



wwPDB EM Validation Summary Report ⓘ

Mar 26, 2026 – 06:24 PM UTC

PDB ID : 9M4F / pdb_00009m4f
EMDB ID : EMD-63625
Title : Photosystem I from the eukaryotic filamentous algae
Authors : Shao, R.Q.; Pan, X.W.
Deposited on : 2025-03-04
Resolution : 2.82 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

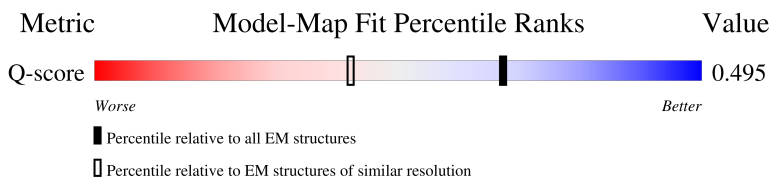
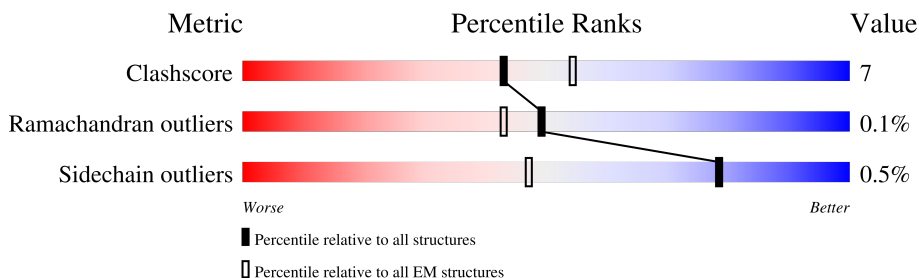
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 2.82 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	11795 (2.32 - 3.32)

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

Mol	Chain	Length	Quality of chain
1	1	220	
2	2	194	
3	3	205	
4	4	231	

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Mol	Chain	Length	Quality of chain
5	5	216	
6	6	212	
6	h	212	
7	7	207	
8	8	179	
9	9	215	
9	k	215	
10	c	210	
11	t	228	
12	A	749	
13	B	734	
14	C	81	
15	D	139	
16	E	61	
17	F	185	
18	I	36	
19	J	42	
20	L	149	
21	M	30	
22	R	87	
23	S	134	

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
24	CLA	1	301	X	-	-	-
24	CLA	1	302	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	CLA	1	303	X	-	-	-
24	CLA	1	304	X	-	-	-
24	CLA	1	305	X	-	-	-
24	CLA	1	306	X	-	-	-
24	CLA	1	307	X	-	-	-
24	CLA	1	308	X	-	-	-
24	CLA	1	309	X	-	-	-
24	CLA	1	317	X	-	-	-
24	CLA	2	201	X	-	-	-
24	CLA	2	202	X	-	-	-
24	CLA	2	203	X	-	-	-
24	CLA	2	204	X	-	-	-
24	CLA	2	206	X	-	-	-
24	CLA	2	207	X	-	-	-
24	CLA	2	208	X	-	-	-
24	CLA	2	209	X	-	-	-
24	CLA	3	302	X	-	-	-
24	CLA	3	303	X	-	-	-
24	CLA	3	304	X	-	-	-
24	CLA	3	305	X	-	-	-
24	CLA	3	306	X	-	-	-
24	CLA	3	307	X	-	-	-
24	CLA	3	308	X	-	-	-
24	CLA	3	309	X	-	-	-
24	CLA	4	601	X	-	-	-
24	CLA	4	602	X	-	-	-
24	CLA	4	603	X	-	-	-
24	CLA	4	604	X	-	-	-
24	CLA	4	605	X	-	-	-
24	CLA	4	606	X	-	-	-
24	CLA	4	607	X	-	-	-
24	CLA	4	608	X	-	-	-
24	CLA	4	609	X	-	-	-
24	CLA	4	610	X	-	-	-
24	CLA	4	611	X	-	-	-
24	CLA	4	612	X	-	-	-
24	CLA	4	613	X	-	-	-
24	CLA	5	601	X	-	-	-
24	CLA	5	602	X	-	-	-
24	CLA	5	603	X	-	-	-
24	CLA	5	604	X	-	-	-
24	CLA	5	605	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	CLA	5	606	X	-	-	-
24	CLA	5	607	X	-	-	-
24	CLA	6	601	X	-	-	-
24	CLA	6	602	X	-	-	-
24	CLA	6	603	X	-	-	-
24	CLA	6	604	X	-	-	-
24	CLA	6	606	X	-	-	-
24	CLA	6	607	X	-	-	-
24	CLA	6	608	X	-	-	-
24	CLA	6	609	X	-	-	-
24	CLA	6	610	X	-	-	-
24	CLA	6	611	X	-	-	-
24	CLA	6	612	X	-	-	-
24	CLA	7	601	X	-	-	-
24	CLA	7	602	X	-	-	-
24	CLA	7	603	X	-	-	-
24	CLA	7	604	X	-	-	-
24	CLA	7	605	X	-	-	-
24	CLA	7	606	X	-	-	-
24	CLA	7	607	X	-	-	-
24	CLA	7	608	X	-	-	-
24	CLA	7	609	X	-	-	-
24	CLA	7	610	X	-	-	-
24	CLA	7	611	X	-	-	-
24	CLA	7	612	X	-	-	-
24	CLA	8	201	X	-	-	-
24	CLA	8	202	X	-	-	-
24	CLA	8	203	X	-	-	-
24	CLA	8	204	X	-	-	-
24	CLA	8	205	X	-	-	-
24	CLA	8	206	X	-	-	-
24	CLA	8	207	X	-	-	-
24	CLA	8	208	X	-	-	-
24	CLA	8	209	X	-	-	-
24	CLA	9	301	X	-	-	-
24	CLA	9	302	X	-	-	-
24	CLA	9	303	X	-	-	-
24	CLA	9	304	X	-	-	-
24	CLA	9	306	X	-	-	-
24	CLA	9	307	X	-	-	-
24	CLA	9	308	X	-	-	-
24	CLA	9	309	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	CLA	9	310	X	-	-	-
24	CLA	9	311	X	-	-	-
24	CLA	A	801	X	-	-	-
24	CLA	A	802	X	-	-	-
24	CLA	A	804	X	-	-	-
24	CLA	A	805	X	-	-	-
24	CLA	A	806	X	-	-	-
24	CLA	A	807	X	-	-	-
24	CLA	A	808	X	-	-	-
24	CLA	A	809	X	-	-	-
24	CLA	A	810	X	-	-	-
24	CLA	A	811	X	-	-	-
24	CLA	A	812	X	-	-	-
24	CLA	A	813	X	-	-	-
24	CLA	A	814	X	-	-	-
24	CLA	A	815	X	-	-	-
24	CLA	A	816	X	-	-	-
24	CLA	A	817	X	-	-	-
24	CLA	A	818	X	-	-	-
24	CLA	A	819	X	-	-	-
24	CLA	A	820	X	-	-	-
24	CLA	A	821	X	-	-	-
24	CLA	A	822	X	-	-	-
24	CLA	A	823	X	-	-	-
24	CLA	A	824	X	-	-	-
24	CLA	A	825	X	-	-	-
24	CLA	A	826	X	-	-	-
24	CLA	A	827	X	-	-	-
24	CLA	A	828	X	-	-	-
24	CLA	A	829	X	-	-	-
24	CLA	A	831	X	-	-	-
24	CLA	A	833	X	-	-	-
24	CLA	A	834	X	-	-	-
24	CLA	A	835	X	-	-	-
24	CLA	A	836	X	-	-	-
24	CLA	A	837	X	-	-	-
24	CLA	A	838	X	-	-	-
24	CLA	A	840	X	-	-	-
24	CLA	A	847	X	-	-	-
24	CLA	A	853	X	-	-	-
24	CLA	A	857	X	-	-	-
24	CLA	A	860	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	CLA	B	801	X	-	-	-
24	CLA	B	802	X	-	-	-
24	CLA	B	803	X	-	-	-
24	CLA	B	804	X	-	-	-
24	CLA	B	805	X	-	-	-
24	CLA	B	806	X	-	-	-
24	CLA	B	808	X	-	-	-
24	CLA	B	809	X	-	-	-
24	CLA	B	810	X	-	-	-
24	CLA	B	811	X	-	-	-
24	CLA	B	812	X	-	-	-
24	CLA	B	813	X	-	-	-
24	CLA	B	814	X	-	-	-
24	CLA	B	815	X	-	-	-
24	CLA	B	816	X	-	-	-
24	CLA	B	817	X	-	-	-
24	CLA	B	818	X	-	-	-
24	CLA	B	819	X	-	-	-
24	CLA	B	820	X	-	-	-
24	CLA	B	821	X	-	-	-
24	CLA	B	822	X	-	-	-
24	CLA	B	823	X	-	-	-
24	CLA	B	824	X	-	-	-
24	CLA	B	825	X	-	-	-
24	CLA	B	826	X	-	-	-
24	CLA	B	827	X	-	-	-
24	CLA	B	828	X	-	-	-
24	CLA	B	829	X	-	-	-
24	CLA	B	830	X	-	-	-
24	CLA	B	831	X	-	-	-
24	CLA	B	832	X	-	-	-
24	CLA	B	833	X	-	-	-
24	CLA	B	834	X	-	-	-
24	CLA	B	835	X	-	-	-
24	CLA	B	836	X	-	-	-
24	CLA	B	837	X	-	-	-
24	CLA	B	838	X	-	-	-
24	CLA	B	846	X	-	-	-
24	CLA	B	847	X	-	-	-
24	CLA	B	848	X	-	-	-
24	CLA	F	201	X	-	-	-
24	CLA	F	202	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	CLA	F	203	X	-	-	-
24	CLA	J	103	X	-	-	-
24	CLA	L	203	X	-	-	-
24	CLA	L	205	X	-	-	-
24	CLA	R	103	X	-	-	-
24	CLA	R	104	X	-	-	-
24	CLA	c	601	X	-	-	-
24	CLA	c	602	X	-	-	-
24	CLA	c	603	X	-	-	-
24	CLA	c	604	X	-	-	-
24	CLA	c	605	X	-	-	-
24	CLA	c	606	X	-	-	-
24	CLA	c	607	X	-	-	-
24	CLA	c	608	X	-	-	-
24	CLA	c	609	X	-	-	-
24	CLA	c	610	X	-	-	-
24	CLA	c	611	X	-	-	-
24	CLA	h	601	X	-	-	-
24	CLA	h	602	X	-	-	-
24	CLA	h	603	X	-	-	-
24	CLA	h	604	X	-	-	-
24	CLA	h	605	X	-	-	-
24	CLA	h	606	X	-	-	-
24	CLA	h	607	X	-	-	-
24	CLA	h	608	X	-	-	-
24	CLA	h	609	X	-	-	-
24	CLA	h	610	X	-	-	-
24	CLA	h	612	X	-	-	-
24	CLA	k	301	X	-	-	-
24	CLA	k	302	X	-	-	-
24	CLA	k	304	X	-	-	-
24	CLA	k	305	X	-	-	-
24	CLA	k	306	X	-	-	-
24	CLA	k	307	X	-	-	-
24	CLA	k	308	X	-	-	-
24	CLA	k	309	X	-	-	-
24	CLA	k	310	X	-	-	-
24	CLA	k	311	X	-	-	-
24	CLA	t	301	X	-	-	-
24	CLA	t	302	X	-	-	-
24	CLA	t	303	X	-	-	-
24	CLA	t	304	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	CLA	t	305	X	-	-	-
24	CLA	t	306	X	-	-	-
24	CLA	t	307	X	-	-	-
24	CLA	t	308	X	-	-	-
24	CLA	t	309	X	-	-	-
24	CLA	t	310	X	-	-	-

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 50344 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Light-harvesting protein XLH1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	176	Total	C	N	O	S	0	0
			1328	865	221	237	5		

- Molecule 2 is a protein called light-harvesting protein XLH2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	137	Total	C	N	O	S	0	0
			1080	695	187	191	7		

- Molecule 3 is a protein called light-harvesting protein XLH3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	158	Total	C	N	O	S	0	0
			1206	775	204	221	6		

- Molecule 4 is a protein called light-harvesting protein XLH4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	4	188	Total	C	N	O	S	0	0
			1396	894	240	251	11		

- Molecule 5 is a protein called light-harvesting protein XLH5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	5	167	Total	C	N	O	S	0	0
			1249	798	210	234	7		

- Molecule 6 is a protein called light-harvesting protein XLH6/10.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	6	163	Total	C	N	O	S	0	0
			1228	790	206	226	6		

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Mol	Chain	Residues	Atoms					AltConf	Trace
6	h	165	Total	C	N	O	S	0	0
			1244	801	209	228	6		

- Molecule 7 is a protein called light-harvesting protein XLH7.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	7	166	Total	C	N	O	S	0	0
			1268	816	210	230	12		

- Molecule 8 is a protein called light-harvesting protein XLH8.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	8	161	Total	C	N	O	S	0	0
			1240	794	208	229	9		

- Molecule 9 is a protein called light-harvesting protein XLH9/13.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	9	149	Total	C	N	O	S	0	0
			1171	761	195	206	9		
9	k	154	Total	C	N	O	S	0	0
			1201	777	200	215	9		

- Molecule 10 is a protein called light-harvesting protein XLH11.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	c	165	Total	C	N	O	S	0	0
			1231	787	209	225	10		

- Molecule 11 is a protein called light-harvesting protein XLH12.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	t	159	Total	C	N	O	S	0	0
			1253	799	212	235	7		

- Molecule 12 is a protein called PsaA.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	A	741	Total	C	N	O	S	0	0
			5835	3825	992	996	22		

- Molecule 13 is a protein called PsaB.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	B	733	Total	C	N	O	S	0	0
			5822	3830	976	997	19		

- Molecule 14 is a protein called PsaC.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	C	80	Total	C	N	O	S	0	0
			592	363	103	115	11		

- Molecule 15 is a protein called PsaD.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	D	132	Total	C	N	O	S	0	0
			1030	668	171	188	3		

- Molecule 16 is a protein called PsaE.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	E	60	Total	C	N	O	S	0	0
			484	307	82	94	1		

- Molecule 17 is a protein called PsaF.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	F	161	Total	C	N	O	S	0	0
			1267	818	215	230	4		

- Molecule 18 is a protein called PsaI.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	I	33	Total	C	N	O	S	0	0
			252	174	34	43	1		

- Molecule 19 is a protein called PsaJ.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	J	40	Total	C	N	O	S	0	0
			320	217	47	55	1		

- Molecule 20 is a protein called PsaL.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	L	137	Total	C	N	O	S	0	0
			1027	674	165	186	2		

- Molecule 21 is a protein called PsaM.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	M	30	Total	C	N	O	S	0	0
			227	153	35	38	1		

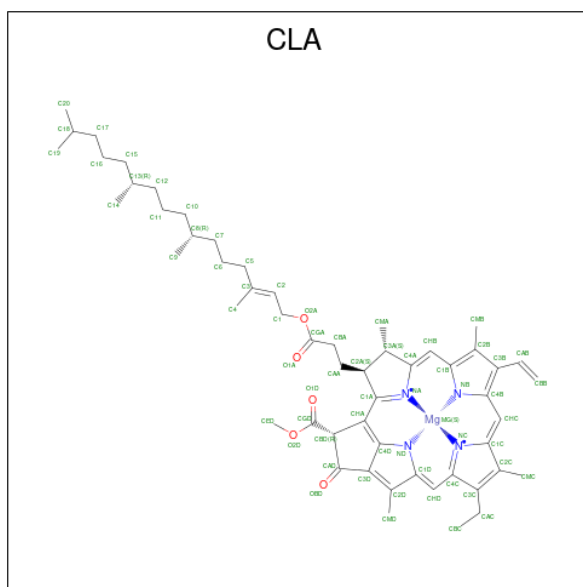
- Molecule 22 is a protein called PsaR.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	R	81	Total	C	N	O	S	0	0
			608	397	99	111	1		

- Molecule 23 is a protein called PsaS.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	S	82	Total	C	N	O		0	0
			410	246	82	82			

- Molecule 24 is CHLOROPHYLL A (CCD ID: CLA) (formula: $C_{55}H_{72}MgN_4O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
24	1	1	Total	C	Mg	N	O	0
			65	55	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
24	1	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	1	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	1	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	1	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	1	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	1	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	1	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	1	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	1	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	2	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	2	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	2	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	2	1	Total 60	C 50	Mg 1	N 4	O 5	0
24	2	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	2	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	2	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	2	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	2	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	3	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	3	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	3	1	Total 55	C 45	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	3	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	3	1	Total 60	C 50	Mg 1	N 4	O 5	0
24	3	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	3	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	3	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	3	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	4	1	Total 42	C 34	Mg 1	N 4	O 3	0
24	4	1	Total 60	C 50	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	4	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	5	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	5	1	Total 55	C 45	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	5	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	5	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	5	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	5	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	5	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	6	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	6	1	Total 47	C 37	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	6	1	Total 44	C 34	Mg 1	N 4	O 5	0
24	6	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	7	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	7	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	7	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	7	1	Total 45	C 35	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	7	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	7	1	Total 60	C 50	Mg 1	N 4	O 5	0
24	7	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	7	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	7	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	7	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	7	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	7	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	7	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	8	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	8	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	8	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	8	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	8	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	8	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	8	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	8	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	8	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	9	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	h	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	h	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	h	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	h	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	h	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	h	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	h	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	h	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	h	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	h	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	h	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	c	1	Total 43	C 35	Mg 1	N 4	O 3	0
24	c	1	Total 65	C 55	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	c	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	c	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	c	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	c	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	c	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	c	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	c	1	Total 60	C 50	Mg 1	N 4	O 5	0
24	c	1	Total 44	C 34	Mg 1	N 4	O 5	0
24	c	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	t	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	t	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	t	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	t	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	k	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	k	1	Total 46	C 36	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	k	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	k	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	k	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	k	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	k	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	k	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	k	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	k	1	Total 41	C 33	Mg 1	N 4	O 3	0
24	k	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	A	1	Total 62	C 52	Mg 1	N 4	O 5	0
24	A	1	Total 46	C 36	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 50	C 40	Mg 1	N 4	O 5	0
24	A	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 49	C 39	Mg 1	N 4	O 5	0
24	A	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 62	C 52	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0

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Mol	Chain	Residues	Atoms					AltConf
24	A	1	Total 45	C 35	Mg 1	N 4	O 5	0
24	A	1	Total 51	C 41	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 55	C 45	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	A	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
24	B	1	Total 54	C 44	Mg 1	N 4	O 5	0

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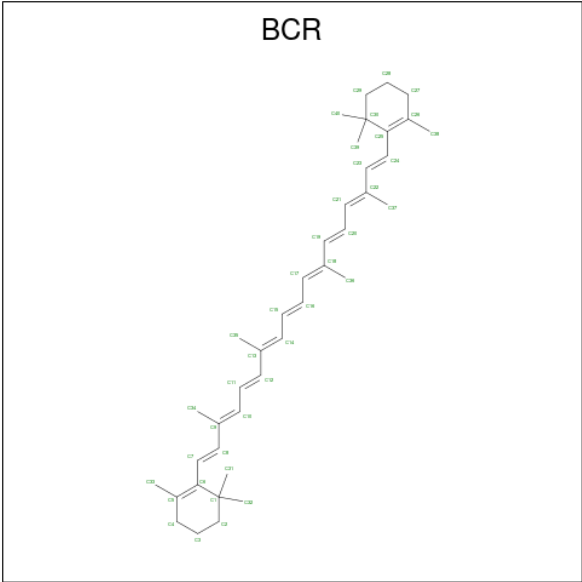
Mol	Chain	Residues	Atoms					AltConf
24	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			46	36	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			46	36	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
24	B	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	F	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	F	1	Total	C	Mg	N	O	0
			46	36	1	4	5	
24	F	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
24	J	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
24	L	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
24	L	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	L	1	Total	C	Mg	N	O	0
			46	36	1	4	5	
24	R	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
24	R	1	Total	C	Mg	N	O	0
			45	35	1	4	5	

- Molecule 25 is BETA-CAROTENE (CCD ID: BCR) (formula: C₄₀H₅₆) (labeled as "Ligand of Interest" by depositor).



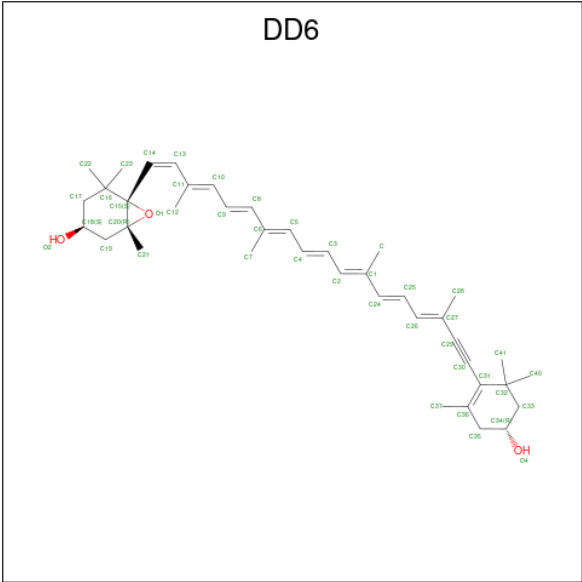
Mol	Chain	Residues	Atoms		AltConf
25	1	1	Total	C	0
			40	40	
25	1	1	Total	C	0
			40	40	
25	2	1	Total	C	0
			40	40	
25	4	1	Total	C	0
			40	40	
25	7	1	Total	C	0
			40	40	
25	9	1	Total	C	0
			40	40	
25	c	1	Total	C	0
			40	40	
25	t	1	Total	C	0
			40	40	
25	k	1	Total	C	0
			40	40	
25	A	1	Total	C	0
			40	40	
25	A	1	Total	C	0
			40	40	
25	A	1	Total	C	0
			39	39	
25	A	1	Total	C	0
			40	40	
25	A	1	Total	C	0
			40	40	

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Mol	Chain	Residues	Atoms	AltConf
25	B	1	Total C 40 40	0
25	B	1	Total C 40 40	0
25	B	1	Total C 40 40	0
25	B	1	Total C 40 40	0
25	B	1	Total C 40 40	0
25	F	1	Total C 40 40	0
25	I	1	Total C 40 40	0
25	I	1	Total C 40 40	0
25	J	1	Total C 40 40	0
25	J	1	Total C 40 40	0
25	L	1	Total C 40 40	0
25	L	1	Total C 40 40	0
25	M	1	Total C 40 40	0
25	R	1	Total C 40 40	0
25	R	1	Total C 40 40	0

- Molecule 26 is (3S,3'R,5R,6S,7cis)-7',8'-didehydro-5,6-dihydro-5,6-epoxy-beta,beta-carotene-3,3'-diol (CCD ID: DD6) (formula: C₄₀H₅₄O₃) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
26	1	1	Total	C	O	0
			43	40	3	
26	1	1	Total	C	O	0
			43	40	3	
26	1	1	Total	C	O	0
			43	40	3	
26	2	1	Total	C	O	0
			43	40	3	
26	2	1	Total	C	O	0
			43	40	3	
26	3	1	Total	C	O	0
			43	40	3	
26	3	1	Total	C	O	0
			43	40	3	
26	3	1	Total	C	O	0
			43	40	3	
26	4	1	Total	C	O	0
			43	40	3	
26	4	1	Total	C	O	0
			43	40	3	
26	4	1	Total	C	O	0
			43	40	3	
26	4	1	Total	C	O	0
			43	40	3	
26	5	1	Total	C	O	0
			43	40	3	
26	5	1	Total	C	O	0
			43	40	3	

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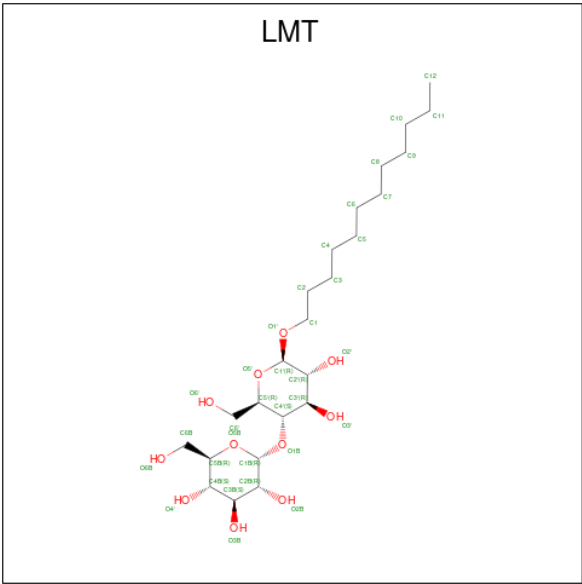
Mol	Chain	Residues	Atoms			AltConf
26	6	1	Total	C	O	0
			43	40	3	
26	6	1	Total	C	O	0
			43	40	3	
26	6	1	Total	C	O	0
			43	40	3	
26	6	1	Total	C	O	0
			43	40	3	
26	6	1	Total	C	O	0
			43	40	3	
26	7	1	Total	C	O	0
			43	40	3	
26	7	1	Total	C	O	0
			43	40	3	
26	7	1	Total	C	O	0
			43	40	3	
26	7	1	Total	C	O	0
			43	40	3	
26	8	1	Total	C	O	0
			43	40	3	
26	8	1	Total	C	O	0
			43	40	3	
26	8	1	Total	C	O	0
			43	40	3	
26	9	1	Total	C	O	0
			43	40	3	
26	9	1	Total	C	O	0
			43	40	3	
26	9	1	Total	C	O	0
			43	40	3	
26	9	1	Total	C	O	0
			43	40	3	
26	h	1	Total	C	O	0
			43	40	3	
26	h	1	Total	C	O	0
			43	40	3	
26	h	1	Total	C	O	0
			43	40	3	
26	h	1	Total	C	O	0
			43	40	3	
26	c	1	Total	C	O	0
			43	40	3	

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
26	c	1	43	40	3	0
26	c	1	43	40	3	0
26	t	1	43	40	3	0
26	t	1	43	40	3	0
26	k	1	43	40	3	0
26	k	1	43	40	3	0
26	k	1	43	40	3	0
26	A	1	43	40	3	0
26	J	1	43	40	3	0
26	R	1	43	40	3	0

- Molecule 27 is DODECYL-BETA-D-MALTOSIDE (CCD ID: LMT) (formula: C₂₄H₄₆O₁₁) (labeled as "Ligand of Interest" by depositor).



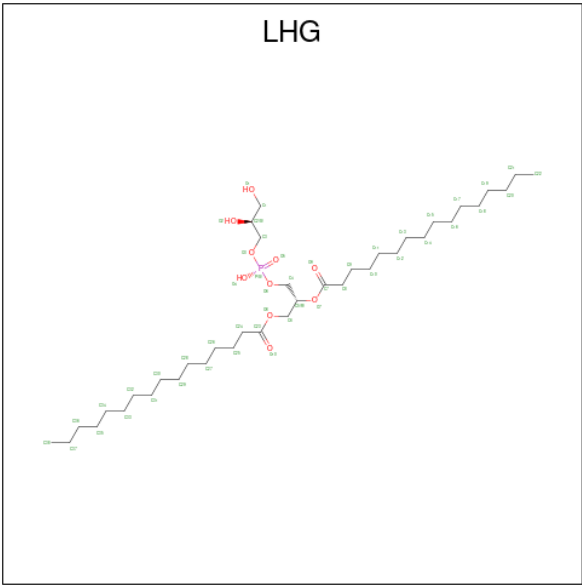
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
27	1	1	35	24	11	0

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Mol	Chain	Residues	Atoms			AltConf
27	1	1	Total	C	O	0
			35	24	11	
27	3	1	Total	C	O	0
			30	19	11	
27	h	1	Total	C	O	0
			28	17	11	
27	A	1	Total	C	O	0
			35	24	11	
27	A	1	Total	C	O	0
			25	14	11	
27	A	1	Total	C	O	0
			35	24	11	

- Molecule 28 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula: C₃₈H₇₅O₁₀P) (labeled as "Ligand of Interest" by depositor).



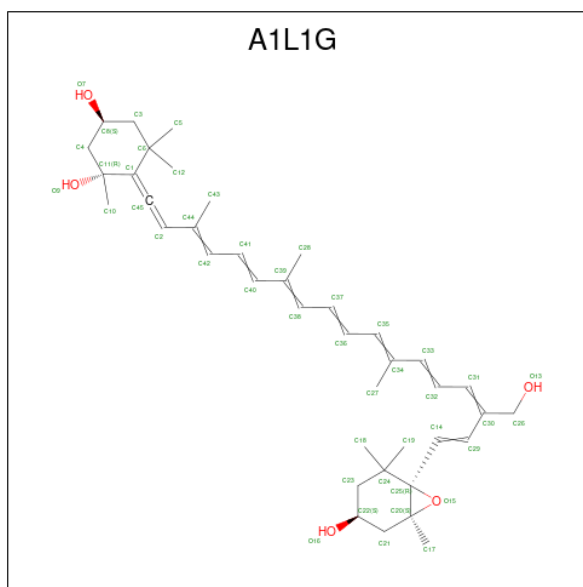
Mol	Chain	Residues	Atoms				AltConf
28	1	1	Total	C	O	P	0
			43	32	10	1	
28	2	1	Total	C	O	P	0
			31	20	10	1	
28	3	1	Total	C	O	P	0
			43	32	10	1	
28	4	1	Total	C	O	P	0
			39	28	10	1	
28	8	1	Total	C	O	P	0
			31	20	10	1	

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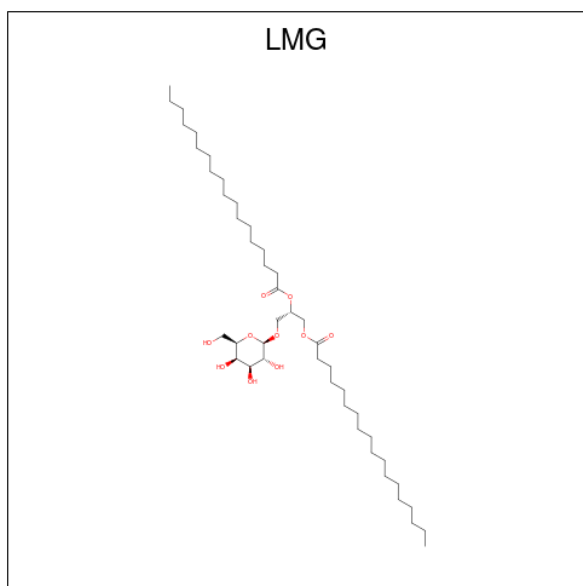
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
28	A	1	48	37	10	1	0
28	A	1	42	31	10	1	0
28	A	1	41	30	10	1	0
28	A	1	37	26	10	1	0
28	B	1	49	38	10	1	0
28	B	1	41	30	10	1	0
28	I	1	40	29	10	1	0
28	J	1	38	27	10	1	0
28	L	1	29	18	10	1	0

- Molecule 29 is (1 {R},3 {S})-6-[(3 {E},5 {E},7 {E},9 {E},11 {E},13 {E},15 {Z},17 {E})-16-(hydroxymethyl)-3,7,12-trimethyl-18-[(1 {S},4 {S},6 {R})-2,2,6-trimethyl-4-oxidanyl-7-oxabicyclo[4.1.0]heptan-1-yl]octadeca-1,3,5,7,9,11,13,15,17-nonaenylidene]-1,5,5-trimethyl-cyclohexane-1,3-diol (CCD ID: A1L1G) (formula: C₄₀H₅₆O₅) (labeled as "Ligand of Interest" by depositor).



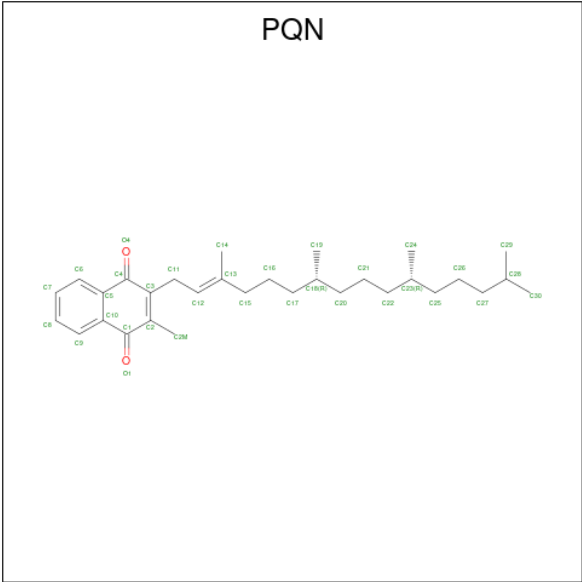
Mol	Chain	Residues	Atoms			AltConf
29	2	1	Total	C	O	0
			45	40	5	
29	3	1	Total	C	O	0
			45	40	5	
29	7	1	Total	C	O	0
			45	40	5	
29	9	1	Total	C	O	0
			45	40	5	
29	k	1	Total	C	O	0
			45	40	5	

- Molecule 30 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula: $C_{45}H_{86}O_{10}$) (labeled as "Ligand of Interest" by depositor).



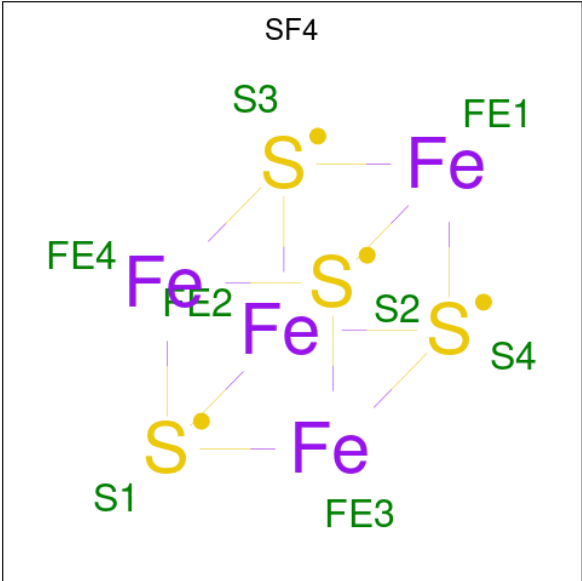
Mol	Chain	Residues	Atoms			AltConf
30	2	1	Total	C	O	0
			45	35	10	
30	t	1	Total	C	O	0
			34	24	10	
30	A	1	Total	C	O	0
			38	28	10	

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



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

- Molecule 32 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe₄S₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
32	A	1	Total	Fe	S	0
			8	4	4	

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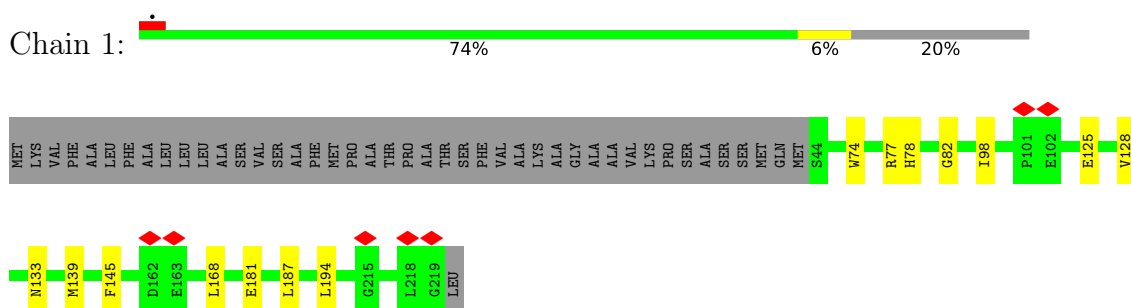
Continued from previous page...

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

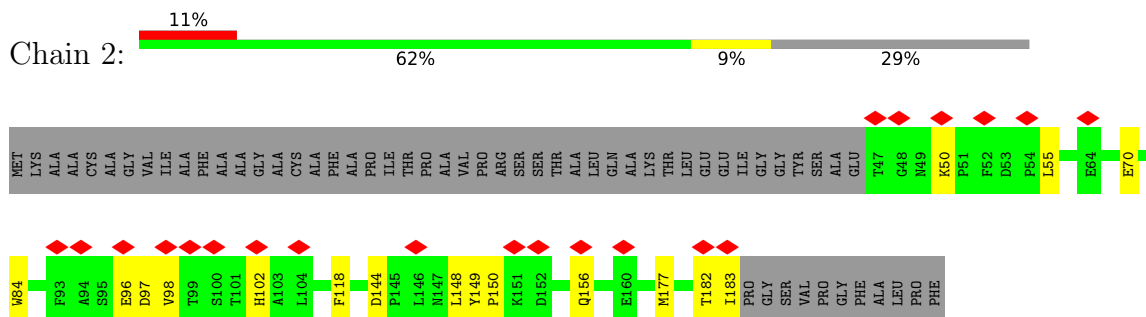
3 Residue-property plots [i](#)

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

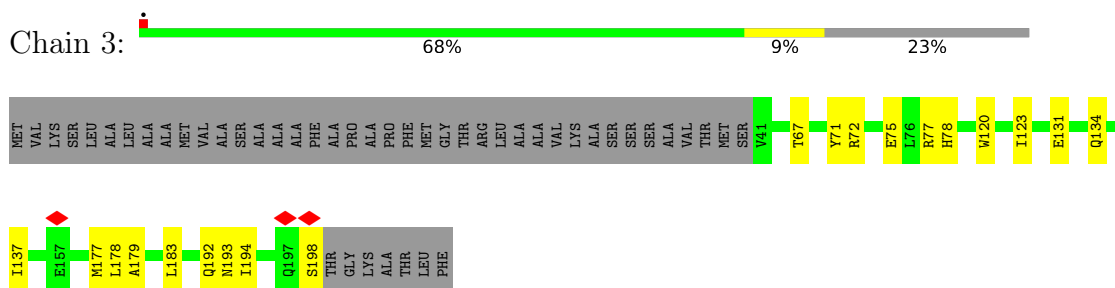
- Molecule 1: Light-harvesting protein XLH1



- Molecule 2: light-harvesting protein XLH2

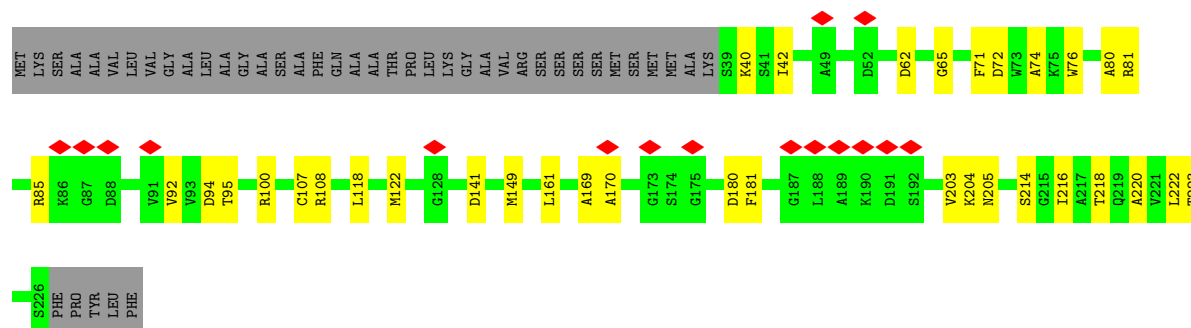


- Molecule 3: light-harvesting protein XLH3

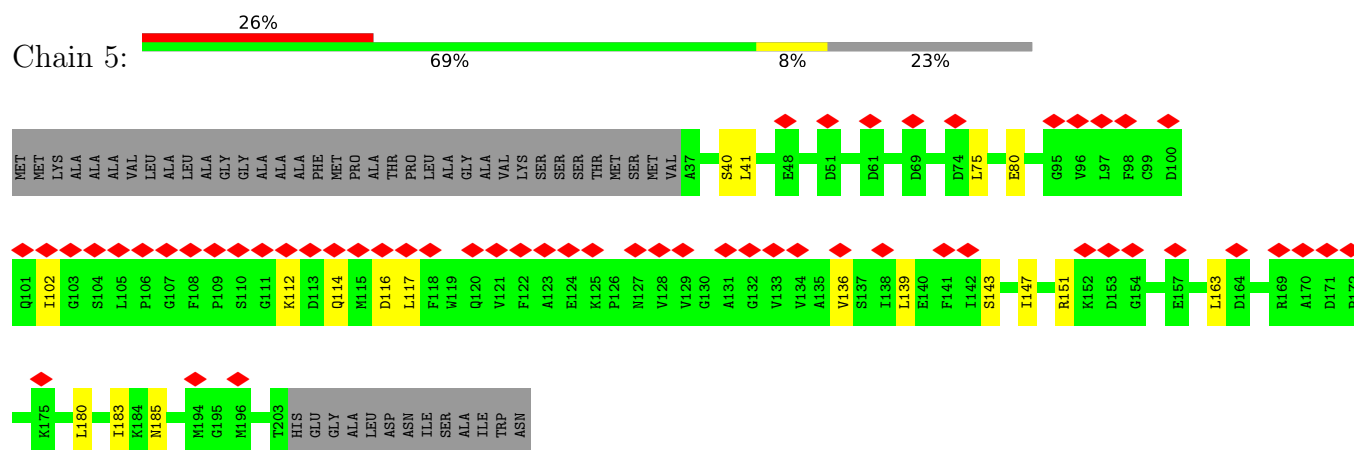


- Molecule 4: light-harvesting protein XLH4

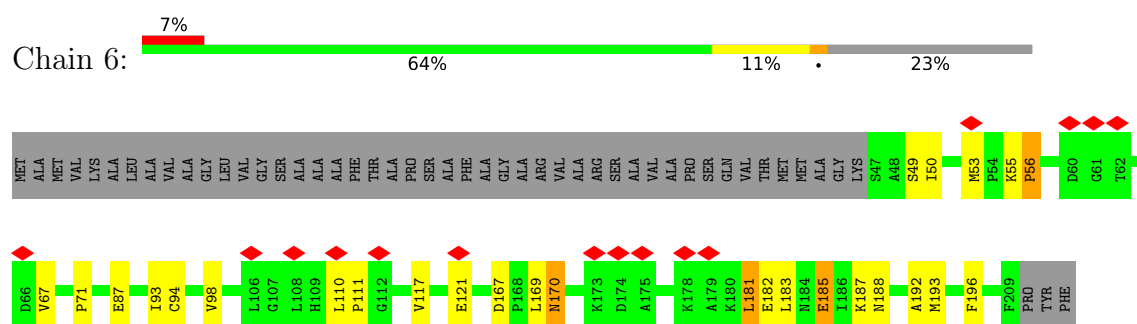




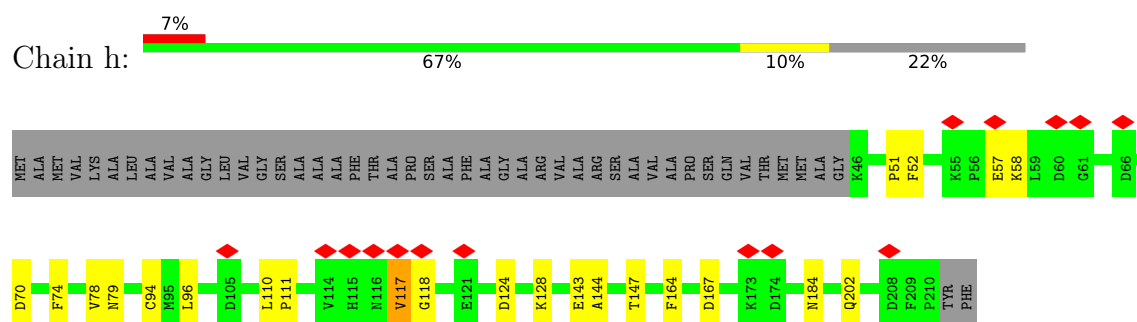
- Molecule 5: light-harvesting protein XLH5



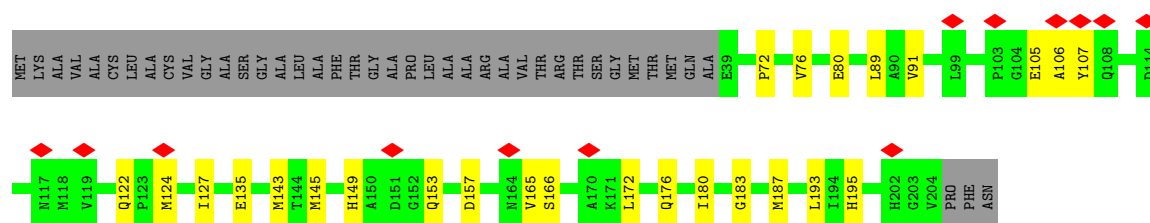
- Molecule 6: light-harvesting protein XLH6/10



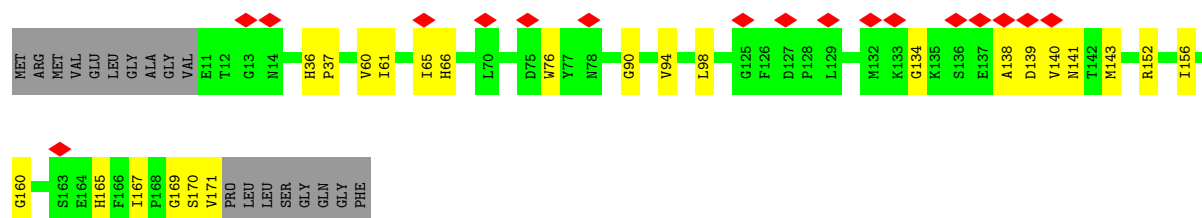
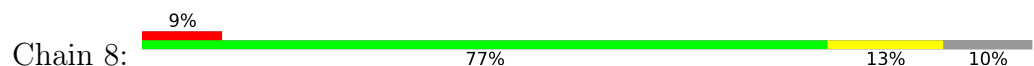
- Molecule 6: light-harvesting protein XLH6/10



- Molecule 7: light-harvesting protein XLH7



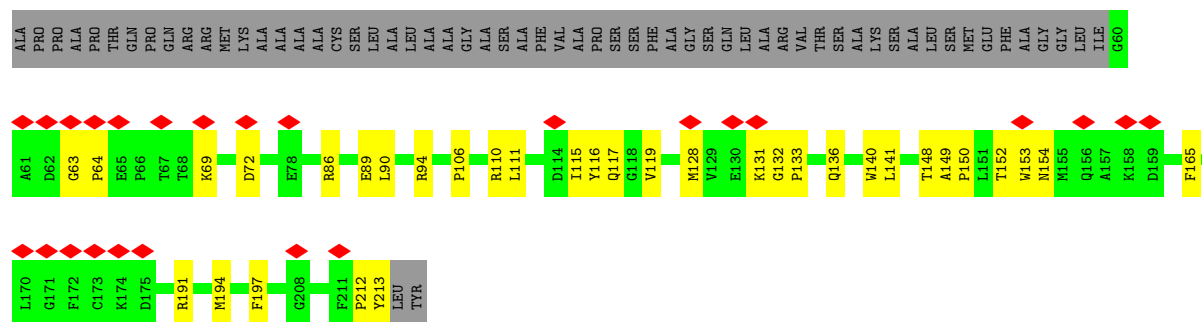
• Molecule 8: light-harvesting protein XLH8



• Molecule 9: light-harvesting protein XLH9/13

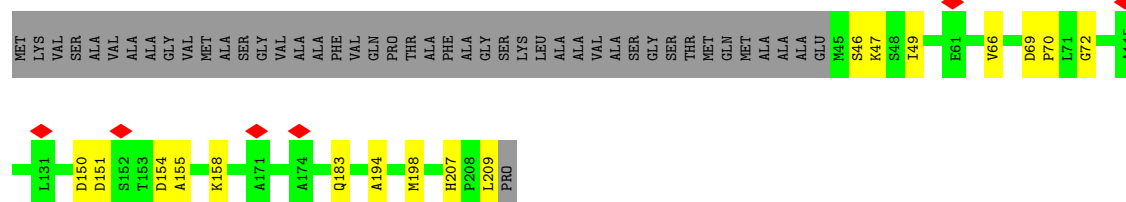


• Molecule 9: light-harvesting protein XLH9/13



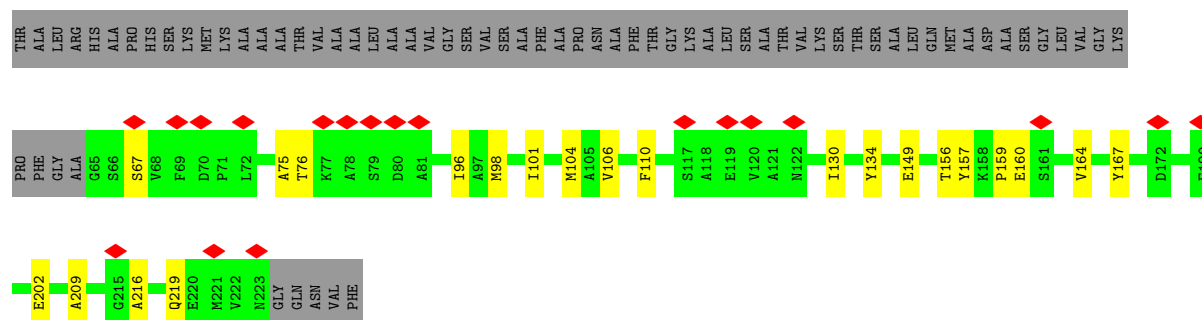
• Molecule 10: light-harvesting protein XLH11

Chain c: 



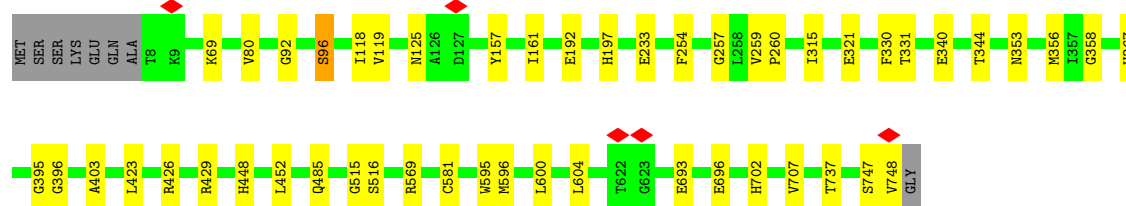
- Molecule 11: light-harvesting protein XLH12

Chain t: 



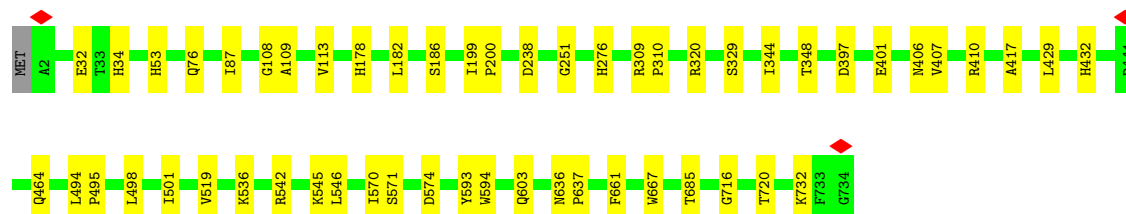
- Molecule 12: PsaA

Chain A: 92% 7%

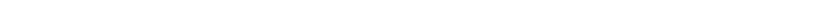


- Molecule 13: PsaB

Chain B:  93% 7%

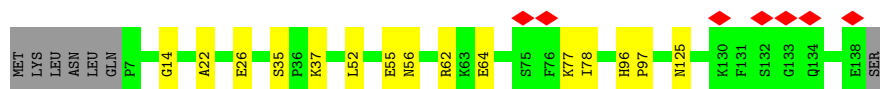
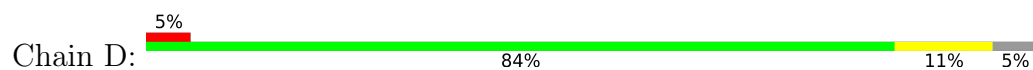


- Molecule 14: PsaC

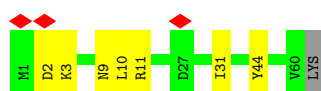
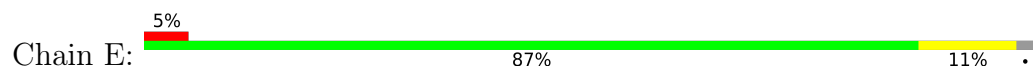
Chain C:  89% 10%



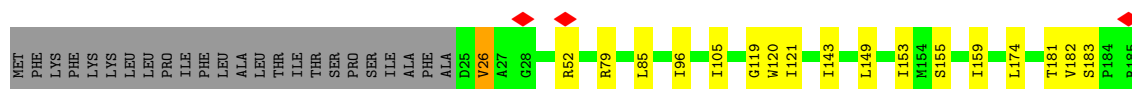
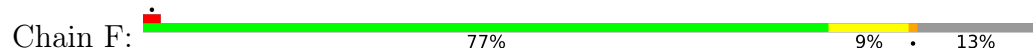
- Molecule 15: Psad



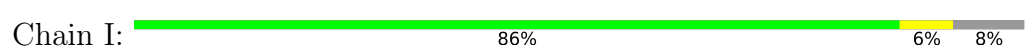
- Molecule 16: Psae



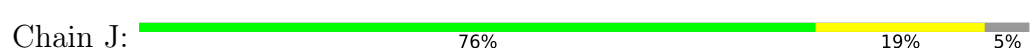
- Molecule 17: Psaf



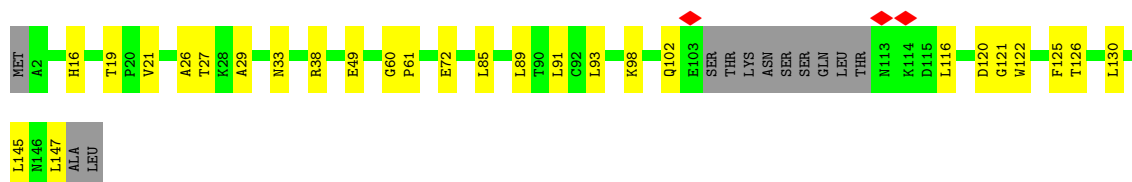
- Molecule 18: Psai



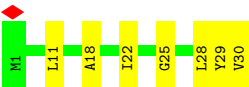
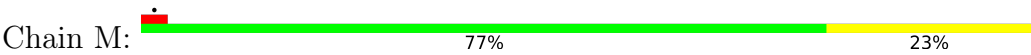
- Molecule 19: Psaj



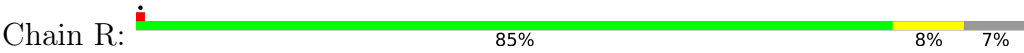
- Molecule 20: Psal



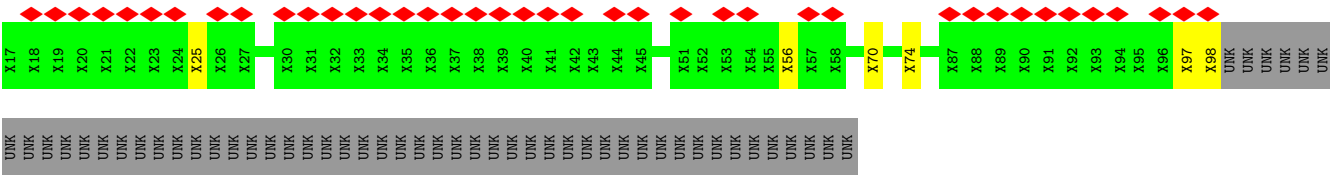
- Molecule 21: Psam



• Molecule 22: PsaR



• Molecule 23: PsaS



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	60389	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TECNAI SPIRIT	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.857	Depositor
Minimum map value	-0.484	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.023	Depositor
Recommended contour level	0.1	Depositor
Map size (\AA)	457.59998, 457.59998, 457.59998	wwPDB
Map dimensions	440, 440, 440	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.04, 1.04, 1.04	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: LMT, DD6, A1L1G, LHG, SF4, LMG, PQN, BCR, CLA

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	1	0.18	0/1363	0.30	0/1859
2	2	0.36	0/1109	0.60	0/1504
3	3	0.16	0/1238	0.31	0/1677
4	4	0.24	0/1427	0.38	0/1934
5	5	0.23	0/1274	0.43	0/1722
6	6	0.39	0/1257	0.64	0/1704
6	h	0.27	0/1274	0.46	0/1727
7	7	0.18	0/1298	0.36	0/1752
8	8	0.22	0/1276	0.41	0/1730
9	9	0.31	0/1200	0.48	0/1622
9	k	0.38	0/1231	0.57	0/1666
10	c	0.16	0/1255	0.32	0/1697
11	t	0.20	0/1285	0.37	0/1741
12	A	0.19	0/6030	0.33	0/8219
13	B	0.18	0/6034	0.31	0/8236
14	C	0.28	0/602	0.55	0/816
15	D	0.19	0/1059	0.36	0/1432
16	E	0.29	0/492	0.48	0/662
17	F	0.25	0/1297	0.44	0/1761
18	I	0.21	0/258	0.32	0/353
19	J	0.31	0/331	0.49	0/453
20	L	0.30	0/1051	0.45	0/1428
21	M	0.26	0/228	0.44	0/310
22	R	0.15	0/627	0.27	0/864
All	All	0.24	0/34496	0.40	0/46869

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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	1	1328	0	1344	24	0
2	2	1080	0	1061	16	0
3	3	1206	0	1171	18	0
4	4	1396	0	1415	32	0
5	5	1249	0	1255	15	0
6	6	1228	0	1215	41	0
6	h	1244	0	1236	16	0
7	7	1268	0	1265	27	0
8	8	1240	0	1195	17	0
9	9	1171	0	1187	28	0
9	k	1201	0	1207	30	0
10	c	1231	0	1259	12	0
11	t	1253	0	1213	15	0
12	A	5835	0	5718	48	0
13	B	5822	0	5629	43	0
14	C	592	0	569	5	0
15	D	1030	0	1028	11	0
16	E	484	0	486	5	0
17	F	1267	0	1290	14	0
18	I	252	0	272	1	0
19	J	320	0	313	9	0
20	L	1027	0	1037	27	0
21	M	227	0	262	5	0
22	R	608	0	612	5	0
23	S	410	0	86	3	0
24	1	507	0	427	16	0
24	2	440	0	345	13	0
24	3	468	0	413	8	0
24	4	607	0	454	27	0
24	5	328	0	247	7	0
24	6	554	0	401	12	0
24	7	564	0	428	23	0
24	8	409	0	299	9	0
24	9	505	0	363	18	0
24	A	2651	0	2720	33	0
24	B	2471	0	2526	59	0
24	F	161	0	144	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	J	42	0	31	1	0
24	L	166	0	154	6	0
24	R	110	0	105	1	0
24	c	548	0	460	7	0
24	h	553	0	405	5	0
24	k	513	0	387	10	0
24	t	477	0	369	8	0
25	1	80	0	112	7	0
25	2	40	0	56	4	0
25	4	40	0	56	7	0
25	7	40	0	56	2	0
25	9	40	0	56	9	0
25	A	199	0	277	8	0
25	B	200	0	280	11	0
25	F	40	0	56	2	0
25	I	80	0	112	3	0
25	J	80	0	112	5	0
25	L	80	0	112	2	0
25	M	40	0	56	2	0
25	R	80	0	112	2	0
25	c	40	0	56	7	0
25	k	40	0	56	2	0
25	t	40	0	56	2	0
26	1	129	0	0	7	0
26	2	86	0	0	2	0
26	3	129	0	0	1	0
26	4	172	0	0	2	0
26	5	86	0	0	3	0
26	6	215	0	0	2	0
26	7	172	0	0	3	0
26	8	129	0	0	2	0
26	9	172	0	0	6	0
26	A	43	0	0	0	0
26	J	43	0	0	0	0
26	R	43	0	0	0	0
26	c	129	0	0	3	0
26	h	172	0	0	1	0
26	k	129	0	0	4	0
26	t	86	0	0	0	0
27	1	70	0	92	2	0
27	3	30	0	33	1	0
27	A	95	0	115	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	h	28	0	29	1	0
28	1	43	0	56	2	0
28	2	31	0	32	0	0
28	3	43	0	59	1	0
28	4	39	0	48	1	0
28	8	31	0	32	1	0
28	A	168	0	222	2	0
28	B	90	0	129	0	0
28	I	40	0	50	1	0
28	J	38	0	46	1	0
28	L	29	0	28	4	0
29	2	45	0	0	0	0
29	3	45	0	0	2	0
29	7	45	0	0	0	0
29	9	45	0	0	1	0
29	k	45	0	0	2	0
30	2	45	0	60	1	0
30	A	38	0	46	0	0
30	t	34	0	38	0	0
31	A	33	0	46	1	0
31	B	33	0	46	0	0
32	A	8	0	0	0	0
32	C	16	0	0	0	0
All	All	50344	0	46831	640	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 7.

The worst 5 of 640 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)
20:L:147:LEU:HD23	24:L:205:CLA:C1	1.56	1.33
3:3:194:ILE:HD13	3:3:198:SER:OG	1.43	1.16
1:1:98:ILE:HG23	1:1:128:VAL:HG11	1.21	1.15
20:L:147:LEU:CD2	24:L:205:CLA:C1	2.31	1.07
6:6:50:ILE:HG21	6:6:53:MET:HG3	1.37	1.04

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	1	174/220 (79%)	169 (97%)	5 (3%)	0	100	100
2	2	135/194 (70%)	121 (90%)	13 (10%)	1 (1%)	18	45
3	3	156/205 (76%)	147 (94%)	9 (6%)	0	100	100
4	4	186/231 (80%)	172 (92%)	14 (8%)	0	100	100
5	5	165/216 (76%)	153 (93%)	12 (7%)	0	100	100
6	6	161/212 (76%)	148 (92%)	12 (8%)	1 (1%)	21	48
6	h	163/212 (77%)	154 (94%)	8 (5%)	1 (1%)	21	48
7	7	164/207 (79%)	149 (91%)	15 (9%)	0	100	100
8	8	159/179 (89%)	146 (92%)	13 (8%)	0	100	100
9	9	147/215 (68%)	142 (97%)	5 (3%)	0	100	100
9	k	152/215 (71%)	144 (95%)	7 (5%)	1 (1%)	18	45
10	c	163/210 (78%)	154 (94%)	9 (6%)	0	100	100
11	t	157/228 (69%)	143 (91%)	14 (9%)	0	100	100
12	A	739/749 (99%)	715 (97%)	24 (3%)	0	100	100
13	B	731/734 (100%)	706 (97%)	25 (3%)	0	100	100
14	C	78/81 (96%)	75 (96%)	3 (4%)	0	100	100
15	D	130/139 (94%)	120 (92%)	10 (8%)	0	100	100
16	E	58/61 (95%)	56 (97%)	1 (2%)	1 (2%)	7	23
17	F	159/185 (86%)	153 (96%)	5 (3%)	1 (1%)	21	48
18	I	31/36 (86%)	30 (97%)	1 (3%)	0	100	100
19	J	38/42 (90%)	38 (100%)	0	0	100	100
20	L	133/149 (89%)	130 (98%)	3 (2%)	0	100	100
21	M	28/30 (93%)	27 (96%)	1 (4%)	0	100	100
22	R	79/87 (91%)	77 (98%)	2 (2%)	0	100	100
All	All	4286/5037 (85%)	4069 (95%)	211 (5%)	6 (0%)	49	75

5 of 6 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	6	56	PRO
16	E	31	ILE
9	k	119	VAL
6	h	117	VAL
17	F	26	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	1	137/169 (81%)	137 (100%)	0	100	100
2	2	112/149 (75%)	110 (98%)	2 (2%)	51	80
3	3	121/152 (80%)	121 (100%)	0	100	100
4	4	143/173 (83%)	142 (99%)	1 (1%)	76	91
5	5	130/162 (80%)	130 (100%)	0	100	100
6	6	129/159 (81%)	125 (97%)	4 (3%)	35	69
6	h	131/159 (82%)	131 (100%)	0	100	100
7	7	137/163 (84%)	135 (98%)	2 (2%)	57	83
8	8	127/141 (90%)	126 (99%)	1 (1%)	73	90
9	9	125/168 (74%)	124 (99%)	1 (1%)	73	90
9	k	128/168 (76%)	127 (99%)	1 (1%)	73	90
10	c	129/156 (83%)	128 (99%)	1 (1%)	73	90
11	t	133/178 (75%)	132 (99%)	1 (1%)	73	90
12	A	603/609 (99%)	601 (100%)	2 (0%)	86	95
13	B	597/598 (100%)	597 (100%)	0	100	100
14	C	66/67 (98%)	66 (100%)	0	100	100
15	D	110/117 (94%)	110 (100%)	0	100	100
16	E	55/56 (98%)	55 (100%)	0	100	100
17	F	138/159 (87%)	138 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	I	28/31 (90%)	28 (100%)	0	100	100
19	J	32/34 (94%)	32 (100%)	0	100	100
20	L	108/119 (91%)	106 (98%)	2 (2%)	50	79
21	M	25/25 (100%)	25 (100%)	0	100	100
22	R	68/73 (93%)	67 (98%)	1 (2%)	57	83
All	All	3512/3985 (88%)	3493 (100%)	19 (0%)	78	93

5 of 19 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
12	A	96	SER
20	L	91	LEU
22	R	76	HIS
20	L	16	HIS
7	7	195	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 34 such sidechains are listed below:

Mol	Chain	Res	Type
13	B	432	HIS
13	B	598	HIS
22	R	48	ASN
6	h	123	HIS
9	9	92	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry

338 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
26	DD6	7	615	-	40,45,45	1.21	8 (20%)	51,67,67	1.86	10 (19%)
29	A1L1G	2	213	-	40,47,47	1.16	8 (20%)	49,71,71	1.03	4 (8%)
24	CLA	9	304	9	50,54,73	1.34	6 (12%)	59,90,113	1.40	7 (11%)
27	LMT	h	617	-	29,29,36	0.73	0	40,40,47	0.86	2 (5%)
24	CLA	4	608	-	54,58,73	1.31	5 (9%)	64,95,113	1.36	8 (12%)
24	CLA	B	813	13	50,54,73	1.34	5 (10%)	59,90,113	1.29	4 (6%)
24	CLA	A	817	12	69,73,73	1.15	6 (8%)	82,113,113	1.15	6 (7%)
25	BCR	F	204	-	41,41,41	0.71	0	56,56,56	2.02	16 (28%)
26	DD6	3	311	-	40,45,45	1.20	8 (20%)	51,67,67	1.68	9 (17%)
24	CLA	6	610	6	50,54,73	1.36	5 (10%)	59,90,113	1.08	2 (3%)
24	CLA	2	203	-	54,58,73	1.30	5 (9%)	64,95,113	1.19	6 (9%)
24	CLA	7	608	-	49,53,73	1.39	6 (12%)	58,89,113	1.31	4 (6%)
24	CLA	1	307	1	49,53,73	1.39	5 (10%)	58,89,113	1.21	4 (6%)
24	CLA	2	209	-	50,54,73	1.36	5 (10%)	59,90,113	1.17	3 (5%)
24	CLA	9	303	-	50,54,73	1.36	7 (14%)	59,90,113	1.34	5 (8%)
25	BCR	A	845	-	40,40,41	0.76	1 (2%)	52,54,56	2.24	18 (34%)
24	CLA	F	201	-	69,73,73	1.16	6 (8%)	82,113,113	1.12	6 (7%)
32	SF4	A	858	12,13	0,12,12	-	-	-		
24	CLA	2	208	-	50,54,73	1.38	5 (10%)	59,90,113	1.21	3 (5%)
24	CLA	A	806	12	69,73,73	1.17	5 (7%)	82,113,113	1.10	5 (6%)
24	CLA	c	607	10	50,54,73	1.30	4 (8%)	59,90,113	1.27	7 (11%)
24	CLA	A	809	12	50,54,73	1.33	6 (12%)	59,90,113	1.20	5 (8%)
24	CLA	B	824	13	69,73,73	1.18	6 (8%)	82,113,113	1.26	8 (9%)
24	CLA	B	838	28	69,73,73	1.16	7 (10%)	82,113,113	1.27	7 (8%)
24	CLA	t	306	11	49,53,73	1.37	5 (10%)	58,89,113	1.25	4 (6%)
24	CLA	8	204	8	49,53,73	1.39	6 (12%)	58,89,113	1.30	5 (8%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	8	208	8	49,53,73	1.36	5 (10%)	58,89,113	1.34	5 (8%)
27	LMT	1	316	-	36,36,36	0.68	0	47,47,47	0.95	2 (4%)
24	CLA	4	604	-	50,54,73	1.37	6 (12%)	59,90,113	1.14	3 (5%)
24	CLA	B	818	-	69,73,73	1.16	6 (8%)	82,113,113	1.09	7 (8%)
27	LMT	A	851	-	26,26,36	0.80	0	37,37,47	1.06	5 (13%)
24	CLA	8	209	-	45,49,73	1.40	5 (11%)	54,84,113	1.24	4 (7%)
26	DD6	k	314	-	40,45,45	1.25	9 (22%)	51,67,67	1.84	8 (15%)
24	CLA	7	611	7	50,54,73	1.35	6 (12%)	59,90,113	1.21	3 (5%)
24	CLA	9	302	9	50,54,73	1.34	9 (18%)	59,90,113	1.37	6 (10%)
24	CLA	B	816	13	69,73,73	1.15	6 (8%)	82,113,113	1.24	7 (8%)
26	DD6	3	313	-	40,45,45	1.22	8 (20%)	51,67,67	1.62	10 (19%)
24	CLA	c	611	10	45,49,73	1.41	6 (13%)	54,84,113	1.27	4 (7%)
24	CLA	5	604	5	50,54,73	1.35	5 (10%)	59,90,113	1.16	4 (6%)
24	CLA	B	821	13	57,61,73	1.27	6 (10%)	67,98,113	1.23	9 (13%)
24	CLA	B	819	13	50,54,73	1.36	6 (12%)	59,90,113	1.18	3 (5%)
24	CLA	B	834	13	69,73,73	1.15	5 (7%)	82,113,113	1.08	4 (4%)
24	CLA	B	804	13	69,73,73	1.18	6 (8%)	82,113,113	1.31	12 (14%)
24	CLA	8	203	-	54,58,73	1.32	7 (12%)	64,95,113	1.28	7 (10%)
26	DD6	R	105	-	40,45,45	1.28	10 (25%)	51,67,67	1.84	11 (21%)
24	CLA	3	308	3	50,54,73	1.34	8 (16%)	59,90,113	1.26	5 (8%)
24	CLA	5	603	5	49,53,73	1.39	5 (10%)	58,89,113	1.26	4 (6%)
24	CLA	c	601	10	47,51,73	1.39	6 (12%)	55,86,113	1.23	5 (9%)
26	DD6	7	616	-	40,45,45	1.25	7 (17%)	51,67,67	1.74	9 (17%)
24	CLA	6	607	6	50,54,73	1.35	6 (12%)	59,90,113	1.18	5 (8%)
26	DD6	6	617	-	40,45,45	1.27	10 (25%)	51,67,67	1.67	9 (17%)
26	DD6	h	613	-	40,45,45	1.24	8 (20%)	51,67,67	1.62	9 (17%)
24	CLA	4	607	4	50,54,73	1.34	7 (14%)	59,90,113	1.21	5 (8%)
30	LMG	A	855	-	38,38,55	1.08	2 (5%)	46,46,63	1.09	2 (4%)
24	CLA	A	840	28	69,73,73	1.15	6 (8%)	82,113,113	1.17	7 (8%)
26	DD6	2	212	-	40,45,45	1.22	8 (20%)	51,67,67	1.68	8 (15%)
25	BCR	M	101	-	41,41,41	0.68	0	56,56,56	2.14	14 (25%)
24	CLA	h	609	-	50,54,73	1.36	5 (10%)	59,90,113	1.18	4 (6%)
24	CLA	9	301	9	50,54,73	1.38	6 (12%)	59,90,113	1.33	6 (10%)
24	CLA	L	204	20	69,73,73	1.16	6 (8%)	82,113,113	1.13	7 (8%)
24	CLA	B	808	13	69,73,73	1.15	8 (11%)	82,113,113	1.17	7 (8%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	L	203	20	59,63,73	1.25	6 (10%)	70,101,113	1.32	7 (10%)
28	LHG	1	318	-	42,42,48	0.98	3 (7%)	45,48,54	1.41	4 (8%)
24	CLA	4	611	-	50,54,73	1.35	5 (10%)	59,90,113	1.20	5 (8%)
26	DD6	t	311	-	40,45,45	1.24	8 (20%)	51,67,67	1.59	9 (17%)
24	CLA	B	835	13	51,55,73	1.33	7 (13%)	60,91,113	1.36	7 (11%)
24	CLA	6	604	-	50,54,73	1.35	6 (12%)	59,90,113	1.17	3 (5%)
24	CLA	9	309	9	50,54,73	1.35	5 (10%)	59,90,113	1.30	6 (10%)
26	DD6	9	317	-	40,45,45	1.21	6 (15%)	51,67,67	2.13	16 (31%)
24	CLA	h	605	6	50,54,73	1.36	6 (12%)	59,90,113	1.20	6 (10%)
25	BCR	k	316	-	41,41,41	0.65	0	56,56,56	2.33	20 (35%)
26	DD6	9	315	-	40,45,45	1.25	9 (22%)	51,67,67	1.77	11 (21%)
24	CLA	3	306	3	69,73,73	1.15	6 (8%)	82,113,113	1.09	4 (4%)
25	BCR	B	843	-	41,41,41	0.82	1 (2%)	56,56,56	2.37	19 (33%)
26	DD6	c	613	-	40,45,45	1.21	8 (20%)	51,67,67	1.75	9 (17%)
24	CLA	2	204	2	64,68,73	1.21	5 (7%)	76,107,113	1.21	5 (6%)
25	BCR	B	849	-	41,41,41	0.62	0	56,56,56	2.27	21 (37%)
24	CLA	5	605	5	50,54,73	1.35	5 (10%)	59,90,113	1.21	4 (6%)
24	CLA	1	304	26	59,63,73	1.24	6 (10%)	70,101,113	1.08	5 (7%)
24	CLA	B	803	-	69,73,73	1.13	8 (11%)	82,113,113	1.30	5 (6%)
24	CLA	8	206	8	50,54,73	1.33	5 (10%)	59,90,113	1.20	4 (6%)
27	LMT	A	850	-	36,36,36	0.67	0	47,47,47	0.65	0
24	CLA	A	830	12	59,63,73	1.23	8 (13%)	70,101,113	1.73	10 (14%)
28	LHG	J	105	-	37,37,48	1.06	2 (5%)	40,43,54	1.12	4 (10%)
25	BCR	A	859	-	41,41,41	0.69	0	56,56,56	1.82	14 (25%)
24	CLA	9	310	9	50,54,73	1.36	6 (12%)	59,90,113	1.30	3 (5%)
24	CLA	A	811	12	50,54,73	1.34	6 (12%)	59,90,113	1.20	4 (6%)
26	DD6	k	313	-	40,45,45	1.22	8 (20%)	51,67,67	1.78	14 (27%)
24	CLA	1	309	1	48,53,73	1.38	6 (12%)	56,89,113	1.17	4 (7%)
24	CLA	h	611	6	45,49,73	1.37	7 (15%)	54,84,113	1.55	6 (11%)
24	CLA	t	310	-	50,54,73	1.36	6 (12%)	59,90,113	1.21	3 (5%)
24	CLA	4	601	4	45,50,73	1.40	7 (15%)	52,85,113	1.07	3 (5%)
24	CLA	B	829	13	69,73,73	1.14	8 (11%)	82,113,113	1.36	10 (12%)
26	DD6	8	211	-	40,45,45	1.21	8 (20%)	51,67,67	1.76	10 (19%)
24	CLA	9	307	9	50,54,73	1.31	6 (12%)	59,90,113	1.32	4 (6%)
26	DD6	6	614	-	40,45,45	1.25	8 (20%)	51,67,67	1.49	6 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	c	604	-	50,54,73	1.35	5 (10%)	59,90,113	1.16	3 (5%)
24	CLA	t	309	-	50,54,73	1.36	5 (10%)	59,90,113	1.17	3 (5%)
30	LMG	t	314	-	34,34,55	1.12	2 (5%)	42,42,63	1.22	4 (9%)
24	CLA	2	206	2	50,54,73	1.34	5 (10%)	59,90,113	1.27	6 (10%)
28	LHG	A	849	-	40,40,48	1.03	2 (5%)	43,46,54	1.06	2 (4%)
24	CLA	B	817	13	69,73,73	1.15	5 (7%)	82,113,113	1.13	7 (8%)
24	CLA	B	823	-	68,72,73	1.16	6 (8%)	80,111,113	1.14	9 (11%)
24	CLA	A	813	12	69,73,73	1.16	7 (10%)	82,113,113	1.09	6 (7%)
24	CLA	t	307	-	50,54,73	1.34	5 (10%)	59,90,113	1.15	2 (3%)
24	CLA	h	612	-	49,53,73	1.38	6 (12%)	58,89,113	1.27	4 (6%)
24	CLA	4	613	4	50,54,73	1.35	6 (12%)	59,90,113	1.16	4 (6%)
25	BCR	I	101	-	41,41,41	0.77	2 (4%)	56,56,56	2.30	25 (44%)
24	CLA	B	820	13	59,63,73	1.25	6 (10%)	70,101,113	1.22	6 (8%)
26	DD6	6	613	-	40,45,45	1.23	8 (20%)	51,67,67	1.68	8 (15%)
24	CLA	B	827	13	69,73,73	1.16	7 (10%)	82,113,113	1.13	5 (6%)
24	CLA	t	301	11	49,53,73	1.40	5 (10%)	58,89,113	1.43	6 (10%)
24	CLA	A	825	-	69,73,73	1.15	6 (8%)	82,113,113	1.14	7 (8%)
28	LHG	L	201	-	28,28,48	1.22	2 (7%)	31,34,54	1.15	2 (6%)
24	CLA	t	308	11	50,54,73	1.37	5 (10%)	59,90,113	1.10	3 (5%)
24	CLA	8	202	8	50,54,73	1.35	5 (10%)	59,90,113	1.26	5 (8%)
24	CLA	A	824	-	69,73,73	1.16	6 (8%)	82,113,113	1.15	6 (7%)
24	CLA	A	838	12	69,73,73	1.16	7 (10%)	82,113,113	1.13	8 (9%)
24	CLA	A	831	12	69,73,73	1.16	6 (8%)	82,113,113	1.10	4 (4%)
24	CLA	h	604	-	50,54,73	1.34	5 (10%)	59,90,113	1.18	3 (5%)
24	CLA	B	807	13	69,73,73	1.17	6 (8%)	82,113,113	1.16	6 (7%)
24	CLA	B	828	13	54,58,73	1.31	7 (12%)	64,95,113	1.18	4 (6%)
26	DD6	c	614	-	40,45,45	1.22	8 (20%)	51,67,67	2.17	13 (25%)
24	CLA	A	818	12	69,73,73	1.15	6 (8%)	82,113,113	1.15	9 (10%)
24	CLA	B	802	13	69,73,73	1.14	7 (10%)	82,113,113	1.08	6 (7%)
25	BCR	I	102	-	41,41,41	0.67	0	56,56,56	2.35	28 (50%)
24	CLA	2	202	2	59,63,73	1.27	6 (10%)	70,101,113	1.18	5 (7%)
24	CLA	7	602	7	54,58,73	1.29	6 (11%)	64,95,113	1.47	11 (17%)
24	CLA	A	814	12	54,58,73	1.32	5 (9%)	64,95,113	1.25	5 (7%)
24	CLA	B	822	-	69,73,73	1.17	6 (8%)	82,113,113	1.25	7 (8%)
26	DD6	1	311	24	40,45,45	1.24	8 (20%)	51,67,67	1.59	11 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
28	LHG	B	844	-	48,48,48	0.93	2 (4%)	51,54,54	1.00	3 (5%)
24	CLA	c	602	10	69,73,73	1.15	5 (7%)	82,113,113	1.14	6 (7%)
24	CLA	A	819	12	49,53,73	1.37	6 (12%)	58,89,113	1.25	4 (6%)
26	DD6	4	617	-	40,45,45	1.22	8 (20%)	51,67,67	1.84	12 (23%)
24	CLA	k	310	9	45,49,73	1.42	6 (13%)	54,84,113	1.29	6 (11%)
24	CLA	B	836	-	69,73,73	1.16	7 (10%)	82,113,113	1.06	5 (6%)
24	CLA	5	601	5	49,53,73	1.38	5 (10%)	58,89,113	1.20	3 (5%)
26	DD6	5	608	-	40,45,45	1.23	8 (20%)	51,67,67	1.76	10 (19%)
24	CLA	B	837	13	69,73,73	1.15	6 (8%)	82,113,113	1.23	5 (6%)
24	CLA	k	301	9	50,54,73	1.34	4 (8%)	59,90,113	1.21	3 (5%)
25	BCR	R	101	-	41,41,41	0.79	1 (2%)	56,56,56	2.04	21 (37%)
24	CLA	c	608	10	69,73,73	1.15	6 (8%)	82,113,113	1.09	6 (7%)
24	CLA	h	608	6	50,54,73	1.34	6 (12%)	59,90,113	1.16	3 (5%)
24	CLA	4	612	4	50,54,73	1.33	5 (10%)	59,90,113	1.26	4 (6%)
24	CLA	B	806	13	69,73,73	1.16	5 (7%)	82,113,113	1.16	4 (4%)
24	CLA	B	832	-	49,53,73	1.39	6 (12%)	58,89,113	1.19	3 (5%)
24	CLA	3	307	-	49,53,73	1.37	6 (12%)	58,89,113	1.27	4 (6%)
24	CLA	A	835	12	55,59,73	1.30	7 (12%)	64,96,113	1.28	7 (10%)
24	CLA	5	607	5	49,53,73	1.39	5 (10%)	58,89,113	1.34	4 (6%)
24	CLA	A	847	-	59,63,73	1.25	5 (8%)	70,101,113	1.23	6 (8%)
24	CLA	t	305	11	50,54,73	1.34	6 (12%)	59,90,113	1.21	7 (11%)
24	CLA	k	306	9	50,54,73	1.33	7 (14%)	59,90,113	1.19	5 (8%)
24	CLA	6	611	6	47,52,73	1.40	7 (14%)	55,88,113	1.29	5 (9%)
26	DD6	9	313	-	40,45,45	1.23	8 (20%)	51,67,67	1.64	9 (17%)
24	CLA	h	601	6	49,53,73	1.37	4 (8%)	58,89,113	1.30	3 (5%)
24	CLA	B	812	13	69,73,73	1.17	6 (8%)	82,113,113	1.15	5 (6%)
25	BCR	J	101	-	41,41,41	0.88	0	56,56,56	2.38	20 (35%)
26	DD6	4	614	-	40,45,45	1.21	8 (20%)	51,67,67	1.77	10 (19%)
28	LHG	A	841	-	47,47,48	0.94	2 (4%)	50,53,54	0.99	3 (6%)
24	CLA	3	301	3	69,73,73	1.17	6 (8%)	82,113,113	1.20	4 (4%)
24	CLA	B	814	13	54,58,73	1.32	6 (11%)	64,95,113	1.24	7 (10%)
24	CLA	k	308	-	45,49,73	1.39	4 (8%)	54,84,113	1.46	7 (12%)
24	CLA	7	609	7	50,54,73	1.36	5 (10%)	59,90,113	1.27	4 (6%)
24	CLA	A	820	-	69,73,73	1.16	6 (8%)	82,113,113	1.17	8 (9%)
24	CLA	A	805	12	69,73,73	1.16	5 (7%)	82,113,113	1.18	6 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	SF4	C	102	14	0,12,12	-	-	-		
28	LHG	A	852	-	36,36,48	1.08	2 (5%)	39,42,54	1.03	2 (5%)
24	CLA	4	602	4	64,68,73	1.19	6 (9%)	76,107,113	1.18	7 (9%)
24	CLA	B	810	13	58,62,73	1.32	7 (12%)	71,100,113	1.30	10 (14%)
24	CLA	c	609	-	64,68,73	1.23	5 (7%)	76,107,113	1.32	6 (7%)
24	CLA	k	303	-	59,63,73	1.24	5 (8%)	70,101,113	1.37	10 (14%)
24	CLA	h	607	6	50,54,73	1.35	6 (12%)	59,90,113	1.15	4 (6%)
24	CLA	B	833	13	62,66,73	1.22	7 (11%)	73,104,113	1.28	7 (9%)
26	DD6	t	313	-	40,45,45	1.20	5 (12%)	51,67,67	1.74	11 (21%)
27	LMT	A	854	-	36,36,36	0.67	0	47,47,47	0.89	1 (2%)
26	DD6	4	615	-	40,45,45	1.23	8 (20%)	51,67,67	1.65	9 (17%)
24	CLA	h	603	6	48,53,73	1.38	5 (10%)	56,89,113	1.23	6 (10%)
26	DD6	A	848	-	40,45,45	1.20	5 (12%)	51,67,67	1.99	11 (21%)
24	CLA	1	303	1	50,54,73	1.34	5 (10%)	59,90,113	1.21	4 (6%)
25	BCR	1	310	-	41,41,41	0.73	0	56,56,56	2.18	22 (39%)
31	PQN	A	839	-	34,34,34	0.37	0	43,45,45	0.64	1 (2%)
25	BCR	A	844	-	41,41,41	0.75	1 (2%)	56,56,56	2.13	17 (30%)
24	CLA	A	815	-	49,53,73	1.39	7 (14%)	58,89,113	1.24	5 (8%)
24	CLA	h	606	6	50,54,73	1.35	7 (14%)	59,90,113	1.17	4 (6%)
24	CLA	A	801	12	69,73,73	1.16	6 (8%)	82,113,113	1.34	8 (9%)
26	DD6	7	618	-	40,45,45	1.30	6 (15%)	51,67,67	1.76	12 (23%)
24	CLA	B	848	13	69,73,73	1.15	7 (10%)	82,113,113	1.13	5 (6%)
29	A1L1G	9	312	-	40,47,47	1.17	8 (20%)	49,71,71	1.20	5 (10%)
24	CLA	7	606	7	64,68,73	1.22	6 (9%)	76,107,113	1.26	7 (9%)
24	CLA	B	830	13	62,66,73	1.22	6 (9%)	73,104,113	1.18	5 (6%)
24	CLA	9	306	9	50,54,73	1.36	7 (14%)	59,90,113	1.31	5 (8%)
25	BCR	B	842	-	41,41,41	0.73	1 (2%)	56,56,56	2.12	14 (25%)
24	CLA	6	601	6	49,53,73	1.38	5 (10%)	58,89,113	1.23	5 (8%)
24	CLA	4	605	4	50,54,73	1.33	5 (10%)	59,90,113	1.19	5 (8%)
26	DD6	7	613	-	40,45,45	1.21	8 (20%)	51,67,67	1.89	12 (23%)
24	CLA	F	202	-	50,54,73	1.36	6 (12%)	59,90,113	1.21	4 (6%)
24	CLA	2	201	2	49,53,73	1.38	5 (10%)	58,89,113	1.33	7 (12%)
24	CLA	3	303	-	59,63,73	1.25	7 (11%)	70,101,113	1.21	5 (7%)
24	CLA	t	303	11	69,73,73	1.15	5 (7%)	82,113,113	1.17	5 (6%)
24	CLA	7	605	7	50,54,73	1.35	5 (10%)	59,90,113	1.23	3 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	7	612	7	50,54,73	1.38	5 (10%)	59,90,113	1.24	5 (8%)
24	CLA	R	104	22	49,53,73	1.35	7 (14%)	58,89,113	1.38	6 (10%)
29	A1L1G	7	614	-	40,47,47	1.16	8 (20%)	49,71,71	1.06	3 (6%)
24	CLA	1	302	1	49,53,73	1.36	5 (10%)	58,89,113	1.22	5 (8%)
25	BCR	4	618	-	41,41,41	0.76	1 (2%)	56,56,56	2.38	19 (33%)
24	CLA	1	305	1	49,53,73	1.36	6 (12%)	58,89,113	1.67	7 (12%)
24	CLA	6	603	6	50,54,73	1.35	6 (12%)	59,90,113	1.15	3 (5%)
28	LHG	3	315	-	42,42,48	0.99	2 (4%)	45,48,54	1.05	4 (8%)
24	CLA	F	203	17	54,58,73	1.30	6 (11%)	64,95,113	1.27	4 (6%)
24	CLA	3	304	3	50,54,73	1.34	5 (10%)	59,90,113	1.40	9 (15%)
24	CLA	3	305	3	64,68,73	1.19	6 (9%)	76,107,113	1.11	5 (6%)
24	CLA	t	304	-	50,54,73	1.36	6 (12%)	59,90,113	1.20	3 (5%)
24	CLA	h	602	6	59,63,73	1.27	6 (10%)	70,101,113	1.81	10 (14%)
24	CLA	R	103	22	69,73,73	1.15	7 (10%)	82,113,113	1.13	6 (7%)
26	DD6	8	212	-	40,45,45	1.20	8 (20%)	51,67,67	1.66	9 (17%)
28	LHG	A	842	24	41,41,48	1.09	2 (4%)	44,47,54	1.29	5 (11%)
26	DD6	9	314	-	40,45,45	1.26	7 (17%)	51,67,67	2.23	12 (23%)
24	CLA	A	823	12	69,73,73	1.16	5 (7%)	82,113,113	1.09	6 (7%)
26	DD6	4	616	-	40,45,45	1.22	8 (20%)	51,67,67	1.83	13 (25%)
24	CLA	c	603	10	50,54,73	1.33	6 (12%)	59,90,113	1.29	5 (8%)
27	LMT	3	314	-	31,31,36	0.69	0	42,42,47	1.21	3 (7%)
24	CLA	t	302	11	50,54,73	1.36	6 (12%)	59,90,113	1.16	4 (6%)
24	CLA	6	612	-	50,54,73	1.36	5 (10%)	59,90,113	1.21	4 (6%)
26	DD6	8	210	-	40,45,45	1.30	8 (20%)	51,67,67	2.06	15 (29%)
24	CLA	2	205	2	50,54,73	1.35	6 (12%)	59,90,113	1.21	4 (6%)
26	DD6	h	616	-	40,45,45	1.22	8 (20%)	51,67,67	1.74	7 (13%)
24	CLA	2	207	-	50,54,73	1.35	5 (10%)	59,90,113	1.23	5 (8%)
24	CLA	A	816	12	69,73,73	1.15	5 (7%)	82,113,113	1.14	5 (6%)
24	CLA	4	606	4	50,54,73	1.33	6 (12%)	59,90,113	1.20	5 (8%)
24	CLA	B	825	13	59,63,73	1.24	6 (10%)	70,101,113	1.18	6 (8%)
26	DD6	2	210	-	40,45,45	1.20	8 (20%)	51,67,67	1.75	7 (13%)
24	CLA	A	857	12	69,73,73	1.13	7 (10%)	82,113,113	1.32	7 (8%)
26	DD6	6	615	-	40,45,45	1.20	5 (12%)	51,67,67	1.90	13 (25%)
25	BCR	B	841	-	41,41,41	0.72	0	56,56,56	2.10	22 (39%)
26	DD6	5	609	-	40,45,45	1.21	8 (20%)	51,67,67	1.78	10 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	A	837	12	59,63,73	1.26	6 (10%)	70,101,113	1.25	7 (10%)
24	CLA	8	207	-	49,53,73	1.41	5 (10%)	58,89,113	1.22	3 (5%)
24	CLA	k	304	9	50,54,73	1.37	6 (12%)	59,90,113	1.30	3 (5%)
24	CLA	9	308	-	50,54,73	1.35	6 (12%)	59,90,113	1.20	4 (6%)
24	CLA	A	803	12	59,63,73	1.24	6 (10%)	70,101,113	1.25	9 (12%)
24	CLA	6	605	6	50,54,73	1.35	6 (12%)	59,90,113	1.21	4 (6%)
24	CLA	1	317	-	69,73,73	1.17	7 (10%)	82,113,113	1.07	4 (4%)
24	CLA	A	821	12	53,57,73	1.30	5 (9%)	61,93,113	1.21	5 (8%)
24	CLA	7	610	7	49,53,73	1.37	5 (10%)	58,89,113	1.18	3 (5%)
24	CLA	6	608	6	50,54,73	1.34	6 (12%)	59,90,113	1.20	4 (6%)
24	CLA	A	822	12	59,63,73	1.27	6 (10%)	70,101,113	1.18	5 (7%)
24	CLA	A	804	12	69,73,73	1.16	7 (10%)	82,113,113	1.16	6 (7%)
24	CLA	k	309	9	49,53,73	1.38	5 (10%)	58,89,113	1.20	5 (8%)
24	CLA	c	610	10	47,52,73	1.41	6 (12%)	55,88,113	1.16	4 (7%)
26	DD6	1	313	-	40,45,45	1.22	8 (20%)	51,67,67	1.55	8 (15%)
24	CLA	h	610	6	50,54,73	1.37	5 (10%)	59,90,113	1.14	5 (8%)
24	CLA	4	603	4	50,54,73	1.37	7 (14%)	59,90,113	1.24	4 (6%)
24	CLA	A	836	12	69,73,73	1.16	5 (7%)	82,113,113	1.07	4 (4%)
28	LHG	2	215	-	30,30,48	1.16	2 (6%)	33,36,54	1.15	3 (9%)
25	BCR	A	843	-	41,41,41	0.73	0	56,56,56	2.35	21 (37%)
24	CLA	k	311	-	59,63,73	1.26	5 (8%)	70,101,113	1.19	6 (8%)
24	CLA	A	808	12	69,73,73	1.17	6 (8%)	82,113,113	1.12	4 (4%)
32	SF4	C	101	14	0,12,12	-	-	-	-	-
24	CLA	3	309	3	45,49,73	1.40	5 (11%)	54,84,113	1.28	5 (9%)
26	DD6	6	616	-	40,45,45	1.24	8 (20%)	51,67,67	2.05	13 (25%)
24	CLA	5	602	5	59,63,73	1.26	5 (8%)	70,101,113	1.23	8 (11%)
26	DD6	h	615	-	40,45,45	1.21	8 (20%)	51,67,67	1.73	9 (17%)
24	CLA	A	832	12	69,73,73	1.16	6 (8%)	82,113,113	1.14	7 (8%)
24	CLA	A	853	12	59,63,73	1.25	6 (10%)	70,101,113	1.24	6 (8%)
25	BCR	t	312	-	41,41,41	0.77	1 (2%)	56,56,56	1.79	9 (16%)
24	CLA	9	305	-	50,54,73	1.35	7 (14%)	59,90,113	1.39	5 (8%)
28	LHG	8	213	-	30,30,48	1.20	2 (6%)	33,36,54	1.50	4 (12%)
24	CLA	7	607	7	49,53,73	1.38	5 (10%)	58,89,113	1.25	8 (13%)
24	CLA	A	812	12	69,73,73	1.16	7 (10%)	82,113,113	1.19	7 (8%)
24	CLA	B	809	13	69,73,73	1.16	6 (8%)	82,113,113	1.19	6 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	7	603	7	49,53,73	1.39	5 (10%)	58,89,113	1.27	8 (13%)
24	CLA	7	604	-	49,53,73	1.36	8 (16%)	58,89,113	1.33	5 (8%)
24	CLA	3	302	3	49,53,73	1.37	6 (12%)	58,89,113	1.34	5 (8%)
24	CLA	A	807	12	69,73,73	1.14	5 (7%)	82,113,113	1.15	7 (8%)
24	CLA	B	846	13	59,63,73	1.24	7 (11%)	70,101,113	1.14	4 (5%)
24	CLA	L	205	-	50,54,73	1.33	5 (10%)	59,90,113	1.15	5 (8%)
25	BCR	L	206	-	41,41,41	0.73	0	56,56,56	2.10	18 (32%)
24	CLA	A	810	12	66,70,73	1.18	6 (9%)	78,109,113	1.08	5 (6%)
24	CLA	4	610	4	45,49,73	1.42	5 (11%)	54,84,113	1.25	4 (7%)
28	LHG	I	103	-	39,39,48	1.03	2 (5%)	42,45,54	1.16	4 (9%)
25	BCR	R	102	-	41,41,41	0.74	0	56,56,56	2.17	21 (37%)
24	CLA	A	833	12	69,73,73	1.17	6 (8%)	82,113,113	1.13	6 (7%)
24	CLA	B	831	-	69,73,73	1.17	6 (8%)	82,113,113	1.12	5 (6%)
26	DD6	1	312	-	40,45,45	1.23	9 (22%)	51,67,67	1.55	6 (11%)
24	CLA	7	601	7	49,53,73	1.38	7 (14%)	58,89,113	1.21	4 (6%)
25	BCR	B	840	-	41,41,41	0.78	2 (4%)	56,56,56	2.02	23 (41%)
25	BCR	1	314	-	41,41,41	0.72	0	56,56,56	2.16	17 (30%)
25	BCR	9	316	-	41,41,41	0.71	1 (2%)	56,56,56	2.37	18 (32%)
24	CLA	5	606	-	50,54,73	1.36	5 (10%)	59,90,113	1.22	4 (6%)
25	BCR	A	846	-	41,41,41	0.70	1 (2%)	56,56,56	2.41	26 (46%)
24	CLA	B	847	13	69,73,73	1.17	7 (10%)	82,113,113	1.12	6 (7%)
24	CLA	1	308	1	50,54,73	1.38	6 (12%)	59,90,113	1.14	3 (5%)
24	CLA	A	860	12	69,73,73	1.14	7 (10%)	82,113,113	1.36	11 (13%)
24	CLA	A	828	12	69,73,73	1.17	7 (10%)	82,113,113	1.12	4 (4%)
25	BCR	7	617	-	41,41,41	0.73	0	56,56,56	1.99	21 (37%)
24	CLA	k	305	9	50,54,73	1.35	5 (10%)	59,90,113	1.23	4 (6%)
24	CLA	c	606	10	50,54,73	1.35	5 (10%)	59,90,113	1.20	4 (6%)
25	BCR	c	615	-	41,41,41	0.69	0	56,56,56	2.65	20 (35%)
24	CLA	9	311	-	49,53,73	1.36	7 (14%)	58,89,113	1.26	5 (8%)
26	DD6	3	312	-	40,45,45	1.19	7 (17%)	51,67,67	1.91	10 (19%)
24	CLA	B	815	13	59,63,73	1.24	5 (8%)	70,101,113	1.21	7 (10%)
24	CLA	1	306	1	54,58,73	1.29	5 (9%)	64,95,113	1.24	6 (9%)
31	PQN	B	839	-	34,34,34	0.36	0	43,45,45	0.63	1 (2%)
24	CLA	c	605	10	50,54,73	1.36	5 (10%)	59,90,113	1.20	2 (3%)
29	A1L1G	3	310	-	40,47,47	1.16	8 (20%)	49,71,71	0.93	1 (2%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
24	CLA	A	829	12	69,73,73	1.16	5 (7%)	82,113,113	1.14	6 (7%)
30	LMG	2	214	-	45,45,55	0.96	2 (4%)	53,53,63	1.37	5 (9%)
24	CLA	A	826	12	69,73,73	1.15	5 (7%)	82,113,113	1.21	10 (12%)
24	CLA	6	606	6	50,54,73	1.35	5 (10%)	59,90,113	1.15	3 (5%)
24	CLA	8	201	8	50,54,73	1.35	5 (10%)	59,90,113	1.17	4 (6%)
24	CLA	B	801	-	69,73,73	1.17	6 (8%)	82,113,113	1.20	4 (4%)
24	CLA	6	609	-	54,58,73	1.31	7 (12%)	64,95,113	1.29	5 (7%)
26	DD6	J	102	-	40,45,45	1.23	8 (20%)	51,67,67	1.66	11 (21%)
28	LHG	4	619	-	38,38,48	1.05	2 (5%)	41,44,54	1.00	2 (4%)
24	CLA	A	834	12	49,53,73	1.39	6 (12%)	58,89,113	1.28	6 (10%)
24	CLA	8	205	8	49,53,73	1.37	6 (12%)	58,89,113	1.17	4 (6%)
25	BCR	J	104	-	41,41,41	0.66	0	56,56,56	2.31	21 (37%)
25	BCR	L	202	-	41,41,41	0.68	0	56,56,56	2.29	21 (37%)
24	CLA	k	302	9	50,54,73	1.34	5 (10%)	59,90,113	1.36	4 (6%)
24	CLA	4	609	4	50,54,73	1.35	6 (12%)	59,90,113	1.19	4 (6%)
27	LMT	1	315	-	36,36,36	0.66	0	47,47,47	0.80	1 (2%)
24	CLA	k	307	9	50,54,73	1.36	6 (12%)	59,90,113	1.20	3 (5%)
24	CLA	J	103	19	46,50,73	1.38	5 (10%)	53,85,113	1.24	4 (7%)
24	CLA	A	827	12	66,70,73	1.17	5 (7%)	78,109,113	1.13	6 (7%)
26	DD6	c	612	-	40,45,45	1.20	8 (20%)	51,67,67	2.05	12 (23%)
24	CLA	B	811	13	59,63,73	1.25	7 (11%)	70,101,113	1.24	8 (11%)
28	LHG	B	845	24	40,40,48	1.02	2 (5%)	43,46,54	0.98	2 (4%)
24	CLA	B	805	13	69,73,73	1.15	6 (8%)	82,113,113	1.16	7 (8%)
26	DD6	h	614	-	40,45,45	1.22	8 (20%)	51,67,67	1.60	9 (17%)
26	DD6	k	315	-	40,45,45	1.24	7 (17%)	51,67,67	2.04	12 (23%)
24	CLA	B	826	13	69,73,73	1.17	7 (10%)	82,113,113	1.08	7 (8%)
24	CLA	A	856	-	69,73,73	1.16	5 (7%)	82,113,113	1.14	7 (8%)
24	CLA	6	602	6	51,55,73	1.33	6 (11%)	60,91,113	1.20	7 (11%)
29	A1L1G	k	312	-	40,47,47	1.14	8 (20%)	49,71,71	1.02	5 (10%)
25	BCR	2	211	-	41,41,41	0.71	1 (2%)	56,56,56	2.14	22 (39%)
24	CLA	A	802	-	69,73,73	1.13	8 (11%)	82,113,113	1.29	9 (10%)
24	CLA	1	301	1	69,73,73	1.15	6 (8%)	82,113,113	1.08	5 (6%)

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
26	DD6	7	615	-	-	3/26/80/80	0/3/3/3
29	A1L1G	2	213	-	-	19/29/85/85	0/3/3/3
24	CLA	9	304	9	1/1/11/20	7/17/93/115	-
27	LMT	h	617	-	-	7/14/54/61	0/2/2/2
24	CLA	4	608	-	1/1/12/20	8/21/97/115	-
24	CLA	B	813	13	1/1/11/20	7/17/93/115	-
24	CLA	A	817	12	1/1/15/20	14/39/115/115	-
25	BCR	F	204	-	-	2/29/63/63	0/2/2/2
26	DD6	3	311	-	-	1/26/80/80	0/3/3/3
24	CLA	6	610	6	1/1/11/20	7/17/93/115	-
24	CLA	2	203	-	1/1/12/20	4/21/97/115	-
24	CLA	7	608	-	1/1/11/20	6/15/91/115	-
24	CLA	1	307	1	1/1/11/20	4/15/91/115	-
24	CLA	2	209	-	1/1/11/20	4/17/93/115	-
24	CLA	9	303	-	1/1/11/20	10/17/93/115	-
25	BCR	A	845	-	-	5/29/60/63	0/2/2/2
24	CLA	F	201	-	1/1/15/20	11/39/115/115	-
32	SF4	A	858	12,13	-	-	0/6/5/5
24	CLA	2	208	-	1/1/11/20	6/17/93/115	-
24	CLA	A	806	12	1/1/15/20	8/39/115/115	-
24	CLA	c	607	10	1/1/11/20	3/17/93/115	-
24	CLA	A	809	12	1/1/11/20	4/17/93/115	-
24	CLA	B	824	13	1/1/15/20	6/39/115/115	-
24	CLA	B	838	28	1/1/15/20	7/39/115/115	-
24	CLA	t	306	11	1/1/11/20	7/15/91/115	-
24	CLA	8	204	8	1/1/11/20	6/15/91/115	-
24	CLA	8	208	8	1/1/11/20	6/15/91/115	-
27	LMT	1	316	-	-	9/21/61/61	0/2/2/2
24	CLA	4	604	-	1/1/11/20	7/17/93/115	-
24	CLA	B	818	-	1/1/15/20	12/39/115/115	-
27	LMT	A	851	-	-	5/11/51/61	0/2/2/2
24	CLA	8	209	-	1/1/10/20	4/10/86/115	-
26	DD6	k	314	-	-	2/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	7	611	7	1/1/11/20	6/17/93/115	-
24	CLA	9	302	9	1/1/11/20	4/17/93/115	-
24	CLA	B	816	13	1/1/15/20	14/39/115/115	-
26	DD6	3	313	-	-	3/26/80/80	0/3/3/3
24	CLA	c	611	10	1/1/10/20	2/10/86/115	-
24	CLA	5	604	5	1/1/11/20	4/17/93/115	-
24	CLA	B	821	13	1/1/12/20	10/25/101/115	-
24	CLA	B	819	13	1/1/11/20	4/17/93/115	-
24	CLA	B	834	13	1/1/15/20	9/39/115/115	-
24	CLA	B	804	13	1/1/15/20	12/39/115/115	-
24	CLA	8	203	-	1/1/12/20	7/21/97/115	-
26	DD6	R	105	-	-	6/26/80/80	0/3/3/3
24	CLA	3	308	3	1/1/11/20	8/17/93/115	-
24	CLA	5	603	5	1/1/11/20	4/15/91/115	-
24	CLA	c	601	10	1/1/10/20	6/13/89/115	-
26	DD6	7	616	-	-	2/26/80/80	0/3/3/3
24	CLA	6	607	6	1/1/11/20	6/17/93/115	-
26	DD6	6	617	-	-	1/26/80/80	0/3/3/3
26	DD6	h	613	-	-	1/26/80/80	0/3/3/3
24	CLA	4	607	4	1/1/11/20	6/17/93/115	-
30	LMG	A	855	-	-	5/33/53/70	0/1/1/1
24	CLA	A	840	28	1/1/15/20	10/39/115/115	-
26	DD6	2	212	-	-	1/26/80/80	0/3/3/3
25	BCR	M	101	-	-	9/29/63/63	0/2/2/2
24	CLA	h	609	-	1/1/11/20	7/17/93/115	-
24	CLA	9	301	9	1/1/11/20	8/17/93/115	-
24	CLA	L	204	20	-	11/39/115/115	-
24	CLA	B	808	13	1/1/15/20	10/39/115/115	-
24	CLA	L	203	20	1/1/13/20	11/27/103/115	-
28	LHG	1	318	-	-	15/47/47/53	-
24	CLA	4	611	-	1/1/11/20	6/17/93/115	-
26	DD6	t	311	-	-	2/26/80/80	0/3/3/3
24	CLA	B	835	13	1/1/11/20	6/18/94/115	-
24	CLA	6	604	-	1/1/11/20	3/17/93/115	-
24	CLA	9	309	9	1/1/11/20	10/17/93/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	DD6	9	317	-	-	2/26/80/80	0/3/3/3
24	CLA	h	605	6	1/1/11/20	4/17/93/115	-
25	BCR	k	316	-	-	3/29/63/63	0/2/2/2
26	DD6	9	315	-	-	3/26/80/80	0/3/3/3
24	CLA	3	306	3	1/1/15/20	8/39/115/115	-
25	BCR	B	843	-	-	4/29/63/63	0/2/2/2
26	DD6	c	613	-	-	0/26/80/80	0/3/3/3
24	CLA	2	204	2	1/1/14/20	12/33/109/115	-
25	BCR	B	849	-	-	4/29/63/63	0/2/2/2
24	CLA	5	605	5	1/1/11/20	8/17/93/115	-
24	CLA	1	304	26	1/1/13/20	11/27/103/115	-
24	CLA	B	803	-	1/1/15/20	10/39/115/115	-
24	CLA	8	206	8	1/1/11/20	6/17/93/115	-
27	LMT	A	850	-	-	10/21/61/61	0/2/2/2
24	CLA	A	830	12	-	10/27/103/115	-
28	LHG	J	105	-	-	12/42/42/53	-
25	BCR	A	859	-	-	4/29/63/63	0/2/2/2
24	CLA	9	310	9	1/1/11/20	8/17/93/115	-
24	CLA	A	811	12	1/1/11/20	7/17/93/115	-
26	DD6	k	313	-	-	1/26/80/80	0/3/3/3
24	CLA	1	309	1	1/1/11/20	3/15/91/115	-
24	CLA	h	611	6	-	2/10/86/115	-
24	CLA	t	310	-	1/1/11/20	9/17/93/115	-
24	CLA	4	601	4	1/1/10/20	5/11/87/115	-
24	CLA	B	829	13	1/1/15/20	6/39/115/115	-
26	DD6	8	211	-	-	4/26/80/80	0/3/3/3
24	CLA	9	307	9	1/1/11/20	7/17/93/115	-
26	DD6	6	614	-	-	1/26/80/80	0/3/3/3
24	CLA	c	604	-	1/1/11/20	7/17/93/115	-
24	CLA	t	309	-	1/1/11/20	4/17/93/115	-
30	LMG	t	314	-	-	6/29/49/70	0/1/1/1
24	CLA	2	206	2	1/1/11/20	4/17/93/115	-
28	LHG	A	849	-	-	13/45/45/53	-
24	CLA	B	817	13	1/1/15/20	15/39/115/115	-
24	CLA	B	823	-	1/1/14/20	6/38/114/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	A	813	12	1/1/15/20	10/39/115/115	-
24	CLA	t	307	-	1/1/11/20	7/17/93/115	-
24	CLA	h	612	-	1/1/11/20	8/15/91/115	-
24	CLA	4	613	4	1/1/11/20	9/17/93/115	-
25	BCR	I	101	-	-	4/29/63/63	0/2/2/2
24	CLA	B	820	13	1/1/13/20	10/27/103/115	-
26	DD6	6	613	-	-	2/26/80/80	0/3/3/3
24	CLA	B	827	13	1/1/15/20	12/39/115/115	-
24	CLA	t	301	11	1/1/11/20	4/15/91/115	-
24	CLA	A	825	-	1/1/15/20	4/39/115/115	-
28	LHG	L	201	-	-	14/33/33/53	-
24	CLA	t	308	11	1/1/11/20	6/17/93/115	-
24	CLA	8	202	8	1/1/11/20	8/17/93/115	-
24	CLA	A	824	-	1/1/15/20	15/39/115/115	-
24	CLA	A	838	12	1/1/15/20	9/39/115/115	-
24	CLA	A	831	12	1/1/15/20	13/39/115/115	-
24	CLA	h	604	-	1/1/11/20	5/17/93/115	-
24	CLA	B	828	13	1/1/12/20	11/21/97/115	-
24	CLA	B	807	13	-	7/39/115/115	-
26	DD6	c	614	-	-	1/26/80/80	0/3/3/3
24	CLA	A	818	12	1/1/15/20	11/39/115/115	-
24	CLA	B	802	13	1/1/15/20	17/39/115/115	-
25	BCR	I	102	-	-	0/29/63/63	0/2/2/2
24	CLA	2	202	2	1/1/13/20	6/27/103/115	-
24	CLA	7	602	7	1/1/12/20	10/21/97/115	-
24	CLA	A	814	12	1/1/12/20	7/21/97/115	-
24	CLA	B	822	-	1/1/15/20	13/39/115/115	-
26	DD6	1	311	24	-	0/26/80/80	0/3/3/3
28	LHG	B	844	-	-	14/53/53/53	-
24	CLA	c	602	10	1/1/15/20	12/39/115/115	-
24	CLA	A	819	12	1/1/11/20	4/15/91/115	-
26	DD6	4	617	-	-	1/26/80/80	0/3/3/3
24	CLA	k	310	9	1/1/10/20	2/10/86/115	-
24	CLA	B	836	-	1/1/15/20	14/39/115/115	-
24	CLA	5	601	5	1/1/11/20	4/15/91/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
26	DD6	5	608	-	-	3/26/80/80	0/3/3/3
24	CLA	B	837	13	1/1/15/20	15/39/115/115	-
24	CLA	k	301	9	1/1/11/20	4/17/93/115	-
25	BCR	R	101	-	-	4/29/63/63	0/2/2/2
24	CLA	c	608	10	1/1/15/20	13/39/115/115	-
24	CLA	h	608	6	1/1/11/20	7/17/93/115	-
24	CLA	4	612	4	1/1/11/20	4/17/93/115	-
24	CLA	B	806	13	1/1/15/20	9/39/115/115	-
24	CLA	B	832	-	1/1/11/20	11/15/91/115	-
24	CLA	3	307	-	1/1/11/20	3/15/91/115	-
24	CLA	A	835	12	1/1/12/20	6/23/99/115	-
24	CLA	5	607	5	1/1/11/20	4/15/91/115	-
24	CLA	A	847	-	1/1/13/20	11/27/103/115	-
24	CLA	t	305	11	1/1/11/20	4/17/93/115	-
24	CLA	k	306	9	1/1/11/20	5/17/93/115	-
24	CLA	6	611	6	1/1/11/20	3/13/89/115	-
26	DD6	9	313	-	-	3/26/80/80	0/3/3/3
24	CLA	h	601	6	1/1/11/20	7/15/91/115	-
24	CLA	B	812	13	1/1/15/20	16/39/115/115	-
25	BCR	J	101	-	-	2/29/63/63	0/2/2/2
26	DD6	4	614	-	-	1/26/80/80	0/3/3/3
28	LHG	A	841	-	-	18/52/52/53	-
24	CLA	3	301	3	-	15/39/115/115	-
24	CLA	B	814	13	1/1/12/20	5/21/97/115	-
24	CLA	k	308	-	1/1/10/20	5/10/86/115	-
24	CLA	7	609	7	1/1/11/20	6/17/93/115	-
24	CLA	A	820	-	1/1/15/20	9/39/115/115	-
24	CLA	A	805	12	1/1/15/20	12/39/115/115	-
32	SF4	C	102	14	-	-	0/6/5/5
28	LHG	A	852	-	-	8/41/41/53	-
24	CLA	4	602	4	1/1/14/20	11/33/109/115	-
24	CLA	B	810	13	1/1/13/20	7/25/101/115	-
24	CLA	c	609	-	1/1/14/20	10/33/109/115	-
24	CLA	k	303	-	-	10/27/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	h	607	6	1/1/11/20	6/17/93/115	-
24	CLA	B	833	13	1/1/13/20	6/31/107/115	-
26	DD6	t	313	-	-	0/26/80/80	0/3/3/3
27	LMT	A	854	-	-	11/21/61/61	0/2/2/2
26	DD6	4	615	-	-	1/26/80/80	0/3/3/3
24	CLA	h	603	6	1/1/11/20	4/15/91/115	-
26	DD6	A	848	-	-	1/26/80/80	0/3/3/3
24	CLA	1	303	1	1/1/11/20	6/17/93/115	-
25	BCR	1	310	-	-	3/29/63/63	0/2/2/2
31	PQN	A	839	-	-	5/23/43/43	0/2/2/2
25	BCR	A	844	-	-	6/29/63/63	0/2/2/2
24	CLA	A	815	-	1/1/11/20	5/15/91/115	-
24	CLA	h	606	6	1/1/11/20	5/17/93/115	-
24	CLA	A	801	12	1/1/15/20	16/39/115/115	-
26	DD6	7	618	-	-	3/26/80/80	0/3/3/3
24	CLA	B	848	13	1/1/15/20	9/39/115/115	-
29	A1L1G	9	312	-	-	13/29/85/85	0/3/3/3
24	CLA	7	606	7	1/1/14/20	12/33/109/115	-
24	CLA	B	830	13	1/1/13/20	12/31/107/115	-
24	CLA	9	306	9	1/1/11/20	6/17/93/115	-
25	BCR	B	842	-	-	3/29/63/63	0/2/2/2
24	CLA	6	601	6	1/1/11/20	6/15/91/115	-
24	CLA	4	605	4	1/1/11/20	7/17/93/115	-
26	DD6	7	613	-	-	0/26/80/80	0/3/3/3
24	CLA	F	202	-	1/1/11/20	4/17/93/115	-
24	CLA	2	201	2	1/1/11/20	7/15/91/115	-
24	CLA	3	303	-	1/1/13/20	5/27/103/115	-
24	CLA	t	303	11	1/1/15/20	14/39/115/115	-
24	CLA	7	605	7	1/1/11/20	4/17/93/115	-
24	CLA	7	612	7	1/1/11/20	9/17/93/115	-
24	CLA	R	104	22	1/1/11/20	3/15/91/115	-
29	A1L1G	7	614	-	-	12/29/85/85	0/3/3/3
24	CLA	1	302	1	1/1/11/20	6/15/91/115	-
25	BCR	4	618	-	-	1/29/63/63	0/2/2/2
24	CLA	1	305	1	1/1/11/20	7/15/91/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	6	603	6	1/1/11/20	8/17/93/115	-
28	LHG	3	315	-	-	26/47/47/53	-
24	CLA	F	203	17	1/1/12/20	7/21/97/115	-
24	CLA	3	304	3	1/1/11/20	6/17/93/115	-
24	CLA	3	305	3	1/1/14/20	7/33/109/115	-
24	CLA	t	304	-	1/1/11/20	5/17/93/115	-
24	CLA	h	602	6	1/1/13/20	6/27/103/115	-
24	CLA	R	103	22	1/1/15/20	9/39/115/115	-
26	DD6	8	212	-	-	2/26/80/80	0/3/3/3
28	LHG	A	842	24	-	10/46/46/53	-
26	DD6	9	314	-	-	2/26/80/80	0/3/3/3
24	CLA	A	823	12	1/1/15/20	20/39/115/115	-
26	DD6	4	616	-	-	4/26/80/80	0/3/3/3
24	CLA	c	603	10	1/1/11/20	6/17/93/115	-
27	LMT	3	314	-	-	9/16/56/61	0/2/2/2
24	CLA	t	302	11	1/1/11/20	10/17/93/115	-
24	CLA	6	612	-	1/1/11/20	3/17/93/115	-
26	DD6	8	210	-	-	3/26/80/80	0/3/3/3
24	CLA	2	205	2	-	4/17/93/115	-
26	DD6	h	616	-	-	2/26/80/80	0/3/3/3
24	CLA	2	207	-	1/1/11/20	5/17/93/115	-
24	CLA	A	816	12	1/1/15/20	12/39/115/115	-
24	CLA	4	606	4	1/1/11/20	2/17/93/115	-
24	CLA	B	825	13	1/1/13/20	8/27/103/115	-
26	DD6	2	210	-	-	1/26/80/80	0/3/3/3
24	CLA	A	857	12	1/1/15/20	7/39/115/115	-
26	DD6	6	615	-	-	4/26/80/80	0/3/3/3
25	BCR	B	841	-	-	2/29/63/63	0/2/2/2
26	DD6	5	609	-	-	1/26/80/80	0/3/3/3
24	CLA	A	837	12	1/1/13/20	6/27/103/115	-
24	CLA	8	207	-	1/1/11/20	9/15/91/115	-
24	CLA	k	304	9	1/1/11/20	10/17/93/115	-
24	CLA	9	308	-	1/1/11/20	8/17/93/115	-
24	CLA	A	803	12	-	6/27/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	6	605	6	-	4/17/93/115	-
24	CLA	1	317	-	1/1/15/20	12/39/115/115	-
24	CLA	A	821	12	1/1/11/20	4/20/96/115	-
24	CLA	7	610	7	1/1/11/20	8/15/91/115	-
24	CLA	6	608	6	1/1/11/20	4/17/93/115	-
24	CLA	A	822	12	1/1/13/20	13/27/103/115	-
24	CLA	A	804	12	1/1/15/20	11/39/115/115	-
24	CLA	k	309	9	1/1/11/20	4/15/91/115	-
24	CLA	c	610	10	1/1/11/20	2/13/89/115	-
26	DD6	1	313	-	-	1/26/80/80	0/3/3/3
24	CLA	h	610	6	1/1/11/20	8/17/93/115	-
24	CLA	4	603	4	1/1/11/20	2/17/93/115	-
24	CLA	A	836	12	1/1/15/20	12/39/115/115	-
28	LHG	2	215	-	-	7/35/35/53	-
25	BCR	A	843	-	-	4/29/63/63	0/2/2/2
24	CLA	k	311	-	1/1/13/20	6/27/103/115	-
24	CLA	A	808	12	1/1/15/20	8/39/115/115	-
32	SF4	C	101	14	-	-	0/6/5/5
24	CLA	3	309	3	1/1/10/20	0/10/86/115	-
26	DD6	6	616	-	-	5/26/80/80	0/3/3/3
24	CLA	5	602	5	1/1/13/20	10/27/103/115	-
26	DD6	h	615	-	-	3/26/80/80	0/3/3/3
24	CLA	A	832	12	-	14/39/115/115	-
24	CLA	A	853	12	1/1/13/20	7/27/103/115	-
25	BCR	t	312	-	-	8/29/63/63	0/2/2/2
24	CLA	9	305	-	-	11/17/93/115	-
28	LHG	8	213	-	-	16/35/35/53	-
24	CLA	7	607	7	1/1/11/20	2/15/91/115	-
24	CLA	A	812	12	1/1/15/20	15/39/115/115	-
24	CLA	B	809	13	1/1/15/20	9/39/115/115	-
24	CLA	7	603	7	1/1/11/20	2/15/91/115	-
24	CLA	7	604	-	1/1/11/20	5/15/91/115	-
24	CLA	3	302	3	1/1/11/20	6/15/91/115	-
24	CLA	A	807	12	1/1/15/20	16/39/115/115	-
24	CLA	B	846	13	1/1/13/20	11/27/103/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	L	205	-	1/1/11/20	5/17/93/115	-
25	BCR	L	206	-	-	4/29/63/63	0/2/2/2
24	CLA	A	810	12	1/1/14/20	12/36/112/115	-
24	CLA	4	610	4	1/1/10/20	2/10/86/115	-
28	LHG	I	103	-	-	12/44/44/53	-
25	BCR	R	102	-	-	4/29/63/63	0/2/2/2
24	CLA	A	833	12	1/1/15/20	5/39/115/115	-
24	CLA	B	831	-	1/1/15/20	19/39/115/115	-
26	DD6	1	312	-	-	0/26/80/80	0/3/3/3
24	CLA	7	601	7	1/1/11/20	7/15/91/115	-
25	BCR	B	840	-	-	4/29/63/63	0/2/2/2
25	BCR	1	314	-	-	8/29/63/63	0/2/2/2
25	BCR	9	316	-	-	2/29/63/63	0/2/2/2
24	CLA	5	606	-	1/1/11/20	8/17/93/115	-
25	BCR	A	846	-	-	2/29/63/63	0/2/2/2
24	CLA	B	847	13	1/1/15/20	12/39/115/115	-
24	CLA	1	308	1	1/1/11/20	6/17/93/115	-
24	CLA	A	860	12	1/1/15/20	8/39/115/115	-
24	CLA	A	828	12	1/1/15/20	10/39/115/115	-
25	BCR	7	617	-	-	2/29/63/63	0/2/2/2
24	CLA	k	305	9	1/1/11/20	6/17/93/115	-
24	CLA	c	606	10	1/1/11/20	7/17/93/115	-
25	BCR	c	615	-	-	10/29/63/63	0/2/2/2
24	CLA	9	311	-	1/1/11/20	4/15/91/115	-
26	DD6	3	312	-	-	1/26/80/80	0/3/3/3
24	CLA	B	815	13	1/1/13/20	8/27/103/115	-
24	CLA	1	306	1	1/1/12/20	4/21/97/115	-
31	PQN	B	839	-	-	9/23/43/43	0/2/2/2
24	CLA	c	605	10	1/1/11/20	10/17/93/115	-
29	A1L1G	3	310	-	-	17/29/85/85	0/3/3/3
24	CLA	A	829	12	1/1/15/20	7/39/115/115	-
30	LMG	2	214	-	-	9/40/60/70	0/1/1/1
24	CLA	A	826	12	1/1/15/20	8/39/115/115	-
24	CLA	6	606	6	1/1/11/20	7/17/93/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	CLA	8	201	8	1/1/11/20	4/17/93/115	-
24	CLA	B	801	-	1/1/15/20	15/39/115/115	-
24	CLA	6	609	-	1/1/12/20	8/21/97/115	-
26	DD6	J	102	-	-	3/26/80/80	0/3/3/3
28	LHG	4	619	-	-	7/43/43/53	-
24	CLA	A	834	12	1/1/11/20	3/15/91/115	-
24	CLA	8	205	8	1/1/11/20	8/15/91/115	-
25	BCR	J	104	-	-	2/29/63/63	0/2/2/2
25	BCR	L	202	-	-	6/29/63/63	0/2/2/2
24	CLA	k	302	9	1/1/11/20	8/17/93/115	-
24	CLA	4	609	4	1/1/11/20	6/17/93/115	-
27	LMT	1	315	-	-	12/21/61/61	0/2/2/2
24	CLA	k	307	9	1/1/11/20	9/17/93/115	-
24	CLA	J	103	19	1/1/10/20	8/12/88/115	-
24	CLA	A	827	12	1/1/14/20	10/36/112/115	-
26	DD6	c	612	-	-	1/26/80/80	0/3/3/3
24	CLA	B	811	13	1/1/13/20	4/27/103/115	-
28	LHG	B	845	24	-	9/45/45/53	-
24	CLA	B	805	13	1/1/15/20	10/39/115/115	-
26	DD6	h	614	-	-	4/26/80/80	0/3/3/3
26	DD6	k	315	-	-	3/26/80/80	0/3/3/3
24	CLA	B	826	13	1/1/15/20	8/39/115/115	-
24	CLA	A	856	-	-	10/39/115/115	-
24	CLA	6	602	6	1/1/11/20	8/18/94/115	-
29	A1L1G	k	312	-	-	8/29/85/85	0/3/3/3
25	BCR	2	211	-	-	4/29/63/63	0/2/2/2
24	CLA	A	802	-	1/1/15/20	3/39/115/115	-
24	CLA	1	301	1	1/1/15/20	11/39/115/115	-

The worst 5 of 1786 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
28	A	842	LHG	O7-C7	4.82	1.47	1.34
28	8	213	LHG	O8-C23	4.39	1.46	1.33
28	L	201	LHG	O8-C23	4.30	1.45	1.33
28	A	849	LHG	O8-C23	4.29	1.45	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
28	4	619	LHG	O7-C7	4.26	1.46	1.34

The worst 5 of 2352 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	A	830	CLA	C4A-NA-C1A	9.25	110.90	106.68
26	9	314	DD6	C3-C2-C1	-9.05	114.58	127.28
25	c	615	BCR	C20-C21-C22	-8.79	114.95	127.28
26	8	210	DD6	C14-C13-C11	-8.74	111.97	125.53
26	k	315	DD6	C3-C2-C1	-8.73	115.04	127.28

5 of 218 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
24	1	301	CLA	ND
24	1	302	CLA	ND
24	1	303	CLA	ND
24	1	304	CLA	ND
24	1	305	CLA	ND

5 of 2313 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	1	301	CLA	C1A-C2A-CAA-CBA
24	1	301	CLA	C3A-C2A-CAA-CBA
24	1	301	CLA	CBD-CGD-O2D-CED
24	1	303	CLA	CBD-CGD-O2D-CED
24	1	304	CLA	CAD-CBD-CGD-O1D

There are no ring outliers.

