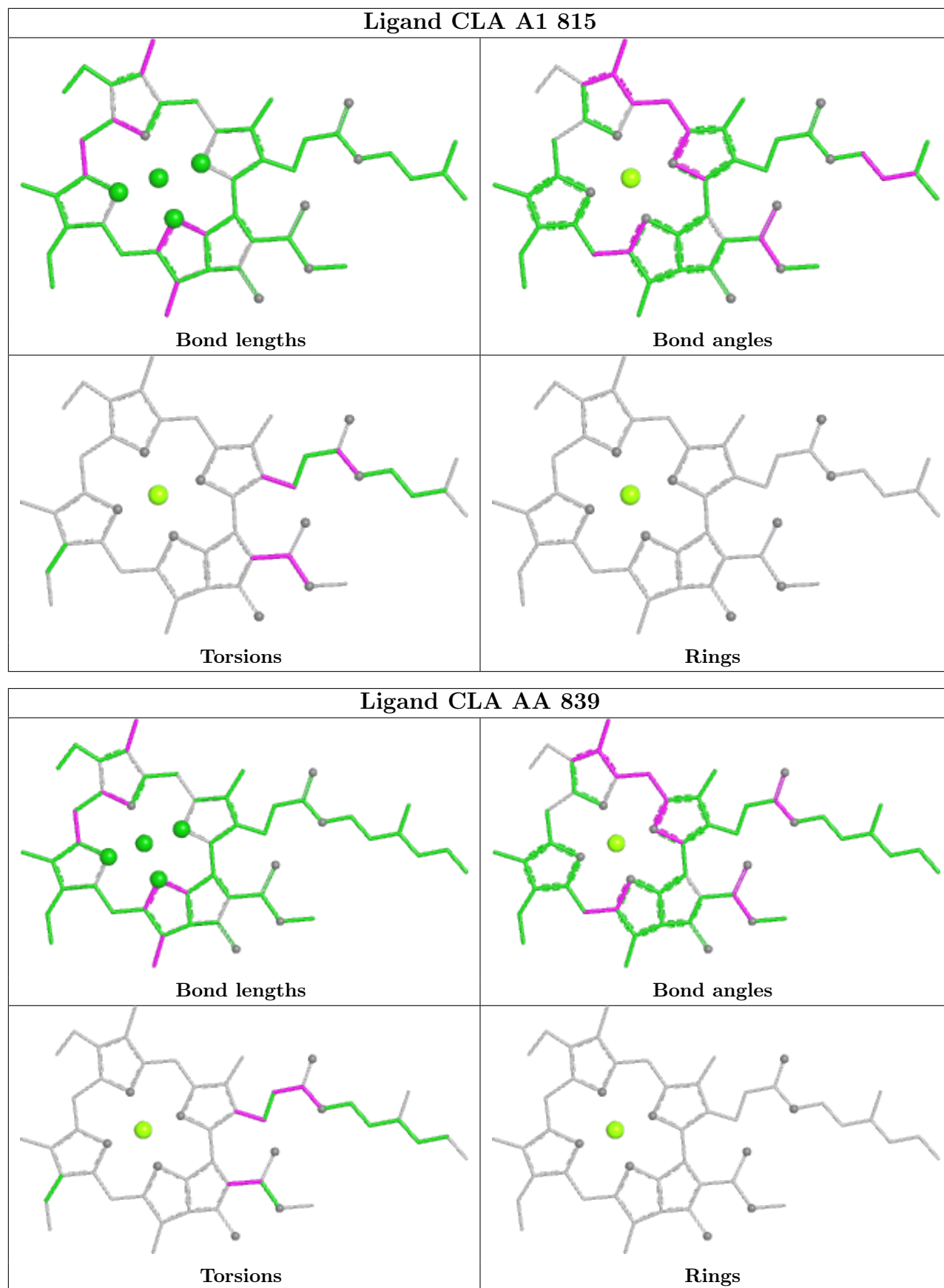




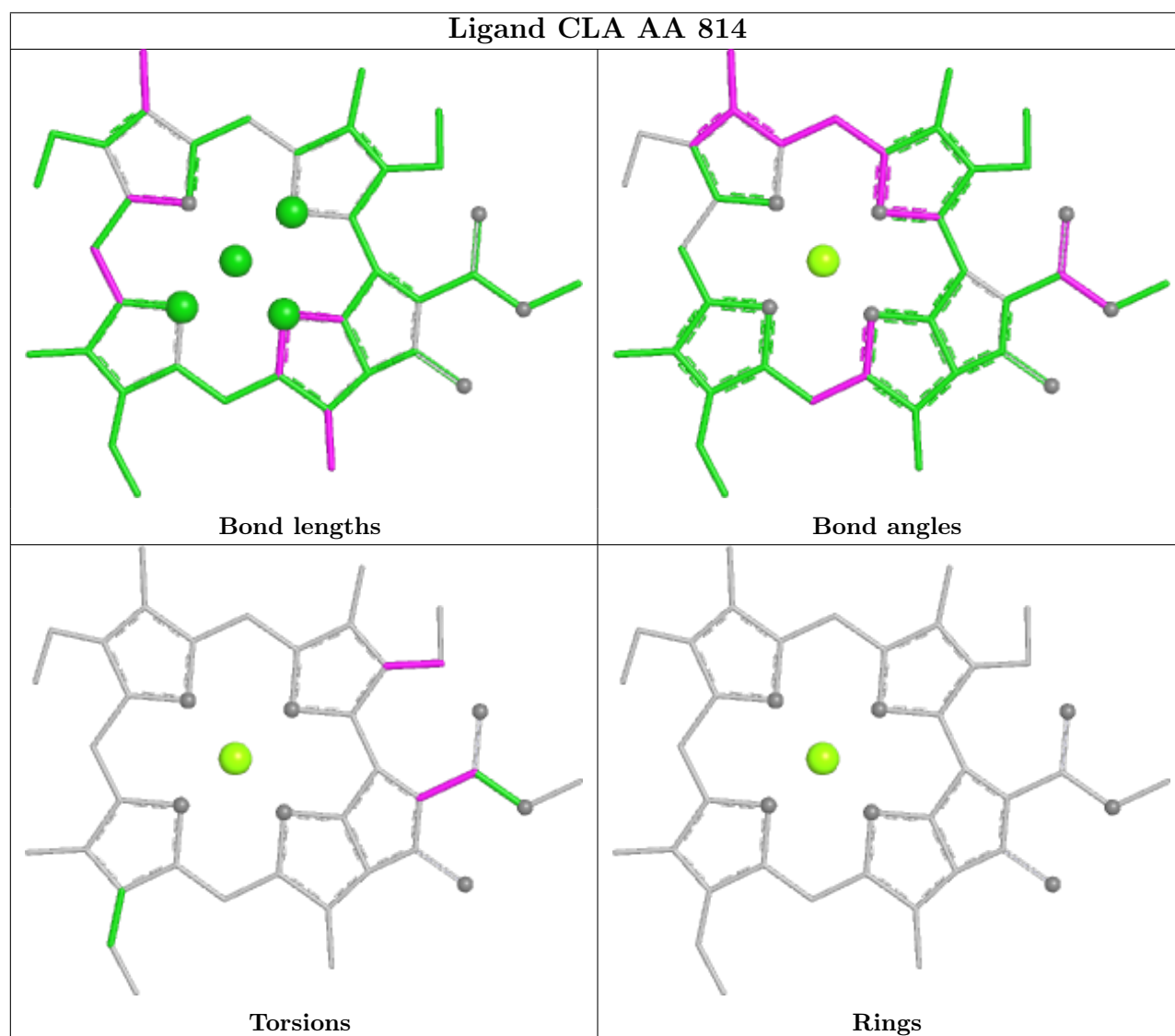
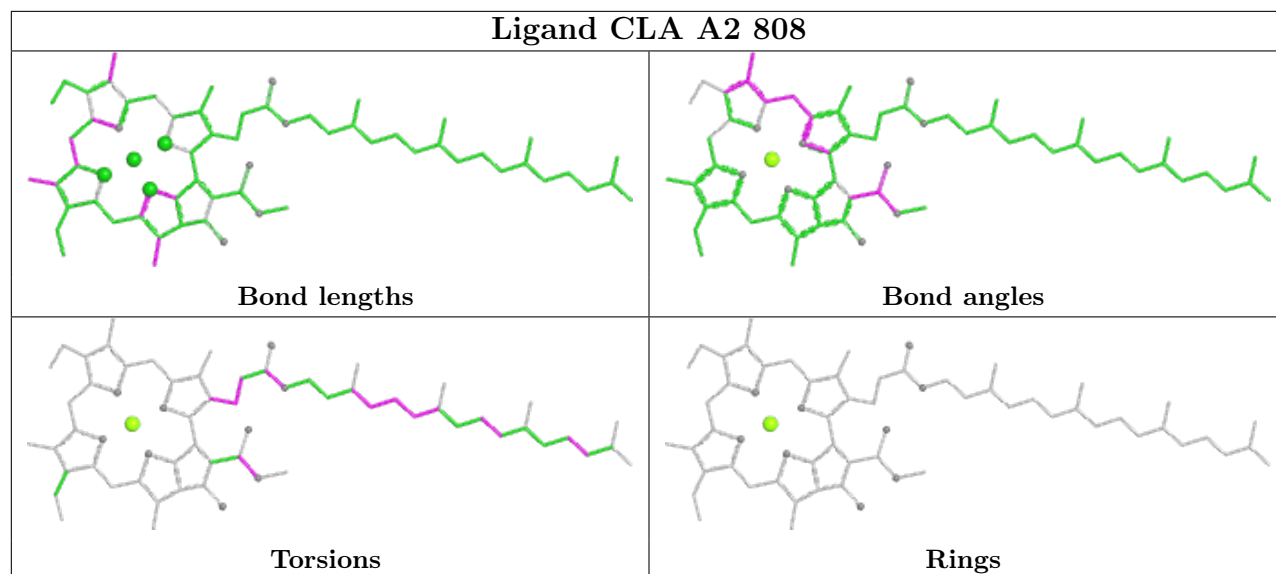


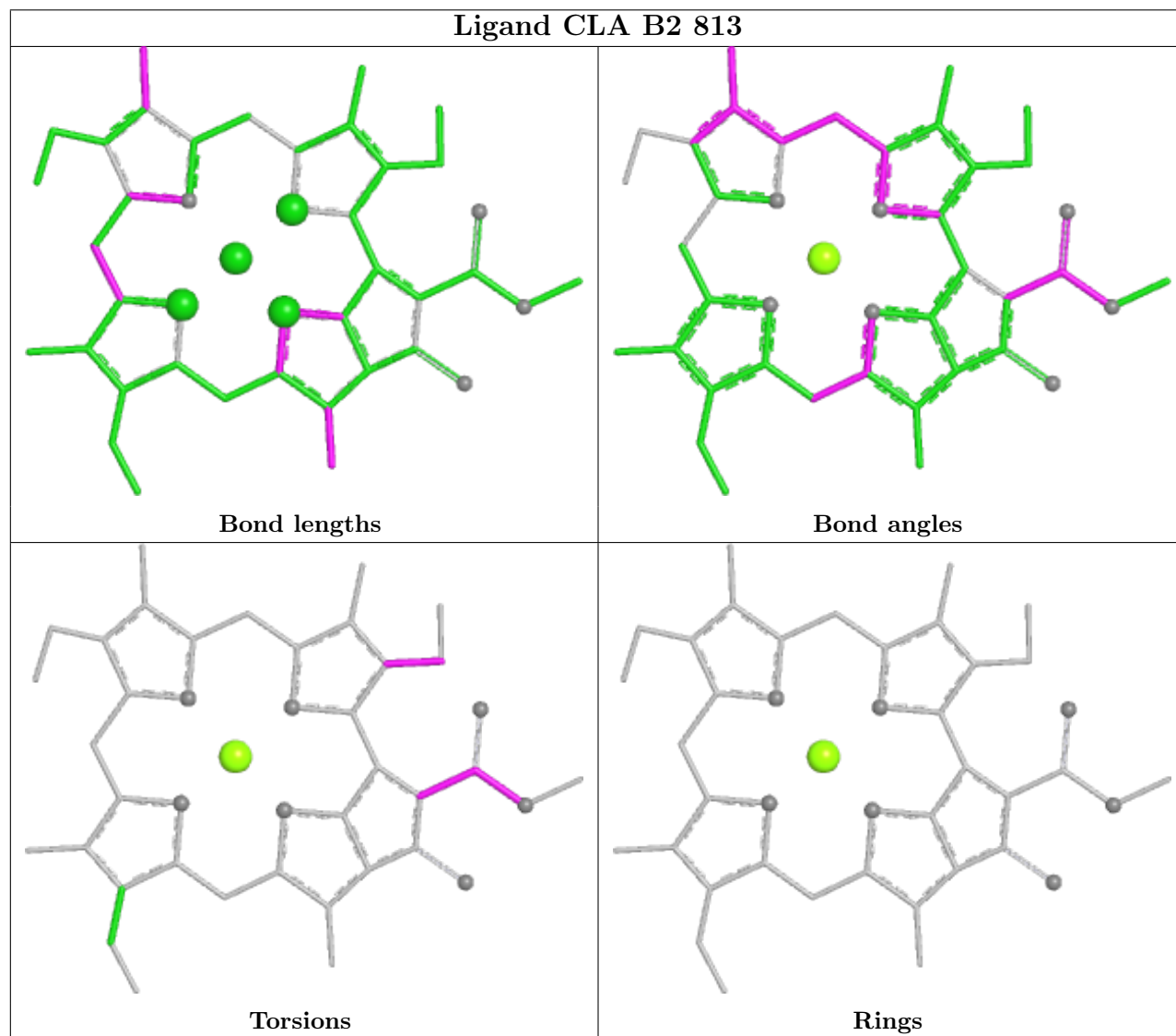
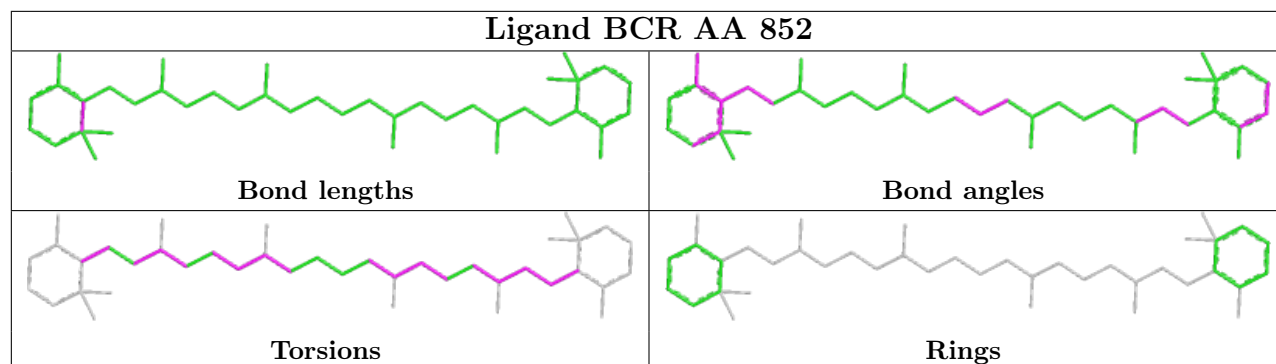


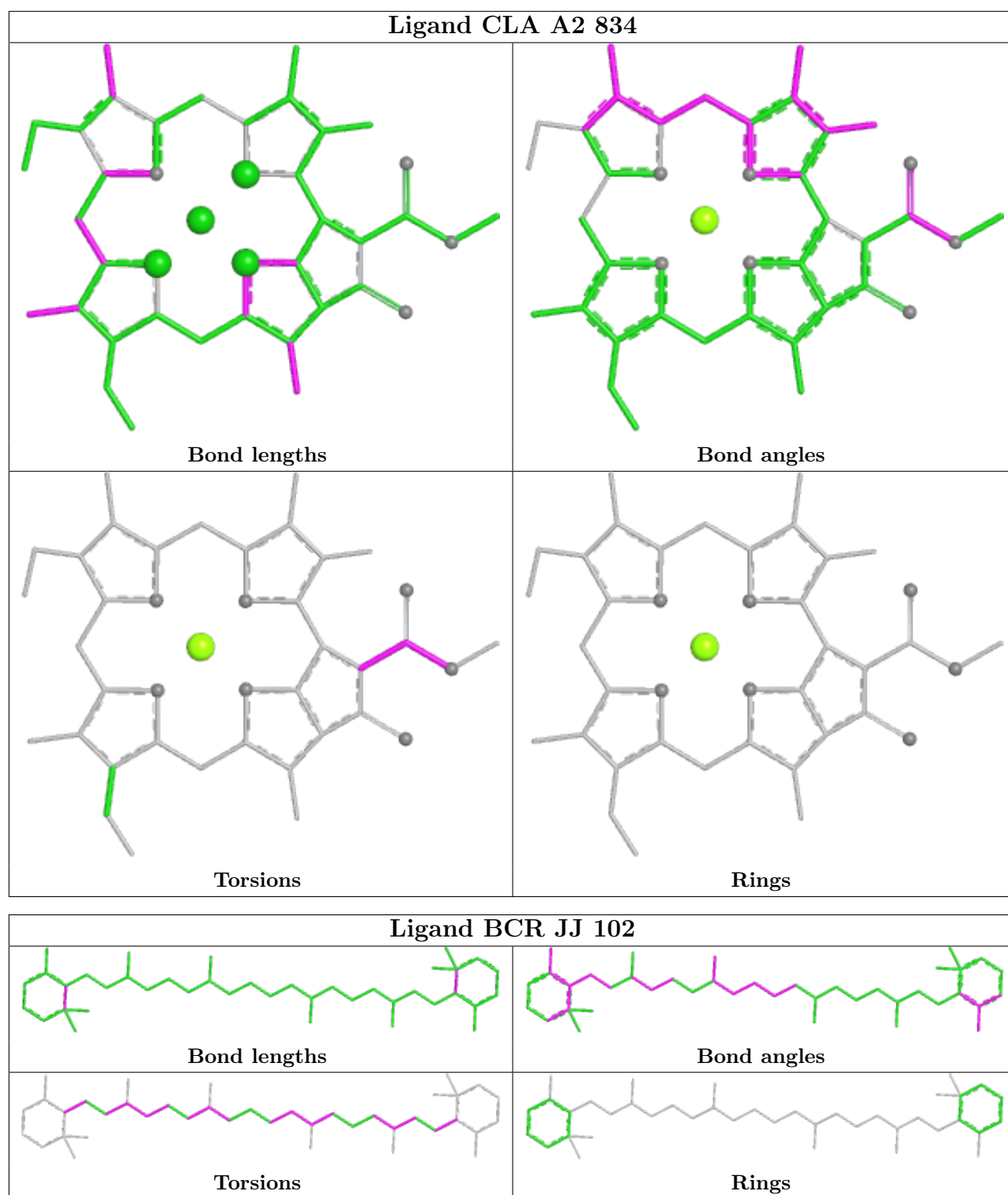


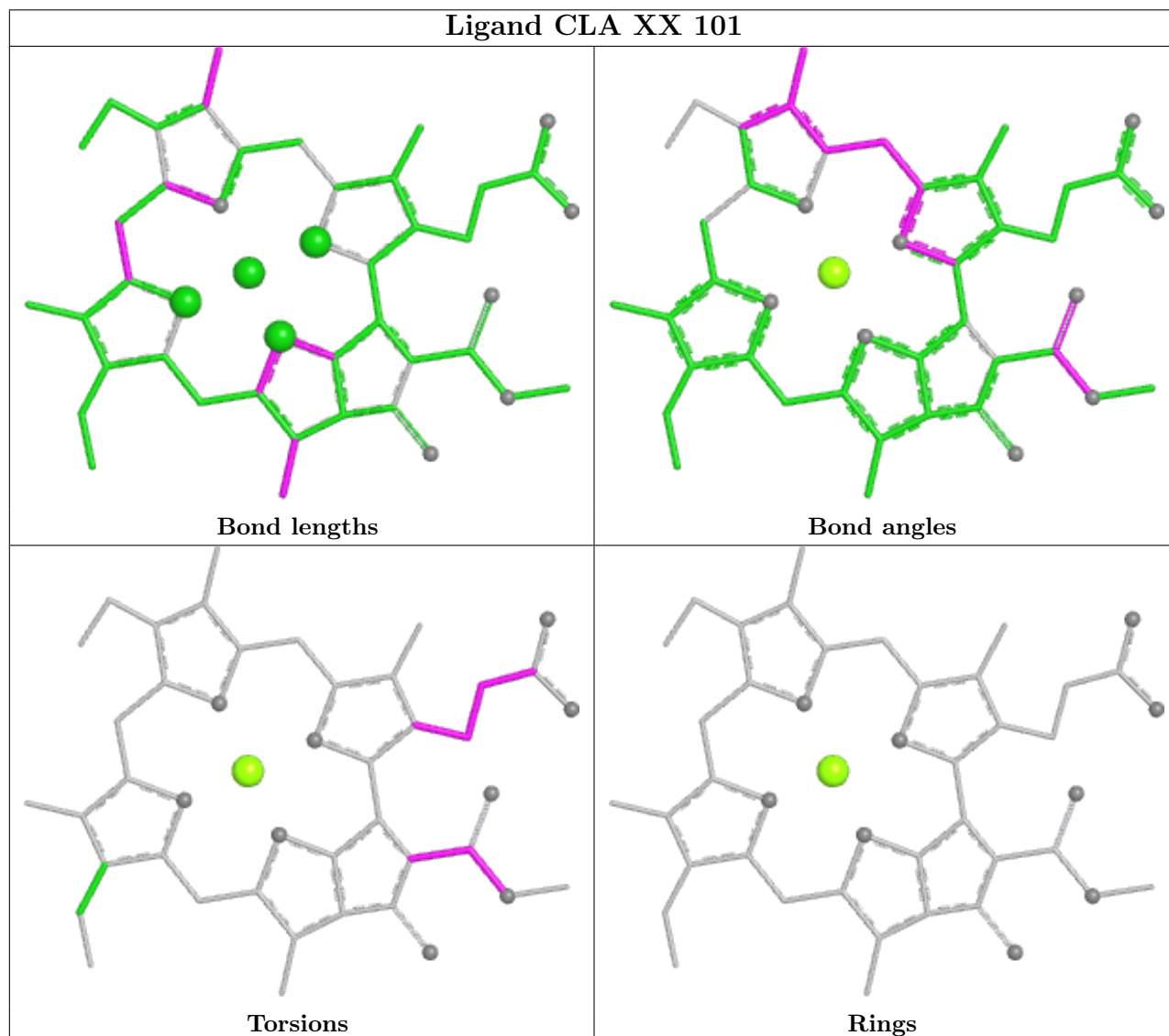
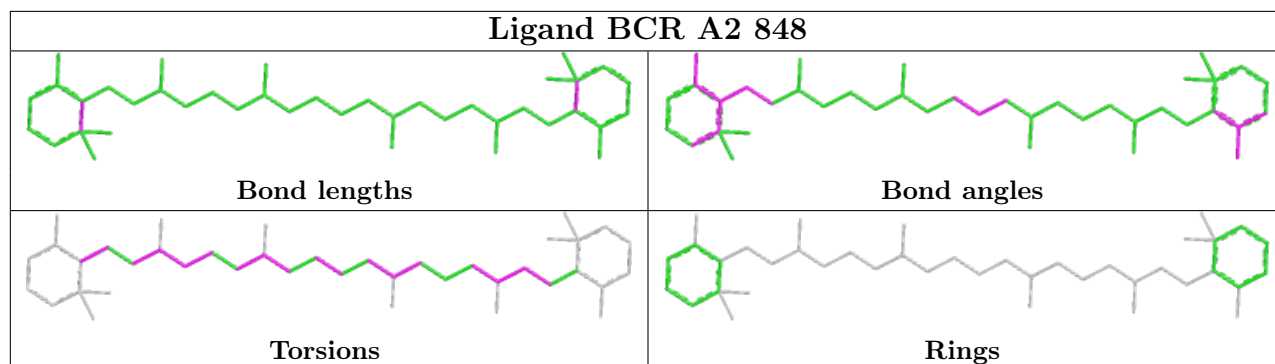


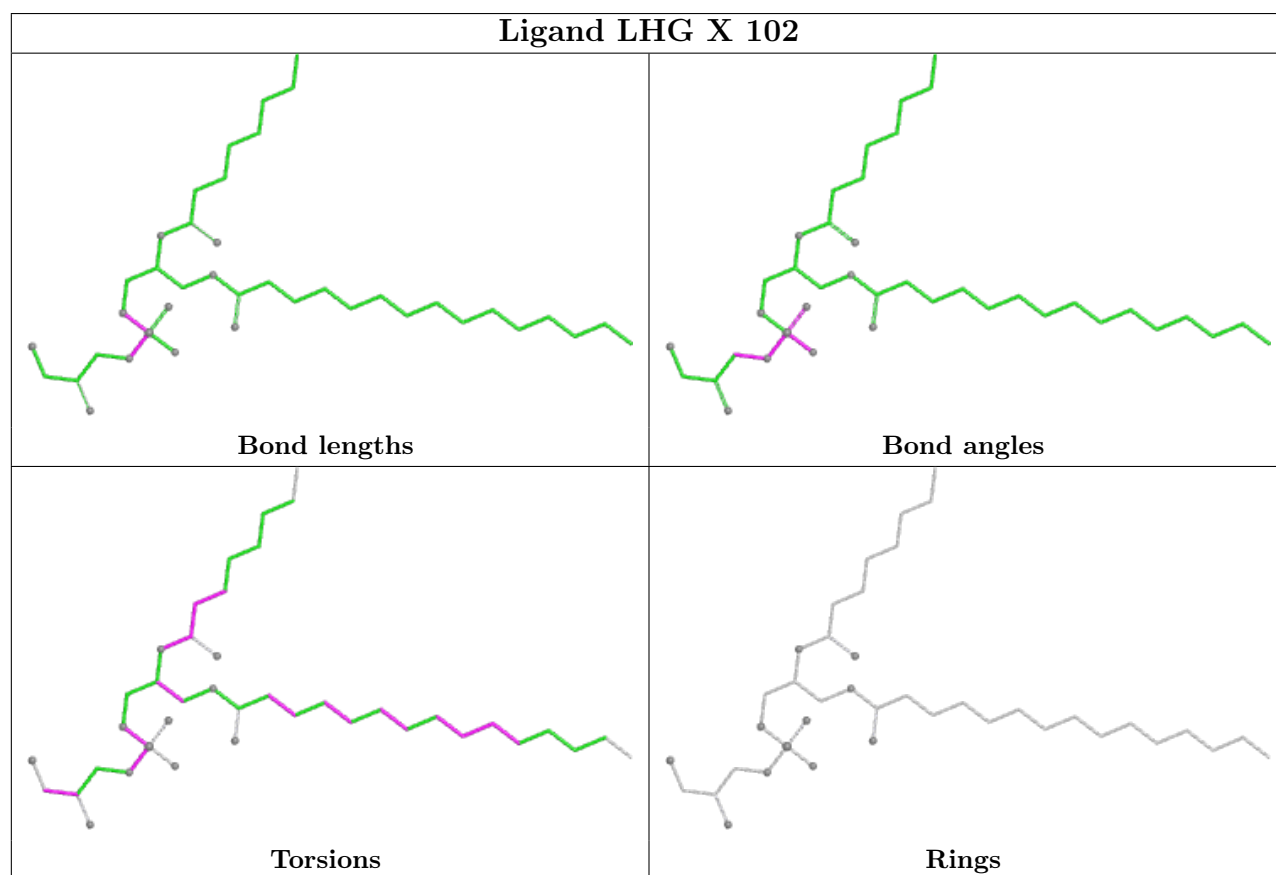
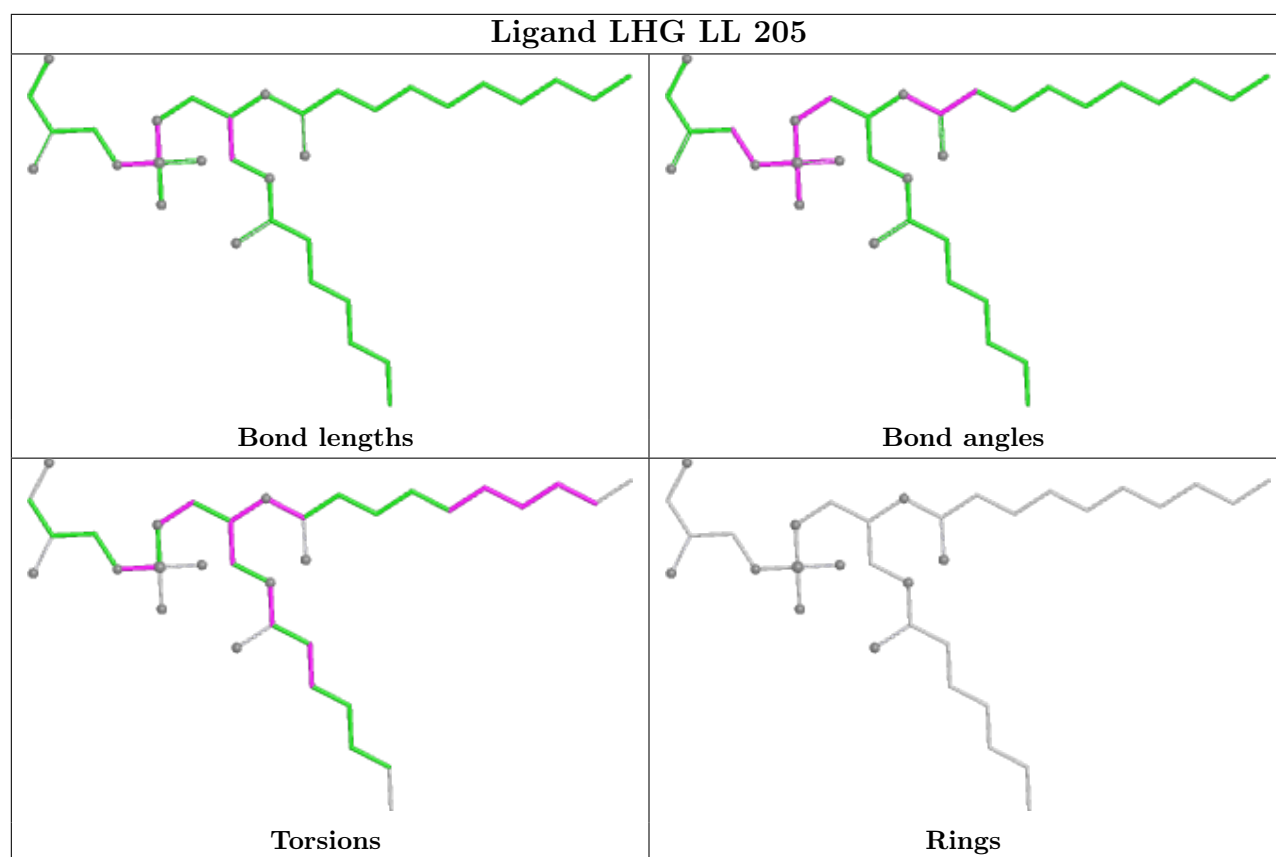


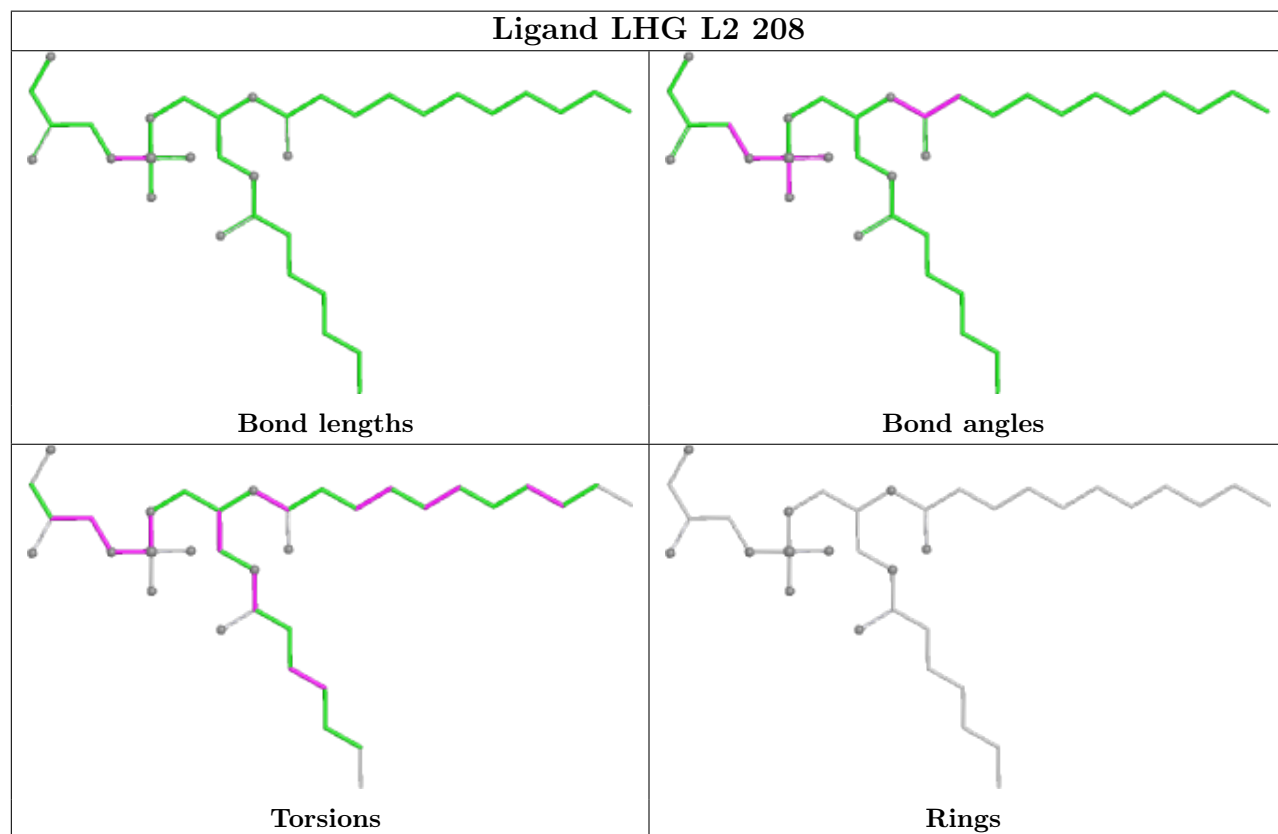
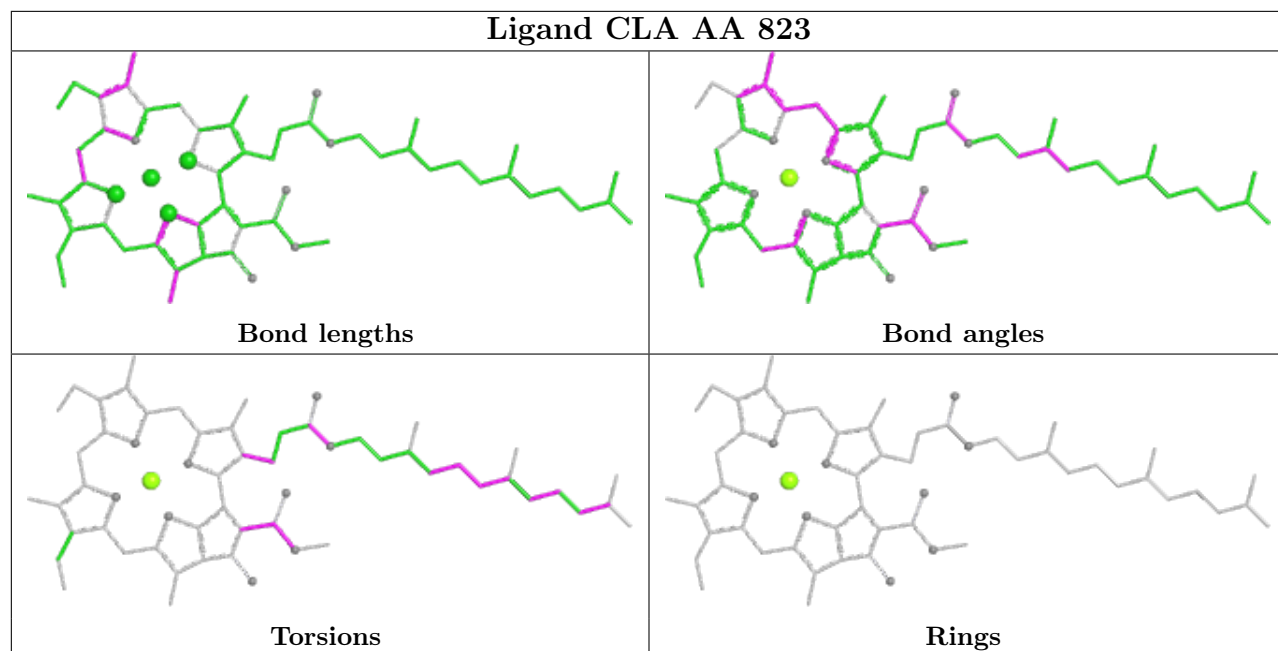


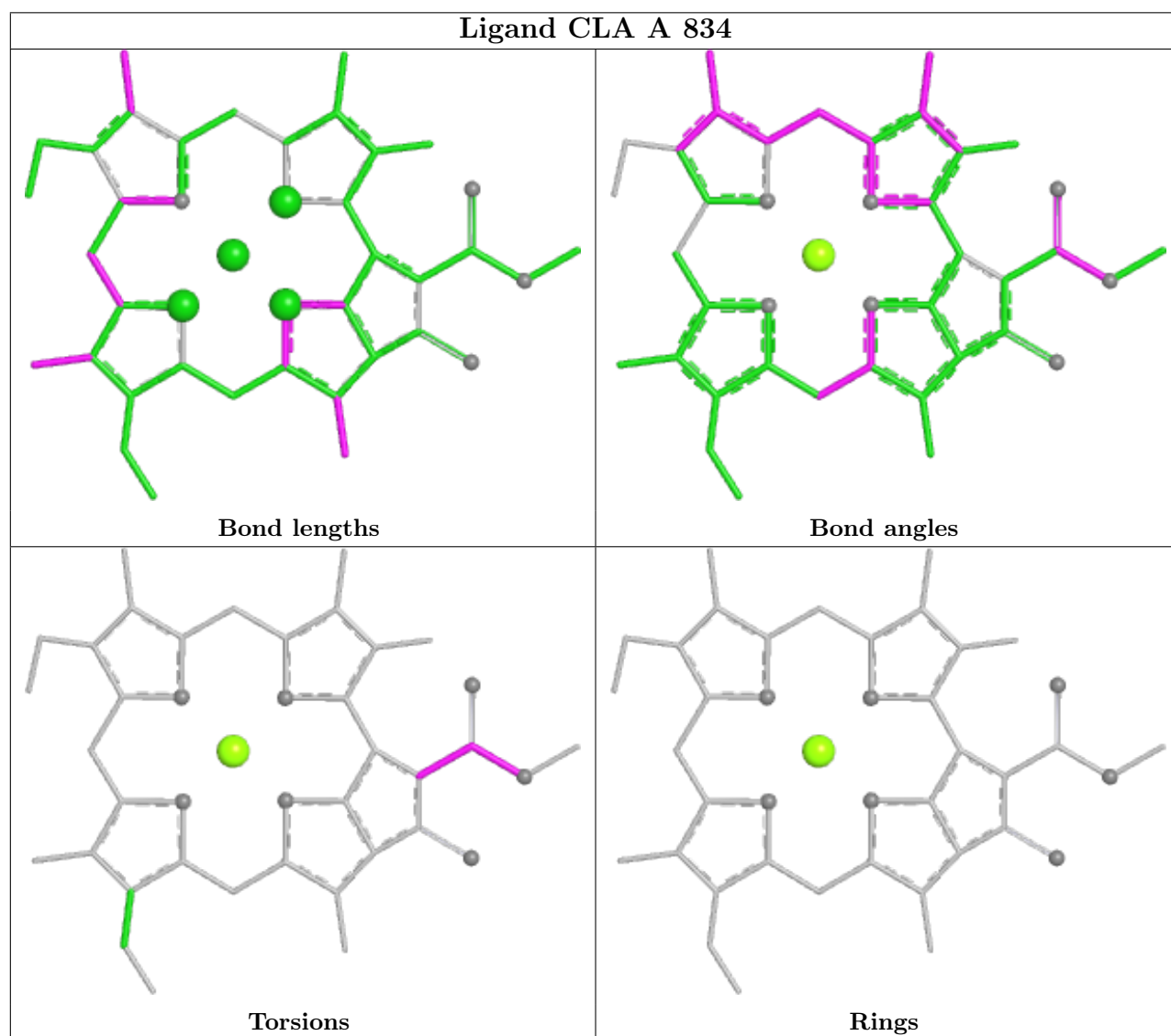
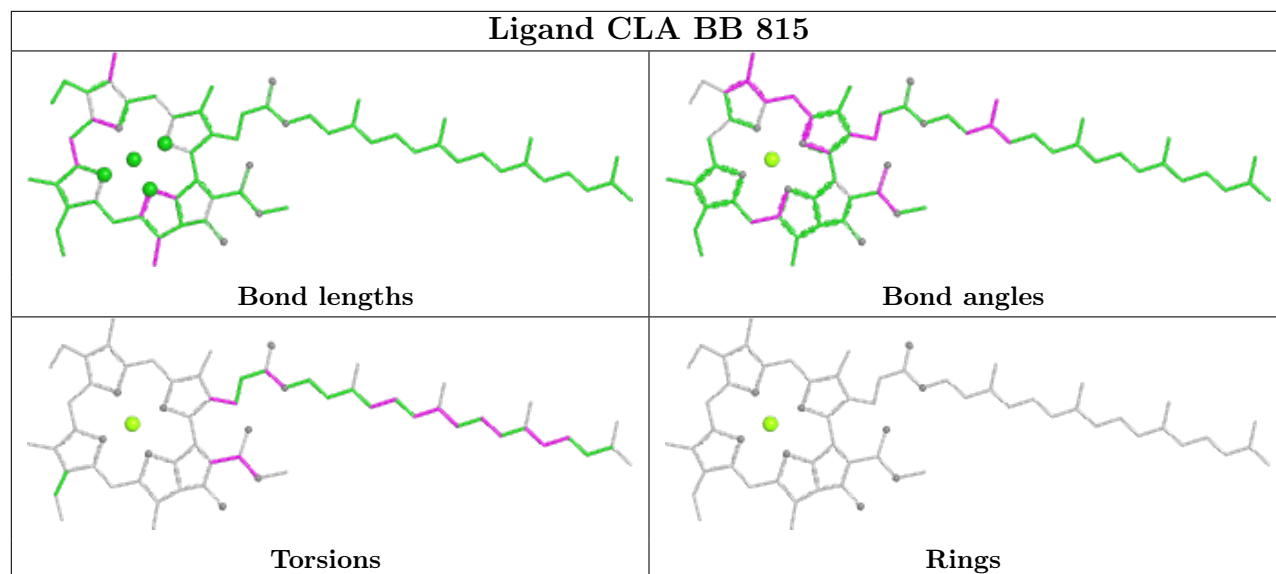


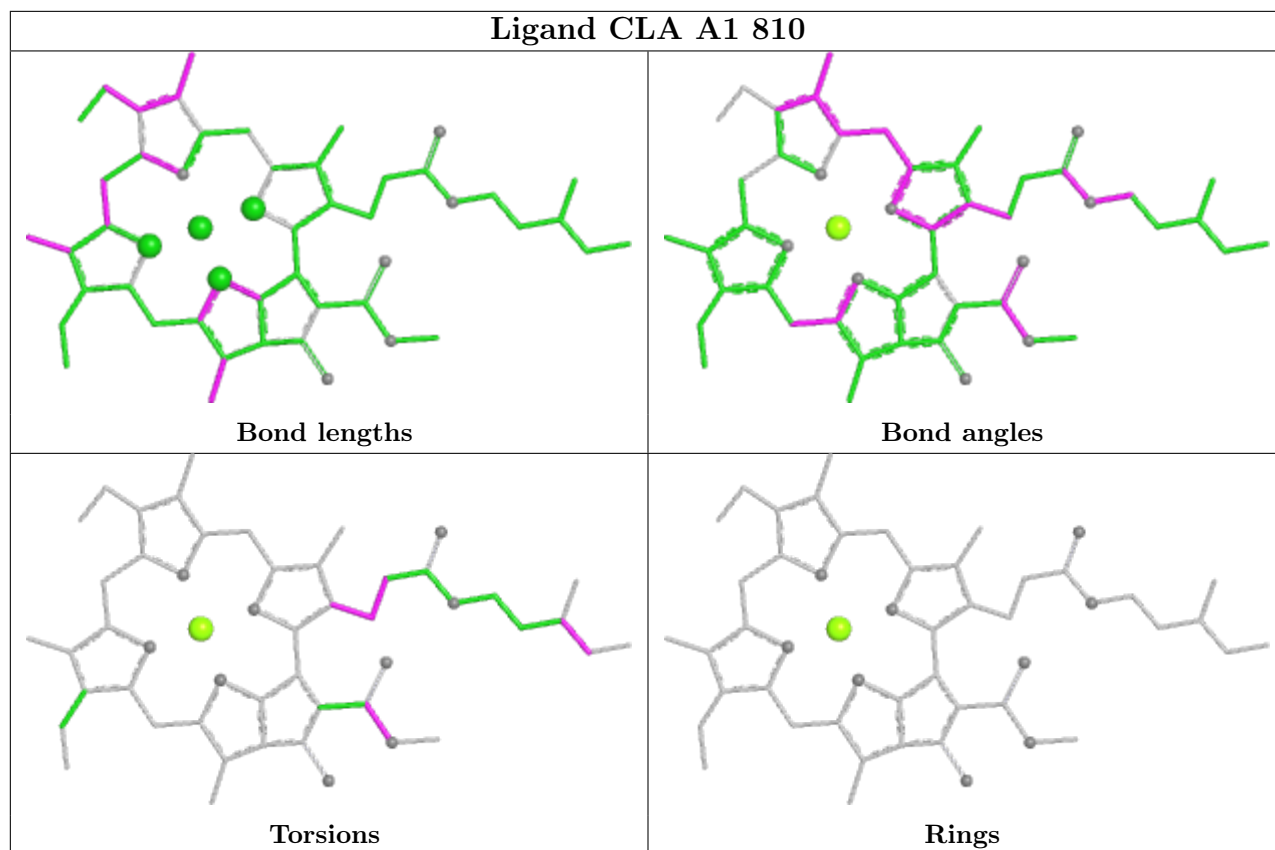




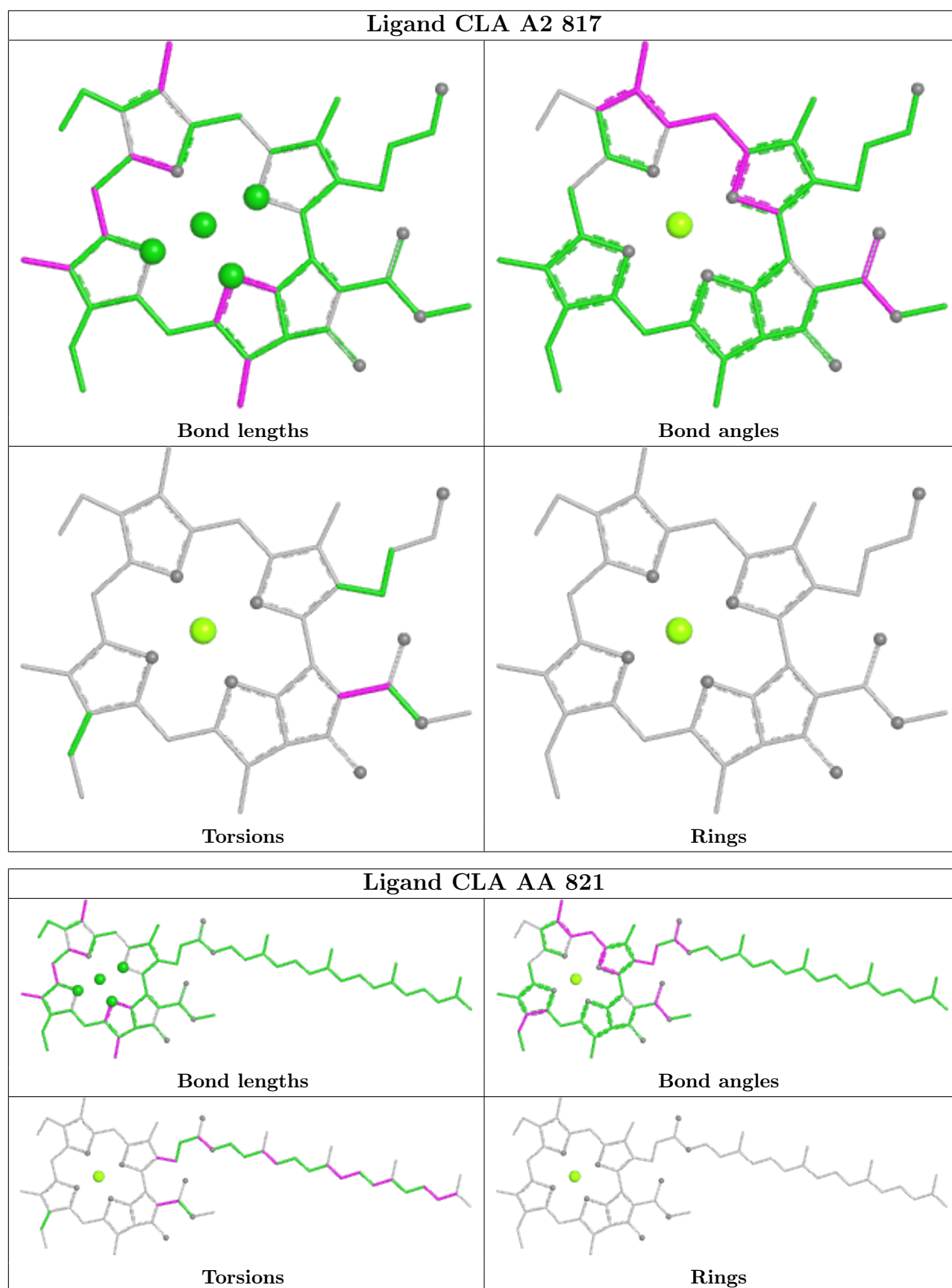


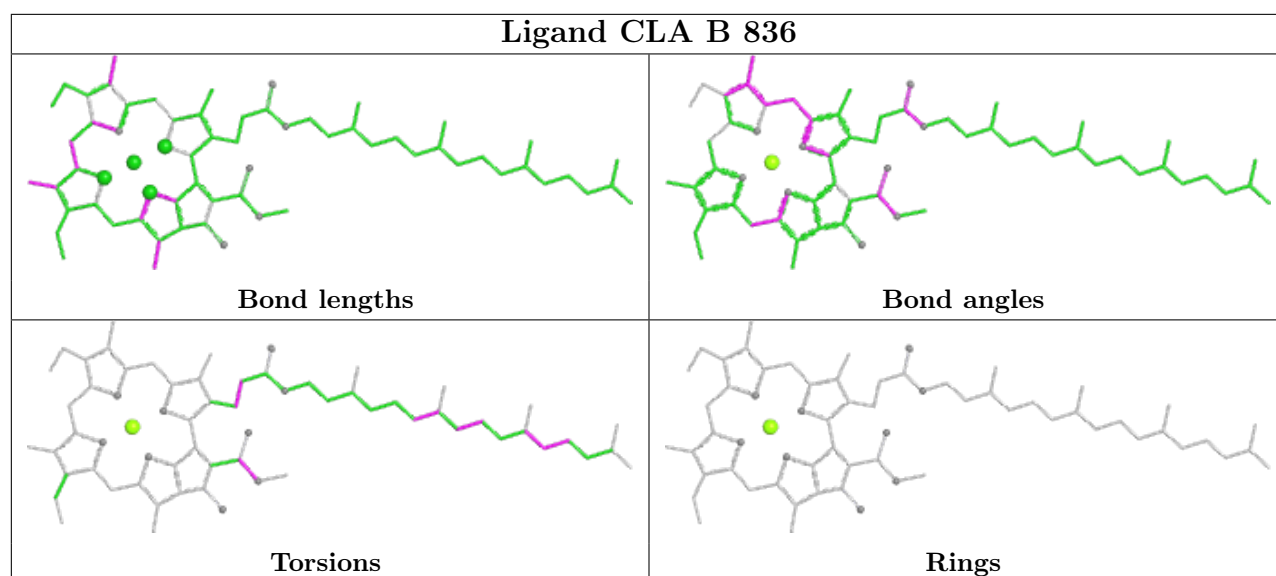
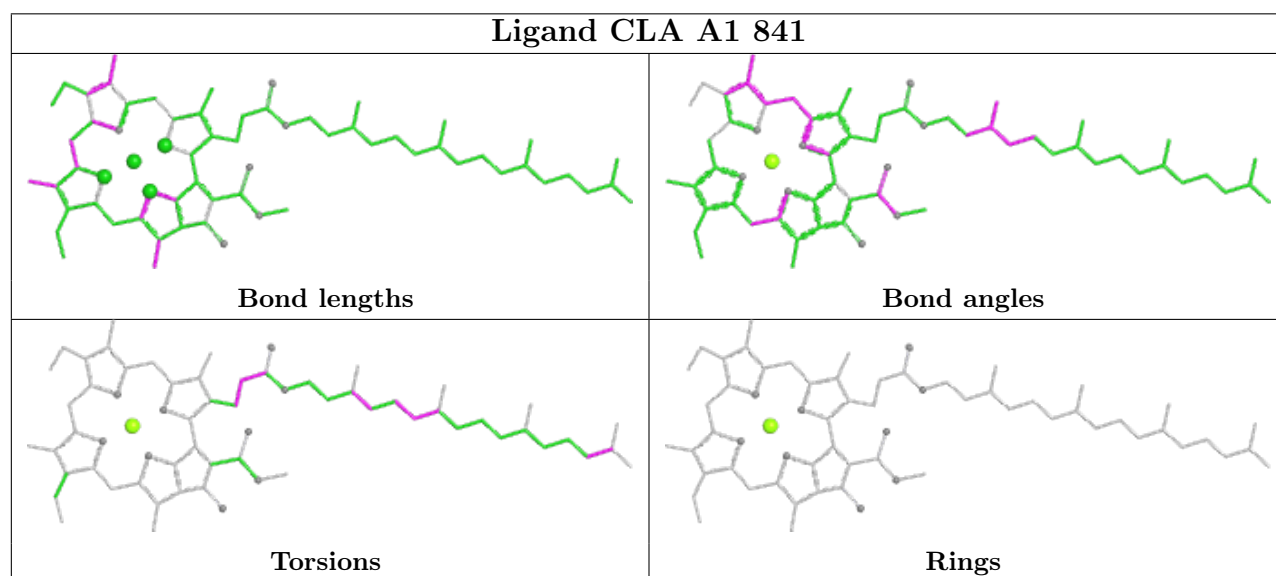
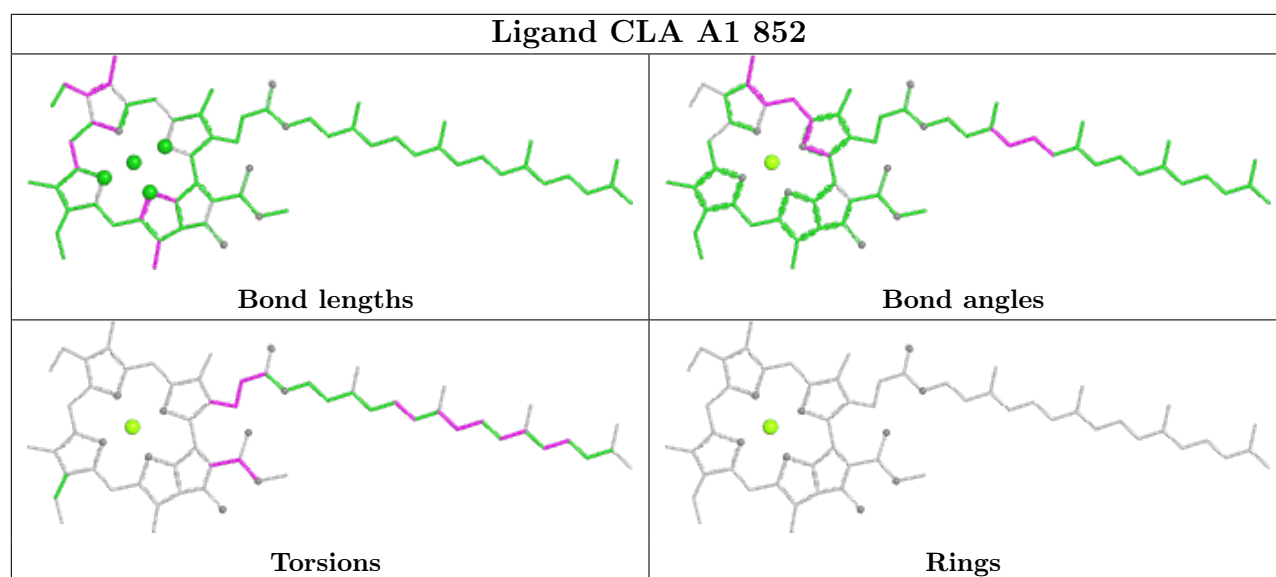


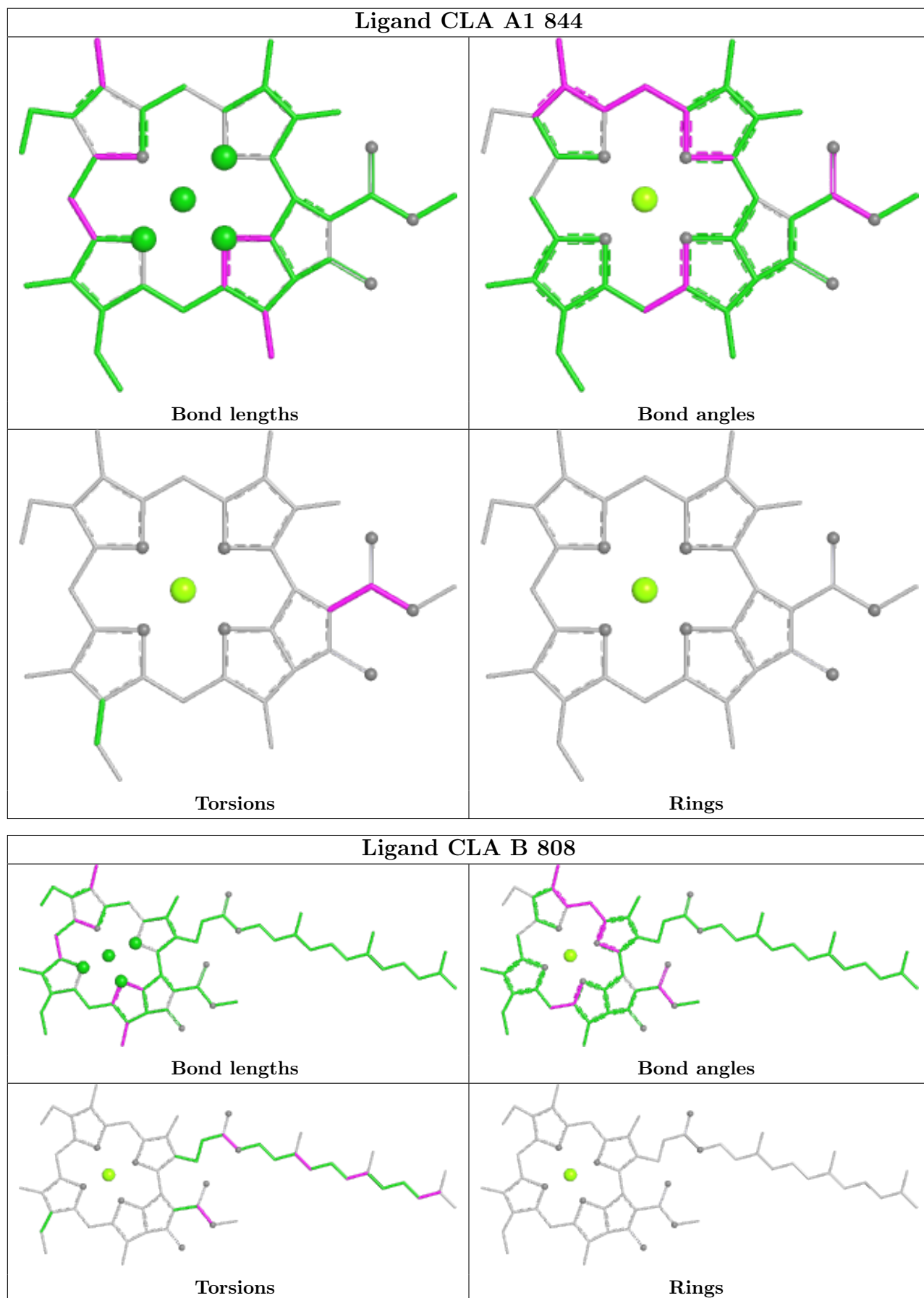


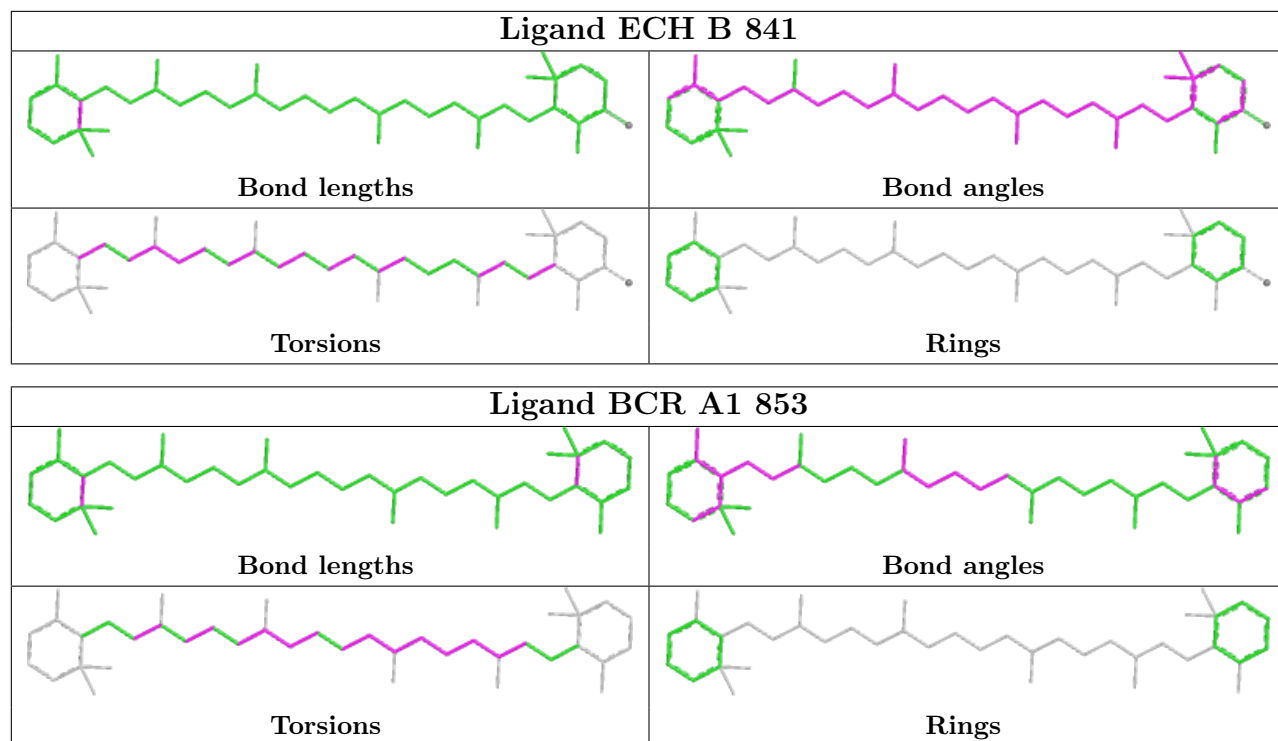


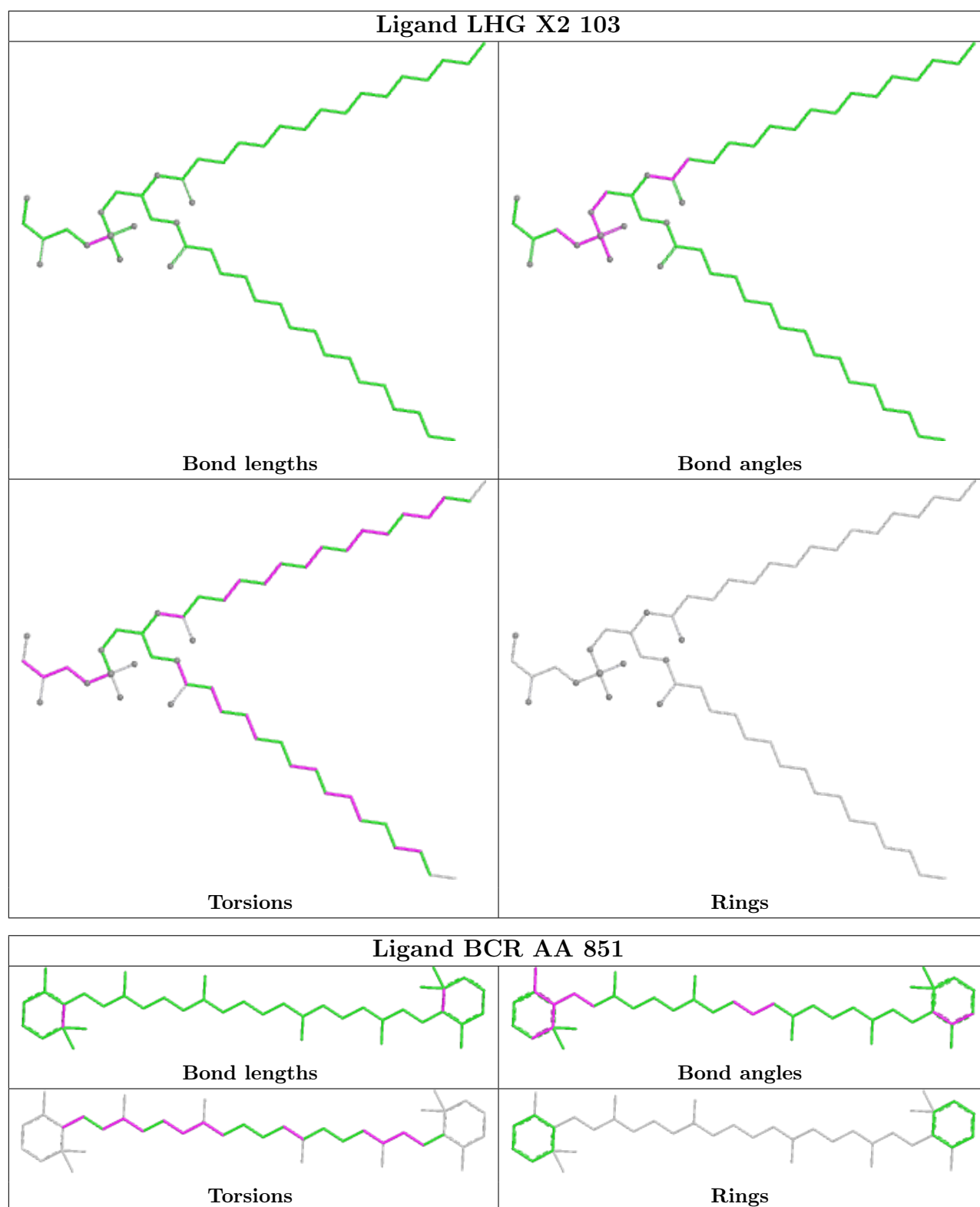


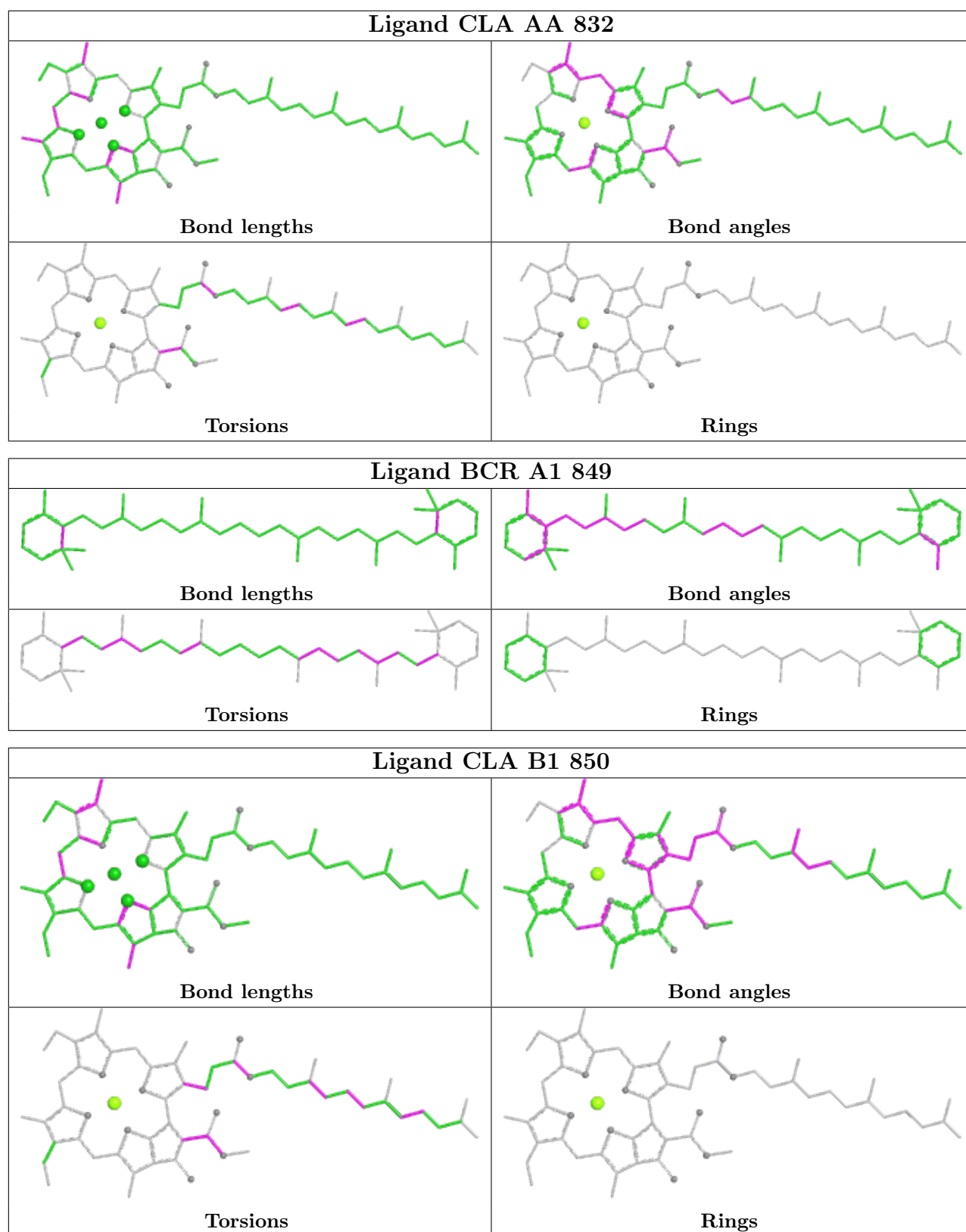


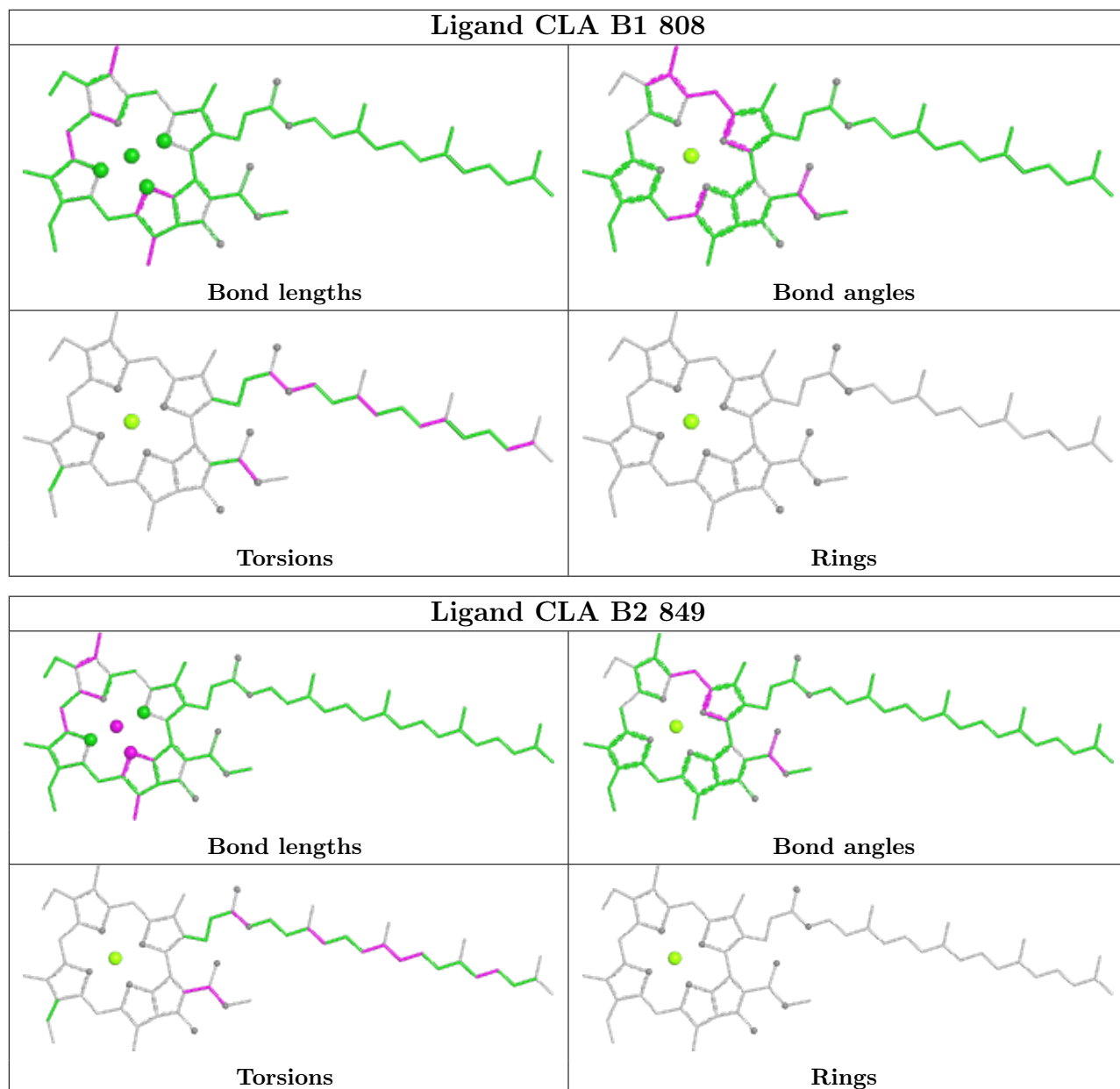


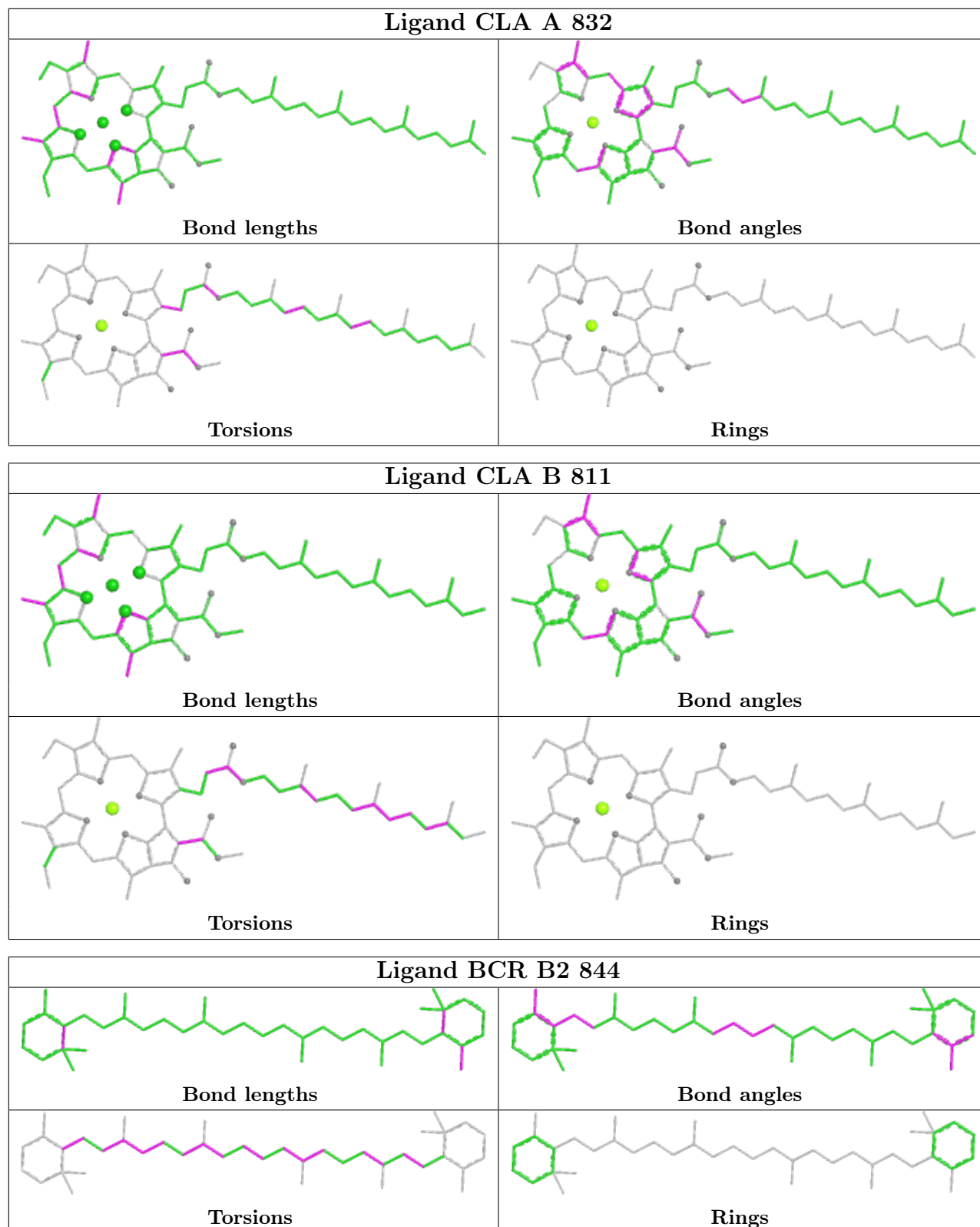




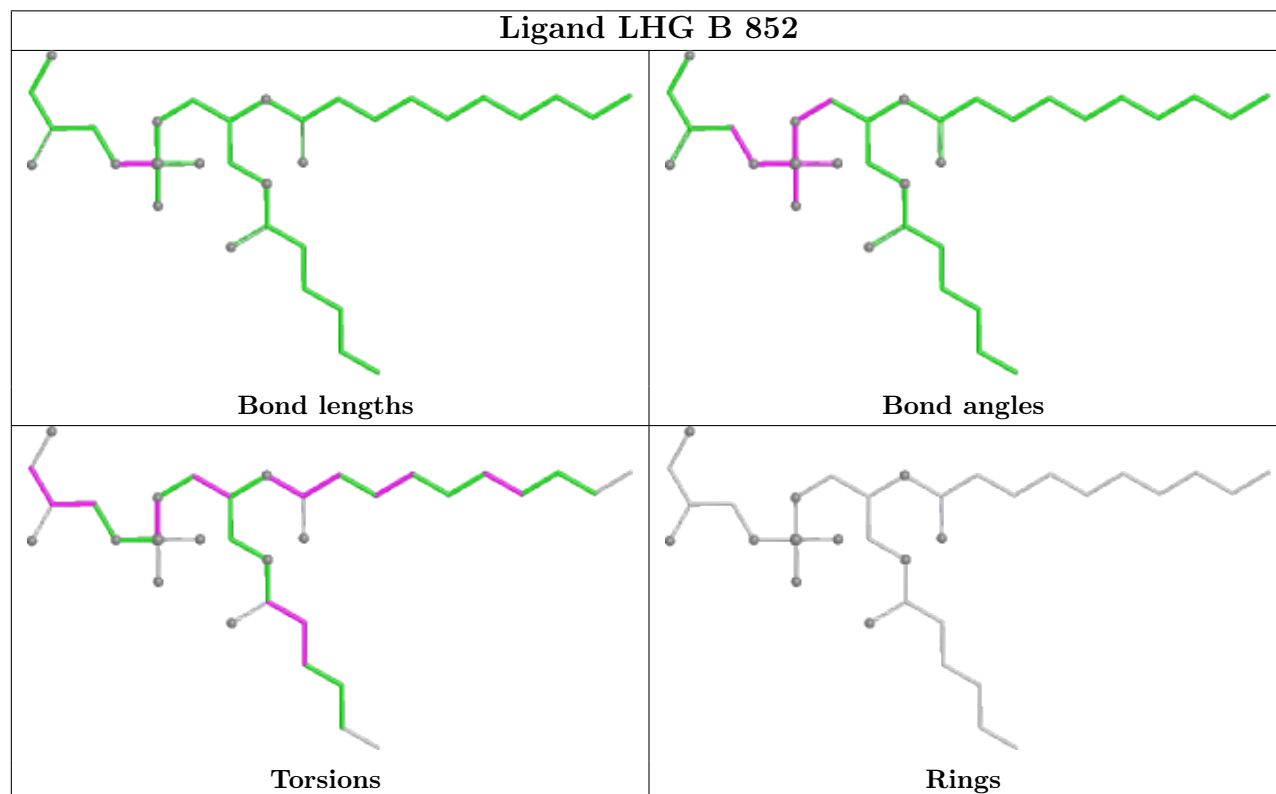
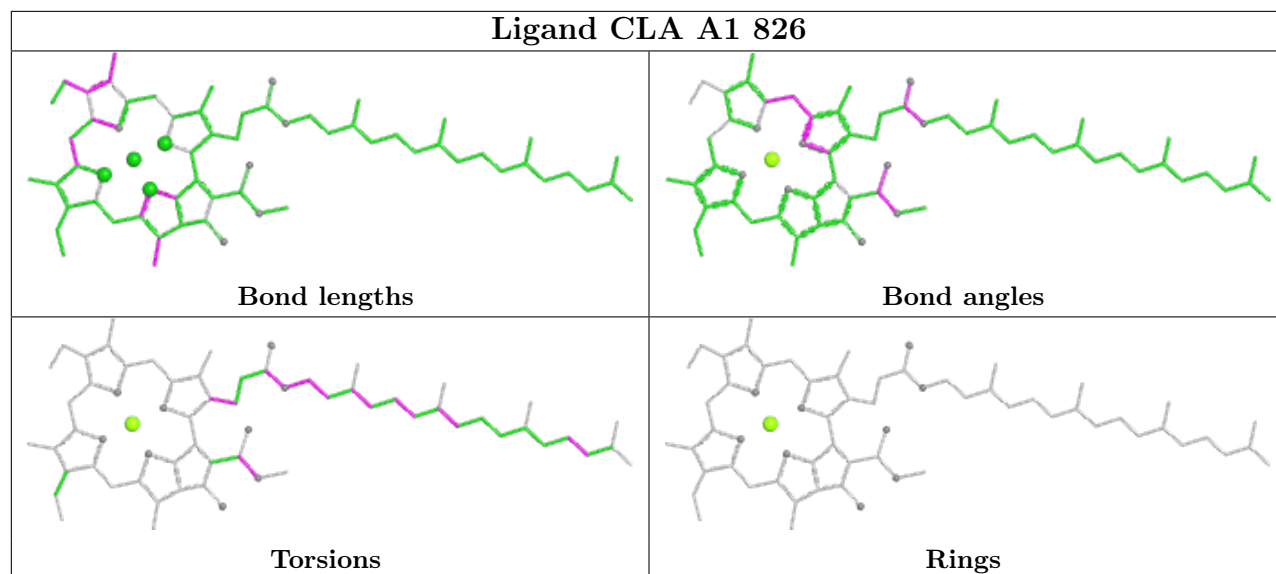


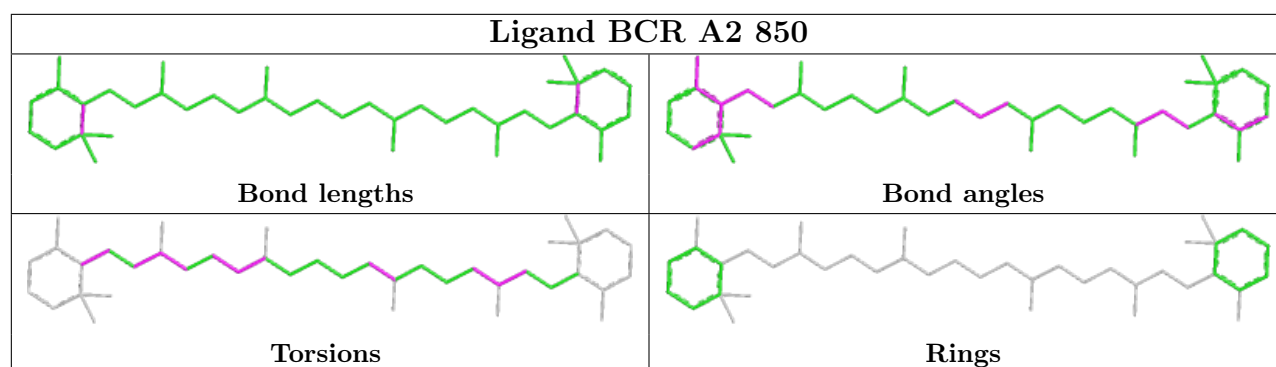
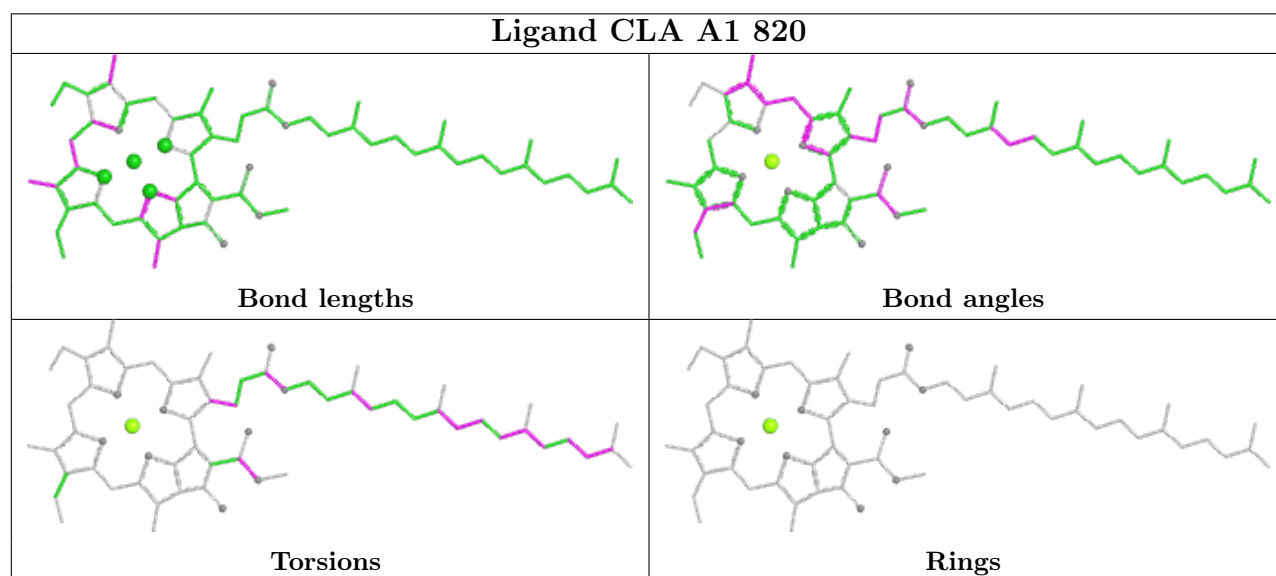
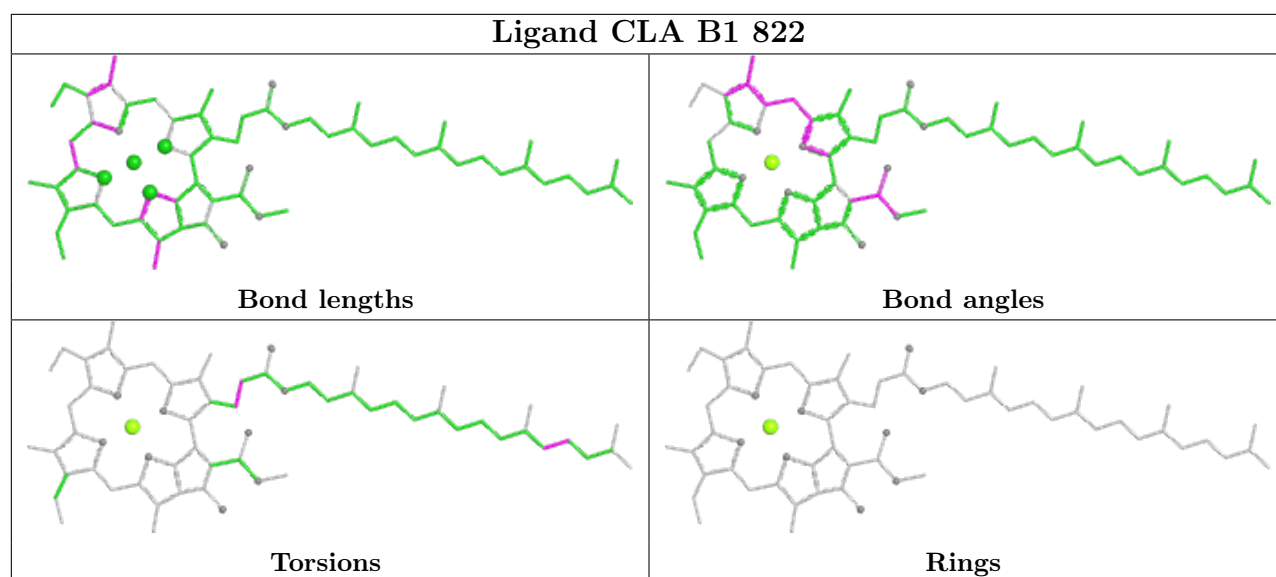