205 monomers are involved in 358 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
26	7	615	DD6	1	0
27	h	617	LMT	1	0
24	4	608	CLA	4	0
24	A	817	CLA	2	0
25	F	204	BCR	2	0
24	1	307	CLA	2	0
24	2	209	CLA	4	0
24	9	303	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	A	845	BCR	1	0
24	c	607	CLA	1	0
24	B	824	CLA	2	0
24	B	838	CLA	2	0
24	t	306	CLA	1	0
24	8	204	CLA	2	0
27	1	316	LMT	2	0
27	A	851	LMT	1	0
24	8	209	CLA	1	0
24	7	611	CLA	2	0
24	9	302	CLA	2	0
24	5	604	CLA	2	0
24	B	821	CLA	1	0
24	B	834	CLA	2	0
24	B	804	CLA	6	0
24	8	203	CLA	2	0
24	3	308	CLA	2	0
24	c	601	CLA	2	0
24	6	607	CLA	2	0
24	4	607	CLA	4	0
24	A	840	CLA	1	0
26	2	212	DD6	1	0
25	M	101	BCR	2	0
24	9	301	CLA	8	0
24	L	204	CLA	1	0
24	B	808	CLA	2	0
28	1	318	LHG	2	0
24	4	611	CLA	10	0
24	B	835	CLA	1	0
26	9	317	DD6	1	0
25	k	316	BCR	2	0
26	9	315	DD6	3	0
25	B	843	BCR	5	0
26	c	613	DD6	1	0
24	2	204	CLA	1	0
25	B	849	BCR	1	0
24	5	605	CLA	2	0
24	1	304	CLA	3	0
24	B	803	CLA	4	0
24	8	206	CLA	2	0
24	A	830	CLA	6	0
28	J	105	LHG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	A	859	BCR	1	0
24	9	310	CLA	2	0
26	k	313	DD6	1	0
24	B	829	CLA	4	0
26	8	211	DD6	1	0
24	2	206	CLA	2	0
24	B	817	CLA	2	0
24	B	823	CLA	1	0
24	t	307	CLA	2	0
24	h	612	CLA	2	0
24	4	613	CLA	2	0
25	I	101	BCR	1	0
26	6	613	DD6	1	0
24	B	827	CLA	1	0
28	L	201	LHG	4	0
24	t	308	CLA	1	0
24	A	824	CLA	1	0
24	A	838	CLA	1	0
24	B	807	CLA	1	0
24	B	828	CLA	1	0
24	A	818	CLA	3	0
24	B	802	CLA	2	0
25	I	102	BCR	2	0
24	2	202	CLA	1	0
24	7	602	CLA	9	0
24	A	814	CLA	1	0
24	B	822	CLA	1	0
26	1	311	DD6	5	0
24	c	602	CLA	2	0
24	A	819	CLA	1	0
26	5	608	DD6	2	0
24	k	301	CLA	4	0
24	h	608	CLA	2	0
24	4	612	CLA	2	0
24	B	806	CLA	1	0
24	B	832	CLA	3	0
24	A	835	CLA	1	0
24	5	607	CLA	2	0
24	A	847	CLA	1	0
24	t	305	CLA	3	0
24	6	611	CLA	1	0
26	9	313	DD6	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	B	812	CLA	3	0
25	J	101	BCR	4	0
26	4	614	DD6	1	0
24	k	308	CLA	2	0
24	A	805	CLA	1	0
24	4	602	CLA	3	0
24	B	810	CLA	1	0
24	B	833	CLA	2	0
27	A	854	LMT	3	0
26	4	615	DD6	1	0
24	1	303	CLA	1	0
25	1	310	BCR	4	0
31	A	839	PQN	1	0
25	A	844	BCR	3	0
24	A	801	CLA	1	0
26	7	618	DD6	1	0
24	B	848	CLA	1	0
29	9	312	A1L1G	1	0
24	7	606	CLA	4	0
24	B	830	CLA	7	0
25	B	842	BCR	2	0
24	6	601	CLA	3	0
24	4	605	CLA	1	0
26	7	613	DD6	1	0
24	F	202	CLA	1	0
24	2	201	CLA	3	0
24	7	612	CLA	2	0
24	1	302	CLA	1	0
25	4	618	BCR	7	0
24	1	305	CLA	4	0
24	6	603	CLA	3	0
28	3	315	LHG	1	0
24	3	304	CLA	5	0
24	3	305	CLA	1	0
24	R	103	CLA	1	0
26	8	212	DD6	1	0
28	A	842	LHG	2	0
24	A	823	CLA	1	0
24	c	603	CLA	1	0
27	3	314	LMT	1	0
24	t	302	CLA	1	0
24	2	205	CLA	1	0

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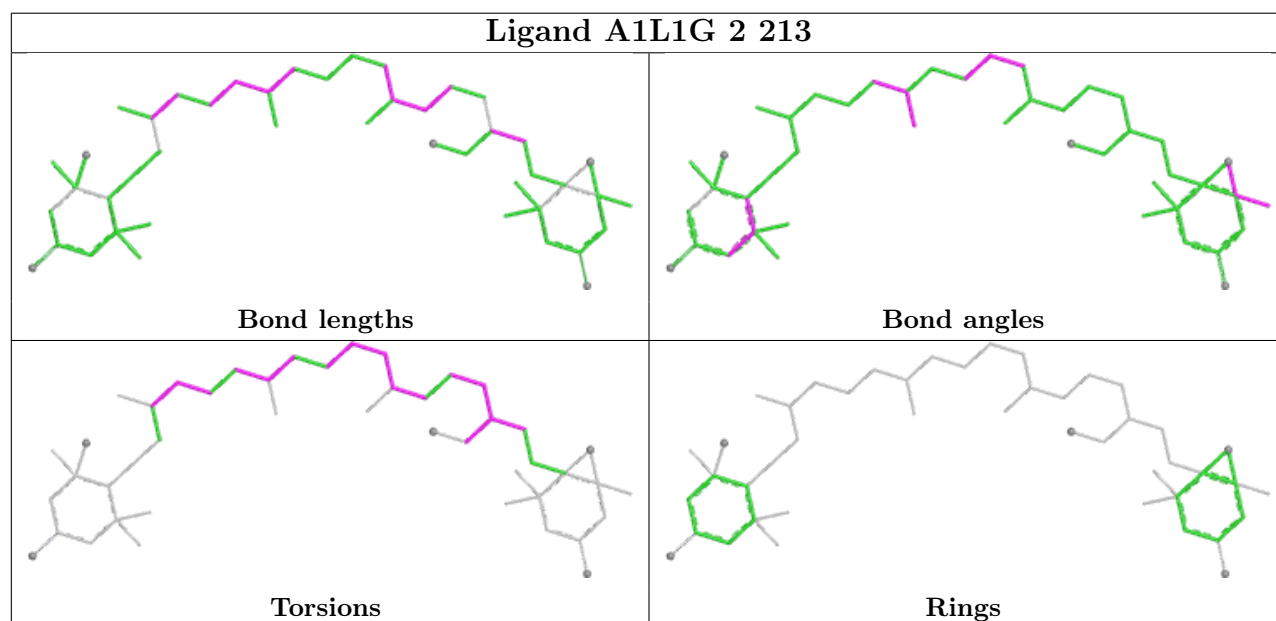
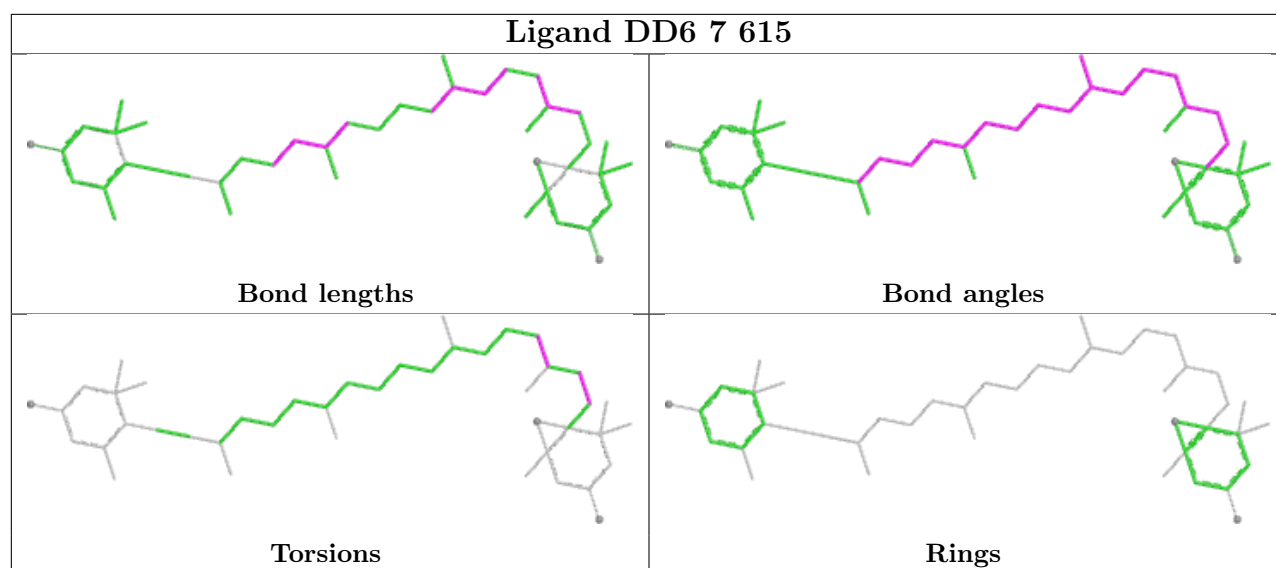
Mol	Chain	Res	Type	Clashes	Symm-Clashes
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24	A	816	CLA	1	0
24	4	606	CLA	1	0
24	B	825	CLA	1	0
26	2	210	DD6	1	0
26	6	615	DD6	1	0
25	B	841	BCR	2	0
26	5	609	DD6	1	0
24	k	304	CLA	2	0
24	9	308	CLA	2	0
24	1	317	CLA	2	0
24	7	610	CLA	2	0
24	6	608	CLA	1	0
24	A	804	CLA	1	0
24	k	309	CLA	1	0
24	c	610	CLA	1	0
26	1	313	DD6	1	0
24	h	610	CLA	1	0
25	A	843	BCR	2	0
24	A	832	CLA	1	0
24	A	853	CLA	2	0
25	t	312	BCR	2	0
24	9	305	CLA	3	0
28	8	213	LHG	1	0
24	7	607	CLA	4	0
24	A	812	CLA	1	0
24	B	846	CLA	1	0
24	L	205	CLA	5	0
24	A	810	CLA	1	0
28	I	103	LHG	1	0
25	R	102	BCR	2	0
24	B	831	CLA	3	0
26	1	312	DD6	1	0
24	7	601	CLA	1	0
25	B	840	BCR	1	0
25	1	314	BCR	3	0
25	9	316	BCR	9	0
24	5	606	CLA	1	0
25	A	846	BCR	2	0
24	B	847	CLA	1	0
25	7	617	BCR	2	0
24	k	305	CLA	1	0

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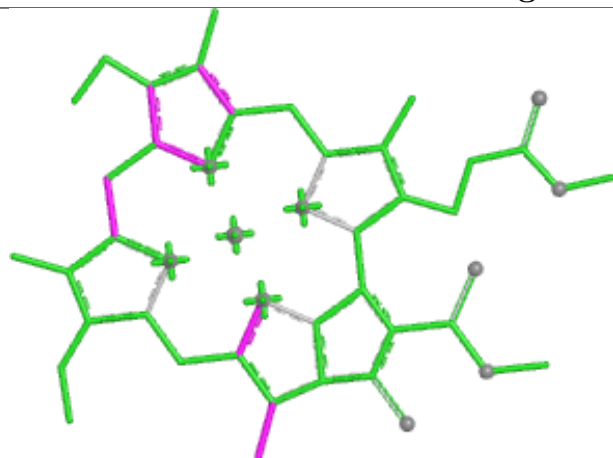
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	c	615	BCR	7	0
24	9	311	CLA	1	0
26	3	312	DD6	1	0
24	B	815	CLA	1	0
24	1	306	CLA	1	0
29	3	310	A1L1G	2	0
24	A	829	CLA	2	0
30	2	214	LMG	1	0
24	A	826	CLA	2	0
24	6	606	CLA	1	0
24	8	201	CLA	2	0
24	B	801	CLA	1	0
28	4	619	LHG	1	0
24	A	834	CLA	1	0
25	J	104	BCR	1	0
25	L	202	BCR	2	0
24	4	609	CLA	2	0
24	k	307	CLA	1	0
24	J	103	CLA	1	0
26	c	612	DD6	2	0
24	B	811	CLA	1	0
24	B	805	CLA	3	0
26	h	614	DD6	1	0
26	k	315	DD6	3	0
24	6	602	CLA	2	0
29	k	312	A1L1G	2	0
25	2	211	BCR	4	0
24	A	802	CLA	2	0
24	1	301	CLA	2	0

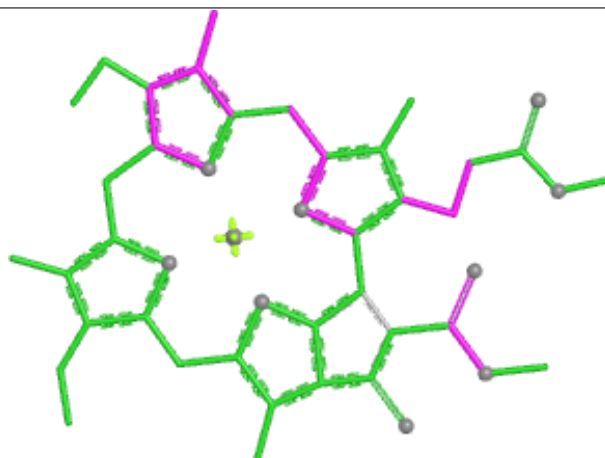
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



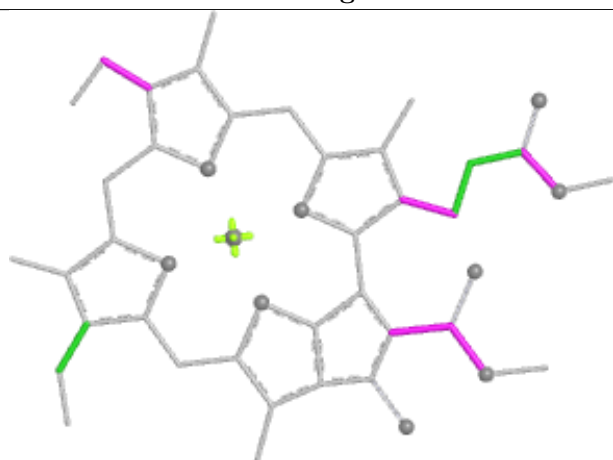
Ligand CLA 9 304



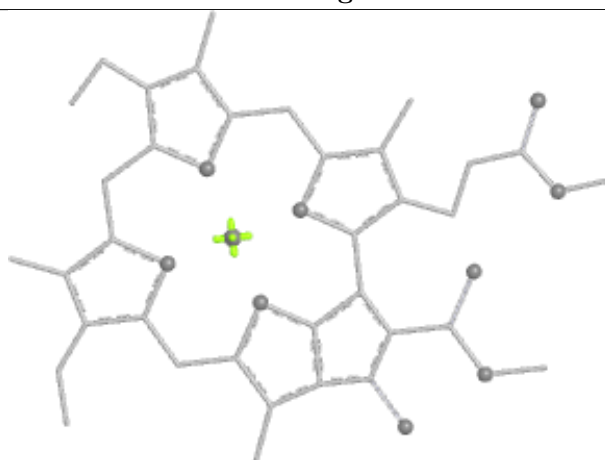
Bond lengths



Bond angles

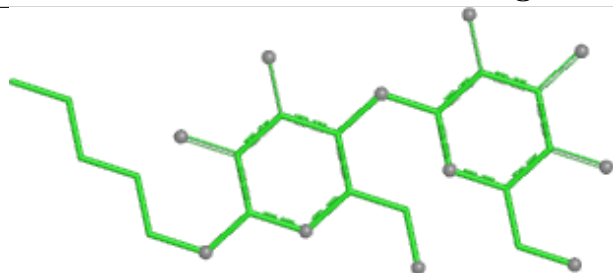


Torsions

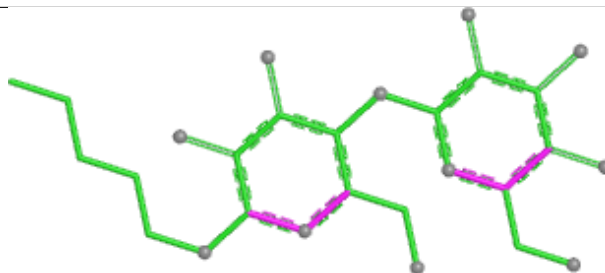


Rings

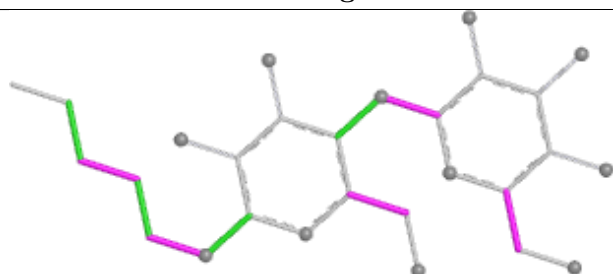
Ligand LMT h 617



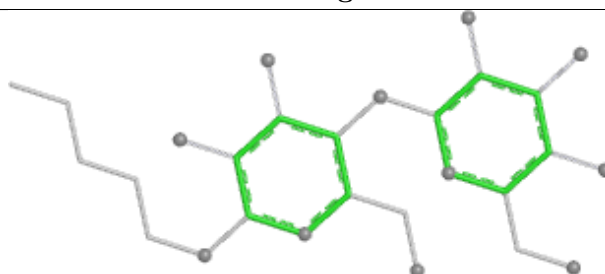
Bond lengths



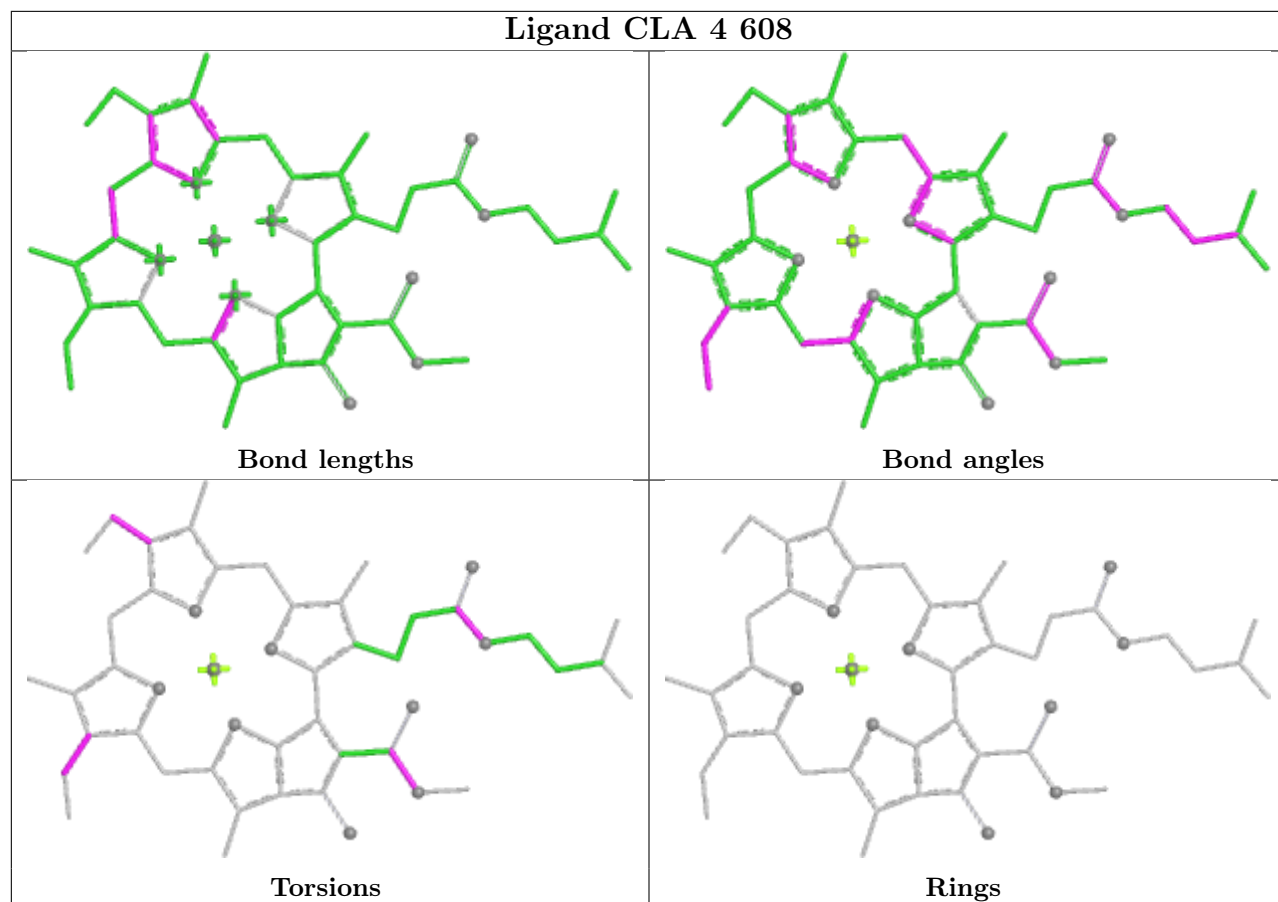
Bond angles



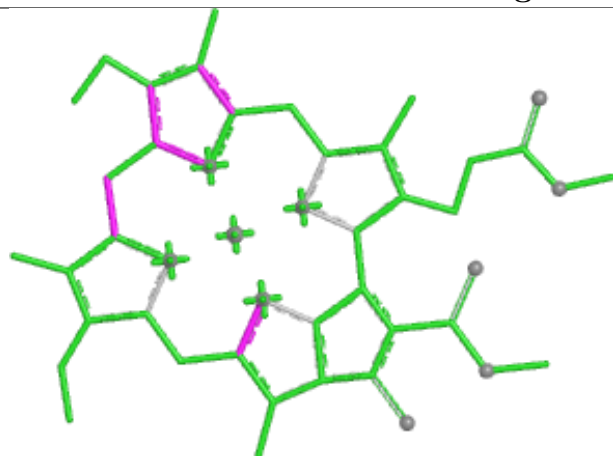
Torsions



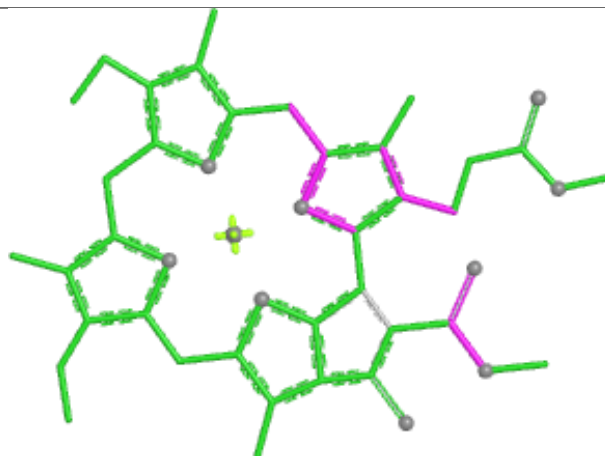
Rings



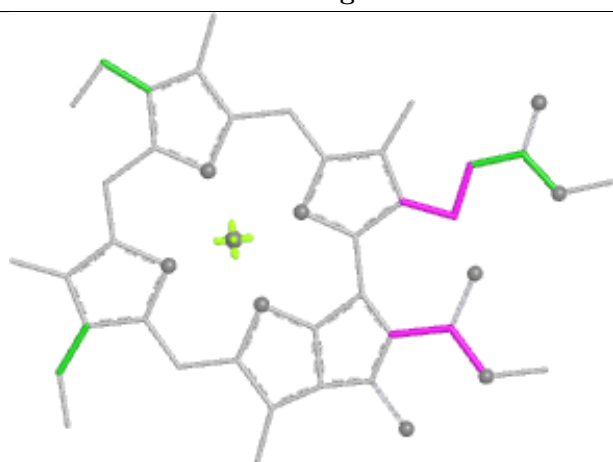
Ligand CLA B 813



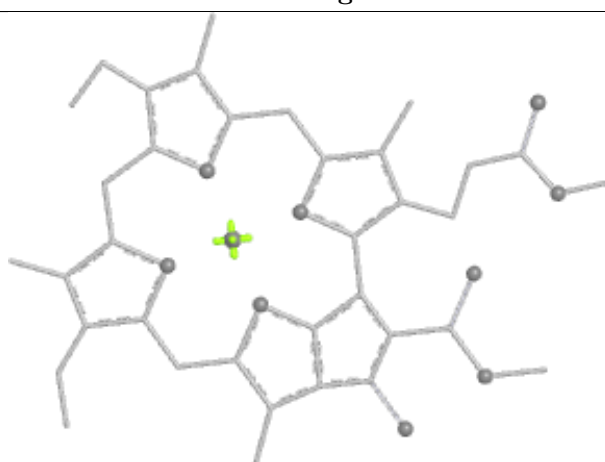
Bond lengths



Bond angles

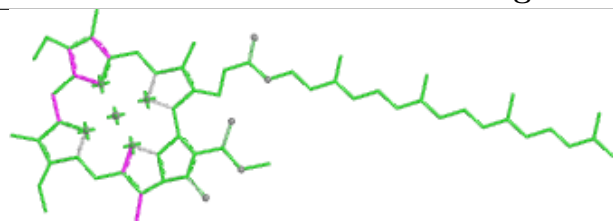


Torsions

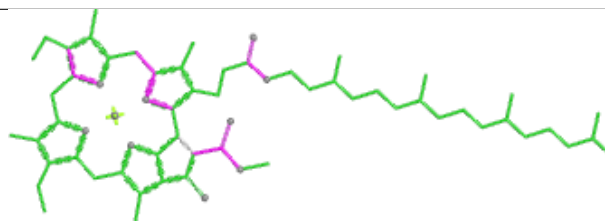


Rings

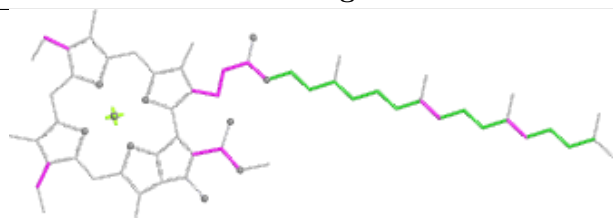
Ligand CLA A 817



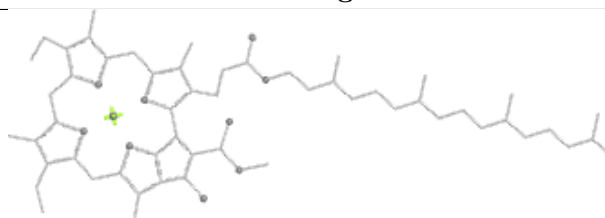
Bond lengths



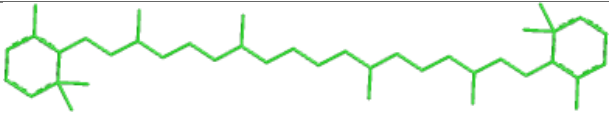
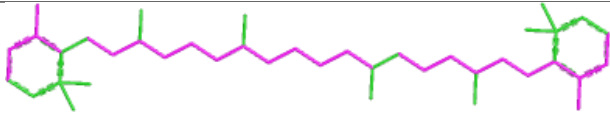
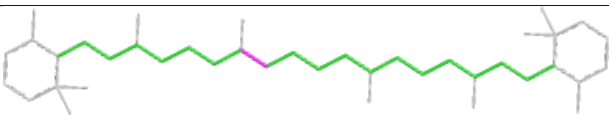
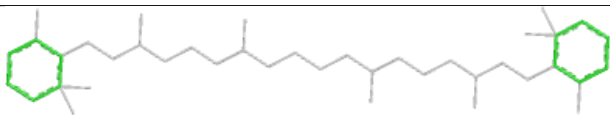
Bond angles

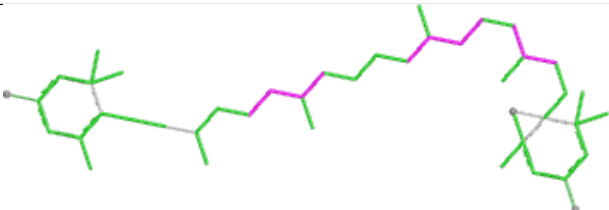
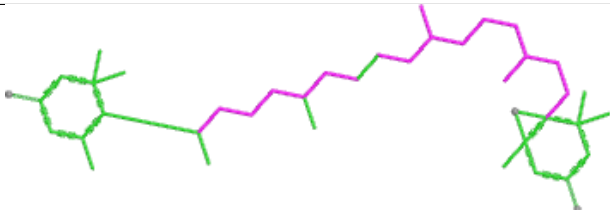
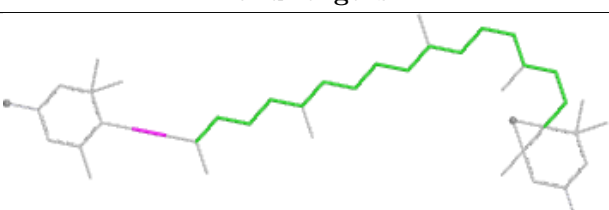
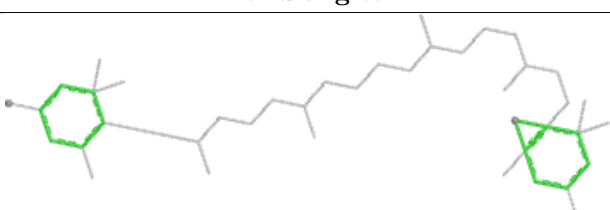


Torsions

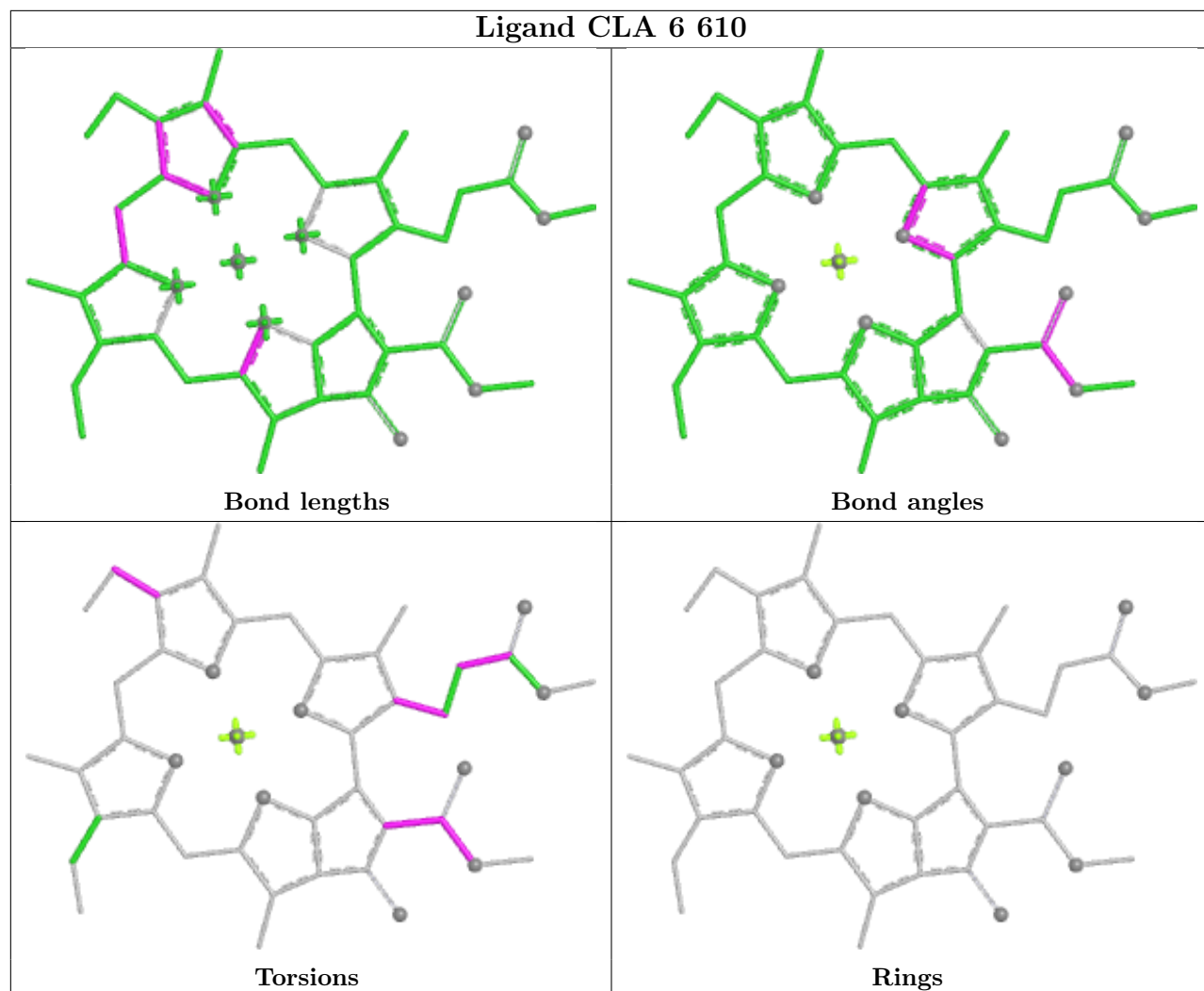


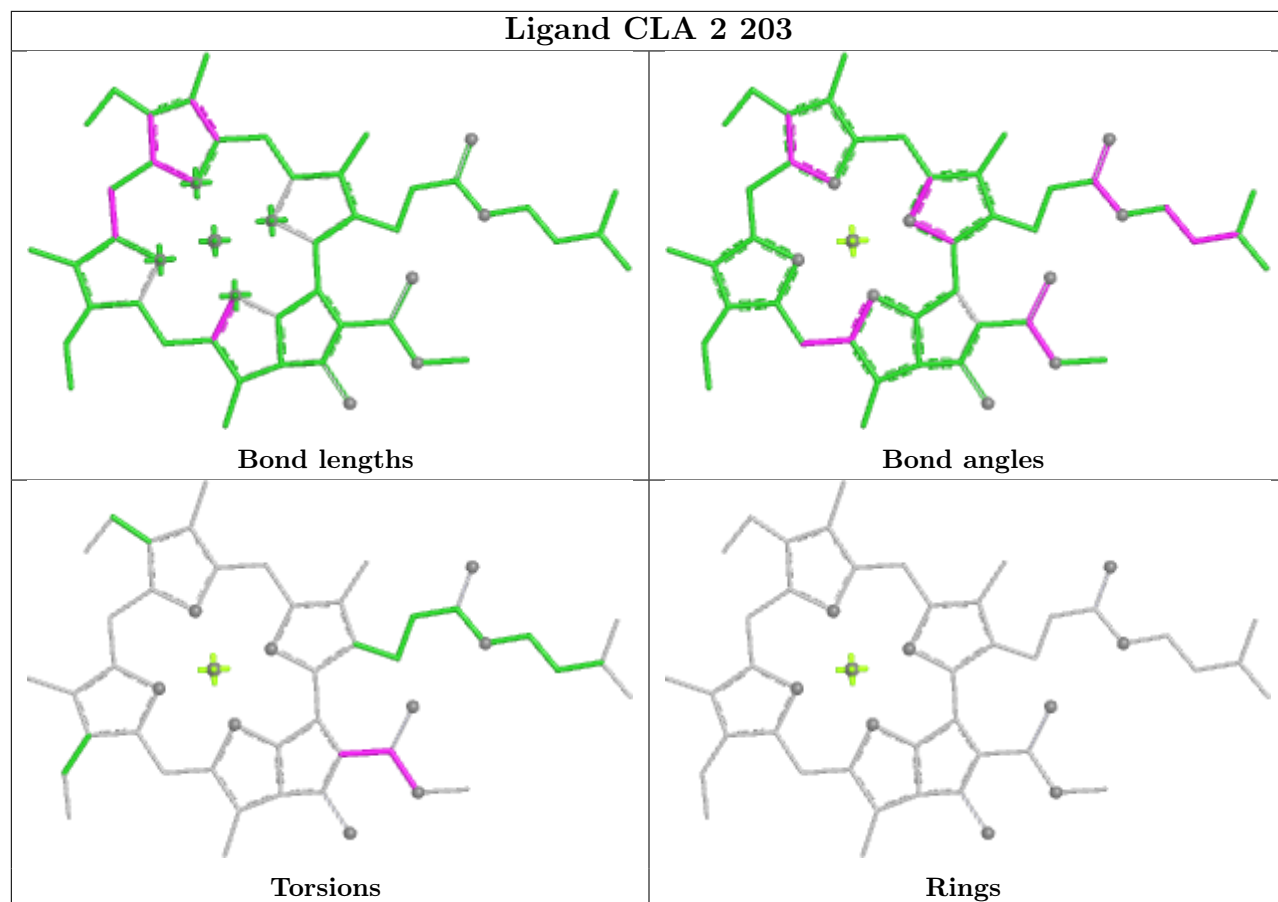
Rings

Ligand BCR F 204	
	
Bond lengths	Bond angles
	
Torsions	Rings

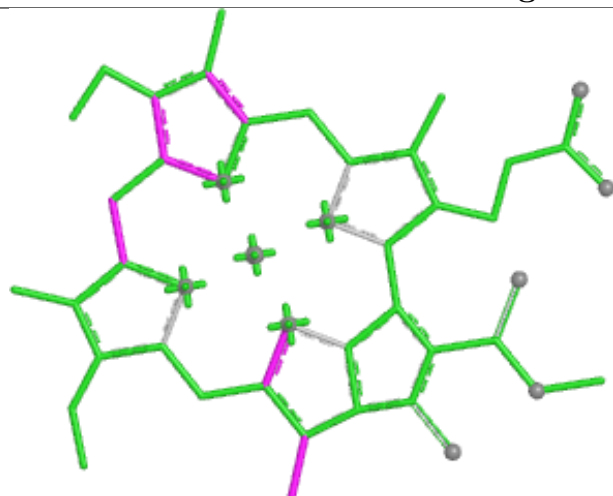
Ligand DD6 3 311	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA 6 610

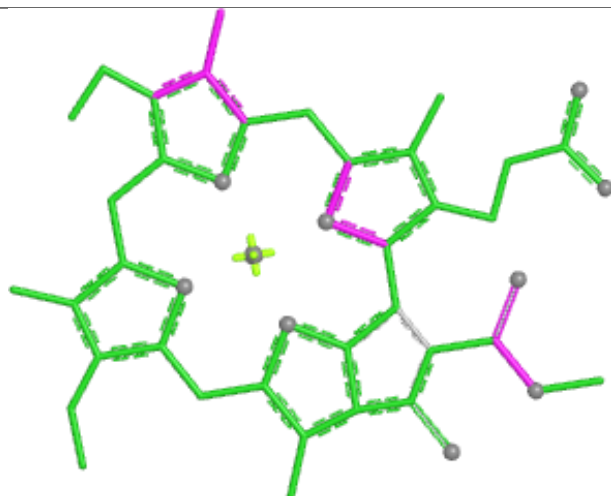




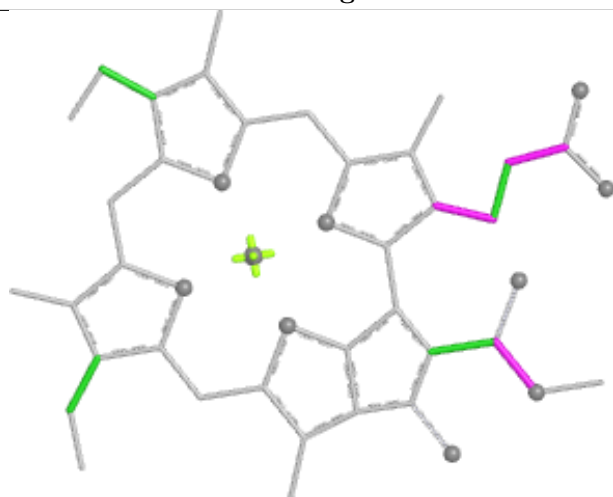
Ligand CLA 7 608



Bond lengths



Bond angles

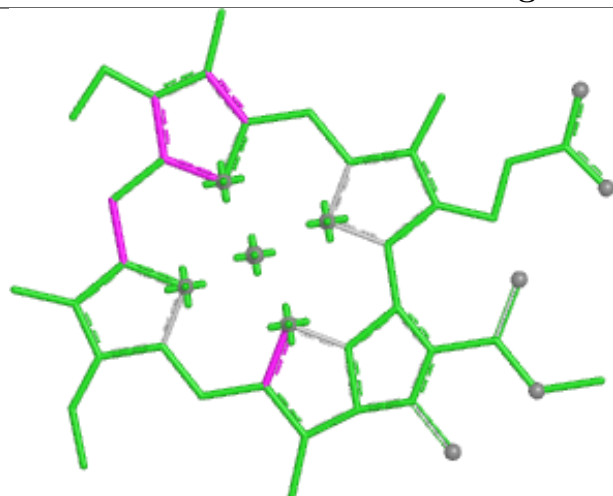


Torsions

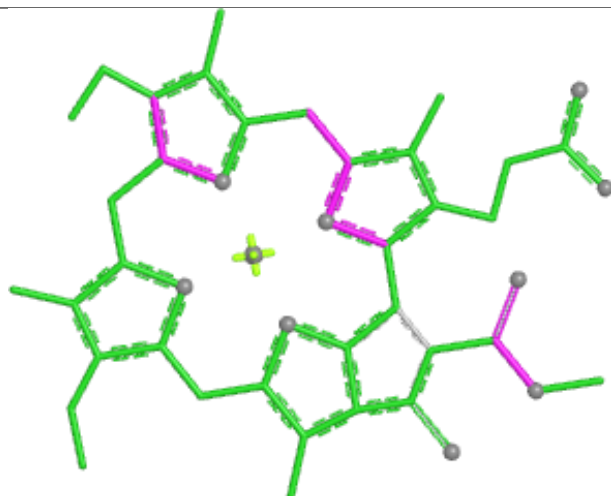


Rings

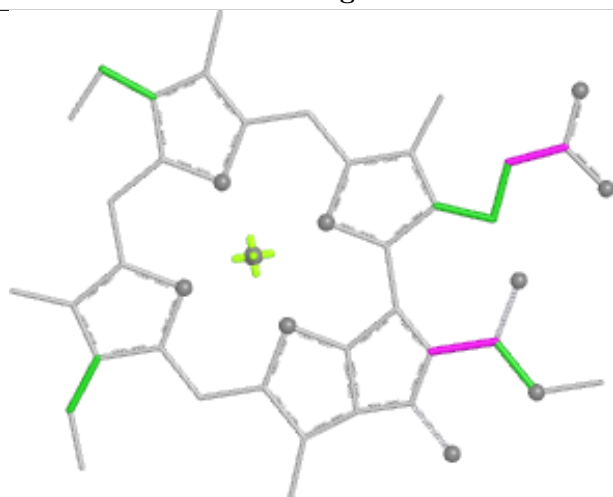
Ligand CLA 1 307



Bond lengths



Bond angles

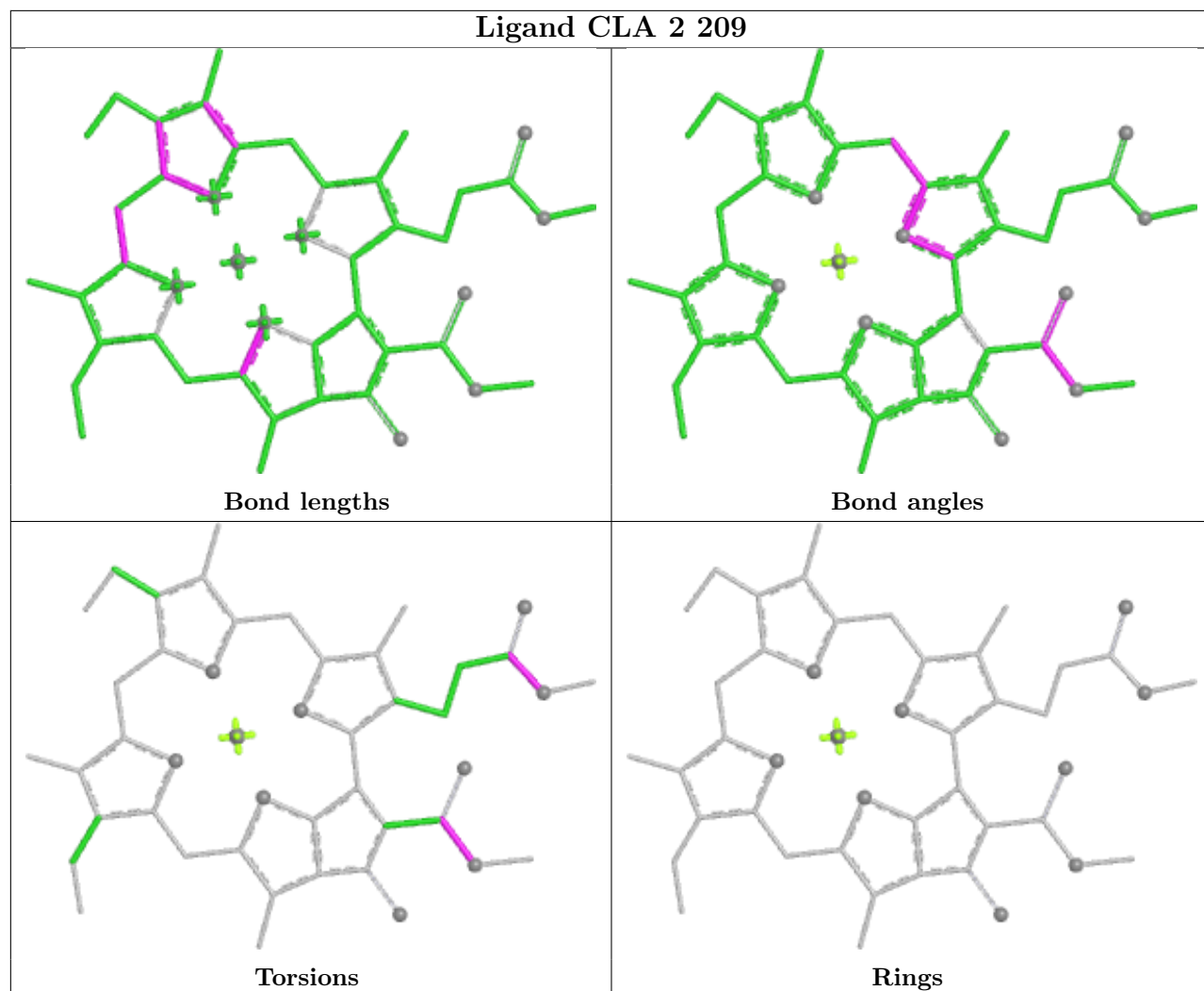


Torsions

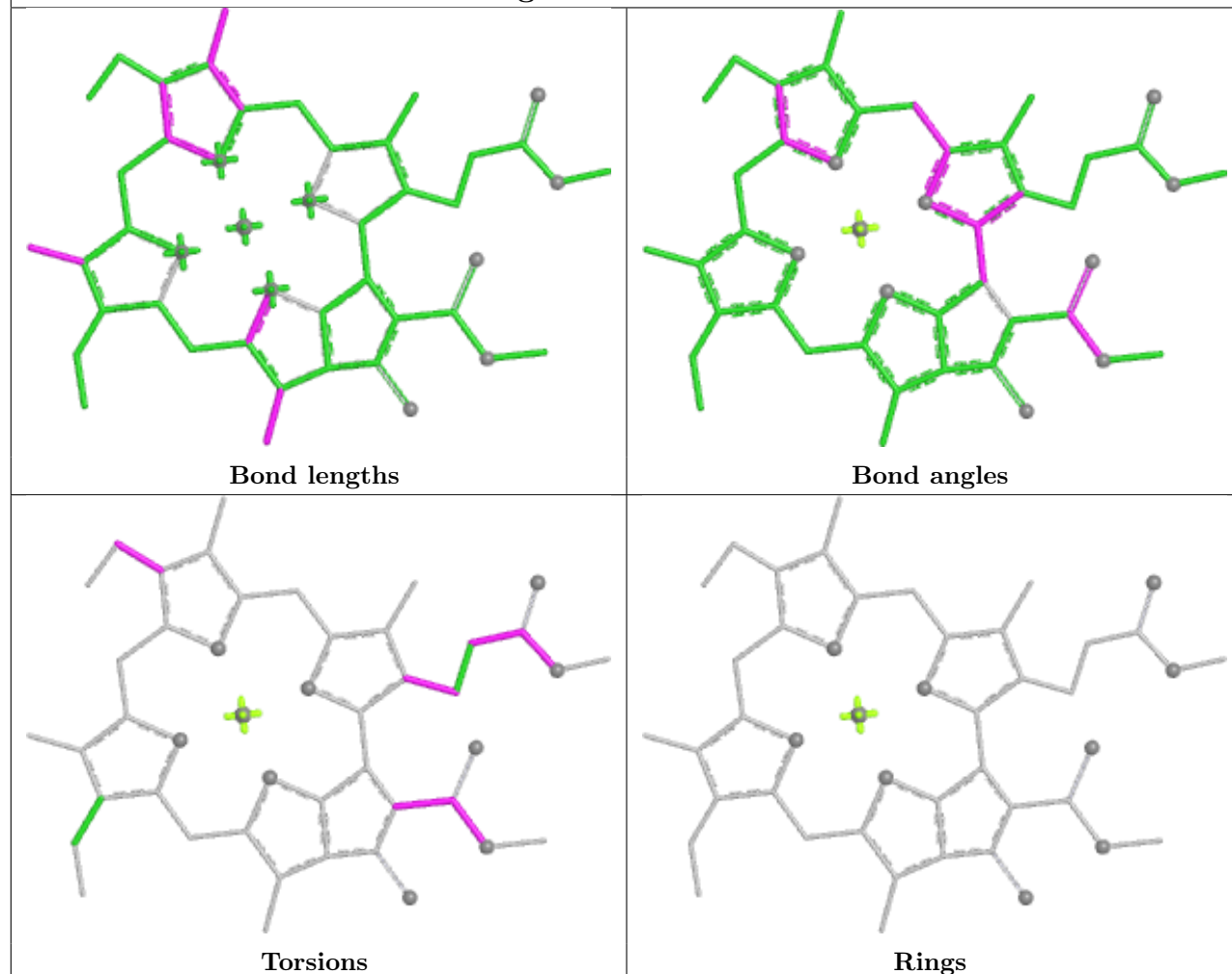


Rings

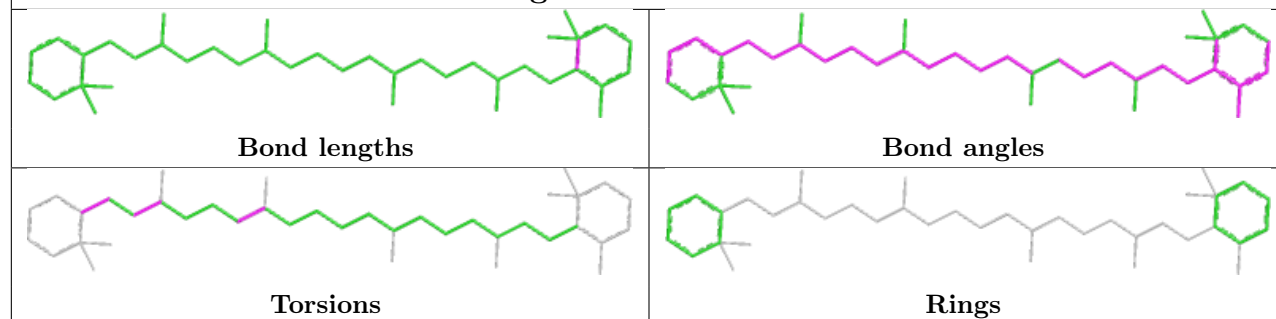
Ligand CLA 2 209



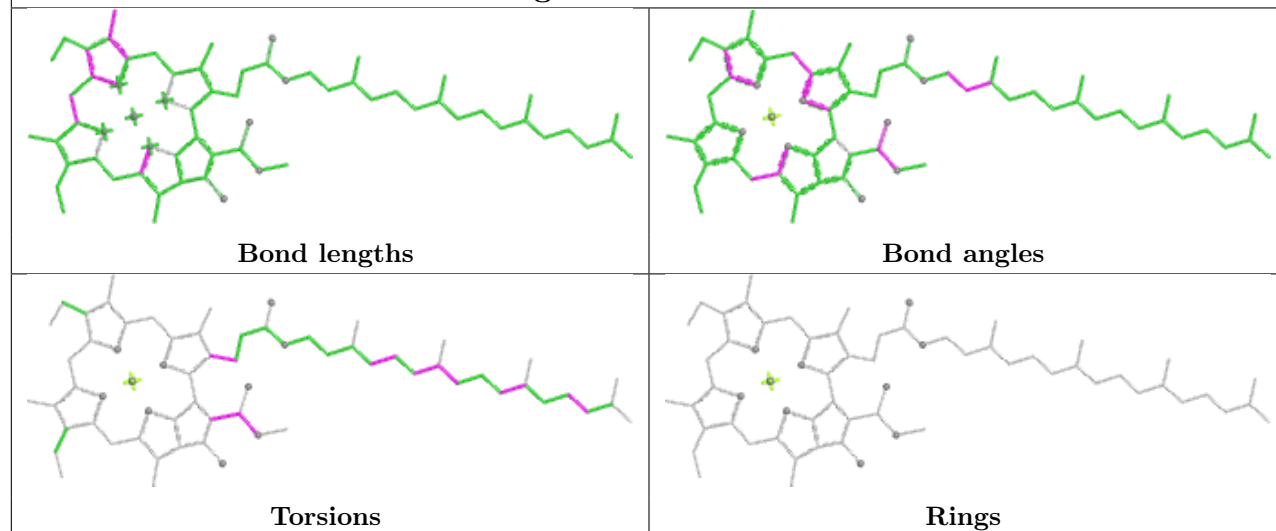
Ligand CLA 9 303



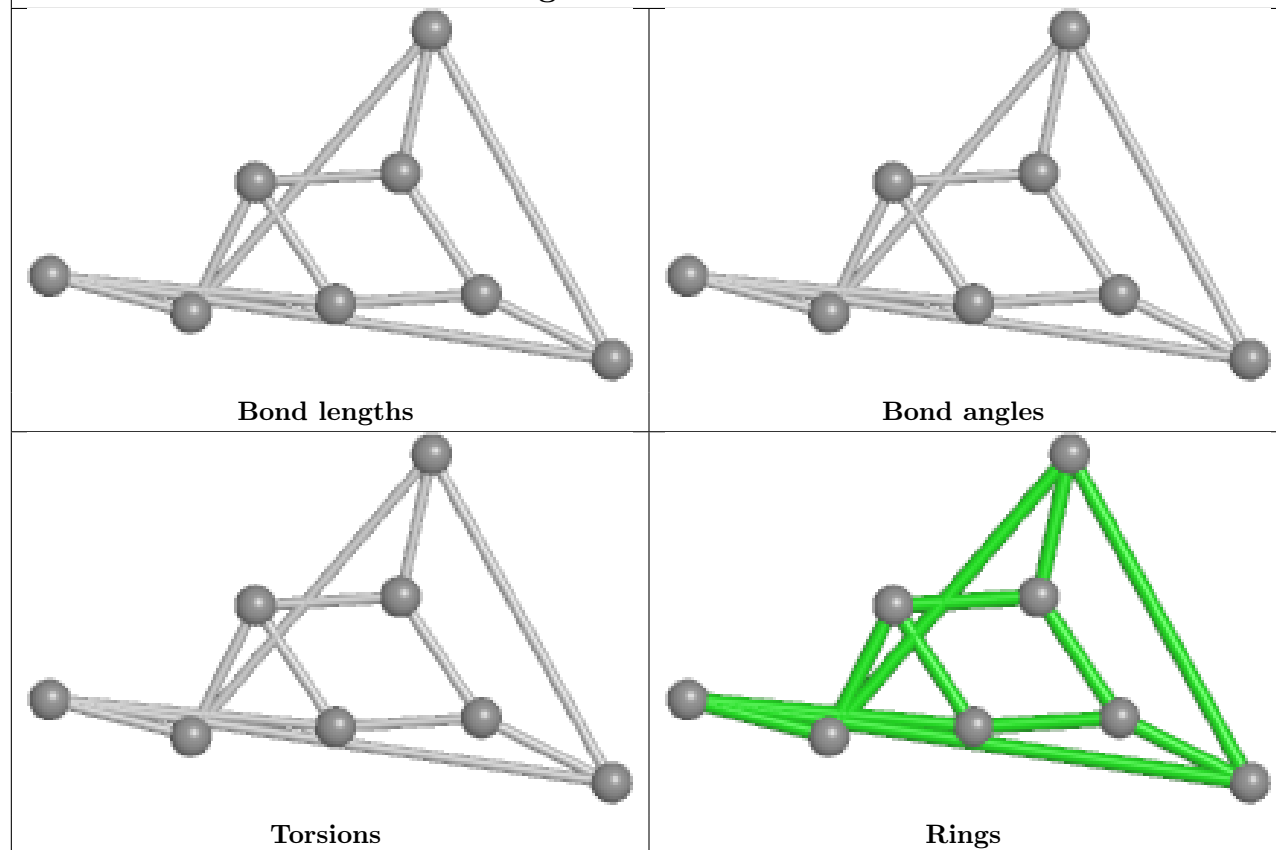
Ligand BCR A 845



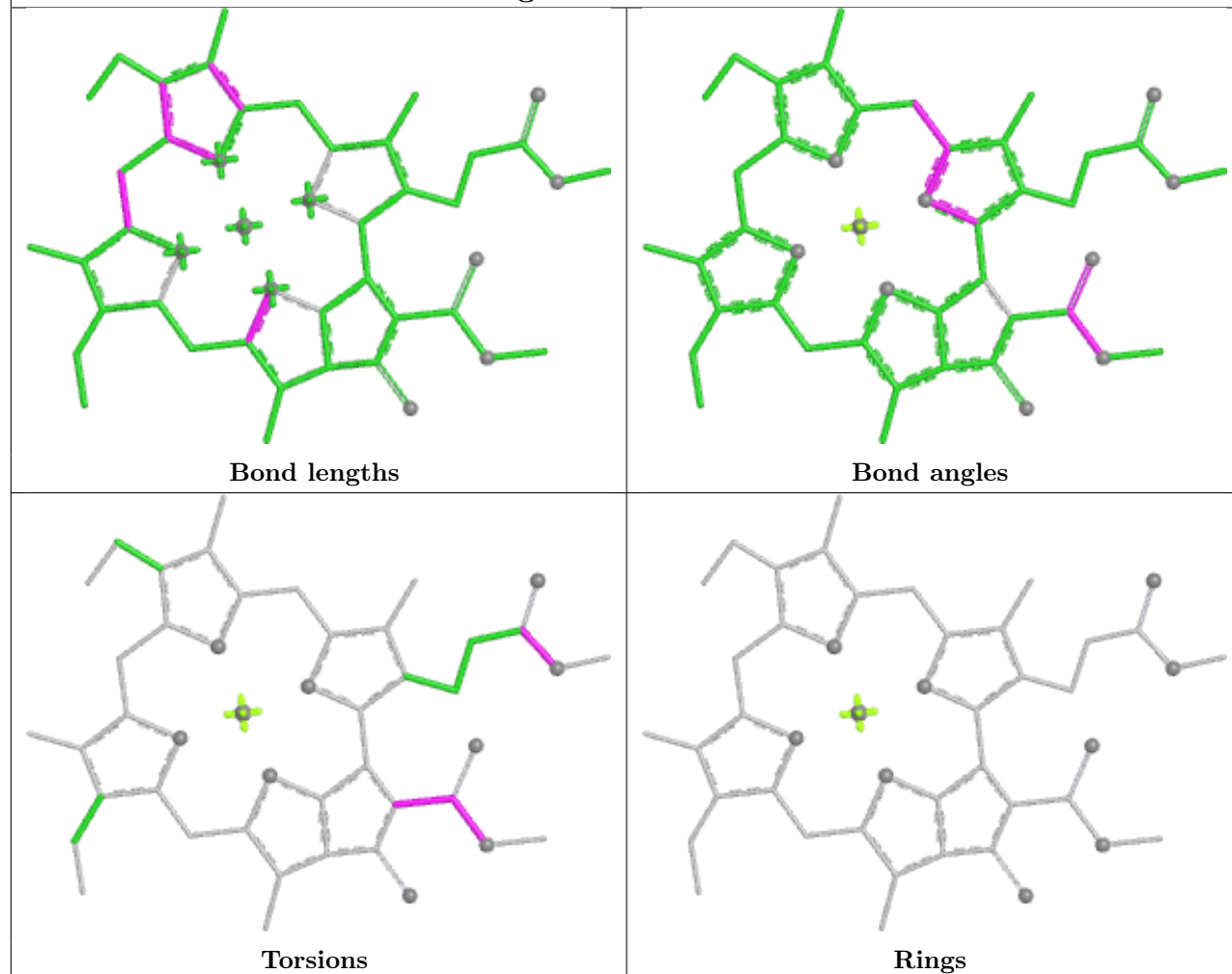
Ligand CLA F 201



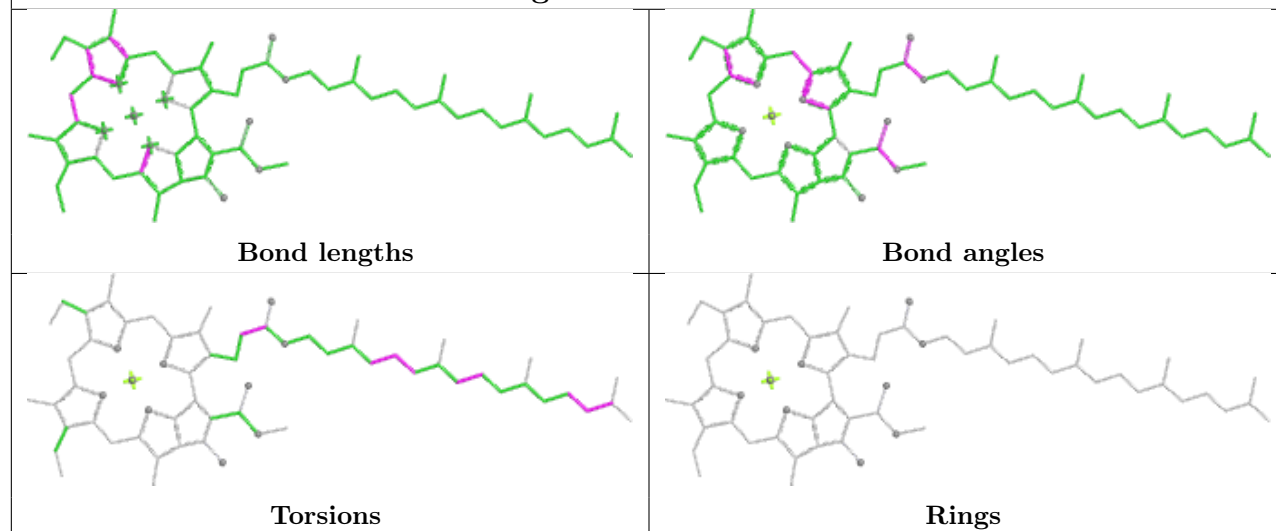
Ligand SF4 A 858



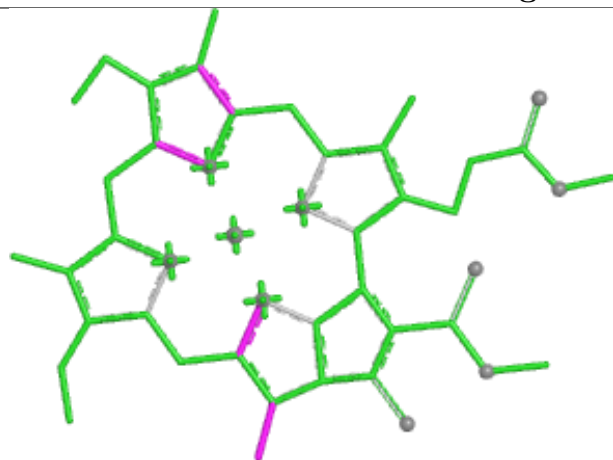
Ligand CLA 2 208



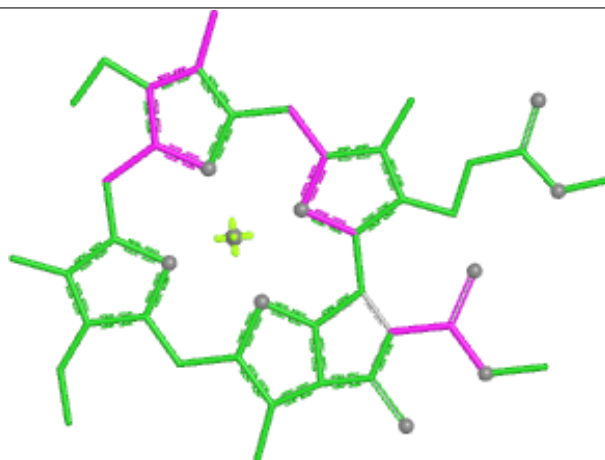
Ligand CLA A 806



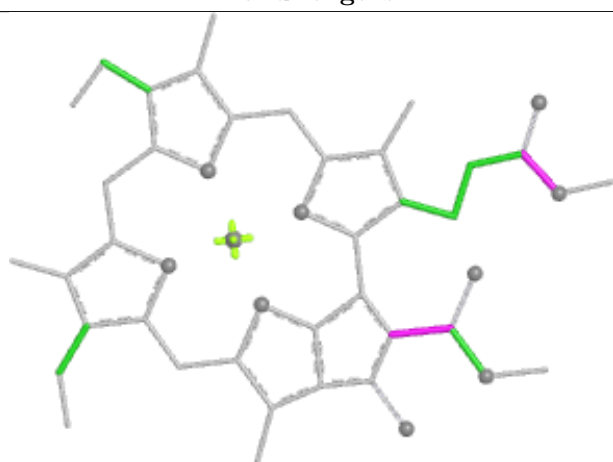
Ligand CLA c 607



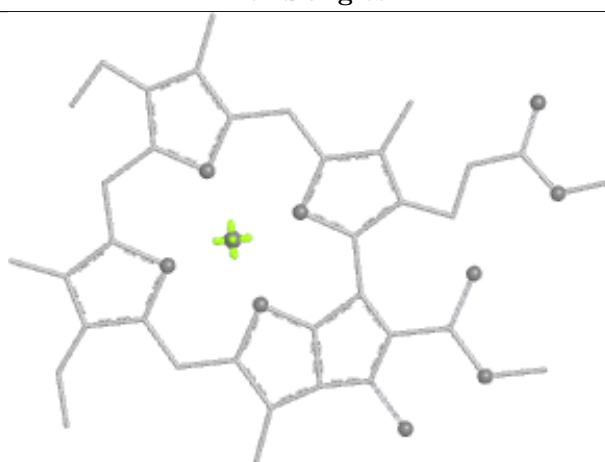
Bond lengths



Bond angles

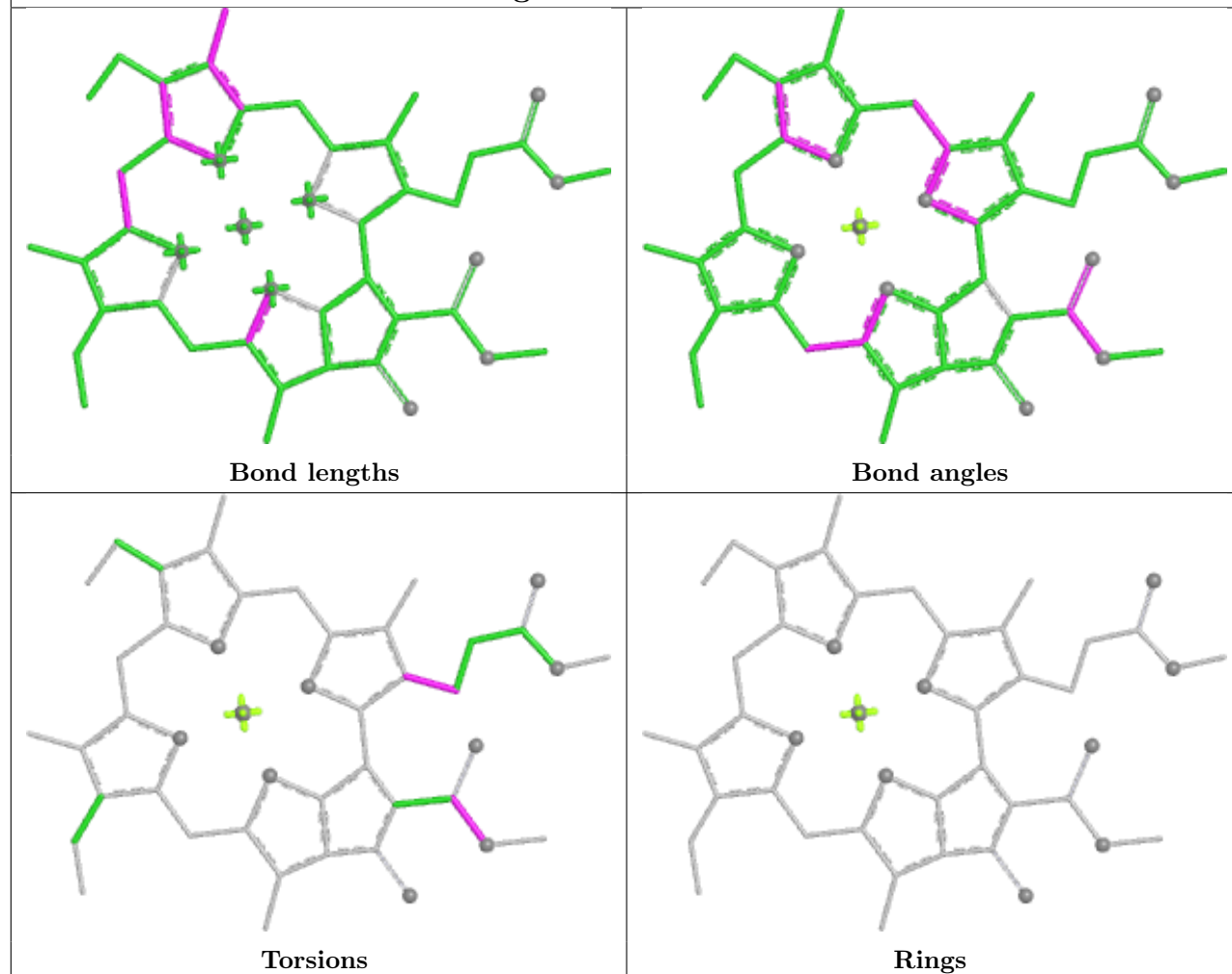


Torsions

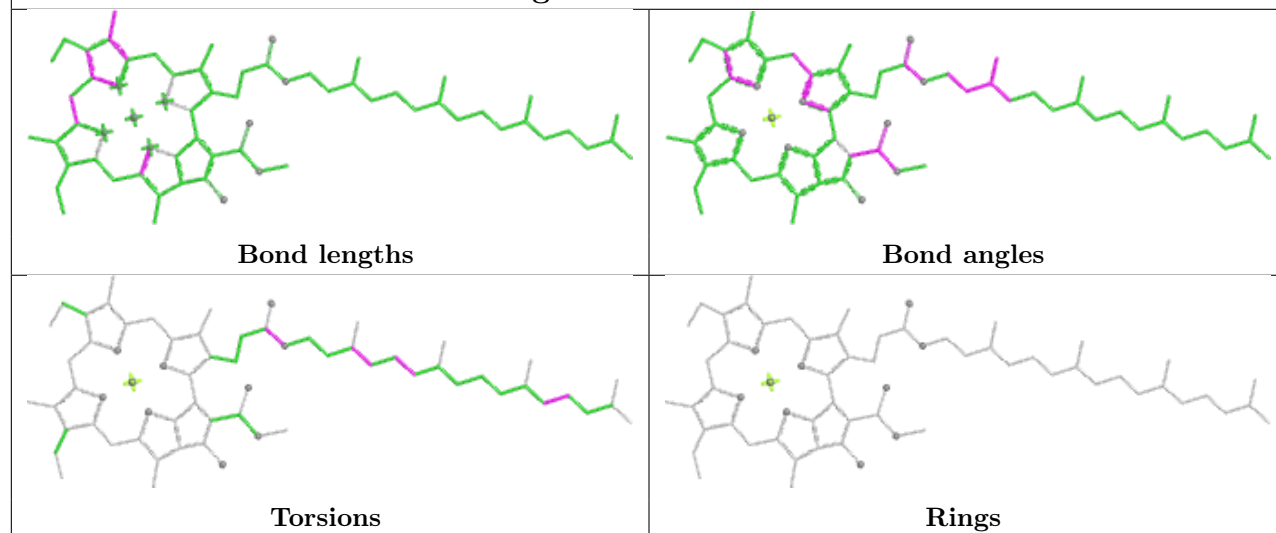


Rings

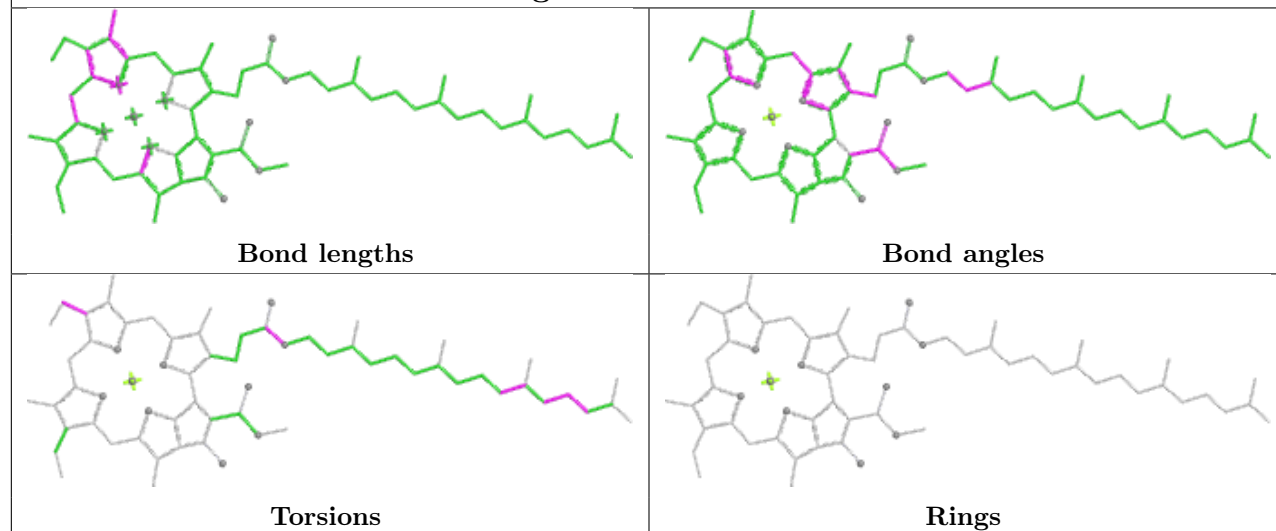
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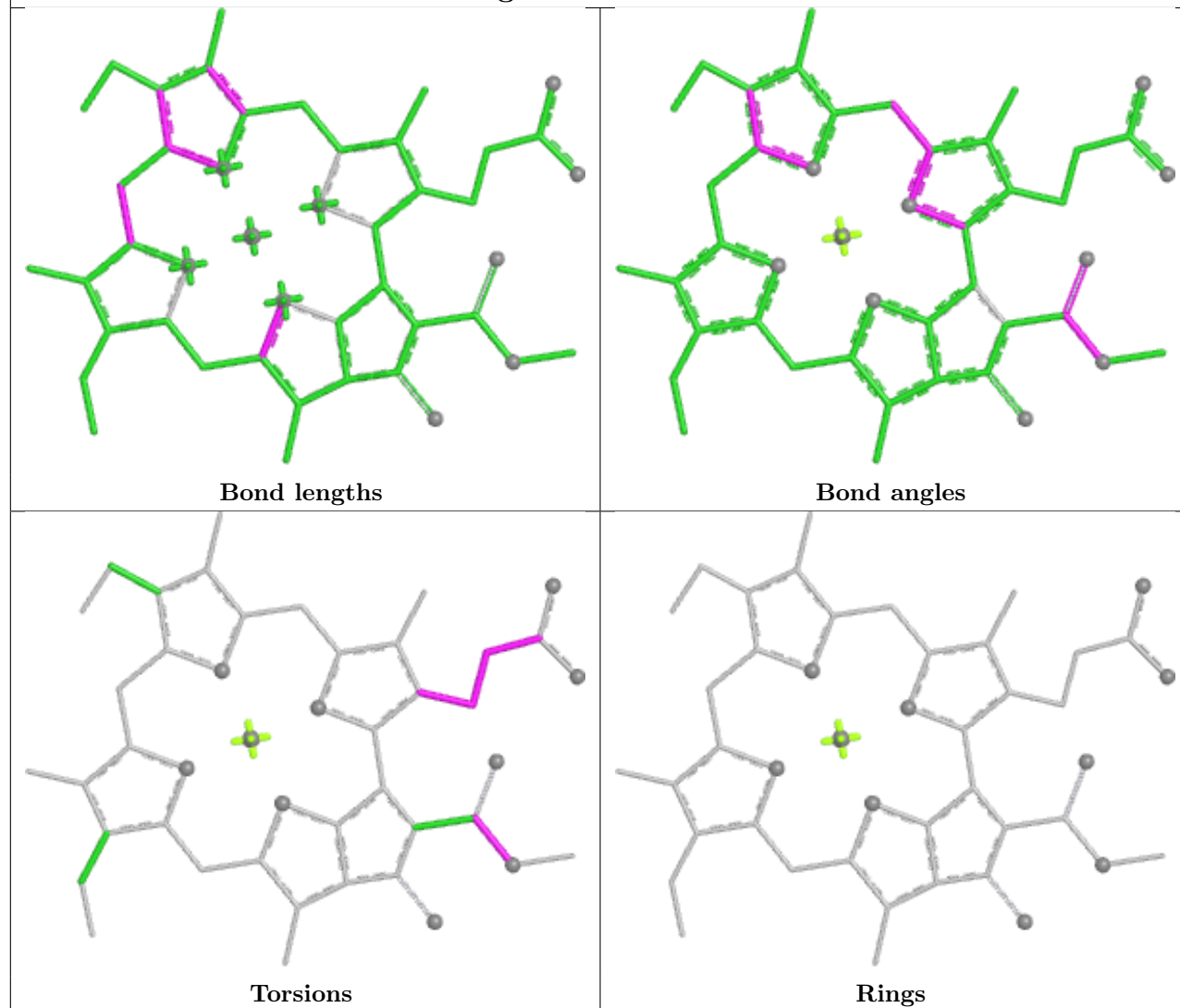
Ligand CLA B 824



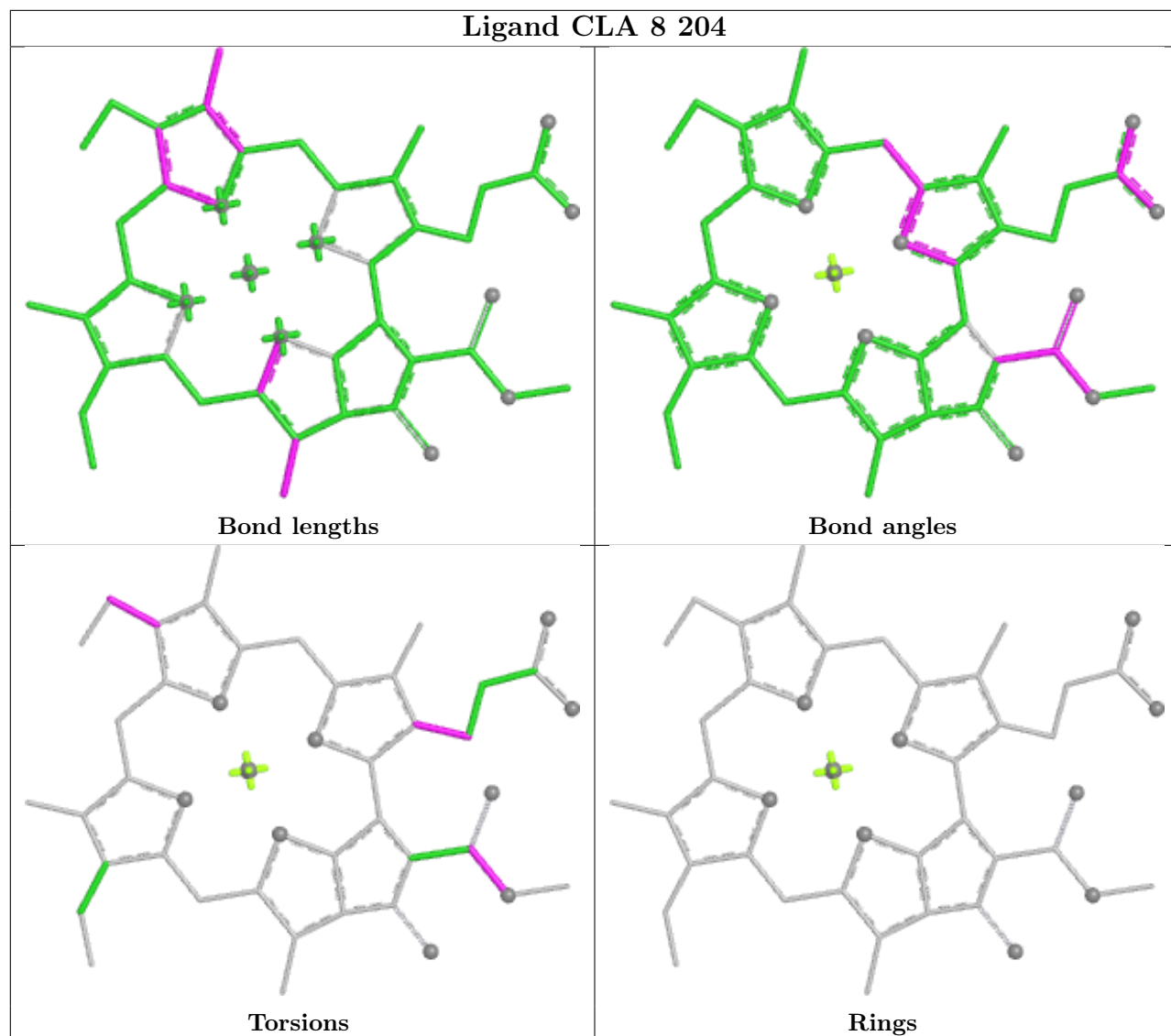
Ligand CLA B 838



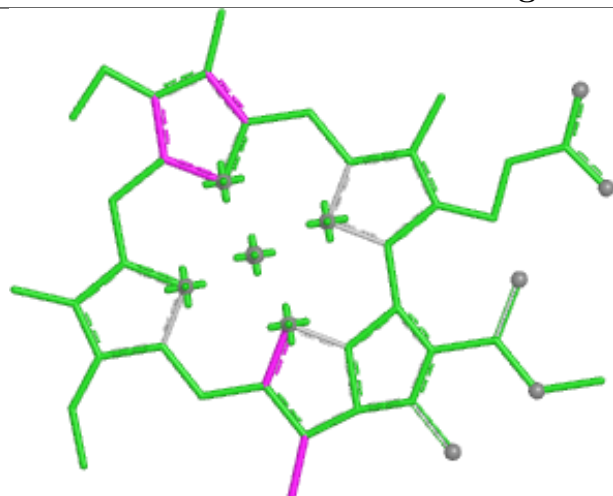
Ligand CLA t 306



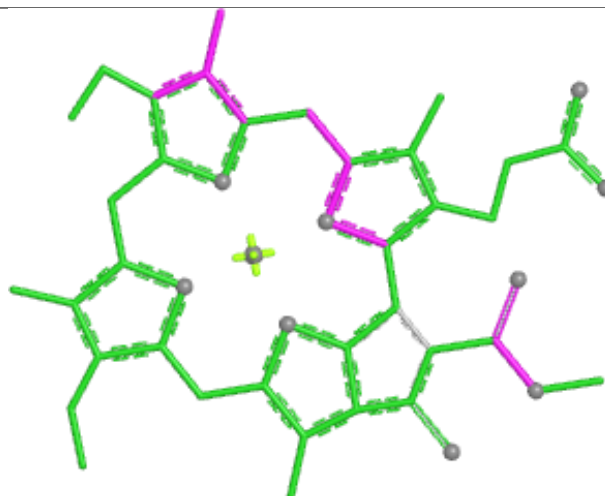
Ligand CLA 8 204



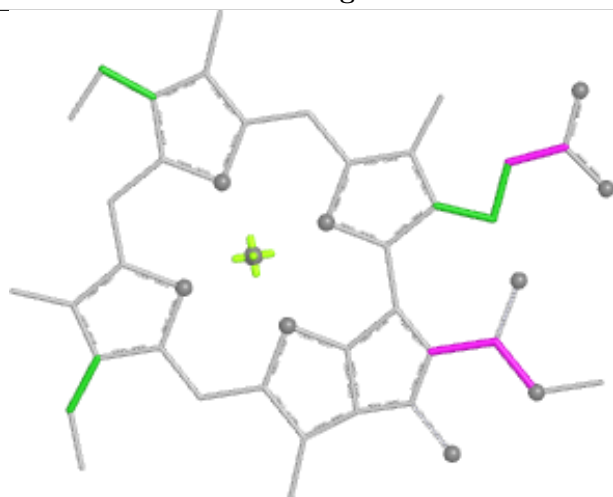
Ligand CLA 8 208



Bond lengths



Bond angles

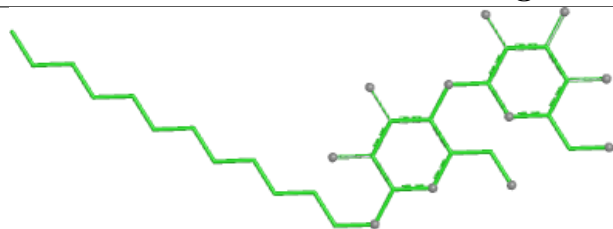


Torsions

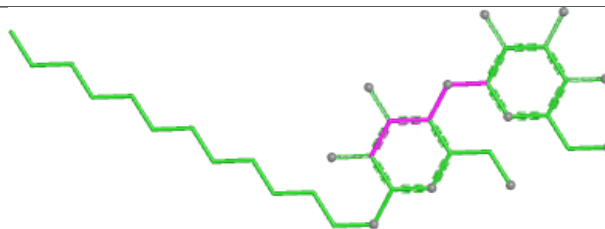


Rings

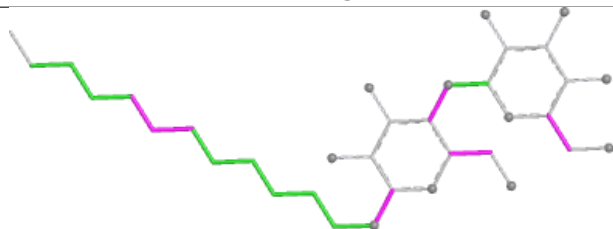
Ligand LMT 1 316



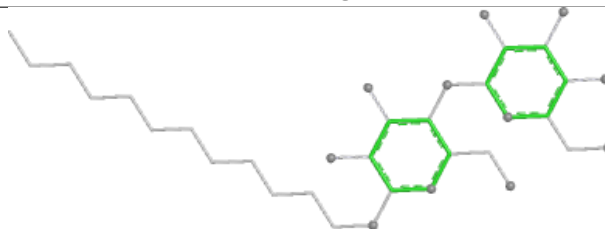
Bond lengths



Bond angles

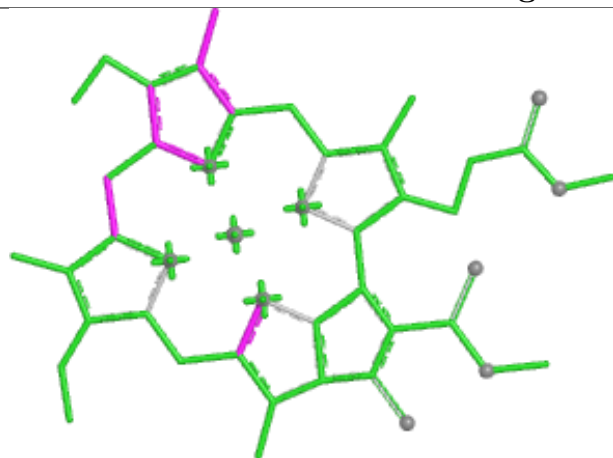


Torsions

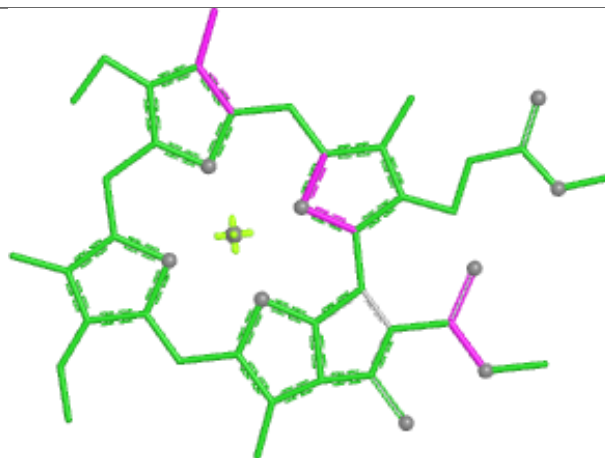


Rings

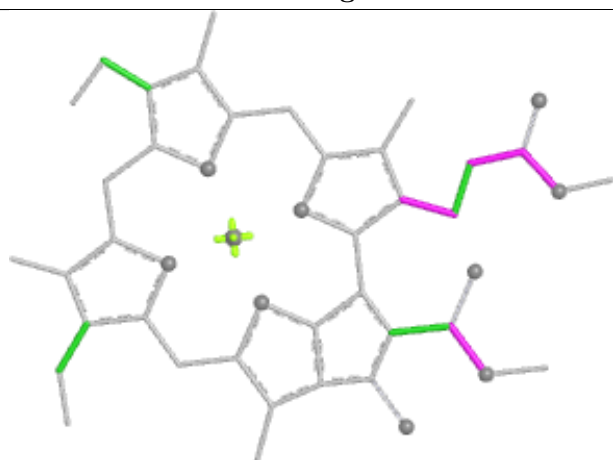
Ligand CLA 4 604



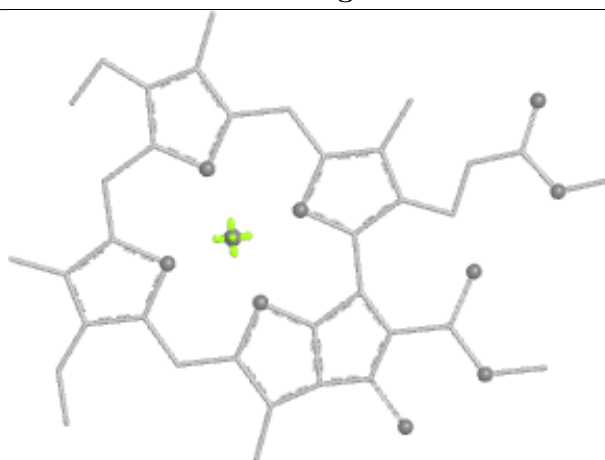
Bond lengths



Bond angles

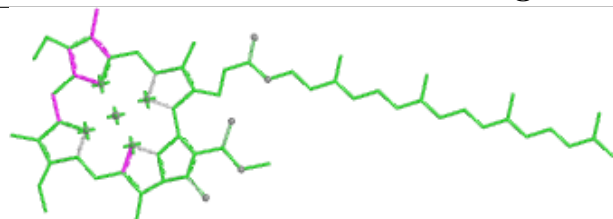


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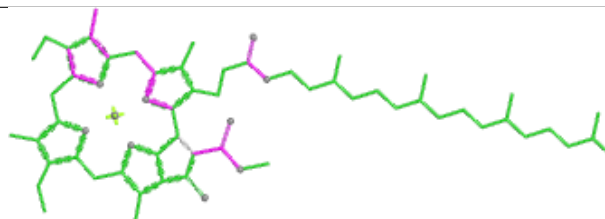


Rings

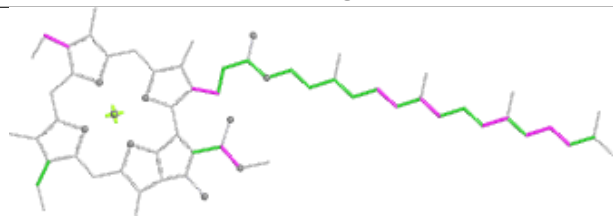
Ligand CLA B 818



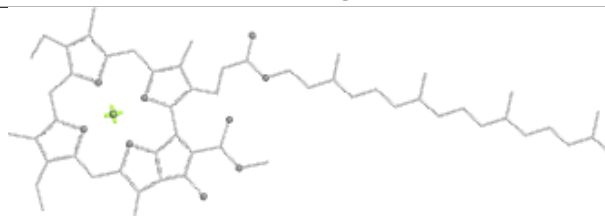
Bond lengths



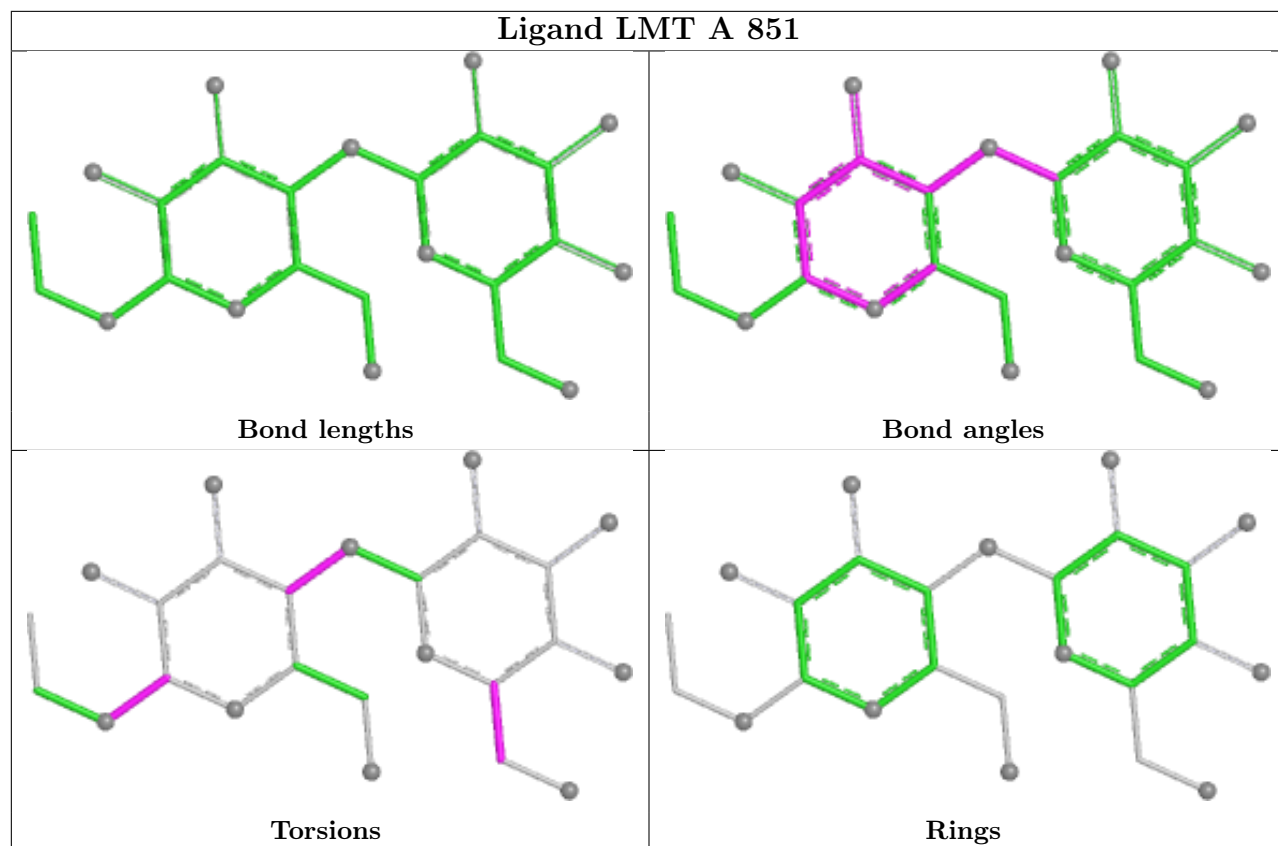
Bond angles



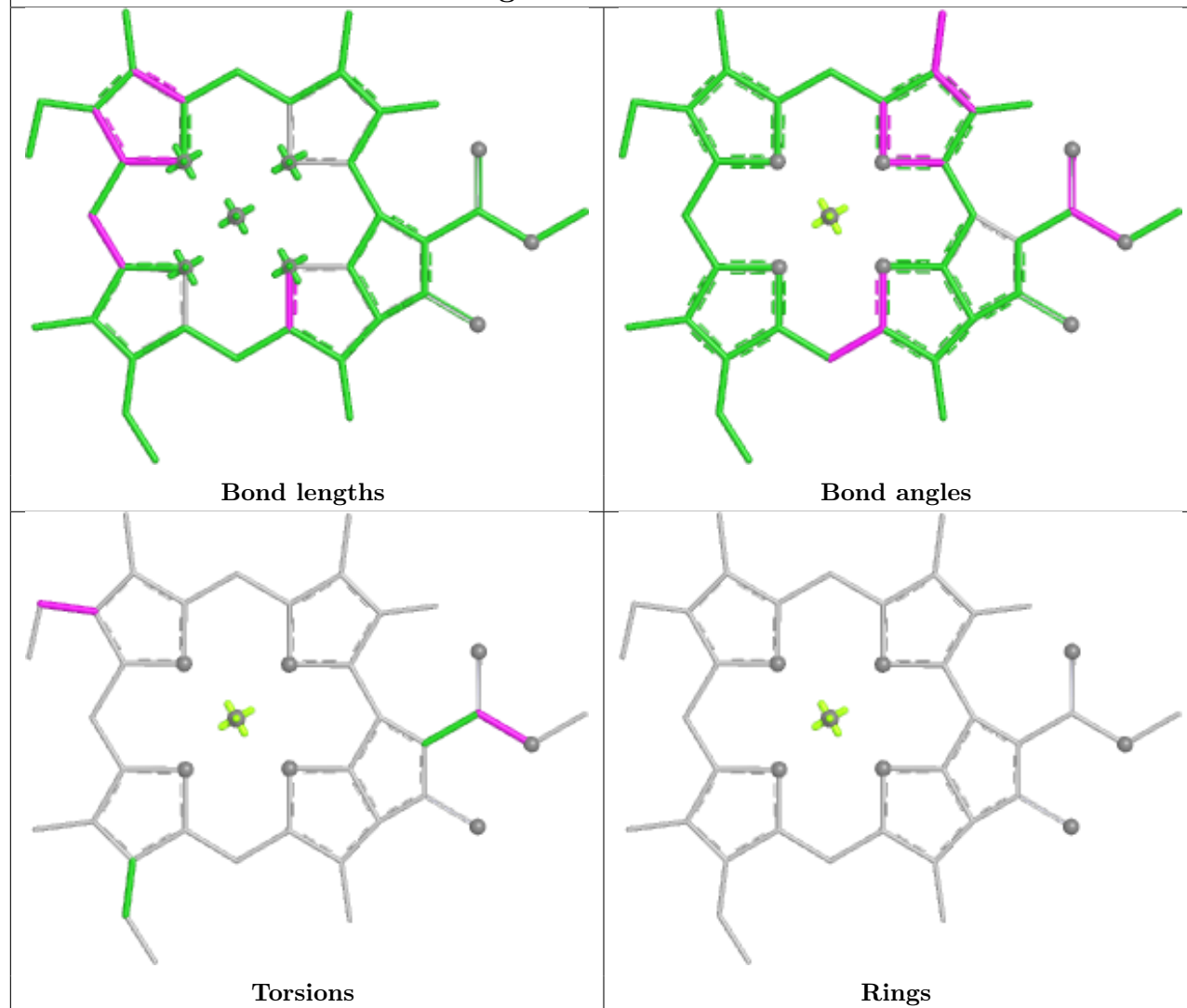
Torsions



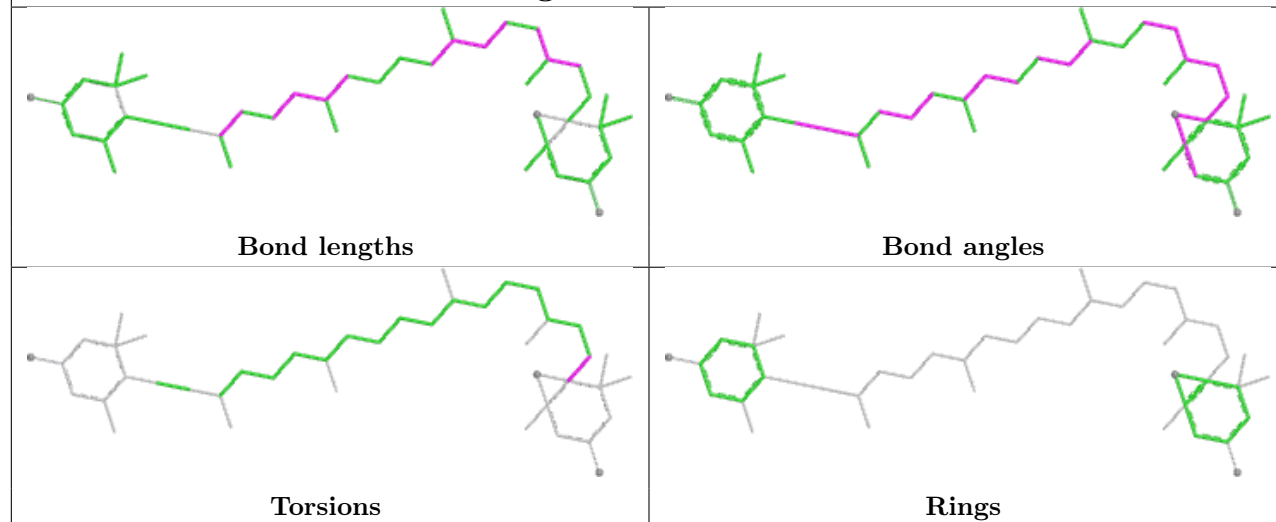
Rings



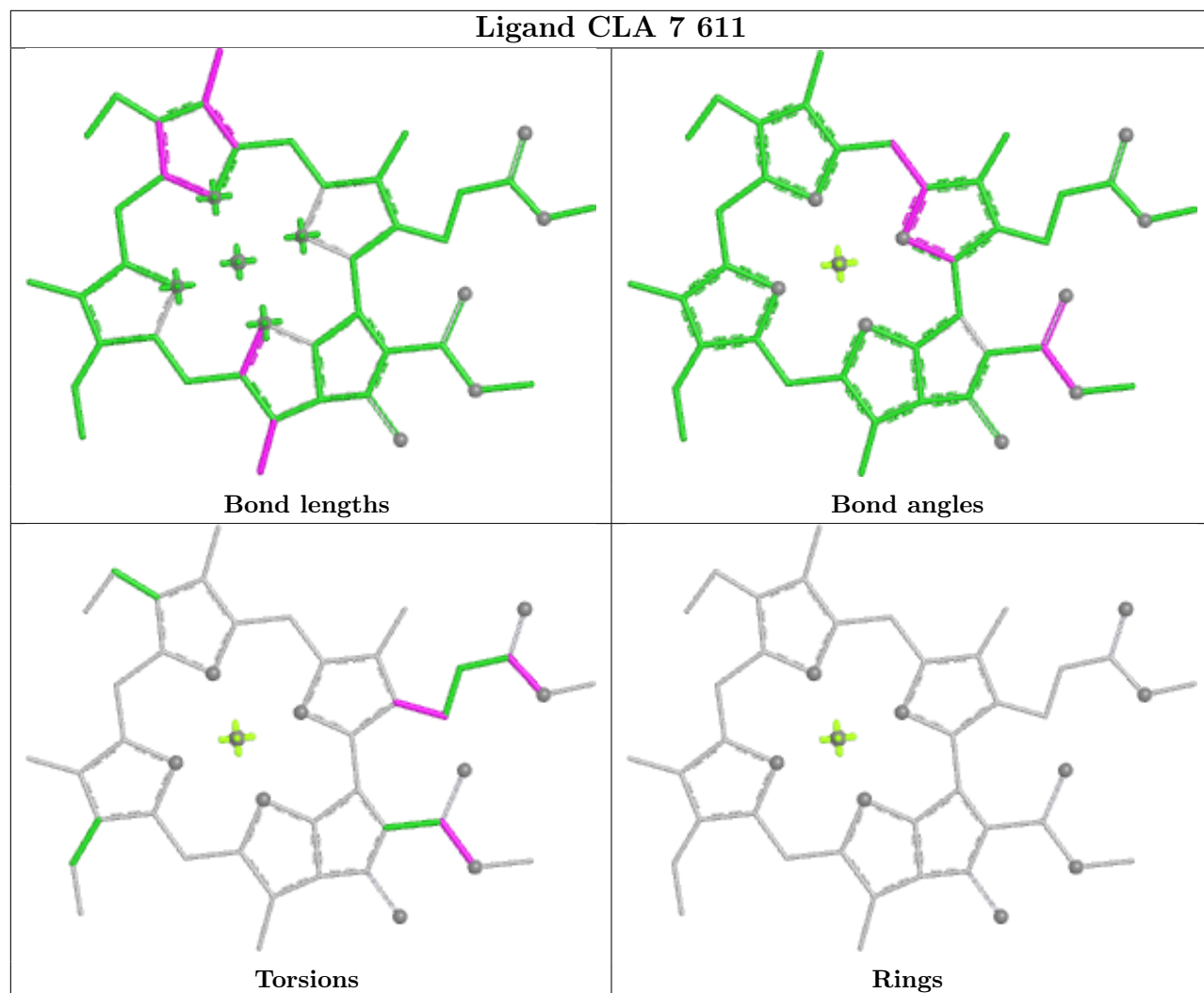
Ligand CLA 8 209



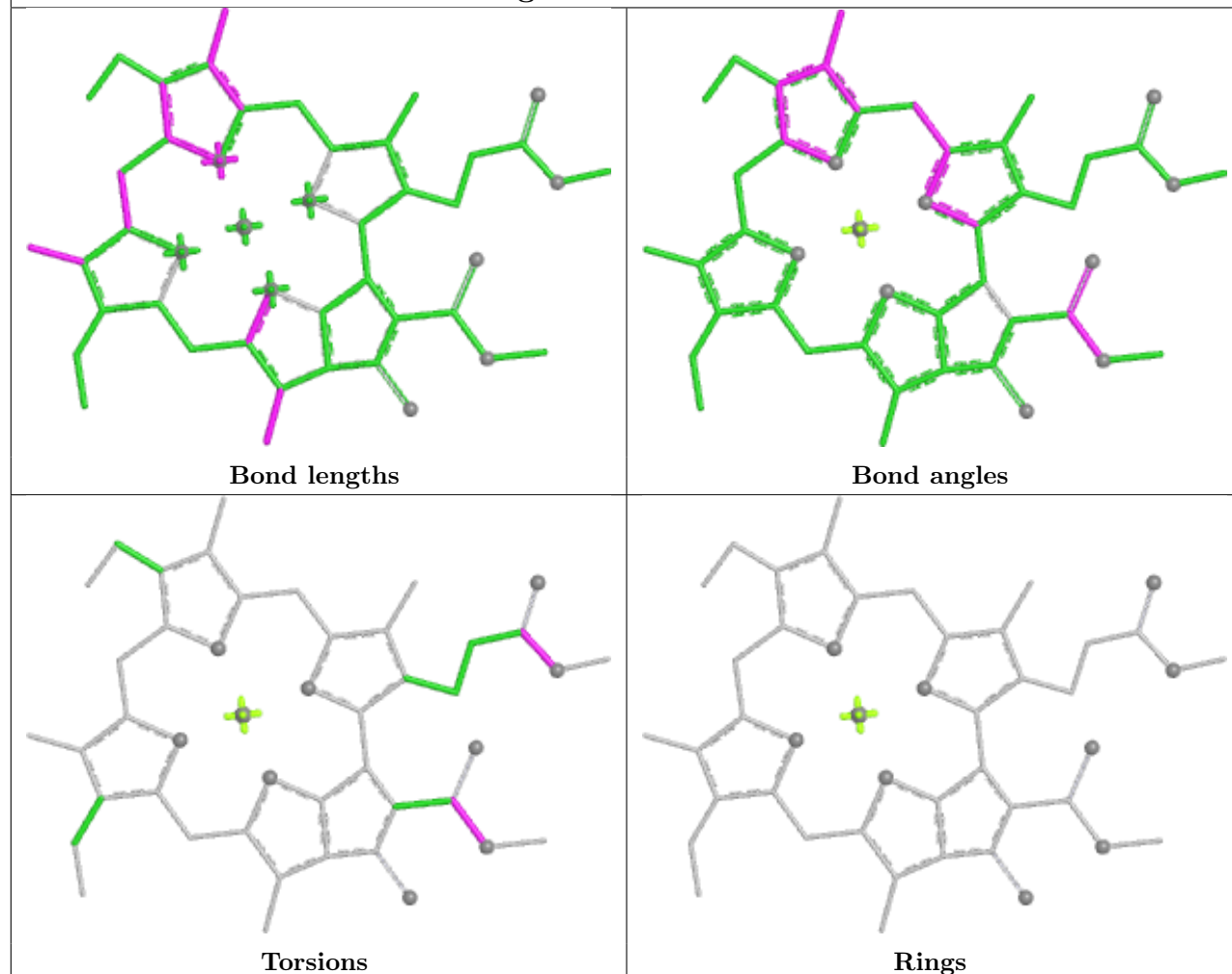
Ligand DD6 k 314



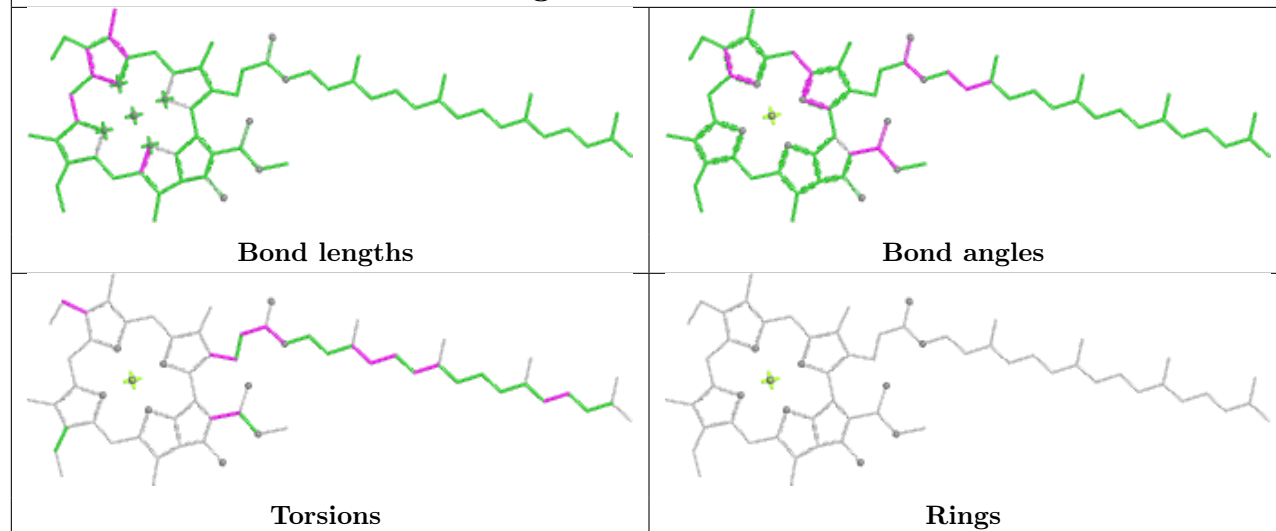
Ligand CLA 7 611

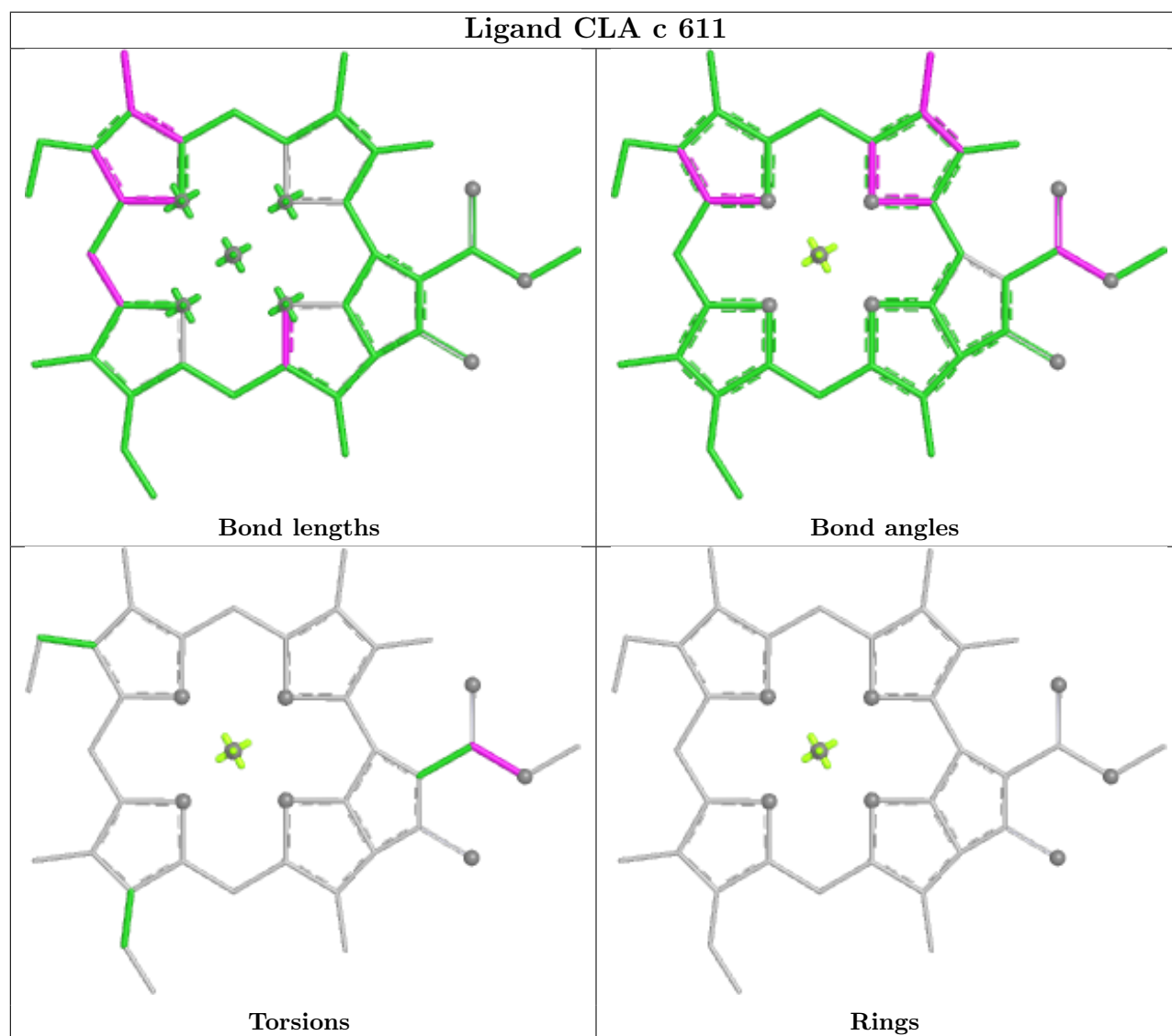
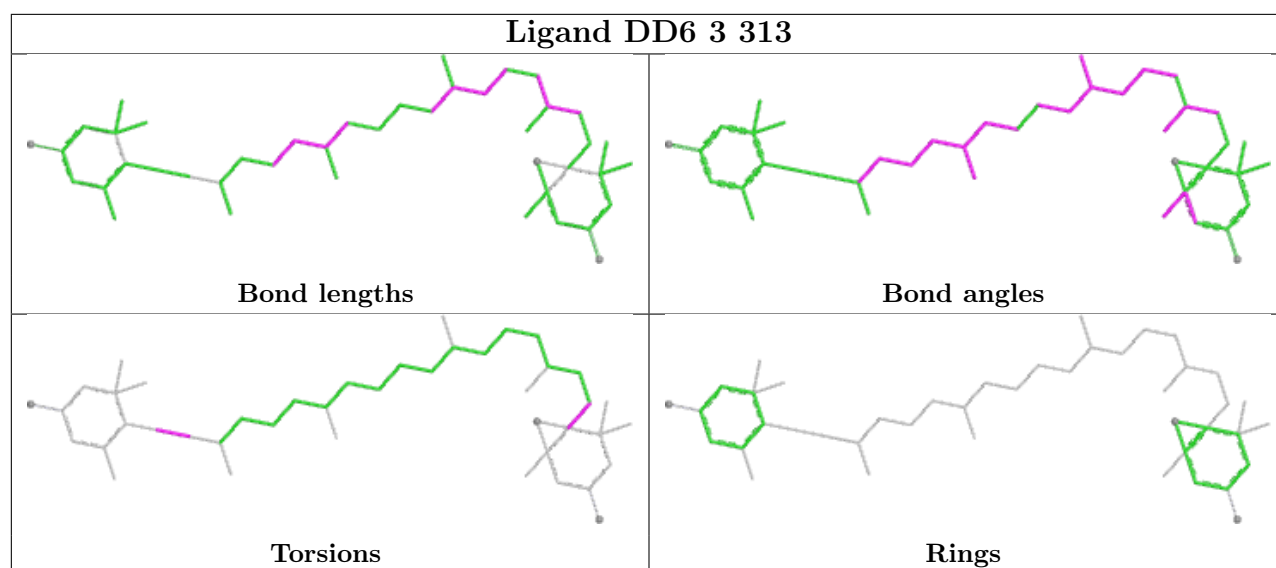


Ligand CLA 9 302

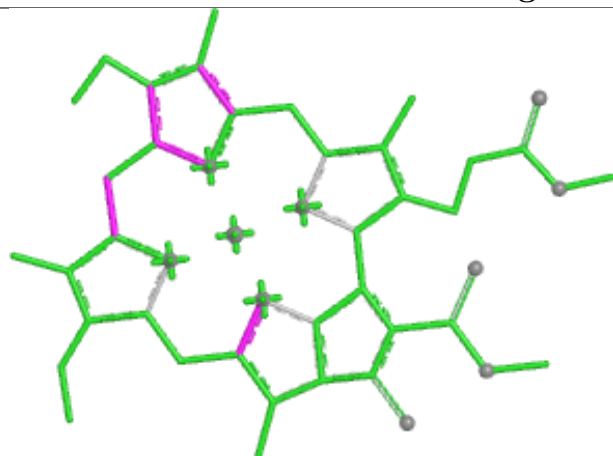


Ligand CLA B 816

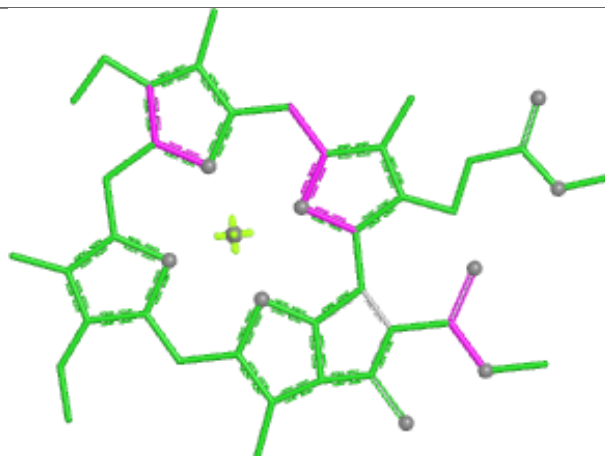




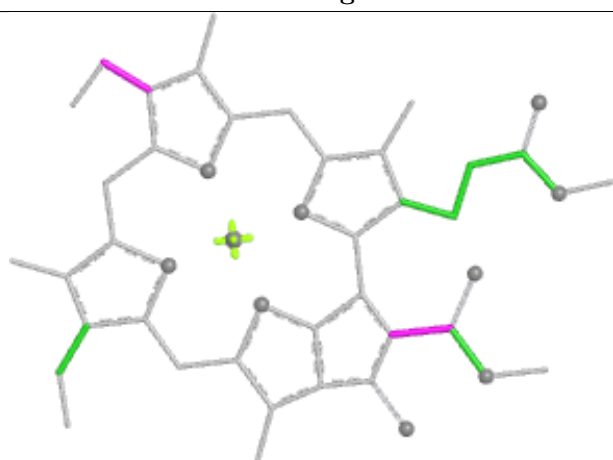
Ligand CLA 5 604



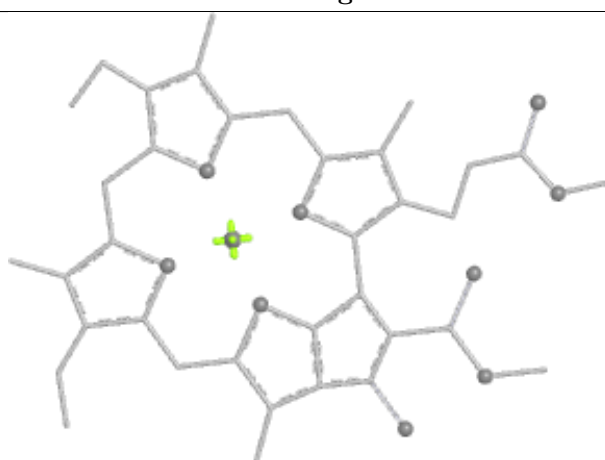
Bond lengths



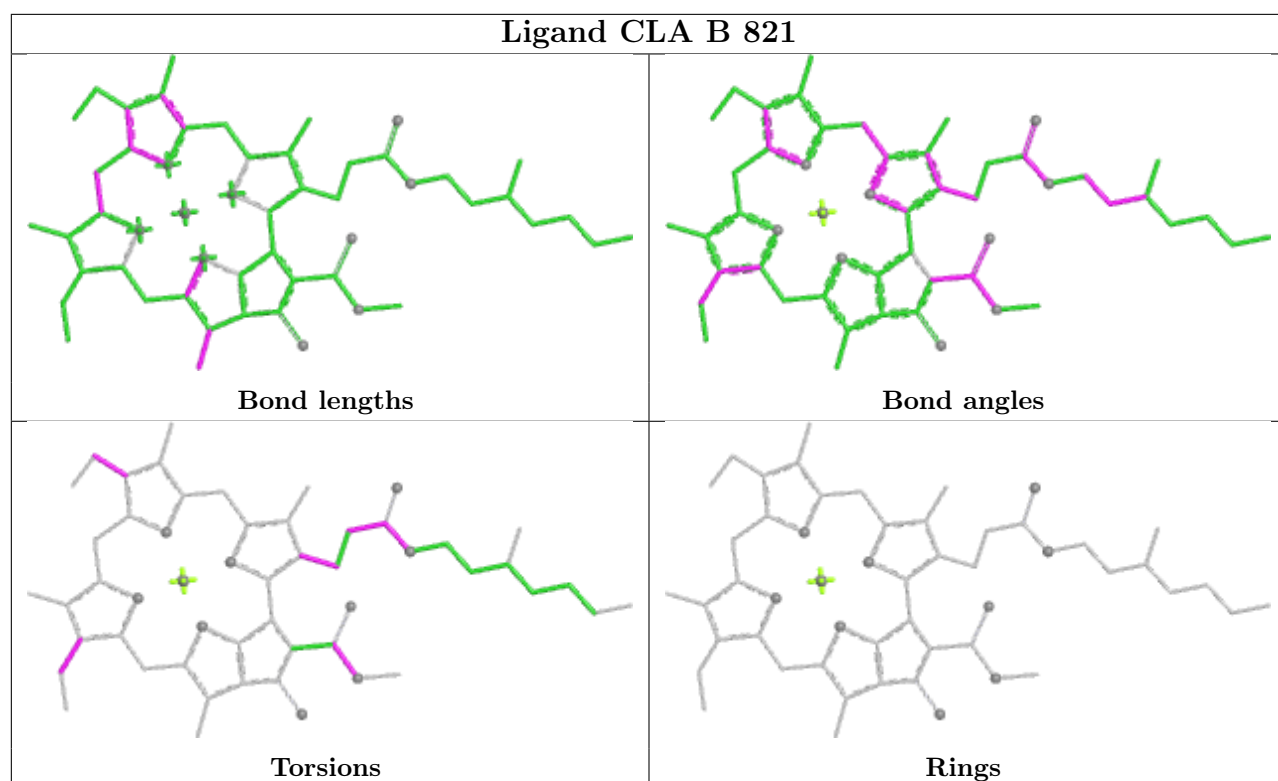
Bond angles



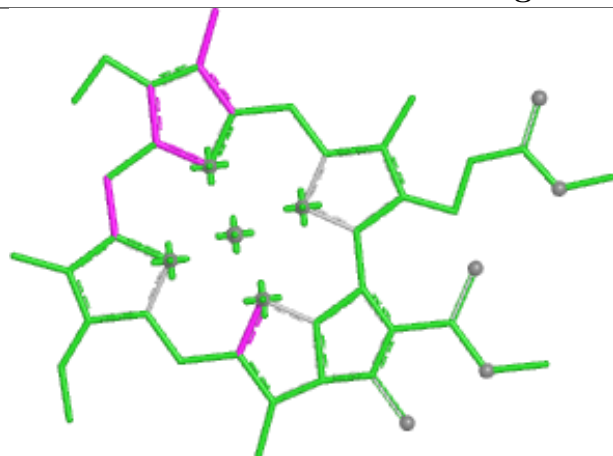
Torsions



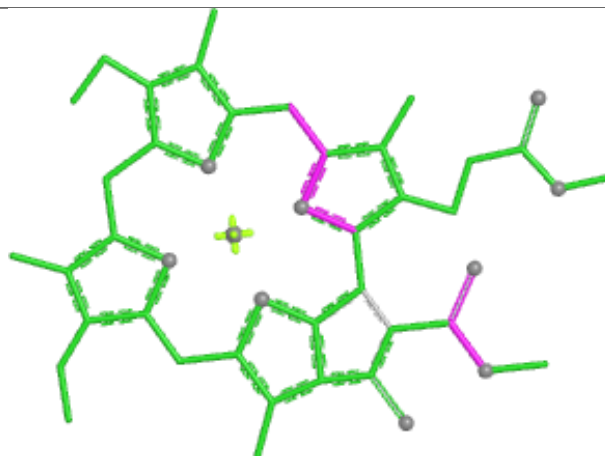
Rings



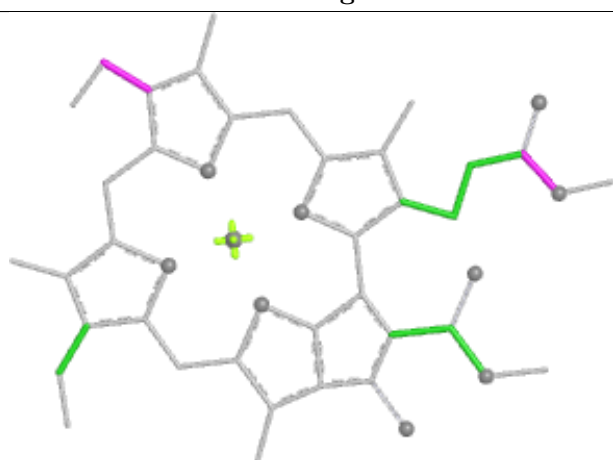
Ligand CLA B 819



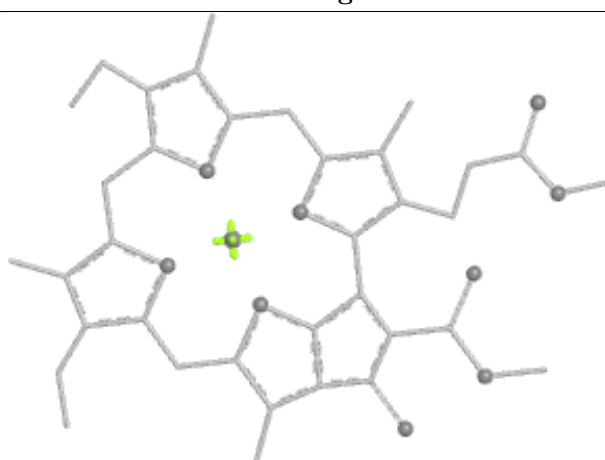
Bond lengths



Bond angles

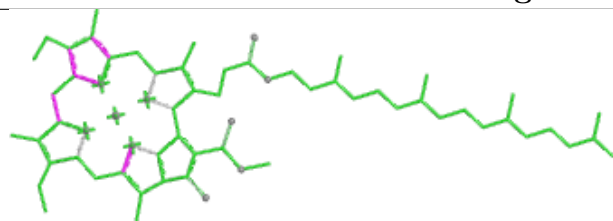


Torsions

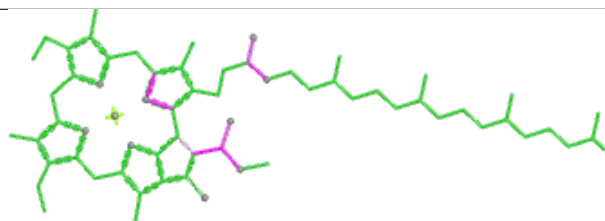


Rings

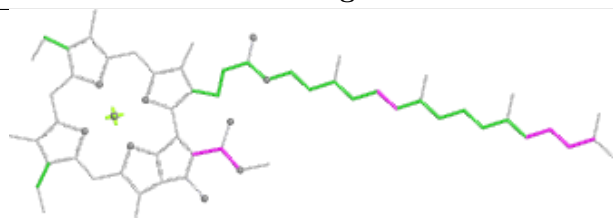
Ligand CLA B 834



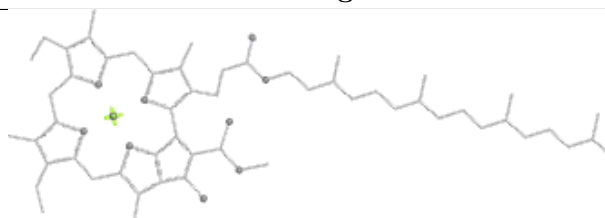
Bond lengths



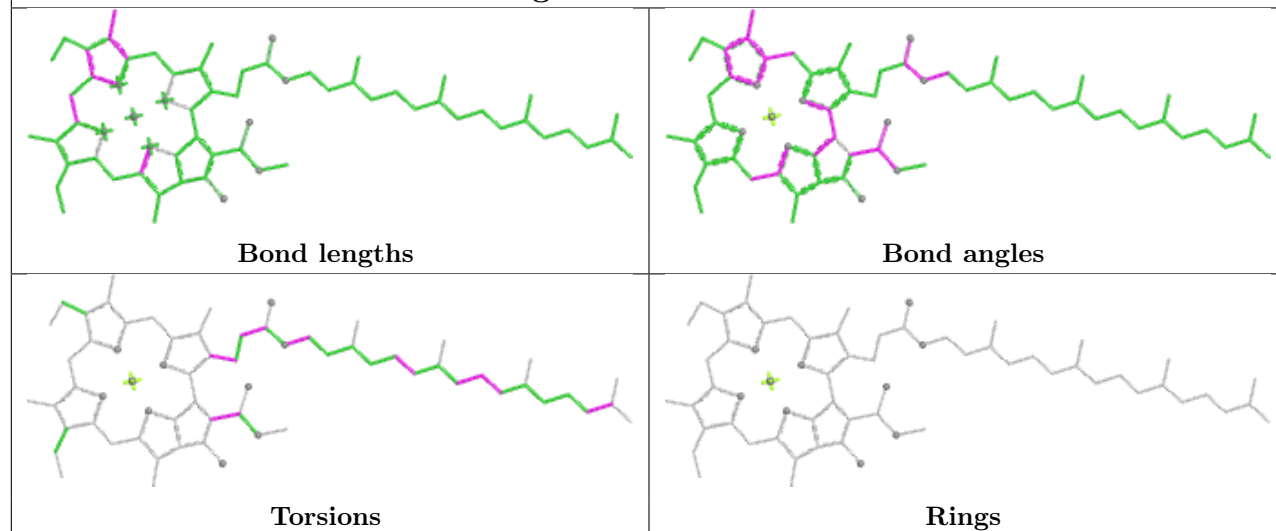
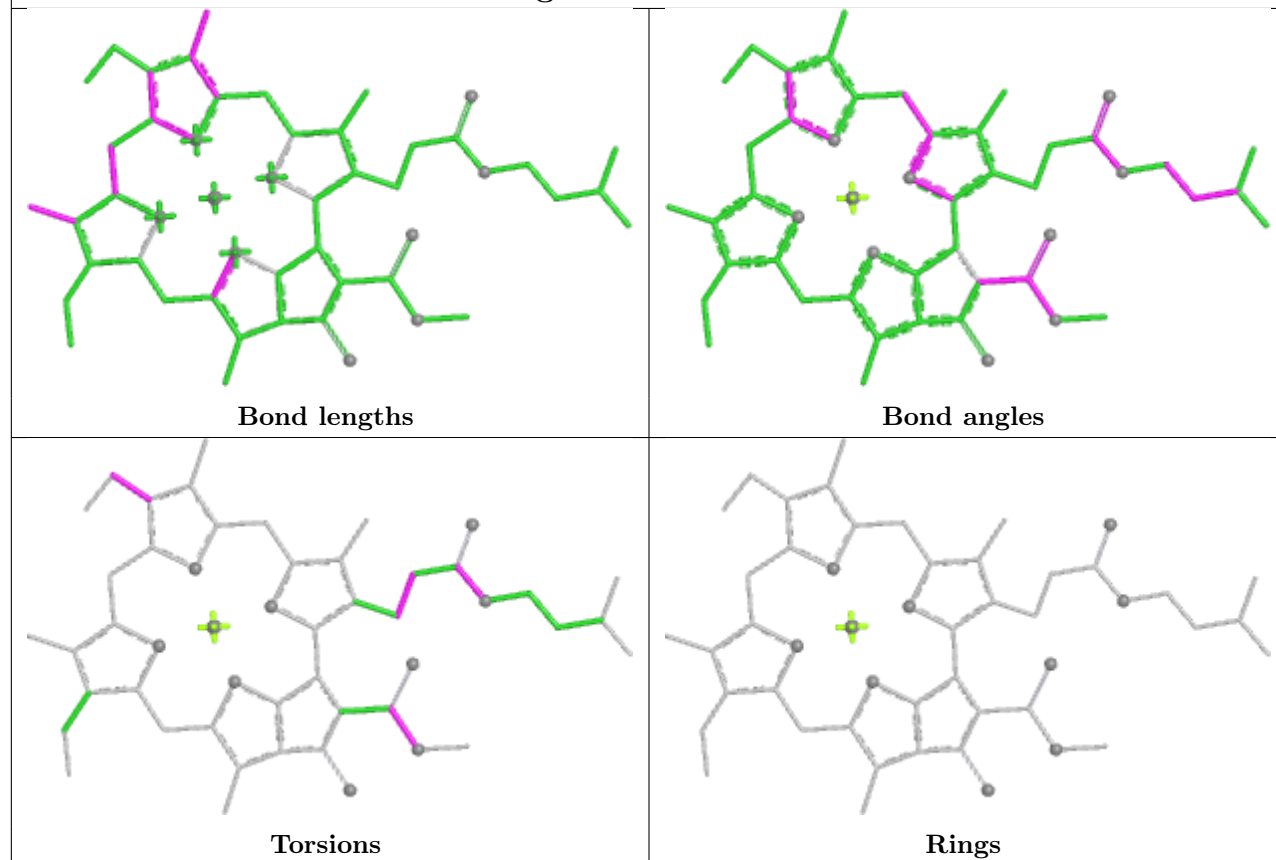
Bond angles

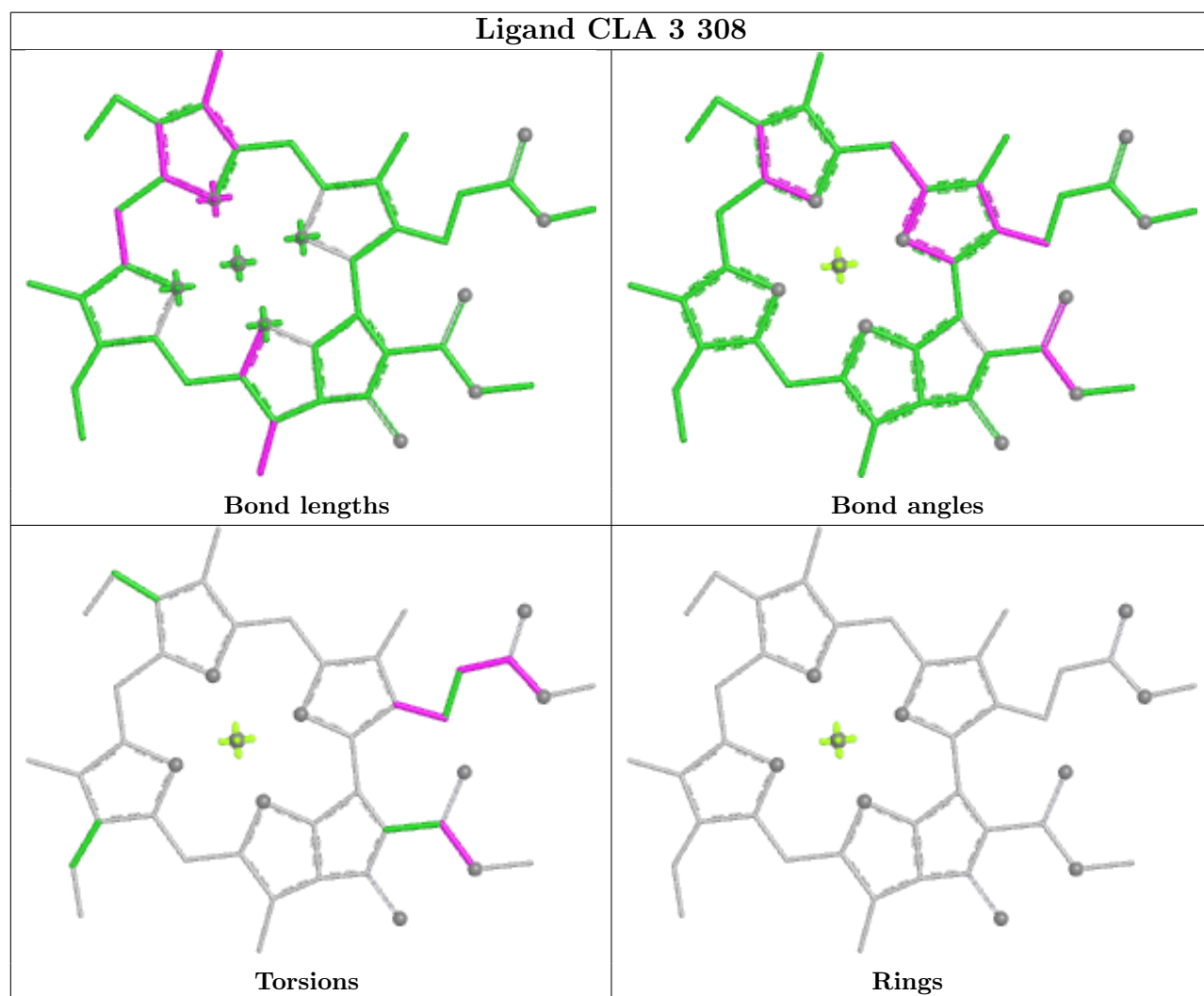
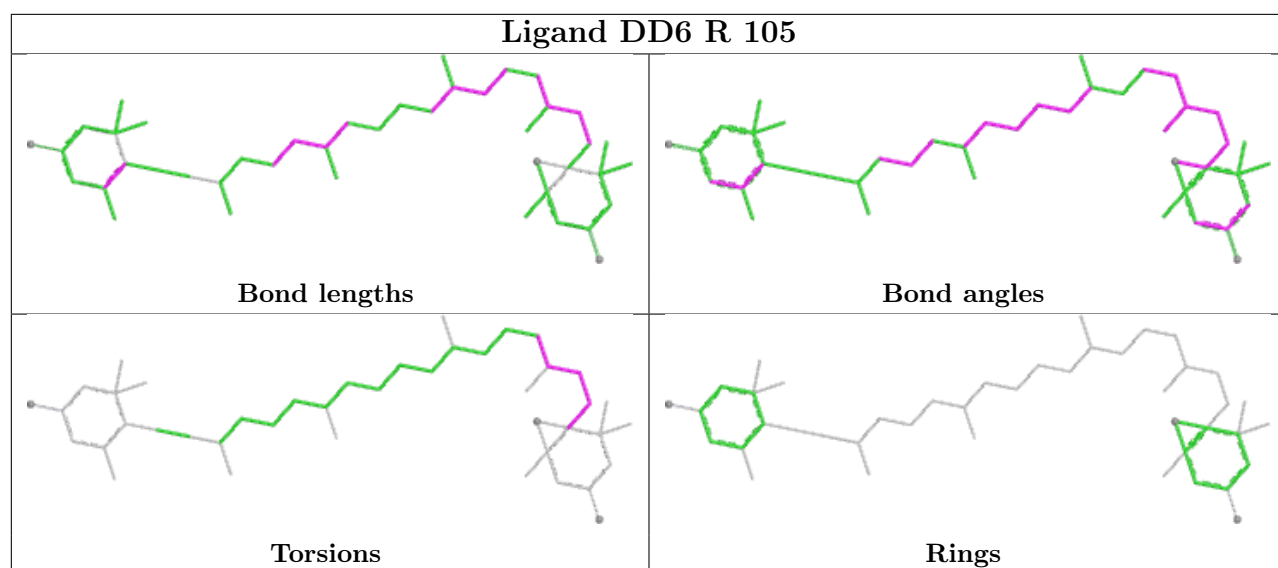


Torsions

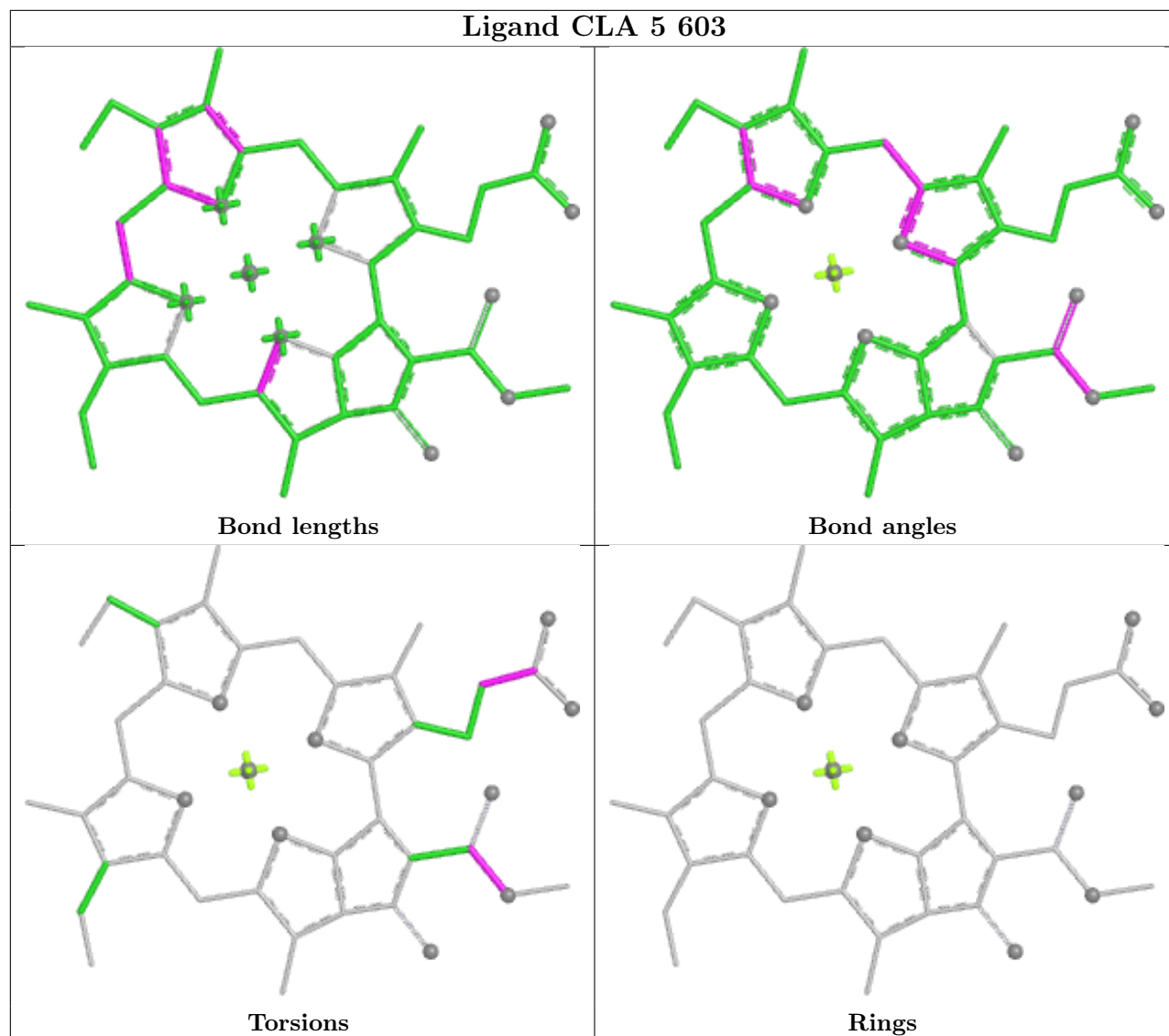


Rings

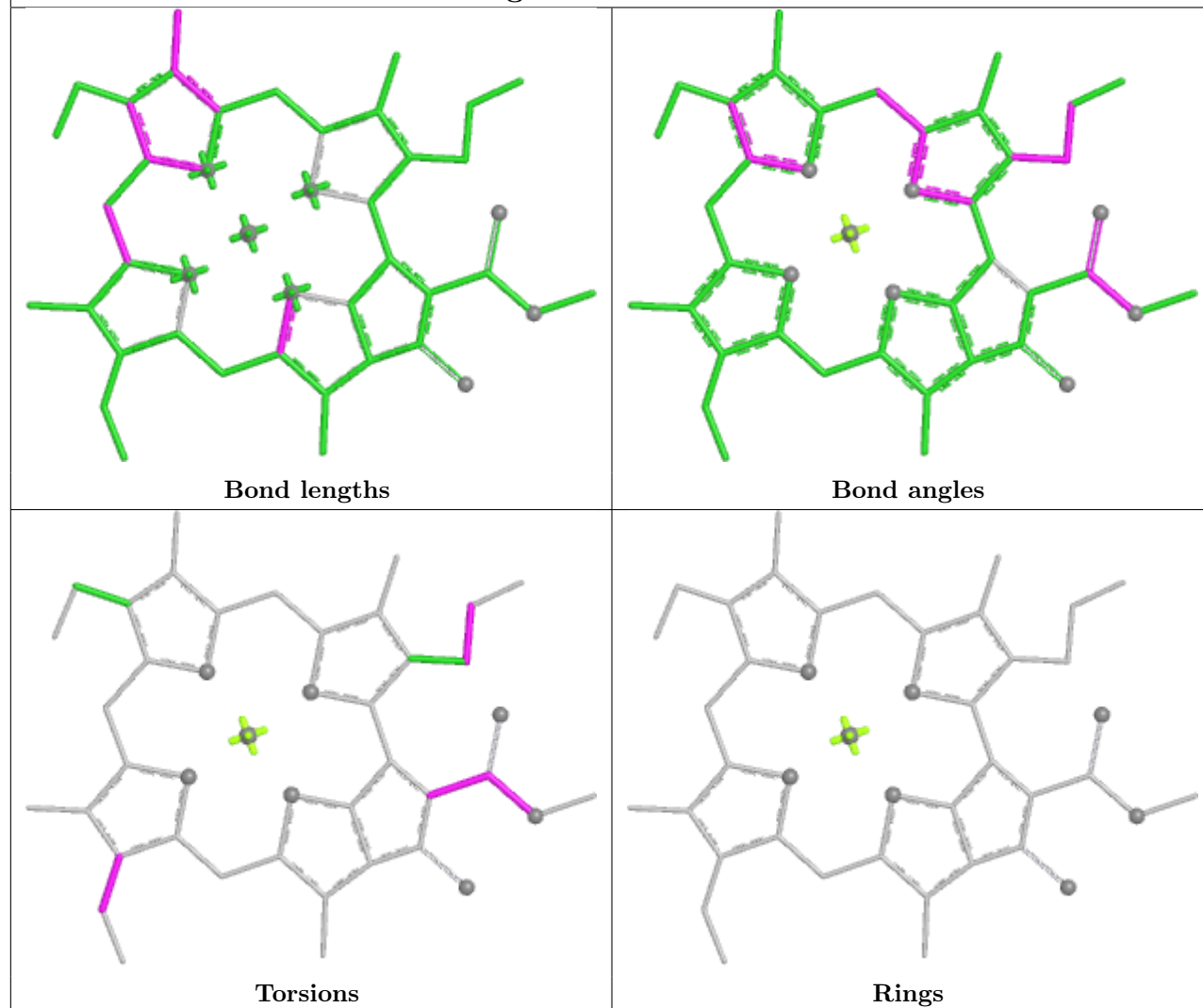
Ligand CLA B 804**Ligand CLA 8 203**



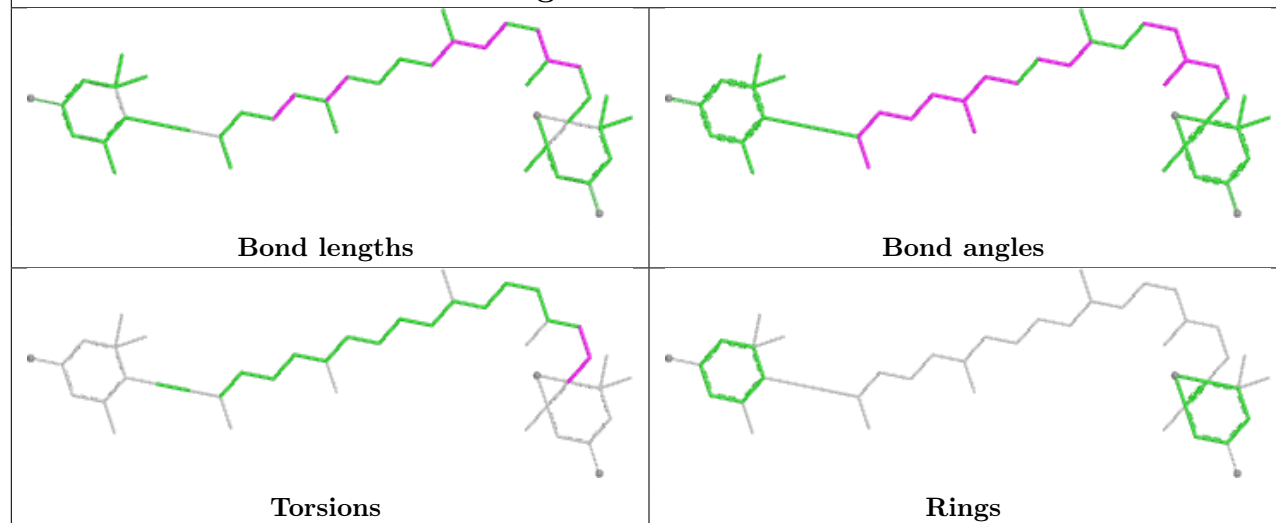
Ligand CLA 5 603



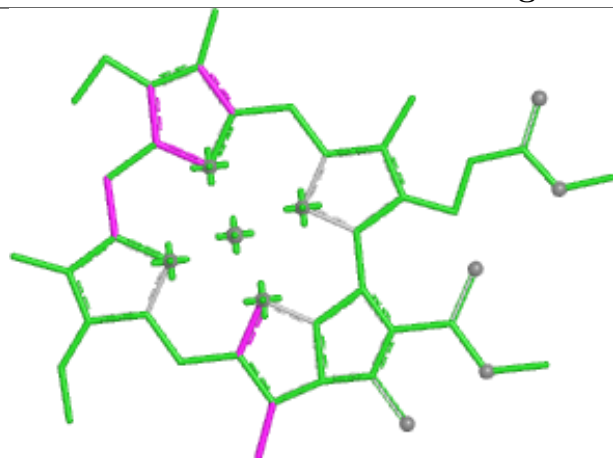
Ligand CLA c 601



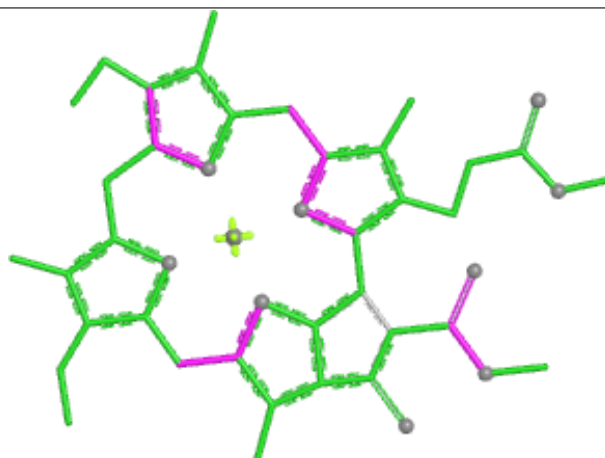
Ligand DD6 7 616



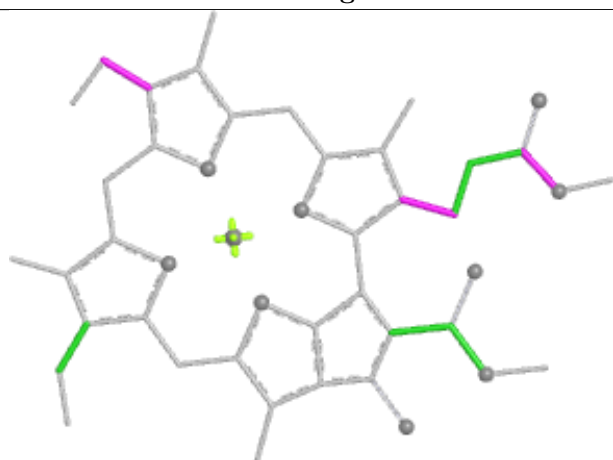
Ligand CLA 6 607



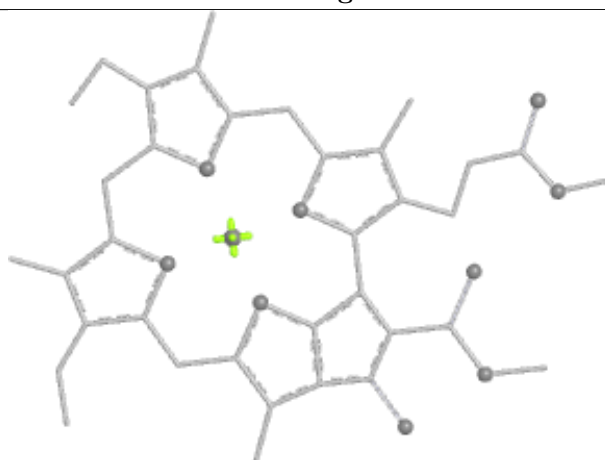
Bond lengths



Bond angles

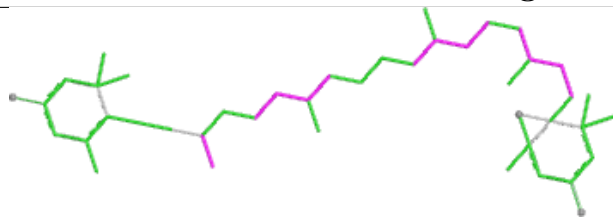


Torsions

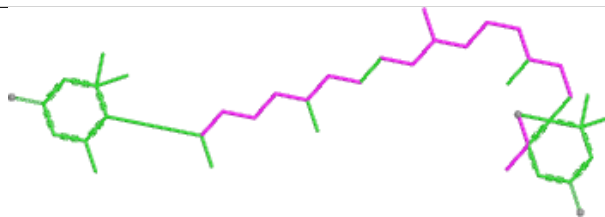


Rings

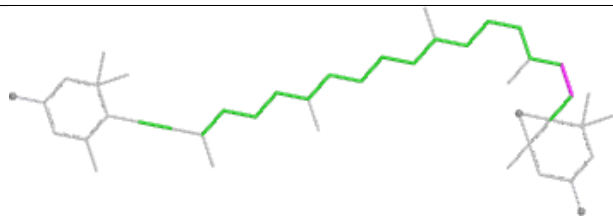
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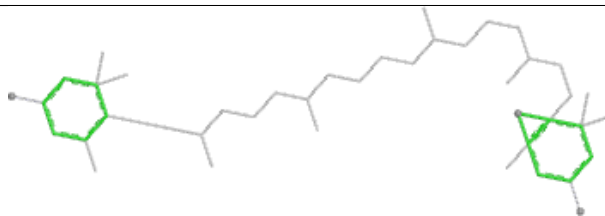
Bond lengths



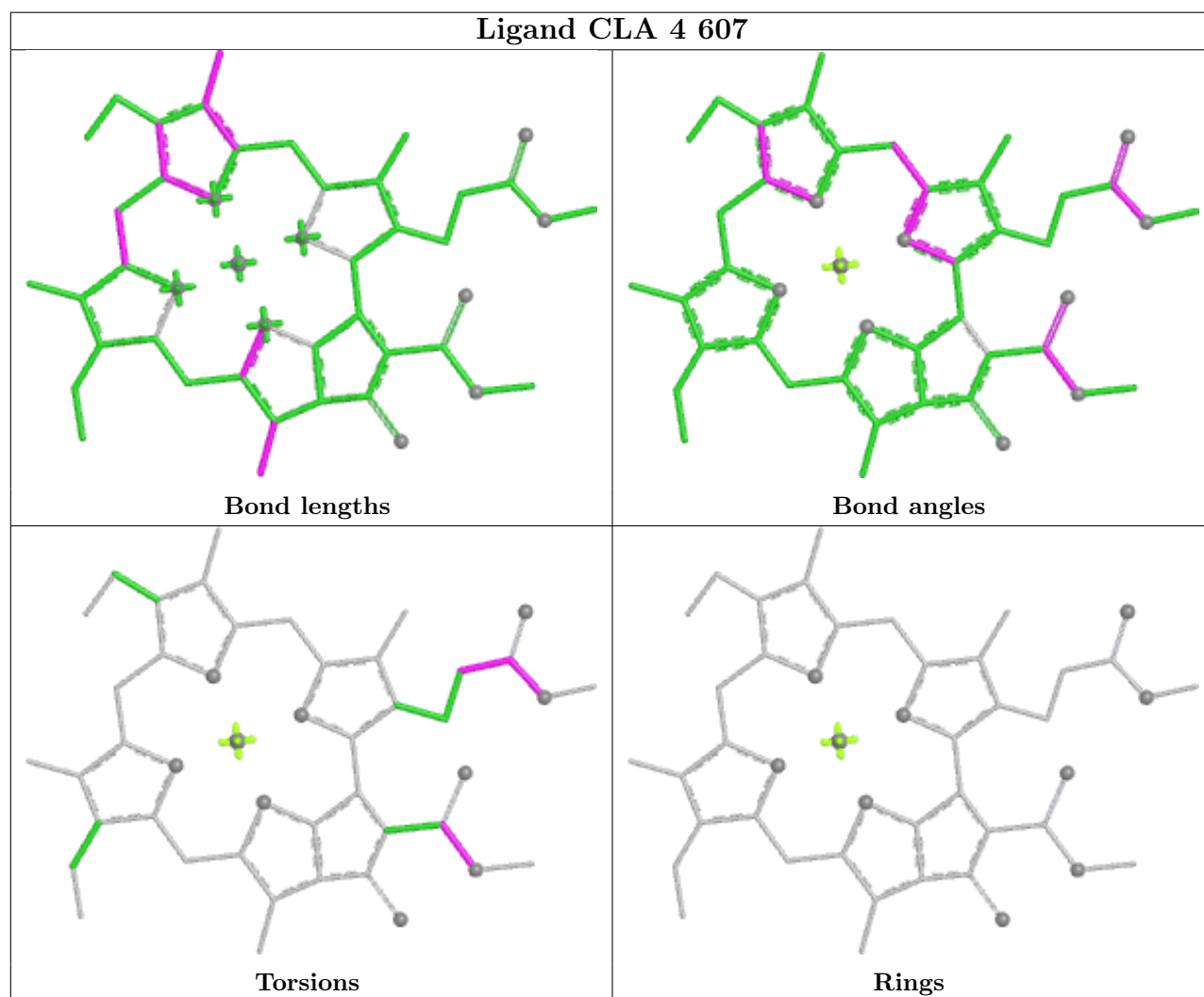
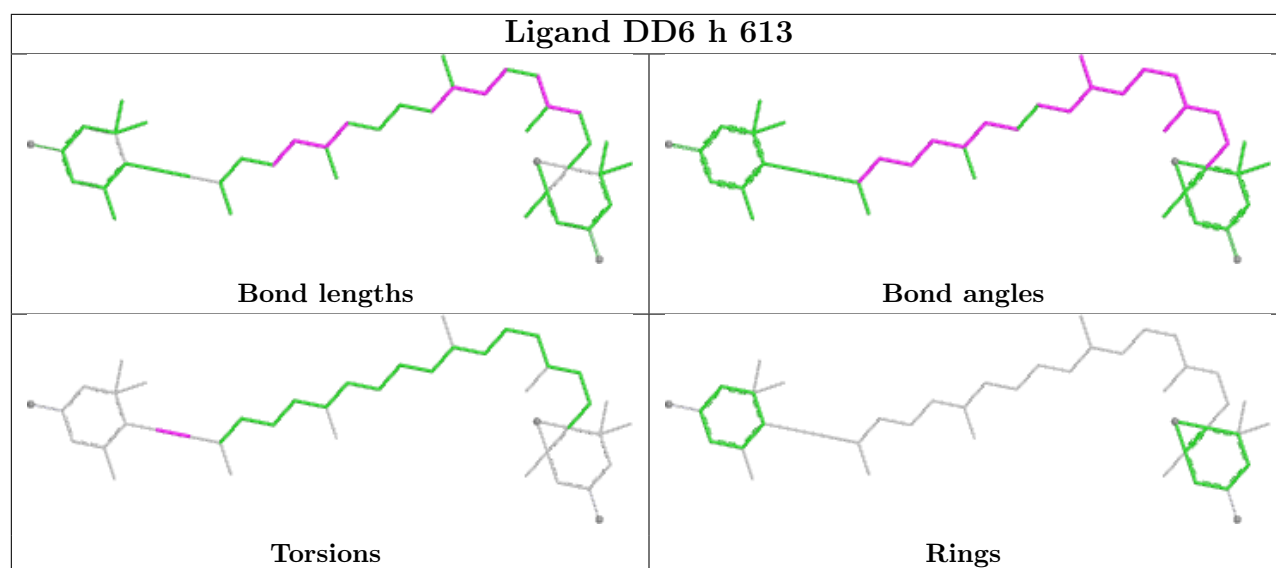
Bond angles

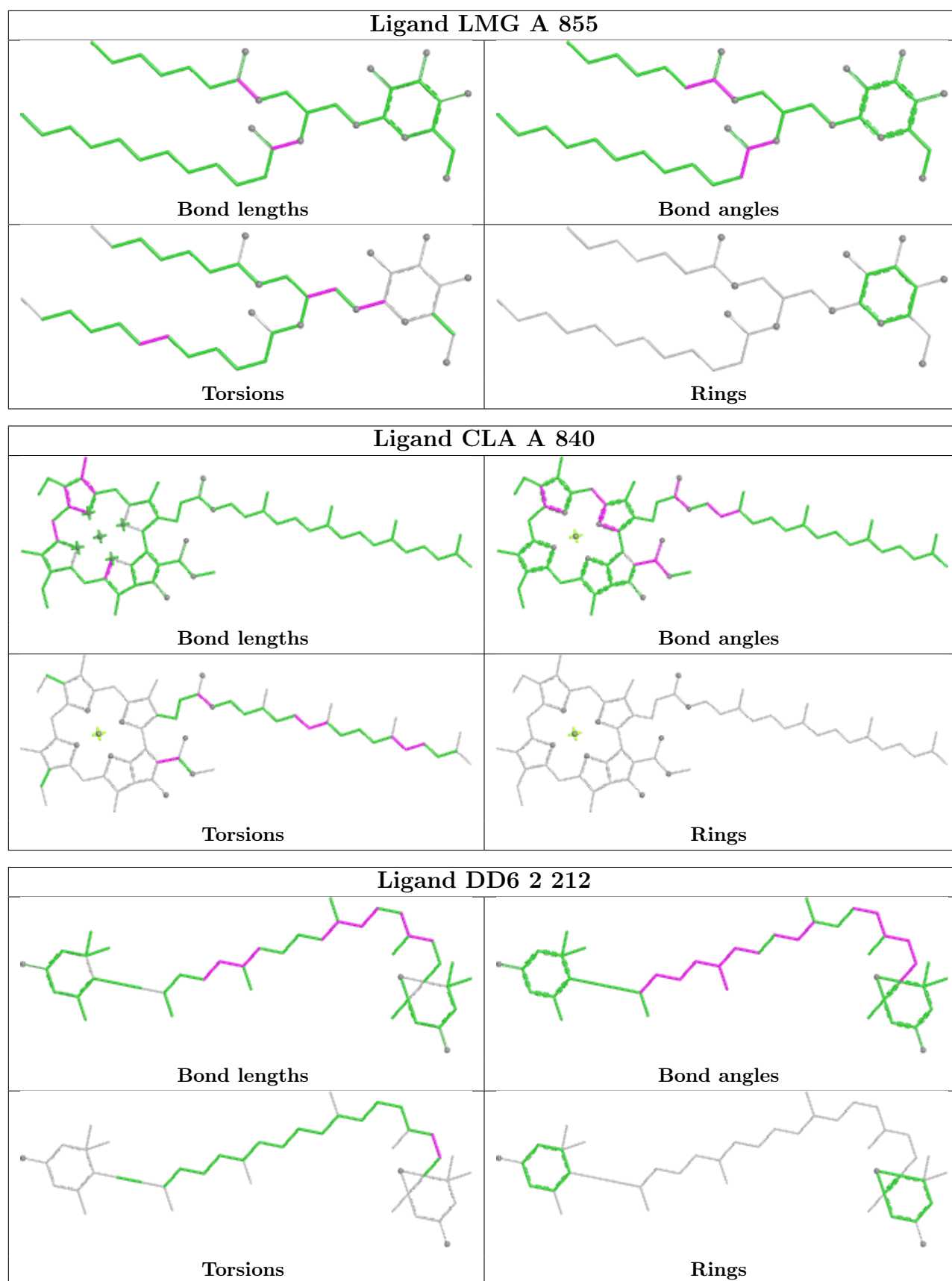


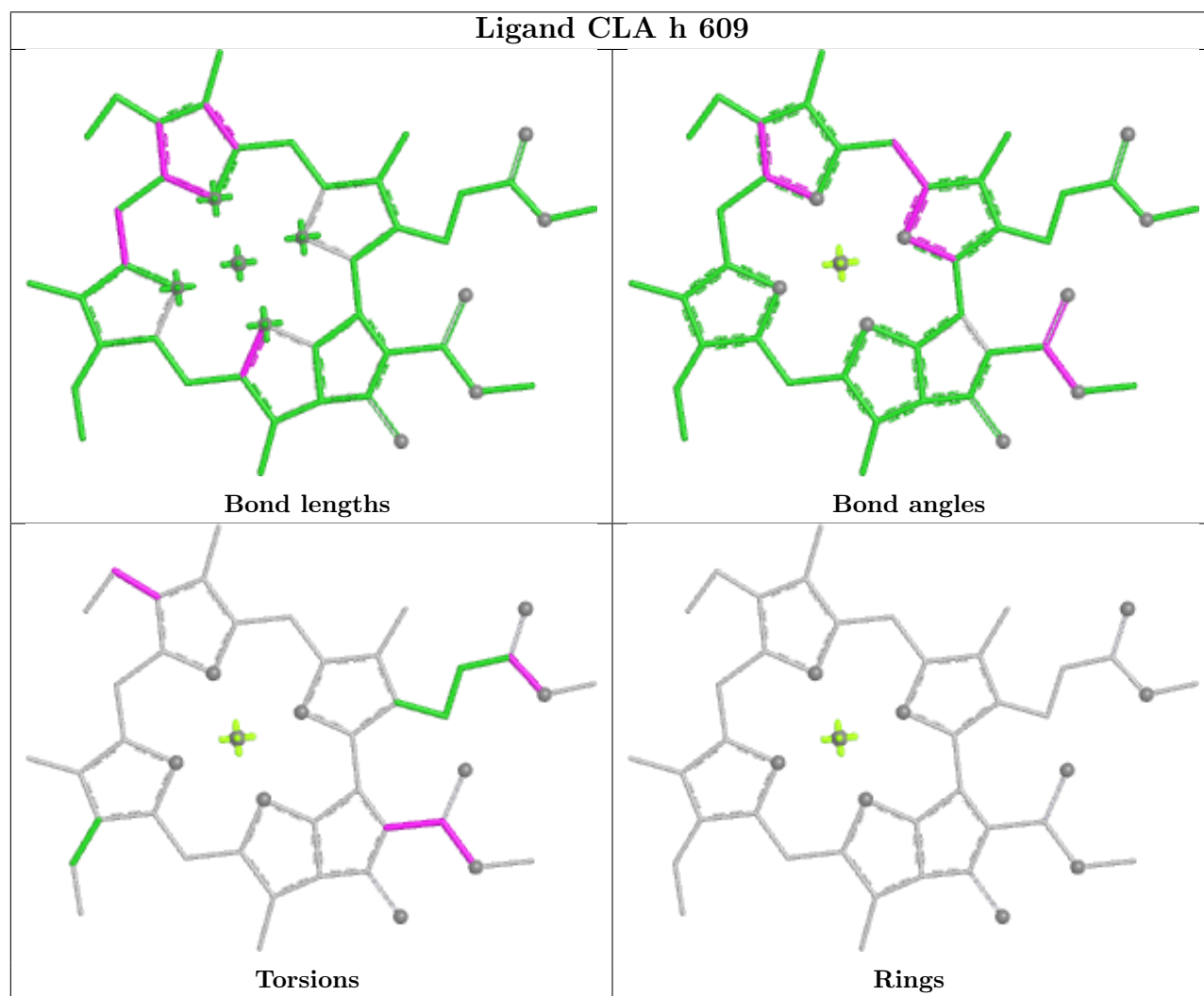
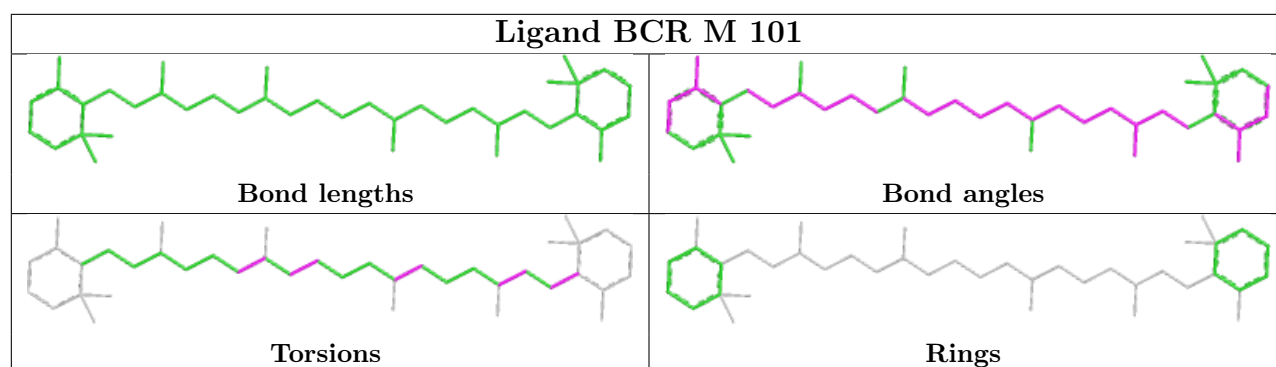
Torsions



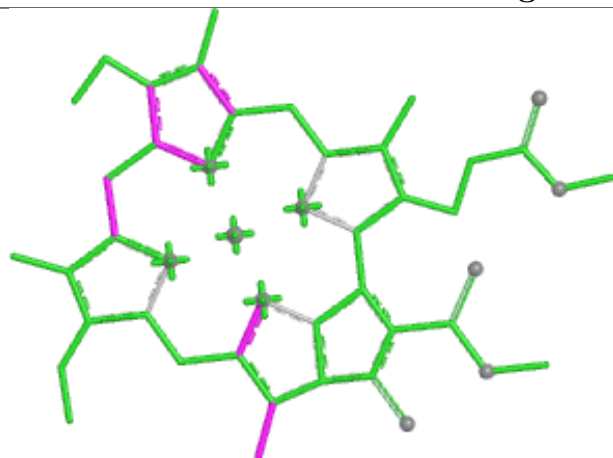
Rings



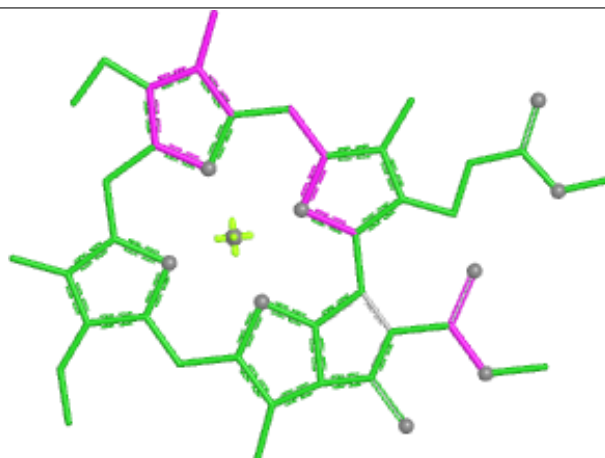




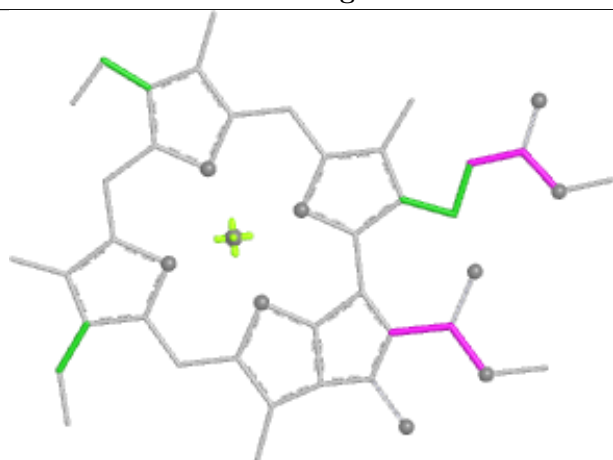
Ligand CLA 9 301



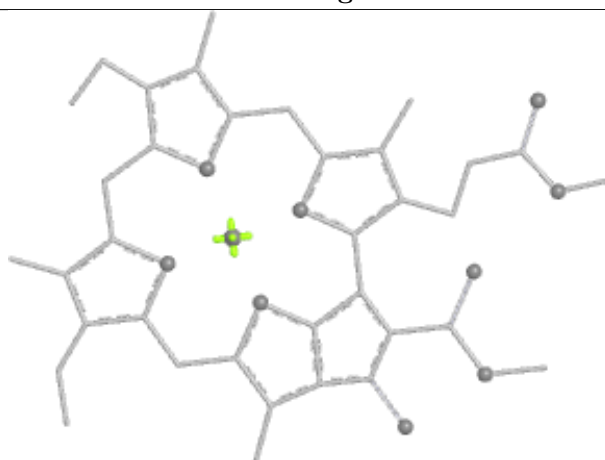
Bond lengths



Bond angles

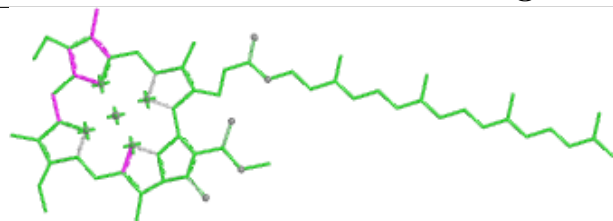


Torsions

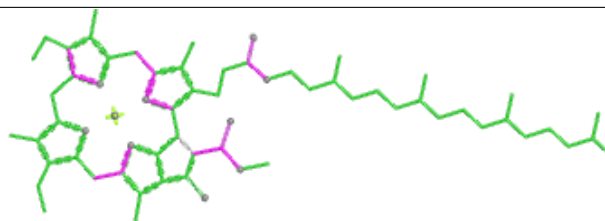


Rings

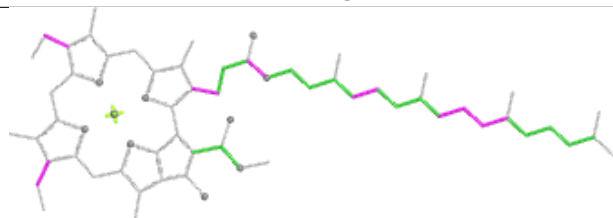
Ligand CLA L 204



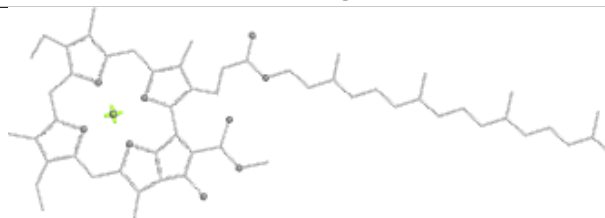
Bond lengths



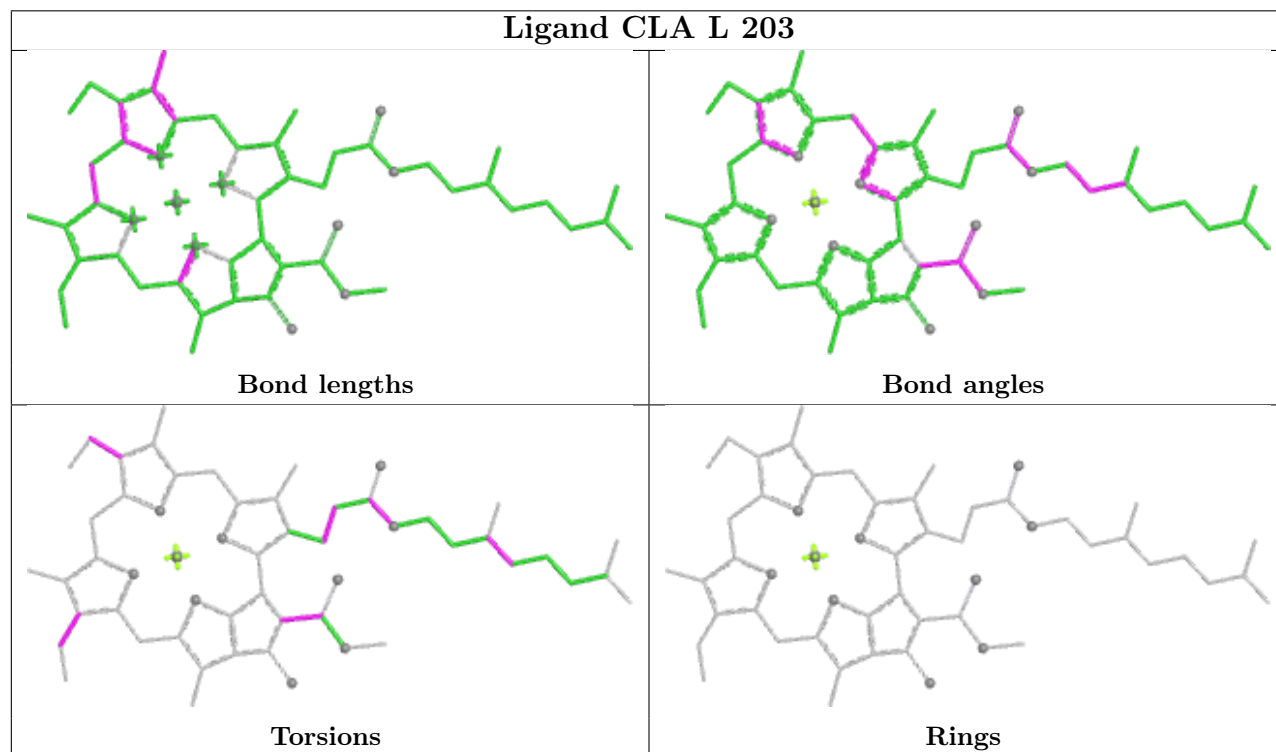
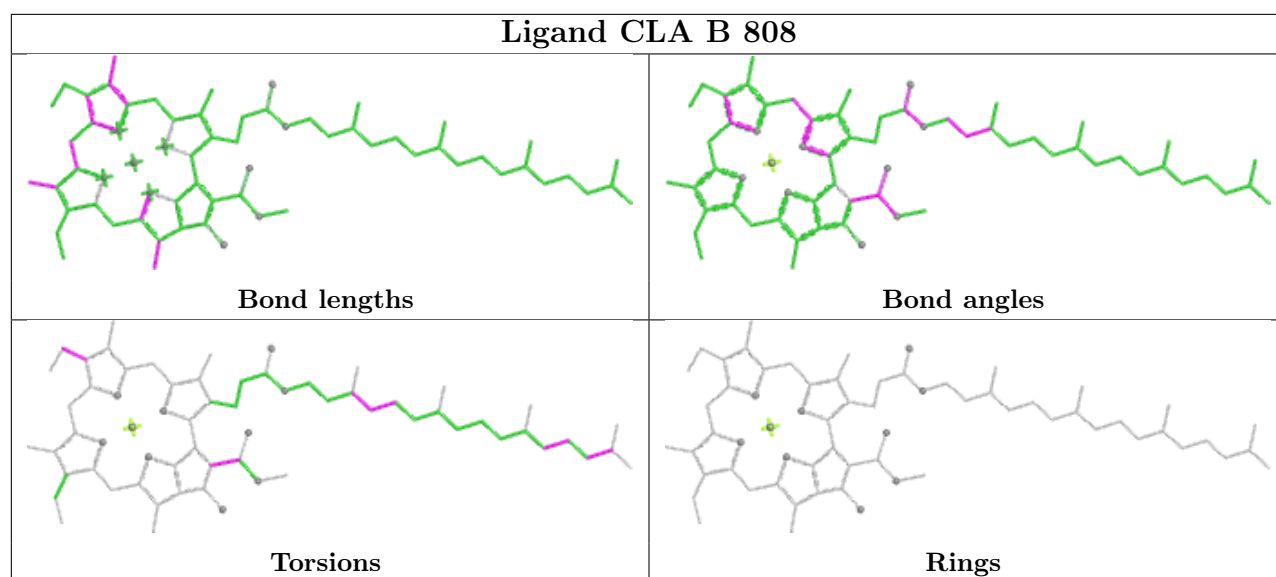
Bond angles

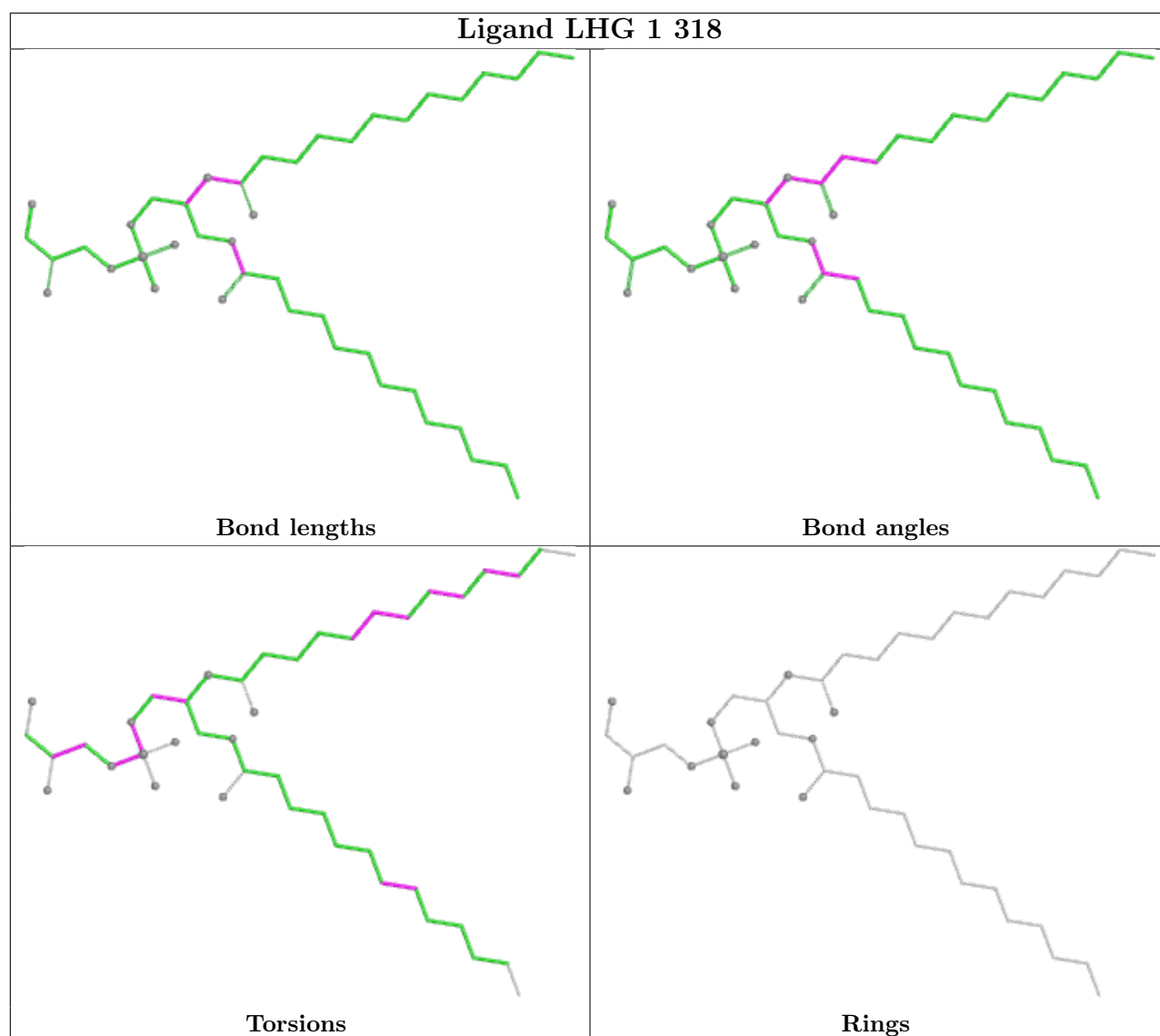


Torsions

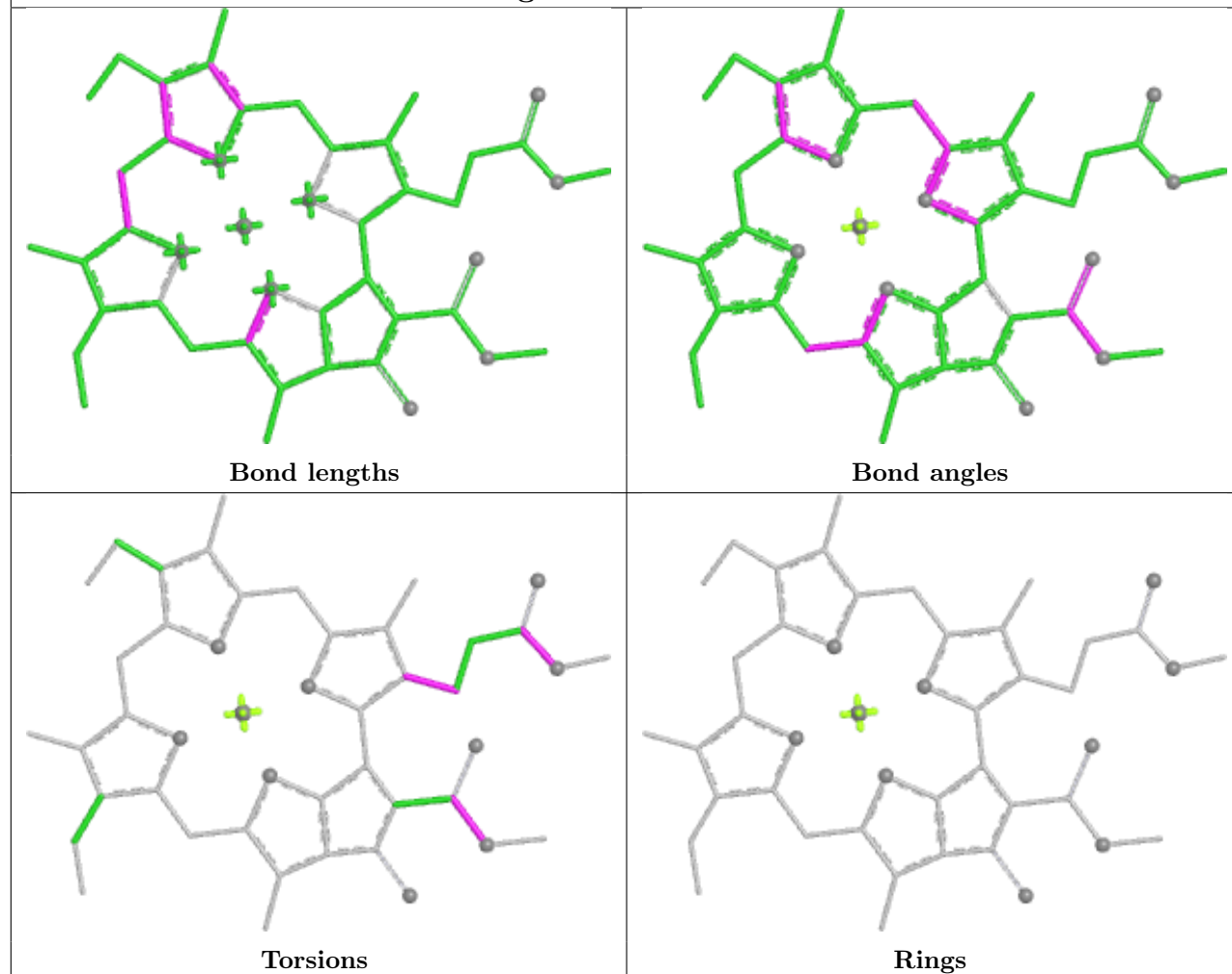


Rings

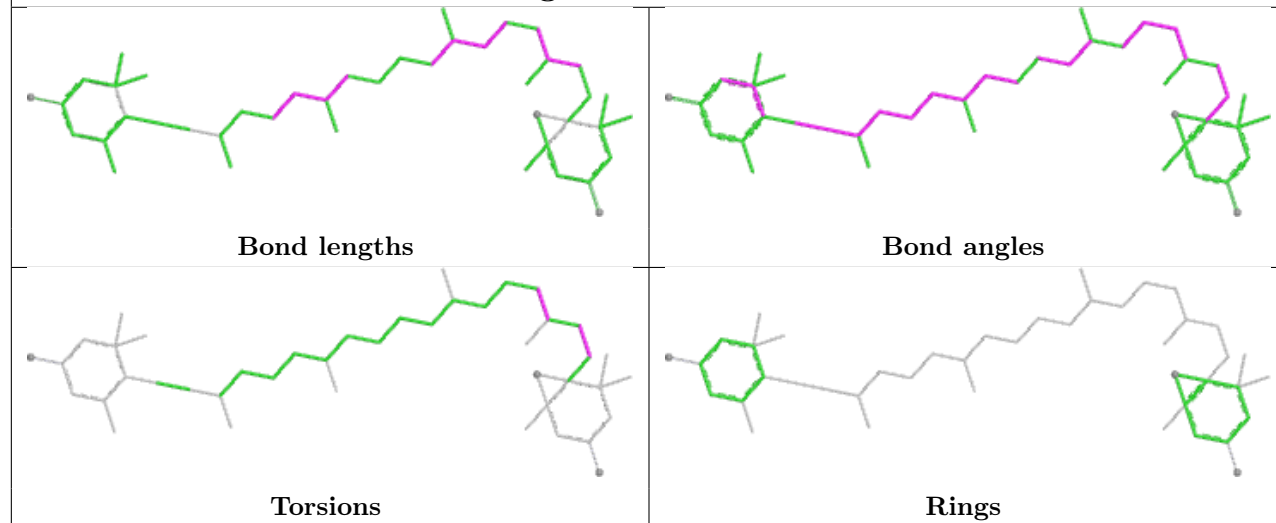




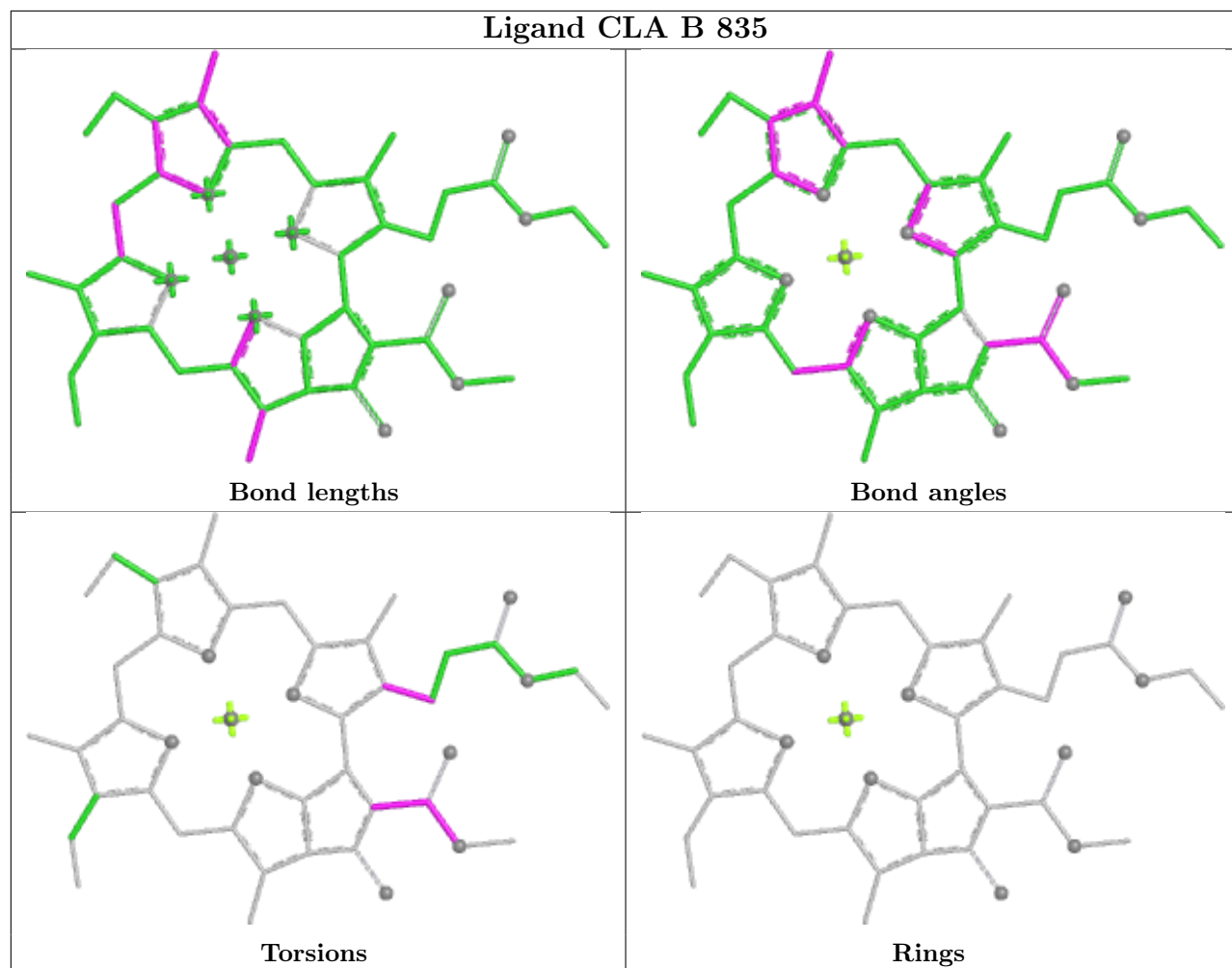
Ligand CLA 4 611



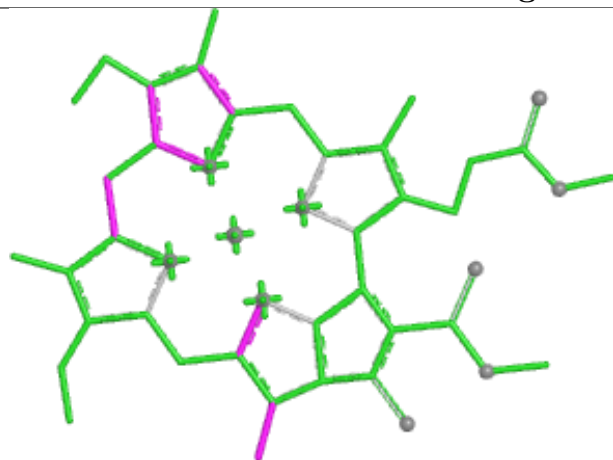
Ligand DD6 t 311



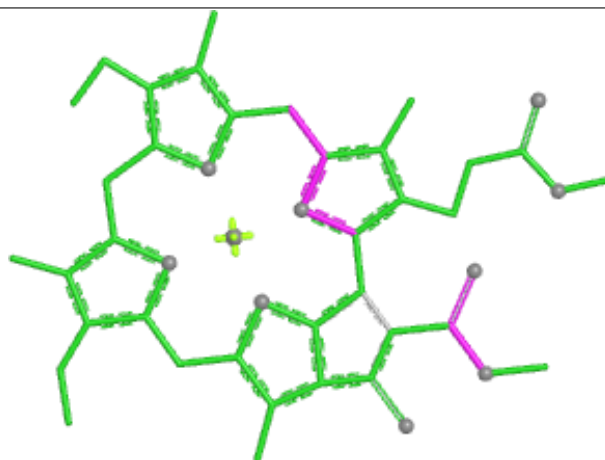
Ligand CLA B 835



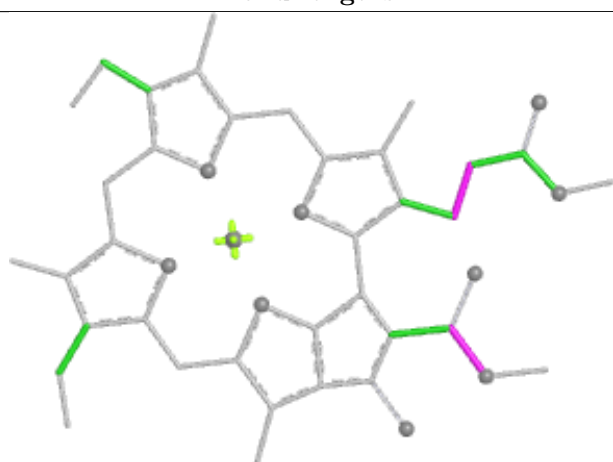
Ligand CLA 6 604



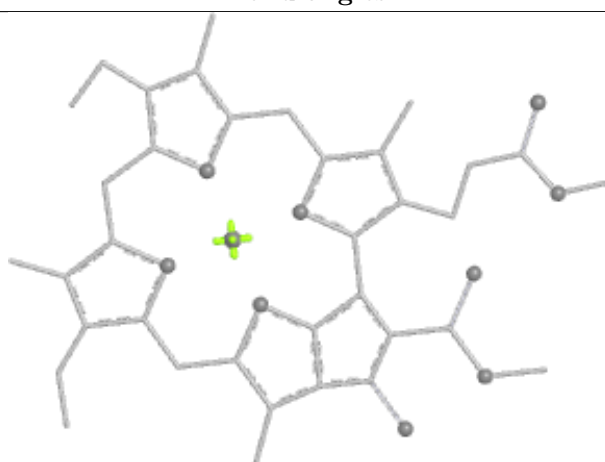
Bond lengths



Bond angles

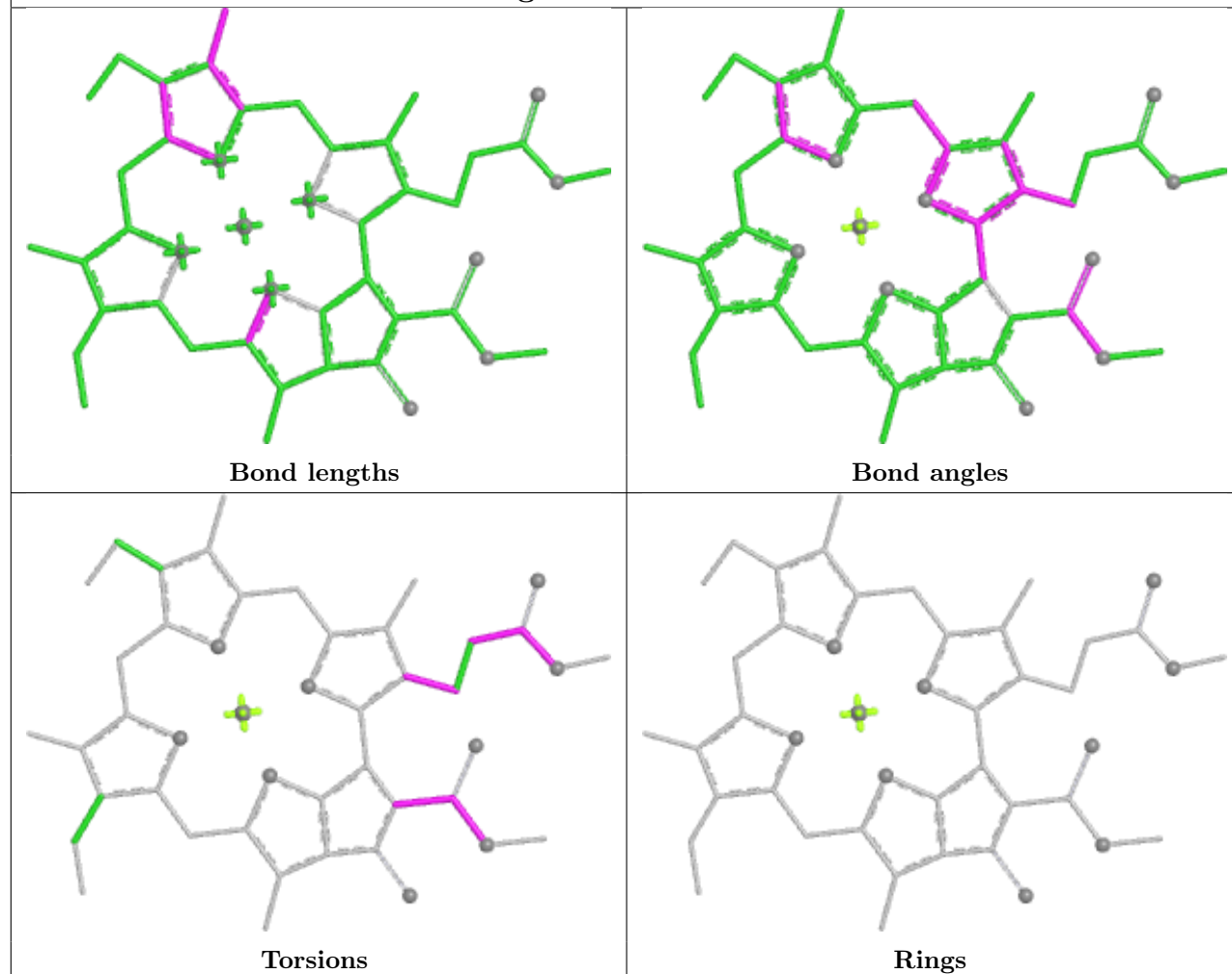


Torsions

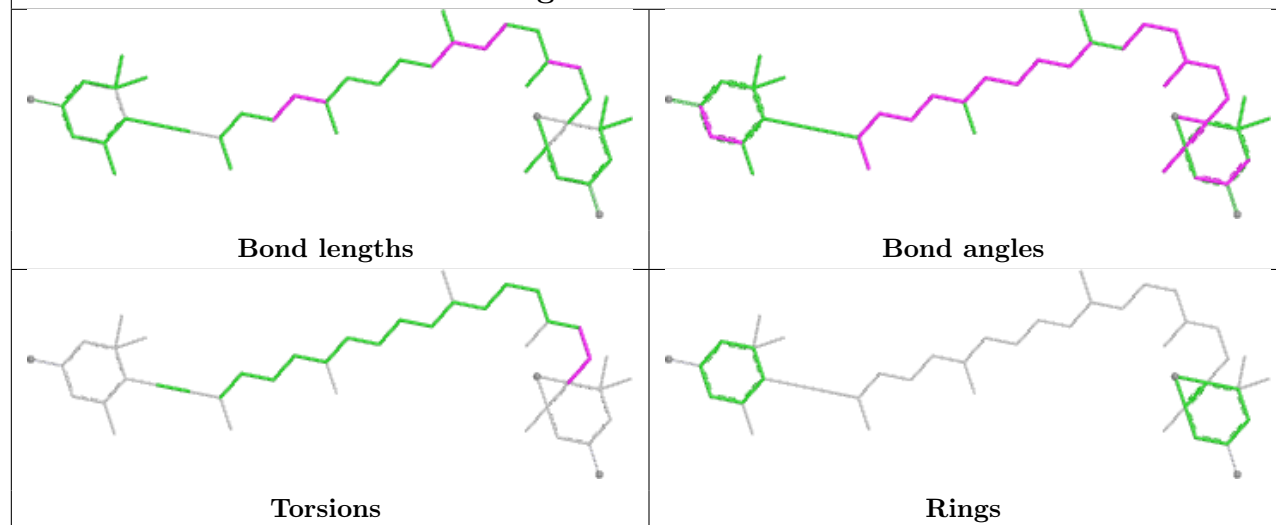


Rings

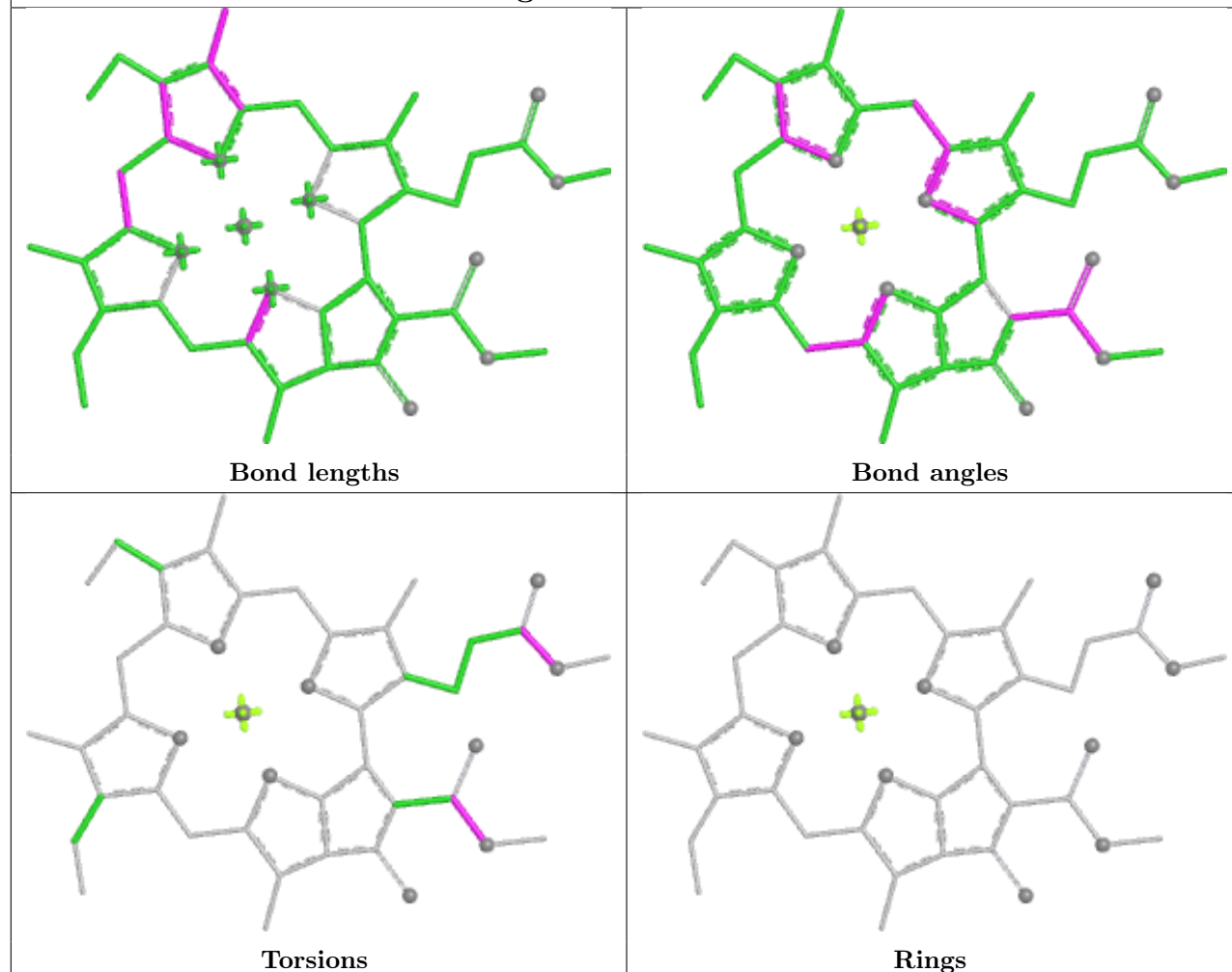
Ligand CLA 9 309



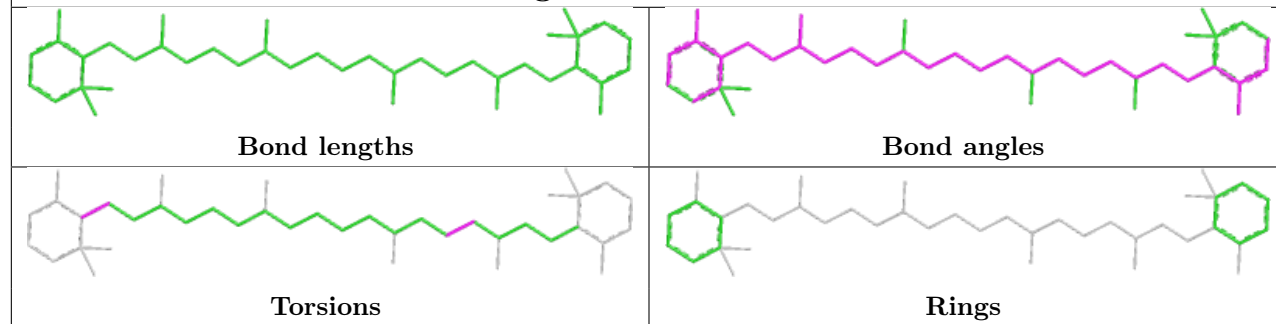
Ligand DD6 9 317

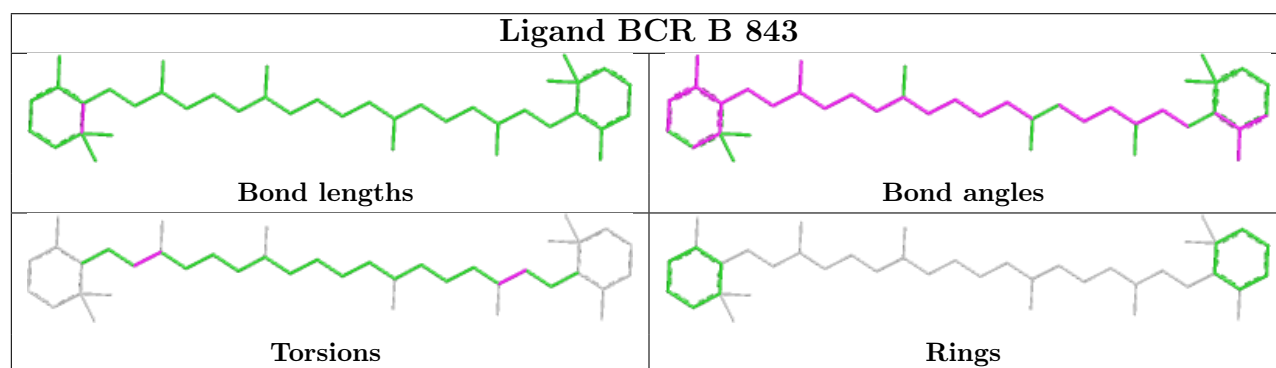
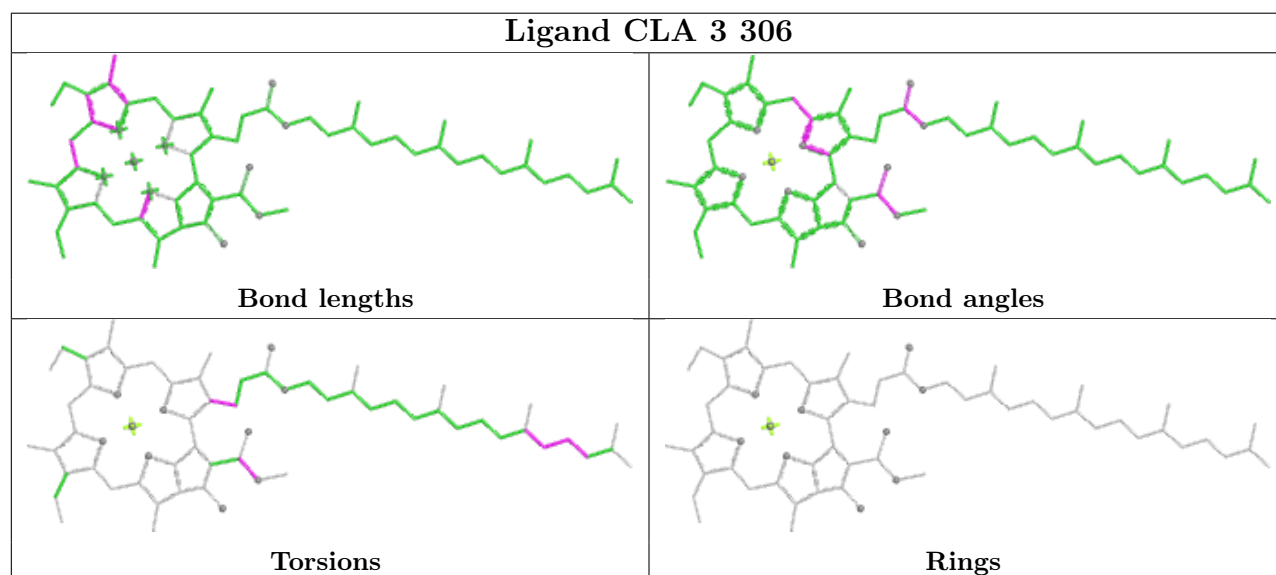
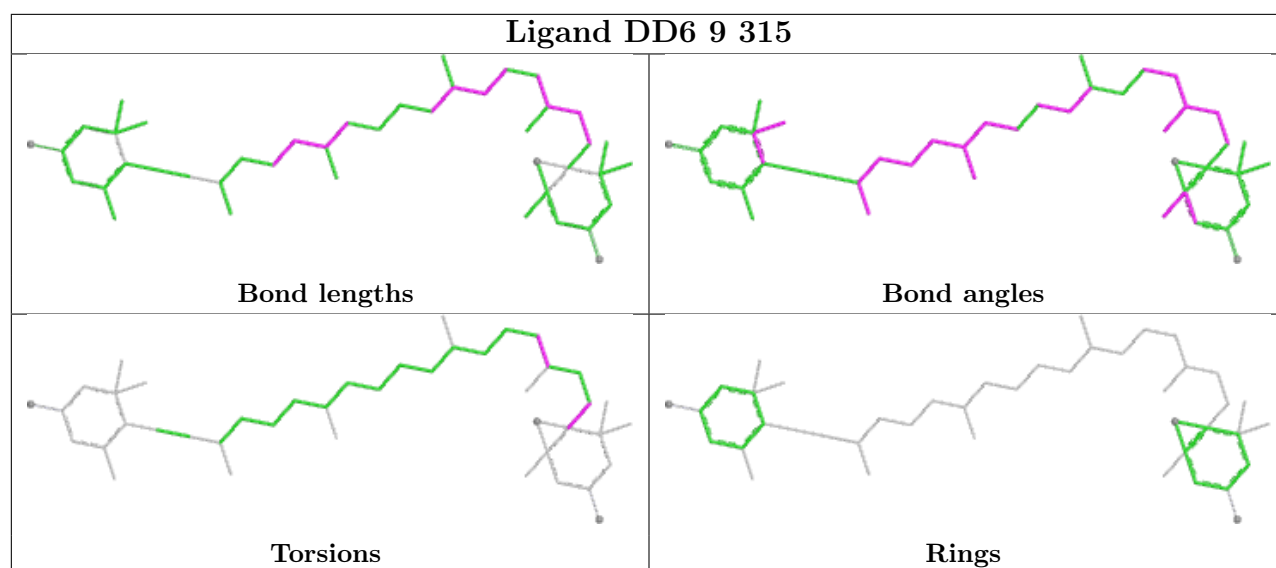


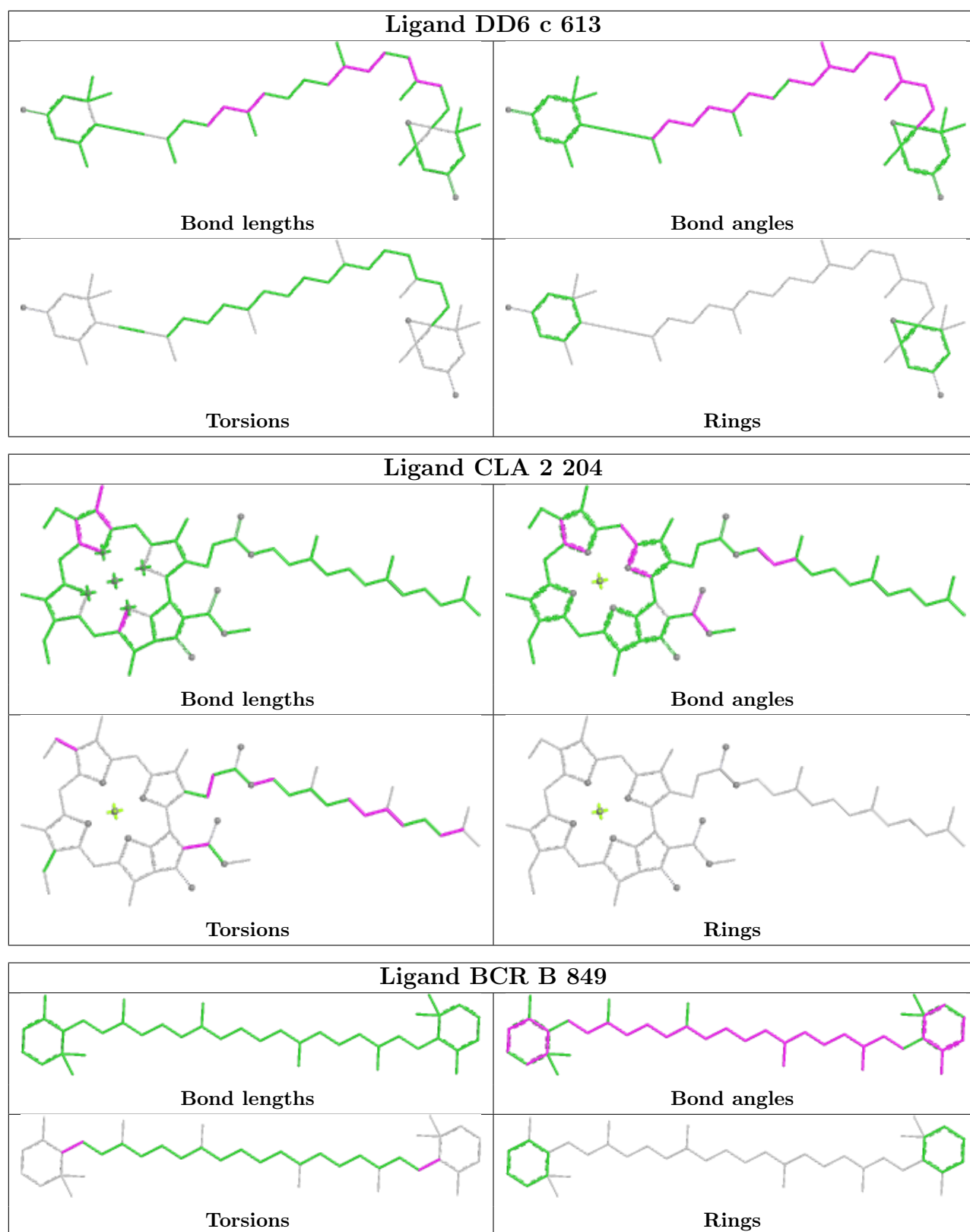
Ligand CLA h 605



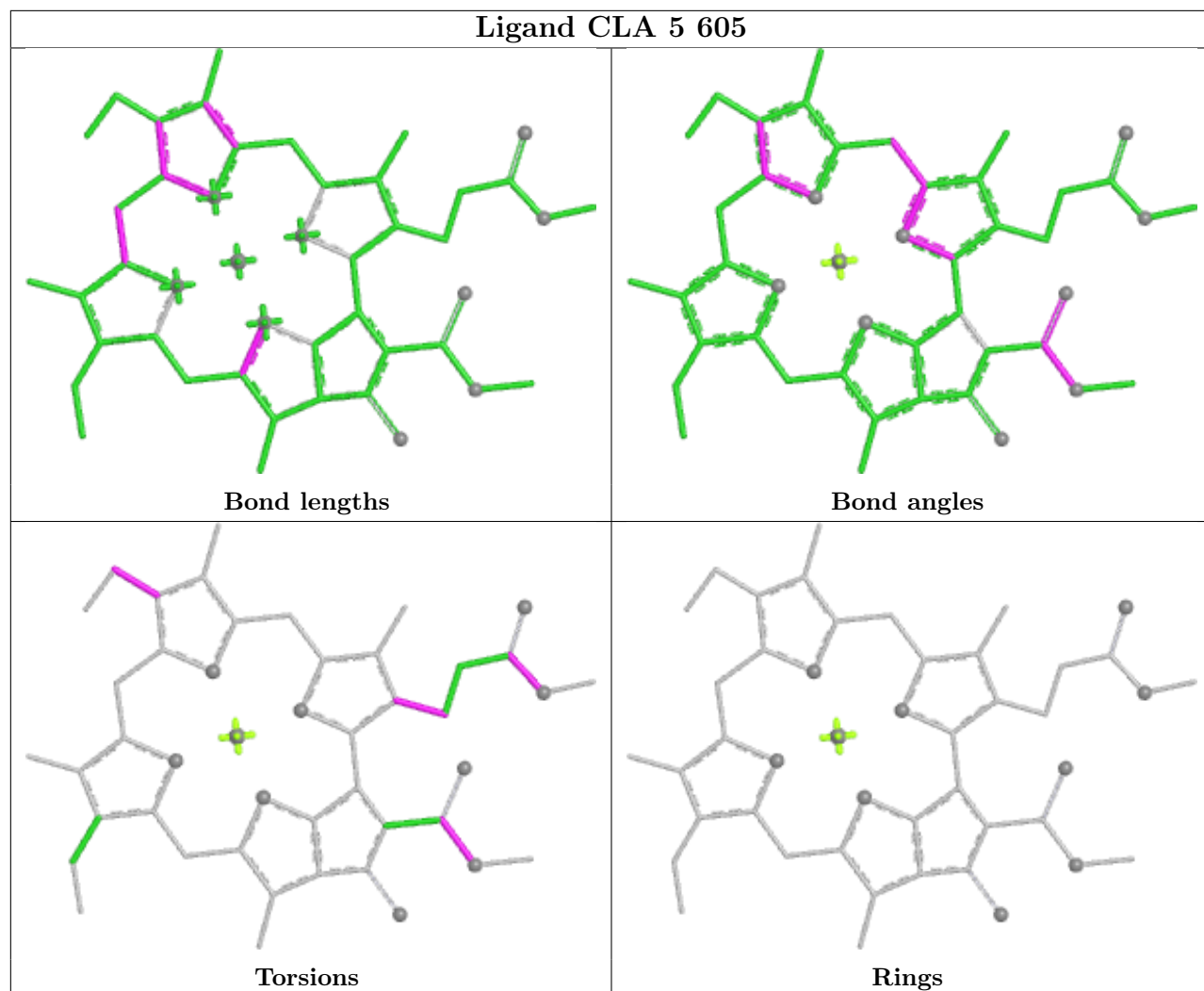
Ligand BCR k 316

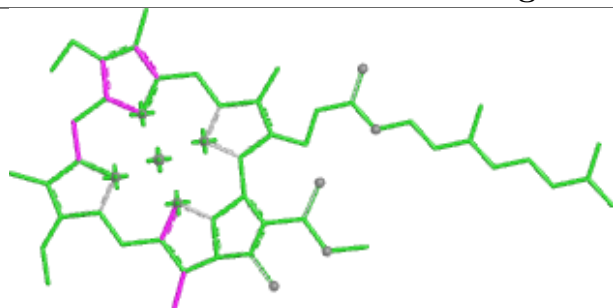




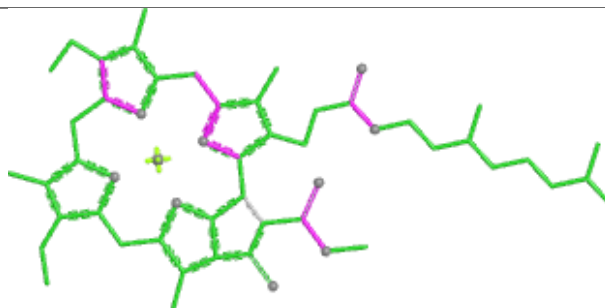


Ligand CLA 5 605

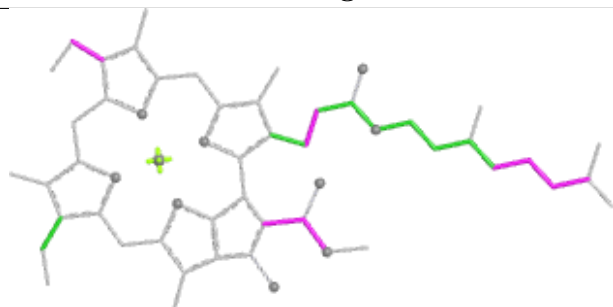


Ligand CLA 1 304

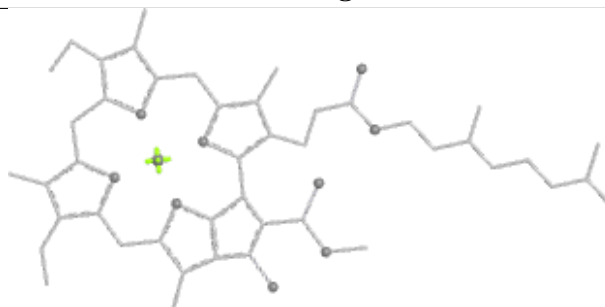
Bond lengths



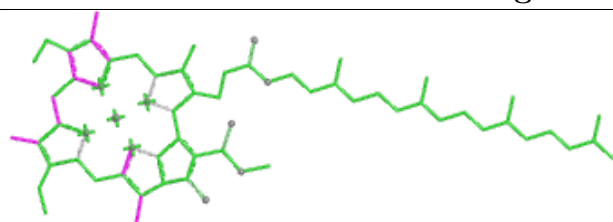
Bond angles



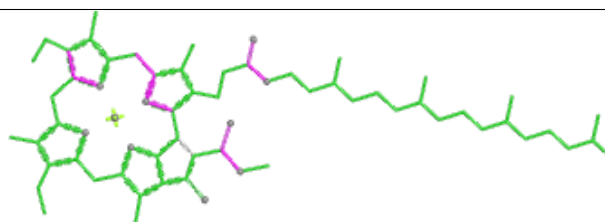
Torsions



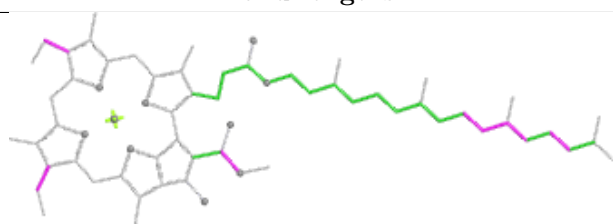
Rings

Ligand CLA B 803

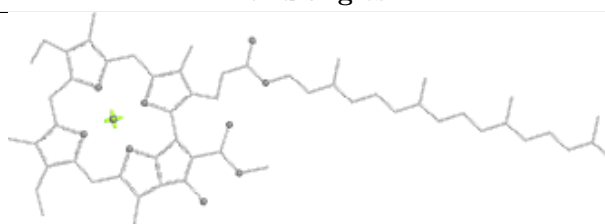
Bond lengths



Bond angles

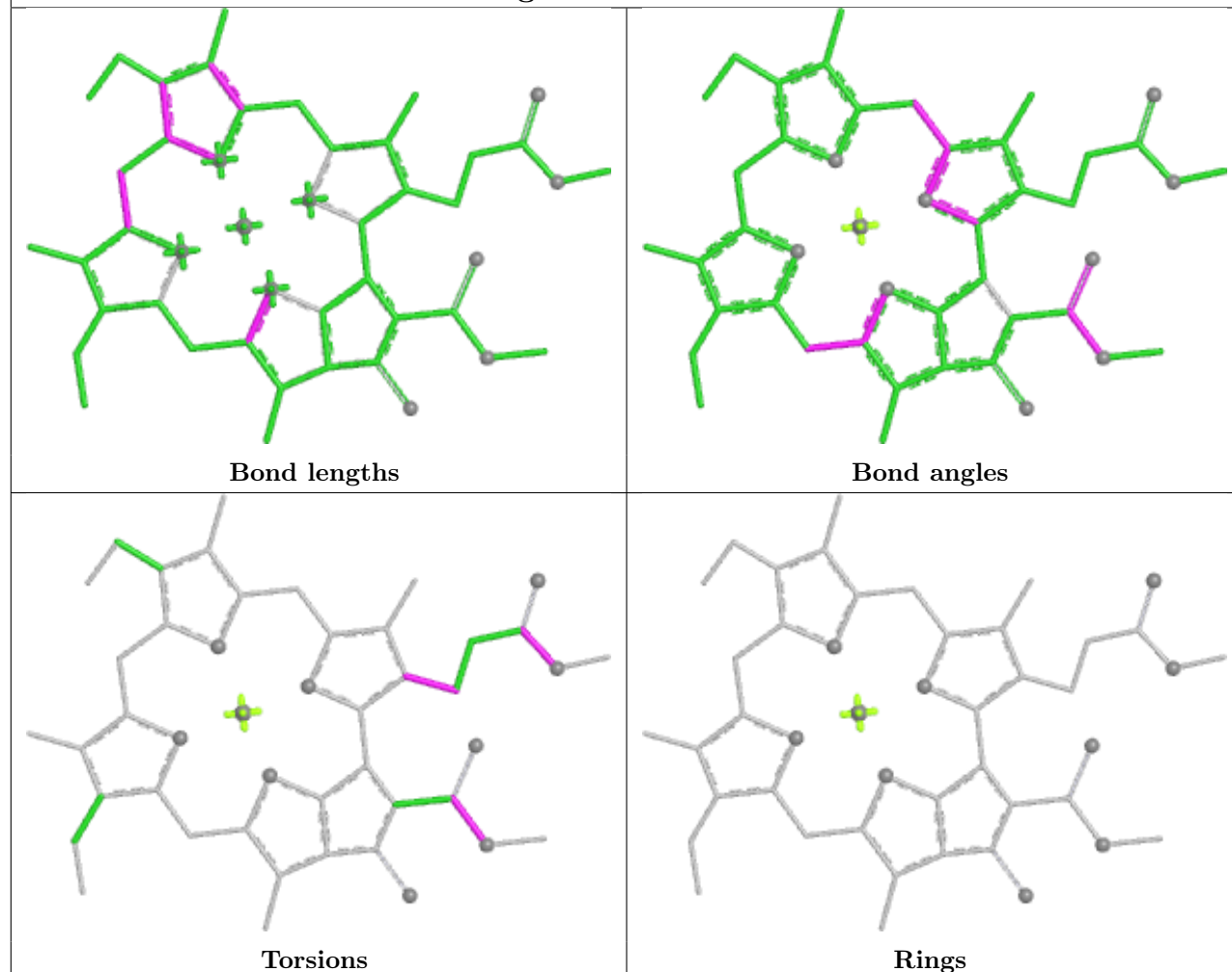


Torsions

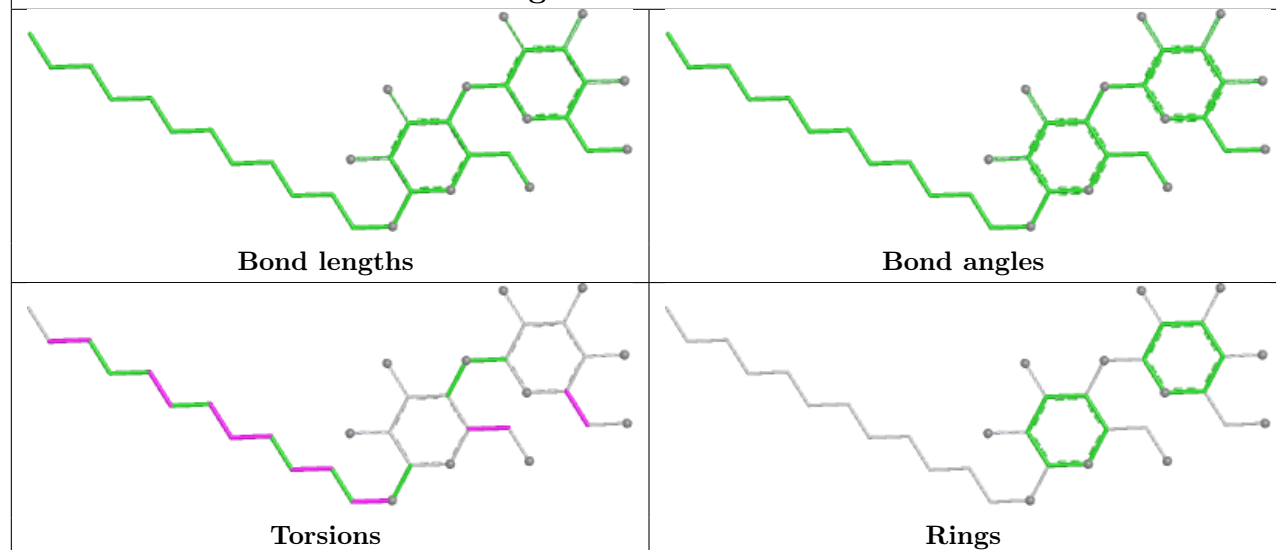


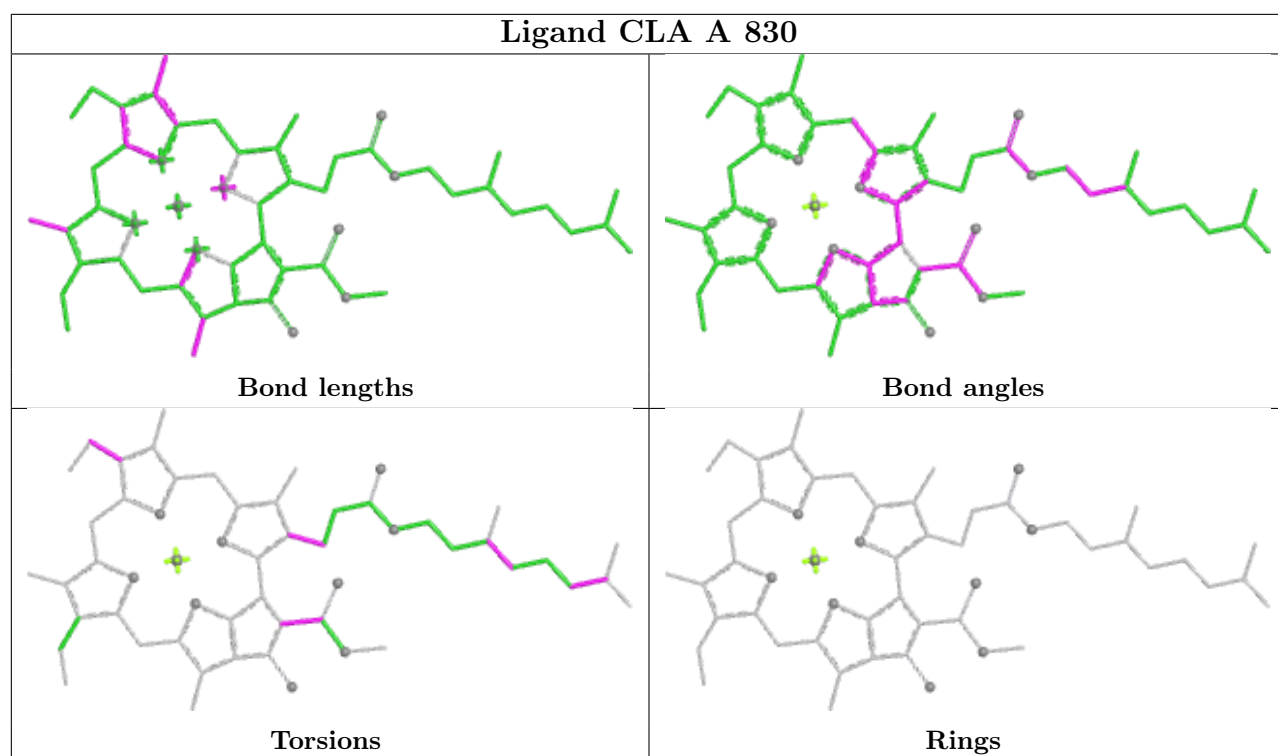
Rings

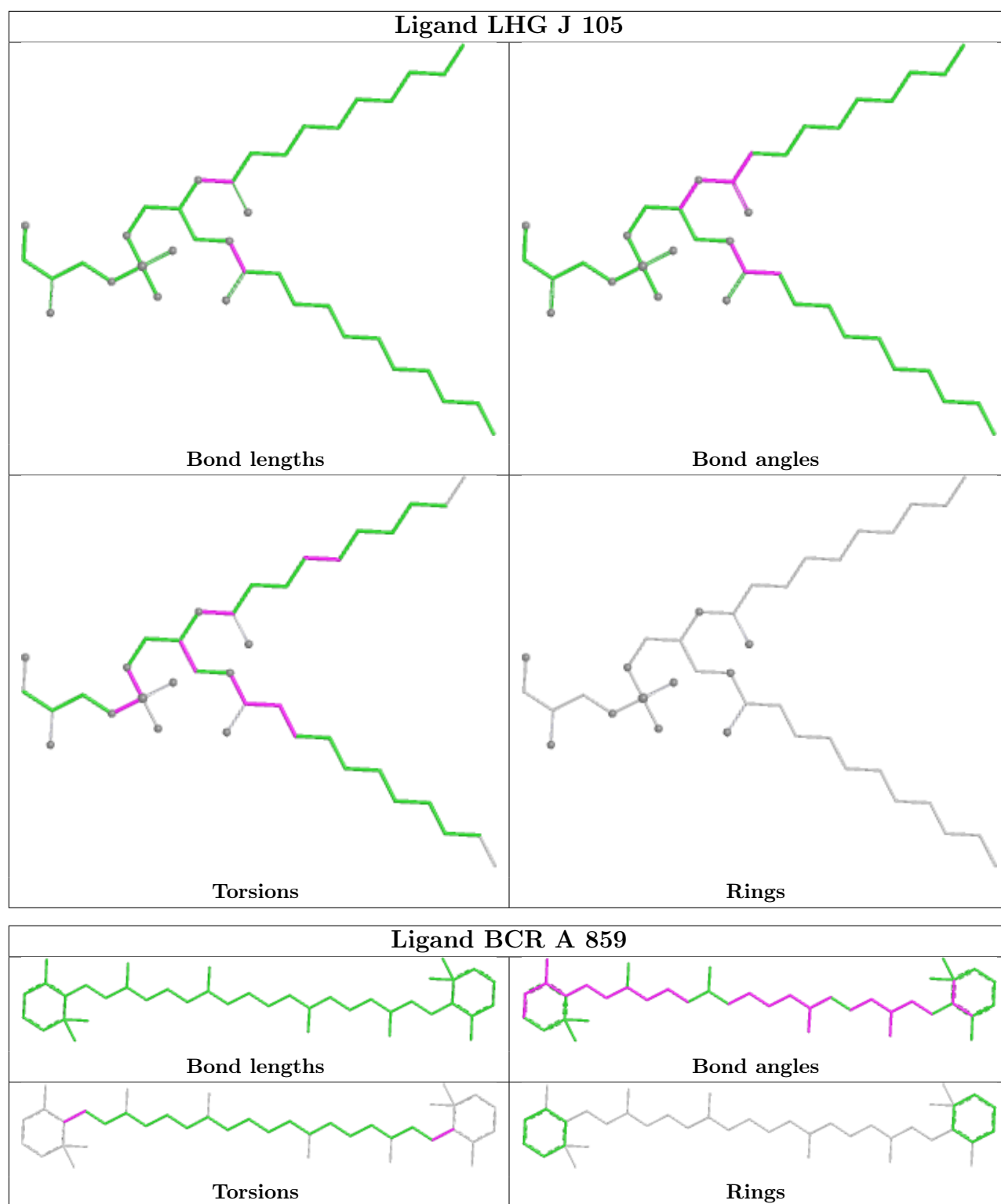
Ligand CLA 8 206



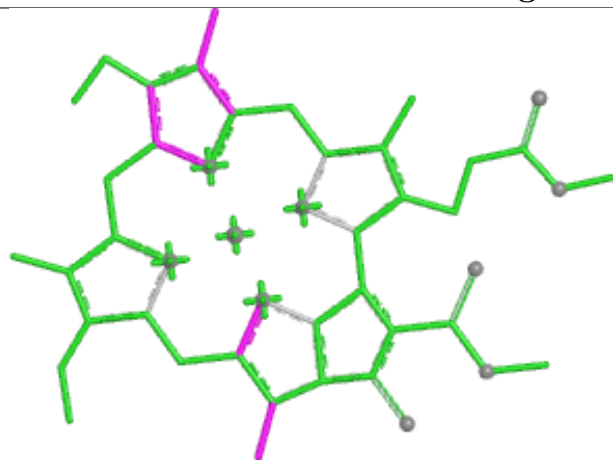
Ligand LMT A 850



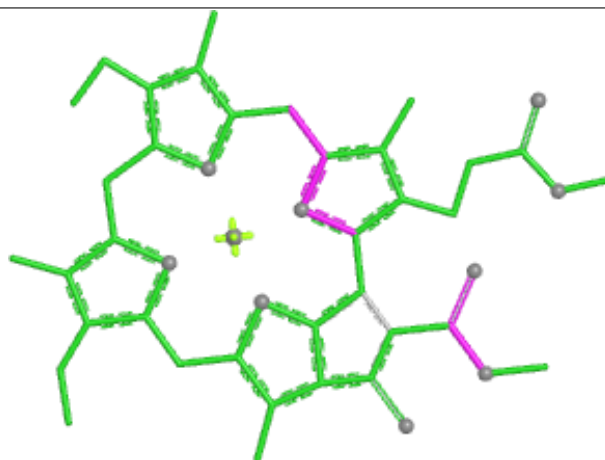




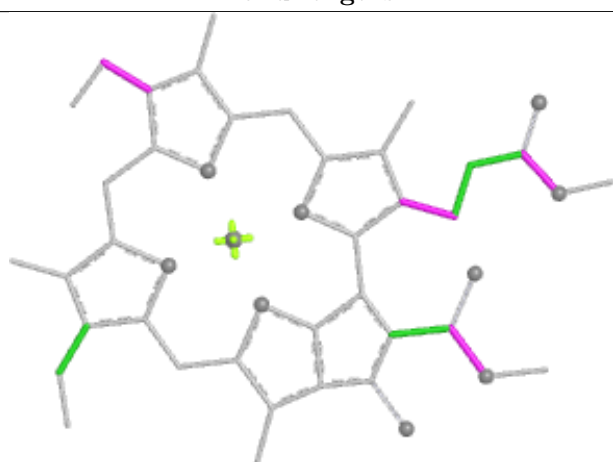
Ligand CLA 9 310



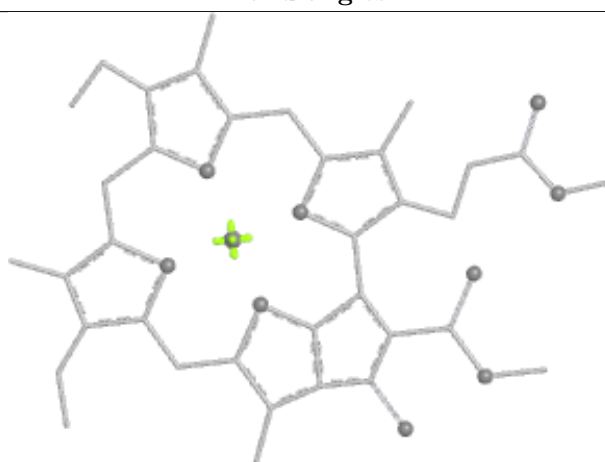
Bond lengths



Bond angles

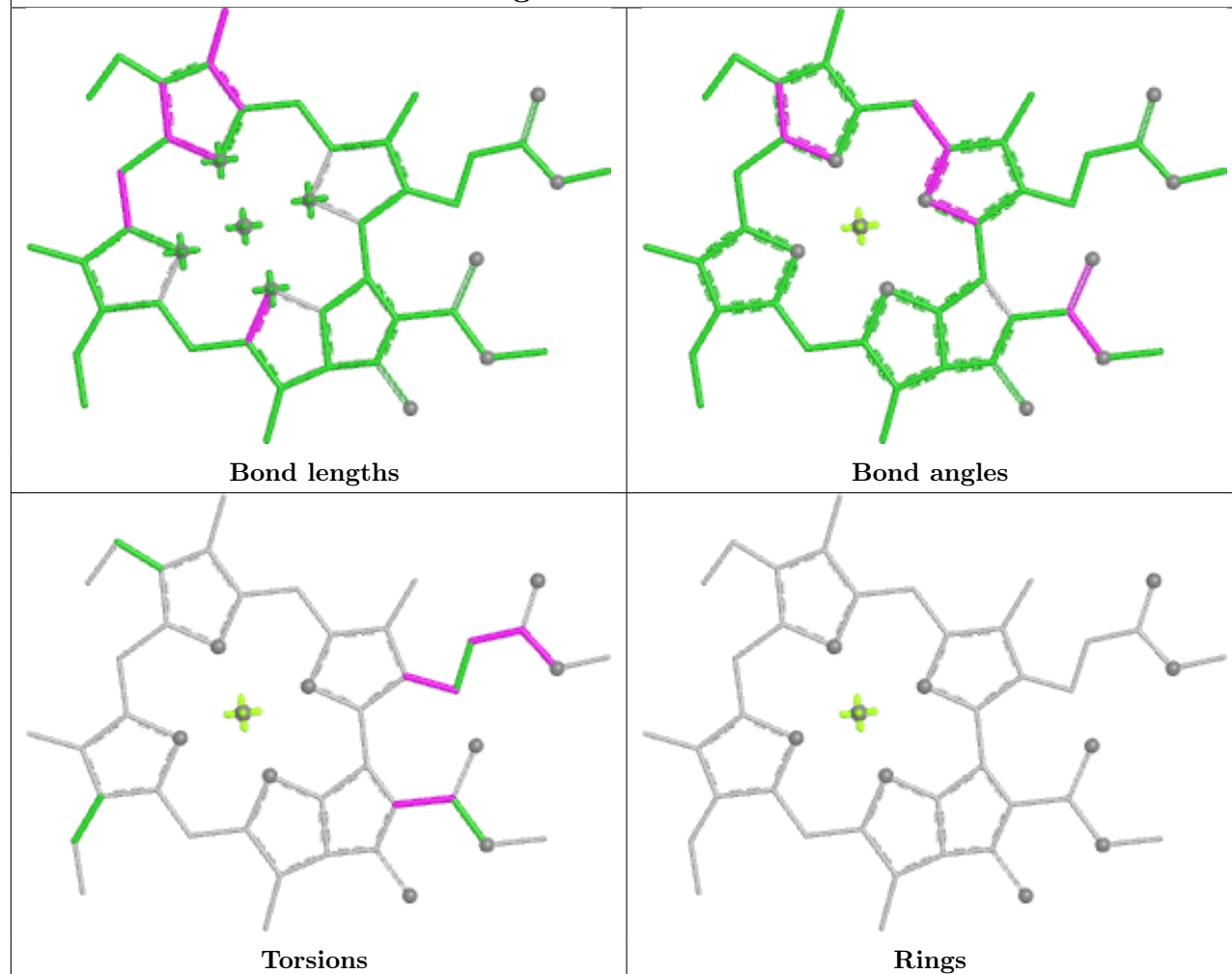


Torsions

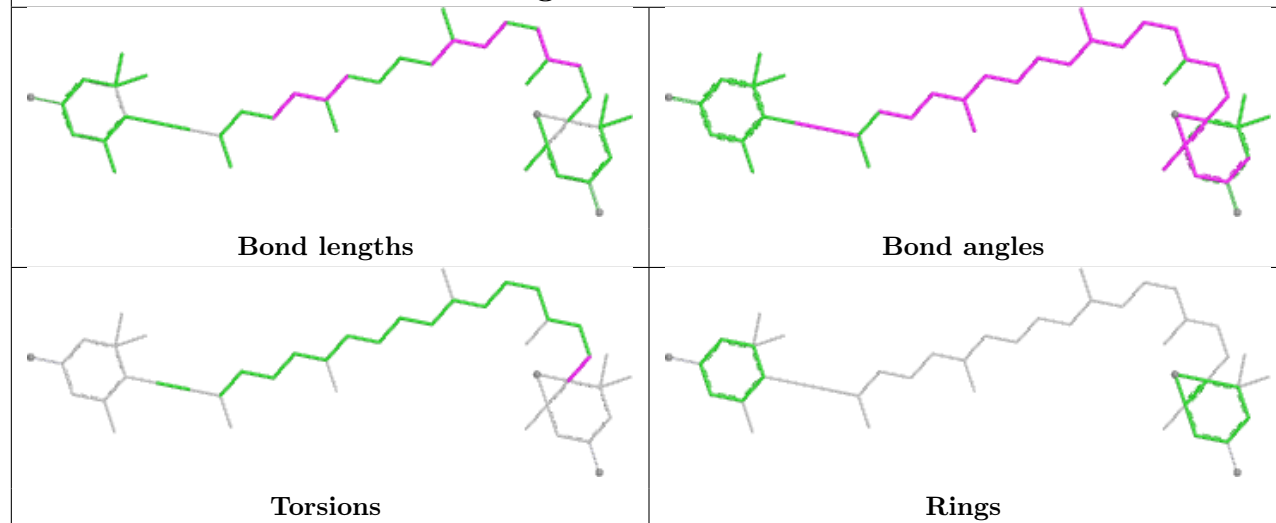


Rings

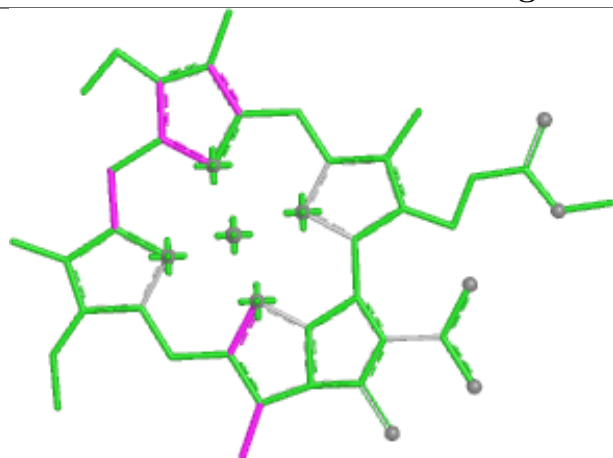
Ligand CLA A 811



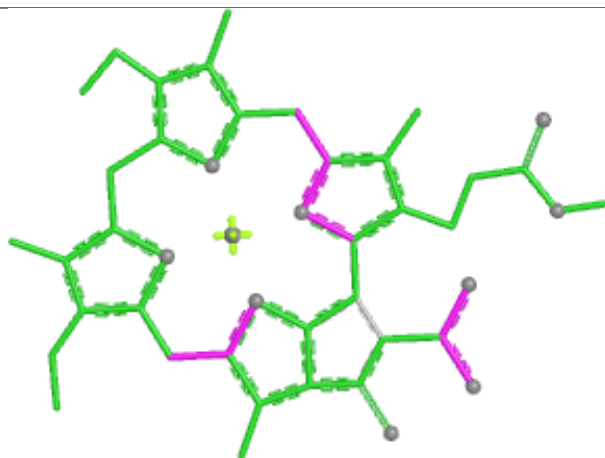
Ligand DD6 k 313



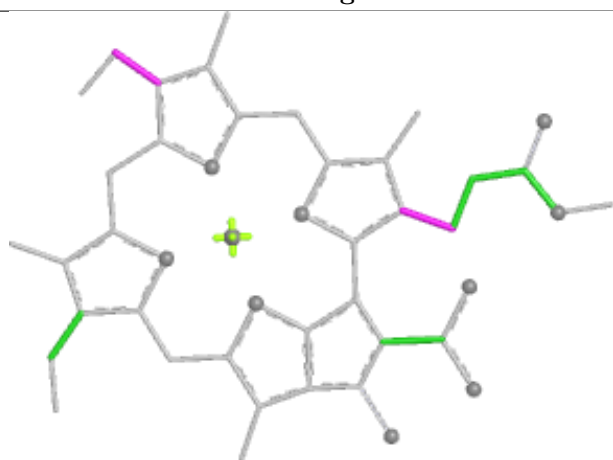
Ligand CLA 1 309



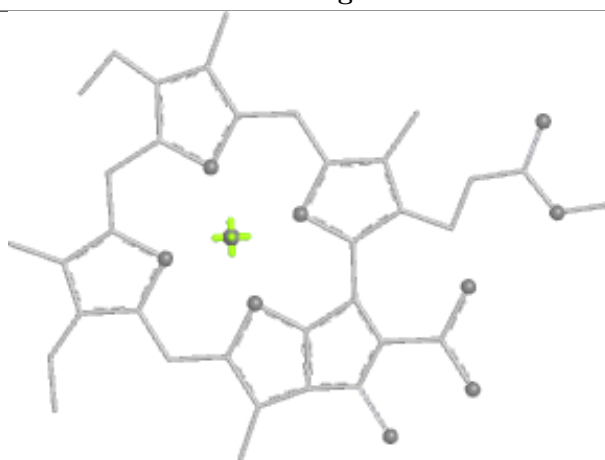
Bond lengths



Bond angles

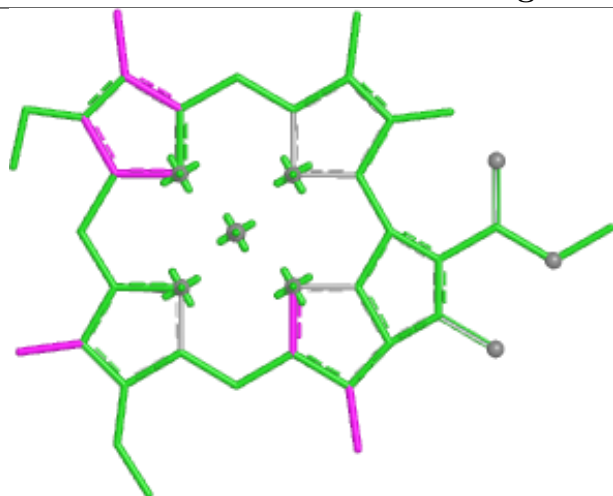


Torsions

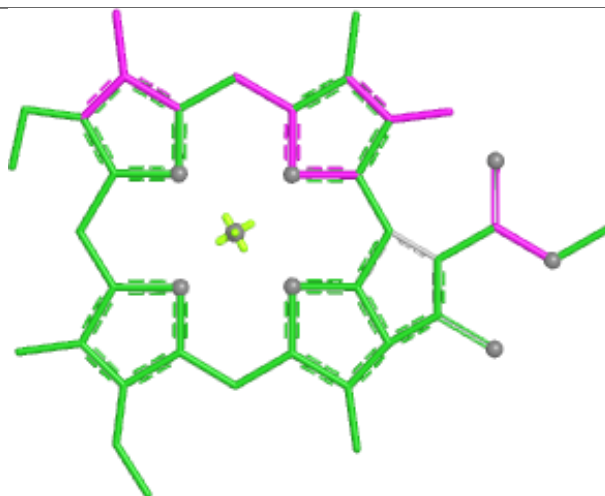


Rings

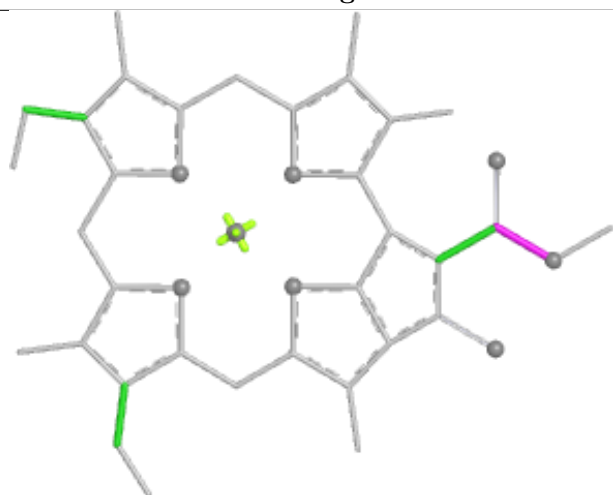
Ligand CLA h 611



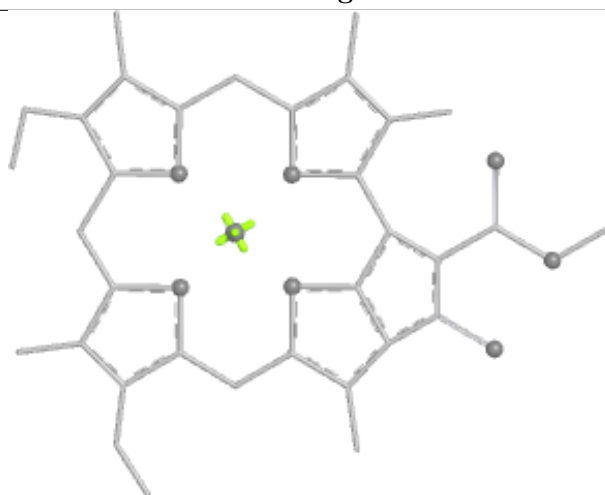
Bond lengths



Bond angles

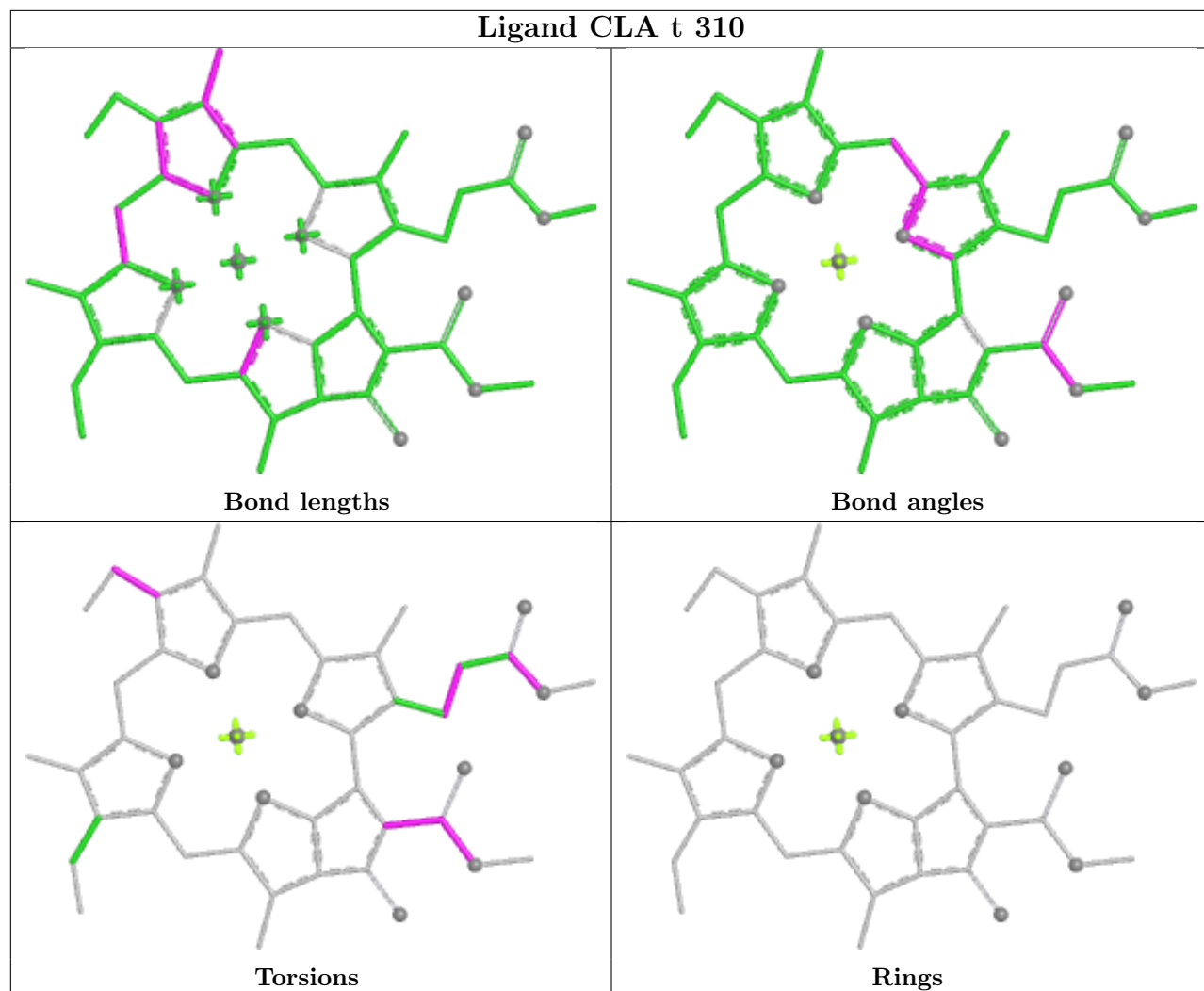


Torsions

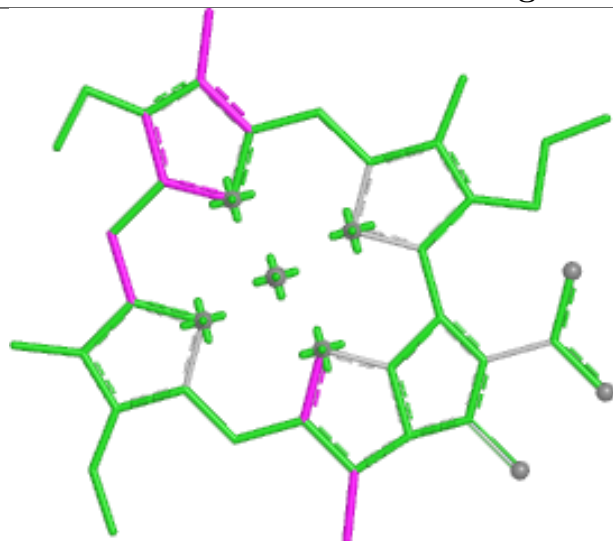


Rings

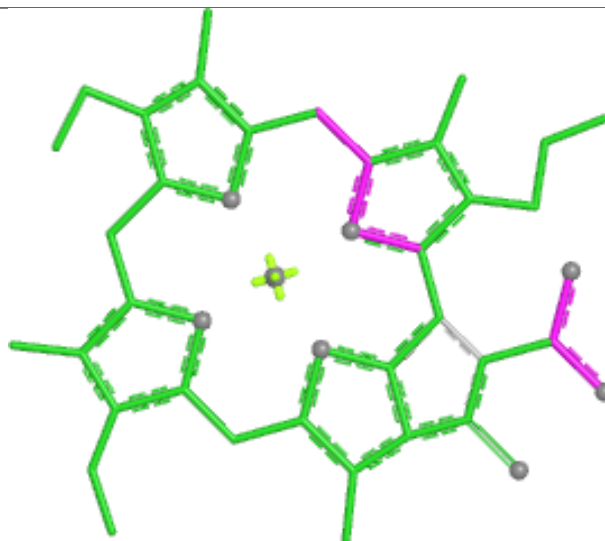
Ligand CLA t 310



Ligand CLA 4 601



Bond lengths



Bond angles

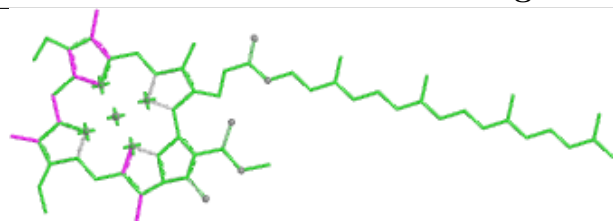


Torsions

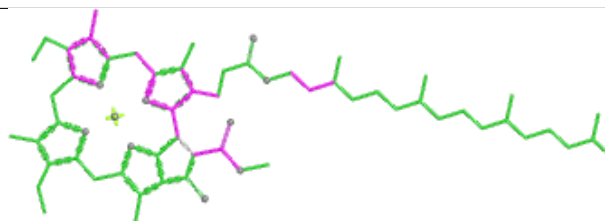


Rings

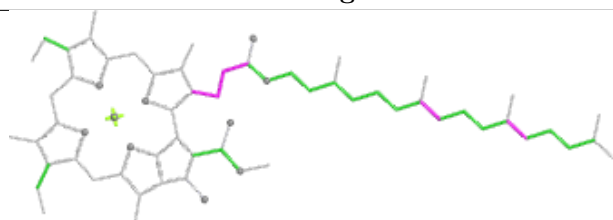
Ligand CLA B 829



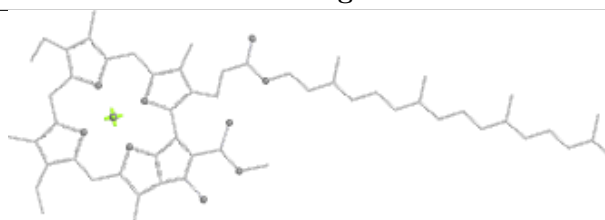
Bond lengths



Bond angles

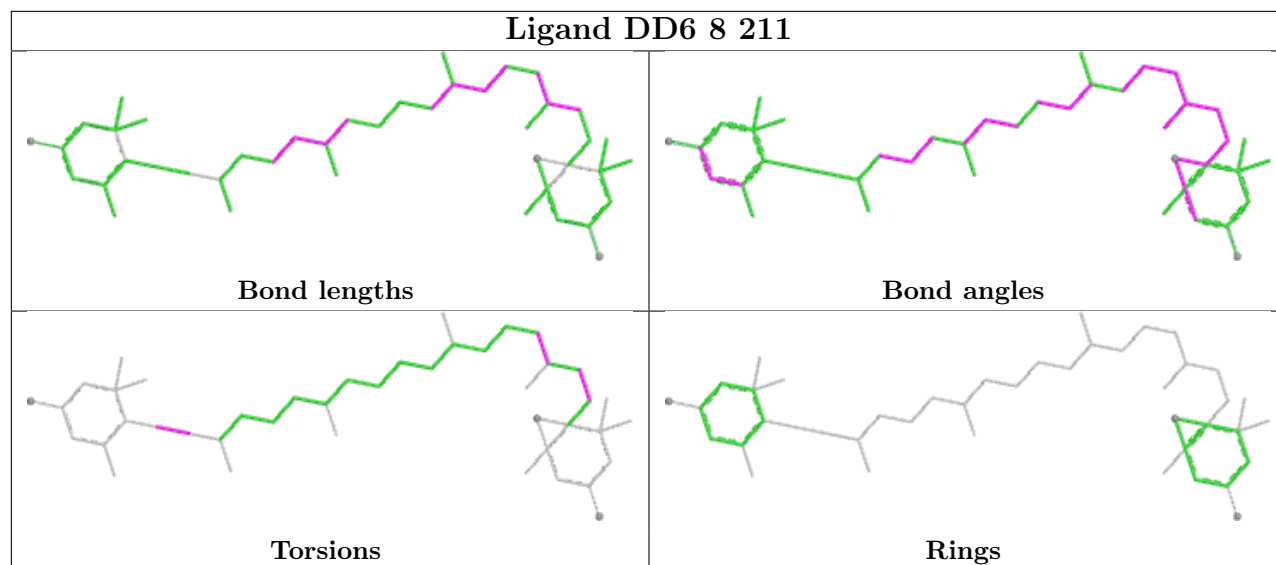


Torsions

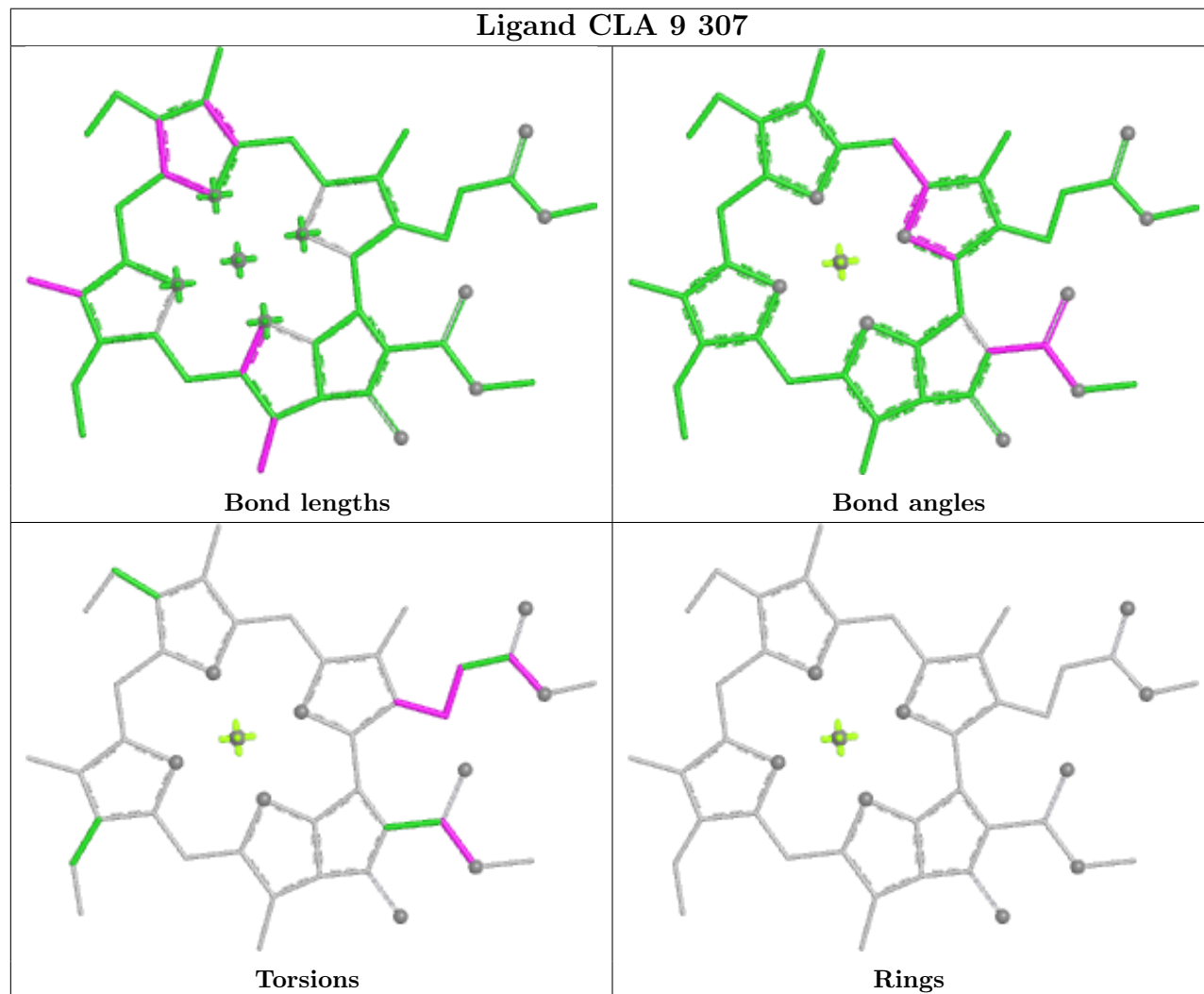


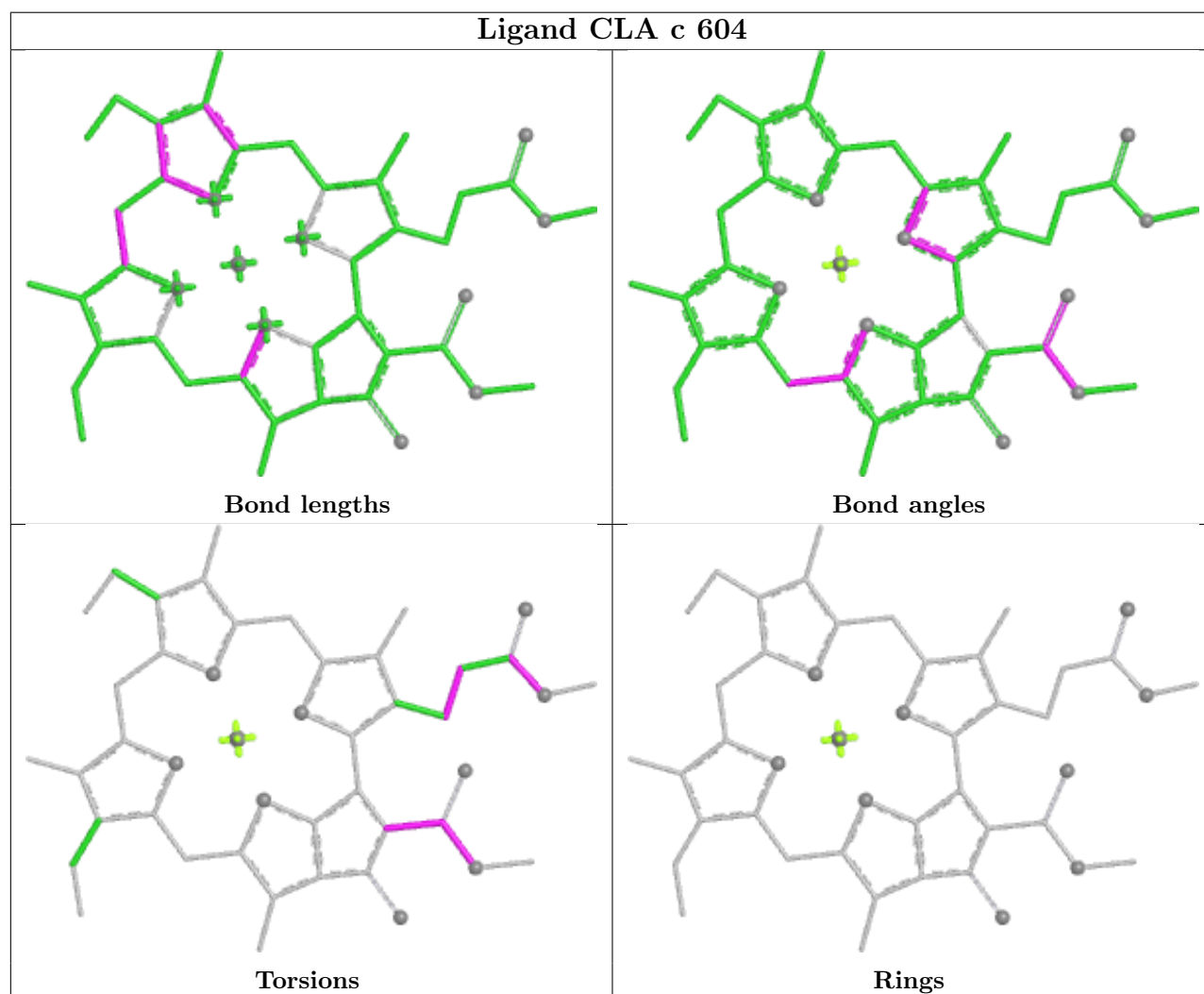
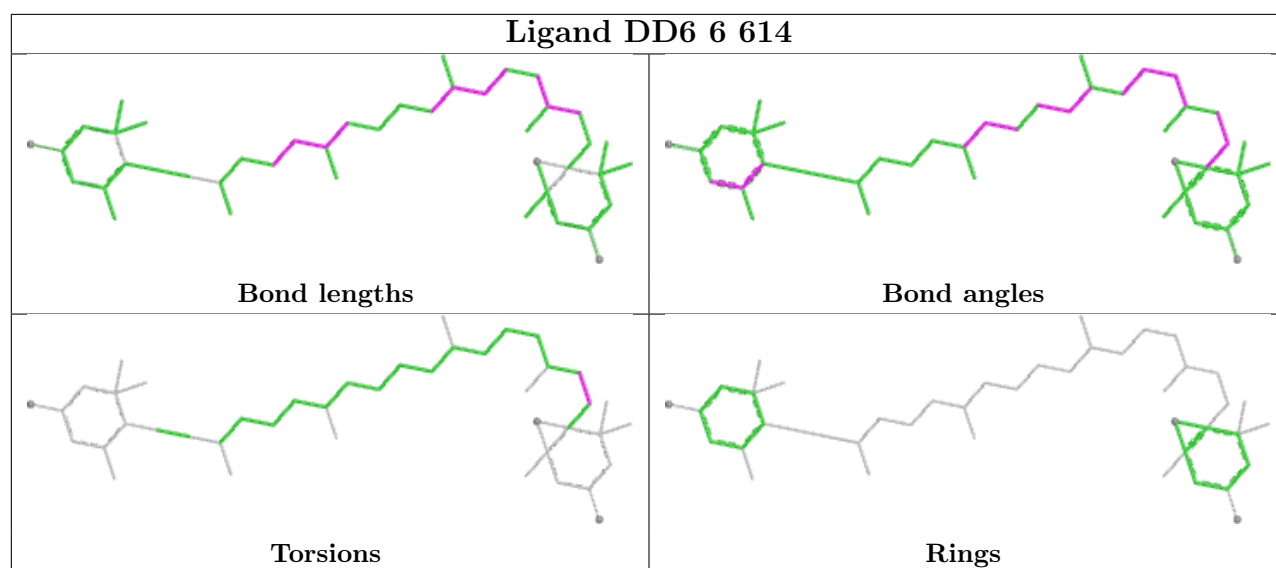
Rings