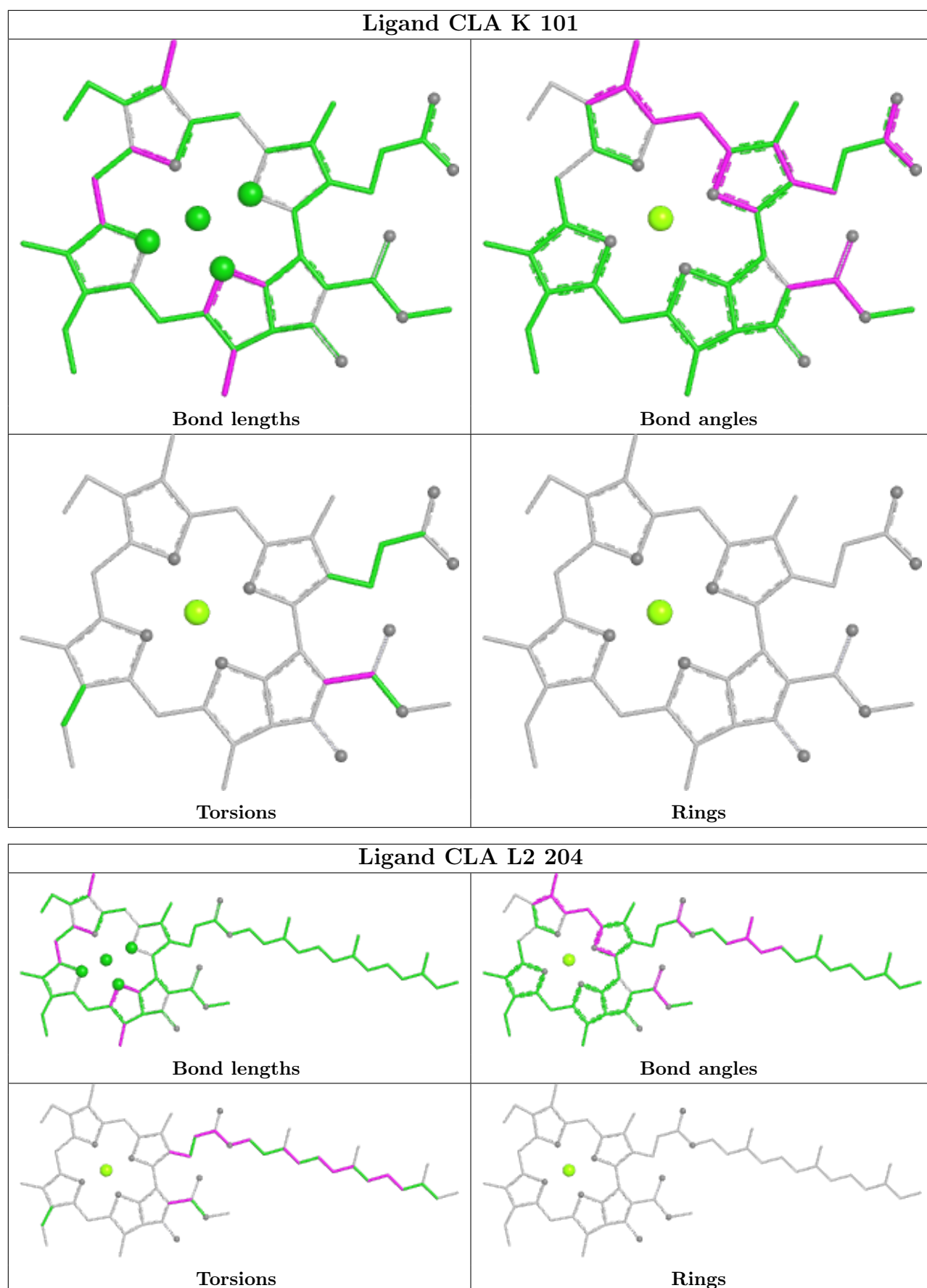


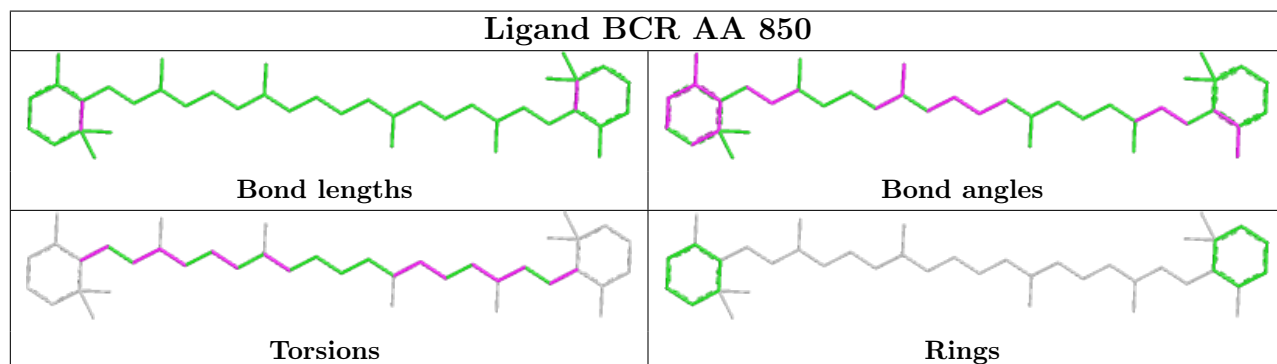
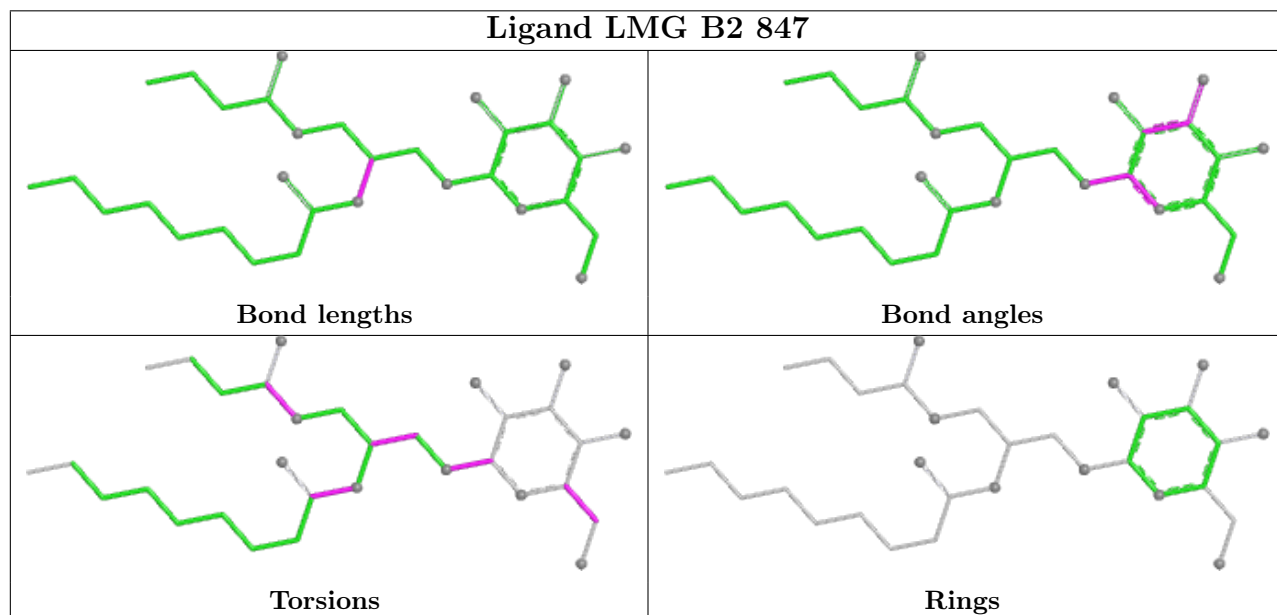
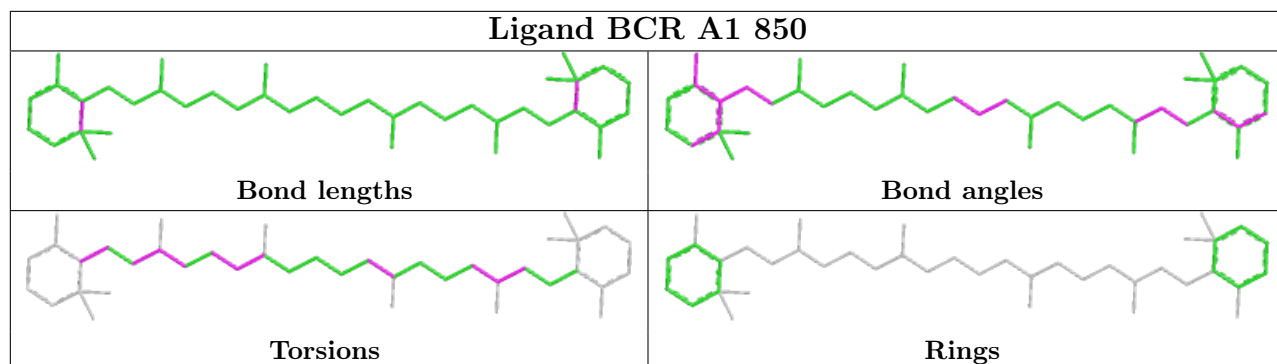


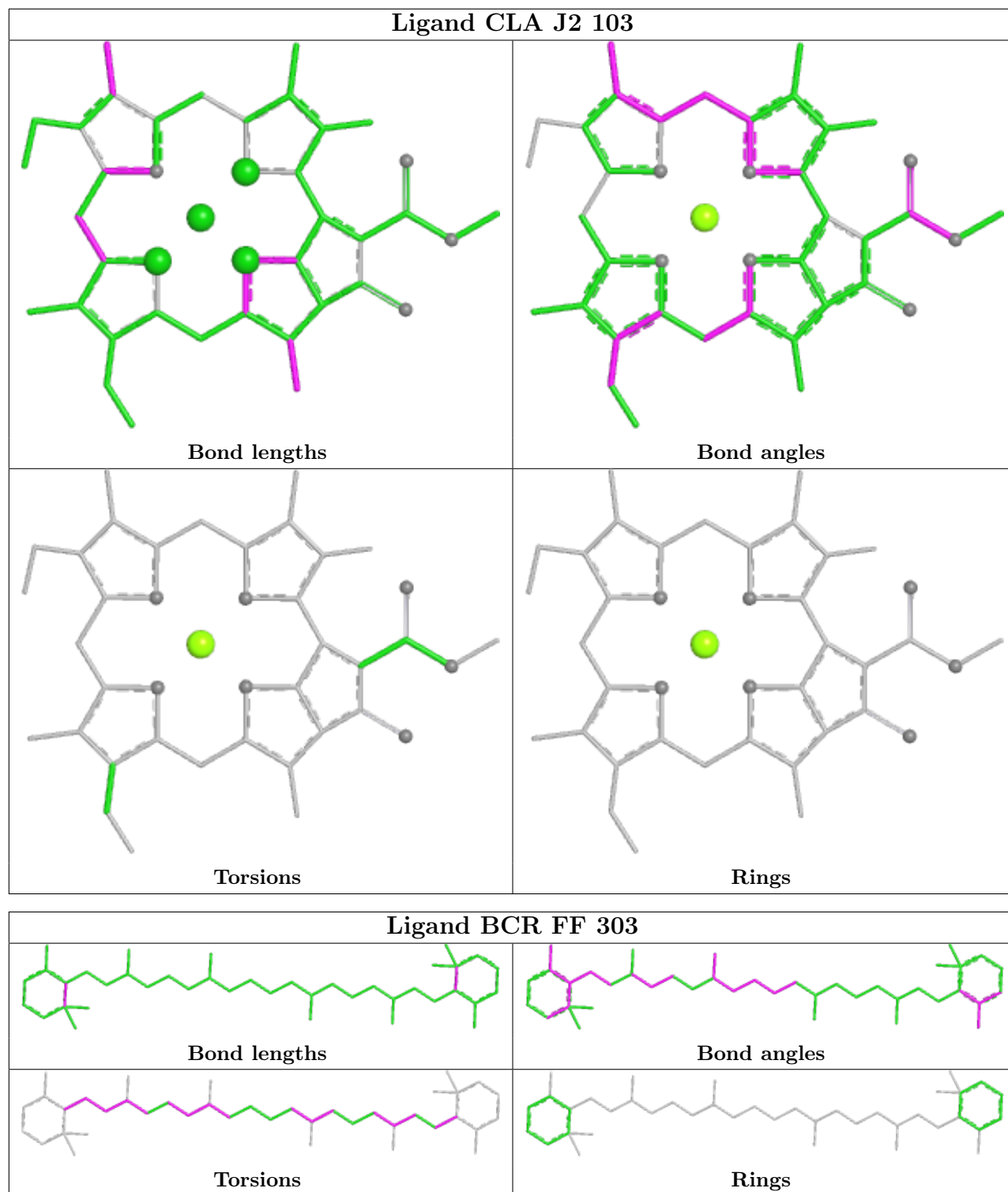


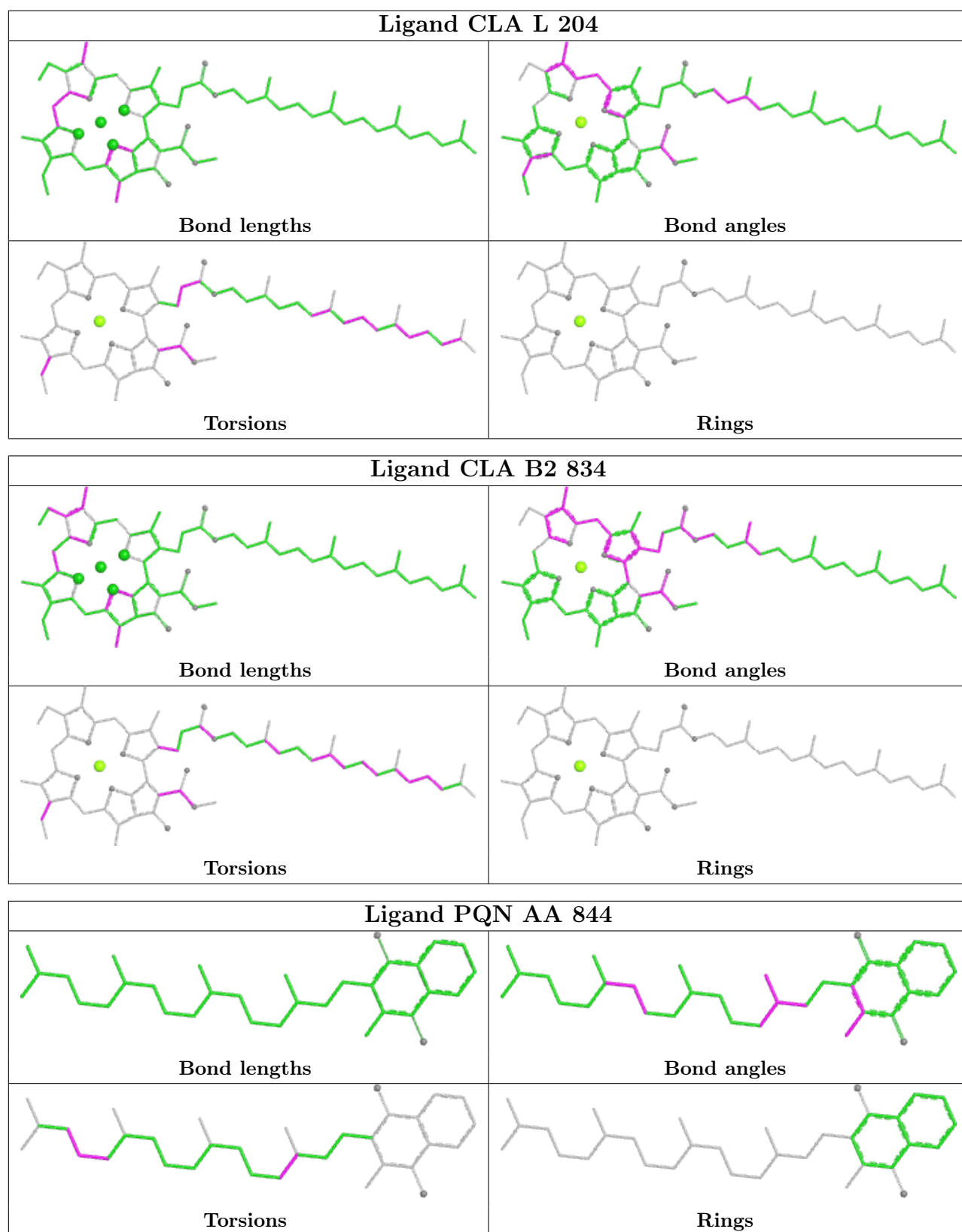


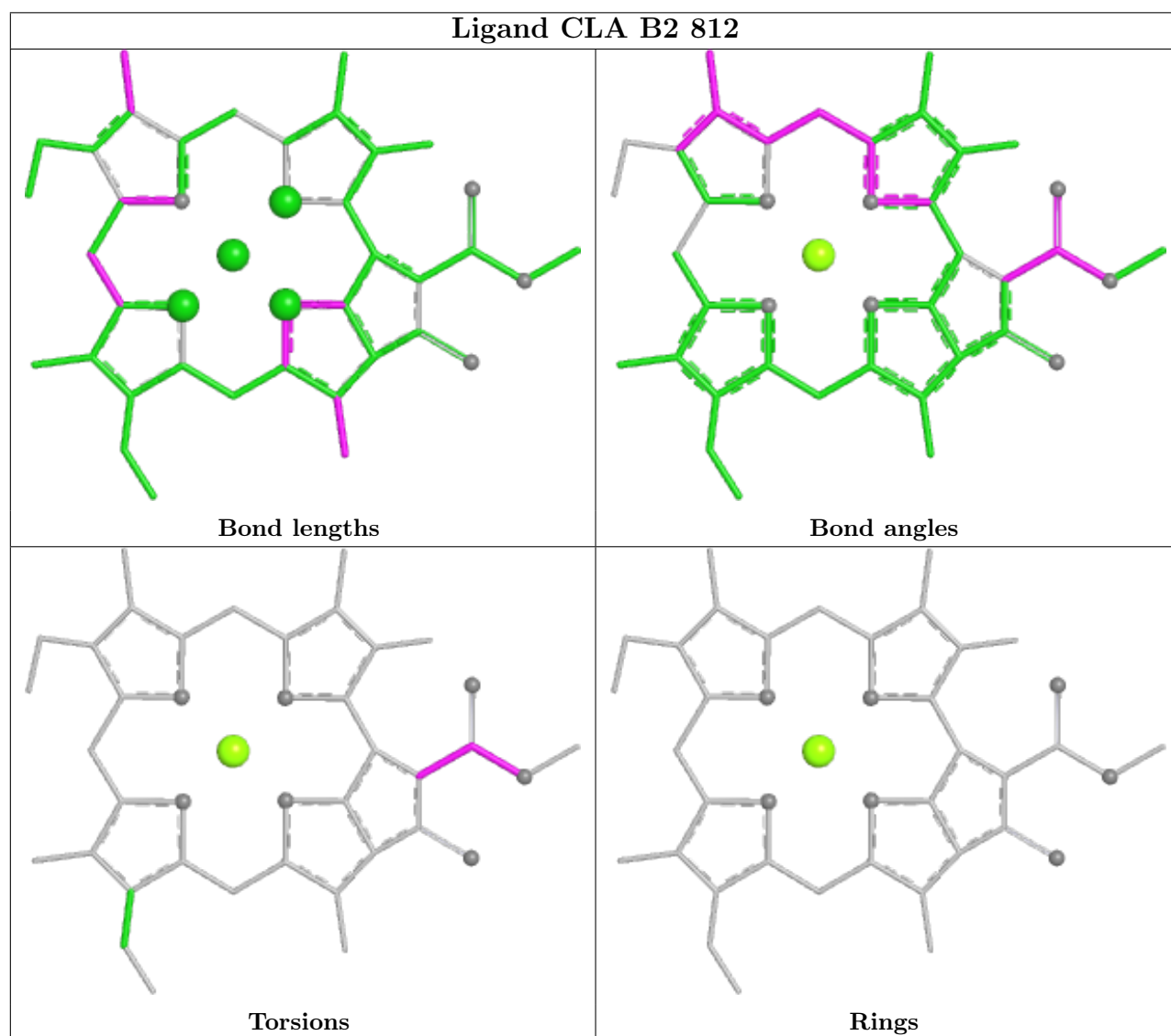
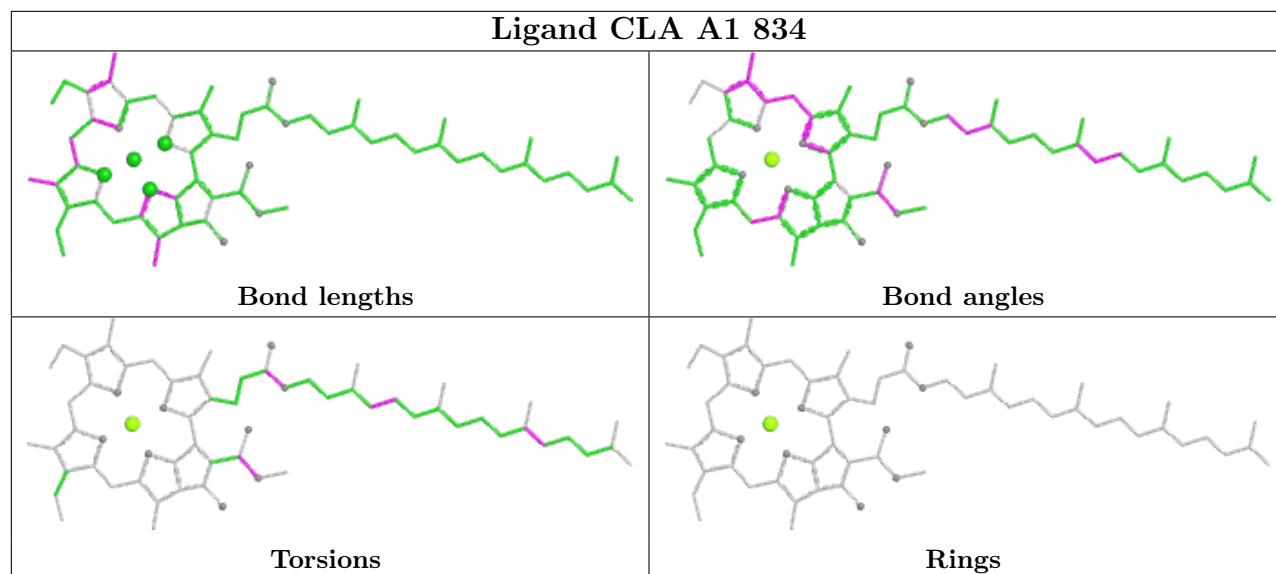


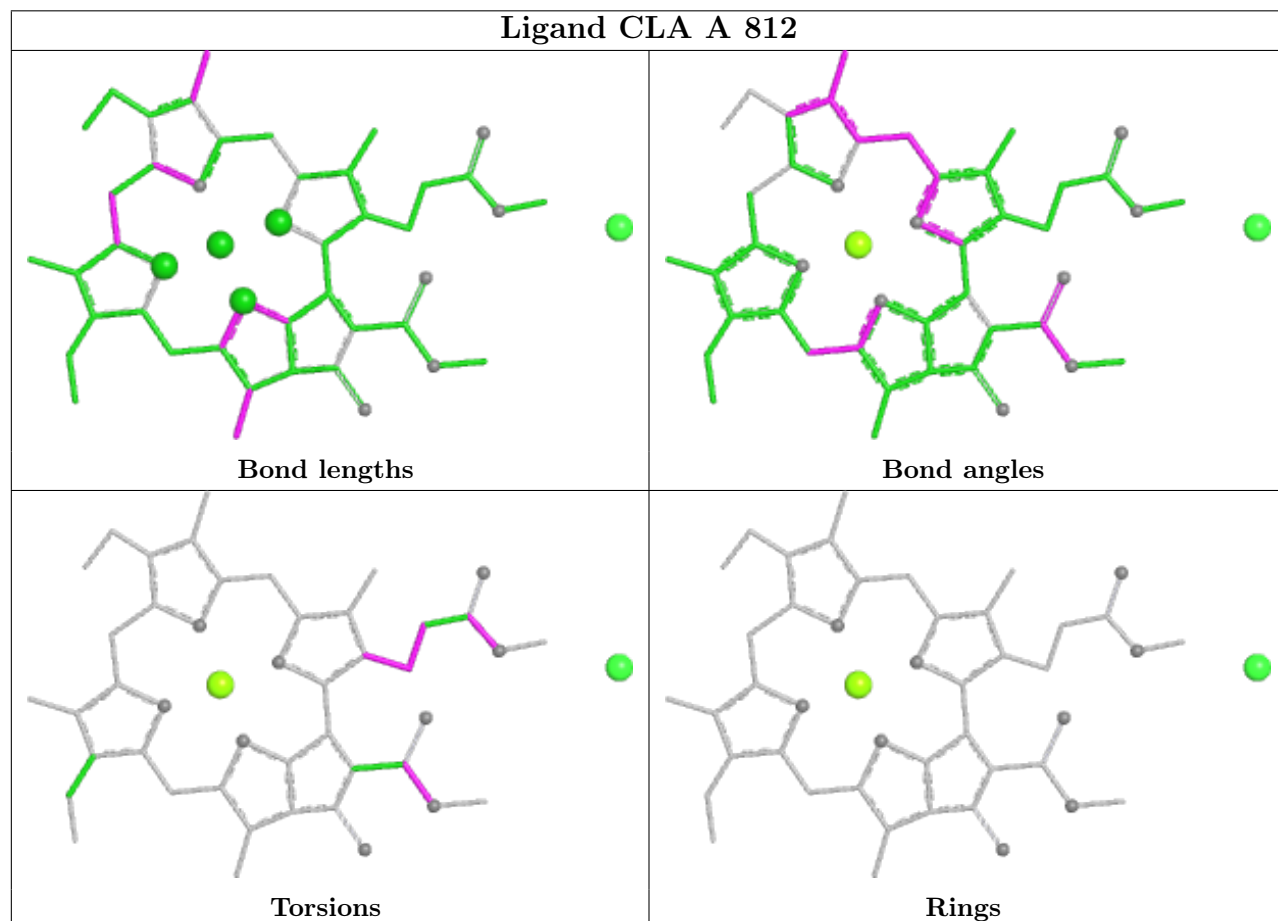
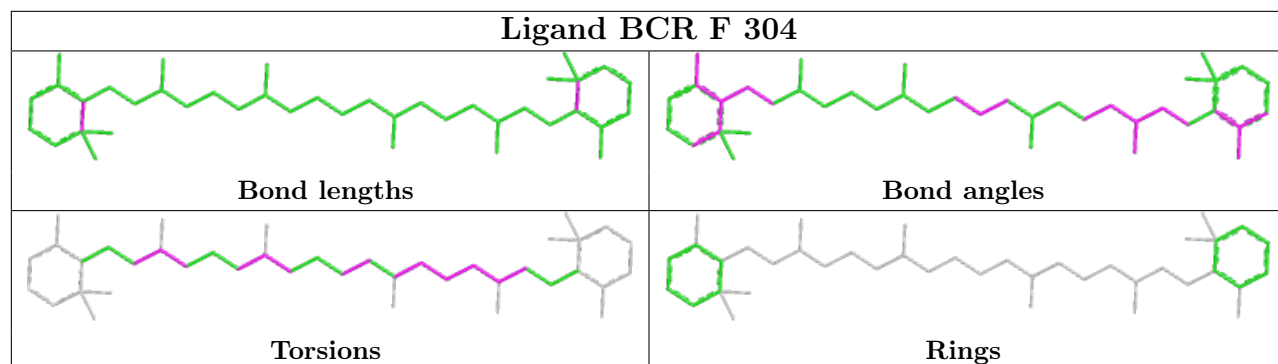




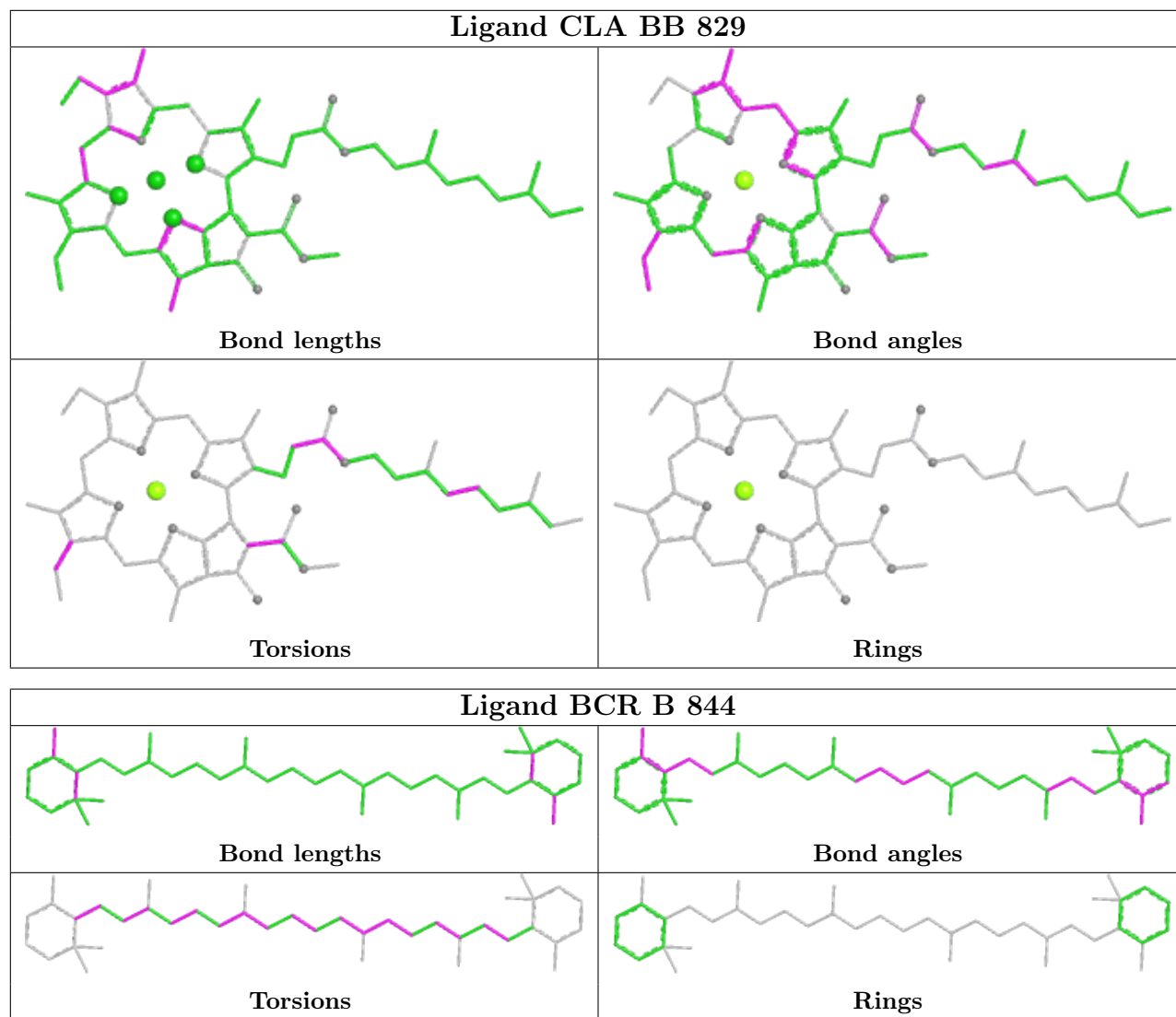


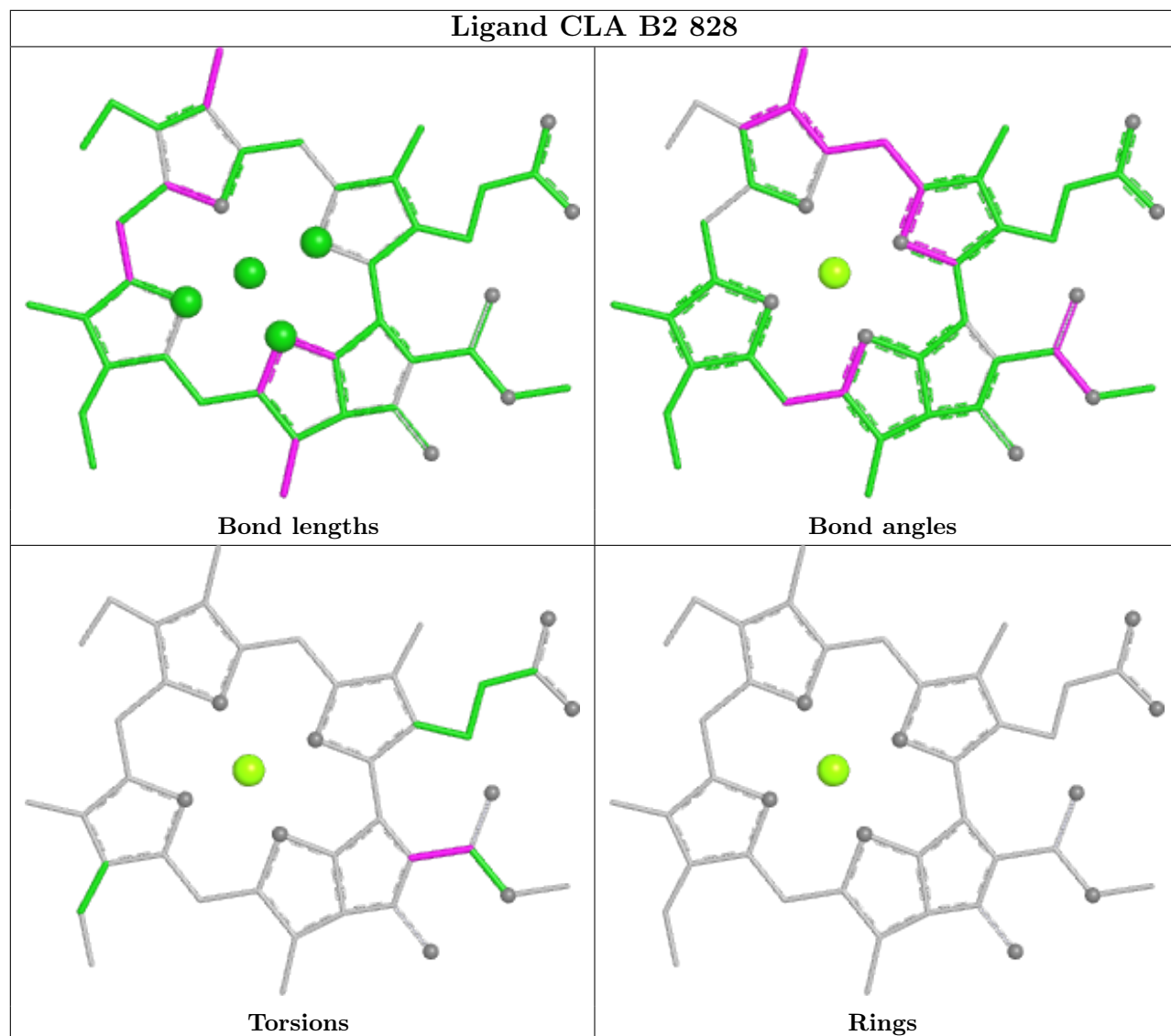


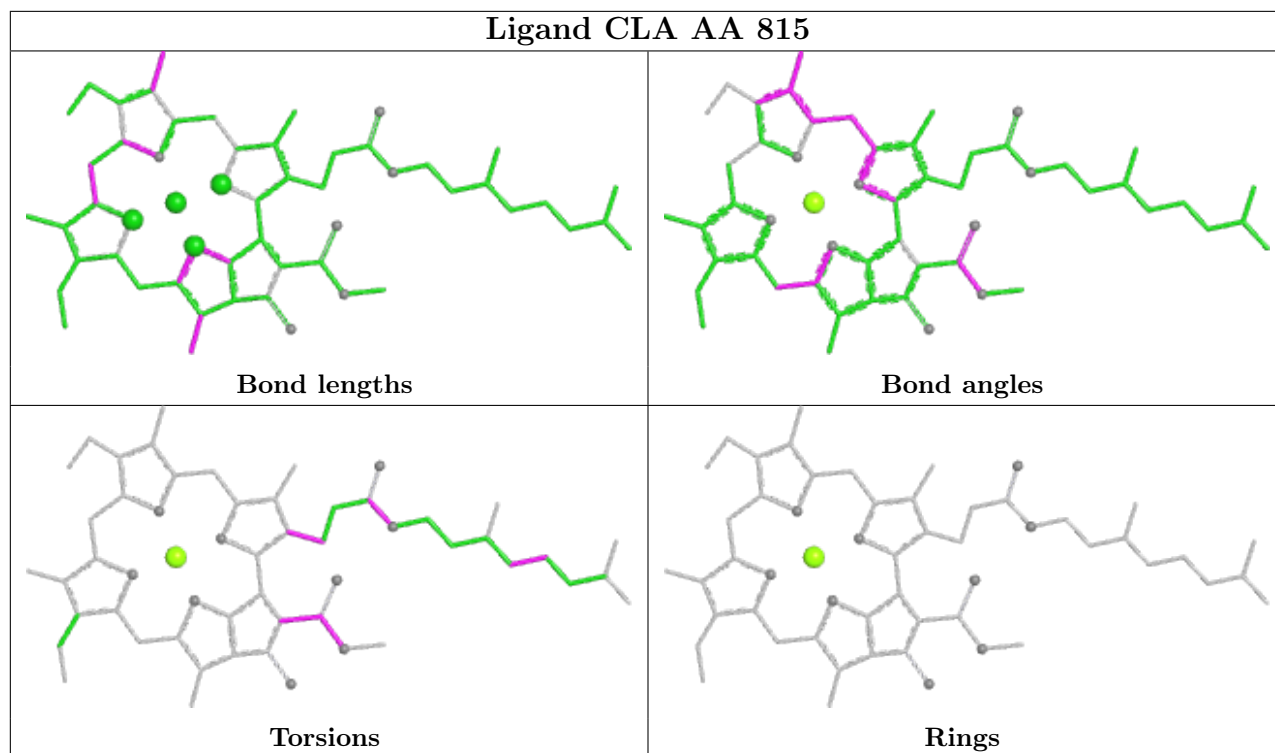


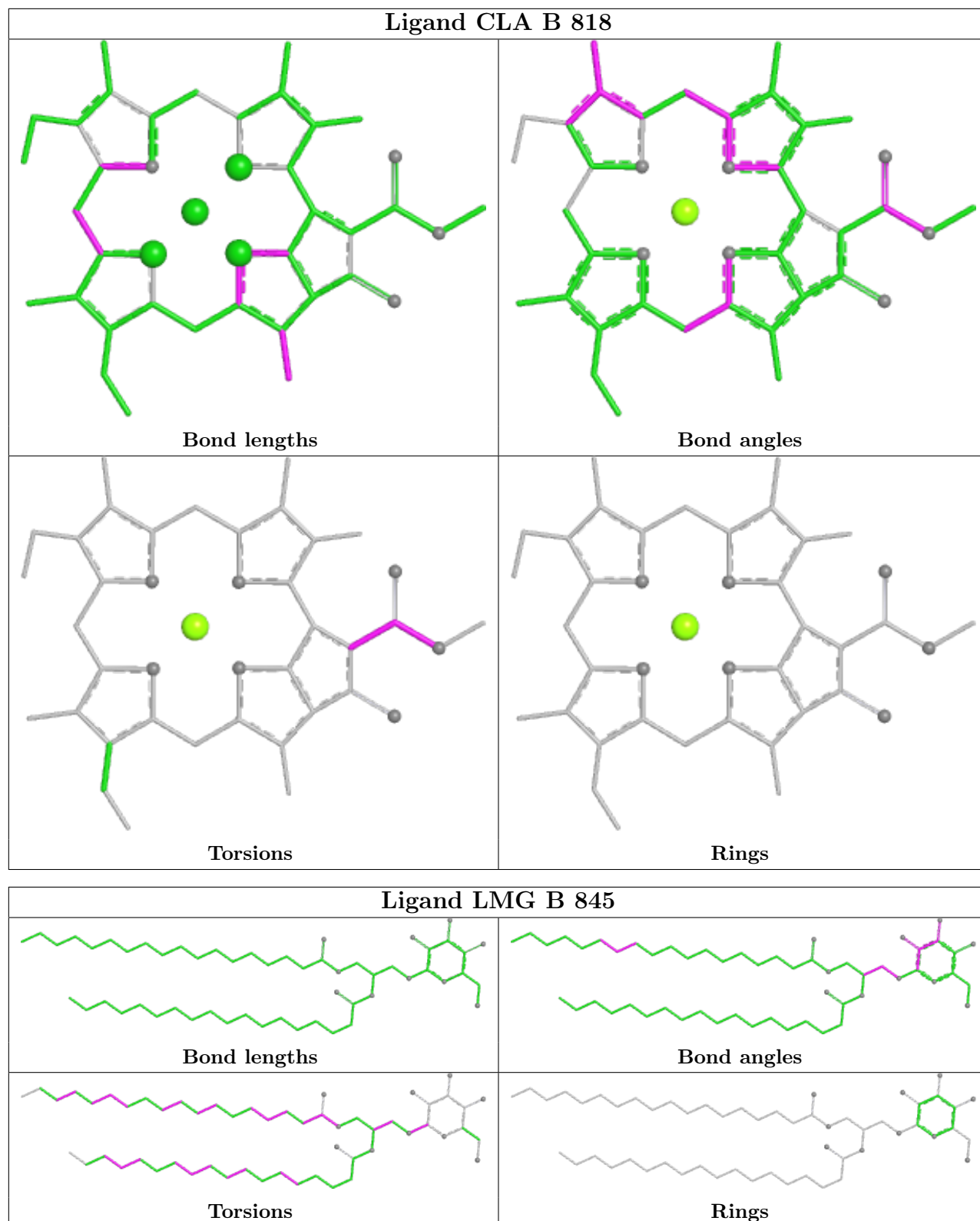


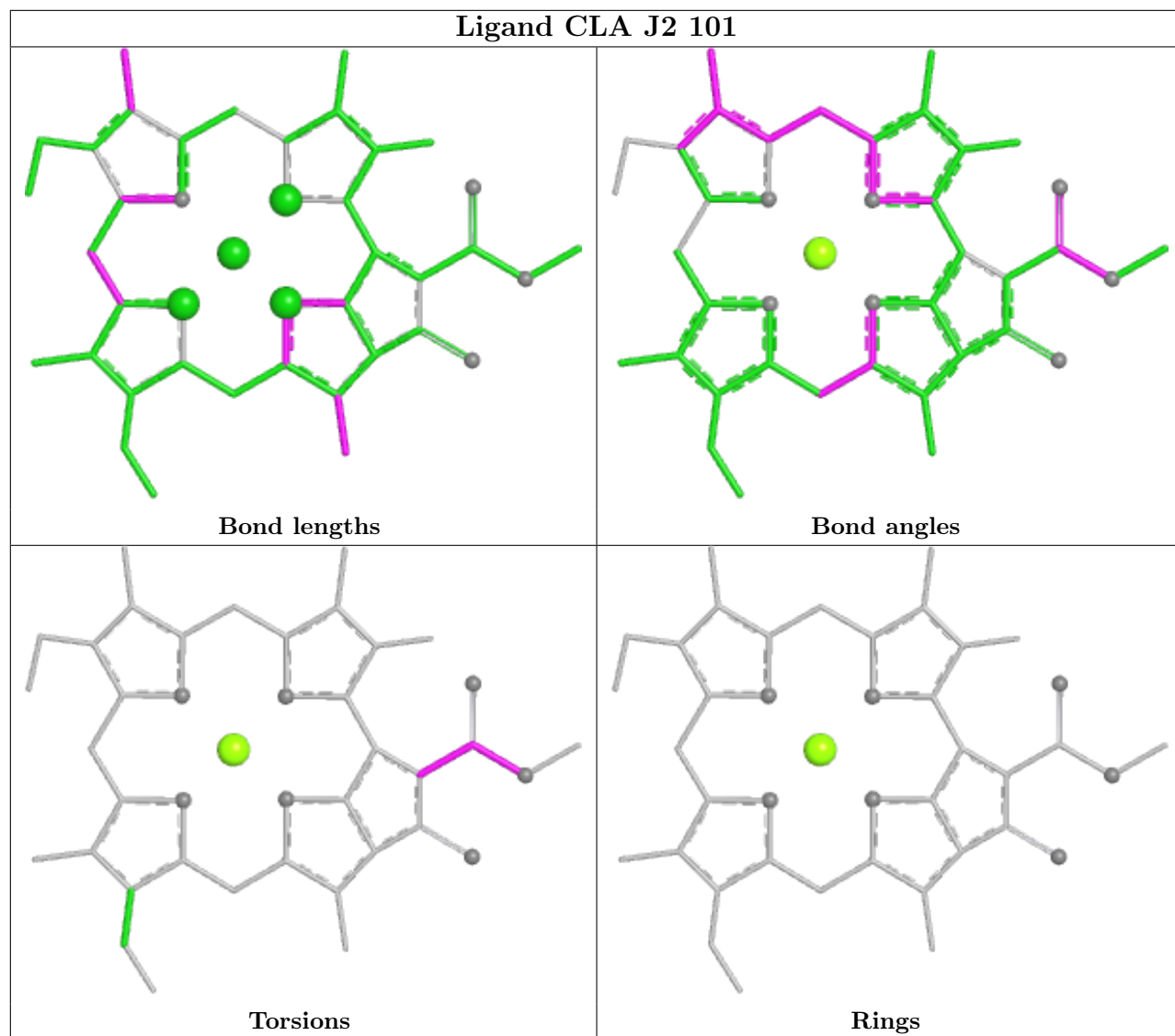


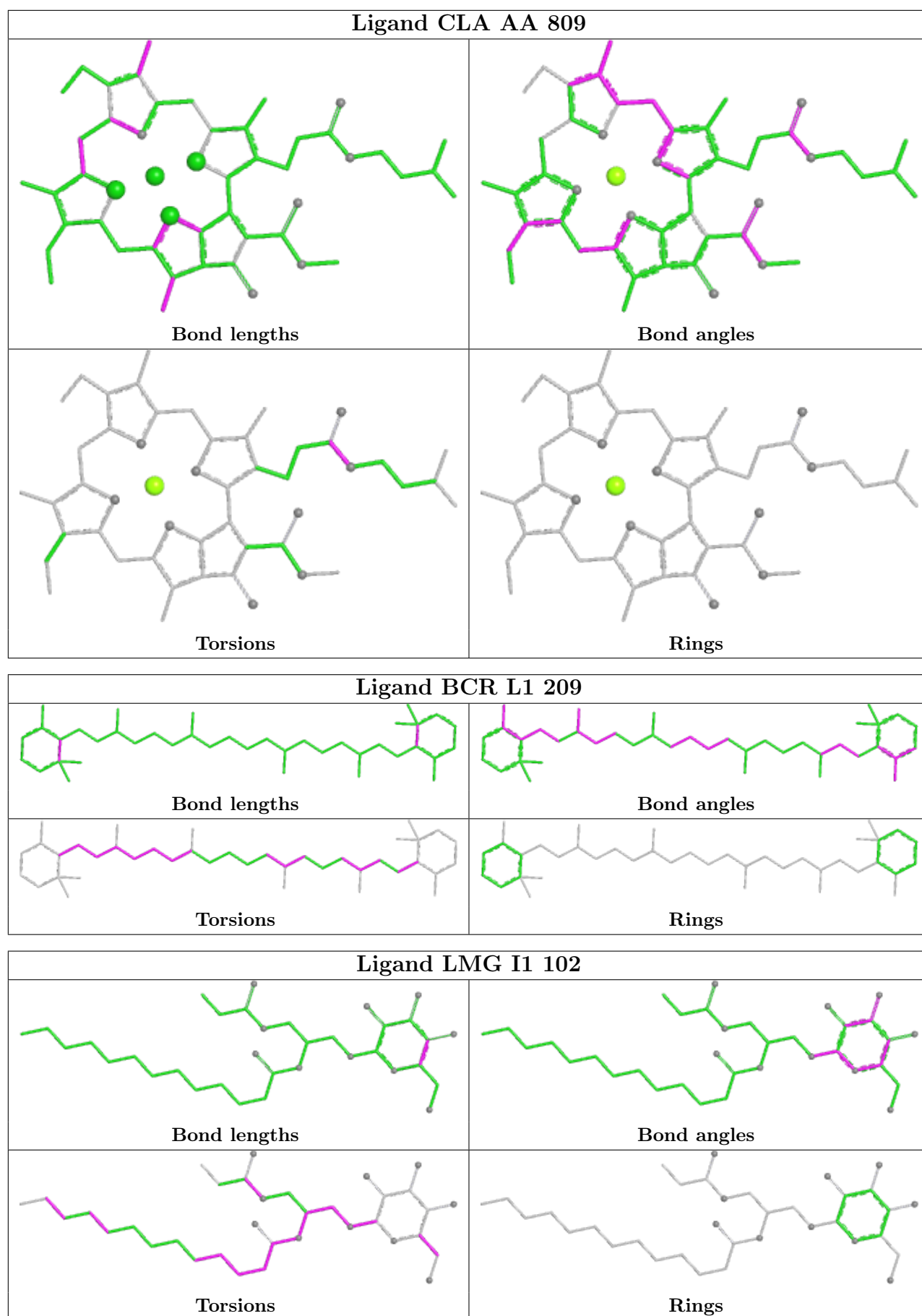


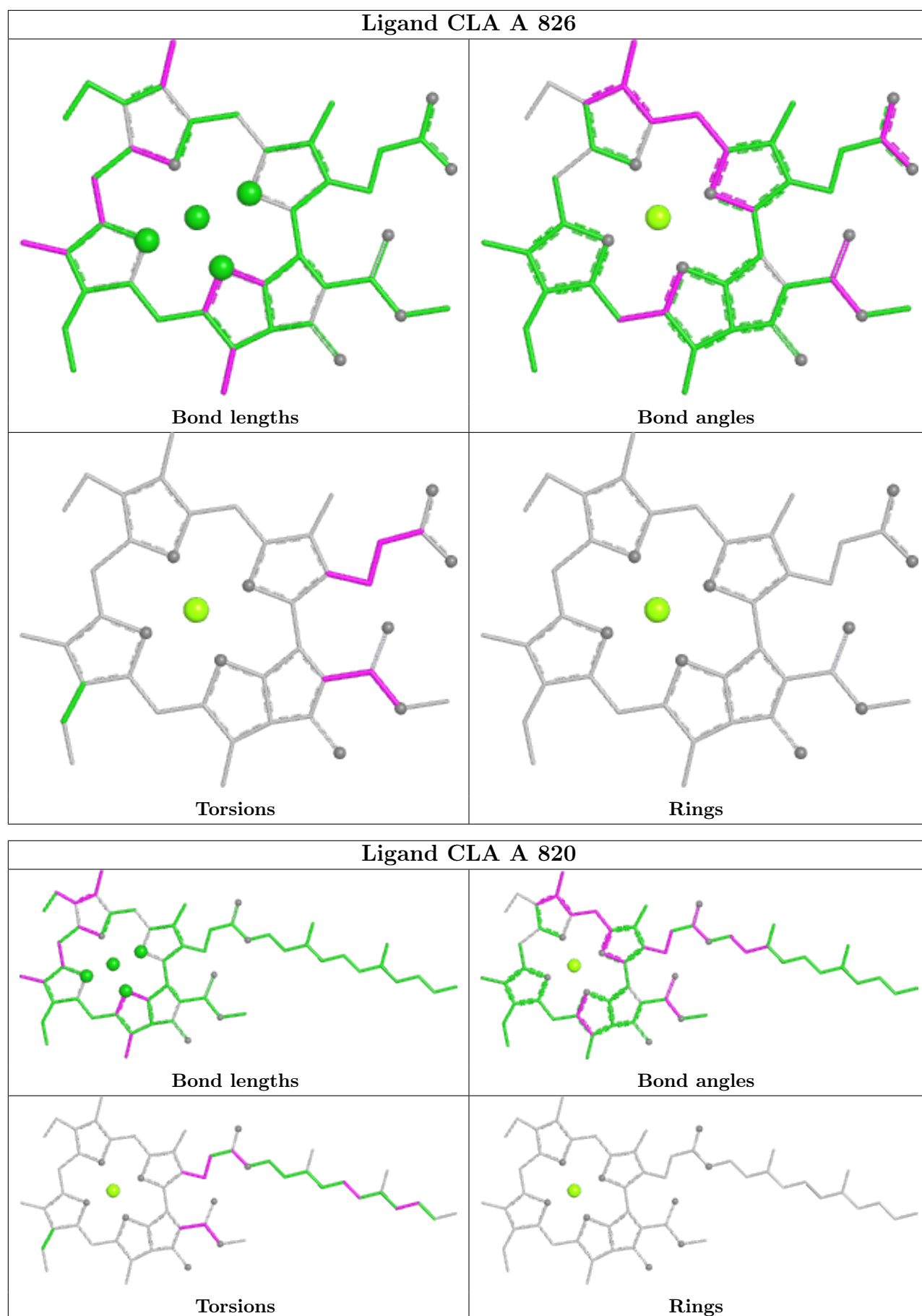


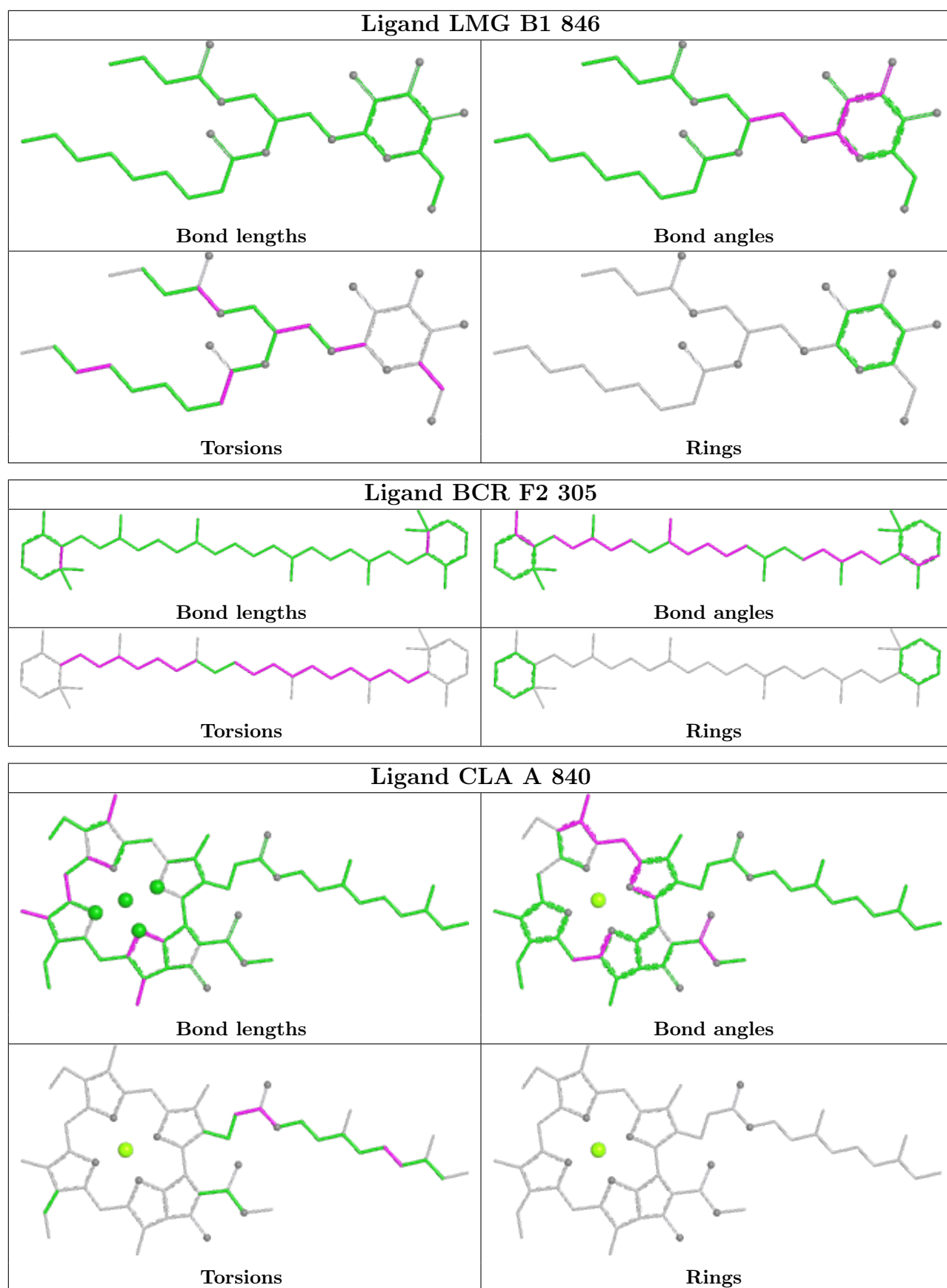




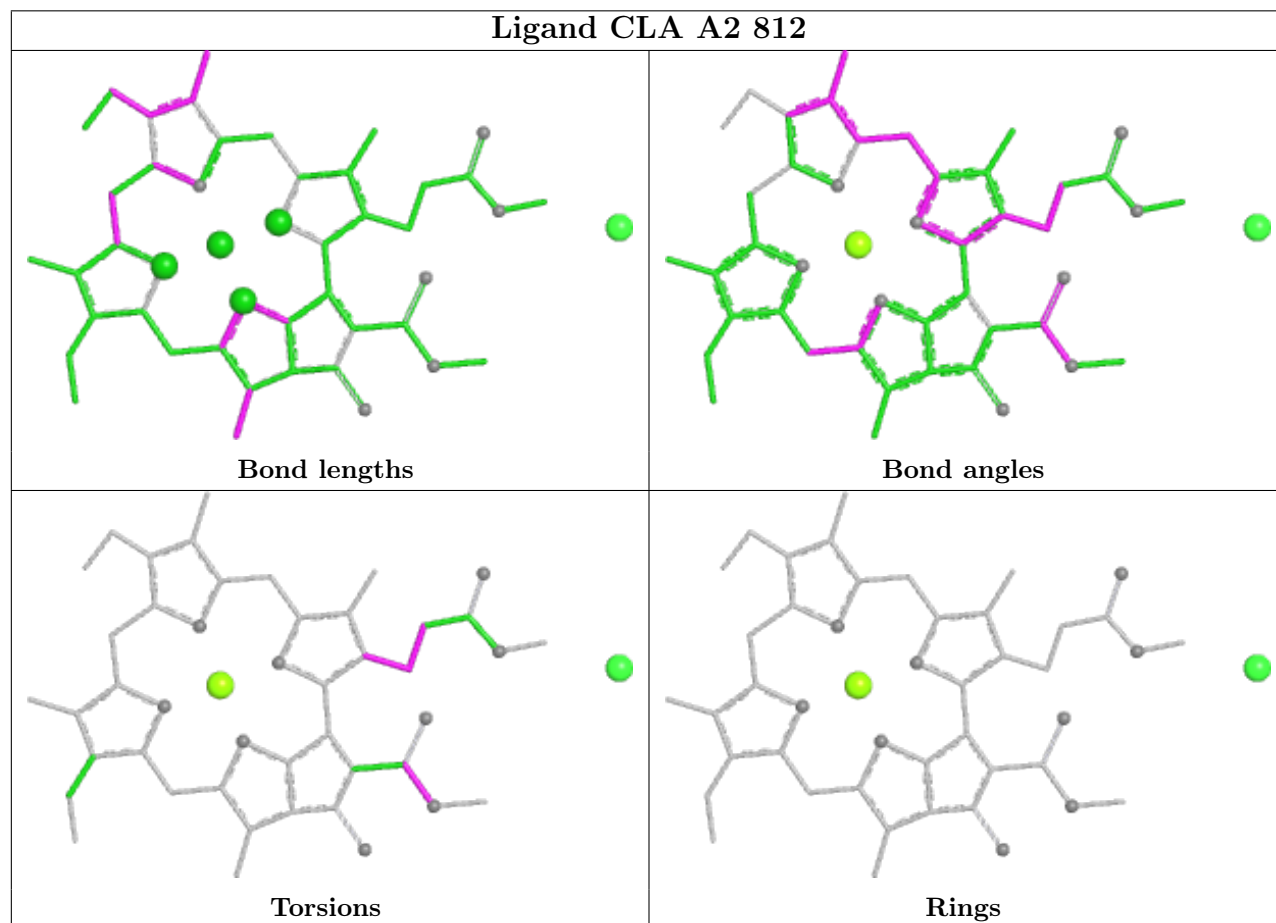
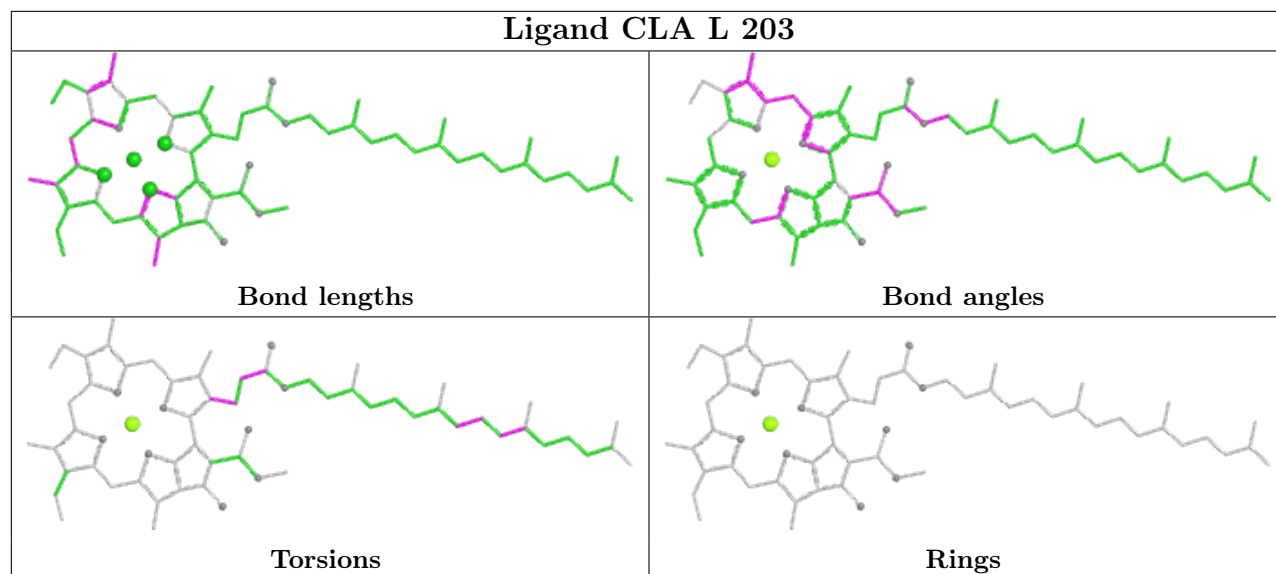


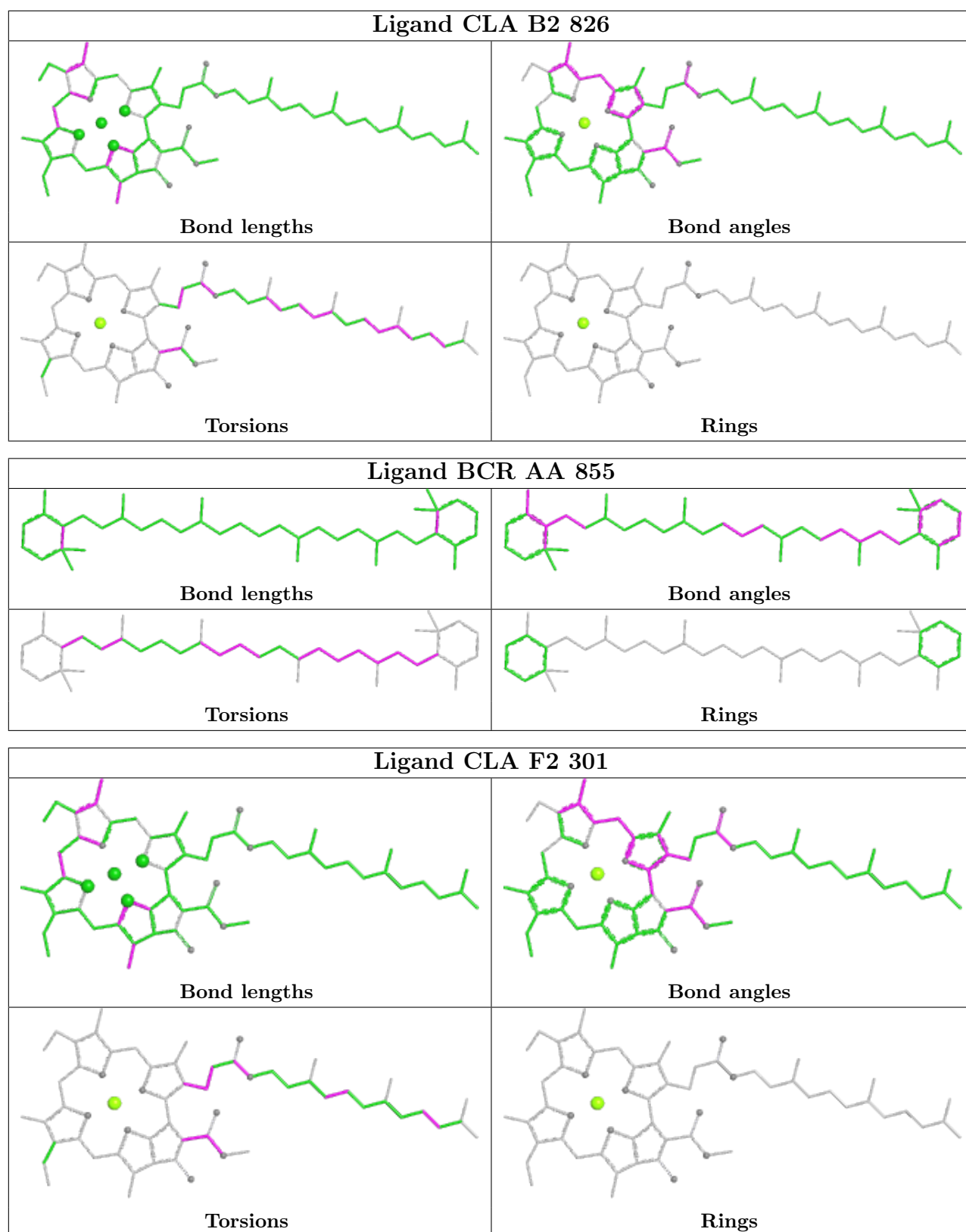


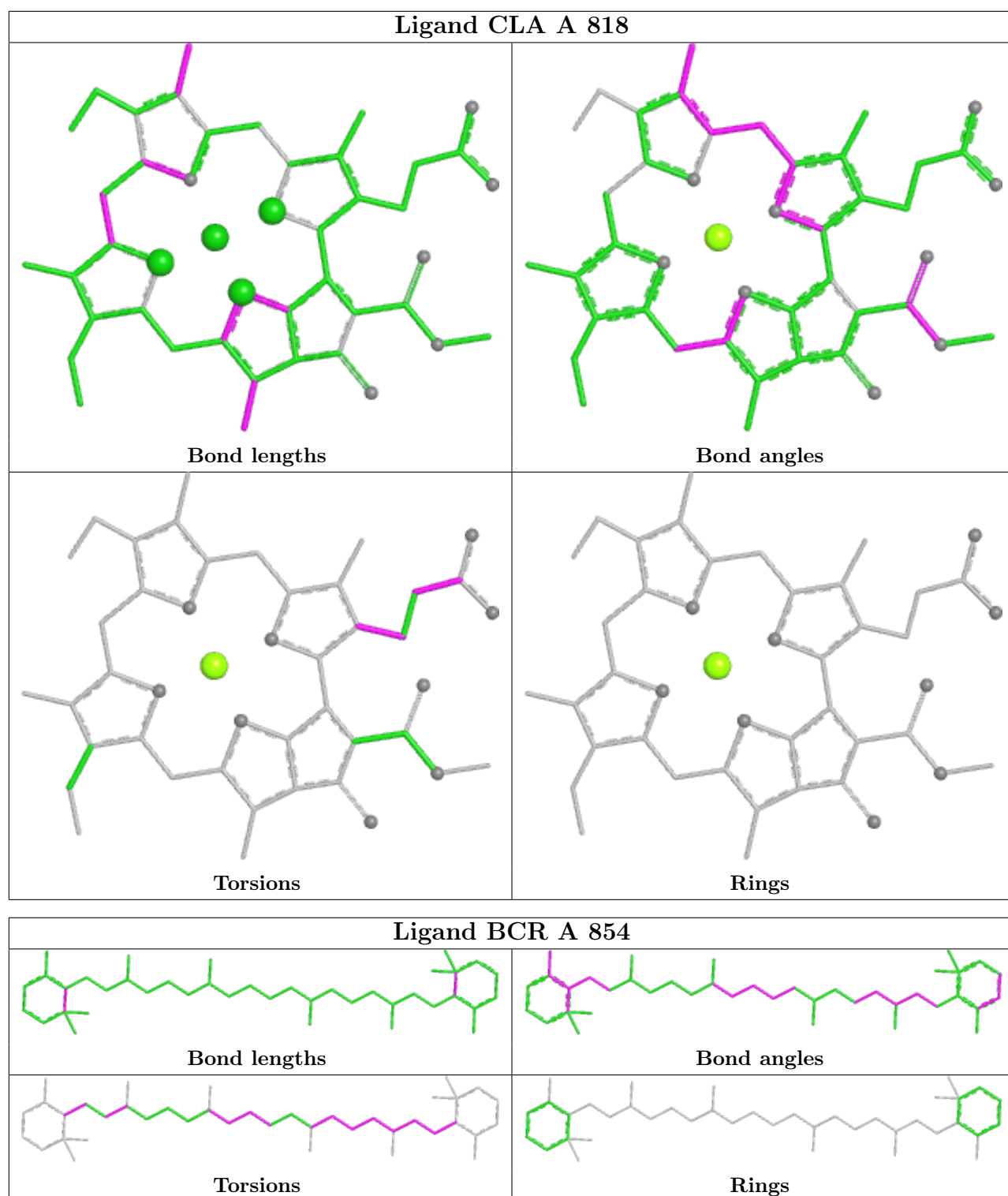


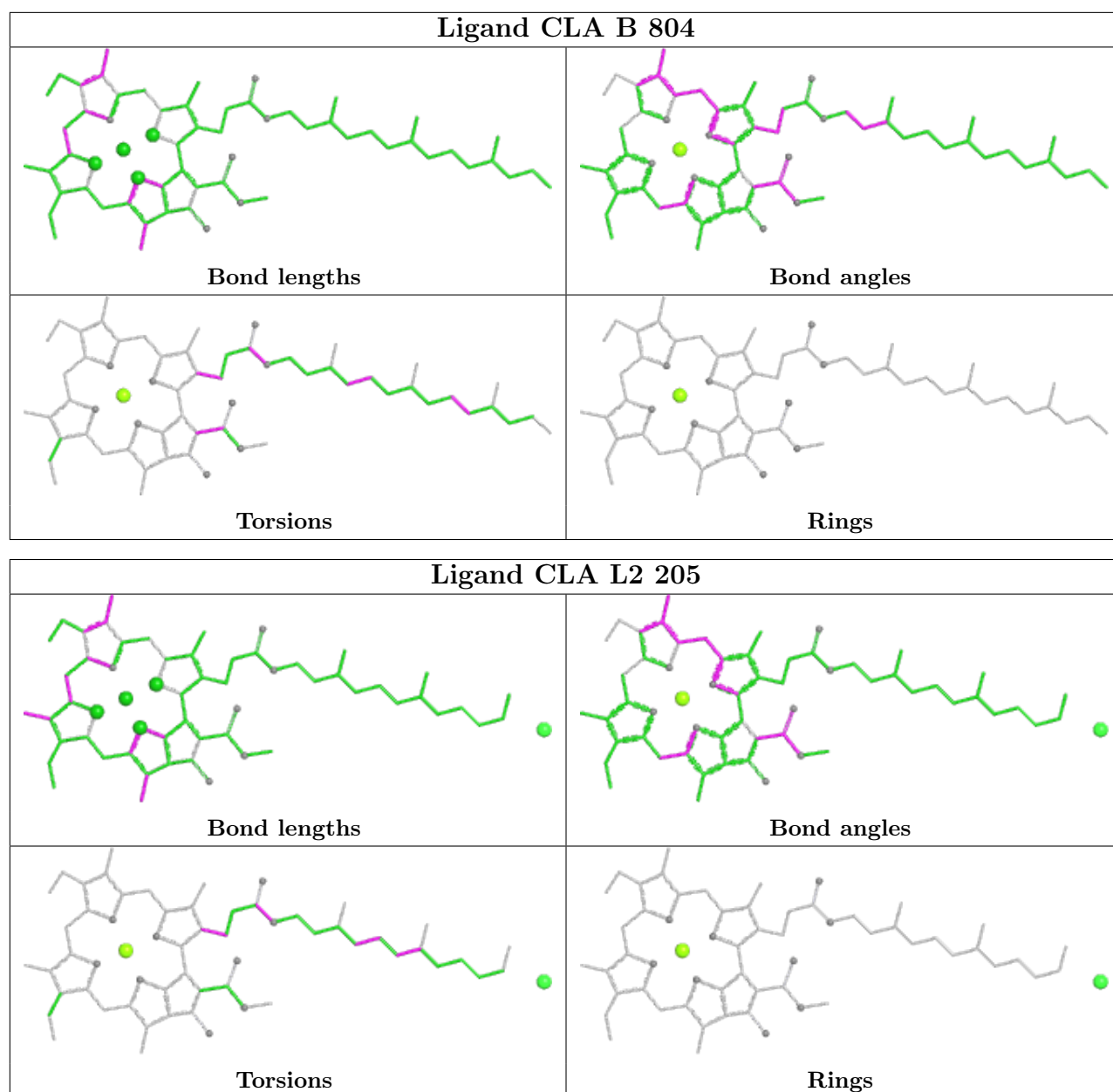


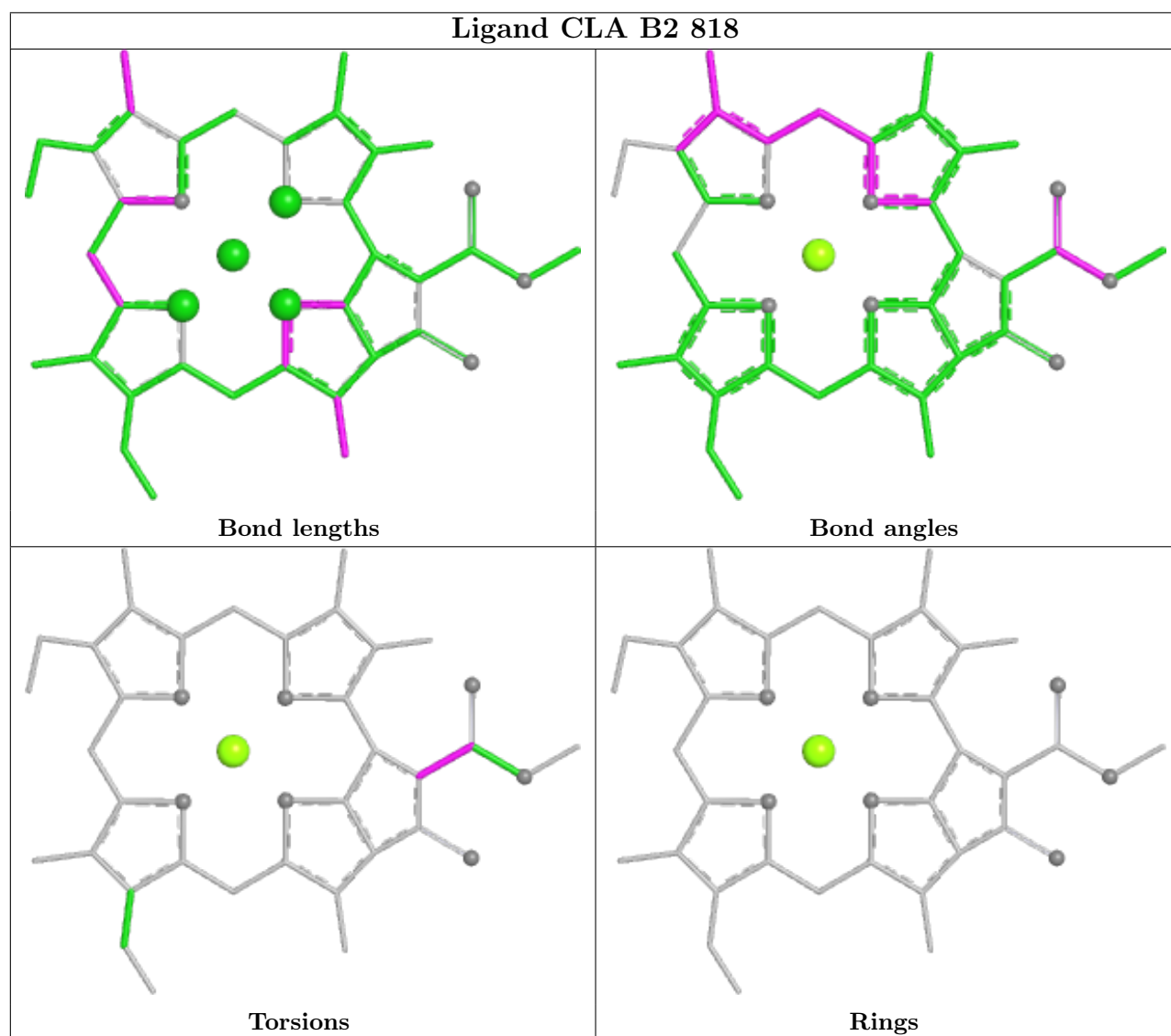
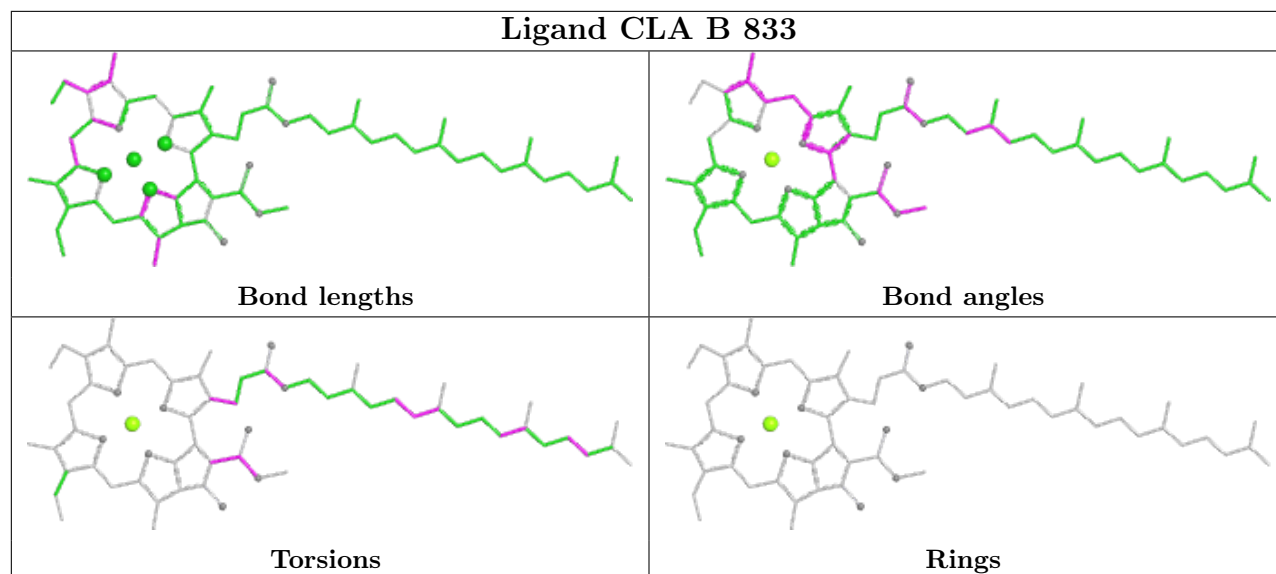


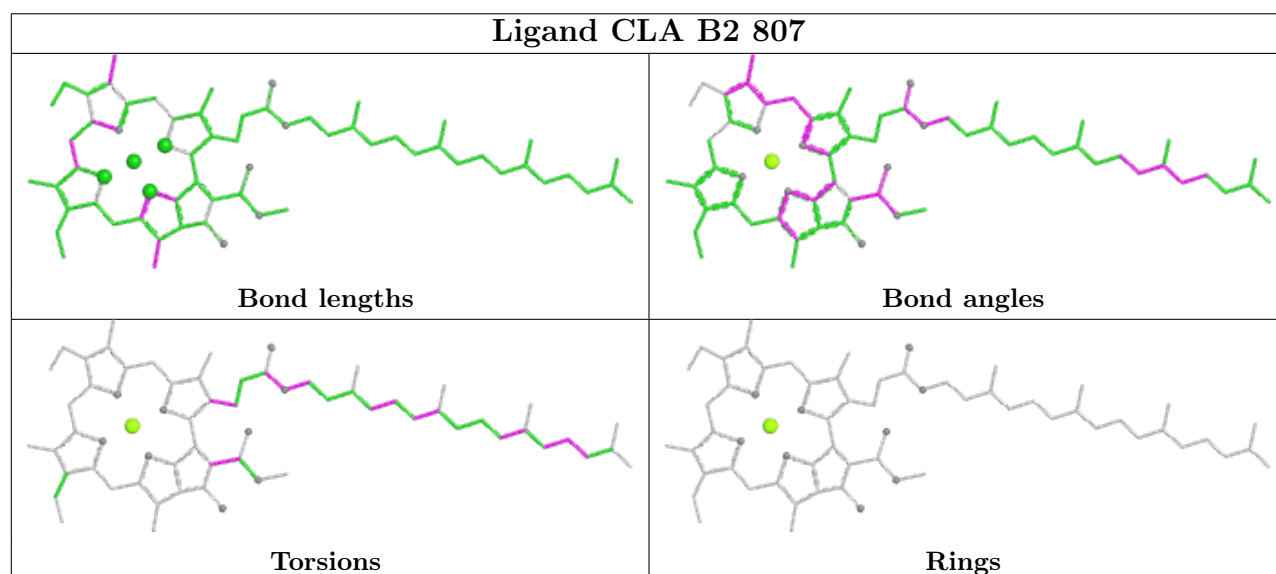
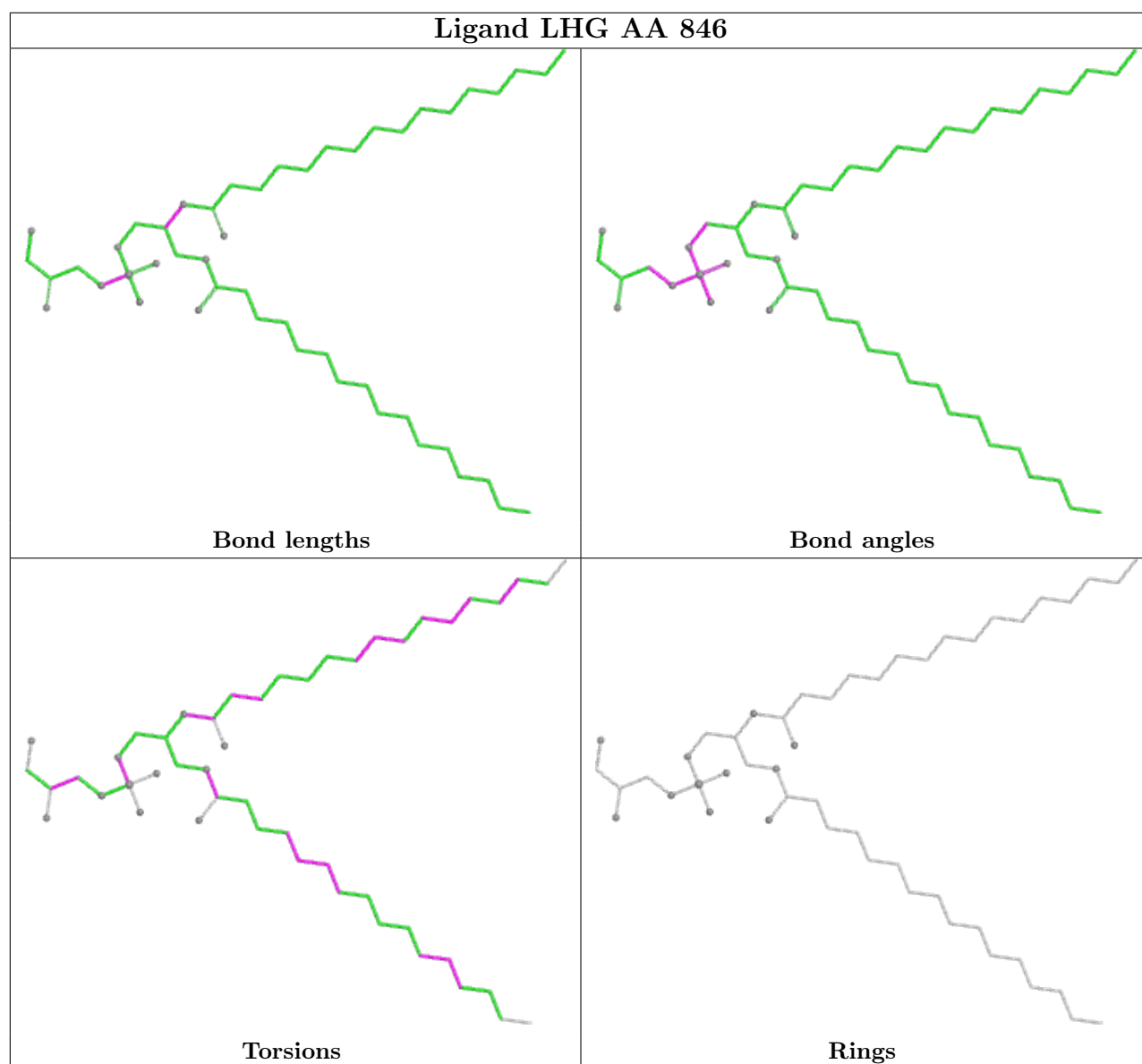


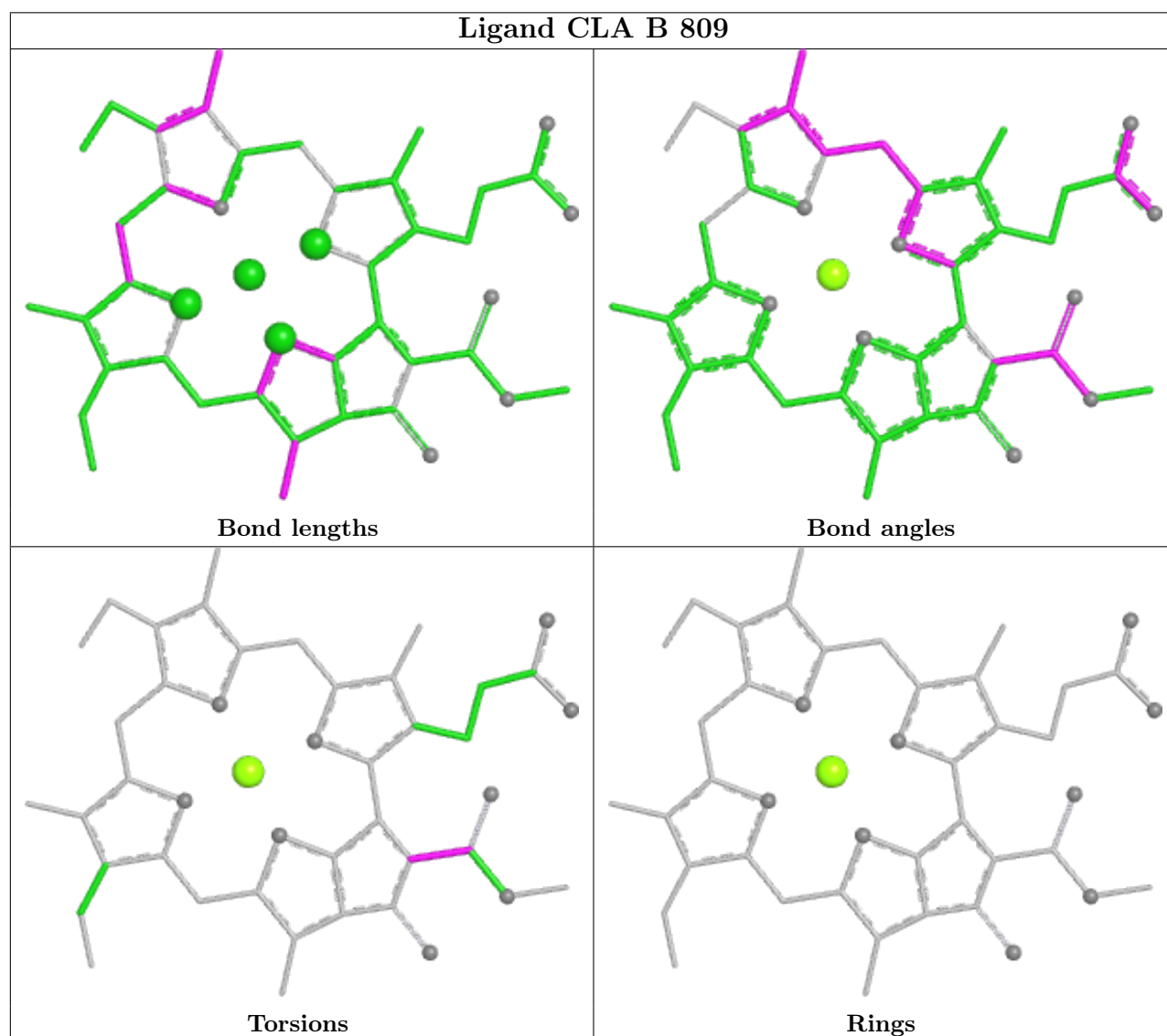
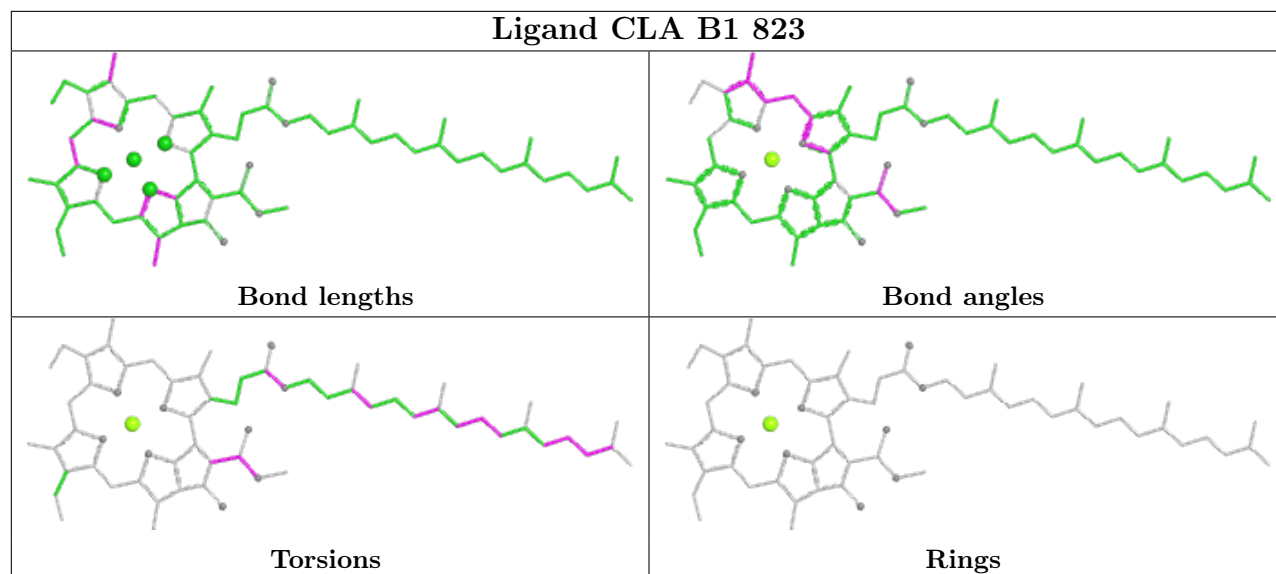


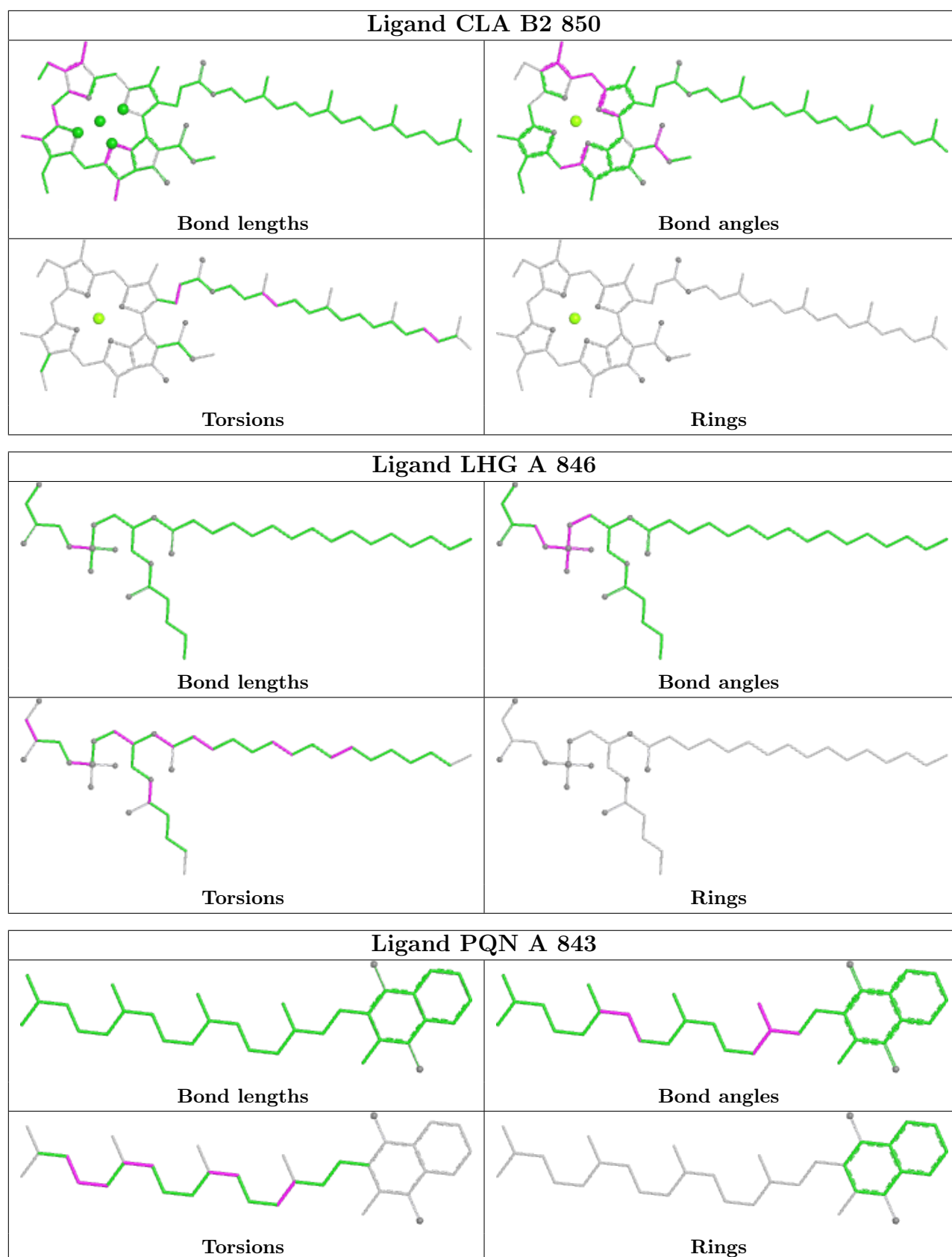




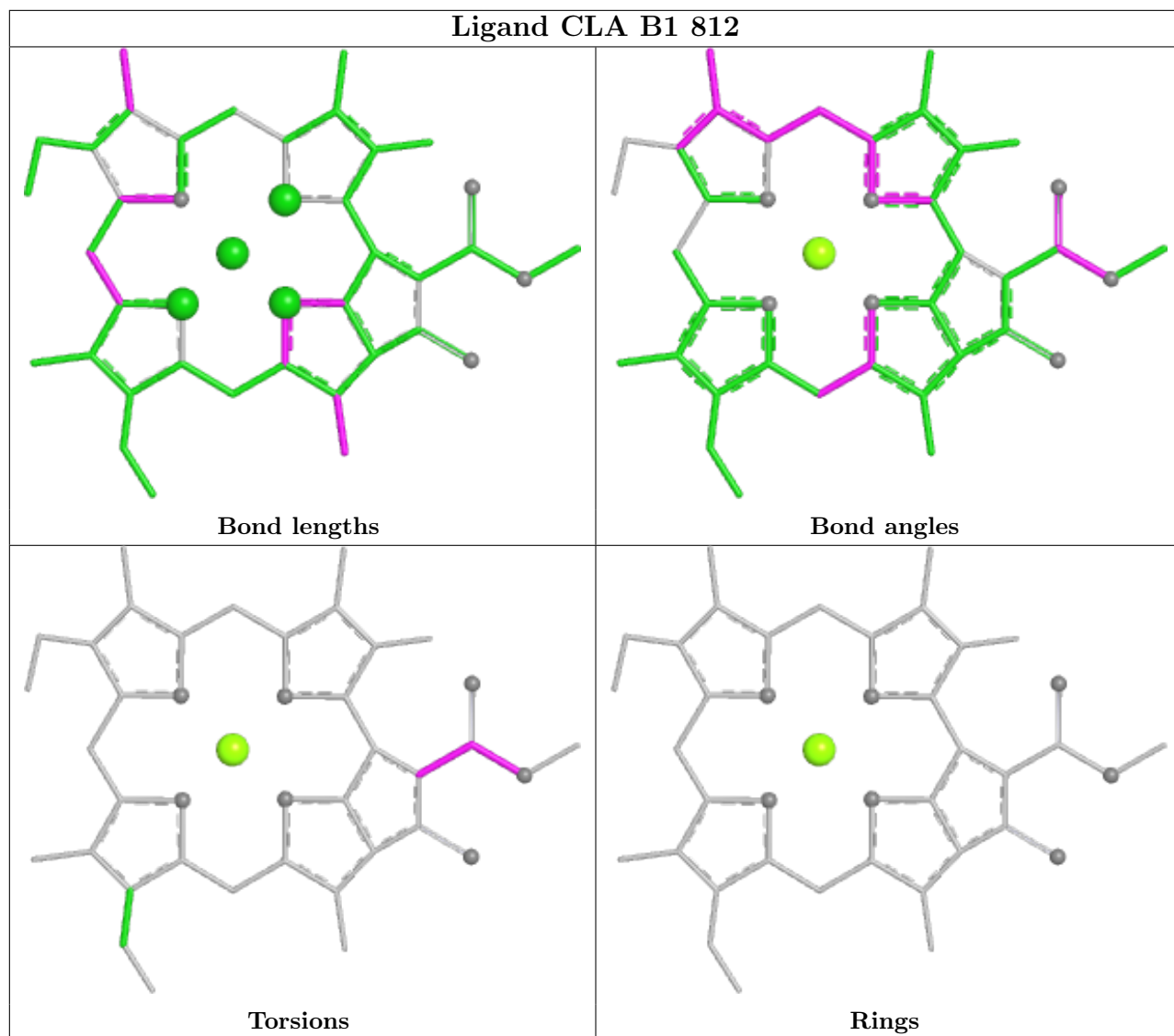


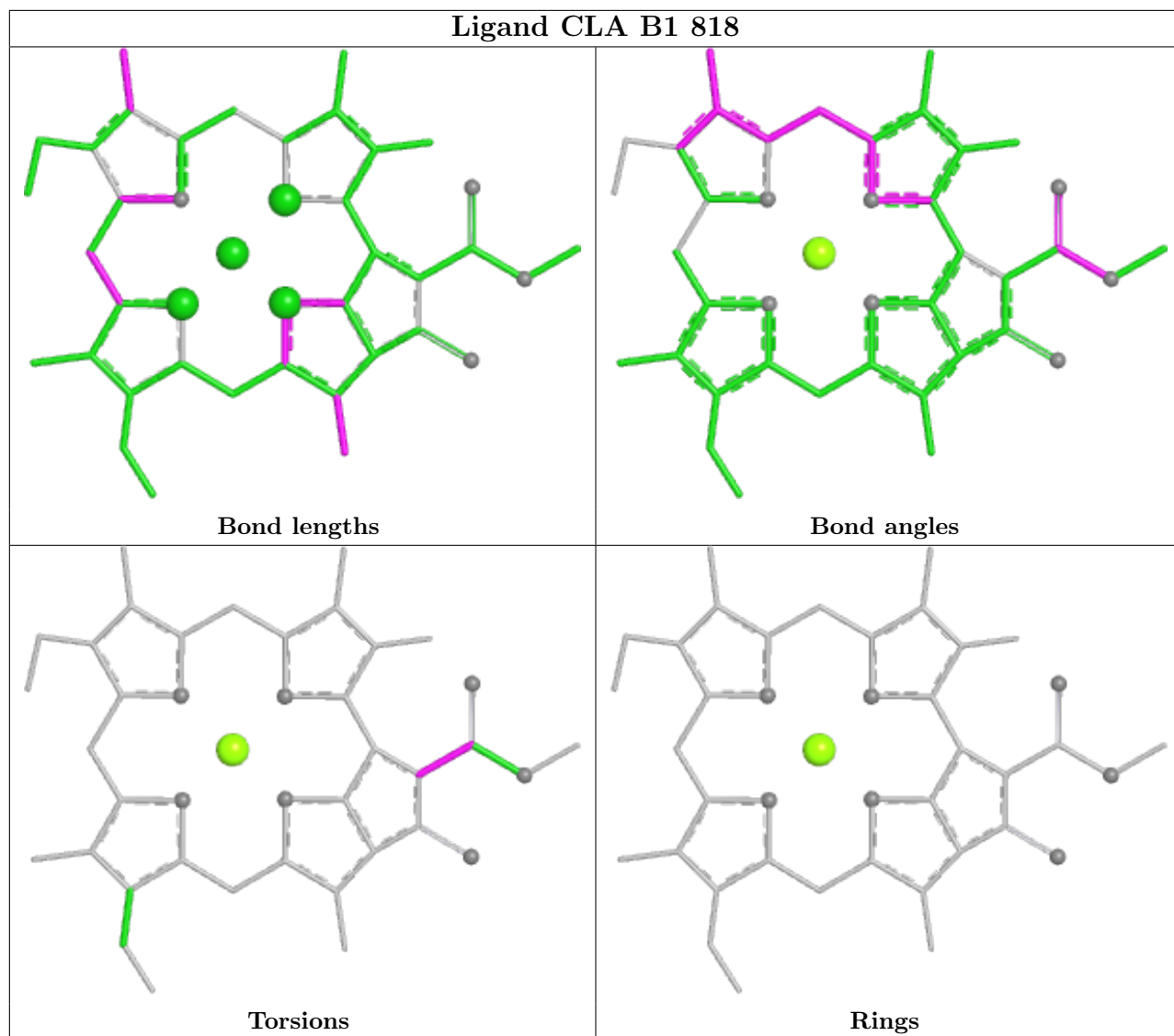


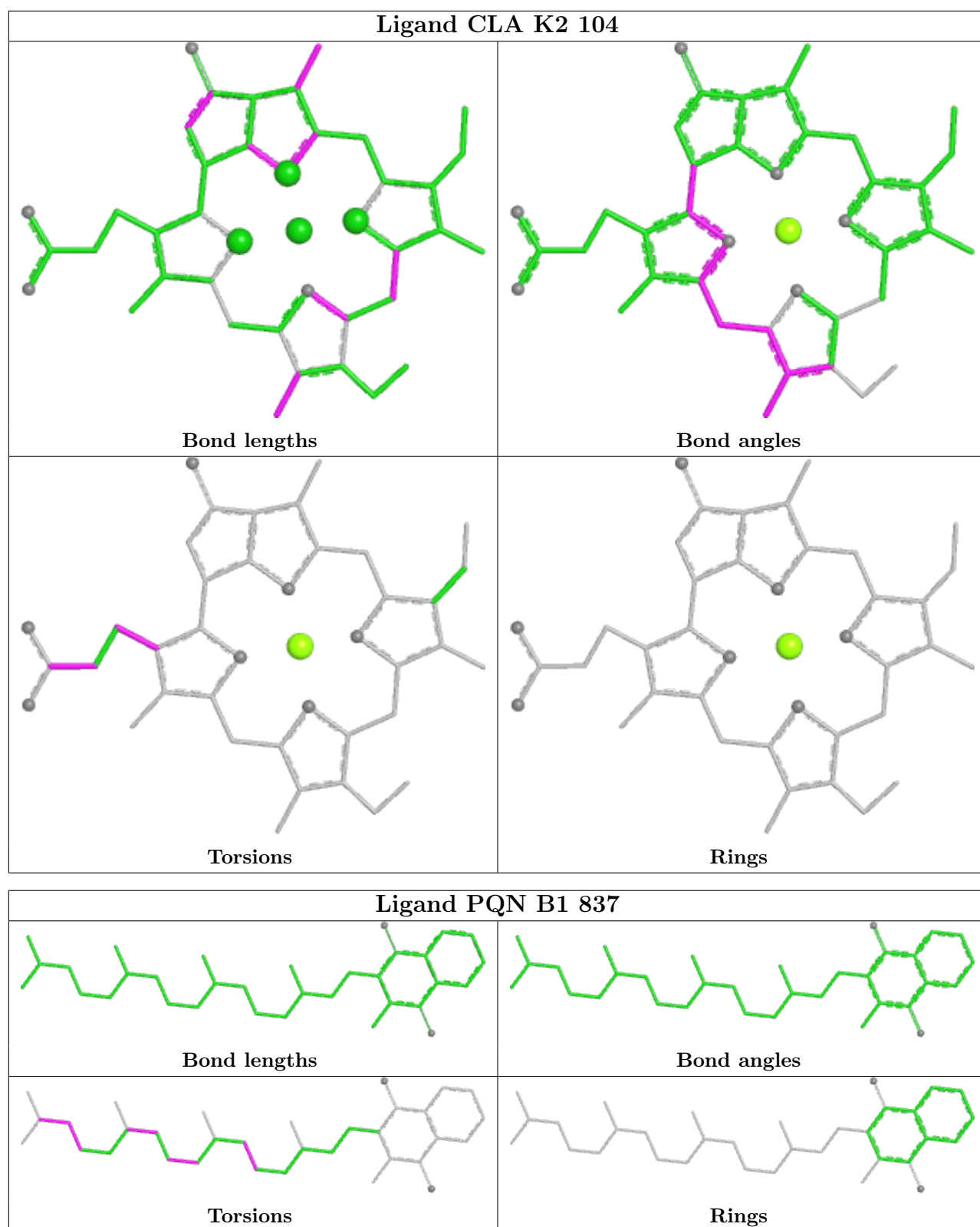


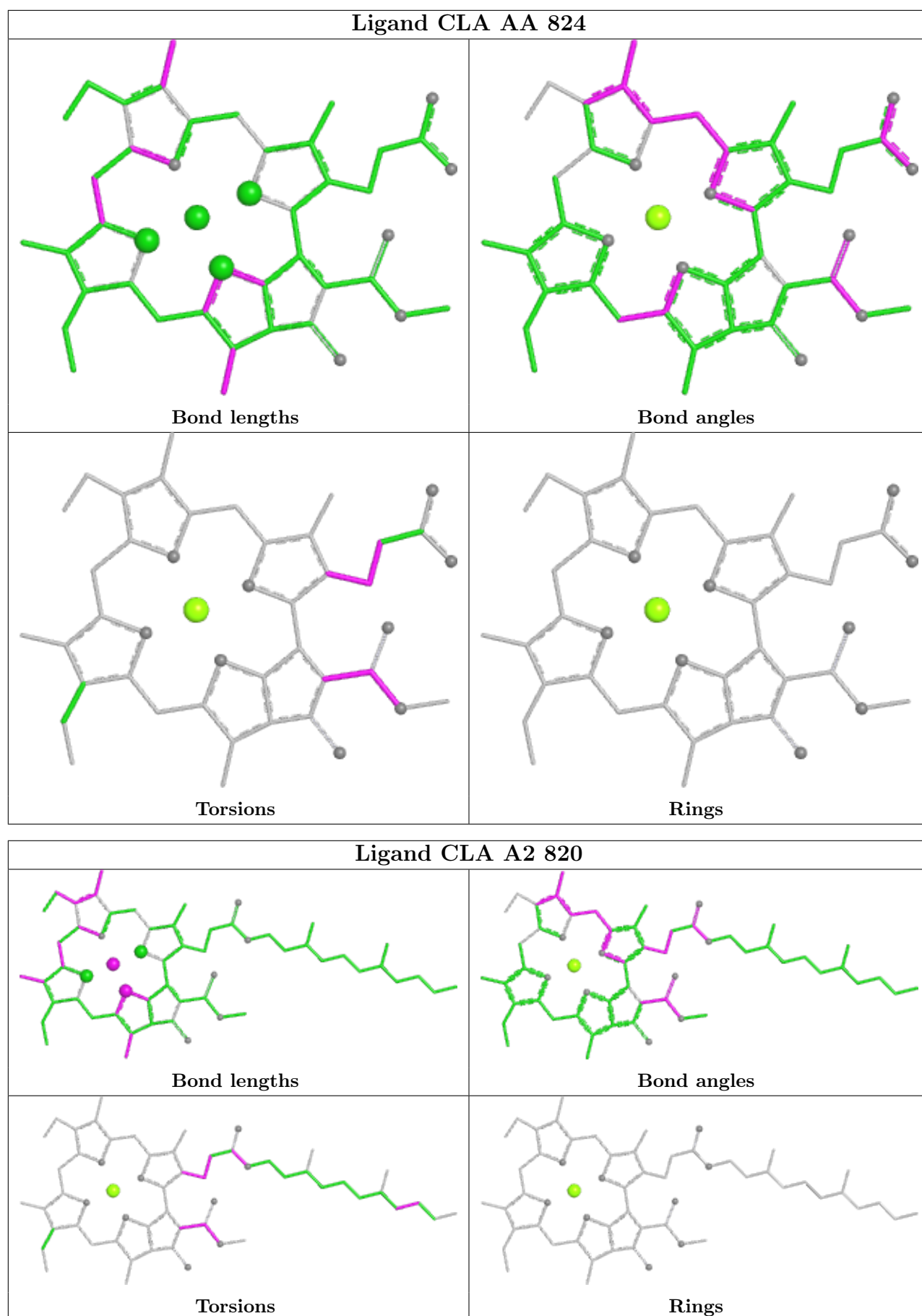


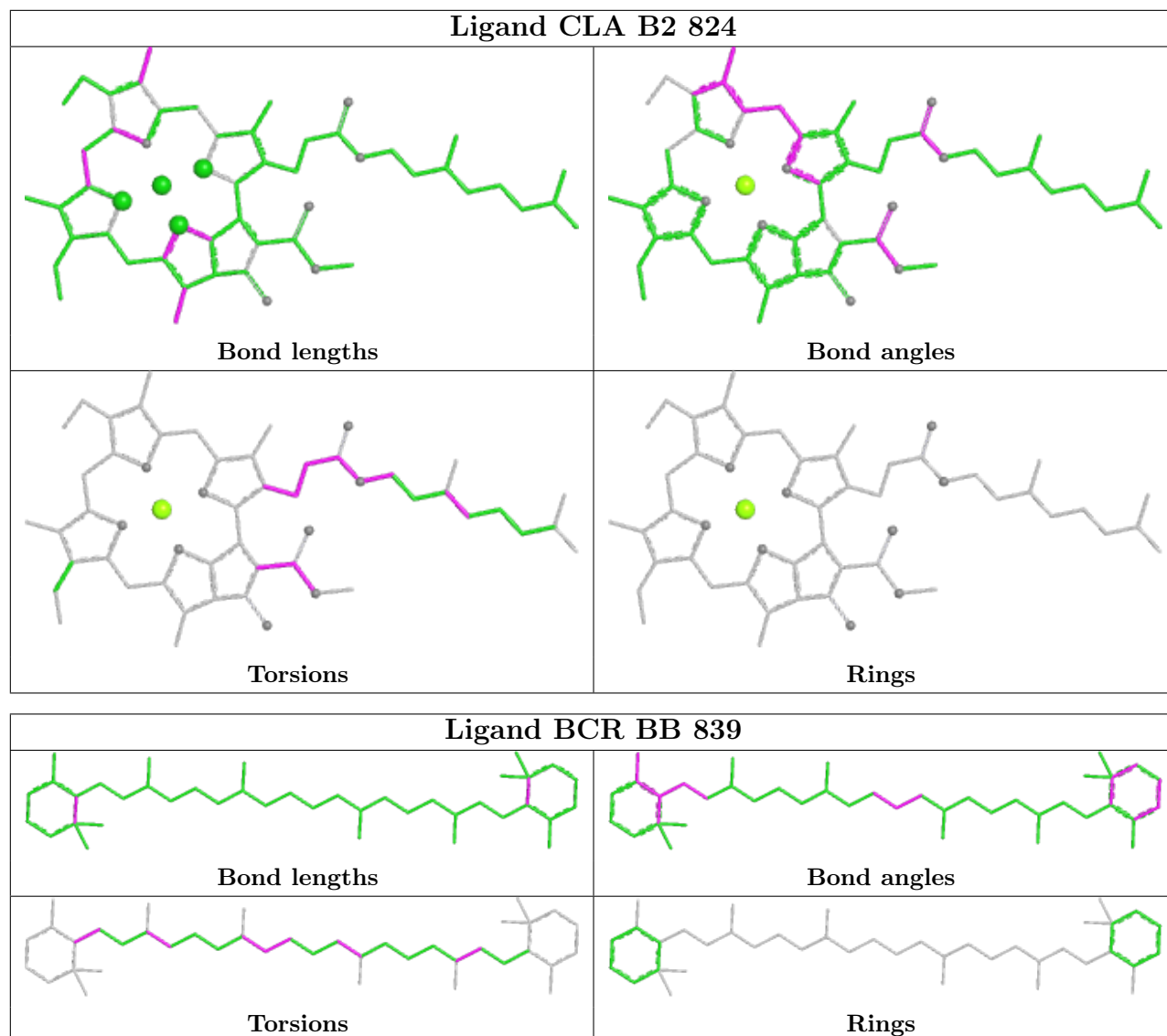


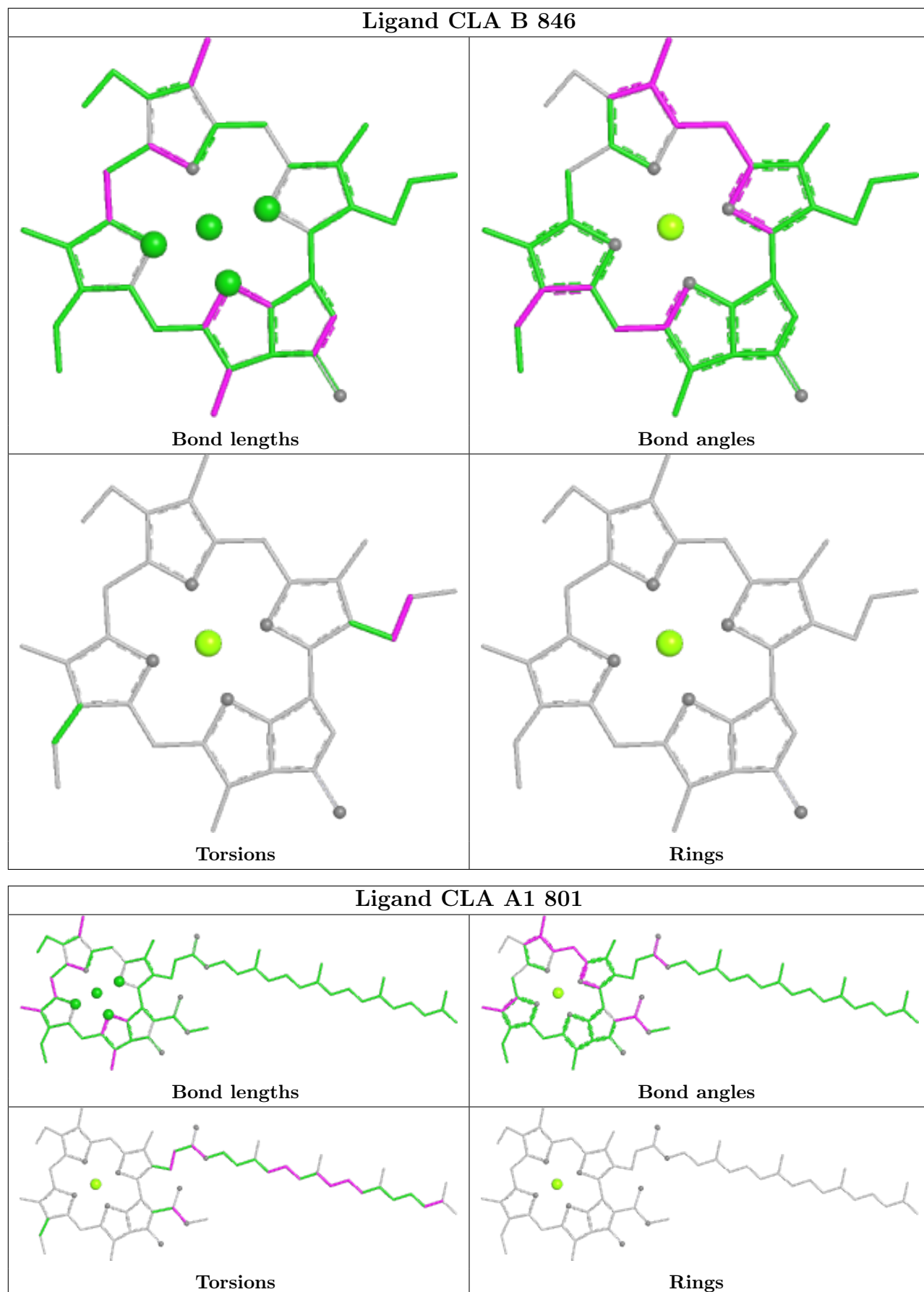


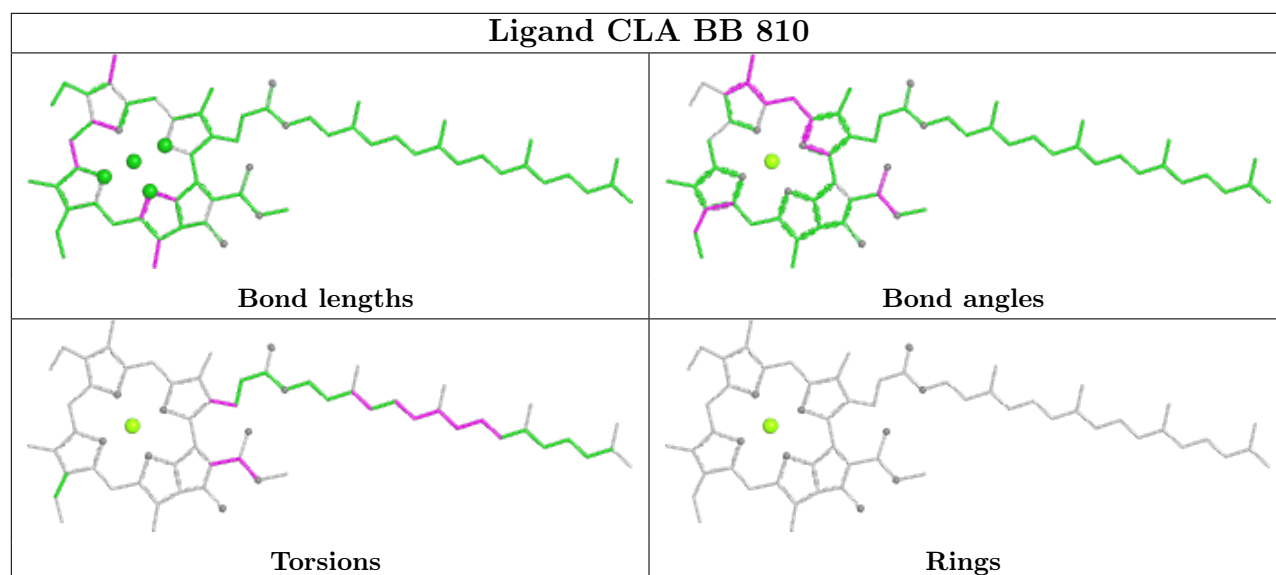
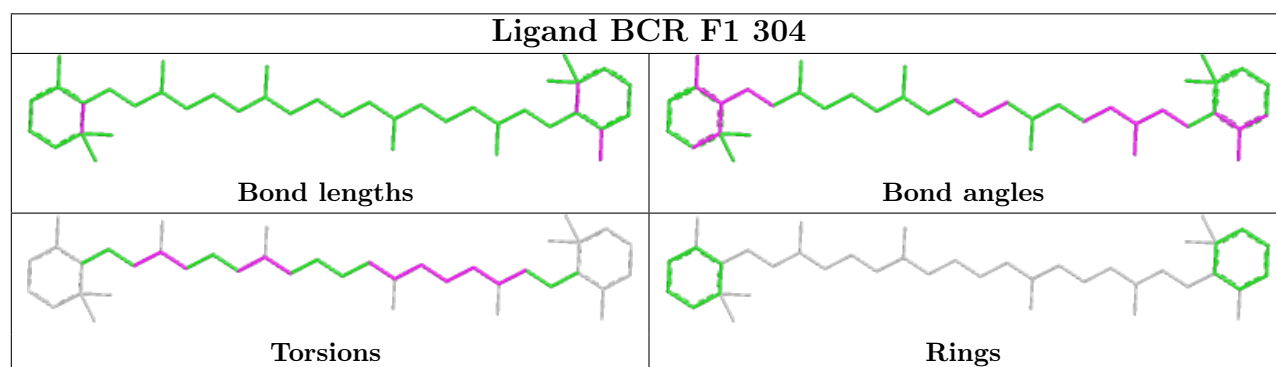
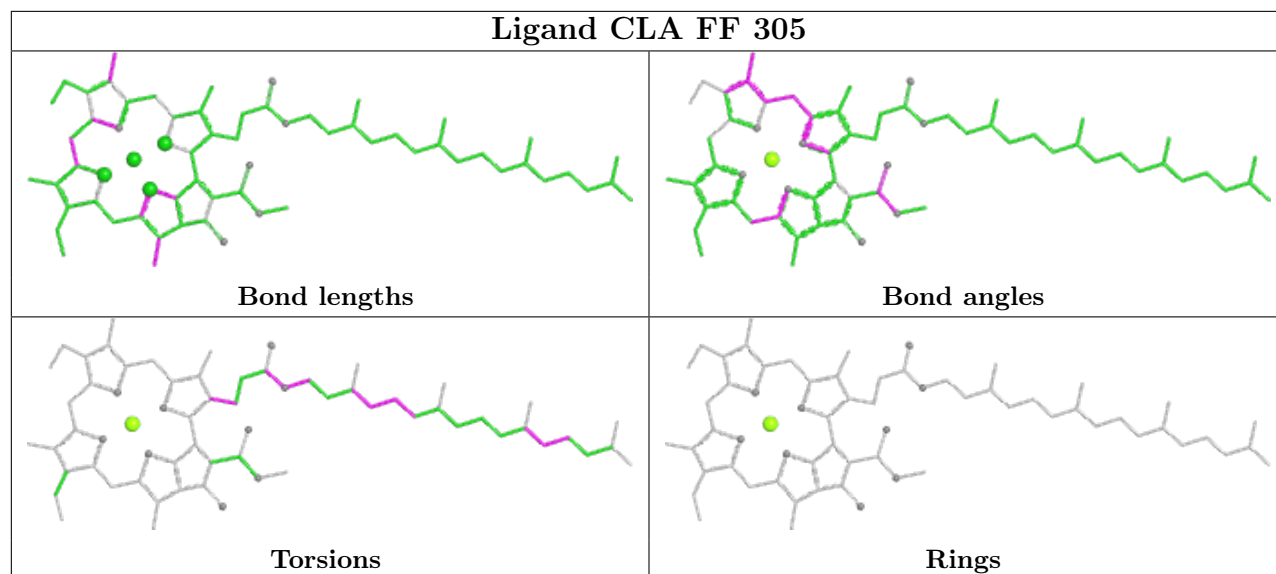


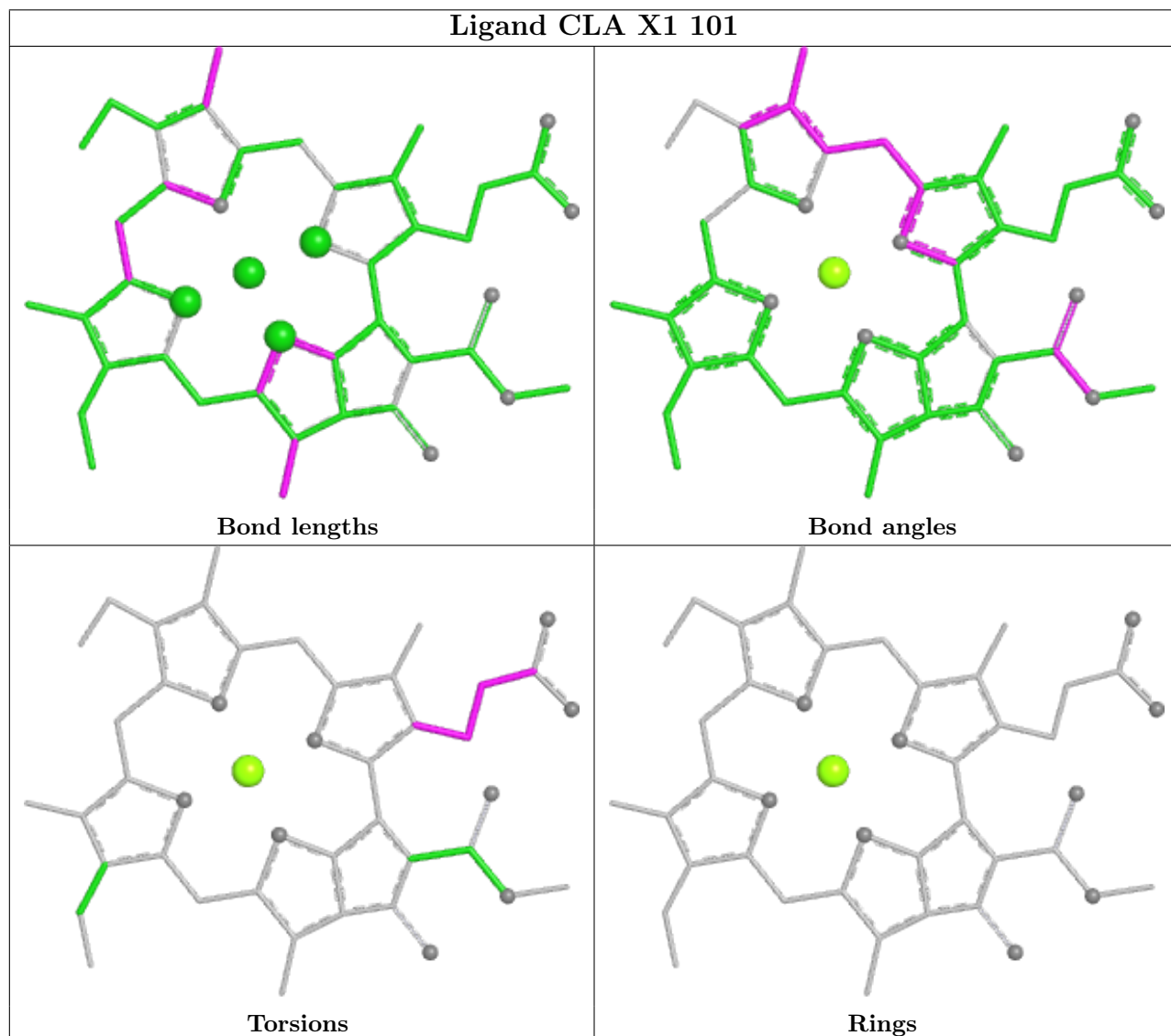
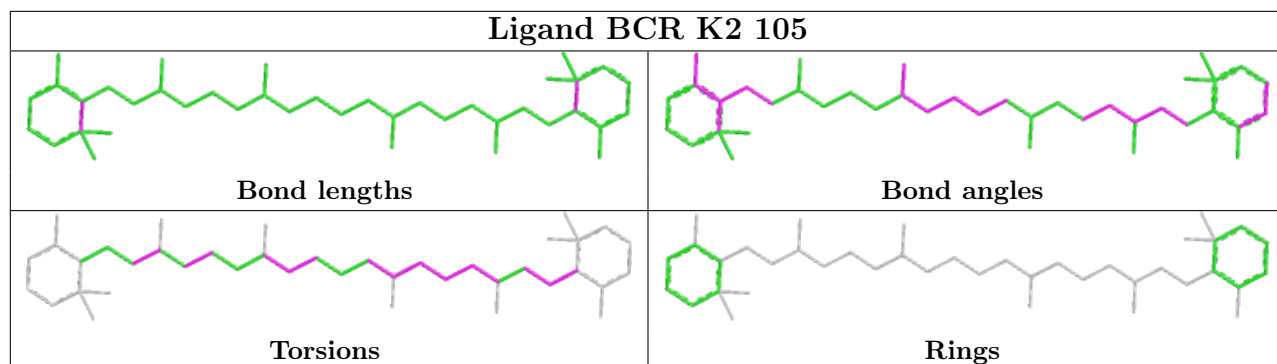




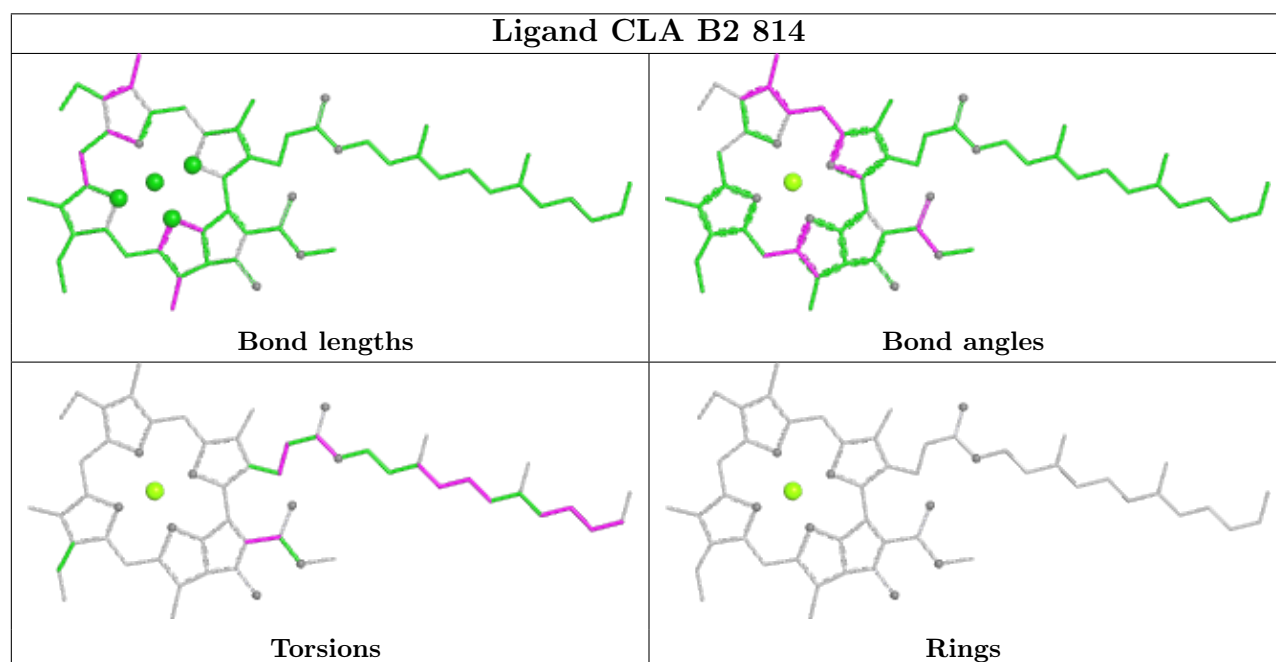
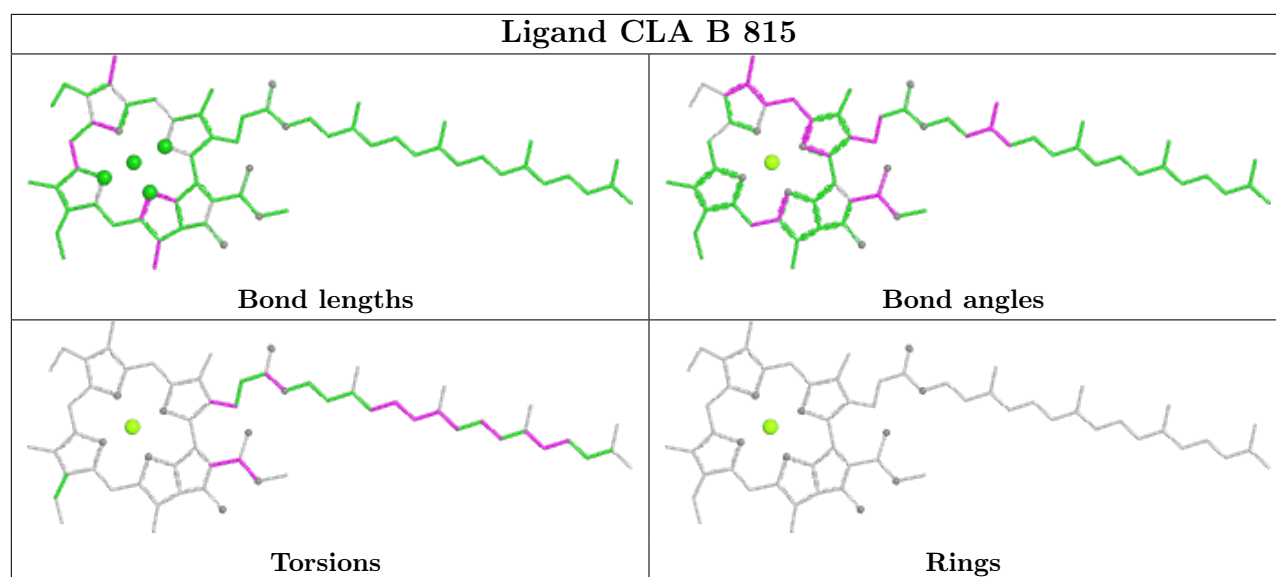


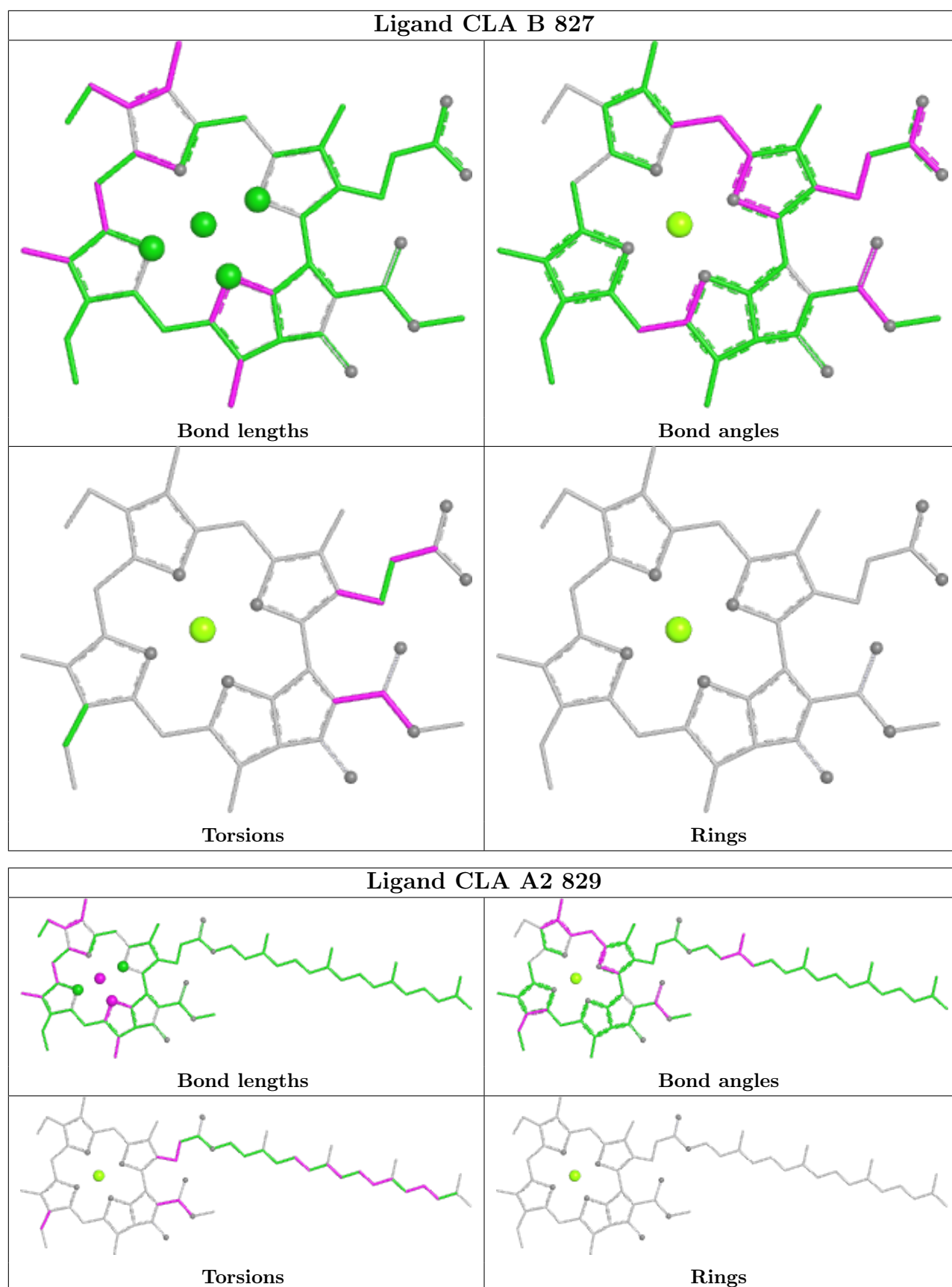


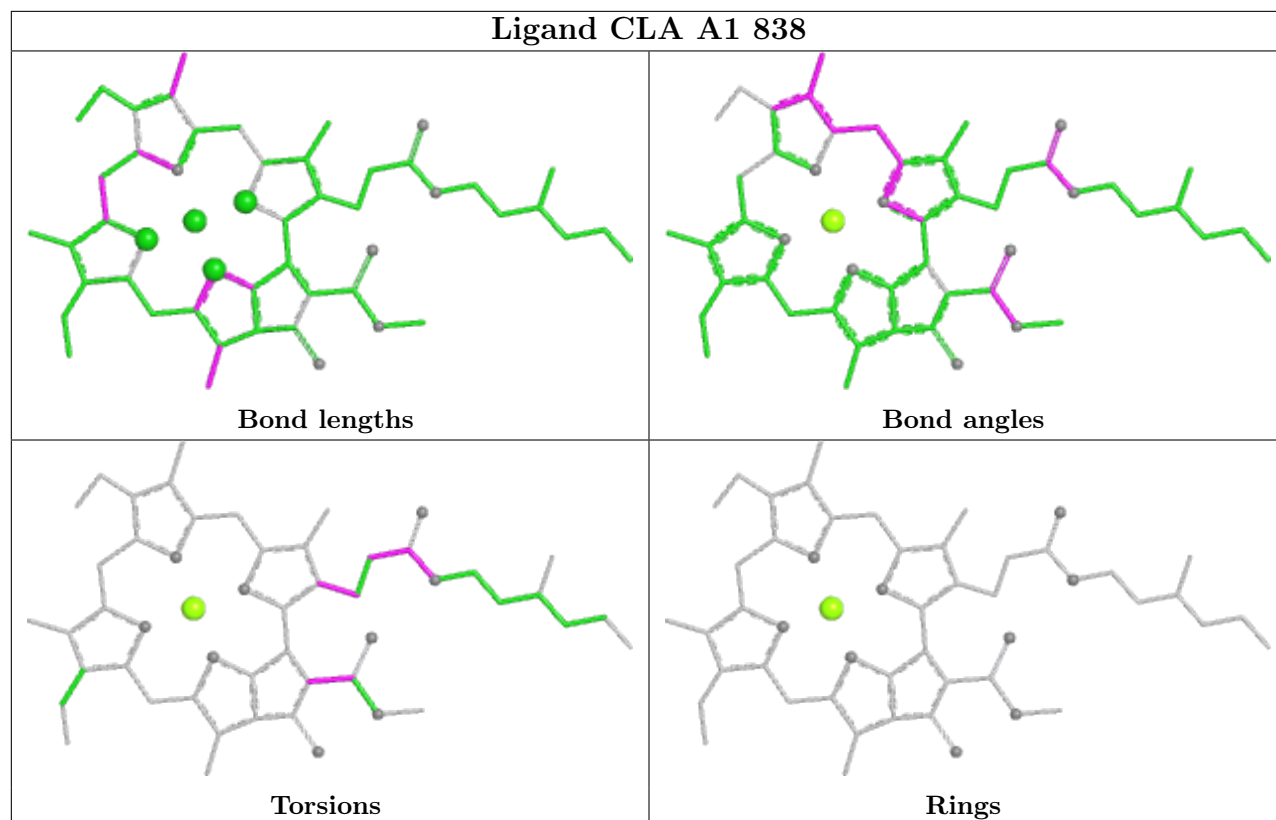


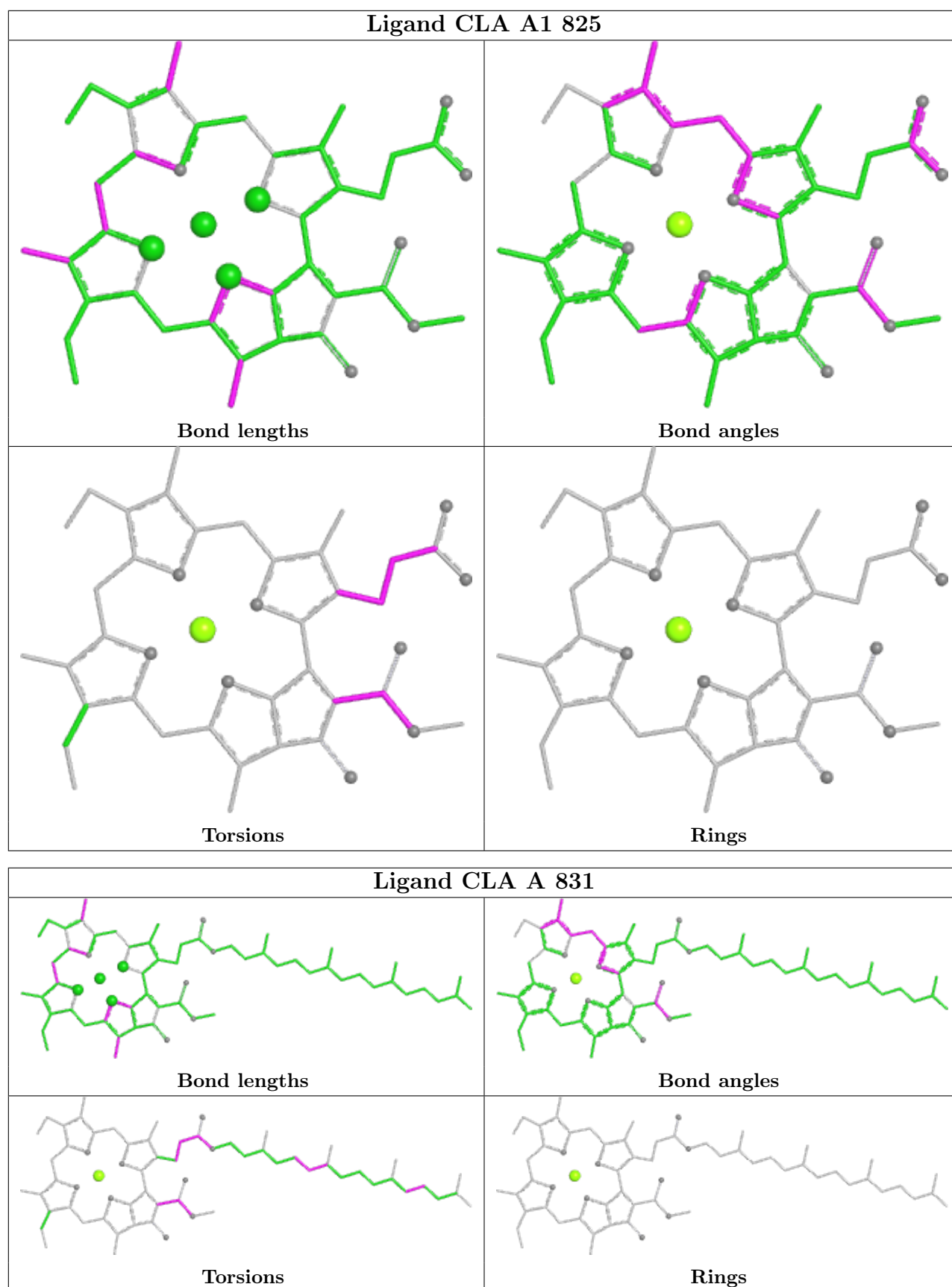


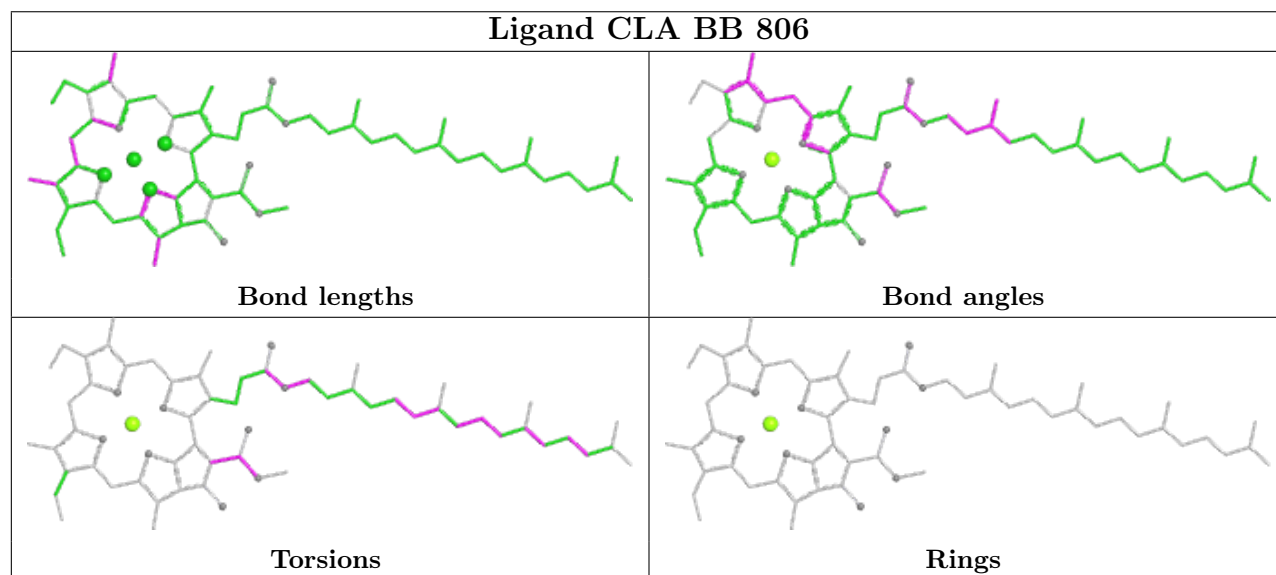
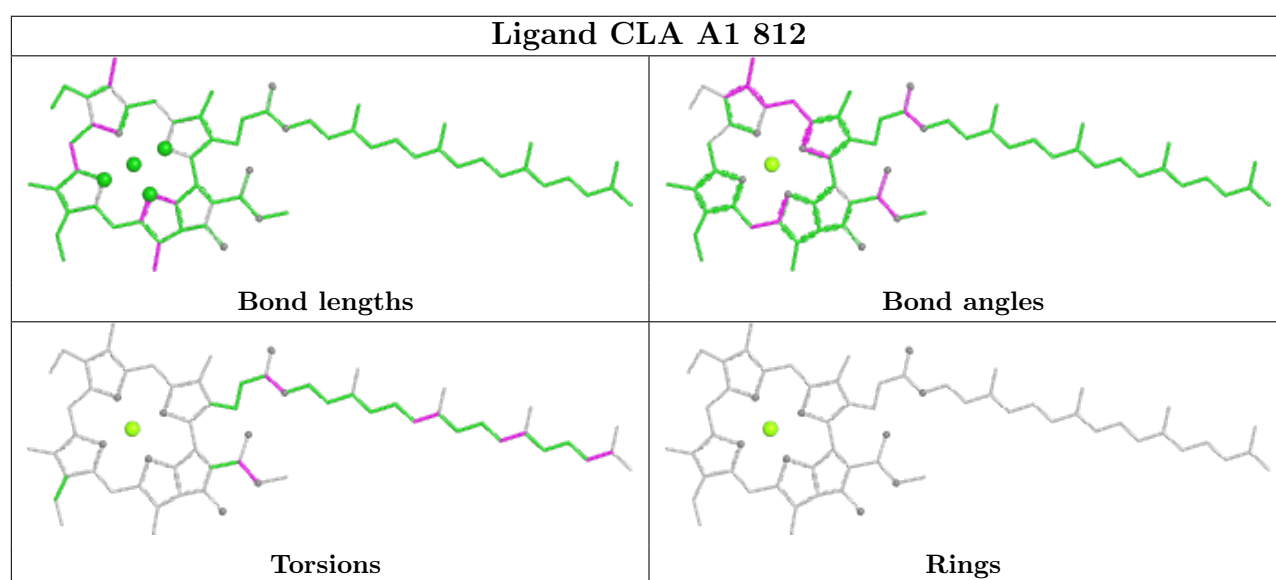
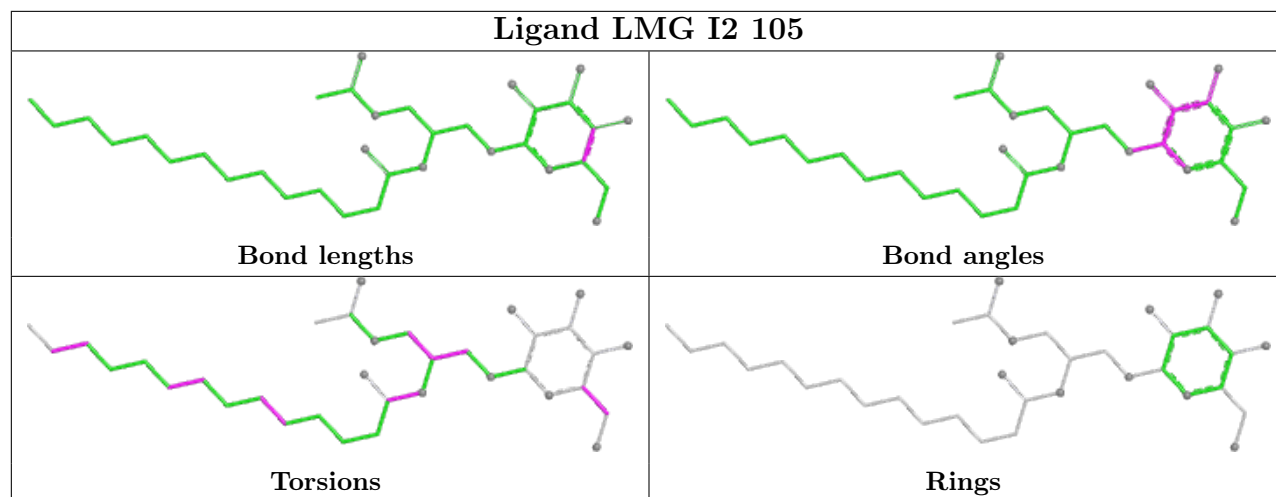


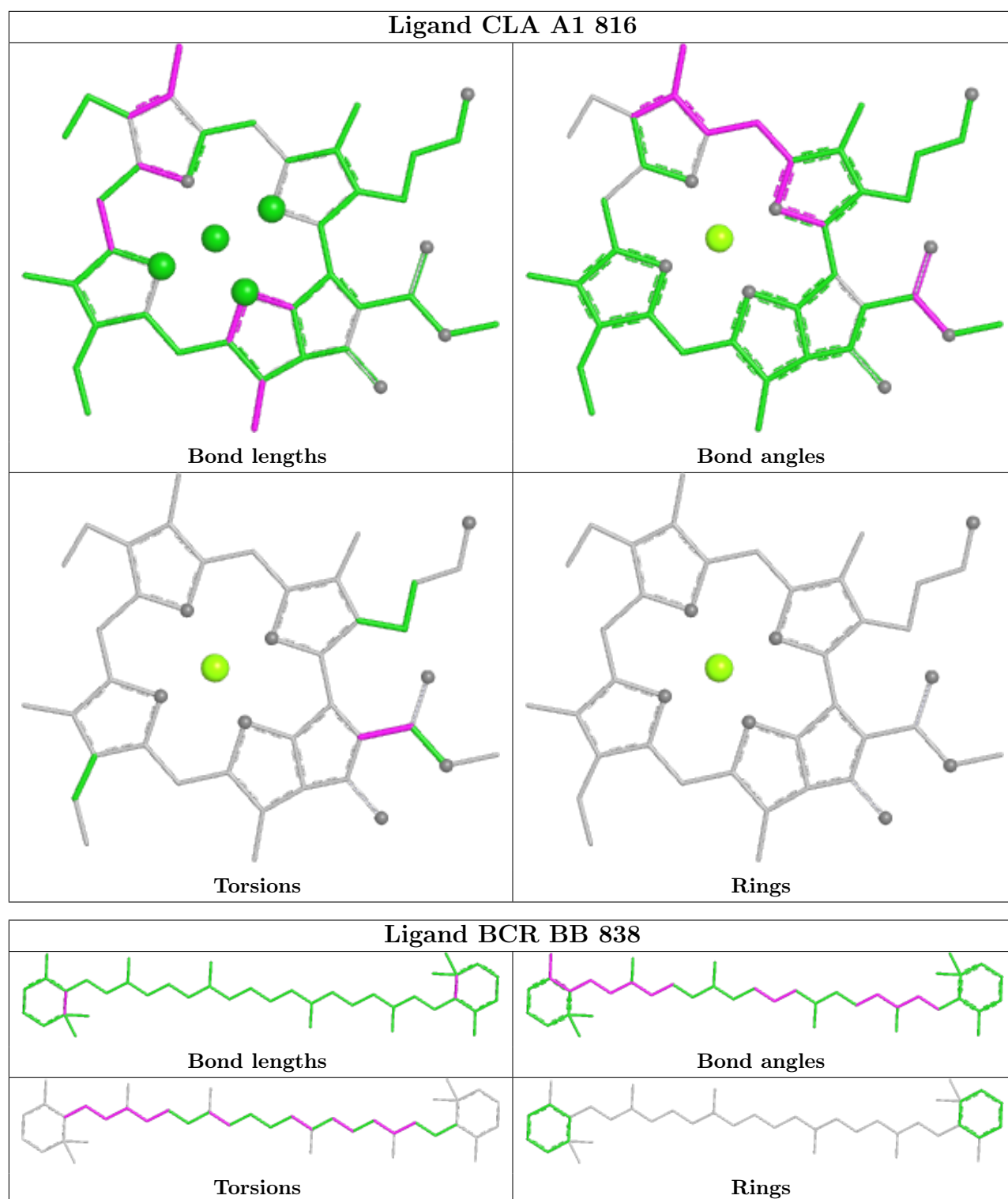


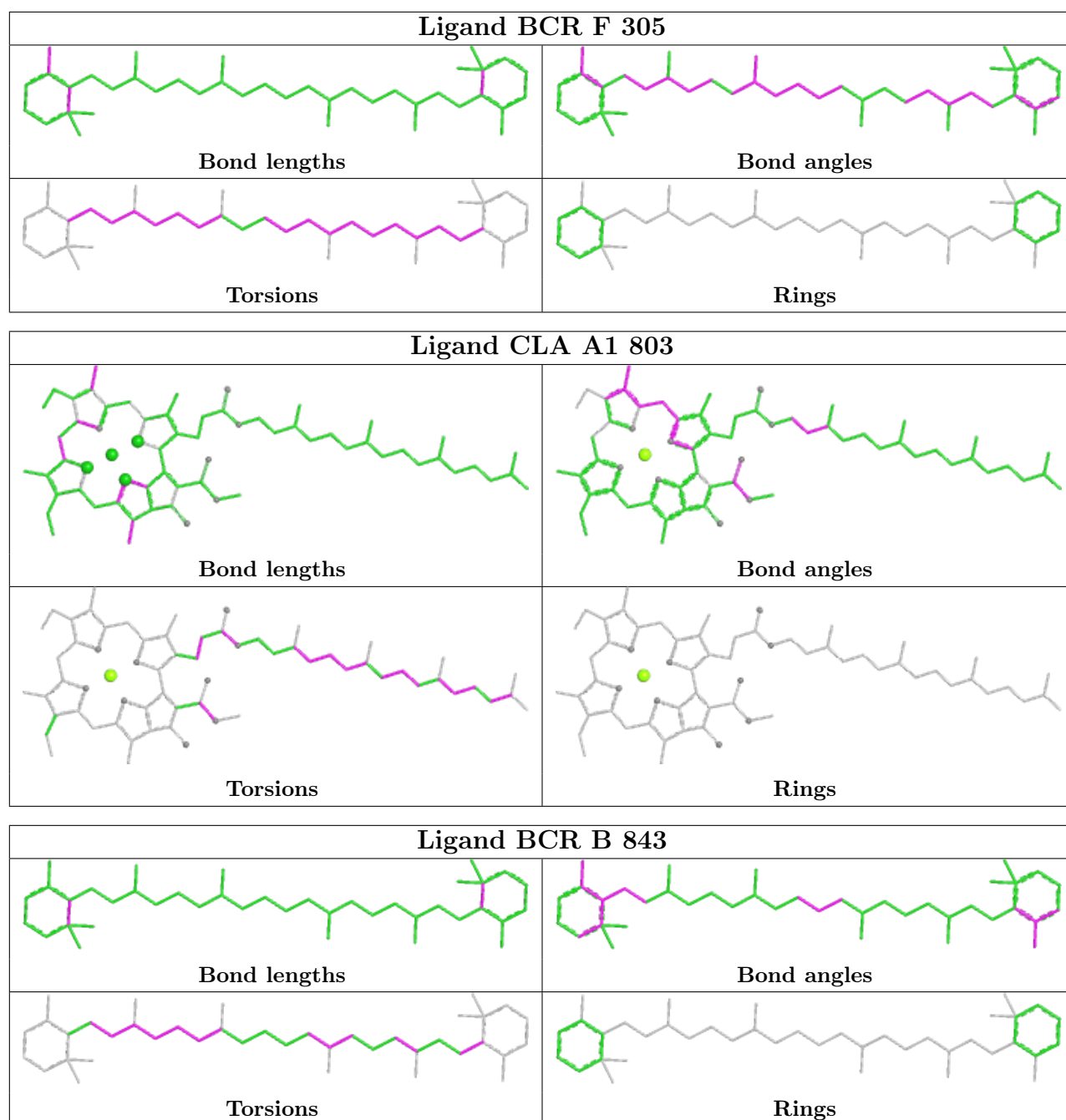


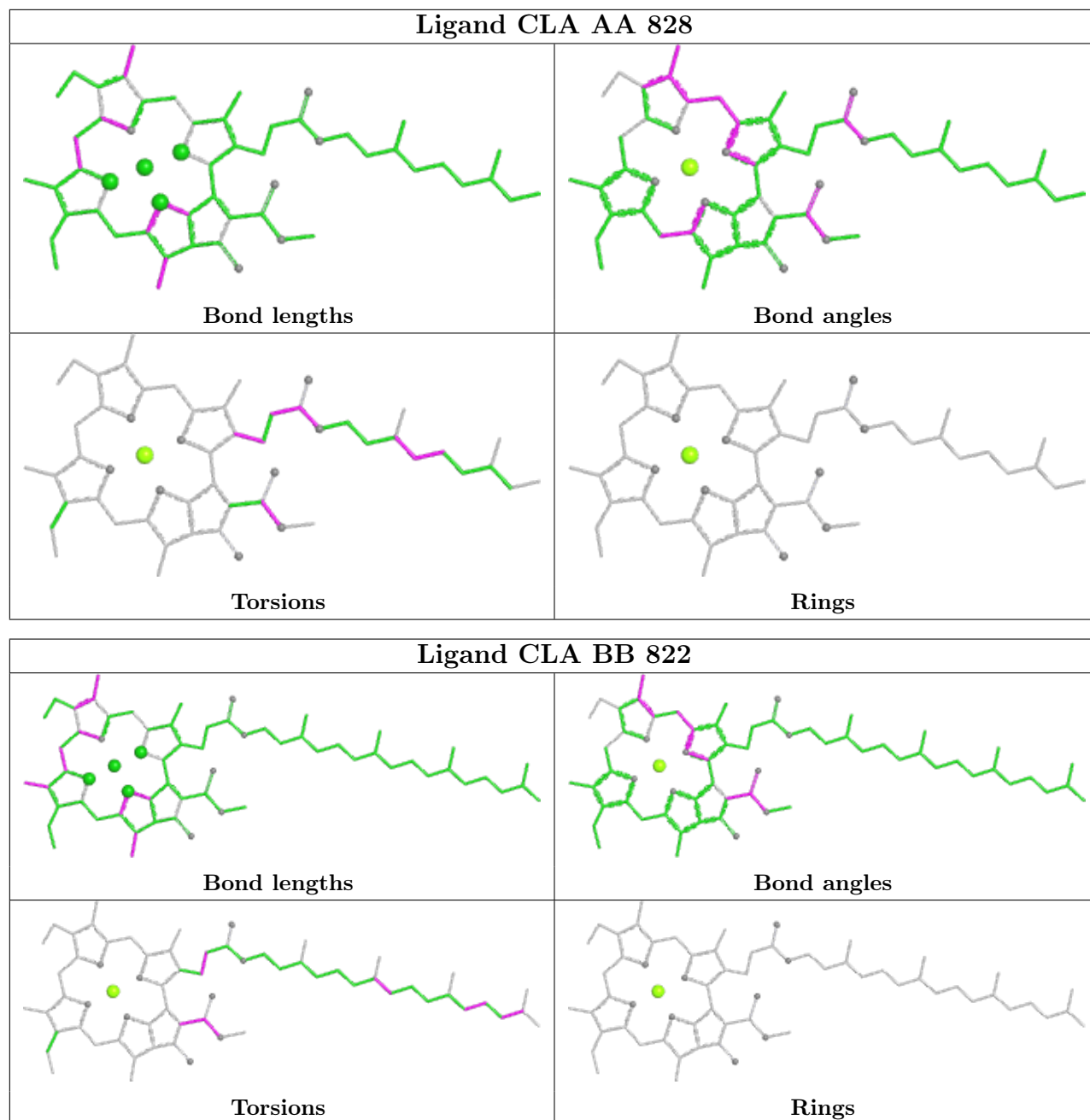




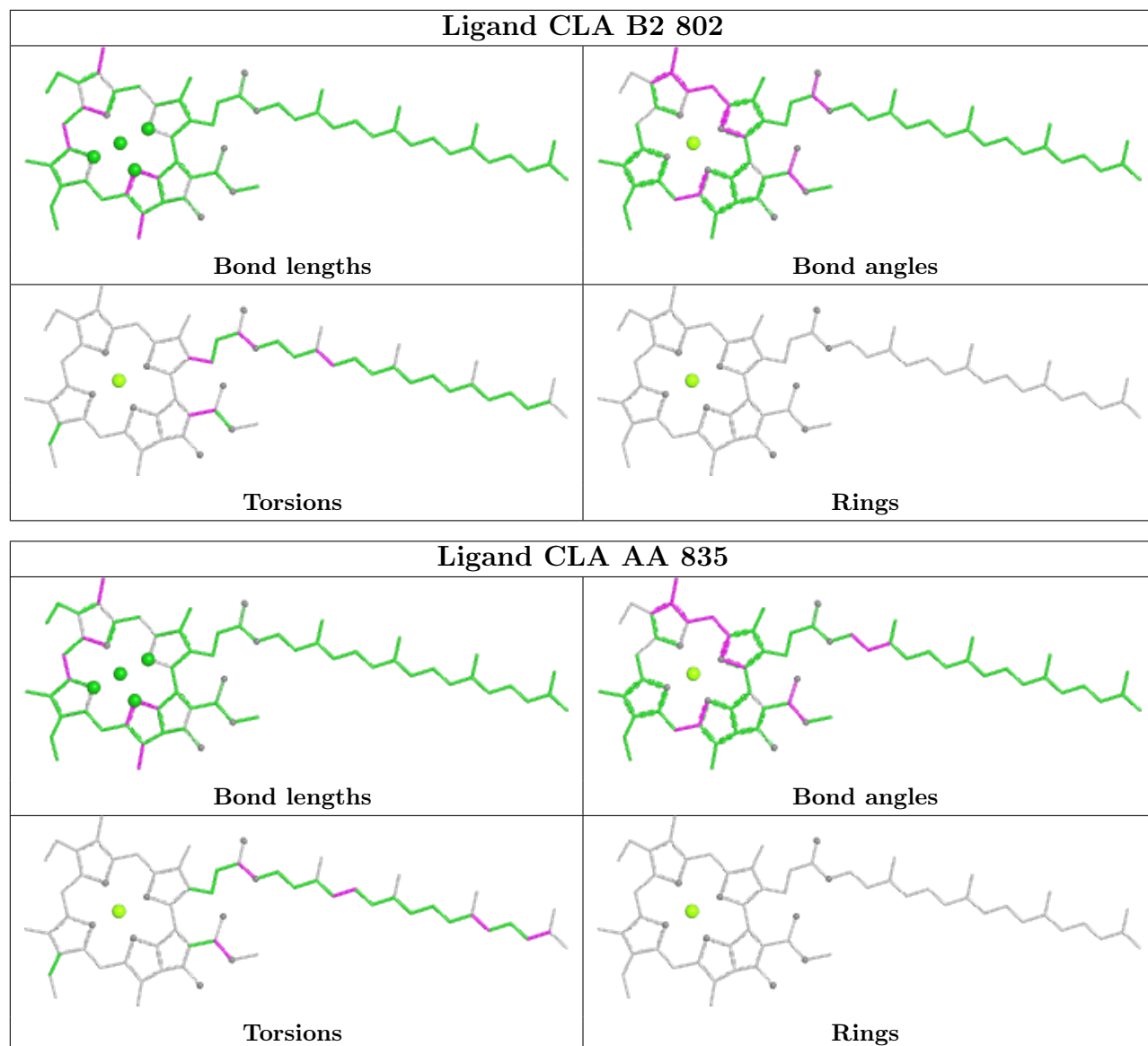


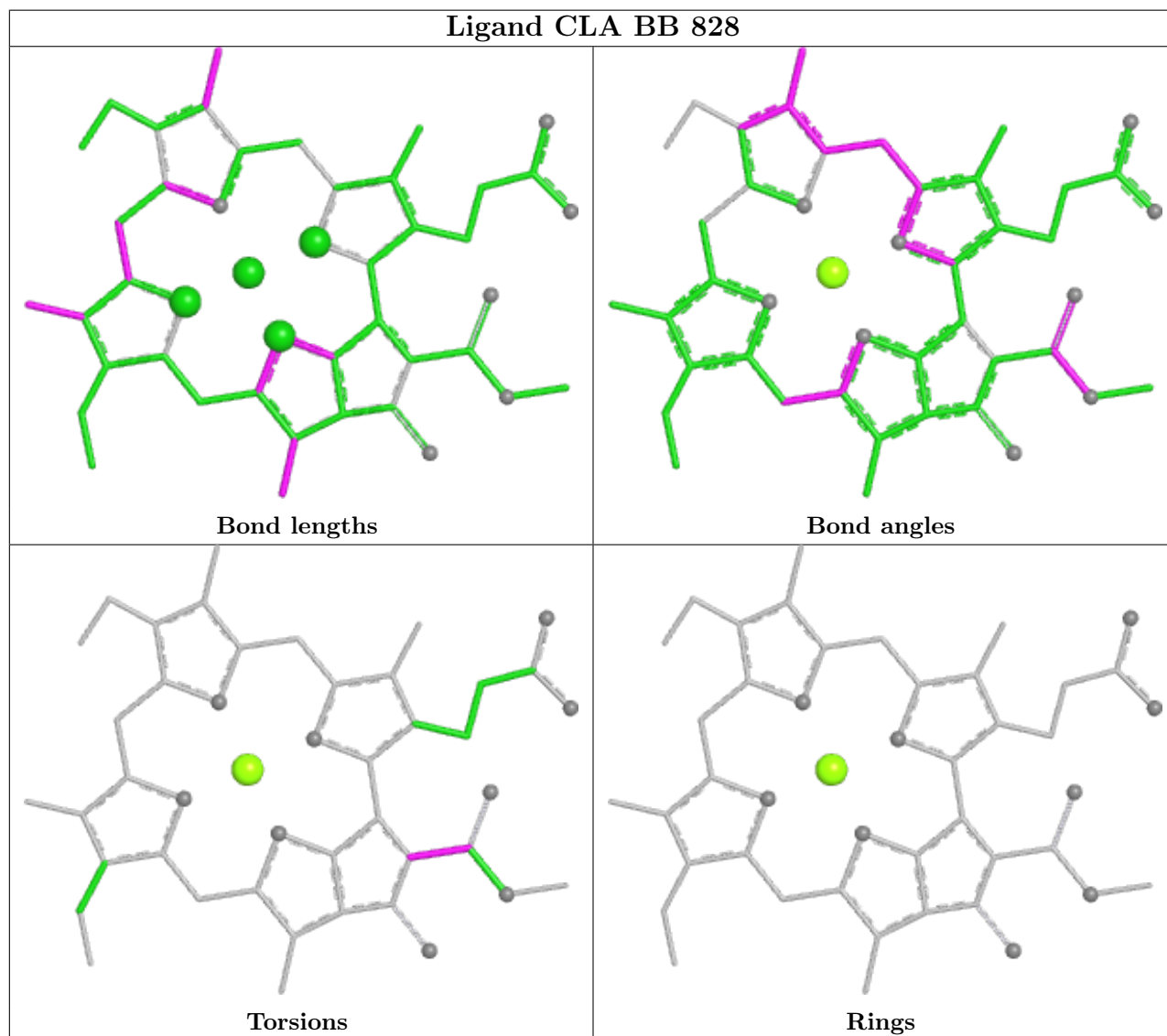
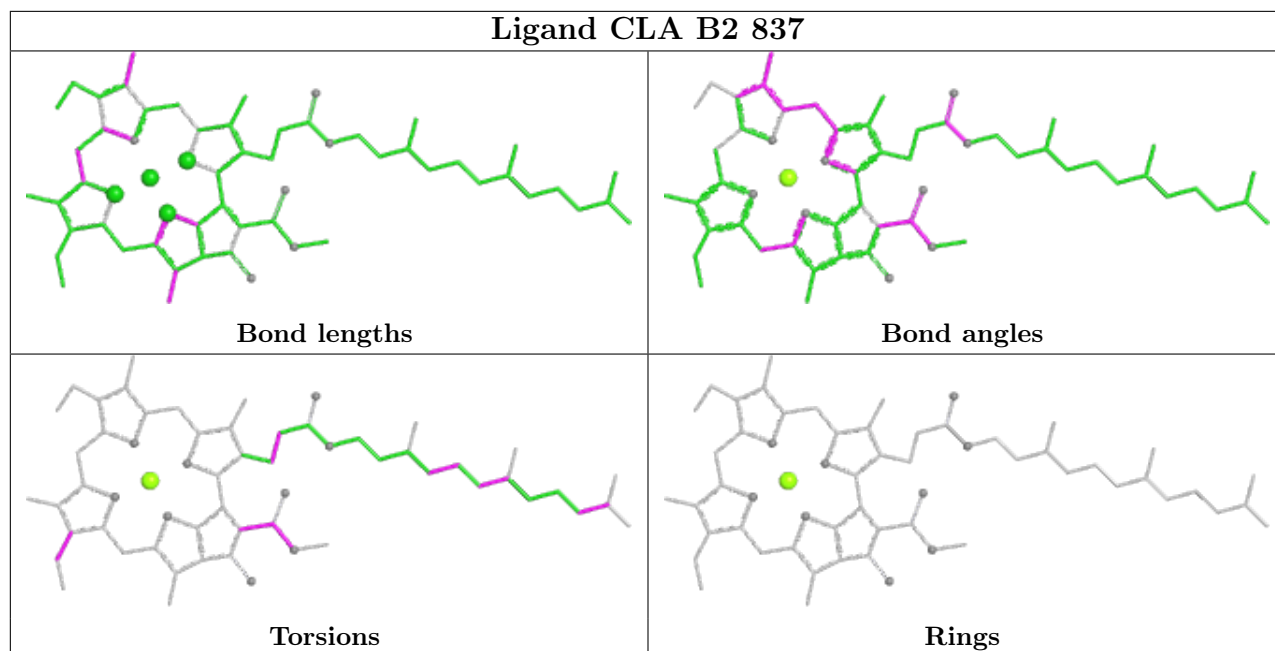


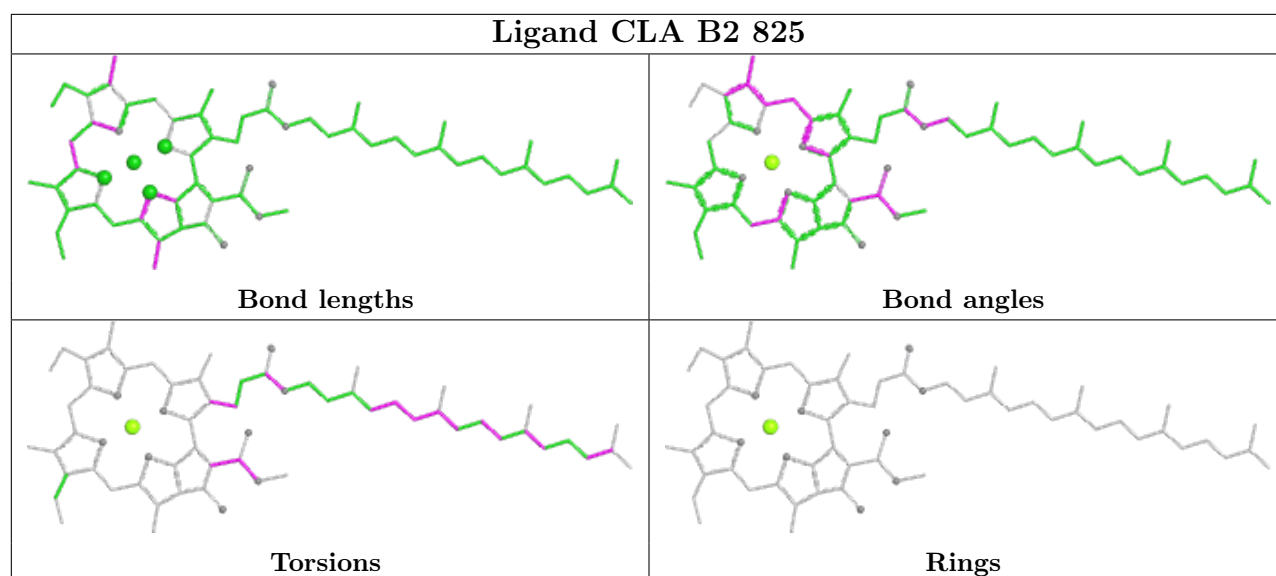
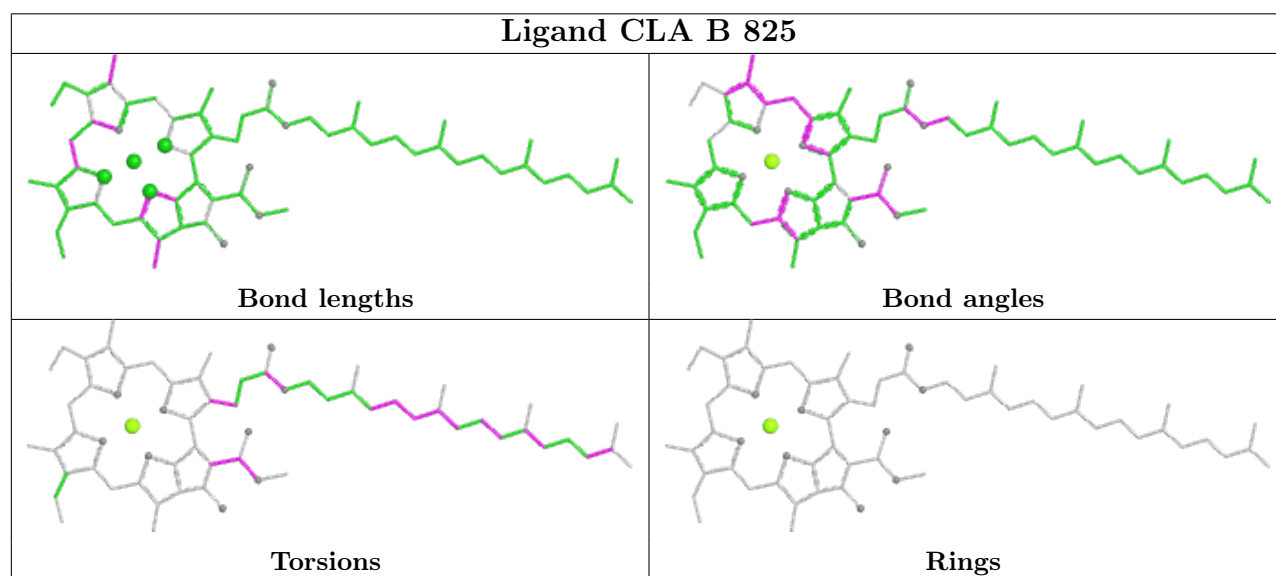
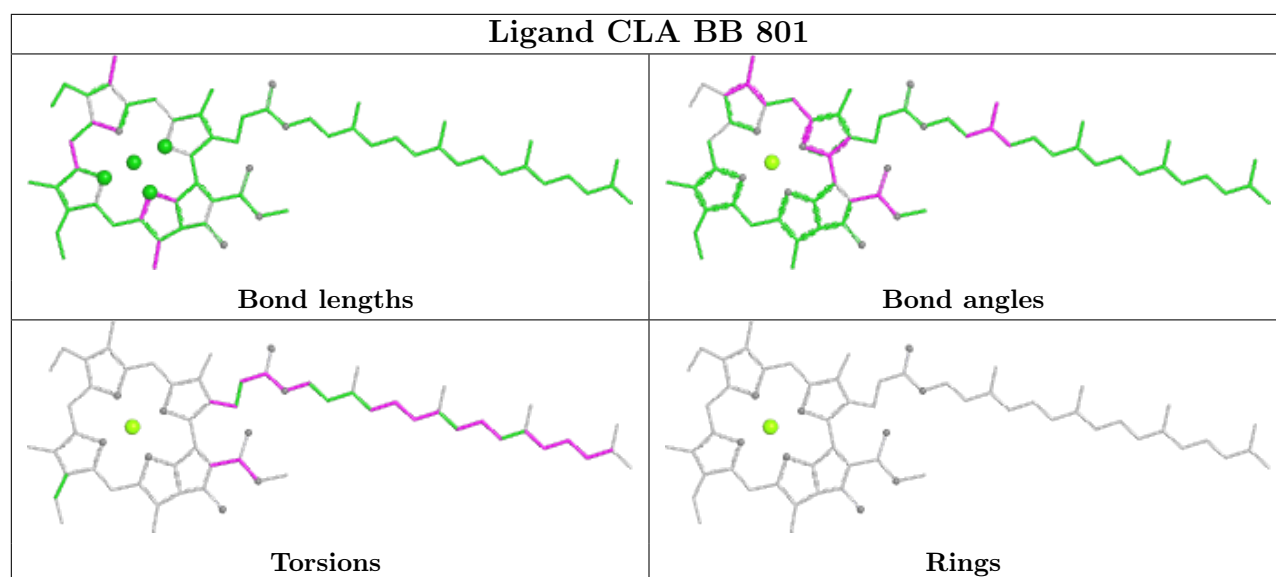