Ligand DD6 8 211

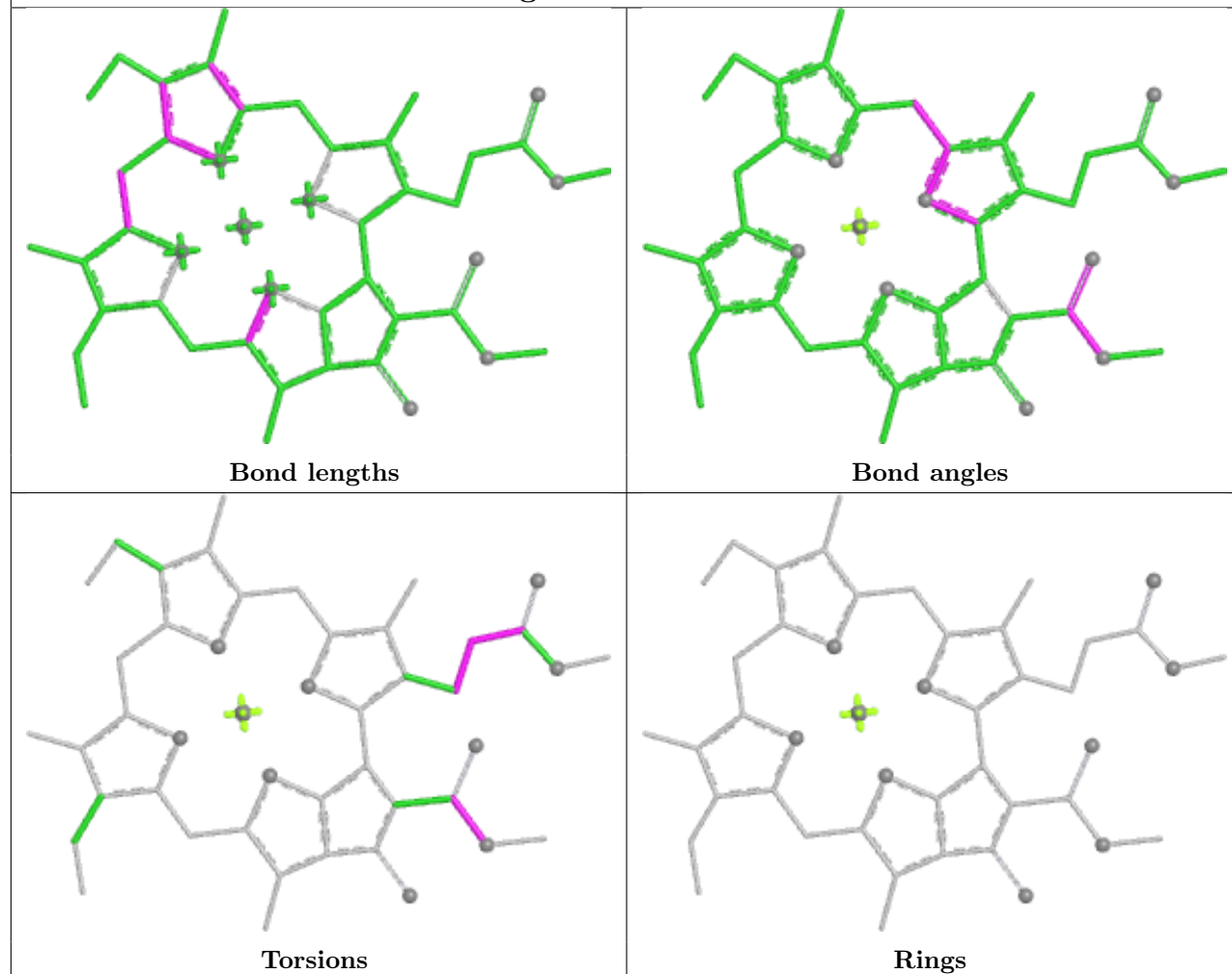


Ligand CLA 9 307

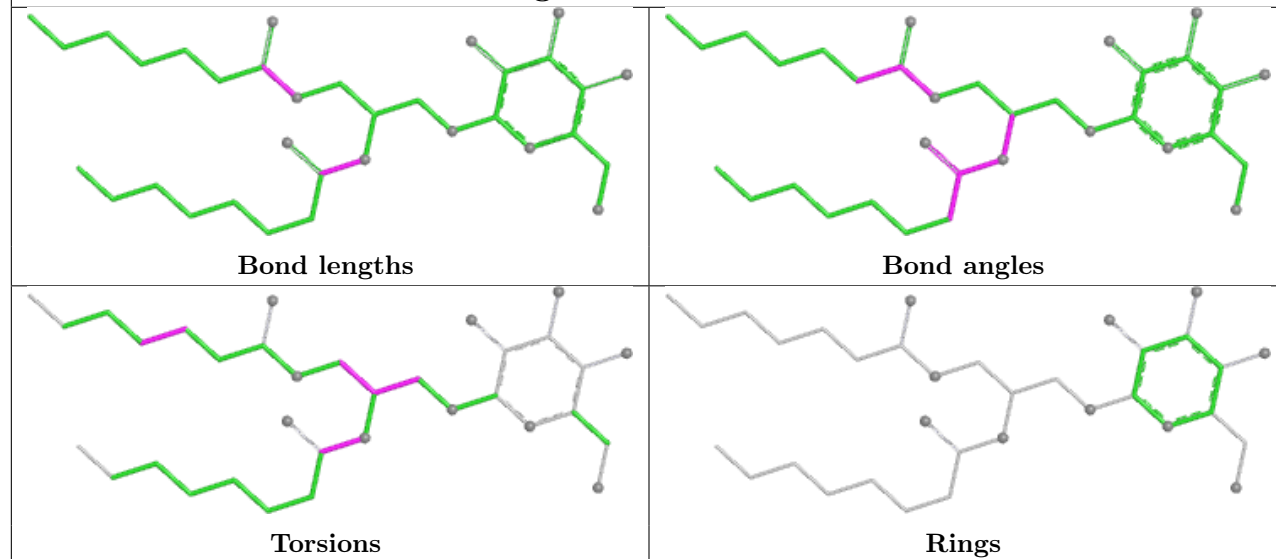




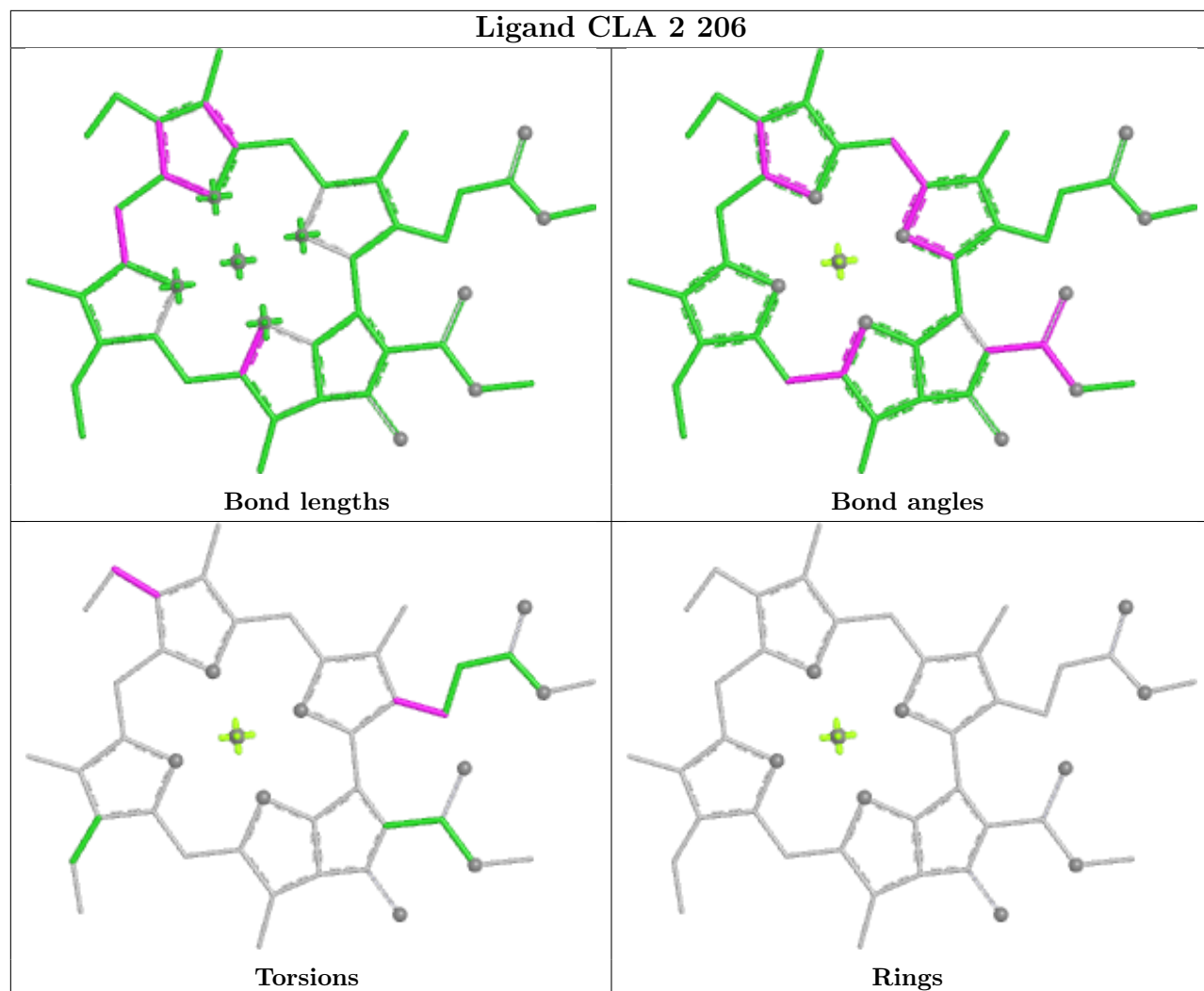
Ligand CLA t 309

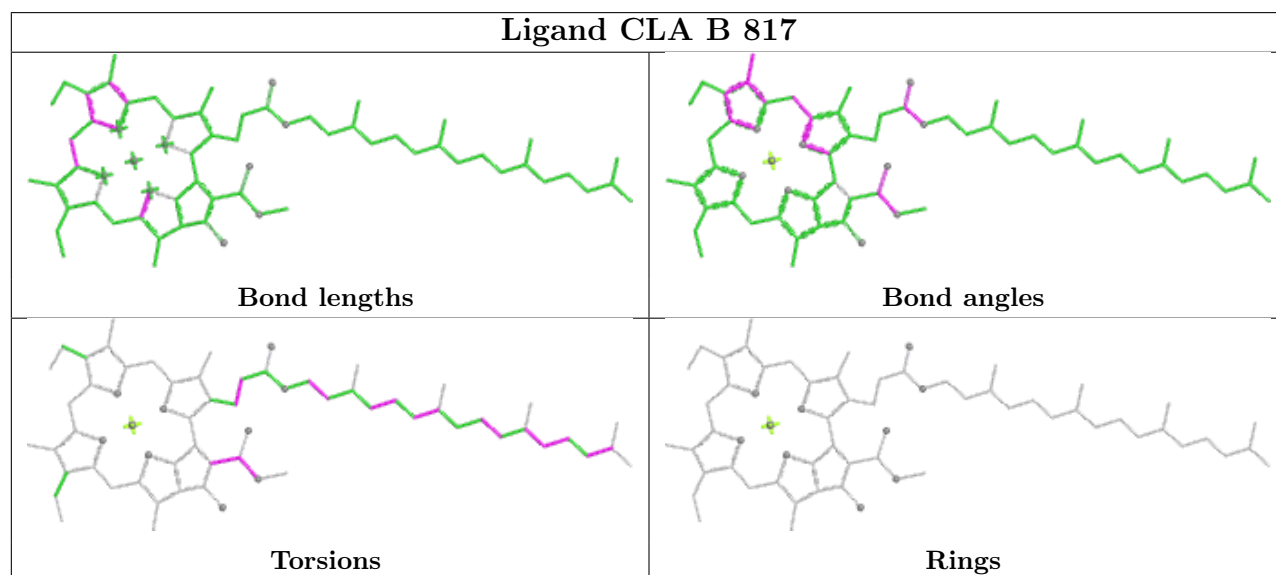
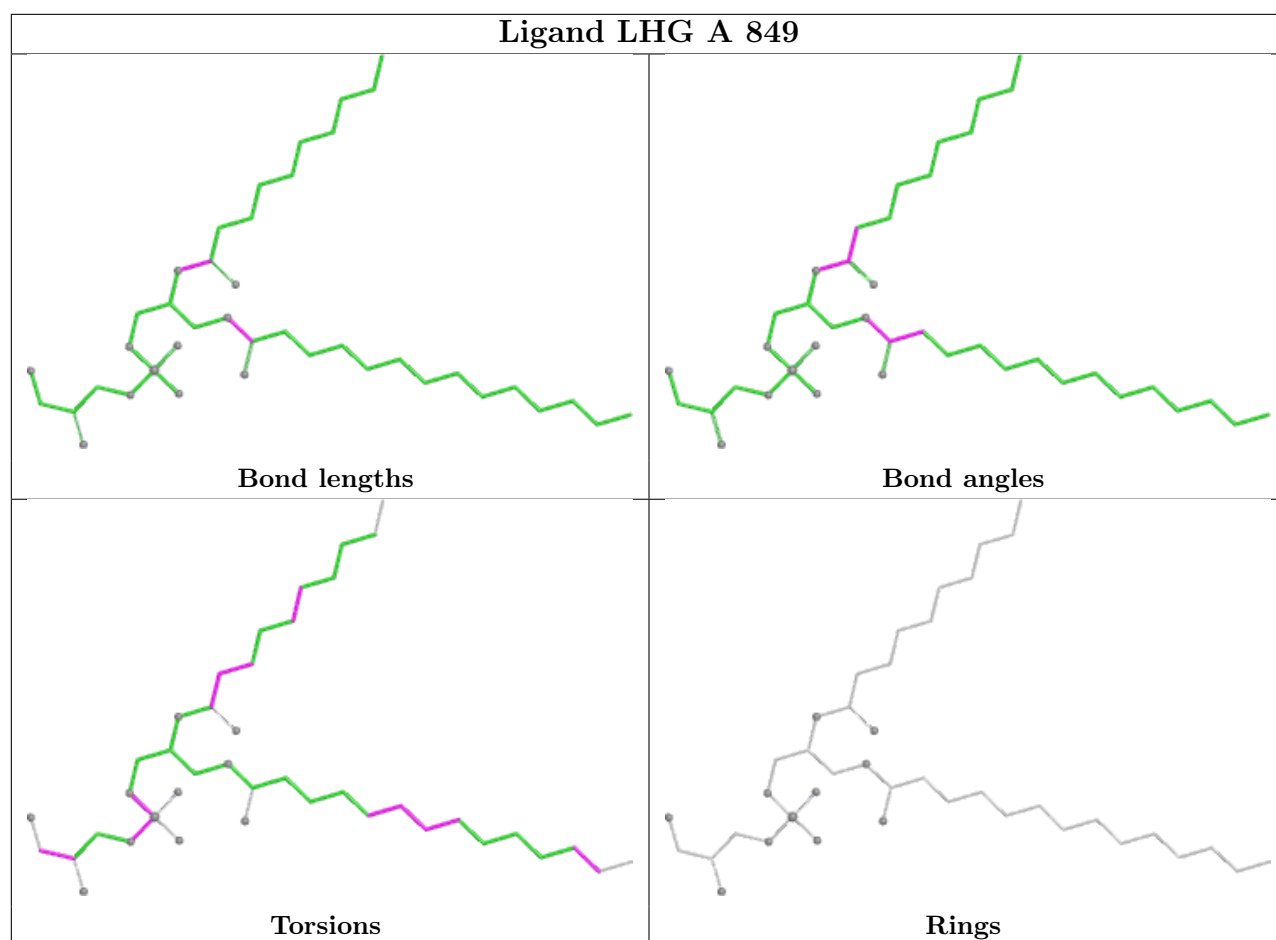


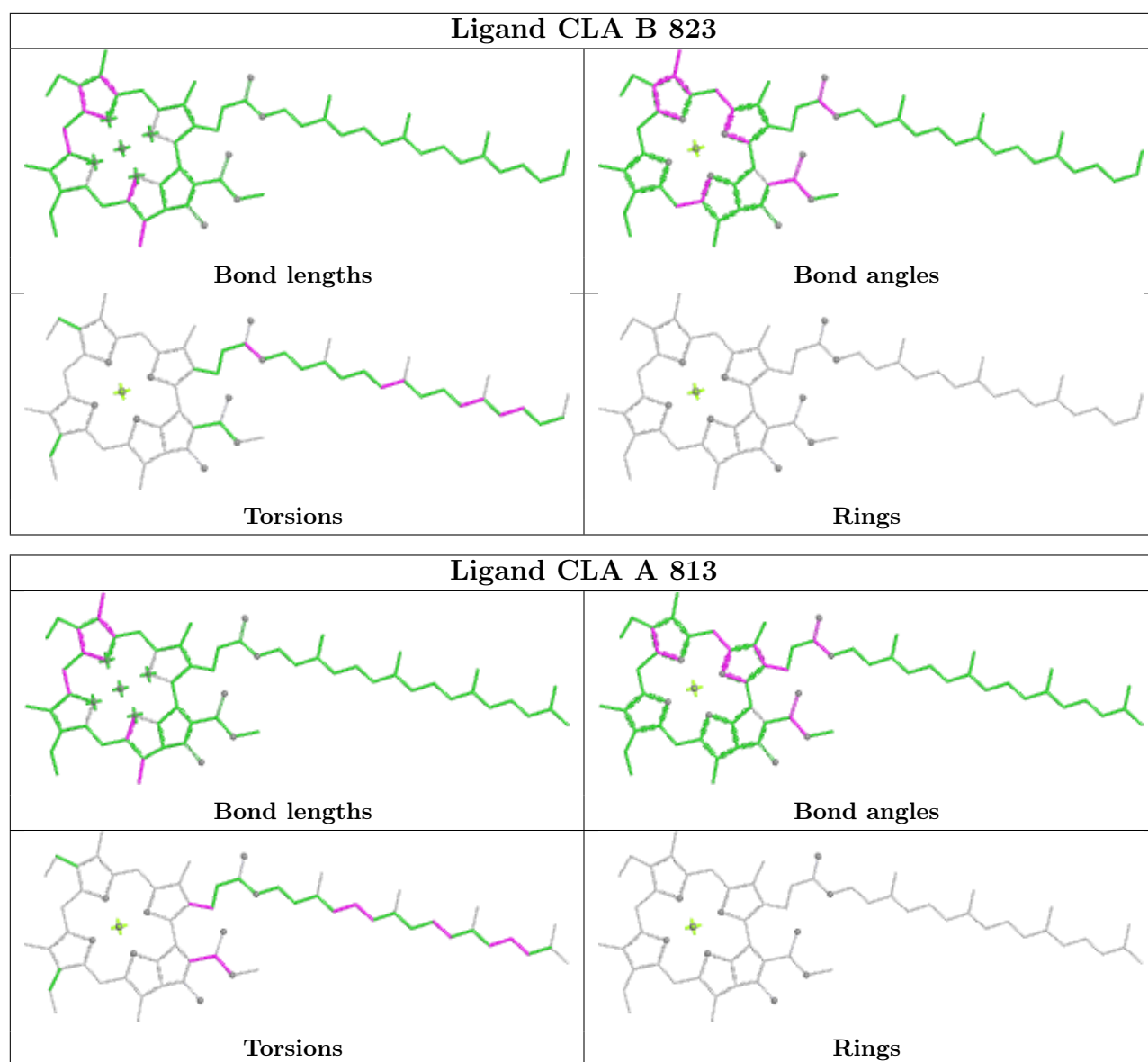
Ligand LMG t 314



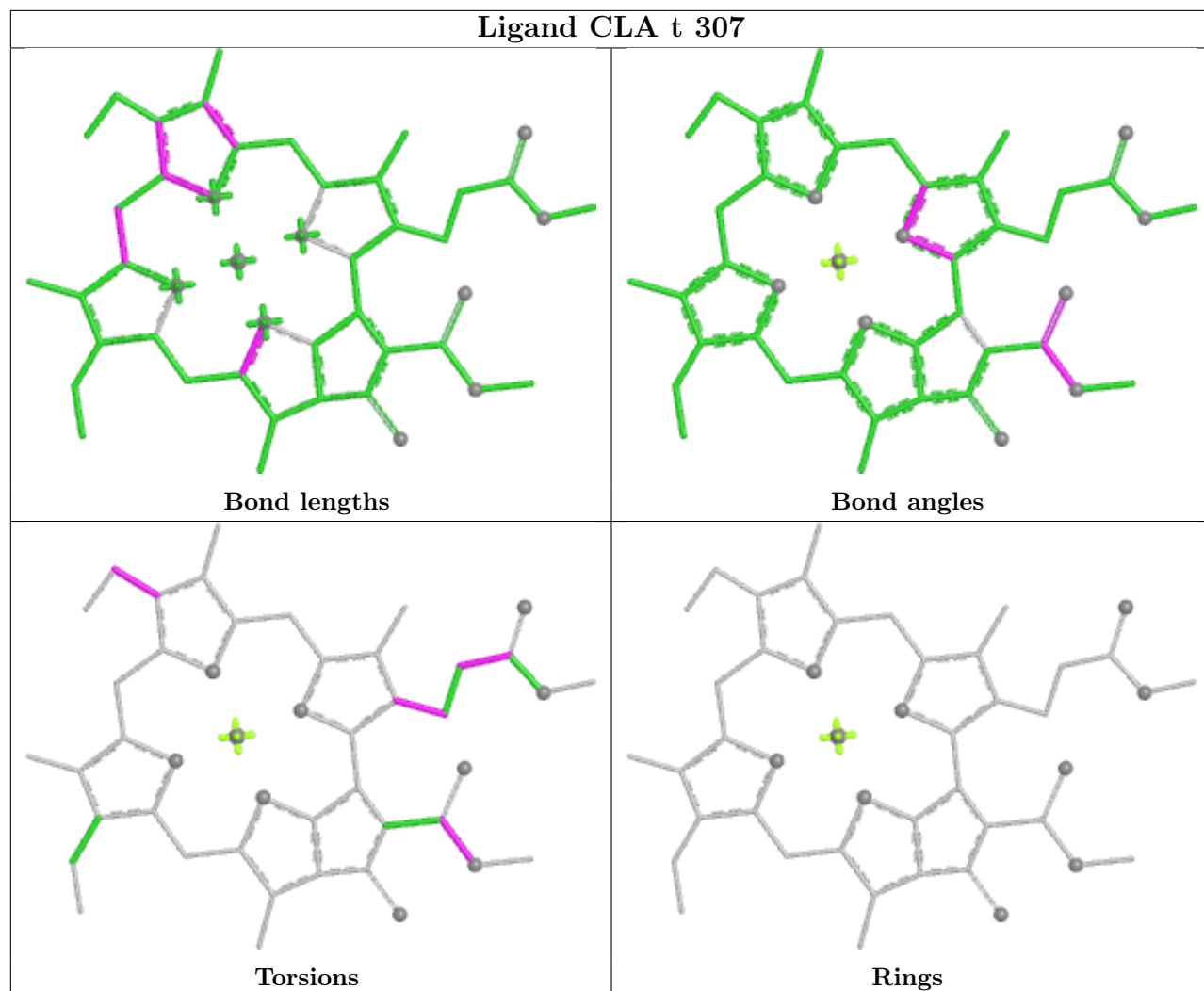
Ligand CLA 2 206



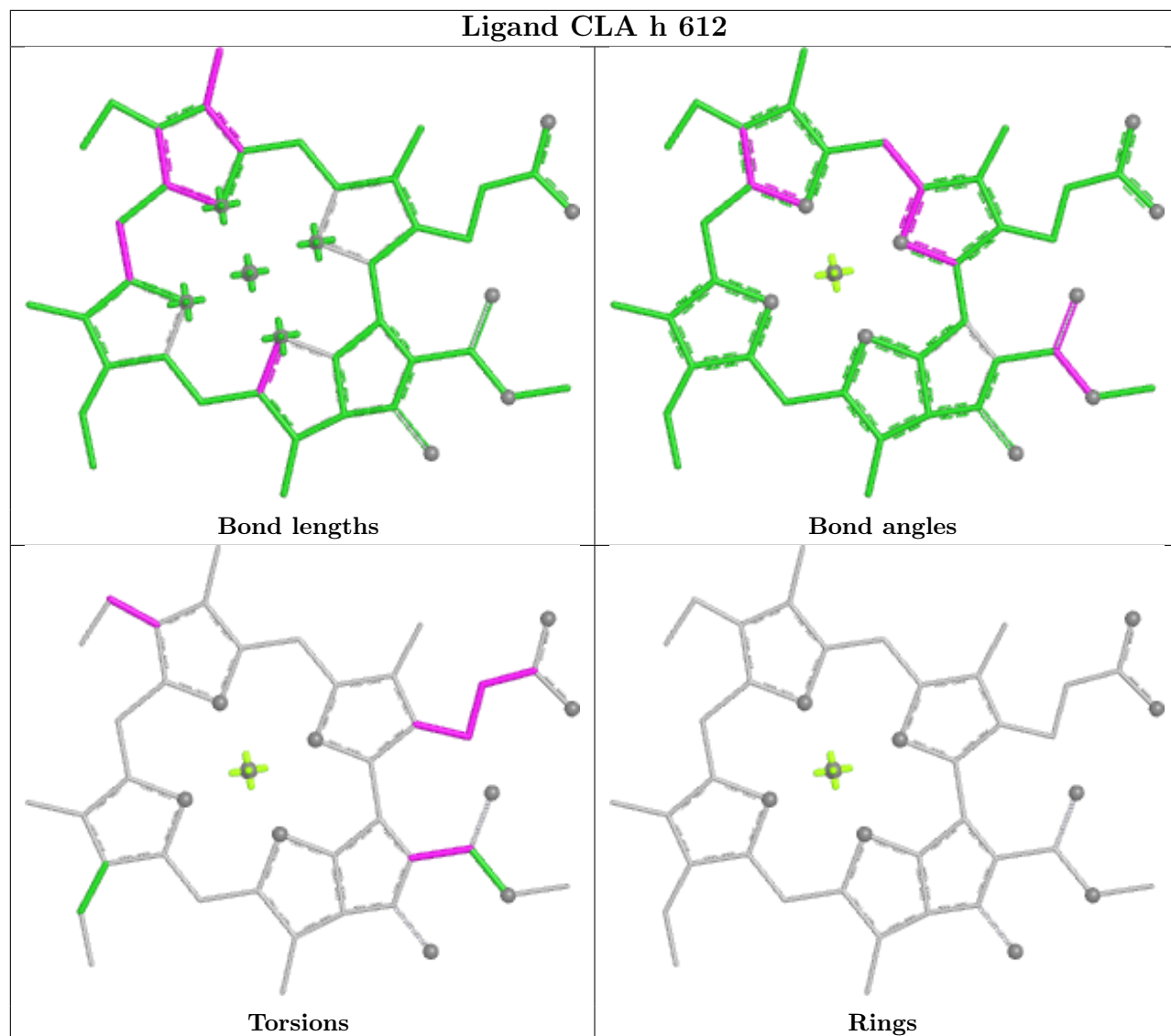




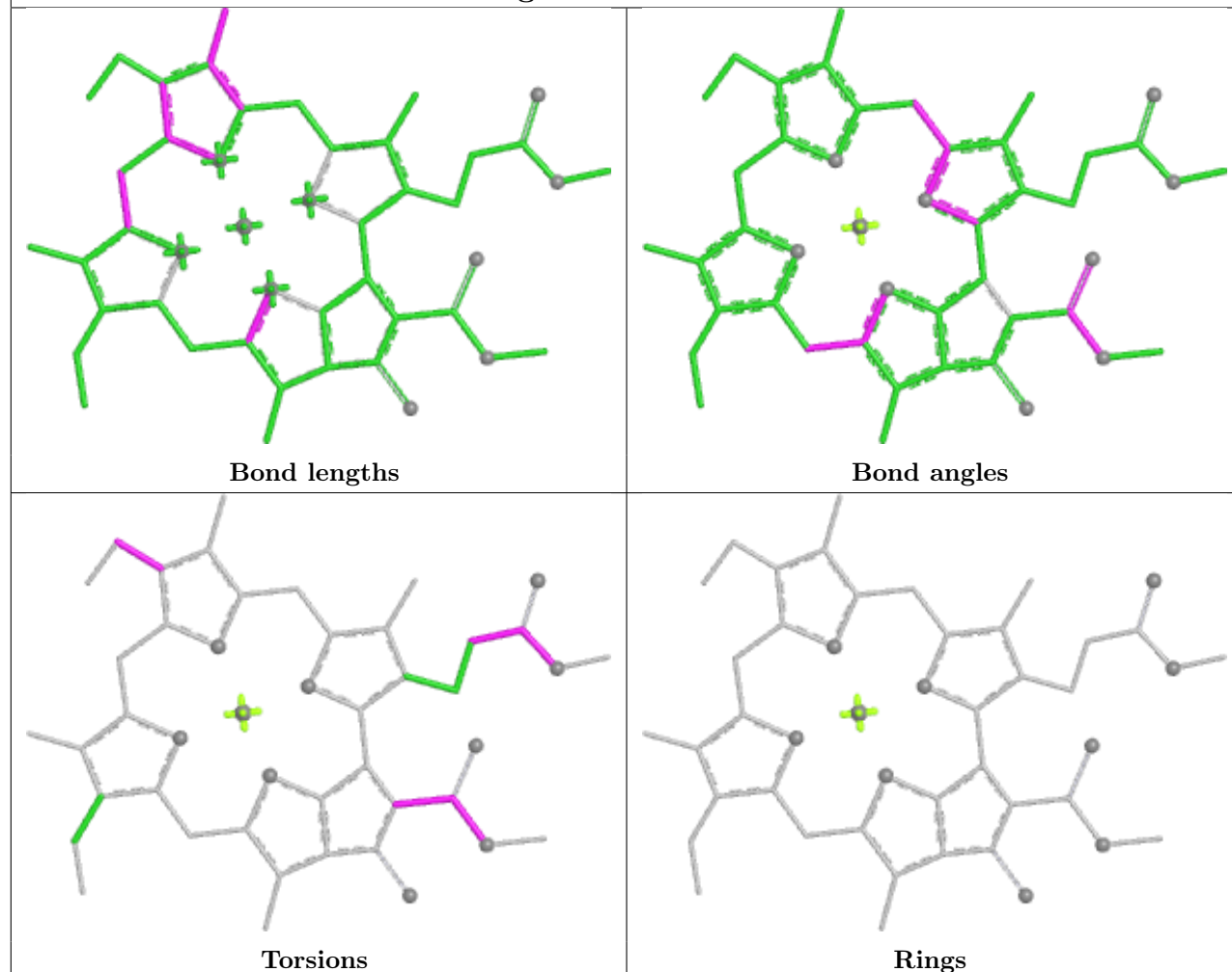
Ligand CLA t 307



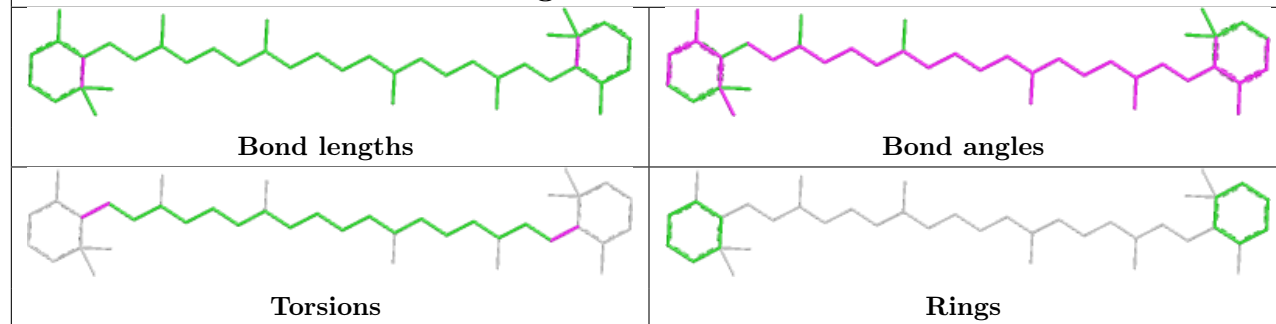
Ligand CLA h 612

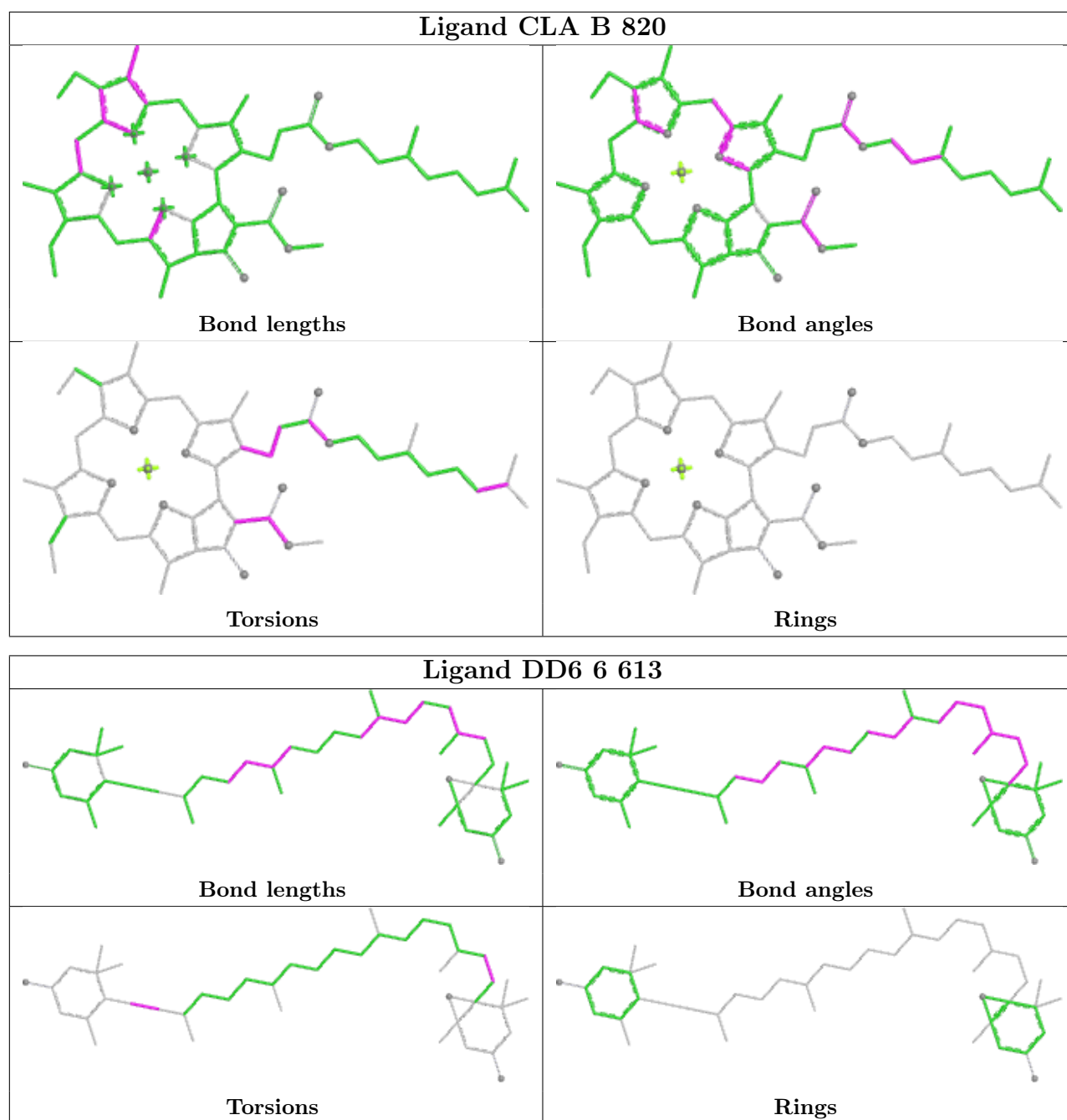


Ligand CLA 4 613

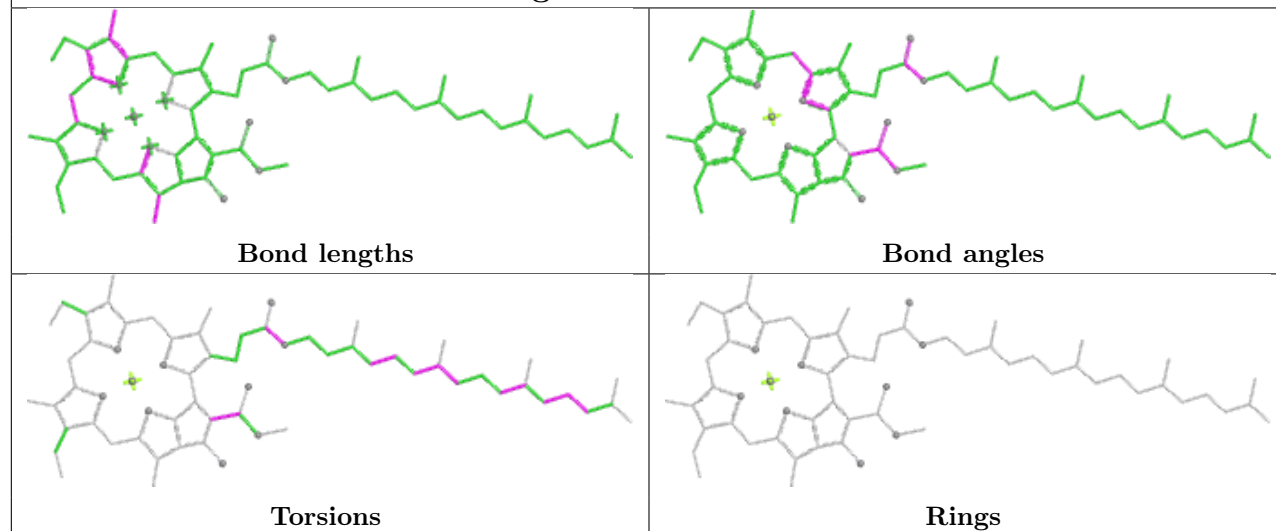


Ligand BCR I 101

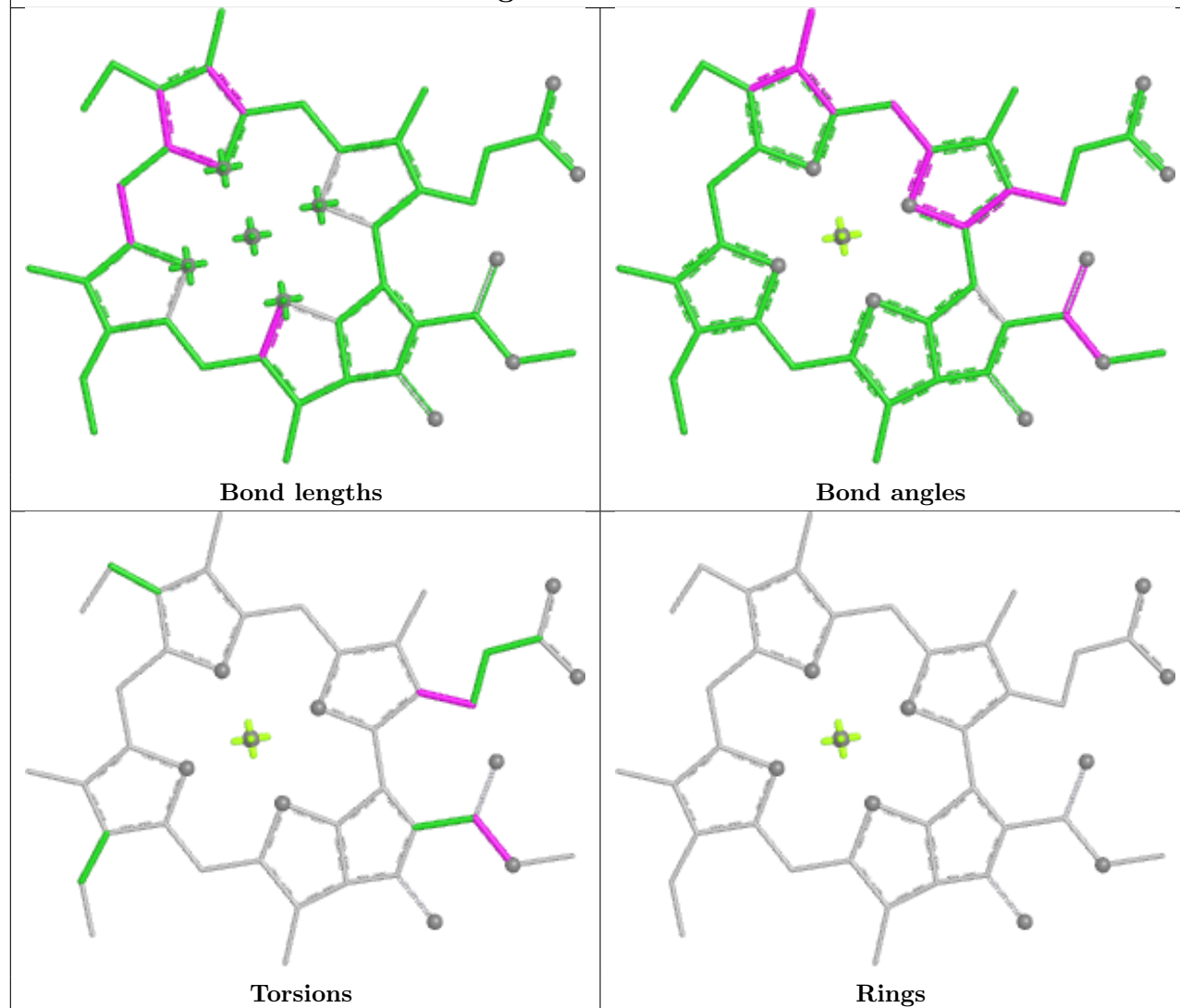


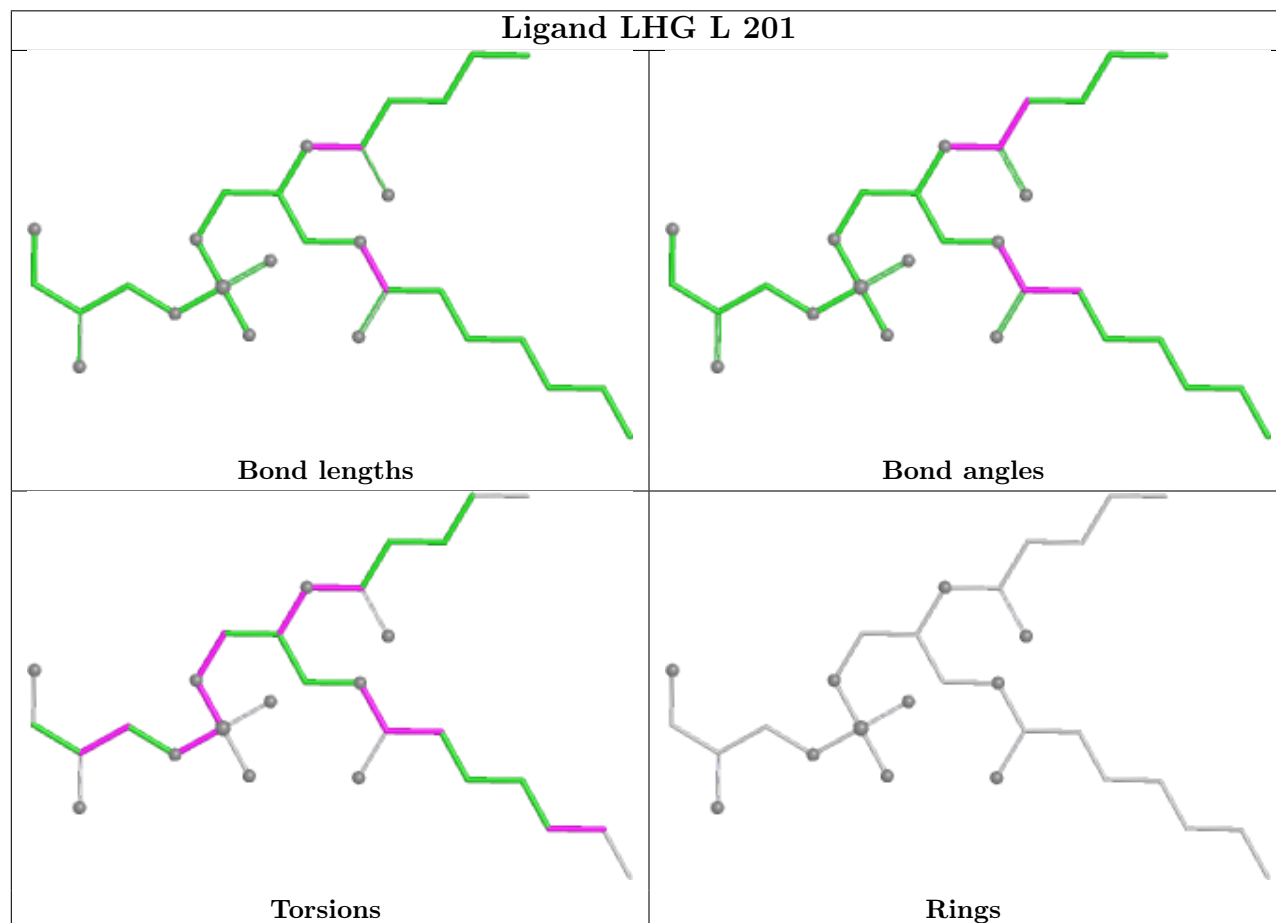
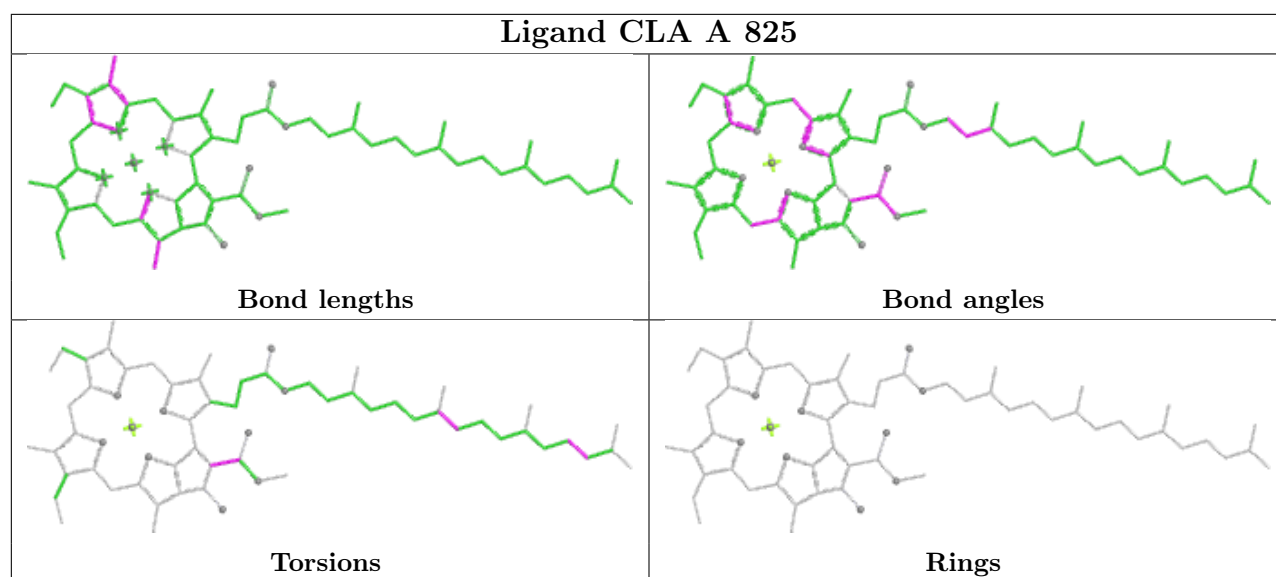


Ligand CLA B 827

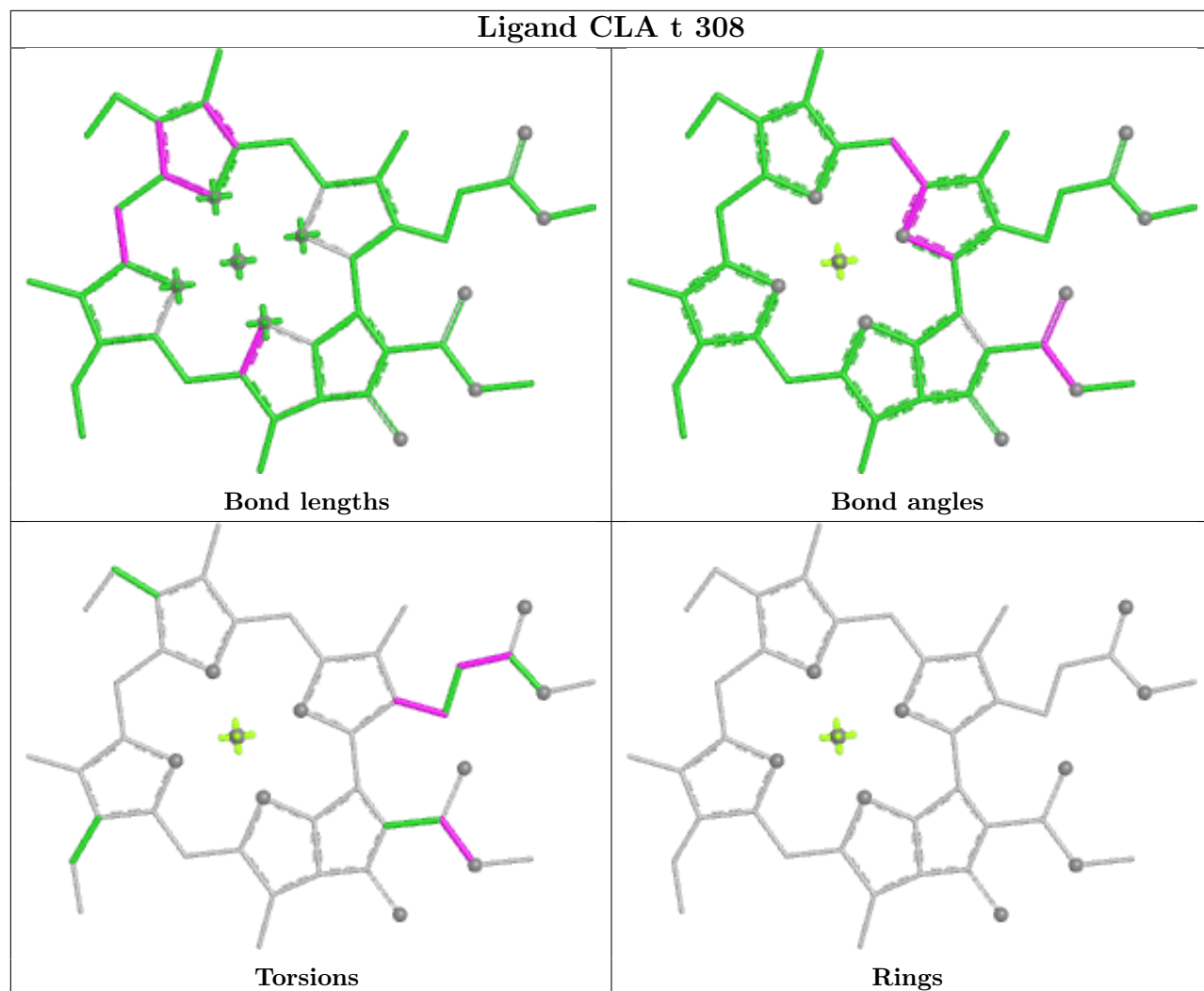


Ligand CLA t 301

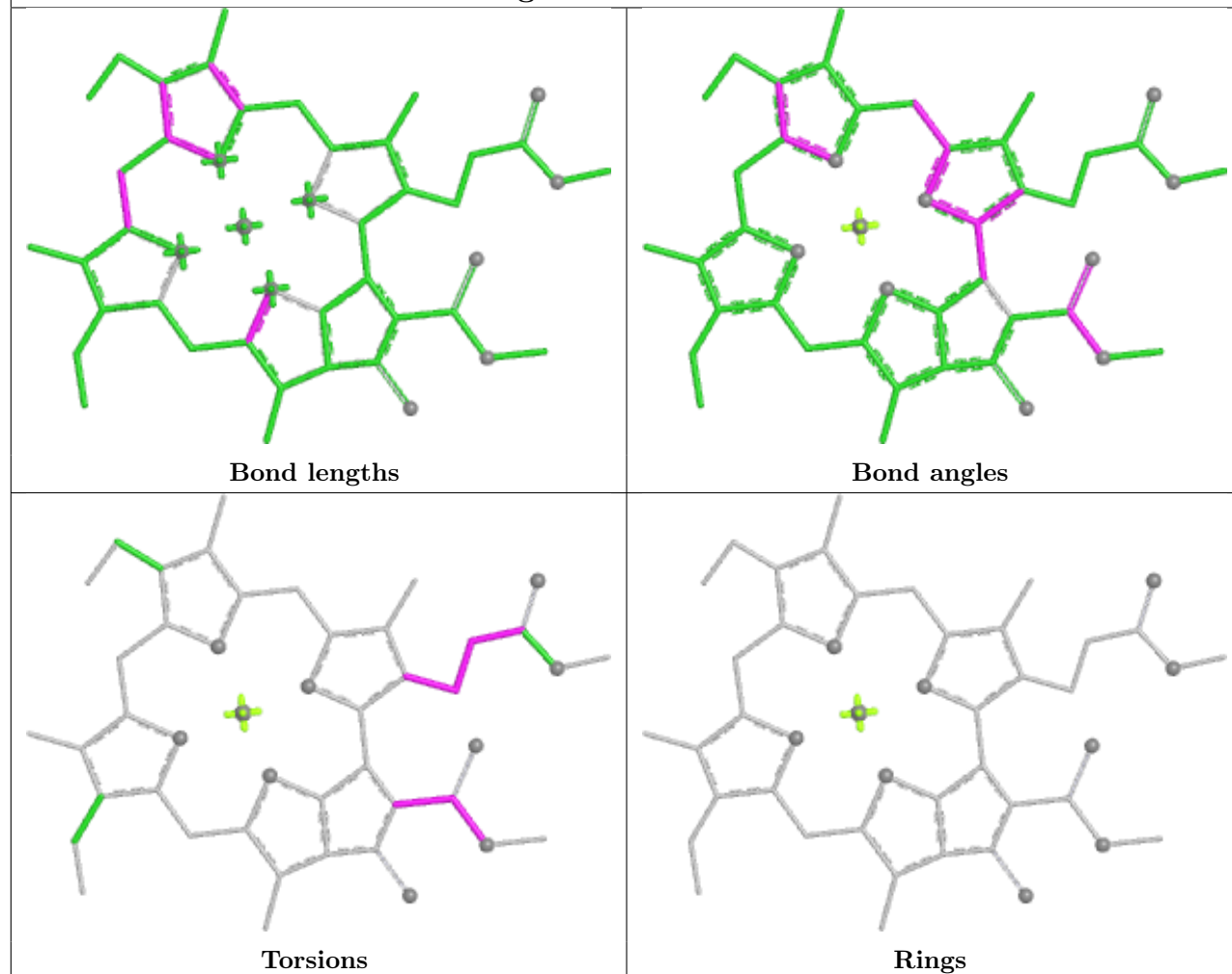




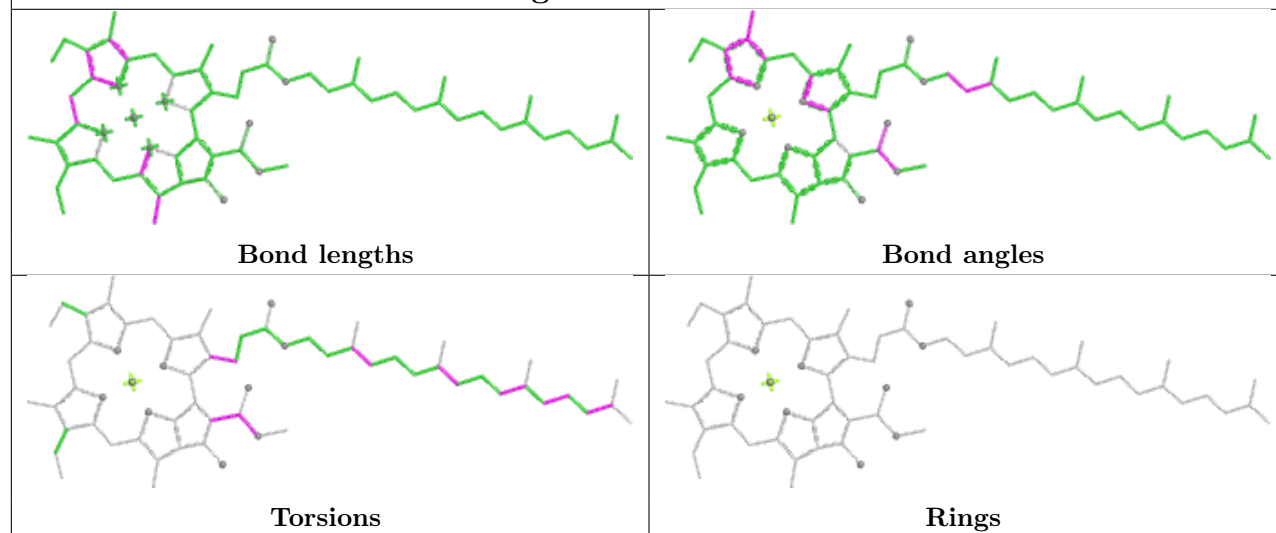
Ligand CLA t 308

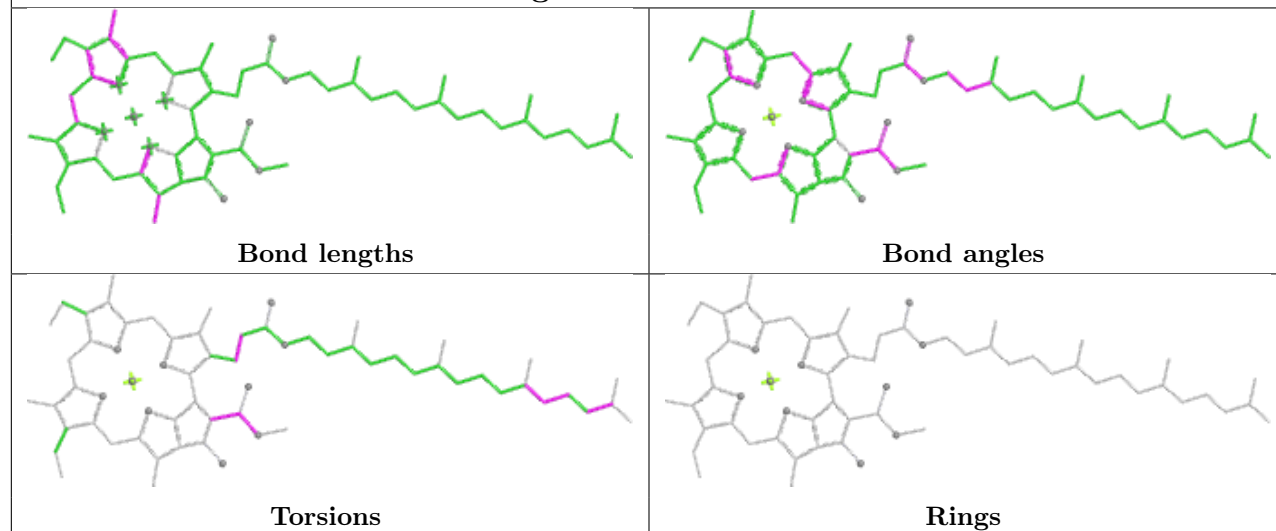
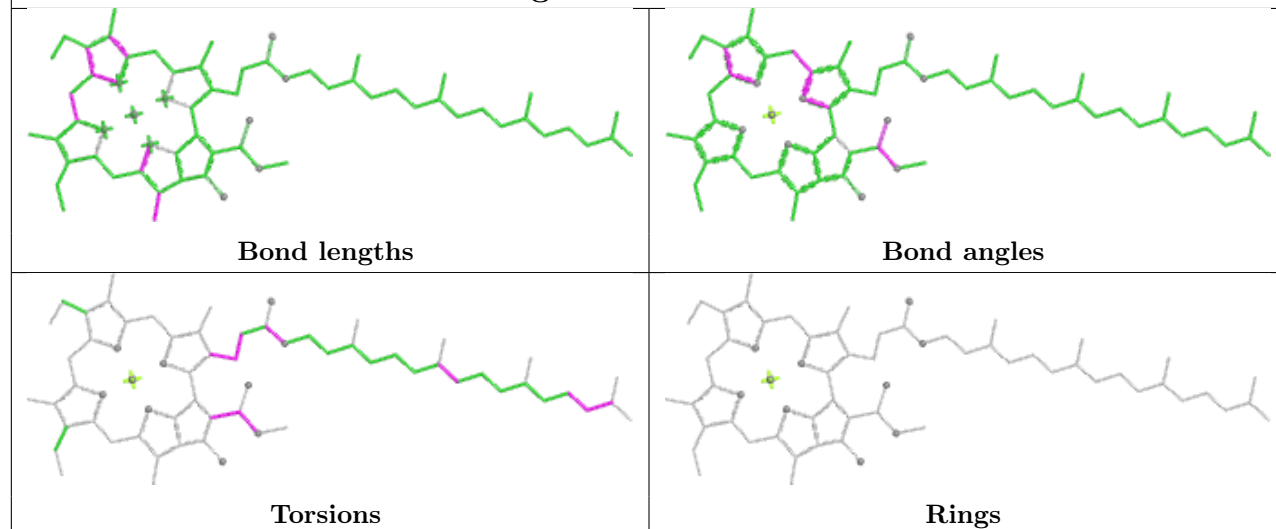


Ligand CLA 8 202

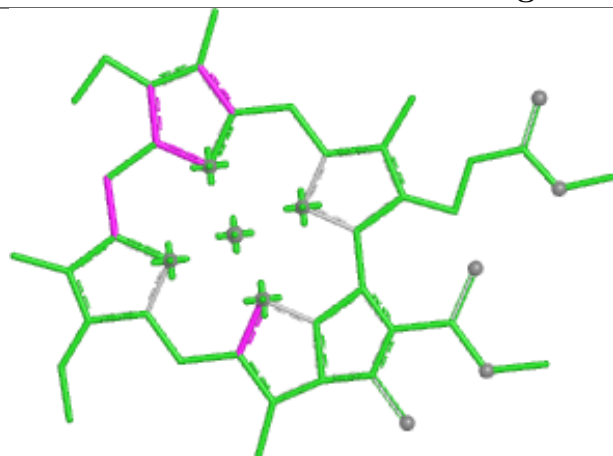


Ligand CLA A 824

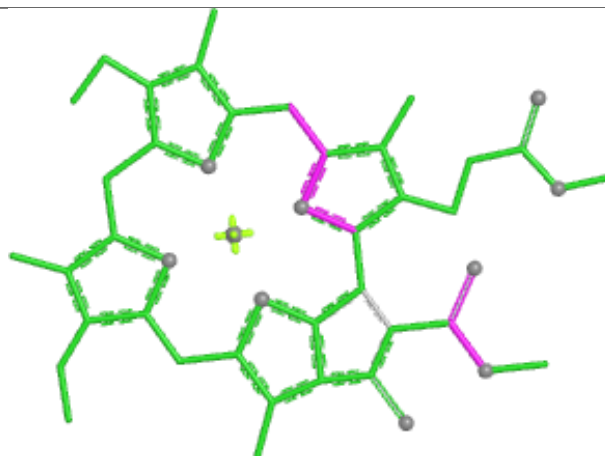


Ligand CLA A 838**Ligand CLA A 831**

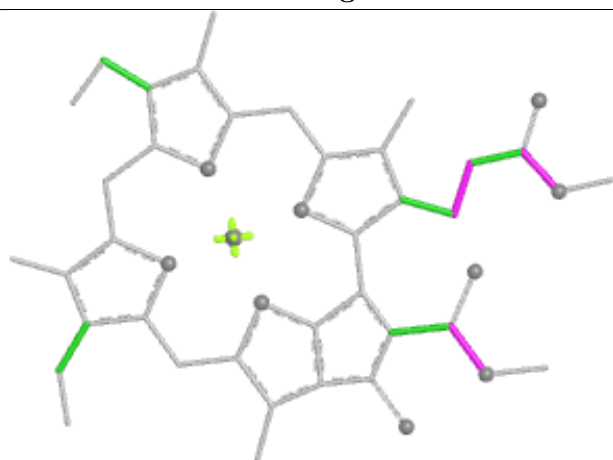
Ligand CLA h 604



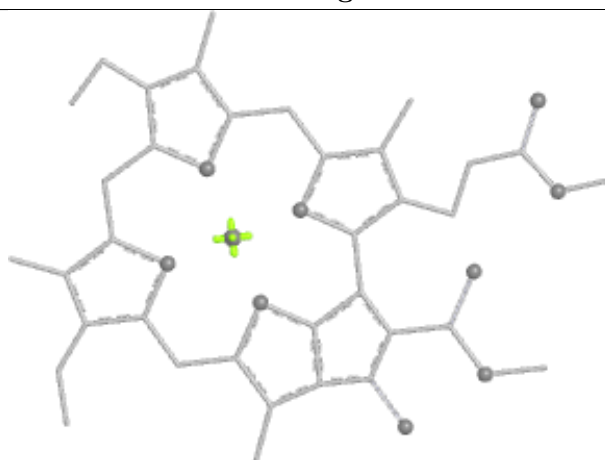
Bond lengths



Bond angles

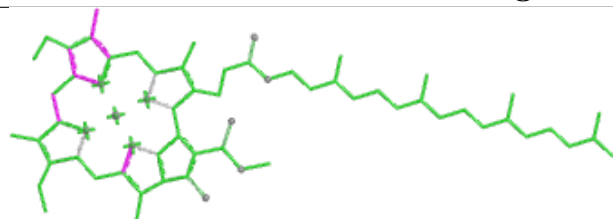


Torsions

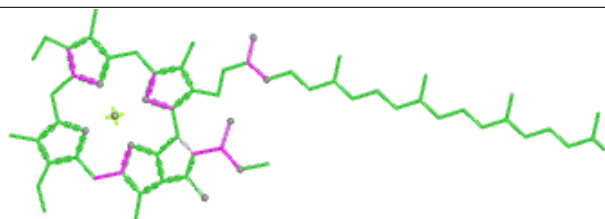


Rings

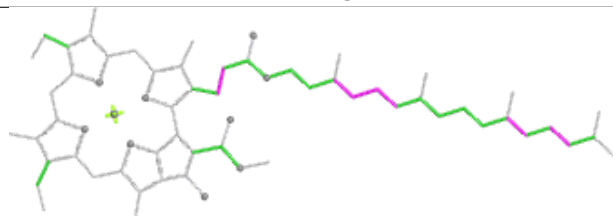
Ligand CLA B 807



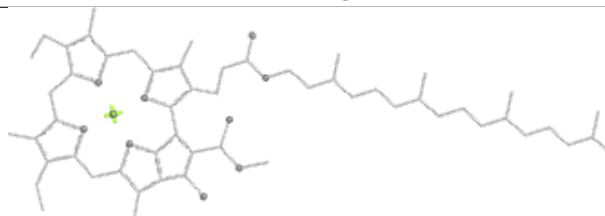
Bond lengths



Bond angles

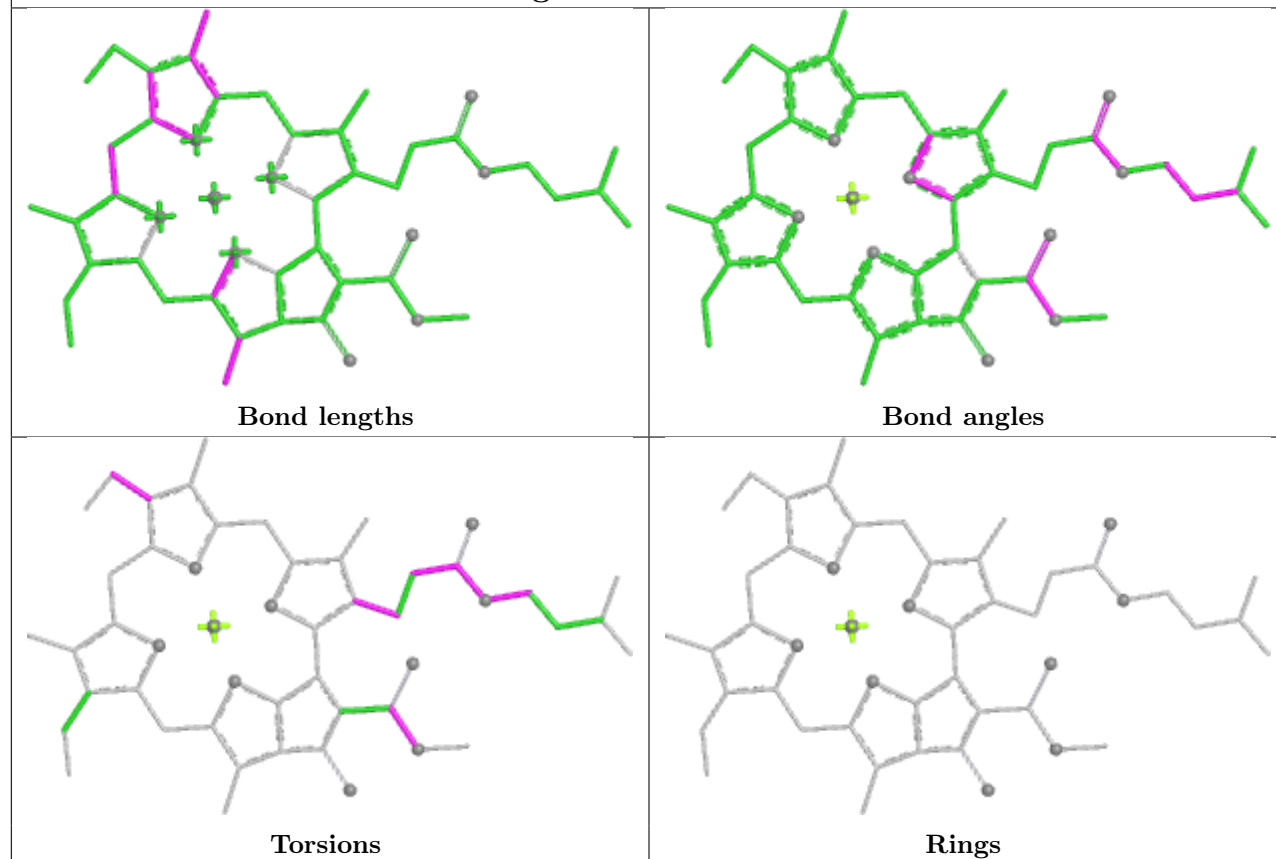


Torsions

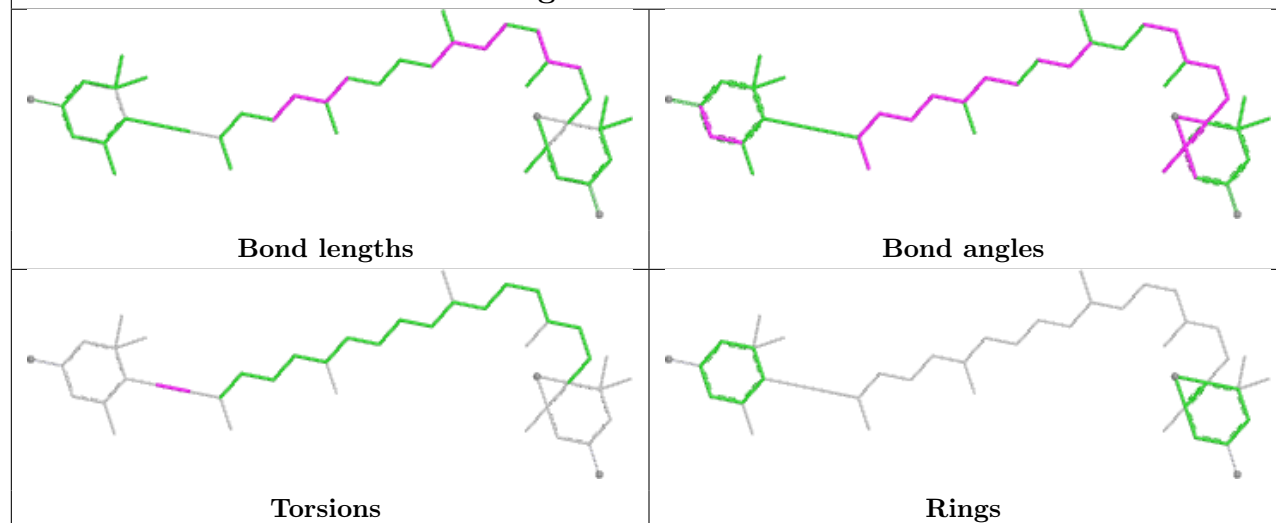


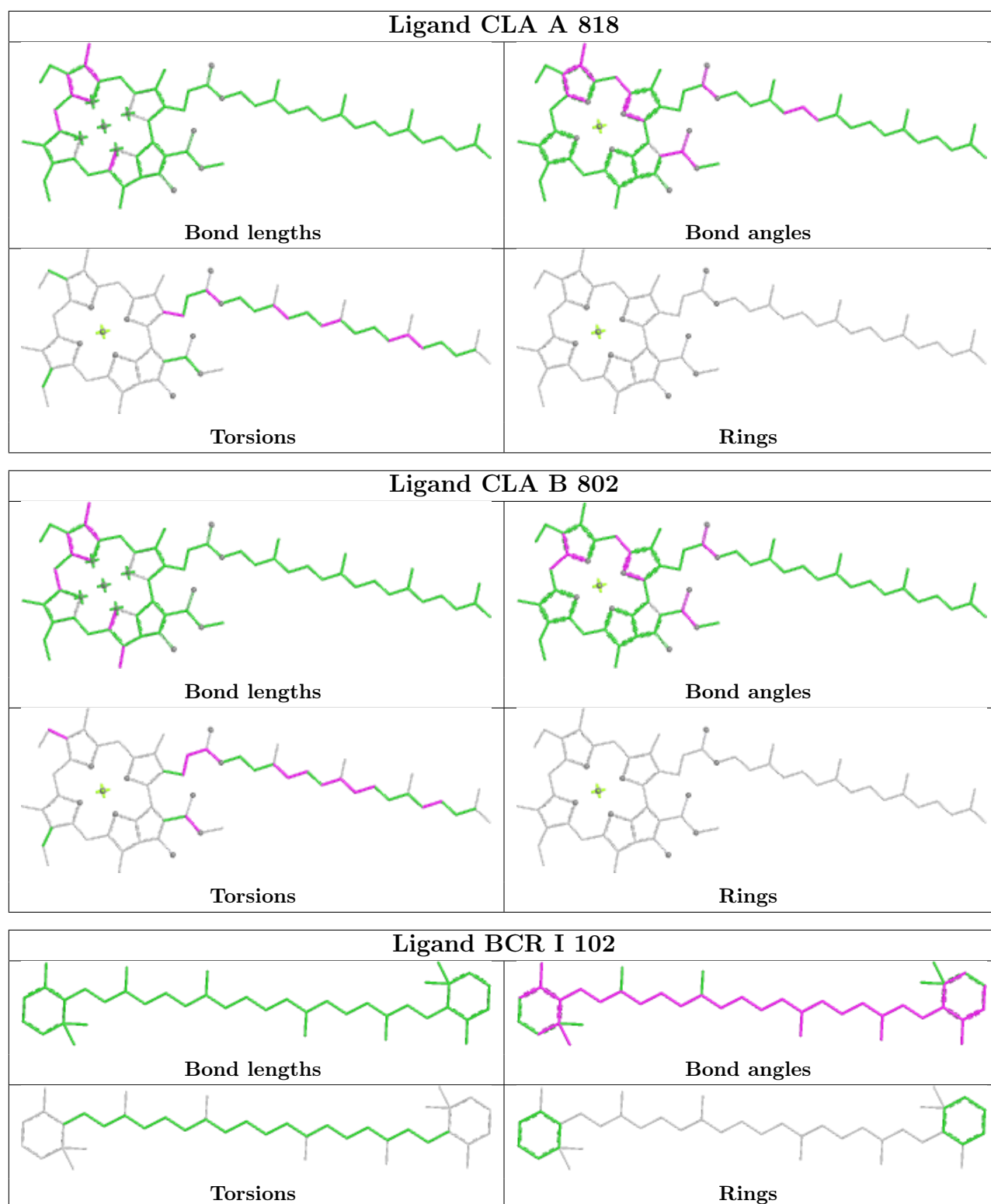
Rings

Ligand CLA B 828

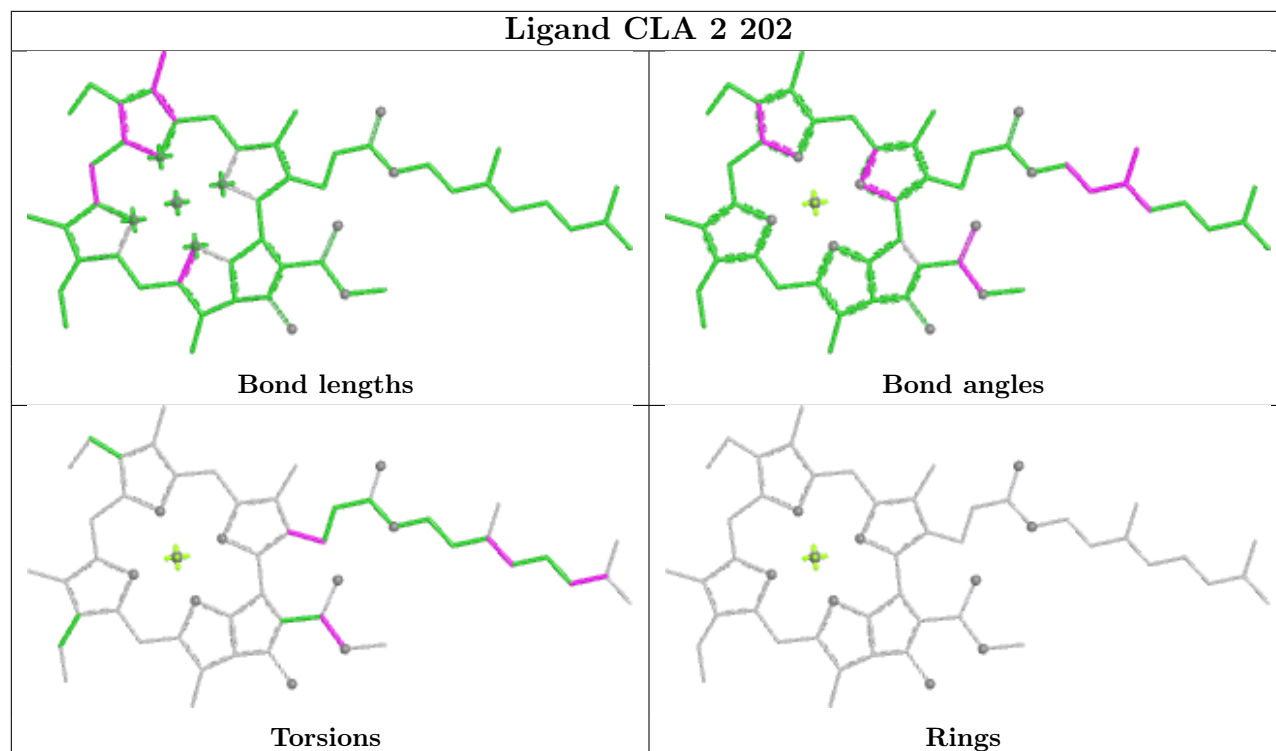


Ligand DD6 c 614

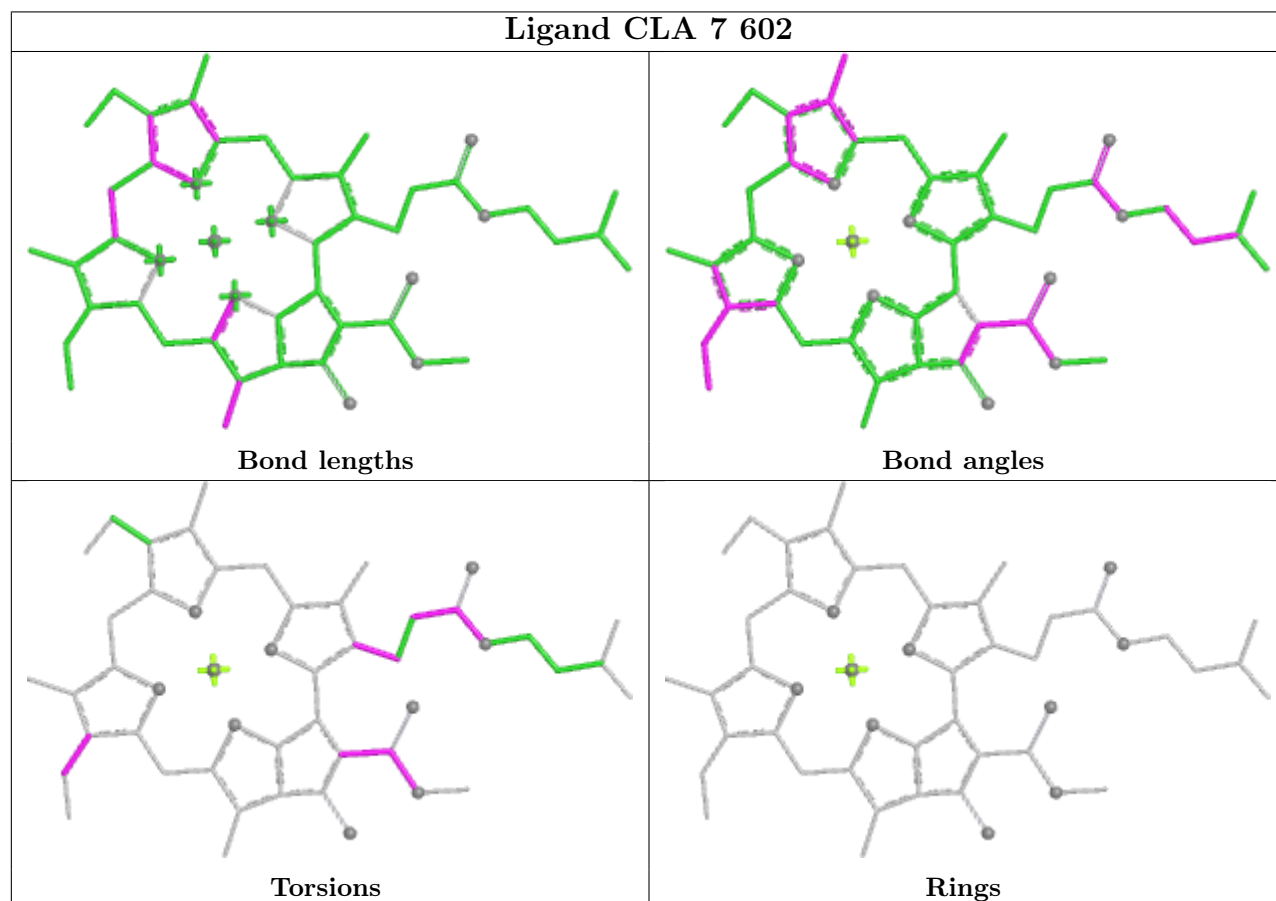




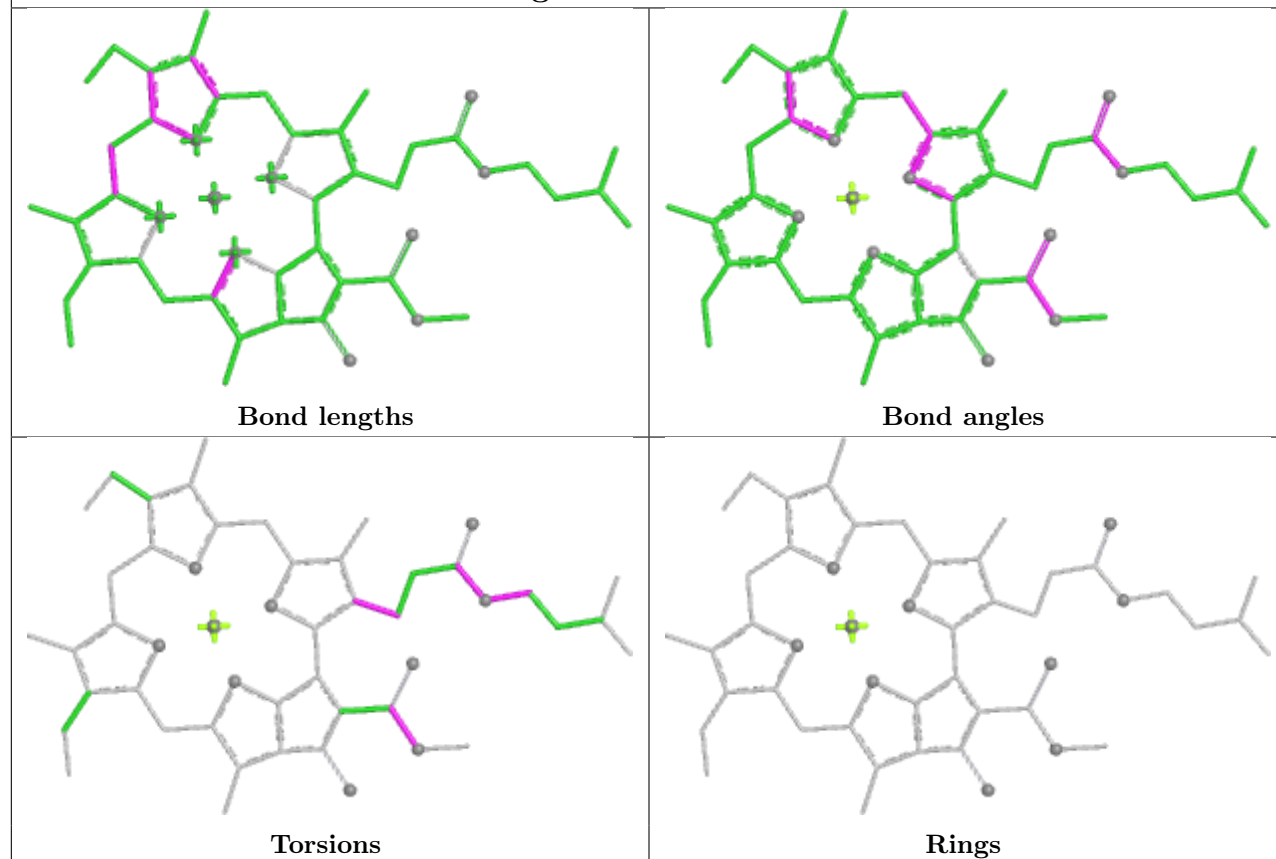
Ligand CLA 2 202



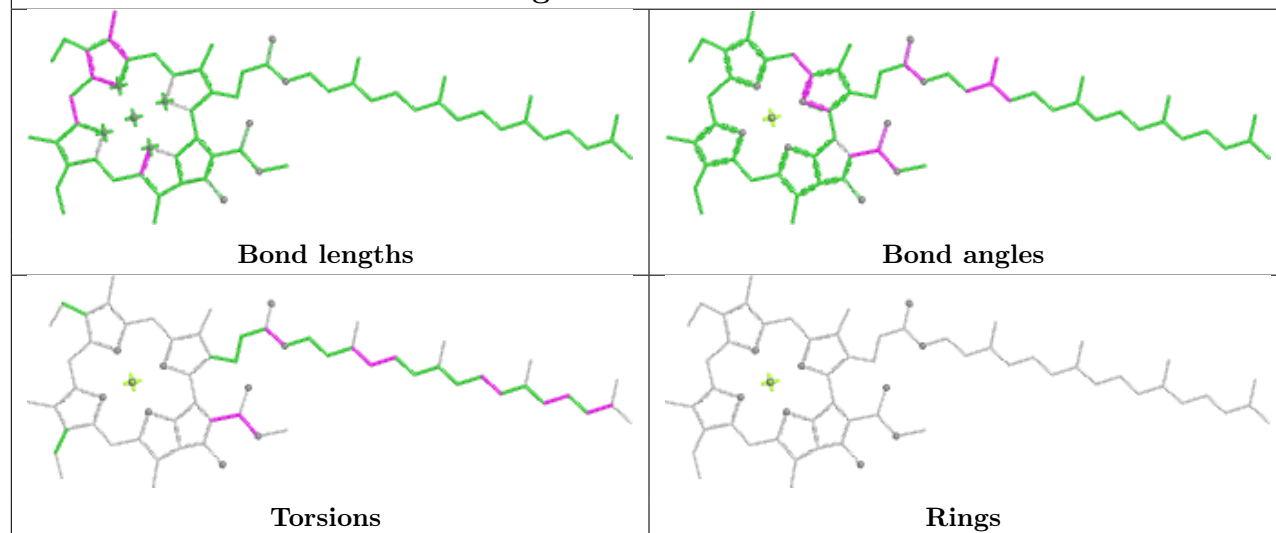
Ligand CLA 7 602

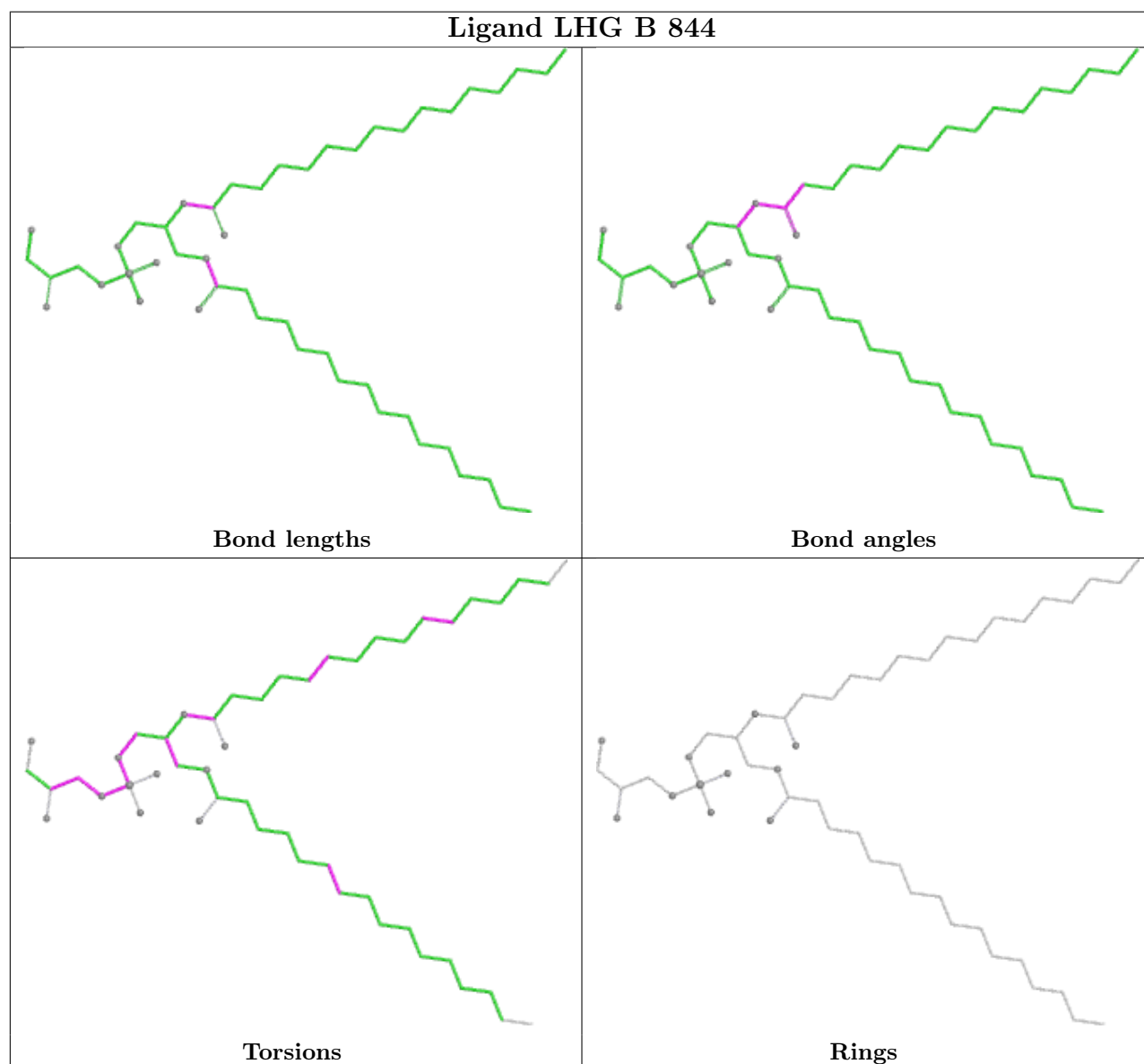
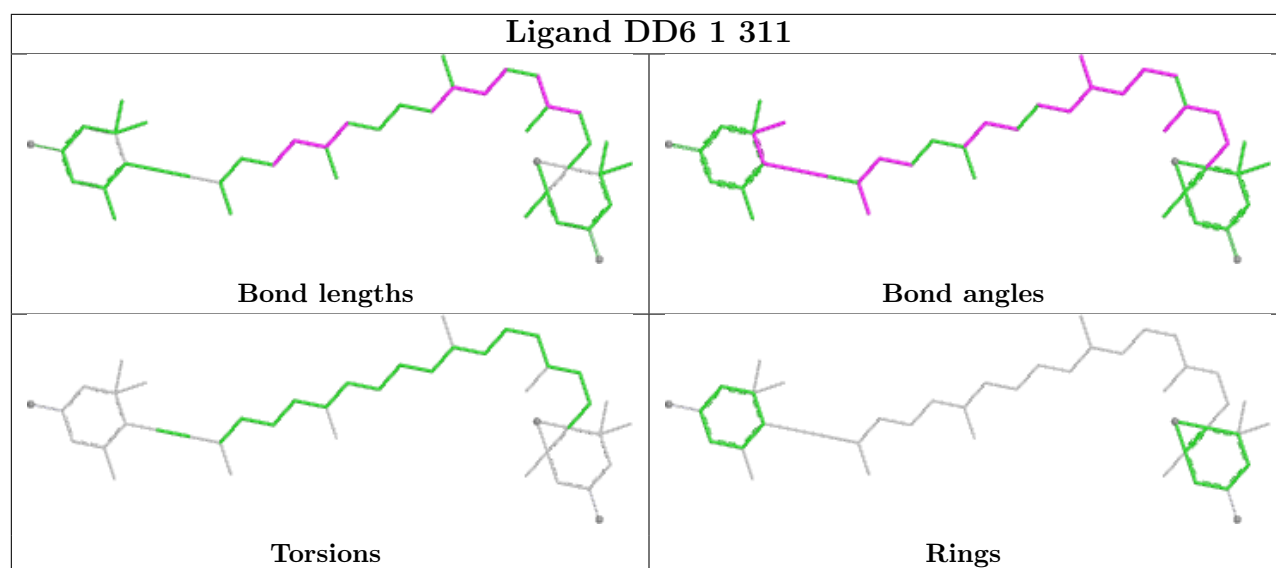


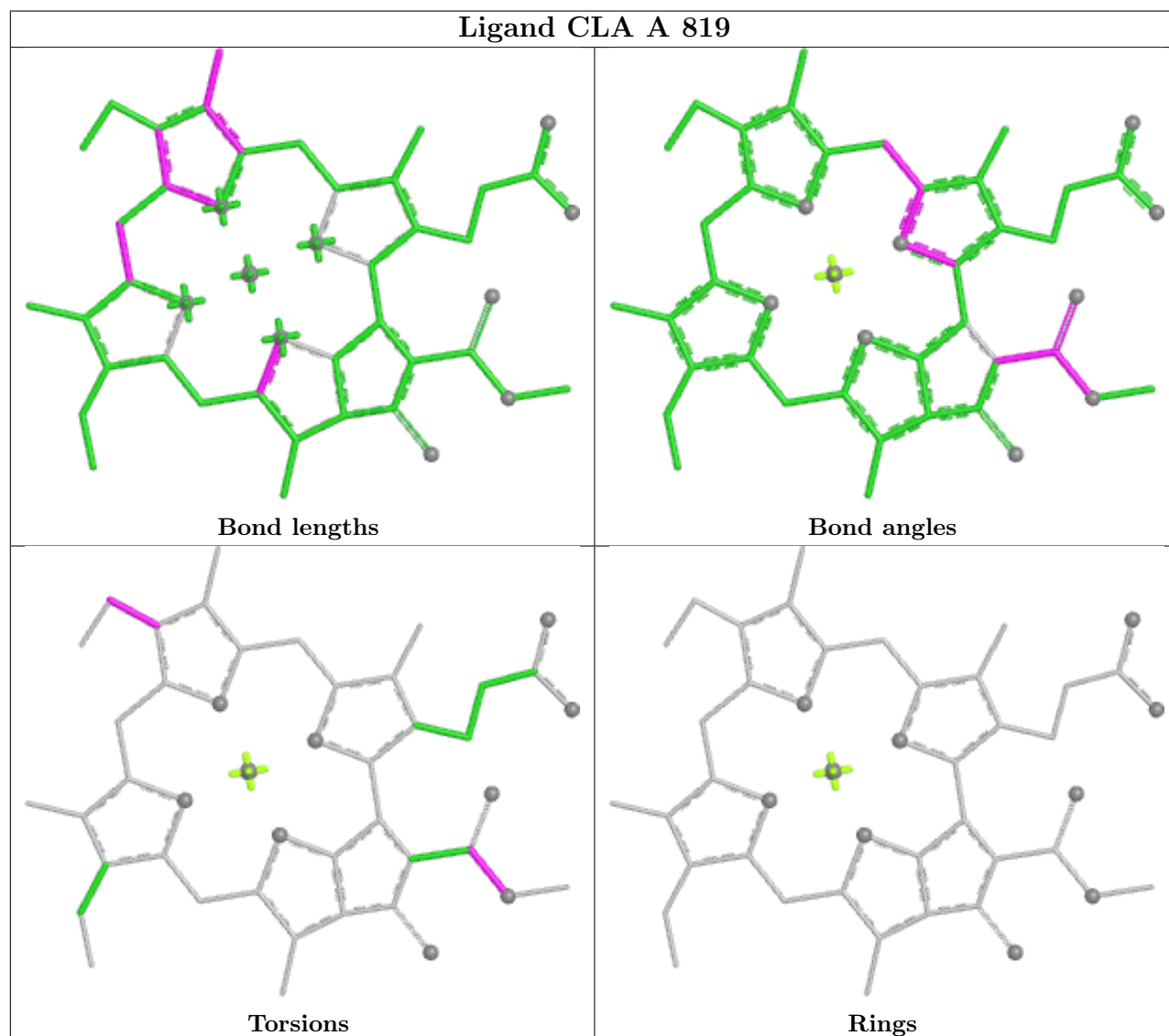
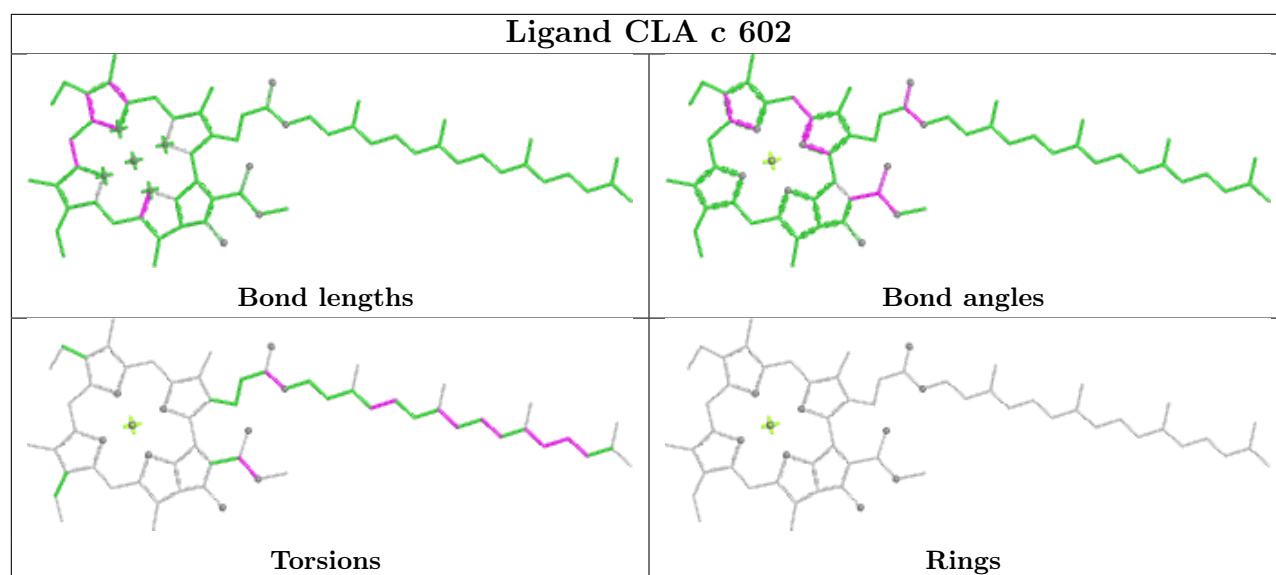
Ligand CLA A 814

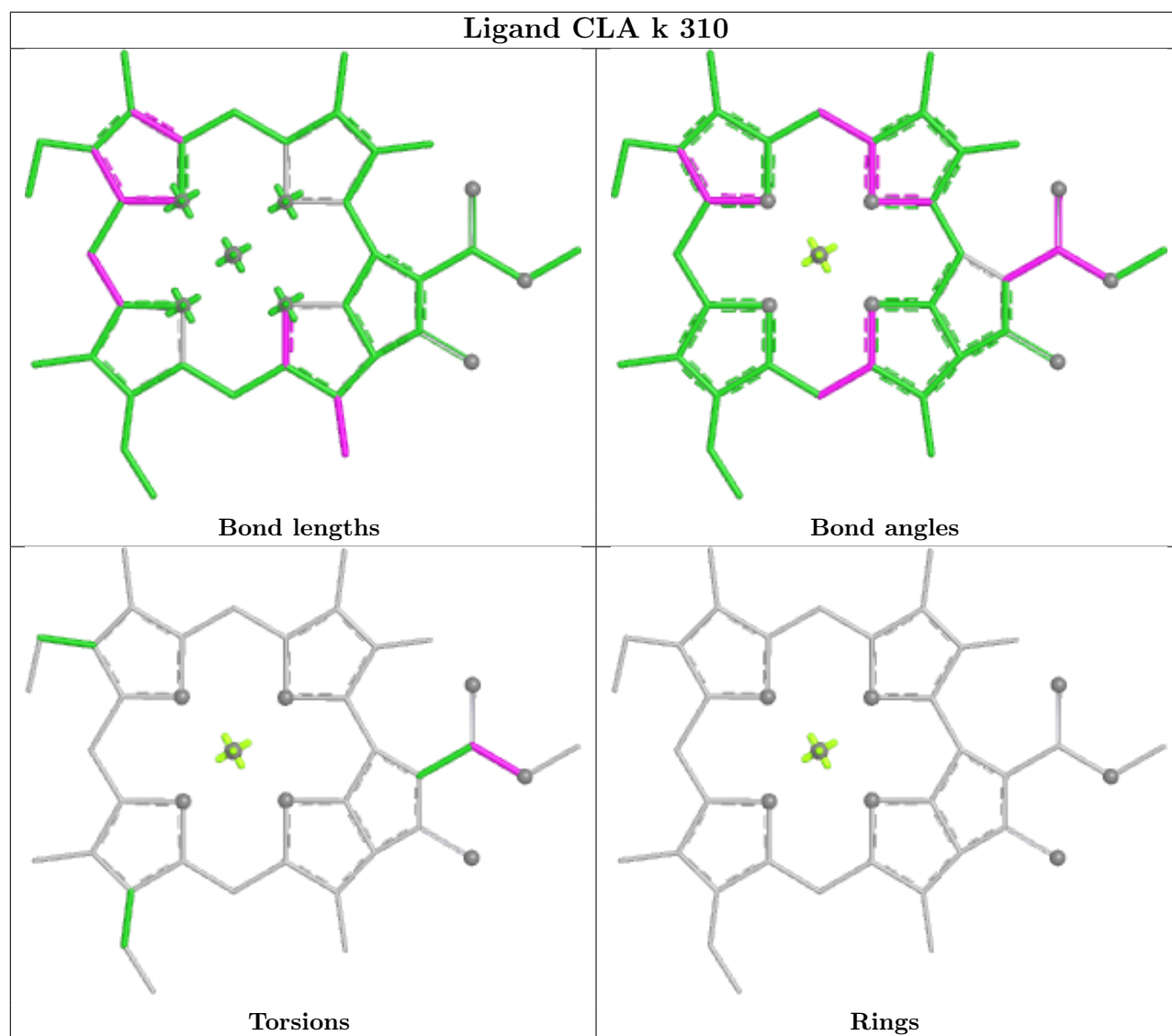
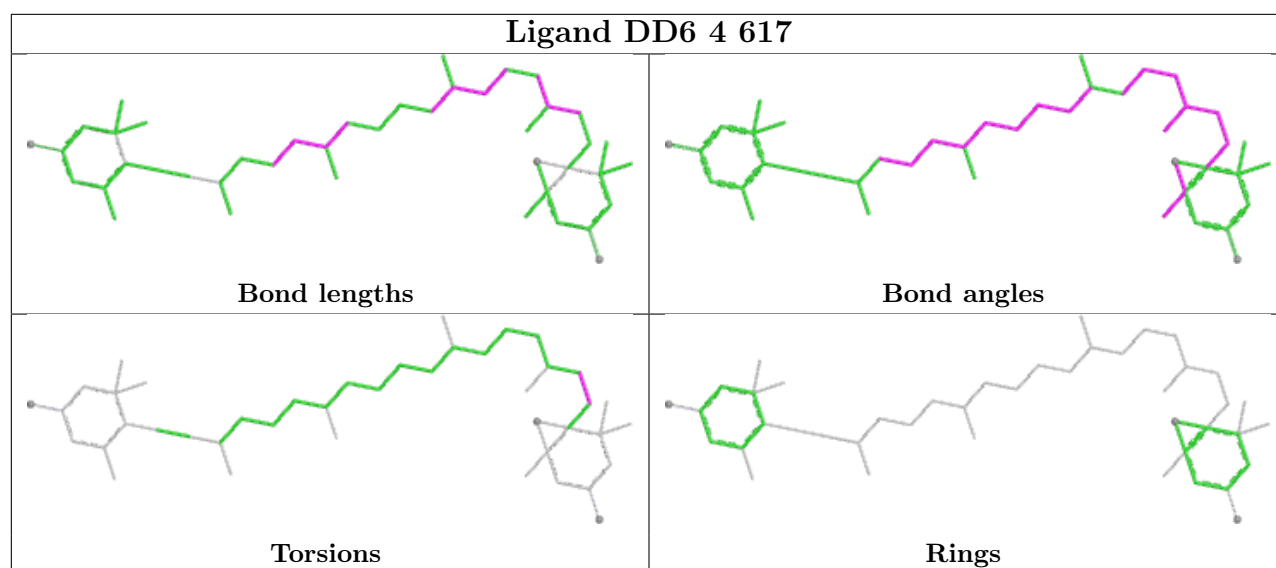


Ligand CLA B 822

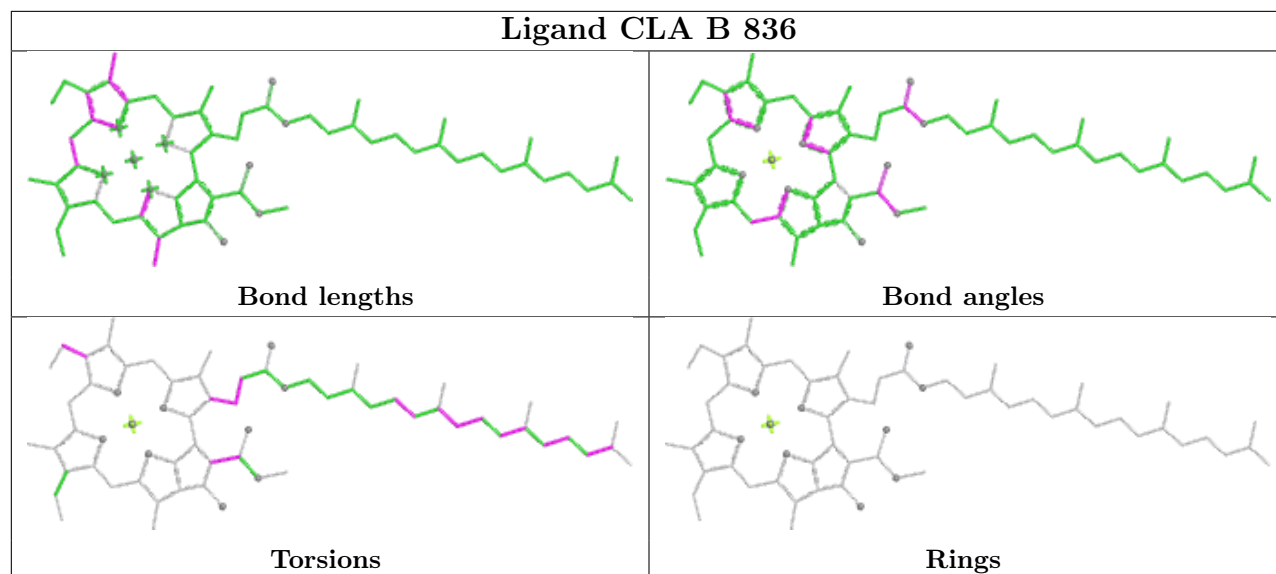




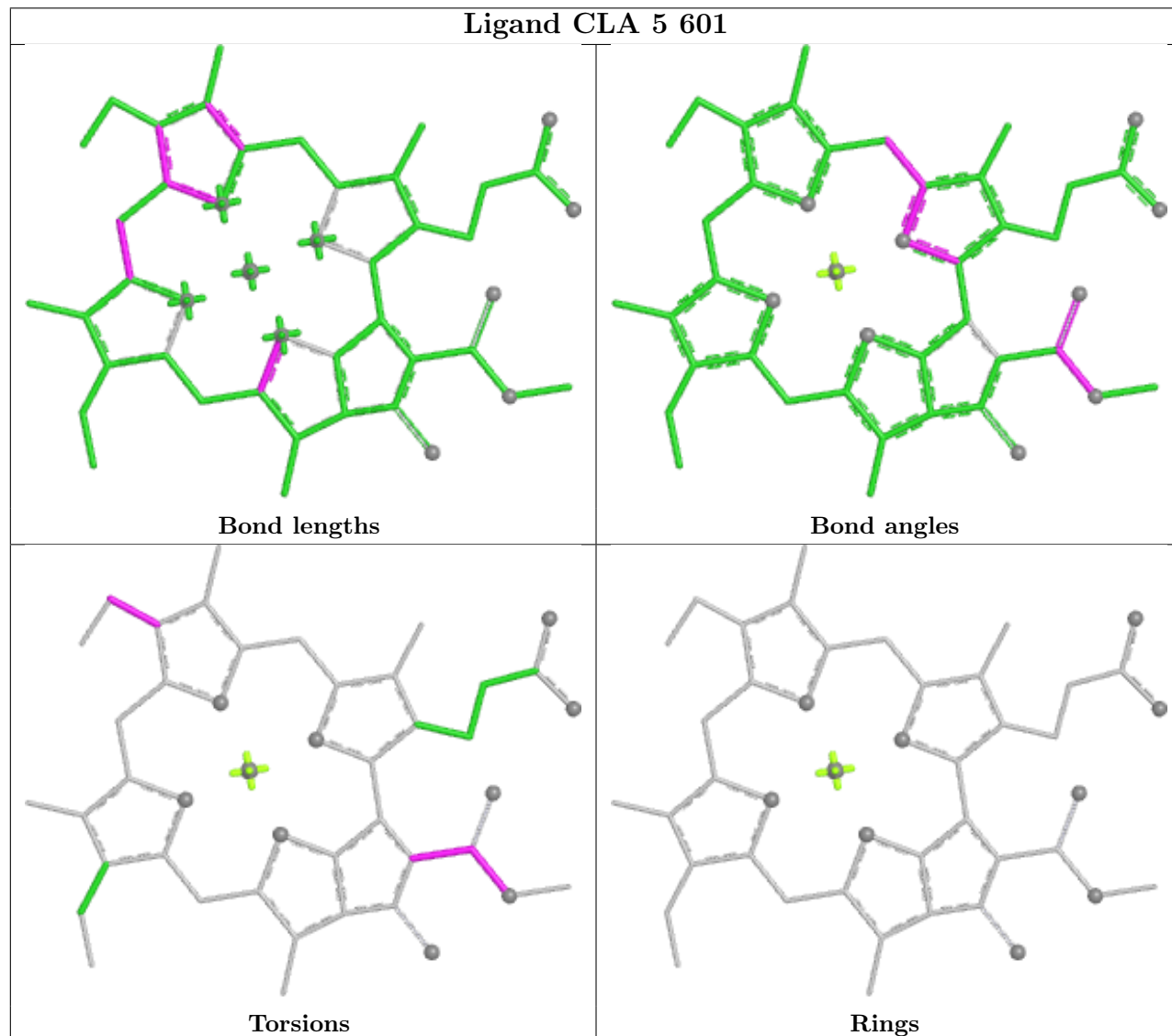


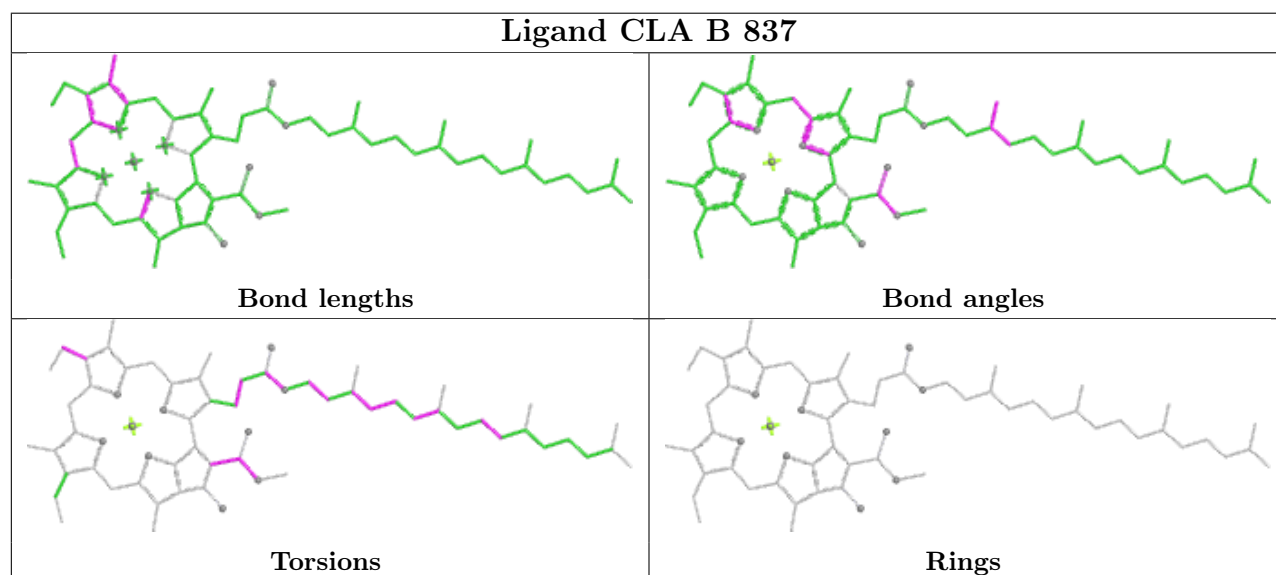
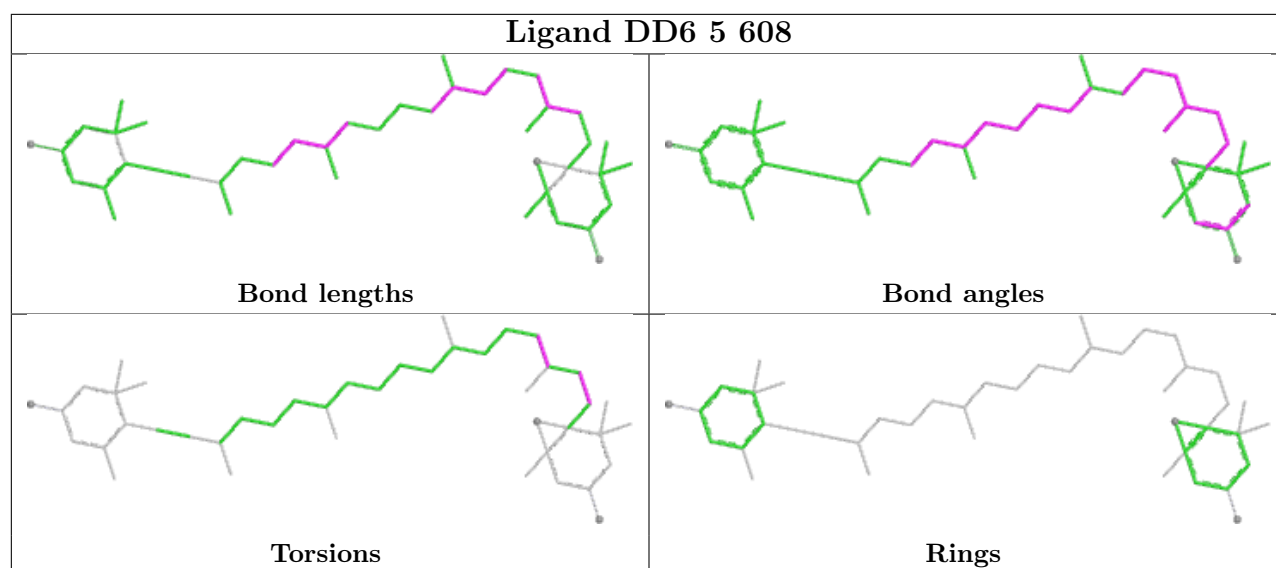


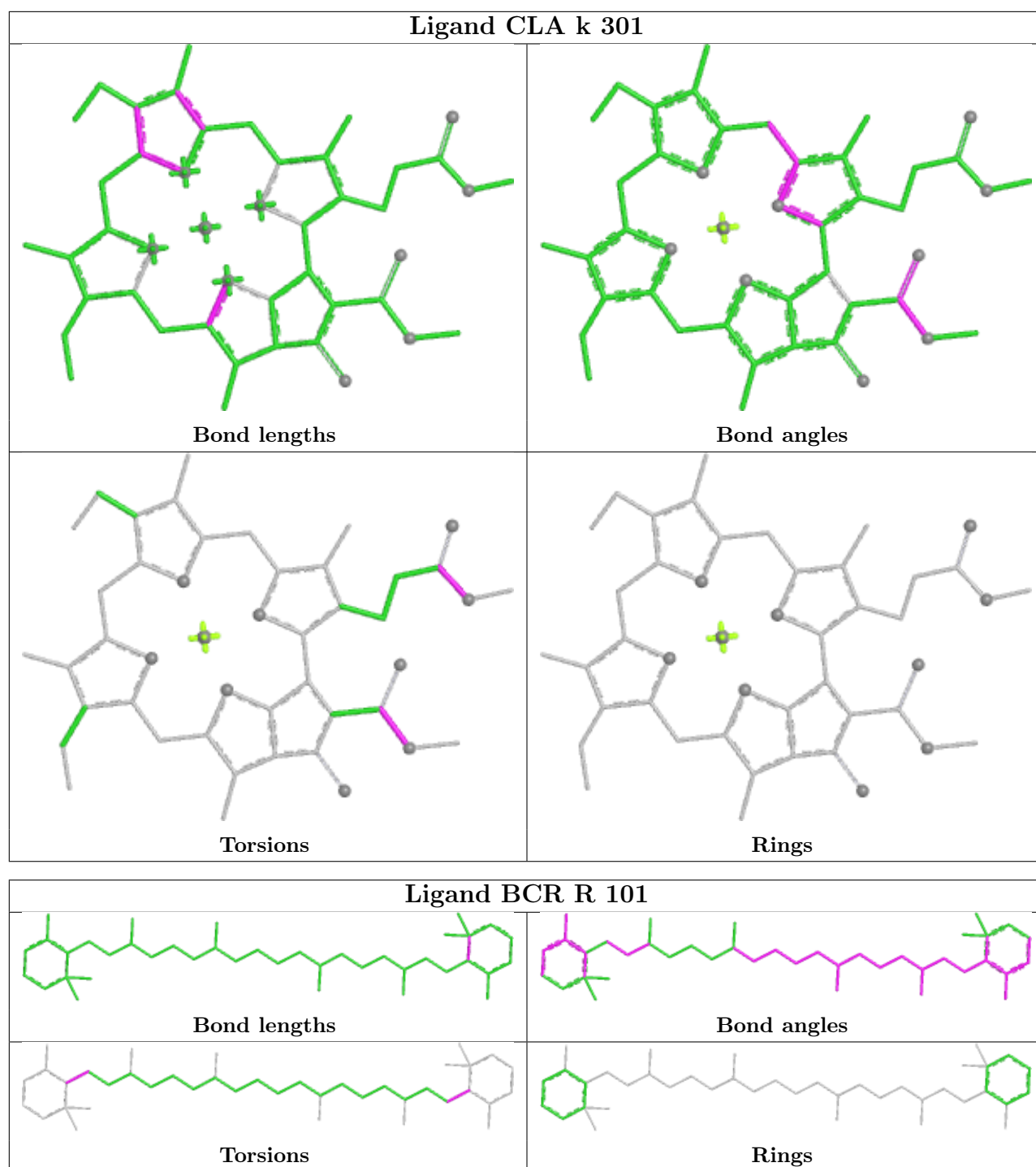
Ligand CLA B 836



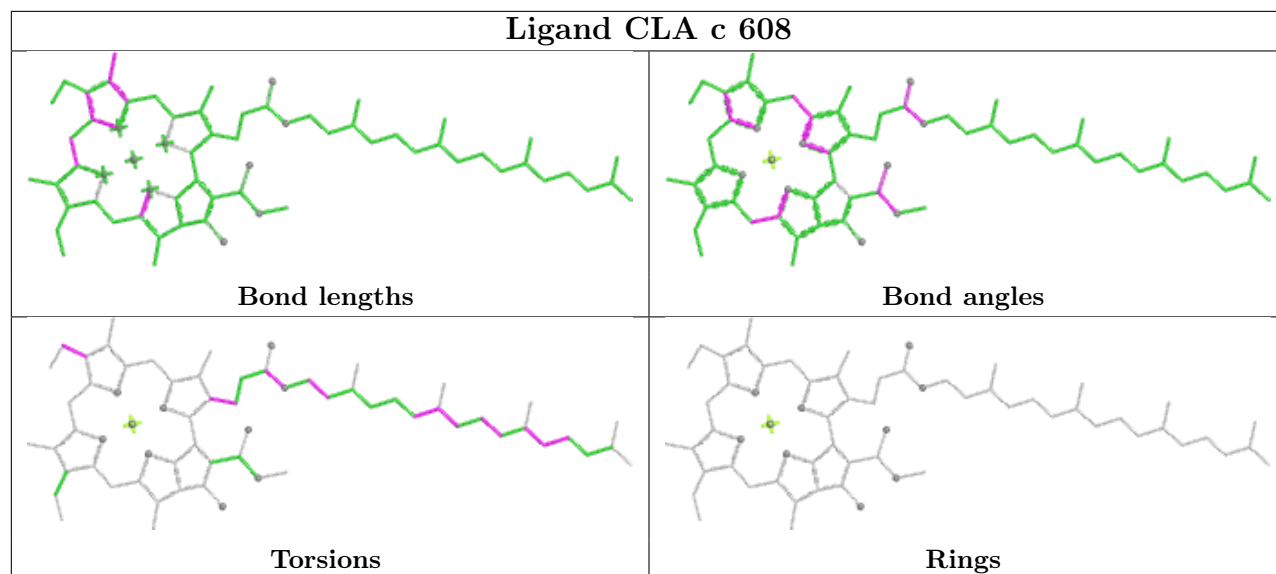
Ligand CLA 5 601



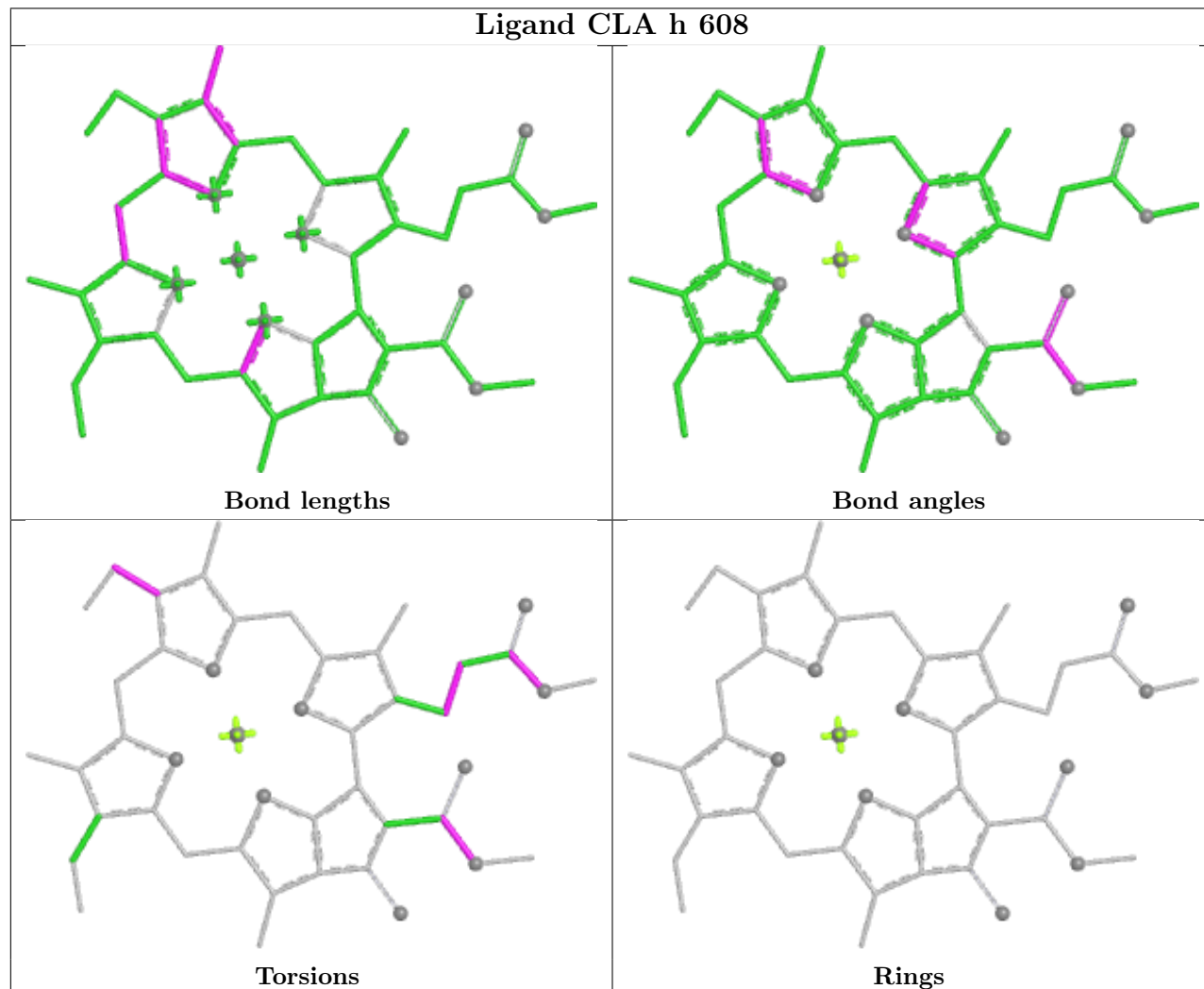




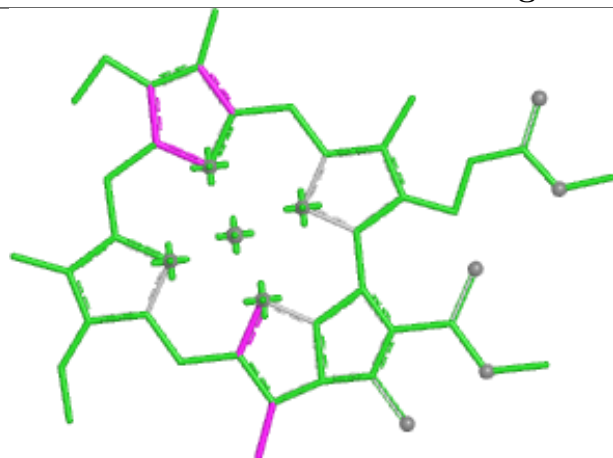
Ligand CLA c 608



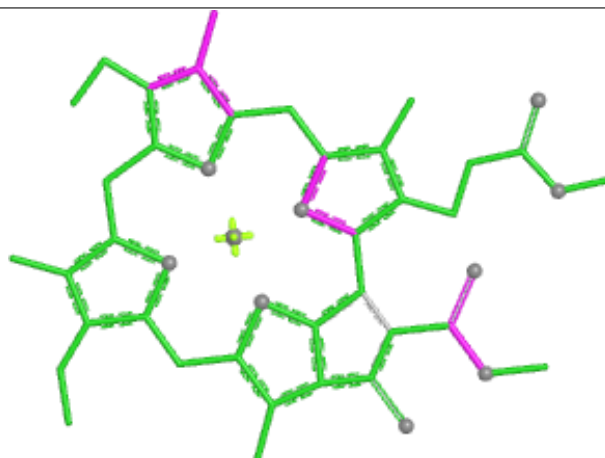
Ligand CLA h 608



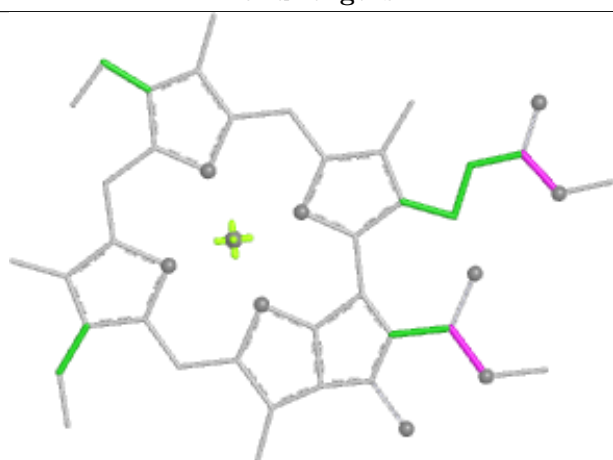
Ligand CLA 4 612



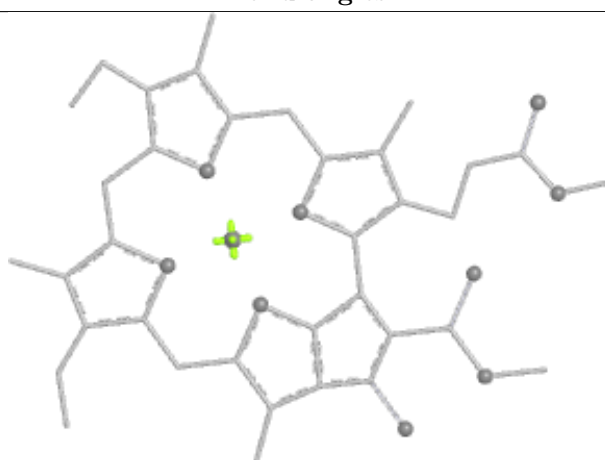
Bond lengths



Bond angles

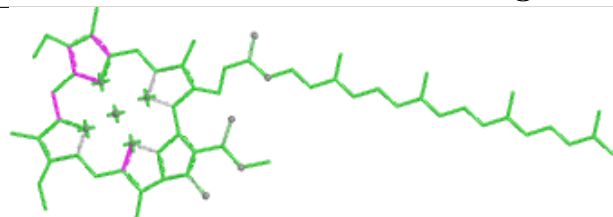


Torsions

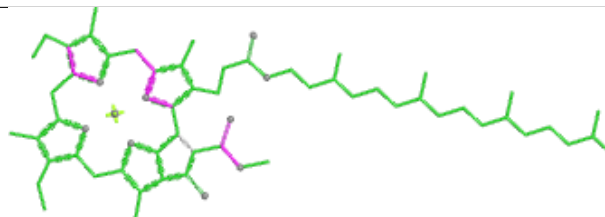


Rings

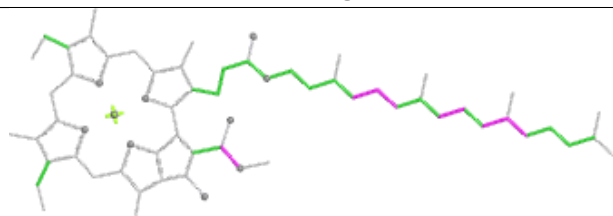
Ligand CLA B 806



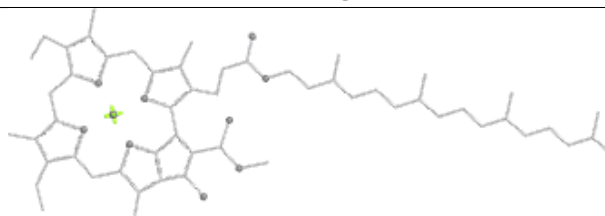
Bond lengths



Bond angles

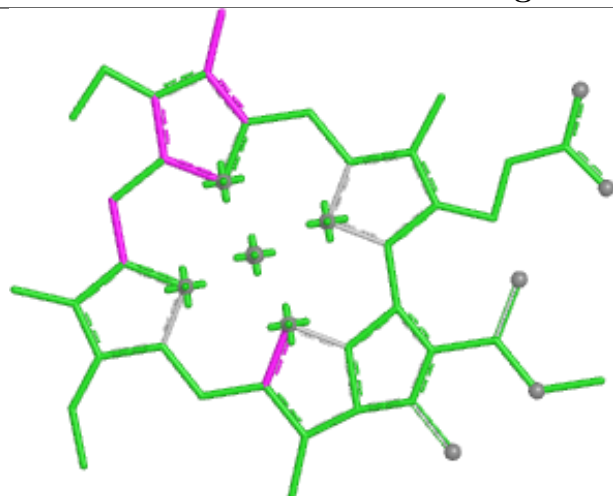


Torsions

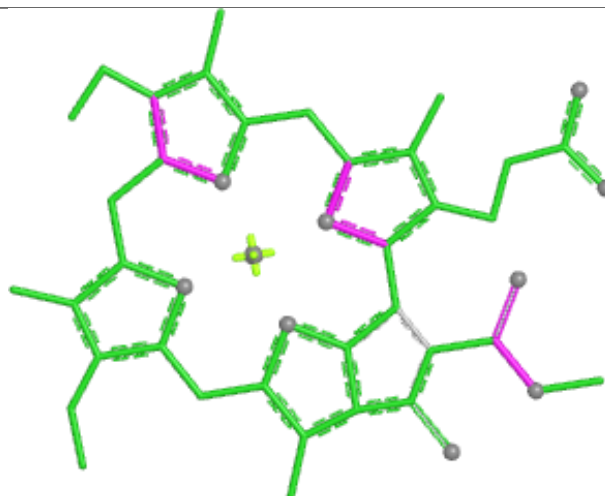


Rings

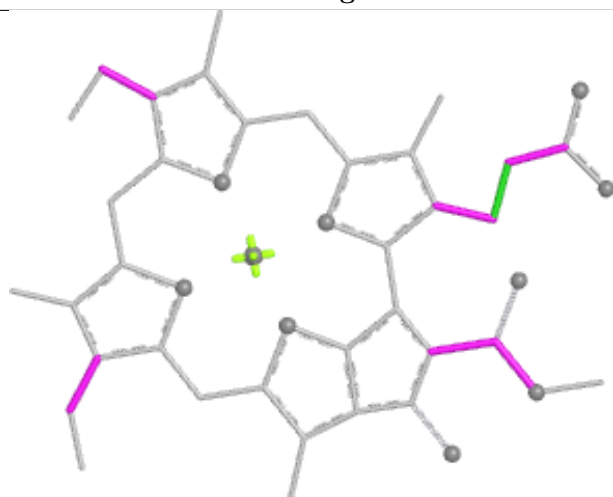
Ligand CLA B 832



Bond lengths



Bond angles

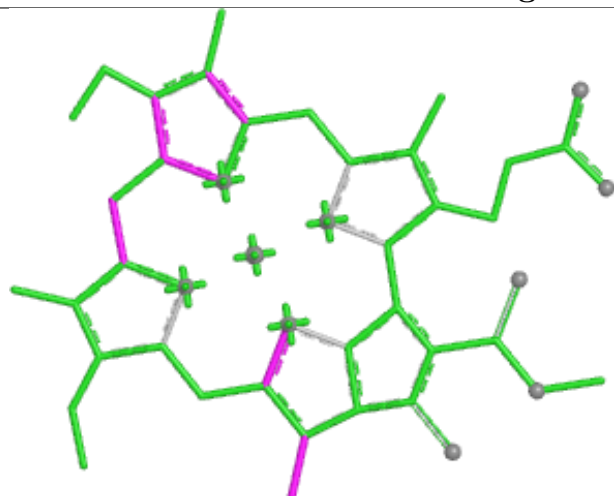


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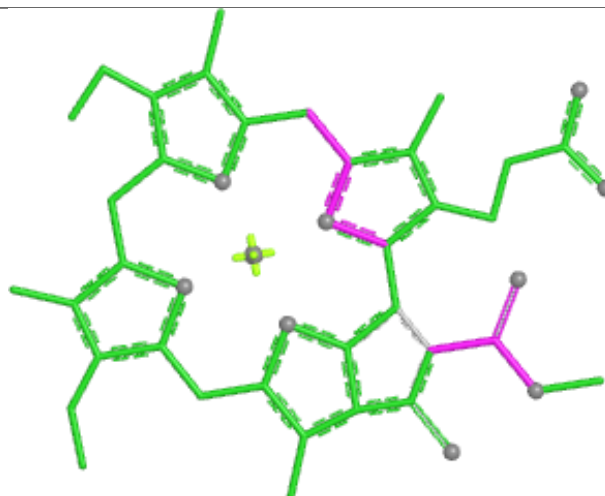


Rings

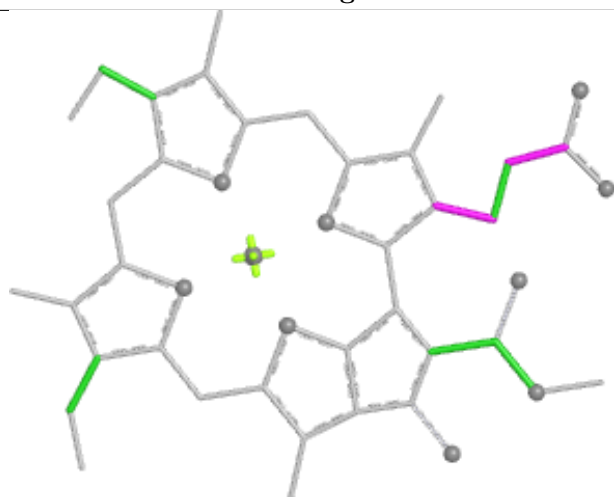
Ligand CLA 3 307



Bond lengths



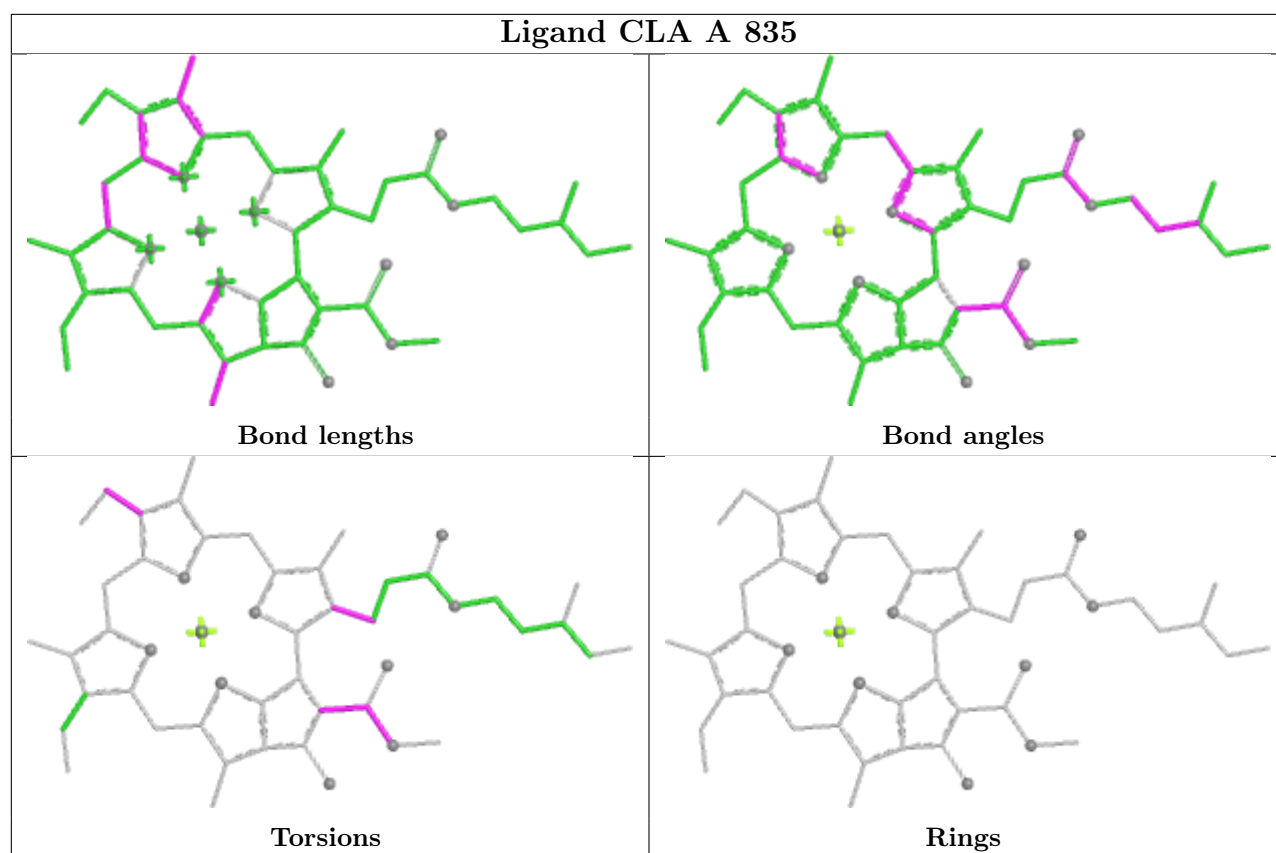
Bond angles



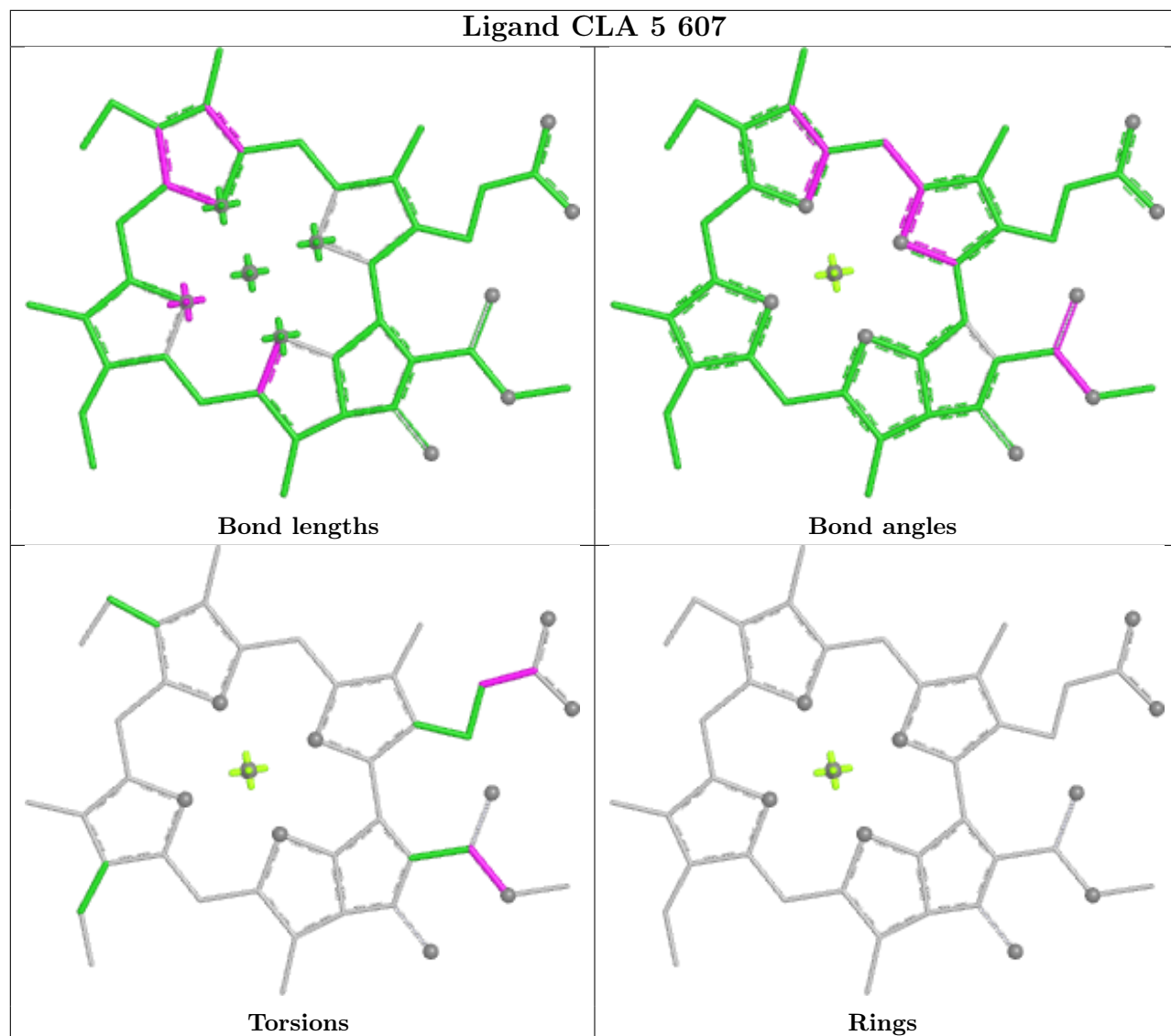
Torsions

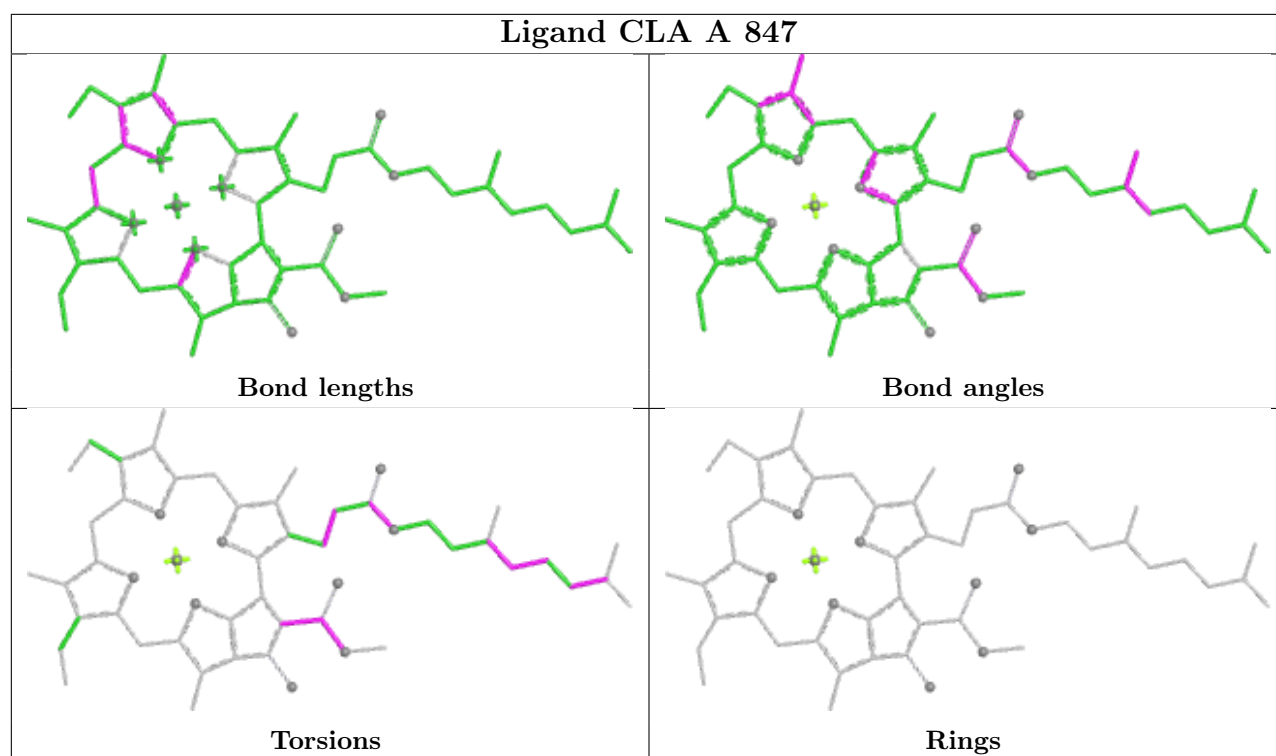


Rings

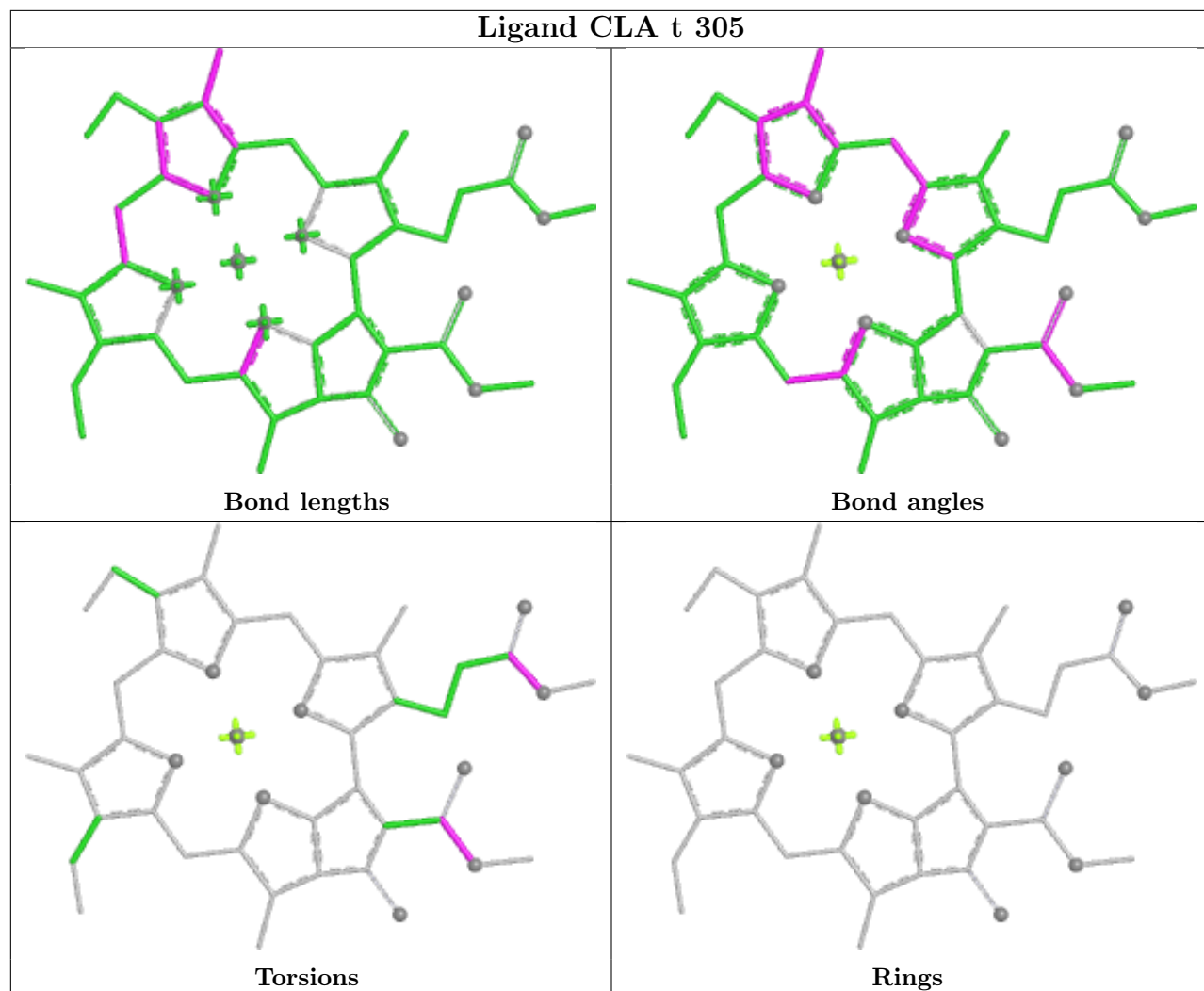


Ligand CLA 5 607

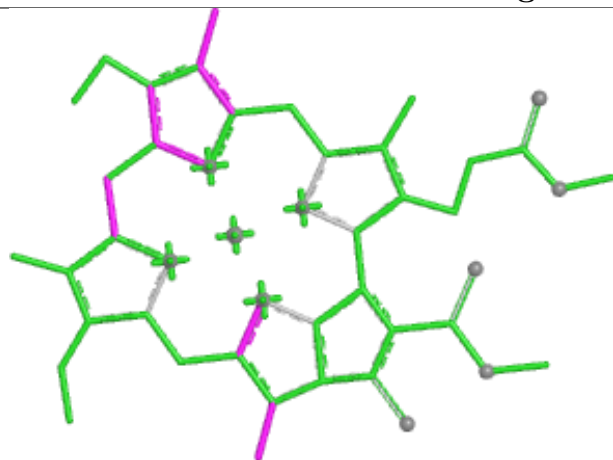




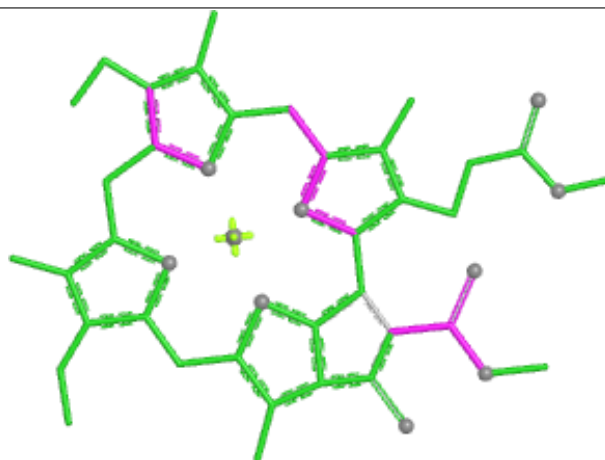
Ligand CLA t 305



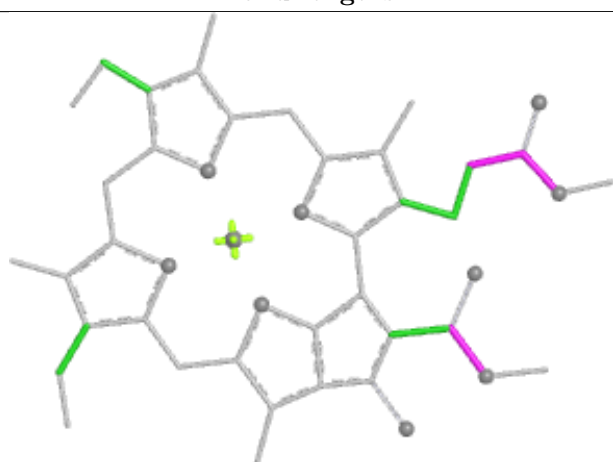
Ligand CLA k 306



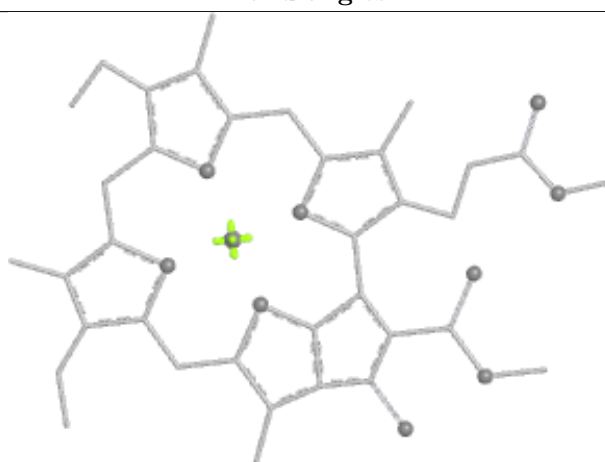
Bond lengths



Bond angles

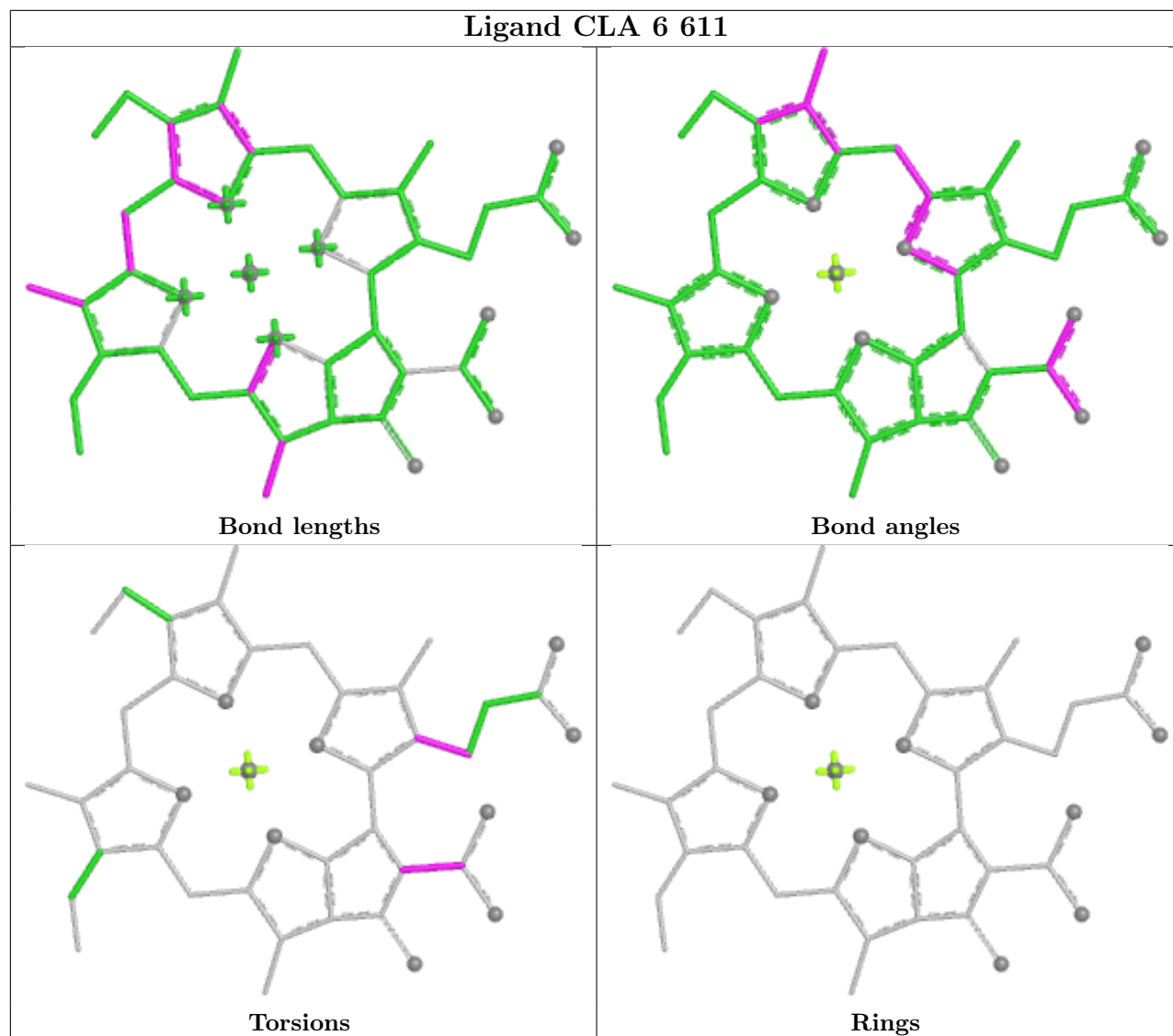


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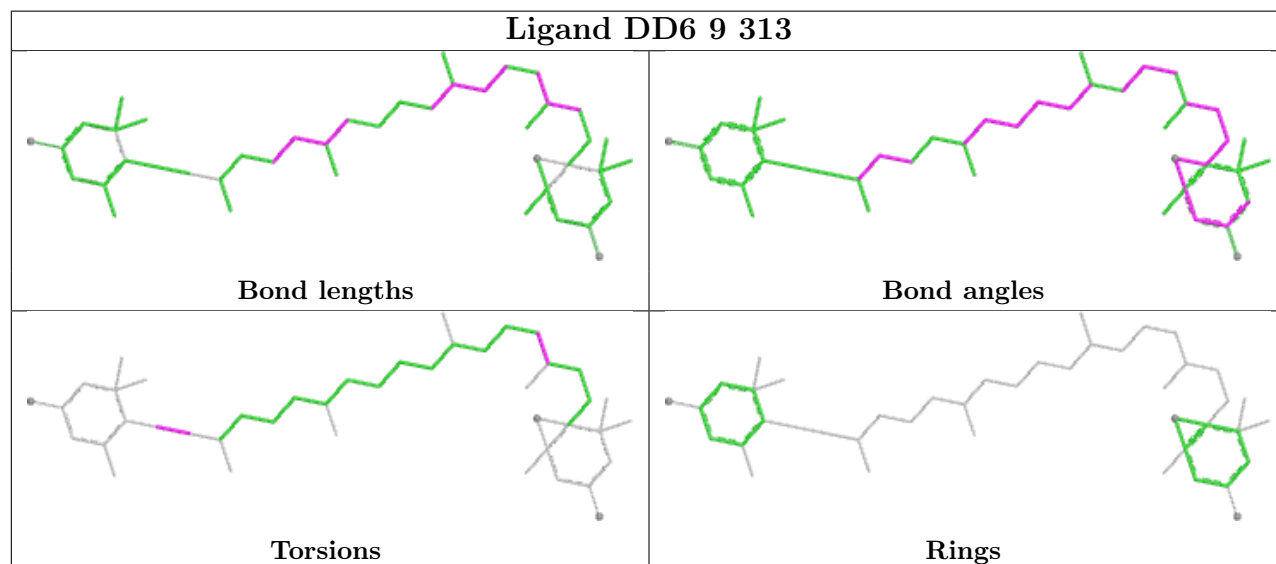


Rings

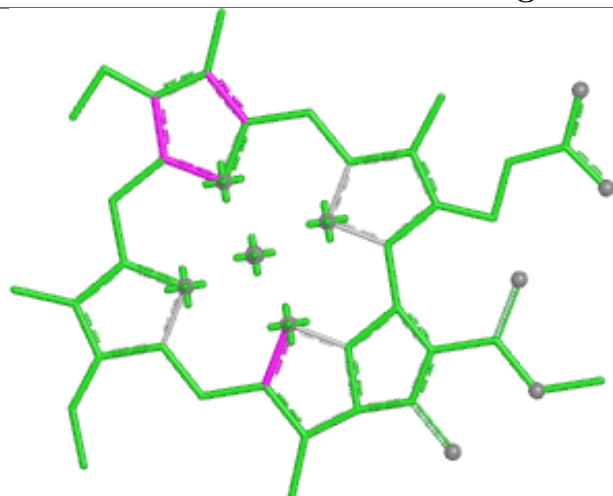
Ligand CLA 6 611



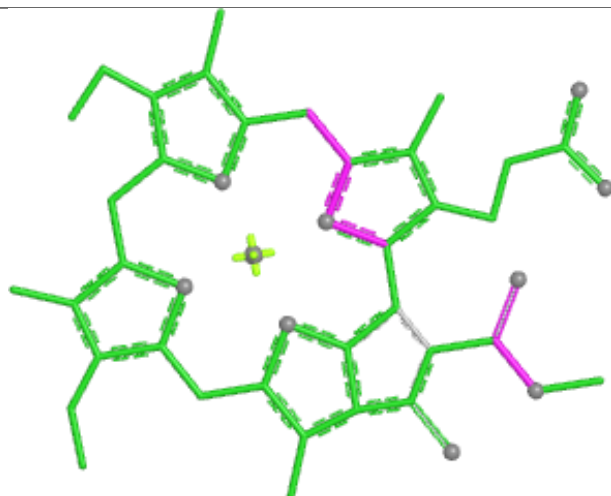
Ligand DD6 9 313



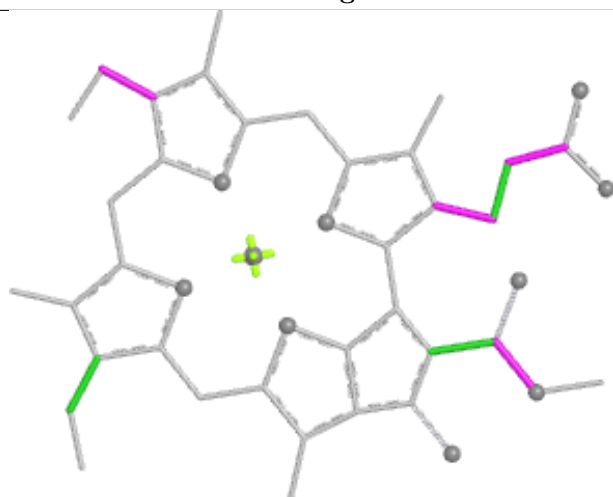
Ligand CLA h 601



Bond lengths



Bond angles

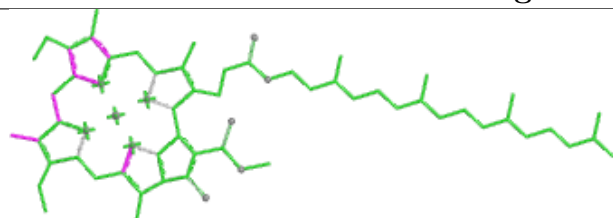


Torsions

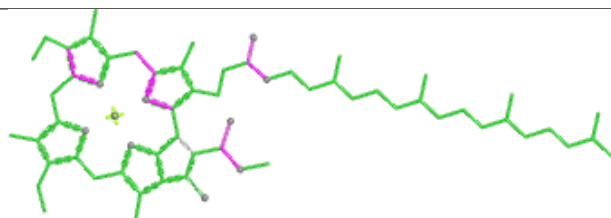


Rings

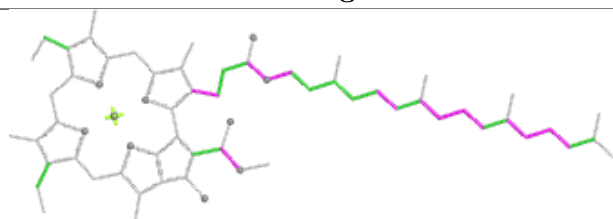
Ligand CLA B 812



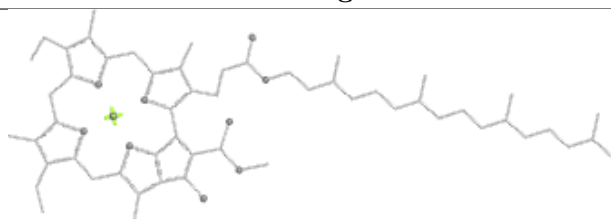
Bond lengths



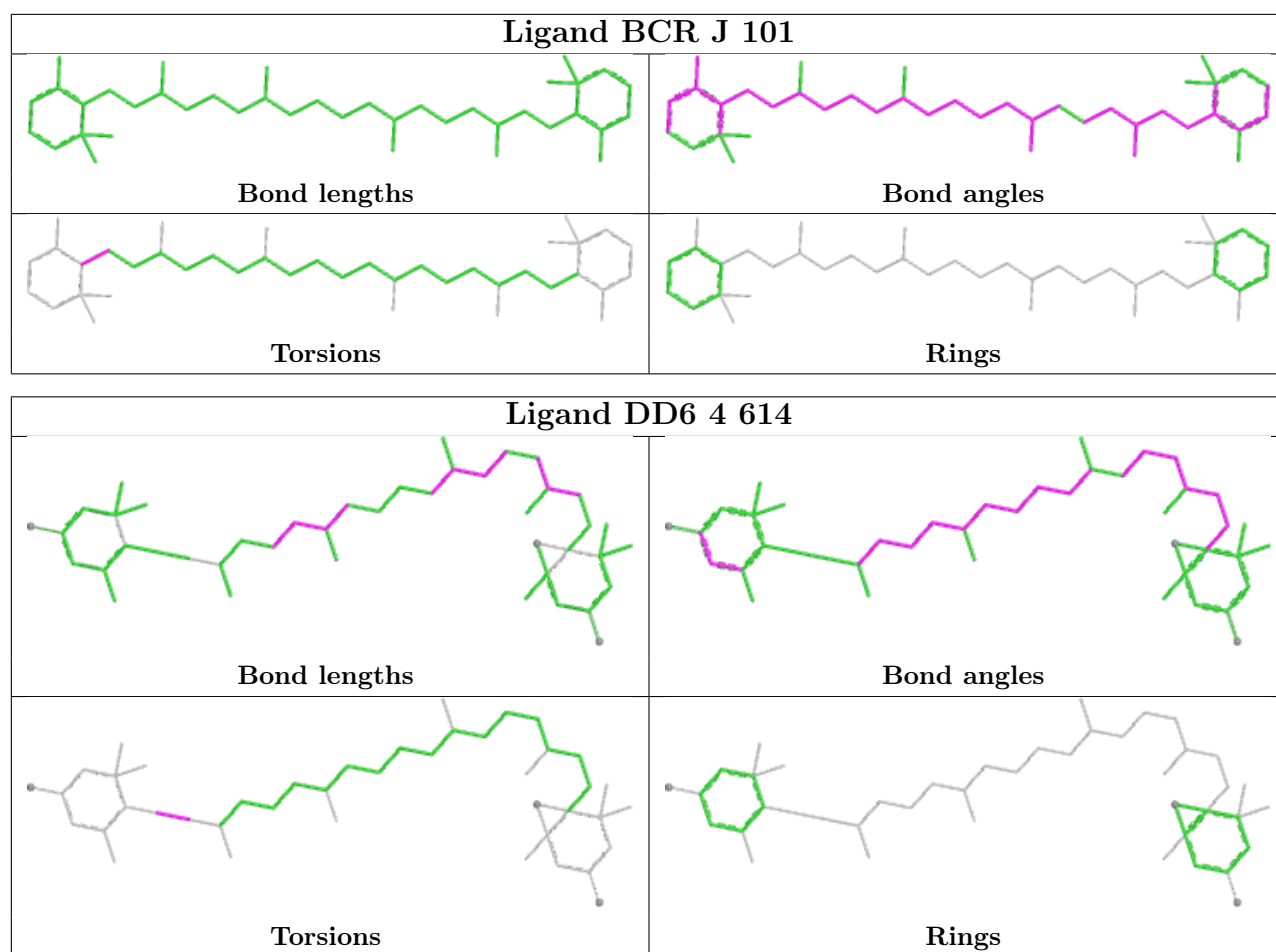
Bond angles

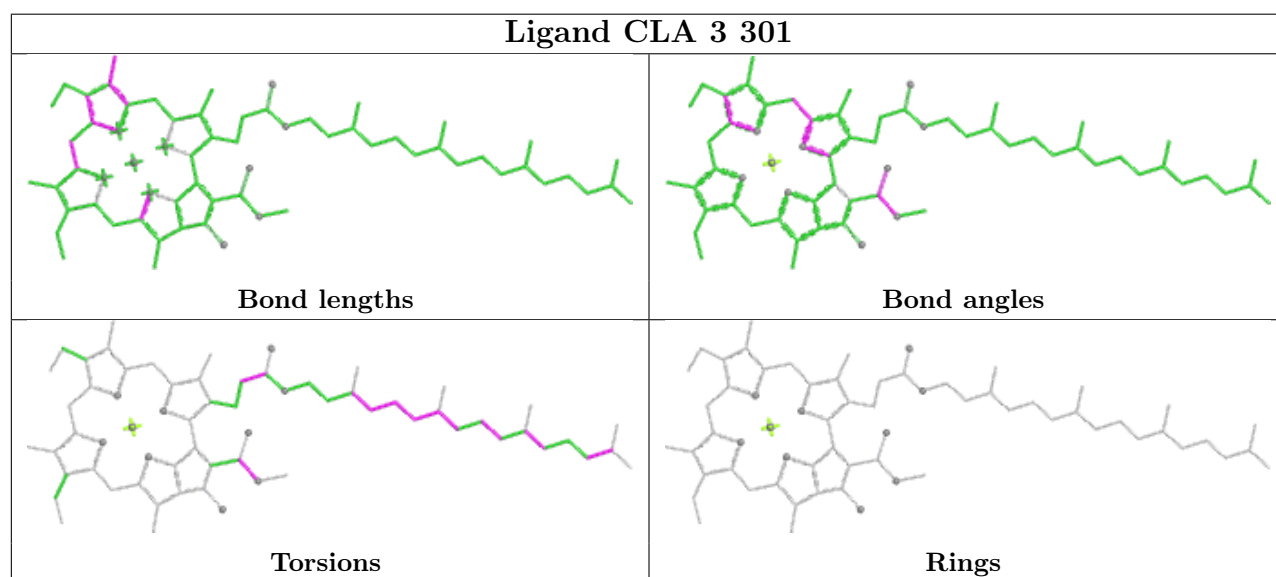
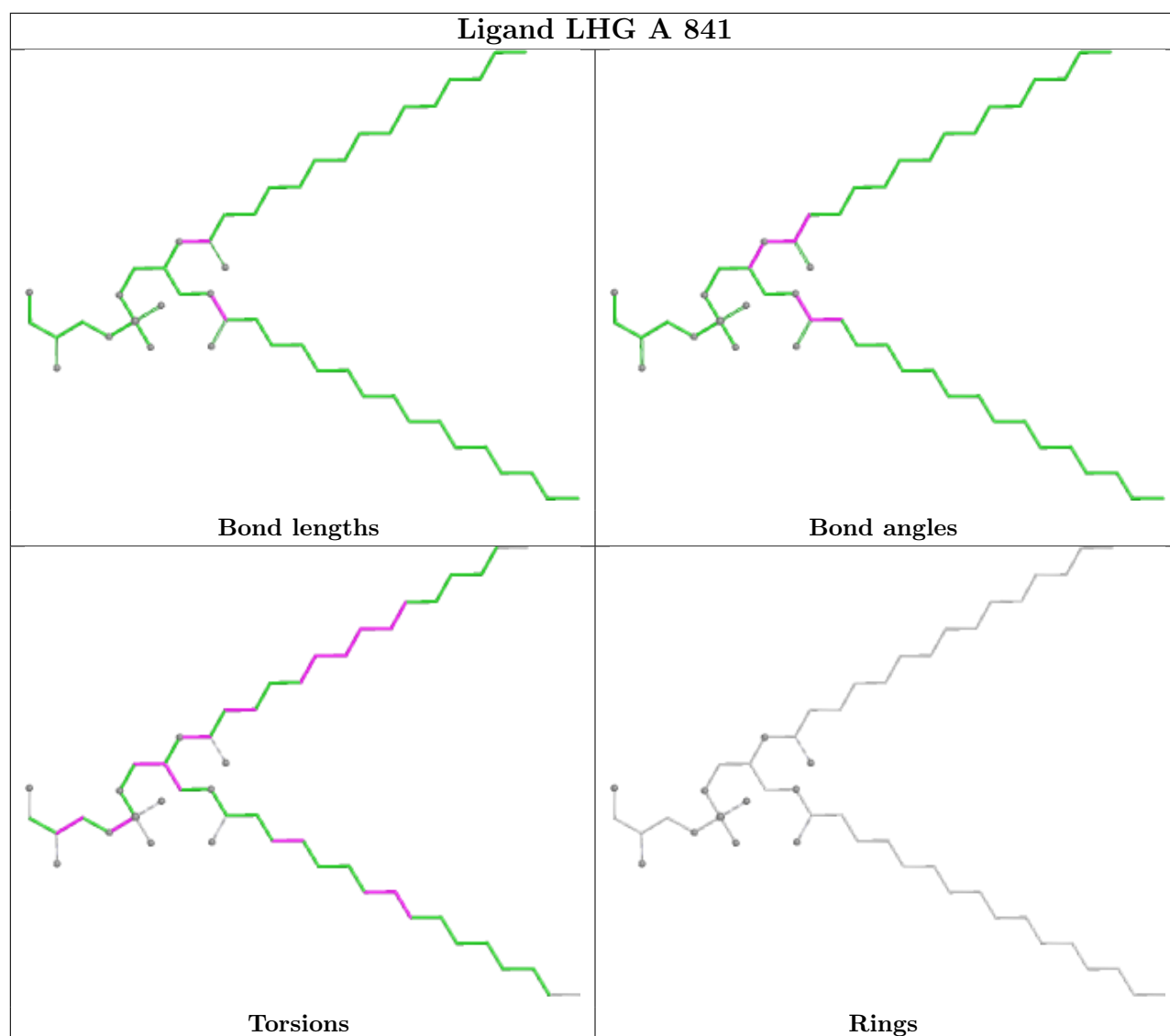


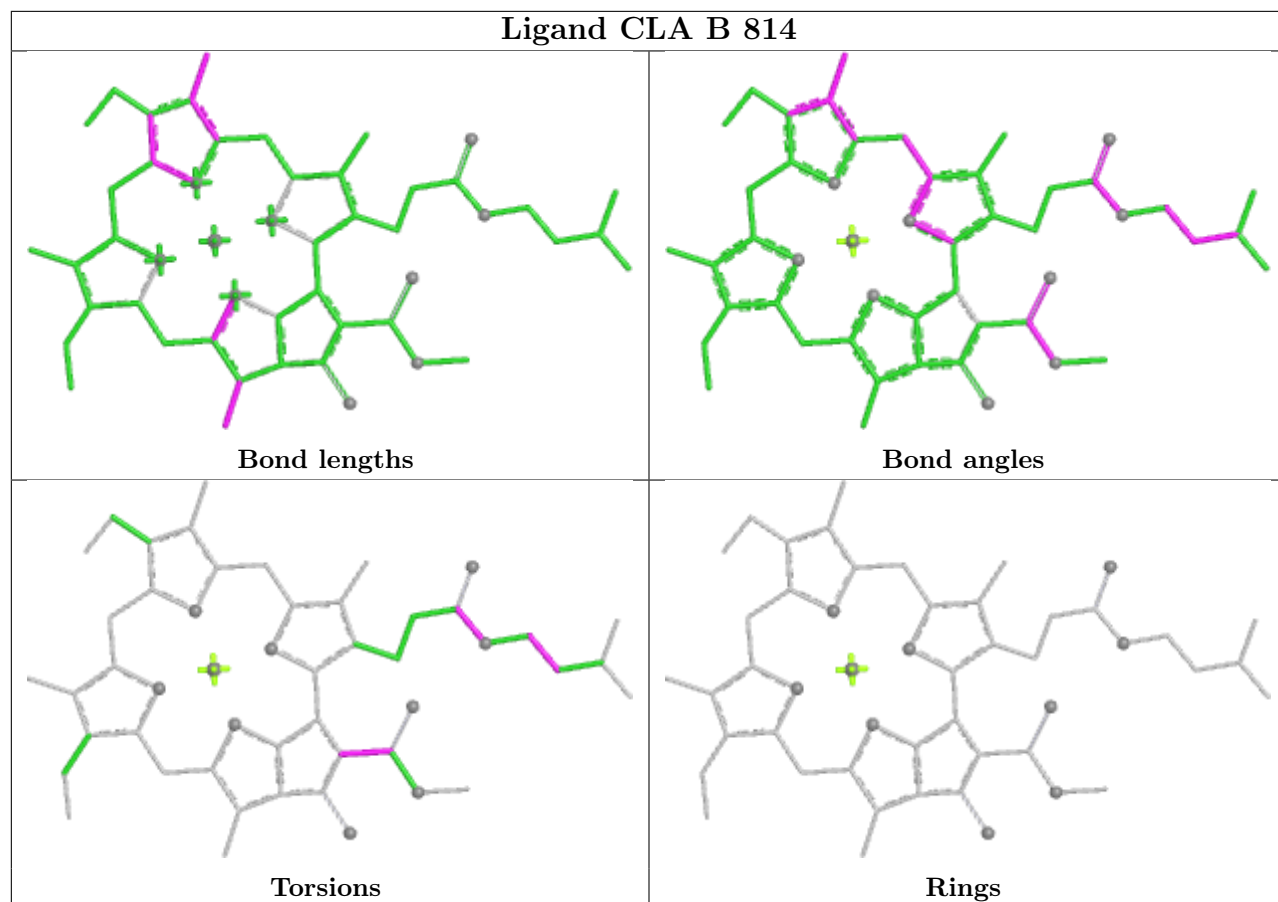
Torsions



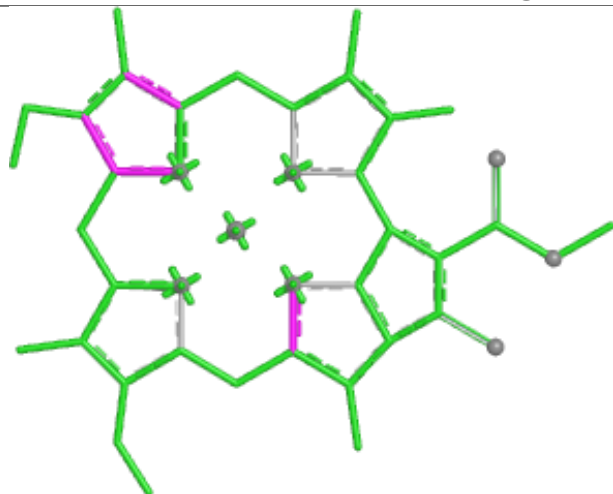
Rings



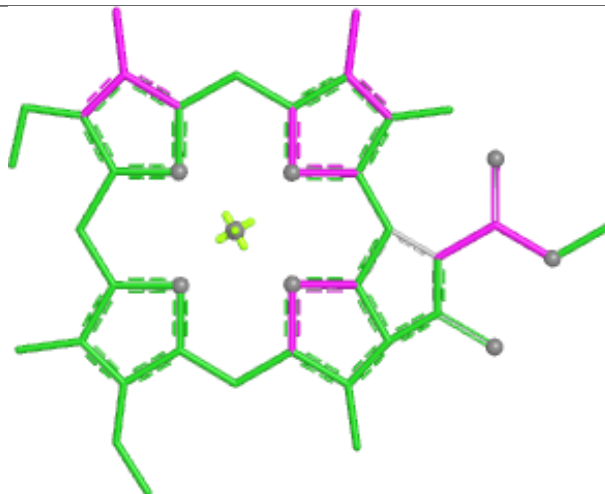




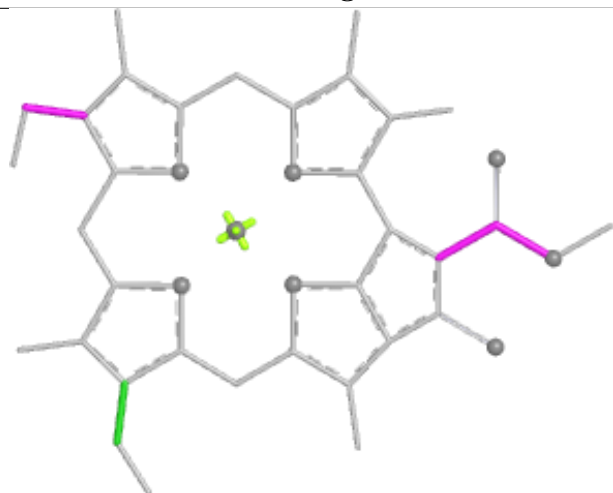
Ligand CLA k 308



Bond lengths



Bond angles

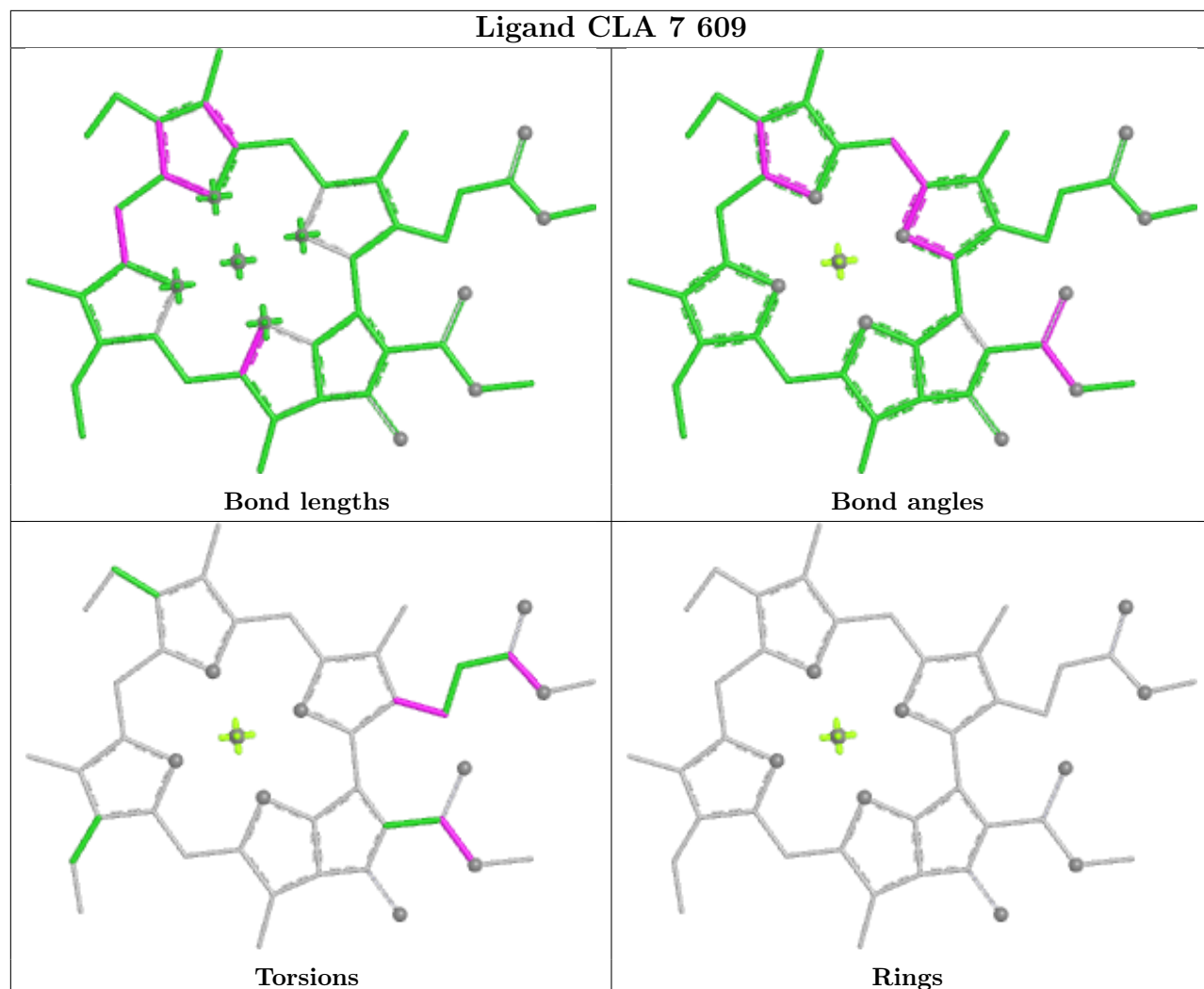


Torsions

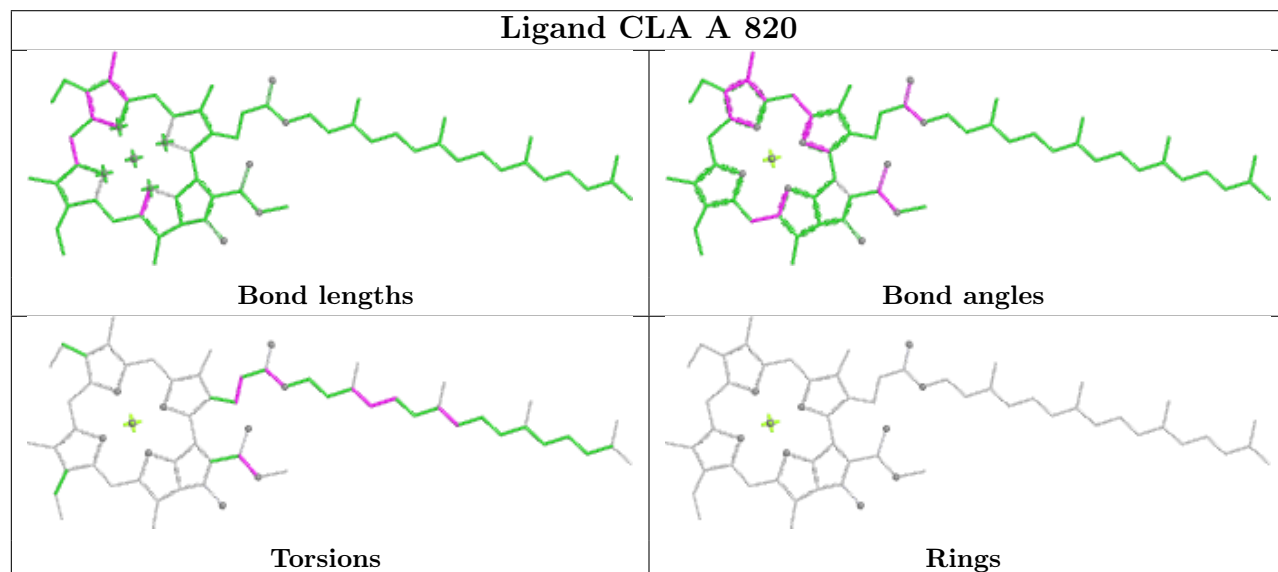


Rings

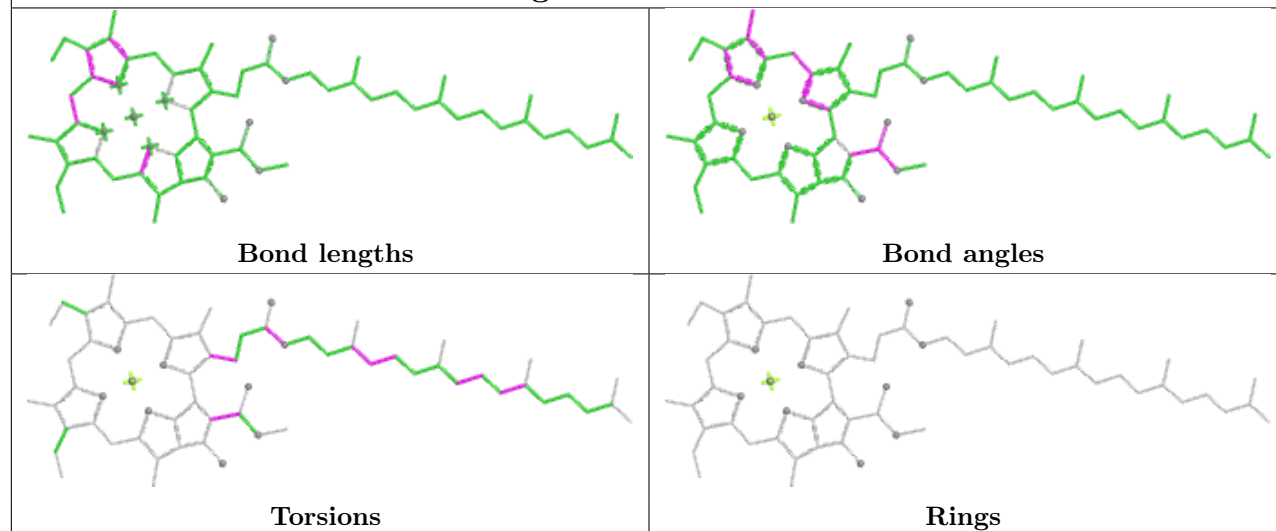
Ligand CLA 7 609



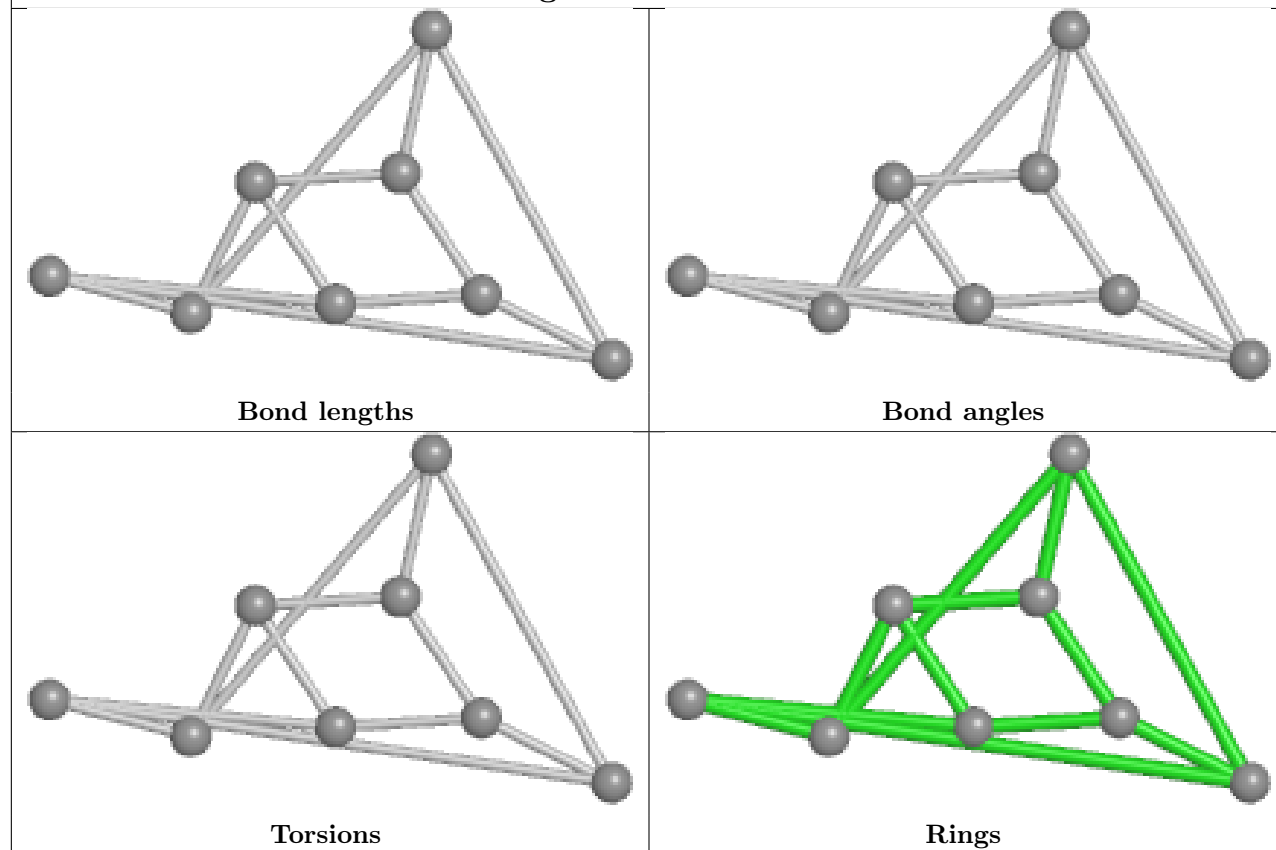
Ligand CLA A 820

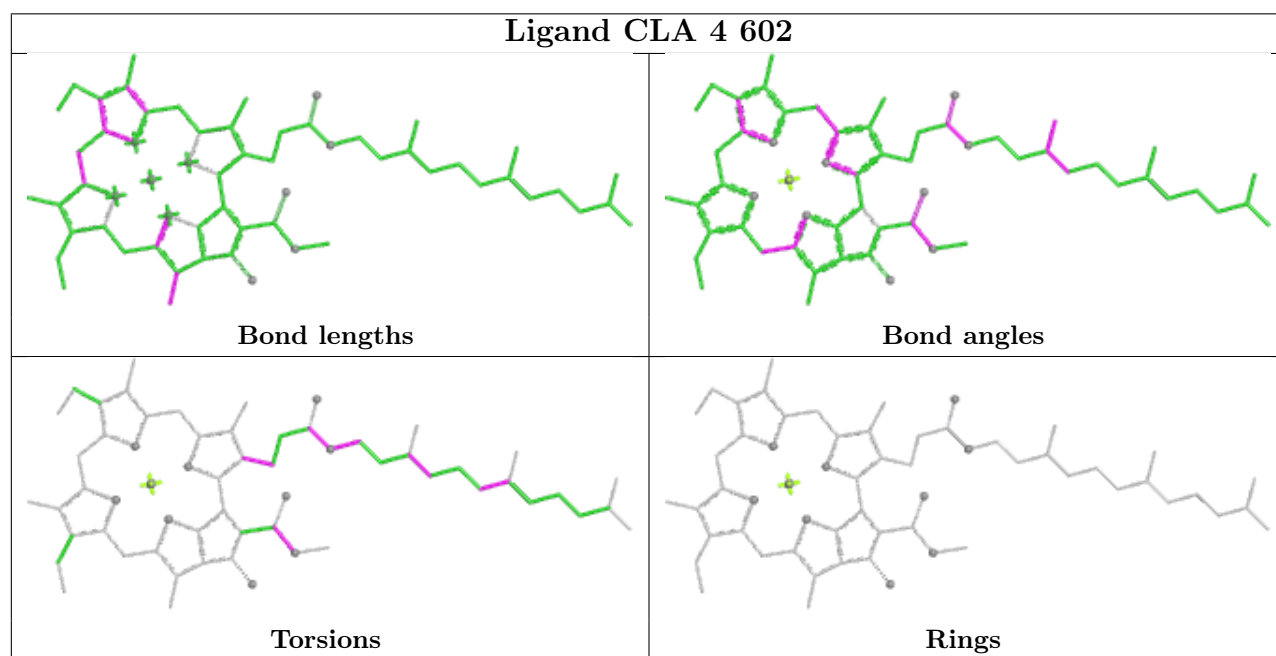
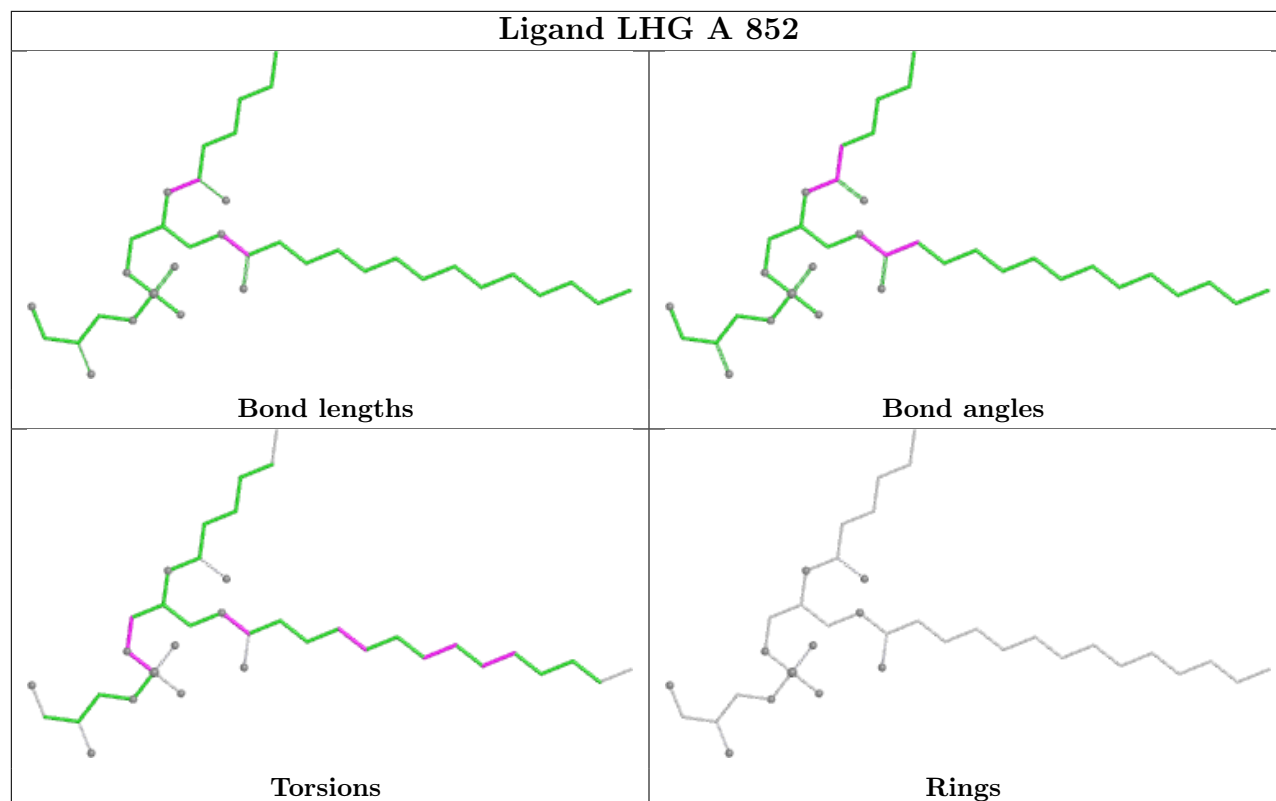


Ligand CLA A 805

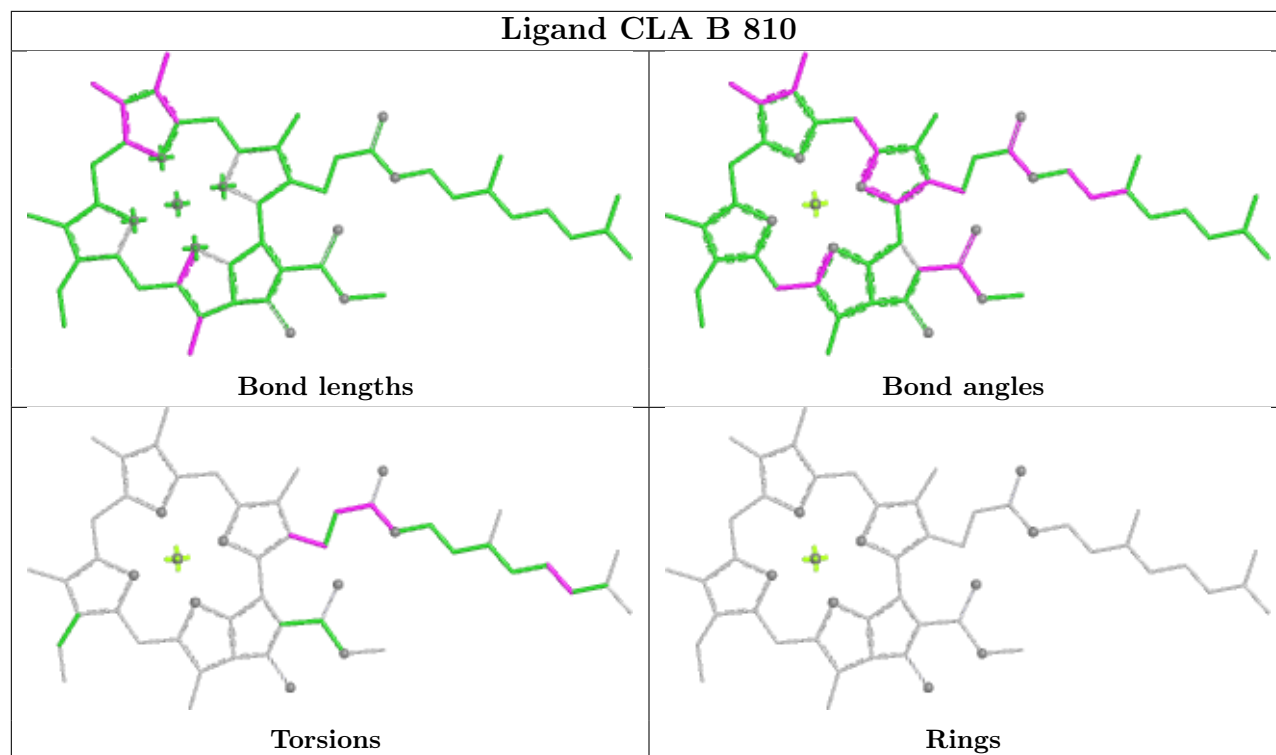


Ligand SF4 C 102

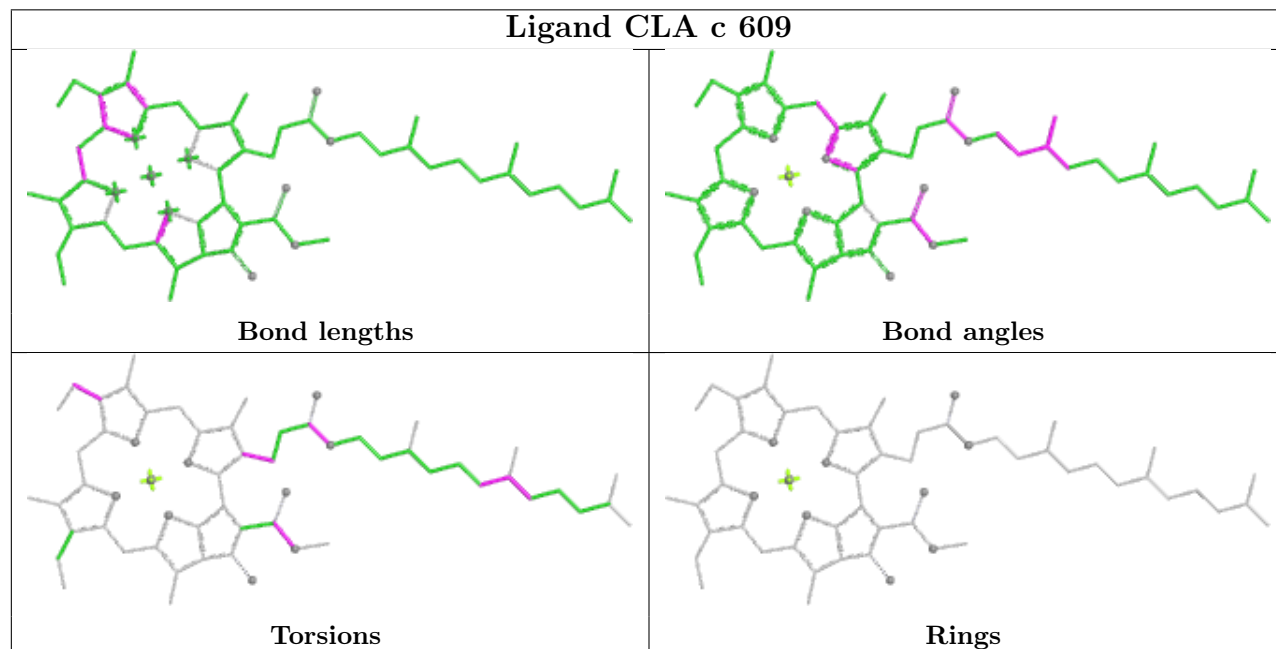


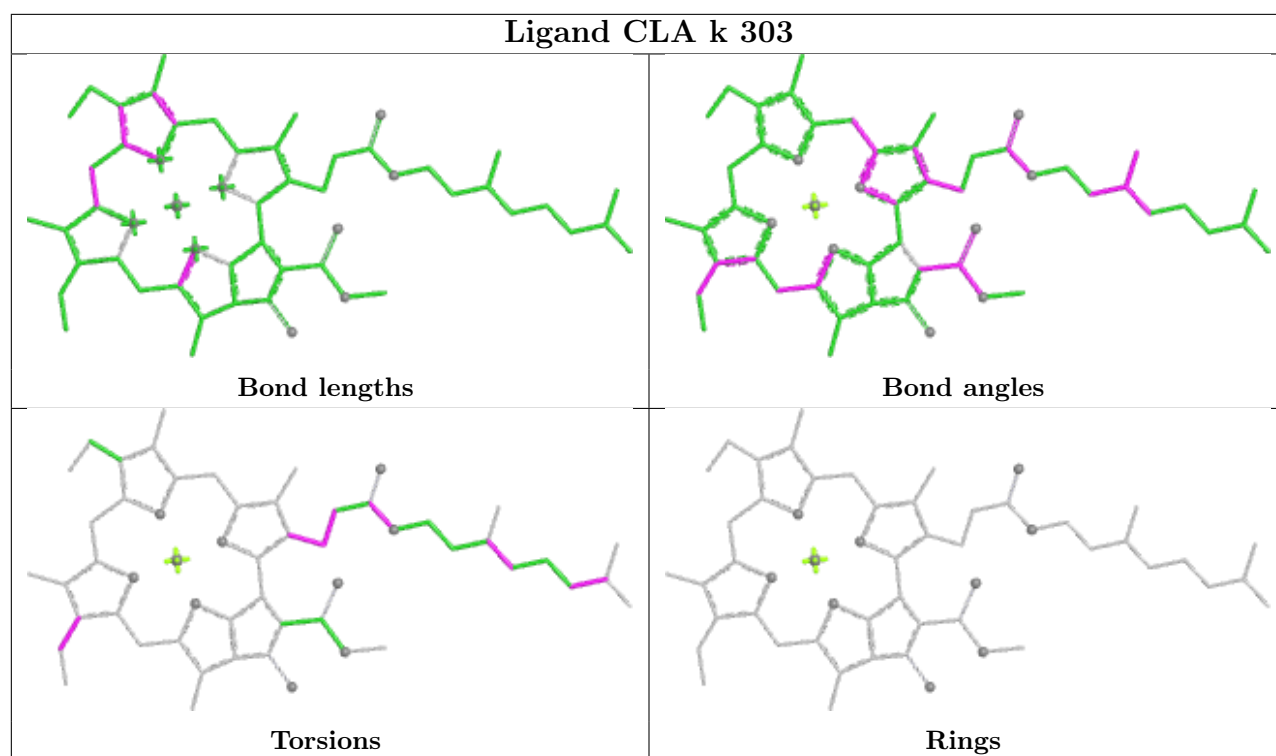


Ligand CLA B 810

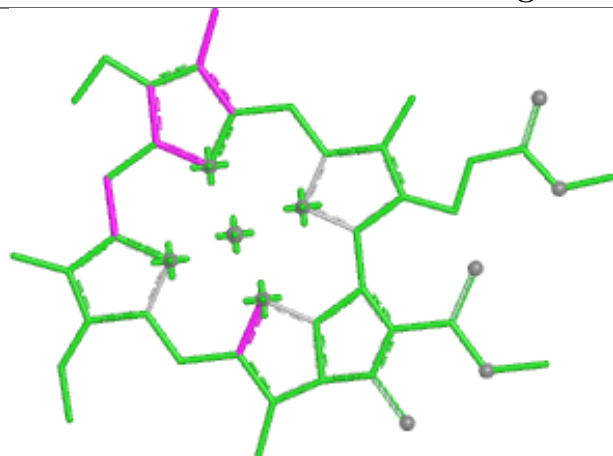


Ligand CLA c 609

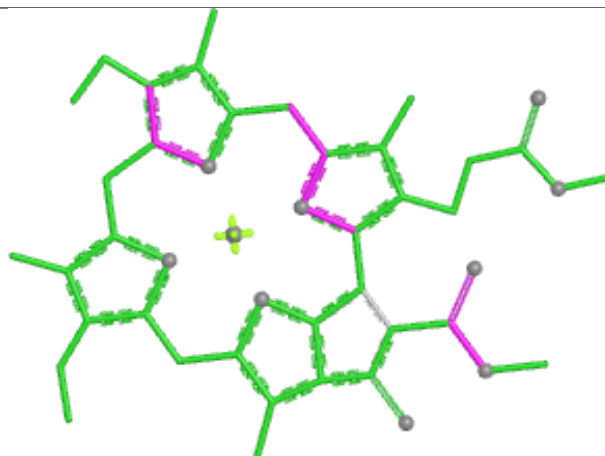




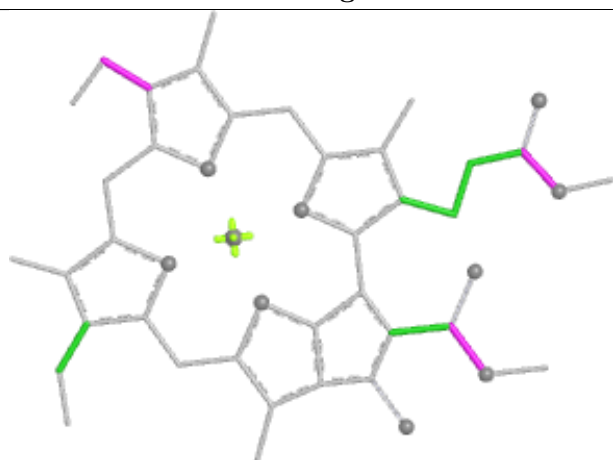
Ligand CLA h 607



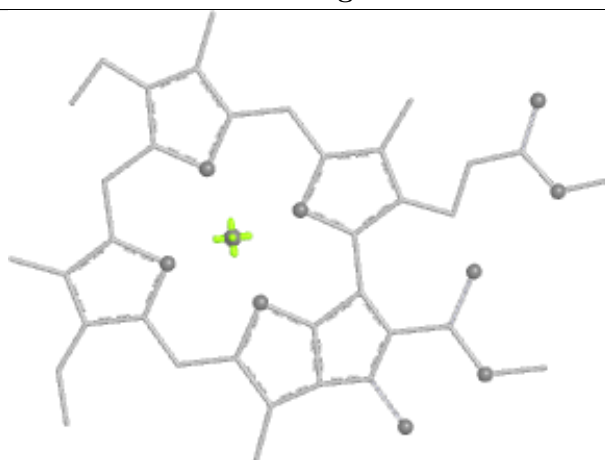
Bond lengths



Bond angles

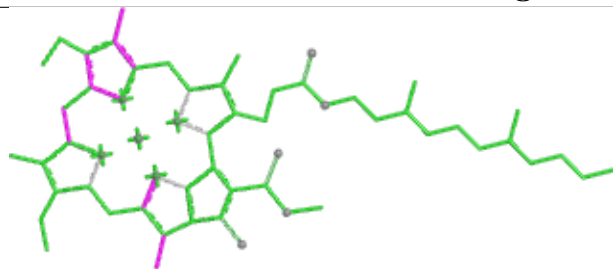


Torsions

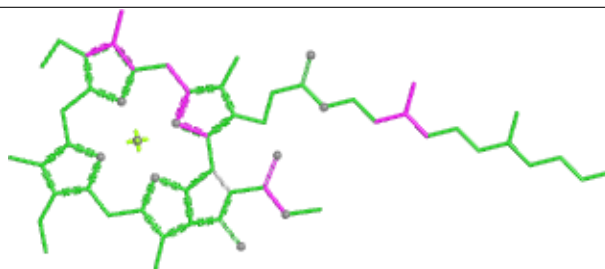


Rings

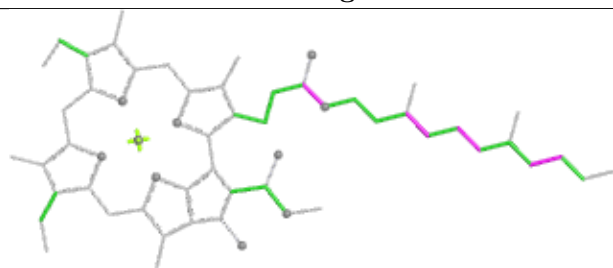
Ligand CLA B 833



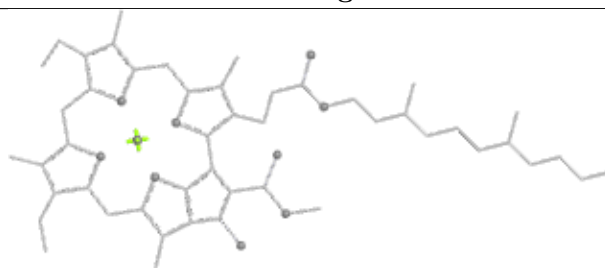
Bond lengths



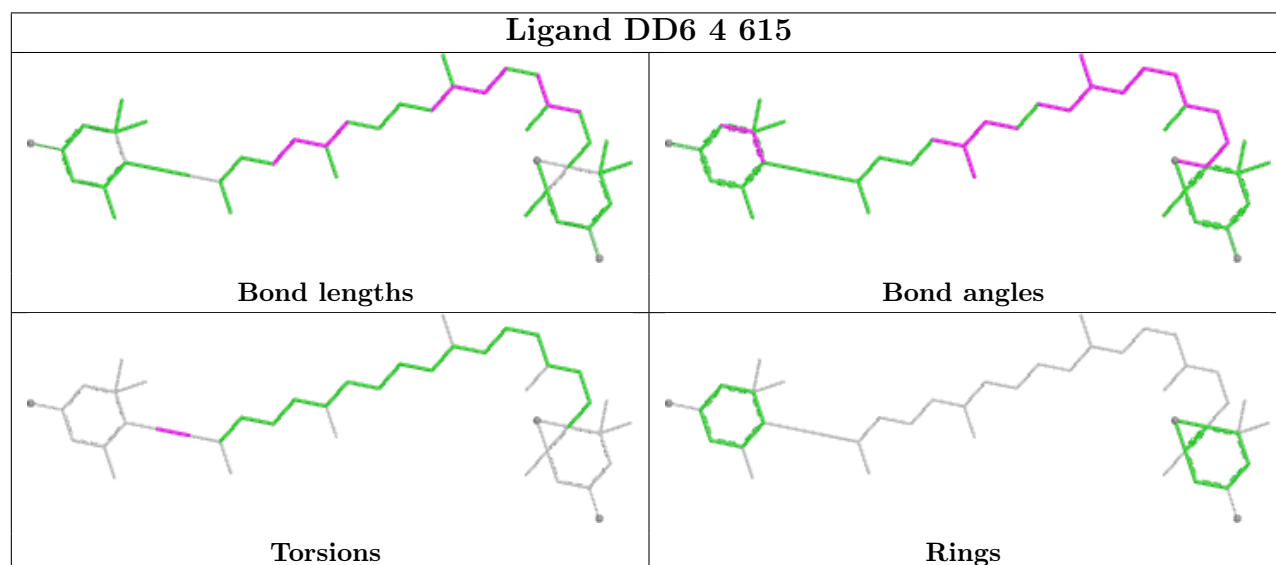
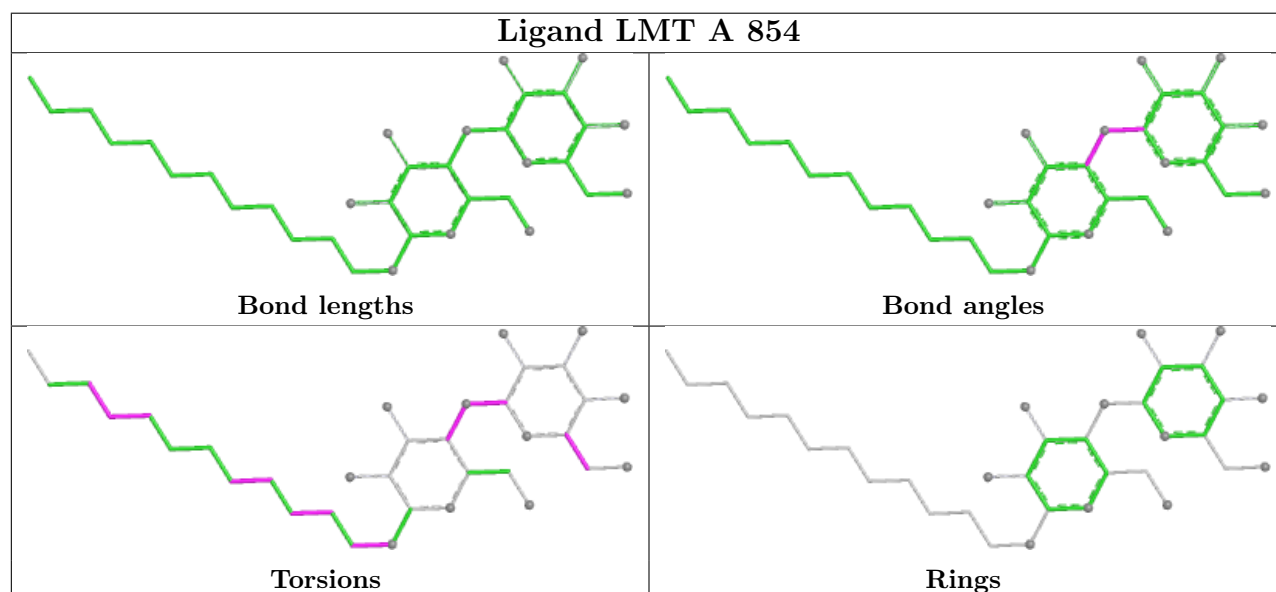
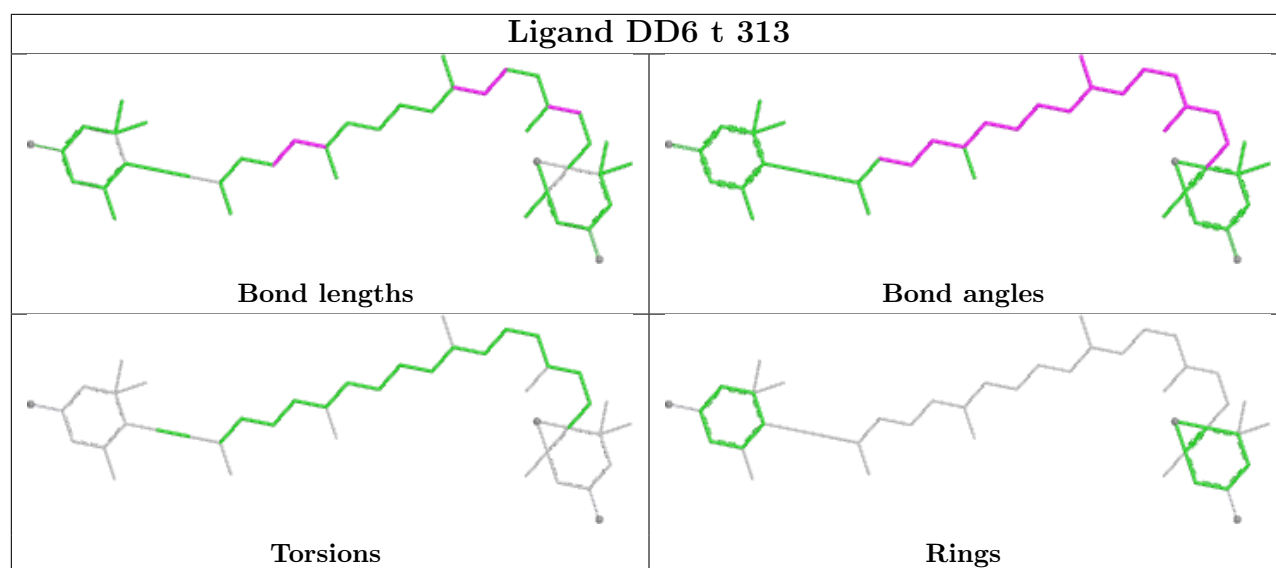
Bond angles



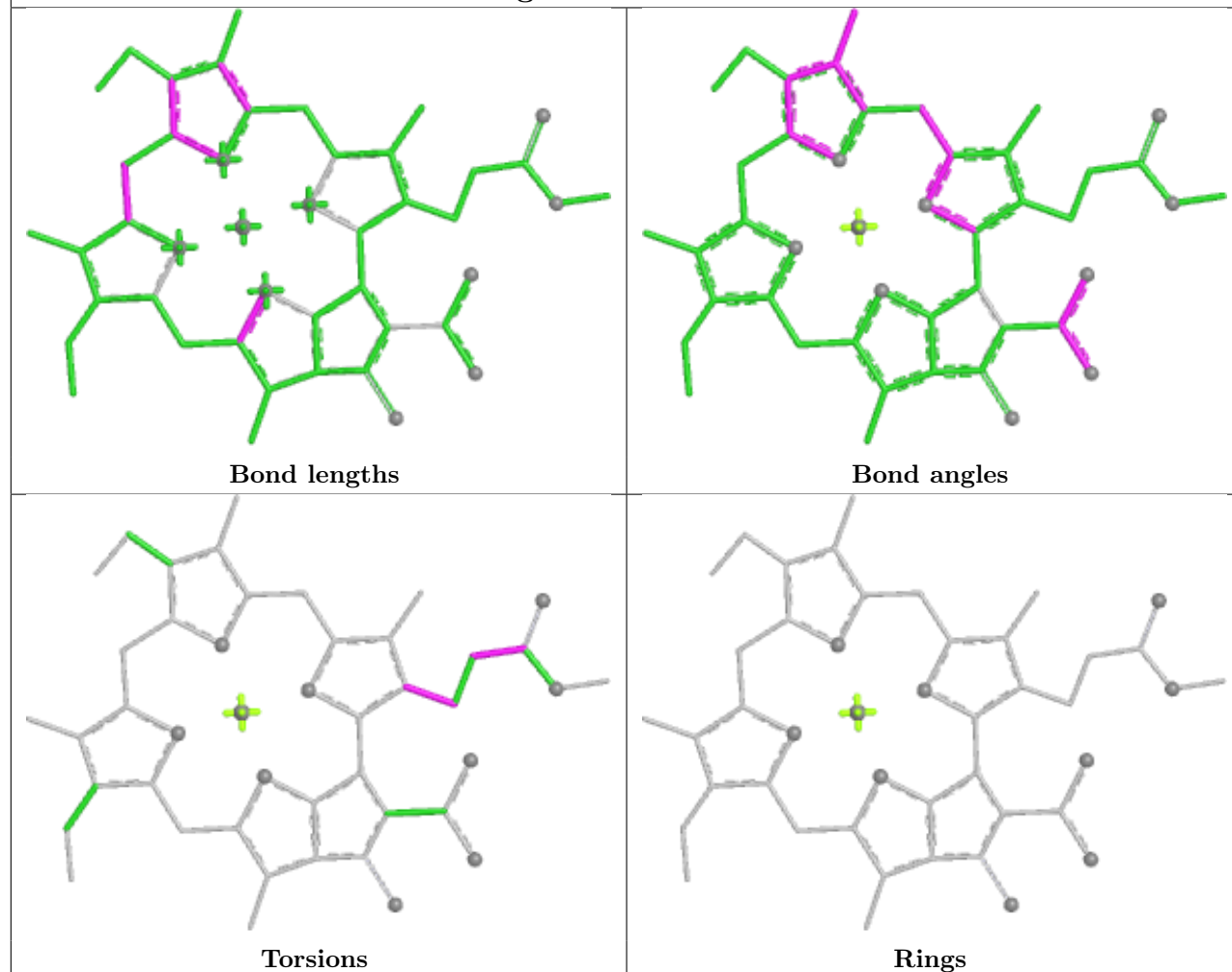
Torsions



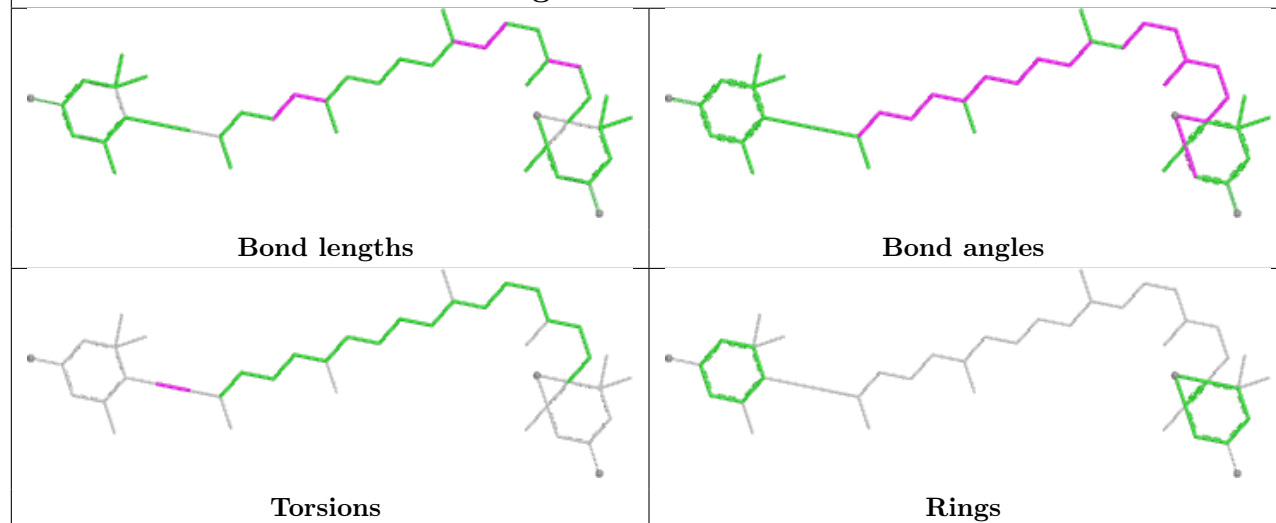
Rings



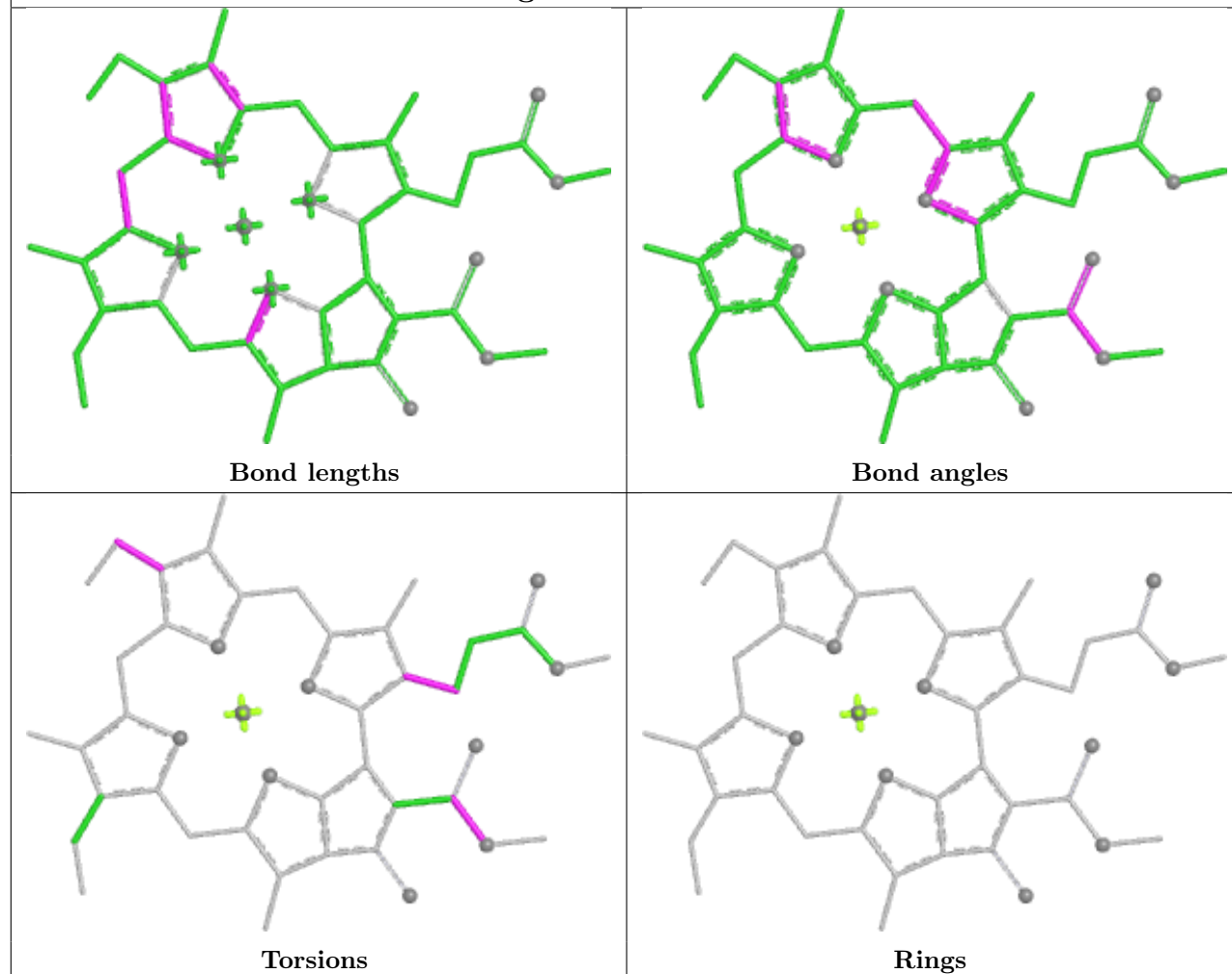
Ligand CLA h 603



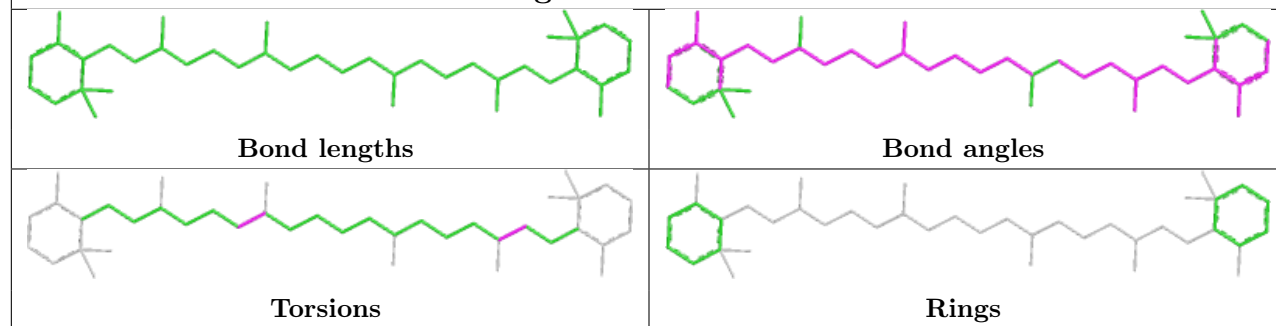
Ligand DD6 A 848

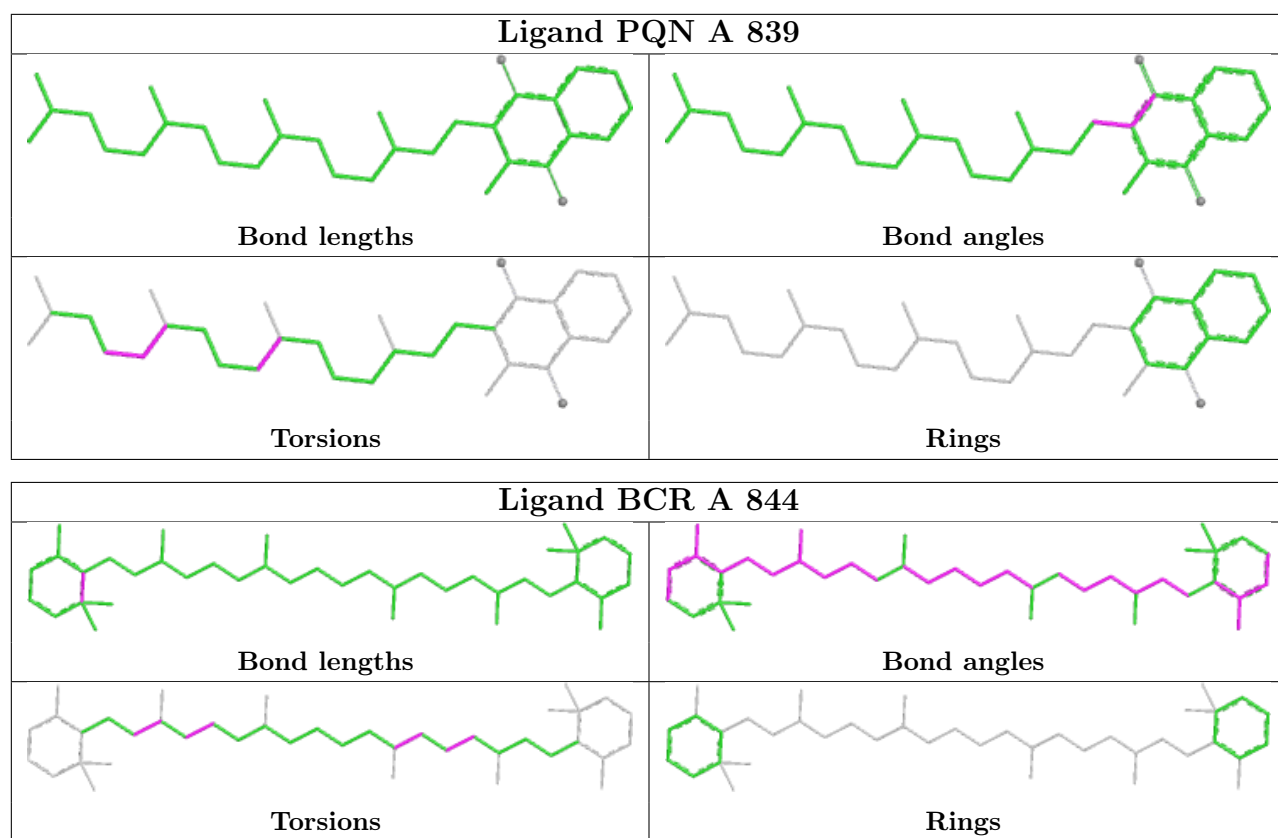


Ligand CLA 1 303

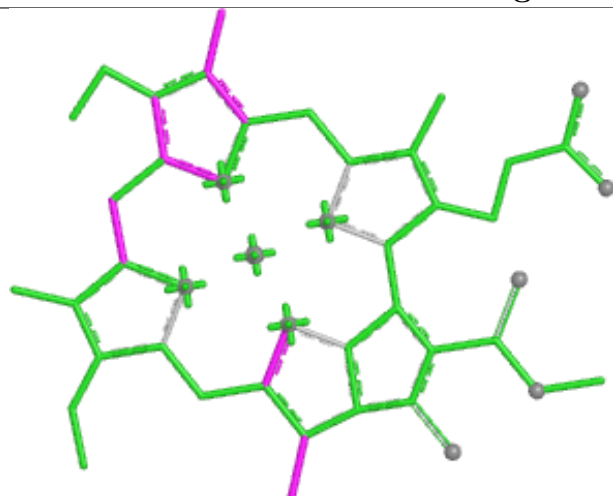


Ligand BCR 1 310

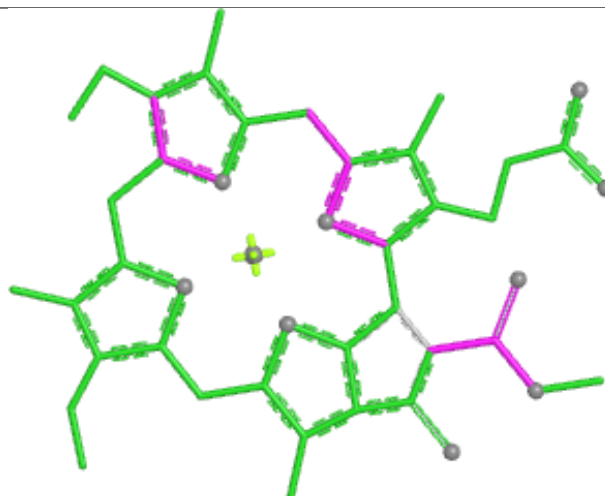




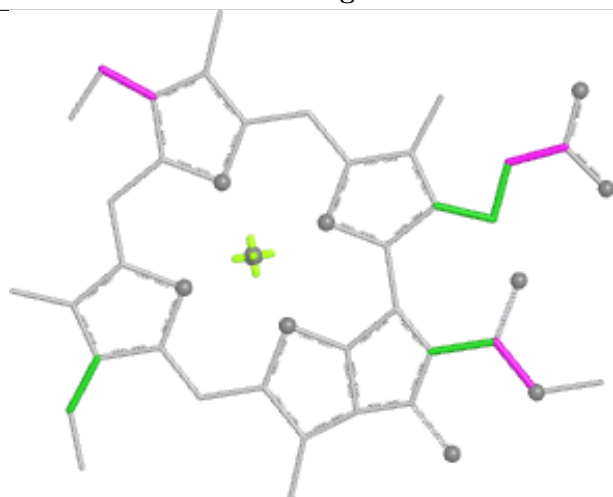
Ligand CLA A 815



Bond lengths



Bond angles

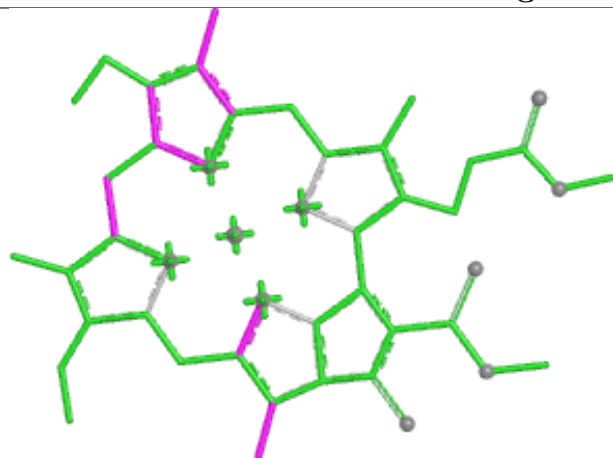


Torsions

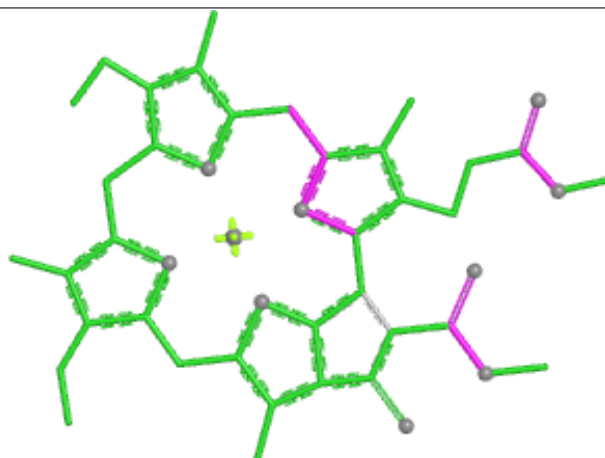


Rings

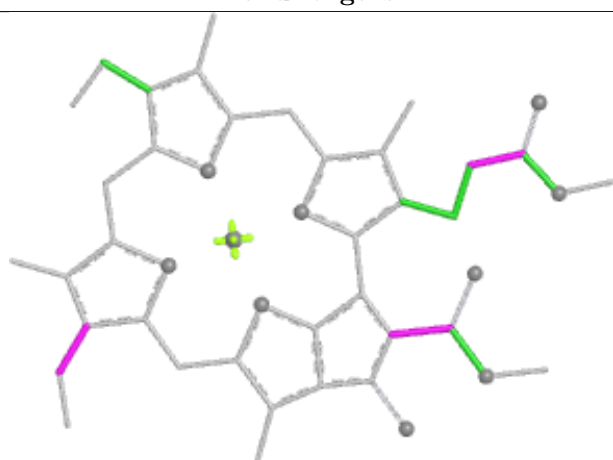
Ligand CLA h 606



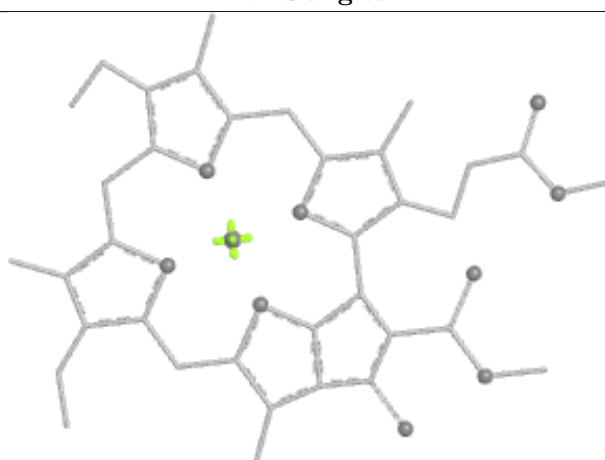
Bond lengths



Bond angles

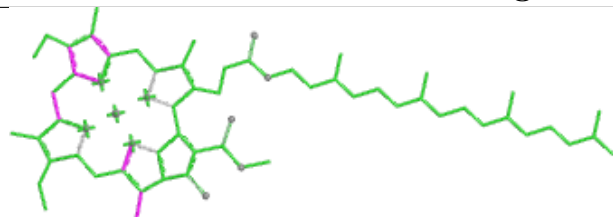


Torsions

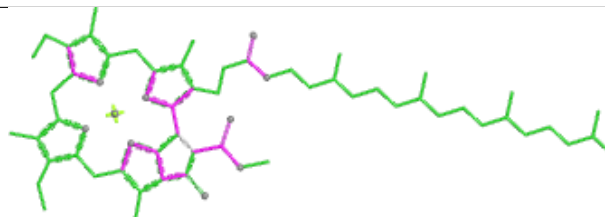


Rings

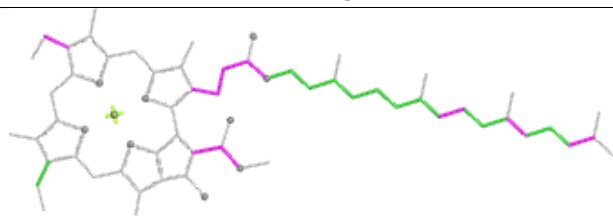
Ligand CLA A 801



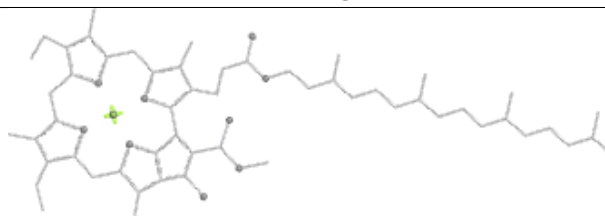
Bond lengths



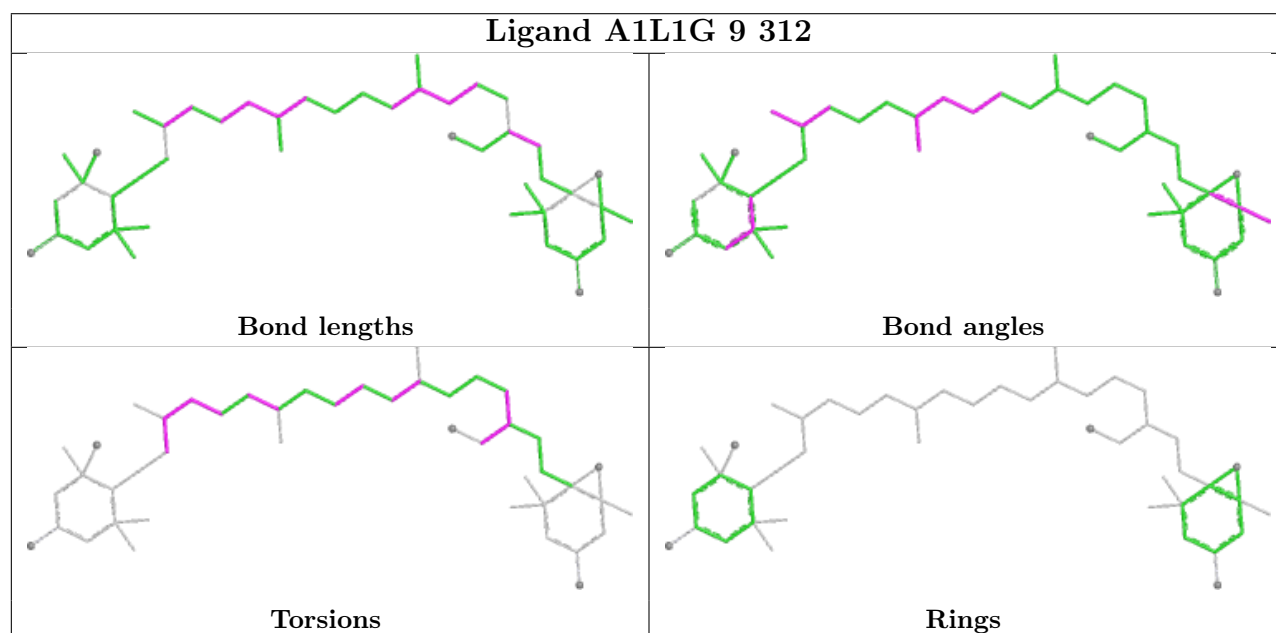
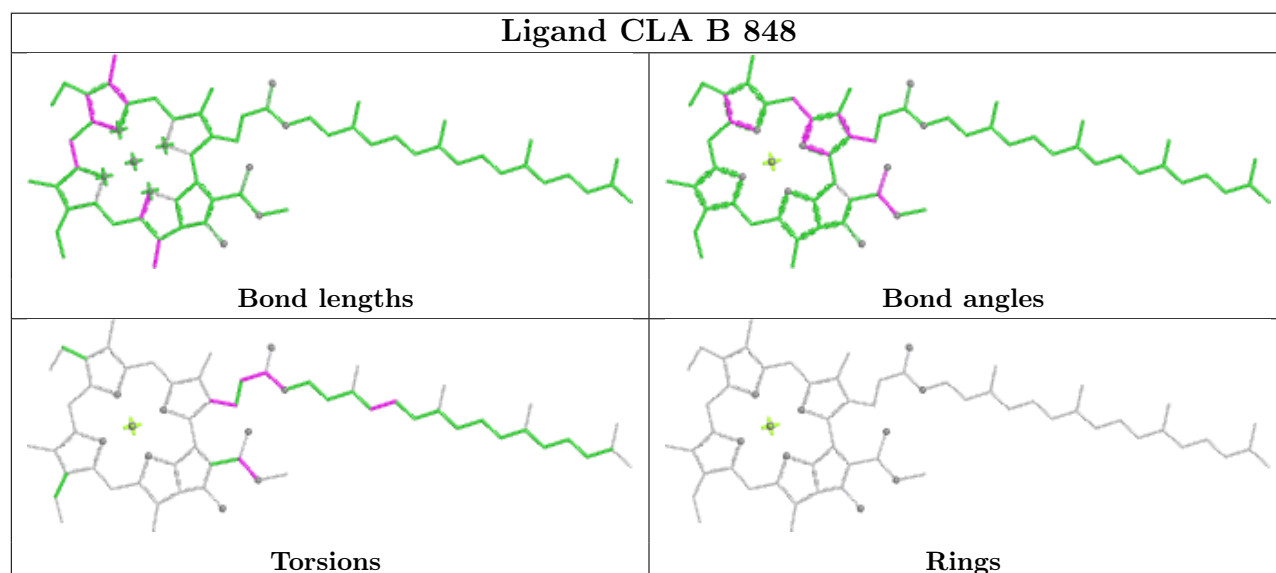
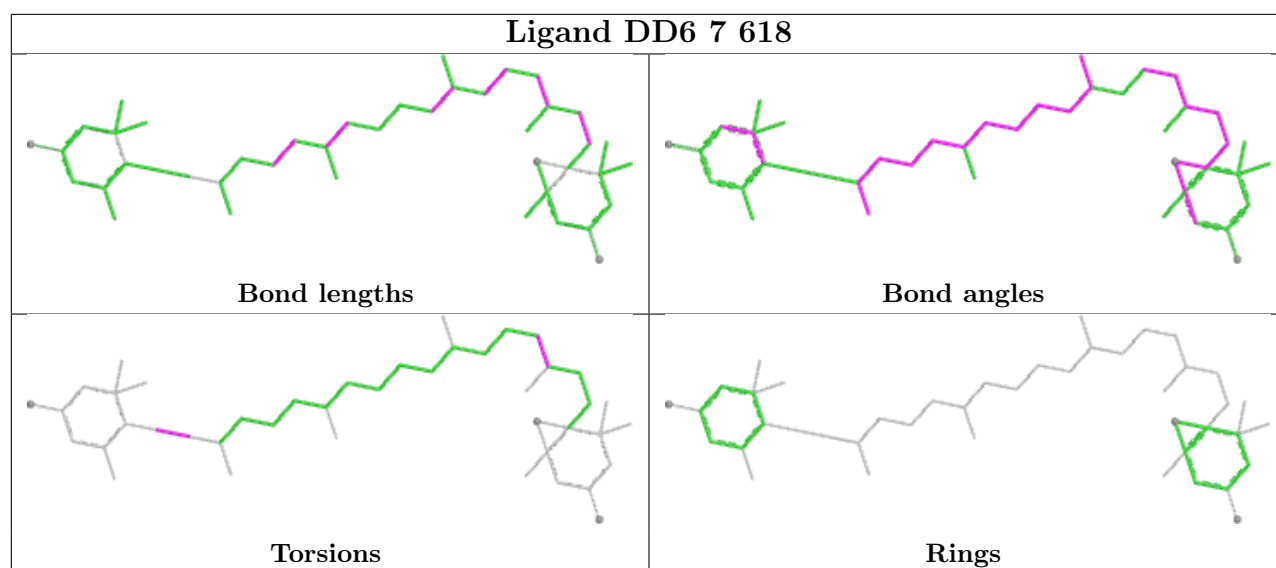
Bond angles

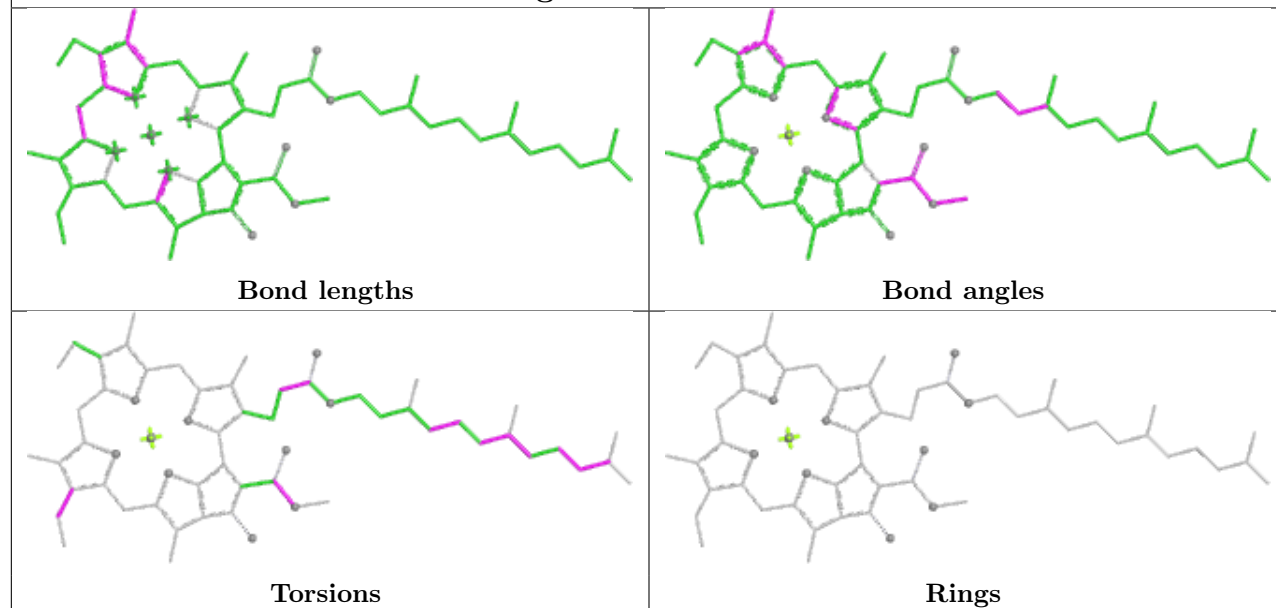
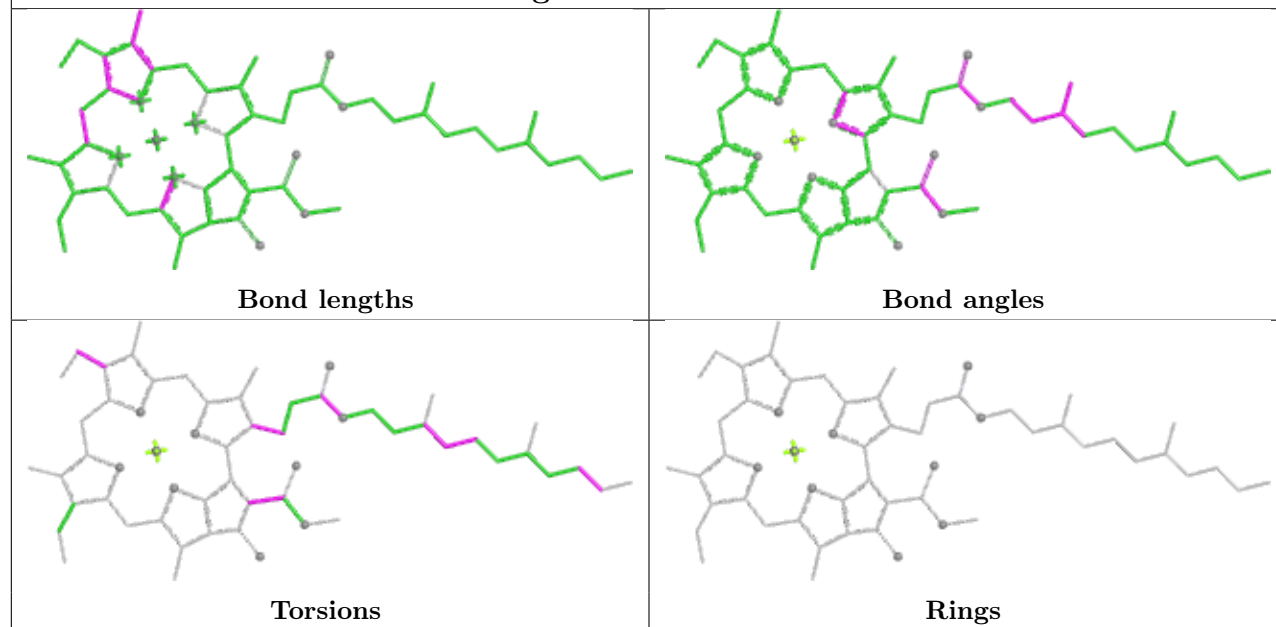


Torsions

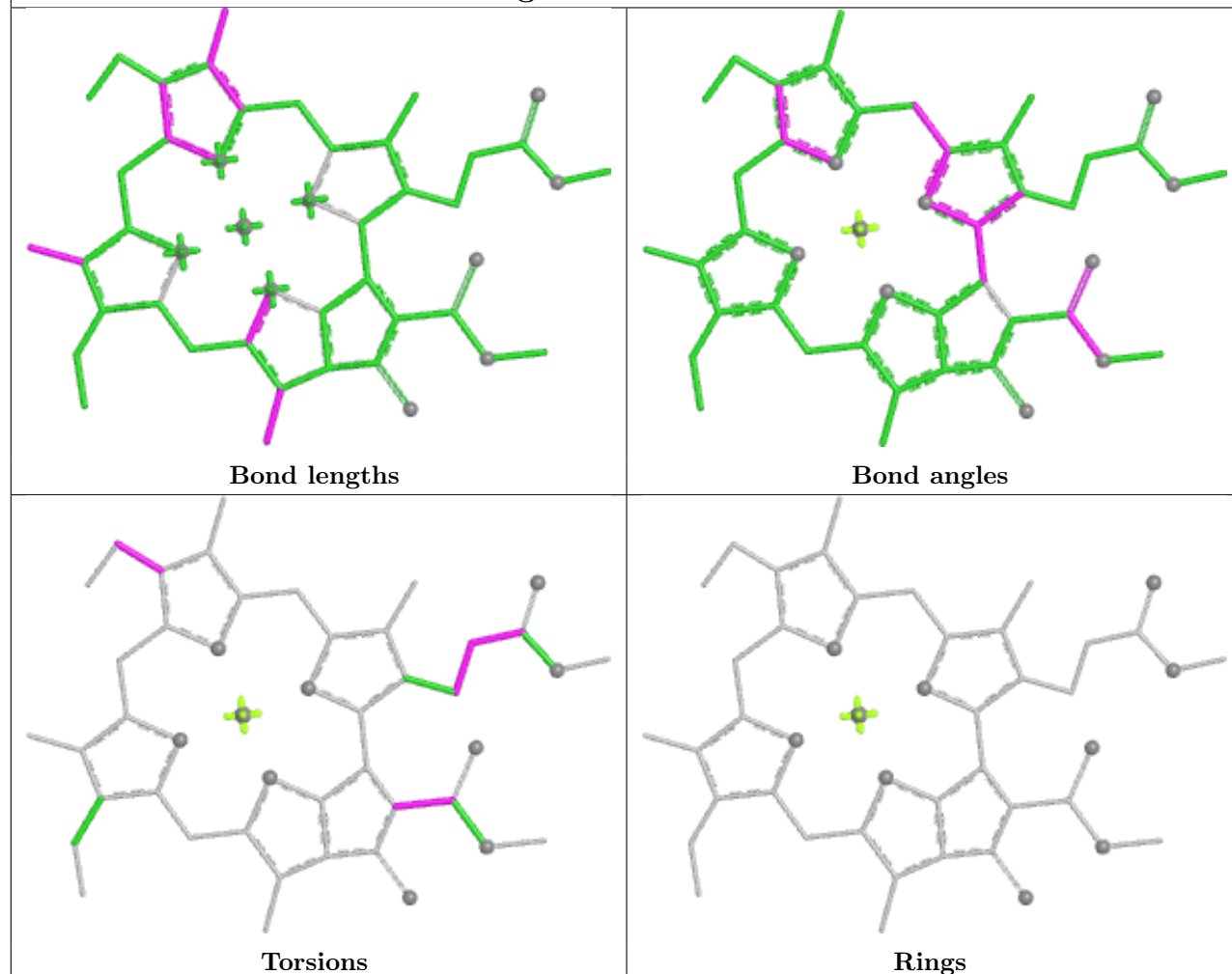


Rings

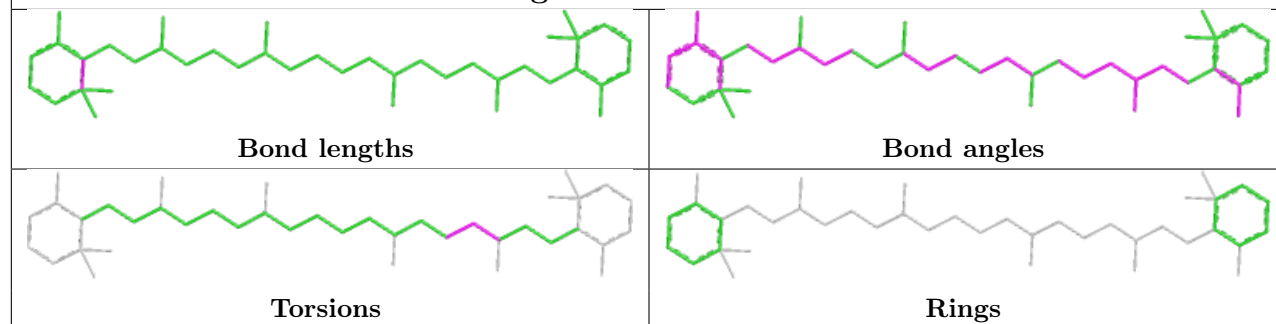


Ligand CLA 7 606**Ligand CLA B 830**

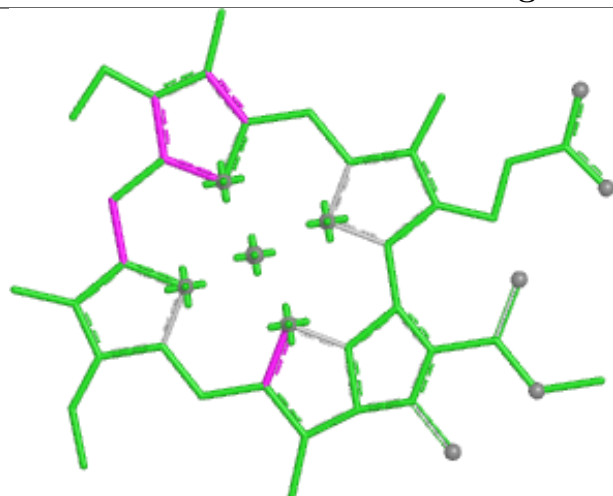
Ligand CLA 9 306



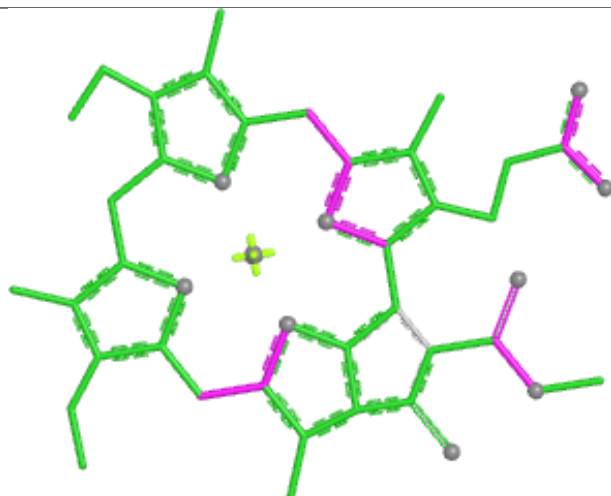
Ligand BCR B 842



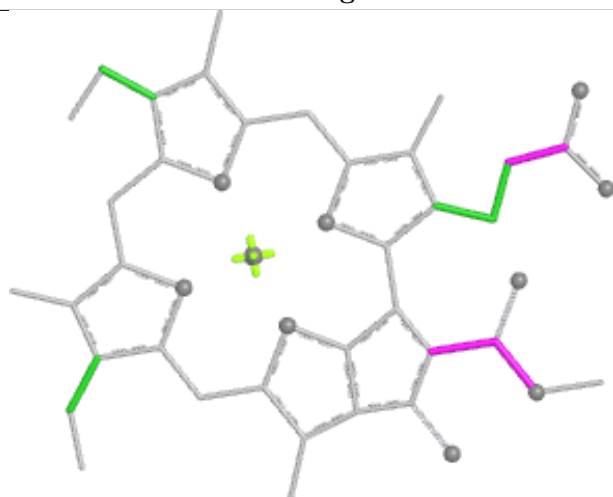
Ligand CLA 6 601



Bond lengths



Bond angles

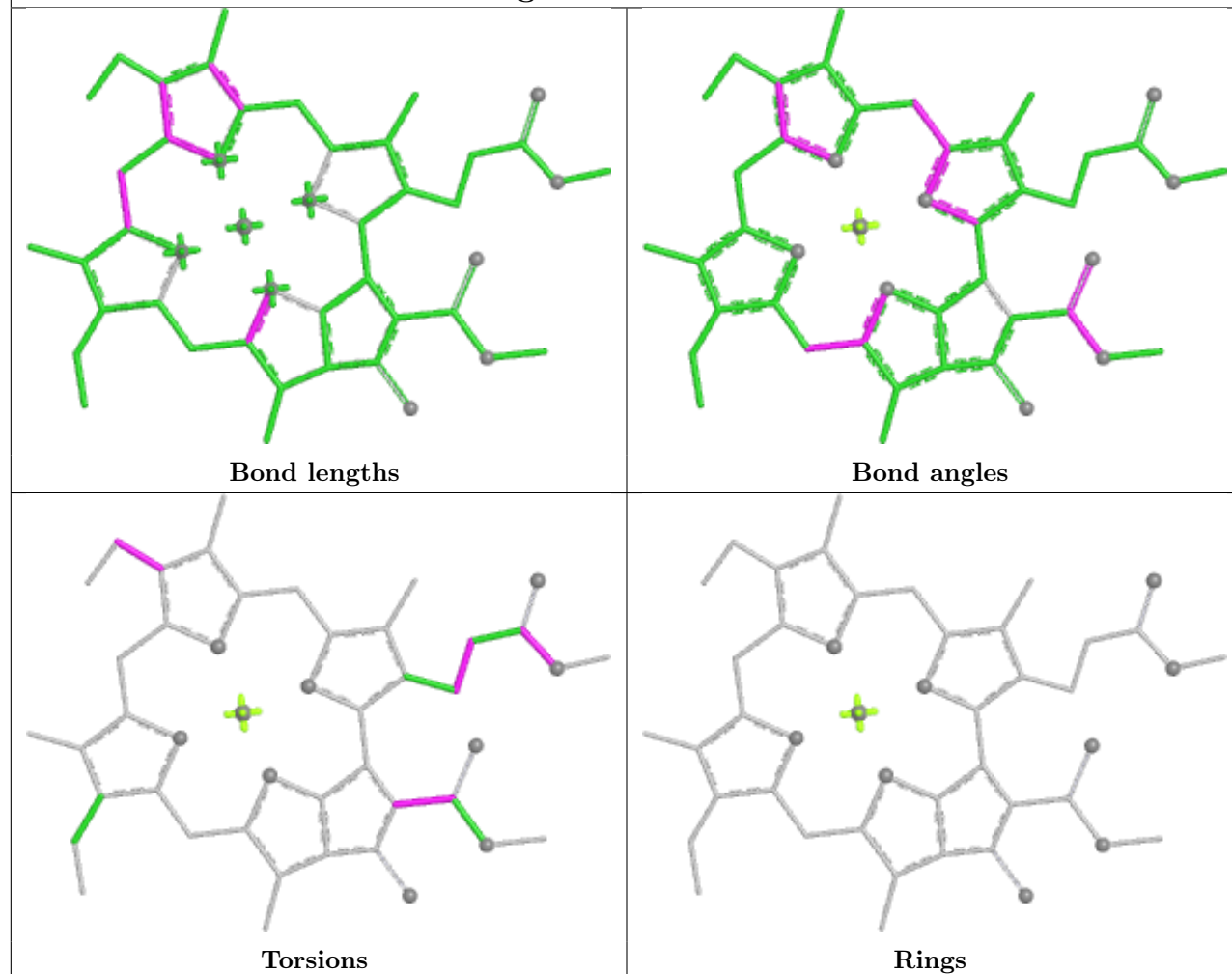


Torsions

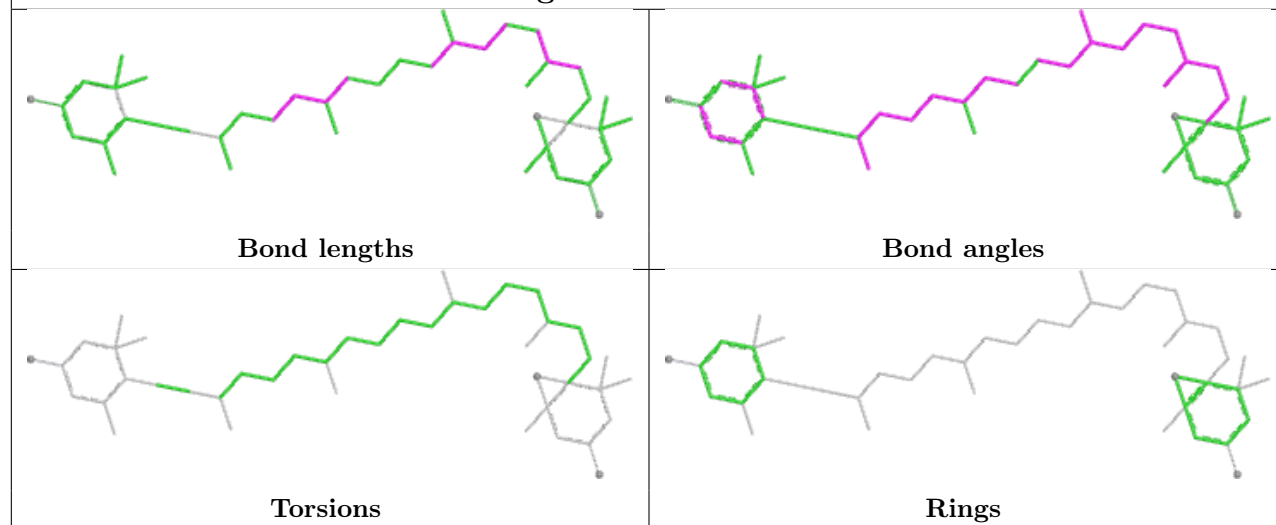


Rings

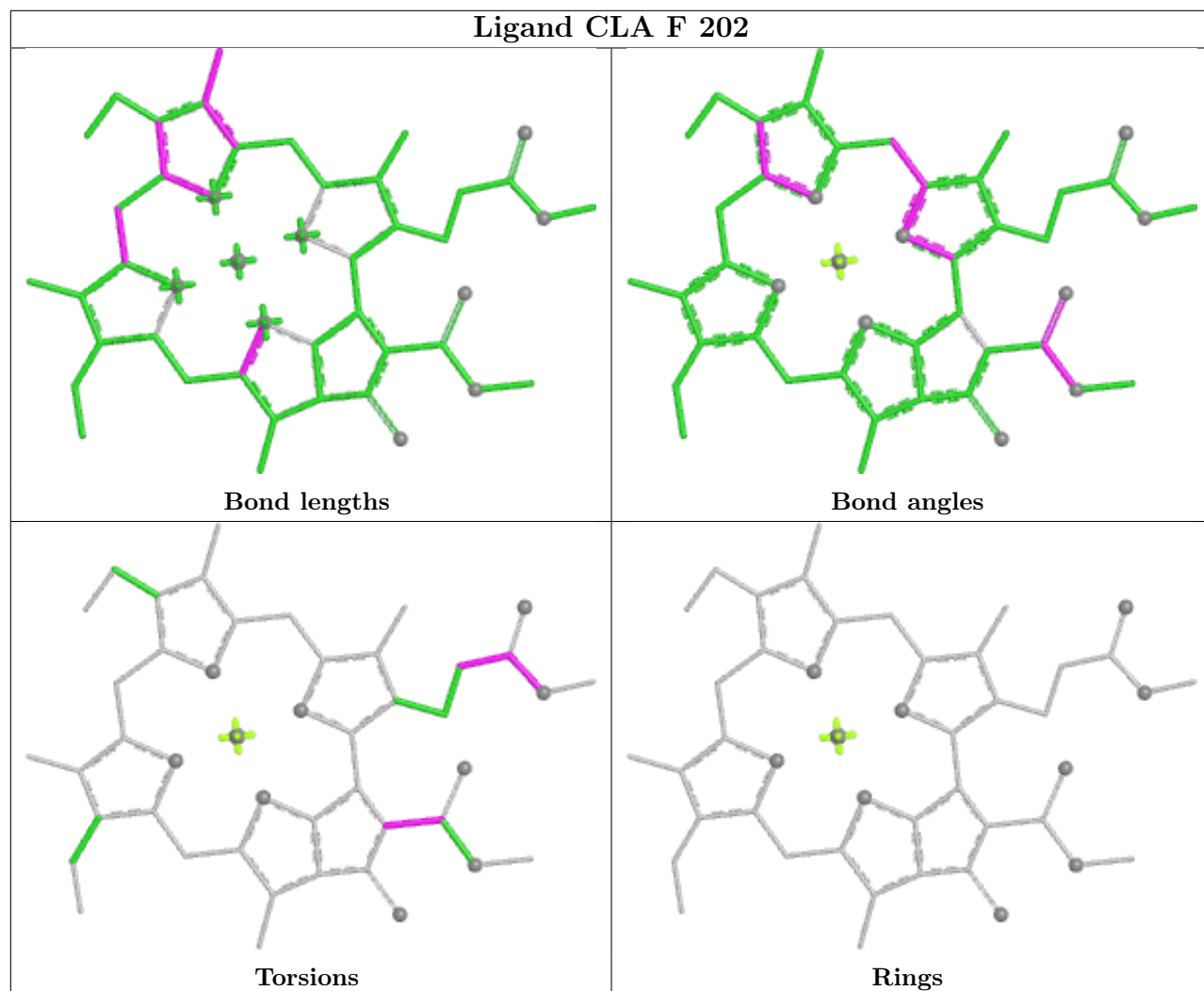
Ligand CLA 4 605



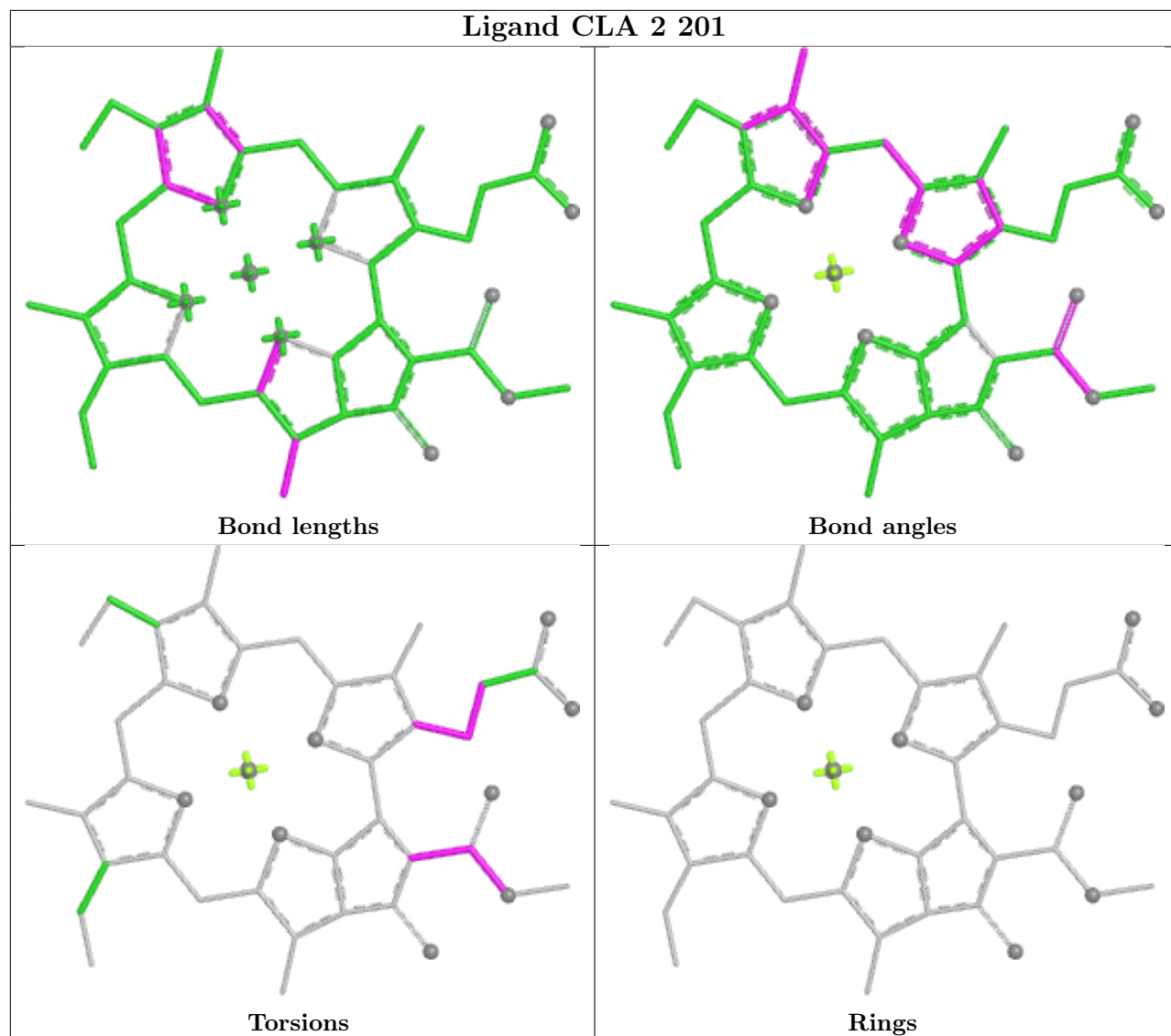
Ligand DD6 7 613

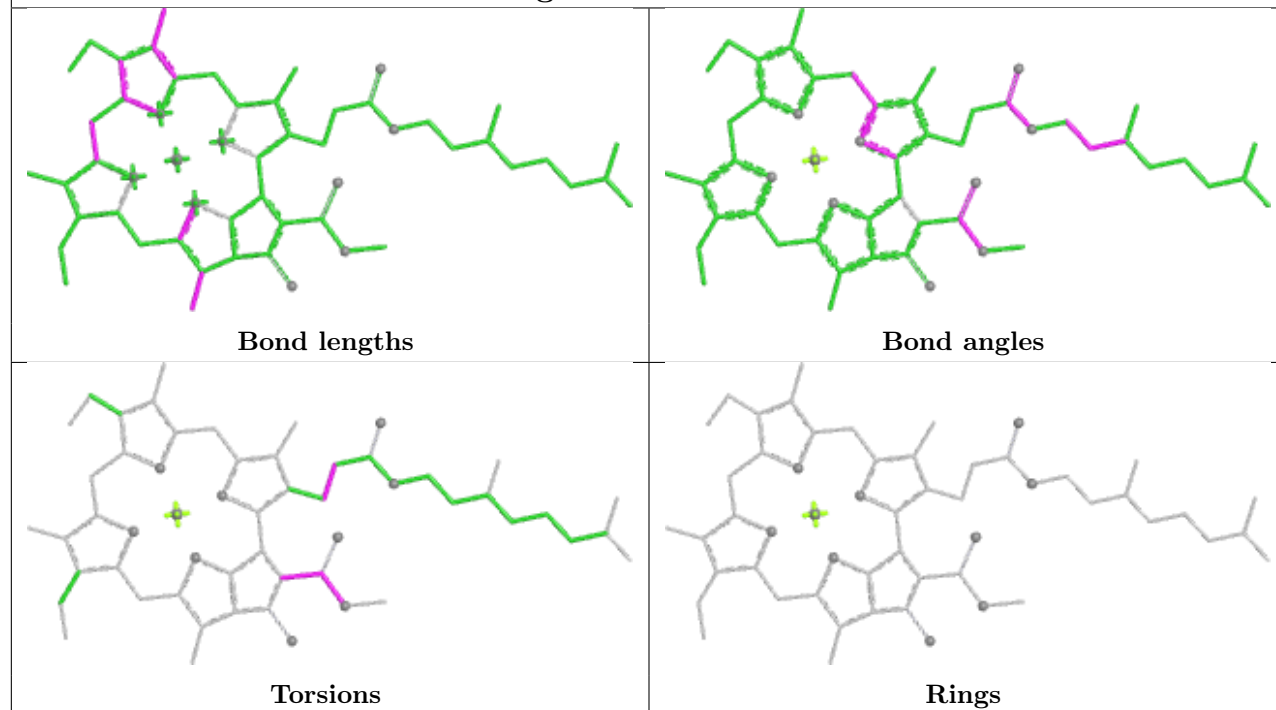
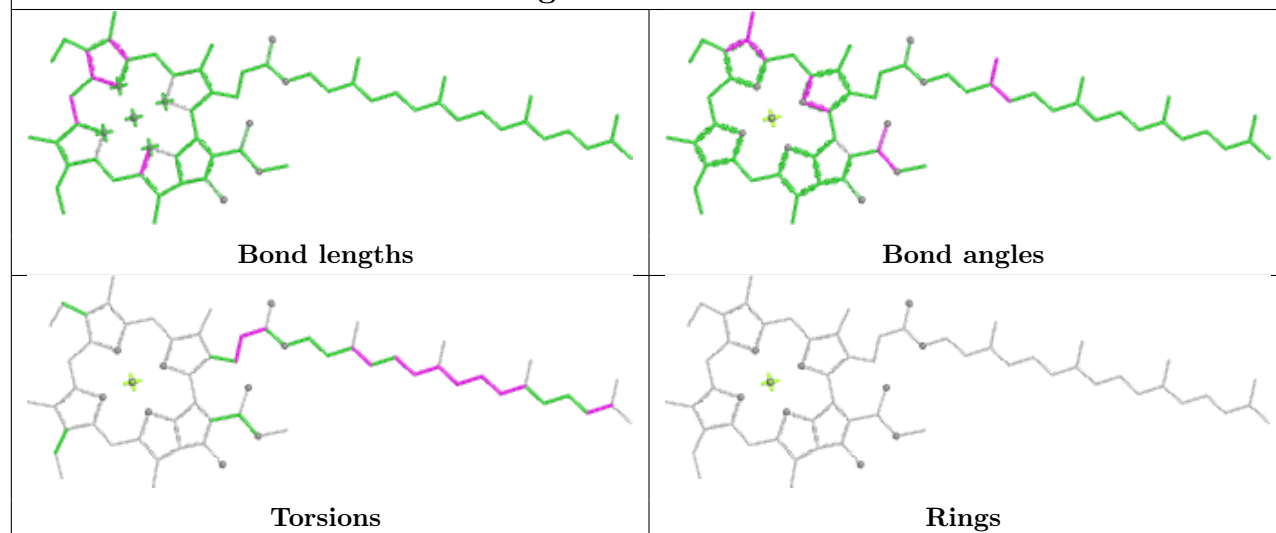