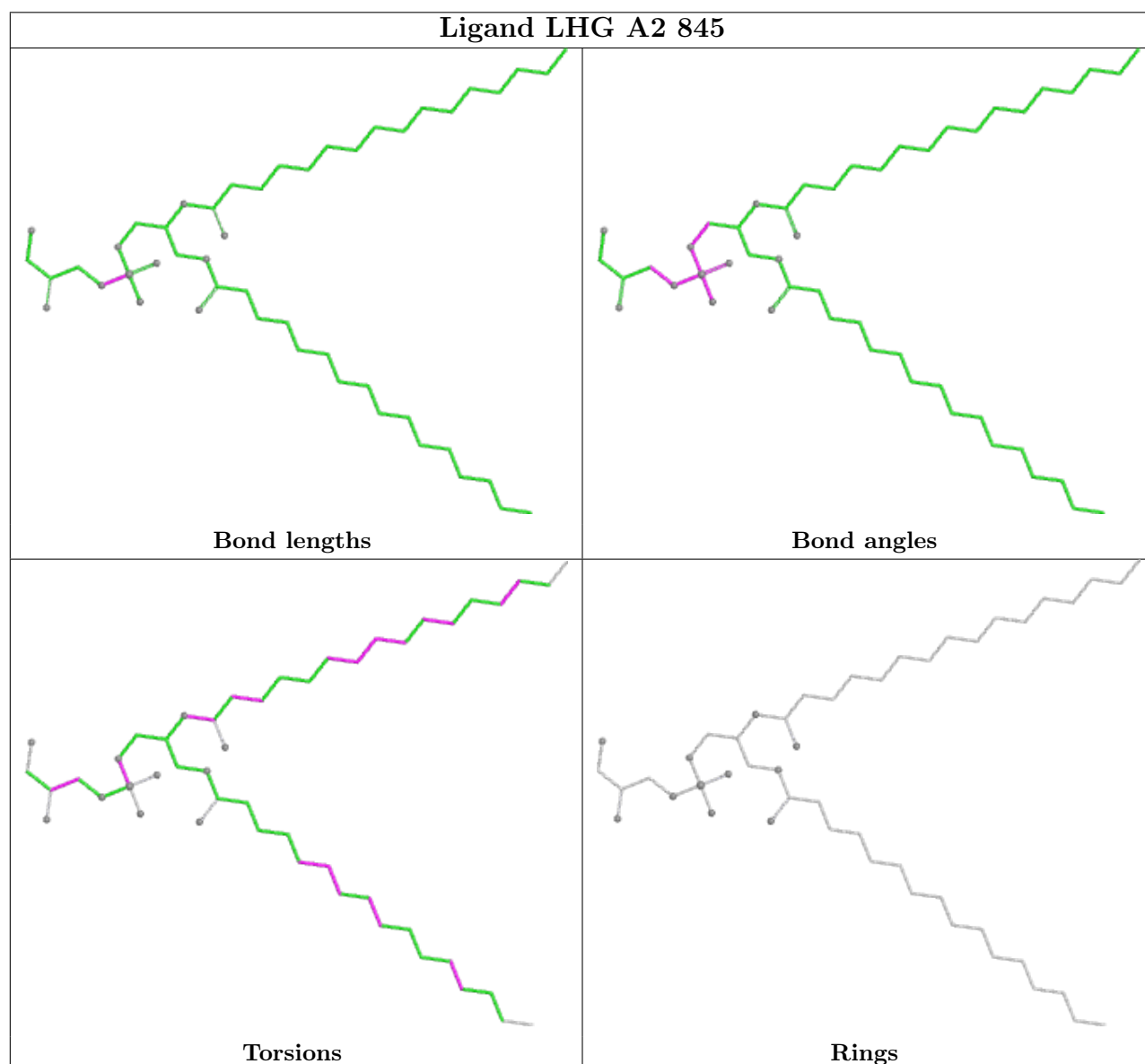
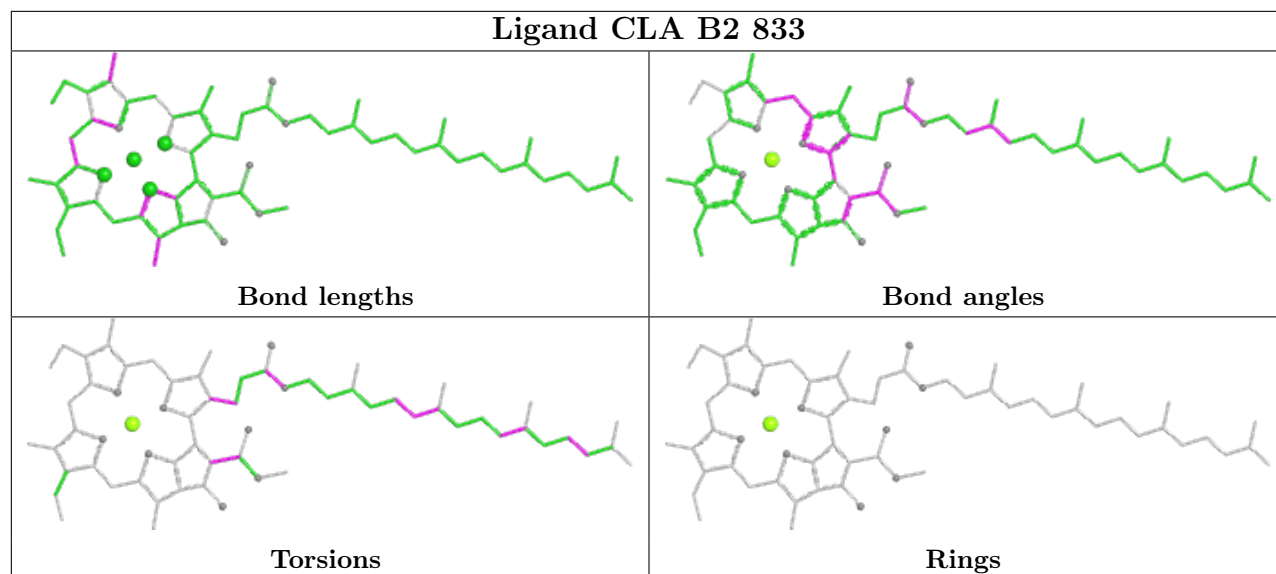


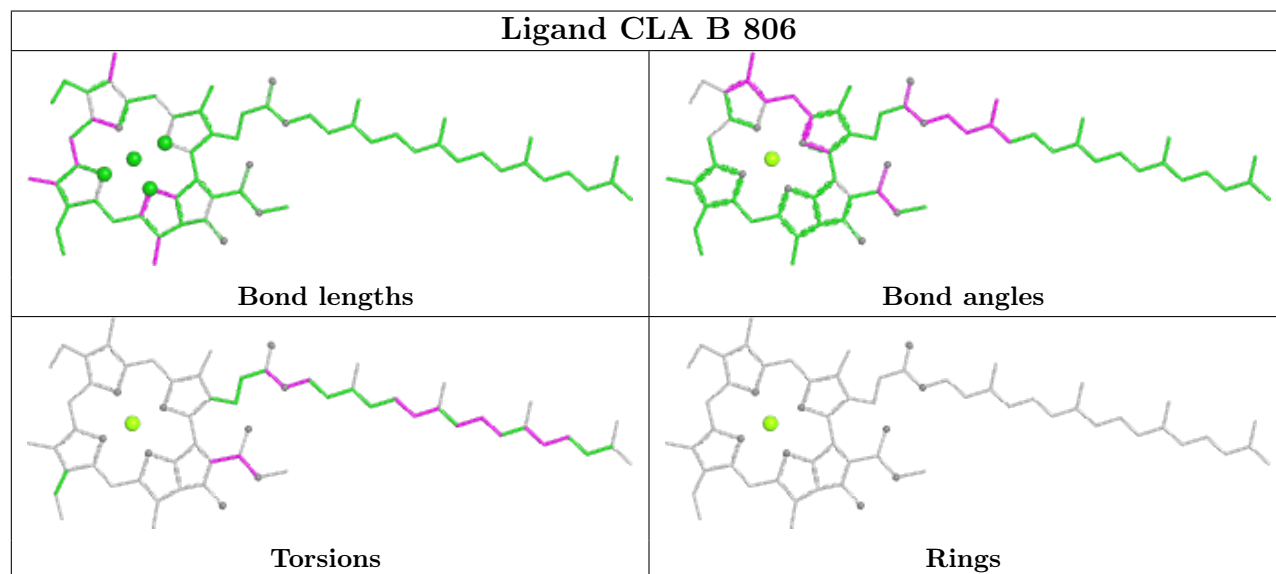
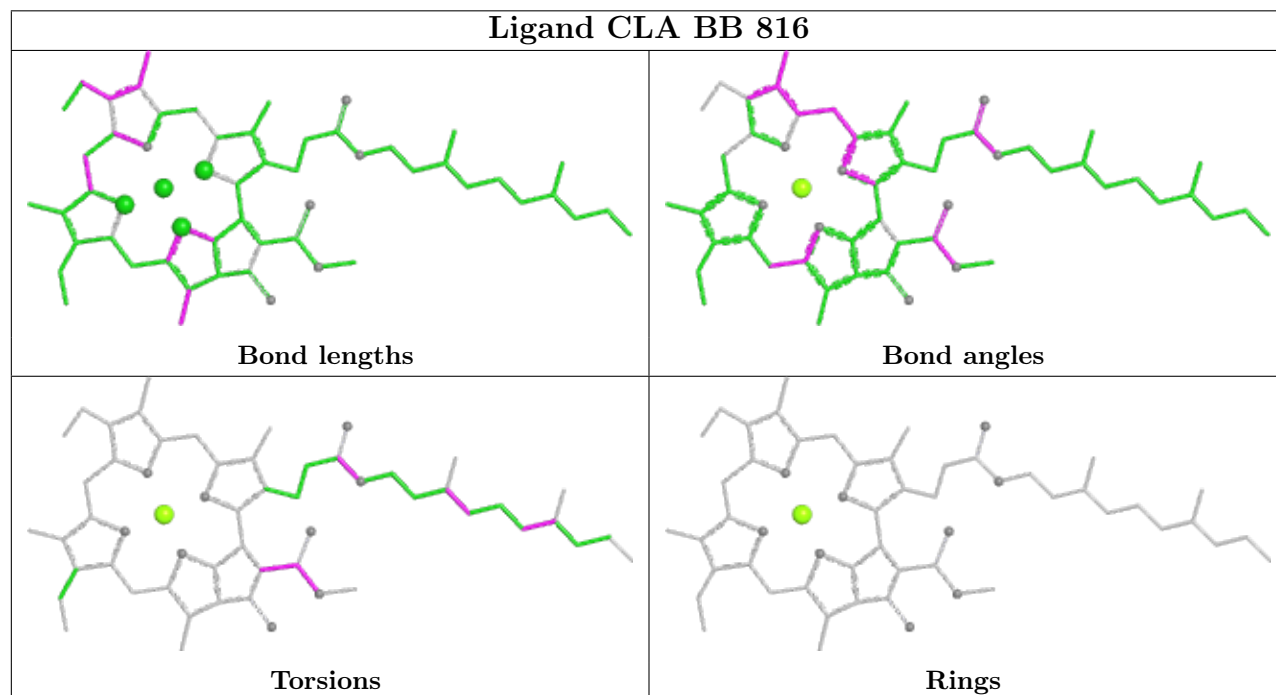
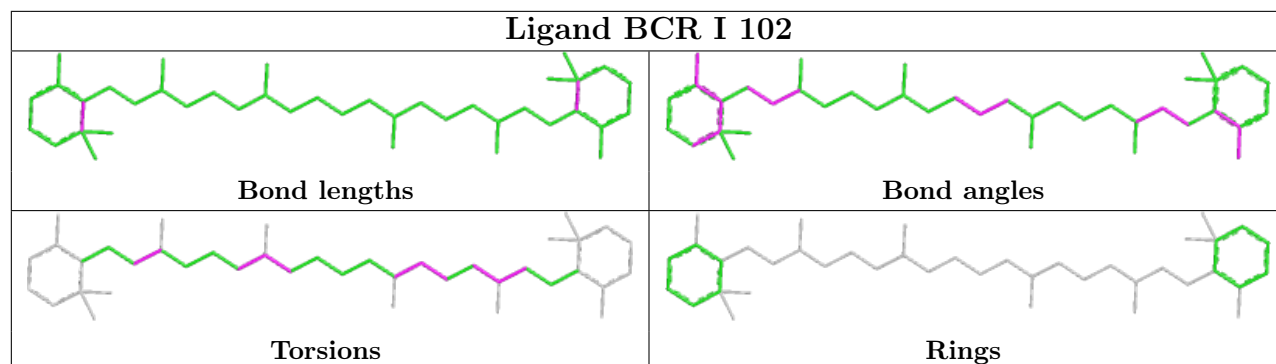


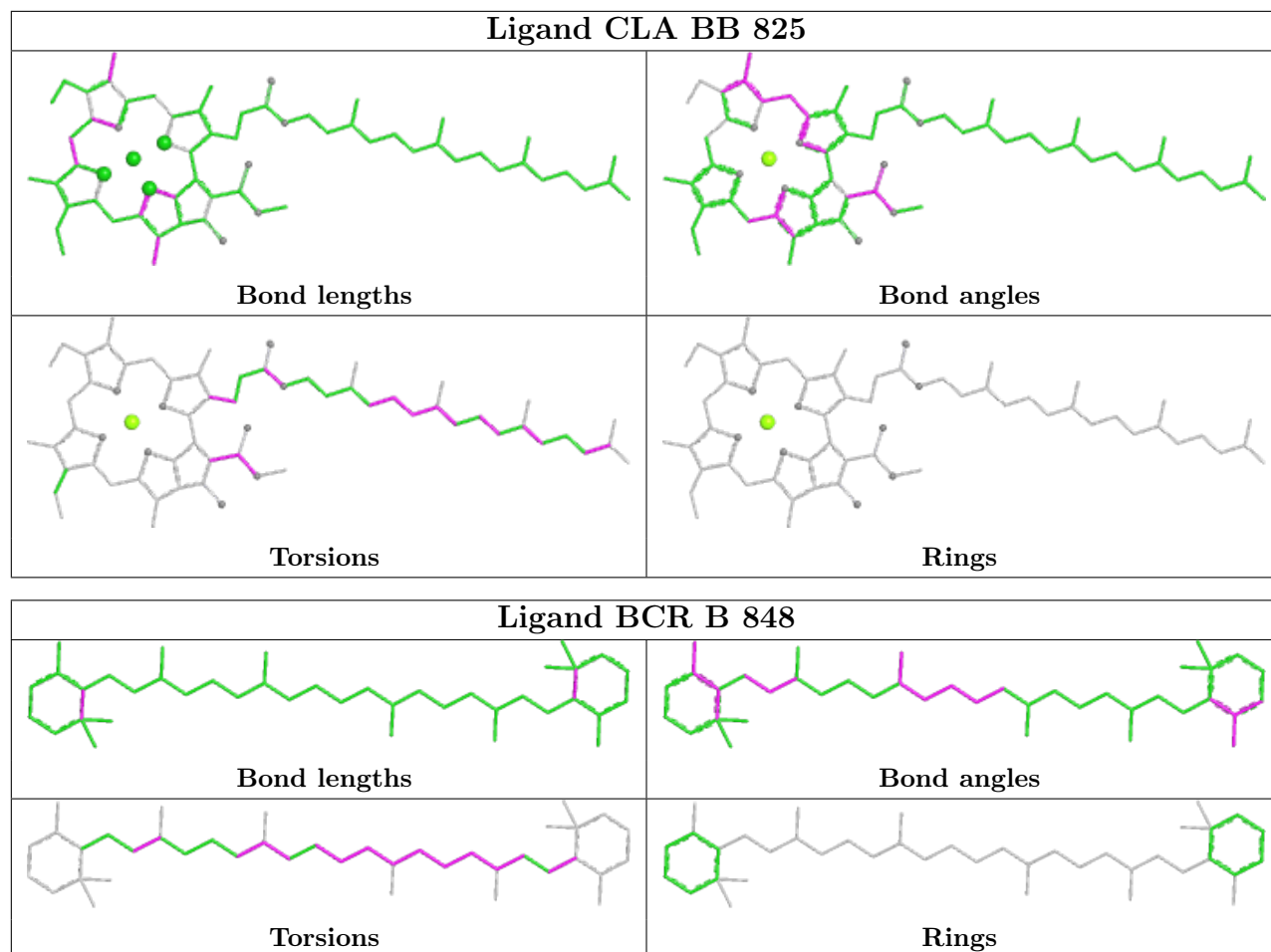


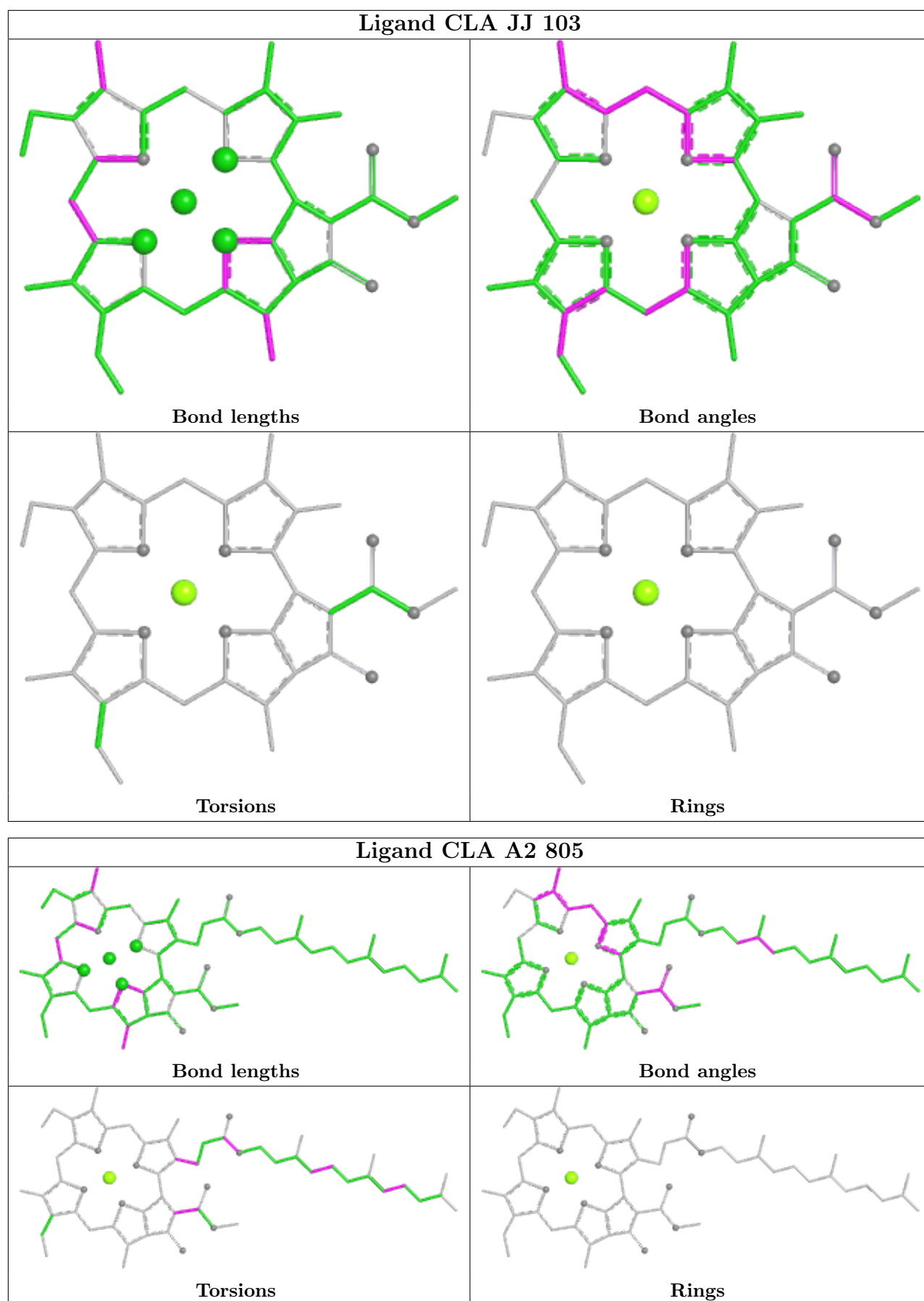


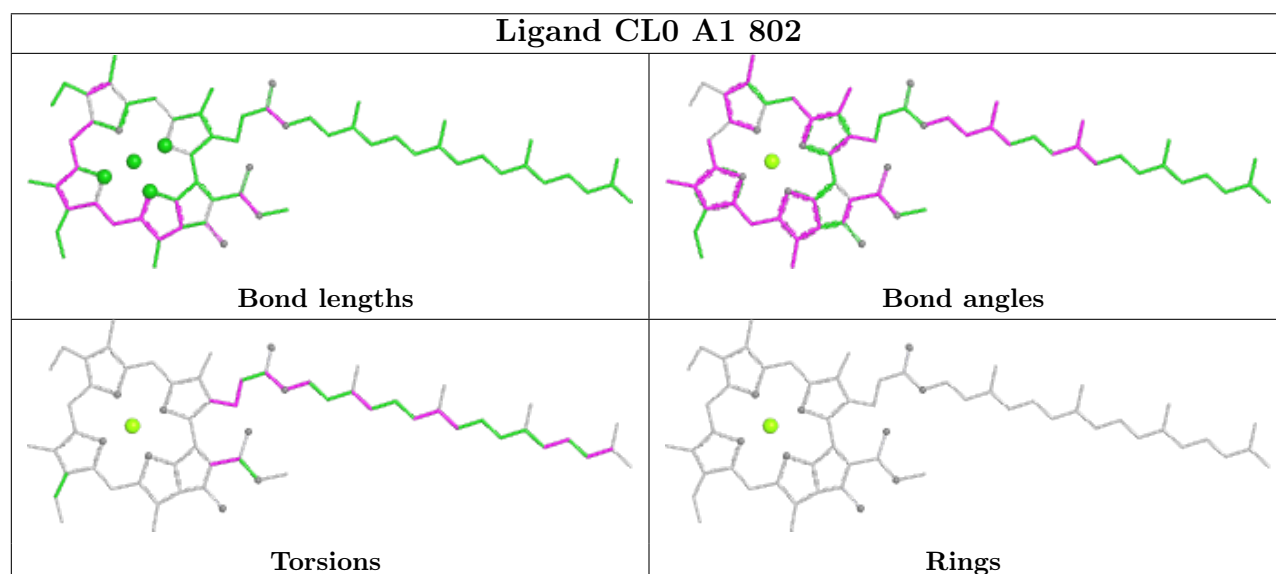
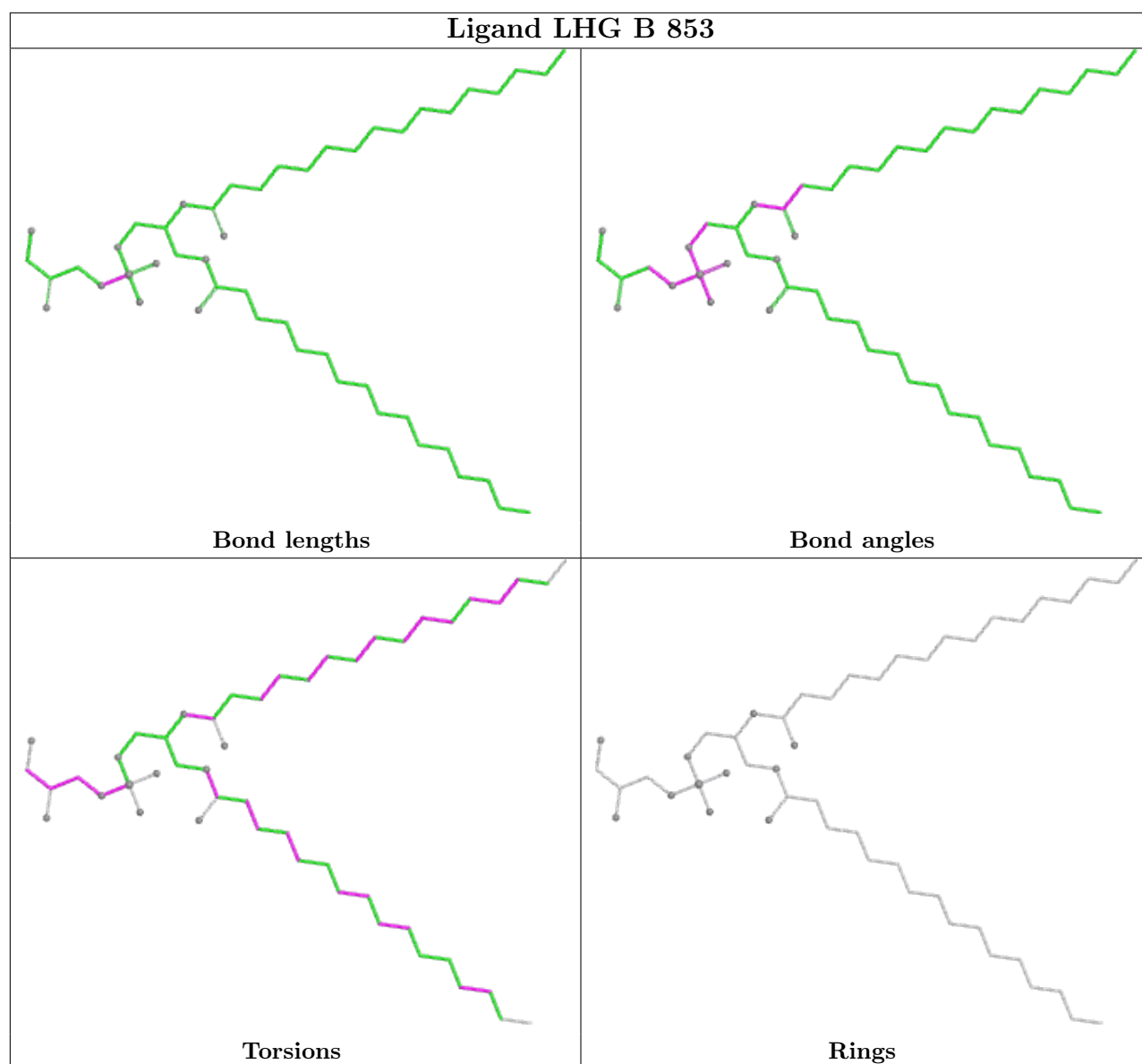




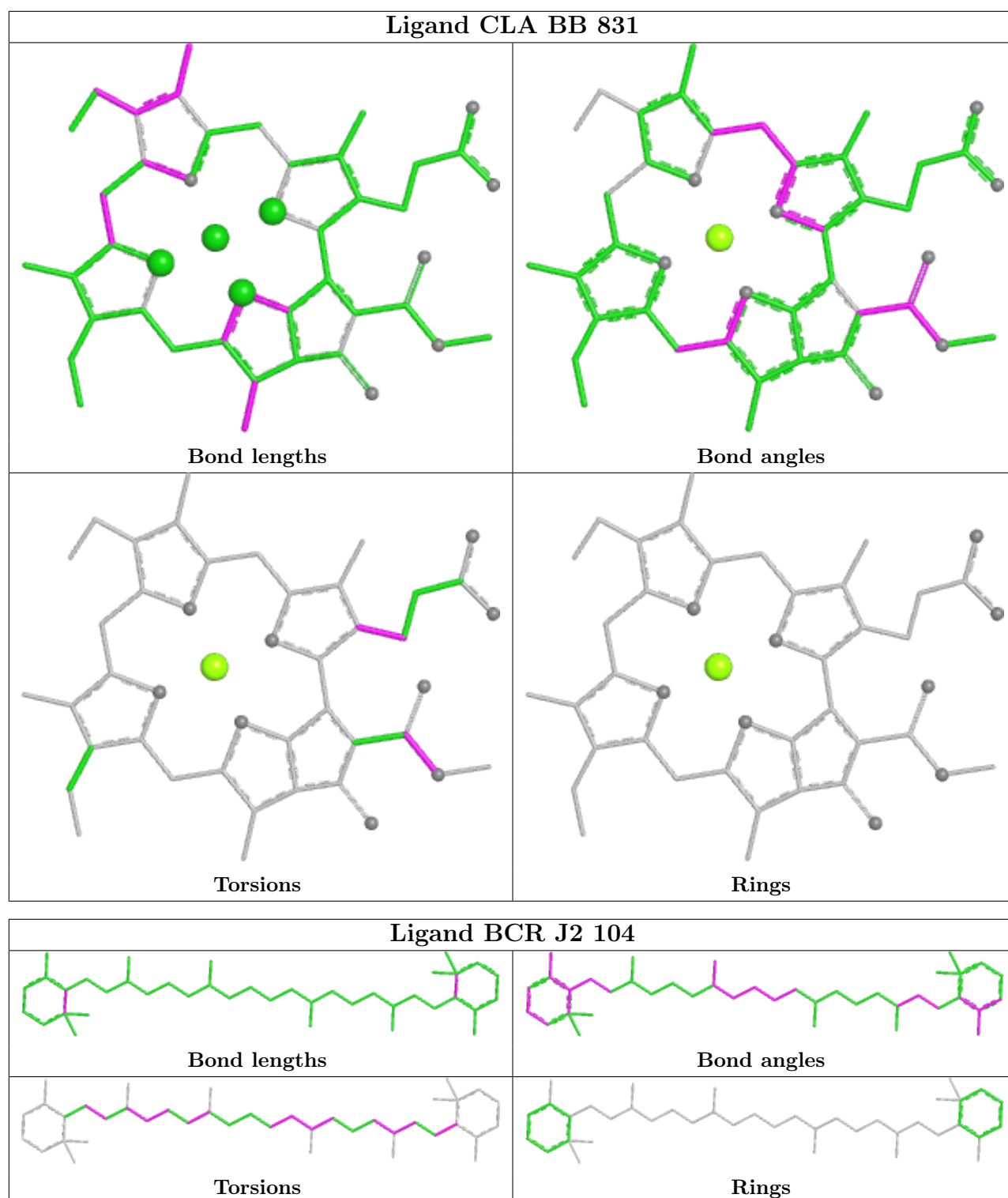


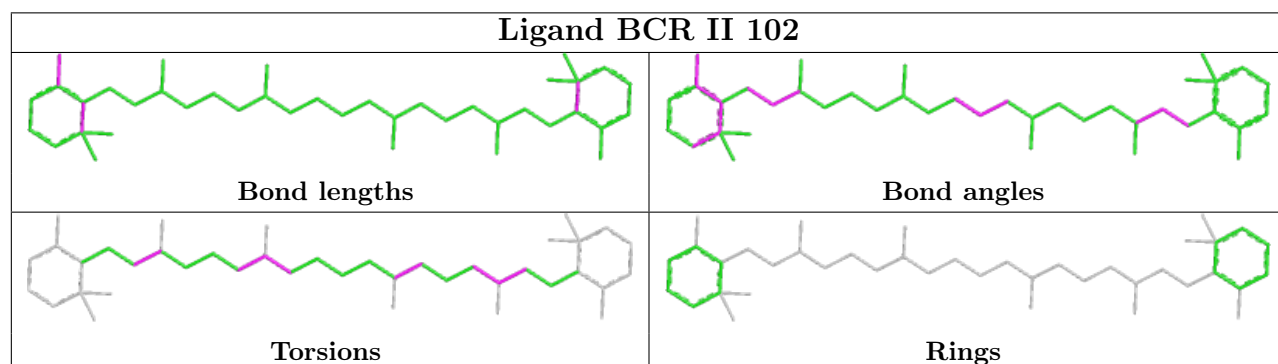
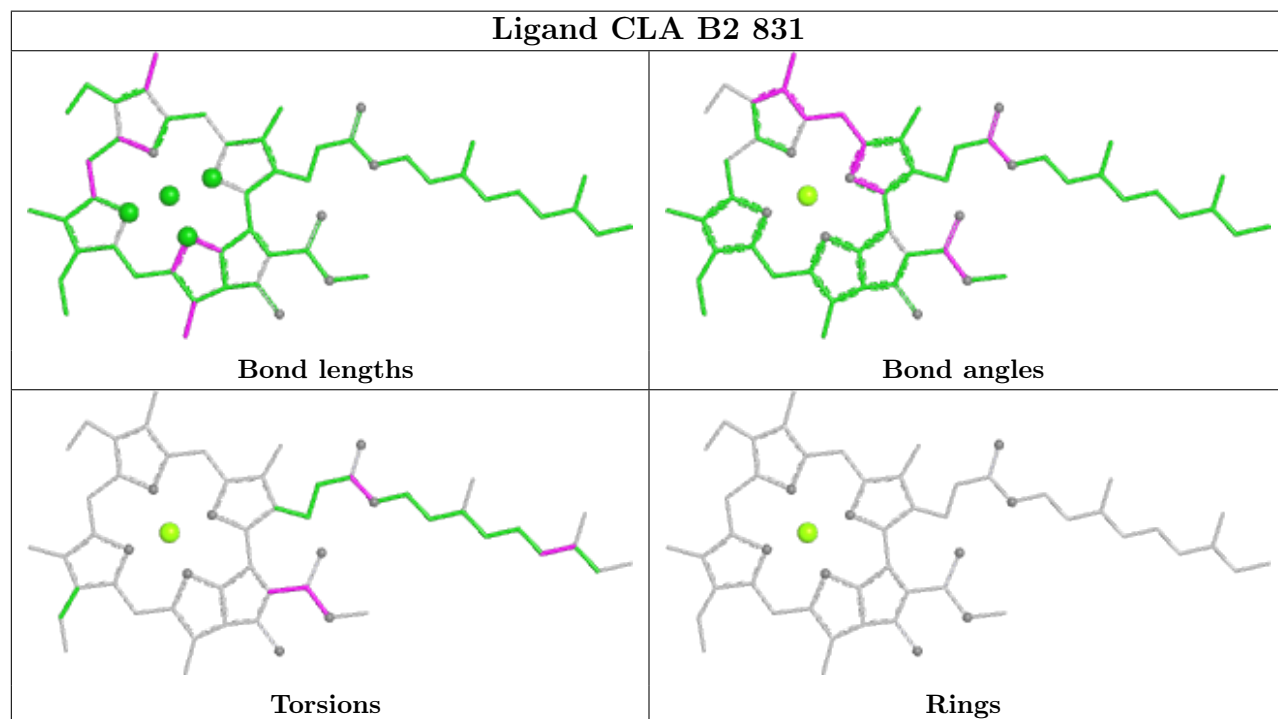
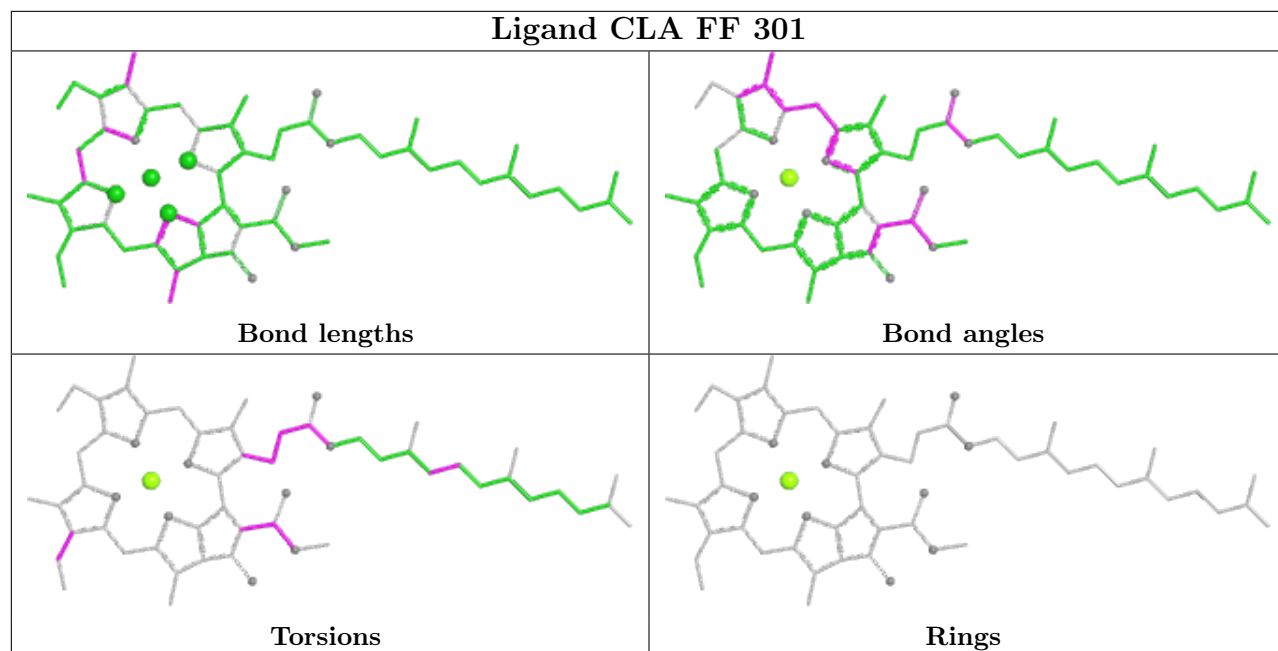


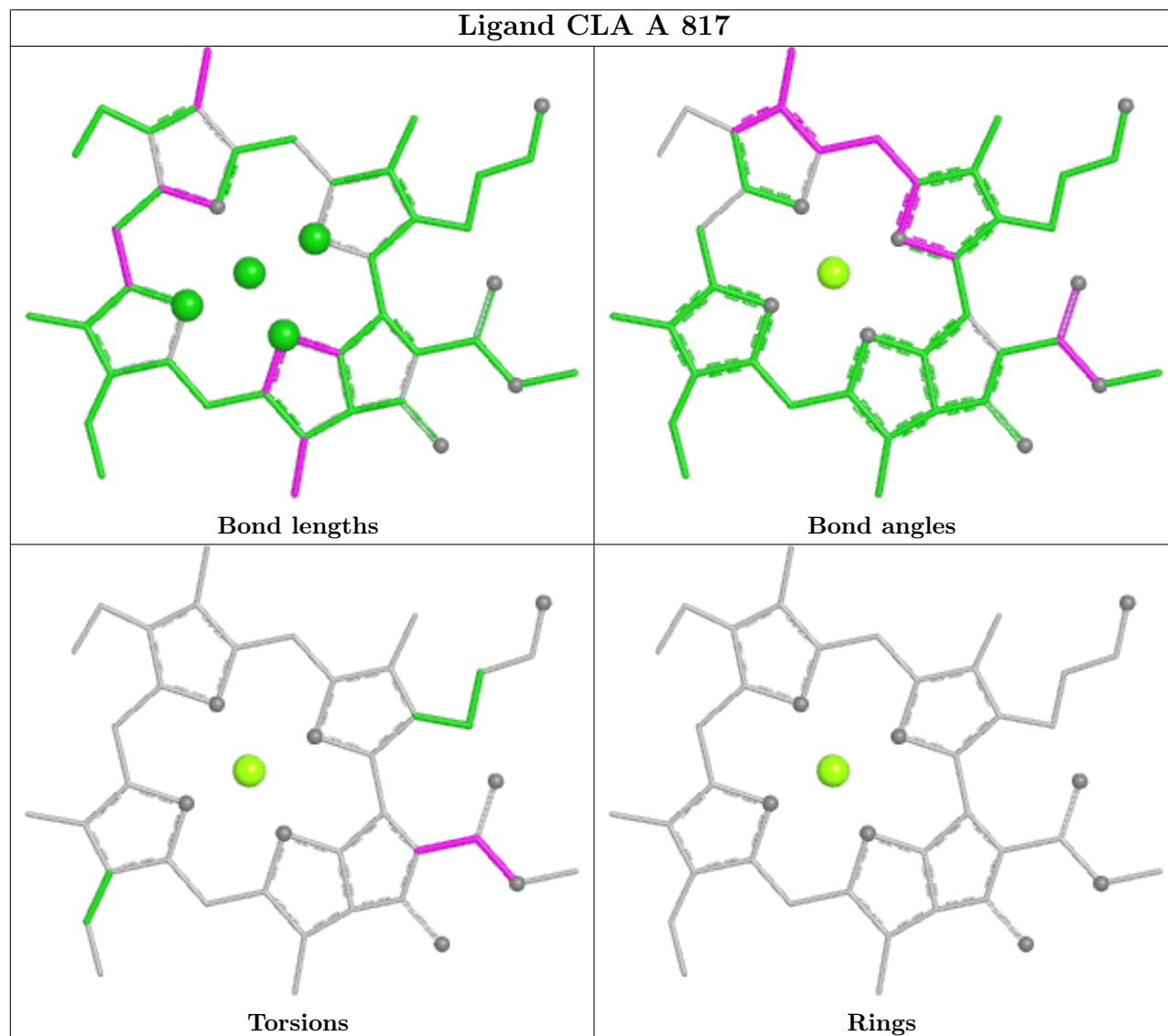
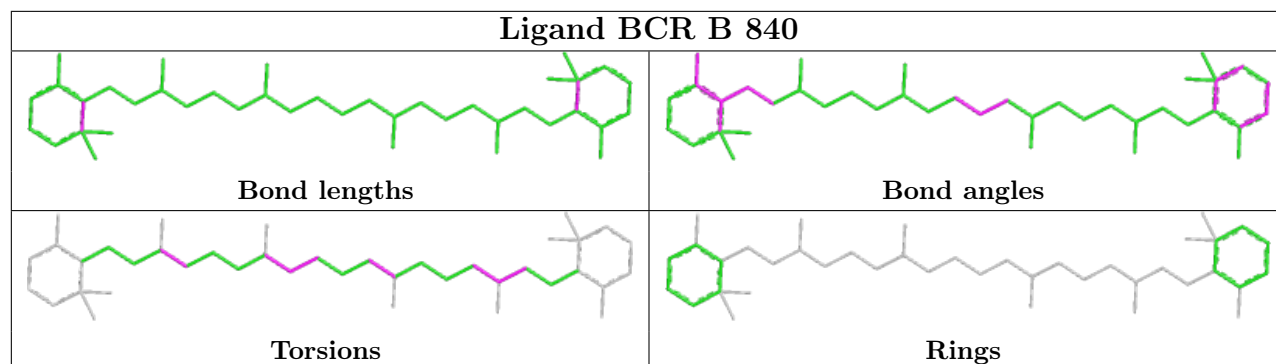


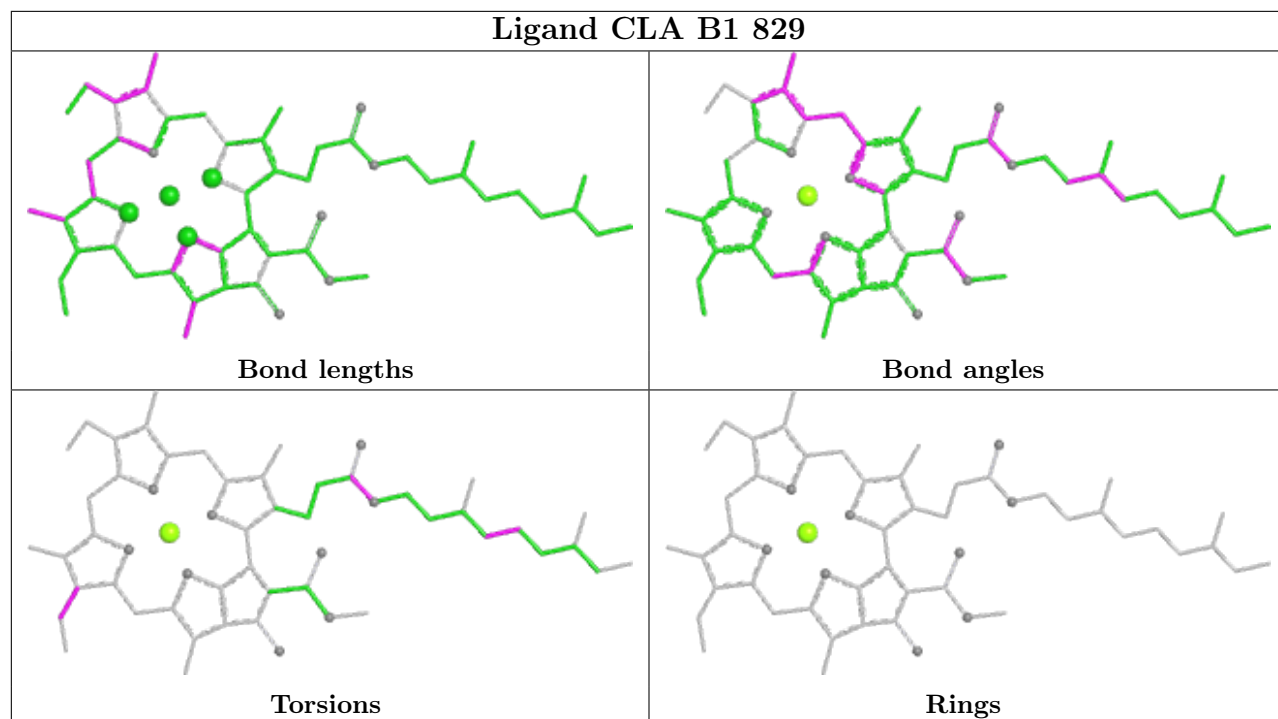


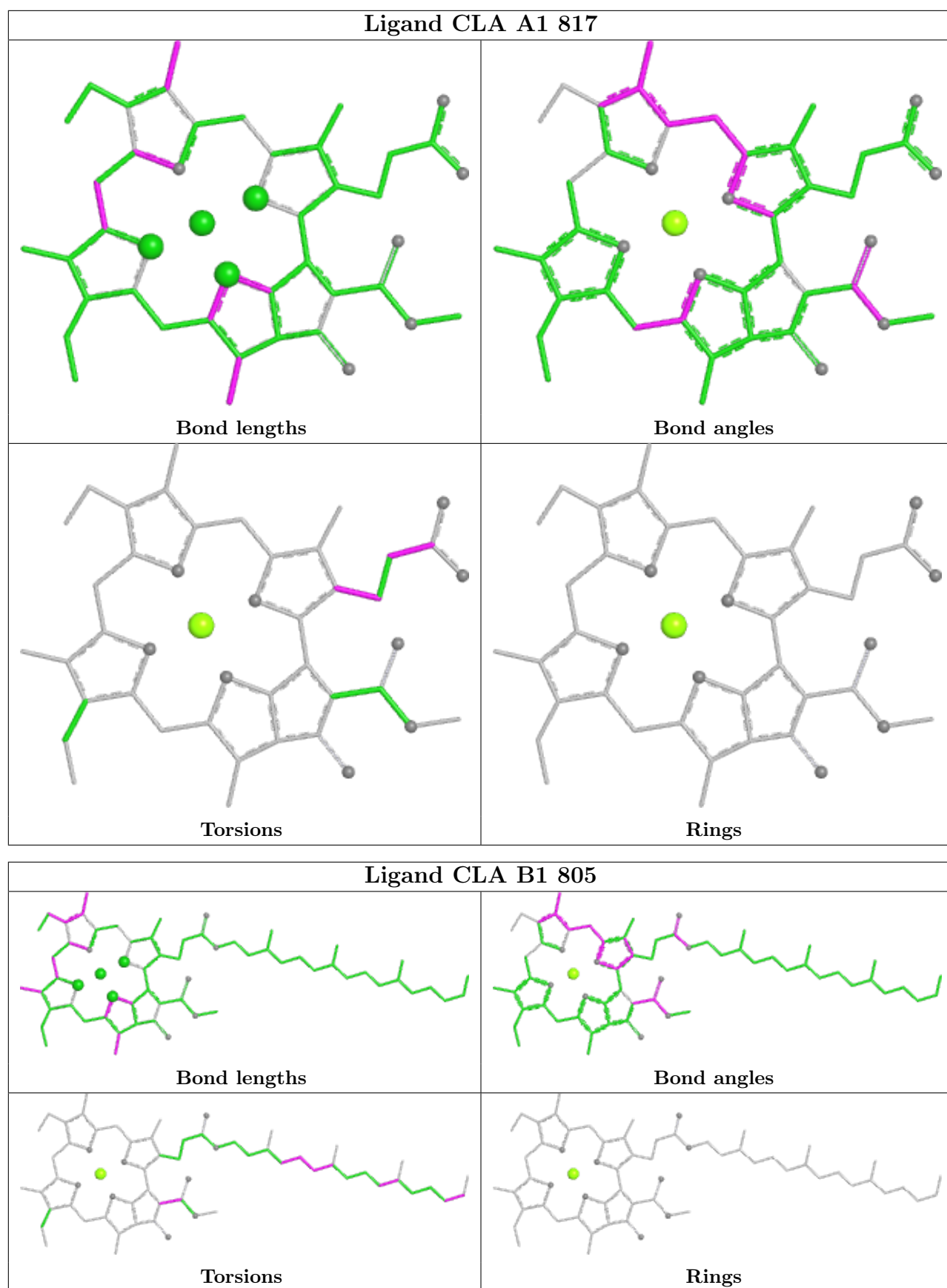


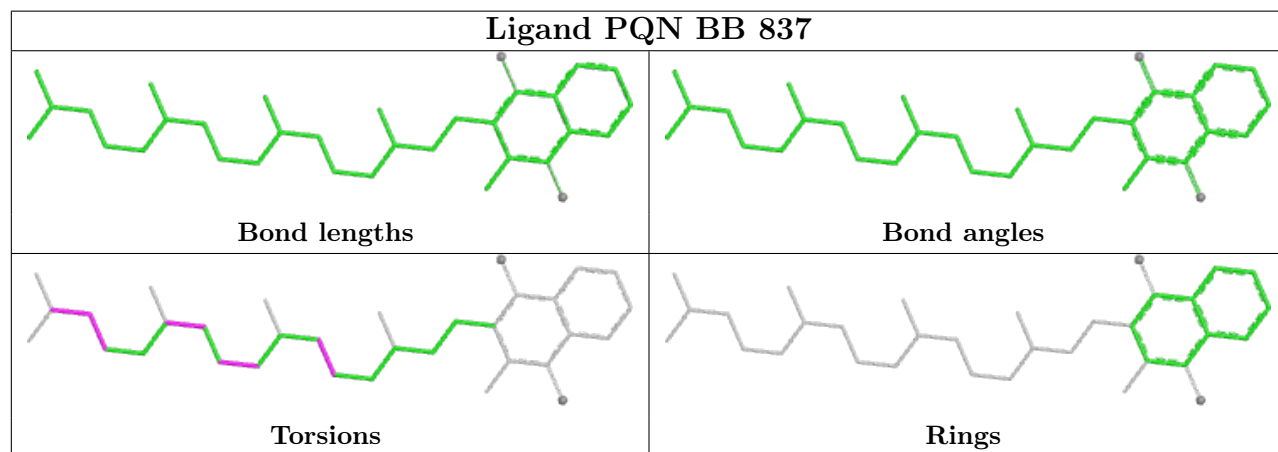
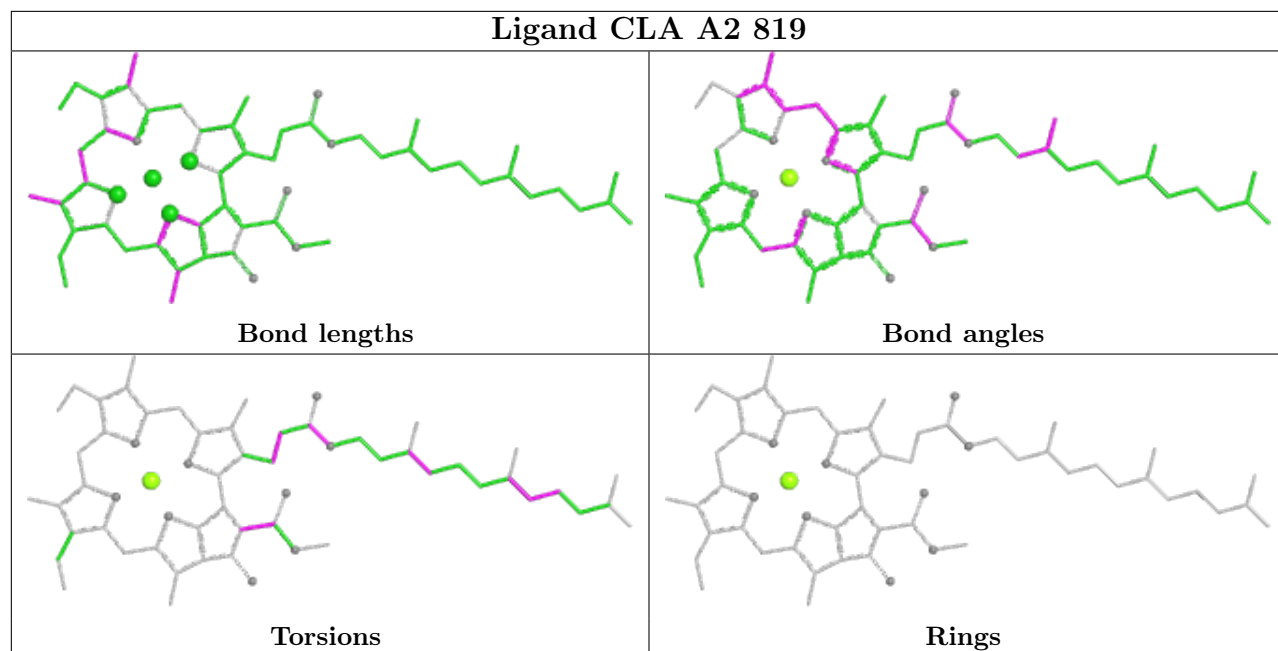


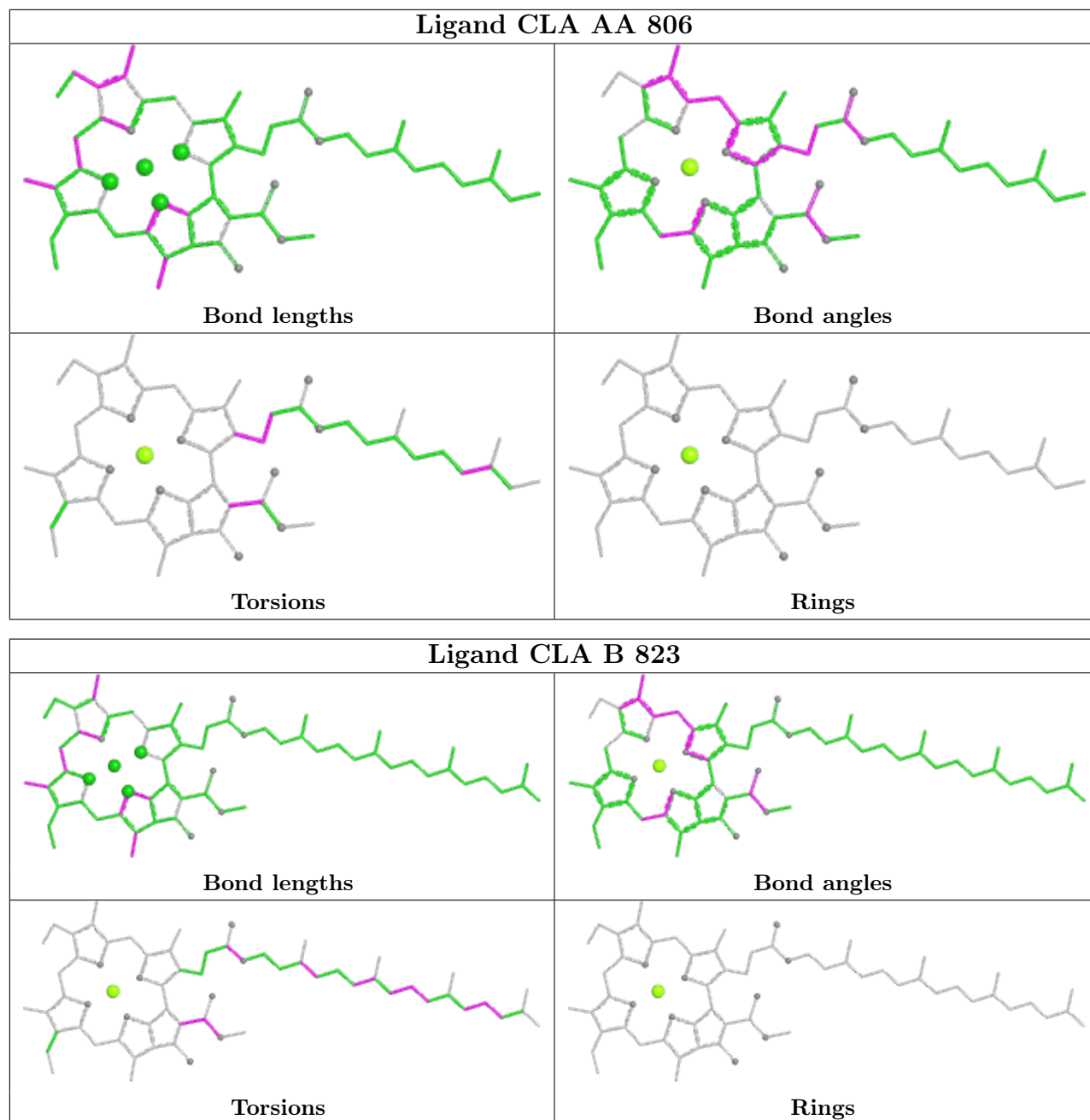


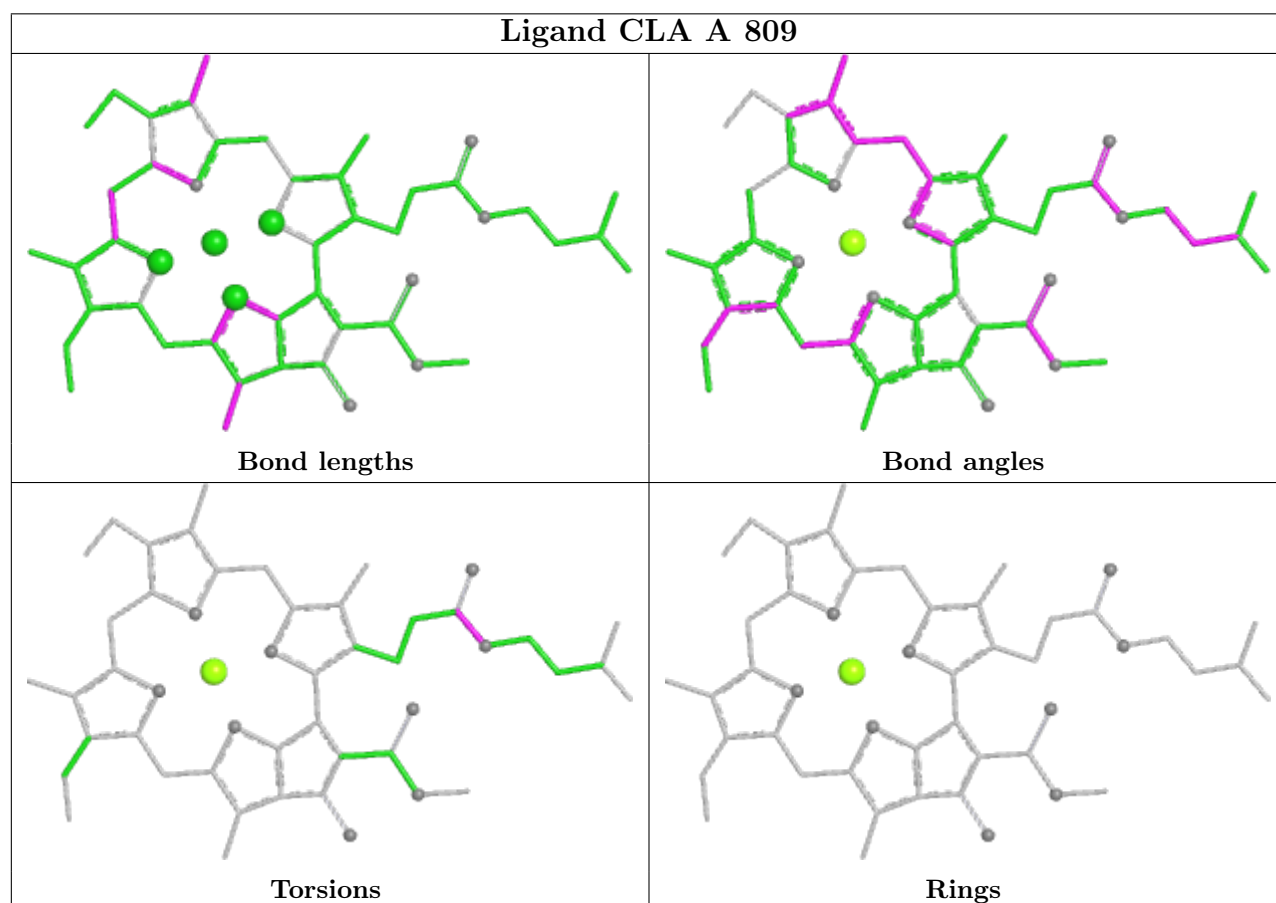
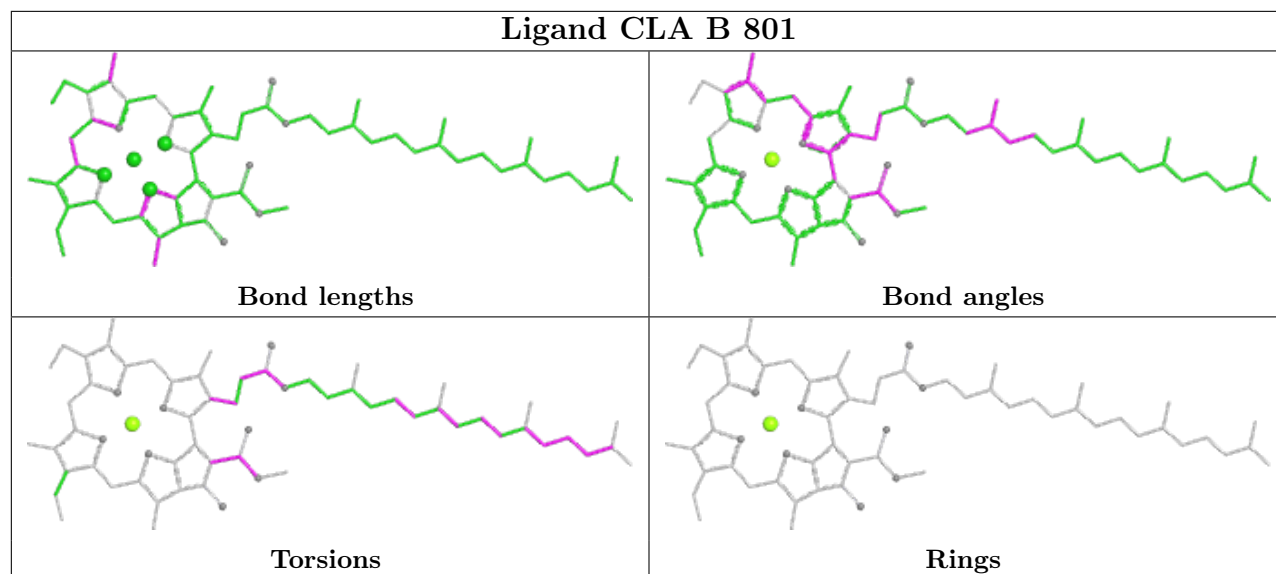




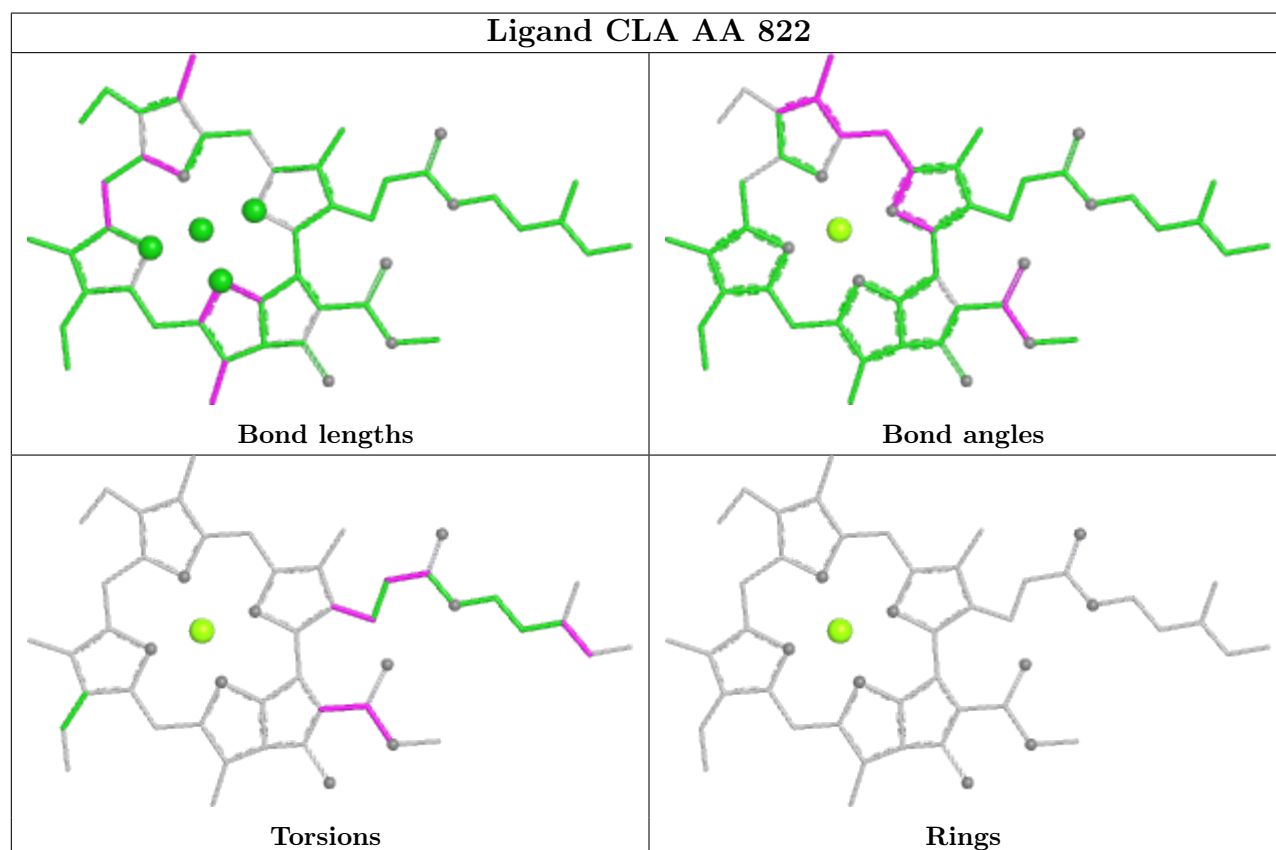
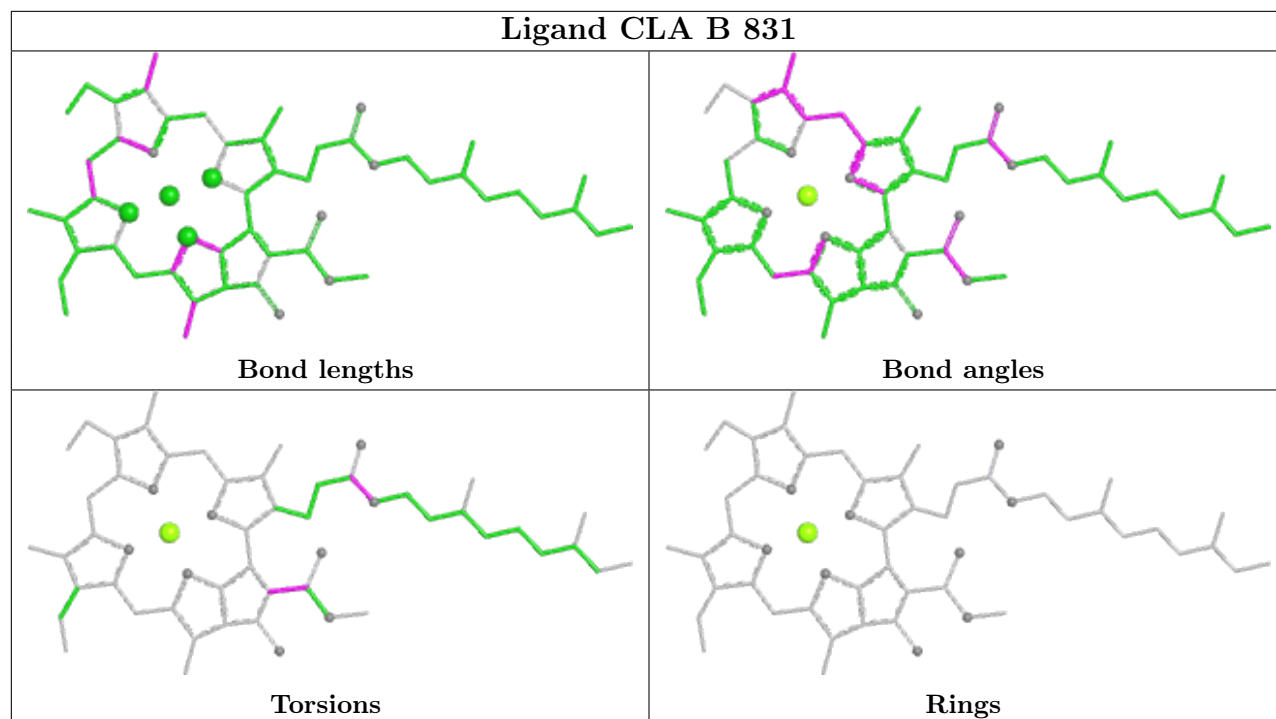


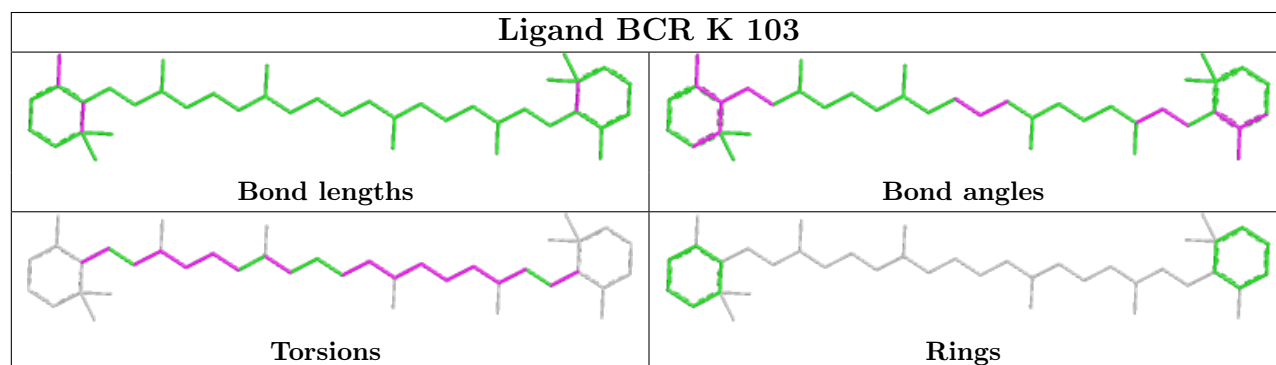
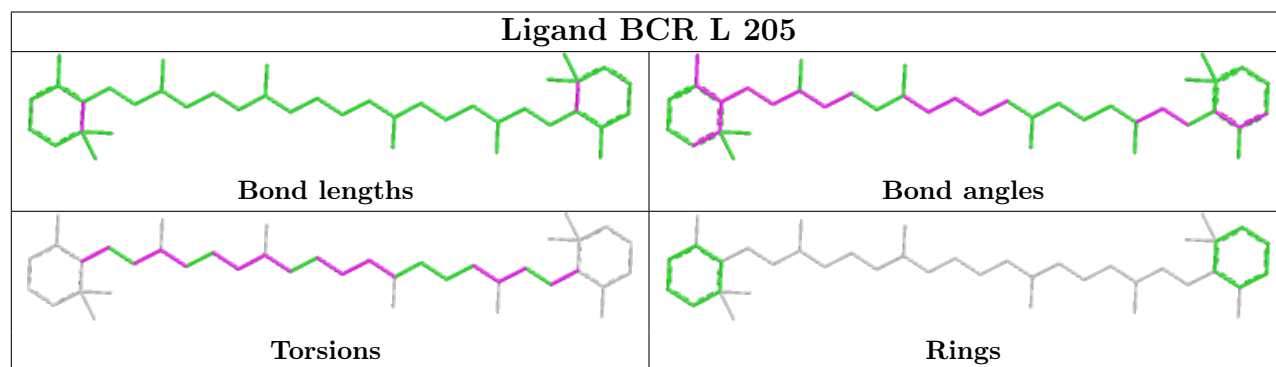
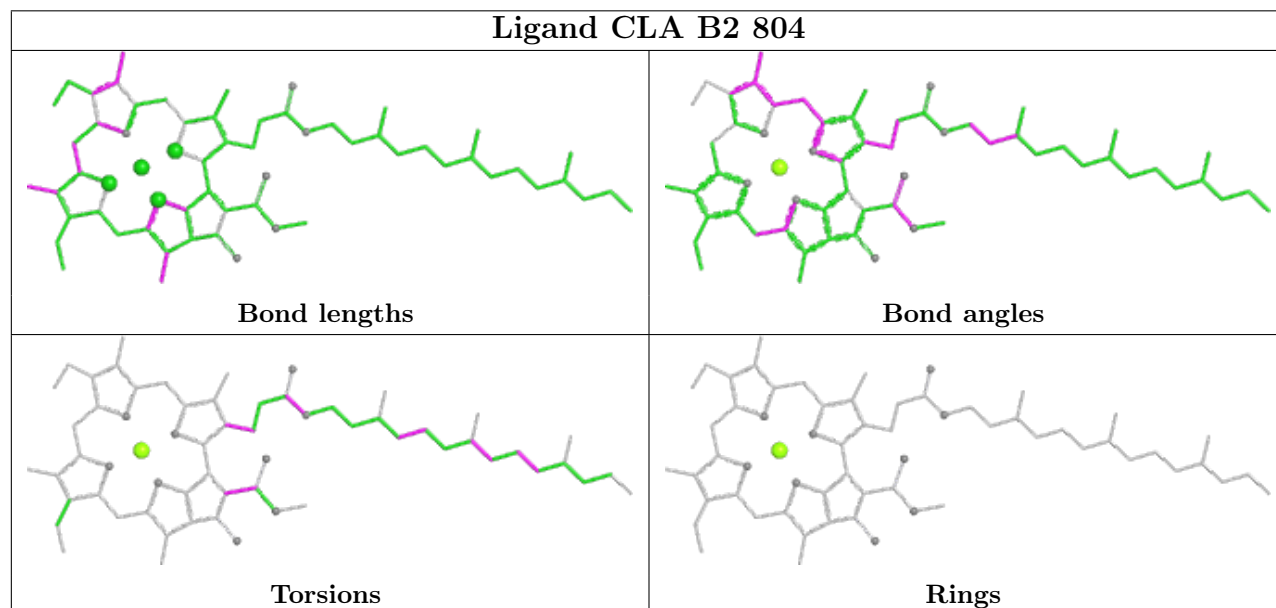
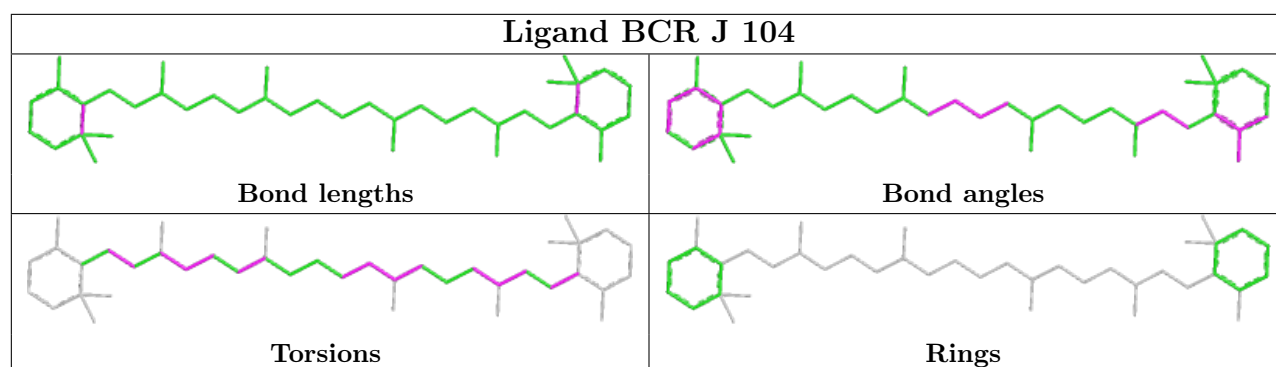


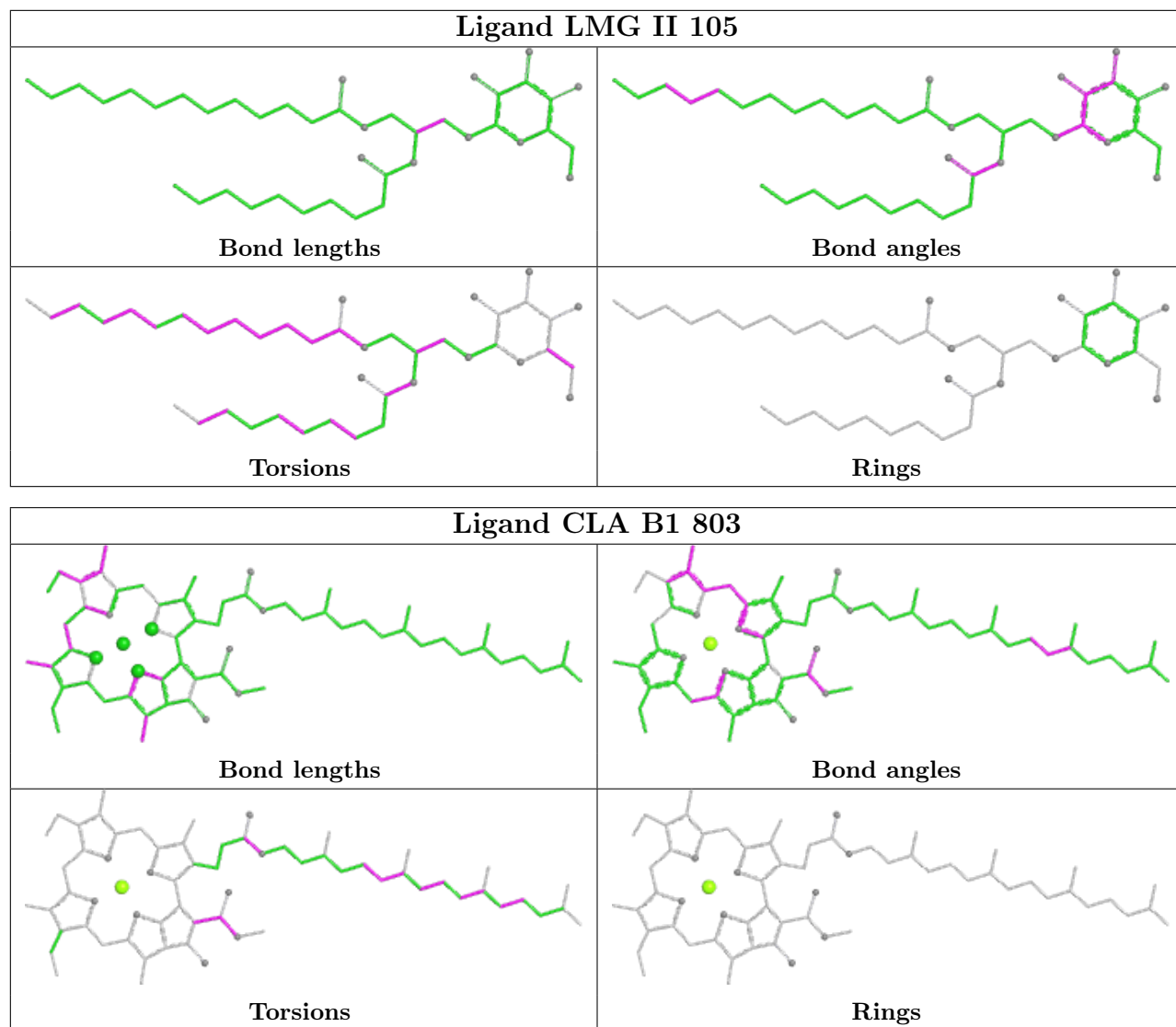


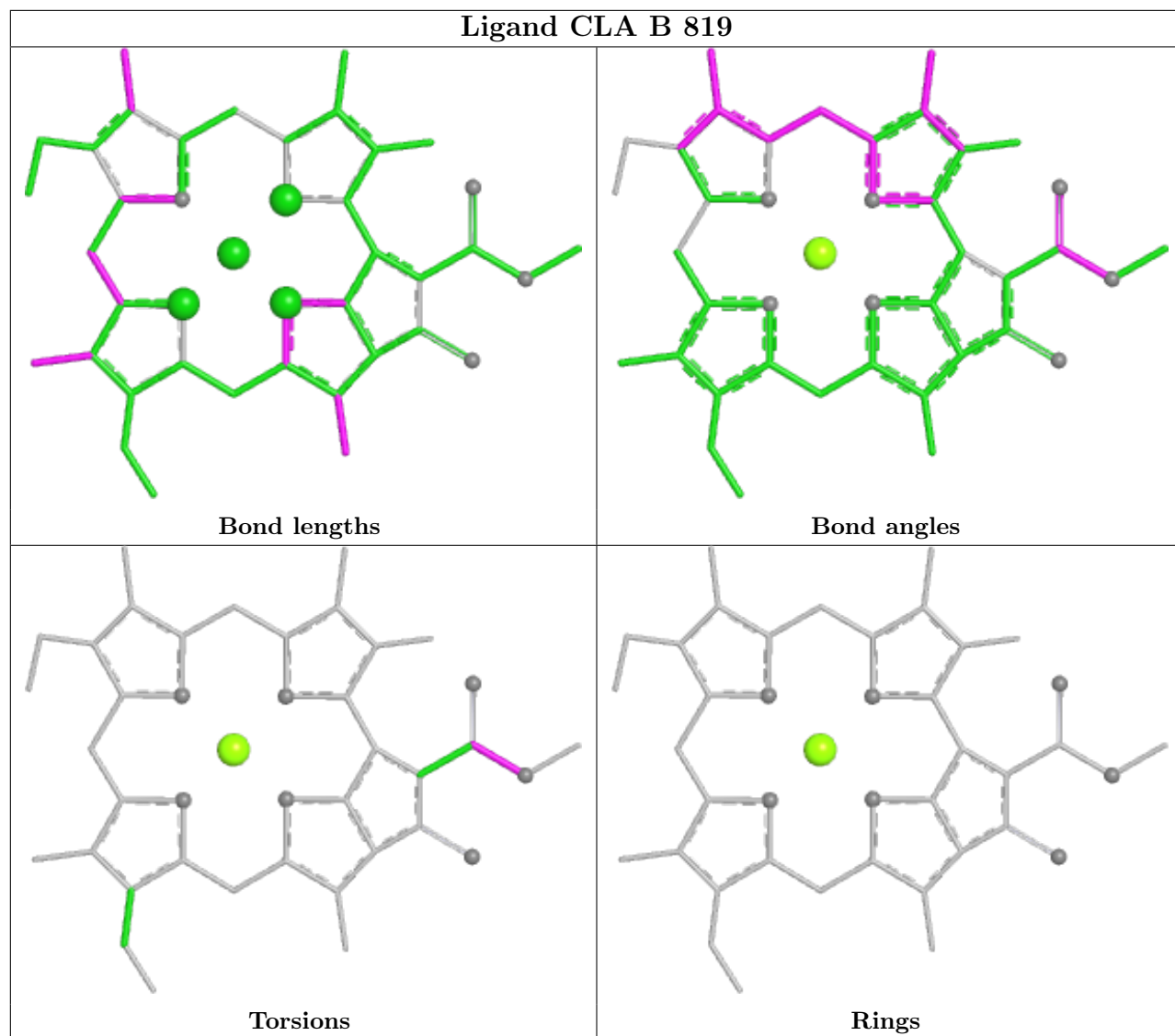


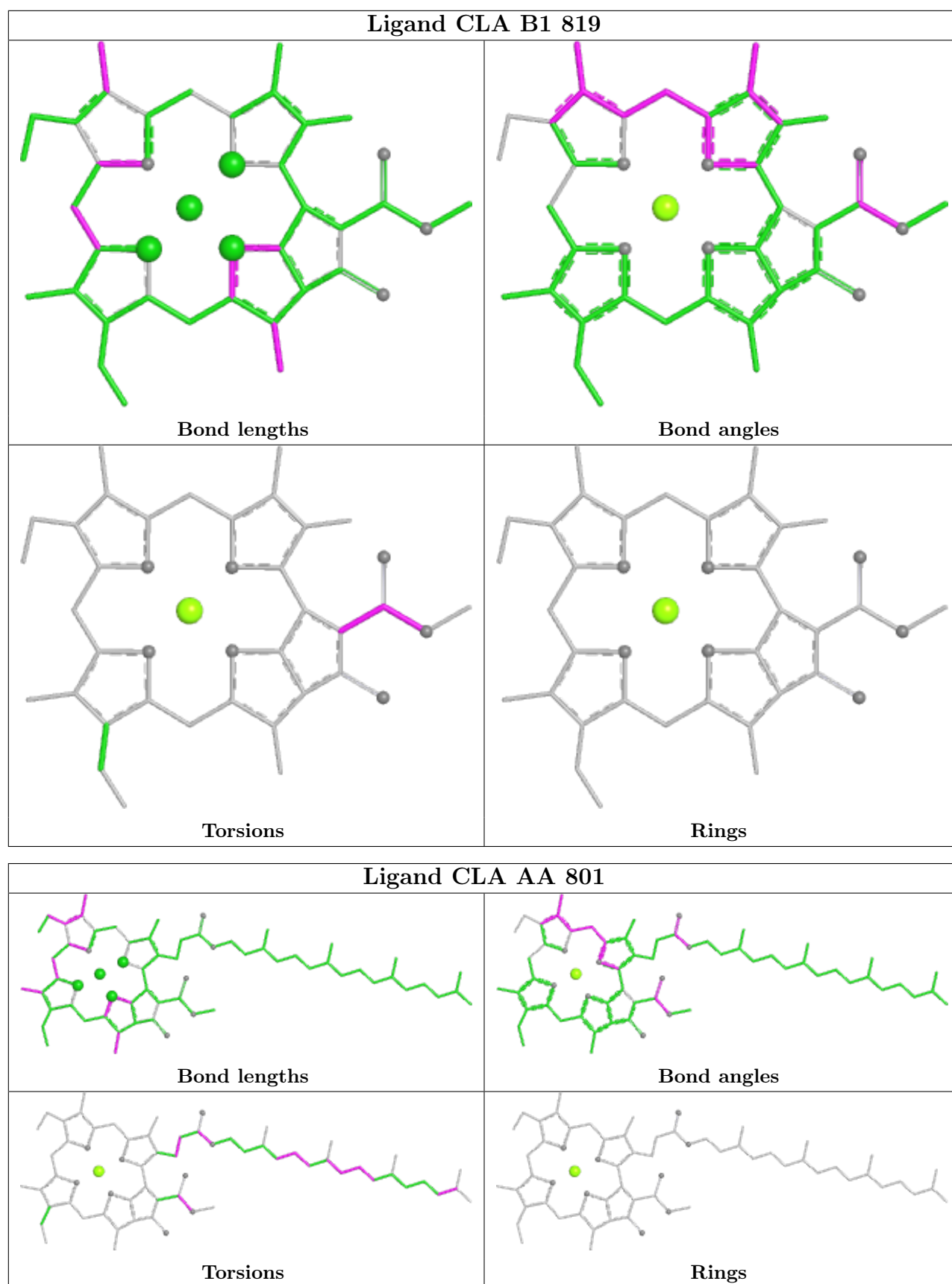


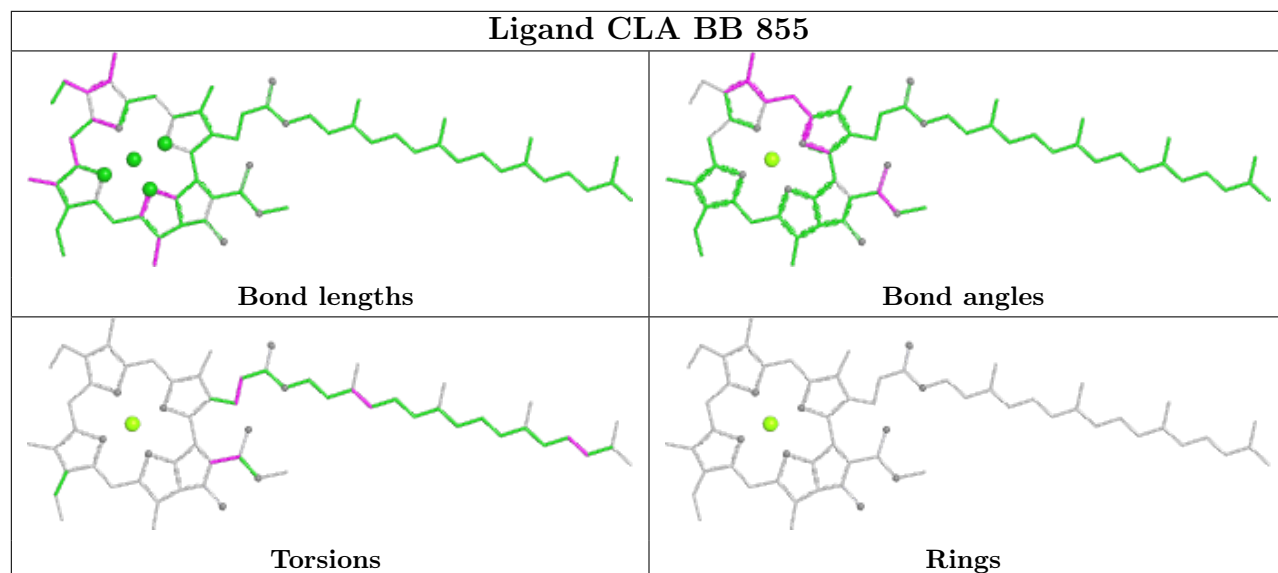
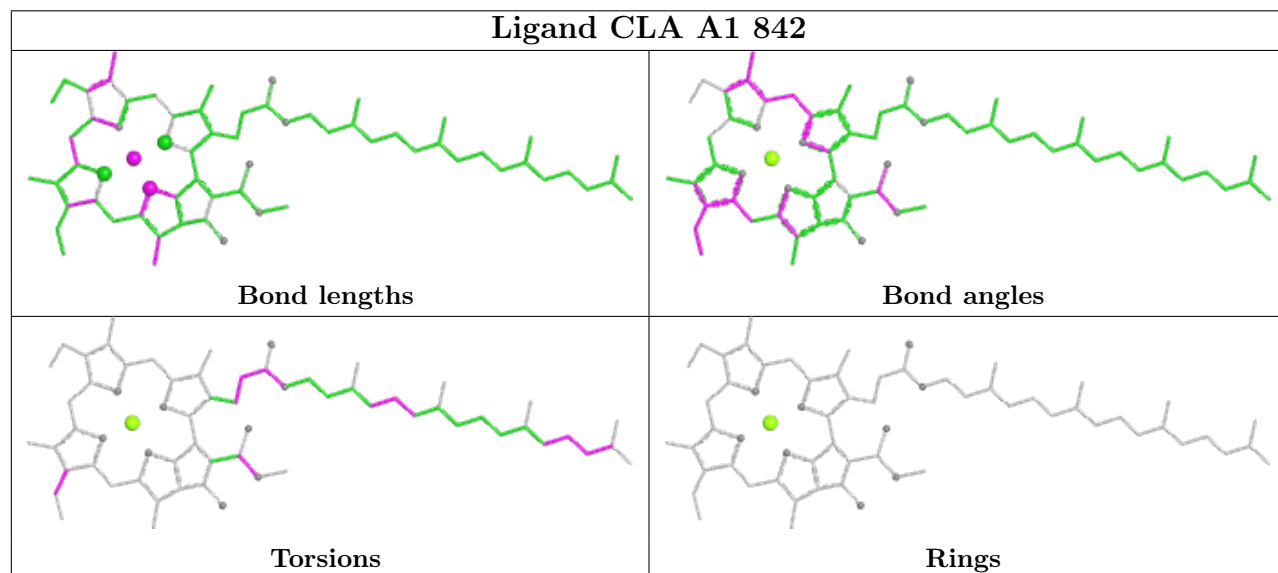
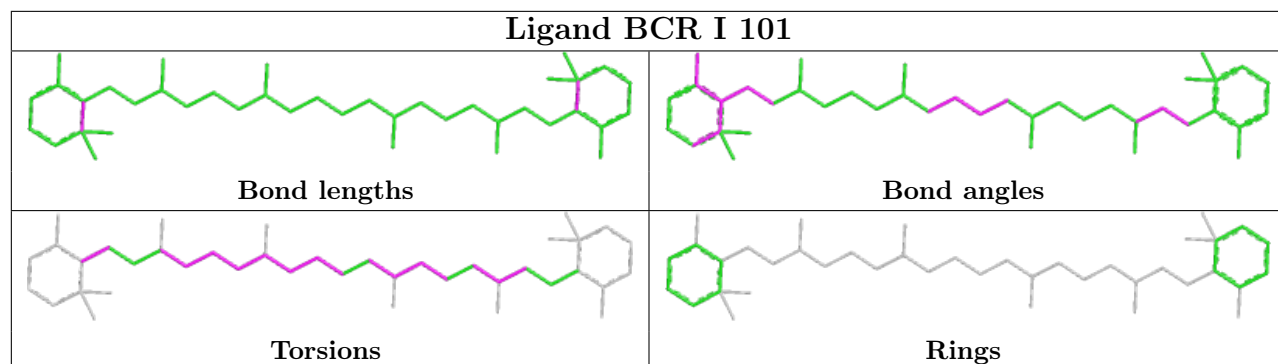