Ligand CLA F 202

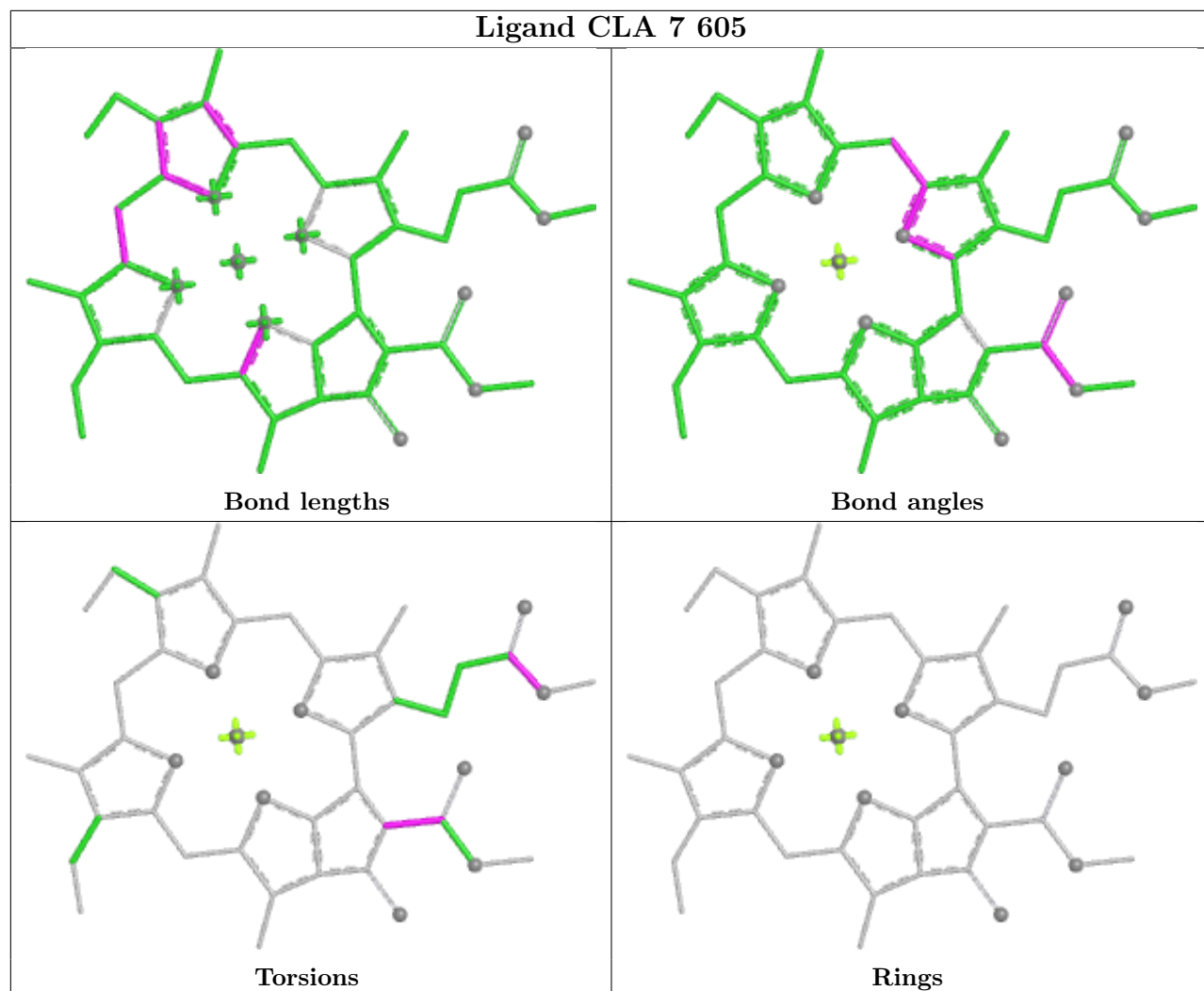


Ligand CLA 2 201

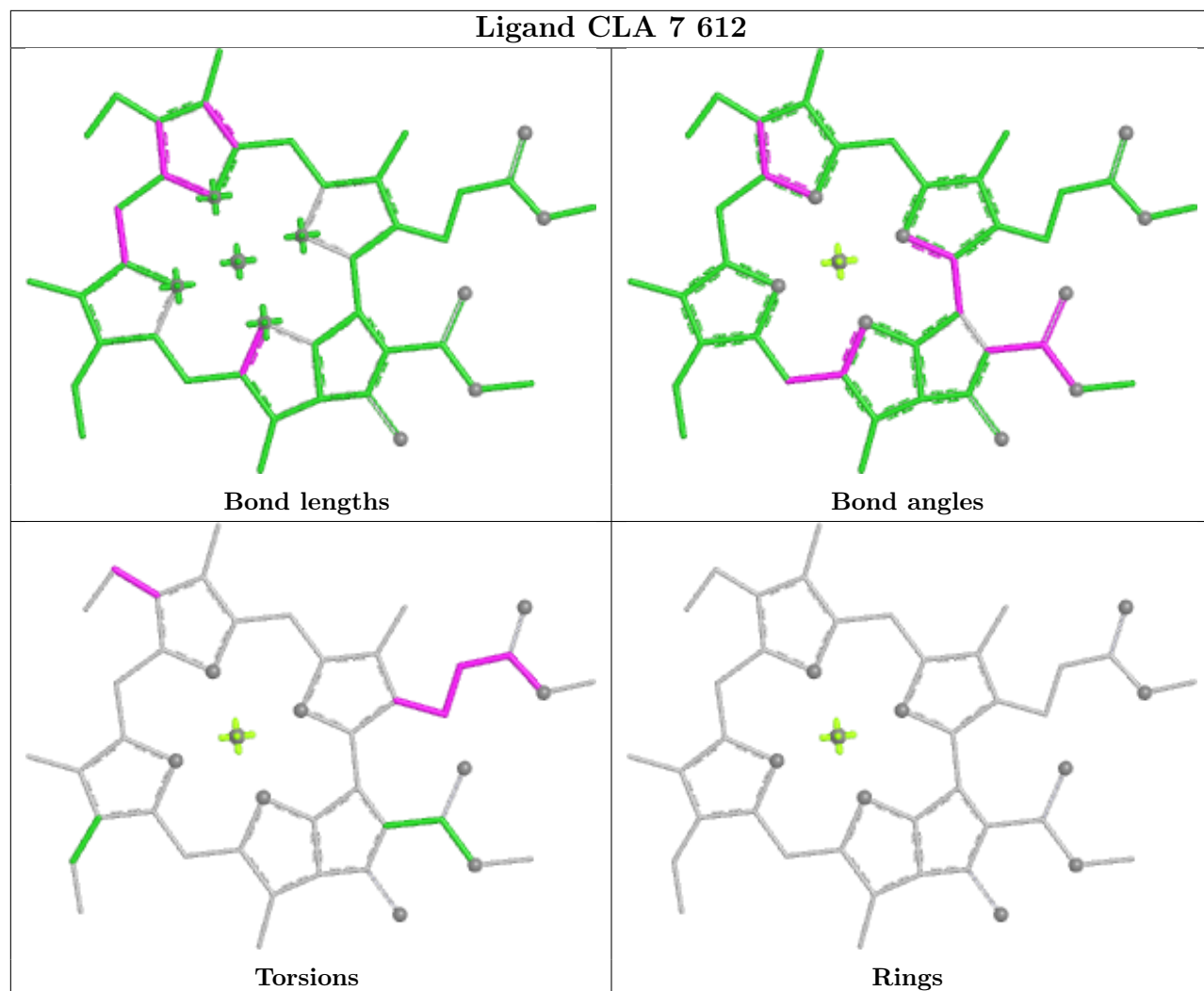


Ligand CLA 3 303**Ligand CLA t 303**

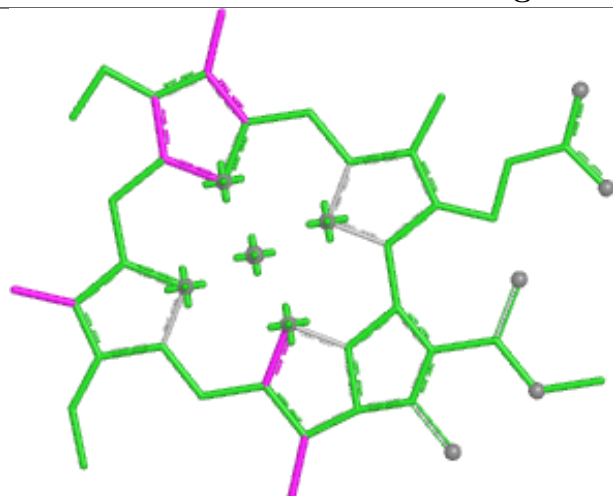
Ligand CLA 7 605



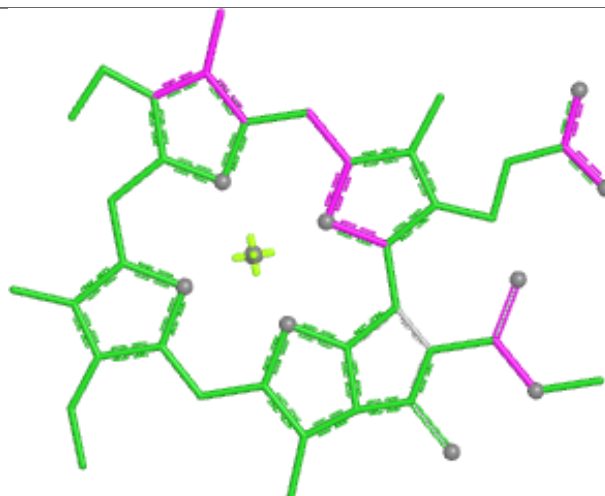
Ligand CLA 7 612



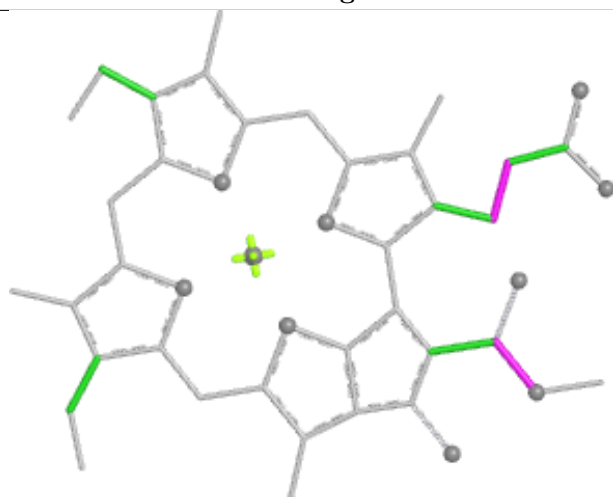
Ligand CLA R 104



Bond lengths



Bond angles

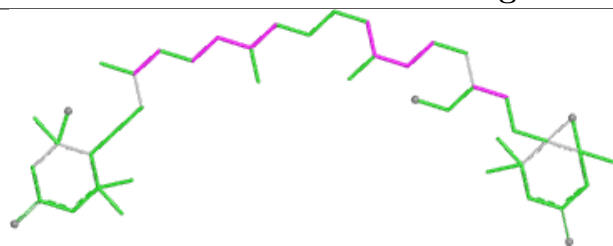


Torsions

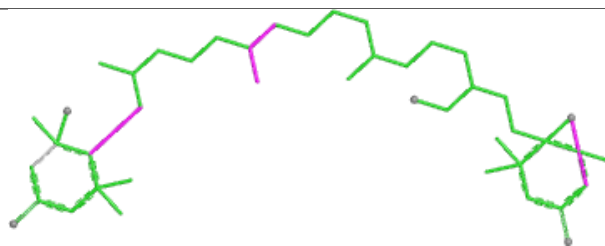


Rings

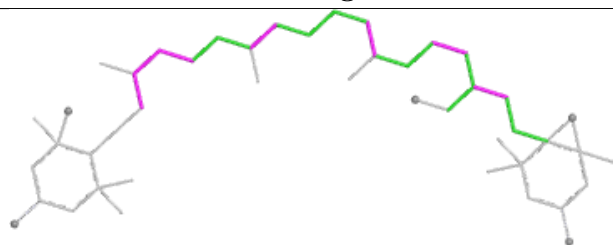
Ligand A1L1G 7 614



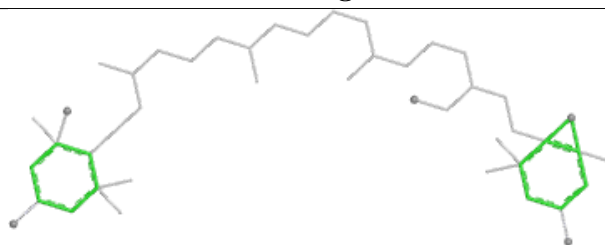
Bond lengths



Bond angles

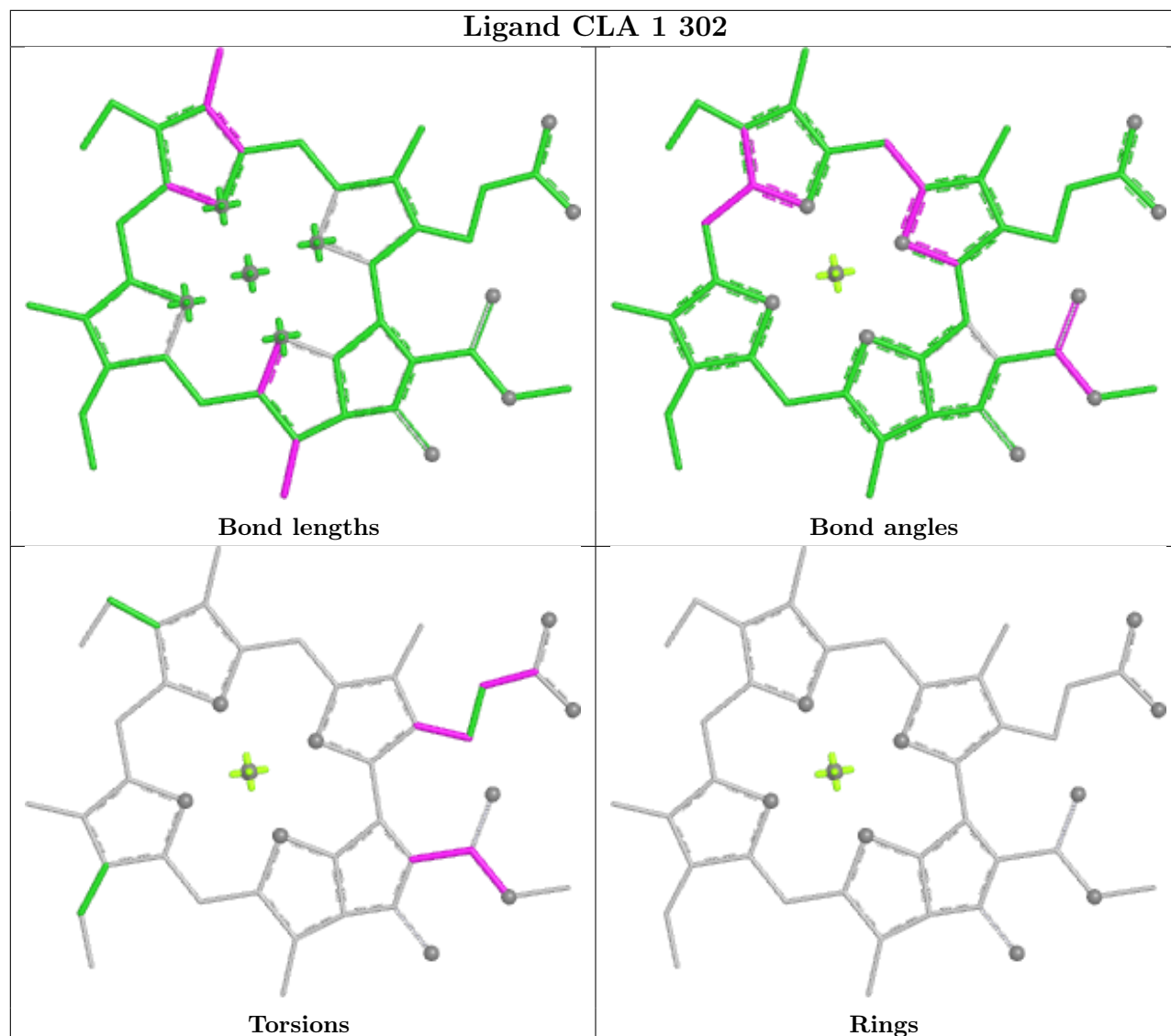


Torsions

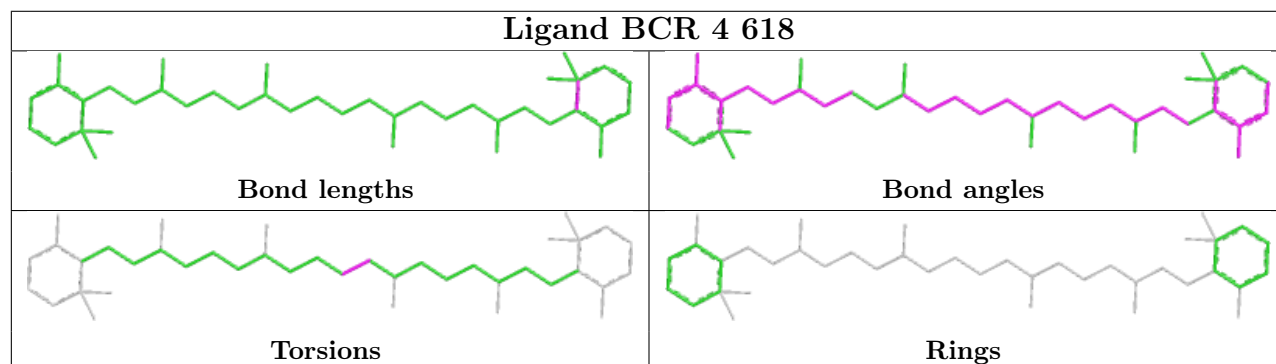


Rings

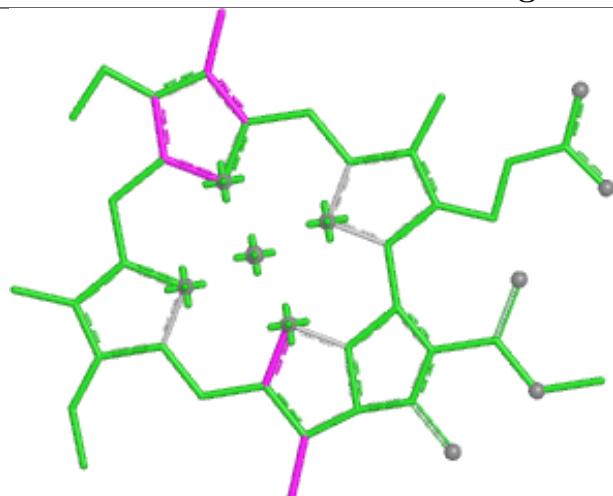
Ligand CLA 1 302



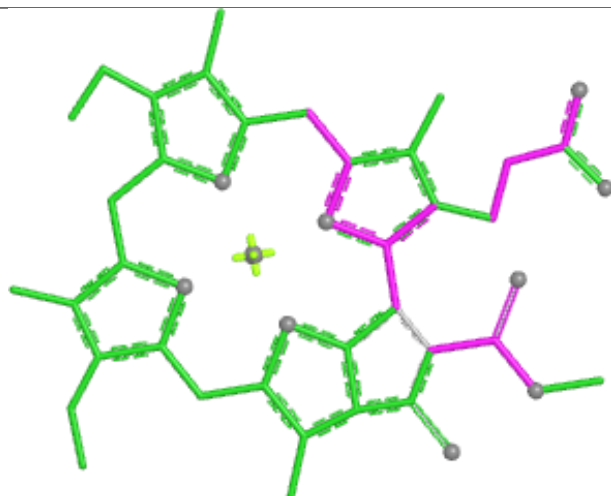
Ligand BCR 4 618



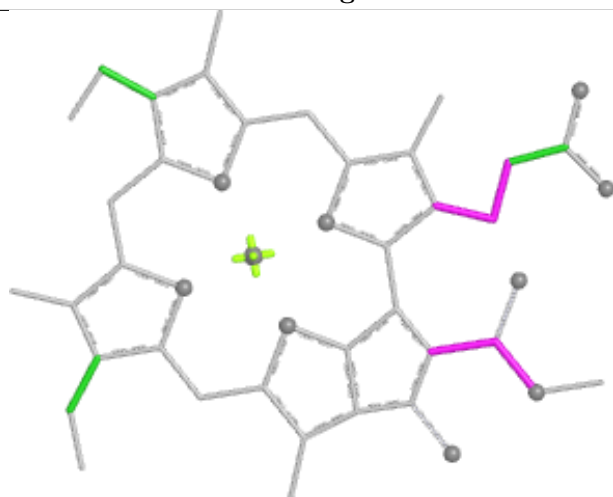
Ligand CLA 1 305



Bond lengths



Bond angles

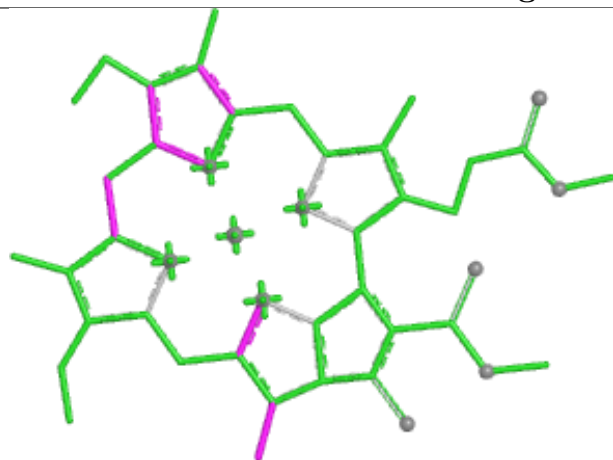


Torsions

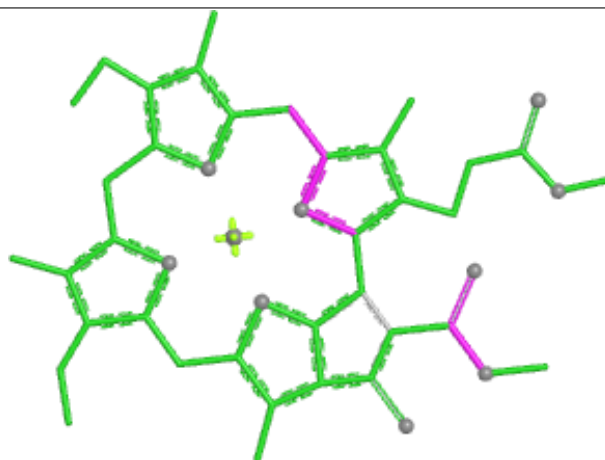


Rings

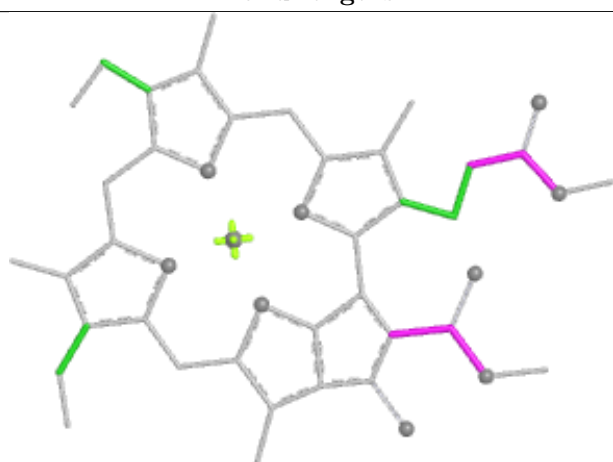
Ligand CLA 6 603



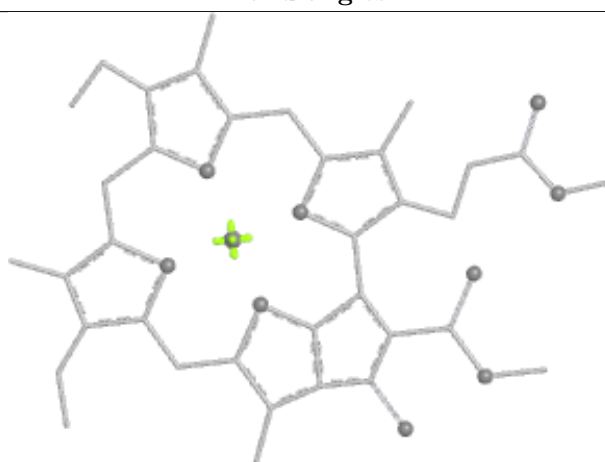
Bond lengths



Bond angles

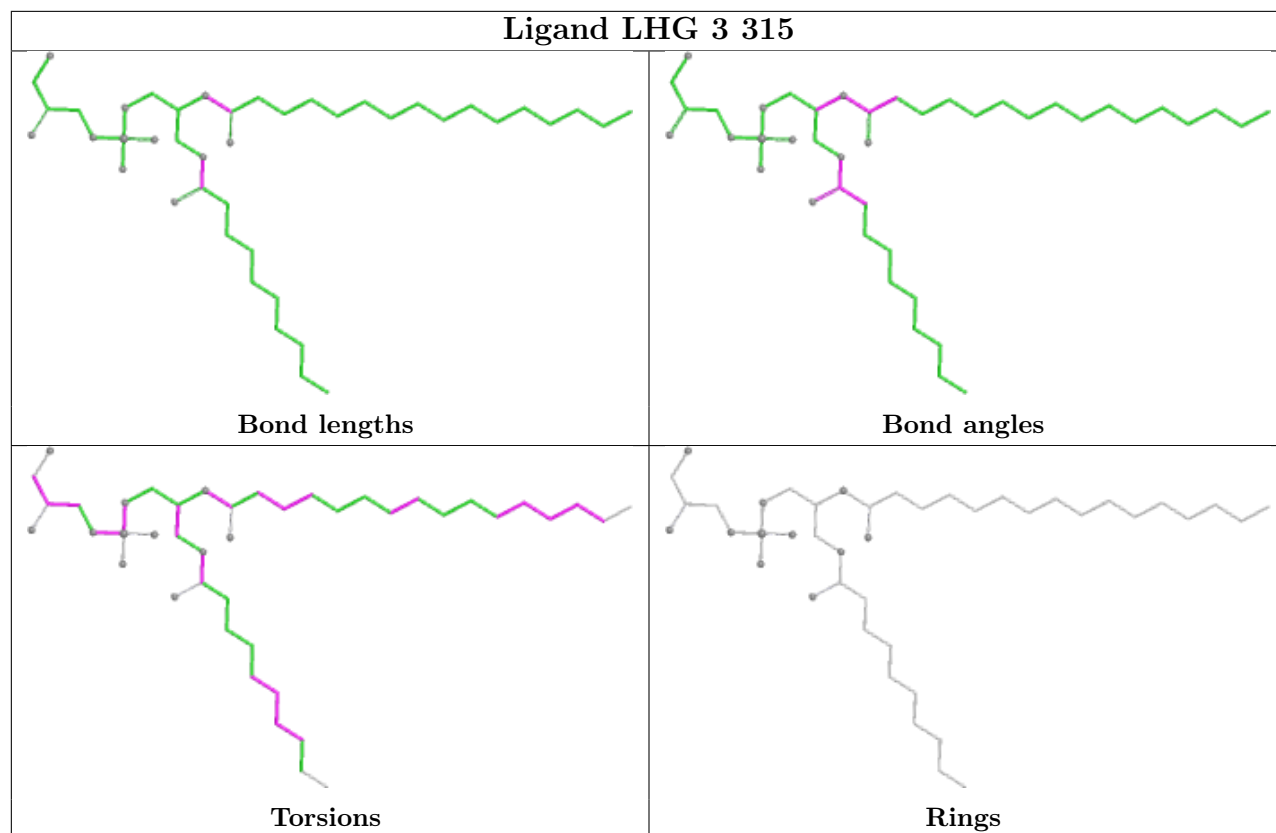


Torsions

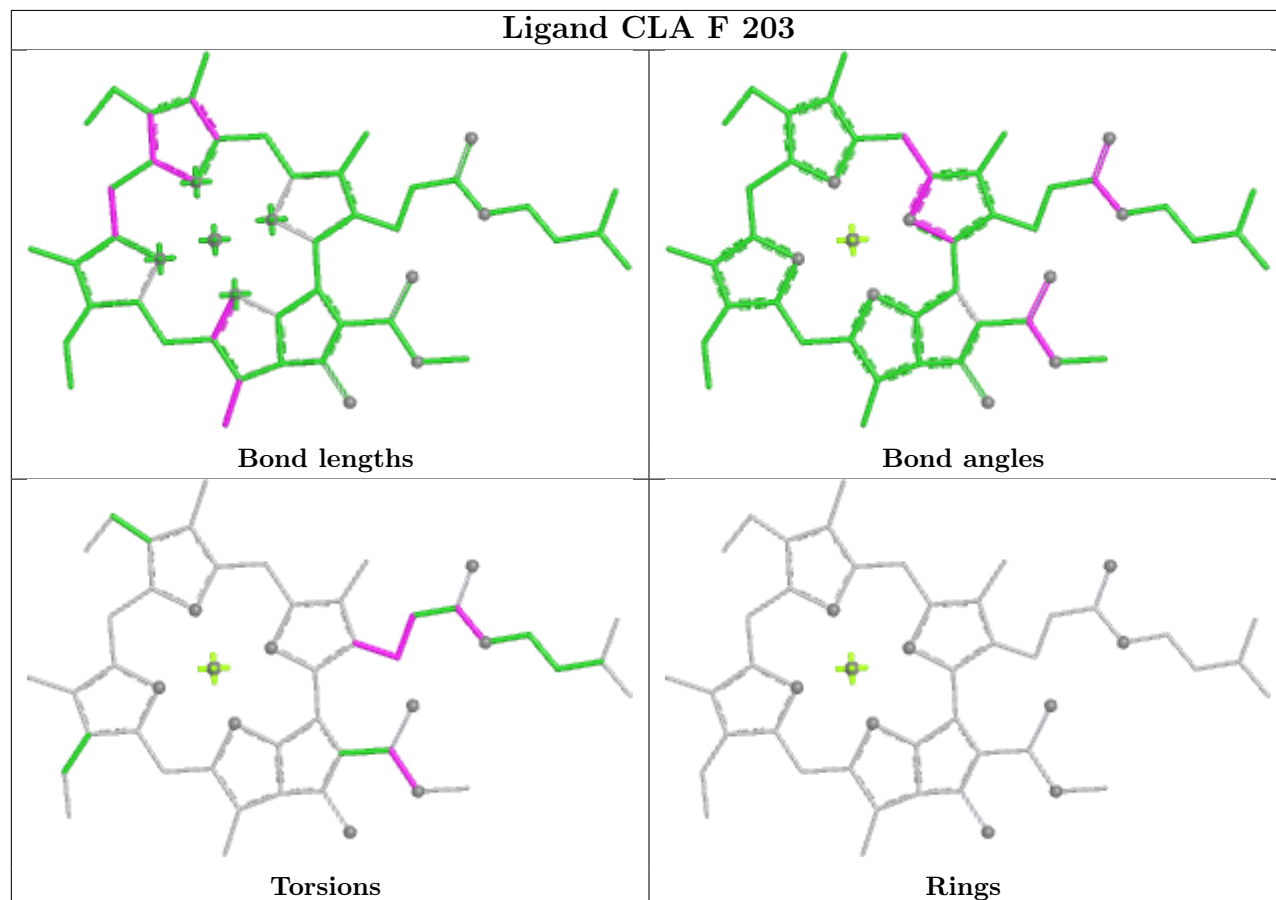


Rings

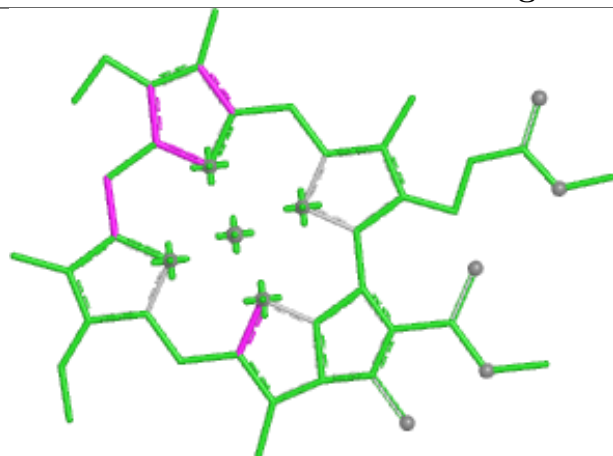
Ligand LHG 3 315



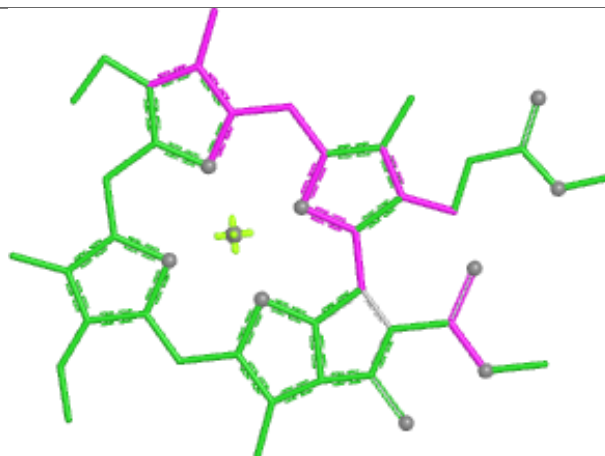
Ligand CLA F 203



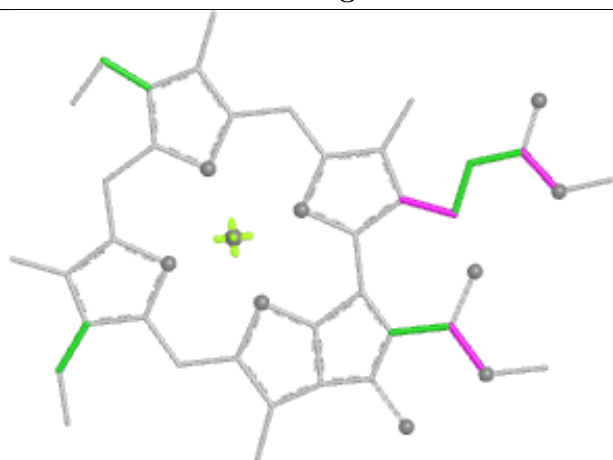
Ligand CLA 3 304



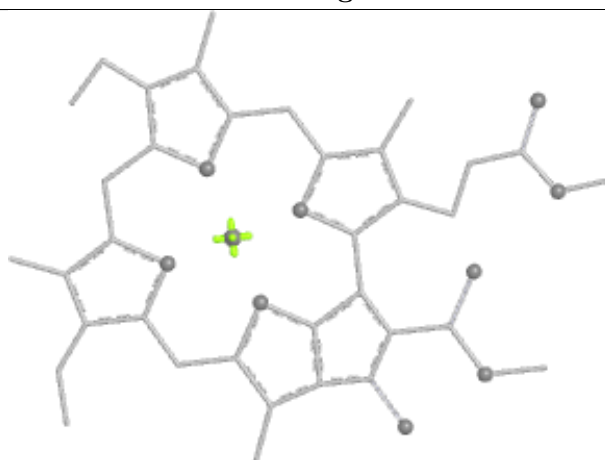
Bond lengths



Bond angles

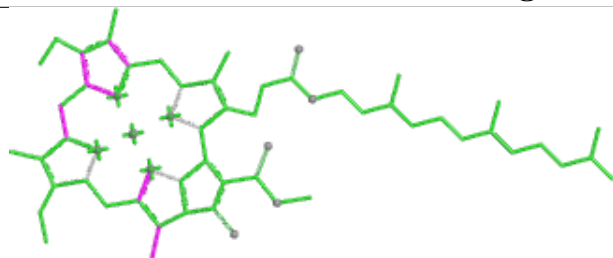


Torsions

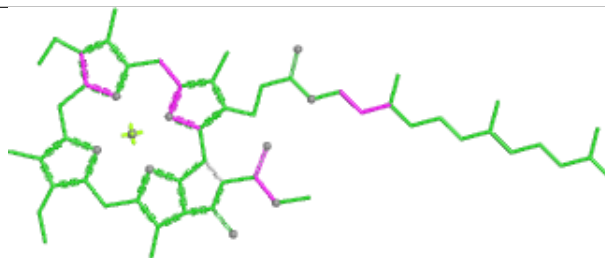


Rings

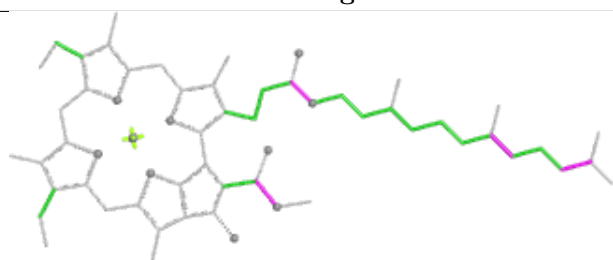
Ligand CLA 3 305



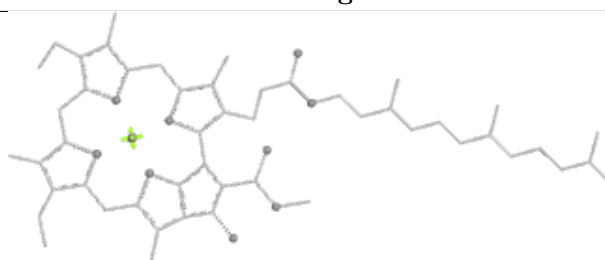
Bond lengths



Bond angles

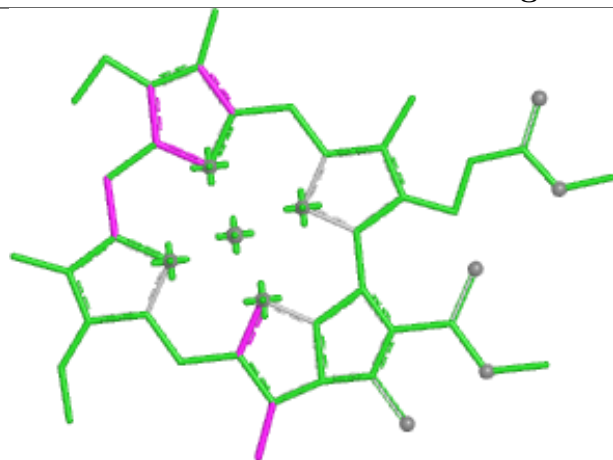


Torsions

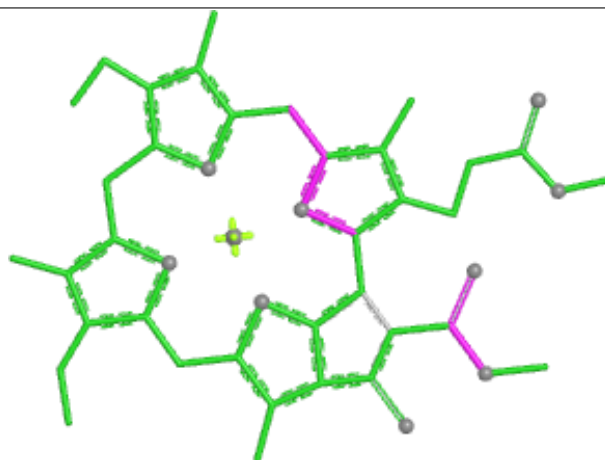


Rings

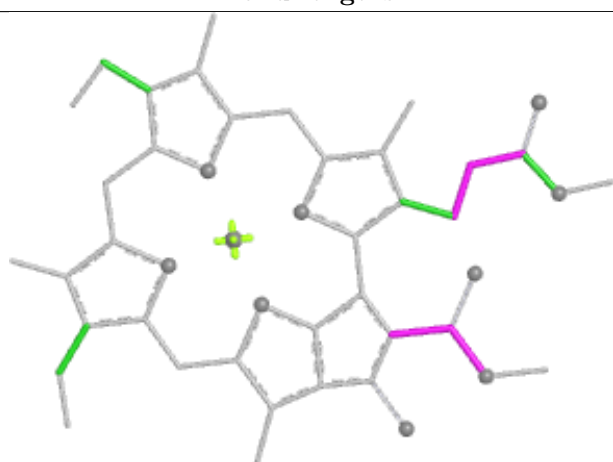
Ligand CLA t 304



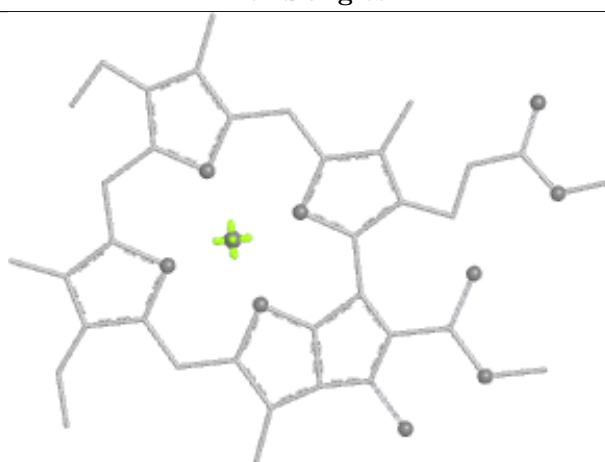
Bond lengths



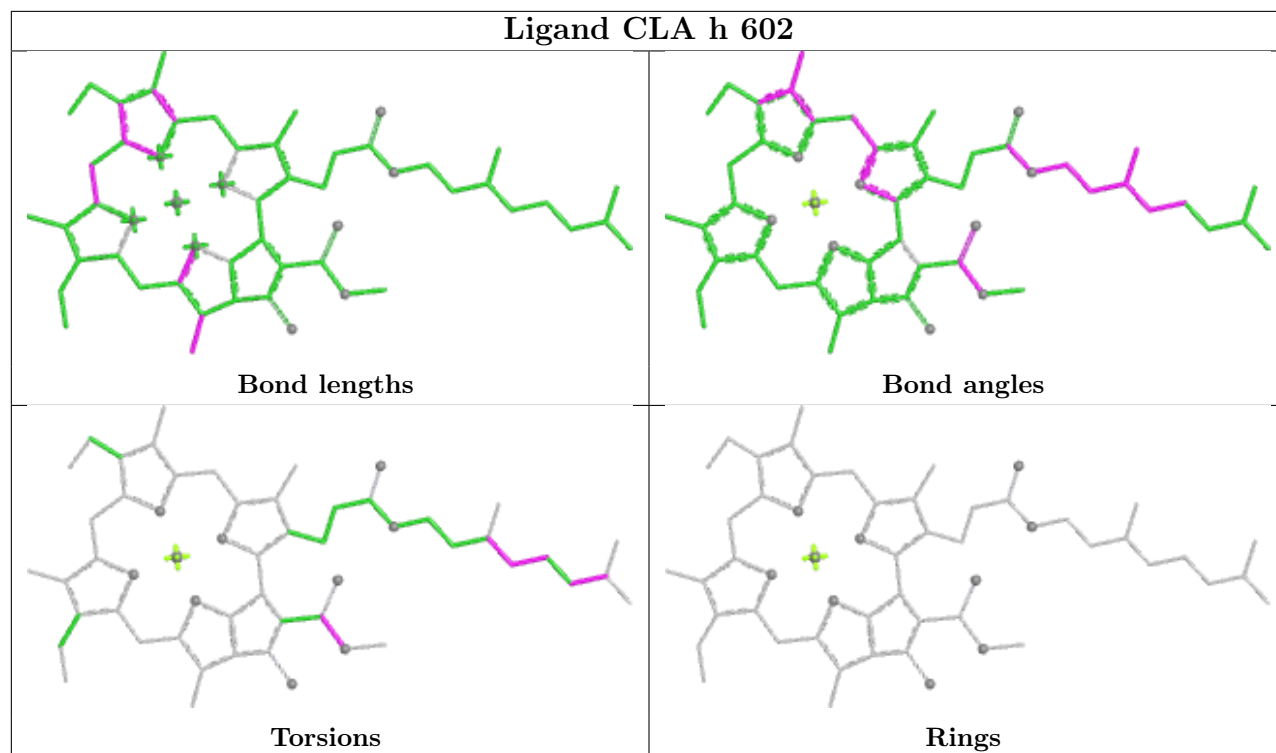
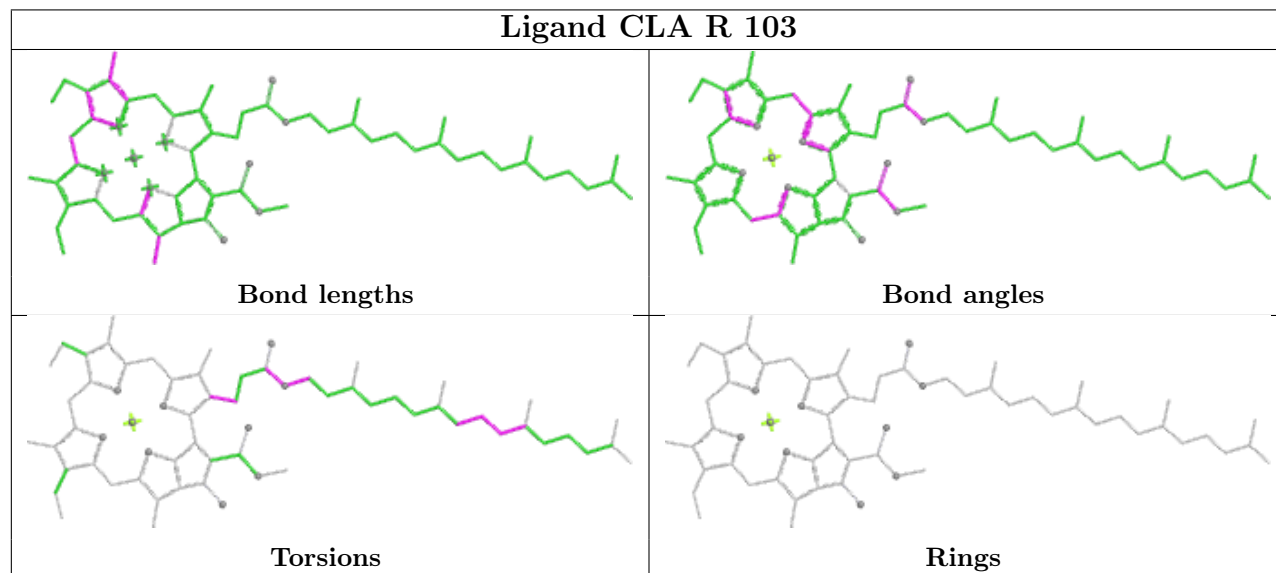
Bond angles

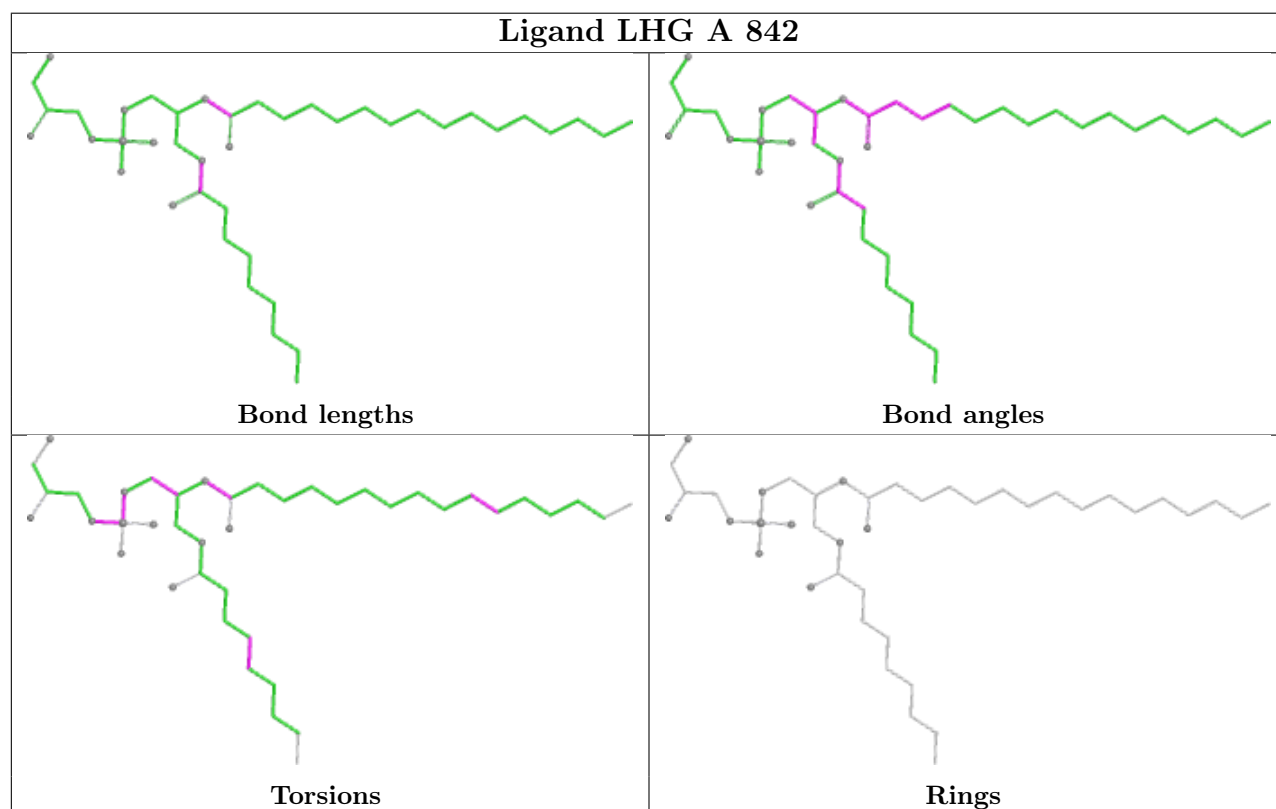
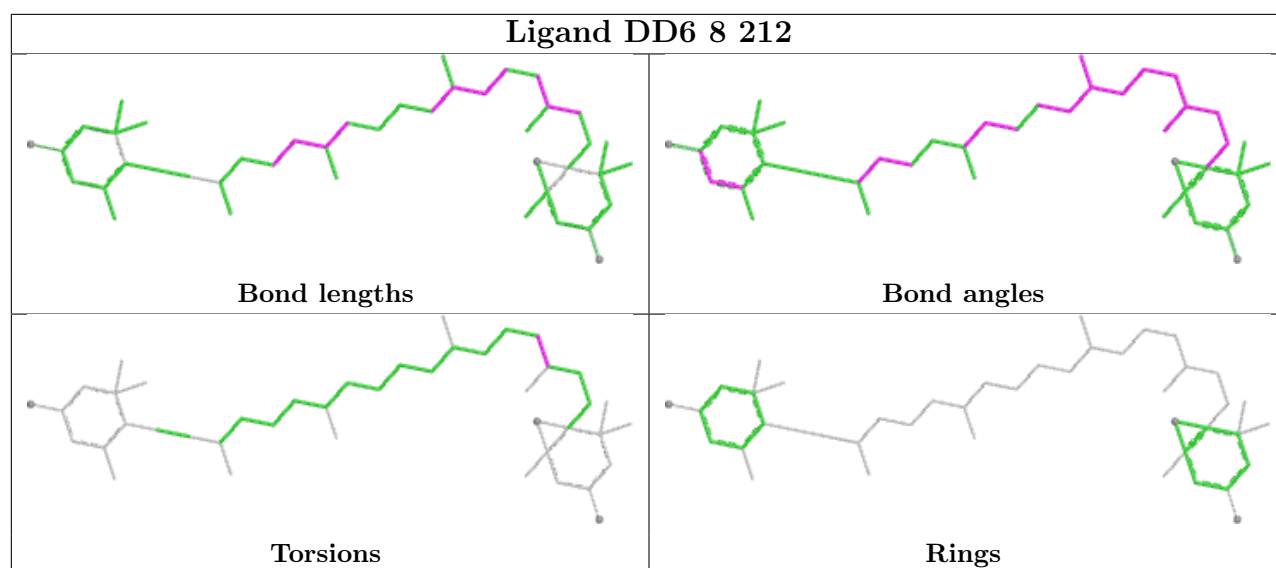


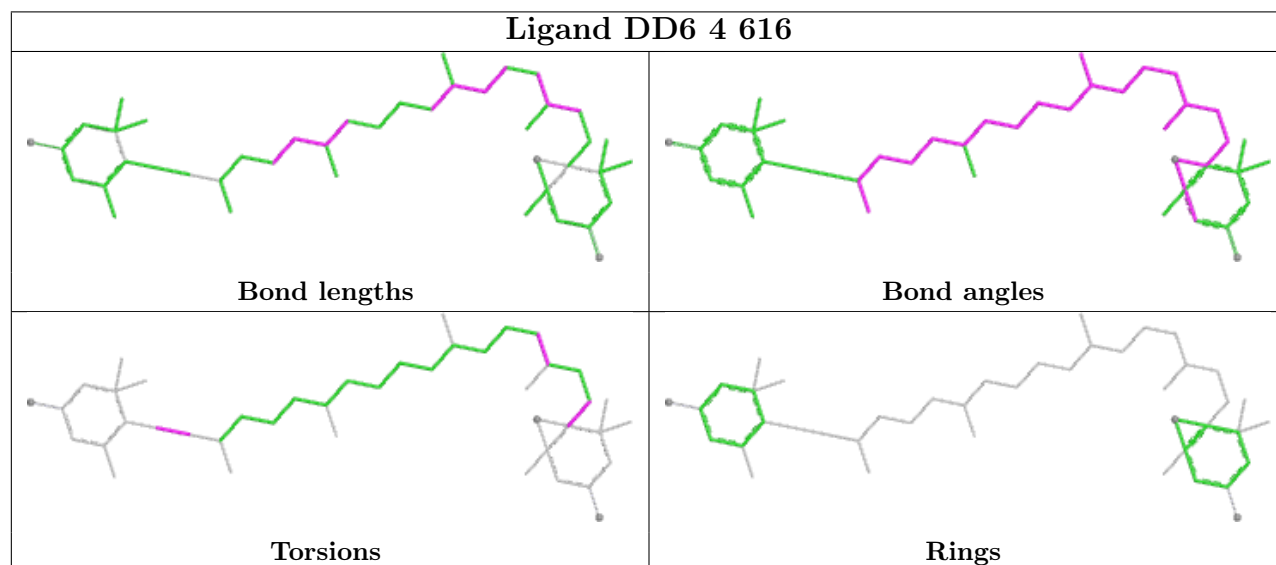
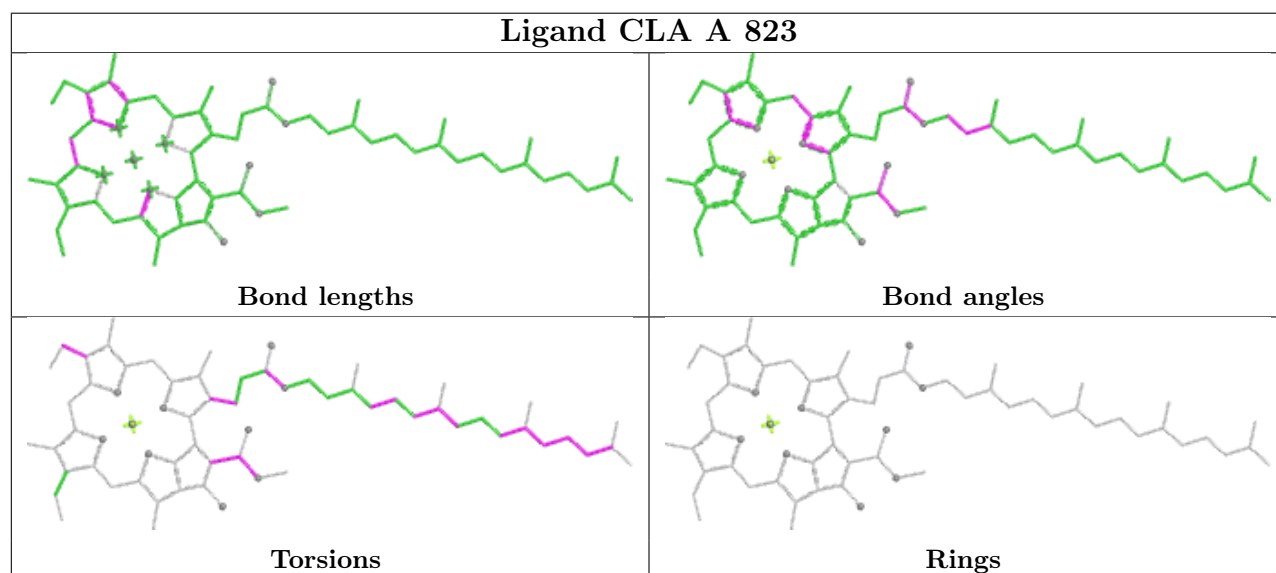
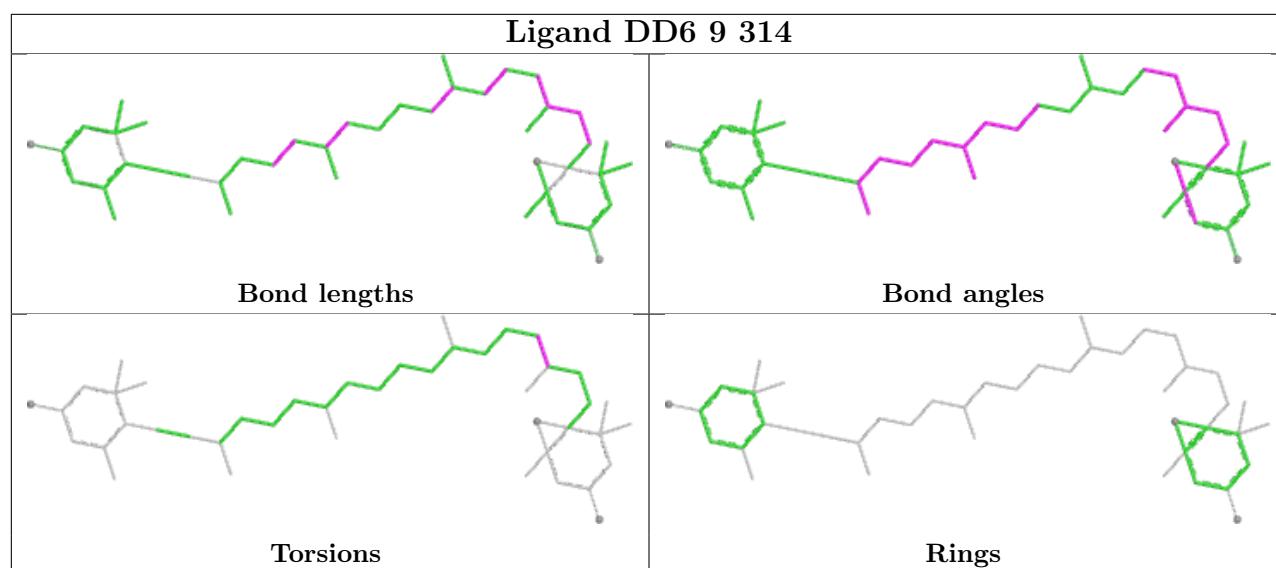
Torsions



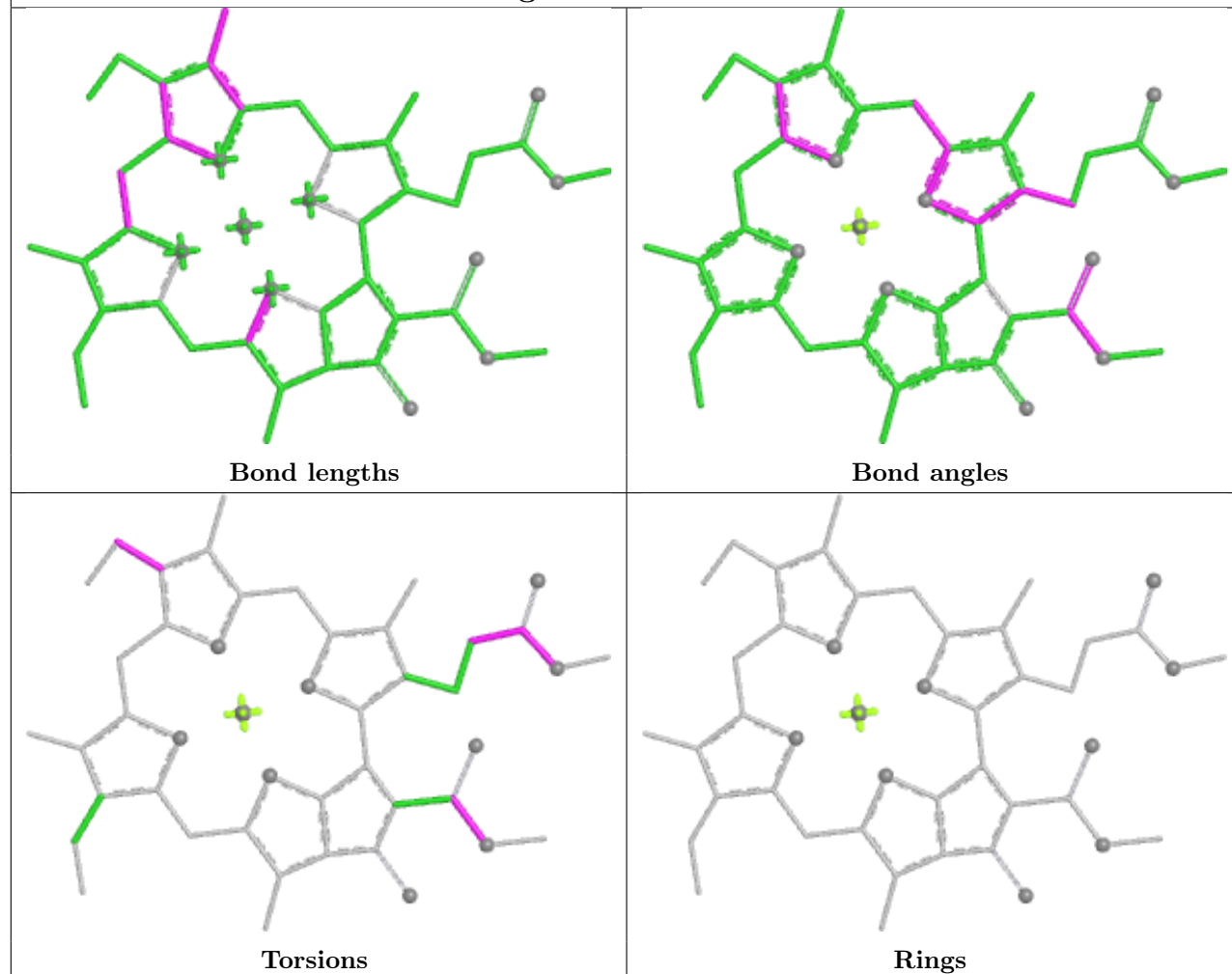
Rings

Ligand CLA h 602**Ligand CLA R 103**

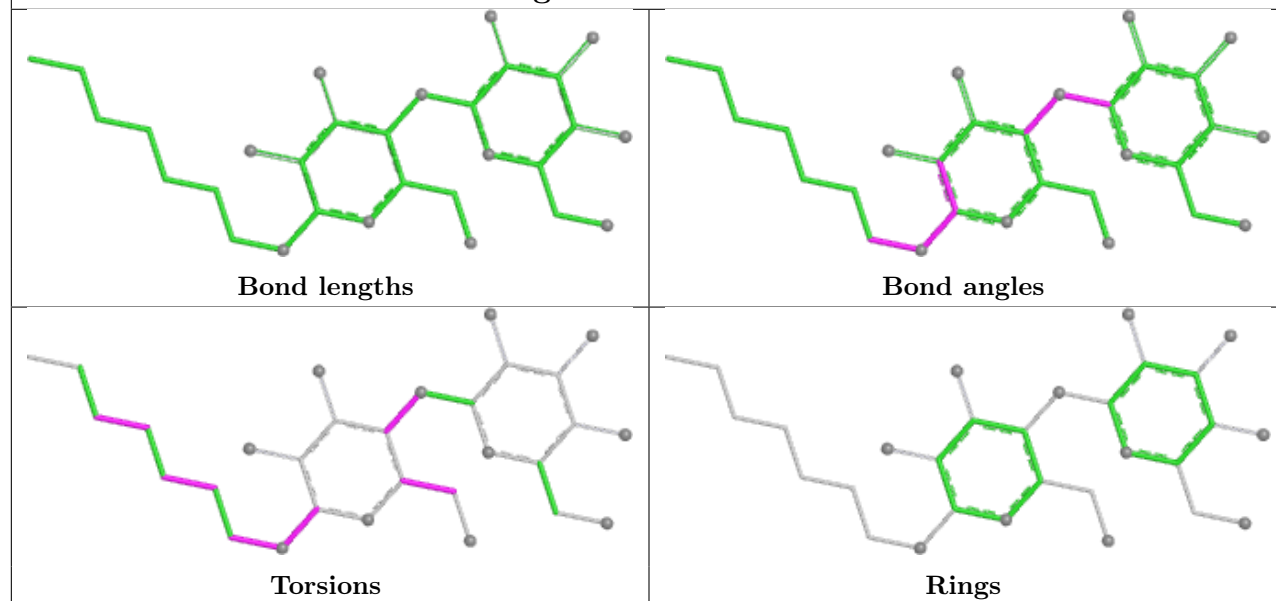




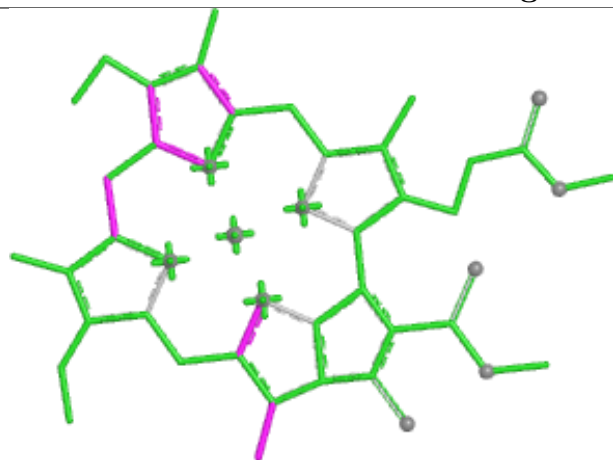
Ligand CLA c 603



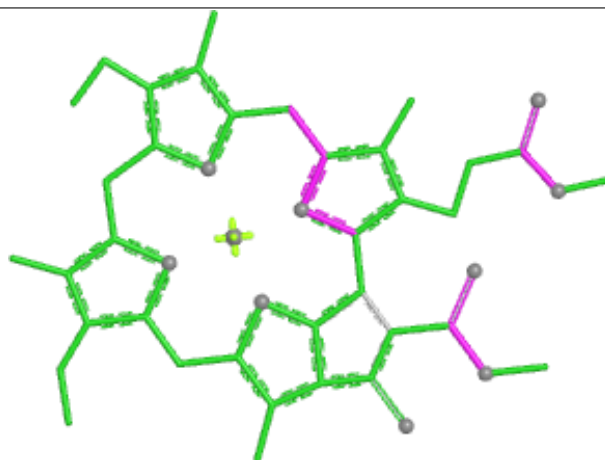
Ligand LMT 3 314



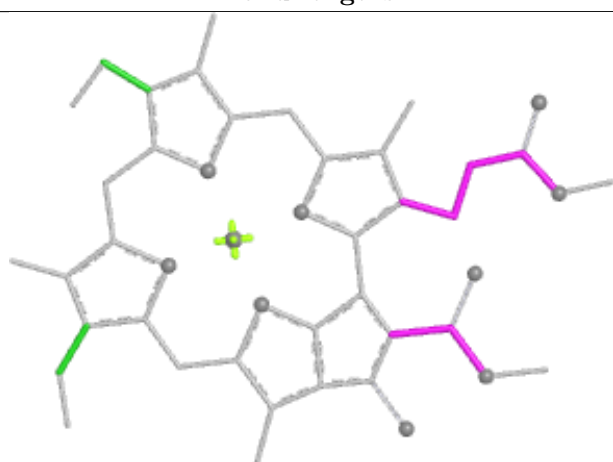
Ligand CLA t 302



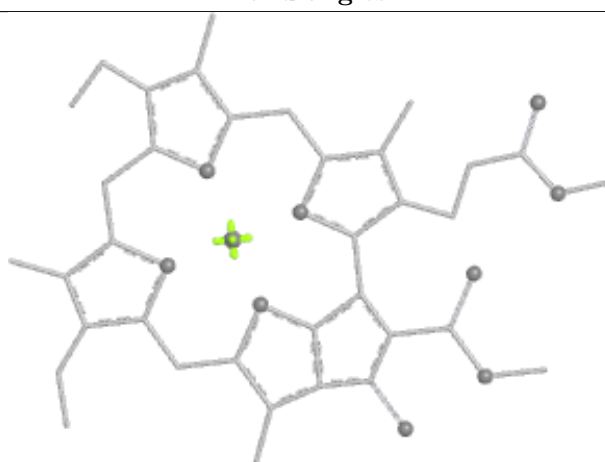
Bond lengths



Bond angles

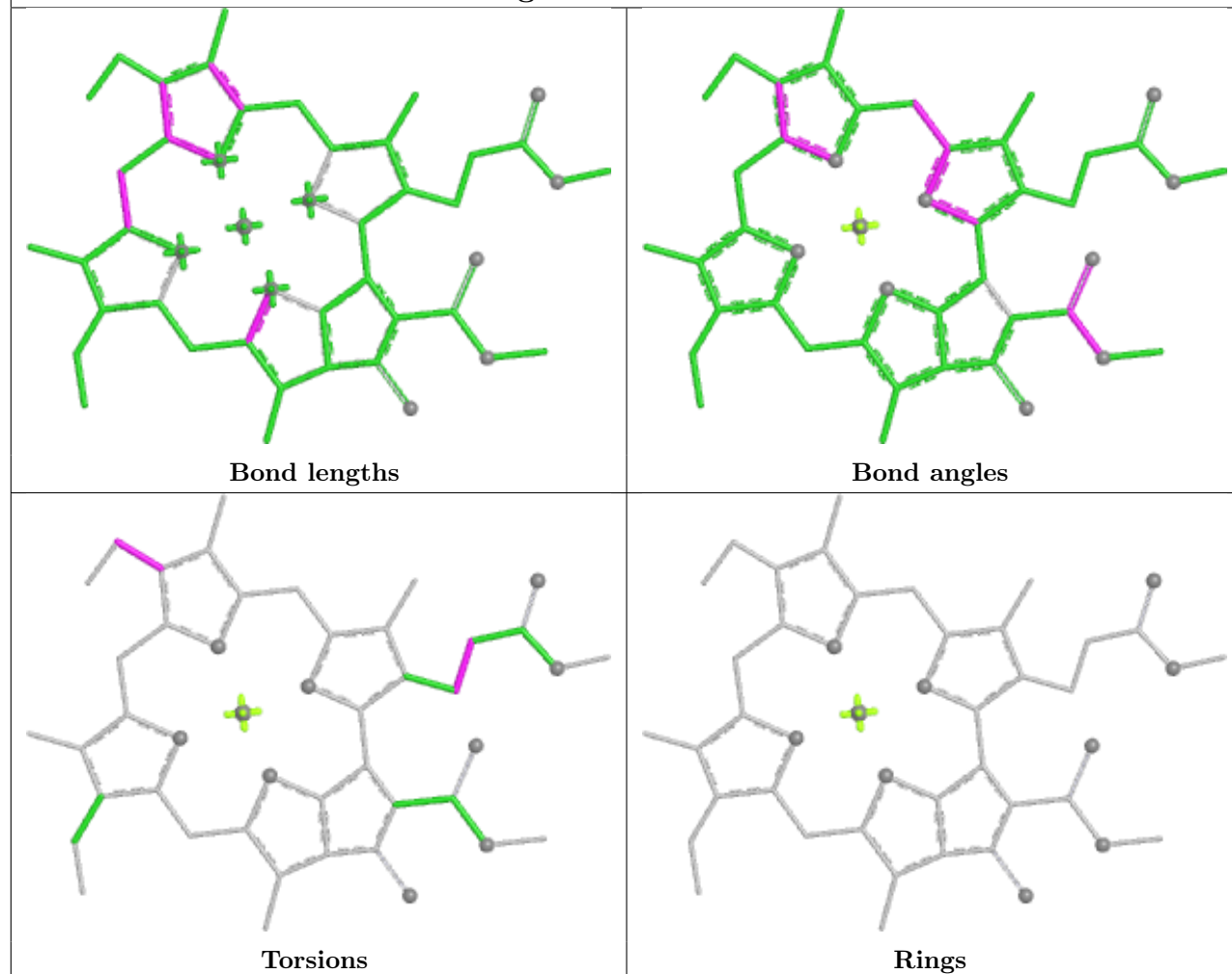


Torsions

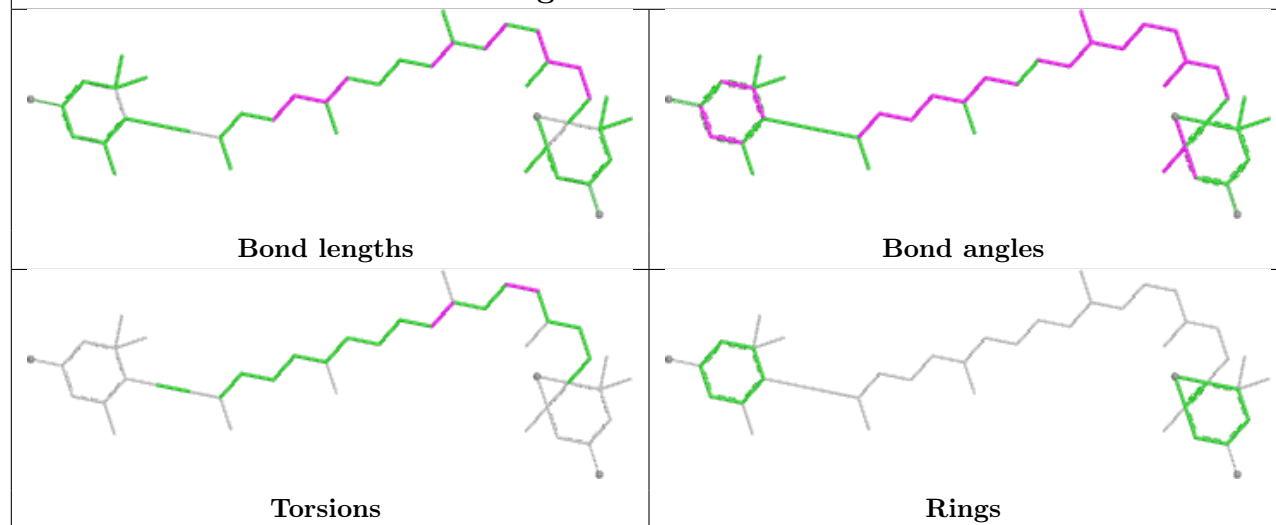


Rings

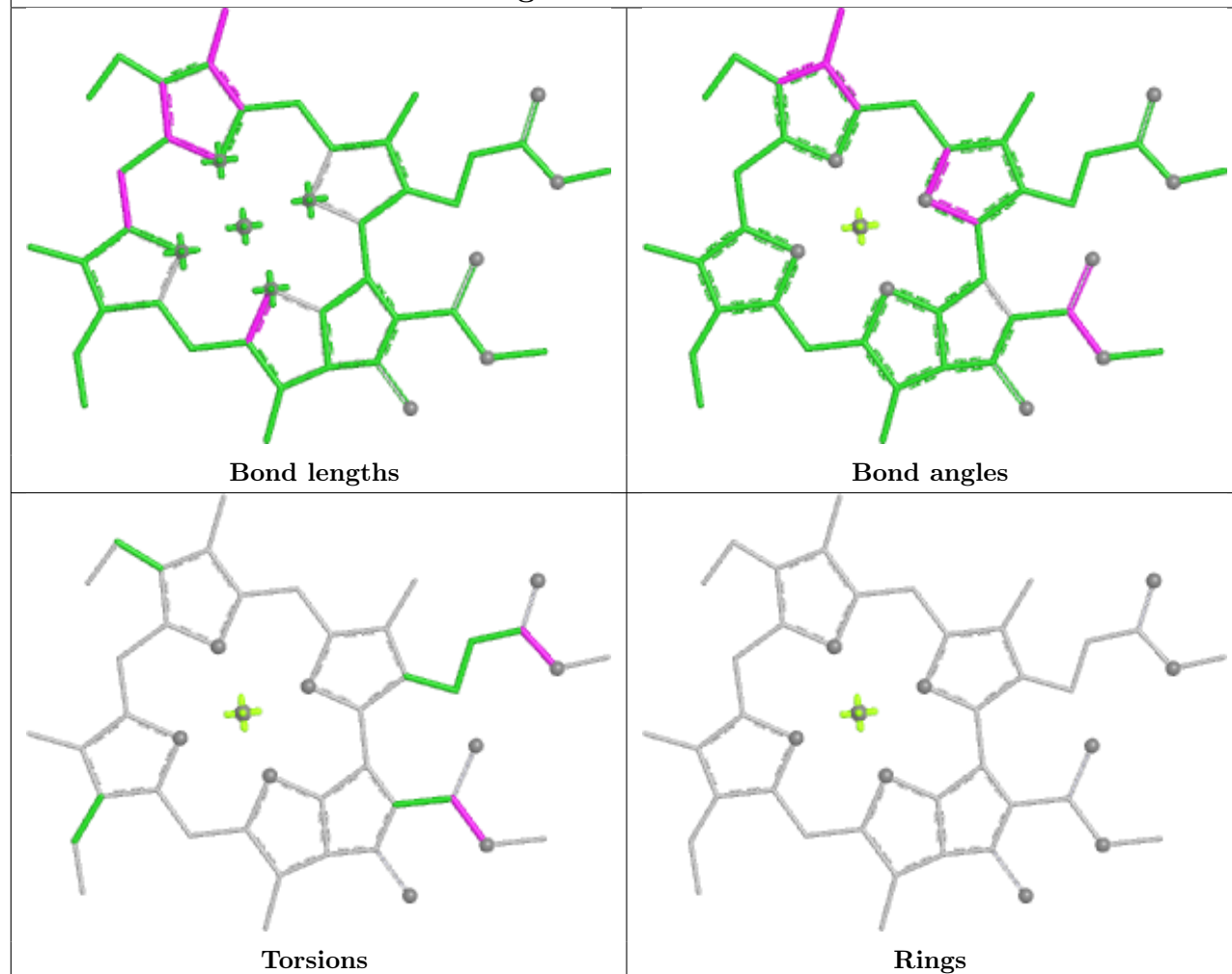
Ligand CLA 6 612



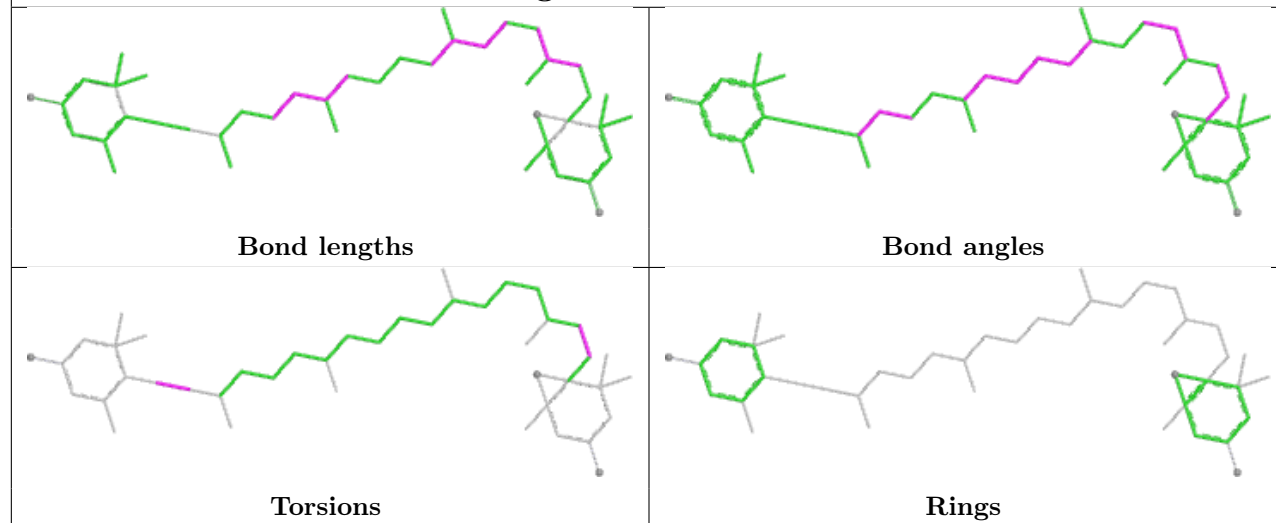
Ligand DD6 8 210



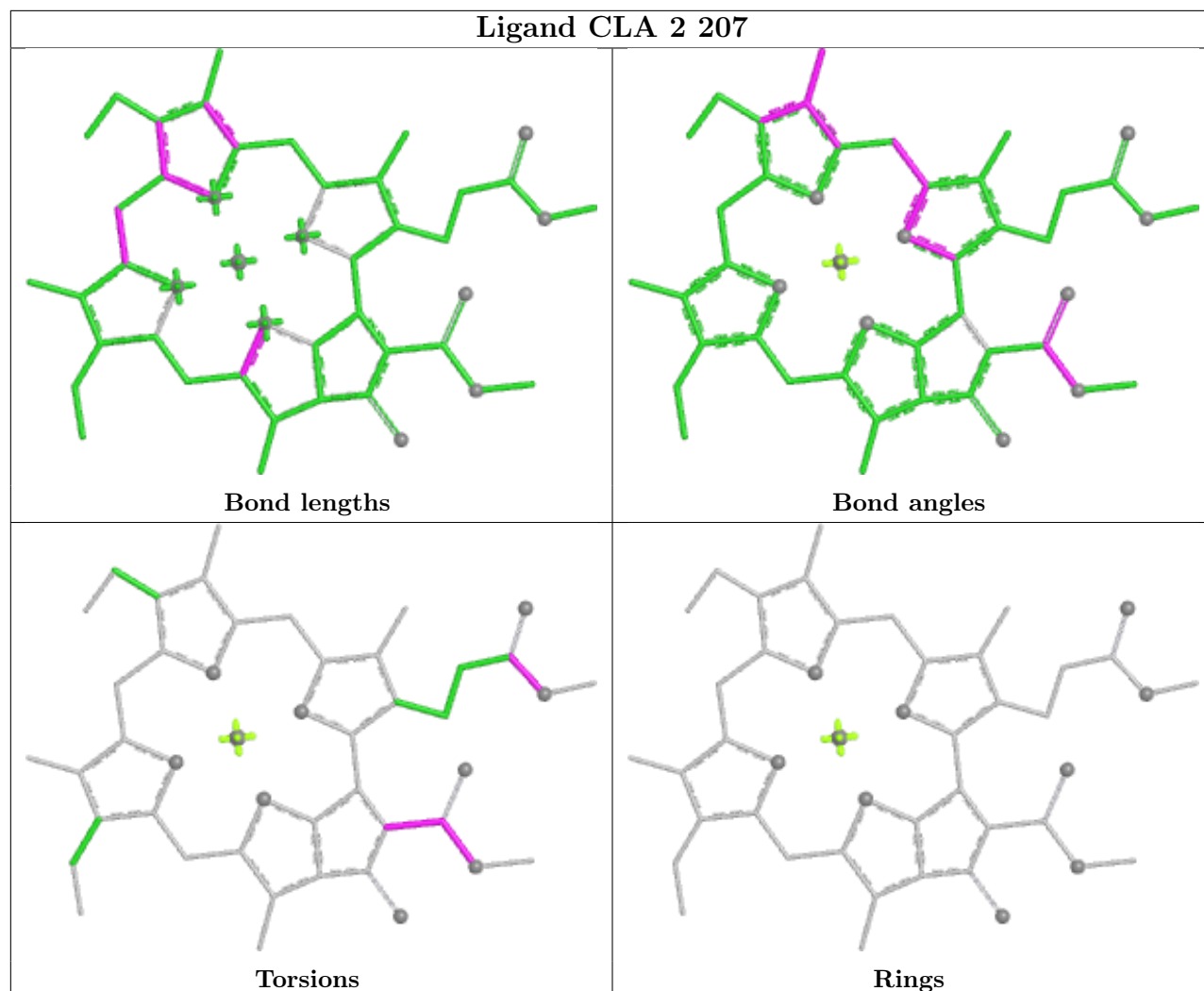
Ligand CLA 2 205



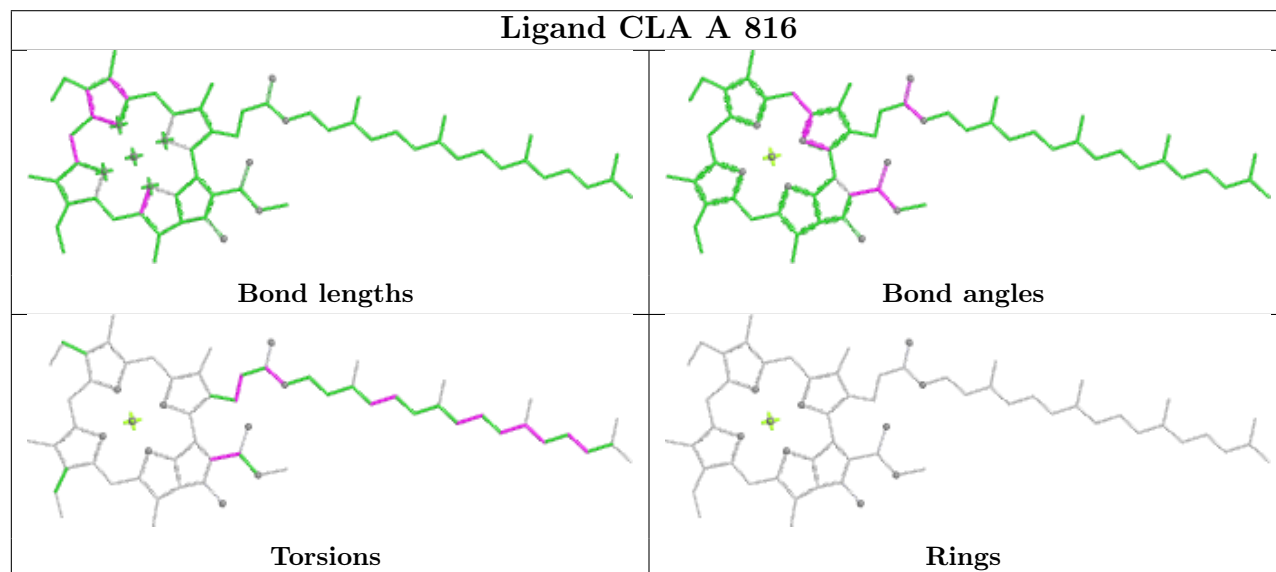
Ligand DD6 h 616



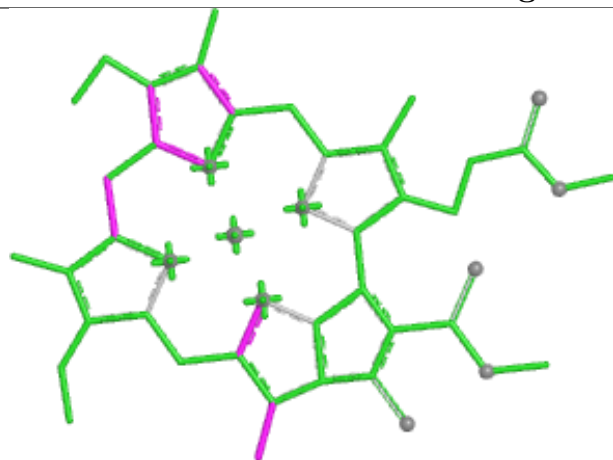
Ligand CLA 2 207



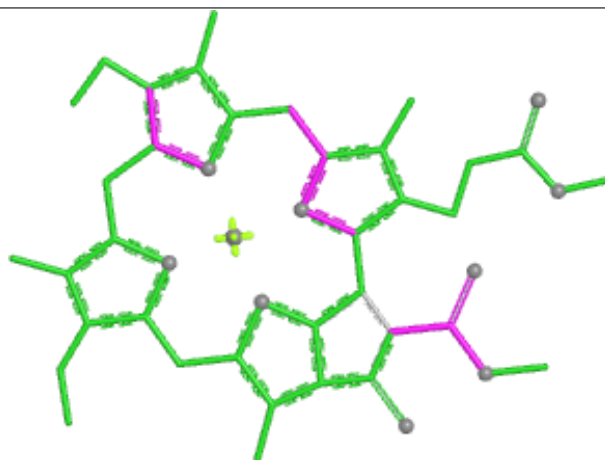
Ligand CLA A 816



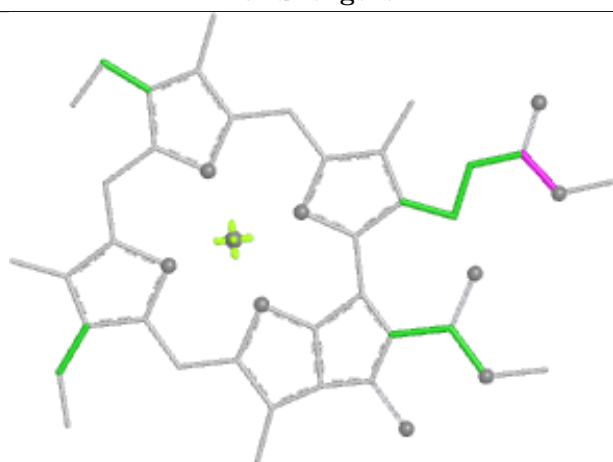
Ligand CLA 4 606



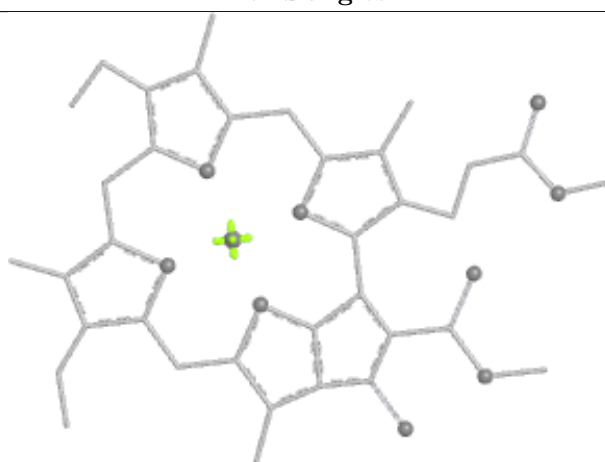
Bond lengths



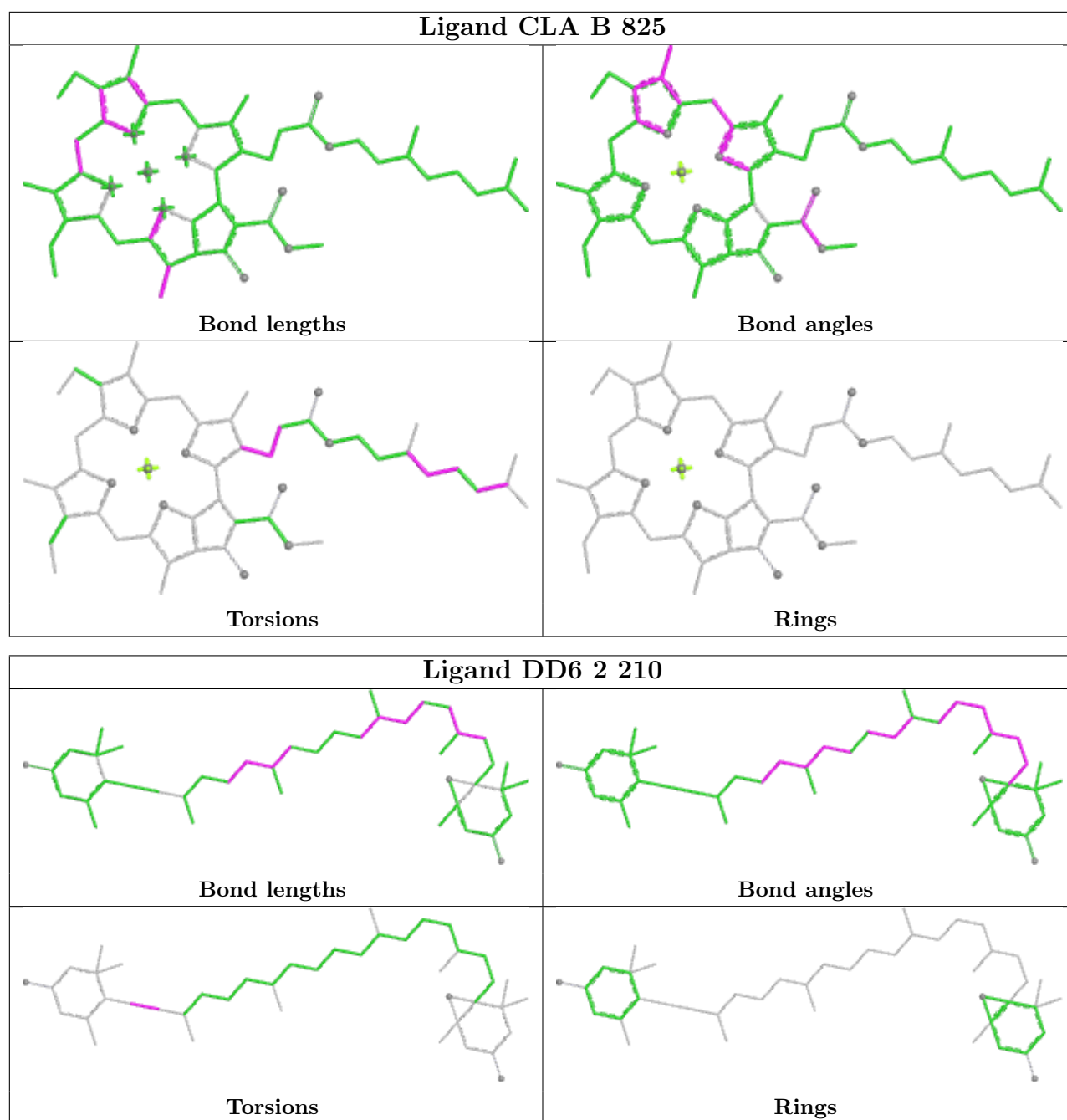
Bond angles

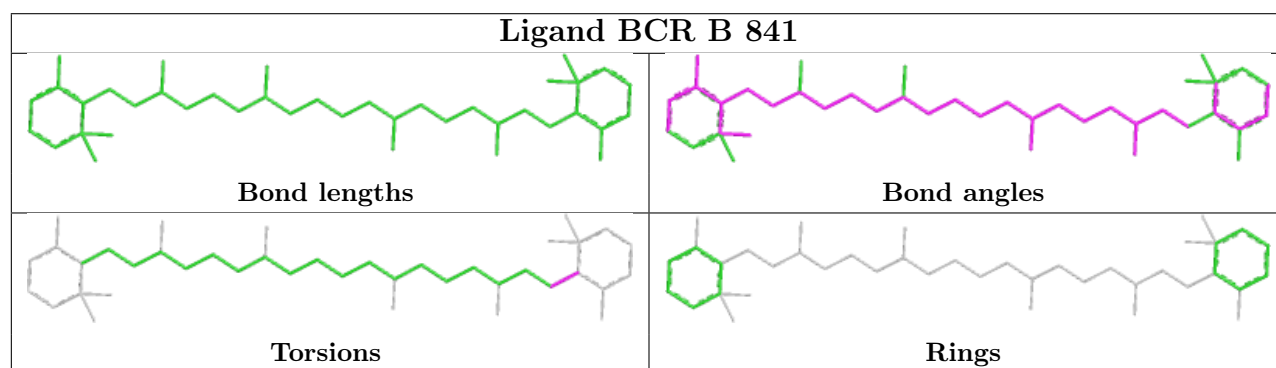
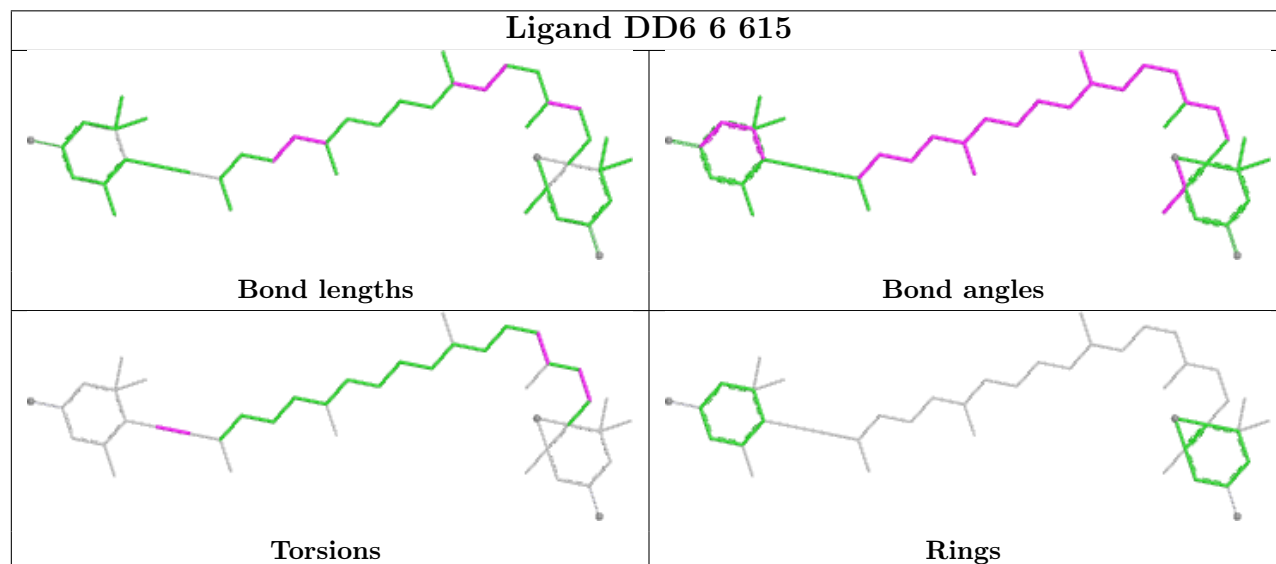
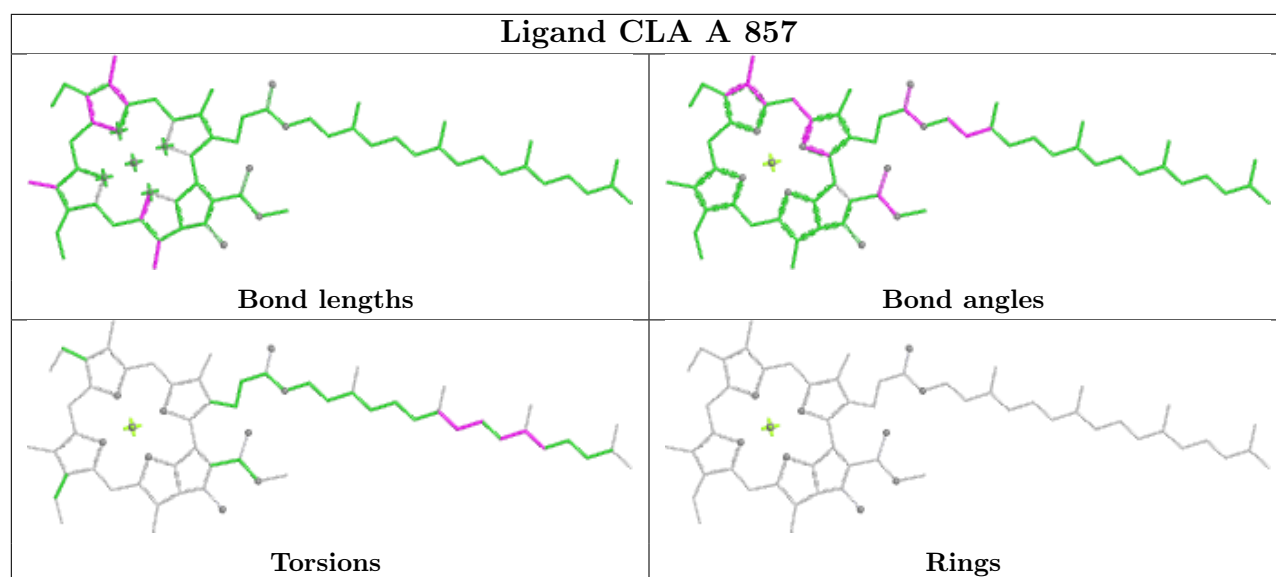


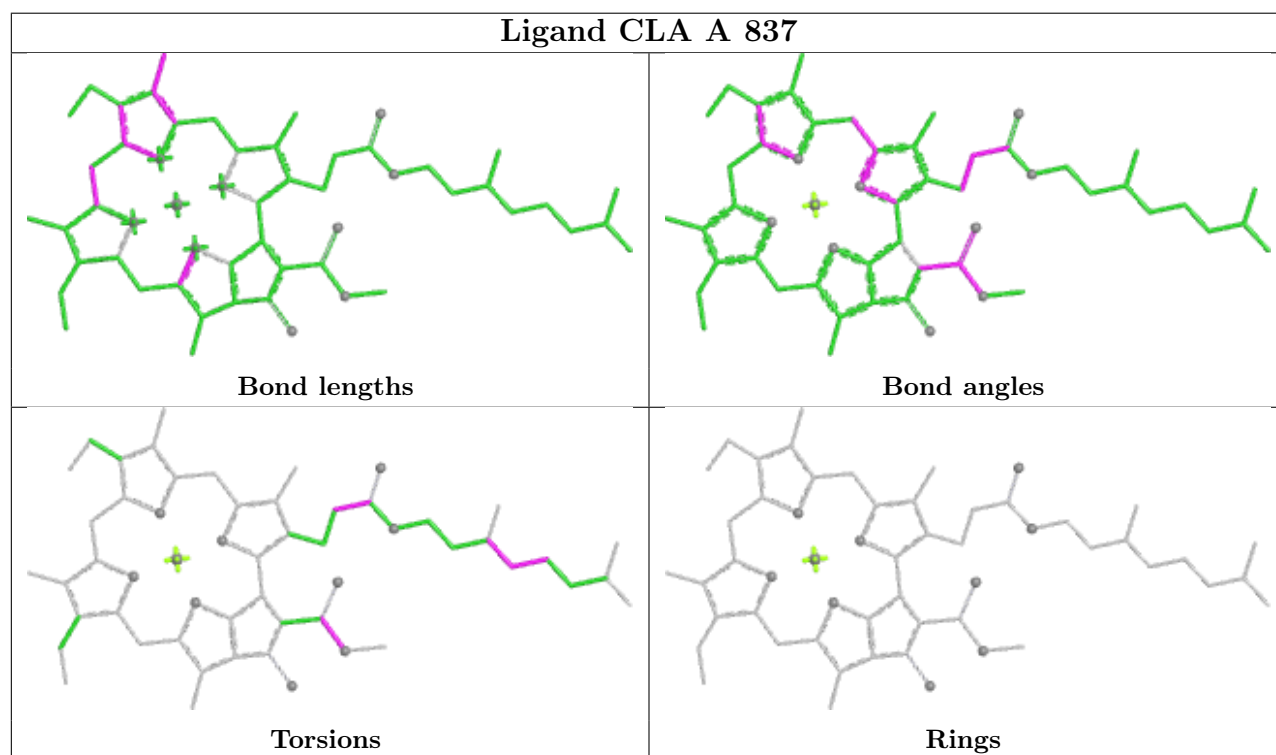
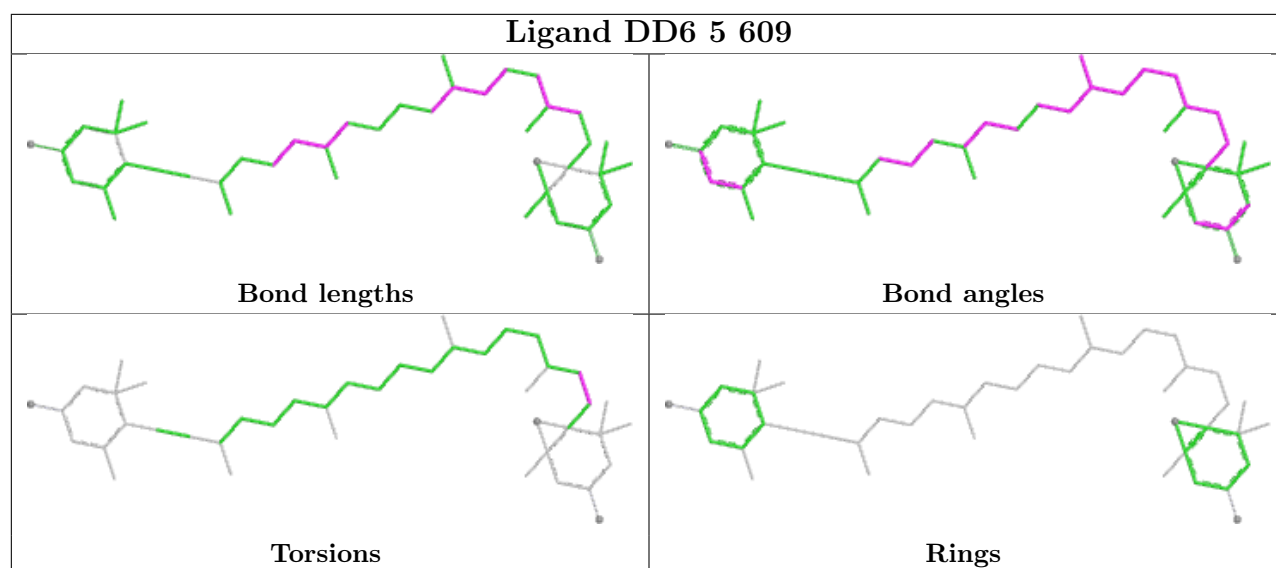
Torsions