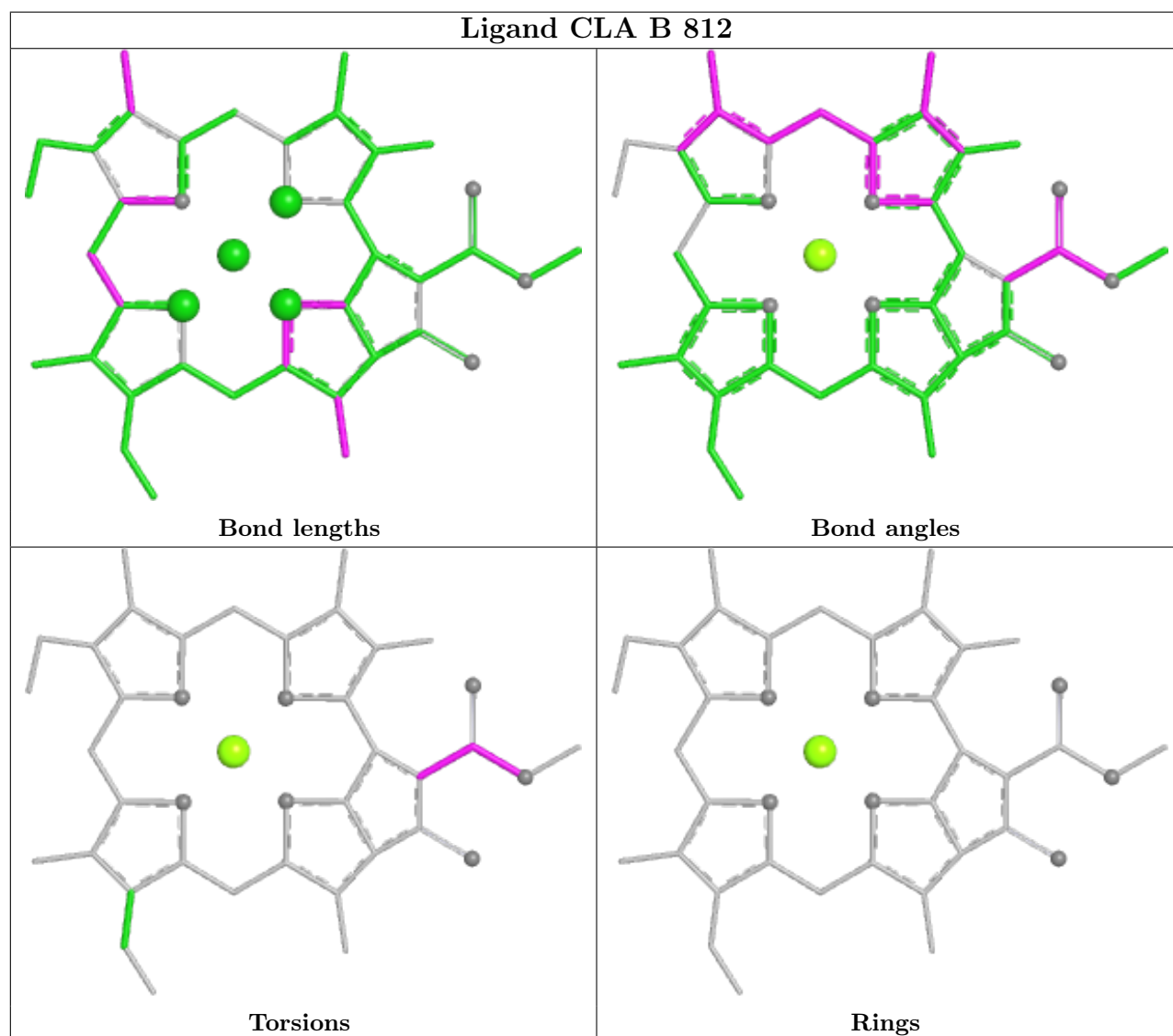
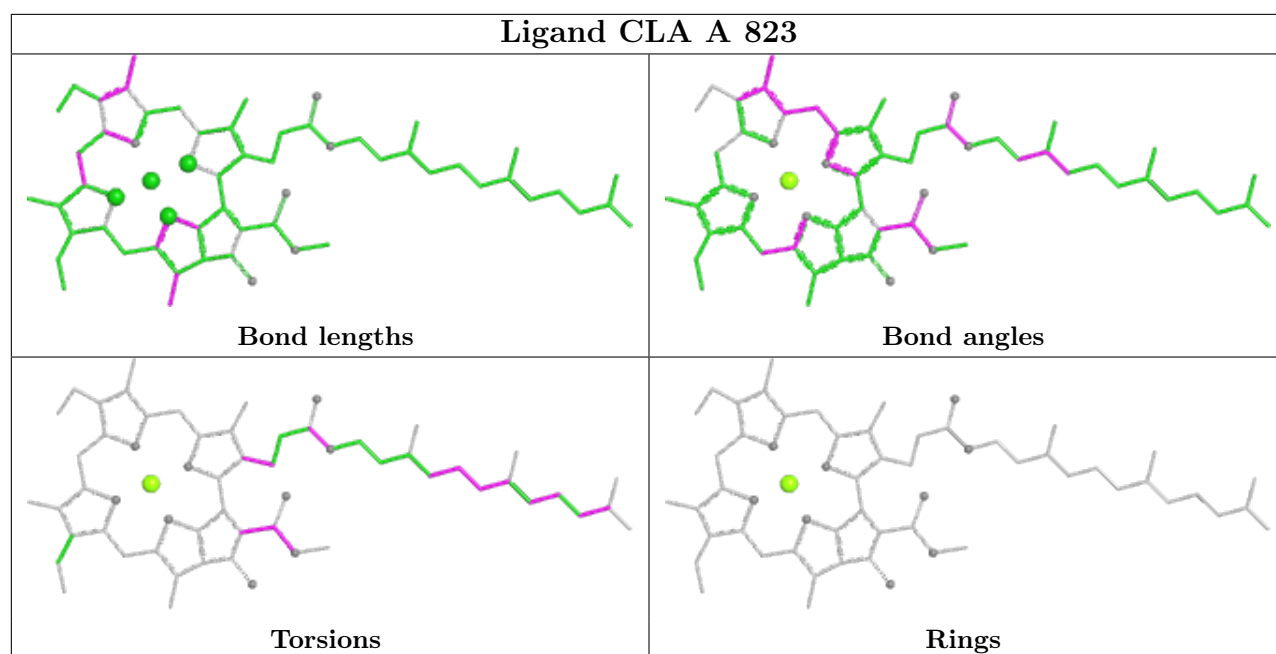


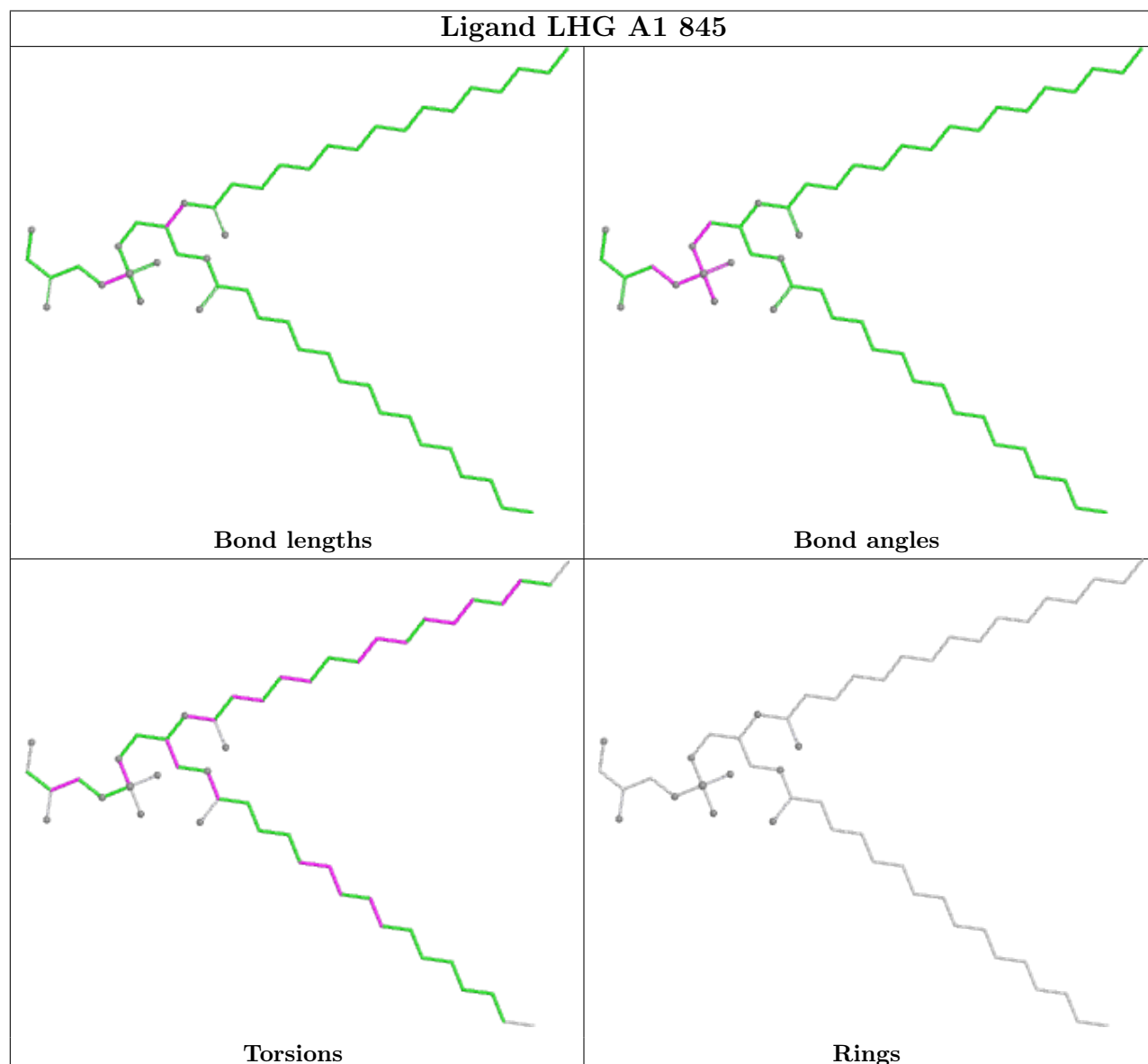
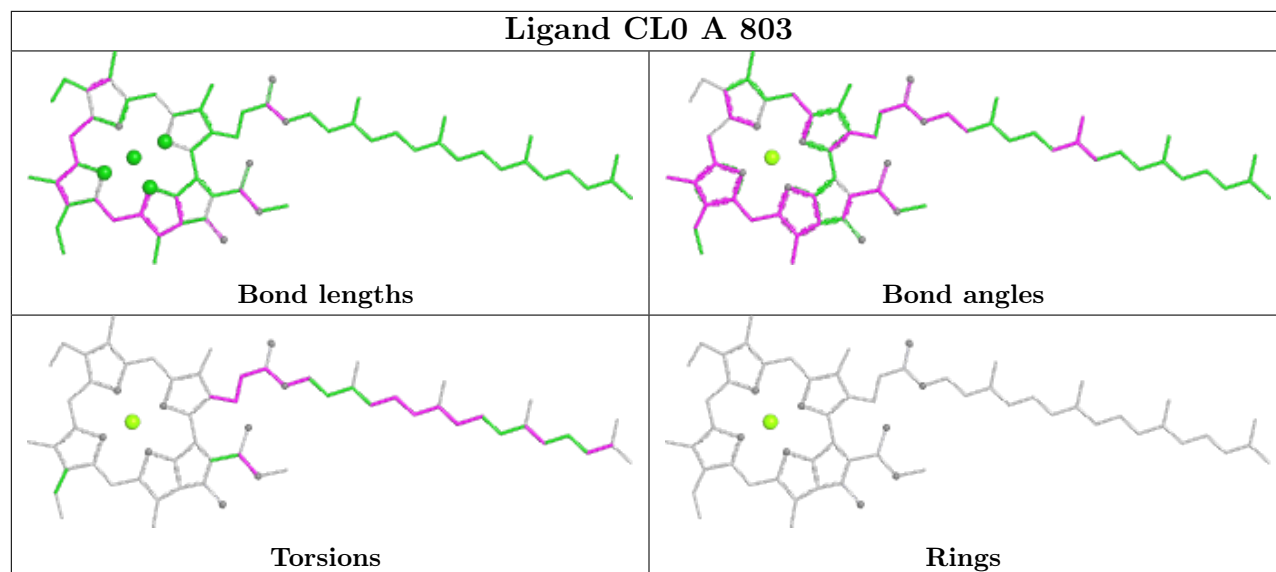




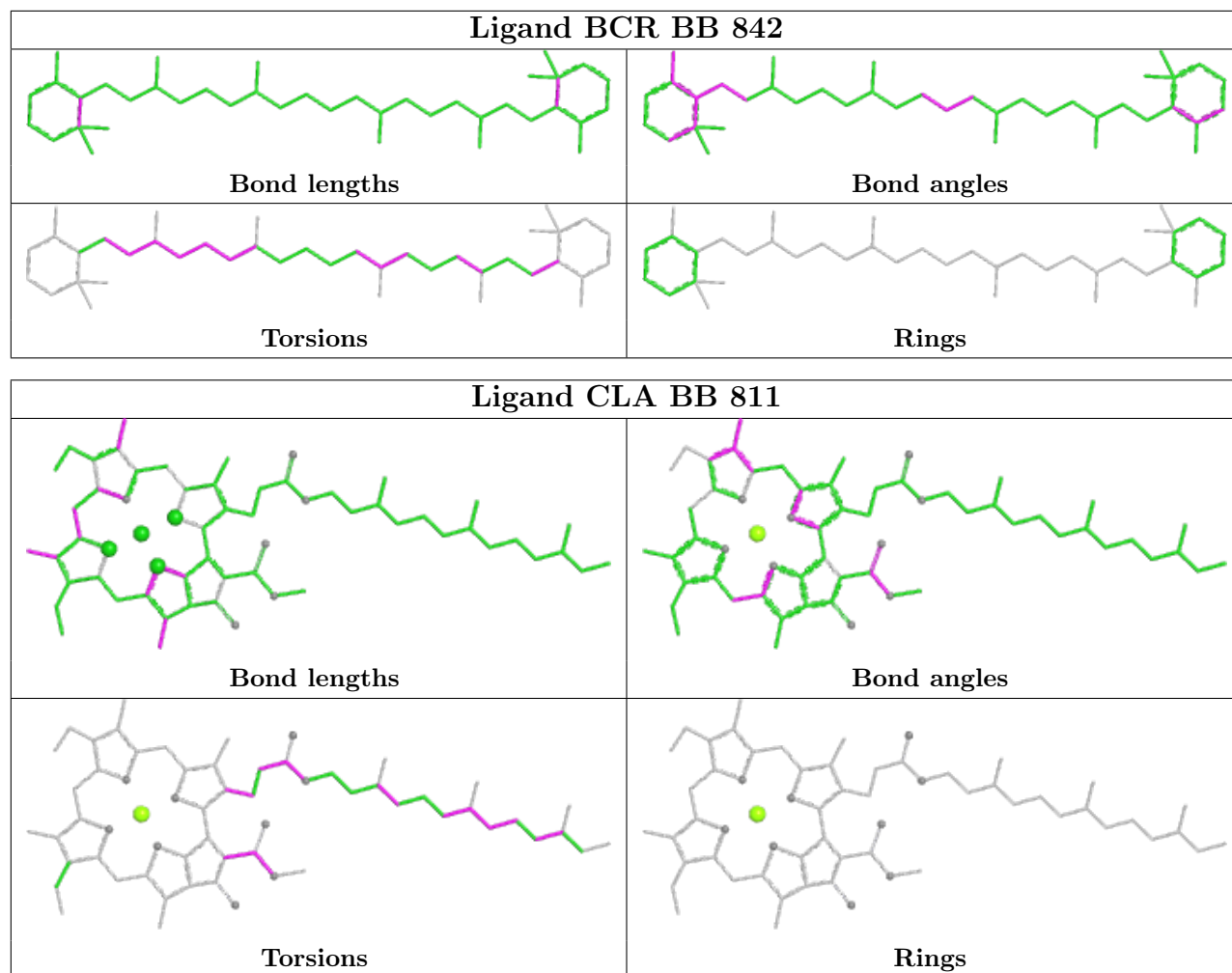


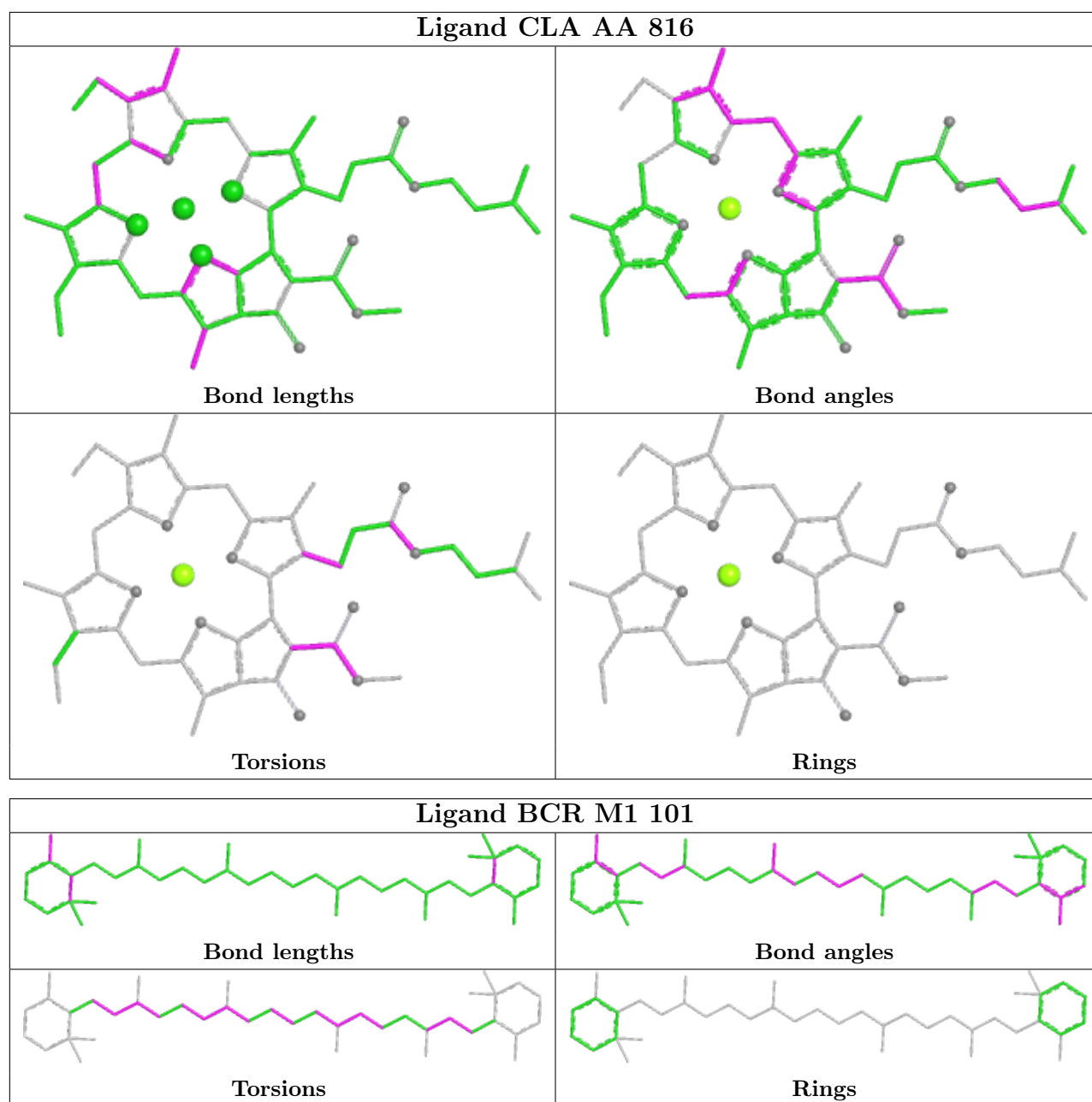


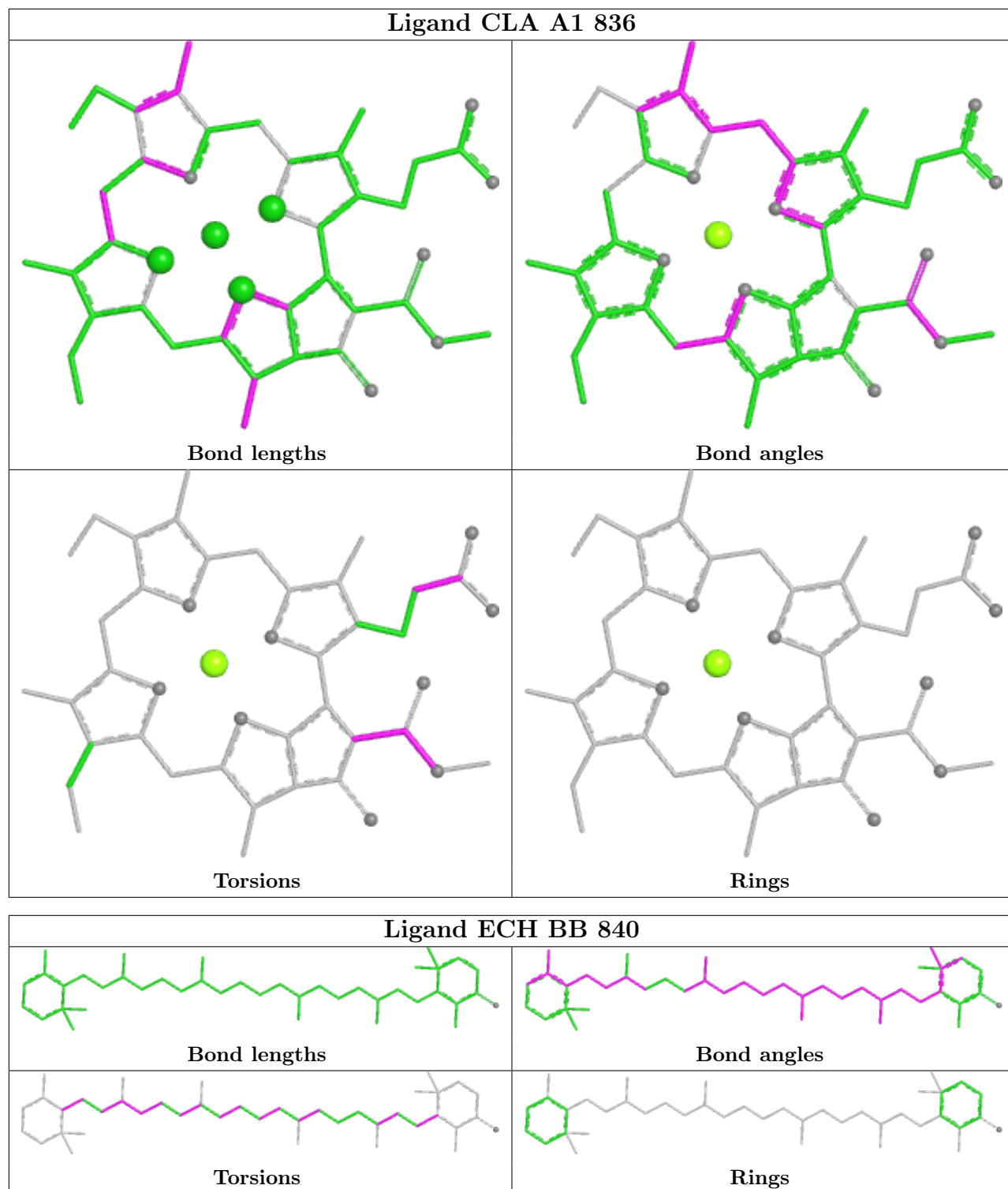


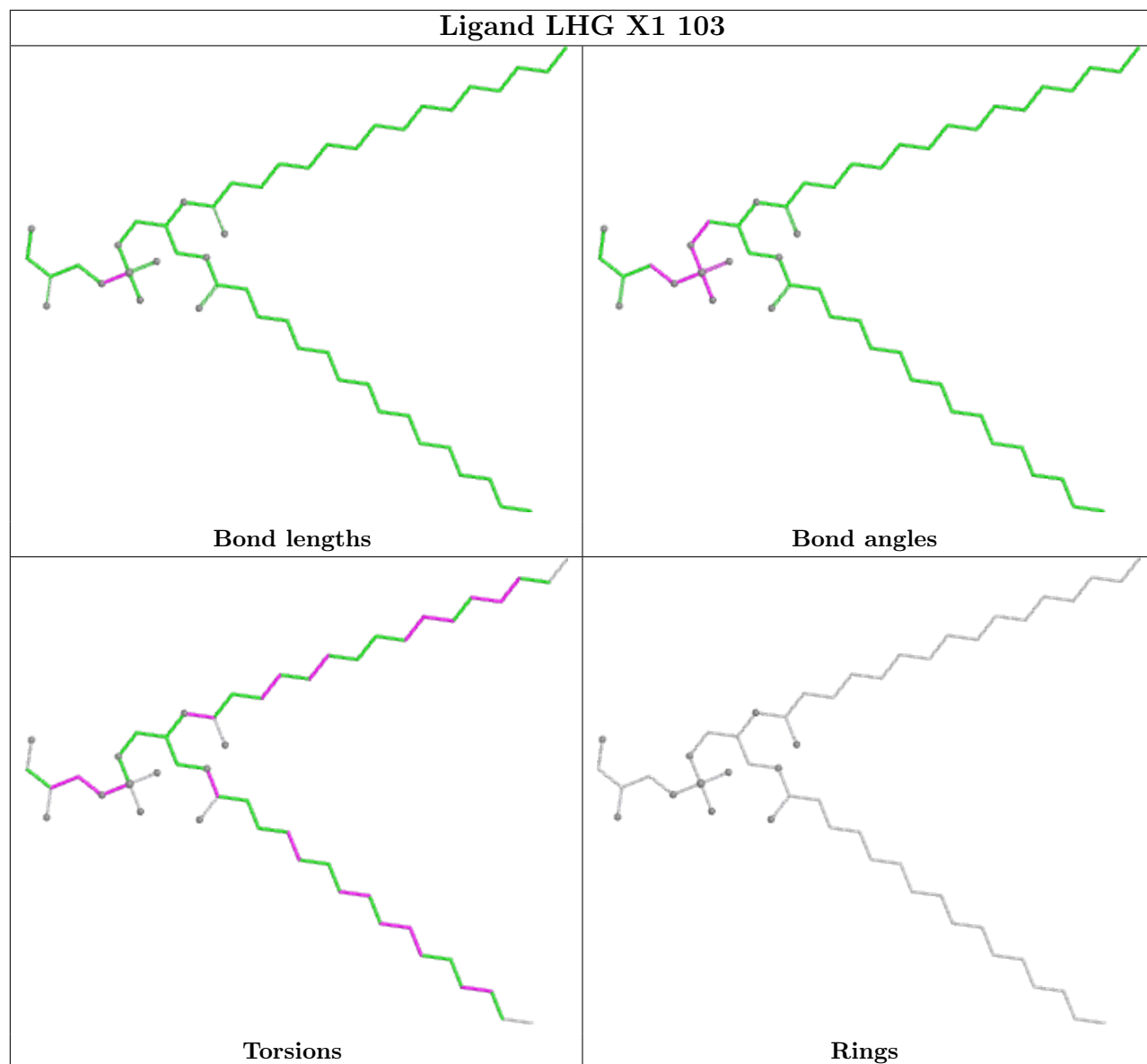


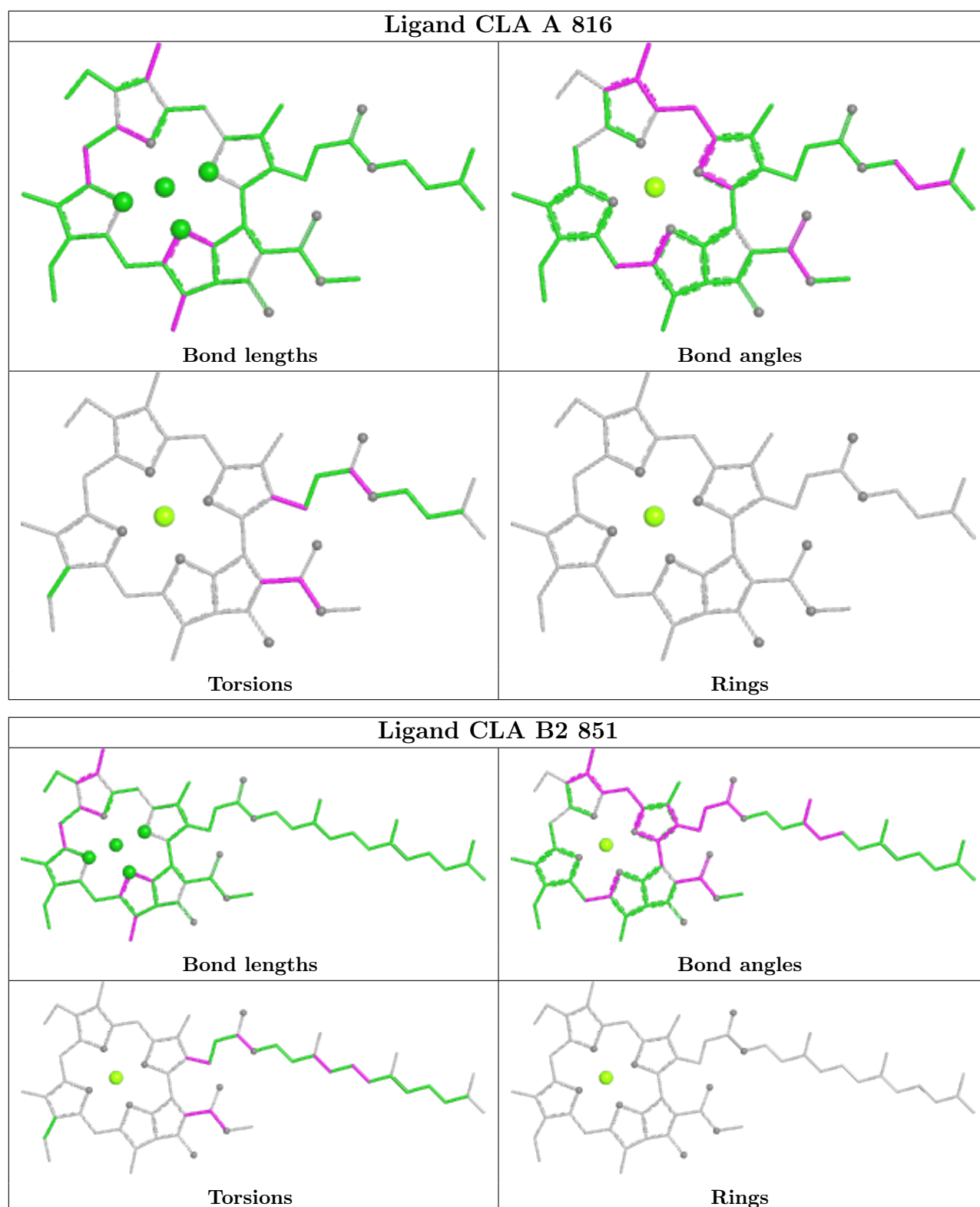


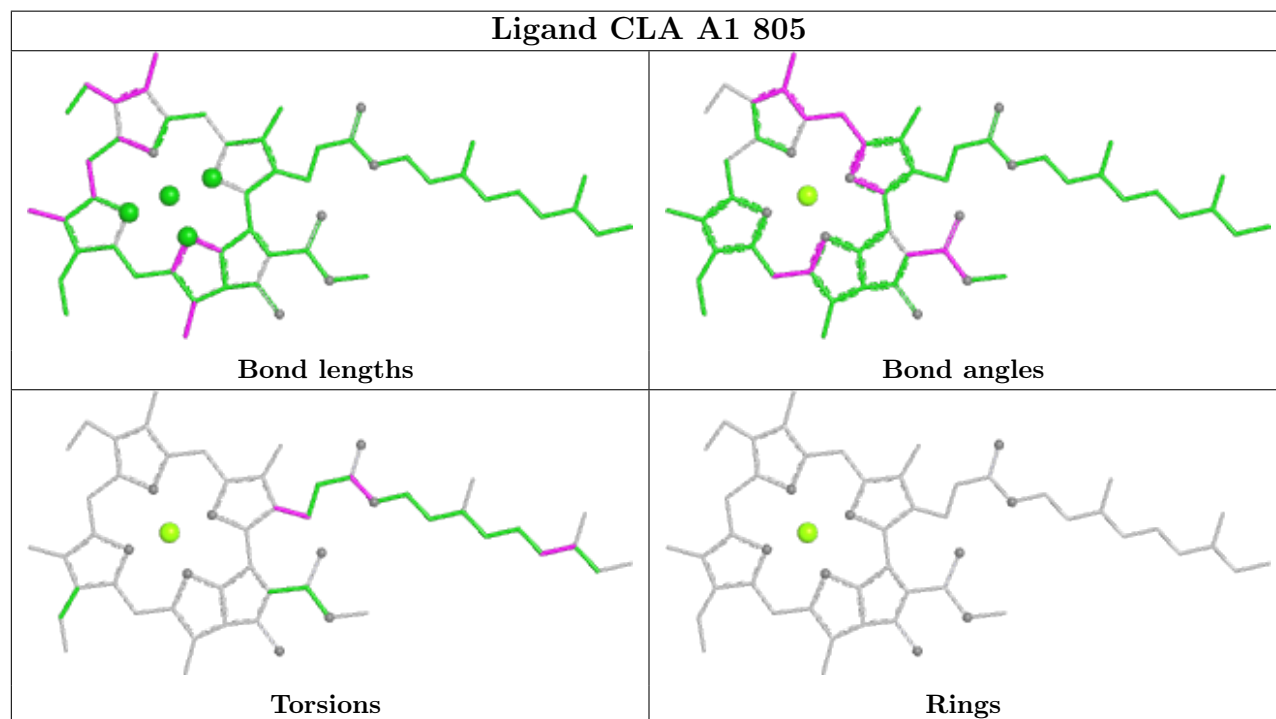
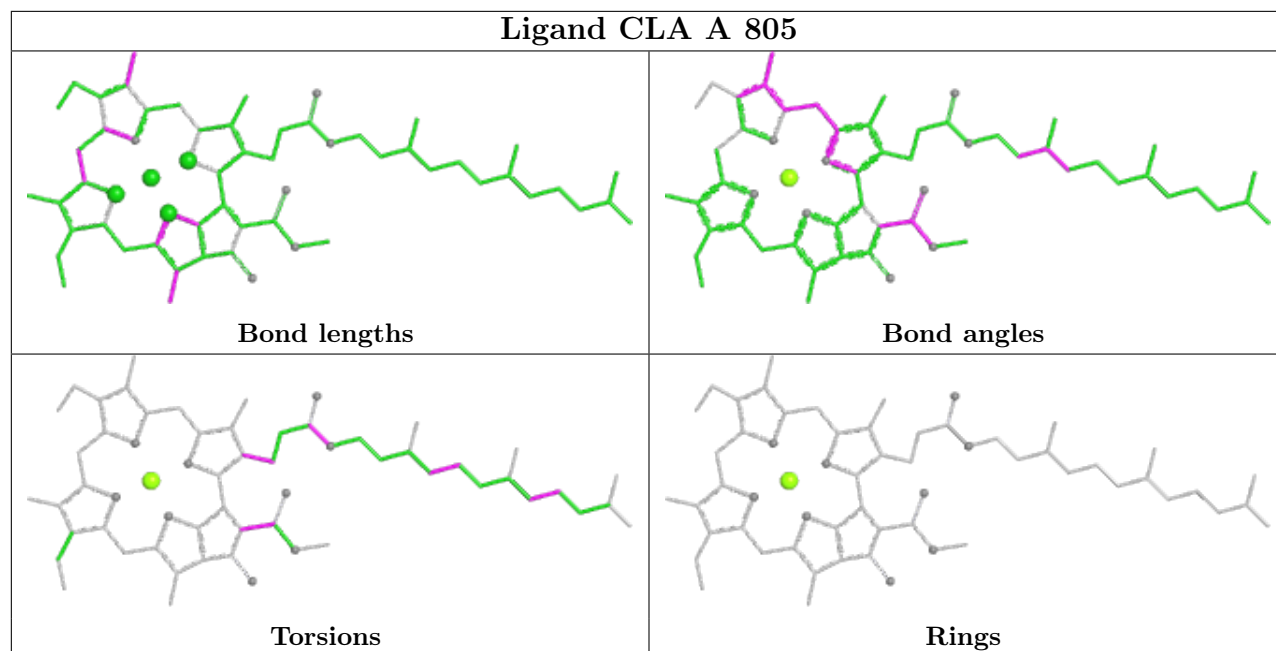


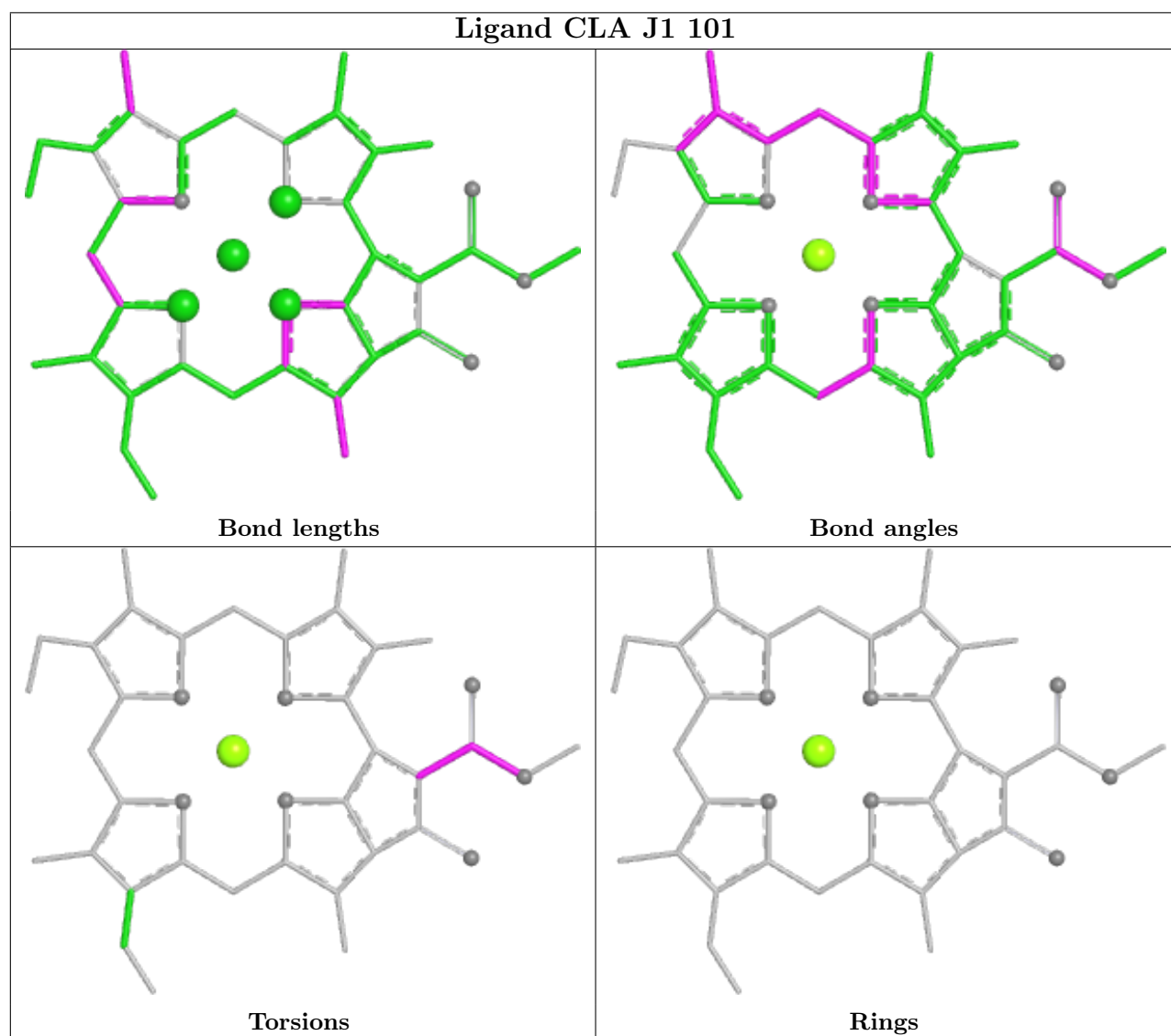
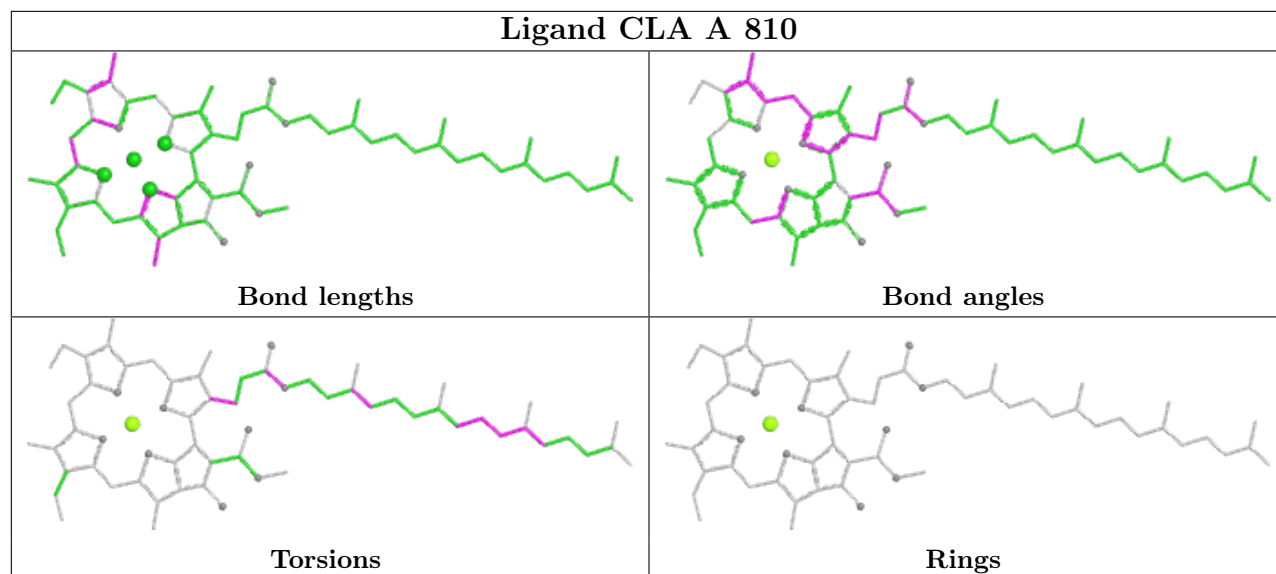


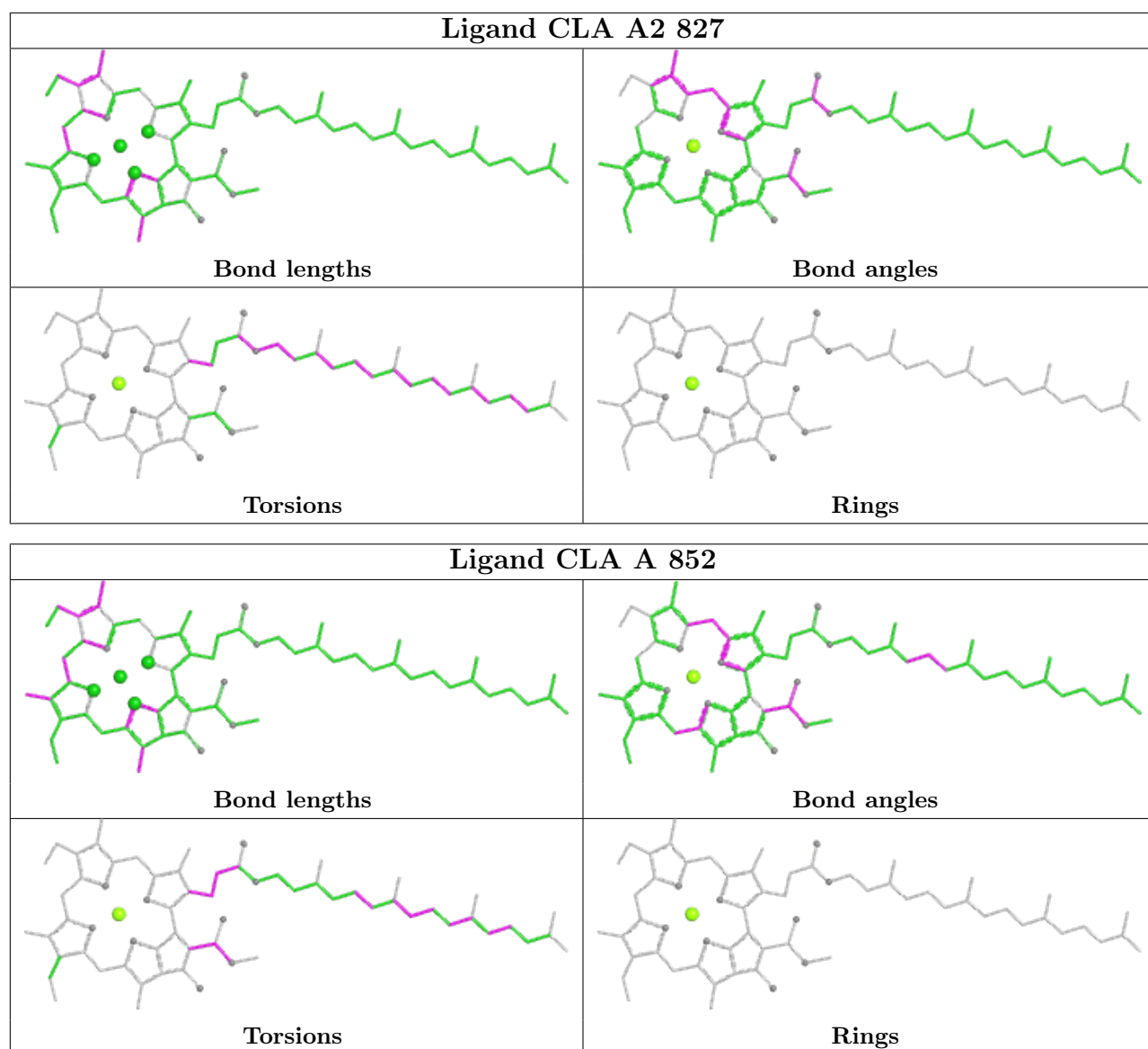




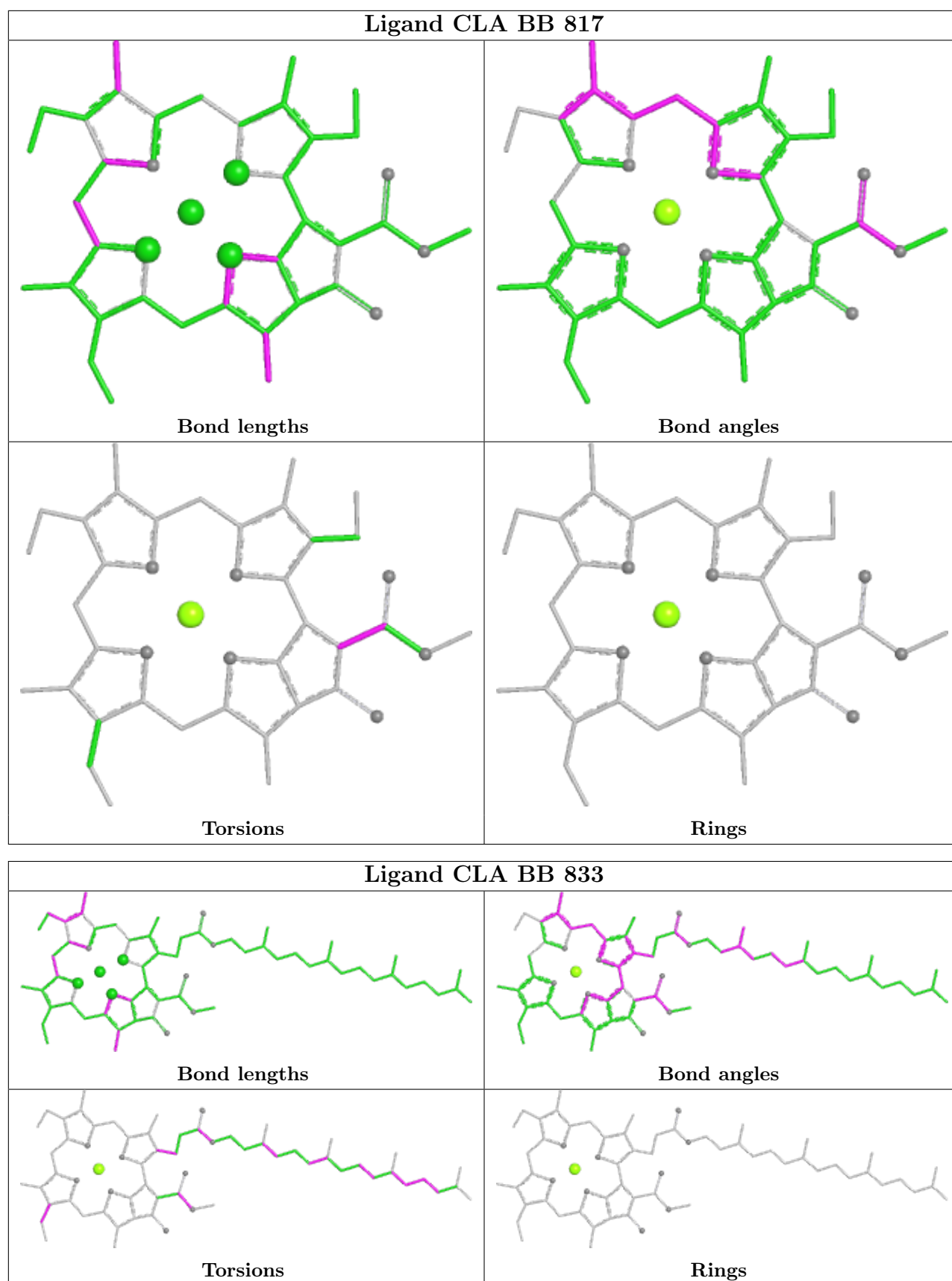


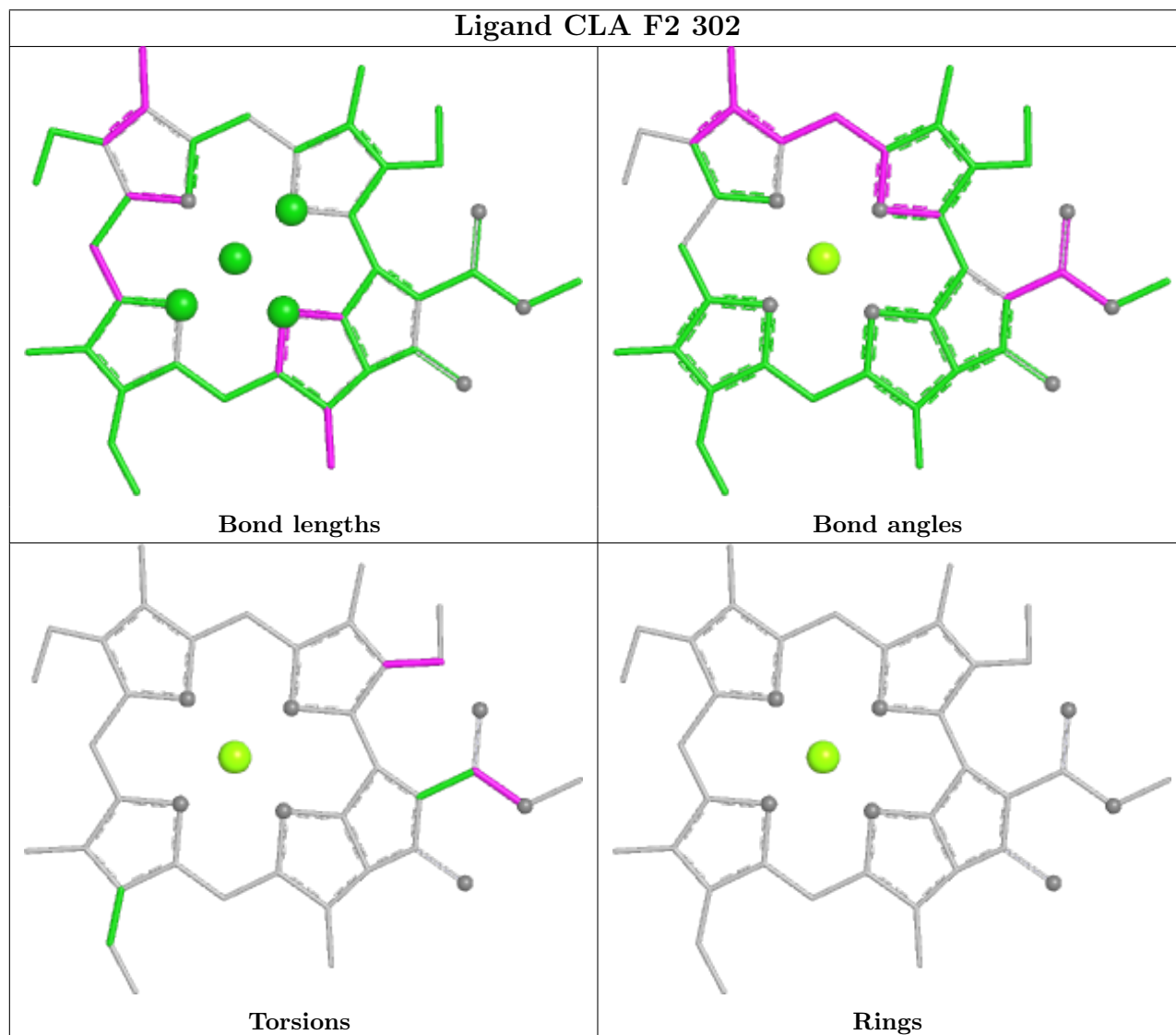
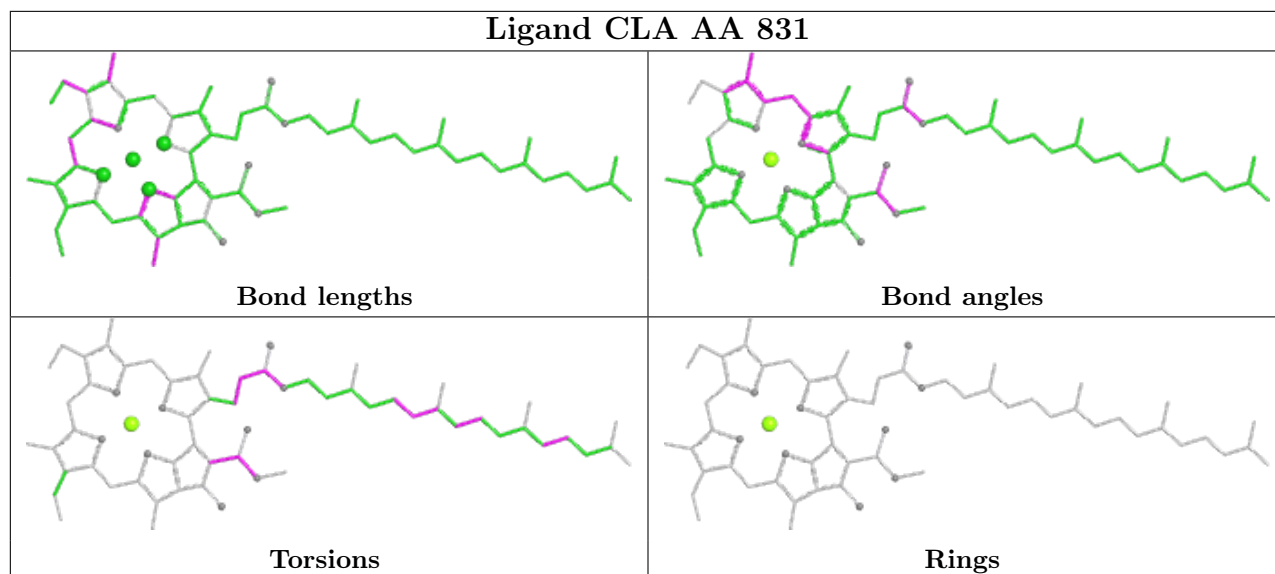


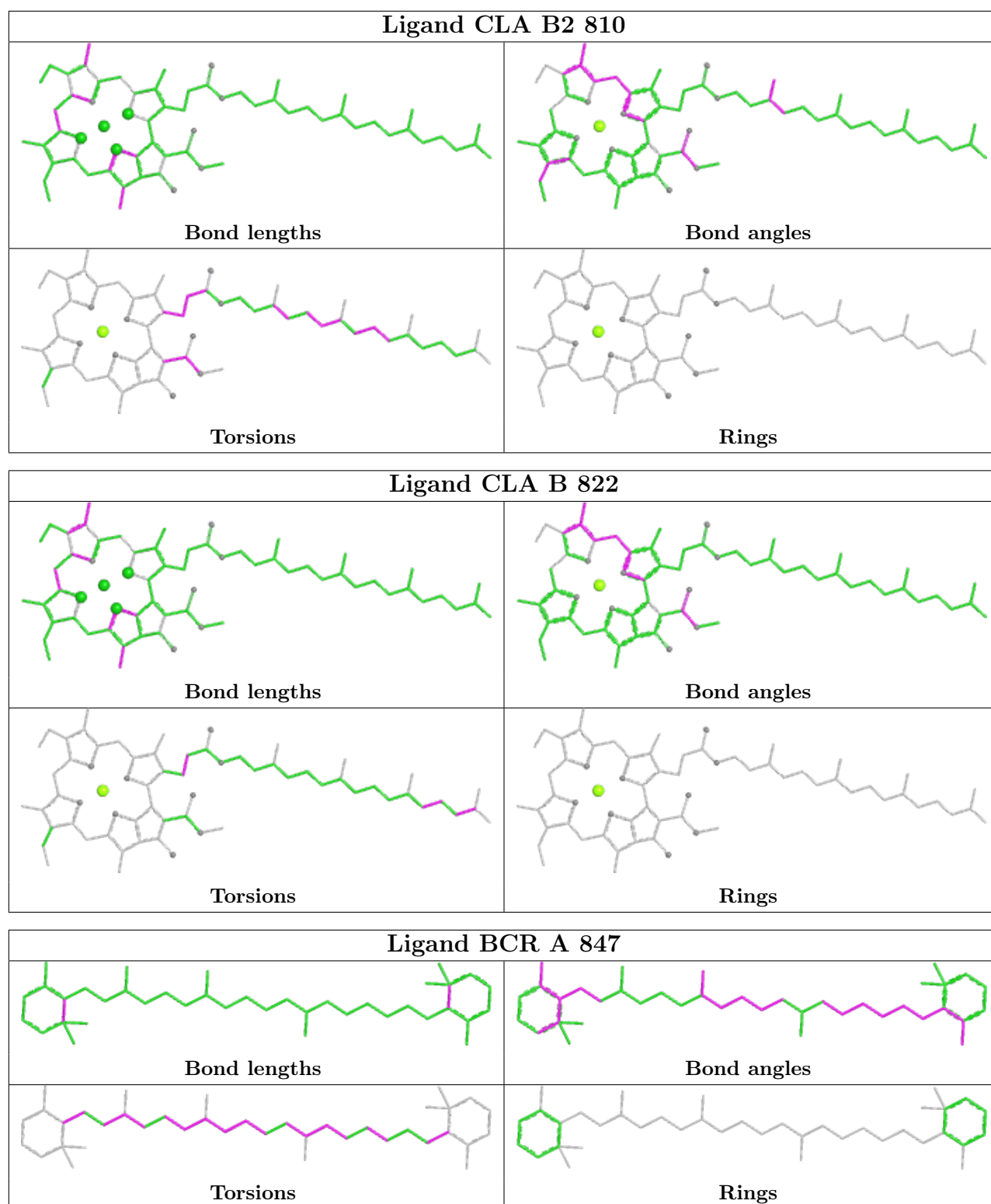


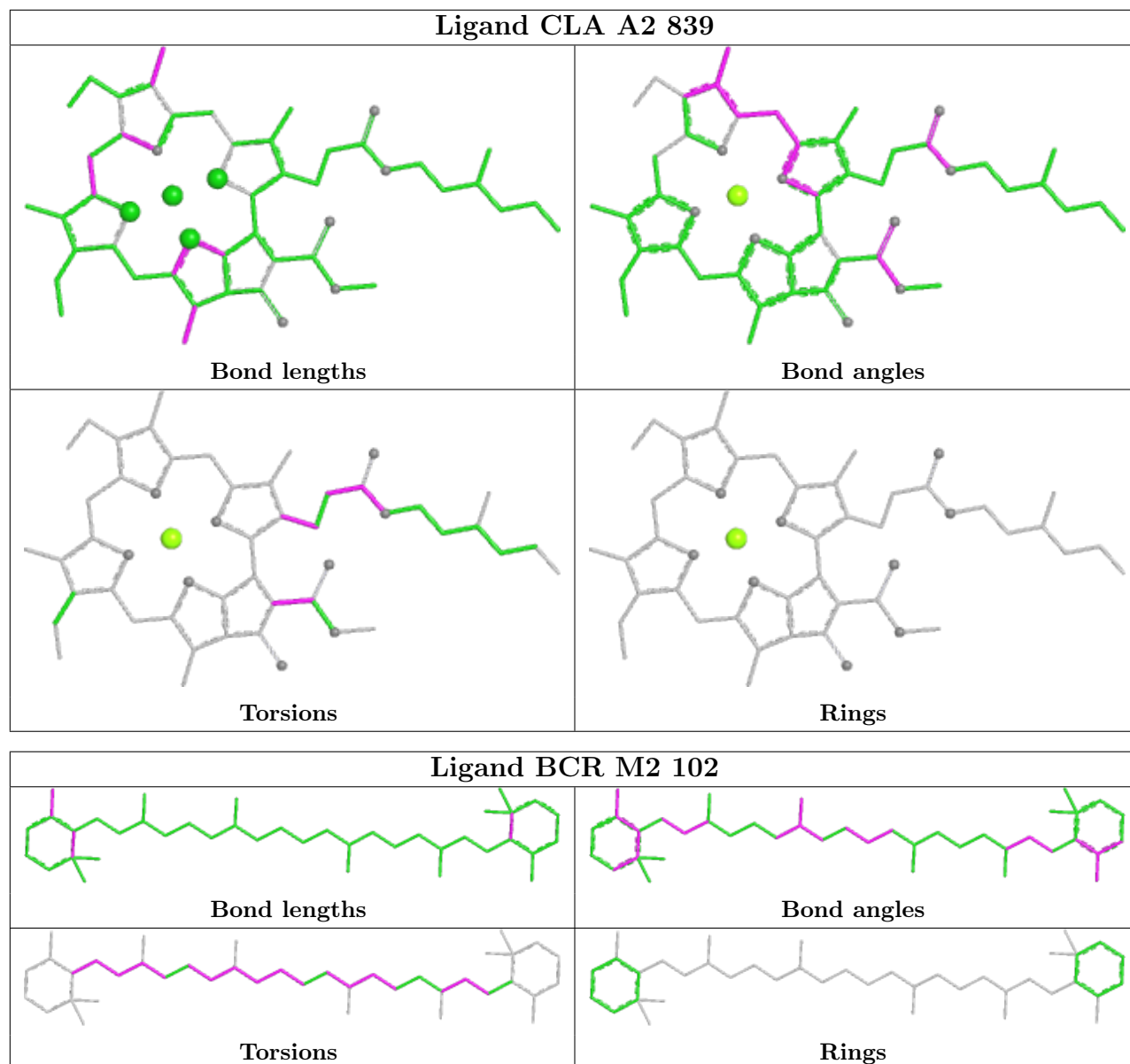


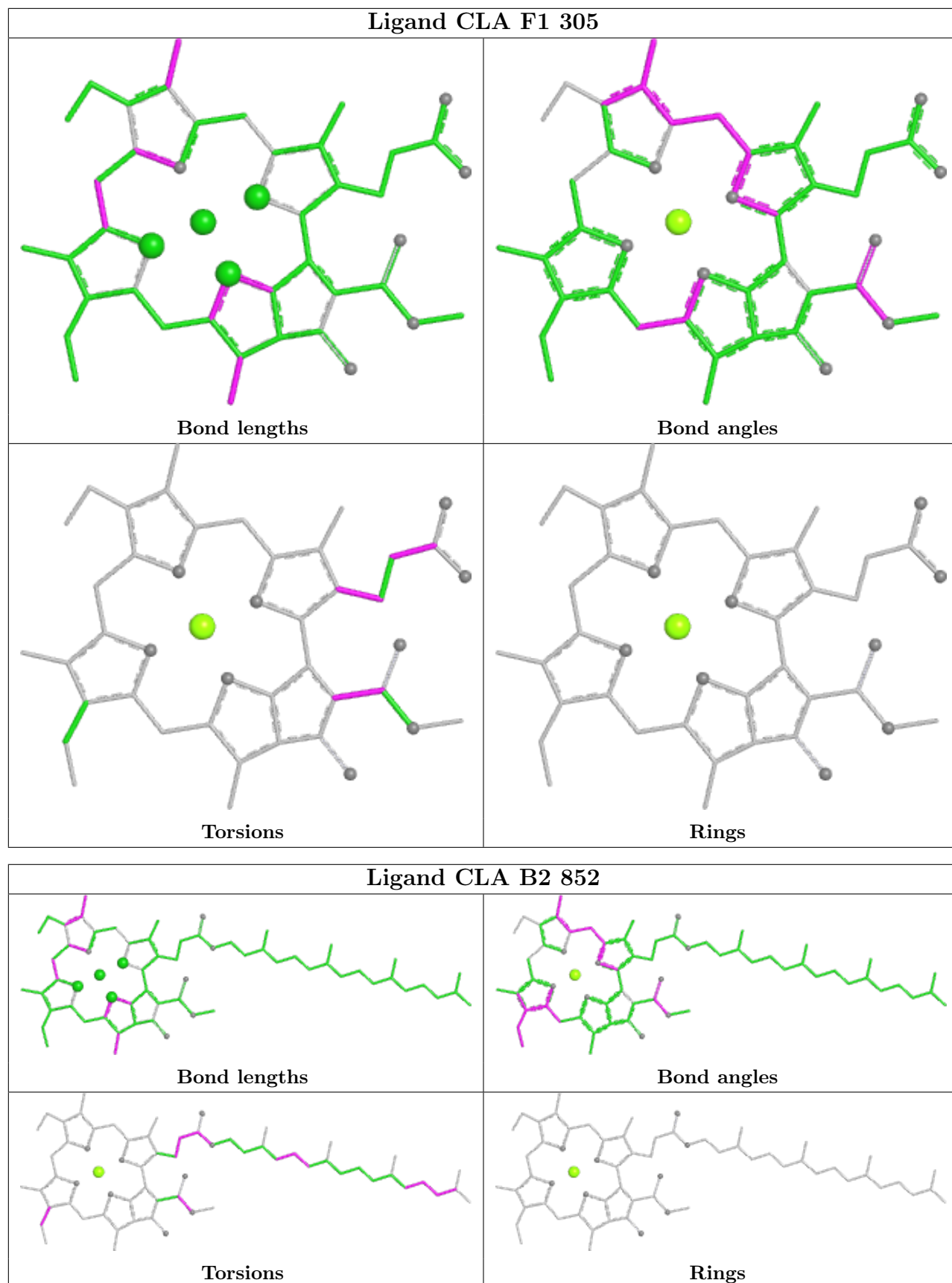


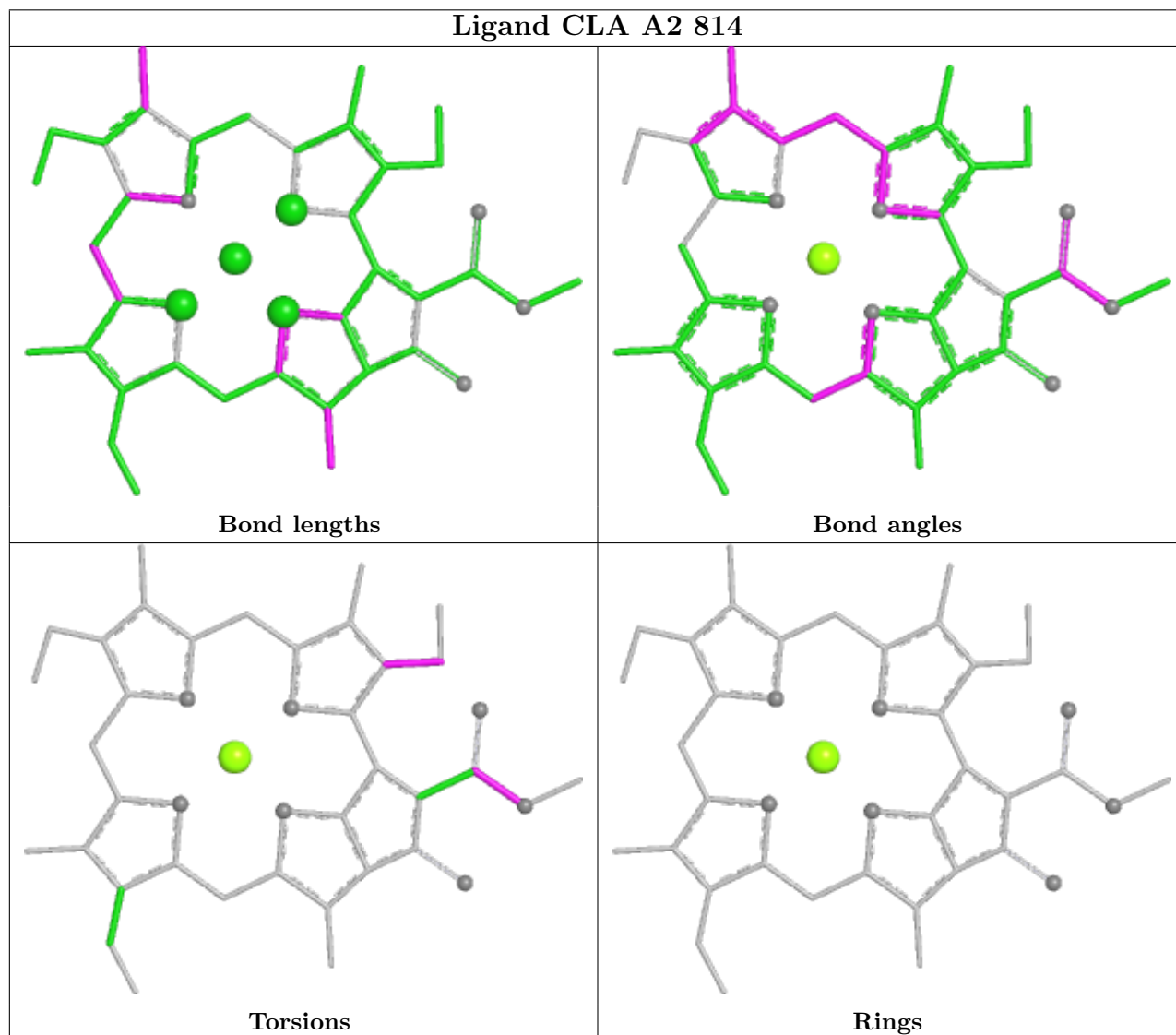
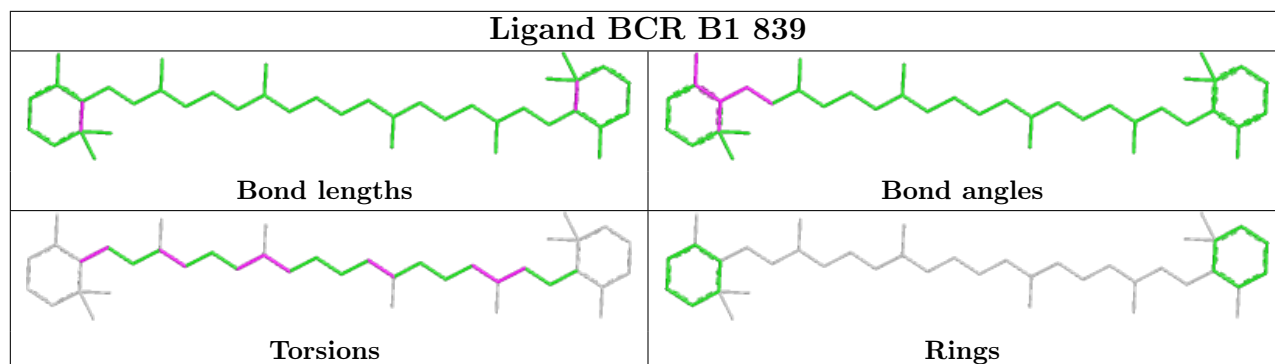


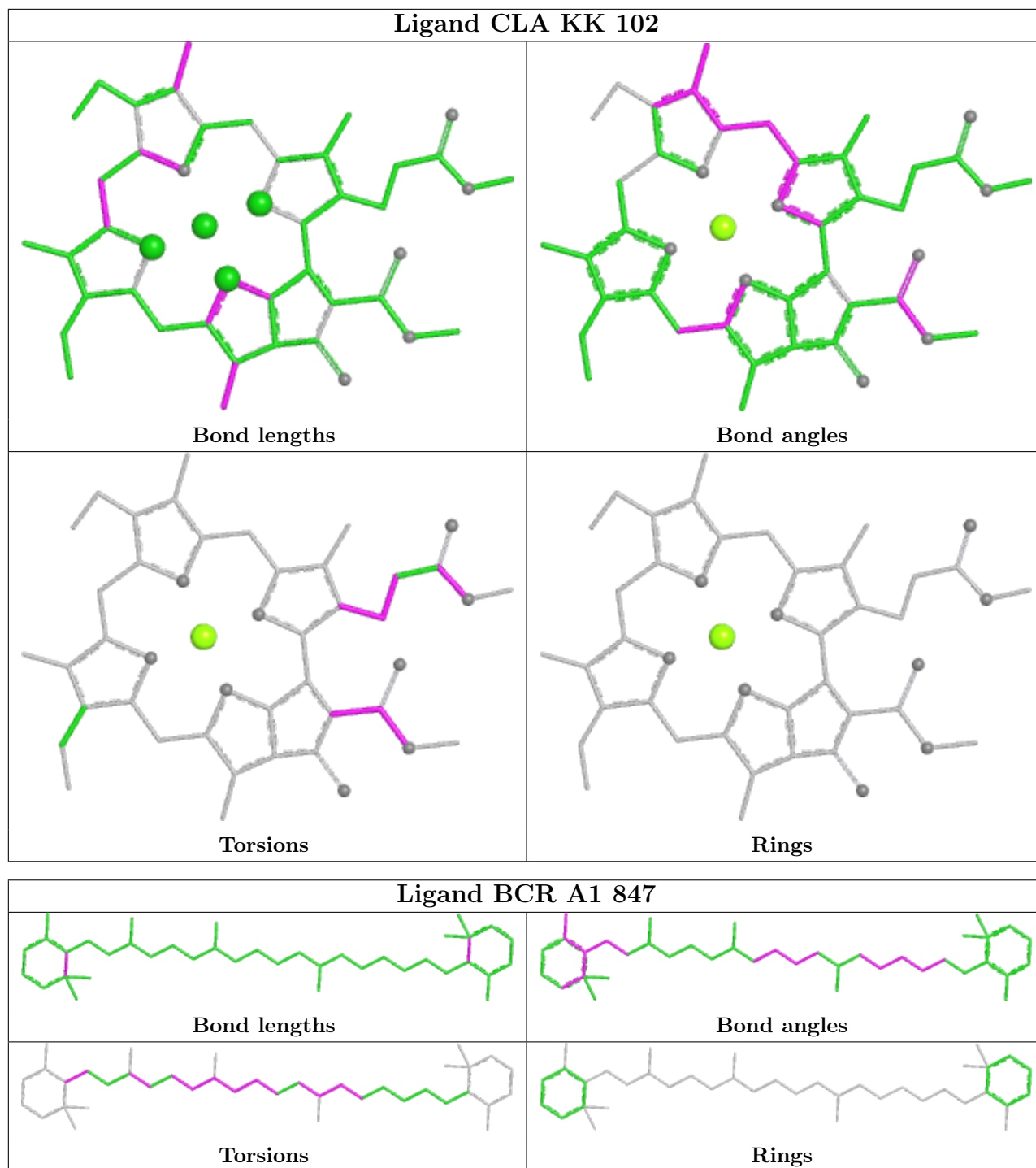


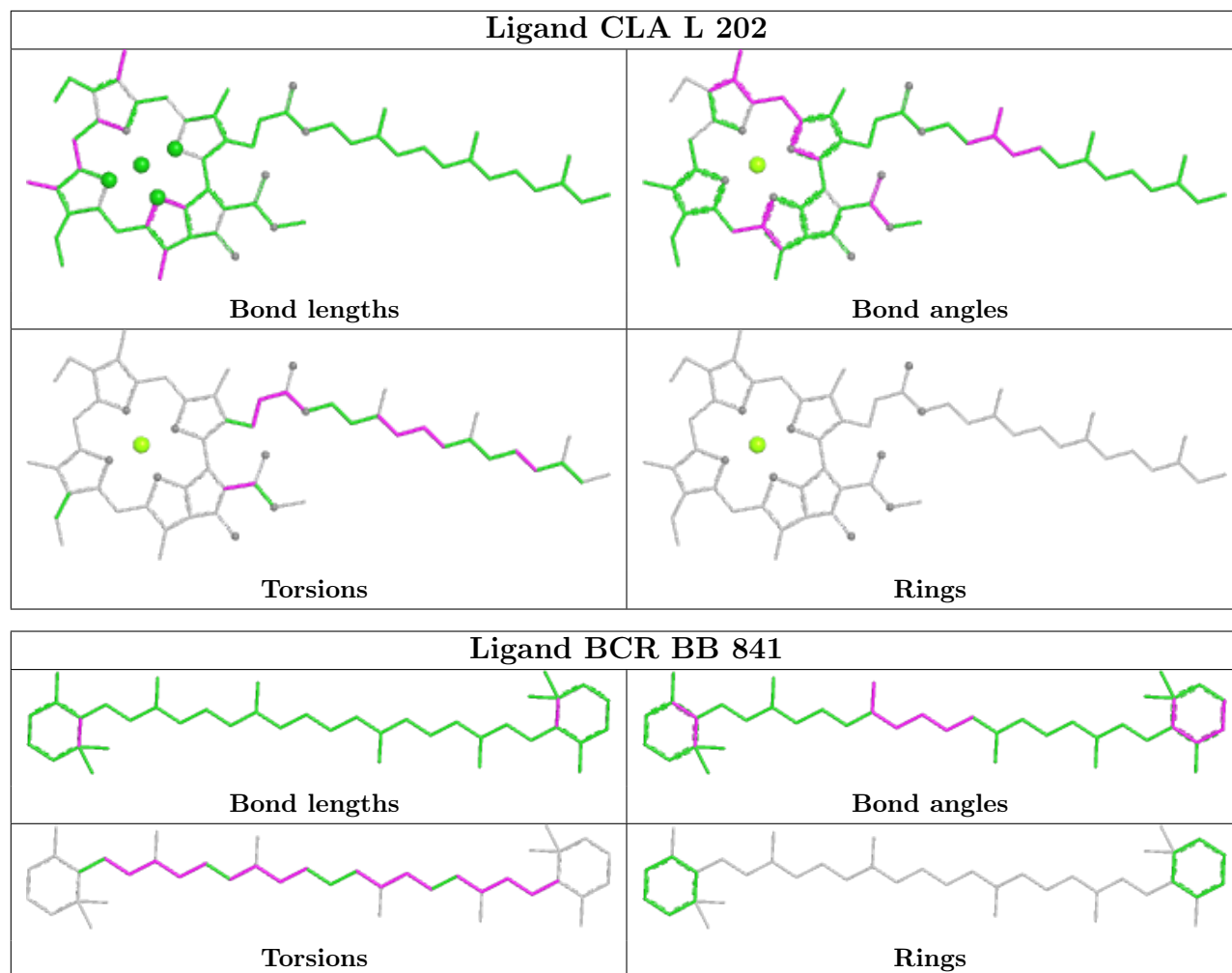




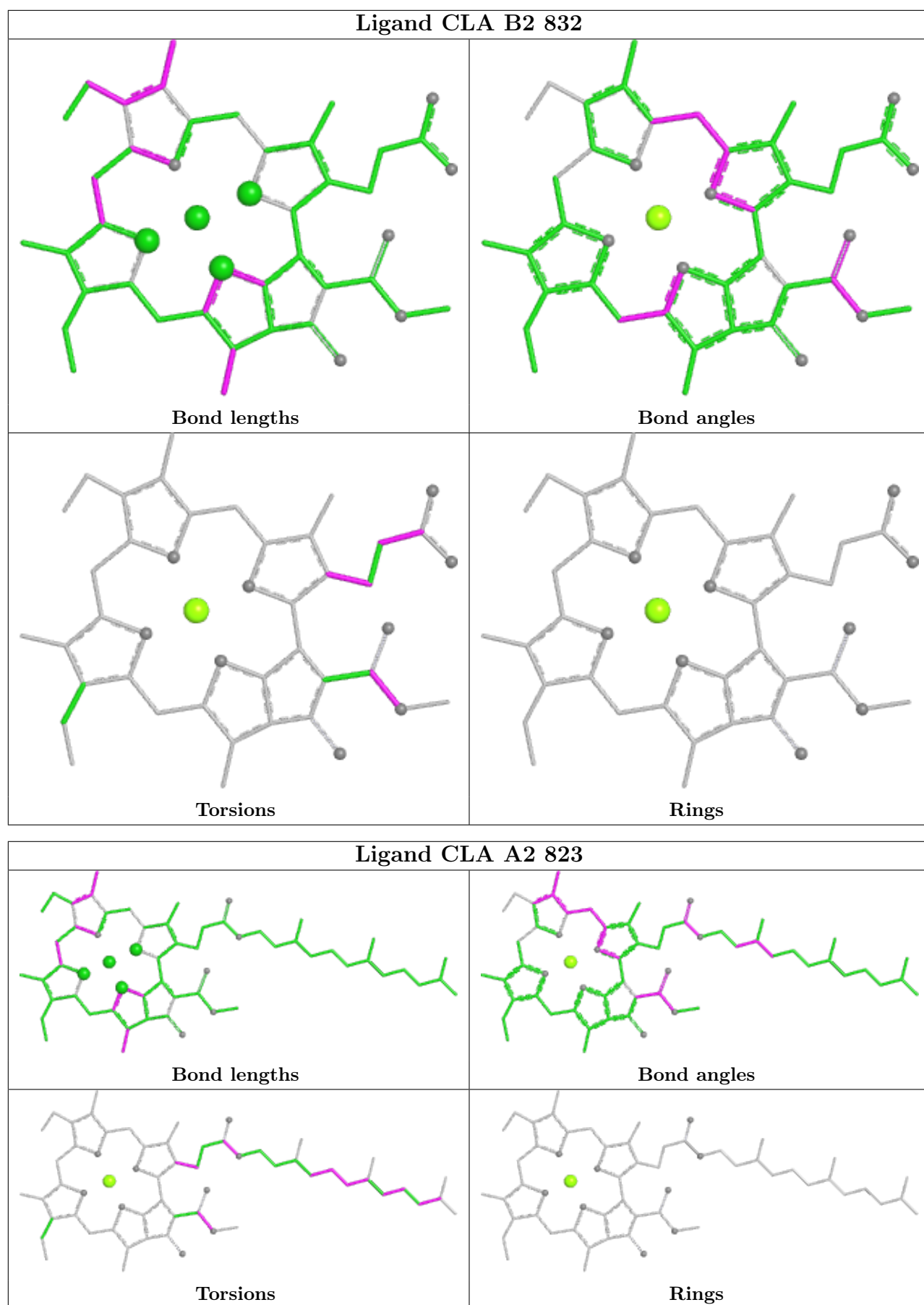


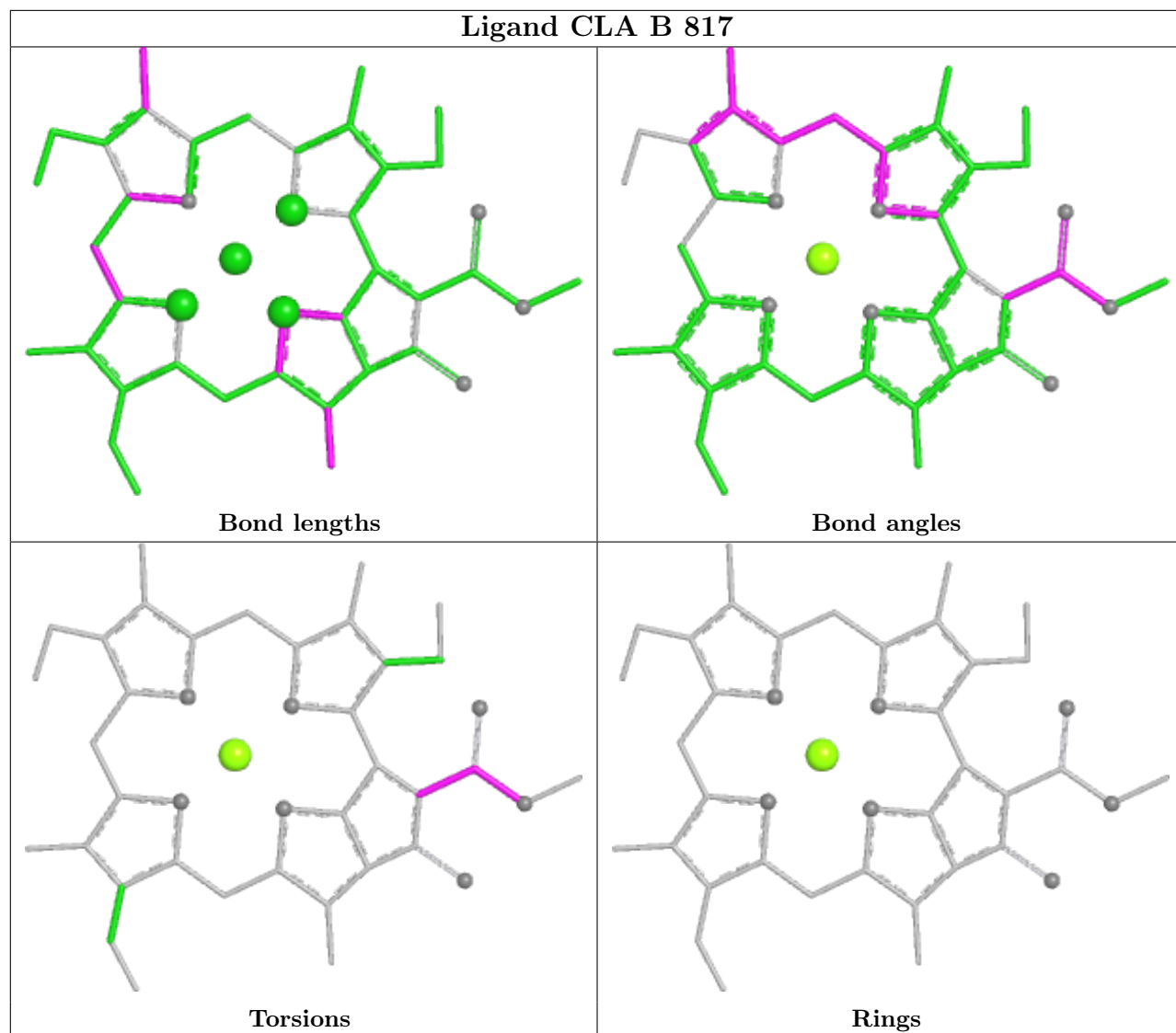


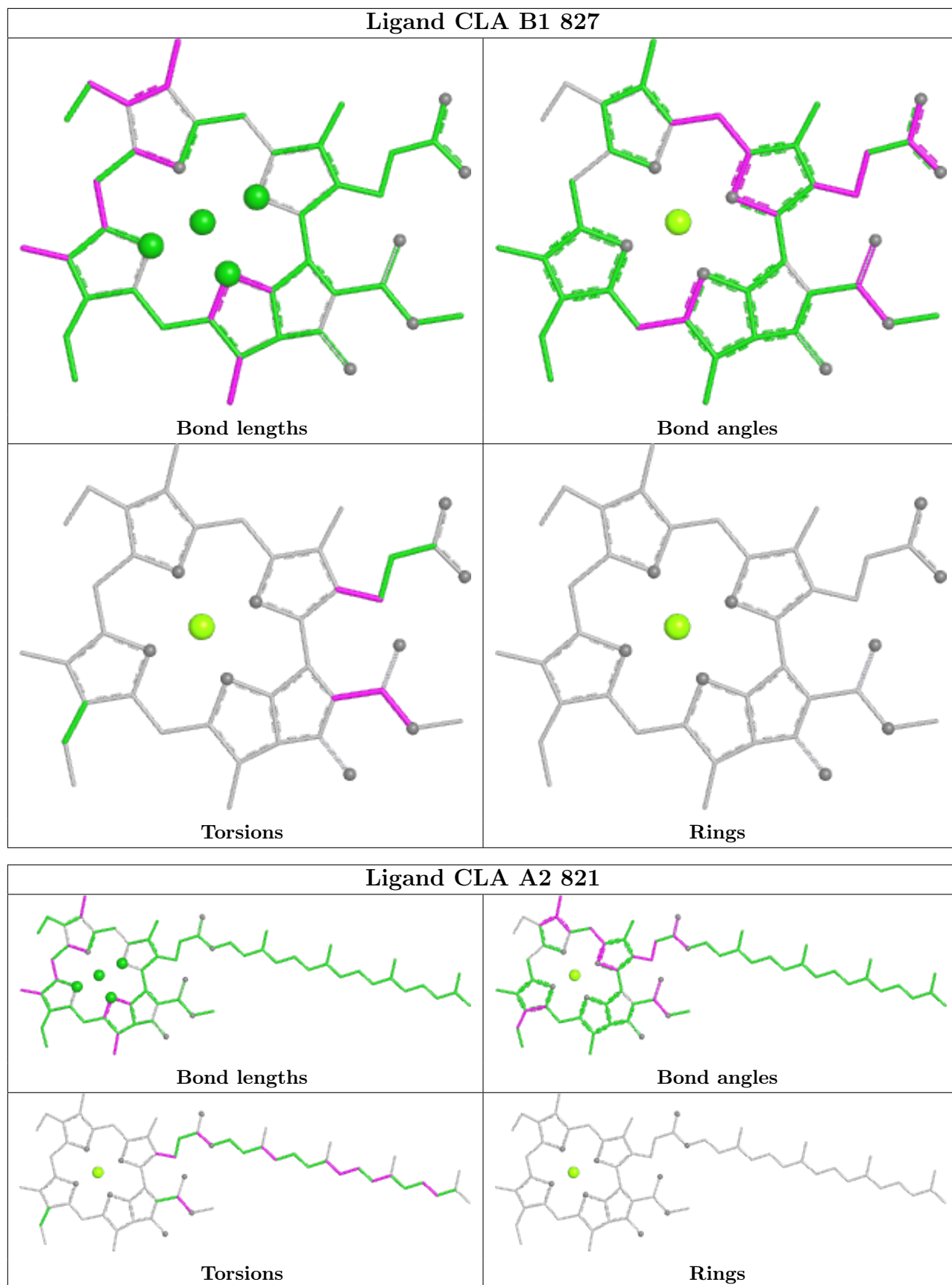


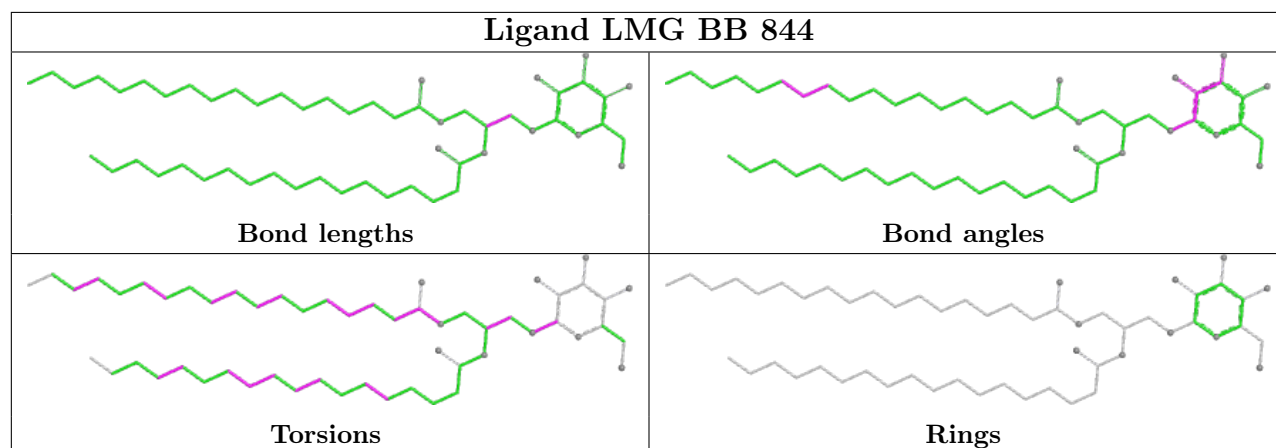
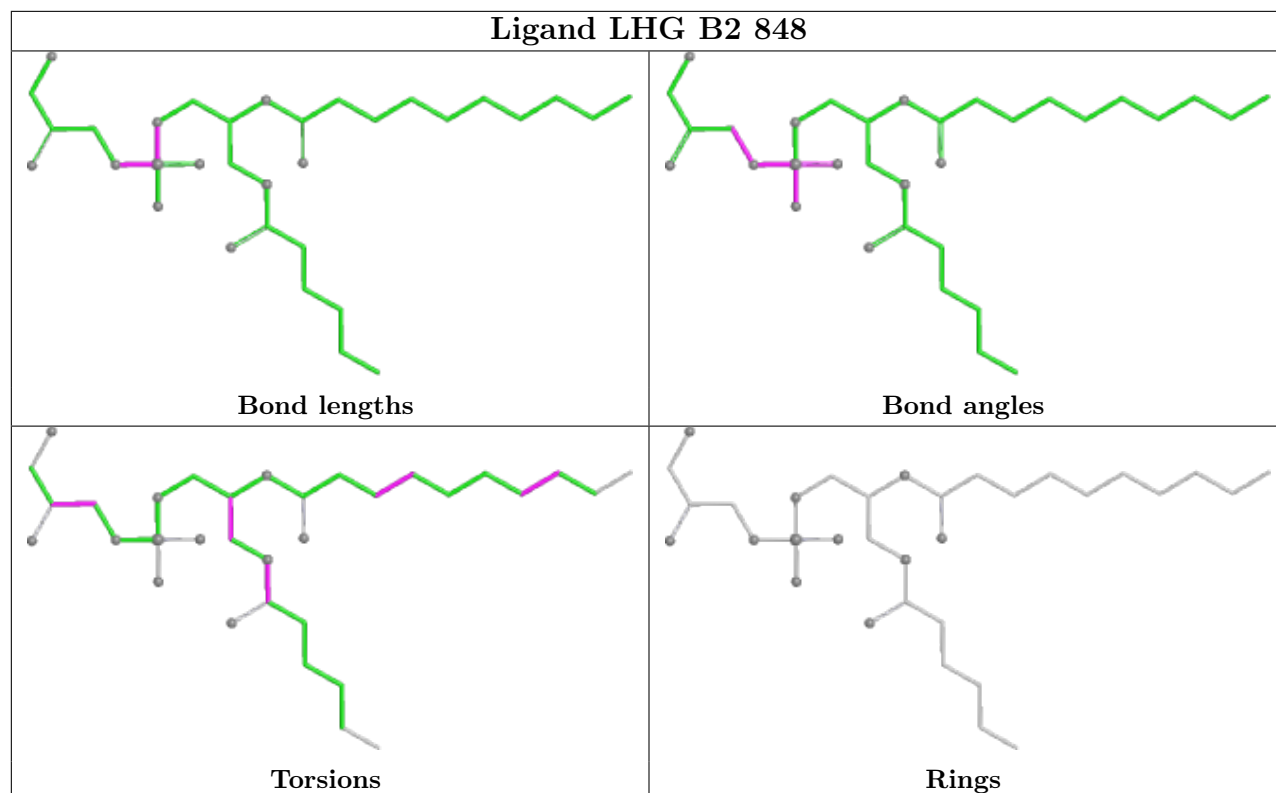