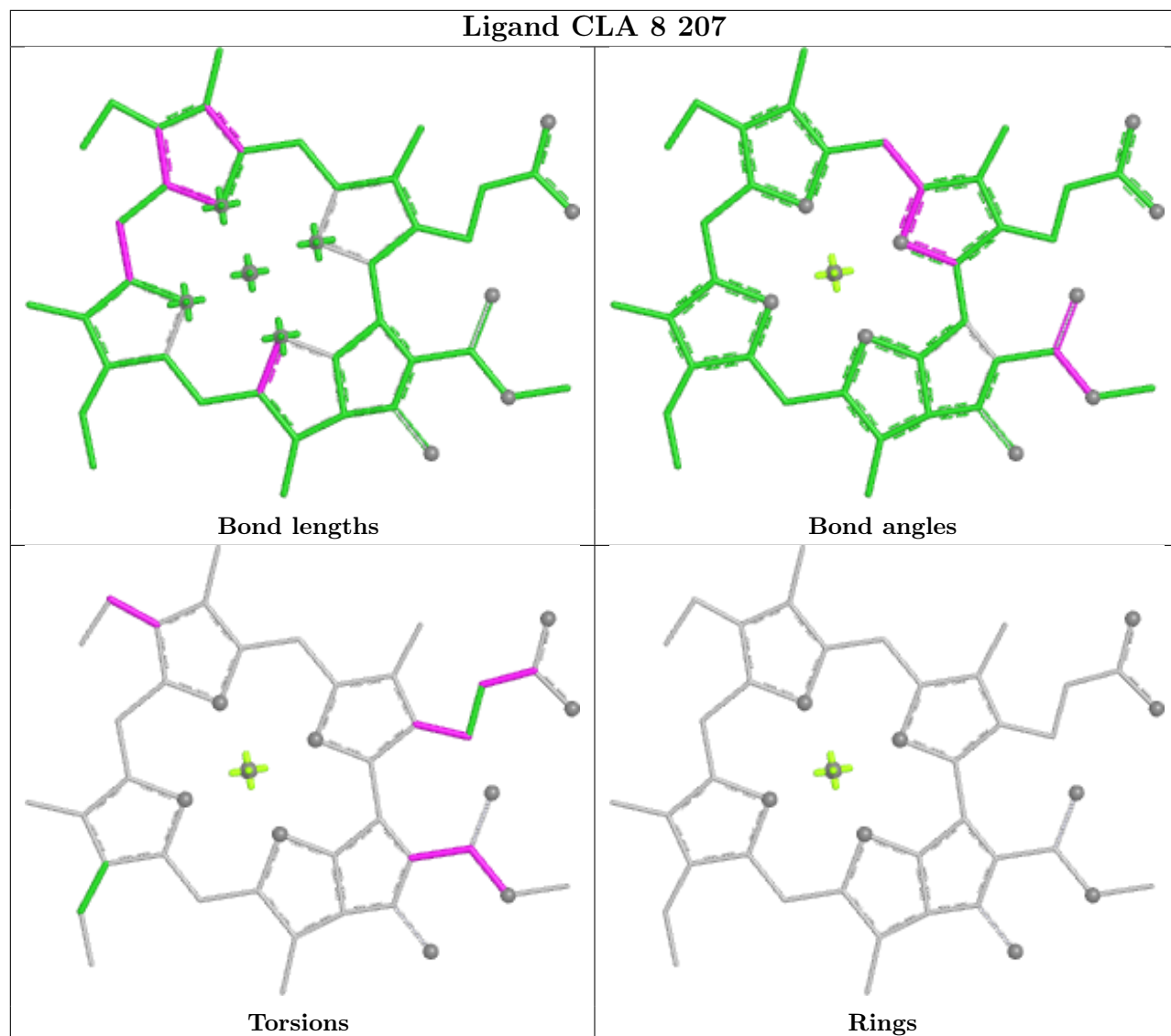
Rings



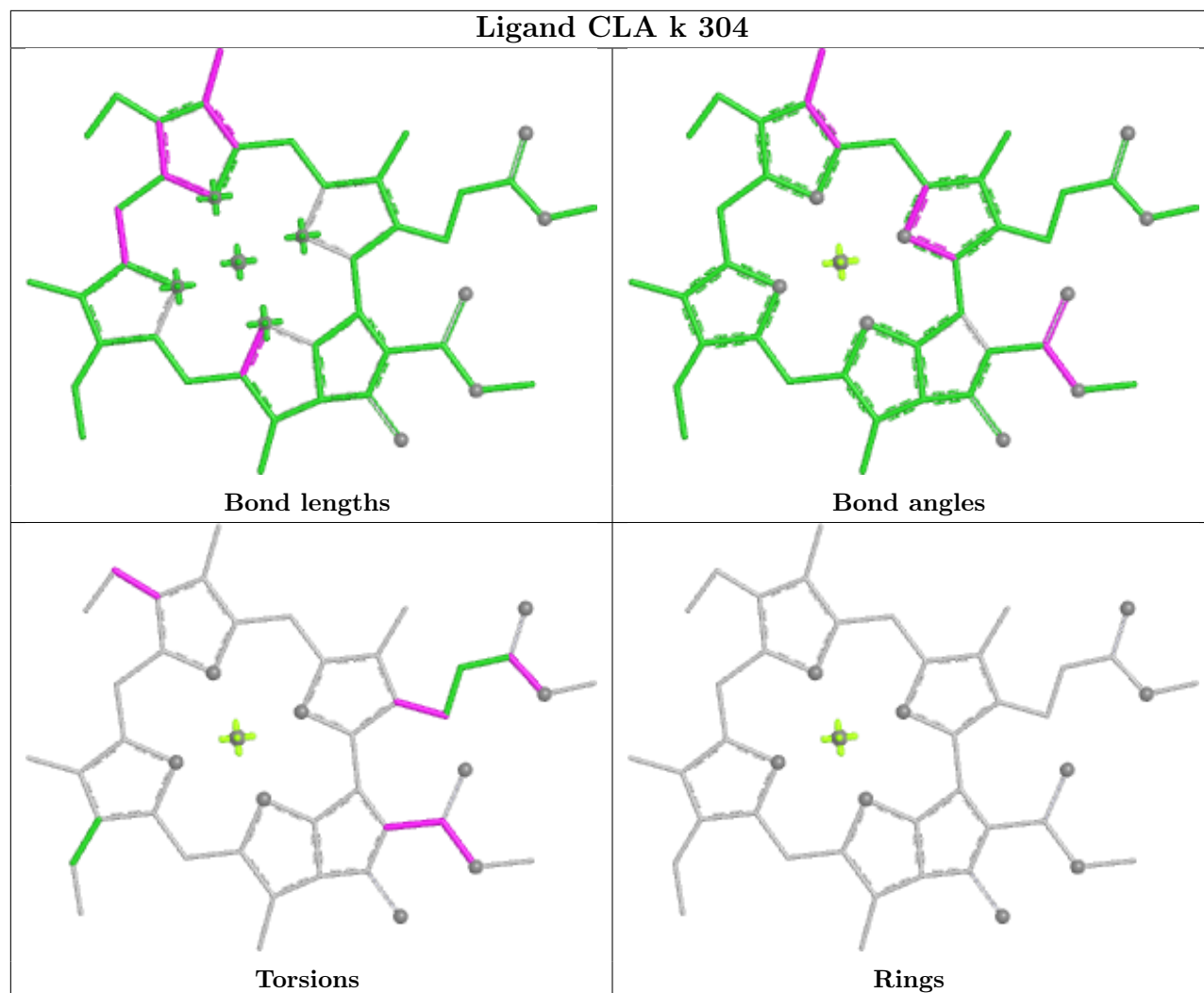




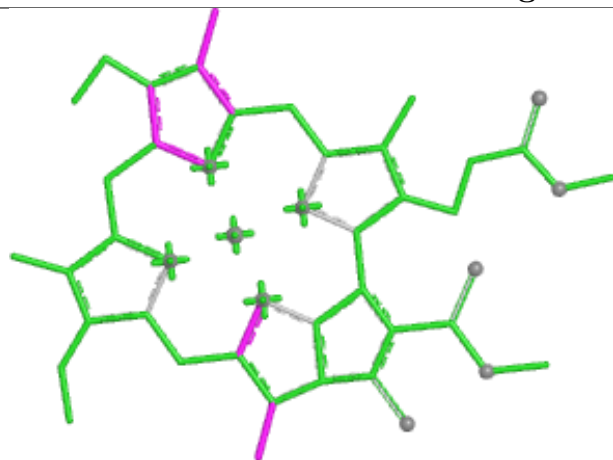
Ligand CLA 8 207



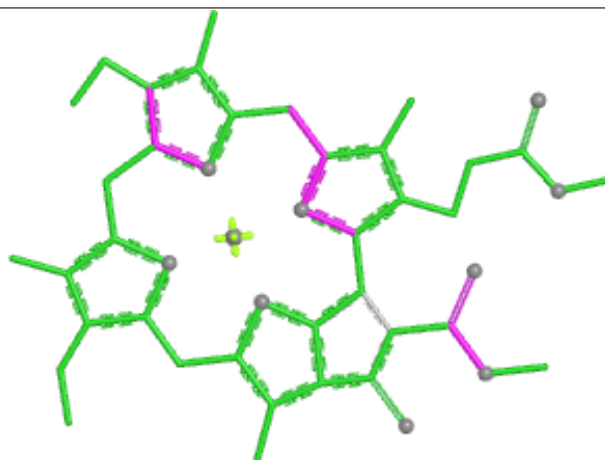
Ligand CLA k 304



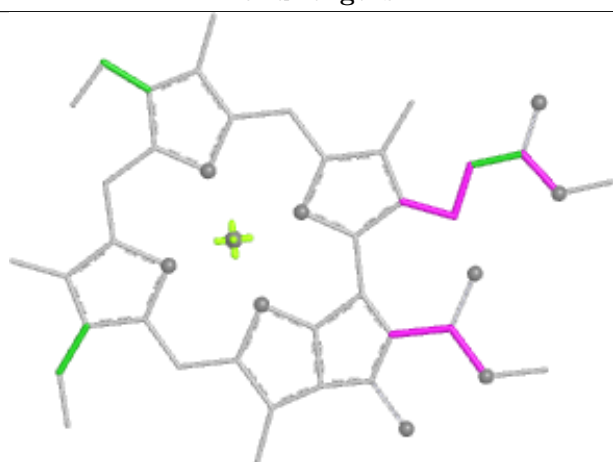
Ligand CLA 9 308



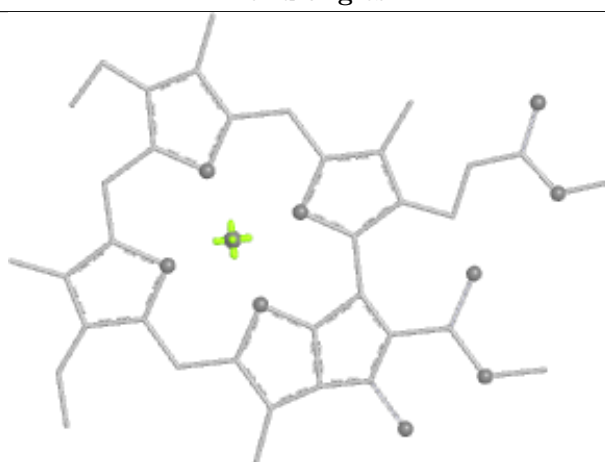
Bond lengths



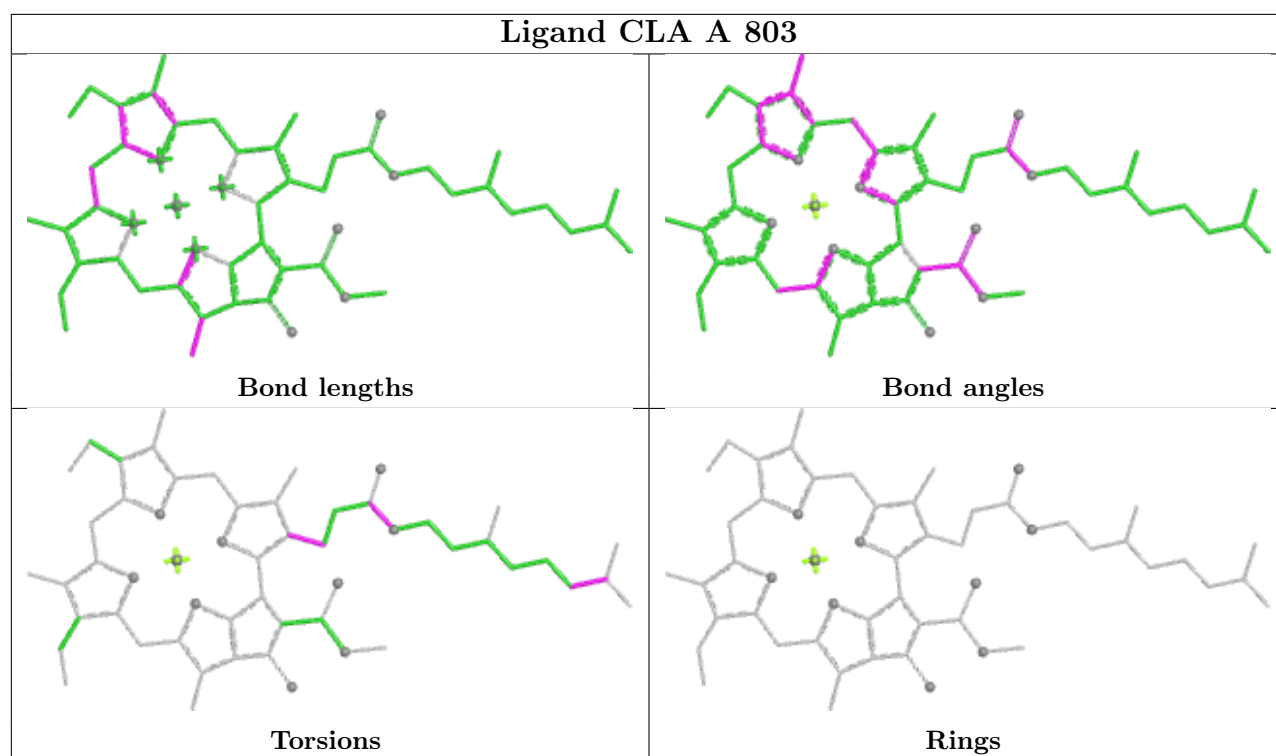
Bond angles



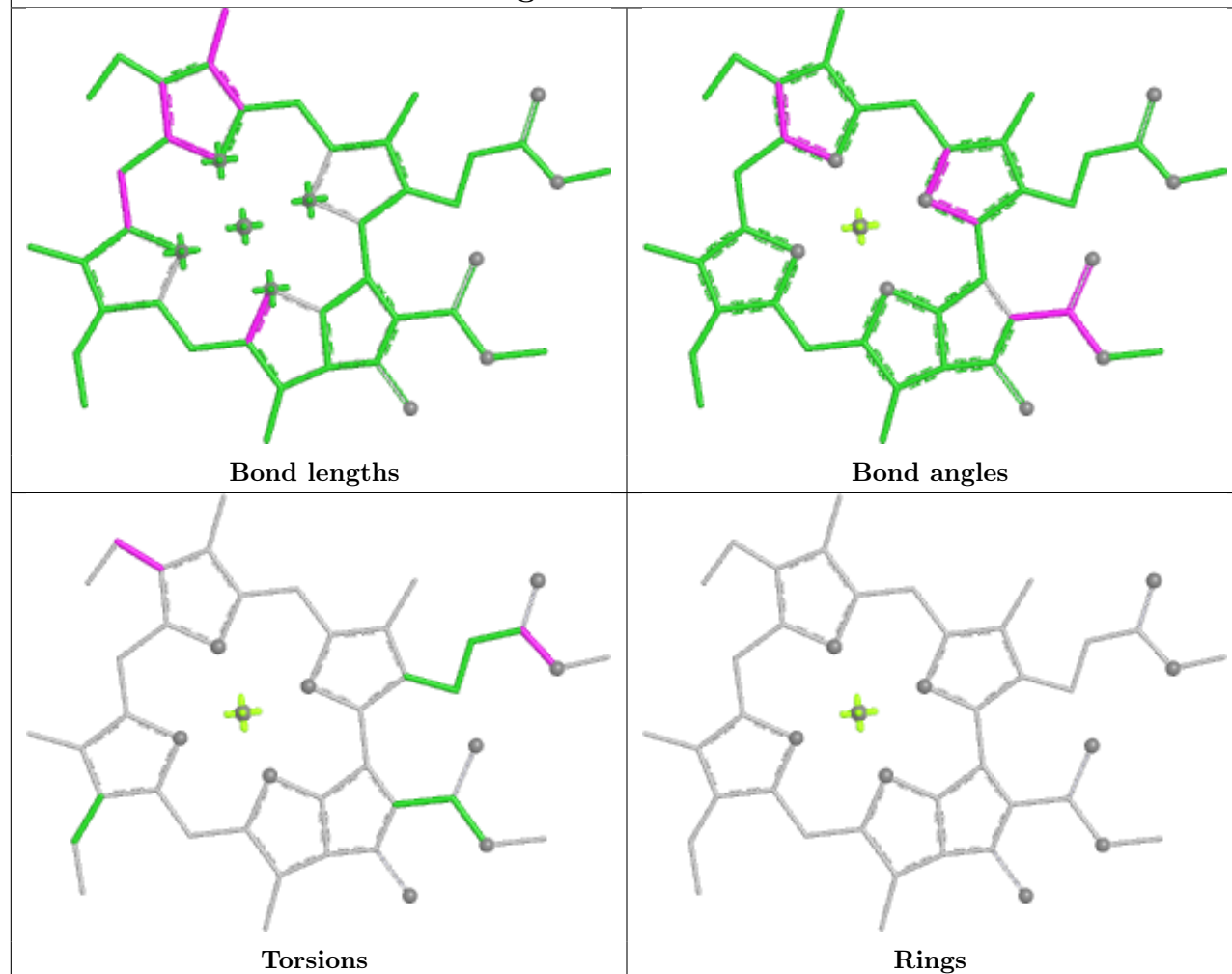
Torsions



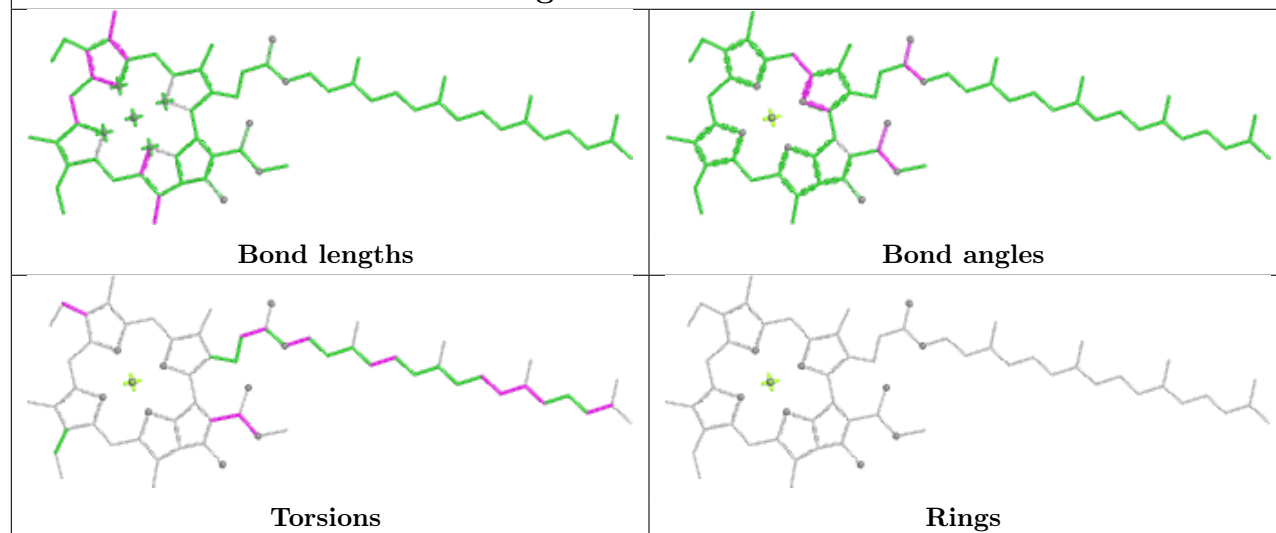
Rings



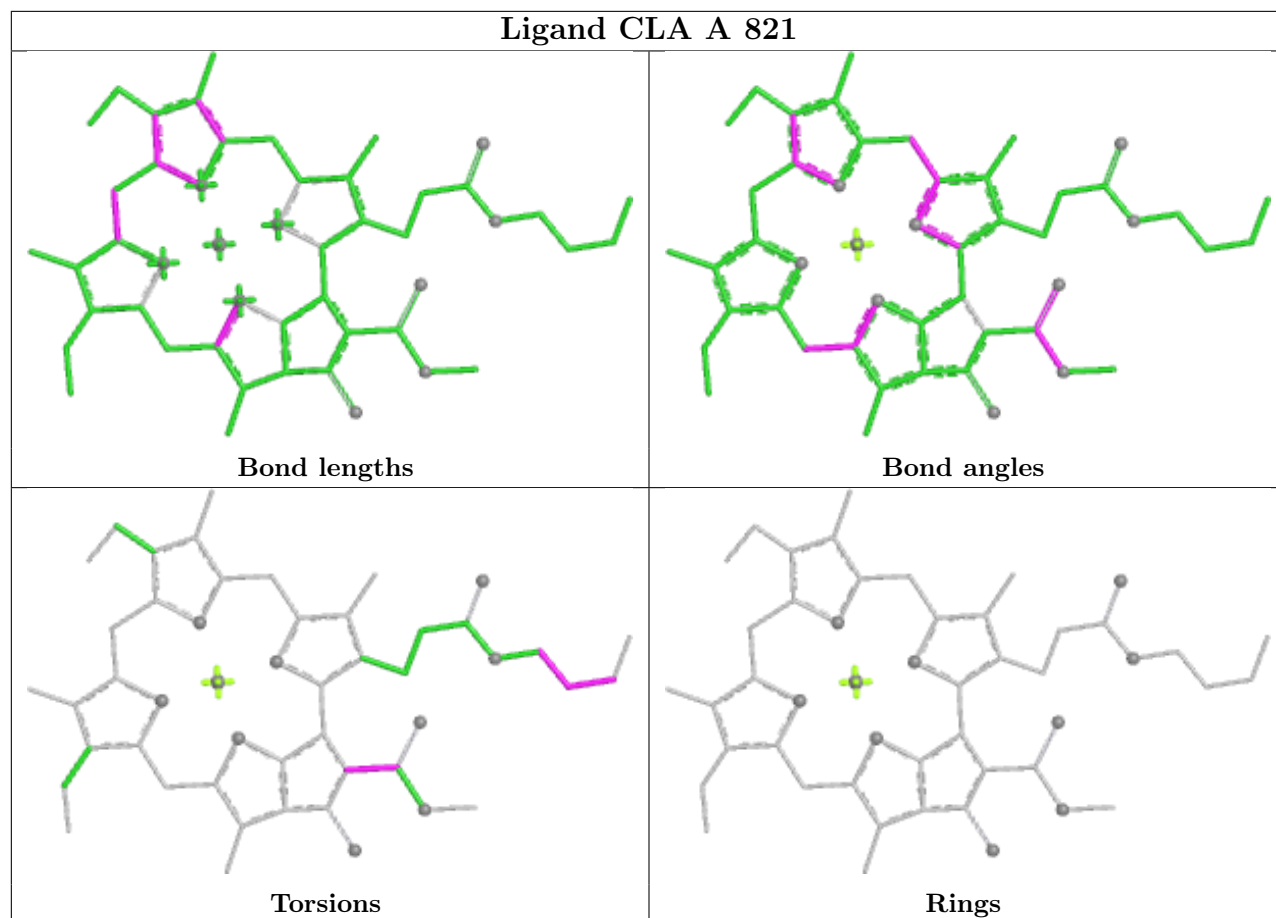
Ligand CLA 6 605



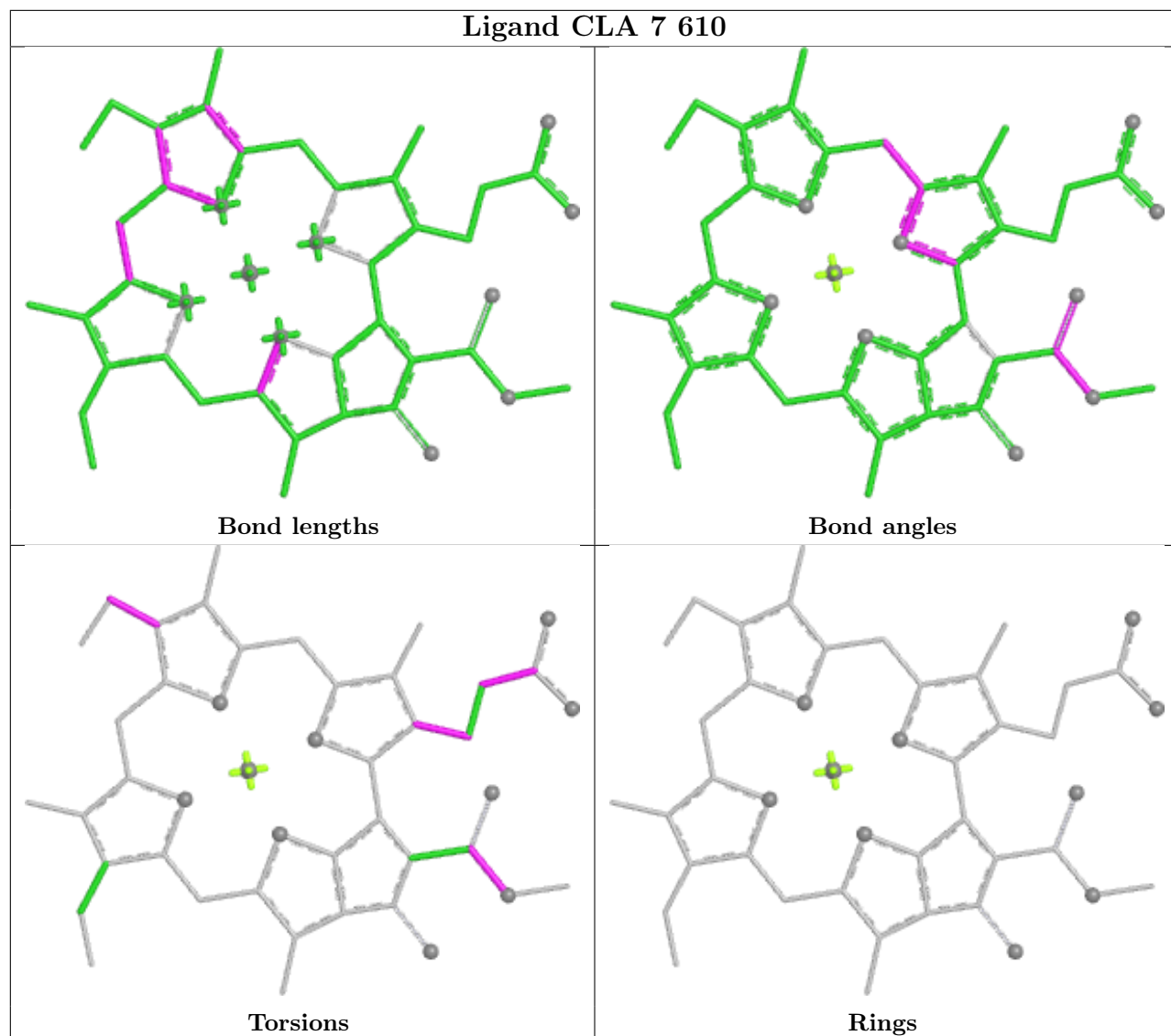
Ligand CLA 1 317



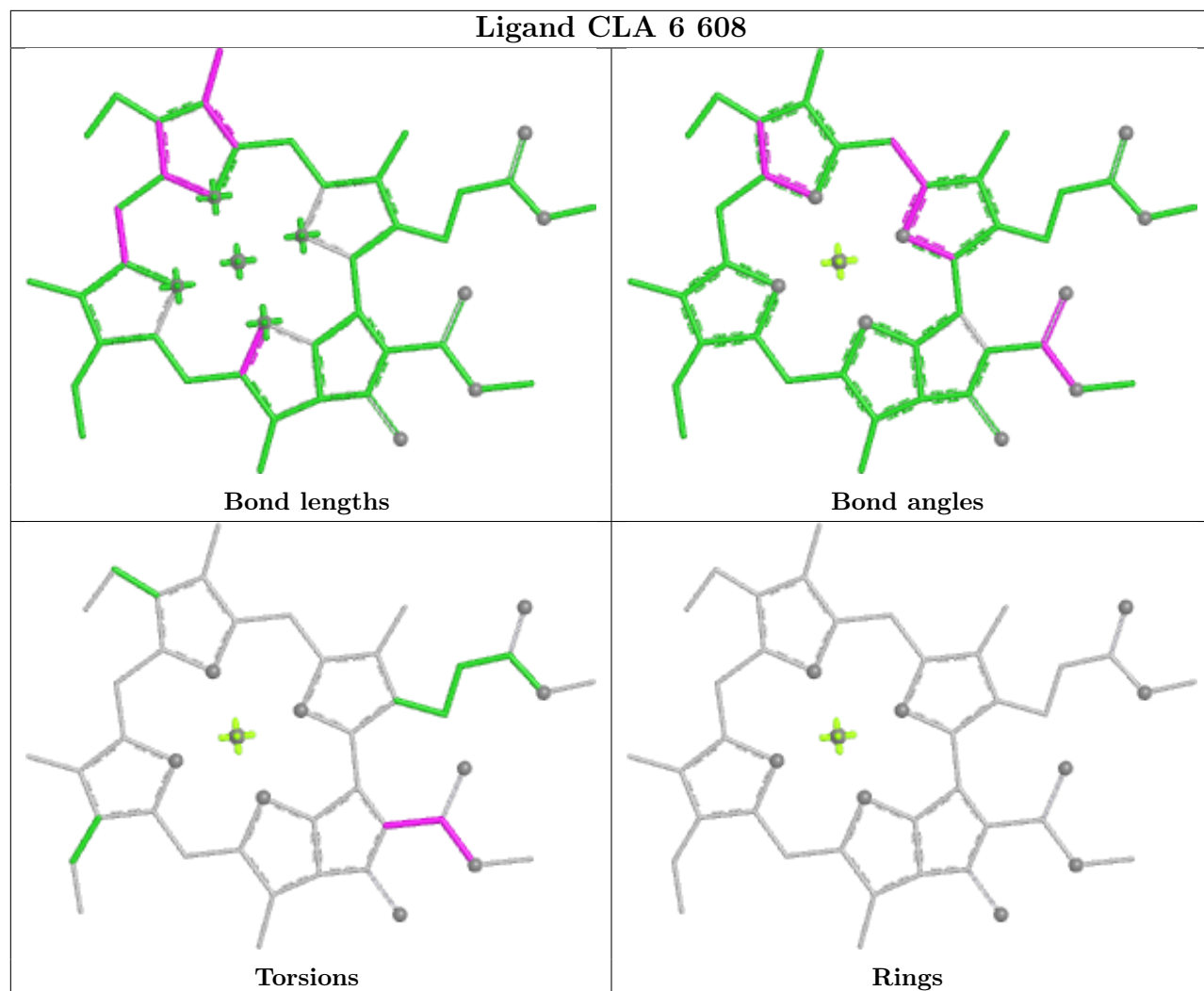
Ligand CLA A 821

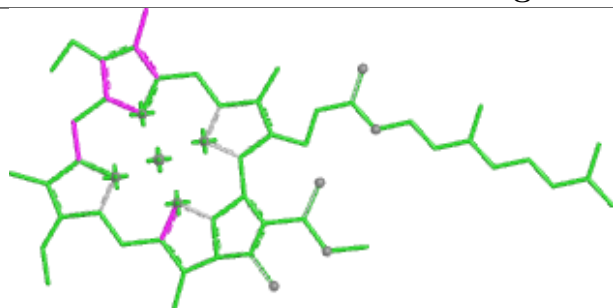


Ligand CLA 7 610

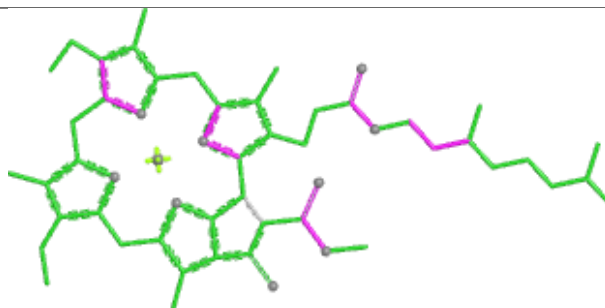


Ligand CLA 6 608

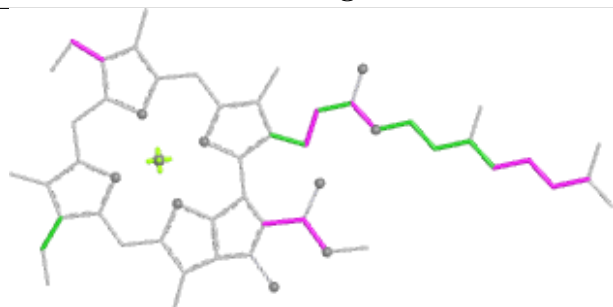


Ligand CLA A 822

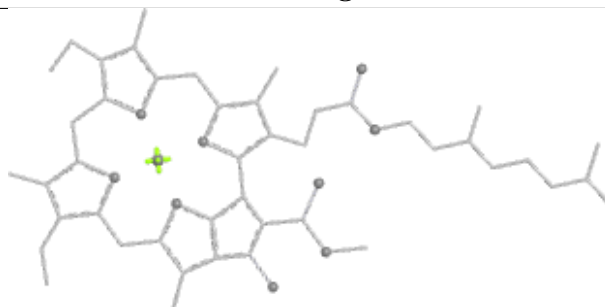
Bond lengths



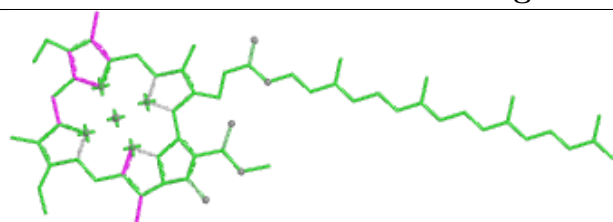
Bond angles



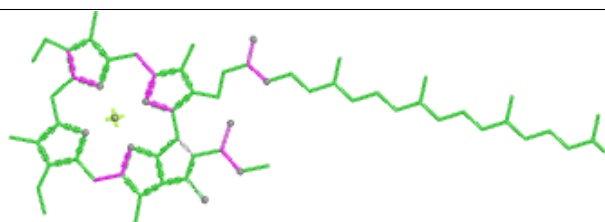
Torsions



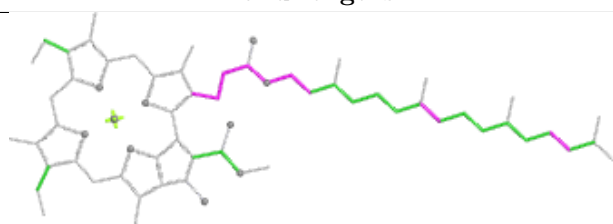
Rings

Ligand CLA A 804

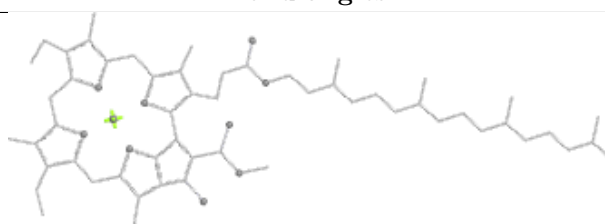
Bond lengths



Bond angles

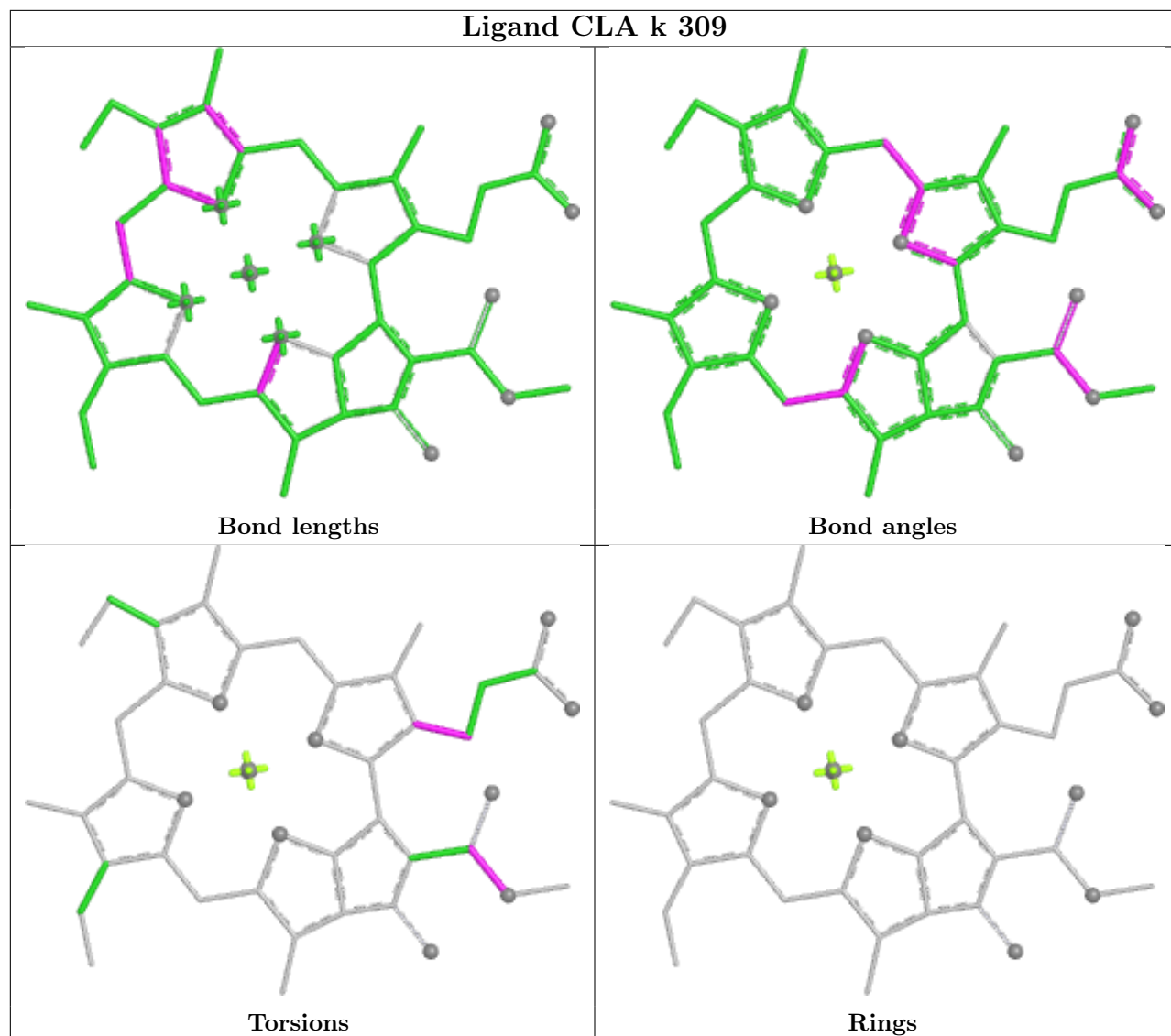


Torsions

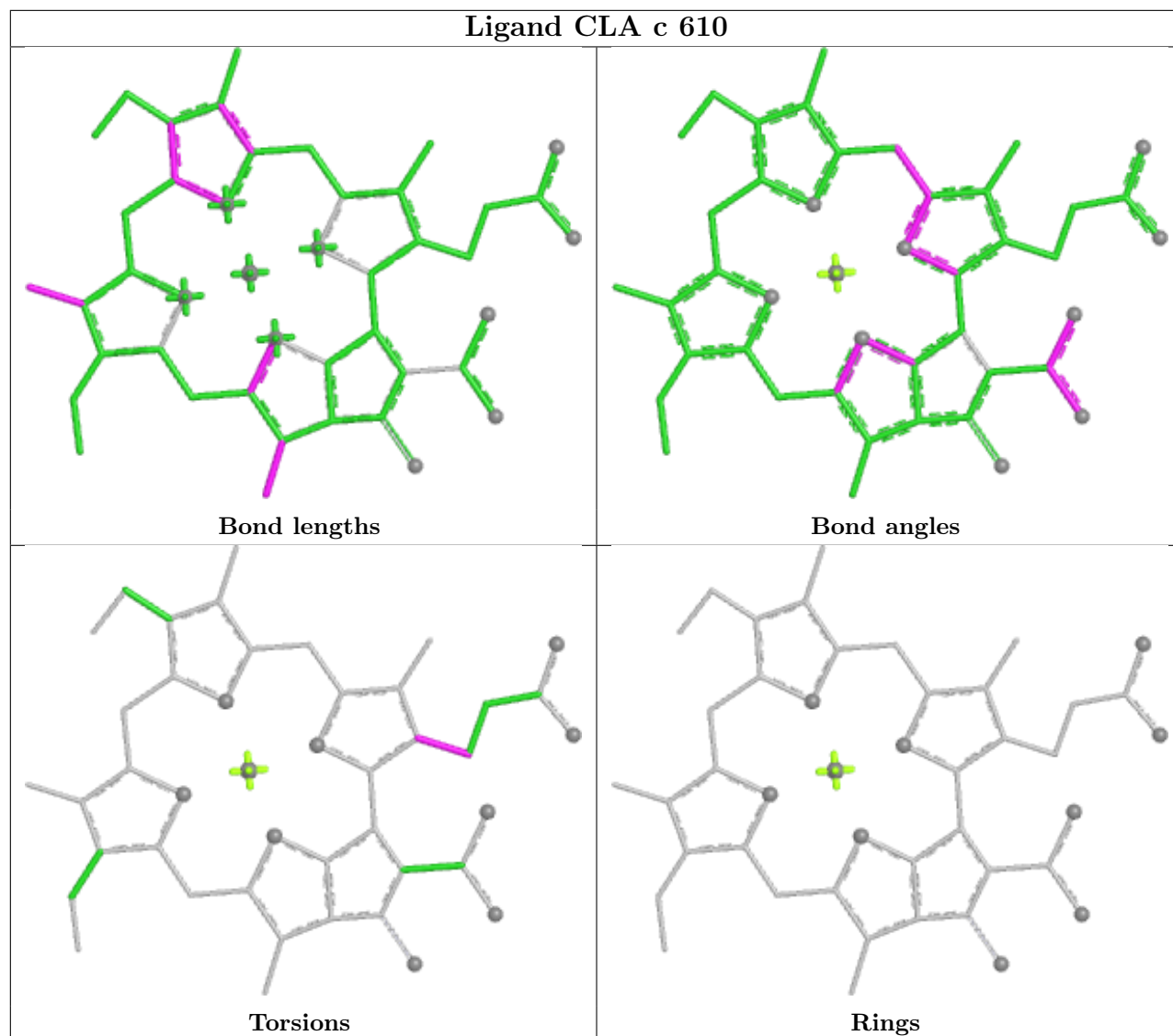


Rings

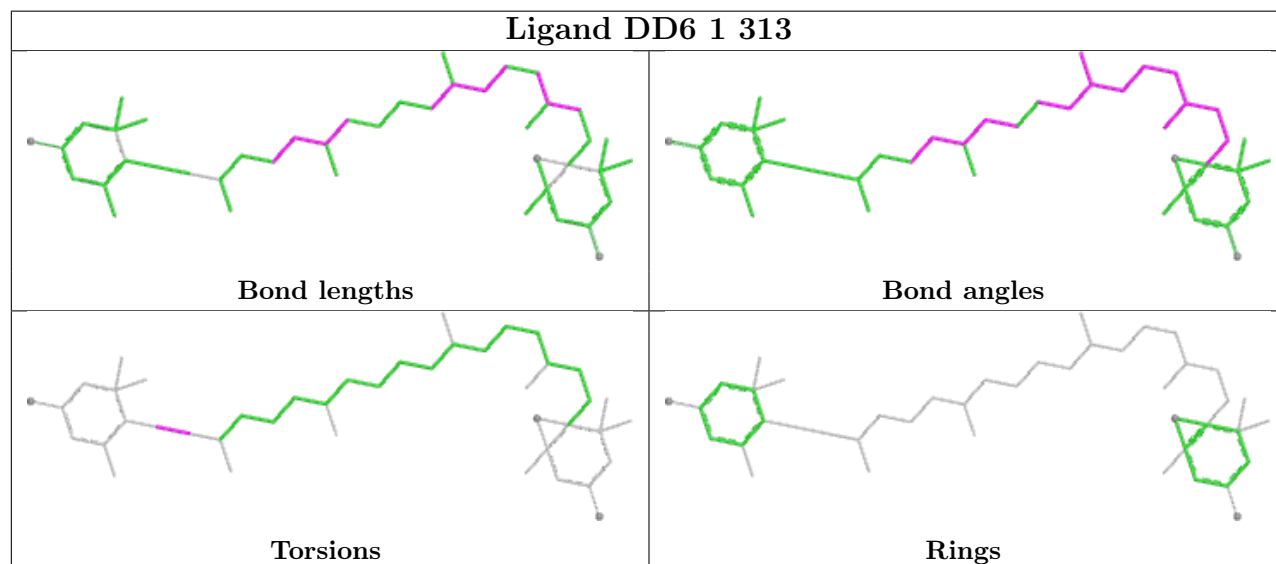
Ligand CLA k 309

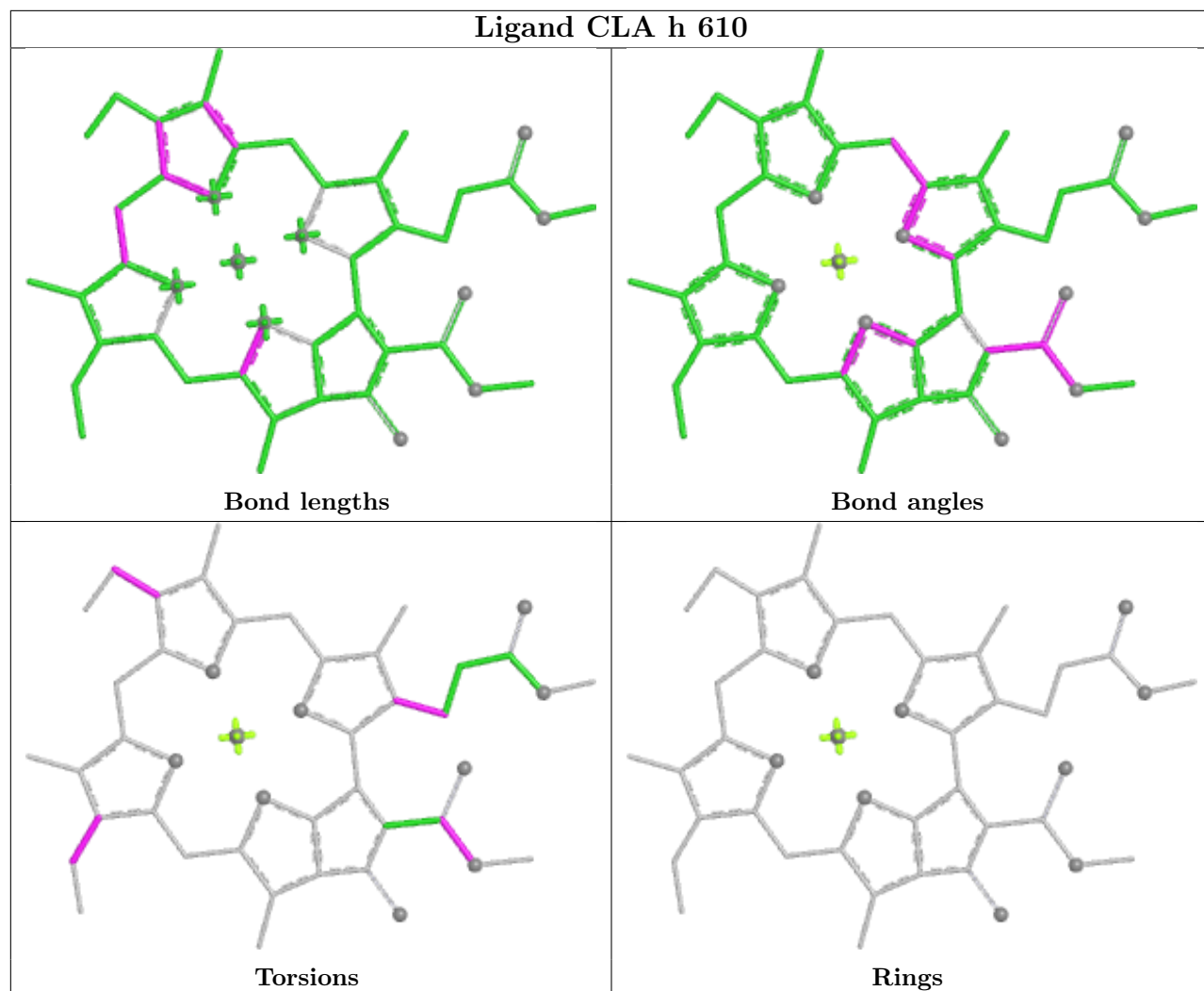


Ligand CLA c 610

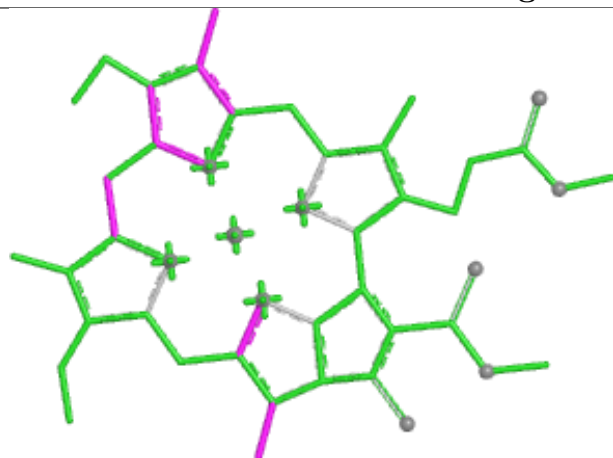


Ligand DD6 1 313

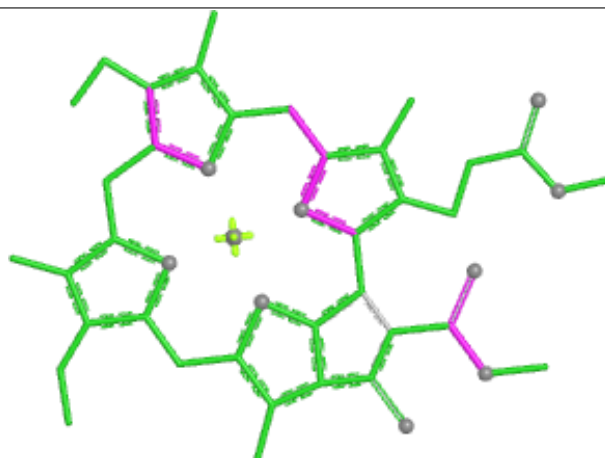




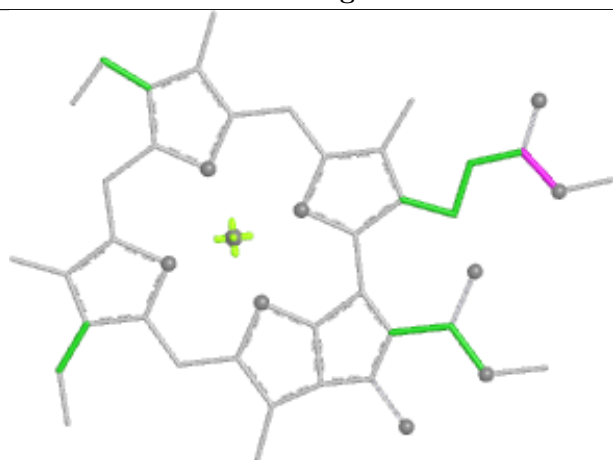
Ligand CLA 4 603



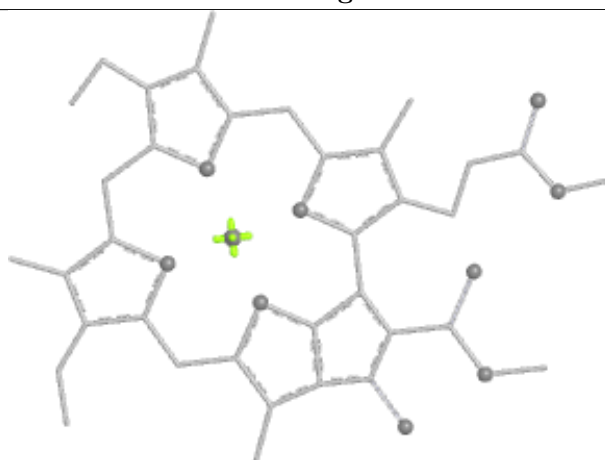
Bond lengths



Bond angles

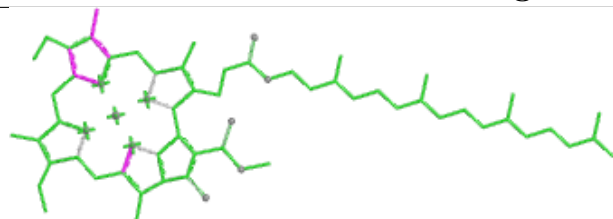


Torsions

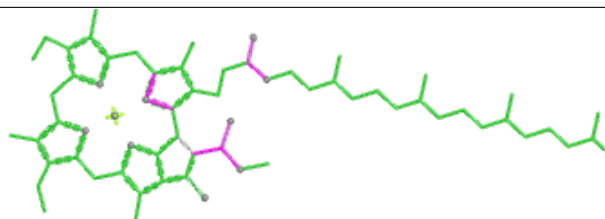


Rings

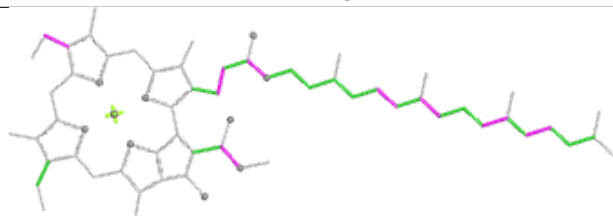
Ligand CLA A 836



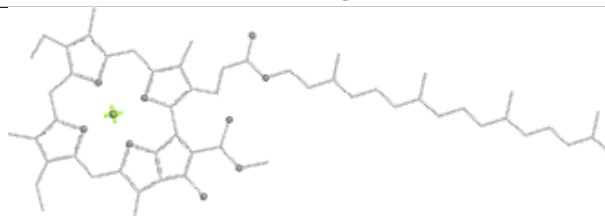
Bond lengths



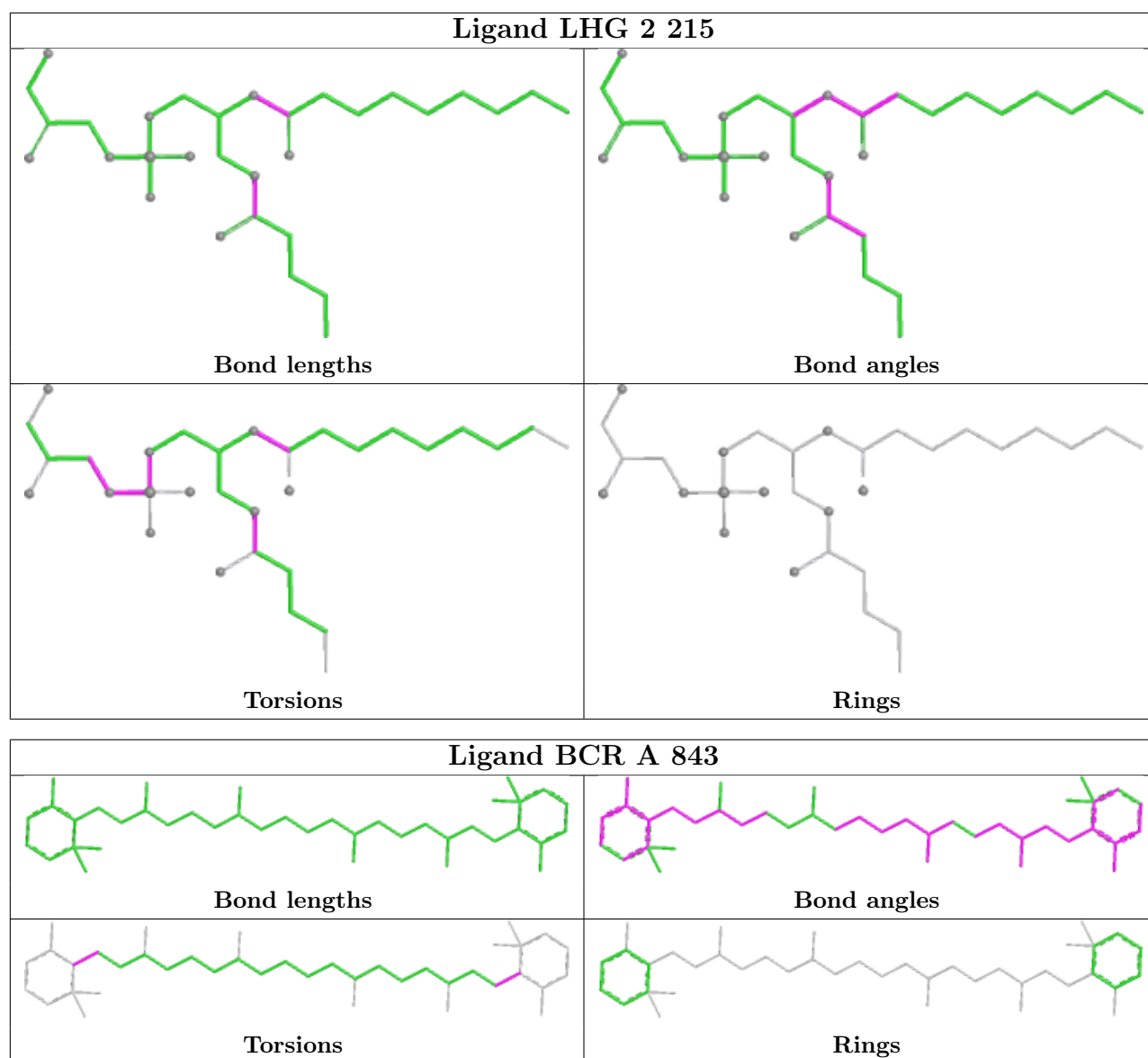
Bond angles

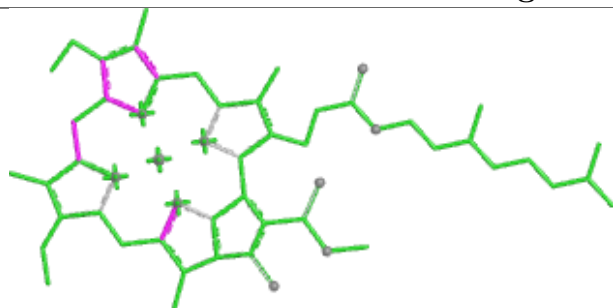


Torsions

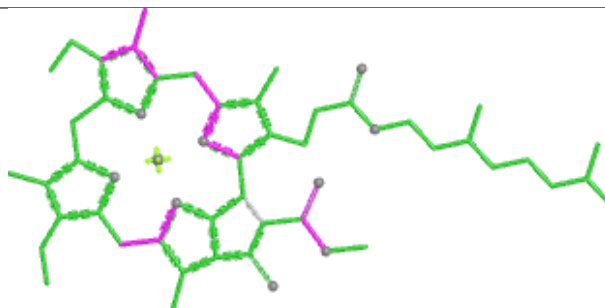


Rings

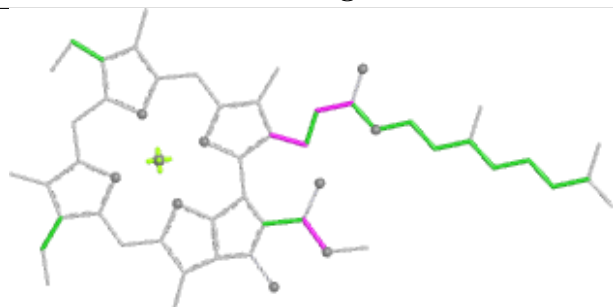


Ligand CLA k 311

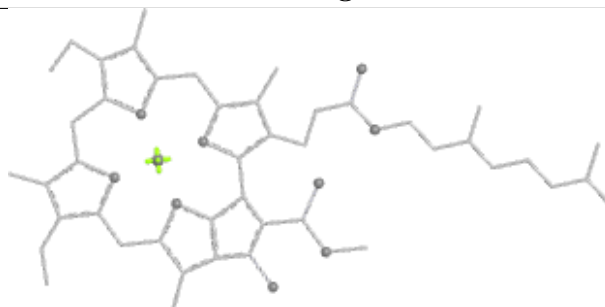
Bond lengths



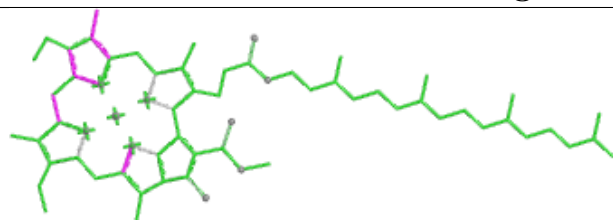
Bond angles



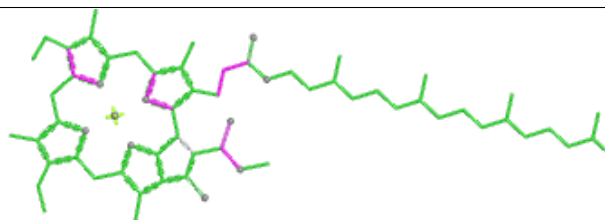
Torsions



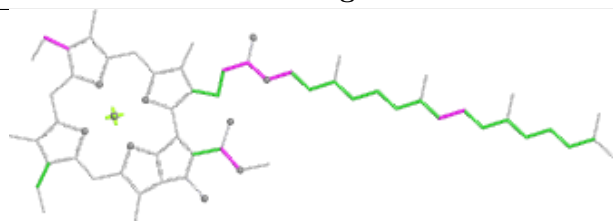
Rings

Ligand CLA A 808

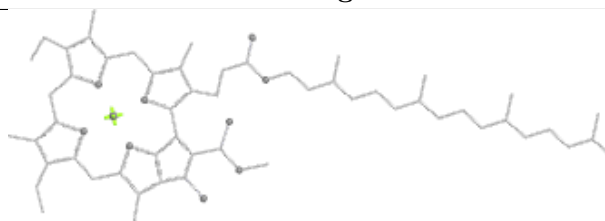
Bond lengths



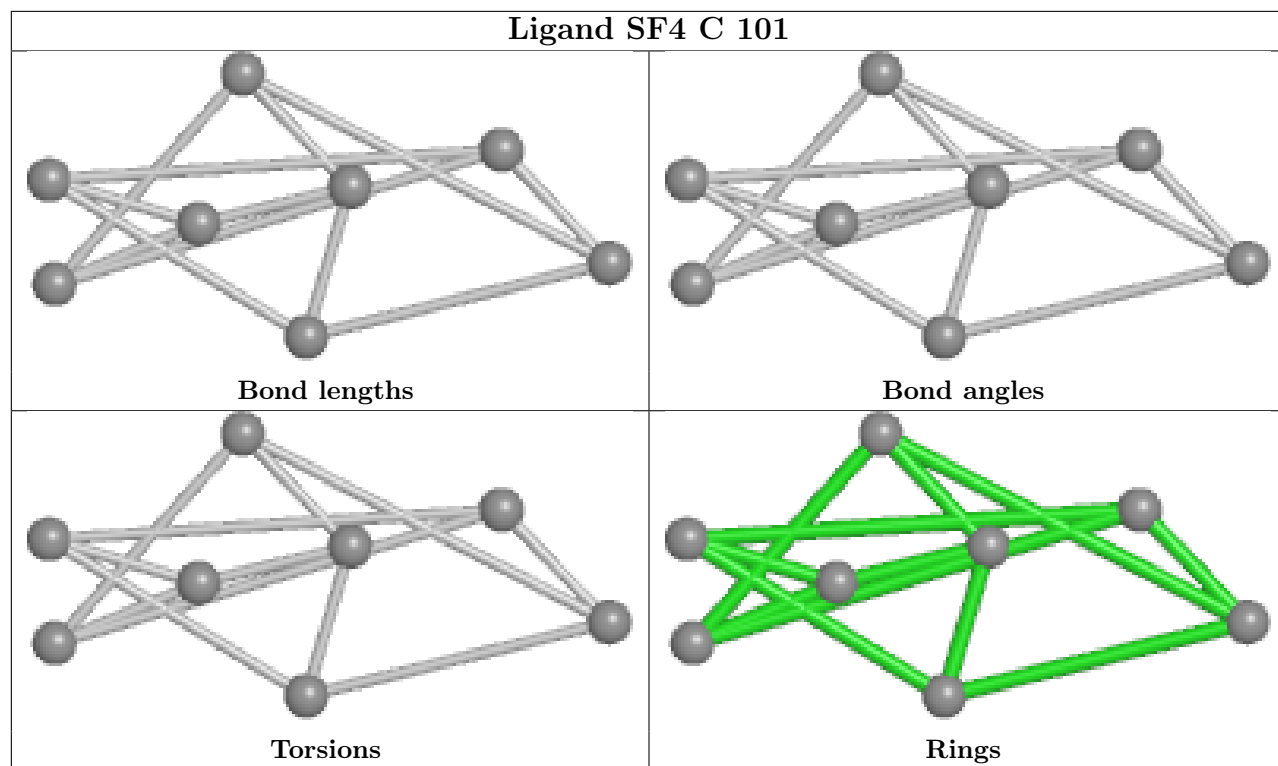
Bond angles



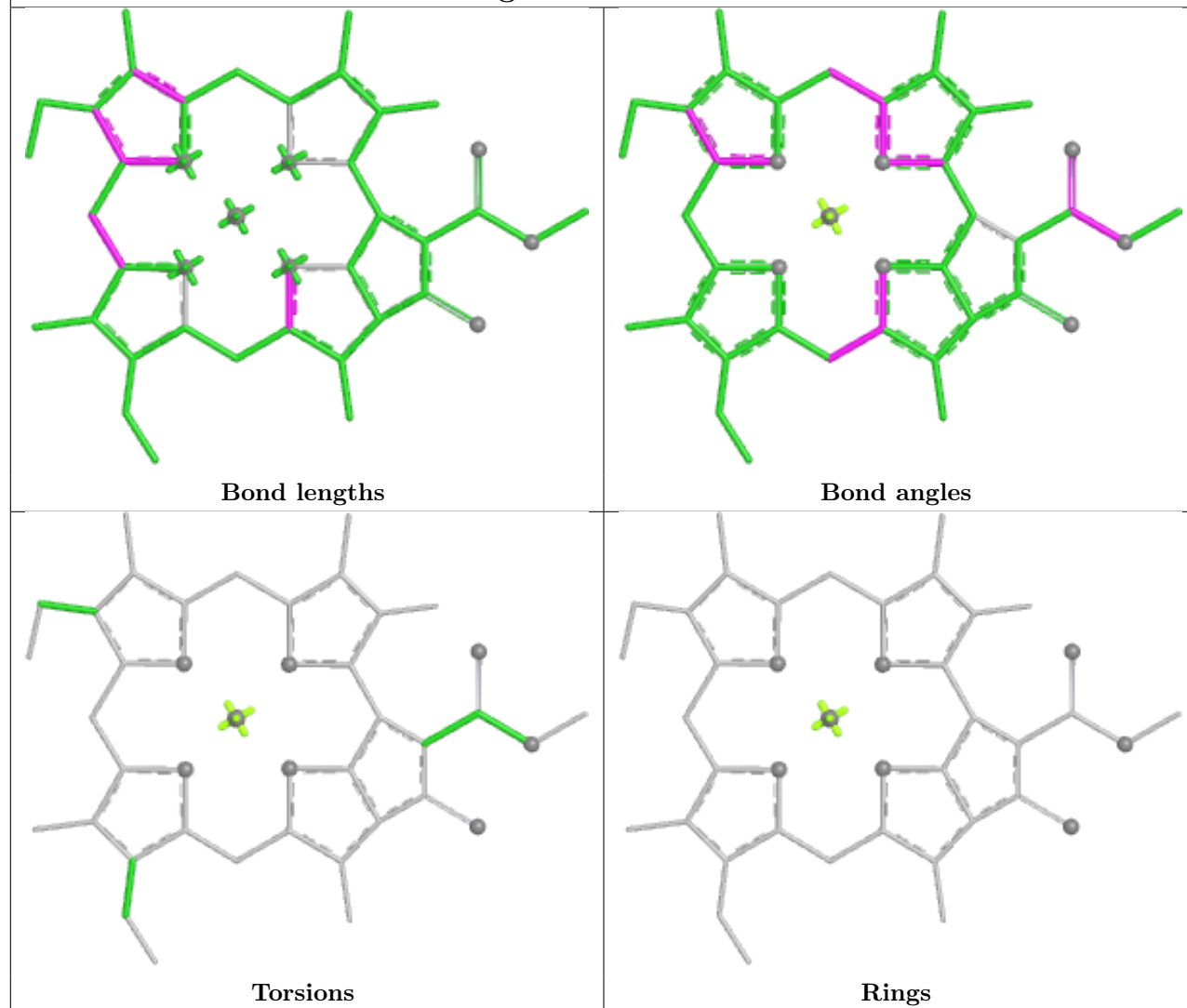
Torsions



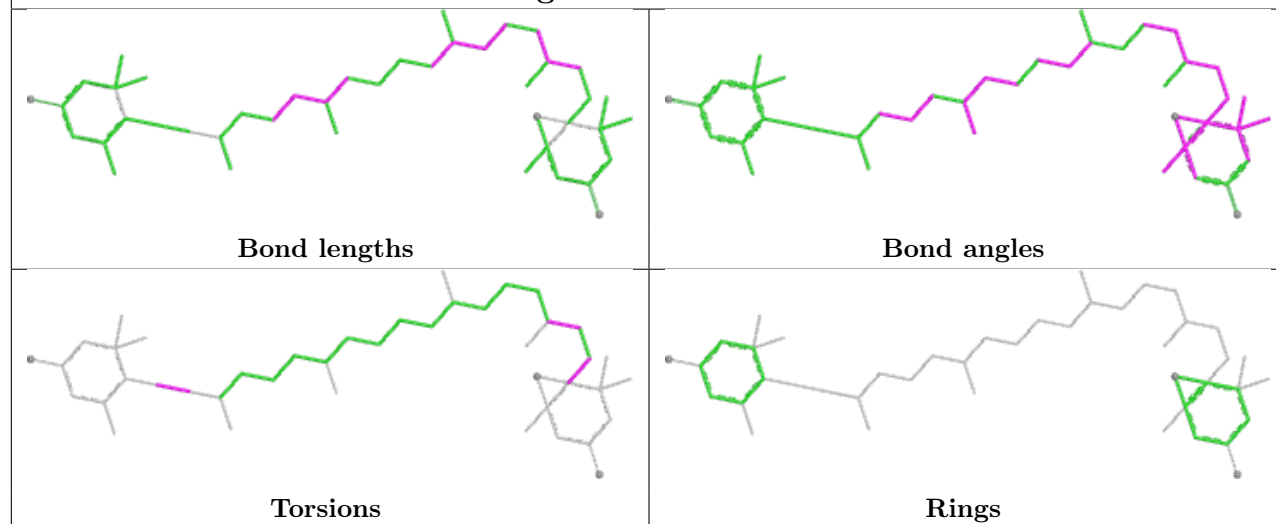
Rings

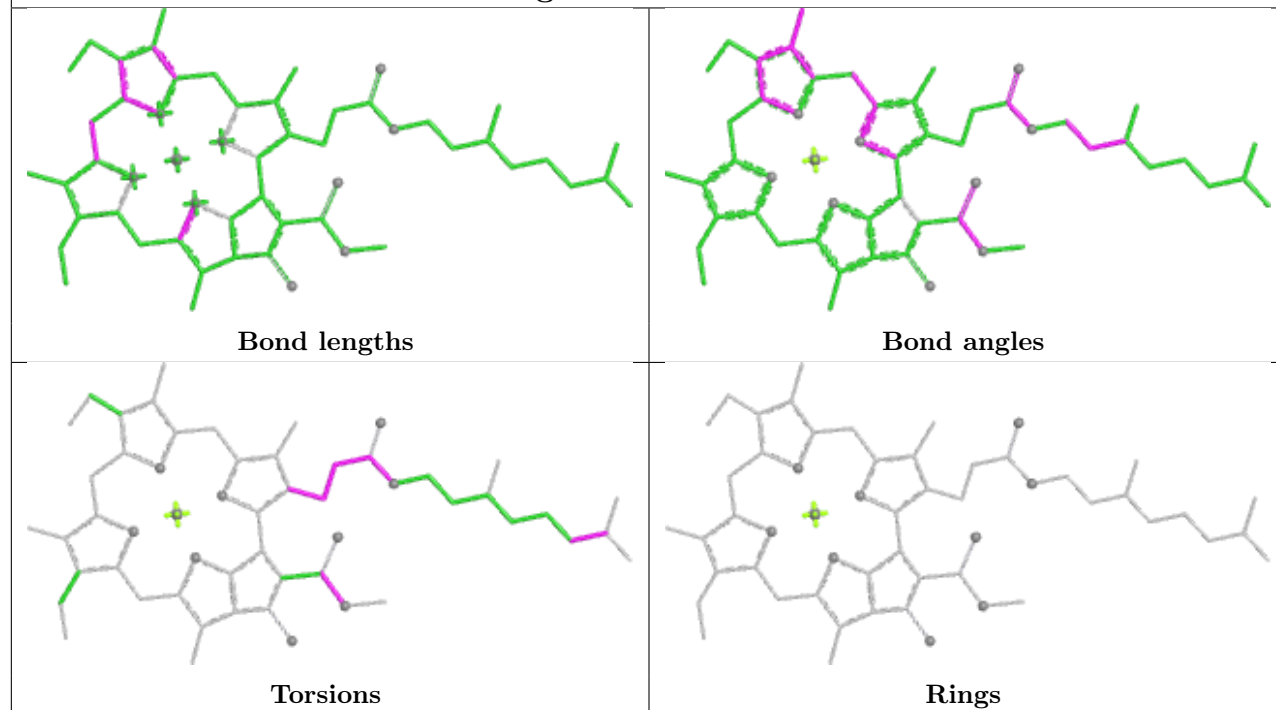
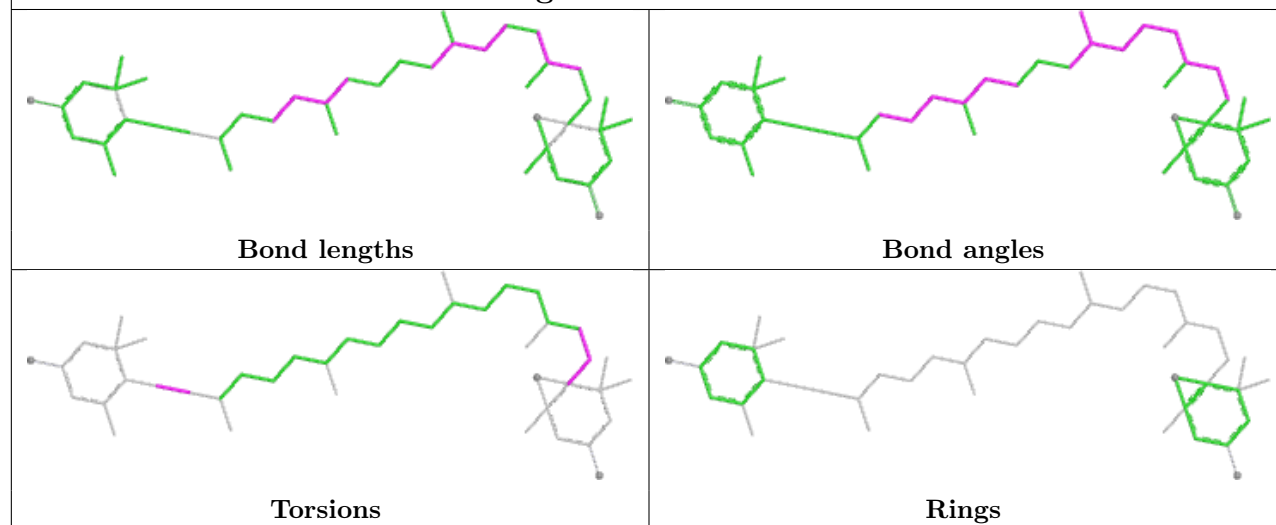


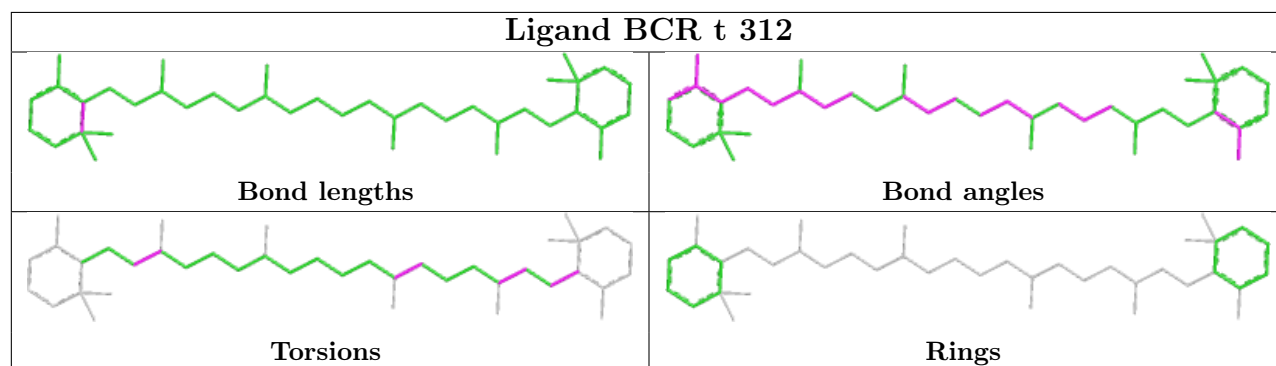
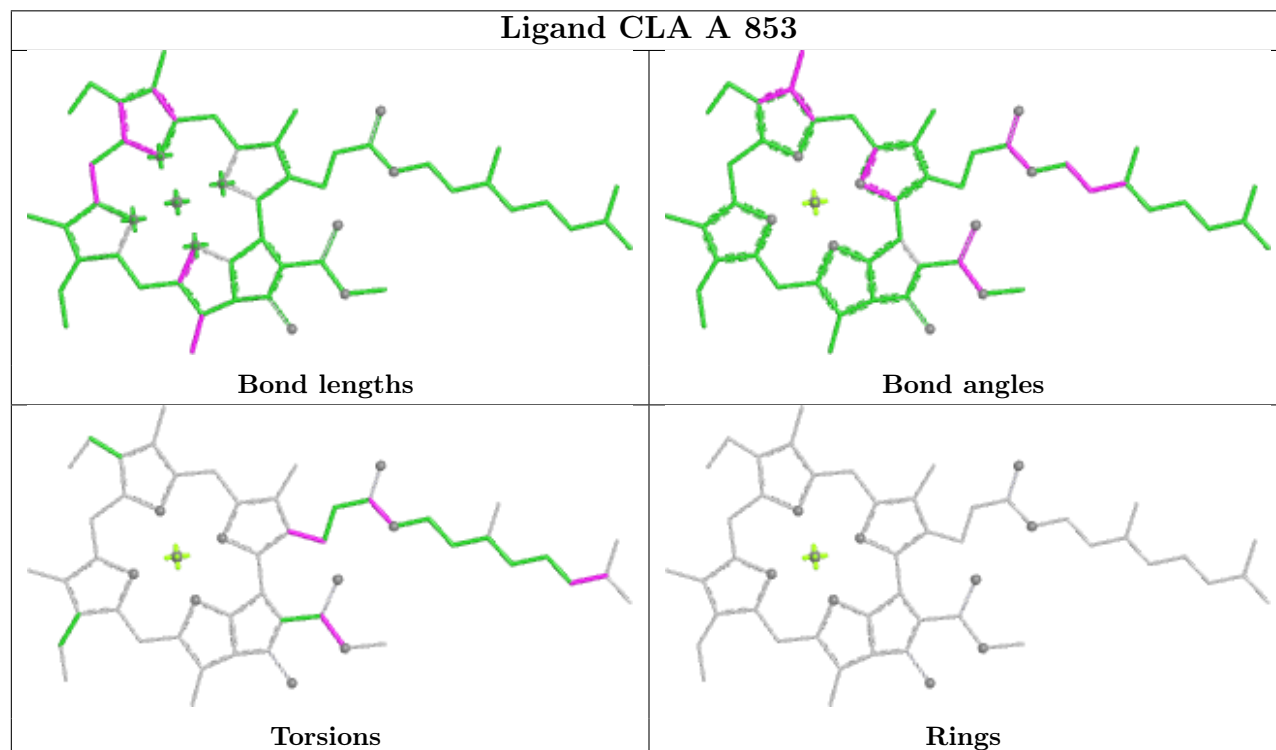
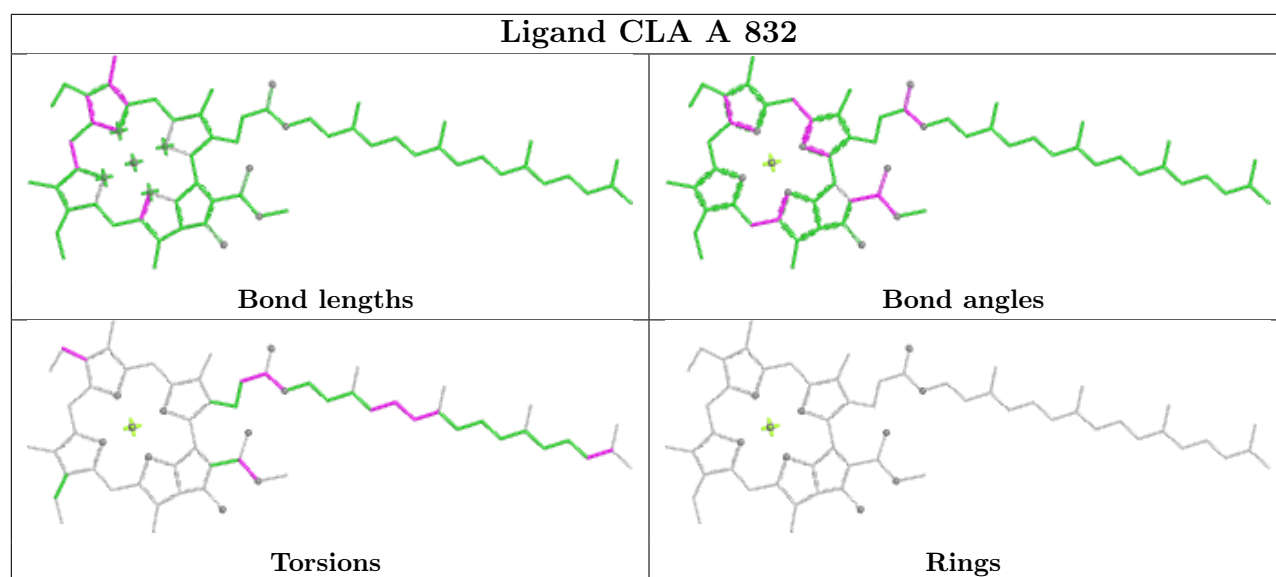
Ligand CLA 3 309



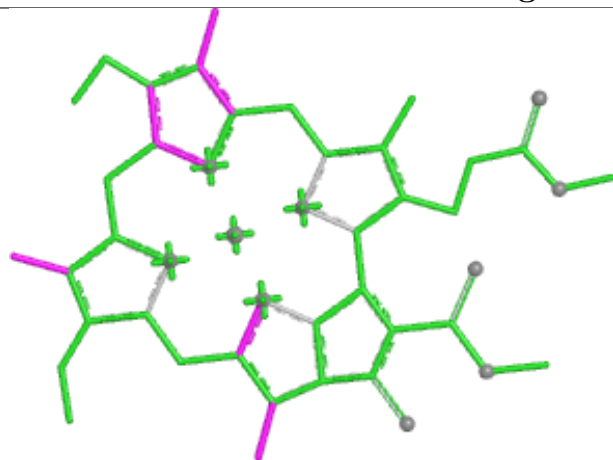
Ligand DD6 6 616



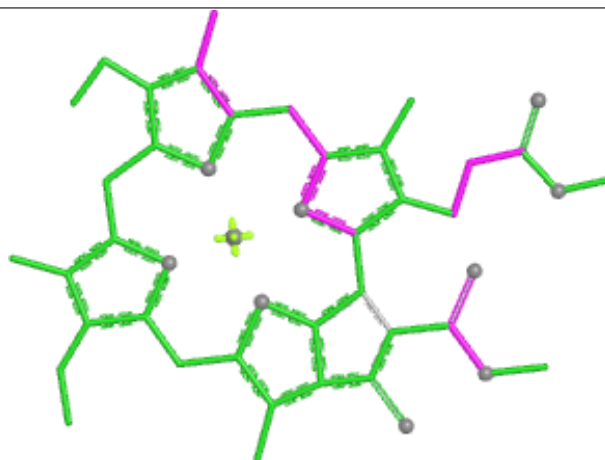
Ligand CLA 5 602**Ligand DD6 h 615**



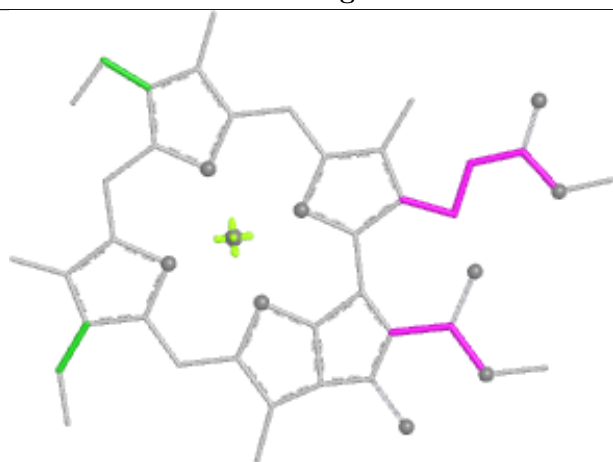
Ligand CLA 9 305



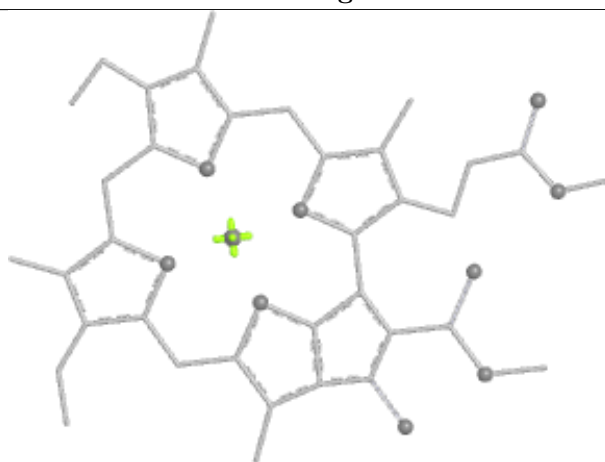
Bond lengths



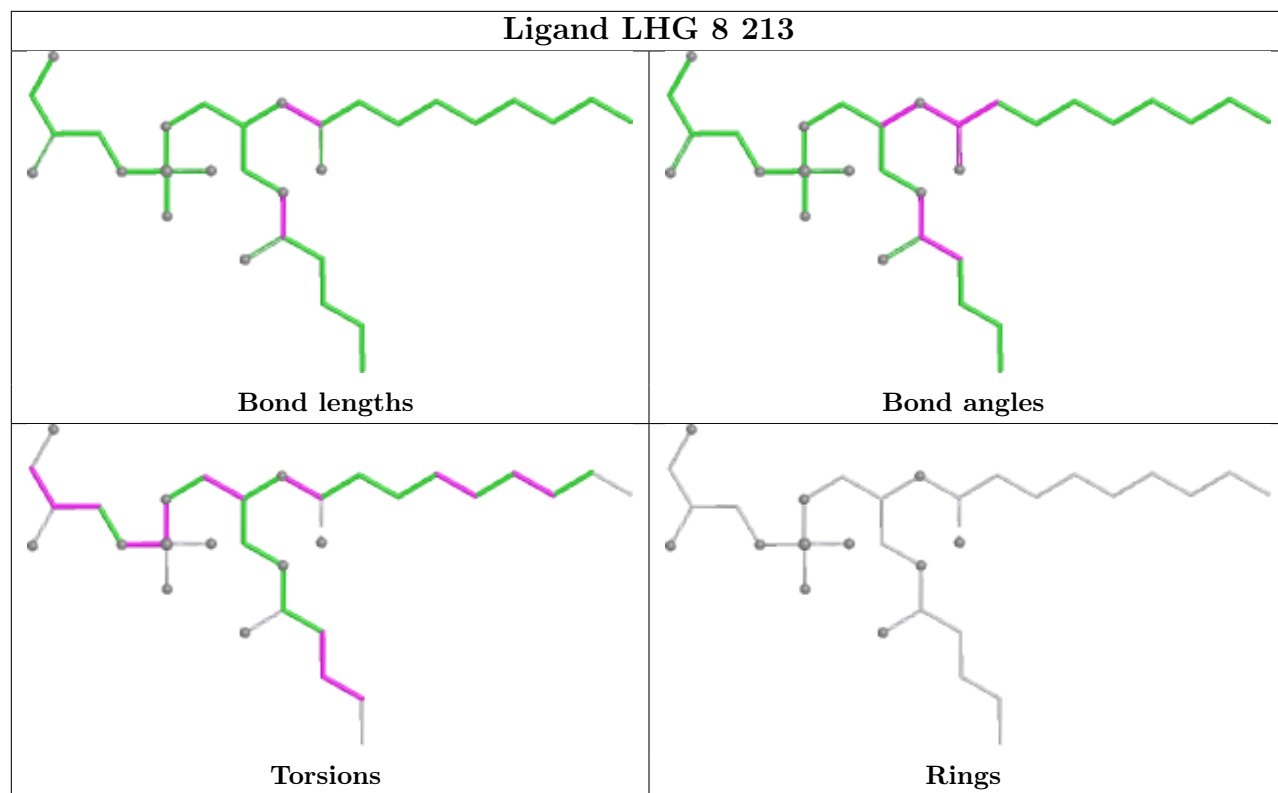
Bond angles



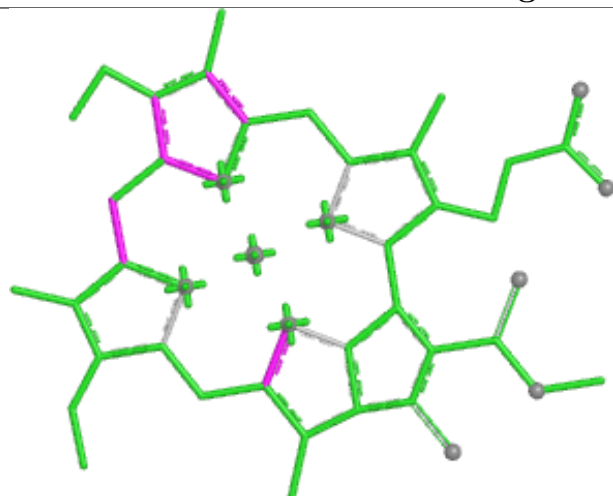
Torsions



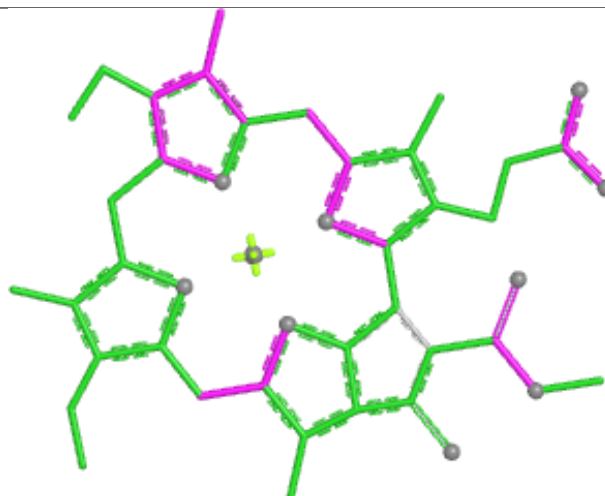
Rings



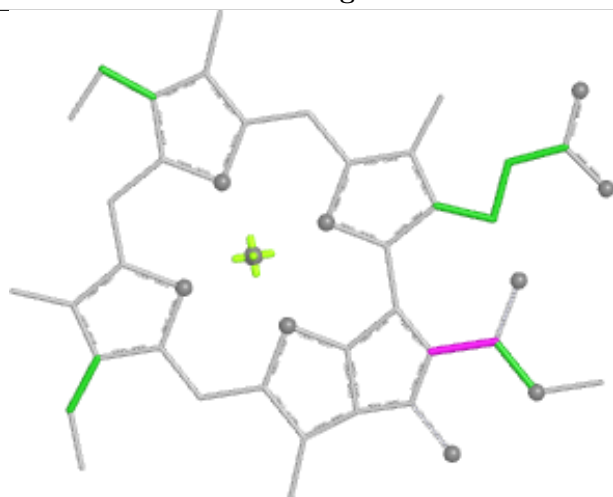
Ligand CLA 7 607



Bond lengths



Bond angles

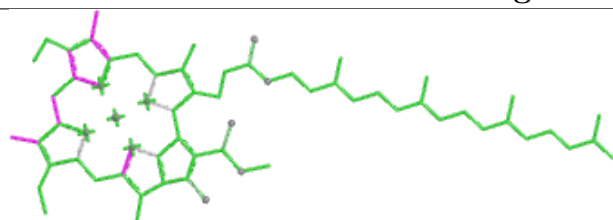


Torsions

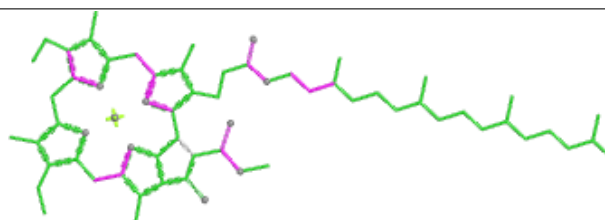


Rings

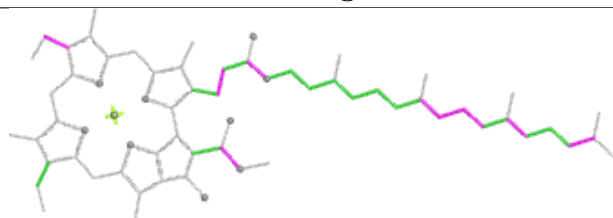
Ligand CLA A 812



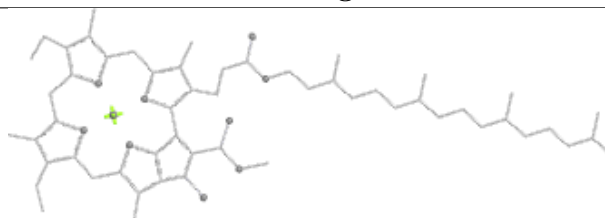
Bond lengths



Bond angles

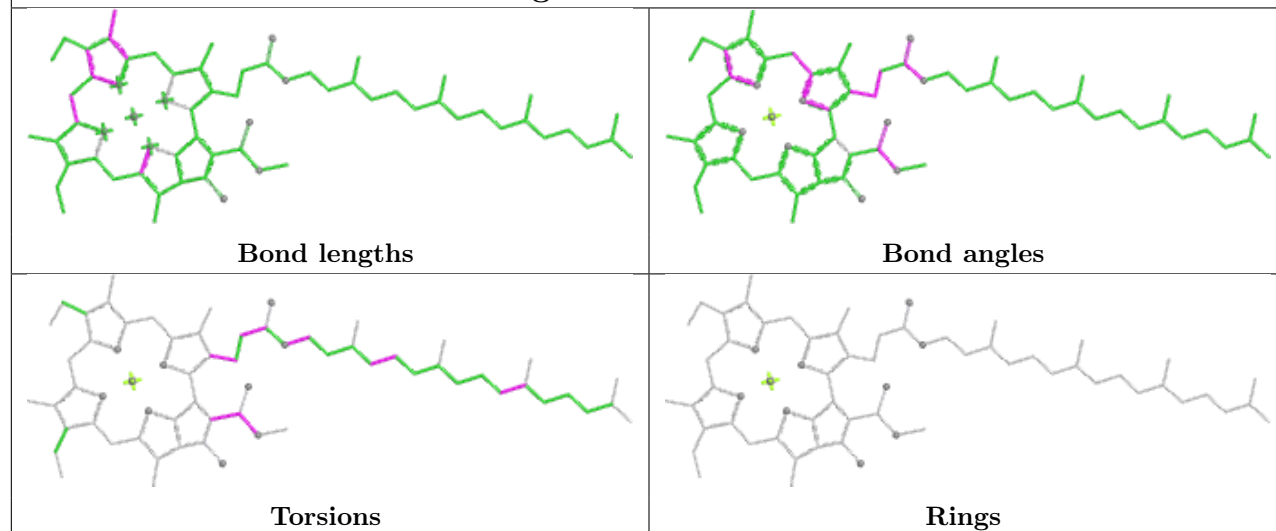


Torsions

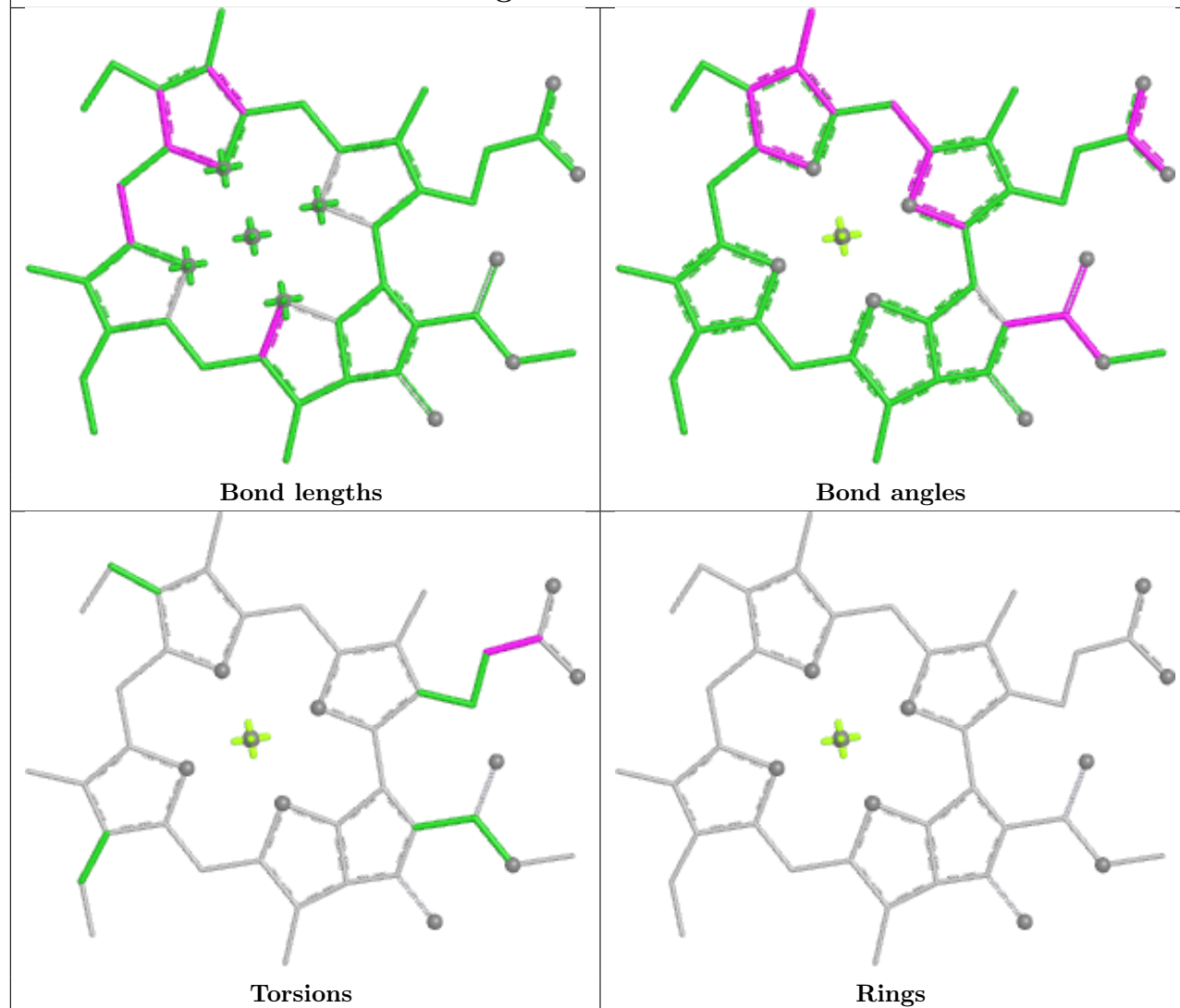


Rings

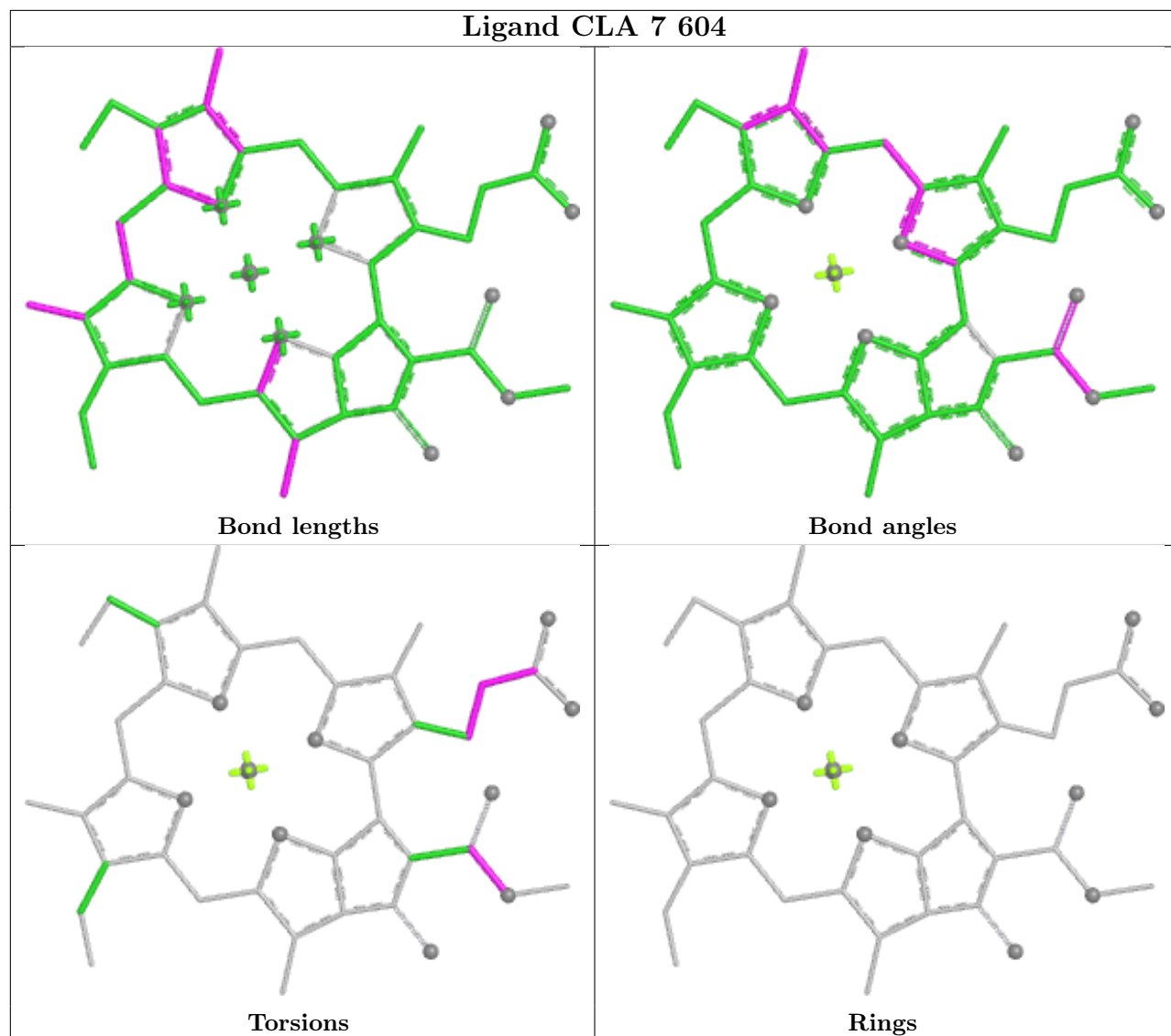
Ligand CLA B 809



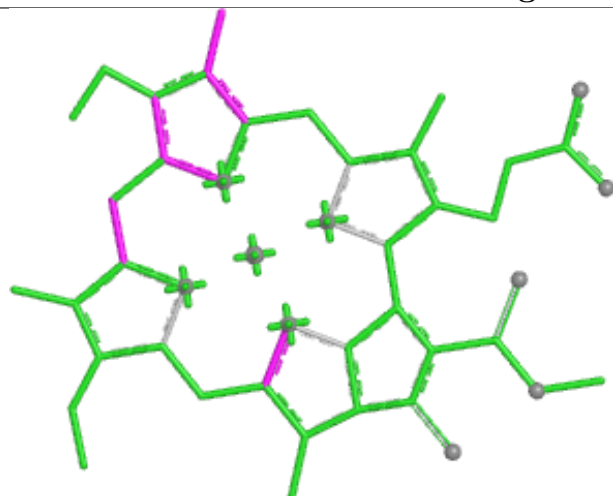
Ligand CLA 7 603



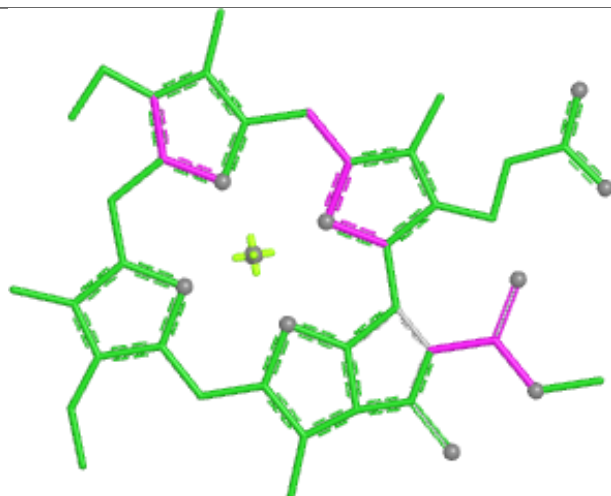
Ligand CLA 7 604



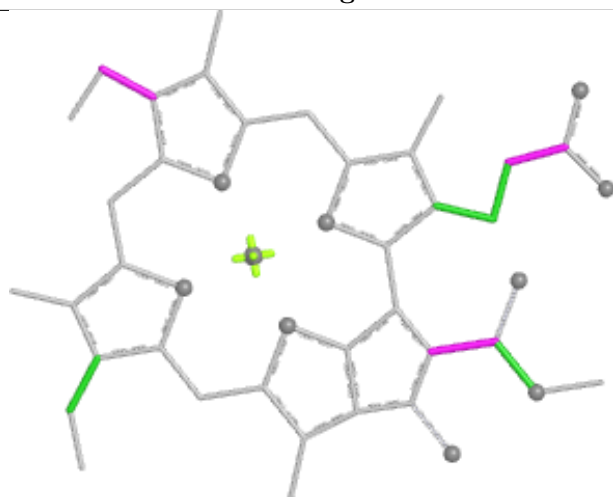
Ligand CLA 3 302



Bond lengths



Bond angles

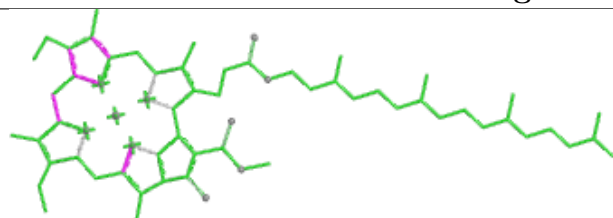


Torsions

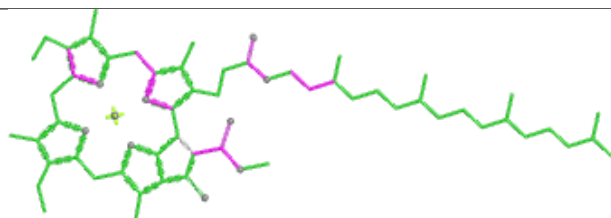


Rings

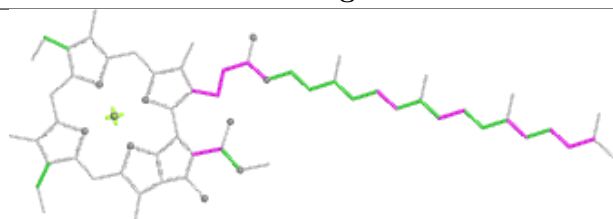
Ligand CLA A 807



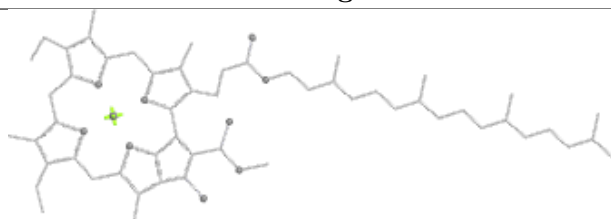
Bond lengths



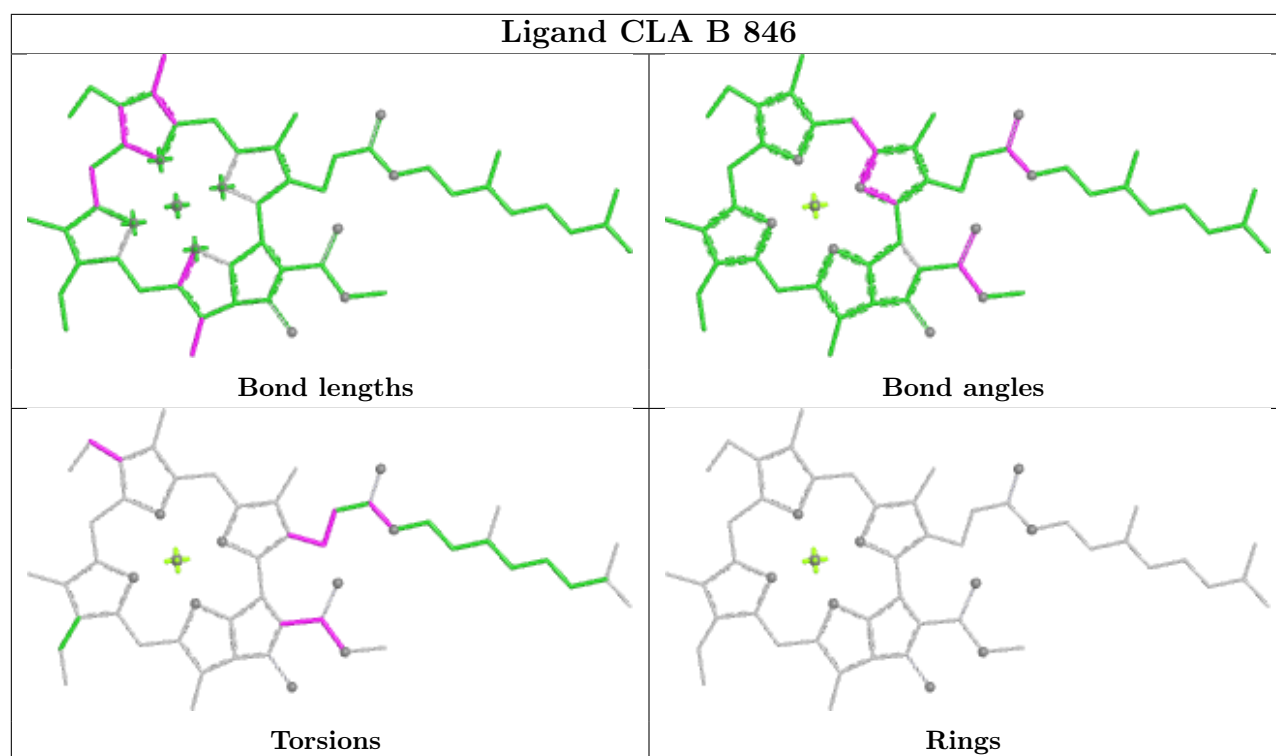
Bond angles



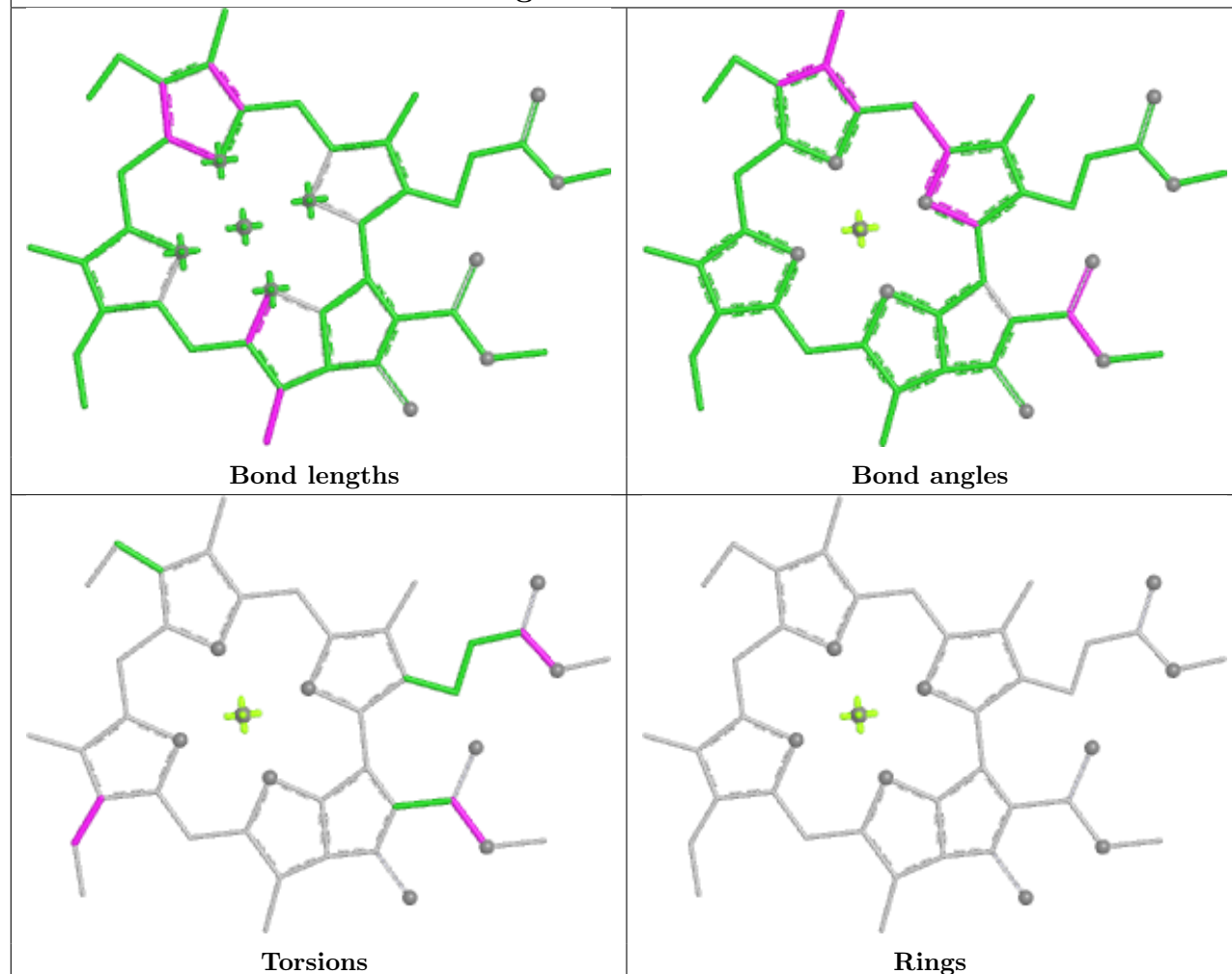
Torsions



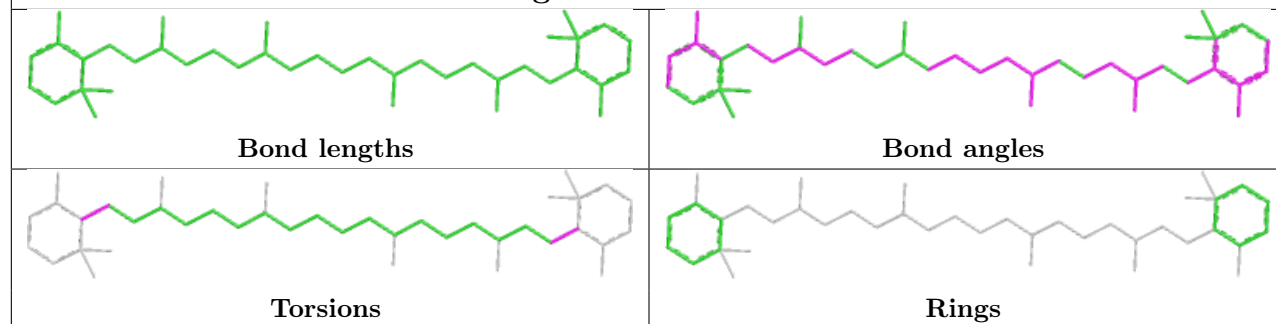
Rings



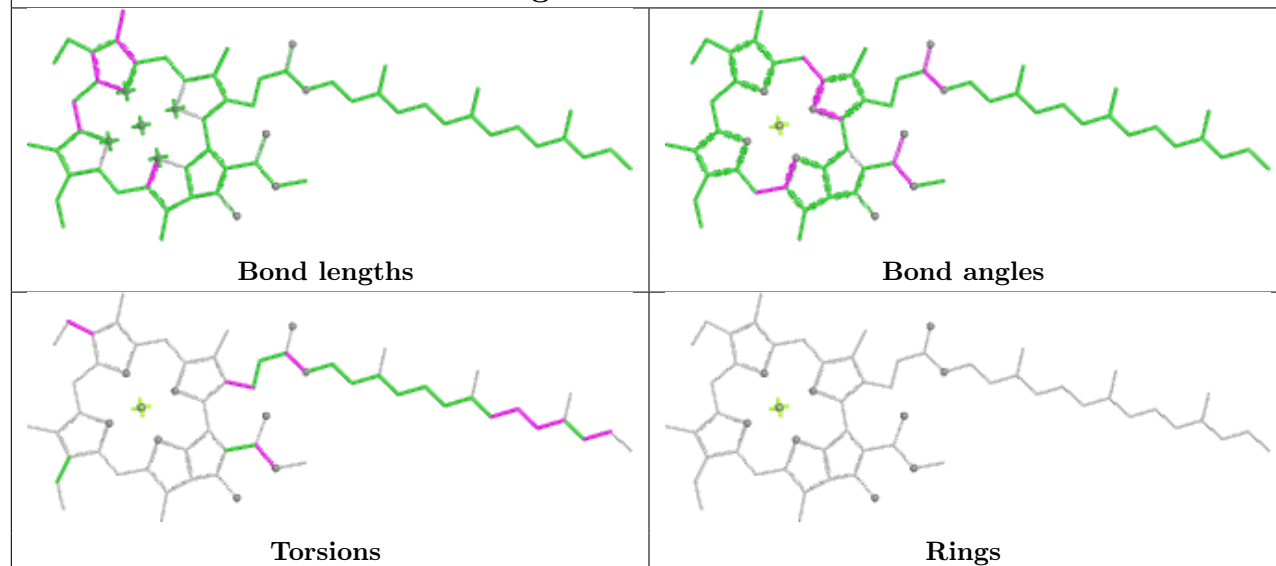
Ligand CLA L 205



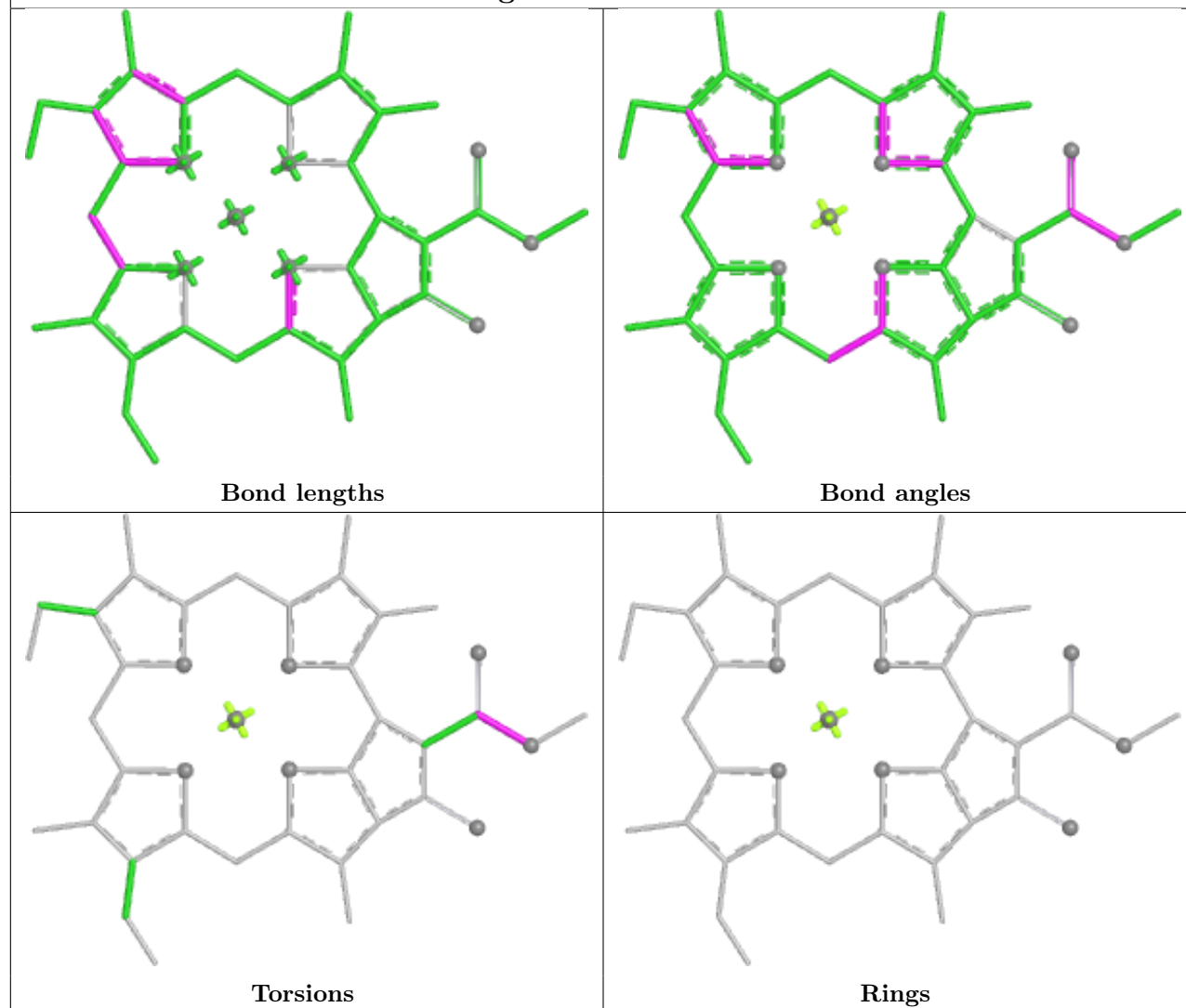
Ligand BCR L 206

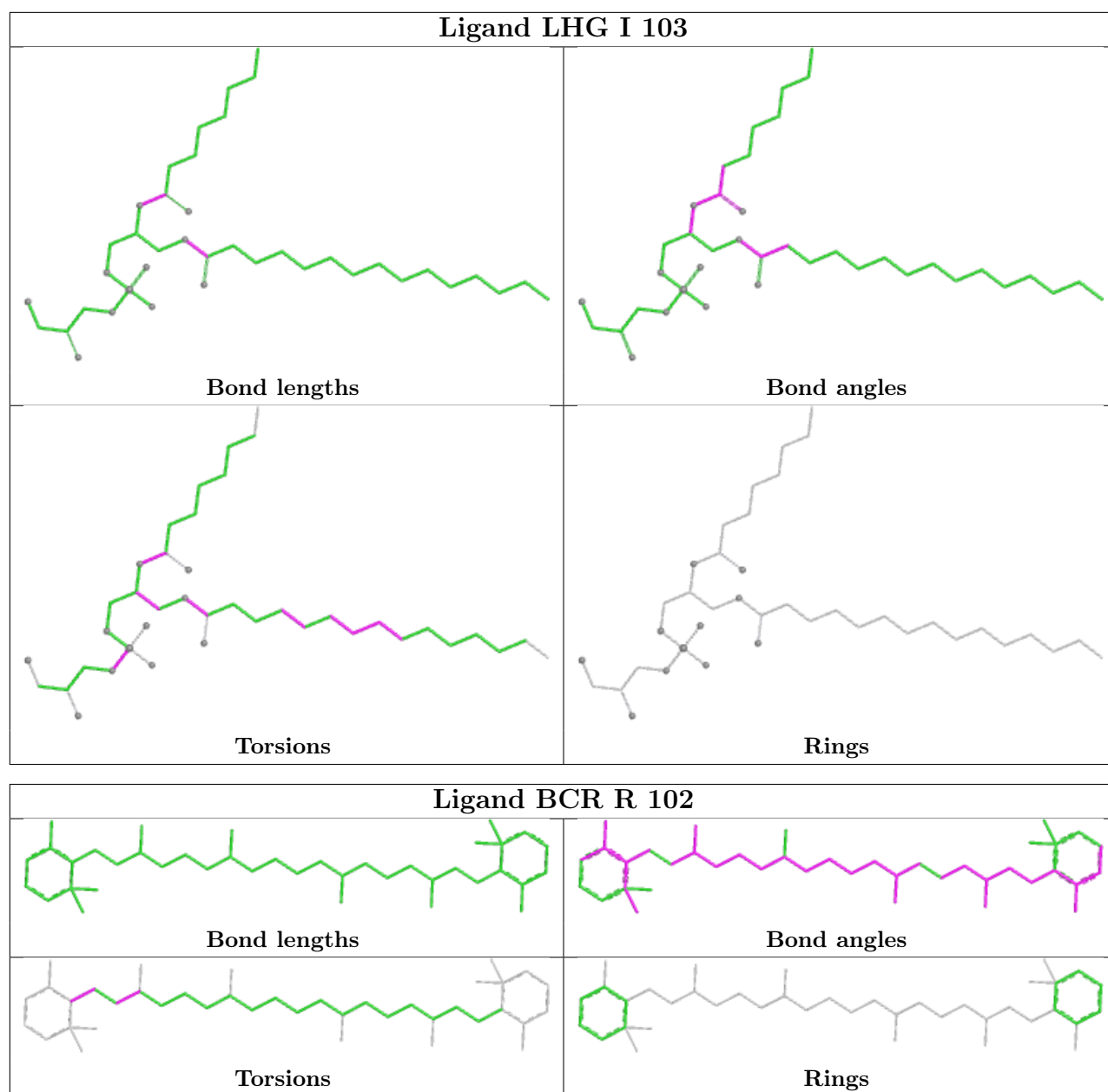


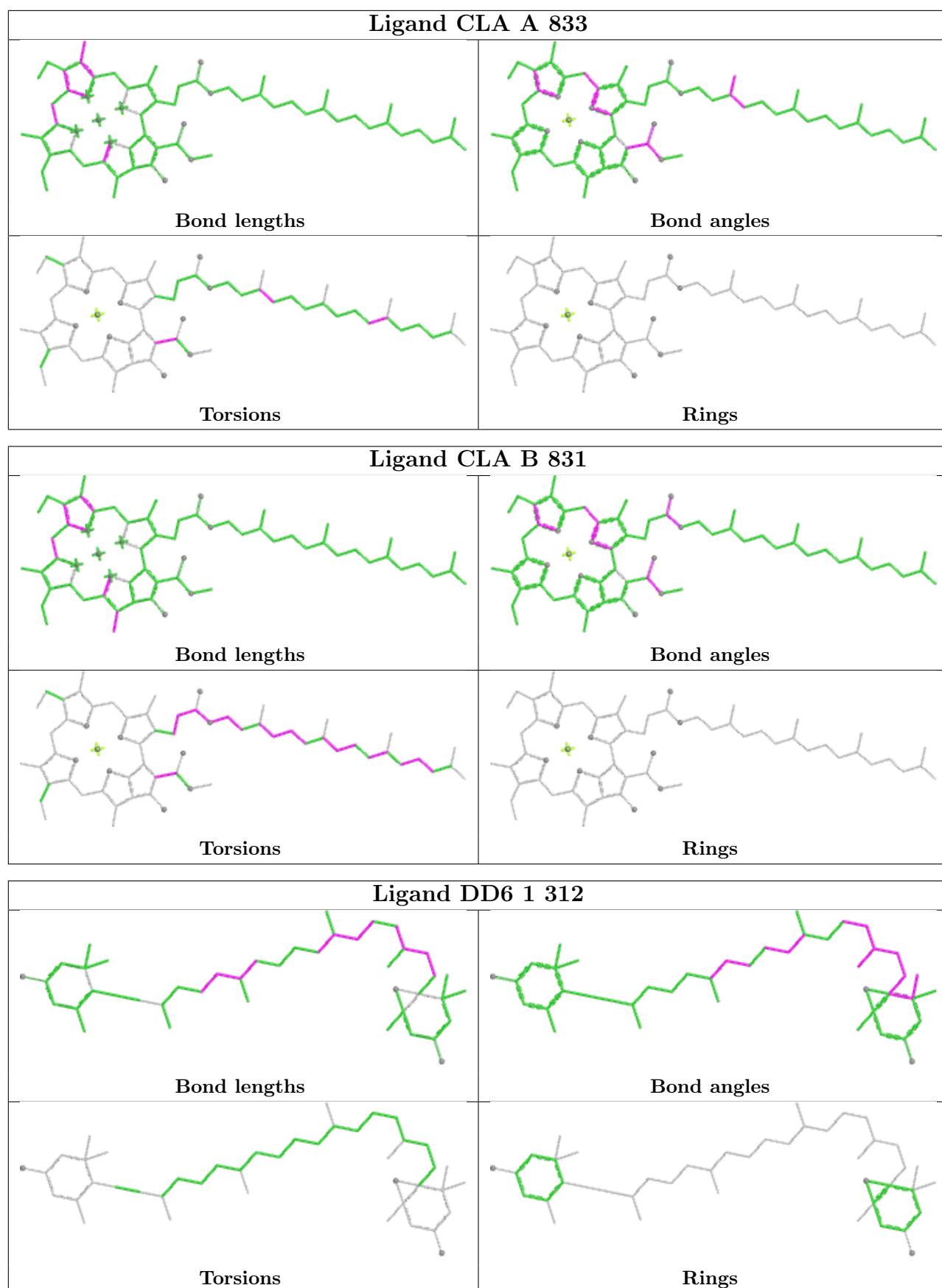
Ligand CLA A 810



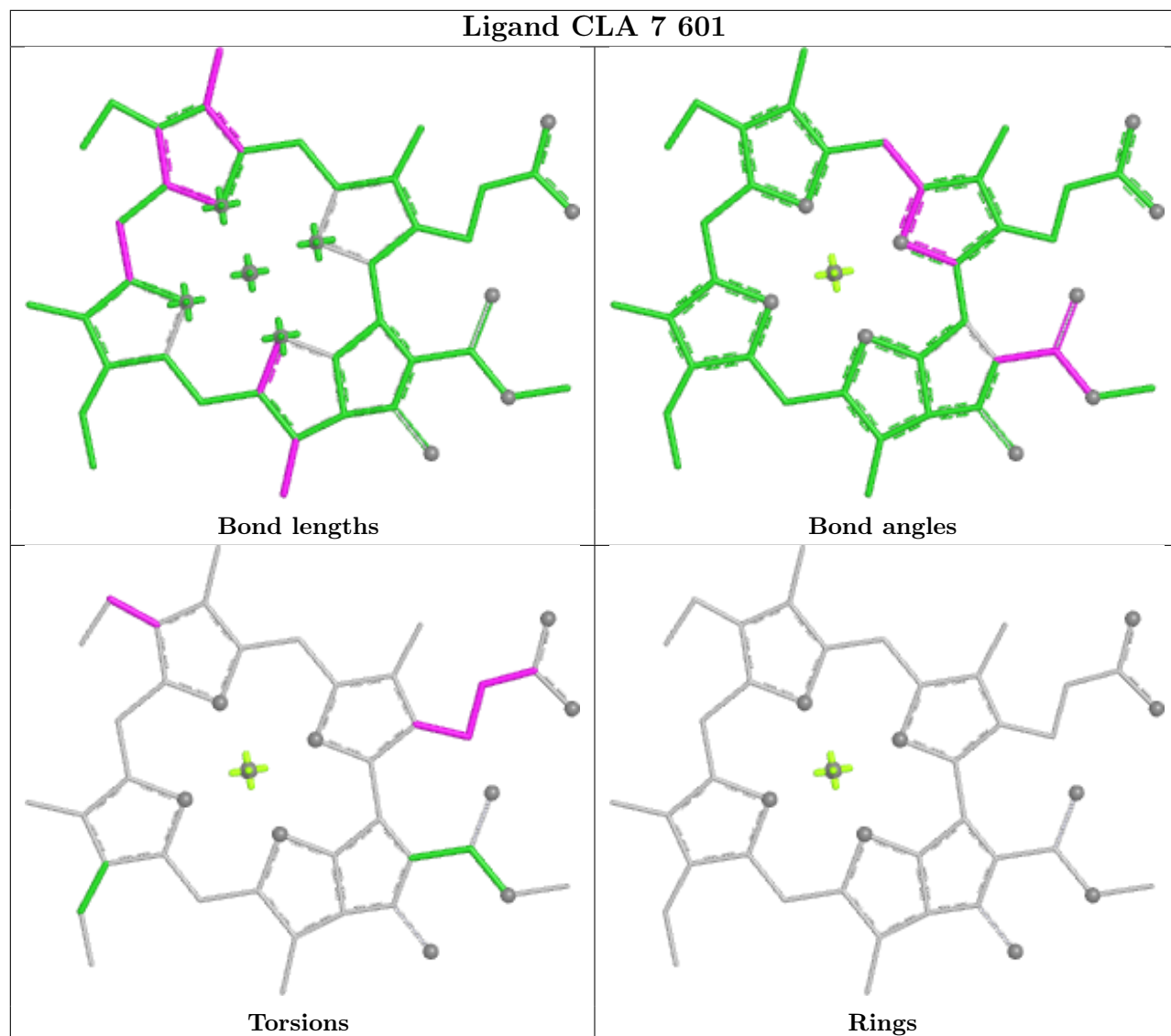
Ligand CLA 4 610



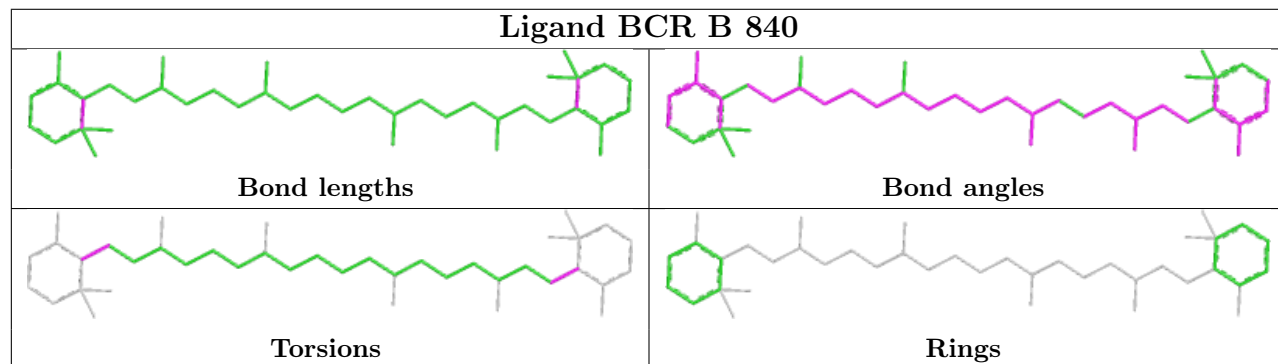


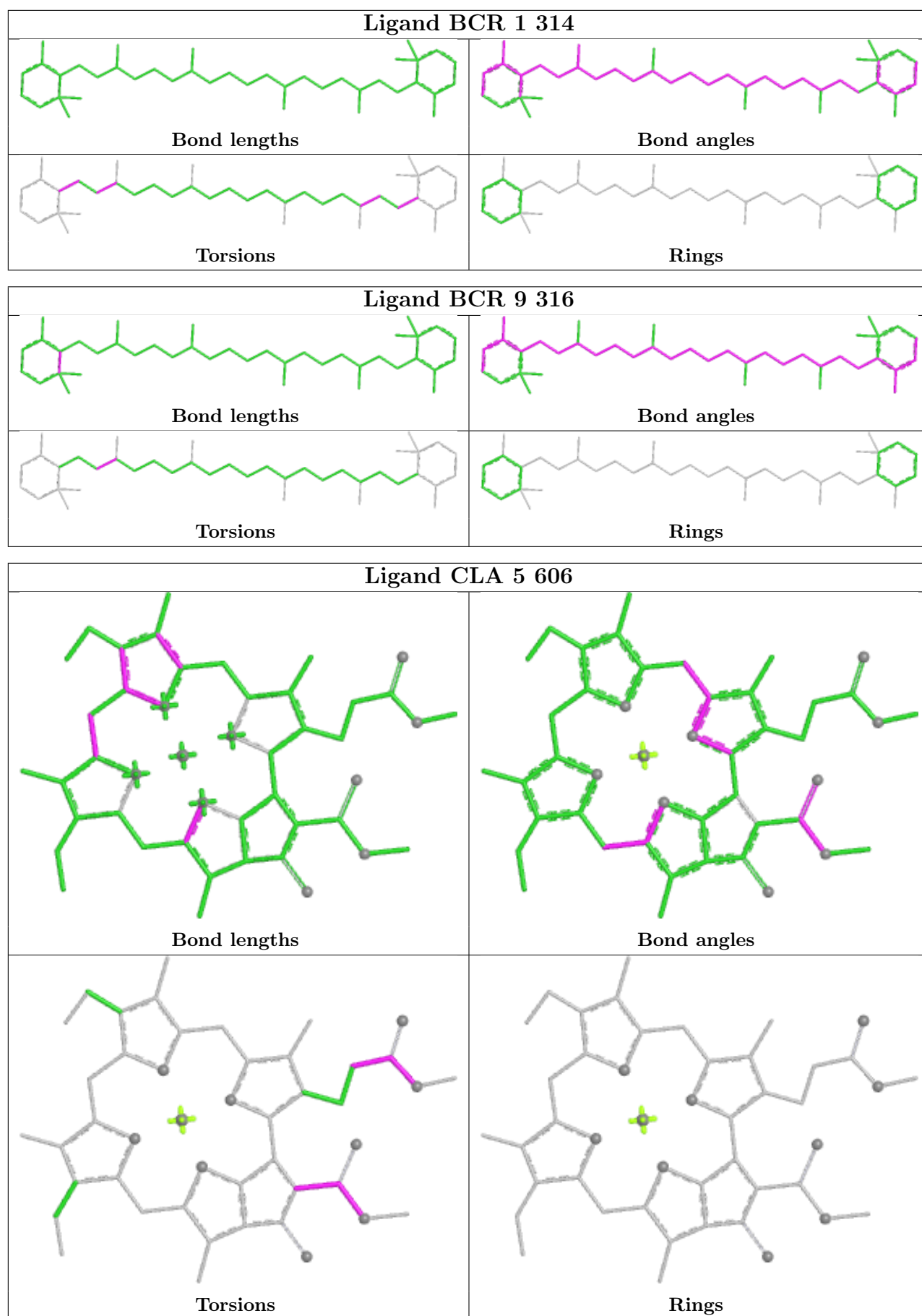


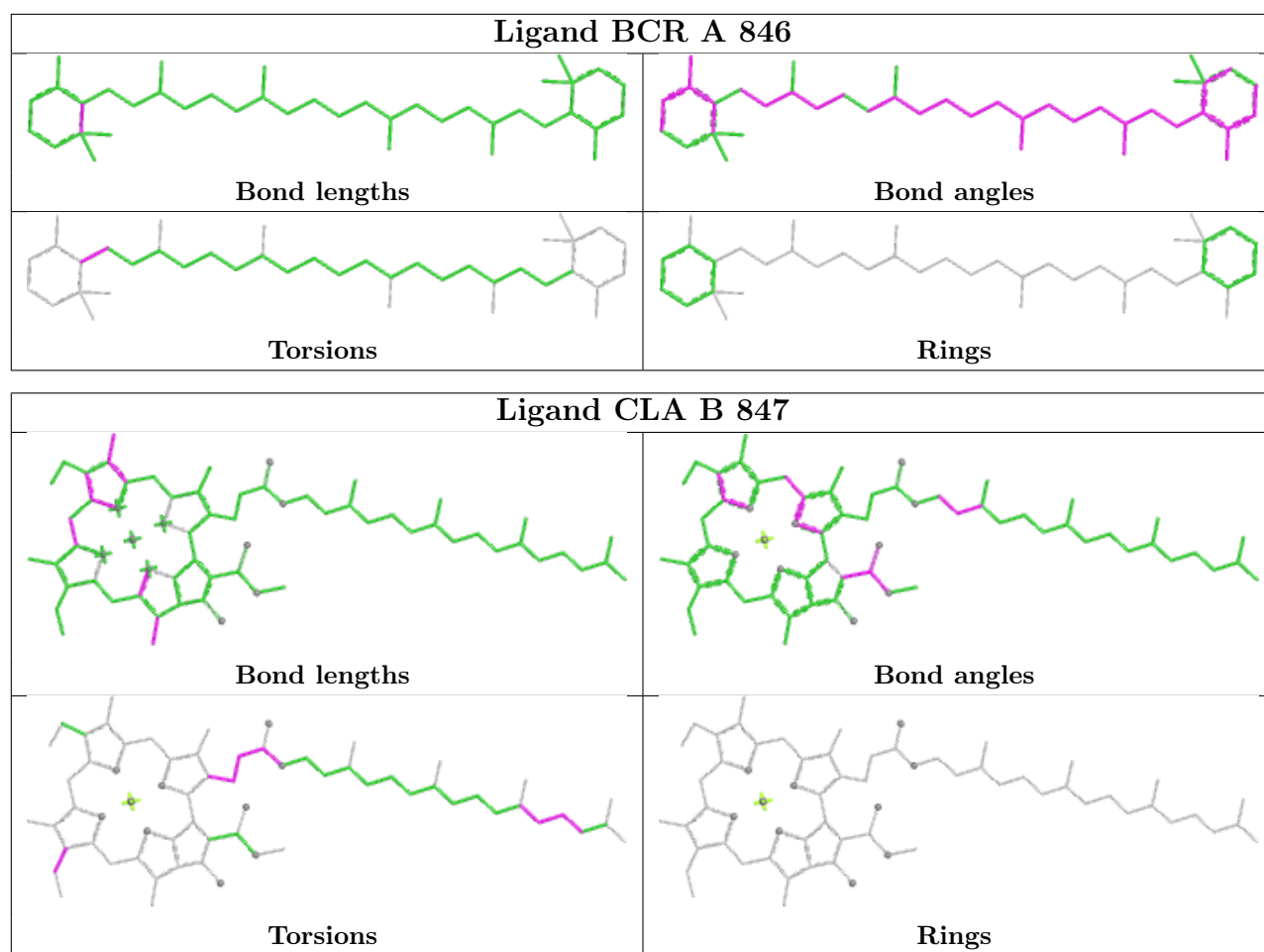
Ligand CLA 7 601



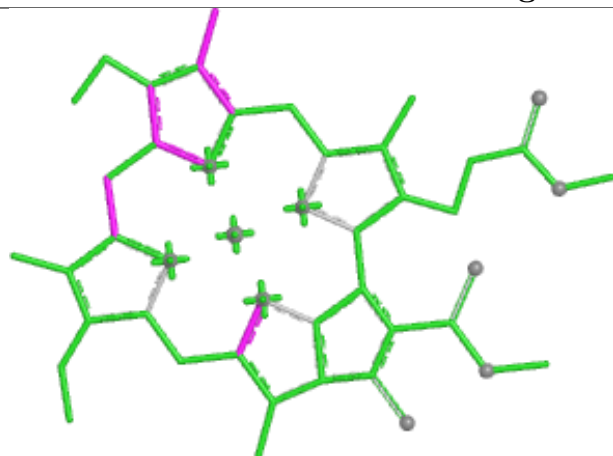
Ligand BCR B 840



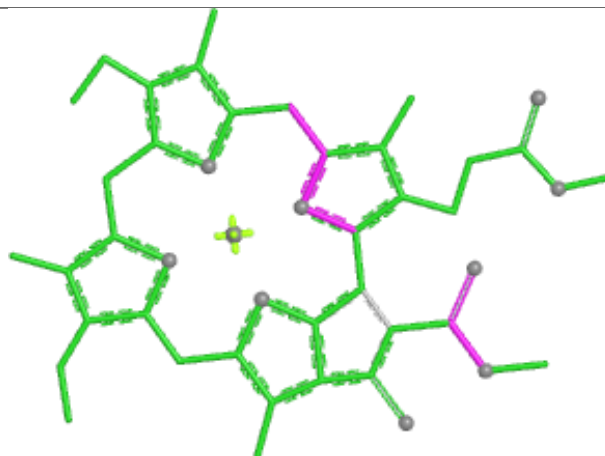




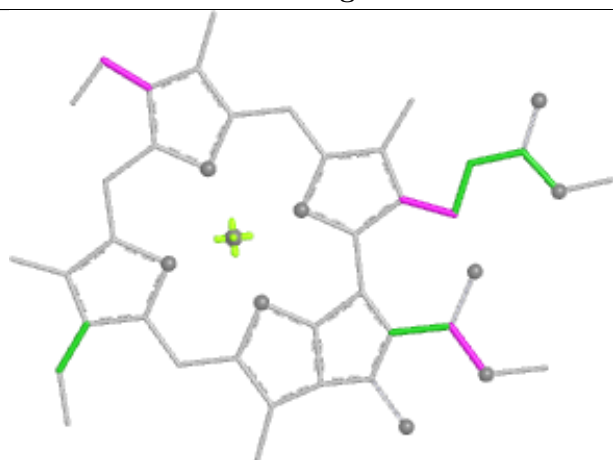
Ligand CLA 1 308



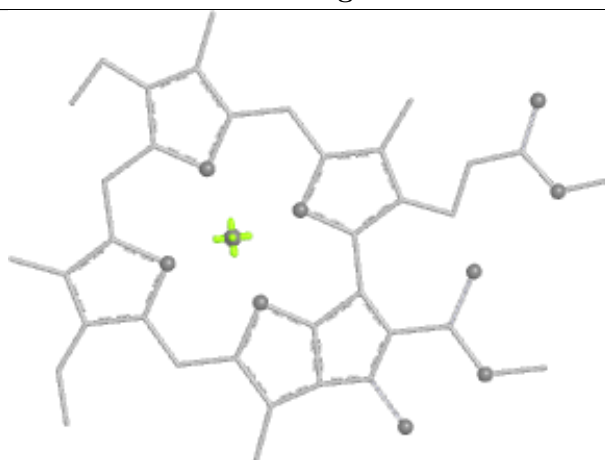
Bond lengths



Bond angles

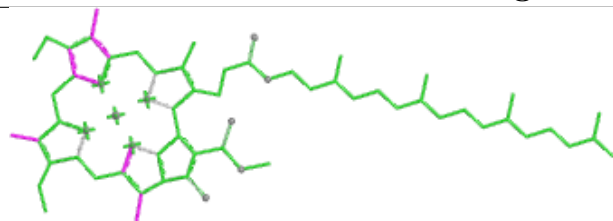


Torsions

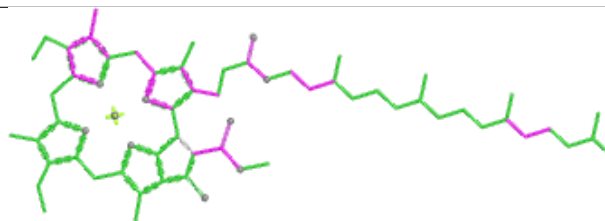


Rings

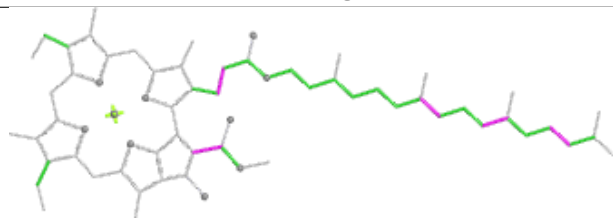
Ligand CLA A 860



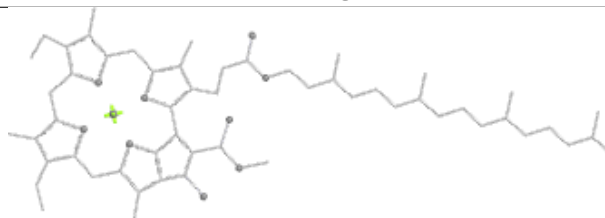
Bond lengths



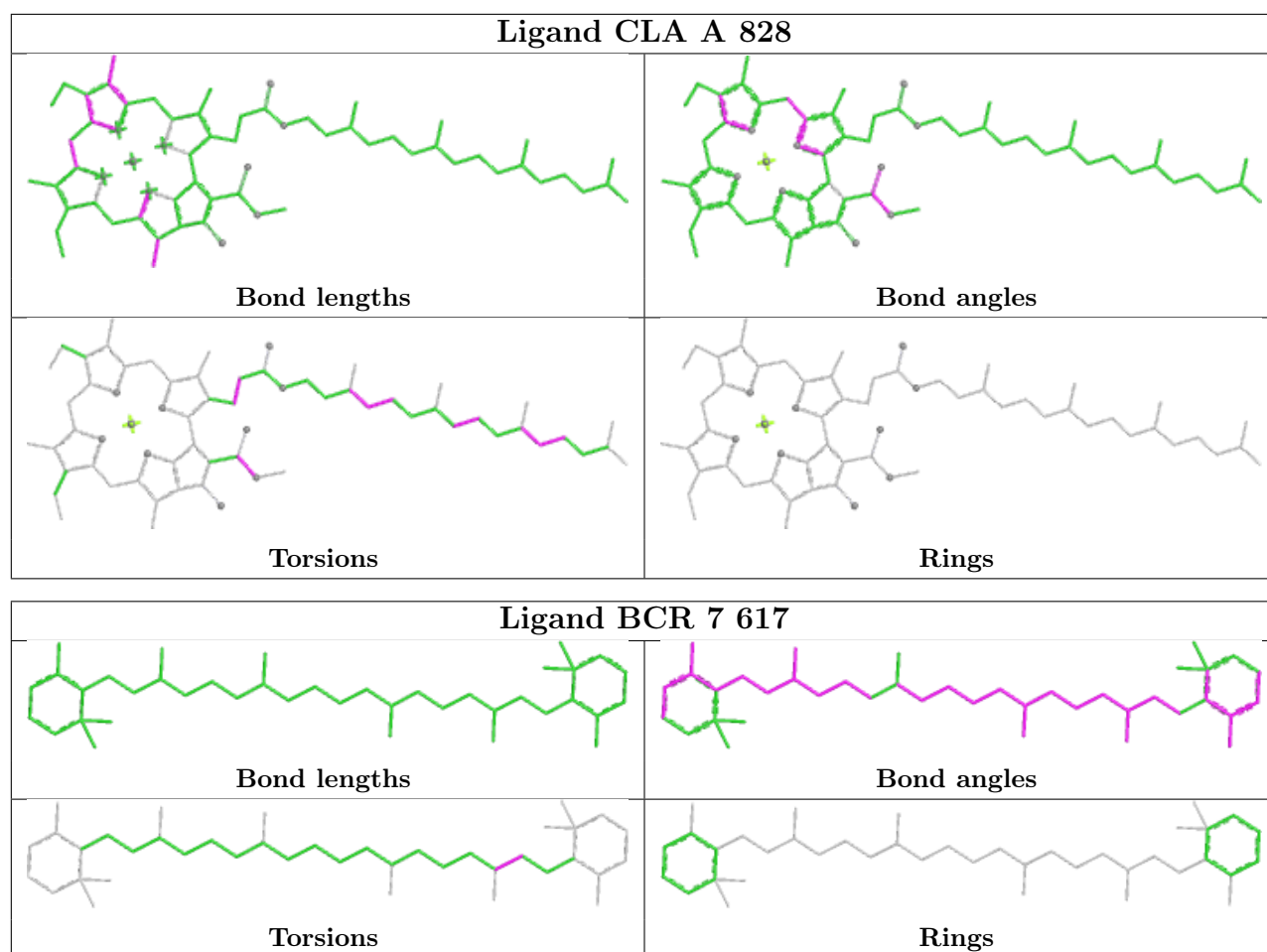
Bond angles



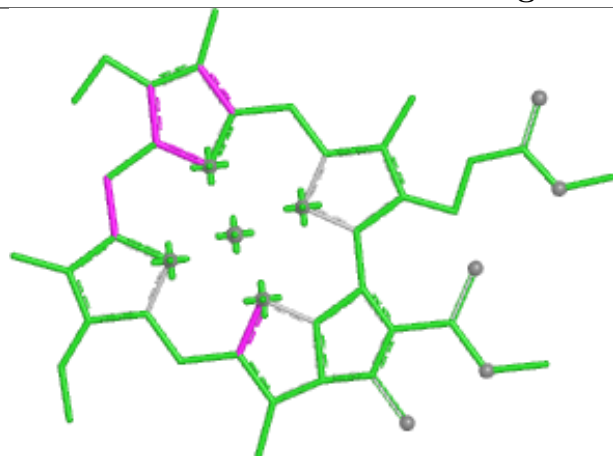
Torsions



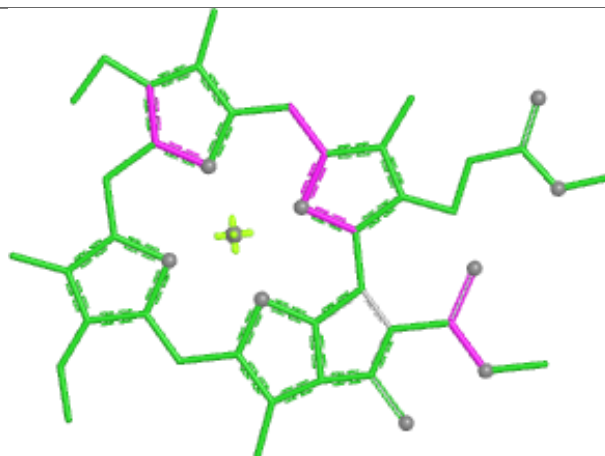
Rings



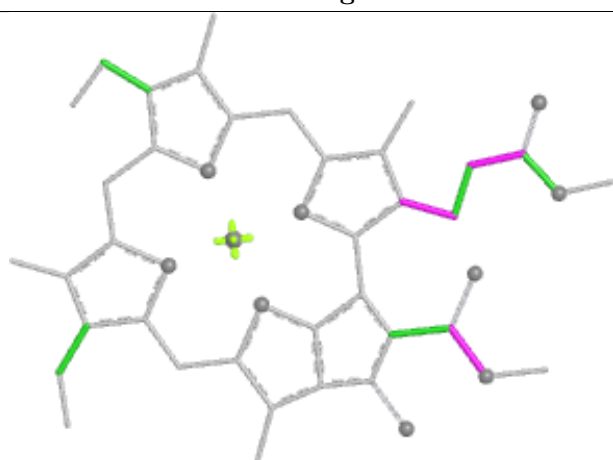
Ligand CLA k 305



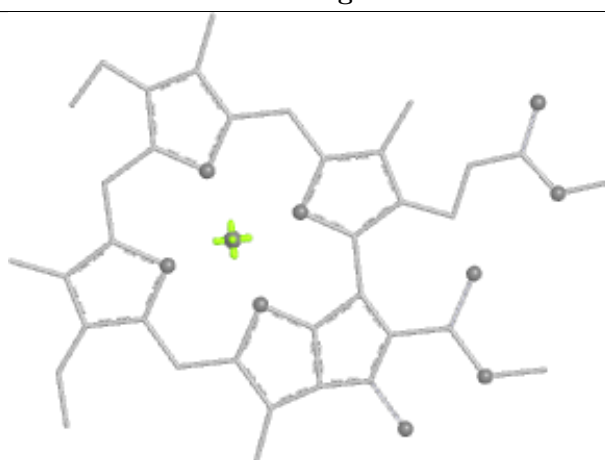
Bond lengths



Bond angles

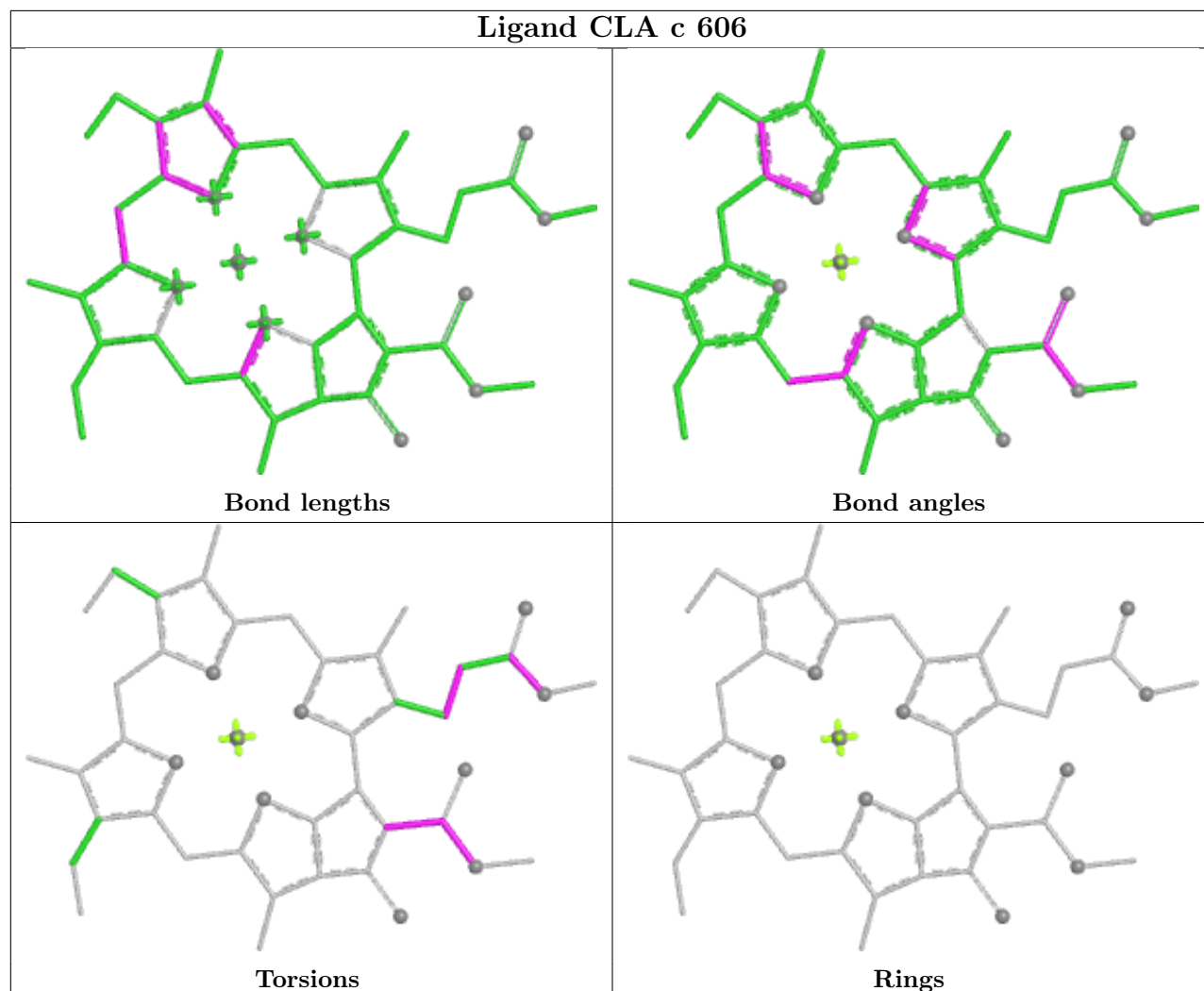


Torsions

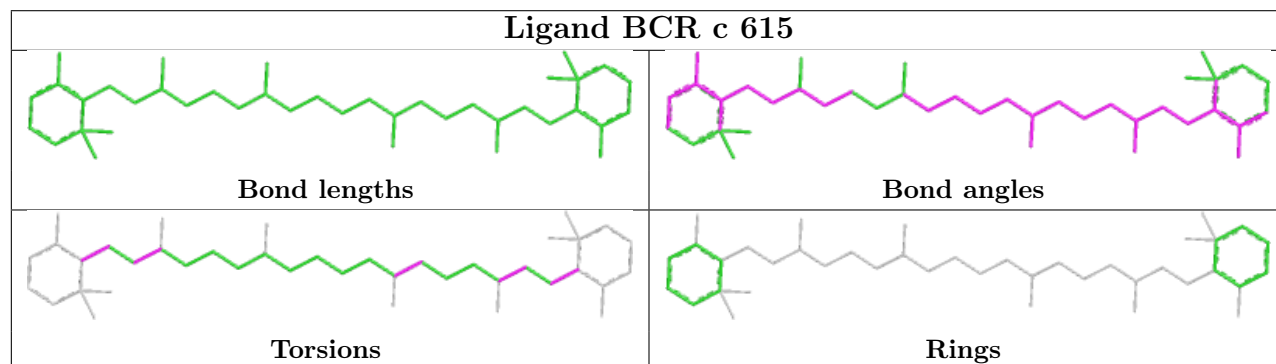


Rings

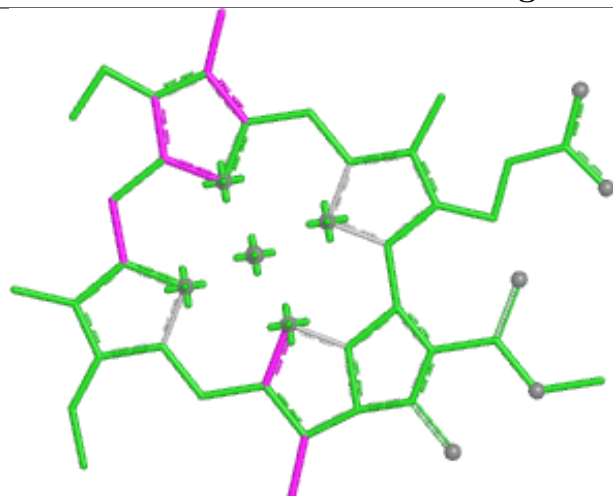
Ligand CLA c 606



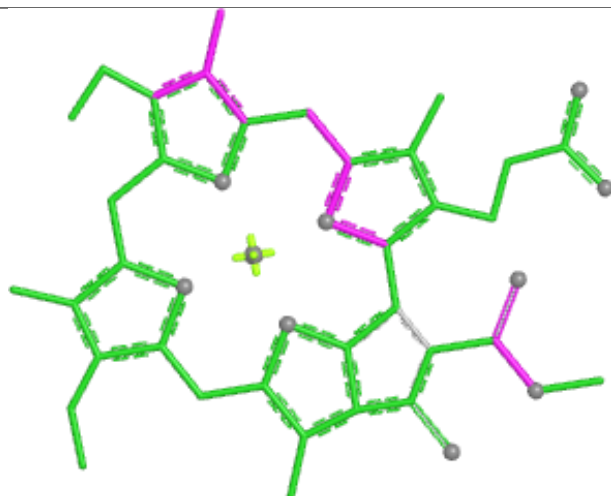
Ligand BCR c 615



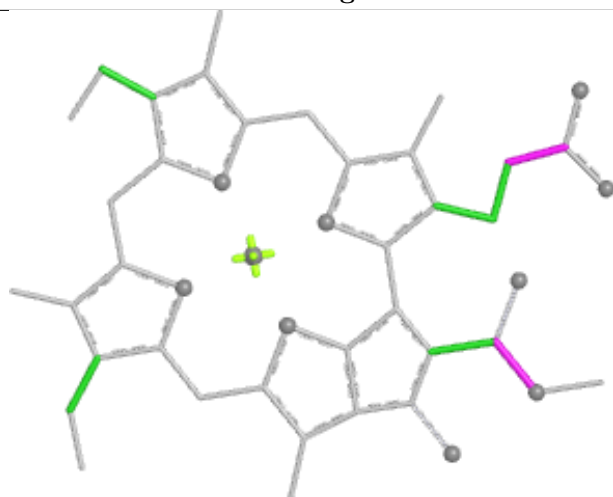
Ligand CLA 9 311



Bond lengths



Bond angles

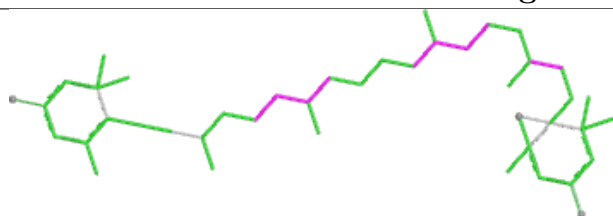


Torsions

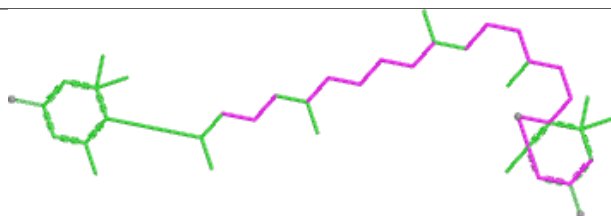


Rings

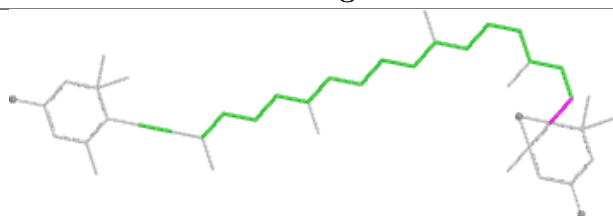
Ligand DD6 3 312



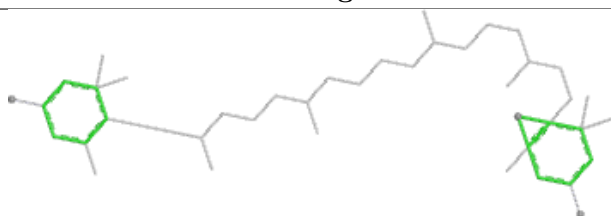
Bond lengths



Bond angles

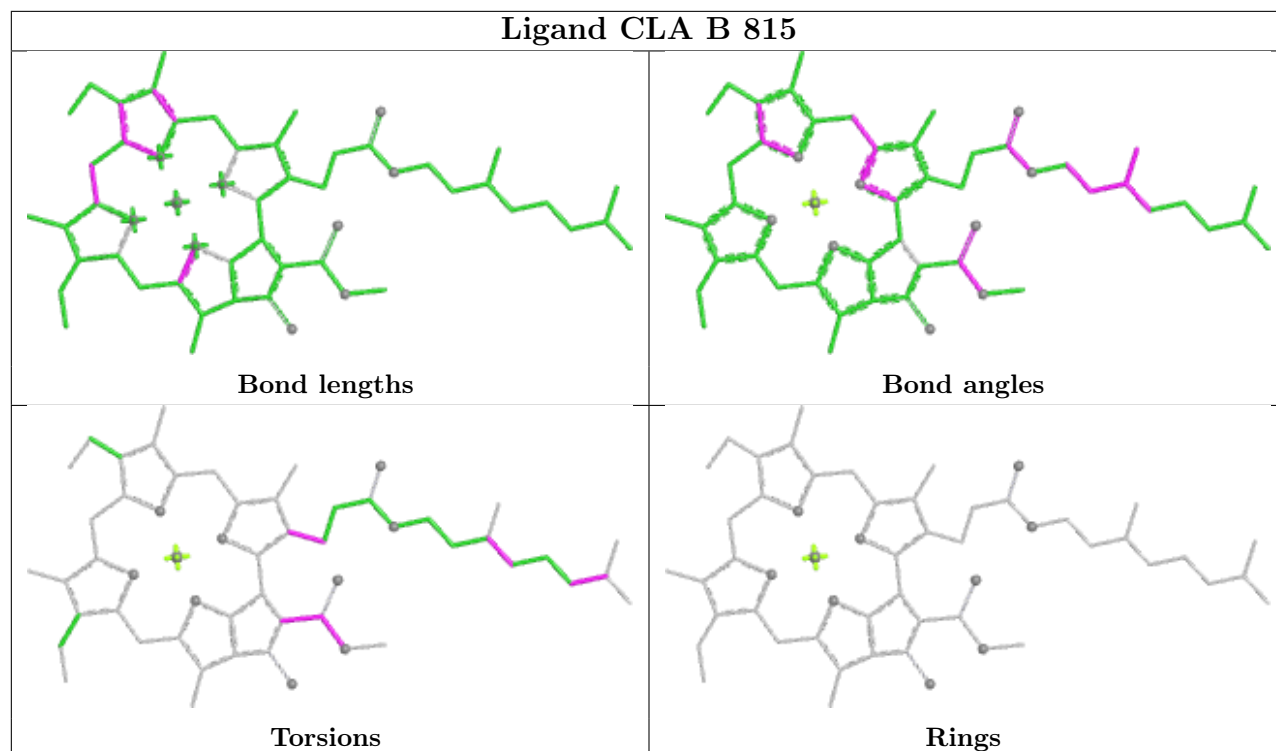


Torsions

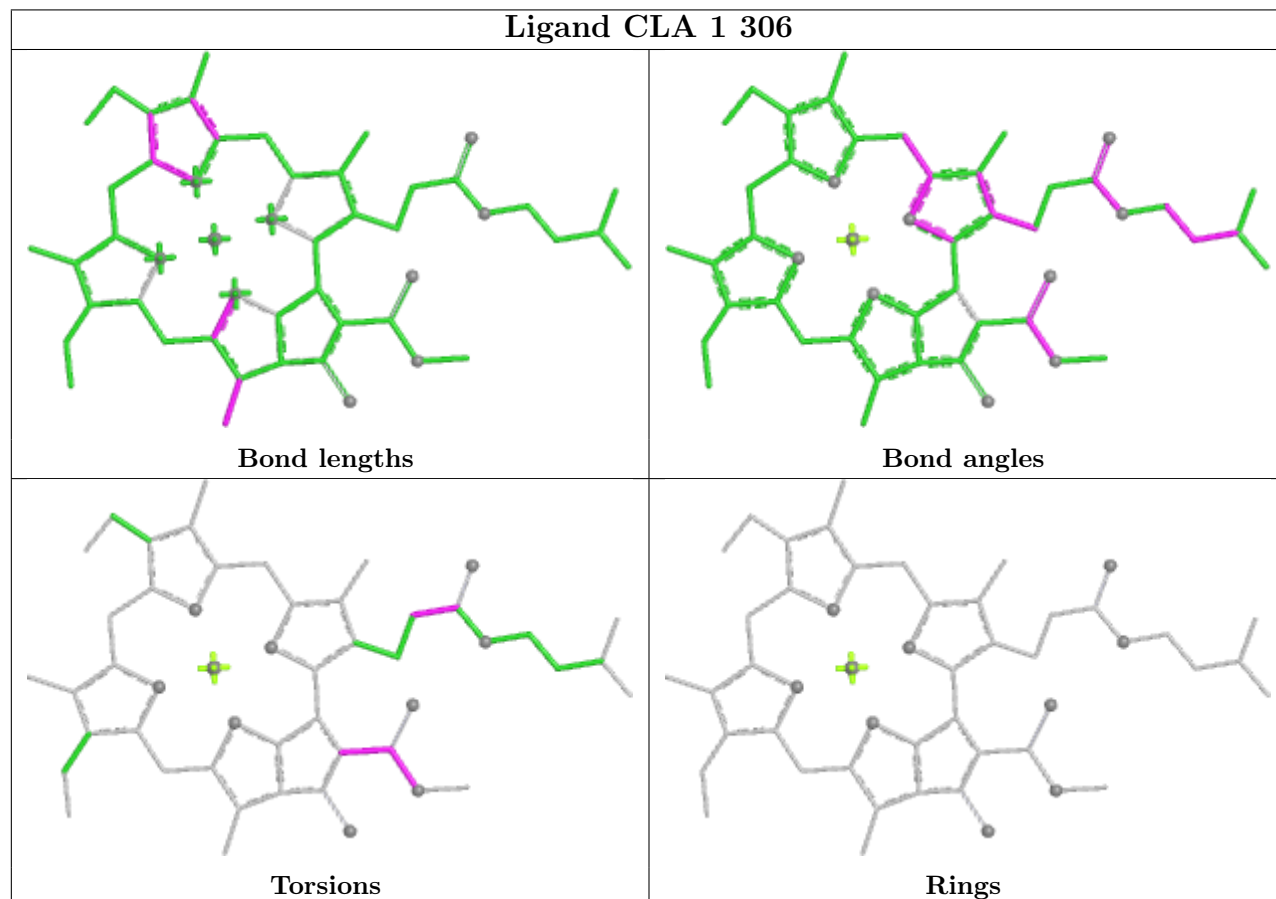


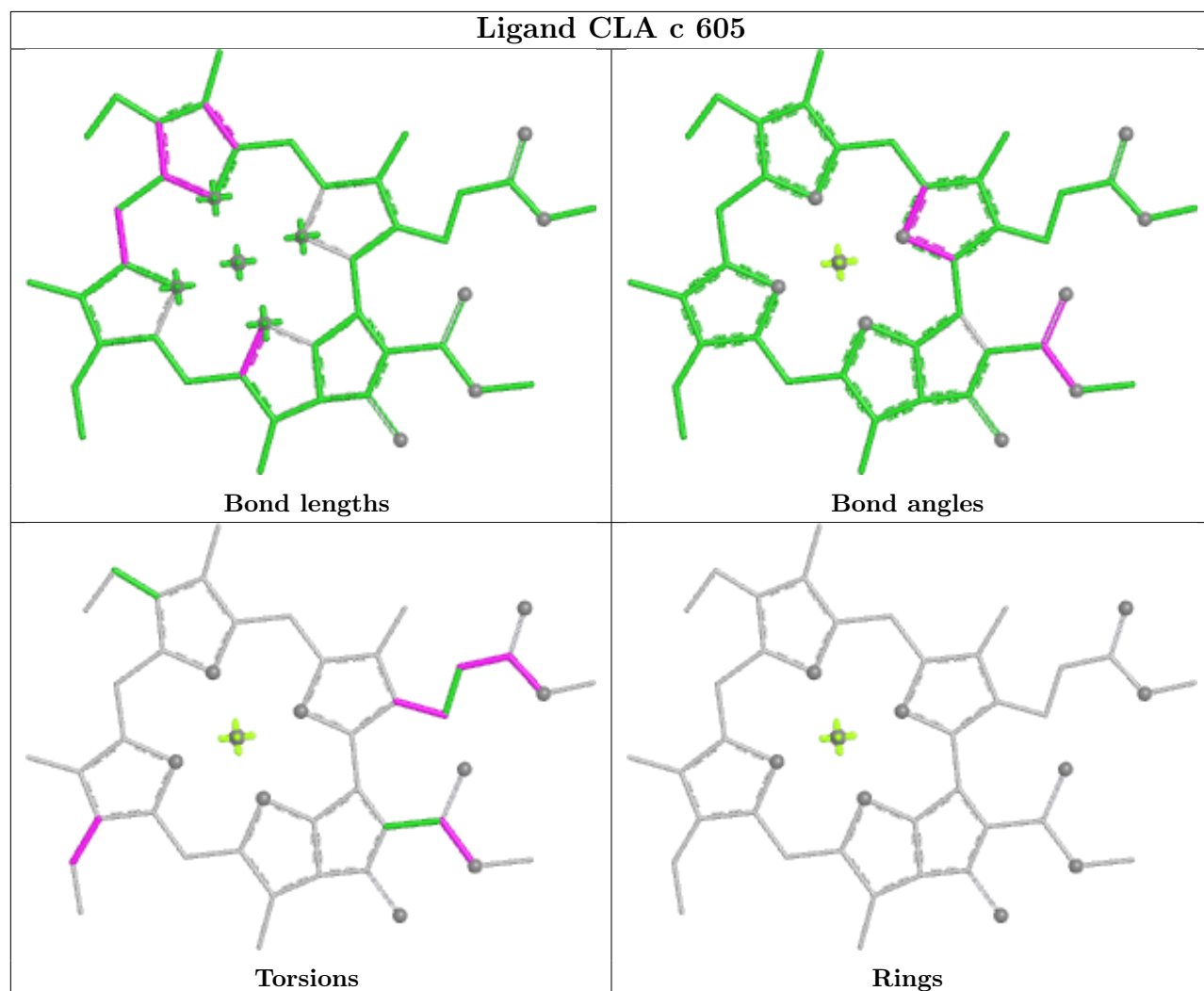
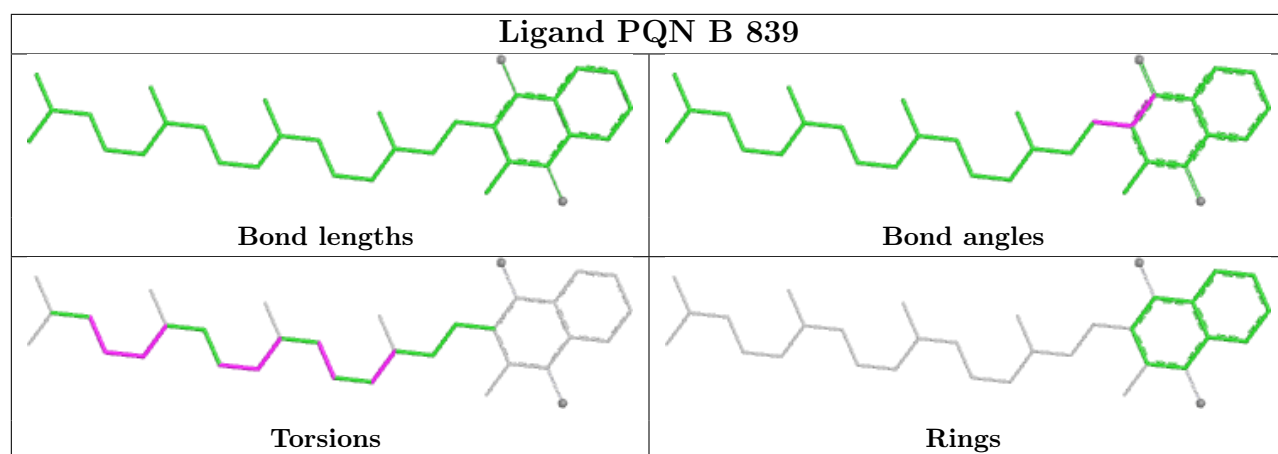
Rings