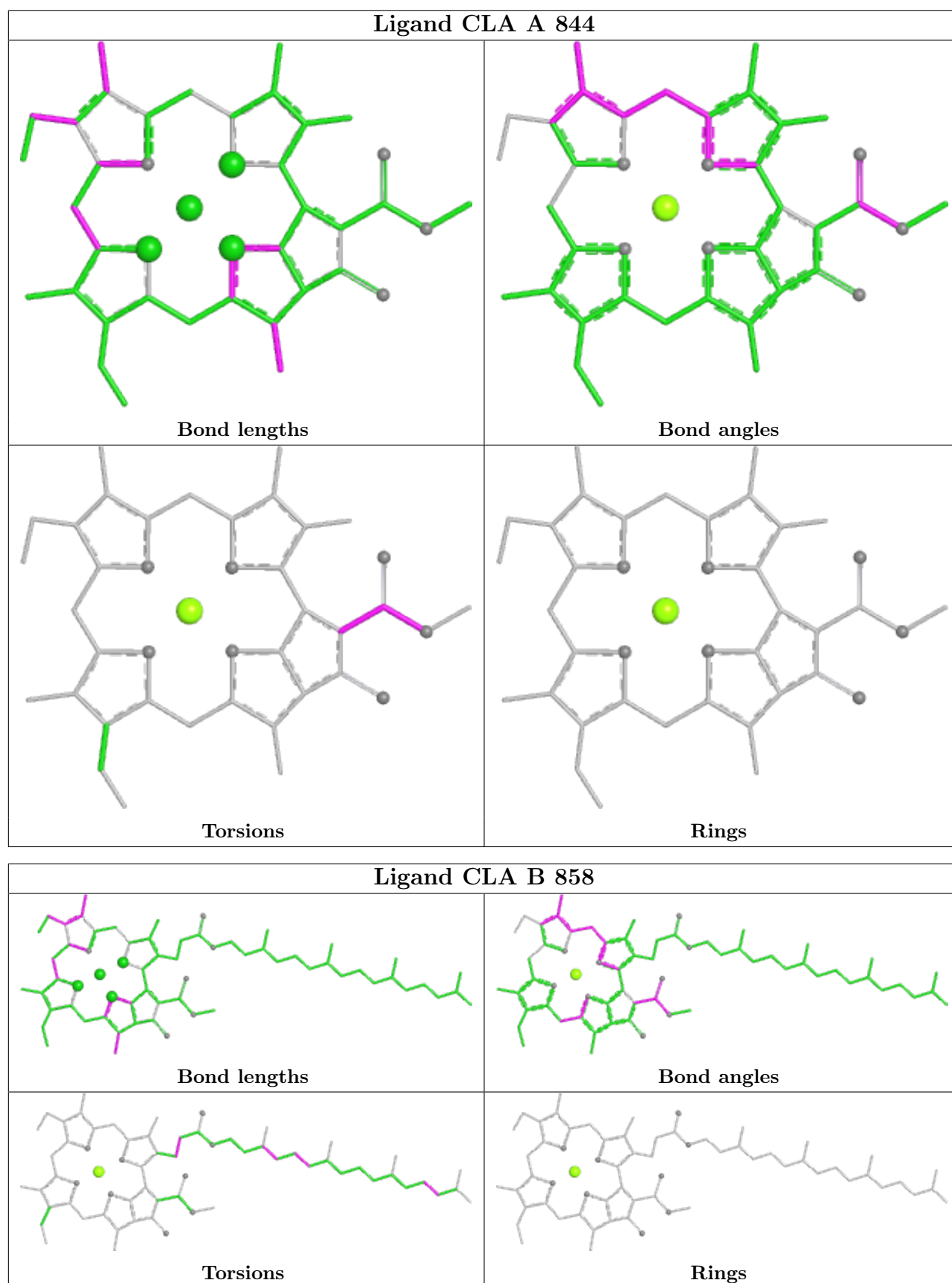


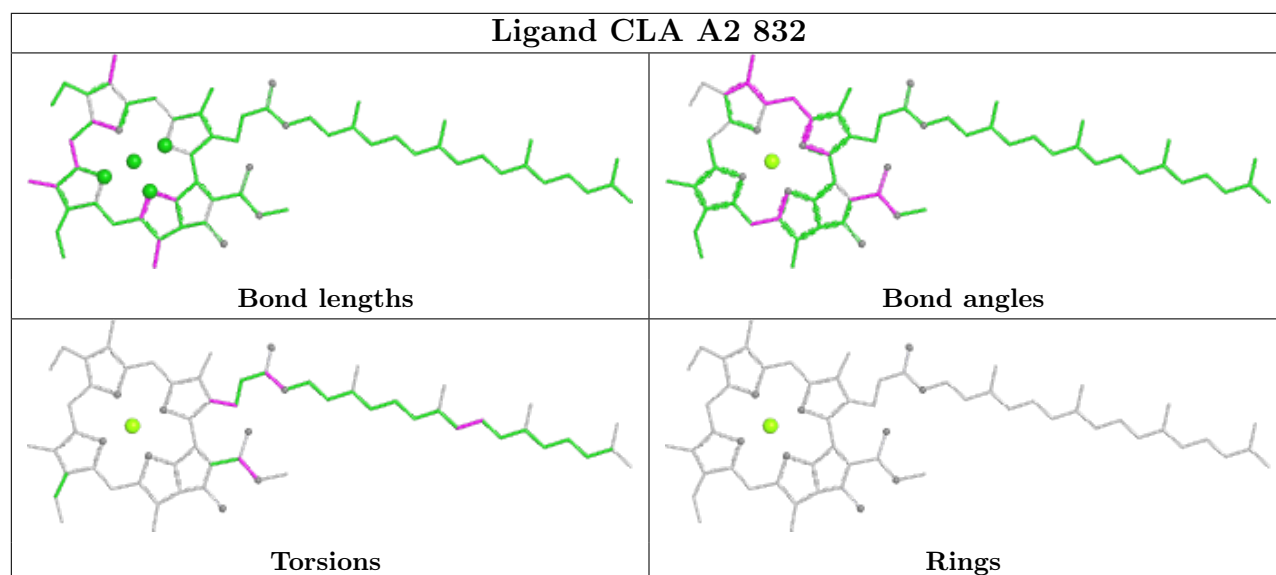
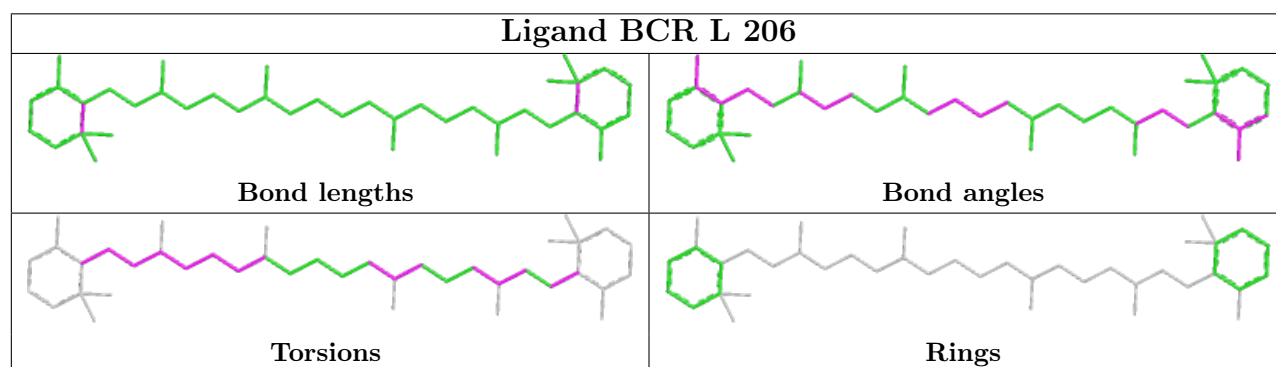
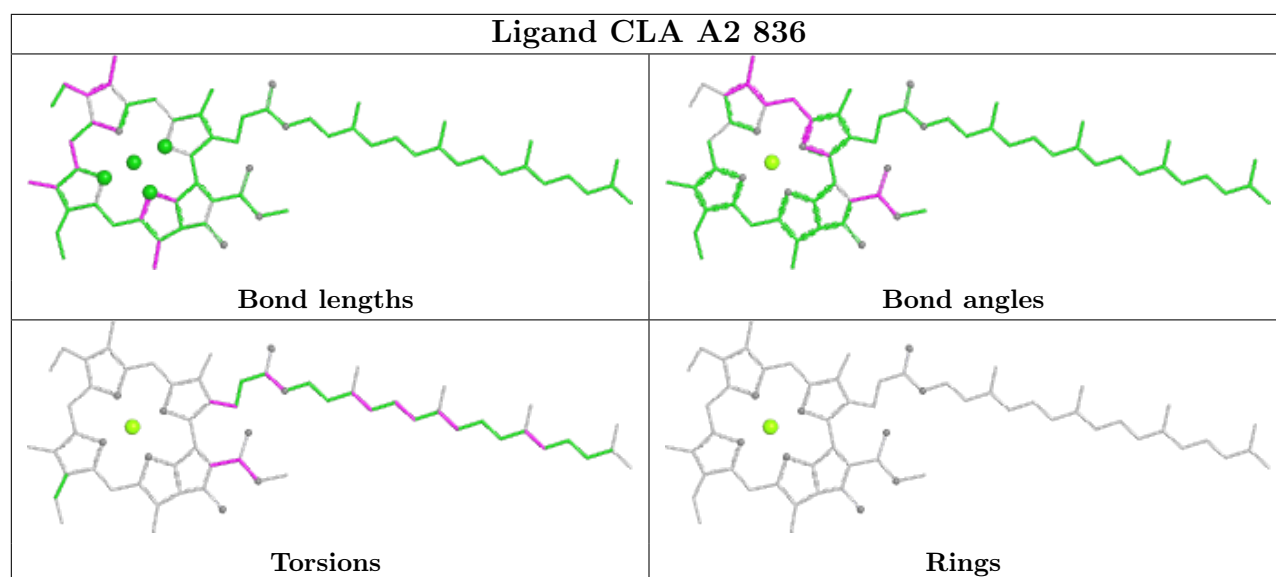


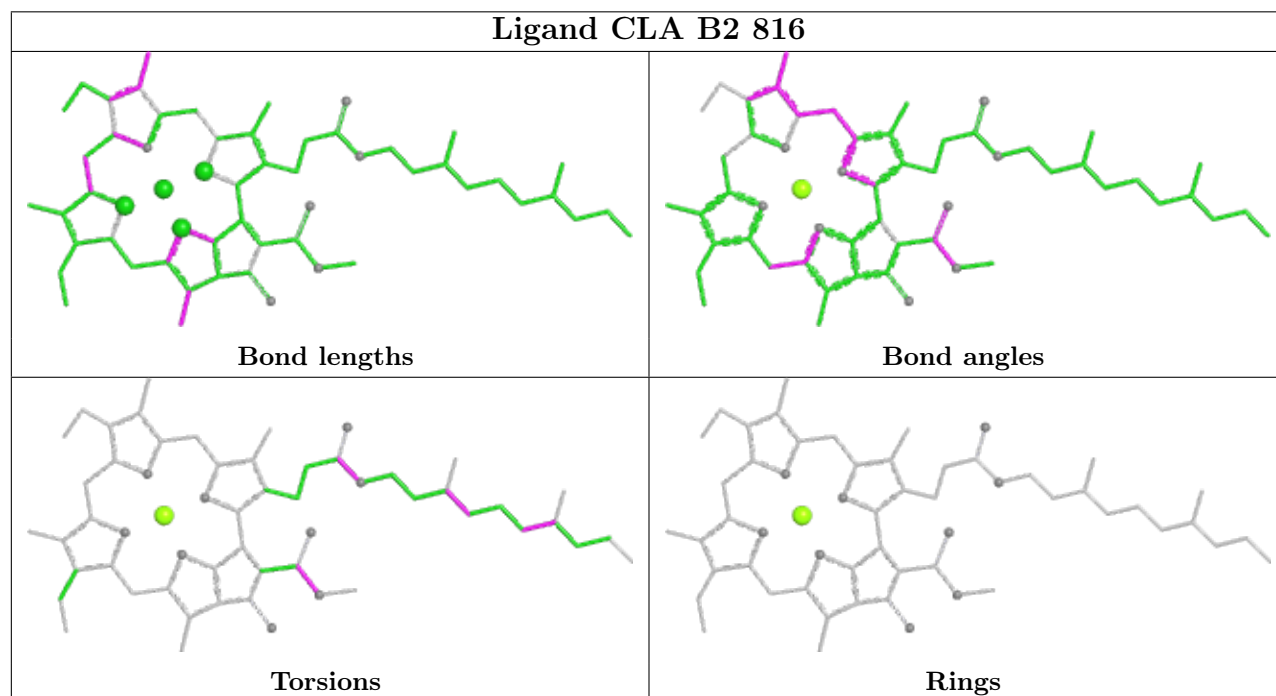
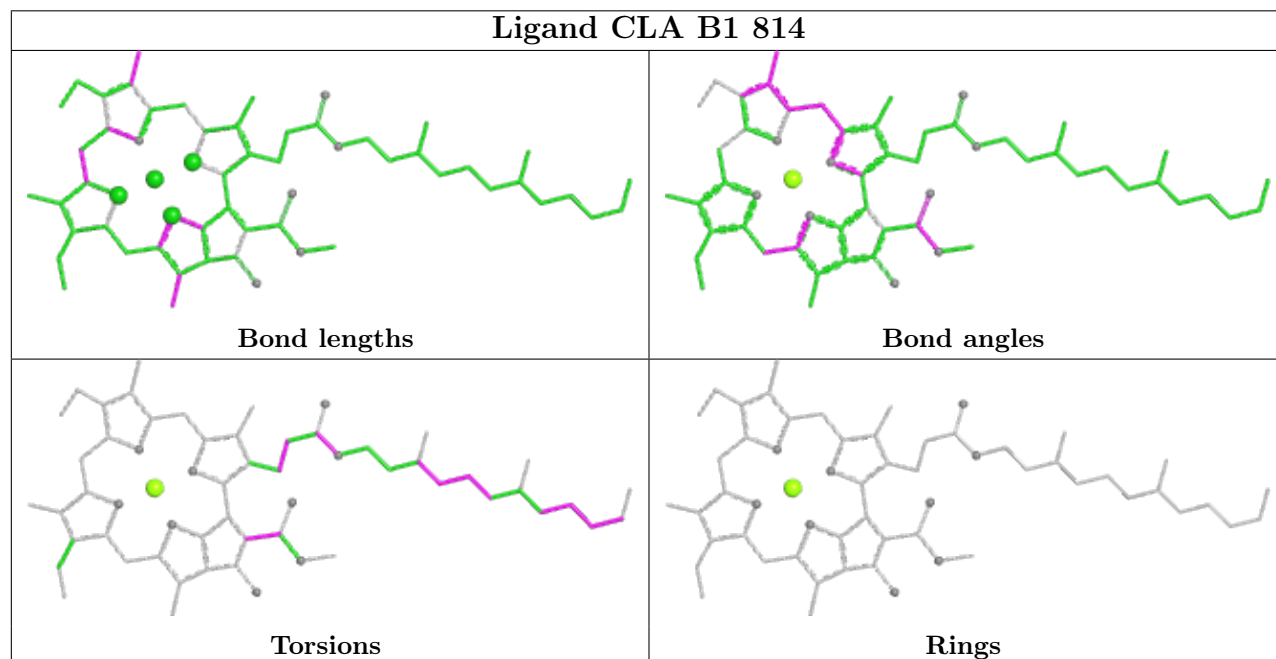
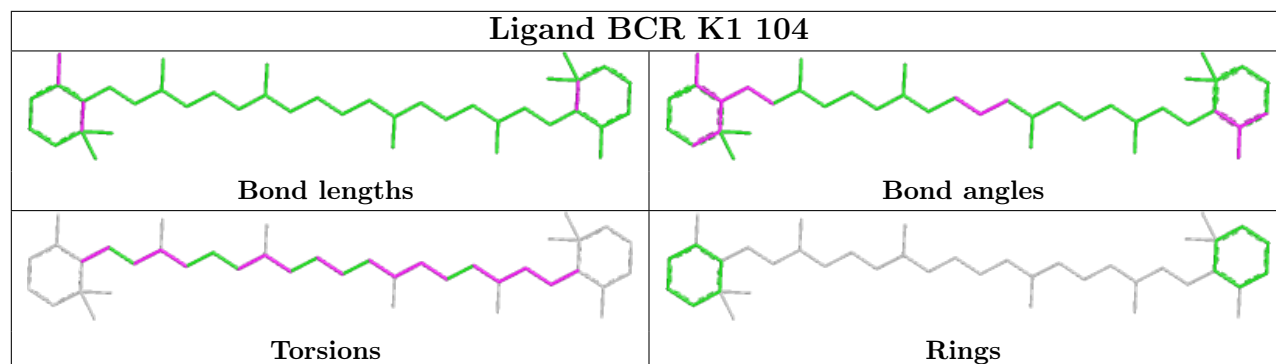


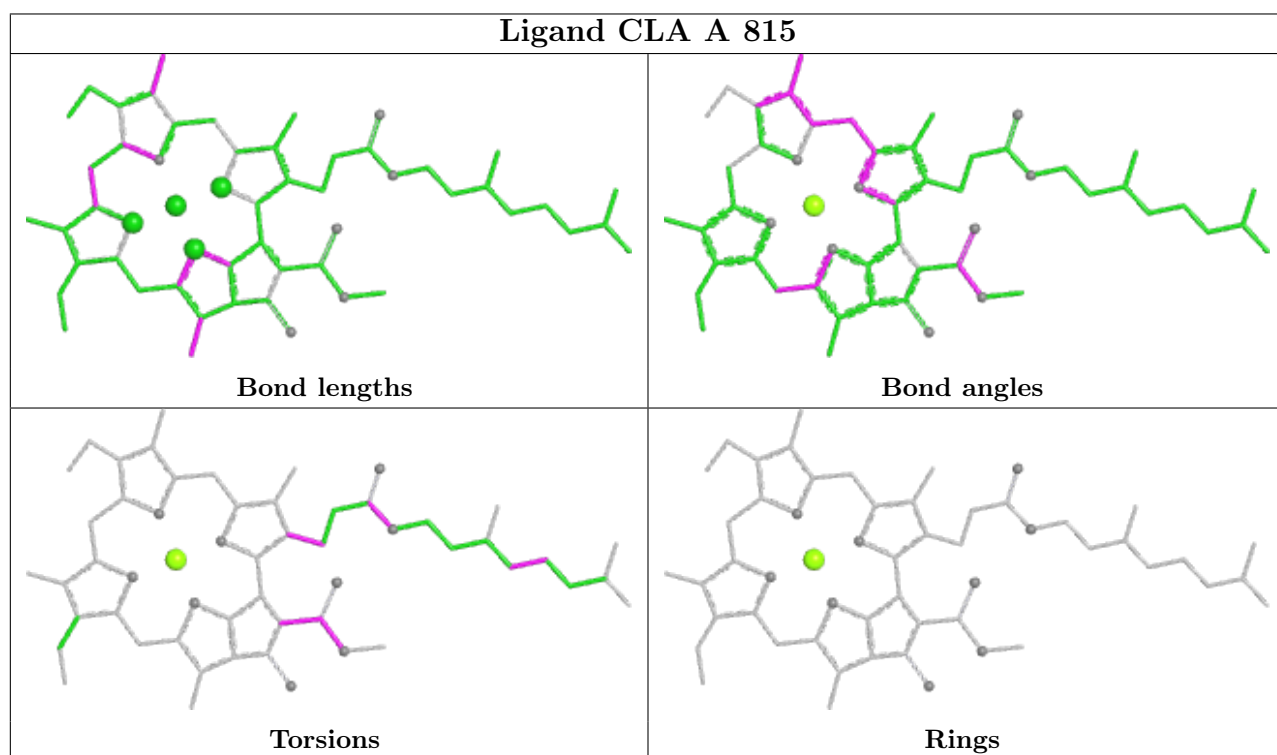
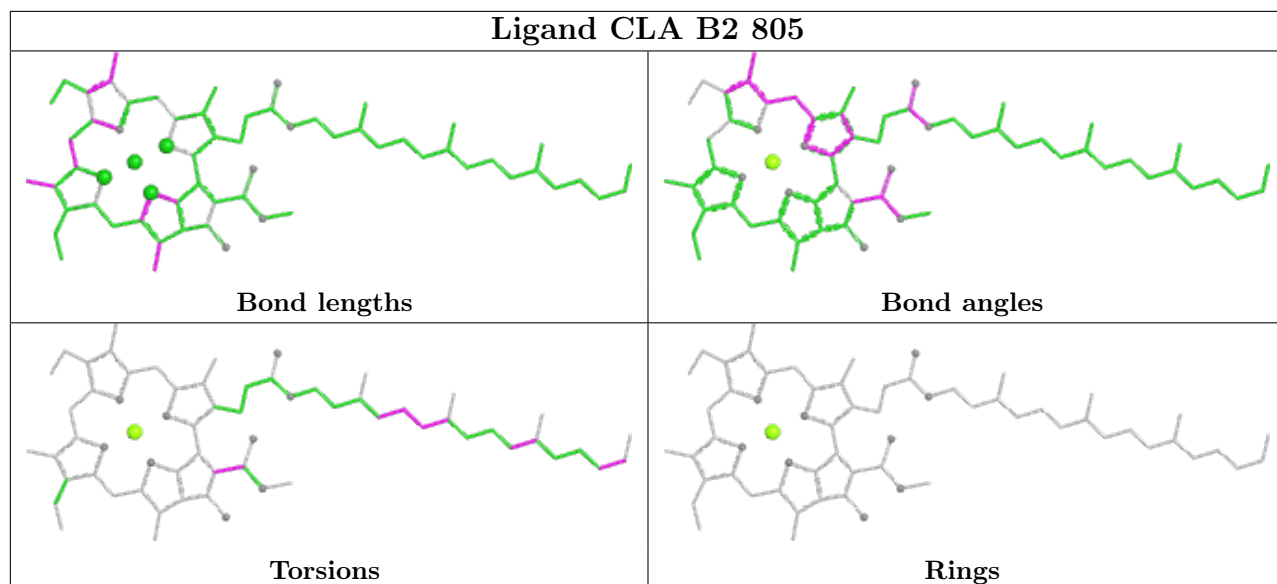




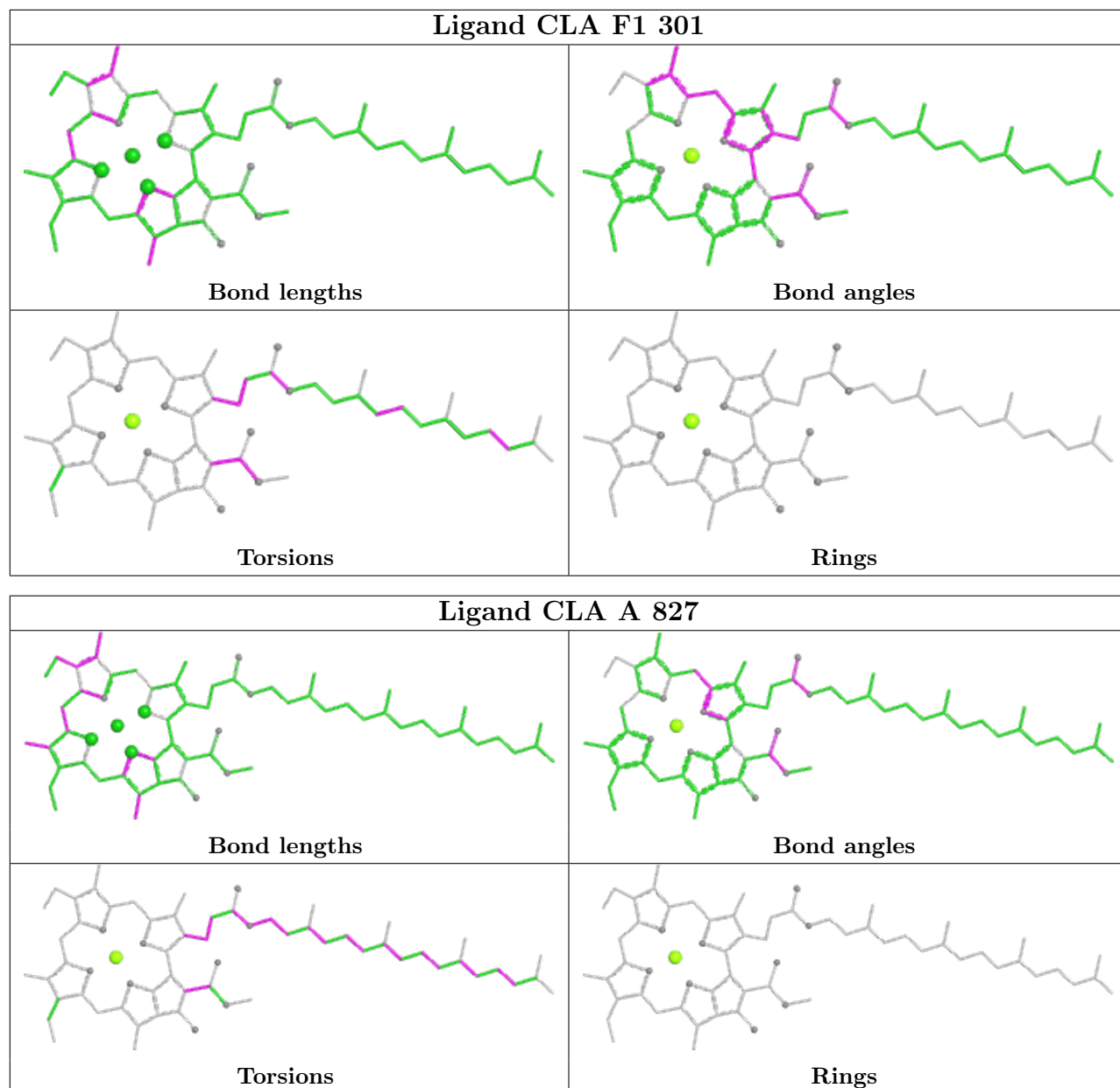


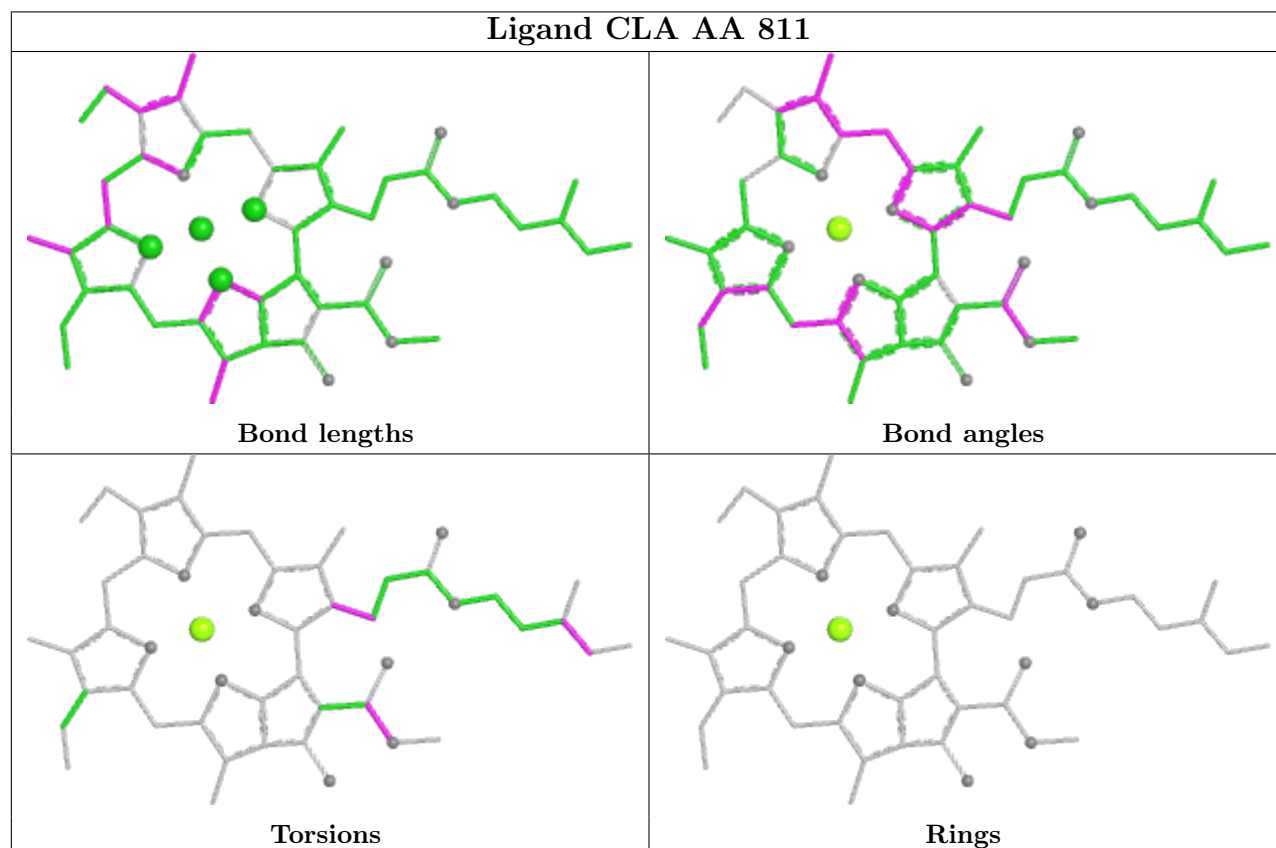
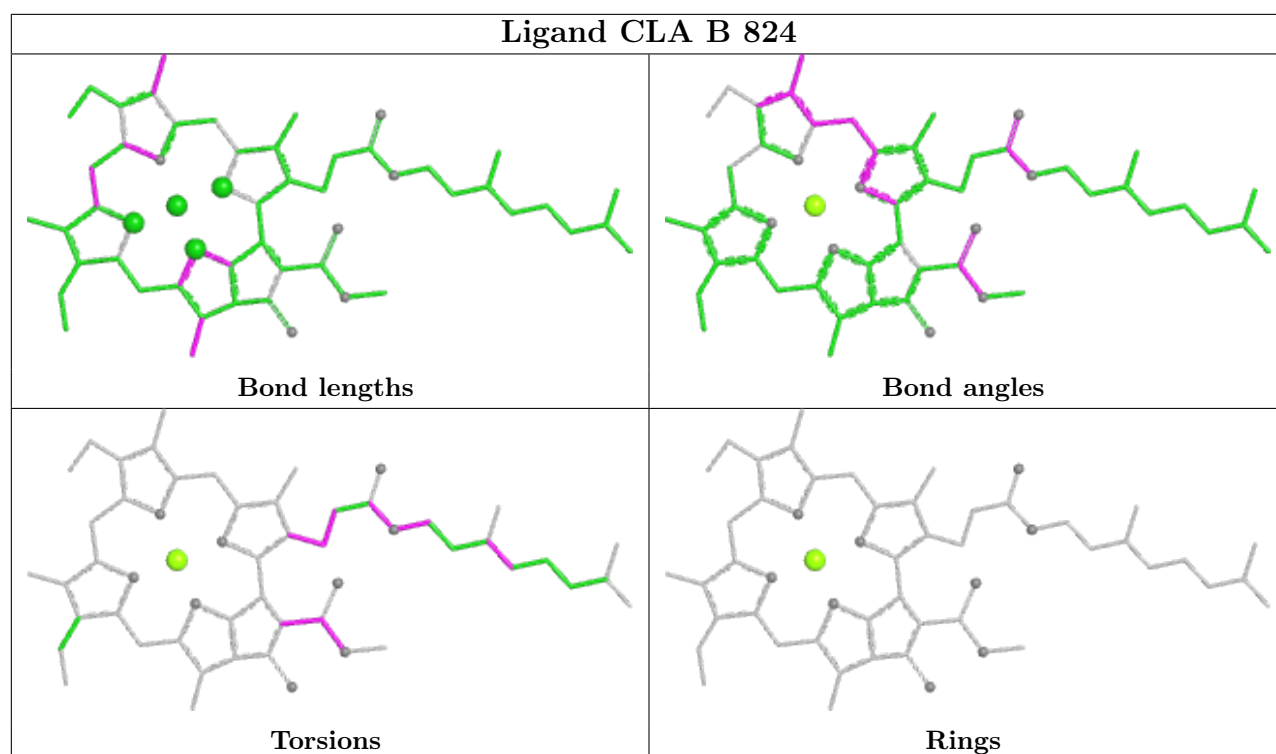


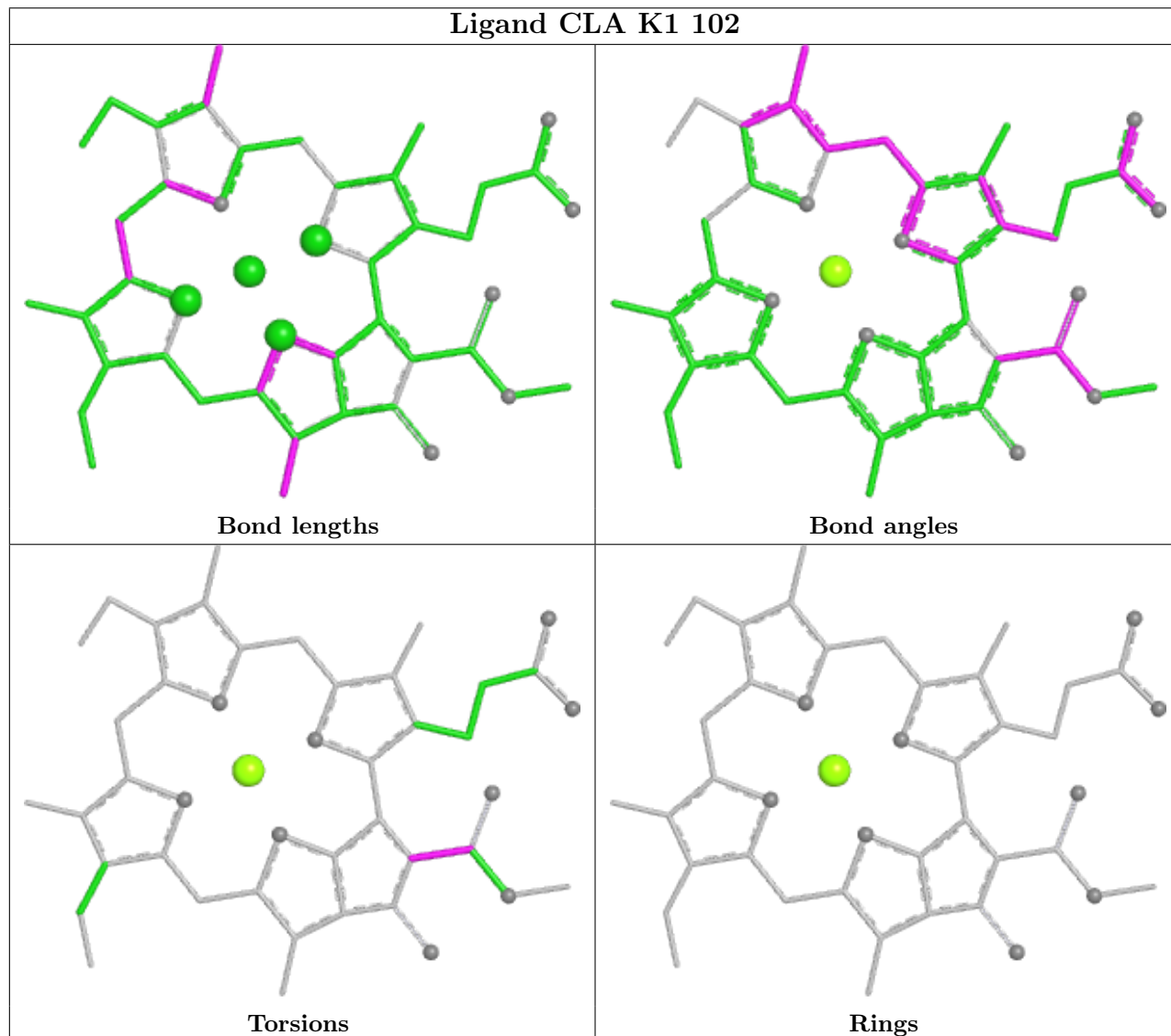
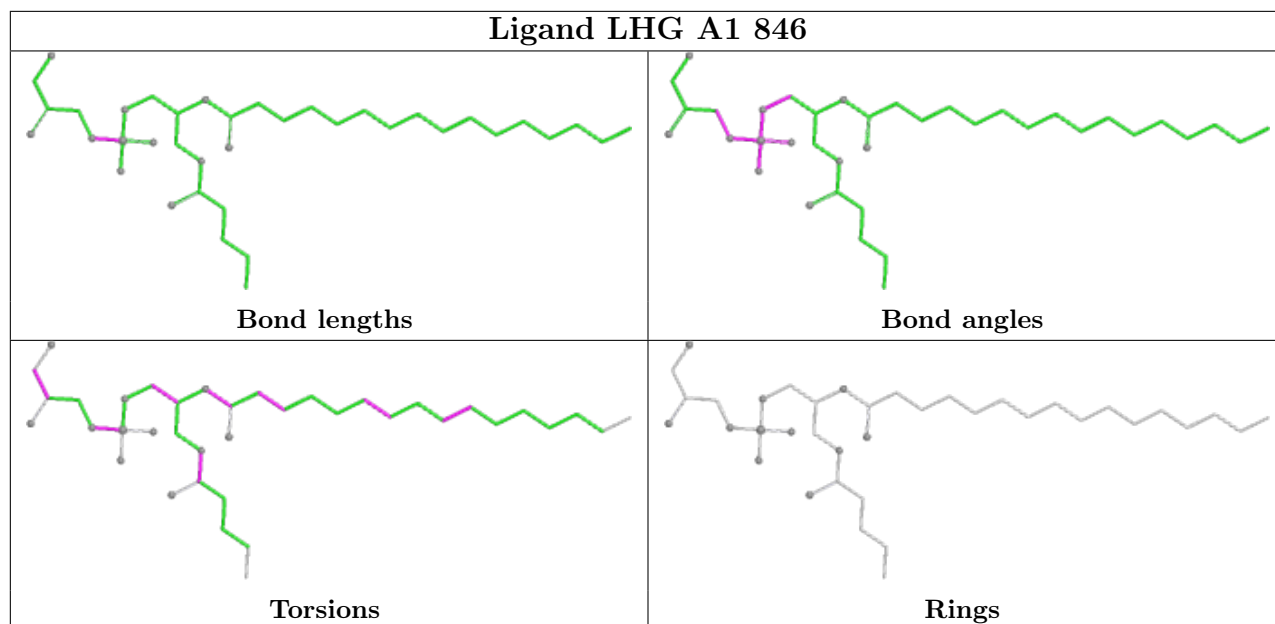


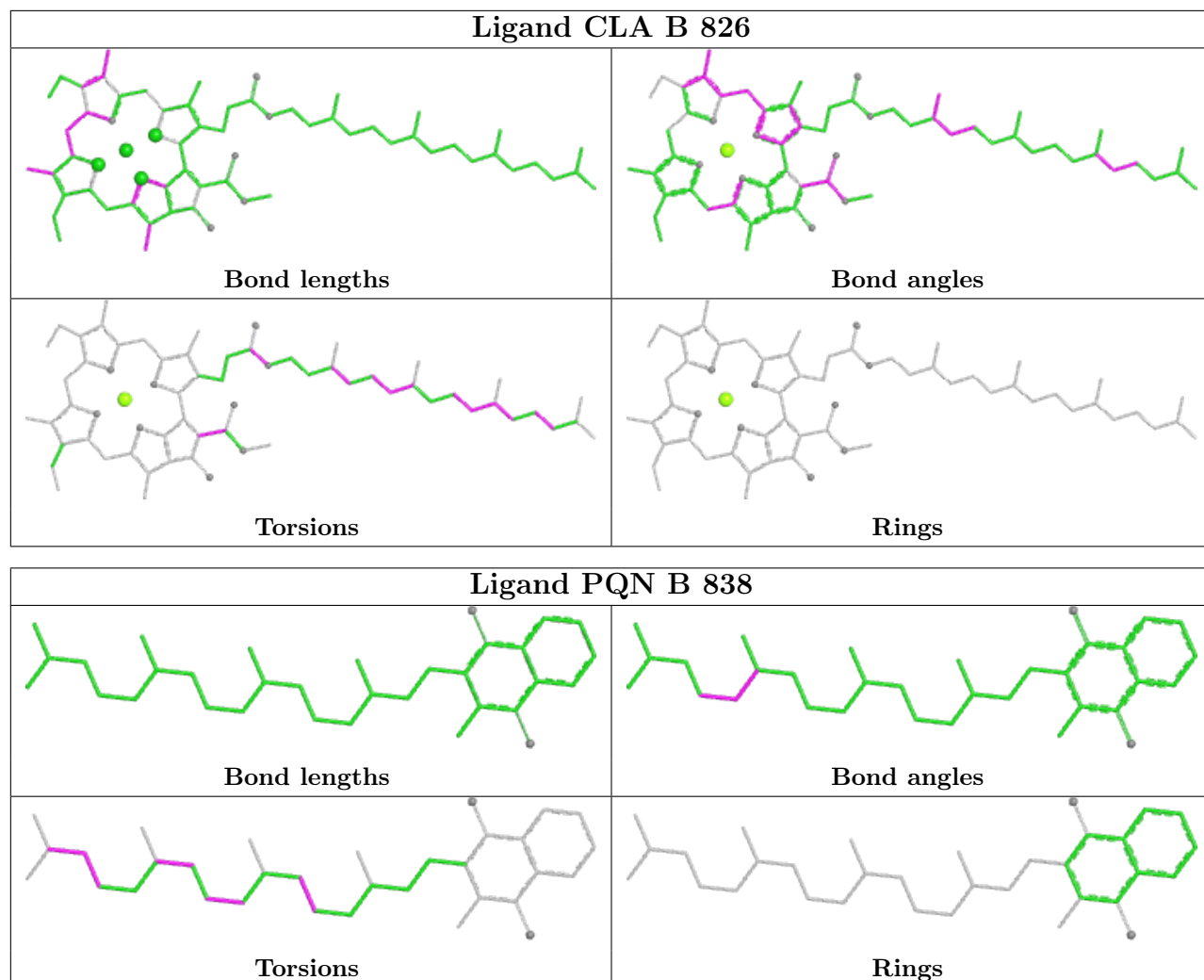


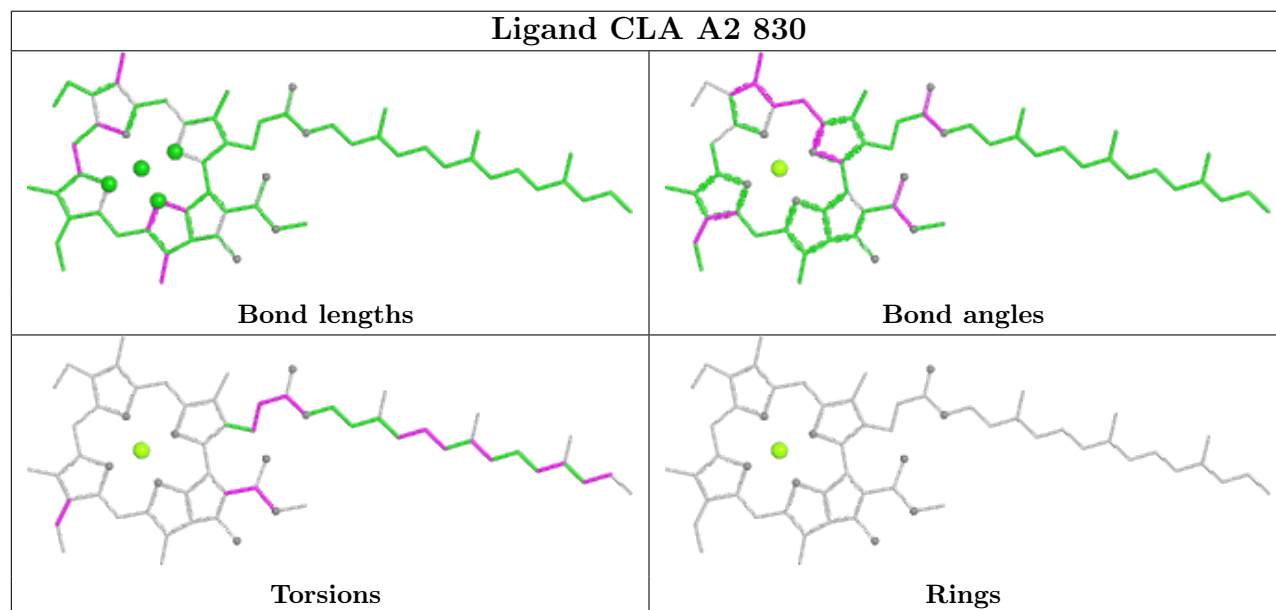
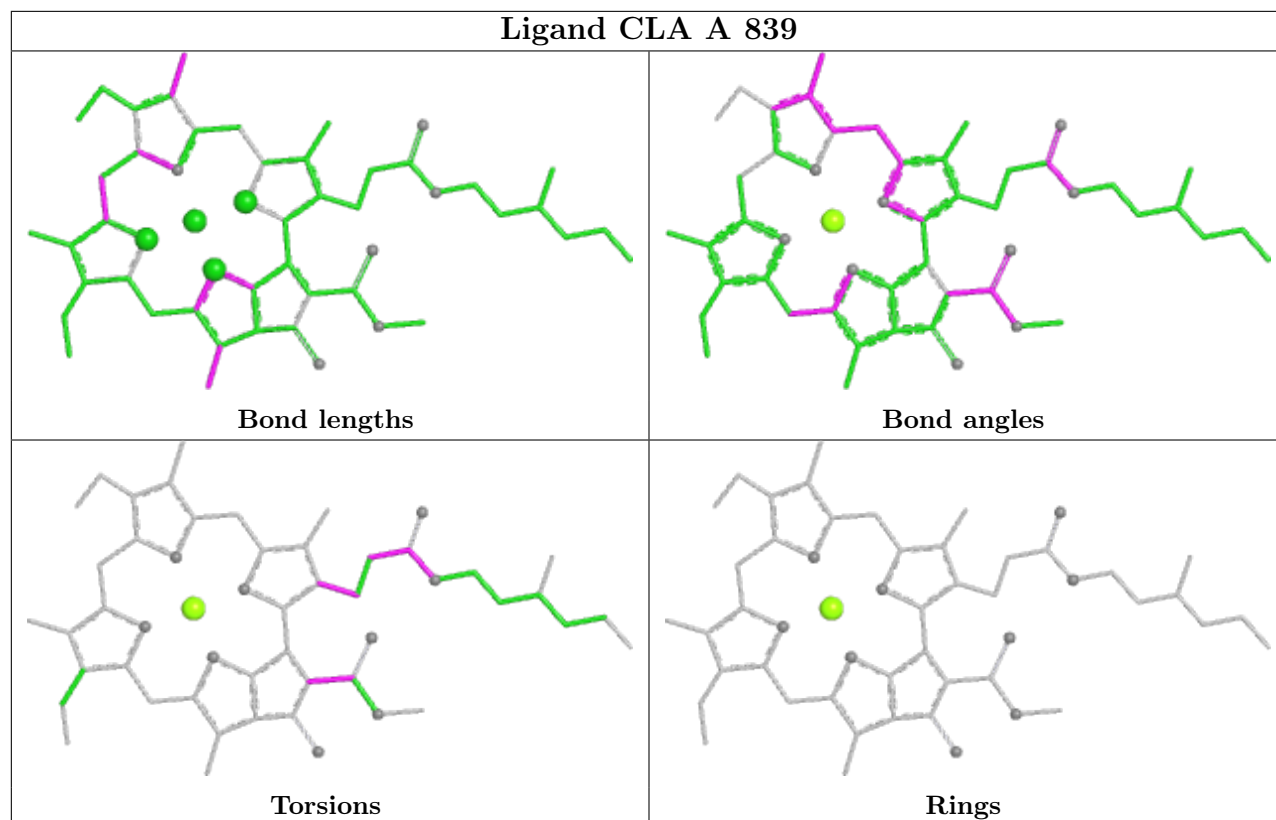


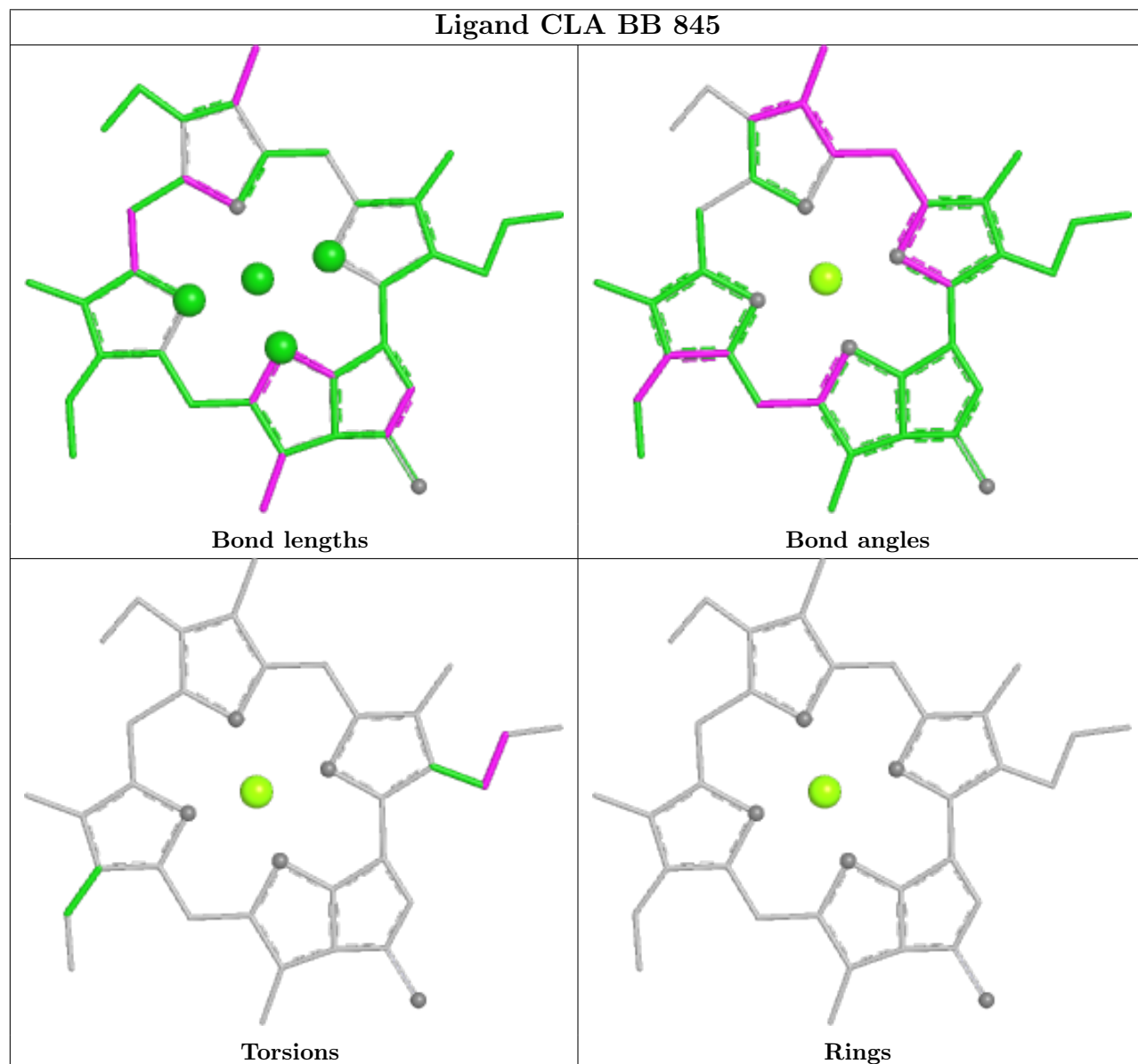
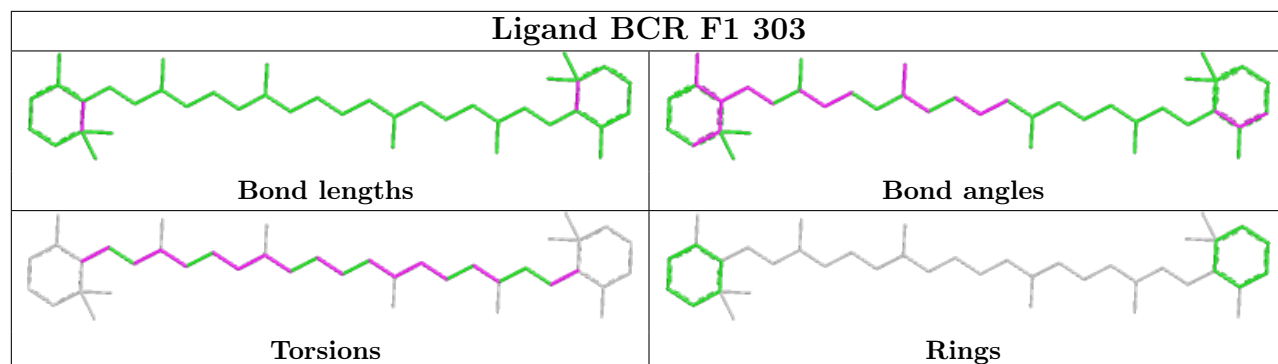


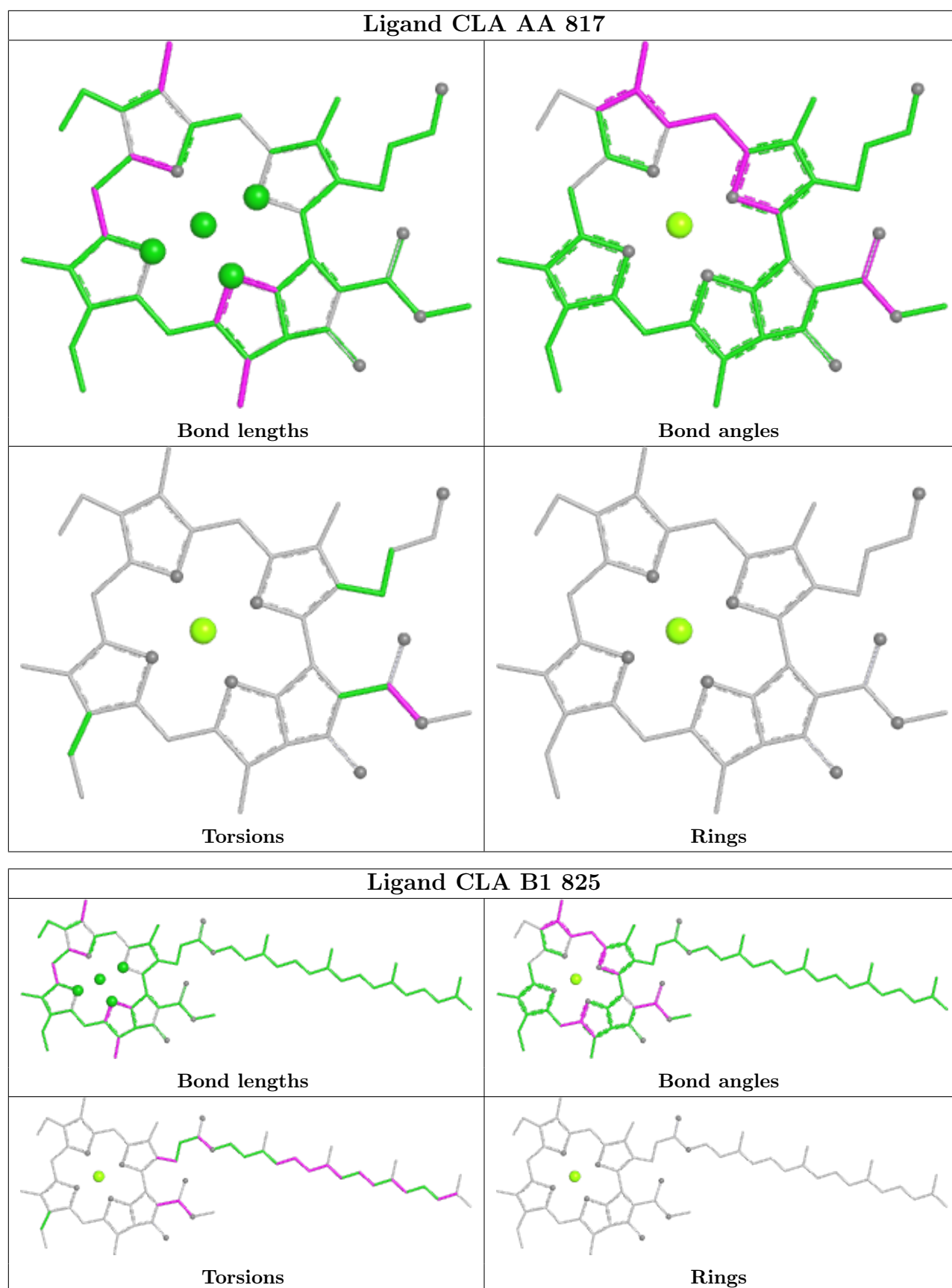


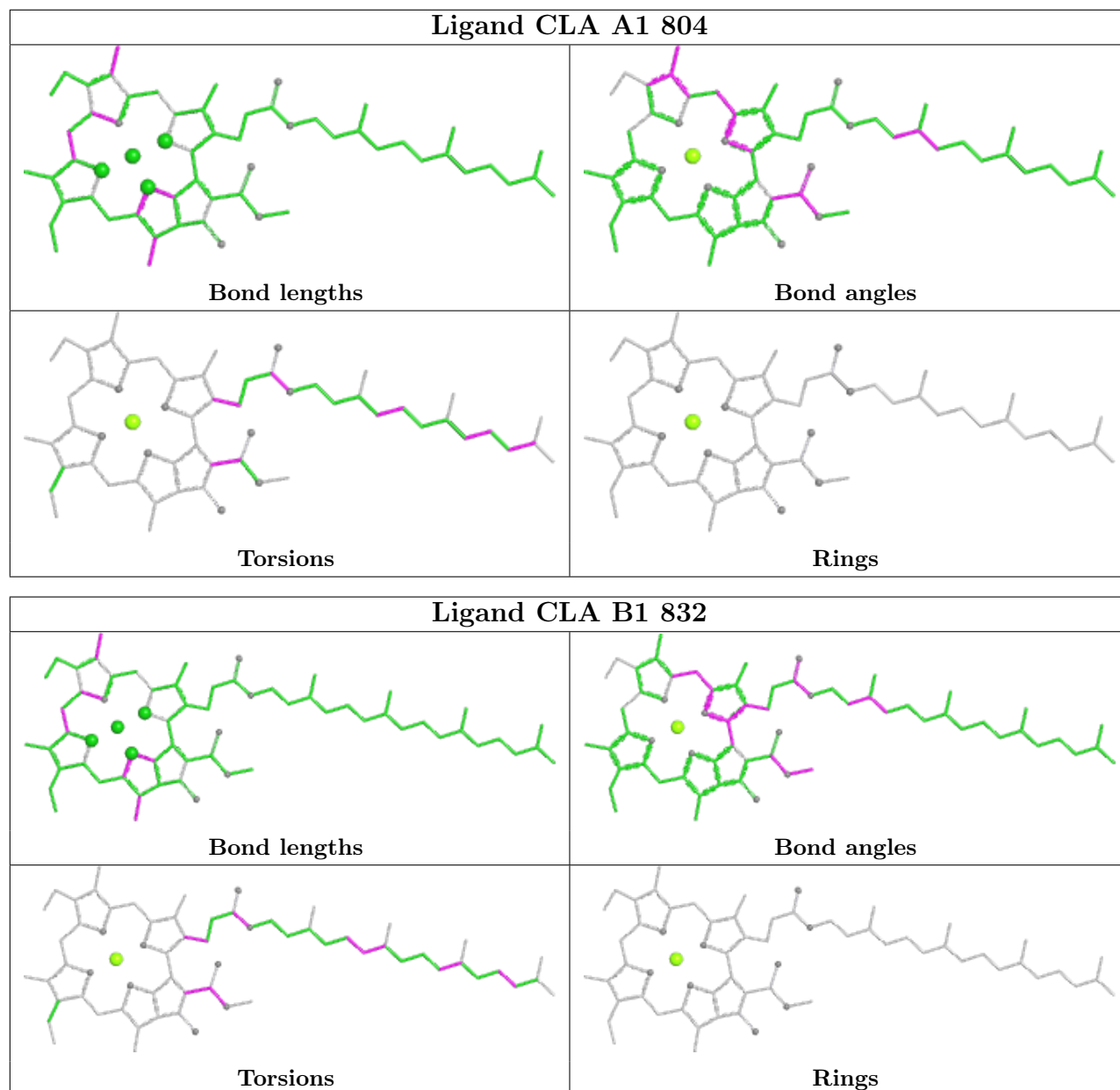




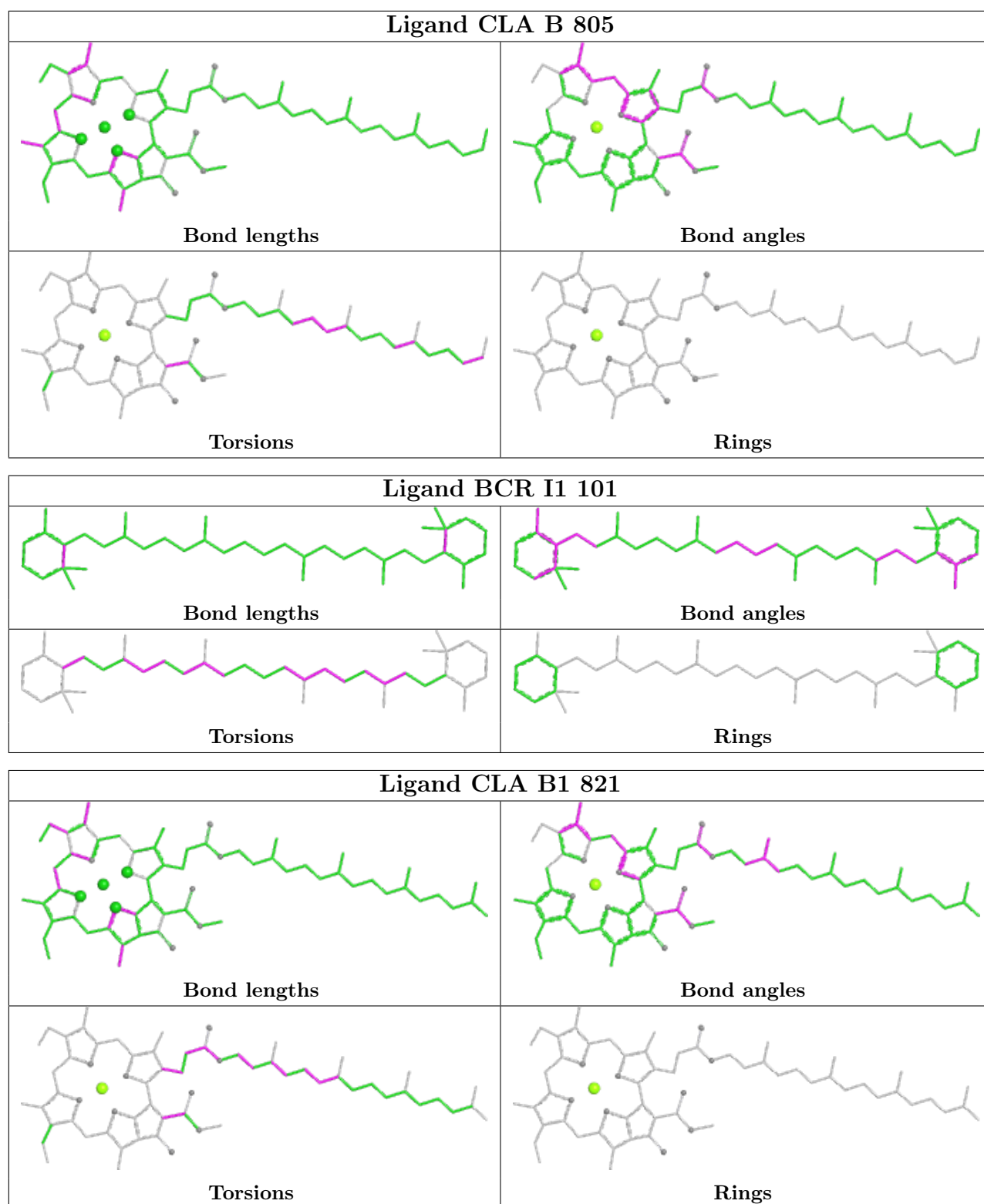


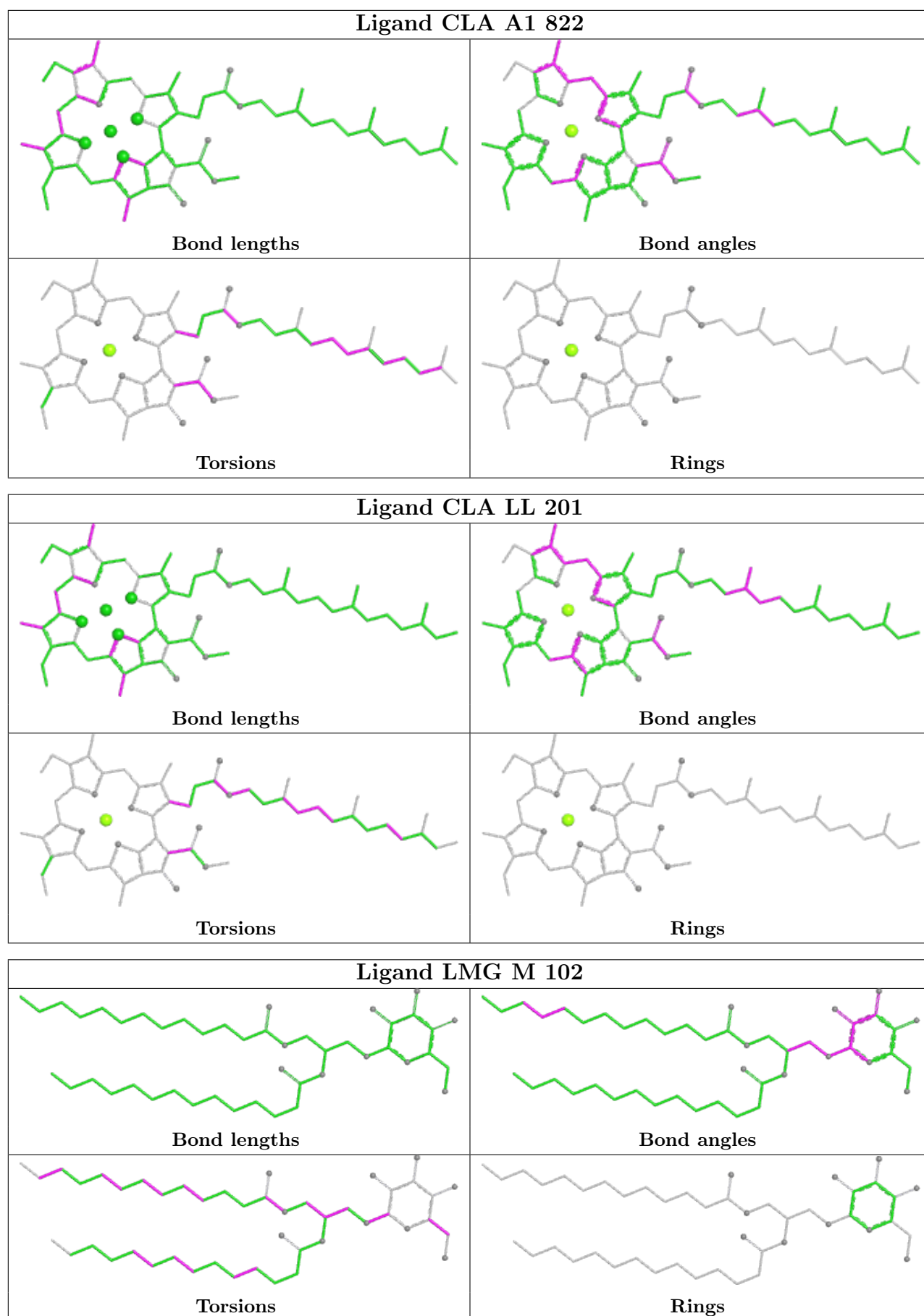


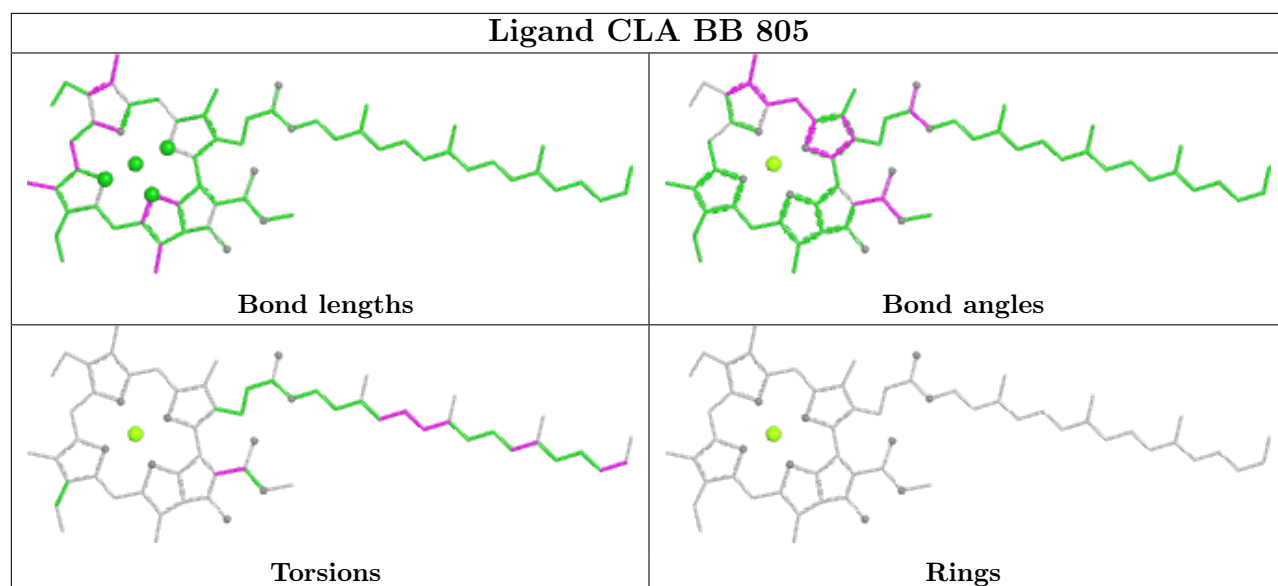
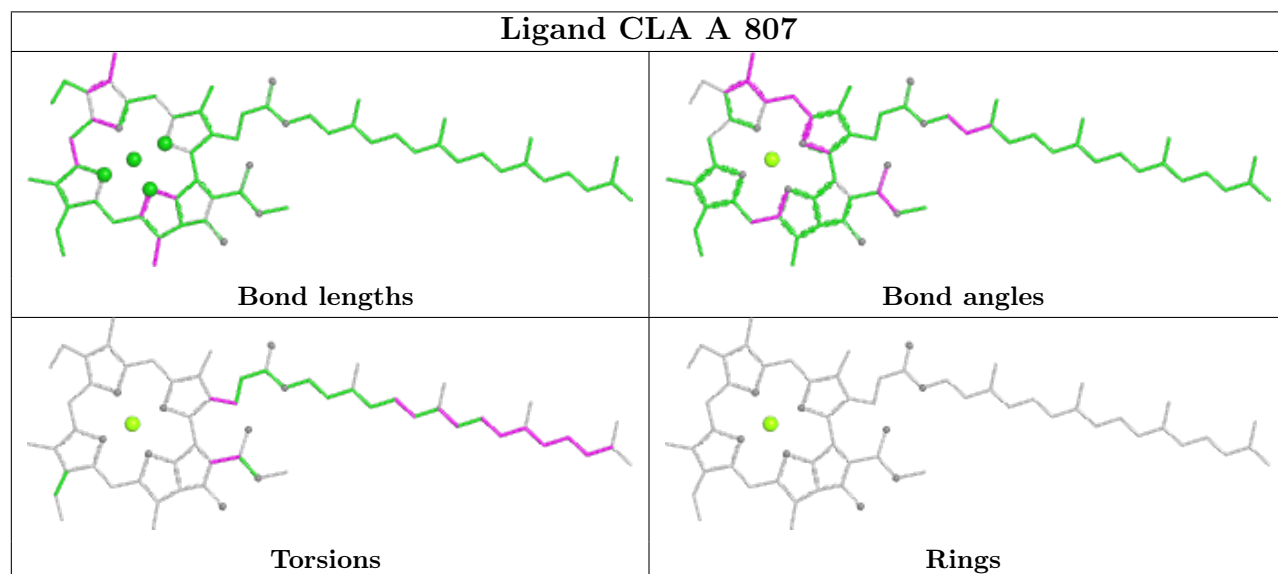
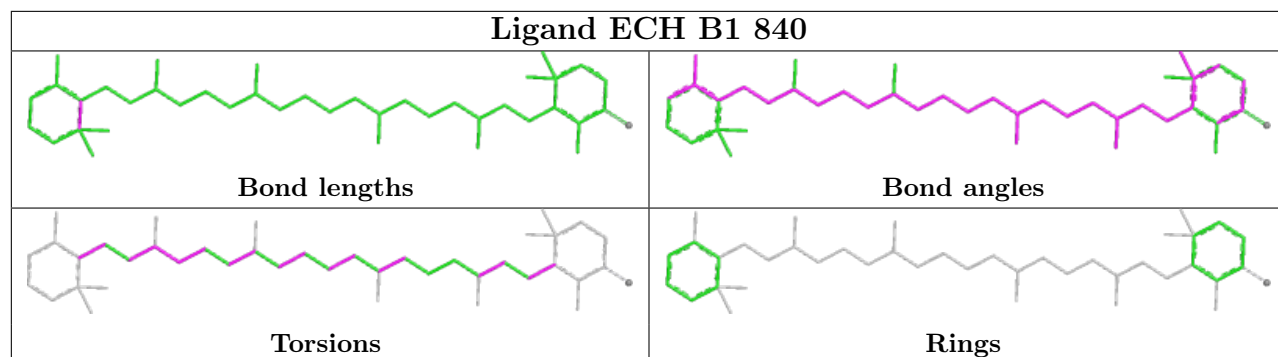


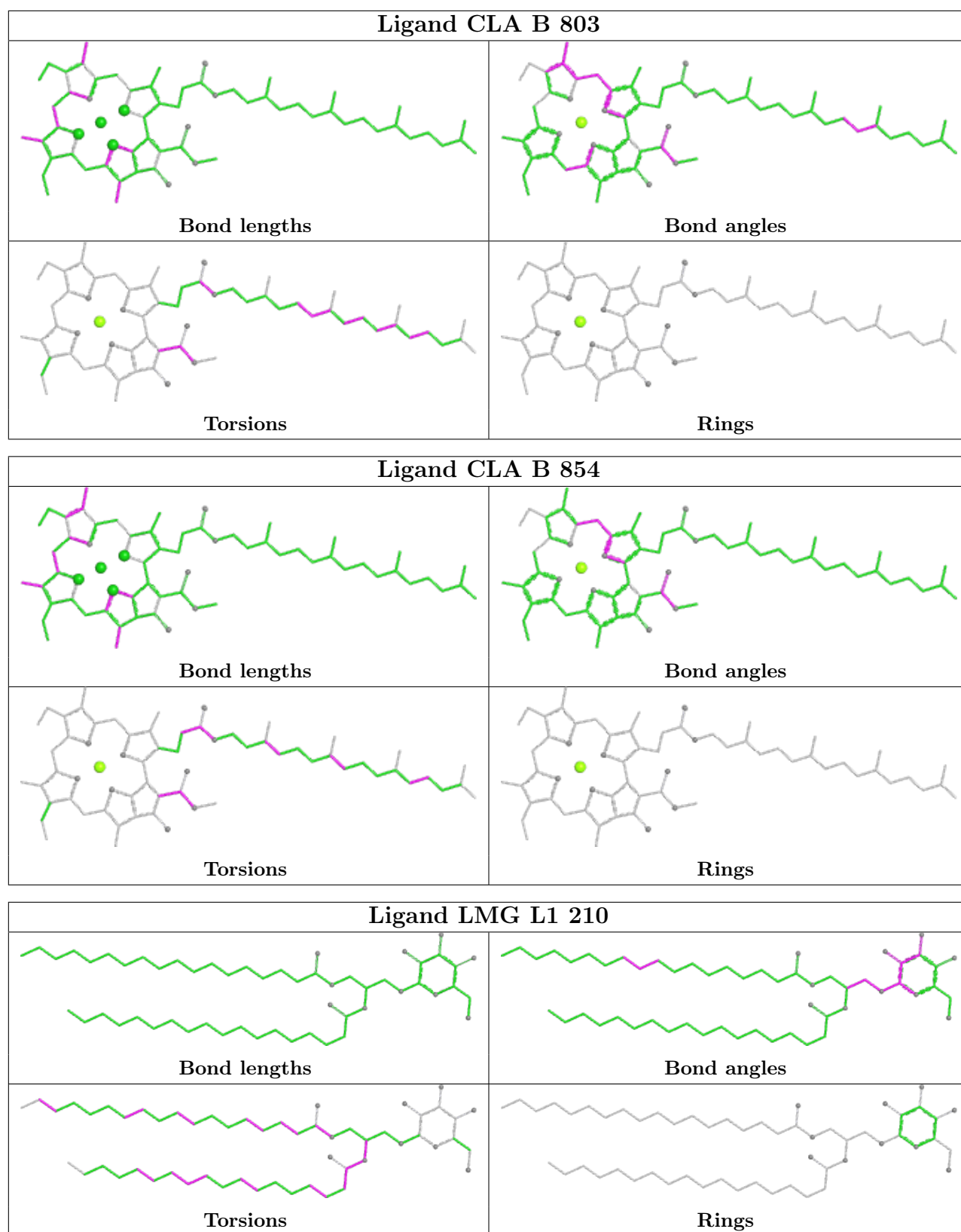


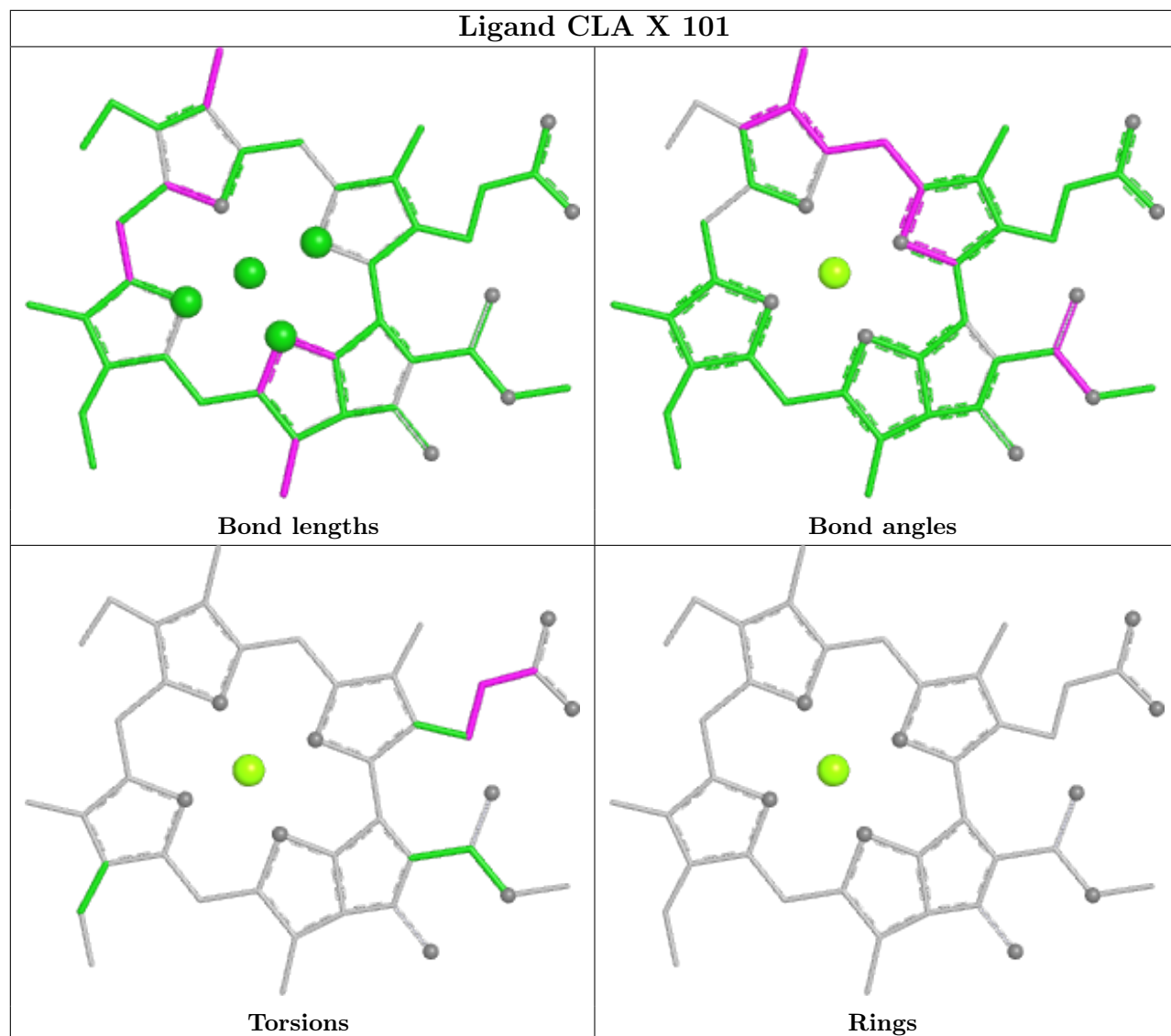


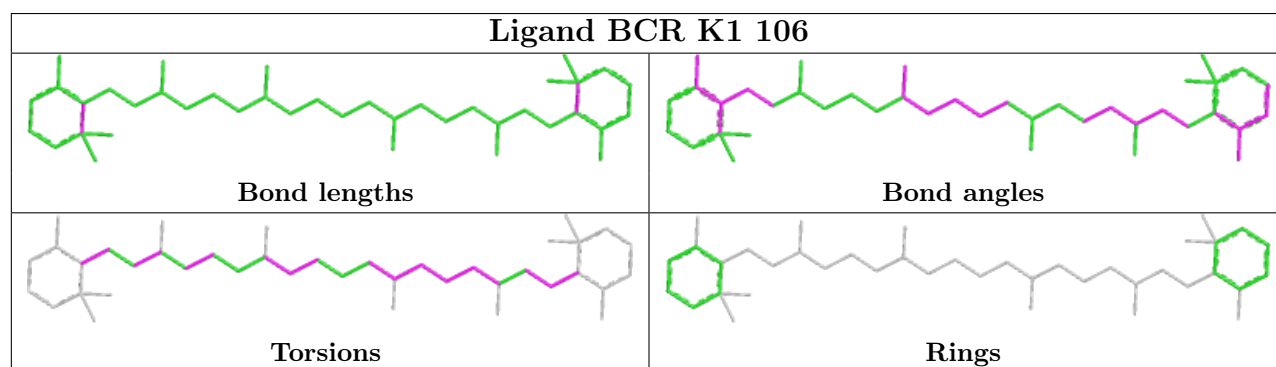
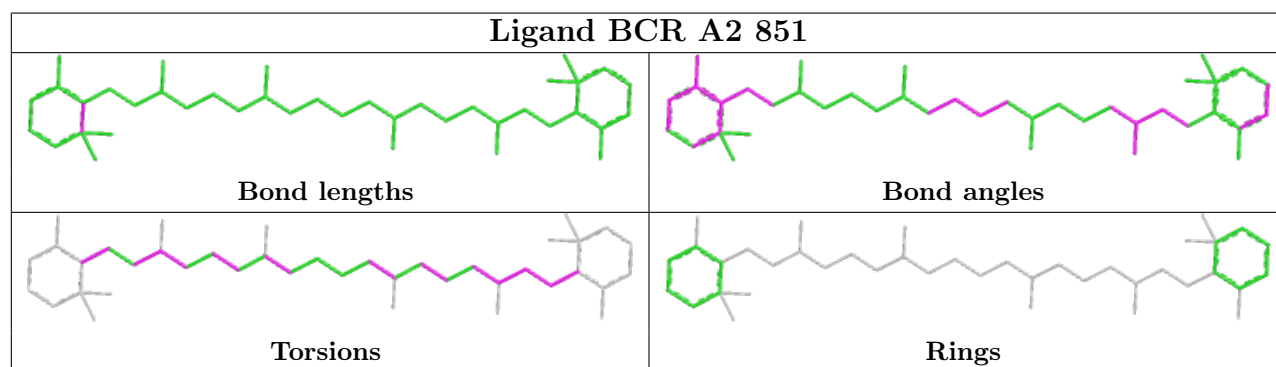
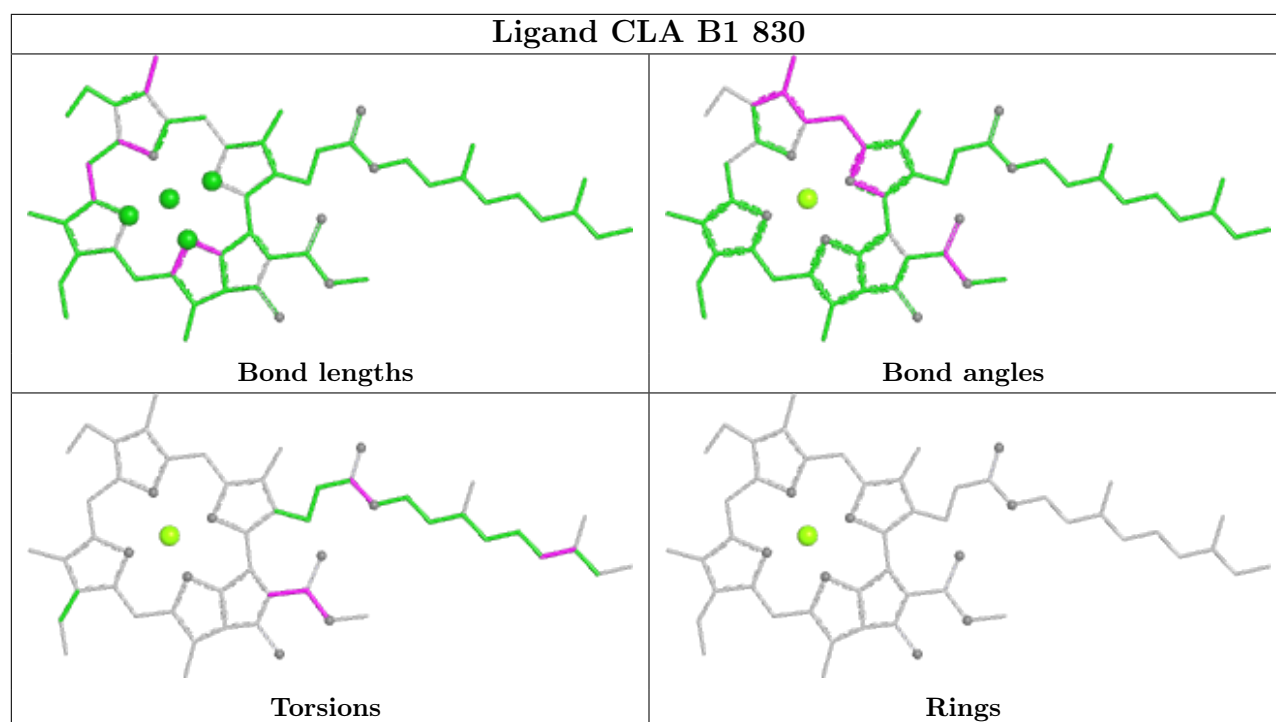


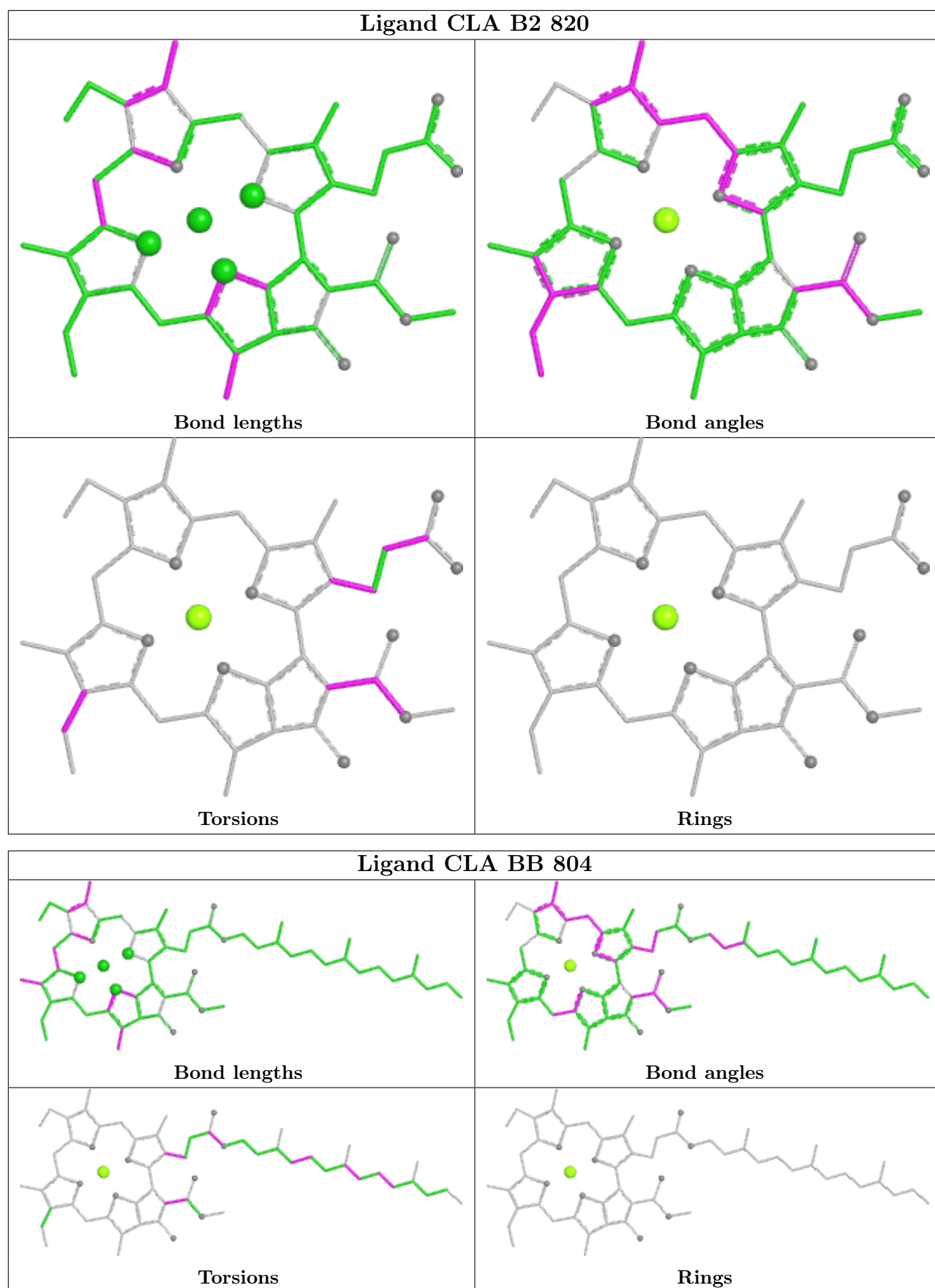


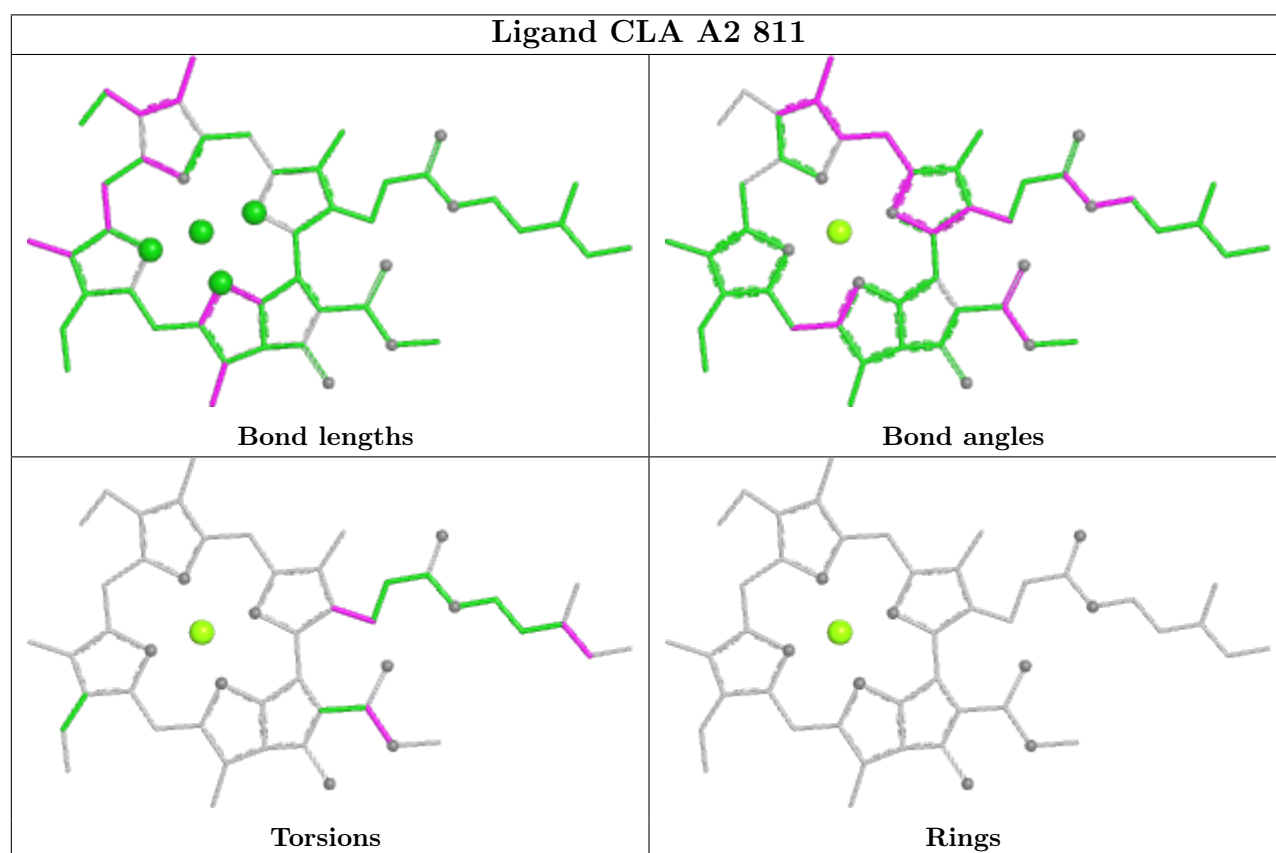
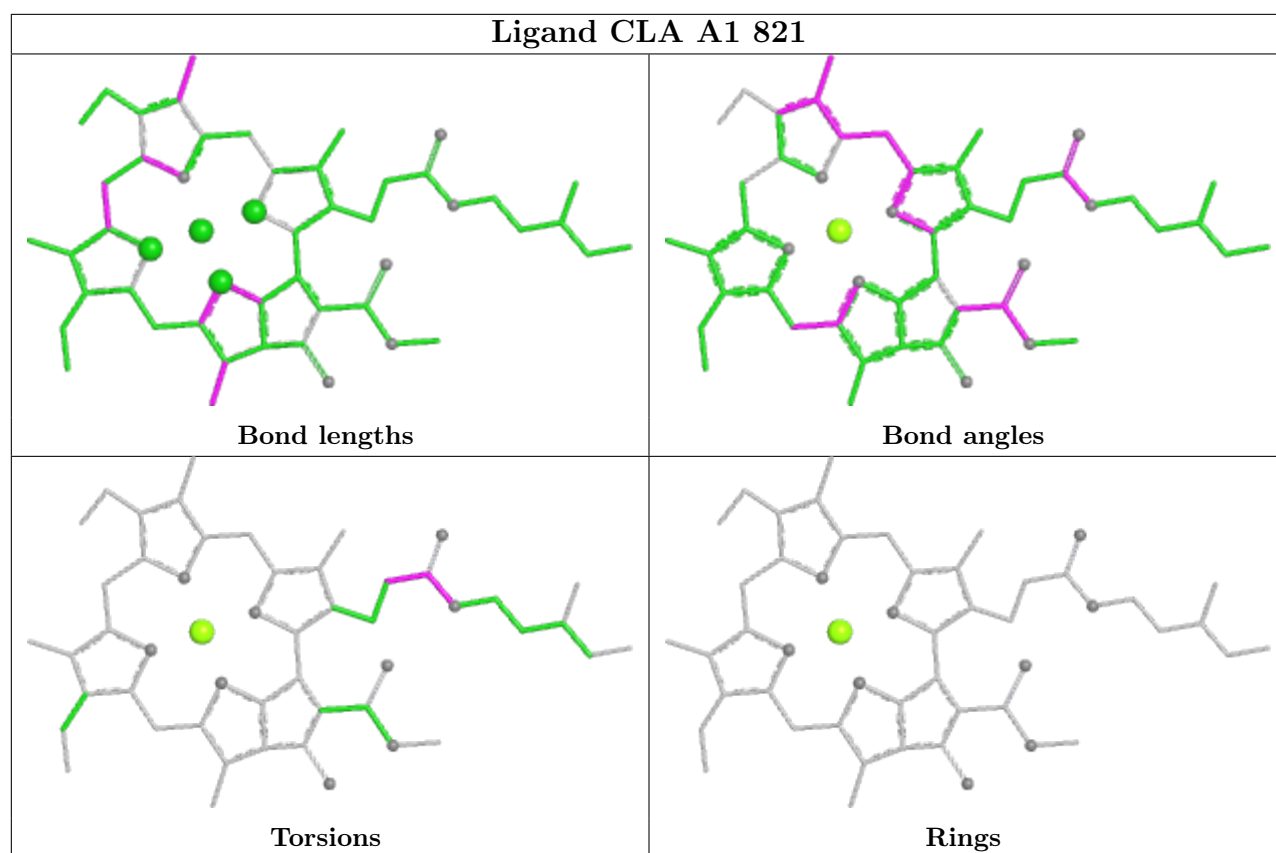




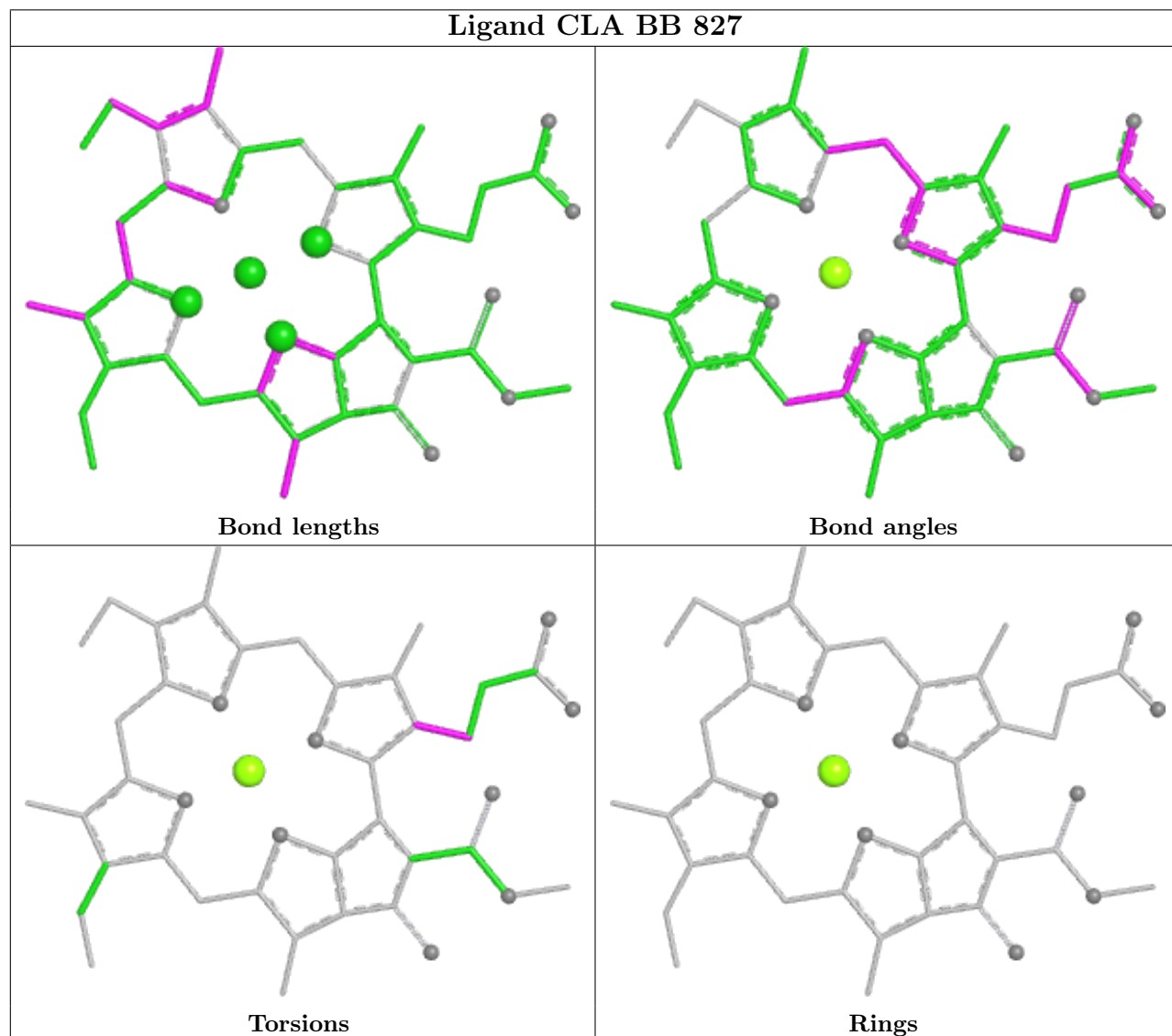
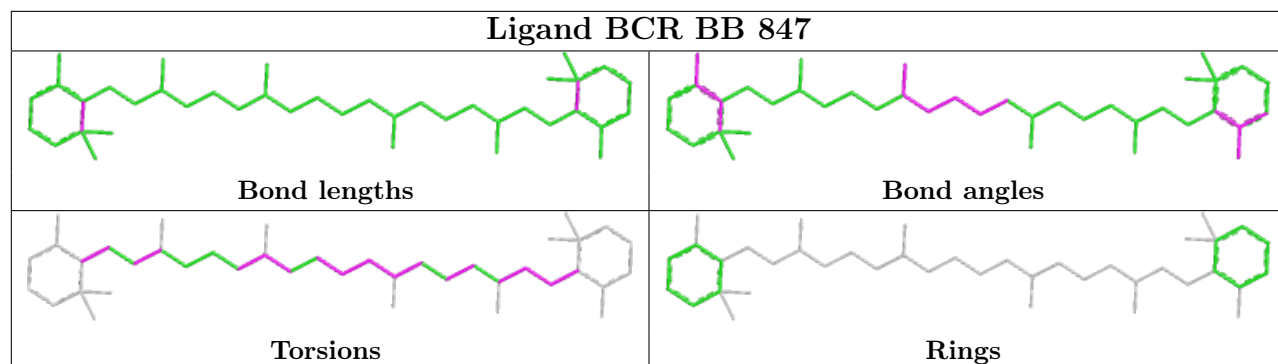


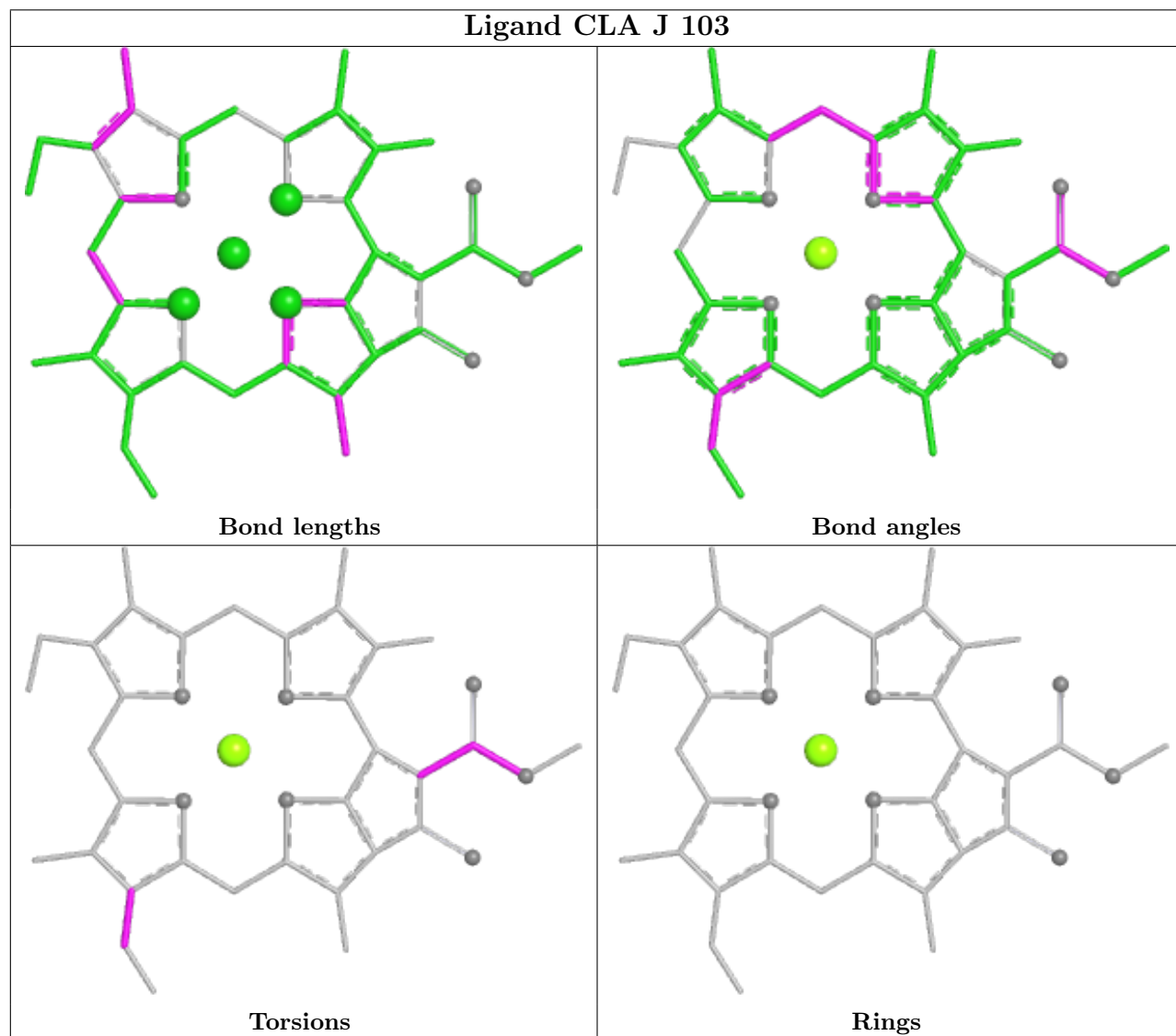
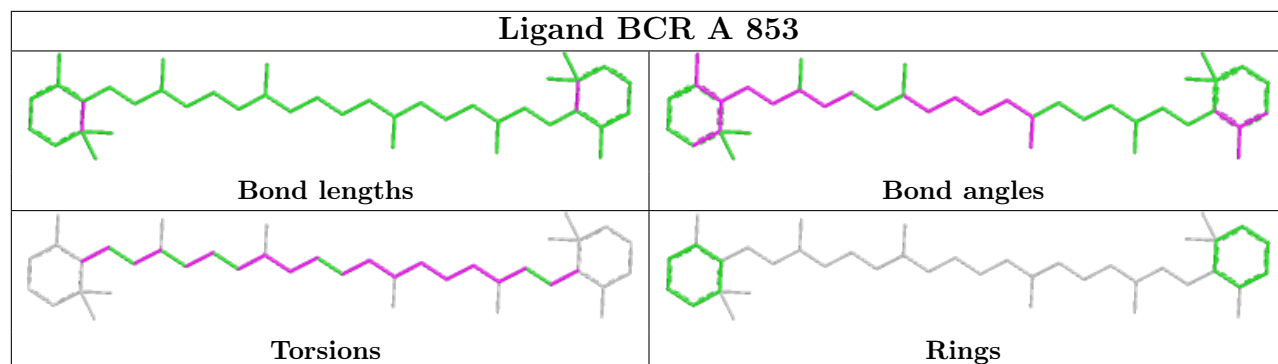


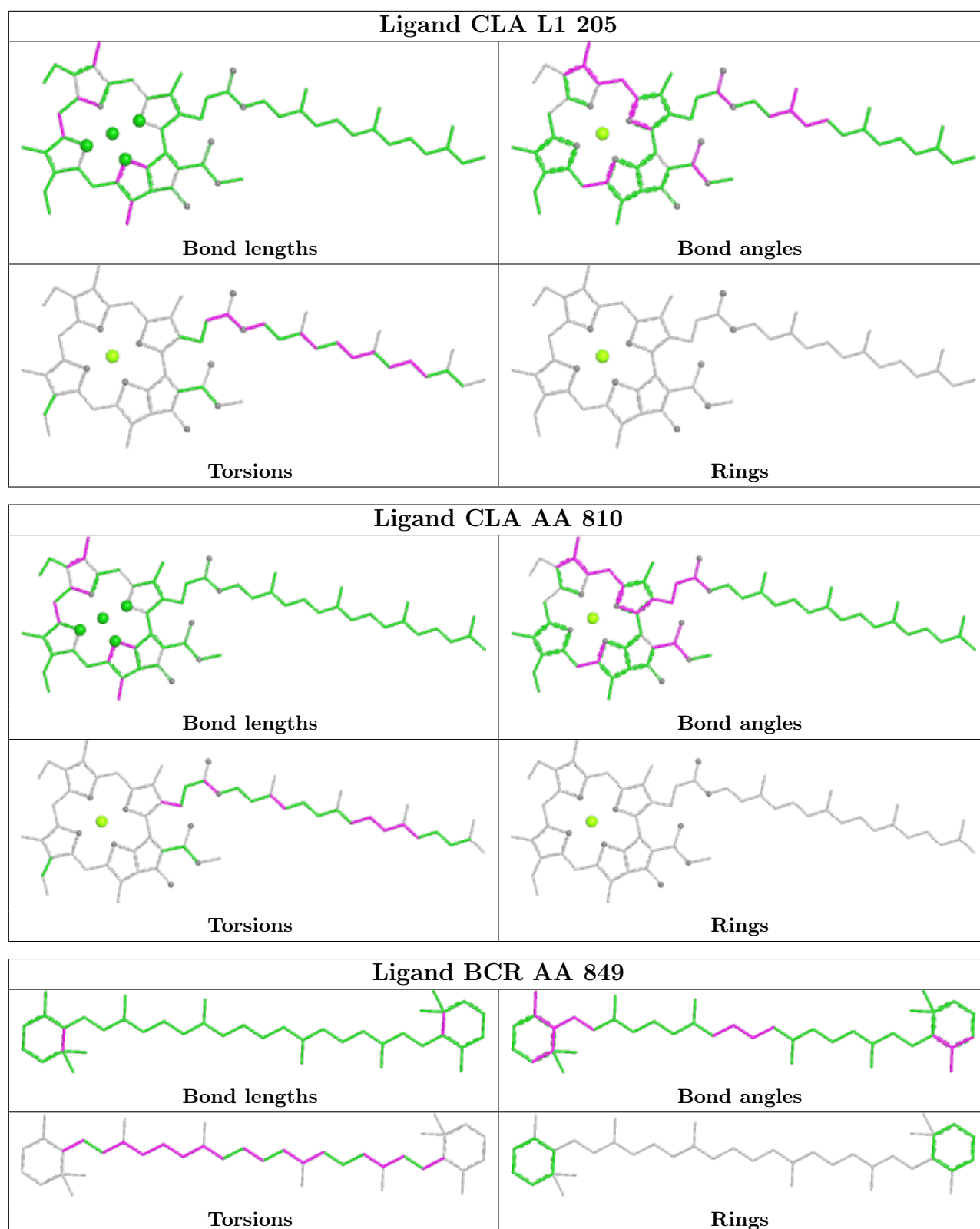


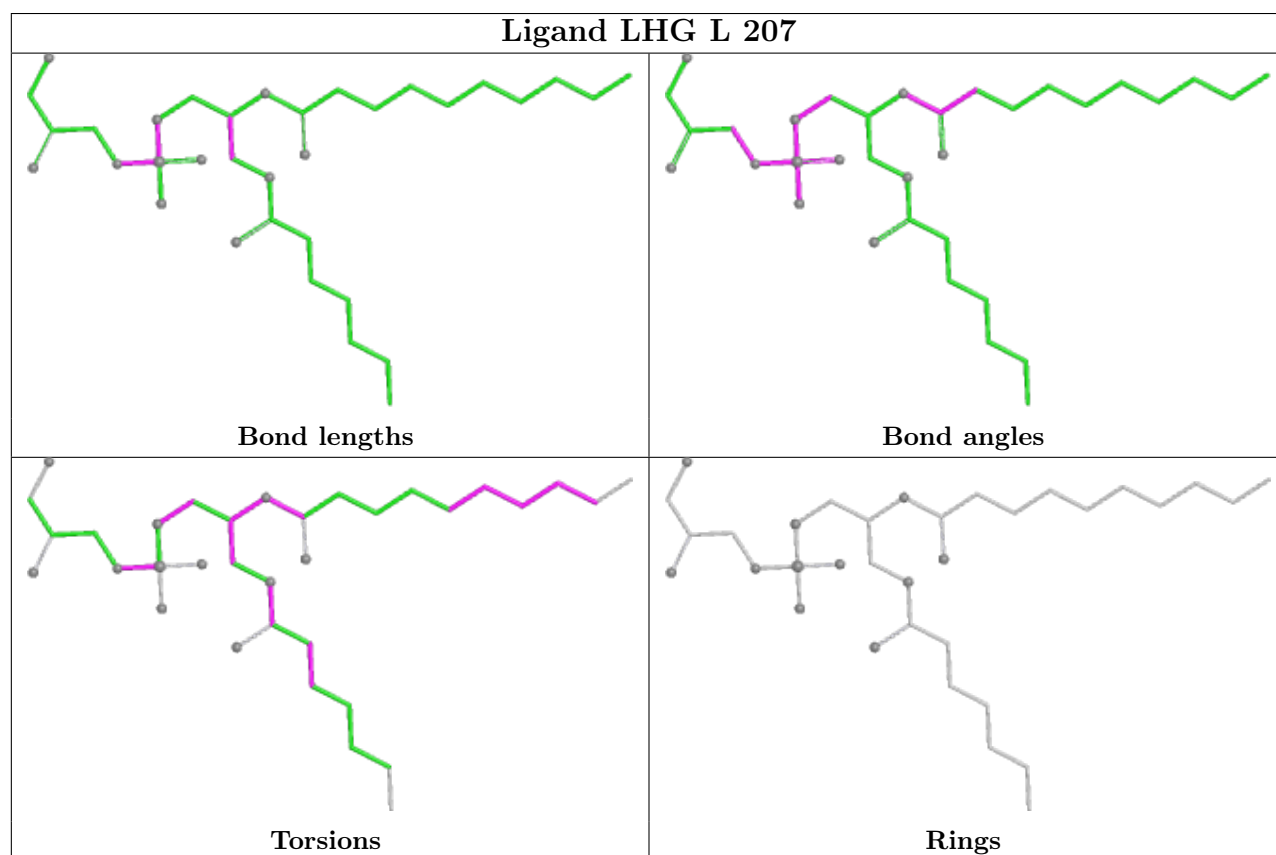
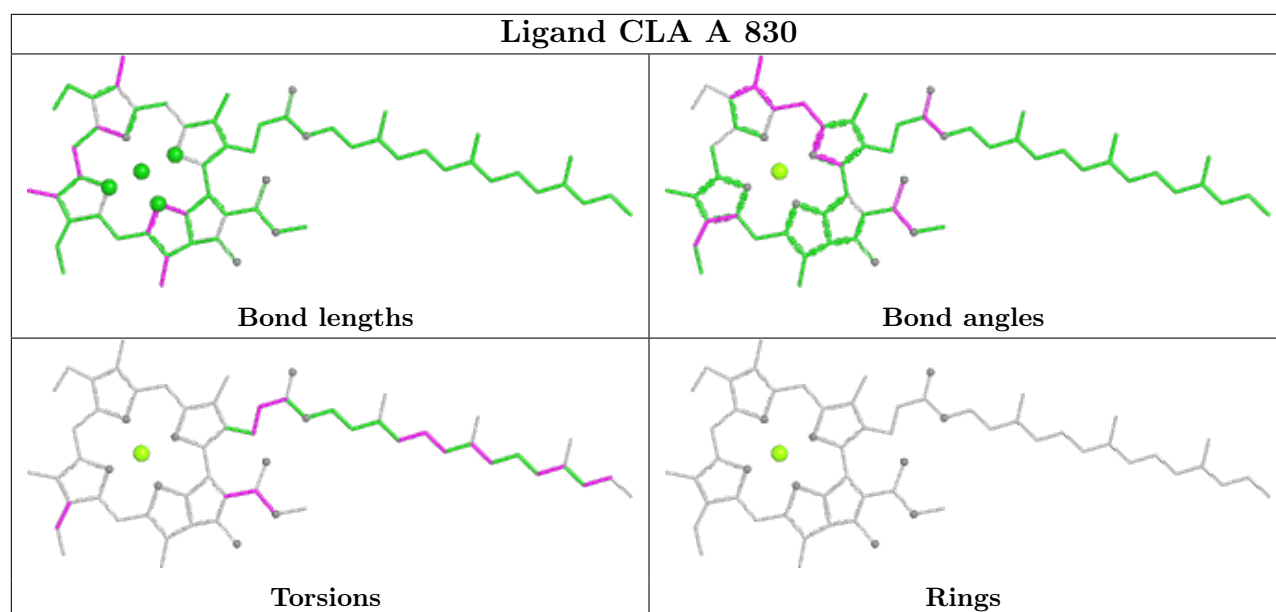


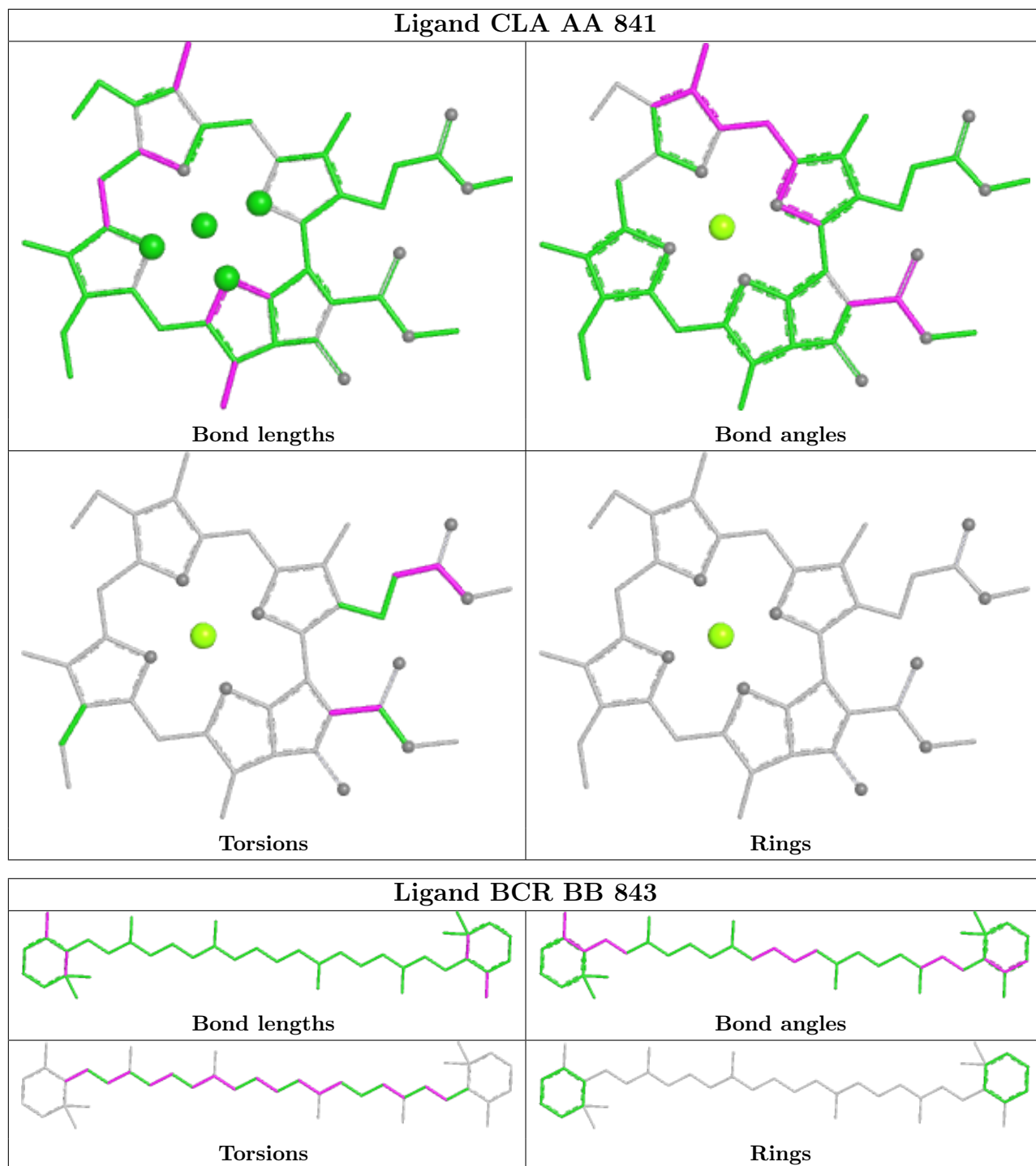


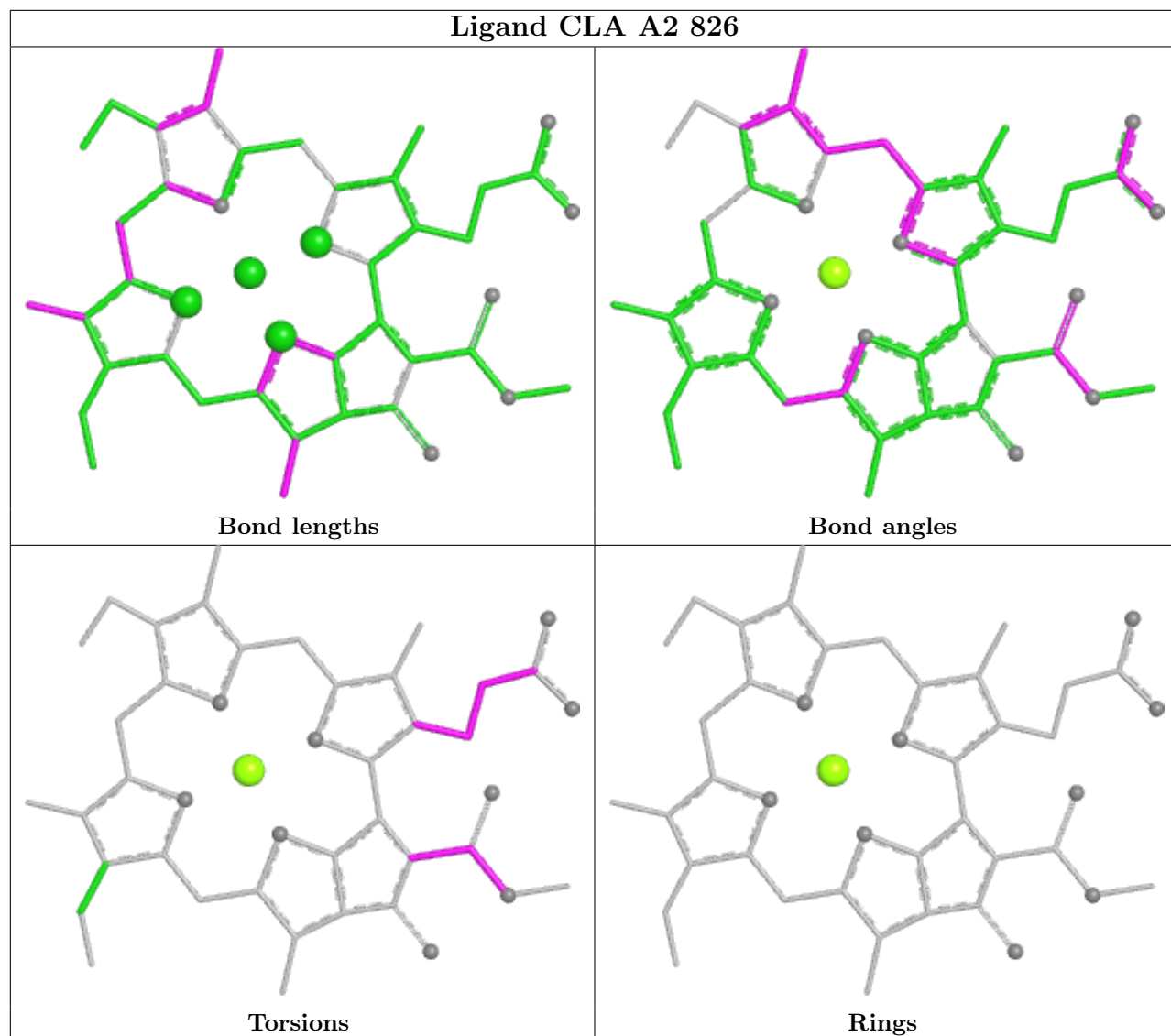


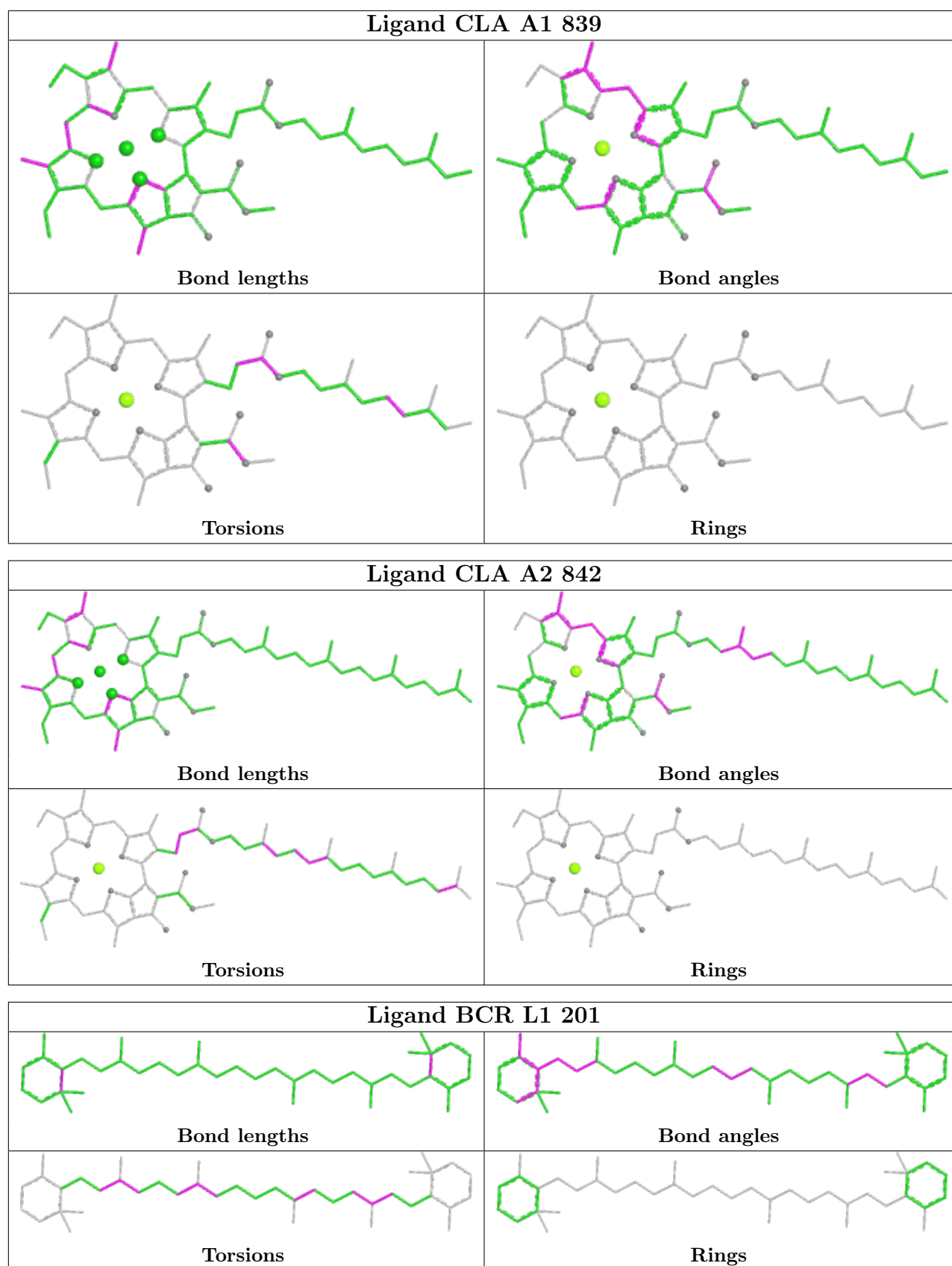


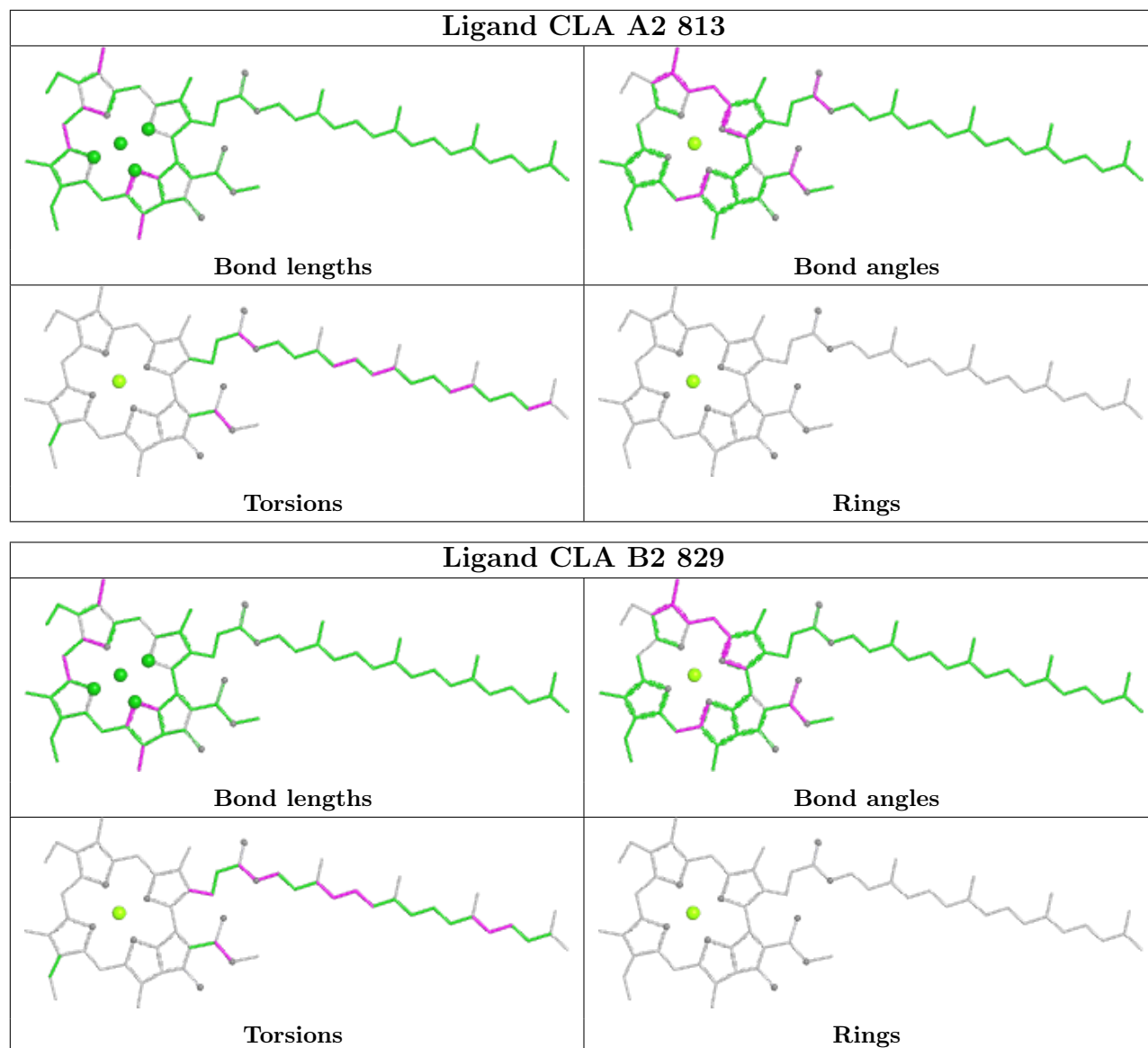






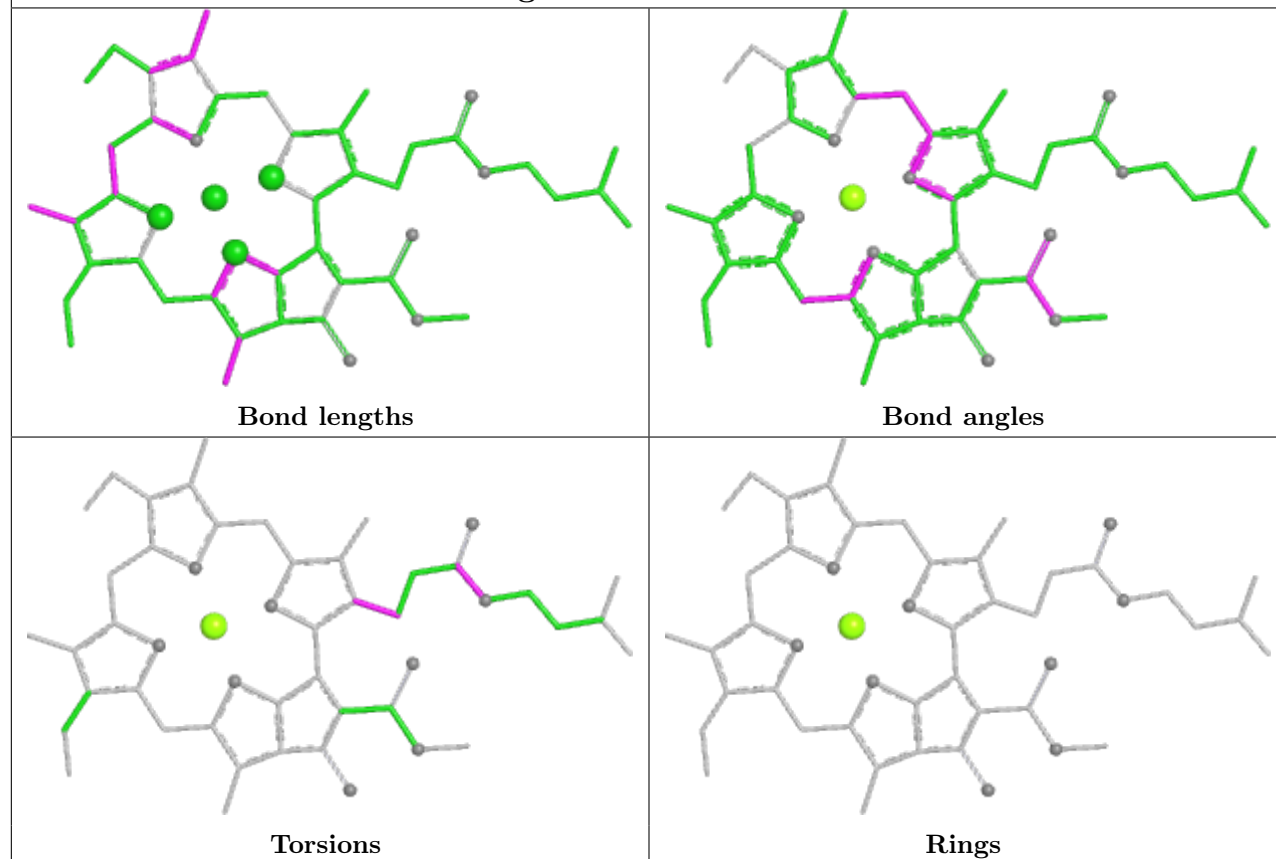




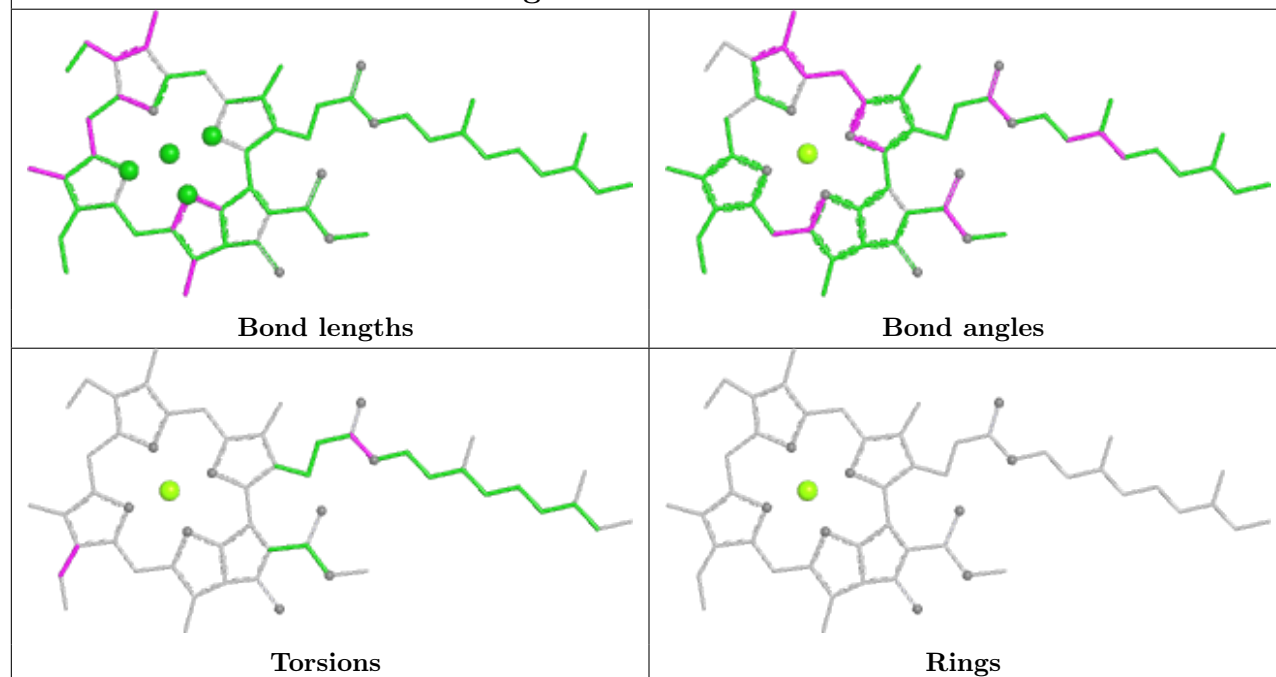


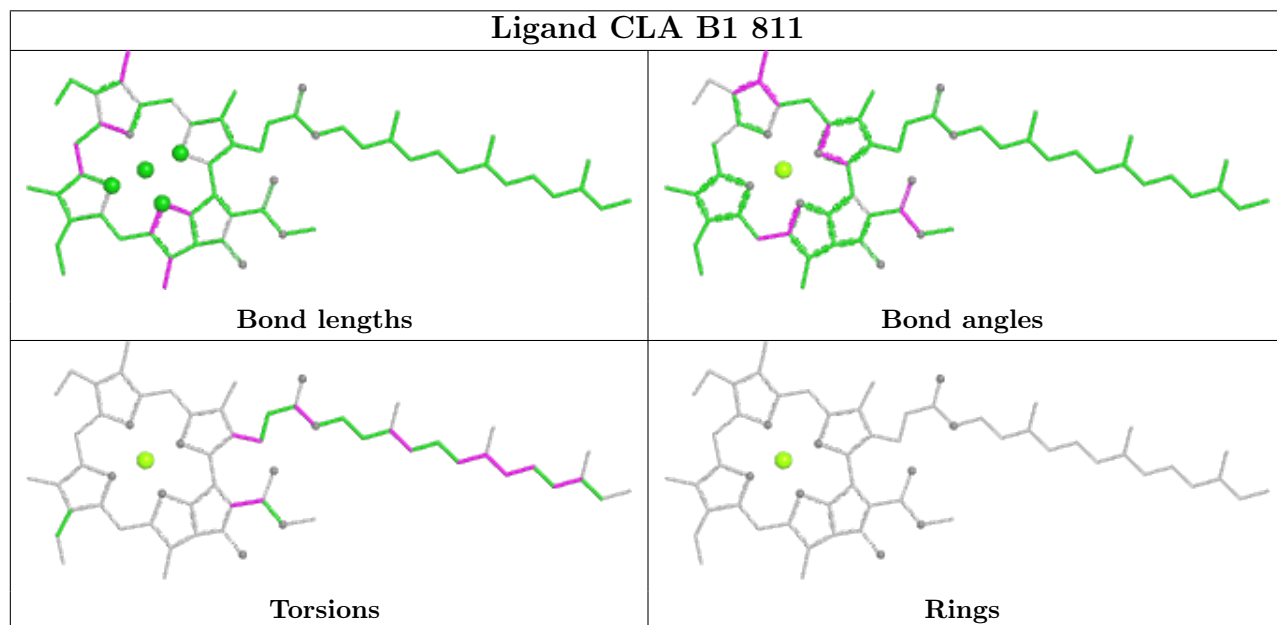
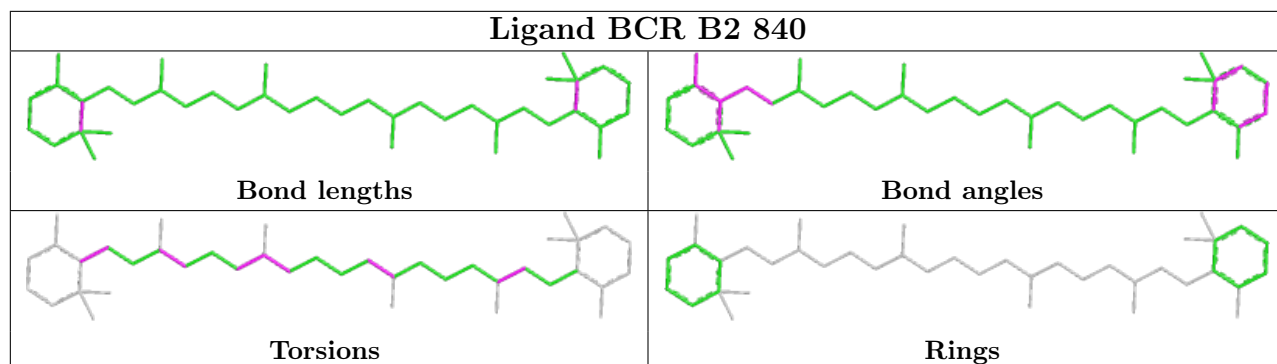


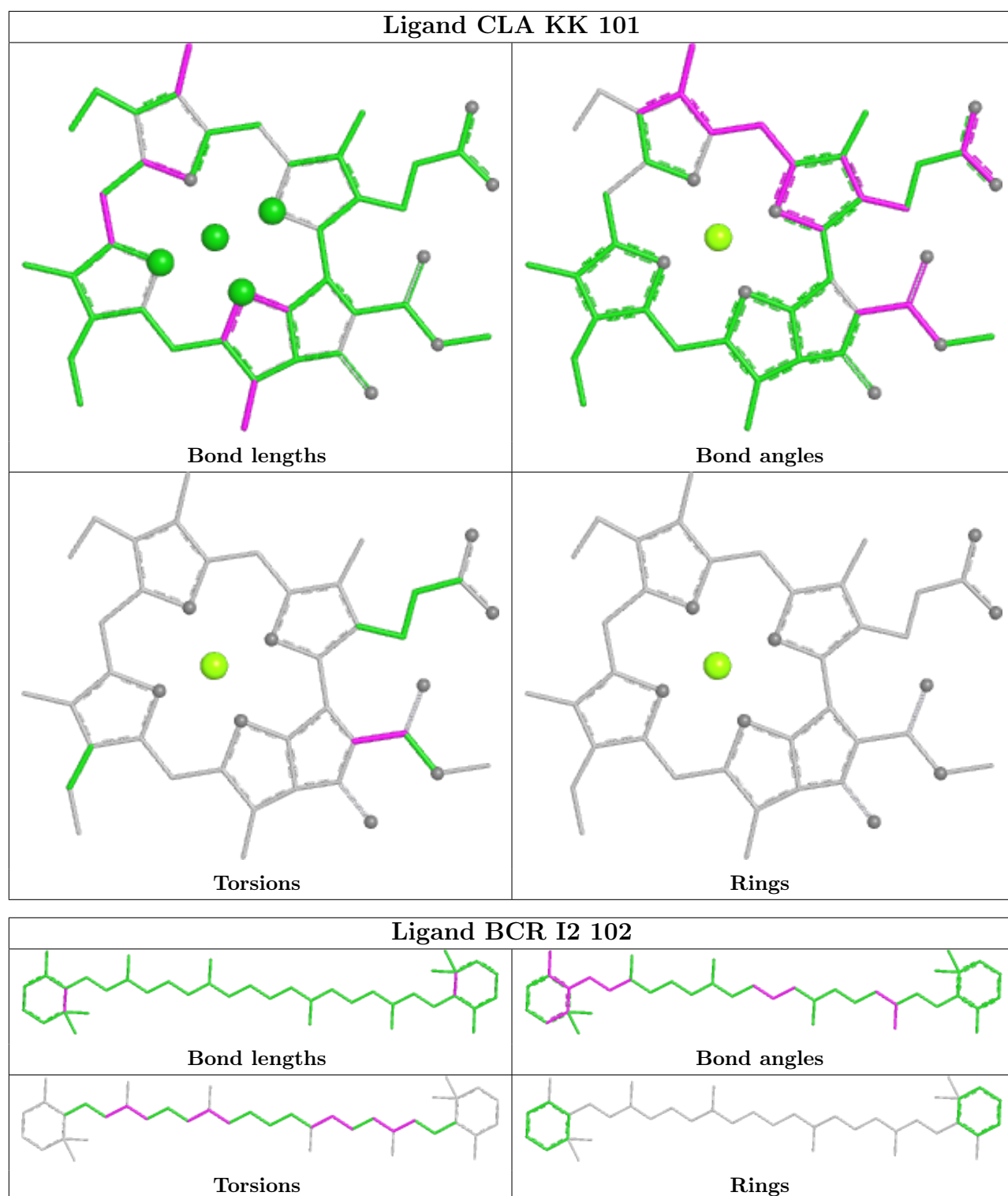
## Ligand CLA AA 833

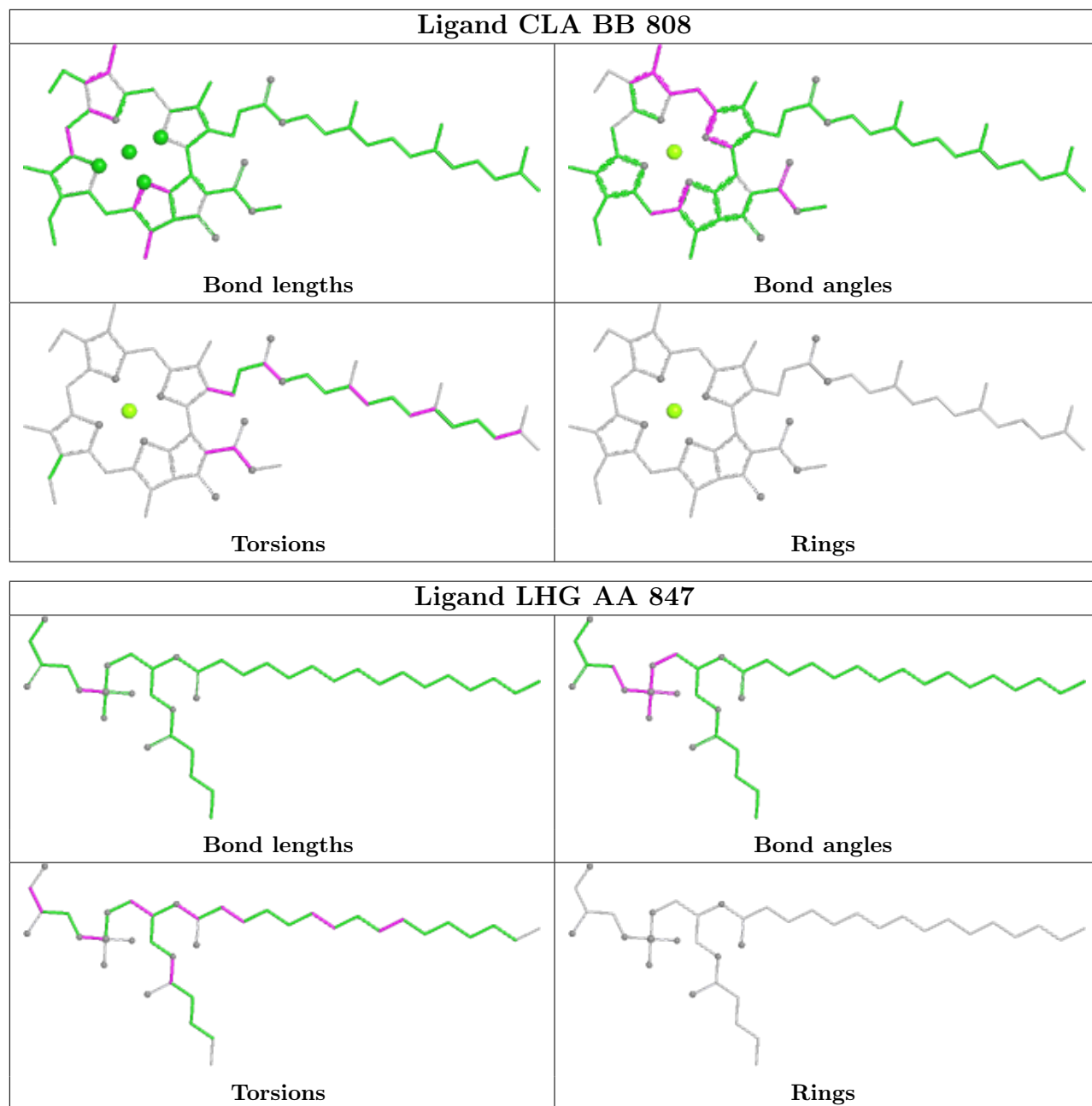


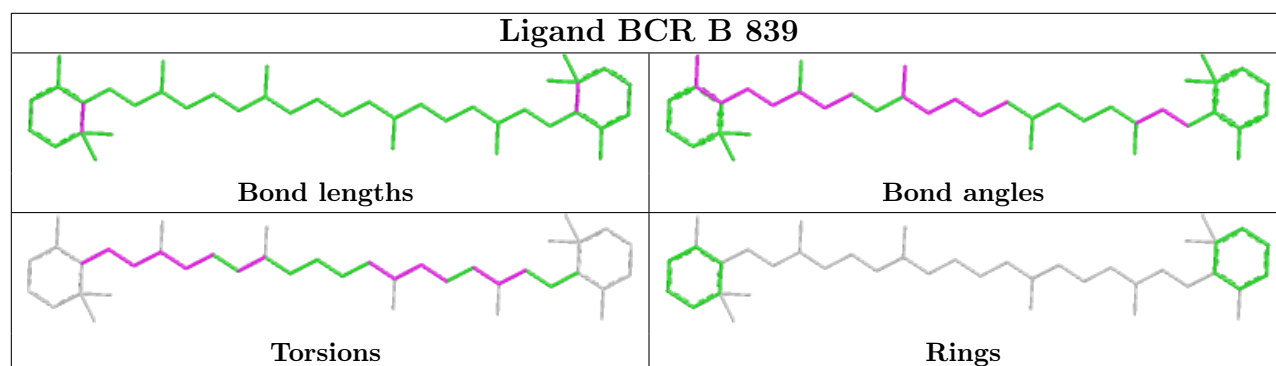
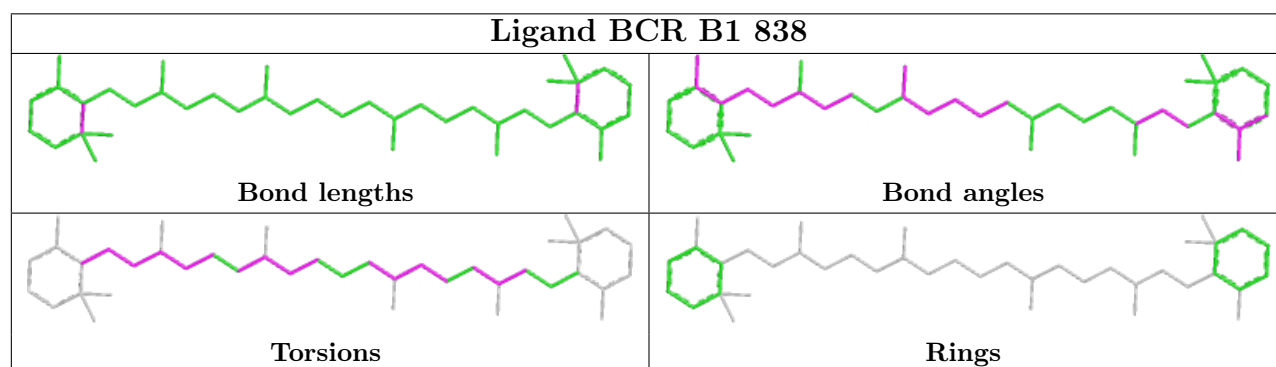
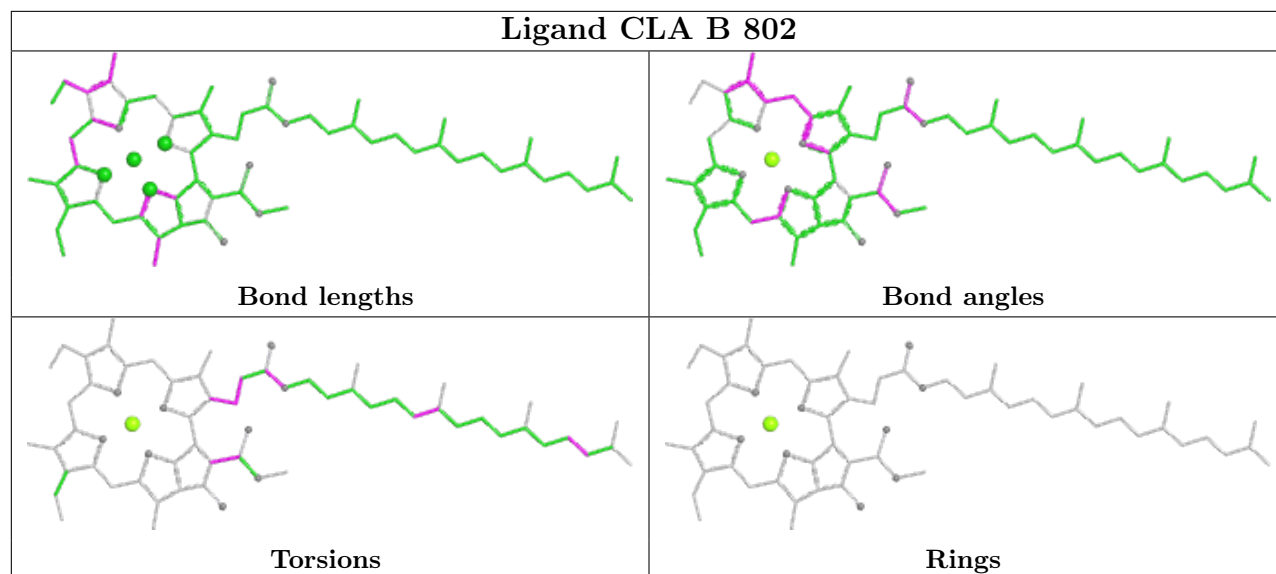
## Ligand CLA B2 830

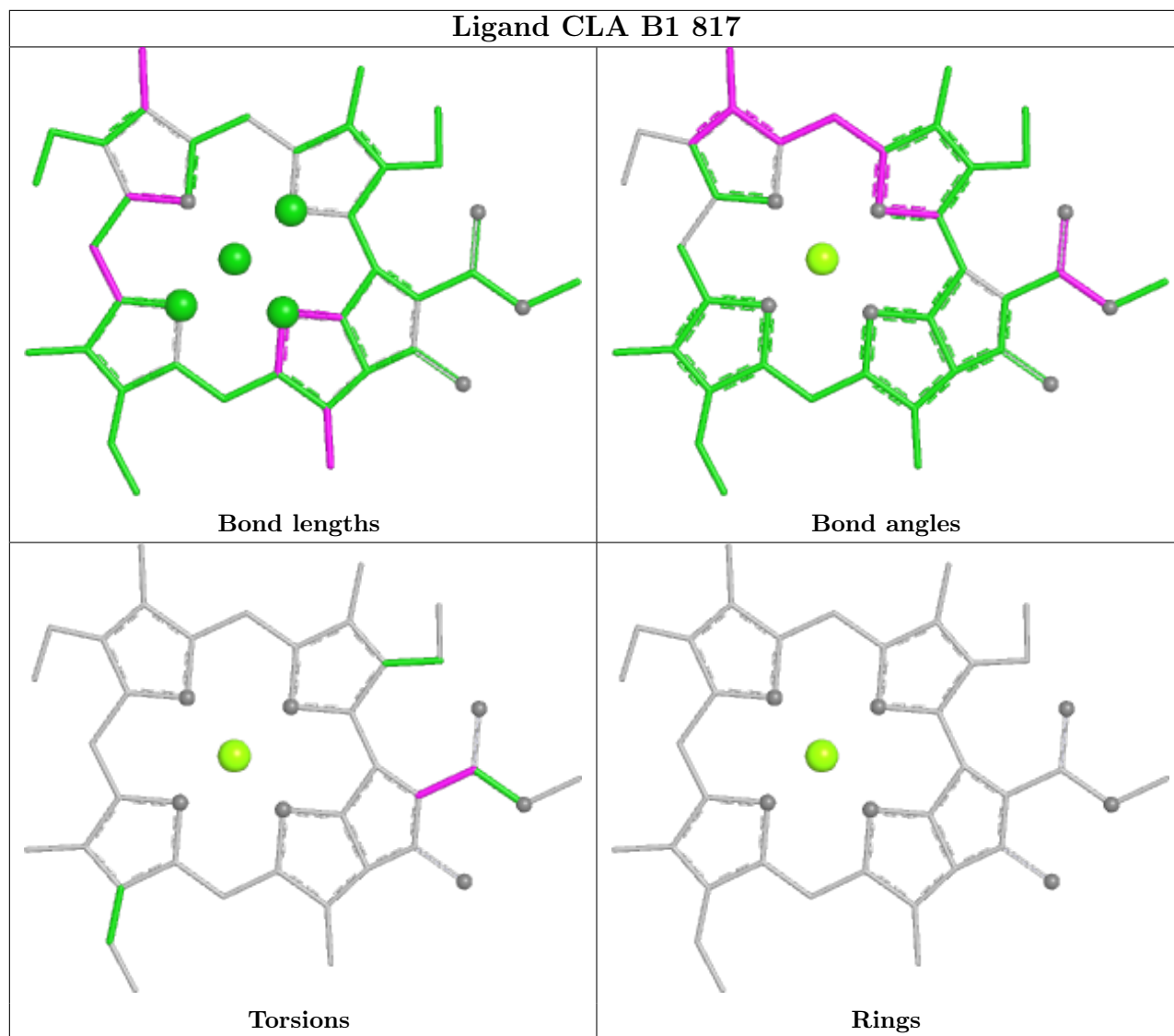


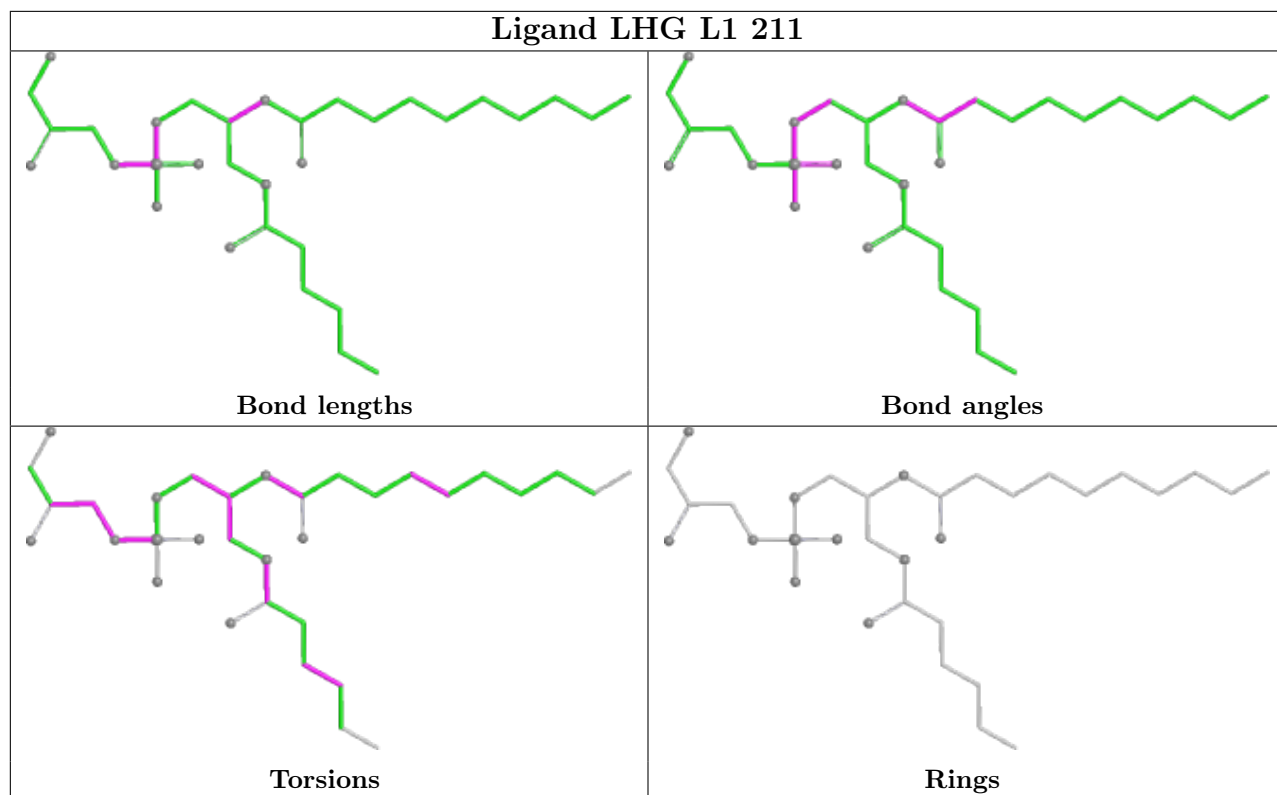


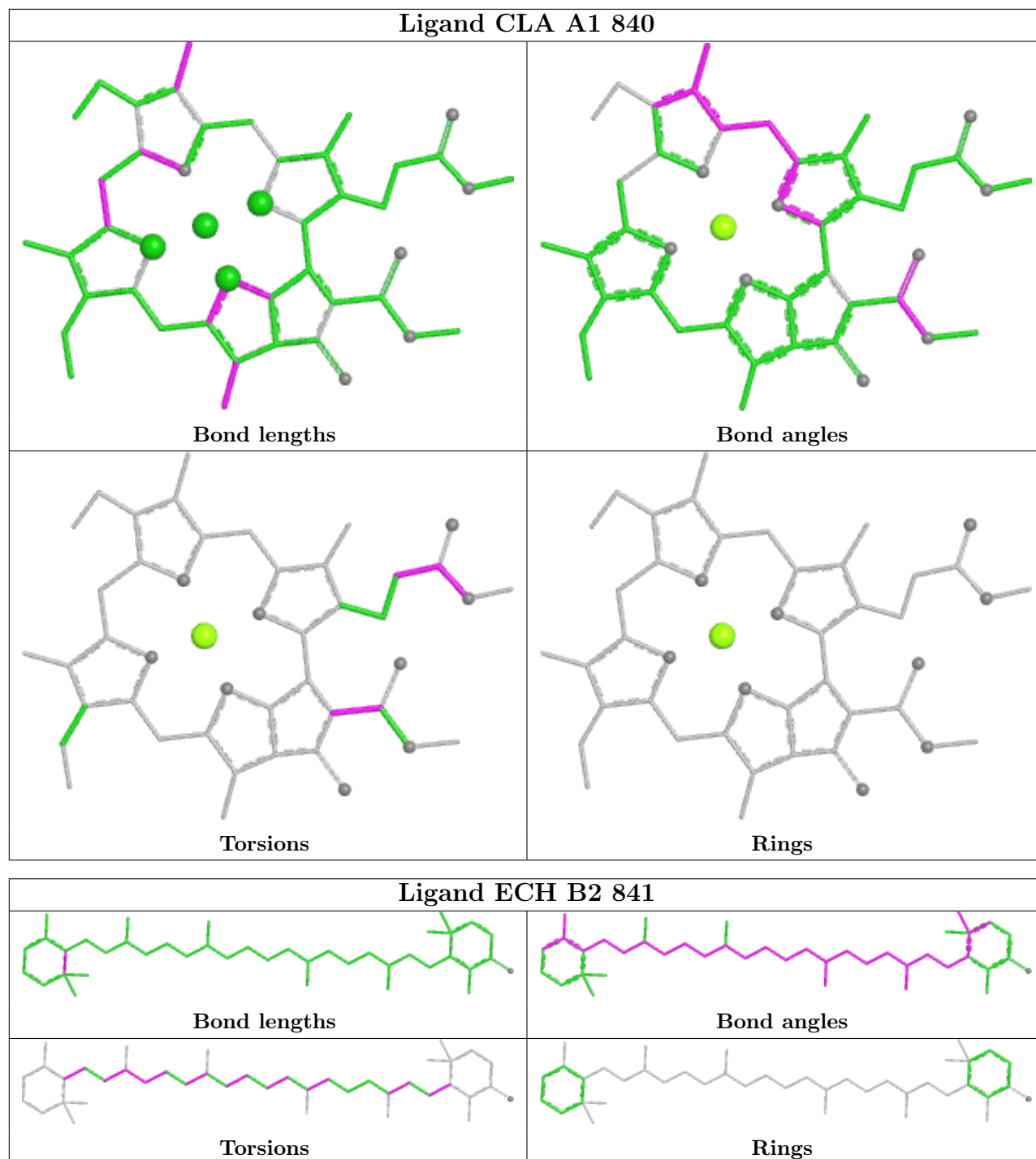




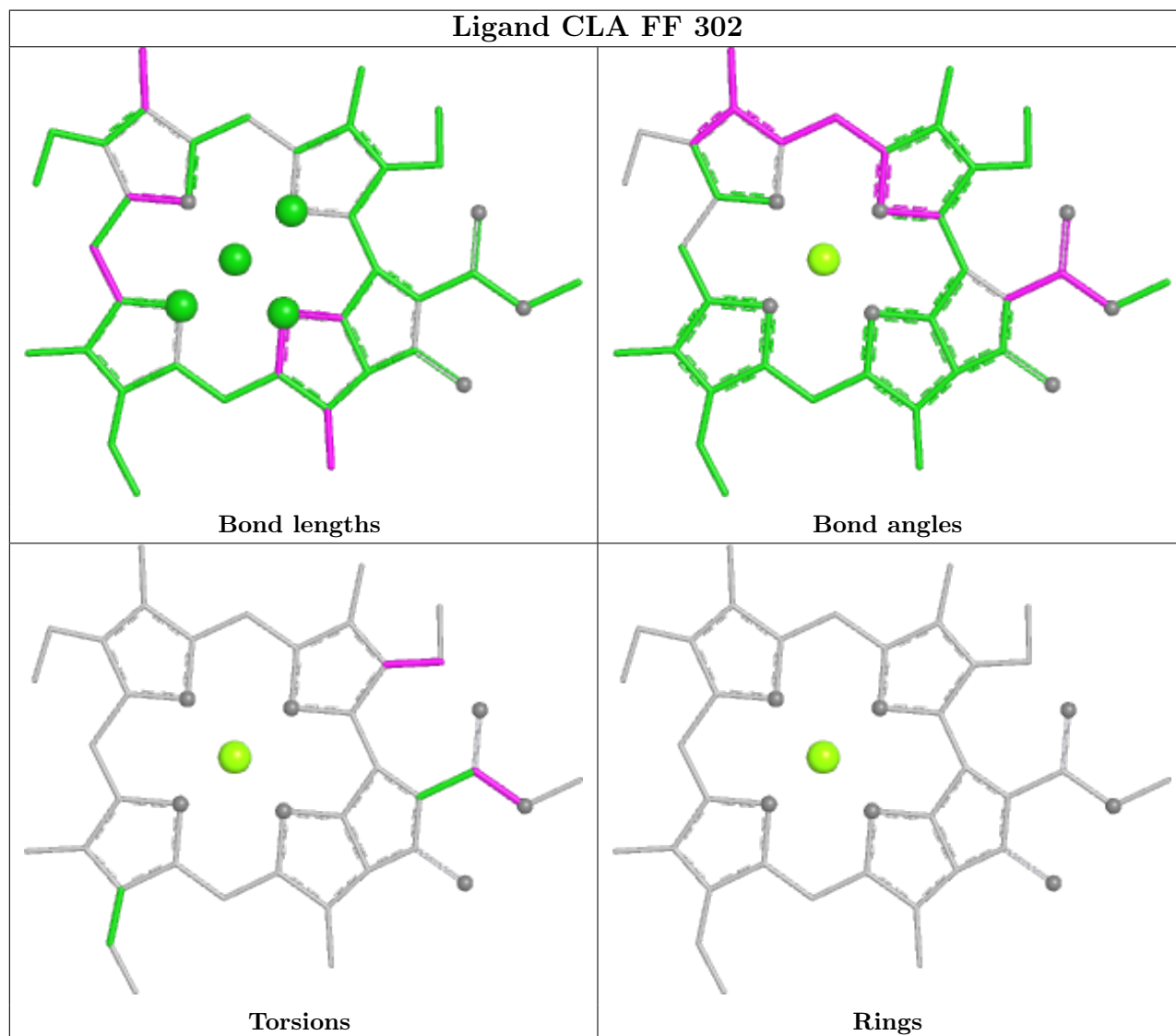
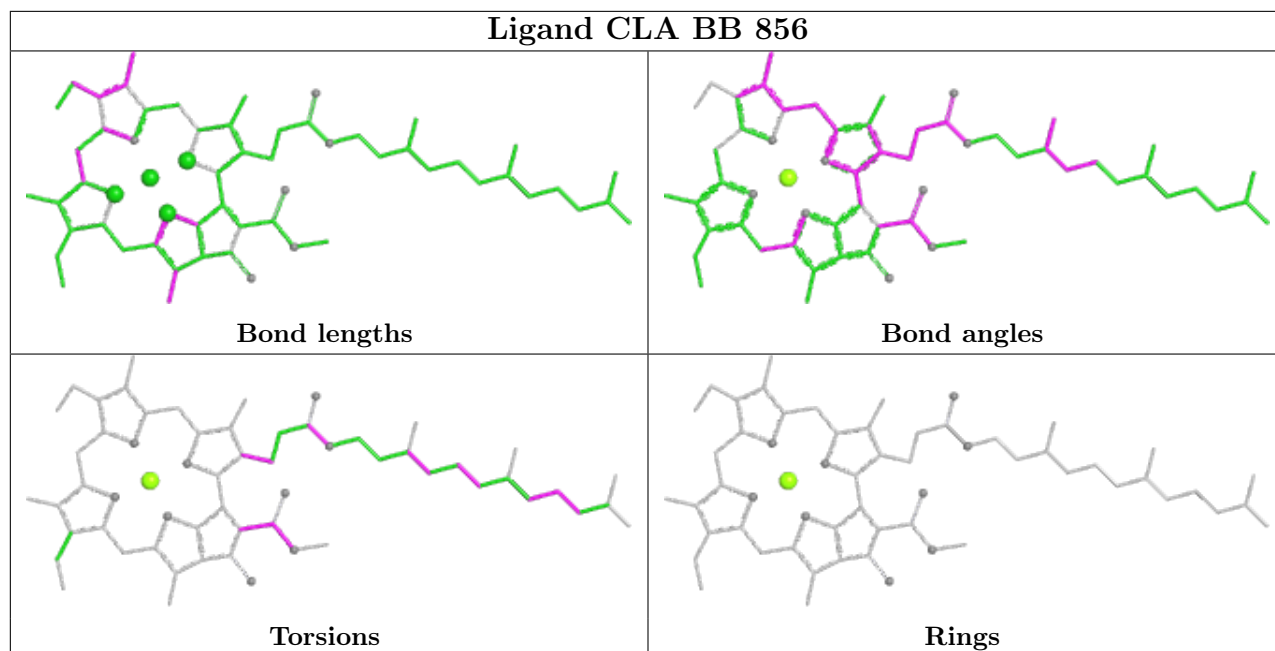