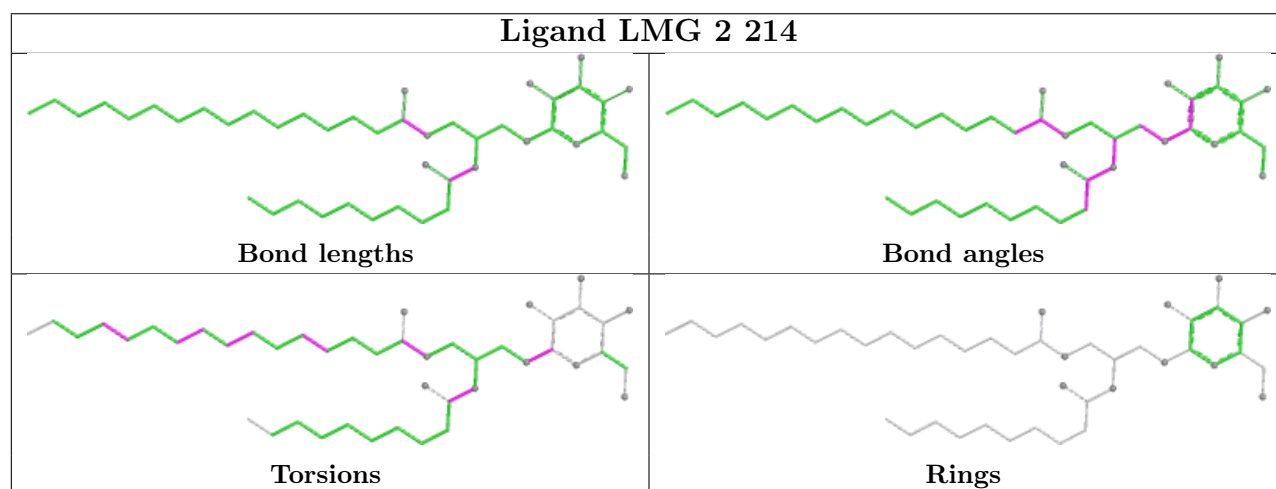
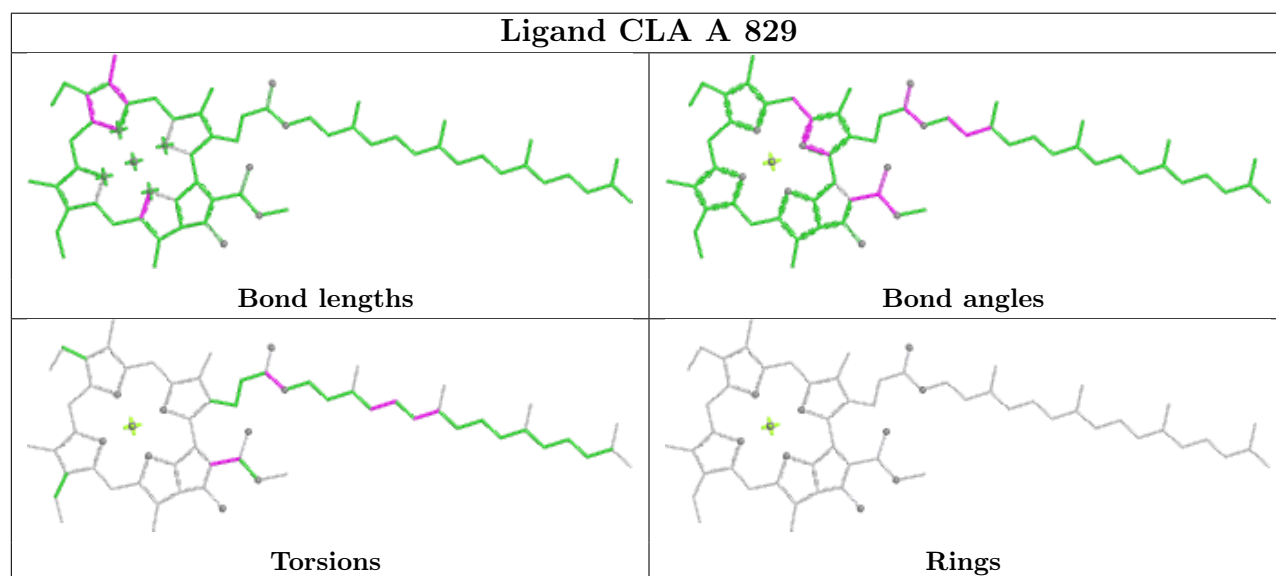
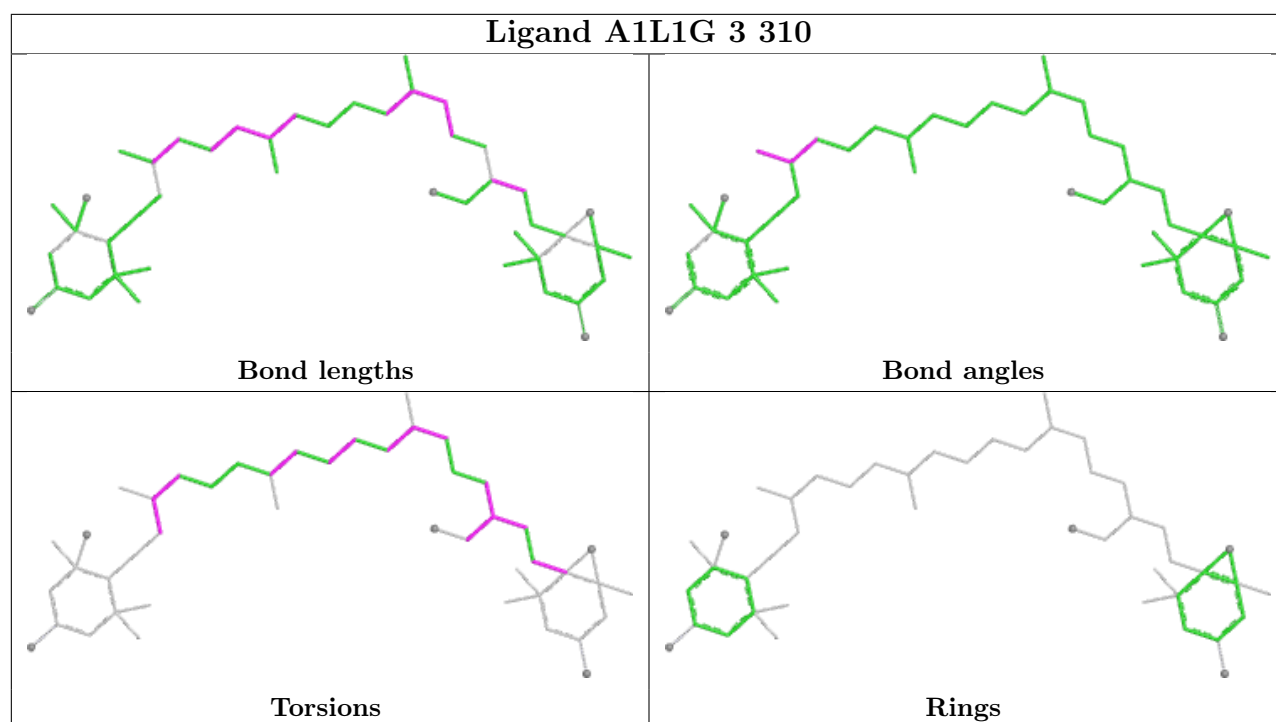
Ligand CLA B 815

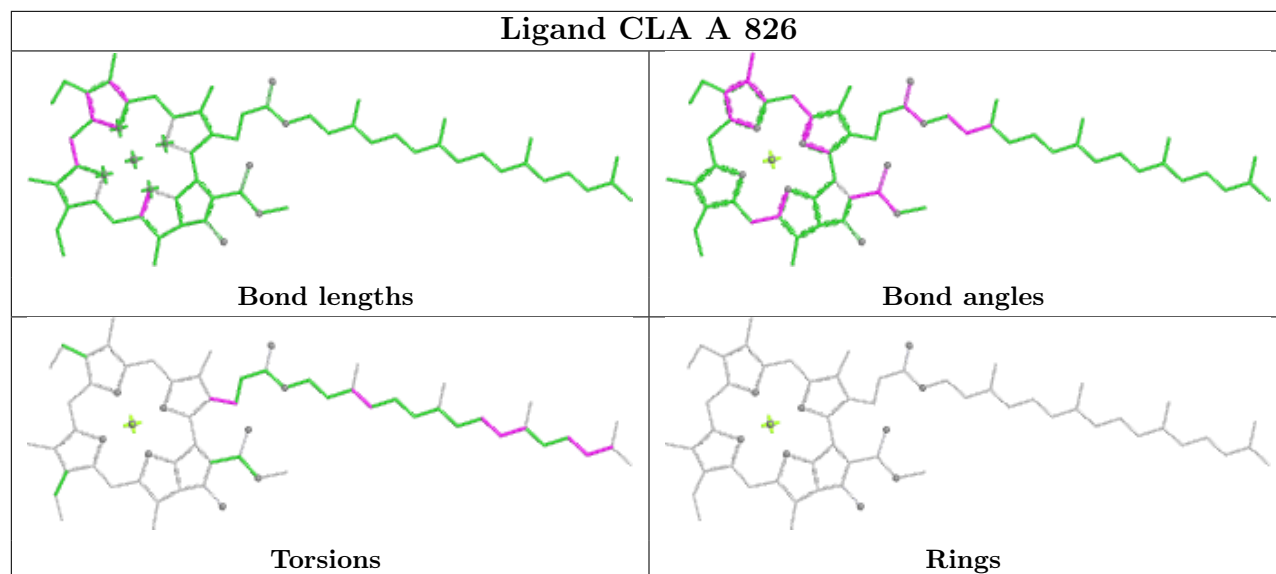
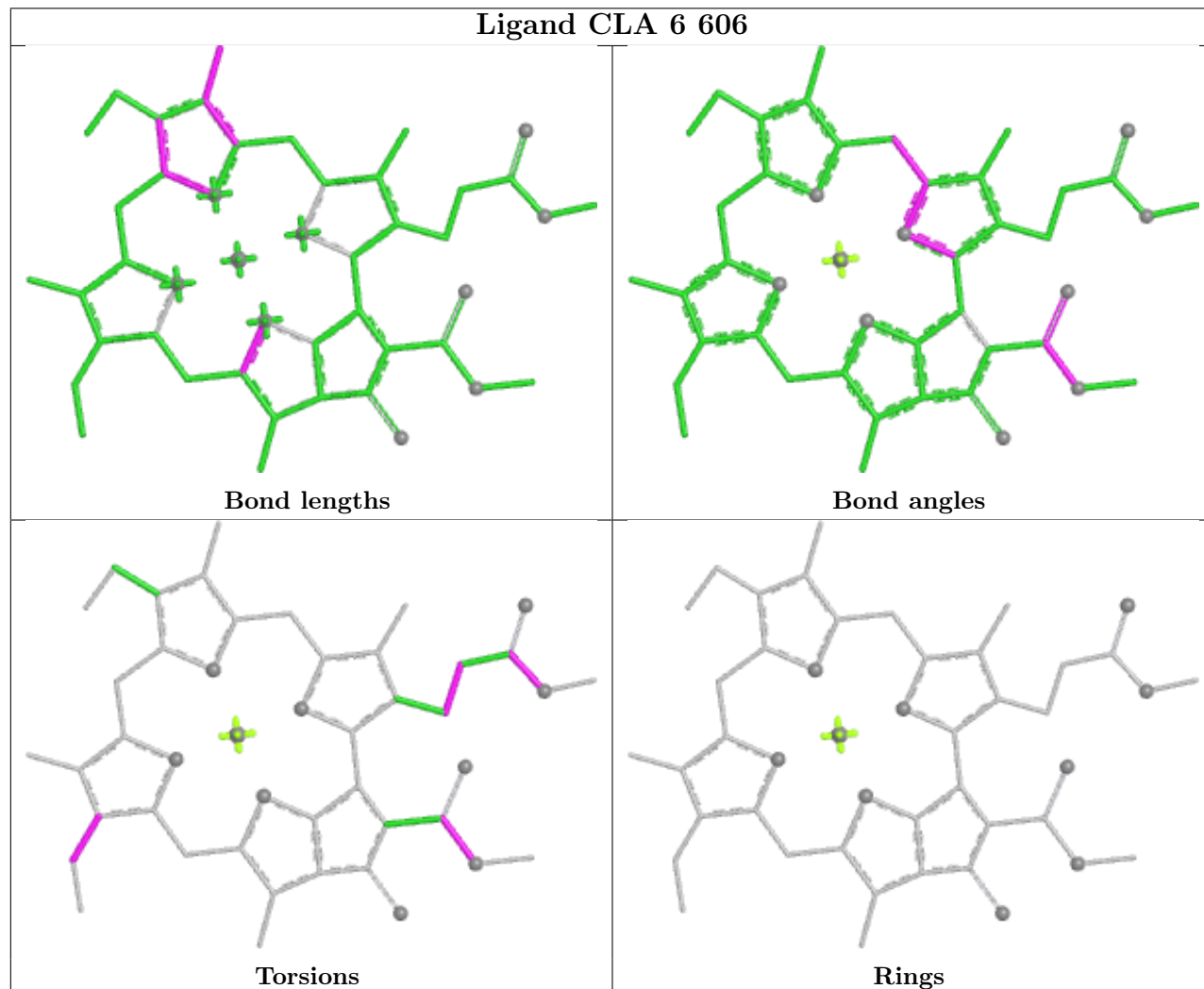


Ligand CLA 1 306

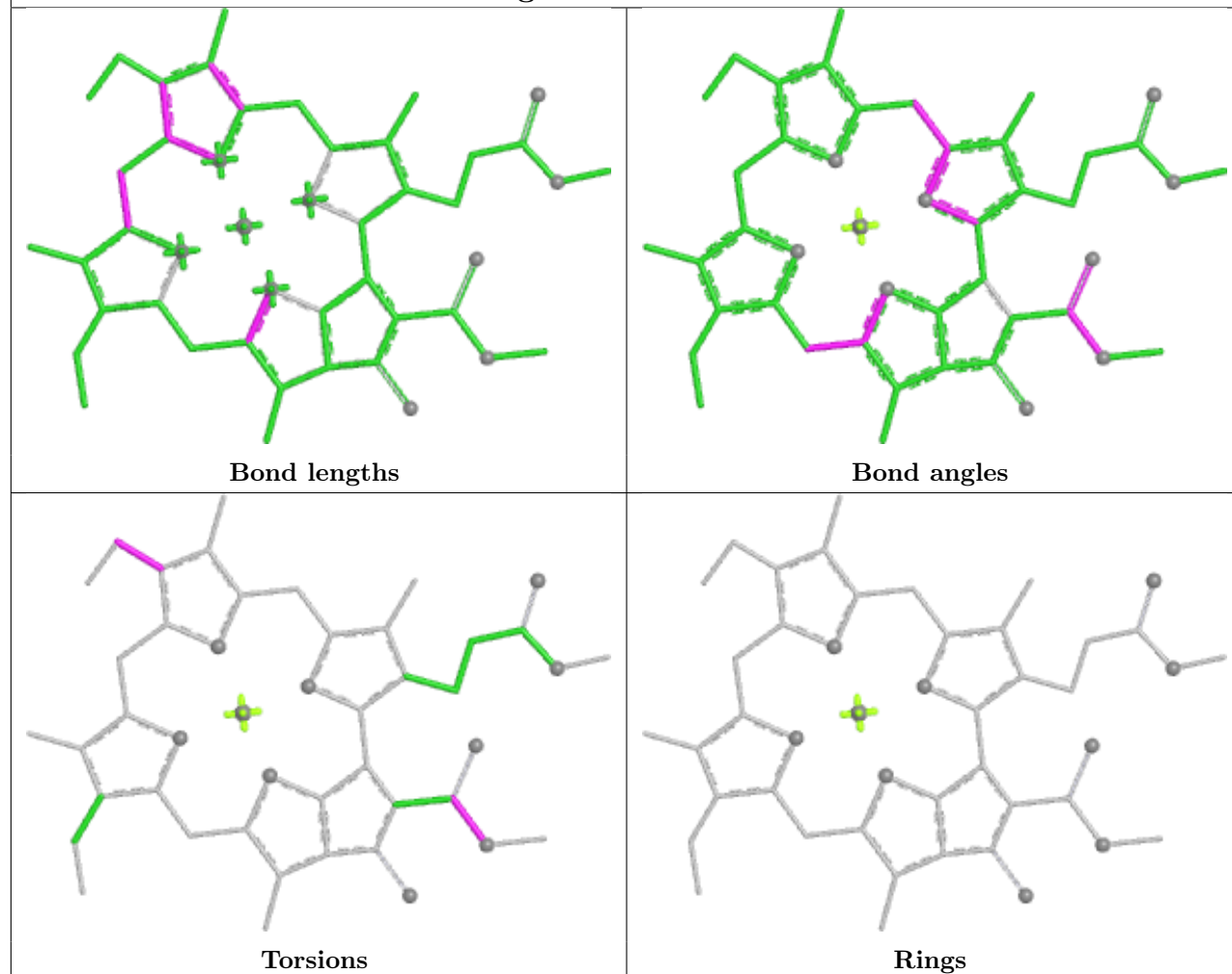




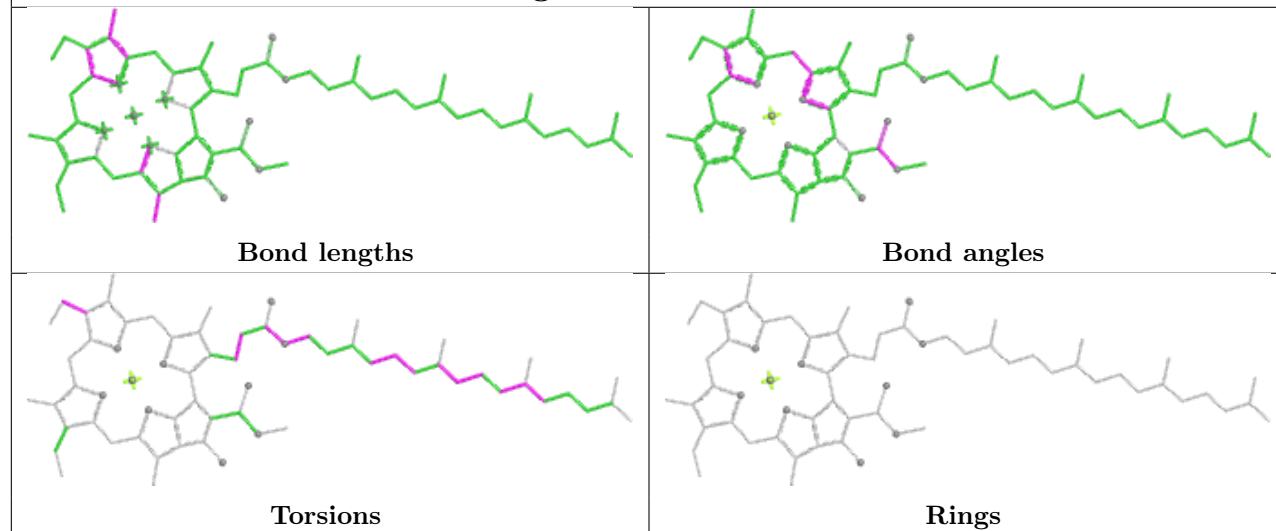


Ligand CLA A 826**Ligand CLA 6 606**

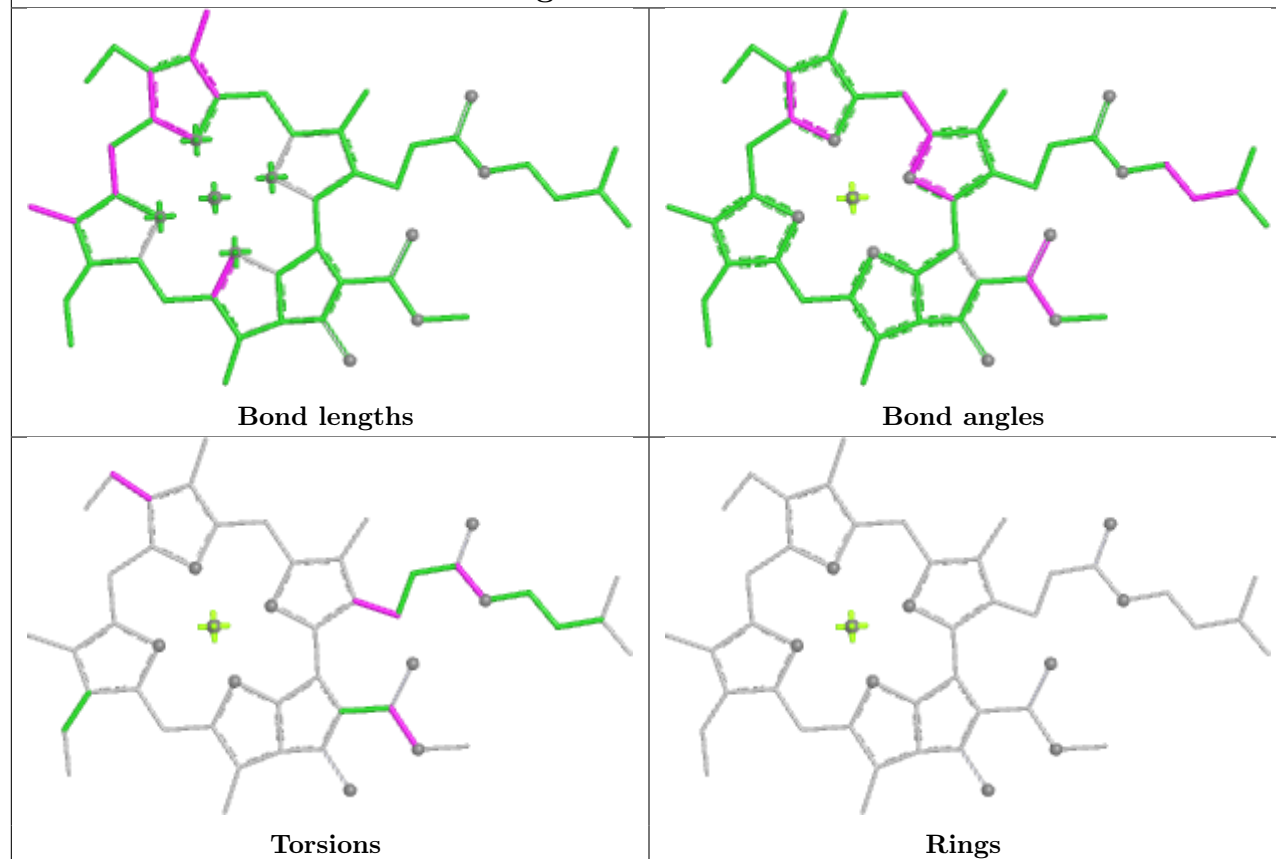
Ligand CLA 8 201



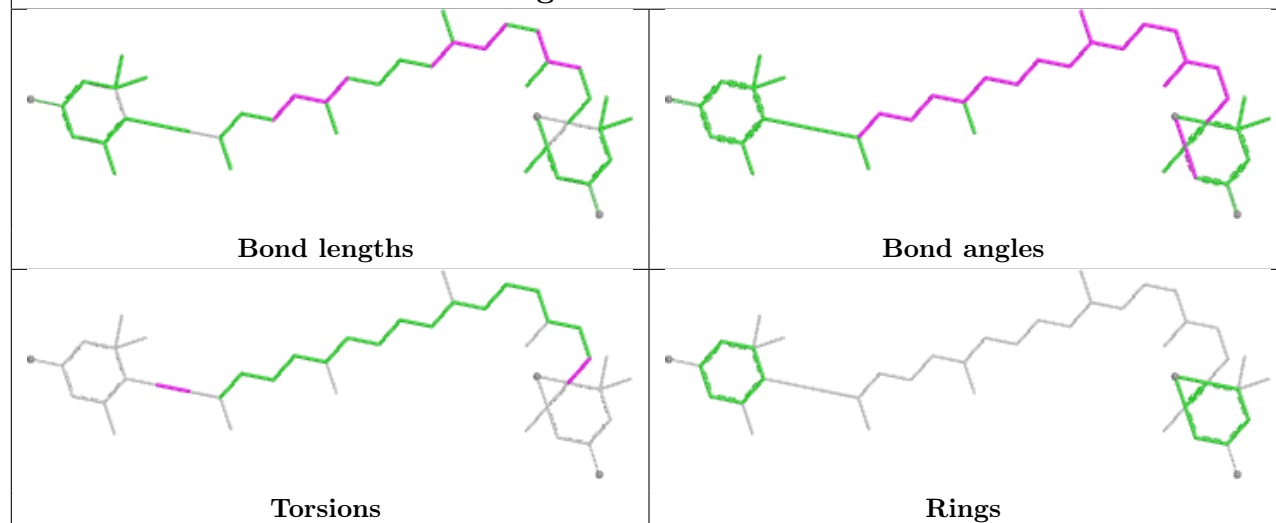
Ligand CLA B 801

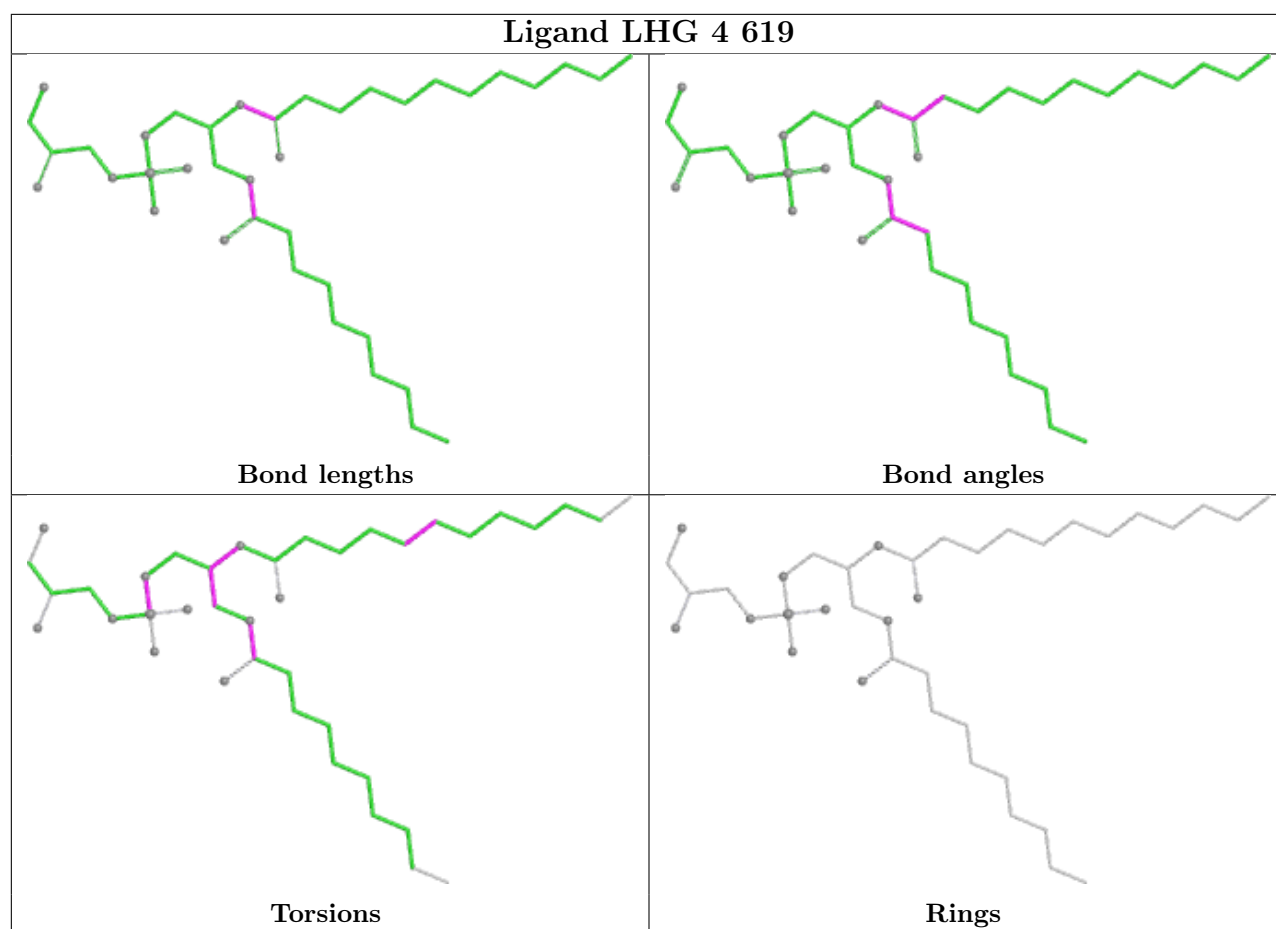


Ligand CLA 6 609

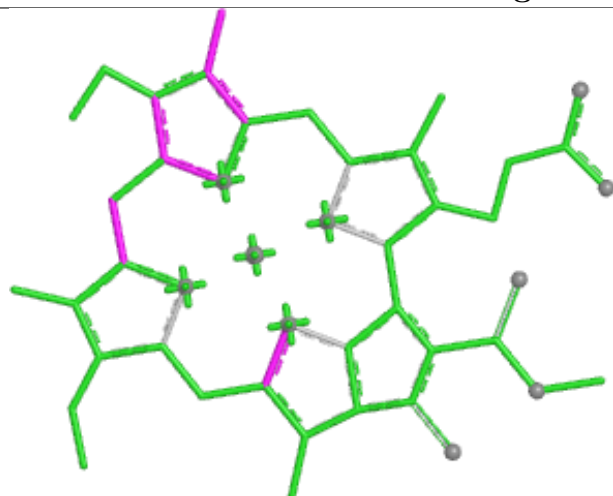


Ligand DD6 J 102

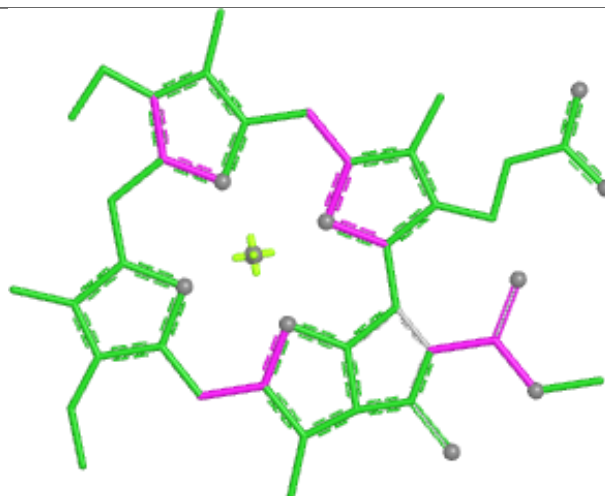




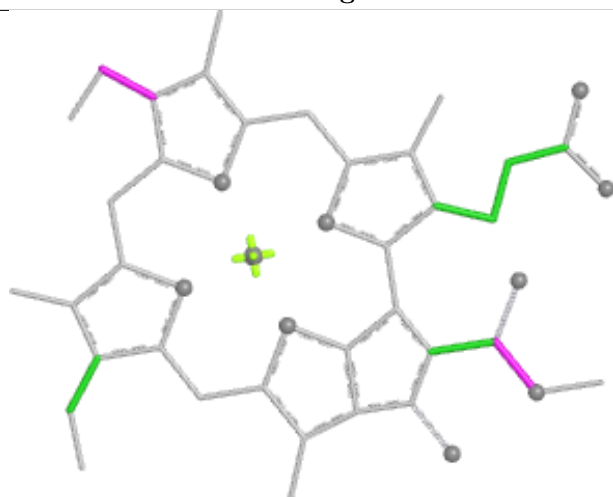
Ligand CLA A 834



Bond lengths



Bond angles

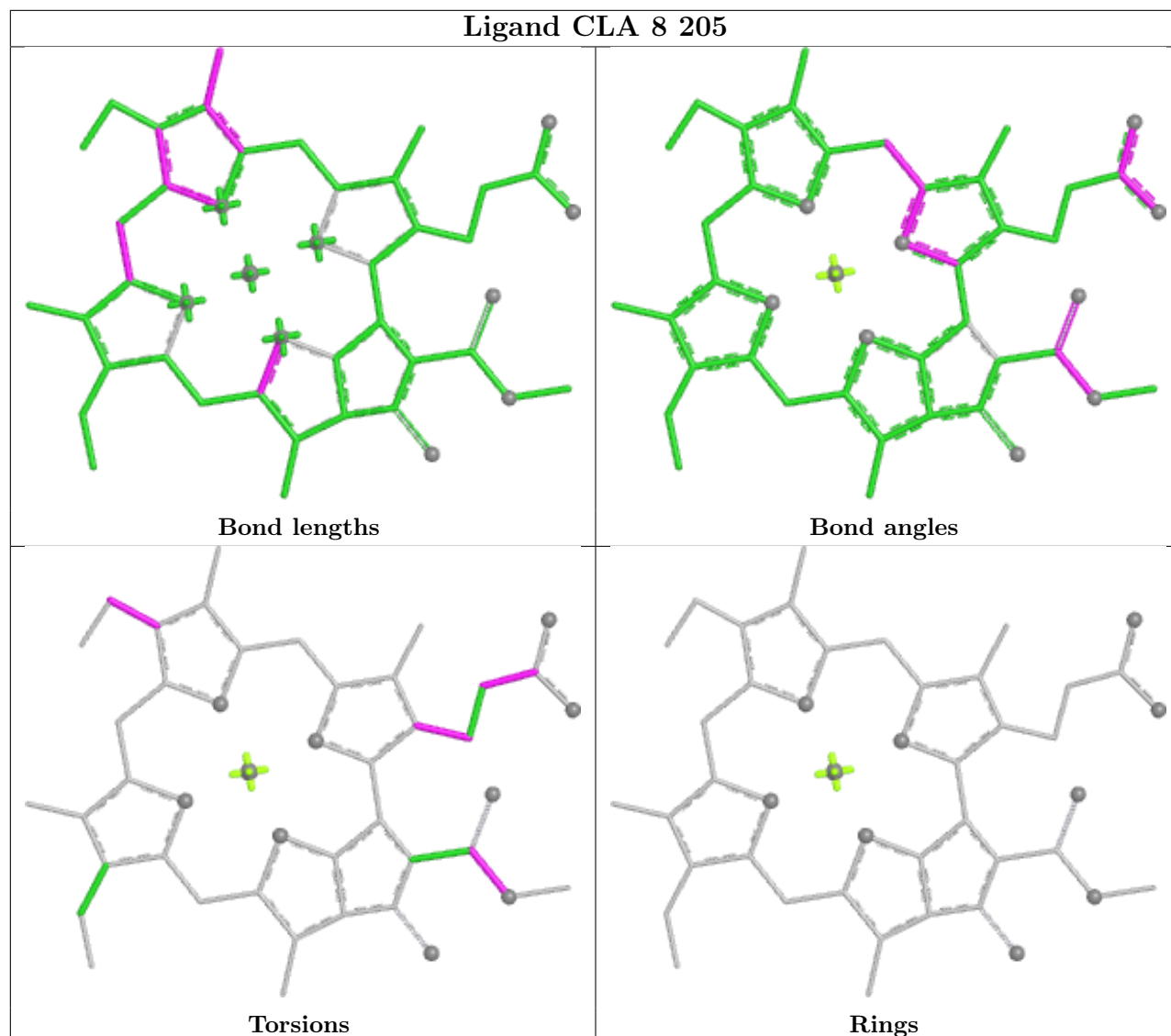


Torsions

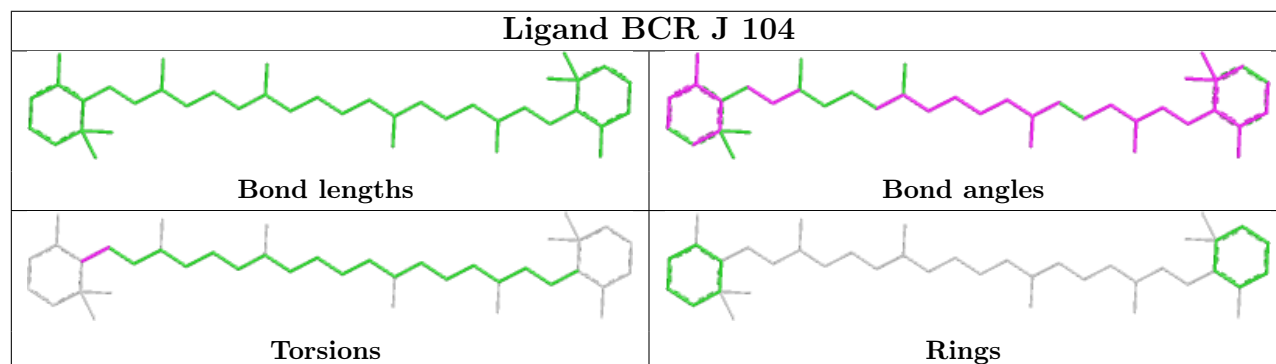


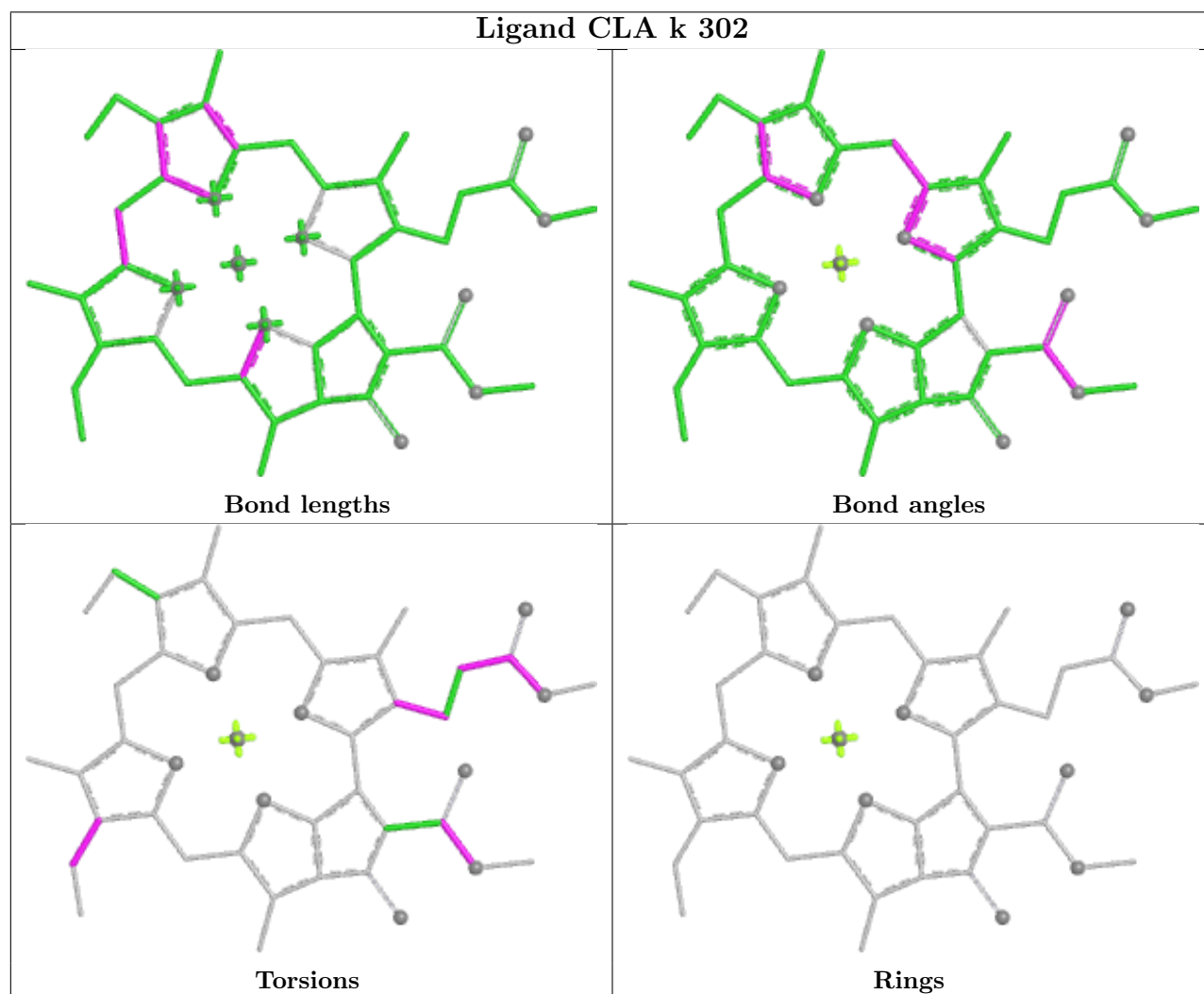
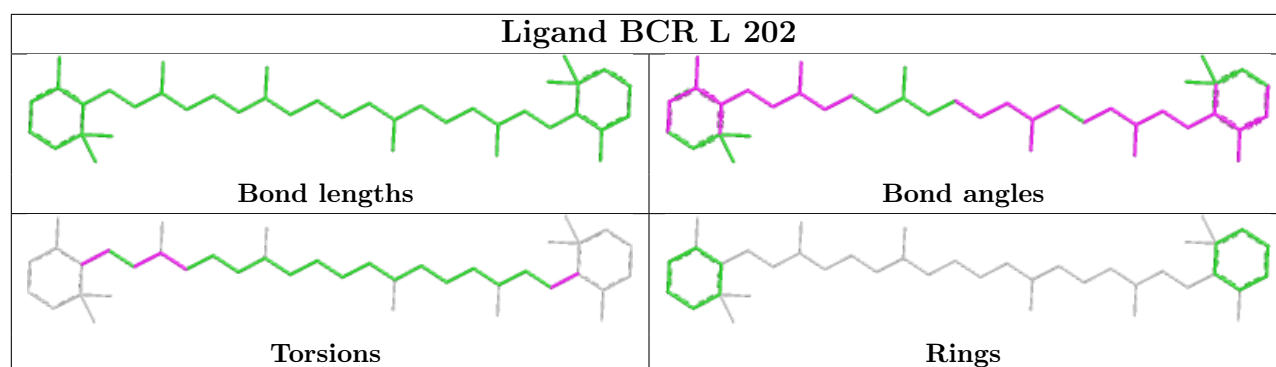
Rings

Ligand CLA 8 205

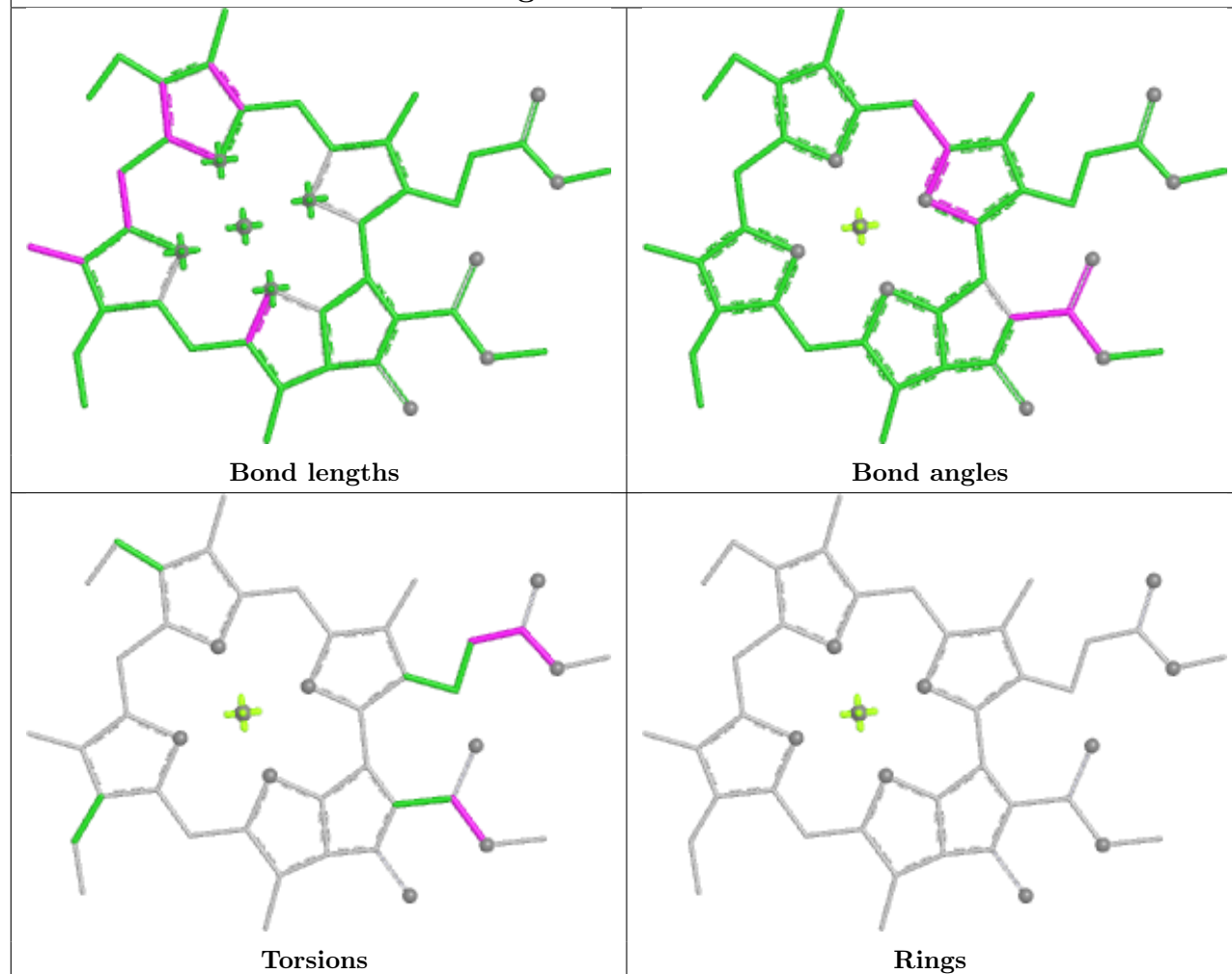


Ligand BCR J 104

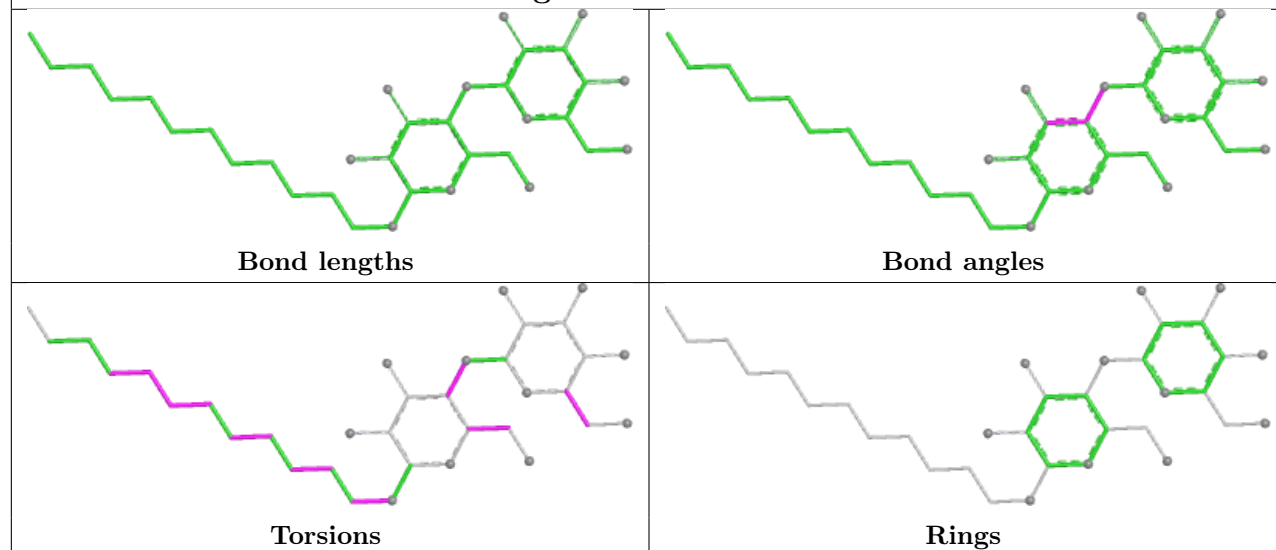




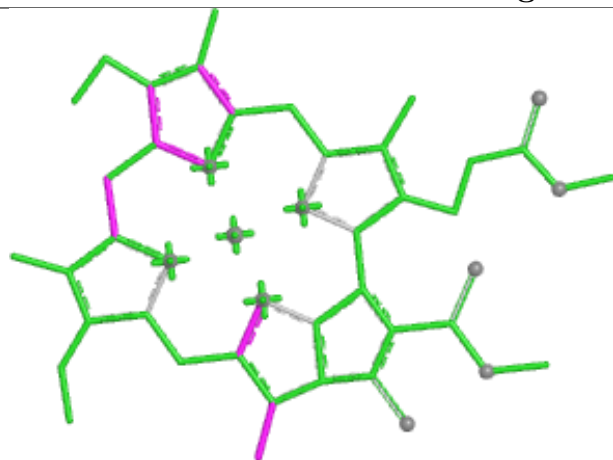
Ligand CLA 4 609



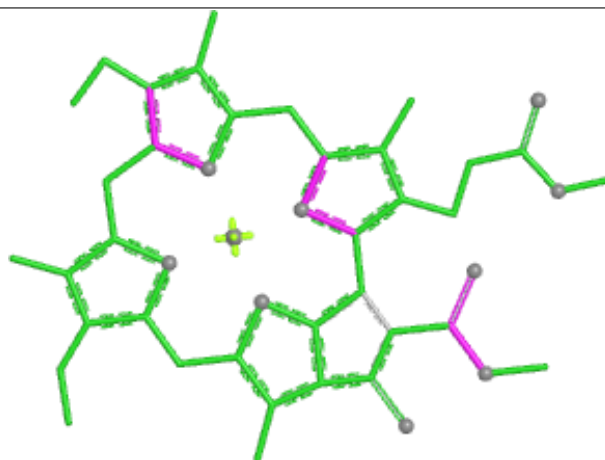
Ligand LMT 1 315



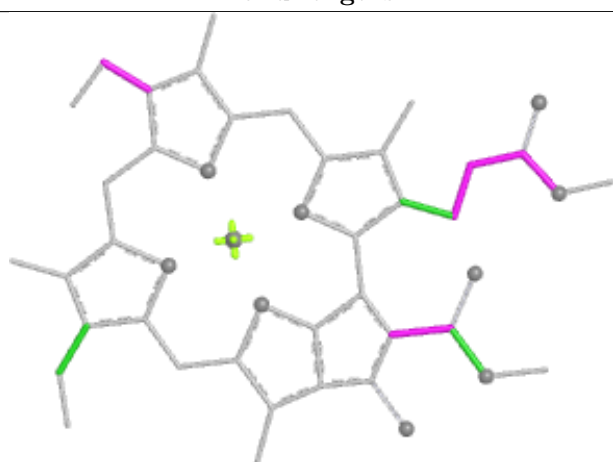
Ligand CLA k 307



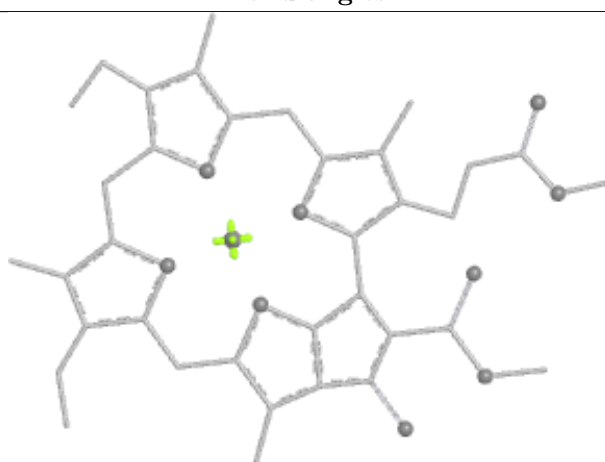
Bond lengths



Bond angles

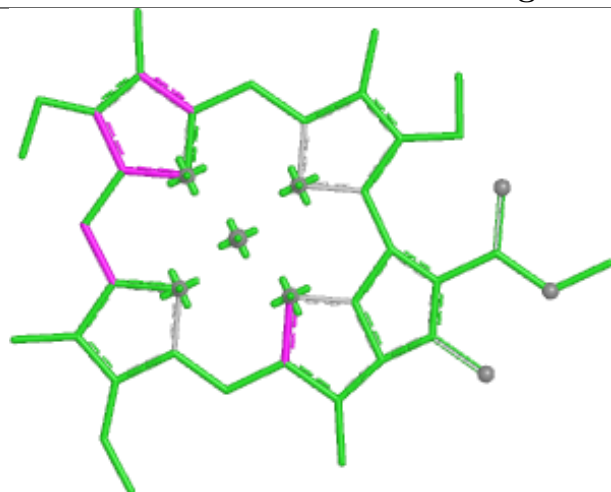


Torsions

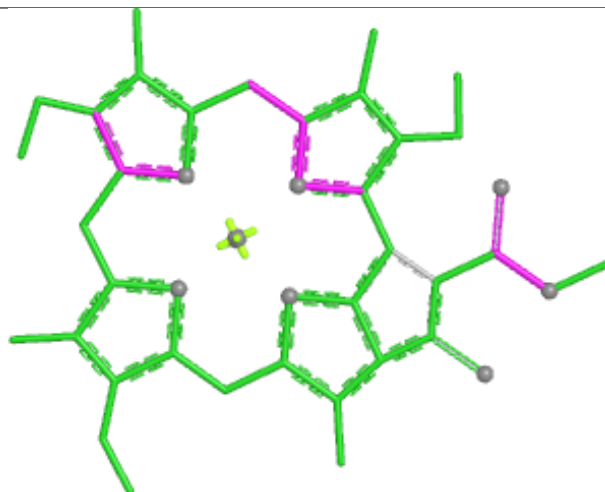


Rings

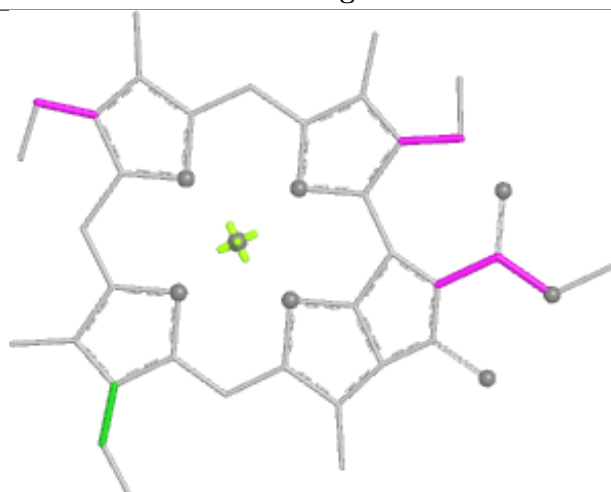
Ligand CLA J 103



Bond lengths



Bond angles

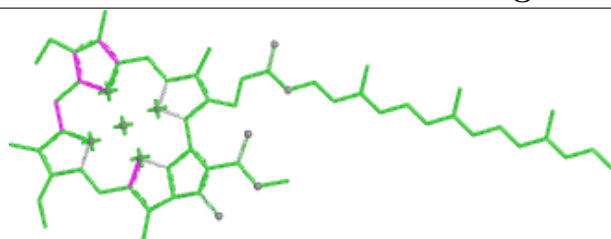


Torsions

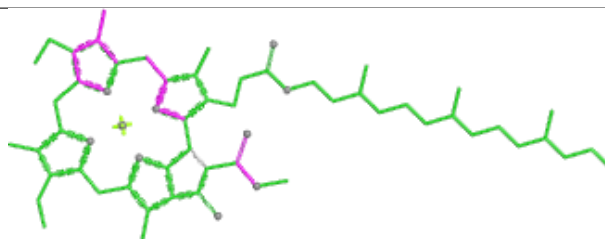


Rings

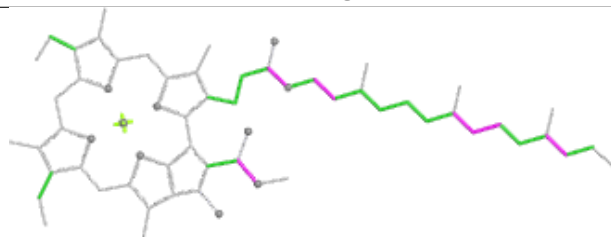
Ligand CLA A 827



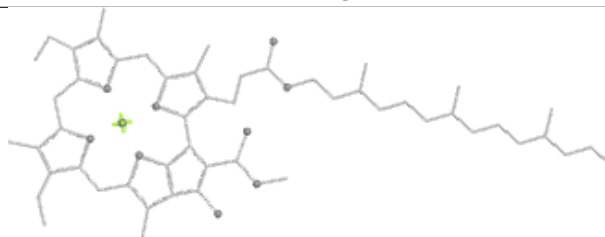
Bond lengths



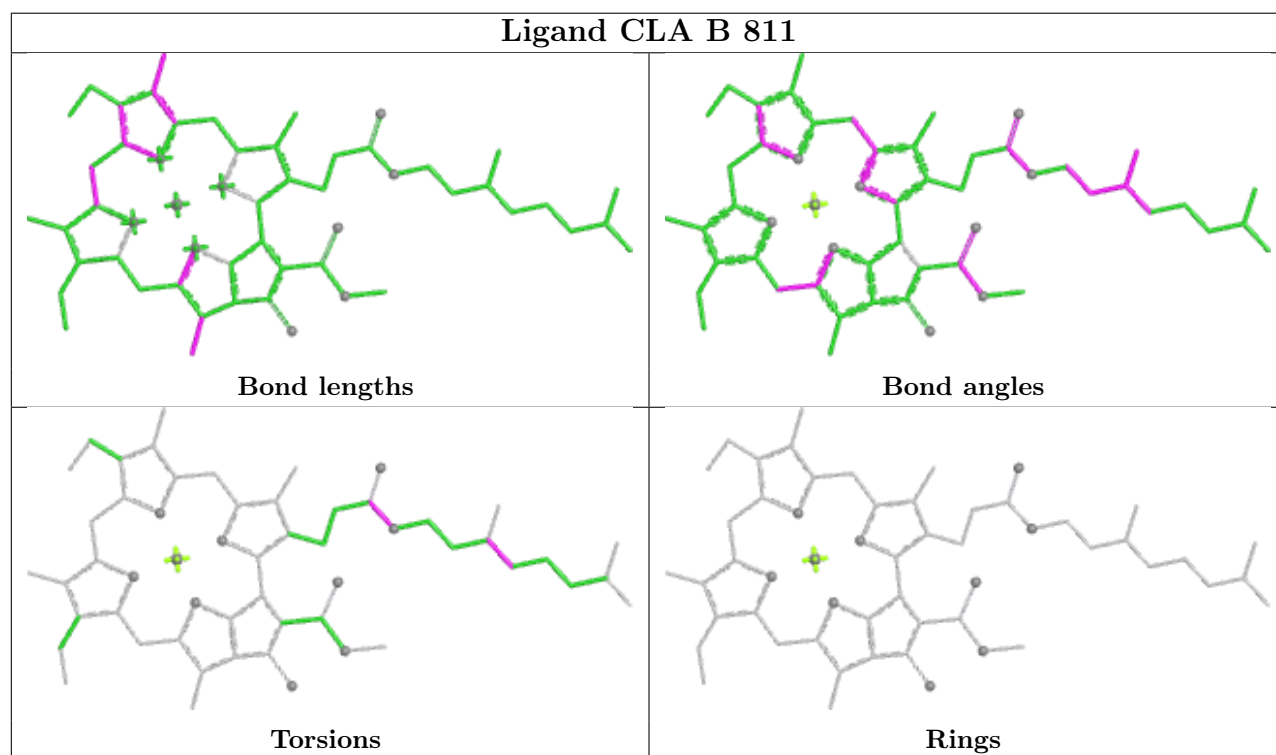
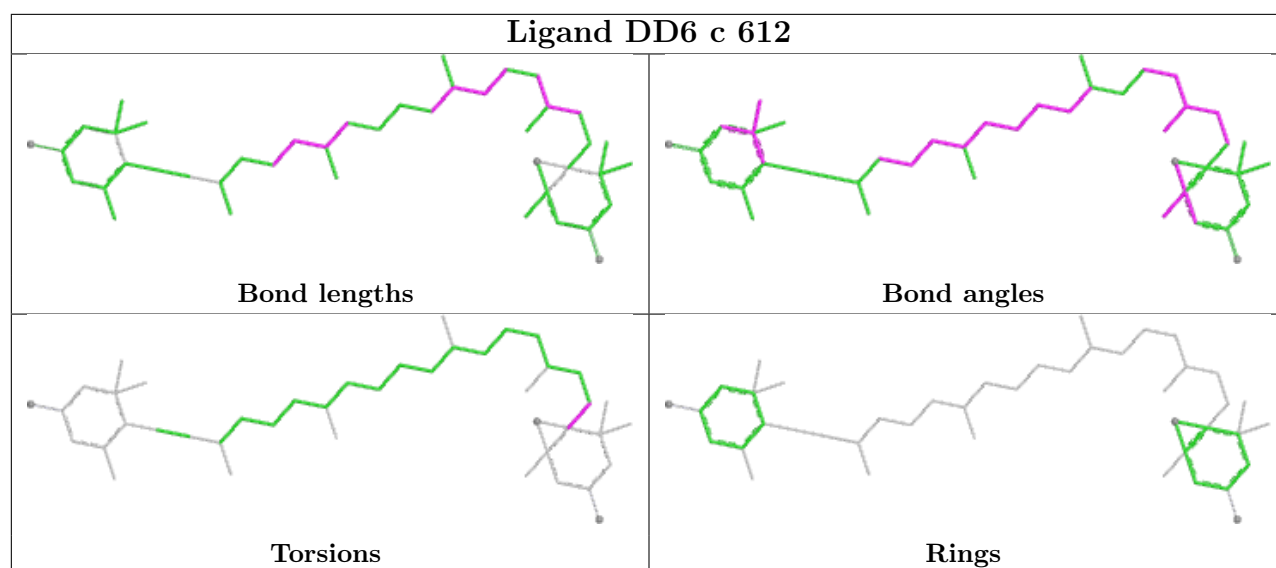
Bond angles

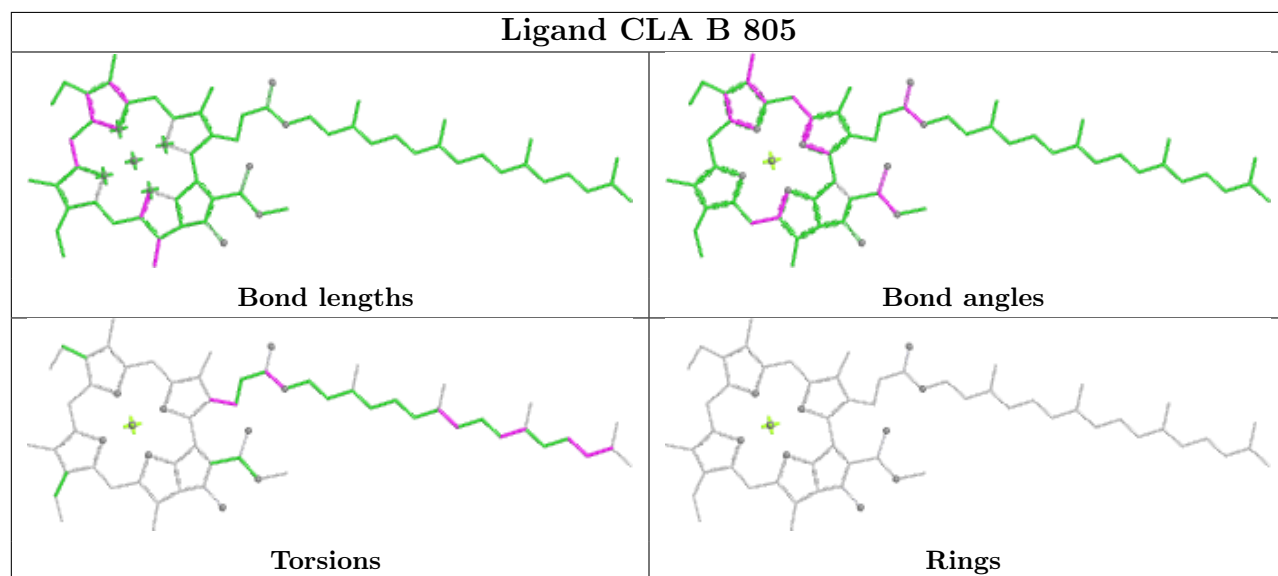
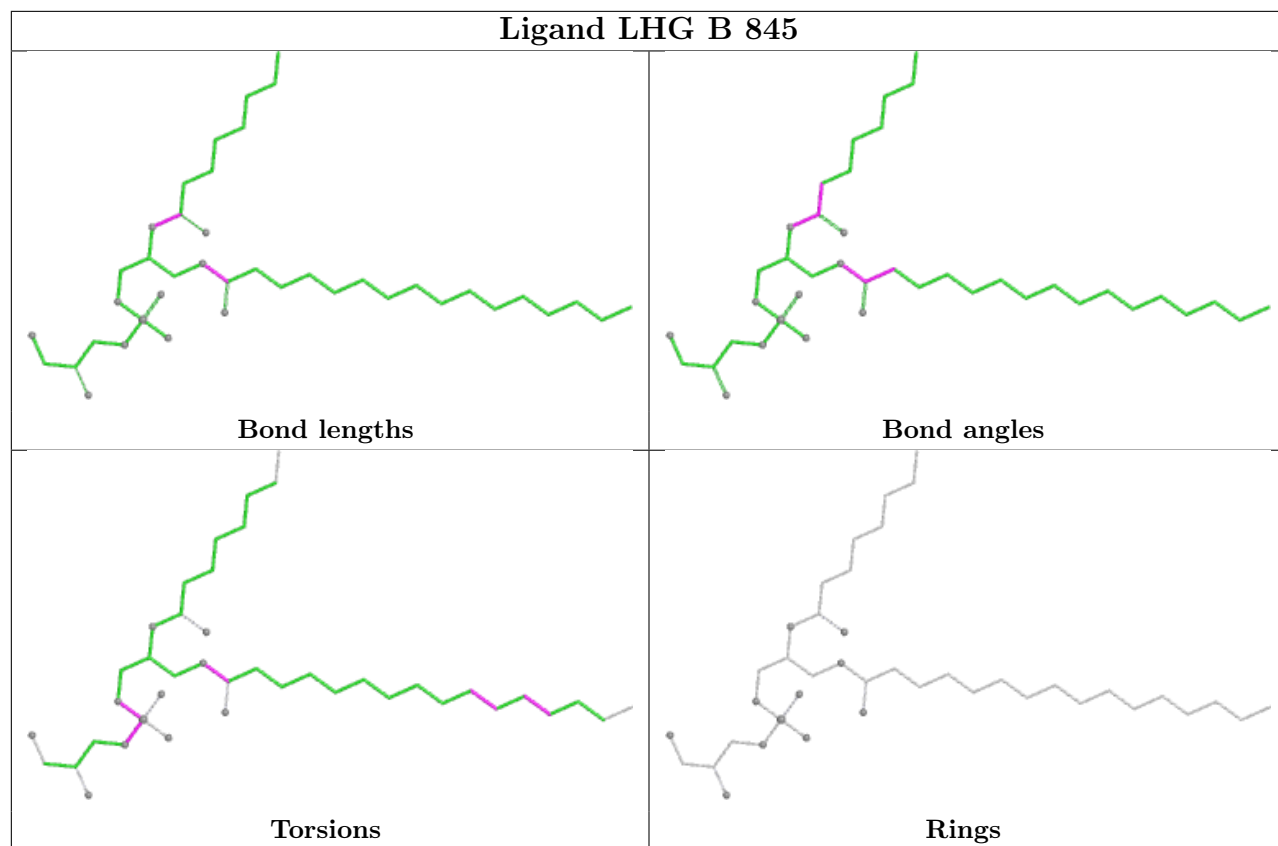


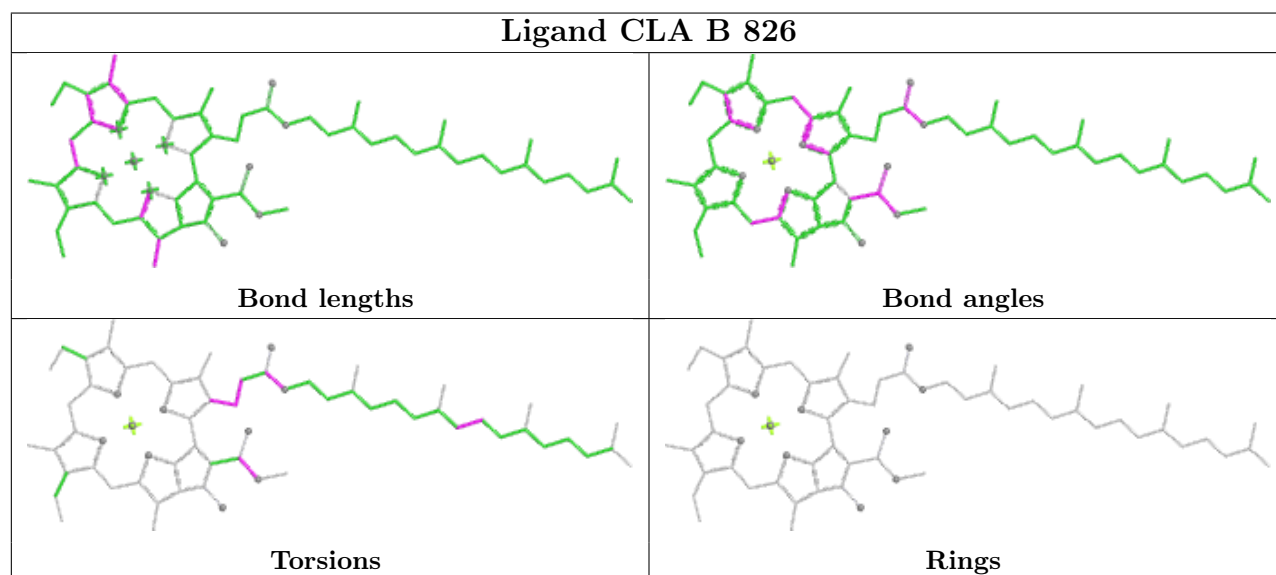
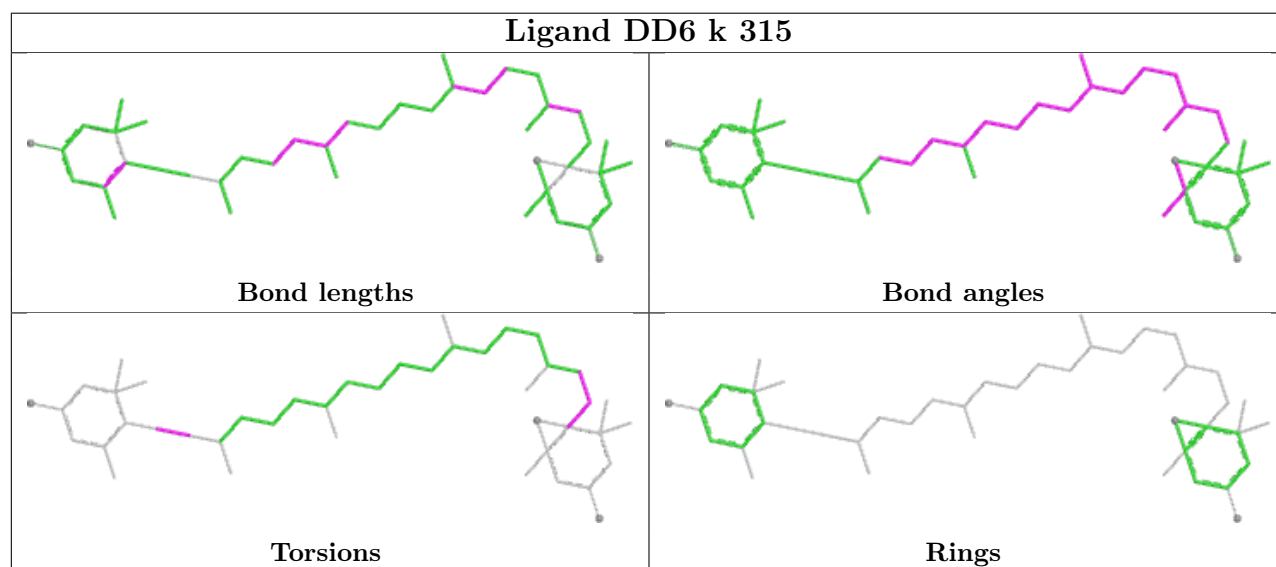
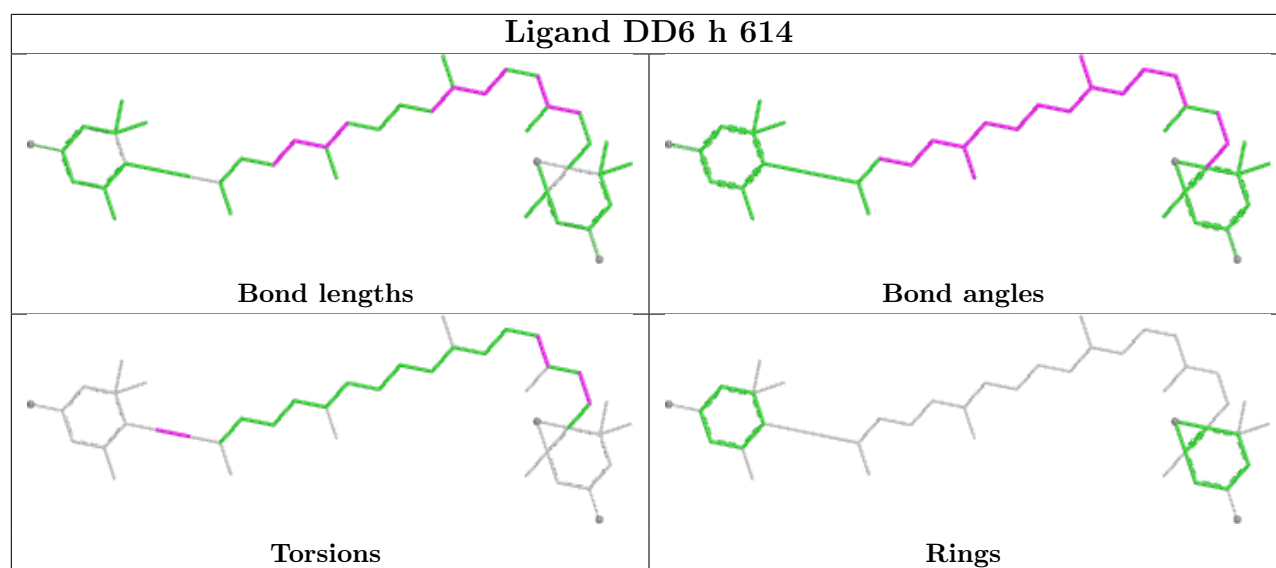
Torsions



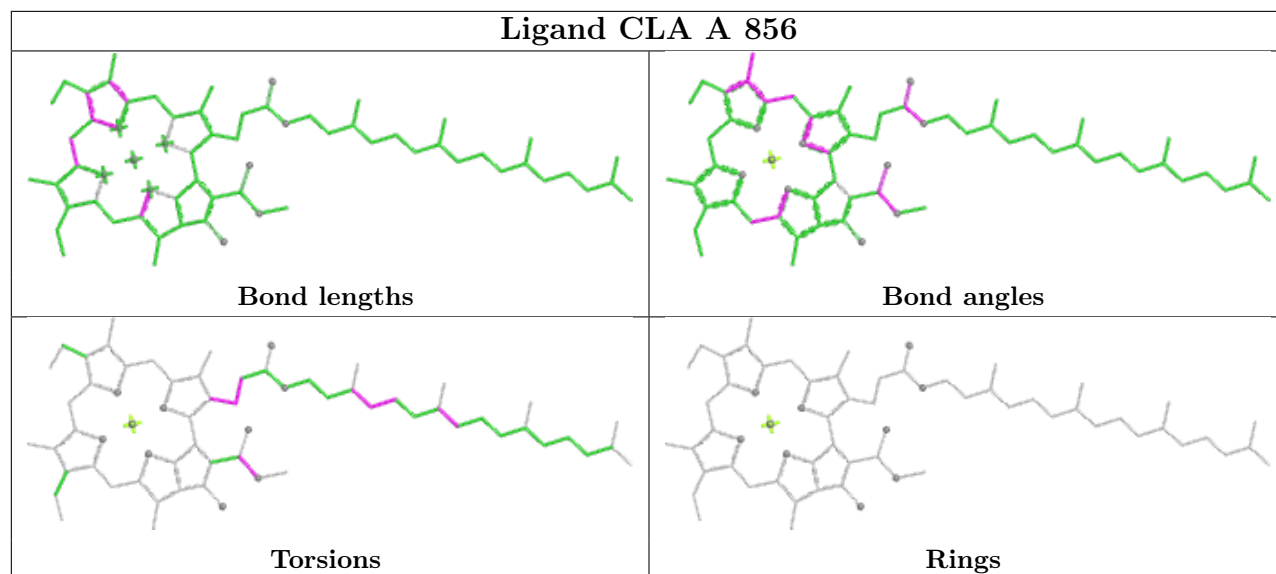
Rings



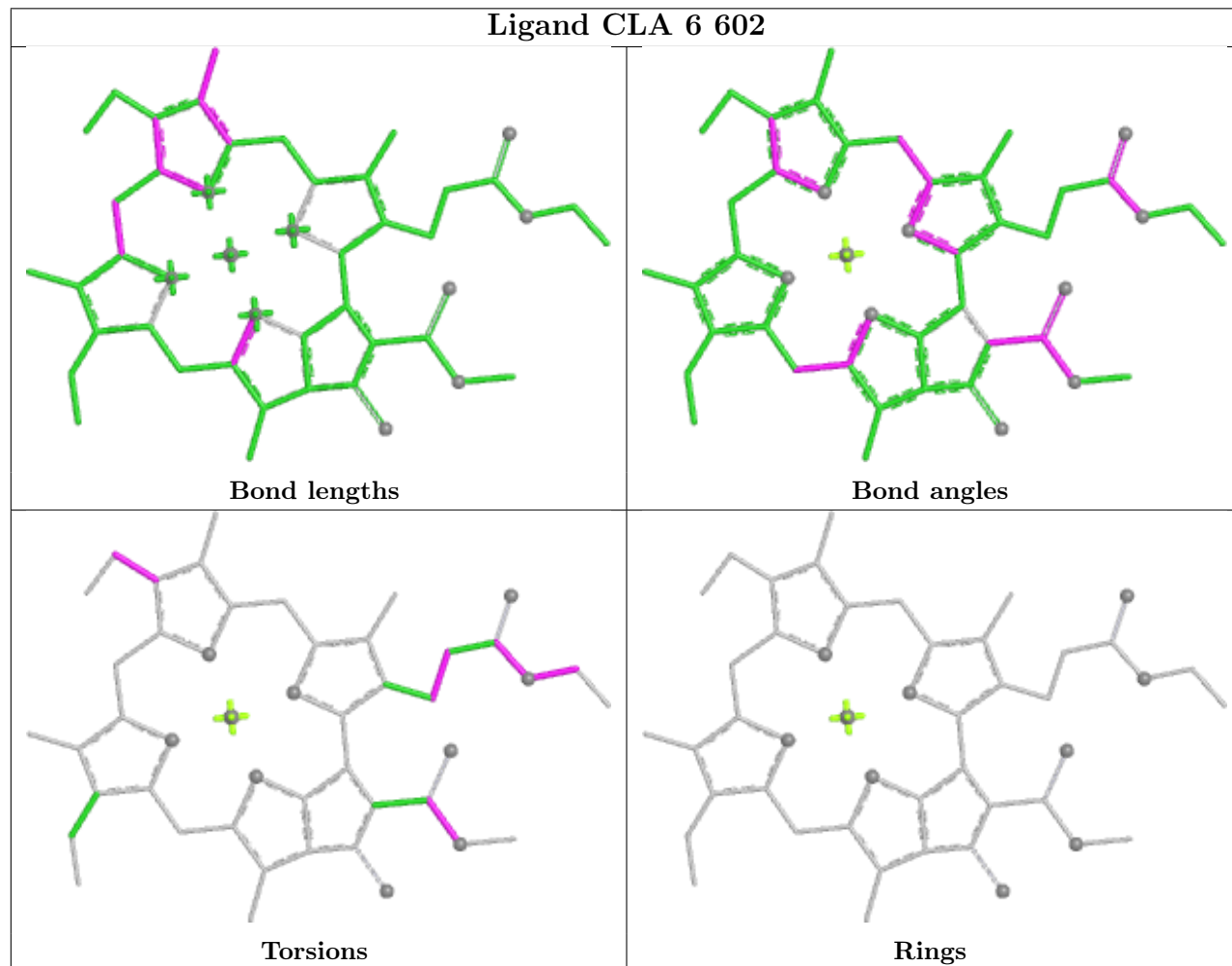


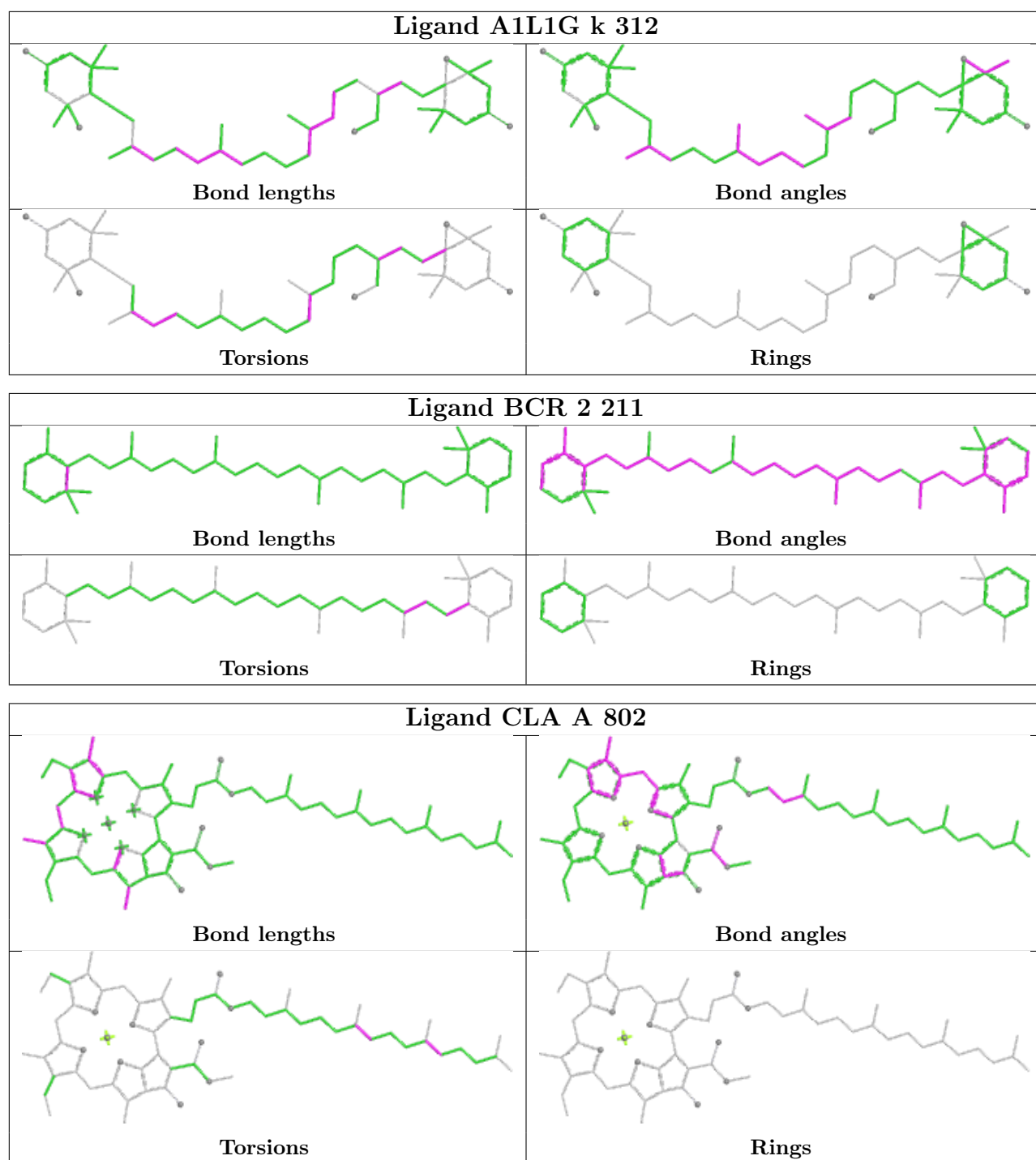


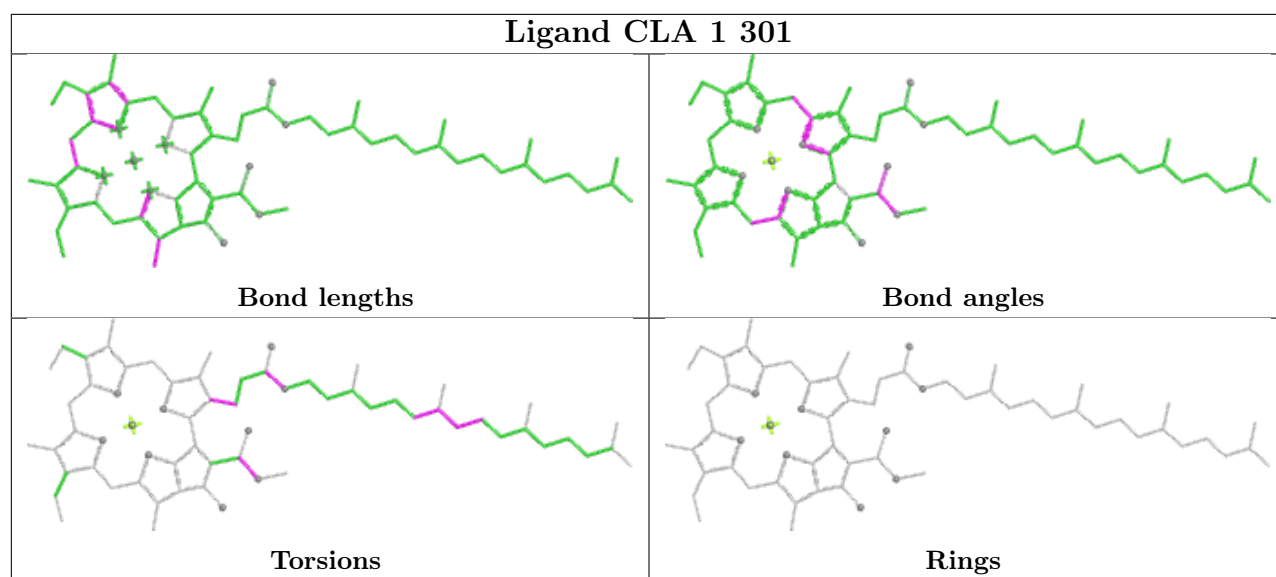
Ligand CLA A 856



Ligand CLA 6 602







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.

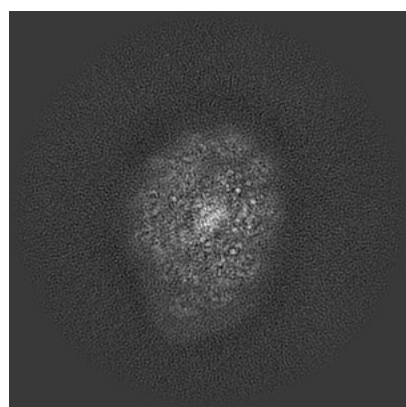
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-63625. These allow visual inspection of the internal detail of the map and identification of artifacts.

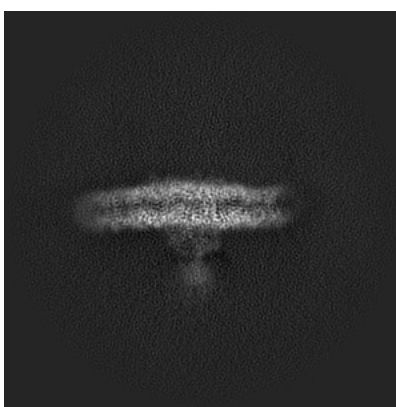
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

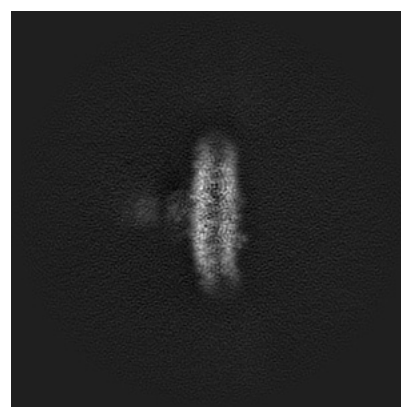
6.1.1 Primary map



X



Y

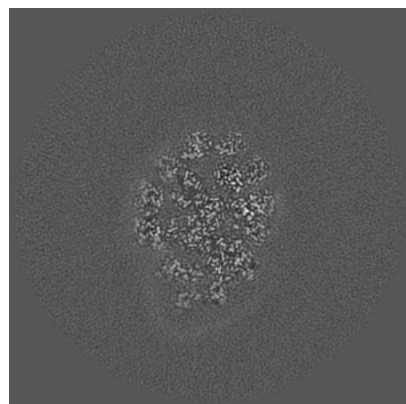


Z

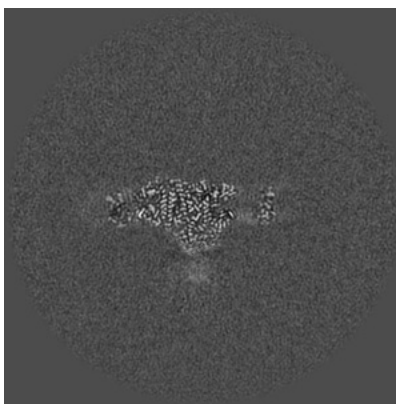
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

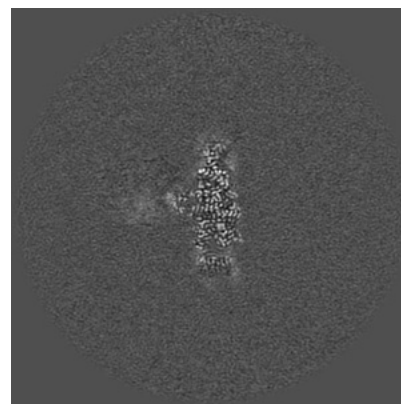
6.2.1 Primary map



X Index: 220



Y Index: 220

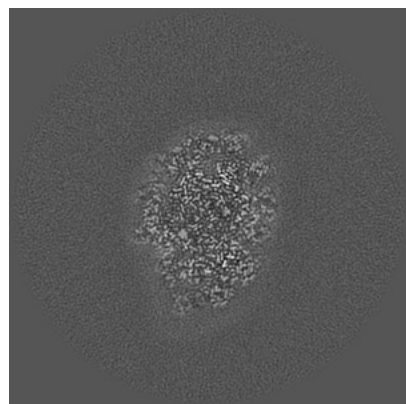


Z Index: 220

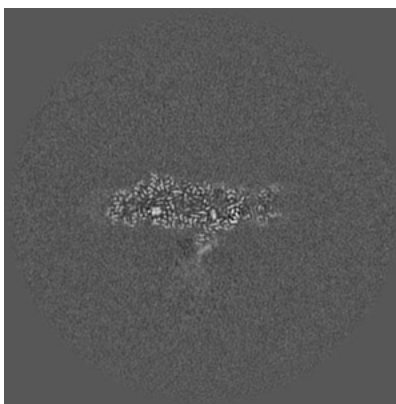
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

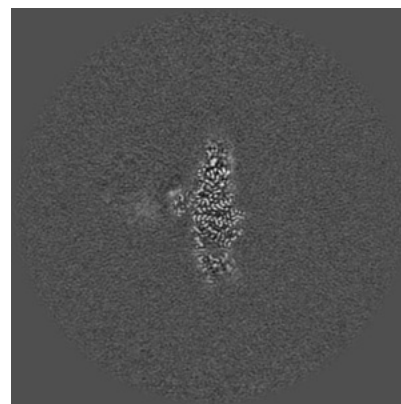
6.3.1 Primary map



X Index: 213



Y Index: 234

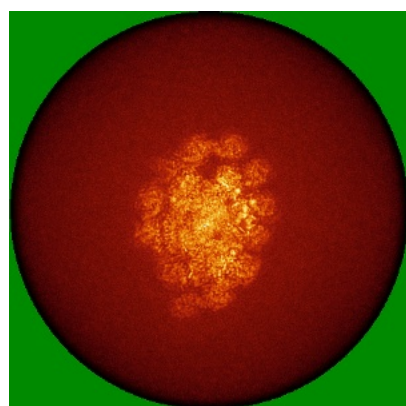


Z Index: 224

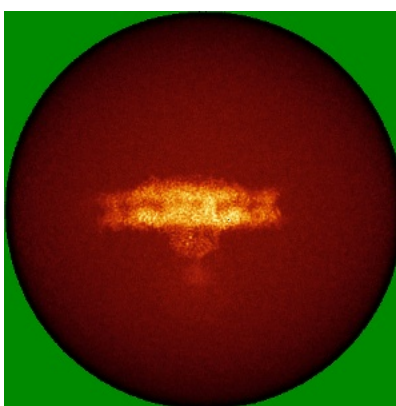
The images above show the largest variance slices of the map in three orthogonal directions.

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

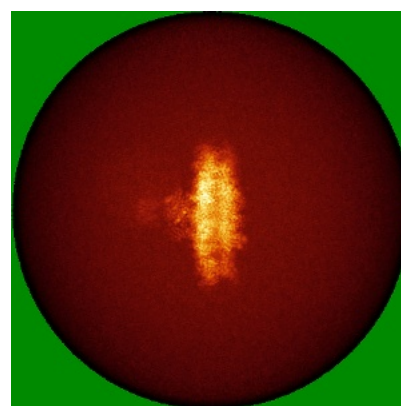
6.4.1 Primary map



X



Y

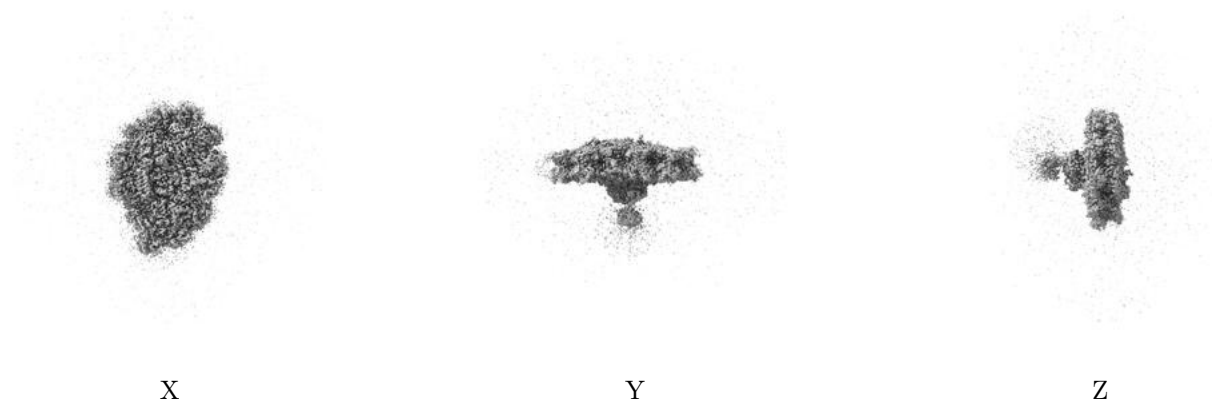


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

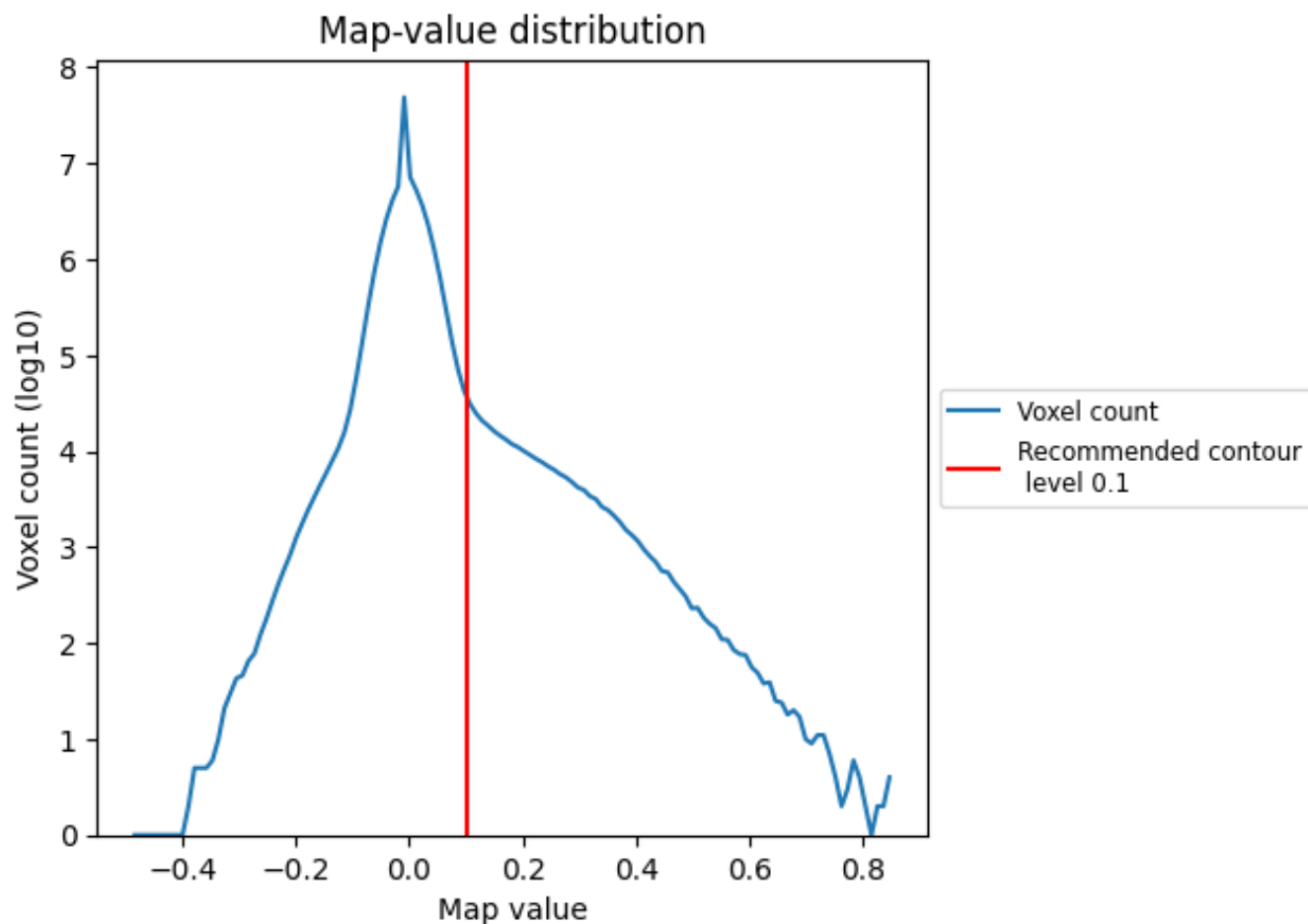
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

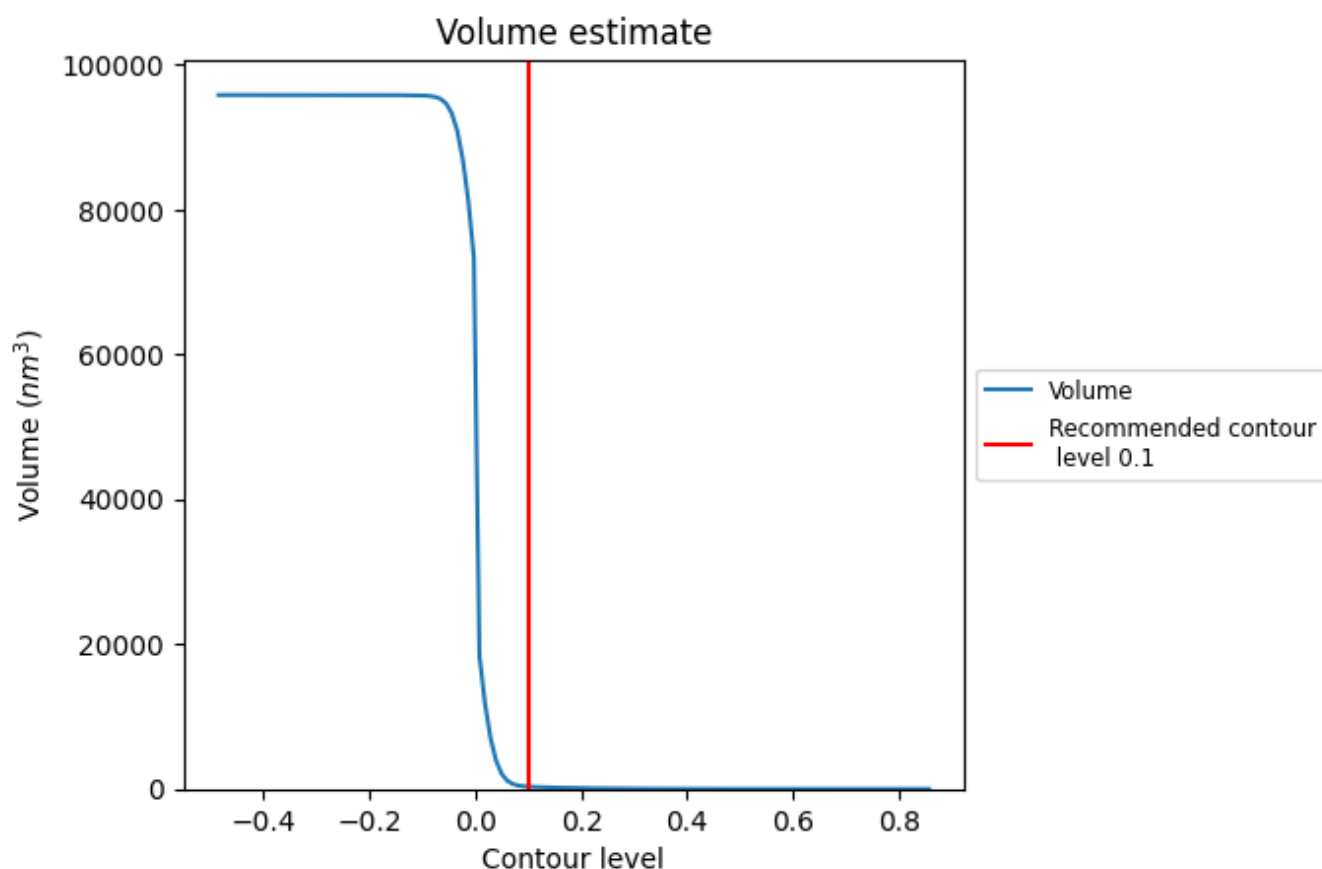
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

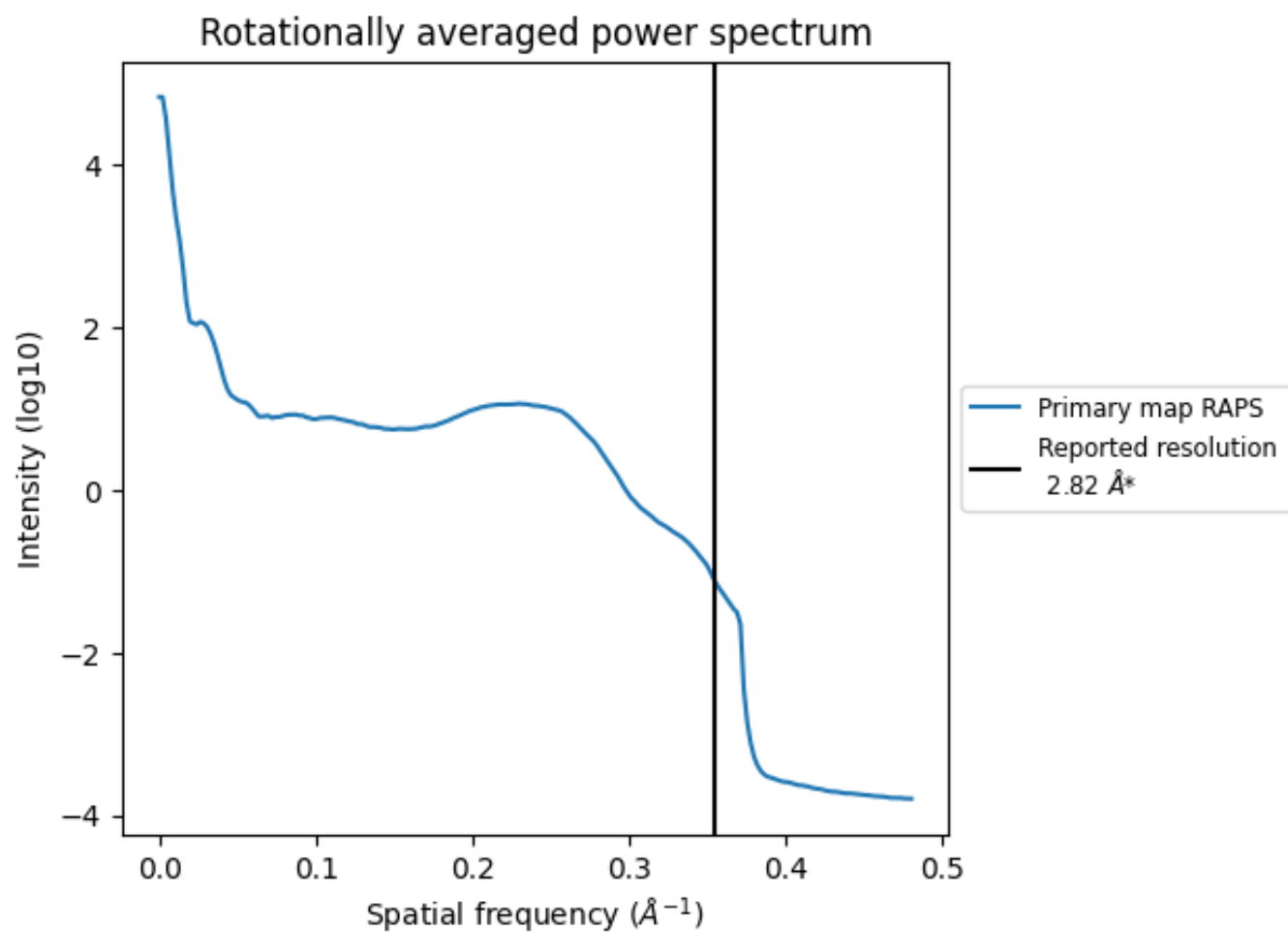
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 326 nm³; this corresponds to an approximate mass of 295 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.355 Å⁻¹

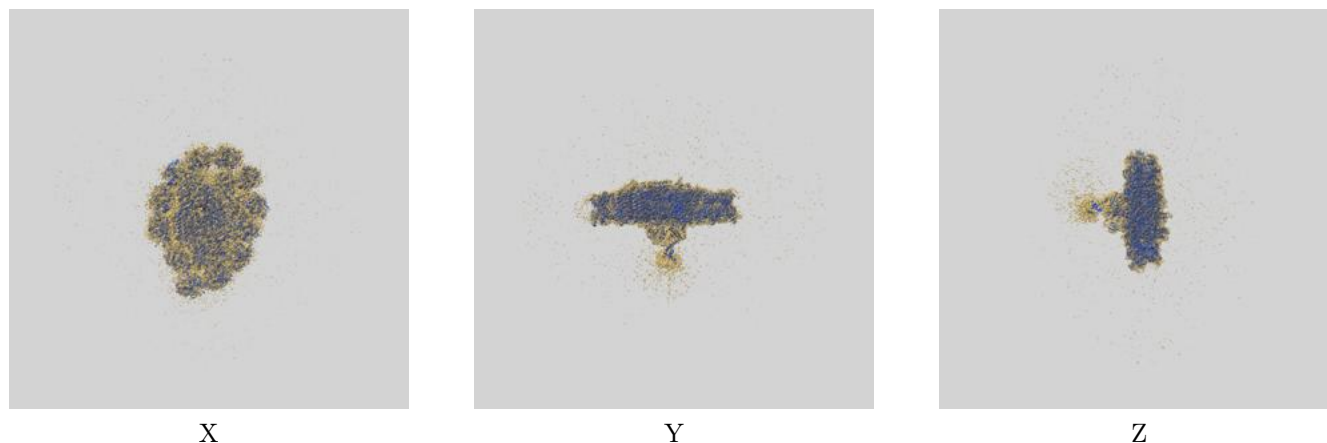
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

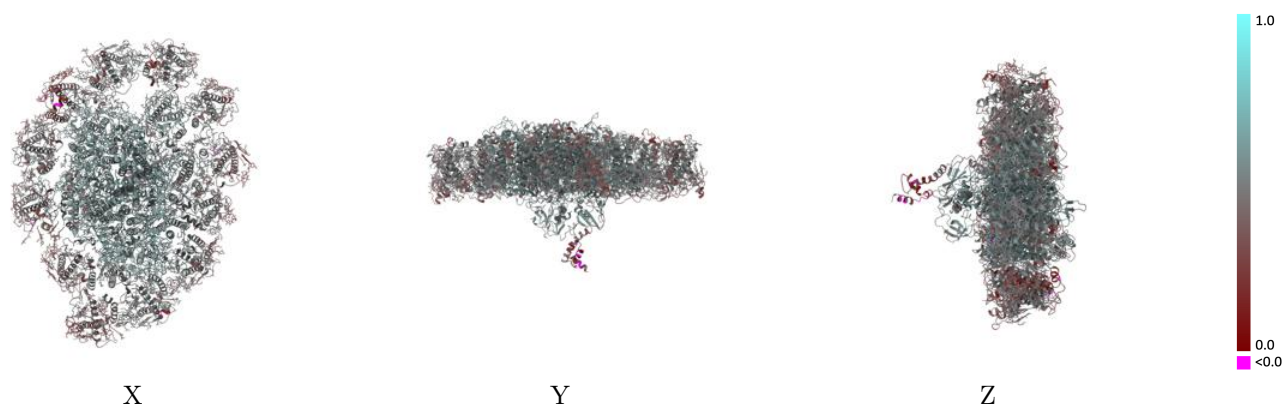
This section contains information regarding the fit between EMDB map EMD-63625 and PDB model 9M4F. Per-residue inclusion information can be found in section [3](#) on page [35](#).

9.1 Map-model overlay [i](#)



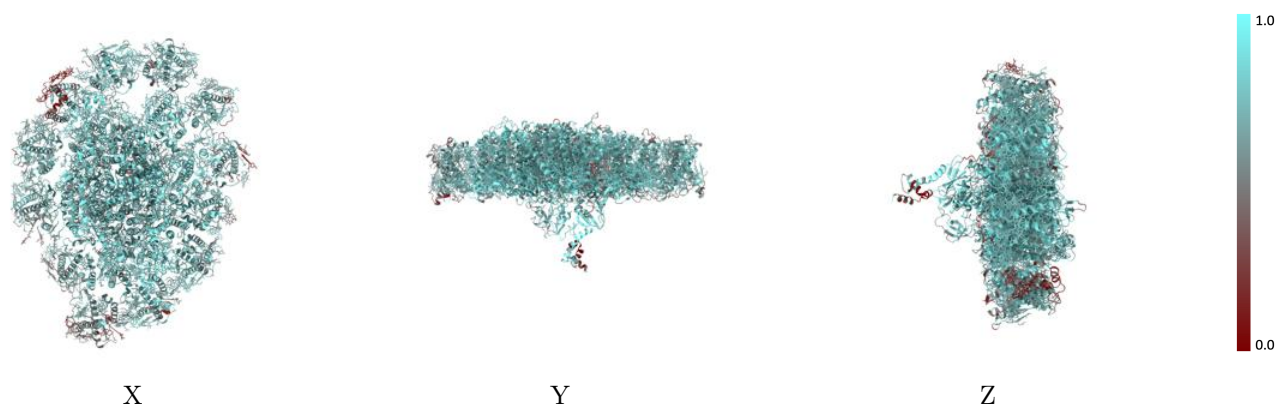
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



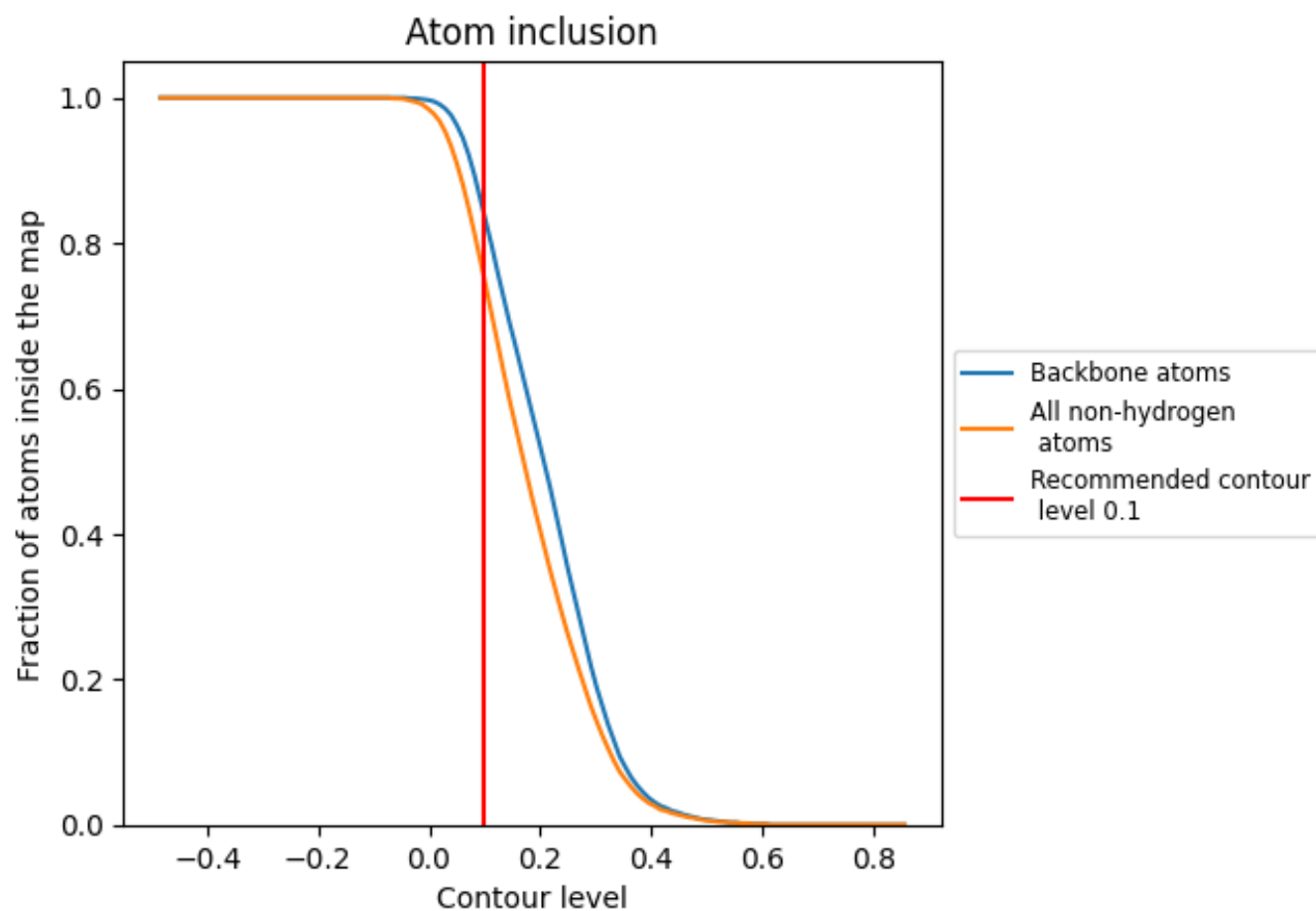
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).





















































9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 75% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7490	 0.4950
1	 0.7410	 0.4690
2	 0.6780	 0.4260
3	 0.8430	 0.5220
4	 0.7210	 0.4510
5	 0.5160	 0.3670
6	 0.6820	 0.4370
7	 0.6840	 0.4260
8	 0.6740	 0.4200
9	 0.5030	 0.3820
A	 0.8250	 0.5720
B	 0.8350	 0.5690
C	 0.8540	 0.5490
D	 0.7810	 0.5150
E	 0.7450	 0.5250
F	 0.7860	 0.5220
I	 0.7860	 0.5260
J	 0.8270	 0.5420
L	 0.8760	 0.5340
M	 0.8330	 0.5030
R	 0.7510	 0.4920
S	 0.5070	 0.2720
c	 0.7410	 0.4640
h	 0.7040	 0.4590
k	 0.6510	 0.4290
t	 0.6750	 0.4380