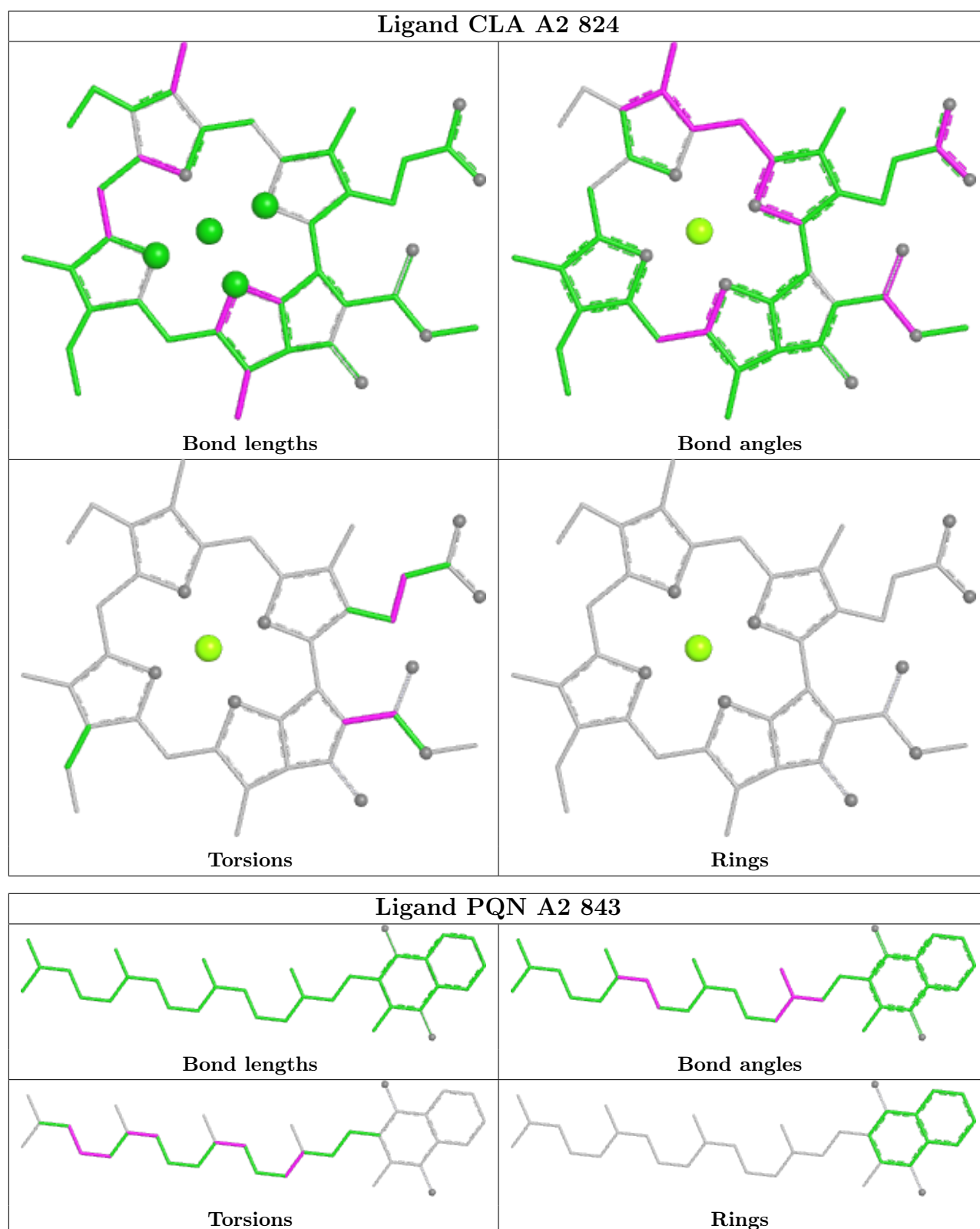


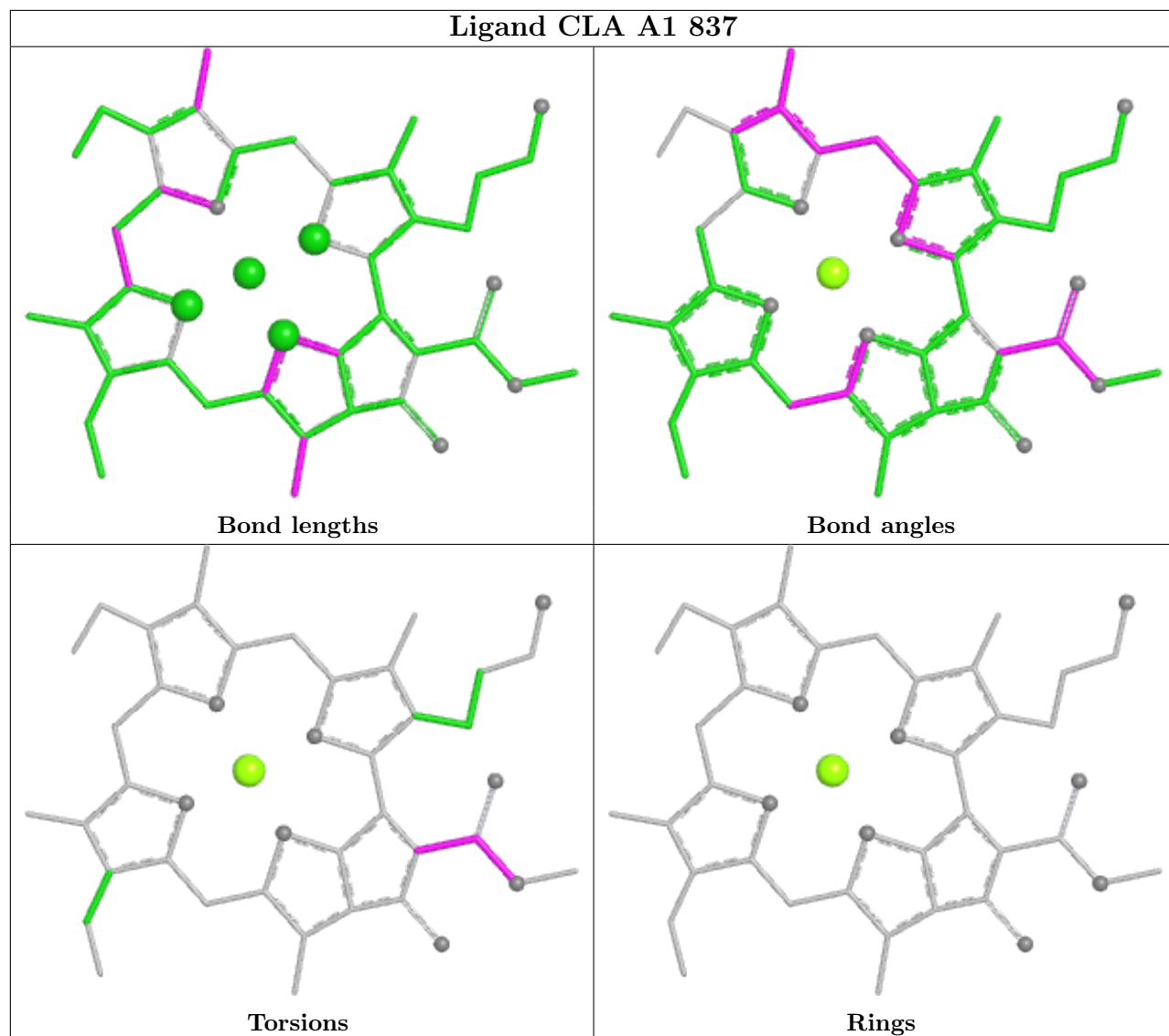


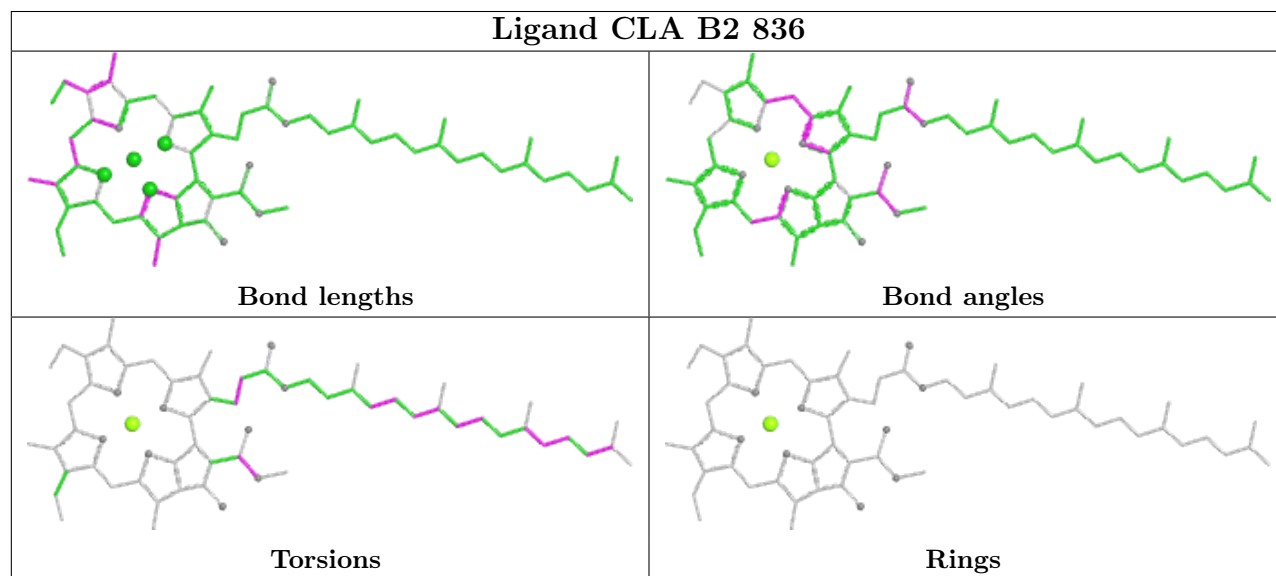
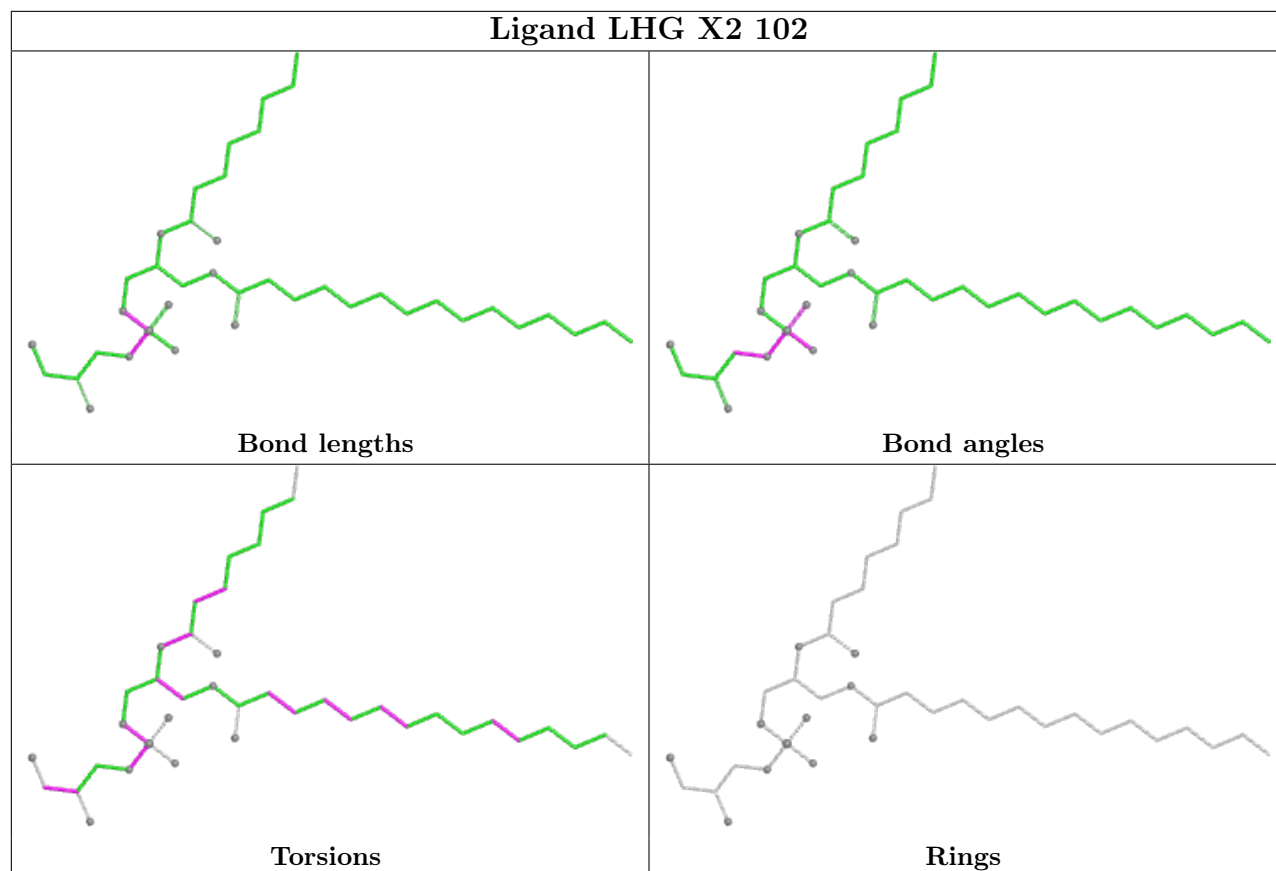


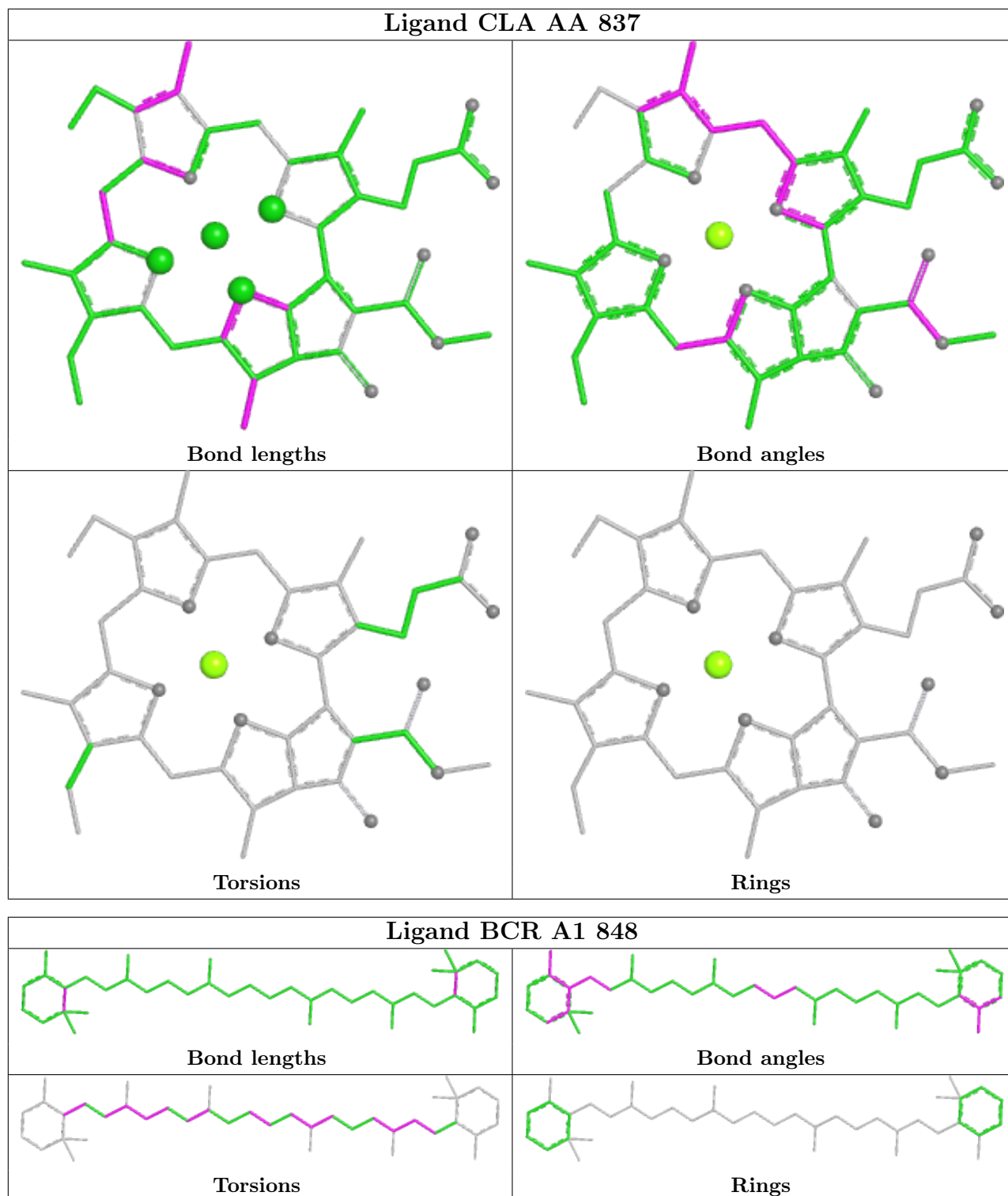


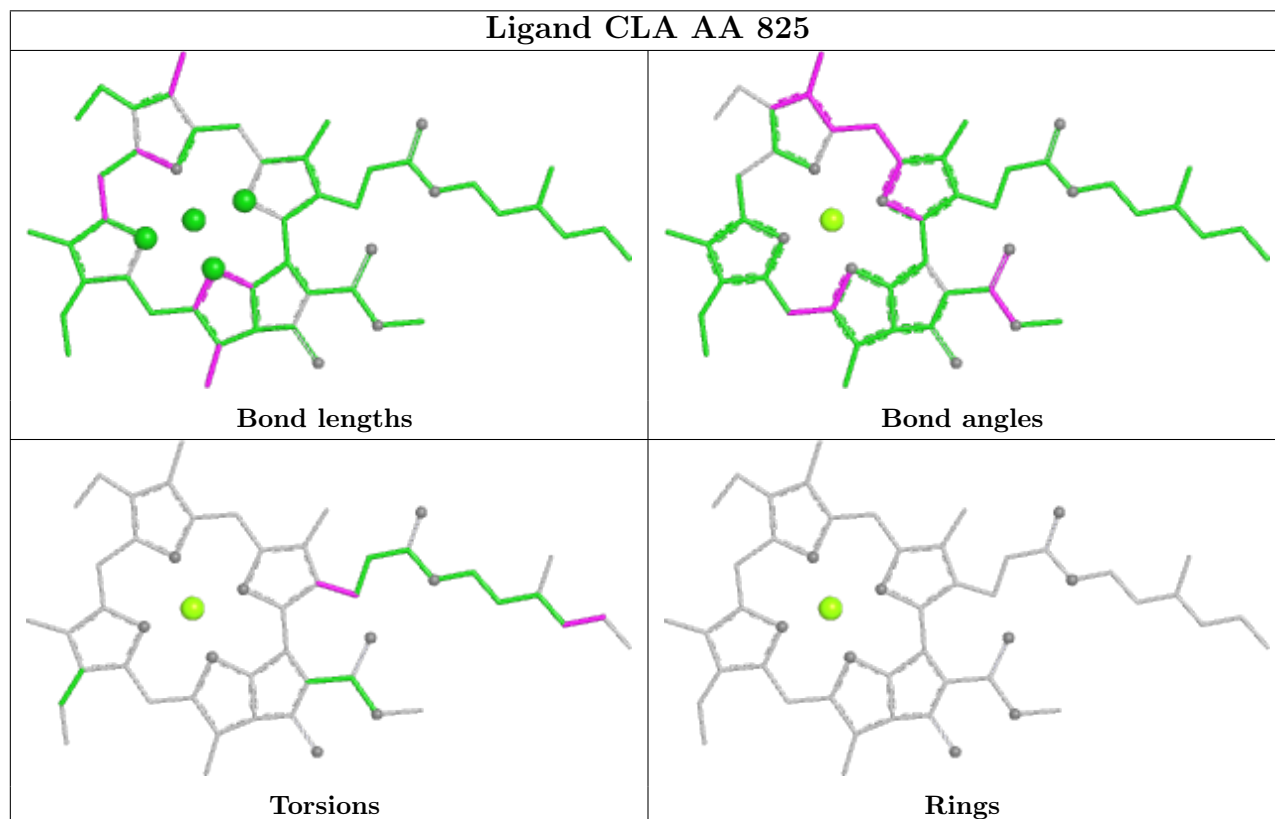
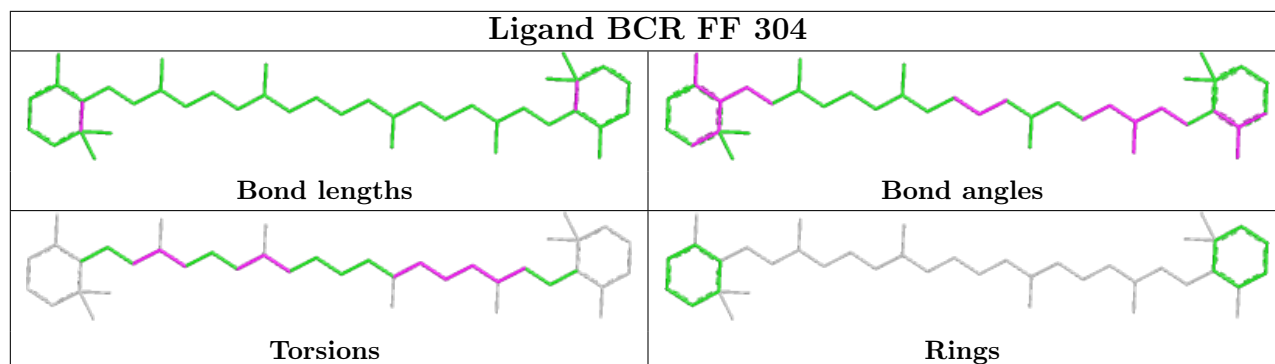


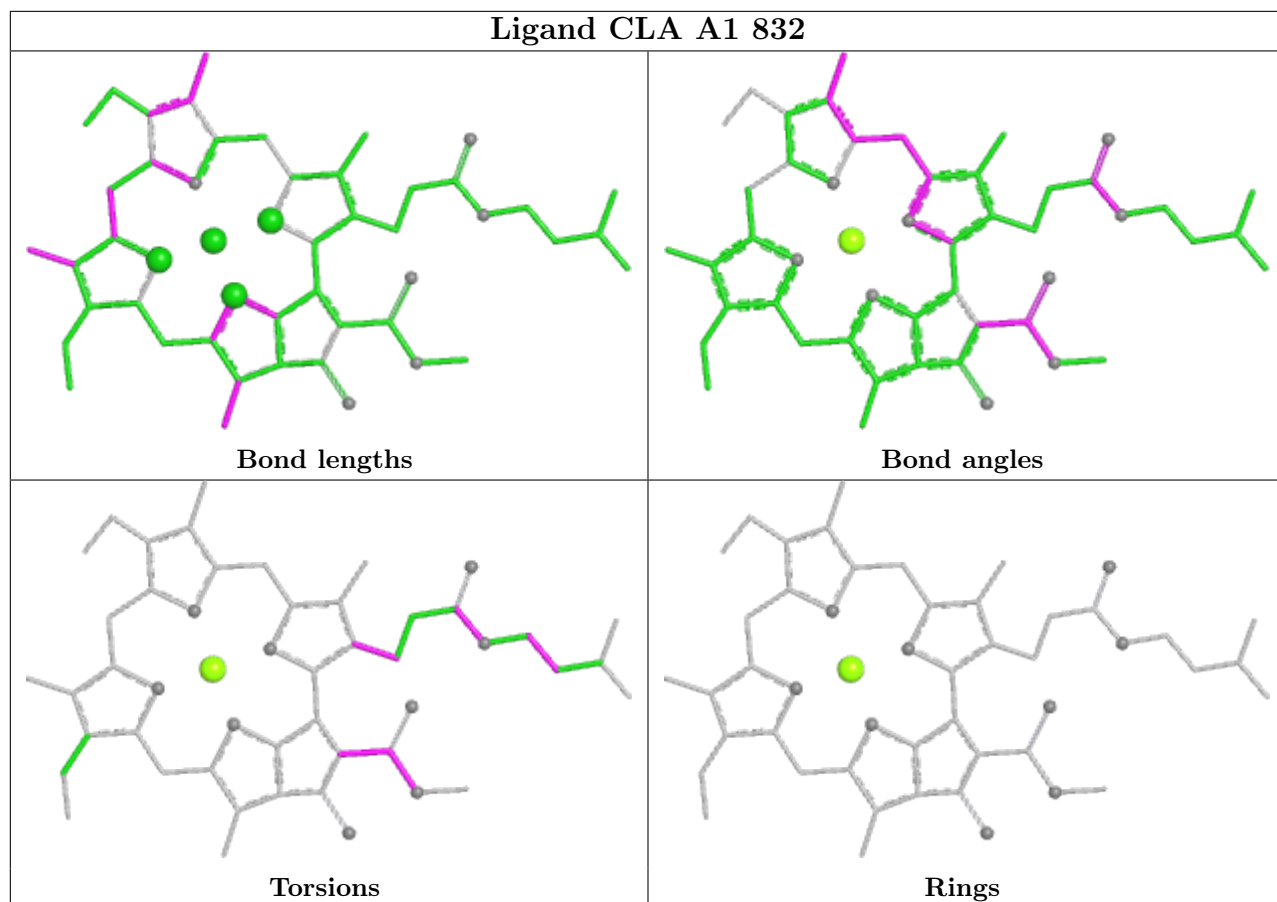


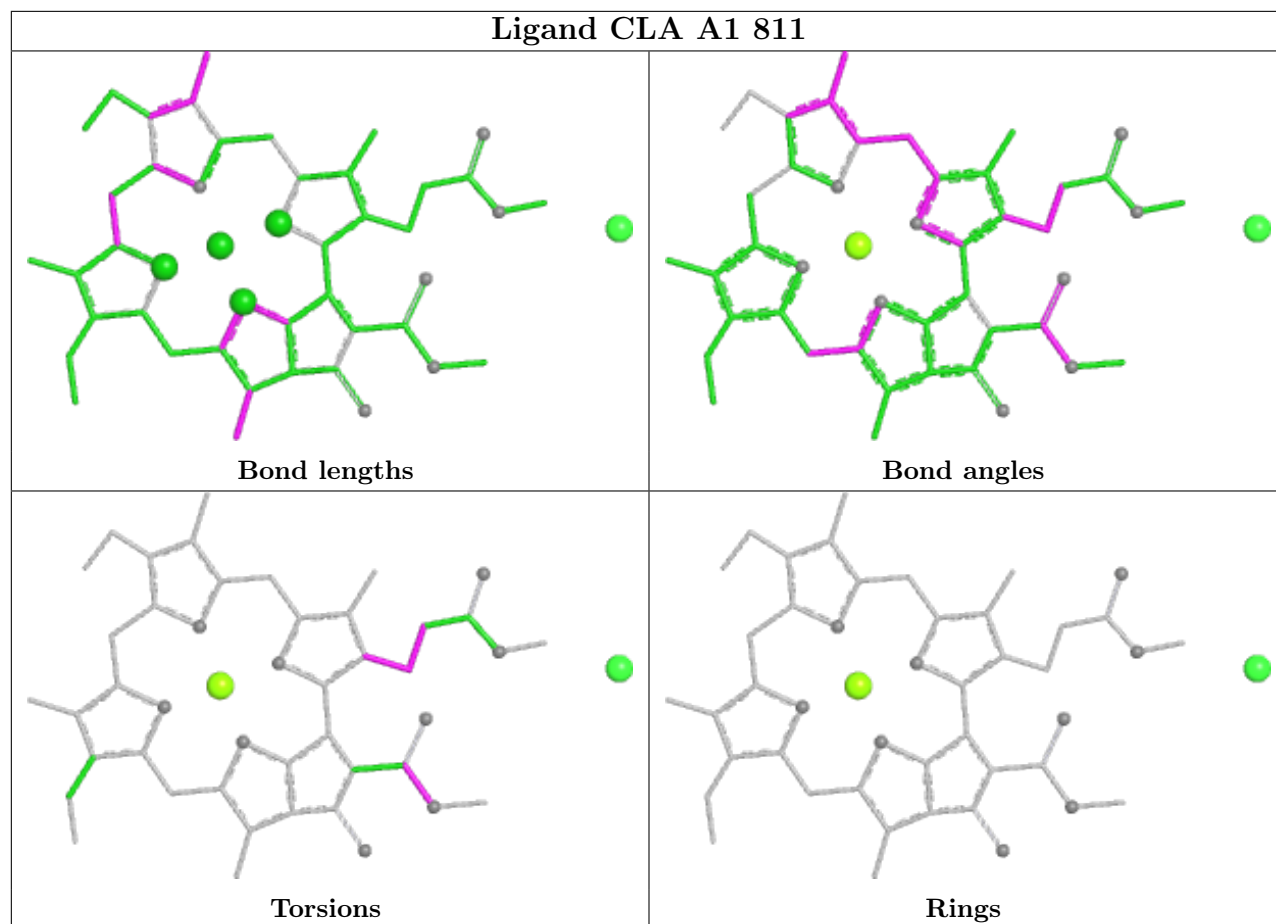




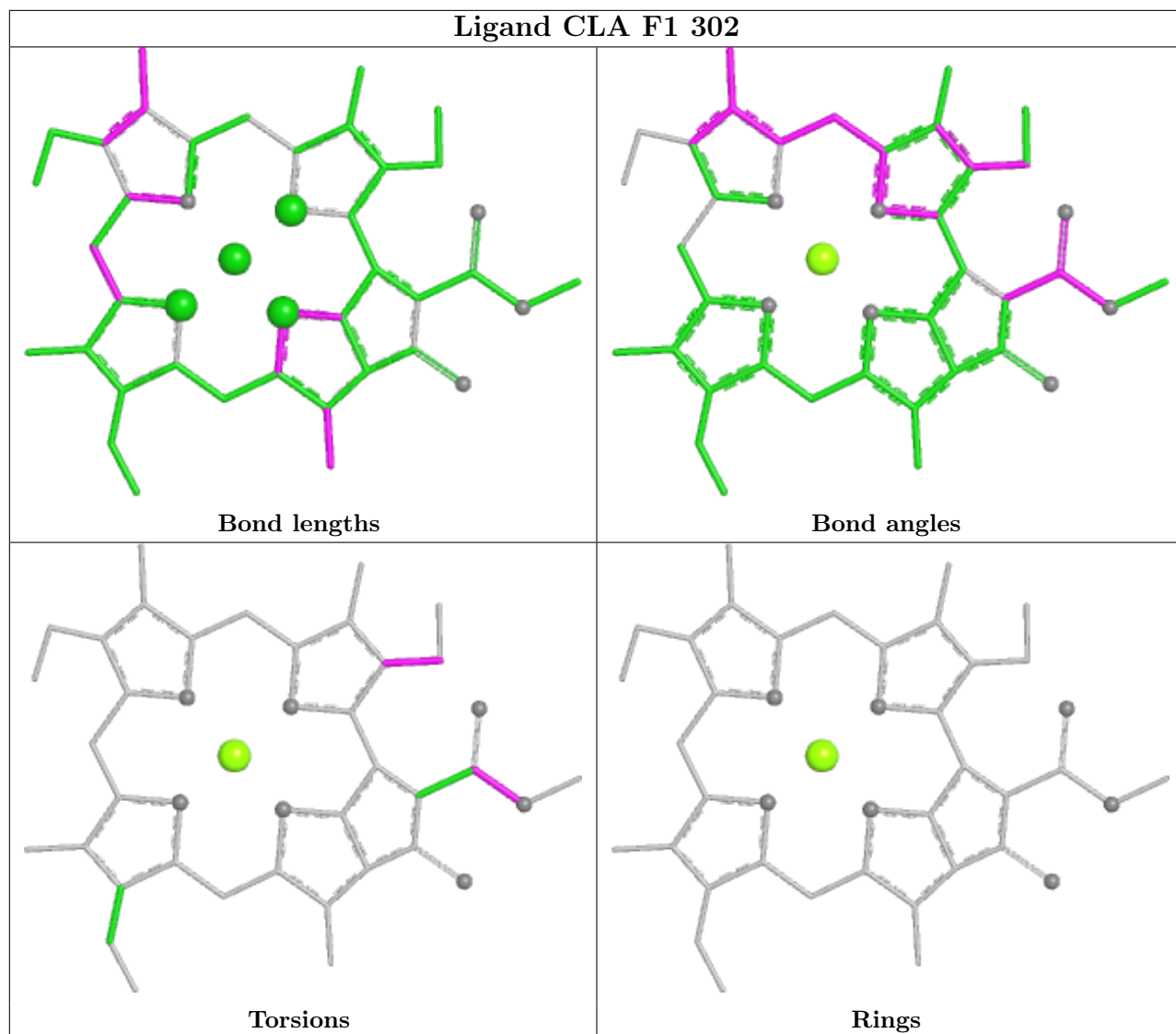


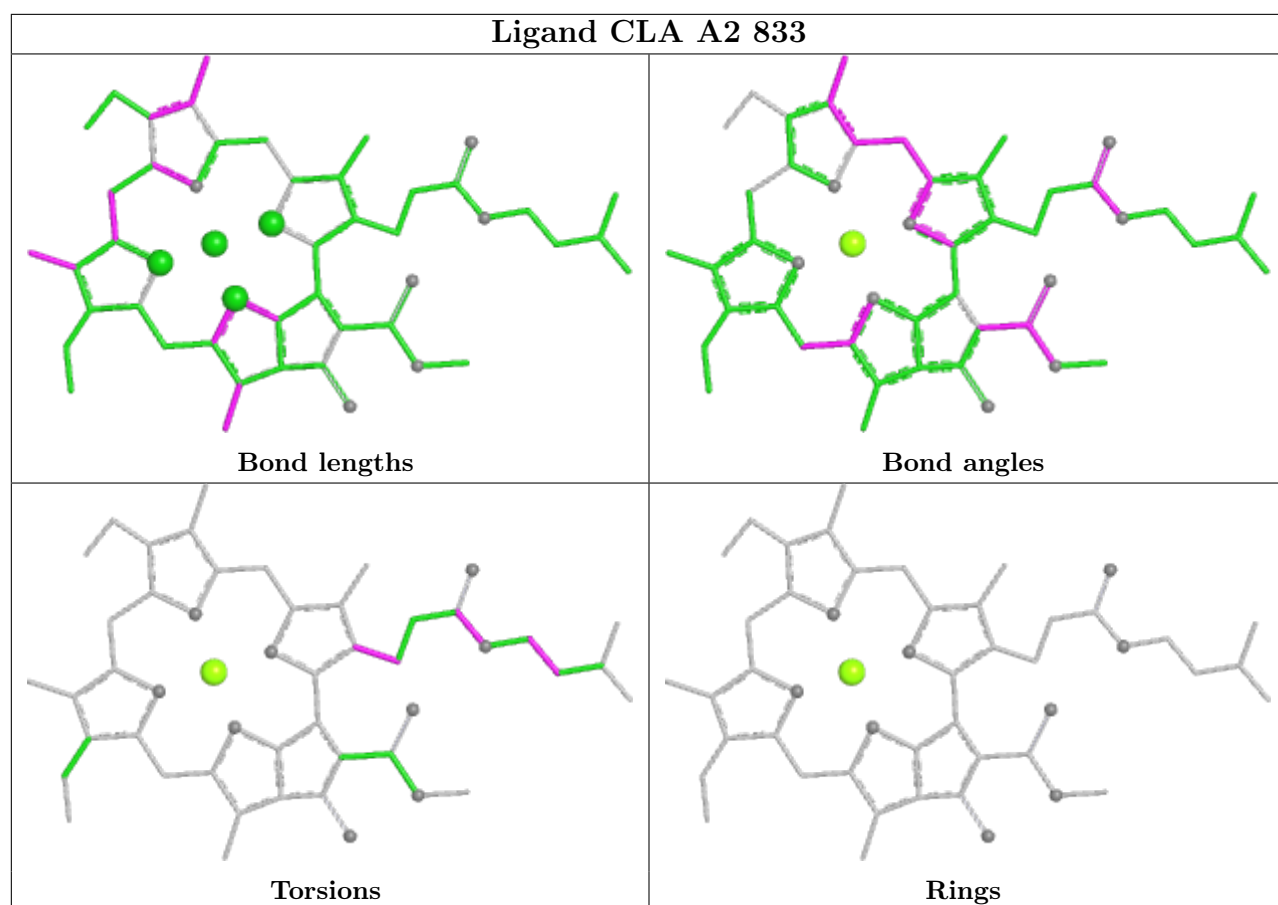


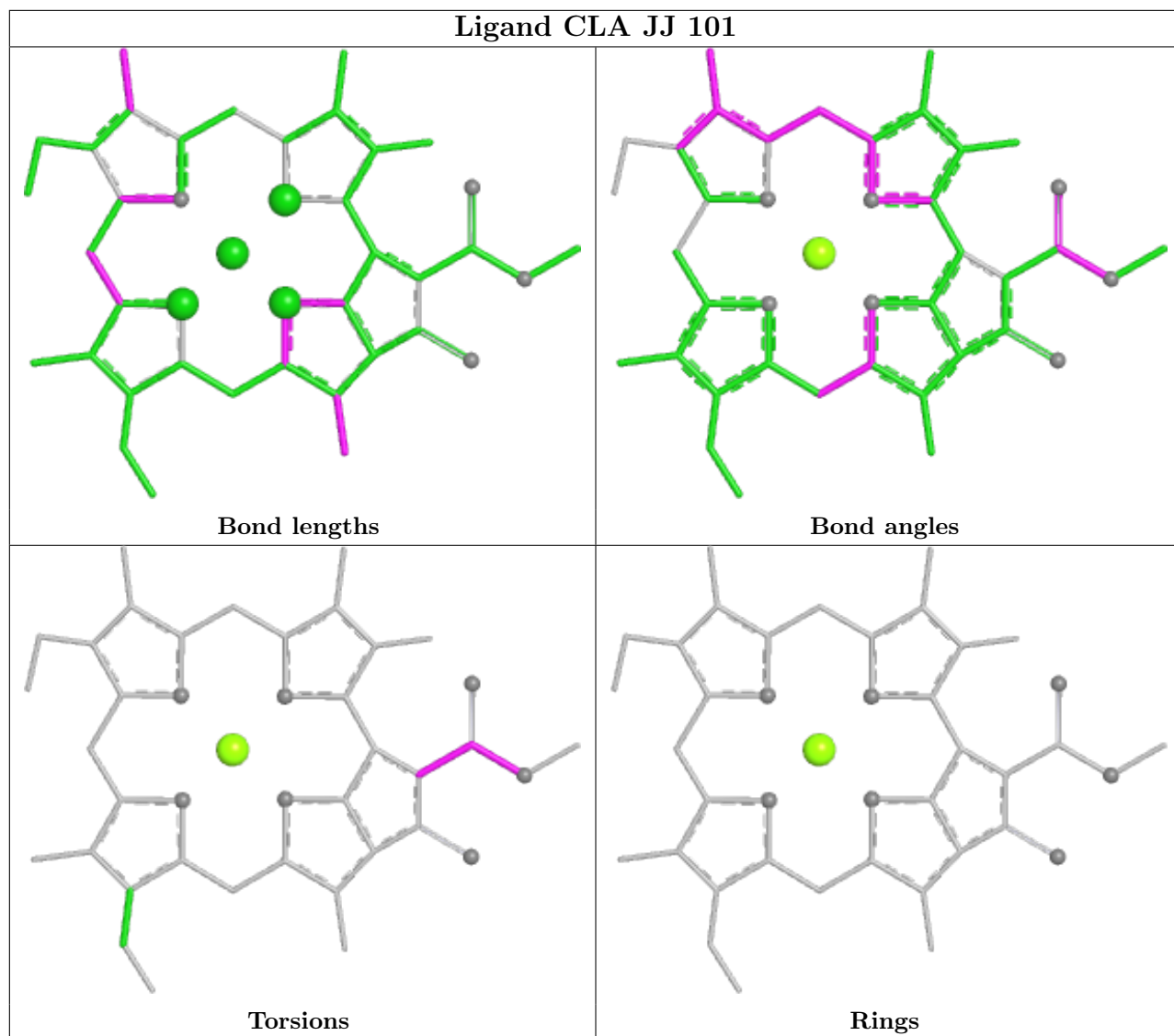


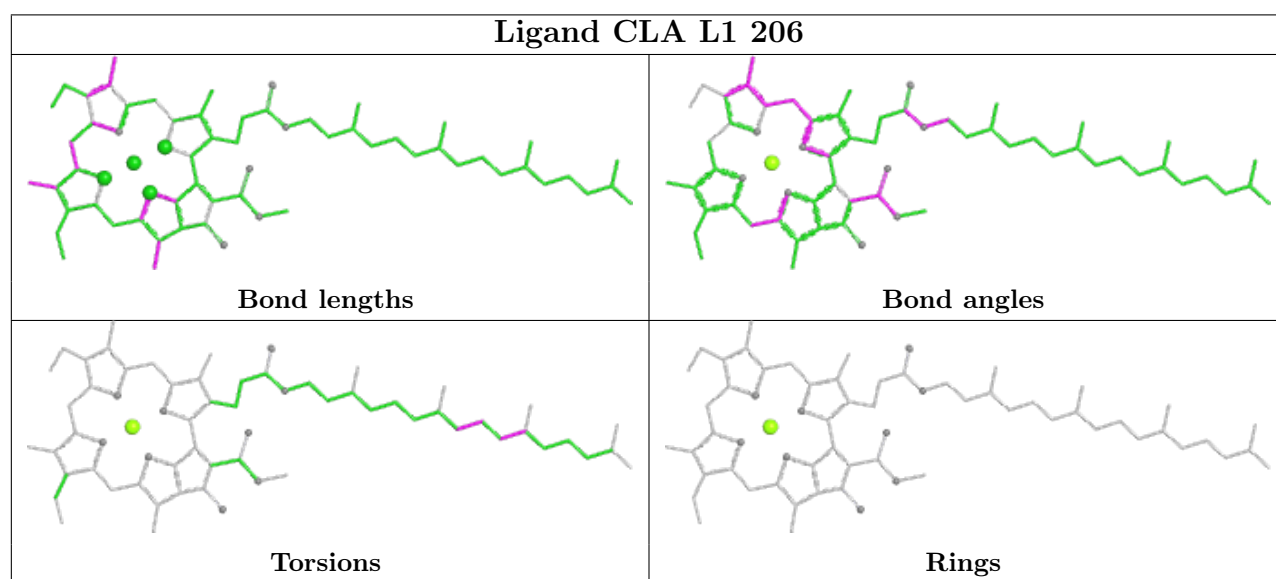
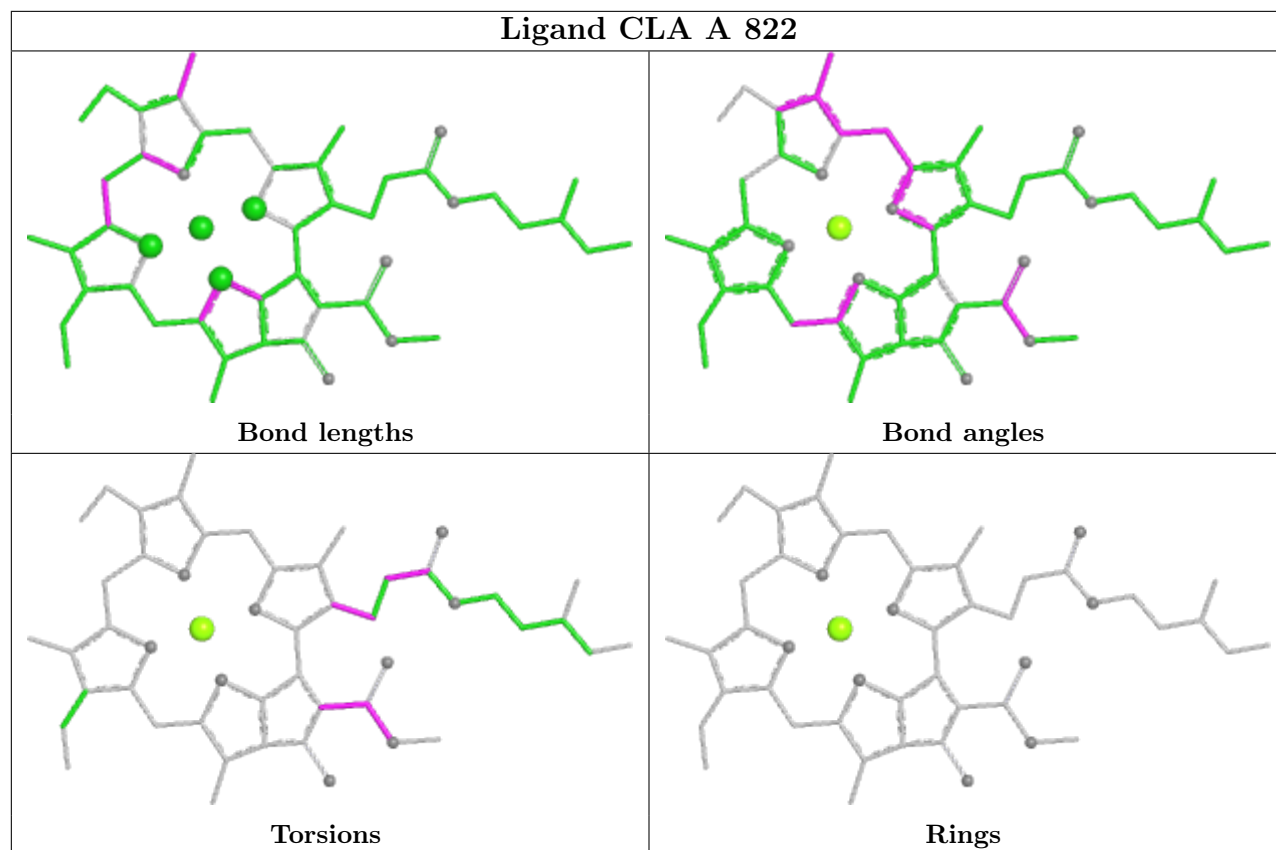


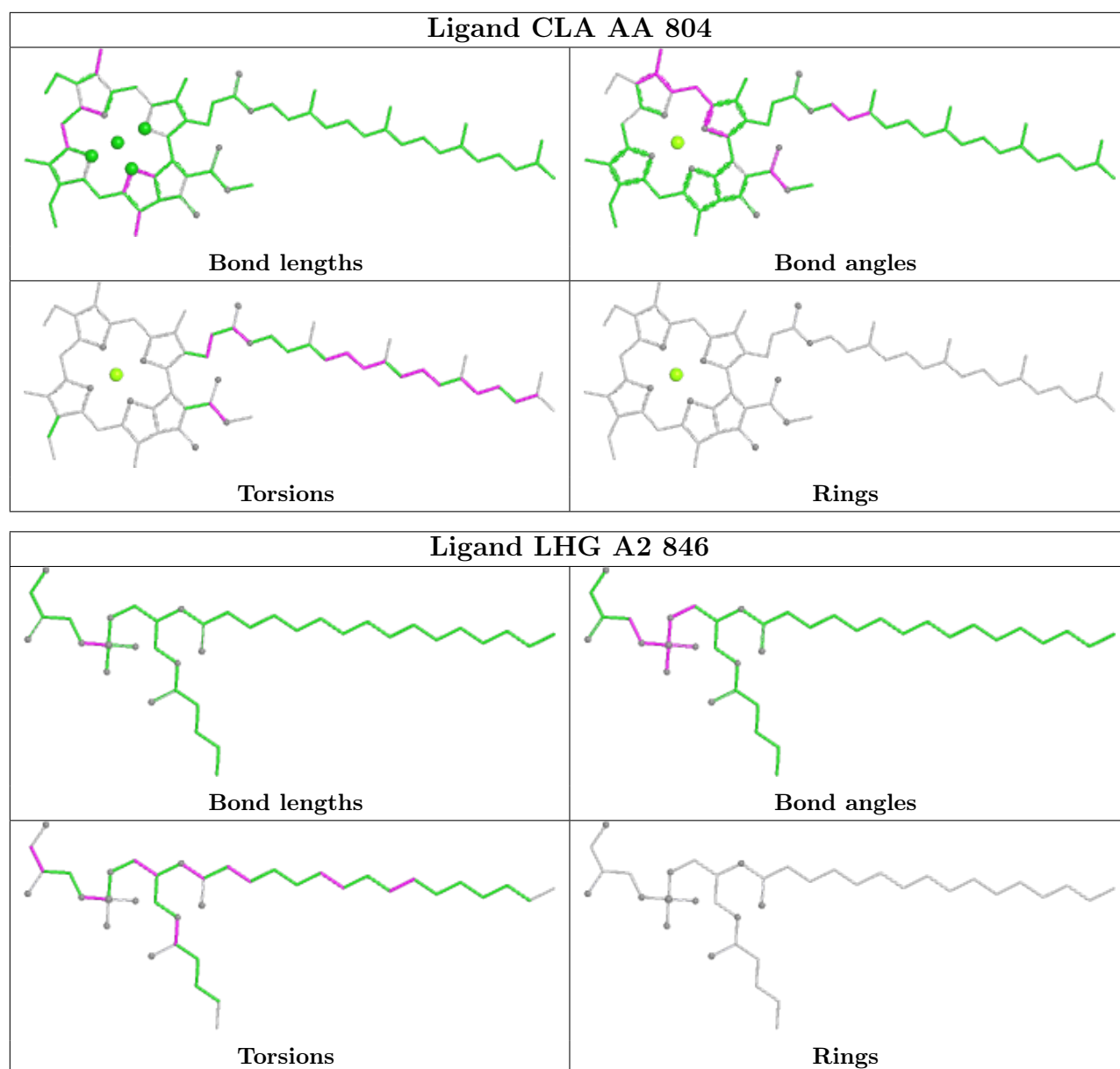












## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

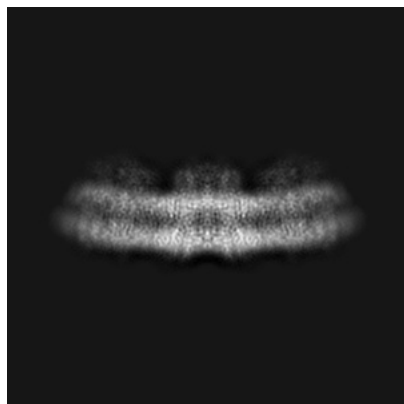
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10461. These allow visual inspection of the internal detail of the map and identification of artifacts.

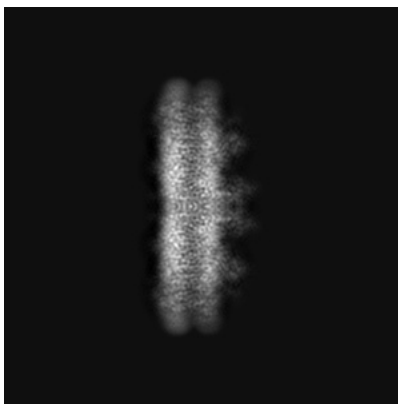
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

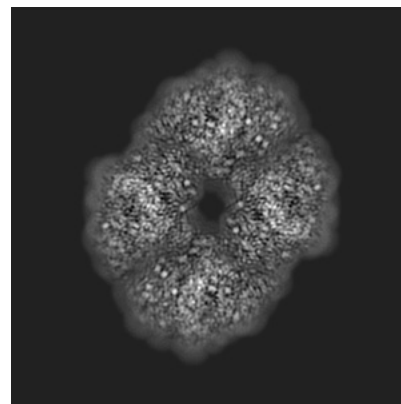
#### 6.1.1 Primary map



X

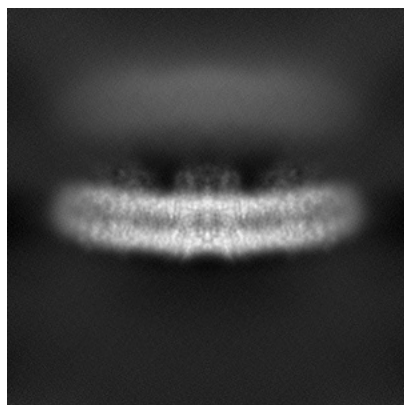


Y

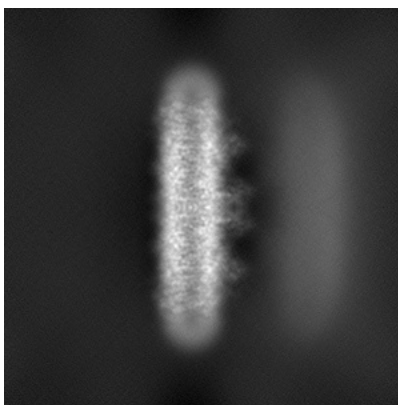


Z

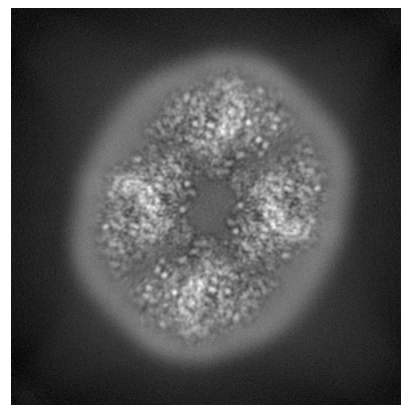
#### 6.1.2 Raw map



X



Y

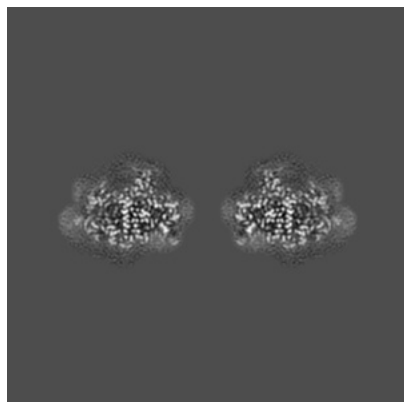


Z

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

## 6.2 Central slices [i](#)

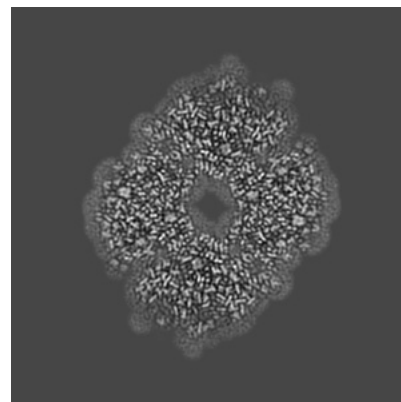
### 6.2.1 Primary map



X Index: 185

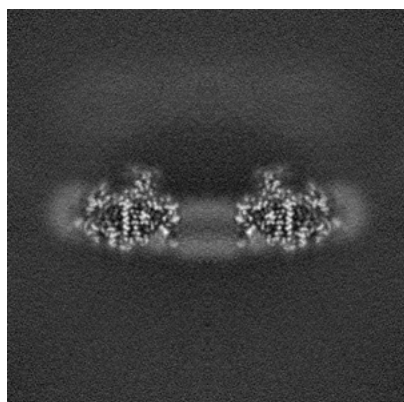


Y Index: 185

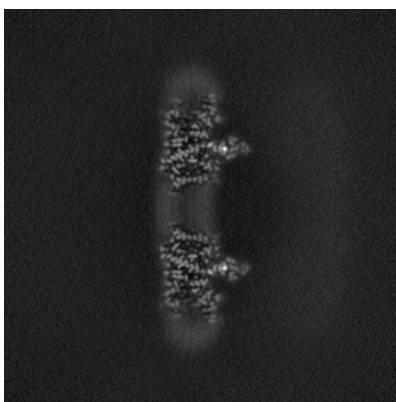


Z Index: 185

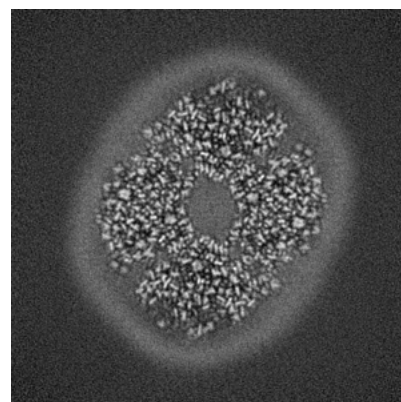
### 6.2.2 Raw map



X Index: 185



Y Index: 185

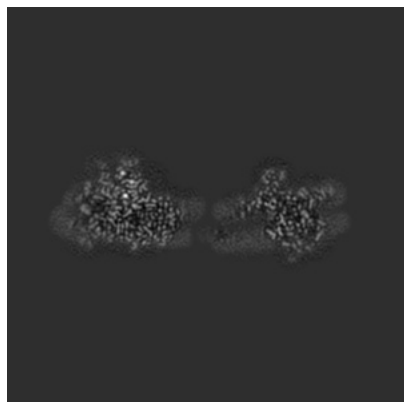


Z Index: 185

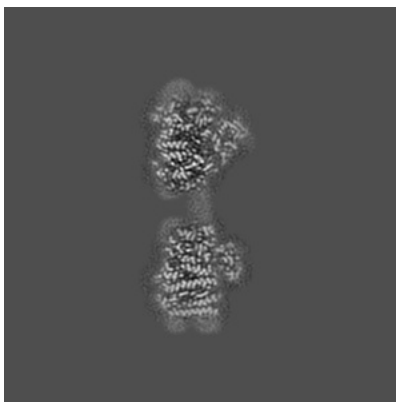
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

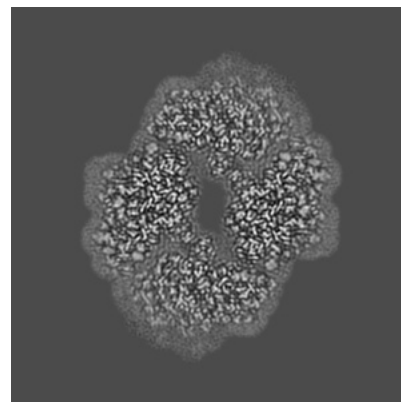
### 6.3.1 Primary map



X Index: 173

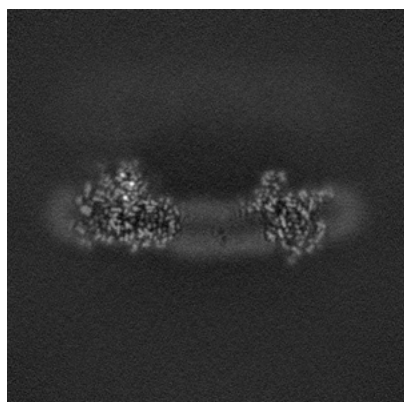


Y Index: 168

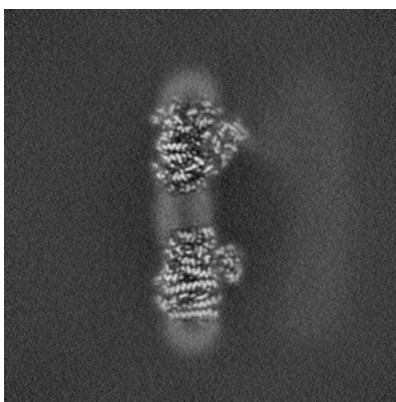


Z Index: 160

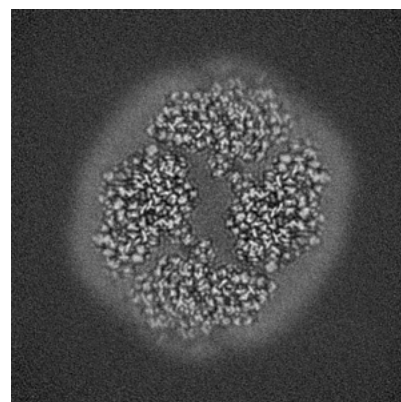
### 6.3.2 Raw map



X Index: 174



Y Index: 168



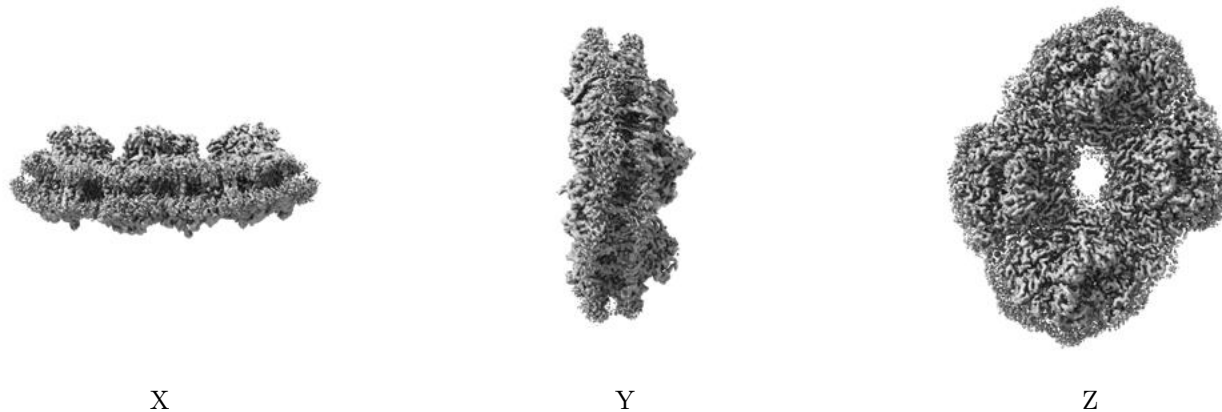
Z Index: 160

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



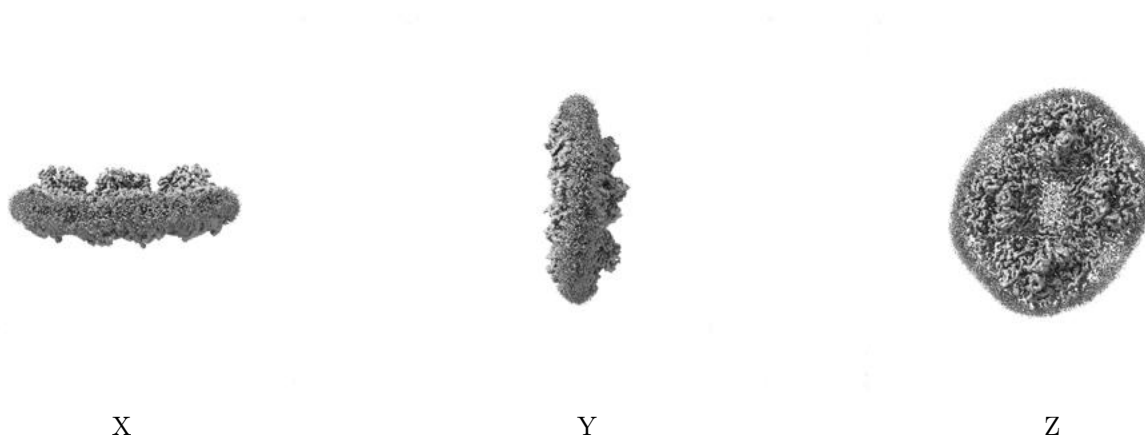
## 6.4 Orthogonal surface views [i](#)

### 6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.434. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.4.2 Raw map



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

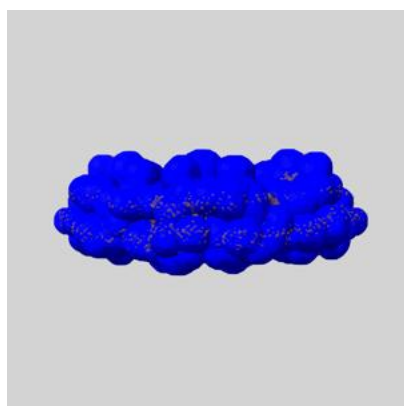
## 6.5 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

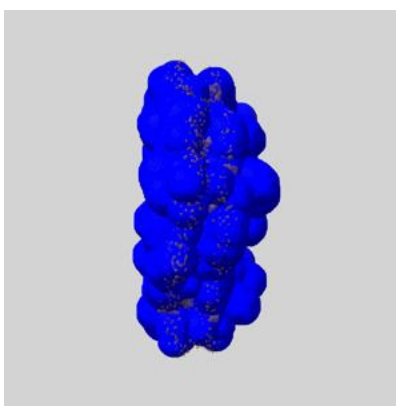
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

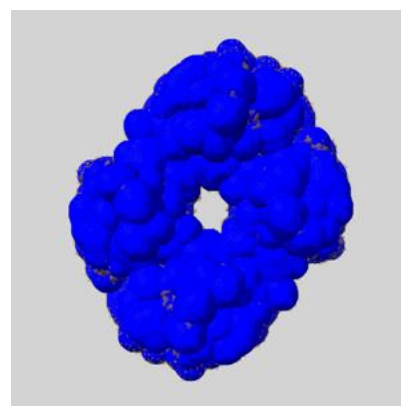
### 6.5.1 emd\_10461\_msk\_1.map [i](#)



X



Y

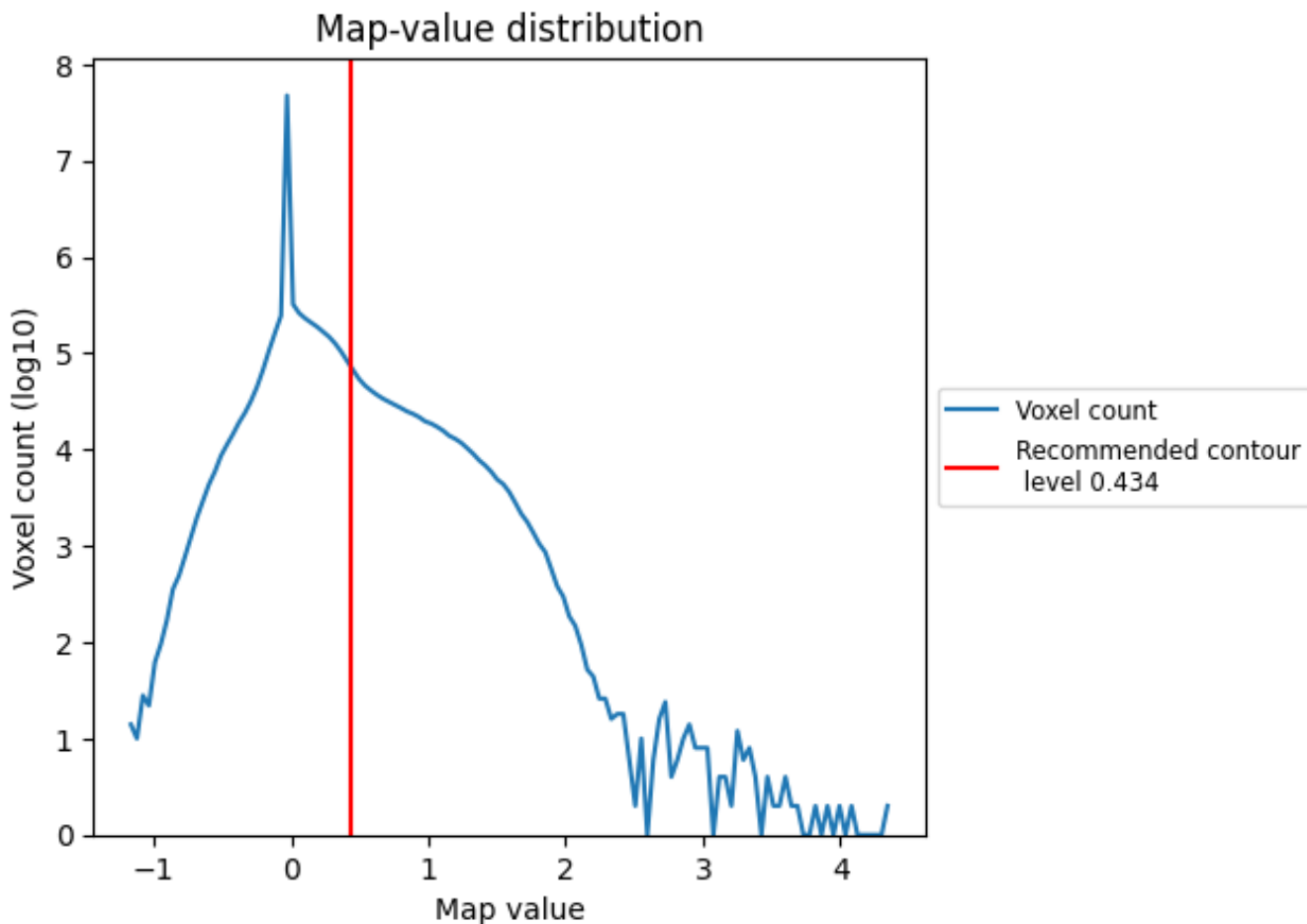


Z

## 7 Map analysis [i](#)

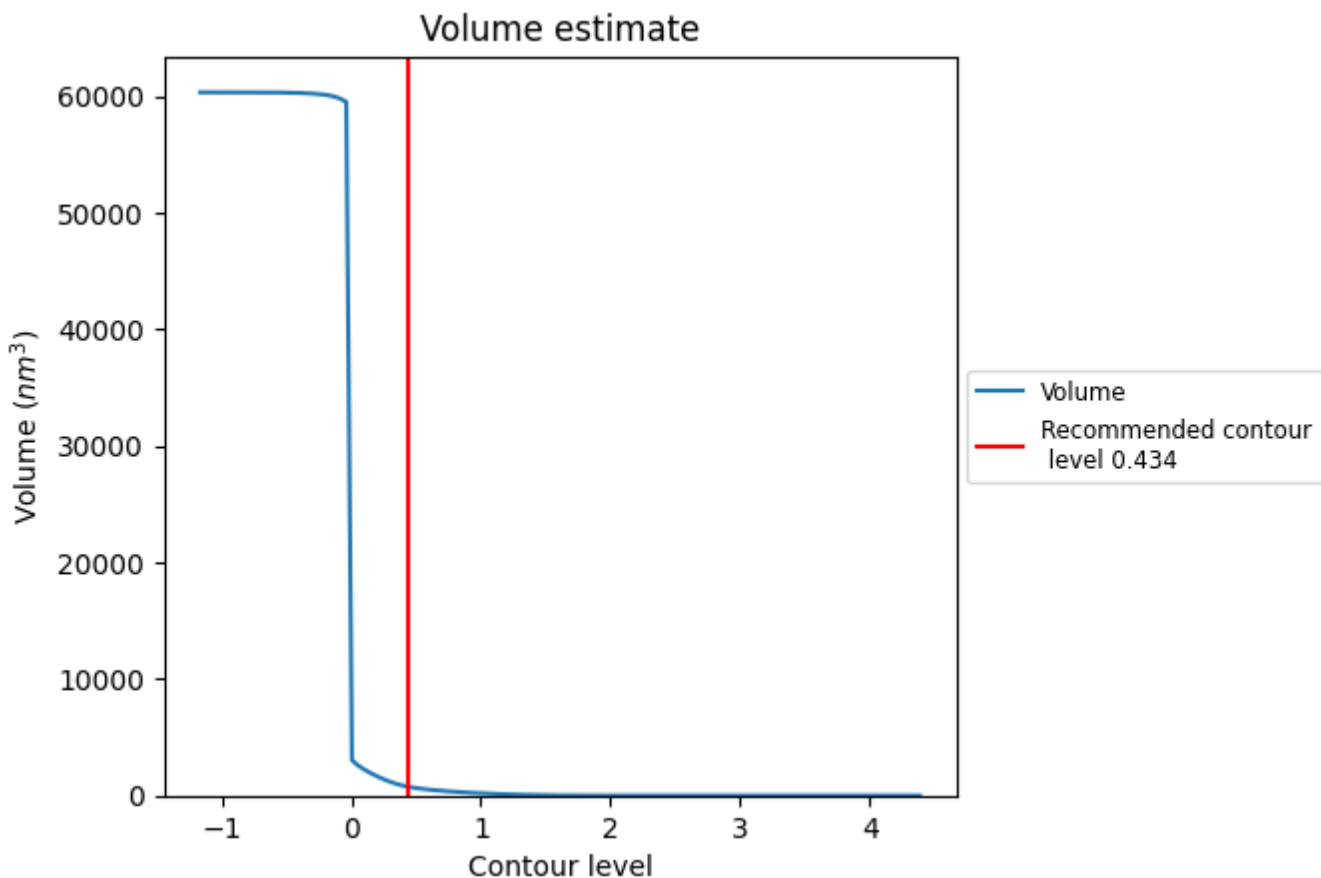
This section contains the results of statistical analysis of the map.

### 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.

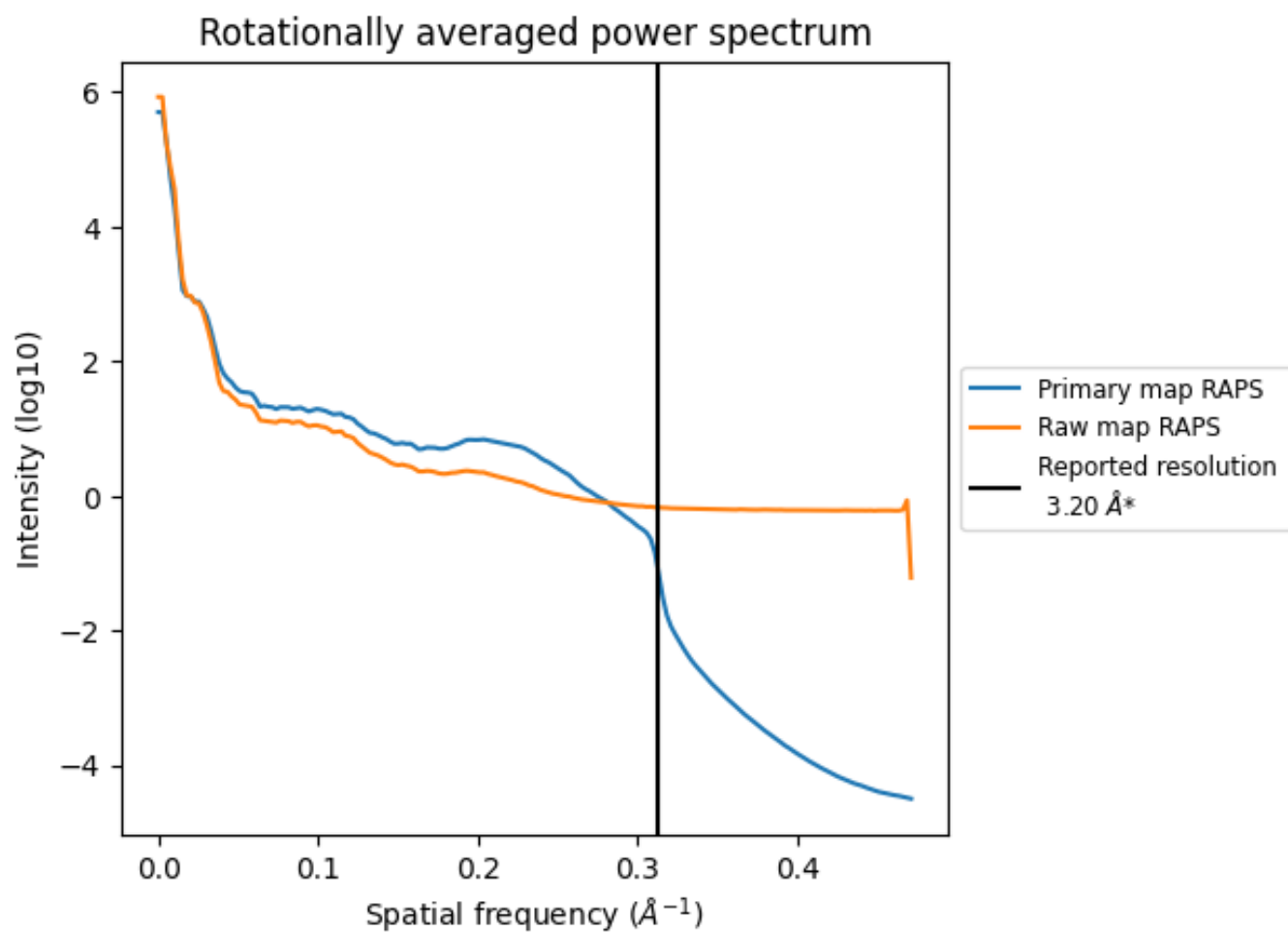
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 765 nm<sup>3</sup>; this corresponds to an approximate mass of 691 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](#)

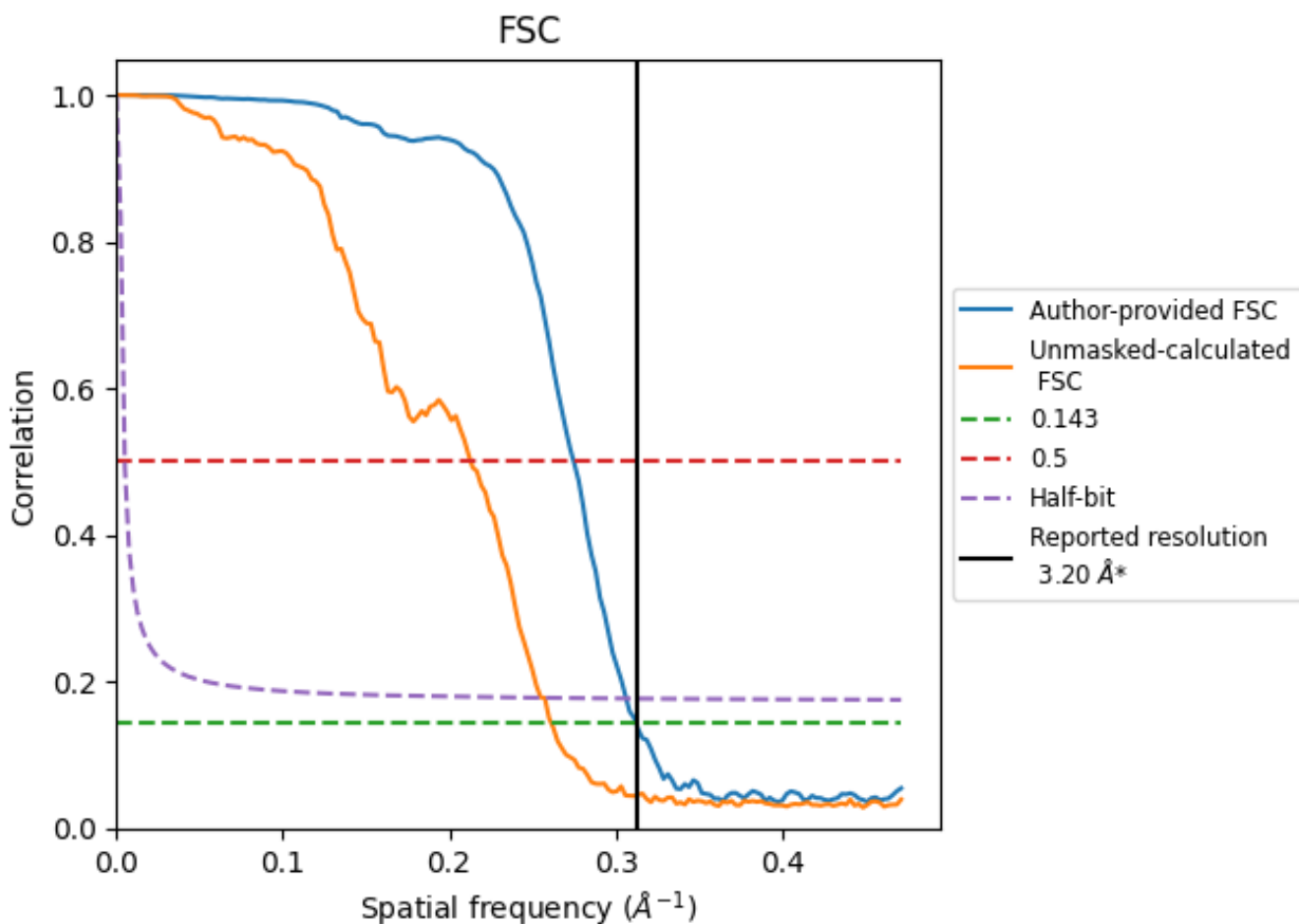


\*Reported resolution corresponds to spatial frequency of 0.312 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.312 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

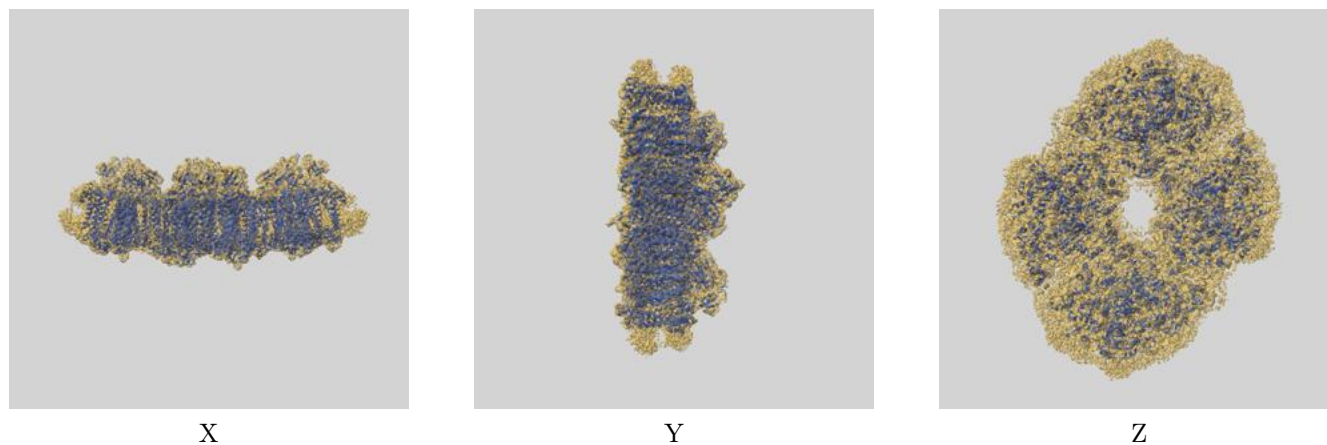
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	3.20	3.64	3.26
Unmasked-calculated*	3.83	4.69	3.89

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.83 differs from the reported value 3.2 by more than 10 %

## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-10461 and PDB model 6TCL. Per-residue inclusion information can be found in section 3 on page 51.

### 9.1 Map-model overlay [i](#)



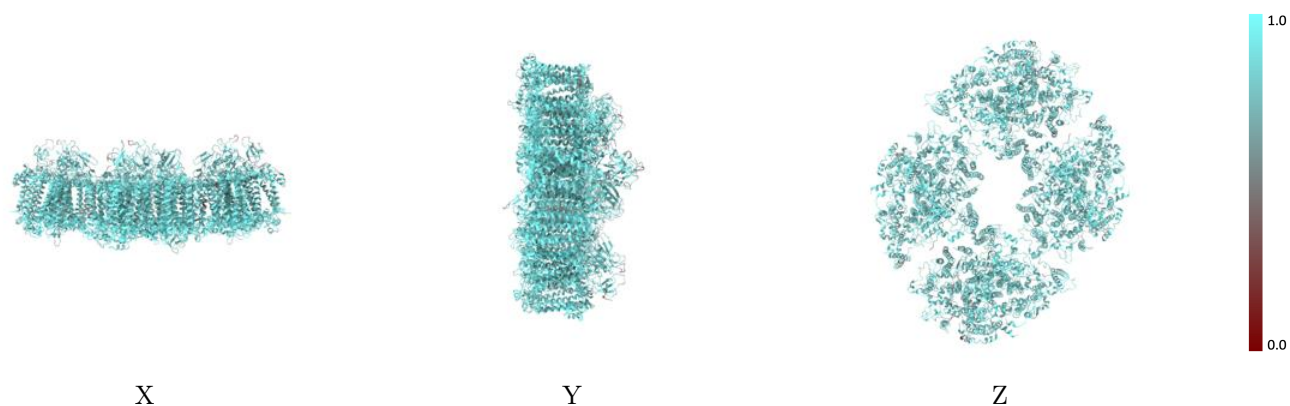
The images above show the 3D surface view of the map at the recommended contour level 0.434 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.



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

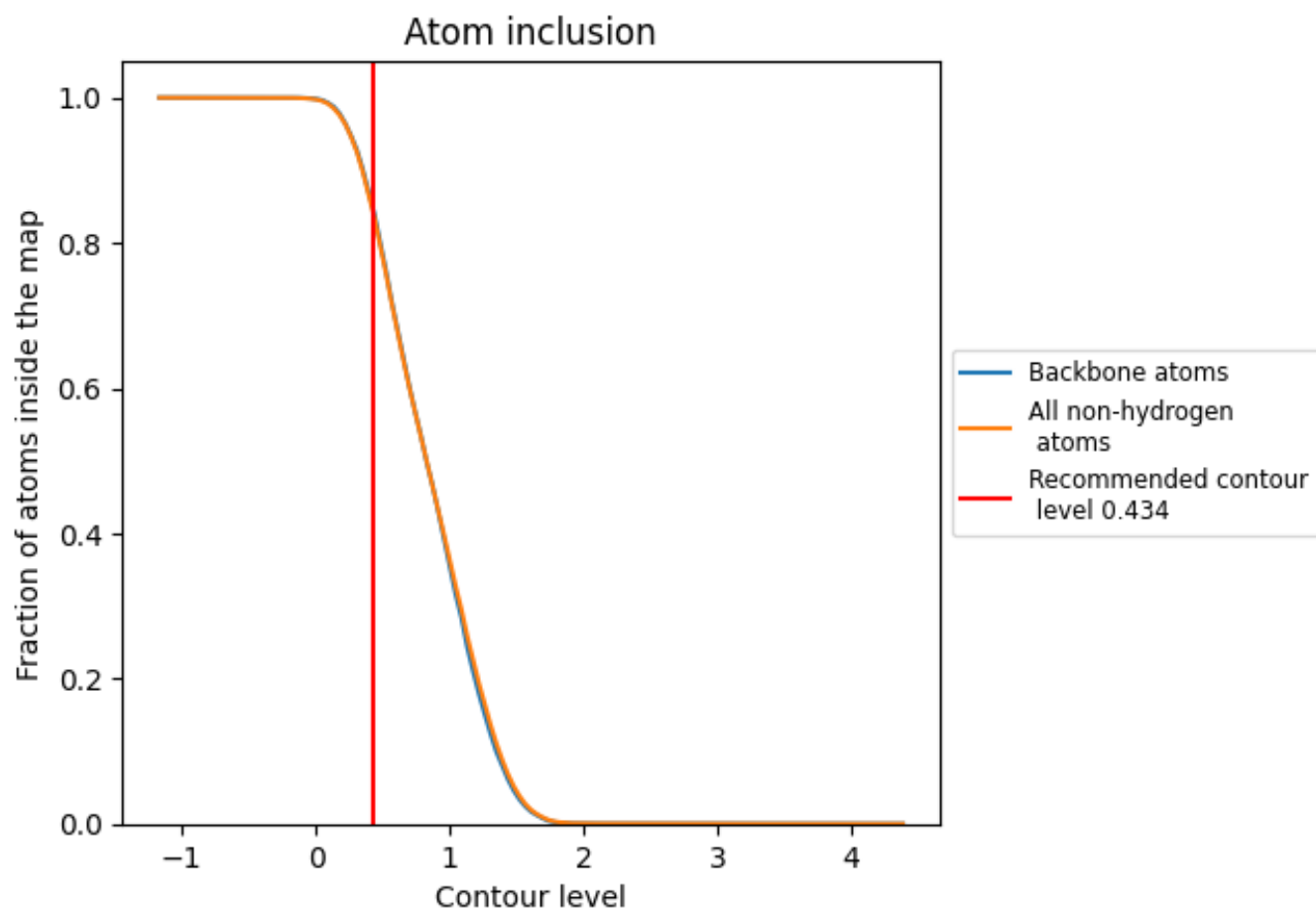
This section was not generated.

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.434).




































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 84% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary















The table lists the average atom inclusion at the recommended contour level (0.434) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	 0.8386
A	 0.8613
A1	 0.8531
A2	 0.8530
AA	 0.8600
B	 0.8668
B1	 0.8288
B2	 0.8314
BB	 0.8730
C	 0.8502
C1	 0.8336
C2	 0.8253
CC	 0.8336
D	 0.8260
D1	 0.7876
D2	 0.7906
DD	 0.8142
E	 0.7796
E1	 0.7569
E2	 0.7505
EE	 0.7837
F	 0.8438
F1	 0.7870
F2	 0.7882
FF	 0.8381
I	 0.8571
I1	 0.8488
I2	 0.8125
II	 0.8326
J	 0.8569
J1	 0.7843
J2	 0.8024
JJ	 0.8508
K	 0.7085
K1	 0.8086



*Continued on next page...*

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Chain	Atom inclusion
K2	 0.8070
KK	 0.7203
L	 0.8203
L1	 0.8200
L2	 0.8361
LL	 0.8361
M	 0.8100
M1	 0.7309
M2	 0.7204
MM	 0.8255
X	 0.7891
X1	 0.6721
X2	 0.6767
XX	 0.7839